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U.S. Army Automated Movement and Identification Solutions (AMIS) Passive Radio Frequency Identification (pRFID) III

Contract W52P1J-17-D-0006

pRFID III User & Pricing Guide v1.7

Submitted By

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Change Control

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1.6	3/03/2021	GDIT	Incorporate HHR-E, HHR-F SLINs and update SLINs 0028 and 0029, appendices, graphics.
1.7	9/10/2021	GDIT	Incorporate all SLINs added under Mod P00008

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1. Introduction

1.1 Purpose

The purpose of this User & Pricing Guide is to assist Government personnel in determining the system configuration that will best meet their Passive Radio Frequency Identification (pRFID) operational requirements. This User & Pricing Guide is aligned with the Pricing CLIN/SLIN structure to enable prospective users to formulate potential solutions utilizing CLINs/SLINs within the contract that best meet their operational requirements.

1.2 Program Profile

Table 1-1: Program Profile

Elements of Identification	
Contract Type	Single Firm Fixed Price (FFP) with reimbursable ODC and travel CLINs
Award Date	December 19, 2016
Period of Performance (PoP)	December 19, 2016 – December 18, 2021
Vehicle (Program)	Indefinite Delivery Indefinite Quantity (IDIQ)
Contract Number	W52P1J17D0006
GDIT Role	Prime Contractor
GDIT Job Number	14868
Project Type	Other Services and Products
Client Organization	US Army
Client Name	Automated Movement and Identification Solutions

1.3 Scope

The pRFID III Contract provides hardware, software, documentation, and incidental services to authorized users worldwide. This contract is open for use by the Federal Government (including the entire DoD) as well as NATO and Coalition partners. Contract services include training, warranty, maintenance, and technical engineering services (TES). TES are turnkey solutions to fully implement pRFID technology into new and/or existing architectures.

1.4 Points of Contact

Table 1-2: Points of Contact

Role	Contact Information
Army Contract Officer's Representative	Mr. John Wloshinski john.s.wloshinski.civ@mail.mil (703) 806-0272
GDIT Program Manager	Ms. Deirdre Hirt deirdre.hirt@gdit.com Office: (703) 253-3144
GDIT Contract Administrator	Ms. Kayla Worton kayla.worton@gdit.com

	(571) 454-2054
GDIT Technical Director	Ms. Amy Coffee amy.coffee@gdit.com (703) 253-2096

1.5 Ordering Procedure and Guide

The pRFID III IDIQ contract is decentralized for ordering purposes. Any federal warranted Contracting Officer (KO) can place Delivery Orders and Task Orders against this contract. The IDIQ contract provides for five (5) one-year ordering periods from time of contract award, plus two (2) one-year option periods for maintenance during the 4th and 5th ordering periods. The appropriate GDIT Points of Contact (POC) are identified in Section 1.4. The pRFID III Help Desk is accessible by phone at (844)-542-9596 or (703) 253-3144 and via e-mail: PRFID_III@gdit.com. For more information on the pRFID III ordering procedures,

please refer to the Army AMIS website (http://usarmyamis.army.mil/Contracts_pRFIDIII.html)

2. Hardware

2.1 pRFID Fixed Readers

2.1.1 Overview

A fixed reader is the solution for inserting visibility of tagged material at fixed chokepoints. Examples of this are dock doors and conveyor lines. Generally required for this type of solution is the fixed reader itself, a power supply and AC cord, and 1-4 antennas, depending upon the size of the desired read zone. These items are included in the SLINs below. Optionally, Input/Output devices such as motion sensor triggers and stack lights can be used with this device. The solutions below incorporate built-in mounting solutions as indicated, though additional mounting (e.g., Door portals, NEMA enclosures and custom antenna brackets) may be required. The fixed reader is a network device controlled by middleware installed on a local server. For more information about this, please see Section 4.1 of this UG.

2.1.2 SLINs: pRFID Fixed Reader (A)

Table 2-1: pRFID Fixed Reader (A) SLINs

SLIN 0001 AA	Intermec IF2A000014	3 Year Warranty	For FCC Use
SLIN 0001 AB		4 Year Warranty	
SLIN 0001 AC		5 Year Warranty	
SLIN 0001 AE	Intermec IF2A000002	3 Year Warranty	For ETSI Use
SLIN 0001 AF		4 Year Warranty	
SLIN 0001 AG		5 Year Warranty	
	Included in 0001 AA-AG	Mounting Hardware	

Figure 2-1: Intermec IF2 pRFID Fixed Reader

2.1.3 Description: pRFID Fixed Reader (A)

The Intermec IF2 is a compact, cost-effective network reader designed to support diverse passive UHF RFID applications in both enterprise and industrial environments. The IF2 supports Power over Ethernet, four mono- or bi-static RF ports, built-in powered general purpose input output (GPIO) control, and both standards-based low level reader protocol (LLRP) and Intermec's easy to use Basic Radio Interface (BRI) application interfaces, enabling scalable low-cost deployments for improved return on investment (ROI). The IF2 is packaged in a durable enclosure for nearly any environment and is factory configured to operate in regions across the globe. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical detail on the IF2, refer to Appendix A: SLIN 0001 pRFID Fixed Reader.

2.1.4 Included:

Included in SLIN 0001 AA – AG is the AC adaptor and power cord, a mounting bracket, CD with documentation & demonstration software, and two (2) Circular Polarized Antennae described below.

Figure 2-2: Intermec pRFID Circular Polarized Antenna

SLINs 0001 AA-AC include two (2) Intermec S9028PCRF-IT1 Circular Polarized antennas.
SLINs 0001 AE-AG include two (2) Intermec IA33F Circular Polarized antennas.

2.1.5 SLINs: pRFID Fixed Reader (B)

Table 2-2: pRFID Fixed Reader (B) SLINs

SLIN 0001 BA	Impinj IPJ-REV-R420-USA2M1	3 Year Warranty	FCC
SLIN 0001 BB		4 Year Warranty	
SLIN 0001 BC		5 Year Warranty	
SLIN 0001 BD	Impinj IPJ-REV-R420-USA2M1	3 Year Warranty	ESTI
SLIN 0001 BE		4 Year Warranty	
SLIN 0001 BF		5 Year Warranty	
SLIN 0001 BG	Impinj IPJ-REV-R420-USA2M1	3 Year Warranty	FCC, with CM-LPR License
SLIN 0001 BH		4 Year Warranty	
SLIN 0001 BJ		5 Year Warranty	
SLIN 0001 BK	Impinj IPJ-REV-R420-USA2M1	3 Year Warranty	ETSI, with CM-LPR License
SLIN 0001 BL		4 Year Warranty	
SLIN 0001 BM		5 Year Warranty	

Figure 2-3: Impinj 420 pRFID Fixed Reader

2.1.6 Description: pRFID Fixed Reader (B)

The Impinj Speedway Revolution R420 UHF RFID Reader delivers the performance, quality, and reliability necessary for maximum visibility of tagged inventory and assets. Able to maintain high read rates regardless of RF noise or interference as the readers adapt automatically for optimal functionality, Speedway readers are a powerful piece of item visibility platform solutions. Impinj's innovative Speedway® Revolution RFID reader with Autopilot automatically optimizes its operation to the environment—delivering peak performance at all times. The Speedway Revolution reader improves upon the legacy of the original, EPC-certified Speedway reader that was the first high-performance reader designed from the ground up (not merely upgraded) to support the EPC Global UHF Gen 2 standard in its entirety. The Speedway R420 reader is supported by a suite of software, hardware, and antennas that deliver application and deployment flexibility, making installation and expansion easier than ever. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical detail on the R420, refer to Appendix A: SLIN 0001 pRFID Fixed Reader.

2.1.7 Included:

Included in SLIN 0001 BA to BK is a quick start guide and tag samples.

2.1.8 Not Included:

The following items are not included in the purchase of SLIN 0001 BA to BK and require a separate purchase:

Table 2-3: pRFID Fixed Reader (B) Separate Accessory SLINs

SLIN 0001 BN	IMPINJ Far Field Reader Antenna 902-928 MHz IPJ-A1000-USA	3 Year Warranty	FCC
SLIN 0001 BP		4 Year Warranty	
SLIN 0001 BQ		5 Year Warranty	
SLIN 0001 BR	IMPINJ Far Field Reader Antenna 862-870 MHz IPJ-A1000-EUI	3 Year Warranty	ESTI
SLIN 0001 BS		4 Year Warranty	
SLIN 0001 BT		5 Year Warranty	
SLIN 0001 BU	RP TNC Male Connector Crimp/Solder	Amphenole 122409RP	
SLIN 0001 BV	N-MALE Straight RP CONNECTOR Crimp/Solder Attachment	Impinj IPJ-A2003-000	
SLIN 0001 BW	Universal Power Cord for IMPINJ reader	CribMaster OUTDOOR_BOX	
SLIN 0001 BX	OUTDOOR ANTENNA BOX for IMPINJ Far Field Reader	Arcadian PCE1216-R420-002	
SLIN 0001 BY	Watertight pRFID READER Enclosure	Arcadian EZ-M6-Combo	
SLIN 0001 BZ	Fully Articulating Die Cast Wall OR Mast Mounting Bracket for 2 or 4 stud panel Antennas	Arcadian EZ-M6-Combo	

2.1.9 SLINs: pRFID Fixed Reader (C)

Table 2-4: pRFID Fixed Reader (C) SLINs

SLIN 0001 CA	VR-DOCK_RDR_P_001-US	3 Year Warranty	FCC
SLIN 0001 CB	VR-DOCK_RDR_S_001- US	3 Year Warranty	FCC

Figure 2-4 Venture Research Dock Door Portal

2.1.10 Description: pRFID Fixed Reader (C)

The Venture Research Dock Door Reader solution combines state-of-the-art RFID with exclusive sensor technology for highly accurate material movement monitoring at dock doors. The Dock Door solution incorporates an exclusive antenna array construction with high gain antennas that improves material penetration and dock coverage. The array also allows the RF power required to be turned down yet still retain adequate coverage over the material passing through the dock further reducing cross reads. The Portals are low power enough that they can be powered with power-over-ethernet (POE), although communication via Wi-Fi is also supported. This provides the utmost in connectivity flexibility. Built into the Dock Door portals are high performance motion sensors that sense when motion is at the dock and then turns on the RF. Both Primary ("P") and Secondary ("S") models are available individually; "S" models require a "P" model or other RFID reader as host.

No asset management or other operational software is required for configuration; however, these devices are certified for use with GlobeRanger iMotion software (see section 4.1) which is available through the pRFID III contract.

2.1.11 Included:

The base configuration for the Primary model includes RFID reader, four (4) antennas, articulating arms, integrated motion sensing, POE, integrated LED stack light and annunciator.

The base configuration for the Secondary model includes Antennas Only – four (4), articulating arms, RF and GPIO Bundle from Primary.

.

2.1.12 Not Included:

The following items are not included in the purchase of SLIN 0001 CA to CB and require a separate purchase:

Table 2-5: pRFID Fixed Reader (C) Separate Accessory SLINs

SLIN 0001 CC	VR-DOCK -OPT-INST (wall-mount kit)	3 Year Warranty	FCC
SLIN 0001 CD	VR-DOCK-OPT-MNT-FLR (floor-mount kit)	3 Year Warranty	FCC

2.1.13 SLINs: pRFID Fixed Reader (D)

Table 2-6: pRFID Fixed Reader (D) SLINs

SLIN 0001 DA	VR-SLIMTK-RDR- P-US	3 Year Warranty	FCC
SLIN 0001 DB	VR-SLIMTK-RDR-S-US	3 Year Warranty	FCC

Figure 2-5 Venture Research SlimTrak UHF Reader

2.1.14 Description: pRFID Fixed Reader (D)

The SlimTrak UHF Reader poses a unique opportunity to capture indoor material movements with minimal user interaction. The SlimTrak combines a 1-watt UHF reader, antennas and I/O components in a single ultrathin enclosure. It can be easily affixed into tight spaces. The integrated antennas allow excellent performance. The integrated antennas allow excellent performance for close proximity reading or double door applications. An auxiliary connector is available that allows connection to a secondary unit (“S") with extra antennas to improve coverage. The unit is constructed of extruded high impact material, ideal for high traffic areas. The sealed enclosures, with an IP65/ NEMA4 rating, allow RFID tracking in environments that are high humidity or chilled, with high condensation or wash down requirements. Both Primary (“P”) and Secondary (“S”) models are available individually; “S” models require a “P” model or other RFID reader as host.

No asset management or other operational software is required for configuration; however, these devices are certified for use with GlobeRanger iMotion software (see section 4.1) which is available through the pRFID III contract.

2.1.15 Included:

The base configuration includes the UHF RFID Reader with Integrated Antennas (9"x40") w/ BLE, Wi-Fi, 2 antennas, stack light, annunciator, wide-angle dual IR Prox sensor, three diagnostic LEDs, multiple configurable trigger modes, Console, Ethernet, USB, and serial ports.

2.1.16 Not Included:

The following items are not included in the purchase of SLIN 0001 DA to DB and require a separate purchase: Installation Kit including brackets, wiring/cabling per device, Reader Display LED 4-Digit Counter Module, Floor Mounting Kit, External Prox PIR Sensor with mounting hardware and 20’ cable.

Table 2-7: pRFID Fixed Reader (D) Separate Accessory SLINs

SLIN 0001 DC	SLIMTK-OPT-INST	3 Year Warranty	FCC
SLIN 0001 DD	SLIMTK-OPT-COUNTER	3 Year Warranty	FCC
SLIN 0001 DE	SLIMTK-OPT-MNT-FLR	3 Year Warranty	FCC

SLIN 0001 DF	SLIMTK-OPT-PIR-SENSOR-E	3 Year Warranty	FCC

2.1.17 SLINs: pRFID Fixed Reader (E)

Table 2-8: pRFID Fixed Reader (E) SLINs

SLIN 0001 EA	VR-HYTRAK-001-02- US	3 Year Warranty	FCC
SLIN 0001 EB	VR-HYTRAK-001- 04-US	3 Year Warranty	FCC
SLIN 0001 EC	VR-HYTRAK-001-08-US	3 Year Warranty	FCC

Figure 2-6 Venture Research HyTrak Reader

2.1.18 Description: pRFID Fixed Reader (E)

The Venture Research HyTrak reader is packed with RF and communications features to accommodate the most demanding tracking scenarios. The HyTrak Reader supports UHF RFID - US and ETSI* (optional) frequencies – 2, 4, or 8 port options: WiFi - a,b,g,n - Mimo WiFi support, Optional Low Energy Bluetooth, Optional Cellular - 4G LTE - Multiple Carrier Support, Optional GPS - Dual constellation satellite, and CAN Bus in a single rugged enclosure. The HyTrak reader can run on POE or 10v–48v power allowing for battery operated applications. Direct connections to a forklift or vehicle is possible through its regulated power supply. With optional GPS support, mobile equipment can be tracked outside and inside of buildings.

No asset management or other operational software is required for configuration; however, these devices are certified for use with GlobeRanger iMotion software (see section 4.1) which is available through the pRFID III contract.

2.1.19 Included:

The HyTrak Reader base configuration includes the following: UHF RFID up to 8 ports, Integral Memo WiFi a/b/g/n, Power Over Ethernet (POE) or 12vDC, 4 in/8 out GPIO with CAN and Serial, integrated store and forward capability for all transactions, and integrated SD storage card (32GB).

An optional NEMA enclosure with HyTrak cutouts is included as a separate line item.

An optional Installation Kit is available with a back metal I-BEAM Mount, connector cables, and assorted nuts/bolts/screws.

2.1.20 Not Included:

The following items are not included in the purchase of SLIN 0001 EA to DC and require a separate purchase: NEMA enclosure and Installation Kit including brackets.

Table 2-9: pRFID Fixed Reader (D) Separate Accessory SLINs

SLIN 0001 ED	VR-HYTRAK-OPT-NEMA	3 Year Warranty	FCC
SLIN 0001 EE	VR- HYTRAK -OPT-INST	3 Year Warranty	FCC

2.2 pRFID Vehicle Mount Fixed Readers

2.2.1 Overview

A vehicle mount fixed reader is the solution for inserting visibility of tagged material when a stationary choke point is not a viable solution. Examples of this are forklifts or other mobile material handing devices. The power for this device is generally provided by the vehicle battery, and a DC-DC power supply is provided in the SLINs below. Antennas are also required for this device, and two (2) are included in the SLINs below. This device is connected to and controlled by a vehicle mounted hand-held terminal (HHT) via provided serial cable. This HHT is included in the SLINs below. For more information about this, please see Section 4.1 of this UG.

2.2.2 SLINs:

Table 2-10: pRFID Vehicle Mount Fixed Reader SLINs

SLIN 0003 AA	Intermec IV7D202014	3-year warranty	For FCC Use
SLIN 0003 AB		4-year warranty	
SLIN 0003 AC		5-year warranty	
SLIN 0003 AD	Intermec IV7D202002	3-year warranty	For ETSI Use
SLIN 0003 AE		4-year warranty	
SLIN 0003 AF		5-year warranty	

Figure 2-7: Intermec IV7 Vehicle Mount pRFID Reader

2.2.3 Description:

The Intermec IV7 is a rugged UHF pRFID tag reader designed to be mounted on a vehicle for mobile use and operation in harsh industrial environments. The IV7 is IP65 rated and supports up to 4 antennae. It is designed to be connected serially to a rugged mobile computer. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information about the IV7 refer to Appendix B: SLIN 0003 Vehicle Mount pRFID Reader.

2.2.4 Included:

Included in SLINs 0003 AA-AF are the DC power supply kit and cables, two (2) Circular Polarized Antennae, and CN70e HHT with power supply, dock and communication cables.

Figure 2-8: CN70e HHT

Figure 2-9: Intermec Polarized Circular Antenna

SLINs 0003 AA-AC include two (2) Intermec IA33E Circular Polarized antennas.
SLINs 0003 AD-AF include two (2) Intermec IA33D Circular Polarized antennas.

2.3 pRFID Smart Table

2.3.1 Overview

The Smart Table is the hands-free solution for inserting visibility into locations where material is processed or handled on a tabletop like surface. Examples of this are receipt, equipment checkout or issue, and performing counts. Generally, a fixed reader and antenna(s) are mounted underneath the table surface and tuned only to read tagged material that is on the surface of the table. The SLINs below include the table, fixed reader and all components necessary for operation. The device is a network device controlled by middleware installed on a local server. For more information about this, please see Section 4.1 of this UG.

2.3.2 SLINs: pRFID Smart Table (A) (NOT AVAILABLE FOR ORDERING)

Table 2-11: pRFID Smart Table (A) SLINs

SLIN 0005 AA	TJMT	3-year Warranty	For FCC Use
SLIN 0005 AB			
SLIN 0005 AC			
SLIN 0005 AD			For ETSI Use
SLIN 0005 AE			
SLIN 0005 AF		5-year Warranty	

RESERVED

CLINS 5AA thru 5AF

NOT AVAILABLE FOR ORDERING

2.3.3 Description pRFID Smart Table (A): (NOT AVAILABLE FOR ORDERING)

The TJMT ET-1001 Series Eco Table is a rugged, portable workspace engineered to isolate the pRFID read field within the boundaries of the table. The unit is constructed of extruded aluminum and can withstand up to 300 lbs. It is IP54 rated, has surface visible light indicators. The legs are adjustable allowing for multiple work heights. The Smart Table includes the Motorola FX7500 reader, and all components required for full operation. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Smart Table refer to Appendix C: SLIN 0005 pRFID Smart Table.

2.3.4 SLINs: pRFID Smart Surface (B)

Table 2-12: pRFID Surface Trak Smart Surface (B) SLINs

SLIN 0005 BA	VR-SURFACE-36x48-US	3 Year Warranty	FCC

SLIN 0005 BB	VR-SURFACE-60x20-US	3 Year Warranty	FCC
SLIN 0005 BC	VR-SURFACE-36x24-US	3 Year Warranty	FCC
SLIN 0005 BD	VR-SURFACE-36x72- US	3 Year Warranty	FCC

Figure 2-10 Venture Research Smart Surface (B)

2.3.5 Description: pRFID Smart Surface (B)

The Venture Research Surface Trak provides a custom-built state-of-the-art tracking solution with a low-profile RFID reading surface that can cover large surface areas in an industrial setting. Suitable for tool management, packaging and shipping stations, receiving stations, mobile shelf carts and anywhere that an integrated large surface reader and antenna array is required. Tools and critical assets can be left in the work area and tracked without the daily task of moving tools and assets to a cabinet or drawer storage area. The Surface Trak solution can be used as a vertical or horizontal work surface for the movement of materials across a work area to perform work in process (WIP) tracking of start and end times. The exclusive stacked layer construction of the surface provides the utmost in resilience to heavy tools and materials that are placed on the surface.

No asset management or other operational software is required for configuration; however, these devices are certified for use with GlobeRanger iMotion software (see section 4.1) which is available through the pRFID III contract.

Up to four boards may be daisy-chained as well. A small board will accommodate up to ten (10) Route Tags; a medium board up to twenty (20); a large board up to thirty (30) tags simultaneously; and an extra-large board up to forty (40) tags simultaneously.

The surface can include an optional barcode scanner for scanning User IDs, a red/green light strip to confirm data capture of User ID, external battery power for operations where mobility is required, and wireless or cellular communication options.

2.3.6 Included:

Venture Research Surface Trak – Smart RFID Surface (36x48, 60x20, 36x24, 36x72, US) base configuration includes the following: Antennas and Reader in single and continuous surface, tri-color LED on Edges, integral store and forward capability, POE (Power over Ethernet). There are two options for compatible barcode scanners that may be purchased separately; see SLINs 0031 AA – AF and SLIN 0031 CA.

2.3.7 Not Included:

Installation materials for Venture Research Surface Trak are provided as separate line item.

Table 2-13: pRFID Surface Trak Smart Surface (B) Separate Accessory SLINs

SLIN 0005 BE	VR-SURFACE-OPT-INST	3 Year Warranty	FCC

2.3.8 SLINs: pRFID Smart Table (C)

Table 2-14: pRFID Surface Trak Smart Surface (C) SLINs

SLIN 0005 BF	IIDS-SMARTTABLE-36x48-US	3 Year Warranty	FCC

Figure 2-11 IIDS Smart Table (C)

2.3.9 Description: pRFID Smart Table (C)

This custom-built device provides a low-profile RFID smart table reading surface within a fully enclosed unit containing the RFID reader and a variable antenna array.

The smart table surface can include an optional barcode scanner for scanning User IDs, a red/green light strip to confirm data capture of User ID, external battery power for operations where mobility is required, and wireless or cellular communication options.

2.3.10 Included:

Integrated ID Solutions (IIDS) Smart Table 36x48 (US) base configuration includes the following: Rectangle Table- 36"W x 48"L (Gray top with Black edge/leg/ Adjustable Leg Height 21"-30"); 36"W x 48"L Surface Reader with Ethernet, GPIO, Wi-Fi, Temp Sense, Side LEDs, POE injector, Power Cord and Ethernet cables (15').

2.4 pRFID Handheld Readers

2.4.1 Overview

A handheld pRFID reader is the solution for inserting visibility into processes that can occur in many locations. Examples of these processes are picking, packing, put-away, delivery, receipt and inventory. Handheld readers are made up of multiple components. There is a mobile computer, a pRFID reader/antenna combination, a docking/charging station, Common Access Card (CAC) authentication device, holster and all of the cables and adaptors necessary for connectivity. Handheld readers come with two batteries (one operational and one spare). The devices are connected wirelessly and managed by software on a local server (although provisions can be made to accommodate cloud-based hosting), for more information about this; see Section 4.1 of this UG.

2.4.2 SLINs: HHR-A (NOT AVAILABLE FOR ORDERING)

Table 2-15: pRFID Handheld Readers (A) SLINs

SLIN 0007 AA		**RESERVED**	
SLIN 0007 AB	Interme	**CLINS 7AA thru 7AF**	For FCC Use
SLIN 0007 AC		**NOT AVAILABLE FOR ORDERING**	

SLIN 0007AD	Intermec CN70GQ6KN02G1E40	3 Year Warranty	For ETSI Use
SLIN 0007 AE		4 Year Warranty	
SLIN 0007 AF		5 Year Warranty	
SLIN 0007 AG	Intermec 318-043-113	Rechargeable Battery	
SLIN 0007 AH	Intermec DX1G51A20	Battery Charger/Communications Dock	
SLIN 0007 AJ	Intermec 850-835-001	CAC Reader with Software, and wall charger	
SLIN 0007 AK	Intermec 815-074-001	Carrying Device	
SLIN 0007 AL	Intermec 203-990-001	Kit including AC Adapter & Snap-on USB Adaptor w/ cables	

Figure 2-12 Intermec CN70 pRFID Handheld Reader:

2.4.3 Description: HHR-A (NOT AVAILABLE FOR ORDERING)

The Intermec CN70e RFID is an ultra-rugged mobile computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit. The UHF pRFID reader is fully integrated with no visible external antenna. HHR-A is certified for non-incendive (NI) operation. It also includes a barcode scanner, 2D imager and supports VoIP/Speech Recognition/Push to Talk applications. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the CN70e refer to Appendix C SLIN 0005 pRFID Handheld Reader.

2.4.4 Included:

Included in SLINs AA-AF are 2 GB storage card, Flexdock, power adaptor and cables, trigger handle two batteries (one operational and one spare).

Figure 2-13 Intermec Trigger Handle

Figure 2-14 Intermec Flexd

2.4.5 SLINs: HHR-B (NOT AVAILABLE FOR ORDERING)

Table 2-16: pRFID Handheld Readers (B) SLINs

SLIN 0007 BA	Intermec CN	**RESERVED** **CLINS 0007BA thru 0007BF** **NOT AVAILABLE FOR ORDERING**	For FCC Use
SLIN 0007 BB			
SLIN 0007 BC			

SLIN 0007 BD	Intermec CN	RESERVED CLINS 0007BA thru 0007BF NOT AVAILABLE FOR ORDERING	For ETSI Use
SLIN 0007 BE			
SLIN 0007 BF			
SLIN 0007 BG	Interme		ble Battery
SLIN 0007 BH	Intermec DX1G51A20		Battery Charger/Communications Dock
SLIN 0007 BJ	Intermec 850-835-001		CAC Reader with Software, and wall charger
SLIN 0007 BK	Intermec 815-074-001		Carrying Device
SLIN 0007 BL	Intermec 203-990-001		Kit including AC Adapter & Snap-on USB Adaptor w/ cables

2.4.6 Description: HHR-B

The Intermec CN70e RFID is an ultra-rugged mobile computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit. The UHF pRFID reader is fully integrated with no visible external antenna. HHR-B is non-incendive (NI) certified. It also includes a barcode scanner, 2D imager and supports VoIP/Speech Recognition/Push to Talk applications. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the CN70e refer to Appendix D.

2.4.7 Included: HHR-B (NOT AVAILABLE FOR ORDERING)

Included in SLINs BA-BF are 2 GB storage card, Flexdock, power adaptor and cables, trigger handle, two batteries (one operational and one spare). Flexdock and trigger handle are shown in Figure 2-7 and 2.8.

2.4.8 SLINs: HHR-C

Table 2-17: pRFID Handheld Reader (C) SLINs

SLIN 0007 CA	Juniper Systems MS2-114	3 Year Warranty	For FCC Use
SLIN 0007 CB		4 Year Warranty	
SLIN 0007 CC		5 Year Warranty	
SLIN 0007 CD	Juniper Systems MS2-117	3 Year Warranty	For ETSI Use
SLIN 0007 CE		4 Year Warranty	
SLIN 0007 CF		5 Year Warranty	
SLIN 0007 CG	Apriva Z-100141	CAC Reader	
SLIN 0007 CH	Juniper Systems 12867	Carrying Device	
SLIN 0007 CJ	Juniper Systems 25260	Rechargeable Battery	
SLIN 0007 CK	Juniper Systems 24076	AC Adapter and Power Cord	
SLIN 0007 CL	Juniper Systems 26371	Battery Charger / Docking Station	

Figure 2-15 Juniper Mesa 2 Handheld Reader

2.4.9 Description: HHR-C

The Juniper Systems Mesa 2 is an ultra-rugged tablet PC computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit and equipped with a Windows 10 Operating System. The UHF pRFID reader is fully integrated with no visible external antenna and the Mesa 2 includes a barcode scanner, 2D imager and supports Wi-Fi, Bluetooth, and LTE communications. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Mesa 2 refer to Appendix R SLIN 0005 pRFID Handheld Reader.

2.4.10 Included:

Included in SLINs 007CA-CF are a docking station/battery charger, power adaptor and cables as well as a spare battery and spare battery charger.

2.4.11 SLINS: HHR-D

Table 2-18: pRFID Handheld Reader (D) SLINs

SLIN 0007 DA	Juniper Systems MS2-219-HL	3 Year Warranty	For FCC Use
SLIN 0007 DB		4 Year Warranty	
SLIN 0007 DC		5 Year Warranty	
SLIN 0007 DD	Juniper Systems MS2-220-HL	3 Year Warranty	For ETSI Use
SLIN 0007 DE		4 Year Warranty	
SLIN 0007 DF		5 Year Warranty	
SLIN 0007 DG	Apriva Z-100141	CAC Reader	
SLIN 0007 DH	Juniper Systems 12867	Carrying Device	
SLIN 0007 DJ	Juniper Systems 25260	Rechargeable Battery	
SLIN 0007 DK	Juniper Systems 24076	AC Adapter and Power Cord	
SLIN 0007 DL	Juniper Systems 26371	Battery Charger / Docking Station	

2.4.12 Description: HHR-D

The Juniper Systems Mesa 2 is an ultra-rugged tablet PC computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit and equipped with a Windows 10 Operating System. The UHF pRFID reader is fully integrated with no visible external antenna and the Mesa 2 includes a barcode scanner, 2D imager and supports Wi-Fi, Bluetooth, and LTE communications. Our offering for HHR-D has been certified non-Incendive for customers requiring operations in hazardous environments. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Mesa 2 refer to Appendix R SLIN 0007 pRFID Handheld Reader.

2.4.13 Included: HHR-D

Included in SLINs 007DA-DF are a docking station/battery charger, power adaptor and cables as well as a spare battery and spare battery charger.

2.4.14 SLINs: HHR-E

Table 2-19: pRFID Handheld Reader (E) SLINs

SLIN 0007 EA	Juniper Systems MS3-CFG-13091	3 Year Warranty	For FCC Use
SLIN 0007 EB		4 Year Warranty	
SLIN 0007 EC		5 Year Warranty	
SLIN 0007 ED	Juniper Systems MS3-CFG-13215	3 Year Warranty	For ETSI Use
SLIN 0007 EE		4 Year Warranty	
SLIN 0007 EF		5 Year Warranty	
SLIN 0007 EG	Identiv SCR3310v2.0	USB Smart Card Reader	
SLIN 0007 EH	Juniper Systems 12867	Carrying Device	
SLIN 0007 EJ	Juniper Systems 28000	Rechargeable Battery	
SLIN 0007 EK	Juniper Systems 28535	AC Adapter and Power Cord	
SLIN 0007 EL	Juniper Systems 26371 / 26362 / 28073 / 28535	Battery Charger / Docking Station KIT	

Figure 2-16 Juniper Mesa 3 Handheld Reader

2.4.15 Description: HHR-E

The Juniper Systems Mesa 3 is an ultra-rugged tablet PC computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit and equipped with a Windows 10 Operating System. The UHF pRFID reader is fully integrated with no visible external antenna and the Mesa 3 includes a barcode scanner, 2D imager and supports Wi-Fi, Bluetooth, and LTE communications. The Mesa 3's Quad-core Pentium processor allows for increased scanning and processing power in high data collection applications. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Mesa 3 refer to Appendix R SLIN 0007 pRFID Handheld Reader.

2.4.16 Included: HHR-E

Included in SLINs 007EA-EF are a docking station/battery charger, power adaptor and cables as well as a spare battery and spare battery charger.

2.4.17 SLINs: HHR-F

Table 2-20: pRFID Handheld Reader (F) SLINs

SLIN 0007 FA	Juniper Systems MS3-CFG-HL-13209	3 Year Warranty	For FCC Use
SLIN 0007 FB		4 Year Warranty	
SLIN 0007 FC		5 Year Warranty	

SLIN 0007 FD	Juniper Systems MS3-CFG-HL-13215	3 Year Warranty	For ETSI Use
SLIN 0007 FE		4 Year Warranty	
SLIN 0007 FF		5 Year Warranty	
SLIN 0007 FG	Identiv SCR3310v2.0	USB Smart Card Reader	
SLIN 0007 FH	Juniper Systems 12867	Carrying Device	
SLIN 0007 FJ	Juniper Systems 28000	Rechargeable Battery	
SLIN 0007 FK	Juniper Systems 28535	AC Adapter and Power Cord	
SLIN 0007 FL	Juniper Systems 26371 / 26362 / 28073 / 28535	Battery Charger / Docking Station KIT	

2.4.18 Description: HHR-F

The Juniper Systems Mesa 3 is an ultra-rugged tablet PC computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit and equipped with a Windows 10 Operating System. The UHF pRFID reader is fully integrated with no visible external antenna and the Mesa 3 includes a barcode scanner, 2D imager and supports Wi-Fi, Bluetooth, and LTE communications. The Mesa 3's Quad-core Pentium processor allows for increased scanning and processing power in high data collection applications. Our offering for HHR-F has been certified non-Incendive for customers requiring operations in hazardous environments. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Mesa 3 refer to Appendix R SLIN 0007 pRFID Handheld Reader.

2.4.19 Included: HHR-F

Included in SLINs 007FA-FF are a docking station/battery charger, power adaptor and cables as well as a spare battery and spare battery charger.

2.4.20 SLINs: HHR-G

Table 2-21: pRFID Handheld Reader (G) SLINs

SLIN 0007 GA	DT Research - 362GL-10B-495SR	3 Year Warranty	For FCC Use

Figure 2-17 DT Research DT362GL Handheld Tablet

2.4.21 Description: HHR-G

The DT Research DT362GL Handheld Rugged Tablet features the integration of a high brightness 6" capacitive touch screen and a high performance yet energy efficient processor within a slim, lightweight, durable package. With built-in Wi-Fi, Bluetooth and a smart card reader as well as options for back camera, barcode scanner, GNSS, NFC, and UHF RFID reader, this robust tablet offers seamless information capture and transmission for improved workflow. Rated IP65 and MIL-STD-810G, the DT362GL Handheld Rugged Tablet provides reliable operation in harsh, mission-critical environments.

2.4.22 Included: HHR-G

The base configuration for the DT362GL includes the Hand Held Barcode Terminal X (HHT-X) - 6" Display, Windows 10 IoT Enterprise, Quad-core Intel Pentium Silver Processor N5000 (1.10GHz up to 2.70GHz), 8GB RAM, 256GB SSD, Integrated CAC Reader, Micro RFID Module (ThingMagic (Jadak) M6E-M), 1D/2D Honeywell N670X Barcode Scanner, Dedicated GPS, Wi-Fi 802.11ac + Bluetooth, Rear Facing Camera, Digital Pen, Hand Strap, Screen Protector, AC Adapter & Power Cord, USB Type C x1 (data transmitting & charging), 3 Year Standard Warranty.

2.4.23 Not Included:

The following items are not included in the purchase of SLIN 0007 GA and require a separate purchase:

Table 2-22: pRFID Handheld Reader (G) Separate Accessory SLINs

SLIN 0007 GB	DT Research - ACC-010-22S	Holster and Shoulder Strap (Compatible WITHOUT Pistol Grip)
SLIN 0007 GC	DT Research - ACC-HP262-01S	Holster and Shoulder Strap (Compatible WITH Pistol Grip)
SLIN 0007 GD	DT Research - ACC-006-362G	Rechargeable (1EA) Battery Pack
SLIN 0007 GE	DT Research - ACC-GC662-01	Multiple Battery Charger - 6-Bay Battery Gang Charger, AC Adapter & Power Cord
SLIN 0007 GF	DT Research - ACC-PG262-02	Pistol Gun without 6dB antenna (barcode only)
SLIN 0007 GG	DT Research - ACC-PG262-01	Extended Range RFID Pistol Grip with 6dB antenna
SLIN 0007 GH	DT Research - ACC-007-35	One Pack of (1) Tethered Replacement Styli (1 Digital Pen, 1 AAAA Battery, 1 Coil Lanyard)
SLIN 0007 GJ	DT Research - ACC-011-20	Transparent Screen Protector
SLIN 0007 GK	DT Research - AAC-010-31	Detachable Hand Strap
SLIN 0007 GL	DT Research - ACC-DC263-01	Single Battery Charger / Docking Station (Compatible WITHOUT Pistol Grip)
SLIN 0007 GM	DT Research - ACC-UC262-02	Single Battery Charger / CHARGE ONLY Docking Station (Compatible WITH Pistol Grip)
SLIN 0007 GN	DT Research - ACC-001-38	AC/DC Power Adapter (65W) with power cord. USB Type C plug.

2.5 pRFID Tags

2.5.1 Overview

pRFID tags are the consumable item placed on material that is to be tracked. They come in many form factors based upon the application and the material being tagged. Disposable adhesive shipping labels generally come in rolls designed for a printer. For more information about printers, see the Printer section of this UG. Metal or liquid objects require a more substantial tag that has been tuned to operate in close proximity to those materials. These tags are generally thicker, made of plastic, and come in smaller quantities. They can typically be mounted to objects using mounting holes rather than adhesive and require hardware to do so.

2.5.2 SLINs: pRFID Tags

Figure 2-18 DT Research DT362GL Handheld Tablet Accessories

SLIN 0009 AA	Lowry 305-00205	Shipping Tag - 4" X 2"
SLIN 0009 AB	Lowry 305-00206	Shipping Tag - 4" X 6"
SLIN 0009 AC	Omni ID Exo 750	Hardened Standoff Tag
SLIN 0009AD	Confidex Survivor B (FCC or ETSI – stipulate at time of ordering)	Battery Assisted Passive Tag
SLIN 0009 AE	Lowry 305-00207	Document Labeling/Tracking Tag
SLIN 0009 AF	Omni ID Fit 210	Office/Asset Tag
SLIN 0009 AG	HID Global Seal Tag eTamper	Small Arms Well Tag

2.5.3 Description: 0009 AA

Lowry 305-00205 is a thermal transfer, white synthetic label with a high strength, permanent adhesive. It is a 4” x 2” general purpose label. The pRFID inlay included is the Alien Higgs3 Squiggle which is tuned for global use. Inlays are ordered by roll, with a quantity of 2000/roll. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this label refer to Appendix F: SLIN 0009 Shipping Tag – 4” x 2”.

2.5.4 Description: 0009 AB

Lowry 305-00206 is a thermal transfer, white synthetic label with a high strength, permanent adhesive. It is a 4” x 6” general purpose label. The pRFID inlay included is the Alien Higgs3 Squiggle which is tuned for global use. Inlays are ordered by roll, with a quantity of 500/roll. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this label refer to Appendix G: SLIN 0009 Shipping Tag – 4” x 6”.

2.5.5 Description: 0009 AC

The Omni-ID Exo 750 is a long range durable pRFID tag optimized for attachment to metal assets and is tuned for global use. It measures 2.0” x 1.9” x 0.5” and weighs 25.6 grams. The imbedded integrated circuit is the Monza 4 QT. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III

contract. For more technical information on this tag refer to Appendix H: SLIN 0009 Hardened Stand-Off Tag.

Figure 2-19 Omni ID Exo 750

2.5.6 Description: 0009 AD

The Confidex Survivor B is a super long range, rugged, compact tag specifically designed to provide long range operation around liquids and metals. It can store manifest, maintenance records, custody chain, history, and user information locally on the tag. The tag is sealed to IP68. It measures 6.1” x 1.02” x 0.57” and weighs 34 grams. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this tag refer to Appendix I: Battery Assisted Passive Tag.

Figure 2-20 Confidex Survivor B

2.5.7 Description: 0009 AE

Lowry 305-00207 is a direct thermal, smooth white paper label with a non-tackified, all temperature acrylic adhesive. It is a 4” x 1” general purpose label. The pRFID inlay included is the Alien Higgs3 Squiggle which is tuned for global use. Inlays are ordered by roll, with a quantity of 2000/roll. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this label refer to Appendix J: Document Labelling Tag.

2.5.8 Description: 0009 AF

The Omni-ID Fit 210 is a small form factor, global, pRFID tag designed specifically for enterprise asset management environments. It measures 2.09” x 0.20” x 0.06” and weighs 1 gram. The imbedded integrated circuit is the Alien Higgs3. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this tag refer to Appendix K: Office/Asset Tag.

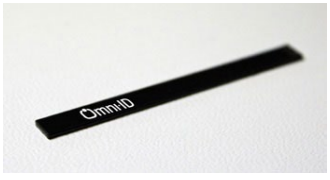

Figure 2-21 Omni ID Fit 210

2.5.9 Description: 0009 AG

HID Global's Seal Tag eTamper Tags are tamper evident passive contact-less RAIN UHF transponders allowing detection of their seal status via RFID. The eTamper tags provide a digital notification if a sealed tag has been compromised to quickly scan large sets of sealed items for integrity. Typical applications include sensitive and highly secure items, such as aircraft life vests or weapon/equipment racks that require periodic safety and security checks. It measures .69” x .13” and weighs 1 gram. Seal Tag eTamper products utilize a variety of HF/NFC compatible chips. The eTamper Coin TTS adds a non-replicable identity to each interaction when deployed with HID Trusted Tag® Services, a cloud-based authentication platform by HID Global - ideal for "proof of presence" applications. HID Global Seal Tag eTamper may be ordered personalized with custom encoding, laser engraved logos, Bar-/QRcode or text.

Figure 2-22 HID Seal Tag eTamper

2.6 pRFID Printer

2.6.1 Overview

The pRFID Printer is the solution for printing and encoding pRFID labels that are to be placed on material. Generally required for this solution are the printer itself, AC power cord, printer ribbon and label stock. Seagull Scientific’s BarTender Professional 2016 software provides an extremely easy to use solution to design and print labels, barcodes, design RFID labels, and cards. BarTender Professional 2016 provides nearly every barcode type including linear, 2D, postal or GS1 DataBar. BarTender Professional 2016 supports frequently used linear and 2D barcodes such as UPC, Codabar, Code 39s, 93s, and 128s and Data Matrix as well as design of RFID tags and QR codes. For more information on label stock, see Section 2.5 of this UG. The printers are network devices and can be configured wirelessly or hard-wired. They are controlled by middleware installed on a local server. For more information about this, please see Section 4.1 of this UG.

2.6.2 SLINs: pRFID Printer

Table 2-24: pRFID Printer SLINs

SLIN 0011 AA	Intermec PM43G01NA0140201, Seagull Scientific Bartender Pro	3-year Warranty	For FCC Use
SLIN 0011 AB		4-year Warranty	
SLIN 0011 AC		5-year Warranty	
SLIN 0011 AD	Intermec PM43G01EU0140202. Seagull Scientific Bartender Pro	3-year Warranty	For ETSI Use
SLIN 0011 AE		4-year Warranty	
SLIN 0011 AF		5-year Warranty	
SLIN 0011 AG	Intermec 1-110501-00	Operator's Maintenance Kit	
SLIN 0011 AH	Intermec 201-031-420	Replacement Print Head	

SLIN 0011 AJ	Intermec 13634118	4" wide Resin-Based Printer Ribbon

Figure 2-23: Intermec PM43 pRFID Printer

2.6.3 Description: pRFID Printer

The Intermec PM43 pRFID Printer is an industrial printer ideal for a wide range of applications within the distribution center/warehouse environment. It has a large, color tamper proof touch screen, and supports all major 1D and 2D barcode symbologies. The printer has a resolution of 203 dpi, and a variable print speed from 100-300 mm/sec and supports label sizes up to 4.5 inches in width. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the PM43 refer to Appendix M: SLIN 00013 pRFID Printers.

2.6.4 Included:

Included with the Intermec PM43 pRFID Printer is one (1) Seagull Scientific Bartender Pro 2016 Label software, one (1) full length thermal transfer ribbon, and one (1) Operators Maintenance Kit.

2.7 Wireless RF Data Communications

2.7.1 Overview

Wireless data communications provide the network backbone on which AIT and pRFID peripheral devices communicate data to software systems and applications. These networks leverage the 802.11 air interface protocol (with FIPS 140-2 level security) and can provide coverage in either indoor or outdoor environments. Networks can be composed access points which provide connectivity to computers using the network and controllers that manage the settings and security on the access points. Individual networks can range in size from a single access point to hundreds of access points.

2.7.2 SLINs: Wireless RF Data Communications

Table 2-25: Wireless RF Data Communications SLINs

SLIN 0013 AA	Aruba AP-205-F1	Radio Frequency Access Point (Indoor Environment)
SLIN 0013 AB	Aruba AP-274-F1	Radio Frequency Access Point (NEMA)
SLIN 0013 AC	Aruba 7205-USF1	Wireless Network Controller

2.7.3 Description: 0013 AA

The Aruba AP-205-F1 is a dual radio access point capable of supporting both 802.11ac (5 GHz) and 802.11n (2.4GHz) clients simultaneously. The AP-205-F1 is delivered with four integrated omni-directional, down tilting antennas for optimal area coverage when the access point is ceiling mounted. The AP-205-F1 is Power over Ethernet (POE) compatible and supports a 10/100/1000BASE-T Ethernet

network interface. The AP-205-F1 measures 5.9” x 5.9” x 1.63” and weighs 380g. The AP-205-F1 is delivered with a mounting enclosure that provides IP 67 level environmental protection and can operate in temperatures from 0C to 40C. The AP-205-F1 is delivered with a 3-year comprehensive warranty and comes with Aruba’s limited lifetime warranty. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this device refer to Appendix M: SLIN 0013 Wireless Access Point (Indoor).

Figure 2-24: Aruba AP-205 F1 Access Point

2.7.4 Description: 0013 AB

The Aruba AP-274-F1 is a high-performance access point designed to work in the toughest outdoor environments. The AP-274-F1 is delivered with features that allow it to reduce unwanted RF interference and maximize performance for users moving within the network. The AP-274-F1 is PoE compatible and supports a 10/100/1000BASE-T Ethernet network interface. The AP-274-F1 measures 9.0” x 9.4” x 7.5” and weighs 2.7Kg. Housing for the AP-274-F1 provides IP 68 level protection and the AP-274-F1 is delivered with a 3-year comprehensive warranty (the AP-274-F1 also comes with Aruba’s limited lifetime warranty). The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this device refer to Appendix N: SLIN 0013 Wireless Access Point (NEMA).

Figure 2-25: Aruba AP-284-F1 Access Point

2.7.5 Description: 0013 AC

The Aruba 7205-USF is a high-capacity network controller capable of supporting up to 256 access points and over 8,000 individual clients. The 7205-USF manages authentication and encryption, VPN connectivity and IPv4 and IPv6 level services (the 7205-USF is delivered with firewall and RF protection software designed to increase network security). The Aruba 7205-USF is capable of operating in temperatures from 0C to 40C (and can even operate at an elevation of 10,000 feet). The 7205-USF is 1.75” x 13.13” x 17.38” and weighs 4.95Kg. The vendor specification for this device has been included in

an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this device refer to Appendix O: SLIN 0013 RF Gateway.

Figure 2-26: Aruba 7205-USF Controller

2.8 pRFID Desktop Reader/Writer

2.8.1 SLINs: pRFID Desktop Reader/Writer (A)

Table 2-26: pRFID Desktop Reader/Writer (A)

SLIN 0028 AA	GAO RFID UHF 860-960 MHz Compact RFID Reader/Writer	3-year Warranty
SLIN 0028 AB		4-year Warranty
SLIN 0028 AC		5-year Warranty

2.8.2 Description: pRFID Desktop Reader/Writer (A)

GAO RFID's UHF 860-960 MHz Compact RFID Reader/Writer is compliant with ISO18000-6C EPC Gen 2 protocol and operates at a frequency range of 840 to 960 MHz. This device has a read range of up to 11.8" (30 cm). The Reader/Writer is specially designed for applications such as system logger, time and attendance, prepayment and ticket management. It features a compact housing design making it ideal for installation in environments with space constraints.

Figure 2-27: GAO RFID UHF Reader/Writer

2.8.3 Included:

The USB power cord is included with the reader/writer.

2.8.4 SLINs: pRFID Tag Verifier / Encoder (B)

Table 2-47: pRFID Tag Verifier / Encoder (B)

SLIN 0028 BA	VR-CURVE-RDR-US	3 Year Warranty	For FCC Use

2.8.5 Description: pRFID Tag Verifier / Encoder (B)

At only 8" x 8" the "Curve" provides a low profile (9/16" tall) integrated RFID antenna and reader solution with built in verification and encoding capabilities. Designed for tag on product commissioning and

verification, the Curve also has built in visual go / no-go indicators to assist with tag verification. Ability to daisy chain the readers via the CAN Bus.

Figure 2-48: Venture Research Curve RFID Verifier and Encoder

2.8.6 Included:

The base configuration includes the integrated reader (8" x 8"), 1 antenna, Illuminating RGB edge, Wi-Fi, Ethernet, Serial, 2-in-2 Out GPIO, POE and POE Injector. Includes two Ethernet cables. No mounting materials are required for this item.

No asset management or other operational software is required; however, these devices are certified for use with GlobeRanger iMotion software. Alternatively, the readers contain a Linux-based controller running FIDO, creating a robust combination of reliability and adaptability to use Python, user defined apps, and the included VR RFID Controller Application for all tracking needs. Configuration and setup can be performed through the Console via USB, Ethernet connection, or Wi-Fi (if configured).

BLE is not currently FIPS compliant and will be disabled for this configuration.

2.9 pRFID Shipyard Kits

2.9.1 Overview

The shipyard antenna kits were created for use by the Navy to meet their requirements for tracking incoming / outgoing materials.

2.9.2 SLINs: pRFID Shipyard Kits

Table 2-58: pRFID Navy Shipyard Kits

SLIN 0029 AA	Shipyard Kit #1	3 antenna kit
SLIN 0029 AB	Shipyard Kit #2	2 antenna kit

2.9.3 Description: 0029 AA

The following is included in Shipyard Kit #1:

a. 902-928 MHz Low Profile fixed pRFID Reader; Quantity: 1 (reference SLIN 0001 BA, pg. 2-4)
b. 902-928 MHz Far Field Reader Antenna; Quantity: 3 (reference SLIN 0001 BN, pg. 2-5)
c. 150' 240 LLPR flexible coaxial cable; Quantity: 1
d. Male Connector Crimp/Solder Attachment; Quantity: 3 (reference SLIN BV, pg. 2-5)
e. RF Connector, TNC Straight Crimp Jack for RG-8X; Quantity: 3 (reference SLIN BU, pg. 2-5)

2.9.4 Description: 0029 AB

The following is included in Shipyard Kit #2:

a. 902-928 MHz Low Profile fixed pRFID Reader; Quantity: 1 (reference SLIN 0001 BA, pg. 2-4)

b. 902-928 MHz Far Field Reader Antenna; Quantity: 3 (reference SLIN 0001 BN, pg. 2-5)
c. Watertight Reader Enclosure; Quantity: 1 (reference SLIN 0001 BY, pg. 5)
d. 100' 240 LLPR flexible coaxial cable; Quantity: 1
e. Male Connector Crimp/Solder Attachment; Quantity: 2 (reference SLIN BV, pg. 2-5)
f. RF Connector, TNC Straight Crimp Jack for RG-8X; Quantity: 2 (reference SLIN BU, pg. 2-5)
g. UV Resistant, Weatherproof, Polycarbonate outdoor antenna box; Quantity: 2 (reference SLIN 0001 BX, pg. 2-5)

2.10 pRFID Barcode Scanner and Imagers

2.10.1 Overview

The pRFID imaging device provides a combination 1D/2D bar code scanner and RFID reader that has a size dimension less than or equal to 8.5" H x 3.5" W x 6" D, and weighs less than 20 oz. It accommodates both hands-free and handheld scanning applications. The imaging devices have an integrated aiming pattern to easily scan bar codes printed with direct thermal, thermal transfer, dot matrix, ink jet, and laser technologies, as well as bar codes printed on colored substrates. The imager has the capability to read Class1, Gen2, tags. The imager is adjustable to increase or decrease the RFID data capture read range and is easily configured to switch between handheld and hands-free scanning modes without any firmware and software changes.

2.10.2 SLINs: pRFID Barcode Scanner and Imager (A)

Table 2-29: pRFID Barcode Scanner and Imager (A) SLINs

SLIN 0031 AA	DS	3 Year Warranty	FCC
SLIN 0031 AB			
SLIN 0031 AC			
SLIN 0031 AD	DS	3 Year Warranty	ETSI
SLIN 0031 AE			
SLIN 0031 AF			

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CLINS 31AA thru 31AF

PENDING CONTRACT MOD

Figure 2-29 Zebra DS9908 Hybrid Imager

2.10.3 Description: pRFID Barcode Scanner and Reader (A)

The DS9900 Series combines an 800 MHz microprocessor, a high-resolution megapixel sensor and Zebra's exclusive PRZM Intelligent Imaging technology for unparalleled performance on 1D, 2D and Digimarc barcodes. The DS900 Series can instantly capture dense, poorly printed, damaged, crinkled, faded, distorted, low-contract, and glossy printed barcodes, as well as electronic barcodes on dimly lit mobile phone displays.

2.10.4 Included:

A shielded USB cable is included with the scanner/imager.

2.10.5 SLINs pRFID Barcode Scanner and Imager (B)

Table 2-30: pRFID Barcode Scanner and Imager (B) SLINs

SLIN 0031 BA	Zebra - RFD8500-5000100-US	3 Year Warranty	FCC
SLIN 0031 BB	Zebra - RFD8500-1000100-US	3 Year Warranty	FCC

Figure 2-30 Zebra RFD8500 Handheld Sled w/ Imager

2.10.6 Description: pRFID Barcode Scanner and Imager (B)

This reader may be connected to almost any third-party mobile devices, such as Dell tablets, via pin-encrypted Bluetooth or in batch mode, which enables the collection of up to 42,000 RFID tags before required synchronization. Options for RFID-only and RFID + barcode scanning are provided. The RFD8500 has a nominal read range of up to 20 feet. The make and model of the integrated scan engine for the RFD8500 model with the integrated 2D imager is the Zebra SE4710 Imager. The Zebra RFD8500 Sled is compatible with Microsoft Windows 10 OS. Pin encrypted BT interface is required for FIPS 140-2 compliance is included as a baseline feature for Government clients.

Zebra Technologies Handheld RFID Sled RFD8500-1000100 (US/EU) no imager proposed base configuration includes the following: UHF, NO IMAGER, Multi-OS Capability, includes Pin encrypted BT interface (required for FIPS 140-2 compliance), 4410 mAh Battery, US/EU frequency band.
We have included charging cradle options with one (1) slot (CRD1S-RFD8500-I1-KIT) and four (4) slots (CRD4S-RFD8500-1R-KIT).

2.10.7 Included:

Zebra Technologies Handheld RFID Sled RFD8500-5000100 (US) with 2D imager proposed base configuration includes the following: UHF, 2D Imager (SE4710), Multi-OS Capability, includes Pin encrypted BT interface (required for FIPS 140-2 compliance), 4410 mAh Battery, US frequency band.

Zebra Technologies Handheld RFID Sled RFD8500-1000100 (US) no imager proposed base configuration includes the following: UHF, NO IMAGER, Multi-OS Capability, includes Pin encrypted BT interface (required for FIPS 140-2 compliance), 4410 mAh Battery, US frequency band.

2.10.8 Not Included:

The following options are not included with the barcode scanner/imager but are available for purchase separately: charging cradle with one (1) slot (CRD1S-RFD8500-I1-KIT) and four (4) slots (CRD4S-RFD8500-1R-KIT).

Table 2-31: pRFID Barcode Scanner and Imager (B) Separate Accessory SLINs

SLIN 0031 BC	CRD1S-RFD8500-1R-KIT	3 Year Warranty	FCC
SLIN 0031 BD	CRD4S-RFD8500-1R-KIT	3 Year Warranty	FCC

2.10.9 SLINs: pRFID Barcode Scanner and Imager (C)

Table 2-32: pRFID Barcode Scanner and Imager (C) SLINs

SLIN 0031 CA	VR/Zebra - DS457-SR20004ZZWW	3 Year Warranty	FCC

Figure 2-31 Zebra DS457 Fixed Mount Imager

2.10.10 Description: pRFID Barcode Scanner and Imager (C)

The Zebra DS457 Fixed Mount Imager can help, delivering fast, high-volume hands-free scanning of virtually any barcode— including 1D, 2D and direct part marks (DPM). No matter what type of barcode is presented, or whether it is printed on paper, etched into a product, or displayed on a mobile phone screen, the DS457 Series provides fast, accurate scanning in a tiny footprint that fits in the most space-constrained areas.

2.10.11 Included:

A mount and USB cable are included with the fixed mount imager.

3. Hardware Cables

Required cables are listed in the individual Hardware sections above. Cables that can be ordered individually are listed in the table below.

Table 3-1: pRFID Hardware Cable SLINs

SLIN	Cable Purpose	Cable Interface	Manufacturer	Part Number	Qty
0001 AA-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0001 AA-AC	AC Adapter	IEC 60320-1 C14 Inlet	Intermec	851-061-408	1
0001 AE-AG	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1
0001 AE-AG	AC Adapter	IEC 60320-1 C14 Inlet	Intermec	851-061-501	1
0001 AE-AG	13’ Antenna Cable	RP-TNC Male to N Male	Intermec	236-230-001	2
0003 AA-AF	IV7 Power Cable	3 pin circular connector	Intermec	203-713-003	1
0003 AA-AC	4.5’ Antenna Cable	RP-SMA-P to RP-N-P	Intermec	203-850-001	2
0003 AA-AF	12’ Data Cable	20-pin circular connector	Intermec	203-776-001	1
0003 AA-AF	DC/DC Power	Hirose Connection	Intermec	203-809-001	1
0003 AD-AF	4.5’ Antenna Cable	SMA Plug/N Plug	Intermec	236-170-001	2
0005 AA-AC	AC Power Supply	IEC 60320-1 C14 Inlet	Zebra	PWRS-14000-260R	1
0005 AD-AF	AC Power Supply	IEC 60320-1 C14 Inlet	Zebra	PWRS-14000-260R	1
0007 AA-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 AD-AF	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1
0007 AA-AF	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 AH	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 AH	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 AL	AC Power Supply	Hirose Connection	Intermec	203-990-001	1
0007 BA-BC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 BD-BF	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1
0007 BA-BF	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 BH	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 BH	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 BL	AC Power Supply	Hirose Connection	Intermec	203-990-001	1
0011 AA-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0011 AD-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1

0007CA-CF	AC Power Cord	Varies by Region	Juniper Sys	26371	1
0007DA-DF 0007CL & DL	AC Power Cord	Varies by Region	Juniper Sys	24076	1

4. Software

4.1 pRFID – Software

GlobeRanger iMotion is the software solution for managing devices, as well as collecting data and applying business rules to the solution. An asset record of software versions and configurations being installed will be kept. For details on this refer to *pRFID III Management Plan (DCN# 14868.000.000.001) or the pRFID III Configuration Management Plan (CMP) (DCN# 14868.000.000.002).* Minimum server requirements are listed in Appendix P: SLIN 0015 pRFID Software.

4.1.1 SLINs

Table 4-1: pRFID Software SLINs

SLIN 0015 AA	GlobeRanger iMotion Software per Device GlobeRar	Application nt cludes
SLIN 0015 AB	GlobeRar GlobeRar GlobeRar	ware nt tool raries
SLIN 0015 AC	GlobeRar GlobeRar GlobeRar	nt d Utilities ense (includes Middleware)
SLIN 0015 AD	Seagull Scientific BT16-PRO	BarTender 2016 Professional Edition Label Software
SLIN 0015 AG	GlobeRanger Corporation - GR-IMOT-07-1YR - iMotion Site License (1 YR) – includes up to 10 managed device licenses - Scalable, distributed, enterprise ready RFID and sensor-based middleware platform built to manage RFID infrastructure deployments: Microsoft Window OS compatible. Subscription license renews annually; includes maintenance and support.	Application Development Software (includes Middleware) 1-Year site license
SLIN 0015 AH	GlobeRanger Corporation - GR-IMOT-07-3YR - iMotion Site License (3 YR) – includes up to 10 managed device licenses - Scalable, distributed, enterprise ready RFID and sensor-based middleware platform built to manage RFID infrastructure deployments: Microsoft Window OS compatible. Subscription license renews every 3 years; includes maintenance and support.	Application Development Software (includes Middleware) - 3-Year site license
SLIN 0015 AJ	GlobeRanger Corporation - GR-IMOT-AWR-1YR iMotion + GR-AWARE Module Site License (1 YR) - iMotion Site License plus GR-AWARE (Asset Watching and Reporting Engine) - asset management module; supports a broad range of RFID, sensor, and location technologies; create/manage edge processes, exceptions, triggers, alerts, notifications and real-time reports. Subscription license renews annually; includes maintenance and support.	Application Development Software (includes Middleware) - 1-Year site license
SLIN 0015 AK	GlobeRanger Corporation - GR-IMOT-AWR-3YR iMotion + GR-AWARE Module Site License (3 YR) - iMotion Site License plus GR-AWARE (Asset Watching and Reporting Engine) - asset management module; supports a broad	Application Development Software (includes Middleware) - 3-Year

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CLINS 15AA thru 15AC

NOT AVAILABLE FOR ORDERING

	range of RFID, sensor, and location technologies; create/manage edge processes, exceptions, triggers, alerts, notifications, and real-time reports. Subscription license renews every 3 years; includes maintenance and support.	site license
SLIN 0015 AL	GlobeRanger Corporation - GR-DEV-1YR Managed Device License (1 YR) – Per Device over 10 Device License - any device managed by the iMotion Edge Device Manager. Subscription license renews annually; includes maintenance and support.	Managed Device License - 1-Year renew
SLIN 0015 AM	GlobeRanger Corporation GR-DEV-3YR Managed Device License (3 YR) – Per Device over 10 Device License - any device managed by the iMotion Edge Device Manager. Subscription license renews every 3 years; includes maintenance and support.	Managed Device License - 3-Year renew

4.1.2 Description:

GlobeRanger iMotion serves as the foundation for edge solutions, providing a platform runtime for managing devices and Edge processes, a software development kit (SDK) for easy extensibility, pre-build process components for rapid implementation, and comprehensive tools for rapid solution development, production deployment and on-going operation. Based on Microsoft's .NET Framework, iMotion enables business consultants, application developers, and systems engineers to easily create, configure and manage edge data and automation solutions.

The Federal Solution Accelerator, built on the iMotion Edgeware platform, consists of nine (9) key functional modules that can dramatically speed your Federal RFID implementation. Each of these modules can be used independently or can be combined for even greater benefit.

- Generic Site Configuration
- Reporting Framework
- Management Reporting
- Track & Trace
- N-Level Hierarchy
- Verification
- Wide Area Workflow
- EDI Document Format Integration
- Control Number Management

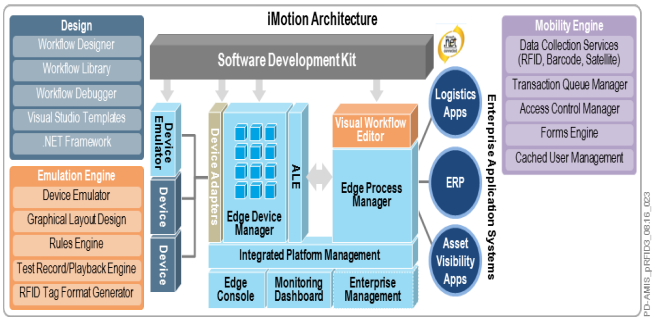

Figure 4-1: GlobeRanger iMotion Platform

4.1.3 Application Development Software (SLIN 0015AA)

The iMotion Edgeware Platform Architecture includes device management, data aggregation, edge process management, and enterprise messaging. The functional layers are responsible for reliably collecting and transforming RFID tag read events into actionable business information. The high-level application components of the iMotion Edgeware Platform architecture include the Edge Device Manager (EDM), Edge Process Manager (EPM), Edge Management Console & Monitoring Dashboard (EMC), Visual Device Emulator (VDE), and Event Workflow Editor (EWE). The application components used in concert are responsible for maintaining and managing the edge. Additionally, the Visual Device Emulator and Event Workflow Editor are GUI tools to aid in edge development and deployment.

4.1.4 Special Software Development tool kits/utility Libraries (SLIN 0015AB)

The Federal Solution Accelerator software module can help accelerate deployments and integration for AMIS supported customers. This module contains all the processing and logic needed to interact with current DoD systems and EDI transaction formats. It isolates the systems integration function into DoD specific requirements in one module of software. Therefore, this software is extensible to allow for quick introduction of new requirements with minimal change and configuration management needed within the software architecture. The software is based upon Microsoft Visual Studio and .Net technology. This foundation allows for agile methodology minimizing the cost of new software development, testing, and integration rework. This solution accelerator is a collection of technology subsystems that include out-of-the-box application functionality and Edge Device settings and Edge Process workflows.

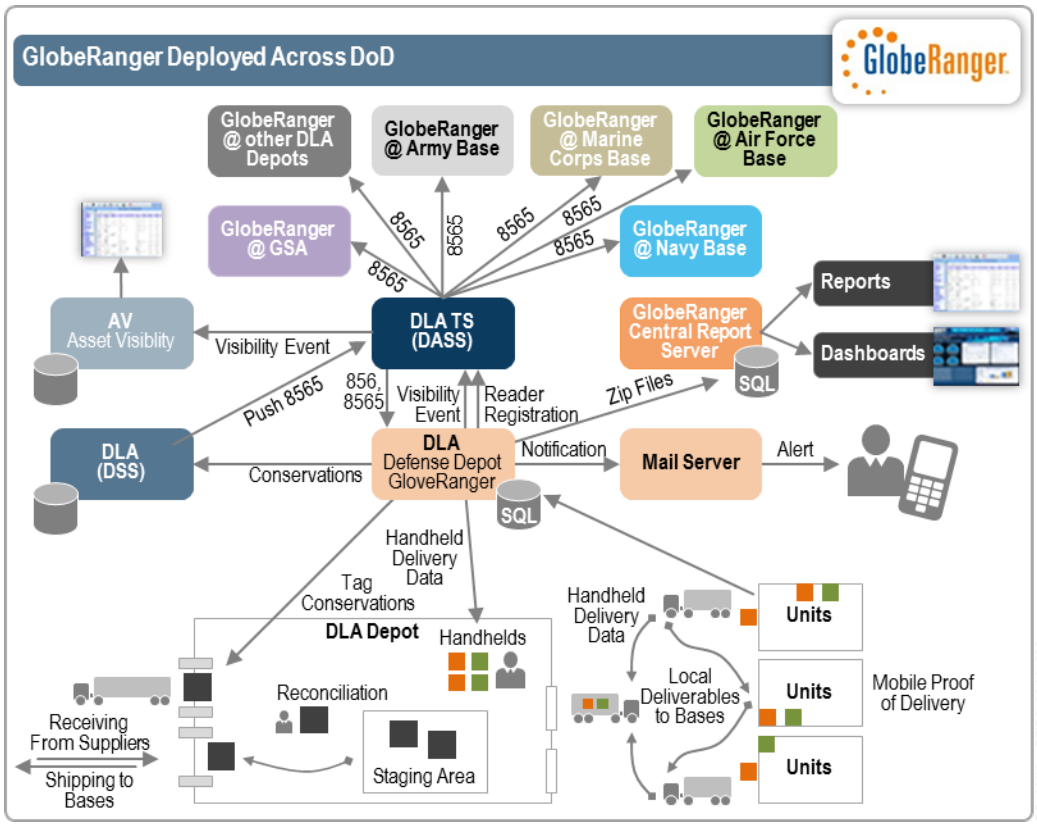

Figure 4-2: Federal Solutions Accelerator

4.1.5 Development Software and Utilities Runtime License (SLIN 0015 AC)

The Development Software and Utilities Runtime Licenses allow any program developed with the application software to be installed and used without the need to purchase a separate license.

4.1.6 pRFID Printer Software (SLIN 0015 AD)

BarTender PRO Label software provides users with a “what-you-see-is-what-you-get” interface, allowing users to easily design and create custom labels and forms. The Bartender software also allows the user to embed data fields within a label. BarTender PRO Label software can be integrated with the iMotion platform allowing the iMotion platform populate data fields with application-specific values. The selected printer also has software pre-installed to allow for local configuration of print parameters. BarTender PRO

Label software is equipped with commercial and DoD standard label templates (including the Military Shipping Label and the DD-1348 Issue Release Receipt Document) and is capable of calling data from ubiquitously used commercial software packages such as MS Access and MS Excel.

4.1.7 pRFID Armory Management Software (SLIN 0015AE & SLIN 0015AF)

Smartrack RFID SMARTRACK – Digital Arms Room is a fully automated Armory Management system that integrates hardware, software, and a database-management system specifically to manage and track arsenal equipment in armories within the U.S. Military and Law Enforcement agencies. The fully integrated Digital Arms Room System is specifically designed to comply with Arms Room Operations and DOD FIPS 140-2 Security Specifications. The system is fully functional in a stand-alone environment in either a field or base deployment. The Digital Arms Room is capable of tracking and managing an unlimited variety of weapons and weapons related equipment, including real time information on individual weapon life cycles and maintenance states, and the duty assignments, team composition, training, and qualification of the soldiers to whom the weapons are assigned.

Smartrack RFID SS Server System SMARTRACK – Digital Arms Room is a fully automated Armory Management system that integrates hardware, software, and a database-management system specifically to manage and track arsenal equipment in armories within the U.S. Military and Law Enforcement agencies. The fully integrated Digital Arms Room System is specifically designed to comply with Arms Room Operations and DOD FIPS 140-2 Security Specifications. The Digital Arms Room is capable of tracking and managing an unlimited variety of weapons and weapons related equipment, including real time information on individual weapon life cycles and maintenance states, and the duty assignments, team composition, training, and qualification of the soldiers to whom the weapons are assigned. SMARTRACK Software works with SQL Server 2008, 2012 or 2014 and Windows Server 2008 or 2012. The Microsoft software can be included as an option along with the Smartrack server software.

5. Recommended Equipment Configurations

As common configurations are ordered, this section of the user and pricing guide will be augmented with orderable items which comprise common solutions.

5.1 Dock Door Configuration

Implementation of parallel dock door solutions, depicted in Figure 5-1, require services including equipment and software. A recommended configuration for Dock Door Installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AK/AM/AQ – Technical Engineering Services: Project Manager, RF Technical Radio Specialist, Senior Systems Engineer, Technical Writer

1.1 Perform a site survey
1.2 Design Solution
1.3 Complete Solution Design Document

Step 2. SLIN 0001 AA-AG pRFID Fixed Reader (Geographically dependent), SLIN 0009AX, pRFID Tags, SLIN 0015 AA-AC Software

2.1 Order the appropriate quantity of fixed readers (determined in site survey)
2.2 Order the appropriate quantity of accessories and mounting structure (determined in site survey)
2.3 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AJ/AN/AP– Technical Engineering Services: Project Manager, Senior Field Engineer, Data Comm / Network Specialist, Senior Software Systems Engineer

3.1 Conduct hardware installation to include physical mounting of equipment, LAN and electric
3.2 Conduct software installation to include server and device configuration and testing
3.3 Tune equipment

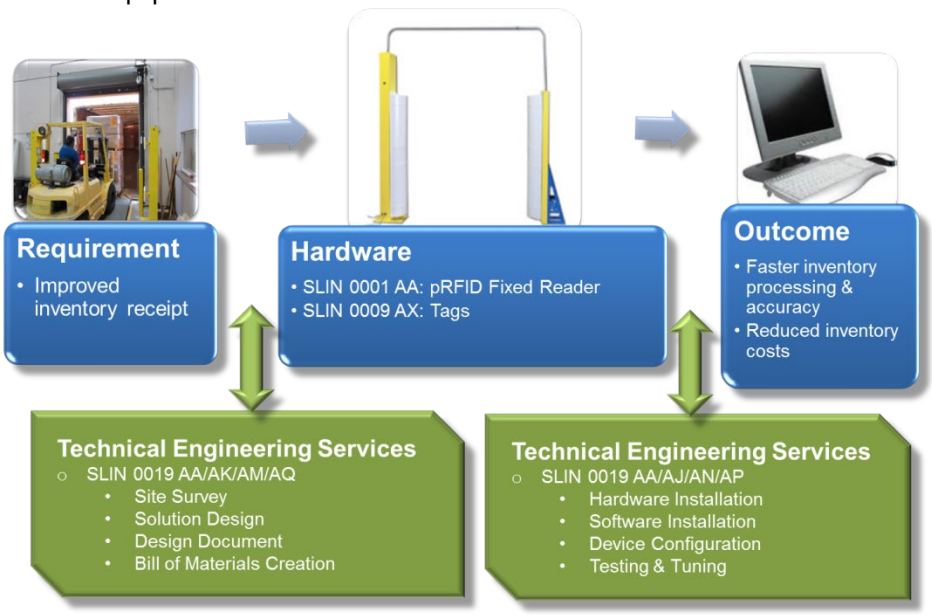

Figure 5-1: Implementation of Door Dock Solution

Note: All dock door solutions are different. The above assumes an existing pRFID installation is in place, and the AMIS pRFID III vehicle is being used to add additional coverage of dock doors.

5.2 Smart Table Configuration

Implementation of Smart Table solutions, depicted in Figure 5-2, requires services including equipment and software. A recommended configuration for a Smart Table Installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AM/AQ – Technical Engineering Services: Project Manager, Senior Systems Engineer, Technical Writer

1.1 Perform a site survey
1.2 Design Solution
1.3 Complete Solution Design Document

Step 2. SLIN 0005 AA-AF pRFID Smart Table (Geographically dependent), SLIN 0011 AA-AF pRFID Printer (Geographically dependent), SLIN 0009 AE Document Labeling Tags, SLIN 0015 AA-AC Software

2.1 Order the appropriate quantity of equipment (Smart Tables, Printers, Tags)
2.2 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AN/AP – Technical Engineering Services: Project Manager, Senior Field Engineer, Senior Software Systems Engineer

3.1 Conduct hardware installation to include physical mounting of equipment, LAN and electric
3.2 Conduct software installation to include server and device configuration and testing Tune equipment

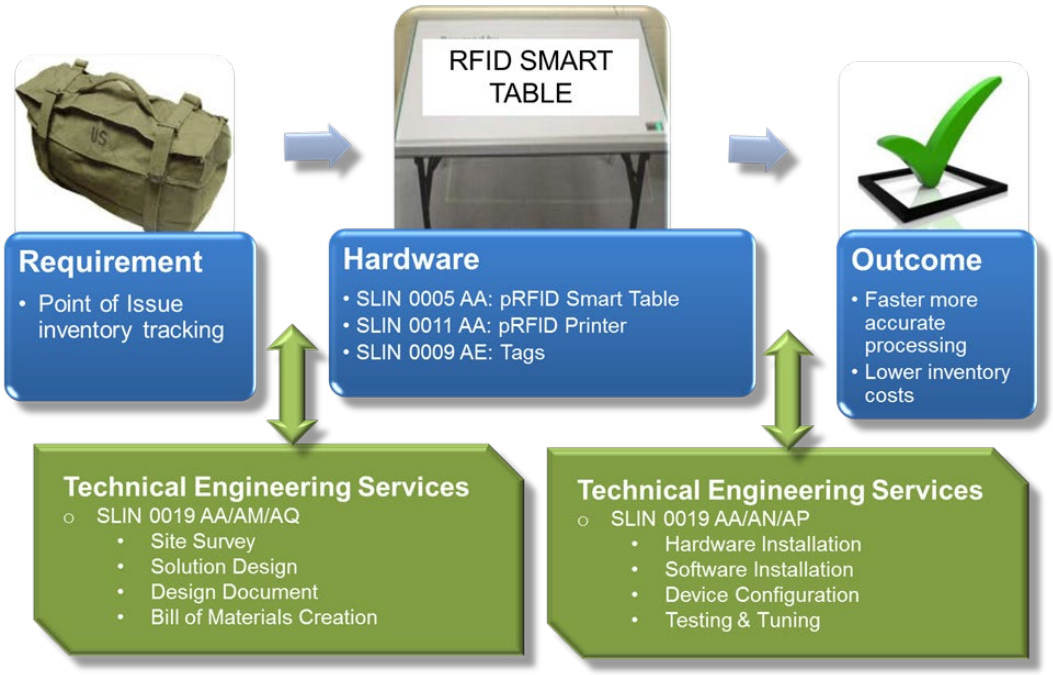

Figure 5-2: Implementation of Smart Table Solution

5.3 Handheld Configuration

Implementation of Handheld solution, depicted in Figure 5-3, requires services including equipment and software. A recommended configuration for a Handheld Terminal installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AM/AQ – Technical Engineering Services: Project Manager, Senior Systems Engineer, Technical Writer

1.1 Perform a site survey
1.2 Design Solution
1.3 Complete Solution Design Document

Step 2. SLIN 0007 EA-EF pRFID Handheld (Geographically dependent), SLIN 0007 EG Spare Battery, SLIN 0007 EH Docking Station/Battery Charger, SLIN 0007 AE Holster, SLIN 0015 AA-AC Software, SLIN 0013 AA RF Access Point (use SLIN 0013AB if Wireless Access Point is exposed to elements), and SLIN 0013AC RF Gateway

2.1 Order the appropriate quantity of equipment
2.2 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AN/AP – Technical Engineering Services: Project Manager, Senior Field Engineer, Senior Software Systems Engineer

3.1 Conduct software installation to include server and device configuration and testing
3.2 Tune equipment

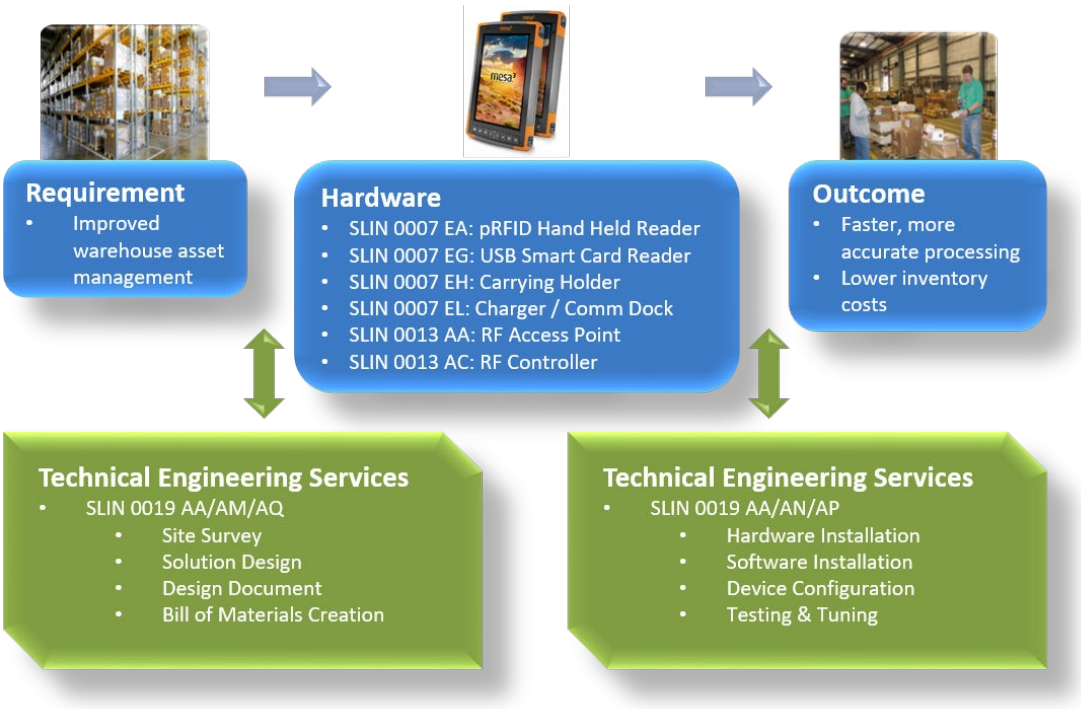

Figure 5-3: Implementation of HHR Solution

5.4 Personnel Door Configuration

Implementation of an entry door or interior personnel door solution, depicted in Figure 5-4, requires services including equipment and software. A recommended configuration for entry or interior personnel door installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AK/AM/AQ – Technical Engineering Services: Project Manager, RF Technical Radio Specialist, Senior Systems Engineer, Technical Writer

1.1 Perform a site survey
1.2 Design Solution
1.3 Complete Solution Design Document

Step 2. SLIN 0001 AA-AG pRFID Fixed Reader (Geographically dependent), SLIN 0015 AA-AC Software, SLIN 0009AX pRFID Tags

2.1 Order the appropriate quantity of fixed readers (determined in site survey)
2.2 Order the appropriate quantity of accessories and mounting structure (determined in site survey)
2.3 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AJ/AN/AP – Technical Engineering Services: Project Manager, Senior Field Engineer, Data Comm / Network Specialist, Senior Software Systems Engineer

3.1 Conduct hardware installation to include physical mounting of equipment, LAN and electric
3.2 Conduct software installation to include server and device configuration and testing
3.3 Tune equipment

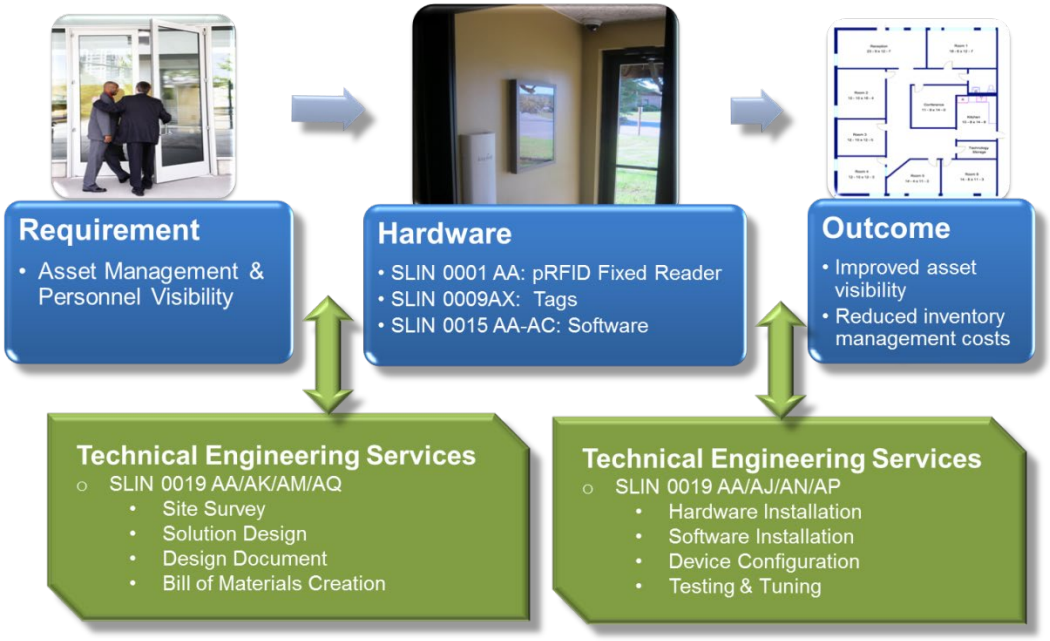

Figure 5-4: Implementation of Personnel Door Solution

6. Technical Engineering Services

6.1 Technical Engineering Services

6.1.1 Overview

Technical Engineering Services (TES) are the solution to achieving success using pRFID Hardware and Software. Expertise in the areas of consulting, site survey, solution design, installation, tuning, testing programming, troubleshooting, documenting and analyzing is available.

6.1.2 Teammates

Users of this IDIQ can leverage the breadth of capabilities offered by industry thought-leaders. Each member of the GDIT Team boasts a wealth of pRFID experience with extensive resources specialized in government and commercial implementations and use-case specific demonstrated successes. We focus on ensuring AMIS and its customers receive reliable, flexible solutions by selecting teammates in key areas important to successful execution of varying task orders.

The table below summarizes the roles each team member plays and highlights the qualifications that make each member an excellent choice for that role.

Table 6-1: AMIS pRFID III Teammates

Teammate	Role
Lowry Computer Solutions	Lowry provides select ***equipment, helpdesk / warranty / repair service, and technical engineering services*** as well as bar code, RFID, Auto ID, Labeling, Wireless & Mobile data collection solutions.
Evanhoe and Associates	Evanhoe and Associates provide select ***technical engineering services.*** As nationally recognized experts in DoD RFID and Unique Identification (UID) applications, as well as data integration and transformation, Evanhoe develops integrated data and Automated Identification Data Capture (AIDC) IT solutions.
ByLight Professional IT Services	ByLight provides select ***technical engineering services*** for infrastructure installation. ByLight currently provides a full range of hardware and software engineering services to defense, civilian, and commercial customers worldwide.
Integrated ID Solutions	Integrated ID Solutions provides select ***technical engineering services***. Integrated ID Solutions provides subject matter expertise in Automatic Identification Technology (AIT), Project Management, and Systems Integration throughout the systems development life cycle by incorporating new business processes, new technology, and new capabilities in accord with existing processes.
Shipcom Wireless	Shipcom Wireless provides specialized ***technical engineering services*** in areas of Healthcare and Energy Management. Shipcom provides identification and tracking solutions that include advanced and hybrid Auto-ID technologies.
RFID Global Solution	RFID Global Solution provide select technical engineering services. As nationally recognized experts in RFID applications, as well as data integration and transformation, RFID Global Solution develops integrated data and RFID based IT solutions
National Material Supply Company	National Material Supply Company provides specialized technical engineering services for customer requiring preprinted/pre-encoded RFID labels. They also provide RFID based inventory management solutions as well as strategic logistics and supply chain management solutions for primarily federal customers.
Indatatech	Indatatech is an industry leader for fixed asset management solutions and has managed multiple fixed asset inventories using traditional bar coding and RFID tagging.
GlobeRanger	GlobeRanger is a trusted RFID software solution supplier. GlobeRanger's RFID, mobility and sensor-enabled solutions are powering and automating government and defense business processes.
University of Pittsburgh	University of Pittsburgh provides unbiased technical engineering services in advisory and research areas. The Swanson School of Engineering is home to the University's RFID Center

Teammate	Role
	of Excellence, which specializes in using RFID for asset tracking in challenging environments such as pipelines and inside body cavities.
Auburn University	Auburn University provides unbiased technical engineering services in advisory and research areas.

This comprehensive team allows AMIS and its customers the ability to design, consult, install, integrate, support, research, test, validate, and innovate pRFID technology and solutions with confidence; we have assembled a world-class team with which we partner to deliver solutions for federal customers in an efficient, effective and repeatable manner.

6.1.3 Labor and Cost Reimbursable SLINs

TES labor categories are encompassed in SLIN 0019, while incidental materials are SLIN 0017, and travel costs associated with a task order are SLIN 0021. The following table shows these SLINs to include the labor categories. SLIN 0017 AA is only to be used in conjunction with a Technical Engineering Services order for additional materials needed for installation/configuration not to exceed $100k.

Table 6-2: pRFID Labor and Cost Reimbursable SLINs

SLIN 0017 AA	Incidental Materials	Cost Reimbursable
SLIN 0019 AA	Project Manager	Labor Category
SLIN 0019 AB	Senior Information Systems Engineer	Labor Category
SLIN 0019 AC	Senior Programmer	Labor Category
SLIN 0019 AD	Systems Analyst	Labor Category
SLIN 0019 AE	Software Systems Designer	Labor Category
SLIN 0019 AF	Programmer/Analyst	Labor Category
SLIN 0019AG	Junior Programmer	Labor Category
SLIN 0019 AH	Systems Engineer	Labor Category
SLIN 0019 AJ	Data Comm/Network Specialist	Labor Category
SLIN 0019AK	RF Technical Radio Specialist	Labor Category
SLIN 0019 AM	Senior Systems Engineer	Labor Category
SLIN 0019 AN	Senior Software Systems Engineer	Labor Category
SLIN 0019 AP	Senior Field Engineer	Labor Category
SLIN 0019 AQ	Technical Writer	Labor Category
SLIN 0021 AA	Travel	Cost Reimbursable

6.1.4 Labor Category Descriptions

Project Manager: The Contractor's pRFID Project Manager shall serve as primary manager of large projects and shall be responsible for management, performance, and completion of major projects, as defined by the individual Task Order. The Project Manager shall be responsible for formulating and enforcing work standards, assigning schedules, and reviewing work performed for Task Orders.

Senior Information Systems Engineer: Applies business process improvement practices to reengineer methodologies/principles and business process modernization projects. Applies, as appropriate, activity and data modeling, transaction flow analysis, internal control and risk analysis and modern business methods and performance measurement techniques. Assists in establishing standards for information systems procedures. Develops and applies organization-wide information models for use in designing and building integrated, shared software and database management systems. Creates sound, logical business improvement opportunities consistent with corporate Information Management guiding

principles, cost savings, and open system architecture objectives. Provides daily supervision and direction to staff.

Senior Programmer: Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

Systems Analyst: Analyzes and develops computer software possessing a wide range of capabilities, including numerous engineering, business and records management functions. Develops plans for automated information systems from project inception to conclusion. Analyzes user interfaces, maintain hardware and software performance tuning, analyze workload and computer usage, maintain interfaces with outside systems, analyze downtimes, analyze proposed system modifications, upgrades and new COTS. Analyzes the problem and the information to be processed. Defines the problem, and develops system requirements and program specifications, from which programmers prepare detailed flow charts, programs, and tests. Coordinates closely with programmers to ensure proper implementation of program and system specifications. Develops, in conjunction with functional users, system alternative solutions.

Software Systems Designer: Works from specifications to develop or modify operating systems applications. Designer assists with design, coding, benchmark testing, debugging and documentation of programs. Designer works with applications generally dealing with utility programs, job control language, macros, subroutines and other control modules. Works on most phases of software systems programming applications and may require instruction and guidance in other phases.

Programmer / Analyst: Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

Junior Programmer: Participates in the design of software tools and subsystems to support reuse and domain analysis. Assists Applications Engineer and Applications Programmer to interpret software requirements and design specifications to code, integrate and test software components.

Systems Engineer: Analyzes and studies complex system requirements. Designs software tools and subsystems to support software reuse and domain analyses and manages their implementation. Manages software development and support using formal specifications, data flow diagrams, other accepted design techniques and Computer-Aided Software Engineering (CASE) tools. Estimates software development costs and schedule. Reviews existing programs and assists in making refinements, reducing operating time and improving current techniques. Supervises software configuration management.

Data Comm / Network Specialist: Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes and throughput) and recommends procurement, removals and modifications to network components. Designs and optimizes network topologies and site configurations. Plans installations, transitions and cutovers of network components and capabilities. Coordinates requirements with users and suppliers.

RF Technical Radio Specialist: Focuses on the design and implementation of pRFID system. The individual will organize and configure the installation of pRFID site. This includes the proper RF installation of pRFID readers, antennas, and printers. Identifies the proper location for the readers at the prescribed distances along the supply chain; on conveyors, at loading dock portals, near palletizers, and mounted on vehicles. Also properly deploy hand-held readers for use in warehouses, distribution centers,

and field environments. Be able to identify the physical and RF environments, as well as throughput, speed and accuracy requirements. Required to be able to analyze the RF environment to identify any RF interference and take proper measures to avoid RF interference.

Senior Systems Engineer: Applies an enterprise-wide set of disciplines for the planning, analysis, design and construction of information systems on an enterprise-wide basis or across a major sector of the enterprise. Develops analytical and computational techniques and methodology for problem solutions. Performs enterprise-wide strategic systems planning, business information planning, business and analysis. Performs process and data modeling in support of the planning and analysis efforts using both manual and automated tools such as Integrated Computer-Aided Software Engineering (I-CASE) tools. Applies reverse engineering and re-engineering disciplines to develop migration strategic and planning documents. Has experience with such methodologies as IDEF 0 process modeling and IDEF 1x data modeling. Provides technical guidance in software engineering techniques and automated support tools.

Senior Software Systems Engineer: Formulates and defines specifications for operating system applications or modifies and maintains existing applications using engineering releases and utilities from the manufacturer. Responsible for program design, coding, testing, debugging and documentation. Responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Instructs, directs, and checks the work of other task personnel. Responsible for quality assurance review and the evaluation of existing and new software products.

Senior Field Engineer: Organizes and directs network installations on site surveys. Assesses and documents current site network configuration and user requirements. Designs and optimizes network topologies. Directs and leads preparation of engineering plans and site installation Technical Design Packages. Develops installation schedules. Mobilizes network installation team. Directs and leads preparation of drawings documenting configuration changes at each site. Prepares site installation and test reports. Coordinates post installation operations and maintenance support.

Technical Writer: Assists in collecting and organizing information required for preparation of user's manuals, training materials, installation guides, proposals, and reports. Edits functional descriptions, system specifications, user’s manuals, special reports, or any other customer deliverables and documents.

7. Training

7.1 Available Training

We can create training programs on media best suited to delivering the type of training (classroom, web-based, CD-ROM, and documentation / manuals). We recommend instructional materials to specific audiences:

- Administrator Training is targeted at improving system uptime and ensuring pRFID solutions are sustainable; several levels may be required from helpdesk personnel needing to effectively triage support calls, to more advanced IT support personnel who may be required to troubleshoot on-site incidents.
- User / Operator Training helps facilitate change management for use of pRFID systems and ensures operators understand the intent, purpose and value from process changes and technology insertion. This training generally includes an overview of pRFID technology, standard operating procedures using pRFID solutions and integrated change management, basic operational indicators and support procedures.
- Manager / Analyst Training is targeted at improved decision support and ensuring that organizations realize the benefits of pRFID solutions effectively. This training generally includes how to use pRFID information, supply chain effects of deployed pRFID solutions to upstream and downstream processes, as well as example business case frameworks and expected results from turnkey applications.

Our methodology for developing training programs applies the Instructional Systems Development (ISD) framework for the analysis, design, and development of an effective training curriculum, and incorporates a methodical approach for instructional evaluation, delivery, and continuous improvement. Our subject matter experts can facilitate training programs in the following areas:

- pRFID configuration and operations
- Hardware characteristics, principles of operation and protocols, and maintenance
- pRFID software components and data structure
- Data structures, queues, and internal tables of the Operating System (OS)
- Software design and integration
- Diagnostics to include problem definition and resolution
- Use case designs and configuration
- Tag performance, testing, and tag application
- Use of software interfaces, reports, and data analysis.
- In addition, our Team has developed relevant IT training materials including:
- Information assurance and maintenance processes and troubleshooting
- Operating System tailoring and generation
- Implementation of new software releases
- Security features
- Hardware maintenance and support.
- Other pRFID related needs

8. Warranty

8.1 Warranty Support

A methodical approach to warranty support reduces total cost of ownership. Integrating phone support, repair centers and warranty status information into a central location, enables a quick reaction and provides seamless support for our customers. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.2 Manufacturer's Warranty

We provide a minimum three-year warranty for all equipment purchased and the option at time of purchase to procure a four- or five-year warranty that is in effect at the time of original purchase. The integrated support center serves as the centralized hub for initiating any warranty activity. Users call a toll-free phone number where a person with access to a serial number database determines the warranty status of the device in question. This warranty information will also be available on the pRFID III contract website. Our Team uses the manufacturer's warranty for all equipment purchased with a warranty. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.3 When Equipment is under warranty

When a device is under the manufacturer's warranty, and over the phone troubleshooting does not solve an issue, we issue a Return Material Authorization (RMA) number, and forward instructions for shipping the device back to the manufacturer. We provide a loaner or permanent replacement to the device location while we have an assessment performed on the inoperable device. If the device is repairable, we have it repaired and swap it out for the loaner. If the device is not repairable, the permanent replacement is already in place. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.4 When Equipment is out of warranty

The physical asset flow and processes for requesting customer support remain the same for the customer. The exception is when the product is determined to be out of warranty. Our customer support team will provide a high-level assessment of the trouble and determine if the problem is a result of a missed software revision or update. In these situations, we will provide the correct revision to resolve the issue. If it is determined the product requires a more detailed analysis, the customer will have the option to purchase a replacement or send the item to a repair facility for a cost-to-repair assessment. At this point in the process, we will instruct the user on retuning the inoperable device to the appropriate integrated support center for evaluation. Upon completing the cost-to-repair evaluation, we will submit our findings to the customer for their decision. If the decision by the customer is to repair the asset, we will ensure repair activities (handling and processing, billing, quality assurance, etc.) are accomplished in compliance with both government contractual obligations and industry standards. Note: No repair action will occur without customer consent. If repair is not feasible, we will follow disposition instructions provided by the Government User. When a device is out of warranty, we provide options to users for how they can resolve potential failures through return, on-site service or other price alternatives. The support center can authorize a replacement device to the location if desired. We instruct the user on returning the inoperable device to one of the integrated support center's repair locations for evaluation. If the device is repairable, we have it repaired and placed into spare stock. If the device is not repairable, the Defense Reutilization and Marketing Office (DRMO) process begins. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.5 Warranty Tracking

The support center is fully integrated into procurement, so that the warranty status of all devices in the field is tracked by serial number. We generate a monthly report to notify users of pending warranty expiration. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.6 Warranty and Maintenance Procedures

1. Prior to contacting us for service, please be sure to have the following information ready:
    a. Model of unit requiring service
    b. Serial number of unit requiring service
    c. Contact name
    d. Contact phone number
    e. Address where unit(s) requiring service are located
    f. Brief description of problem you are experiencing
2. Contact the service center for service request.
3. Service technicians will call users to determine if unit(s) return is necessary.
    a. If the issue can be resolved over the phone the service ticket is closed.
    b. If the issue requires that the unit(s) be returned a return material authorization (RMA) number and UPS return label are issued to the user.
        i. Unit(s) are received and inspected
        ii. Unit(s) are repaired
        iii. Unit(s) are staged per contract requirements
        iv. Unit(s) are returned to user – Please provide address if different from pick-up location.

For unit(s) requiring return for repair service, please note the following:

- Ship unit in original packaging or equivalent to avoid shipping damage
- Options should not be returned with unit if not required for repair or evaluation
- Ribbons and labels should be removed from printers prior to shipping, but samples should be provided for testing purposes
- RMA# should appear on outside of package and on packing slip
- Batteries should be removed prior to shipping terminals

Contact Information for Hardware Warranty and Maintenance Repairs and information:

Phone:	CONUS	800-733-0010
	OCONUS	810-229-7200
Email:	servicerequest@lowrysolutions.com	
Web:	www.lowrysolutions.com/lowry-service-request-form	
	OR	
	www.lowrysolutions.com; select Services; select Support Services	
	OR	
	http://ait.srahosting.com/pRFID-III/index.html	

NOTE: Procedures are the same for items covered under Hardware Maintenance Agreements. If there is a lapse in coverage due to the expiration of the hardware warranty or a lapse in monthly hardware maintenance, unit(s) will be inspected to assure they are in proper working order. If any unit(s) require repair, the Government must order per incident maintenance for unit(s) before acceptance of the unit(s) under monthly hardware maintenance.

9. Maintenance Support

9.1 pRFID Component Return and Tracking

The Government can request RMAs by phone or by the Asset Tracking System portal. Once the RMA number is issued, instructions for shipping the device back to the appropriate repair facility will be provided.

9.2 On-Call Maintenance

The GDIT Team provides on-call maintenance when ordered.

9.3 Maintenance Replacement Parts

We take no chances on re-built or inferior components, utilizing only high quality, new and warranted equipment built at the same high standards by the OEM to repair / replace Government pRFID assets. All replacement parts will carry warrantees for a minimum of 90 days. Through close communications with the Government, we will comply with all disposition regulations and collaboratively ensure proper disposition or destruction of all end-of-life equipment.

Maintenance can be ordered through the CLINs specified below; pricing can be found in Section 10:

Table 9-1 : pRFID Maintenance SLINs

pRFID – Fixed Reader	
SLIN 0022 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0022 AB	Per Incident (CONUS/OCONUS)
SLIN 0022 AC	On-Call (CONUS/OCONUS)
pRFID – Fixed Reader Vehicle Mount	
SLIN 0023 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0023 AB	Per Incident (CONUS/OCONUS)
SLIN 0023AC	On-Call (CONUS/OCONUS)
pRFID – Smart Table	
SLIN 0024 AA	Monthly Maintenance (CONUS/OCONUS) Reader Only
SLIN 0024 AB	Per Incident (CONUS/OCONUS) Reader Only
SLIN 0024 AC	On-Call (CONUS/OCONUS)
pRFID – Handheld Reader	
SLIN 0025 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0025 AB	Per Incident (CONUS/OCONUS)
SLIN 0025 AC	On-Call (CONUS/OCONUS)
pRFID - Printer	
SLIN 0026 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0026 AB	Per Incident (CONUS/OCONUS)
SLIN 0026 AC	On-Call (CONUS/OCONUS)
pRFID – Software Maintenance	
SLIN 0027 AA	Annual Software Updates (CONUS/OCONUS)
SLIN 0027 AB	Software Fixes (CONUS/OCONUS)

9.4 Software Maintenance

9.4.1 Support Services

End user purchasing software from the pRFID-III IDIQ vehicle software SLINS will receive software support services. Software support services include Level I, II and III support services from the Customer Support organization. Software Support is available using the following contact information:

•Phone: (703) 284-3223 or (844) 542-9596
•Email: prfidiii@gdit.com

- **First Level Support**: Level 1 includes call acceptance and response by technical staff, problem troubleshooting and identification and provision of fixes, workarounds and other software maintenance releases.

- **Second Level Support**: Level 2 includes diagnosing problems surrounding more complex technical issues associated with a deployment. This level requires deeper technical knowledge and understanding of RFID, software, hardware, operating systems, protocols and interfaces. The solutions at this level require changing configuration data, tuning the platform, debugging applications, and etc.

- **Third Level Support**: Level 3 includes advance diagnostics from the engineering organization in analyzing logs, deciphering detailed error messages and looking at crash dumps. Engineering may need to analyze product code to determine the issue. This level requires deeper technical understanding of the software from a developer's perspective.

9.4.2 Support Responsibilities

Level 1 Response. Level 1 support will record the incident, perform diagnostics and resolve the issue using all internal support resources as well as support and reference materials in the form of support and product documentation and on-line knowledgebase(s). The initial support level is generally responsible for basic customer issues. The initial priority is to gather the customer's information and to determine the customer's issue by analyzing the symptoms and capturing the underlying problem. When analyzing the symptoms, it is important to identify what task the customer is trying to accomplish.

Level 2 Response. If a support agent cannot resolve a Level 1 incident, the incident is escalated to Level 2 support. This is a more in-depth technical support level than Level 1 response and the technicians are more experienced and more knowledgeable on a particular product or service. Technicians in this realm of knowledge are responsible for assisting Tier I personnel in solving basic technical problems and for investigating elevated issues by confirming the validity of the problem and seeking for known solutions related to these more complex issues.

Technicians will collect information such as program name that is failed or application name or any database related details (table name, view name, package name, etc.) or API names. Level 2 response may include reinstallation of software, replacements of various hardware components, software repair, diagnostic testing, and the utilization of remote-control tools used to take over the user's machine for the sole purpose of troubleshooting and finding a solution to the problem.

Level 3 Response. If a support agent cannot resolve a Level 2 incident, the incident is escalated to Level 3. Whenever a Level 3 incident occurs, the Level 1 or 2 support technician will escalate to issues to the support team as soon as possible. The customer support agent will be provided with the following customer information by the Customer Point of Contact:

- Company name, contact name, address, telephone, email address, emergency contact information
- Devices installed

- Application installed
- Account status (maintenance level, payment status)
- Review case history
- Detailed description of the issue being reported

10. pRFID III CLIN Pricing

HARDWARE and SOFTWARE				5-YR Base: (19 DEC 2016 - 18 DEC 2021)	
Passive RFID - Fixed Readers					
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0001 AA	**Intermec**	**PRF3-0001AA**	**pRFID - Fixed Reader 902-928MHz (FCC)**	**3 year**	**$1,472.98**
		IF2A000014	Network Reader (includes mounting bracket)		
		851-061-408	Universal AC Adapter		
		1-974028-025	AC Power Cord		
		S9028PCRF-IT1	Circular Polarized Antenna 915 MHz, includes integrated cable and mounting fixture (2)		
		SVCIF2-5FC3	IF2, 3 Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AB	**Intermec**	**PRF3-0001AB**	**pRFID - Fixed Reader 902-928MHz (FCC)**	**4 year**	**$1,666.20**
		IF2A000014	Network Reader (includes mounting bracket)		
		851-061-408	Universal AC Adapter		
		1-974028-025	AC Power Cord		
		S9028PCRF-IT1	Circular Polarized Antenna 915 MHz, includes integrated cable and mounting fixture (2)		
		SVCIF2-5FC4	IF2, 4-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AC	**Intermec**	**PRF3-0001AC**	**pRFID - Fixed Reader 902-928MHz (FCC)**	**5 year**	**$1,746.91**
		IF2A000014	Network Reader (includes mounting bracket)		
		851-061-408	Universal AC Adapter		
		1-974028-025	AC Power Cord		
		S9028PCRF-IT1	Circular Polarized Antenna 915 MHz, includes integrated cable and mounting fixture (2)		
		SVCIF2-5FC5	IF2, 5-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AE	**Intermec**	**PRF3-0001AE**	**pRFID - Fixed Reader 862-870MHz (ETSI)**	**3 year**	**$2,053.05**
		IF2A000002	Network Reader (includes mounting bracket)		
		851-061-501	Universal AC Adapter		
		1-974027-025	AC Power Cord		
		805-656-001	Circular Polarized Antenna 868 MHz (IA33F) (2)		
		805-653-001	Antenna Mounting Bracket (2)		
		236-230-001	13 ft Antenna Cable (2)		
		SVCIF2-5FC3	IF2, 3 Year Warranty		

		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AF	**Intermec**	**PRF3-0001AF**	**pRFID - Fixed Reader 862-870MHz (ETSI)**	**4 year**	**$2,128.20**
		IF2A000002	Network Reader (includes mounting bracket)		
		851-061-501	Universal AC Adapter		
		1-974027-025	AC Power Cord		
		805-656-001	Circular Polarized Antenna 868 MHz (IA33F) (2)		
		805-653-001	Antenna Mounting Bracket (2)		
		236-230-001	13 ft Antenna Cable (2)		
		SVCIF2-5FC4	IF2, 4 Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AG	**Intermec**	**PRF3-0001AG**	**pRFID - Fixed Reader 862-870MHz (ETSI)**	**5 year**	**$2,201.19**
		IF2A000002	Network Reader (includes mounting bracket)		
		851-061-501	Universal AC Adapter		
		1-974027-025	AC Power Cord		
		805-656-001	Circular Polarized Antenna 868 MHz (IA33F) (2)		
		805-653-001	Antenna Mounting Bracket (2)		
		236-230-001	13 ft Antenna Cable (2)		
		SVCIF2-5FC5	IF2, 5-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 BA	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 902-928 MHz - NO LICENSE REQUIRED**	**3 year**	**$1,752.40**
0001 BB	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 902-928 MHz - NO LICENSE REQUIRED**	**4 year**	**$1,900.38**
0001 BC	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 902-928 MHz - NO LICENSE REQUIRED**	**5 year**	**$1,900.38**
0001 BD	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 862 -870 MHz - NO LICENSE REQUIRED**	**3 year**	**$1,752.40**
0001 BE	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 862 -870 MHz - NO LICENSE REQUIRED**	**4 year**	**$1,900.38**
0001 BF	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 862 -870 MHz - NO LICENSE REQUIRED**	**5 year**	**$1,900.38**
0001 BG	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 902-928 MHz - WITH CRIBMASTER LICENSE**	**3 year**	**$4,000.96**
0001 BH	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 902-928 MHz - WITH CRIBMASTER LICENSE**	**4 year**	**$4,148.94**
0001 BJ	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 902-928 MHz - WITH CRIBMASTER LICENSE**	**5 year**	**$4,148.94**
0001 BK	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 862 -870 MHz - WITH CRIBMASTER LICENSE**	**3 year**	**$4,000.96**
0001 BL	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 862 -870 MHz - WITH CRIBMASTER LICENSE**	**4 year**	**$4,148.94**
0001 BM	**Impinj**	**IPJ-REV-R420-USA2M1**	**pRFID READER 862 -870 MHz - WITH CRIBMASTER LICENSE**	**5 year**	**$4,148.94**
0001 BN	**Impinj**	**IPJ-A1000-USA**	**Far Field Reader Antenna 902-928 MHz**	**3 year**	**$229.96**
0001 BP	**Impinj**	**IPJ-A1000-USA**	**Far Field Reader Antenna 902-928 MHz**	**4 year**	**$252.39**
0001 BQ	**Impinj**	**IPJ-A1000-USA**	**Far Field Reader Antenna 902-928 MHz**	**5 year**	**$252.39**

0001 BR	Impinj	IPJ-A1000-USA	Far Field Reader Antenna 862-870 MHz	3 year	$229.96
0001 BS	Impinj	IPJ-A1000-USA	Far Field Reader Antenna 862-870 MHz	4 year	$252.39
0001 BT	Impinj	IPJ-A1000-USA	Far Field Reader Antenna 862-870 MHz	5 year	$252.39
0001 BU	Tessco	394461	RP TNC Male Connector		$6.13
0001 BV	Amphenole	122409RP	N-Male Straight Connector Crimp/Solder Attachment		$7.77
0001 BW			Universal Power Cord for Impinj Reader		$95.97
0001 BX	Cribmaster	OUTDOOR_BOX	Outdoor Antenna Box for Far Field Antenna		$266.07
0001 BY			Watertight pRFID Reader Enclosure		$525.22
0001 BZ	Arcadian	EZ-M6-Combo	Fully Articulating Die Case Wall or Mast Mounting Bracket for 2 or 4 Stud Panel Antennas		$77.37
0001 CA	Venture Research	VR-DOCK_RDR_P_001-US	pRFID Fixed Reader 902-928 MHz	3 year	$3,517.00
0001 CB	Venture Research	VR-DOCK_RDR_S_001- US	pRFID Secondary Fixed Reader 902-928 MHz	3 year	$1,244.00
0001 CC	Venture Research / IIDS	VR-DOCK - OPT-INST	Dock Door Installation Kit (Hardware Only)		$142.00
0001 CD	Venture Research	VR-DOCK-OPT-MNT-FLR	Dock Door Floor Mounting Kit		$398.00
0001 DA	Venture Research	VR-SLIMTK-RDR- P-US	pRFID Compact Fixed Reader 902-928 MHz	3 year	$2,994.00
0001 DB	Venture Research	VR-SLIMTK-RDR-S-US	pRFID Compact Secondary Fixed Reader 902-928 MHz	3 year	$1,278.00
0001 DC	Venture Research / IIDS	SLIMTK-OPT-INST	pRFID Reader/Antenna Enclosure Installation Kit (Hardware Only)		$142.00
0001 DD	Venture Research	SLIMTK-OPT-COUNTER	Reader Display Counter Module		$284.00
0001 DE	Venture Research	SLIMTK-OPT-MNT-FLR	pRFID Reader/Antenna Enclosure Floor Mounting Kit		$398.00
0001DF	Venture Research	SLIMTK-OPT-PIR-SENSOR-E	pRFID Reader/Antenna Enclosure External Proximity Sensor		$142.00
0001 EA	Venture Research	VR-HYTRAK-001-02- US	pRFID - Fixed Reader (2 port) 902-928 MHz	3 year	$2,045.00
0001 EB	Venture Research	VR-HYTRAK-001- 04-US	pRFID - Fixed Reader (4 port) 902-928 MHz	3 year	$2,386.00
0001 EC	Venture Research	VR-HYTRAK-001-08-US	pRFID - Fixed Reader (8 port) 902-928 MHz	3 year	$2,869.00
0001 ED	Venture Research	VR-HYTRAK-OPT-NEMA	IP 67 rated NEMA Enclosure (with Appropriate Cutouts)		$474.00
0001 EE	Venture Research	VR- HYTRAK - OPT-INST	Hardware Installation Kit (Hardware Only)		$142.00
	Passive RFID - Vehicle Mount Fixed Readers				
SLIN	MFG	PART NO	Product Description and Ancillary Items	Warranty	Firm Fixed Unit Price
0003 AA	Intermec	PRF3-0003AA	pRFID - Vehicle Mount Reader 902-928MHz (FCC)	3 year	$5,611.69
		IV7D202014	Vehicle Mount Reader (includes mounting plate)		
		203-850-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-002	Circular Polarized Antenna 915 MHz (IA33E) (2)		

		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC3	IV7, 3-Year Warranty		
		CN70GQ6KN00 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC3	CN70e, 3-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC3	Vehicle Dock, 3-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AB	**Intermec**	**PRF3-0003AB**	**pRFID - Vehicle Mount Reader 902-928MHz (FCC)**	**4 year**	**$5,838.71**
		IV7D202014	Vehicle Mount Reader (includes mounting plate)		
		203-850-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-002	Circular Polarized Antenna 915 MHz (IA33E) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC4	IV7, 4-Year Warranty		
		CN70GQ6KN00 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC4	CN70e, 4-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC4	Vehicle Dock, 4-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AC	**Intermec**	**PRF3-0003AC**	**pRFID - Vehicle Mount Reader 902-928MHz (FCC)**	**5 year**	**$6,023.95**
		IV7D202014	Vehicle Mount Reader (includes mounting plate)		
		203-850-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-002	Circular Polarized Antenna 915 MHz (IA33E) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC5	IV7, 5-Year Warranty		
		CN70GQ6KN00 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC5	CN70e, 5-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC5	Vehicle Dock, 5-Year Warranty		

		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AD	**Intermec**	**PRF3-0003AD**	**pRFID - Vehicle Mount Reader 862-870MHz (ETSI)**	**3 year**	**$5,447.97**
		IV7D202002	Vehicle Mount Reader (includes mounting plate)		
		236-170-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-001	Circular Polarized Antenna 915 MHz (IA33D) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC3	IV7, 3-Year Warranty		
		CN70GQ6KN00 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC3	CN70e, 3-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC3	Vehicle Dock, 3-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AE	**Intermec**	**PRF3-0003AE**	**pRFID - Vehicle Mount Reader 862-870MHz (ETSI)**	**4 year**	**$5,653.41**
		IV7D202002	Vehicle Mount Reader (includes mounting plate)		
		236-170-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-001	Circular Polarized Antenna 915 MHz (IA33D) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC4	IV7, 4-Year Warranty		
		CN70GQ6KN00 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC4	CN70e, 4-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC4	Vehicle Dock, 4-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AF	**Intermec**	**PRF3-0003AF**	**pRFID - Vehicle Mount Reader 862-870MHz (ETSI)**	**5 year**	**$5,820.81**
		IV7D202002	Vehicle Mount Reader (includes mounting plate)		
		236-170-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-001	Circular Polarized Antenna 915 MHz (IA33D) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC5	IV7, 5-Year Warranty		

		CN70GQ6KN00 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC5	CN70e, 5-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC5	Vehicle Dock, 5-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
	Passive RFID – Smart Tables				
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0005 AA	**T.**				**5,253.15**
0005 AB	**T.**				**5,491.91**
0005 AC	**T.**				**5,570.03**
0005 AD	**T.**				**5,253.15**
0005 AE	**T.**				**5,491.91**
0005 AF	**T.**				**5,570.03**
		ET-1001EU5W	Smart Table, 3-Year Warranty		
			FOB: Destination		
0005 BA	**Venture Research**	**VR-SURFACE-36x48- US**	**Smart Surface (48" X 36") 902-928 MHz**	**3 year**	**$4,521.00**

RESERVED

CLINS 0005AA – 0005AF

PRFID Smart Tables

NOT AVAILABLE FOR ORDERING

0005 BB	Venture Research	VR-SURFACE-60x20- US	Smart Surface (60" X 20") 902-928 MHz	3 year	$3,348.00
0005 BC	Venture Research	VR-SURFACE-36x24- US	Smart Surface (36" X 24") 902-928 MHz	3 year	$2,856.00
0005 BD	Venture Research	VR-SURFACE-36x72- US	Smart Surface (72"' X 36") 902-928 MHz	3 year	$5,284.00
0005 BE	Venture Research	VR-SURFACE-OPT-INST	Smart Surface Installation Kit		$142.00
0005 CA	IIDS	IIDS-SMARTTABLE-36x48- US	Smart Table 902-928 MHz	3 year	$4,829.00
	Passive RFID – Handheld Readers (HHRs)				
SLIN	MFG	PART NO	Product Description and Ancillary Items	Warranty	Firm Fixed Unit Price
0007AA	Intermec	PRF3-0007AA	pRFID HHR-A (Not-NI Certified) 902-928MHz (FCC)	3 year	$2,628.96
0007AB	Interr				$2,729.21
0007AC	Interr				$2,733.95
		DX1G51A20	Desktop Dock for CN70e		

RESERVED

CLINS 0007AA – 0007AF

PRFID Handheld Readers (HHR-A) 902-928 MHz

NOT AVAILABLE FOR ORDERING

		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974028-025	AC Power Cord		
		SVCFLEXDOCK -5FC5	Desktop Dock 5-Year Warranty		
		LauncherLN-001	lLaunch Software Kit (incl 1-Year maint)		
0007AD	**Intermec**				**$2,569.87**
0007AE	**Intermec**				**$2,667.32**
0007AF	**Intermec**	**PRF3-0007AF**	**pRFID HHR-A (Not-NI Certified) 8622-870MHz (ETSI)**	**5 year**	**$2,748.57**
		CN70GQ6KN02 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		805-835-101	CN70e Scan Handle		
		318-043-113	CN70e Battery Pack (2)		
		SVCCN70-5FC5	CN70e 5-Year Warranty		
		DX1G51A20	Desktop Dock for CN70e		
		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974027-025	AC Power Cord		

RESERVED

CLINS 0007AA – 0007AF
PRFID Handheld Readers
(HHR-A) 902-928 MHz

NOT AVAILABLE FOR ORDERING

		SVCFLEXDOCK-5FC5	Desktop Dock 5-Year Warranty		
		LauncherLN-001	lLaunch Software Kit (incl 1-Year maint)		
		Launcher-Sft1	lLaunch SW 1-Year maint (4)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0007AG	**Intermec**	**PRF3-0007AG**	**pRFID HHR-A Rechargeable Battery**	**3 year**	**$148.19**
		318-043-113	CN70e Battery Pack		
			FOB: Destination		
0007AH	**Intermec**	**PRF-0007AH**	**pRFID HHR-A Battery Charger/Docking Station**	**3 year**	**$428.17**
		DX1G51A20	Desktop Dock for CN70e		
		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974028-025	AC Power Cord		
		SVCFLEXDOCK-5FC3	Desktop Dock 3-Year Warranty		
			FOB: Destination		
0007AJ	**Intermec**	**PRF3-0007AJ**	**pRFID HHR-A CAC Reader with SW**	**3 year**	**$404.39**
		850-835-001	CN70e Snap-On CAC Reader		
		213-023-001	Flexdock Cup with CAC for CN70e		
		474-302-001	CAC SW Bundle		
			FOB: Destination		
0007AK	**Intermec**	**PRF3-0007AK**	**pRFID HHR-A Carrying Device**		**$107.43**
		815-074-101	Holster for CN70e		
			FOB: Destination		
0007AL	**Intermec**	**PRF3-0007AL**	**pRFID HHR-A AC Adapter**		**$55.57**
		203-990-001	Universal AC Adapter Kit		
			FOB: Destination		
0007BA	**Intermec**		**pRFID HHR-B (NI Certified)**		**$2,628.96**
0007BB	**Intermec**				**$2,729.21**
		1-974028-025	AC Power Cord		

RESERVED

CLINS 0007BA – 0007BF

PRFID Handheld Readers (HHR-B) 902-928 MHz

NOT AVAILABLE FOR ORDERING

		SVCFLEXDOCK-5FC4	Desktop Dock 4-Year Warranty		
		LauncherLN-001	lLaunch Software Kit (incl 1-Year maint)		
0007BC	**In**				**$2,733.95**
0007BD	**In**				**$2,569.87**
0007BE	**In**				**$2,667.32**
		-5FC4	Desktop Dock 4-Year Warranty		
		LauncherLN-001	lLaunch Software Kit (incl 1-Year maint)		
		Launcher-Sft1	lLaunch SW 1-Year maint (3)		

RESERVED

CLINS 0007BA – 0007BF

PRFID Handheld Readers (HHR-B) 902-928 MHz

NOT AVAILABLE FOR ORDERING

RESERVED

CLINS 0007BA thru 0007BF

PRFID Handheld Readers (HHR-B) 902-928 MHz

NOT AVAILABLE FOR ORDERING

0007BF	**Inte**				**$2,748.57**
			FOB: Destination		
0007BG	**Intermec**	**PRF3-0007BG**	**pRFID HHR-B Rechargeable Battery**	**3 year**	**$148.19**
		318-043-113	CN70e Battery Pack		
			FOB: Destination		
0007BH	**Intermec**	**PRF-0007BH**	**pRFID HHR-B Battery Charger/Docking Station**	**3 year**	**$428.17**
		DX1G51A20	Desktop Dock for CN70e		
		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974028-025	AC Power Cord		
		SVCFLEXDOCK -5FC3	Desktop Dock 3-Year Warranty		
			FOB: Destination		
0007BJ	**Intermec**	**PRF3-0007BJ**	**pRFID HHR-B CAC Reader with SW**	**3 year**	**$404.39**
		850-835-001	CN70e Snap-On CAC Reader		
		213-023-001	Flexdock Cup with CAC for CN70e		
		474-302-001	CAC SW Bundle		
			FOB: Destination		
0007BK	**Intermec**	**PRF3-0007BK**	**pRFID HHR-B Carrying Device**		**$107.43**
		815-074-101	Holster for CN70e		
			FOB: Destination		
0007BL	**Intermec**	**PRF3-0007BL**	**pRFID HHR-B AC Adapter**		**$55.57**
		203-990-001	Universal AC Adapter Kit		
			FOB: Destination		
0007CA	**Juniper Sys**	**PRF3-0007CA**	**pRFID HHR-C 900-928 (FCC)**	**3 year**	**$4,755.00**
		MS2-114	Mesa 2 Tablet Computer, (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007CB	**Juniper Sys**	**PRF-0007CA**	**pRFID HHR-C 900-928 (FCC)**	**4 year**	**$5,172.00**
		MS2-114	Mesa 2 Tablet Computer, (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		

		25682	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		
0007CC	**Juniper Sys**	**PRF-0007CA**	**pRFID HHR-C 900-928 (FCC)**	**5 year**	**$5,589.00**
		MS2-114	Mesa 2 Tablet Computer, (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		25682	Mesa 2 non-Hazloc 1yr Platinum Warranty (qty = 2)		
			FOB: Destination		
0007CD	**Juniper Sys**	**PRF3-0007CD**	**pRFID HHR-C 862-870 (ETSI)**	**3 year**	**$4,755.00**
		MS2-117	Mesa 2 Tablet Computer (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007CE	**Juniper Sys**	**PRF-0007CE**	**pRFID HHR-C 862-870 (ETSI)**	**4 year**	**$5,172.00**
		MS2-117	Mesa 2 Tablet Computer (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		25260	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		
0007CF	**Juniper Sys**	**PRF-0007CF**	**pRFID HHR-C 862-870 (ETSI)**	**5 year**	**$5,589.00**
		MS2-117	Mesa 2 Tablet Computer (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		25260	Mesa 2 non-Hazloc 1yr Platinum Warranty (qty = 2)		
			FOB: Destination		
0007CG	**Apriva**	**PRF-0007CG**	**HHR-C CAC Reader**	**3 year**	**$312.00**
		Z-100141	BT200Z Bluetooth CAC Reader		
		Z-100146	BT200Z Wall Charger		
			FOB: Destination		
0007CH	**Juniper Sys**	**PRF-0007CH**	**HHR-C Carrying Device**		**$61.00**
		12867	HHR-C Carrying Case		
			FOB: Destination		
0007CJ	**Juniper Sys**	**PRF-0007CJ**	**HHR-C Rechargeable Battery**		**$152.00**
		25260	MS2 Rechargeable Battery		
			FOB: Destination		
0007CK	**Juniper Sys**	**PRF-0007CK**	**HHR-C AC Adapter & Power Cord**		**$56.00**
		24076	20W Universal AC Power Supply Ki		
			FOB: Destination		
0007CL	**Juniper Sys**	**PRF-0007CL**	**HHR-C Docking Station**		**$757.00**
		26371	45W Universal AC Power Supply Kit		

		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007DA	**Juniper Sys**	**PRF3-0007DA**	**pRFID HHR-D 900-928 (FCC), NI**	**3 year**	**$5,238.00**
		MS2-219-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007DB	**Juniper Sys**	**PRF3-0007DB**	**pRFID HHR-D 900-928 (FCC), NI**	**4 year**	**$5,774.00**
		MS2-219-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		
0007DC	**Juniper Sys**	**PRF3-0007DC**	**pRFID HHR-D 900-928 (FCC), NI**	**5 year**	**$6,311.00**
		MS2-114	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 Hazloc 1yr Platinum Warranty (qty = 2)		
			FOB: Destination		
0007DD	**Juniper Sys**	**PRF3-0007DD**	**pRFID HHR-D 862-870 (ETSI), NI**	**3 year**	**$5,238.00**
		MS2-220-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007DE	**Juniper Sys**	**PRF3-0007DE**	**pRFID HHR-D 862-870 (ETSI), NI**	**4 year**	**$5,774.00**
		MS2-219-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		
0007DF	**Juniper Sys**	**PRF3-0007DF**	**pRFID HHR-D 862-870 (ETSI), NI**	**5 year**	**$6,311.00**
		MS2-114	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 Hazloc 1yr Platinum Warranty (qty = 2)		
			FOB: Destination		

0007DG	**Apriva**	**PRF-0007DG**	**HHR-D CAC Reader**	**3 year**	**$312.00**
		Z-100141	BT200Z Bluetooth CAC Reader		
		Z-100146	BT200Z Wall Charger		
			FOB: Destination		
0007DH	**Juniper Sys**	**PRF-0007DH**	**HHR-D Carrying Device**		**$61.00**
		12867	HHR-C Carrying Case		
			FOB: Destination		
0007DJ	**Juniper Sys**	**PRF-0007DJ**	**HHR-D Rechargeable Battery**		**$152.00**
		25260	MS2 Rechargeable Battery		
			FOB: Destination		
0007DK	**Juniper Sys**	**PRF-0007DK**	**HHR-D AC Adapter & Power Cord**		**$56.00**
		24076	20W Universal AC Power Supply Ki		
			FOB: Destination		
0007DL	**Juniper Sys**	**PRF-0007DL**	**HHR-D Docking Station**		**$757.00**
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007 EA	**Juniper Sys**	**PRF3-0007 EA**	**pRFID HHR-E 900-928 (FCC)**	**3 year**	**$4,948.19**
		MS3-CFG-13091	Mesa 3 Tablet Computer, (incl RFID)		
		28817	Warranty Extension 1 Year		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 EB	**Juniper Sys**	**PRF-0007 EB**	**pRFID HHR-E 900-928 (FCC)**	**4 year**	**$5,121.19**
		MS3-CFG-13091	Mesa 3 Tablet Computer, (incl RFID)		
		28817	Warranty Extension 1 Year (Qty. 2)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 EC	**Juniper Sys**	**PRF-0007 EC**	**pRFID HHR-E 900-928 (FCC)**	**5 year**	**$5,294.18**
		MS3-CFG-13091	Mesa 3 Tablet Computer, (incl RFID)		
		28817	Warranty Extension 1 Year (Qty. 3)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 ED	**Juniper Sys**	**PRF3-0007ED**	**pRFID HHR-E 862-870 (ETSI)**	**3 year**	**$4,948.19**
		MS3-CFG-13215	Mesa 3 Tablet Computer (incl RFID)		
		28817	Warranty Extension 1 Year (Qty. 1)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		

		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 EE	**Juniper Sys**	**PRF-0007EE**	**pRFID HHR-E 862-870 (ETSI)**	**4 year**	**$5,121.19**
		MS3-CFG-13215	Mesa 3 Tablet Computer (incl RFID)		
		28817	Warranty Extension 1 Year (Qty. 2)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 EF	**Juniper Sys**	**PRF-0007EF**	**pRFID HHR-E 862-870 (ETSI)**	**5 year**	**$5,294.18**
		MS3-CFG-13215	Mesa 3 Tablet Computer (incl RFID)		
		28817	Warranty Extension 1 Year (Qty. 3)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 EG	**Identiv**	**PRF-0007EG**	**HHR-E CAC Reader**	**3 year**	**$24.00**
		SCR3310v2.0	USB Smart Card Reader		
			FOB: Destination		
0007 EH	**Juniper Sys**	**PRF-0007EH**	**HHR-E Carrying Device**		**$64.66**
		12867	HHR-E Carrying Case		
			FOB: Destination		
0007 EJ	**Juniper Sys**	**PRF-0007EJ**	**HHR-E Rechargeable Battery**		**$182.15**
		28000	MS3 Rechargeable Battery		
			FOB: Destination		
0007 EK	**Juniper Sys**	**PRF-0007EK**	**HHR-E AC Adapter & Power Cord**		**$64.66**
		26371	45W Universal AC Power Supply Kit		
			FOB: Destination		
0007 EL	**Juniper Sys**	**PRF-0007EL**	**HHR-E Docking Station**		**$780.03**
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
			FOB: Destination		
0007 FA	**Juniper Sys**	**PRF3-0007FA**	**pRFID HHR-F 900-928 (FCC), NI**	**3 year**	**$5,403.31**
		MS3-CFG-HL-13209	Mesa 3 Tablet Computer, (incl RFID), NI		
		28817	Warranty Extension 1 Year (Qty. 1)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 FB	**Juniper Sys**	**PRF3-0007FB**	**pRFID HHR-F 900-928 (FCC), NI**	**4 year**	**$5,663.24**
		MS3-CFG-HL-13209	Mesa 3 Tablet Computer, (incl RFID), NI		

		28817	Warranty Extension 1 Year (Qty. 2)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 FC	**Juniper Sys**	**PRF3-0007FC**	**pRFID HHR-F 900-928 (FCC), NI**	**5 year**	**$5,923.17**
		MS3-CFG-HL-13209	Mesa 3 Tablet Computer, (incl RFID), NI		
		28817	Warranty Extension 1 Year (Qty. 3)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 FD	**Juniper Sys**	**PRF3-0007FD**	**pRFID HHR-F 862-870 (ETSI), NI**	**3 year**	**$5,403.31**
		MS3-CFG-HL-13215	Mesa 3 Tablet Computer, (incl RFID), NI		
		28817	Warranty Extension 1 Year (Qty. 1)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 FE	**Juniper Sys**	**PRF3-0007FE**	**pRFID HHR-F 862-870 (ETSI), NI**	**4 year**	**$5,663.24**
		MS3-CFG-HL-13215	Mesa 3 Tablet Computer, (incl RFID), NI		
		28817	Warranty Extension 1 Year (Qty. 2)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 FF	**Juniper Sys**	**PRF3-0007FF**	**pRFID HHR-F 862-870 (ETSI), NI**	**5 year**	**$5,923.17**
		MS3-CFG-HL-13215	Mesa 3 Tablet Computer, (incl RFID), NI		
		28817	Warranty Extension 1 Year (Qty. 3)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
		28000	Removable Li-ion Battery Kit		
			FOB: Destination		
0007 FG	**Identiv**	**PRF-0007FG**	**HHR-F CAC Reader**	**3 year**	**$24.00**
		SCR3310v2.0	USB Smart Card Reader		
			FOB: Destination		
0007 FH	**Juniper Sys**	**PRF-0007FH**	**HHR-F Carrying Device**		**$64.66**
		12867	HHR-F Carrying Case		
			FOB: Destination		
0007 FJ	**Juniper Sys**	**PRF-0007FJ**	**HHR-F Rechargeable Battery**		**$182.15**

		25260	MS3 Rechargeable Battery		
			FOB: Destination		
0007 FK	**Juniper Sys**	**PRF-0007FK**	**HHR-F AC Adapter & Power Cord**		**$64.66**
		26371	45W Universal AC Power Supply Kit		
			FOB: Destination		
0007 FL	**Juniper Sys**	**PRF-0007FL**	**HHR-F Docking Station**		**$780.03**
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		28073	Removable Battery Charger		
		28535	30W International Charge Kit		
			FOB: Destination		
0007 GA	**DT Research**	**PRF3-0007 EA**	**pRFID Handheld Reader [Non-NI] 902-928MHz**	**3 year**	**$2,669.91**
0007 GB	**DT Research**	**ACC-010-22S**	**Holster and Shoulder Strap (Compatible WITHOUT Pistol Grip)**		**$56.39**
0007 GC	**DT Research**	**ACC-HP262-01S**	**Holster and Shoulder Strap (Compatible WITH Pistol Grip)**		**$173.31**
0007 GD	**DT Research**	**ACC-006-362G**	**Rechargeable (1EA) Battery Pack**		**$99.16**
0007 GE	**DT Research**	**ACC-GC662-01**	**Multiple Battery Charger - 6-Bay Battery Gang Charger, AC Adapter & Power Cord**		**$411.93**
0007 GF	**DT Research**	**ACC-PG262-02**	**Pistol Gun without 6dB antenna (barcode only)**		**$165.21**
0007 GG	**DT Research**	**ACC-PG262-01**	**Extended Range RFID Pistol Grip with 6dB antenna**		**$404.31**
0007 GH	**DT Research**	**ACC-007-35**	**One Pack of (1) Tethered Replacement Styli (1 Digital Pen, 1 AAAA Battery, 1 Coil Lanyard)**		**$67.13**
0007 GJ	**DT Research**	**ACC-011-20**	**Transparent Screen Protector**		**$6.10**
0007 GK	**DT Research**	**AAC-010-31**	**Detachable Hand Strap**		**$16.78**
0007 GL	**DT Research**	**ACC-DC263-01**	**Single Battery Charger / Docking Station (Compatible WITHOUT Pistol Grip)**		**$288.05**
0007 GM	**DT Research**	**ACC-UC262-02**	**Single Battery Charger / CHARGE ONLY Docking Station (Compatible WITH Pistol Grip)**		**$165.21**
0007 GN	**DT Research**	**ACC-001-38**	**AC/DC Power Adapter (65W) with power cord. USB Type C plug.**		**$42.72**

	Passive RFID – Tags				
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0009AA	**Lowry**	**PRF3-0009AA**	**Shipping Tag - 4" X 2"**		**$420.00 (min order)**
		305-00205	Lowry 4x2 Synthetic RFID Label w/Alien Squiggle Higgs 3 inlay; 2000 labels/roll, (minimum order 1 roll / $420.00 per roll)		
			FOB: Destination		
0009AB	**Lowry**	**PRF3-0015AB**	**Shipping Tag - 4" X 6"**		**$155.00 (min order)**
		305-00206	Lowry 4x6 Synthetic RFID Label w/Alien Squiggle Higgs 3 inlay; 500 Labels/Roll, (minimum order 1 roll / $135 per roll)		
			FOB: Destination		
0009AC	**Omni ID**	**PRF3-0009AC**	**Hardened Standoff Tag**		**$2.39**
		078-GS	Omni ID Exo 750		
			FOB: Destination		
0009AD	**Confidex**	**PRF3-0009AD**	**Battery Assisted Passive Tag**		**$43.35**
		3000858 (FCC) or 3000857 (ETSI)	Confidex Survivor, EPCglobal Class 3, Gen 2 battery assisted, hardened tag		
			FOB: Destination		
0009AE	**Lowry**	**PRF3-0009AE**	**Document Labeling/Tracking Tag**		**$360.00 (min order)**
		305-00207	Lowry 4x1 Direct Thermal Paper RFID Label w/Alien Squiggle Higgs 3 inlay; 2000 Labels/Roll, (minimum order 1 roll /$360 per roll)		
			FOB: Destination		
0009AF	**Omni ID**	**PRF3-0009AF**	**Office/Asset Tag**		**$3.17**
		137-GS	Omni ID Fit 210		
			FOB: Destination		
0009AG	**HID**	**PRF3-0009AG**	**Small Arms Well Tag**		**$2.04**
		7A1941-001	**Seal Tag: eTamper**		
			FOB: Destination		

	Passive RFID - Printer				
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0011AA	**Intermec**	**PRF3-0011AA**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 902-928MHz (FCC)**	**3 year**	**$3,620.87**
		PM43G01NA014 0201	PM43 Printer, RFID 915 MHz, 203 dpi resolution		
		136-34-118	4” wide Resin-Based Ribbon		
		SVCPM43-5FC3	PM43, Full Comprehensive, 5-day Turn, 3-year, DayOne		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AB	**Intermec**	**PRF3-0011AB**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 902-928MHz (FCC)**	**4 year**	**$3,793.05**
		PM43G01NA014 0201	PM43 Printer, RFID 915 MHz, 203 dpi resolution		
		SVCPM43-5FC4	PM43, Full Comprehensive, 5-day Turn, 4-year, DayOne		
		136-34-118	4” wide Resin-Based Ribbon		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AC	**Intermec**	**PRF3-0011AC**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 902-928MHz (FCC)**	**5 year**	**$3,825.45**
		PM43G01NA014 0201	PM43 Printer, RFID 915 MHz, 203 dpi resolution		
		136-34-118	4” wide Resin-Based Ribbon		
		SVCPM43-5FC5	PM43 Full Comprehensive, 5-day Turn, 5-year, DayOne		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AD	**Intermec**	**PRF3-0011AD**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 862-870MHz (ETSI)**	**3 year**	**$3,620.87**
		PM43G01EU014 0202	PM43 Printer, RFID 866 MHz, 203 dpi resolution		
		SVCPM43-5FC3	PM43, Full Comprehensive, 5-day Turn, 3-year, DayOne		
		136-34-118	4” wide Resin-Based Ribbon		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		

		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AE	**Intermec**	**PRF3-0011AE**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 862-870MHz (ETSI)**	**4 year**	**$3,793.05**
		PM43G01EU014 0202	PM43 Printer, RFID 866 MHz, 203 dpi resolution		
		SVCPM43-5FC4	PM43, Full Comprehensive, 5-day Turn, 4-year, DayOne		
		136-34-118	4” wide Resin-Based Ribbon		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AF	**Intermec**	**PRF3-0011AF**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 862-870MHz (ETSI)**	**5 year**	**$3,825.45**
		PM43G01EU014 0202	PM43 Printer, RFID 866 MHz, 203 dpi resolution		
		SVCPM43-5FC5	PM43 Full Comprehensive, 5-day Turn, 5-year, DayOne		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
		136-34-118	4” wide Resin-Based Ribbon		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
			FOB: Destination		
0011AG	**Intermec**	**PRF3-0011AG**	**Operator's Maintenance Kit**		**$24.09**
		1-110501-00	Cleaning Card, 4.5x6", box of 25		
			FOB: Destination		
0011AH	**Intermec**	**PRF2-0011AH**	**Replacement Print Head**		**$107.90**
		201-031-420	203 dpi Printhead, PC43 (User Installable)		
			FOB: Destination		
0011AJ	**Intermec**	**PRF2-0011AJ**	**4" wide Resin-Based Printer Ribbon**		**$67.99**
		136-34-118	4" wide Resin-Based Printer Ribbon		
			FOB: Destination		
	Passive RFID – Wireless RF Data Communications				
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0013AA	**Aruba**	**PRF3-0013AA**	**RF Access Point (Indoor Environment)**	**3 year**	**$831.73**
		AP-205-F1	Aruba AP-205 WAP FIPS/TAA		
		AP-220-MNT-W1W	WAP Mounting Kit		
		AR12106CHSSLT	IP67 Rated NEMA Enclosure		
		ALB1210	Aluminum Back Plate		
		N/A	Cable Gland		
		SN3-AP-205-F1	3-Year Warranty		
			FOB: Destination		

0013AB	**Aruba**	**PRF3-0013AB**	**RF Access Point (NEMA)**	**3 year**	**$3,239.77**
		AP-274-F1	Aruba AP-274 WAP FIPS/TAA		
		AP-270-MNT-V2	WAP Outdoor Mounting Kit		
		AP-LAR-24	2.4-2.5 GHz Lightning Arrestor (3)		
		AP-LAR-1	2-6 GHz Lightning Arrestor (3)		
		ANT 3x3-5005	Set of 3 5 GHz Antennas		
		ANT 3X3-2005	Set of 3 2.4 GHz Antennas		
		SN3-AP-274-F1	3-Year Warranty		
			FOB: Destination		
0013AC	**Aruba**	**PRF3-0013AC**	**RF Gateway**	**3 year**	**$21,238.53**
		7205-USF	Aruba 7205 10GBASE-X Controller, TAA/FIPS		
		LIC-PEF	Firewall SW License (8)		
		LIC-RFP	Access Protection SW License (8)		
		LIC-AP	Access Point License (8)		
		SN3-LIC-PEF	3-year support for LIC-PEF (8)		
		SN3-LIC-RFP	3-year support for LIC-RFP (8)		
		SN3-LIC-AP	3-year support for LIC-AP (8)		
		SN3-7205-USF	3-year NDB support for 7205-USF		
			FOB: Destination		
0028AA	**GAO**		**pRFID Desktop Reader/Writer 902-928MHz**	**3 year**	**$875.88**
0028AB	**GAO**		**pRFID Desktop Reader/Writer 902-928MHz**	**4 year**	**$1,108.99**
0028AC	**GAO**		**pRFID Desktop Reader/Writer 902-928MHz**	**5 year**	**$1,108.99**
0028BA	**Venture Research**	**VR-CURVE-RDR-US**	**RFID Tag Verifier / Encoder 902-928 MHz**	**3 year**	**$1,983.00**
Passive RFID – Antenna Shipyard Kits					
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0029AA	**Multiple**	**Multiple**	**pRFID Shipyard Kit #1**		**$5,737.17**
0029AB	**Multiple**	**Multiple**	**pRFID Shipyard Kit #2**		**$5,701.76**
Passive RFID – Barcode Scanners and Imagers					
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0031 AA	**Zebra**	**DS9908-**	**Barcode Scanning and RFID Imager**		**1,343.00**
0031 AB	**Zebra**				**1,400.00**
0031 AC	**Zebra**				**1,400.00**
0031 AD	**Zebra**				**1,343.00**
0031 AE	**Zebra**				**1,400.00**
0031 AF	**Zebra**				**1,400.00**
0031 BA	**Zebra**	**RFD8500-5000100-US**	**Barcode Scanning and RFID Imager, 902-928 MHz**	**3 year**	**$2,085.00**
0031 BB	**Zebra**	**RFD8500-1000100-US**	**Barcode Scanning, NO Imager, 902-928 MHz**	**3 year**	**$1,892.00**
0031 BC	**Zebra**	**CRD1S-RFD8500-1R-KIT**	**Single Slot Charging Cradle with Power Supply and Cable**		**$256.00**
0031 BD	**Zebra**	**CRD4S-RFD8500-1R-KIT**	**Multiple Slot Charging Cradle with Power Supply and Cable**		**$460.00**

RESERVED

CLINS 0031AA thru 0031AF

Barcode Scanner and RFID Imager 902-928 MHz

PENDING CONTRACT MOD

0031 CA	Venture Research / Zebra	DS457-SR20004ZZWW	Fixed Mount Imager	3 year	$494.00
	Passive RFID – Software				
SLIN	MFG	PART NO	Product Description and Ancillary Items	Warranty	Firm Fixed Unit Price
0015AA	Globe-Ranger		Application Development Software	3-year	26.44
0015AB	Globe-Ranger				38.38
0015AC	Globe-Ranger				29.56
			FOB: Destination		
0015AD	Seagull Scientific	PRF3-0015AD	pRFID Printer Software		$323.41
			BarTender 2016 Professional Edition Label Software BT16-PRO		
			FOB Destination		
0015AE	Williams Software Associates	SMARTRACK RFID	Small Arms Room Management Software	Perpetual License / Perpetual Warranty	$11,694.11
			Williams Software Associations (WSA) SMARTRACK Armory Management SW. Includes perpetual license and perpetual warranty		
			FOB Destination		
0015AF	Williams Software Associates	SMARTRACK RFID – SS	Small Arms Room Management Software (Server)	Perpetual License / Perpetual Warranty	$17,541.93
			Williams Software Associations (WSA) SMARTRACK Armory Management SW. Includes perpetual license and perpetual warranty		
			FOB Destination		
0015AG	Globe-Ranger	GR-IMOT-07-1YR	Application Development Software (includes Middleware)	1 year site license	$33,806.00

RESERVED

CLINS 0015AA thru 0015AC

PRFID Software

NOT AVAILABLE FOR ORDERING

			Includes up to 10 managed device licenses - Scalable, distributed, enterprise ready RFID and sensor-based middleware platform built to manage RFID infrastructure deployments: Microsoft Window OS compatible. Subscription license renews annually; includes maintenance and support.		
0015AH	**Globe-Ranger**	**GR-IMOT-07-3YR**	**Application Development Software (includes Middleware)**	**3-year site license**	**$77,895.00**
			Includes up to 10 managed device licenses - Scalable, distributed, enterprise ready RFID and sensor-based middleware platform built to manage RFID infrastructure deployments: Microsoft Window OS compatible. Subscription license renews every 3 years; includes maintenance and support.		
0015AJ	**Globe-Ranger**	**GR-IMOT-AWR-1YR**	**Application Development Software (includes Middleware)**	**1 year site license**	**$50,709.00**
			iMotion Site License plus GR-AWARE (Asset Watching and Reporting Engine) - asset management module; supports a broad range of RFID, sensor, and location technologies; create/manage edge processes, exceptions, triggers, alerts, notifications and real-time reports. Subscription license renews annually; includes maintenance and support.		
0015AK	**Globe-Ranger**	**GR-IMOT-AWR-3YR**	**Application Development Software (includes Middleware)**	**3-year site license**	**$117,042.00**
			iMotion Site License plus GR-AWARE (Asset Watching and Reporting Engine) - asset management module; supports a broad range of RFID, sensor, and location technologies; create/manage edge processes, exceptions, triggers, alerts, notifications and real-time reports. Subscription license renews every 3 years; includes maintenance and support.		
0015AL	**Globe-Ranger**	**GR-DEV-1YR**	**Managed Device License**	**1 year renew**	**$33,806.00**
			Device License - any device managed by the iMotion Edge Device Manager. Subscription license renews annually; includes maintenance and support. (Per device over 10.)		
0015AM	**Globe-Ranger**	**GR-DEV-3YR**	**Managed Device License**	**3 year renew**	**$33,806.00**
			Device License - any device managed by the iMotion Edge Device Manager. Subscription license renews every 3 years; includes maintenance and support. (Per device over 10.)		
	Passive RFID – MATERIALS (COST REIMBURSABLE)				
SLIN	**PWS**	**PART NO**		**Warranty**	**Firm Fixed Unit Price**
0017 AA		Incidental Materials (Cost Reimbursable)		Negotiated at Task Order Level ($100k ceiling)	

Technical Engineering Services (TES)					
SLIN		Labor Category	Ordering Period 3 (20 DEC 18 to 19 DEC 19)	Ordering Period 4 (20 DEC 19 to 19 DEC 20	Ordering Period 5 (20 DEC 20 to 19 DEC 21)
0019 AA		Project Manager	$133.41	$135.26	$137.30
0019 AB		Senior Information Systems Engineer	$111.51	$113.06	$114.75
0019 AC		Senior Programmer	$103.16	$104.58	$106.17
0019 AD		Systems Analyst	$83.28	$84.43	$85.69
0019 AE		Software Systems Designer	$89.17	$90.41	$91.77
0019 AF		Programmer / Analyst	$64.41	$65.31	$66.29
0019 AG		Junior Programmer	$55.67	$56.46	$57.30
0019 AH		Systems Engineer	$93.68	$94.97	$96.39
0019 AJ		Data Comm / Network Specialist	$68.60	$69.55	$70.60
0019 AK		RF Technical Radio Specialist	$77.87	$78.96	$80.14
0019 AM		Senior Systems Engineer	$124.26	$125.96	$127.86
0019 AN		Senior Software Systems Engineer	$106.44	$107.91	$109.53
0019 AP		Senior Field Engineer	$74.12	$75.16	$76.30
0019 AQ		Technical Writer	$55.15	$55.91	$56.75
0021		Travel (Cost Reimbursable)		Negotiated at Task Order Level	

	OPTION PERIOD(s) Maintenance Support (Mail-In/Carry-In/On-Call)			**Maint - Year 1 20 Dec 2019 - 19 Dec 2020 (to be exercised)**	**Maint - Year 2 20 Mar 2020 - 19 Dec 2021 (to be exercised)**
SLIN			**Item Description**		
			pRFID - Fixed Reader		
0022 AA			Monthly Maintenance (CONUS/OCONUS)	$8.70	$8.70
0022 AB			Per Incident (CONUS/OCONUS)	$522.29	$522.29
0022 AC			On-Call (CONUS/OCONUS)	$522.29	$522.29
			pRFID - Fixed Reader (Vehicle Mount)		
0023 AA			Monthly Maintenance (CONUS/OCONUS)	$10.88	$10.88
0023 AB			Per Incident (CONUS/OCONUS)	$946.65	$946.65
0023 AC			On-Call (CONUS/OCONUS)	$946.65	$946.65
			pRFID -Smart Table		
0024 AA			Monthly Maintenance (CONUS/OCONUS)	$32.65	$32.65
0024 AB			Per Incident (CONUS/OCONUS)	$544.05	$544.05
0024 AC			On-Call (CONUS/OCONUS)	$544.05	$544.05
			pRFID - Hand Held Reader		
0025 AA			Monthly Maintenance (CONUS/OCONUS)	$9.79	$9.79
0025 AB			Per Incident (CONUS/OCONUS)	$1,186.04	$1,186.04
0025 AC			On-Call (CONUS/OCONUS)	$1,1186.04	$1,186.04
			pRFID – Printer		
0026 AA			Monthly Maintenance (CONUS/OCONUS)	$9.79	$9.79
0026 AB			Per Incident (CONUS/OCONUS)	$1,044.59	$1,044.59
0026 AC			On-Call (CONUS/OCONUS)	$1,044.59	$1,044.59
			pRFID – SW Maintenance		
0027 AA			Annual Software Updates (CONUS/OCONUS)	$394.44	$394.44
0027 AB			Software Fixes (CONUS/OCONUS)	$394.44	$394.44

11. Appendix A: SLIN 0001 pRFID Fixed Reader

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Product Profile

IF2

Network Reader

- Advanced performance in a compact and cost-effective design
- Easily deployed and managed on common networks
- Low cost per read point for superior ROI
- Choice of Power over Ethernet lowers cost of installation
- Directly monitors and controls peripherals without extra equipment
- Factory configurable to operate in world regions supporting FCC or ETSI frequency bands

The Intermec IF2 is a compact, cost-effective network reader designed to support diverse RFID applications in both enterprise and industrial environments that require a scalable RFID system with a low cost per read point.

The IF2 is based on an Intermec-designed radio frequency (RF) platform that offers best-in-class read performance and includes support for Intermec's exclusive Advanced RFID Extensions (ARX), helping customers achieve a new level of visibility to the identification of RFID tags for greater accuracy of reading tags of interest over readers utilizing less-versatile commodity chipsets.

Packaged in a small and lightweight, yet durable enclosure, the IF2 is suited for nearly any environment, including industrial warehouse and manufacturing operations and enterprise environments for asset and inventory management applications.

Reduces System and Deployment Costs for Large and Small Installations

With a focus on keeping the cost of ancillary equipment and installation low, the IF2 Network Reader includes features that reduce the costs and complexity of the overall solution.

Not only does the low-profile enclosure with integrated mounting slots allow the IF2 to be easily installed in virtually any environment, the IF2 also supports Power over Ethernet (PoE) for scalable deployments without the cost of adding electrical drops where AC line power is not available or practical. An optional DC converter is available to support conventional wall power. Either power method supports the full RF output power capability of the IF2 (up to 30 dBm).

Because the general purpose input/output (GPIO) circuitry can be powered directly through either PoE or the DC power converter, the IF2 allows for direct monitoring and controlling of peripherals such as presence detectors and signal lights without requiring extra devices and power supplies to facilitate the connection.

Further reducing installation and equipment costs, the IF2's four antenna ports can be configured to transmit in either mono- or bi-static mode, increasing the flexibility of the system to achieve the best results for the application and environment. A variety of antennas from Intermec's extensive product line supports diverse applications, versus integrated antenna readers that include one type of antenna and limit the flexibility of applications and deployment.

Intermec

Easy to Use and Manage

The IF2 supports standard network device protocols, including auto-discovery and network service protocols, enabling seamless integration with common network infrastructures.

Supporting the standards-based LLRP application interface, the IF2 can quickly integrate with business solutions such as IBM® WebSphere® RFID and Microsoft® BizTalk® RFID, providing a scalable standardized platform for the development, deployment, and management of RFID solutions. The IF2 also supports Intermec's easy to use Basic Reader Interface (BRI), enabling Intermec customers and partners to quickly and seamlessly include the IF2 in their solutions.

The IF2 comes factory-loaded with the Intermec SmartSystems™ client at no extra charge. Intermec SmartSystems Foundation allows administrators to change device settings, send firmware upgrades, update software applications, and execute other changes on multiple devices directly from a centralized console to save time and cost for deploying, configuring, and maintaining the Intermec hardware.

Intermec's Advanced Services can provide process analysis, site analysis, installation and an 18-month guarantee of system performance.

In support of global operations, the IF2 is certified in regions across the globe and is factory configured to operate in the corresponding RFID frequency band.

General Description
The IF2 is a compact, cost-effective network reader designed to support diverse passive UHF RFID applications in both enterprise and industrial environments. The IF2 supports Power over Ethernet, four mono- or bi-static RF ports, built-in powered general purpose input output (GPIO) control, and both standards-based LLRP and Intermec's easy to use Basic Radio Interface (BRI) application interfaces, enabling scalable low-cost deployments for improved return on investment (ROI). The IF2 is packaged in a durable enclosure for nearly any environment and is factory configured to operate in regions across the globe.

Physical Characteristics
Length: 18.85 cm (7.42 in)
Length w/splashguard: 19.9 cm (7.87 in)
Width: 16.31 cm (6.42 in)
Height: 4.32 cm (1.70 in)
Weight: 1.0 kg (2.2 lbs)
LED Status Indicators: RFID service, power, PoE, Ethernet, tag detection, and antenna port connection status

Environmental
Operating Temperature: -20 to 50°C (-4 to 122°F)
Storage Temperature: -30 to 70°C (-22 to 158°F)
Relative Humidity: 5% to 95% (non-condensing)
Enclosure: IP53 sealing
Die cast magnesium base, Lexan plastic cover

Connectivity
Communications: 10/100 BaseT Ethernet
RS-232, USB for configuration
Input Power: PoE (802.3at compliant)
DC power input (12 VDC +/-5%, 30W), sealed/locking connection. Requires optional Intermec 100/240 VAC converter.

General Purpose
Input/Output (GPIO): Four input (0-40 VDC) and four output (0-48 VDC, 0.25 amp) circuits, powered via PoE or DC input (500 mA, 12 VDC)

RF Characteristics
Antenna Connections: Four reverse-polarity (RP) TNC ports configurable for mono- or bi- static operation. Antenna fault detection and auto tuning for best performance
Output Power: 1 to 30 dBm, configurable in 1 dB steps (calibrated above 9 dBm)
Frequency Ranges: FCC (902-928 MHz) and ETSI (865-868 MHz), factory configured

Software Platform
Passive UHF Tag Protocols:
ISO 18000-6B
ISO 18000-6C
EPCglobal UHF Class 1 Gen 2
Tag Features:
NXP G2X, Impinj Monza 4QT extensions
High memory tags (Fujitsu, Tego, ATA)
Host Application Protocols:
EPCglobal LLRP
Intermec Advanced RFID Extensions (ARX)
Intermec Basic Reader Interface (BRI)
Intermec Developer Library (IDL) resource kit for BRI (Java, C# .NET)
Management and Configuration:
Bonjour
Universal Plug and Play (UPnP)
Intermec SmartSystems client
Intermec Web Services and Web Configuration Interface
Network Protocols:
HTTP/HTTPS Web Server
IPv4, IPv6
DHCP, DNS, NTP, Syslog

Security
FIPS 140-2 compliance for HTTPS, LLRP-secure, and Web Services (DCWS)-secure
RADIUS client support
SSL Certificate support

Accessories
Intermec approved antennas, antenna cables

Regulatory Approvals and Compliance
Model: 1009FF01
Safety: IEC/UL 60950-1
EMC: Class B - FCC/ICES/EN

Intermec Global Services Support
www.intermec.com --> Support --> Knowledge Central
Telephone support available in the USA & Canada (+1-800-755-5505). Outside of this area, contact your local representative.

Restrictions on Use
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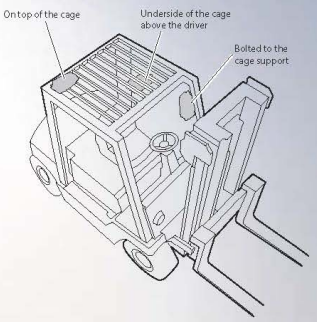
In a continuing effort to improve our products, Intermec Technologies Corporation reserves the right to change specifications and features without prior notice.

12. Appendix B: SLIN 0003 Vehicle Mount pRFID Reader

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Product profile



IV7

Vehicle Mount RFID Reader

- First RFID reader specifically created for mobile mount applications
- Supports multiple air interfaces including ISO, Gen 2 and Class 1
- Rugged cast aluminum alloy housing, sealed to IP65
- Designed for serial attachment to Intermec's CV60 vehicle mount computer
- General purpose inputs/outputs

RFID has always delivered the twin conveniences of hands-free scanning with little or no human intervention. Now, Intermec has taken that to the next level by adding the convenience of mobility with the new IV7 Intellitag® Vehicle Mount RFID reader. The IV7 joins an award winning family of Intellitag readers that include several handheld and fixed mount form factors.

As Intermec's first packaged forklift-mounted RFID reader system, the IV7 is designed for serial attachment to the Intermec® CV60 vehicle mount computer. Both are built to withstand the rigors of harsh, industrial environments and are sealed to IP65 ratings. The CV60, acting as the local host for the IV7, provides network management and security. The built-in DC-DC converter handles the noisy input power environment.

RFID standards are continuing to evolve, which requires manufacturers and retailers to have multi-protocol reading capability if they are implementing RFID in an open supply chain. When fully equipped, the IV7 can read multiple air interface protocols, even in mixed populations of tags, including EPC UHF Generation 2 (Gen 2), ISO 18000 6-b and EPC Class 1.

While portal mounted readers are capable of capturing pallet data and some carton data, the tagged items must be brought to the reader. Enterprises often need the flexibility to read RFID tags in certain and not-so-certain locations which may not be near the location of a fixed reader. The Intellitag IV7 not only delivers the flexibility of "read where you need," but also a cost advantage over portal reader systems wherever the number of dock doors is significantly larger than the number of fork trucks.

Commercial and U.S. government supply chains will find the IV7 ideal for pick and put away applications. The CV60 can command the IV7, equipped with a location tag-sensing antenna, to scan for RFID tags when a pallet is picked up. The IV7 captures not only the location of the pallet pick up, but also through what doorway it passed, the path the forklift traveled and where the pallet will be placed.

The wireless capability of the CV60 combined with the snappy reads of the IV7 mean that warehouse management systems are automatically updated with location status as the truck moves through tag-equipped zones, as well as with shelf location data when the pallet is dropped off or retrieved.

The IV7's cast aluminum housing has built-in cable strain relief features, and with pre-drilled holes in the base plate, is designed for either U-bolt or flexible strap attachment to many makes of fork trucks. The IV7 can be mounted in any position on the vehicle within 3.5 m (10 ft.) of the

Intermec

vehicle battery or power source such as a terminal strip. The communication to the CV60 is via RS232 cable and connection.

Physical Description
The IV7 is a rugged RFID tag reader designed to be mounted on a vehicle for mobile use and operation in the same harsh environment as the CV60 vehicle mount computer.

Physical Characteristics of the Reader
Length: 34.3 cm (13.5")
Height: 9.5 cm (3.75")
Width: 23.6 cm (9.3")
Weight: 3.08 kg (6.8 lbs)

Standard Features
4 Antenna Connections
4 General Purpose Inputs/4 Outputs

Multiple Tag Environments
Capable of operation in mixed tag populations – ISO 18000-6b, EPC UHF Gen 2, and EPC Class 1. Configurable for mixed or single tag-type operation. Air interface software on IV7 is downloadable to add Gen 2 and Class 1 air interfaces and to "future-proof" the product as standards evolve and new features become available.

Power
Supply: Vehicle DC power 12 to 60V, 4.5 A maximum

Software
Application software for IV7 will reside on the "host" vehicle-mount computer, such as Intermec's CV60. Application program interface (API), Basic Reader Interface (BRI), demonstration and example applications software are included in the RFID Resource Kit, available through Intermec's Developers' Library.

Options
RFID Frequency Options
915 MHz (US FCC), 865 MHz (ETSI 302-208), and 869 MHz (ETSI 300-220)

Communications Interface
RS232

Accessories
Vehicle-mount DC power cable kit
Antennas, and antenna cables

Environment
Operating Temperature:
-25°C to 55°C (-13°F to 131°F)
Storage Temperature:
-30°C to 75°C (-22°F to 167°F)
Humidity (non-condensing): 10% to 90%
Shock and Vibration Protection: Withstands standard material handling vehicle environments. Meets or exceeds MIL STD 810F
Environmental Rating: IP65

Safety & Regulatory Approvals
ANS INCITS 256:1999 (R2001) - Parts 2, 3.1 & 4.2
ANSI MH10.8.4
ISO/IEC CD18000 Part 4
ISO/IEC WD18000 Part 6
- US/C UL Listed
- TÜV/GS Licensed
- CB Report for EN 60950, addressing all national deviations
- FCC OET Bulletin 65, FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields
- CENELEC EN50364/EN50357, European RF Exposure standard
- AS/NZS 2772.1, Australia/New Zealand RF Exposure standard
- Mexico NOM 19

Restrictions on Use
Some approvals and features may vary by country and may change without notice. Please check with your local Intermec sales office for further information.

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611638-01D 03/07

In a continuing effort to improve our products, Intermec Technologies Corporation reserves the right to change specifications and features without prior notice.

13. Appendix C: SLIN 0005 pRFID SMART TABLE

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

TJMT Technology

EcoTable™

Simplicity in RFID Design

Passive RFID Enabled Workspace Solution

The EcoTable™ from TJMT is a fully functional, fully enabled "Plug & Play" platform that provides a 48 inch (121.92 cm) x 30 inch (76.2 cm) RFID-enabled workspace. The system is engineered to isolate the read field within the boundaries of the table, both above and around the table surface. This design translates to accurate reads of tagged items placed on or above the EcoTable™. The EcoTable™ is ideally suited for receiving, shipping and kitting, as well as counting applications.

At 85 pounds, the 48 inch EcoTable™ is constructed of an aircraft quality aluminum base with adjustable and foldable steel legs, and includes a durable High-density polyethylene (HDPE) 3/8 inch thick work surface designed specifically for industrial shop floor use. Each unit is durable enough to withstand harsh industrial environments, with an IP 54 rating, and is capable of supporting not less than **300 pounds (136 kg)** loads. The EcoTable™ has adjustable legs allowing users to level the unit virtually anywhere and support a variable top height of between 27-1/2" and 32-1/2" High.

The 48 inch EcoTable™ ships with the Zebra FX 7500 Fixed RFID Reader, but can be ordered with the optional Intermec IF2 Fixed RFID Reader. Please specify North American, or ETSI operating location when ordering table. Reader installed is based on operating region.

Characteristic	Description
Name/Model	Shelf Antenna
Type	Four circular polarized patch array
Dimensions	32" long × 10" wide × 0.59" thick
Weight	Approximate 5 pounds
Casing	Interleaved
Temperature	Operating : 0° to + 50°C (+32° to + 122°F) Storage : -20 to + 60°C (-4° to + 148°F)
Connectors	TNC Female Connectors
VSWR to center 914Mhz	
3db Beam Width	22.2
Gain in db/linear	5.62

The 48 inch EcoTable™ (specifications above) features a custom near-field compound antenna array, specifically designed to enhance read zone modulation.

EcoTable™

Designed by RFID experts who understand your business needs

Features:

- Rugged and Portable
- Plug & Play
- Easy to Assemble
- Supports up to 300 lbs (136 kg)
- Adjustable Legs
- Network Interface
- Additional Options: Status Lights, Poly Carry Case, UPS.
- Custom Near-field Compound Antenna

Warranty

The EcoTable™ is warranted against defects in workmanship and materials for a period of 1 year (12 months) from date of shipment, provided the product remains unmodified and is operated under normal and proper conditions.

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14. Appendix D: SLIN 0007 PRFID Hand Held Readers (HHR-A & HHR-B)

Product profile

70 Series RFID

Ultra-Rugged Mobile Computers with Integrated Passive UHF Reader

CN70 RFID | CN70e RFID | CK70 RFID

The Intermec 70 Series RFID is the no compromise, next generation family of ultra-rugged mobile computers that combine passive UHF reading with purpose-built designs in one common platform.

- Fully integrated UHF RFID reader with no visible external antenna
- Optimal device size, weight and ruggedness
- Choice of three ergonomic designs, one common platform
- Full compatibility with printers, application software, communications, peripherals and accessories integrating and enabling a comprehensive enterprise business solution
- Exceptional battery life to eliminate downtime
- Advanced imaging technology for remarkable scanning snappiness, tolerance to motion and low light

The No-Compromise Solution is Now RFID Enabled

When it comes to accomplishing routine data collection tasks with greater efficiency and accuracy, the 70 Series RFID mobile computers are the answer. These devices combine RFID reading with a no-compromise design with best-in-class ruggedness, battery life, and ergonomics. Intelligently designed into three different form factors yet built on a singular core platform, the 70 Series RFID gives you the benefits of purpose-built devices with the reduced complexity and cost savings that come from adopting a common platform.

Because each 70 Series RFID model is designed for a specific application environment, we have surrounded it with a complete set of software, tools, services and training modules–both from us and from our PartnerNet ecosystem–to create the smoothest possible integration into your workflows.

The Simplicity of One

With its single platform approach, the 70 Series RFID is unique in its ability to deliver the benefits that come with one architecture, one software build, one set of peripherals and one charging system. It brings simplicity to the frequent tasks of software updates, training new employees, managing spares pools and charging devices.

Break the Cycle of Infrastructure Replacement

The 70 Series RFID is fully compatible with the entire suite of original 70 Series accessories, including the FlexDock modular docking system designed to meet your current and future charging and communication needs while maximizing the return on your accessory investment. For details on compatible accessories, see the 70 Series Accessory Guide.

More than Just Hardware

The three form factors comprising the 70 Series RFID include choices of radios, keypads, software and services providing you the flexibility to tailor a specific solution to meet the demands of your environment and the preferences and needs of your employees.

Intermec

Physical Characteristics
CN70 RFID
Dimensions with battery:
L x W x D: 16.9 x 8.0 x 3.4 cm (6.65 x 3.15 x 1.34 in)
Weight: 450 g (15.9 oz) with battery

CN70e RFID
Dimensions with battery:
L x W x D: 19.5 x 8.0 x 3.4 cm (7.66 x 3.15 x 1.34 in)
Weight: 491 g (17.3 oz) with battery

CK70 RFID
Dimensions with battery:
L x W x D: 23.7 x 8.0 x 4.3 cm (9.33 x 3.16 x 1.69 in)
Weight: 562 g (19 oz) with battery

Environmental
Operating Temperature: -20° C to +60° C* (-4F° F to +140° F)*
Storage Temperature: -30° C to +70° C (-22° F to +158° F)
Charging Temperature: +5° C to +35° C (41° F to 95° F)
Relative Humidity: Non-condensing, 95%
Rain & Dust Resistance: IP67
Drop Specification: 2.4m (8 ft.) to concrete per MIL-STD 810G; 1.8m (6 ft.) to concrete across operating temperature range per MIL-STD 810G; 2,000 (1m) tumbles per IEC 60068-2-32 specification
Electrostatic Discharge: +/- 15 kV air discharge, +/- 8 kV direct discharge
*Max Ambient: 50° C T6

Power
CK70 RFID
Battery Pack: 3.7 V, 5200 mAh; IEEE 1725 compliant, lithium ion, removable, rechargeable

CN70/CN70e RFID
Battery Pack: 3.7 V, 4000 mAh; IEEE 1725 compliant, lithium ion, removable, rechargeable

Operating System
Microsoft Windows Embedded Handheld built on Windows 6.5.3 technology, Getting started information: www.windowsmobile.com/getstarted

Multi-Engine Processor Architecture
Texas Instruments 1GHz OMAP3 multi-engine processor architecture

Memory and Storage
Memory: 512 MB RAM
ROM: 1 GB Flash
Customer-accessible micro-SD slot for removable memory cards up to 32 GB

Display
- 8.9 cm (3.5 in) Transmissive VGA
- 480 x 640 pixels
- High-Durability Touch Screen
- 65,536 (16bit RGB) Colors
- LED Backlight
- Ambient Light Sensor

Standard Communications
USB - Full Speed 2.0 Host®
USB - Full Speed 2.0 Client®
IrDA

Software Options
Device Management: Intermec SmartSystems™ support includes ScanNGo provisioning for use alone or with device management software from Intermec ISVs
Device Health Monitoring: Remote access requires SmartSystem Management option
Application Development: Intermec Developer Library www.intermec.com/dev

Apps & Components
VERDEX (imaging based data extraction and verification), Mobile Document Imaging (eMDI)

Data Management
Skynax® Mobile Communications

Integrated Radios
Wireless LAN: IEEE®802.11 a/b/g/n Dual Band WLAN
Security: WiFi Certified for WPA and WPA2, WAPI Certified
Authentication: 802.1x
Cisco Compatibility: CCXv4
Encryption: WEP (64 or 128 bit), AES, TKIP

Wireless PAN: Integrated Bluetooth® Class II, Version 2.1+EDR
Operating channels: 0 to 78 (2402-2480 MHz)
Data Rates: 1, 2, 3 Mbps
Antenna: Internal

UHF RFID
Frequency: 902-928 MHz (US) or 865-868 MHz (EU)
Standards: EPCglobal Class 1 Gen 2, ISO 18000-6C
Maximum Output Power: 30 dBm (1 W)
Antenna: Internal, orientation insensitive

Sensor Technology
Accelerometer: Embedded accelerometer enables automatic or application-specific features such as "screen rotation" or system suspend

Audio Support
Supports VoIP / Speech recognition / Push to talk applications; front and rear speakers; rear speaker has >80 dB at 40 cm (15.7 in); Front receiver and front panel microphone for handset audio communication and audio recording; Wireless Bluetooth headset support; Wired headset support via a snap on adapter.

Integrated Scanner
EA30 high performance motion tolerant 2D Imager; white LED illumination; red laser aimer optimized for all lighting conditions; 35 degree downward scan angle; capable of scanning all common 1D and 2D barcodes, 1D as small as 5 mil, PDF as small as 6.6 mil, DataMatrix as small as 7.5 mil, and standard UPC codes from distances up to 33 cm (13 in)

Integrated Camera Option
5 megapixel auto focus color camera with LED flash

Intermec Global Services Support
www.intermec.com --> Support --> Knowledge Central Telephone support available in the USA & Canada (1-800-755-5505). Outside of this area, contact your local representative.

Maintain equipment with INControl managed services Current listing of service locations can be found at: www.intermec.com --> Support --> Returns and Repairs --> Repair Locations

Accessories
FlexDock modular docking system, vehicle dock and holder, snap on adaptors, removable scan handle, magnetic stripe reader (see 70 Series Accessory Guide for complete listing).

Regulatory Approvals and Compliance
CN70 RFID: 1000CP01F9, 1000CP01F8
CN70e RFID: 1000CP02F9, 1000CP02F8
CK70 RFID: 1001CP01F9, 1001CP01F8
Safety: cULus (pending), DEMKO
EMC: Class B - FCC/ICES/EN
Radio: FCC, Industry Canada, CE (Europe), 34 countries in total
Environmental: EU Directives-WEEE; RoHS; Batteries & Accumulators; Packaging & Waste Packaging

Regulatory Approvals and Compliance for Non-Incendive Models
Specific non-incendive models in the 70 Series RFID family are suitable for use in the following Division 2 locations:
Safety: cULus (pending) - ISA/ANSI 12.12.01
Gases: Class I - Groups A, B, C, D
Dusts: Class II - Groups F, G
Fibers and Flyings: Class III
* Max Ambient: 50° C T6

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In a continuing effort to improve our products, Intermec Technologies Corporation reserves the right to change specifications and features without prior notice.

15. Appendix E: SLIN 0007 Single Battery Charger/Dock (HHR-A & HHR-B)

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Product profile

FlexDock

Modular Docking System

Intermec's FlexDock Docking System brings a whole new ease to mobile device docking and charging. Interchangeable bases and cups provide multiple options for data communications and/or charging. No longer do you need separate infrastructures for your various mobile computers, scanners, and printers. You can tailor the dock to meet your specific configuration needs: traditional (a single type of mobile device or battery); mixed (a mix of mobile device types and/or batteries); or transitional (a mix of current and future product choices).

- A modular and extensible design, with replaceable cups, allows for field configuration or reconfiguration of the FlexDock base to match changing needs
- Engineered for large scale deployments, a small footprint allows for high density docking and charging utilizing standard 19" IT racking solutions
- Reduces installation costs and simplifies wiring with 100Base-T Ethernet daisy chaining capability (up to 10)
- A future-proof design delivers docking system infrastructure investment protection, so upgrading to next generation devices only requires the purchase of the devices and battery cups—the docking system infrastructure can be reused

Intermec by Honeywell

Docking Made Simple

The Intermec FlexDock is a uniquely scalable, modular docking system for Intermec products providing the flexibility to design the docking system that best suits your needs today, as well as in the future.

The Dual or Quad Base supports optional 100Base-T Ethernet connectivity, enabling high-speed data communications over your network infrastructure. "Daisy chaining" capability allows up to ten bases (up to 40 mobile devices) to share a single host network port, significantly reducing cabling requirements.

The Quad Base, designed for large scale deployments, can be configured to hold either a maximum of four mobile devices or four battery charging stations allowing for simultaneous charging of up to 8 battery packs.

The Desktop Base, designed for use in home or small office environments, accommodates one mobile device and one auxiliary battery charger (supporting up to two battery packs) and provides USB Host and USB Client data connectivity. You may choose to connect the mobile computer to a host PC via Microsoft ActiveSync or use optional adapter modules that plug directly into the Desktop Base to provide 100Base-T Ethernet or analog modem communications. In addition, the USB Host port may be used to connect supported peripherals such as an external keyboard to facilitate data input.

No longer do you need to comply with rigid docking requirements or the purchase of different peripherals to perform different tasks. As needs change, FlexDock can be easily modified in its cup configuration to accommodate new requirements.

Space and Installation Cost Savings

In addition to its ground-breaking modular design, FlexDock also improves utilization of valuable backroom storage space. The FlexDock Rack Mount allows FlexDock bases to be mounted in standard 19-inch IT equipment racks, enabling convenient vertical stacking of docks within a significantly smaller footprint. Racks may be mounted horizontal or angled 15 degrees up or down to improve visibility and accessibility of devices while docked. A power supply and cable management shelf provides a convenient means of keeping cables under control and out of the way.

Future-Proof Design

When it's time to upgrade devices, FlexDock provides an extremely cost-effective means of preserving infrastructure investments. Cups for the new mobile computers, printers, handheld scanners and battery packs can easily be snapped into existing bases. No more "rip and replace" or costly installation and rewiring necessary – just snap and go. Intermec's modular and extensible FlexDock System adapts to your current rugged mobile device docking requirements, while easing the transition to future deployments.

Physical Characteristics
Dimensions (L x W x H) & Weight:
(Base height varies slightly based on type of cup used)
Desktop Base: 23.2 x 12.7 x 4 cm (9.10 x 5.0 x 1.58 in); 641.5g (19.1 oz)
Dual Base: 23.2 x 12.7 x 4 cm (9.10 x 5.0 x 1.58 in); 553 g (18.8 oz) or 654.9 g (23.1 oz) with Ethernet
Quad Base: 44.46 x 12.7 x 4 cm (17.5 x 5.0 x 1.58 in)
Power Supply (Dual/Desktop Base): 13 x 7.6 x 3.3 cm (5.1 x 3.0 x 1.3 in); 272.2 g (9.6 oz)
Power Supply (Quad Base): 18 x 5.8 x 3.9 cm (7.09 x 2.27 x 1.52 in); 688.9 g (24.3 oz)
Cups: 10.6 x 12.5 cm (4.18 x 4.94 in); Cup height varies from 4.8 to 10.2 cm (1.9 to 4.0 in); Cup weight varies from 90.7 to 124.8 g (3.2 to 4.4 oz)

Supported Mobile Computers
CK3, CK70, CK71, CN3, CN3e, CN4, CN4e, CN50, CN51, CN70, CN70e, CS40

Supported Mobile Printers
PR2, PB3

Supported Handheld Scanners
SF61B

Cups
Mobile Computer: Accommodates one mobile computer; provides charging and data communication connectivity; front-mounted Ethernet connectivity indicator (where applicable)
Handheld Scanner: Accommodates one handheld scanner; provides charging with status via indicators on scanner.
Mobile Printer: Accommodates one mobile printer; provides charging with status via indicators on printer.
Battery Pack: Accommodates up to one battery packs per cup; provides charging; front-mounted charge status indicator for each pack.

For a comprehensive overview of Flex Dock cups available by product line, see the Flex Dock System Accessory Guide located at: www.intermec.com/FlexDock

Data Communications
Quad & Dual Base: Optional Ethernet 100Base-T; RJ45 Uplink and Downlink ports
Desktop Base: USB 2.0 Full Speed, Standard USB-A Host port, Micro USB-B Client port
Desktop Base accepts optional Ethernet 100Base-T or 56 Kbps Analog Modem modules via USB Host port

Battery Charging Time
Typically less than 4 hours; maximum 6 hours for fully discharged packs

Mounting Options
Rack Mounting Kit: Shelf for mounting one Quad Base or one Dual Base with Power Supply Shelf underneath. Options for mounting horizontal; adapters for 15 degree upward or downward angle mounting.

Regulatory Approvals and Compliance
Docks: 1002UD01, 1002UD02, 1002UD03, 1002UD04, 1002UD05
Cups: 1002UD01, 1002UD02, 1002UD03, 1002UD04, 1002UD05, 1002UD06, 1002UE01, 1002UE02, 1002UE05
Power Supplies: 9004A501, 9006A501
Safety: cULus Listed (pending), IECMKO (pending)
EMC: Class B – FCC/ICES/EN (Desktop Base and Dual Base configurations)
Class A – FCC/IC/EN (Dual Base, Quad Base Ethernet and Quad Base Charge-only configurations)
Environmental: EU Directives – WEEE, RoHS, Packaging & Waste Packaging

Contact your Intermec Partner Net Reseller or Sales Representative for full information on available configurations.

Dual Dock with two CK70s

Dual Dock configured as 4-position External Battery Charger

Dual Dock with CN70 and PR2

Quad Dock with CK3, CN51, SF61B, and PR2

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16. Appendix F: SLIN 0009 Shipping Tag – 4” x 2”

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Material Specification Sheet 305-00205

Features:

- Thermal Transfer, white synthetic label with a high strength, permanent adhesive.
- Facestock has a special topcoating that provides protection for the thermal layer and maximizes print head life.
- Excellent tear strength, heat resistance, and chemical resistance.
- Strong permanent bonding to a wide variety of substrates and high initial tack and adhesion.

Suggested Applications:

- Product identification
- Barcode and rating plates
- Durable goods labeling
- Work in process labeling

Material Construction:	Description	Caliper
Facestock	White topcoated polyester	2.0 mil
Adhesive	High tack, permanent, acrylic	1.0 mil
Liner	50 lb. super-calendered, kraft stock	3.2 mil

Min. Application Temp $+45^{0}$ F

Service Temp Range -30° F to +300° F

Shelf Life
Unless specified otherwise in this document, one year when stored at 72°F at 50% RH.

Statement of Practical Use
As with all pressure sensitive materials, this product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the specific application.

9420 Maltby Road • Brighton, MI 48116 • 800.733.0210 • www.lowrycomputer.com

LOWRY
Where Innovation Meets Experience

17. Appendix G: SLIN 0009 Shipping Tag 4” x 6”

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Material Specification Sheet 305-00206

Features:

- Thermal Transfer, white synthetic label with a high strength, permanent adhesive.
- Facestock has a special topcoating that provides protection for the thermal layer and maximizes print head life.
- Excellent tear strength, heat resistance, and chemical resistance.
- Strong permanent bonding to a wide variety of substrates and high initial tack and adhesion.

Suggested Applications:

- Product identification
- Barcode and rating plates
- Durable goods labeling
- Work in process labeling

Material Construction:	Description	Caliper
Facestock	White topcoated polyester	2.0 mil
Adhesive	High tack, permanent, acrylic	1.0 mil
Liner	50 lb. super-calendered, kraft stock	3.2 mil

Min. Application Temp +45^0 F

Service Temp Range -30° F to +300° F

Shelf Life
Unless specified otherwise in this document, one year when stored at 72°F at 50% RH.

Statement of Practical Use
As with all pressure sensitive materials, this product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the specific application.

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18. Appendix H: SLIN 0009 Hardened Stand-off tag

Omni-ID®
Building Intelligent Supply Chains

Visit www.omni-id.com to learn more about the complete line of Omni-ID RFID products.

Omni-ID® Exo 750

Omni-ID Exo 750 is a long range durable RFID tag optimized for attachment to metal assets. Designed with a broad read angle and with a global RF response, Exo 750 is compatible with handheld and portal use cases, anywhere on the globe. Featuring premium materials, Omni-ID Exo 750 offers market leading consistency and reliability in outdoor and industrial applications.

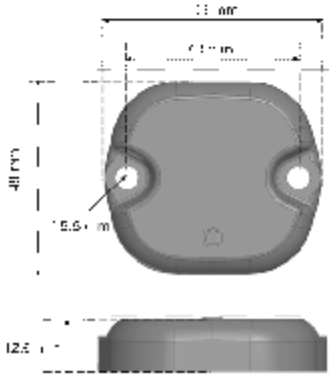
Building Intelligent Supply Chains

Based on a rugged construction, square footprint and moderate durability, the Exo 750 is ideally suited to RTI applications in:

- Automotive supply chain.
- Logistics and Postal.
- Manufacturing tote tracking.

Physical Specifications

Encasement	ABS
Size (mm) (tolerance)	51 x 48 x 12.6 (+/-1.0)
Size (in) (tolerance)	2.01 x 1.9 x 0.50 (+/-0.04)
Weight (g)	25.6



Dimensions stated in mm

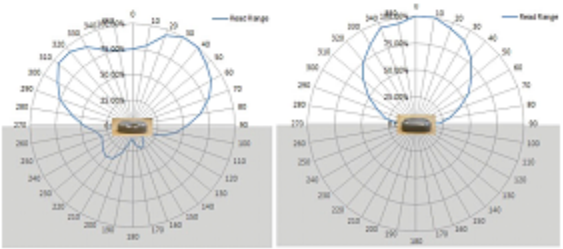
RF Specifications

Protocol	EPC Class1 Gen2
Frequency Range (MHz)	860-930MHz (GS)
Read Range (Fixed reader)[1]	Up to 7m (EU) Up to 11m (US)
Read Range (Handheld reader)[1]	Up to 3.5m (EU) Up to 5m (US)
Material Compatibility	Optimized for metal
IC Type (chip)	Monza 4 QT
Memory [2]	EPC - 96bits User - 512bits TID - 64bits

1. Quoted performance achieved using standard testing methodology. Read range will vary with reader hardware and output power.
2. EPC and User memory are reprogrammable, TID is locked at point of manufacture.

Radiation Patterns

On Metal



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Omni-ID®
Building Intelligent Supply Chains

Visit www.omni-id.com to learn more about the complete line of Omni-ID RFID products.

Related Products and Services

- **Omni-ID Exo 600 -** High performance, global RFID tag designed to meet the diverse needs of logistics industries.
- **Omni-ID Dura 1500 -** Long range, high durability and global RFID tag for heavy industry applications.
- **Omni-ID Exo 800 -** Long range passive UHF RFID tag capable of reading on, off, and near metal surfaces
- **Service Bureau** - Omni-ID offers a full service bureau for printing and pre-encoding Omni-ID tags at point of manufacture.

Environmental Specifications

Operating Temperature	–40 to +85 °C
Long term Max Temperature [1] exposure - (days,weeks,years)	+85 °C
Short term Max Temperature [1] exposure - (minutes,hours)	+105 °C
IP Rating	IP68 Submersion proof to 3000m depth
Shock & Vibration	MIL STD 810-F
Attachment	Mechanical (std) Film adhesive (option) Foam adhesive (option)
Certifications	RoHS approved CE approved ATEX/IECEx certified (option) US&Canada (C1D1/D2) certified (option)
Warranty	3 years

1. Excludes adhesive options, consult adhesive data sheets for recommended temperature ratings.
2. Testing methodology available on request

Ordering Information

Order Numbers	078-GS :304 (ATEX/IECEx certified) :307 (US&Canada (C1D1/D2) certified) :701 (Standard Service Bureau) :702 (Custom Service Bureau)

CE RoHS Ex

Omni-ID office locations: US | UK | China | India | Southeast Asia
For product or technology inquiries email: sales@omni-id.com

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19. Appendix I: SLIN 0009 Battery Assisted Passive Tag

PRODUCT DATASHEET

Confidex Survivor B™

All-surface tag with extreme performance that is powered with Confidex BOOST™ battery assisted passive technology.

ELECTRICAL SPECIFICATION

Device type
UHF RFID transponder
Air interface protocol
EPCGlobal Class3 Gen2, compliant with:
- EPCGlobal Class 1 Gen2 (ISO 18000-6C)
- ISO 18000-6D (TOTAL)
- AIAG™ B-11
- ATA Spec 2000 Low memory tag compliant

Operational frequency
EU 865 - 869 MHz, US 902 - 928 MHz
IC type
EM4325
Memory configuration
EPC 352 bit; User 3072 bit; TID 48 bit (unique)
EPC memory content
Unique 96 bit EPC encoded as a default
Read range (2W ERP)*
Up to 60m / 200ft
Default mode
Delivered in passive mode with default sensitivity
Applicable surface materials*
All surfaces

* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Different surface materials may have an effect on performance. With BAP technology the reader sensitivity is in important role when it comes to maximum read range.

PERSONALIZATION OPTIONS

Pre-encoding
- Customer specific encoding of EPC or user memory. Locking permanently or with password

Customized data label
- Customer specific layout including logo, text, numbers, barcodes etc.

Customized laser engraving
- Customer specific layout including logo, text, numbers, barcodes etc.

MECHANICAL SPECIFICATION

Tag materials
High quality engineering plastics.
Battery
Disposable lithium battery. Contact Confidex for recycling instructions.
Weight
34 g
Delivery format
Single
Amount in box
100 pcs
Dimensions
155mm x 26mm x 14,5mm / 6.1" x 1.02" x 0.57"

ENVIRONMENTAL RESISTANCE

Operating temperature
-35°C to +65°C / -31°F to +149°F
Ambient temperature
-35°C to +65°C /-31°F to +149°F
IP classification
IP68
Weather ability
Good, including UV-resistance and sea water
Chemical resistance
No physical or performance changes in:
- 168h Motor oil exposure
- 48h Salt water (salinity 10%) exposure
- 48h Sulfuric acid (10%, pH 2) exposure
- 48h NaOH (10%, pH 13) exposure

Generally good resistance with moderate concentrations of acids, alcohols, alkalis, detergents and cleaners.
Acetone should be avoided
Expected battery lifetime
Years in normal operating conditions with continuous reading. Extreme performances will affect the lifetime.

Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Confidex for more specific information.

CONFIDEX

PRODUCT DATASHEET

1/2

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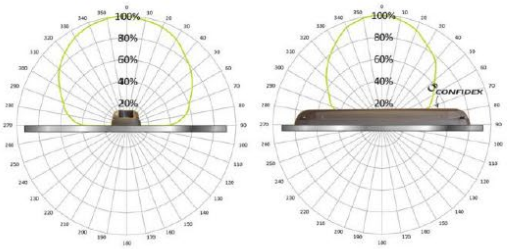
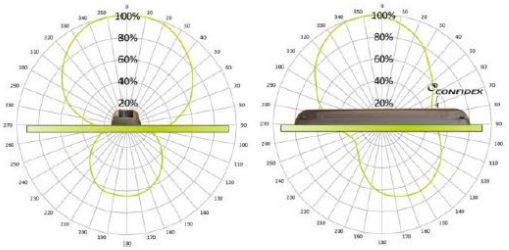
RADIATION PATTERNS

On metal



On plastic



INSTALLATION INSTRUCTIONS

Confidex Survivor B™ can be attached with several fixing methods:

1. High performance acrylic adhesive (not included by default)

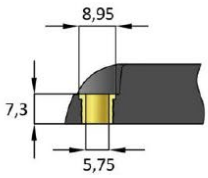
When background adhesive is ordered the tag is delivered with adhesive attached. Clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F), bond strength can be improved with firm application pressure and moderate heating from +38°C to +54°C (+100°F to +130°F). Installation at temperatures below 10°C (50°F) is not recommended.

2. Other adhesive fixings
   - Polyurethane adhesives
   - Epoxies
   - Silicone sealants

Structural adhesives like 3M DP410 provide very high bond strength and resistance against mechanical stress. When tag is attached with sealant adhesive, insert a layer of sealant under the tag and press the tag on the surface. Increase the bond by adding extra sealant from the tag holes. Insert maximum 2mm layer of adhesive under the tag. Please refer to adhesive supplier for exact fixing instructions.

3. Screw or pop rivet

Mechanical fixing is recommended to be used in every application that includes risk for high mechanical stress or low temperature during tag fixing. Refer the dimensional picture for selecting the best size for screw or pop rivet.



4. Cable tie

Confidex Survivor B™ has specific design that allows also plastic or metallic cable ties to be used for fixing. Maximum width of tie is 4mm. Please see picture below for an example.

Polarization of Confidex Survivor B™ is according to its longest dimension.

ORDER INFORMATION

Product number: 3000857
Product name: Confidex Survivor B™ EM4325 ETSI

Product number: 3000858
Product name: Confidex Survivor B™ EM4325 FCC

For other versions, additional information and technical support contact Confidex Ltd.

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20. Appendix J: SLIN 0009 Document Labelling Tag

Material Specification Sheet
Lowry 305-00207

Features:

- Direct thermal, smooth white paper label with a non-tackified, all-temperature acrylic adhesive.
- Facestock has a special topcoating for more demanding applications and higher imaging speeds.
- Adheres to a wide variety of packaging materials. Consider for general purpose labeling.

Material Construction:	Description	Caliper
Facestock	White high-sensitivity topcoated paper	3.0 mil
Adhesive	All temperature, permanent acrylic	0.7 mil
Liner	41 lb. white densified, kraft stock	2.5 mil

Min. Application Temp -20° F

Service Temp Range -65° F to +180° F

Statement of Practical Use
As with all pressure sensitive materials, this product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the specific application.

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21. Appendix K: SLIN 0009 Office/Asset Tag

Omni-ID®

Visit www.omni-id.com to learn more about the complete line of Omni-ID RFID products.

n GLOBAL

n HIGH TEMPERATURE

Omni-ID® Fit 210

The Fit 210 is a low profile, small form-factor RFID tag, available in two versions. The High Temperature version expands the capabilities of this small, narrow tag to cycling applications with high temperatures to 225°C. Adding a Global version expands the Fit 210 capabilities. Both versions are ideal for integration within finishing processes, such as dipping, coating, heat shrinking and moulding in the harshest of environments.

Building Intelligent Supply Chains

With its low profile and durable design, Omni-ID's Fit 210 tags are ideally suited to tool tracking and embedding applications such as:

- Hand tools, including wrenches and ratchet tools
- Paint processes in automotive
- Integration within IT assets at point of manufacture
- Healthcare — high temperature sterilization

Physical Specifications

Version	n GLOBAL	n HIGH TEMPERATURE
Finish	Grey	Red
Size (mm)	53 X 5.0 X 1.5	57.1 X 5.95 X 1.3
Size (in)	2.09 X 0.20 X 0.06	2.25 X 0.23 X 0.05
Weight (g)	1.0	1.0

RF & Environmental Specifications

Version	n GLOBAL	n HIGH TEMPERATURE
Protocol	EPC Class 1 Gen2	EPC Class 1 Gen2
Frequency Range (MHz)	860-930 (GO)	866-868 (EU), 902-928 (US)
Read Range (Fixed)[1]	Up to 2.5m (8.2ft)	Up to 2m (6.6ft)
Read Range (Handheld)[1]	Up to 1.4m (4.6ft)	Up to 1m (3.3ft)
Material Compatibility	Optimized for metal substrates	Optimized for metal substrates
IC Type (chip)	Alien Higgs 3	Alien Higgs 3
Memory [2,6]	EPC: 96bits User: 512bits Unique TID: 64bits	EPC: 96bits User: 512bits Unique TID: 64bits
Operation Temperature [3] Max Temperature Exposure [3]	−20°C to +85°C −20°C to +120°C	−20°C to +85°C −20°C to +225°C[4]
Attachment	Film adhesive (included)	Permanent liquid adhesive (not included) Film adhesive (option for placement only)
IP Rating	IP68	IP68
Shock and Vibration	MIL STD 810-G	MIL STD 810-G
Impact[5]	2kg from 1m	2kg from 1m
Warranty	1 year	1 year

1. Quoted performance achieved using standard testing methodology. Read range will vary with reader hardware and output power.
2. EPC and User memory are reprogrammable, TID is locked at point of manufacture.
3. Excludes adhesive options, consult adhesive datasheets for recommended temperature ratings.
4. Maximum constant exposure 12 hours.
5. Testing methodology available on request.
6. Data retention 50 years at our operation temperature.

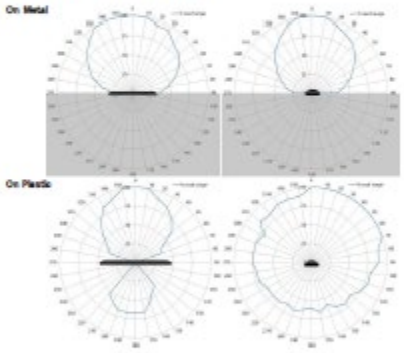
Omni-ID®

Visit www.omni-id.com to learn more about the complete line of Omni-ID RFID products.

Related Products and Services

- **Omni-ID Fit 100** — The smallest form-factor tag available in two versions including the ability to survive 225°C.
- **Omni-ID Fit 400** — Low profile, on metal RFID tag available in several versions; high temperature, embedded and global, optimized for small metal assets.
- **Omni-ID Fit 400P** — Small footprint tag optimized for application to small plastic assets and embedding.
- **Service Bureau** — Omni-ID offers a full service bureau for printing and pre-encoding Omni-ID tags at point of manufacture.

Radiation Patterns



Ordering Information

Version	nGLOBAL	n HIGH TEMPERATURE
OrderCodes	137(GB)	123 (EU, US)
Option Codes	:303 (Customization) :304 (ATEX/IECEx certified) :307 (US&Canada [C1D1/D2] certified) :701 (Standard Service Bureau)	:303 (Customization) :304 (ATEX/IECEx certified) :307 (US&Canada [C1D1/D2] certified) :502 (Film adhesive for placement only)* :701 (Standard Service Bureau)*

*Label is not rated for high temperatures.

Certifications:

RoHS approved
CE approved
ATEX/IECEx certified (option)
US&Canada (C1D1/D2) certified (option)

Omni-ID office locations: US | UK | China | India | Germany
For product or technology inquiries email: sales@omni-id.com

22. Appendix L: SLIN 0011 pRFID Printers

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Product profile

PM43
PM43c

Mid-Range Industrial Label Printers

PM43/PM43c mid-range industrial printers are ideal for a wide range of applications within the distribution center/warehouse and manufacturing environments.

Ready – Fastest to deploy. Seamlessly fits any environment.
- Large color multi-lingual tamper proof touch-screen or icon user interface
- No touch configuration capabilities
- Only CCX & WiFi certified fixed printers with standard IPv6 implementation

Reliable – Maximize uptime. Built from 40 years of printing innovations. 3rd generation platform.
- Precision Print for consistent bar code printing with pin point accuracy
- Multilingual Web page loaded on every printer ensure easy device monitoring
- Strong metal structure with metal door that can be locked for media protection

Perform – Increase productivity and process efficiencies. Simple to use.
- Fastest throughput in its class
- Powerful programmable capability with ability to directly connect peripherals
- Most connectivity options in the market

The Intermec PM43 and more compact PM43c mid-range industrial label printers deliver fast, drop-in deployment, advanced connectivity and proven reliability to maximize uptime.

Ready

PM43/PM43c are ready to deliver maximum uptime. Both models are available with either a tamper-proof color touch-screen in 10 languages or a universal icon interface. Reduce your total workforce training and device support needs with immediate notifications via the printer and the elimination of reconfiguration due to UI tampering.

Experience the fastest deployment time in the market with Intermec's innovative 'No-Touch' configuration via an optional embedded RFID chip. This patented capability means PM43/PM43c can be programmed without having to open the printer box or power it up, translating into significant savings for you.

As the industry's only printers available with WiFi- and CCX-Certification with additional BT connectivity, PM43 and PM43c help maintain wireless network integrity. Every printer ships with Ethernet connectivity, as well as with network protocol IPv6, ensuring long-term, enterprise scalability.

Reliable

As the 3rd generation of Intermec industrial printers, the rugged PM43/PM43c incorporate features that increase uptime and reduce maintenance costs. Strong all-metal construction is perfect for harsh industrial environments and the metal media door with innovative latch system ensures media is protected.

Increase efficiencies through the prevention of frequent media adjustments with Precision Print. Now you can print small barcodes, text and images with pinpoint accuracy – every time.

Device monitoring has never been easier. Every PM43/PM43c has a web page loaded in the printer that allows for easy setup, monitoring and configuration through handheld devices like Intermec's hand held computers, tablets or smart phones. Integrated device management and diagnostic capabilities, provided through Intermec SmartSystems™ and Wavelink Avalanche™, reduce downtime and simplify deployment.

Perform

PM43/PM43c are ready to perform. With the Fastest Print Speed in its class of 12ips, you'll gain a clear productivity advantage. PM43/PM43c are the smartest printers around helping to reduce labeling errors and increase process efficiencies. Printer stand-alone applications, developed through the embedded programming language, directly control other devices such as Scanners, Scales, keyboards and other peripherals helping you decrease infrastructure costs and complexity.

With its user-selectable, all-in-one programming languages, PM43/PM43c fit IT infrastructures, deploying with drop-in simplicity to Intermec or mixed printer environments.

PM43/PM43c are co-engineered and tested with Intermec Media Products, ensuring optimized printhead performance when used with genuine Intermec media.

Intermec

Intermec Lifecycle Services – Delivering Business Continuity

Intermec lifecycle services provide customers and partners with best-in-class support, education, managed and advanced services. For your support plan needs, our Intermec Medallion® Services programs deliver the highest levels of productivity, device reliability, and uptime. The Medallion® Complete support package covers hardware failure, general wear and tear and accidental damage. Find out more about Intermec's lifecycle services solutions at http://www.intermec.com/services.

Description
Industrial Mid Range, Direct Thermal and Thermal Transfer label, ticket and tag printer. Also available with RFID.

Physical Characteristics
PM43: **LxHxW:** 483.54 x 294.61 x 284.2 mm (19.04 x11.6 x 11.19 in)
Weight: 15.82 kg (34.88 lbs.)
PM43C: **LxHxW:** 431.84 x 181 x 252.5 mm (17 x7.13x 9.94 in)
Weight: 12.5 kg (27.65 lbs.)
PM43C with Dome Door:
LXHXW: 500.22X244.87X252.5 mm (19.04X9.64X9.94 in)
Weight: 12.71Kg (28.02 lbs.)

Print Specifications
Max. Width with 203dpi: 108 mm (4.25 in)
Max. Width with 300 dpi: 106 mm (4.17 in)
Max. Width with 406 dpi: 104 mm (4.09 in)
Max. Length: depending on with 203 dpi – 406 dpi: (1.2 m) 48 in to (4.8 m) 191 in

RFID Standards & Frequencies
18000-6C / EPC Class 1 Generation 2
865-928 MHz radio configured to comply with local UHF RFID regulations including FCC and ETSI. Contact local representative for availability in particular regions.

Print Speed
100 – 300 mm/s (4 – 12 ips) variable (203/300 dpi)
100 – 250 mm/s (4 – 10 ips) variable (406 dpi)

Print Resolution
8 dots/mm (203 dpi)
11.8 dots/mm (300 dpi)
16 dots/mm (406 dpi)

Media
Type: Labels and Tags, Linerless and Linered media
Max/Min Width: 114.3 /19.05 mm (4.5 /0.75 in)
Thickness: 3 to 10.4 mil

Configuration: Roll-fed or fanfold
Sensing: Gap, notch, black mark, continuous
Label Roll Max Diameter: 212.75 mm (8.375 in)
Label Roll Core: 38-76 mm (1.5-3 in)
Type: Ribbons
Roll Max Diameter: 80 mm (3.15 in), approx. 450m
Core ID: 25.4 mm (1 in)
Type: Wax, mid-range, resin
Genuine Intermec Media: www.intermec.com/media

Interfaces
Standard:
- Ethernet 10/100 Mbps
- RS-232, up to 115.2 kB/s
  Supported Serial Protocols:
  - Fingerprint/Direct Protocol: XON/XOFF, ENQ/ACK, DSR/DTR, RTS/CTS
  - IPL: XON/XOFF, Intermec Std. Protocol
- USB 2.0
- USB Host/Boot (X1 on PM43C, X2 on PM43)

Optional:
- Parallel IEEE 1284
- Industrial Interface (8 digital in/out, 4 analog relays, 1 RS232/422/485 port)
- Dual Serial ports RS-232, RS-422, RS-485 and 20mA Current Loop
- Dual USB Host/Boot

Wireless:
- IEEE 802.11 b/g/n + Bluetooth
- Wi-Fi Certified, CCX (Cisco®) version 4 Certified
- Static WEP (64 bit and 128 bit), Dynamic WEP (TLS, TTLS, PEAP, LEAP, EAP-FAST), WPA (THIP/CCKM Personal and Enterprise, WPA2 (AES-CCMP/CCKM Personal and Enterprise)
- Multiple industrial antenna options for maximized coverage

Supported Protocols:
TCP/IP-suite (TCP, UDP, ICMP, IGMP, etc.), LPR/LPD, FTP, BOOTP, DHCP, HTTP, SNMPv1/2c/3, (SMTP.SNMP-MIBII supported – over UDP/IP – private enterprise MIB included)
- Supports IPv4 and IPv6
- No touch configuration capability through imbedded RFID chip

Software
Printer Command Languages:
- IPL
- Fingerprint/Direct Protocol
- ZSim (ZPL)
- DSim (DPL)
- Web Page configuration interface
- XML enabled for SAP® AII and Oracle® WMS

Applications / Drivers:
- InterDriver™ Windows printer driver
- Intermec label design and print package
- PrintSet for printer configuration

Development Software:
- Intermec Fingerprint Application Builder™ (IFAB) (RFID libraries included)

Device Management Support:
- SmartSystems™
- Wavelink Avalanche™

Bar Code Symbologies
All major 1D and 2D symbologies are supported.

Standards Supported
UPC/EAN Shipping Container; UCC/EAN 128 Serial Shipping Container; MH10.8 Shipping Label; AIAG (shipping parts label); OGMARS; POSTNET; HIBCC; ISBT 128; GM1724; UPS shipping label; Global Transport Label

Fonts
Monotype font engine
Non-Latin fonts available through WTLE

Graphics
Supports PCX, PNG, GIF and BMP file formats.
Other formats supported with Label Generation Tools.

Memory
Standard: 128MB Flash memory, 128MB SDRAM, Multi-GB USB memory device (FAT16/FAT32 USB drivers supported)

User Interface
Color touch User Interface
Icon User Interface

User Interface Languages
Color Touch interface and Web Page support English, Russian, German, French, Portuguese, Spanish, Italian, Korean, Simplified and Traditional Chinese

Power Supply
AC Voltage: 100 to 240 VAC, 45 to 65Hz
PFC Regulation: IEC320/C14
Power Consumption: Standby 9W; Peak 300W

Operating Environment
Ambient Operating Temperature:
+5°C to +40°C (+41°F to +104°F)
Storage Temperature: -20°C to +70°C (-4°F to +152°F)
Humidity: 20 to 80% non-condensing

Regulatory Approvals
RoHS compliant, CE (EN55022 Class A), FCC Class A, UL/cUL, C-Tick, Energy STAR certified, D Mark and CCC

Options and Accessories
RFID UHF, integral self-strip unit with liner takeup, Label Taken Sensor (LTS), Full Batch Label/Liner Rewinder, parallel interface board, additional serial interface boards*, industrial interface boards*, real time clock, media supply hub, Collapsible Ribbon core cutter, Media low sensor, Linerless

*Not applicable when using IPL firmware

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23. Appendix M: SLIN 0013 Wireless Access Point (indoor env)

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

aruba NETWORKS

datasheet

ARubA 200 SERIES ACCESS POINTS

bringing 802.11ac to the masses

Multifunctional and affordable Aruba 200 series 802.11ac wireless APs maximize mobile device performance in medium-density enterprise Wi-Fi environments.

These compact and cost-effective dual-radio APs deliver wireless data rates of up to 867 Mbps to 5-GHz devices with 802.11ac technology leveraging two spatial MIMO streams while simultaneously supporting 2.4-GHz 802.11n clients with data rates of up to 300 Mbps.

The AP-205 and IAP-205 models feature four integrated omni-directional downtilt antennas, while the AP-204 and IAP-204 support external detachable dual-band antennas using two RP-SMA antenna connectors.

UNIQUe BeNeFIts

- Wi-Fi client optimization
  - To eliminate sticky client behavior while users roam, 200 series APs feature patented ClientMatch™ technology, which continuously gathers session performance metrics from mobile devices.
  - If a mobile device moves away from an AP or if RF interference impedes performance, ClientMatch automatically steers the device to a better AP.
- Advanced Cellular Coexistence (ACC)
  - ACC lets WLANs perform at peak efficiency by minimizing interference from 3G/4G LTE networks, distributed antenna systems and commercial small cell/femtocell equipment.
- Quality of service for unified communication apps
  - The 200 series APs support priority handling and policy enforcement for unified communication apps, including Microsoft Lync with encrypted videoconferencing, voice, chat and desktop sharing.

ChOOse YOUR OPeRatING MOde

The 200 series APs offer a choice of operating modes to meet your unique management and deployment requirements.

- **Controller-managed AP or Remote AP (RAP) running ArubaOS™.** When managed by Aruba Mobility Controllers, 200 series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding. Please refer to the Aruba Mobility Controller data sheets for more details.
- **Aruba Instant™ AP running InstantOS™.** In Aruba Instant mode, a single AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up on Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.

For large installations across multiple sites, the Aruba Activate™ service significantly reduces deployment time by automating device provisioning, firmware upgrades, and inventory management. With Aruba Activate, Instant APs are factory-shipped to any site and configure themselves when powered up.

If WLAN requirements change, a built-in migration path allows 200 series Instant APs to become part of a WLAN that is managed by a Mobility Controller.

AP-200 Series Specifications

- AP-205 and IAP-205
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and four integrated omni-directional downtilt antennas.
- AP-204 and IAP-204
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and two combined, diplexed external RP-SMA antenna connectors.

Advanced Features

- RF management
  - Adaptive Radio Management™ (ARM) technology automatically assigns channel and power settings, provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs.
  - The 200 Series APs can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.
- Spectrum analysis
  - Capable of part-time or dedicated air monitoring, the spectrum analyzer remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference.
- Security
  - With an OpenDNS service subscription, Aruba Instant RAPs deliver integrated web filtering, malware and botnet protection to every device connected to the WLAN.
  - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys
  - SecureJack-capable for secure tunneling of wired Ethernet traffic.

Operating Modes

- Aruba Instant AP
- Mobility Controller-managed AP
- Remote AP (RAP) for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer, dedicated or hybrid
- Secure enterprise mesh

Wireless Radio Specifications

- AP type: Indoor, dual radio, 5-GHz 802.11ac and 2.4-GHz 802.11n 2x2:2
- Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 2x2 MIMO with two spatial streams and up to 867 Mbps wireless data rate
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
  - 802.11b: bPSK, QPSK, CCK
  - 802.11a/g/n/ac: bPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dbm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +21 dbm (18 dbm per chain)
  - 5-GHz band: +21 dbm (18 dbm per chain)
- Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance
- Short guard interval for 20-MHz, 40-MHz and 80-MHz channels
- Space-time block coding (STbC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Transmit beamforming (TxbF) for increased reliability in signal delivery

- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 300 (MCS0 to MCS15)
  - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDu, A-MSDu

aNteNNas

- AP-204/IAP-204: Two RP-SMA connectors for external dual band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 1.5 db in 2.4 GHz and 3.0 db in 5 GHz.
- AP-205/IAP-205: Four integrated down-tilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 4.0 dbi in 2.4 GHz and 6.0 dbi in 5 GHz. built-in antennas are optimized for horizontal ceiling mounted orientation of the AP.

OtheR INteRFaCes

- 10/100/1000bASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48 Vdc (nominal) 802.3af PoE
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (ENET)
  - Radio status (two; RAD0, RAD1)
- Reset button: factory reset (during device power up)
- Serial console interface (RJ-45)
- Kensington security slot

POWeR

- Maximum (worst-case) power consumption: 12.5 watts (PoE) or 11.7 watts (DC)
- Maximum (worst-case) power consumption in idle mode: 8.4 watts (PoE) or 7.7 watts (DC)
- Direct DC source: 12 Vdc nominal, +/- 5%
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af-compliant source
- Power sources sold separately
- When both power sources are available, DC power takes priority

MOUNtING

- Included with AP:
  - Mounting brackets (2) for attaching to 9/16-inch or 15/16-inch T-bar drop-tile ceiling
- Spare mounting kit:
  - AP-220-MNT-C1: Aruba AP mount kit contains two ceiling-grid rail adapters for flat rails
- Optional mounting kits:
  - AP-220-MNT-C2: Aruba AP mount kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
  - AP-220-MNT-W1: Aruba AP mount kit contains one basic flat-surface wall/ceiling mount bracket
  - AP-200-MNT-W2: Aruba AP mount kit contains one secure flat-surface wall/ceiling mount cradle

MeChaNICaL

- Dimensions/weight (unit, excluding mount accessories):
  - 150 mm x 150 mm x 41.5 mm (W x D x H)
  - 380 g
- Dimensions/weight (shipping):
  - 190 mm x 187 mm x 57 mm (W x D x H)
  - 550 g

eNVIRONMeNtaL

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

ReGULatORY

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- uL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

For more country-specific regulatory information and approvals, please see your Aruba representative.

ReLIaBILItY

MTbF: 711,187 hours (81.2 years) at +25° C operating temperature

ReGULatORY MOdeL NUMBeR

- AP-204 and IAP-204: APIN0204
- AP-205 and IAP-205: APIN0205

CeRtIFICatIONs

- Cb Scheme Safety, cTuVus
- uL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac

WaRRaNtY

- Aruba limited lifetime warranty

MINIMUM sOFtWaRe VeRsIONs

- ArubaOS™ 6.4.1.0
- Aruba InstantOS™ 4.1.1.0

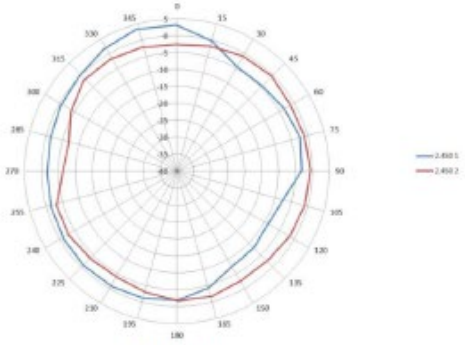
RF PeRFORMaNCe taBLe

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
	2.4 Ghz	
802.11b		
1 Mbps	18.0	-95.0
11 Mbps	18.0	-88.0
802.11g		
6 Mbps	18.0	-92.0
54 Mbps	16.0	-74.0
802.11n ht20		
MCS0/8	18.0	-91.0
MCS7/15	16.0	-71.0
802.11n ht40		
MCS0/8	18.0	-88.0
MCS7/15	16.0	-68.0
	5 Ghz	
802.11a		
6 Mbps	18.0	-93.0
54 Mbps	16.0	-75.0
802.11n ht20		
MCS0/8	18.0	-91.0
MCS7/15	15.0	-71.0
802.11n ht40		
MCS0/8	18.0	-88.0
MCS7/15	15.0	-68.0
802.11ac Vht20		
MCS0	18.0	-91.0
MCS9	12.0	-64.0
802.11ac Vht40		
MCS0	18.0	-88.0
MCS9	12.0	-61.0
802.11ac Vht80		
MCS0	18.0	-85.0
MCS9	12.0	-58.0

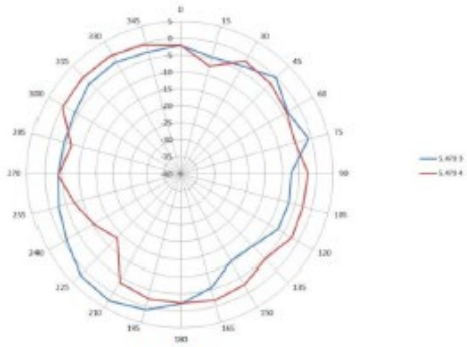
Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings.

aNteNNa PatteRN PLOts

Horizontal or azimuth plane (top view), 0 degrees downtilt

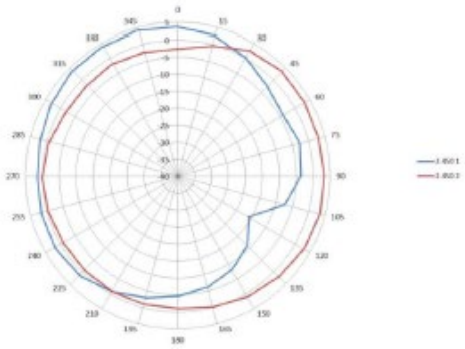


2.450 GHz

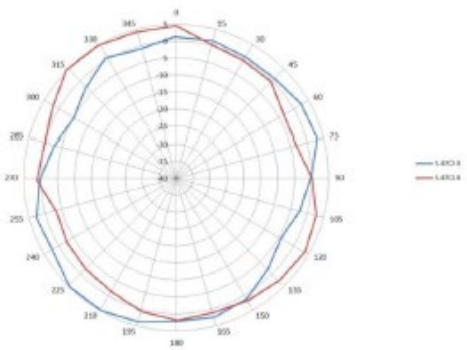


5.470 GHz

Horizontal or azimuth plane (top view), 30 degrees downtilt

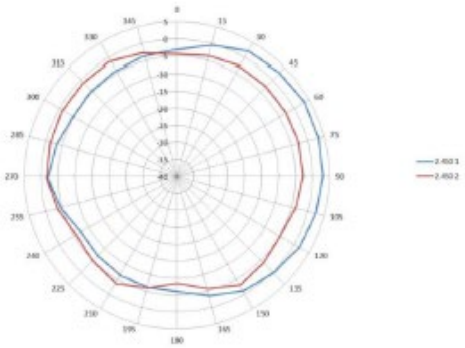


2.450 GHz

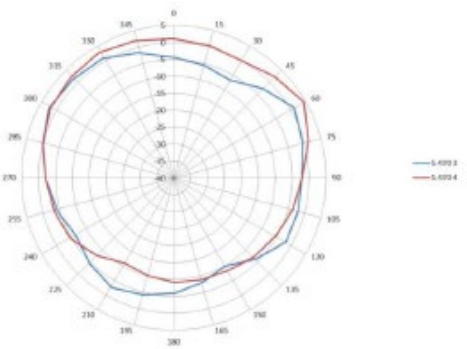


5.470 GHz

Elevation plane (side view, 0 degrees angle)



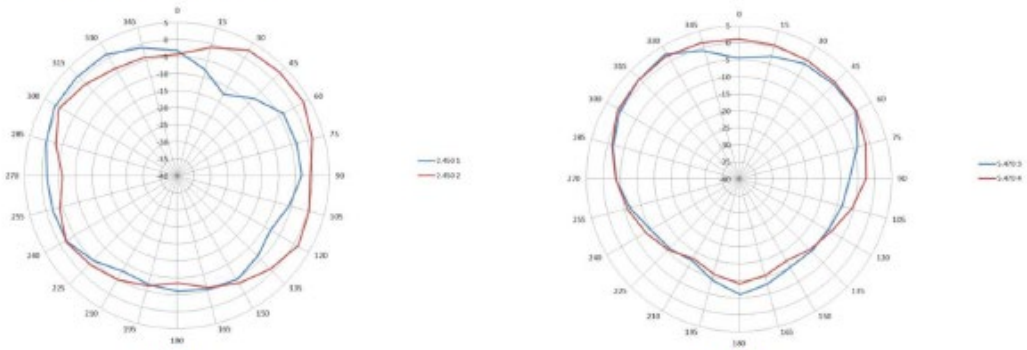
2.450 GHz



5.470 GHz

aNteNNa PatteRN PLOts

Elevation plane (side view, 90 degrees angle)



2.450 GHz

5.470 GHz

ORdeRING INFORMatION

Part number	Description
200 series access points	
AP-204	Aruba AP-204 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, antenna connectors
IAP-204-RW	Aruba Instant IAP-204 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, antenna connectors – Restricted regulatory domain: Rest of World
IAP-204-uS	Aruba Instant IAP-204 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, antenna connectors – Restricted regulatory domain: united States
IAP-204-JP	Aruba Instant IAP-204 Wireless Access point, 802.11n/ac 2x2:2, dual radio, antenna connectors – Restricted regulatory domain: Japan
AP-205	Aruba AP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas
IAP-205-RW	Aruba Instant IAP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Rest of World
IAP-205-uS	Aruba Instant IAP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: united States
IAP-205-JP	Aruba Instant IAP-205 Wireless Access point, 802.11n/ac 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Japan
aP-200 series access Points (FIPs/taa)	
AP-204-F1	Aruba AP-204 Wireless Access Point, 802.11ac, 2x2:2, dual radio, antenna connectors (FIPS/TAA)
AP-205-F1	Aruba AP-205 Wireless Access Point, 802.11ac, 2x2:2, dual radio, integrated antennas (FIPS/TAA)
Mounting spares	
AP-220-MNT-C1	Aruba Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Color: black. Spare.
Mounting accessories	
AP-220-MNT-C2	Aruba Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for Interlude and silhouette style rails). Color: black
AP-220-MNT-W1	Aruba Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket. Color: black
AP-200-MNT-W2	Aruba Access Point Mount Kit (secure, flat surface). Contains 1x flat surface wall/ceiling mount cradle. Color: white
Generic Indoor aP accessories	
AP-AC-uN	12V/18W Indoor Access Point AC power adapter. universal, ships with 8 country-specific plug inserts (uS, Eu, uK, Australia, China, Korea, Argentina, brazil), covering all Aruba core countries
AP-AC-12V18	12V/18W Indoor Access Point AC power adapter. Does not include country-specific power cord (order separately)
PD-3501G-AC	15.4W 802.3af PoE midspan injector, 10/100/1000bASE-T Ethernet

aruba NETWORKS

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24. Appendix N: SLIN 0013 Wireless Access Point (NEMA)

aruba NETWORKS

DATA SHEET

ARUBA 270 SERIES OUTDOOR ACCESS POINTS

Setting a higher standard for 802.11ac

Innovative and aesthetically-designed 270 series outdoor wireless access points deliver gigabit Wi-Fi performance to 802.11ac mobile devices under any weather conditions. The 270 series is also the only outdoor AP that enables 802.11n clients to operate three-times faster at greater distances.

Purpose-built to survive in the harshest outdoor environments, 270 series APs withstand exposure to extreme high and low temperatures, persistent moisture and precipitation, and are fully sealed to keep out airborne contaminants. All electrical interfaces include industrial-strength surge protection.

With a maximum data rate of 1.3 Gbps in the 5-GHz band and 600 Mbps in the 2.4-GHz band, 270 series outdoor APs supports concurrent dual-radio operation at speeds that greatly exceed Fast Ethernet.

WI-FI CLIENT OPTIMIZATION

To eliminate sticky client behavior and ensure consistently high performance, every Aruba AP includes ClientMatch™ technology, which gathers session performance metrics that steer mobile devices to the best AP and radio on the WLAN in real time.

UNIQUE BENEFITS

- Innovative industrial design
  - Eliminates installation complexity
  - Inconspicuous design that improves aesthetics
  - Delivers IP66- and IP67-rated protection from the elements
- Best-in-class RF management
  - Integrated Adaptive Radio Management™ technology manages the 2.4-GHz and 5-GHz radio bands and ensures that APs stay clear of RF interference
- Reliable and predictable Wi-Fi performance
  - Patented ClientMatch™ technology ensures that roaming clients associate with the best AP to maximize performance
  - AppRF™ technology identifies and prioritizes applications on the network
- Spectrum analysis
  - Capable of part-time or dedicated spectrum analysis, which scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference
- Limited lifetime warranty – an industry first for outdoors

CHOOSE YOUR OPERATING MODE

The 270 series of outdoor APs offers a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed AP or Remote AP (RAP) running ArubaOS™. When managed by Aruba Mobility Controllers, the 270 series offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Aruba Instant™ AP running InstantOS™. In Aruba Instant mode, one AP automatically distributes the network configuration to other APs. Just power-up one Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.

In addition to operation mode, the APs can be optionally configured to perform the following functions:

- Spectrum analysis: Dedicated scan mode identifies sources of RF interference.
- Air monitoring: Dedicated scan mode provides wireless intrusion protection.
- Hybrid AP: Serves Wi-Fi clients and simultaneously provides wireless intrusion protection and spectrum analysis.

For large installations with multiple sites, the Aruba Activate™ service reduces deployment time by automating provisioning, firmware upgrades, and inventory management. With Aruba Activate, Instant APs are factory shipped to any site and configure themselves when powered up.

If WLAN and network requirements change, a built-in migration path allows 270 series Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

ACCESS POINT MODELS

- AP-274 and IAP-274
  - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three external antenna connectors
- AP-275 and IAP-275
  - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three integrated omni-directional antennas
- AP-277 and IAP-277
  - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three integrated 80° H x 80° V beamwidth directional antennas

WIRELESS RADIO SPECIFICATIONS

- AP type: Outdoor, dual radio, 5-GHz 802.11ac and 2.4-GHz 802.11n
  - In addition to 802.11n data rates, the 2.4-GHz radio supports 802.11ac 256-QAM modulation. This gives TurboQAM-enabled clients a 33% boost to deliver up to 600 Mbps.
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 GHz to 5.250 GHz
  - 5.250 GHz to 5.350 GHz
  - 5.470 GHz to 5.725 GHz
  - 5.725 GHz to 5.875 GHz
- Available channels: Dependent upon configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
  - 802.11n/ac: 3x3 MIMO with up to three spatial streams
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM (with TurboQAM clients)
  - 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +28 dBm (23 dBm per chain)
  - 5-GHz bands: +28 dBm (23 dBm per chain)
- Advanced cellular coexistence (ACC) feature to minimize interference from cellular systems
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity (CDD) for improved downlink RF performance
- Short guard interval for 20-MHz, 40-MHz and 80-MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Explicit transmit beam-forming (TxBF) for increased reliability in signal delivery
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 450 (MCS0 to MCS23, 1 to 3 spatial streams)
  - 802.11ac: 6.5 to 1,300 (MCS0 to MCS9, 1 to 3 spatial streams)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU Power
- Maximum power consumption: 23 watts
- Direct AC source: 100-240-Volt AC
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3at compliant

ANTENNAS

- AP-274: Six N-type female connectors for external antennas
- AP-275: Six integrated omni-directional antennas for 3x3 MIMO with maximum antenna gain of 5 dBi in 2.4 GHz and 5 dBi in 5 GHz. Built-in antennas are optimized for horizontal mounted orientation of AP-275.
- AP-277: Six integrated multipolarized directional antennas with 80° H x 80° V beamwidths for 3x3 MIMO with maximum antenna gain of 6.5 dBi in 2.4 GHz and 5 GHz.

OTHER INTERFACES

- One PoE+ PD port 10/100/1000BASE-T Ethernet network interface (RJ-45)
- One port 10/100/1000BASE-T Ethernet network interface (RJ-45)
- AC power interface, power cords sold separately
- Serial console interface (micro USB)
- Reset button
- Visual indicator (LED):
  - Power/system status; automatically disabled after initial operation period

MOUNTING

- Must be ordered separately
- Optional mounting kits:
  - AP-270-MNT-V1: Aruba 270 series AP long mount kit for pole/wall mounting. Reduces impact of obstruction by pole or extends away from corner.
  - AP-270-MNT-V2: Aruba 270 series AP short mount kit for pole/wall mounting
  - AP-270-MNT-H1: Aruba 270 series AP hanging bracket for horizontal/inclined surface/ pole mounting

MECHANICAL

AP-274

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 24 cm (D) x 19 cm (H) with aesthetic cover
  - 9.0" (W) x 9.4" (D) x 7.5" (H)
  - 2.7 kg/6 lbs
  - 23 cm (W) x 24 cm (D) x 14 cm (H) without aesthetic cover
  - 9.0" (W) x 9.4" (D) x 5.5" (H)
  - 2.4 kg/5.3 lbs

AP-275

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 24 cm (D) x 27 cm (H)
  - 9.0" (W) x 9.4" (D) x 10.6" (H)
  - 2.4 kg/5.3 lbs

AP-277

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 22 cm (D) x 13 cm (H)
  - 2.1 kg/4.7 lbs

ENVIRONMENTAL

- Operating:
  - Temperature: -40° C to +65° C (-40° F to +150° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)
- Operating Altitude: 3000m
- Chassis Rating: IP66 and IP67
- Wind Survivability: Up to 165 mph
- Shock and Vibration: ETSI 300-19-2-4 spec T41.E 4M3

REGULATORY

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1, EN60601-1-2

For more country-specific regulatory information and approvals, please see your Aruba representative.

REGULATORY MODEL NUMBERS

- AP-274 and IAP-274: APEX0101
- AP-275 and IAP-275: APEX0100

CERTIFICATIONS

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance certified 802.11a/b/g/n/ac

WARRANTY

- Limited lifetime warranty

MINIMUM OPERATING SYSTEM SOFTWARE VERSIONS

- ArubaOS 6.4 (AP-274, AP-275), Aruba OS 6.4.3 (AP-277)
- Aruba Instant 4.1 (AP-274, AP-275), Aruba Instant 4.1.2 (AP-277)

RF PERFORMANCE TABLE		
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
1 Mbps	23.0	-92.0
2 Mbps	23.0	-92.0
5.5 Mbps	23.0	-90.0
11 Mbps	23.0	-88.0
802.11g 2.4 GHz and 802.11a 5 GHz		
6 Mbps	23.0	-88.0
54 Mbps	18.0	-75.0
802.11n HT20 2.4 GHz and 5 GHz		
MCS0/8	23.0	-88.0
MCS7/15	17.0	-71.0
802.11n HT40 2.4 GHz and 5 GHz		
MCS0/8	23.0	-85.0
MCS7/15	17.0	-68.0
802.11ac VHT20 5 GHz		
MCS0	23.0	-88.0
MCS9	16.0	-65.0
802.11ac VHT40 5 GHz		
MCS0	23.0	-85.0
MCS9	16.0	-62.0
802.11ac VHT80 5 GHz		
MCS0	23.0	-82.0
MCS9	16.0	-59.0

ORDERING INFORMATION

Part Number	Description
AP-270 Series Access Points	
AP-274	AP-274 Aruba AP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors
AP-274-F1	AP-274 Aruba AP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors (FIPS|TAA)
IAP-274-US	IAP-274-US Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: United States
IAP-274-JP	IAP-274-JP Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: Japan
IAP-274-RW	IAP-274 Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: rest of world
AP-275	AP-275 Aruba AP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas
AP-275-F1	AP-275 Aruba AP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas (FIPS|TAA)
IAP-275-US	IAP-275-US Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: United States
IAP-275-JP	IAP-275-JP Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: Japan
IAP-275-RW	IAP-275 Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: rest of world
AP-277	Aruba AP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas
AP-277-F1	Aruba AP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas (FIPS|TAA)
IAP-277-US	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: United States
IAP-277-JP	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: Japan
IAP-277-RW	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: rest of world

ORDERING INFORMATION

Part Number	Description
Accessories	
PD-9001GR-AC	PD-9001GR-AC 30W 802.3at Indoor PoE midspan injector, 10/100/1000BASE-T Ethernet
PD-9001GO-DC	PD-9001GO-DC 30W 802.3at Outdoor PoE midspan injector, 12-24V DC in, 10/100/1000BASE-T Ethernet, Surge Protected, North America Power Cable
PD-9001GO-NA	PD-9001GO-AC 30W 802.3at Outdoor PoE midspan injector, 10/100/1000BASE-T Ethernet, Surge Protected, North America Power Cable
PD-9001GO-INTL	PD-9001GO-AC 30W 802.3at Outdoor PoE midspan injector, 10/100/1000BASE-T Ethernet, Surge Protected, International Power Cable
AP-270-MNT-H1	AP-270-MNT-H1 Aruba 270 Series Outdoor AP Hanging Mount Kit. Mount for hanging or tilt install for AP-270
AP-270-MNT-H2	AP-270-MNT-H2 Aruba 270 Series Outdoor AP Flush Mount Kit
AP-270-MNT-V1	AP-270-MNT-V1 Aruba 270 Series Access Point Long Mount Kit. Pole/Wall Mount for AP-270 300 mm from vertical mounting asset
AP-270-MNT-V2	AP-270-MNT-V2 Aruba 270 Series Access Point Short Mount Kit. Pole/Wall Mount for AP-270 75-mm from vertical mounting asset

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25. Appendix O: SLIN 0013 RF Gateway

aruba
a Hewlett Packard Enterprise company

DATA SHEET

ARUBA 7200 SERIES MOBILITY CONTROLLERS

The Aruba 7200 series Mobility Controller is the next-generation networking platform, optimized for mobile application delivery to ensure the best mobility experience over Wi-Fi.

With a new central processor that employs up to eight cores with four threads each, it's like having a total of 32 virtual CPUs. As a result, the 7200 series supports up to 32,000 mobile devices and performs stateful firewall policy enforcement at 40 Gbps – plenty of capacity and speed for BYOD and 802.11ac devices.

New levels of visibility are provided by Aruba's unique AppRF technology, which runs on 7200 series Mobility Controllers. With AppRF, IT can see applications by user, including top web-based applications like Facebook and Box.

The 7200 series also manages authentication, encryption, VPN connections, IPv4 and IPv6 Layer 3 services, the Aruba Policy Enforcement Firewall, Aruba Adaptive Radio Management, and Aruba RFProtect spectrum analysis and wireless intrusion protection.

Clustering and centralized management enable the deployment of large networks with hundreds of Mobility Controllers with minimal staff. A master Mobility Controller can manage local Mobility Controllers, while Aruba AirWave network management provides enterprise-wide clarity and control through real-time monitoring, historical reporting and troubleshooting.

Front: 7210/7220/7240

Back: 7210/7220/7240

ARCHITECTED FOR HIGH AVAILABILITY

The 7200 series includes a number of features that make it ideal for deployment in customer locations that require maximum availability:

- Hot-swappable redundant power supplies: The 7210/7220/7240/7240XM supports dual, field-replaceable redundant power supplies to maintain uninterrupted network operations.
- Hot-swappable fan tray with multiple fans: The 7210/7220/7240/7240XM includes a field-replaceable fan tray with multiple fans, providing sufficient cooling and rapid time to repair.
- The 7210/7220/7240/7240XM support two dual-media ports: 1000BASE-X or 10/100/1000BASE-T connections for high availability.

Front: 7205

Back: 7205

PERFORMANCE AND CAPACITY				
Features	**7205**	**7210**	**7220**	**7240/7240XM**
Maximum APs (licenses)	256	512	1,024	2,048
Maximum RAPs	256	512	1,024	2,048
Maximum concurrent devices	8,192	16,384	24,576	32,768
VLANs	2,048	4,094	4,094	4,094
Concurrent GRE Tunnels (System BSSIDs)	8,192	8,192	16,384	32,768
Concurrent Tunneled Ports	4,096	8,192	12,288	16,384
Concurrent IPsec sessions	4,096	16,384	24,576	32,768
Concurrent SSL fallback sessions	4,096	8,192	8,192	8,192
Active Firewall Sessions (Concurrent sessions)	1,000,000	2,015,291	2,015,291	2,015,291
Wired Throughput (large packets)	12 Gbps	20 Gbps	40 Gbps	40 Gbps

SPECIFICATIONS

Interfaces and indicators

- 7210/7220/7240/7240XM has four 10GBASE-X (SFP+) ports
- 7205 has two 10GBASE-X and four dual-media (1000BASE-X or 10/100/1000BASE-T) ports
- One USB 2.0
- Console (RS-232) RJ-45 or mini-USB
- LINK/ACT and status LEDs
- Management/status LEDs
- LCD panel and navigation buttons
- Expansion slot (reserved for future use)

Dimensions

- 7210, 7220, 7240, 7240XM:
  - (H) 4.4 cm x (W) 44.5 cm x (D) 44.5 cm (1.75" x 17.5" x 17.5")
  - Weight (with one AC power supply installed) 7.45 kg (16.43 lbs)
- 7205:
  - (H) 4.4 cm x (W) 33.4 cm x (D) 44.2 cm (1.75" x 13.13" x 17.38")
  - Weight: 4.95 kg (10.19 lbs)

Environmental

- Operating temperature range: 0° C to 40° C
- Operating humidity: 5% to 95% non-condensing
- Storage temperature range: -40° C to 70° C
- Storage humidity: 5% to 95%, non-condensing
- Operating altitude: 10,000 feet
- Acoustic noise[3] (with AC power supply):
  - 7210: 46.9 dBA
  - 7220: 46.9 dBA
  - 7240/7240XM: 54.7 dBA
  - 7205: 49.0 dBA

[3]Sound power per ETSI 300 753 in accordance with ISO 7779

Power Supply Specifications

- 350-watt AC power supply
  - AC input voltage: 100 VAC to 240 VAC
  - AC input current: 5-2.5A
  - AC input frequency: 50-60 Hz
  - Weight: 2.8 lbs (1.3 kg)
- Maximum power consumption
  - 7210: 110 watts
  - 7220: 125 watts
  - 7240/7240XM: 165 watts
  - 7205: 75.2 watts

Regulatory and Safety Compliance

- FCC Part 15 Class A CE
- Industry Canada Class A
- VCCI Class A (Japan)
- EN 55022 Class A (CISPR 22 Class A), EN 61000-3,
- EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,
- EN 61000-4-5, EN 61000-4- 6, EN 61000-4-8,
- EN 61000-4-11, EN 55024, AS/NZS 3548
- UL 60950, EN60950
- CAN/CSA 22.2 #60950
- CE mark, cTUVus, CB, C-tick, Anatel, NOM, MIC

Regulatory SKU Information

- 7210: ARCN0100
- 7220: ARCN0101
- 7240/7240XM: ARCN0102
- 7205: ARCN7205

Minimum ArubaOS Release

- 7210: 6.2.0.0
- 7220: 6.2.0.0
- 7240: 6.2.0.0
- 7240XM: 6.4.4.0
- 7205: 6.4.3.0

WARRANTY

- Hardware: 1 year parts/labor*
- Software: 90 days*

*Extended with support contract

26. Appendix P: SLIN 0015 Application Software

System Requirements

Development Hardware

Configuration	Requirement
Computer Processor	Minimum – 1.4GHz Recommended – 2.8GHz
CPU Memory	Minimum - 512 MB RAM Recommended – 1 GB or greater
Hard Disk Space	Minimum – 600MB (includes MS .NET 1.1 or later) Recommended – 20GB or greater
Drive	CD-ROM or DVD
Video	1024x768 Medium Color 16-bit (To support accessibility requirements)
Keyboard and Mouse	Required
Network Interface	RJ-45 Ethernet Port

iMotion and iMotion + GR-AWARE Server Requirements

Configuration	Requirement
Computer Processor	Intel Xeon 2.6Ghz (x2) or better x64-based processor
CPU Memory	32Gb RAM
Hard Disk Space	OS - C:\ 100Gb Application - D:\ 200Gb DB - E:\500Gb
Drive	CD-ROM or DVD
Video	1024x768 Medium Color 16-bit (To support accessibility requirements)
Network Interface	RJ-45 Ethernet Port

Software Requirements

Development Environment	Server Environment
Windows 10 or higher	MS Windows Server 2019 64bit
MS .NET Framework	MS .NET Framework
MS Web Services Enhancement	MS Internet Information Services
MS Data Access Components	MS Data Access Components
MS Visual Studio .NET	MS Web Services Enhancement
MS Internet Information Services	
Microsoft SQL Server Standard 2019 with Reporting Services (SSRS)	Microsoft SQL Server Standard 2019 with Reporting Services (SSRS)
SMTP for Email integration	SMTP for Email integration
Telnet & SSH for Device Management	Telnet & SSH for Device Management
AD Authentication for SSO-based single sign-on	AD Authentication for SSO-based single sign-on

27. Appendix Q: SLIN 0015 pRFID Printer Software

System Requirements:

Configuration	Requirement
Operating System	Windows 10, 8.1, 8, 7, and Vista Windows Server 2016, Server 2012, Server 2012R2, Server 2008, and Server 2008R2
CPU Memory	Minimum – 1 GB RAM (32 bit) Minimum – 2 GB RAM (64 bit)
Hard Disk Space	Minimum – 2 GB free hard drive space (32 bit) Minimum – 3 GB free hard drive space (64 bit)
Drive	CD-ROM or DVD
Video	1024x768 Medium Color
Keyboard and Mouse	Required
Network Interface	RJ-45 Ethernet Port or Wi-Fi

Additional Requirements
MS .NET Framework
*MS SQL Server Express or MS SQL Server 2005 (or Higher)
*-Indicates optional requirement to enable logging of print jobs and event messages

28. Appendix R: SLIN 0007 PRFID Hand Held Readers (HHR-C & HHR-D)

Physical

- Size: 5.4" w x 8.48" l x 1.36" d (137 mm x 215 mm x 35 mm)
- Weight: 1.5-2 lbs (680-907 g)
- Durable, chemical- and shock-resistant design
- Easy-to-grip, impact-absorbing, overmolded bumpers
- Lightweight and ergonomic design

Battery

- Removable Li-Ion battery, 43.2 Whr
- Operates 8–10 hours on one charge
- Battery easily changeable in field
- Optimized for strong performance in cold temperatures
- Excellent lifecycle performance
- Optional built-in 21.6-Whr battery provides additional 4–5 hours runtime and hot-swap capability

Display

- Active viewing area: 7" (178 mm)
- Resolution: WXGA (1280 x 800)
- High-visibility backlit LCD for best-in-class sunlight view-ability
- Portrait or landscape orientation with automatic screen rotation

Touchscreen

- Projected capacitive multi-touch interface for use with gloves, small tip stylus, and in wet conditions
- Optically bonded for increased visibility and strength
- Chemically-strengthened Dragontrail™ High Ion-Exchange (HIE™) coverglass for excellent impact and scratch resistance

Keyboard

- Three User-Programmable Function Keys (P1, P2 & P3)
- Adjustable LED Backlit Keys
- OEM Configurable/Cutomizable

Juniper Rugged™

- IP68 waterproof and dustproof
- Operating Temperature: -4 F to 122 F (-20 C to 50 C)
- Storage temperature: -22 F to 158 F (-30 C to 70 C)
- Shockproof: multiple drops from 4' (1.2–1.5 m) onto concrete
- Designed for MIL-STD-810G test procedures: Method 500.5 Low Pressure (Altitude); Method 501.5 High Temperature; Method 502.5 Low Temperature; Method 503.5 Temperature Shock; Method 506.5 Rain; Method 507.5 Humidity; Method 510.5 S and Dust; Method 512.5 Immersion; Method 514.6 Vibration; Method 516.6 Shock

Ports

Optional RS-232 9-Pin D-Sub connector with 5VDC power output

Processor

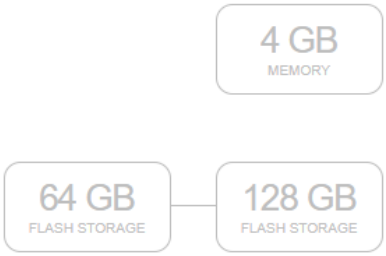
- Quad-core Intel® Atom™ Z3745

OS & Software

- Microsoft® Windows 10 Pro 64-bit or Android 5.1 (AOSP)
- Multiple languages supported (English, French, Spanish, German, Portuguese)

Memory & Data Storage

- 4 GB RAM (LPDDR3)
- 64 GB or 128 GB flash storage options
- User-accessible MicroSDXC card slot



Wireless Connectivity Options

- Long-range Bluetooth® Smart Ready wireless technology, v4.0 +EDR, Class 1.5, BLE support
- Wi-Fi 802.11 a/b/g/n, 2.4 GHz and 5 GHz
- 4G LTE, GSM, Verizon

Camera (Geo Models)

- Rear: 8 MP with LED illumination
- Front: 2 MP
- Juniper Geotagging™: embed photo with date, time, and GNSS position

GPS/GNSS (Geo Models)

- 2 to 5 meter typical accuracy
- uBlox NEO-M8N GNSS receiver and integrated antenna
- Integrated real-time SBAS receiver (WAAS, EGNOS, etc.)
- 72 GNSS tracking channels
- Optional: uBlox NEO-M8T w/post-processing data output and external GNSS antenna pass-through connection for sub-meter accuracy

Mesa 2 Standard Configurations

	Wi-Fi® & Bluetooth®	GNSS	8 MP Rear Camera	2 MP Front Camera	4G LTE Modem	1D/2D Barcode Scanner
Standard Model:	▬					
Geo Model:	▬	▬	▬	▬		
Geo Cell Model:	▬	▬	▬	▬	▬	
Geo BC Model:	▬	▬	▬	▬		▬
Geo Cell BC Model:	▬	▬	▬	▬	▬	▬

Optional Configurations

- Integrated UHF RFID*
- RS-232 9-Pin D-Sub*
- Built-in Battery + Hot-Swap (4-5 hrs additional hours runtime)
- 128 GB Storage

*The following feature combinations are not compatible: Upgraded GNSS and Barcode Scanner, RS232 and Integrated RFID

Certifications & Standards

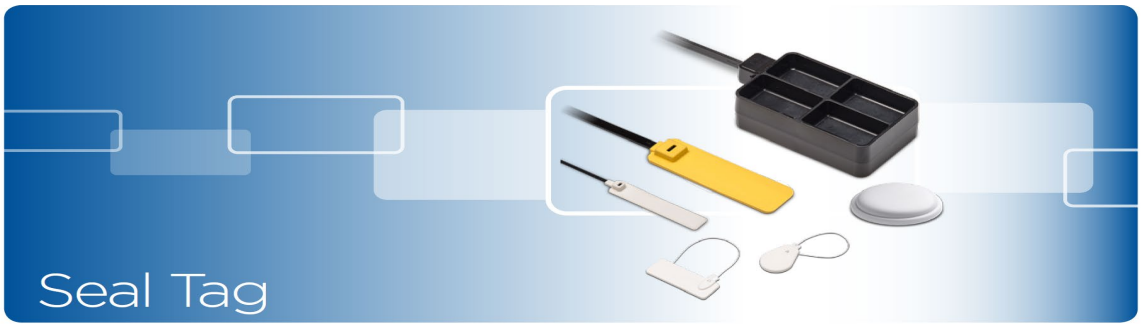
- FCC Class B
- CE Marking (applicable EMC, R&TTE, and LVD directives)
- Industry Canada
- EN60950 Safety
- RoHS 2 Compliant
- Optional Class 1, Div II (C1D2) Non-incendive
- Verizon

ACCESSORIES

Standard Accessories Included with the Mesa 2

- Removable 43.2-Whr Lithium-Ion Battery
- AC Wall Charger with International Plug Kit
- Capacitive Small-tip Stylus & Tether
- Quick Start Guide
- Hand Strap
- Connector Port Dust Cover
- Shipping Box with Sleeve
- 2-Year Warranty

29. Appendix S: SLIN 0009 Small Arms Well Tag



TECHNOLOGY HIGHLIGHTS:

- Integrated, secure fastening device
- HF 13.56 MHz version readable with ISO/IEC 15693 compatible devices incl. NFC
- Broadband RAIN UHF version for worldwide use at 860 to 960 MHz
- Fully interoperable, standards compliant
- Visually, electrically and digitally tamper evident options
- Custom encoding or laser engraving on housing

APPLICATION AREAS:

- Asset tracking and logistics
  - Industrial bags, sacks and containers
  - Merchandise distribution and retailing
  - Life safety equipment maintenance, e.g. Airplane life vests, fire extinguishers, automated external defibrillators (AED)
- Returnable transport items
  - Reusable shipping vessels, cartons, bags, and canisters
- Waste management
  - Hazardous waste receptacles

RFID TAGS WITH INTEGRATED FASTNERS PREVENT TAMPERING WITH THE CONTENTS OF SEALED CONTAINERS

- **Security** – RFID tags integrated into visually tamper-evident container seals
- **Adaptability** – Small and flexible to serve a wide range of applications
- **Easy application** – Attach quickly with integrated cable tie or wire loop
- **Clear evidence** – Visual recognition of seal status, with option of RFID reader detection of seal security or breach

HID Global® Seal Tag transponders are ideal for sealing commercial containers – bags, bins or boxes – to prevent unauthorized access to contents while in storage or during distribution. Seal Tag units integrate powerful RFID chips with high durability components, and secure, tamper-evident fasteners. Access to a sealed container's contents requires severing a tag's cable tie or wire loop – or breaching of the container itself – providing clear evidence of tampering.

vTamper tags

Each uniquely encoded Seal Tag vTamper RFID unit attaches anywhere a cable tie can be used, providing visual evidence when that seal is broken. Being waterproof, they have high resistance to aggressive liquids, UV rays, and temperature extremes. Thermoplastic elastomer (TPE) housings tolerate repeated bending or torsion. Bright colors provide excellent contrast for optical identification when laser engraved or embossed with logos, barcodes or text. Highly rugged on-metal options exist as well.

eTamper tags

Each Seal Tag eTamper NFC transponder becomes operational when its wire loop is securely closed. If the wire loop is broken, the tag is permanently unreadable, leaving evidence detectable both visually and via RFID. The printable coin form factor features the same eTamper functionality: The antenna breaks when the coin is removed - ideal for "proof of presence" applications or payment schemes.

eTamper tags may also be used as an "intelligent" seal for life safety device cabinets, including fire extinguishers and automated external defibrillators (AED).

edTamper tags

Each Seal Tag edTamper are tamper evident passive contactless RAIN UHF transponders allowing detection of their seal status via RFID. Visualizing the tag is not necessary to identify broken seals. The edTamper tags-provide a digital notification if a sealed tag has been compromised to quickly scan large sets of sealed items for integrity.

30. Appendix T: SLIN 0028 pRFID Desktop Reader/Writer

Description

Overview

GAO RFID's UHF 860-960 MHz Compact RFID Reader/Writer is compliant with ISO18000-6C EPC Gen 2 protocol and operates at a frequency range of 840 to 960 MHz. This device has a read range of up to 11.8" (30 cm). The Reader/Writer is specially designed for applications such as system logger, time and attendance, prepayment and ticket management. It features a compact housing design making it ideal for installation in environments with space constraints.

Key Features

- ISO18000-6C, EPC Class 1 Gen 2
- Available with slot or flat reading surfaces
- Features LED and Beep sound indications
- Frequency range: 840 MHz – 960 MHz
- Two communication interfaces: RS232 or USB

Applications

- Supply chain management
- Logistic inventory management
- Cargo tracking management
- Warehouse management
- Shop floor management
- Class management

Technical Specifications

Interface	RS232 (serial COM PORT) USB (HID)
DC Power	5 V DC
RFID Protocol	EPC Class1 Gen2 / ISO 18000-6C
Frequency	840 MHz to 960 MHz
Read Range*	1.96 in to 11.81 in (5 cm to 30 cm)
Temperature Range	Operating Temp: 32 °F to 131 °F (-0 °C to+55 °C)
Humidity	10 % to 85 % Non-condensing
Dimensions W × L × D	2.56 in × 3.93 in × 0.97 in (65 mm × 100 mm × 24.7 mm)

31. Appendix U: SLIN 0007 PRFID Hand Held Readers (HHR-E & HHR-F)

YOUR OFFICE, ANYWHERE.

The Mesa 3 Rugged Tablet offers powerful new functionality, while retaining impressive features from the popular Mesa 2 Rugged Tablet. The Mesa 3's Quad-core Pentium processor is ready to run even the most demanding field data collection application, and its rugged ergonomic design is ready to handle a long day on the job in some of the harshest environments out there. Mesa 2 continues to offer a reliable and robust Windows 10 experience for those needing less processing power. Ready to experience Juniper Rugged?

BUILT JUNIPER RUGGED™

Meeting IP68 and MIL-STD-810G ratings, the Mesa 2 and 3 are waterproof, dustproof, and shockproof. Rest assured rain, extreme temperatures, and dirt won't stop a productive workday.

ALL-DAY USABILITY

From ergonomic enclosures to sunlight-readable displays to 15-hour battery life, the Mesa 2 and 3 are made for long days on the job.

POWERFUL PROCESSING POWER

Expect lightning-fast speeds all day long with the Mesa 3's Quad-core Intel® Pentium N4200 processor and large memory capacity. The Mesa 2 operates on an Intel® Atom™ Z3745 processor that provides the power you need to get the job done. Running a full Windows 10 operating system, these devices are made to handle large files and detailed maps.

CAREFULLY DESIGNED AND SUPPORTED

These are more than rugged tablets. Designed and assembled in the United States, the Mesa family of devices promises longevity and data protection. If it becomes necessary, each device is proudly supported by live and personalized customer support.

JUNIPER® SYSTEMS

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mesa®

Designed and assembled in the United States, the Mesa Rugged Tablet provides its users with the ultimate data collection experience—wherever the job takes them. From its powerful processor to its all-day battery life to its ultra-rugged design, the Mesa 3 claims best-in-class features for anyone requiring a rugged device for mobile data collection.

(Model specific features)	MESA 3 WINDOWS	MESA 2 WINDOWS
PROCESSOR	Quad-core Intel® Pentium N4200	Quad-core Intel® Atom™ Z3745
MEMORY	8 GB LPDDR4	4 GB LPDDR3
STORAGE	128 or 256 GB Flash Storage	64 or 128 GB Flash Storage
WIRELESS CONNECTIVITY	· Long-range Bluetooth® Smart Ready wireless technology, v5.0 + EDR, Class 1.5, BLE support · Wi-Fi 802.11 a/b/g/n/ac, 2.4 GHz and 5 GHz · 2x2 MIMO · 4G LTE multi-carrier capable	· Long-range Bluetooth® Smart Ready wireless technology, v4.0 + EDR, Class 1.5, BLE support · Wi-Fi 802.11 a/b/g/n, 2.4 GHz · 4G LTE, GSM, Verizon

(Mesa shared features)

OPERATING SYSTEM AND SOFTWARE
- Microsoft® Windows 10
- Multiple languages supported (English, French, Spanish, German, Portuguese)

GRAPHICS
- Intel® HD Graphics

DISPLAY
- Active viewing area: 7" (178 mm)
- Resolution: WXGA (1280 x 800)
- High-visibility backlit LCD for best-in-class sunlight view-ability
- Portrait or landscape orientation with automatic screen rotation

TOUCHSCREEN
- Projected capacitive multi-touch interface for use with gloves, small tip stylus, and in wet conditions
- Optically bonded for increased visibility and strength
- Chemically-strengthened Dragontrail™ High Ion-Exchange (HIE™) cover glass for excellent impact and scratch resistance

KEYPAD
- Adjustable LED backlit keys
- Four-way directional navpad
- Windows/home key
- Power key
- Enter key
- Three user-programmable function keys
- OEM configurable/customizable

JUNIPER RUGGED™
- IP68 waterproof and dustproof
- Operating temperature: -4 F to 122 F (-20 C to 50 C)
- Storage temperature: -22 F to 158 F (-30 C to 70 C)
- Shockproof: multiple drops from 4' (1.2 –1.5 m) onto concrete
- Designed to meet MIL-STD-810G test procedures: Method 500.5 Low Pressure (Altitude); Method 501.5 High Temperature; Method 502.5 Low Temperature; Method 503.5 Temperature Shock; Method 506.5 Rain; Method 507.5 Humidity; Method 510.5 Sand and Dust; Method 512.5 Immersion; Method 514.6 Vibration; Method 516.6 Shock

PORTS
- 12V DC power input jack
- USB 3.0 x 1
- 3.5 mm audio jack
- Optional RS-232 9-Pin D-Sub connector with 5V DC or 12V DC power output
- Docking connector (Pwr, USB 2.0, HDMI, & ethernet)
- Loud output speaker for noisy environments
- Dual digital microphone input

BATTERY
- Removable Li-Ion battery, 43.2 Whr
- Operates 8–10 hours on one charge
- Removable battery, easily changeable in field
- Optimized for strong performance in cold temperatures
- Excellent lifecycle performance
- Optional internal 21.6 Whr battery provides hot-swap capability and an additional 4–5 hours runtime

PHYSICAL
- Size: 5.40" w x 8.48" l x 1.36" d (137 x 215 x 35 mm)
- Weight: 1.5–2 lbs (680–907 g) depending on battery and expansion configuration
- Durable, chemical- and shock-resistant design
- Easy-to-grip, impact-absorbing, overmolded bumpers
- Lightweight and ergonomic design

GPS/GNSS (GEO MODELS)
- 2 to 5 meter typical accuracy
- uBlox NEO-M8N GNSS receiver and integrated antenna
- Integrated real-time SBAS receiver (WAAS, EGNOS, etc.)
- 72 GNSS tracking channels
- Optional: uBlox NEO-M8T w/post-processing capability and external GNSS antenna pass-through connection for sub-meter accuracy

BARCODE 1D/2D IMAGER (BARCODE MODELS)
- Optional built-in barcode imager and decoder
- Symbologies: all common 1D and 2D (PDF417, MicroPDF417, Composite, RSS, TLC-39, Data matrix, QR code, Micro QR code, Aztec, MaxiCode, Postal codes, etc.)
- Programmable trigger buttons
- Visible aiming bullseye with low-light illumination
- Barcode Connector™ utility, wedge and configuration, SDK support available

UHF RFID (RFID MODELS)
- Optional built-in UHF RFID module and internal antenna
- Region-specific frequency configurations (859–873 MHz & 915–930 MHz)
- EPCglobal Gen 2 (ISO 18000-6C) protocol support
- Wide output range (0 dBm to +27 dBm)

CAMERA (GEO MODELS)
- Rear: 8 MP with LED illumination
- Front: 2 MP

OTHER FEATURES
- Ambient light sensor
- Compass
- Accelerometer
- Gyroscope
- TPM (Trusted Platform Module) v2.0

CERTIFICATIONS AND STANDARDS
- FCC Class B
- CE Marking
- Industry Canada
- EN62368 Safety
- RoHS 2 Compliant
- Optional Class I, II, & III, Division 2, Groups A, B, C, D, F, G

STANDARD ACCESSORIES
- Standard removable battery
- AC wall charger with international plug kit
- Capacitive small-tip stylus w/tether
- Quick Start Guide
- Hand strap
- Connector port dust cover
- 2-year warranty

CUSTOMIZATION
- Available upon request

JUNIPER® SYSTEMS

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www.junipersys.com

32. Appendix V: SLIN 0001 PRFID Fixed Reader (C)

VENTURE
Research Inc.

Dock Door RFID/BLE Readers

RFID/BLE Solutions

Next Generation Dock Door Portal Reading Solution
The Dock Door Reader solution from Venture Research combines years of in field implementations with the state of the art in RFID and BLE tracking technologies. The unique design eliminates the need for floor mount stanchions and provides the ability to rotate the antennas into the truck, reducing dock to dock cross reads. To,iether with Venture Research's exclusive sensor technology for material movement monitoring, the Dock Door solution ensures accurate meterial tracking at the dock door.

High Gain Antennas for Challenging Material
The Dock Door solution from Venture Research incorporetes the exclusive antenna array construction with high gain antennas that improves material penetration and dock coverage. The array also allows the RF power required to be turned down yet still retain adequate coverage over the material passing through the dock further reducing cross reads.

POE and WiFi Built in
The Portals are low power enough that they can be powered with POE (only 9 watts) or 12v but for ease of communications can be talked to wirelessly via Wifi. This provides the utmost in connectivity flexibility.

Automatic Sense Triggering to Reduce RF on Time
Built into the Dock Door portals are high performance motion sensors that sense when motion is at the dock and then turns on the RF. In addition, an optional exclusive truck in position sense ensures that RF is not turned on until the truck door is open. In a high count dock environment, these built in features keep the RF off at a dock door until it is needed.

Designed for the Cloud
The Dock Door Portal solution shares the same API (Application Programmers Interface) as all other Venture Research reader products. This simplifies interfacing and by using the built in DB_Delivery feature, can directly feed a cloud based REST interface without the need for middleware.

Optional Stack Light and Annunciator
Along with the extensive RFID and sensing features, an optional tri-color integrated Stack Light and Annunciator can be provided to provide operator feedback.

Product Features

Features	Benefits
Articulated Mounting Arm Construction	Eliminates floor mount implementations and allows antenna rotation
High Gain Antenna Array	Provides a read zone from floor level to 84" with tag readability from 1' to 12' in front of antennas
Built in Motion Sensors	Turns on RF for reading only when there is activity in the dock area
POE or WiFi with 12vDC power	Flexible wiring configuration
Venture Research HyTrak reader built in	Fully integrated. No antenna, RF cabling or wiring required
Additional USB, CAN and GPIO	Allows additional external stacklightsand monitors
Exclusive Truck Door Open Sense	Only turns on RF when the truck dooris open
Master/Slave option	Reduces costs by having only one sideof the door requiring the reader
Integral SD Storage Card	Allows virtually unlimited storage and application loading capability

Applications

- Order Ship Confirm
- Order exception management (wrong truck)
- Automated Receiving against ASN
- Productivity tracking
- Improves traffic management
- Critical asset tracking
- Automatic Compliance systems

24x7x365 Proacvtive Support
Venture Research maintains a world class support organization that can provide round-the-clock assistance. All hardware products of Venture Research contain automatic self diagnosis capabilities, and can be connected to SiteWatch, the Venture Research remote monitoring system, for real time monitoring of system operability and alerting on exceptions. This ensures non-stop operation for critical applications.

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Specifications

TAA COMPLIANT

Dock Reader Electrical Specifications

Model	DOCK_RDR_M_001 - Master DOCK_RDR_S_001 - Slave
RFID Reader	1Watt (30 dBm) Class 1 Gen2 (ISO 18006c) reader, US (902-928 Mhz) (European frequencies ETSI - 865-868 Mhz/1/2 watt also available)
Power	48 or 56 v POE 10-48 v DC regulated - 10 W
RFID Ports	3 high gain antennas per portal - The Slave contains antennas only and no reader

Interfacing

Ethernet	10/100 Mbps (POE)
WiFi	WiFi (802.11 a/b/g/n), MIMO Antenna Support
BLE	Low Energy Bluetooth reading of iBeacon or Eddystone beacons
USB	Dual USB A, USB OTG
Serial	Console Serial Port with FTDI support
CAN BUS	1 Mbps CAN Bus Interface
SD Card	Up to 64 GB Storage
I/O	4 In (Sink or Source) / 8 Out Conditioned
Motion Detection	PIR Motion detection dual facing
Diagnostics LEDs	RGB Programmable

Operating System

Linux Build	Yocto project build(Android 4.x also available
VPN Support	Built in multiple end point VPN embedded secure client(s)
Programming	C, C++, Python, Node, Java
Cloud Computing	Store and Forward with all filtering/ aggregation being performed in the reader. Direct Web Service update capability using HTTP Post

Warranty

Parts and Labor	1 year, post 1 year maintenance agreement available

Specifications are subject to change without notice

Mechanical

66" H x 9.5" W x 2" D
High Impact Sleeve

Options

Mounting	Part Number
Floor Mount	DOCK_OPT_FLOOR
Articulated Arm	DOCK_OPT_ARM
Conduit Coupler	DOCK_OPT_COUPLER FLEX CONDUIT - 35'
Water Proofing - NEMA 4	DOCK_OPT_NEMA4 DOCK_OPT_FLEX
Power	**Part Number**
POE Injector - 48v	DOCK_OPT_POE_48
24vDC Power Supply	DOCK_OPT_DC_24
Communications	
4G LTE Module	DOCK_OPT_CELL
Carrier Service	DOCK_OPT_CELL_CARRIER
Peripherals	
External Input (PIR Motion Sense)	DOCK_OPT_EXT_PIR
External CAN Bus Stacklight	DOCK_OPT_EXT_STACK
Integrated Cap Stacklight	DOCK_OPT_CAP_STACK
LIDAR Truck Sense	DOCK_OPT_TRUCK_SENSE
LIDAR Directionally Sense	DOCK_OPT_DIRECTION
Cabling	
CANBUS Interconnect Cable 35'	DOCK-OPT_CAN_35'
Master/Slave RF/GPIO interconnect - 35'	DOCK_OPT_MS_CABLE
Serial Interface Cable to USB	DOCK-OPT-USB-SER
Operating System	
Open Embedded Linux	DOCK-OPT_OS-LINUX
Android 4.0	DOCK-OPT_OS_Android4

Notes:

- Cellular requires yearly service contract
- Specify service provider at time of order (AT&T, Verizon, T-Mobile, Sprint, Vodaphone, Kore)
- ETSI/EU - 865-868 MHZ Version available at extra cost

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33. Appendix W: SLIN 0001 PRFID Fixed Reader (D)

SlimTrak™ UHF RFID Reader with Integrated Antennas

RFID Solutions

VENTURE Research Inc.

RFID Solutions

EPCglobal

Integrated unit with Reader and Antenna

The **SlimTrak**™ reader from Venture Research combines a 1 watt UHF reader, antennas and I/O components in a single ultrathin enclosure. It can be easily affixed into tight spaces with minimal installation effort. The integrated antennas allow excellent performance for close proximity reading or double door applications. An auxiliary connector is available that allows connection to a secondary slaved unit with extra antennas to improve coverage.

Compact Footprint

At 40" X 9" X 1½", the SlimTrak can be mounted almost anywhere. Whether it is on a wall, to a workstation, in a cabinet, on a counter, bolted to the floor or even hanging on a door with no visible external connections – its flexibility is unmatched.

Proximity Detection Provides Accurate Triggering

A built in wide-angle proximity sensor, along with an optional external photoeye, provides feedback on traffic moving in front of or between units. Various trigger modes are available for characterizing the reader's behavior.

Versatile Communication Options

The Venture Research SlimTrak reader supports direct Ethernet plug in, WiFi (802.11b/g) or GSM. The WiFi configuration provides the quickest implementation with only power required. Configuration and setup can be performed via WiFi or a direct Ethernet cable to preconfigure the units for special network requirements. Both WEP and WPA configurations are supported. An optional Serial port is also available for configuration.

Durable Low Profile Design

The unit is constructed of extruded high impact material. Because of the unit's compact design, it can be placed in high traffic areas where aesthetics may play a role.

Sealed Enclosure Suitable for Harsh Environments

The plastic finish allows fully integrated reader / antenna configurations in a sealed enclosure. The sealed enclosures allow RFID tracking in environments that are high humidity or chilled, with high condensation or wash down requirements. The integrated reader is well suited for the food processing industry. Additionally the sealed readers are suitable for outdoor and yard tracking requirements by providing an IP65/ NEMA4 rating.

24 x 7 x 365 Support

Venture Research maintains a world class support organization that can provide real time monitoring and alerting of system operability remotely, proactively supporting installations 24x7x365.

WIP and personnel tracking

Doorframe Mounted Configuration Retail

Also Available with NEMA 4 rating

Communication Options
- Ethernet (POE)
- WiFi
- GSM

Features	Benefits
Optional NEMA4 rated enclosure allows for harsh environment	Suitable for food service or outdoor applications
Integrated Reader and Antenna in a single enclosure	Simplifies installation and maintenance
Power over Ethernet	Allows one cable to be run for power and communication
802.11b/g WiFi, RS232, GSM or Direct Ethernet connectivity	Provides the most flexible solutions regarding network requirements
Proximity sensing with annunciator, optional integrated stacklight and/ or optional counter display	Ability to create operations feedback on tag read success and reader power management

For further information contact Venture Research at 866-RFID-111

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Specifications

SlimTrak™ Reader Electrical Specifications	
Model	SLIMTK-RDR
Reader	1 Watt – 2 Port GEN2 w/ optional 4 or 8 port multiplexor
Trigger	Software, Embedded Sensor (3'-6' range), Optional External Photoeye or switch
Power	Power Over Ethernet, External 12VDC
LED Indicators	Red, Yellow and Green diffuse LEDs for diagnostics
Annunciator	90db built in annunciator
Antennas	2 Internal 3 or 7 dBic Circularly polarized, 2 External connections (RP-TNC) to auxiliary antennas

Interfacing	
Data	TCP / IP (Ethernet, WiFi, GSM), Serial
Network	Configurable IP, Port, HostName, DHCP option, direct autonomous HTTP updating
Connection	Serial (DB9), Cat5/6 (RJ45), optional WiFi w/ internal SMA antenna
Communication	10/100 Mbps Ethernet, Optional WiFi, Optional Serial (RS-232), Optional GSM (celluar)
Protocol	Simple text based configuration and tag read stream (via Telnet). Online help is built in for all commands. Up to 5 independent sessions.
Specialty Modes	Pulse, Continuous Read, Sensor Triggered
Antenna Select	Internal and Optional External Monostatic (slave)
Stacklight	Optional integrated stacklight and/or counter module

Software	
Asset Management	Service Bureau-oriented, hosted solution with enterprise management available from Venture Research for managing an array of SlimTraks

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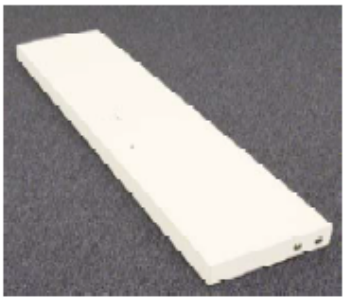
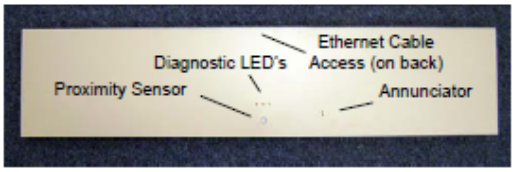
SlimTrak™ Reader Mechanical

Dimensions: 40" long by 9" wide by 1 1/2" thick



With Optional Integrated Stacklight and Counter Module



Base SlimTrak	Part Number
Reader w/Antennas & PIR Sensor	SLIMTK-RDR
Ethernet Included	10/100 Base - TX
Power Configurations	
12-48V Regulated DC	SLIMTK-OPT-DC-PWR
Power over Ethernet	SLIMTK-OPT-POE
Battery Backup (with charger)	SLIMTK-OPT-BATT-PACK
Spare LI-ION battery pack	SLIMTK-OPT-BATT
Communications	
Serial Port	SLIMTK-OPT-SPI
WIFI, 802.11 b/g	SLIMTK-OPT-WIFI
GSM - Cellular	SLIMTK-OPT-GSM
Sensor	
External Photoeye	SLIMTK-OPT-PHOT-E
Slave Antenna Panel (for opposite side)	
2 Port External Connections	SLIMTK-OPT-ANT-SLAVE
Slave Panel with two internal 6.5 dBic antennas	SLIMTK-SLAVE
RF Mux to drive slave panel	SLIMTK-MUX
Mounts	
Edge Frame Mounting	SLIMTK-OPT-MNT-SIDE
Flat Wall Mounting Kit	SLIMTK-OPT-MNT-WALL
Floor Mount Pedestal	SLIMTK-OPT-MNT-FLOOR
Display	
3 color Stack Light (integrated)	SLIMTK-OPT-STK-INT
Stack Light Interface (external)	SLIMTK-OPT-STK
4 digit Counter Module	SLIMTK-OPT-COUNTER
Cabling	
Master to Slave cable pair - 20' with RTNC terminators	SLIMTK-OPT-CBL-20

GSM option requires yearly service contract

Warranty

EPCglobal Compliant

1 year parts and labor
NEMA4 / IP65 Rated

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34. Appendix X: SLIN 0001 PRFID Fixed Reader (E)

VENTURE Research Inc.

Hytrak™ 8 Port RFID/GPS/BLE Cellular Reader

RFID/BLE Solutions

The Most Features in a Single Reader
The Venture Research HyTrak™ reader sets the standard for integrated RFID and IoT solutions to satisfy the requirements of an open reader design that can be used in a variety of industries. The reader is packed with RF and communications features to accommodate the most demanding tracking scenarios. The HyTrak Reader combines:

UHF RFID - US and ETSI* (optional) frequencies – 8 port
BLE - Low Energy Bluetooth Reader
WiFi - a,b,g,n - Mimo WiFi support
Cellular - 4G LTE - Multiple Carrier Support
GPS - Dual constellation satellite
CAN - CAN Bus Support

in a single rugged enclosure driven by a high performance Linux operating system.

Support for Both Active IoT and Passive RFID Tags
The HyTrak reader is the only reader on the market that has integrated the ability to read passive RFID tags and also active (battery assisted) BLE (Low Energy Bluetooth) tags. This allows cost effective passive tags to be placed on general assets and critical assets to be tagged with BLE beacons to ensure readability.

Suitable for Mobile Applications
The HyTrak reader can run on POE or 10v–48v power allowing for battery operated applications. Direct connections to a forklift reader or vehicle is now possible through its regulated power supply. With the GPS feature and BLE, mobile equipment can be tracked outside and inside of buildings and deliver their coordinates through a cellular backhaul.

Designed for the Cloud
The HyTrak solution shares the same API as all other Venture Research Products that are designed for direct cloud interfacing. Store and Forward to a direct REST interface is built in for rapid deployment. Using the REST interface, the requirement for expensive middleware is eliminated.

Additional Peripheral Support
Along with the RFID, BLE and GPS tracking capability, the HyTrak solution provides 4 in, 8 out GPIO along with dual USB A ports, OTG USB port and a direct console port. 10/100 ethernet is integral and serial and CAN Bus support extends the communication options available in the reader. CAN Bus support provides the ability to connect in a daisy chain fashion standard Venture Research peripherals such as stacklights, thermal sensors, machine sensors and locking systems.

24 x 7 x 365 Support
Venture Research maintains a world class support organization that can provide real time monitoring and alerting of system operability. All hardware products from Venture Research contain automatic self-diagnosis and alerting. Connecting the product to the remote Venture Research monitoring system called SiteWatch, allows non-stop read point sensing for mission critical applications.

Applications

- WIP Tracking
- Mobile Asset Management
- Dock Door Portals
- Forklift Cycle Count Readers
- Health Care equipment/personnel tracking
- General Purpose RFID/BLE applications

Features	Benefits
UHF RFID up to 8 ports	Allows applications to have more antenna support than a 4 port reader
Low Energy Bluetooth support	For Critical Asset tracking and Geo Fencing
GPS built in	Accurate mobile positioning outside of buildings
Integral Mimo WiFi a/b/g/n support	Allows faster deployments
POE or 12vDC	Flexible power options
4 in 8 out GPIO with CAN and Serial	Provides direct peripheral control and flexible input sensing
Integral store and forward capability for all transactions	Ready for the Cloud
Optional 4G LTE Cellular with removable SIM card	Provides direct cloud interfacing for mobile applications
Integral SD storage card	Allows virtually unlimited storage and application loading capability

*Specify US or ETSI at time of order

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Specifications

TAA COMPLIANT

HyTrak™ Electrical Specifications

Model	HYTRAK-001
RFID Reader	1 Watt (30 dBm) Class 1 GEN2 (ISO 18006c) reader, US (902-928 Mhz)(European frequencies ETSI - 865-868 Mhz/1/2 Watt also available
Power	48 or 56 v POE 10-48 v DC regulated -10W
RFID Ports	8 Port RTNC connections

Interfacing

Ethernet	10/100 Mbps (POE)
WiFi	WiFi(802.11 a/b/g/n), MIMO Antenna Support
BLE	Low Energy Bluetooth reading of iBeacon or Eddystone beacons
GPS	GPS/GLONASS - with external antenna port
USB	Dual USB A, USB OTG
Serial	Console Serial Port with FTDI support DB9 Female RS232 - AUX Port
CAN BUS	1 Mbps CAN Bus Interface
Sim Card	Externalized SIM Card for Cellular Integration
Additional Sensors	Biometrics, HF Badge, Facial Recognition, Floor mat sensor, motion sensor, Thermal/ Humidity sensor, door sense
I/O	4 in (Sink or Source) /8 out Conditioned
Diagnostic LEDs	RGB Programmable

Operating System

Linux Build	Yocto project build (Android 4.x also available)
VPN Support	Built in multiple end point VPN embedded secure client(s)
Programming	C,C++,Python, Node, Java
Cloud Computing	Store and Forward with all filtering/aggregation being performed in the reader. Direct web service update capability using HTTP Post

Notes:

- Call for compatible Antennas and Cabling
- Cellular requires yearly service contract
- Specify service provider at time of order
- ETSI/EU - 865-868 MHZ Version available at extra cost
- For an IP67 rated version of the product refer to the MultiTrak™ Product

Shown with optional cable protection end caps

Mechanical

Dimensions: 8"W x 8.5"D x 2"H without End Caps
13 1/2"L x 9"H x 2 1/2"H with End Caps

Options

Power	Part Number
Battery Backup	HYTRAK-OPT-BATT-PACK
Battery Charger - Single Battery	HYTRAK-OPT-BATT-CHRG1
Battery Charger - Quad Battery	HYTRAK-OPT-BATT-CHRG4
Spare Battery	HYTRAK-OPT-BATT
POE Injector - 48v	HYTRAK-OPT-INJECT
Communications	
4G LTE Module	HYTRAK-OPT-CELL
Carrier Service - 1 Year	HYTRAK-OPT-CELL-CARRIER
Peripherals	
External Input (PIR Motion Sense)	HYTRAK-OPT-PIR
CAN Bus Stacklight	HYTRAK-OPT-CAN-STACK
Hi Gain WiFi Antennas (MIMO)	HYTRAK-OPT-WIFI-ANT
Mobile External GPS Antenna	HYTRAK-OPT-GPS-ANT
Mobile External Cellular Antenna	HYTRAK-OPT-CELL-ANT
Combined WiFi/GPS/Cellular Antenna	HYTRAK-OPT-COMBO-ANT
Operating System	
Open Embedded Linux	HYTRAK-OPT_OS-LINUX
Android 4.0	HYTRAK-OPT_OS_Android4
Cabling	
CANBUS Interconnect Cable 15'	HYTRAK-OPT_CAN_15
Serial Interface Cable to USB	HYTRAK-OPT-USB-SER

35. Appendix Y: SLIN 0005 PRFID Smart Surface / Table (B / C)

VENTURE
Research Inc.

Surface Trak - Smart RFID Table Surfaces

Intelligent RFID Tracking in an Integrated RFID Surface
The RFID Surface solution from Venture Research provides the state of the art in tracking solutions where there is a need for a low profile RFID reading surface that can cover large surface areas in an industrial setting. Suitable for tool management, packaging and shipping stations, receiving stations, mobile shelf carts and anywhere that an integrated large surface reader and antenna array is required.

Eliminates the need for Cabinet or Drawer storage
For the first time, tools and critical assets can be left in the work area and tracked without the daily task of moving tools and assets to a cabinet or drawer storage area. Studies have shown up to an hour a day is saved for each person that is required to manage their tools using drawer and cabinet storage systems.

Tool or WIP Tracking
The Surface Trak solution can be used to manage tools but also as a work surface for the movement of materials across a work area to perform work in process tracking. Tracking of start and end times of a particular process can now be performed automatically. As items are being assembled in a work area, if they are tagged, automatic capture of serialized items can be performed without scanning or paperwork.

Critical Asset Management
The Surface Trak combines the state of the art in RFID and IoT technology by providing a large surface antenna array for reading of items with RFID tags but also Low Energy Bluetooth active tag support for critical assets that must still be read up to 100' away from the surface.

Rugged Surface
The exclusive stacked layer construction of the surface provides the utmost in resilience to heavy tools and materials that are placed on the surface. Surfaces can be cleaned with ordinary cleaning solutions.

Intelligent Store and Forward ready for Cloud computing
All Venture Research products provide an exclusive store and forward capability to allow direct interaction with the Cloud. Surfaces can run autonomously without network connection if required and still collect cr itical asset movement.

24 x 7 x 365 Support
Venture Research maintains a world class support organization that can provide real time monitoring and alerting of system operability. All hardware products from Venture Research contain automatic self-diagnosis and alerting. Connecting the product to the remote Venture Research monitoring system called SiteWatch, allows non-stop read point sensing for mission critical applications.

Surface Track shown on a 3' x 6' table surface managing tools

Some of the applications where Surface Trak has been used to Trak Assets :

- Tool Management
- WIP and Manufacutring
- Kanban Replinish
- Packout Stations
- Check in/Check out stations
- Packaging and Shipping Stations

Product Features

Features	Benefits
Antennas and Readers are a single and continuous surface	No need to wire separate components together
Both passive RFID and IoT active technology in the same reader	Provides asset tracking on the surface and up to 100' away from the surface
Tri Color LED on Edges	Gives operator feedback directly without the need of a computer or screen
Integral store and forward capability for all transactions	Ready for the cloud
Sizes of surfaces from 9"x9" up to 3' by 6'*	Flexibility to fit the surface in any work area
POE (Power over Ethernet) capable	Reduces cabling and power requirements
Optional battery power	Can be used on mobile carts

* Specify surface/table size at time of order up to 3' by 6'

VENTURE Research Inc.

Specifications

Electrical Specifications

Model	SHELF_RDR_001_XX
RFID Reader	1 Watt(30 dBm) class 1 GEN2 (ISO 18006c) reader, US (902-928 Mhz)(European frequncies ETSI - 865-868 Mhz also available)
RF Shelf Interfacing	Single 12V cable with CANBUS protocol. Up to 4 surfaces can be daisy chained
Power	POE or direct connect at 12V - 1.5 A, optional battery backup
Diagnostic Indicators	Red, Yellow and Green diffuse LED's for local notification and diagnostics
Edge LED's	Programmable Edge LED's - R, Y, G Modulated
RFID Antennas	Exclusive Venture Research Array antennas

Interfacing

Connection	Se rial, Aux Serial, Ethernet Cat5/6 (RJ45), USB-A, Wifi (802.11 b/g), BLE, CAN Bus, Optional Cellular
Protocol	Simple text based configuration and tag read stream (via Telnet). Online help is built in for all commands. Up to 5 independent simultaneous sessions.
Cloud Computing	Store and Forward with all filtering / aggregation being performed in the reader. Direct Web Service update capability using HTTP Post. SD Card storage.
Optional Sensors	Biometrics, Card, HF Badge, Camera, Floor mat sensor, motion sensor
BLE (Low Energy Bluetooth)	Can read both Eddystone and iBeacon protocols
I/O	2 In / 2 Out Conditioned

Display

Edge LED's	R,Y,G continuously variable programmable LEDs for operator feedback

Software/OS

Operating System	Open embedded Linux, Optional Android 4.X
Applications	Tool Management, Tag Verification, Material Expiration,BLE tracker, Tag Encoding, Check in/out
Base Surface Trak Configurations	
Reader Surface - Base	SHELF_RDR_001_XX
Options	
Power	**Part Number**
Battery Backup	SHELF_RDR-OPT-BATT-PACK
Battery Charger – Single Battery	SHELF_RDR-OPT-BATT-CHRG1
Battery Charger – Quad Battery	SHELF_RDR-OPT-BATT-CHRG4
Spare Battery	SHELF_RDR-OPT-BATT
POE Injector – 48v	SHELF_RDR-OPT-INJECT
Communications	
4G LTE Module	SHELF_RDR-OPT-CELL
Carrier Service – 1 Year	SHELF_RDR-OPT-CELL-CARRIER
Sensor	
Mat Sensor - 3'x1.5'	SHELF_RDR-OPT_MAT
External Input (PIR Motion Sense)	SHELF_RDR-OPT-PIR
Facial Recognition	SHELF_RDR-OPT-FACEREC
Operating System	
Open Embedded Linux	SHELF_RDR-OPT_OS-LINUX
Android 4.0	SHELF_RDR-OPT_OS_Android4
Cabling	
CANBUS Interconnect Cable 15'	SHELF_RDR-OPT_CAN_15
Serial Interface Cable to USB	SHELF_RDR-OPT-USB-SER

Notes

- Celluar requires yearly service contract
- Specify service provider at time of order (AT&T, Verizon, T-Mobile,Sprint)
- Each surface has a CANBUS interface to daisy chain additional surfaces together.
- ETSI / EU – 865-868 MHZ Version available at extra cost
- Specify surface size at time of order

Warranty

- 1 year parts and labor
- 1 year, post 1 year maintenance agreement available

Specifications are subject to change without notice

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36. Appendix Z: SLIN 0007 PRFID Handheld Reader (HHR-G)

DT Research
www.dtresearch.com

DT362GL
Handheld Rugged Tablet

Slim, Rugged, Multi-functional Wireless Computing

The DT Research DT362GL Handheld Rugged Tablet features the integration of a high brightness 6" capacitive touch screen and a high performance yet energy efficient processor within a slim, lightweight, durable package. With built-in Wi-Fi, Bluetooth and a smart card reader as well as options for back camera, barcode scanner, GNSS, NFC, and UHF RFID reader, this robust tablet offers seamless information capture and transmission for improved workflow. Rated IP65 and MIL-STD-810G, the DT362GL Handheld Rugged Tablet provides reliable operation in harsh, mission-critical environments.

Features

- 6" LED-backlight screen with capacitive touch, digital pen support
- Intel® Pentium® Silver quad-core processor
- Microsoft® Windows® 10 IoT Enterprise operating system
- NIST compliant BIOS available
- IP65-rated for water and dust resistance
- MIL-STD-810G for shock and vibration protection
- Hot swappable battery pack
- Built-in smart card/CAC reader

Major Options

- NFC or UHF RFID reader
- Back camera
- Barcode scanner
- U-blox M8 GNSS module

Specifications

System

CPU	Intel® Pentium® Silver Quad-Core, 1.10GHz (up to 2.70GHz)
RAM	8GB
Storage	256GB flash
Operating System	Microsoft® Windows® 10 IoT Enterprise
NIST Compliance	NIST compliant BIOS available
Display	6" LED-backlight (400 nits) screen with capacitive touch
Display Resolution	720 x 1440
Control Switch and Buttons	1 power button, 2 trigger buttons

Network Interface

WLAN	Wi-Fi 802.11ac, 2.4GHz/ 5GHz dual band
Bluetooth	Bluetooth 4.2 LE

I/O Ports

USB Port	USB Type-C x 1 (data transmitting and charging; data transmitting only available in one insertion direction)
Smart Card/CAC Reader	Full slot, reads ISO 7816 T=0, T=1; 1.8/3/5V smart card

Mechanical and Environmental

AC/DC Adapter	Input: 100-240V AC; Output: 15V DC, 3A
Battery Pack	Hot swappable battery, 4200mAh
Enclosure	ABS + PC plastics
Dimensions (H x W x D)	7.6 x 3.7 x 1.2 in/ 192 x 95 x 31 mm
Weight	1.4 lbs/ 650 g
Durability	IP65 and MIL-STD-810G
Regulatory	FCC Class B, RoHS compliant
Temperature	Operation: 14°F to 122°F (-10°C to 50°C); Storage: -4°F to 140°F (-20°C to 60°C)
Humidity	0% – 90% non-condensing

* Specifications subject to change without notice.

Major Options

Barcode Scanner (2D)	2D scanner, reads 1D also
Camera	8 megapixel back camera
NFC/RFID Reader	HF 13.56MHz, ISO standard 15693, 14443A(B) & 18000-3 mode-1
UHF RFID Reader	865MHz – 928MHz, EPCglobal Class 1 Gen 2/ ISO 18000-6C; reach 16 feet (4.87m) read distance with integrated ThingMagic micro module and embedded antenna; reach 30 feet (9.1m) with the trigger grip antenna
GNSS Module	U-blox M8 GNSS module with concurrent reception of GPS and GLONASS; industry-leading -167dBm navigation sensitivity

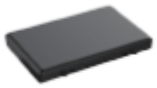
Accessories

- Digital Pen

- Desktop Charging Cradle

- 4-Bay System Gang Charger

- Battery Pack

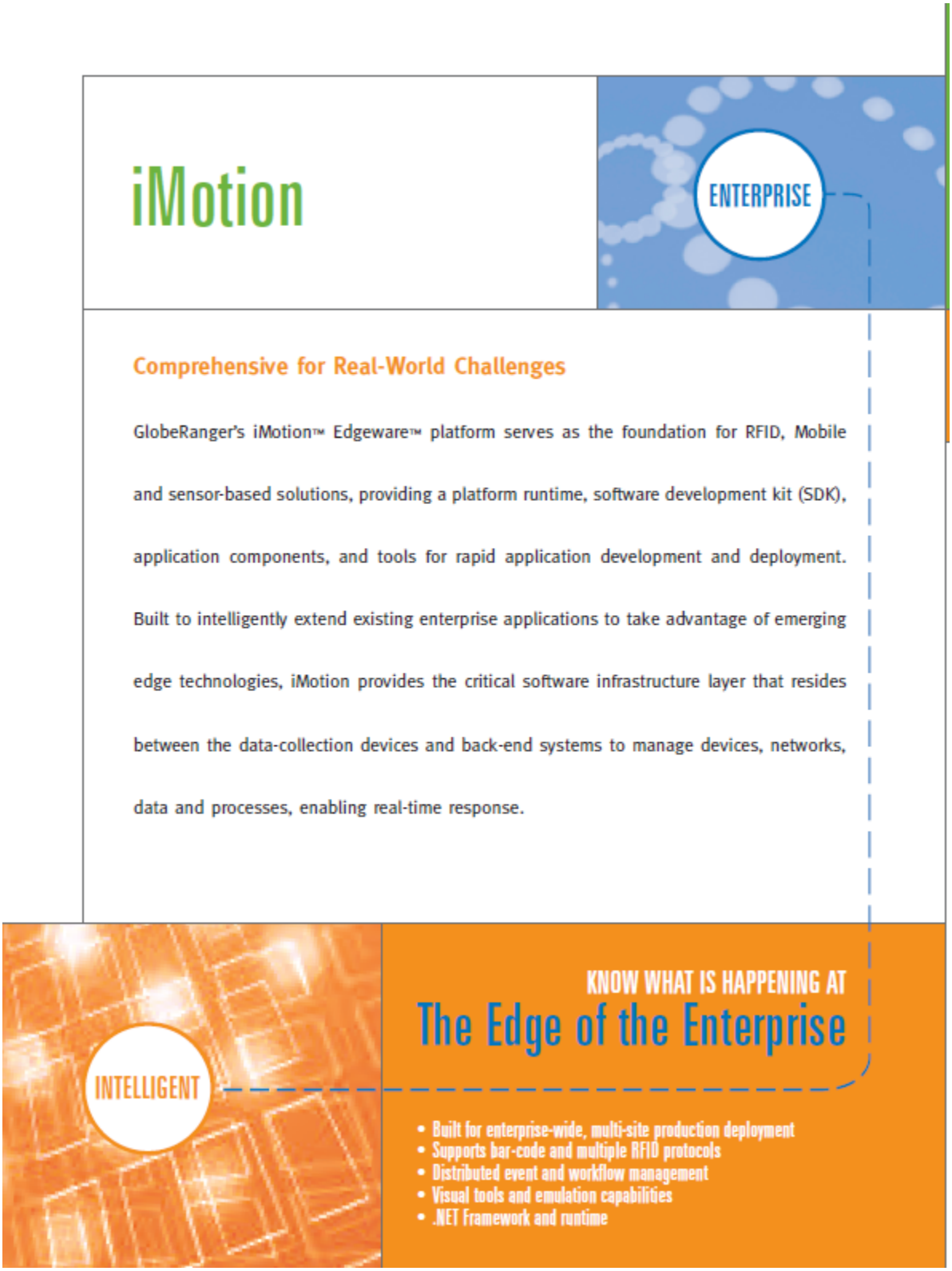


- Trigger Grip for UHF RFID Reader; 30 feet UHF RFID Reader read distance

- Charging Cradle for UHF RFID Reader Trigger Grip

- Trigger Grip for Barcode Scanner

37. Appendix AA: PRFID Application Development Software



Uniquely Powerful

Hybrid Technology Support – iMotion can easily integrate a variety of data collection technologies, from barcode scanners to RFID readers, remote sensors, and control system actuators. iMotion's capability to support hybrid technologies and seamlessly integrate multiple RFID protocols in one application means you are not locked into a proprietary solution and can evolve with dynamic changes in RFID and Mobile technologies.

Distributed Event and Workflow Management – iMotion's distributed architecture enables business intelligence and processing on a variety of devices which allow for information management closer to the data-collection point, thus improving scalability and reducing network load. Distributed event and workflow management executes user-defined rules to identify critical events and provide alerts and notifications for enterprise systems.

Standards Based and Enterprise Ready – iMotion is built entirely on Microsoft's .NET Framework and utilizes Web Services for data exchange and integration. This facilitates straight-forward integration with existing systems, rapid applications development, and easy customization.

Inherently Mobile

Enterprises today are extending their reach and visibility far beyond four walls. More than ever, wireless technologies are becoming a critical element in any supply chain solution. iMotion is designed from inception to easily extend applications into a mobile environment.

Reliable Communications – iMotion guarantees message delivery and efficient network utilization through the optimization of Web Services for the mobile environment. This platform capability ensures the continued operation of a distributed application when the network is unavailable and guarantees message delivery when connectivity resumes.

Device and Network Independent – iMotion allows you to select the most appropriate data capture equipment and communications network for your needs. From wide-area wireless networks to wireless LAN and traditional wired networks, iMotion can manage multiple modes of communications within one application.

Secure and Efficient – iMotion's Wireless Communications Protocol supports the highest level commercial-grade encryption to ensure your company's data is protected. Wireless data payloads can also be compressed for cost effective network usage.

Built for Mission-Critical Solutions

Developed to meet the performance and usability standards expected by enterprise customers, iMotion brings together critical solution components on one powerful platform.

Enterprise-grade Device Infrastructure Management – Gain full insight and control of your edge device infrastructure through iMotion's edge management console for single or multi-site production environments. Extend existing network management visibility to the edge by tapping industry-standard SNMP and WMI data sources. Use iMotion's enhanced Application Level Events (ALE) service to efficiently define data processing requirements based on business needs and context.

Extensible Framework for Development and Customization – iMotion includes a comprehensive software development kit (SDK), enabling third parties to develop custom application components. The SDK is integrated with Visual Studio .NET via templates and add-ins for rapid ramp-up with minimal training.

Visual Tools – iMotion's Workflow Editor, Device Emulator, and Event Monitor are visual tools, making them accessible to business consultants and system engineers, as well as application developers, streamlining the overall solution process.

Rapid Applications Development and Deployment – To speed applications development and deployment, iMotion includes pre-developed libraries of device adapters, application components, and tools, enabling the rapid building and customization of solutions.

Web Services Based Data Exchange and Integration – iMotion leverages industry-standard XML Web Services in order to facilitate integration with enterprise applications. The use of Web Services also makes application development easier through Microsoft's .NET Framework and Visual Studio .NET.

Redefining Real-Time Responsiveness

Responsiveness is a key competitive advantage in today's dynamic marketplace. With the emergence of low-cost RFID, mobile and sensor-based technologies, information about assets and inventory in motion is increasing exponentially. Real-time responsiveness means not only capturing accurate data continuously, but intelligently transforming raw data into relevant business events at the point where action can be taken. GlobeRanger's iMotion platform provides the software foundation for companies to quickly develop and deploy edge applications, with the flexibility to evolve with changing standards and scalability for enterprise-wide deployments.

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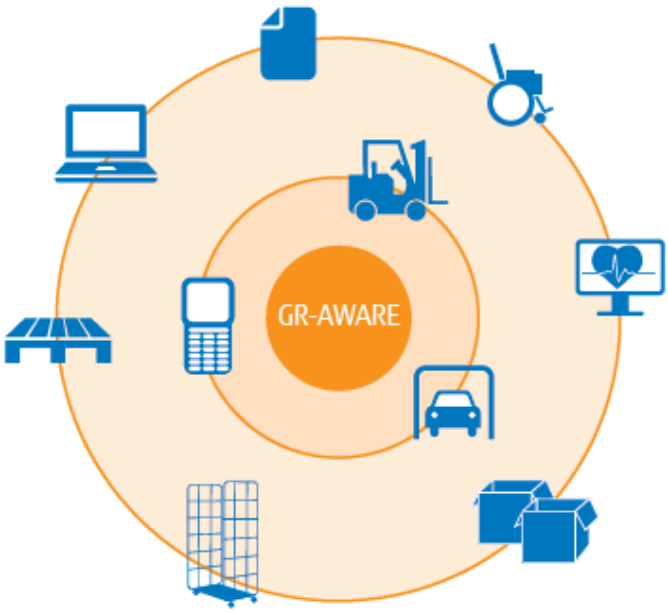
GlobeRanger

GlobeRanger
GR-AWARE™ RFID and Sensor-based Asset Management

- **GR-AWARE™** is the RFID-based asset management solution that provides you not only a view of your assets by location and other attributes, but also the ability to easily incorporate that information into your business operations and legacy systems, actionable visibility.
- **GR-AWARE™** supports a broad range of RFID and sensor-based technologies including stationary and mobile infrastructures to track logistics, manufacturing, healthcare, and IT assets.
- **GR-AWARE™** easily creates edge processes, manages exceptions, triggers alerts and notifications, and generates a variety of real-time reports, including:
  - RFID Asset History
  - Assets by Location
  - Missing or Misplaced Assets



Gain the Edge

GR-AWARE™, GlobeRanger's RFID-enabled asset tracking solution, offers you a single, scalable platform to support all your corporate assets. No longer do you have to deal with asset tracking silos for different hardware technologies, nor be limited to viewing assets on a map. Implement GR-AWARE and enjoy the operational and financial performance Edge.

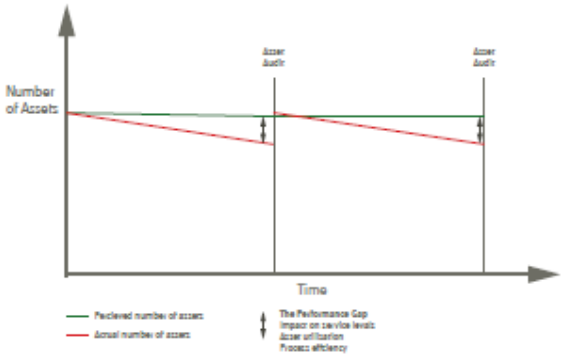
GlobeRanger Corporation pioneered the creation of an information processing software infrastructure at the edge of the enterprise. This enables companies to harness data generated outside traditional IT environments to improve their business processes and move closer to being real-time organizations. Simply stated, GlobeRanger software gives you the Edge.

GR-AWARE Sample Workflow

With companies looking for ROI to justify investments in RFID, asset tracking represents a logical first candidate for deployment. Numerous studies have shown that for the most part, asset management remains plagued by manual procedures and unsatisfactory results. In a 2006 study conducted by the Aberdeen Group, about 50% of the companies surveyed that logistics assets operations consumed 5% or more of corporate revenues; 35% lost a tenth or more of their reusable reported assets a year. Replenishing the stock of logistics assets becomes a bottomless pit that seriously impacts corporate performance. Whether it is logistics assets, or assets in a healthcare, office, or manufacturing environment, effective asset management easily pays for itself.

Immediate User Benefits:

- Visibility across logistics operations to maintain optimal asset stock.
- Reduced total cost of ownership of assets by improving control, availability and maintenance costs.
- Accurate asset maintenance data and warranty claim management.
- Performance information – asset cycle times, dwell times, utilization rates, breakage and shrinkage points.
- Asset visibility across customer locations leading to undisputed retention charging.
- Enhanced return on capital due to improved asset utilization.
- Improved asset management results in improved fulfillment and customer service across supply chain.
- Improved productivity and operational efficiency by reducing time and resources spent searching for assets.
- Closed loop and extended closed loop asset tracking support ongoing re-use of tags and limited manual touch points.



Features	Benefits
Track assets by location and other attributes	Track and view assets by physical as well as business attributes.
Enhance location information with business rules and logic	Turn visibility into actionable items by incorporating location information into company's business processes.
Integrated asset management	Track all assets with a single platform that buffers you from differences in the underlying tagging hardware technology. Integrate easily with existing legacy systems.
Alerts and notifications	Flexibly set the triggers and conditions for notifications that are relevant to your company's operations.
Customizable reports	Set up a range of reports to address different users and different uses of the system.
Web enabled	Update and view information from any location. Removes visibility gaps between partners and improves collaboration.

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GlobeRanger provides the most reliable, scalable, and flexible enterprise edge software infrastructure and solutions at the lowest total cost of ownership, enabling companies to harness data generated outside traditional IT environments to improve business processes. Specifications are subject to change.

Accuracy: Fujitsu endeavours to ensure that the information contained in this document is correct but, whilst every effort is made to ensure the accuracy of such information, it accepts no liability for any loss (however caused) sustained as a result of any error or omission in the same.

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38. Appendix AB: SLIN 0028 RFID Tag Verifier / Encoder (B)

VENTURE Research Inc.

Curve RFID Verifier and Encoder

Desktop RFID tag verification and Encoding
At only 8" x 8" the "Curve" provides a low profile (9/16" tall) integrated RFID antenna and reader solution with built in verification and encoding capabilities. Designed for tag on product commissioning and verification, the Curve also has built in visual go / no-go indicators to assist with tag verification.

Useful for tracking Expired or Counterfeit product
With a quick scan of the tagged product over the reader, expired products can be verified in a database and the visual indicators built into the reader can provide immediate feedback of counterfeit or expired product.

Versatile Communication Options
Integral to all Venture Research readers is the ability to daisy chain the readers via the CAN Bus. Many readers can be connected through a single gateway connection to the internet / network through the robust CAN Bus to minimize cabling. Also provided in the 'Curve' verifier and encoder:

- POE, WiFi, Serial and Cellular connections
- USB to connect to a local computer
- 2 GPIO inputs and 2 GPIO outputs
- Intelligent store and forward capability
- Full Linux operating system

Additional Peripherals
The reader can receive stimulus from external triggers or can output to additional peripheral such as locks, annunciators or additional LED indicators.

24 x 7 x 365 Support
Venture Research maintains a world class support organization that can provide real time monitoring and alerting of system operability. To learn how our Curve Verifier and Encoder Solutions can work for you, or to find out more about Venture Research's products and solutions, contact us at 866.RFID.111 or 469-246-4000 or visit us at www.ventureresearch.com

Product Features

Features	Benefits
Available in either HF or UHF configurations	Useful for any tagging application
Can perform verification and encoding functions	Expiration check, counterfeiting check and tag on product readability
802.11b/g WiFi, RS232, GSM or Direct Ethernet connectivity	Provides the most flexible solutions regarding network requirements
Integral store and forward with direct web services update.	Ready for Cloud computing
Power over Ethernet or direct power	Simplifies implementations and minimizes desk space
Direct USB barcode interface	Allows for scan and encode without a computer

Venture Research Inc. | 3001 Summit Ave. Suite 100 | Plano, Texas 75074 | 1-866-RFID-111 | 469-246-4000
All Venture Research Inc. Products are proudly made in the USA.

VENTURE Research Inc.

Specifications

Electrical Specifications

Model	SLIMTK-RDR
Reader	1 Watt - 2 Port GEN2 w/ optional 4 or 8 port multiplexor
Trigger	Software, Embedded Sensor (3'-6' range), Optional External Photoeye or switch
LED Indicators	Red, Yellow and Green diffuse LED's for diagnostics
Power	Power over Ethernet, External 12VDC
Annunciator	90db built in annunciator
Antennas	2 internal 3 or 7 dBic circularly polarized, 2 external connections (RP-TNC) to auxiliary antennas

Interfacing

Data	TCP/IP (Ethernet, WiFi, GSM), Serial
Network	Configurable IP, Port, Hostname, DHCP option, direct autonomous HTTP updating
Connection	Serial (DB9), Cat5/6 (RJ45), optional WiFi w/ internal SMA antenna
Communication	10/100 Mbps Ethernet, optional WiFi, optional Serial (RS-232), optional GSM (cellular)
Protocol	Simple text based configuration and tag read stream (via Telnet). Online help is built in for all commands. Up to 5 independent sessions.
Specialty Modes	Pulse, Continuous Read, Sensor Triggered
Antenna Select	Internal and Optional External Monostatic (slave)
Stacklight	Optional integrated stacklight and/or counter module

Software

Asset Management	Service Bureau-oriented, hosted solution with enterprise management available from Venture Research for managing an array of SlimTraks

Curve Reader Options

Base SlimTrak	
Reader w/ Antennas & PIR Sensor	SLIMTK-RDR
Ethernet	10/100 Base - TX
Power Configuration	
12-48V Regulated DC	SLIMTK-OPT-DC-PWR
Power over Ethernet	SLIMTK-OPT-POE
Battery Backup (with charger)	SLIMTK-OPT-BATT-PACK
Spare LI-ION battery pack	SLIMTK-OPT-BATT
Communications	
Serial Port	SLIMTK-OPT-SPI
WiFi, 802.11 b/g	SLIMTK-OPT-WiFi
GSM-Cellular	SLIMTK-OPT-GSM
Sensor	
External Photoeye	SLIMTK-OPT-PHOT-E
Slave Antenna Panel (for opposite side)	
2 Port External Connections	SLIMTK-OPT-ANT-SLAVE
Slave Panel with two internal 6.5 dBic antennas	SLIMTK-SLAVE
RF Mux to drive slave panel	SLIMTK-MUX
Mounts	
Edge Frame Mounting	SLIMTK-OPT-MNT-SIDE
Flat Wall Mounting Kit	SLIMTK-OPT-MNT-WALL
Floor Mount Pedastal	SLIMTK-OPT-MNT-FLOOR
Display	
3 color Stack Light (integrated)	SLIMTK-OPT-STK-INT
Stack Light Interface (external)	SLIMTK-OPT-STK
4 digit Counter Module	SLIMTK-OPT-COUNTER
Cabling	
Master to Slave cable pair - 20' with RTNC terminators	SLIMTK-OPT-CBL-20
Curve Reader Mechanical	

Dimensions: 40" long by 9" wide by 1 1/2" thick GSM option requires yearly service contract

Warranty

- 1 year parts and labor
- NEME4/IP65 Rated

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All Venture Research Inc. Products are proudly made in the USA.

39. Appendix AC: SLIN 0031 Barcode Scanning and RFID Imager (A)

PRODUCT SPEC SHEET
DS9900 SERIES CORDED HYBRID IMAGER FOR RETAIL

ZEBRA
CAPTURE YOUR EDGE

DS9900 Series Corded Hybrid Imager for Retail

Boost productivity at the point of sale with the ultimate in performance and design

The point of sale is your last opportunity to make a good impression. With the DS9900 Series, you can give shoppers the checkout experience they expect — short lines, a speedy transaction and attentive service. A one-of-a-kind hybrid design provides maximum flexibility, offering both handheld and hands-free scanning. While other products are handheld scanners retrofitted with a base, Zebra's award-winning Industrial Design team created the DS9900 Series from the ground up for both handheld and hands-free use. You get Zebra's industry-leading scanning technology, seamless switching between modes and superior ease of use, along with a wide range of innovative features that boost productivity. An RFID model combines a barcode scanner and RFID reader to extend the benefits of RFID to your point of sale. Empower your checkout stands with the DS9900 Series Hybrid Presentation Imager — the ultimate in performance and design.

Industry-best performance

Scan it all with virtually no exceptions
The DS9900 Series combines an 800 MHz microprocessor, a high-resolution megapixel sensor and Zebra's exclusive PRZM Intelligent Imaging technology for unparalleled performance on 1D, 2D and Digimarc® barcodes. Problematic barcodes won't slow down your checkout lanes. The DS9900 Series can instantly capture dense, poorly printed, damaged, crinkled, faded, distorted, low-contrast, and glossy printed barcodes, as well as electronic barcodes on dimly lit mobile phone displays.

Rapid-fire scanning to keep your lines moving
With the widest field of view in its class and an advanced illumination system, the DS9900 Series provides the near instant barcode capture you need to keep the busiest checkout lines moving. You get one of the industry's top first-pass read rates — up to 240 in./610 cm per second. A large field of view makes presentation scanning easier than ever, enabling associates to focus on your shoppers rather than positioning items.

Bring RFID to your point of sale
If you are already benefiting from RFID in your supply chain, you can close the RFID loop by capturing RFID-tagged merchandise at the POS with the RFID model. Checkouts are easier than ever, since associates can scan multiple items at once without line of sight. Capturing RFID tags provides the real-time inventory visibility needed for timely re-ordering and trending analysis. The reader operates with just 5 VDC and does not require an external power supply. And complimentary RFID data conversion software lets you read RFID tags without modifying your existing POS application.

Purpose-built for hybrid scanning

Dynamic switching between hands-free and handheld modes
A patent-pending capacitive touch sensor and accelerometer work together to instantly switch to handheld mode as soon as an associate picks up the scanner. There are no mechanical components to wear out, providing fail-proof switching throughout the scanner's life.

Hybrid ergonomics
The ergonomic handle is comfortably weighted and balanced, remarkably easy to pick up and aim in handheld mode. In presentation mode, the integrated adjustable stand offers a sturdy, compact solution that fits into space-constrained areas and frees up more space for impulse buys.

Two scanners in one
Handheld and presentation modes have different requirements for scanning. That's why the DS9900 Series is purpose built for both modes. In presentation mode, the scan range is limited to prevent unintentional scanning of nearby items. In handheld mode, the scan range is extended up to 24 in./62 cm to easily reach items in the cart.

Durable and Ready for Life at the Checkout Stand

Day-in, day-out dependability
The DS9900 Series delivers the day-in, day-out dependable operation you need in your checkout lanes. Its proven single circuit board design eliminates a common point of failure, substantially increasing durability. Image quality is protected by a patented double-sealed optical scanning system, ensuring that the 'eye' of the DS9900 Series always captures the sharpest possible barcode for fast and reliable decoding. And the recessed scan window protects against smudges, dirt and scratches.

Designed to survive spills and drops
With IP52 sealing and elevated electronics, accidental spills and dust won't impact operation[1]. Inadvertent drops aren't a problem either — you can depend on reliable operation, even after multiple 5 ft./1.5 m drops to concrete and 2,000 consecutive 1.5 ft./0.5 m tumbles[2].

Boost Productivity with Zebra Innovations

Deactivate EAS tags while scanning
Optional EAS support allows associates to deactivate Checkpoint EAS tags while scanning the price, boosting productivity at the checkout and preventing erroneous alarms.

Doubles as a document scanner
With a single press of the scan trigger, Zebra's Intelligent Document Capture can capture a high-resolution image of checks and full page documents. Smart software automatically compensates for variations in lighting and squares up the image for optimum clarity.

Streamline data collection with OCR
Support for OCR transmits scanned text to your application to expedite the collection of data from passports, ID cards and more.

Capture multiple barcodes with one press of the scan trigger
With Multi-Code Data Formatting (MDF), the DS9900 Series can scan multiple barcodes with a single trigger pull and transmit only the barcodes you need, in the order your application expects.

Identify poor-performing barcodes
Zebra's ScanSpeed Analytics provides detailed performance metrics on every barcode captured — enabling you to identify and eliminate poor performing barcodes that slow down the checkout process. You can also view the number of decodes performed in handheld and hands-free mode to better understand how associates are using the scanner.

Single out one barcode from many
With Zebra's Preferred Symbol, the DS9900 Series can capture and output only the preferred barcode, so associates no longer have to physically cover nearby barcodes before scanning.

Commission RFID tags on returns and more
In addition to reading RFID tags to complete a purchase, the DS9900 Series RFID model is capable of writing data to RFID tags — enabling staff to quickly commission tags on new inventory items and returned goods for faster processing.

Industry-preferred Management Tools

Effortless deployment
The DS9900 Series couldn't be easier to setup. With support for nearly 100 languages, it's ready to use in your corner of the world. Right out of the box, the scanner is configured for the most common applications and auto-host detect cables automatically select the right host interface — just plug in the scanner and you're ready to go. And the DS9900 Series is compatible with Zebra DS9808 cables to leverage your existing accessory investment.

Easily manage all of your scanners with powerful complimentary tools
With 123Scan, you can easily create configuration barcodes to program scanners. If your scanners are in multiple locations across the country or around the world, with Scanner Management Service (SMS), you can configure and update the firmware for any DS9900 Series device that is plugged into the host — no depot staging or user action is required — such as the scanning of a configuration barcode.

Easy application development
Get everything you need to easily integrate scanning into your business applications with our Scanner Software Development Kits (SDKs) for Windows, Android, iOS and Linux. These SDKs provide documentation, drivers, test utilities and sample source code. And the RFID model comes with Zebra's SDK and a sample application that enables it to read data from a barcode and write that data to an RFID tag — lowering the cost and complexity of implementing RFID.

PRODUCT SPEC SHEET
DS9900 SERIES CORDED HYBRID IMAGER FOR RETAIL

DS9900 Series Specifications

Physical Characteristics	
Dimensions	DS9908: 8.0 in. H x 3.7 in. W x 5.2 in. D 20.3 cm H x 9.4 cm W x 13.2 cm D DS9908R: 8.0 in. H x 3.9 in. W x 5.75 in. D 20.3 cm H x 9.9 cm W x 14.6 cm D
Weight	DS9908: 11.6 oz./330.0 g DS9908R: 14.8 oz./420.0 g
Input Voltage Range	4.5 to 5.5 VDC Host Powered; 4.5 to 5.5 VDC External Power Supply
Current	**Operating current at nominal voltage (5.0V):** DS9908: 321 mA (typical) DS9908R: 400 mA (typical) **Standby current (idle) at nominal voltage (5.0V):** DS9908: 70 mA (typical) DS9908R: 135 mA (typical)
Color	Midnight Black
Supported Host Interfaces	USB, RS232, Keyboard Wedge, TGCS (IBM) 46XX over RS485
Keyboard Support	Supports over 90 international keyboards
Electronic Article Surveillance	Compatible with Checkpoint EAS deactivation system
User Indicators	Direct Decode Indicator, Good Decode LEDs, Speaker (adjustable tone and volume)
Performance Characteristics	
Swipe Speed (Hands-Free)	Up to 240 in./610 cm per second for 13 mil UPC in optimized mode
Light Source	Aiming Pattern: Circular 617nm Amber LED
Illumination	(2) 645nm Red LEDs
Imager Field of View	48° H x 30.6° V Nominal
Image Sensor	1280 x 800 pixels
Minimum Print Contrast	16% minimum reflective difference
Skew Tolerance	+/- 60°
Pitch Tolerance	+/- 60°
Roll Tolerance	0° - 360°
RFID (DS9908R)	
Standards Supported	EPC Class 1 Gen2; EPC Gen2 V2; ISO-18000-63
RFID Engine	Zebra Proprietary Radio Technology
Nominal Read Range	~18 in. / ~45.7 cm
RFID Power Output	3 dBm to 22 dBm
Frequency Range	US: 902 - 928 MHz EU: 865 - 868 MHz Japan: 916 - 923 MHz
Imaging Characteristics	
Graphics Format Support	Images can be exported as Bitmap, JPEG or TIFF
Image Quality (A4 Document)	116 PPI on an 8.3 x 11.7 in./21.0 x 29.7 cm document @ 8.0 in./ 20.3 cm

Environmental	
Operating Temperature	32.0° to 122.0° F / 0.0° to 50.0° C
Storage Temperature	-40.0° to 158.0° F / -40.0° to 70.0° C
Humidity	5% to 95% RH, non-condensing
Drop Specification	DS9908: Designed to withstand multiple drops at 5.0 ft./1.5 m to concrete DS9908R: Designed to withstand multiple drops at 4.0 ft./1.2 m to concrete
Tumble Specification	Designed to withstand 2,000 tumbles in 1.5 ft. /0.5 m tumbler[3]
Environmental Sealing	DS9908: IP52 DS9908R: IP42
Electrostatic Discharge (ESD)	ESD per EN61000-4-2, +/-15 KV Air, +/-8 KV Direct, +/-8 KV Indirect
Ambient Light Immunity	0 to 10,000 Foot Candles / 0 to 107,600 Lux
Regulatory	
Environmental	EN 50581:2012
Electrical Safety	IEC 62368-1 (ed.2) EN 62368-1:2014/AC:2015
LED Safety	IEC 62471:2006 (Ed.1.0) EN 62471:2008 (LED)
EMI/RFI	EN 55032:2012/AC:2013 (Class B) EN 55032:2015/AC:2016 (Class B) EN 55024:2010 EN 55024:2010/A1:2015 EN 55035:2017 EN 61000-3-2:2014 (Class A) EN 61000-3-3:2013 47 CFR Part 15, Subpart B, Class B ICES-003 Issue 6, Class B
Accessories	
Multi-Mount Bracket	
Symbol Decode Capability	
1D	Code 39, Code 128, Code 93, Codabar/NW7, Code 11, MSI Plessey, UPC/EAN, I 2 of 5, Korean 3 of 5, GS1 DataBar, Base 32 (Italian Pharma)
2D	PDF417, Micro PDF417, Composite Codes, TLC-39, Aztec, DataMatrix, MaxiCode, QR Code, Micro QR, Han Xin, Postal Codes
OCR	OCR-A, OCR-B, MICR, US Currency
Digimarc	Digimarc barcodes
Refer to Product Reference Guide for a complete list of symbologies.	
Minimum Element Resolution	Code 39 - 3.0 mil Code 128 - 3.0 mil* DataMatrix - 6.0 mil QR Code - 6.0 mil * With Decode Range Limit feature disabled.

The DS9900 Series is Ideal in:

Retail Front of Store
- Checkout scanning
- Mobile payments, coupons and loyalty
- Age verification (DL scanning)
- Checkpoint EAS
- RFID (POS and commissioning tags)

Quick Serve Restaurants (QSR)
- Checkout scanning
- Age verification (DL scanning)
- Mobile payments, coupons and loyalty

Convenience Stores
- Checkout scanning
- Age verification (DL scanning)
- Mobile payments, coupons and loyalty

DS9900 Series Specifications (continued)

Warranty
Subject to the terms of Zebra's hardware warranty statement, the DS9900 Series is warranted against defects in workmanship and materials for a period of Five Years from the date of shipment. For the complete Zebra hardware product warranty statement, please visit: www.zebra.com/warranty

Recommended Services
Zebra OneCare Select; Zebra OneCare Essential

Utilities And Management	
123Scan	Programs scanner parameters, upgrades firmware, provides scanned barcode data and prints reports. www.zebra.com/123Scan
Symbol Scanner SDK	Generates a fully-featured scanner application, including documentation, drivers, test utilities and sample source code. www.zebra.com/windowsSDK
Scanner Management Service (SMS)	Remotely manages your Zebra scanner and queries its asset information. www.zebra.com/sms

DS9908-SR Handheld Decode Ranges (Typical)[4]	
Symbology/ Resolution	Near/Far
Code 39: 3 mil	1.1 in./2.8 cm to 3.0 in./7.6 cm
Code 128: 3 mil	1.4 in./3.6 cm to 3.5 in./8.9 cm
Code 128: 5 mil	1.0 in./2.5 cm to 7.1 in./18.0 cm
PDF 417: 6.7 mil	1.2 in./3.0 cm to 8.0 in./20.3 cm
UPC: 13 mil (100%)	0 in./0 cm to 24.7 in./62.7 cm
Data Matrix: 10 mil	1.3 in./3.3 cm to 9.3 in./23.6 cm
QR: 20 mil	1.0 in./2.5 cm to 18.0 in./45.7 cm

DS9908-SR Hands-Free Decode Ranges (Typical)[4]	
Symbology/ Resolution	Near/Far
Code 39: 3 mil	1.1 in./2.8 cm to 3.0 in./7.6 cm
Code 128: 5 mil	0.8 in./2.0 cm to 2.5 in./6.4 cm
PDF 417: 6.7 mil	1.2 in./3.0 cm to 8.0 in./20.3 cm
UPC: 13 mil (100%)	0 in./0 cm to 9.5 in./24.1 cm
Data Matrix: 10 mil	1.0 in./2.5 cm to 9.3 in./23.6 cm
QR: 20 mil	0 in./0 cm to 9.5 in./24.1 cm

DataCapture DNA

DataCapture DNA is a suite of highly intelligent firmware, software, utilities and apps exclusively engineered to add functionality and simplify the deployment and management of Zebra scanners. For more information about DataCapture DNA and its applications, please visit www.zebra.com/datacapturedna

1. DS9908R RFID model: IP42 sealing
2. DS9908R RFID model: Multiple drops at 4.0 ft./1.2 m to concrete
3. Note: 1 tumble = 0.5 cycles
4. Printing resolution, contrast, and ambient light dependent

Features are subject to availability. Specifications are subject to change without notice.

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Part number: SS-DS9900-RETAIL 08/14/2019

40. Appendix AD: SLIN 0031 Barcode Scanning and RFID Imager (B)

SPECIFICATION SHEET
ZEBRA RFD8500 UHF RFID SLED

ZEBRA

RFD8500 SERIES

Easily add high-performance UHF RFID and bar code capture to the mobile devices of today and tomorrow

With the RFD8500, you can empower select Zebra and compatible third-party mobile devices, tablets and smart phones with enterprise-class UHF RFID and 1D/2D bar code scanning technology, whenever and wherever you need it — simply, easily and cost-effectively. Just pair this Bluetooth-enabled sled with your mobile device and attach the mobile device to the RFD8500 for a single-handed RFID reader solution — or put the mobile device in a pocket or holster and use the RFD8500 in standalone mode. With support for Android, iOS, and in the future, Windows, you get real investment protection — the RFD8500 sleds you buy today will work with the devices you use now, and in the future. When it comes to performance, whether your workers are capturing RFID tags or bar codes, the RFD8500 is unparalleled — workers can capture tags and bar codes faster and with ease, improving productivity, operational efficiency and customer service. The RFD8500 — Style you can admire. Comfort you can feel. Flexibility your enterprise needs. Performance you can rely on. Battery life you can take for granted. And value you can appreciate.

Multi-OS and multi-platform
Leverage your mobile computing strategy and add world-class data collection capability in an economical way. Provides the peace of mind that the investment you make today will serve your business needs tomorrow.

Fast RFID tag capture in various environments
With AutoMac* and our patent-pending breakthrough antenna design, you get maximum read/write speeds and coverage required to maximize workforce efficiency.

High performance battery for full shift operation
Our unique power-optimizing algorithm delivers the superior battery cycle times that ensure full-shift power, even with intensive usage.

Flexible connectivity options: Bluetooth® or Batch Mode
Enable a real-time wireless connection to your mobile or backend systems via Bluetooth 2.1 or later. If a wireless connection is not available, batch mode enables the collection of up to 500 bar codes and/or 40,000 RFID tags. Just sync to upload the data from the RFD8500 to the host device at any time.

Flexible deployment options
Permanently attach to a compatible mobile device to create a dedicated inventory management device; temporarily attach to enable RFID when and where you need it on the mobile device of your choice, bringing comfort to inventory management tasks; deploy as separate devices — workers can put the host mobile computer in a pocket or on a desk to protect the device and create a lighter RFID solution.

Prevent counterfeiting and protect consumer privacy with EPC Global Gen2 v2
Protect profitability, customer safety and privacy with some of the latest RFID features. Cryptographic tag authentication provides extensive protection against tag cloning, allowing you to deploy non-clonable tags to prevent counterfeit product from entering your supply chain. In addition, the RFD8500 allows businesses to protect a consumer's post-sales privacy, for instance, by hiding data until a tag is interrogated by the RFD8500 with an untraceable privilege — when a purchased product is returned for a refund or exchange.

Easy to deploy: attach and remove in seconds with standard Quad Lock mounts and custom-tailored adapters
Just twist to lock onto or remove the RFD8500 from any Zebra or third-party mobile computer via a Quad Lock or slide-on/slide-off Zebra custom-tailored adaptor.

Instantly capture any printed or electronic 1D/2D bar code
Zebra's SE4710 enterprise-class imager offers proprietary PRZM Intelligent Imaging technology, a megapixel sensor and advanced optics for lightning-fast capture of 1D and 2D bar codes — even if they are dirty, damaged or poorly printed.

Easily toggle between RFID and bar code scanning
Users can simply tap on a button to switch between RFID and bar code scanning modes on the fly, maximizing ease of use and productivity.

Fast and easy application development with Zebra's unique ZETI protocol
Our powerful Zebra Easy Text Interface (ZETI) can be used across many OS platforms, reducing the need to utilize a Software Development Kit (SDK) to integrate RFD8500 features into your application. This human readable ASCII protocol makes it fast and easy for the host to communicate with RFD8500 without the need to create an actual application, reducing application development time and cost.

SPECIFICATION SHEET
ZEBRA RFD8500 UHF RFID SLED

Enterprise-class charging solutions for easy power management

The RFD8500 is compatible with the Zebra TC55 broad eco-system of charging accessories, potentially reducing or even eliminating the need to purchase charging solutions.

Deploy all around the world

The RFD8500 offers the style you need for customer facing areas as well as the durability for all-day everyday business use, making it ideal in just about every industry. And with regulatory approvals for over 80+ countries, the RFD8500 can be deployed globally across your operations.

RFD8500 Specifications Chart

PHYSICAL CHARACTERISTICS	
Dimensions	5.1 in. H x 3.1 in. W x in. 7.3 in. L 13 cm H x 8 cm W x 18.5 cm L
Weight	Imager Version: 15.3 oz./~435 grams; Non-Imager version: 15.3 oz./~430 grams
Power	PowerPrecision Li-Ion batteries, 4410 mAh
Configurations	RFID only or RFID with SE4710 Imager
Notification	LED and audible tone
User Input	Trigger, 3 push button switch
RFID PERFORMANCE	
Standards Supported	EPC Class 1 Gen 2; EPC Gen2 V2
RFID Engine	Zebra Proprietary Radio Technology
Fastest Read Rate	700+ tags/sec
Nominal Read Range	20+ ft./6+ m
Frequency Range/ RF Output	US: 902-928MHz; 4 - 34 dBm (EIRP) EU: 865-868MHz; 4 - 34 dBm (EIRP) Japan: 916-921Mhz (w LBT), 4 - 34 dBm (EIRP) Japan: 916-923Mhz, 4- 27 dBm (EIRP)
Batch Mode Memory	Store 40,000+ RFID Tags, 500 barcode
USER ENVIRONMENT	
Drop Specification	Multiple 4 ft./1.2 m drops to concrete (0° to 40° C)
Tumble Specification	1000 drops (500 tumbles, 1.6 ft./0.5 m) at room temperature
Operating Temp.	-10°C to 40°C / 14°F to 104°F
Storage Temp.	-40°C to 70°C / -40°F to 158°F
Charging Temp.	0°C to 40°C / 14°F to 104°F
Humidity	5-85% non-condensing
Electrostatic Discharge	+/-15kV air discharge, +/-8kV direct discharge, +/-8kVdc indirect discharge
Sealing	IP52

COMMUNICATION	
Bluetooth®	Bluetooth® Version 2.1 SPP profile HID Profile Apple iAP2/MFi
Bluetooth® Class	2
Bluetooth® Pairing	Secure Simple Pairing 'just works' method
Compatible Host Devices (Bluetooth®)	Devices with Android 4.4 or iOS 8 OS
ACCESSORIES	
External Interface	MicroUSB Connector and Charging Cradle based charging
Other Accessories	Adapter mounts for Enterprise Zebra Mobile Computers; Quad lock adapter for variety of smart phones
REGULATORY	
EMI/EMC	FCC Part 15 Subpart B Class B; ICES 003 Class B; EN 301 489-1; EN 301 489-3; EN 301 489-17; EN 55022 Class B; EN55024; EN 55032 Class B
Electrical Safety	UL 60950-1, CAN/CSA C22.2 No. 60950-1, IEC 60950-1, EN 60950-1
RF Exposure	EU: EN 50364, EN 62479; USA: FCC Part 2 (Section 2.1091), OET Bulletin 65 Supplement C; Canada: RSS-102
RFID/Bluetooth	EU: EN 300 328, FCC Part 15 Subpart C; Canada: RSS-247
WARRANTY	
Subject to the terms of Zebra's hardware warranty statement, the RFD8500 is warranted against defects in workmanship and materials for a period of: Terminal: twelve (12) months: Battery: one (1) year. For complete warranty statement, go to: http://www.zebra.com/warranty	

* AutoMac is a self-optimizing radio feature that automatically adapts to fast tag reading in various environments.

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41. Appendix AE: SLIN 0031 Barcode Scanning and RFID Imager (C)

PRODUCT SPEC SHEET
ZEBRA DS457 SERIES

ZEBRA

ZEBRA DS457 SERIES

NEXT-GENERATION FIXED MOUNT IMAGER

GET HANDS-FREE CONVENIENCE AND EXTRAORDINARY SCANNING SPEED ON ANY BAR CODE… ON ANY SURFACE

Enable high-volume hands-free scanning from the retail POS and airport boarding gate to the manufacturing production line with the Zebra DS457. With comprehensive data capture, your workers can scan virtually any bar code — including 1-D, 2-D and direct part marks. No matter what type of bar code is presented, or whether it is printed on a paper label, etched into a product or displayed on a mobile phone screen, breakthrough digital imaging technology delivers extraordinary scanning speed. The tiny footprint fits in the most space constrained areas. Workers can choose presentation or trigger-activated mode, providing the flexibility for a wide variety of applications. And while the DS457 can be integrated into a wide variety of products, its sleek design is just as at home in customer-facing areas, such as a retail counter.

TRUE BEST-IN-CLASS PERFORMANCE ON ALL BAR CODES

With stunning performance on virtually every bar code — 1-D and 2-D plus direct part marks — your workers can capture bar codes as fast as they can present items for scanning. There is never a need to pause between scans, protecting productivity.

FITS IN THE SMALLEST OF SPACES

The tiny DS457 is ideal where a zero or minimal footprint is required. At just 1.15 in. H x 2.3 in. L x 2.44 in. W (2.92 cm H x 5.84 cm L x 6.2 cm W), this device can be mounted just about anywhere — attached to the register or under the counter for a true zero footprint on the retail cashwrap to a space-constrained manufacturing cell or airport gate.

SCAN BAR CODES ON PRACTICALLY ANY SURFACE — INCLUDING MOBILE PHONE DISPLAYS

Your customers are rapidly adopting mobile bar codes — electronic versions of tickets, boarding passes and loyalty cards that can be carried right in the mobile phone. Since the DS457 can read bar codes on mobile phone and computer displays, you're ready for this next generation bar code, protecting customer convenience, customer service quality and employee productivity.

FLEXIBLE AND EASY TO INTEGRATE

The DS457 can be used as a standalone scanner or integrated into the most space-constrained products to bring world-class scanning performance to mobile computers, handheld scanners, self-service kiosks, medical and diagnostic instruments, lottery terminals and more. Integration into your product designs is easy — there is no optical, mechanical or electrical engineering required. And in the event you already have a Zebra Miniscan deployed today, the common interface allows you to simply swap scanners to cost-effectively boost scanning performance and quality — no re-tooling or redesign of the installation area are required.

USERS ARE UP AND RUNNING IN MINUTES

FEATURES

Four models to meet any data capture need

SR (Standard Range) designed for 1-D/2-D intensive applications with medium to large bar codes

HD (High Density) for the tiny and dense codes common in manufacturing

DL (Driver's License parsing) ideal for 1-D/2-D applications that require the capture of U.S. driver's license ID information

DP (Direct Part Marks) for rapid capture of every type of direct part mark, including dot peen, laser etch, chemical etch, inkjet, mold, cast and thermal spray; capture marks on virtually any surface, including metal, rubber, plastic and glass

Scans any bar code on paper, mobile phones and computer displays

Scan virtually any bar code on any medium; supports the mobile bar codes your customers are embracing

Comprehensive data capture — 1-D, 2-D, and DPM codes, driver 's license parsing, still images, video and OCR

Diverse series that can meet any fixed mount hands-free scanning need

Powerful 624 MHz processor, fast sensor shutter speed and patent pending fastpulse illumination

Full omni-directional scanning eliminates the need to precisely align bar code and imager. A unique aiming pattern with a bright central dot ensures quick, accurate scanning — even in the brightest lighting. The result is a highly intuitive scanning function that increases worker productivity, virtually eliminating the need and cost associated with training.

FOUR MODELS TO MEET ANY APPLICATION NEED
No matter what type of bar codes you need to capture, there is a model that will meet your needs.

DS457-SR: Combination 1-D and 2-D bar code scanning. This standard range model is designed to meet the needs of a wide variety of applications, offering the largest working range possible on the largest variety of bar codes.

DS457-HD: Optimized for comprehensive 2-D bar code capture. We took the DS457-SR Standard Range model and optimized the focus functionality to accommodate the very tiny and dense 2-D bar codes frequently found in manufacturing. Electronic manufacturers can ensure the right part is used at the right time on the production line. And pharmaceutical manufacturers can track product as it is produced and packaged to meet track and trace regulations.

DS457-DL: Combination 1-D and 2-D bar code scanning plus driver's license parsing. We added driver's license parsing to the DS457-SR Standard Range model to enable the instant decoding of the bar coded information on any state driver's license in the U.S. as well as other national ID documents to support a wide variety of value-added applications. At the retail POS, the DS457-DL allows effortless auto-population of credit and loyalty cards, as well as easy and error-proof age verification.

DS457-DP: Comprehensive support for 1-D and 2-D bar codes plus direct part marks. This powerful model starts with the high-density scanning capability of the DS457-HD, and adds new algorithms that ensure easy reading of anydirect part marks. Workers can easily capture even the most challenging direct part marks, including low-contrast marks printed on black plastic, black rubber, steel and cast-iron.

WORLD CLASS SUPPORT FOR MAXIMUM UPTIME
For true service peace of mind, our Service from the Start Advance Exchange Support program offers next-business-day device replacement to keep your DS457 imagers up and running. And since built-in Comprehensive Coverage includes normal wear and tear as well as accidental damage to internal and external components, unforeseen repair expenses are practically eliminated. The result is an extraordinary lifecycle, extraordinary uptime — and a truly outstanding ROI.

Put the Zebra DS457 to work in your organization today.

For more information, please visit us on the web at www.zebra.com/ds457 or access our global contact directory at www.zebra.com/contact

SPECIFICATIONS CHART

PHYSICAL CHARACTERISTICS	
Dimensions	1.15 in. H x 2.3 in. L x 2.44 in. W 2.92 cm H x 5.84 cm L x 6.2 cm W
Weight	3.9 oz./111 g
Power	Maximum: 5 VDC +/- 10% @ 450 mA
Models	DS457SR: 1-D and 2-D bar codes DS457HD: 1-D and 2-D bar codes, including high density codes DS457DL: 1-D and 2-D bar codes plus parsing of codes found on driver's licenses and other identification documents

USER ENVIRONMENT	
Operating Temp.	-4° to 122° F /-20° to 50° C* (NOTE: Laser aimer disabled above 113° F /45° C)
Storage Temp.	-40° to 158° F /-40° to 70° C
Humidity	Operating: 95% RH, non-condensing at 50°C Storage: 85% RH, non-condensing at 70°C
Sealing	IP54
Drop Specification	Withstands multiple 30 in./176 cm drops to concrete

Delivers extraordinary scanning speed on all bar codes; increases throughput and productivity

Tiny footprint
Fits almost anywhere; enables 'invisible' under the counter installation

Sleek design
Suitable for design conscious retail stores and other customer-facing areas

Mounting accessories
Easily mount wherever needed — on cash registers, under counters and more

Omni-directional scanning
No need to align bar code and scanner; improves ergonimics and user comfort

Unique aiming pattern
Bright central dot ensures quick, accurate scanning — even in bright sunlight

Scan trigger
Can be used in either presentation mode for hands-free scanning or on-demand scanning via integrated scan trigger

Supports 123Scan² configuration tool
Enables rapid and easy customized set-up through a free, wizard-based PC software tool

Compatible with SSI and SNAPI command interfaces
Expands application flexibility with fast, simple communication plus support for advanced features between imager and host

Optional software developer kit (SDK)
Provides familiar Microsoft® Windows 2000 and XP platform support for rapid development of applications that integrate easily into the customer environment

	DS457DP: 1-D and 2-D bar codes plus direct part marks

PERFORMANCE CHARACTERISTICS

Sensor Resolution	752 (H) x 480 (V) gray scale
Imager Field of View	DS457 SR and DL: 39.6° horizontal, 25.7° vertical DS457 HD and DP: 38.4° horizontal, 24.9° vertical
Aiming Element	655 ± 10 nm (VLD)
Illumination Element	625 ± 5 nm (LED)
Minimum Print Contrast	Minimum 25% absolute dark/light reflectance

SYMBOLOGY DECODE CAPABILITY

1-D	All major 1-D bar codes
2-D	PDF417, DataMatrix, QR Code, Aztec, Composite Codes and MaxiCode
Postal	US Postnet, US Planet, UK Postal, Australian Postal, Japan Postal

Ambient Light	Total darkness to 9000 ft. candles (96,900 Lux)
Programmable Parameters	Power mode, trigger mode, beeper tone, session time, camera control, image control, advanced data formatting, document capture, signature capture
Image File Formats	BMP, TIFF, JPG

INTERFACES

Interfaces Supported	9-pin male D-sub - USB (full speed) and TTL level RS232 with RTS and CTS

REGULATORY

Electrical Safety	ETL, VDE, CETL, EN60950, Ctick, VCCI
Laser Classification	Intended for use in CDRH Class II/ IEC 825 Class I devices
EMI/RFI	FCC Part 15 Class B, ICES-003 Class B, CISPR22 Class B
Environmental	RoHS compliant

WARRANTY

Subject to the terms of Zebra's hardware warranty statement, the DS457 is warranted against defects in workmanship and materials for a period of 3 years from the date of shipment. For the complete Zebra hardware product warranty statement, go to: http://www.zebra.com /warranty

RECOMMENDED SERVICES

Customer Services	Service from the Start Advance Exchange Support

* See integration guide

MARKETS AND APPLICATIONS

Retail

POS, ID verification, mobile coupons and loyalty card scanning, auto-fill of credit and loyalty card applications

Manufacturing

Error proofing on clean conveyors in electronic manufacturing, track and trace in pharmaceutical manufacturing

Travel and Transportation

Scanning of mobile and paper-based boarding passes and tickets at airports, train stations and bus terminals

Security

Access control at border crossings, military bases and more

OEM

Integrate into a broad range of devices, from self-service kiosks to medical instruments

DS457 SERIES DECODE ZONE (TYPICAL)

Depth of Field

Label Density/Paper Label	DS457-SR / DS457-DL		DS457-HD / DS457-DP	
	English	Metric	English	Metric
Code 39 - 3 mil	Not Tested	Not Tested	1.2" - 4.8"	3.0 - 12.2 cm
Code 39 - 5 mil	1.3" - 8.1"	3.3 - 20.6 cm	1.1" - 5.7"	2.8 - 14.5 cm
Code 39 - 20 mil	1.8" - 16.5"	4.6 - 41.9 cm	1.9" - 9.7"	4.8 - 24.6 cm

UPC - 13 mil	1.5" - 15.3"	3.8 - 38.9 cm	1.7" - 8.3"	4.3 - 21.1 cm
Datamatrix - 4 mil	Not Tested	Not Tested	1.6" - 3.0"	4.1 - 7.6 cm
Datamatrix - 5 mil	Not Tested	Not Tested	1.4" - 3.7"	3.6 - 9.4 cm
Datamatrix - 7.5 mil	2.0" - 6.0"	5.1 - 15.2 cm	1.2" - 4.4"	3.0 - 11.2 cm
Datamatrix - 10 mil	1.5" - 8.4"	3.8 - 21.3 cm	Not Tested	Not Tested
Datamatrix - 15 mil	1.6" - 10.9"	4.1 - 27.7 cm	Not Tested	Not Tested
QR Code - 5 mil	Not Tested	Not Tested	1.5" - 3.1"	3.8 - 7.9 cm
QR Code - 7.5 mil	2.1" - 5.1"	5.3 - 13.0 cm	1.1" - 4.0"	2.8 - 10.2 cm
QR Code - 10 mil	1.5" - 7.0"	3.8 - 17.8 cm	1.1" - 4.6"	2.8 - 11.7 cm
PDF417 - 4 mil	Not Tested	Not Tested	1.4" - 3.8"	3.6 - 9.7 cm
PDF417 - 6.67 mil	1.8" - 7.1"	4.6 - 18.0 cm	1.0" - 4.8"	2.5 - 12.2 cm
PDF417 - 10 mil	1.2" - 10.2"	3.0 - 25.9 cm	Not Tested	Not Tested
PDF417 - 15 mil	1.5" - 13.0"	3.8 - 33.0 cm	Not Tested	Not Tested

Far end ranges will be reduced in motion enhancement modes.

ZEBRA

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ZEBRA TECHNOLOGIES

42. Appendix AF: Acronyms

Acronym	Description
AC	Alternating Current
AIT	Automatic Identification Technology
AMIS	Automated Movement and Identification Solutions
BRI	Basic Radio Interface
CAC	Common Access Card
CASE	Computer Aided Software Engineering
CD-ROM	Compact Disc – Read Only Memory
CONUS	Contiguous United States
COTS	Commercial Off-The-Shelf
CLIN	Contract Line Item Number
DC	Direct Current
DCN	Document Control Number
DRMO	Defense Reutilization and Marketing Office
DFARS	Defense Federal Acquisition Regulation Supplement
EDI	Electronic Data Interchange
EDM	Edge Device Manager
EMC	Edge Management Console
EPM	Edge Process Manager
ETSI	European Telecommunications Standards Institute
EWE	Event Workflow Editor
FCC	Federal Communications Commission
FFP	Firm Fixed Price
GB	Giga Byte
GPIO	General Purpose Input Output
GPS	Global Positioning Satellite
GUI	Graphical User Interface
HHR	Handheld Reader
HHT	Handheld Terminal

Acronym	Description
ID	Identification
IDIQ	Indefinite Delivery Indefinite Quantity
IDEF	Integration Definition
ISD	Instructional Systems Development
IT	Information Technology
LAN	Local Area Network
LLRP	Low Level Reader Protocol
NATO	North Atlantic Treaty Organization
NEMA	National Electronics Manufacturers Association
NI	Non-Incendive
OCONUS	Outside Contiguous United States
ODC	Other Direct Cost
OEM	Original Equipment Manufacturer
OS	Operating System
POC	Point of Contact
pRFID	passive Radio Frequency Identification
RF	Radio Frequency
RMA	Return Materiel Authorization
ROI	Return On Investment
SLIN	Sub Line Item Number
SDK	Software Development Kit
SW	Software
TES	Technical Engineering Services
UHF	Ultra-High Frequency
UID	Unique Identification
UPS	United Parcel Service
US	United States
USB	Universal Serial Bus
VA	Virginia
VDE	Virtual Device Emulator