



# Development Kit User Guide

## AirPrime AR and WP Series



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# 1. Overview

This document describes the AirPrime AR and WP Series Development Kit and how it integrates with embedded modules from either AirPrime AR or WP series mounted on specific socket boards equipped with mechanical sockets. This document describes the different interface and peripheral connections supported by the Development Kit, and it provides schematics to facilitate the user's understanding and configuration of the development kit board for their own application use.

The AirPrime AR and WP Series Development Kit may be used to develop both software and hardware applications based on embedded modules from the AirPrime AR or WP series. Available modules from the AirPrime AR and WP series are:

- AirPrime AR Series:
  - AR6220x (AR6220 with and without GNSS enabled variants)
  - AR7550
  - AR7552
  - AR7554
  - AR7556 (future variant)
  - AR7558 (future variant)
- AirPrime WP Series:
  - WP7100-G
  - WP7102-G
  - WP7104-G

For more information about the AirPrime AR or WP series embedded modules and the Open AT Application Framework; refer to the documents listed in section 7 Reference Documents.

Unless otherwise specified, all information in this user guide is applicable to AirPrime AR and WP series embedded modules. Product images used throughout the document are for reference only; actual parts may vary slightly.

## 2. General Description

This section gives a brief overview of the AirPrime AR and WP Series Development Kit and briefly describes the interfaces and special jumper pads available, and lists all available test points on the development kit board.

### 2.1. RoHS Compliance

The AirPrime AR and WP Series Development Kit board is compliant with RoHS (Restriction of Hazardous Substances in Electrical and Electronic Equipment) Directive 2011/65/EU which sets limits for the use of certain restricted hazardous substances. This directive states that “from 1st July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE)”.

The AirPrime AR and WP series embedded modules are also compliant with this directive.

### 2.2. AirPrime Development Kit

The AirPrime AR and WP Series Development Kit is used to allow users to create and define applications using the AirPrime AR or WP series embedded module.

#### 2.2.1. Top View

The development kit version number is printed on the upper right-hand corner of the board.

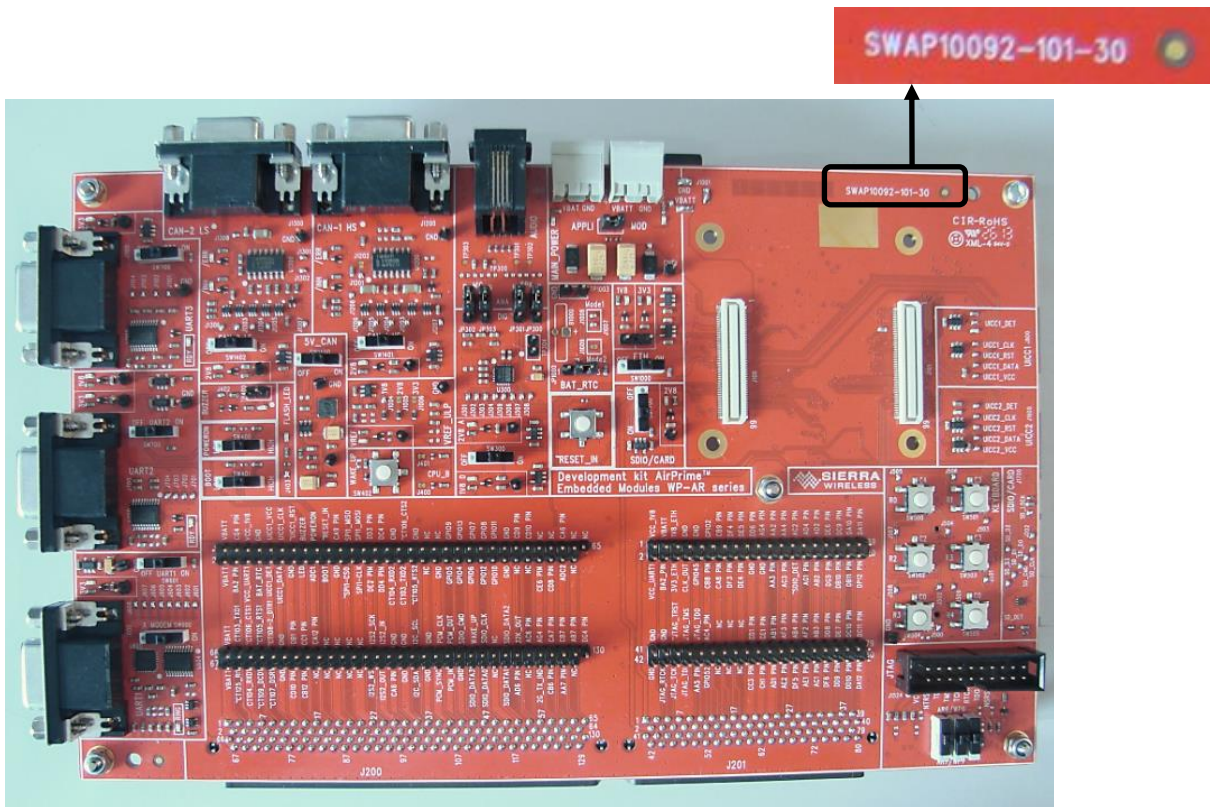


Figure 1. AirPrime AR and WP Series Development Kit (Top View)

## 2.2.2. Bottom View

The J200 and J201 connectors can be used as a daughter board interface when implementing applications with the AirPrime AR and WP series embedded module. Refer to section 2.7 Available Test Ports on the AirPrime AR and WP Series Development Kit for more information about the external board connector pin assignments.

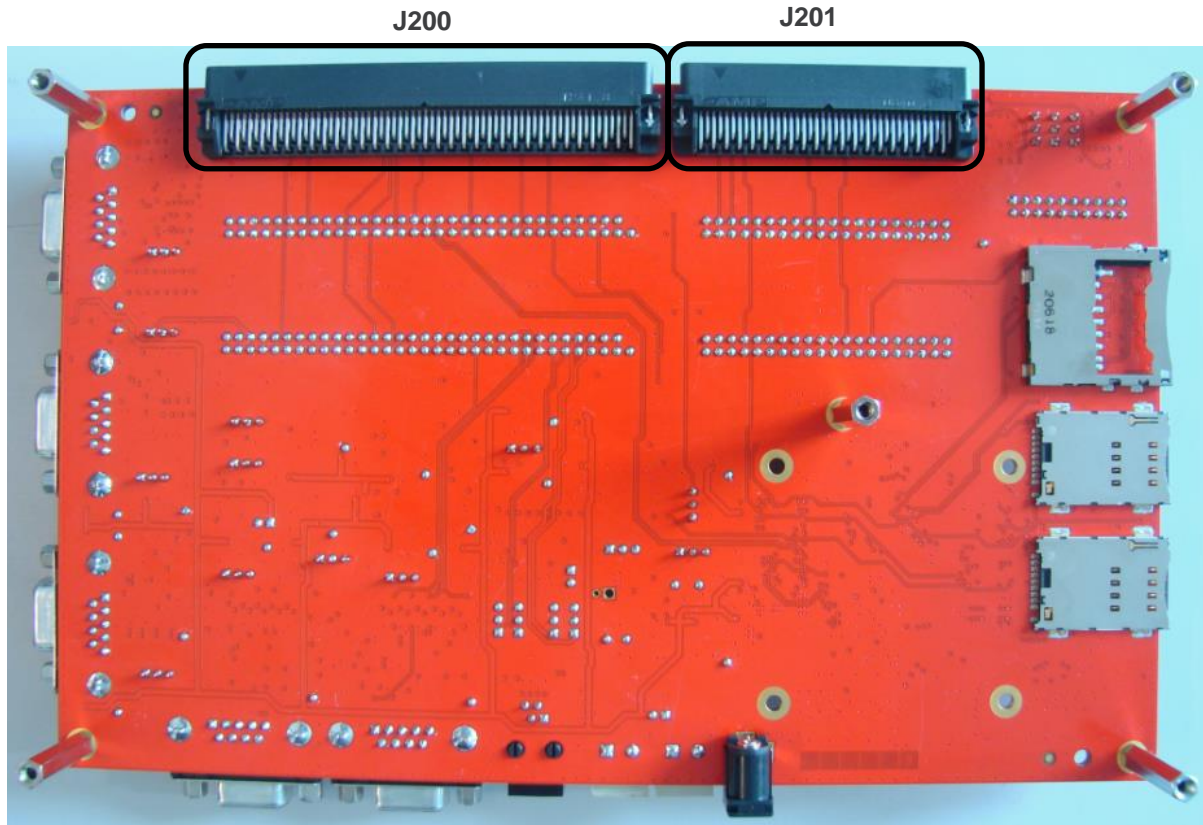


Figure 2. AirPrime AR and WP Series Development Kit (Bottom View)

## 2.3. Socket Board

The socket board is used to interface the AirPrime AR and WP series embedded module with the AirPrime AR and WP Series Development Kit. There are currently two socket boards available:

- AR6 Socket Board
- AR7 and WP7 Socket Board

Each socket board is specific to an AirPrime series; that is, the AR6 socket board supports AR6 module variants, the AR7 and WP7 Socket Board supports AR7 and WP7 module variants. Only compatible modules should be used on the socket boards.

Refer to section 9 Appendix for schematic diagrams of the Development Kit and available socket boards.

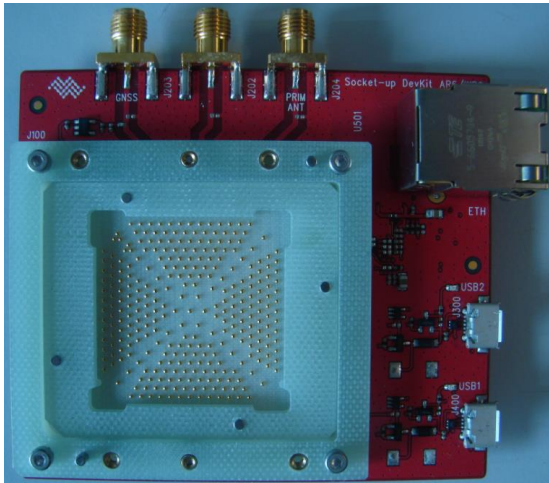


Figure 3. AirPrime AR6 Socket Board (Top View)

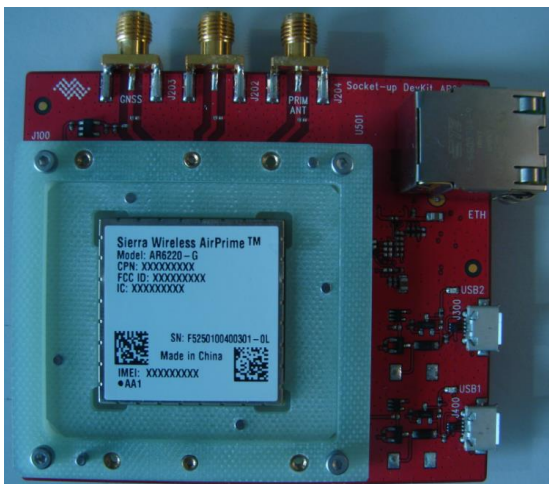


Figure 4. AirPrime AR6 Socket Board with Module (Top View)

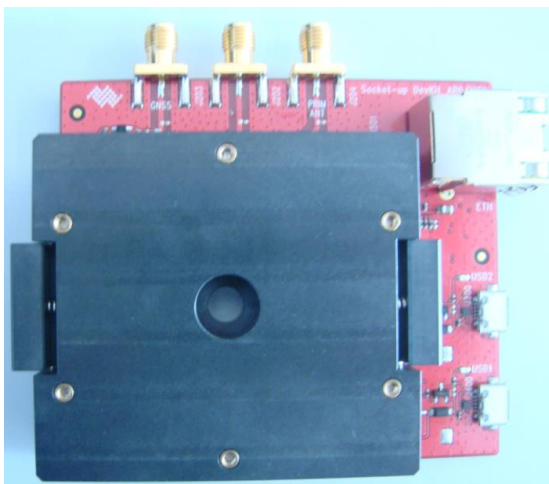


Figure 5. AirPrime AR6 Socket Board with Cover (Top View)

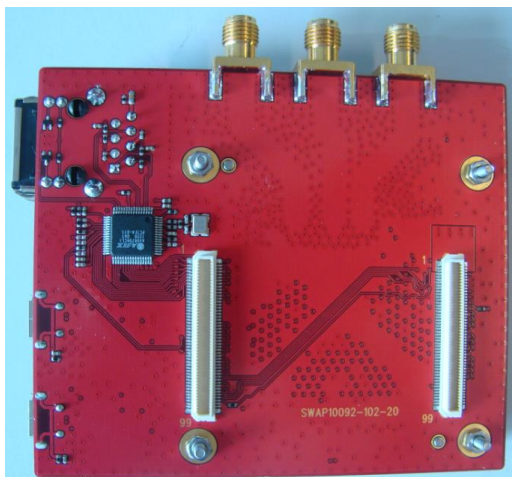


Figure 6. AirPrime AR6 Socket Board with Cover (Bottom View)

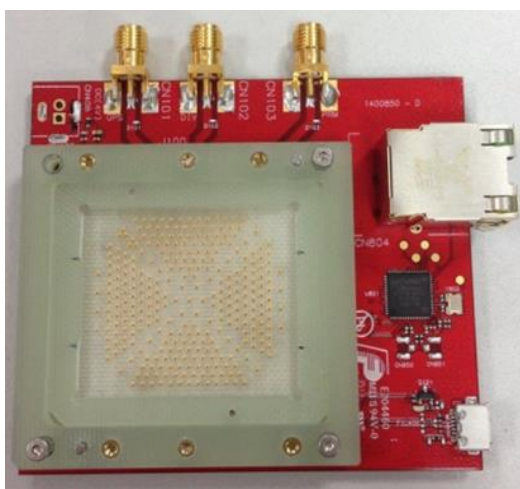


Figure 7. AirPrime AR7 and WP7 Socket Board (Top View)



Figure 8. AirPrime AR7 and WP7 Socket Board with Module (Top View)

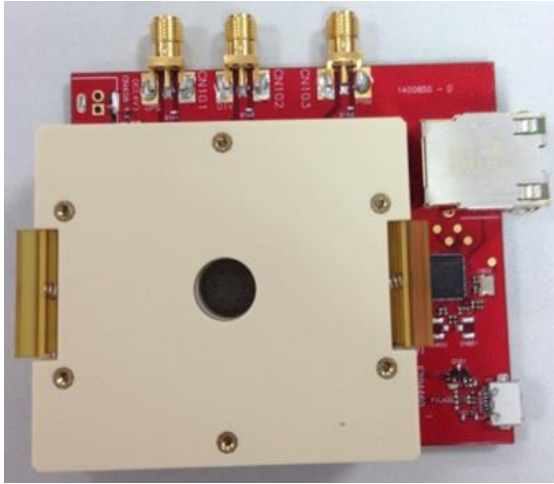


Figure 9. AirPrime AR7 and WP7 Socket Board with Cover (Top View)

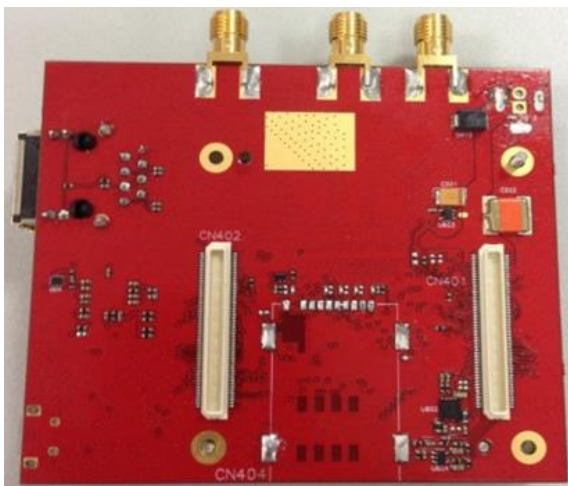


Figure 10. AirPrime AR7 and WP7 Socket Board with Cover (Bottom View)

## 2.4. Special Soldering for Jumper Pads

PCB jumper prints are used to electrically connect or disconnect peripherals between the AirPrime embedded module and the AirPrime AR and WP Series Development Kit.

To connect signals between the socket board and the external daughter board connectors (J200 and J201), it is recommended to NOT solder the PCB prints.



Figure 11. Jumper Solder Pad



The following table enumerates the jumper pads available on the AirPrime AR and WP Series Development Kit. Embedded module interfaces (and signals) could be electrically removed by dissociating their corresponding PCB jumper prints.

Table 1. Jumper Solder Pin Description

REFDES	Function	Description	Default Status
J1004	VREF_ULP	1.8V	SHORT
J1005	VREF_ULP	2.8V	OPEN
J1006	VREF_ULP	3.3V	OPEN
J1007	BAT_RTC	MODE1	SHORT
J1008	BAT_RTC	MODE1	SHORT
J1009	BAT_RTC	MODE2	OPEN
J1101	UART3 (VREF_ULP)	CT103-RXD3	SHORT
J1102	UART3 (VREF_ULP)	CT106-CTS3	SHORT
J1103	UART3 (VREF_ULP)	CT104-TXD3	SHORT
J1104	UART3 (VREF_ULP)	CT105-RTS3	SHORT
J1201	CAN1 (HS)	CAN1_TX	SHORT
J1202	CAN1 (HS)	CAN1_RX	SHORT
J1203	CAN1 (HS)	GPIO9 (/ERR_TJA1041)	SHORT
J1204	CAN1 (HS)	GPIO10 (/STB_TJA1041)	SHORT
J1205	CAN1 (HS)	GPIO11 (EN_TJA1041)	SHORT
J1206	CAN1 (HS)	GPIO12 (WAKE_TJA1041)	SHORT
J1207	CAN1 (HS)	5V_CAN (BAT_CAN_HS)	SHORT
J1301	CAN2 (LS)	CAN2_TX	SHORT
J1302	CAN2 (LS)	CAN2_RX	SHORT
J1303	CAN2 (LS)	GPIO4 (/ERR_TJA1055-3)	SHORT
J1304	CAN2 (LS)	GPIO5 (/STB_TJA1055-3)	SHORT
J1305	CAN2 (LS)	GPIO6 (EN_TJA1055-3)	SHORT
J1306	CAN2 (LS)	GPIO7 (/WAKE_TJA1055-3)	SHORT
J1307	CAN2 (LS)	5V_CAN (BAT_CAN_LS)	SHORT
J1601	UICC2	SIM2_VCC	SHORT
J1602	UICC2	SIM2_CLK	SHORT
J1603	UICC2	SIM2_DATA	SHORT
J1604	UICC2	SIM2_RST	SHORT
J1605	UICC2	SIM2_PRES	SHORT
J1701	SDIO	SDIO_DATA2	SHORT
J1702	SDIO	SDIO_DATA1	SHORT
J1703	SDIO	SDIO_DATA0	SHORT
J1704	SDIO	SDIO_CLK	SHORT
J1705	SDIO	SDIO_CMD	SHORT
J1706	SDIO	SDIO_DATA3	SHORT
J1707	SDIO	GPIO8 (SDIO_CARD_PROTECT)	SHORT
J1708	SDIO	GPIO59 (SDIO_CARD_DETECT)	SHORT
J1800	UICC1	SIM1_VCC	SHORT
J1801	UICC1	SIM1_CLK	SHORT
J1802	UICC1	SIM1_DATA	SHORT
J1803	UICC1	SIM1_RST	SHORT
J1804	UICC1	SIM1_PRES	SHORT
J301	AUDIO CODEC	PCM_OUT (ADCDAT)	SHORT

REFDES	Function	Description	Default Status
J302	AUDIO CODEC	PCM_IN (DACDAT)	SHORT
J303	AUDIO CODEC	PCM_SYMC (FRAME)	SHORT
J304	AUDIO CODEC	PCM_CLK( BCLK)	SHORT
J306	AUDIO CODEC	SPI1_CS0	SHORT
J307	AUDIO CODEC	SPI1_CLK	SHORT
J308	AUDIO CODEC	SPI1_MOSI	SHORT
J309	AUDIO CODEC	I2S_MCLK (MCLK)	SHORT
J400	32K/SYSTEM	32K_OUT/CPU_BOOT1	OPEN
J401	SYSTEM	CPU_BOOT0	OPEN
J402	BUZZER	BUZ_OUT	SHORT
J403	LED	LED_OUT	SHORT
J500	KEYBOARD	KEY_COL0>GPIO4	SHORT
J501	KEYBOARD	KEY_COL1>GPIO5	SHORT
J502	KEYBOARD	KEY_COL2>GPIO6	SHORT
J503	KEYBOARD	KEY_COL3>GPIO7	SHORT
J504	KEYBOARD	KEY_COL4>GPIO8	SHORT
J505	KEYBOARD	KEY_ROW0>GPIO9	SHORT
J506	KEYBOARD	KEY_ROW1>GPIO10	SHORT
J507	KEYBOARD	KEY_ROW2>GPIO11	SHORT
J508	KEYBOARD	KEY_ROW3>GPIO12	SHORT
J509	KEYBOARD	KEY_ROW4>GPIO13	SHORT
J601	UART1	CT104_RXD1	SHORT
J602	UART1	CT107_DSR1	SHORT
J603	UART1	CT106_CTS1	SHORT
J604	UART1	CT109_DCD1	SHORT
J605	UART1	CT125_RI1	SHORT
J606	UART1	CT103_TXD1	SHORT
J607	UART1	CT105_RTS1	SHORT
J608	UART1	CT108_2_DTR1	SHORT
J701	UART2	CT104_RXD2	SHORT
J702	UART2	CT106_CTS2	SHORT
J703	UART2	CT103_TXD2	SHORT
J704	UART2	CT105_RTS2	SHORT







## 2.5. Default Soldering Configuration for Jumpers

Refer to the following figure for default soldering configuration for jumpers. Note that there are two types of jumpers available on the AirPrime AR and WP Series Development Kit – solder jumpers (needs solder), and jumpers (no solder). Solder jumpers are marked with  while no-solder jumpers are marked with  in the following figure. There are a total of 75 solder jumpers on the development kit, and 6 no-solder jumpers.



Refer to the following diagrams for the correct position of jumpers JUMP300, JUMP301, JUMP302, JUMP303, JUMP1000, JUMP1001; test point TP1001; and multi-test points JP1000, JP300, JP301, JP302, and JP303.

**Table 2. Jumper Positions**

Jumper	Test Point	Position	Diagram
JUMP300	JP300	Position 1-2	
JUMP301	JP301	Position 1-2	
JUMP302	JP302	Position 1-2	
JUMP303	JP303	Position 1-2	
JUMP1000	JP1000	Position 2-3	
JUMP1001	TP1001	Position 1-2	

## 2.6. Interfaces

Interfaces available on the AirPrime AR and WP Series Development Kit and on the AirPrime AR/WP Socket Boards which are supported on each AirPrime AR and WP series embedded module variant are listed in the tables below.

*Note: Module support listed below is for general information only and may vary depending on software availability. Interface behavior may also vary from one module to another. Refer to the specific module's corresponding Product Technical Specification (listed in section 7 Reference Documents) for exact and up to date interface support and behavior information. Should there be any discrepancies between the data presented in this document and those presented in the product technical specification, information on the product technical specification takes precedence.*

**Table 3. Interfaces Available on the AirPrime AR and WP Series Development Kit**

Interface	AR6xxx	AR7xxx	WP710x-G
External board to board connector and test point (TP) to access all signals for the adaptor board	✓	✓	✓
Serial link RS232, UART1 with full signals <sup>a</sup>	✓	✓	✓
Ring Indicator	✓	✓	✓
Serial link RS232, UART2 with four signals <sup>a, b</sup>	✓	✓	✓
Serial link RS232, UART3 with four signals <sup>a</sup>	✓	✗	✗
UICC1 <sup>a</sup>	✓	✓	✓
UICC2 <sup>a</sup>	✗	✓	✗
1 Audio connector	✓	✓	✗
1 Audio Codec PCM <sup>a</sup>	✗	✓	✓
LEDs for several indications	✓	✓	✓
Power supply connectors	✓	✓	✓
~RESET_IN pushbutton	✓	✓	✓
WAKE_UP pushbutton	✓	✓	✓
Power ON switch	✓	✓	✓
BOOT switch	✓	✓	✓
Buzzer <sup>a</sup> LED	✓	✗	✓
Flash <sup>a</sup> LED	✓	✓	✓

Interface	AR6xxx	AR7xxx	WP710x-G
Serial link CAN1 High speed <sup>a</sup>	✓	✗	✗
Serial link CAN2 Low speed <sup>a</sup>	✓	✗	✗
SDIO connector <sup>a</sup>	✗	✓	✓
Keyboard <sup>a</sup>	✓	✗	✗
JTAG	✗	✓	✓

a These signals from the connector side can be electrically disconnected from the AirPrime AR or WP embedded module if the related jumper pads are dissociated. Refer to section 2.4 Special Soldering for Jumper Pads for more information regarding jumper pads.

b UART2 is not available on AR6 and AR7 variants with embedded GNSS support.

Table 4. Interfaces Available on the AirPrime AR/WP Socket Board

Interface	AR6xxx	AR7xxx	WP710x-G
USB1*, USB 2.0 compliant (full speed device)	✓	✓	✓
USB2*, USB 2.0 compliant (full speed device)	✗	✗	✗
Ethernet 10/100 base T through Parallel interface	✗	✗	✓
Power supply connectors	✗	✓	✓
UICC1*	✗	✓	✓
JTAG	✗	✓	✓

\* These signals from the connector side can be electrically disconnected from the AirPrime AR or WP embedded module if the related jumper pads are dissociated. Refer to section 2.4 Special Soldering for Jumper Pads for more information regarding jumper pads.

## 2.7. Available Test Ports on the AirPrime AR and WP Series Development Kit

There are a total of 210 test ports available in the AirPrime AR and WP Series Development Kit. The following figure shows the location of these test ports and the table below lists their corresponding pin assignments.

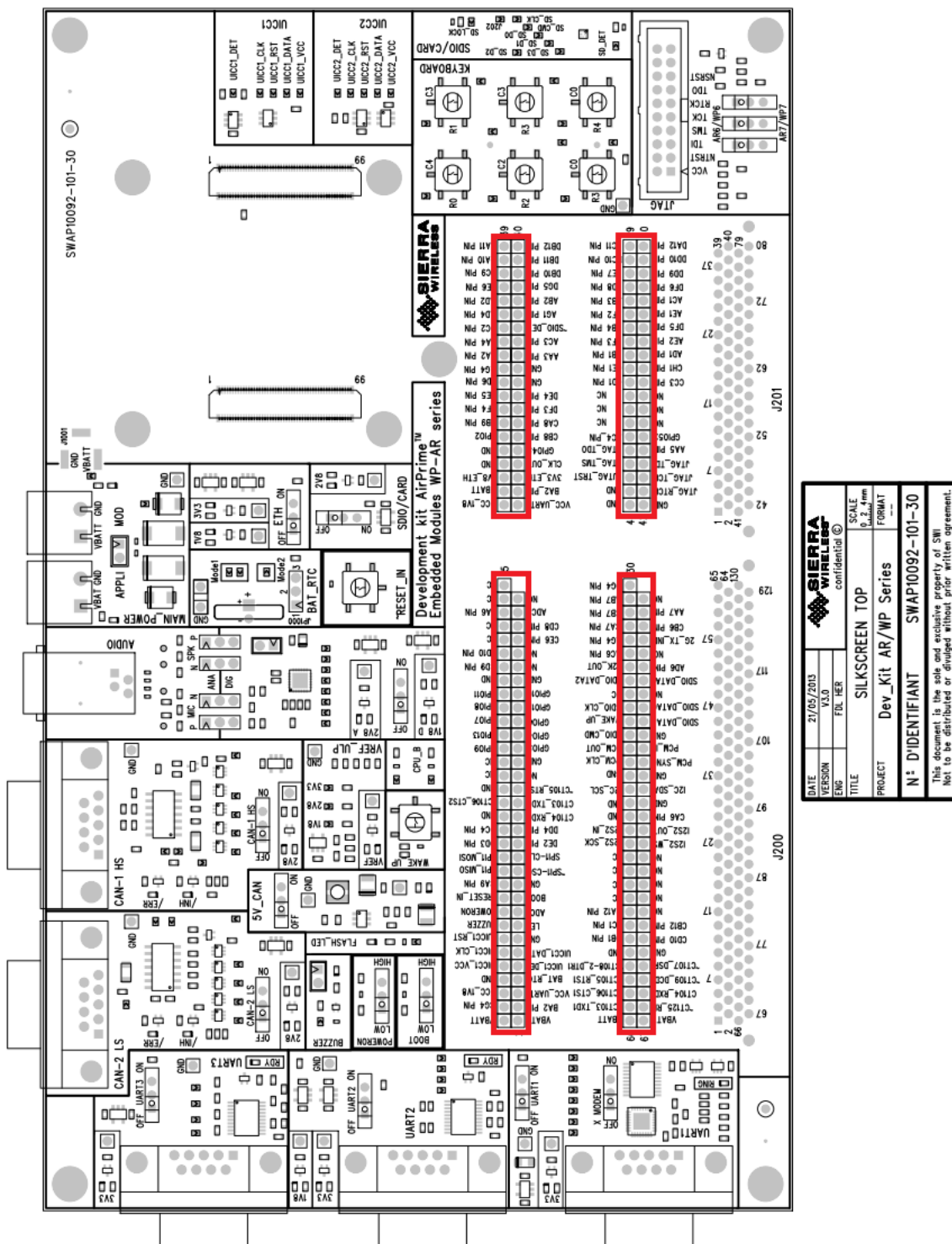


Figure 13. Test Ports Available on the AirPrime AR and WP Series Development Kit

Table 5. AirPrime AR and WP Series Development Kit Test Ports from J200

LGA #	Silkscreen	WP7 Pin Assignment	AR7 Pin Assignment	AR6 Pin Assignment	TP #	TP #	AR6 Pin Assignment	AR7 Pin Assignment	WP7 Pin Assignment	Silkscreen	LGA #
CA4	NC	NC	USB_VBUS_EN	NC	65	130	ADC_8	NC	NC	DG4 pin	
	NC	NC	NC	NC	64	129	NC	NC	NC	NC	
	NC	NC	NC	NC	63	128	CAN1_TX>GPIO50	NC	NC	AB7 pin	AB7
DF2	ADC2	ADC2	ADC2	ADC_2	62	127	CAN1_RX>GPIO46	NC	NC	AA7 pin	AA7
	CA6 pin	NC	NC	CT106-CTS3>GPIO49	61	126	CT105-RTS3>GPIO0	NC	NC	CB7 pin	CB7
CD8	CD8 pin	NC	NC	SPK1N	60	125	CT104-RXD3>TIMER_IN0>GPIO47	NC	NC	CB6 pin	CB6
	NC	NC	NC	NC	59	124	CT103-TXD3>TIMER_IN1>GPIO48	NC	NC	CA7 pin	CA7
CE6	CE6 pin	NC	AUDIO_OUT_P	SPK1P	58	123	TXBURST>GPIO44	2G_SYNCH	2G_TX_IND	2G_TX_IND	AH1
	NC	NC	NC	NC	57	122	TP_NRSTOUT	NC	NC	AG4 pin	
	NC	NC	NC	NC	56	121	NC	NC	NC	NC	
CC10	CC10 pin	NC	AUDIO_IN_M	MIC1N	55	120	CAN2_RX>GPIO51	NC	NC	AC6 pin	AC6
	NC	NC	NC	NC	54	119	CAN2_TX>GPIO19	NC	NC	AD6 pin	AD6
CD9	CD9 pin	NC	AUDIO_IN_P	MIC1P	53	118	32K_OUT>CPU_BOOT1	SLEEP_CLK	SLEEP_CLK	32K_OUT	CC5
	GND	GND	GND	GND	52	117	SDIO_DATA1>GPIO25	SDIO_DATA1	SDIO_DATA1	SDIO_DATA1	AA10
	GND	GND	GND	GND	51	116	SDIO_DATA2>GPIO21	SDIO_DATA2	SDIO_DATA2	SDIO_DATA2	AB9
CC7	GPIO10	GPIO10	GPIO5_EXT	KEY_ROW1>GPIO10	50	115	NC	NC	NC	NC	
CC8	GPIO11	GPIO11	GPIO6_EXT	KEY_ROW2>GPIO11	49	114	NC	NC	NC	NC	

LGA #	Silkscreen	WP7 Pin Assignment	AR7 Pin Assignment	AR6 Pin Assignment	TP #	TP #	AR6 Pin Assignment	AR7 Pin Assignment	WP7 Pin Assignment	Silkscreen	LGA #
CA11	GPIO12	GPIO12	GPIO2_EXT	KEY_ROW3>GPIO12	48	113	SDIO_DATA0>GPIO22	SDIO_DATA0	SDIO_DATA0	SDIO_DATA0	AA11
CB10	GPIO8	GPIO8	GPIO3_EXT	KEY_COL4>GPIO8	47	112	SDIO_CLK>TIMER_IN4>GPIO23	SDIO_CLK	SDIO_CLK	SDIO_CLK	AA9
CC9	GPIO6	GPIO6	GPIO7_EXT	KEY_COL2>GPIO6	46	111	SDIO_DATA3>GPIO20	SDIO_DATA3	SDIO_DATA3	SDIO_DATA3	AB10
CB11	GPIO7	GPIO7	GPIO4_EXT	KEY_COL3>GPIO7	45	110	WAKE_UP>GPIO3	WAKE_N	WAKE_UP	WAKE_UP	DH2
CF5	GPIO4	GPIO4/SDCARD_PWR_ON	GPIO10_EXT	KEY_COL0>GPIO4	44	109	GND	GND	GND	GND	
CA10	GPIO13	GPIO13	GPIO1_EXT	KEY_ROW4>GPIO13	43	108	SDIO_CMD>TIMER_IN5>GPIO24	SDIO_CMD	SDIO_CMD	SDIO_CMD	AB8
CD7	GPIO5	GPIO5	GPIO8_EXT	KEY_COL1>GPIO5	42	107	PCM_IN>GPIO92	PCM_IN/I2S1_IN	PCM_IN/I2S1_IN	PCM_IN	DD2
CE5	GPIO9	GPIO9	GPIO9_EXT	KEY_ROW0>GPIO9	41	106	PCM_OUT>GPIO93	PCM_OUT/I2S1_OUT	PCM_OUT/I2S1_OUT	PCM_OUT	DC2
	GND	GND	GND	GND	40	105	PCM_SYMC>GPIO94	PCM_SYNC/I2S1_WS	PCM_SYNC/I2S1_WS	PCM_SYNC	DB3
	NC	NC	NC	NC	39	104	PCM_CLK>GPIO91	PCM_CLK/I2S1_SCK	PCM_CLK/I2S1_SCK	PCM_CLK	DA3
	NC	NC	NC	NC	38	103	GND	GND	GND	GND	
	NC	NC	NC	NC	37	102	GND	GND	GND	GND	
DD1	~CT105_RTS2	CT105_RTS2	NC	CT105_RTS2>GPIO17	36	101	I2C1_SDA>GPIO27	I2C_SDA	I2C_SDA	I2C_SDA	CD6
	GND	GND	GND	GND	35	100	I2C1_SCL>GPIO26	I2C_SCL	I2C_SCL	I2C_SCL	CC6
DA2	CT103_TXD2	CT103_TXD2	CT103_TXD2	CT103_TXD2>GPIO14	34	99	GND	GND	GND	GND	
DC1	~CT106_CTS2	CT106_CTS2	NC	CT106_CTS2>GPIO16	33	98	GND	GND	GND	GND	
DB2	CT104_RXD2	CT104_RXD2	CT104_RXD2	CT104_RXD2>GPIO15	32	97	NC	I2S_MCLK	I2S_MCLK	CA6 pin	
	GND	GND	GND	GND	31	96	GND	GND	GND	GND	

LGA #	Silkscreen	WP7 Pin Assignment	AR7 Pin Assignment	AR6 Pin Assignment	TP #	TP #	AR6 Pin Assignment	AR7 Pin Assignment	WP7 Pin Assignment	Silkscreen	LGA #
DD4	DD4 pin	NC	NC	SPI2_MOSI>GPIO33	30	95	I2S2_SDO>TIMER_IN3>GPIO96	NC	I2S2_OUT	I2S2_OUT	CB5
DC4	DC4 pin	NC	NC	SPI2_MISO>GPIO34	29	94	I2S2_SDI>TIMER_IN2>GPIO95	NC	I2S2_IN	I2S2_IN	CA5
DE2	DE2 pin	NC	NC	SPI2_CS0>GPIO35	28	93	I2S2_WS>GPIO98	NC	I2S2_WS	I2S2_WS	CC4
DD3	DD3 pin	NC	NC	SPI2_CLK>GPIO32	27	92	I2S2_SCK>GPIO97	NC	I2S2_SCK	I2S2_SCK	CB4
CE4	SPI1_CLK	SPI1_CLK	SPI1_CLK	SPI1_CLK>GPIO28	26	91	NC	NC	NC	NC	
CD4	SPI1_MOSI	SPI1_MOSI	SPI1_MOSI	SPI1_MOSI>GPIO29	25	90	NC	NC	NC	NC	
CD5	~SPI1_CS0	~SPI1_CS0	SPI1_CS0	SPI1_CS0>GPIO31	24	89	NC	NC	NC	NC	
CE3	SPI1_MISO	SPI1_MISO	SPI1_MISO	SPI1_MISO>GPIO30	23	88	NC	NC	NC	NC	
	GND	GND	GND	GND	22	87	NC	NC	NC	NC	
CA9	CA9 pin	NC	NC	ADC_9	21	86	NC	NC	NC	NC	
AG5	BOOT	SERVICE	SERVICE	BOOT	20	85	NC	NC	NC	NC	
AH2	~RESET_IN	~RESET_IN	RESIN_N	/RESET	19	84	NC	NC	NC	NC	
DE3	ADC1	ADC1	ADC1	ADC_1	18	83	NC	NC	NC	NC	
BB1	POWER_ON	POWER_ON_OFF	ON/OFF	ON_OFF	17	82	SIM2_VCC	NC	NC	CA12 pin	CA12
AA6	LED	LED	LED	LED_OUT	16	81	SIM2_DATA	NC	NC	CB12 pin	CB12
AD10	BUZZER	BUZZER	NC	BUZ_OUT	15	80	SIM2_RST	NC	NC	CC1 pin	CC1
	GND	GND	GND	GND	14	79	SIM2_PRES>GPIO99	NC	NC	CD10 pin	CD10
DC3	~UICC1_RST	~UICC1_RST	UIM_RST	SIM1_RST	13	78	SIM2_CLK	NC	NC	DB1 pin	DB1
DA4	UICC1_DATA	UICC1_DATA	UIM_DATA	SIM1_DATA	12	77	GND	GND	GND	GND	
DE1	UICC1_CLK	UICC1_CLK	UIM_CLK	SIM1_CLK	11	76	GND	GND	GND	GND	
DA5	UICC1_DET	UICC1_DETECT	UIM_PRESS	SIM1_PRES>GPIO18	10	75	CT107_DSR1>GPIO40	DSR1	~CT107_DSR1	~CT107_DSR1	AF5

LGA #	Silkscreen	WP7 Pin Assignment	AR7 Pin Assignment	AR6 Pin Assignment	TP #	TP #	AR6 Pin Assignment	AR7 Pin Assignment	WP7 Pin Assignment	Silkscreen	LGA #
DB4	UICC1_VCC	UICC1_VCC	UICC1_VCC	SIM1_VCC	9	74	CT108_2_DTR1>GPIO41	DTR1	~CT108-2_DTR1	~CT108-2_DTR1	AE5
AC11	BAT_RTC	BAT_RTC	VCOIN	BAT_RTC	8	73	CT109_DCD1>GPIO43	DCD1	~CT109_DCD1	~CT109_DCD1	AF6
	GND	GND	GND	GND	7	72	CT105_RTS1>GPIO38	RTS1	~CT105_RTS1	~CT105_RTS1	AE6
	VCC_UART1	VCC_1V8	VCC_1V8	VCC_2V8	6	71	CT104_RXD1>GPIO37	RXD1	CT104_RXD1	CT104_RXD1	AD9
	VCC_1V8	VCC_1V8	VCC_1V8	VCC_1V85	5	70	CT106_CTS1>GPIO39	CTS1	~CT106_CTS1	~CT106_CTS1	AE7
	BA2 pin	NC	NC	VCC_1V8_ULP	4	69	CT125_RI1>GPIO42	RI1	~CT125_RI1	~CT125_RI1	AD7
CG4	CG4 pin	NC	NC	VREF_ULP	3	68	CT103_TXD1>GPIO36	TXD1	CT103_TXD1	CT103_TXD1	AD8
	VBATT	VBATT	VBATT	VBATT	2	67	VBATT	VBATT	VBATT	VBATT	
	VBATT	VBATT	VBATT	VBATT	1	66	VBATT	VBATT	VBATT	VBATT	

Table 6. AirPrime AR and WP Series Development Kit Test Ports from J201

LGA #	Silkscreen	WP7 Pin Assignment	AR7 Pin Assignment	AR6 Pin Assignment	TP #	TP #	AR6 Pin Assignment	AR7 Pin Assignment	WP7 Pin Assignment	Silkscreen	LGA #
DB12	DB12 pin	NC	NC	PARIF_DATA1>GPIO74	40	80	PARIF_DATA0>GPIO73	NC	NC	DA12 pin	DA12
DA11	DA11 pin	NC	NC	PARIF_DATA3>GPIO82	39	79	PARIF_DATA2>GPIO81	NC	NC	DC11 pin	DC11
DB11	DB11 pin	NC	NC	PARIF_DATA5>GPIO84	38	78	PARIF_DATA4>GPIO83	NC	NC	DD10 pin	DD10
DA10	DA10 pin	NC	NC	PARIF_DATA7>GPIO86	37	77	PARIF_DATA6>GPIO85	NC	NC	DC10 pin	DC10
DB10	DB10 pin	NC	NC	PARIF_DATA9>GPIO88	36	76	PARIF_DATA8>GPIO87	NC	NC	DD9 pin	DD9
DC9	DC9 pin	NC	NC	PARIF_DATA11>GPIO76	35	75	PARIF_DATA10>GPIO75	NC	NC	DE7 pin	DE7

LGA #	Silkscreen	WP7 Pin Assignment	AR7 Pin Assignment	AR6 Pin Assignment	TP #	TP #	AR6 Pin Assignment	AR7 Pin Assignment	WP7 Pin Assignment	Silkscreen	LGA #
DG5	DG5 pin	NC	NC	PARIF_DATA13>GPIO78	34	74	PARIF_DATA12>GPIO77	NC	NC	DF6 pin	DF6
DE6	DE6 pin	NC	NC	PARIF_DATA15>GPIO80	33	73	PARIF_DATA14>GPIO79	NC	NC	DD8 pin	DD8
AB2	AB2 pin	NC	NC	PARIF_ADD1>GPIO69	32	72	PARIF_ADD0>GPIO68	NC	NC	AC1 pin	AC1
AD2	AD2 pin	NC	NC	PARIF_ADD3>GPIO64	31	71	PARIF_ADD2>GPIO70	NC	NC	AB3 pin	AB3
AG1	AG1 pin	NC	NC	PARIF_ADD5>GPIO57	30	70	PARIF_ADD4>GPIO65	NC	NC	AE1 pin	AE1
AD4	AD4 pin	NC	NC	PARIF_ADD7>GPIO56	29	69	PARIF_ADD6>GPIO58	NC	NC	AF2 pin	AF2
AE3	~SDIO_DET	~SDCARD_REM_DET	NC	PARIF_BAAN>GPIO59	28	68	PARIF_CSN1>GPIO72	NC	NC	DF5 pin	DF5
AC2	AC2 pin	NC	NC	PARIF_OEN>GPIO89	27	67	PARIF_CSN0>GPIO71	NC	NC	AB4 pin	AB4
AC3	AC3 pin	NC	NC	PARIF_WEN>GPIO90	26	66	PARIF_CSN2>GPIO1	NC	NC	AE2 pin	AE2
AA4	AA4 pin	NC	NC	PARIF_WAIT>SPI3_MOSI>GPIO60	25	65	PARIF_CRE>GPIO63	DR_SYNC	DR_SYNC	AF3 pin	AF3
AA3	AA3 pin	NC	NC	PARIF_CLK>SPI3_CS0>GPIO66	24	64	PARIF_LB>GPIO62	JRESET_N	~JTAG_SRST	AD1 pin	AD1
AA2	AA2 pin	NC	NC	PARIF_ADV>SPI3_CLK>GPIO67	23	63	PARIF_UB>SPI3_MISO>GPIO61		NC	AB1 pin	AB1
	GND	GND	GND	GND	22	62	NC		PS_HOLD	CH1 pin	CH1
	AG4 pin	NC	NC	TP_NRSTOUT	21	61	NC	NC	MODE0	CE1 pin	CE1
	GND	GND	GND	GND	20	60	NC	NC	MODE1	CC3 pin	CC3
DD6	DD6 pin	NC	NC	ADC_3	19	59	NC	TCXO_EN	XO_OUT_A1_EN	CD1 pin	CD1
DE4	DE4 pin	NC	NC	ADC_4	18	58	NC	NC	NC	NC	
DE5	DE5 pin	NC	NC	ADC_5	17	57	NC	NC	NC	NC	
DF3	DF3 pin	NC	NC	ADC_6	16	56	NC	NC	NC	NC	
DF4	DF4 pin	NC	NC	ADC_7	15	55	NC	NC	NC	NC	

LGA #	Silkscreen	WP7 Pin Assignment	AR7 Pin Assignment	AR6 Pin Assignment	TP #	TP #	AR6 Pin Assignment	AR7 Pin Assignment	WP7 Pin Assignment	Silkscreen	LGA #
CA8	CA8 pin	NC	NC	ADC_10	14	54	NC	NC	NC	NC	
CB9	CB9 pin	NC	NC	ADC_11	13	53	NC	NC	NC	NC	
CB8	CB8 pin	NC	NC	ADC_12	12	52	I2C2_SCL>GPIO52	NC	GPIO52	GPIO52	AC5
AB5	GPIO2	GPIO2	AP_PORT_SW	GPIO2	11	51	I2C2_SDA>GPIO53		NC	AC4 pin	AC4
AE4	GPIO45	GPIO45	NC	GPIO45	10	50	CPU_BOOT0	NC	GPIO3_EXT	AA5 pin	AA5
	GND	GND	GND	GND	9	49	JTAG_TDO (ULP)	JTAG_TDO	JTAG_TDO	JTAG_TDO	CF1
CH2	CLK_OUT	CLK_OUT	TCXO_OUT	GPIO54>CLK_OUT	8	48	JTAG_TDI (ULP)	JTAG_TDI	JTAG_TDI	JTAG_TDI	CF2
	GND	GND	GND	GND	7	47	JTAG_TMS (ULP)	JTAG_TMS	JTAG_TMS	JTAG_TMS	CG2
	3V3_ETH	NC	NC	VCC_3V3_ETH (ETHERNET)	6	46	JTAG_TCK (ULP)	JTAG_TCK	JTAG_TCK	JTAG_TCK	CG1
	1V8_ETH	NC	NC	VCC_1V8_ETH (ETHERNET)	5	45	JTAG_NTRST (ULP)	JTAG_TRST	~JTAG_TRST	~JTAG_TRST	CF3
	BA2 pin	NC	NC	VCC_1V8_ULP	4	44	NC	JTAG_RTCK	JTAG_RTCK	JTAG_RTCK	CG5
	VBATT	VBATT	VBATT	VBATT	3	43	GND	GND	GND	GND	
	VCC_UART1	VCC_1V8	VCC_1V8	VCC_2V8	2	42	GND	GND	GND	GND	
	VCC_1V8	VCC_1V8	VCC_1V8	VCC_1V85	1	41	GND	GND	GND	GND	



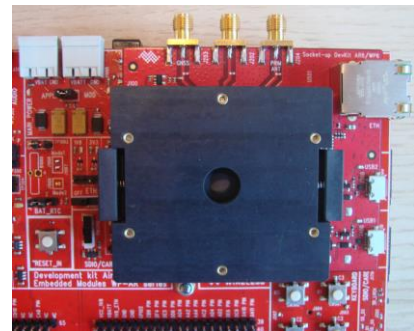
# 3. Setting Up the AirPrime AR and WP Series Development Kit

The following section describes how the AirPrime AR and WP Series Development Kit with an AirPrime AR or WP embedded module is setup. It also briefly describes how communication tests are done to ensure that the AirPrime AR and WP series embedded module has been properly connected to the Development Kit.

## 3.1. Setting Up the AirPrime Development Kit

Prepare the AirPrime AR and WP Series Development Kit and the socket board by following these instructions step by step.

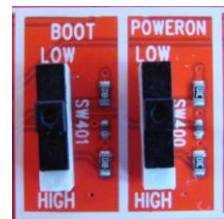
1. Plug the socket board onto the AirPrime AR and WP Series Development Kit using board to board connectors J100 and J101.



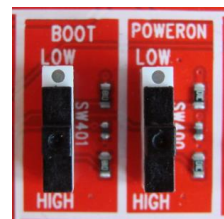
2. Turn the ON\_OFF switch (SW400) and the BOOT switch (SW401) to their corresponding positions, to ensure that no shorting will occur when the development kit board is supplied with power.

Switch	For AR6	For AR7and WP7
SW400	“LOW”	“HIGH”
SW401	“LOW”	“HIGH”

For AR6:



For AR7 and WP7:



3. Insert a SIM card into the SIM card holder, UICC1 J800 (if communications is required).



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*Note:* All jumper pads are soldered by default. (Refer to section 2.4 Special Soldering for Jumper Pads for more information.) Retain these settings.

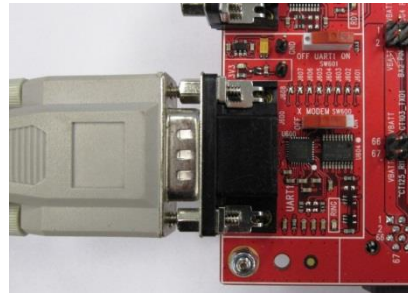
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4. Connect the RS232 cable between the PC port and J600 of the AirPrime AR and WP Series Development Kit and make sure that SW601 is in the “ON” position and SW600 is in “OFF” position.

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*Note:* By default, baud rate = 115200 kbps, data bits = 8, parity = none, and stop bits = 1.

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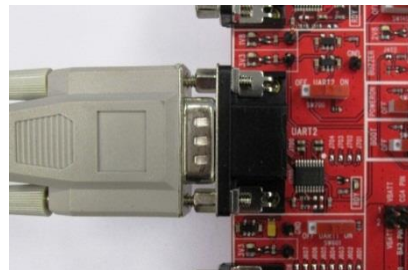


5. If UART2 is needed, connect the RS232 cable between the PC port and J700 of the AirPrime AR and WP Series Development Kit and make sure that SW700 is in the “ON” position.

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*Note:* By default, baud rate = 115200 kbps, data bits = 8, parity = none, and stop bits = 1.

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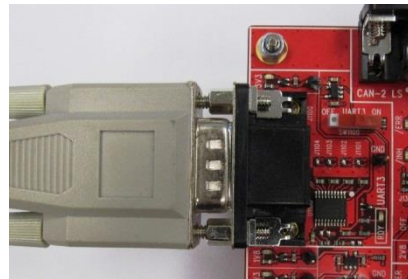


6. If UART3 is needed, connect the RS232 cable between the PC port and J1100 of the AirPrime AR and WP Series Development Kit and make sure that SW1100 is in the “ON” position.

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*Note:* By default, baud rate = 115200 kbps, data bits = 8, parity = none, and stop bits = 1.

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7. If USB communications is required,
  - a. For AR6xxx:  
Connect the USB cable to J402 (Micro AB) of the AR6 Socket Board.
  - b. For AR7xxx/WP710x-G:  
Connect the USB cable to CN400 (Micro AB) of the AR7 and WP7 Socket Board.

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*Note:* The provided USB driver should be also installed in the host computer.

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8. If RF communications is required, connect the SMA connector on the Socket Board to an external antenna or a radio communication tester using a coaxial cable.



- If analog audio communications is required, connect the handset to the audio connector, J300.



- Plug in the AC/DC power supply cable in the J1001 connector.



Alternatively, connect an external DC power supply at 4V/2A (MOD plug J1000). Connect jumper TP1001 to also supply the development kit (APPLI-MOD).

The presence of a DC power supply is indicated by two green LEDs, D1005 for MOD and D1004 for APPLI. Refer to section 4.1.3 LED Signalization for more information regarding these LEDs.



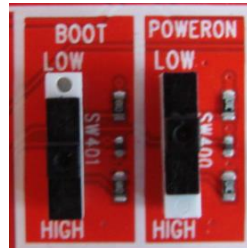
- Turn the ON\_OFF switch (SW400) and the BOOT switch (SW401) to the corresponding positions to switch the module ON:

Switch	For AR6	For AR7 and WP7
SW400	“HIGH”	“LOW”
SW401	“LOW”	“HIGH”

For AR6:



For AR7 and WP7:



The AirPrime AR and WP Series Development Kit should look like the following figure after it has been properly setup.

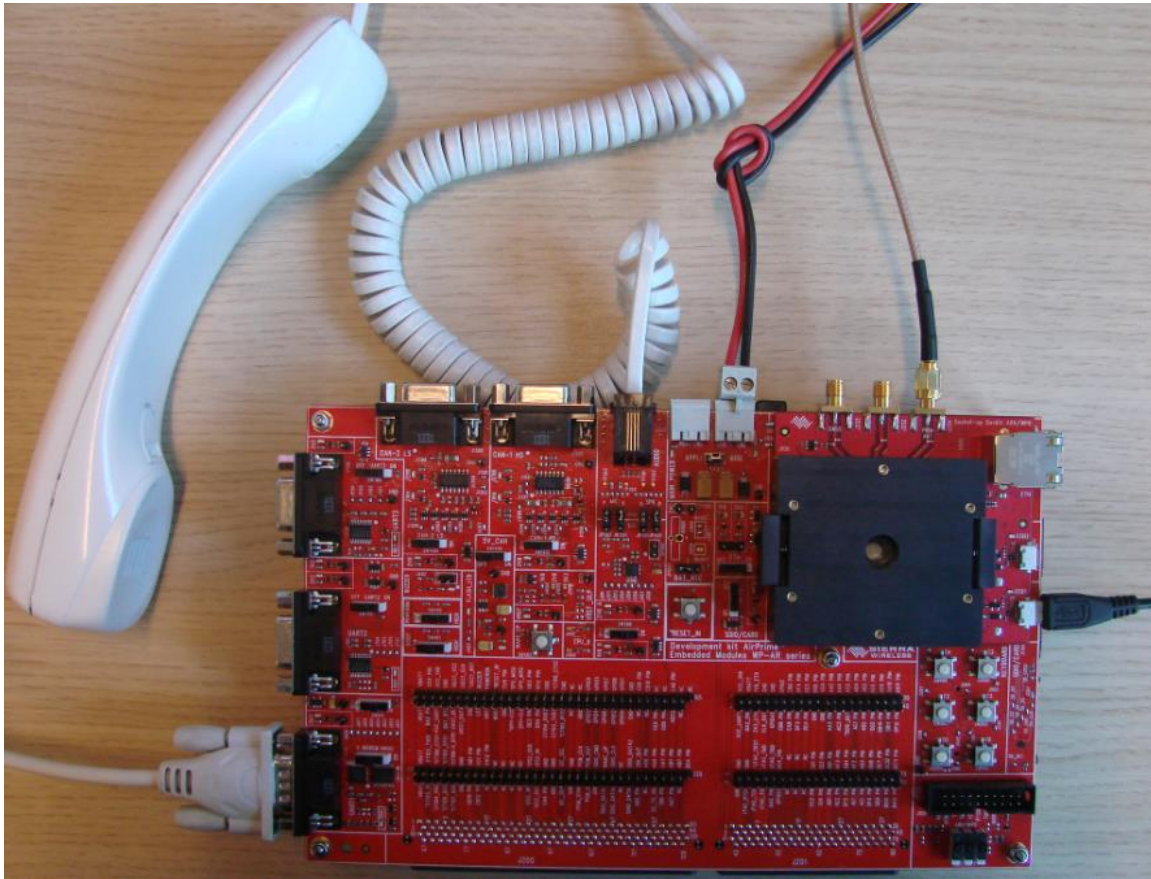


Figure 14. AirPrime AR and WP Series Development Kit (with an AR6 Socket Board and AR6xxx Embedded Module)

## 3.2. Communications Test

To perform a GSM communications test after setting the AirPrime AR and WP Series Development Kit with an AirPrime AR6, AR7 or WP7 series embedded module, do the following:

1. Configure SW400 and SW401 as shown in the following table to switch the embedded module ON after power has been applied:

Switch	For AR6	For AR7 and WP7
SW400	“HIGH”	“LOW”
SW401	“LOW”	“HIGH”

2. Using a PC terminal emulator, send the following command on a serial port to communicate with the AirPrime AR6, AR7 or WP7 series embedded module:

**AT**↵

3. When communications is established between the PC and the embedded module, the embedded module replies with an “OK”. Verify that the response is displayed in the terminal emulator window.
4. A communication call can be made from the embedded module by AT command, “**ATD12345;**” while the embedded module is connected to the CMU200. Conversely, “RING” will be indicated in the HyperTerminal window on the PC when a call is received by the embedded module; type “**ATA**” to accept the call. For more details about communication calls, please refer to the AT command manuals listed in section 7 Reference Documents.

## 4. Interfaces/Peripherals

This section describes the different interfaces/peripherals that are available on the AirPrime AR and WP Series Development Kit.

### 4.1. Power Supplies

Two power supply sources are available on the AirPrime AR and WP Series Development Kit:

- External DC supply (via J1000)
- AC/DC adapter (via J1001)

These power supplies are protected against electrostatic discharge (ESDs) and voltage or current transient surges by ESD diodes or varistors.

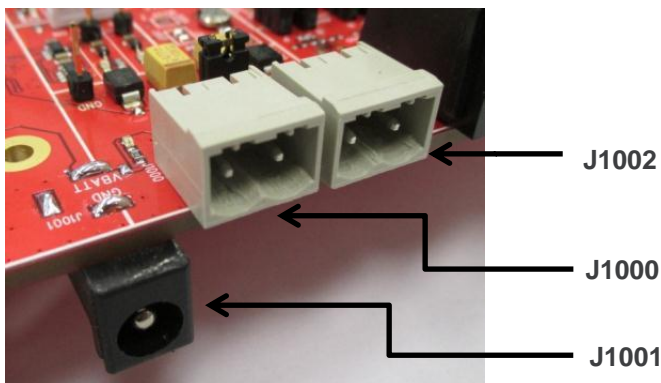


Figure 15. Power Supply Connectors (J1000 and J1001)

Either one these power supplies (J1000 or J1001) can be used for **both** the AirPrime embedded module and the peripherals on the AirPrime AR and WP Series Development Kit.

Note that it is possible to separate the power supply for the Socket Board (“VBATT” MOD) and the power supply for the peripherals (“VBAT” APPLI) by removing the jumper on TP1001. Current measurement is therefore possible for either the AirPrime AR and WP Series Development Kit or for the AirPrime embedded module. Refer to section 6 Current Consumption Measurement for more information.

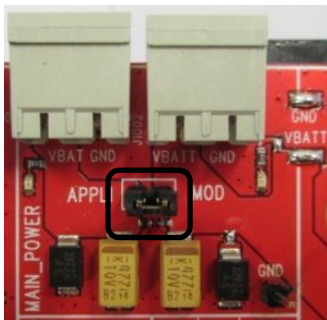


Figure 16. VBATT Connection (TP1001)

### 4.1.1. Main Supply Adapter

The J1001 connector powers the AirPrime AR and WP Series Development Kit using an AC/DC power supply cable.



Figure 17. Main Supply Adapter

Details of the only supported adapter are listed in the following table.

Table 7. Supported Adapter

Manufacturer	Reference	Characteristics
SINPRO	SPU12C-101	4V DC / 2.5A

### 4.1.2. External Supply

The external supply is accessible through the J1000 connector.



Figure 18. External Power Supply

Refer to the following table for the electrical characteristics of VBATT.

Table 8. Electrical Characteristics of VBATT

VBATT <sup>1,2</sup>	V <sub>MIN</sub>	V <sub>NOM</sub>	V <sub>MAX</sub>
AR6	3.4V	3.7V	4.8V
AR7 and WP7	3.4V	3.7V	4.3V

- 1: This value has to be guaranteed during the burst (with 1.5A Peak in GSM or GPRS mode).
- 2: Maximum operating Voltage Stationary Wave Ratio (VSWR) is 2:1.

For more information, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

### 4.1.3. Power LED Signalization

Two green LEDs on the development kit board indicate the presence of a power supply:

- The “VBATT (MOD)” indicates the presence of a power supply at J1000 or J1001.
- The “VBAT (APPLI)” indicates the presence of a power supply at J1002.

Both the AirPrime embedded module and its peripherals can be powered by only one power source if TP1001 is plugged. If TP1001 is not plugged, an extra external power supply should be connected to “VBAT” for the AirPrime AR and WP Series Development Kit.

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**Tip:** *It is recommended to always use both VBATT and VBAT simultaneously.*

---

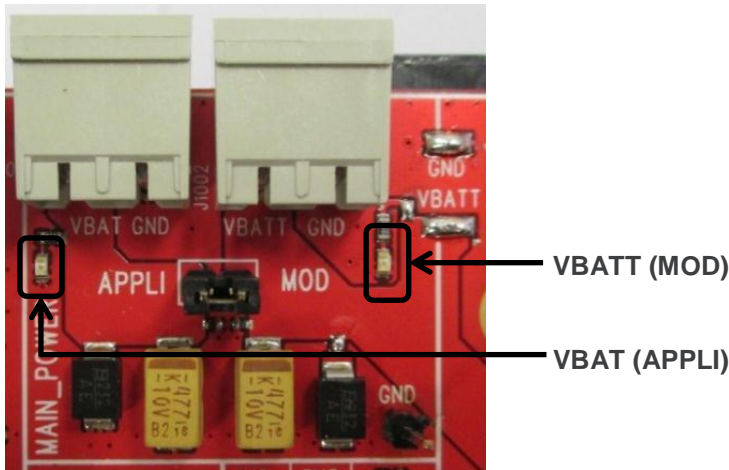


Figure 19. LED Signalization of VBAT

Refer to the following table for the status of VBATT and VBAT depending on the LED state.

Table 9. Status of VBATT and VBAT

LED State	VBATT (MOD) Status	VBAT (APPLI) Status
ON	ON	ON
OFF	OFF	ON when TP1001 is plugged OFF when TP1001 is unplugged

## 4.2. Control Functions

This section describes the control functions available in the AirPrime AR and WP Series Development Kit.

### 4.2.1. Power ON

Switch SW400 is necessary to manage the power ON control (POWERON) on the AirPrime embedded module.

When the AirPrime AR and WP Series Development Kit is connected to an external power supply (via J1000 or J1001) and SW400 is set to the “HIGH” position, a HIGH level signal is sent to the AirPrime embedded module through VBATT.

---

*Note:* Bear in mind that AR7 and WP7 embedded modules are powered ON in reverse of AirPrime AR6 modules; that is, the AR7 and WP7 embedded modules are powered ON by a LOW level signal.

---



Figure 20. SW400 in the “HIGH” Position

To perform a power OFF, switch SW400 is set to the “LOW” position and send:

- **AT+CPOF** when using AR6 modules
- **AT! POWERDOWN** when using AR7 and WP7 modules



Figure 21. SW400 in the “LOW” Position

Refer to the following table for the configuration of switch SW400 in switching the embedded module ON or OFF.

Table 10. SW400 Settings to Turn the Embedded Module ON or OFF

SW400	AR6 State	AR7 State	WP7 State
“HIGH”	ON	OFF	OFF

SW400	AR6 State	AR7 State	WP7 State
“LOW”	OFF	ON	ON

For more information about the POWERON signal, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

Note that R409 on the AR7 and WP7 Socket Board is used to short the power ON switch to ground to ease testing in the current AR7 and WP7 Socket Board. This hijacks the function of SW400 and results in the following consequences:

1. The module is automatically powered ON once external power is supplied, and
2. The module is powered ON again after receiving the **AT! POWERDOWN** command, which mimics the behavior of a reset.

R409 should be removed to use SW400 and control power ON when using an AR7 and WP7 Socket Board.

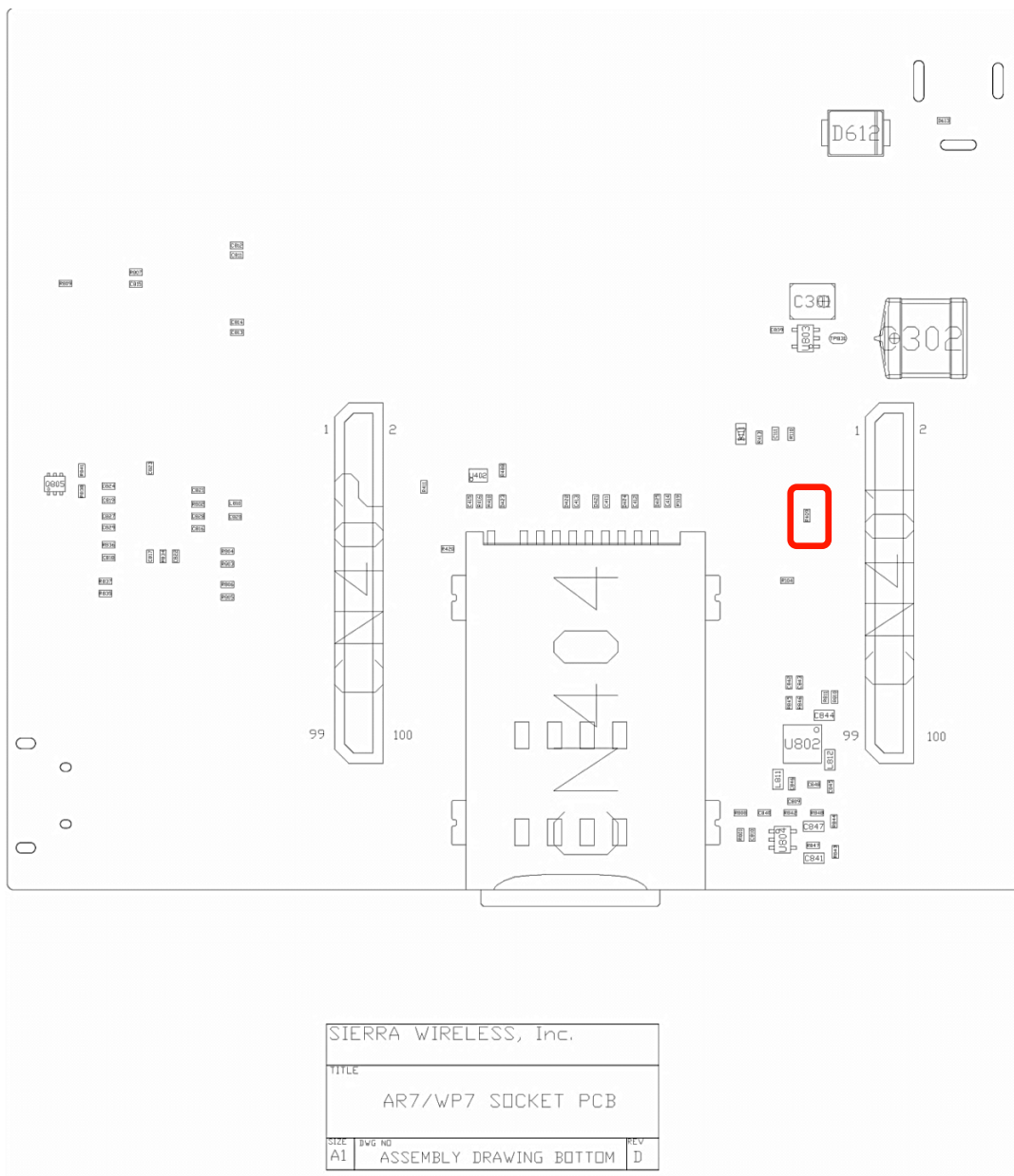


Figure 22. Location of R409 on the AR7 and WP7 Socket Board

## 4.2.2. ~RESET\_IN

The ~RESET\_IN button starts a general reset when it is pushed.

---

**Caution:** *A software reset is preferred to a hardware reset.*

---



Figure 23. ~RESET\_IN Button

For more information about the ~RESET\_IN signal, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 4.2.3. BOOT

---

**Note:** *Until software control is available, the BOOT pin switch must always remain in the ON position.*

---

The BOOT switch is only used when downloading new software to the AirPrime embedded module via UART1 or USB (for AR7 and WP7) using specific download software provided by Sierra Wireless. This switch is set to the “LOW” position by default.



Figure 24. BOOT Switch in the “LOW” Position

Refer to the following table for the BOOT signal configuration.

Table 11. BOOT Configuration

Mode	AR6	AR7 and WP7
Normal	“LOW”	“HIGH”
Backup download with specific download software	“HIGH”	“LOW”

### 4.3. SIM

**Warning:** SIM2 is currently not available in any of the available embedded module variants.

The SIM interface signals on the AirPrime AR and WP Series Development Kit can be electrically disconnected from the AirPrime embedded module if the five solder pads, J1800 to J1804, are dissociated. Unsoldering them allows the SIM signals to transmit to an external interface board via the external connector (J200).

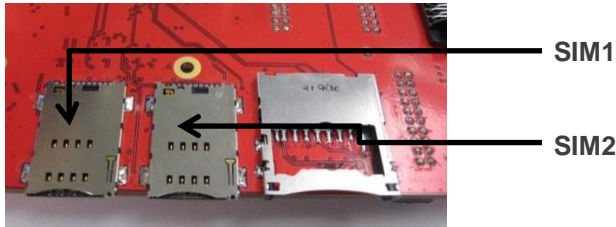


Figure 25. SIM1 and SIM2 Connectors



Figure 26. UICC1 and UICC2 Solder Pads

By default, SIM1 and SIM2 are available on their dedicated connectors, J800 and J1600, respectively.

**Note:** ESD protection is available on all SIM signals.

Refer to the following table for the SIMx connector pin description.

Table 12. SIMx Connector Pin Description

Pin Number	Signal Name	I/O	I/O Type	Description
1	SIMx_VCC	O	1V8 or 2V9	SIM Power Supply
2	SIMx_RST	O	1V8 or 2V9	SIM Reset
3	SIMx_CLK	O	1V8 or 2V9	SIM Clock
4	CC4	Not used		
5	GND			Ground
6	VPP	Not used		
7	SIMx_DATA	I/O	1V8 or 2V9	SIM Data
8	CC8	Not used		
9	SIMx_PRES	I	1V85*	SIM Card Detect
10	VCC_1V85	O	1V85	1V85 supply from module
11,12,13,14	GND			Ground casing

\* For either 1V8 or 3V SIM cards.

## 4.4. UART1

UART1 of the AirPrime AR and WP Series Development Kit is connected to the RS232 serial link interface of the AirPrime embedded module. The voltage level of the UART1 transceiver is 2.8V and there is a level shifter between the AirPrime embedded module and the transceiver; the translation level will depend on the VCC\_UART1 voltage applied. For AirPrime AR7 and WP7, this is 1.8V; while for AirPrime AR6, this is 2.8V.

The eight UART1 signals in the AirPrime AR and WP Series Development Kit could be electrically disconnected from the AirPrime embedded module if the eight tie pads, J601 to J608, are dissociated. Unsoldering them allows the UART1 signals to transmit to an external interface board via the external connector (J200).

By default, UART1 is available on its dedicated connector, J600, with J601 to J608 soldered.

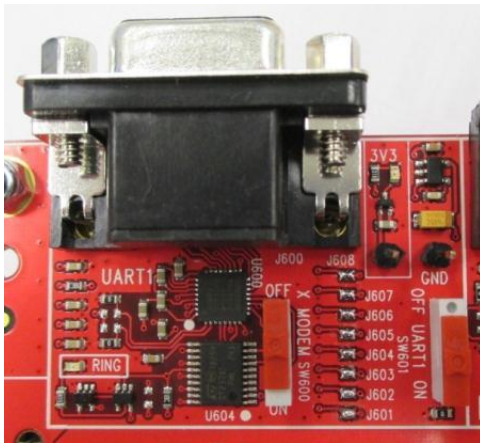


Figure 27. UART1 Connector

### 4.4.1. UART1 Connector (J600)

J600 is a SUB-D 9-pin female connector.

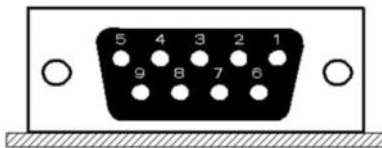


Figure 28. DB-9 Female Connector for UART1.

Refer to the following table for the UART1 connector signal pin description.

Table 13. UART1 Connector Pin Description

Pin Number	Signal Name	I/O	I/O Type	Description
1	CT109 DCD	O	RS232 (V24/V28)	Data Carrier Detect
2	CT104 RXD	O	RS232 (V24/V28)	Receive Serial Data
3	CT103 TXD	I	RS232 (V24/V28)	Transmit Serial Data
4	CT108-2 DTR	I	RS232 (V24/V28)	Data Terminal Ready
5	GND			Ground
6	CT107 DSR	O	RS232 (V24/V28)	Data Set Ready
7	CT105 RTS	I	RS232 (V24/V28)	Request To Send

Pin Number	Signal Name	I/O	I/O Type	Description
8	CT106 CTS	O	RS232 (V24/V28)	Clear To Send
9	CT125 RI	O	RS232 (V24/V28)	Ring Indicator

### 4.4.2. UART1 Configuration

The AirPrime AR and WP Series Development Kit acts as a DCE and is connected to a DTE (PC or terminal) with a “straight cable”. This is a full UART.

AirPrime Module

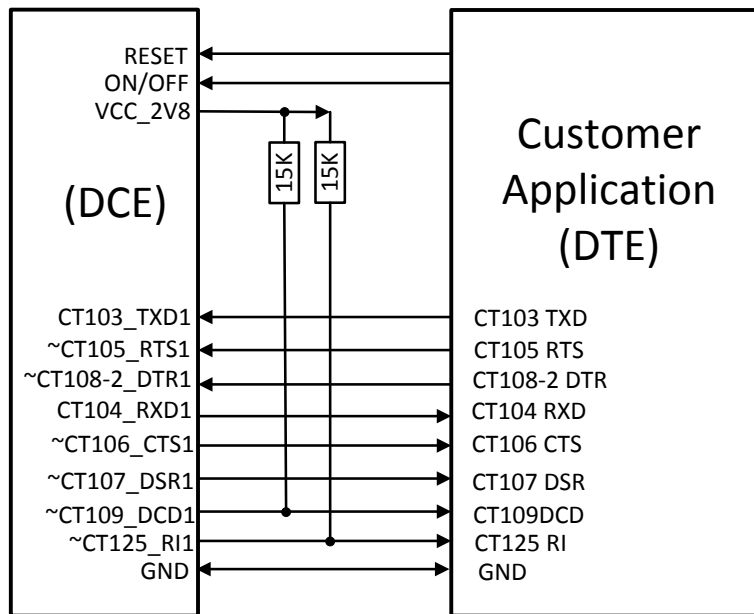


Figure 29. RS232 Main Serial Link.

### 4.4.3. Enabling the UART1 Function (SW601)

**Caution:** Switch SW601 must always be in the “ON” position, as shown in the figure below. If SW601 is in the wrong position (“OFF”), UART1 will not work properly and over consumption on VCC\_2V8 will occur on the AirPrime AR and WP Series module.

The UART1 interface can be enabled by switching SW601 to the “ON” position.

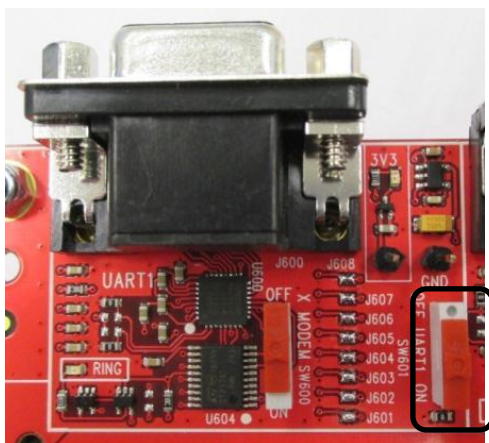


Figure 30. UART1 Switch Configuration (SW601).

### 4.4.4. XMODEM (SW600)

**Caution:** The XMODEM switch must always be in the “OFF” position, as shown in the figure below. Do not use this switch. If SW600 is in the wrong position (“ON”), UART1 will not work properly.

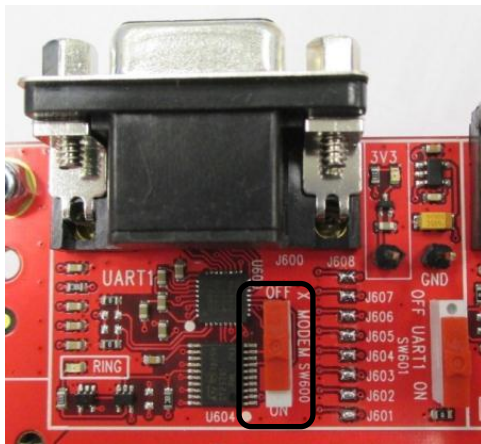


Figure 31. XMODEM Switch Configuration (SW600).

Refer to the following table for the XMODEM configuration.

Table 14. XMODEM Configuration

Mode	Description
Normal	OFF

### 4.4.5. LED Signalization for UART1 (D608 and D609)

Two LEDs are available to indicate the state of UART1.

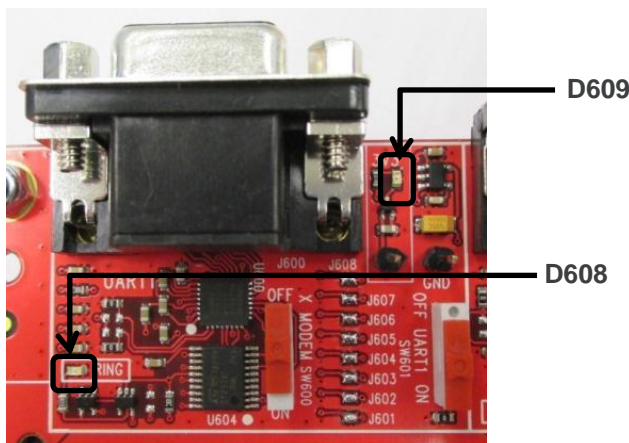


Figure 32. UART1 LED Location (D608, D609).

A green LED (D609 at 3V3) indicates the UART1 state. When this LED is lit, it indicates that the UART1 interface is available for use.

“RING INDICATOR” is a green LED (D608) controlled by the RI signal on the AirPrime embedded module. When the AirPrime embedded module receives an incoming call, the RI signal goes from high to low for 0.5sec alternately; hence making the D608 LED blink.

## 4.5. UART2

UART2 of the AirPrime AR and WP Series Development Kit is connected to the auxiliary RS232 serial link interface of the AirPrime embedded module at voltage level 1.8V.

The four UART2 signals from the AirPrime AR and WP Series Development Kit could be electrically disconnected from the AirPrime embedded module if the four tie pads, J701 to J704, are dissociated. Unsoldering them allows the UART2 signals to transmit to an external interface board via the external connector (J200).

---

**Note:** Although there are four UART2 signals on the development kit, AirPrime AR7 and WP7 only support two UART2 signals (RXD and TXD).

---

By default, UART2 is available on its dedicated connector, J700, with J701 to J704 soldered.

---

**Caution:** UART2 is not available on AR6 and AR7 variants with embedded GNSS support.

---

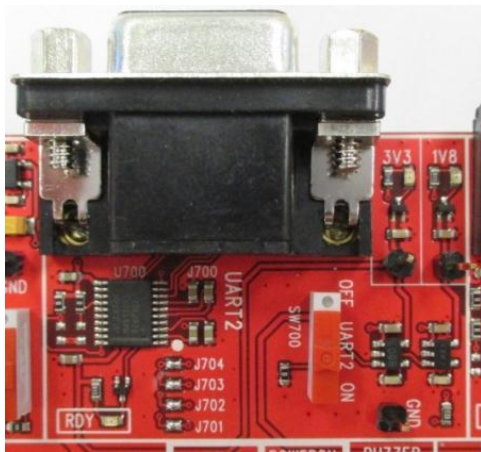


Figure 33. UART2 Connector

### 4.5.1. UART2 Connector (J700)

J700 is a SUB-D 9-pin female connector.

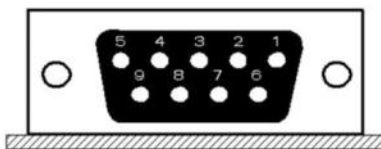


Figure 34. DB-9 Female Connector for UART2

Refer to the following table for the UART2 connector signal pin description.

Table 15. UART2 Connector Pin Description

Pin Number	Signal Name	I/O	I/O Type	Description
1	CT109 DCD <sup>1,2</sup>	O	RS232 (V24/V28)	Data Carrier Detect
2	CT104 RXD	O	RS232 (V24/V28)	Receive Serial Data
3	CT103 TXD	I	RS232 (V24/V28)	Transmit Serial Data
4	CT108-2 DTR <sup>1,2</sup>	I	RS232 (V24/V28)	Data Terminal Ready
5	GND			Ground
6	CT107 DSR <sup>1,2</sup>	O	RS232 (V24/V28)	Data Set Ready

Pin Number	Signal Name	I/O	I/O Type	Description
7	CT105 RTS <sup>2</sup>	I	RS232 (V24/V28)	Request To Send
8	CT106 CTS <sup>2</sup>	O	RS232 (V24/V28)	Clear To Send
9	CT125 RI <sup>1,2</sup>	O	RS232 (V24/V28)	Ring Indicator

- 1 These signals are not used with the AirPrime AR6 embedded module.
- 2 These signals are not used with the AirPrime AR7 or WP7 embedded module.

### 4.5.2. UART2 Configuration

The AirPrime AR and WP Series Development Kit acts as a DCE and is connected to a DTE (PC or terminal) with a “straight cable”. Only 4 signals on the UART2 are used as shown in the figure below.

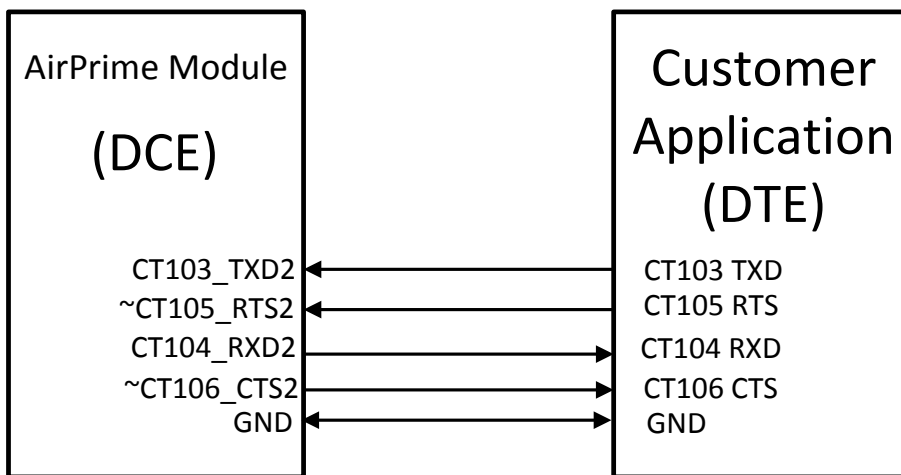


Figure 35. RS232 Auxiliary Serial Link (4-wire UART2 Configuration)

### 4.5.3. Enabling the UART2 Function (SW700)

The UART2 interface can be enabled by switching SW700 to the “ON” position.

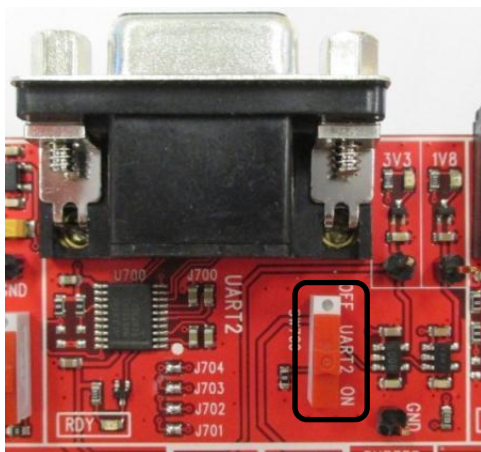


Figure 36. UART2 Switch Configuration

### 4.5.4. LED Signalization for UART2 (D704, D705 and D706)

Two green LEDs (D706 at 3V3 and D705 at 1V8) indicate the UART2 state. When these LEDs are light, it indicates that the UART2 interface is available for use.

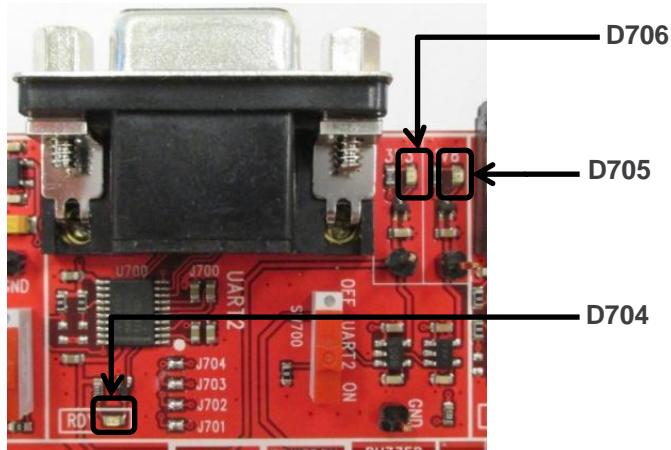


Figure 37. UART2 LED Location (D704 and D705)

The “RDY” (Ready to Transmit Output) LED, D704, is a green LED controlled by the RS232 transceiver.

## 4.6. UART3

---

*Note:* UART3 is only available in AirPrime AR6.

---

UART3 of the AirPrime AR and WP Series Development Kit is connected to the auxiliary RS232 serial link interface of the AirPrime embedded module at voltage level VREF\_ULP (1.8V by default).

The four UART3 signals from the AirPrime AR and WP Series Development Kit could be electrically disconnected from the AirPrime embedded module if the four tie pads, J1101 to J1104, are dissociated. Unsoldering them allows the UART3 signals to transmit to an external interface board via the external connector (J200).

By default, UART3 is available on its dedicated connector, J1100, with J1101 to J1104 soldered.

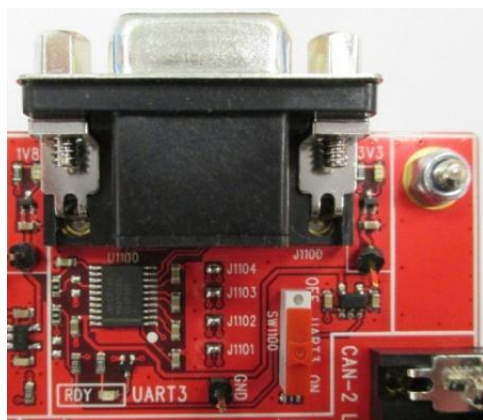


Figure 38. UART3 Connector

### 4.6.1. UART3 Connector (J1100)

J1100 is a SUB-D 9-pin female connector.

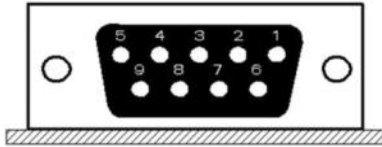


Figure 39. DB-9 Female Connector for UART3

Refer to the following table for the UART3 connector signal pin description.

Table 16. UART3 Connector Pin Description

Pin Number	Signal Name	I/O	I/O Type	Description
1	CT109 DCD*	O	RS232 (V24/V28)	Data Carrier Detect
2	CT104 RXD	O	RS232 (V24/V28)	Receive Serial Data
3	CT103 TXD	I	RS232 (V24/V28)	Transmit Serial Data
4	CT108-2 DTR*	I	RS232 (V24/V28)	Data Terminal Ready
5	GND			Ground
6	CT107 DSR*	O	RS232 (V24/V28)	Data Set Ready
7	CT105 RTS	I	RS232 (V24/V28)	Request To Send
8	CT106 CTS	O	RS232 (V24/V28)	Clear To Send
9	CT125 RI*	O	RS232 (V24/V28)	Ring Indicator

\* These signals are not used with the AirPrime AR6 embedded module.

### 4.6.2. UART3 Configuration

The AirPrime AR and WP Series Development Kit acts as a DCE and is connected to a DTE (PC or terminal) with a “straight cable”. Only 4 signals on the UART3 are used as shown in the figure below.

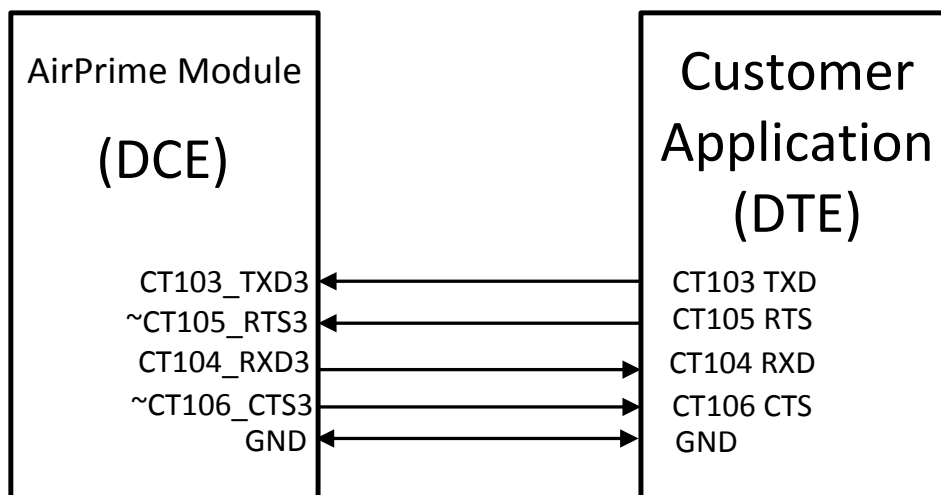


Figure 40. RS232 Auxiliary Serial Link (4-wire UART3 Configuration)

### 4.6.3. Enabling the UART3 Function (SW1100)

The UART3 interface can be enabled by switching SW1100 to the “ON” position.

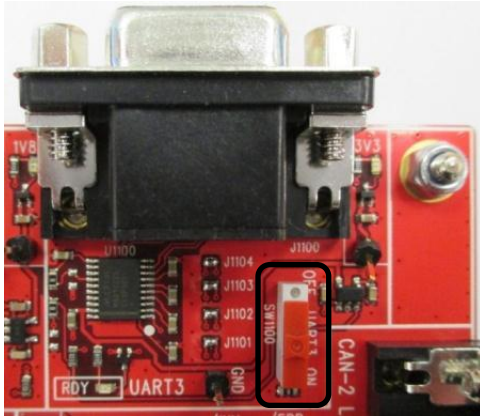


Figure 41. UART3 Switch Configuration

Ensure that VREF\_ULP is activated by checking if D1006 is lit.

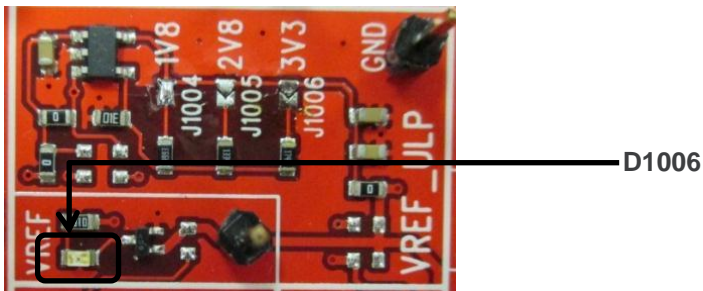


Figure 42. VREF\_ULP Activation with D1006

### 4.6.4. LED Signalization for UART3 (D1105, D1106)

A green LED (D1106 at 3V3) indicates the UART3 state. When this LED is lit, it indicates that the UART3 interface is available for use.

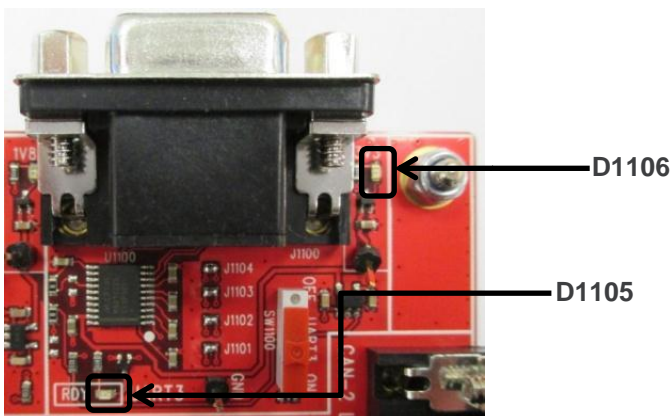


Figure 43. UART3 LED Location (D1105 and D1106)

The “RDY” (Ready to Transmit Output) LED, D1105, is a green LED controlled by the RS232 transceiver.

## 4.7. AUDIO

Use J300 (AUDIO) in the AirPrime AR and WP Series Development Kit to connect to the AirPrime embedded module’s audio interface. There are jumpers options (JP300 – JP303) for selecting this interface for either analog or translated digital interface.

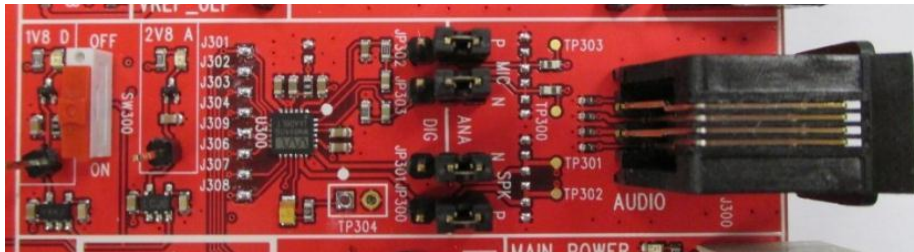


Figure 44. Audio Connector

### 4.7.1. AUDIO Jumper Options (JP300 – JP303)

An audio codec is mounted on the AirPrime AR and WP Series Development Kit which is used to translate the embedded module’s digital audio interface or I<sup>2</sup>S/PCM interface into an analog audio signal.

This was done because performance and functionality tests are run under analog audio levels, and also because final customer applications are also in analog.

Table 17. JUMPER / SWITCH Configuration

Jumper	Function	For Analog Audio In/Out	For Digital Audio In/Out
JP300	SPK_P	position 1-2, ANA	position 2-3, DIG
JP301	SPK_N	position 1-2, ANA	position 2-3, DIG
JP302	MIC_P	position 1-2, ANA	position 2-3, DIG
JP303	MIC_N	position 1-2, ANA	position 2-3, DIG
SW300	Audio power	OFF	ON

#### 4.7.1.1. Analog Audio

*Note:* Analog audio is only available for AirPrime AR6, AR7 and WP7 (set jumper JP300-JP303 configuration to “position 1-2, ANA”).

SW300 should be set to the OFF position.

When jumpers JP300 to JP303 are shorted on the “ANA” side, the analog audio interface of the AirPrime embedded module could be accessed through J300.



Figure 45. Analog Audio Settings for AirPrime AR6 and AR7 and WP7

### 4.7.1.2. Digital Audio

*Note:* Set jumper JP300-JP303 configuration to “position 1-2, DIG” for digital audio.

Digital audio is only available for AirPrime AR7 when SW300 is set to the ON position.

When jumpers JP300 to JP303 are shorted on the “DIG” side, J300 becomes connected to the audio codec on the on the AirPrime AR and WP Series Development Kit.



Figure 46. Digital Audio Settings for AirPrime AR7 and WP7

### 4.7.2. RJ9 AUDIO Jack (J300)

J300 is a 4-pin RJ9 connector used to connect to the analog audio interface of either the AirPrime embedded module or the audio codec on the AirPrime AR and WP Series Development Kit.

The audio connector could be disconnected from either source when jumpers from JP300 to JP303 are removed. This audio connector is used to provide undisturbed signals to an external interface board via the external connector (J200).

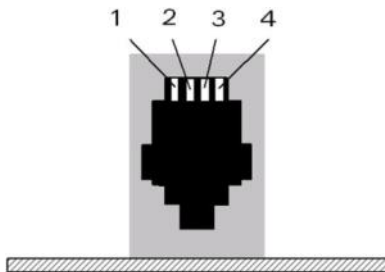


Figure 47. 4-pin RJ9 Connector for Audio Signals

Refer to the following table for the AUDIO connector signal pin description.

Table 18. AUDIO Connector Pin Description

Pin Number	Signal Name	I/O	I/O Type	Description
1	MIC_N	I	Analog	Microphone negative input
2	SPK_N	O	Analog	Main speaker negative output
3	SPK_P	O	Analog	Main speaker positive output
4	MIC_P	I	Analog	Main microphone positive input

Both microphone and speaker signals are configured in differential mode.

### 4.7.3. Codec Configuration

The digital audio interface signals in the AirPrime AR and WP Series Development Kit can be electrically disconnected from the AirPrime embedded module if the eight solder pads, J301 to J304 and J306 to J309, are dissociated. Unsoldering them allows the digital audio signals to transmit to an external interface board via the external connector (J200).

The audio codec is a WM8940 from Wolfson. This codec uses the PCM as interface and SPI1 as control.

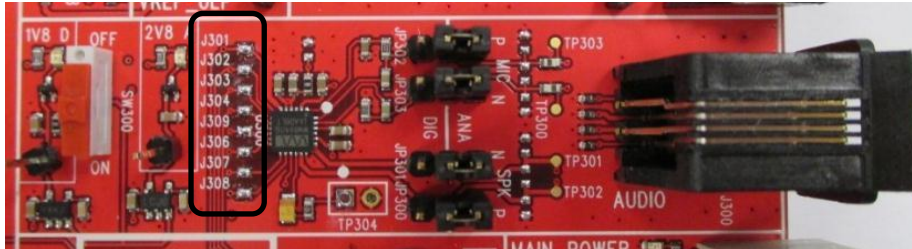


Figure 48. Digital Audio Solder Pads

## 4.8. CAN Interface

*Note:* The CAN interface is only available in AirPrime AR6.

There are two CAN (Controller Area Network) interfaces in the AirPrime AR and WP Series Development Kit.

### 4.8.1. CAN1 High Speed

The CAN1 signals from the AirPrime AR and WP Series Development Kit could be electrically disconnected from the AirPrime embedded module if the seven tie pads, J1201 to J207, are dissociated. Unsoldering them allows the CAN1 signals to transmit to an external interface board via the external connector (J200).

#### 4.8.1.1. CAN1 Connector (J1200)

J1200 is a 9-pin SUBD connector.

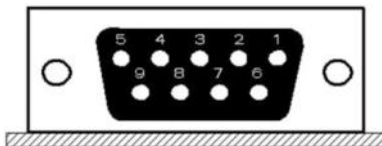


Figure 49. SUBD 9-pin Connector for CAN1

Refer to the following table for the CAN1 connector signal pin description.

Table 19. CAN1 Connector Pin Description

Pin Number	Signal Name	I/O	I/O Type	Description
1, 5, 6	NC			
3	GND			Ground

Pin Number	Signal Name	I/O	I/O Type	Description
2	CAN1_L_HS	I/O	Analog	Low level CAN bus line
7	CAN1_H_HS	I/O	Analog	High level CAN bus line

### 4.8.1.2. Enabling the CAN1 Function (SW1400 and SW1401)

The CAN1 interface can be enabled by switching SW1400 (EN\_5V\_CAN) and SW1401 (EN\_CAN\_HS) to the “ON” position.

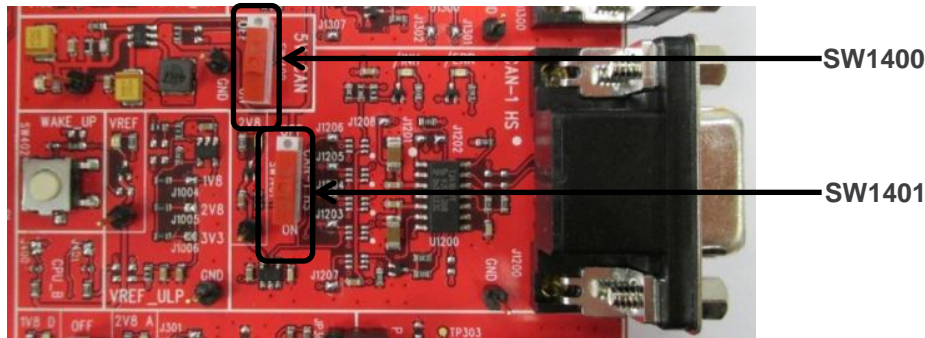


Figure 50. CAN1 Switch Configuration (SW1400 and SW1401)

### 4.8.1.3. LED Signalization for CAN1 (D1200, D1201, D1400 and D1401)

The following table enumerates the multiple LEDs available to indicate the state of CAN1.

Table 20. CAN1 LED Indicators

LED Number	Description	Status
D1200	INH_TJA1041	Lit when INH is High
D1201	/ERR_TJA1041	Lit when /ERR is Low
D1400	5V_CAN	Lit when SW1400 is “ON”
D1401	2.8V_CAN_HS	Lit when SW1401 is “ON”

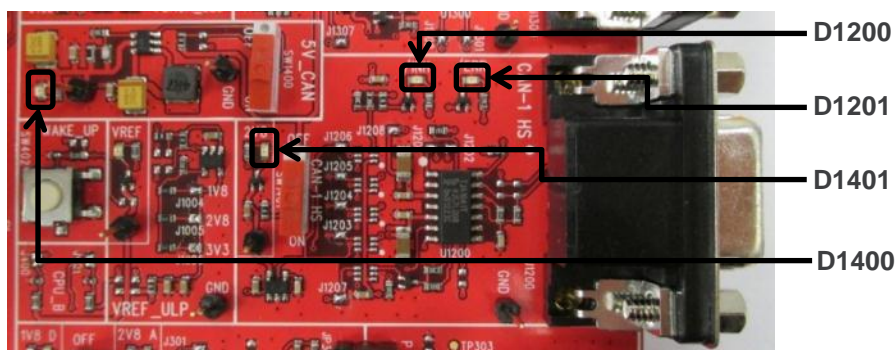


Figure 51. CAN1 LED Location

Two green LEDs (D1400 and D1401) indicate the state of CAN1. When these LEDs are lit, they indicate that the CAN1 interface is available for use.

The “/INH” indicator (D1200) is a green LED controlled by the CAN transceiver (TJA1041) signal.  
 The “/ERR” indicator (D1201) is a red LED controlled by the CAN transceiver (TJA1041) signal.

### 4.8.2. CAN2 Low Speed

The CAN2 signals from the AirPrime AR and WP Series Development Kit could be electrically disconnected from the AirPrime embedded module if the seven tie pads, J1301 to J1307, are dissociated. Unsoldering them allows the CAN2 signals to transmit to an external interface board via the external connector (J200).

#### 4.8.2.1. CAN2 Connector (J1300)

J1300 is a 9-pin SUBD connector.

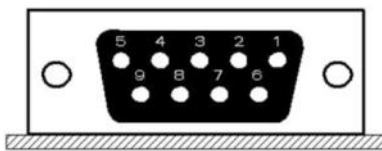


Figure 52. SUBD 9-pin Connector for CAN2

Refer to the following table for the CAN2 connector signal pin description.

Table 21. CAN2 Connector Pin Description

Pin Number	Signal Name	I/O	I/O Type	Description
1, 5, 6	NC			
3	GND			Ground
2	CAN2_L_LS	I/O	Analog	Low level CAN bus line
7	CAN2_H_LS	I/O	Analog	High level CAN bus line

#### 4.8.2.2. Enabling the CAN2 Function (SW1400 and SW1402)

The CAN2 interface can be enabled by switching SW1400 (EN\_5V\_CAN) and SW1402 (EN\_CAN\_LS) to the “ON” position.

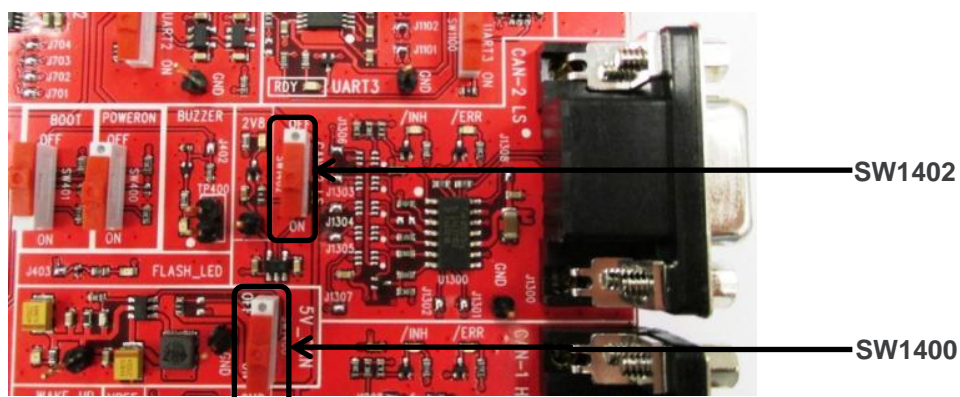


Figure 53. CAN2 Switch Configuration (SW1400 and SW1402)

### 4.8.2.3. LED Signalization for CAN2 (D1300, D1301, D1400 and D1402)

The following table enumerates the multiple LEDs available to indicate the state of CAN2.

Table 22. CAN2 LED Indicators

LED Number	Description	Status
D1300	INH	Lit when INH is High
D1301	/ERR_TJA1055-3	Lit when /ERR is Low
D1400	5V_CAN	Lit when SW1400 is "ON"
D1402	2.8V_CAN_LS	Lit when SW1402 is "ON"

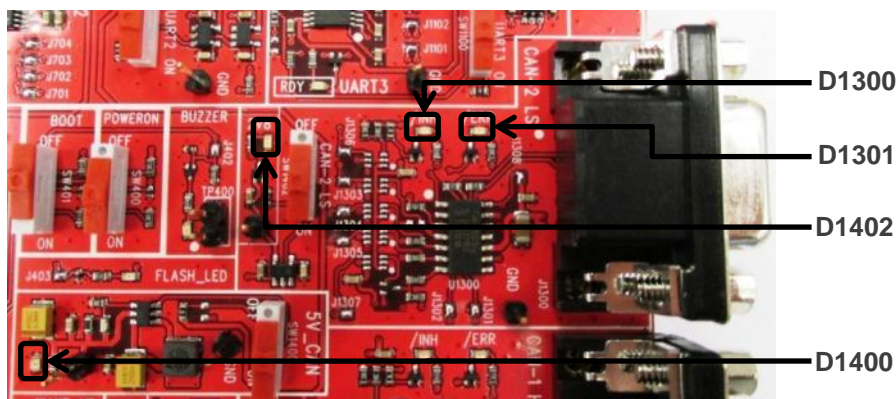


Figure 54. CAN2 LED Location

Two green LEDs (D1402 and D1400) indicate the state of CAN2. When these LEDs are lit, they indicate that the CAN2 interface is available for use.

The "/INH" indicator (D1300) is a green LED controlled by the CAN transceiver (TJA1055T/3) signal.

The "/ERR" indicator (D1301) is a red LED controlled by the CAN transceiver (TJA1055T/3) signal.

## 4.9. Flash LED (FLASH\_LED, D408)

The LED location is shown in the following figure.



Figure 55. LED Location

The LED indicator, D408, is a green LED that indicates the network status.

For more information, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 4.10. Buzzer LED (BUZZER, D405)

The BUZZER location is shown in the figure below.

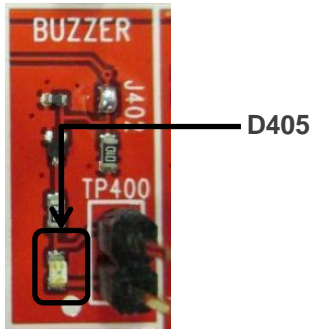


Figure 56. BUZZER Location

The BUZZER indicator, D405, is a green LED that is controlled by the BUZZER signal of the AirPrime embedded module.

For more information, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 4.11. Backup Battery Function

The AirPrime AR and WP Series Development Kit provide an input/output signal, BAT-RTC, for connecting a coin battery. This pin is used as a backup power supply to preserve the date and time when VBATT is switched OFF (no VBATT).

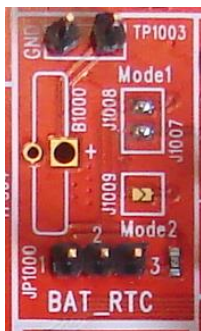


Figure 57. Coin Battery Location

### 4.11.1. Mode1

If a coin battery is used, Mode1 has to be selected by soldering J1007 and J1008, and unsoldering J1009. An MS920SE\_FL27E coin battery (B1000) is available on the AirPrime AR and WP Series Development Kit. A test point, TP1003, is available for other coin battery tests; in which case B1000 has to be removed.

### 4.11.2. Mode2

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*Note:* Mode2 is only available in AirPrime AR6 and WP7.

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If a coin battery is not used, Mode2 has to be selected by soldering J009 and unsoldering J1007 and J1008. In this case, BAT\_RTC is used as an input only.

## 4.12. JTAG

The JTAG interface is used for hardware debugging and product troubleshooting.

SW1500, SW1501 and SW502 are used for debug selection.

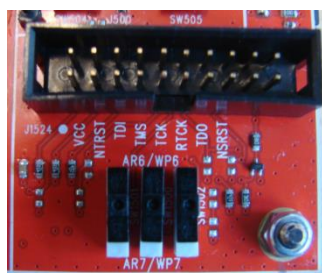


Figure 58. JTAG Connector

### 4.12.1. JTAG Connector

Refer to the following tables for JTAG connector pins description.

Table 23. JTAG Connector Pin Description for AirPrime AR6

Pin Number	Signal Name	I/O	I/O Type	Description
1	VCC_1V8_ULP	O	1V8	Digital Supply
2	VCC_1V8_ULP	O	1V8	Digital Supply
3	JTAG_NTRST	I	1V8	JTAG asynchronous reset
4	GND	-	-	GROUND
5	JTAG_TDI	I	1V8	JTAG input data
6	GND	-	-	GROUND
7	JTAG_TMS	I	1V8	JTAG test mode select
8	GND	-	-	GROUND
9	JTAG_TCK	I	1V8	JTAG scan clock
10	GND	-	-	GROUND
11	NC			JTAG return test clock from the ARM JTAG for external debug HW
12	GND	-	-	GROUND
13	JTAG_TDO	O	1V8	JTAG output data
14	GND	-	-	GROUND
15	~RESET_IN	I/O	Open Drain	Reset Input
16	GND	-	-	GROUND
17	GND	-	-	GROUND
18	GND	-	-	GROUND
19	GND	-	-	GROUND
20	GND	-	-	GROUND

Table 24. JTAG Connector Pin Description for AirPrime AR7 and WP7

Pin Number	Signal Name	I/O	I/O Type	Description
1	VCC_1V8	O	1V8	Digital Supply
2	VCC_1V8	O	1V8	Digital Supply
3	JTAG_NTRST	I	1V8	JTAG asynchronous reset
4	GND	-	-	GROUND
5	JTAG_TDI	I	1V8	JTAG input data
6	GND	-	-	GROUND
7	JTAG_TMS	I	1V8	JTAG test mode select
8	GND	-	-	GROUND
9	JTAG_TCK	I	1V8	JTAG scan clock
10	GND	-	-	GROUND
11	JTAG_RTCK	O	1V8	JTAG return test clock from the ARM JTAG for external debug HW
12	PS_HOLD			
13	JTAG_TDO	O	1V8	JTAG output data
14	GND	-	-	GROUND
15	JTAG_NSRRST	I/O	Pull-up inside the module	Reset Input
16	GND	-	-	GROUND
17	GND	-	-	GROUND
18	GND	-	-	GROUND
19	GND	-	-	GROUND
20	GND	-	-	GROUND

## 4.13. Antenna Function

Depending on the AirPrime embedded module, several antenna connections are available from the socket board.



Figure 59. SMA Connectors on the AirPrime AR7 and WP7 Socket Board

For further information regarding antenna functions, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 4.14. External Board Connector (J200 and J201)

The external board connectors are used as an interface to connect an external test bench for testing or debugging.



Figure 60. External Board Connector, J200

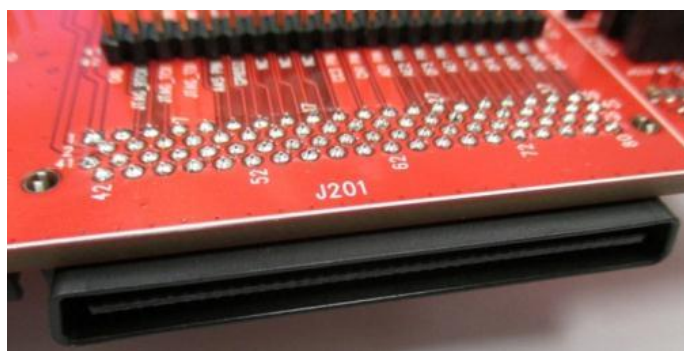


Figure 61. External Board Connector, J201

Most of the AirPrime Socket Board signals are connected to the external board connector (J200 and J201) and are available via the test points on the AirPrime AR and WP Series Development Kit Board. The test ports on the development kit board and the external board connector (J200 and J201) have a one to one correspondence on the external board connector. Refer to Table 5 AirPrime AR and WP Series Development Kit Test Ports for pins descriptions.

## 4.15. Other Interfaces

Other interfaces and signals available on the AirPrime AR and WP Series Development Kit can be accessed using either the test points on the development kit board or from the external board connector, J200. The following sub-sections describe these additional interfaces and signals.

Refer to sections Available Test Ports on the AirPrime AR and WP Series Development Kit and 4.14 External Board Connector (J200 and J201) for test point location and pin description.

For further technical information, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

### 4.15.1. Power Supply Function

These outputs (VCC\_1V8 and VCC\_UART1) from the AirPrime embedded module can be used to connect pull-up resistors. VCC\_1V8 is 1.8V; VCC\_UART1 is 2.8V for AirPrime AR6; and 1.8V for AirPrime AR7 and WP7. These outputs must only be used as reference supplies.

## 4.15.2. Serial Interface

The AirPrime embedded module may be connected to an LCD module driver through either an SPI bus (3 or 4-wire interface) or an I<sup>2</sup>C bus (2-wire interface).

### 4.15.2.1. SPI Bus

The SPI bus is used for audio codec control. (Jumpers J306 to J308 have to be removed when the external connector, J200, is used.)

For more information about this interface, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

### 4.15.2.2. I<sup>2</sup>C Bus

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*Note:* Although I<sup>2</sup>C1 is available on all AirPrime AR and WP embedded modules, I<sup>2</sup>C2 is only available in AirPrime AR6.

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For more information regarding the I<sup>2</sup>C interface on the embedded module, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 4.15.3. ADC Function

An internal channel, ADC0, is used to monitor the VBATT voltage.

For more information about this interface, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 4.15.4. External Interrupt

Many GPIOs of the AirPrime embedded module can be declared and used as an external interrupt signal by software with differing voltages.

For more information about this interface, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 4.15.5. Parallel Interface

The AirPrime embedded module may be connected to an LCD module or an Ethernet controller (AR6 socket board) driver through a parallel bus interface.

For more information about this interface, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

## 5. ESD Protections

External ESD protections are available on the AirPrime AR and WP Series Development Kit and on the socket board for the following functions:

- SIM1, SIM2
- USB1, USB2

Other interface signals protected on the AirPrime embedded module are:

- UART1 signals with the ADM3307 transceiver
- UART2 and UART3 signals with the MAX13235 transceiver

---

**Caution:** *As the test points on the AirPrime AR and WP Series Development Kit are not protected against ESD discharge and they are directly connected to the signal pins of the AirPrime embedded module, users must be careful when using these TP signals.*

---

## 6. Current Consumption Measurement

To measure the current consumption of the AirPrime embedded module, configure the AirPrime AR and WP Series Development Kit as shown in the following sub-sections.

**Caution:** Before making any of the adjustments below, ensure that the AirPrime AR and WP Series Development Kit is disconnected from the power supply.

Note that with the configuration described in the following sub-sections, the consumption current from VBATT is only that of the soldered-down AirPrime embedded module. For more information about the AirPrime embedded module and its current consumption, refer to the Product Technical Specification of the corresponding AirPrime embedded module.

### 6.1. AirPrime Development Kit Board

Configure the AirPrime Development Kit Board by removing the jumper on TP1001 around the VBATT area, and adding an ammeter between these 2 pins. Supply the development kit board by J1002 VBAT only.

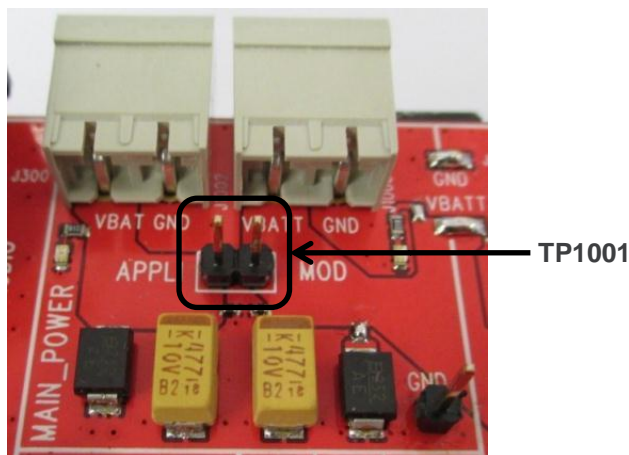


Figure 62. Remove Jumper TP1001

Ensure that switches are in the correct positions. Refer to the following table for more information.

Table 25. Power Consumption Measurement Switch Positions

Switch	Position
SW1500	"AR6/WP6"
SW1501	"AR6/WP6"
SW1502	"AR6/WP6"
SW600	"OFF"
SW601	"ON"
SW400	"ON"
SW401	"OFF"

For low current measurement configuration, remove D1000, R1001, R1513, R1524 and R1525.

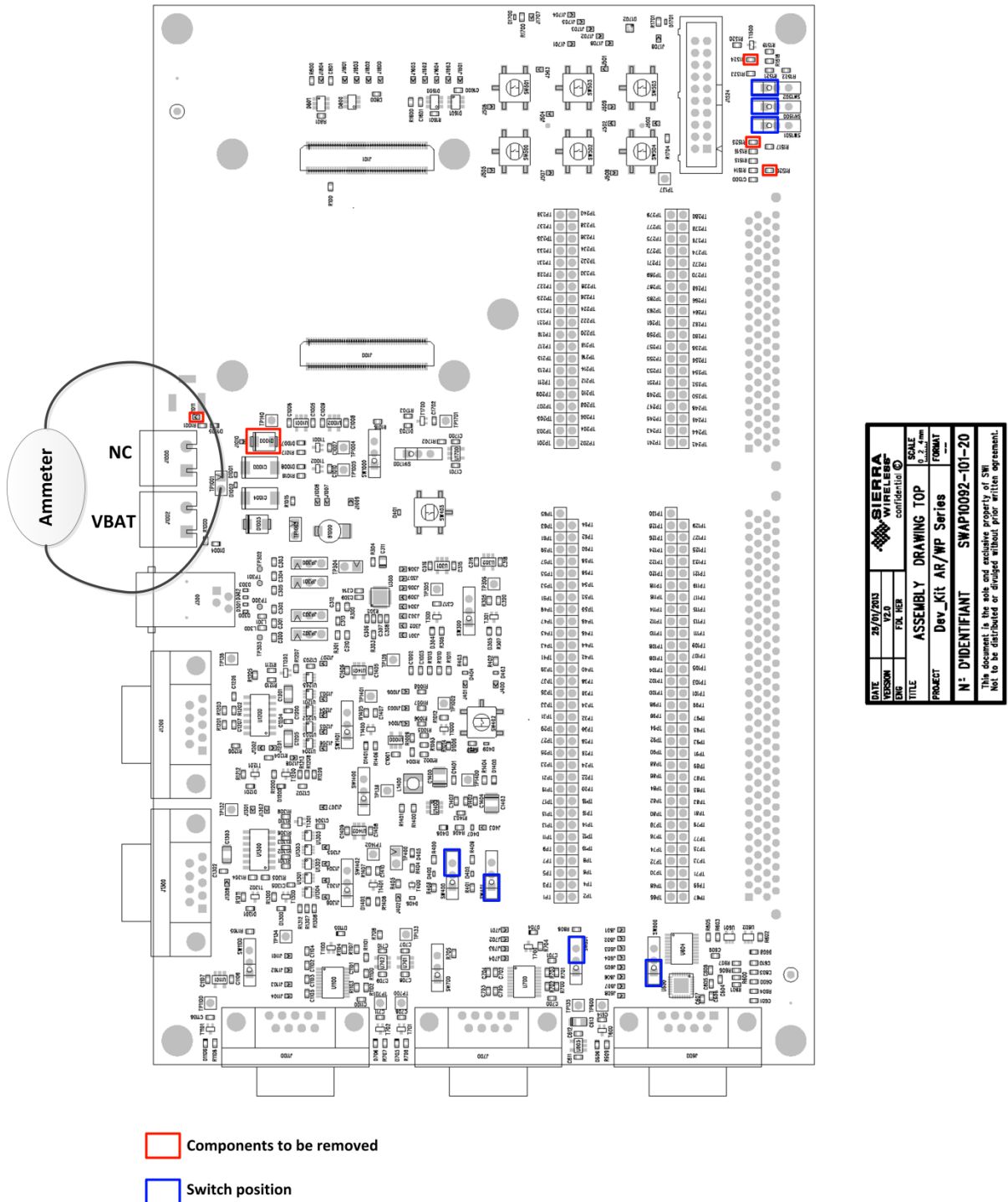


Figure 63. Current Consumption Configuration



## 7. Reference Documents

- [1] AirPrime AR6x Product Technical Specification and Customer Design Guidelines  
Reference: 4112718
- [2] AirPrime AR755x Series Product Technical Specification  
Reference: 4112476
- [3] AirPrime WP710x Product Technical Specification and Customer Design Guidelines  
Reference: 4112582
- [4] AT Commands Interface Guide for Open AT Application Framework Firmware 7.52  
Reference: 4111843
- [5] AirPrime AR7 Series AT Commands Interface Specification  
Reference: 4112841
- [6] AirPrime WP710x-G AT Commands Interface Guide  
Reference: 4112796



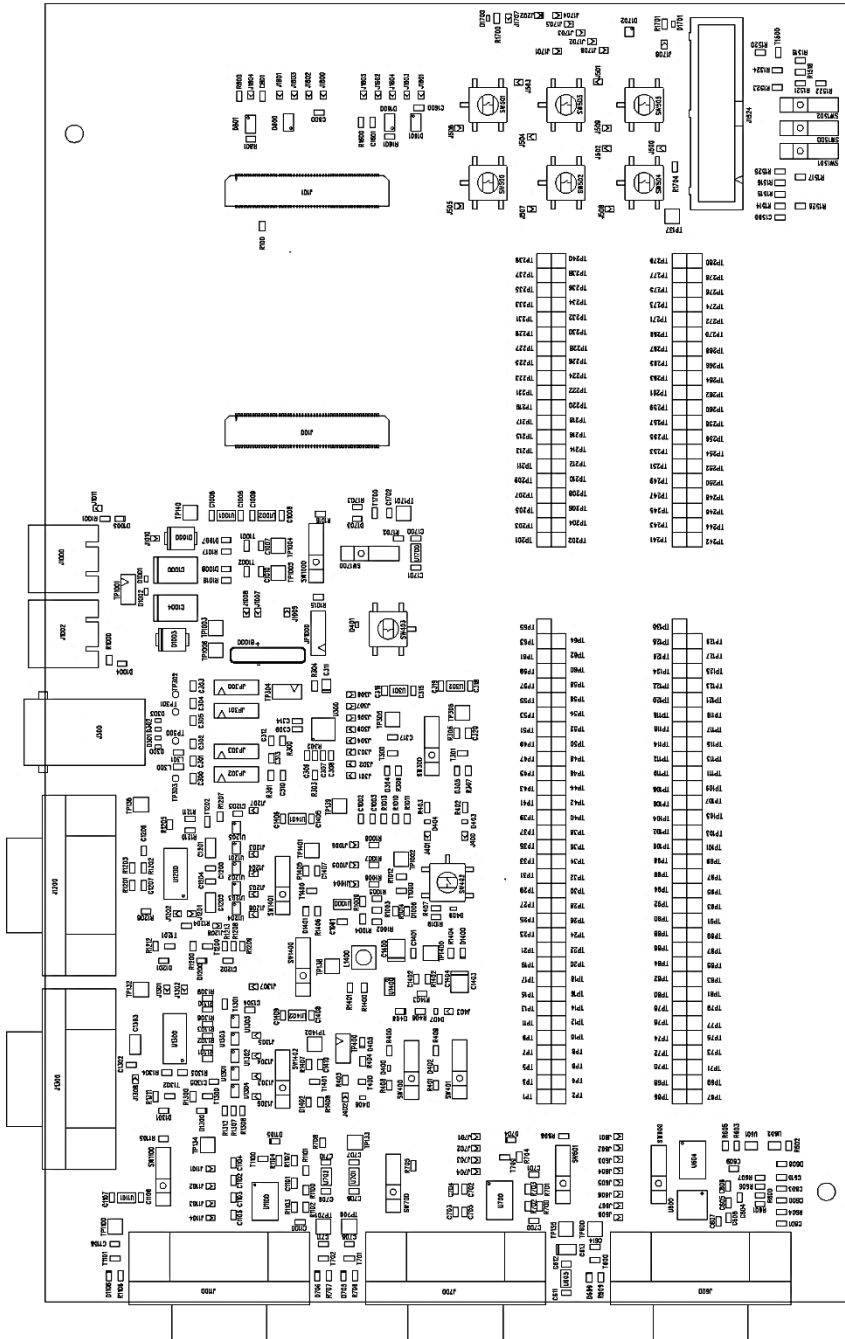
## 8. List of Abbreviations

Abbreviation	Definition
ADC	Analog to Digital Converter
AUX	AUXiliary
CLK	CLock
CPU	Central Process Unit
CTS	Clear To Send
DAC	Digital to Analog Converter
DC	Direct Current
DCD	Data Carrier Detect
DCE	Data Communication Equipment
DSR	Data Set Ready
DTE	Data Terminal Equipment
DTR	Data Terminal Ready
ESD	ElectroStatic Discharges
GND	GrouND
GPI	General Purpose Input
GPIO	General Purpose Input Output
GPO	General Purpose Output
IIC (I2C)	Inter IC Control bus
I/O	Input / Output
MIC	MICrophone
PC	Personal Computer
PCB	Printed Circuit Board.
PCM	Pulse Code Modulation
PWM	Pulse Width Modulation
RF	Radio Frequency
RI	Ring Indicator
RTC	Real Time Clock
RTS	Request To Send
RXD	Receive Data
SIM	Subscriber Identity Module
SPI	Serial Peripheral Interface
SPK	SPeaKer
TP	Test Point
TXD	Transmit Data
UART	Universal Asynchronous Receiver-Transmitter
USB	Universal Serial Bus

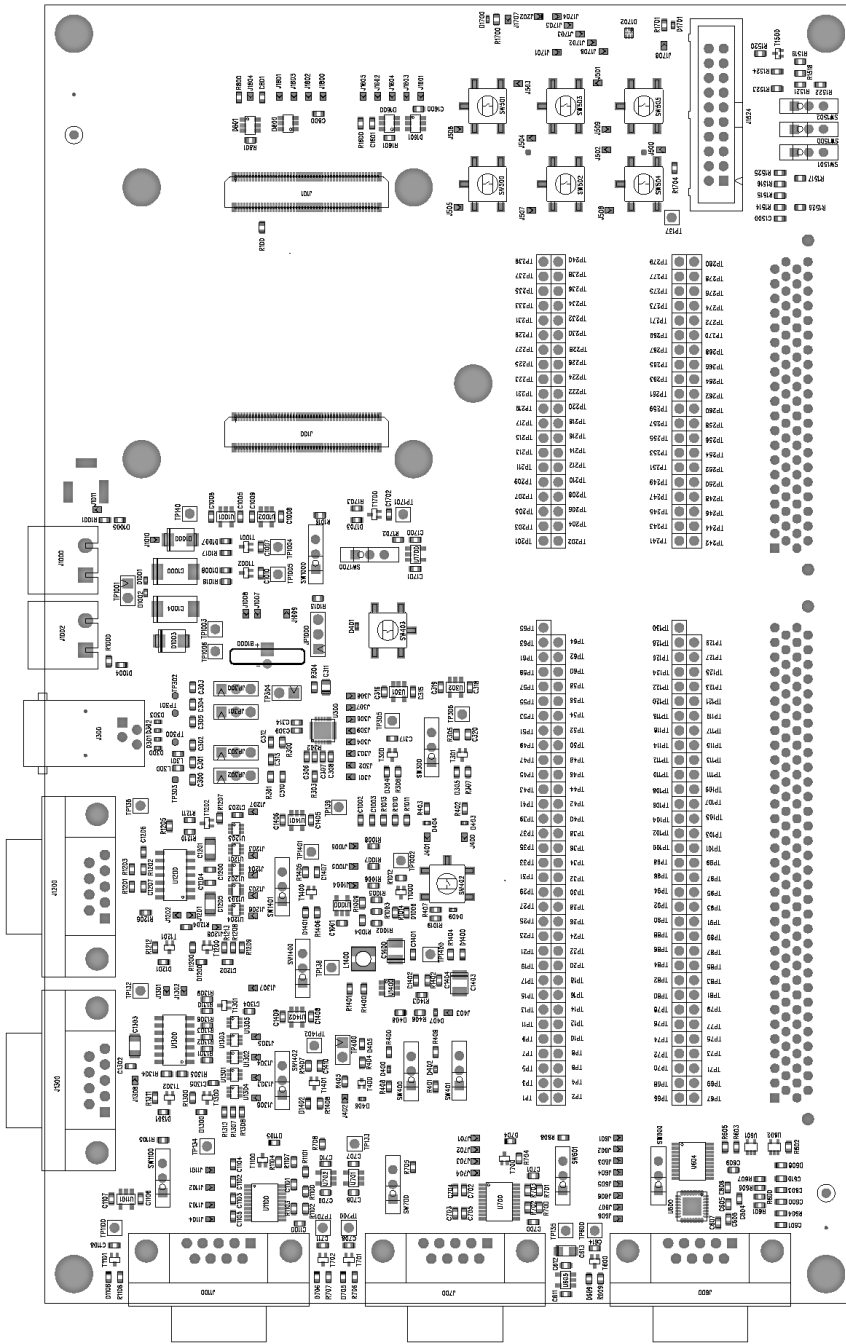
# 9. Appendix

This section contains schematic diagrams of the AirPrime AR and WP Series Development Kit and AirPrime AR6, AR7 and WP7 Socket Boards.

## 9.1. AirPrime Development Kit

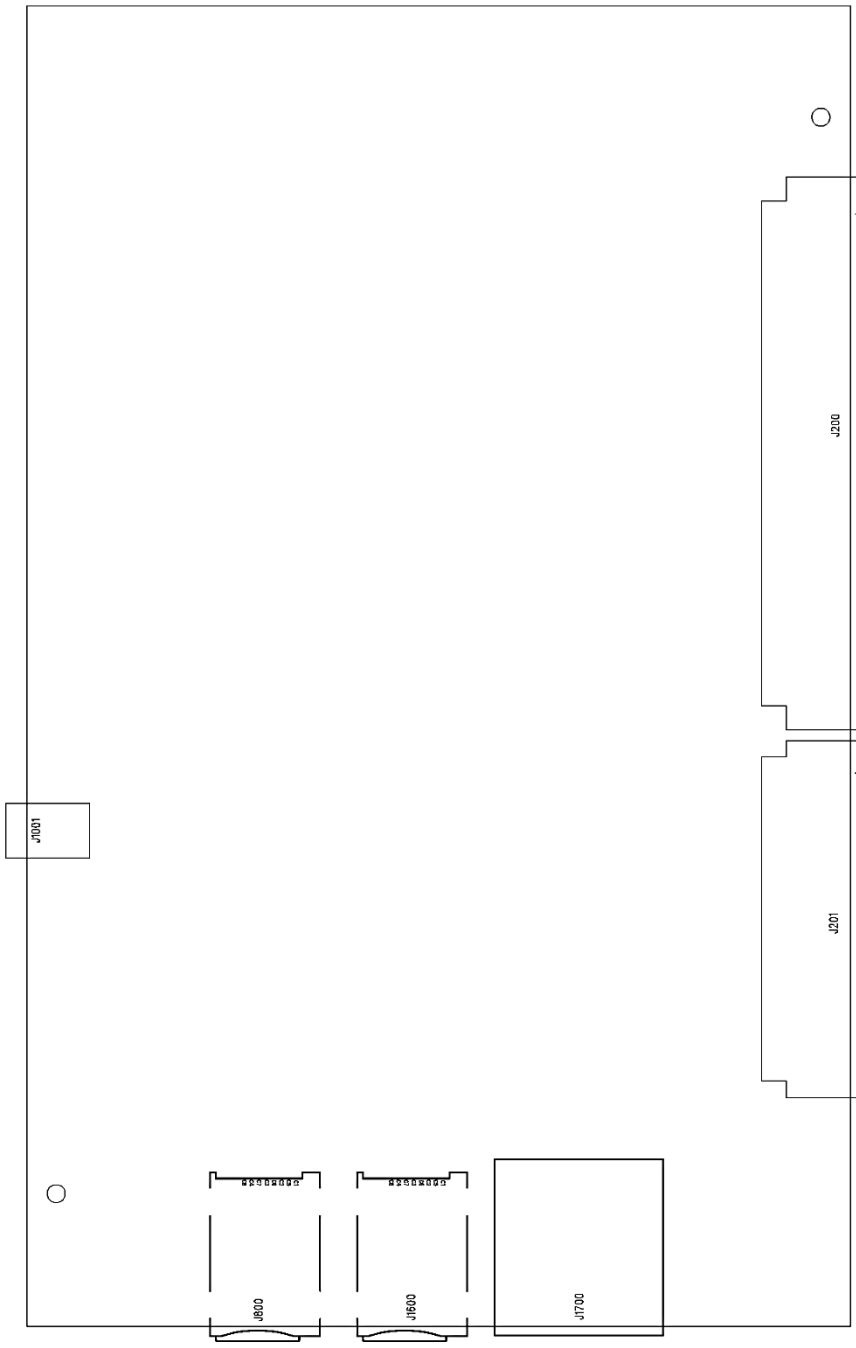


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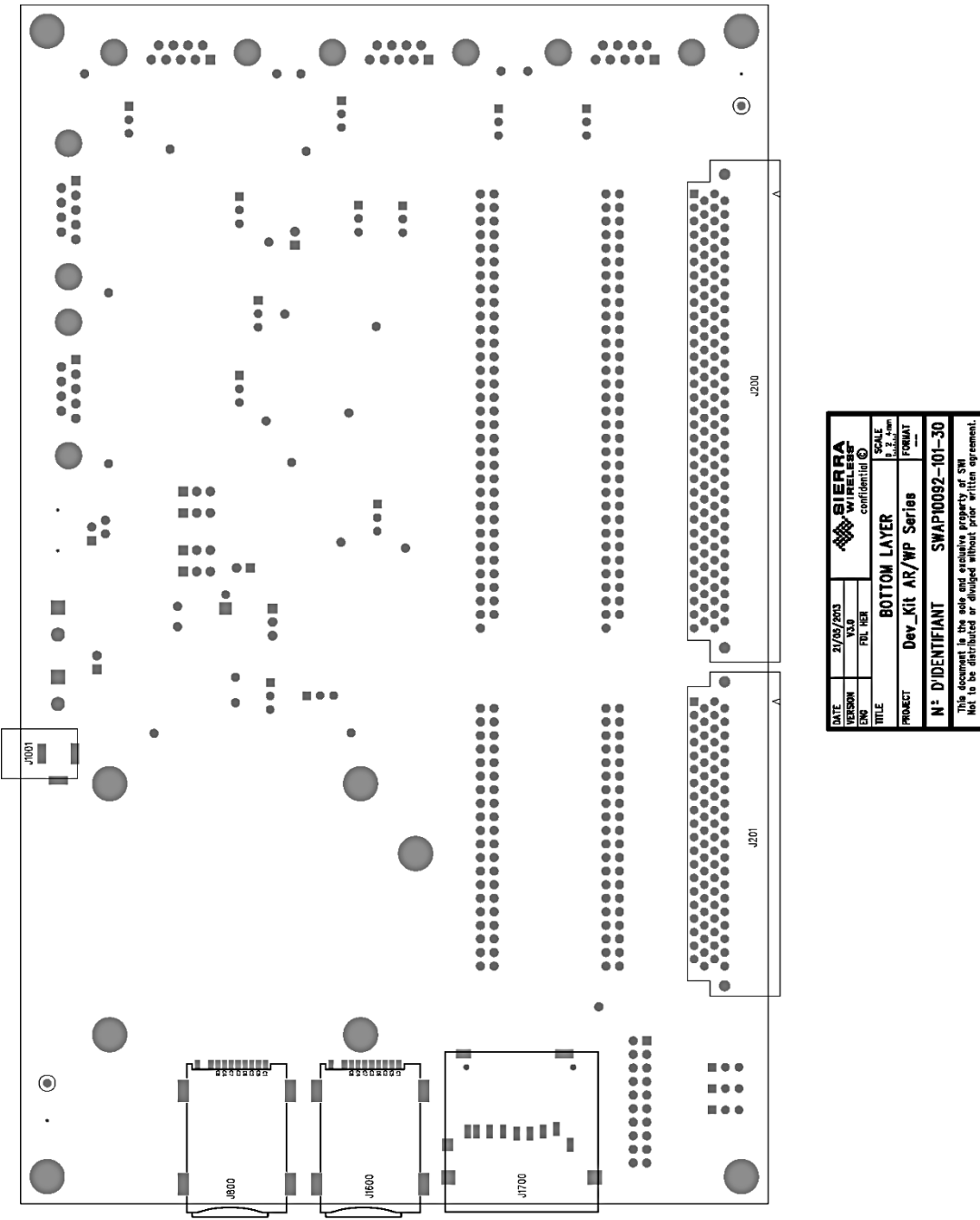
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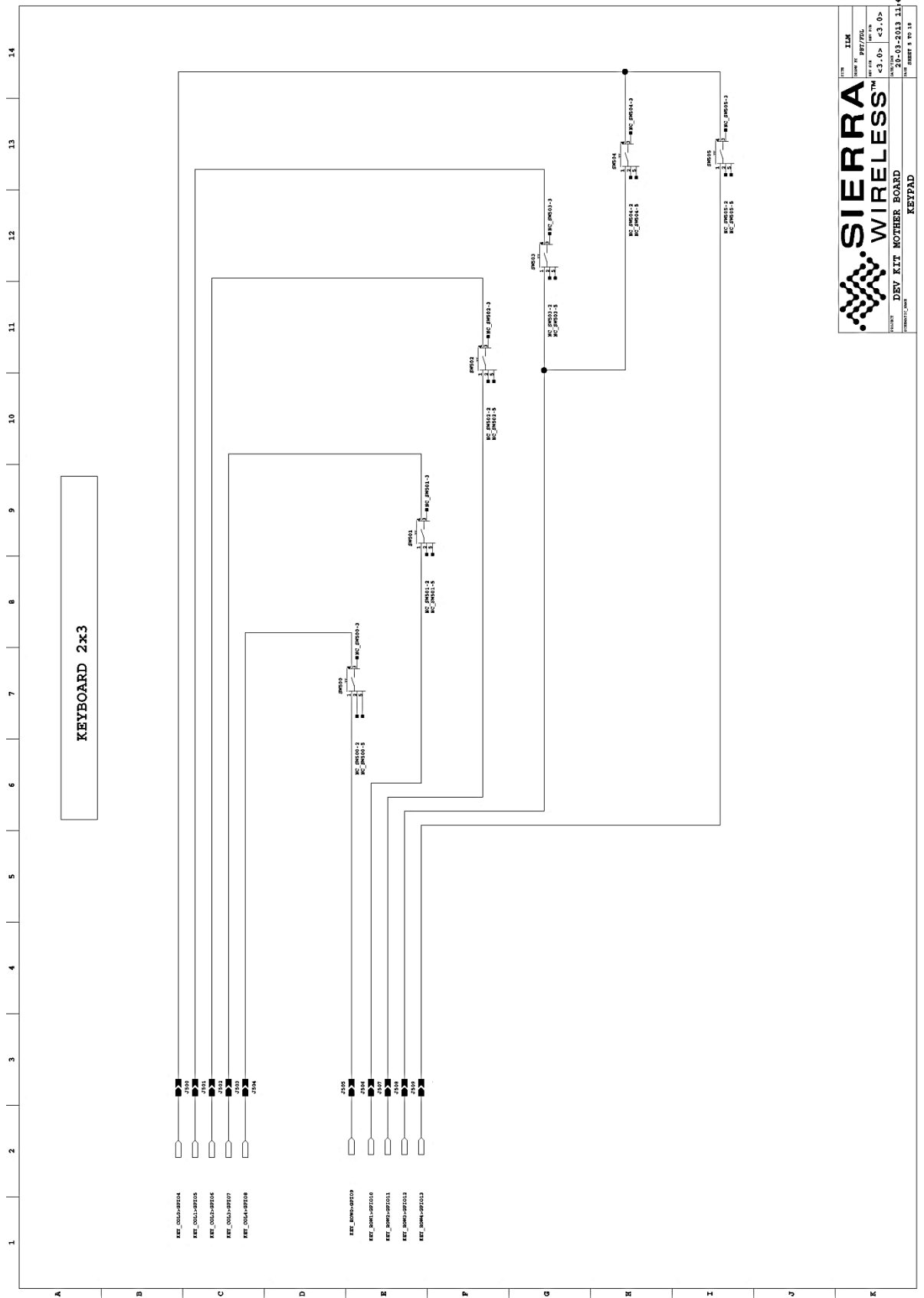
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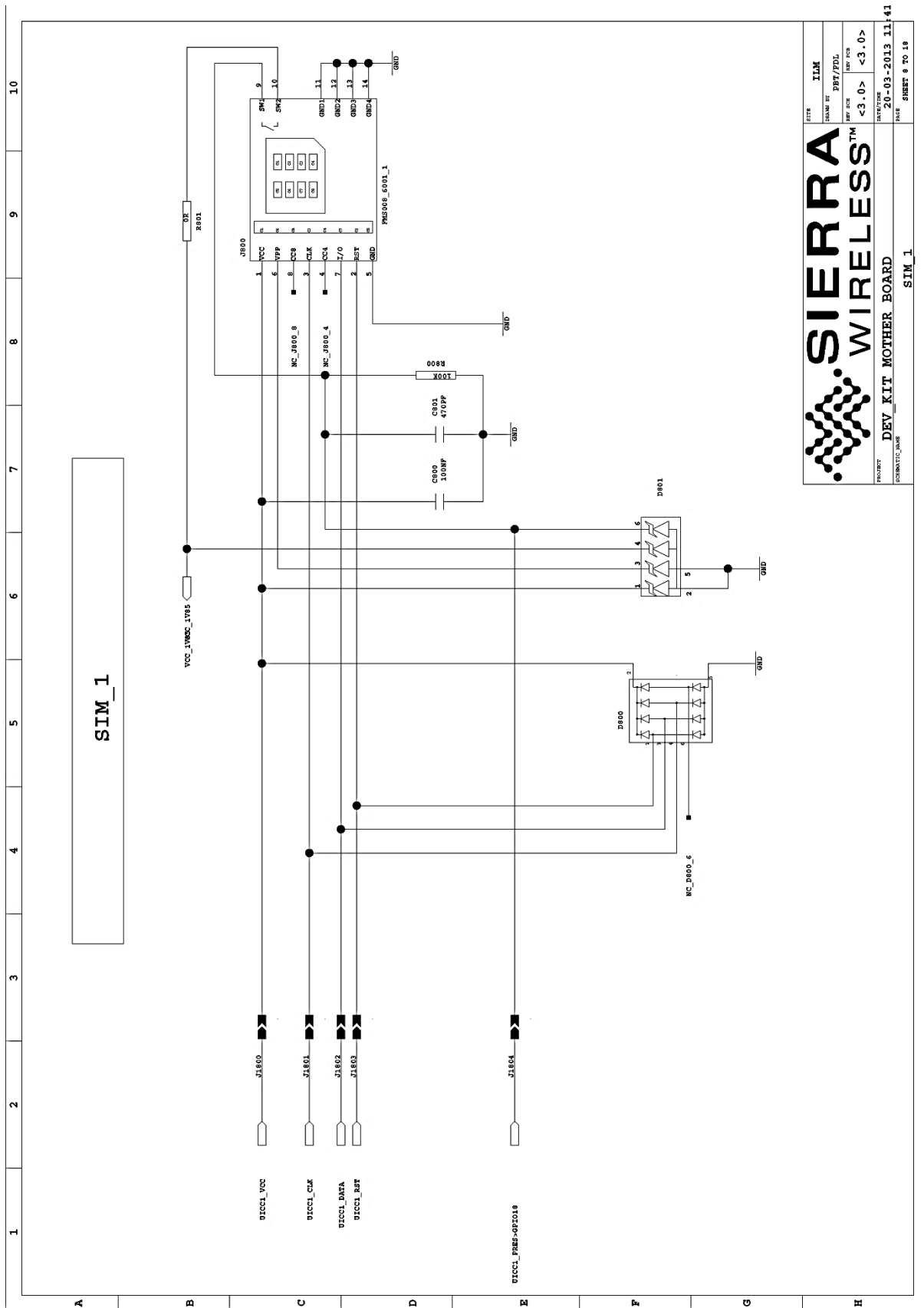
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**DEV KIT MOTHER BOARD**

**KEYPAD**

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DESIGNER	3.0
DATE	20-03-2013 11:41
REV	1.0
DATE	07/17/15



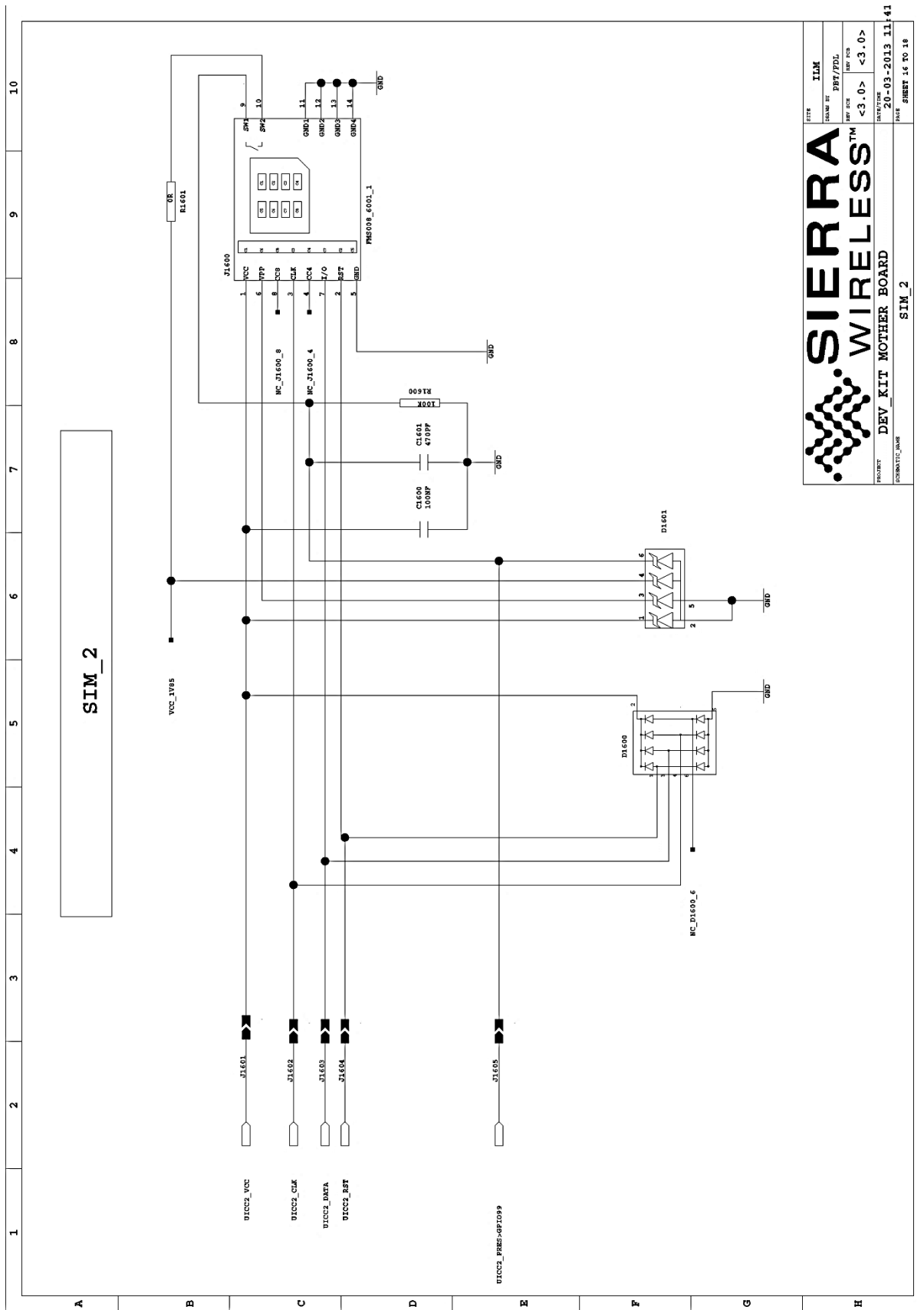


**SIERRA WIRELESS™**

DEV KIT MOTHER BOARD

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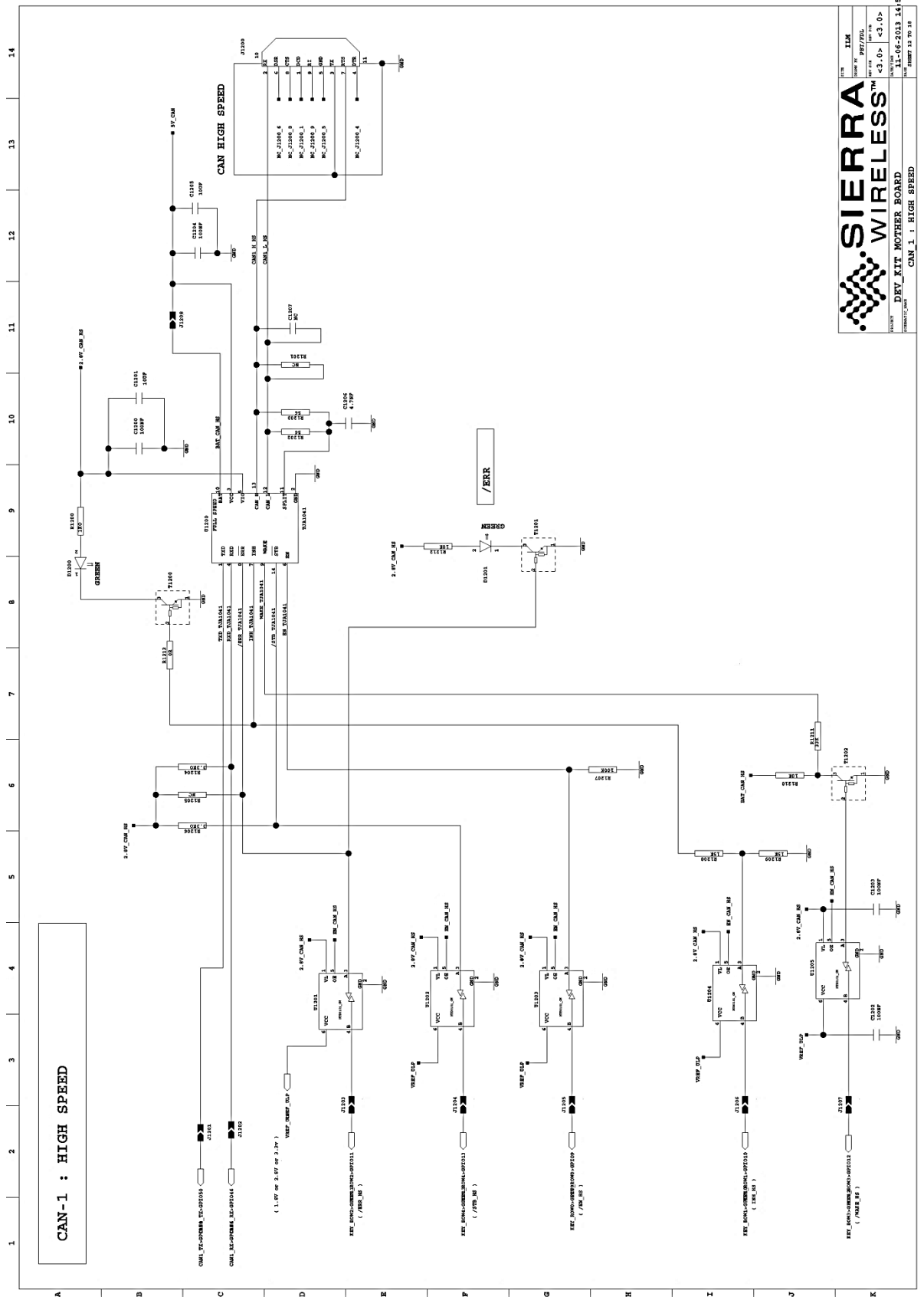


**SIERRA WIRELESS™**

DEV KIT MOTHER BOARD

SIM\_2

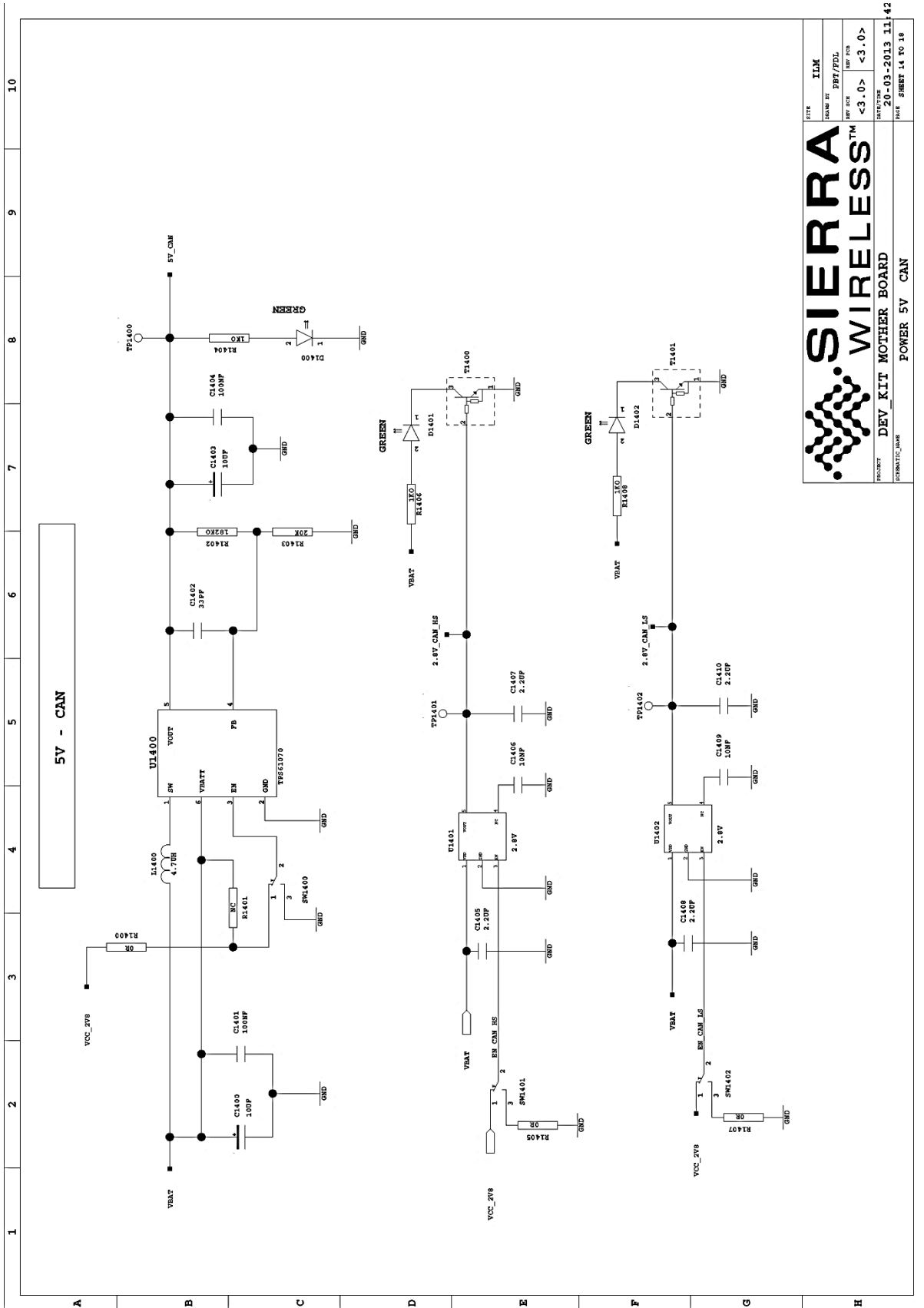
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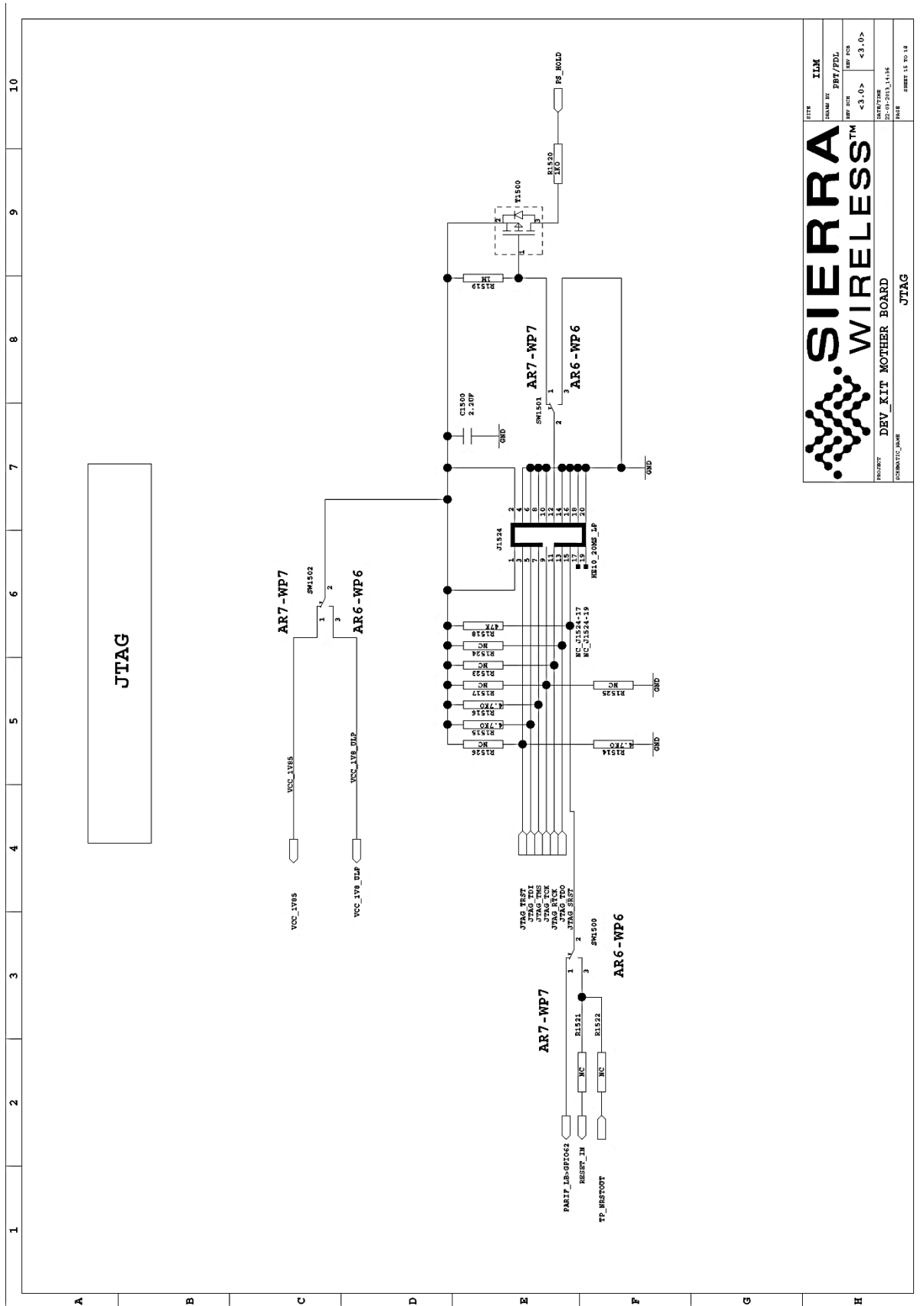




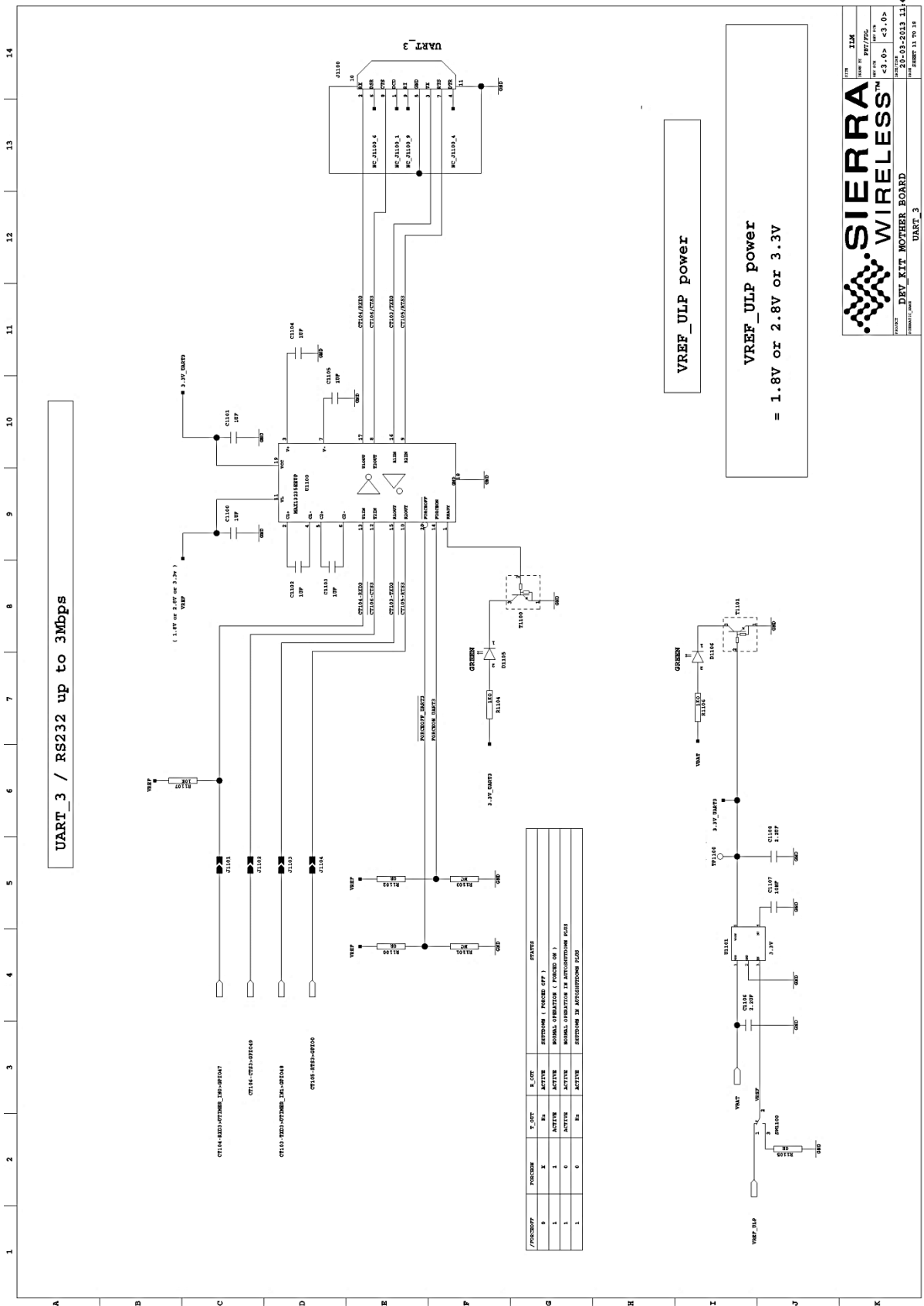
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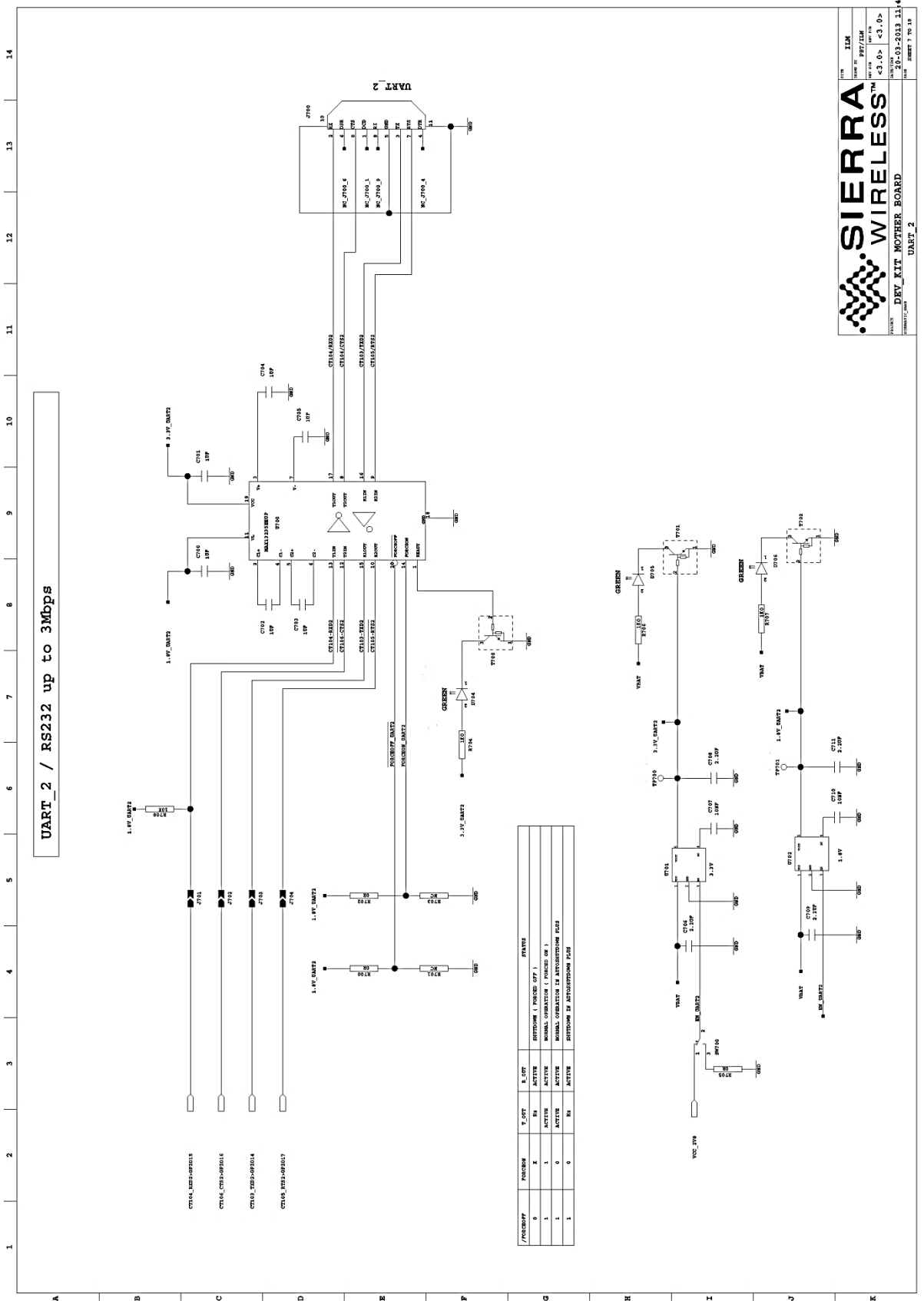


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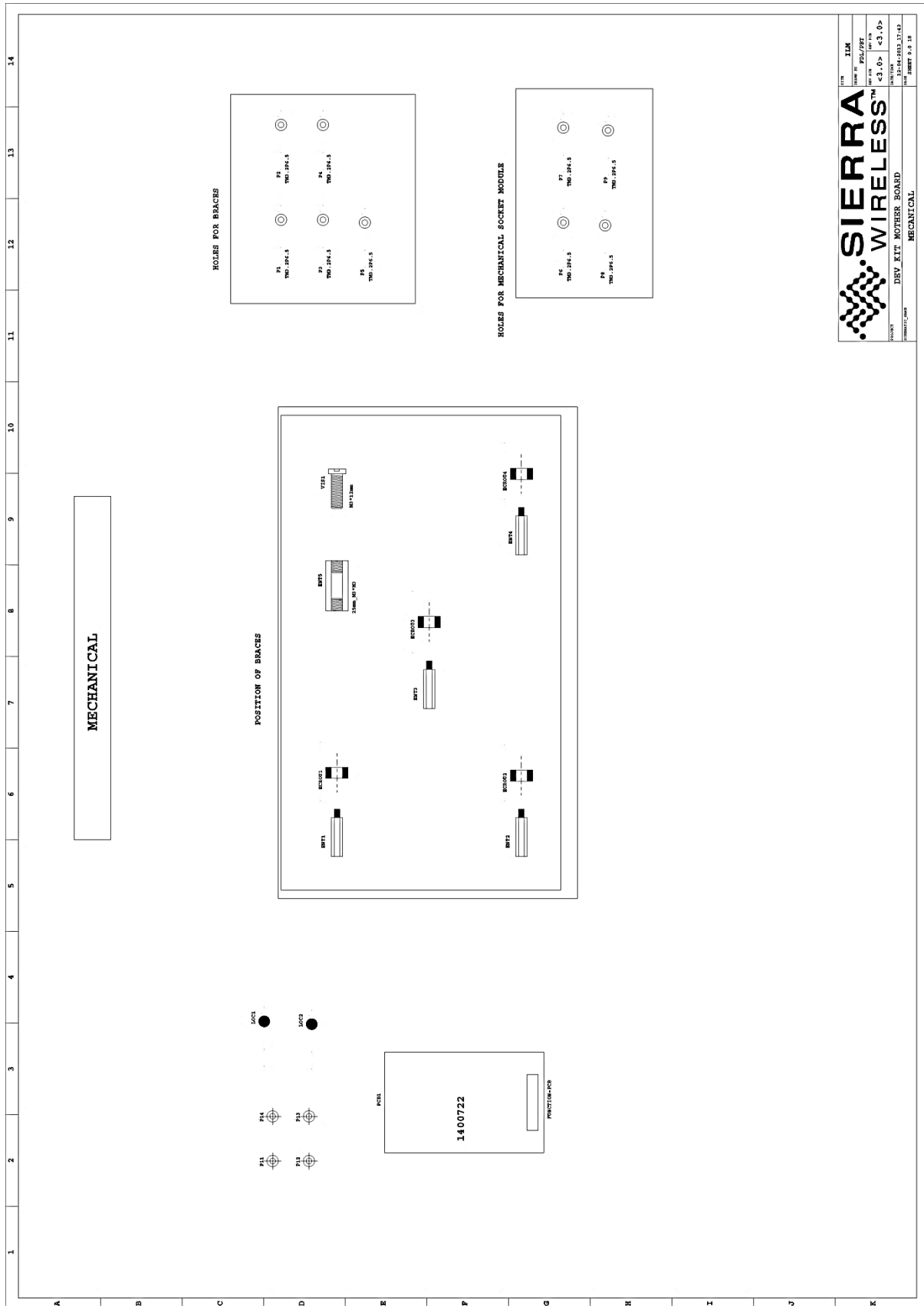
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PART # 4114218



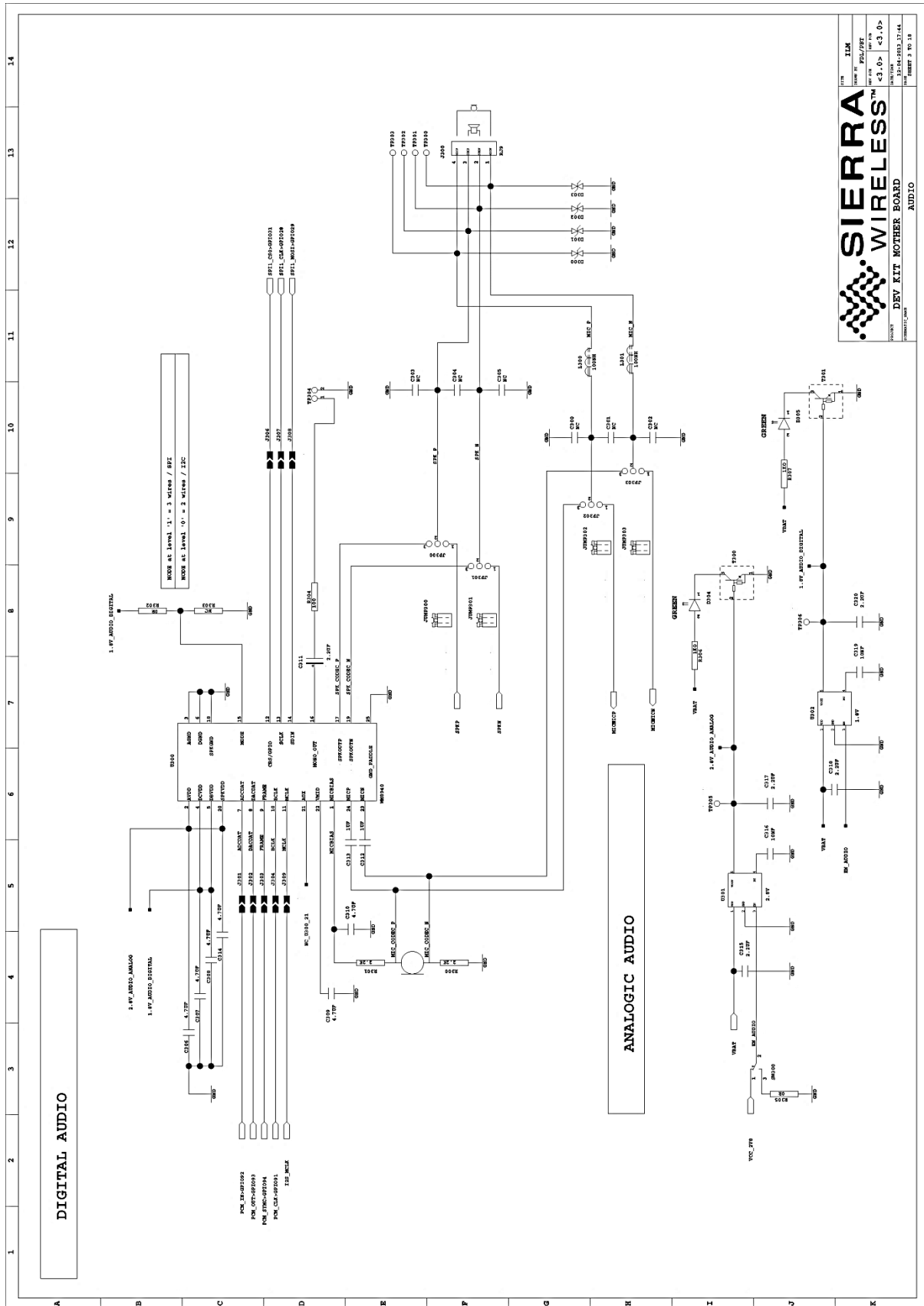
**SIERRA WIRELESS**  
 DEV KIT MOTHER BOARD  
 UUART\_2

REV: 1.0  
 DATE: 08/11/10  
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 20-03-2013 11:42  
 SHEET 7 OF 18

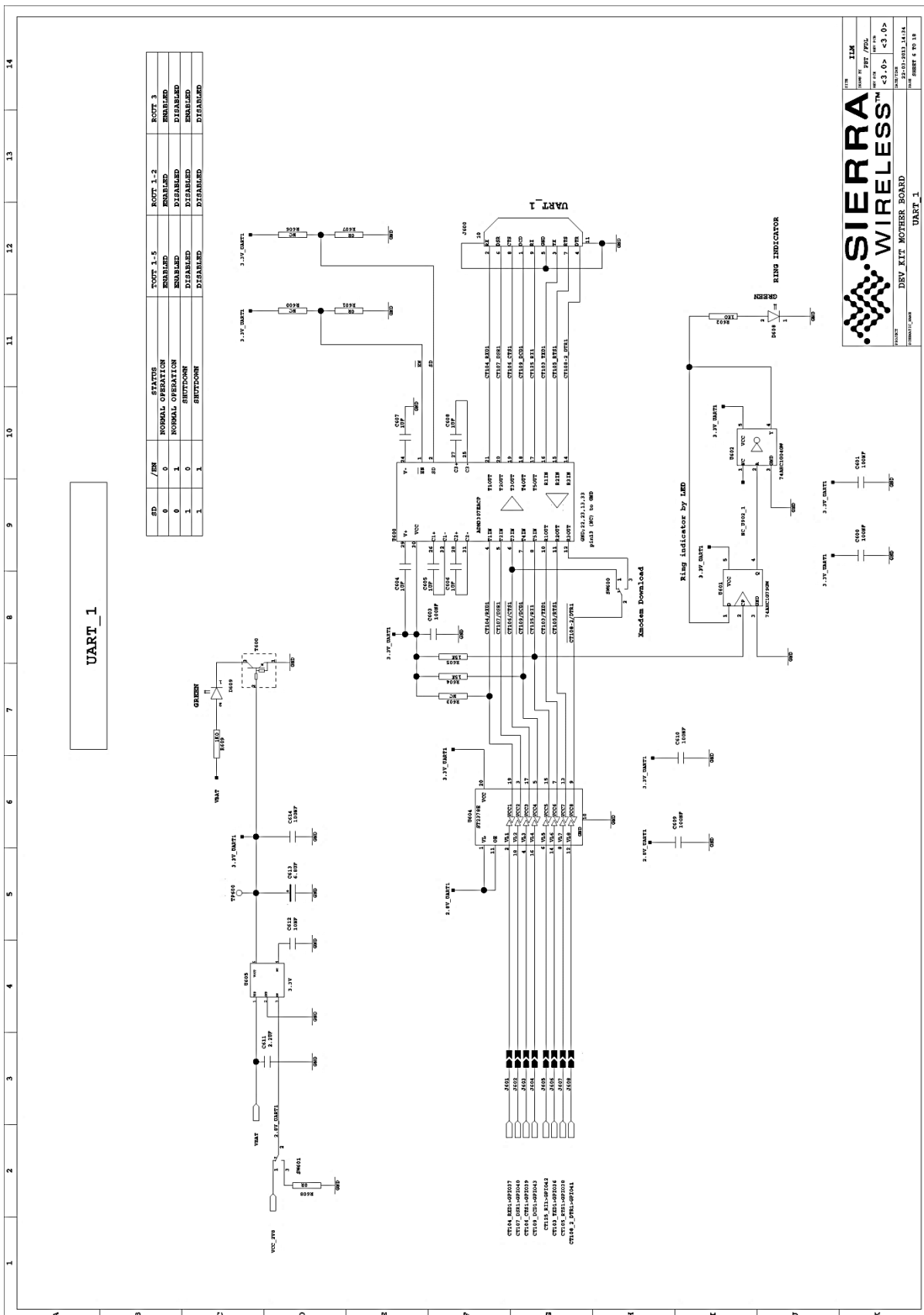






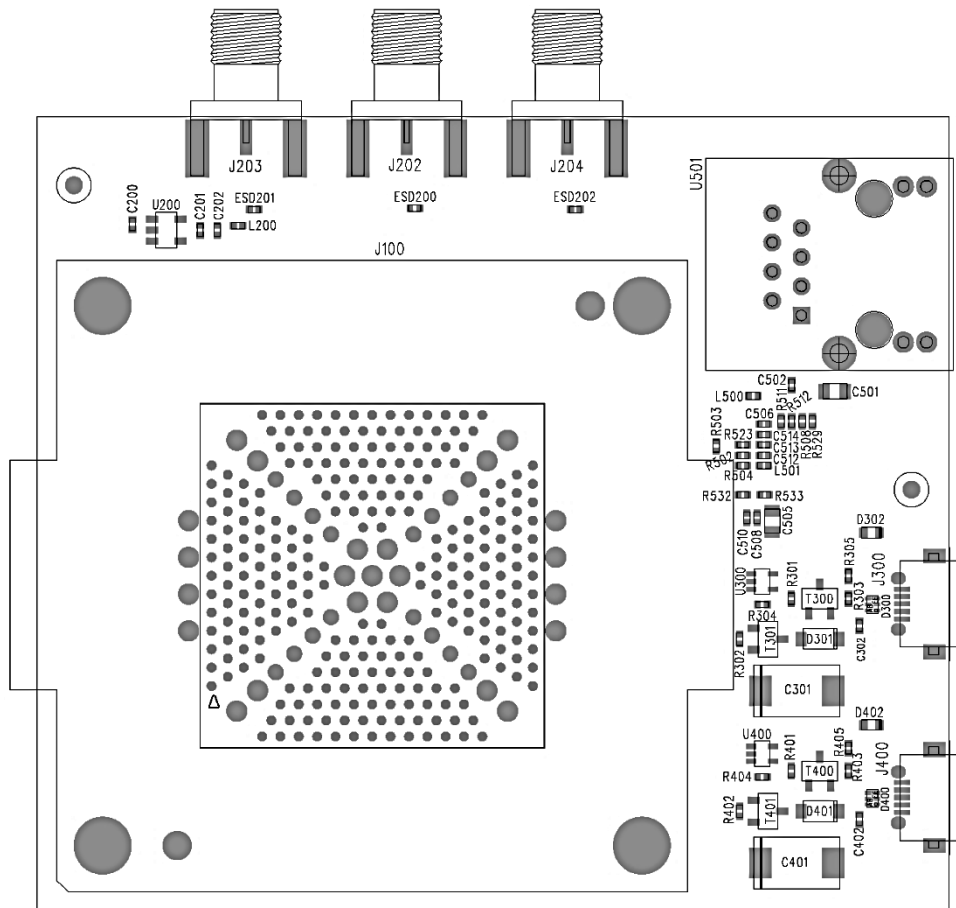



**SIERRA WIRELESS**  
DEV KIT MOTHER BOARD  
AUDIO

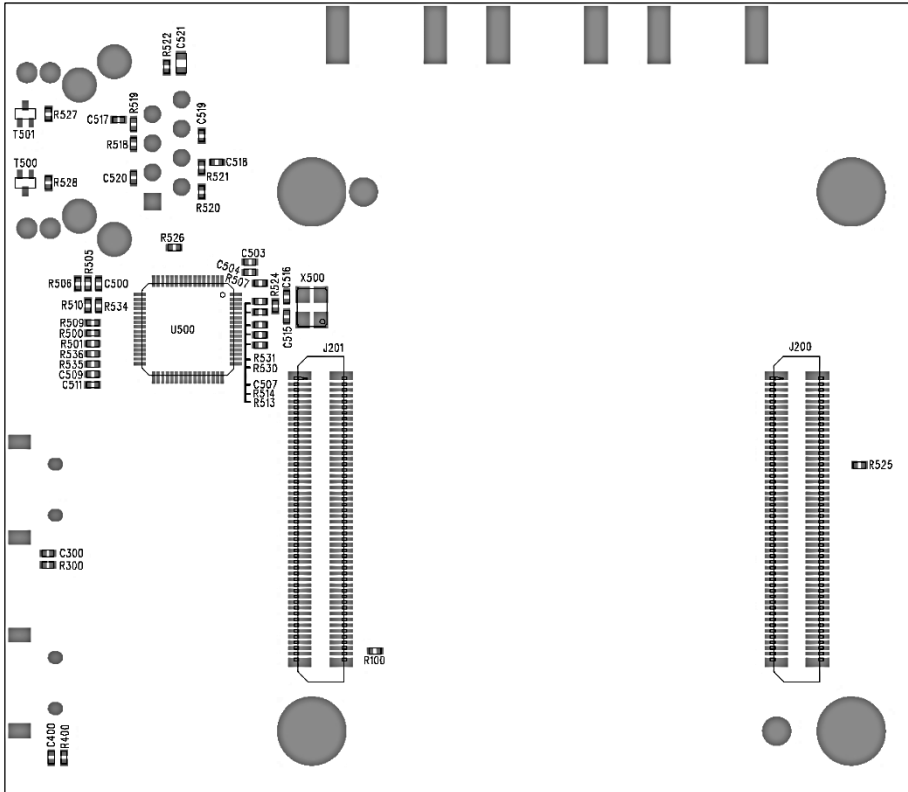



## 9.2. AR6 Socket Board

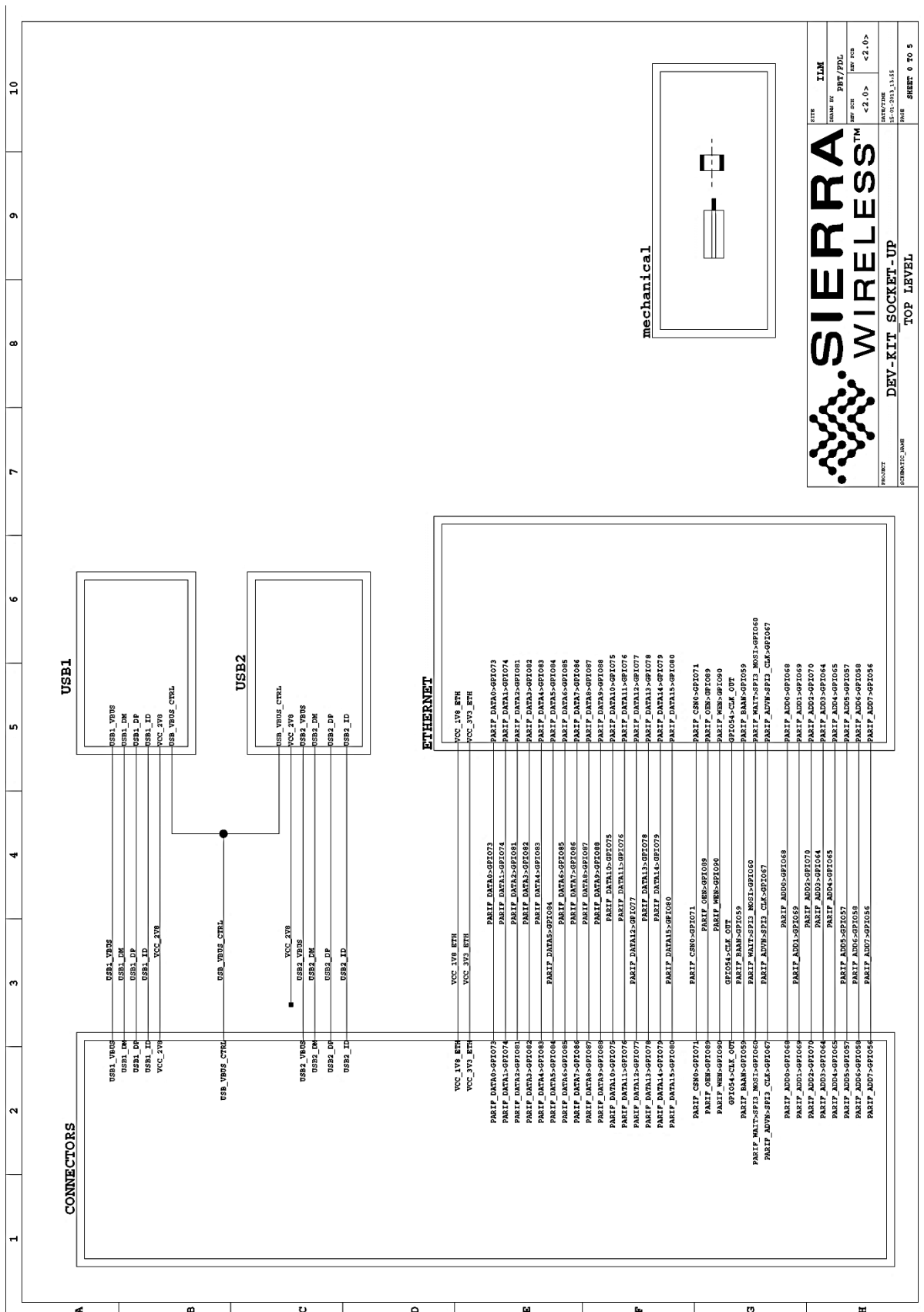
*Note: Components, connectors and their placements may vary from one socket board to another.*

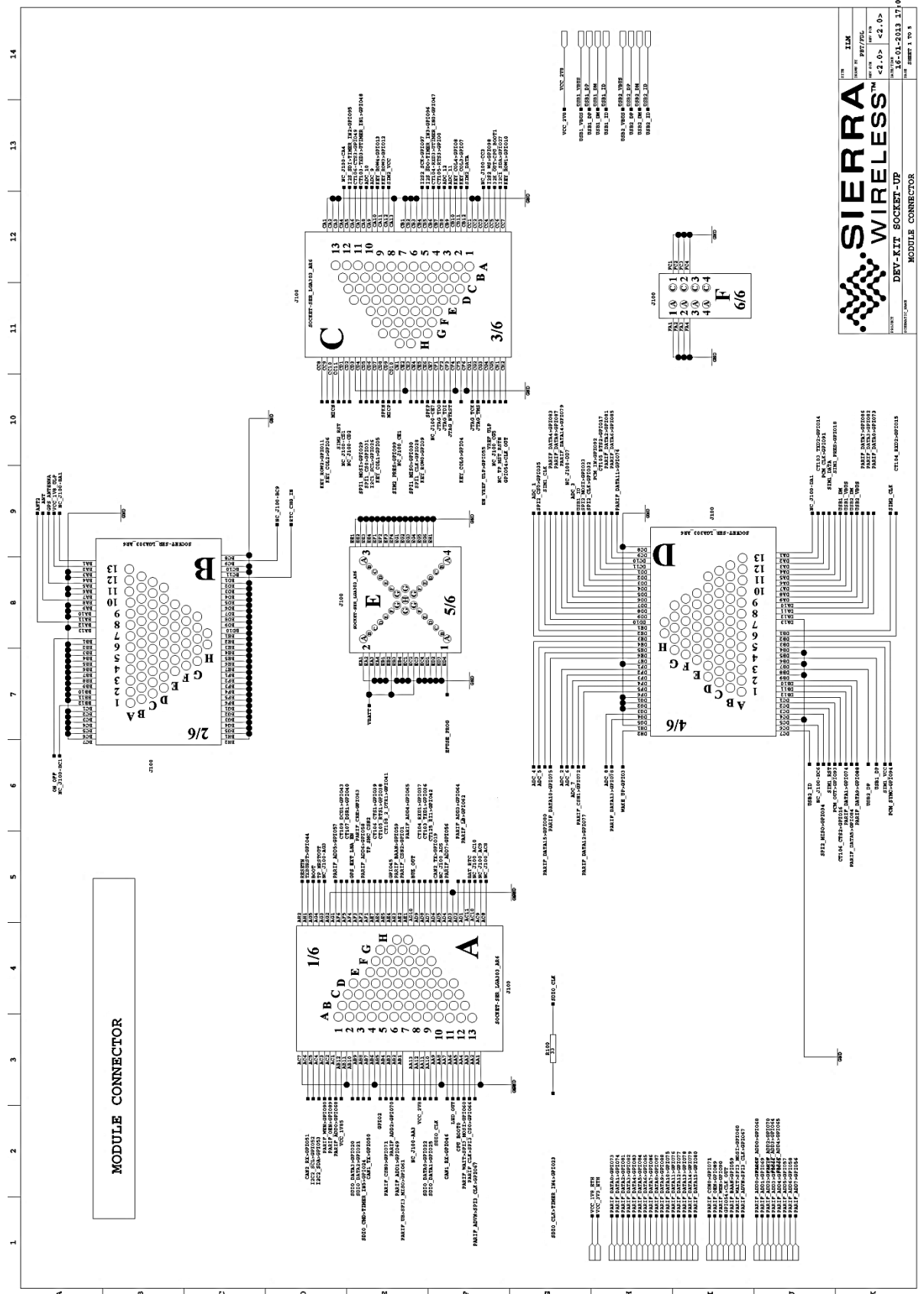


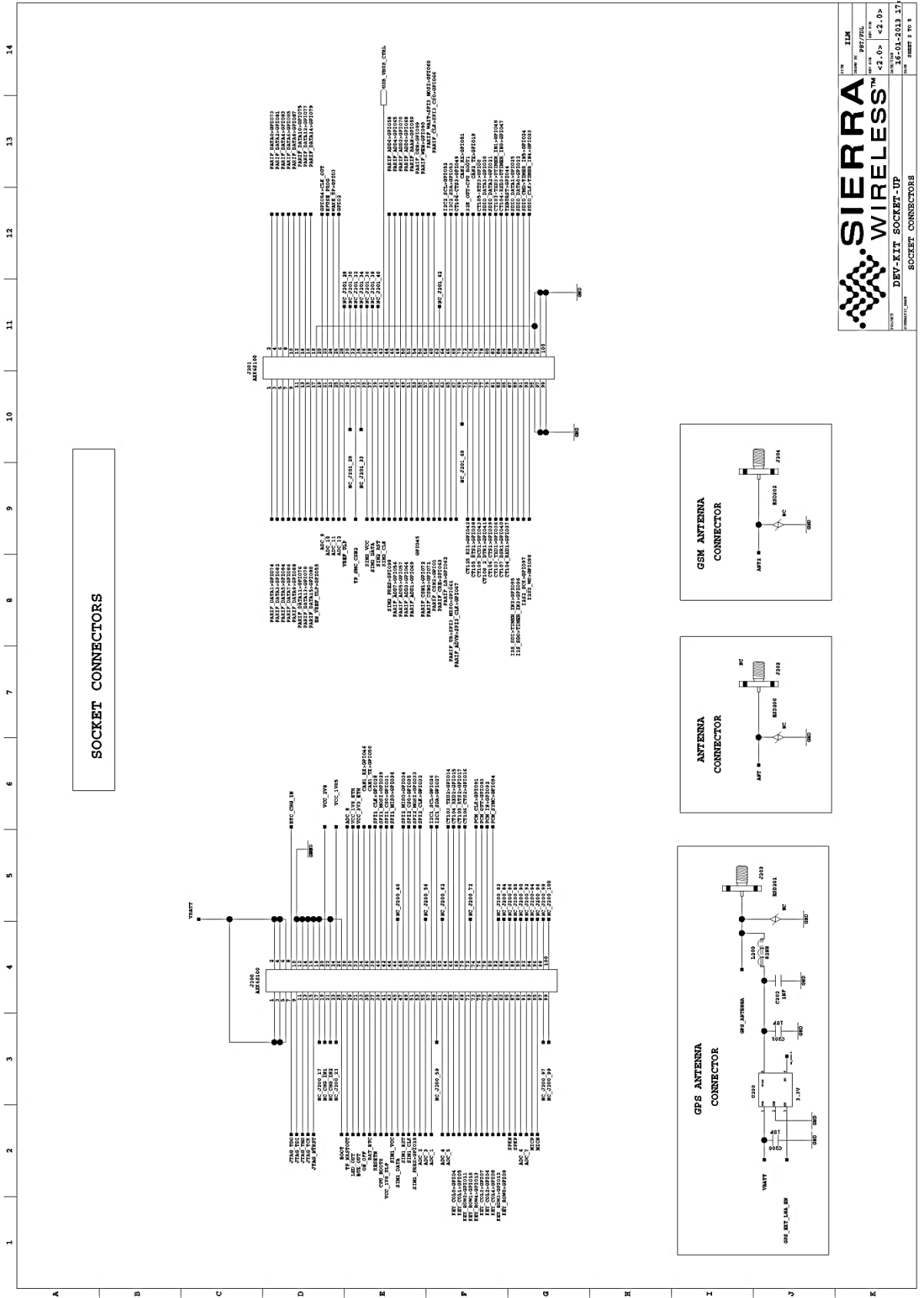
DATE	28/01/2013	 <b>SIERRA WIRELESS™</b> confidential ©
VERSION	V2.0	
ENG	FDL HER	
TITLE	ASSEMBLY DRAWING TOP	SCALE 0,2 4mm
PROJECT	Socket_up Dev_Kit AR	FORMAT ---
N° D'IDENTIFIANT		SWAP10092-102-20
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DATE	28/01/2013	 <b>SIERRA WIRELESS™</b> confidential ©
VERSION	V2.0	
ENG	FDL HER	
TITLE	ASSEMBLY DRAWING BOT	SCALE 0.2 4mm
PROJECT	Socket_up Dev_Kit AR	FORMAT --
N° D'IDENTIFIANT		SWAP10092-102-20
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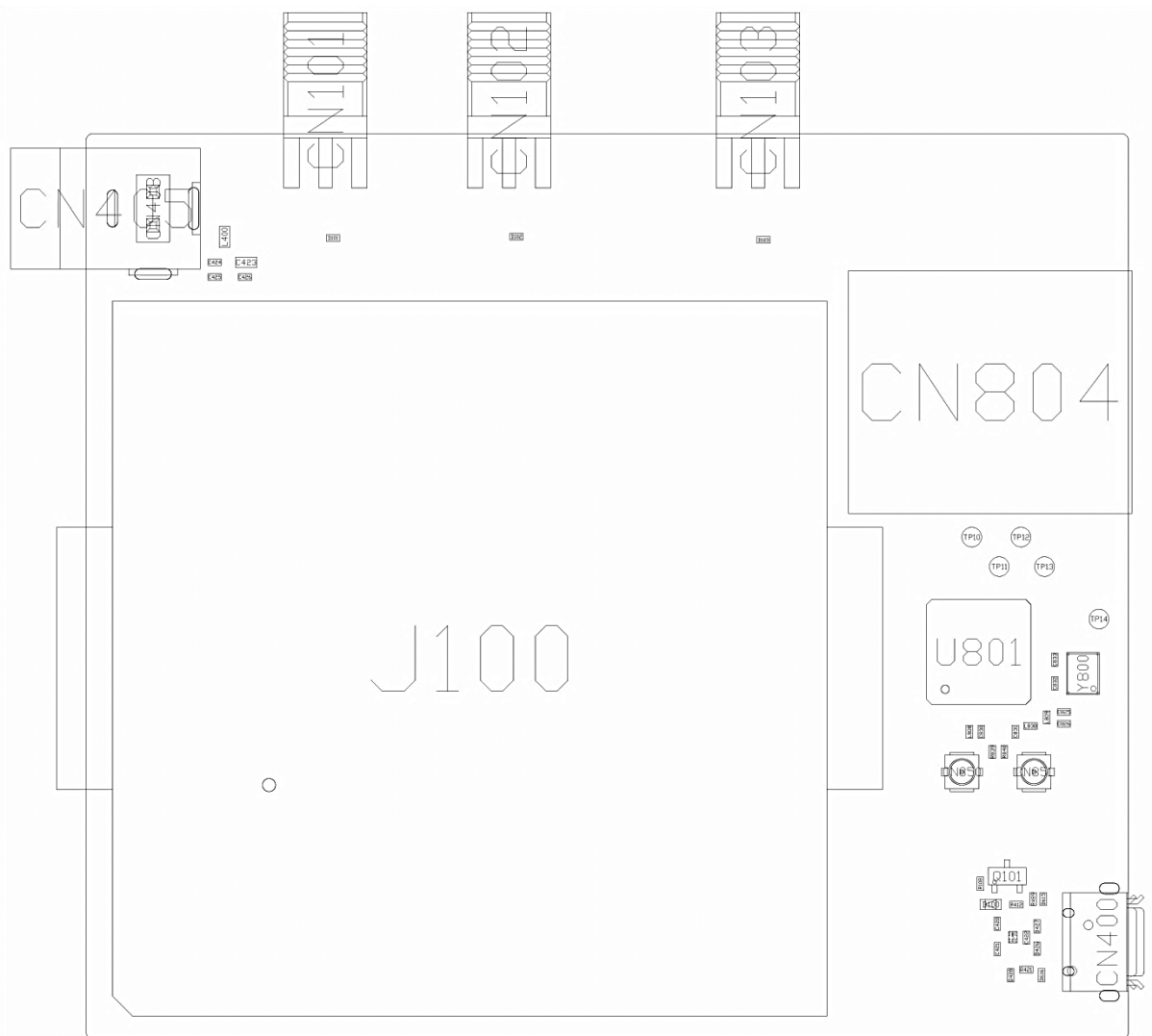




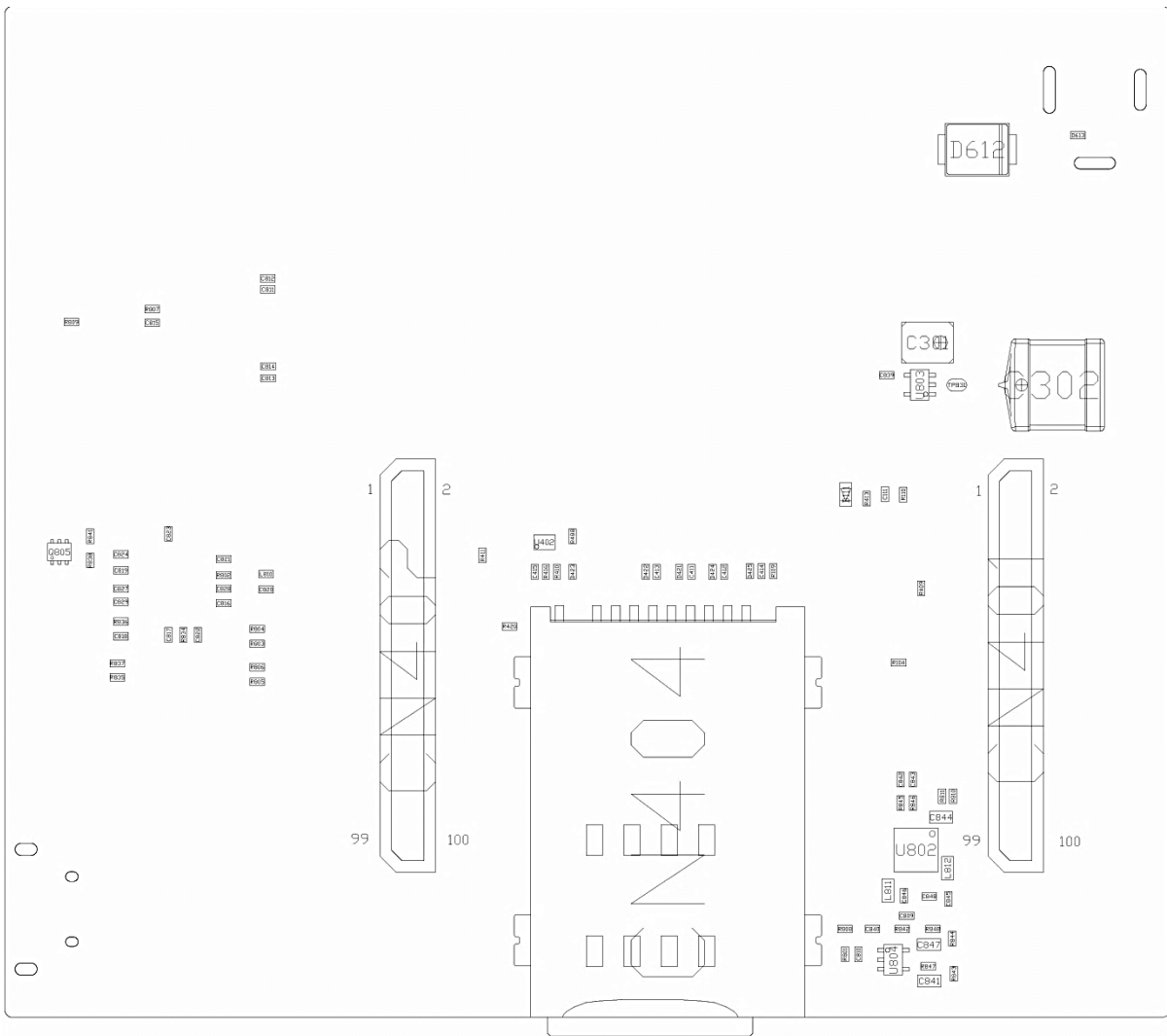


### 9.3. AR7 and WP7 Socket Board

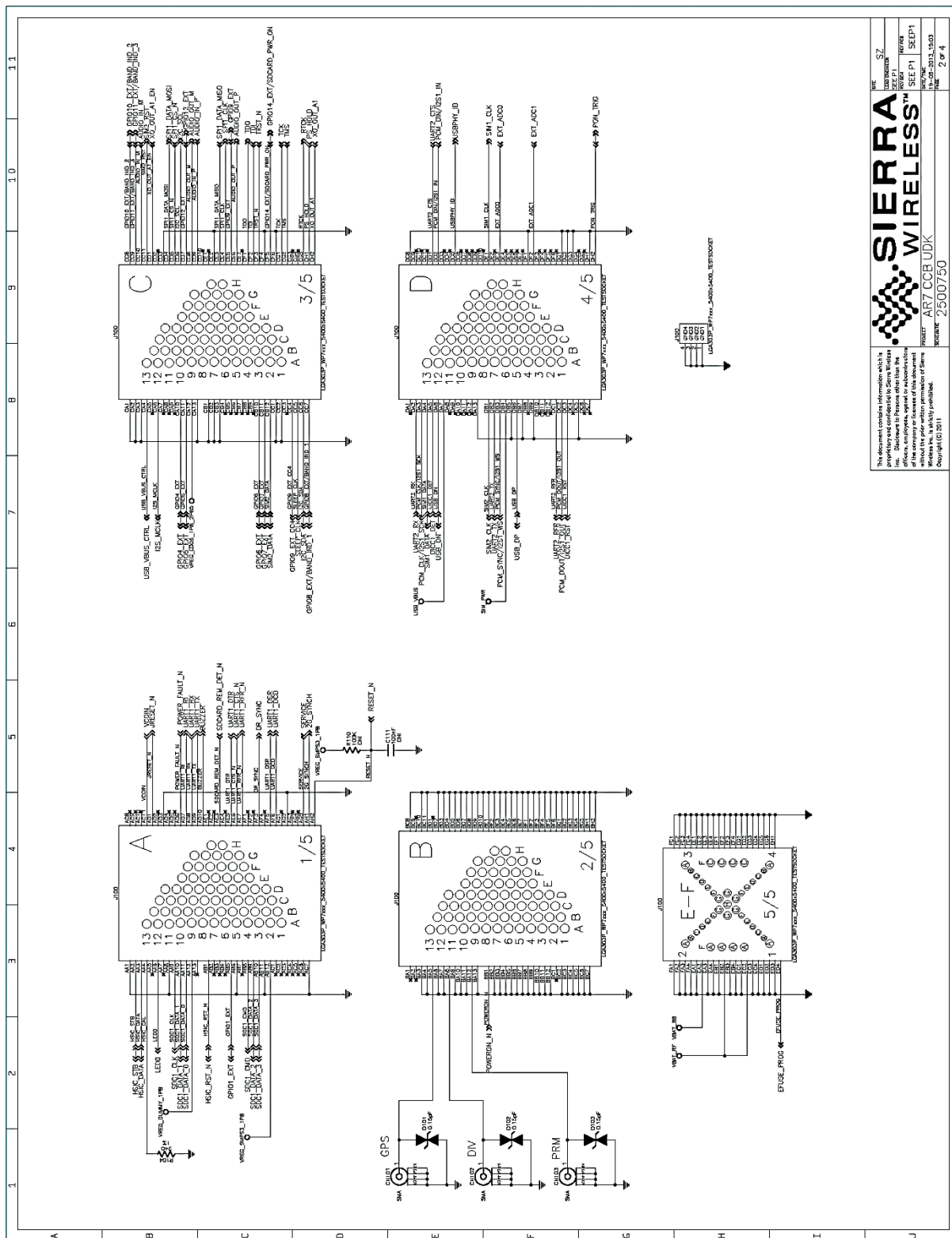
**Note:** Components, connectors and their placements may vary from one socket board to another.



SIERRA WIRELESS, Inc.			
TITLE			
AR7/WP7 SOCKET PCB			
SIZE	DWG NO	REV	
A1	ASSEMBLY DRAWING TOP	D	



SIERRA WIRELESS, Inc.			
TITLE			
AR7/WP7 SOCKET PCB			
SIZE	DWG NO	REV	
A1	ASSEMBLY DRAWING BOTTOM	D	









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