

Power Requirements

Power Over Ethernet	1x 802.3af/at PoE, IEEE 802.3af/at (48-56v) for Daughter Board
DC Jack Connector	12V for main board
Power Consumption	12W (Max)

JTAG Interface

JTAG Interface			
Pin	Signal	Pin	Signal
1	3.3V	2	3.3V
3	JTAG_TRST_N	4	NC
5	JTAG_TDI	6	GND
7	JTAG_TMS	8	GND
9	JTAG_TCK	10	GND
11	NC	12	NC
13	JTAG_TDO	14	GND
15	JTAG_RST_N	16	NC
17	GND	18	GND
19	GND	20	GND

SIM Slot Pin Assignment

SIM Slot Pin		SIM Signal
1	VCC	VCC
2	RST	SIM_RST
3	CLK	SIM_CLK
4	CD	SIM_CARD_IN
5	GND	GND
6	VPP	VPP
7	I/O	SIM_DATA

SD Card Socket Pin Assignment

SD card socket	
1	SD_DAT2
2	SD_CD/DAT3
3	SD_CMD
4	SD_VDD
5	SD_CLK
6	SD_VSS/GND
7	SD_DAT0
8	SD_DAT1
9	SD_CD
10/11	Cover_GND/SD_GND

Serial 4-Pin Connector Pin Assignment

Pin	Signal
1	VCC – 3.3V
2	UART Transmit Data
3	UART Receive Data
4	GND

Serial 6-Pin Connector Pin Assignment

Pin	Signal
1	VCC – 3.3V
2	UART1_RTS
3	UART1_TXD
4	UART1_RXD
5	UART1_CTS
6	GND

LED Indicators

LED Indicators	
DS5	POWER
DS11	Ethernet1
DS10	Ethernet0

USB 2.0 Port Pin Assignment

Pin	Signal
1	VDD
2	USB2_D_M
3	USB2_D_P
4	GND
5	GND
6	GND

LTE Module Slot (2mm LTE Module Slot)

Top side		Bottom side	
1	NC	2	+3.3V
3	NC	4	GND
5	NC	6	NC
7	NC	8	UIM_PWR
9	GND	10	UIM_DATA
11	NC	12	UIM_CLK
13	NC	14	UIM_RST
15	GND	16	UIM_VPP
Mechanical key			
17	NC	18	GND
19	NC	20	NC
21	GND	22	NC
23	USB3.0_RX-	24	+3.3V
25	USB3.0_RX+	26	GND
27	GND	28	NC
29	GND	30	NC
31	USB3.0_TX-	32	NC
33	USB3.0_TX+	34	GND
35	GND	36	USB_D-
37	GND	38	USB_D+
39	+3.3V	40	GND
41	+3.3V	42	NC
43	GND	44	UIM_DET
45	NC	46	NC
47	NC	48	NC
49	NC	50	GND
51	NC	52	+3.3V

GPIO Pin Mapping

GPIO Pin	Function	GPIO Pin	Function
GPIO_0	JTAG_TDI	GPIO_35	NC
GPIO_1	JTAG_TCK	GPIO_36	PULL_DOWN
GPIO_2	JTAG_TMS	GPIO_37	PULL_DOWN
GPIO_3	JTAG_TDO	GPIO_38	PULL_DOWN
GPIO_4	JTAG_RST_N	GPIO_39	PCIE_CLK_REQ_N
GPIO_5	JTAG_TRST_N	GPIO_40	NC
GPIO_6	MDIO	GPIO_41	PCIE_W_DISABLE_L
GPIO_7	MDC	GPIO_42	NC
GPIO_8	BISP_UART1_TXD	GPIO_43	NC
GPIO_9	BISP_UART1_RXD	GPIO_44	NC
GPIO_10	BISP_UART1_CTS	GPIO_45	NC
GPIO_11	BISP_UART1_RTS	GPIO_46	NC
GPIO_12	BISP_SPI0_SS0_N	GPIO_47	MALIBU_RESET_N
GPIO_13	BISP_SPI0_MISO	GPIO_48	PWRDN_WIFI
GPIO_14	PULL_DOWN	GPIO_49	NC
GPIO_15	PULL_UP	GPIO_50	PCIE_WAKE_UP_N
GPIO_16	BISP_UART0_RXD	GPIO_51	PULL_DOWN
GPIO_17	BISP_UART0_TXD	GPIO_52	NC
GPIO_18	CHIP_IRQ_IN	GPIO_53	NC
GPIO_19	CHIP_RST_OUT	GPIO_54	NC
GPIO_20	NC	GPIO_55	PULL_DOWN
GPIO_21	NC	GPIO_56	PULL_DOWN
GPIO_22	SDIO_CD	GPIO_57	NC
GPIO_23	SDIO_DAT_0	GPIO_58	NC
GPIO_24	SDIO_DAT_1	GPIO_59	NC
GPIO_25	SDIO_DAT_2	GPIO_60	NC
GPIO_26	SDIO_DAT_3	GPIO_61	NC
GPIO_27	SDIO_CLK	GPIO_62	PULL_UP
GPIO_28	SDIO_CMD	GPIO_63	NC
GPIO_29	NC	GPIO_64	NC
GPIO_30	NC	GPIO_65	NC
GPIO_31	NC	GPIO_66	NC
GPIO_32	NC	GPIO_67	NC
GPIO_33	PULL_UP	GPIO_68	NC
GPIO_34	NC	GPIO_69	PULL_DOWN

miniPCIe Slot Pin Assignment

MiniPCIe slot (9.9mm height mini-PCIe slot)			
Top side		Bottom side	
1	PCIE_WAKE_UP_N	2	+3.3V
3	PWRDN_WIFI	4	GND
5	NC	6	NC
7	PCIE_CLK_REQ_N	8	NC
9	GND	10	NC
11	PCIE_CLK-	12	NC
13	PCIE_CLK+	14	NC
15	GND	16	NC
Mechanical Key			
17	NC	18	GND
19	NC	20	NC
21	GND	22	PCIE_RST
23	PCIE_RX-	24	+3.3V
25	PCIE_RX+	26	GND
27	GND	28	NC
29	GND	30	NC
31	PCIE_TX-	32	NC
33	PCIE_TX+	34	GND
35	GND	36	NC
37	NC	38	NC
39	+3.3V	40	GND
41	+3.3V	42	NC
43	NC	44	NC
45	+5V	46	NC
47	+5V	48	NC
49	+5V	50	GND
51	+5V	52	+3.3V

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RF Exposure

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Ethernet 0 Pin Assignment

Pin	Signal
1	TX+/POE+
2	TX-/POE+
3	RX+/POE-
4	TX+/POE+
5	TX-/POE+
6	RX-/POE-
7	RX+/POE-
8	RX-/POE-