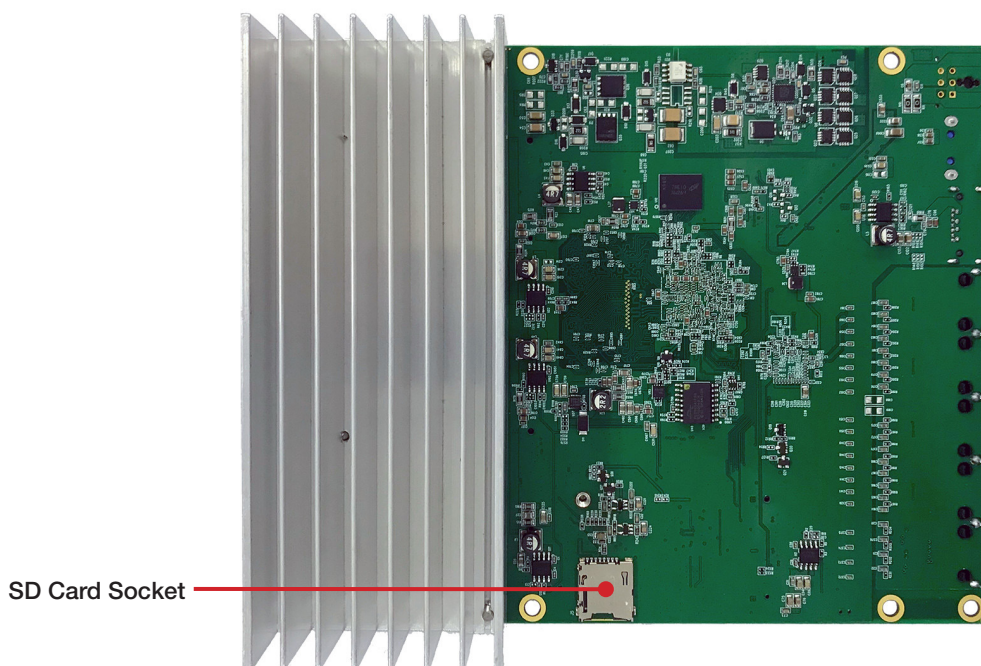
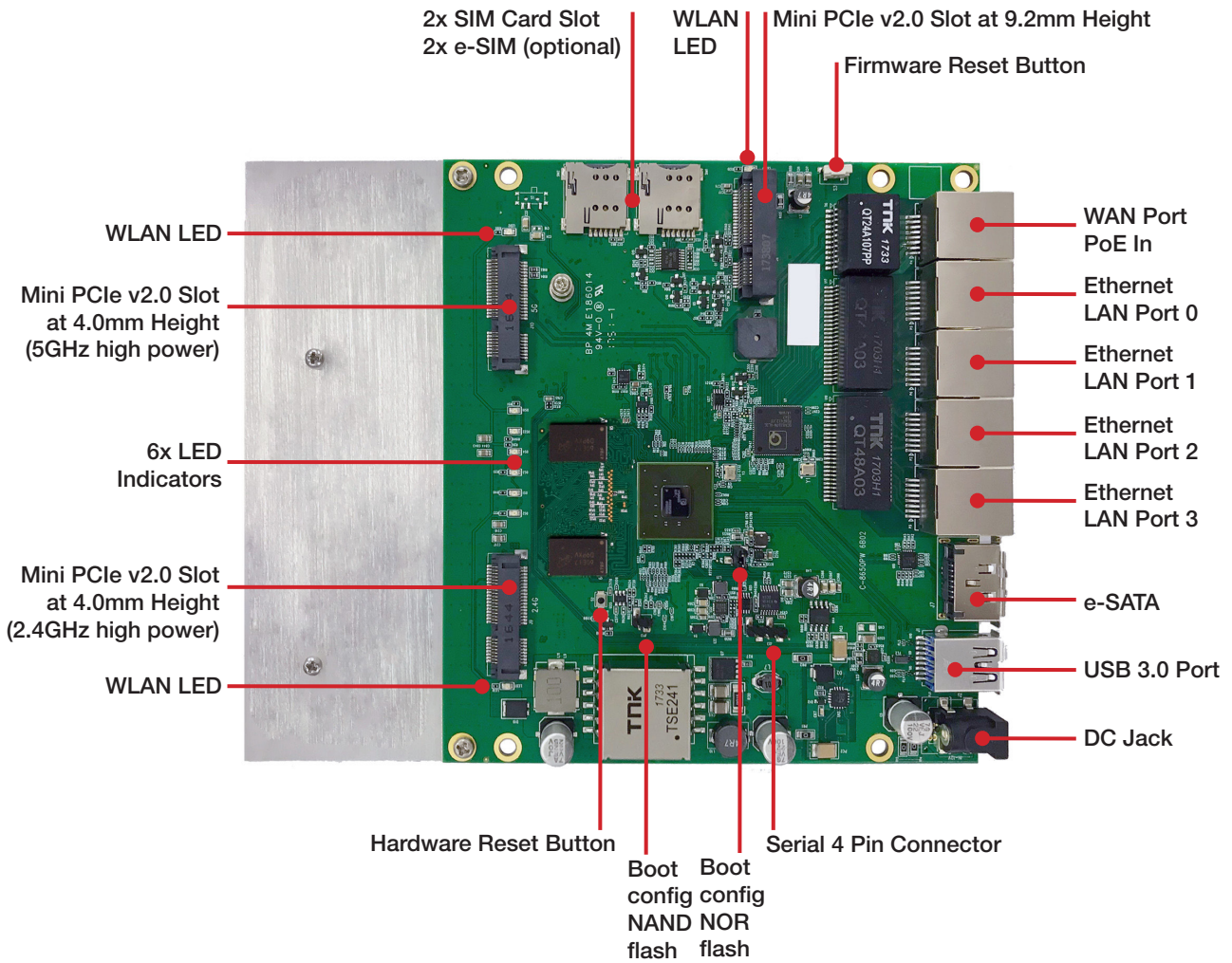


## Component and Connector Map



## Power Requirements

Power Over Ethernet	1x IEEE 802.3af/at POE, 36-57V, up to 70W (4-pair power feed) on WAN Port
DC Power	1x DC Jack Connector: 12V, 4A
Power Consumption	4.5W (board only)

## LED Pin Mapping

LED Indicators			
DS22	ETH_LED4	DS11	POWER
DS4	ETH_LED3	LED1	LED_WLAN_L (for slot1)
DS3	ETH_LED2	LED2	LED_WLAN_L (for slot2)
DS1	ETH_LED1	LED10	LED_WLAN_L (for slot3)
DS2	ETH_LED0		

## miniPCle Slot 1 (J9, 4.0mm height) Pin Assignment

Top side		Bottom side	
1	WAKE_L	2	+3.3V
3	NC	4	GND
5	NC	6	NC
7	CLKREQ_L	8	NC
9	GND	10	NC
11	REFCLK-	12	NC
13	REFCLK+	14	NC
15	GND	16	NC
Mechanical key			
17	NC	18	GND
19	NC	20	NC
21	GND	22	PERST_L
23	PERX_N	24	+3.3V
25	PERX_P	26	GND
27	GND	28	NC
29	GND	30	NC
31	PETX_N	32	NC
33	PETX_P	34	GND
35	GND	36	NC
37	NC	38	NC
39	+3.3V	40	GND
41	+3.3V	42	NC
43	NC	44	LED_WLAN_L
45	+5V	46	NC
47	+5V	48	NC
49	+5V	50	GND
51	+5V	52	+3.3V

## SIM Slot Pin Assignment

SIM			
Pin	SIM1	SIM2	SIM Signal
1	C1	VCC	VCC
2	C2	RST	SIM_RST
3	C3	CLK	SIM_CLK
4	C4	CD	SIM_CARD_IN
5	C5	GND	GND
6	C6	VPP	VPP
7	C7	I/O	SIM_DATA
e-SIM			
Pin	SIM3	SIM4	SIM Signal
1	C5	GND	GND
2	C6	VPP	UIM_VPP
3	C7	I/O	SIM2_I/O
5	C4	NC	NC
6	C3	CLK	SIM2_CLK
7	C2	RST	SIM2_RST
8	C1	VCC	VCC

## Serial Port Pin Assignment

Serial Port from Pin Header	
J23 Pin	Signal
1	VCC – 3.3V
2	UART Transmit Data
3	UART Receive Data
4	GND

## FW Boot Config Flash

Signal	Config	Jumper Location
BOOT_CONFIG2	NAND Flash	JP13
BOOT_CONFIG0	NOR Flash	JP9

## WAN/PoE 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-

## miniPCle Slot 2 (J10, 4.0mm height) Pin Assignment

Top side		Bottom side	
1	WAKE_L	2	+3.3V
3	NC	4	GND
5	NC	6	NC
7	CLKREQ_L	8	NC
9	GND	10	NC
11	REFCLK-	12	NC
13	REFCLK+	14	NC
15	GND	16	NC
Mechanical key			
17	NC	18	GND
19	NC	20	NC
21	GND	22	PERST_L
23	PERX_N	24	+3.3V
25	PERX_P	26	GND
27	GND	28	NC
29	GND	30	NC
31	PETX_N	32	NC
33	PETX_P	34	GND
35	GND	36	NC
37	NC	38	NC
39	+3.3V	40	GND
41	+3.3V	42	NC
43	NC	44	LED_WLAN_L
45	+5V	46	NC
47	+5V	48	NC
49	+5V	50	GND
51	+5V	52	+3.3V

## miniPCle Slot 3 (J6, 9.2mm height) Pin Assignment

Top side		Bottom side	
1	(GPIO64)WAKE_L	2	+3.3V
3	NC	4	GND
5	NC	6	NC
7	(GPIO65)CLKREQ_L	8	UIM_PWR
9	GND	10	UIM_DATA
11	REFCLK-	12	UIM_CLK
13	REFCLK+	14	UIM_RST
15	GND	16	UIM_VPP
Mechanical key			
17	NC	18	GND
19	NC	20	NC
21	GND	22	PERST_L
23	PERX_N	24	+3.3V
25	PERX_P	26	GND
27	GND	28	NC
29	GND	30	NC
31	PETX_N	32	NC
33	PETX_P	34	GND
35	GND	36	USB_D-
37	NC	38	USB_D+
39	+3.3V	40	GND
41	+3.3V	42	NC
43	NC	44	LED_WLAN_L
45	NC	46	NC
47	NC	48	NC
49	NC	50	GND
51	NC	52	+3.3V

## USB 3.0 Port Pin Assignment

Pin	Signal
1	VDD
2	USB1_HS_DM
3	USB1_HS_DP
4	GND
5	USB1_SS_RX_N
6	USB1_SS_RX_P
7	GND
8	USB1_SS_TX_N
9	USB1_SS_TX_P
10	GND
11	GND

## e-SATA Port Pin Assignment

Pin	Signal
1	VDD
2	NC
3	NC
4	GND
5	GND
6	SATA_CONN_TX_P
7	SATA_CONN_TX_N
8	GND
9	SATA_CONN_RXN
10	SATA_CONN_RXP
11	GND
12	GND
13	GND
14	GND
15	GND

## GPIO Pin Mapping

Pin	Signal
GPIO_0	AKR_MDIO
GPIO_1	AKR_MDC
GPIO_2	1P8_S17c_INT_N
GPIO_3	WDOG_DISABLE / 1P8_PCIE1_PERST_L
GPIO_4	PCIE1_WAKE_L
GPIO_5	PCIE1_CLKREQ_L
GPIO_6	SIM_CARD_IN
GPIO_7	SD_CD
GPIO_8	NC
GPIO_9	NC
GPIO_10	1P8_UART_2_TX
GPIO_11	1P8_UART_2_RX
GPIO_12	1P8_I2C_1_SDA
GPIO_13	1P8_I2C_1_SCL
GPIO_14	BOOT_FROM_ROM
GPIO_15	EEPROM_CLK
GPIO_16	NC
GPIO_17	EEPROM_DATA
GPIO_18	BOOT_SPI_MOSI
GPIO_19	BOOT_SPI_MISO
GPIO_20	BOOT_SPI_CS
GPIO_21	BOOT_SPI_CLK
GPIO_22	NC
GPIO_23	NC
GPIO_24	NC
GPIO_25	NC
GPIO_26	NC
GPIO_27	RGMII_TX_CLK
GPIO_28	RGMII_TX_3
GPIO_29	RGMII_TX_2
GPIO_30	RGMII_TX_1
GPIO_31	RGMII_TX_0
GPIO_32	RGMII_TX_CTL
GPIO_33	BOOT_CONFIG4
GPIO_34	AKR_EBI2_NAND_CS_N
GPIO_35	AKR_EBI2_CLE
GPIO_36	AKR_EBI2_ALE
GPIO_37	AKR_EBI2_WE_N
GPIO_38	AKR_EBI2_OE_N
GPIO_39	AKR_EBI2_BUSY_N
GPIO_40	AKR_EBI2_DATA_7
GPIO_41	AKR_EBI2_DATA_6
GPIO_42	AKR_EBI2_DATA_5
GPIO_43	AKR_EBI2_DATA_4
GPIO_44	AKR_EBI2_DATA_3
GPIO_45	AKR_EBI2_DATA_2

Pin	Signal
GPIO_46	AKR_EBI2_DATA_1
GPIO_47	AKR_EBI2_DATA_0
GPIO_48	1P8_PCIE2_PERST_L / BOOT_CONFIG0
GPIO_49	PCIE2_WAKE_L
GPIO_50	PCIE2_CLKREQ_L
GPIO_51	RGMII_RX_CLK
GPIO_52	RGMII_RX_3
GPIO_53	NC
GPIO_54	SW_SWITCH
GPIO_55	BUZZER
GPIO_56	NC
GPIO_57	NC
GPIO_58	NC
GPIO_59	RGMII_RX_2
GPIO_60	RGMII_RX_1
GPIO_61	RGMII_RX_0
GPIO_62	RGMII_RX_CTL
GPIO_63	PCIE3_PERST_L
GPIO_64	PCIE3_WAKE_L
GPIO_65	PCIE3_CLKREQ_L
GPIO_66	QFPROM_EN
GPIO_67	NC
GPIO_68	SIM_SELECT

## SD Card Socket Pin Assignment

Pin	Signal
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