



JWX6056

802.11ac/abgn 2T2R Half Mini-PCI-Express Module

Technical Specifications

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System Information

Wireless: IEEE 802.11ac/abgn (2T2R) / Chipset: Qualcomm Atheros QCA9892-BR4B

Data Rate

802.11b : 11Mbps
802.11a/g : 54Mbps
802.11n : 300Mbps
802.11ac : 867Mbps

Operating Frequency

IEEE 802.11 ac/abgn ISM Band, 2.412GHz ~ 2.472GHz, 5150MHz ~ 5825MHz

Interface

Mini PCI-e, Antenna Ports : U.FL * 2 for 2T2R

Modulation

802.11a/g : OFDM (BPSK, QPSK, 16-QAM, 64-QAM)

802.11n : OFDM (BPSK, QPSK, 16-QAM, 64-QAM)

802.11ac : OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)

Recommended Operating Conditions

Operating Voltage: DC 3.3V \pm 5%

Operating Temperature Range: -40°C to 85°C

Storage Temperature Range: -40°C to +90°C

Operating Humidity (non-condensing): 10% ~ 90%

Storage Humidity (non-condensing): 5% to 90%

Current consumption: 2.5W max.

Dimension (in mm): 29.79 x 26.75 mm

Noted: The best RF performance specified in the data sheet, that's guaranteed only between -20° and 70° without reducing performance.

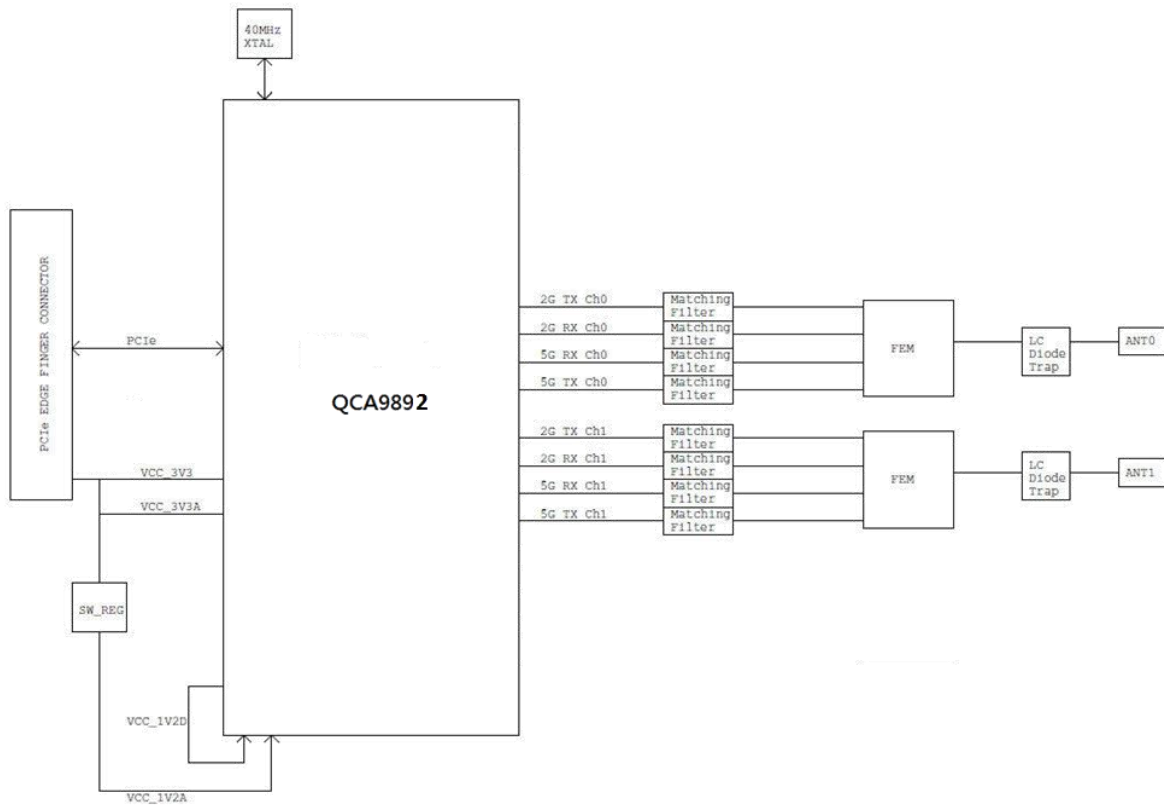
Driver Support

QSDK/ ATH10K

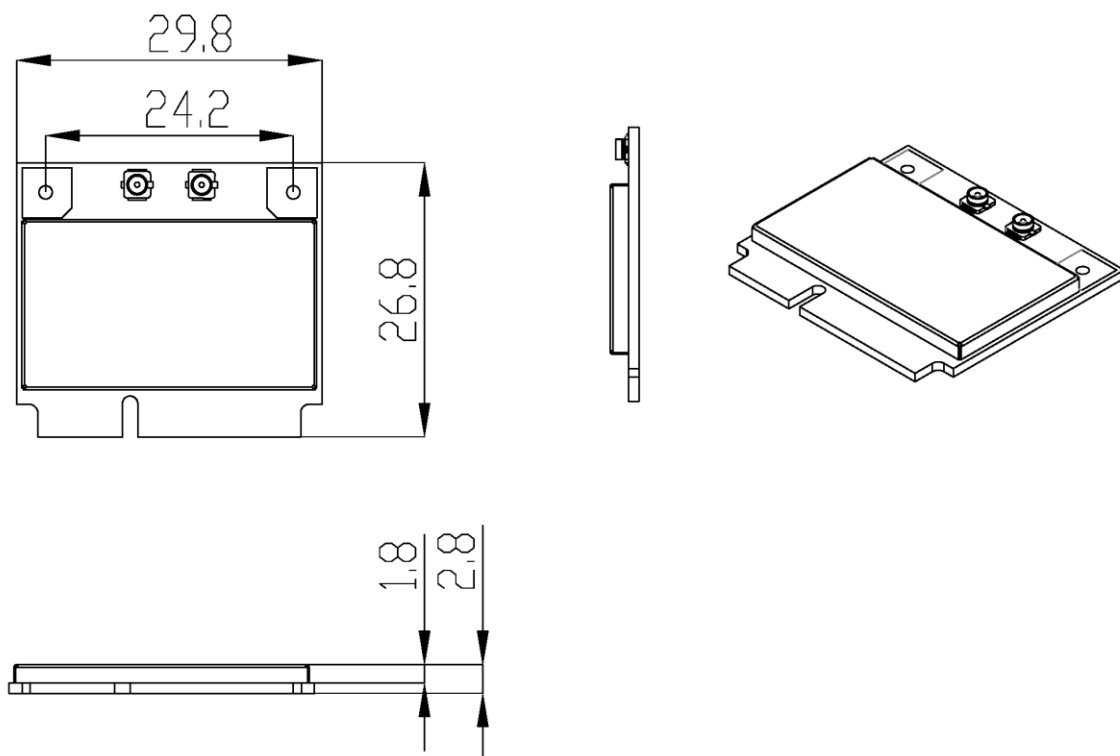
Certification

FCC / CE

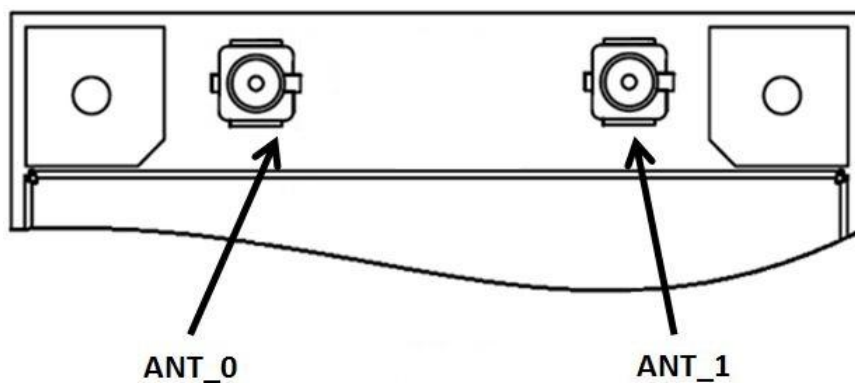
Block Diagram



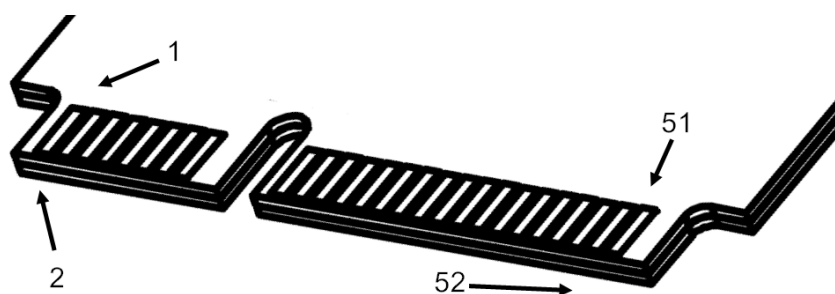
Dimension



Pin Assignment



Pin Name	Description
ANT_0, ANT_1	RF Antenna for Wifi 2.4GHz/5GHz



PIN#	Pin Name	Design Status	PIN#	Pin Name	Design Status
1	WAKE_L	Yes (PCIE_WAKE_L)	2	+3.3Vaux	YES
3	COEX1	NC	4	GND	YES
5	COEX2	NC	6	+1.5V	NC
7	CLKREQ_L	YES (PCIE_CLKREQ_L)	8	UIM_PWR	YES (Reserved)
9	GND	YES	10	UIM_DATA	YES (Reserved)
11	REFCLK-	YES (PCIE_REFCLK_N)	12	UIM_CLK	YES (Reserved)
13	REFCLK+	YES (PCIE_REFCLK_P)	14	UIM_RESET	YES (Reserved)
15	GND	YES	16	UIM_VPP	NC
17	UIM_C8	NC	18	GND	YES
19	UIM_C4	NC	20	W_DISABLE_L	YES
21	GND	YES	22	PERST_L	YES (PCIE_RST_L)
23	PERn0	YES (PCIE_TX_N)	24	+3.3Vaux	YES
25	PERp0	YES (PCIE_TX_P)	26	GND	YES
27	GND	YES	28	+1.5V	NC
29	GND	YES	30	SMB_CLK	NC
31	PETn0	YES (PCIE_RX_P)	32	SMB_DATA	NC
33	PETp0	YES (PCIE_RX_N)	34	GND	YES
35	GND	YES	36	USB_D-	NC
37	GND	YES	38	USB_D+	NC
39	+3.3Vaux	YES	40	GND	YES
41	+3.3Vaux	YES	42	LED_WWAN_L	NC
43	GND	YES	44	LED_WLAN_L	YES (GPIO1_WLAN_LED)
45	RESERVED	NC	46	LED_WPAN_L	YES (GPIO17_BT_LED)
47	RESERVED	NC	48	+1.5V	NC
49	RESERVED	YES (VCC_FEM_4V)	50	GND	YES
51	RESERVED	NC	52	+3.3Vaux	YES

Output Power & Sensitivity

802.11bg		
Data Rate	Tx +/- 2dB(1TX)	Rx Sensitivity +/- 2dB
1~11Mbps	20dBm	-90dBm
6Mbps	21dBm	-90dBm
9Mbps	21dBm	-89dBm
12Mbps	21dBm	-88dBm
18Mbps	21dBm	-87dBm
24Mbps	21dBm	-84dBm
36Mbps	20dBm	-81dBm
48Mbps	19dBm	-77dBm
54Mbps	18dBm	-75dBm

802.11n / 2.4 GHz				
Data Rate		Tx +/- 2dB(1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity +/- 2dB
HT20	MCS 0	21dBm	24dBm	-92dBm
	MCS 1	21dBm	24dBm	-92dBm
	MCS 2	21dBm	24dBm	-90dBm
	MCS 3	20dBm	23dBm	-86dBm
	MCS 4	20dBm	23dBm	-83dBm
	MCS 5	20dBm	23dBm	-79dBm
	MCS 6	18dBm	21dBm	-77dBm
	MCS 7	16dBm	19dBm	-75dBm
HT40	MCS 0	20dBm	23dBm	-89dBm
	MCS 1	20dBm	23dBm	-89dBm
	MCS 2	20dBm	23dBm	-87dBm
	MCS 3	19dBm	22dBm	-83dBm
	MCS 4	19dBm	22dBm	-79dBm
	MCS 5	19dBm	22dBm	-76dBm
	MCS 6	18dBm	21dBm	-75dBm
	MCS 7	16dBm	19dBm	-73dBm

802.11a

Data Rate	Tx +/- 2dB (1TX)	Rx Sensitivity +/- 2dB
6Mbps	20dBm	-92dBm
9Mbps	20dBm	-90dBm
12Mbps	20dBm	-89dBm
18Mbps	20dBm	-86dBm
24Mbps	20dBm	-83dBm
36Mbps	18dBm	-80dBm
48Mbps	16dBm	-76dBm
54Mbps	15dBm	-75dBm

802.11n/5GHz

	Data Rate	Tx +/- 2dB (1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity +/- 2dB
HT20	MCS 0	19dBm	22dBm	-94dBm
	MCS 1	19dBm	22dBm	-91dBm
	MCS 2	19dBm	22dBm	-89dBm
	MCS 3	18dBm	21dBm	-85dBm
	MCS 4	18dBm	21dBm	-82dBm
	MCS 5	17dBm	20dBm	-77dBm
	MCS 6	16dBm	19dBm	-76dBm
	MCS 7	14dBm	17dBm	-74dBm
HT40	MCS 0	18dBm	21dBm	-90dBm
	MCS 1	18dBm	21dBm	-89dBm
	MCS 2	18dBm	21dBm	-86dBm
	MCS 3	17dBm	20dBm	-82dBm
	MCS 4	17dBm	20dBm	-79dBm
	MCS 5	16dBm	19dBm	-75dBm
	MCS 6	15dBm	18dBm	-73dBm
	MCS 7	14dBm	17dBm	-72dBm

802.11ac

	Data Rate	Tx +/- 2dB (1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity +/- 2dB
VHT 20	MCS 0	19dBm	22dBm	-94dBm
	MCS 1	19dBm	22dBm	-92dBm
	MCS 2	19dBm	22dBm	-89dBm
	MCS 3	18dBm	21dBm	-85dBm
	MCS 4	18dBm	21dBm	-82dBm
	MCS 5	17dBm	20dBm	-77dBm
	MCS 6	16dBm	19dBm	-76dBm
	MCS 7	14dBm	17dBm	-74dBm
	MCS 8	13dBm	16dBm	-70dBm
VHT 40	MCS 0	18dBm	21dBm	-90dBm
	MCS 1	18dBm	21dBm	-89dBm
	MCS 2	18dBm	21dBm	-87dBm
	MCS 3	17dBm	20dBm	-82dBm
	MCS 4	17dBm	20dBm	-79dBm
	MCS 5	16dBm	19dBm	-75dBm
	MCS 6	15dBm	18dBm	-73dBm
	MCS 7	14dBm	17dBm	-72dBm
	MCS 8	13dBm	16dBm	-68dBm
	MCS 9	13dBm	16dBm	-66dBm
VHT 80	MCS 0	18dBm	21dBm	-88dBm
	MCS 1	18dBm	21dBm	-85dBm
	MCS 2	18dBm	21dBm	-83dBm
	MCS 3	17dBm	20dBm	-79dBm
	MCS 4	17dBm	20dBm	-76dBm
	MCS 5	16dBm	19dBm	-72dBm
	MCS 6	15dBm	18dBm	-70dBm
	MCS 7	14dBm	17dBm	-68dBm
	MCS 8	13dBm	16dBm	-64dBm
	MCS 9	13dBm	16dBm	-62dBm

Note:

We just list the Target Power here, the exact EMI Conducted Power will be set in the CTL Table of the Card (base on EMC regulation), and the driver will limit the output power according to the CTL Table, thus sometimes the actual output power will be lower than the target power. For the detailed CTL Table Settings, please contact with our support engineers.