

JWX6052



High performance 3x3 Dual-Band 802.11ac MIMO Designed for High Speed Access Point

JWX6052 is a 3x3 802.11ac Dual-Band wifi module in standard PCIe mini card form factor designed to deliver up to 1.3Gbps wireless data rates and target next-generation dual-band, dual-concurrent (DBDC) home and enterprise wireless access points for a variety of high-reliable and bandwidth intensive video-over-wireless applications.

Features

- Supports channel widths 20/40MHz at 2.4GHz and 20/40/80MHz at 5GHz.
- Three-stream IEEE 802.11n support for 20 and 40MHz channels provide the PHY layer rates up to 450Mbps.
- Three-stream IEEE 802.11ac support for 80MHz channels provide the PHY layer rates up to 1.3Gbps.

System Information

Wireless: IEEE 802.11ac/abgn (3T3R)

Chipset: Qualcomm Atheros QCA9880

Data Rate

802.11b: 11Mbps

802.11a/g: 54Mbps

802.11n: 450Mbps

802.11ac: 1.3Gbps

Operating Frequency

IEEE802.11bgn: 2.412GHz~2.484GHz

IEEE802.11ac: 5.180GHz~5.825GHz

Application

Access Point, Gateway, Medical equipment, Gaming machines, handheld devices, security systems, Industrial, PoS, digital signage, Robotic, etc.

Specification

Standards	IEEE 802.11ac/a/b/g/n (3T3R)
Chipset	Qualcomm Atheros QCA9880
Interface	PCIe for WiFi
Form Factor	Mini PCIe
Antenna	3x IPEX MHF1 connectors
Modulation	Wi-Fi: 802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11a: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11ac: OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
Power Consumption	4W (Max)
Operating Voltage	DC 3.3V \pm 5%
Operating Temperature Range	-20°C~70°C
Storage Temperature Range	-40°C~80°C
Operating Humidity (Non-Condensing)	10%~90%
Storage Humidity (Non-Condensing)	5%~90%
Dimension L x W x H (in mm)	29.8mm x 50.8mm
Driver Support	Linux
Security	64/128-bits WEP, WPA, WPA2, 802.1x
Certification	FCC/CE

Output Power & Sensitivity

802.11b/g		
Data Rate	TX +/- 2dB	RX Sensitivity +/- 2dB
1~11Mbps	18 dBm	-90 dBm
6Mbps	18 dBm	-92dBm
24Mbps	18 dBm	-84 dBm
54Mbps	13 dBm	-75 dBm

802.11n / 2.4GHz				
Data Rate		TX +/- 2dB (1TX)	TX +/- 2dB (3TX)	RX Sensitivity +/- 2dB
VHT 20	MCS0	17 dBm	22 dBm	-90 dBm
	MCS4	16 dBm	21 dBm	-79 dBm
	MCS7	11 dBm	16 dBm	-72 dBm
VHT 40	MCS0	17 dBm	22 dBm	-88 dBm
	MCS4	16 dBm	21 dBm	-74 dBm
	MCS7	11 dBm	16 dBm	-69 dBm

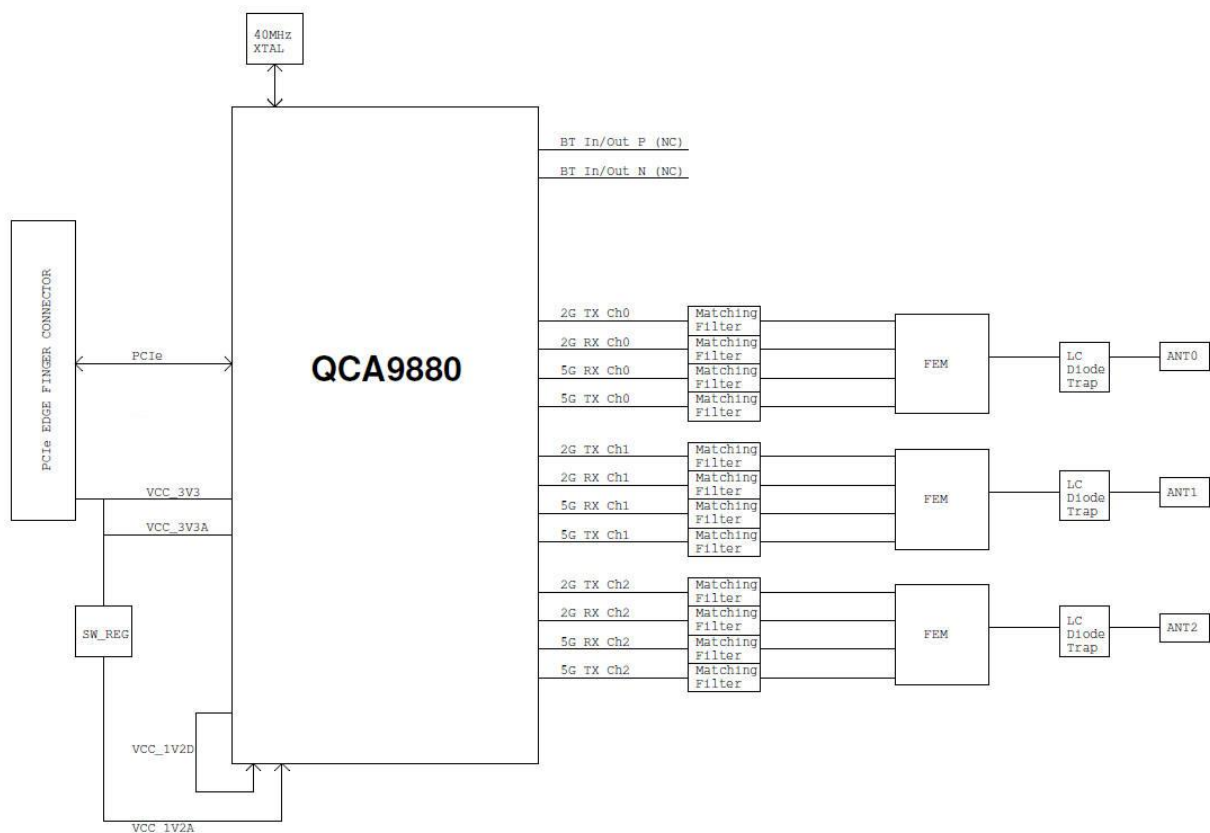
802.11a		
Data Rate	TX +/- 2dB	RX Sensitivity +/- 2dB
6Mbps	16 dBm	-87 dBm
24Mbps	16 dBm	-79 dBm
54Mbps	13 dBm	-70dBm

802.11n / 5GHz				
Data Rate		TX +/- 2dB (1TX)	TX +/- 2dB (3TX)	RX Sensitivity +/- 2dB
VHT 20	MCS0	16dBm	21 dBm	-90 dBm
	MCS4	15 dBm	20 dBm	-79 dBm
	MCS7	11 dBm	16 dBm	-72 dBm
VHT 40	MCS0	16 dBm	21 dBm	-88 dBm
	MCS4	15 dBm	20 dBm	-74 dBm
	MCS7	11 dBm	16 dBm	-69 dBm

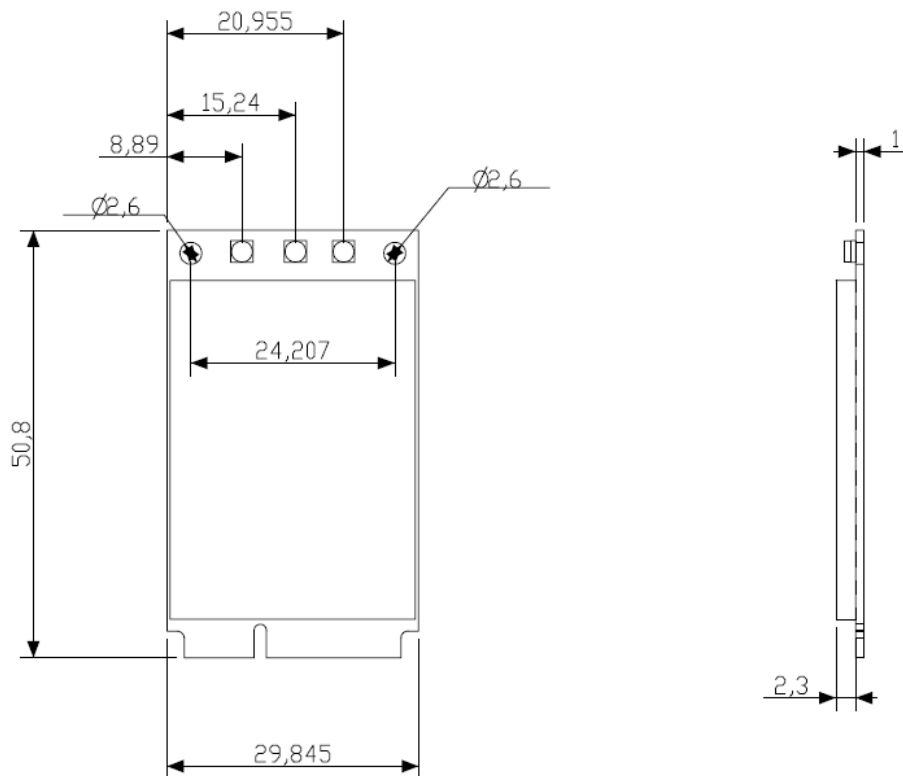
802.11ac				
Data Rate		TX +/- 2dB (1TX)	TX +/- 2dB (3TX)	RX Sensitivity +/- 2dB
VHT 20	MCS0	16 dBm	21 dBm	-90 dBm
	MCS4	15 dBm	20 dBm	-79 dBm

	MCS8	10 dBm	15 dBm	-68 dBm
VHT 40	MCS0	16 dBm	21 dBm	-88 dBm
	MCS4	15 dBm	20 dBm	-77 dBm
	MCS9	10 dBm	15dBm	-64 dBm
VHT 80	MCS0	16 dBm	21 dBm	-85 dBm
	MCS4	14 dBm	19 dBm	-73 dBm
	MCS9	9 dBm	13 dBm	-61 dBm

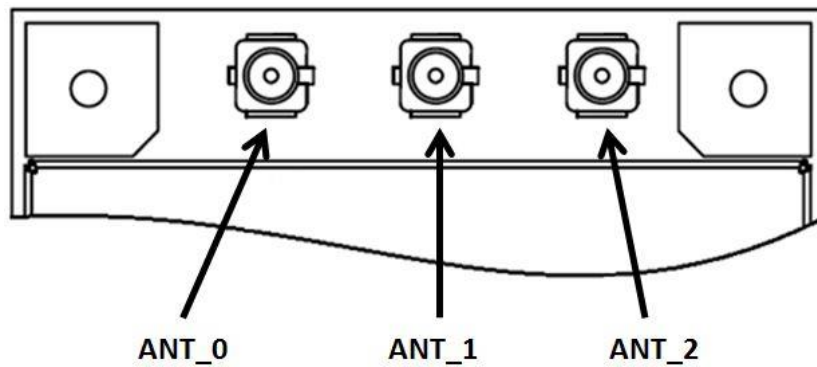
Block Diagram



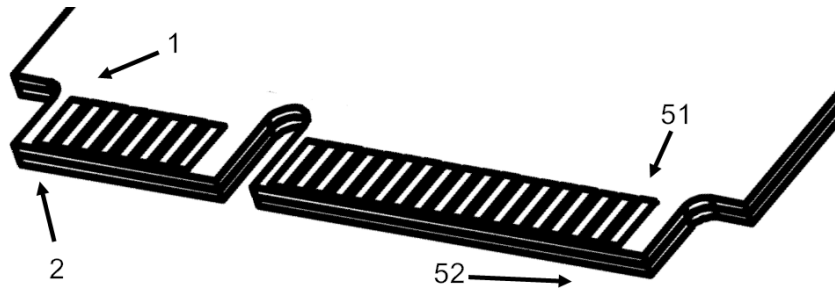
Dimension



Pin Assignment



Pin Name	Description
Ant_0, Ant_1, Ant_2	RF Antenna for WiFi 2.4GHz / 5GHz



Pin Assignment

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

Order Information

Product Name	Description
JWX6052	802.11ac/a/b/g/n 3x3 Mini PCIe Module