

## 5GHz 2x2 MU-MIMO 802.11ac Mini PCIe WiFi Module

Designed for Next Generation 802.11ac Wave 2 Access Points



**Model: WLE650V5-18A**

### KEY FEATURES

- Qualcomm Atheros QCA9888
- IEEE 802.11ac compliant & backward compatible with 802.11a/n
- Heat sink allows free air operation
- 2x2 MIMO Technology, up to 867Mbps
- 2 spatial streams (2SS) at 80MHz bandwidth
- 1 spatial stream (1SS) at 80+80MHz bandwidth
- MiniPCI Express edge connector
- Supports Spatial Multiplexing, Cyclic Delay Diversity (CDD), Low-Density Parity-Check (LDPC) Codes, Maximal Ratio Combining (MRC), Space Time Block Code (STBC)
- Supports IEEE 802.11d, e, h, i, k, r, v time stamp, and w standards
- Supports Dynamic Frequency Selection (DFS)

## Specifications

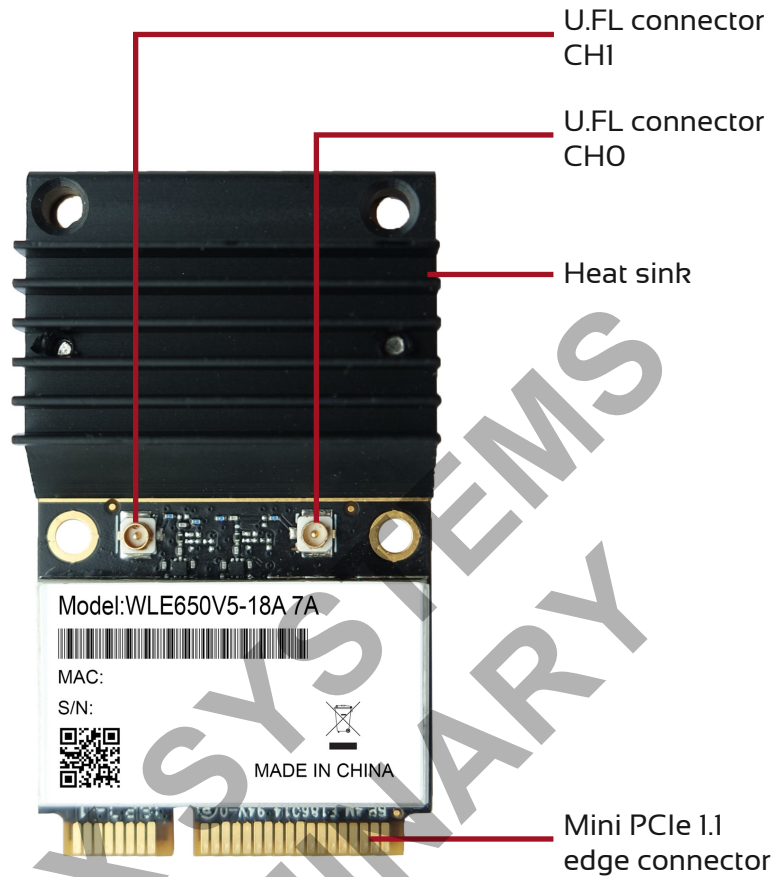
Chipset	QCA9888
Reference Design	XBI40
Host Interface	PCI Express 1.2 Standard
Operating Voltage	DC 3.3V
Antenna Connector	2x U.FL
Frequency Range	5.180 ~ 5.825 GHz
Power Consumption	5.6W (Max)
Modulation Techniques	BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM
Temperature Range	Operating: -20°C to 70°C Storage: -40°C to 90°C
Humidity	Operating: 5% to 95% (non-condensing) Storage: Max. 90% (non-condensing)
Dimensions (H x W x D)	50.8 x 29.9 x 10.4 mm

## RF Performance Table

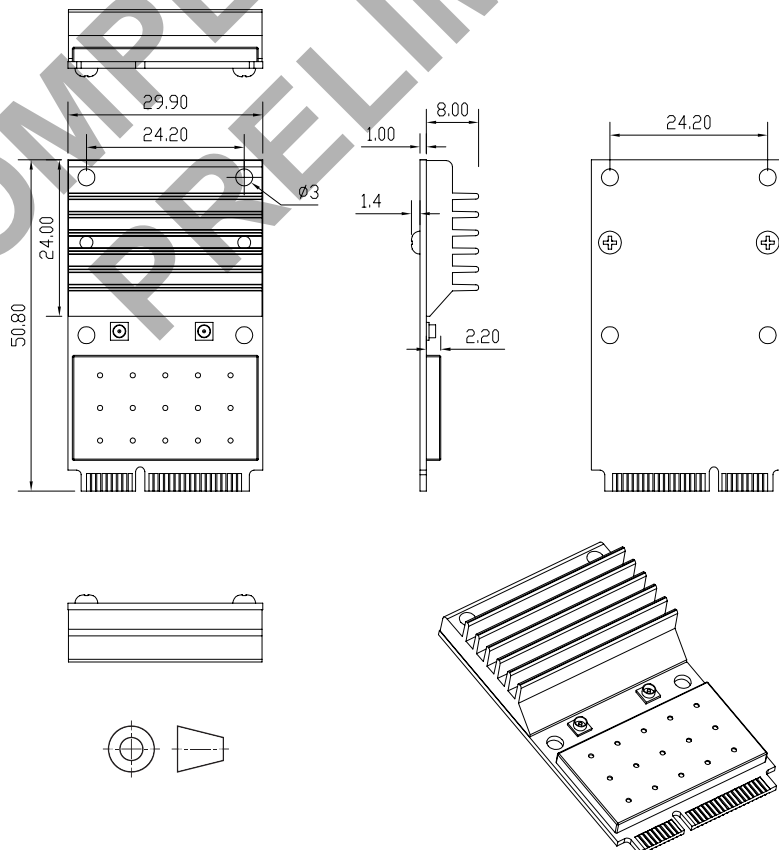
	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
5GHz 802.11a	6Mbps	18dBm	21dBm	±2dB
	9Mbps	18dBm	21dBm	±2dB
	12Mbps	18dBm	21dBm	±2dB
	18Mbps	18dBm	21dBm	±2dB
	24Mbps	18dBm	21dBm	±2dB
	36Mbps	18dBm	21dBm	±2dB
	48Mbps	17dBm	20dBm	±2dB
	54Mbps	16dBm	19dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	18dBm	21dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	16dBm	19dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 8	14dBm	17dBm	±2dB
	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	18dBm	21dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	16dBm	19dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB
5GHz 802.11ac VHT80	MCS 8	14dBm	17dBm	±2dB
	MCS 9	13dBm	16dBm	±2dB
	MCS 0	18dBm	21dBm	±2dB
	MCS 1	18dBm	21dBm	±2dB
	MCS 2	18dBm	21dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	16dBm	19dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB
5GHz 802.11ac VHT80+80	MCS 7	15dBm	18dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB
	MCS 9	13dBm	16dBm	±2dB
	MCS 0	15dBm	18dBm	±2dB
	MCS 1	15dBm	18dBm	±2dB
	MCS 2	15dBm	18dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	15dBm	18dBm	±2dB
	MCS 5	14dBm	17dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	TBA	±2dB
	9Mbps	TBA	±2dB
	12Mbps	TBA	±2dB
	18Mbps	TBA	±2dB
	24Mbps	TBA	±2dB
	36Mbps	TBA	±2dB
	48Mbps	TBA	±2dB
	54Mbps	TBA	±2dB
5GHz 802.11n/ac VHT20	MCS 0	TBA	±2dB
	MCS 1	TBA	±2dB
	MCS 2	TBA	±2dB
	MCS 3	TBA	±2dB
	MCS 4	TBA	±2dB
	MCS 5	TBA	±2dB
	MCS 6	TBA	±2dB
	MCS 7	TBA	±2dB
5GHz 802.11n/ac VHT40	MCS 8	TBA	±2dB
	MCS 0	TBA	±2dB
	MCS 1	TBA	±2dB
	MCS 2	TBA	±2dB
	MCS 3	TBA	±2dB
	MCS 4	TBA	±2dB
	MCS 5	TBA	±2dB
	MCS 6	TBA	±2dB
	MCS 7	TBA	±2dB
5GHz 802.11ac VHT80	MCS 8	TBA	±2dB
	MCS 9	TBA	±2dB
	MCS 0	TBA	±2dB
	MCS 1	TBA	±2dB
	MCS 2	TBA	±2dB
	MCS 3	TBA	±2dB
	MCS 4	TBA	±2dB
	MCS 5	TBA	±2dB
	MCS 6	TBA	±2dB
5GHz 802.11ac VHT80+80	MCS 7	TBA	±2dB
	MCS 8	TBA	±2dB
	MCS 9	TBA	±2dB
	MCS 0	TBA	±2dB
	MCS 1	TBA	±2dB
	MCS 2	TBA	±2dB
	MCS 3	TBA	±2dB
	MCS 4	TBA	±2dB
	MCS 5	TBA	±2dB

## Connector Map



## Mechanical Dimensions



## Packaging Content

Item	Quantity
WLE650V5-18A Wireless Module	1

## Ordering Configuration

Item Code	Chipset	Form factor	Card Information
WLE650V5-18A 7A0000	QCA9888	Normal size radio card	2x2 802.11ac 5GHz

## Packaging Information

Packaging Type	Dimensions	Weight	Dimensional Weight
Packing Box (50 units)	385 x 207 x 76 mm	1.6 kg	1.2 kg
Carton Box (250 units)	422 x 410 x 240 mm	8.9 kg	8.3 kg

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