

4x4 Wave-2 802.11ac/a/n Mini PCIe WiFi Module

Full size form factor with 80+80MHz bandwidth support

Model: WLE1216V5-20



KEY FEATURES

- Qualcomm Atheros 'Cascade' QCA9984
- 5GHz max 20dBm output power (per chain)
- Heat sink allows free air operation
- IEEE 802.11ac compliant & backward compatible with 802.11a/n, up to 1733Mbps
- Multi-user MIMO (MU-MIMO) beamformer
- 4 spatial streams (4SS) at 80MHz
- 2 spatial streams (2SS) at 80+80MHz
- Mini PCI Express 2.0 interface
- 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, j, k, r, u, v time stamp, w, and z standards
- Supports Dynamic Frequency Selection (DFS)
- Designed for High Bandwidth Enterprise Wireless Access Points

Specifications

Chipset	QCA9984
System Memory	256Kbit serial I ² C bus EEPROM
Host Interface	Mini PCI Express 2.0 Standard
Operating Voltage	3.3V
Antenna Connector	4x U.FL
Frequency Range	5.180 ~ 5.825 GHz
Power Consumption	8.5W (Max)
Modulation Techniques	OFDM: BPSK, QPSK, 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)	50.8mm x 29.9mm x 12.9mm

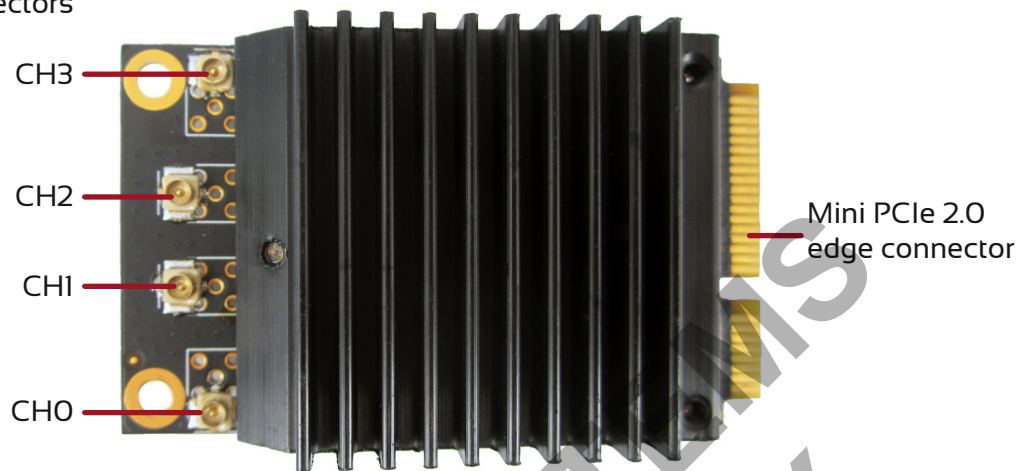
RF Performance Table

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
5GHz 802.11a	6Mbps	21dBm	27dBm	±2dB
	9Mbps	21dBm	27dBm	±2dB
	12Mbps	21dBm	27dBm	±2dB
	18Mbps	21dBm	27dBm	±2dB
	24Mbps	20dBm	26dBm	±2dB
	36Mbps	19dBm	25dBm	±2dB
	48Mbps	18dBm	24dBm	±2dB
	54Mbps	17dBm	23dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	21dBm	27dBm	±2dB
	MCS 1	21dBm	27dBm	±2dB
	MCS 2	21dBm	27dBm	±2dB
	MCS 3	20dBm	26dBm	±2dB
	MCS 4	19dBm	25dBm	±2dB
	MCS 5	18dBm	24dBm	±2dB
	MCS 6	17dBm	23dBm	±2dB
	MCS 7	16dBm	22dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 8	15dBm	21dBm	±2dB
	MCS 0	21dBm	27dBm	±2dB
	MCS 1	21dBm	27dBm	±2dB
	MCS 2	21dBm	27dBm	±2dB
	MCS 3	20dBm	26dBm	±2dB
	MCS 4	19dBm	25dBm	±2dB
	MCS 5	18dBm	24dBm	±2dB
	MCS 6	18dBm	24dBm	±2dB
5GHz 802.11ac VHT80	MCS 7	17dBm	23dBm	±2dB
	MCS 8	16dBm	22dBm	±2dB
	MCS 9	15dBm	21dBm	±2dB
	MCS 0	20dBm	26dBm	±2dB
	MCS 1	20dBm	26dBm	±2dB
	MCS 2	20dBm	26dBm	±2dB
	MCS 3	20dBm	26dBm	±2dB
	MCS 4	19dBm	25dBm	±2dB
5GHz 802.11ac VHT80+80	MCS 5	18dBm	24dBm	±2dB
	MCS 6	18dBm	24dBm	±2dB
	MCS 7	17dBm	23dBm	±2dB
	MCS 8	16dBm	22dBm	±2dB
	MCS 9	15dBm	21dBm	±2dB
	MCS 0	20dBm	26dBm	±2dB
	MCS 1	20dBm	26dBm	±2dB
	MCS 2	20dBm	26dBm	±2dB

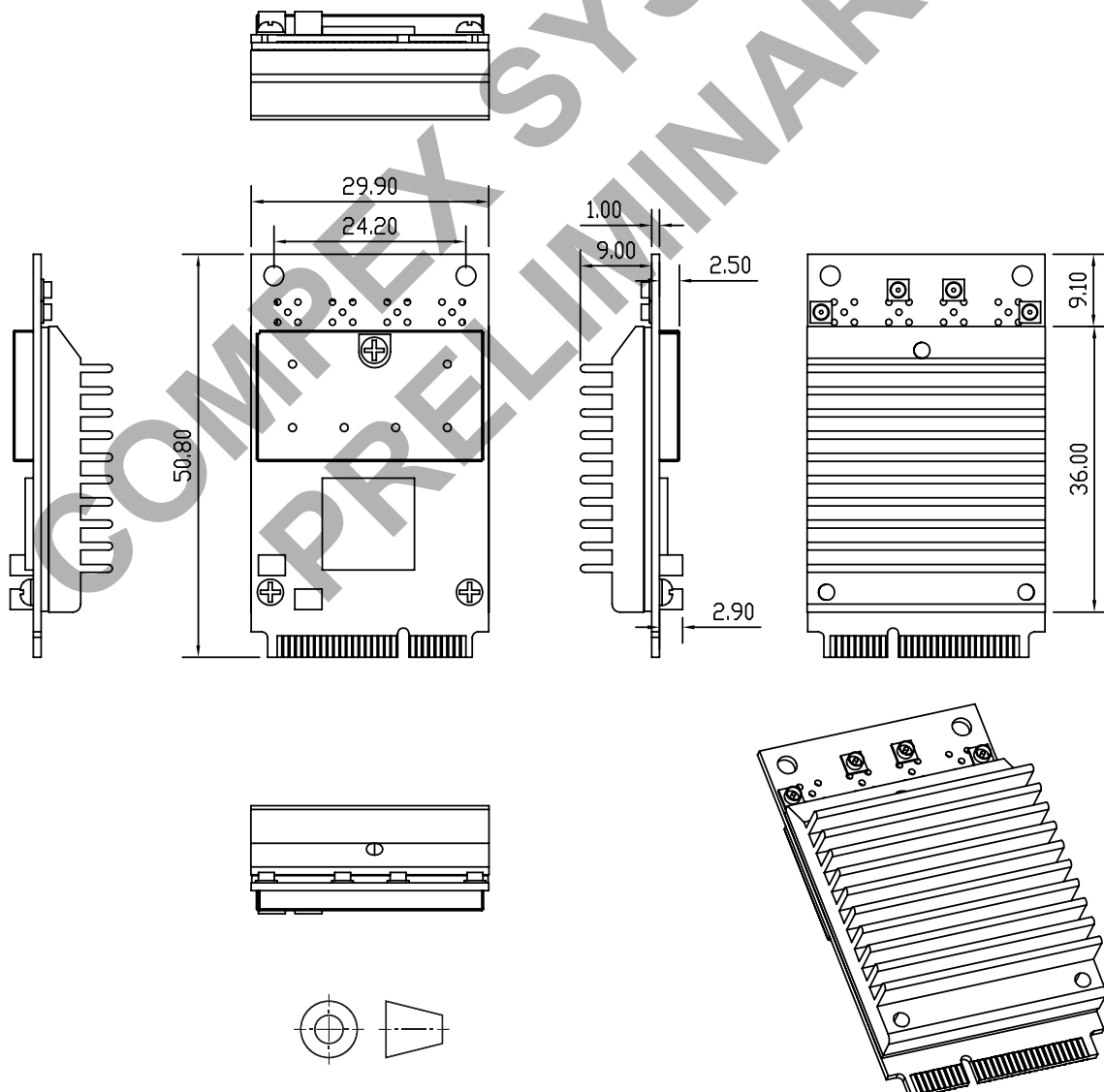
	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	TBA	±2dB
	9Mbps	TBA	±2dB
	12Mbps	TBA	±2dB
	18Mbps	TBA	±2dB
	24Mbps	TBA	±2dB
	36Mbps	TBA	±2dB
	48Mbps	TBA	±2dB
	54Mbps	TBA	±2dB
5GHz 802.11n/ac VHT20	MCS 0	TBA	±2dB
	MCS 1	TBA	±2dB
	MCS 2	TBA	±2dB
	MCS 3	TBA	±2dB
	MCS 4	TBA	±2dB
	MCS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

Feature Guide

U.FL connectors



Mechanical Dimensions



Packaging Content

Item	Quantity
WLE1216V5-20 Wireless Module	1

Ordering Configuration

Item Code	Status	Chipset	Form factor
WLE1200V5 20AAQR1.01-TE	Sample	QCA9984	Full size card
WLE1216V5-20 7A00001.01	Production	QCA9984	Full size card

Packaging Information

Packaging	Dimension	Weight	Dimensional Weight
Carton Box (50 units)	TBA	TBA	TBA

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