4x4 802.11b/g/n Mini PCIe WiFi Module
Standard size form factor

Model: WLE1216V2-20

KEY FEATURES

- Qualcomm Atheros 'Cascade' QCA9984
- 2.4GHz max 20dBm output power (per chain)
- Heat sink allows free air operation
- IEEE 802.11b/g/n compliant, up to 800Mbps
- Multi-user MIMO (MU-MIMO) beamformer
- 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

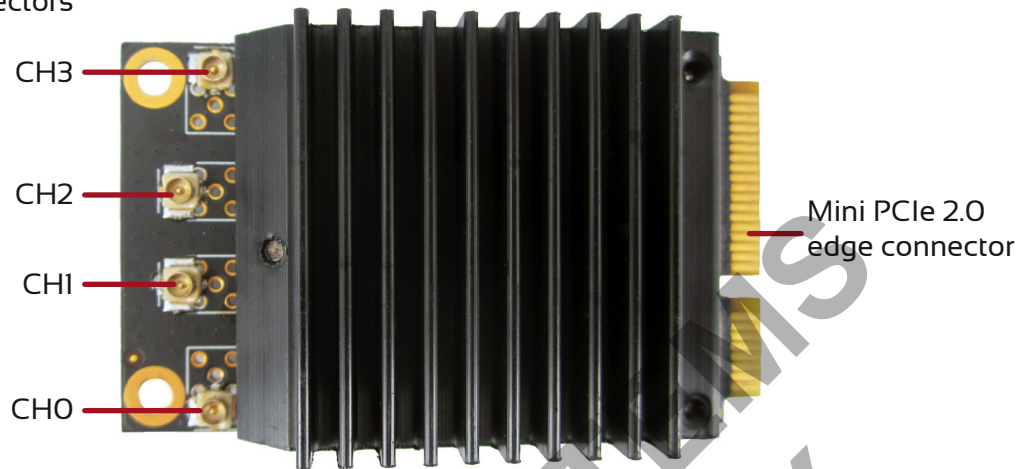|	
Chipset	QCA9984
System Memory	256Kbit serial I²C bus EEPROM
Host Interface	Mini PCI Express 2.0 Standard
Operating Voltage	3.3V
Antenna Connector	4x U.FL
Frequency Range	2.412 ~ 2.472 GHz
Power Consumption	6.68W (Max)
Modulation Techniques	CCK, OFDM: BPSK, QPSK, 16-QAM, 64-QAM
Supported Operating System	CompexWRT or OpenWRT/LEDE
Temperature Range	Operating: -20ºC to 70ºC Storage: -40ºC to 90ºC
Humidity	Operating: 5% to 95% (non-condensing) Storage: Max. 90% (non-condensing)
ESD Sensitivity	Class 1B
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
2.4GHz 802.11g	6Mbps	20dBm	26dBm	±2dB
	9Mbps	20dBm	26dBm	±2dB
	12Mbps	20dBm	26dBm	±2dB
	18Mbps	20dBm	26dBm	±2dB
	24Mbps	19dBm	25dBm	±2dB
	36Mbps	19dBm	25dBm	±2dB
	48Mbps	18dBm	24dBm	±2dB
	54Mbps	17dBm	23dBm	±2dB
2.4GHz 802.11n HT20	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
	MCS 5	18dBm	24dBm	±2dB
	MCS 6	17dBm	23dBm	±2dB
	MCS 7	16dBm	22dBm	±2dB
2.4GHz 802.11n HT40	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
	MCS 5	18dBm	24dBm	±2dB
	MCS 6	18dBm	24dBm	±2dB
	MCS 7	17dBm	23dBm	±2dB

Data Rate		RX Specifications Sensitivity	Tolerance
2.4GHz 802.11g	6Mbps	-93dBm	±2dB
	9Mbps	TBD	±2dB
	12Mbps	TBD	±2dB
	18Mbps	TBD	±2dB
	24Mbps	TBD	±2dB
	36Mbps	TBD	±2dB
	48Mbps	TBD	±2dB
	54Mbps	-73dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	-93dBm	±2dB
	MCS 1	TBD	±2dB
	MCS 2	TBD	±2dB
	MCS 3	TBD	±2dB
	MCS 4	TBD	±2dB
	MCS 5	-76dBm	±2dB
	MCS 6	-73dBm	±2dB
	MCS 7	-72dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	-92dBm	±2dB
	MCS 1	TBD	±2dB
	MCS 2	TBD	±2dB
	MCS 3	TBD	±2dB
	MCS 4	TBD	±2dB
	MCS 5	-73dBm	±2dB
	MCS 6	-72dBm	±2dB
	MCS 7	-70dBm	±2dB

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Feature Guide

U.FL connectors

CH3

CH2

CH1

CH0

Mini PCIe 2.0
edge connector

Mechanical Dimensions

29.90

24.20

50.80

1.00

9.00

2.50

2.90

9.10

36.00
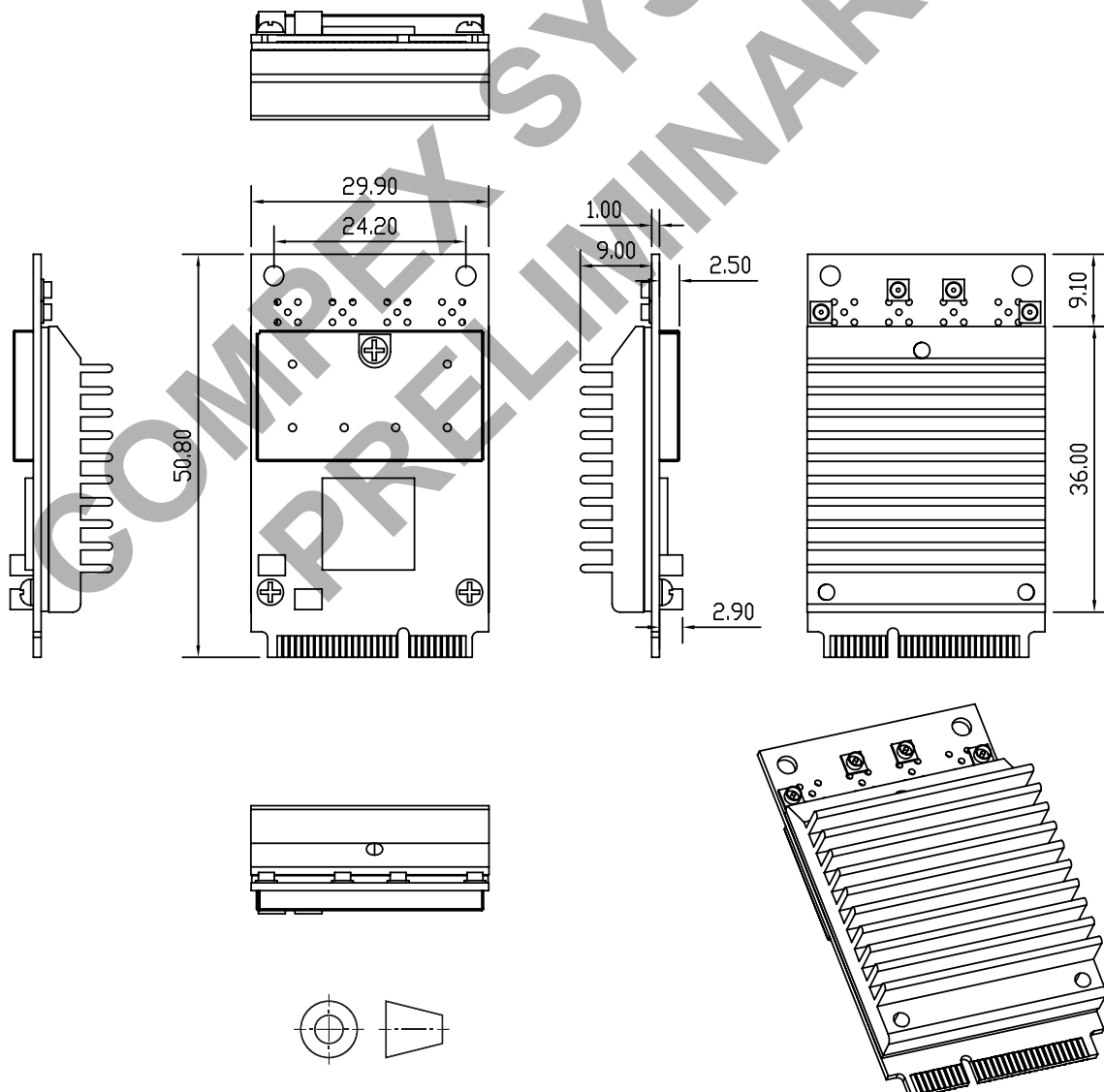
Packaging Content

Item	Quantity
WLE1216V2-20 Wireless Module	1

Ordering Configuration

Item Code	Chipset	Form Factor	Card Information
WLE1216V2-20 7A00001.01	QCA9984	Standard size card	4x4 802.11b/g/n 2.4GHz

Packaging Information

Packaging Type	Dimensions	Weight	Dimensional Weight
Packing Box (50 units)	385 x 207 x 76 mm	1.514 kg	1.5 kg
Carton Box (5 packing boxes / 250 units)	422 x 410 x 240 mm	8.3 kg	9 kg