



Product Name	GAO Tek Long Range WIFI Module
Product SKU	GAOTek-WM-145
Product URL	https://gaotek.com/product/gaotek-long-range-wifi-module/

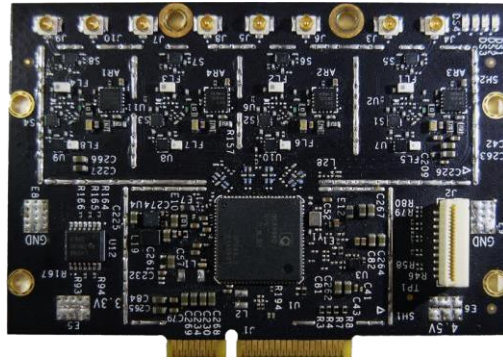


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Single Band 2.4GHz 4x4 MU-MIMO 802.11ac MiniPCI-e Module

Designed for High Bandwidth Enterprise Wireless Access Points



KEY FEATURES

- Qualcomm Atheros QCA9980
- CUS260 Reference Design
- 2.4GHz max 22dBm output power (per chain)
- IEEE 802.11ac compliant & backward compatible with 802.11b/g/n/ac
- 4x4 MU-MIMO Technology, up to 600Mbps
- MiniPCI Express 2.0 interface
- Multi-user MIMO (MU-MIMO) beam former
- 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, and z standard
- Cards are individually calibrated for Quality Assurance

Specifications

Chipset	QCA9980
Host Interface	MiniPCI-Express 2.0 Standard
Operating Voltage	5V (from PCIe slot or external 5V pin)
Antenna Connector	8x U. FL
Frequency Range	2.412GHz to 2.472GHz
Power Consumption	15W (Max)
Supported Operating System	Supported by CompexWRT with Qualcomm Atheros reference wireless driver on WPQ864 and WPQ865.
Modulation Techniques	OFDM: BPSK, QPSK, 16-QAM, 64-QAM DSSS: DBPSK, DQPSK, CCK
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)

Certificate

REACH & RoHS Compliance

Dimensions (W × H × D)

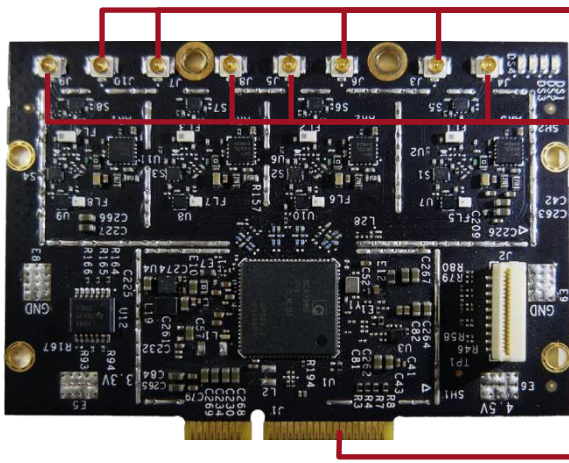
70.3mm × 51.0mm × 5.5mm

RFPerformance Table

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
2.4GHz 802.11b	1Mbps	22dBm	28dBm	±2dB
	2Mbps	22dBm	28dBm	±2dB
	5.5Mbps	22dBm	28dBm	±2dB
	11Mbps	22dBm	28dBm	±2dB
2.4GHz 802.11g	6Mbps	22dBm	28dBm	±2dB
	9Mbps	22dBm	28dBm	±2dB
	12Mbps	22dBm	28dBm	±2dB
	18Mbps	22dBm	28dBm	±2dB
	24Mbps	22dBm	28dBm	±2dB
	36Mbps	21dBm	27dBm	±2dB
	48Mbps	20dBm	26dBm	±2dB
2.4GHz 802.11n 20MHz	MCS 0	22dBm	28dBm	±2dB
	MCS 1	22dBm	28dBm	±2dB
	MCS 2	22dBm	28dBm	±2dB
	MCS 3	22dBm	28dBm	±2dB
	MCS 4	21dBm	27dBm	±2dB
	MCS 5	21dBm	27dBm	±2dB
	MCS 6	20dBm	26dBm	±2dB
	MCS 7	19dBm	25dBm	±2dB
	MCS 8	15dBm	21dBm	±2dB
2.4GHz 802.11n/ac 40MHz	MCS 0	22dBm	28dBm	±2dB
	MCS 1	22dBm	28dBm	±2dB
	MCS 2	22dBm	28dBm	±2dB
	MCS 3	22dBm	28dBm	±2dB
	MCS 4	21dBm	27dBm	±2dB
	MCS 5	21dBm	27dBm	±2dB
	MCS 6	20dBm	26dBm	±2dB
	MCS 7	19dBm	25dBm	±2dB
	MCS 8	15dBm	21dBm	±2dB
	MCS 9	15dBm	21dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11b	1Mbps	-95dBm	±2dB
	2Mbps	-93dBm	±2dB
	5.5Mbps	-90dBm	±2dB
	11Mbps	-88dBm	±2dB
2.4GHz 802.11g	6Mbps	-94dBm	±2dB
	9Mbps	-94dBm	±2dB
	12Mbps	-93dBm	±2dB
	18Mbps	-93dBm	±2dB
	24Mbps	-90dBm	±2dB
	36Mbps	-86dBm	±2dB
	48Mbps	-82dBm	±2dB
2.4GHz 802.11n 20MHz	54Mbps	-79dBm	±2dB
	MCS 0	-94dBm	±2dB
	MCS 1	-94dBm	±2dB
	MCS 2	-92dBm	±2dB
	MCS 3	-88dBm	±2dB
	MCS 4	-84dBm	±2dB
	MCS 5	-81dBm	±2dB
	MCS 6	-78dBm	±2dB
	MCS 6	-75dBm	±2dB
MCS 7	-70dBm	±2dB	
2.4GHz 802.11n/ac 40MHz	MCS 8	-67dBm	±2dB
	MCS 0	-93dBm	±2dB
	MCS 1	-91dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-85dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-78dBm	±2dB
	MCS 6	-75dBm	±2dB
	MCS 7	-72dBm	±2dB
	MCS 8	-67dBm	±2dB
MCS 9	-63dBm	±2dB	

FeatureGuide



Main connectors J3, J6, J7, J10

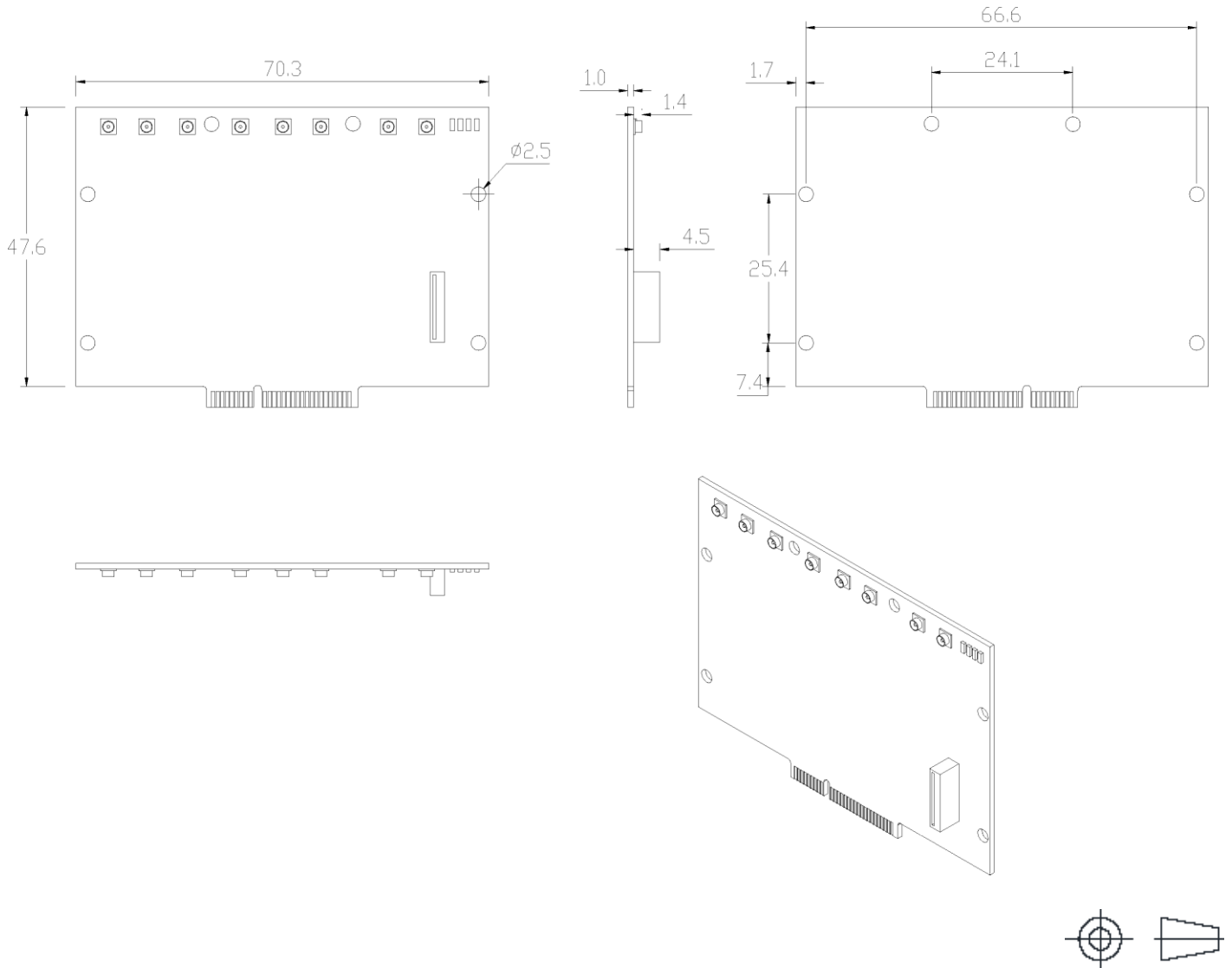
Aux connectors J4, J5, J8, J9

JTAG Connector

5V External Power Pin

Mini PCI-e 2.0

MechanicalDimensions





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