

WiFi 7 (802.11BE) 4x4 MU-MIMO 2.4GHz Single Band Wireless Module

Model: WLE7000E2



KEY FEATURES

- Qualcomm QCN6224 'Waikiki' series for Commercial Grade
- Qualcomm QCN9274-I 'Waikiki' series for Industrial grade
- 2.4GHz, 4x4 MU-MIMO, up to 1376 Mbps physical data rate
- Single Band 2.4G 4x4 WiFi 7 (802.11be)
- MiniPCIe Interface with PCIe 3.0
- Based on WK02.2 reference design
- Supports up to 4096-QAM
- -20°C to 70°C operating temperature*

**For industrial-grade environmental temperature requirements, please contact our sales representative for a customized heatsink solution.*

Specifications

Chipset	Qualcomm QCN6224 'Waikiki' series for Commercial grade Qualcomm QCN9274-I 'Waikiki' series for Industrial grade
System Memory	2Mbit serial I ² C bus EEPROM
Reference Design	WK02.2
Host Interface	MiniPCIe Interface with PCIe 3.0
Operating Voltage	3.3V
Power Consumption	8W (max)
Wireless	2.4GHz MU-MIMO 802.11b/g/n/ax/be, max 20 dBm per chain 4x U.FL connectors
Frequency Range	2.4 GHz: 2.412~2.472GHz
Modulation Techniques	OFDMA: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM
Channel Spectrum Widths for WLAN	Supports 20/40MHz at 2.4GHz
Operating Systems	Linux
Certification	REACH & RoHS Compliance
Environmental Temperature ^[1]	Operating temperature: -20°C to 70°C, Storage: -40°C to 90°C
Environmental Humidity, Non-Condensing	Operating: 5% to 95%, Storage: Max. 90%
Dimensions (W x H x D) in mm	30 X 50.8 X 13 mm

*Configurations are subject to change without notifications.

**Can be requested from respective sales executive.

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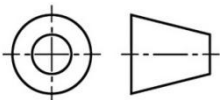
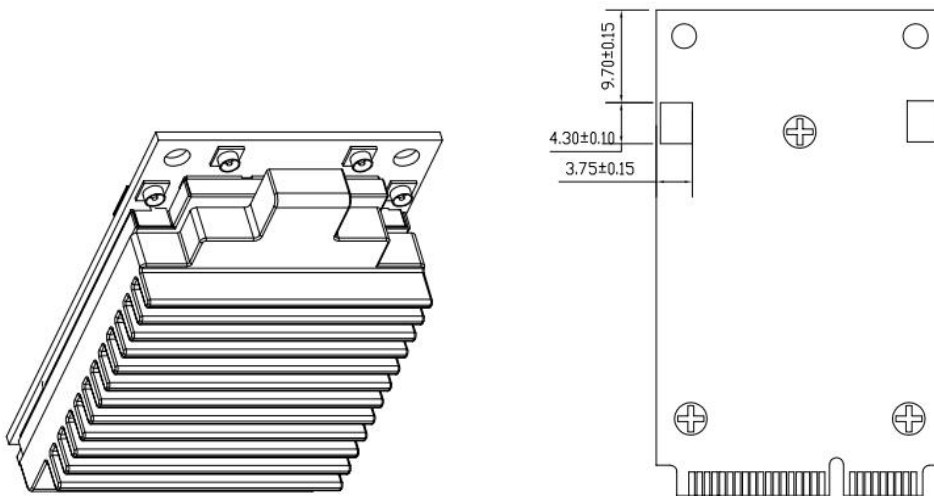
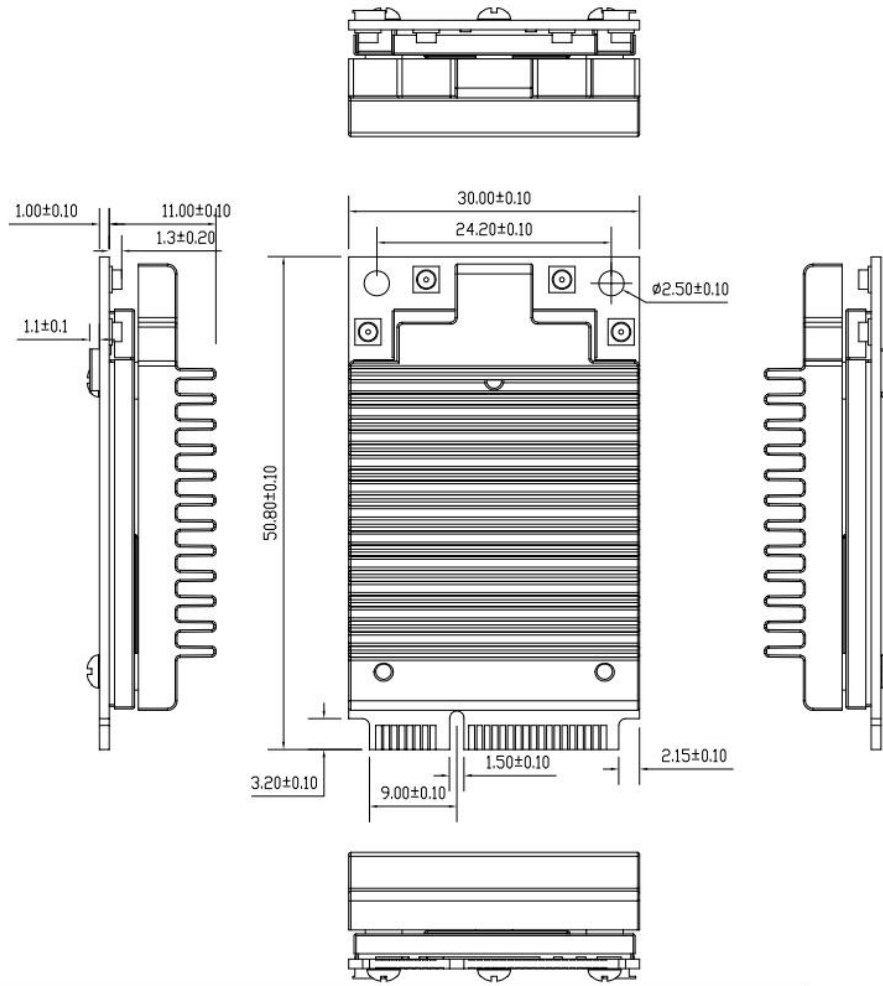
RF Performance Table at 2.4GHz with filter

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance		Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11be EHT20	MCS 0	20dBm	26dBm	±2dB	2.4GHz 802.11be EHT20	MCS 0	-92dBm	±2dB
	MCS 1	20dBm	26dBm	±2dB		MCS 1	-90dBm	±2dB
	MCS 2	20dBm	26dBm	±2dB		MCS 2	-88dBm	±2dB
	MCS 3	19dBm	25dBm	±2dB		MCS 3	-85dBm	±2dB
	MCS 4	19dBm	25dBm	±2dB		MCS 4	-81dBm	±2dB
	MCS 5	18dBm	24dBm	±2dB		MCS 5	-77dBm	±2dB
	MCS 6	18dBm	24dBm	±2dB		MCS 6	-76dBm	±2dB
	MCS 7	17dBm	23dBm	±2dB		MCS 7	-74dBm	±2dB
	MCS 8	17dBm	23dBm	±2dB		MCS 8	-70dBm	±2dB
	MCS 9	16dBm	22dBm	±2dB		MCS 9	-69dBm	±2dB
	MCS 10	16dBm	22dBm	±2dB		MCS 10	-65dBm	±2dB
	MCS 11	16dBm	22dBm	±2dB		MCS 11	-63dBm	±2dB
	MCS 12	15dBm	21dBm	±2dB		MCS 12	-59dBm	±2dB
	MCS 13	15dBm	21dBm	±2dB		MCS 13	-57dBm	±2dB
2.4GHz 802.11be EHT40	MCS 0	20dBm	26dBm	±2dB	2.4GHz 802.11be EHT40	MCS 0	-89dBm	±2dB
	MCS 1	20dBm	26dBm	±2dB		MCS 1	-87dBm	±2dB
	MCS 2	20dBm	26dBm	±2dB		MCS 2	-85dBm	±2dB
	MCS 3	19dBm	25dBm	±2dB		MCS 3	-82dBm	±2dB
	MCS 4	19dBm	25dBm	±2dB		MCS 4	-78dBm	±2dB
	MCS 5	18dBm	24dBm	±2dB		MCS 5	-73dBm	±2dB
	MCS 6	18dBm	24dBm	±2dB		MCS 6	-72dBm	±2dB
	MCS 7	17dBm	23dBm	±2dB		MCS 7	-71dBm	±2dB
	MCS 8	17dBm	23dBm	±2dB		MCS 8	-67dBm	±2dB
	MCS 9	16dBm	22dBm	±2dB		MCS 9	-65dBm	±2dB
	MCS 10	16dBm	22dBm	±2dB		MCS 10	-62dBm	±2dB
	MCS 11	16dBm	22dBm	±2dB		MCS 11	-60dBm	±2dB
	MCS 12	15dBm	21dBm	±2dB		MCS 12	-56dBm	±2dB
	MCS 13	15dBm	21dBm	±2dB		MCS 13	-55dBm	±2dB

Component Map



Mechanical Dimensions



All dimensions are in mm

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Software Information

Firmware

OpenWRT Barrier Breaker

Development Kits

SDK

SDKs with QCA binary drivers are available for software developers.

Accessory

JTAG Programmer, Serial Converter, Power Supply Only if available

Ordering Configuration

Item Code	Model	Description
WLE7000E2 7A000TXL	WLE7000E2	QCN6224 4x4 802.11b/g/n/ax/be Supports 2.4GHz Single Band MiniPCIe interface with PCIe 3.0 Module
WLE7000E2 7B000NXL-I	WLE7000E2-I	QCN9274-I 4x4 802.11b/g/n/ax/be Supports 2.4GHz Single Band MiniPCIe interface with PCIe 3.0 Module

Chipset Comparisons

		QCN6224	QCN6274	QCN9274
Band Operation	4 Single Band	✓	✓	✓
	2+2 Dual Band	✓	✓	✓
	2.4GHz	✓	✓	✓
	4.9GHz	-	-	✓
	5GHz	✓	✓	✓
	6GHz	-	✓	✓
	Channel Support	Up to 160MHz at 5GHz	Up to 320MHz at 6GHz	Up to 320MHz at 6GHz
Performance	4K QAM	✓	✓	✓
	#clients	128	256	512
	#OFDMA users	8	16	37
	DL OFDMA + TxBF	-	✓	✓
	DL/UL MU-MIMO	✓	✓	✓
Advanced 11be Features	WFA certified MLO	✓	✓	✓
	Puncture	Static	Static	Static & Dynamic
Others	DPD	✓	✓	✓
	FIPS	-	-	✓
Software Packages	Provisioned Multi Link	✓	✓	✓
	Dense Deployment	✓	✓	✓
	Location & RF Sensing	✓	✓	✓