

## 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 <sup>2</sup> 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 <sup>[1]</sup>	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.

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

## RF Performance Table at 2.4GHz with filter

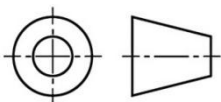
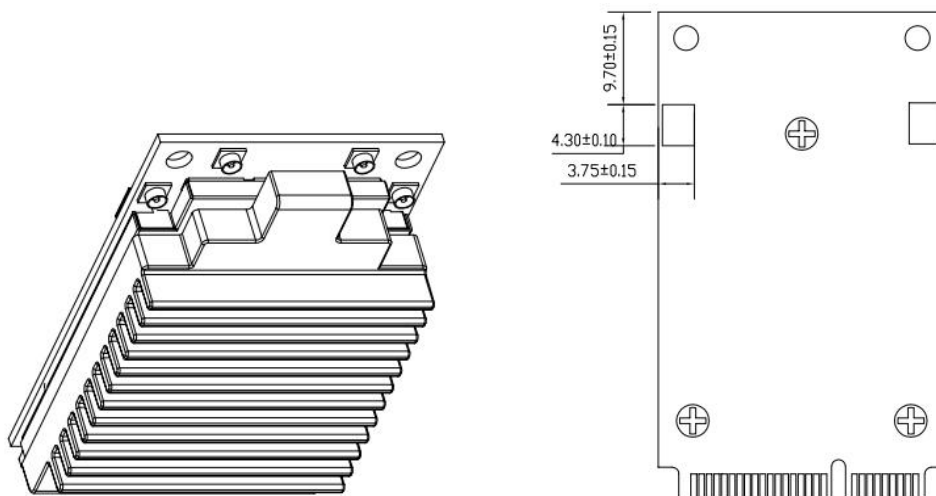
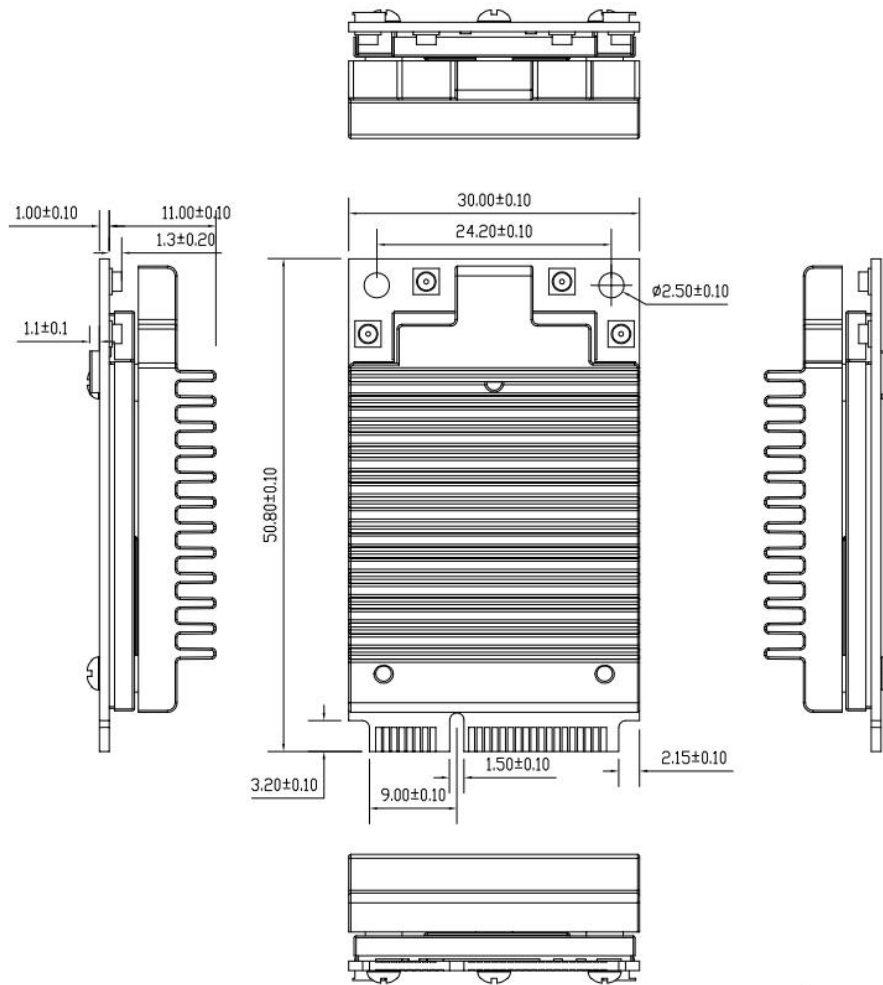
		Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
2.4GHz 802.11be EHT20	MCS 0	20dBm	26dBm	±2dB	
	MCS 1	20dBm	26dBm	±2dB	
	MCS 2	20dBm	26dBm	±2dB	
	MCS 3	19dBm	25dBm	±2dB	
	MCS 4	19dBm	25dBm	±2dB	
	MCS 5	18dBm	24dBm	±2dB	
	MCS 6	18dBm	24dBm	±2dB	
	MCS 7	17dBm	23dBm	±2dB	
	MCS 8	17dBm	23dBm	±2dB	
	MCS 9	16dBm	22dBm	±2dB	
	MCS 10	16dBm	22dBm	±2dB	
	MCS 11	16dBm	22dBm	±2dB	
	MCS 12	15dBm	21dBm	±2dB	
	MCS 13	15dBm	21dBm	±2dB	
2.4GHz 802.11be EHT40	MCS 0	20dBm	26dBm	±2dB	
	MCS 1	20dBm	26dBm	±2dB	
	MCS 2	20dBm	26dBm	±2dB	
	MCS 3	19dBm	25dBm	±2dB	
	MCS 4	19dBm	25dBm	±2dB	
	MCS 5	18dBm	24dBm	±2dB	
	MCS 6	18dBm	24dBm	±2dB	
	MCS 7	17dBm	23dBm	±2dB	
	MCS 8	17dBm	23dBm	±2dB	
	MCS 9	16dBm	22dBm	±2dB	
	MCS 10	16dBm	22dBm	±2dB	
	MCS 11	16dBm	22dBm	±2dB	
	MCS 12	15dBm	21dBm	±2dB	
	MCS 13	15dBm	21dBm	±2dB	

		Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11be EHT20	MCS 0	-92dBm	±2dB	
	MCS 1	-90dBm	±2dB	
	MCS 2	-88dBm	±2dB	
	MCS 3	-85dBm	±2dB	
	MCS 4	-81dBm	±2dB	
	MCS 5	-77dBm	±2dB	
	MCS 6	-76dBm	±2dB	
	MCS 7	-74dBm	±2dB	
	MCS 8	-70dBm	±2dB	
	MCS 9	-69dBm	±2dB	
	MCS 10	-65dBm	±2dB	
	MCS 11	-63dBm	±2dB	
	MCS 12	-59dBm	±2dB	
	MCS 13	-57dBm	±2dB	
2.4GHz 802.11be EHT40	MCS 0	-89dBm	±2dB	
	MCS 1	-87dBm	±2dB	
	MCS 2	-85dBm	±2dB	
	MCS 3	-82dBm	±2dB	
	MCS 4	-78dBm	±2dB	
	MCS 5	-73dBm	±2dB	
	MCS 6	-72dBm	±2dB	
	MCS 7	-71dBm	±2dB	
	MCS 8	-67dBm	±2dB	
	MCS 9	-65dBm	±2dB	
	MCS 10	-62dBm	±2dB	
	MCS 11	-60dBm	±2dB	
	MCS 12	-56dBm	±2dB	
	MCS 13	-55dBm	±2dB	

## Component Map



## Mechanical Dimensions



All dimensions are in mm

## 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 MiniPCle 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 MiniPCle 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	✓	✓	✓