

## WiFi 7 (802.11BE) 4x4 MU-MIMO 5 GHz Single Band Wireless Module

**Model: WLTE7000E5**



### KEY FEATURES

- Qualcomm QCN6224/6274 'Waikiki' series for Commercial Grade
- Qualcomm QCN9274-I 'Waikiki' series for Industrial Grade
- 5GHz, 4x4 MU-MIMO, up to 8647 Mbps physical data rate
- Single Band 5G 4x4 WiFi 7 (802.11be)
- M.2 E Key Interface with PCIe 3.0
- Based on WK01.5 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	WK01.5
Host Interface	M.2 E Key Interface with PCIe 3.0
Operating Voltage	3.3V
Power Consumption	8.5W (Max)
Wireless	5GHz 802.11a/n/ax/be, max 18dBm per chain 4x U.FL Connectors
Frequency Range	5 GHz: 5.150~5.825GHz
Modulation Techniques	OFDMA: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM
Channel Spectrum Widths for WLAN	Supports 20/40/80/160/240MHz at 5GHz
Operating Systems	Linux
Certification	FCC, CE, IC Certified, 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 52 X 20.1 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 5GHz with filter

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance		Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11be EHT20	MCS 0	18dBm	24dBm	±2dB	5GHz 802.11be EHT20	MCS 0	-91dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB		MCS 1	-89dBm	±2dB
	MCS 2	18dBm	24dBm	±2dB		MCS 2	-87dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB		MCS 3	-84dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB		MCS 4	-81dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB		MCS 5	-77dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB		MCS 6	-76dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB		MCS 7	-74dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB		MCS 8	-70dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB		MCS 9	-67dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB		MCS 10	-64dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB		MCS 11	-62dBm	±2dB
	MCS 12	11dBm	17dBm	±2dB		MCS 12	-58dBm	±2dB
5GHz 802.11be EHT40	MCS 13	11dBm	17dBm	±2dB	5GHz 802.11be EHT40	MCS 13	-56dBm	±2dB
	MCS 0	18dBm	24dBm	±2dB		MCS 0	-89dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB		MCS 1	-86dBm	±2dB
	MCS 2	18dBm	24dBm	±2dB		MCS 2	-84dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB		MCS 3	-81dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB		MCS 4	-78dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB		MCS 5	-74dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB		MCS 6	-72dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB		MCS 7	-71dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB		MCS 8	-68dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB		MCS 9	-66dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB		MCS 10	-63dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB		MCS 11	-61dBm	±2dB
MCS 12	11dBm	17dBm	±2dB	MCS 12	-57dBm	±2dB		
5GHz 802.11be EHT80	MCS 13	11dBm	17dBm	±2dB	5GHz 802.11be EHT80	MCS 13	-55dBm	±2dB
	MCS 0	18dBm	24dBm	±2dB		MCS 0	-86dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB		MCS 1	-83dBm	±2dB
	MCS 2	18dBm	24dBm	±2dB		MCS 2	-81dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB		MCS 3	-78dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB		MCS 4	-75dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB		MCS 5	-70dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB		MCS 6	-69dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB		MCS 7	-67dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB		MCS 8	-64dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB		MCS 9	-62dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB		MCS 10	-59dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB		MCS 11	-58dBm	±2dB
MCS 12	11dBm	17dBm	±2dB	MCS 12	-54dBm	±2dB		
MCS 13	11dBm	17dBm	±2dB	MCS 13	-52dBm	±2dB		

## RF Performance Table at 5GHz with filter

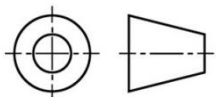
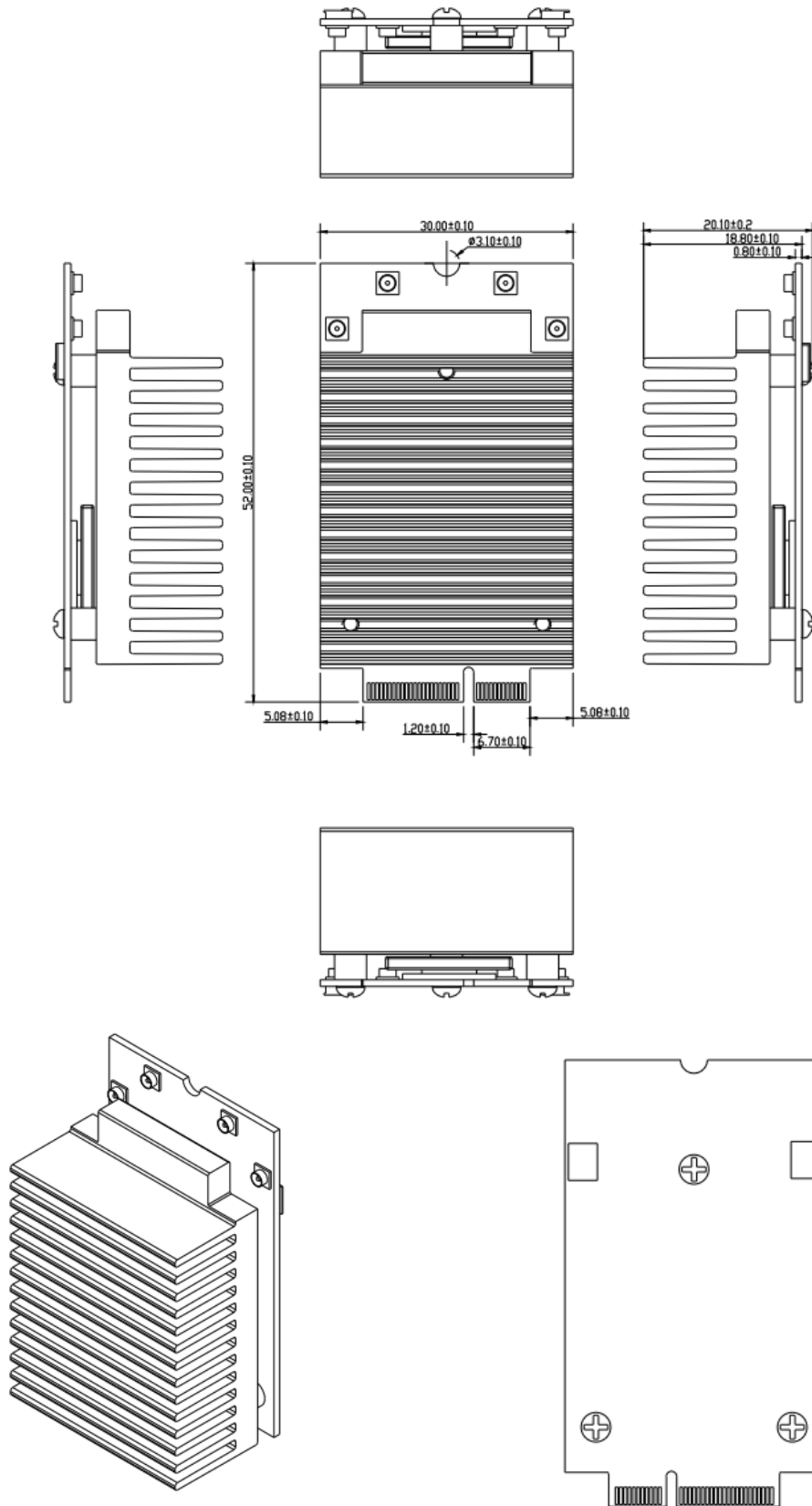
	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
5GHz 802.11be EHT160	MCS 0	18dBm	24dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB
	MCS 2	18dBm	24dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB
	MCS 12	11dBm	17dBm	±2dB
	MCS 13	11dBm	17dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11be EHT160	MCS 0	-84dBm	±2dB
	MCS 1	-80dBm	±2dB
	MCS 2	-78dBm	±2dB
	MCS 3	-75dBm	±2dB
	MCS 4	-72dBm	±2dB
	MCS 5	-68dBm	±2dB
	MCS 6	-66dBm	±2dB
	MCS 7	-65dBm	±2dB
	MCS 8	-62dBm	±2dB
	MCS 9	-60dBm	±2dB
	MCS 10	-57dBm	±2dB
	MCS 11	-54dBm	±2dB
	MCS 12	-52dBm	±2dB
	MCS 13	-50dBm	±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
WLTE7000E5 7A000TXFG-TE	WLTE7000E5	QCN6224 4x4 802.11a/n/ac/ax/be Support 5GHz Single Band M.2 E Key Interface with PCIe 3.0
WLTE7000E5 7B000NXFG-I-TE	WLTE7000E5-I	QCN9274-I 4x4 802.11a/n/ac/ax/be Support 5GHz Single Band M.2 E Key Interface with PCIe 3.0

## Chipsets 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	✓	✓	✓