

## WiFi 7 (802.11BE) 4x4 MU-MIMO 6 GHz Single Band Wireless Module

**Model: WLTE7000E6**



### KEY FEATURES

- Qualcomm QCN6274 'Waikiki' series for Commercial Grade
- Qualcomm QCN9274-I 'Waikiki' series for Industrial grade
- 6GHz, 4x4 MU-MIMO, up to 11530 Mbps physical data rate
- Single Band 6G 4x4 WiFi 7 (802.11be)
- M.2 E Key Interface with PCIe 3.0
- Based on WK01.6 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 QCN6274 '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	WK01.6
Host Interface	M.2 E Key Interface with PCIe 3.0
Operating Voltage	3.3V
Power Consumption	9.3W (max)
Wireless	6GHz MU-MIMO 802.11ax/be, max 17 dBm per chain 4x U.FL Connectors
Frequency Range	5.925~7.125GHz
Modulation Techniques	OFDMA: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM
Channel Spectrum Widths for WLAN	Supports 20/40/80/160/320MHz at 6GHz
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 52 X 25.1 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 6GHz with filter

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance		Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT20	MCS 0	17dBm	23dBm	±2dB	6GHz 802.11be EHT20	MCS 0	-90dBm	±2dB
	MCS 1	17dBm	23dBm	±2dB		MCS 1	-87dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB		MCS 2	-85dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB		MCS 3	-82dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB		MCS 4	-78dBm	±2dB
	MCS 5	16dBm	22dBm	±2dB		MCS 5	-74dBm	±2dB
	MCS 6	15dBm	21dBm	±2dB		MCS 6	-73dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB		MCS 7	-72dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB		MCS 8	-68dBm	±2dB
	MCS 9	12dBm	18dBm	±2dB		MCS 9	-66dBm	±2dB
	MCS 10	11dBm	17dBm	±2dB		MCS 10	-63dBm	±2dB
	MCS 11	11dBm	17dBm	±2dB		MCS 11	-61dBm	±2dB
	MCS 12	10dBm	16dBm	±2dB		MCS 12	-57dBm	±2dB
6GHz 802.11be EHT40	MCS 13	10dBm	16dBm	±2dB	6GHz 802.11be EHT40	MCS 13	-55dBm	±2dB
	MCS 0	17dBm	23dBm	±2dB		MCS 0	-88dBm	±2dB
	MCS 1	17dBm	23dBm	±2dB		MCS 1	-85dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB		MCS 2	-82dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB		MCS 3	-80dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB		MCS 4	-76dBm	±2dB
	MCS 5	16dBm	22dBm	±2dB		MCS 5	-72dBm	±2dB
	MCS 6	15dBm	21dBm	±2dB		MCS 6	-70dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB		MCS 7	-68dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB		MCS 8	-65dBm	±2dB
	MCS 9	12dBm	18dBm	±2dB		MCS 9	-63dBm	±2dB
	MCS 10	11dBm	17dBm	±2dB		MCS 10	-60dBm	±2dB
	MCS 11	11dBm	17dBm	±2dB		MCS 11	-58dBm	±2dB
MCS 12	10dBm	16dBm	±2dB	MCS 12	-54dBm	±2dB		
6GHz 802.11be EHT80	MCS 13	10dBm	16dBm	±2dB	6GHz 802.11be EHT80	MCS 13	-53dBm	±2dB
	MCS 0	16dBm	22dBm	±2dB		MCS 0	-85dBm	±2dB
	MCS 1	16dBm	22dBm	±2dB		MCS 1	-82dBm	±2dB
	MCS 2	16dBm	22dBm	±2dB		MCS 2	-79dBm	±2dB
	MCS 3	16dBm	22dBm	±2dB		MCS 3	-77dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB		MCS 4	-74dBm	±2dB
	MCS 5	16dBm	22dBm	±2dB		MCS 5	-70dBm	±2dB
	MCS 6	15dBm	21dBm	±2dB		MCS 6	-68dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB		MCS 7	-67dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB		MCS 8	-64dBm	±2dB
	MCS 9	12dBm	18dBm	±2dB		MCS 9	-62dBm	±2dB
	MCS 10	11dBm	17dBm	±2dB		MCS 10	-59dBm	±2dB
	MCS 11	11dBm	17dBm	±2dB		MCS 11	-57dBm	±2dB
MCS 12	10dBm	16dBm	±2dB	MCS 12	-54dBm	±2dB		
MCS 13	10dBm	16dBm	±2dB	MCS 13	-52dBm	±2dB		

## RF Performance Table at 6GHz with filter

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
6GHz 802.11be EHT160	MCS 0	16dBm	22dBm	±2dB
	MCS 1	16dBm	22dBm	±2dB
	MCS 2	16dBm	22dBm	±2dB
	MCS 3	16dBm	22dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB
	MCS 7	13dBm	19dBm	±2dB
	MCS 8	12dBm	18dBm	±2dB
	MCS 9	11dBm	17dBm	±2dB
	MCS 10	10dBm	16dBm	±2dB
	MCS 11	10dBm	16dBm	±2dB
	MCS 12	9dBm	15dBm	±2dB
	MCS 13	9dBm	15dBm	±2dB
6GHz 802.11be EHT320	MCS 0	16dBm	22dBm	±2dB
	MCS 1	16dBm	22dBm	±2dB
	MCS 2	16dBm	22dBm	±2dB
	MCS 3	15dBm	21dBm	±2dB
	MCS 4	14dBm	20dBm	±2dB
	MCS 5	13dBm	19dBm	±2dB
	MCS 6	12dBm	18dBm	±2dB
	MCS 7	11dBm	17dBm	±2dB
	MCS 8	10dBm	16dBm	±2dB
	MCS 9	10dBm	16dBm	±2dB
	MCS 10	9dBm	15dBm	±2dB
	MCS 11	9dBm	15dBm	±2dB
	MCS 12	8dBm	14dBm	±2dB
	MCS 13	8dBm	14dBm	±2dB

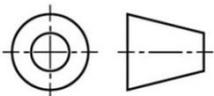
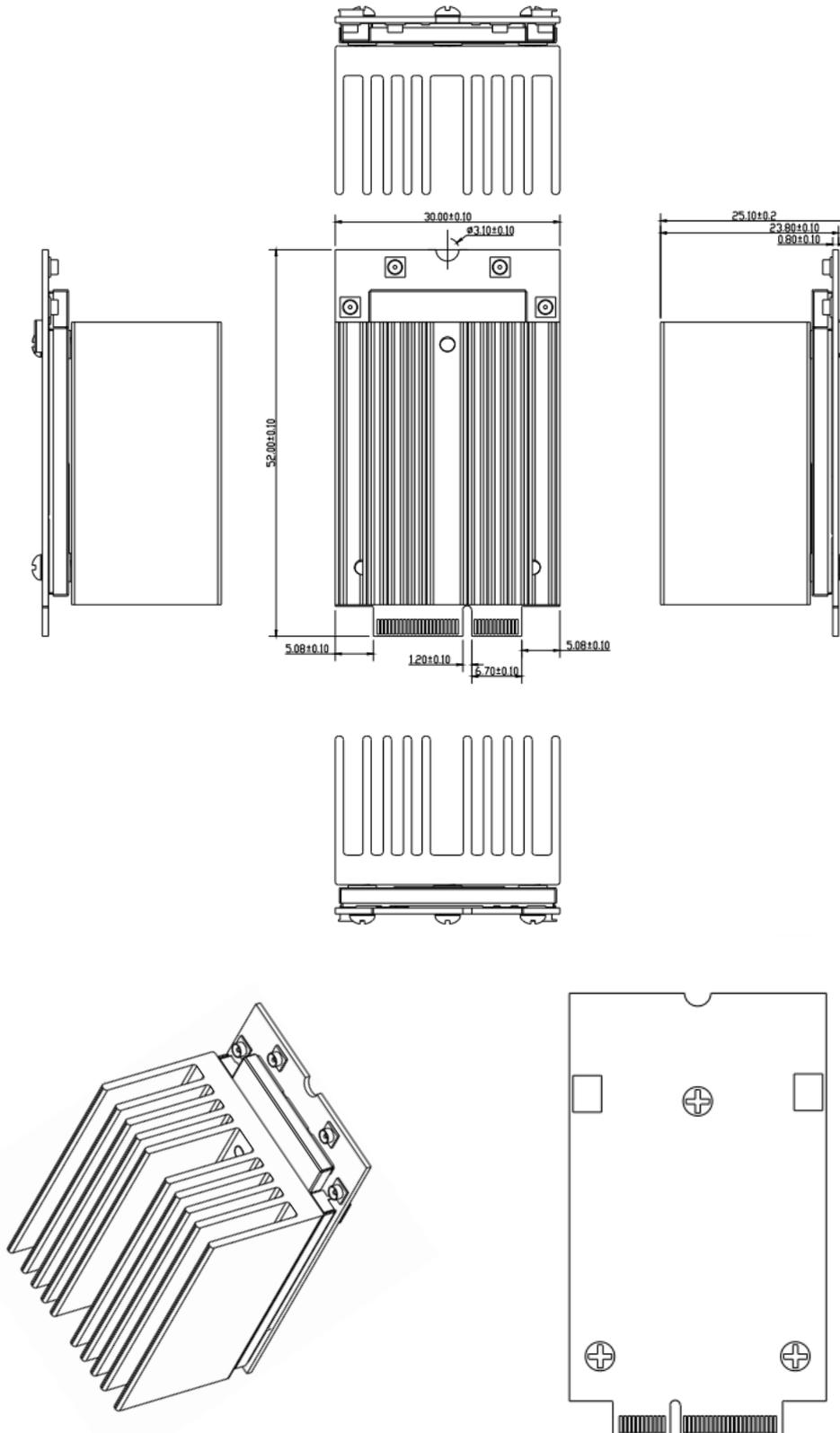
	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT160	MCS 0	-83dBm	±2dB
	MCS 1	-80dBm	±2dB
	MCS 2	-77dBm	±2dB
	MCS 3	-75dBm	±2dB
	MCS 4	-73dBm	±2dB
	MCS 5	-68dBm	±2dB
	MCS 6	-66dBm	±2dB
	MCS 7	-64dBm	±2dB
	MCS 8	-62dBm	±2dB
	MCS 9	-60dBm	±2dB
	MCS 10	-57dBm	±2dB
	MCS 11	-54dBm	±2dB
	MCS 12	-52dBm	±2dB
	MCS 13	-51dBm	±2dB
6GHz 802.11be EHT320	MCS 0	-80dBm	±2dB
	MCS 1	-77dBm	±2dB
	MCS 2	-75dBm	±2dB
	MCS 3	-72dBm	±2dB
	MCS 4	-69dBm	±2dB
	MCS 5	-65dBm	±2dB
	MCS 6	-63dBm	±2dB
	MCS 7	-62dBm	±2dB
	MCS 8	-60dBm	±2dB
	MCS 9	-58dBm	±2dB
	MCS 10	-52dBm	±2dB
	MCS 11	-51dBm	±2dB
	MCS 12	-50dBm	±2dB
	MCS 13	-49dBm	±2dB

## Component Map



M.2 E Key Interface with PCIe 3.0

## 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
WLTE7000E6 7A000SXFG-TE	WLTE7000E6	QCN6274 4x4 802.11ax/be Supports 6GHz Single Band M.2 E Key interface with PCIe 3.0 Module
WLTE7000E6 7B000NXFG-I-TE	WLTE7000E6-I	QCN9274-I 4x4 802.11ax/be Supports 6GHz Single Band M.2 E Key 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	✓	✓	✓