WiFi 7 (802.11BE) 4×4 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, 4×4 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 I²C 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[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 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
6GHz 802.11be EHT20	MCS 0	17dBm	23dBm	±2dB
	MCS 1	17dBm	23dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	16dBm	22dBm	±2dB
	MCS 6	15dBm	21dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	12dBm	18dBm	±2dB
	MCS 10	11dBm	17dBm	±2dB
	MCS 11	11dBm	17dBm	±2dB
	MCS 12	10dBm	16dBm	±2dB
	MCS 13	10dBm	16dBm	±2dB
6GHz 802.11be EHT40	MCS 0	17dBm	23dBm	±2dB
	MCS 1	17dBm	23dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB
	MCS 3	17dBm	23dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	16dBm	22dBm	±2dB
	MCS 6	15dBm	21dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	12dBm	18dBm	±2dB
	MCS 10	11dBm	17dBm	±2dB
	MCS 11	11dBm	17dBm	±2dB
	MCS 12	10dBm	16dBm	±2dB
	MCS 13	10dBm	16dBm	±2dB
6GHz 802.11be EHT80	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	16dBm	22dBm	±2dB
	MCS 6	15dBm	21dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	12dBm	18dBm	±2dB
	MCS 10	11dBm	17dBm	±2dB
	MCS 11	11dBm	17dBm	±2dB
	MCS 12	10dBm	16dBm	±2dB
	MCS 13	10dBm	16dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT20	MCS 0	-90dBm	±2dB
	MCS 1	-87dBm	±2dB
	MCS 2	-85dBm	±2dB
	MCS 3	-82dBm	±2dB
	MCS 4	-78dBm	±2dB
	MCS 5	-74dBm	±2dB
	MCS 6	-73dBm	±2dB
	MCS 7	-72dBm	±2dB
	MCS 8	-68dBm	±2dB
	MCS 9	-66dBm	±2dB
	MCS 10	-63dBm	±2dB
	MCS 11	-61dBm	±2dB
	MCS 12	-57dBm	±2dB
	MCS 13	-55dBm	±2dB
6GHz 802.11be EHT40	MCS 0	-88dBm	±2dB
	MCS 1	-85dBm	±2dB
	MCS 2	-82dBm	±2dB
	MCS 3	-80dBm	±2dB
	MCS 4	-76dBm	±2dB
	MCS 5	-72dBm	±2dB
	MCS 6	-70dBm	±2dB
	MCS 7	-68dBm	±2dB
	MCS 8	-65dBm	±2dB
	MCS 9	-63dBm	±2dB
	MCS 10	-60dBm	±2dB
	MCS 11	-58dBm	±2dB
	MCS 12	-54dBm	±2dB
	MCS 13	-53dBm	±2dB
6GHz 802.11be EHT80	MCS 0	-85dBm	±2dB
	MCS 1	-82dBm	±2dB
	MCS 2	-79dBm	±2dB
	MCS 3	-77dBm	±2dB
	MCS 4	-74dBm	±2dB
	MCS 5	-70dBm	±2dB
	MCS 6	-68dBm	±2dB
	MCS 7	-67dBm	±2dB
	MCS 8	-64dBm	±2dB
	MCS 9	-62dBm	±2dB
	MCS 10	-59dBm	±2dB
	MCS 11	-57dBm	±2dB
	MCS 12	-54dBm	±2dB
	MCS 13	-52dBm	±2dB

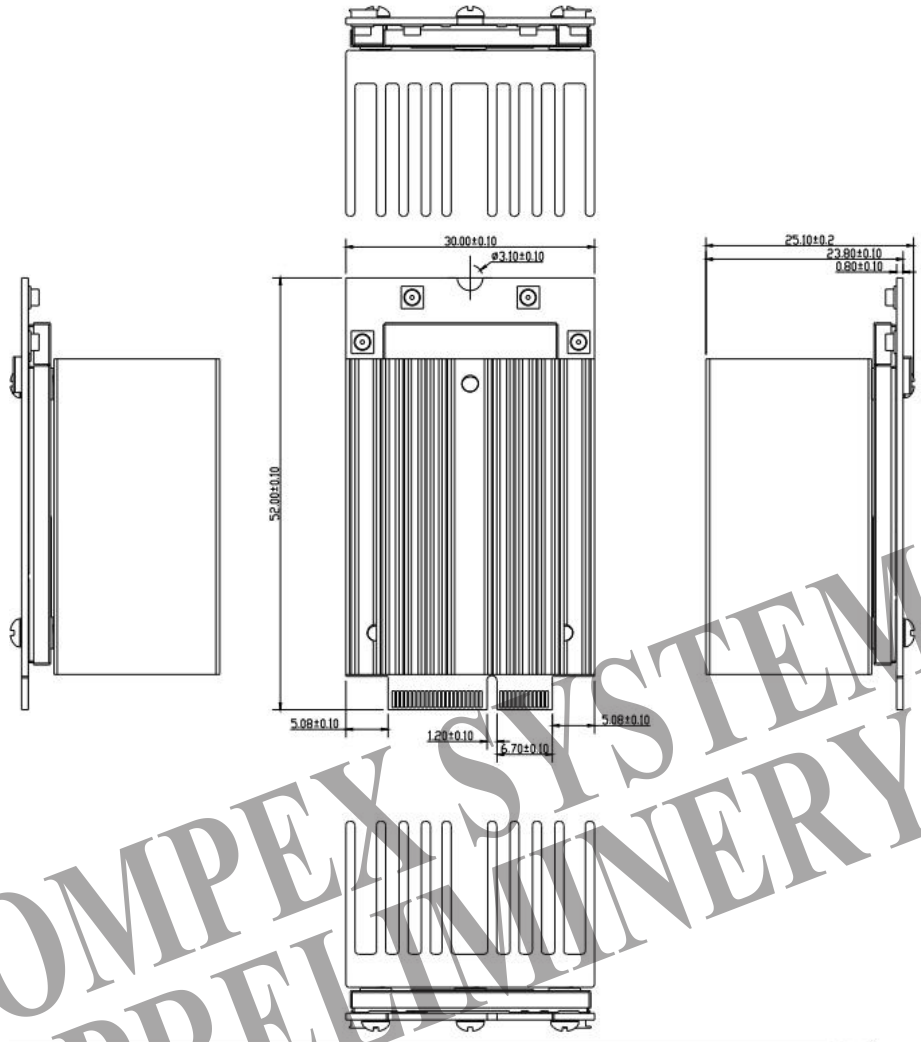
RF Performance Table at 6GHz with filter

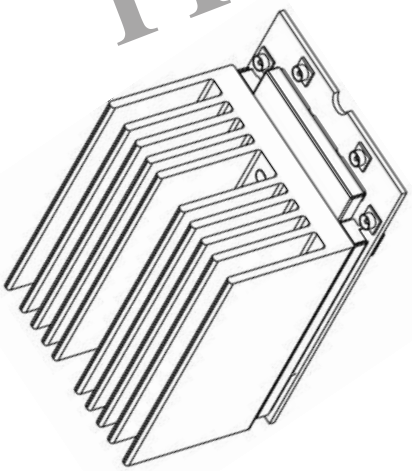
	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
6GHz 802.11be EHT160	MCS 0	16dBm	22dBm	±2dB
	MCS 1	16dBm	22dBm	±2dB
	MCS 2	16dBm	22dBm	±2dB
	MCS 3	16dBm	22dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB
	MCS 7	13dBm	19dBm	±2dB
	MCS 8	12dBm	18dBm	±2dB
	MCS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

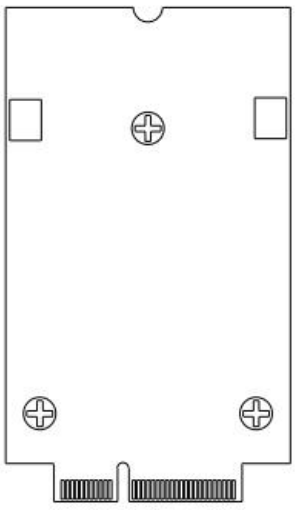
	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT160	MCS 0	-83dBm	±2dB
	MCS 1	-80dBm	±2dB
	MCS 2	-77dBm	±2dB
	MCS 3	-75dBm	±2dB
	MCS 4	-73dBm	±2dB
	MCS 5	-68dBm	±2dB
	MCS 6	-66dBm	±2dB
	MCS 7	-64dBm	±2dB
	MCS 8	-62dBm	±2dB
	MCS 9	-60dBm	±2dB
	MCS 10	-57dBm	±2dB
	MCS 11	-54dBm	±2dB
	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

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	✓	✓	✓