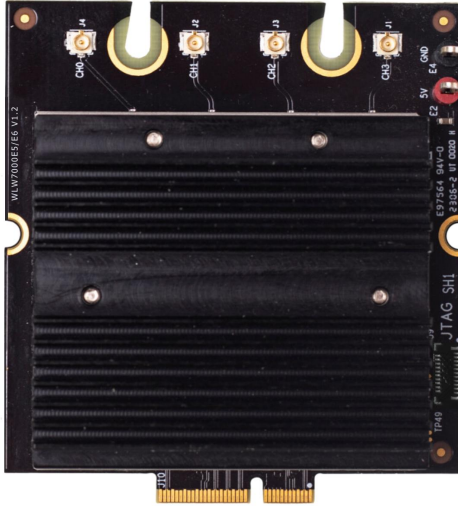# WiFi 7 (802.11be) 4×4 MU-MIMO 5GHz
Single Band Wireless Module

Model: WLW7000E5

KEY FEATURES

- Qualcomm QCN6224/6274 'Waikiki' series for Commercial Grade
- Qualcomm QCN9274 'Waikiki' series for Industrial Grade
- 5GHz, 4×4 MU-MIMO, up to 8647 Mbps physical data rate
- 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 commercial grade
- -40°C to 85°C operating temperature for industrial grade

Specifications

Chipset	Qualcomm QCN6224/6274 'Waikiki' series for Commercial Grade Qualcomm QCN9274 'Waikiki' series for Industrial Grade
System Memory	2Mbit serial I²C bus EEPROM
Reference Design	WK01.5
Host Interface	M.2 E Key interface with PCIe 3.0
Operating Voltage	5V
Power Consumption	13W (Max)
Wireless	5GHz 802.11a/n/ax/be, max 22dBm per chain 4x U.FL Connectors
Frequency Range	5.15~5.825GHz
Modulation Techniques	OFDMA: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024QAM, 4096QAM
Channel Spectrum Widths for WLAN	Supports 20/40/80/160/240MHz at 5GHz
Operating Systems	Linux
Certification	REACH & RoHS Compliance
Environmental Temperature	Operating (Commercial Grade): -20°C to 70°C, Storage: -40°C to 90°C Operating (Industrial Grade): -40°C to 85°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	62.7 X 57 X 15mm

Configurations are subject to change without notifications.

**Can be requested from respective sales executive.*

RF Performance Table at 5GHz

Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
MCS0	22dBm	28dBm	±2dB
MCS1	22dBm	28dBm	±2dB
MCS2	22dBm	28dBm	±2dB
MCS3	22dBm	28dBm	±2dB
MCS4	22dBm	28dBm	±2dB
MCS5	22dBm	28dBm	±2dB
MCS6	21dBm	27dBm	±2dB
MCS7	21dBm	27dBm	±2dB
MCS8	20dBm	26dBm	±2dB
MCS9	20dBm	26dBm	±2dB
MCS10	19dBm	25dBm	±2dB
MCS11	19dBm	25dBm	±2dB
MCS12	18dBm	24dBm	±2dB
MCS13	18dBm	24dBm	±2dB

5GHz 802.11be EHT20

Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
MCS0	22dBm	28dBm	±2dB
MCS1	22dBm	28dBm	±2dB
MCS2	22dBm	28dBm	±2dB
MCS3	22dBm	28dBm	±2dB
MCS4	22dBm	28dBm	±2dB
MCS5	22dBm	28dBm	±2dB
MCS6	21dBm	27dBm	±2dB
MCS7	21dBm	27dBm	±2dB
MCS8	20dBm	26dBm	±2dB
MCS9	20dBm	26dBm	±2dB
MCS10	19dBm	25dBm	±2dB
MCS11	19dBm	25dBm	±2dB
MCS12	18dBm	24dBm	±2dB
MCS13	18dBm	24dBm	±2dB

5GHz 802.11be EHT40

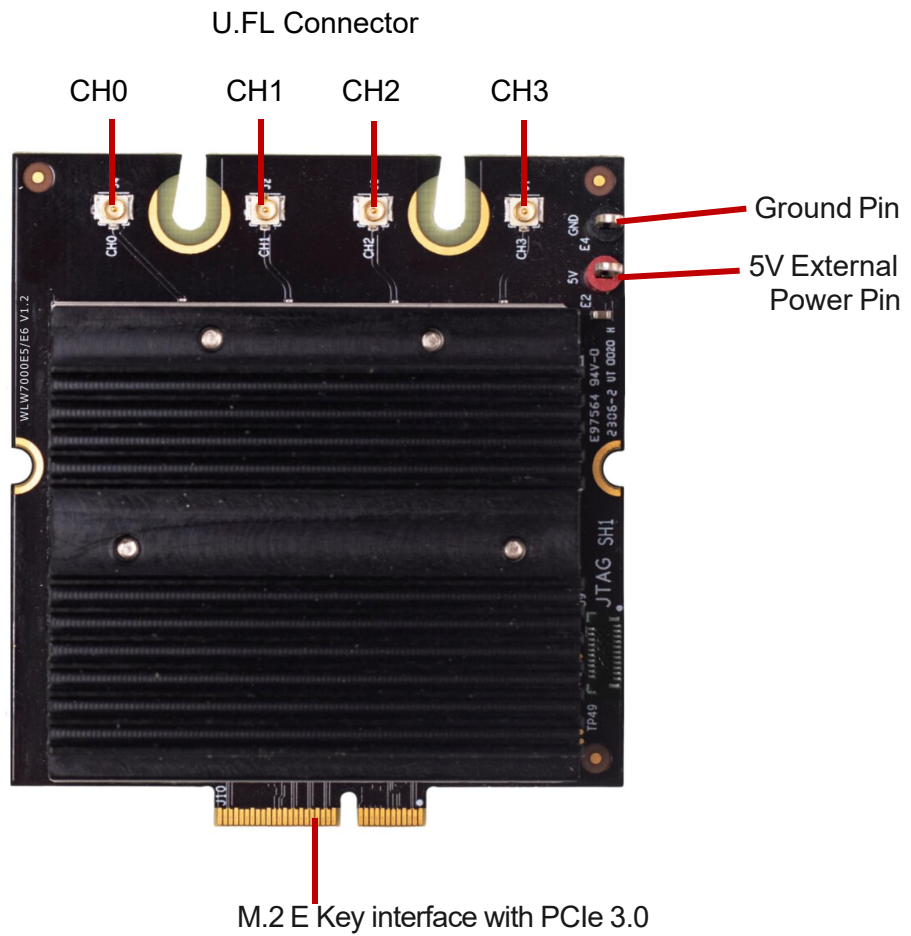| Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
MCS 0	22dBm	28dBm	±2dB
MCS 1	22dBm	28dBm	±2dB
MCS 2	22dBm	28dBm	±2dB
MCS 3	22dBm	28dBm	±2dB
MCS 4	22dBm	28dBm	±2dB
MCS 5	22dBm	28dBm	±2dB
MCS 6	21dBm	27dBm	±2dB
MCS 7	21dBm	27dBm	±2dB
MCS 8	20dBm	26dBm	±2dB
MCS 9	20dBm	26dBm	±2dB
MCS 10	19dBm	25dBm	±2dB
MCS 11	19dBm	25dBm	±2dB
MCS 12	18dBm	24dBm	±2dB
MCS 13	18dBm	24dBm	±2dB

5GHz 802.11be EHT80

Data Rate	RX Specifications Sensitivity	Tolerance
MCS0	-96dBm	±2dB
MCS1	-93dBm	±2dB
MCS2	-91dBm	±2dB
MCS3	-87dBm	±2dB
MCS4	-84dBm	±2dB
MCS5	-80dBm	±2dB
MCS6	-78dBm	±2dB
MCS7	-77dBm	±2dB
MCS8	-73dBm	±2dB
MCS9	-70dBm	±2dB
MCS10	-67dBm	±2dB
MCS11	-64dBm	±2dB
MCS12	-61dBm	±2dB
MCS13	-58dBm	±2dB

5GHz 802.11be EHT20

Data Rate	RX Specifications Sensitivity	Tolerance
MCS 0	-93dBm	±2dB
MCS 1	-91dBm	±2dB
MCS 2	-88dBm	±2dB
MCS 3	-84dBm	±2dB
MCS 4	-82dBm	±2dB
MCS 5	-78dBm	±2dB
MCS 6	-76dBm	±2dB
MCS 7	-75dBm	±2dB
MCS 8	-71dBm	±2dB
MCS 9	-68dBm	±2dB
MCS 10	-64dBm	±2dB
MCS 11	-61dBm	±2dB
MCS 12	-59dBm	±2dB
MCS 13	-56dBm	±2dB

5GHz 802.11be EHT40

Data Rate	RX Specifications Sensitivity	Tolerance
MCS 0	-90dBm	±2dB
MCS 1	-88dBm	±2dB
MCS 2	-85dBm	±2dB
MCS 3	-82dBm	±2dB
MCS 4	-79dBm	±2dB
MCS 5	-75dBm	±2dB
MCS 6	-73dBm	±2dB
MCS 7	-71dBm	±2dB
MCS 8	-67dBm	±2dB
MCS 9	-65dBm	±2dB
MCS 10	-61dBm	±2dB
MCS 11	-59dBm	±2dB
MCS 12	-55dBm	±2dB
MCS 13	-52dBm	±2dB

5GHz 802.11be EHT80

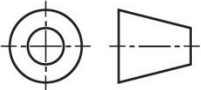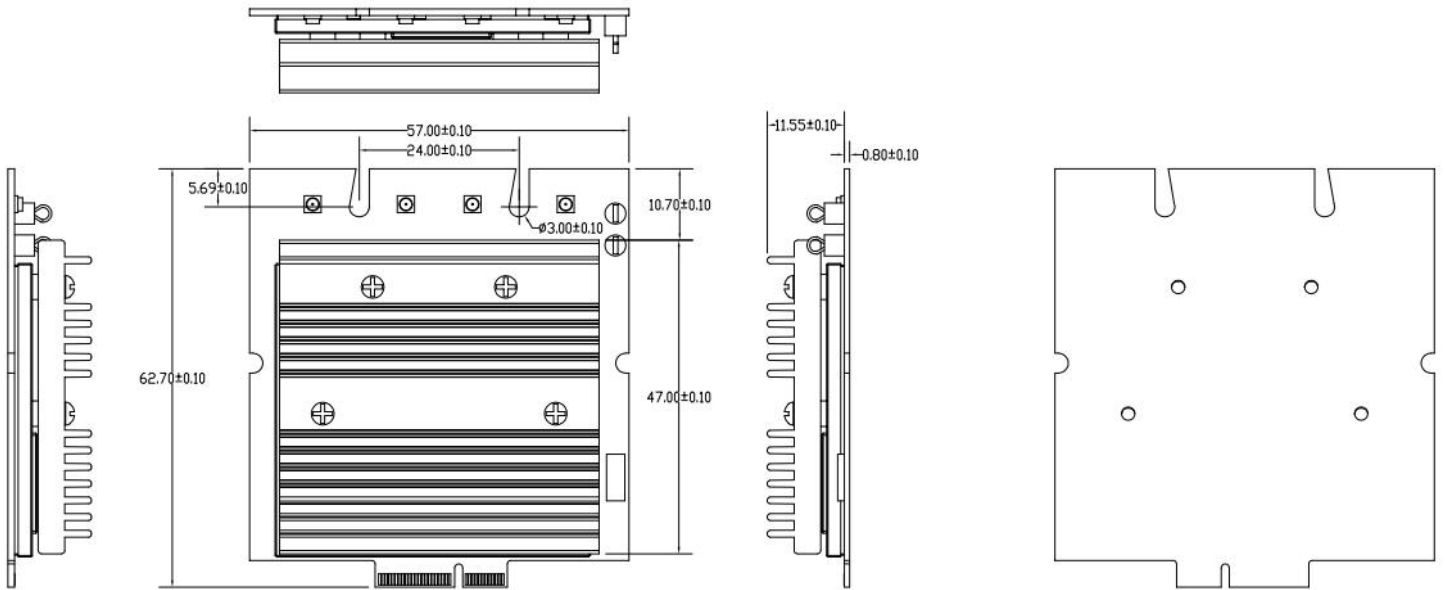Compex Systems Pte Ltd | www.compex.com.sg | (+65) 6286 2086 | sales@compex.com.sg | Last Update: 24/05/2024 MW AT GS JH

RF Performance Table at 5GHz

Data Rate	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
5GHz 802.11be EHT160	MCS 0	22dBm	28dBm	±2dB
	MCS 1	22dBm	28dBm	±2dB
	MCS 2	22dBm	28dBm	±2dB
	MCS 3	22dBm	28dBm	±2dB
	MCS 4	22dBm	28dBm	±2dB
	MCS 5	22dBm	28dBm	±2dB
	MCS 6	21dBm	27dBm	±2dB
	MCS 7	21dBm	27dBm	±2dB
	MCS 8	20dBm	26dBm	±2dB
	MCS 9	19dBm	25dBm	±2dB
	MCS 10	19dBm	25dBm	±2dB
	MCS 11	18dBm	24dBm	±2dB
	MCS 12	18dBm	24dBm	±2dB
	MCS 13	18dBm	24dBm	±2dB

Data Rate	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11be EHT160	MCS 0	-88dBm	±2dB
	MCS 1	-84dBm	±2dB
	MCS 2	-82dBm	±2dB
	MCS 3	-79dBm	±2dB
	MCS 4	-76dBm	±2dB
	MCS 5	-72dBm	±2dB
	MCS 6	-70dBm	±2dB
	MCS 7	-68dBm	±2dB
	MCS 8	-64dBm	±2dB
	MCS 9	-62dBm	±2dB
	MCS 10	-58dBm	±2dB
	MCS 11	-55dBm	±2dB
	MCS 12	-53dBm	±2dB
	MCS 13	-50dBm	±2dB

Component Map

U.FL Connector

CH0   CH1   CH2   CH3

Ground Pin

5V External Power Pin

M.2 E Key interface with PCIe 3.0

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Mechanical Dimensions

57.00±0.10
24.00±0.10
5.69±0.10
10.70±0.10
⌀3.00±0.10
62.70±0.10
47.00±0.10
11.55±0.10
0.80±0.10

All dimensions are in mm.

Ordering Configuration

Item Code	Model	Description
WLW7000E5 8A0624S-TE WLW7000E5 8A0674S-TE	WLW7000E5	QCN6224/6274 4x4 802.11a/n/ac/ax/be support 5GHz M.2 E Key interface with PCIe 3.0
WLW7000E5 8A0974S-TE	WLW7000E5-I	QCN9274 4x4 802.11a/n/ac/ax/be support 5GHz M.2 E Key interface with PCIe 3.0

Chipsets Comparisions

		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	✓	✓	✓