

WiFi 7 (802.11BE) 2x2 MU-MIMO 2.4+6GHz Dual Band Dual Concurrent Wireless Module

Model: WLE7002E26



KEY FEATURES

- Qualcomm QCN6274 'Waikiki' series for Commercial Grade
- Qualcomm QCN9274-I 'Waikiki' series for Industrial Grade
- 2.4GHz, 2x2 MU-MIMO, up to 688 Mbps physical data rate
- 6GHz, 2x2 MU-MIMO, up to 5765 Mbps physical data rate
- Dual-Band Concurrent 2.4+6GHz WiFi 7 (802.11be)
- MiniPCIe Interface with PCIe 3.0
- Based on WK03.2 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 QCN6274 'Waikiki' series for Commercial grade Qualcomm QCN9274-I 'Waikiki' series for Industrial grade
System Memory	2Mbit serial I ² C bus EEPROM
Reference Design	WK03.2
Host Interface	MiniPCIe Interface with PCIe 3.0
Operating Voltage	3.3V
Power Consumption	8.3W (Max)
Wireless	2x2 2.4GHz 802.11b/g/n/ax/be, max 20dBm per chain 2x2 6GHz 802.11ax/be, max 17dBm per chain 2x U.FL Connectors
Frequency Range	2.4 GHz: 2.412~2.472GHz 6 GHz: 5.945~7.125GHz
Modulation Techniques	OFDMA: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM
Channel Spectrum Widths for WLAN	Support 20/40MHz at 2.4 GHz Support 20/40/80/160/320MHz at 6GHz
Operating Systems	Linux
Certification	REACH & RoHS Compliance
Environmental Temperature ^[1]	Operating: -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 20.3 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 (2 chains)	Tolerance		Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11be EHT20	MCS 0	20dBm	23dBm	±2dB	2.4GHz 802.11be EHT20	MCS 0	-92dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB		MCS 1	-90dBm	±2dB
	MCS 2	20dBm	23dBm	±2dB		MCS 2	-88dBm	±2dB
	MCS 3	19dBm	22dBm	±2dB		MCS 3	-85dBm	±2dB
	MCS 4	18dBm	21dBm	±2dB		MCS 4	-81dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB		MCS 5	-77dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB		MCS 6	-76dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB		MCS 7	-74dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB		MCS 8	-70dBm	±2dB
	MCS 9	14dBm	17dBm	±2dB		MCS 9	-69dBm	±2dB
	MCS 10	13dBm	16dBm	±2dB		MCS 10	-65dBm	±2dB
	MCS 11	13dBm	16dBm	±2dB		MCS 11	-63dBm	±2dB
	MCS 12	12dBm	15dBm	±2dB		MCS 12	-59dBm	±2dB
	MCS 13	12dBm	15dBm	±2dB		MCS 13	-57dBm	±2dB
2.4GHz 802.11be EHT40	MCS 0	20dBm	23dBm	±2dB	2.4GHz 802.11be EHT40	MCS 0	-89dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB		MCS 1	-87dBm	±2dB
	MCS 2	20dBm	23dBm	±2dB		MCS 2	-85dBm	±2dB
	MCS 3	19dBm	22dBm	±2dB		MCS 3	-82dBm	±2dB
	MCS 4	18dBm	21dBm	±2dB		MCS 4	-78dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB		MCS 5	-73dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB		MCS 6	-72dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB		MCS 7	-71dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB		MCS 8	-67dBm	±2dB
	MCS 9	14dBm	17dBm	±2dB		MCS 9	-65dBm	±2dB
	MCS 10	13dBm	16dBm	±2dB		MCS 10	-62dBm	±2dB
	MCS 11	13dBm	16dBm	±2dB		MCS 11	-60dBm	±2dB
	MCS 12	12dBm	15dBm	±2dB		MCS 12	-56dBm	±2dB
	MCS 13	12dBm	15dBm	±2dB		MCS 13	-55dBm	±2dB

RF Performance Table at 6GHz with Filter

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
6GHz 802.11be EHT20	MCS 0	17dBm	20dBm	±2dB
	MCS 1	17dBm	20dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	13dBm	16dBm	±2dB
	MCS 6	12dBm	15dBm	±2dB
	MCS 7	12dBm	15dBm	±2dB
	MCS 8	11dBm	14dBm	±2dB
	MCS 9	10dBm	13dBm	±2dB
	MCS 10	9dBm	12dBm	±2dB
	MCS 11	9dBm	12dBm	±2dB
	MCS 12	8dBm	11dBm	±2dB
	MCS 13	8dBm	11dBm	±2dB
6GHz 802.11be EHT40	MCS 0	17dBm	20dBm	±2dB
	MCS 1	17dBm	20dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	13dBm	16dBm	±2dB
	MCS 6	12dBm	15dBm	±2dB
	MCS 7	12dBm	15dBm	±2dB
	MCS 8	11dBm	14dBm	±2dB
	MCS 9	10dBm	13dBm	±2dB
	MCS 10	9dBm	12dBm	±2dB
	MCS 11	9dBm	12dBm	±2dB
	MCS 12	8dBm	11dBm	±2dB
	MCS 13	8dBm	11dBm	±2dB
6GHz 802.11be EHT80	MCS 0	17dBm	20dBm	±2dB
	MCS 1	17dBm	20dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	13dBm	16dBm	±2dB
	MCS 6	12dBm	15dBm	±2dB
	MCS 7	12dBm	15dBm	±2dB
	MCS 8	11dBm	14dBm	±2dB
	MCS 9	10dBm	13dBm	±2dB
	MCS 10	9dBm	12dBm	±2dB
	MCS 11	9dBm	12dBm	±2dB
	MCS 12	8dBm	11dBm	±2dB
	MCS 13	8dBm	11dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT20	MCS 0	-90dBm	±2dB
	MCS 1	-88dBm	±2dB
	MCS 2	-85dBm	±2dB
	MCS 3	-83dBm	±2dB
	MCS 4	-79dBm	±2dB
	MCS 5	-75dBm	±2dB
	MCS 6	-74dBm	±2dB
	MCS 7	-72dBm	±2dB
	MCS 8	-68dBm	±2dB
	MCS 9	-67dBm	±2dB
	MCS 10	-63dBm	±2dB
	MCS 11	-62dBm	±2dB
	MCS 12	-58dBm	±2dB
	MCS 13	-55dBm	±2dB
6GHz 802.11be EHT40	MCS 0	-87dBm	±2dB
	MCS 1	-85dBm	±2dB
	MCS 2	-83dBm	±2dB
	MCS 3	-80dBm	±2dB
	MCS 4	-77dBm	±2dB
	MCS 5	-72dBm	±2dB
	MCS 6	-71dBm	±2dB
	MCS 7	-69dBm	±2dB
	MCS 8	-66dBm	±2dB
	MCS 9	-64dBm	±2dB
	MCS 10	-61dBm	±2dB
	MCS 11	-58dBm	±2dB
	MCS 12	-55dBm	±2dB
	MCS 13	-53dBm	±2dB
6GHz 802.11be EHT80	MCS 0	-85dBm	±2dB
	MCS 1	-83dBm	±2dB
	MCS 2	-81dBm	±2dB
	MCS 3	-78dBm	±2dB
	MCS 4	-75dBm	±2dB
	MCS 5	-70dBm	±2dB
	MCS 6	-69dBm	±2dB
	MCS 7	-68dBm	±2dB
	MCS 8	-64dBm	±2dB
	MCS 9	-63dBm	±2dB
	MCS 10	-59dBm	±2dB
	MCS 11	-57dBm	±2dB
	MCS 12	-54dBm	±2dB
	MCS 13	-52dBm	±2dB

RF Performance Table at 6GHz with Filter

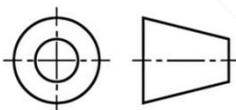
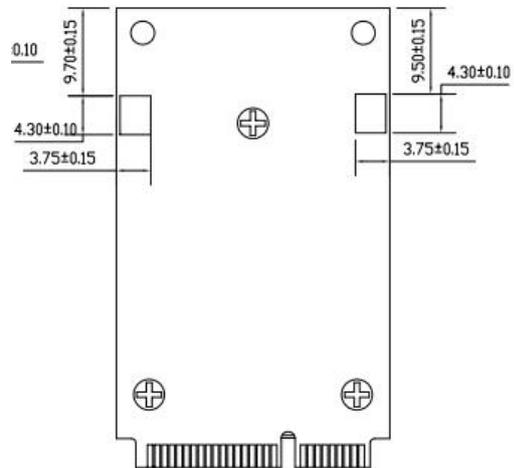
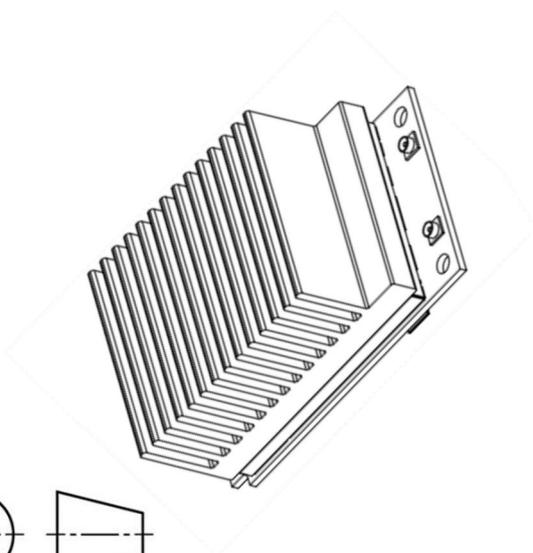
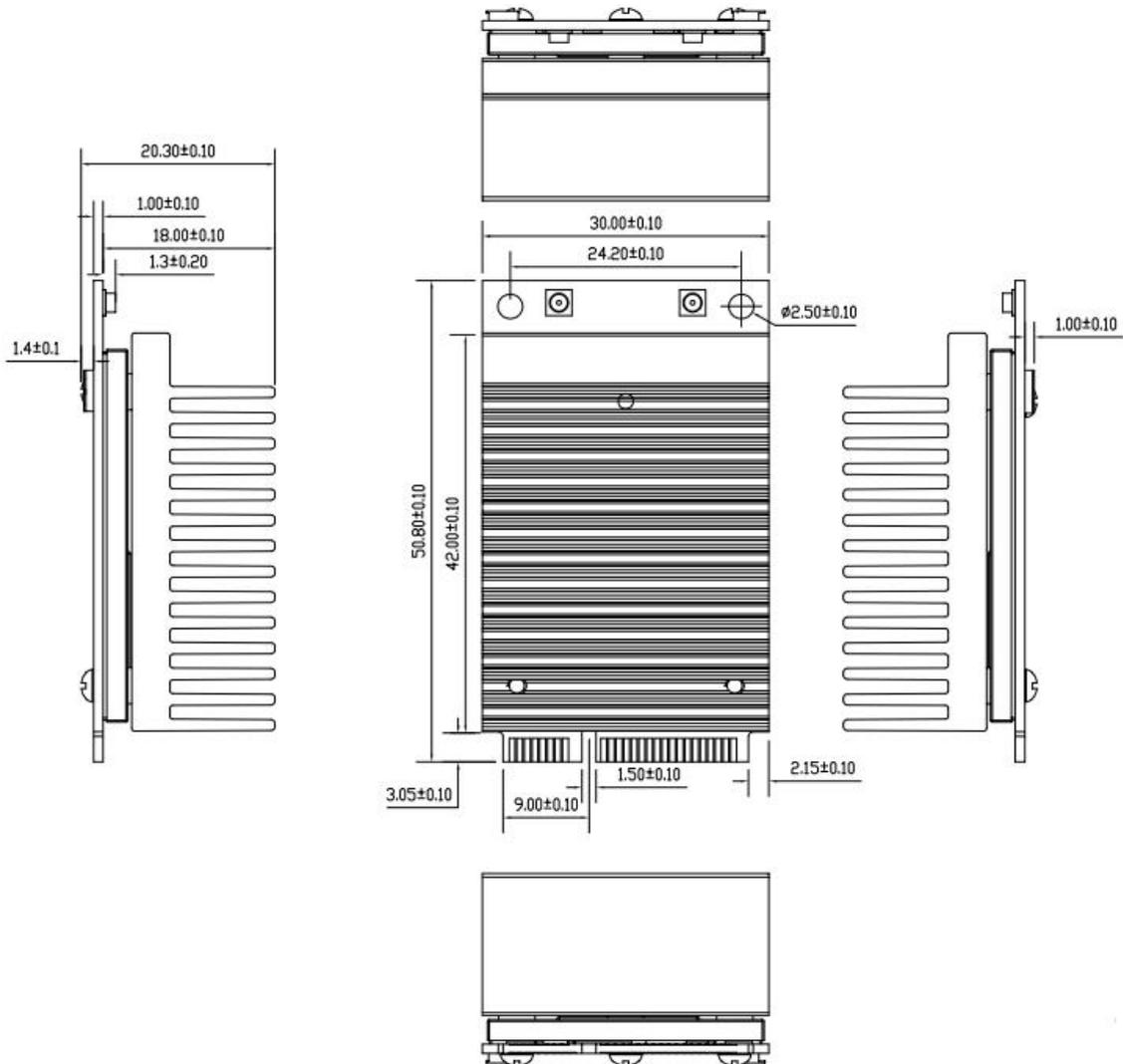
	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
6GHz 802.11be EHT160	MCS 0	17dBm	20dBm	±2dB
	MCS 1	17dBm	20dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	13dBm	16dBm	±2dB
	MCS 6	12dBm	15dBm	±2dB
	MCS 7	11dBm	14dBm	±2dB
	MCS 8	10dBm	13dBm	±2dB
	MCS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

	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT160	MCS 0	-83dBm	±2dB
	MCS 1	-80dBm	±2dB
	MCS 2	-78dBm	±2dB
	MCS 3	-74dBm	±2dB
	MCS 4	-72dBm	±2dB
	MCS 5	-67dBm	±2dB
	MCS 6	-67dBm	±2dB
	MCS 7	-65dBm	±2dB
	MCS 8	-62dBm	±2dB
	MCS 9	-60dBm	±2dB
	MCS 10	-55dBm	±2dB
	MCS 11	-53dBm	±2dB
	MCS 12	-52dBm	±2dB
	MCS 13	-50dBm	±2dB
6GHz 802.11be EHT320	MCS 0	-80dBm	±2dB
	MCS 1	-77dBm	±2dB
	MCS 2	-75dBm	±2dB
	MCS 3	-71dBm	±2dB
	MCS 4	-69dBm	±2dB
	MCS 5	-64dBm	±2dB
	MCS 6	-64dBm	±2dB
	MCS 7	-42dBm	±2dB
	MCS 8	-59dBm	±2dB
	MCS 9	-57dBm	±2dB
	MCS 10	-52dBm	±2dB
	MCS 11	-50dBm	±2dB
	MCS 12	-49dBm	±2dB
	MCS 13	-49dBm	±2dB

Component Map



Mechanical Dimensions



All dimensions are in mm

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Ordering Configuration

Item Code	Model	Description
WLE7002E26 7A000SXLF	WLE7002E26	QCN6274 2x2 802.11a/b/g/n/ac/ax/be support 2.4+6GHz Dual-Band Concurrent MiniPCIe interface with PCIe 3.0 Module
WLE7002E26 7B000NXLF-I	WLE7002E26-I	QCN9274-I 2x2 802.11a/b/g/n/ac/ax/be support 2.4+6GHz Dual-Band Concurrent MiniPCIe interface with PCIe 3.0 Module

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	✓	✓	✓