

WiFi 6E (802.11ax) 2x2 MU-MIMO OFDMA 6GHz Single Band Wireless Module

Model: WLE3002H6



KEY FEATURES

- Qualcomm QCN9024 'Pine' series for Commercial grade
- Qualcomm QCN9074 'Pine' series for Industrial grade
- 6GHz, 2x2 MU-MIMO OFDMA Technology, up to 2402Mbps physical data rate
- Single Band 6GHz 2x2 WiFi 6E (802.11ax)
- MiniPCIe Interface with PCIe 3.0
- Supports Dynamic Frequency Selection (DFS)
- Heat sink allows free air operation
- Supports IEEE 802.11d, e, h, i, j, k, r, u, v time stamp, w standard.
- Designed for High Bandwidth Enterprise Wireless Access Points

Specifications

Chipset	Qualcomm QCN9024 'Pine' series for Commercial grade Qualcomm QCN9074 'Pine' series for Industrial grade
System Memory	2Mbit serial I ² C bus EEPROM
Reference Design	PN02.7
Host Interface	MiniPCIe interface with PCIe 3.0
Operating Voltage	3.3V
Power Consumption	6.5W
Wireless	2x2 6GHz 802.11a/n/ac/ax, max 20 dBm per chain 2x U.FL Connectors
Frequency Range	6GHz:5.935 ~ 6.425 GHz (EU), 6.100~7.125 GHz (US)
Modulation Techniques	OFDMA: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Channel Spectrum Widths for WLAN	Supports 20/40/80/160MHz at 6GHz
Operating Systems	OpenWRT
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	30 x 50.8 x 13.5 mm

*Configurations are subject to change without notifications.

**Can be requested from respective sales executive.

RF Performance Table for EU

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
802.11ax HE20	MCS 0	20dBm	23dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	19dBm	22dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB
	MCS 9	14dBm	17dBm	±2dB
	MCS 10	13dBm	16dBm	±2dB
	MCS 11	12dBm	15dBm	±2dB
802.11ax HE40	MCS 0	20dBm	23dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	19dBm	22dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB
	MCS 9	14dBm	17dBm	±2dB
	MCS 10	13dBm	16dBm	±2dB
	MCS 11	12dBm	15dBm	±2dB
802.11ax HE80	MCS 0	20dBm	23dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	19dBm	22dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB
	MCS 9	14dBm	17dBm	±2dB
	MCS 10	13dBm	16dBm	±2dB
	MCS 11	12dBm	15dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
802.11ax HE20	MCS 0	-94dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-88dBm	±2dB
	MCS 4	-85dBm	±2dB
	MCS 5	-81dBm	±2dB
	MCS 6	-79dBm	±2dB
	MCS 7	-77dBm	±2dB
	MCS 8	-73dBm	±2dB
	MCS 9	-71dBm	±2dB
	MCS 10	-67dBm	±2dB
	MCS 11	-65dBm	±2dB
802.11ax HE40	MCS 0	-91dBm	±2dB
	MCS 1	-90dBm	±2dB
	MCS 2	-88dBm	±2dB
	MCS 3	-85dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-78dBm	±2dB
	MCS 6	-76dBm	±2dB
	MCS 7	-74dBm	±2dB
	MCS 8	-71dBm	±2dB
	MCS 9	-69dBm	±2dB
	MCS 10	-65dBm	±2dB
	MCS 11	-62dBm	±2dB
802.11ax HE80	MCS 0	-88dBm	±2dB
	MCS 1	-87dBm	±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	-62dBm	±2dB
	MCS 11	-59dBm	±2dB

RF Performance Table for EU

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
802.11ax HE160	MCS 0	20dBm	23dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	19dBm	22dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	17dBm	20dBm	±2dB
	MCS 6	16dBm	19dBm	±2dB
	MCS 7	15dBm	18dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB
	MCS 9	14dBm	17dBm	±2dB
	MCS 10	13dBm	16dBm	±2dB
	MCS 11	12dBm	15dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
802.11ax HE160	MCS 0	-85dBm	±2dB
	MCS 1	-83dBm	±2dB
	MCS 2	-81dBm	±2dB
	MCS 3	-79dBm	±2dB
	MCS 4	-75dBm	±2dB
	MCS 5	-71dBm	±2dB
	MCS 6	-70dBm	±2dB
	MCS 7	-67dBm	±2dB
	MCS 8	-63dBm	±2dB
	MCS 9	-61dBm	±2dB
	MCS 10	-58dBm	±2dB
	MCS 11	-55dBm	±2dB

RF Performance Table for US

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
802.11ax HE20	MCS 0	20dBm	23dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	19dBm	22dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
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	MCS 8	14dBm	17dBm	±2dB
	MCS 9	13dBm	16dBm	±2dB
	MCS 10	13dBm	16dBm	±2dB
	MCS 11	13dBm	16dBm	±2dB
802.11ax HE40	MCS 0	20dBm	23dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	19dBm	22dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	16dBm	19dBm	±2dB
	MCS 6	15dBm	18dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB
	MCS 9	13dBm	16dBm	±2dB
	MCS 10	12dBm	15dBm	±2dB
	MCS 11	12dBm	15dBm	±2dB
802.11ax HE80	MCS 0	20dBm	23dBm	±2dB
	MCS 1	20dBm	23dBm	±2dB
	MCS 2	19dBm	22dBm	±2dB
	MCS 3	18dBm	21dBm	±2dB
	MCS 4	17dBm	20dBm	±2dB
	MCS 5	16dBm	19dBm	±2dB
	MCS 6	15dBm	18dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
	MCS 8	14dBm	17dBm	±2dB
	MCS 9	12dBm	15dBm	±2dB
	MCS 10	12dBm	15dBm	±2dB
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	MCS 1	-90dBm	±2dB
	MCS 2	-88dBm	±2dB
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	MCS 9	-65dBm	±2dB
	MCS 10	-62dBm	±2dB
	MCS 11	-59dBm	±2dB

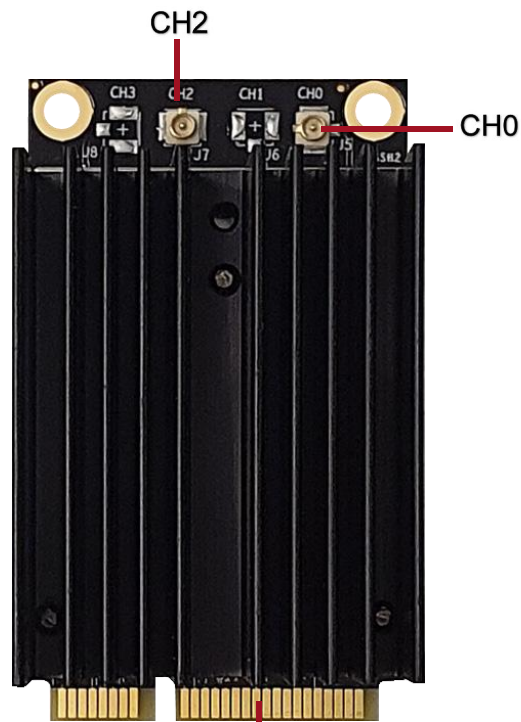
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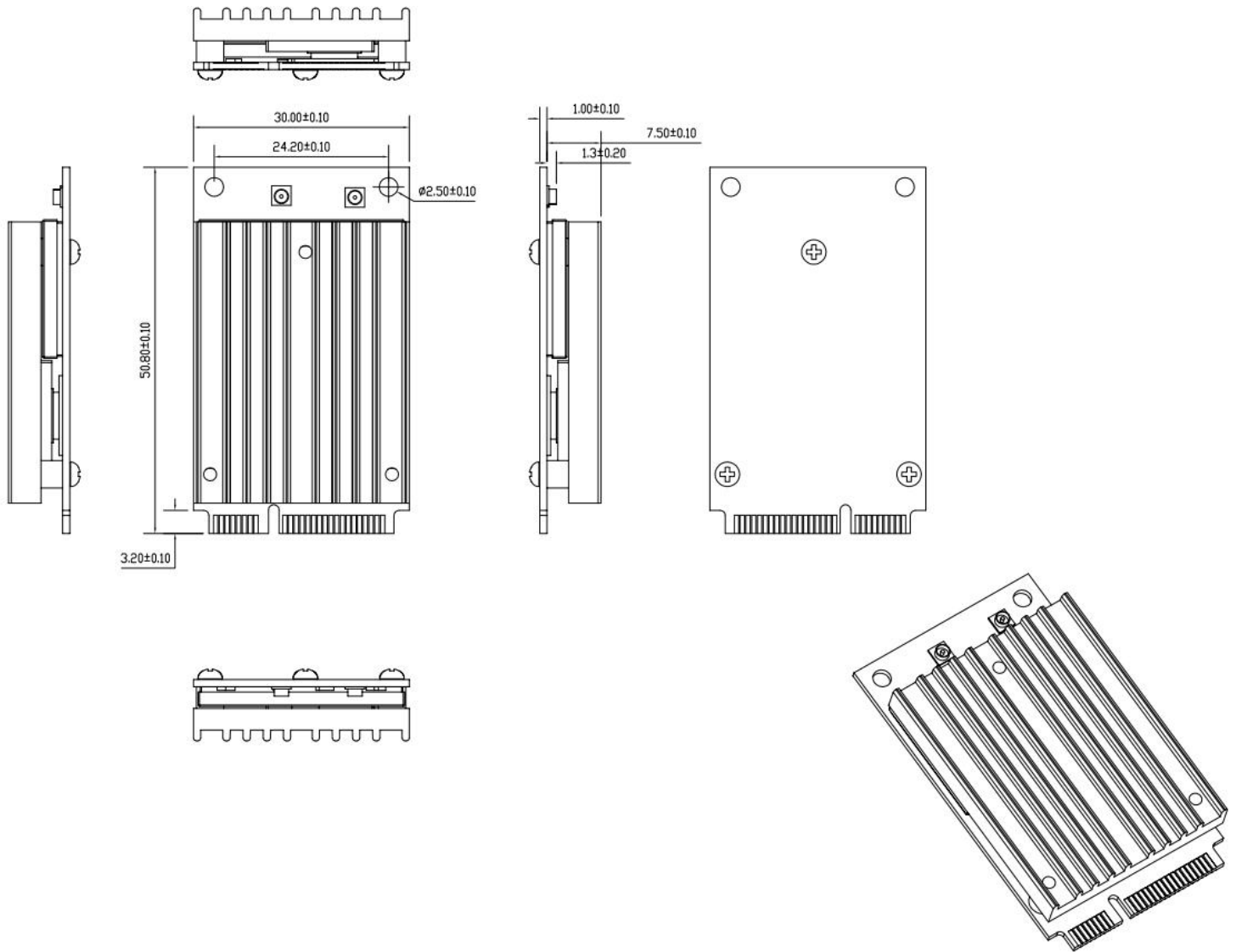
Component Map

U.FL connectors



MiniPCIe edge
connector

Mechanical Dimensions



Ordering Configuration

Item Code	Model	Description
WLE3002H6E 7A0924K-TE	WLE3002H6E	QCN9024 2x2 802.11a/n/ac/ax support 6GHz MiniPCIe interface with PCIe 3.0 Module
WLE3002H6U 7A0924K-TE	WLE3002H6U	QCN9024 2x2 802.11a/n/ac/ax support 6GHz MiniPCIe interface with PCIe 3.0 Module
WLE3002H6E 7B0974K-I-TE	WLE3002H6E-I	QCN9074 2x2 802.11a/n/ac/ax support 6GHz MiniPCIe interface with PCIe 3.0 Module
WLE3002H6U 7B0974K-I-TE	WLE3002H6U-I	QCN9074 2x2 802.11a/n/ac/ax support 6GHz MiniPCIe interface with PCIe 3.0 Module