WiFi 6E (802.11ax) 4×4 MU-MIMO OFDMA 5GHz + 6GHz Wide Band Wireless Module

Model: WLE3000H56

KEY FEATURES

- Qualcomm QCN9024 'Pine' series for Commercial Grade.
- Qualcomm QCN9074-I 'Pine' series for Industrial Grade.
- 5GHz - 6GHz, 4×4 MU-MIMO OFDMA Technology, up to 4804Mbps physical data rate.
- Standard size MiniPCIe Interface with PCIe 3.0
- Based on PN02.1 reference design
- -20°C to 70°C operating temperature for commercial grade.
- -40°C to 85°C operating temperature for industrial grade.

Specifications

Chipset	Qualcomm QCN9024 'Pine' series for Commercial Grade. Qualcomm QCN9074-I 'Pine' series for Industrial Grade.
System Memory	2Mbit serial I²C bus EEPROM
Reference Design	PN02.1
Host Interface	Mini PCI Express 3.0 Standard
Operating Voltage	3.3V
Power Consumption	8W
Wireless	5GHz 802.11a/n/ac/ax, max 18 dBm per chain 6GHz 802.11ax, max 18 dBm per chain 4x U.FL Connectors
Frequency Range	5.180 ~ 7.125 GHz
Modulation Techniques	OFDMA: BPSK, QPSK,16-QAM, 64-QAM, 256-QAM,1024QAM
Channel Spectrum Widths for WLAN	Supports 20/40/80/160MHz at 5-6GHz
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	30 X 50.8 X 13.5mm

**Configurations are subject to change without notifications.*

***Can be requested from respective sales executive.*

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RF Performance Table

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
802.11ax HE20	MCS 0	18dBm	24dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB
	MCS 3	16dBm	22dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB
802.11ax HE40	MCS 0	18dBm	24dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB
	MCS 3	16dBm	22dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB
802.11ax HE80	MCS 0	18dBm	24dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB
	MCS 3	16dBm	22dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
802.11ax HE20	MCS 0	-95dBm	±2dB
	MCS 1	-93dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-88dBm	±2dB
	MCS 4	-86dBm	±2dB
	MCS 5	-82dBm	±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	-92dBm	±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	-75dBm	±2dB
	MCS 8	-71dBm	±2dB
	MCS 9	-69dBm	±2dB
	MCS 10	-65dBm	±2dB
	MCS 11	-62dBm	±2dB
802.11ax HE80	MCS 0	-89dBm	±2dB
	MCS 1	-88dBm	±2dB
	MCS 2	-85dBm	±2dB
	MCS 3	-83dBm	±2dB
	MCS 4	-79dBm	±2dB
	MCS 5	-74dBm	±2dB
	MCS 6	-73dBm	±2dB
	MCS 7	-71dBm	±2dB
	MCS 8	-67dBm	±2dB
	MCS 9	-67dBm	±2dB
	MCS 10	-62dBm	±2dB
	MCS 11	-59dBm	±2dB

RF Performance Table

	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
802.11ax HE160	MCS 0	18dBm	24dBm	±2dB
	MCS 1	18dBm	24dBm	±2dB
	MCS 2	17dBm	23dBm	±2dB
	MCS 3	16dBm	22dBm	±2dB
	MCS 4	16dBm	22dBm	±2dB
	MCS 5	15dBm	21dBm	±2dB
	MCS 6	14dBm	20dBm	±2dB
	MCS 7	14dBm	20dBm	±2dB
	MCS 8	13dBm	19dBm	±2dB
	MCS 9	13dBm	19dBm	±2dB
	MCS 10	12dBm	18dBm	±2dB
	MCS 11	12dBm	18dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
802.11ax HE160	MCS 0	-85dBm	±2dB
	MCS 1	-84dBm	±2dB
	MCS 2	-82dBm	±2dB
	MCS 3	-79dBm	±2dB
	MCS 4	-75dBm	±2dB
	MCS 5	-71dBm	±2dB
	MCS 6	-70dBm	±2dB
	MCS 7	-68dBm	±2dB
	MCS 8	-64dBm	±2dB
	MCS 9	-62dBm	±2dB
	MCS 10	-58dBm	±2dB
	MCS 11	-56dBm	±2dB

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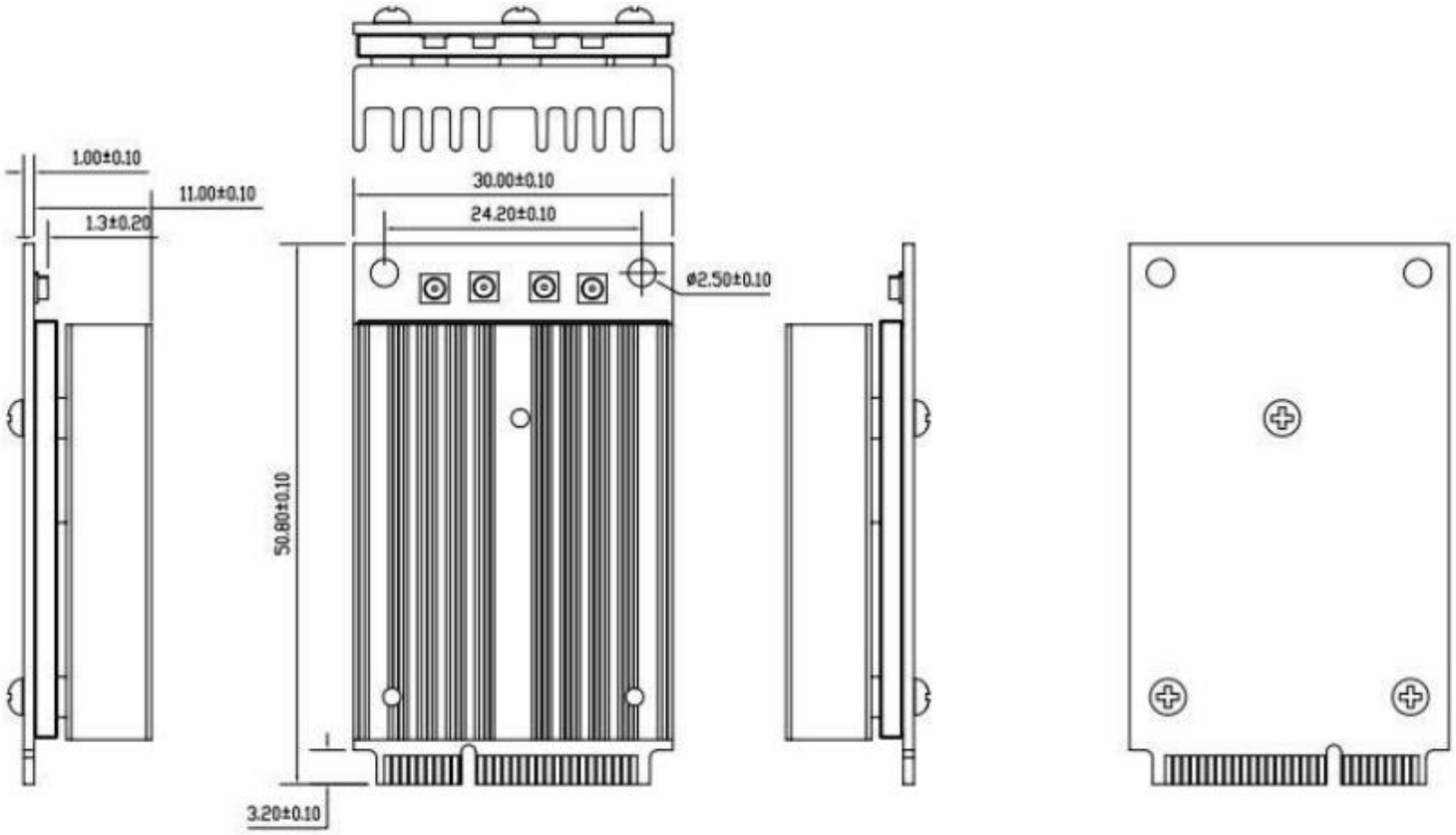
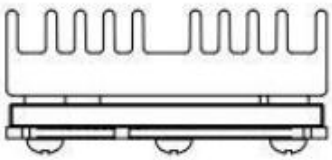
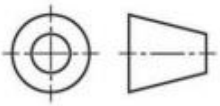
Component Map

Mechanical Dimensions







All dimensions are in mm.

Ordering Configuration

Item Code	Model	Description
WLE3000H56 7A0924Q	WLE3000H56	QCN9024 4x4 802.11a/n/ac/ax support 5GHz + 6GHz MiniPCIe interface with PCIe 3.0 Module
WLE3000H56 7B0974Q-I	WLE3000H56-I	QCN9074 4x4 802.11a/n/ac/ax support 5GHz + 6GHz MiniPCIe interface with PCIe 3.0 Module