

Qualcomm's QCA2066 2GHz, 5GHz and 6GHz TBS Tri-Band 802.11ax with Bluetooth Milan

Designed for WLAN/BT and Low-Energy Communications

Model: WLT206H



KEY FEATURES

- Qualcomm Atheros QCA2062/2066
- 2 GHz, 2x2 MU-MIMO OFDMA Technology, up to 573.6 Mbps physical data rate
- 5 GHz, 2x2 MU-MIMO OFDMA Technology, up to 1201 Mbps physical data rate
- 6 GHz, 2x2 MU-MIMO OFDMA Technology, up to 2402 Mbps physical data rate
- Tri- Band 2/5/6GHz 2x2 WiFi 6E (802.11ax)
- M.2 E Key interface with PCIe 3.0
- 2 spatial streams (4SS)
- Enables seamless integration of WLAN/Bluetooth and low energy technology.
- Provides a highly integrated System-on-Chip (SoC) for 802.11ax WiFi, Bluetooth (BT) Milan.
- Supports Bluetooth 5.1 + ANT+ IC and Bluetooth Milan ready and backward compatibility with BT 1.2 and BT 2.X + enhanced data rate.
- Supports BT-WLAN coexistence and 5G/ISM coexistence

Specifications

Chipset	Qualcomm Atheros QCA2062/2066 'Verona' Series
Reference Design	VER02.1
Host Interface	M.2 E Key interface with PCIe 3.0
Bluetooth Host Interface	USB1.1
Operating Voltage	3.3V DC power supply and I/O supply of 1.8V or 3.3V
Power Consumption	6W
Wireless	2GHz 802.11b/g/n/ax, max 16 dBm per chain 5GHz 802.11a/n/ac/ax, max 16 dBm per chain 6GHz 802.11a/n/ac/ax, max 16 dBm per chain 2x MHF4 Connectors Support WiFi/ Bluetooth coexistence
Frequency Range	2GHz: 2.412-2.472GHz 5GHz: 5.150-5.85GHz 6GHz: 5.925-7.125GHz *Subject to local regulations
Modulation Techniques	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11a/g: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11ac: OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) 802.11ax: OFDMA (DPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM)
Channel Spectrum Widths for WLAN	QCA2062: Supports 20/40MHz at 2.4 GHz, Supports 20/40/80MHz at 5 GHz QCA2066: Supports 20/40MHz at 2.4 GHz, Supports 20/40/80/160MHz at 5 GHz, Supports 20/40/80/160/320MHz at 6 GHz QCA2062: 2GHz+5GHz ; QCA2066:2GHz+5GHz or 5GHz + 6GHz
Standards for Bluetooth	Bluetooth 5.1
Data Rates for Bluetooth	2Mbps
Driver Support	Linux, Windows 10

*Configurations are subject to change without notifications.

Specifications

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Security	64/128-bits WEP, WPA, WPA2,WPA3, 802.1X
Environmental Temperature	Operating: -20°C to 70°C, Storage: -40°C to 85°C
Environmental Humidity, Non-Condensing	Operating: 5% to 95%, Storage: 5% to 90%
Dimensions (W × H × D) in mm	22 × 30 × 2.8

*Configurations are subject to change without notifications.

RF Performance Table for 2.4 GHz

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance		Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11b	1 Mbps	16dBm	19dBm	±2dB	2.4GHz 802.11b	1 Mbps	-99dBm	±2dB
	2 Mbps	16dBm	19dBm	±2dB		2 Mbps	-95dBm	±2dB
	5.5 Mbps	16dBm	19dBm	±2dB		5.5 Mbps	-93dBm	±2dB
	11 Mbps	16dBm	19dBm	±2dB		11 Mbps	-90dBm	±2dB
2.4GHz 802.11g	6 Mbps	15dBm	18dBm	±2dB	2.4GHz 802.11g	6 Mbps	-95dBm	±2dB
	9 Mbps	15dBm	18dBm	±2dB		9 Mbps	-92dBm	±2dB
	12 Mbps	15dBm	18dBm	±2dB		12 Mbps	-91dBm	±2dB
	18 Mbps	15dBm	18dBm	±2dB		18 Mbps	-89dBm	±2dB
	24 Mbps	14dBm	17dBm	±2dB		24 Mbps	-86dBm	±2dB
	36 Mbps	14dBm	17dBm	±2dB		36 Mbps	-83dBm	±2dB
	48 Mbps	14dBm	17dBm	±2dB		48 Mbps	-79dBm	±2dB
	54 Mbps	14dBm	17dBm	±2dB		54 Mbps	-77dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	15dBm	18dBm	±2dB	2.4GHz 802.11n HT20	MCS 0	-94dBm	±2dB
	MCS 1	15dBm	18dBm	±2dB		MCS 1	-93dBm	±2dB
	MCS 2	15dBm	18dBm	±2dB		MCS 2	-90dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB		MCS 3	-87dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB		MCS 4	-84dBm	±2dB
	MCS 5	14dBm	17dBm	±2dB		MCS 5	-80dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB		MCS 6	-77dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB		MCS 7	-75dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	15dBm	18dBm	±2dB	2.4GHz 802.11n HT40	MCS 0	-91dBm	±2dB
	MCS 1	15dBm	18dBm	±2dB		MCS 1	-90dBm	±2dB
	MCS 2	15dBm	18dBm	±2dB		MCS 2	-87dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB		MCS 3	-84dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB		MCS 4	-81dBm	±2dB
	MCS 5	14dBm	17dBm	±2dB		MCS 5	-77dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB		MCS 6	-75dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB		MCS 7	-73dBm	±2dB

RF Performance Table for 2.4 GHz

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
2.4GHz 802.11ax HE20	MCS 0	15dBm	18dBm	±2dB
	MCS 1	15dBm	18dBm	±2dB
	MCS 2	15dBm	18dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	14dBm	17dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
	MCS 8	13dBm	16dBm	±2dB
	MCS 9	13dBm	16dBm	±2dB
	MCS 10	12dBm	15dBm	±2dB
	MCS 11	12dBm	15dBm	±2dB
2.4GHz 802.11ax HE40	MCS 0	15dBm	18dBm	±2dB
	MCS 1	15dBm	18dBm	±2dB
	MCS 2	15dBm	18dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	14dBm	17dBm	±2dB
	MCS 6	14dBm	17dBm	±2dB
	MCS 7	14dBm	17dBm	±2dB
	MCS 8	13dBm	16dBm	±2dB
	MCS 9	13dBm	16dBm	±2dB
	MCS 10	12dBm	15dBm	±2dB
	MCS 11	12dBm	15dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11ax HE20	MCS 0	-94dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-87dBm	±2dB
	MCS 4	-83dBm	±2dB
	MCS 5	-79dBm	±2dB
	MCS 6	-78dBm	±2dB
	MCS 7	-76dBm	±2dB
	MCS 8	-72dBm	±2dB
	MCS 9	-69dBm	±2dB
	MCS 10	-66dBm	±2dB
	MCS 11	-65dBm	±2dB
2.4GHz 802.11ax HE40	MCS 0	-92dBm	±2dB
	MCS 1	-90dBm	±2dB
	MCS 2	-87dBm	±2dB
	MCS 3	-84dBm	±2dB
	MCS 4	-80dBm	±2dB
	MCS 5	-76dBm	±2dB
	MCS 6	-75dBm	±2dB
	MCS 7	-74dBm	±2dB
	MCS 8	-70dBm	±2dB
	MCS 9	-68dBm	±2dB
	MCS 10	-64dBm	±2dB
	MCS 11	-63dBm	±2dB

RF Performance Table for 5 GHz

	Data Rate	TX Power (per chain)	TX Power (2 chains)	Tolerance
5GHz 802.11a	6Mbps	16dBm	19dBm	±2dB
	9Mbps	16dBm	19dBm	±2dB
	12Mbps	16dBm	19dBm	±2dB
	18Mbps	15dBm	18dBm	±2dB
	24Mbps	14dBm	17dBm	±2dB
	36Mbps	14dBm	17dBm	±2dB
	48Mbps	13dBm	16dBm	±2dB
	54Mbps	12dBm	15dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	16dBm	19dBm	±2dB
	MCS 1	16dBm	19dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	14dBm	17dBm	±2dB
	MCS 6	13dBm	16dBm	±2dB
	MCS 7	12dBm	15dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 8	12dBm	15dBm	±2dB
	MCS 0	16dBm	19dBm	±2dB
	MCS 1	16dBm	19dBm	±2dB
	MCS 2	16dBm	19dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
	MCS 5	13dBm	16dBm	±2dB
	MCS 6	13dBm	16dBm	±2dB
5GHz 802.11n/ac VHT80	MCS 7	12dBm	15dBm	±2dB
	MCS 8	12dBm	15dBm	±2dB
	MCS 9	11dBm	14dBm	±2dB
	MCS 0	16dBm	19dBm	±2dB
	MCS 1	16dBm	19dBm	±2dB
	MCS 2	15dBm	18dBm	±2dB
	MCS 3	15dBm	18dBm	±2dB
	MCS 4	14dBm	17dBm	±2dB
5GHz 802.11n/ac VHT80	MCS 5	13dBm	16dBm	±2dB
	MCS 6	12dBm	15dBm	±2dB
	MCS 7	12dBm	15dBm	±2dB
	MCS 8	11dBm	14dBm	±2dB
	MCS 9	11dBm	14dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	-96dBm	±2dB
	9Mbps	-92dBm	±2dB
	12Mbps	-91dBm	±2dB
	18Mbps	-89dBm	±2dB
	24Mbps	-86dBm	±2dB
	36Mbps	-83dBm	±2dB
	48Mbps	-79dBm	±2dB
	54Mbps	-78dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	-95dBm	±2dB
	MCS 1	-93dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-87dBm	±2dB
	MCS 4	-84dBm	±2dB
	MCS 5	-80dBm	±2dB
	MCS 6	-79dBm	±2dB
	MCS 7	-76dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 8	-73dBm	±2dB
	MCS 0	-96dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-88dBm	±2dB
	MCS 3	-84dBm	±2dB
	MCS 4	-81dBm	±2dB
	MCS 5	-77dBm	±2dB
	MCS 6	-76dBm	±2dB
5GHz 802.11n/ac VHT80	MCS 7	-75dBm	±2dB
	MCS 8	-72dBm	±2dB
	MCS 9	-70dBm	±2dB
	MCS 0	-90dBm	±2dB
	MCS 1	-87dBm	±2dB
	MCS 2	-84dBm	±2dB
	MCS 3	-81dBm	±2dB
	MCS 4	-78dBm	±2dB
5GHz 802.11n/ac VHT80	MCS 5	-74dBm	±2dB
	MCS 6	-73dBm	±2dB
	MCS 7	-71dBm	±2dB
	MCS 8	-67dBm	±2dB
	MCS 9	-65dBm	±2dB

RF Performance Table for 5 GHz

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

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11ax HE20	MCS 0	-94dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-87dBm	±2dB
	MCS 4	-83dBm	±2dB
	MCS 5	-79dBm	±2dB
	MCS 6	-78dBm	±2dB
	MCS 7	-76dBm	±2dB
	MCS 8	-72dBm	±2dB
	MCS 9	-69dBm	±2dB
	MCS 10	-66dBm	±2dB
	MCS 11	-64dBm	±2dB
5GHz 802.11ax HE40	MCS 0	-93dBm	±2dB
	MCS 1	-90dBm	±2dB
	MCS 2	-87dBm	±2dB
	MCS 3	-84dBm	±2dB
	MCS 4	-81dBm	±2dB
	MCS 5	-76dBm	±2dB
	MCS 6	-75dBm	±2dB
	MCS 7	-74dBm	±2dB
	MCS 8	-70dBm	±2dB
	MCS 9	-69dBm	±2dB
	MCS 10	-64dBm	±2dB
	MCS 11	-63dBm	±2dB
5GHz 802.11ax HE80	MCS 0	-90dBm	±2dB
	MCS 1	-86dBm	±2dB
	MCS 2	-84dBm	±2dB
	MCS 3	-81dBm	±2dB
	MCS 4	-77dBm	±2dB
	MCS 5	-73dBm	±2dB
	MCS 6	-72dBm	±2dB
	MCS 7	-70dBm	±2dB
	MCS 8	-68dBm	±2dB
	MCS 9	-66dBm	±2dB
	MCS 10	-62dBm	±2dB
	MCS 11	-60dBm	±2dB

RF Performance Table for 5GHz

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

	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11ax HE160	MCS 0	-94dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-90dBm	±2dB
	MCS 3	-87dBm	±2dB
	MCS 4	-83dBm	±2dB
	MCS 5	-79dBm	±2dB
	MCS 6	-78dBm	±2dB
	MCS 7	-76dBm	±2dB
	MCS 8	-72dBm	±2dB
	MCS 9	-69dBm	±2dB
	MCS 10	-66dBm	±2dB
	MCS 11	-64dBm	±2dB

RF Performance Table for 6GHz

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

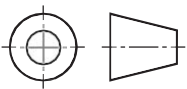
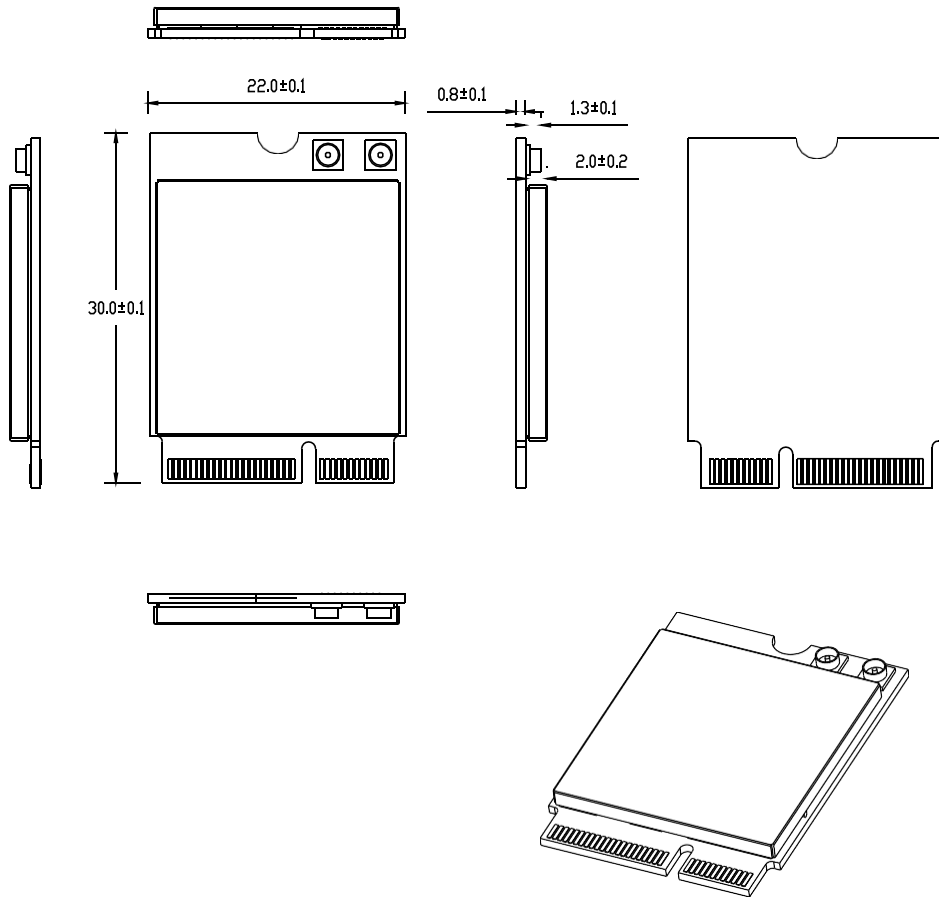
	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11ax HE20	MCS 0	-94dBm	±2dB
	MCS 1	-92dBm	±2dB
	MCS 2	-89dBm	±2dB
	MCS 3	-86dBm	±2dB
	MCS 4	-82dBm	±2dB
	MCS 5	-79dBm	±2dB
	MCS 6	-77dBm	±2dB
	MCS 7	-75dBm	±2dB
	MCS 8	-72dBm	±2dB
	MCS 9	-69dBm	±2dB
	MCS 10	-67dBm	±2dB
	MCS 11	-65dBm	±2dB
6GHz 802.11ax HE40	MCS 0	-91dBm	±2dB
	MCS 1	-89dBm	±2dB
	MCS 2	-86dBm	±2dB
	MCS 3	-83dBm	±2dB
	MCS 4	-80dBm	±2dB
	MCS 5	-77dBm	±2dB
	MCS 6	-75dBm	±2dB
	MCS 7	-73dBm	±2dB
	MCS 8	-70dBm	±2dB
	MCS 9	-67dBm	±2dB
	MCS 10	-65dBm	±2dB
	MCS 11	-62dBm	±2dB
6GHz 802.11ax HE80	MCS 0	-88dBm	±2dB
	MCS 1	-85dBm	±2dB
	MCS 2	-83dBm	±2dB
	MCS 3	-80dBm	±2dB
	MCS 4	-77dBm	±2dB
	MCS 5	-74dBm	±2dB
	MCS 6	-72dBm	±2dB
	MCS 7	-70dBm	±2dB
	MCS 8	-67dBm	±2dB
	MCS 9	-65dBm	±2dB
	MCS 10	-62dBm	±2dB
	MCS 11	-60dBm	±2dB

RF Performance Table for 6GHz

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

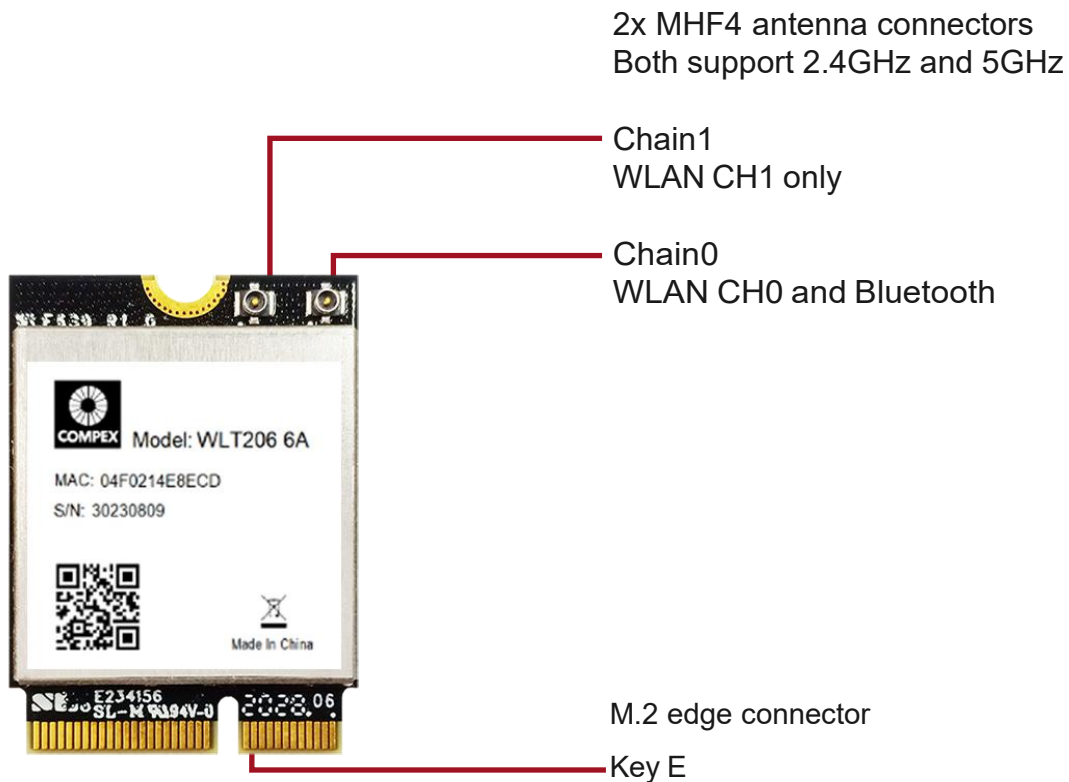
	Data Rate	RX Specifications Sensitivity	Tolerance
6GHz 802.11ax HE160	MCS 0	-84dBm	±2dB
	MCS 1	-82dBm	±2dB
	MCS 2	-80dBm	±2dB
	MCS 3	-77dBm	±2dB
	MCS 4	-73dBm	±2dB
	MCS 5	-70dBm	±2dB
	MCS 6	-69dBm	±2dB
	MCS 7	-67dBm	±2dB
	MCS 8	-63dBm	±2dB
	MCS 9	-60dBm	±2dB
	MCS 10	-57dBm	±2dB
	MCS 11	-55dBm	±2dB

Mechanical Dimensions



All dimensions are in mm.

Component Map



Ordering Configuration

Item Code	Model	Description
WLT206H25 6A0062- TE WLT206H256 6A0066- TE	WLT206H	2x2 802.11a/b/g/n/ac/ax tri-band simultaneous M.2 module, support BLE5.1