

## Features

- Qualcomm IPQ5322 Quad-Core Cortex-A53 @ 1.5GHz processor.
- 2x2 on-board 2.4GHz radio, up to 573Mbps physical data rate.
- support 2x2 5GHz & 2x2 6GHz QCN9274/QCN6274 wifi7 module, up to 5764Mbps physical data rate.
- Flexible Wi-Fi 7 radio configurations via 2x (NGFF)
- 2x 2.5Gbps ethernet port, 1x 10Gbps ethernet port.



## Applications

- 802.11be MU-MIMO OFDMA Access Point.
- Internet of Things (IoT).
- HD streaming and gaming.

## Absolute Maximum Rating

Parameter	Rating	Unit
Supply Voltage	12V	V
Environmental Temperature Operating	-20° C to 70° C	° C
Environmental Temperature Storage	-40° C to 90° C	° C
Environmental Humidity Operating	5% to 95% (non-condensing)	%
Environmental Humidity Storage	Max. 90% (non-condensing)	%

## Hardware Specifications

Symbol	Parameter
CPU	Qualcomm IPQ5322 Quad-Core Cortex-A53 @ 1.5GHz processor 'Miami' Series
Reference Design	Qualcomm AP.MI01.2
System Memory	1GB, DDR4 16-bit ( 1x16-bit) interface
Flash	NAND Flash: 512MB NOR Flash: 8MB
Wireless	On-board 2x2 2.4GHz MU-MIMO 802.11b/g/n/ax/be, max 24dBm per chain support 2x2 5GHz & 2x2 6GHz QCN9274/QCN6274 wifi7 module. 4x U.FL connectors (IPQ5322)
Frequency Range	2.412~2.472GHz 5.180~7.125GHz
PeakGain	3dBi for 2.4GHz 5GHz and 6GHz
ModulationTechniques	OFDMA:BPSK,QPSK,16-QAM,64-QAM,256-QAM,1024-QAM
NGFF Slot	N/A
Interface	1 x 2.5Gigabit Ethernet (1GbE) LAN/WAN RJ45 Port 2 x 2.4G Copper Antenna 2 x 5G Copper Antenna 1 x LED 12Pin Connector 1 x JTAG 10Pin Connector 2 x 4Pin Connector 8 x UFL Connector 1x SWITCH Button
LED	6 x LED (Green) Indicators 2 x LED (RGB) Indicators

DC Power	1 x DC Jack Connector:12V
PowerConsumption (Boardonly)	TBD
Certification	REACH & RoHS Compliance

## RF Performance Table for 2.4GHz

Operating Mode	Data Rate	TX Power		RX Specificatio	Tolerance
		Per Chain	4 Chains	Sensitivity	
2.4GHz 802.11be EHT20	MCS0	24dBm	27dBm	TBD	±2dB
	MCS1	23dBm	26dBm	TBD	±2dB
	MCS2	22dBm	25dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	20dBm	23dBm	TBD	±2dB
	MCS5	20dBm	23dBm	TBD	±2dB
	MCS6	19dBm	22dBm	TBD	±2dB
	MCS7	19dBm	22dBm	TBD	±2dB
	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB
	MCS10	17dBm	20dBm	TBD	±2dB
2.4GHz 802.11be EHT40	MCS11	17dBm	20dBm	TBD	±2dB
	MCS0	24dBm	27dBm	TBD	±2dB
	MCS1	23dBm	26dBm	TBD	±2dB
	MCS2	22dBm	25dBm	TBD	±2dB
	MCS3	21dBm	24dBm	TBD	±2dB
	MCS4	20dBm	23dBm	TBD	±2dB
	MCS5	20dBm	23dBm	TBD	±2dB
	MCS6	19dBm	22dBm	TBD	±2dB
MCS7	19dBm	22dBm	TBD	±2dB	

	MCS8	18dBm	21dBm	TBD	±2dB
	MCS9	18dBm	21dBm	TBD	±2dB
	MCS10	17dBm	20dBm	TBD	±2dB
	MCS11	17dBm	20dBm	TBD	±2dB

**RF Performance Table for 5GHz**

Operating Mode	Data Rate	TX Power		RX Specificatio	Tolerance
		Per Chain	4 Chains	Sensitivity	
5GHz 802.11be EHT20	MCS0	19dBm	22dBm	TBD	±2dB
	MCS1	19dBm	22dBm	TBD	±2dB
	MCS2	18dBm	21dBm	TBD	±2dB
	MCS3	18dBm	21dBm	TBD	±2dB
	MCS4	17dBm	20dBm	TBD	±2dB
	MCS5	17dBm	20dBm	TBD	±2dB
	MCS6	16dBm	19dBm	TBD	±2dB
	MCS7	16dBm	19dBm	TBD	±2dB
	MCS8	16dBm	19dBm	TBD	±2dB
	MCS9	15dBm	18dBm	TBD	±2dB
	MCS10	14dBm	17dBm	TBD	±2dB
	MCS11	14dBm	17dBm	TBD	±2dB
	MCS12	13dBm	16dBm	TBD	±2dB
MCS13	13dBm	16dBm	TBD	±2dB	
5GHz 802.11be EHT40	MCS0	19dBm	22dBm	TBD	±2dB
	MCS1	19dBm	22dBm	TBD	±2dB
	MCS2	18dBm	21dBm	TBD	±2dB
	MCS3	18dBm	21dBm	TBD	±2dB
	MCS4	17dBm	20dBm	TBD	±2dB
	MCS5	17dBm	20dBm	TBD	±2dB

	MCS6	16dBm	19dBm	TBD	±2dB
	MCS7	16dBm	19dBm	TBD	±2dB
	MCS8	16dBm	19dBm	TBD	±2dB
	MCS9	15dBm	18dBm	TBD	±2dB
	MCS10	14dBm	17dBm	TBD	±2dB
	MCS11	14dBm	17dBm	TBD	±2dB
	MCS12	13dBm	16dBm	TBD	±2dB
	MCS13	13dBm	16dBm	TBD	±2dB

## RF Performance Table for 5GHz

Operating Mode	Data Rate	TX Power		RX Specificatio	Tolerance
		Per Chain	4 Chains	Sensitivity	
5GHz 802.11be EHT80	MCS0	19dBm	22dBm	TBD	±2dB
	MCS1	19dBm	22dBm	TBD	±2dB
	MCS2	18dBm	21dBm	TBD	±2dB
	MCS3	18dBm	21dBm	TBD	±2dB
	MCS4	17dBm	20dBm	TBD	±2dB
	MCS5	17dBm	20dBm	TBD	±2dB
	MCS6	16dBm	19dBm	TBD	±2dB
	MCS7	16dBm	19dBm	TBD	±2dB
	MCS8	16dBm	19dBm	TBD	±2dB
	MCS9	15dBm	18dBm	TBD	±2dB
	MCS10	14dBm	17dBm	TBD	±2dB
	MCS11	14dBm	17dBm	TBD	±2dB
	MCS12	13dBm	16dBm	TBD	±2dB
	MCS13	13dBm	16dBm	TBD	±2dB
	MCS0	19dBm	22dBm	TBD	±2dB
	MCS1	19dBm	22dBm	TBD	±2dB

5GHz 802.11be EHT160	MCS2	18dBm	21dBm	TBD	±2dB
	MCS3	18dBm	21dBm	TBD	±2dB
	MCS4	17dBm	20dBm	TBD	±2dB
	MCS5	17dBm	20dBm	TBD	±2dB
	MCS6	16dBm	19dBm	TBD	±2dB
	MCS7	16dBm	19dBm	TBD	±2dB
	MCS8	16dBm	19dBm	TBD	±2dB
	MCS9	15dBm	18dBm	TBD	±2dB
	MCS10	14dBm	17dBm	TBD	±2dB
	MCS11	14dBm	17dBm	TBD	±2dB
	MCS12	13dBm	16dBm	TBD	±2dB
	MCS13	13dBm	16dBm	TBD	±2dB

## RF Performance Table for 6GHz

Operating Mode	Data Rate	TX Power		RX Specificatio	Tolerance
		Per Chain	4 Chains	Sensitivity	
6GHz 802.11be EHT20	MCS0	18dBm	21dBm	TBD	±2dB
	MCS1	17dBm	20dBm	TBD	±2dB
	MCS2	17dBm	20dBm	TBD	±2dB
	MCS3	16dBm	19dBm	TBD	±2dB
	MCS4	15dBm	18dBm	TBD	±2dB
	MCS5	15dBm	18dBm	TBD	±2dB
	MCS6	14dBm	17dBm	TBD	±2dB
	MCS7	14dBm	17dBm	TBD	±2dB
	MCS8	13dBm	16dBm	TBD	±2dB
	MCS9	12dBm	15dBm	TBD	±2dB
	MCS10	12dBm	15dBm	TBD	±2dB
	MCS11	12dBm	15dBm	TBD	±2dB

	MCS12	11dBm	14dBm	TBD	±2dB
	MCS13	11dBm	14dBm	TBD	±2dB
6GHz 802.11be EHT40	MCS0	18dBm	21dBm	TBD	±2dB
	MCS1	17dBm	20dBm	TBD	±2dB
	MCS2	17dBm	20dBm	TBD	±2dB
	MCS3	16dBm	19dBm	TBD	±2dB
	MCS4	15dBm	18dBm	TBD	±2dB
	MCS5	15dBm	18dBm	TBD	±2dB
	MCS6	14dBm	17dBm	TBD	±2dB
	MCS7	14dBm	17dBm	TBD	±2dB
	MCS8	13dBm	16dBm	TBD	±2dB
	MCS9	12dBm	15dBm	TBD	±2dB
	MCS10	12dBm	15dBm	TBD	±2dB
	MCS11	12dBm	15dBm	TBD	±2dB
	MCS12	11dBm	14dBm	TBD	±2dB
MCS13	11dBm	14dBm	TBD	±2dB	

## RF Performance Table for 6GHz

Operating Mode	Data Rate	TX Power		RX Specifications	Tolerance
		Per Chain	4 Chains	Sensitivity	
6GHz 802.11be EHT80	MCS0	18dBm	21dBm	TBD	±2dB
	MCS1	17dBm	20dBm	TBD	±2dB
	MCS2	17dBm	20dBm	TBD	±2dB
	MCS3	16dBm	19dBm	TBD	±2dB
	MCS4	15dBm	18dBm	TBD	±2dB
	MCS5	15dBm	18dBm	TBD	±2dB
	MCS6	14dBm	17dBm	TBD	±2dB
	MCS7	14dBm	17dBm	TBD	±2dB

	MCS8	13dBm	16dBm	TBD	±2dB
	MCS9	12dBm	15dBm	TBD	±2dB
	MCS10	12dBm	15dBm	TBD	±2dB
	MCS11	12dBm	15dBm	TBD	±2dB
	MCS12	11dBm	14dBm	TBD	±2dB
	MCS13	11dBm	14dBm	TBD	±2dB
6GHz 802.11be EHT160	MCS0	17dBm	20dBm	TBD	±2dB
	MCS1	17dBm	20dBm	TBD	±2dB
	MCS2	17dBm	20dBm	TBD	±2dB
	MCS3	16dBm	19dBm	TBD	±2dB
	MCS4	15dBm	18dBm	TBD	±2dB
	MCS5	15dBm	18dBm	TBD	±2dB
	MCS6	14dBm	17dBm	TBD	±2dB
	MCS7	14dBm	17dBm	TBD	±2dB
	MCS8	13dBm	16dBm	TBD	±2dB
	MCS9	12dBm	15dBm	TBD	±2dB
	MCS10	12dBm	15dBm	TBD	±2dB
	MCS11	12dBm	15dBm	TBD	±2dB
	MCS12	11dBm	14dBm	TBD	±2dB
MCS13	11dBm	14dBm	TBD	±2dB	
6GHz 802.11be EHT320	MCS0	17dBm	20dBm	TBD	±2dB
	MCS1	17dBm	20dBm	TBD	±2dB
	MCS2	17dBm	20dBm	TBD	±2dB
	MCS3	16dBm	19dBm	TBD	±2dB
	MCS4	15dBm	18dBm	TBD	±2dB
	MCS5	15dBm	18dBm	TBD	±2dB
	MCS6	14dBm	17dBm	TBD	±2dB



	MCS7	14dBm	17dBm	TBD	±2dB
	MCS8	13dBm	16dBm	TBD	±2dB
	MCS9	12dBm	15dBm	TBD	±2dB
	MCS10	12dBm	15dBm	TBD	±2dB
	MCS11	12dBm	15dBm	TBD	±2dB
	MCS12	11dBm	14dBm	TBD	±2dB
	MCS13	11dBm	14dBm	TBD	±2dB