

## Qualcomm's IPQ9574 Embedded Board Supporting WiFi 7

WiFi 7 support / 2 x 2.5Gbps /  
2 x PCIe 3.0 compatibility / 4x4 MU-MIMO OFDMA

**Model: WPQ950**



### KEY FEATURES

- Qualcomm IPQ9574 Quad-Core ARM Cortex-A73 @ 2.2GHz processor.
- 4x4 on-board 2.4GHz radio, up to 1182Mbps physical data rate.
- Flexible Wi-Fi 7 radio configurations via 2x (NGFF) E Key Socket with PCIe 3.0
- 2x 2.5Gbps ethernet port, 1x 10Gbps ethernet port
- 1x USB 3.0 port

### APPLICATIONS

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

## Specifications

Chipset	Qualcomm IPQ9574 Quad-Core ARM Cortex-A73 @ 2.2GHz processor 'Alder' Series
Reference Design	Qualcomm AP.AL02.3
System Memory	2GB (2x1GB), DDR4 32-bit (2x16-bit) interface
Flash	NAND Flash: 256MB NOR Flash: 32MB eMMC: 8GB
Wireless	On-board 4x4 2.4GHz MU-MIMO 802.11b/g/n/ax, max 23dBm per chain 4x U.FL connectors (IPQ9574)
Frequency Range	2.412~2.472GHz (IPQ9574)
Modulation Techniques	OFDMA: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
NGFF Slot	2x M.2 (NGFF) E Key Socket with PCIe 3.0
Interface	2x 2.5Gigabit Ethernet (1GbE) LAN/WAN RJ45 Port 1x 10Gigabit Ethernet (10GbE) LAN/WAN RJ45 Port 1x USB 3.0 Port 1x UART 4 Pin Connector 1x JTAG 20 Pin Connector 1x LED 12 Pin Connector 1x MINI DIN8P 1x Reset Button
LED	2x LED Indicators
DC Power	1x DC Jack Connector: 12V
Power Consumption (Board only)	21.5W(Max)
Bluetooth	CC2640 BLE 5.1

1. The Serial Port is a 4-pin header (TTL). A Serial Converter is available to change the TTL signals on the board to RS-232 signals for debugging.
2. The JTAG Port is a 20-pin header. A JTAG kit is for writing your self-developed loader and firmware directly.

\*Configurations are subject to change without notifications.

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## Specifications

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Certification	REACH & RoHS Compliance
Environmental Temperature	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	205 x 143 x 32 (non-cooling)

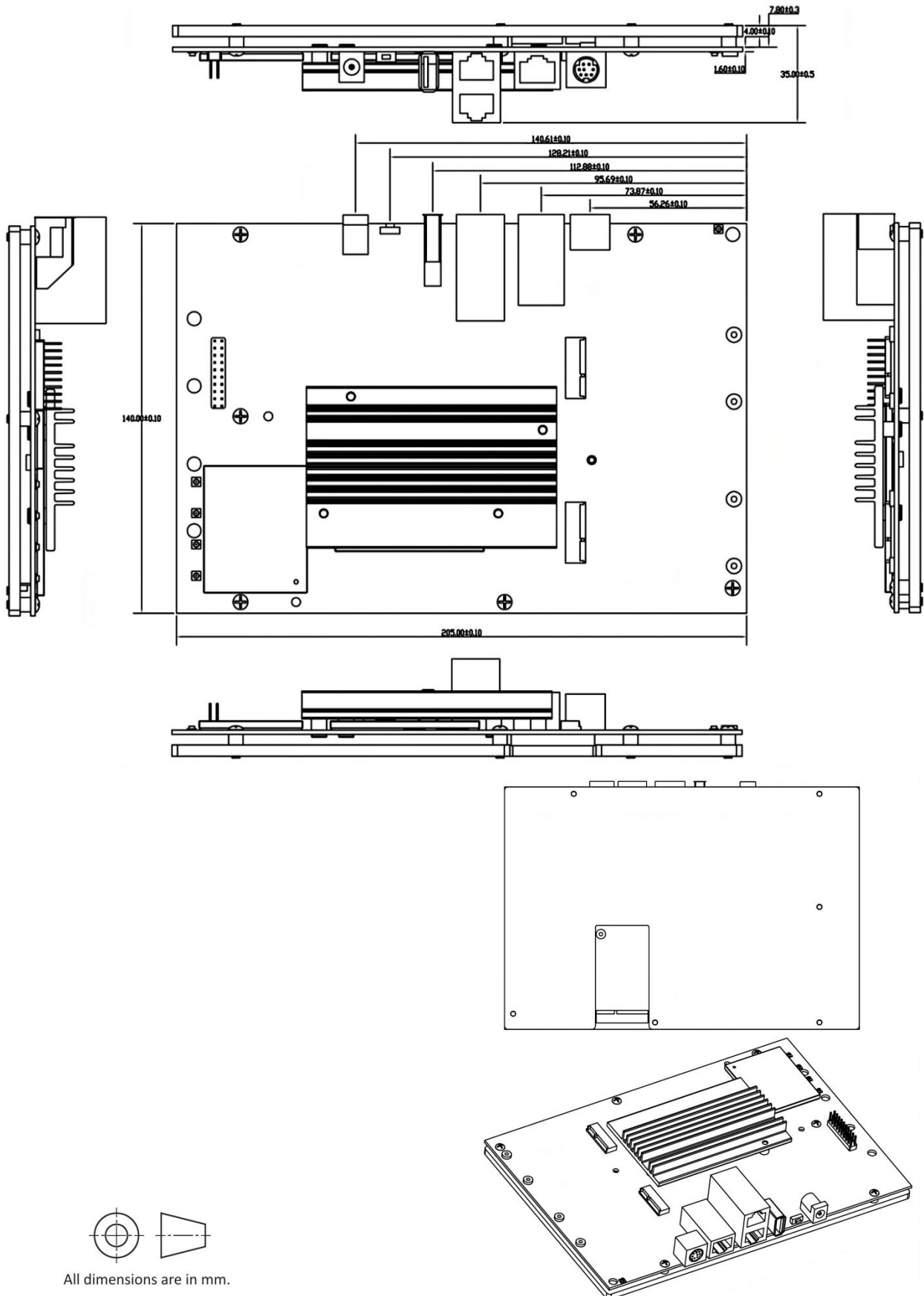
\*Configurations are subject to change without notifications.

## RF Performance Table for 2.4GHz

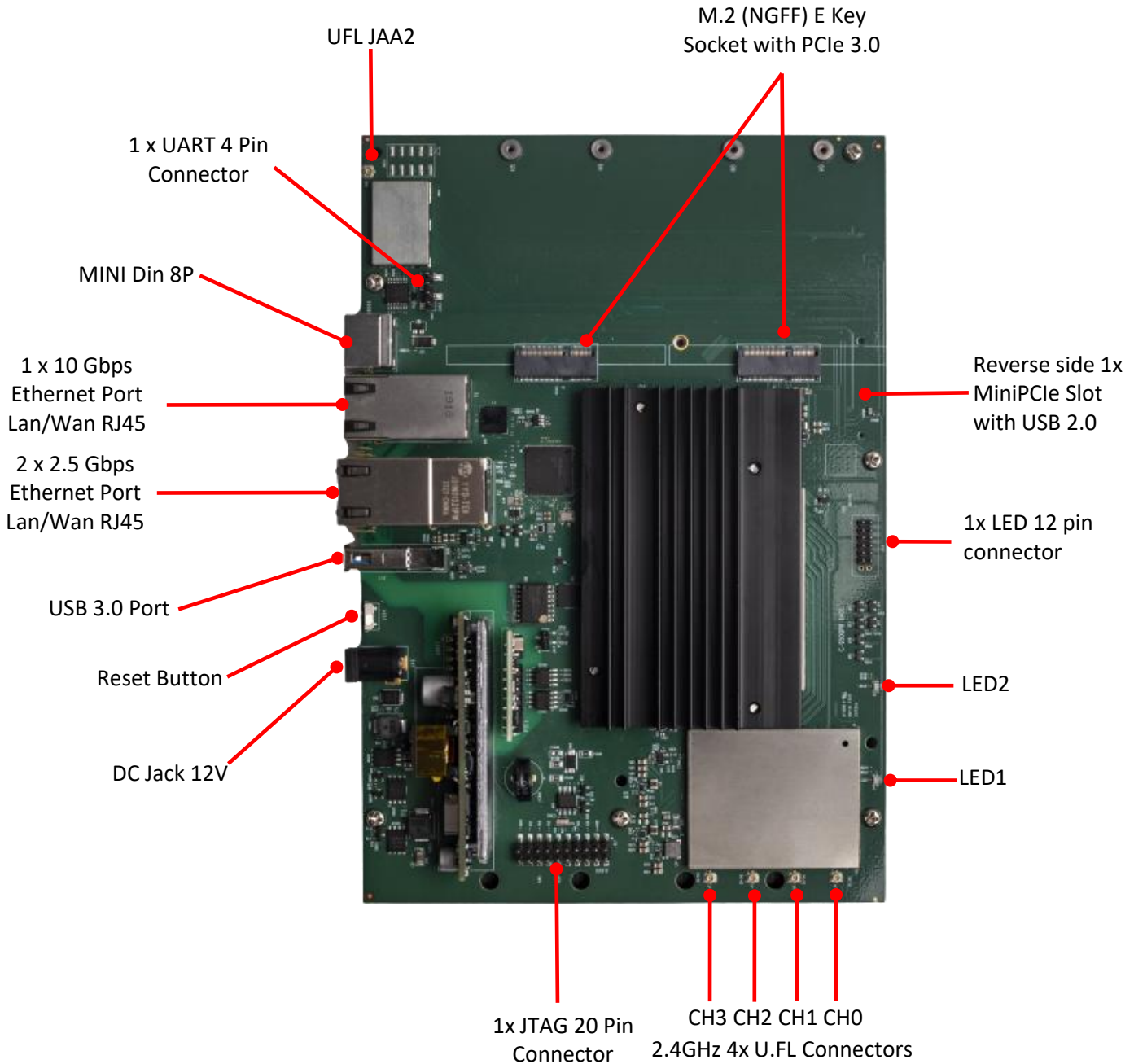
	Data Rate	TX Power (per chain)	TX Power (4 chains)	Tolerance
2.4GHz 802.11ax HE20	MCS 0	23dBm	29dBm	±2dB
	MCS 1	23dBm	29dBm	±2dB
	MCS 2	22dBm	28dBm	±2dB
	MCS 3	22dBm	28dBm	±2dB
	MCS 4	21dBm	27dBm	±2dB
	MCS 5	20dBm	26dBm	±2dB
	MCS 6	19dBm	25dBm	±2dB
	MCS 7	18dBm	24dBm	±2dB
	MCS 8	17dBm	23dBm	±2dB
	MCS 9	17dBm	23dBm	±2dB
	MCS 10	16dBm	22dBm	±2dB
	MCS 11	16dBm	22dBm	±2dB
2.4GHz 802.11ax HE40	MCS 0	23dBm	29dBm	±2dB
	MCS 1	23dBm	29dBm	±2dB
	MCS 2	22dBm	28dBm	±2dB
	MCS 3	22dBm	28dBm	±2dB
	MCS 4	21dBm	27dBm	±2dB
	MCS 5	20dBm	26dBm	±2dB
	MCS 6	19dBm	25dBm	±2dB
	MCS 7	18dBm	24dBm	±2dB
	MCS 8	17dBm	23dBm	±2dB
	MCS 9	17dBm	23dBm	±2dB
	MCS 10	16dBm	22dBm	±2dB
	MCS 11	16dBm	22dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11ax HE20	MCS 0	-97dBm	±2dB
	MCS 1	-95dBm	±2dB
	MCS 2	-92dBm	±2dB
	MCS 3	-89dBm	±2dB
	MCS 4	-87dBm	±2dB
	MCS 5	-83dBm	±2dB
	MCS 6	-81dBm	±2dB
	MCS 7	-79dBm	±2dB
	MCS 8	-75dBm	±2dB
	MCS 9	-73dBm	±2dB
	MCS 10	-69dBm	±2dB
	MCS 11	-67dBm	±2dB
2.4GHz 802.11ax HE40	MCS 0	-94dBm	±2dB
	MCS 1	-91dBm	±2dB
	MCS 2	-89dBm	±2dB
	MCS 3	-86dBm	±2dB
	MCS 4	-83dBm	±2dB
	MCS 5	-80dBm	±2dB
	MCS 6	-77dBm	±2dB
	MCS 7	-76dBm	±2dB
	MCS 8	-72dBm	±2dB
	MCS 9	-70dBm	±2dB
	MCS 10	-66dBm	±2dB
	MCS 11	-64dBm	±2dB

## Mechanical Dimensions



## Component Map



## Firmware / Software

Firmware

OpenWRT Barrier Breaker

## Development Kits

SDK

SDKs with QCA binary drivers are available for software developers.

Accessory

JTAG Programmer, Serial Converter, Power Supply Only if available

## Ordering Options

Item Code	Processor	Onboard WiFi radio
WPQ950 6A01PR32F2GB-TE	IPQ9574	✓