

# DR5424

Tri-band onbaord WiFi 7



# DR5424 Tri-band onboard WiFi 7



## Features:

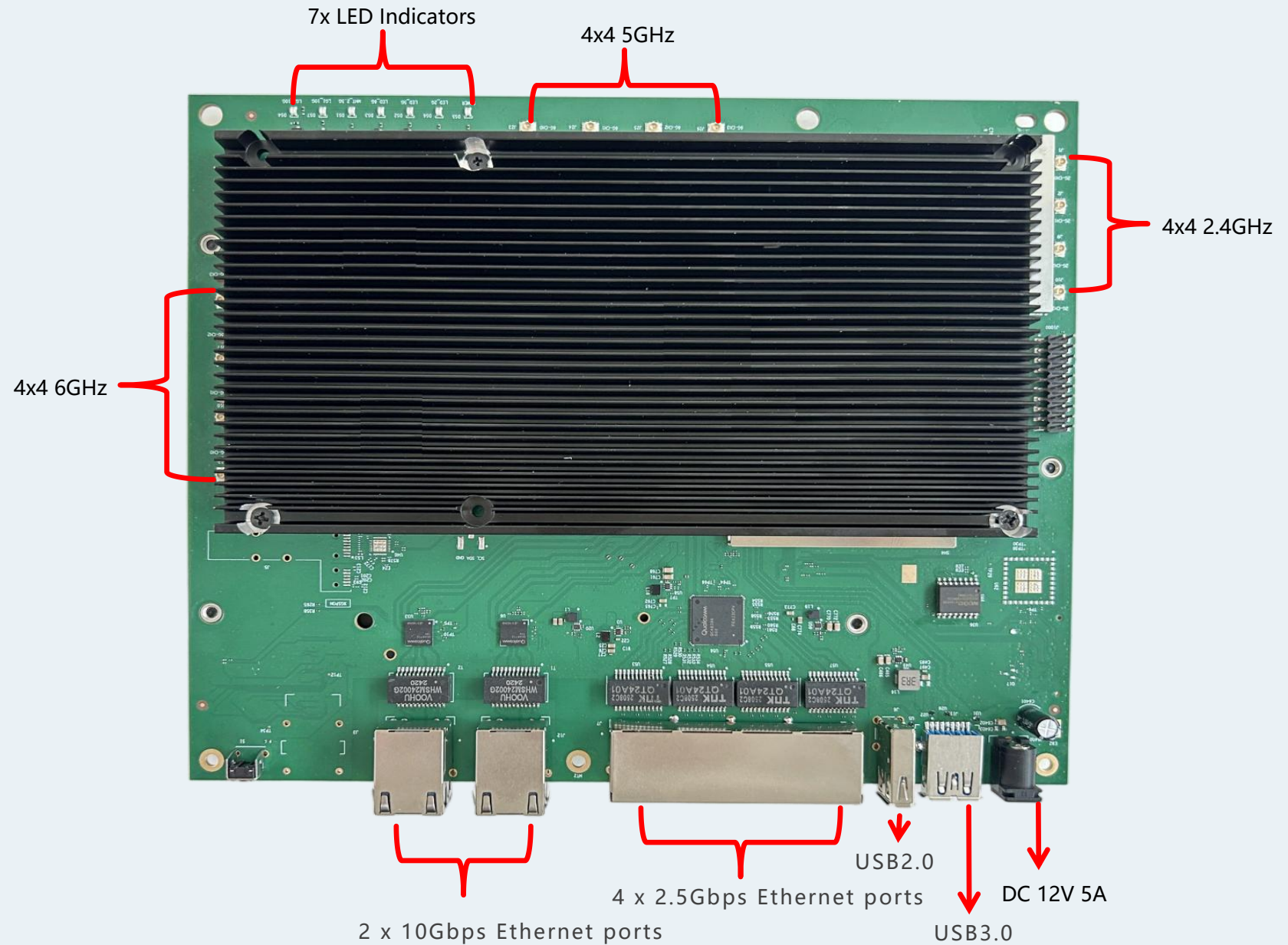
- Qualcomm IPQ5424 Quad-Core ARM Cortex-A55 @ 1.8GHz processor
- Tri-band Wi-Fi 7 (802.11be) with 4x4 MU-MIMO:
- 2.4GHz: Up to 1376Mbps, max 23dBm per chain
- 5GHz: Up to 8647Mbps, max 21dBm per chain
- 6GHz: Up to 11530Mbps, max 19 dBm per chain
- Supports 320MHz channel width for ultra-high-speed connectivity
- 4 x 2.5Gbps Ethernet ports & 2x 10Gbps Ethernet ports

## Application:

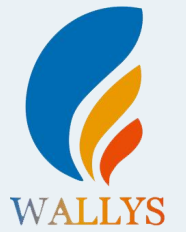
- 802.11be MU-MIMO OFDMA Access Point
- Internet of Things (IoT)
- HD streaming and gaming



# Interface map



# DR5424 Specifications:

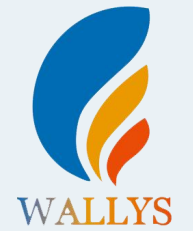


Chipset	Qualcomm IPQ5424 Quad-Core Cortex-A55 @ 1.8GHz processor 'Marina' Series
Reference Design	Qualcomm AP.MR02.1
System Memory	4GB, DDR4 32-bit interface 8GB, DDR4 32-bit interface (Max option)
Flash	NOR Flash: 32MB NAND Flash: 256MB
Wireless	On-board 4x4 2.4GHz MU-MIMO 802.11b/g/n/ax/be, max 23dBm per chain On-board 4x4 5GHz MU-MIMO 802.11a/n/ac/ax/be, max 21dBm per chain On-board 4x4 6GHz MU-MIMO 802.11ax/be, max 19dBm per chain 12x U.FL connectors (IPQ5424)
Frequency Range	2.4GHz: 2.412~2.472GHz 5GHz: 5.150~5.825GHz 6GHz: 5.945-7.125GHz
Channel Spectrum Widths for WLAN	Supports 20/40 MHz at 2.4GHz Supports 20/40/80/160/240 MHz at 5GHz Supports 20/40/80/160/320 MHz at 6GHz
Modulation Techniques	OFDMA: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM

# DR5424 Specifications:

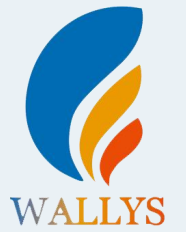
Interface	2x 10Gigabit Ethernet LAN/WAN RJ45 Port 4x 2.5Gigabit Ethernet LAN/WAN RJ45 Port 1x JTAG 20 Pin Connector 1x UART 12 Pin Connector 1x USB 2.0 port 1x USB 3.0 port
LED	7x LED Indicators
DC Jack Input	1x DC Jack Connector: DC12V 5A
Power consumption (board only)	39.3W (max)
Optional Onboard Modules	1x LASER module; 1x ZigBee module; 1x Bluetooth module
Supports Dynamic Frequency Selection (DFS)	YES
Certification	REACH & RoHS Compliance
Environmental Temperature	Operating temperature: -15°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	215 x 180 x 25.5 mm

# RF Performance Table for 2.4GHz



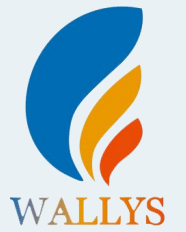
	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11be EHT20	MCS0	23dBm	29dBm	-95dBm	±2dB
	MCS1	23dBm	29dBm	-92dBm	±2dB
	MCS2	23dBm	29dBm	-90dBm	±2dB
	MCS3	23dBm	29dBm	-87dBm	±2dB
	MCS4	23dBm	29dBm	-84dBm	±2dB
	MCS5	23dBm	29dBm	-80dBm	±2dB
	MCS6	23dBm	29dBm	-79dBm	±2dB
	MCS7	23dBm	29dBm	-78dBm	±2dB
	MCS8	22dBm	28dBm	-73dBm	±2dB
	MCS9	22dBm	28dBm	-72dBm	±2dB
	MCS10	21dBm	27dBm	-68dBm	±2dB
	MCS11	21dBm	27dBm	-66dBm	±2dB
	MCS12	21dBm	27dBm	-63dBm	±2dB
MCS13	21dBm	27dBm	-60dBm	±2dB	

# RF Performance Table for 2.4GHz



	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11be EHT40	MCS0	23dBm	29dBm	-91dBm	±2dB
	MCS1	23dBm	29dBm	-90dBm	±2dB
	MCS2	23dBm	29dBm	-85dBm	±2dB
	MCS3	23dBm	29dBm	-84dBm	±2dB
	MCS4	23dBm	29dBm	-81dBm	±2dB
	MCS5	23dBm	29dBm	-77dBm	±2dB
	MCS6	23dBm	29dBm	-76dBm	±2dB
	MCS7	23dBm	29dBm	-74dBm	±2dB
	MCS8	22dBm	28dBm	-71dBm	±2dB
	MCS9	22dBm	28dBm	-69dBm	±2dB
	MCS10	21dBm	27dBm	-66dBm	±2dB
	MCS11	21dBm	27dBm	-63dBm	±2dB
	MCS12	21dBm	27dBm	-60dBm	±2dB
MCS13	21dBm	27dBm	-59dBm	±2dB	

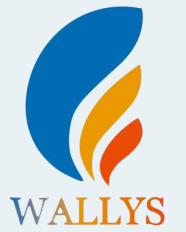
# RF Performance Table for 5GHz



	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
5GHz 802.11be EHT20	MCS0	21dBm	27dBm	-91dBm	±2dB
	MCS1	21dBm	27dBm	-89dBm	±2dB
	MCS2	20dBm	26dBm	-86dBm	±2dB
	MCS3	19dBm	25dBm	-84dBm	±2dB
	MCS4	18dBm	24dBm	-80dBm	±2dB
	MCS5	18dBm	24dBm	-75dBm	±2dB
	MCS6	17dBm	23dBm	-75dBm	±2dB
	MCS7	17dBm	23dBm	-73dBm	±2dB
	MCS8	16dBm	22dBm	-69dBm	±2dB
	MCS9	15dBm	21dBm	-68dBm	±2dB
	MCS10	14dBm	20dBm	-64dBm	±2dB
	MCS11	14dBm	20dBm	-62dBm	±2dB
	MCS12	13dBm	19dBm	-58dBm	±2dB
MCS13	13dBm	19dBm	-55dBm	±2dB	

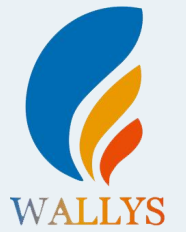


# RF Performance Table for 5GHz



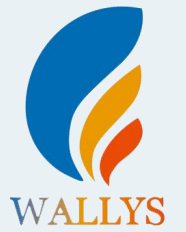
	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
5GHz 802.11be EHT40	MCS0	21dBm	27dBm	-88dBm	±2dB
	MCS1	21dBm	27dBm	-86dBm	±2dB
	MCS2	20dBm	26dBm	-85dBm	±2dB
	MCS3	19dBm	25dBm	-82dBm	±2dB
	MCS4	18dBm	24dBm	-78dBm	±2dB
	MCS5	18dBm	24dBm	-74dBm	±2dB
	MCS6	17dBm	23dBm	-72dBm	±2dB
	MCS7	17dBm	23dBm	-71dBm	±2dB
	MCS8	16dBm	22dBm	-67dBm	±2dB
	MCS9	15dBm	21dBm	-66dBm	±2dB
	MCS10	14dBm	20dBm	-63dBm	±2dB
	MCS11	14dBm	20dBm	-61dBm	±2dB
	MCS12	13dBm	19dBm	-57dBm	±2dB
MCS13	13dBm	19dBm	-55dBm	±2dB	

# RF Performance Table for 5GHz



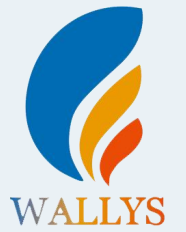
	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
5GHz 802.11be EHT80	MCS0	21dBm	27dBm	-85dBm	±2dB
	MCS1	21dBm	27dBm	-84dBm	±2dB
	MCS2	20dBm	26dBm	-81dBm	±2dB
	MCS3	19dBm	25dBm	-78dBm	±2dB
	MCS4	18dBm	24dBm	-76dBm	±2dB
	MCS5	18dBm	24dBm	-71dBm	±2dB
	MCS6	17dBm	23dBm	-70dBm	±2dB
	MCS7	17dBm	23dBm	-68dBm	±2dB
	MCS8	16dBm	22dBm	-65dBm	±2dB
	MCS9	15dBm	21dBm	-63dBm	±2dB
	MCS10	14dBm	20dBm	-59dBm	±2dB
	MCS11	14dBm	20dBm	-58dBm	±2dB
	MCS12	13dBm	19dBm	-54dBm	±2dB
MCS13	13dBm	19dBm	-53dBm	±2dB	

# RF Performance Table for 5GHz



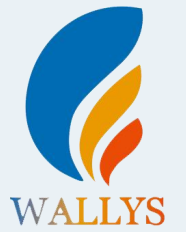
	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
5GHz 802.11be EHT160	MCS0	21dBm	27dBm	-84dBm	±2dB
	MCS1	21dBm	27dBm	-81dBm	±2dB
	MCS2	20dBm	26dBm	-79dBm	±2dB
	MCS3	19dBm	25dBm	-76dBm	±2dB
	MCS4	18dBm	24dBm	-73dBm	±2dB
	MCS5	18dBm	24dBm	-68dBm	±2dB
	MCS6	17dBm	23dBm	-67dBm	±2dB
	MCS7	17dBm	23dBm	-66dBm	±2dB
	MCS8	16dBm	22dBm	-62dBm	±2dB
	MCS9	15dBm	21dBm	-61dBm	±2dB
	MCS10	14dBm	20dBm	-56dBm	±2dB
	MCS11	14dBm	20dBm	-54dBm	±2dB
	MCS12	13dBm	19dBm	-53dBm	±2dB
MCS13	13dBm	19dBm	-51dBm	±2dB	

# RF Performance Table for 6GHz



	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT20	MCS0	19dBm	25dBm	-92dBm	±2dB
	MCS1	19dBm	25dBm	-90dBm	±2dB
	MCS2	19dBm	25dBm	-87dBm	±2dB
	MCS3	19dBm	25dBm	-84dBm	±2dB
	MCS4	18dBm	24dBm	-81dBm	±2dB
	MCS5	17dBm	23dBm	-77dBm	±2dB
	MCS6	17dBm	23dBm	-75dBm	±2dB
	MCS7	16dBm	22dBm	-73dBm	±2dB
	MCS8	15dBm	21dBm	-69dBm	±2dB
	MCS9	14dBm	20dBm	-68dBm	±2dB
	MCS10	14dBm	20dBm	-65dBm	±2dB
	MCS11	14dBm	20dBm	-63dBm	±2dB
	MCS12	13dBm	19dBm	-59dBm	±2dB
MCS13	13dBm	19dBm	-55dBm	±2dB	

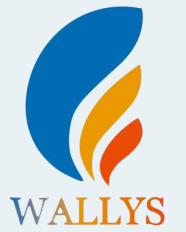
# RF Performance Table for 6GHz



	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT40	MCS0	19dBm	25dBm	-90dBm	±2dB
	MCS1	19dBm	25dBm	-88dBm	±2dB
	MCS2	19dBm	25dBm	-85dBm	±2dB
	MCS3	19dBm	25dBm	-82dBm	±2dB
	MCS4	18dBm	24dBm	-79dBm	±2dB
	MCS5	17dBm	23dBm	-75dBm	±2dB
	MCS6	17dBm	23dBm	-73dBm	±2dB
	MCS7	16dBm	22dBm	-72dBm	±2dB
	MCS8	15dBm	21dBm	-68dBm	±2dB
	MCS9	14dBm	20dBm	-67dBm	±2dB
	MCS10	14dBm	20dBm	-63dBm	±2dB
	MCS11	14dBm	20dBm	-60dBm	±2dB
	MCS12	13dBm	19dBm	-57dBm	±2dB
MCS13	13dBm	19dBm	-55dBm	±2dB	

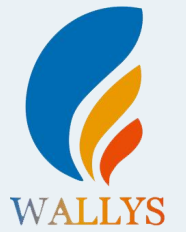


# RF Performance Table for 6GHz



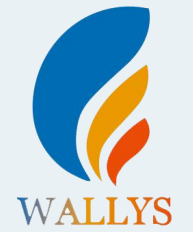
	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT80	MCS0	19dBm	25dBm	-83dBm	±2dB
	MCS1	19dBm	25dBm	-81dBm	±2dB
	MCS2	19dBm	25dBm	-78dBm	±2dB
	MCS3	19dBm	25dBm	-76dBm	±2dB
	MCS4	18dBm	24dBm	-73dBm	±2dB
	MCS5	17dBm	23dBm	-68dBm	±2dB
	MCS6	17dBm	23dBm	-67dBm	±2dB
	MCS7	16dBm	22dBm	-66dBm	±2dB
	MCS8	15dBm	21dBm	-60dBm	±2dB
	MCS9	14dBm	20dBm	-58dBm	±2dB
	MCS10	14dBm	20dBm	-55dBm	±2dB
	MCS11	14dBm	20dBm	-53dBm	±2dB
	MCS12	13dBm	19dBm	-50dBm	±2dB
MCS13	13dBm	19dBm	-49dBm	±2dB	

# RF Performance Table for 6GHz



	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT160	MCS0	19dBm	25dBm	-82dBm	±2dB
	MCS1	19dBm	25dBm	-79dBm	±2dB
	MCS2	19dBm	25dBm	-76dBm	±2dB
	MCS3	19dBm	25dBm	-73dBm	±2dB
	MCS4	18dBm	24dBm	-71dBm	±2dB
	MCS5	17dBm	23dBm	-66dBm	±2dB
	MCS6	17dBm	23dBm	-65dBm	±2dB
	MCS7	16dBm	22dBm	-64dBm	±2dB
	MCS8	15dBm	21dBm	-60dBm	±2dB
	MCS9	14dBm	20dBm	-59dBm	±2dB
	MCS10	14dBm	20dBm	-54dBm	±2dB
	MCS11	14dBm	20dBm	-52dBm	±2dB
	MCS12	13dBm	19dBm	-51dBm	±2dB
MCS13	13dBm	19dBm	-49dBm	±2dB	

# RF Performance Table for 6GHz



	Data Rate	TX Power (per chain)	TX Power (4 chains)	RX Specifications Sensitivity	Tolerance
6GHz 802.11be EHT320	MCS0	19dBm	25dBm	-79dBm	±2dB
	MCS1	19dBm	25dBm	-76dBm	±2dB
	MCS2	19dBm	25dBm	-74dBm	±2dB
	MCS3	19dBm	25dBm	-71dBm	±2dB
	MCS4	18dBm	24dBm	-68dBm	±2dB
	MCS5	17dBm	23dBm	-63dBm	±2dB
	MCS6	17dBm	23dBm	-63dBm	±2dB
	MCS7	16dBm	22dBm	-62dBm	±2dB
	MCS8	15dBm	21dBm	-58dBm	±2dB
	MCS9	14dBm	20dBm	-57dBm	±2dB
	MCS10	14dBm	20dBm	-51dBm	±2dB
	MCS11	14dBm	20dBm	-49dBm	±2dB
	MCS12	13dBm	19dBm	-49dBm	±2dB
MCS13	13dBm	19dBm	-48dBm	±2dB	



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