

# DR9574S-2-57-57

WiFi7 triband onboard



# DR9574S

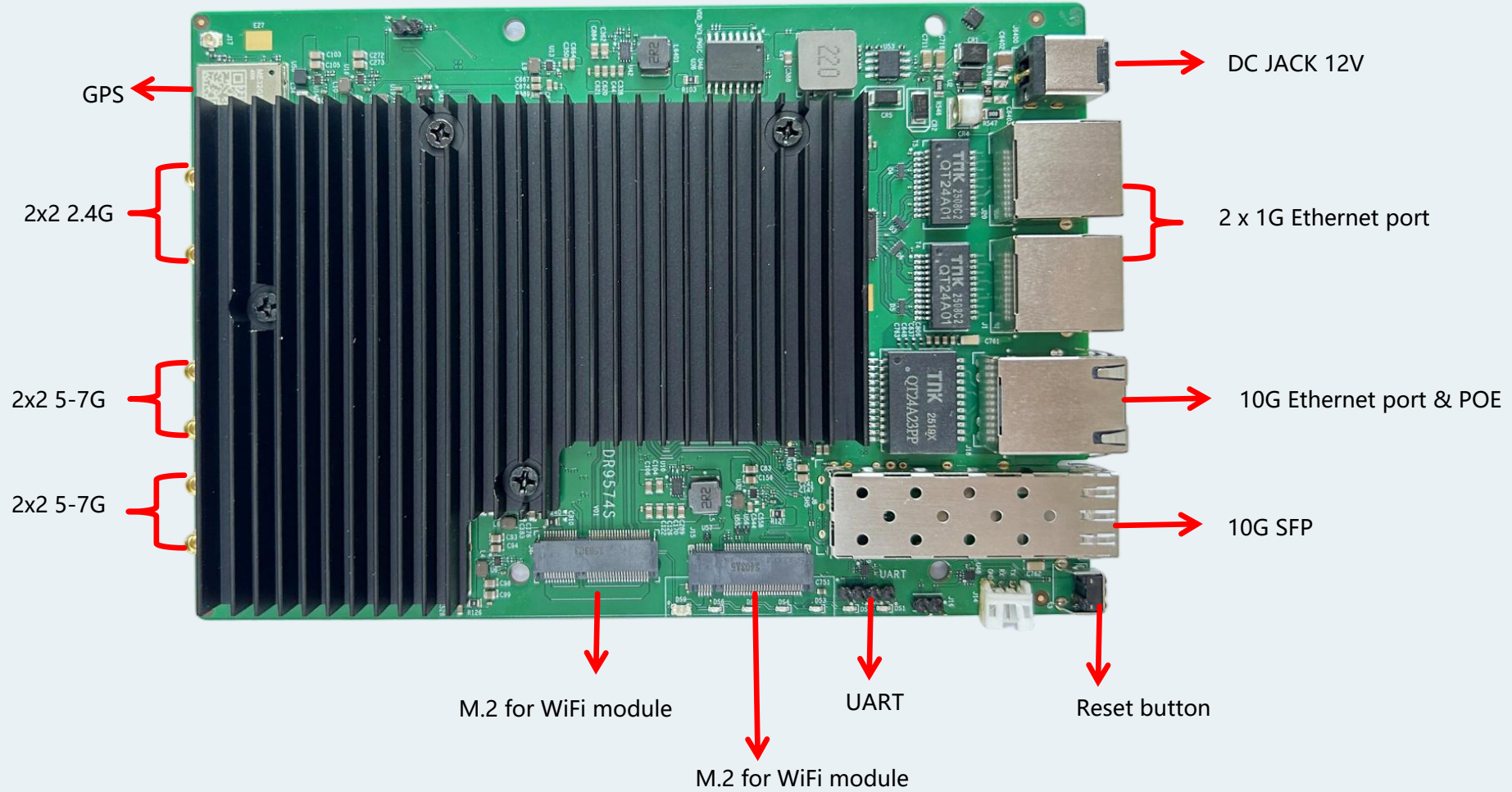


## Features

- Qualcomm IPQ9574 Quad-Core ARM-A73 @ 2.2GHz processor.
- Qualcomm Atheros IPQ9574 for Industrial Grade;
- 2x2 on-board 2.4GHz radio, up to 573.6Mbps physical data rate;
- 2x2 on-board 5-7GHz radio, up to 5765Mbps, max 19dBm per chain
- 2x2 on-board 5-7GHz radio, up to 5765Mbps, max 19 dBm per chain
- 2 x M.2 (NGFF) E Key Socket with PCIe 3.0;
- 2 x 1Gbps ethernet port, 1x 10Gbps ethernet port & POE;
- 1 x 10Gbps SFP

| Version   | Chipset |
|-----------|---------|
| DR9274E   | QCN6274 |
| DR9274E-I | QCN9274 |

# Interface Map





## Applications

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

## Product Description

DR9574 based on IPQ9574 Chipset is an enterprise wireless module integrated with 2x2 MU-MIMO Wireless Module designed specifically to provide users with mobile access to high-bandwidth video streaming, voice, and data transmission for office and challenging RF environment in factories, warehouses establishment.

# Absolute Maximum Rating

| Parameter                   | Rating                  | Unit |
|-----------------------------|-------------------------|------|
| Supply Voltage              | 24V ~ 48V (DC Jack)     | V    |
| Operating Temperature Range | -40 ~ 70                | °C   |
| Storage Temperature Range   | -40 ~ 90                | °C   |
| Operating Humidity Range    | 5 ~ 95 (non-condensing) | %    |
| Storage Humidity Range      | 0 ~ 90 (non-condensing) | %    |

# Hardware Specifications

| Symbol        | Parameter                                                                                                                                                                                  |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU           | Qualcomm-Atheros IPQ9574                                                                                                                                                                   |
| CPU Frequency | Quad-Core ARM-A73 @ 2.2GHz processor 'Alder' Series                                                                                                                                        |
| System Memory | 2Gb (2x1Gb), DDR4 32-bit (2x16-bit) interface                                                                                                                                              |
| Ethernet Port | 2 x 1Gbps ethernet port;<br>1x 10Gbps ethernet port & POE;<br>1x 10Gbps SFP;                                                                                                               |
| GPS           | Optional                                                                                                                                                                                   |
| SGMII         | 1x SGMII Interface                                                                                                                                                                         |
| UART          | 1x UART Interface                                                                                                                                                                          |
| Wireless      | 2x2 On-board 2.4GHz radio,up to 573.6Mbps physical Data Rate<br>2x2 On-board 5-7GHz radio,up to 5765Mbps physical Data Rate<br>2x2 On-board 5-7GHz radio,up to 5765Mbps physical Data Rate |

|                                  |                                                                                                         |
|----------------------------------|---------------------------------------------------------------------------------------------------------|
| Channel Spectrum Widths for WLAN | Support 20/40MHz at 2.4GHz<br>Support 20/40/80/160MHz at 5GHz<br>Support 20/40/80/160MHz/320MHz at 6GHz |
| Host Interface                   | 2 x M2 interface with PCIe 3.0                                                                          |
| Antenna Cable / Port             | 6 x MMCX Connectors                                                                                     |
| ModulationTechniques             | OFDMA: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM,4096-QAM                             |
| Power                            | DC Jack: 12V-52V DC power supply<br>POE:Active POE, 802.3at/BT,48V passive POE                          |
| Certification                    | REACH & RoHS Compliance                                                                                 |
| Dimensions (WxHxD)               | 16.1*11*1.6cm                                                                                           |

## Radio TX Specifications (2412MHz-2482MHz)

|                   | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | Tolerance |
|-------------------|-----------|-------------------------|--------------------------|-----------|
| 2.4GHz<br>802.11b | 1Mbps     | 24dBm                   | 27dBm                    | ±2dB      |
|                   | 2Mbps     | 24dBm                   | 27dBm                    | ±2dB      |
|                   | 5.5Mbps   | 23dBm                   | 26dBm                    | ±2dB      |
|                   | 11Mbps    | 23dBm                   | 26dBm                    | ±2dB      |
|                   | 1Mbps     | 24dBm                   | 27dBm                    | ±2dB      |
|                   | 1Mbps     | 24dBm                   | 27dBm                    | ±2dB      |
| 2.4GHz<br>802.11g | 6Mbps     | 24dBm                   | 27dBm                    | ±2dB      |
|                   | 9Mbps     | 24dBm                   | 27dBm                    | ±2dB      |
|                   | 12Mbps    | 24dBm                   | 27dBm                    | ±2dB      |
|                   | 18Mbps    | 24dBm                   | 27dBm                    | ±2dB      |
|                   | 24Mbps    | 23dBm                   | 26dBm                    | ±2dB      |
|                   | 36Mbps    | 23dBm                   | 26dBm                    | ±2dB      |
|                   | 48Mbps    | 23dBm                   | 26dBm                    | ±2dB      |
|                   | 54Mbps    | 23dBm                   | 26dBm                    | ±2dB      |



# Radio TX Specifications (2412MHz-2482MHz)

| 2.4GHz<br>802.11n<br>HT20 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | Tolerance |
|---------------------------|-----------|-------------------------|--------------------------|-----------|
|                           | MCS0      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS1      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS2      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS3      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS4      | 23dBm                   | 26dBm                    | ±2dB      |
|                           | MCS5      | 23dBm                   | 26dBm                    | ±2dB      |
|                           | MCS6      | 23dBm                   | 26dBm                    | ±2dB      |
|                           | MCS7      | 23dBm                   | 26dBm                    | ±2dB      |

# Radio TX Specifications (2412MHz-2482MHz)

| 2.4GHz<br>802.11n<br>HT40 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | Tolerance |
|---------------------------|-----------|-------------------------|--------------------------|-----------|
|                           | MCS0      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS1      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS2      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS3      | 24dBm                   | 27dBm                    | ±2dB      |
|                           | MCS4      | 23dBm                   | 26dBm                    | ±2dB      |
|                           | MCS5      | 23dBm                   | 26dBm                    | ±2dB      |
|                           | MCS6      | 22dBm                   | 25dBm                    | ±2dB      |
|                           | MCS7      | 22dBm                   | 25dBm                    | ±2dB      |

# Radio TX Specifications (2412MHz-2482MHz)

| 2.4GHz<br>802.11AX<br>HE20 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | Tolerance |
|----------------------------|-----------|-------------------------|--------------------------|-----------|
|                            | MCS0      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS1      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS2      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS3      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS4      | 23dBm                   | 26dBm                    | ±2dB      |
|                            | MCS5      | 23dBm                   | 26dBm                    | ±2dB      |
|                            | MCS6      | 23dBm                   | 26dBm                    | ±2dB      |
|                            | MCS7      | 23dBm                   | 26dBm                    | ±2dB      |
|                            | MCS8      | 21dBm                   | 24dBm                    | ±2dB      |
|                            | MCS9      | 21dBm                   | 24dBm                    | ±2dB      |
|                            | MCS10     | 20dBm                   | 23dBm                    | ±2dB      |
|                            | MCS11     | 20dBm                   | 23dBm                    | ±2dB      |

# Radio TX Specifications (2412MHz-2482MHz)

| 2.4GHz<br>802.11AX<br>HE40 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | Tolerance |
|----------------------------|-----------|-------------------------|--------------------------|-----------|
|                            | MCS0      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS1      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS2      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS3      | 24dBm                   | 27dBm                    | ±2dB      |
|                            | MCS4      | 23dBm                   | 26dBm                    | ±2dB      |
|                            | MCS5      | 23dBm                   | 26dBm                    | ±2dB      |
|                            | MCS6      | 22dBm                   | 25dBm                    | ±2dB      |
|                            | MCS7      | 22dBm                   | 25dBm                    | ±2dB      |
|                            | MCS8      | 20dBm                   | 23dBm                    | ±2dB      |
|                            | MCS9      | 20dBm                   | 23dBm                    | ±2dB      |
|                            | MCS10     | 20dBm                   | 23dBm                    | ±2dB      |
|                            | MCS11     | 20dBm                   | 23dBm                    | ±2dB      |

# Radio 2.4G Specifications

| 2.4GHz<br>802.11AX<br>HE20 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | RX Sensitivity | Tolerance |
|----------------------------|-----------|-------------------------|--------------------------|----------------|-----------|
|                            | MCS0      | 23dbm                   | 26dbm                    | -93dbm         | ±2dB      |
|                            | MCS1      | 23dbm                   | 26dbm                    | -90dbm         | ±2dB      |
|                            | MCS2      | 23dbm                   | 26dbm                    | -87dbm         | ±2dB      |
|                            | MCS3      | 25dbm                   | 28dbm                    | -85dbm         | ±2dB      |
|                            | MCS4      | 24dbm                   | 27dbm                    | -83dbm         | ±2dB      |
|                            | MCS5      | 23dbm                   | 26dbm                    | -81dbm         | ±2dB      |
|                            | MCS6      | 22dbm                   | 25dbm                    | -78dbm         | ±2dB      |
|                            | MCS7      | 21dbm                   | 24dbm                    | -76dbm         | ±2dB      |
|                            | MCS8      | 21dbm                   | 24dbm                    | -75dbm         | ±2dB      |
|                            | MCS9      | 20dbm                   | 23dbm                    | -72dbm         | ±2dB      |
|                            | MCS10     | 18dbm                   | 21dbm                    | -69dbm         | ±2dB      |
|                            | MCS11     | 16dbm                   | 19dbm                    | -67dbm         | ±2dB      |

# Radio 2.4G Specifications

| 2.4GHz<br>802.11ax<br>HT40 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | RX Sensitivity | Tolerance |
|----------------------------|-----------|-------------------------|--------------------------|----------------|-----------|
|                            | MCS0      | 23dbm                   | 26dbm                    | -90dbm         | ±2dB      |
|                            | MCS1      | 23dbm                   | 26dbm                    | -88dbm         | ±2dB      |
|                            | MCS2      | 23dbm                   | 26dbm                    | -87dbm         | ±2dB      |
|                            | MCS3      | 25dbm                   | 28dbm                    | -85dbm         | ±2dB      |
|                            | MCS4      | 24dbm                   | 27dbm                    | -82dbm         | ±2dB      |
|                            | MCS5      | 23dbm                   | 26dbm                    | -79dbm         | ±2dB      |
|                            | MCS6      | 22dbm                   | 25dbm                    | -77dbm         | ±2dB      |
|                            | MCS7      | 21dbm                   | 24dbm                    | -75dbm         | ±2dB      |
|                            | MCS8      | 21dbm                   | 24dbm                    | -72dbm         | ±2dB      |
|                            | MCS9      | 20dbm                   | 23dbm                    | -69dbm         | ±2dB      |
|                            | MCS10     | 18dbm                   | 21dbm                    | -66dbm         | ±2dB      |
|                            | MCS11     | 16dbm                   | 19dbm                    | -63dbm         | ±2dB      |



# Radio 5-7G Specifications

| 5-7GHz<br>802.11be<br>EHT20 | Data Rate | TX Power<br>(Per chain) | TX Power<br>(two chains) | RX Specifications<br>Sensitivity | Tolerance |
|-----------------------------|-----------|-------------------------|--------------------------|----------------------------------|-----------|
|                             | MCS0      | 25dBm                   | 28dBm                    | -92dBm                           | ±2dB      |
|                             | MCS1      | 24dBm                   | 27dBm                    | -90dBm                           | ±2dB      |
|                             | MCS2      | 23dBm                   | 26dBm                    | -87dBm                           | ±2dB      |
|                             | MCS3      | 22dBm                   | 25dBm                    | -85dBm                           | ±2dB      |
|                             | MCS4      | 21dBm                   | 24dBm                    | -83dBm                           | ±2dB      |
|                             | MCS5      | 20dBm                   | 23dBm                    | -81dBm                           | ±2dB      |
|                             | MCS6      | 19dBm                   | 22dBm                    | -78dBm                           | ±2dB      |
|                             | MCS7      | 19dBm                   | 22dBm                    | -76dBm                           | ±2dB      |
|                             | MCS8      | 18.5dBm                 | 21.5dBm                  | -75dBm                           | ±2dB      |
|                             | MCS9      | 18.5dBm                 | 21.5dBm                  | -72dBm                           | ±2dB      |
|                             | MCS10     | 17.5dBm                 | 20.5dBm                  | -69dBm                           | ±2dB      |
|                             | MCS11     | 17.5dBm                 | 20.5dBm                  | -66dBm                           | ±2dB      |
|                             | MCS12     | 17dBm                   | 20dBm                    | -62dBm                           | ±2dB      |
|                             | MCS13     | 17dBm                   | 20dBm                    | -59dBm                           | ±2dB      |

# Radio 5-7G Specifications

| 5-7GHz<br>802.11be<br>EHT40 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | RX Specifications<br>Sensitivity | Tolerance |
|-----------------------------|-----------|-------------------------|--------------------------|----------------------------------|-----------|
|                             | MCS0      | 25dBm                   | 28dBm                    | -90dBm                           | ±2dB      |
|                             | MCS1      | 24dBm                   | 27dBm                    | -88dBm                           | ±2dB      |
|                             | MCS2      | 23dBm                   | 26dBm                    | -87dBm                           | ±2dB      |
|                             | MCS3      | 22dBm                   | 25dBm                    | -85dBm                           | ±2dB      |
|                             | MCS4      | 21dBm                   | 24dBm                    | -82dBm                           | ±2dB      |
|                             | MCS5      | 20dBm                   | 23dBm                    | -79dBm                           | ±2dB      |
|                             | MCS6      | 19dBm                   | 22dBm                    | -77dBm                           | ±2dB      |
|                             | MCS7      | 19dBm                   | 22dBm                    | -75dBm                           | ±2dB      |
|                             | MCS8      | 18.5dBm                 | 21.5dBm                  | -72dBm                           | ±2dB      |
|                             | MCS9      | 18.5dBm                 | 21.5dBm                  | -69dBm                           | ±2dB      |
|                             | MCS10     | 17.5dBm                 | 20.5dBm                  | -66dBm                           | ±2dB      |
|                             | MCS11     | 17.5dBm                 | 20.5dBm                  | -63dBm                           | ±2dB      |
|                             | MCS12     | 17dBm                   | 20dBm                    | -59dBm                           | ±2dB      |
|                             | MCS13     | 17dBm                   | 20dBm                    | -56dBm                           | ±2dB      |

# Radio 5-7G Specifications

| 5-7GHz<br>802.11be<br>EHT80 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | RX Specifications<br>Sensitivity | Tolerance |
|-----------------------------|-----------|-------------------------|--------------------------|----------------------------------|-----------|
|                             | MCS0      | 25dBm                   | 28dBm                    | -88dBm                           | ±2dB      |
|                             | MCS1      | 24dBm                   | 27dBm                    | -86dBm                           | ±2dB      |
|                             | MCS2      | 23dBm                   | 26dBm                    | -83dBm                           | ±2dB      |
|                             | MCS3      | 22dBm                   | 25dBm                    | -80dBm                           | ±2dB      |
|                             | MCS4      | 21dBm                   | 24dBm                    | -78dBm                           | ±2dB      |
|                             | MCS5      | 20dBm                   | 23dBm                    | -76dBm                           | ±2dB      |
|                             | MCS6      | 19dBm                   | 22dBm                    | -74dBm                           | ±2dB      |
|                             | MCS7      | 19dBm                   | 22dBm                    | -71dBm                           | ±2dB      |
|                             | MCS8      | 18.5dBm                 | 21.5dBm                  | -68dBm                           | ±2dB      |
|                             | MCS9      | 18.5dBm                 | 21.5dBm                  | -66dBm                           | ±2dB      |
|                             | MCS10     | 17.5dBm                 | 20.5dBm                  | -63dBm                           | ±2dB      |
|                             | MCS11     | 17.5dBm                 | 20.5dBm                  | -60dBm                           | ±2dB      |
|                             | MCS12     | 17dBm                   | 20dBm                    | -56dBm                           | ±2dB      |
|                             | MCS13     | 17dBm                   | 20dBm                    | -53dBm                           | ±2dB      |

# Radio 5-7G Specifications

| 5-7GHz<br>802.11be<br>EHT160 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | RX Specifications<br>Sensitivity | Tolerance |
|------------------------------|-----------|-------------------------|--------------------------|----------------------------------|-----------|
|                              | MCS0      | 25dBm                   | 28dBm                    | -84dBm                           | ±2dB      |
|                              | MCS1      | 24dBm                   | 27dBm                    | -82dBm                           | ±2dB      |
|                              | MCS2      | 23dBm                   | 26dBm                    | -80dBm                           | ±2dB      |
|                              | MCS3      | 22dBm                   | 25dBm                    | -78dBm                           | ±2dB      |
|                              | MCS4      | 21dBm                   | 24dBm                    | -75dBm                           | ±2dB      |
|                              | MCS5      | 20dBm                   | 23dBm                    | -72dBm                           | ±2dB      |
|                              | MCS6      | 19dBm                   | 22dBm                    | -70dBm                           | ±2dB      |
|                              | MCS7      | 19dBm                   | 22dBm                    | -68dBm                           | ±2dB      |
|                              | MCS8      | 18dBm                   | 21dBm                    | -65dBm                           | ±2dB      |
|                              | MCS9      | 18dBm                   | 21dBm                    | -63dBm                           | ±2dB      |
|                              | MCS10     | 17dBm                   | 20dBm                    | -60dBm                           | ±2dB      |
|                              | MCS11     | 17dBm                   | 20dBm                    | -58dBm                           | ±2dB      |
|                              | MCS12     | 16dBm                   | 19dBm                    | -53dBm                           | ±2dB      |
|                              | MCS13     | 16dBm                   | 19dBm                    | -50dBm                           | ±2dB      |

# Radio 5-7G Specifications

| 5-7GHz<br>802.11be<br>EHT320 | Data Rate | TX Power<br>(one chain) | TX Power<br>(two chains) | RX Specifications<br>Sensitivity | Tolerance |
|------------------------------|-----------|-------------------------|--------------------------|----------------------------------|-----------|
|                              | MCS0      | 23dBm                   | 26dBm                    | -82dBm                           | ±2dB      |
|                              | MCS1      | 23dBm                   | 26dBm                    | -79dBm                           | ±2dB      |
|                              | MCS2      | 23dBm                   | 26dBm                    | -76dBm                           | ±2dB      |
|                              | MCS3      | 22dBm                   | 25dBm                    | -73dBm                           | ±2dB      |
|                              | MCS4      | 21dBm                   | 24dBm                    | -70dBm                           | ±2dB      |
|                              | MCS5      | 20dBm                   | 23dBm                    | -67dBm                           | ±2dB      |
|                              | MCS6      | 19dBm                   | 22dBm                    | -63dBm                           | ±2dB      |
|                              | MCS7      | 19dBm                   | 22dBm                    | -61dBm                           | ±2dB      |
|                              | MCS8      | 18dBm                   | 21dBm                    | -58dBm                           | ±2dB      |
|                              | MCS9      | 18dBm                   | 21dBm                    | -56dBm                           | ±2dB      |
|                              | MCS10     | 16.5dBm                 | 19.5dBm                  | -53dBm                           | ±2dB      |
|                              | MCS11     | 16.5dBm                 | 19.5dBm                  | -51dBm                           | ±2dB      |
|                              | MCS12     | 14.5dBm                 | 17.5dBm                  | -49dBm                           | ±2dB      |
|                              | MCS13     | 14.5dBm                 | 17.5dBm                  | -47dBm                           | ±2dB      |



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