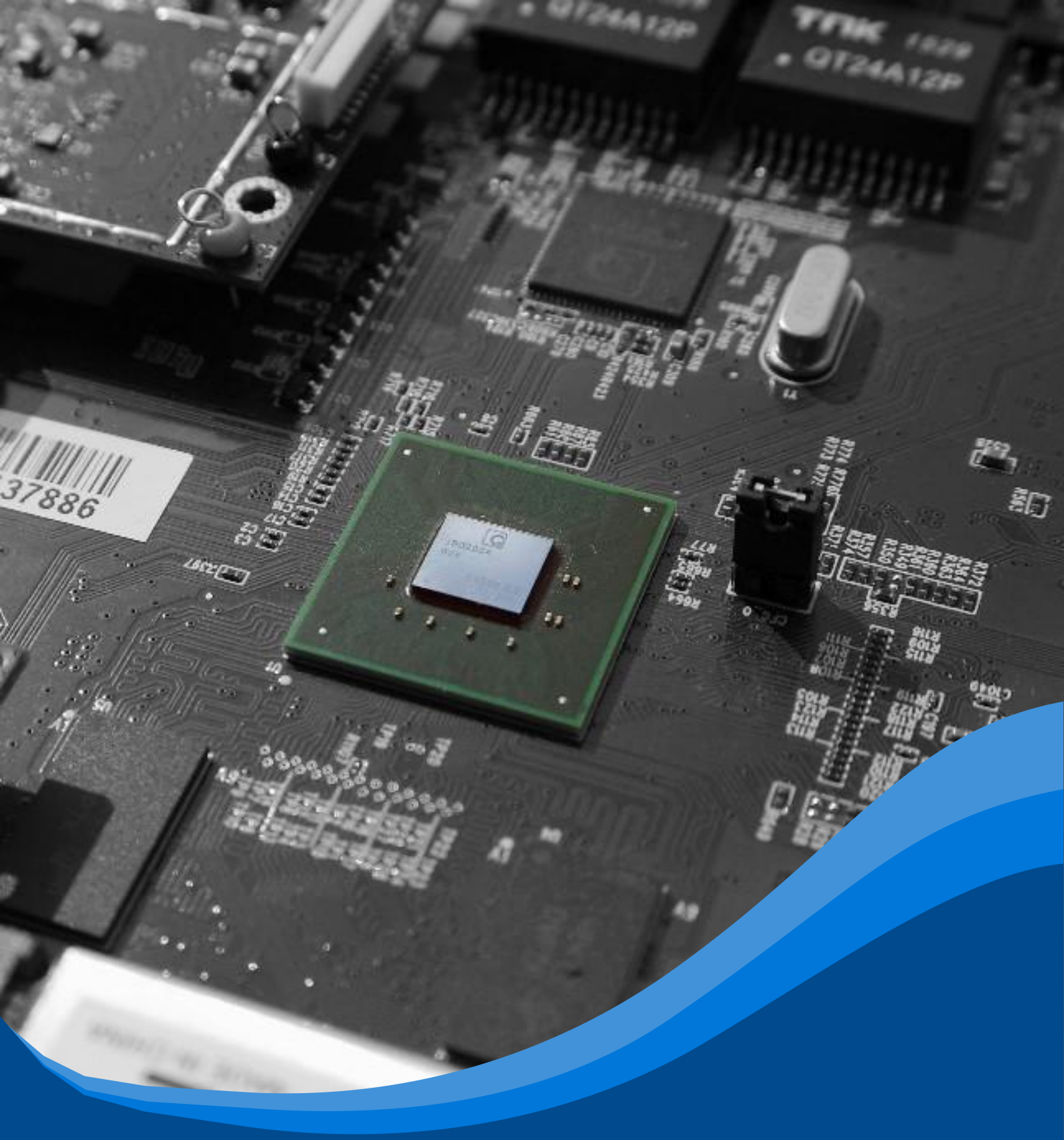


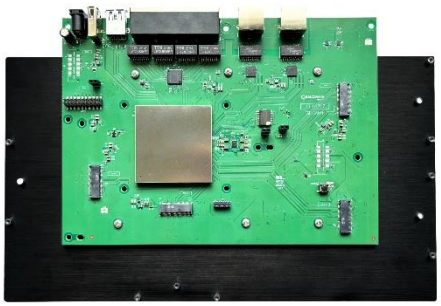
# Embedded Board

## Catalogue

COMPEX

November 2026

# 802.11bn (WiFi 8)





| HARDWARE SPECIFICATIONS | | |
|---|---|---|
| MODEL | APJU01.1 | APHM03.4 |
| PROCESSOR | Qualcomm IPQ9670 | Qualcomm IPQ5210 |
| CPU SPEED | 2GHz | 1.4GHz |
| SYSTEM MEMORY | | |
| NAND FLASH | | |
| NOR FLASH | | |
| WIRELESS | | |
| OPERATING FREQUENCY | | |
| THEORETICAL RATE | | |
| WIRELESS TRANSMIT POWER (per chain) | | |
| EXPANSION | | |
| ETHERNET | | |
| POWER OPTION | | |
| OPERATING VOLTAGE | | |
| POWER CONSUMPTION | | |
| OPENWRT SUPPORT JTAG | | |
| SERIAL PIN | | |
| JTAG | | |
| RESET SWITCH | | |
| SURGE SUPPRESSOR | | |
| LED INDICATORS | | |
| SIM HOLDER | | |
| DUAL SIM HOLDER | | |
| OPERATING ENVIRONMENT | | |
| CERTIFICATION | | |
| DIMENSIONS (W x H x D) in mm (WITH HEATSINK) | | |

Register your interest here or email us at sales@compex.com.sg to unlock the datasheet

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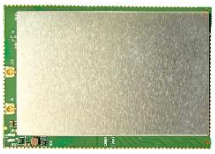
# 802.11be (WiFi 7)



| HARDWARE SPECIFICATIONS | |
|---|---|
| MODEL | WPM530RJ JustWiFi$^{7}$™-Cat8 |
| PROCESSOR | Qualcomm IPQ5322 Soc + QCN6274 |
| CPU SPEED | 1.5GHz |
| SYSTEM MEMORY | 512MB |
| NAND FLASH | 128MB |
| NOR FLASH | 4MB |
| WIRELESS | 2x2 MU-MIMO OFDMA 802.11be |
| OPERATING FREQUENCY | 2.4GHz, 5GH, 6GHz Concurrent |
| THEORETICAL RATE | 688Mbps @ 2.4GHz<br>4324Mbps @ 5GHz<br>5765Mbps @ 6GHz |
| WIRELESS TRANSMIT POWER (per chain) | 22dBm @ 2.4GHz, 17dBm @ 5GHz, 17dBm @ 6GHz |
| EXPANSION | NA |
| ETHERNET | 1x 10Gbps Ethernet Port |
| POWER OPTION | USB-C PD support.<br>Can be powered from a 25W PD charger |
| OPERATING VOLTAGE | 9V or 12V (USB PD) |
| POWER CONSUMPTION | 18W (Max) |
| OPENWRT SUPPORT JTAG | × |
| SERIAL PIN | ✓ |
| JTAG | × |
| RESET SWITCH | ✓ |
| SURGE SUPPRESSOR | × |
| LED INDICATORS | ✓ |
| SIM HOLDER | × |
| DUAL SIM HOLDER | × |
| OPERATING ENVIRONMENT | -20°C to 55°C |
| CERTIFICATION | REACH & RoHS Compliance |
| DIMENSIONS (W x H x D) in mm (WITH HEATSINK) | 89 x 57 x 31.6 |

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# 802.11be (WiFi 7)





| HARDWARE SPECIFICATIONS | | |
|---|---|---|
| MODEL | WSB530 Ginger SoM | WPS530MRH Ginger-DVK |
| PROCESSOR | Qualcomm IPQ5322 | Qualcomm IPQ5322 |
| CPU SPEED | 1.5GHz | 1.5GHz |
| SYSTEM MEMORY | 1GB | 1GB |
| NOR FLASH | NA | NA |
| EMMC | 16GB | 16GB |
| WIRELESS | 2x2 MU-MIMO OFDMA 802.11be | 2x2 MU-MIMO OFDMA 802.11be |
| OPERATING FREQUENCY | 2.4GHz | 2.4GHz |
| THEORETICAL RATE | 688Mbps @ 2.4GHz | 688Mbps @ 2.4GHz |
| WIRELESS TRANSMIT POWER (per chain) | 22dBm @ 2.4GHz | 22dBm @ 2.4GHz |
| AVAILABLE INTERFACES | 33x GPIOs,<br>2x PCIe 3.0,<br>1x USB 3.0 (or 1x USB 2.0 + PCIe 3.0 option),<br>3x BLSP ports (UART, I2C, and SPI interfaces),<br>4x PWM, 2x multi-GbE Ethernet SerDes supporting external 10G/5G/2.5G/1G PHYs | NA |
| EXPANSION | NA | 1x M.2 (NGFF) E Key Socket with PCIe 3.0<br>1x M.2 (NGFF) B Key Socket with USB3.0 |
| ETHERNET | NA | 2x 2.5Gbps Ethernet Ports |
| POWER OPTION | Power drawn from main board | DC Jack, PoE (IEEE 802.3bt) |
| POWER CONSUMPTION | 6W (Max) | 11.3W (Max) |
| OPENWRT SUPPORT JTAG | ✓ | ✓ |
| SERIAL PIN | × | ✓ |
| JTAG | × | × |
| RESET SWITCH | × | ✓ |
| SURGE SUPPRESSOR | × | × |
| LED INDICATORS | × | ✓ |
| SIM HOLDER | × | ✓ |
| DUAL SIM HOLDER | × | ✓ |
| OPERATING ENVIRONMENT | -20°C to 70°C | -20°C to 70°C |
| CERTIFICATION | REACH & RoHS Compliance | REACH & RoHS Compliance |
| DIMENSIONS (W x H x D) in mm (WITH HEATSINK) | 65 x 45 x 7.4 | 142 x 142 x 21 |

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# 802.11be (WiFi 7)







## HARDWARE SPECIFICATIONS

| MODEL | AP.AR02.1 | WPQ530MR | WPQ530 |
|---|---|---|---|
| PROCESSOR | Qualcomm IPQ5424 | Qualcomm IPQ5322 | Qualcomm IPQ5322 |
| CPU SPEED | 1.8GHz | 1.5GHz | 1.5GHz |
| SYSTEM MEMORY | 4GB,<br>8GB (Max Option) | 1GB | 1GB |
| NAND FLASH | 256MB | 512MB | 512MB |
| NOR FLASH | 32MB | 8MB | 8MB |
| WIRELESS | 4x4 MU-MIMO OFDMA 802.11be | 2x2 MU-MIMO OFDMA 802.11be | 2x2 MU-MIMO OFDMA 802.11be |
| OPERATING FREQUENCY | 2.4GHz, 5GHz and 6GHz concurrent | 2.4GHz | 2.4GHz and 5-7GHz concurrent |
| THEORETICAL RATE | 1376Mbps @ 2.4GHz<br>8647Mbps @ 5GHz<br>11530Mbps @ 6GHz | 688Mbps @ 2.4GHz | 688Mbps @ 2.4GHz<br>5764Mbps @ 5-7GHz |
| WIRELESS TRANSMIT POWER (per chain) | 23dBm @ 2.4GHz, 21dBM @ 5GHz,<br>19dBm @ 6GHz | 22dBm @ 2.4GHz | 24dBm @ 2.4GHz,19dBm @ 5-7GHz |
| EXPANSION | N.A | 1x M.2 (NGFF) E Key Socket with PCIe 3.0<br>1x M.2 (NGFF) B Key Socket with USB3.0 | N.A |
| ETHERNET | 2x 10Gbps Ethernet Ports,<br>4x 2.5Gbps Ethernet Ports | 2x 2.5Gbps Ethernet Ports | 1x 2.5Gbps Ethernet Port |
| POWER OPTION | DC Jack | DC Jack, PoE (IEEE 802.3bt) | PoE (IEEE 802.3at) |
| POWER CONSUMPTION | 39.3W (Max) | 11.3W (Max) | 16W (Max) |
| OPENWRT SUPPORT | ✓ | ✓ | ✓ |
| SERIAL PIN | ✓ | ✓ | ✓ |
| JTAG | ✓ | ✓ | ✓ |
| RESET BUTTON | × | × | × |
| SURGE SUPPRESSOR | × | × | × |
| LED INDICATORS | ✓ | ✓ | ✓ |
| SIM HOLDER | × | × | × |
| DUAL SIM HOLDER | × | × | × |
| OPERATING ENVIRONMENT | -15°C to 70°C | -20°C to 70°C | -20°C to 70°C |
| CERTIFICATION | REACH & RoHS Compliance | REACH & RoHS Compliance | REACH & RoHS Compliance |
| DIMENSIONS (W x H x D) in mm (WITH HEATSINK) | 215 x 180 x 25.5 | 142 x 142 x 19.2 (non-cooling) | 135x 110 x 20 (non-cooling) |

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# 802.11be (WiFi 7)







## HARDWARE SPECIFICATIONS

| MODEL | WPQ951 | AP.MI01.2 | AP.AL023 |
|---|---|---|---|
| PROCESSOR | Qualcomm IPQ9550 | Qualcomm IPQ5322 | Qualcomm IPQ9570/IPQ9574 |
| CPU SPEED | 1.5GHz | 1.5GHz | 2.2GHz |
| SYSTEM MEMORY | 2GB | 1GB | 2GB |
| NAND FLASH | 256MB | 128MB | 256MB |
| NOR FLASH | 32MB | 4MB | 32MB |
| WIRELESS | 4x4 MU-MIMO OFDMA 802.11be | 2x2 MU-MIMO OFDMA 802.11be | 4x4 MU-MIMO OFDMA 802.11be |
| OPERATING FREQUENCY | No On-Board Radio (IPQ9550) | 2.4GHz | 2.4GHz |
| THEORETICAL RATE | N.A | 573Mbps @ 2.4GHz | 1182Mbps @ 2.4GHz |
| WIRELESS TRANSMIT POWER (per chain) | N.A | 25dBm @ 2.4GHz | 24dBm @ 2.4GHz |
| EXPANSION | 3x M.2 (NGFF) E Key Socket with PCIe 3.0<br>1x M.2 (NGFF) B Key Socket with PCIe 3.0 | 3x M.2 (NGFF) E Key Socket with PCIe 3.0 | 4x M.2 (NGFF) E Key Socket with PCIe 3.0 |
| ETHERNET | 2x 2.5Gbps Ethernet Ports,<br>1x 10Gbps Ethernet Port | 4x 1Gbps Ethernet Port | 4x 1Gbps Ethernet Ports,<br>2x 10Gbps Ethernet Ports |
| POWER OPTION | DC Jack, PoE (IEEE 802.3bt) | DC Jack | DC Jack |
| POWER CONSUMPTION | 8.5W | 15.8W | 13W (Board only),<br>23W (with onBoard WiFI, IPQ9574) |
| OPENWRT SUPPORT | ✓ | ✓ | ✓ |
| SERIAL PIN | ✓ | × | × |
| JTAG | ✓ | ✓ | ✓ |
| RESET BUTTON | ✓ | ✓ | × |
| SURGE SUPPRESSOR | × | × | × |
| LED INDICATORS | ✓ | ✓ | ✓ |
| SIM HOLDER | × | × | × |
| DUAL SIM HOLDER | × | × | × |
| OPERATING ENVIRONMENT | -20°C to 70°C | -20°C to 70°C | -20°C to 70°C |
| CERTIFICATION | REACH & RoHS Compliance | REACH & RoHS Compliance | REACH & RoHS Compliance |
| DIMENSIONS (W x H x D) in mm (WITH HEATSINK) | 205 x 140x 27.8 (non-cooling) | 203 x 139 x 20 | 203 x 139 x 20 |

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# 802.11ax (WiFi 6)







| HARDWARE SPECIFICATIONS | | | |
|---|---|---|---|
| **MODEL** | **HK01.2** | **WPQ873** | **WPQ872** |
| **PROCESSOR** | Qualcomm Atheros IPQ8074A | Qualcomm Atheros IPQ8072A | Qualcomm Atheros IPQ8072A |
| **CPU SPEED** | 2.2GHz | 2.2GHz | 2.2GHz |
| **SYSTEM MEMORY** | 1GB | 512MB | 512MB |
| **NAND FLASH** | QPIC 256MB, eMMC 8GB | 256MB | 256MB |
| **NOR FLASH** | 32MB | 8MB | 8MB |
| **WIRELESS** | 4x4 MU-MIMO OFDMA 802.11ax @ 2.4GHz,<br>2x (4x4) or 8x8 MU-MIMO OFDMA 802.11ax @ 5GHz | 4x4 MU-MIMO OFDMA 802.11ax | 4x4 MU-MIMO OFDMA 802.11ax |
| **OPERATING FREQUENCY** | 2.4GHz and 5GHz concurrent | 2.4GHz and 5GHz concurrent | 2.4GHz and 5GHz concurrent |
| **THEORETICAL RATE** | 1147Mbps @ 2.4GHz, 4804Mbps @ 5GHz | 1182Mbps @ 2.4GHz, 2475Mbps @ 5GHz | 1182Mbps @ 2.4GHz, 2475Mbps @ 5GHz |
| **WIRELESS TRANSMIT POWER (per chain)** | 23dBm @ 2.4GHz, 20dBm @ 5GHz | 17dBm @ 2.4GHz, 17dBm @ 5GHz | 17dBm @ 2.4GHz, 17dBm @ 5GHz |
| **EXPANSION** | 1x MiniPCIe Slot with PCIe 2.0 | 1x M.2 (NGFF) B Key Socket with PCIe 3.0<br>1x M.2 (NGFF) B Key Socket with USB 3.0 and PCIe 2.0 | 1x MiniPCIe Slot with PCIe 3.0 |
| **ETHERNET** | 5x 1Gbps Ethernet Ports,<br>1x 10Gbps Ethernet Port | 3x 1Gbps Ethernet Ports,<br>1x 2.5Gbps Ethernet Port | 1x 1Gbps Ethernet Port,<br>1x 2.5Gbps Ethernet Port |
| **POWER OPTION** | DC Jack | DC Jack | DC Jack |
| **POWER CONSUMPTION** | 30W | 22.5W (Included Bluetooth) | 22.5W (Included Bluetooth) |
| **OPENWRT SUPPORT** | ✓ | ✓ | ✓ |
| **SERIAL PIN** | ✓ | ✓ | ✓ |
| **JTAG** | ✓ | ✓ | ✓ |
| **RESET BUTTON** | ✓ | ✓ | ✓ |
| **SURGE SUPPRESSOR** | × | × | × |
| **LED INDICATORS** | ✓ | ✓ | ✓ |
| **SIM HOLDER** | ✓ | ✓ | × |
| **DUAL SIM HOLDER** | ✓ | ✓ | × |
| **OPERATING ENVIRONMENT** | -20°C to 70°C | -20°C to 70°C | -20°C to 70°C |
| **CERTIFICATION** | REACH & RoHS Compliance | REACH & RoHS Compliance | REACH & RoHS Compliance |
| **DIMENSIONS (W x H x D) in mm (WITH HEATSINK)** | 165 x 200 x 32.9 | 128 x 255 x 36.8 | 132 x 180 x 41.7 |

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# 802.11ax (WiFi 6)

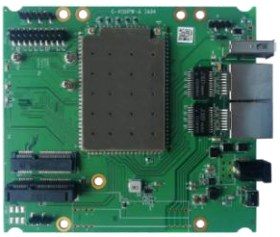




| HARDWARE SPECIFICATIONS | | |
|---|---|---|
| MODEL | WPQ618 | CP01 |
| PROCESSOR | Qualcomm Atheros IPQ6018 | Qualcomm Atheros IPQ6018 |
| CPU SPEED | 1.8GHz | 1.8GHz |
| SYSTEM MEMORY | 1GB | 1GB |
| NAND FLASH | 256MB | 256MB |
| NOR FLASH | 32MB | 32MB |
| WIRELESS | 2x2 MU-MIMO OFDMA 802.11ax | 2x2 MU-MIMO OFDMA 802.11ax |
| OPERATING FREQUENCY | 2.4GHz and 5GHz concurrent | 2.4GHz and 5GHz concurrent |
| THEORETICAL RATE | 573Mbps @ 2.4GHz, 1201Mbps @ 5GHz | 573Mbps @ 2.4GHz, 1201Mbps @ 5GHz |
| WIRELESS TRANSMIT POWER (per chain) | 20dBm @ 2.4GHz, 20dBm @ 5GHz | 23dBm @ 2.4GHz, 23dBm @ 5GHz |
| EXPANSION | 1x M.2 (NGFF) B Key Socket with PCIe 3.0,<br>1x M.2 (NGFF) B Key Socket with USB 3.0 | 1x M.2 (NGFF) E Key Socket with PCIe 3.0 |
| ETHERNET | 4x 1Gbps Ethernet Ports,<br>1x 2.5Gbps Ethernet Port | 5x 1Gbps Ethernet Ports,<br>1x 2.5Gbps Ethernet Port |
| POWER OPTION | DC Jack | DC Jack |
| POWER CONSUMPTION | 17.5W (Including Bluetooth) | 17W (Max) |
| OPENWRT SUPPORT | ✓ | ✓ |
| SERIAL PIN | ✓ | ✓ |
| JTAG | ✓ | ✓ |
| RESET BUTTON | ✓ | ✓ |
| SURGE SUPPRESSOR | × | × |
| LED INDICATORS | ✓ | × |
| SIM HOLDER | ✓ | × |
| DUAL SIM HOLDER | ✓ | × |
| OPERATING ENVIRONMENT | -20°C to 70°C | -20°C to 70°C |
| CERTIFICATION | REACH & RoHS Compliance | REACH & RoHS Compliance |
| DIMENSIONS (W x H x D) in mm (WITH HEATSINK) | 128 x 210 x 33.9 | 146.5 x 219.3 x 44.9 |

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# 802.11ac Wave 2 (WiFi 5)







| HARDWARE SPECIFICATIONS | | | |
|---|---|---|---|
| **MODEL** | **WPJ419** | **WSB419 Wasabi-A** | **WPJ428** |
| **PROCESSOR** | Qualcomm Atheros IPQ4019 | Qualcomm Atheros IPQ4019 | Qualcomm Atheros IPQ4028 |
| **CPU SPEED** | 710MHz | 710MHz | 710MHz |
| **SYSTEM MEMORY DDR3** | 256MB (Up to 1GB) | 256MB (Up to 1GB) | 256MB |
| **NAND FLASH** | 128MB | 128MB | 128MB |
| **NOR FLASH** | 16MB | 16MB | 32MB |
| **WIRELESS** | 2x2 MU-MIMO 802.11ac Wave 2 | 2x2 MU-MIMO 802.11ac Wave 2 | 2x2 MU-MIMO 802.11ac Wave 2 |
| **OPERATING FREQUENCY** | 2.4GHz and 5GHz concurrent | 2.4GHz and 5GHz concurrent | 2.4GHz and 5GHz concurrent |
| **THEORETICAL RATE** | 400Mbps @ 2.4GHz, 867Mbps @ 5GHz | 400Mbps @ 2.4GHz, 867Mbps @ 5GHz | 400Mbps @ 2.4GHz, 867Mbps @ 5GHz |
| **WIRELESS TRANSMIT POWER (per chain)** | 23dBm @ 2.4GHz, 23dBm @ 5GHz | 23dBm @ 2.4GHz, 23dBm @ 5GHz | 20dBm @ 2.4GHz, 16dBm @ 5GHz |
| **EXPANSION** | 2x MiniPCIe Slots with USB 3.0 | N.A | 1x M.2 (NGFF) B Key Socket with USB 3.0 |
| **ETHERNET** | 2x 1Gbps Ethernet Ports | Supports 1Gbps Ethernet on main board | 2x 1Gbps Ethernet Ports |
| **POWER OPTION** | DC Jack, IEEE 802.3af/at | Power drawn from main board | DC Jack, Passive PoE 24V or IEEE 802.3af/at |
| **POWER CONSUMPTION** | 12W (Max) | 12W (Max) | 19W |
| **OPENWRT SUPPORT** | ✓ | ✓ | ✓ |
| **SERIAL PIN** | ✓ | × | ✓ |
| **JTAG** | ✓ | × | ✓ |
| **RESET BUTTON** | ✓ | × | ✓ |
| **SURGE SUPPRESSOR** | × | × | ✓ |
| **LED INDICATORS** | ✓ | × | ✓ |
| **SIM HOLDER** | ✓ | × | ✓ |
| **DUAL SIM HOLDER** | × | × | ✓ |
| **OPERATING ENVIRONMENT** | -20°C to 70°C | -20°C to 70°C | -20°C to 70°C |
| **CERTIFICATION** | REACH & RoHS Compliance | REACH & RoHS Compliance | CE, FCC, REACH & RoHS Compliance |
| **DIMENSIONS (W x H x D) in mm (WITH HEATSINK)** | 117 x 105 x 20.4 | 40 x 58 x 4.4 | 105 x 117 x 31.8 |

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