# Single Board Computer

***Peripherals***

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**Wireless LAN Module**

***Specifications***

# *Features*

**WMPCIE-V02-R10**

***PCIe Mini card wireless LAN module***

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| **Model** | **WMPCIE-V02-R10** |
| **Standards** | IEEE 802.11a/b/g/n/ac Wi-Fi with Bluetooth 4.0/3.0 + HS (Wi-Fi:PCI-E, BT:USB) |
| **Inferface** | PCIe Mini card |
| **Connectors** | 2XU.FL(I-PEX) antenna connectors |
| **Controller Chip** | Realtek RTL8821AE |
| **Frequency Range** | Wi-Fi: 2.4/5GHz, BT: 2402 MHz~2483 MHz |
| **Modulation Type** | Wi-Fi:  802.11a/g/n/ac: OFDM  802.11b: CCK, DQPSK, BPSK BT:  Header GFSK  Payload 2M: 4-DQPSK Payload 3M: 8DPSK |
| **Supported OS** | Windows 7/8/10 |
| **Receiver Sensitivity** | Wi-Fi:  802.11a: less than -65 dBm (54M) 802.11b: less than -76 dBm (11M) 802.11g: less than -65 dBm (54M)  [802.11n@2.4GHz:](mailto:802.11n@2.4GHz) less than -64 dBm (HT20 MCS7) 802.11n@5GHz: less than -64 dBm (HT20 MCS7) 802.11ac@5GHz: less than -51 dBm (VHT80 MCS9) BT: BER < 0.1% (Anritsu 8852B Tx -70 dBm) |
| **Temperature** | Operating: 0°C ~ 70°C Storage: -40°C ~ 85°C |
| **Humidity** | 5% ~ 95%, non-condensing |
| **Dimensions** | 29.85mm x 26.65mm |
| **Weight** | NW: 3.28g |
| **Compliance Certifications** | FCC, CE |

* PCIe Mini card form factor
* High speed wireless connection up to 433.3Mbps transmit/receive PHY rate using 80 MHz bandwidth
* Solid design with external antenna diversity
* Low power consumption and high performance
* Enhanced wireless security
* Fully qualified Bluetooth 4.0 and 3.0 + High speed system

# *Ordering Information*

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| Part No. | Description |
| WMPCIE-V02-R10 | IEEE802.11a/b/g/n/ac wireless with Bluetooth 4.0/3.0 + HS PCIe Mini module with Realtek RTL8821AE, RoHS |
| 32501-001000-200-RS | RF cable; 300MM; 28AWG; (A) SMA connector (B) MHF20278-11R-13; RoHS |
| 32505-000100-100-RS | 2 dBi 109mm antenna |

***Specifications***



Wireless LAN Module-2018-V10

**WIFI-RT3593-DB-R10**

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| --- | --- |
| **Model** | **WIFI-RT3593-DB-R10** |
| **Standards** | IEEE 802.11a/b/g/n, Wi-Fi compliant |
| **Rate** | 450 Mbps PHY rate in 3T3R mode |
| **Interface** | PCIe Mini card |
| **Controller Chip** | Ralink RT3593 |
| **Connectors** | 3 x U.FL (I-PEX) antenna connectors |
| **Security** | WEP 64/128, WPA, WPA2, WAPI |
| **Frequency Range** | 2.4/5GHz |
| **Modulation Type** | 802.11a (OFDM)  802.11b (DSSS): CCK, DQPSK, DBPSK  802.11g (OFDM): BPSK, QPSK, 16-QAM, 64-QAM  802.11n (OFDM): BPSK, QPSK, 16-QAM, 64-QAM |
| **Supported OS** | Windows® XP, CE6.0, XPE, 2000, ME, 98SE, Vista  32/64, Windows® 7 32/64, MAC |
| **Receiver Sensitivity** | 802.11a: -71dBm (Typical) at 54 Mbps 802.11b: -80dBm (Typical) at 11 Mbps 802.11g: -73dBm (Typical) at 54 Mbps 802.11n: -71dBm (Typical) at 450 Mbps |
| **Power Consumption** | [430mA@3.3V](mailto:430mA@3.3V) in continuous Tx [460mA@3.3V](mailto:460mA@3.3V) in continuous Rx |
| **Temperature** | Operating: -10°C ~ 70°C Storage: -40°C ~ 150°C |
| **Humidity** | Operating: 5% ~ 95%, non-condensing |
| **Dimensions (W x D x H)** | 28 mm x 30 mm x 4 mm |
| **Weight** | NW: 11g |
| **Safety & EMC** | CE/FCC/TELEC |

***Features***

* Half-size PCIe Mini card
* Dual band 802.11a/b/g/n supports 3Tx/3Rx 3-stream MIMO to enable data rates up to 450Mbps for a

40 MHz channel.

* 20 MHz/40 MHz bandwidth
* Solid design with external antenna diversity
* Low power consumption with advanced power management
* Supports 802.11x authentication, WEP 64/128, WPA, WPA2, WAPI encryption.
* Supported operating systems: Windows® XP, 2000, ME, 98SE, Vista 32/64, Linux, MAC

# *Ordering Information*

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| --- | --- |
| Part No. | Description |
| WIFI-RT3593-DB-R10 | Wi-Fi module with RT3593 single chip, 3T3R, dual band, RoHS |
| 32501-000200-100-RS | Antenna; RF cable; outside diameter: 1.13mm; L=128mm; 0-6 GHz; (A)reverse sma jack, nut \*1+washer \*2; (B)I-PEX; RoHS |
| 32505-000900-100-RS | External antenna; WLAN; RG 178; 108mm; TANK-700-QM67-R10; PEAK GAIN 2.0DBI; Exceltek; 2.4-2.5 GHz/5.15-5.85 GHz; reverse SMA plug; RoHS |