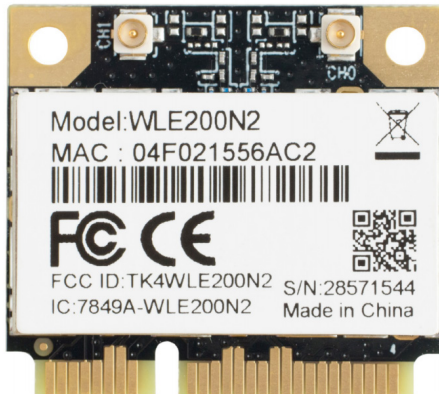


## Dual Band 2x2 MIMO 802.11n Mini PCIe Module Designed for 2.4GHz Band Wireless Access Points

**Model: WLE200N2**



### KEY FEATURES

- Qualcomm Atheros AR9287
- 2.4GHz Single-band 2x2 MIMO spatial multiplexing technique
- 2.4GHz max 16dBm output power (per chain)
- IEEE 802.11n compliant & backward compatible with 802.11b/g
- 2x2 MIMO Technology, up to 300Mbps
- Mini PCI Express edge connector
- Supports WPA2 encryption to help protect users' devices from malicious attacks
- Supports IEEE 802.11d, e, h, and i standards

## Specifications

|                            |   |
|----------------------------|---|
| Chipset                    | AR9287  |
| Reference Design           | HB97  |
| Host Interface             | PCI Express 1.1 Standard  |
| Operating Voltage          | 3.3V DC   |
| Antenna Connector          | 2x U.FL   |
| Frequency Range            | 2.4GHz: 2.412 ~ 2.484 GHz   |
| Power Consumption          | 1.9W  |
| Supported Operating System | CompexWRT or OpenWRT/LEDE   |
| Modulation Techniques      | OFDM: BPSK, QPSK, 16-QAM, 64-QAM<br>DSSS: DBPSK, DQPSK, CCK                 |
| Temperature Range          | Operating: -20°C to 70°C<br>Storage: -40°C to 90°C                          |
| Humidity                   | Operating: 5% to 95% (non-condensing)<br>Storage: Max. 90% (non-condensing) |
| ESD Sensitivity            | Class 1C  |
| Certification              | IC, CE, FCC, REACH & RoHS Compliance  |
| Dimensions (W x H x D)     | 30.0 x 26.8 x 3.2 mm  |

## RF Performance Table

|                           | Data Rate | TX Power (per chain) | TX Power (2 chains) | Tolerance |
|---------------------------|-----------|----------------------|---------------------|-----------|
| 2.4GHz<br>802.11b         | 1Mbps     | 16dBm                | 19dBm               | ±2dB      |
|                           | 2Mbps     | 16dBm                | 19dBm               | ±2dB      |
|                           | 5.5Mbps   | 16dBm                | 19dBm               | ±2dB      |
|                           | 11Mbps    | 16dBm                | 19dBm               | ±2dB      |
| 2.4GHz<br>802.11g         | 6Mbps     | 16dBm                | 19dBm               | ±2dB      |
|                           | 9Mbps     | 16dBm                | 19dBm               | ±2dB      |
|                           | 12Mbps    | 16dBm                | 19dBm               | ±2dB      |
|                           | 18Mbps    | 16dBm                | 19dBm               | ±2dB      |
|                           | 24Mbps    | 16dBm                | 19dBm               | ±2dB      |
|                           | 36Mbps    | 16dBm                | 19dBm               | ±2dB      |
|                           | 48Mbps    | 14dBm                | 17dBm               | ±2dB      |
|                           | 54Mbps    | 11dBm                | 14dBm               | ±2dB      |
| 2.4GHz<br>802.11n<br>HT20 | MCS 0     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 1     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 2     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 3     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 4     | 15dBm                | 18dBm               | ±2dB      |
|                           | MCS 5     | 13dBm                | 16dBm               | ±2dB      |
|                           | MCS 6     | 11dBm                | 14dBm               | ±2dB      |
|                           | MCS 7     | 9dBm                 | 12dBm               | ±2dB      |
| 2.4GHz<br>802.11n<br>HT40 | MCS 0     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 1     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 2     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 3     | 16dBm                | 19dBm               | ±2dB      |
|                           | MCS 4     | 14dBm                | 17dBm               | ±2dB      |
|                           | MCS 5     | 12dBm                | 15dBm               | ±2dB      |
|                           | MCS 6     | 10dBm                | 13dBm               | ±2dB      |
|                           | MCS 7     | 8dBm                 | 11dBm               | ±2dB      |

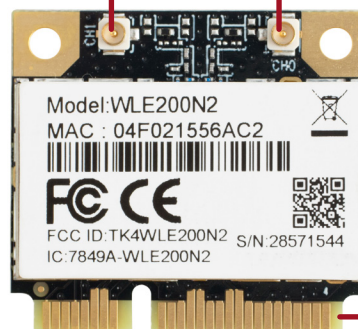
|                           | Data Rate | RX Specifications Sensitivity | Tolerance |
|---------------------------|-----------|-------------------------------|-----------|
| 2.4GHz<br>802.11b         | 1Mbps     | -87dBm                        | ±2dB      |
|                           | 2Mbps     | -87dBm                        | ±2dB      |
|                           | 5.5Mbps   | -86dBm                        | ±2dB      |
|                           | 11Mbps    | -84dBm                        | ±2dB      |
| 2.4GHz<br>802.11g         | 6Mbps     | -87dBm                        | ±2dB      |
|                           | 9Mbps     | -87dBm                        | ±2dB      |
|                           | 12Mbps    | -86dBm                        | ±2dB      |
|                           | 18Mbps    | -84dBm                        | ±2dB      |
|                           | 24Mbps    | -80dBm                        | ±2dB      |
|                           | 36Mbps    | -76dBm                        | ±2dB      |
|                           | 48Mbps    | -72dBm                        | ±2dB      |
|                           | 54Mbps    | -70dBm                        | ±2dB      |
| 2.4GHz<br>802.11n<br>HT20 | MCS 0     | -81dBm                        | ±2dB      |
|                           | MCS 1     | -80dBm                        | ±2dB      |
|                           | MCS 2     | -79dBm                        | ±2dB      |
|                           | MCS 3     | -75dBm                        | ±2dB      |
|                           | MCS 4     | -73dBm                        | ±2dB      |
|                           | MCS 5     | -70dBm                        | ±2dB      |
|                           | MCS 6     | -69dBm                        | ±2dB      |
|                           | MCS 7     | -67dBm                        | ±2dB      |
| 2.4GHz<br>802.11n<br>HT40 | MCS 0     | -75dBm                        | ±2dB      |
|                           | MCS 1     | -73dBm                        | ±2dB      |
|                           | MCS 2     | -72dBm                        | ±2dB      |
|                           | MCS 3     | -71dBm                        | ±2dB      |
|                           | MCS 4     | -70dBm                        | ±2dB      |
|                           | MCS 5     | -68dBm                        | ±2dB      |
|                           | MCS 6     | -67dBm                        | ±2dB      |
|                           | MCS 7     | -65dBm                        | ±2dB      |

## Connector Map

U.FL connectors

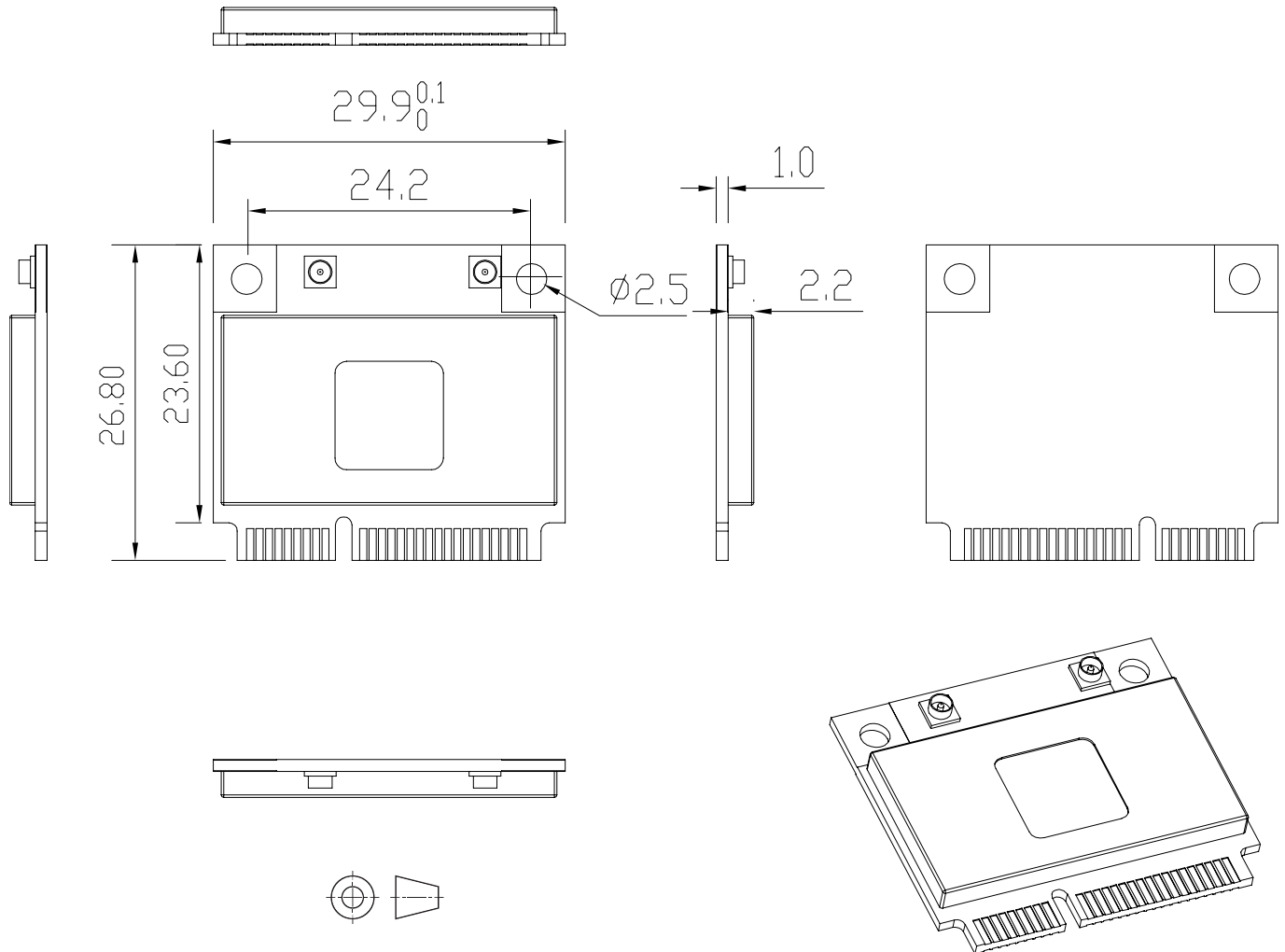
CHO

CHI



Mini PCIe 1.1  
Edge Connector

## Mechanical Dimensions



## Ordering Configuration

| Item Code       | Model    | Description                               |
|-----------------|----------|---|
| WLE200N2 6A0000 | WLE200N2 | AR9287 2x2 2.4GHz half size miniPCIe card |