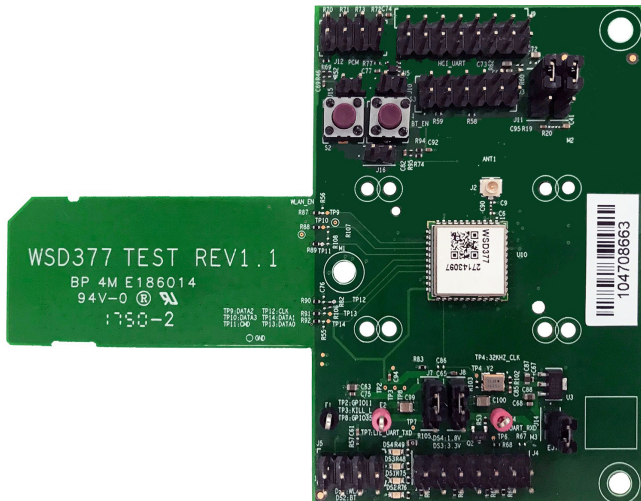


2.4GHz/5GHz WiFi + Bluetooth Module Evaluation Kit Designed for WLAN/BT and Low-Energy Communications

Model: WSD377 EVK



KEY FEATURES

- Evaluating the WSD377 which is based on the Qualcomm Atheros QCA9377
- WSD377 is a single-die wireless local area network (WLAN) and Bluetooth (BT) combination solution
- Supports 1x1 IEEE 802.11b/g/n at 2.4GHz
- Supports 1x1 IEEE 802.11a/n/ac at 5GHz
- WSD377 provides a highly integrated WLAN system-on-chip (SoC) for 5 GHz 802.11ac, or 2.4 GHz/5 GHz 802.11n WLAN applications
- Supports Bluetooth 5.0 + HS, BLE, and ANT+ with backward compatibility for BT 1.x, BT 2.x, BT4.2 + Enhanced Data Rate
- Supports 20/40MHz at 2.4GHz and supports 20/40/80MHz at 5GHz
- Supports multiuser MIMO
- Supports BT-WLAN coexistence and ISM-LTE coexistence
- Supports Dynamic Frequency Selection (DFS)

Specifications

| | |
|--|---|
| Chipset | Qualcomm Atheros QCA9377-3 |
| Reference Design | Qualcom Atheros WB396 |
| WLAN Host Interface | Low-power SDIO 3.0 |
| Host Interface | SDIO, PCM, UART, JTAG |
| Operating Voltage | 3.3V DC power supply and SDIO supply of 1.8V or 3.3V |
| Power Consumption (Board only) | 3.83W (Max) |
| WLAN Frequency Range | 2.412~2.472GHz, or 5.150~5.825GHz, selectable dual band |
| Bluetooth Frequency Range | 2.402~2.480GHz |
| Modulation Techniques | WiFi: CCK, OFDM - BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM Bluetooth: FHSS, GFSK, DPSK, DQPSK |
| Environmental Temperature | Operating: -20°C to 70°C, Storage: -40°C to 90°C |
| Environmental Humidity, Non-Condensing | Operating: 5% to 95%, Storage: Max. 90% |
| Certification | CE RED, REACH & RoHS Compliance |
| Dimensions (W x H x D) in mm | 101 x 78 x 12 |

*Configurations are subject to change without notifications.

RF Performance Table for 2.4GHz

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

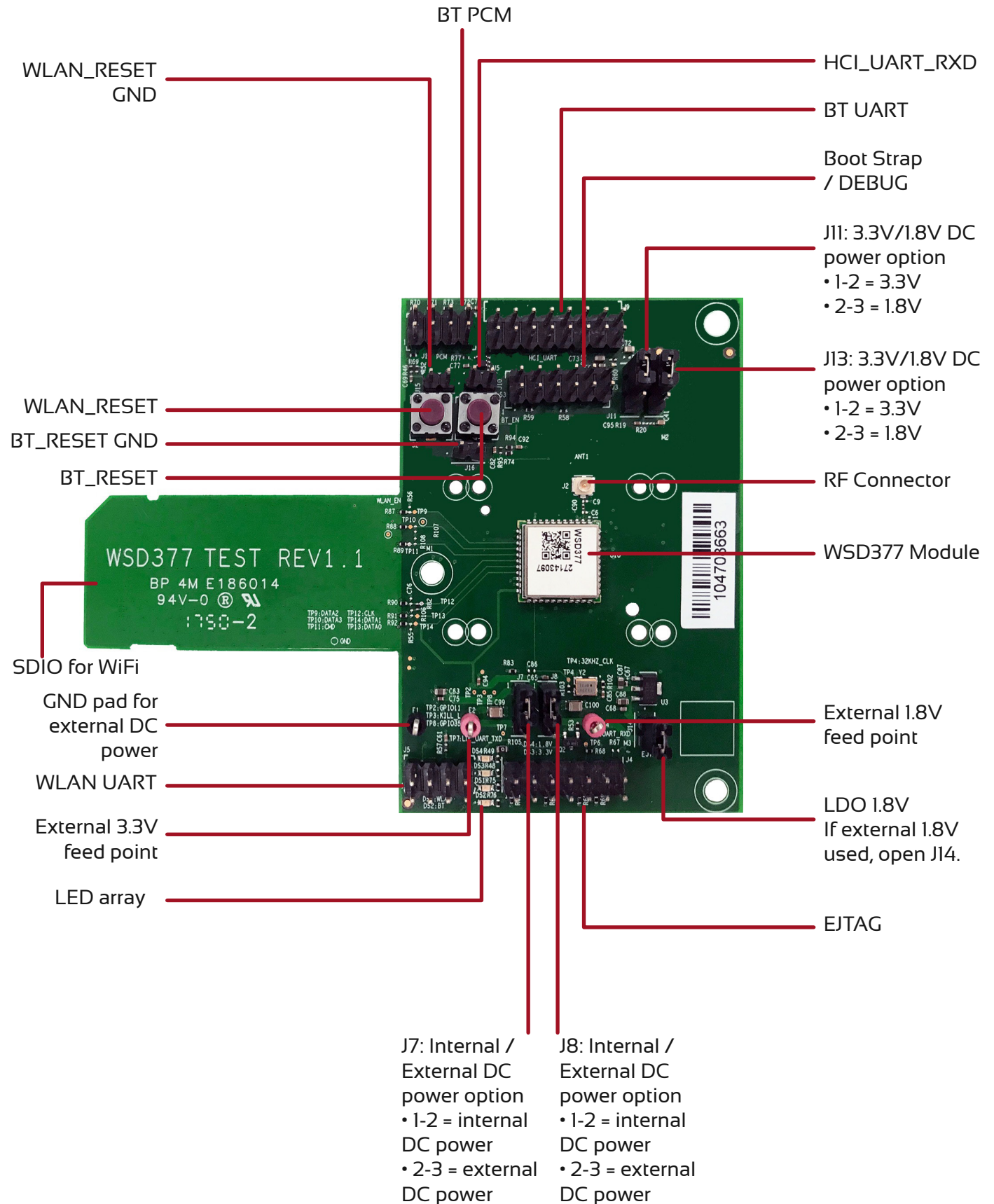
| | Data Rate | RX Specifications Sensitivity | Tolerance |
|---------------------------|-----------|-------------------------------|-----------|
| 2.4GHz 802.11b | 1Mbps | -96dBm | ±2dB |
| | 2Mbps | -90dBm | ±2dB |
| | 5.5Mbps | -88dBm | ±2dB |
| | 11Mbps | -87dBm | ±2dB |
| 2.4GHz 802.11g | 6Mbps | -90dBm | ±2dB |
| | 9Mbps | -88dBm | ±2dB |
| | 12Mbps | -87dBm | ±2dB |
| | 18Mbps | -85dBm | ±2dB |
| | 24Mbps | -83dBm | ±2dB |
| | 36Mbps | -80dBm | ±2dB |
| | 48Mbps | -76dBm | ±2dB |
| 2.4GHz 802.11n HT20 | 54Mbps | -74dBm | ±2dB |
| | MCS 0 | -89dBm | ±2dB |
| | MCS 1 | -85dBm | ±2dB |
| | MCS 2 | -84dBm | ±2dB |
| | MCS 3 | -80dBm | ±2dB |
| | MCS 4 | -77dBm | ±2dB |
| | MCS 5 | -75dBm | ±2dB |
| | MCS 6 | -72dBm | ±2dB |
| 2.4GHz 802.11n HT40 | MCS 7 | -71dBm | ±2dB |
| | MCS 8 | -67dBm | ±2dB |
| | MCS 0 | -89dBm | ±2dB |
| | MCS 1 | -85dBm | ±2dB |
| | MCS 2 | -84dBm | ±2dB |
| | MCS 3 | -80dBm | ±2dB |
| | MCS 4 | -76dBm | ±2dB |
| | MCS 5 | -72dBm | ±2dB |
| | MCS 6 | -70dBm | ±2dB |
| | MCS 7 | -69dBm | ±2dB |
| MCS 8 | -65dBm | ±2dB | |
| Bluetooth | MCS 9 | -64dBm | ±2dB |
| | 1Mbps | -92dBm | ±2dB |
| | 2Mbps | -92dBm | ±2dB |
| Bluetooth | 3Mbps | -85dBm | ±2dB |

RF Performance Table for 5GHz

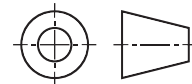
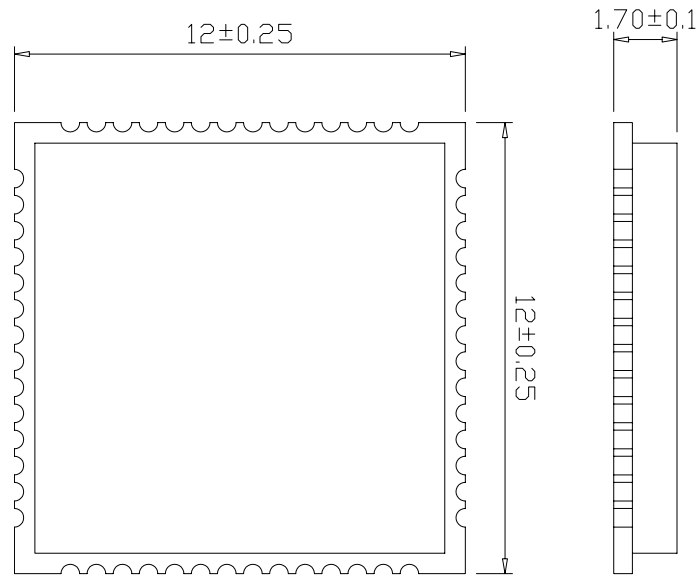
| | Data Rate | TX Power (per chain) | Tolerance |
|----------------------------|----------------------------|----------------------|-----------|
| 5GHz 802.11a | 6Mbps | 11dBm | ±2dB |
| | 9Mbps | 11dBm | ±2dB |
| | 12Mbps | 11dBm | ±2dB |
| | 18Mbps | 11dBm | ±2dB |
| | 24Mbps | 11dBm | ±2dB |
| | 36Mbps | 11dBm | ±2dB |
| | 48Mbps | 10dBm | ±2dB |
| | 54Mbps | 10dBm | ±2dB |
| | 5GHz 802.11n/ac HT20 | MCS 0 | 11dBm |
| MCS 1 | | 11dBm | ±2dB |
| MCS 2 | | 11dBm | ±2dB |
| MCS 3 | | 10dBm | ±2dB |
| MCS 4 | | 10dBm | ±2dB |
| MCS 5 | | 10dBm | ±2dB |
| MCS 6 | | 7dBm | ±2dB |
| MCS 7 | | 7dBm | ±2dB |
| MCS 8 | | 7dBm | ±2dB |
| 5GHz 802.11n/ac HT40 | MCS 0 | 10dBm | ±2dB |
| | MCS 1 | 10dBm | ±2dB |
| | MCS 2 | 10dBm | ±2dB |
| | MCS 3 | 9dBm | ±2dB |
| | MCS 4 | 9dBm | ±2dB |
| | MCS 5 | 6dBm | ±2dB |
| | MCS 6 | 6dBm | ±2dB |
| | MCS 7 | 6dBm | ±2dB |
| | MCS 8 | 6dBm | ±2dB |
| | MCS 9 | 6dBm | ±2dB |
| 5GHz 802.11ac HT80 | MCS 0 | 9dBm | ±2dB |
| | MCS 1 | 9dBm | ±2dB |
| | MCS 2 | 9dBm | ±2dB |
| | MCS 3 | 8dBm | ±2dB |
| | MCS 4 | 8dBm | ±2dB |
| | MCS 5 | 8dBm | ±2dB |
| | MCS 6 | 6dBm | ±2dB |
| | MCS 7 | 6dBm | ±2dB |
| | MCS 8 | 6dBm | ±2dB |
| | MCS 9 | 6dBm | ±2dB |

| | Data Rate | RX Specifications Sensitivity | Tolerance |
|----------------------------|----------------------------|-------------------------------|-----------|
| 5GHz 802.11a | 6Mbps | -91dBm | ±2dB |
| | 9Mbps | -89dBm | ±2dB |
| | 12Mbps | -88dBm | ±2dB |
| | 18Mbps | -86dBm | ±2dB |
| | 24Mbps | -82dBm | ±2dB |
| | 36Mbps | -79dBm | ±2dB |
| | 48Mbps | -74dBm | ±2dB |
| | 54Mbps | -73dBm | ±2dB |
| | 5GHz 802.11n/ac HT20 | MCS 0 | -90dBm |
| MCS 1 | | -88dBm | ±2dB |
| MCS 2 | | -85dBm | ±2dB |
| MCS 3 | | -82dBm | ±2dB |
| MCS 4 | | -78dBm | ±2dB |
| MCS 5 | | -74dBm | ±2dB |
| MCS 6 | | -72dBm | ±2dB |
| MCS 7 | | -71dBm | ±2dB |
| MCS 8 | | -66dBm | ±2dB |
| 5GHz 802.11n/ac HT40 | MCS 0 | -88dBm | ±2dB |
| | MCS 1 | -85dBm | ±2dB |
| | MCS 2 | -83dBm | ±2dB |
| | MCS 3 | -79dBm | ±2dB |
| | MCS 4 | -76dBm | ±2dB |
| | MCS 5 | -71dBm | ±2dB |
| | MCS 6 | -70dBm | ±2dB |
| | MCS 7 | -68dBm | ±2dB |
| | MCS 8 | -64dBm | ±2dB |
| | MCS 9 | -63dBm | ±2dB |
| 5GHz 802.11ac HT80 | MCS 0 | -83dBm | ±2dB |
| | MCS 1 | -80dBm | ±2dB |
| | MCS 2 | -78dBm | ±2dB |
| | MCS 3 | -74dBm | ±2dB |
| | MCS 4 | -71dBm | ±2dB |
| | MCS 5 | -69dBm | ±2dB |
| | MCS 6 | -65dBm | ±2dB |
| | MCS 7 | -63dBm | ±2dB |
| | MCS 8 | -60dBm | ±2dB |
| | MCS 9 | -59dBm | ±2dB |

Component Map



Dimensional Drawing of WSD377



All dimensions are in mm.

Ordering Configuration

| Item Code | Model | Description |
|------------------|------------|---|
| WSD377 EVAL-R1.1 | WSD377 EVK | WSD377 evaluation kit with 1x1 WiFi+Bluetooth |