

BALI/BALI M.2 PCIe

EVIA/EVIA M.2 PCIe

Wi-Fi 802.11ac (1x1) + Bluetooth 5 Dual mode Module

Note: EVIA doesn't support BT

Description

BALI is a high performance multi-protocol certified wireless module supporting dual-band 1-stream (1T1R) Wi-Fi 802.11 a/b/g/n/ac and BT5.0. This small form-factor module provides superior throughputs and long range by integrating high performance base band, MAC, fine-tuned RF front end, power amplifiers, filters, switches, diplexer and crystals.

With advanced coexistence algorithms, this module delivers low-latency and high performance Wi-Fi and Bluetooth for superior user experience. This module enables low-power designs by utilizing multiple advanced power-saving techniques including many host off-loading features.

BALI is based on Qualcomm QCA9377 SoC and connects to host processor with PCIe (Wi-Fi) and USB (BT) host interfaces.

Features

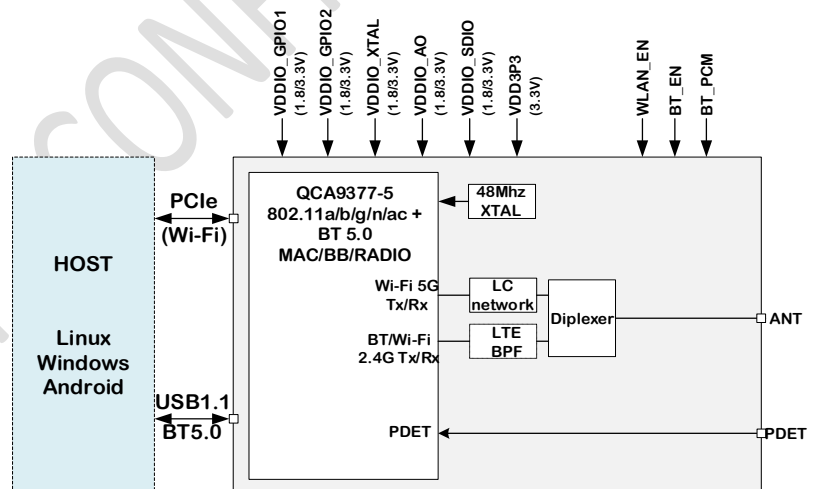
- ❖ Host interfaces: PCIe for Wi-Fi and USB for Bluetooth
- ❖ WLAN + Bluetooth coexistence
- ❖ This module is available in M.2 1216 form-factor also
- ❖ Wi-Fi technology - Low power dual-band (2.4 and 5 GHz), 1-stream MU-MIMO 802.11ac
- ❖ Enterprise security (STA only)
- ❖ Operating modes: STA, SoftAP, P2P Group Owner, P2P Client, STA + SoftAP, STA + P2P Group Owner, STA + P2P Client, Support for multiple BSSID (2 softAPs + STA)
- ❖ Module Power save: Deep sleep mode, protocol power save modes - Legacy, UAPSD and GreenTx
- ❖ Host Power save: Wake-on-BLE, Firmware Offloading
- ❖ WMM, DFS (Master, Client)
- ❖ Roaming: 11r/FT, Legacy fast roaming
- ❖ 802.11ai: FILS-SK in STA mode
- ❖ Bluetooth technology - Bluetooth 5.0 + HS and Bluetooth Low Energy
- ❖ Bluetooth class: Supports Bluetooth for Class-1 and Class-2 transmissions without requiring an external Power amplifier
- ❖ Bluetooth stack: Bluez
- ❖ BT stack core profiles: SDP, L2CAP, GAP - Bluetooth 5.0
- ❖ BLE concurrent roles: BLE concurrent central and peripheral
- ❖ BT stack profiles: All BT SIG (BR/EDR and BLE) profiles including HFP 1.6, A2DP/BT Audio



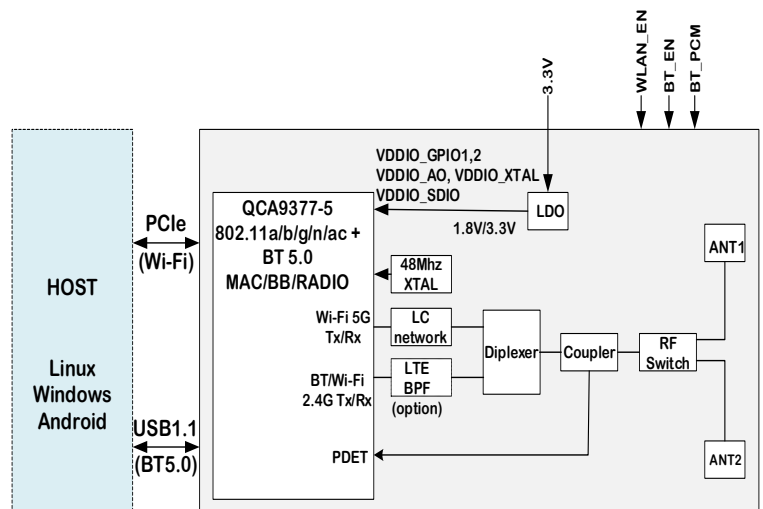
BALI: 11.75mm x 12mm x 1.6mm

BALI M.2: 12mm x 16mm x 1.9mm

Block Diagram (BALI module)



Block Diagram (BALI M.2 module)



Specifications

| | |
|------------------------------|---|
| WLAN Technology | 802.11 a/b/g/n, 1-stream MU-MIMO 802.11ac |
| BT Technology | Bluetooth v5.0 + HS |
| Frequency band | 2.4GHz, 5GHz |
| On air data rates | 2.4GHz 11b - 1,2,5.5,11 Mbps 11g - 6,9,12,18,24,36,48,54 Mbps 11n - MCS0 to MCS7 or up-to 150 Mbps 5GHz 11a - 6,9,12,18,24,36,48, 54 Mbps 11n/ac - MCS0 to MCS9 or Up to 433 Mbps |
| Security features | WPA/WPA2 - PSK TKIP/AES, WPS 2.0, Enterprise Security (EAP) STA only |
| Modulation schemes | 2.4GHz 11b - BPSK,QPSK, CCK 11g - BPSK, QPSK, 16-QAM, 64-QAM 11n - PSK, QPSK, 16-QAM, 64-QAM 5GHz 11a/n/ac - BPSK,QPSK, 16-QAM, 64-QAM |
| Antenna options | BALI: Antenna pin BALI M.2: Antenna Diversity |
| Supported Host OS | Linux Windows 10 Android |
| Host interfaces | Wi-Fi - PCIe 2.1 Bluetooth - USB 1.1 and PCM |
| Max throughput | 310 Mbps |
| Maximum Transmit Power | Wi-Fi 18 dBm BT 7 dBm BLE 6 dBm |
| Receive Sensitivity | Wi-Fi -97.5 dBm BT -96 dBm BLE -99 dBm |
| WLAN bandwidths | 20/40/80 MHz |
| Power supply | 3.3v to 5.5v |
| Operating Temperature | -40°C to 85°C |
| Humidity | 5-90% non-condensing |
| Package | 11.75mm x 12mm x 1.6mm LGA (BALI) 12mm x 16mm x 1.9mm LGA (BALI M.2) |
| Certifications and approvals | Module certifications - FCC, IC, CE,TELEC BT 5.0 SIG certification |

BALI PCIe module Part Ordering

| | |
|---------------|--|
| I951HCR0-COLT | BALI PCIe module with Antenna Pin, Tray packing |
| I951HCR0-COLR | BALI PCIe module with Antenna Pin, Tape and Reel packing |

BALI PCIe EVK/DVK Part Ordering

| | |
|-----------------|--|
| I951HCR0-6L-EVK | BALI PCIe Industrial Temp, Antenna Pin EVK |
| I951HCR0-C64T | BALI Half Mini PCIe Industrial Temp, Antenna Pin EVK |
| I951HCR0-6L-DVK | BALI PCIe Industrial Temp, Antenna Pin DVK Kit |

BALI M.2 PCIe module Part Ordering

| | |
|---------------|--|
| I951HCR0-C61T | BALI M.2 PCIe module with Antenna Diversity, Tray packing |
| I951HCR0-C61R | BALI M.2 PCIe module with Antenna Diversity, Tape and Reel packing |

BALI M.2 EVK/DVK Part Ordering

| | |
|-----------------|--|
| I951HCR0-61-EVK | BALI M.2 PCIe Industrial Temp, Antenna Diversity EVK |
| I951HCR0-61-DVK | BALI M.2 PCIe Industrial Temp, Antenna Diversity DVK Kit |

EVIA PCIe module Part Ordering

| | |
|---------------|--|
| I951HC00-I0LT | EVIA PCIe module with Antenna Pin, Tray packing |
| I951HC00-I0LR | EVIA PCIe module with Antenna Pin, Tape and Reel packing |

EVIA PCIe EVK/DVK Part Ordering

| | |
|------------------|--|
| I951HC00-I0L-EVK | EVIA PCIe Industrial Temp, Antenna Pin EVK |
| I951HC00-I0L-DVK | EVIA PCIe Industrial Temp, Antenna Pin DVK Kit |

EVIA M.2 PCIe module Part Ordering

| | |
|---------------|---|
| I951HC00-I61T | EVIAM.2 PCIe module with Antenna Diversity, Tray packing |
| I951HC00-I61R | EVIAM.2 PCIe module with Antenna Diversity, Tape and Reel packing |

EVIA M.2 PCIe EVK/DVK Part Ordering

| | |
|------------------|---|
| I951HC00-I61-EVK | EVIAM.2 PCIe Industrial Temp, Antenna Diversity EVK |
| I951HC00-I61-DVK | EVIAM.2 PCIe Industrial Temp, Antenna Diversity DVK Kit |

Additional information

 For the latest collaterals, please visit <https://www.ivativ.com>