

BALI/EVIA M.2 PCIe Card Product Brief

BALI: Wi-Fi 802.11ac (1x1) + Bluetooth 5 Dual mode device

EVIA: Wi-Fi 802.11ac (1x1)

Description

This BALI M.2 PCIe Card is a high performance multi-protocol certified wireless device supporting dual-band 1-stream (1T1R) Wi-Fi 802.11 a/b/g/n/ac and BT5.0. This is offered in 1630 and 2230 form factors. With advanced coexistence algorithms BALI delivers low-latency and high performance WiFi and Bluetooth for superior user experience.

BALI M.2 PCIe 1630 Card connects to host processor with PCIe (WiFi) and USB (BT) host interfaces. It comes with drivers for different operating systems for complete design flexibility and ease of integration.

EVIA M.2 PCIe 1630 Card supports only WLAN. All the Bluetooth features are only relevant for BALI.

BALI/EVIA M.2 PCIe Card Features

- ❖ Host interfaces : PCIe for WiFi and USB for Bluetooth
- ❖ WLAN + Bluetooth coexistence
- ❖ WiFi 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)
- ❖ 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/EVIA M.2 PCIe Cards



1630-S3 (Tmax 1.5mm)



2230-S3 (Tmax 1.5mm)

BALI M.2 PCIe Card Evaluation and Development Features

The high performance BALI M.2 PCIe card comes with the procedure for Linux build, instructions set and scripts to test the following:

- ❖ Wi-Fi, Bluetooth Wireless Functionality
- ❖ Concurrent mode
- ❖ WiFi Security modes
- ❖ Throughputs

Applications

- ❖ Smart security
- ❖ Consumer electronics
- ❖ Industrial IoT
- ❖ POS terminals
- ❖ Automotive In-Vehicle Infotainment

BALI M.2 PCIe Card Specifications

| | |
|---------------------------|--|
| WLAN Technology | 802.11 abgn, 1-stream MU-MIMO 802.11ac |
| BT Technology | Bluetooth v5.0 + HS |
| Frequency band | 2.4GHz, 5GHz |
| On air data rates | 2.4GHz 11b - 1,2,5.5,11Mbps 11g-6,9,12,18,24,36,48,54Mbps 11n - MCS0 to MCS7 or up-to 150Mbps 5GHz 11a - 6,9,12,18,24,36,48, 54Mbps 11n/ac - MCS0 to MCS9 or Up to 433Mbps |
| 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, 16QAM, 64 QAM 11n-PSK, QPSK, 16QAM, 64 QAM 5GHz 11a/n/ac-BPSK,QPSK, 16QAM, 64 QAM |
| Antenna options | Antenna Diversity |
| Supported Host OS | Linux Windows 10 Android |
| Host interfaces | WiFi - PCIe 2.1 Bluetooth - USB 1.1 and PCM |
| Max throughput | 310Mbps |
| Maximum Transmit Power | WiFi 20dBm BT 15dBm BLE 4dBm |
| Receive Sensitivity | WiFi-97.5dBm BT-96dBm BLE -99dBm |
| WLAN bandwidths | 20/40/80MHz |
| Power supply | 3.3v to 5.5v |
| Operating Temperature | -40°C to 85°C |
| Humidity | 5-90%non-condensing |
| Package | 1630: 16mm x 30mm x 1.5mm (Tmax) 2230: 22mm x 30mm x 1.5mm (Tmax) |
| Certifications& approvals | Module certifications - FCC, IC, CE BT 5.0 SIG certification |

BALI/EVIA M.2 PCIe Card Ordering

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|---------------|--|
| I951HCR0-I62T | BALI M.2 PCIe 1630 Card with Antenna Diversity |
| I951HCR0-I63T | BALI M.2 PCIe 2230 Card with Antenna Diversity |
| I951HC00-I62T | EVIA M.2 PCIe 1630 Card with Antenna Diversity |
| I951HC00-I63T | EVIA M.2 PCIe 2230 Card with Antenna Diversity |

Additional information

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