

BALI M.2 / EVIA M.2 USB Card

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

Note: EVIA doesn't support BT

Description

This BALI M.2 USB 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 Wi-Fi and Bluetooth for superior user experience.

BALI M.2 USB 1630/2230 Card connects to host processor with USB 2.0 (Wi-Fi) and USB 1.1 (BT) over M.2 PCIe host interface. It comes with drivers for different operating systems for complete design flexibility and ease of integration.

BALI M.2 USB Card Features

- ❖ Host interfaces: USB 2.0 for Wi-Fi and USB 1.1 for Bluetooth
- ❖ WLAN + Bluetooth coexistence
- ❖ Wi-Fi technology - Low power dual-band (2.4 and 5 GHz), 1-stream MU-MIMO 802.11ac
- ❖ WLAN Security: WPA/WPA2 Personal, WPS 2.0, Enterprise security (STA only)
- ❖ WLAN Encryption: WEP, TKIP, AES
- ❖ Operating modes: STA, SoftAP, P2P Group Owner, P2P Client, STA + SoftAP, STA + P2P Group Owner, STA + P2P Client
- ❖ Module Power save: Deep sleep mode, protocol power save modes - Legacy, UAPSD and GreenTx
- ❖ Host Power save: WoW, Wake-on-BLE, FW 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: Fluoride and 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 M.2 USB Card



1630-S3 (Tmax 1.5mm)



2230-S3 (Tmax 1.5mm)

BALI M.2 USB Card Evaluation and Development Features

The high performance BALI M.2 USB Card comes with the documents which describes the procedures for

- Linux build
- instruction set and scripts to test the following:
 - ❖ Wi-Fi Functionality
 - ❖ Concurrent mode
 - ❖ Wi-Fi Security modes
 - ❖ Throughputs

Applications

- ❖ Consumer electronics
- ❖ Smart appliances
- ❖ Applications where plug n play high-speed wireless connectivity is needed

BALI M.2 USB Card 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	Antenna diversity
Supported Host OS	Linux Android Windows 10
Host interfaces	Wi-Fi – USB 2.0 Bluetooth - USB 1.1 and PCM
Max throughput	300 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 ^o C to 85 ^o C
Humidity	5-90% non-condensing
Package	1630: 16mm x 30mm x 1.5mm (Tmax) 2230: 22mm x 30mm x 1.5mm (Tmax)
Certifications and approvals	Module certifications - FCC, IC, CE, TELEC BT 5.0 SIG certification

BALI M.2 USB Card Ordering

I952HCRO-I62T	BALI M.2 USB 1630 Card with Antenna Diversity
I952HCRO-I63T	BALI M.2 USB 2230 Card with Antenna Diversity

EVIA M.2 USB Card Ordering

I952HC00-I62T	EVIA M.2 USB 1630 Card with Antenna Diversity
I952HC00-I63T	EVIA M.2 USB 2230 Card with Antenna Diversity

Additional information

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