

BALI/BALI M.2 USB

EVIA/EVIA M.2 USB

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

Note: EVIA doesn't support BT

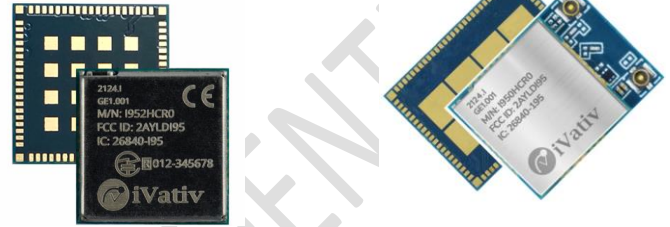
Description

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 wake on wireless energy and many host off-loading features.

BALI is based on Qualcomm QCA9377 SoC and connects to host processor with USB 2.0 (Wi-Fi) and USB 1.1 (BT) host interfaces.

Features

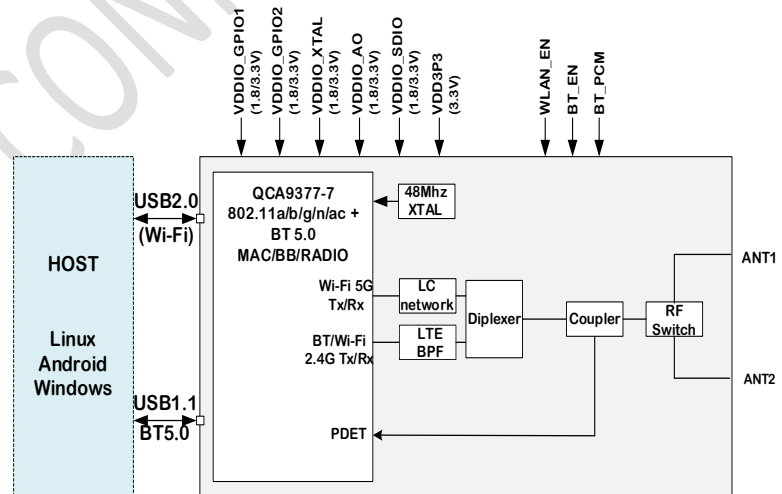
- ❖ Host interfaces: USB 2.0 for Wi-Fi and USB 1.1 for Bluetooth
- ❖ WLAN + Bluetooth coexistence
- ❖ This module is available in **M.2 1216** form-factor also
- ❖ Wi-Fi technology - Low power dual-band (2.4 and 5 GHz), 1-stream MU-MIMO 802.11ac
- ❖ WLAN Security: WPA/WPA2 Personal, WPS 2.0, Enterprise 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



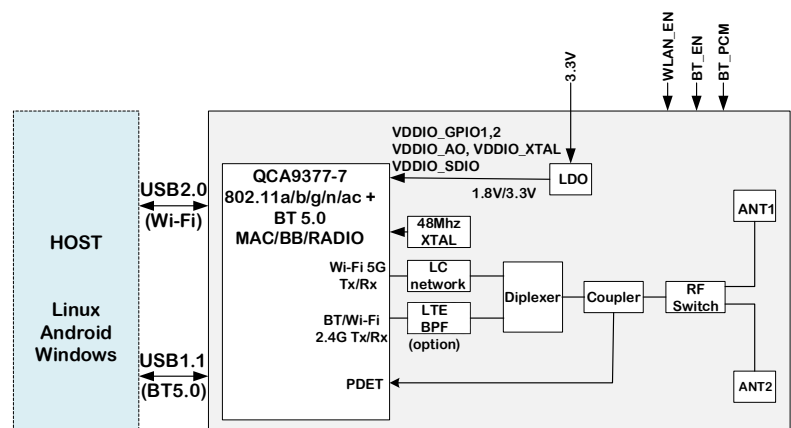
BALI: 11.75mm x 12mm x 1.6mm

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 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°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 USB module Part Ordering

I952HCRO-IOLT	BALI USB module with RF Pin, Tray packing
I952HCRO-IOLR	BALI USB module with RF Pin, T&R packing

BALI USB EVK/DVK Part Ordering

I952HCRO-IOL-EVK	BALI USB Industrial Temp, RF Pin EVK
I952HCRO-IOL-DVK	BALI USB Industrial Temp, RF Pin DVK Kit

BALI M.2 USB module Part Ordering

I952HCRO-I61T	BALI M.2 USB module with Antenna Diversity, Tray packing
I952HCRO-I61R	BALI M.2 USB module with Antenna Diversity, Tape and Reel packing

BALI M.2 USB EVK/DVK Part Ordering

I952HCRO-I61-EVK	BALI M.2 USB Industrial Temp, Antenna Diversity EVK
I952HCRO-I61-DVK	BALI M.2 USB Industrial Temp, Antenna Diversity DVK Kit

EVIA USB Module Part Ordering

I952HC00-IOLT	EVIA USB module with RF pin, Tray packing
I952HC00-IOLR	EVIA USB module with RF pin, T&R packing

EVIA USB EVK/DVK Part Ordering

I952HC00-IOL-EVK	EVIA USB Industrial Temp, RF pin EVK
I952HC00-IOL-DVK	EVIA USB Industrial Temp, RF pin DVK Kit

EVIA M.2 USB Module Part Ordering

I952HC00-I61T	EVIA M.2 USB module with Antenna Diversity, Tray packing
I952HC00-I61R	EVIA M.2 USB module with Antenna Diversity, T&R packing

EVIA M.2 USB EVK/DVK Part Ordering

I952HC00-I61-EVK	EVIA M.2 USB Industrial Temp, Antenna Diversity EVK
I952HC00-I61-DVK	EVIA M.2 USB Industrial Temp, Antenna Diversity DVK Kit

Additional information

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