

BALI PCIe DVK Product Brief

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

Description

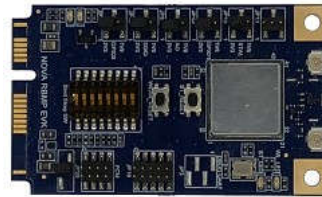
This development kit comes with everything needed for verification of BALI PCIe module and application development using included host platform. BALI is a high performance multi-protocol certified wireless module supporting dual-band 1-stream (1T1R) Wi-Fi 802.11 a/b/g/n/ac and BT5.0. With advanced coexistence algorithms, this small form-factor module delivers low-latency and high performance WiFi and Bluetooth for superior user experience.

BALI PCIe EVK board 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..

BALI PCIe Module Features

- ❖ Host interfaces : PCIe for WiFi and USB for Bluetooth
- ❖ WLAN + Bluetooth coexistence
- ❖ This module is available in **M.2** form-factor also
- ❖ 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)
- ❖ 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 PCIe DVK Kit Contents



BALI PCIe EVK



U.FL Flag Antenna



USB-UART Converter



Toradex Ixora board



DB9 Female Adaptor



Ixora Power Adaptor

BALI PCIe DVK Features

The BALI PCIe Development Kit (DVK) is a platform that enables evaluation of hosted Wi-Fi, Bluetooth connectivity. It uses PCIe interface for WiFi and USB/PCM interface for Bluetooth. The DVK includes procedure for Linux build and instructions set, scripts to test the following:

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

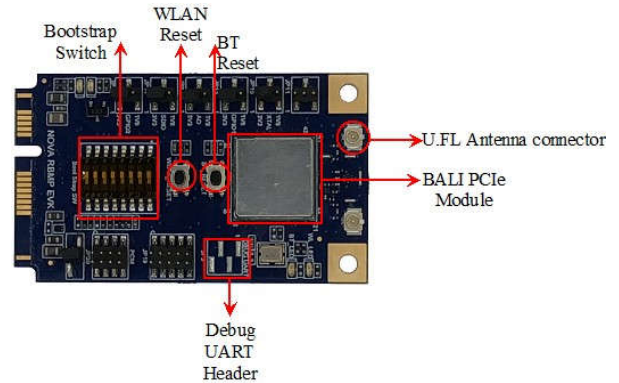
Applications

- ❖ Consumer Electronics
- ❖ Industrial computers
- ❖ Smart Security camera
- ❖ POS terminals
- ❖ Automotive In-Vehicle entertainment

BALI PCIe Module 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	<p>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</p> <p>5GHz 11a - 6,9,12,18,24,36,48, 54Mbps 11n/ac - MCS0 to MCS9 or Up to 433Mbps</p>
Security features	WPA/WPA2 -PSK TKIP/AES, WPS 2.0, Enterprise Security (EAP) STA only
Modulation schemes	<p>2.4GHz 11b - BPSK,QPSK, CCK 11g - BPSK, QPSK, 16QAM, 64 QAM 11n - PSK, QPSK, 16QAM, 64 QAM</p> <p>5GHz 11a/n/ac - BPSK,QPSK, 16QAM, 64 QAM</p>
Antenna options	Antenna pin
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	11.8mm x 12mm x 1.6mm LGA
Certifications & approvals	Module certifications - FCC, IC, CE BT 5.0 SIG certification

BALI PCIe Evaluation Board



The development kit for BALI PCIe comes with everything needed for verification of IEEE 802.11n/ac functionality on PCI interface; Bluetooth functionality on USB interface. The package contains the following contents:

- ❖ Full Mini PCIe EVK
- ❖ U.FL Flag antenna
- ❖ Toradex Ixora Board with power adaptor
- ❖ IDC-DB9 male adapter cable
- ❖ USB serial converter
- ❖ Software Drivers for the following development
 - ❖ Toradex Ixora
 - ❖ i.MX6 Sololite
 - ❖ Wandboard

BALI PCIe DVK Part Ordering

I951HCRO-I0L-DVK	BALI PCIe Industrial Temp, Antenna Pin DVK Kit
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Additional information

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