

BALI SDIO M.2 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 M.2 SDIO 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 SDIO M.2 EVK board connects to host processor with SDIO (WiFi) and UART (BT) host interfaces. It comes with drivers for different operating systems for complete design flexibility and ease of integration.

BALI SDIO M.2 Module Features

- ❖ Host interfaces : SDIO 3.0 for WiFi and UART for BT.
- ❖ 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
- ❖ 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 : WoW, Wake-on-BLE, FW Offloading
- ❖ Enterprise security (STA only)
- ❖ 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, 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 SDIO M.2 DVK Kit Contents



BALI SDIO M.2 EVK



1 x Micro-USB Cable



Toradex Ixora board



USB-UART Converter



DB9 Female Adaptor



Ixora Power Adaptor



MHF4 Flag Antenna

BALI SDIO M.2 DVK Features

The BALI SDIO M.2 Development Kit (DVK) is a platform that enables evaluation of hosted Wi-Fi, Bluetooth connectivity. It uses SDIO interface for WiFi and UART 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

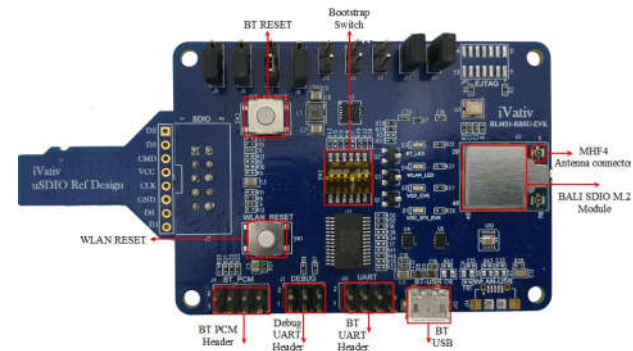
Applications

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

BALI SDIO M.2 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	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	BALI M.2 : Antenna Diversity
Supported Host OS	Linux Android
Host interfaces	WiFi – SDIO 3.0 / SDR104 Bluetooth - UART and PCM
Max throughput	330Mbps
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	12mm x 16mm x 1.9mm LGA (BALI M.2)
Certifications & approvals	Module certifications - FCC, IC, CE BT 5.0 SIG certification

BALI SDIO M.2 Evaluation Board



The development kit for BALI SDIO M.2 comes with everything needed for verification of IEEE 802.11n/ac functionality on SDIO interface; Bluetooth functionality on UART interface. The package contains the following contents:

- ❖ SDIO-M.2 Micro SD along with USB-UART FTDI converter for Bluetooth HCI UART
- ❖ 1 x Micro USB cable
- ❖ 4 x Legs for SDIO EVK
- ❖ 1 x Rubber Duck antenna with SMA converter cable
- ❖ Toradex Ixora Board with power adaptor
- ❖ IDC-DB9 male adapter cable
- ❖ USB-serial converter
- ❖ Software Drivers for the following development boards
 - ❖ Toradex Ixora
 - ❖ i.MX6 Sololite
 - ❖ Wandboard

BALI M.2 SDIO DVK Part Ordering

I950HCR0-I61-DVK	BALI M.2 SDIO Industrial Temp, Antenna Diversity DVK Kit
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Additional information

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