

SX-SDCAN 802.11a/b/g/n Plus Bluetooth SDIO Card



Ultracompact WLAN/BT Solution for Embedded Applications

The Silex SX-SDCAN is an 802.11a/b/g/n plus advanced Bluetooth 3.0 & 4.0 combo SDIO Card. Unlike other radio modules, the SX-SDCAN is mechanically designed in a SD Card form factor. This provides an upgrade path for existing SDIO Card implementations to move to a 802.11n solution and provides new customers with a vendor independent form factor.

Based on the game changing ultra low power Atheros AR6003 chip technology, the SX-SDMAN integrates both WLAN and BT functionality in a single board design to provide a cost-effective Wi-Fi and Bluetooth co-existence implementation.

The dual band WLAN/BT SDIO card includes an AR6233 SIP that contains a MAC/BBP chipset AR6003X and 2.4GHz RF front end circuit, which is integrated with an external Front End Module (FEM) on board and pre-tuned for the most optimized dualband WLAN operation. Additionally, the AR6233 supports Bluetooth 3.0 and Bluetooth 4.0 standards enabling seamless integration of BT/WLAN and low energy technology.

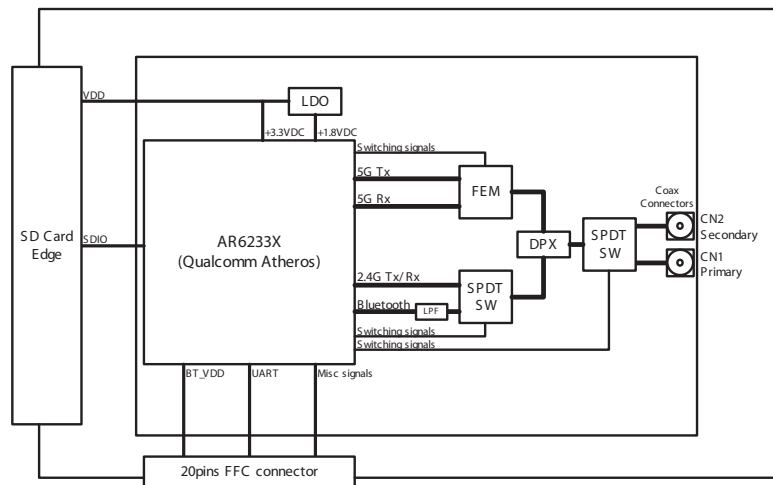
The SX-SDCAN is for low power / battery operated devices like portable medical devices, industrial tablet devices, barcode scanners, mobile printers, and many more.

In order to expedite your product development process, Silex can provide both hardware and software engineering services including custom driver development, as well as turnkey product design and manufacturing.

Key Features:

- High performance single stream (1x1) dual band SDIO module with 802.11 a/b/g/n WLAN plus advanced BT 4.0 combo solution
- Atheros AR6233 System in Package (SIP) based design integrated with on-board Front End Module
- Supports Bluetooth 3.0 + HS (High Speed) and Bluetooth 4.0 + LE (Low Energy) standards enabling seamless integration of BT/WLAN
- Supports industry leading security including Cisco CCXv4 ASD, WPS, and WEP/WPA/WPA2.
- Hardware-based AES, AES-CCMP, and TKIP engines for faster data encryption / decryption.
- Optional Tx/Rx antenna selection diversity

Diagrams



LDO : Low Drop Output regulator
FEM : RF Front End Module
DPX : Diplexer
LPF : Low Pass Filter
SPDT SW : Single Pole Double Throw Switch

Specifications:

Product Name	SX-SDCAN-2830BT
Chipset	Qualcomm Atheros AR6233
Host Interface	SDIO V 2.0(4-bit, 1bit)
Operating Voltage	3.30 VDC +/- 5%
Radio Specifications	802.11b/g/n 2.412 - 2.484 GHz 802.11a/n 5.18 - 5.825 GHz
Baseband Specifications	CSMA/CA media access; DSSS, OFDM
Bluetooth Specifications	BT3.0+HS, BT4.0, Class 1.5
Operating Temperature	-10 to +70 degrees C
Dimensions	24.0 x 51.0 x 5.8mm (W x H x D)
Connector Type	SD Card Edge 9 Pins FFC Connector 20 Pins

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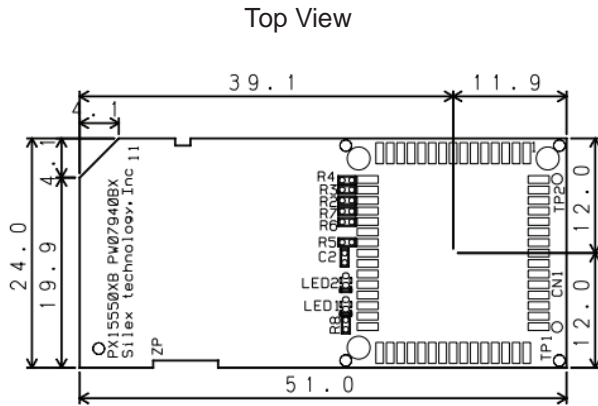


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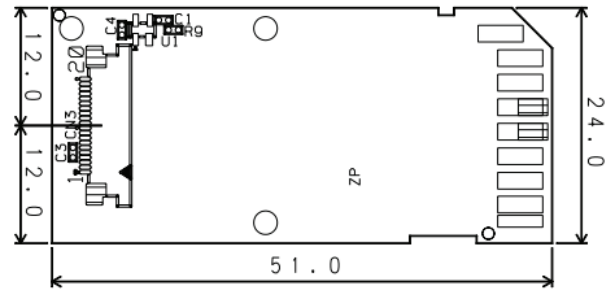
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Dimensions and Architecture



Bottom View



General Specifications

On-Chip Functionality:	Single-chip MAC/BB/RF/PA/LNA
Frequency Band:	2.4GHz/5GHz
Network Standard:	802.11a, 802.11b, 802.11g, 802.11n (1-stream)
Modulation Modes:	OFDM (64QAM, 16QAM, QPSK, BPSK), DSSS (CCK, DQPSK, DBPSK), DSSS-OFDM (64QAM, 16QAM, QPSK, BPSK)
Hardware Encryption:	WEP, WPA/WPA2, (AES and TKIP), WAPI
Quality of Service (QoS)	WMM, WMM-PS, 802.11e

Interfaces

Communications:	SDIO 2.0										
Supported Data Rates:	<table border="0"> <tr> <td>IEEE 802.11b</td> <td>1 - 11 Mbps</td> </tr> <tr> <td>IEEE 802.11g</td> <td>6 - 54 Mbps</td> </tr> <tr> <td>IEEE 802.11a</td> <td>6 - 54 Mbps</td> </tr> <tr> <td>IEEE 802.11n HT20</td> <td>7.2 - 72.2 Mbps</td> </tr> <tr> <td>IEEE 802.11n HT40</td> <td>13.5 - 150.0Mbps</td> </tr> </table>	IEEE 802.11b	1 - 11 Mbps	IEEE 802.11g	6 - 54 Mbps	IEEE 802.11a	6 - 54 Mbps	IEEE 802.11n HT20	7.2 - 72.2 Mbps	IEEE 802.11n HT40	13.5 - 150.0Mbps
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IEEE 802.11a	6 - 54 Mbps										
IEEE 802.11n HT20	7.2 - 72.2 Mbps										
IEEE 802.11n HT40	13.5 - 150.0Mbps										
Bluetooth:	BDR/EDR/LE										
Physical Specifications:	24.0 X 51.0 X 5.8mm (W x H x D)										

Driver Support

Reference Driver:

- Linux
- Android
- WinCE

Security Supplicant:

- WPA Supplicant (Station)
- Customized based on Open Source WPA supplicant / hostapd
- WPA - TKIP/AES - PSK/EAP(TLS/TTLS/PEAP/LEAP/EAP-FAST)
- WPA2 - AES - PSK/EAP (TLS/TTLS/PEAP/LEAP/EAP-FAST)
- IEEE 802.1X - WEP / None - EAP (TLS/TTLS/PEAP/LEAP/EAP-FAST)

Ordering Information

SX-SDCAN-2830BT:	Bulk Package
SX-SDCAN-2830BT-SP:	Sample Pack

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