silex technology

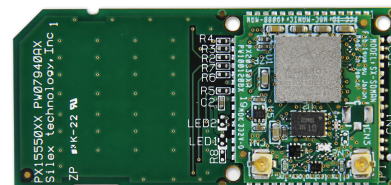*When it **Absolutely Must** Connect*

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

Freescale Recommended Wireless LAN Module

The Silex SX-SDCAN is a dual-band 802.11a/b/g/n plus Bluetooth SDIO card that is based on the SX-SDPAN (Qualcomm Atheros AR6233). The SX-SDCAN is mechanically designed in a SD card form factor to provide customers with a vendor independent form factor. The SX-SDCAN is the only Freescale-recommended wireless connectivity solution for the i.MX 6 evaluation platform which includes integrated radio software support (driver and security supplicant).

The SX-SDCAN integrates an external 5 GHz Front End Module (FEM) and is individually tuned to optimize WLAN performance. The radio module design approach also saves cost as the SX-SDCAN provides FCC/IC/ETSI/TELEC modular certification.
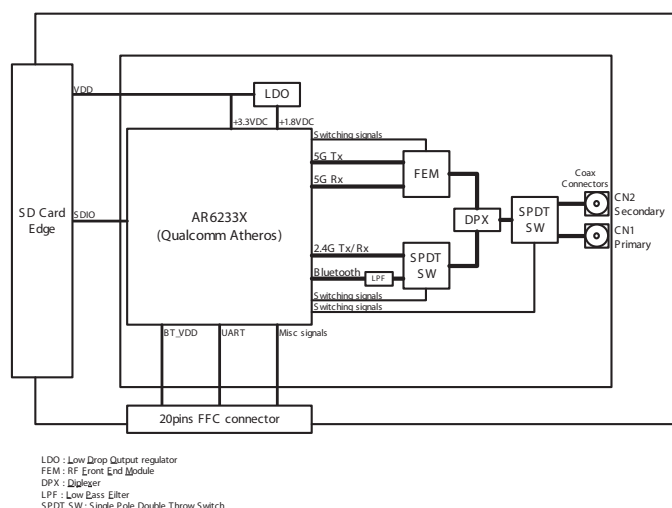
The SX-SDCAN provides superior product quality. Silex has validated that our design meets IEEE standards and each module is individually tested during the production process. This ensures that each of our products will perform to our published specification.

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:

- IEEE 802.11a/b/g/n conformity (2.4 GHz & 5 GHz)
- Single stream 1 x 1 SISO technology and 40 MHz bandwidth mode for 5 GHz
- Data rates of 1 - 54 Mbps for 802.11b/g, 6 - 54 Mbps for 802.11a and 6.5 - 135 Mbps for 802.11n
- Supports IEEE 802.11e, IEEE 802.11h and IEEE 802.11i
- Supports SDIO 2.0 as host IF of wireless LAN
- Optional software auto antenna selection for Tx/Rx diversity
- Supports Bluetooth 4.0 + LE dual mode
- Supports TDMA Wi-Fi/Bluetooth coexistence
- Supports UART and USB as the host IF of Bluetooth
- Calibrated Tx Power per module
- FCC/IC/ETSI/TELEC modular certification
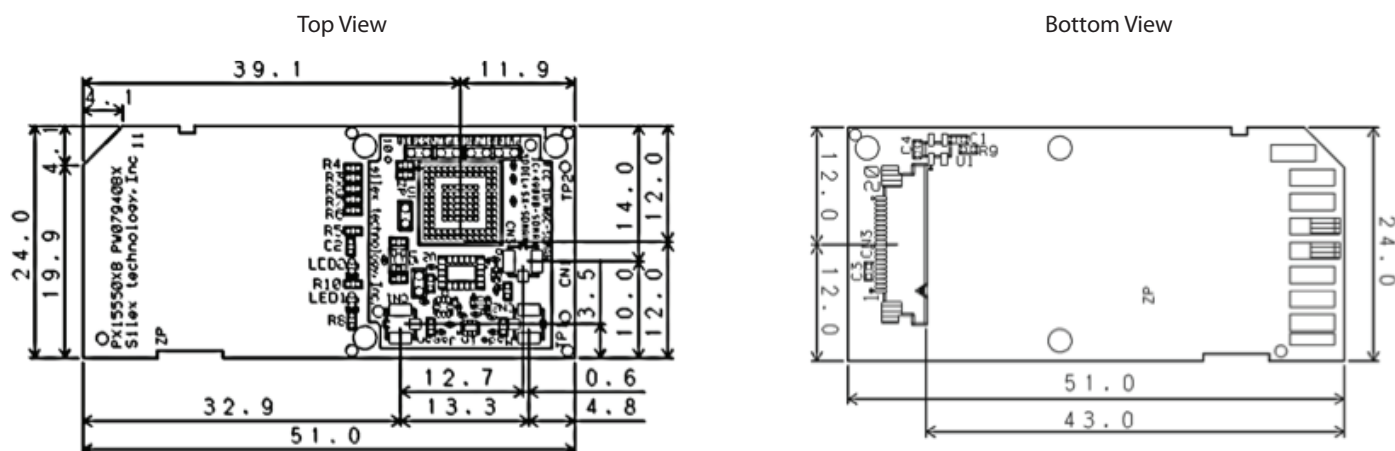- SD card form factor

Diagram:

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-2830
Chipset	Qualcomm Atheros AR6233
Host Interface	SDIO V 2.0 (4-bit, 1-bit)
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 5.8 mm (W x H x D)
Connector Type	SD Card Edge 9 Pins FFC Connector 20 Pins

*   Bluetooth software not provided by Silex Technology.

Dimensions and Architecture

Top View

Bottom View

All dimension tolerances are ±0.15 mm, unless otherwise specified.

General Specifications

On-Chip Functionality: Single-chip MAC/BB/RF/PA/LNA

Frequency Band: 2.4 GHz / 5 GHz

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 (TKIP/AES-CCMP), WAPI

Quality of Service (QoS): WMM, WMM-PS, 802.11e

Interfaces

Communications: SDIO 2.0

Supported Data Rates:

IEEE 802.11b	1-11 Mbps
IEEE 802.11g	6-54 Mbps
IEEE 802.11a	6-54 Mbps
IEEE 802.11n HT20	6.5 - 65.0 Mbps
IEEE 802.11n HT40	13.5 - 135.0 Mbps

Bluetooth: BDR/EDR/LE

Physical Specifications: 24.0 x 51.0 x 5.8 mm (W x H x D)

Driver Support

Reference Drivers:

- Linux
- Android
- Windows Embedded Compact 7
- QNX Neutrino
- Green Hills Intergrity
- Mentor Graphics Nucleus

Ordering Information

SX-SDCAN-2830: Bulk Package

SX-SDCAN-2830-SP: Sample Pack (includes cable and antenna)

SX-6K3-EVK-DB: AR6003 Dual Band Evaluation Kit (includes SX-SDCAN-2830)

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