

# SX-ULPAN

## Dual-Band 802.11n Wi-Fi Module for IoT Applications



### New Module Features Industrial Temperature, Premium Enterprise Reliability

The SX-ULPAN is an ultra-low-power, dual-band 802.11 a/b/g/n Wi-Fi module with industrial temperature support. This module provides the reliable connectivity for various microcontroller-based networking applications that your customers need.

Founded on world-class expertise from Silex Technology, and powered by the Qualcomm Atheros 4004 intelligent networking platform, the new solder-down module connects your device to the Internet of Things and provides a reliable connectivity experience for your customers.

The module's small form factor, rich features, and ultra-low power make it perfect for many mobile wireless applications and portable battery-operated devices.

**Typical Applications:** SX-ULPAN will find its way into many IoT applications like remote equipment monitoring, asset tracking and telemetry, security, wireless audio, industrial sensors and controls, home automation, medical devices, and many more.

#### Key Features:

- SISO System**  
 Single Stream System (1x1) and 20MHz channel width.  
 On-Board U.FL connector and on-board antenna surface mount module
- Data Rates**  
 MCS 0-6 for 802.11n, 1 -54 Mbps for 802.11b/g and 6 -54 Mbps for 802.11a. Due to the limitations of the SPI host interface the actual throughput is limited to 10 Mbps .
- Roaming**  
 Roaming supports the client moving between different access points in a seamless manner.
- Wi-Fi Protected Setup**  
 WPS 2.0 implementation makes it easy to add new devices to an existing network without entering long passphrases.

- IPv4, TCP, and UDP protocol supported on chip**

It helps offload the host microcontroller. Functions supported are ARP, IPv4, UDP, TCP socket support, DHCPv4, neighbor discovery, broadcast, MTU discovery, address auto config, and TCP zero copy.

#### Specifications:

Product Name	SX-ULPAN-2400
Radio Chip	Qualcomm Atheros 4004
Radio Specifications	802.11a/b/g/n
Security	Open System, WPA/WPA2-PSK.
Interfaces	SPI Slave
Operating Voltage	3.3 V
Humidity	Operating 10 to 95 %RH Storage: 15 to 95 %RH
Operating Temperature	Continuous Tx/Rx: -40 to +75 degrees C Periodic Tx/Rx: -40 to +85 degrees C
Current Consumption	Tx ≤ 350mA    Standby ≤ 500uA Rx ≤ 100mA
Dimensions	20 x 15 x 2.2 mm
Weight	1.50 +/- 0.1 g

- Silex Reference Driver**

Driver Version	v3.0.2
Supported CPU	Kinetis K21 (ARM Cortex-M4F)
Supported OS	Freescale MQX v4.0.2

#### Ordering Information

SX-ULPAN-2400	Bulk SKU
SX-ULPAN-2400-SP	Single Pack
SX-ULPAN-EVK	Evaluation Kit based on the Freescale Tower System and K21 MCU

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