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When it **Absolutely Must** Connect

SX-ULPAN
Dual-Band 802.11n Wi-Fi Module for IoT Applications

New Module Supports Both SPI and UART as Host Interfaces

The SX-ULPAN is an ultra-low-power, dual-band 802.11 a/b/g/n Wi-Fi module with industrial temperature support. It features SPI or UART as host interfaces. 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:

- **UART Host Interface**
  UART interface eliminates the need for any driver development, and uses AT command to configure/control the wirless radio.

- **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 limitiations of the host interface the actua throughput is limited to 10 Mbps in SPI mode and 460 kbps in UART.

- **Modular Certifications**
  FCC/IC/TELEC modular certifications improves time-to-market and decreses costs.

- **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-2401	SX-ULPAN-2402
Interfaces	SPI Slave	UART
Radio Chip	QCA4004-BL3B	
Radio Specifications	802.11a/b/g/n	
Security	Open System, WPA/WPA2-PSK.	
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 Suspend (SPI) = 5uA Rx ≤ 100mA Suspend (UART) = 1.2mA	
Dimensions	20 x 15 x 2.2 mm	

- **Silex Reference Driver**

Driver Version	v3.3.4
Supported CPU	Kinetis K22 (ARM Cortex-M4F)
Supported OS	Freescale MQX v4.1

Ordering Information

Bulk SKU	SX-ULPAN-2401	SX-ULPAN-2402
Sample Pack	SX-ULPAN-2401-SP	SX-ULPAN-2402-SP
Evaluation Kit	SX-ULPAN-2401-EVK SX-ULPAN-2401-SHIELD	SX-ULPAN-2402-EVK SX-ULPAN-2402-SHIELD

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