

SX-550

Internal OEM Serial Device Server Module

Wireless IEEE 802.11a/b/g and Ethernet + Developer's Kit



Embedded Wireless and Wired Networking for OEM devices

The Most Powerful and Secure Way to Implement Wireless Capabilities

The advantages of wireless networking are obvious. But as an OEM device manufacturer, how can you easily and securely implement wireless capabilities in your devices?

The solution is the SILEX SX-550 Module, the first embedded networking solution that supports all of the major wireless networking standards – 802.11a, 802.11b, and 802.11g – as well as 100Base-T and 10Base-T wired Ethernet. The SX-550 provides the most extensive network security capabilities in the industry, so it can be used in virtually any application or environment that requires wireless communications. – The SX-550 increases your bottom line by reducing your time to market, making your products more competitive, and lessening the need for in-house wireless expertise. It enables you to easily add wired or wireless network connectivity to your devices with such features as:

High speed serial port plus dedicated console

The SX-550 serial port runs at speeds up to 921.6Kbps with full modem control. The SX-550 also includes a second serial port for use as a dedicated console.



Ethernet and Wireless Versions

The SX-550 is available in models with wired Ethernet only, or with both Ethernet and 802.11a/b/g wireless capabilities. The two models are program compatible, so you do not need to develop separate software in order to support both.

8 General Purpose Input/Output (GPIO) Signals

The GPIOs can be used for custom applications like driving LEDs and sensing switches, or for modem signals in conjunction with the serial ports.

Serial Port Emulation Software

The SX-550 includes software that emulates a standard Windows™ COM port (for example, COM3). This allows you to use your existing Windows-based applications without any changes.

Ethernet Bridge Mode

The SX-550 can be configured as a transparent bridge between Ethernet and 802.11a/b/g. This allows an Ethernet-enabled device to communicate wirelessly without modifications required to your existing software.

Power Management

The SX-550 consumes very little power during inactive periods, making it ideal for battery powered applications.

Antenna Diversity

The SX-550 has two U.FL antenna connectors for improved quality of transmission and reception.

Easy to use

The SX-550 features a compact form factor with through-holes for flexible mounting options. A40-pin connector header for the serial and GPIO signals simplifies the hardware interface to your device.

An available developer's kit provides the required hardware, software tools and documentation for OEM customers to easily integrate the SX-550 module in their equipment. The developer's kit includes value-added programmable features, such as APIs for custom SNMP and Email notification on the network. For example, you can use the available GPIOs to eliminate the need for an additional processor and therefore to reduce cost.

Highly Secure

Security is critical for enterprise networks. In fact, some network managers will not allow devices on their networks that are not compatible with their security standards. Consequently, the SX-550 is designed to work with all major security standards. It supports 802.1x Extensible Authentication Protocol (EAP) with TLS, TTLS, LEAP, FAST and PEAP to provide the most robust network authentication. For wireless security, the SX-550 works with the latest Wi-Fi Protected Access 2 (WPA2) Enterprise and Personal (PSK) security, as well as WPA and WEP. The SX-550 also includes other enterprise-level security features such as access control lists, complete protocol and application enable/disable control, read and write configuration passwords, and SNMP community name configuration.

Easy to Manage and Configure

The SX-550 is easy to configure and offers several options for management. In addition to a built-in web browser interface, SILEX provides ExtendView, a Windows utility for easy configuration and management. A console accessible via TELNET or the UART is available for more sophisticated diagnostics and configuration. The SX-550 is also compatible with the Simple Network Management Protocol (SNMP) for compatibility with most popular network management systems. In addition, the SX-550 can be managed by the attached device using AT commands and console commands sent via the serial port. The SX-550 firmware is stored in flash memory, which means it can be easily updated.

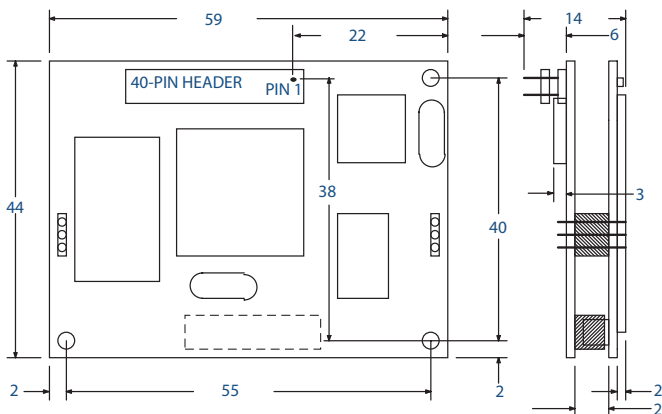
The Most Powerful and Secure Way to Implement Wireless Capabilities

Specifications

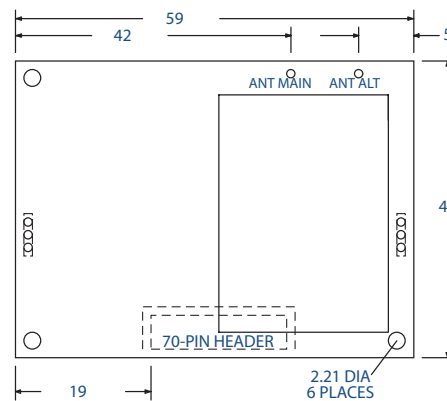
| | |
|------------------------------------|---|
| OEM Interface | The OEM interface allows OEMs to add functionality via a daughtercard. Power is also input via this header. This is a 40-pin 1.27 mm pitch surface-mount header |
| Serial Ports | Two serial UART ports are accessible via the OEM header. Port 1 supports Transmit Data, Receive Data, Request to Send and Clear to Send. 3 GPIOs are configurable for use for DTR, DSR, DCD on each port. Port 2 is dedicated as a console port for management and configuration purpose. |
| General Purpose I/O Signals | 8 of the general purpose signals of the CN210 Processor are accessible via the OEM header. They can be used for driving LED's, receiving switch input or as general purpose signals that allow the user to monitor or control via the silex software interface. External pull-ups are required for customization. |
| Power Input | Power is input to the main module via the OEM header. +3.3VDC +/-10% is supplied through this header. |
| Power Consumption | Wireless LAN power consumption 900mA for maximum transmit. |
| Environmental Temperature | - Operating Temperature: 0° to 50°C - Storage Temperature: -20° to +70°C - Maximum temperature change per hour: 20°C |
| Relative Humidity | - Operating: 10% to 90% non-condensing - Storage: 10% to 90% non-condensing |
| Altitude | - Operating: 3.1 km - Storage: 9 km |
| Shock | MIL-STD-202F (Method 213B) to 50 G's |
| Vibration | MIL-STD-202F (Method 204D) to 15 G's |
| Standards Compliance | - RS232, serial interfaces - 802.11 a/b/g for the wireless version - 802.3i (10Base-T) and 802.3u (100Base-TX) Ethernet - RFC 2217 |

| Pin | Signal | Pin | Signal |
|-----|-----------|-----|-----------|
| 1 | TPRX+ | 2 | TPTX+ |
| 3 | TPRX- | 4 | TPTX- |
| 5 | SWITCH | 6 | LED_1 |
| 7 | AVDD | 8 | +3.3VDC |
| 9 | UART0_RXD | 10 | GPIO_9 |
| 11 | UART0_TXD | 12 | GPIO_10 |
| 13 | GND | 14 | +3.3VDC |
| 15 | UART0_RTS | 16 | UART0_CTS |
| 17 | UART1_RTS | 18 | UART1_CTS |
| 19 | GND | 20 | GND |
| 21 | UART1_TXD | 22 | UART1_RXD |
| 23 | GND | 24 | RESET_N |
| 25 | SPI_CS | 26 | SPI_CLK |
| 27 | +3.3VDC | 28 | GND |
| 29 | GPIO_1 | 30 | SPI_SDO |
| 31 | GPIO_2 | 32 | SPI_SDI |
| 33 | +3.3VDC | 34 | GND |
| 35 | GPIO_3 | 36 | GPIO_4 |
| 37 | GND | 38 | GND |
| 39 | GPIO_5 | 40 | GPIO_6 |

Module Diagramm (all indicated in mm)



CPU BOARD - BOTTOM VIEW



WIRELESS LAN - TOP VIEW



Order No. Module Wired: SX-550-0700
 Order No. Module Wireless/Wired: SX-550-1701
 Order No. Developer's Kit: SX-550-6900

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