



SGX 5150 MD

IoT Device Gateway

THE SOLUTION TO TRANSFORM YOUR MEDICAL DEVICES INTO SMART CONNECTED MACHINES

[Your Machine] + Lantronix® SGX 5150 MD = MEDICAL IoT...OPTIMIZED

For systems integrators, building out Medical IoT solutions involves transforming a wide range of new and legacy machines into a cohesive network of smart connected medical devices.

Building Medical IoT solutions demands several elements for success:

- Having the right hardware to connect your devices to a secure enterprise network.
- Making sure your connectivity solution can withstand demanding healthcare conditions.
- Establishing the correct configuration for each device in your connected solution.
- Ensuring the highest levels of enterprise grade security.
- Handling and integrating multiple proprietary and legacy protocols for device communication.
- Building and deploying the right analytics and applications to integrate machine data with existing enterprise applications.



SGX 5150 MD offers system integrators a secure platform for faster IoT deployment with:

- Certified to Medical standards including IEC60601-1-2 4th edition, CSA-C22.2, ANSI/AAMI ES60601-1.
- Multiple interface support (Serial, Ethernet and USB) providing one wireless solution for a wide range of new and existing legacy devices.
- High performance certified 802.11ac Wi-Fi that delivers robust, reliable wireless connectivity, reducing the need for additional access points.
- Lantronix essential IoT applications enable quick configuration and deployment of one or many devices.
- Enterprise-grade security features that safeguards authorized access and data transmission.
- Durable design assuring operation in the harshest medical environments.
- Integrated soft access point connections for wireless service and maintenance without disrupting the device's current operations.
- Linux SDK and Python runtime services allow for quick development and deployment of custom applications.
- TruPort® Serial technology that supports industry-standard and proprietary machine protocols for seamless data pass-through to local or remote applications.
- Out-of-the-box extensible device management with Lantronix Global Device Manager and Lantronix Gateway Central powered by MACH10.*
- Pre-integration with the Lantronix MACH10™ IoT application development and deployment platform, simplifying the delivery of custom web-scale services and applications.

*Future Release



Features and Specifications

Wireless Specifications

- 5G Wi-Fi (IEEE 802.11a/b/g/n/ac)
- 1x1 ac (MCS0 - MCS9), 20, 40 and 80 MHz Channels with optional SGI
- IEEE 802.11-n
 - 1x1 n (MCS0 - MCS7), 20 MHz and 40 MHz channel width with optional SGI
- Advanced 802.11 n/ac Features
 - Transit Beamforming
 - Tx/Rx Low Density Parity Check (LDPC)
 - Rx Space Time Block Coding (STBC)
 - Transit Beaming
- Bluetooth/WLAN Coexistence
- Compatible with IEEE 802.11 a/b/g and Supports IEEE 802.11 d/h/j/i
- Dual band 2.4 GHz and 5 GHz, regional restrictions controlled by part number
 - 2.412 GHz - 2.484 GHz - Channels 1 - 14
 - 5.15 - 5.825 GHz: U-NII-1, U-NII-2, U-NII-2e, U-NII-3

Ethernet Specifications

- IEEE 802.3 MAC and PHY, 10BaseT and 100BaseT
- 802.3at Class 2 Powered Device
- Auto-Negotiation/Auto MDIX, Full-duplex and Half-duplex

USB Specifications

- Configurable USB 2.0 HS/FS port with USB type C connector
- USB Device (default setting) powered by a VBUS 5V
- USB configurable host can provide VBUS 5V 0.5A (power supply or PoE)

Serial Port

Specifications

- RS-232 or Multi-protocol RS 232/422/485 (depends on model)
- Data rates up to 921 Kbps

Physical Interface

- (1 or 2) RJ-45 Serial Ports, 8KV ESD Protection
- (1) USB port – Type C Host / Device Connector
- (1) RJ-45 Ethernet port, 10/100Mbps, 1.5 KV rms Isolation
- (1) Reset Button, (1) WPS Button
- (1) Barrel jack for 9-30VDC power input

Protocols

- DHCP Client, DHCP Server, DHCPv6 Client
- uPnP (Discovery), LCAP (77FE), Telnet, (FTP, HTTP(S))
- IPv4/IPv6, TCP, UDP, ICMP, ARP, Auto-IP, DNS, SNMP v2/v3

InfiniShield™ Security

- Wireless LAN Security
 - AES/CCMP and TKIP encryption, 802.11i
 - WPA/WPA2 Pre-Shared Key (PSK) or IEEE 802.1X, AES-CCMP
- Enterprise Security (WPA2-Enterprise)
 - EAP-TLS, EAP-TTLS (MS-CHAPv2)
 - EAP-PEAPv0, v1/EAP-MS-CHAP v2)
 - EAP-FAST
 - FIPS 140-2 Level 1 Certification*

TruPort® Serial

- Serial Tunneling to Wi-Fi Client, Wi-Fi AP or Ethernet concurrently
- USB (Serial Tunneling) to Wi-Fi Client, Wi-Fi AP or Ethernet concurrently

Management Interfaces

- DeviceInstaller™ Windows-based GUI
- Web Manager (HTML5 Browser HTTP/HTTPS)
- CLI (over serial ports, telnet or SSH)
- OTA Field upgradeable | Supports SNMP v2, v3
- XML Configuration records via CLI or FTP

Wireless Features

- Up to 14 Soft Access Point (AP) Connections, Simultaneous Soft AP & Client Mode
- Wi-Fi Direct, Ethernet to Wi-Fi bridging
- Secure Com Port Redirector™

LED Indicators

- System Status | Wi-Fi Wireless Signal Strength | Orange Simplified Diagnostics
- RJ-45 Ethernet (Activity/Link) – status handled through ports

Physical Dimensions

- Dimensions: 11cm (4.3 in) X 8.9cm (3.5 in) x 2.6cm (1.0 in)
- Weight: 0.35 kg (0.77 lb)

Environmental

- Extended Operating Temp: -40° to 70° C (-40° to 158° F)
- Extended Storage Temp: -40° to 85° C
- Storage Humidity: 10 to 97% - Relative Humidity: 5 to 95%, Non-condensing
- ESD tolerance: Contact Discharge= 4Kv, Air Discharge=15Kv
- IP Rating: 30

Operating Modes

- Bridging Mode
 - Ethernet to Wi-Fi Client (Transparent Bridge, Dual-Hosted)
 - Ethernet to Wi-Fi Client and Soft AP concurrently
 - Soft AP to Ethernet Host
 - USB (RNDIS) to Wi-Fi Client, Wi-Fi AP or ethernet concurrently
- Gateway Mode
 - Serial, USB and Ethernet to Wi-Fi Client

Power

- Input: Power over Ethernet (optional)
- Input: DC barrel, 9-30 VDC

- Input: USB Type C I/O connector
- Power Consumption = 1.9W typical without USB Load, 5.5W max with USB Load
- Optional Power Supply – (100-240 VAC, 50-60 Hz, 12 VDC @ 1A) with regional adapters
- Output: 5V / 500 mA via USB Type C connector (in Host mode) when used with Optional Power Supply

Certifications

- IEC/EN60601-1-2 4th edition, FCC, IC, EU RED, UL/CE, ANSI/AAMI ES60601-1, CISPR32, UL/IEC60950 (see SGX user guide for full list)

Warranty

- Industry-leading 5-Year Limited Warranty

* Future Features

Ordering Information

SGX51501M2US	SGX 5150 MD Wi-Fi IoT Device Gateway, 1 Serial Ports, 802.11ac, 10/100 Ethernet, USB with Power Supply Level 6 (520-160-R) and 2 antennas included in the box. North America Version.
SGX51502M2US	SGX 5150 MD Wireless IoT Gateway only, with antenna and level 6 medical grade power cord and power supply included in the box. North America Version.
SGX51501M2ES	SGX 5150 MD Wireless IoT Device Gateway, 802.11a/b/g/n/ac, USB, 10/100 Ethernet, 256M flash included in the box. European and WW Version.
SGX51502M2ES	SGX 5150 MD Wireless IoT Device Gateway, 802.11a/b/g/n/ac, USB, 10/100 Ethernet, 256M flash included in the box. Japan ONLY.

Accessories

Accessories	Description
SGX5150BKT	SGX 5150 Mounting Bracket
520-154-R	Power Supply, Wall Cube, 12VDC 10W, 2.1mm Barrel Connector, 4 AC Plugs, Efficiency Level VI, PSE, RoHS
520-141-R	Power Supply, Desktop, 60601-1, 100-240VAC, 12VDC 10W, 2.1mm Barrel Connector, 150cm Cord, C14 AC Input, 0-40C, Efficiency Level V, RoHS
500-247-R	Cable, USB Type C to USB-A Male 2.0, 1000mm, Black, RoHS
500-110-R	Cable, CAT5E Ethernet, 10'
500-101	Cable, RJ45 to DB9M DTE, 6' for Connection to a DB9F DCE Device
200.2071	Adapter, RJ45 to DB9M DTE, for Connection to a DB9F DCE Device

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