Features at a Glance

WIRELESS AND WIRED CONNECTIVITY

Gather data via Bluetooth 5, Ethernet, Serial, and USB, and then send it over high-performance 2x2 MIMO 802.11ac Wi-Fi or Global LTE Cat 1 (3G/2G fallback) to the cloud.

SOFTWARE SUPPORT FOR THE CLOUD-NATIVE OR EMBEDDED-EXPERT

Choose the best software for you – go cloud-native with built-in integration of AWS IoT and AWS IoT Greengrass or use our long-term supported Linux BSP.

SIGNED AND SECURED AT EVERY LAYER

Our Chain of Trust architecture creates secure devices that only runs approved software and stores data and files in encrypted memory.

STAY SECURE FOR YEARS

Get peace of mind with Laird Connectivity's continuous security updates to the Laird Connectivity OS. With the AWS variant, get updates deployed over-the-air right to your gateways in the field.

CERTIFIED FOR DEPLOYMENT AROUND THE WORLD

Regulatory approvals for FCC (USA), IC (Canada), CE (Europe), MIC (Japan), UL. LTE variants carry PTCRB, GCF, AT&T.

PERSONAL SUPPORT AND SERVICES FOR YOUR IMPLEMENTATION

Laird Connectivity's Tier 2 and FAE support bring expert assistance to your integration, working with you and our engineering team to reduce your time to market.

Sentrius™ IG60 Wireless IoT Gateways

Multi-wireless IoT gateways with Bluetooth 5, Wi-Fi, LTE Cat 1, Ethernet, USB, Serial (RS-232/422/485), and SD card

- Best-in-class wireless performance with Bluetooth 5, 802.11ac Wave 2 Wi-Fi, Global LTE Cat 1
- Over-the-air security and application updates and hardware root-of-trust security
- Cloud-native software and mobile app allows AWS connectivity in minutes with no coding
- Linux BSP provides an option for embedded experts

The Sentrius™ IG60 brings all of Laird Connectivity's industrial wireless and IoT capabilities into one unique solution. Based on Laird Connectivity's 60-series and BL654, capture data from legacy serial (RS-232, 422, 485) industrial devices or Bluetooth 5 sensors, add edge intelligence, and send to the cloud with 802.11ac Wi-Fi and global LTE Cat 1 (3G/2G fallback) wireless connectivity.

For cloud-native organizations:

AWS IoT Greengrass Version:

- Manage your applications over-the-air, from the cloud, using integrated AWS IoT Greengrass
- Take the expertise out of deployment with our iOS and Android mobile app
- Stay secure in the field with automatic over-the-air security updates for 2 years

For embedded Linux experts:

Laird Connectivity Linux Version: A long-term supported, open platform for your application, provided with our Linux Buildroot platform, hardware root of trust, and development tools.

- **802.11ac Wave 2 Wi-Fi (Marvell 88W8997) -** 2x2 MIMO
- **Onboard Cortex A5**
- **Nordic nRF52840 (IG60-BL654 variant only)** – BT v5, Coded PHY (long range), 2MPHY, Cortex-M4F co-processor
- **LTE Cat 1 global connectivity with 3G/2G fallback (Gemalto PLS62-W, LTE variants only)**
- **Industrial Temp Range** – Operating range -30° to +85° C (+60° C for LTE variants)
- **Globally & Carrier Certified** – FCC, IC CE, MIC, UL, BT SIG plus PTCRB, GCF and **End Device** certified – AT&T
- **Native AWS IoT Greengrass integration** – iOS and Android mobile app allow connection to your AWS account in minutes with no coding
- **Long term OS updates,** delivered over-the-air (AWS variant only) or through Laird Connectivity's support team (Linux variant)
- **Hardware root-of-trust based secure boot (in development)**

Bluetooth 5 Sensor Connectivity

Industrial IoT

Medical IoT

Smart Buildings

IG60-BL654	IG60-BL654-LTE	IG60-SERIAL	IG60-SERIAL-LTE
			

COMMON TO ALL IG60 GATEWAYS		
Compute	MPU	Cortex A5, 536 MHz
Memory	RAM	256 MB LPDDR RAM
	Onboard Flash	512 MB NAND Flash
	Additional Storage	SD card support
External Interfaces	Ethernet	1x 10/100 Mbit/s and 1x 10/100/1000 Mbit/s with IEEE 1588
	USB	1x USB 2.0 Host
	SD Card	1x MicroSD slot (SDHC, SD Card 2.0) for additional external storage
Wi-Fi	Wi-Fi Standard	802.11ac with 2x2 MU-MIMO
	Radio	Marvell 88W8997
	Security Standards	WEP, WPA, WPA2, EAP-FAST, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-TLS*, EAP-TTLS* *Note: Available with Linux software version only
Physical	Dimensions	85mm x 22mm 100mm (without antennas or mounting brackets)
Electrical	Input Voltage	9-30 VDC (AC power adapters available)
Environmental	Relative Humidity	0-95% Non-condensing

	IG60-BL654	IG60-BL654-LTE
	With Bluetooth Co-Processor	
Specification	Bluetooth 5	Bluetooth 5
PHY Support	LE, 1M, 2M	LE, 1M, 2M
Radio	Nordic nRF52840	Nordic nRF52840
CPU	Cortex-M4F	Cortex-M4F
Memory	1 Mbit Flash	1 Mbit Flash
	256k RAM	256k RAM
Software	Laird *smart*Basic	Laird *smart*Basic
	Nordic SoftDevice	Nordic SoftDevice
	Zephyr	Zephyr
	FreeRTOS	FreeRTOS
Cellular	N/A	
Radio		Gemalto PLS62-W
Region		Global
4G LTE		Bands 1,2,3,4,5,7,8, 12,18,19,20,28
3G		Bands 1,2,4,5,8,9
2G		850, 900, 1800, 1900 MHz
Certifications		
RF	FCC, IC, CE, MIC	FCC, IC, CE, MIC
Safety	CE, UL, IEC62368-1	CE, UL, IEC62368-1
Cellular Certifications	N/A	PTCRB, GCF, AT&T, Vodafone
Operating Temperature	-30° to +85°C (-22° to +185°F)	-30° to +60°C (-22° to +140°F)
Antenna Ports	3x SMA, front-face	3x SMA, front-face 2x SMA, back-face
Mounting	DIN-rail, wall mount	Wall mount only

	IG60-SERIAL	IG60-SERIAL-LTE
	With Serial Port	
Connector	1x DB-9	1x DB-9
Standards	RS-232/422/485	RS-232/422/485
Isolation	1.5 kV	1.5 kV
Protocols	ASCII	ASCII
	Modbus	Modbus
	Proprietary	Proprietary
Bluetooth		
Specification	Bluetooth 4.2	Bluetooth 4.2
Radio	Marvell 88W8997	Marvell 88W8997
Software	BlueZ (HCI)	BlueZ (HCI)
Cellular	N/A	
Radio		Gemalto PLS62-W
Region		Global
4G LTE		Bands 1,2,3,4,5,7,8, 12,18,19,20,28
3G		Bands 1,2,4,5,8,9
2G		850, 900, 1800, 1900 MHz
Certifications		
RF	FCC, IC, CE	FCC, IC, CE
Safety	CE, UL, IEC62368-1	CE, UL, IEC62368-1
Cellular Certifications	N/A	PTCRB, GCF, AT&T, Vodafone
Operating Temperature	-30° to +85°C (-22° to +185°F)	-30° to +60°C (-22° to +140°F)
Antenna Connectors	2x SMA, front-face	2x SMA, front-face 2x SMA, back-face
Mounting	DIN-rail, wall mount	Wall mount only

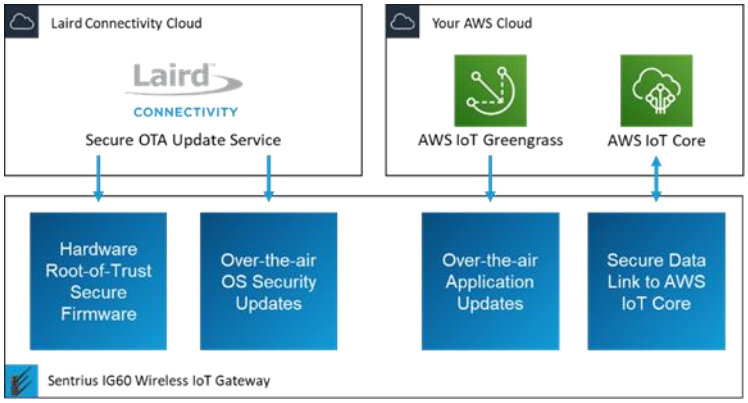
Interested in Laird's Sentrius IG60? Visit us at https://www.lairdconnect.com/iot-devices/iot-gateways/sentrius-ig60-wireless-iot-gateway

Laird CONNECTIVITY

For cloud-native organizations without embedded or wireless expertise

Sentrius IG60 with integrated AWS IoT Greengrass, deployment tools, and managed IoT security services

- Securely connect to your AWS cloud in minutes with a mobile app – *no coding or compiling required!*
- Deploy your applications instantly, over-the-air, using AWS IoT Greengrass
- Data flows directly to your cloud via AWS IoT Core
- Gateways in the field receive automatic, over-the-air security updates
- All gateway firmware is secured out-of-box with a hardware root-of-trust



IoT Technology	Application	AWS IoT Greengrass
	Scripting Languages Supported	Python, Node.JS
	Data Broker	AWS IoT Core (MQTT)
	IoT Security	X.509 Certificates
	Mobile App Support	iOS, Android
Embedded Security	Secure Boot	Hardware Root-of-Trust (in development)
	Over-the-Air Linux Security Updates	2 years

For engineering organizations with embedded experience looking for multi-wireless connectivity

Sentrius IG60 with Laird Linux and Chain of Trust Security

- Develop your application on top of a long-term supported (LTS) Buildroot environment
- Complete set of development tools including precompiled SDK and tool chain, IDE support, and a host communications API
- Annual major releases and bi-annual minor releases for new security updates
- Achieve best-in-class wireless performance using our performance-optimized Wi-Fi supplicant and Bluetooth programming language, *smart*Basic (IG60-BL654 only).
- Secure processes for secure boot and ongoing security maintenance via Laird's Chain of Trust (in development)

Linux	Linux Kernel	v4.19
	Build Environment	Buildroot
	Development Tools	Use precompiled SDKs & images or build your own. Host communications API, Eclipse IDE Support, Laird Connection Manager
Security	Chain of Trust	Secure boot, encrypted file system (in development)

One wireless IoT hardware platform.
Two software approaches to match your needs.

Ordering a Sentrius IG60

Gateways

GATEWAY	CONTENTS	SOFTWARE	PART NUMBER
IG60-BL654	• 1x Sentrius IG60 Bluetooth 5 (BL654) and Wi-Fi • 3x dipole antennas • 1x DIN-rail mounting bracket • 1x wall mounting bracket • 8x screws for mounting brackets ***Power supply not included – choose an option below***	Laird Linux	455-00076
		AWS IoT Greengrass	455-00081
IG60-BL654-LTE	• 1x Sentrius IG60 Bluetooth 5 (BL654), Wi-Fi, and LTE gateway • 5x dipole antennas • 2x SIM cards (AT&T and Global) • 1x wall mounting bracket • 8x screws for mounting brackets ***Power supply not included – choose an option below***	Laird Linux	455-00088
		AWS IoT Greengrass	455-00089
IG60-SERIAL	• **1x Sentrius IG60 Serial, BLE4.2, and Wi-Fi gateway** • **2x dipole antennas** • **1x DIN-rail mounting bracket** • **1x wall mounting bracket** • **8x screws for mounting brackets** • 1x AC power supply included 1x DC power cable included	Laird Linux	455-00006
		AWS IoT Greengrass	455-00008
IG60-SERIAL-LTE	• 1x Sentrius IG60 Serial, BLE4.2, Wi-Fi, and LTE gateway • 4x dipole antennas • 2x SIM cards (AT&T and Global) • 1x wall mounting bracket • 8x screws for mounting brackets ***Power supply not included – choose an option below***	Laird Linux	455-00084
		AWS IoT Greengrass	455-00085

Power Supplies

REGION	DESCRIPTION	PART NUMBER
US	AC Adapter, 12V-4A, US, 4-pin 7.5mm x 9.2mm Plug	223-00007
Europe	AC Adapter, 12V-4A, EU, 4-pin 7.5mm x 9.2mm Plug	223-00008
UK	AC Adapter, 12V-4A, UK, 4-pin 7.5mm x 9.2mm Plug	223-00009
Global - DC	DC Cable, 20AWG, UL2464, 41 Strands, Black	131-00225
Global – AC	AC Adapter, Global (US, EU, UK) – **Not UL Rated**	223-00004

For documentation visit documentation.lairdconnect.com

To launch the out-of-box demonstration, visit demo.lairdconnect.com