

SECURE, SCALABLE WIRELESS SENSORS FOR LONG RANGE IOT APPLICATIONS



Laird's Sentrius™ RS1xx Series is a **battery powered, long range integrated sensor platform** leveraging the benefits of LoRaWAN and Bluetooth Low Energy (BLE) connectivity. Its small, rugged form factor contains superior RF performance and flexibility with **precise temperature and humidity sensors**, and room for future expansions. At its core, the RS1xx series utilizes Laird's field-proven and reliable RM1xx module hardware, providing **LoRaWAN** options in **868 and 915MHz** frequencies, plus **BLE** for local data display, configuration and troubleshooting. Based on the **Semtech SX1272** and **Nordic nRF51 silicon**, it offers a **LoRa range up to 10 miles** with a local 2.4 GHz connectivity option to smartphones and tablets. The RS1xx Series works with Laird's Sentrius™ RG1xx Series of LoRa / multi-wireless gateways for simple out-of-the-box integration, and is compatible with 3rd party Cloud and LoRa network ecosystem partners.

FEATURES AT A GLANCE

YOUR WIRELESS NETWORK



Develop a fully-owned private LoRa network to capture, route, and process IoT data for your application - choose from RM1xx modules, RS1xx finished sensors or RG1xx Gateways



RUGGED DURABILITY WITH A BROAD SENSOR ARRAY

Robust enclosures provide a robust and resilient platform for recording and delivering sensor data from a range of harsh environments



COMPREHENSIVE SECURITY AND RELIABILITY

Robust multi-layer security at each interface to safeguard your network at every level



BROAD CERTIFICATION AND APPROVALS

FCC, IC, CE and Bluetooth SIG listing (all pending)



PLATFORM FOR BUILDING ACTIONABLE IOT INTELLIGENCE

Route sensor data to the Cloud with Laird's simplified wireless connectivity deployment



PERSONAL SUPPORT FOR YOUR IMPLEMENTATION

Support works with Laird engineering to help configure and deploy your application

- **Multi-wireless:** LoRaWAN (868 / 915 MHz) and Bluetooth v4.2 (Central / Peripheral) with fully integrated high-performance antennas
- **Multi sensor:** Temperature and Humidity, (future options for a range of additional sensors via expansion port)
- **Fully certified:** for FCC/IC/CE and Bluetooth SIG
- **Simple wireless configuration:** using mobile application and BLE.
- **Harsh Environments:** Robust enclosure to serve many varied installation needs
- **Integrated out of the box networks:** Default configuration with Laird RG1xx gateways for simple, out-of-the-box cloud connectivity

APPLICATION AREAS



Cold Chain Management and Food Safety



Agricultural Humidity and Environmental Monitoring



Industrial Heating and Cooling

SPECIFICATIONS

Category	Feature	Specification
Chipset	LoRa®	Semtech SX1272
	Bluetooth®	Nordic nRF51822 – 256k / 32k
	LoRa Frequencies	863 – 870 MHz (EU), 902 – 928 MHz (US)
Sensors	Temperature	-10° to +85°C (+/-0.4°C)
	Accuracy Ranges	-40° to +125°C (+/-0.9°C)
	Humidity Accuracy Ranges	0 – 90% RH (+/- 3%) 90 – 100% RH (+/- 4.5%)
	Integrated	Custom Laird antenna for 868 or 915MHz Ceramic chip antenna for 2.4GHz
Power	Battery	2 x AA - replaceable
Software	Mobile Application	Android & iOS – Remote sensor display and/or configuration + Firmware Update
	Data logging	10,000 measurements (256k of flash memory available)
Storage	Status	3 – BLE and LoRa status
LED	User Input	Multi-use – default BLE Pairing
Button	Dimensions	116 x 91 x 34 mm
Physical	Operating Temp.	-25° to +50°C
Environmental	Storage Temperature	-40° to +50°C
Regulatory	Approvals	FCC, IC, CE, Bluetooth SIG
Warranty		1-Year Warranty



The Sentrius™ RS1xx Series LoRa / BLE sensor features integrated antennas, temperature and humidity sensors in rugged enclosures.

ORDERING INFORMATION

Part Number	Description
455-0002	Sentrius™ RS1xx Sensor - 868MHz Temp / Humidity including LoRa & BLE
455-0004	Sentrius™ RS1xx Sensor - 868MHz Temp / Humidity including LoRa & BLE – Bulk Packaging
455-0001	Sentrius™ RS1xx Sensor - 915MHz Temp / Humidity including LoRa & BLE
455-0003	Sentrius™ RS1xx Sensor - 915MHz Temp / Humidity including LoRa & BLE – Bulk Packaging

Did You Know?

LSR, a Laird Business, is a leader in Wireless Product Development, offering true end-to-end solutions through its array of services & technical expertise



Design Services

- RF Hardware & Antenna Design
- Software/Firmware Development
- Mobile App / Cloud Development
- Industrial Design
- Mechanical Engineering



EMC Testing & Certification

- On-Site FCC/IC/CE/Giteki/RCM EMC Certification
- Wireless & Antenna Testing
- EMC Emissions Testing
- International Testing Services

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