

## YOUR PRIVATE INDUSTRIAL IOT PLATFORM. CLOUD-READY ON DAY ONE.



**NEW:** Sensor variants supporting LoRaWAN regions AU915-928 and a growing number of countries in the AS923 region

Laird Connectivity's **Sentrius<sup>™</sup> RG1xx Series** LoRaWAN-enabled gateway is the ultimate in secure, scalable, robust LoRaWAN solutions for end-to-end control of your private LoRaWAN network. Leveraging our field-proven, reliable WB50NBT wireless bridge certified module, it also offers enterprise **dual-band Wi-Fi and wired Ethernet** for complete design freedom. Based on the **Semtech SX1301/SX1257 chipset designs**, it offers a **LoRaWAN range up to 10 miles** and pre-loaded **LoRa Packet Forwarder software**, perfect for highly scalable, flexible IoT networks. The Sentrius RG1xx Gateway **works with our RM1xx certified modules and RS1xx Series sensors** for simple out-of-the-box integration. It is compatible with third-party Cloud and LoRa partners, as well as any LoRaWAN certified client devices. Laird Connectivity's Sentrius RG1xx Series Gateway gives you multi-protocol connectivity to your long-distance IoT sensors and devices to create actionable IoT intelligence.

- **Full Linux operating system** – Kernel v4.x running on Atmel A5 Core @ 536 MHz
- **Multiple interfaces** such as LoRaWAN, Wi-Fi 802.11a/b/g/n and Ethernet
- **8-Channel LoRaWAN support** with up to +27 dBm max transmit power
- **Comprehensive Certifications** for FCC, IC, CE, ASNZS, NCC
- **Industrial temperature range** (-30° to +70° C)
- **Advanced deployment tools** including intuitive web-based configuration and integrated presets for multiple external LoRa Network Server vendors
- **Enterprise-grade security** built on our years of experience in wireless
- **Industry-leading support** works directly with our engineers to help deploy your design

## FEATURES AT A GLANCE



### AGGREGATE AND UTILIZE IoT DATA

Develop a fully-owned private LoRaWAN network to capture, route, and process IoT data for your application.



### MULTIPLE INTERFACE OPTIONS FOR ULTIMATE DESIGN CHOICE

Wide variety of connectivity interfaces: LoRaWAN, Dual Band Wi-Fi (2.4 and 5 GHz), Ethernet and BT v4.0 (BLE and Classic – not implemented in GA1).



### COMPREHENSIVE SECURITY AND RELIABILITY

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



### BROAD CERTIFICATION AND APPROVALS

Fully certified for FCC, IC, and CE and Bluetooth SIG listing.



### PLATFORM FOR BUILDING ACTIONABLE IoT INTELLIGENCE

Route sensor data to the Cloud with our integrated LoRa Packet Forwarder software for simple application deployment



### PERSONAL SUPPORT FOR YOUR IMPLEMENTATION

Partner with Laird Connectivity's Tier 2 support and engineering to help configure and deploy your application.

## APPLICATION AREAS



Smart Metering and Remote Sensing



Industrial Automation/Monitoring and Control



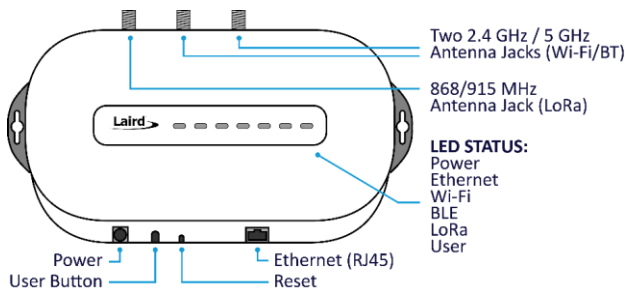
Agricultural and Rural IoT/M2M Applications

## Shared Specifications

| Category                        | Feature                 | Specification  |
|---------------------------------|-------------------------|--|
| <b>Chipset</b>                  | LoRa®                   | Semtech SX1301/1257  |
|                                 | Bluetooth®              | Cambridge Silicon Radio CSR8811 A08  |
|                                 | Wi-Fi                   | Qualcomm Atheros QCA6004   |
| <b>Wireless Characteristics</b> | Wi-Fi Spatial Streams   | 2x2 MIMO   |
|                                 | Wi-Fi Frequencies       | 2.4 and 5 GHz Operation  |
|                                 | LoRa Frequencies        | EU 863 – 870 MHz, US 902 – 928 MHz, Australia 915 – 928 MHz and AS923 (TW, HK, NZ, AU)   |
| <b>Interfaces</b>               | Wired                   | Ethernet - RJ45 Connector  |
|                                 | Wireless                | LoRaWAN, Wi-Fi 2.4/5 GHz   |
| <b>Power</b>                    | Supply Voltage          | 12V/1A   |
|                                 | Power Adapter           | External DC Power Supply with regional plug adapter  |
| <b>Security</b>                 | Wi-Fi                   | Standards - WEP, WPA, WPA2. Encryption – WEP, TKIP, AES<br>EAP Types - EAP-FAST, EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAP, PEAP-SCHAPv2, PEAP-TLS, LEAP  |
|                                 | Operating System        | Embedded Linux, 4.x Kernel   |
| <b>Software</b>                 | LoRa                    | Packet Network Forwarder with default support for the following: <ul style="list-style-type: none"> <li>▪ The Things Network with proprietary TTN or legacy Semtech UDP forwarder</li> <li>▪ Stream communications with UDP forwarder</li> <li>▪ loraserver.io with UDP forwarder or MQTT bridge</li> <li>▪ Senet through legacy Semtech UDP or proprietary Senet forwarder</li> </ul> |
|                                 | Configuration           | Web-based interface via Ethernet/Wi-Fi   |
| <b>Physical</b>                 | Dimensions              | 133 x 275 x 30 mm  |
| <b>Environmental</b>            | Operating Temp.         | -30° to +70°C  |
| <b>Regulatory</b>               | Approvals               | FCC, IC, CE, ASNZS, NCC  |
| <b>Accessories</b>              | Included                | 1x 868 MHz, 915 MHz, 923 MHz antenna, 2x 2.4 /5 GHz antennas, External DC Adapter, Ethernet cable  |
| <b>Enclosure</b>                | Standard                | Moulded plastic housing  |
|                                 | Option - IP67 Enclosure | Optional IP67-rated external enclosure housing for main gateway PCB  |
| <b>Warranty</b>                 |                         | 1-Year warranty  |

For full specifications on RG1xx Gateways, please see the RG1xx User Guide.

## CONNECTOR DIAGRAM (STANDARD RG1XX)



## ORDERING INFORMATION

| Part             | Description  |
|------------------|--|
| <b>RG191</b>     | Sentrius™ RG191 Gateway – 915 MHz, including LoRaWAN, Wi-Fi & Ethernet – US Accessory Kit        |
| <b>RG186</b>     | Sentrius™ RG186 Gateway – 868 MHz, including LoRaWAN, Wi-Fi & Ethernet – EU Accessory Kit        |
| <b>455-00028</b> | Sentrius™ RG186 Gateway – 868 MHz, including LoRaWAN, Wi-Fi & Ethernet – UK Accessory Kit        |
| <b>450-0191</b>  | Sentrius™ RG191 Gateway – 915 MHz, including LoRaWAN, Wi-Fi & Ethernet - IP67                    |
| <b>450-0190</b>  | Sentrius™ RG186 Gateway – 868 MHz, including LoRaWAN, Wi-Fi & Ethernet - IP67                    |
| <b>455-00054</b> | Sentrius™ RG1xx Gateway – 923 MHz, including LoRaWAN, Wi-Fi & Ethernet – Taiwan                  |
| <b>455-00055</b> | Sentrius™ RG1xx Gateway – 923 MHz, including LoRaWAN, Wi-Fi & Ethernet – New Zealand             |
| <b>455-00056</b> | Sentrius™ RG1xx Gateway – 923 MHz, including LoRaWAN, Wi-Fi & Ethernet – Hong Kong               |
| <b>455-00057</b> | Sentrius™ RG1xx Gateway – 923 MHz, including LoRaWAN, Wi-Fi & Ethernet - Australia (AU915+AS923) |
| <b>690-1002</b>  | Pole Mount Bracket - Accessory for 450-0190 or 450-0191  |
| <b>690-1003</b>  | Wall Mount Bracket - Accessory for 450-0190 or 450-0191  |