

## HIGH-PERFORMANCE LoRa-ENABLED GATEWAY CARD FEATURING M2.COM INTERFACE



The **Sentrius™ RG1xx-M2 LoRa-enabled concentrator card** combines Laird's long-standing expertise in optimized RF design with the emerging LoRaWAN ecosystem. The Sentrius RG1xx-M2 card enables OEMs to integrate a high-performance, certified LoRaWAN gateway interface to any Linux based platform. Laird's optimum hardware solution expands upon Semtech drivers and reference design for improved RF performance. Comprehensive integration and design services for a custom gateway are also available via Laird's dedicated Engineering Services team, as are qualified LoRa antenna solutions from Laird.

- **Optimized RF performance** – Improvements over Semtech reference design for:-
  - Power variation over temperature
  - Performance over frequency
- **Superior TX Performance** – Up to +27dBm
- **Standardized Interface** – M2 connector with compliance to [M2.COM](#) standard E type key.
- **Comprehensive Certifications** – FCC, IC, CE

## Partner with Laird to create your own custom LoRa-enabled gateway

From embedded hardware, easy-to-connect antennas to expert integration services, Laird provides a comprehensive array of capabilities to build a customized LoRaWAN implementation, including:



### LoRa-Equipped Concentrator card

Quickly add LoRaWAN capability to any Linux-based Gateway design via standard M2.COM interface.

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### Product Development Services

Laird is your partner for enclosure design, Linux driver implementation, FCC/IC/CE Certification testing, and more.

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### Antennas

Laird offers a family of high-gain omnidirectional antennas ideally suited for LoRa applications.

## Application Areas



Smart Metering and Remote Sensing



Industrial Automation/Monitoring and Control



Agricultural and Rural IoT / M2M Applications

## Shared Specifications

Category	Feature	Specification
General Radio	<b>Semtech Radios</b>	SX1301 and SX1257 (x2)
	<b>Reference Design</b>	Based on Semtech Rev 1.0 - SX1301 AP1
Connectors	<b>Connector Type</b>	M2.COM E Key - <a href="http://www.m2com-standard.org/en-us">http://www.m2com-standard.org/en-us</a>
	<b>External Antenna</b>	u.FL connector
Power	<b>Consumption</b>	TX (max): 440mA.
		RX (all channels): 340mA
		Idle: 40mA
Voltage	<b>Input</b>	5V (+/- 10%)
RF Characteristics	<b>Frequency Range</b>	RG186-M2 863 to 870 MHz
		RG191-M2 902 to 928 MHz
	<b>RX sensitivity</b>	Up to -140 dBm
	<b>Max RF Output Power</b>	Up to +27 dBm
Software	<b>Host Interface</b>	SPI
	<b>Driver Support</b>	<a href="https://github.com/Lora-net/lora_gateway">https://github.com/Lora-net/lora_gateway</a> (Laird testing done with Linux)
Temperature	<b>Operating Range</b>	-30 to +85
Physical	<b>Dimensions</b>	75 x 53 x 3.8 mm
	<b>Weight</b>	<11g
Regulatory	<b>Certifications</b>	FCC / IC / CE
Warranty		12 months

## Ordering Information

RG186-M2	LoRaWAN Concentrator Card – M2.COM Interface (Europe)	Q2 2017
RG191-M2	LoRaWAN Concentrator Card – M2.COM Interface (N. America)	Q2 2017

## Related Products

### Sentrius™ RM1xx - LoRa + BLE Certified Modules



LoRa Class 1 + Bluetooth Low Energy module with smartBASIC for automated / hostless operation. Now with Bluetooth Central Mode.

[www.lairdtech.com/products/rm1xx-series](http://www.lairdtech.com/products/rm1xx-series)

### Sentrius™ RG1xx – LoRa-Enabled Gateway



LoRa Class 1, Bluetooth Low Energy and 802.11ac Wi-Fi, completing the end-to-end solution for your own private, custom LoRaWAN network.

Coming Q2 2017

## 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



a Laird Business



### 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

To learn more about LSR visit:  
[www.lsr.com](http://www.lsr.com)