

Series 2 EIC

Data Sheet



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Contact Us:

To provide feedback about this document, email us at ustechnicaldocumentation@landisgyr.com

Technical Support: 1-888-390-5733 | solutionsupport.na@landisgyr.com

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Introduction

Landis+Gyr's Edge Intelligence Card is an integral Gridstream® Connect Internet-of-Things (IoT) component that transforms devices into intelligent edge sensors regardless of communications capabilities. Gridstream® Connect is the only utility IoT platform designed to meet today's industry challenges while providing a platform for growth and innovation as needs evolve. The Edge Intelligence Card enables simple and seamless device integration. Leveraging flexible communications and application environment capabilities, the Edge Intelligence Card supports Gridstream® Connect's full end-to-end standards-based application layer security and automation capabilities to utility Distribution Automation devices and an ecosystem of IoT sensors. This enables utilities who wish to leverage third-party communications networks to remain in full control of sensitive information and ensures cybersecurity of sensitive data or control commands when integrated with third party devices.



Figure 1. Series 2 EIC

Table 1. Technical Specification**Digital Signals**

Parameter	Condition	Min	Typ	Max	Units
Output Voltage	High	2.6	3.3		V
	Low		0	0.7	V
Input Voltage	High	2.3			V
	Low			1.0	V
UART Data Rate				115.2	kbps
USB Data Rate	USB2.0 Hi-Speed		480		Mbps
Ethernet Data Rate		10		100	Mbps

WLAN – 2 GHz Receiver

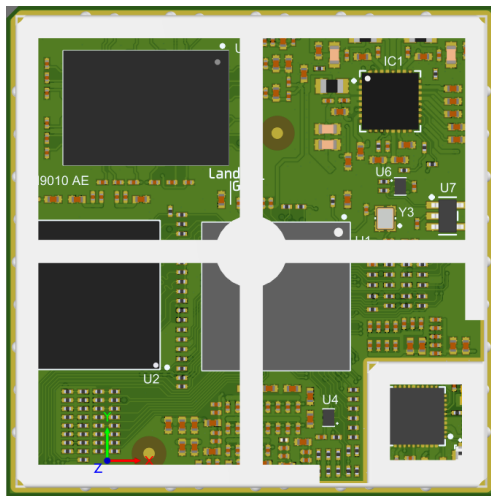
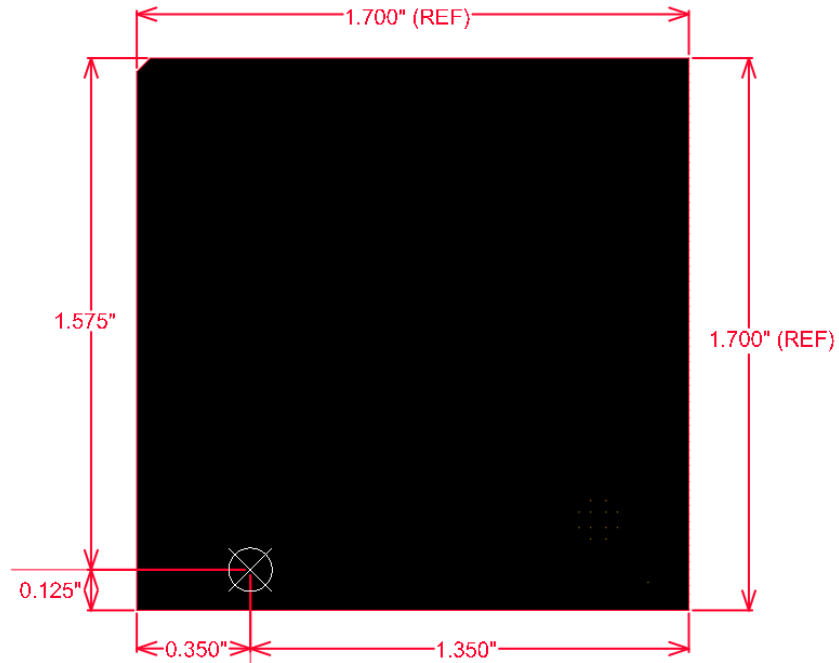
Parameter	Condition	MIN	TYP	MAX	UNIT
Frequency Range		2412		2462	MHz
Sensitivity: 8% PER for 11b rates, 10% PER for 11g/n rates	1Mbps DSSS		-98		dBm
	2Mbps DSSS		-90		
	11Mbps CCK		-90		
	6 Mbps OFDM		-93		
	54Mbps OFDM		-75		
	HT MCS0 MM 4K		-92		
	HT MCS7 MM 4K		-72		

WLAN – 2GHz Transmitter

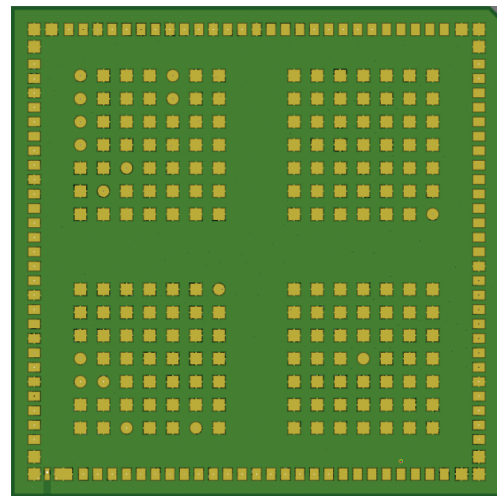
Parameter	Condition	MIN	TYP	MAX	UNIT
Frequency Range		2412		2462	MHz
Maximum output power	1Mbps DSSS		18		dBm
	6 Mbps OFDM		20		
	54Mbps OFDM		17		
	HT MCS0 MM		20		
	HT MCS7 MM		17		

Series 2 EIC Outline

The PCB outline is shown below.



Top with shield frame



Bottom

FCC, Industry Canada Compliance

FCC Class B

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult Landis+Gyr or an experienced radio technician for help.



WARNING: Changes or modifications to this device not expressly approved by Landis+Gyr could void the user's authority to operate the equipment.

RF Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites FCC/ISED d'exposition aux radiations définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radia-teur et votre corps. Cet émetteur ne doit pas être co-implanté ou exploité en conjonction avec une autre antenne ou émetteur.

Requirement for Modular Certification

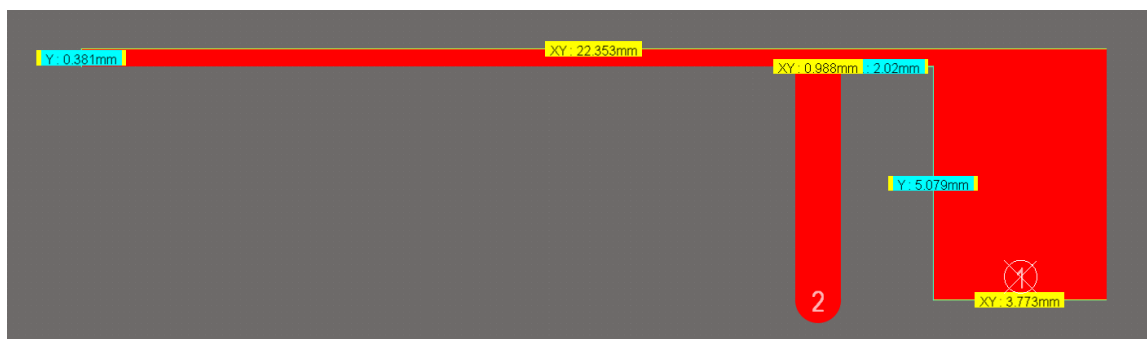
Series 2 EIC is approved for use with the antenna listed below. Antenna types not included in the list below or a having higher gain than the maximum indicated for that type, are prohibited for use with this device.

Approved Antennas

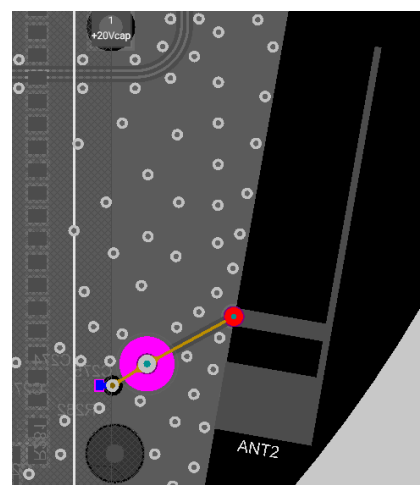
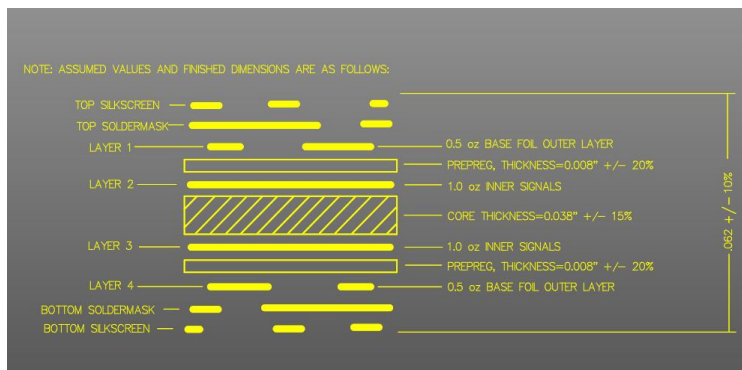
The antennas approved for use with the device:

Frequency	Antenna Type	Max Gain (dBi)	Reference Product
2412-2472 MHz	PCB Printed F Antenna	1.0	Revelo E370

The antenna feed is a Stripline TL and must have a characteristic impedance 50 ohm. Dimensions of the antenna are provided below



PCB stack up and TL



Information on Test Modes and Additional Testing Requirements

A diagnostic test mode is available to device integrators that allows control of the transmitter in order to execute FCC 15.247 compliance testing. This mode of operation provides a basic command interface over a dedicated serial port. Further information on how to enable this mode of operation and a description of the command interface is available to device integrators upon request and under NDA.

Additional Testing, Part 15 Subpart B Disclaimer

The end product with an embedded S2 EIC may also need to pass the FCC Part 15 unintentional emission testing requirements and be properly authorized per FCC Part 15 Subpart B.

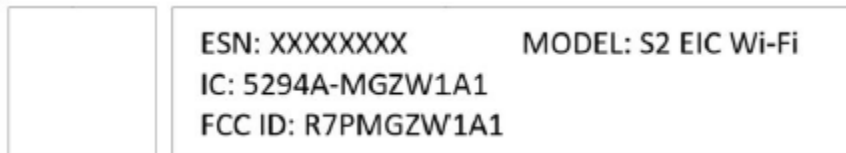
Host Label Requirement

In the final installation, the following information must be visible:

Contains FCC ID: R7PMGZW1A1

Contains IC: 5294A-MGZW1A1

Sample label shown below:



Industry Canada

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

See Requirement for Modular Certification for approved antenna list.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

This device is compliant with CAN ICES-3 (B) / NMB-3 (B) requirements.