Electric / Gas / Water
Information collection, analysis and application

313 North Highway 11
West Union, SC 29696
864.638.8300 Tel
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www.itron.com

NIC
Router Module
Technical Reference Guide
Effective Date: February, 2020

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Revision History

The following table describes the changes to this document for each revision of the NIC router module:

Revision	Date	Description of Change
A	February, 2020	Initial Release

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Labeling

The following requirements will be applied to any products that use this module:

The end product or host label will include the following text:

- **Contains:**
- **FCC ID: SK9NIC**
- **IC: 864G-NIC, Model: NIC**

The user's manual for any product that contains this module will contain the following text. If the device is large enough, then this will also be placed on the label.

"This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."

Regulatory Compliance

The user's manual for any product that contains this module will contain the following text:

Module Compliance

FCC/ISED

This module has been tested and found to comply with the following requirements for Modular Approval.

- Part 15.247 - Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
- RSS-247 - Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices

FCC Part 15, Class B

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.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Additional testing, Part 15 Subpart B disclaimer

The Itron NIC modular transmitter is **only** FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuity), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

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Changes or modifications to this device not expressly approved by Itron, Inc. could void the user's authority to operate the equipment.

Innovation, Science and Economic Development Canada (ISED)

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareillage numérique de la classe B répond à la norme Canadienne sur le matériel brouilleur. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif ne peut pas causer d'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris les interférences pouvant entraîner un fonctionnement indésirable.

Under Innovation, Science and Economic Development Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Innovation, Science and Economic Development 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.

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.

RF Exposure (FCC/ISED)

The user's manual for any product that contains this module will contain the following text:

"This equipment complies with radiation exposure limits set forth as a mobile classification 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 d'exposition aux radiations dans un environnement non contrôlé. Cet équipement do it être installé et utilisé à distance minimum de 20 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec tout autre antenne ou transmetteur."

Miscellaneous

The user's manual for any product that contains this module will contain the following text:

Professional Installation

This module is intended for professional installation by the integrator. The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.

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Antennas

The following external antenna types have been approved for use with the Itron NIC module.

- Monopole, 3dBi gain, (Laird, P/N: TRA9023P)
- Monopole, 2.8dBi gain, (Cisco, P/N: ANT-MP-INT-OUT-M)
- Inverted F (PCB), 2.04dBi gain, (Taoglas)

For situations where the host manufacturer is responsible for an external connector, the integration instructions shall inform the installer that a unique antenna connector must be used on the Part 15 authorized transmitters used in the host product.

Modification and Repairs

To ensure FCC compliance and system performance, this device, antenna and/or coaxial assembly shall not be changed or modified without the express written approval of Itron. Any unauthorized modification will void the user's authority to operate the equipment. WARNING! This device contains no user serviceable parts. Attempts to repair this device by unauthorized personnel may subject the person to shock hazard if removal of protective covers is attempted. Unauthorized repair will void the warranty and/or maintenance contract with your company.

Operational Description

The Itron NIC is a communications module which utilizes a 902.4 MHz to 927.8 MHz transmitter. This module operates within a host unit which is part of a utility network system designed to communicate with other devices in this network such as electricity meters and routers. The module operates on DC voltage which is supplied by the host device.

Test Modes

Itron uses various test mode programs for test set up which operate separate from production firmware. Host integrators should contact Itron for assistance with test modes needed for module/host compliance test requirements.

Recycling Information

The product you have purchased contains circuit boards. At the end of the modules useful life, under various state and local laws, it may be illegal to dispose of certain components into the municipal waste system. Check with your local solid waste officials for details about recycling options or proper disposal.

About this Manual

This technical reference guide describes the installation of the NIC module for the Itron Socket Based Router.

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Installation

The NIC module will be installed in the Itron Socket Based Router (SBR).

Install the NIC module by plugging the module into the PCI slot.

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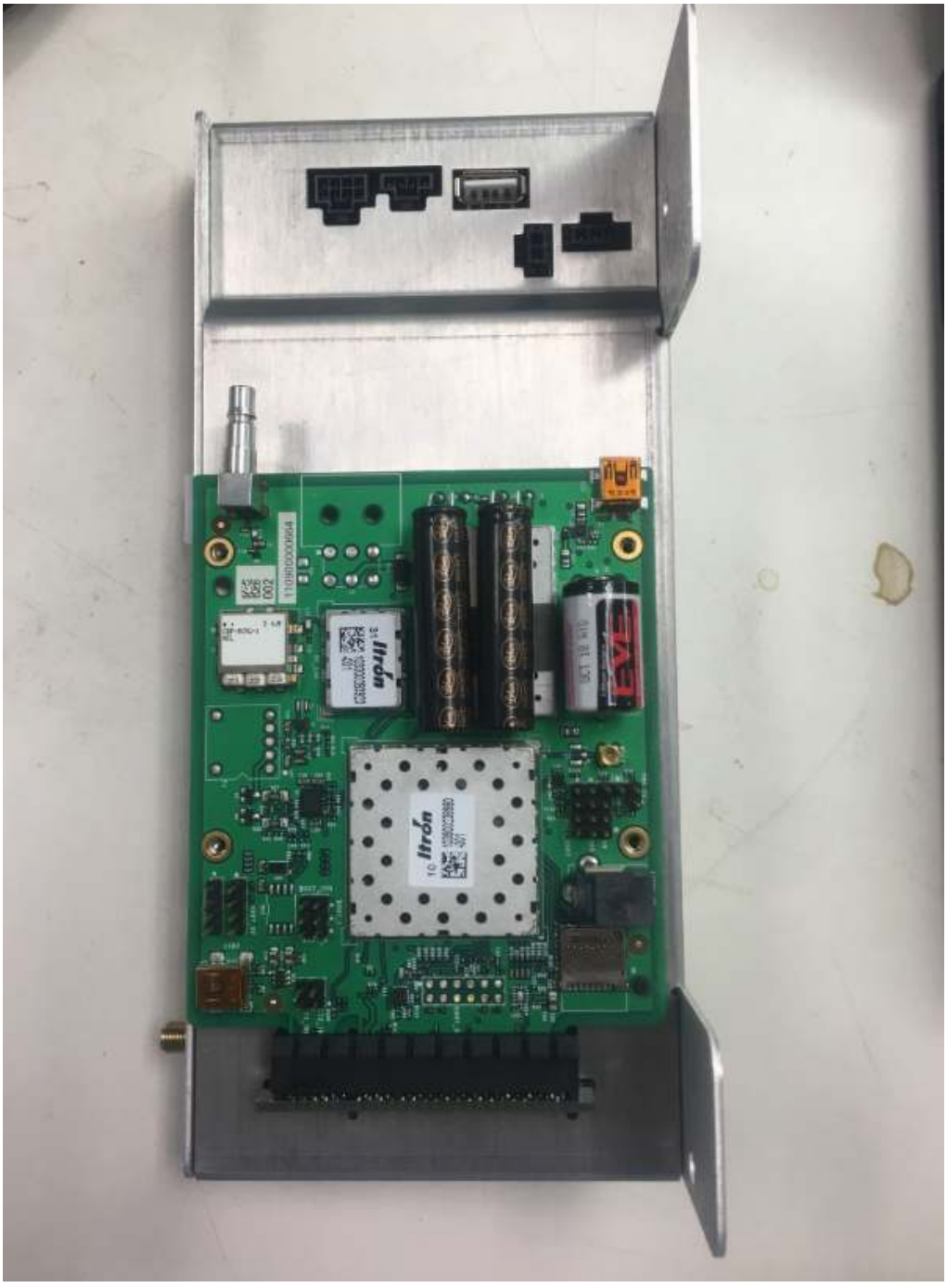

Install the shield that covers the NIC module with only RF QMA connect exposed.

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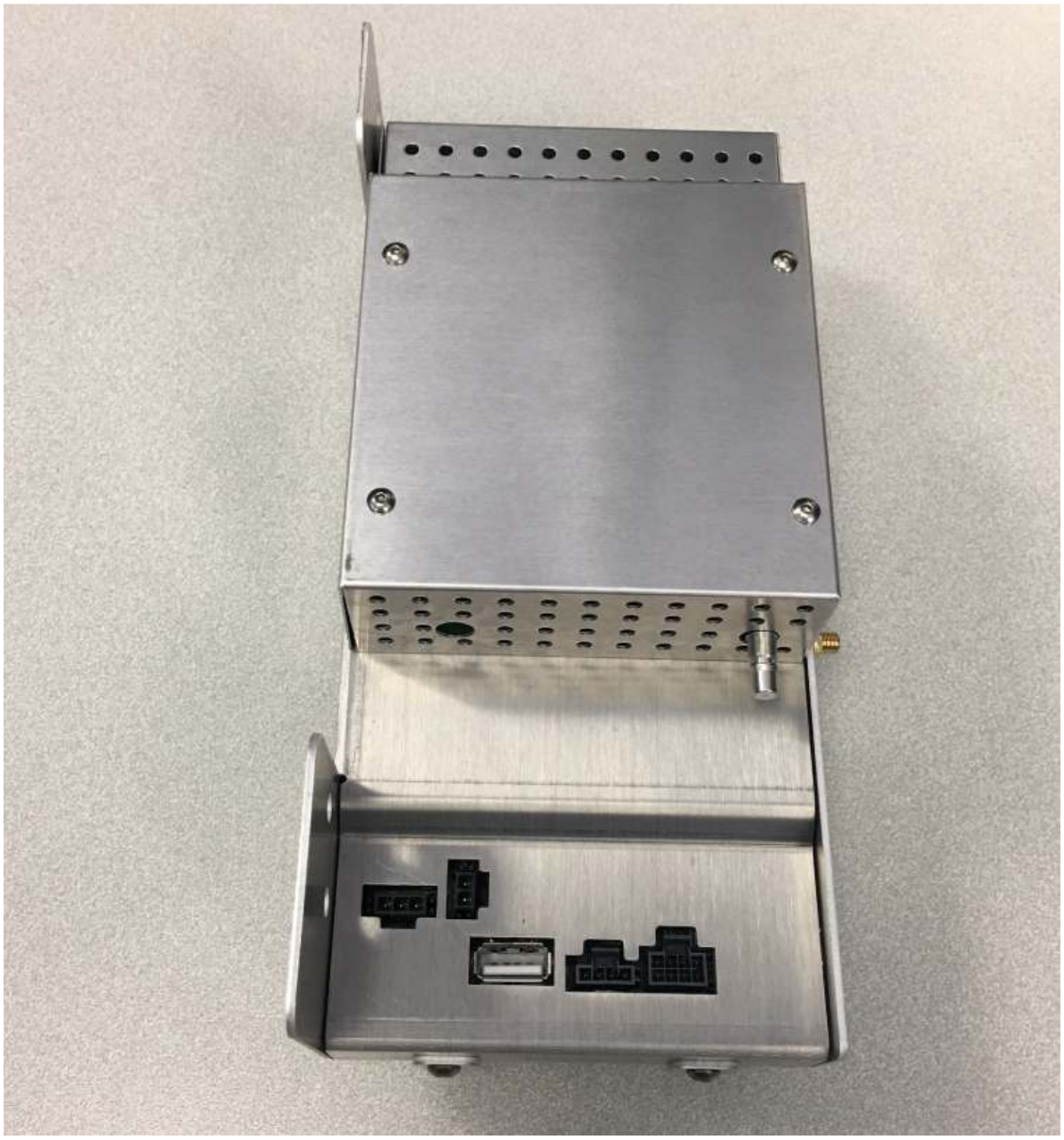

Plug in the covered module in to SBR and connect the cables:

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Electronics assembly (with NIC) installed in SBR host.

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