

# ITRON INC.

# RF EXPOSURE REPORT

## SCOPE OF WORK

RF EXPOSURE CALCULATIONS – WIFI MODULE INTEGRATED INTO THE SOCKET BASED ROUTER  
MAJOR REFRESH (SBR-MR)

## REPORT NUMBER

106368701ATL-003

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13 January 2026

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N/A

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## RF EXPOSURE REPORT

**Report Number:** 106368701ATL-003

**Project Number:** G106368701

**Report Issue Date:** 13 January 2026

**Model / HVIN:** LWB5PLUS

**FCC ID:** SK9LWB5PLUS

**IC:** 864G-LWB5PLUS

**Standards:** FCC Title 47 CFR Part 1.1310  
RSS-102, Issue 6

### Test Location

Intertek  
1950 Evergreen Blvd., Suite 100  
Duluth, GA 30096 USA  
FCC Designation: US1046  
CAB Designator: US0128

### Client

Ittron, Inc.  
313 North Hwy 11  
West Union, SC 29696-2706 USA

Report prepared by



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## 1 Introduction and Conclusion

RF Exposure calculations were performed on the product constructed as described in Section 4. Information provided by the client including maximum output power, antenna gain(s), and minimum separation distance(s) was used to determine if the product under evaluation was exempt from routine evaluation. Any change in these stated values may invalidate these results. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product under evaluation is exempt from routine evaluation for each of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) evaluated. Intertek does not make any claims of compliance for samples or variants which were not evaluated.

## 2 Evaluation Summary

| Section | Test full name                                                                  | Result |
|---------|---------------------------------------------------------------------------------|--------|
| 5       | Routine Evaluation Exemption Criteria<br>(FCC Title 47 CFR Part 1.1307, 2.1091) | Exempt |
| 6       | ISED Routine Evaluation Exemption Criteria<br>(RSS-102 Issue 6)                 | Exempt |

### 3 Client Information

This evaluation was performed at the request of:

**Client:** Itron Inc.  
313 North Hwy 11  
West Union, SC 29696-2706 USA

**Contact:** Christopher O'Steen

**Email:** christopher.o'steen@itron.com

### 4 Description of Equipment Under Test and Variant Models

**Manufacturer:** Itron Inc.  
313 North Hwy 11  
West Union, SC 29696-2706 USA

| Equipment Under Test                 |              |                     |               |
|--------------------------------------|--------------|---------------------|---------------|
| Description                          | Manufacturer | Model Number (HVIN) | Serial Number |
| WLAN Radio                           | Ezurio LLC   | LWB5PLUS            | Not Labeled   |
| Socket Based Router<br>Major Refresh | Itron, Inc.  | SBR-MR              | 366956104     |

|                            |                 |
|----------------------------|-----------------|
| <b>Receive Date:</b>       | 20 October 2025 |
| <b>Received Condition:</b> | Good            |
| <b>Type:</b>               | Production      |

#### Description of Equipment Under Test

The OpenWay Riva Socket-Based Router is a device that provides mesh network communications for either RFLAN or OpenWay Riva to add advanced functionality to the network. The equipment provides routing and backhauls support for utility metering data by bridging proprietary mesh networks operating in the ISM band to public cellular LTE networks.

#### Certification Purpose

This test report is a Class II Permissive Change on the WiFi module to support the integration and co-location of multiple radios within the SBR-MR host device.

#### Equipment Under Test Power Configuration (WLAN Module)

| Rated Voltage | Rated Current | Rated Frequency | Number of Phases |
|---------------|---------------|-----------------|------------------|
| 5Vdc          | 1.0A          | NA              | NA               |

#### Radio/Receiver Characteristics (WLAN, FCC ID: SK9LWB5PLUS / IC: 864G-LWB5PLUS)

|                                                                   |                                          |
|-------------------------------------------------------------------|------------------------------------------|
| <b>Frequency Range</b>                                            | 2412 - 2462MHz                           |
| <b>Modulation Type(s)</b>                                         | CCK/DSSS/OFDM                            |
| <b>Maximum Output Power (Average Conducted):</b>                  | 18.19dBm                                 |
| <b>MIMO Information (# of Transmit and Receive antenna ports)</b> | SISO                                     |
| <b>Equipment Type</b>                                             | Mobile – 24cm Separation Distance        |
| <b>Antenna Type and Gain</b>                                      | Taoglas P/N: GW26.0112, Peak Gain:1.8dBi |

| Radio/Receiver Characteristics (Cellular, FCC ID: N7NEM7455 / IC: 2417C-EM7455) |                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Range                                                                 | LTE Band 2/25: 1850-1915MHz<br>LTE Band 4: 1710-1755MHz<br>LTE Band 5/26: 814-849MHz<br>LTE Band 7: 2500-2570MHz<br>LTE Band 12: 699-716MHz<br>LTE Band 13: 777-787MHz<br>LTE Band 30: 2305-2315MHz<br>LTE Band 41: 2496-2690MHz |
| Modulation Type(s)                                                              | QPSK/16-QAM                                                                                                                                                                                                                      |
| Maximum Output Power (Conducted):                                               | 24dBm                                                                                                                                                                                                                            |
| MIMO Information (# of Transmit and Receive antenna ports)                      | TX/RX Primary + Diversity RX Only                                                                                                                                                                                                |
| Equipment Type                                                                  | Module integrated into host device                                                                                                                                                                                               |
| Antenna Type and Gain                                                           | Custom, MAP.01.E:<br>700-960MHz: 0dBi Peak<br>1705-2170MHz: 1.8dBi Peak<br>2305-2600MHz: 0.5dBi Peak                                                                                                                             |

| Radio/Receiver Characteristics (NIC, FCC ID: SK9NIC / IC: 864G-NIC) |                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Range                                                     | FSK 100: 902.3 – 926.9MHz<br>FSK 150: 902.4 – 927.6MHz<br>GFSK 150: 902.3 – 926.9MHz<br>GFSK 200: 902.3 – 926.9MHz<br>GFSK 300: 902.4 – 927.6MHz<br>OFDM 600: 902.3 – 927.6MHz<br>OFDM 1200: 903.2 – 926.0MHz<br>OFDM 2400: 903.2 – 926.0MHz |
| Modulation Type(s)                                                  | FSK/GFSK/OFDM                                                                                                                                                                                                                                |
| Maximum Output Power (Conducted):                                   | 30dBm                                                                                                                                                                                                                                        |
| MIMO Information (# of Transmit and Receive antenna ports)          | SISO                                                                                                                                                                                                                                         |
| Equipment Type                                                      | Module integrated into host device                                                                                                                                                                                                           |
| Antenna Type and Gain                                               | Custom, MAP.01.E: 2.0dBi Peak                                                                                                                                                                                                                |

| Radio/Receiver Characteristics (RFLAN, FCC ID: SK9ITR9002 / IC: 864G-ITR9002) |                                    |
|-------------------------------------------------------------------------------|------------------------------------|
| Frequency Range                                                               | 902.25 – 927.75MHz                 |
| Modulation Type(s)                                                            | FSK                                |
| Maximum Output Power (Conducted):                                             | 27dBm                              |
| MIMO Information (# of Transmit and Receive antenna ports)                    | SISO                               |
| Equipment Type                                                                | Module integrated into host device |
| Antenna Type and Gain                                                         | Custom, MAP.01.E: 1.0dBi Peak      |

## 5 Maximum Permissible Exposure Criteria

**§ 1.1310:** The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

| TABLE 1 TO § 1.1310(e)(1)—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) |                               |                               |                                     |                          |
|-------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| Frequency range (MHz)                                                   | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
| (i) Limits for Occupational/Controlled Exposure                         |                               |                               |                                     |                          |
| 0.3-3.0                                                                 | 614                           | 1.63                          | * (100)                             | ≥6                       |
| 3.0-30                                                                  | 1842/f                        | 4.89/f                        | * (900/f <sup>2</sup> )             | <6                       |
| 30-300                                                                  | 61.4                          | 0.163                         | 1.0                                 | <6                       |
| 300-1,500                                                               |                               |                               | f/300                               | <6                       |
| 1,500-100,000                                                           |                               |                               | 5                                   | <6                       |
| (ii) Limits for General Population/Uncontrolled Exposure                |                               |                               |                                     |                          |
| 0.3-1.34                                                                | 614                           | 1.63                          | * (100)                             | <30                      |
| 1.34-30                                                                 | 824/f                         | 2.19/f                        | * (180/f <sup>2</sup> )             | <30                      |
| 30-300                                                                  | 27.5                          | 0.073                         | 0.2                                 | <30                      |
| 300-1,500                                                               |                               |                               | f/1500                              | <30                      |
| 1,500-100,000                                                           |                               |                               | 1.0                                 | <30                      |

f = frequency in MHz. \* = Plane-wave equivalent power density.

### 5.1 Calculations

| Band / Technology | Frequency (MHz) | Measured Conducted Power (dBm) | Max Tune Up Power |       | Antenna Gain |         | Separation Distance (m) | Result (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Percent of Limit (%) |
|-------------------|-----------------|--------------------------------|-------------------|-------|--------------|---------|-------------------------|------------------------------|-----------------------------|----------------------|
|                   |                 |                                | (dBm)             | (W)   | (dBi)        | Numeric |                         |                              |                             |                      |
| LTE Band 2        | 1850            | 24                             | 24                | 0.251 | 1.8          | 1.514   | 0.24                    | 0.0525                       | 1.000                       | 5.3%                 |
| LTE Band 4        | 1710            | 24                             | 24                | 0.251 | 1.8          | 1.514   | 0.24                    | 0.0525                       | 1.000                       | 5.3%                 |
| LTE Band 5        | 824             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.0347                       | 0.549                       | 6.3%                 |
| LTE Band 7        | 2500            | 23                             | 23                | 0.200 | 0.5          | 1.122   | 0.24                    | 0.0310                       | 1.000                       | 3.1%                 |
| LTE Band 12       | 699             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.0347                       | 0.466                       | 7.4%                 |
| LTE Band 13       | 777             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.0347                       | 0.518                       | 6.7%                 |
| LTE Band 25       | 1850            | 24                             | 24                | 0.251 | 1.8          | 1.514   | 0.24                    | 0.0525                       | 1.000                       | 5.3%                 |
| LTE Band 26       | 814             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.0347                       | 0.543                       | 6.4%                 |
| LTE Band 30       | 2305            | 23                             | 23                | 0.200 | 0.5          | 1.122   | 0.24                    | 0.0310                       | 1.000                       | 3.1%                 |
| LTE Band 41       | 2496            | 23                             | 23                | 0.200 | 0.5          | 1.122   | 0.24                    | 0.0310                       | 1.000                       | 3.1%                 |
| WLAN              | 2412            | 18.19                          | 18.19             | 0.066 | 1.8          | 1.514   | 0.24                    | 0.0138                       | 1.000                       | 1.4%                 |
| NIC               | 902.3           | 30                             | 30                | 1.000 | 2.0          | 1.585   | 0.24                    | 0.2190                       | 0.602                       | 36.4%                |
| RFLAN             | 902.3           | 27                             | 27                | 0.501 | 1.0          | 1.259   | 0.24                    | 0.0871                       | 0.602                       | 14.5%                |

Using LTE Band 12 + WLAN + NIC as worst-case scenario

Simultaneous Transmissions: **45.2%**

Notes:

- 1) LTE tune up power and WLAN conducted power were retrieved from the modules' certifications, and the antenna gain values were provided by the customer. Intertek makes no claim as to the accuracy of this information.
- 2) The limit for simultaneous transmissions is 100%.
- 3) The NIC and RFLAN will never be operated simultaneously.

## 6 ISED Routine Evaluation Exemption Criteria

### RSS-102 Issue 6 § 5.3.2: RF Exposure limits

The electric and magnetic field strength reference levels, power density reference levels, and associated reference period for devices employed by the general public (uncontrolled environment) and controlled-use devices (controlled environment) are specified in table 7 and table 8. Note that the power density limits specified in these tables apply to whole body exposure conditions.

Table 7: RF field strength and power density limits for devices used by the general public (uncontrolled environment)

| Frequency range (MHz) | Electric field (V <sub>RMS</sub> /m) | Magnetic field (A <sub>RMS</sub> /m) | Power density (W/m <sup>2</sup> ) | Reference period (minutes) |
|-----------------------|--------------------------------------|--------------------------------------|-----------------------------------|----------------------------|
| 10-20                 | 27.46                                | 0.0728                               | 2                                 | 6                          |
| 20-48                 | $58.07 / f^{0.25}$                   | $0.1540 / f^{0.25}$                  | $8.944 / f^{0.5}$                 | 6                          |
| 48-300                | 22.06                                | 0.05852                              | 1.291                             | 6                          |
| 300-6000              | $3.142 f^{0.3417}$                   | $0.008335 f^{0.3417}$                | $0.02619 f^{0.6834}$              | 6                          |
| 6000-15000            | 61.4                                 | 0.163                                | 10                                | 6                          |
| 15000-150000          | 61.4                                 | 0.163                                | 10                                | $616000 / f^{1.2}$         |
| 150000-300000         | $0.158 f^{0.5}$                      | $4.21 \times 10^{-4} f^{0.5}$        | $6.67 \times 10^{-5} f$           | $616000 / f^{1.2}$         |

### 6.1 Calculations

| Band / Technology | Frequency (MHz) | Measured Conducted Power (dBm) | Max Tune Up Power |       | Antenna Gain |         | Separation Distance (m) | Result (W/m <sup>2</sup> ) | Limit (W/m <sup>2</sup> ) | Percent of Limit (%) |
|-------------------|-----------------|--------------------------------|-------------------|-------|--------------|---------|-------------------------|----------------------------|---------------------------|----------------------|
|                   |                 |                                | (dBm)             | (W)   | (dBi)        | Numeric |                         |                            |                           |                      |
| LTE Band 2        | 1850            | 24                             | 24                | 0.251 | 1.8          | 1.514   | 0.24                    | 0.525                      | 4.476                     | 11.7%                |
| LTE Band 4        | 1710            | 24                             | 24                | 0.251 | 1.8          | 1.514   | 0.24                    | 0.525                      | 4.242                     | 12.4%                |
| LTE Band 5        | 824             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.347                      | 2.576                     | 13.5%                |
| LTE Band 7        | 2500            | 23                             | 23                | 0.200 | 0.5          | 1.122   | 0.24                    | 0.310                      | 5.499                     | 5.6%                 |
| LTE Band 12       | 699             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.347                      | 2.302                     | 15.1%                |
| LTE Band 13       | 777             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.347                      | 2.474                     | 14.0%                |
| LTE Band 25       | 1850            | 24                             | 24                | 0.251 | 1.8          | 1.514   | 0.24                    | 0.525                      | 4.476                     | 11.7%                |
| LTE Band 26       | 814             | 24                             | 24                | 0.251 | 0.0          | 1       | 0.24                    | 0.347                      | 2.554                     | 13.6%                |
| LTE Band 30       | 2305            | 24                             | 24                | 0.251 | 0.5          | 1.122   | 0.24                    | 0.389                      | 5.202                     | 7.5%                 |
| LTE Band 41       | 2496            | 24                             | 24                | 0.251 | 0.5          | 1.122   | 0.24                    | 0.389                      | 5.493                     | 7.1%                 |
| WLAN              | 2412            | 18.19                          | 18.19             | 0.066 | 1.8          | 1.514   | 0.24                    | 0.138                      | 5.366                     | 2.6%                 |
| NIC               | 902.3           | 30                             | 30                | 1.000 | 2.0          | 1.585   | 0.24                    | 2.190                      | 2.74                      | 79.9%                |
| RFLAN             | 902.3           | 27                             | 27                | 0.501 | 1.0          | 1.259   | 0.24                    | 0.871                      | 2.74                      | 31.8%                |

Using LTE Band 12 + WLAN + NIC as worst-case scenario

Simultaneous Transmissions: **97.6%**

#### Notes:

- 1) LTE tune up power and WLAN conducted power were retrieved from the modules' certifications, and the antenna gain values were provided by the customer. Intertek makes no claim as to the accuracy of this information.
- 2) The limit for simultaneous transmissions is 100%.
- 3) The NIC and RFLAN will never be operated simultaneously.

**7 Revision History**

| Revision Level | Date            | Report Number    | Prepared By | Reviewed By | Notes          |
|----------------|-----------------|------------------|-------------|-------------|----------------|
| 0              | 13 January 2026 | 106368701ATL-003 | JOP         | US          | Original Issue |
|                |                 |                  |             |             |                |
|                |                 |                  |             |             |                |
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