

ITRON, INC.

RF EXPOSURE REPORT

SCOPE OF WORK

MPE – RIVA HW 4.2 FEM UPDATE

REPORT NUMBER

106549247ATL-004

ISSUE DATE

09 June 2026

REVISION DATE

N/A

PAGES

9



DOCUMENT CONTROL NUMBER

Non-Specific Radio Report Shell Rev. December 2017
© 2017 INTERTEK

RF EXPOSURE REPORT

Report Number: 106549247ATL-004

Project Number: G106549247

Report Issue Date: 09 June 2026

Model / HVIN: G5R1

FCC ID: SK9G5R1

IC: 864G-G5R1

Standards: FCC Title 47 CFR Parts 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

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

Report prepared by



Jeremy Pickens / Senior Staff Engineer

Report reviewed by



Uri Spector / Sr. EMC Staff Engineer

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Table of Contents

1	<i>Introduction and Conclusion</i>	4
2	<i>Evaluation Summary</i>	4
3	<i>Client Information</i>	5
4	<i>Description of Equipment Under Test and Variant Models</i>	5
5	<i>Maximum Permissible Exposure Criteria</i>	7
6	<i>ISED Routine Evaluation Exemption Criteria</i>	8
7	<i>Revision History</i>	9

1 Introduction and Conclusion

RF Exposure measurements were performed on the product constructed as described in Section 4.

Based on the results of our investigation, we have concluded the product under evaluation complies with 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
0	Maximum Permissible Exposure (FCC Title 47 CFR Part 1.1310 / IEEE C95.3-2021)	Compliant
6	ISED Routine Evaluation Exemption Criteria (RSS-102 Issue 6 / IEEE C95.3-2021)	Compliant

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	Serial Number
Electricity Meter Module	Itron, Inc.	G5R1	117000002778

Receive Date:	15 April 2026
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)

The Itron G5R1 is an electricity metering module which includes a 902.3MHz to 927.6MHz transmitter as well as a 2.4GHz WLAN transceiver. The module operates on AC as well as DC voltage which is supplied by a host device.

Radio/Receiver Characteristics – 900MHz	
Frequency Range / Number of Channels	FSK/100kbps: 902.3 – 926.9MHz, 83 Channels FSK/150kbps: 902.4 – 927.6MHz, 64 Channels GFSK/150kbps: 902.3 – 926.9MHz, 83 Channels GFSK/200kbps: 902.3 – 926.9MHz, 83 Channels GFSK/300kbps: 902.4 – 927.6MHz, 64 Channels OFDM/600kbps: 902.4 – 927.6MHz, 64 Channels DTS OFDM/1200kbps: 903.2 – 926.0MHz, 20 Channels ¹ DTS OFDM/2400kbps: 903.2 – 926.0MHz, 20 Channels ¹
Data Rate / Modulation Type(s)	FSK: 100kbps/150kbps GFSK: 150kbps/200kbps/300kbps OFDM: 600kbps/1200kbps/2400kbps
Channel Separation:	FSK: 150kbps / GFSK: 300kbps / OFDM: 600kbps (400kHz) FSK: 100kbps / GFSK: 150kbps/200kbps (300kHz) DTS OFDM: 1200kbps/2400kbps (1200kHz)
Maximum Conducted Output Power:	29.53dBm (0.897W)
Equipment Type	Mobile – 20cm Separation Distance
Antenna Type and Gain	PCB Embedded Slot Antenna (3.6dBi) <i>Note: Provided by Itron - Intertek takes no responsibility for the accuracy of this information</i>

Radio/Receiver Characteristics – WLAN	
Frequency Range / Number of Channels	2412 – 2462MHz (11 20MHz Channels / 7 40MHz Channels)
Data Rate / Modulation Type(s)	802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11g/n (HT20/40): OFDM (BPSK / QPSK / 16QAM / 64QAM)
Channel Separation:	5MHz
Maximum Conducted Output Power:	29.53dBm (0.897W)
Equipment Type	Mobile – 20cm Separation Distance
Antenna Type and Gain	PCB Embedded Antenna (2.9dBi) <i>Note: Provided by Itron - Intertek takes no responsibility for the accuracy of this information</i>

4.1 Justification

For this evaluation, the worst-case 900MHz channel and modulation (FSK 100k, 902.3MHz) and the worst-case WLAN channel and modulation (802.11b, 2412MHz) were independently evaluated at a distance of 20cm to show compliance with the mobile MPE limits.

4.2 Test Equipment

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
213489	Isotropic Probe 10Mhz to 40GHz	ETS-Lindgren	HI-6053	00264651	01/28/2025	01/28/2026
213489A	Fiber Optic-USB Adapter	ETS-Lindgren	HI-4413USB	00262238	CNR	CNR

CNR: Calibration not required

Software Utilized

Name	Manufacturer	Version
ProbeView LT	ETS-Lindgren	V1.0.5

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.

For this evaluation, the measurement guidance defined in IEEE C95.2 was used. An isotropic field probe was placed at a distance of 20cm from the module. The module was rotated 360° and evaluated in 3-axes to find the worst-case field strength. The field strength was then converted to power density for comparison against the applicable limits.

The following equation was applied to convert the resulting field strength measurements in V/m to spectral density in mW/cm²:

$$S_{(\text{mW}/\text{cm}^2)} = \frac{E_{(\text{V}/\text{m})}^2}{3770}$$

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 ²)	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 ²)	<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 ²)	<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 Test Data

Technology	Channel (MHz)	Distance (cm)	Max Probe Display (V/m)	Probe Factor (%)	Field Strength (V/m)	Power Density (mW/cm ²)	Limit (mW/cm ²)	% of Limit	Verdict
900MHz	902.3	20.00	23.16	0.97	22.47	0.134	0.602	22.26%	Compliant
WLAN	2412	20.00	5.921499	1.23	7.28	0.014	1.000	1.40%	Compliant

Simultaneous Transmission (% of Limit): 23.66% Compliant

Notes:

- 1) The limit for simultaneous transmissions is 100%.

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.

For this evaluation, the measurement guidance defined in IEEE C95.2 was used. An isotropic field probe was placed at a distance of 20cm from the module. The module was rotated 360° and evaluated in 3-axes to find the worst-case field strength. The field strength was then converted to power density for comparison against the applicable limits.

The following equation was applied to convert the resulting field strength measurements in V/m to spectral density in W/m²:

$$S_{(W/m^2)} = \frac{E_{(V/m)}^2}{377}$$

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

Frequency range (MHz)	Electric field (V _{RMS} /m)	Magnetic field (A _{RMS} /m)	Power density (W/m ²)	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 $f^{0.5}$	4.21×10 ⁻⁴ $f^{0.5}$	6.67×10 ⁻⁵ f	616000 / $f^{1.2}$

6.1 Test Data

Technology	Channel (MHz)	Distance (cm)	Max Probe Display (V/m)	Probe Factor (%)	Field Strength (V/m)	Power Density (W/m ²)	Limit (W/m ²)	% of Limit	Verdict
900MHz	902.3	20.00	23.16	0.97	22.47	1.339	2.740	48.87%	Compliant
WLAN	2412	20.00	5.921499	1.23	7.28	0.141	5.366	2.63%	Compliant

Simultaneous Transmission (% of Limit): 51.50% Compliant

Notes:

- 1) The limit for simultaneous transmissions is 100%.

7 Revision History

Revision Level	Date	Prepared By	Reviewed By	Notes
0	09 June 2026	JOP	US	Original Issue