REGULATORY COMPLIANCE TEST REPORT

FCC CFR 47 Part 15 Subpart C 15.249 & ISED 210

Report No.: ITRO67-U6B Rev B

Company: Itron, Inc

Model Name: ERG-5600-001

REGULATORY COMPLIANCE TEST REPORT

Company Name: Itron, Inc

Model Name: ERG-5600-001

To: FCC CFR 47 Part 15 Subpart C 15.249 & ISED 210

Test Report Serial No.: ITRO67-U6B Rev B

This report supersedes: ITRO67-U6B Rev A

Applicant: Itron, Inc
2401 North State St.
Waseca, Minnesota 56093
United States of America

Issue Date: 21st August 2024

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
575 Boulder Court
Pleasanton California 94566
USA
Phone: +1 (925) 462-0304
Fax: +1 (925) 462-0306
www.micomlabs.com

ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2017. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-01.pdf

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 28th day of February 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2025

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

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1.2. RECOGNITION

MiCOM Labs, Inc is widely recognized for its wireless testing and certification capabilities. In addition to being recognized for Testing and Certification under Phase 2 Mutual Recognition Agreements (MRA) with Canada, Europe, United Kingdom and Japan, our international recognition includes Conformity Assessment Body (CAB) designation status under agreements with Asia Pacific (APEC) MRA Phase 1 countries giving acceptance of MiCOM Labs test reports. MiCOM Labs test reports are accepted globally.

Country	Recognition Body	Status	MRA Phase	Identification No.
USA	Federal Communications Commission (FCC)	TCB	-	US0159 Test Firm Designation#: US1084
Canada	Industry Canada (ISED)	FCB	APEC MRA 2	US0159 ISED#: 4143A
Japan	MIC (Ministry of Internal Affairs and Communication)	CAB	Japan MRA 2	RCB 210
	Japan Approvals Institute for Telecommunication Equipment (JATE)			
	VCCI	--	--	A-0012
Europe	European Commission	NB	EU MRA 2	NB 2280
United Kingdom	Department for Business, Energy & Industrial Strategy (BEIS)	AB	UK MRA 2	AB 2280
Mexico	Instituto Federal de Telecomunicaciones (IFT)	CAB	Mexico MRA 1	US0159
Australia	Australian Communications and Media Authority (ACMA)	CAB	APEC MRA 1	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)			
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)			
Singapore	Infocomm Development Authority (IDA)			
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)			
Vietnam	Ministry of Communication (MIC)			

TCB – Telecommunications Certification Bodies (TCB)
FCB – Foreign Certification Body
CAB – Conformity Assessment Body
NB – Notified Body
AB – Approved Body
MRA – Mutual Recognition Agreement
MRA Phase I - recognition for product testing
MRA Phase II – recognition for both product testing and certification

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1.3. PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard ISO/IEC 17065:2012. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-02.pdf

Accredited Product Certification Body

A2LA has accredited

MiCOM LABS

Pleasanton, CA

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC 17065:2012 *Requirements for bodies certifying products, processes and services*. This product certification body also meets the *A2LA R322 – Specific Requirements – Notified Body Accreditation Requirements* and *A2LA R308 - Specific Requirements - ISO-IEC 17065 - Telecommunication Certification Body Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a management system.

Presented this 28th day of February 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2025

For the product certification schemes to which this accreditation applies, please refer to the organization's Product Certification Scope of Accreditation.

United States of America – Telecommunication Certification Body (TCB)
Industry Canada – Certification Body, CAB Identifier – US0159
Europe – Notified Body (NB), NB Identifier - 2280
UK – Approved Body (AB), AB Identifier - 2280
Japan – Recognized Certification Body (RCB), RCB Identifier - 210

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2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	18th July 2024	Draft report for client review.
Rev A	23rd July 2024	Initial release
Rev B	21st August 2024	Update to the following: Emission Designator (page 11, Section 5.1 Technical Details)

In the above table the latest report revision will replace all earlier versions.

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3. TEST RESULT CERTIFICATE

Manufacturer:	Itron, Inc 313 North Hwy 11. West Union, South Carolina 29696-2706 USA	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model:	RF-based meter data collection solution	**Telephone:**	+1 925 462 0304
Type Of Equipment:	ERG-5600-001	**Fax:**	+1 925 462 0306
S/N's:	Radiated: 2935662-02		
Test Date(s):	13th June – 12th July 2024	**Website:**	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC CFR 47 Part 15 Subpart C 15.249 & ISED RSS-210	**EQUIPMENT COMPLIES**

MiCOM Labs, Inc. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

Notes:

1. This document reports conditions under which testing was conducted and the results of testing performed.

2. Details of test methods used have been recorded and kept on file by the laboratory.

3. Test results apply only to the item(s) tested.

ACCREDITED
TESTING CERT #2381.01

Approved & Released for MiCOM Labs, Inc. by:

Graeme Grieve
Quality Manager MiCOM Labs, Inc.

Gordon Hurst
President & CEO MiCOM Labs, Inc.

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4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	KDB 558074 D01 v05r02	Apr 2019	Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices operating under section 15.247 of the FCC Rules.
II	A2LA	16th April 2024	R105 - Requirement's When Making Reference to A2LA Accreditation Status
III	ANSI C63.10	2020	American National Standard for Testing Unlicensed Wireless Devices
IV	ANSI C63.4	2014	American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
V	ETSI TR 100 028	2001-12	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
VI	FCC 47 CFR Part 15, Subpart B	Nov 2017	Title 47: Telecommunication PART 15—RADIO FREQUENCY DEVICES, SubPart B; Unintentional Radiators
VII	FCC 47 CFR Part 15.249	Apr 2020	Radio Frequency Devices; Subpart C – Intentional Radiators
VIII	FCC 47 CFR Part 15.247	Apr 2020	Radio Frequency Devices; Subpart C – Intentional Radiators
IX	FCC Public Notice DA 00-705	Mar 2000	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems
X	ICES-003	Issue 7; Oct 2020	Information Technology Equipment (Including Digital Apparatus)
XI	UKAS M3003	Edition 6 March 2024	The Expression of Uncertainty and Confidence in Measurements
XII	FCC 47 CFR Part 2.1033	Feb 2023	FCC requirements and rules regarding photographs and test setup diagrams.
XIII	UKAS LAB 12	Edition 4 April 2022	The Expression of Uncertainty in Testing
XIV	RSS-247 Issue 3	Aug 2023	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XV	RSS-Gen Issue 5	Amendment 1,2 (Feb 2021)	General Requirements for Compliance of Radio Apparatus. With Amendments 1: March 2019 and 2: Feb 2021.
XVI	RSS-210 Issue 11	June 2024	This Radio Standards Specification (RSS) sets out the certification requirements for several types of license-exempt radio apparatus. Radio apparatus covered by this standard are primarily low-power and are mainly used for consumer or commercial purposes.

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4.2. Test and Uncertainty Procedure

Conducted and radiated emission measurements were conducted in accordance with American National Standards Institute ANSI C63.4, listed in the Normative References section of this report.

Measurement uncertainty figures are calculated in accordance with ETSI TR 100 028 Parts 1 and 2.

Measurement uncertainties stated are based on a standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95 % in accordance with UKAS document M 3003 listed in the Normative References section of this report.

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5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Itron, Inc 100G ERT® Module (ERG-5600-001) to FCC CFR 47 Part 15 Subpart C 15.249 & ISED 210
Applicant:	Itron, Inc 2401 North State St. Waseca Minnesota 56093 United States of America
Manufacturer:	Itron, Inc
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	ITRO67-U6B
Date EUT received:	13th June 2024
Standard(s) applied:	FCC CFR 47 Part 15 Subpart C 15.249 & ISED 210
Dates of test (from - to):	13th June – 12th July 2024
No of Units Tested:	1
Product Family Name:	100G ERT Module
Model(s):	ERG-5600-001 ERG-5600-002 ERG-5600-003 ERG-5600-004 ERG-5600-009
Location for use:	Indoors and Outdoors
Declared Frequency Range(s):	902 - 928 MHz;
Type of Modulation:	OOK
EUT Modes of Operation:	902 - 928 MHz: OOK – PL0
Declared Nominal Output Power (dBm):	-8
Rated Input Voltage and Current:	3.6VDC, 0.25A
Operating Temperature Range:	-40ºC to +70ºC
ITU Emission Designator:	OOK 132KL1D
Equipment Dimensions:	5.54 x 3.57 x 3.1
Weight:	0.85 LB
Hardware Rev:	3
Software Rev:	CSL 10.0.15.0

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5.2. Scope Of Test Program

Itron, Inc ERG-5600-001

The scope of the test program was to test the Itron, Inc ERG-5600-001, 100G ERT® Module (ERG-5600-001) configurations in the frequency ranges 902 - 928 MHz; for compliance against the following specification:

FCC CFR 47 Part 15 Subpart C 15.249
Radio Frequency Devices; Subpart C – Intentional Radiators

ISED RSS-210
This Radio Standards Specification (RSS) sets out the certification requirements for several types of license-exempt radio apparatus. Radio apparatus covered by this standard are primarily low-power and are mainly used for consumer or commercial purposes

The Itron ERG-5600-001 is also marketed as the following Model Numbers per Manufacturer Declaration of Similarity (refer to Section 10 of this report).

ERG-5600-002
ERG-5600-003
ERG-5600-004
ERG-5600-009

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5.3. Equipment Model(s) and Serial Number(s)

Type (EUT/ Support)	Equipment Description	Mfr	Model No.	Serial No.
EUT	RF-based meter data collection solution	Itron, Inc	ERG-5600-001	Radiated: 2935662-02
Laptop Computer	Support	Lenovo	ThinkPad	N/A

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
Integral	Itron, Inc	Integral	PCB	2.23	-	360	-	902-928
BF Gain - Beamforming Gain Dir BW - Directional BeamWidth X-Pol - Cross Polarization								

5.5. Cabling and I/O Ports

1. NONE

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5.6. Test Configurations

Results for the following configurations are provided in this report:

Operational Mode(s)	Data Rate with Highest Power MBit/s	Channel Frequency (MHz)		
		Low	Mid	High
902 - 928 MHz				
OOK – PL0	16.38	908.00	916.00	923.8

5.7. Equipment Modifications

The following modifications were required to bring the equipment into compliance:
1. NONE

5.8. Deviations from the Test Standard

The following deviations from the test standard were required in order to complete the test program:
1. NONE

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6. TEST SUMMARY

List of Measurements

Test Header	Result	Data Link
Emissions	Complies	-
(1) Radiated Emissions	Complies	-
(i) Field Strength	Complies	View Data
(ii) TX Spurious Emissions	Complies	View Data

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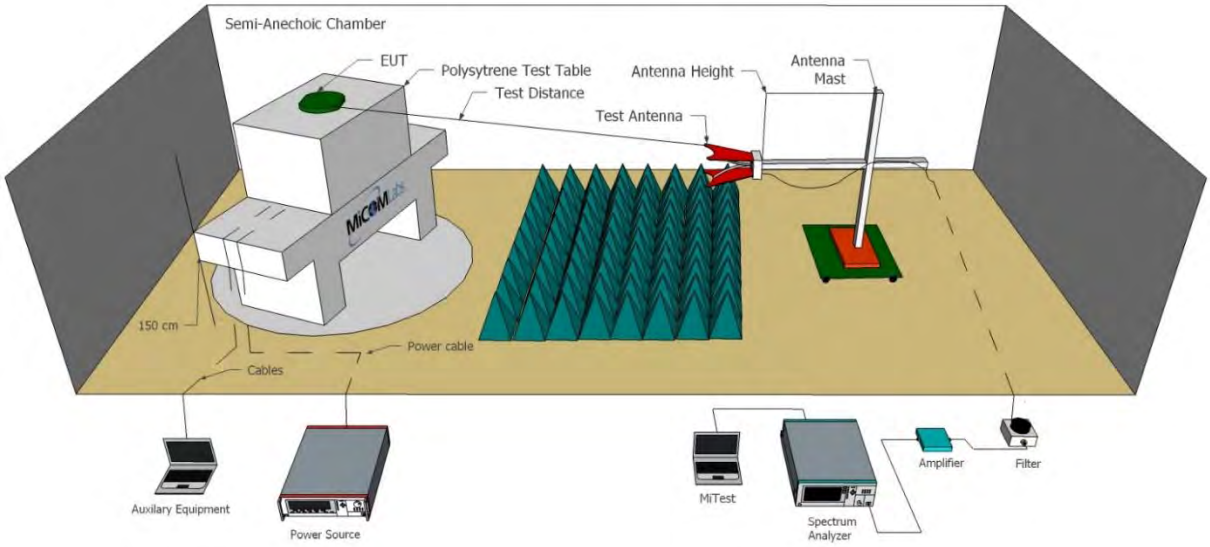
7. TEST EQUIPMENT CONFIGURATION(S)

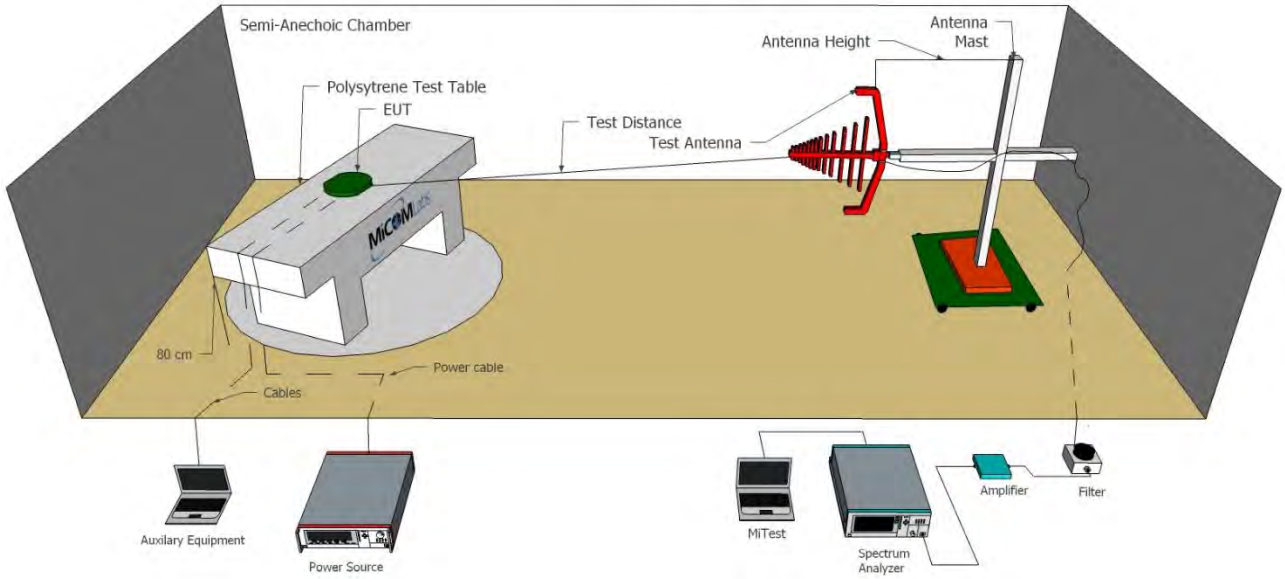
7.1. Radiated

Radiated emissions above and below 1GHz.

Radiated Emissions Above 1GHz Test Setup



Radiated Emissions Below 1GHz Test Setup



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Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
266	10 Hz to 50GHz MXA Signal Analyzer	Keysight	N9020B	MY60110791	25 Jul 2025
285	DC Power Supply	Keysight	E36155A	MY63000156	4 Dec 2024
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	11 Oct 2024
330	Variac 0-280 Vac	Staco Energy Co	3PN1020B	0546	Cal when used
336	Active loop Ant 10kHz to 30 MHz	EMCO	EMCO 6502	00060498	7 Dec 2024
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	5 Dec 2024
341	900MHz Notch Filter	EWT	EWT-14-0199	H1	13 Sep 2024
346	1.6 TO 10GHz High Pass Filter	EWT	EWT-57-0112	H1	13 Sep 2024
373	26III RMS Multimeter	Fluke	Fluke 26 series III	76080720	29 Sep 2024
377	Band Rejection Filter 5150 to 5880MHz	Microtronics	BRM50716	034	13 Sep 2024
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	13 Sep 2024
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	27 Oct 2024
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	7 Dec 2024
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	2 Nov 2024
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
416	Gigabit ethernet filter	ETS-Lingren	Gigafoil 260366	None	Not Required
447	MiTest Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	18 Sep 2024
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	18 Sep 2024
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	16 Sep 2024
465	Low Pass Filter DC-	Mini-Circuits	NLP-1200+	VUU01901402	14 Sep 2024

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	1000 MHz				
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	18 Sep 2024
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	18 Sep 2024
510	Barometer/Thermometer	Digi Sense	68000-49	170871375	4 Jan 2026
554	Precision SMA Cable	Fairview Microwave	SCE18060101-400CM	554	18 Sep 2024
555	Rhode & Schwarz Receiver (Firmware Version : 3.10 SP1)	Rhode & Schwarz	ESW 44	101893	28 Jun 2025
578	DC Power Supply 0 - 60 V, 0 - 15 A	HP	6274B	2537A-08192	Not Required
87	Uninterruptible Power Supply	Falcon Electric	ED2000-1/2LC	F3471 02/01	Cal when used
CC05	Confidence Check	MiCOM	CC05	None	11 Aug 2024

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8. MEASUREMENT AND PRESENTATION OF TEST DATA

The measurement and graphical data presented in this test report was generated automatically using state-of-the-art technology creating an easy to read report structure. Numerical measurement data is separated from supporting graphical data (plots) through hyperlinks. Numerical measurement data can be reviewed without scrolling through numerous graphical pages to arrive at the next data matrix.

Plots have been relegated into the Appendix 'Graphical Data'.

Test and report automation was performed by MiTest. MiTest is an automated test system developed by MiCOM Labs. MiTest is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for conducted RF testing.

The MiCOM Labs "MiTest" Automated Test System" (Patent Pending)

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9. TEST RESULTS

9.1. Radiated Emissions

9.1.1. Radiated Emissions

Frequency Band			
MHz	**MHz**	**MHz**	**GHz**
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

(b) Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

(c) Except as provided in paragraphs (d) and (e) of this section, regardless of the field strength limits specified elsewhere in this subpart, the provisions of this section apply to emissions from any intentional radiator.

(d) The following devices are exempt from the requirements of this section:

(1) Swept frequency field disturbance sensors operating between 1.705 and 37 MHz provided their emissions only sweep through the bands listed in paragraph (a) of this section, the sweep is never stopped with the fundamental emission within the bands listed in paragraph (a) of this section, and the fundamental emission is outside of the bands listed in paragraph (a) of this section more than 99% of the time the device is actively transmitting, without compensation for duty cycle.

(2) Transmitters used to detect buried electronic markers at 101.4 kHz which are employed by telephone companies.

(3) Cable locating equipment operated pursuant to §15.213.

(4) Any equipment operated under the provisions of §15.253, 15.255, and 15.256 in the frequency band 75-85 GHz, or §15.257 of this part.

(5) Biomedical telemetry devices operating under the provisions of §15.242 of this part are not subject to the restricted band 608-614 MHz but are subject to compliance within the other restricted bands.

(6) Transmitters operating under the provisions of subparts D or F of this part.

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(7) Devices operated pursuant to §15.225 are exempt from complying with this section for the 13.36-13.41 MHz band only.

(8) Devices operated in the 24.075-24.175 GHz band under §15.245 are exempt from complying with the requirements of this section for the 48.15-48.35 GHz and 72.225-72.525 GHz bands only, and shall not exceed the limits specified in §15.245(b).

(9) Devices operated in the 24.0-24.25 GHz band under §15.249 are exempt from complying with the requirements of this section for the 48.0-48.5 GHz and 72.0-72.75 GHz bands only, and shall not exceed the limits specified in §15.249(a).

(e) Harmonic emissions appearing in the restricted bands above 17.7 GHz from field disturbance sensors operating under the provisions of §15.245 shall not exceed the limits specified in §15.245(b).

15.249 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHZ, and 24.0-24.25 GHz:

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

(b) Fixed, point-to-point operation as referred to in this paragraph shall be limited to systems employing a fixed transmitter transmitting to a fixed remote location. Point-to-multipoint systems, omnidirectional applications, and multiple co-located intentional radiators transmitting the same information are not allowed. Fixed, point-to-point operation is permitted in the 24.05-24.25 GHz band subject to the following conditions:

(c) Field strength limits are specified at a distance of 3 meters.

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation. (1) The field strength of emissions in this band shall not exceed 2500 millivolts/meter. (2) The frequency tolerance of the carrier signal shall be maintained within ±0.001% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(e) As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

Fundamental frequency	Field strength of fundamental (dBuV/m)	Field strength of harmonics (dBuV/m)
902-928 MHz	94	54

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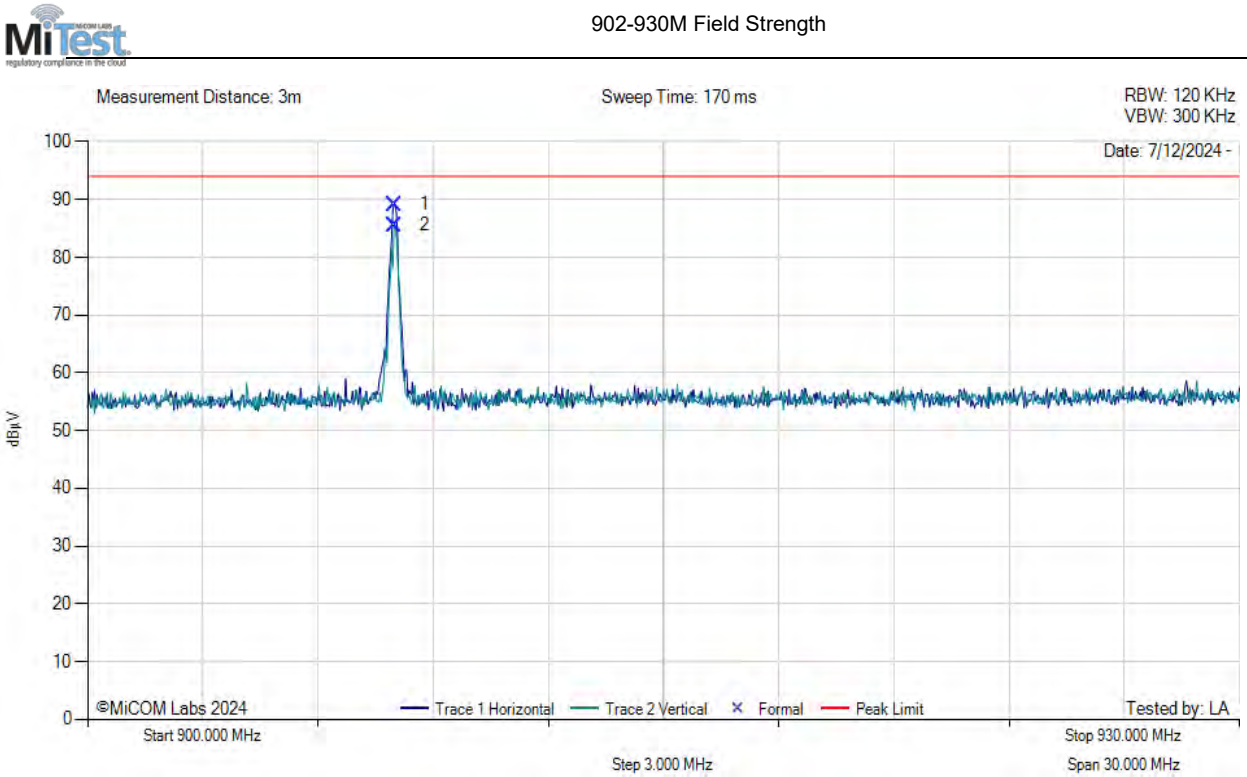
9.1.1.1. Field Strength

Equipment Configuration for 902-930M FIELD STRENGTH			
Antenna:	Internal	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	908.0	**Data Rate:**	16.384 kbps
Power Setting:	Power Level 0	**Tested By:**	LA

Test Measurement Results



900.00 - 930.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	907.98	55.52	6.93	28.73	89.18	MaxP	Horizontal	148	300	94.0	-4.8	Pass
2	907.98	51.87	6.93	28.73	85.53	MaxP	Vertical	148	330	94.0	-8.5	Pass
Test Notes: SN: 2935662-02, FS OOK 908 MHz, 16.384kbps, Power Level 0												

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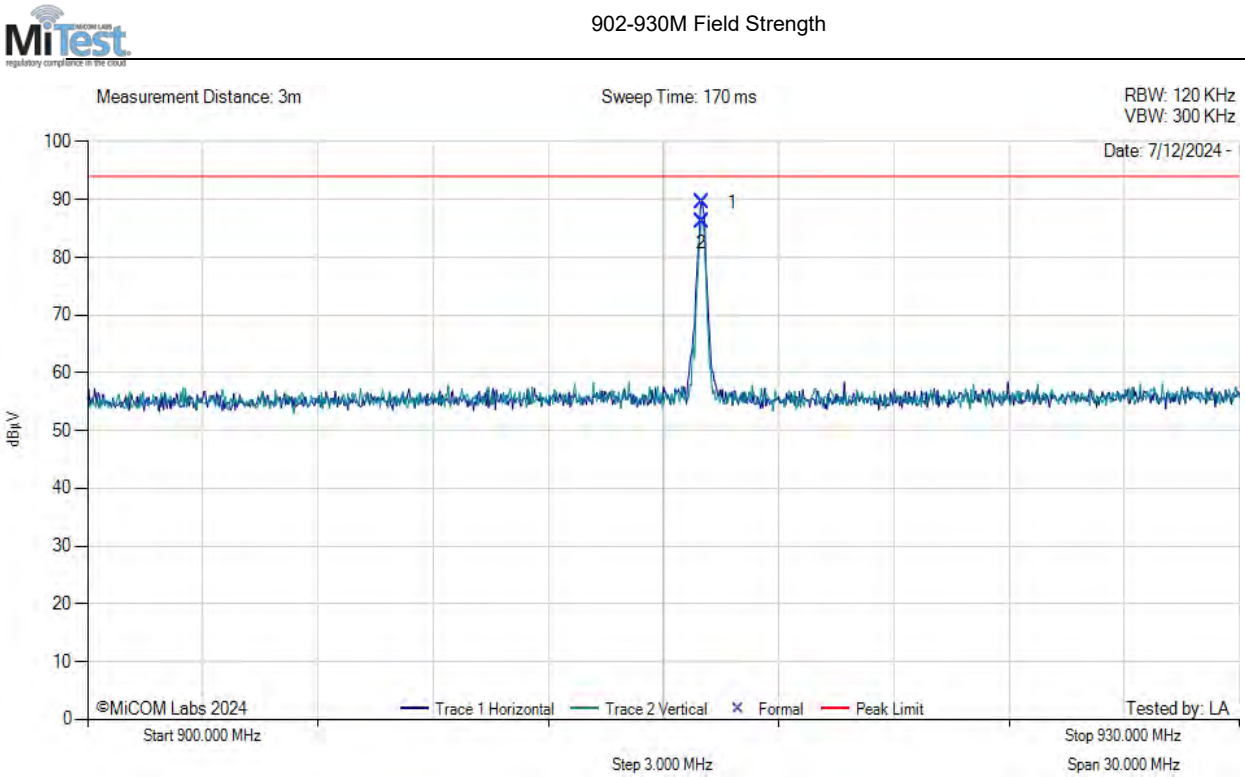
Equipment Configuration for 902-930M FIELD STRENGTH			
Antenna:	Internal	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	916.0	**Data Rate:**	16.384 kbps
Power Setting:	Power Level 0	**Tested By:**	LA

Test Measurement Results



900.00 - 930.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	915.99	55.75	6.98	28.82	89.54	MaxP	Horizontal	148	300	94.0	-4.5	Pass
2	915.99	50.35	6.98	28.82	86.15	MaxP	Vertical	148	330	94.0	-7.9	Pass
Test Notes: SN: 2935662-02, FS OOK 916 MHz, 16.384kbps, Power Level 0												

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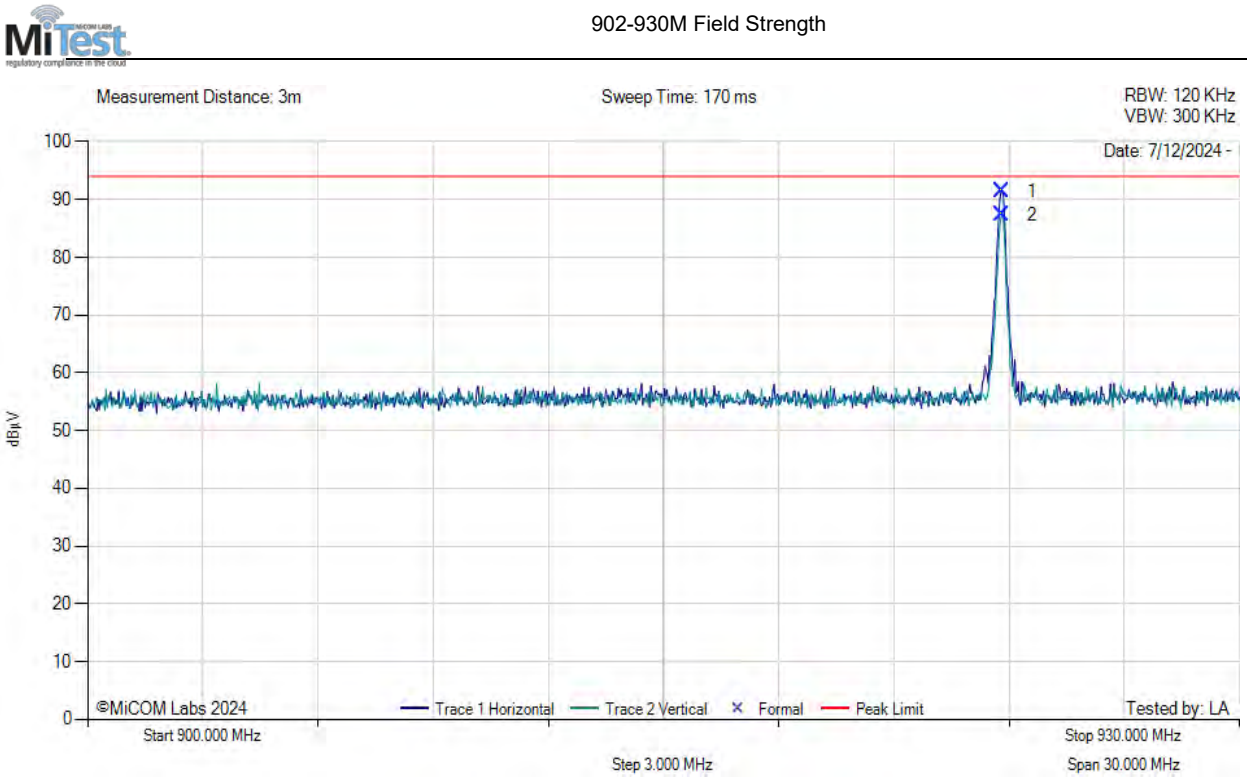
Equipment Configuration for 902-930M FIELD STRENGTH

Antenna:	Internal	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	923.8	**Data Rate:**	16.384 kbps
Power Setting:	Power Level 0	**Tested By:**	LA

Test Measurement Results



900.00 - 930.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	923.82	57.49	6.99	28.93	91.41	MaxP	Horizontal	148	300	94.0	-2.6	Pass
2	923.82	51.47	6.99	28.93	87.39	MaxP	Vertical	148	330	94.0	-6.6	Pass

Test Notes: SN: 2935662-02, FS OOK 923.8 MHz, 16.384kbps, Power Level 0

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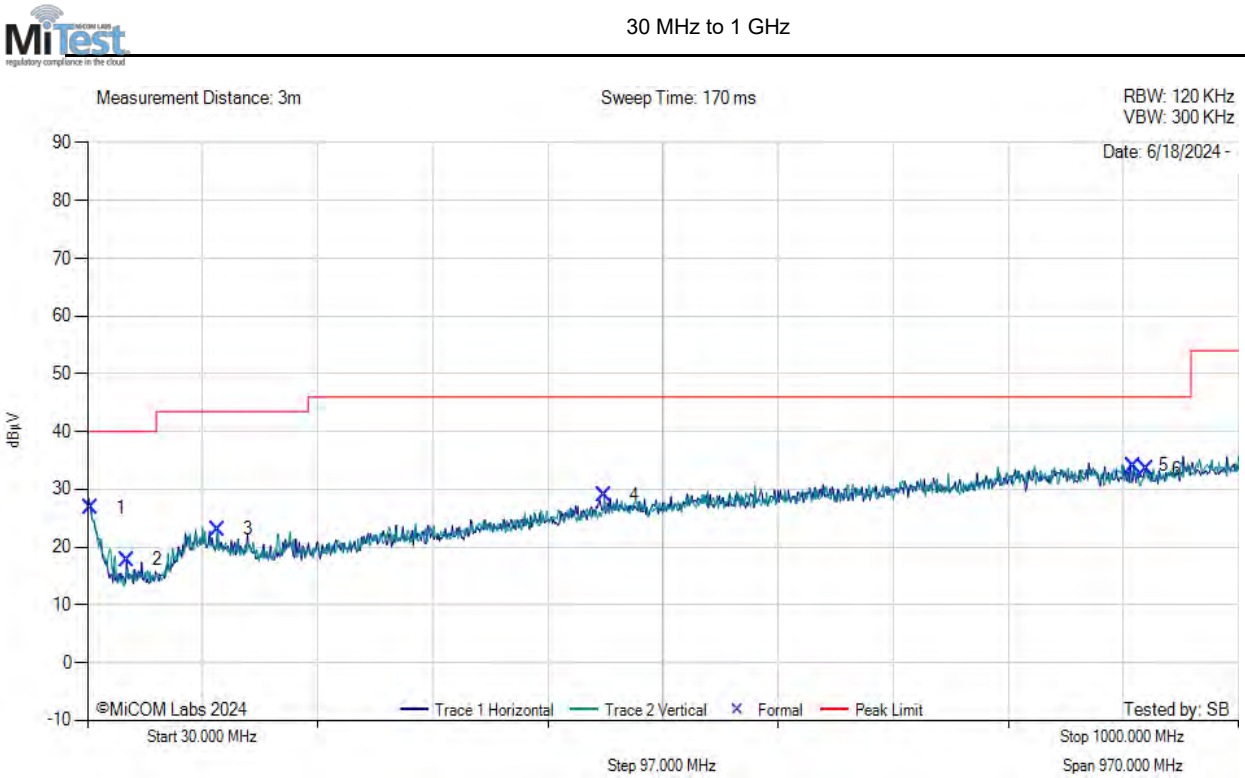
9.1.1.2. TX Spurious & Restricted Band Emissions 30MHz to 1GHz

9.1.1.2.1. OOK Power Level 0

Equipment Configuration for 30 MHZ TO 1 GHZ			
Antenna:	Integral	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	908.00	**Data Rate:**	16.384kbps
Power Setting:	Power Level 0	**Tested By:**	SB

Test Measurement Results



30.00 - 1000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	32.91	28.91	3.55	-5.69	26.77	MaxP	Vertical	99	209	40.0	-13.2	Pass
2	62.98	31.32	3.83	-17.35	17.80	MaxP	Horizontal	199	0	40.0	-22.2	Pass
3	139.61	30.98	4.29	-12.21	23.06	MaxP	Vertical	199	89	43.5	-20.4	Pass
4	465.53	30.60	5.57	-7.23	28.94	MaxP	Vertical	99	149	46.0	-17.1	Pass
5	911.73	28.89	6.99	-1.79	34.09	MaxP	Vertical	99	29	46.0	-11.9	Pass
6	922.40	28.18	6.99	-1.68	33.49	MaxP	Vertical	99	239	46.0	-12.5	Pass
Test Notes: SN: 2935662-02, OOK, 908 MHz, 16.384 kbps, Power Level 0												

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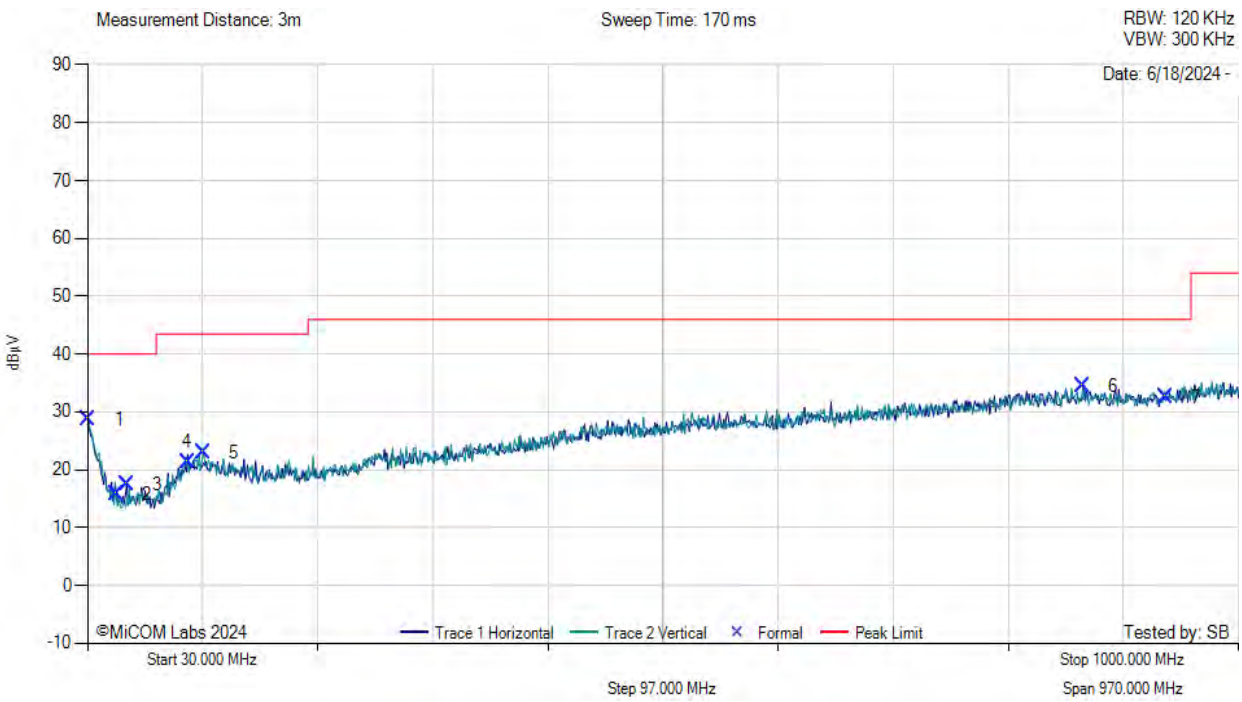
Equipment Configuration for 30 MHZ TO 1 GHZ

Antenna:	Integral	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	916.00	**Data Rate:**	16.384kbps
Power Setting:	Power Level 0	**Tested By:**	SB

Test Measurement Results

30 MHz to 1 GHz



30.00 - 1000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	30.97	29.25	3.52	-4.10	28.68	MaxP	Horizontal	199	208	40.0	-11.3	Pass
2	54.25	29.59	3.75	-17.51	15.84	MaxP	Vertical	100	209	40.0	-24.2	Pass
3	62.98	31.01	3.83	-17.35	17.49	MaxP	Horizontal	199	330	40.0	-22.5	Pass
4	114.39	28.22	4.22	-11.2	21.24	MaxP	Horizontal	100	0	43.5	-22.3	Pass
5	127.97	30.12	4.24	-11.31	23.05	MaxP	Vertical	100	179	43.5	-20.5	Pass
6	869.05	29.82	6.85	-2.18	34.48	MaxP	Vertical	100	0	46.0	-11.5	Pass
7	938.89	27.03	7.03	-1.52	32.54	MaxP	Vertical	100	59	46.0	-13.5	Pass
Test Notes: SN: 2935662-02, OOK, 916 MHz, 16.384 kbps, Power Level 0												

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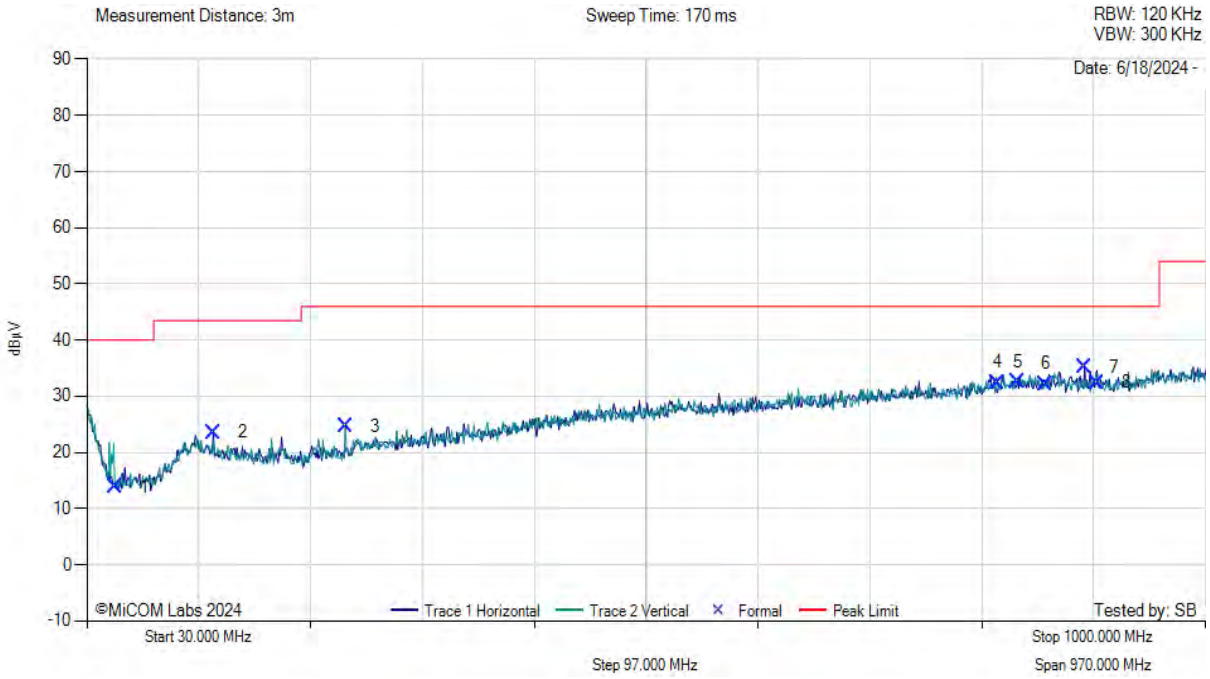
Equipment Configuration for 30 MHZ TO 1 GHZ

Antenna:	Integral	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	923.80	**Data Rate:**	16.384kbps
Power Setting:	Power Level 0	**Tested By:**	SB

Test Measurement Results

30 MHz to 1 GHz



30.00 - 1000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	54.25	27.60	3.75	-17.51	13.84	MaxP	Vertical	199	179	40.0	-26.2	Pass
2	139.61	31.46	4.29	-12.21	23.54	MaxP	Horizontal	199	0	43.5	-20.0	Pass
3	254.07	32.84	4.81	-12.94	24.71	MaxP	Vertical	199	149	46.0	-21.3	Pass
4	819.58	28.39	6.69	-2.67	32.40	MaxP	Vertical	100	179	46.0	-13.6	Pass
5	837.04	28.22	6.73	-2.46	32.49	MaxP	Vertical	199	59	46.0	-13.5	Pass
6	861.29	27.68	6.80	-2.26	32.22	MaxP	Horizontal	199	210	46.0	-13.8	Pass
7	895.24	30.20	6.90	-1.93	35.17	MaxP	Horizontal	100	240	46.0	-10.8	Pass
8	905.91	27.32	6.93	-1.83	32.42	MaxP	Vertical	100	0	46.0	-13.6	Pass

Test Notes: SN: 2935662-02, OOK, 923.8 MHz, 16.384 kbps, Power Level 0

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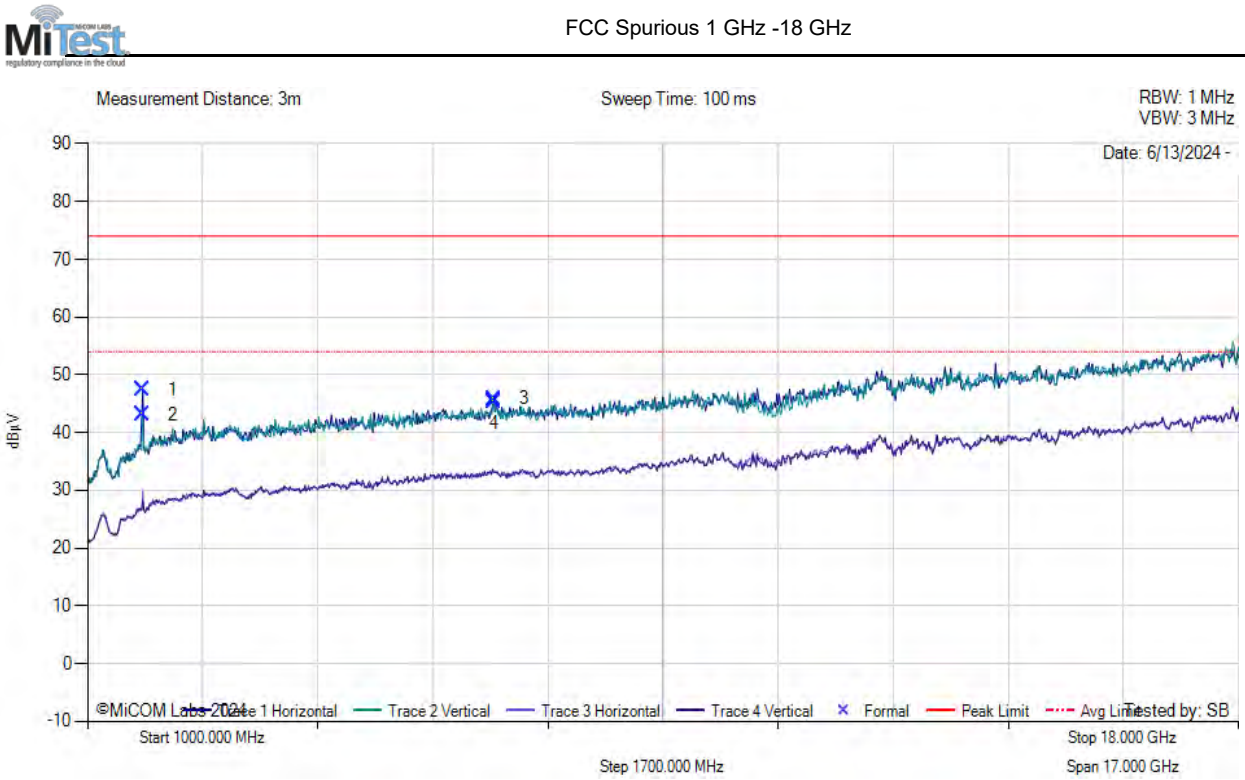
9.1.1.3. TX Spurious & Restricted Band Emissions 1GHz to 18GHz

9.1.1.3.1. OOK Power Level 0

Equipment Configuration for FCC SPURIOUS 1 GHZ -18 GHZ

Antenna:	Integral	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	908.00	**Data Rate:**	16.384kbps
Power Setting:	Power Level 0	**Tested By:**	SB

Test Measurement Results



1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	1816.00	60.09	1.73	30.49	47.36	MaxP	Horizontal	199	120	74.0	-26.6	Pass
2	1816.00	55.85	1.73	30.49	43.13	MaxP	Vertical	199	120	74.0	-30.9	Pass
3	7001.00	50.50	3.51	35.96	45.83	MaxP	Vertical	199	0	74.0	-28.2	Pass
4	7001.00	49.94	3.51	35.96	45.27	MaxP	Horizontal	199	330	74.0	-28.7	Pass

Test Notes: SN: 2935662-02, OOK,908 MHz, 16.38 kbps, Power Level 0

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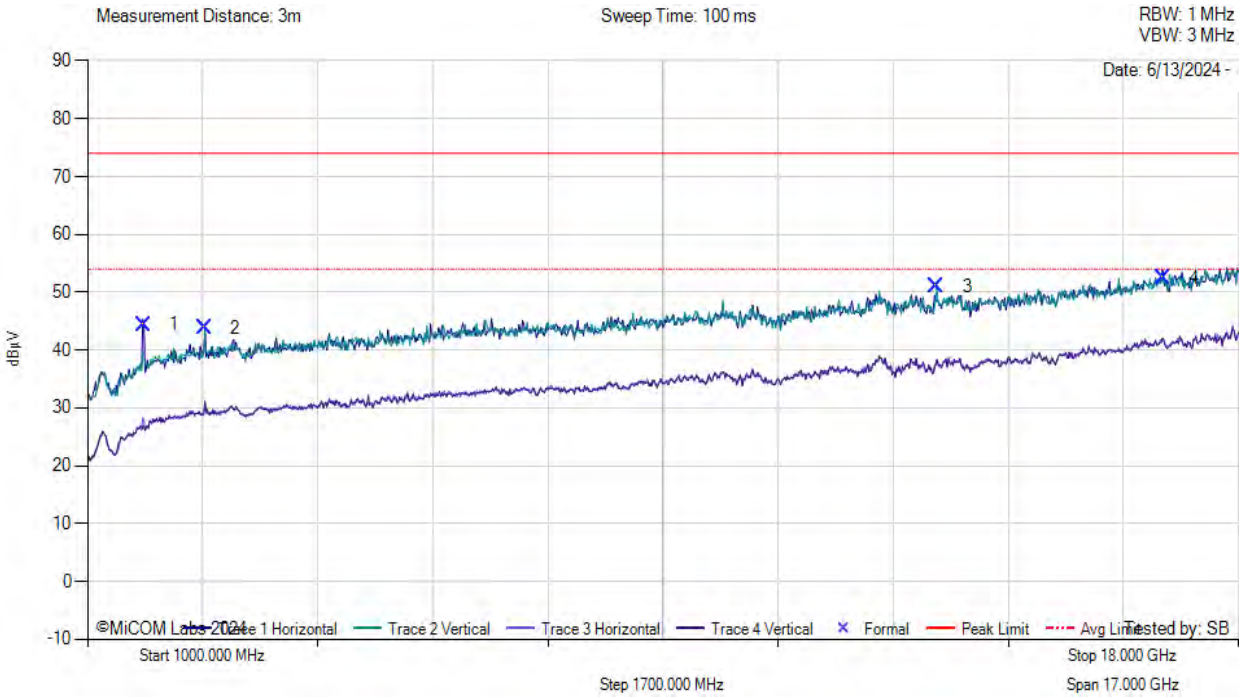
Equipment Configuration for FCC SPURIOUS 1 GHZ -18 GHZ

Antenna:	Integral	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	916.00	**Data Rate:**	16.384kbps
Power Setting:	Power Level 0	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz -18 GHz



1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	1833.00	57.05	1.75	30.60	44.46	MaxP	Horizontal	149	90	74.0	-29.5	Pass
2	2734.00	53.38	2.11	32.44	43.75	MaxP	Vertical	149	269	74.0	-30.2	Pass
3	13546.00	53.03	5.47	39.12	50.97	MaxP	Vertical	100	179	74.0	-23.0	Pass
4	16895.00	46.46	6.49	41.69	52.37	MaxP	Horizontal	149	30	74.0	-21.6	Pass

Test Notes: SN: 2935662-02, OOK, 916 MHz, 16.38 kbps, Power Level 0

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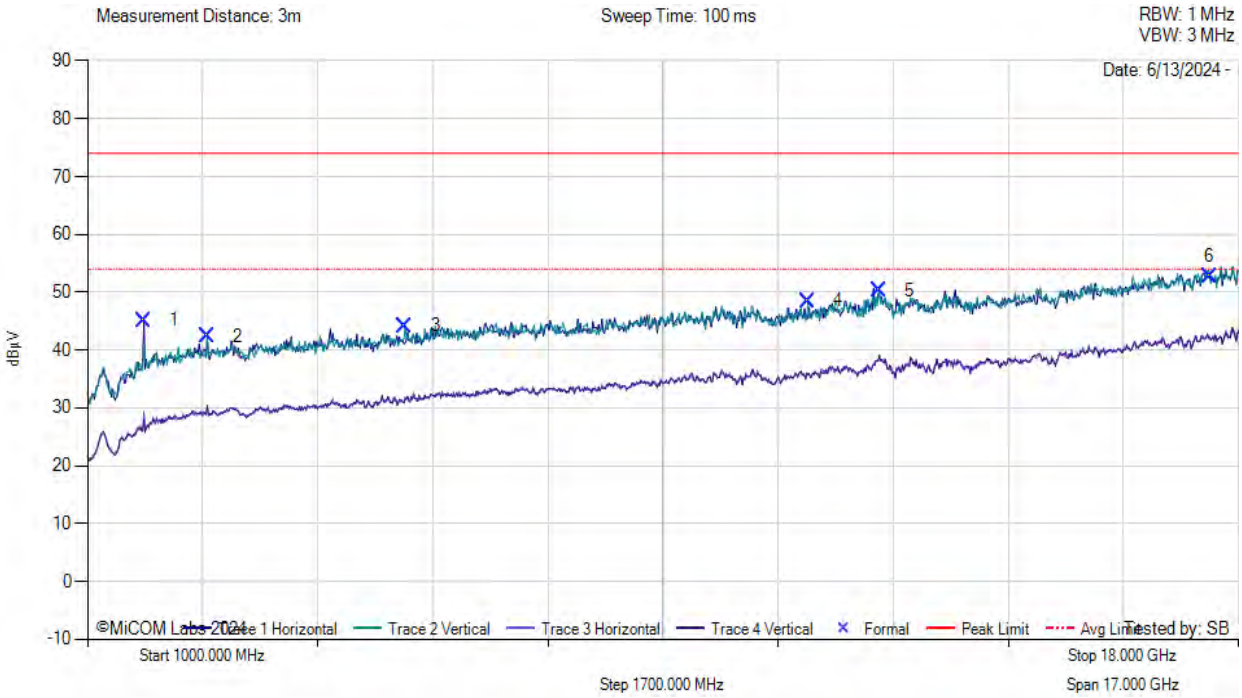
Equipment Configuration for FCC SPURIOUS 1 GHZ -18 GHZ

Antenna:	Integral	**Variant:**	100G DM
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OOK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	923.80	**Data Rate:**	16.384kbps
Power Setting:	Power Level 0	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz -18 GHz



1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	1833.00	57.75	1.75	30.60	45.16	MaxP	Horizontal	100	90	74.0	-28.8	Pass
2	2768.00	52.03	2.16	32.47	42.45	MaxP	Vertical	199	269	74.0	-31.5	Pass
3	5692.00	51.67	3.21	34.65	44.16	MaxP	Vertical	199	59	74.0	-29.8	Pass
4	11642.00	49.55	4.94	38.43	48.48	MaxP	Vertical	149	239	74.0	-25.5	Pass
5	12696.00	51.97	5.26	39.09	50.29	MaxP	Vertical	149	179	74.0	-23.7	Pass
6	17575.00	47.18	6.31	41.59	52.69	MaxP	Vertical	199	299	74.0	-21.3	Pass

Test Notes: SN: 2935662-02, OOK, 923.8 MHz, 16.38 kbps, Power Level 0

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10. Manufacturer Declaration of Similarity

Itron

Itron, Inc.
2401 N. State St.
Waseca, MN 56093
507-781-4300
www.itron.com

June 28, 2024

Subject: Declaration of Similarity: EWQ100GTA, 864D-100GTA

Dear Sir or Madam,

We declare the product models listed below are electrically identical.

Product Information	
Marketing Name	100G ERT Module
Description	Gas utility AMR device
Models(s)	ERG-5600-001, ERG-5600-002, ERG-5600-003, ERG-5600-004, ERG-5600-009

The only difference between these variant models is the housing and the gas meter wriggler interface. The differences of these variants does not affect any RF or EMC performance.

Sincerely,

Dan Bomsta
Sr. Principal Regulatory Engineer
507-781-4480
dan.bomsta@itron.com
Itron, Inc.

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Pleasanton, California 94566, USA
Tel: +1 (925) 462 0304
Fax: +1 (925) 462 0306
www.micomlabs.com