Itron, Inc.

TEST REPORT FOR

CCU100
Models: CCU100D & CCU100RD*
***(See Appendix B for Manufacturer's Declaration)**

Tested to The Following Standards:

FCC Part 15 Subpart C Section(s)

15.207 & 15.247
(FHSS 902-928MHz)

Report No.: 107461-2

Date of issue: December 5, 2022

This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

Test Certificate # 803.01

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Itron, Inc.
2111 N. Molter Road
Liberty Lake, WA 99019

Representative: Jack McPeck
Customer Reference Number: 266633

REPORT PREPARED BY:

Viviana Prado
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 107461

DATE OF EQUIPMENT RECEIPT: October 1, 2022
DATE(S) OF TESTING: October 1 through 21, 24, and 26, 2022

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the equipment provided by the client, tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.

Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Test Facility Information

Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
Canyon Park
22116 23rd Drive S.E., Suite A
Bothell, WA 98021

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.03.20

Site Registration & Accreditation Information

Location	*NIST CB #	FCC	Canada	Japan
Canyon Park, Bothell, WA	US0103	US1024	3082C	A-0136
Brea, CA	US0103	US1024	3082D	A-0136
Fremont, CA	US0103	US1024	3082B	A-0136
Mariposa, CA	US0103	US1024	3082A	A-0136

*CKC's list of NIST designated countries can be found at: https://standards.gov/cabs/designations.html

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C - 15.247 (FHSS 902-928MHz)

Test Procedure	Description	Modifications	Results
15.247(a)(1)(i)	Occupied Bandwidth	NA	Pass
15.247(a)(1)	Carrier Separation	NA	Pass
15.247(a)(1)(i)	Number of Hopping Channels	NA	Pass
15.247(a)(1)(i)	Average Time of Occupancy	NA	NP
15.247(b)(2)	Output Power	NA	Pass
15.247(d)	RF Conducted Emissions & Band Edge	NA	Pass
15.247(d)	Radiated Emissions & Band Edge	NA	Pass
15.207	AC Conducted Emissions	NA	Pass

NA = Not Applicable
NP = CKC Laboratories Inc. was not contracted to perform test.

ISO/IEC 17025 Decision Rule
The declaration of pass or fail herein is based upon assessment to the specification(s) listed above, including where applicable, assessment of measurement uncertainties. For performance related tests, equipment was monitored for specified criteria identified in that section of testing.

Modifications During Testing

This list is a summary of the modifications made to the equipment during testing.

Summary of Conditions
No modifications were made during testing.

Modifications listed above must be incorporated into all production units.

Conditions During Testing

This list is a summary of the conditions noted to the equipment during testing.

Summary of Conditions
ARM ISM Power was set to 15 for all tests except Fundamental and Conducted Spurs/Conducted Band Edge, the ARM ISM Power setting was reduced to 11 at time of test to fine tune the power of the unit for Fundamental compliance. The higher power used for other testing is representative of worst case. This is a test software setting and the manufacturer performs a calibration of each production unit with its appropriate software.

EQUIPMENT UNDER TEST (EUT)

During testing, numerous configurations may have been utilized. The configurations listed below support compliance to the standard(s) listed in the Summary of Results section.

Configuration 1 = Attached SuperRaptor, Internal GPS, Attached Cellular

Equipment Tested:

Device	Manufacturer	Model #	S/N
CCU100	Itron, Inc.	CCU100D	74049600

Support Equipment:

Device	Manufacturer	Model #	S/N
Laptop	Dell	Latitude E6430	NA
Switch	Netgear	FS105	NA
Antenna (attached ISM)	PCTEL	BOA9025NM-ITR	NA
Antenna (attached WAN)	PCTEL	MHO3G4G02NM	NA

Configuration 2 = Attached SuperRaptor, Remote GPS, Remote Cellular

Equipment Tested:

Device	Manufacturer	Model #	S/N
CCU100	Itron, Inc.	CCU100RD	74049603

Support Equipment:

Device	Manufacturer	Model #	S/N
Laptop	Dell	Latitude E6430	NA
Switch	Netgear	FS105	NA
Antenna (attached ISM)	PCTEL	BOA9025NM-ITR	NA
Antenna (remote WAN)	Taoglas	OMB.6912.03F21	NA
Antenna (remote GPS)	Trimble	101898-00	NA

Configuration 3 = Remote SuperRaptor, Remote GPS, Remote Cellular

Equipment Tested:

Device	Manufacturer	Model #	S/N
CCU100	Itron, Inc.	CCU100RD	74049603

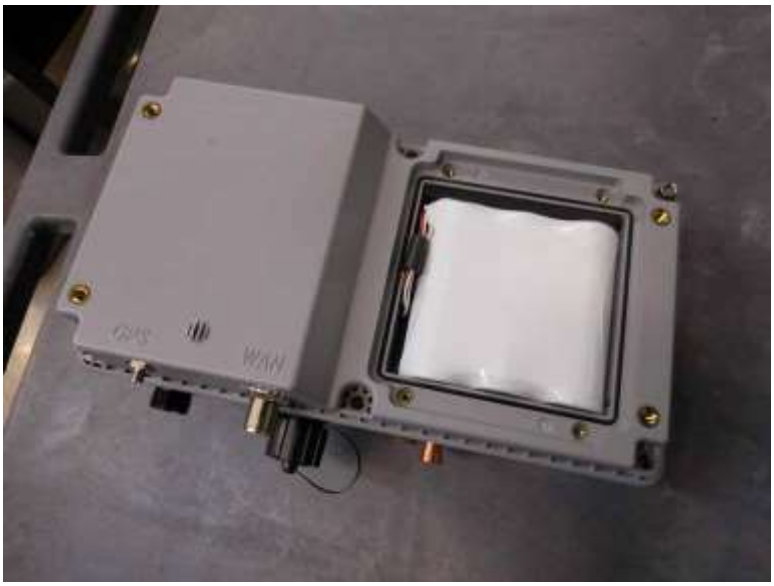
Support Equipment:

Device	Manufacturer	Model #	S/N
Laptop	Dell	Latitude E6430	NA
Switch	Netgear	FS105	NA
Antenna (remote ISM)	PCTEL	BOA9028	NA
1dB Attenuator (Qty: 2)	Mini-Circuits	15542 UNAT-1+	NA
Surge Protector	Times Microwave Systems	LP-BTRW-NMP	NA
Antenna (remote WAN)	Taoglas	OMB.6912.03F21	NA
Antenna (remote GPS)	Trimble	101898-00	NA

General Product Information:

Product Information	Manufacturer-Provided Details
Equipment Type:	Stand-Alone Equipment
Type of Wideband System:	FHSS
Operating Frequency Range:	903-926.8 MHz
Number of Hopping Channels:	80 channels (AM), 120 channels (FM)
Receiver Bandwidth and Synchronization:	The manufacturer declares the receiver input bandwidth matches the transmit channel bandwidth and shifts frequencies in synchronization with the transmitter.
Modulation Type(s):	16kbit/sec AM (OOK) 12.5kbit/sec FM (FSK) 37.5 kbit/sec FM (FSK)
Maximum Duty Cycle:	Tested at 100%
Number of TX Chains:	1
Antenna Type(s) and Gain:	Omni-Directional / 5.5 & 8.15 dBi
Beamforming Type:	NA
Antenna Connection Type:	External Connector
Nominal Input Voltage:	115VAC/60Hz
Firmware / Software used for Test:	ARM FW 2.27.0.0 DSP FW 7.22.0.0 FPGA FW 4.14 SRTest100 4.11.1.99 TeraTerm 4.62
The validity of results is dependent on the stated product details, the accuracy of which the manufacturer assumes full responsibility.	

EUT Photo(s)



CCU Poletop

Support Equipment Photo(s)

Attached ISM Antenna

Attached WAN Antenna

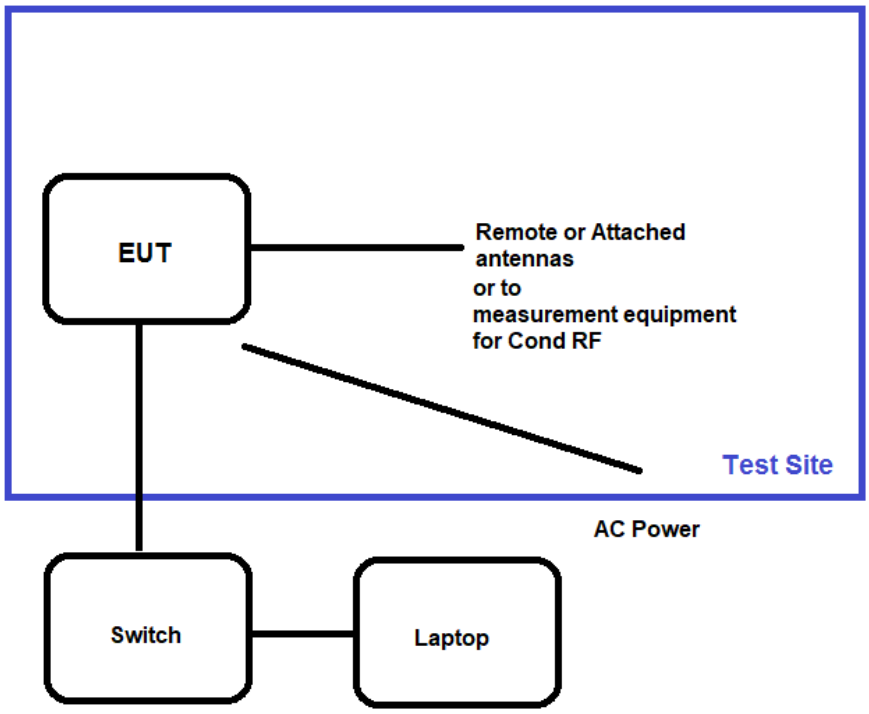
Laptop and Switch

Remote ISM Antenna

Remote WAN and GPS Antennas

Block Diagram of Test Setup(s)

Test Setup Block Diagram



FCC Part 15 Subpart C

15.247(a) Transmitter Characteristics

Test Setup/Conditions			
Test Location:	Bothell Lab C3	Test Engineer:	M. Harrison/M. Atkinson
Test Method:	ANSI C63.10 (2013)	Test Date(s):	10/6/2022 to 10/13/2022
Configuration:	1		
Test Setup:	EUT is setup for conducted measurements. It is directly connected to the Signal Analyzer via an Attenuator and a Cable. For the AM channel plan, normal AM modulation is used. For the FM channel plan, a test mode with CW modulation was used.		

Environmental Conditions			
Temperature (ºC)	23	Relative Humidity (%):	52

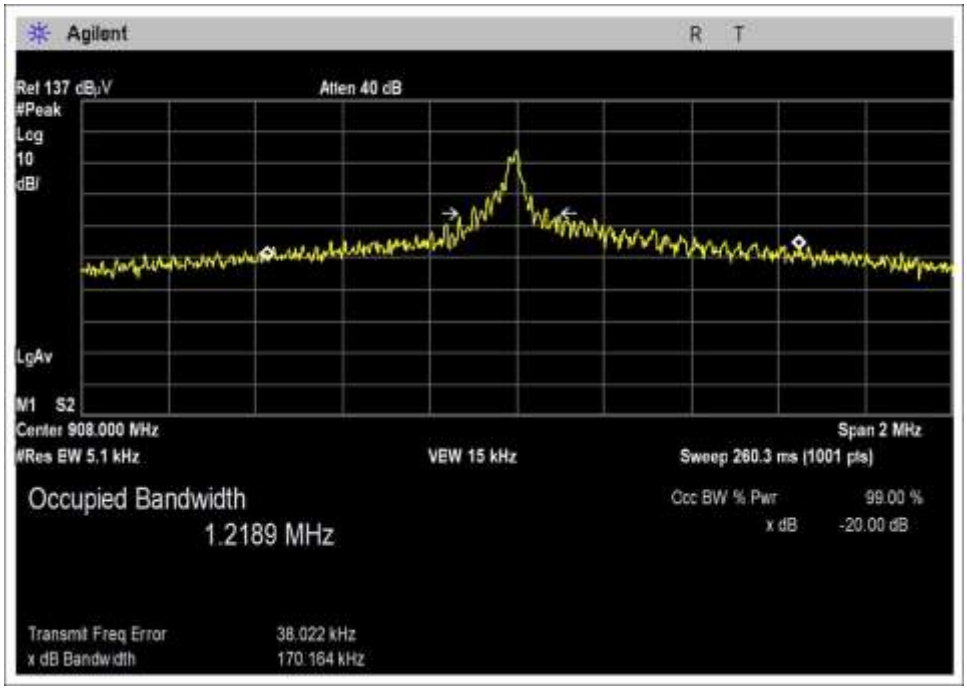
Test Equipment					
Asset#	**Description**	**Manufacturer**	**Model**	**Cal Date**	**Cal Due**
02872	Spectrum Analyzer	Agilent	E4440A	11/29/2021	11/29/2023
P05503	Attenuator	Narda	766-10	6/8/2021	6/8/2023
P06008	Cable	Andrew	Heliax	9/2/2022	9/2/2024

15.247(a)(1) 20 dB Bandwidth

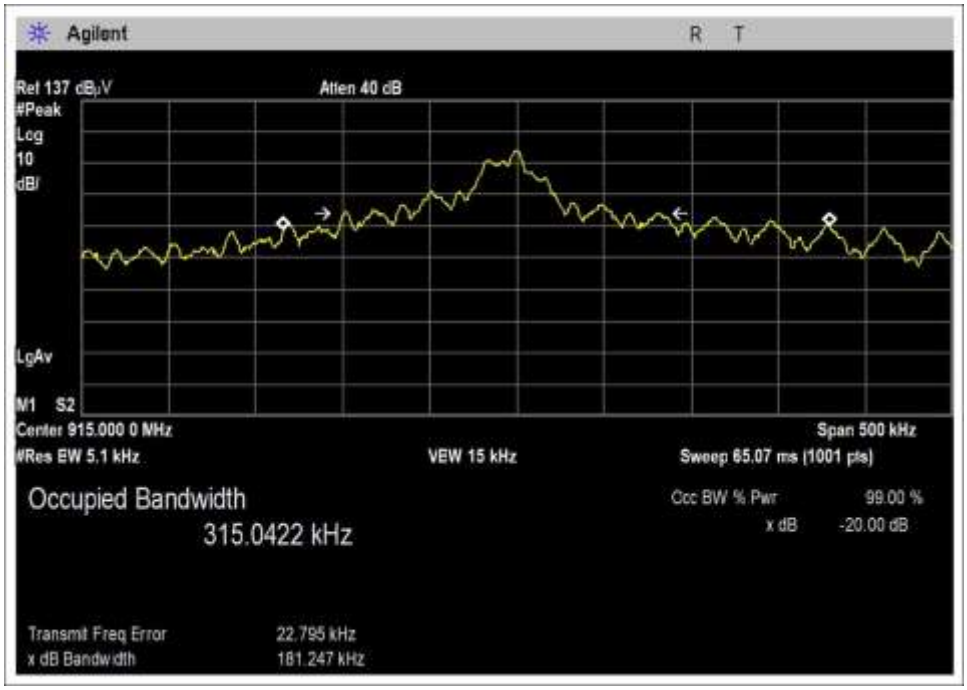
Test Data Summary					
Frequency (MHz)	**Antenna Port**	**Modulation**	**Measured (kHz)**	**Limit (kHz)**	**Results**
908.0	1	AM	170.2	≤500	Pass
915.0	1	AM	181.3	≤500	Pass
923.8	1	AM	168.9	≤500	Pass
903.0	1	FM 12.5k	139.7	≤500	Pass
915.0	1	FM 12.5k	139.9	≤500	Pass
926.8	1	FM 12.5k	139.4	≤500	Pass
903.0	1	FM 37.5k	85.7	≤500	Pass
915.0	1	FM 37.5k	86.5	≤500	Pass
926.8	1	FM 37.5k	87.5	≤500	Pass

Plot(s)

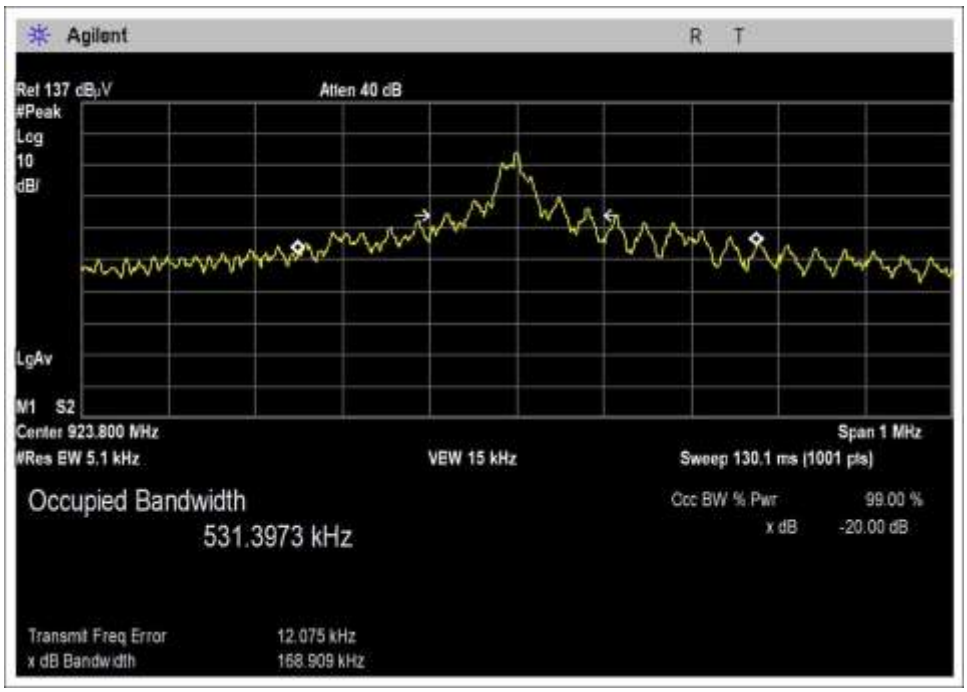
AM



Low Channel

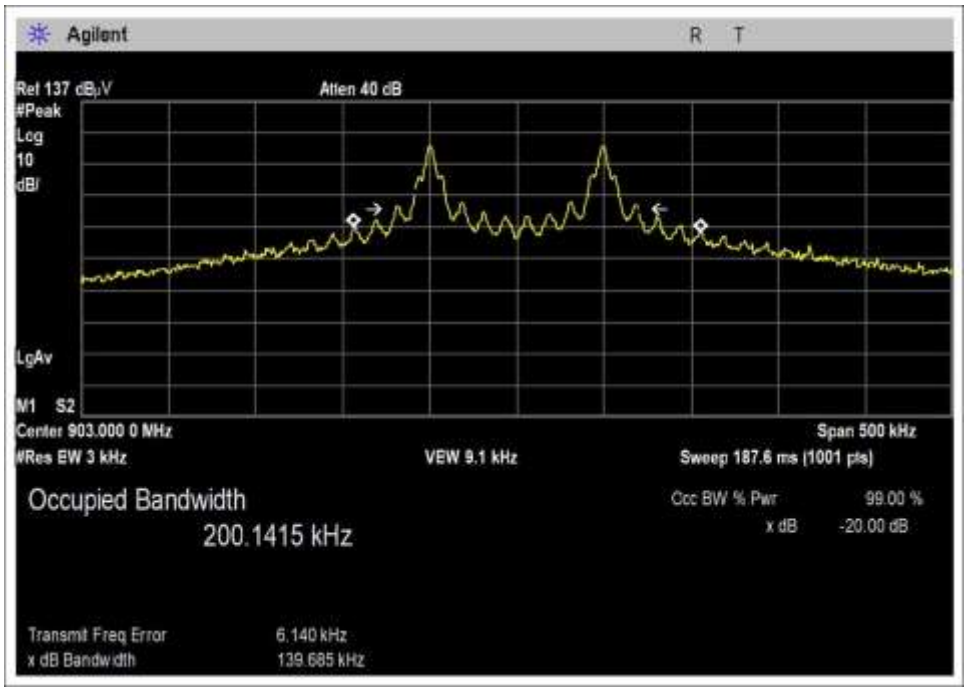


Medium Channel

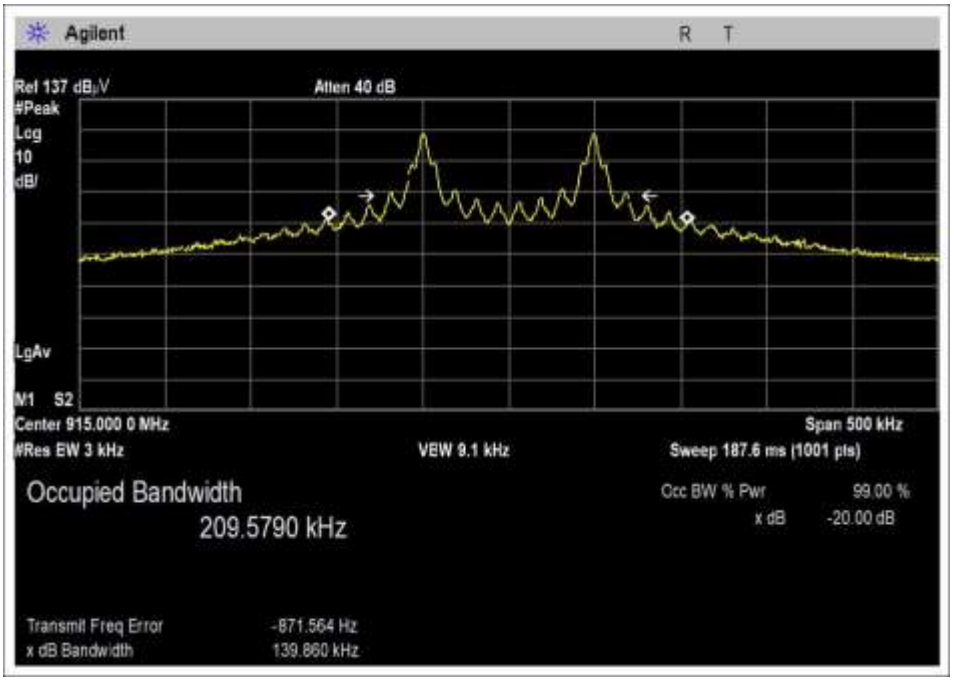


High Channel

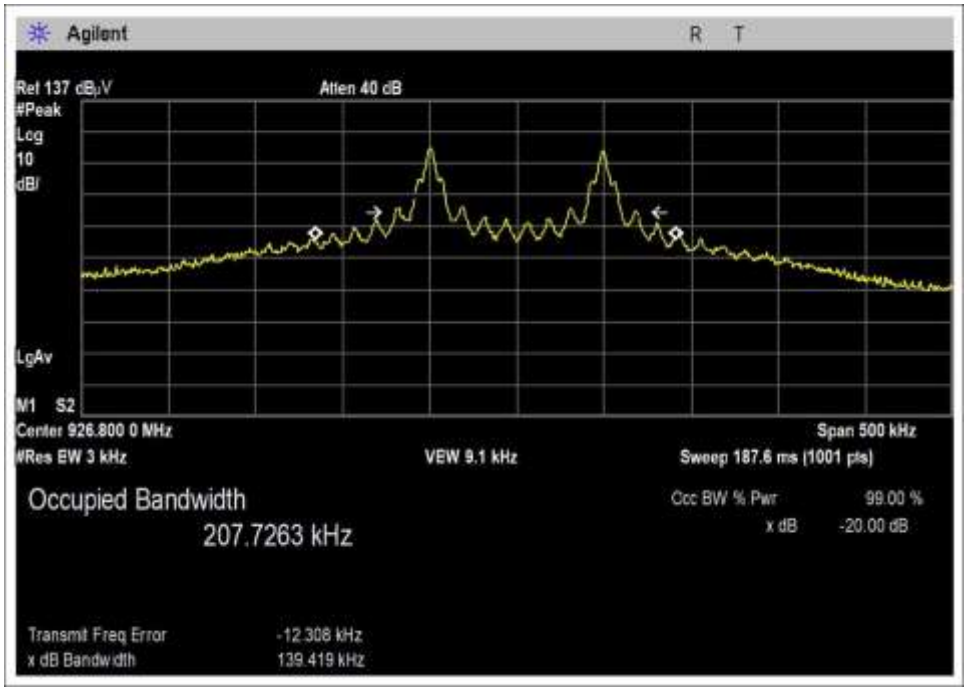
FM 12.5k



Low Channel

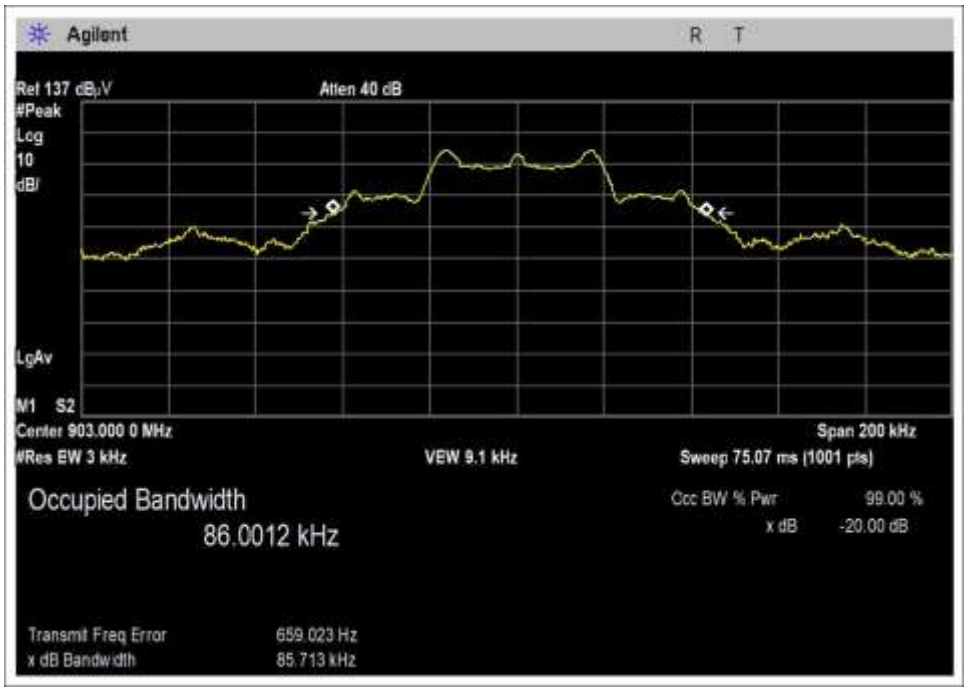


Medium Channel

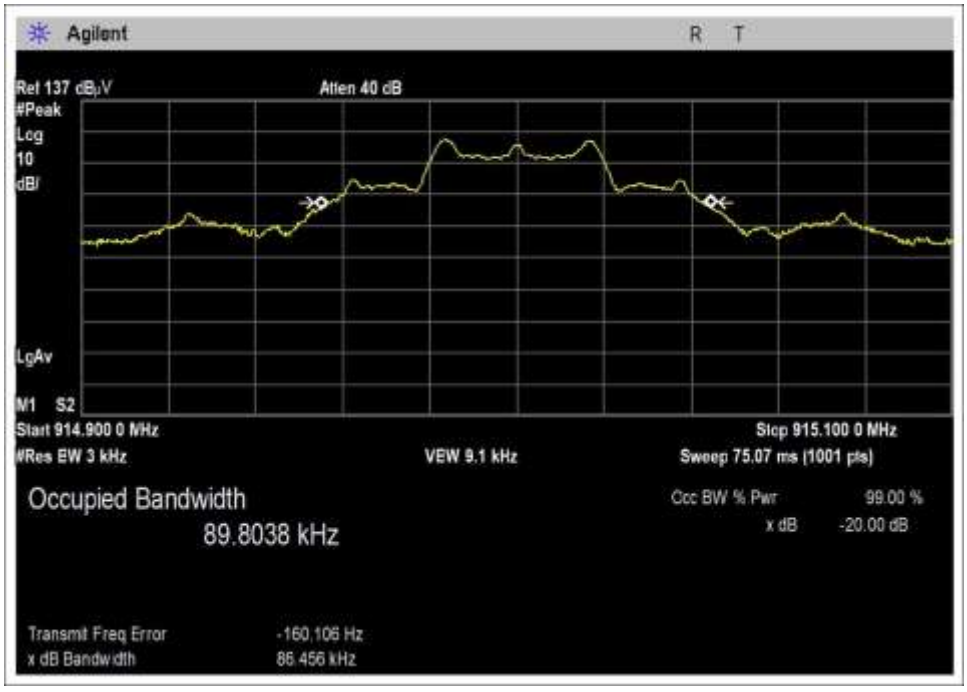


High Channel

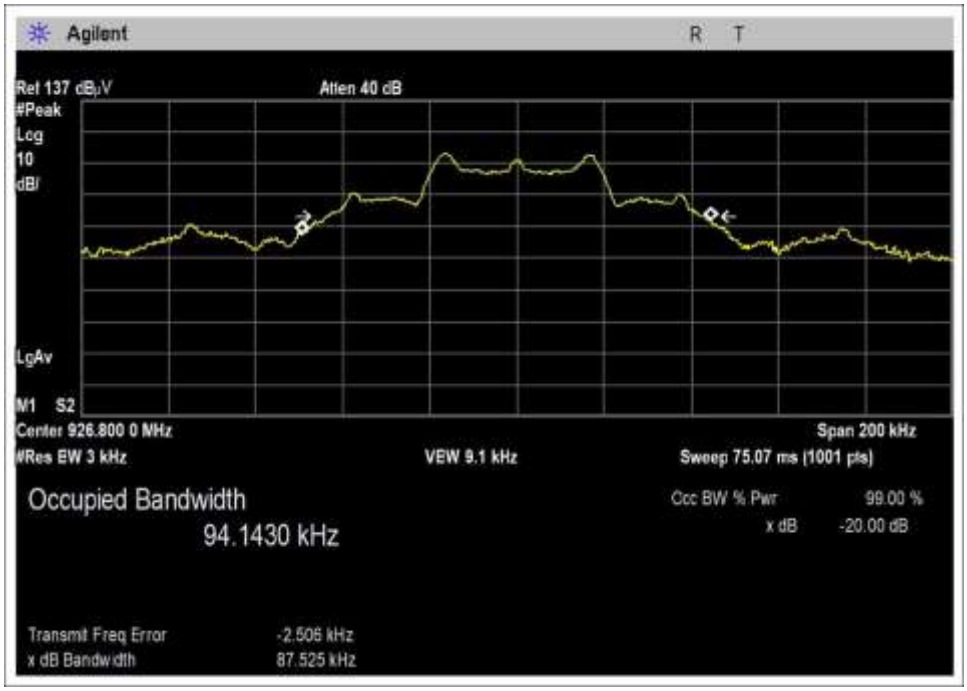
FM 37.5k



Low Channel



Medium Channel

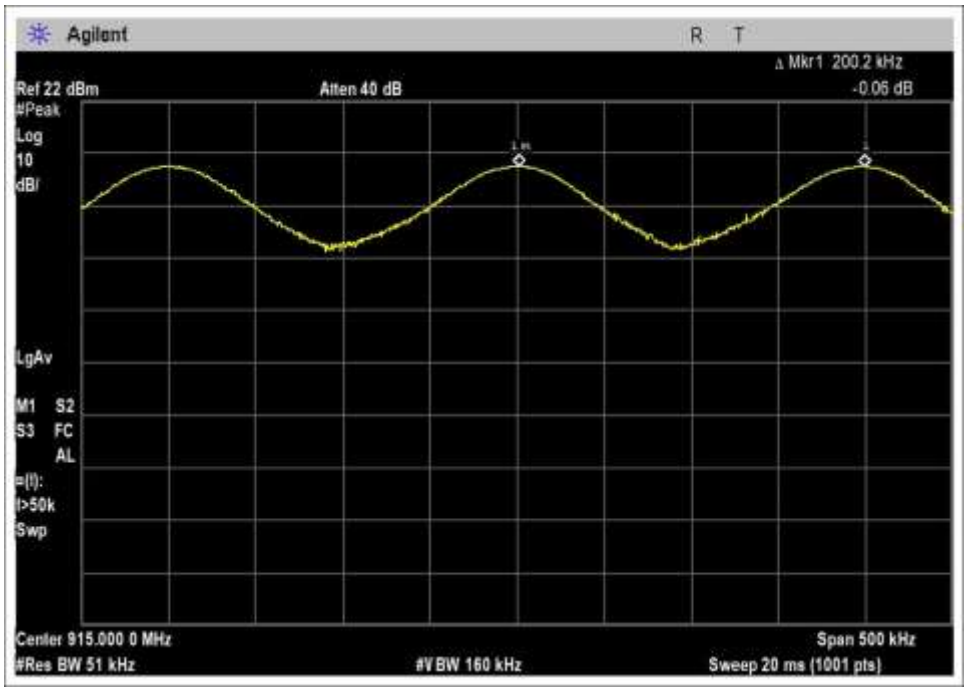


High Channel

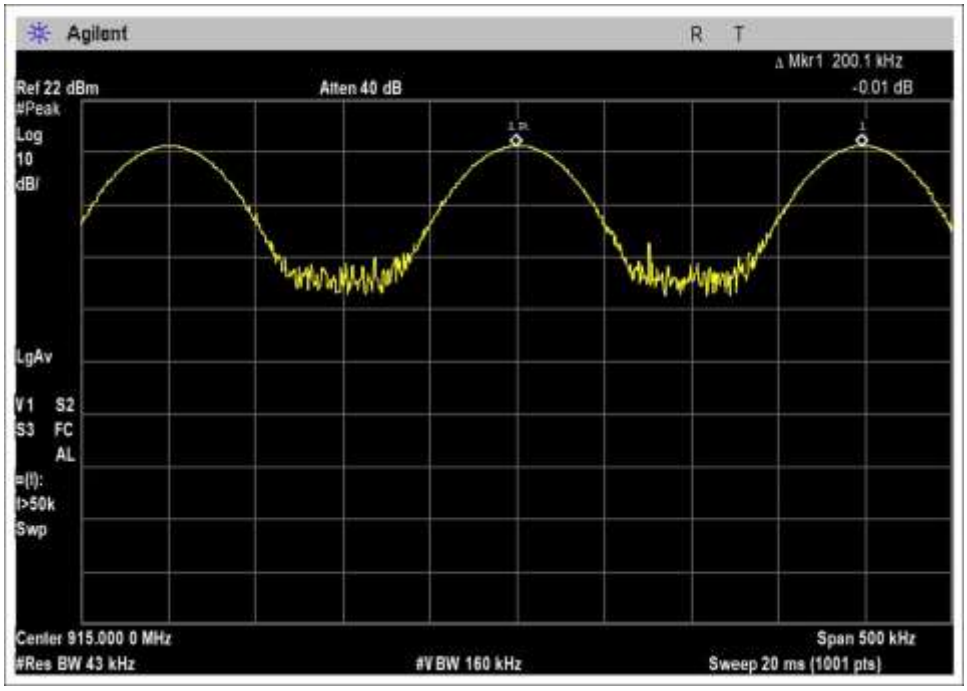
15.247(a)(1) Carrier Separation

Test Data Summary				
Limit applied: 20dB bandwidth of the hopping channel.				
Antenna Port	**Operational Mode**	**Measured (kHz)**	**Limit (kHz)**	**Results**
1	AM channel plan	200.2	>181.3	Pass
1	FM channel plan	200.1	>87.5	Pass

Plot(s)



AM Channel Plan



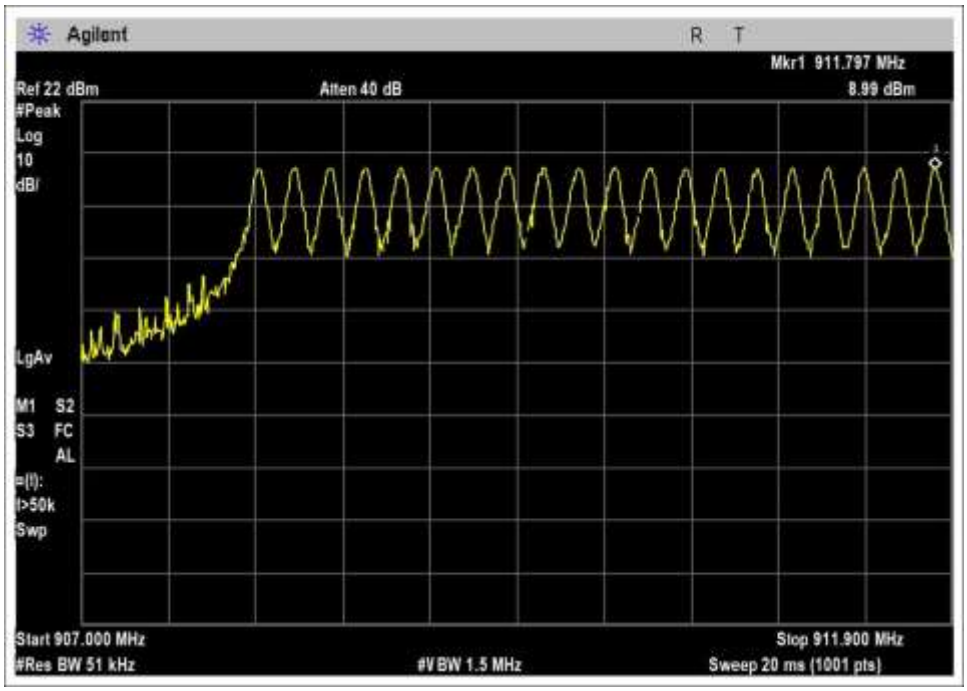
FM Channel Plan

15.247(a)(1)(iii) Number of Channels

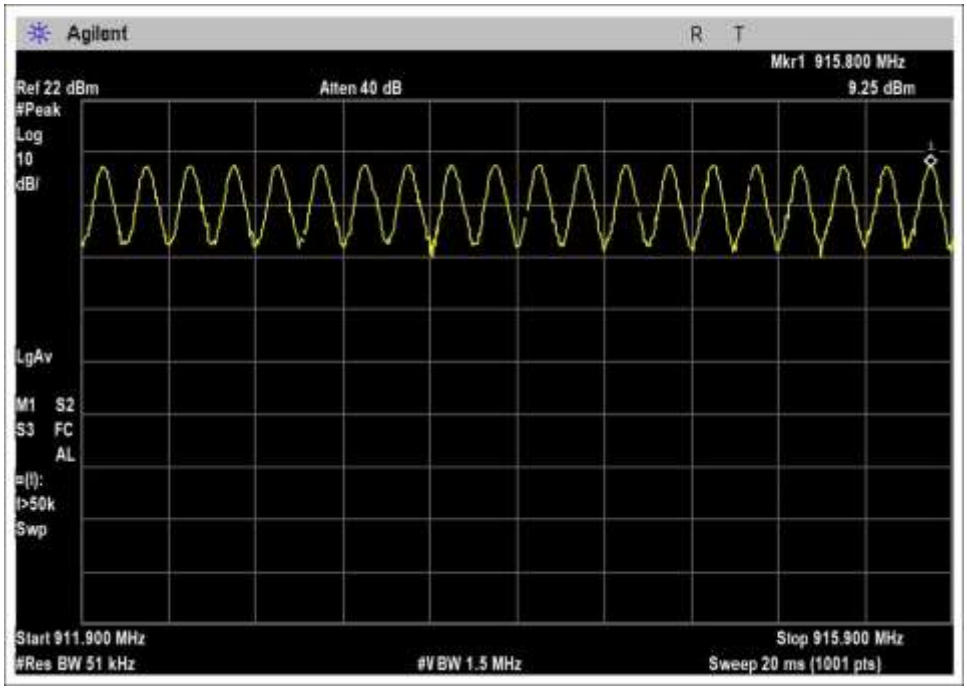
Test Data Summary				
$Limit = \begin{cases} 50\ Channels \mid 20\ dB\ BW < 250kHz \\ 25\ Channels \mid 20\ dB\ BW \geq 250kHz \end{cases}$				
Antenna Port	**Operational Mode**	**Measured (Channels)**	**Limit (Channels)**	**Results**
1	AM channel plan	80	≥50	Pass
1	FM channel plan	120	≥50	Pass

Plot(s)

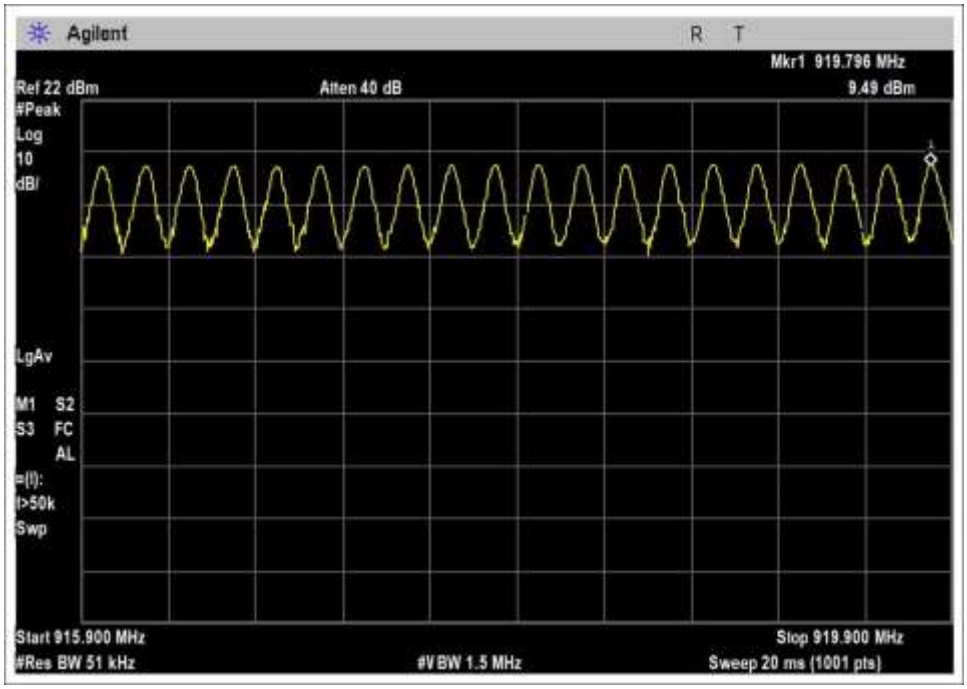
AM Number of Channels



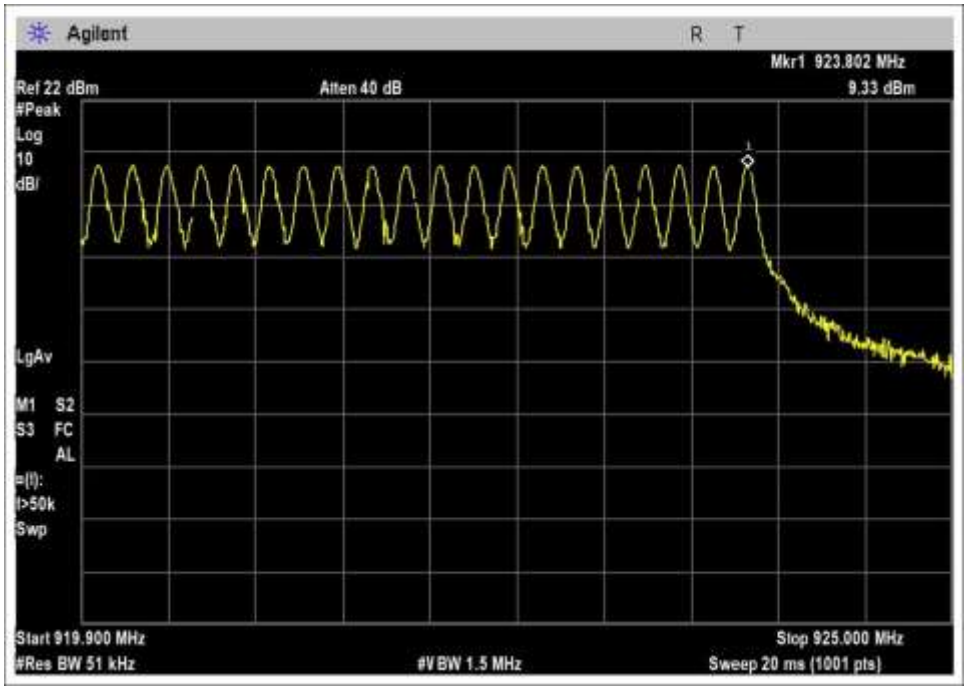
1st 20 Channels



2nd 20 Channels

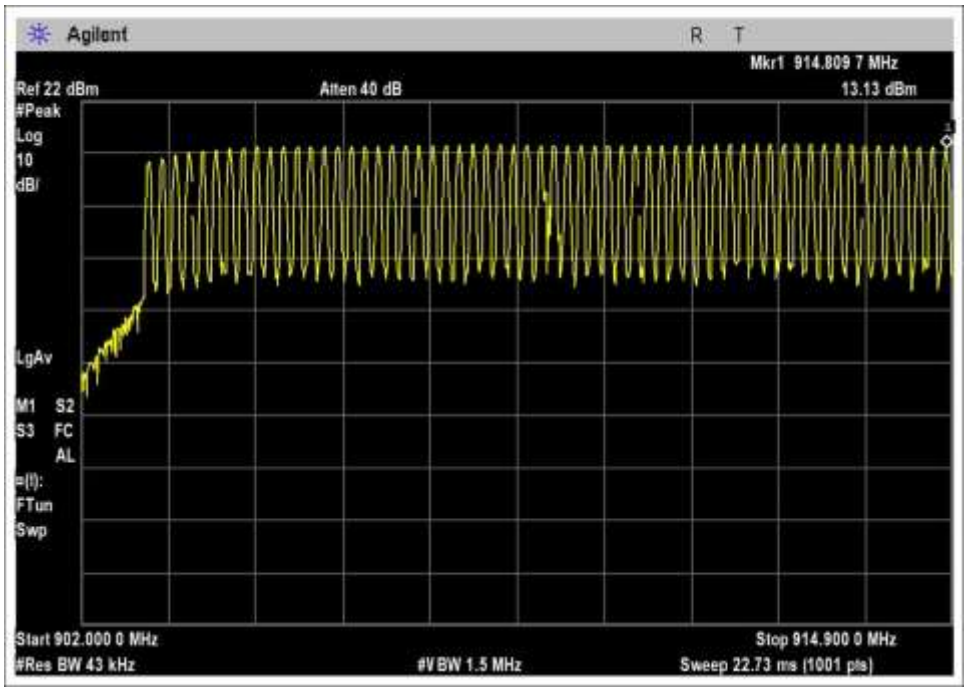


3rd 20 Channels

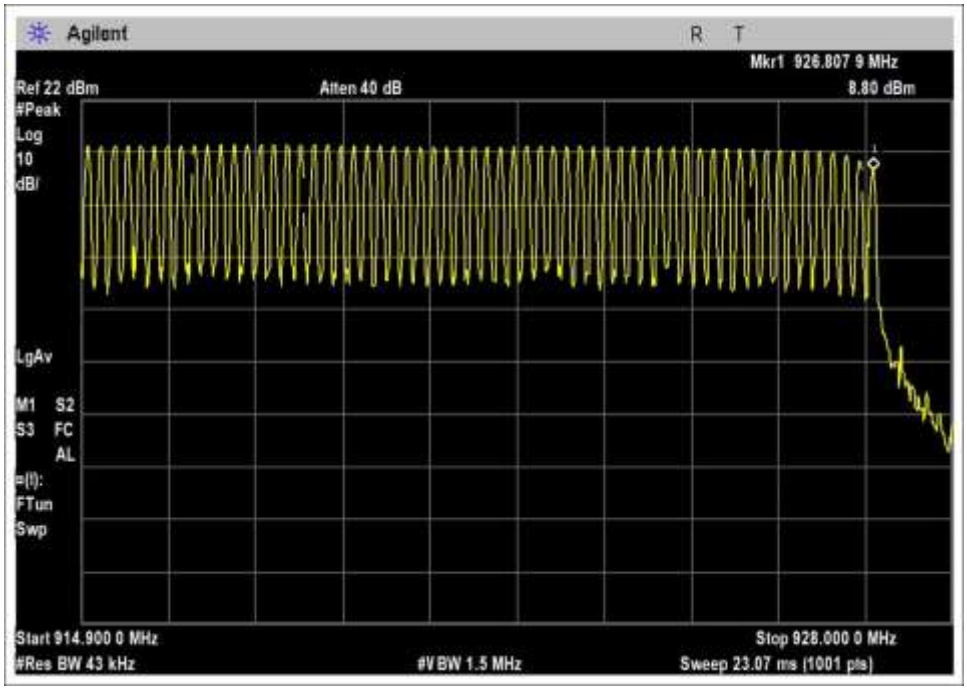


4th 20 Channels

FM Number of Channels



1st 60 Channels



2nd 60 Channels

15.247(b)(2) Output Power

Test Data Summary - Voltage Variations					
Frequency (MHz)	Modulation / Ant Port	$V_{Minimum}$ (dBm)	$V_{Nominal}$ (dBm)	$V_{Maximum}$ (dBm)	Max Deviation from $V_{Nominal}$ (dB)
908.0	AM	29.8	29.8	29.8	0.0
915.0	FM 12.5k	29.4	29.4	29.4	0.0
915.0	FM 37.5k	27.2	27.2	27.2	0.0

Test performed using operational mode with the highest output power, representing worst-case.

Parameter Definitions:

Measurements performed at input voltage Vnominal ± 15%.

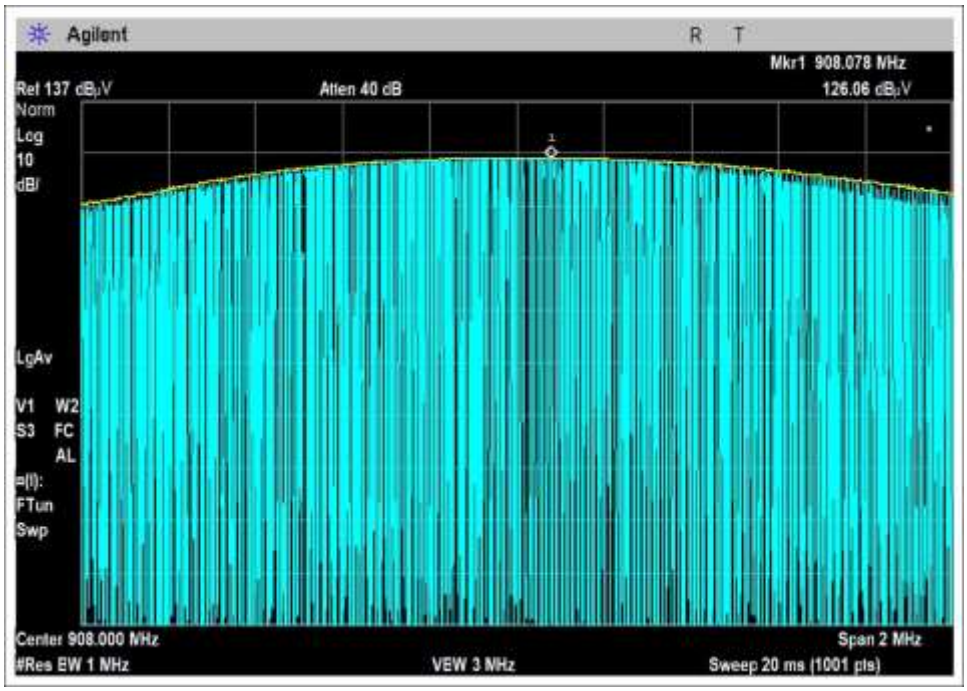
Parameter	Value
$V_{Nominal}$:	115
$V_{Minimum}$:	90
$V_{Maximum}$:	265

Test Data Summary - RF Conducted Measurement					
$Limit = \begin{cases} 30dBm\ Conducted/36dBm\ EIRP \mid \geq 50\ Channels \\ 24dBm\ Conducted/30dBm\ EIRP \mid < 50\ Channels\ (\min 25) \end{cases}$					
Frequency (MHz)	Modulation	Ant. Type / Gain (dBi)	Measured (dBm)	Limit (dBm)	Results
908.0	AM	Omni-Directional / 5.5 dBi	29.8	≤ 30	Pass
915.0	AM	Omni-Directional / 5.5 dBi	29.7	≤ 30	Pass
923.8	AM	Omni-Directional / 5.5 dBi	29.4	≤ 30	Pass
908.0	AM	Omni-Directional / 8.15 dBi *	29.8	≤ 30	Pass
915.0	AM	Omni-Directional / 8.15 dBi *	29.7	≤ 30	Pass
923.8	AM	Omni-Directional / 8.15 dBi *	29.4	≤ 30	Pass
903.0	FM 12.5k	Omni-Directional / 5.5 dBi	26.6	≤ 30	Pass
915.0	FM 12.5k	Omni-Directional / 5.5 dBi	29.4	≤ 30	Pass
926.8	FM 12.5k	Omni-Directional / 5.5 dBi	26.0	≤ 30	Pass
903.0	FM 12.5k	Omni-Directional / 8.15 dBi *	26.6	≤ 30	Pass
915.0	FM 12.5k	Omni-Directional / 8.15 dBi *	29.4	≤ 30	Pass
926.8	FM 12.5k	Omni-Directional / 8.15 dBi *	26.0	≤ 30	Pass
903.0	FM 37.5k	Omni-Directional / 5.5 dBi	27.2	≤ 30	Pass
915.0	FM 37.5k	Omni-Directional / 5.5 dBi	29.6	≤ 30	Pass
926.8	FM 37.5k	Omni-Directional / 5.5 dBi	26.3	≤ 30	Pass
903.0	FM 37.5k	Omni-Directional / 8.15 dBi *	27.2	≤ 30	Pass
915.0	FM 37.5k	Omni-Directional / 8.15 dBi *	29.6	≤ 30	Pass
926.8	FM 37.5k	Omni-Directional / 8.15 dBi *	26.3	≤ 30	Pass

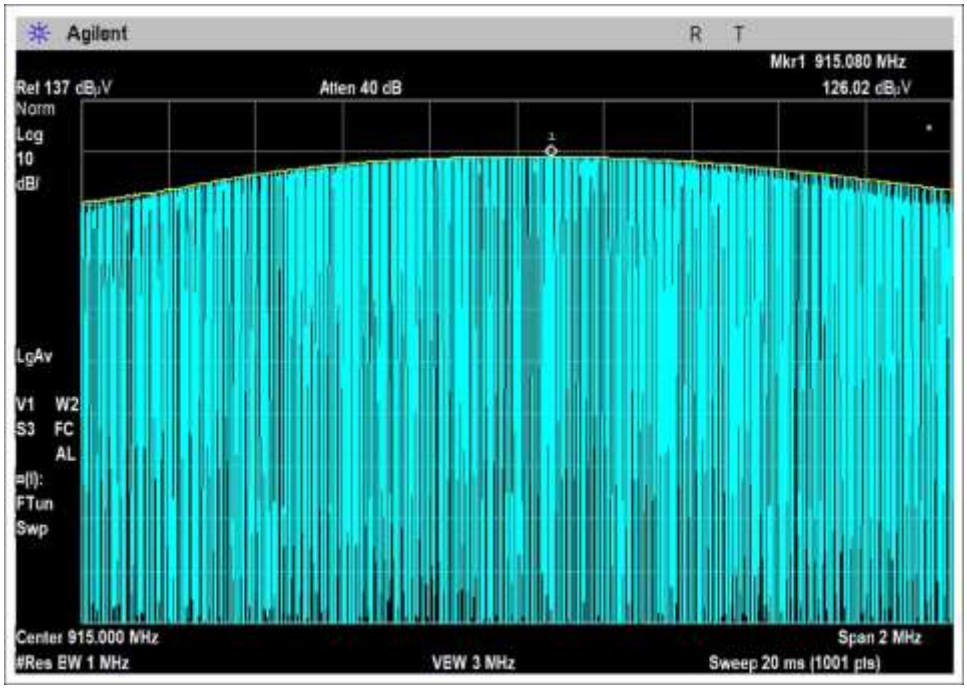
*Net gain is 5.95 dBi. The manufacturer declares minimum of 2.2dB of path loss to remote 8.15dBi antenna.

Plots

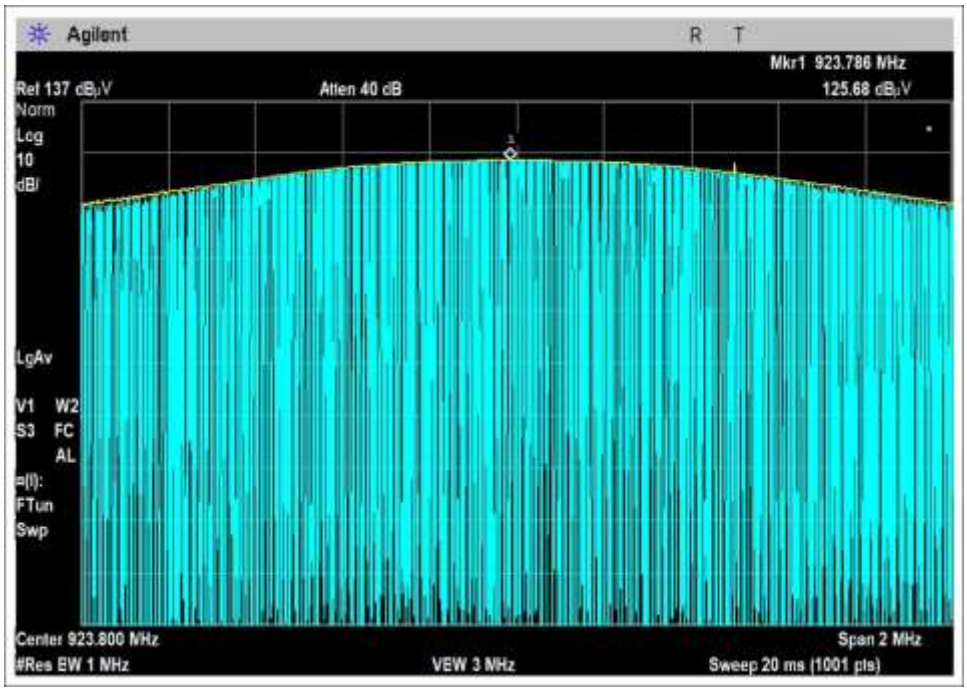
AM



Low Channel

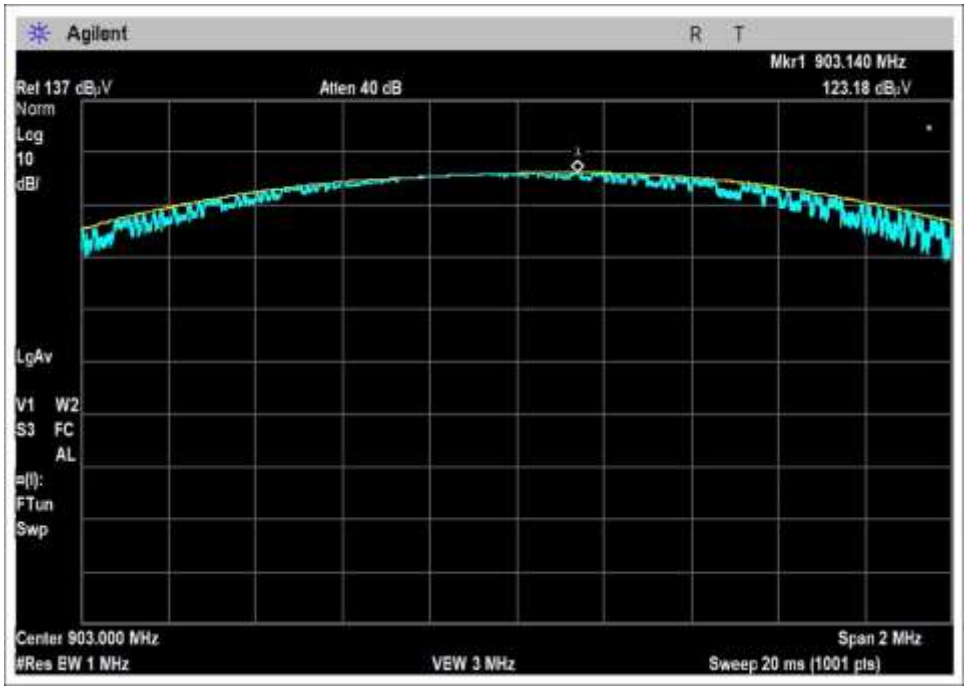


Medium Channel



High Channel

FM 12.5k



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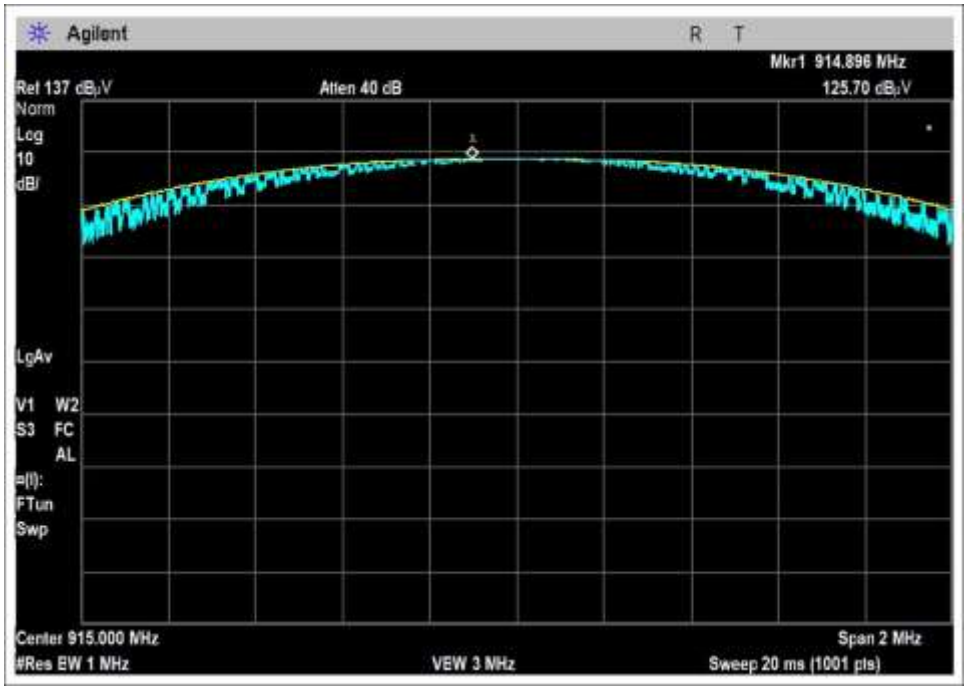

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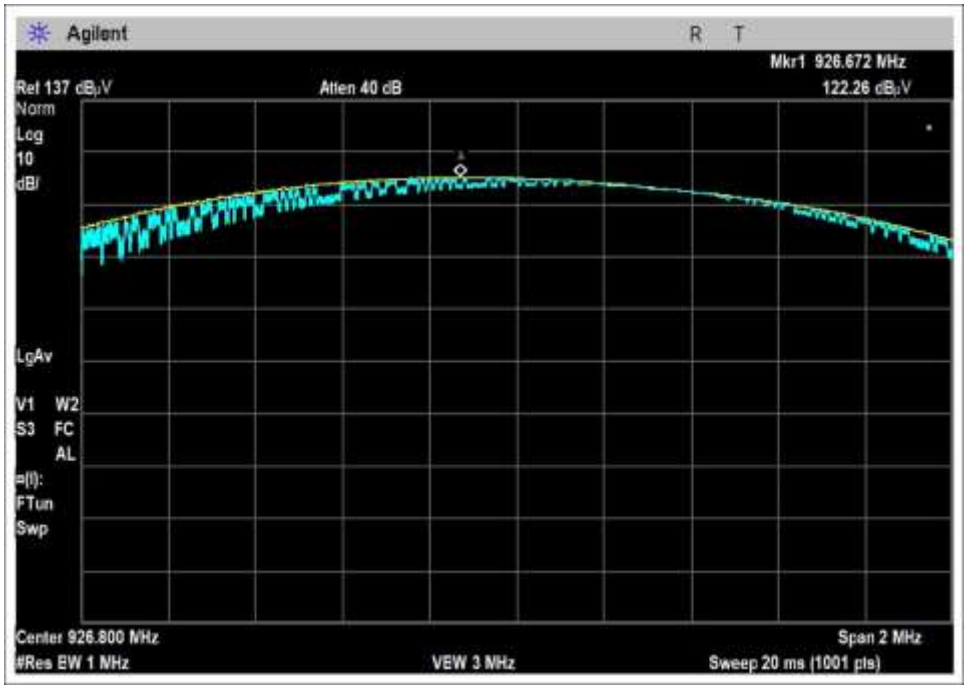
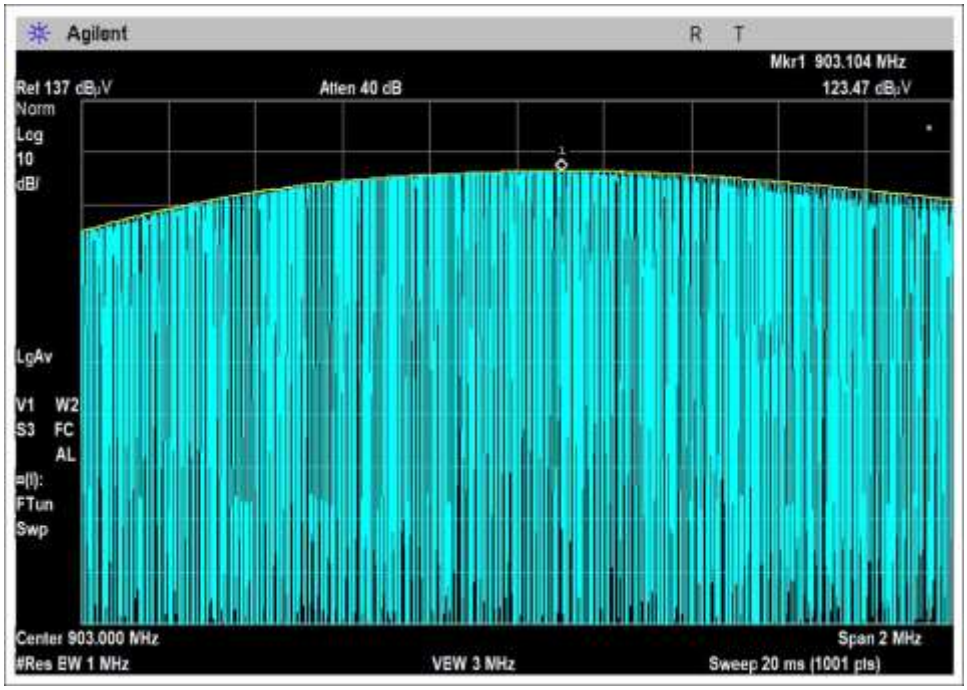
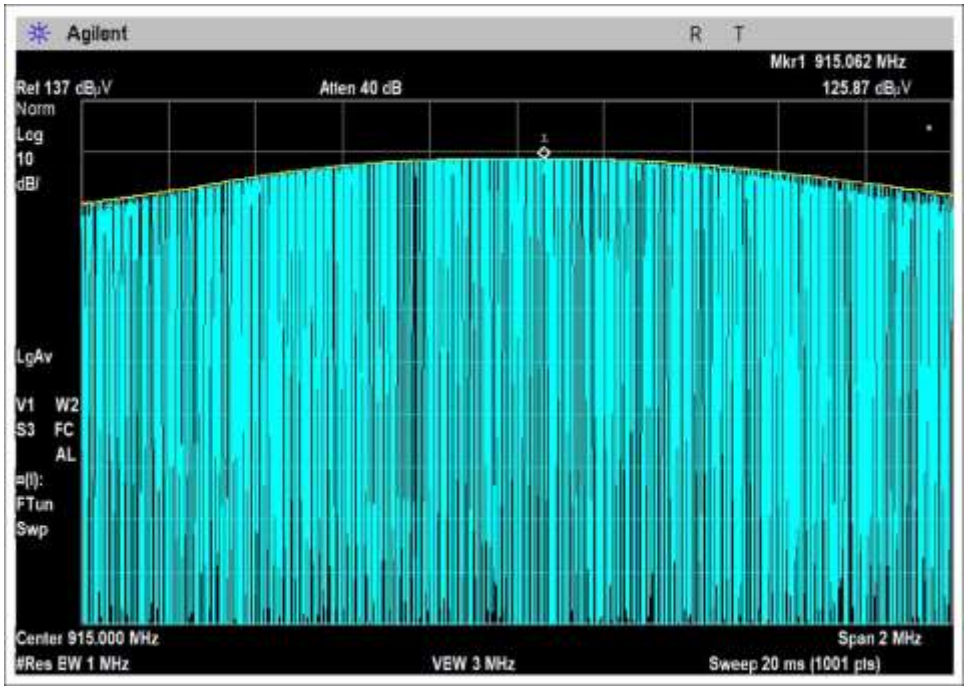


High Channel

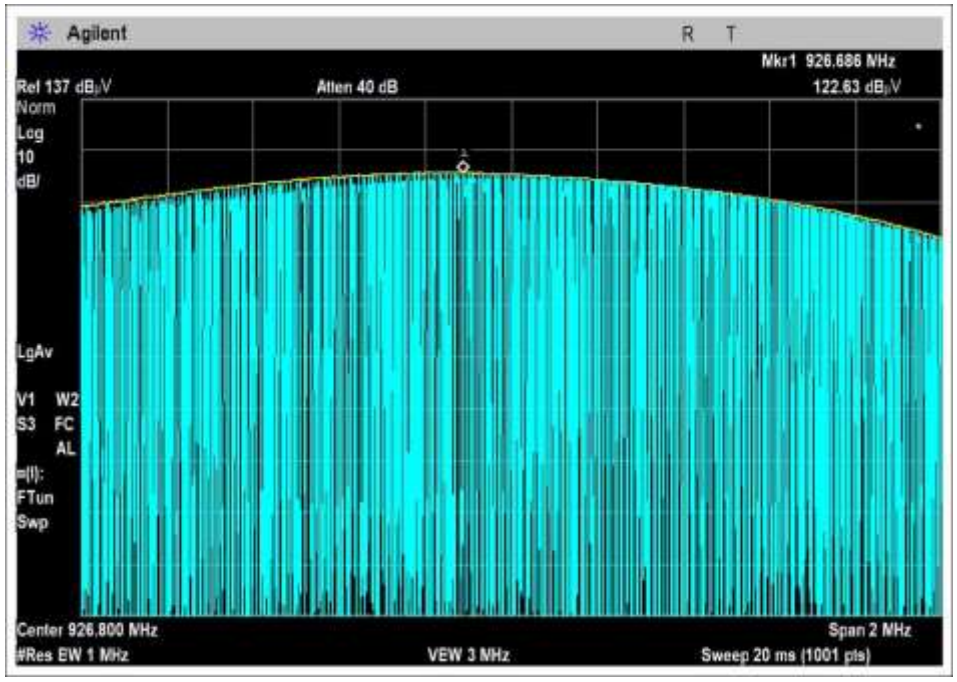
FM 37.5k



Low Channel



Medium Channel



High Channel

Test Setup / Conditions / Data

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz DTS)**		
Work Order #:	**107461**	Date:	10/6/2022
Test Type:	**Conducted Emissions**	Time:	07:44:38
Tested By:	Matt Harrison	Sequence#:	1
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

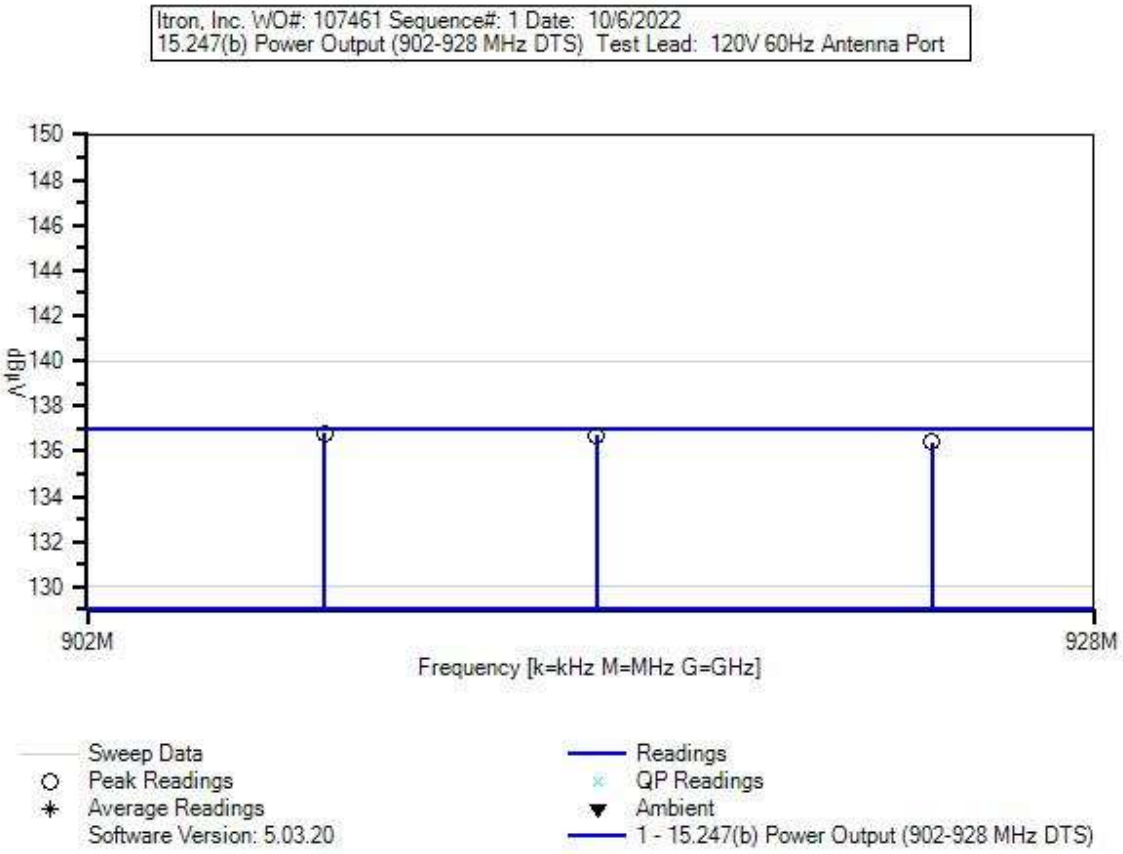
Test Environment Conditions:
Temperature: 21°C
Humidity: 40%
Pressure: 102.5kPa

Frequency Range: Fundamental
Protocol /MCS/Modulation: **AM**

Antenna type: Omni-Directional

Duty Cycle: Tested at 100%

Test Method: ANSI C63.10 (2013)
Test Mode: Continuously Transmitting
Test Setup: EUT is setup for Conducted Measurements. It is directly connected to the SA via an Attenuator.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T3	ANP06008	Cable	Heliax	9/2/2022	9/2/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	908.078M	126.1	+10.1	+0.0	+0.6		+0.0	136.8	137.0	-0.2	Anten
									ARM ISM Power = 11		
2	915.080M	126.0	+10.1	+0.0	+0.6		+0.0	136.7	137.0	-0.3	Anten
									ARM ISM Power = 15		
3	923.786M	125.7	+10.1	+0.0	+0.6		+0.0	136.4	137.0	-0.6	Anten
									ARM ISM Power = 15		

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz DTS)**		
Work Order #:	**107461**	Date:	10/3/2022
Test Type:	**Conducted Emissions**	Time:	07:36:30
Tested By:	Matt Harrison	Sequence#:	2
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

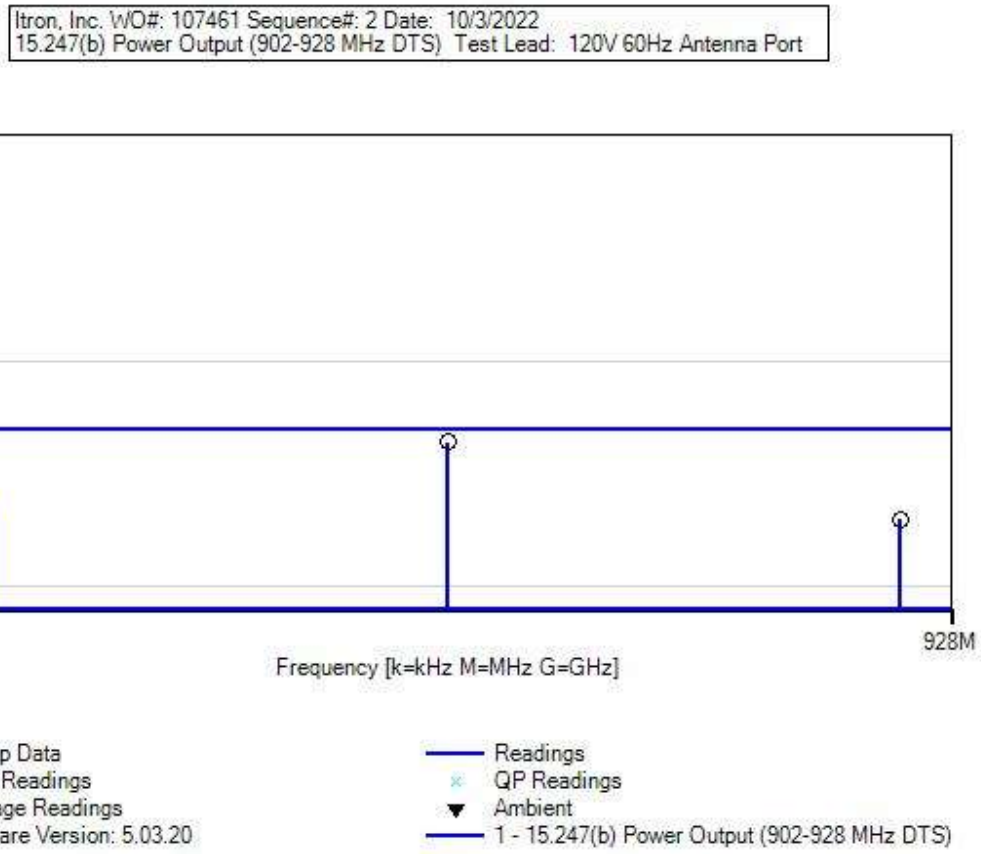
Test Environment Conditions:
Temperature: 21°C
Humidity: 40%
Pressure: 102.5kPa

Frequency Range: Fundamental
Protocol /MCS/Modulation: **FM 12.5k**

Antenna type: Omni-Directional

Duty Cycle: Tested at 100%

Test Method: ANSI C63.10 (2013)
Test Mode: Continuously Transmitting
Test Setup: EUT is setup for Conducted Measurements. It is directly connected to the SA via an Attenuator.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	914.896M	125.7	+10.1	+0.6			+0.0	136.4	137.0	-0.6	Anten
2	903.140M	123.2	+10.1	+0.6			+0.0	133.9	137.0	-3.1	Anten
3	926.672M	122.3	+10.1	+0.6			+0.0	133.0	137.0	-4.0	Anten

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz DTS)**		
Work Order #:	**107461**	Date:	10/4/2022
Test Type:	**Conducted Emissions**	Time:	07:34:38
Tested By:	Matt Harrison	Sequence#:	3
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

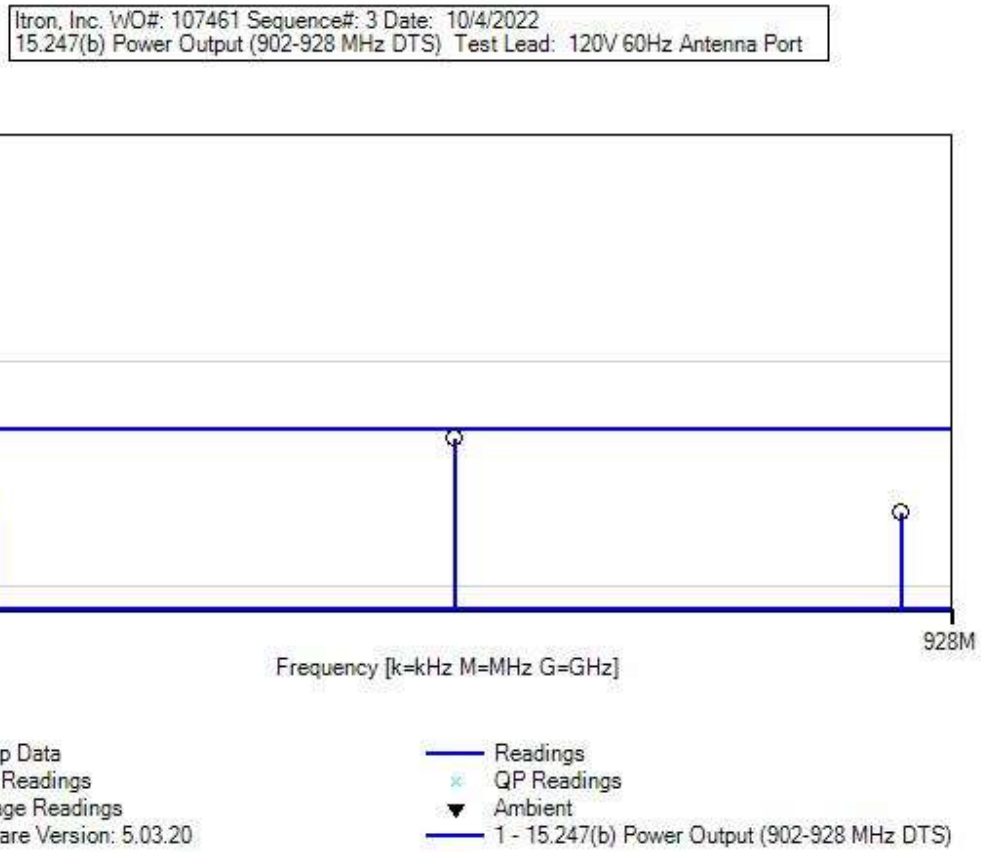
Test Environment Conditions:
Temperature: 21°C
Humidity: 40%
Pressure: 102.5kPa

Frequency Range: Fundamental
Protocol /MCS/Modulation: **FM 37.5k**

Antenna type: Omni-Directional

Duty Cycle: Tested at 100%

Test Method: ANSI C63.10 (2013)
Test Mode: Continuously Transmitting
Test Setup: EUT is setup for Conducted Measurements. It is directly connected to the SA via an Attenuator.



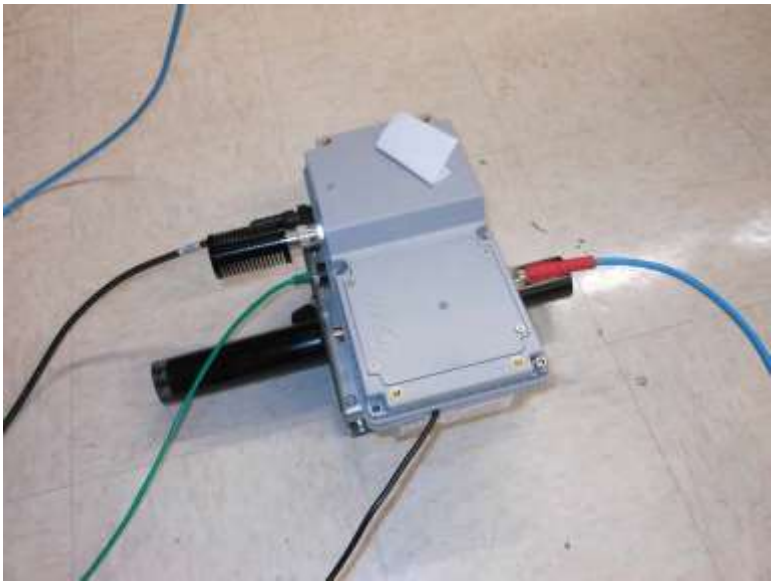
Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	915.062M	125.9	+10.1	+0.6			+0.0	136.6	137.0	-0.4	Anten
2	903.104M	123.5	+10.1	+0.6			+0.0	134.2	137.0	-2.8	Anten
3	926.686M	122.6	+10.1	+0.6			+0.0	133.3	137.0	-3.7	Anten

Test Setup Photo(s)



15.247(d) RF Conducted Emissions & Band Edge

Test Setup / Conditions / Data

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**107461**	Date:	10/24/2022
Test Type:	**Conducted Emissions**	Time:	14:00:25
Tested By:	Michael Atkinson	Sequence#:	1
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

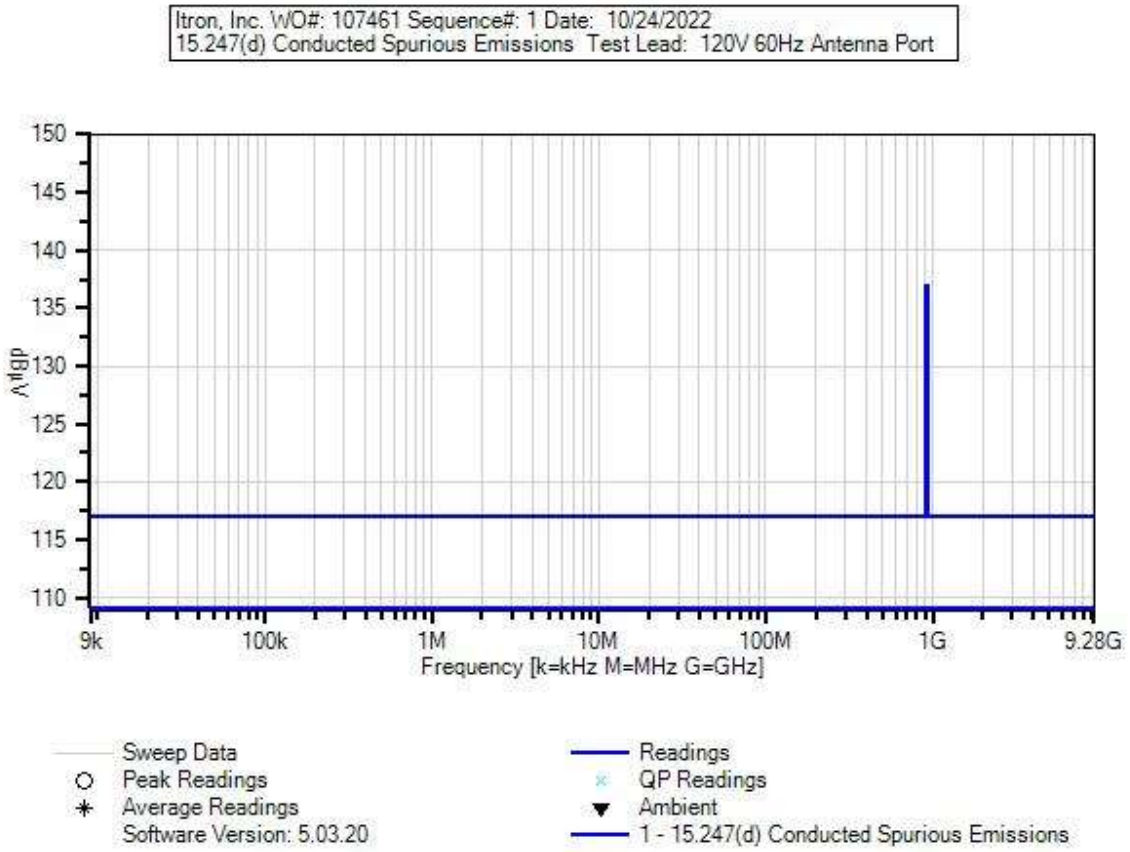
Test Environment Conditions:
Temperature: 20.9°C
Humidity:49%
Pressure: 101.1kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-10GHz

EUT is continuously transmitting with modulation, connected to spectrum analyzer directly through appropriate attenuation.

AM Modulation



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024
T3	ANP07226	Attenuator	PE7004-6	8/9/2021	8/9/2023
	AN03803	Spectrum Analyzer	E4440A	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	289.180M	55.4	+10.1	+0.3	+5.8		+0.0	71.6	117.0	-45.4	Anten
2	1815.980M	46.3	+10.2	+0.9	+5.9		+0.0	63.3	117.0	-53.7	Anten
3	1829.990M	46.2	+10.2	+0.9	+5.9		+0.0	63.2	117.0	-53.8	Anten
4	1847.615M	45.4	+10.2	+0.9	+5.9		+0.0	62.4	117.0	-54.6	Anten

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**107461**	Date:	10/24/2022
Test Type:	**Conducted Emissions**	Time:	14:22:17
Tested By:	Michael Atkinson	Sequence#:	3
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

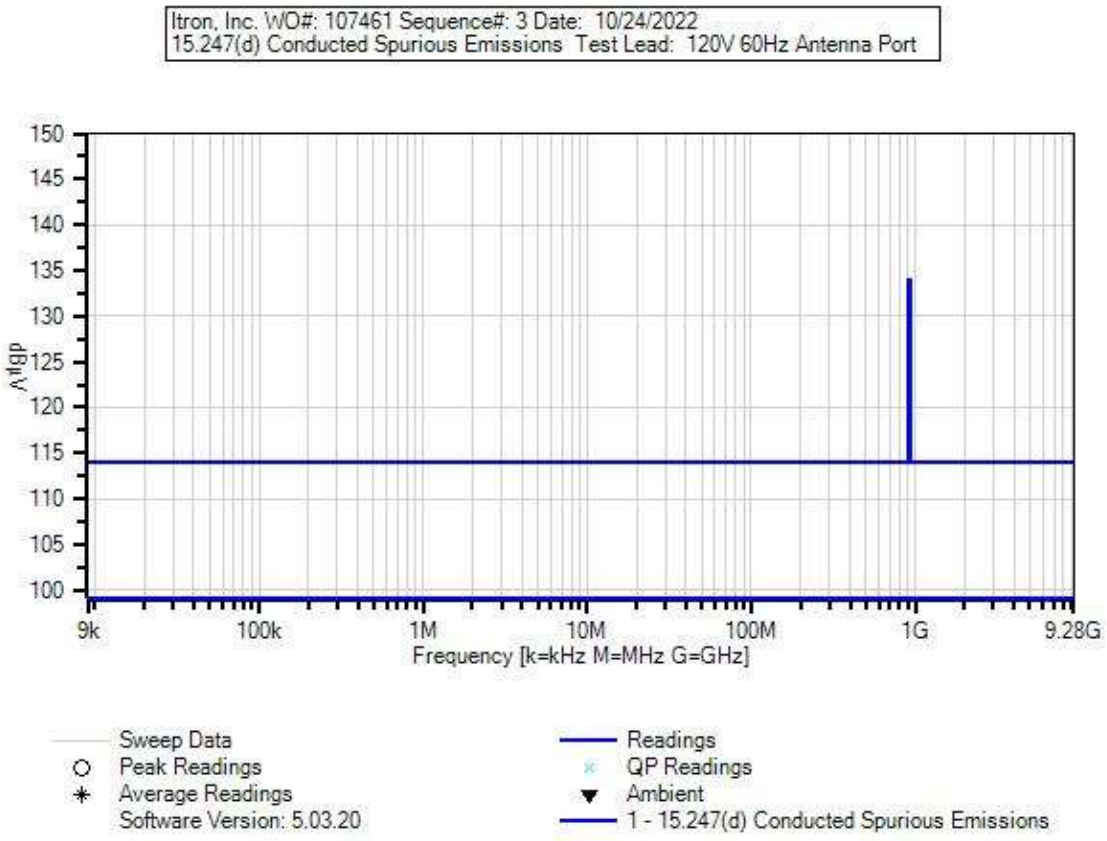
Test Environment Conditions:
Temperature: 20.9°C
Humidity: 49%
Pressure: 101.1kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-10GHz

EUT is continuously transmitting with modulation, connected to spectrum analyzer directly through appropriate attenuation.

FM12.5 Modulation



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024
T3	ANP07226	Attenuator	PE7004-6	8/9/2021	8/9/2023
	AN03803	Spectrum Analyzer	E4440A	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	6321.350M	57.5	+0.0	+1.6	+5.5		+0.0	64.6	114.0	-49.4	Anten
2	1830.115M	46.4	+10.2	+0.9	+5.9		+0.0	63.4	114.0	-50.6	Anten
3	1806.100M	45.5	+10.2	+0.9	+5.9		+0.0	62.5	114.0	-51.5	Anten
4	1853.710M	44.4	+10.2	+0.9	+5.9		+0.0	61.4	114.0	-52.6	Anten
5	6405.350M	46.5	+0.0	+1.6	+5.7		+0.0	53.8	114.0	-60.2	Anten
6	6487.990M	45.4	+0.0	+1.6	+5.9		+0.0	52.9	114.0	-61.1	Anten

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**107461**	Date:	10/24/2022
Test Type:	**Conducted Emissions**	Time:	14:42:47
Tested By:	Michael Atkinson	Sequence#:	5
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

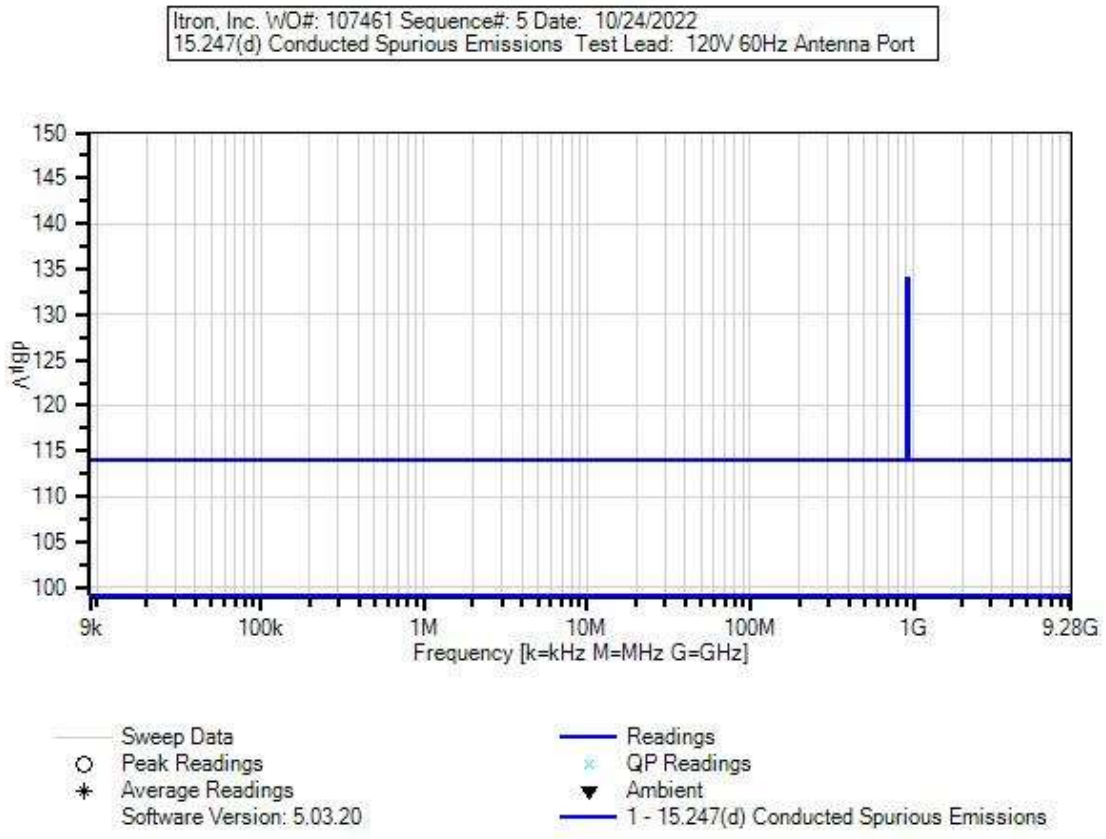
Test Environment Conditions:
Temperature: 20.9°C
Humidity:49%
Pressure: 101.1kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-10GHz

EUT is continuously transmitting with modulation, connected to spectrum analyzer directly through appropriate attenuation.

FM37.5 Modulation



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024
T3	ANP07226	Attenuator	PE7004-6	8/9/2021	8/9/2023
	AN03803	Spectrum Analyzer	E4440A	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	6321.120M	57.3	+0.0	+1.6	+5.5		+0.0	64.4	114.0	-49.6	Anten
2	1830.020M	46.2	+10.2	+0.9	+5.9		+0.0	63.2	114.0	-50.8	Anten
3	1805.950M	45.1	+10.2	+0.9	+5.9		+0.0	62.1	114.0	-51.9	Anten
4	1853.530M	43.8	+10.2	+0.9	+5.9		+0.0	60.8	114.0	-53.2	Anten
5	6404.940M	46.0	+0.0	+1.6	+5.7		+0.0	53.3	114.0	-60.7	Anten
6	6487.530M	44.2	+0.0	+1.6	+5.9		+0.0	51.7	114.0	-62.3	Anten

Band Edge

Band Edge Summary				
Limit applied: Max Power/100kHz - 20dB. Operating Mode: Single Channel (Low and High)				
Frequency (MHz)	**Modulation**	**Measured (dBµV)**	**Limit (dBµV)**	**Results**
902	AM	79.1	<117.0	Pass
928	AM	76.4	<117.0	Pass
902	FM12.5	93.3	<114.0	Pass
928	FM12.5	81.5	<113.0	Pass
902	FM37.5	91.7	<114.0	Pass
928	FM37.5	81.6	<113.0	Pass

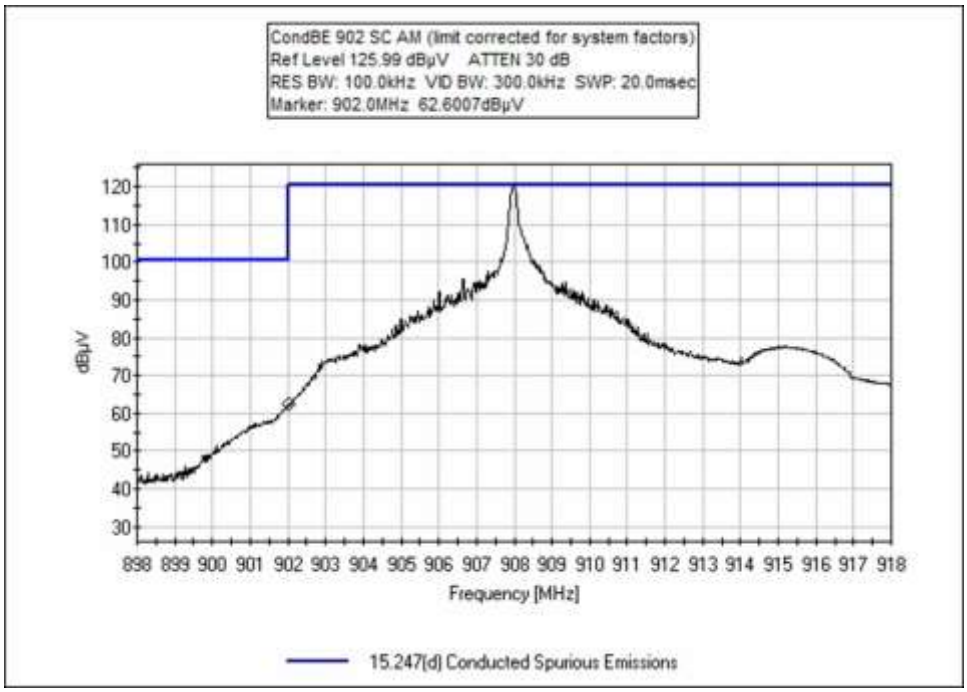
Note: Limit converted to dBµV from dBm, for 50ohm system dBm-107 = dBµV

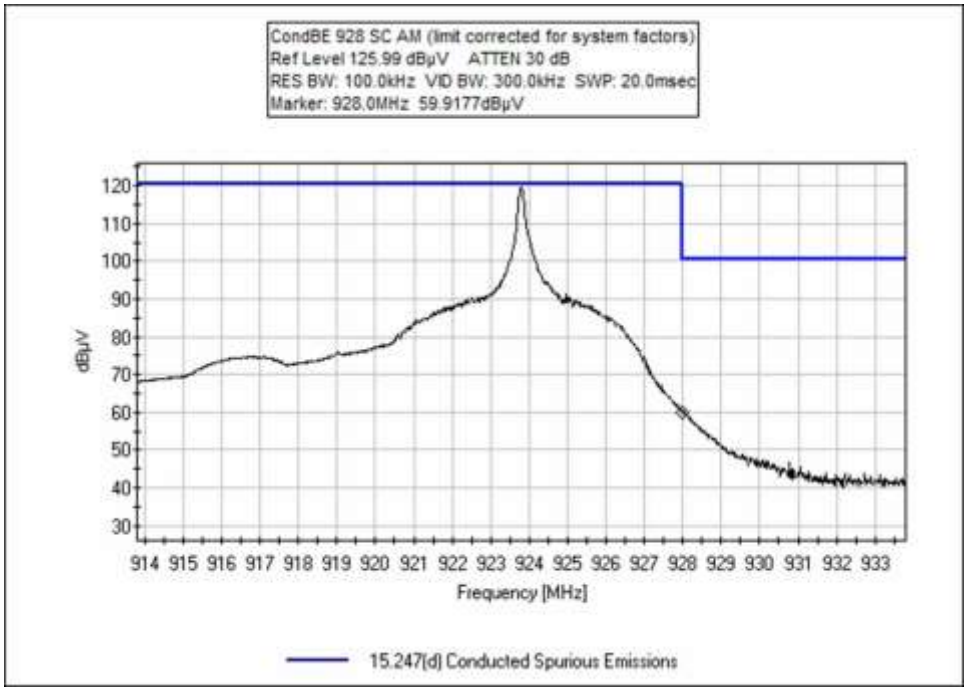
Band Edge Summary				
Limit applied: Max Power/100kHz - 20dB. Operating Mode: Hopping				
Frequency (MHz)	**Modulation**	**Measured (dBµV)**	**Limit (dBµV)**	**Results**
902	AM	83.3	<117.0	Pass
928	AM	84.4	<117.0	Pass
902	FM12.5	90.5	<114.0	Pass
928	FM12.5	80.8	<113.0	Pass
902	FM37.5	91.8	<114.0	Pass
928	FM37.5	79.7	<113.0	Pass

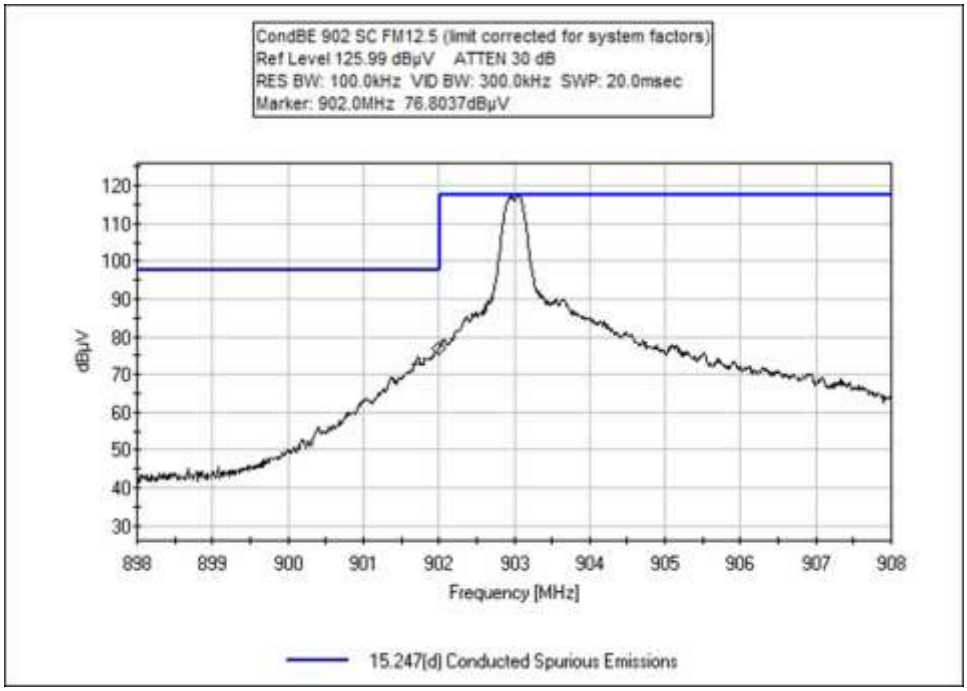
Note: Limit converted to dBµV from dBm, for 50ohm system dBm-107 = dBµV

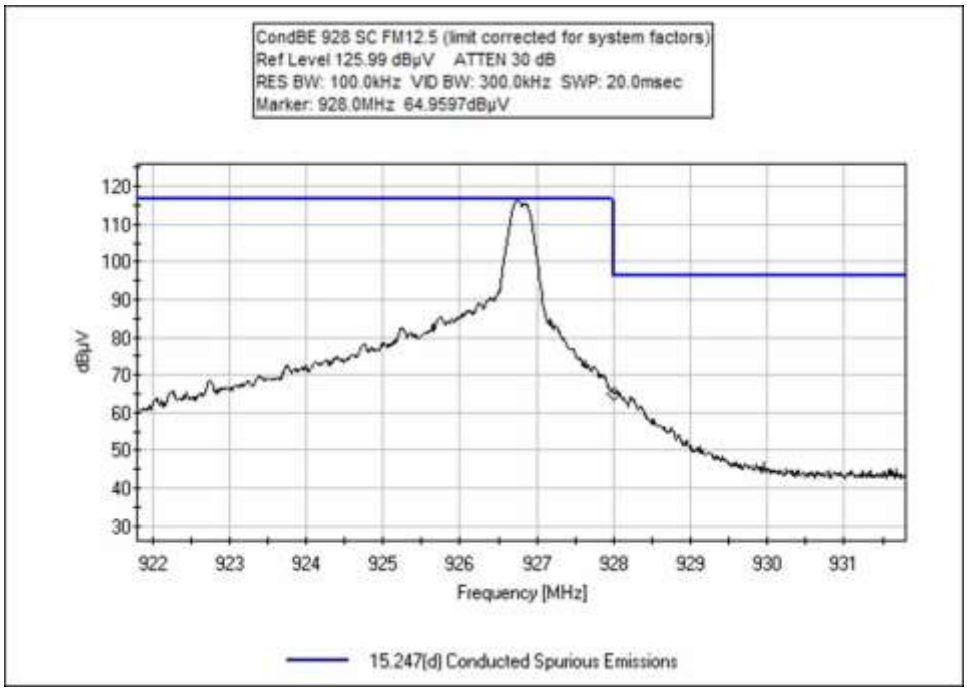
Band Edge Plots

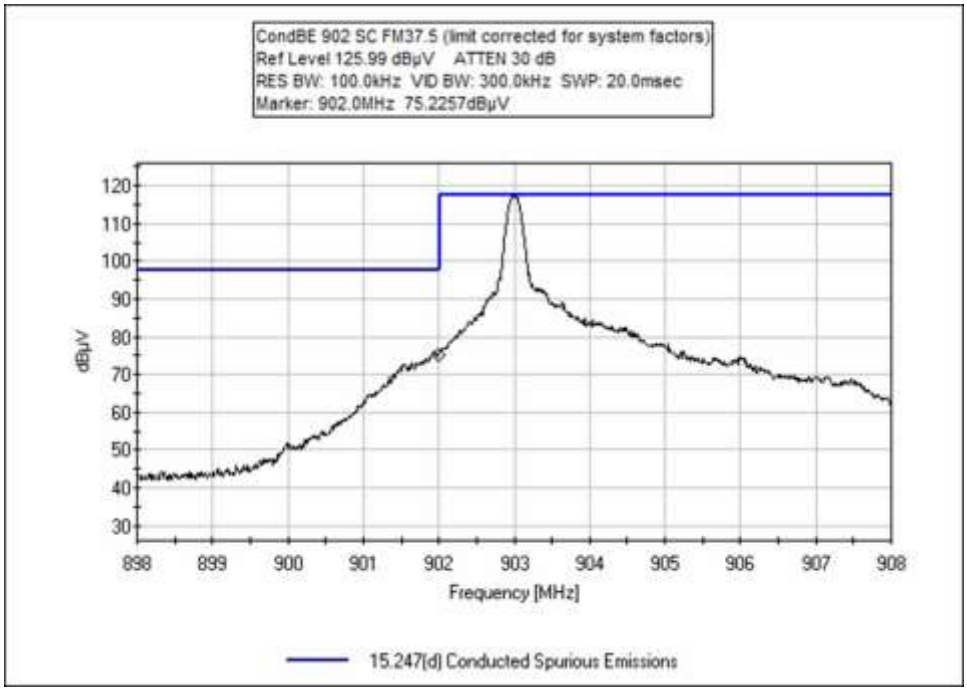
Single Channel (Low and High)

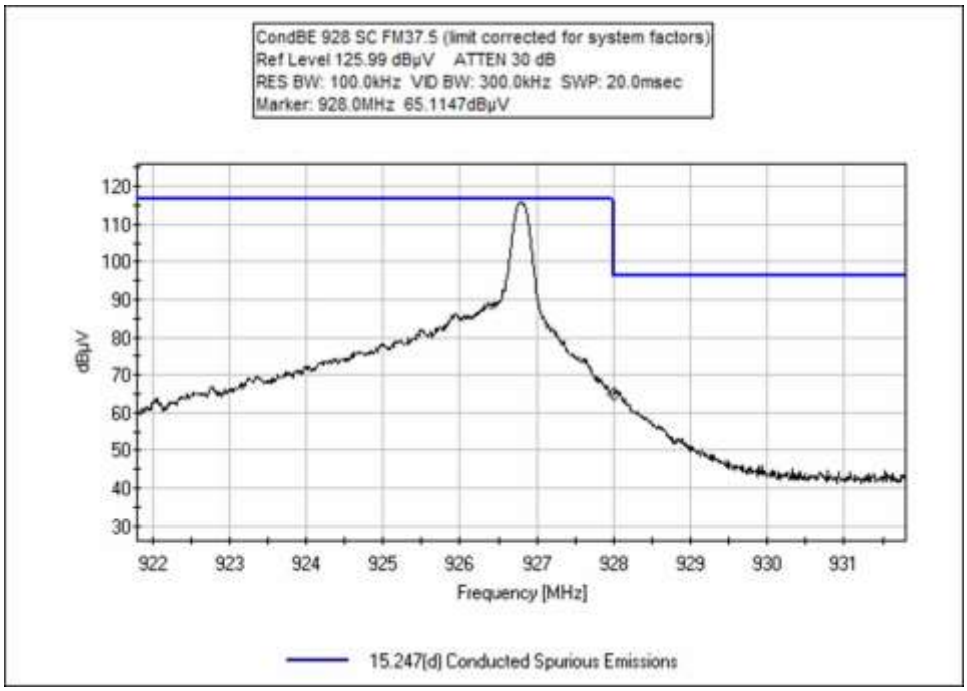




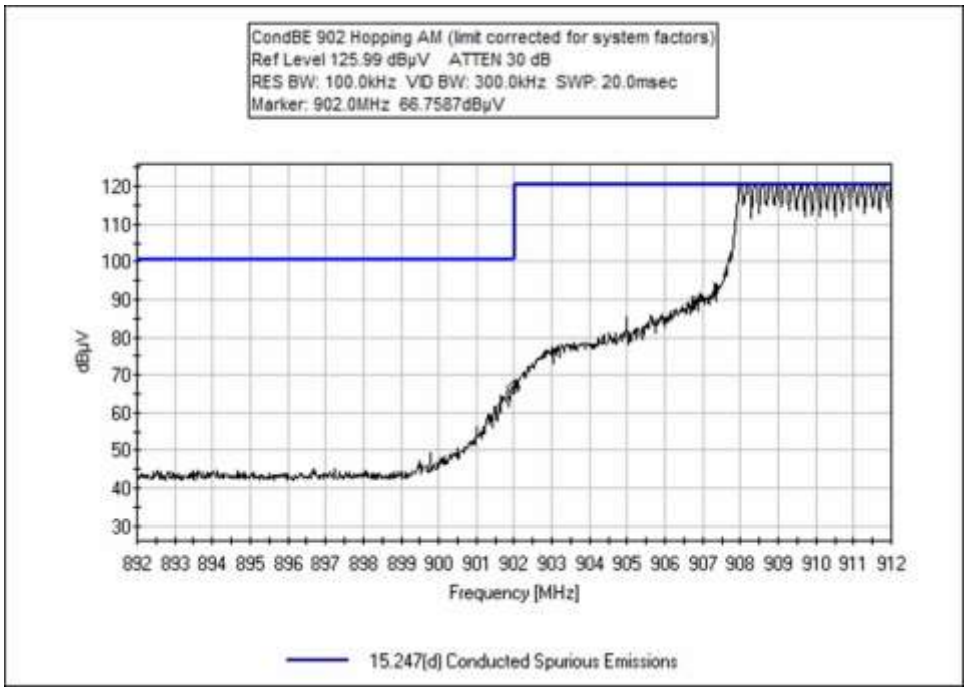

CondBE 902 SC FM12.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 76.8037dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
898
899
900
901
902
903
904
905
906
907
908
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

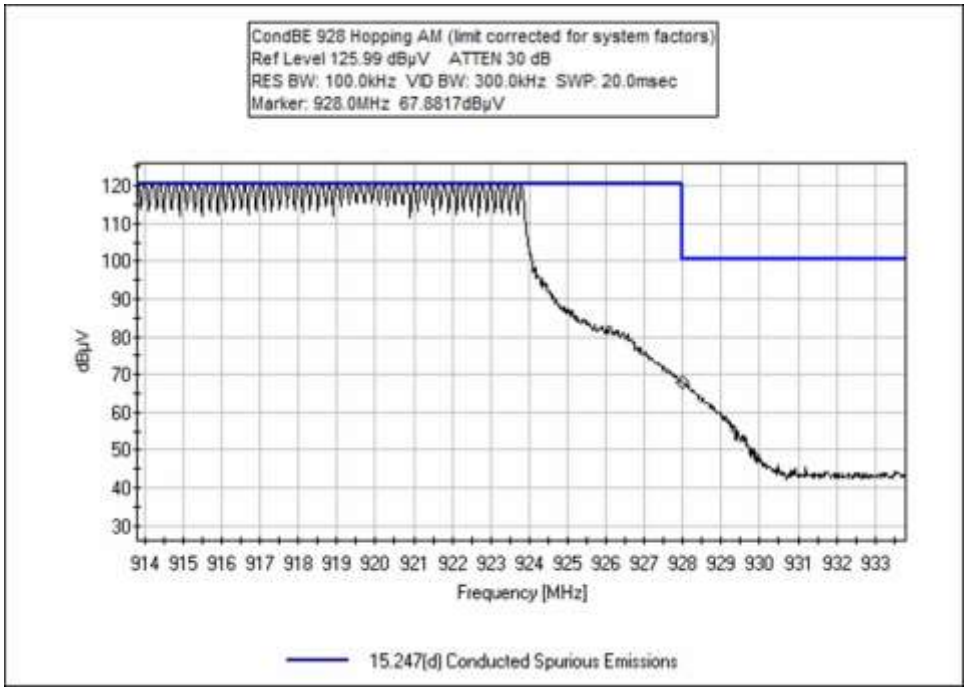

CondBE 928 SC FM12.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 64.9597dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
922
923
924
925
926
927
928
929
930
931
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

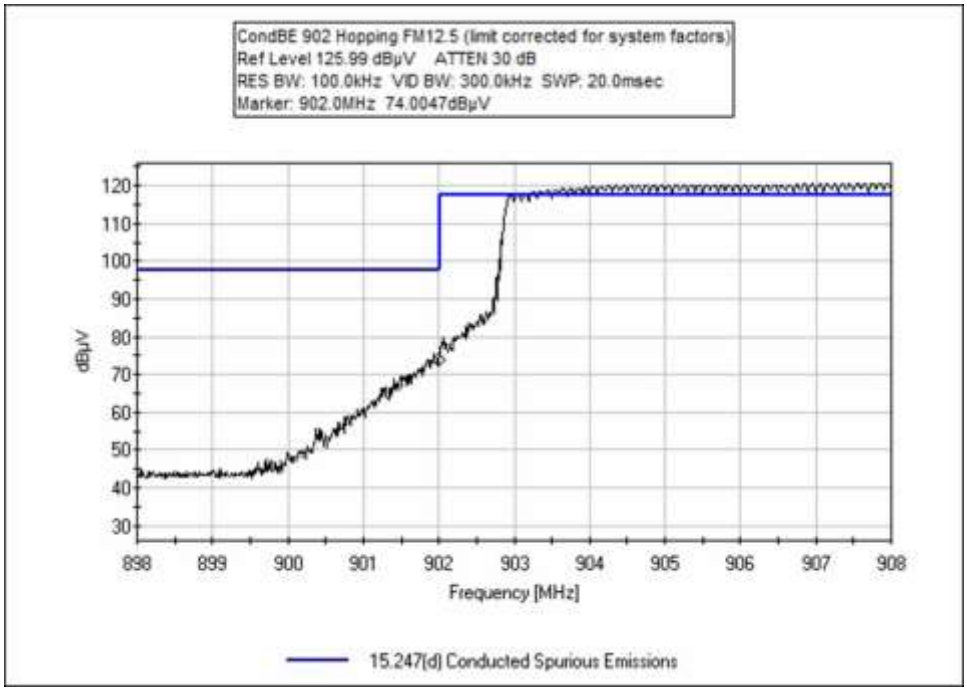

CondBE 902 SC FM37.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 75.2257dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
898
899
900
901
902
903
904
905
906
907
908
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

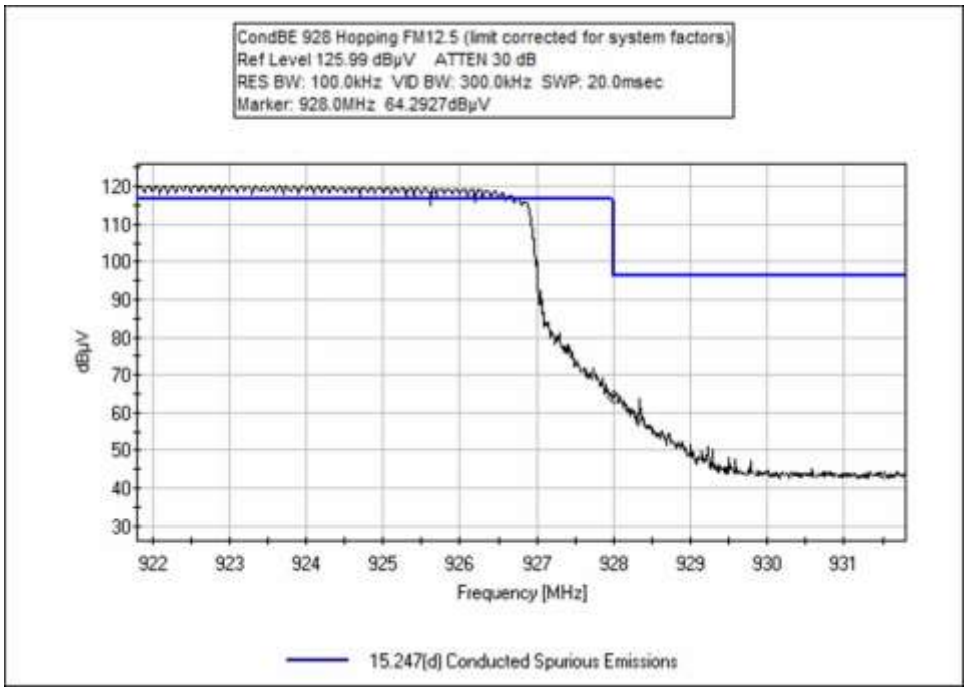

CondBE 928 SC FM37.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 65.1147dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
922
923
924
925
926
927
928
929
930
931
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

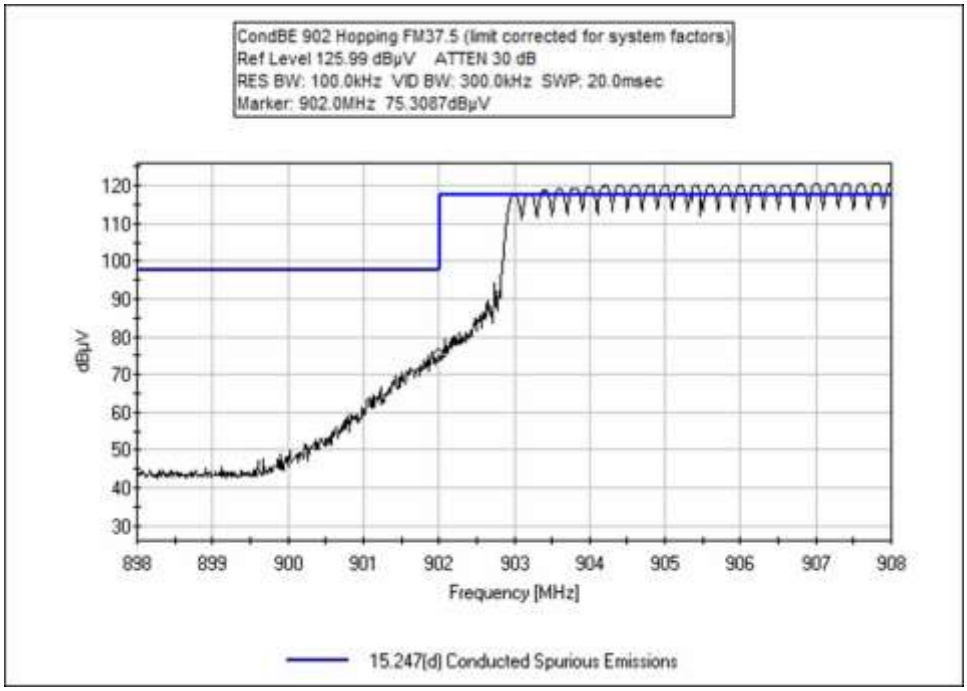
Hopping

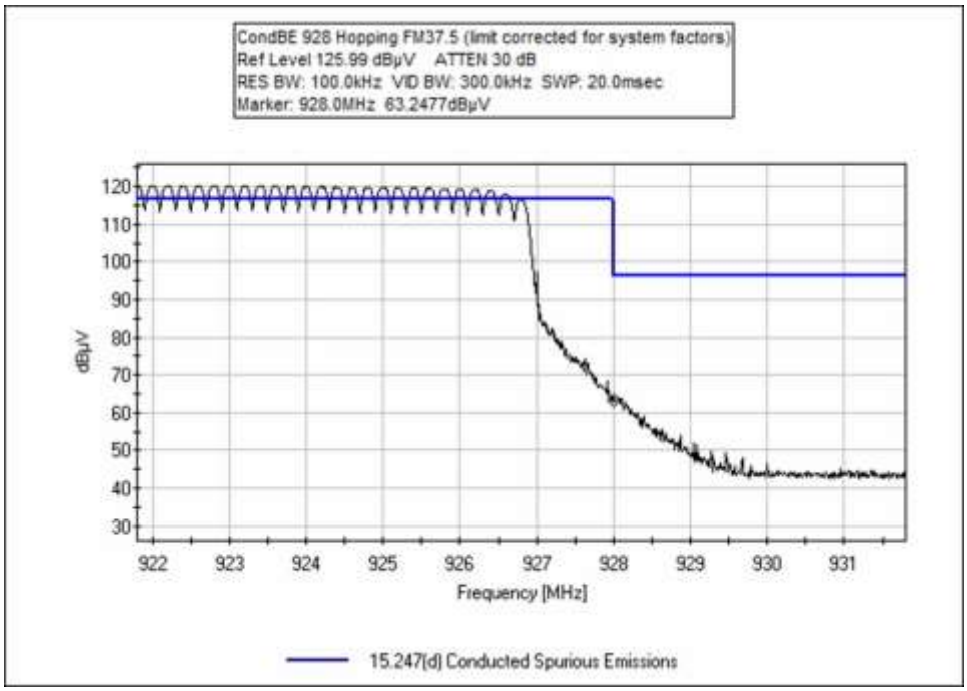

CondBE 902 Hopping AM (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 66.7587dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


CondBE 928 Hopping AM (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 67.8817dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


CondBE 902 Hopping FM12.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 74.0047dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
898
899
900
901
902
903
904
905
906
907
908
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


CondBE 928 Hopping FM12.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 64.2927dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
922
923
924
925
926
927
928
929
930
931
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


CondBE 902 Hopping FM37.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 75.3087dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
898
899
900
901
902
903
904
905
906
907
908
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


CondBE 928 Hopping FM37.5 (limit corrected for system factors)
Ref Level 125.99 dBµV ATTEN 30 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 63.2477dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
922
923
924
925
926
927
928
929
930
931
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

Test Setup / Conditions / Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717
Customer: **Itron, Inc.**
Specification: **15.247(d) Conducted Spurious Emissions**
Work Order #: **107461** Date: 10/24/2022
Test Type: **Conducted Emissions** Time: 14:16:07
Tested By: Michael Atkinson Sequence#: 2
Software: EMITest 5.03.20 120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 20.9°C
Humidity:49%
Pressure: 101.1kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

EUT is continuously transmitting with modulation, connected to spectrum analyzer directly through appropriate attenuation.

AM Modulation.

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024
T3	ANP07226	Attenuator	PE7004-6	8/9/2021	8/9/2023
	AN03803	Spectrum Analyzer	E4440A	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	928.000M	67.9	+10.1	+0.6	+5.8		+0.0	84.4	117.0 Hopping	-32.6	Anten
2	902.000M	66.8	+10.1	+0.6	+5.8		+0.0	83.3	117.0 Hopping	-33.7	Anten
3	902.000M	62.6	+10.1	+0.6	+5.8		+0.0	79.1	117.0 SC	-37.9	Anten
4	928.000M	59.9	+10.1	+0.6	+5.8		+0.0	76.4	117.0 SC	-40.6	Anten

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**107461**	Date:	10/24/2022
Test Type:	**Conducted Emissions**	Time:	14:37:43
Tested By:	Michael Atkinson	Sequence#:	4
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 20.9°C
Humidity:49%
Pressure: 101.1kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

EUT is continuously transmitting with modulation, connected to spectrum analyzer directly through appropriate attenuation.

FM12.5 Modulation.

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024
T3	ANP07226	Attenuator	PE7004-6	8/9/2021	8/9/2023
	AN03803	Spectrum Analyzer	E4440A	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	902.000M	76.8	+10.1	+0.6	+5.8		+0.0	93.3	114.0	-20.7	Anten
2	902.000M	74.0	+10.1	+0.6	+5.8		+0.0	90.5	114.0	-23.5	Anten
3	928.000M	65.0	+10.1	+0.6	+5.8		+0.0	81.5	113.0	-31.5	Anten
4	928.000M	64.3	+10.1	+0.6	+5.8		+0.0	80.8	113.0	-32.2	Anten

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**107461**	Date:	10/24/2022
Test Type:	**Conducted Emissions**	Time:	14:55:18
Tested By:	Michael Atkinson	Sequence#:	6
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 20.9°C
Humidity:49%
Pressure: 101.1kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

EUT is continuously transmitting with modulation, connected to spectrum analyzer directly through appropriate attenuation.

FM37.5 Modulation

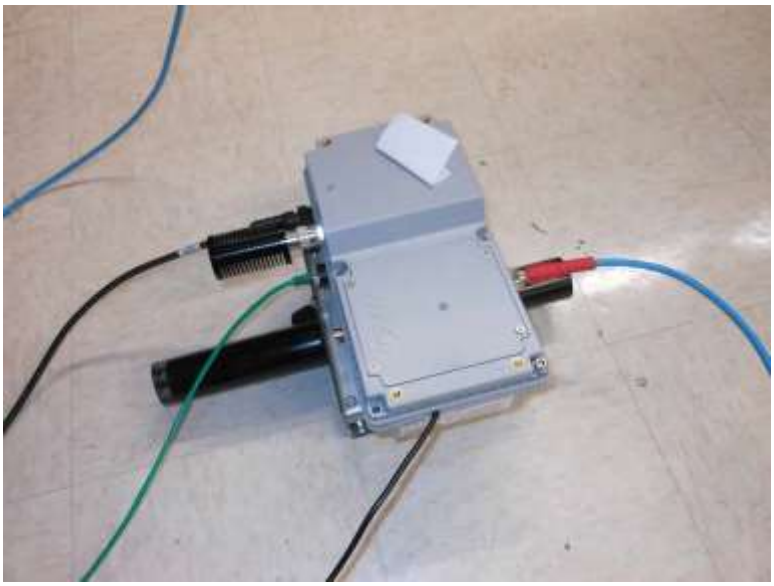
Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06008	Cable	Heliax	9/2/2022	9/2/2024
T3	ANP07226	Attenuator	PE7004-6	8/9/2021	8/9/2023
	AN03803	Spectrum Analyzer	E4440A	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Antenna Port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	902.000M	75.3	+10.1	+0.6	+5.8		+0.0	91.8	114.0	-22.2	Anten
2	902.000M	75.2	+10.1	+0.6	+5.8		+0.0	91.7	114.0	-22.3	Anten
3	928.000M	65.1	+10.1	+0.6	+5.8		+0.0	81.6	113.0	-31.4	Anten
4	928.000M	63.2	+10.1	+0.6	+5.8		+0.0	79.7	113.0	-33.3	Anten

Test Setup Photo(s)



15.247(d) Radiated Emissions & Band Edge

Test Setup / Conditions / Data

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/19/2022
Test Type:	**Maximized Emissions**	Time:	07:24:23
Tested By:	Michael Atkinson / Matt Harrison	Sequence#:	1
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

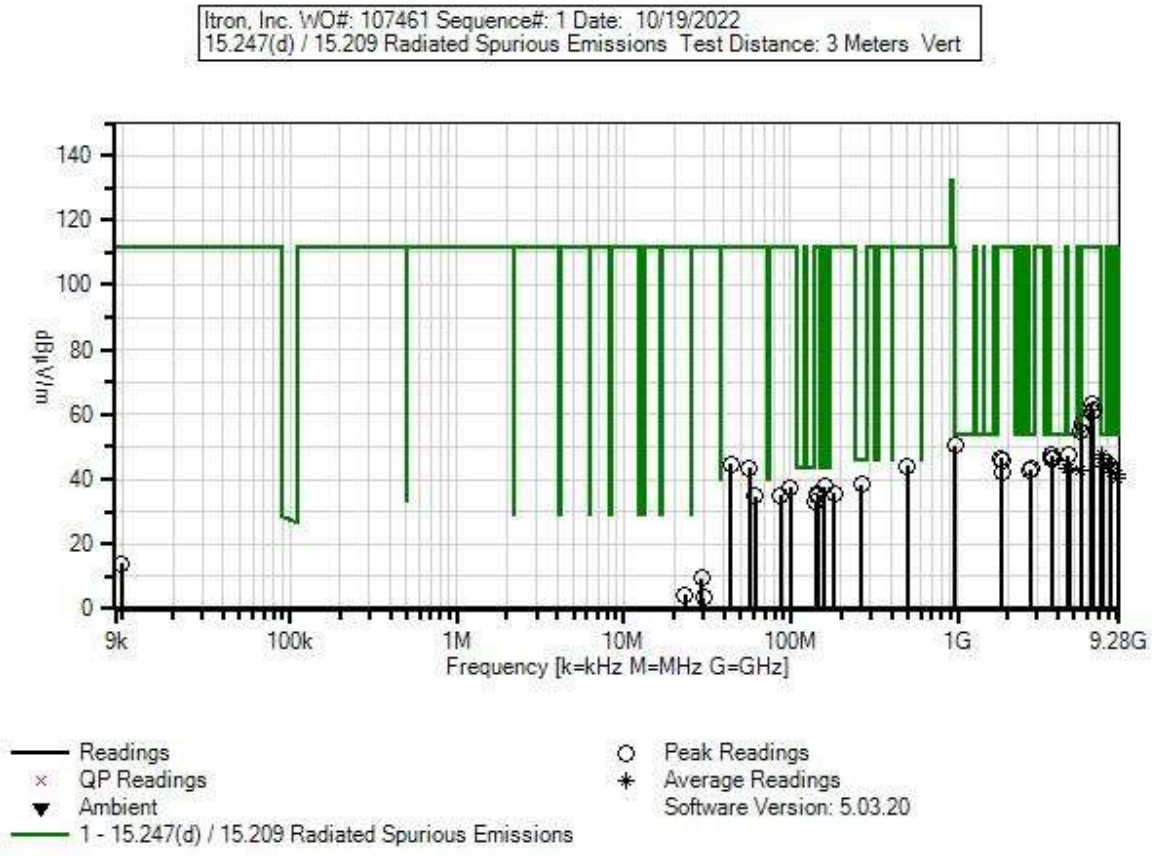
Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high for below 1GHz and 150cm High for above 1GHz. Horizontal and Vertical antenna polarities investigated, worst-case reported; unit is continuously transmitting with modulation.

Configuration 1 (Attached SuperRaptor, Internal GPS, Attached Cellular).
AM Modulation, LMH channels



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T6	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T7	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T8	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T9	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T10	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T11	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	960.200M	15.4	+0.0 +30.7 +0.0	+0.3 +0.0 +0.0	+1.5 +0.0 +0.0	+2.4 +0.0	+0.0	50.3	54.0	-3.7	Vert
2	4575.000M	43.9	+0.0 +0.0 +0.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	47.5	54.0	-6.5	Vert
3	7264.000M Ave	50.9	+0.0 +0.0 +0.7	+1.2 +0.0 +0.3	+4.5 -34.9 +12.5	+0.0 +37.2	+0.0	47.4	54.0	-6.6	Vert
^	7264.000M	50.9	+0.0 +0.0 +0.7	+1.2 +0.0 +0.3	+4.5 -34.9 +0.0	+0.0 +37.2	+0.0	59.9	54.0	+5.9	Vert
5	3631.855M	44.8	+0.0 +0.0 +0.4	+0.6 +0.0 +0.3	+3.3 -33.8 +0.0	+0.0 +31.7	+0.0	47.3	54.0	-6.7	Vert
6	3660.000M	43.9	+0.0 +0.0 +0.4	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +31.7	+0.0	46.3	54.0	-7.7	Vert
7	263.800M	16.9	+0.0 +19.3 +0.0	+0.2 +0.0 +0.0	+0.8 +0.0 +0.0	+1.1 +0.0	+0.0	38.3	46.0	-7.7	Horiz
8	3695.435M	43.8	+0.0 +0.0 +0.3	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +31.9	+0.0	46.3	54.0	-7.7	Vert
9	7320.000M Ave	48.9	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +12.5	+0.0 +37.5	+0.0	46.1	54.0	-7.9	Vert
^	7320.000M	48.9	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +0.0	+0.0 +37.5	+0.0	58.6	54.0	+4.6	Vert
11	8172.000M Ave	46.3	+0.0 +0.0 +0.7	+1.2 +0.0 +0.7	+5.1 -35.0 +12.5	+0.0 +38.6	+0.0	45.1	54.0	-8.9	Vert
^	8172.000M	46.3	+0.0 +0.0 +0.7	+1.2 +0.0 +0.7	+5.1 -35.0 +0.0	+0.0 +38.6	+0.0	57.6	54.0	+3.6	Vert
13	8235.000M Ave	45.8	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +12.5	+0.0 +38.6	+0.0	44.8	54.0	-9.2	Vert
^	8235.000M	45.8	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +0.0	+0.0 +38.6	+0.0	57.3	54.0	+3.3	Vert

15	7390.400M	46.5	+0.0	+1.3	+4.5	+0.0	+0.0	43.7	54.0	-10.3	Vert
	Ave		+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+12.5						
	^ 7390.400M	46.5	+0.0	+1.3	+4.5	+0.0	+0.0	56.2	54.0	+2.2	Vert
			+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+0.0						
17	4619.000M	52.3	+0.0	+0.6	+3.5	+0.0	+0.0	43.5	54.0	-10.5	Vert
	Ave		+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+12.5						
	^ 4619.000M	52.3	+0.0	+0.6	+3.5	+0.0	+0.0	56.0	54.0	+2.0	Vert
			+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+0.0						
19	2745.130M	44.2	+0.0	+0.5	+2.7	+0.0	+0.0	43.4	54.0	-10.6	Vert
			+0.0	+0.0	-34.1	+29.3					
			+0.5	+0.3	+0.0						
20	4540.000M	52.2	+0.0	+0.6	+3.5	+0.0	+0.0	43.2	54.0	-10.8	Vert
	Ave		+0.0	+0.0	-33.6	+32.1					
			+0.3	+0.6	+12.5						
	^ 4540.000M	52.2	+0.0	+0.6	+3.5	+0.0	+0.0	55.7	54.0	+1.7	Vert
			+0.0	+0.0	-33.6	+32.1					
			+0.3	+0.6	+0.0						
22	2724.090M	43.5	+0.0	+0.5	+2.7	+0.0	+0.0	42.7	54.0	-11.3	Horiz
			+0.0	+0.0	-34.1	+29.4					
			+0.5	+0.2	+0.0						
23	5448.000M	48.2	+0.0	+0.8	+4.0	+0.0	+0.0	42.5	54.0	-11.5	Vert
	Ave		+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+12.5						
	^ 5448.000M	48.2	+0.0	+0.8	+4.0	+0.0	+0.0	55.0	54.0	+1.0	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+0.0						
25	8314.200M	42.9	+0.0	+1.2	+5.2	+0.0	+0.0	42.2	54.0	-11.8	Vert
	Ave		+0.0	+0.0	-34.9	+38.7					
			+0.7	+0.9	+12.5						
	^ 8314.200M	42.9	+0.0	+1.2	+5.2	+0.0	+0.0	54.7	54.0	+0.7	Vert
			+0.0	+0.0	-34.9	+38.7					
			+0.7	+0.9	+0.0						
27	9150.000M	42.8	+0.0	+0.9	+5.0	+0.0	+0.0	41.3	54.0	-12.7	Vert
	Ave		+0.0	+0.0	-34.4	+37.7					
			+0.7	+1.1	+12.5						
	^ 9150.000M	42.8	+0.0	+0.9	+5.0	+0.0	+0.0	53.8	54.0	-0.2	Vert
			+0.0	+0.0	-34.4	+37.7					
			+0.7	+1.1	+0.0						
29	9080.000M	42.4	+0.0	+0.9	+4.9	+0.0	+0.0	40.6	54.0	-13.4	Vert
	Ave		+0.0	+0.0	-34.6	+38.0					
			+0.7	+0.8	+12.5						
	^ 9080.000M	42.4	+0.0	+0.9	+4.9	+0.0	+0.0	53.1	54.0	-0.9	Vert
			+0.0	+0.0	-34.6	+38.0					
			+0.7	+0.8	+0.0						
31	6355.740M	55.8	+0.0	+0.9	+4.4	+0.0	+0.0	63.2	112.0	-48.8	Vert
			+0.0	+0.0	-34.0	+35.1					
			+0.6	+0.4	+0.0						

32	6466.825M	54.0	+0.0 +0.0 +0.7	+0.9 +0.0 +0.6	+4.5 -34.0 +0.0	+0.0 +34.9	+0.0	61.6	112.0	-50.4	Vert
33	6404.530M	53.1	+0.0 +0.0 +0.6	+0.9 +0.0 +0.5	+4.5 -34.0 +0.0	+0.0 +35.0	+0.0	60.6	112.0	-51.4	Vert
34	5542.705M	50.4	+0.0 +0.0 +0.5	+0.8 +0.0 +0.5	+4.0 -33.6 +0.0	+0.0 +34.6	+0.0	57.2	112.0	-54.8	Vert
35	5490.025M	48.3	+0.0 +0.0 +0.5	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	55.1	112.0	-56.9	Vert
36	1816.210M	50.5	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.4	+0.0	46.6	112.0	-65.4	Vert
37	1847.650M	49.3	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.6	+0.0	45.6	112.0	-66.4	Vert
38	43.600M	29.6	+0.0 +14.3 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	44.8	112.0	-67.2	Vert
39	499.500M	17.2	+0.0 +24.2 +0.0	+0.2 +0.0 +0.0	+1.1 +0.0 +0.0	+1.6 +0.0	+0.0	44.3	112.0	-67.7	Horiz
40	56.200M	30.2	+0.0 +12.4 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	43.5	112.0	-68.5	Vert
41	1830.000M	45.8	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.5	+0.0	42.0	112.0	-70.0	Vert
42	159.000M	20.1	+0.0 +16.3 +0.0	+0.1 +0.0 +0.0	+0.6 +0.0 +0.0	+0.8 +0.0	+0.0	37.9	112.0	-74.1	Vert
43	98.900M	22.7	+0.0 +13.7 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.6 +0.0	+0.0	37.6	112.0	-74.4	Vert
44	182.300M	18.4	+0.0 +15.7 +0.0	+0.1 +0.0 +0.0	+0.6 +0.0 +0.0	+0.9 +0.0	+0.0	35.7	112.0	-76.3	Horiz
45	145.400M	20.0	+0.0 +14.0 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.8 +0.0	+0.0	35.4	112.0	-76.6	Horiz
46	86.300M	21.7	+0.0 +12.4 +0.0	+0.1 +0.0 +0.0	+0.4 +0.0 +0.0	+0.6 +0.0	+0.0	35.2	112.0	-76.8	Vert
47	86.300M	21.4	+0.0 +12.4 +0.0	+0.1 +0.0 +0.0	+0.4 +0.0 +0.0	+0.6 +0.0	+0.0	34.9	112.0	-77.1	Vert
48	144.500M	19.5	+0.0 +14.0 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.8 +0.0	+0.0	34.9	112.0	-77.1	Horiz

49	61.000M	21.2	+0.0 +12.6 +0.0	+0.1 +0.0 +0.0	+0.4 +0.0 +0.0	+0.5 +0.0	+0.0	34.8	112.0	-77.2	Horiz
50	141.600M	18.1	+0.0 +13.9 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.8 +0.0	+0.0	33.4	112.0	-78.6	Vert
51	9.846k	77.7	+0.0 +0.0 +0.0	+0.1 +16.2 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	14.0	112.0	-98.0	Vert
52	29.224M	45.0	+0.0 +0.0 +0.0	+0.1 +3.9 +0.0	+0.3 +0.0 +0.0	+0.0 +0.0	-40.0	9.3	112.0	-102.7	Vert
53	23.134M	38.0	+0.0 +0.0 +0.0	+0.1 +6.1 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	4.4	112.0	-107.6	Vert
54	29.910M	39.5	+0.0 +0.0 +0.0	+0.1 +3.6 +0.0	+0.3 +0.0 +0.0	+0.0 +0.0	-40.0	3.5	112.0	-108.5	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/12/2022
Test Type:	**Maximized Emissions**	Time:	11:46:45
Tested By:	Matt Harrison	Sequence#:	2
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

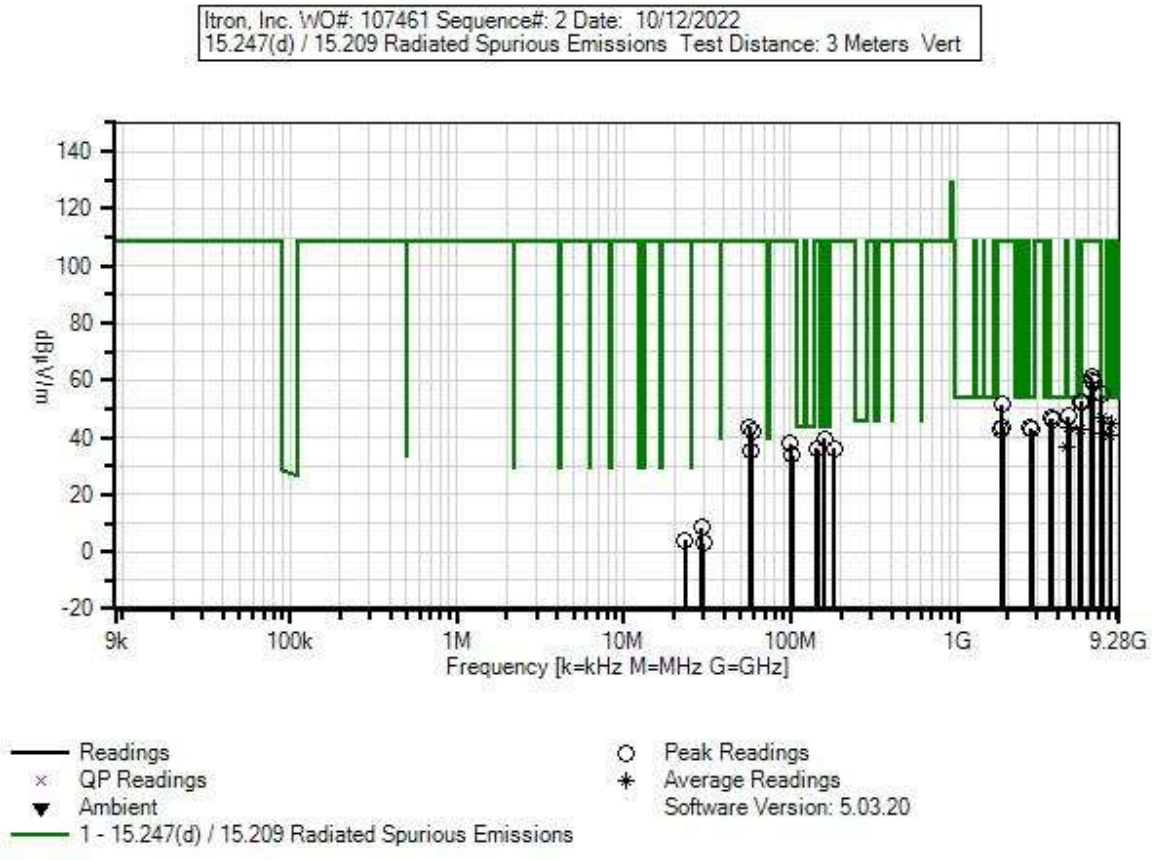
Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 1 (Attached SuperRaptor, Internal GPS, Attached Cellular).
FM 12.5k Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T5	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T6	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T7	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T8	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T9	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T10	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4574.565M	43.9	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0 +0.4	+0.0	47.5	54.0	-6.5	Vert
2	7320.000M Ave	49.8	+1.3 +0.0 +0.6	+4.5 -34.9 +12.5	+0.0 +37.5	+0.0 +0.7	+0.0	47.0	54.0	-7.0	Vert
^	7320.000M	49.8	+1.3 +0.0 +0.6	+4.5 -34.9 +0.0	+0.0 +37.5	+0.0 +0.7	+0.0	59.5	54.0	+5.5	Vert
4	3660.185M	44.4	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +31.7	+0.0 +0.4	+0.0	46.8	54.0	-7.2	Vert
5	3612.490M	44.4	+0.5 +0.0 +0.3	+3.2 -33.8 +0.0	+0.0 +31.7	+0.0 +0.4	+0.0	46.7	54.0	-7.3	Vert
6	3707.090M	43.8	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +32.0	+0.0 +0.3	+0.0	46.4	54.0	-7.6	Vert
7	8235.000M Ave	46.1	+1.2 +0.0 +0.8	+5.1 -34.9 +12.5	+0.0 +38.6	+0.0 +0.7	+0.0	45.1	54.0	-8.9	Vert
^	8235.000M	46.1	+1.2 +0.0 +0.8	+5.1 -34.9 +0.0	+0.0 +38.6	+0.0 +0.7	+0.0	57.6	54.0	+3.6	Vert
9	4634.000M Ave	52.2	+0.6 +0.0 +0.4	+3.6 -33.6 +12.5	+0.0 +32.4	+0.0 +0.4	+0.0	43.5	54.0	-10.5	Vert
^	4634.000M	52.2	+0.6 +0.0 +0.4	+3.6 -33.6 +0.0	+0.0 +32.4	+0.0 +0.4	+0.0	56.0	54.0	+2.0	Vert
11	2709.120M	44.1	+0.5 +0.0 +0.2	+2.7 -34.1 +0.0	+0.0 +29.5	+0.0 +0.5	+0.0	43.4	54.0	-10.6	Vert
12	5418.530M Ave	36.2	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0 +0.6	+0.0	43.1	54.0	-10.9	Vert
^	5418.530M	46.6	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0 +0.6	+0.0	53.5	54.0	-0.5	Vert
14	2745.030M	43.6	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0 +0.5	+0.0	42.8	54.0	-11.2	Vert
15	2780.870M	43.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0 +0.5	+0.0	42.7	54.0	-11.3	Vert

16	7414.400M Ave	44.3	+1.3 +0.0 +0.7	+4.4 -34.9 +12.5	+0.0 +37.4	+0.0 +0.7	+0.0	41.4	54.0	-12.6	Vert
^	7414.400M	44.3	+1.3 +0.0 +0.7	+4.4 -34.9 +0.0	+0.0 +37.4	+0.0 +0.7	+0.0	53.9	54.0	-0.1	Vert
18	8127.390M Ave	42.0	+1.2 +0.0 +0.6	+5.1 -35.1 +12.5	+0.0 +38.6	+0.0 +0.7	+0.0	40.6	54.0	-13.4	Vert
^	8127.390M	42.0	+1.2 +0.0 +0.6	+5.1 -35.1 +0.0	+0.0 +38.6	+0.0 +0.7	+0.0	53.1	54.0	-0.9	Vert
20	4514.995M Ave	45.4	+0.6 +0.0 +0.5	+3.5 -33.6 +12.5	+0.0 +32.2	+0.0 +0.3	+0.0	36.4	54.0	-17.6	Vert
^	4514.995M	45.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0 +0.3	+0.0	48.9	54.0	-5.1	Vert
22	6321.635M	53.7	+0.9 +0.0 +0.4	+4.4 -34.0 +0.0	+0.0 +35.2	+0.0 +0.6	+0.0	61.2	109.0	-47.8	Vert
23	6404.815M	52.1	+0.9 +0.0 +0.5	+4.5 -34.0 +0.0	+0.0 +35.0	+0.0 +0.6	+0.0	59.6	109.0	-49.4	Vert
24	6487.135M	51.6	+0.9 +0.0 +0.6	+4.5 -34.0 +0.0	+0.0 +34.9	+0.0 +0.7	+0.0	59.2	109.0	-49.8	Vert
25	7224.415M	46.2	+1.2 +0.0 +0.2	+4.6 -34.9 +0.0	+0.0 +37.0	+0.0 +0.7	+0.0	55.0	109.0	-54.0	Vert
26	5490.400M	45.9	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0 +0.5	+0.0	52.7	109.0	-56.3	Vert
27	5561.190M	45.6	+0.8 +0.0 +0.5	+4.0 -33.6 +0.0	+0.0 +34.5	+0.0 +0.5	+0.0	52.3	109.0	-56.7	Vert
28	1831.710M	55.4	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.5	+0.0 +0.3	+0.0	51.6	109.0	-57.4	Vert
29	1852.405M	47.4	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.6	+0.0 +0.3	+0.0	43.7	109.0	-65.3	Vert
30	56.200M	30.3	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+12.4 +0.0	+0.0	43.6	109.0	-65.4	Vert
31	56.200M	29.9	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+12.4 +0.0	+0.0	43.2	109.0	-65.8	Vert
32	1806.140M	46.9	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.3	+0.0 +0.3	+0.0	42.9	109.0	-66.1	Vert

33	59.100M	28.5	+0.1 +0.0 +0.0	+0.4 +0.0 +0.0	+0.5 +0.0	+12.5 +0.0	+0.0	42.0	109.0	-67.0	Vert
34	160.000M	21.8	+0.1 +0.0 +0.0	+0.6 +0.0 +0.0	+0.8 +0.0	+16.1 +0.0	+0.0	39.4	109.0	-69.6	Vert
35	98.900M	23.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.6 +0.0	+13.7 +0.0	+0.0	37.9	109.0	-71.1	Vert
36	143.500M	20.8	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.8 +0.0	+14.0 +0.0	+0.0	36.2	109.0	-72.8	Horiz
37	182.300M	18.7	+0.1 +0.0 +0.0	+0.6 +0.0 +0.0	+0.9 +0.0	+15.7 +0.0	+0.0	36.0	109.0	-73.0	Horiz
38	145.400M	20.4	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.8 +0.0	+14.0 +0.0	+0.0	35.8	109.0	-73.2	Horiz
39	57.200M	22.1	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+12.4 +0.0	+0.0	35.4	109.0	-73.6	Horiz
40	101.800M	18.5	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.6 +0.0	+14.0 +0.0	+0.0	33.7	109.0	-75.3	Horiz
41	29.224M	44.2	+0.1 +3.9 +0.0	+0.3 +0.0 +0.0	+0.0 +0.0	+0.0 +0.0	-40.0	8.5	109.0	-100.5	Vert
42	23.134M	37.6	+0.1 +6.1 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	+0.0 +0.0	-40.0	4.0	109.0	-105.0	Vert
43	29.910M	39.2	+0.1 +3.6 +0.0	+0.3 +0.0 +0.0	+0.0 +0.0	+0.0 +0.0	-40.0	3.2	109.0	-105.8	Vert
44	45.096k	45.9	+0.1 +10.1 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	+0.0 +0.0	-80.0	-23.9	109.0	-132.9	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/12/2022
Test Type:	**Maximized Emissions**	Time:	12:56:09
Tested By:	Matt Harrison	Sequence#:	3
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

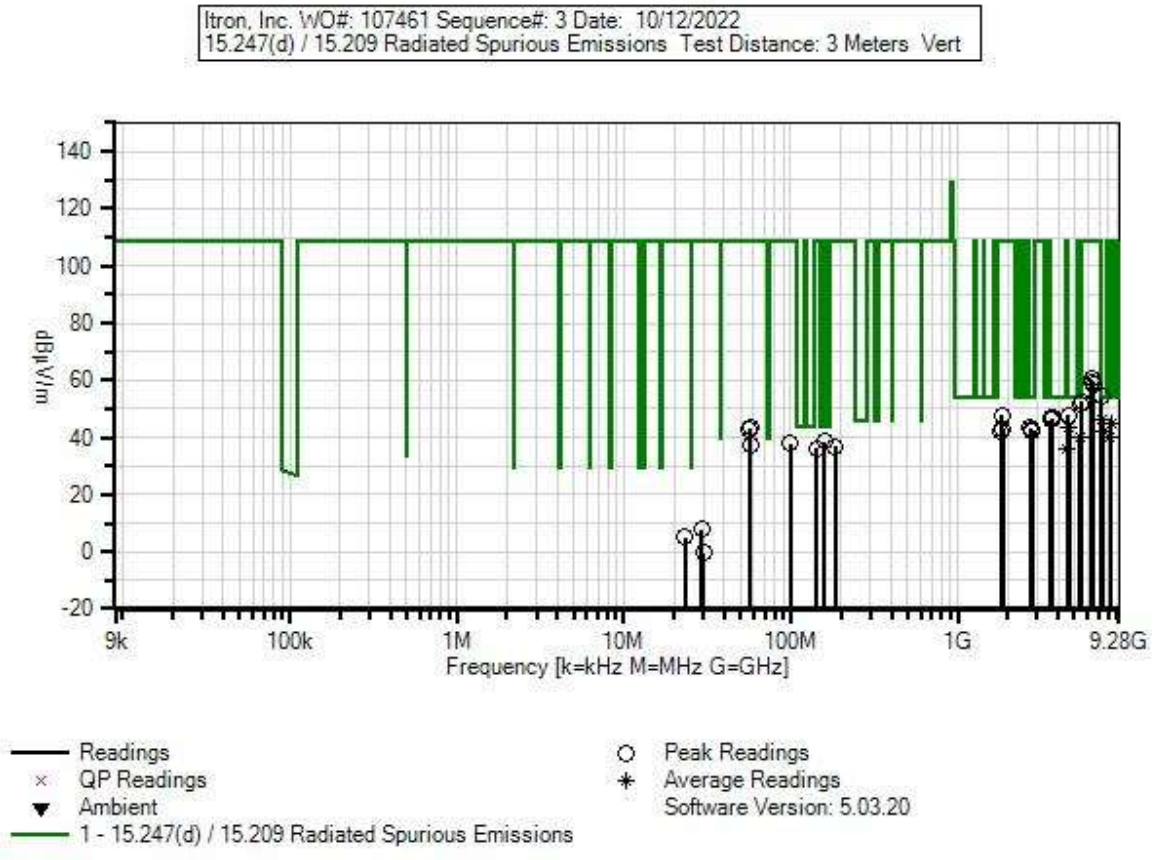
Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 1 (Attached SuperRaptor, Internal GPS, Attached Cellular).
FM 37.5k Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T6	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T7	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T8	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T9	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T10	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T11	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4575.400M	44.2	+0.0 +0.0 +0.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	47.8	54.0	-6.2	Vert
2	3707.320M	44.3	+0.0 +0.0 +0.3	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +32.0	+0.0	46.9	54.0	-7.1	Vert
3	3659.925M	44.2	+0.0 +0.0 +0.4	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +31.7	+0.0	46.6	54.0	-7.4	Vert
4	7320.000M Ave	49.1	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +12.5	+0.0 +37.5	+0.0	46.3	54.0	-7.7	Vert
^	7320.000M	49.1	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +0.0	+0.0 +37.5	+0.0	58.8	54.0	+4.8	Vert
6	3611.900M	43.6	+0.0 +0.0 +0.4	+0.5 +0.0 +0.3	+3.2 -33.8 +0.0	+0.0 +31.7	+0.0	45.9	54.0	-8.1	Vert
7	8235.000M Ave	45.9	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +12.5	+0.0 +38.6	+0.0	44.9	54.0	-9.1	Vert
^	8235.000M	45.9	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +0.0	+0.0 +38.6	+0.0	57.4	54.0	+3.4	Vert
9	2709.205M	44.0	+0.0 +0.0 +0.5	+0.5 +0.0 +0.2	+2.7 -34.1 +0.0	+0.0 +29.5	+0.0	43.3	54.0	-10.7	Vert
10	4634.000M Ave	51.9	+0.0 +0.0 +0.4	+0.6 +0.0 +0.4	+3.6 -33.6 +12.5	+0.0 +32.4	+0.0	43.2	54.0	-10.8	Vert
^	4634.000M	51.9	+0.0 +0.0 +0.4	+0.6 +0.0 +0.4	+3.6 -33.6 +0.0	+0.0 +32.4	+0.0	55.7	54.0	+1.7	Vert
12	2745.135M	43.6	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	42.8	54.0	-11.2	Vert
13	2780.310M	43.2	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	42.4	54.0	-11.6	Vert
14	7414.400M Ave	32.7	+0.0 +0.0 +0.7	+1.3 +0.0 +0.7	+4.4 -34.9 +0.0	+0.0 +37.4	+0.0	42.3	54.0	-11.7	Vert
^	7414.400M	43.8	+0.0 +0.0 +0.7	+1.3 +0.0 +0.7	+4.4 -34.9 +0.0	+0.0 +37.4	+0.0	53.4	54.0	-0.6	Vert

16	5418.000M	45.8	+0.0	+0.8	+4.0	+0.0	+0.0	40.2	54.0	-13.8	Vert
	Ave		+0.0	+0.0	-33.6	+34.7					
			+0.6	+0.4	+12.5						
^	5418.000M	45.8	+0.0	+0.8	+4.0	+0.0	+0.0	52.7	54.0	-1.3	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.6	+0.4	+0.0						
18	8127.000M	41.6	+0.0	+1.2	+5.1	+0.0	+0.0	40.2	54.0	-13.8	Vert
	Ave		+0.0	+0.0	-35.1	+38.6					
			+0.7	+0.6	+12.5						
^	8127.000M	41.6	+0.0	+1.2	+5.1	+0.0	+0.0	52.7	54.0	-1.3	Vert
			+0.0	+0.0	-35.1	+38.6					
			+0.7	+0.6	+0.0						
20	4515.080M	44.9	+0.0	+0.6	+3.5	+0.0	+0.0	35.9	54.0	-18.1	Vert
	Ave		+0.0	+0.0	-33.6	+32.2					
			+0.3	+0.5	+12.5						
^	4515.080M	44.9	+0.0	+0.6	+3.5	+0.0	+0.0	48.4	54.0	-5.6	Vert
			+0.0	+0.0	-33.6	+32.2					
			+0.3	+0.5	+0.0						
22	6321.365M	52.9	+0.0	+0.9	+4.4	+0.0	+0.0	60.4	109.0	-48.6	Vert
			+0.0	+0.0	-34.0	+35.2					
			+0.6	+0.4	+0.0						
23	6404.910M	51.8	+0.0	+0.9	+4.5	+0.0	+0.0	59.3	109.0	-49.7	Vert
			+0.0	+0.0	-34.0	+35.0					
			+0.6	+0.5	+0.0						
24	6487.405M	51.2	+0.0	+0.9	+4.5	+0.0	+0.0	58.8	109.0	-50.2	Vert
			+0.0	+0.0	-34.0	+34.9					
			+0.7	+0.6	+0.0						
25	7224.040M	45.6	+0.0	+1.2	+4.6	+0.0	+0.0	54.4	109.0	-54.6	Vert
			+0.0	+0.0	-34.9	+37.0					
			+0.7	+0.2	+0.0						
26	5560.760M	45.7	+0.0	+0.8	+4.0	+0.0	+0.0	52.4	109.0	-56.6	Vert
			+0.0	+0.0	-33.6	+34.5					
			+0.5	+0.5	+0.0						
27	5490.385M	45.2	+0.0	+0.8	+4.0	+0.0	+0.0	52.0	109.0	-57.0	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+0.0						
28	1831.100M	51.6	+0.0	+0.4	+2.1	+0.0	+0.0	47.8	109.0	-61.2	Vert
			+0.0	+0.0	-34.7	+27.5					
			+0.3	+0.6	+0.0						
29	57.200M	29.9	+0.0	+0.1	+0.3	+0.5	+0.0	43.2	109.0	-65.8	Vert
			+12.4	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
30	56.200M	29.6	+0.0	+0.1	+0.3	+0.5	+0.0	42.9	109.0	-66.1	Vert
			+12.4	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
31	1853.515M	46.5	+0.0	+0.4	+2.1	+0.0	+0.0	42.9	109.0	-66.1	Vert
			+0.0	+0.0	-34.7	+27.7					
			+0.3	+0.6	+0.0						
32	1805.650M	45.9	+0.0	+0.4	+2.1	+0.0	+0.0	41.9	109.0	-67.1	Vert
			+0.0	+0.0	-34.7	+27.3					
			+0.3	+0.6	+0.0						

33	160.000M	20.9	+0.0 +16.1 +0.0	+0.1 +0.0 +0.0	+0.6 +0.0 +0.0	+0.8 +0.0	+0.0	38.5	109.0	-70.5	Vert
34	98.900M	23.1	+0.0 +13.7 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.6 +0.0	+0.0	38.0	109.0	-71.0	Vert
35	98.900M	22.8	+0.0 +13.7 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.6 +0.0	+0.0	37.7	109.0	-71.3	Vert
36	57.200M	24.1	+0.0 +12.4 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	37.4	109.0	-71.6	Horiz
37	184.200M	19.6	+0.0 +15.6 +0.0	+0.1 +0.0 +0.0	+0.7 +0.0 +0.0	+0.9 +0.0	+0.0	36.9	109.0	-72.1	Vert
38	143.500M	20.8	+0.0 +14.0 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.8 +0.0	+0.0	36.2	109.0	-72.8	Horiz
39	142.500M	20.6	+0.0 +13.9 +0.0	+0.1 +0.0 +0.0	+0.5 +0.0 +0.0	+0.8 +0.0	+0.0	35.9	109.0	-73.1	Horiz
40	29.224M	43.4	+0.0 +0.0 +0.0	+0.1 +3.9 +0.0	+0.3 +0.0 +0.0	+0.0 +0.0	-40.0	7.7	109.0	-101.3	Perp/
41	23.134M	38.8	+0.0 +0.0 +0.0	+0.1 +6.1 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	5.2	109.0	-103.8	Perp/
42	29.910M	35.6	+0.0 +0.0 +0.0	+0.1 +3.6 +0.0	+0.3 +0.0 +0.0	+0.0 +0.0	-40.0	-0.4	109.0	-109.4	Perp/
43	48.057k	47.0	+0.0 +0.0 +0.0	+0.1 +10.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-22.9	109.0	-131.9	Perp/
44	47.634k	46.5	+0.0 +0.0 +0.0	+0.1 +10.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-23.4	109.0	-132.4	Perp/

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/15/2022
Test Type:	**Maximized Emissions**	Time:	12:05:07
Tested By:	Matt Harrison	Sequence#:	4
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

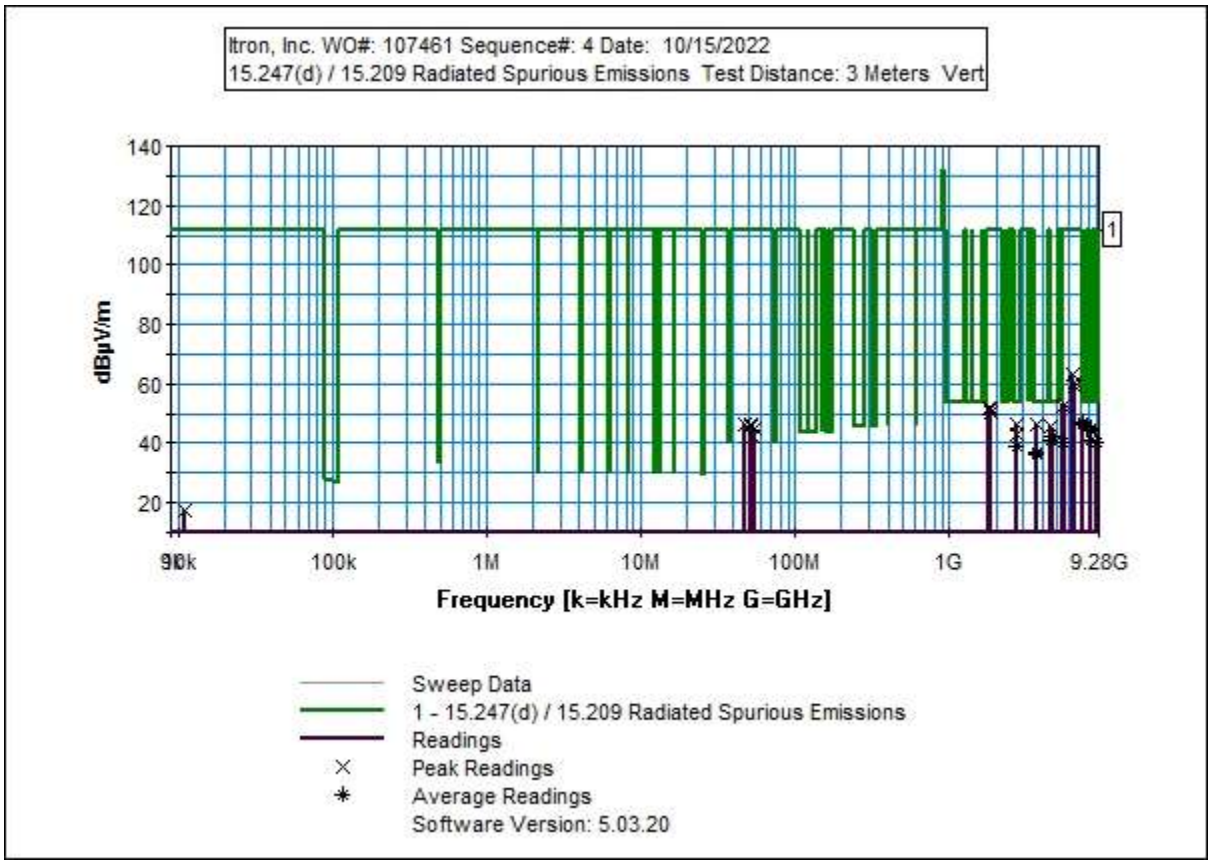
Test Environment Conditions:
Temperature: 22°C
Humidity: 48%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 2 (Attached SuperRaptor, Remote GPS, Remote Cellular).
AM Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T6	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T7	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T8	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T9	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T10	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T11	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7264.170M	50.4	+0.0	+1.2	+4.5	+0.0	+0.0	46.9	54.0	-7.1	Vert
	Ave		+0.0	+0.0	-34.9	+37.2					
			+0.7	+0.3	+12.5						
^	7264.170M	50.4	+0.0	+1.2	+4.5	+0.0	+0.0	59.4	54.0	+5.4	Vert
			+0.0	+0.0	-34.9	+37.2					
			+0.7	+0.3	+0.0						
3	2744.985M	47.4	+0.0	+0.5	+2.7	+0.0	+0.0	46.6	54.0	-7.4	Vert
			+0.0	+0.0	-34.1	+29.3					
			+0.5	+0.3	+0.0						
4	7320.065M	49.4	+0.0	+1.3	+4.5	+0.0	+0.0	46.6	54.0	-7.4	Vert
	Ave		+0.0	+0.0	-34.9	+37.5					
			+0.7	+0.6	+12.5						
^	7320.065M	49.4	+0.0	+1.3	+4.5	+0.0	+0.0	59.1	54.0	+5.1	Vert
			+0.0	+0.0	-34.9	+37.5					
			+0.7	+0.6	+0.0						
6	3695.100M	44.0	+0.0	+0.6	+3.3	+0.0	+0.0	46.5	54.0	-7.5	Vert
			+0.0	+0.0	-33.8	+31.9					
			+0.3	+0.2	+0.0						
7	7390.365M	48.9	+0.0	+1.3	+4.5	+0.0	+0.0	46.1	54.0	-7.9	Vert
	Ave		+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+12.5						
^	7390.365M	48.9	+0.0	+1.3	+4.5	+0.0	+0.0	58.6	54.0	+4.6	Vert
			+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+0.0						
9	4574.960M	42.1	+0.0	+0.6	+3.5	+0.0	+0.0	45.7	54.0	-8.3	Vert
			+0.0	+0.0	-33.6	+32.2					
			+0.4	+0.5	+0.0						
10	8171.355M	46.4	+0.0	+1.2	+5.1	+0.0	+0.0	45.2	54.0	-8.8	Vert
	Ave		+0.0	+0.0	-35.0	+38.6					
			+0.7	+0.7	+12.5						
^	8171.355M	46.4	+0.0	+1.2	+5.1	+0.0	+0.0	57.7	54.0	+3.7	Vert
			+0.0	+0.0	-35.0	+38.6					
			+0.7	+0.7	+0.0						
12	8235.065M	45.1	+0.0	+1.2	+5.1	+0.0	+0.0	44.1	54.0	-9.9	Vert
	Ave		+0.0	+0.0	-34.9	+38.6					
			+0.7	+0.8	+12.5						
^	8235.065M	45.1	+0.0	+1.2	+5.1	+0.0	+0.0	56.6	54.0	+2.6	Vert
			+0.0	+0.0	-34.9	+38.6					
			+0.7	+0.8	+0.0						
14	2771.205M	43.7	+0.0	+0.5	+2.7	+0.0	+0.0	42.9	54.0	-11.1	Vert
			+0.0	+0.0	-34.1	+29.3					
			+0.5	+0.3	+0.0						

15	4618.965M	50.9	+0.0	+0.6	+3.5	+0.0	+0.0	42.1	54.0	-11.9	Vert
	Ave		+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+12.5						
	^ 4618.965M	50.9	+0.0	+0.6	+3.5	+0.0	+0.0	54.6	54.0	+0.6	Vert
			+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+0.0						
17	4540.170M	49.7	+0.0	+0.6	+3.5	+0.0	+0.0	40.7	54.0	-13.3	Vert
	Ave		+0.0	+0.0	-33.6	+32.1					
			+0.3	+0.6	+12.5						
	^ 4540.170M	49.7	+0.0	+0.6	+3.5	+0.0	+0.0	53.2	54.0	-0.8	Vert
			+0.0	+0.0	-33.6	+32.1					
			+0.3	+0.6	+0.0						
19	8314.165M	41.4	+0.0	+1.2	+5.2	+0.0	+0.0	40.7	54.0	-13.3	Vert
	Ave		+0.0	+0.0	-34.9	+38.7					
			+0.7	+0.9	+12.5						
	^ 8314.165M	41.4	+0.0	+1.2	+5.2	+0.0	+0.0	53.2	54.0	-0.8	Vert
			+0.0	+0.0	-34.9	+38.7					
			+0.7	+0.9	+0.0						
21	5448.170M	46.0	+0.0	+0.8	+4.0	+0.0	+0.0	40.3	54.0	-13.7	Vert
	Ave		+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+12.5						
	^ 5448.170M	46.0	+0.0	+0.8	+4.0	+0.0	+0.0	52.8	54.0	-1.2	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+0.0						
23	9079.940M	41.9	+0.0	+0.9	+4.9	+0.0	+0.0	40.1	54.0	-13.9	Vert
	Ave		+0.0	+0.0	-34.6	+38.0					
			+0.7	+0.8	+12.5						
	^ 9079.940M	41.9	+0.0	+0.9	+4.9	+0.0	+0.0	52.6	54.0	-1.4	Vert
			+0.0	+0.0	-34.6	+38.0					
			+0.7	+0.8	+0.0						
25	2723.735M	52.1	+0.0	+0.5	+2.7	+0.0	+0.0	38.8	54.0	-15.2	Vert
	Ave		+0.0	+0.0	-34.1	+29.4					
			+0.5	+0.2	+12.5						
	^ 2723.735M	52.1	+0.0	+0.5	+2.7	+0.0	+0.0	51.3	54.0	-2.7	Vert
			+0.0	+0.0	-34.1	+29.4					
			+0.5	+0.2	+0.0						
27	3660.000M	47.1	+0.0	+0.6	+3.3	+0.0	+0.0	37.0	54.0	-17.0	Vert
	Ave		+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+12.5						
	^ 3660.000M	47.1	+0.0	+0.6	+3.3	+0.0	+0.0	49.5	54.0	-4.5	Vert
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+0.0						
29	3631.980M	46.4	+0.0	+0.6	+3.3	+0.0	+0.0	36.4	54.0	-17.6	Vert
	Ave		+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.3	+12.5						
	^ 3631.980M	46.4	+0.0	+0.6	+3.3	+0.0	+0.0	48.9	54.0	-5.1	Vert
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.3	+0.0						
31	6355.850M	55.7	+0.0	+0.9	+4.4	+0.0	+0.0	63.1	112.0	-48.9	Vert
			+0.0	+0.0	-34.0	+35.1					
			+0.6	+0.4	+0.0						

32	6466.635M	52.8	+0.0 +0.0 +0.7	+0.9 +0.0 +0.6	+4.5 -34.0 +0.0	+0.0 +34.9	+0.0	60.4	112.0	-51.6	Vert
33	6404.935M	51.6	+0.0 +0.0 +0.6	+0.9 +0.0 +0.5	+4.5 -34.0 +0.0	+0.0 +35.0	+0.0	59.1	112.0	-52.9	Vert
34	5542.880M	46.4	+0.0 +0.0 +0.5	+0.8 +0.0 +0.5	+4.0 -33.6 +0.0	+0.0 +34.6	+0.0	53.2	112.0	-58.8	Vert
35	5489.995M	45.3	+0.0 +0.0 +0.5	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	52.1	112.0	-59.9	Vert
36	1816.025M	55.7	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.4	+0.0	51.8	112.0	-60.2	Vert
37	1847.690M	55.5	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.6	+0.0	51.8	112.0	-60.2	Vert
38	1829.945M	54.0	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.5	+0.0	50.2	112.0	-61.8	Vert
39	46.500M	32.6	+0.0 +13.1 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	46.6	112.0	-65.4	Vert
40	52.300M	33.0	+0.0 +12.3 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	46.2	112.0	-65.8	Vert
41	51.300M	32.4	+0.0 +12.3 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	45.6	112.0	-66.4	Vert
42	54.200M	31.5	+0.0 +12.3 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	44.7	112.0	-67.3	Vert
43	53.300M	29.0	+0.0 +12.3 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	42.2	112.0	-69.8	Horiz
44	10.974k	81.7	+0.0 +0.0 +0.0	+0.1 +15.6 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	17.4	112.0	-94.6	Perp/
45	23.134M	38.8	+0.0 +0.0 +0.0	+0.1 +6.1 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	5.2	112.0	-106.8	Perp/

46	19.702M	37.2	+0.0 +0.0 +0.0	+0.1 +6.4 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	3.9	112.0	-108.1	Perp/
47	25.881M	36.7	+0.0 +0.0 +0.0	+0.1 +5.5 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	2.5	112.0	-109.5	Perp/
48	43.686k	61.7	+0.0 +0.0 +0.0	+0.1 +10.1 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-8.1	112.0	-120.1	Perp/
49	73.860k	53.7	+0.0 +0.0 +0.0	+0.1 +9.5 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-16.7	112.0	-128.7	Perp/

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/15/2022
Test Type:	**Maximized Emissions**	Time:	12:52:04
Tested By:	Matt Harrison	Sequence#:	5
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

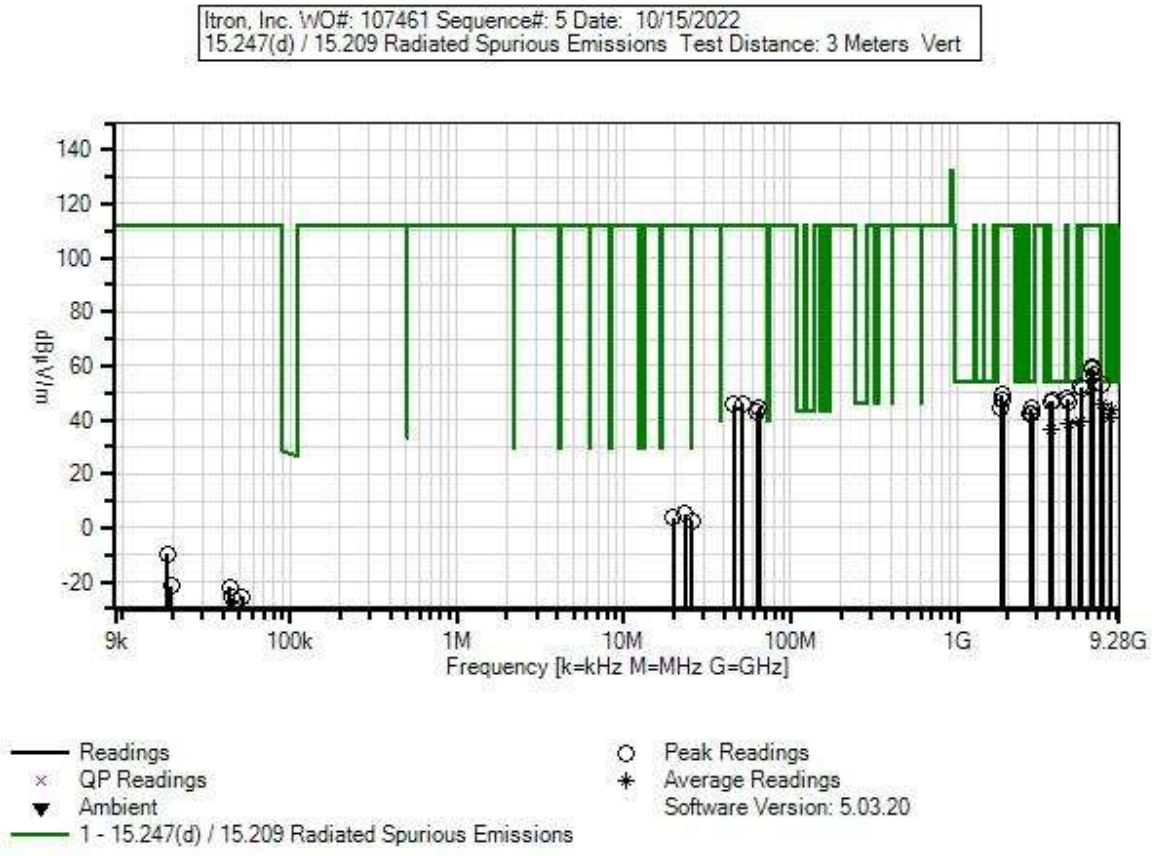
Test Environment Conditions:
Temperature: 22°C
Humidity: 48%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 2 (Attached SuperRaptor, Remote GPS, Remote Cellular).
FM 12.5k Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T6	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T7	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T8	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T9	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T10	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T11	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4514.925M	44.5	+0.0 +0.0 +0.3	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	48.0	54.0	-6.0	Vert
2	3707.060M	44.6	+0.0 +0.0 +0.3	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +32.0	+0.0	47.2	54.0	-6.8	Vert
3	3612.135M	44.5	+0.0 +0.0 +0.4	+0.5 +0.0 +0.3	+3.2 -33.8 +0.0	+0.0 +31.7	+0.0	46.8	54.0	-7.2	Vert
4	4575.445M	42.7	+0.0 +0.0 +0.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	46.3	54.0	-7.7	Vert
5	7320.000M Ave	48.8	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +12.5	+0.0 +37.5	+0.0	46.0	54.0	-8.0	Vert
^	7320.000M	48.8	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +0.0	+0.0 +37.5	+0.0	58.5	54.0	+4.5	Vert
7	2745.070M	44.9	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	44.1	54.0	-9.9	Vert
8	8235.000M Ave	44.7	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +12.5	+0.0 +38.6	+0.0	43.7	54.0	-10.3	Vert
^	8235.000M	44.7	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +0.0	+0.0 +38.6	+0.0	56.2	54.0	+2.2	Vert
10	2780.670M	43.4	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	42.6	54.0	-11.4	Vert
11	2709.015M	43.1	+0.0 +0.0 +0.5	+0.5 +0.0 +0.2	+2.7 -34.1 +0.0	+0.0 +29.5	+0.0	42.4	54.0	-11.6	Vert
12	8127.000M Ave	42.1	+0.0 +0.0 +0.7	+1.2 +0.0 +0.6	+5.1 -35.1 +12.5	+0.0 +38.6	+0.0	40.7	54.0	-13.3	Vert
^	8127.000M	42.1	+0.0 +0.0 +0.7	+1.2 +0.0 +0.6	+5.1 -35.1 +0.0	+0.0 +38.6	+0.0	53.2	54.0	-0.8	Vert
14	5418.000M Ave	45.0	+0.0 +0.0 +0.6	+0.8 +0.0 +0.4	+4.0 -33.6 +12.5	+0.0 +34.7	+0.0	39.4	54.0	-14.6	Vert
^	5418.000M	45.0	+0.0 +0.0 +0.6	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	51.9	54.0	-2.1	Vert

16	4633.815M	47.7	+0.0	+0.6	+3.6	+0.0	+0.0	39.0	54.0	-15.0	Vert
	Ave		+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+12.5						
^	4633.815M	47.7	+0.0	+0.6	+3.6	+0.0	+0.0	51.5	54.0	-2.5	Vert
			+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+0.0						
18	3659.610M	46.3	+0.0	+0.6	+3.3	+0.0	+0.0	36.2	54.0	-17.8	Vert
	Ave		+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+12.5						
^	3659.610M	46.3	+0.0	+0.6	+3.3	+0.0	+0.0	48.7	54.0	-5.3	Vert
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+0.0						
20	6321.500M	51.9	+0.0	+0.9	+4.4	+0.0	+0.0	59.4	112.0	-52.6	Vert
			+0.0	+0.0	-34.0	+35.2					
			+0.6	+0.4	+0.0						
21	6405.250M	51.4	+0.0	+0.9	+4.5	+0.0	+0.0	58.9	112.0	-53.1	Vert
			+0.0	+0.0	-34.0	+35.0					
			+0.6	+0.5	+0.0						
22	6487.205M	49.1	+0.0	+0.9	+4.5	+0.0	+0.0	56.7	112.0	-55.3	Vert
			+0.0	+0.0	-34.0	+34.9					
			+0.7	+0.6	+0.0						
23	7224.675M	44.4	+0.0	+1.2	+4.6	+0.0	+0.0	53.2	112.0	-58.8	Vert
			+0.0	+0.0	-34.9	+37.0					
			+0.7	+0.2	+0.0						
24	5490.190M	45.3	+0.0	+0.8	+4.0	+0.0	+0.0	52.1	112.0	-59.9	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+0.0						
25	5560.870M	44.8	+0.0	+0.8	+4.0	+0.0	+0.0	51.5	112.0	-60.5	Vert
			+0.0	+0.0	-33.6	+34.5					
			+0.5	+0.5	+0.0						
26	1829.985M	53.0	+0.0	+0.4	+2.1	+0.0	+0.0	49.2	112.0	-62.8	Vert
			+0.0	+0.0	-34.7	+27.5					
			+0.3	+0.6	+0.0						
27	1853.460M	50.7	+0.0	+0.4	+2.1	+0.0	+0.0	47.1	112.0	-64.9	Vert
			+0.0	+0.0	-34.7	+27.7					
			+0.3	+0.6	+0.0						
28	51.300M	32.9	+0.0	+0.1	+0.3	+0.5	+0.0	46.1	112.0	-65.9	Vert
			+12.3	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
29	45.500M	31.2	+0.0	+0.1	+0.3	+0.5	+0.0	45.6	112.0	-66.4	Vert
			+13.5	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
30	1806.295M	48.6	+0.0	+0.4	+2.1	+0.0	+0.0	44.6	112.0	-67.4	Vert
			+0.0	+0.0	-34.7	+27.3					
			+0.3	+0.6	+0.0						
31	64.900M	30.7	+0.0	+0.1	+0.4	+0.5	+0.0	44.5	112.0	-67.5	Vert
			+12.8	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
32	63.000M	29.6	+0.0	+0.1	+0.4	+0.5	+0.0	43.3	112.0	-68.7	Vert
			+12.7	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						

33	23.134M	38.9	+0.0 +0.0 +0.0	+0.1 +6.1 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	5.3	112.0	-106.7	Perp/
34	19.702M	37.2	+0.0 +0.0 +0.0	+0.1 +6.4 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	3.9	112.0	-108.1	Perp/
35	25.702M	36.9	+0.0 +0.0 +0.0	+0.1 +5.6 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	2.8	112.0	-109.2	Perp/
36	18.588k	57.1	+0.0 +0.0 +0.0	+0.1 +13.1 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-9.7	112.0	-121.7	Perp/
37	19.434k	45.7	+0.0 +0.0 +0.0	+0.1 +12.8 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-21.4	112.0	-133.4	Perp/
38	43.686k	47.8	+0.0 +0.0 +0.0	+0.1 +10.1 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-22.0	112.0	-134.0	Perp/
39	51.723k	44.6	+0.0 +0.0 +0.0	+0.1 +9.8 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-25.5	112.0	-137.5	Perp/
40	45.378k	43.9	+0.0 +0.0 +0.0	+0.1 +10.1 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-25.9	112.0	-137.9	Perp/

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/17/2022
Test Type:	**Maximized Emissions**	Time:	06:52:18
Tested By:	Matt Harrison	Sequence#:	6
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

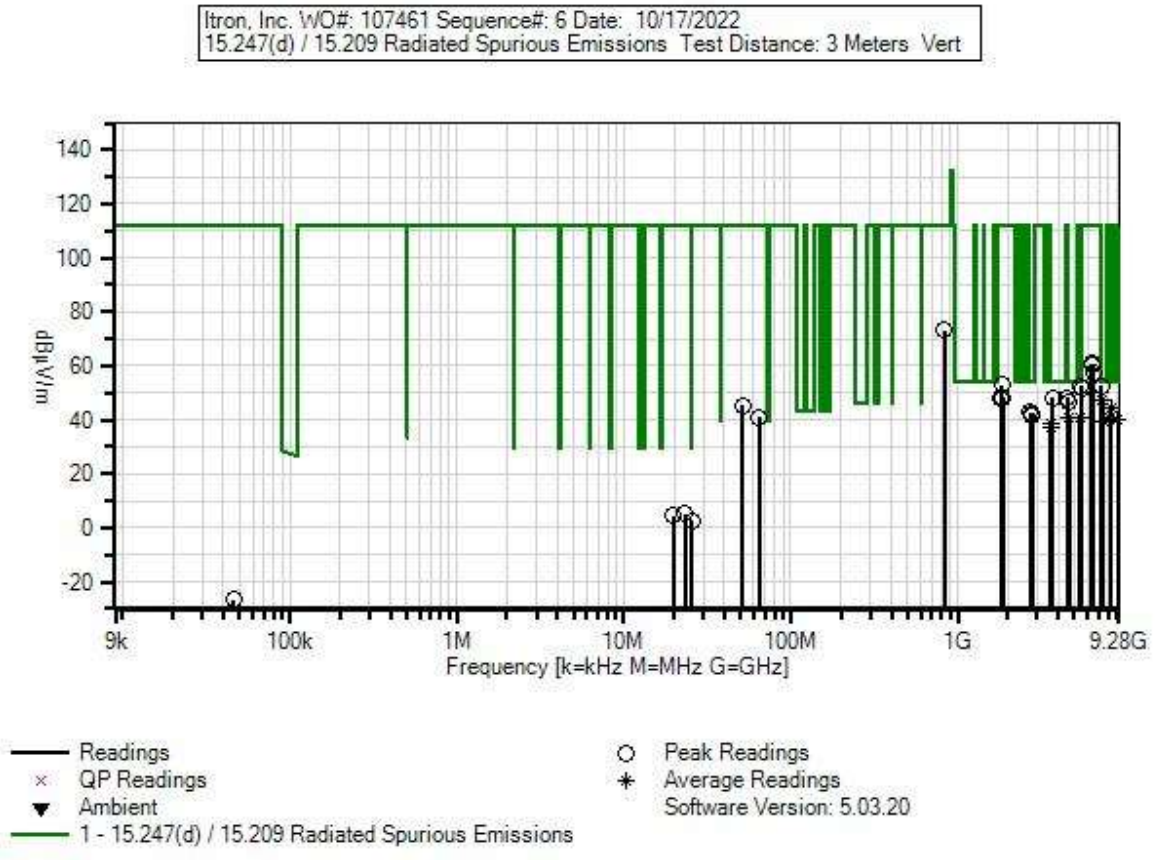
Test Environment Conditions:
Temperature: 22°C
Humidity: 48%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 2 (Attached SuperRaptor, Remote GPS, Remote Cellular).
FM 37.5k Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T6	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T7	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T8	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T9	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T10	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T11	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	3707.200M	45.6	+0.0 +0.0 +0.3	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +32.0	+0.0	48.2	54.0	-5.8	Vert
2	4514.970M	44.7	+0.0 +0.0 +0.3	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	48.2	54.0	-5.8	Vert
3	7320.000M Ave	50.0	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +12.5	+0.0 +37.5	+0.0	47.2	54.0	-6.8	Vert
^	7320.000M	50.0	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +0.0	+0.0 +37.5	+0.0	59.7	54.0	+5.7	Vert
5	4574.930M	43.0	+0.0 +0.0 +0.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	46.6	54.0	-7.4	Vert
6	8235.000M Ave	45.8	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +12.5	+0.0 +38.6	+0.0	44.8	54.0	-9.2	Vert
^	8235.000M	45.8	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +0.0	+0.0 +38.6	+0.0	57.3	54.0	+3.3	Vert
8	2709.160M	43.6	+0.0 +0.0 +0.5	+0.5 +0.0 +0.2	+2.7 -34.1 +0.0	+0.0 +29.5	+0.0	42.9	54.0	-11.1	Vert
9	2780.250M	43.4	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	42.6	54.0	-11.4	Vert
10	2744.990M	42.7	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	41.9	54.0	-12.1	Vert
11	8127.000M Ave	42.3	+0.0 +0.0 +0.7	+1.2 +0.0 +0.6	+5.1 -35.1 +12.5	+0.0 +38.6	+0.0	40.9	54.0	-13.1	Vert
^	8127.000M	42.3	+0.0 +0.0 +0.7	+1.2 +0.0 +0.6	+5.1 -35.1 +0.0	+0.0 +38.6	+0.0	53.4	54.0	-0.6	Vert
13	5418.000M Ave	46.3	+0.0 +0.0 +0.6	+0.8 +0.0 +0.4	+4.0 -33.6 +12.5	+0.0 +34.7	+0.0	40.7	54.0	-13.3	Vert
^	5418.000M	46.3	+0.0 +0.0 +0.6	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	53.2	54.0	-0.8	Vert

15	4634.000M	49.2	+0.0	+0.6	+3.6	+0.0	+0.0	40.5	54.0	-13.5	Vert
	Ave		+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+12.5						
^	4634.000M	49.2	+0.0	+0.6	+3.6	+0.0	+0.0	53.0	54.0	-1.0	Vert
			+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+0.0						
17	9150.000M	41.6	+0.0	+0.9	+5.0	+0.0	+0.0	40.1	54.0	-13.9	Vert
	Ave		+0.0	+0.0	-34.4	+37.7					
			+0.7	+1.1	+12.5						
^	9150.000M	41.6	+0.0	+0.9	+5.0	+0.0	+0.0	52.6	54.0	-1.4	Vert
			+0.0	+0.0	-34.4	+37.7					
			+0.7	+1.1	+0.0						
19	7414.200M	42.5	+0.0	+1.3	+4.5	+0.0	+0.0	39.7	54.0	-14.3	Vert
	Ave		+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+12.5						
^	7414.200M	42.5	+0.0	+1.3	+4.5	+0.0	+0.0	52.2	54.0	-1.8	Vert
			+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+0.0						
21	3660.000M	48.6	+0.0	+0.6	+3.3	+0.0	+0.0	38.5	54.0	-15.5	Vert
	Ave		+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+12.5						
^	3660.000M	48.6	+0.0	+0.6	+3.3	+0.0	+0.0	51.0	54.0	-3.0	Vert
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+0.0						
23	3612.030M	47.3	+0.0	+0.5	+3.2	+0.0	+0.0	37.1	54.0	-16.9	Vert
	Ave		+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.3	+12.5						
^	3612.030M	47.3	+0.0	+0.5	+3.2	+0.0	+0.0	49.6	54.0	-4.4	Vert
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.3	+0.0						
25	830.200M	40.0	+0.0	+0.3	+1.4	+2.2	+0.0	73.2	112.0	-38.8	Horiz
			+29.3	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
26	6321.110M	53.3	+0.0	+0.9	+4.4	+0.0	+0.0	60.8	112.0	-51.2	Vert
			+0.0	+0.0	-34.0	+35.2					
			+0.6	+0.4	+0.0						
27	6404.685M	52.7	+0.0	+0.9	+4.5	+0.0	+0.0	60.2	112.0	-51.8	Vert
			+0.0	+0.0	-34.0	+35.0					
			+0.6	+0.5	+0.0						
28	6487.645M	49.7	+0.0	+0.9	+4.5	+0.0	+0.0	57.3	112.0	-54.7	Vert
			+0.0	+0.0	-34.0	+34.9					
			+0.7	+0.6	+0.0						
29	1830.010M	56.8	+0.0	+0.4	+2.1	+0.0	+0.0	53.0	112.0	-59.0	Vert
			+0.0	+0.0	-34.7	+27.5					
			+0.3	+0.6	+0.0						
30	5490.260M	45.9	+0.0	+0.8	+4.0	+0.0	+0.0	52.7	112.0	-59.3	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+0.0						
31	7224.130M	43.8	+0.0	+1.2	+4.6	+0.0	+0.0	52.6	112.0	-59.4	Vert
			+0.0	+0.0	-34.9	+37.0					
			+0.7	+0.2	+0.0						

32	5560.770M	45.2	+0.0 +0.0 +0.5	+0.8 +0.0 +0.5	+4.0 -33.6 +0.0	+0.0 +34.5	+0.0	51.9	112.0	-60.1	Vert
33	1806.175M	52.1	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.3	+0.0	48.1	112.0	-63.9	Vert
34	1853.565M	51.7	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.7	+0.0	48.1	112.0	-63.9	Vert
35	51.300M	32.0	+0.0 +12.3 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	45.2	112.0	-66.8	Vert
36	64.900M	27.1	+0.0 +12.8 +0.0	+0.1 +0.0 +0.0	+0.4 +0.0 +0.0	+0.5 +0.0	+0.0	40.9	112.0	-71.1	Vert
37	23.134M	39.0	+0.0 +0.0 +0.0	+0.1 +6.1 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	5.4	112.0	-106.6	Perp/
38	19.702M	37.9	+0.0 +0.0 +0.0	+0.1 +6.4 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	4.6	112.0	-107.4	Perp/
39	25.702M	36.8	+0.0 +0.0 +0.0	+0.1 +5.6 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	2.7	112.0	-109.3	Perp/
40	45.942k	43.3	+0.0 +0.0 +0.0	+0.1 +10.1 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-26.5	112.0	-138.5	Perp/

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/18/2022
Test Type:	**Maximized Emissions**	Time:	14:47:46
Tested By:	Matt Harrison	Sequence#:	7
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 3			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 3			

Test Conditions / Notes:

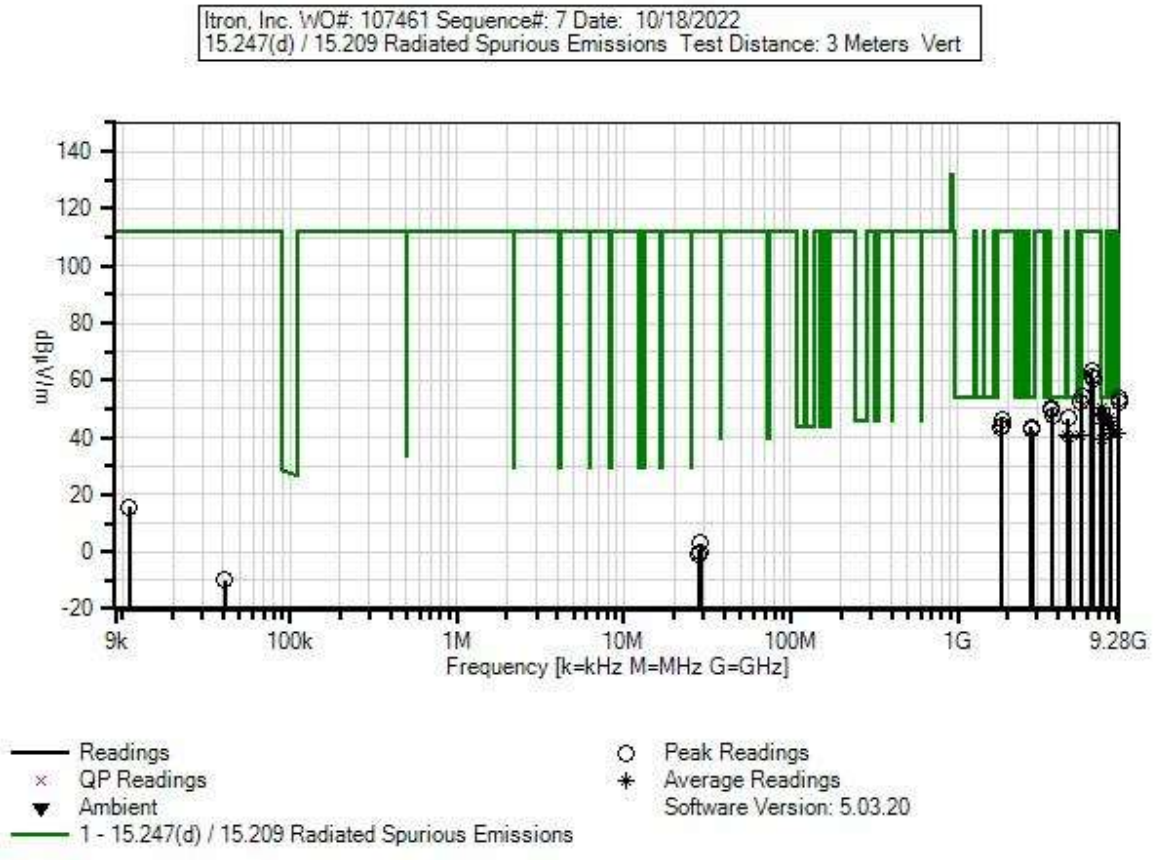
Test Environment Conditions:
Temperature: 22°C
Humidity: 48%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 3 (Remote SuperRaptor, Remote GPS, Remote Cellular antennas).
AM Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T4	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T5	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T6	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T7	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T8	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T9	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7264.125M Ave	54.1	+0.0 -34.9 +12.5	+1.2 +37.2	+4.5 +0.7	+0.0 +0.3	+0.0	50.6	54.0	-3.4	Vert
^	7264.125M	54.1	+0.0 -34.9 +0.0	+1.2 +37.2	+4.5 +0.7	+0.0 +0.3	+0.0	63.1	54.0	+9.1	Vert
3	3659.725M	47.6	+0.0 -33.8 +0.0	+0.6 +31.7	+3.3 +0.4	+0.0 +0.2	+0.0	50.0	54.0	-4.0	Vert
4	3632.060M	47.1	+0.0 -33.8 +0.0	+0.6 +31.7	+3.3 +0.4	+0.0 +0.3	+0.0	49.6	54.0	-4.4	Vert
5	7263.395M Ave	51.8	+0.0 -34.9 +12.5	+1.2 +37.2	+4.5 +0.7	+0.0 +0.3	+0.0	48.3	54.0	-5.7	Horiz
^	7263.395M	51.8	+0.0 -34.9 +0.0	+1.2 +37.2	+4.5 +0.7	+0.0 +0.3	+0.0	60.8	54.0	+6.8	Horiz
7	3695.000M	45.2	+0.0 -33.8 +0.0	+0.6 +31.9	+3.3 +0.3	+0.0 +0.2	+0.0	47.7	54.0	-6.3	Vert
8	7320.055M Ave	50.3	+0.0 -34.9 +12.5	+1.3 +37.5	+4.5 +0.7	+0.0 +0.6	+0.0	47.5	54.0	-6.5	Vert
^	7320.055M	50.3	+0.0 -34.9 +0.0	+1.3 +37.5	+4.5 +0.7	+0.0 +0.6	+0.0	60.0	54.0	+6.0	Vert
10	4574.785M	43.3	+0.0 -33.6 +0.0	+0.6 +32.2	+3.5 +0.4	+0.0 +0.5	+0.0	46.9	54.0	-7.1	Horiz
11	8171.585M Ave	47.8	+0.0 -35.0 +12.5	+1.2 +38.6	+5.1 +0.7	+0.0 +0.7	+0.0	46.6	54.0	-7.4	Vert
^	8171.585M	47.8	+0.0 -35.0 +0.0	+1.2 +38.6	+5.1 +0.7	+0.0 +0.7	+0.0	59.1	54.0	+5.1	Vert
13	7390.158M Ave	48.0	+0.0 -34.9 +12.5	+1.3 +37.4	+4.5 +0.7	+0.0 +0.7	+0.0	45.2	54.0	-8.8	Vert
^	7390.158M	48.0	+0.0 -34.9 +0.0	+1.3 +37.4	+4.5 +0.7	+0.0 +0.7	+0.0	57.7	54.0	+3.7	Vert

15	8235.200M Ave	45.4	+0.0 -34.9 +12.5	+1.2 +38.6	+5.1 +0.7	+0.0 +0.8	+0.0	44.4	54.0	-9.6	Vert
^	8235.200M	45.4	+0.0 -34.9 +0.0	+1.2 +38.6	+5.1 +0.7	+0.0 +0.8	+0.0	56.9	54.0	+2.9	Vert
17	2745.030M	44.5	+0.0 -34.1 +0.0	+0.5 +29.3	+2.7 +0.5	+0.0 +0.3	+0.0	43.7	54.0	-10.3	Vert
18	8234.680M Ave	44.1	+0.0 -34.9 +12.5	+1.2 +38.6	+5.1 +0.7	+0.0 +0.8	+0.0	43.1	54.0	-10.9	Horiz
^	8234.680M	44.1	+0.0 -34.9 +0.0	+1.2 +38.6	+5.1 +0.7	+0.0 +0.8	+0.0	55.6	54.0	+1.6	Horiz
20	2771.667M	43.5	+0.0 -34.1 +0.0	+0.5 +29.3	+2.7 +0.5	+0.0 +0.3	+0.0	42.7	54.0	-11.3	Vert
21	9150.342M Ave	43.2	+0.0 -34.4 +12.5	+0.9 +37.7	+5.0 +0.7	+0.0 +1.1	+0.0	41.7	54.0	-12.3	Vert
^	9150.342M	43.2	+0.0 -34.4 +0.0	+0.9 +37.7	+5.0 +0.7	+0.0 +1.1	+0.0	54.2	54.0	+0.2	Vert
23	9080.845M Ave	43.2	+0.0 -34.6 +12.5	+0.9 +38.0	+4.9 +0.7	+0.0 +0.8	+0.0	41.4	54.0	-12.6	Vert
^	9080.845M	43.2	+0.0 -34.6 +0.0	+0.9 +38.0	+4.9 +0.7	+0.0 +0.8	+0.0	53.9	54.0	-0.1	Vert
25	8314.575M Ave	42.0	+0.0 -34.9 +12.5	+1.2 +38.7	+5.2 +0.7	+0.0 +0.9	+0.0	41.3	54.0	-12.7	Vert
^	8314.575M	42.0	+0.0 -34.9 +0.0	+1.2 +38.7	+5.2 +0.7	+0.0 +0.9	+0.0	53.8	54.0	-0.2	Vert
27	4539.845M Ave	50.0	+0.0 -33.6 +12.5	+0.6 +32.1	+3.5 +0.3	+0.0 +0.6	+0.0	41.0	54.0	-13.0	Vert
^	4539.845M	50.0	+0.0 -33.6 +0.0	+0.6 +32.1	+3.5 +0.3	+0.0 +0.6	+0.0	53.5	54.0	-0.5	Vert
29	5447.900M Ave	46.5	+0.0 -33.6 +12.5	+0.8 +34.7	+4.0 +0.5	+0.0 +0.4	+0.0	40.8	54.0	-13.2	Horiz
^	5447.900M	46.5	+0.0 -33.6 +0.0	+0.8 +34.7	+4.0 +0.5	+0.0 +0.4	+0.0	53.3	54.0	-0.7	Horiz

31	4619.133M Ave	48.7	+0.0 -33.6 +12.5	+0.6 +32.4	+3.5 +0.4	+0.0 +0.4	+0.0	39.9	54.0	-14.1	Vert
^	4619.133M	48.7	+0.0 -33.6 +0.0	+0.6 +32.4	+3.5 +0.4	+0.0 +0.4	+0.0	52.4	54.0	-1.6	Vert
33	7264.000M Ave	42.7	+0.0 -34.9 +12.5	+1.2 +37.2	+4.5 +0.7	+0.0 +0.3	+0.0	39.2	54.0	-14.8	Horiz
^	7264.000M	42.7	+0.0 -34.9 +0.0	+1.2 +37.2	+4.5 +0.7	+0.0 +0.3	+0.0	51.7	54.0	-2.3	Horiz
35	6355.580M	55.8	+0.0 -34.0 +0.0	+0.9 +35.1	+4.4 +0.6	+0.0 +0.4	+0.0	63.2	112.0	-48.8	Vert
36	6405.105M	53.6	+0.0 -34.0 +0.0	+0.9 +35.0	+4.5 +0.6	+0.0 +0.5	+0.0	61.1	112.0	-50.9	Vert
37	6466.900M	53.3	+0.0 -34.0 +0.0	+0.9 +34.9	+4.5 +0.7	+0.0 +0.6	+0.0	60.9	112.0	-51.1	Vert
38	5542.783M	47.9	+0.0 -33.6 +0.0	+0.8 +34.6	+4.0 +0.5	+0.0 +0.5	+0.0	54.7	112.0	-57.3	Vert
39	9238.108M	42.3	+0.0 -34.3 +0.0	+0.9 +38.0	+5.0 +0.7	+0.0 +1.4	+0.0	54.0	112.0	-58.0	Horiz
40	5489.850M	45.7	+0.0 -33.6 +0.0	+0.8 +34.7	+4.0 +0.5	+0.0 +0.4	+0.0	52.5	112.0	-59.5	Vert
41	9238.392M	40.4	+0.0 -34.3 +0.0	+0.9 +38.0	+5.0 +0.7	+0.0 +1.4	+0.0	52.1	112.0	-59.9	Vert
42	1847.500M	49.9	+0.0 -34.7 +0.0	+0.4 +27.6	+2.1 +0.3	+0.0 +0.6	+0.0	46.2	112.0	-65.8	Vert
43	1830.225M	47.9	+0.0 -34.7 +0.0	+0.4 +27.5	+2.1 +0.3	+0.0 +0.6	+0.0	44.1	112.0	-67.9	Vert
44	1815.880M	47.7	+0.0 -34.7 +0.0	+0.4 +27.4	+2.1 +0.3	+0.0 +0.6	+0.0	43.8	112.0	-68.2	Vert
45	10.974k	80.1	+0.0 +0.0 +0.0	+0.1 +0.0	+0.0 +0.0	+15.6 +0.0	-80.0	15.8	112.0	-96.2	Perp/
46	28.687M	38.6	+0.0 +0.0 +0.0	+0.1 +0.0	+0.2 +0.0	+4.2 +0.0	-40.0	3.1	112.0	-108.9	Perp/
47	28.328M	35.4	+0.0 +0.0 +0.0	+0.1 +0.0	+0.2 +0.0	+4.4 +0.0	-40.0	0.1	112.0	-111.9	Perp/

48	27.940M	34.6	+0.0 +0.0 +0.0	+0.1 +0.0	+0.2 +0.0	+4.5 +0.0	-40.0	-0.6	112.0	-112.6	Perp/
49	41.007k	59.6	+0.0 +0.0 +0.0	+0.1 +0.0	+0.0 +0.0	+10.3 +0.0	-80.0	-10.0	112.0	-122.0	Perp/
50	73.860k	49.9	+0.0 +0.0 +0.0	+0.1 +0.0	+0.0 +0.0	+9.5 +0.0	-80.0	-20.5	112.0	-132.5	Perp/

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/26/2022
Test Type:	**Maximized Emissions**	Time:	12:49:59
Tested By:	Matt Harrison	Sequence#:	8
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 3			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 3			

Test Conditions / Notes:

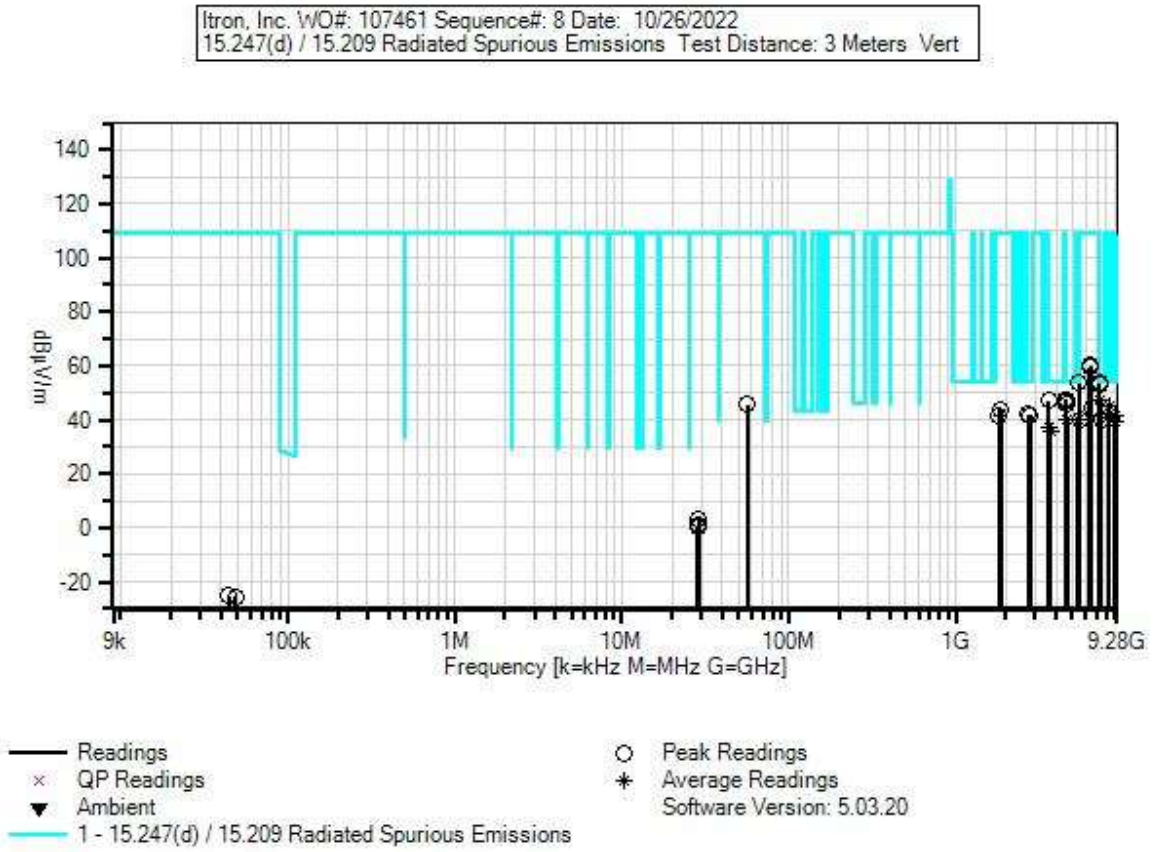
Test Environment Conditions:
Temperature: 22°C
Humidity: 48%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 3 (Remote SuperRaptor, Remote GPS, Remote Cellular antennas).
FM 12.5k Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T6	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T7	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T8	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T9	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T10	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T11	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4514.625M	44.1	+0.0 +0.0 +0.3	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	47.6	54.0	-6.4	Horiz
2	7320.355M Ave	50.4	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +12.5	+0.0 +37.5	+0.0	47.6	54.0	-6.4	Vert
^	7320.355M	50.4	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +0.0	+0.0 +37.5	+0.0	60.1	54.0	+6.1	Vert
4	4575.075M	43.8	+0.0 +0.0 +0.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	47.4	54.0	-6.6	Horiz
5	3612.083M	44.8	+0.0 +0.0 +0.4	+0.5 +0.0 +0.3	+3.2 -33.8 +0.0	+0.0 +31.7	+0.0	47.1	54.0	-6.9	Vert
6	4514.745M	43.4	+0.0 +0.0 +0.3	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	46.9	54.0	-7.1	Vert
7	4575.105M	42.3	+0.0 +0.0 +0.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	45.9	54.0	-8.1	Vert
8	8234.490M Ave	46.1	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +12.5	+0.0 +38.6	+0.0	45.1	54.0	-8.9	Vert
^	8234.490M	46.1	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +0.0	+0.0 +38.6	+0.0	57.6	54.0	+3.6	Vert
10	2709.083M	42.8	+0.0 +0.0 +0.5	+0.5 +0.0 +0.2	+2.7 -34.1 +0.0	+0.0 +29.5	+0.0	42.1	54.0	-11.9	Vert
11	2780.580M	42.7	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	41.9	54.0	-12.1	Vert
12	2747.180M	42.7	+0.0 +0.0 +0.5	+0.5 +0.0 +0.3	+2.7 -34.1 +0.0	+0.0 +29.3	+0.0	41.9	54.0	-12.1	Vert
13	9149.405M Ave	43.3	+0.0 +0.0 +0.7	+0.9 +0.0 +1.1	+5.0 -34.4 +12.5	+0.0 +37.7	+0.0	41.8	54.0	-12.2	Vert
^	9149.405M	43.3	+0.0 +0.0 +0.7	+0.9 +0.0 +1.1	+5.0 -34.4 +0.0	+0.0 +37.7	+0.0	54.3	54.0	+0.3	Vert

15	8127.900M	41.9	+0.0	+1.2	+5.1	+0.0	+0.0	40.5	54.0	-13.5	Vert
	Ave		+0.0	+0.0	-35.1	+38.6					
			+0.7	+0.6	+12.5						
^	8127.900M	41.9	+0.0	+1.2	+5.1	+0.0	+0.0	53.0	54.0	-1.0	Vert
			+0.0	+0.0	-35.1	+38.6					
			+0.7	+0.6	+0.0						
17	4633.810M	49.1	+0.0	+0.6	+3.6	+0.0	+0.0	40.4	54.0	-13.6	Horiz
	Ave		+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+12.5						
^	4633.810M	49.1	+0.0	+0.6	+3.6	+0.0	+0.0	52.9	54.0	-1.1	Horiz
			+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+0.0						
19	7415.195M	43.2	+0.0	+1.3	+4.4	+0.0	+0.0	40.3	54.0	-13.7	Vert
			+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+12.5						
20	5417.255M	45.5	+0.0	+0.8	+4.0	+0.0	+0.0	39.9	54.0	-14.1	Vert
	Ave		+0.0	+0.0	-33.6	+34.7					
			+0.6	+0.4	+12.5						
^	5417.255M	45.5	+0.0	+0.8	+4.0	+0.0	+0.0	52.4	54.0	-1.6	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.6	+0.4	+0.0						
22	9031.040M	41.3	+0.0	+0.9	+4.9	+0.0	+0.0	39.3	54.0	-14.7	Vert
	Ave		+0.0	+0.0	-34.7	+38.0					
			+0.7	+0.7	+12.5						
^	9031.040M	41.3	+0.0	+0.9	+4.9	+0.0	+0.0	51.8	54.0	-2.2	Vert
			+0.0	+0.0	-34.7	+38.0					
			+0.7	+0.7	+0.0						
^	9031.040M	40.9	+0.0	+0.9	+4.9	+0.0	+0.0	51.4	54.0	-2.6	Vert
			+0.0	+0.0	-34.7	+38.0					
			+0.7	+0.7	+0.0						
25	3659.970M	47.5	+0.0	+0.6	+3.3	+0.0	+0.0	37.4	54.0	-16.6	Vert
	Ave		+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+12.5						
^	3659.970M	47.5	+0.0	+0.6	+3.3	+0.0	+0.0	49.9	54.0	-4.1	Vert
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+0.0						
27	3707.255M	46.0	+0.0	+0.6	+3.3	+0.0	+0.0	36.1	54.0	-17.9	Vert
	Ave		+0.0	+0.0	-33.8	+32.0					
			+0.3	+0.2	+12.5						
^	3707.255M	46.0	+0.0	+0.6	+3.3	+0.0	+0.0	48.6	54.0	-5.4	Vert
			+0.0	+0.0	-33.8	+32.0					
			+0.3	+0.2	+0.0						
29	6404.745M	52.8	+0.0	+0.9	+4.5	+0.0	+0.0	60.3	109.0	-48.7	Vert
			+0.0	+0.0	-34.0	+35.0					
			+0.6	+0.5	+0.0						
30	6321.340M	52.0	+0.0	+0.9	+4.4	+0.0	+0.0	59.5	109.0	-49.5	Vert
			+0.0	+0.0	-34.0	+35.2					
			+0.6	+0.4	+0.0						
31	5490.320M	47.0	+0.0	+0.8	+4.0	+0.0	+0.0	53.8	109.0	-55.2	Vert
			+0.0	+0.0	-33.6	+34.7					
			+0.5	+0.4	+0.0						

32	7224.770M	45.0	+0.0 +0.0 +0.7	+1.2 +0.0 +0.2	+4.6 -34.9 +0.0	+0.0 +37.0	+0.0	53.8	109.0	-55.2	Horiz
33	7224.710M	44.4	+0.0 +0.0 +0.7	+1.2 +0.0 +0.2	+4.6 -34.9 +0.0	+0.0 +37.0	+0.0	53.2	109.0	-55.8	Vert
34	56.200M	32.5	+0.0 +12.4 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	45.8	109.0	-63.2	Vert
35	6487.165M	49.2	+0.0 +0.0 +0.7	+0.9 +0.0 +0.6	+4.5 -34.0 +12.5	+0.0 +34.9	+0.0	44.3	109.0	-64.7	Vert
36	1830.060M	47.8	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.5	+0.0	44.0	109.0	-65.0	Vert
37	1853.700M	47.4	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.7	+0.0	43.8	109.0	-65.2	Vert
38	1806.100M	45.4	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.3	+0.0	41.4	109.0	-67.6	Horiz
39	5561.280M	45.9	+0.0 +0.0 +0.5	+0.8 +0.0 +0.5	+4.0 -33.6 +12.5	+0.0 +34.5	+0.0	40.1	109.0	-68.9	Vert
40	28.687M	38.5	+0.0 +0.0 +0.0	+0.1 +4.2 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	3.0	109.0	-106.0	Perp/
41	28.567M	36.4	+0.0 +0.0 +0.0	+0.1 +4.2 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	0.9	109.0	-108.1	Perp/
42	28.328M	35.8	+0.0 +0.0 +0.0	+0.1 +4.4 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	0.5	109.0	-108.5	Perp/
43	44.109k	44.8	+0.0 +0.0 +0.0	+0.1 +10.1 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-25.0	109.0	-134.0	Perp/
44	48.621k	44.3	+0.0 +0.0 +0.0	+0.1 +10.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-25.6	109.0	-134.6	Perp/

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/26/2022
Test Type:	**Maximized Emissions**	Time:	14:41:58
Tested By:	Matt Harrison	Sequence#:	9
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 3			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 3			

Test Conditions / Notes:

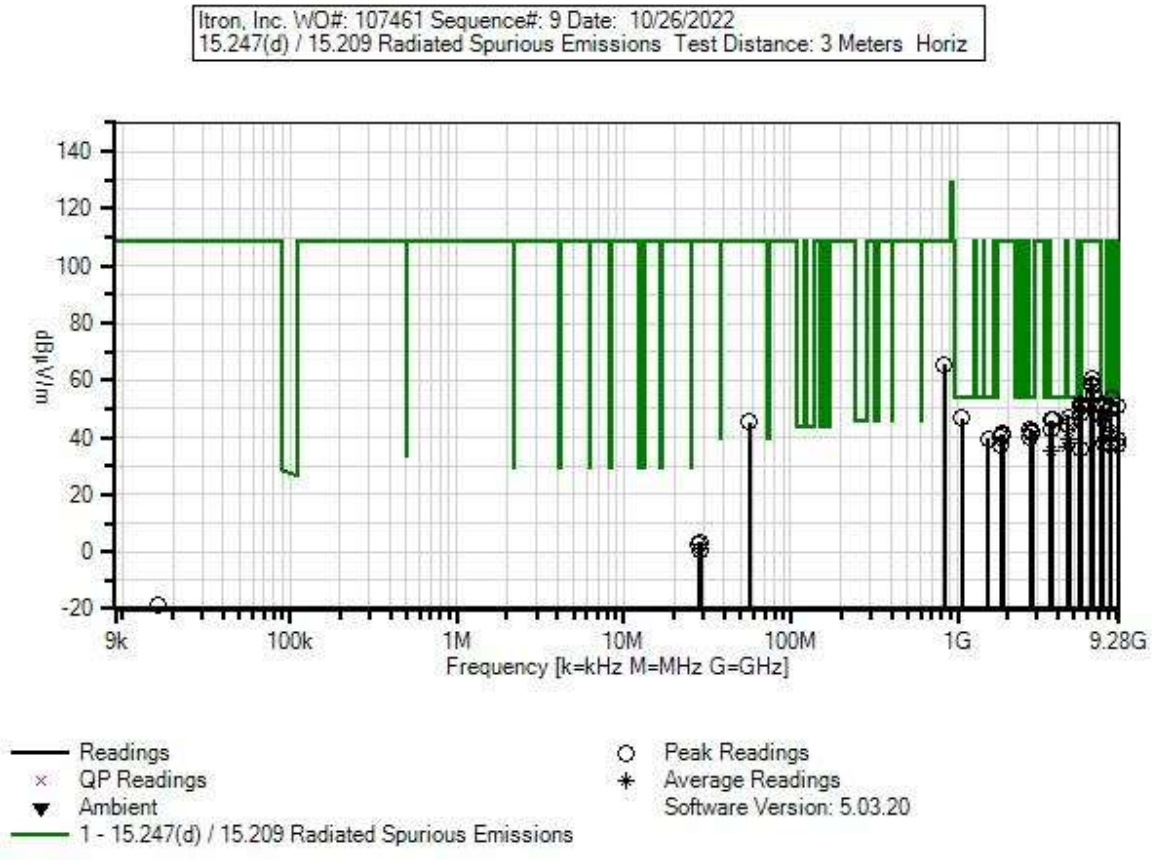
Test Environment Conditions:
Temperature: 22°C
Humidity: 48%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: 9kHz-9.28GHz

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 3 (Remote SuperRaptor, Remote GPS, Remote Cellular antennas).
FM 37.5k Modulation, LMH channels.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T6	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T7	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T8	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T9	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T10	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T11	ANDCCF	Duty Cycle Correction Factor		No Cal Required	No Cal Required

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	8235.050M	42.3	+0.0 +0.0 +0.7	+1.2 +0.0 +0.8	+5.1 -34.9 +0.0	+0.0 +38.6	+0.0	53.8	54.0	-0.2	Vert
2	5418.060M Ave	45.6	+0.0 +0.0 +0.6	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	52.5	54.0	-1.5	Vert
^	5418.060M	45.6	+0.0 +0.0 +0.6	+0.8 +0.0 +0.4	+4.0 -33.6 +12.5	+0.0 +34.7	+0.0	40.0	54.0	-14.0	Vert
4	9150.100M	40.1	+0.0 +0.0 +0.7	+0.9 +0.0 +1.1	+5.0 -34.4 +0.0	+0.0 +37.7	+0.0	51.1	54.0	-2.9	Vert
5	7414.500M	40.9	+0.0 +0.0 +0.7	+1.3 +0.0 +0.7	+4.4 -34.9 +0.0	+0.0 +37.4	+0.0	50.5	54.0	-3.5	Vert
6	8127.190M	39.1	+0.0 +0.0 +0.7	+1.2 +0.0 +0.6	+5.1 -35.1 +0.0	+0.0 +38.6	+0.0	50.2	54.0	-3.8	Vert
7	8127.250M	38.6	+0.0 +0.0 +0.7	+1.2 +0.0 +0.6	+5.1 -35.1 +0.0	+0.0 +38.6	+0.0	49.7	54.0	-4.3	Horiz
8	5418.150M	41.7	+0.0 +0.0 +0.6	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	48.6	54.0	-5.4	Horiz
9	4575.080M	43.4	+0.0 +0.0 +0.4	+0.6 +0.0 +0.5	+3.5 -33.6 +0.0	+0.0 +32.2	+0.0	47.0	54.0	-7.0	Horiz
10	1063.000M	45.5	+0.0 +0.0 +0.2	+0.3 +0.0 +11.4	+1.6 -36.7 +0.0	+0.0 +24.4	+0.0	46.7	54.0	-7.3	Vert
11	7320.050M Ave	49.2	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +12.5	+0.0 +37.5	+0.0	46.4	54.0	-7.6	Vert
^	7320.010M	49.2	+0.0 +0.0 +0.7	+1.3 +0.0 +0.6	+4.5 -34.9 +0.0	+0.0 +37.5	+0.0	58.9	54.0	+4.9	Vert
13	3707.300M	43.6	+0.0 +0.0 +0.3	+0.6 +0.0 +0.2	+3.3 -33.8 +0.0	+0.0 +32.0	+0.0	46.2	54.0	-7.8	Vert
14	3612.090M	43.8	+0.0 +0.0 +0.4	+0.5 +0.0 +0.3	+3.2 -33.8 +0.0	+0.0 +31.7	+0.0	46.1	54.0	-7.9	Vert

15	7320.090M	48.2	+0.0	+1.3	+4.5	+0.0	+0.0	45.4	54.0	-8.6	Horiz
	Ave		+0.0	+0.0	-34.9	+37.5					
			+0.7	+0.6	+12.5						
^	7320.090M	45.7	+0.0	+1.3	+4.5	+0.0	+0.0	55.4	54.0	+1.4	Horiz
			+0.0	+0.0	-34.9	+37.5					
			+0.7	+0.6	+0.0						
17	4515.090M	41.6	+0.0	+0.6	+3.5	+0.0	+0.0	45.1	54.0	-8.9	Vert
			+0.0	+0.0	-33.6	+32.2					
			+0.3	+0.5	+0.0						
18	4575.110M	40.4	+0.0	+0.6	+3.5	+0.0	+0.0	44.0	54.0	-10.0	Vert
			+0.0	+0.0	-33.6	+32.2					
			+0.4	+0.5	+0.0						
19	3612.100M	40.7	+0.0	+0.5	+3.2	+0.0	+0.0	43.0	54.0	-11.0	Horiz
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.3	+0.0						
20	2709.030M	43.5	+0.0	+0.5	+2.7	+0.0	+0.0	42.8	54.0	-11.2	Vert
			+0.0	+0.0	-34.1	+29.5					
			+0.5	+0.2	+0.0						
21	8234.980M	43.4	+0.0	+1.2	+5.1	+0.0	+0.0	42.4	54.0	-11.6	Horiz
	Ave		+0.0	+0.0	-34.9	+38.6					
			+0.7	+0.8	+12.5						
^	8234.980M	43.4	+0.0	+1.2	+5.1	+0.0	+0.0	54.9	54.0	+0.9	Horiz
			+0.0	+0.0	-34.9	+38.6					
			+0.7	+0.8	+0.0						
23	2780.500M	42.8	+0.0	+0.5	+2.7	+0.0	+0.0	42.0	54.0	-12.0	Vert
			+0.0	+0.0	-34.1	+29.3					
			+0.5	+0.3	+0.0						
24	8235.050M	42.7	+0.0	+1.2	+5.1	+0.0	+0.0	41.7	54.0	-12.3	Vert
			+0.0	+0.0	-34.9	+38.6					
			+0.7	+0.8	+12.5						
25	2744.990M	42.1	+0.0	+0.5	+2.7	+0.0	+0.0	41.3	54.0	-12.7	Vert
			+0.0	+0.0	-34.1	+29.3					
			+0.5	+0.3	+0.0						
26	2709.040M	40.6	+0.0	+0.5	+2.7	+0.0	+0.0	39.9	54.0	-14.1	Horiz
			+0.0	+0.0	-34.1	+29.5					
			+0.5	+0.2	+0.0						
27	1531.000M	46.2	+0.0	+0.4	+1.9	+0.0	+0.0	39.7	54.0	-14.3	Vert
			+0.0	+0.0	-35.1	+25.6					
			+0.2	+0.5	+0.0						
28	9150.100M	41.2	+0.0	+0.9	+5.0	+0.0	+0.0	39.7	54.0	-14.3	Vert
			+0.0	+0.0	-34.4	+37.7					
			+0.7	+1.1	+12.5						
29	4634.180M	47.9	+0.0	+0.6	+3.6	+0.0	+0.0	39.2	54.0	-14.8	Horiz
	Ave		+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+12.5						
^	4634.180M	47.1	+0.0	+0.6	+3.6	+0.0	+0.0	50.9	54.0	-3.1	Horiz
			+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+0.0						

31	4634.100M	47.9	+0.0	+0.6	+3.6	+0.0	+0.0	39.2	54.0	-14.8	Vert
	Ave		+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+12.5						
^	4634.100M	47.9	+0.0	+0.6	+3.6	+0.0	+0.0	51.7	54.0	-2.3	Vert
			+0.0	+0.0	-33.6	+32.4					
			+0.4	+0.4	+0.0						
33	7414.580M	41.9	+0.0	+1.3	+4.4	+0.0	+0.0	39.0	54.0	-15.0	Horiz
	Ave		+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+12.5						
^	7414.580M	41.9	+0.0	+1.3	+4.4	+0.0	+0.0	51.5	54.0	-2.5	Horiz
			+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+0.0						
35	7414.500M	40.9	+0.0	+1.3	+4.4	+0.0	+0.0	38.0	54.0	-16.0	Vert
			+0.0	+0.0	-34.9	+37.4					
			+0.7	+0.7	+12.5						
36	8127.190M	39.1	+0.0	+1.2	+5.1	+0.0	+0.0	37.7	54.0	-16.3	Vert
			+0.0	+0.0	-35.1	+38.6					
			+0.7	+0.6	+12.5						
37	8127.250M	38.6	+0.0	+1.2	+5.1	+0.0	+0.0	37.2	54.0	-16.8	Horiz
			+0.0	+0.0	-35.1	+38.6					
			+0.7	+0.6	+12.5						
38	9150.080M	38.7	+0.0	+0.9	+5.0	+0.0	+0.0	37.2	54.0	-16.8	Horiz
			+0.0	+0.0	-34.4	+37.7					
			+0.7	+1.1	+12.5						
39	4515.080M	45.7	+0.0	+0.6	+3.5	+0.0	+0.0	36.7	54.0	-17.3	Horiz
	Ave		+0.0	+0.0	-33.6	+32.2					
			+0.3	+0.5	+12.5						
^	4515.080M	45.7	+0.0	+0.6	+3.5	+0.0	+0.0	49.2	54.0	-4.8	Horiz
			+0.0	+0.0	-33.6	+32.2					
			+0.3	+0.5	+0.0						
41	5418.150M	41.7	+0.0	+0.8	+4.0	+0.0	+0.0	36.1	54.0	-17.9	Horiz
			+0.0	+0.0	-33.6	+34.7					
			+0.6	+0.4	+12.5						
42	3660.050M	45.6	+0.0	+0.6	+3.3	+0.0	+0.0	35.5	54.0	-18.5	Vert
	Ave		+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+12.5						
^	3660.050M	45.6	+0.0	+0.6	+3.3	+0.0	+0.0	48.0	54.0	-6.0	Vert
			+0.0	+0.0	-33.8	+31.7					
			+0.4	+0.2	+0.0						
44	827.300M	32.2	+0.0	+0.3	+1.4	+2.2	+0.0	65.4	109.0	-43.6	Vert
			+29.3	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0						
45	6321.240M	53.0	+0.0	+0.9	+4.4	+0.0	+0.0	60.5	109.0	-48.5	Horiz
			+0.0	+0.0	-34.0	+35.2					
			+0.6	+0.4	+0.0						
46	6405.040M	51.3	+0.0	+0.9	+4.5	+0.0	+0.0	58.8	109.0	-50.2	Horiz
			+0.0	+0.0	-34.0	+35.0					
			+0.6	+0.5	+0.0						
47	6321.190M	50.7	+0.0	+0.9	+4.4	+0.0	+0.0	58.2	109.0	-50.8	Vert
			+0.0	+0.0	-34.0	+35.2					
			+0.6	+0.4	+0.0						

48	6405.110M	50.0	+0.0 +0.0 +0.6	+0.9 +0.0 +0.5	+4.5 -34.0 +0.0	+0.0 +35.0	+0.0	57.5	109.0	-51.5	Vert
49	6487.700M	47.6	+0.0 +0.0 +0.7	+0.9 +0.0 +0.6	+4.5 -34.0 +0.0	+0.0 +34.9	+0.0	55.2	109.0	-53.8	Vert
50	6487.780M	47.5	+0.0 +0.0 +0.7	+0.9 +0.0 +0.6	+4.5 -34.0 +0.0	+0.0 +34.9	+0.0	55.1	109.0	-53.9	Horiz
51	7224.250M	42.8	+0.0 +0.0 +0.7	+1.2 +0.0 +0.2	+4.6 -34.9 +0.0	+0.0 +37.0	+0.0	51.6	109.0	-57.4	Horiz
52	5490.110M	44.7	+0.0 +0.0 +0.5	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	51.5	109.0	-57.5	Vert
53	5560.900M	44.6	+0.0 +0.0 +0.5	+0.8 +0.0 +0.5	+4.0 -33.6 +0.0	+0.0 +34.5	+0.0	51.3	109.0	-57.7	Vert
54	5560.980M	44.6	+0.0 +0.0 +0.5	+0.8 +0.0 +0.5	+4.0 -33.6 +0.0	+0.0 +34.5	+0.0	51.3	109.0	-57.7	Horiz
55	7224.190M	42.4	+0.0 +0.0 +0.7	+1.2 +0.0 +0.2	+4.6 -34.9 +0.0	+0.0 +37.0	+0.0	51.2	109.0	-57.8	Vert
56	5490.040M	44.3	+0.0 +0.0 +0.5	+0.8 +0.0 +0.4	+4.0 -33.6 +0.0	+0.0 +34.7	+0.0	51.1	109.0	-57.9	Horiz
57	56.200M	32.1	+0.0 +12.4 +0.0	+0.1 +0.0 +0.0	+0.3 +0.0 +0.0	+0.5 +0.0	+0.0	45.4	109.0	-63.6	Vert
58	1830.080M	44.9	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.5	+0.0	41.1	109.0	-67.9	Vert
59	1853.700M	44.6	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.7	+0.0	41.0	109.0	-68.0	Vert
60	1806.030M	44.1	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.3	+0.0	40.1	109.0	-68.9	Vert
61	1806.040M	41.7	+0.0 +0.0 +0.3	+0.4 +0.0 +0.6	+2.1 -34.7 +0.0	+0.0 +27.3	+0.0	37.7	109.0	-71.3	Horiz
62	28.687M	39.0	+0.0 +0.0 +0.0	+0.1 +4.2 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	3.5	109.0	-105.5	Perp/

63	27.940M	37.8	+0.0 +0.0 +0.0	+0.1 +4.5 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	2.6	109.0	-106.4	Perp/
64	28.567M	36.3	+0.0 +0.0 +0.0	+0.1 +4.2 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	0.8	109.0	-108.2	Perp/
65	28.328M	35.9	+0.0 +0.0 +0.0	+0.1 +4.4 +0.0	+0.2 +0.0 +0.0	+0.0 +0.0	-40.0	0.6	109.0	-108.4	Perp/
66	16.332k	47.3	+0.0 +0.0 +0.0	+0.1 +13.7 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0	-80.0	-18.9	109.0	-127.9	Perp/

Band Edge

Band Edge Summary Configuration 1					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	AM	Omnidirectional	38.7	<46	Pass
902	AM	Omnidirectional	75.0	<112	Pass
928	AM	Omnidirectional	73.7	< 112	Pass
960	AM	Omnidirectional	43.1	<54	Pass
614	FM 12.5k	Omnidirectional	38.8	<46	Pass
902	FM 12.5k	Omnidirectional	86.8	<109	Pass
928	FM 12.5k	Omnidirectional	76.5	<109	Pass
960	FM 12.5k	Omnidirectional	43.0	<54	Pass
614	FM 37.5k	Omnidirectional	38.8	<46	Pass
902	FM 37.5k	Omnidirectional	87.0	<109	Pass
928	FM 37.5k	Omnidirectional	76.8	<109	Pass
960	FM 37.5k	Omnidirectional	43.0	<54	Pass

Band Edge Summary Configuration 1					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	AM	Omnidirectional	38.6	<46	Pass
902	AM	Omnidirectional	80.5	<112	Pass
928	AM	Omnidirectional	80.7	< 112	Pass
960	AM	Omnidirectional	42.8	<54	Pass
614	FM 12.5k	Omnidirectional	38.5	<46	Pass
902	FM 12.5k	Omnidirectional	87.9	<109	Pass
928	FM 12.5k	Omnidirectional	80.9	<109	Pass
960	FM 12.5k	Omnidirectional	42.9	<54	Pass
614	FM 37.5k	Omnidirectional	38.5	<46	Pass
902	FM 37.5k	Omnidirectional	85.0	<109	Pass
928	FM 37.5k	Omnidirectional	75.9	<46	Pass
960	FM 37.5k	Omnidirectional	42.9	<112	Pass

Band Edge Summary Configuration 2					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	AM	Omnidirectional	38.6	<46	Pass
902	AM	Omnidirectional	77.5	<112	Pass
928	AM	Omnidirectional	73.6	<112	Pass
960	AM	Omnidirectional	42.9	<54	Pass
614	FM 12.5k	Omnidirectional	38.6	<46	Pass
902	FM 12.5k	Omnidirectional	87.6	<109	Pass
928	FM 12.5k	Omnidirectional	78.2	<109	Pass
960	FM 12.5k	Omnidirectional	42.9	<54	Pass
614	FM 37.5k	Omnidirectional	38.6	<46	Pass
902	FM 37.5k	Omnidirectional	86.6	<109	Pass
928	FM 37.5k	Omnidirectional	78.0	<109	Pass
960	FM 37.5k	Omnidirectional	42.9	<54	Pass

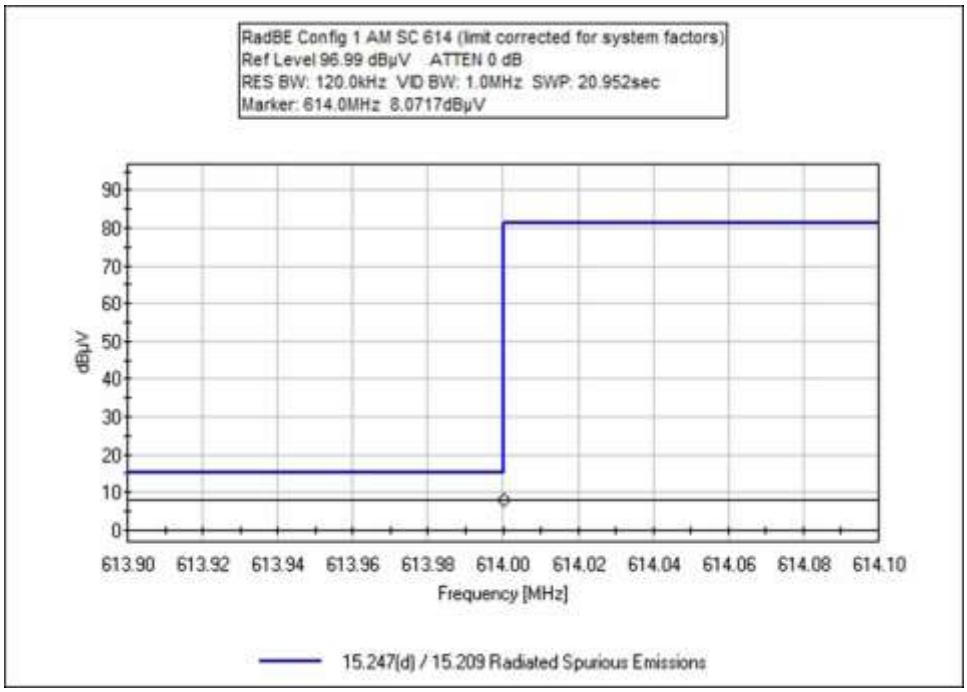
Band Edge Summary Configuration 2					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	AM	Omnidirectional	38.5	<46	Pass
902	AM	Omnidirectional	79.8	<112	Pass
928	AM	Omnidirectional	80.8	<112	Pass
960	AM	Omnidirectional	42.8	<54	Pass
614	FM 12.5k	Omnidirectional	38.6	<46	Pass
902	FM 12.5k	Omnidirectional	89.3	<109	Pass
928	FM 12.5k	Omnidirectional	76.2	<109	Pass
960	FM 12.5k	Omnidirectional	80.4	<54	Pass
614	FM 37.5k	Omnidirectional	38.5	<46	Pass
902	FM 37.5k	Omnidirectional	86.2	<109	Pass
928	FM 37.5k	Omnidirectional	76.7	<109	Pass
960	FM 37.5k	Omnidirectional	42.8	<54	Pass

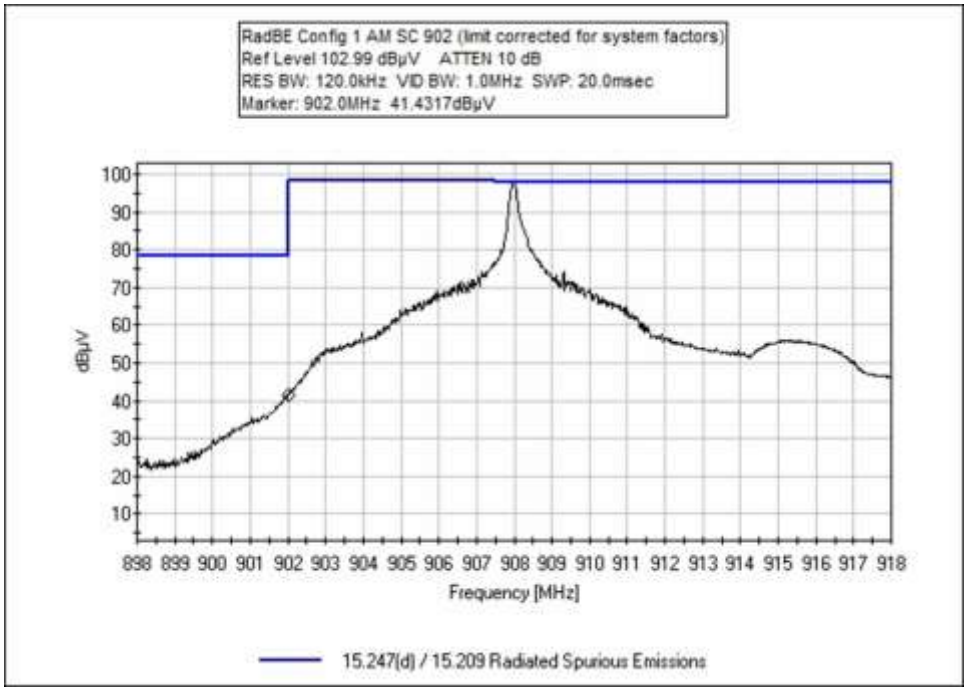
Band Edge Summary Configuration 3					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	AM	Omnidirectional	38.5	<46	Pass
902	AM	Omnidirectional	75.6	<112	Pass
928	AM	Omnidirectional	73.5	<112	Pass
960	AM	Omnidirectional	42.9	<54	Pass
614	FM 12.5k	Omnidirectional	38.5	<46	Pass
902	FM 12.5k	Omnidirectional	87.5	<109	Pass
928	FM 12.5k	Omnidirectional	78.0	<109	Pass
960	FM 12.5k	Omnidirectional	42.8	<54	Pass
614	FM 37.5k	Omnidirectional	38.5	<46	Pass
902	FM 37.5k	Omnidirectional	88.1	<109	Pass
928	FM 37.5k	Omnidirectional	77.6	<109	Pass
960	FM 37.5k	Omnidirectional	42.8	<54	Pass

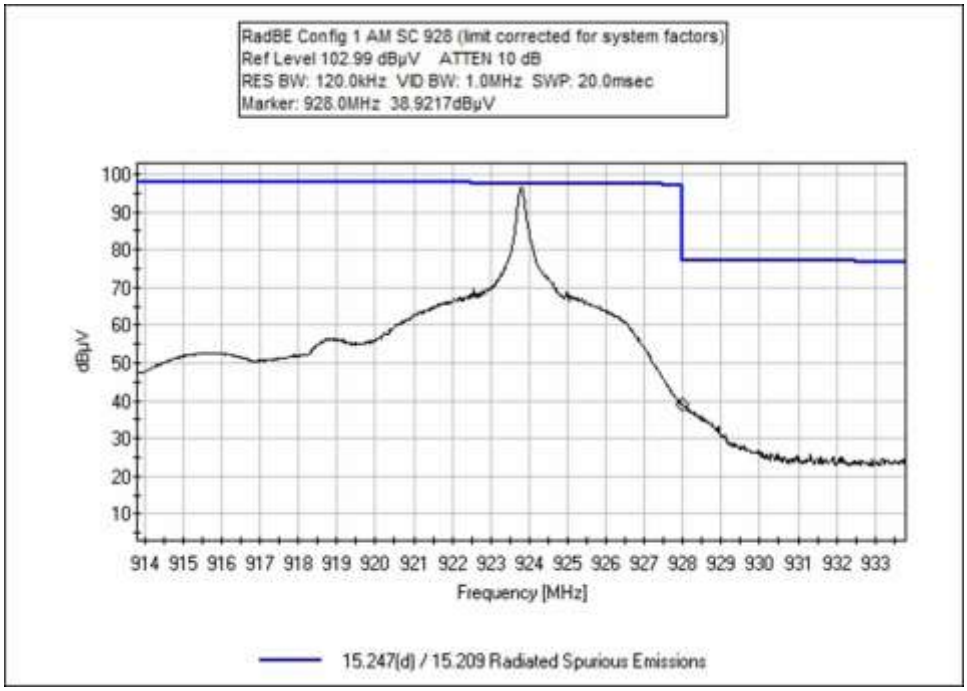
Band Edge Summary Configuration 3					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	AM	Omnidirectional	38.5	<46	Pass
902	AM	Omnidirectional	80.1	<112	Pass
928	AM	Omnidirectional	79.3	<112	Pass
960	AM	Omnidirectional	42.9	<54	Pass
614	FM 12.5k	Omnidirectional	38.5	<46	Pass
902	FM 12.5k	Omnidirectional	91.3	<109	Pass
928	FM 12.5k	Omnidirectional	77.1	<109	Pass
960	FM 12.5k	Omnidirectional	42.8	<54	Pass
614	FM 37.5k	Omnidirectional	38.5	<46	Pass
902	FM 37.5k	Omnidirectional	85.9	<109	Pass
928	FM 37.5k	Omnidirectional	75.4	<109	Pass
960	FM 37.5k	Omnidirectional	42.9	<54	Pass

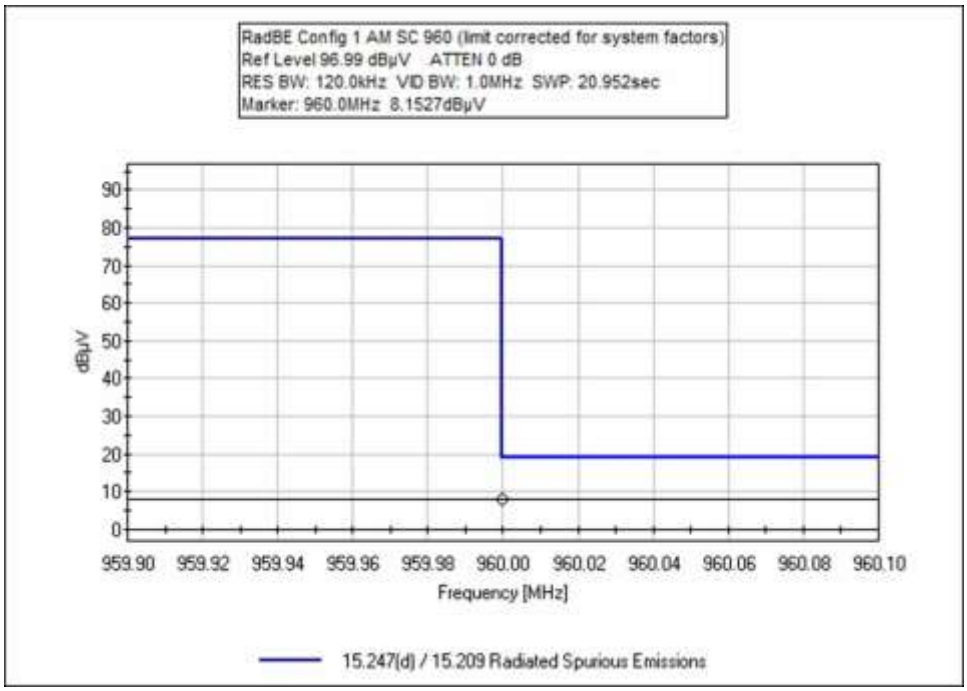
Band Edge Plots

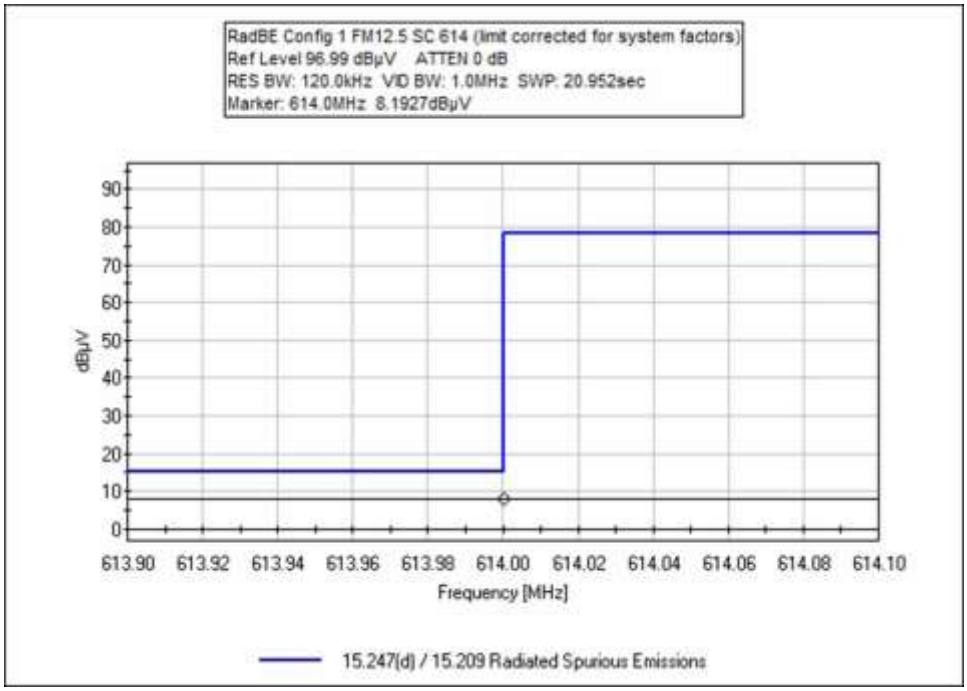
Configuration 1; Single Channel (Low and High)

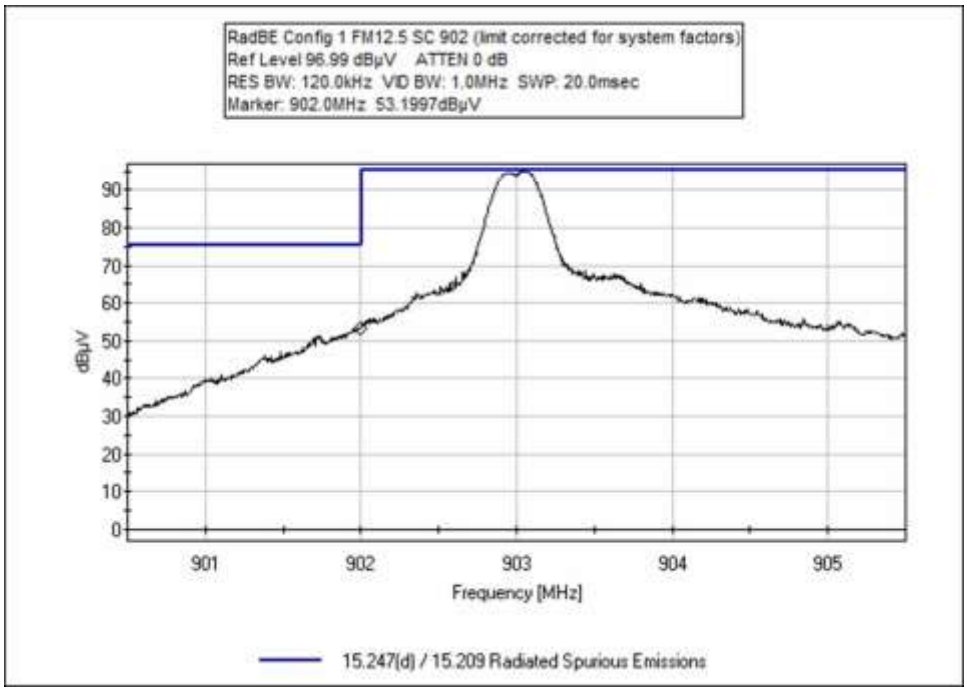


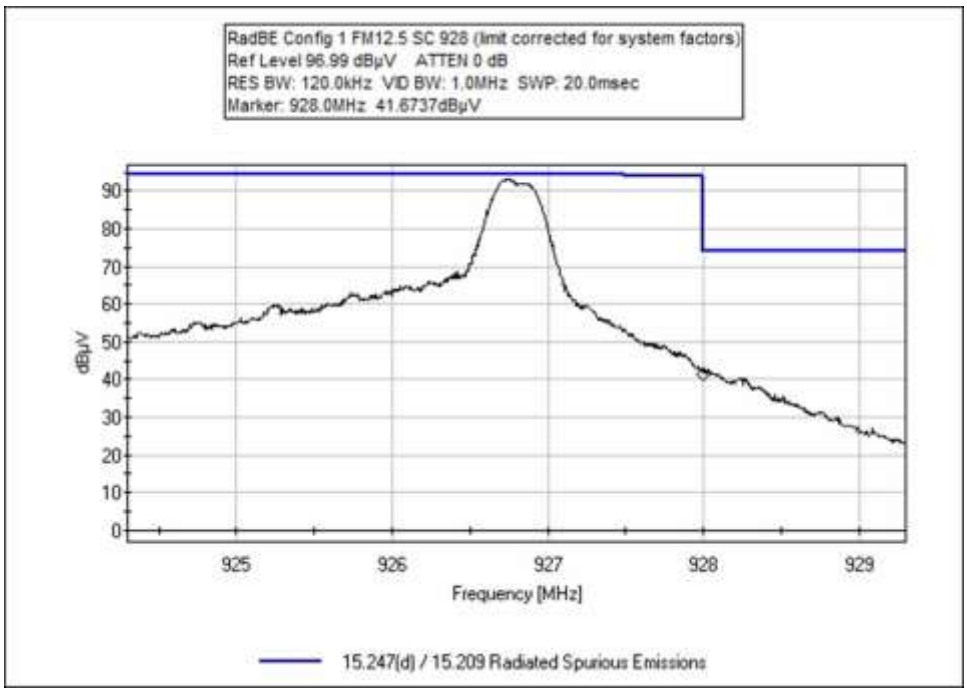


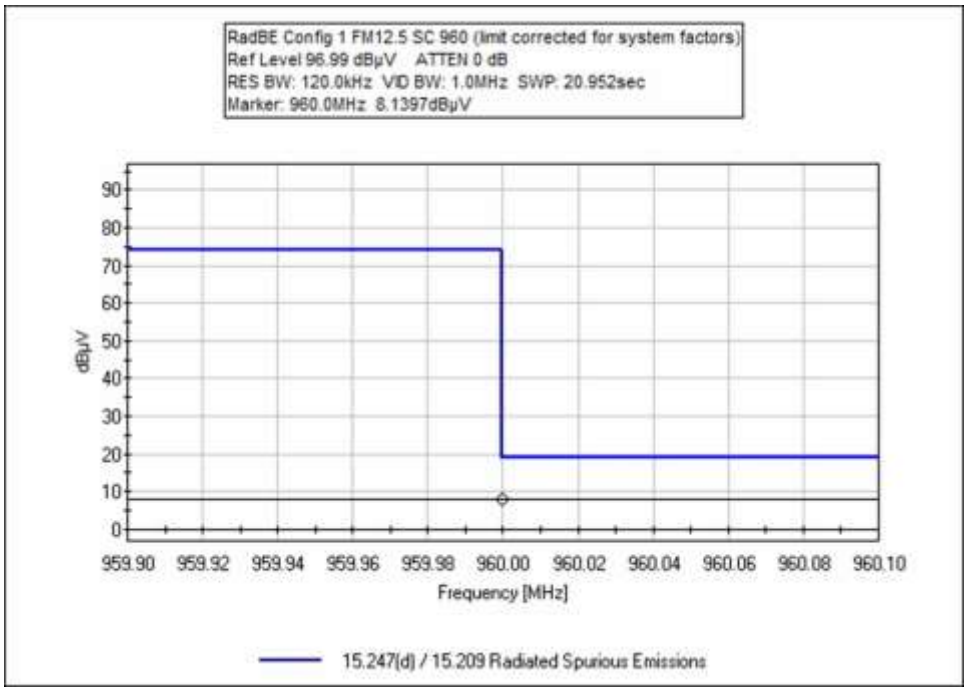

RadBE Config 1 AM SC 928 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 38.9217dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

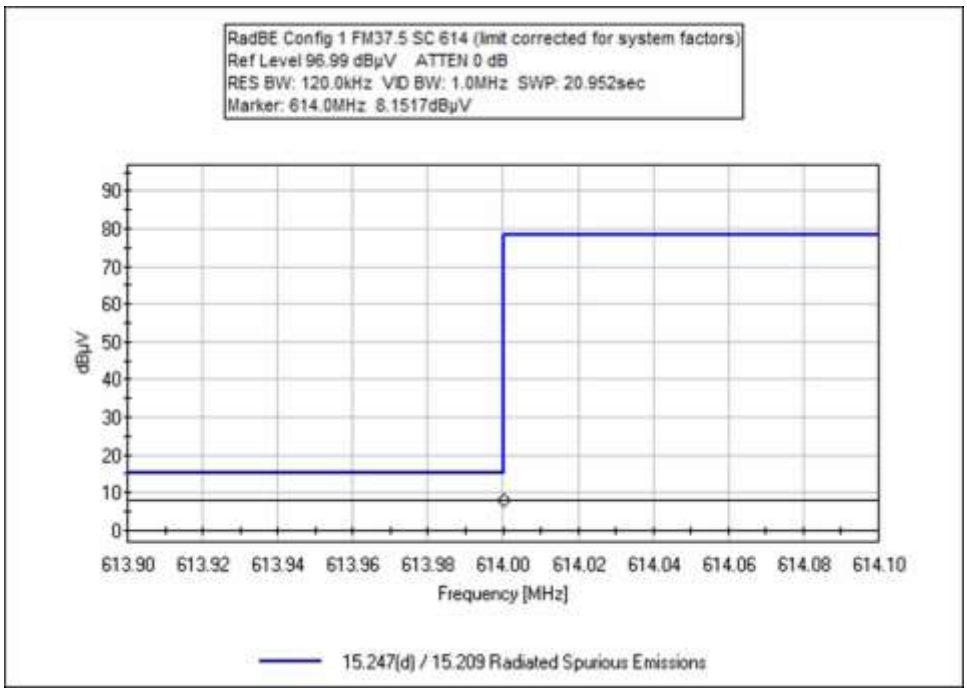

RadBE Config 1 AM SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 8.1527dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90 959.92 959.94 959.96 959.98 960.00 960.02 960.04 960.06 960.08 960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

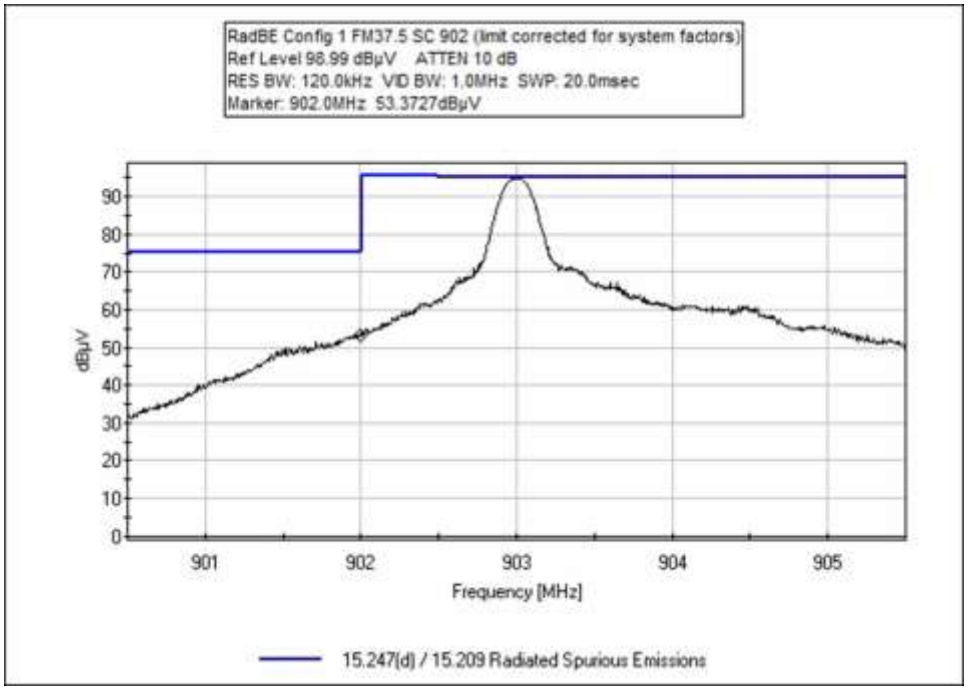

RadBE Config 1 FM12.5 SC 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 8.1927dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

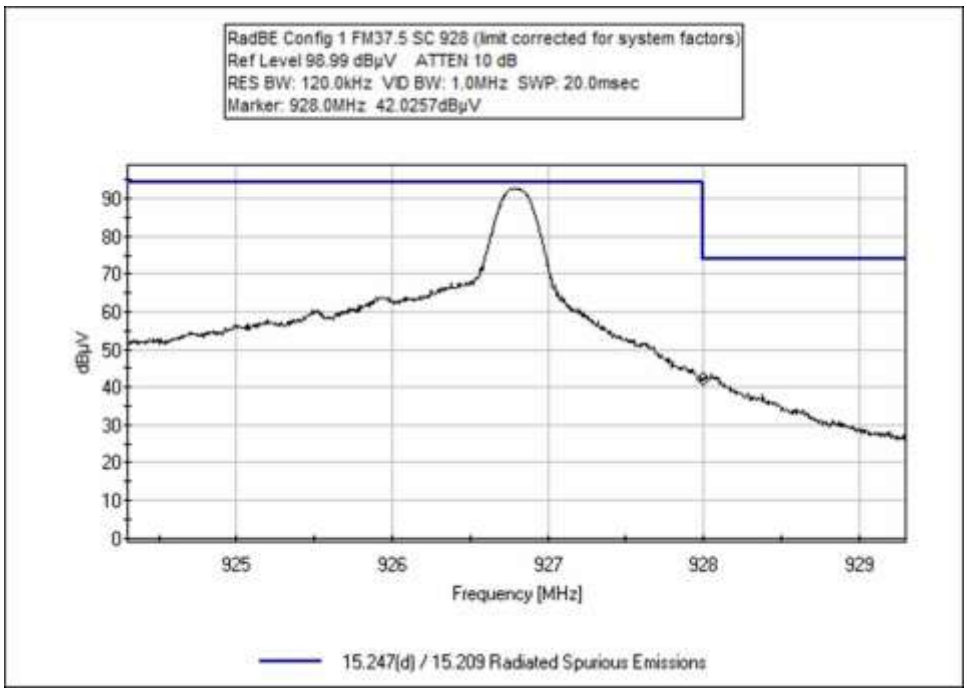

RadBE Config 1 FM12.5 SC 902 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 53.1997dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

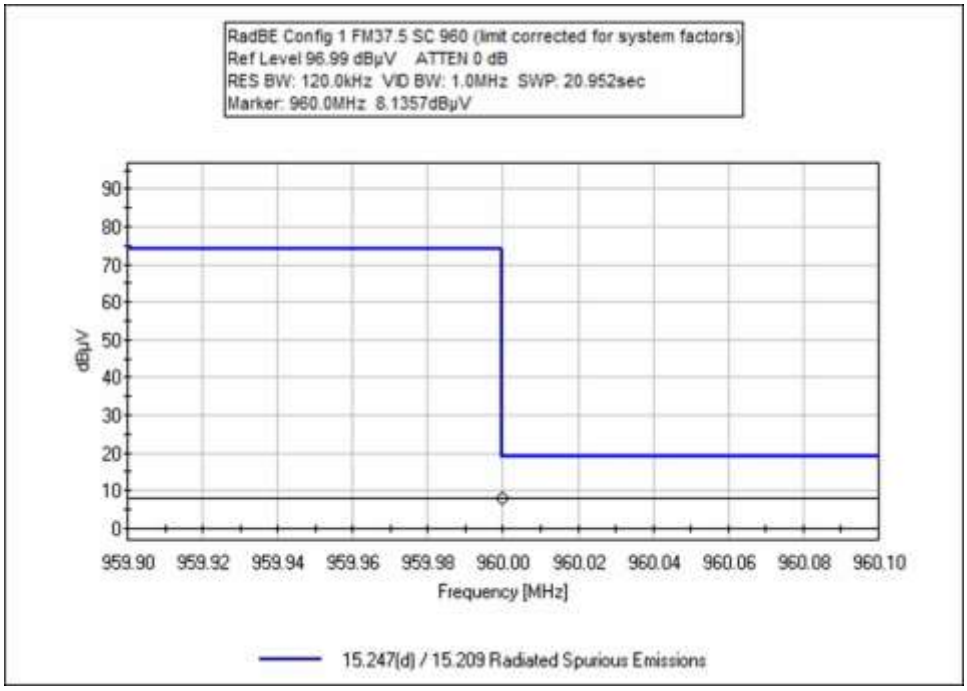

RadBE Config 1 FM12.5 SC 928 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 41.6737dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
925
926
927
928
929
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 1 FM12.5 SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 8.1397dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90
959.92
959.94
959.96
959.98
960.00
960.02
960.04
960.06
960.08
960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

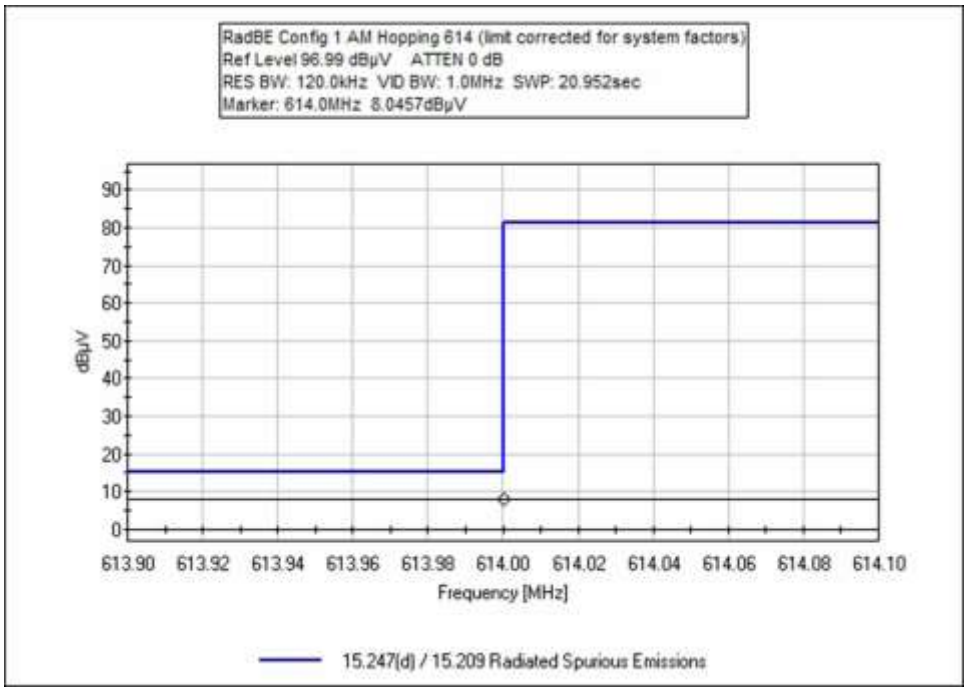

RadBE Config 1 FM37.5 SC 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 8.1517dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

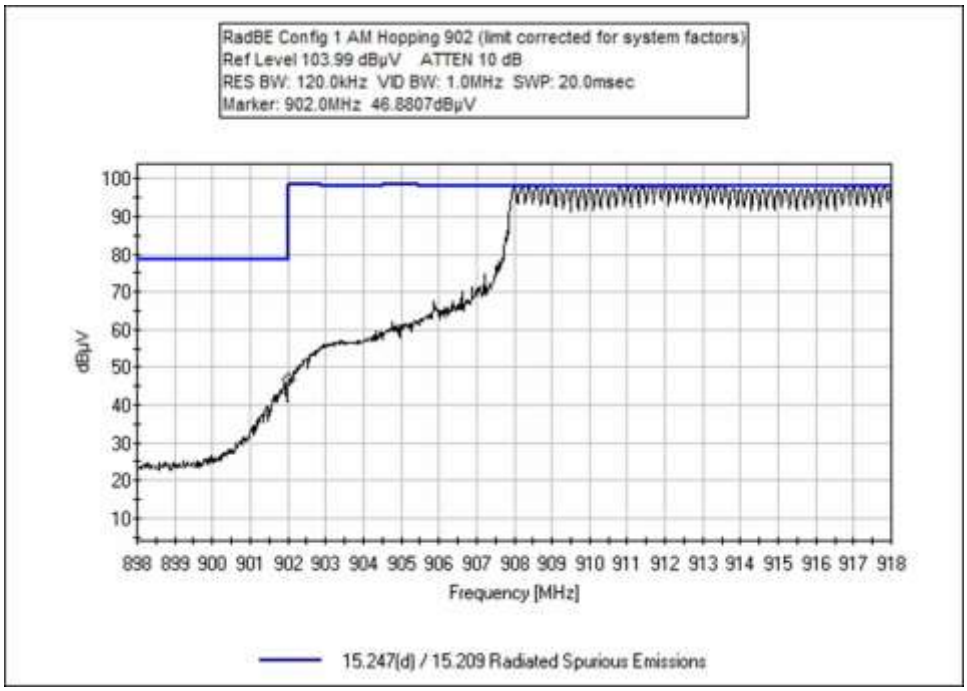

RadBE Config 1 FM37.5 SC 902 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 53.3727dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

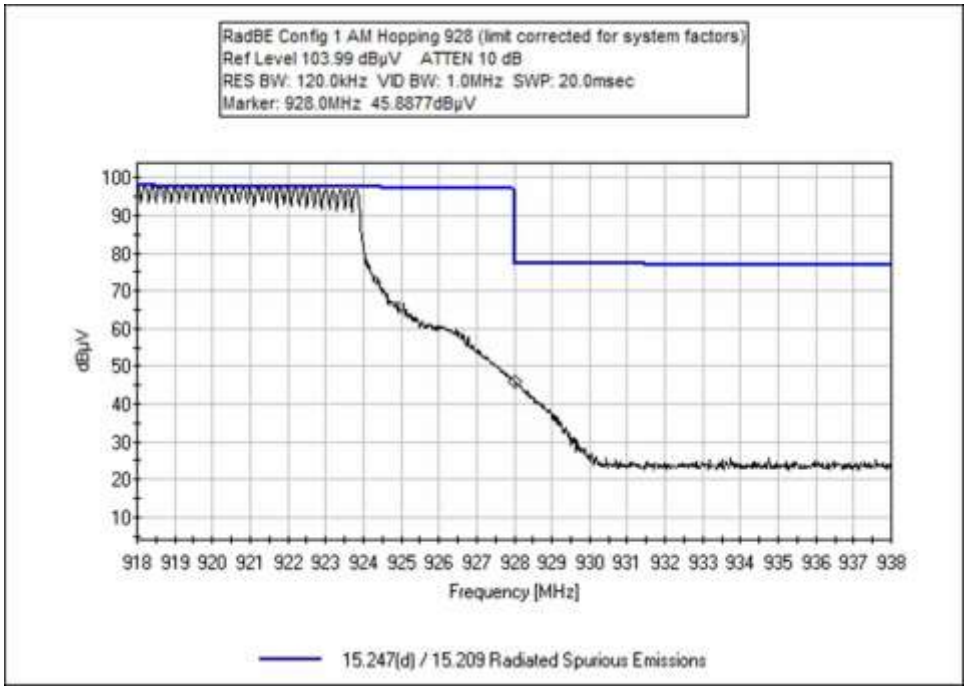

RadBE Config 1 FM37.5 SC 928 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 42.0257dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

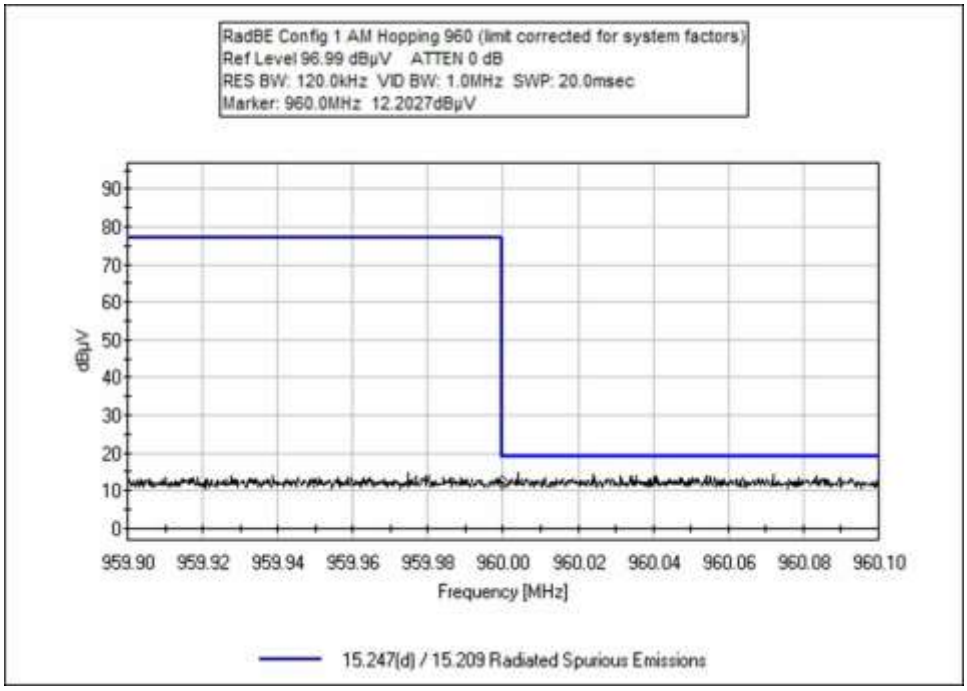

RadBE Config 1 FM37.5 SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 8.1357dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

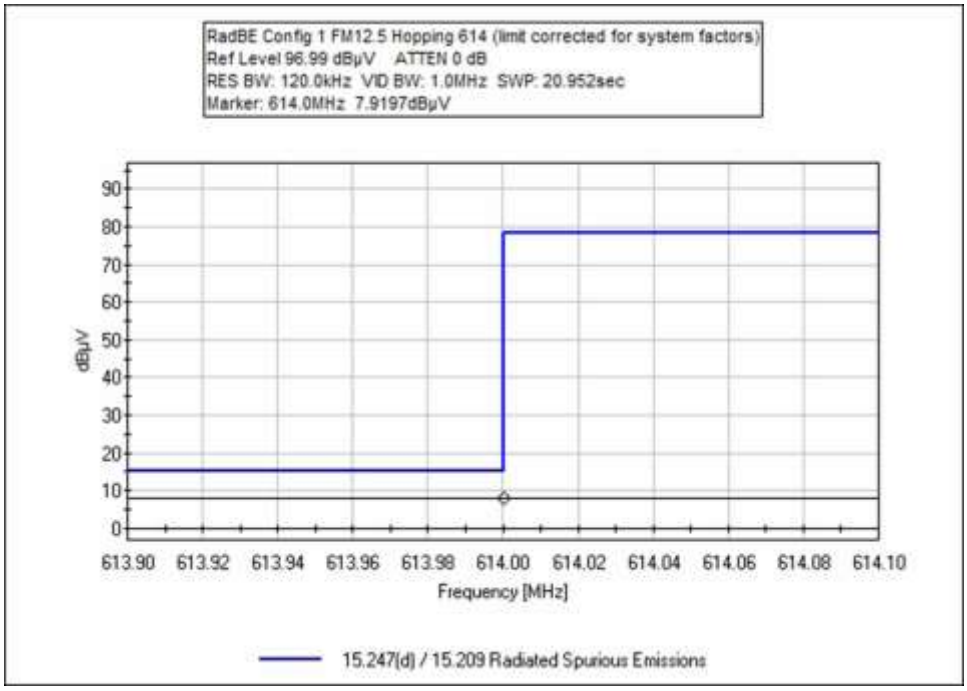
Configuration 1; Hopping

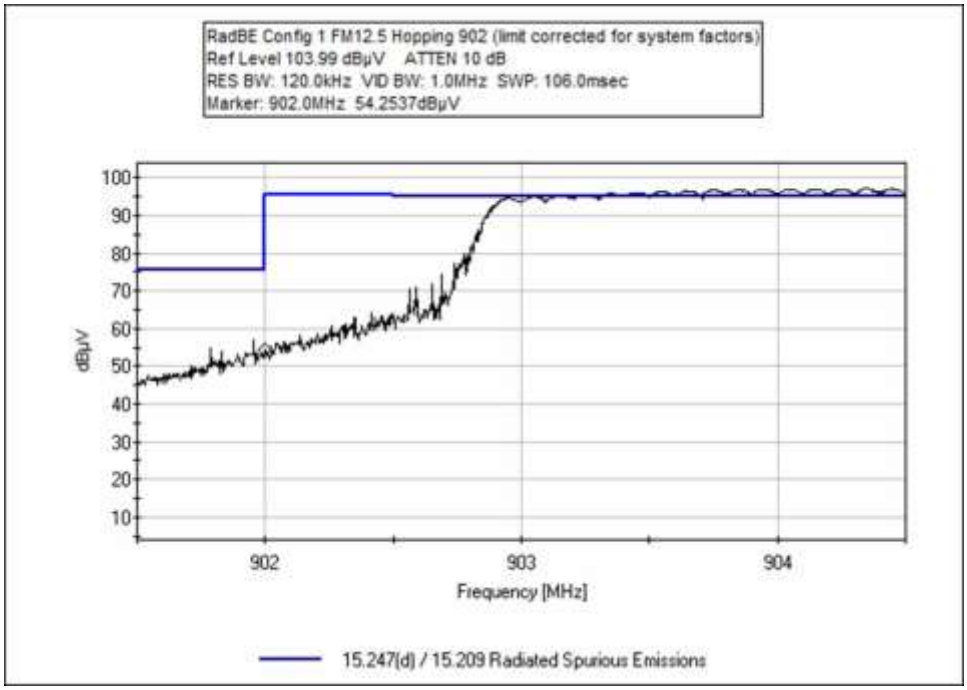


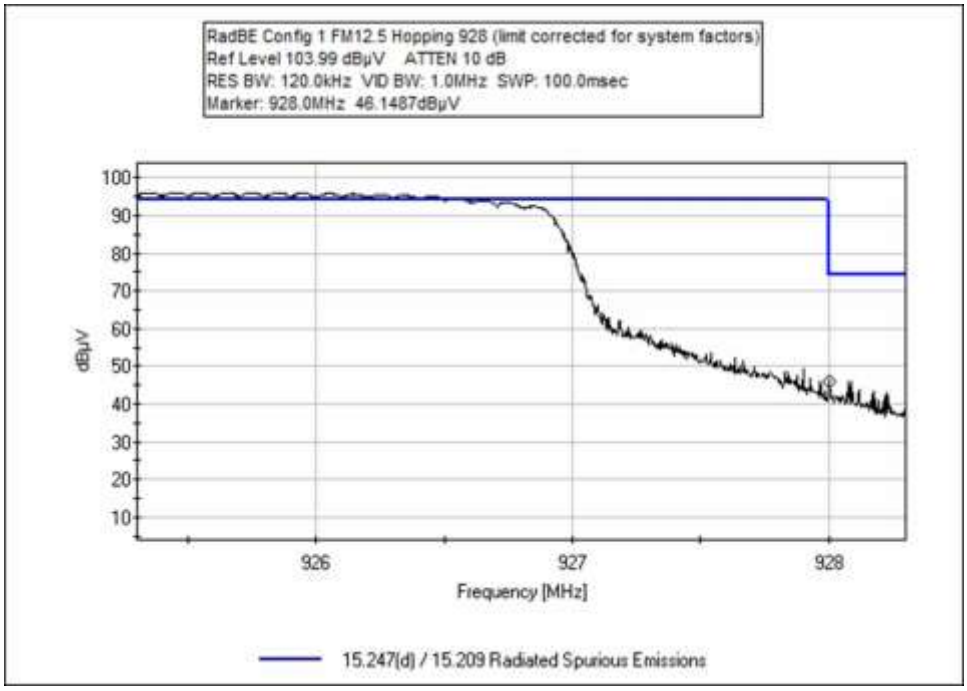


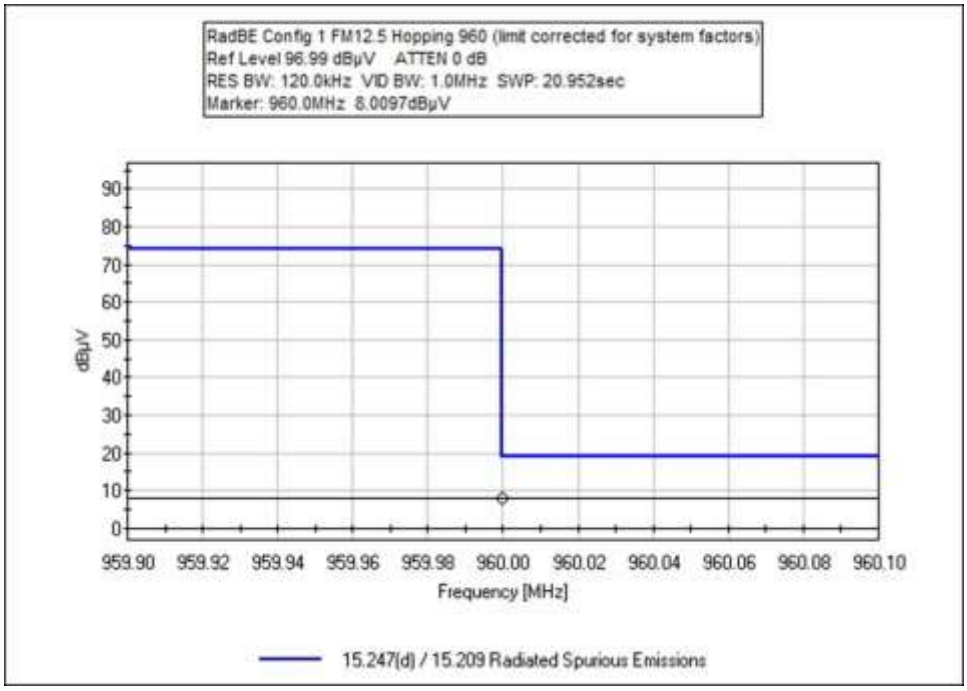

RadBE Config 1 AM Hopping 928 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 45.8877dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

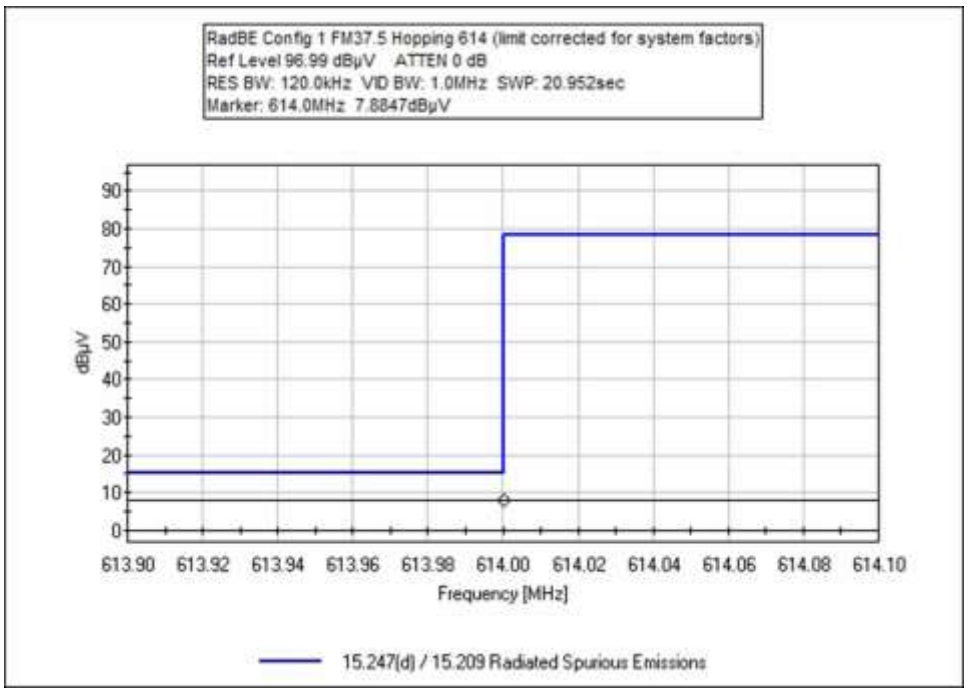

RadBE Config 1 AM Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 960.0MHz 12.2027dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

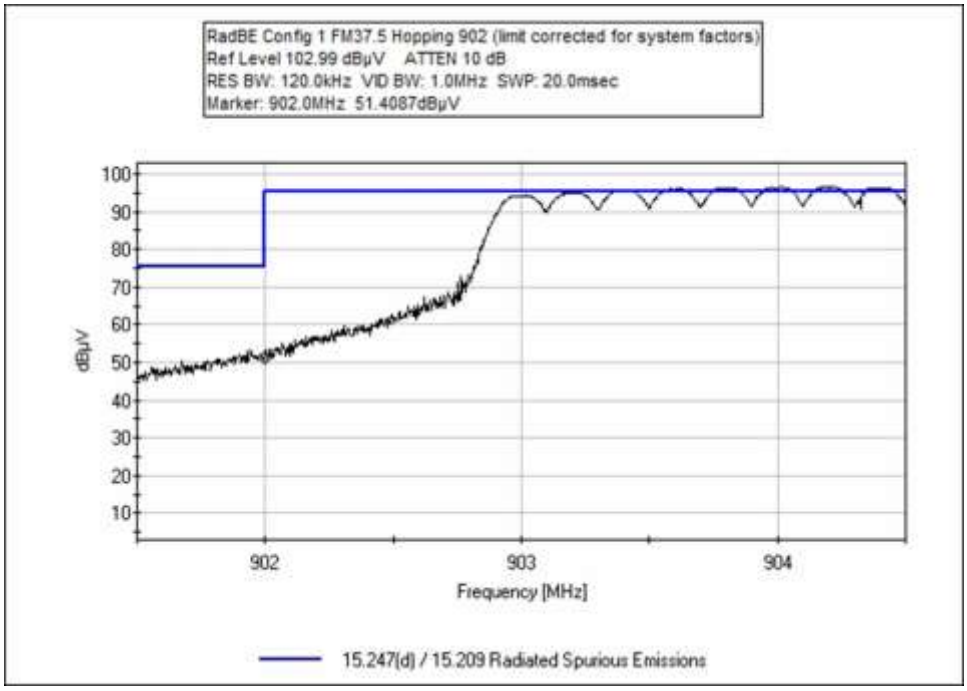

RadBE Config 1 FM12.5 Hopping 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.9197dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

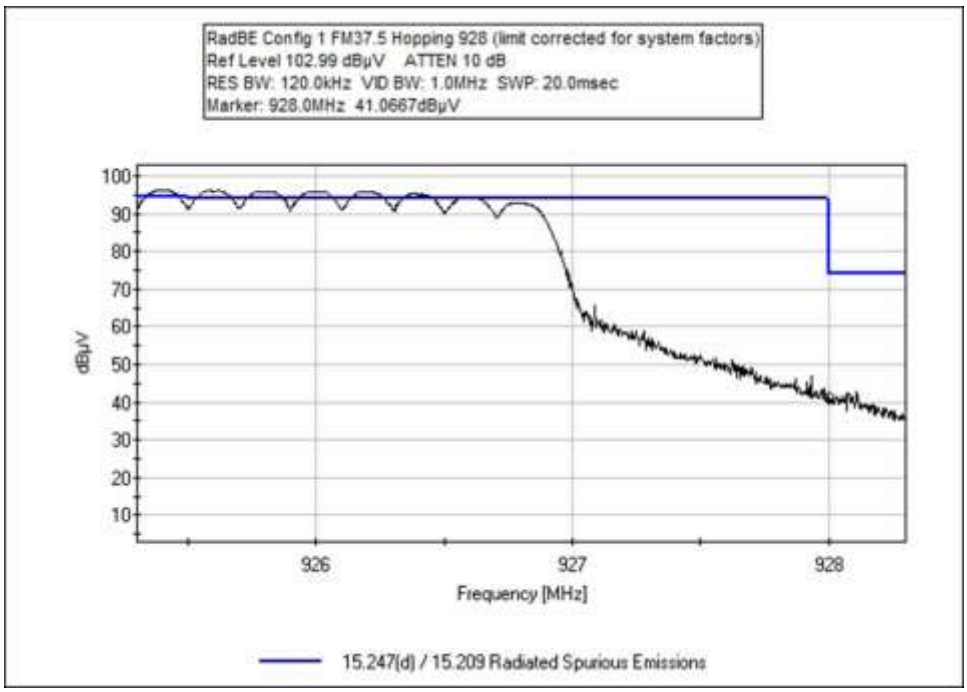

RadBE Config 1 FM12.5 Hopping 902 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 106.0msec
Marker: 902.0MHz 54.2537dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
902 903 904
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

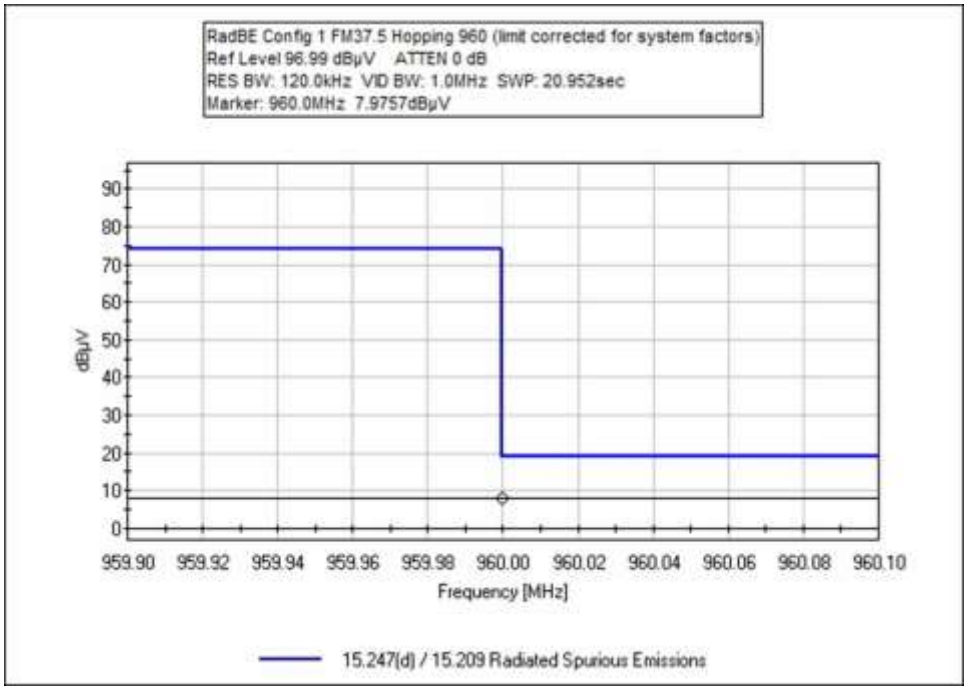

RadBE Config 1 FM12.5 Hopping 928 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 100.0msec
Marker: 928.0MHz 46.1487dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
926
927
928
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 1 FM12.5 Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 8.0097dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90
959.92
959.94
959.96
959.98
960.00
960.02
960.04
960.06
960.08
960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

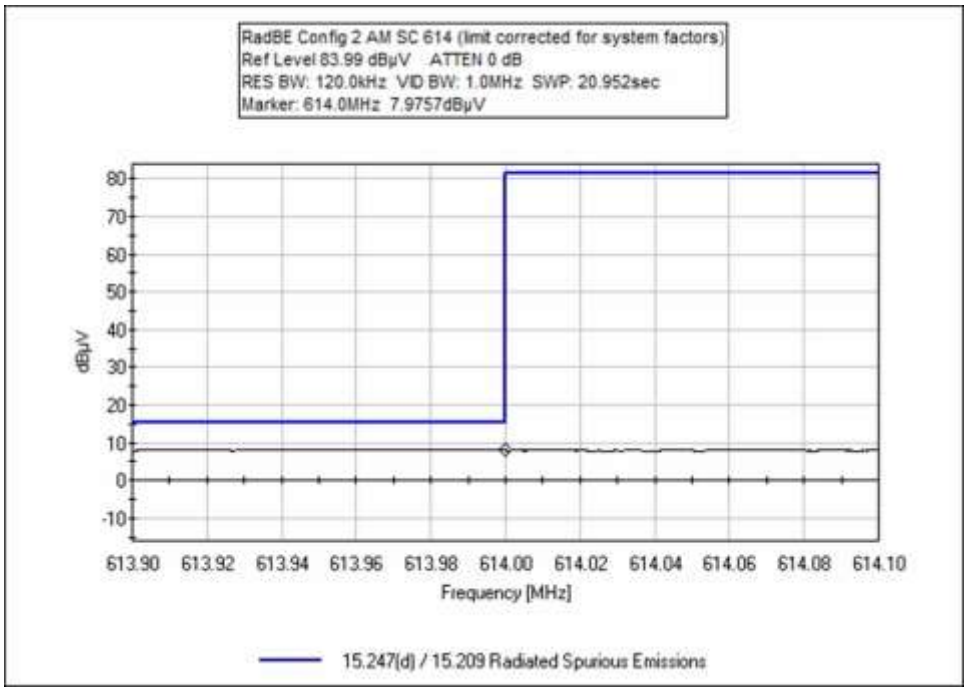

RadBE Config 1 FM37.5 Hopping 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.8847dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

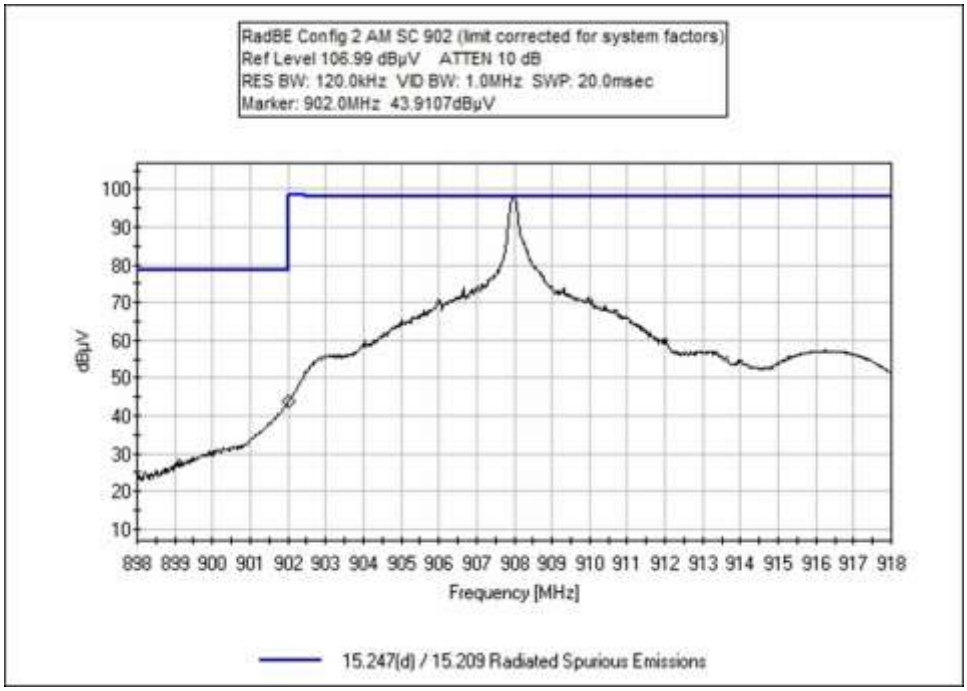

RadBE Config 1 FM37.5 Hopping 902 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 51.4087dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
902 903 904
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

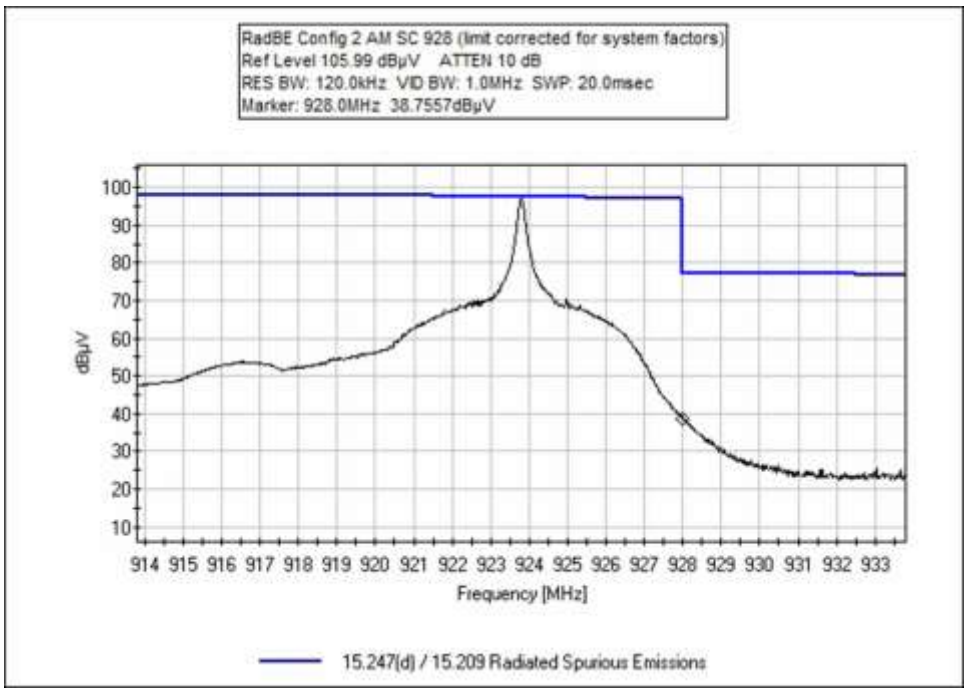

RadBE Config 1 FM37.5 Hopping 928 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 41.0667dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
926
927
928
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

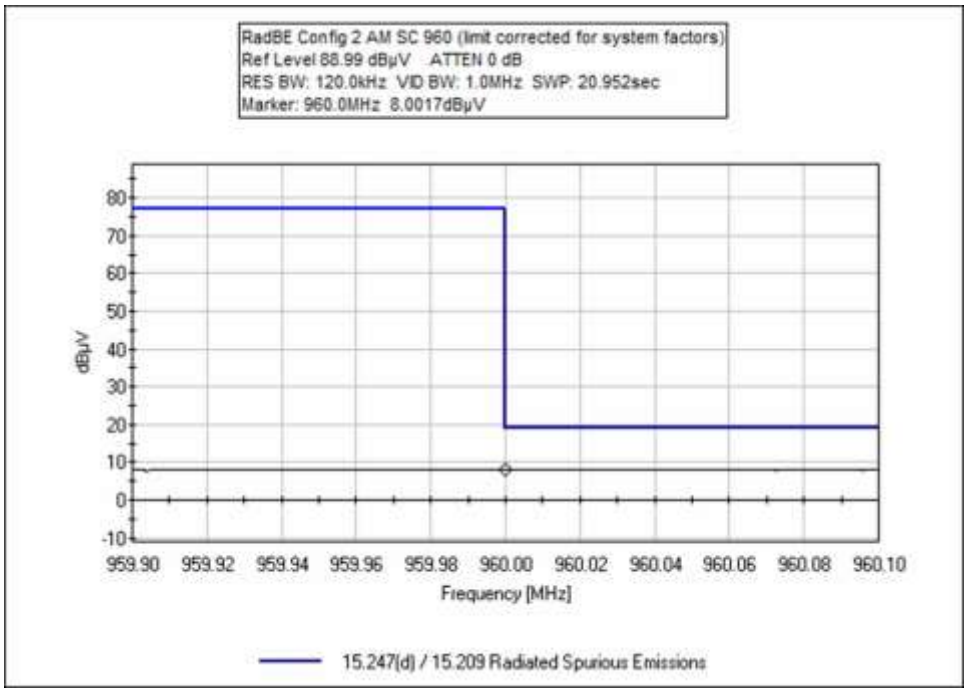

RadBE Config 1 FM37.5 Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9757dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90
959.92
959.94
959.96
959.98
960.00
960.02
960.04
960.06
960.08
960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

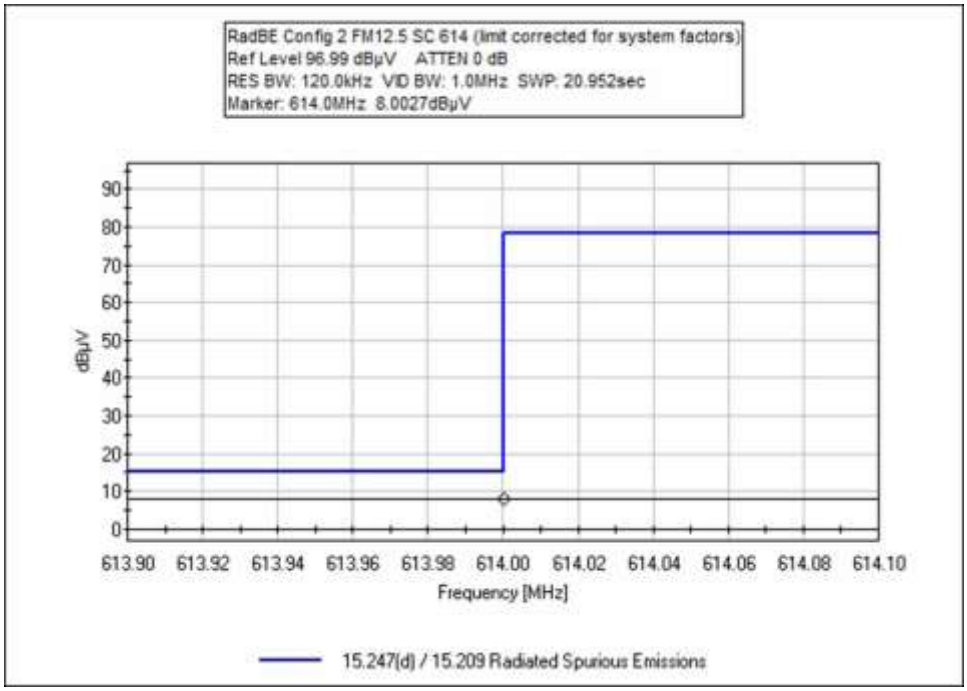
Configuration 2; Single Channel (Low and High)

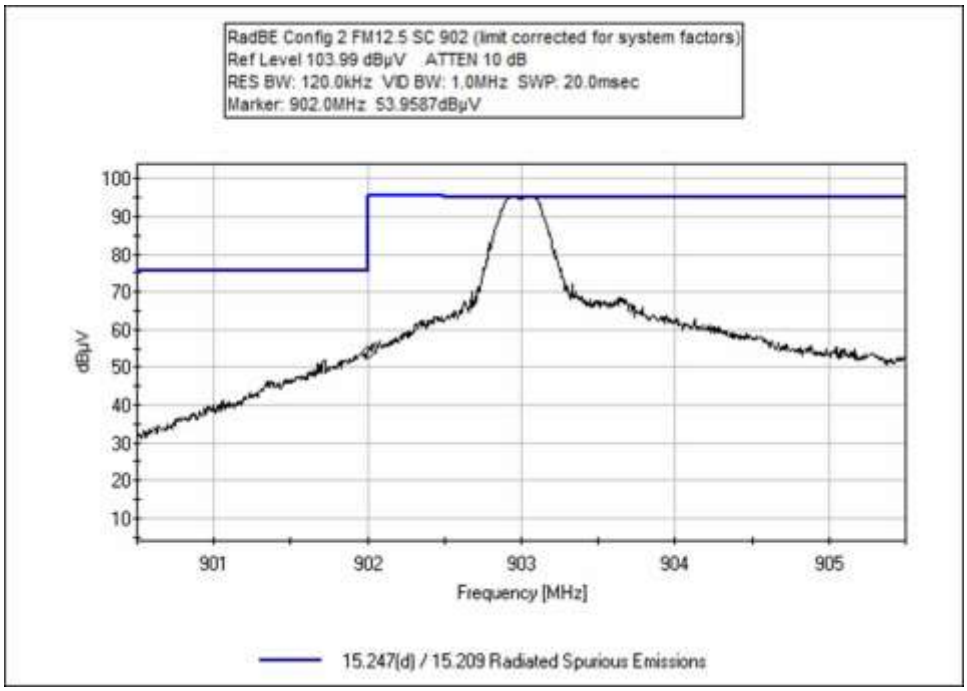


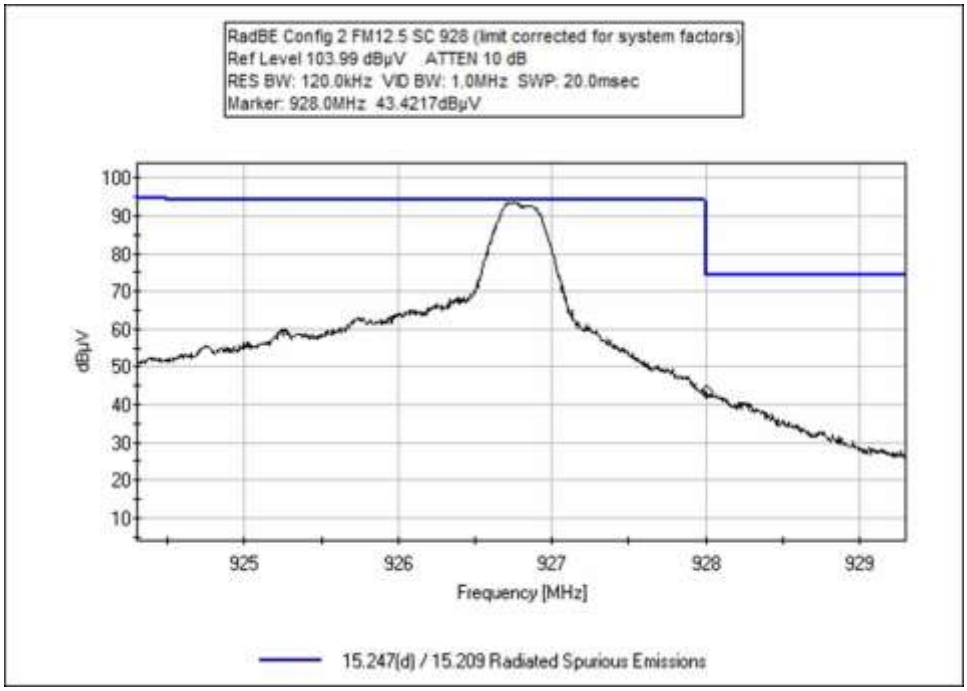


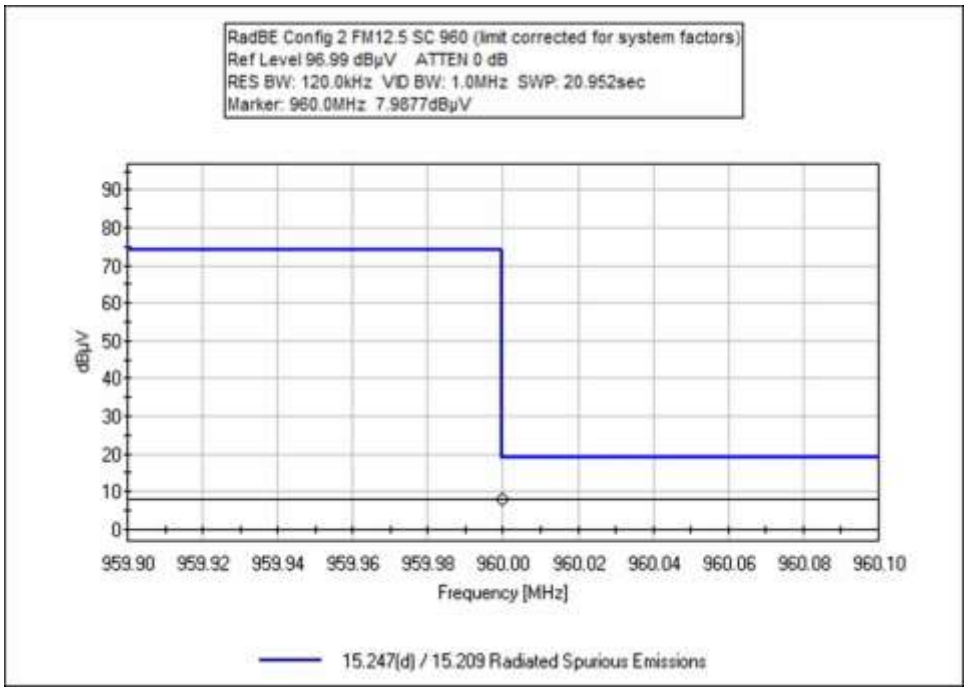

RadBE Config 2 AM SC 928 (limit corrected for system factors)
Ref Level 105.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 38.7557dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

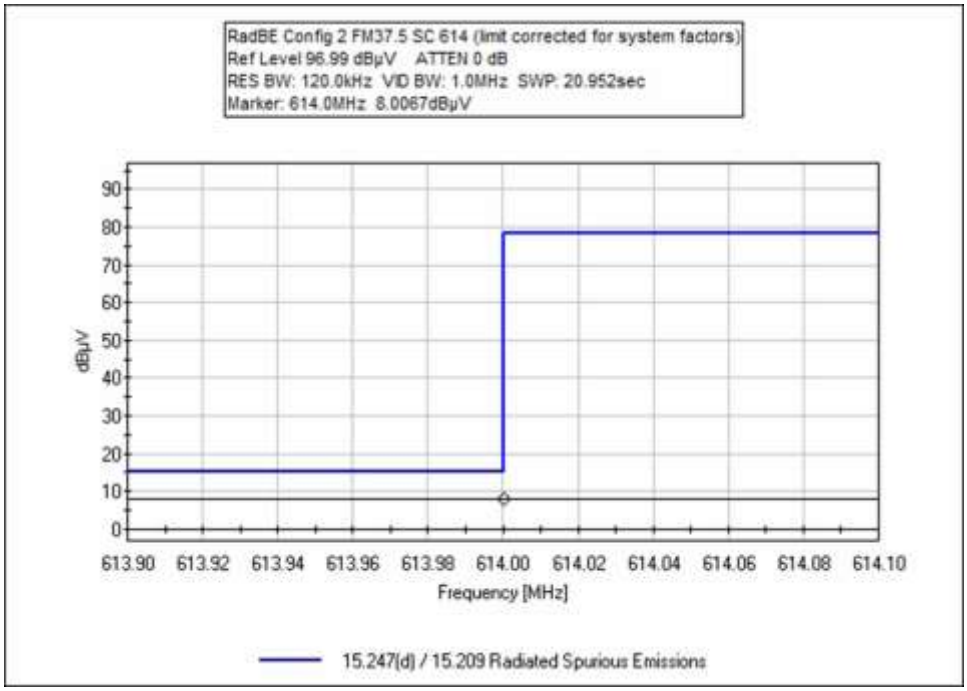

RadBE Config 2 AM SC 960 (limit corrected for system factors)
Ref Level 88.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 8.0017dBµV
dBµV
80
70
60
50
40
30
20
10
0
-10
959.90 959.92 959.94 959.96 959.98 960.00 960.02 960.04 960.06 960.08 960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

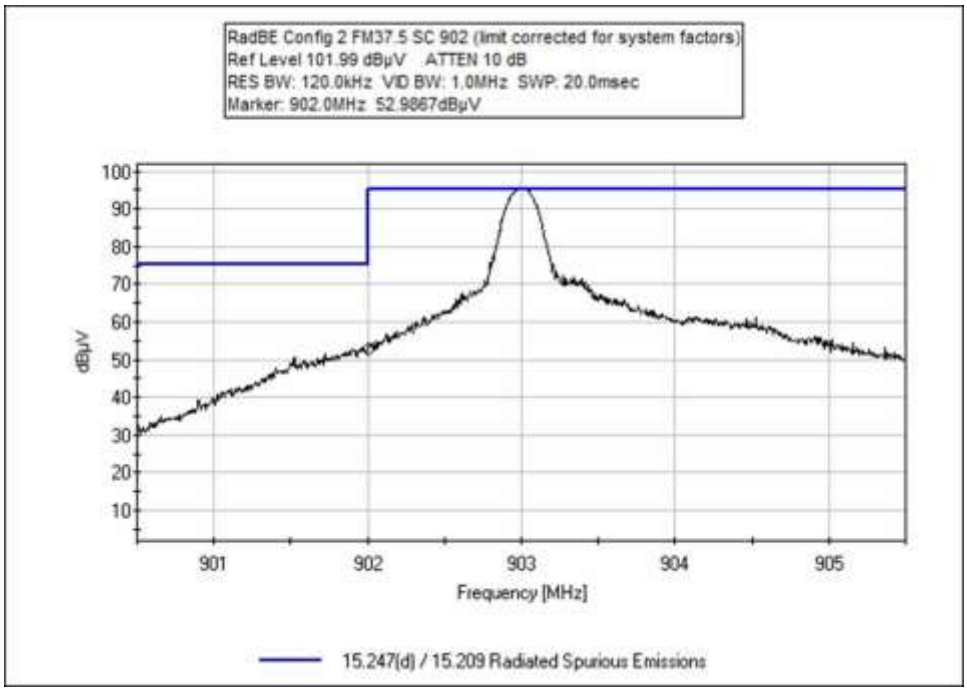

RadBE Config 2 FM12.5 SC 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 8.0027dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

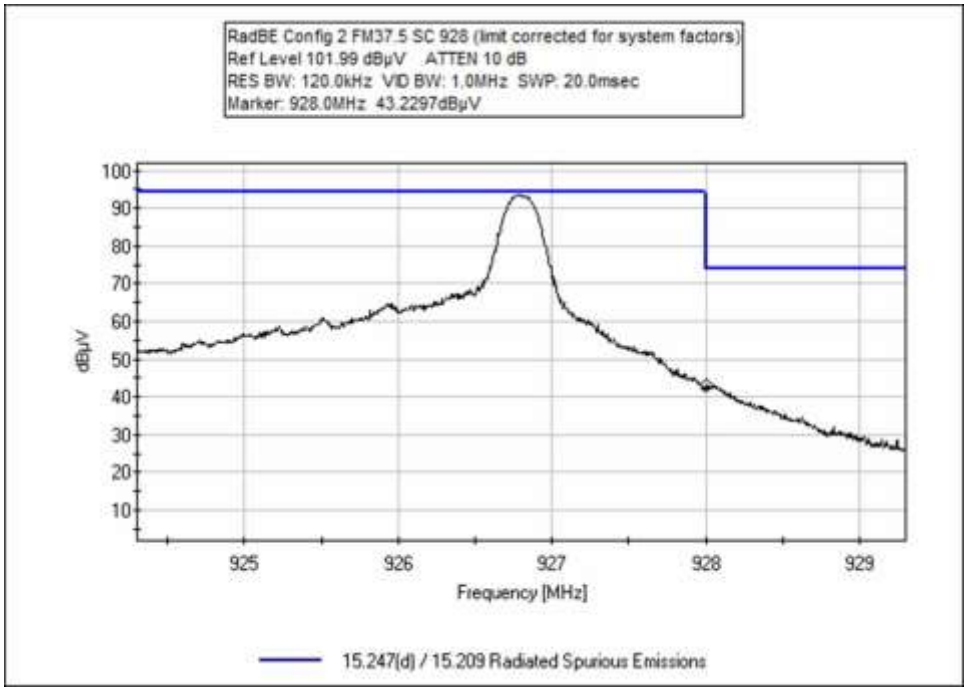

RadBE Config 2 FM12.5 SC 902 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 53.9587dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

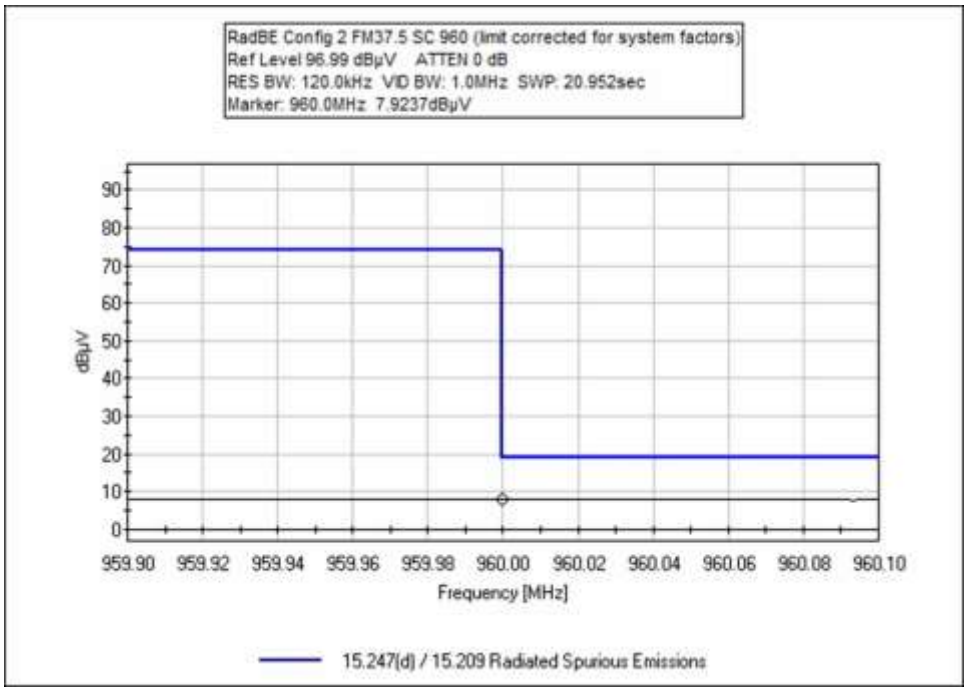

RadBE Config 2 FM12.5 SC 928 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 43.4217dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 2 FM12.5 SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9877dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

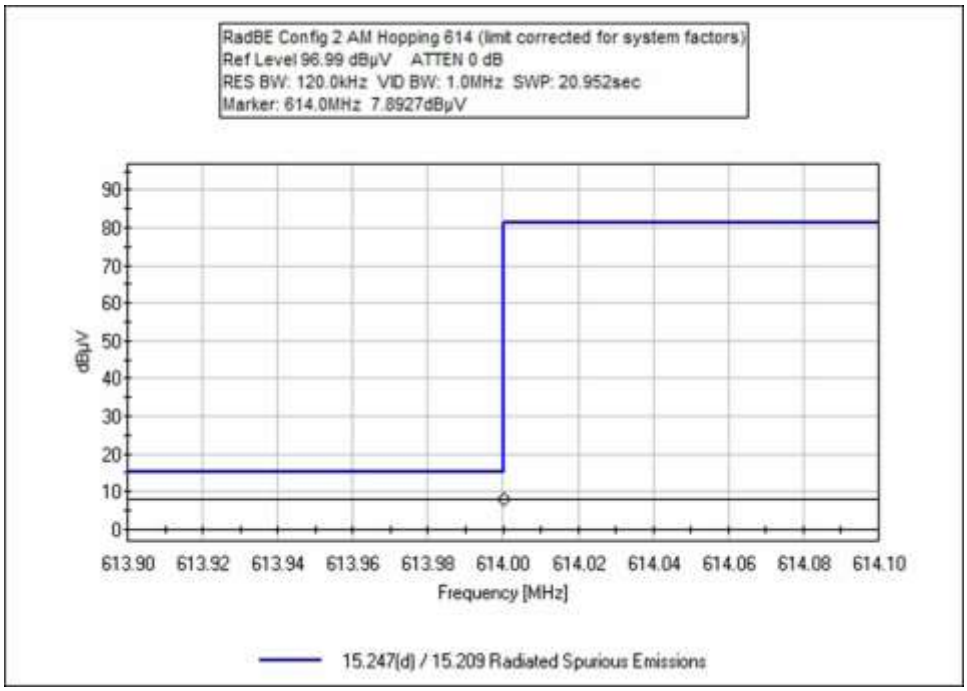

RadBE Config 2 FM37.5 SC 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 8.0067dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

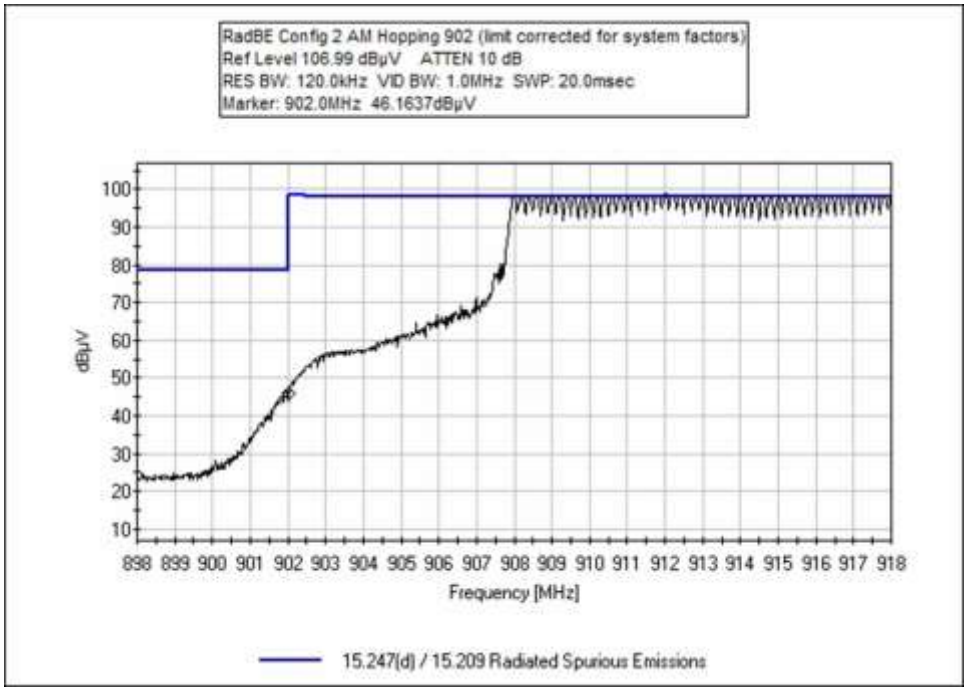

RadBE Config 2 FM37.5 SC 902 (limit corrected for system factors)
Ref Level 101.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 52.9867dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

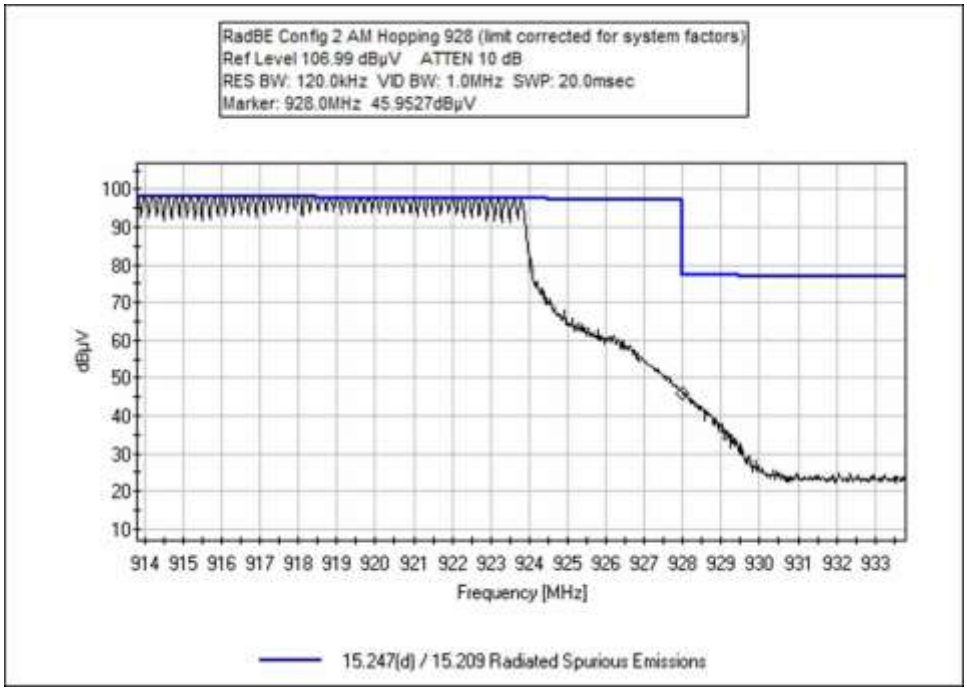

RadBE Config 2 FM37.5 SC 928 (limit corrected for system factors)
Ref Level 101.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 43.2297dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

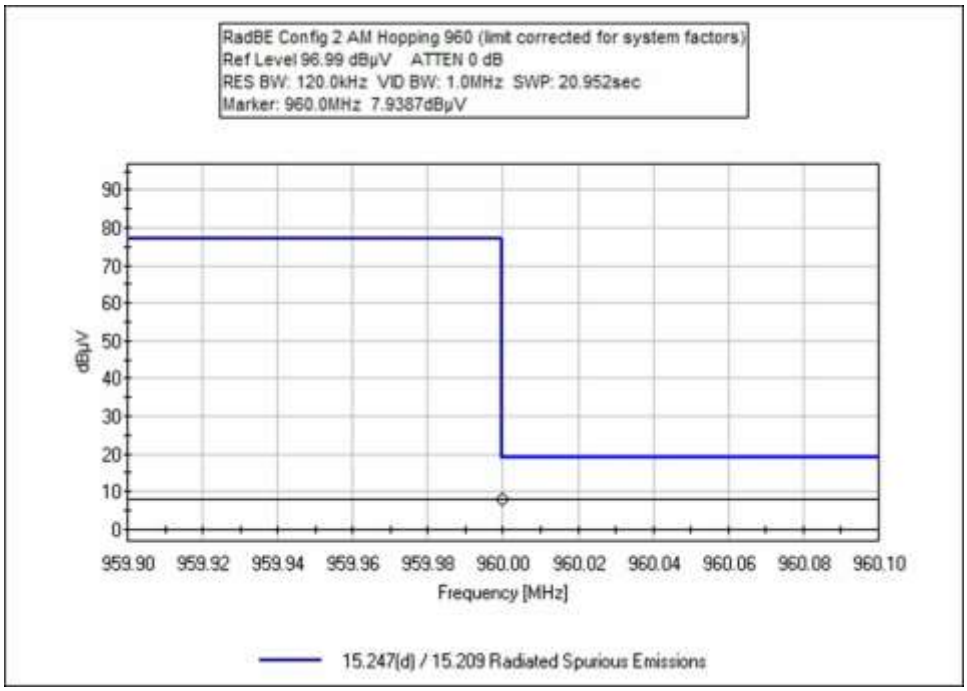

RadBE Config 2 FM37.5 SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9237dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

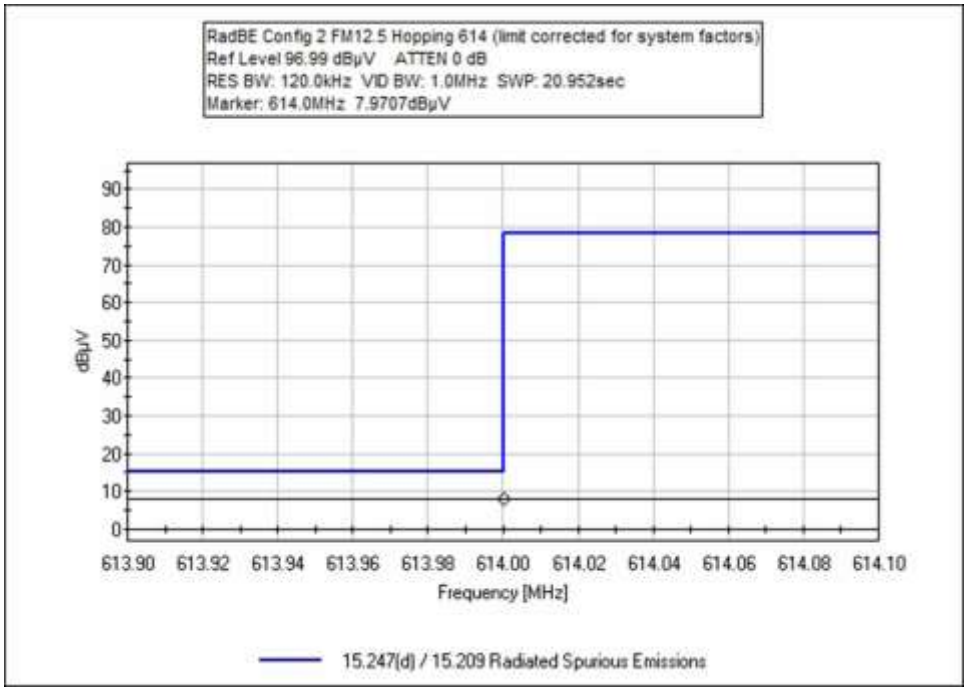
Configuration 2; Hopping

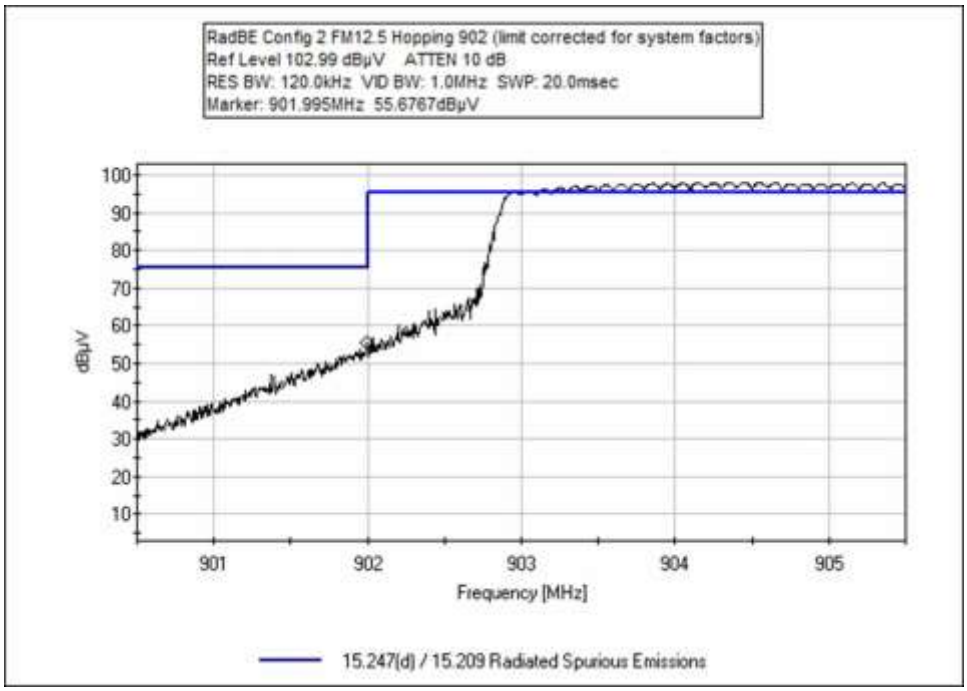


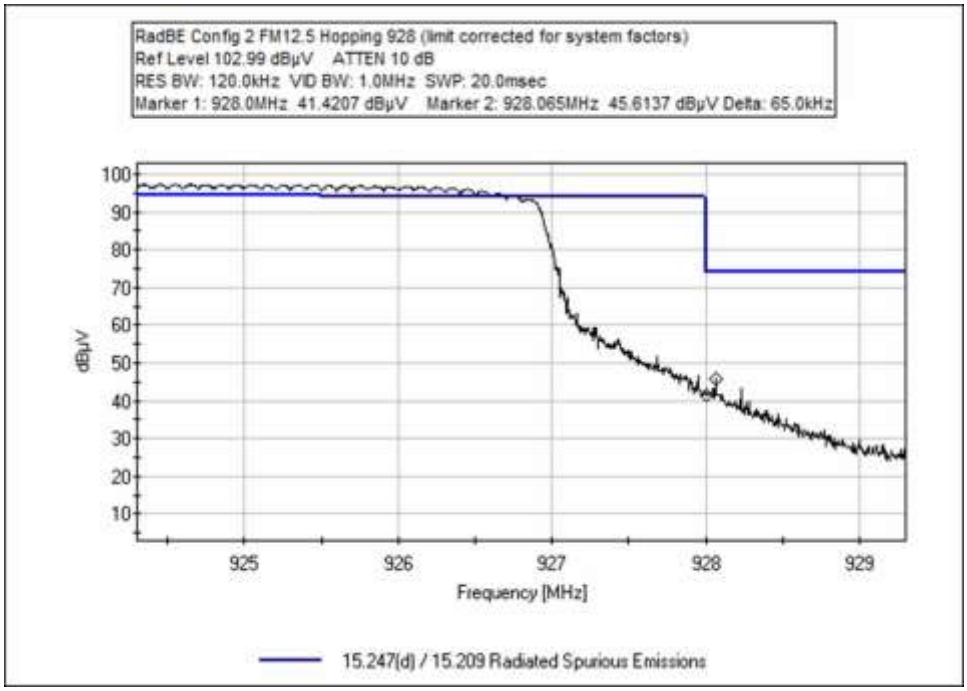


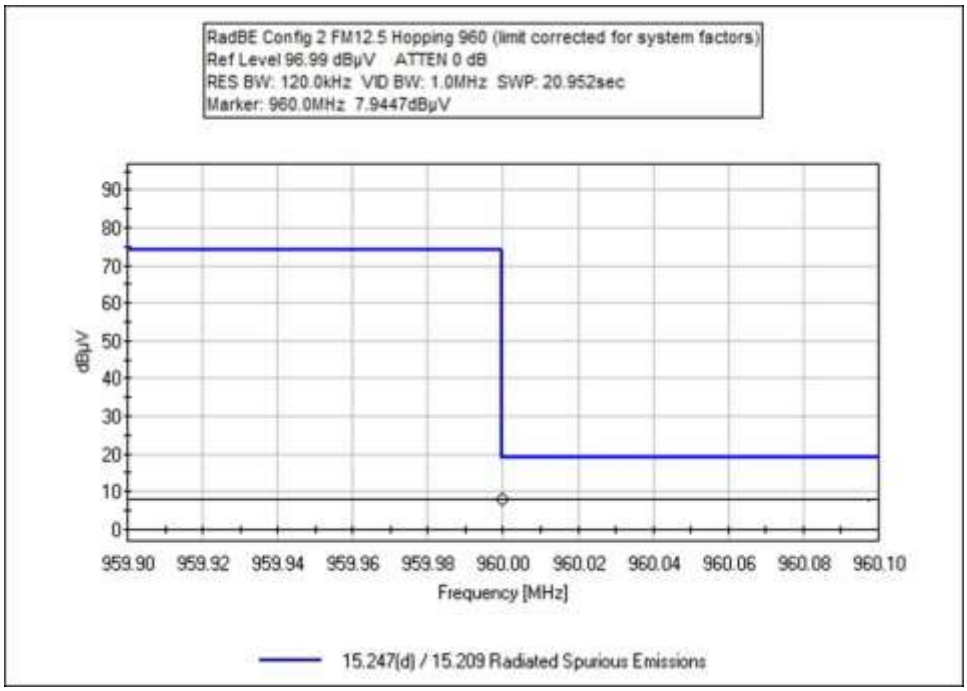

RadBE Config 2 AM Hopping 928 (limit corrected for system factors)
Ref Level 106.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 45.9527dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

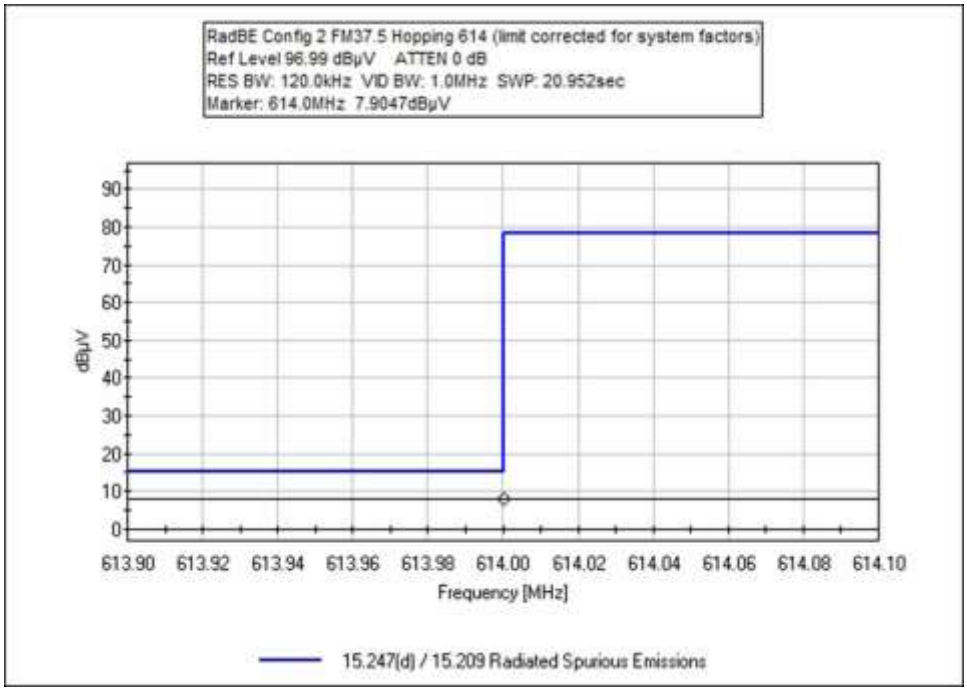

RadBE Config 2 AM Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9387dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90 959.92 959.94 959.96 959.98 960.00 960.02 960.04 960.06 960.08 960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

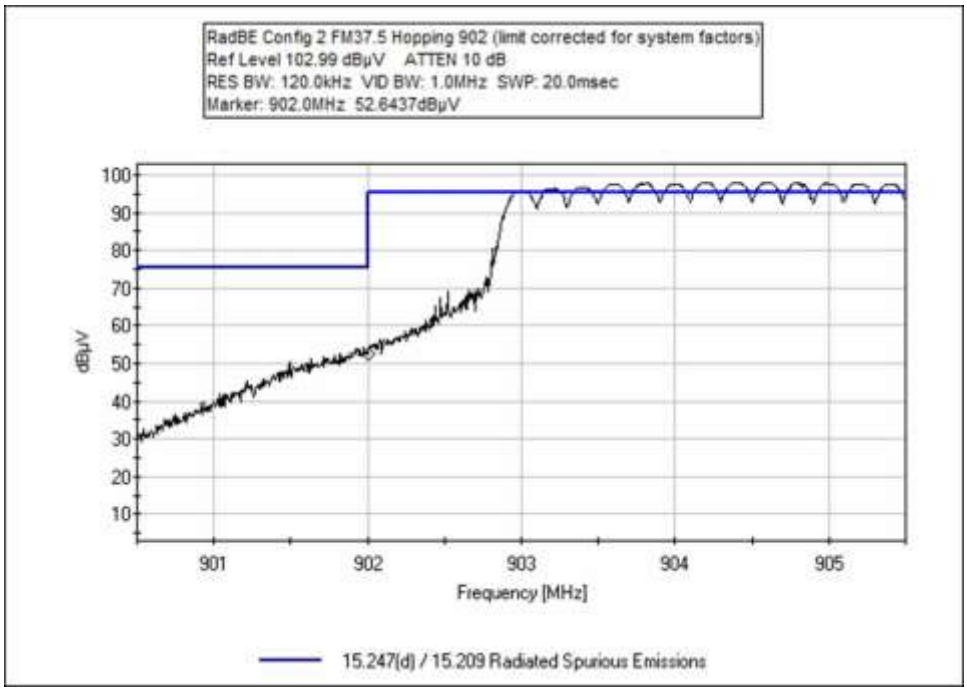

RadBE Config 2 FM12.5 Hopping 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.9707dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

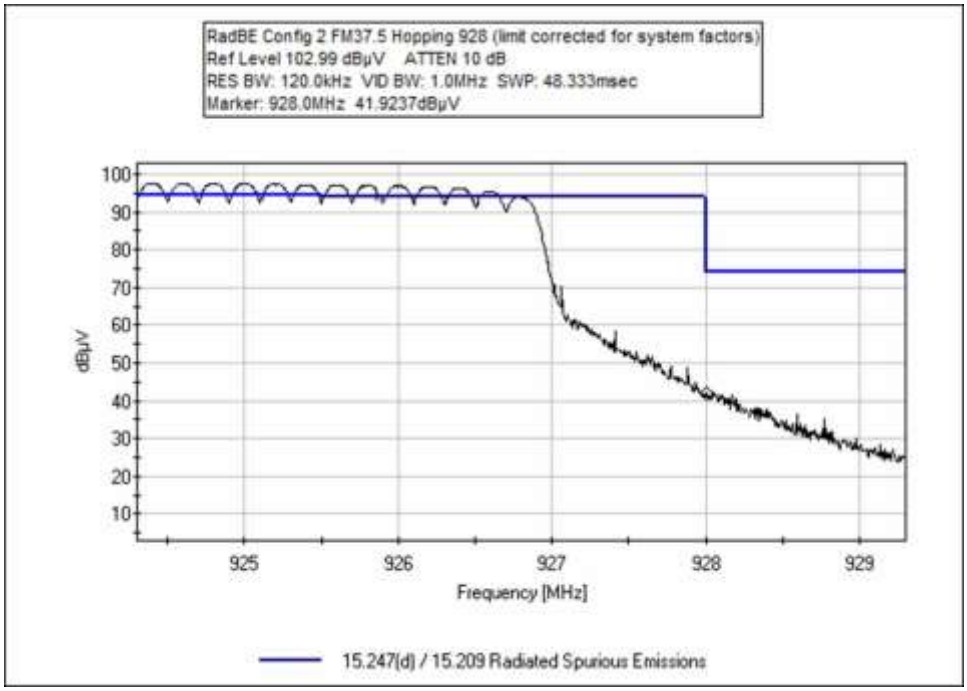

RadBE Config 2 FM12.5 Hopping 902 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 901.995MHz 55.6767dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

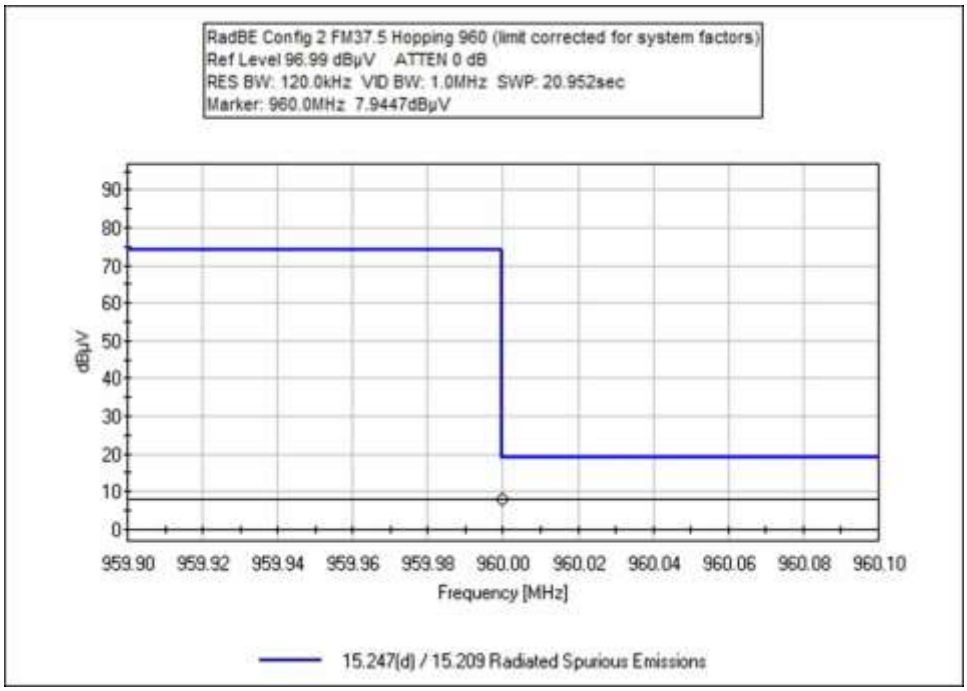

RadBE Config 2 FM12.5 Hopping 928 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker 1: 928.0MHz 41.4207 dBµV Marker 2: 928.065MHz 45.6137 dBµV Delta: 65.0kHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 2 FM12.5 Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9447dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

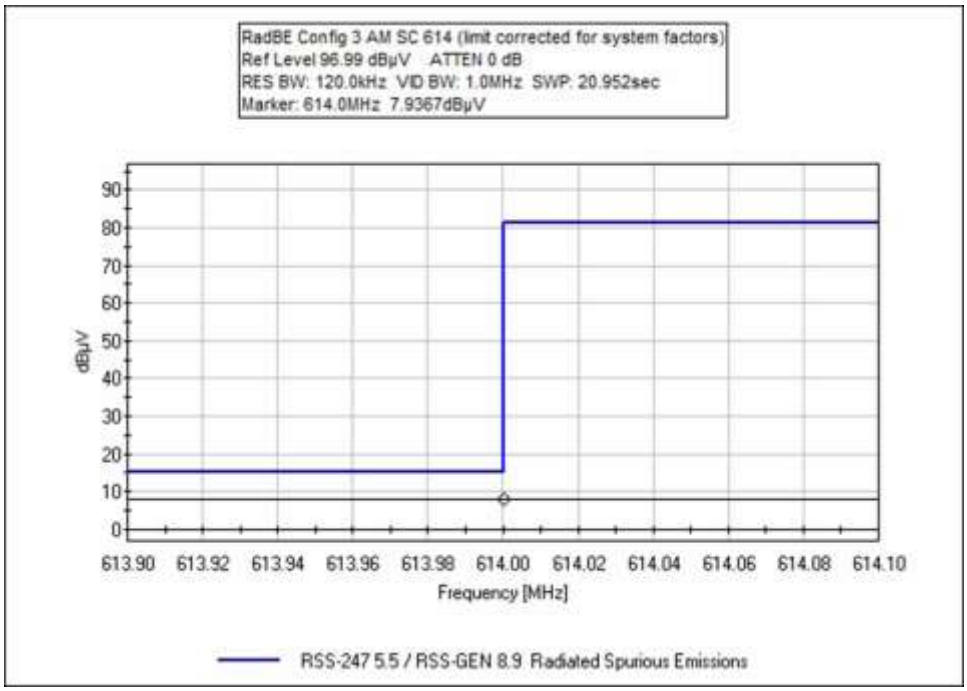

RadBE Config 2 FM37.5 Hopping 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.9047dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

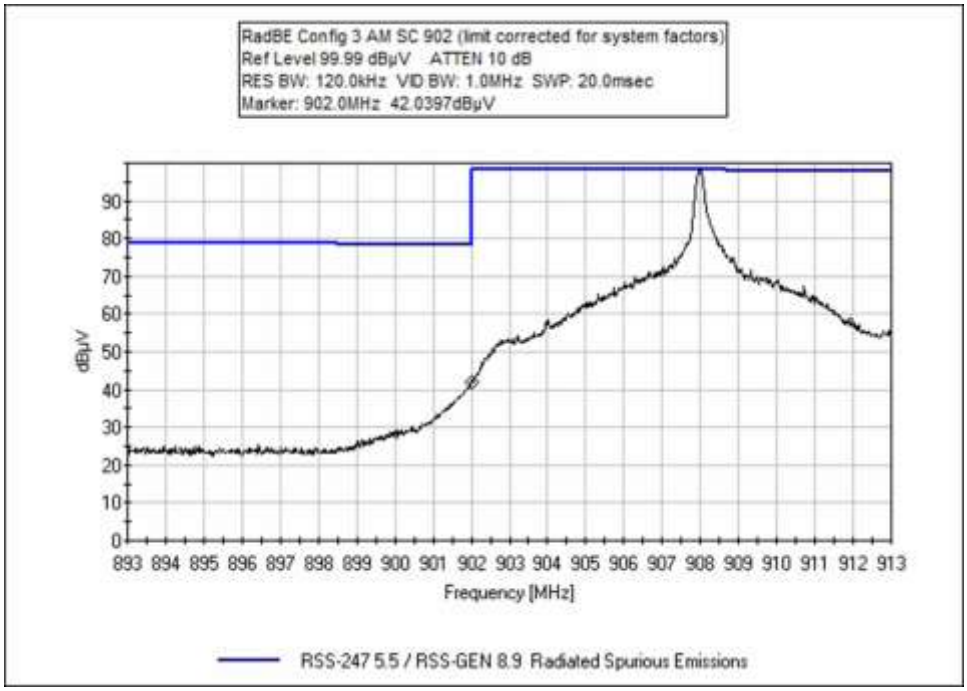

RadBE Config 2 FM37.5 Hopping 902 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 52.6437dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

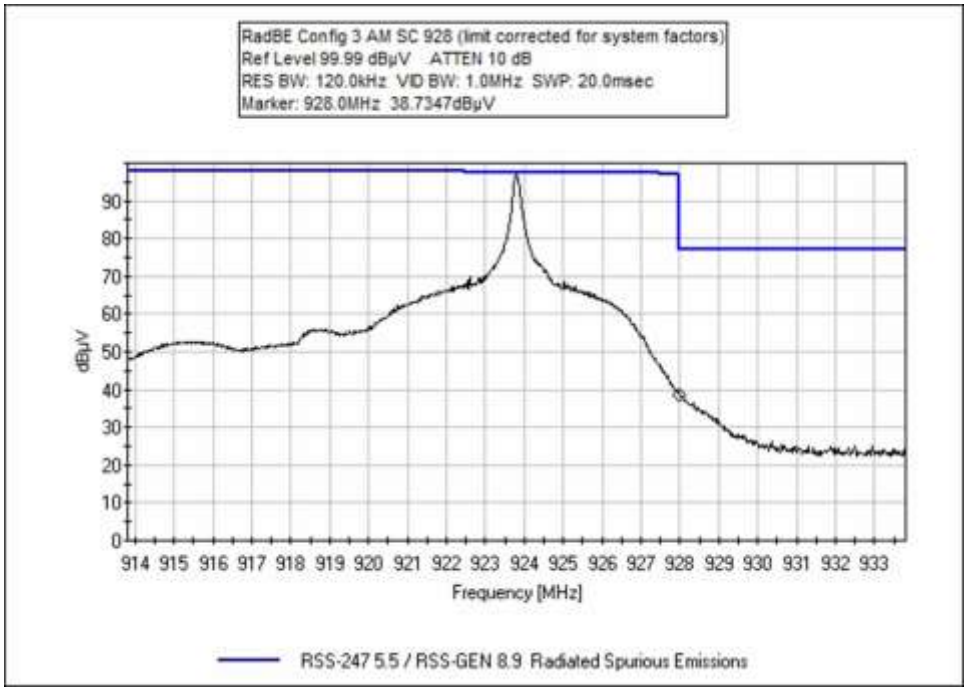

RadBE Config 2 FM37.5 Hopping 928 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 48.333msec
Marker: 928.0MHz 41.9237dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

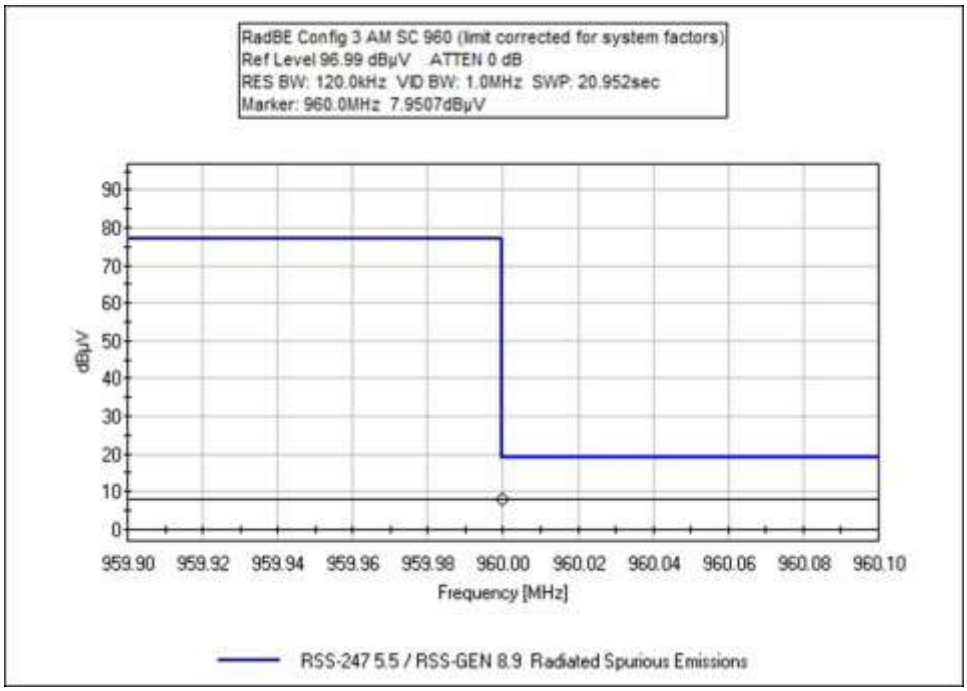

RadBE Config 2 FM37.5 Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9447dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

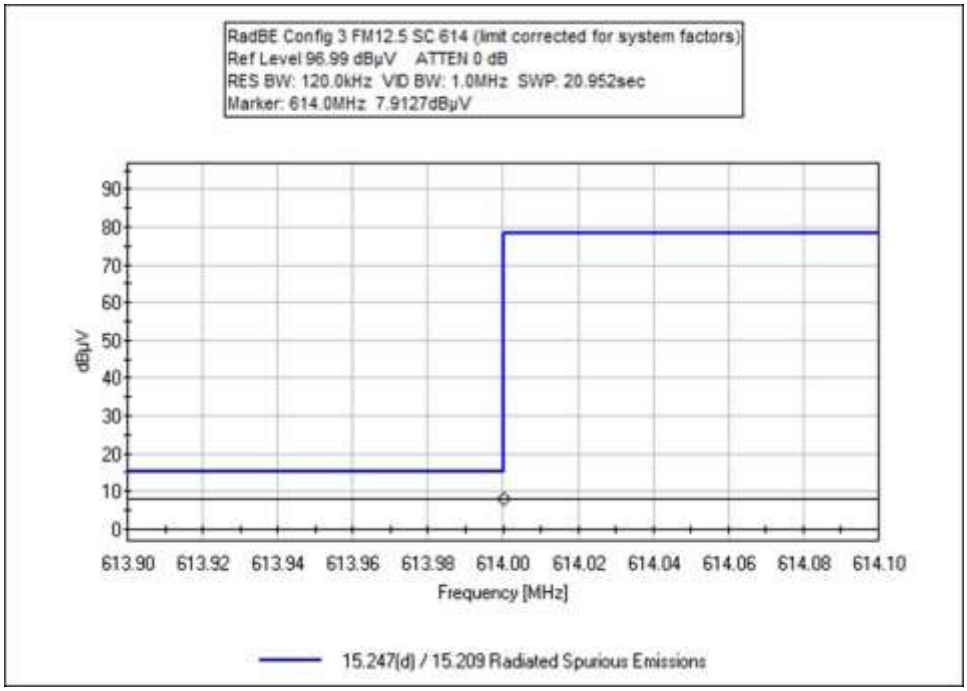
Configuration 3; Single Channel (Low and High)

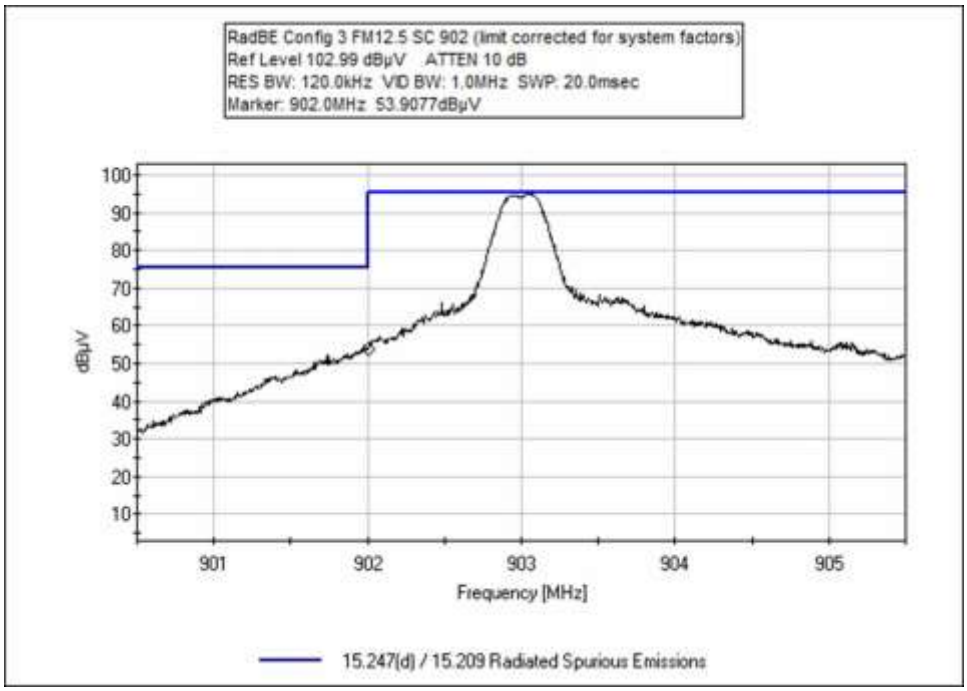


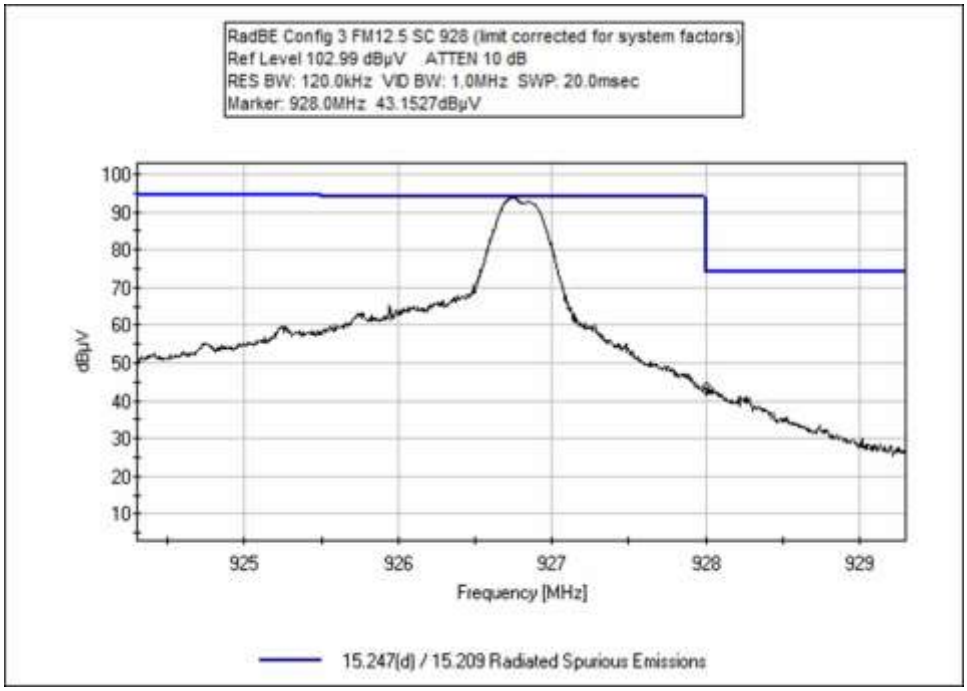


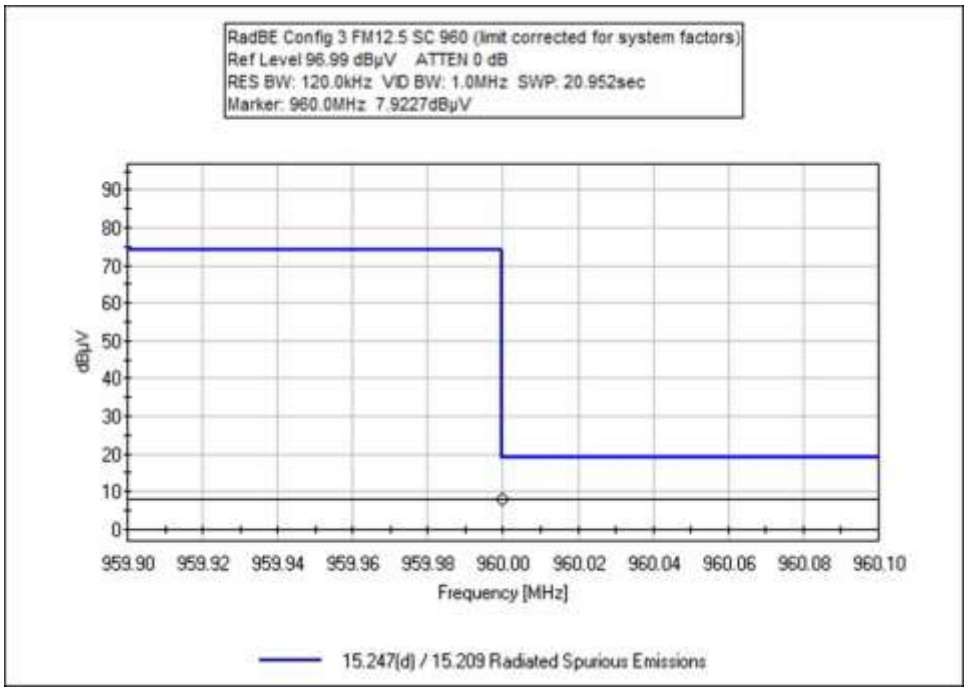

RadBE Config 3 AM SC 928 (limit corrected for system factors)
Ref Level 99.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 38.7347dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933
Frequency [MHz]
RSS-247 5.5 / RSS-GEN 8.9 Radiated Spurious Emissions

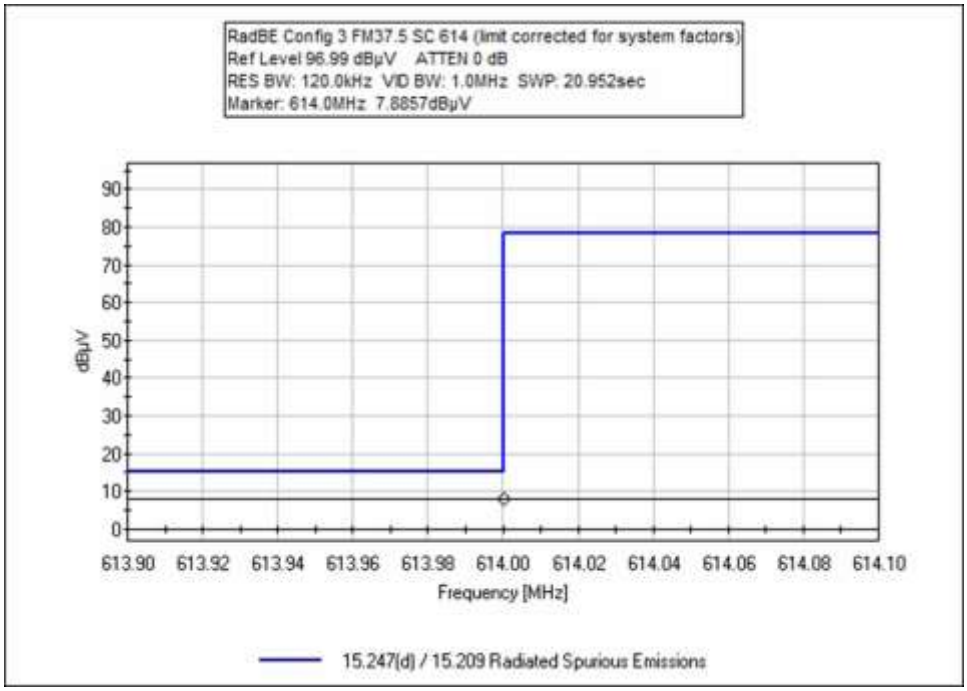

RadBE Config 3 AM SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9507dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90 959.92 959.94 959.96 959.98 960.00 960.02 960.04 960.06 960.08 960.10
Frequency [MHz]
RSS-247 5.5 / RSS-GEN 8.9 Radiated Spurious Emissions

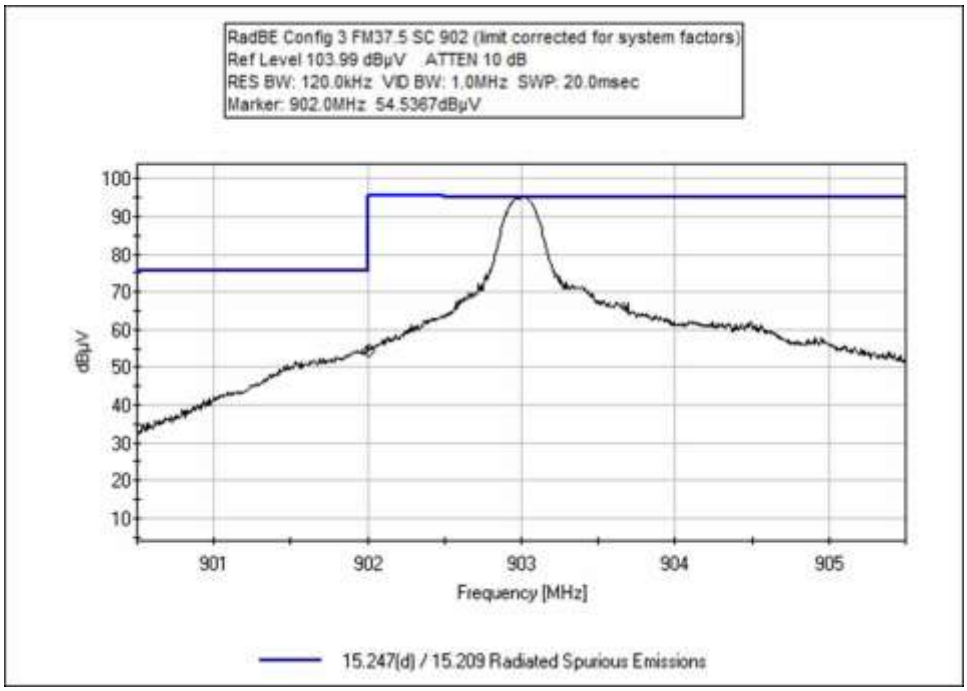

RadBE Config 3 FM12.5 SC 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.9127dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

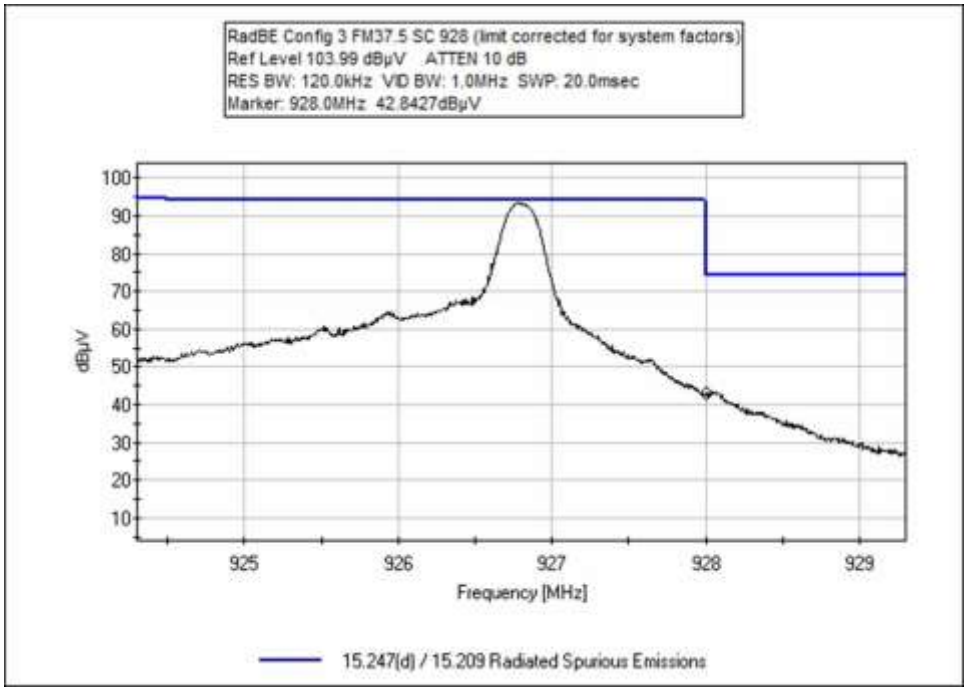

RadBE Config 3 FM12.5 SC 902 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 53.9077dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

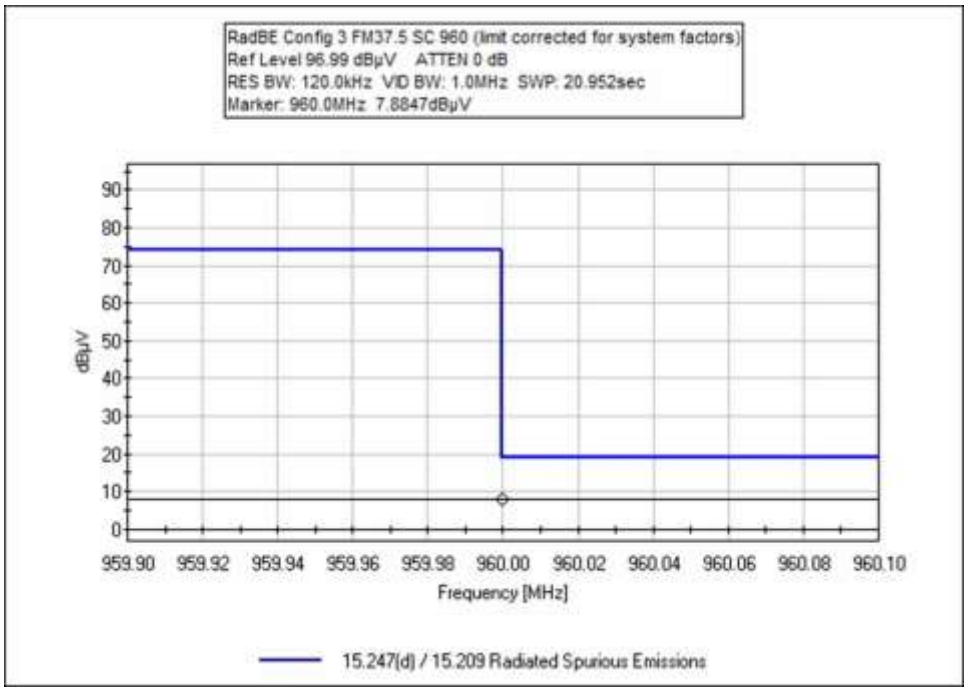

RadBE Config 3 FM12.5 SC 928 (limit corrected for system factors)
Ref Level 102.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 43.1527dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 3 FM12.5 SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9227dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

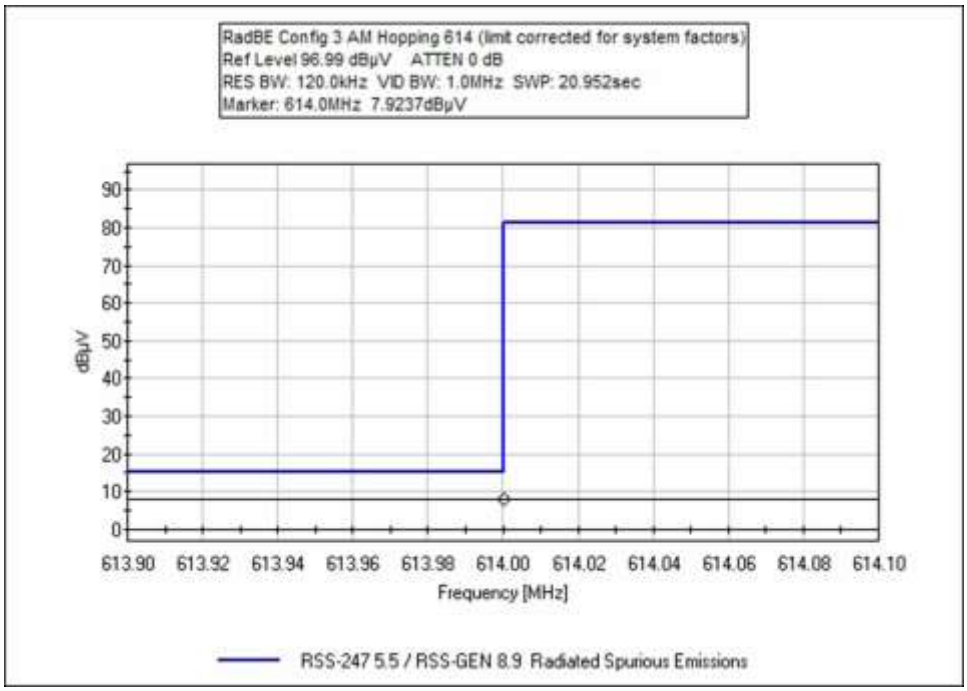

RadBE Config 3 FM37.5 SC 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.8857dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

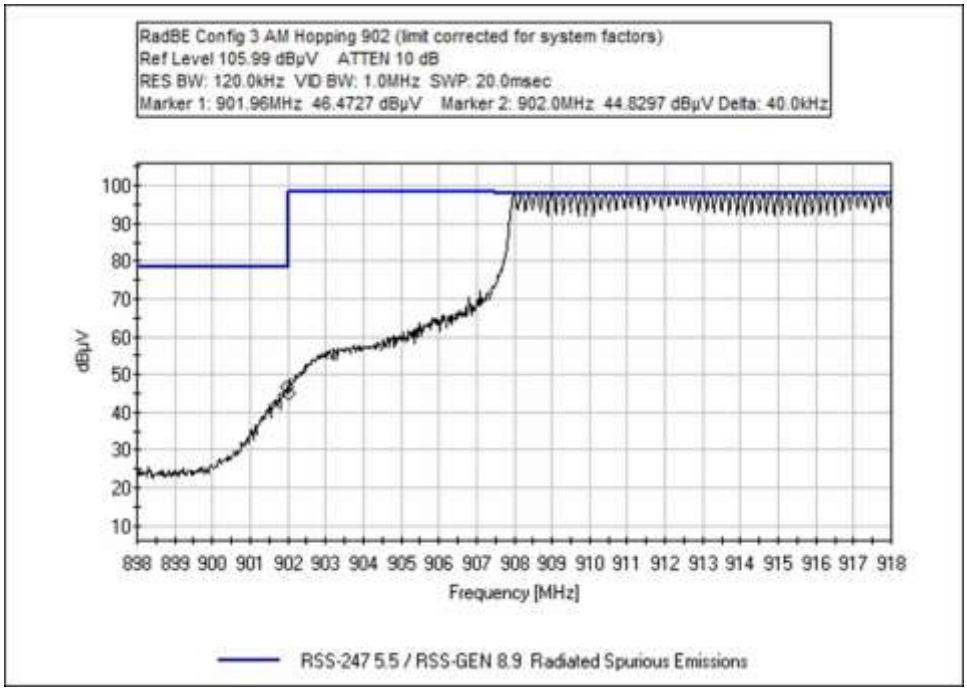

RadBE Config 3 FM37.5 SC 902 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 54.5367dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

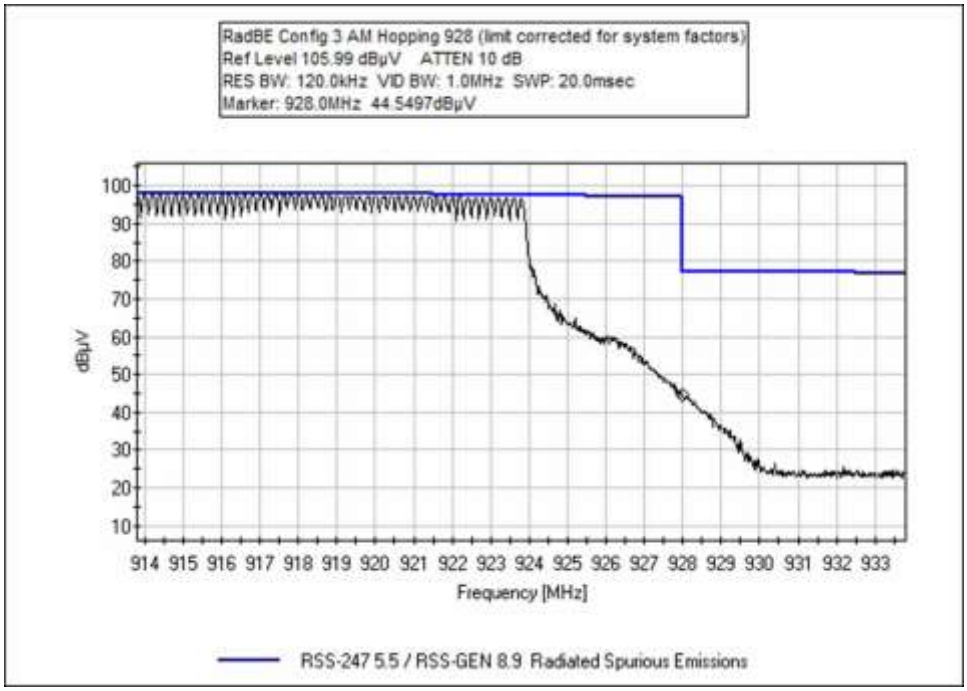

RadBE Config 3 FM37.5 SC 928 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 42.8427dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
925
926
927
928
929
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

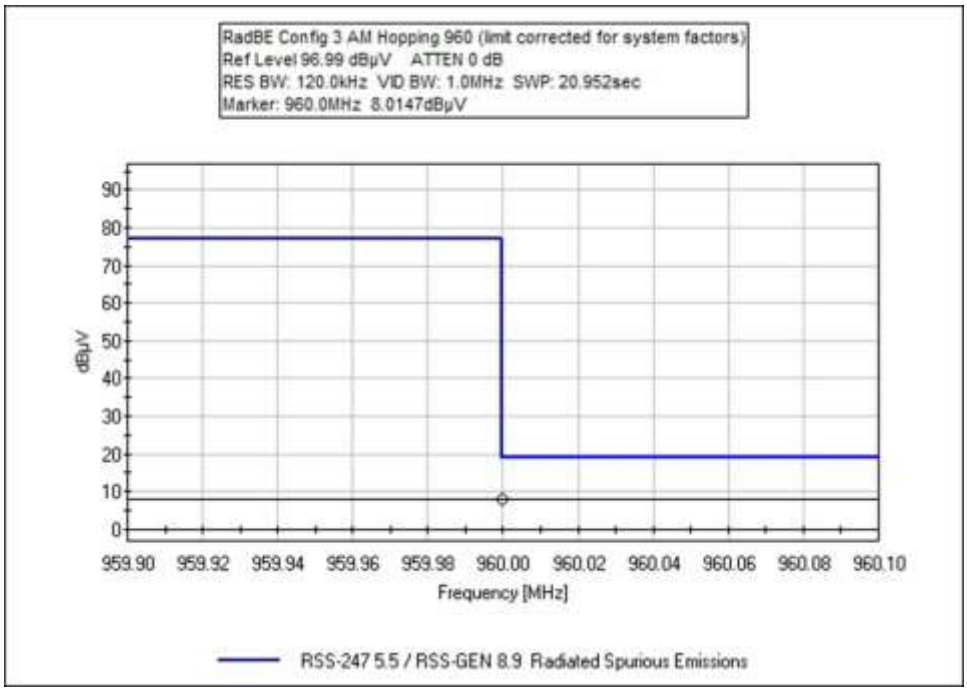

RadBE Config 3 FM37.5 SC 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.8847dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90
959.92
959.94
959.96
959.98
960.00
960.02
960.04
960.06
960.08
960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

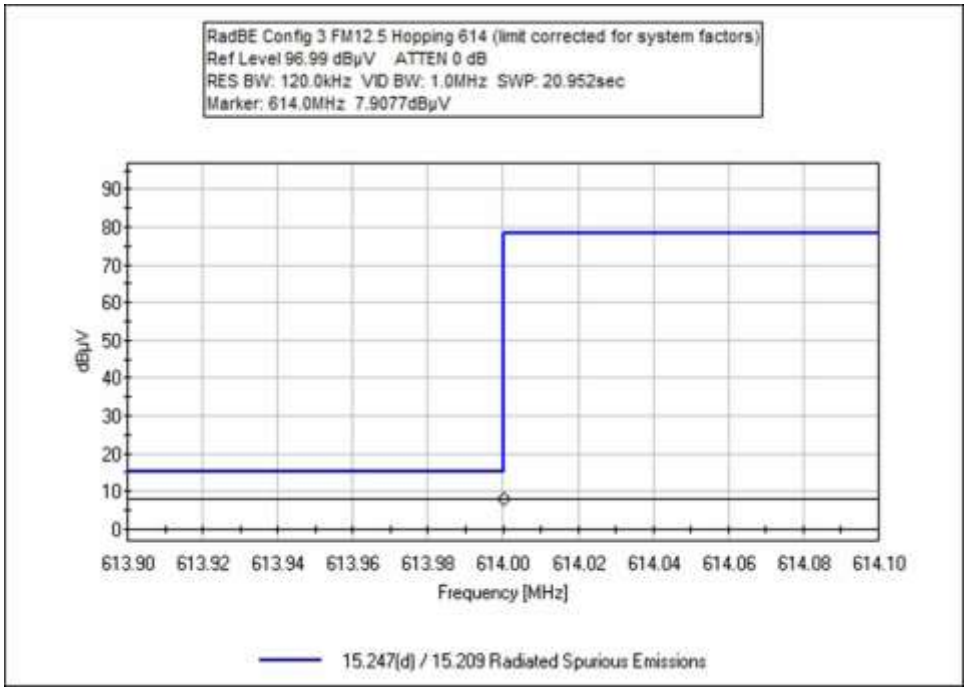
Configuration 3; Hopping

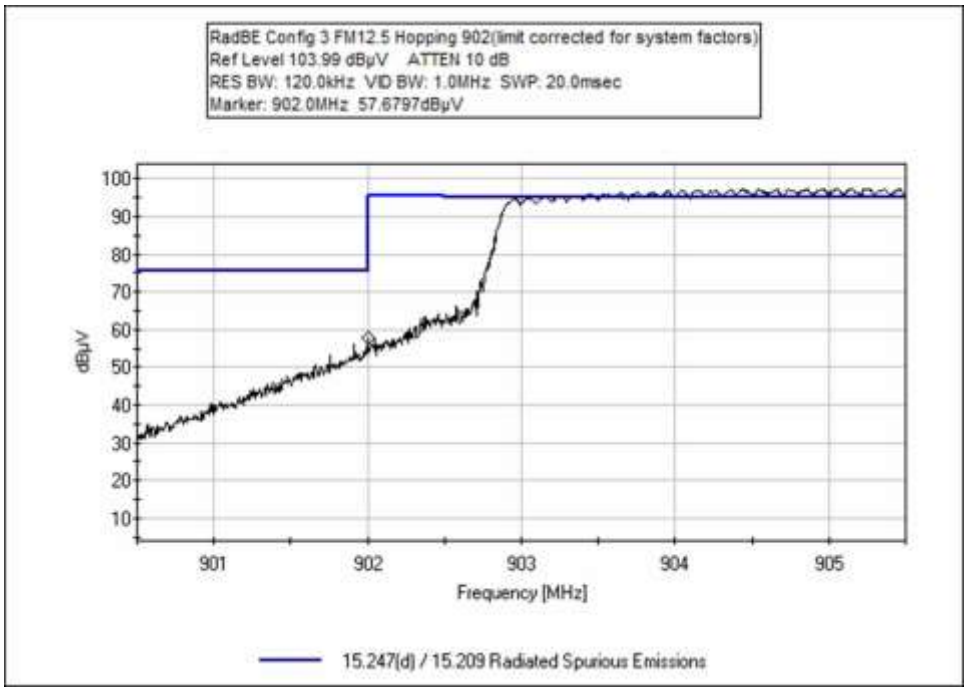


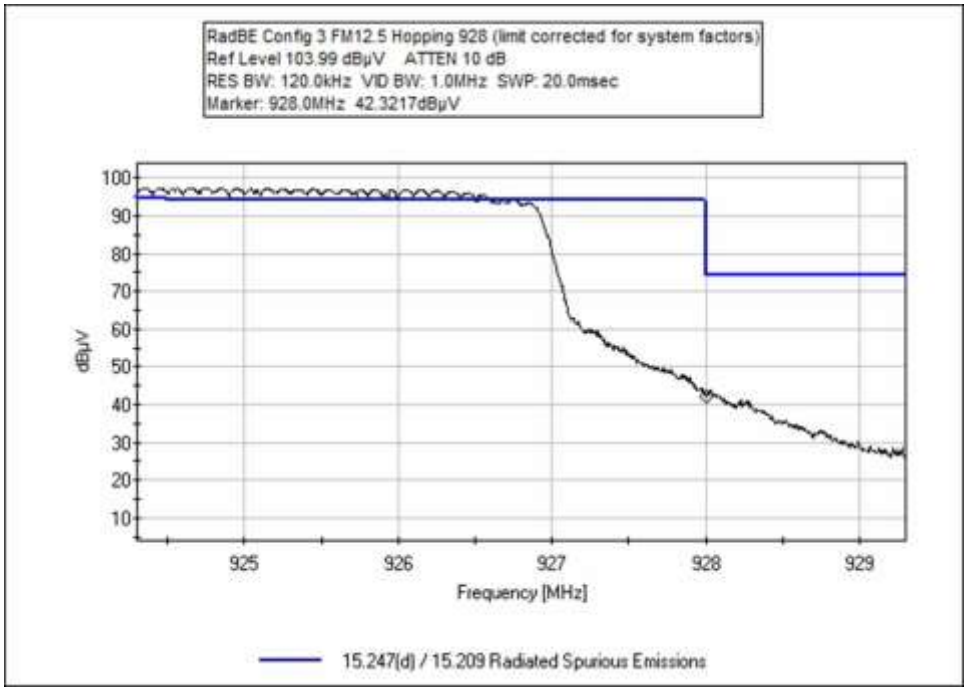


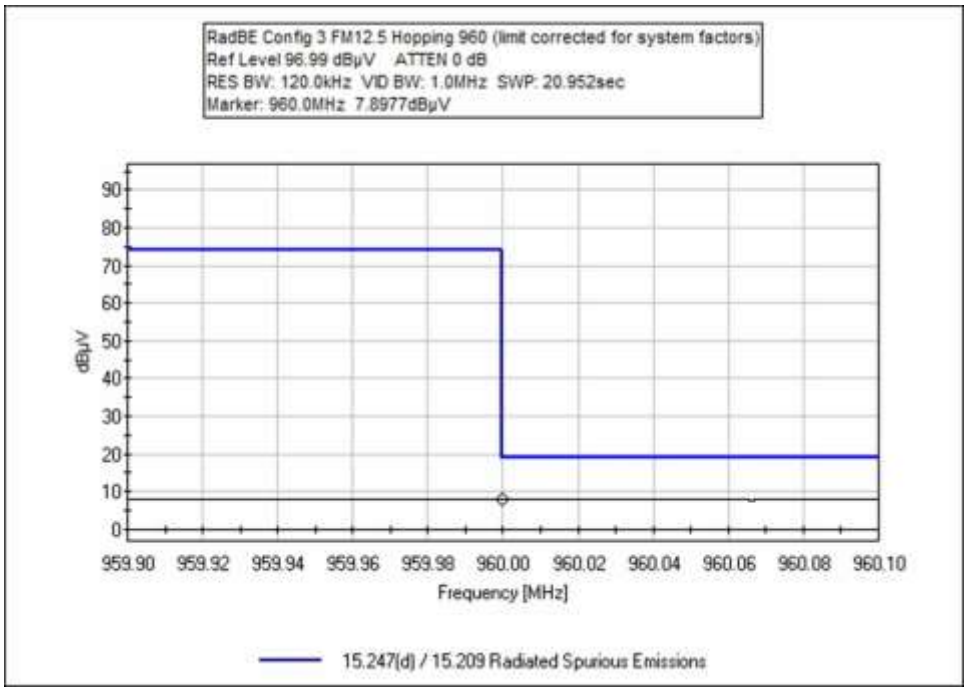

RadBE Config 3 AM Hopping 928 (limit corrected for system factors)
Ref Level 105.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 44.5497dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933
Frequency [MHz]
RSS-247 5.5 / RSS-GEN 8.9 Radiated Spurious Emissions

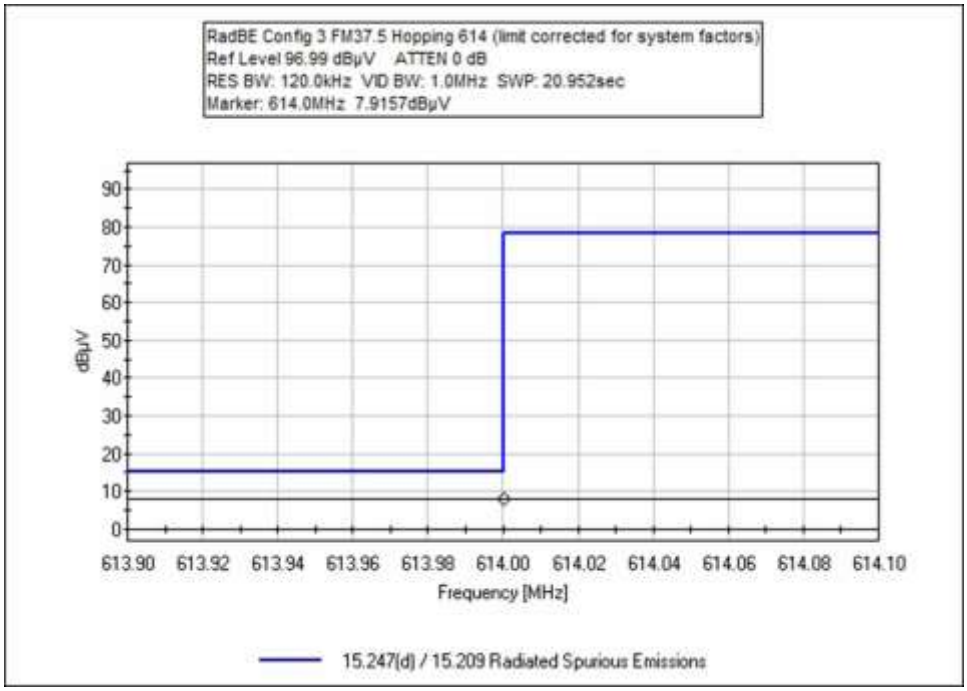

RadBE Config 3 AM Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 8.0147dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90 959.92 959.94 959.96 959.98 960.00 960.02 960.04 960.06 960.08 960.10
Frequency [MHz]
RSS-247 5.5 / RSS-GEN 8.9 Radiated Spurious Emissions

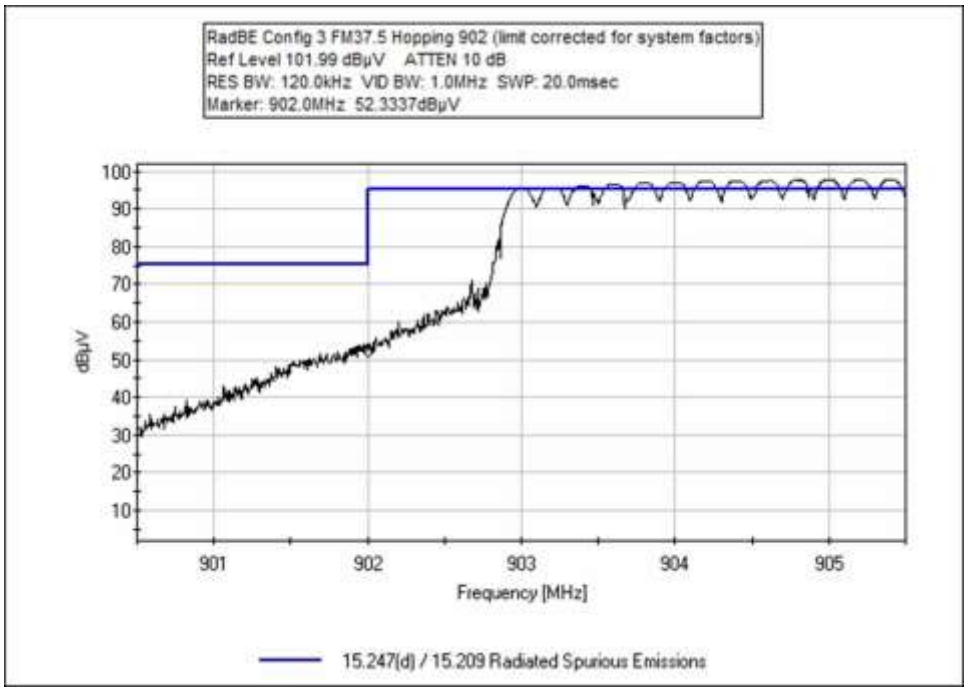

RadBE Config 3 FM12.5 Hopping 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.9077dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

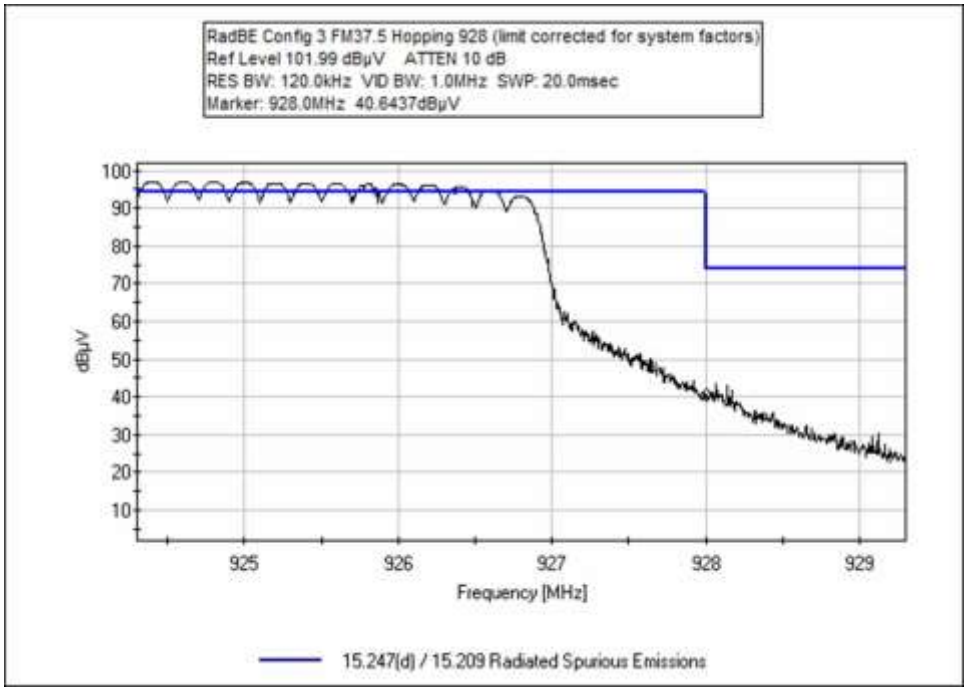

RadBE Config 3 FM12.5 Hopping 902(limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 57.6797dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

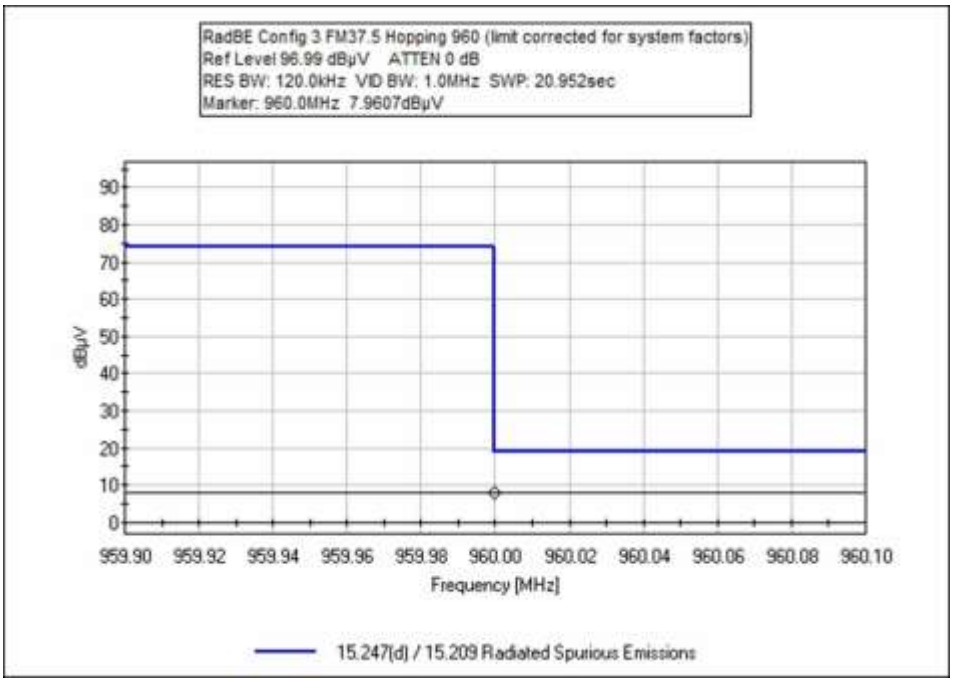

RadBE Config 3 FM12.5 Hopping 928 (limit corrected for system factors)
Ref Level 103.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 42.3217dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
925
926
927
928
929
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 3 FM12.5 Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.8977dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90
959.92
959.94
959.96
959.98
960.00
960.02
960.04
960.06
960.08
960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 3 FM37.5 Hopping 614 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 614.0MHz 7.9157dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
613.90 613.92 613.94 613.96 613.98 614.00 614.02 614.04 614.06 614.08 614.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 3 FM37.5 Hopping 902 (limit corrected for system factors)
Ref Level 101.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 902.0MHz 52.3337dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
901 902 903 904 905
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 3 FM37.5 Hopping 928 (limit corrected for system factors)
Ref Level 101.99 dBµV ATTEN 10 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 40.6437dBµV
dBµV
100
90
80
70
60
50
40
30
20
10
925
926
927
928
929
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


RadBE Config 3 FM37.5 Hopping 960 (limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.952sec
Marker: 960.0MHz 7.9607dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
959.90
959.92
959.94
959.96
959.98
960.00
960.02
960.04
960.06
960.08
960.10
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

Test Setup / Conditions / Data

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/14/2022
Test Type:	**Maximized Emissions**	Time:	17:18:05
Tested By:	Michael Atkinson	Sequence#:	1
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 1
AM Modulation, single channel and hopping.

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	8.1	+0.3	+1.2	+1.9	+27.2	+0.0	38.7	46.0 SC	-7.3	Vert
2	614.000M QP	8.0	+0.3	+1.2	+1.9	+27.2	+0.0	38.6	46.0 Hopping	-7.4	Vert
3	960.000M QP	8.2	+0.3	+1.5	+2.4	+30.7	+0.0	43.1	54.0 SC	-10.9	Vert
4	960.000M QP	7.9	+0.3	+1.5	+2.4	+30.7	+0.0	42.8	54.0 Hopping	-11.2	Vert
5	928.000M	45.9	+0.3	+1.5	+2.4	+30.6	+0.0	80.7	112.0 Hopping	-31.3	Vert
6	902.000M	46.9	+0.3	+1.4	+2.3	+29.6	+0.0	80.5	112.0 Hopping	-31.5	Vert
7	902.000M	41.4	+0.3	+1.4	+2.3	+29.6	+0.0	75.0	112.0 SC	-37.0	Vert
8	928.000M	38.9	+0.3	+1.5	+2.4	+30.6	+0.0	73.7	112.0 SC	-38.3	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/14/2022
Test Type:	**Maximized Emissions**	Time:	18:02:32
Tested By:	Michael Atkinson	Sequence#:	2
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 1
FM12.5k Modulation, single channel and hopping.

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	8.2	+0.3	+1.2	+1.9	+27.2	+0.0	38.8	46.0 SC	-7.2	Vert
2	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 Hopping	-7.5	Vert
3	960.000M QP	8.1	+0.3	+1.5	+2.4	+30.7	+0.0	43.0	54.0 SC	-11.0	Vert
4	960.000M QP	8.0	+0.3	+1.5	+2.4	+30.7	+0.0	42.9	54.0 Hopping	-11.1	Vert
5	902.000M	54.3	+0.3	+1.4	+2.3	+29.6	+0.0	87.9	109.0 Hopping	-21.1	Vert
6	902.000M	53.2	+0.3	+1.4	+2.3	+29.6	+0.0	86.8	109.0 SC	-22.2	Vert
7	928.000M	46.1	+0.3	+1.5	+2.4	+30.6	+0.0	80.9	109.0 Hopping	-28.1	Vert
8	928.000M	41.7	+0.3	+1.5	+2.4	+30.6	+0.0	76.5	109.0 SC	-32.5	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/14/2022
Test Type:	**Maximized Emissions**	Time:	18:45:14
Tested By:	Michael Atkinson	Sequence#:	3
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 1
FM37.5k Modulation, single channel and hopping.

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	8.2	+0.3	+1.2	+1.9	+27.2	+0.0	38.8	46.0 SC	-7.2	Vert
2	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 Hopping	-7.5	Vert
3	960.000M QP	8.1	+0.3	+1.5	+2.4	+30.7	+0.0	43.0	54.0 SC	-11.0	Vert
4	960.000M QP	8.0	+0.3	+1.5	+2.4	+30.7	+0.0	42.9	54.0 Hopping	-11.1	Vert
5	902.000M	53.4	+0.3	+1.4	+2.3	+29.6	+0.0	87.0	109.0 SC	-22.0	Vert
6	902.000M	51.4	+0.3	+1.4	+2.3	+29.6	+0.0	85.0	109.0 Hopping	-24.0	Vert
7	928.000M	42.0	+0.3	+1.5	+2.4	+30.6	+0.0	76.8	109.0 SC	-32.2	Vert
8	928.000M	41.1	+0.3	+1.5	+2.4	+30.6	+0.0	75.9	109.0 Hopping	-33.1	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/17/2022
Test Type:	**Maximized Emissions**	Time:	15:54:46
Tested By:	Michael Atkinson	Sequence#:	1
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 2
AM Modulation, single channel and hopping.

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T5	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	614.000M QP	8.0	+0.0 +27.2	+0.3	+1.2	+1.9	+0.0	38.6	46.0 SC	-7.4	Vert
2	614.000M QP	7.9	+0.0 +27.2	+0.3	+1.2	+1.9	+0.0	38.5	46.0 Hopping	-7.5	Vert
3	960.000M QP	8.0	+0.0 +30.7	+0.3	+1.5	+2.4	+0.0	42.9	54.0 SC	-11.1	Vert
4	960.000M QP	7.9	+0.0 +30.7	+0.3	+1.5	+2.4	+0.0	42.8	54.0 Hopping	-11.2	Vert
5	928.000M	46.0	+0.0 +30.6	+0.3	+1.5	+2.4	+0.0	80.8	112.0 Hopping	-31.2	Vert
6	902.000M	46.2	+0.0 +29.6	+0.3	+1.4	+2.3	+0.0	79.8	112.0 Hopping	-32.2	Vert
7	902.000M	43.9	+0.0 +29.6	+0.3	+1.4	+2.3	+0.0	77.5	112.0 SC	-34.5	Vert
8	928.000M	38.8	+0.0 +30.6	+0.3	+1.5	+2.4	+0.0	73.6	112.0 SC	-38.4	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/17/2022
Test Type:	**Maximized Emissions**	Time:	16:32:05
Tested By:	Michael Atkinson	Sequence#:	2
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 2
FM12.5 Modulation

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	8.0	+0.3	+1.2	+1.9	+27.2	+0.0	38.6	46.0 SC	-7.4	Vert
2	614.000M QP	8.0	+0.3	+1.2	+1.9	+27.2	+0.0	38.6	46.0 Hopping	-7.4	Vert
3	960.000M QP	8.0	+0.3	+1.5	+2.4	+30.7	+0.0	42.9	54.0 SC	-11.1	Vert
4	901.995M	55.7	+0.3	+1.4	+2.3	+29.6	+0.0	89.3	109.0 Hopping	-19.7	Vert
5	902.000M	54.0	+0.3	+1.4	+2.3	+29.6	+0.0	87.6	109.0 SC	-21.4	Vert
6	928.065M	45.6	+0.3	+1.5	+2.4	+30.6	+0.0	80.4	109.0 Hopping	-28.6	Vert
7	928.000M	43.4	+0.3	+1.5	+2.4	+30.6	+0.0	78.2	109.0 SC	-30.8	Vert
8	928.000M	41.4	+0.3	+1.5	+2.4	+30.6	+0.0	76.2	109.0 Hopping	-32.8	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/17/2022
Test Type:	**Maximized Emissions**	Time:	17:00:43
Tested By:	Michael Atkinson	Sequence#:	3
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 2
FM 37.5k modulation

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	8.0	+0.3	+1.2	+1.9	+27.2	+0.0	38.6	46.0 SC	-7.4	Vert
2	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 Hopping	-7.5	Vert
3	960.000M QP	7.9	+0.3	+1.5	+2.4	+30.7	+0.0	42.8	54.0 Hopping	-11.2	Vert
4	960.000M QP	7.8	+0.3	+1.5	+2.4	+30.7	+0.0	42.7	54.0 SC	-11.3	Vert
5	902.000M	53.0	+0.3	+1.4	+2.3	+29.6	+0.0	86.6	109.0 SC	-22.4	Vert
6	902.000M	52.6	+0.3	+1.4	+2.3	+29.6	+0.0	86.2	109.0 Hopping	-22.8	Vert
7	928.000M	43.2	+0.3	+1.5	+2.4	+30.6	+0.0	78.0	109.0 SC	-31.0	Vert
8	928.000M	41.9	+0.3	+1.5	+2.4	+30.6	+0.0	76.7	109.0 Hopping	-32.3	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/17/2022
Test Type:	**Maximized Emissions**	Time:	18:52:57
Tested By:	Michael Atkinson	Sequence#:	1
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 3			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 3			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 3
AM Modulation

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 SC	-7.5	Vert
2	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 Hopping	-7.5	Vert
3	960.000M QP	8.0	+0.3	+1.5	+2.4	+30.7	+0.0	42.9	54.0 Hopping	-11.1	Vert
4	960.000M QP	8.0	+0.3	+1.5	+2.4	+30.7	+0.0	42.9	54.0 SC	-11.1	Vert
5	901.960M	46.5	+0.3	+1.4	+2.3	+29.6	+0.0	80.1	112.0 Hopping	-31.9	Vert
6	928.000M	44.5	+0.3	+1.5	+2.4	+30.6	+0.0	79.3	112.0 Hopping	-32.7	Vert
7	902.000M	42.0	+0.3	+1.4	+2.3	+29.6	+0.0	75.6	112.0 SC	-36.4	Vert
8	928.000M	38.7	+0.3	+1.5	+2.4	+30.6	+0.0	73.5	112.0 SC	-38.5	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/17/2022
Test Type:	**Maximized Emissions**	Time:	19:34:25
Tested By:	Michael Atkinson	Sequence#:	2
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 3			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 3			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 3
FM12.5k Modulation

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 Hopping	-7.5	Vert
2	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 SC	-7.5	Vert
3	960.000M QP	7.9	+0.3	+1.5	+2.4	+30.7	+0.0	42.8	54.0 Hopping	-11.2	Vert
4	960.000M QP	7.9	+0.3	+1.5	+2.4	+30.7	+0.0	42.8	54.0 SC	-11.2	Vert
5	902.000M	57.7	+0.3	+1.4	+2.3	+29.6	+0.0	91.3	109.0 Hopping	-17.7	Vert
6	902.000M	53.9	+0.3	+1.4	+2.3	+29.6	+0.0	87.5	109.0 SC	-21.5	Vert
7	928.000M	43.2	+0.3	+1.5	+2.4	+30.6	+0.0	78.0	109.0 SC	-31.0	Vert
8	928.000M	42.3	+0.3	+1.5	+2.4	+30.6	+0.0	77.1	109.0 Hopping	-31.9	Vert

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107461**	Date:	10/17/2022
Test Type:	**Maximized Emissions**	Time:	19:55:18
Tested By:	Michael Atkinson	Sequence#:	3
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 3			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 3			

Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 51%
Pressure: 101.5kPa

Test Method: ANSI C63.10 (2013)

Frequency: Band Edge

Test Setup:
Unit is on foam table 80cm high. Horizontal and Vertical antenna polarities investigated, worst-case reported, unit is continuously transmitting with modulation.

Configuration 3
FM 37.5k Modulation

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T2	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T3	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T4	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 Hopping	-7.5	Vert
2	614.000M QP	7.9	+0.3	+1.2	+1.9	+27.2	+0.0	38.5	46.0 SC	-7.5	Vert
3	960.000M QP	8.0	+0.3	+1.5	+2.4	+30.7	+0.0	42.9	54.0 Hopping	-11.1	Vert
4	960.000M QP	7.9	+0.3	+1.5	+2.4	+30.7	+0.0	42.8	54.0 SC	-11.2	Vert
5	902.000M	54.5	+0.3	+1.4	+2.3	+29.6	+0.0	88.1	109.0 SC	-20.9	Vert
6	902.000M	52.3	+0.3	+1.4	+2.3	+29.6	+0.0	85.9	109.0 Hopping	-23.1	Vert
7	928.000M	42.8	+0.3	+1.5	+2.4	+30.6	+0.0	77.6	109.0 SC	-31.4	Vert
8	928.000M	40.6	+0.3	+1.5	+2.4	+30.6	+0.0	75.4	109.0 Hopping	-33.6	Vert

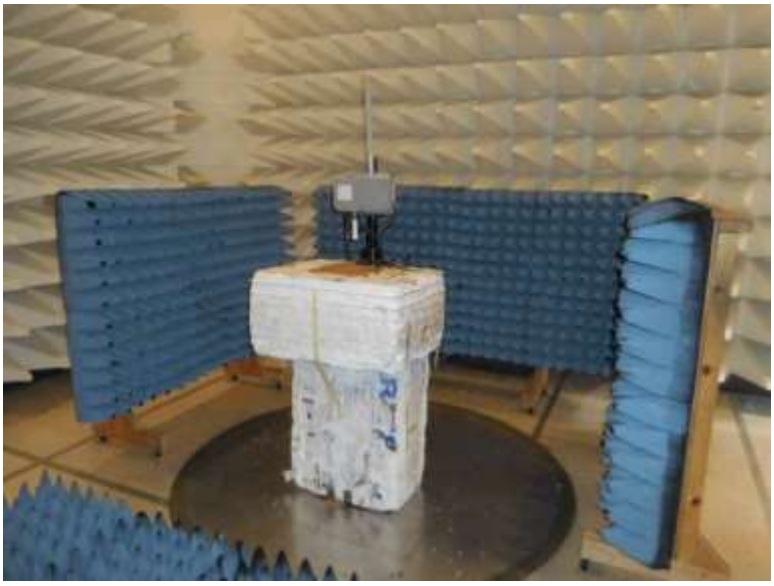
Test Setup Photo(s)

Configuration 1

Below 1GHz; View 1

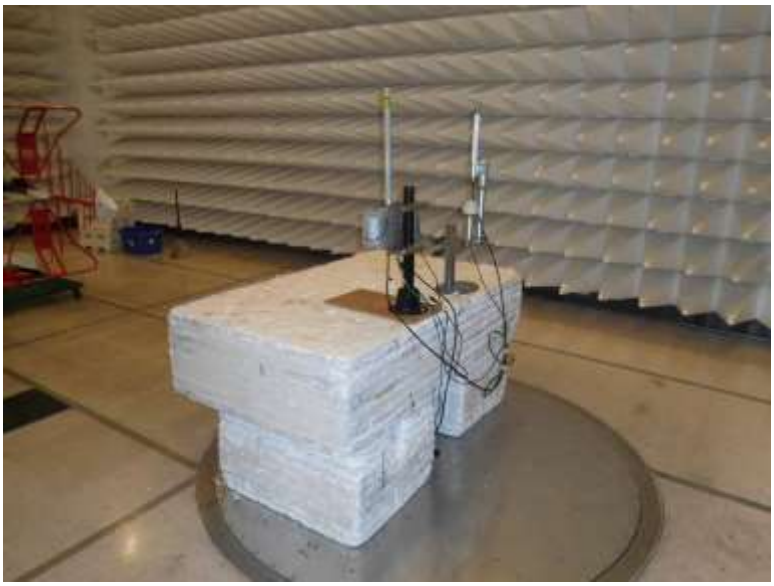
Below 1GHz; View 2

Above 1GHz; View 1



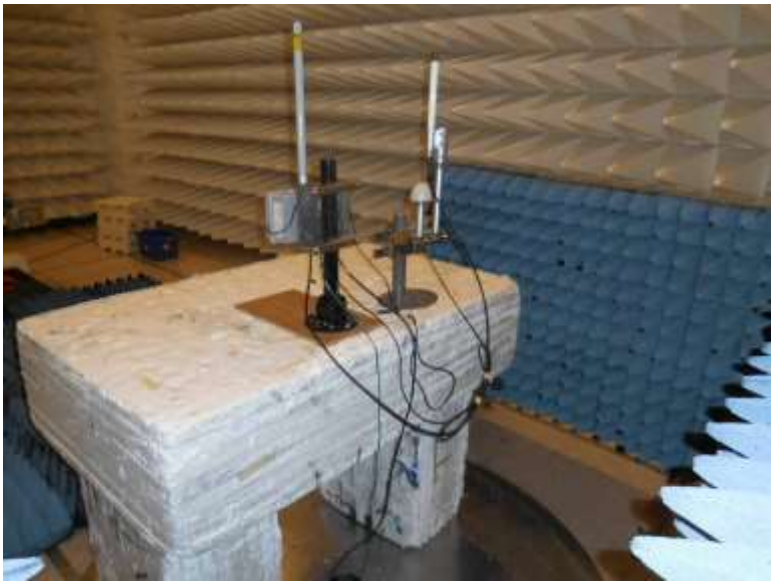
Above 1GHz; View 2

Configuration 2

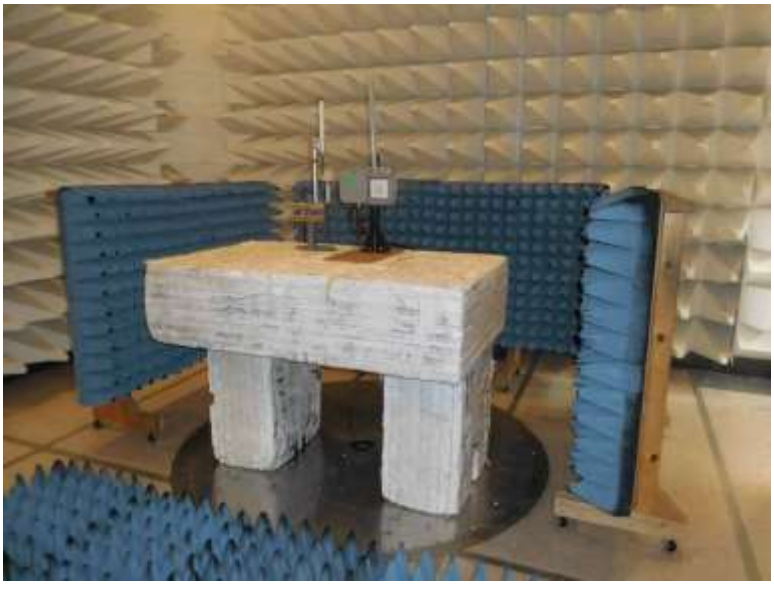


Below 1GHz; View 1

Below 1GHz; View 2



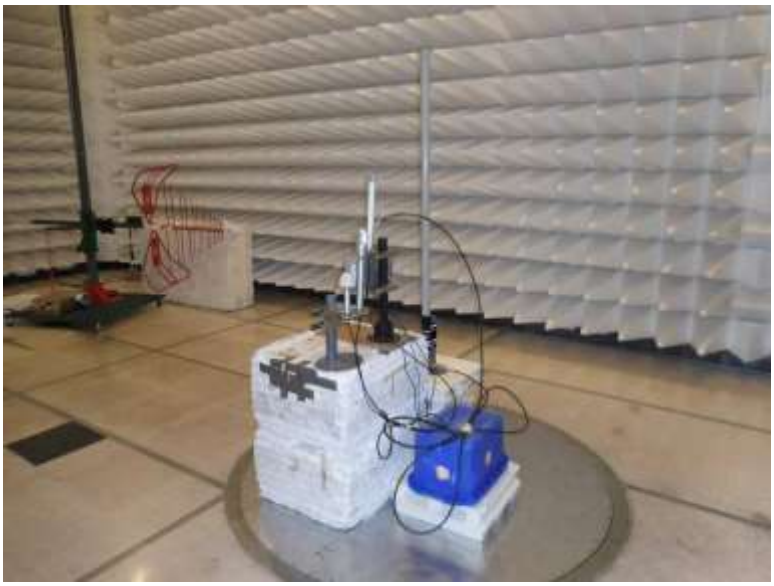
Above 1GHz; View 1



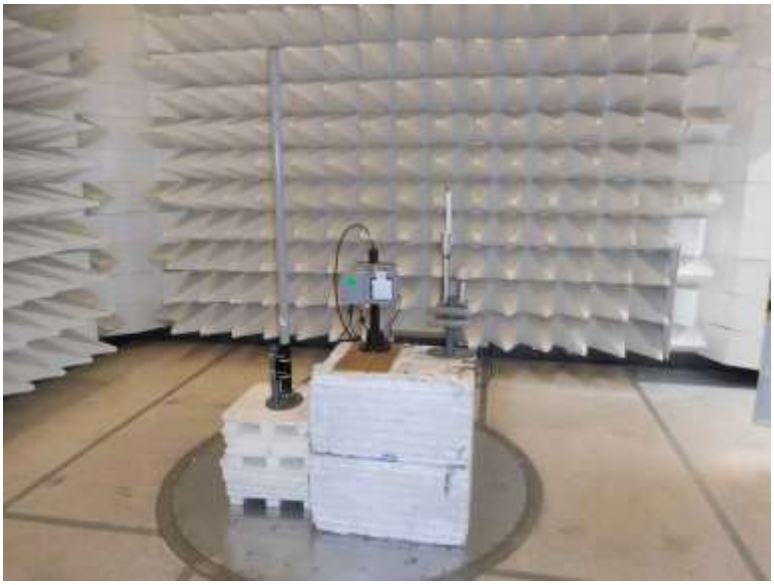
Above 1GHz; View 2

GPS Antenna Investigation

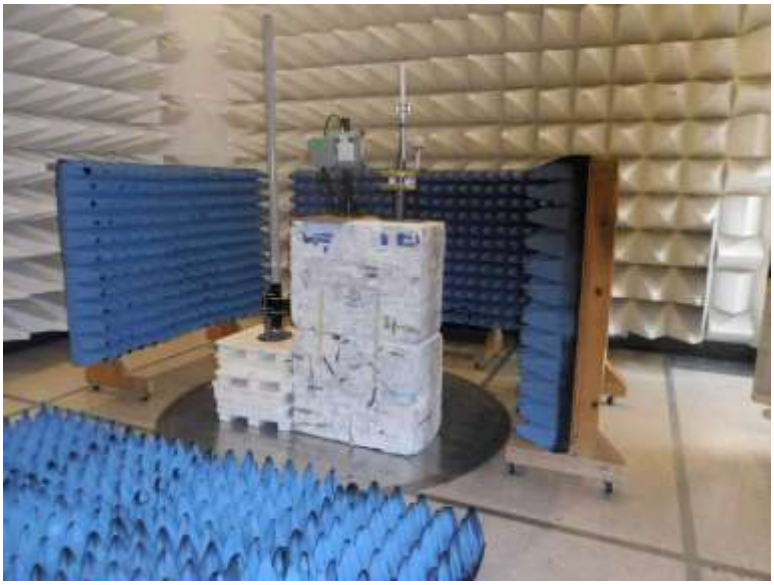
Configuration 3



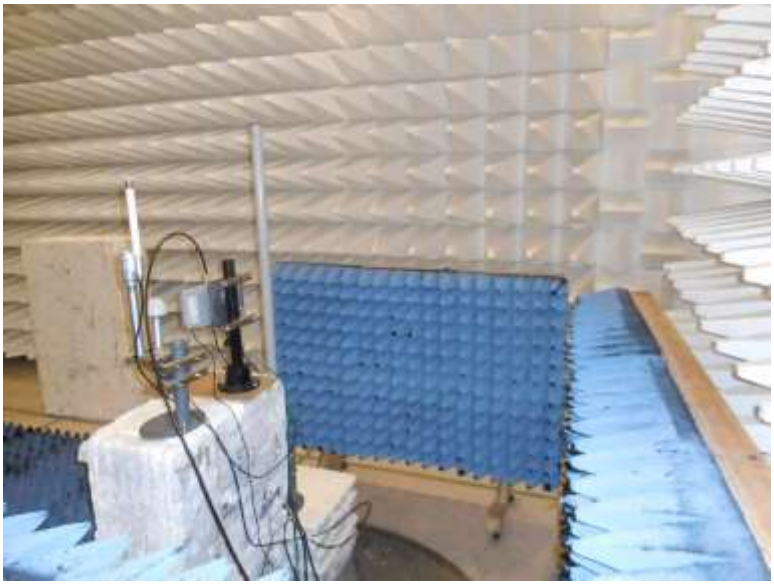
Below 1GHz; View 1



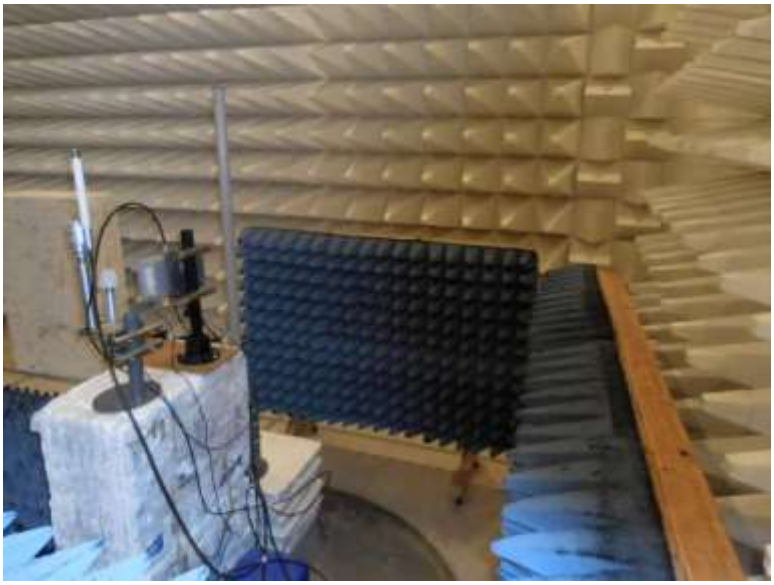
Below 1GHz; View 2



Above 1GHz; View 1



Above 1GHz; View 2



Above 1GHz; View 3

Above 1GHz; View 4

GPS Investigation Antenna

15.207 AC Conducted Emissions

Test Setup / Conditions / Data

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.207 AC Mains - Average**		
Work Order #:	**107461**	Date:	10/13/2022
Test Type:	**Conducted Emissions**	Time:	20:18:56
Tested By:	Michael Atkinson	Sequence#:	5
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

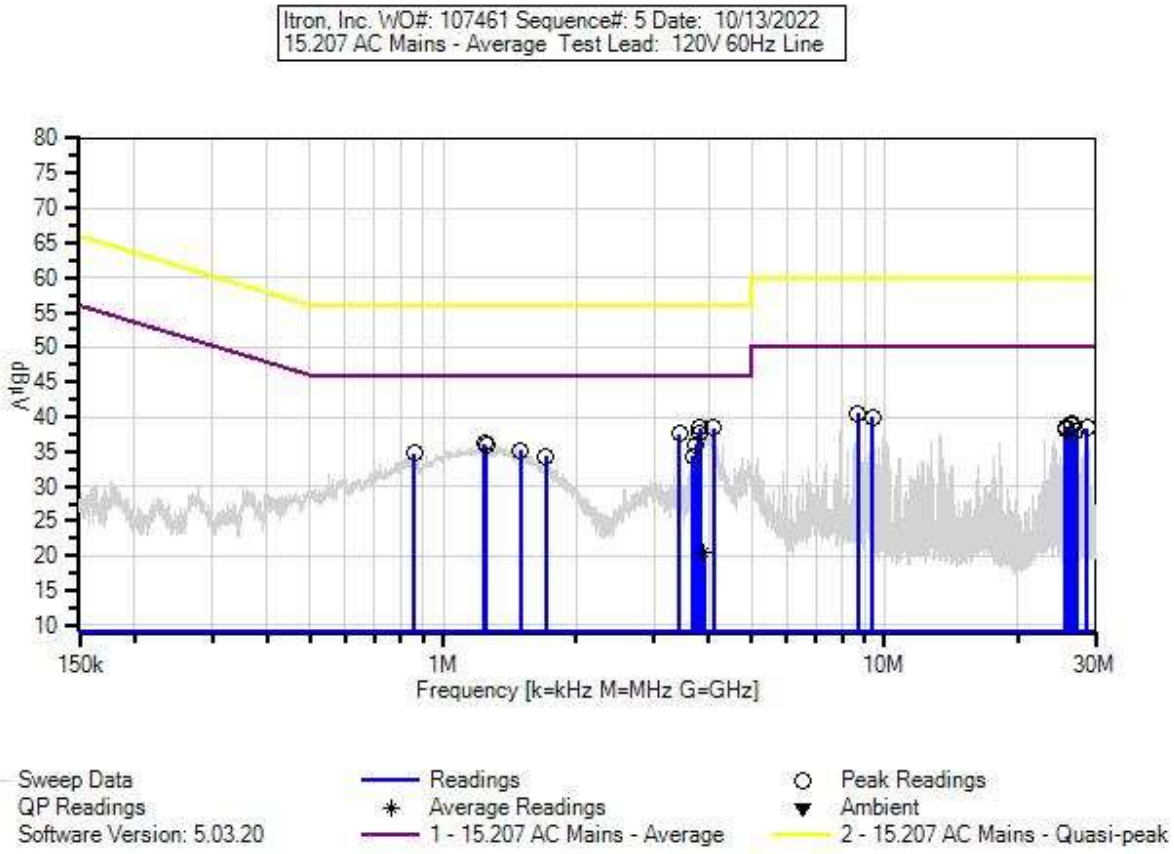
Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 43%
Pressure: 101.9kPa

Test Method: ANSI C63.10 (2013)

Frequency: 0.15-30MHz

Test Setup:
Configuration 1
AM, FM12.5, and FM37.5 modulations investigated, worst-case reported. Configuration 2 and 3 investigated, with and without battery investigated, also investigated with GPS antenna PN 57861-20 on configuration 2 and configuration 3, investigated with RV50 and RV50x cell modems installed and powered, worst-case data reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	AN02611	High Pass Filter	HE9615-150K-50-720B	1/5/2022	1/5/2024
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP06219	Attenuator	768-10	3/23/2022	3/23/2024
T5	AN01311	50uH LISN-Line1 (L)	3816/2	2/23/2022	2/23/2024
	AN01311	50uH LISN-Line2 (N)	3816/2	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Line

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	3.815M	29.0	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	38.4	46.0	-7.6	Line
2	4.099M	29.0	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	38.4	46.0	-7.6	Line
3	3.792M	28.3	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	37.7	46.0	-8.3	Line
4	3.424M	28.1	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	37.5	46.0	-8.5	Line
5	8.717M	31.0	+0.0 +0.2	+0.1	+0.1	+9.1	+0.0	40.5	50.0	-9.5	Line
6	1.238M	26.6	+0.1 +0.1	+0.1	+0.1	+9.1	+0.0	36.1	46.0	-9.9	Line
7	3.742M	26.6	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	36.0	46.0	-10.0	Line
8	1.251M	26.4	+0.1 +0.1	+0.1	+0.1	+9.1	+0.0	35.9	46.0	-10.1	Line
9	9.388M	30.5	+0.0 +0.2	+0.0	+0.1	+9.1	+0.0	39.9	50.0	-10.1	Line
10	26.607M	29.6	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	39.1	50.0	-10.9	Line
11	1.494M	25.6	+0.1 +0.1	+0.1	+0.1	+9.1	+0.0	35.1	46.0	-10.9	Line
12	858.464k	25.3	+0.1 +0.1	+0.1	+0.0	+9.1	+0.0	34.7	46.0	-11.3	Line
13	26.490M	29.2	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.7	50.0	-11.3	Line
14	25.877M	29.0	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.5	50.0	-11.5	Line
15	28.685M	28.9	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.4	50.0	-11.6	Line
16	1.712M	24.9	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	34.3	46.0	-11.7	Line
17	3.674M	24.9	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	34.3	46.0	-11.7	Line
18	25.688M	28.7	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.2	50.0	-11.8	Line
19	27.160M	28.5	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.0	50.0	-12.0	Line
20	3.885M Ave	11.1	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	20.5	46.0	-25.5	Line
^	3.885M	30.7	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	40.1	46.0	-5.9	Line

Test Location:	CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717		
Customer:	**Itron, Inc.**		
Specification:	**15.207 AC Mains - Average**		
Work Order #:	**107461**	Date:	10/13/2022
Test Type:	**Conducted Emissions**	Time:	20:27:17
Tested By:	Michael Atkinson	Sequence#:	7
Software:	EMITest 5.03.20		120V 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

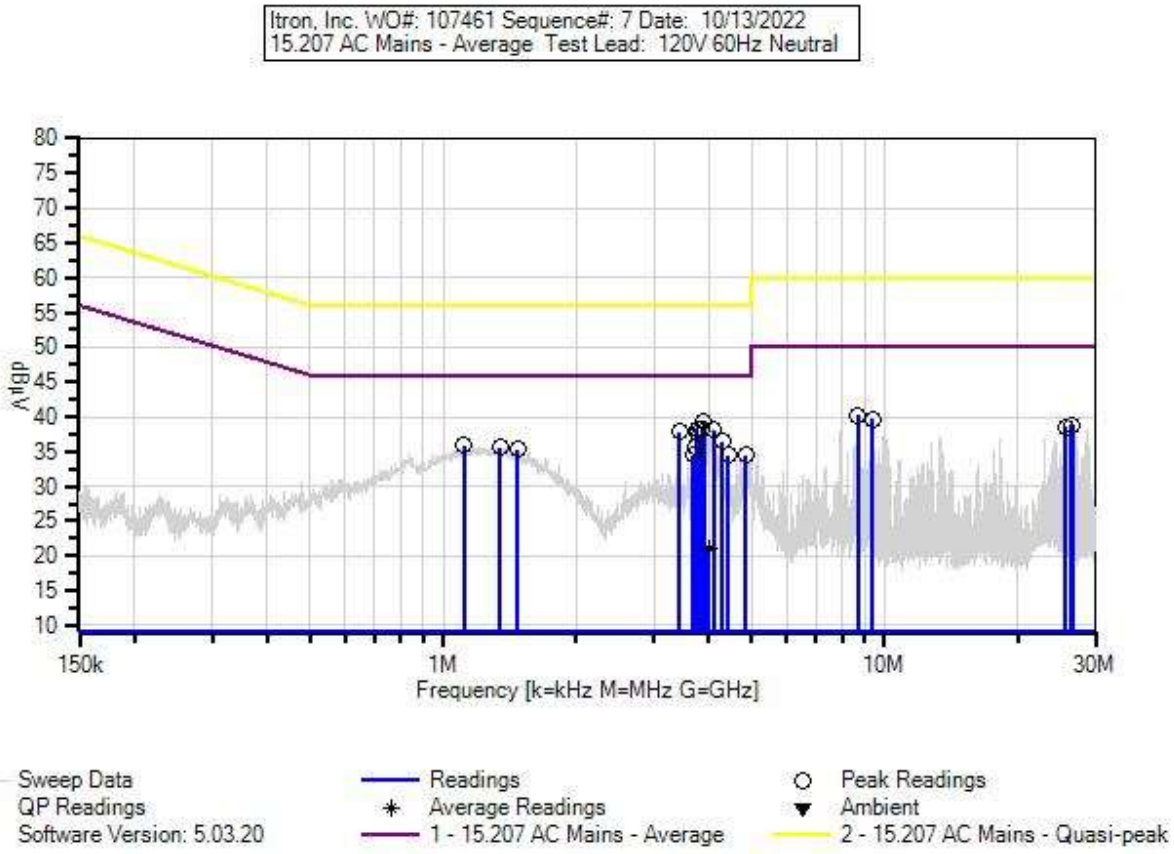
Test Conditions / Notes:

Test Environment Conditions:
Temperature: 24°C
Humidity: 43%
Pressure: 101.9kPa

Test Method: ANSI C63.10 (2013)

Frequency: 0.15-30MHz

Test Setup:
Configuration 1
AM, FM12.5, and FM37.5 modulations investigated, worst-case reported. Configuration 2 and 3 investigated, with and without battery investigated, also investigated with GPS antenna PN 57861-20 on configuration 2 and configuration 3, investigated with RV50 and RV50x cell modems installed and powered, worst-case data reported.



Test Equipment:

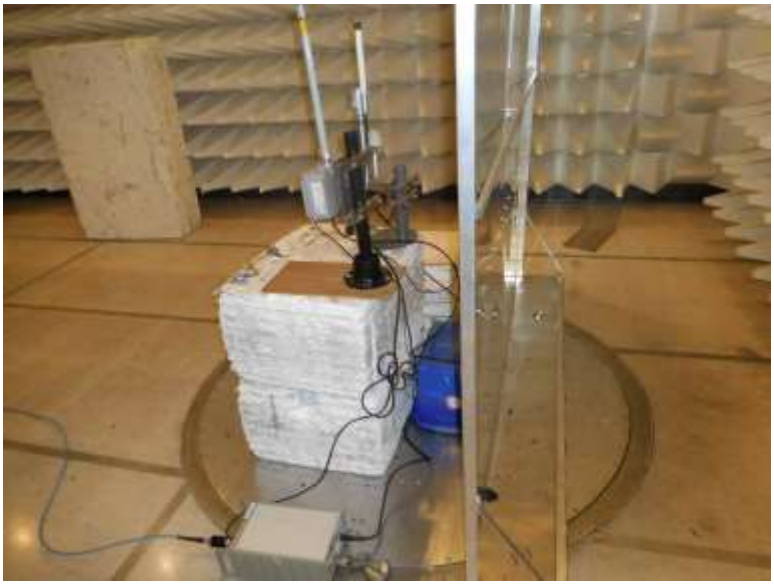
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	AN02611	High Pass Filter	HE9615-150K-50-720B	1/5/2022	1/5/2024
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP06219	Attenuator	768-10	3/23/2022	3/23/2024
	AN01311	50uH LISN-Line1 (L)	3816/2	2/23/2022	2/23/2024
T5	AN01311	50uH LISN-Line2 (N)	3816/2	2/23/2022	2/23/2024

Measurement Data: Reading listed by margin. Test Lead: Neutral

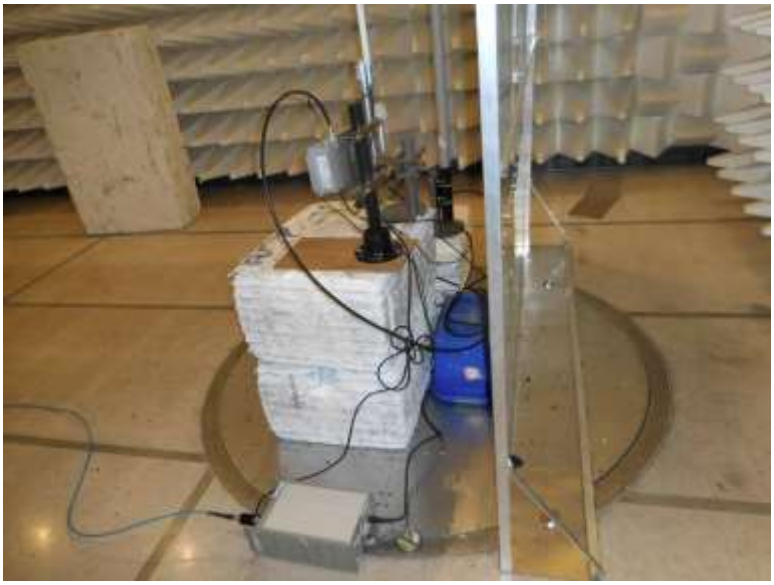
#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	3.888M	30.0	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	39.4	46.0	-6.6	Neutr
2	3.764M	28.8	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	38.2	46.0	-7.8	Neutr
3	3.860M	28.8	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	38.2	46.0	-7.8	Neutr
4	4.092M	28.7	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	38.1	46.0	-7.9	Neutr
5	3.424M	28.4	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	37.8	46.0	-8.2	Neutr
6	3.780M	28.2	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	37.6	46.0	-8.4	Neutr
7	4.288M	27.1	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	36.5	46.0	-9.5	Neutr
8	8.717M	30.8	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	40.2	50.0	-9.8	Neutr
9	1.116M	26.4	+0.1 +0.1	+0.1	+0.1	+9.1	+0.0	35.9	46.0	-10.1	Neutr
10	9.388M	30.4	+0.0 +0.1	+0.0	+0.1	+9.1	+0.0	39.7	50.0	-10.3	Neutr
11	3.732M	26.3	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	35.7	46.0	-10.3	Neutr
12	1.345M	26.1	+0.1 +0.1	+0.1	+0.1	+9.1	+0.0	35.6	46.0	-10.4	Neutr
13	1.474M	25.8	+0.1 +0.1	+0.1	+0.1	+9.1	+0.0	35.3	46.0	-10.7	Neutr
14	26.490M	29.3	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.8	50.0	-11.2	Neutr
15	26.607M	29.2	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.7	50.0	-11.3	Neutr
16	3.674M	25.1	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	34.5	46.0	-11.5	Neutr
17	4.847M	25.1	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	34.5	46.0	-11.5	Neutr
18	25.688M	29.0	+0.1 +0.0	+0.1	+0.2	+9.1	+0.0	38.5	50.0	-11.5	Neutr
19	4.427M	25.0	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	34.4	46.0	-11.6	Neutr
20	4.001M Ave	11.6	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	21.0	46.0	-25.0	Neutr
^	4.001M	30.2	+0.0 +0.1	+0.1	+0.1	+9.1	+0.0	39.6	46.0	-6.4	Neutr

Test Setup Photo(s)

Configuration 1; Representative of Worst-Case



Configuration 2; Investigated



Configuration 3; Investigated

Appendix A: Customer Provided Data

15.35(c) Duty Cycle Correction Factor

Test Data Summary			
Antenna Port	**Operational Mode**	**Measured On Time (mS / P_{obs})**	**Declared DCCF DCCF (dB)**
1	Operating	23.8	12.5

Observation Period, P_{obs} is the duration of the pulse train or maximum 100mS

Measured results are calculated as follows:

$$On\ Time = \left(\sum_{Bursts} RF\ Burst\ On\ Time + \sum_{Control} Control\ Signal\ On\ time \right) \Bigg|_{P_{obs}\ (\max 100ms)}$$

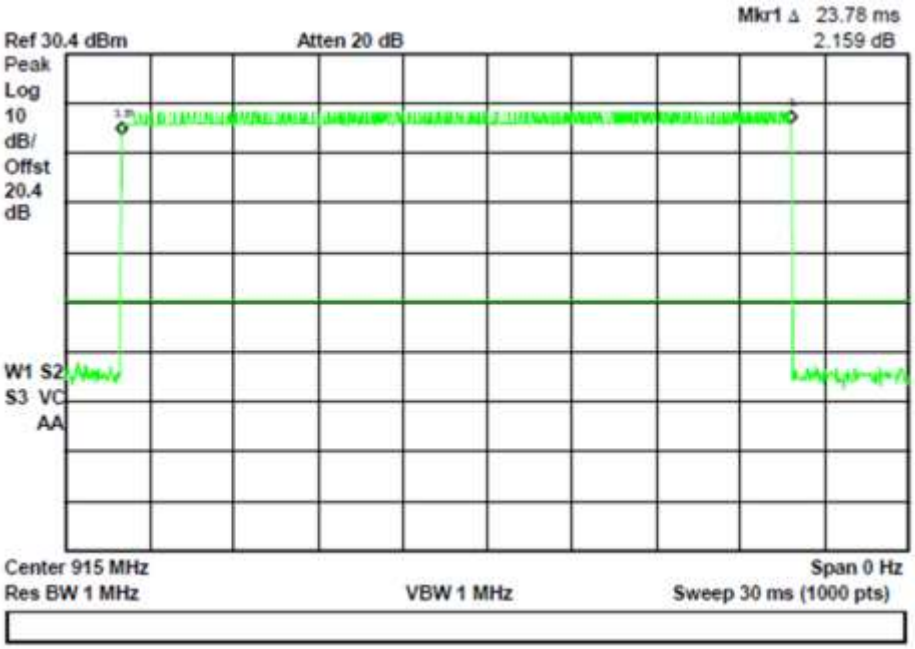
Measured Values:

Parameter	Value
Observation Period (P_{obs}):	100
Number of RF Bursts / P_{obs}:	1
On time of RF Burst:	23.8
Number of Control or other signals / P_{obs}:	0
On time of Control or other Signals:	0
Total Measured On Time:	23.8

Duty Cycle Correction Factor (DCCF) is calculated in accordance with ANSI C63.10:

$$DCCF = 20 \cdot Log\left(\frac{On\ Time}{P_{obs}}\right)$$

Duty Cycle Correction Factor Test Data



Appendix B: Manufacturer Declaration

The following device/models were checked and worst-case provided for testing:

Device: CCU100
Models: CCU100D and CCU100RD

The manufacturer declares that the following additional models are identical electrically or any differences between them do not affect their EMC characteristics, and therefore meets the level of testing equivalent to the tested model.

CCU100D and CCU100RD are representatives of worst-case testing of the following models per the manufacturer:

CCU100D Repeater
CCU100RD Repeater

SUPPLEMENTAL INFORMATION

Measurement Uncertainty

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

Uncertainties reported are worst case for all CKC Laboratories' sites and represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

Emissions Test Details

TESTING PARAMETERS

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit. Individual measurements were compared with the displayed limit value in the margin column. The margin was calculated based on subtracting the limit value from the corrected measurement value; a positive margin represents a measurement exceeding the limit, while a negative margin represents a measurement less than the limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB/m)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	9 kHz	150 kHz	200 Hz
RADIATED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or caret ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

Average

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.