Itron, Inc.

REVISED TEST REPORT FOR 107952-2

Intelis Gas
Model: ERG-7300-312*

***(See Appendix A for Manufacturers Declaration)**

Tested to The Following Standards:

FCC Part 15 Subpart C Section(s)

15.247
(FHSS 902-928MHz)

Report No.: 107652-2A

Date of issue: May 4, 2023

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.
2401 N. State Street
Waseca, MN 56093

Representative: Dan Bomsta
Customer Reference Number: 271433

DATE OF EQUIPMENT RECEIPT:
DATE(S) OF TESTING:

REPORT PREPARED BY:

Lisa Bevington
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 107652

January 11, 2023
January 11 - 31, 20232
April 24, 2023

Revision History

Original: Testing of Intelis Gas, Model: : ERG-7300-312 to FCC Part 15 Subpart C, Section 15.247 (FHSS 902-928MHz).

Revision A: Update Radiated Emissions test conditions. Added Conducted Emission and Conducted Bandedge data.

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.
22116 23rd Drive SE, Suite A
Bothell, WA 98021

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.03.20
EMITest Immunity	5.03.19

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	NA1

NA = Not Applicable
NA1 = Manufacturer declares EUT is battery powered.
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
None

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

Equipment Under Test:

Device	Manufacturer	Model #	S/N
Intelis Gas	Itron, Inc.	ERG-7300-312	Igcp-221116-**cond**

Support Equipment:

Device	Manufacturer	Model #	S/N
Laptop	HP	14-dq1033cl	5CD941CCWS
Laptop PSU	HP	TPN-CA14	WHGRE0AVKCR55T
Adapter Board	Itron, Inc.	None	None

Configuration 2

Equipment Under Test:

Device	Manufacturer	Model #	S/N
Intelis Gas	Itron, Inc.	ERG-7300-312	Igcp-01122023-**rad**

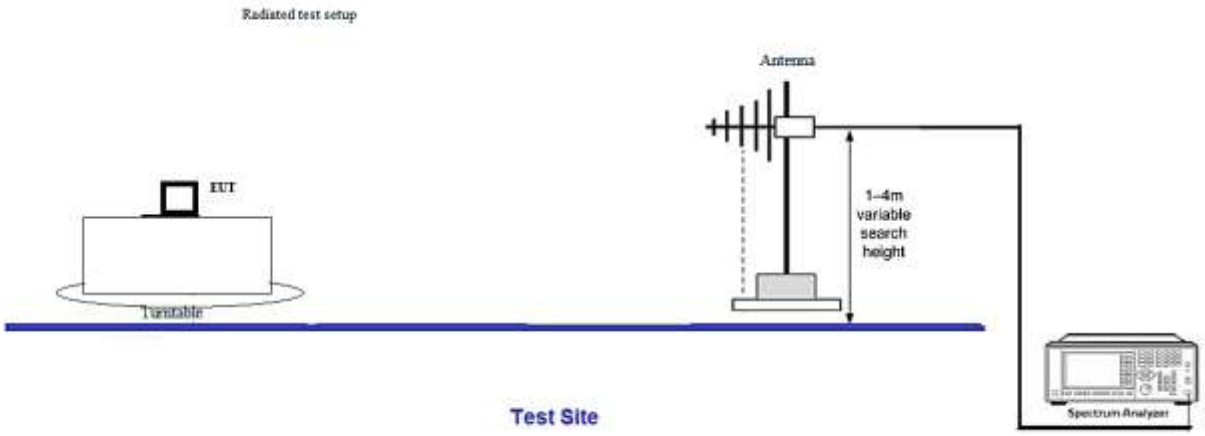
Support Equipment:

Device	Manufacturer	Model #	S/N
Laptop	HP	14-dq1033cl	5CD941CCWS
Laptop PSU	HP	TPN-CA14	WHGRE0AVKCR55T
Adapter Board	Itron, Inc.	None	None

General Product Information:

Product Information	Manufacturer-Provided Details
Equipment Type:	Stand-Alone Equipment
Type of Wideband System:	FHSS
Operating Frequency Range:	GFSK 10kbps: 902.2-927.75 MHz GFSK 25kbps: 902.2-927.75 MHz GFSK 50kbps: 902.2-927.6 MHz GFSK 150kbps: 902.4-927.6 MHz GFSK 300kbps: 902.4-927.6 MHz FSK 100kbps: 902.3-926.9 MHz OOK: 903-926.8 MHz
Number of Hopping Channels:	GFSK 10kbps: 512 GFSK 25kbps: 512 GFSK 50kbps: 128 GFSK 150kbps: 64 GFSK 300kbps: 64 FSK 100kbps: 83 OOK: 120
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):	GFSK, FSK, OOK
Maximum Duty Cycle:	Tested at 100%
Number of TX Chains:	1
Antenna Type(s) and Gain:	Proprietary F / 5dBi
Beamforming Type:	NA
Antenna Connection Type:	Integral (External connector provided to facilitate testing)
Nominal Input Voltage:	Battery (6VDC)
Firmware / Software used for Test:	RAIL: V2 11.3.1
The validity of results is dependent on the stated product details, the accuracy of which the manufacturer assumes full responsibility.	

Block Diagram of Test Setup(s)



Test Site

FCC Part 15 Subpart C

15.247(a) Transmitter Characteristics

Test Setup/Conditions			
Test Location:	Bothell Lab C3	Test Engineer:	M. Harrison
Test Method:	ANSI C63.10 (2013)	Test Date(s):	1/13/2023
Configuration:	1		
Test Setup:	EUT is setup for conducted measurements. It is directly connected to a spectrum analyzer via cable and attenuator.		

Environmental Conditions			
Temperature (ºC)	20	Relative Humidity (%):	40

Test Equipment					
Asset#	**Description**	**Manufacturer**	**Model**	**Cal Date**	**Cal Due**
02673	Spectrum Analyzer	Agilent	E4446A	2/3/2021	2/3/2023
P05503	Attenuator	Narda	766-10	6/8/2021	6/8/2023
P06540	Cable	Andrews	Heliax	1/17/2022	1/17/2024

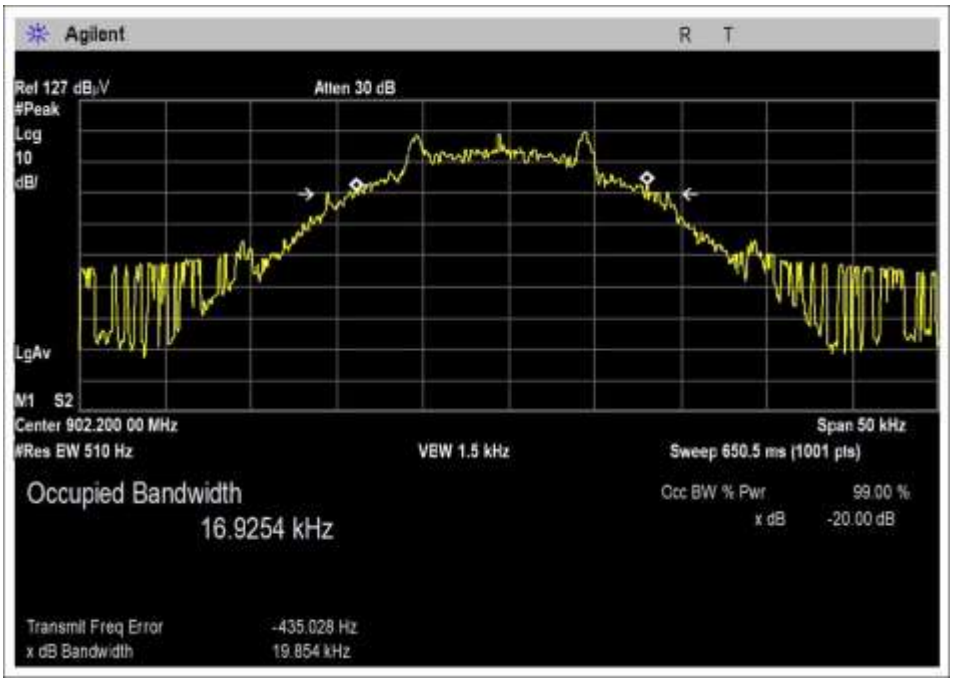
15.247(a)(1)(i) 20 dB Bandwidth

Test Data Summary					
Frequency (MHz)	**Antenna Port**	**Modulation**	**Measured (kHz)**	**Limit (kHz)**	**Results**
902.2	1	GFSK 10kbps	19.9	≤500	Pass
914.95	1	GFSK 10kbps	19.4	≤500	Pass
927.75	1	GFSK 10kbps	18.3	≤500	Pass
902.2	1	GFSK 25kbps	29.3	≤500	Pass
914.95	1	GFSK 25kbps	29.5	≤500	Pass
927.75	1	GFSK 25kbps	29.3	≤500	Pass
902.2	1	GFSK 50kbps	101.8	≤500	Pass
914.8	1	GFSK 50kbps	100.1	≤500	Pass
927.6	1	GFSK 50kbps	101.4	≤500	Pass
902.4	1	GFSK 150kbps	269.6	≤500	Pass
914.8	1	GFSK 150kbps	263.9	≤500	Pass
927.6	1	GFSK 150kbps	268.8	≤500	Pass
902.4	1	GFSK 300kbps	358.4	≤500	Pass
914.8	1	GFSK 300kbps	358.3	≤500	Pass
927.6	1	GFSK 300kbps	358.4	≤500	Pass
902.3	1	FSK 100kbps	208.2	≤500	Pass
914.6	1	FSK 100kbps	205.7	≤500	Pass

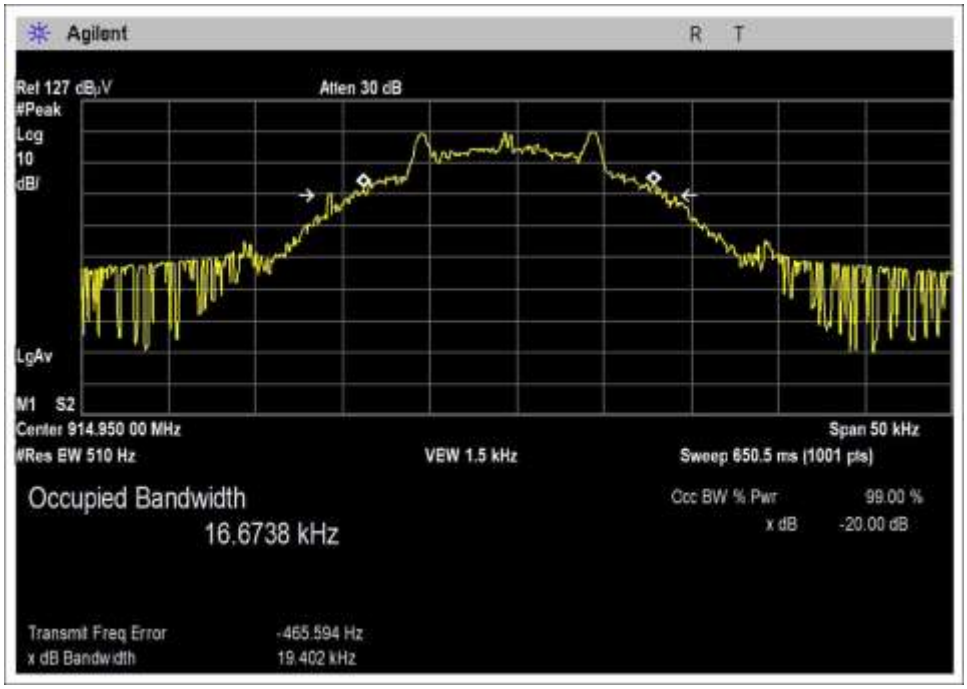
Frequency (MHz)	Antenna Port	Modulation	Measured (kHz)	Limit (kHz)	Results
926.9	1	FSK 100kbps	209.1	≤500	Pass
903.0	1	OOK	166.5	≤500	Pass
914.8	1	OOK	166.5	≤500	Pass
926.8	1	OOK	166.4	≤500	Pass

Plot(s)

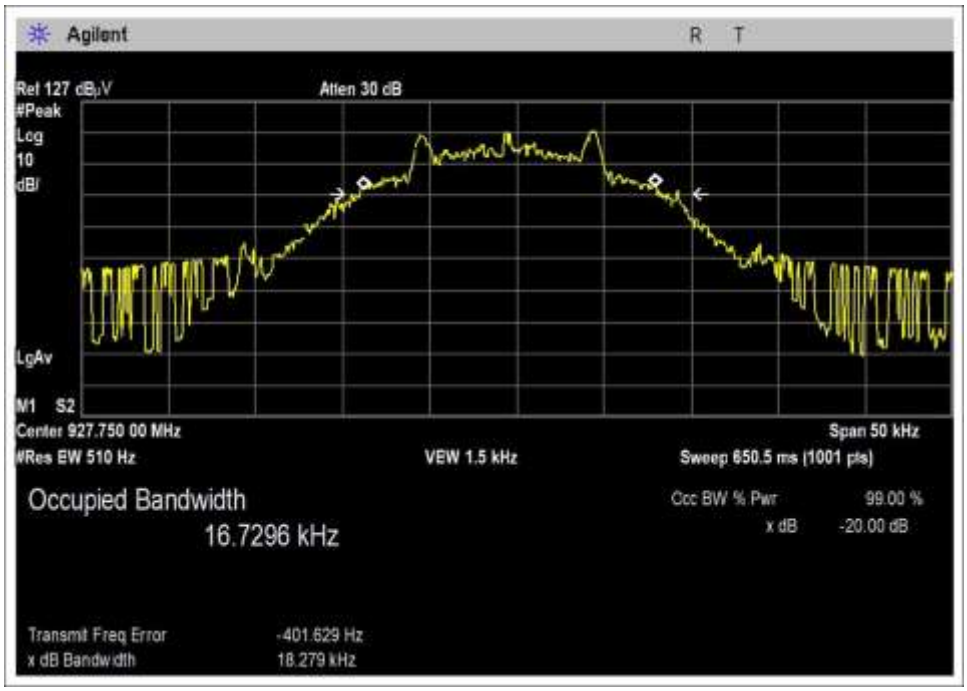
GFSK 10kbps



Low Channel

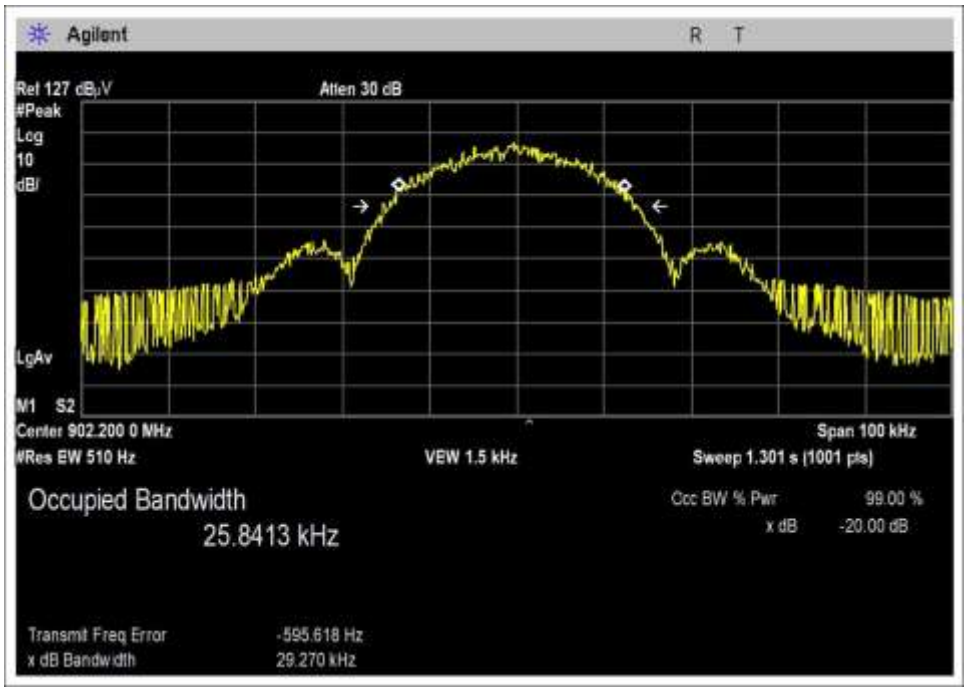


Middle Channel



High Channel

GFSK 25kbps



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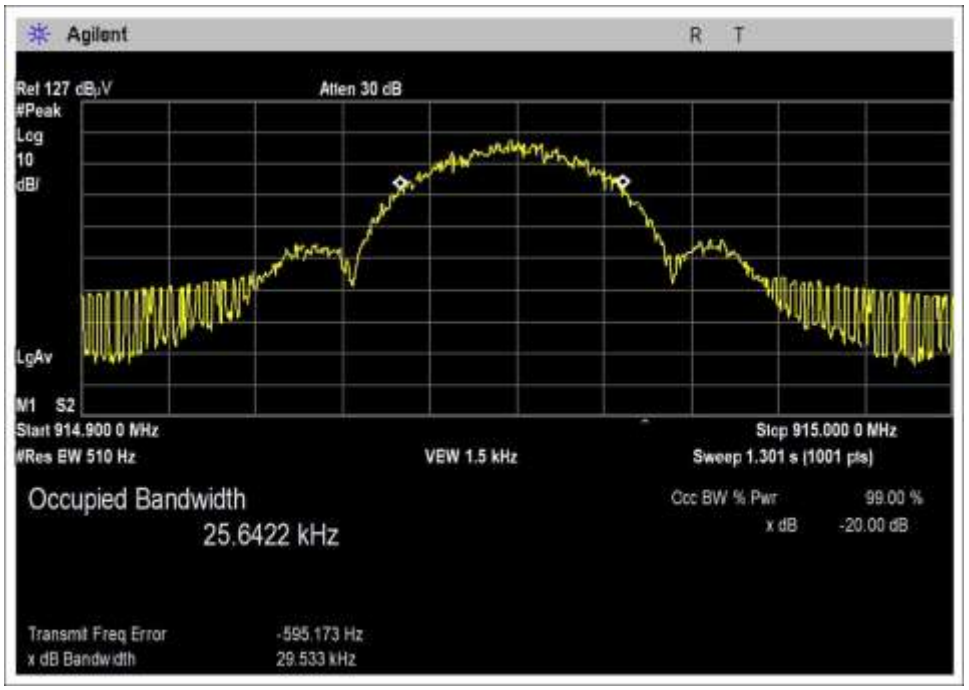
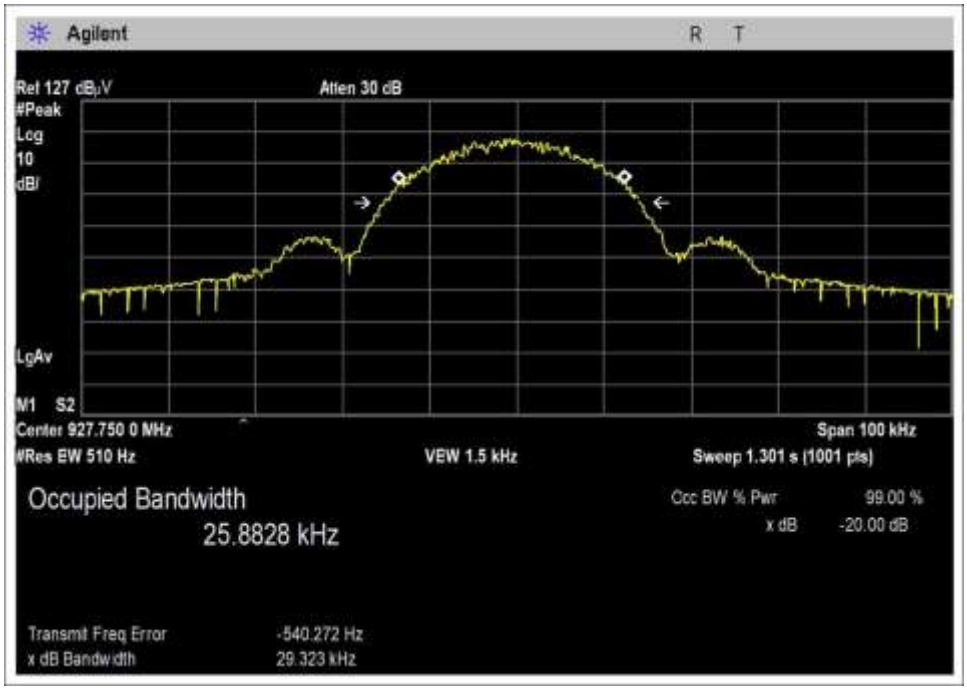
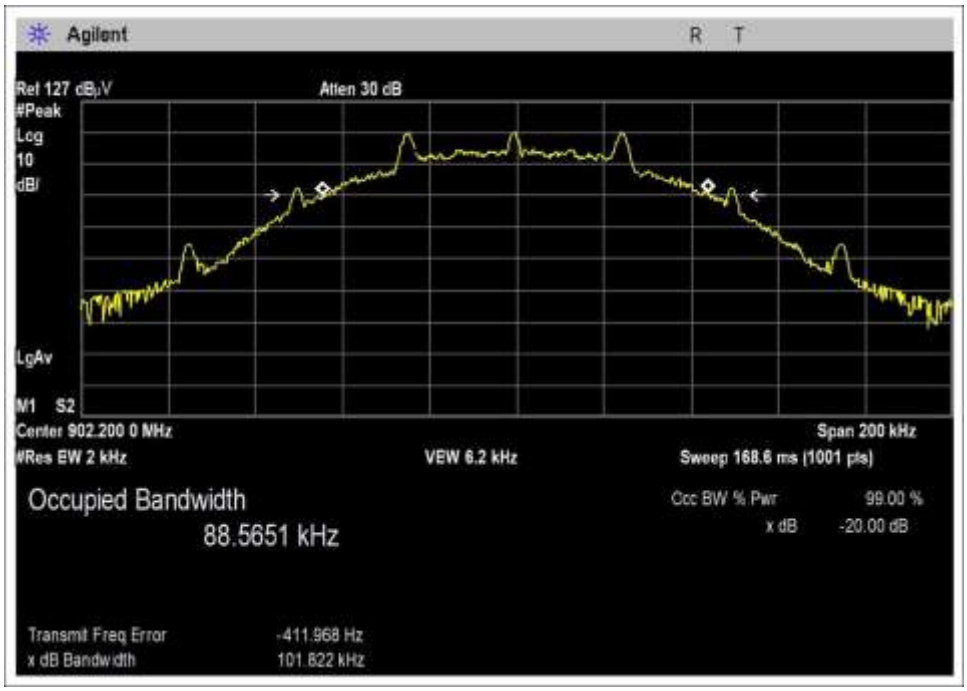


Middle Channel



High Channel

GFSK 50kbps



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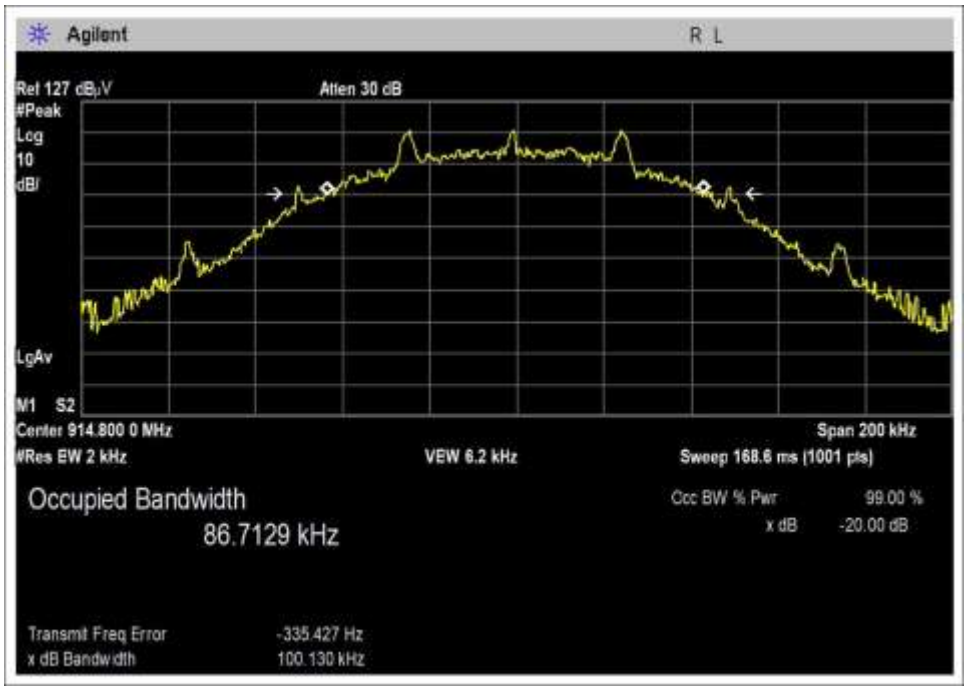
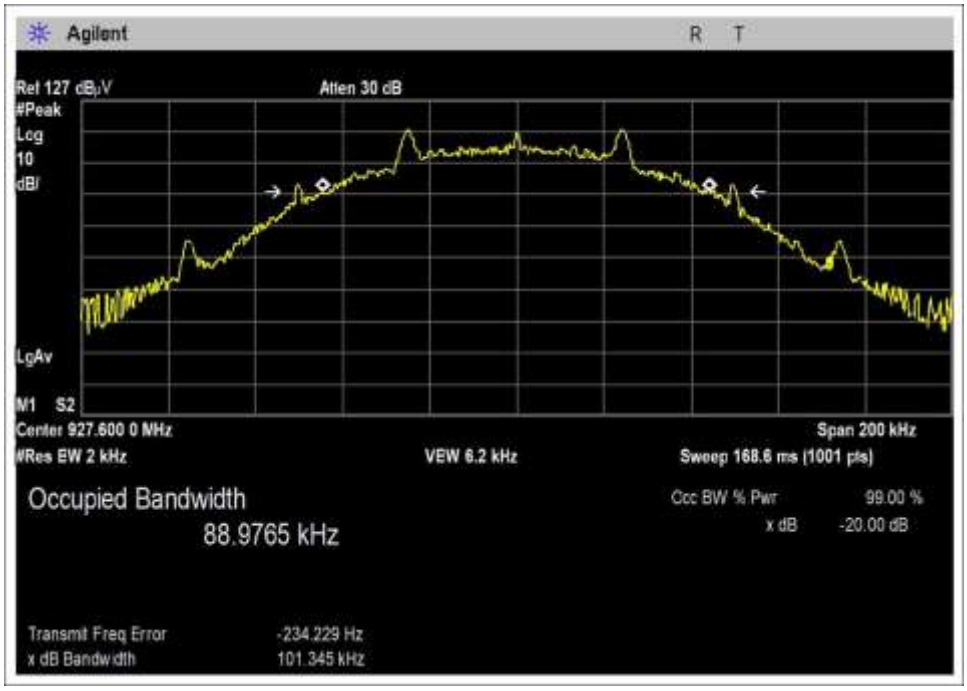
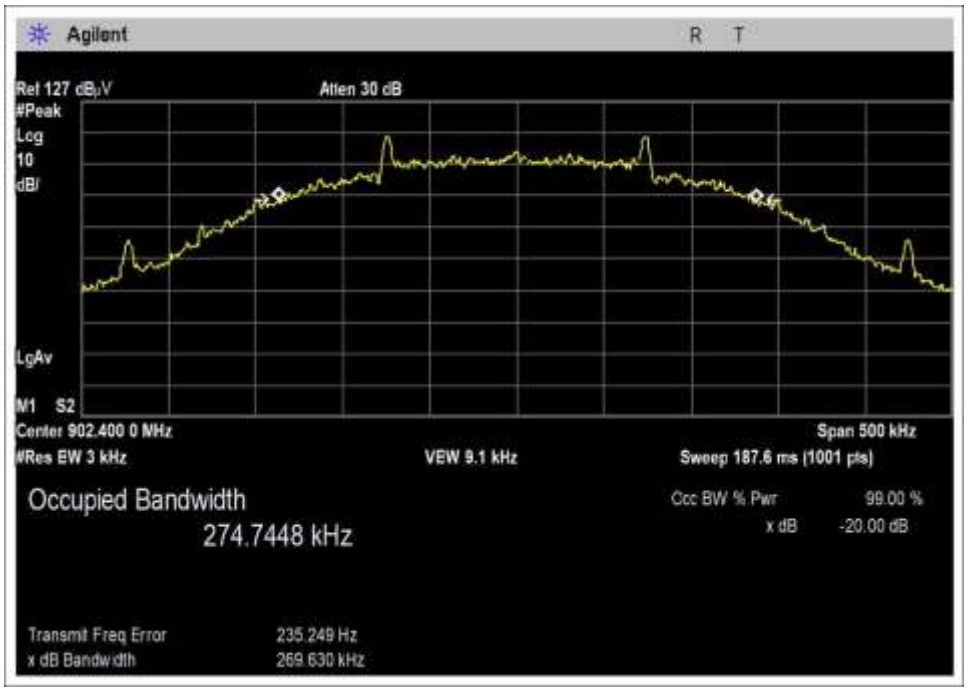


Middle Channel

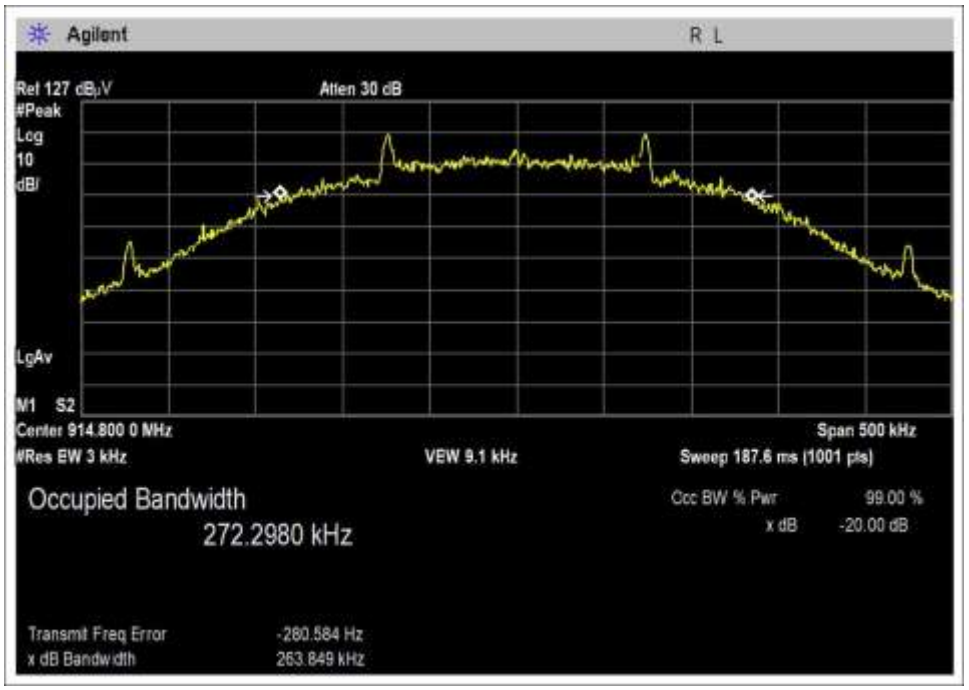


High Channel

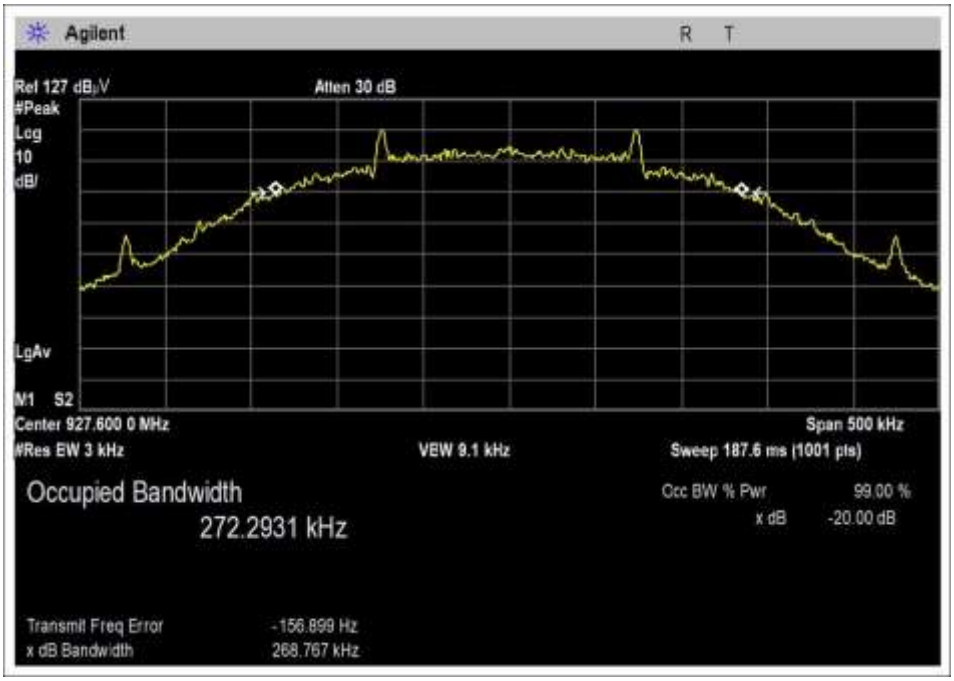
GFSK 150kbps



Low Channel

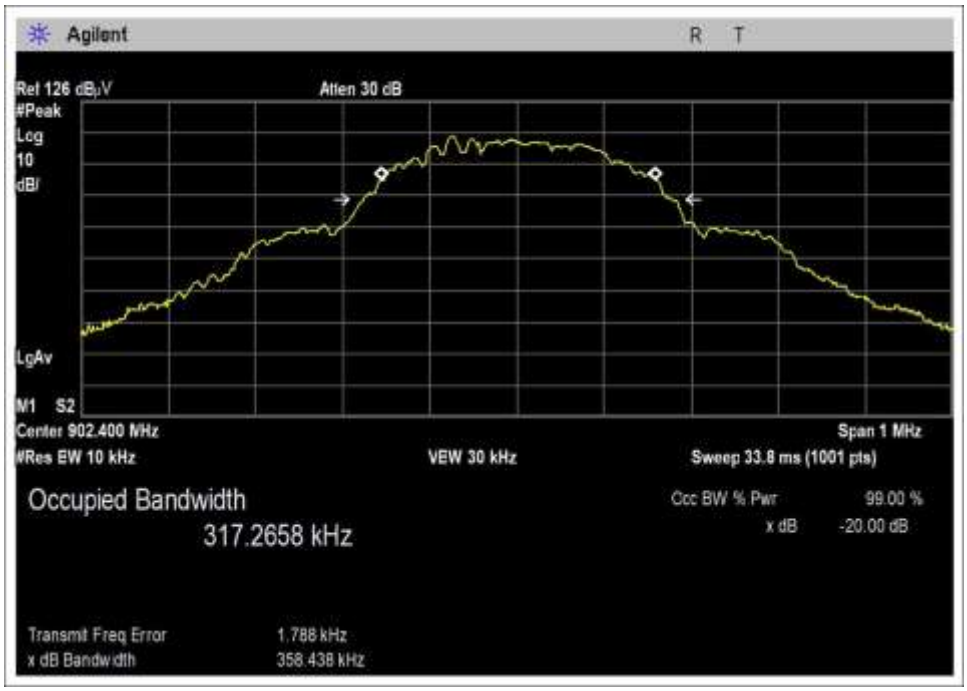


Middle Channel

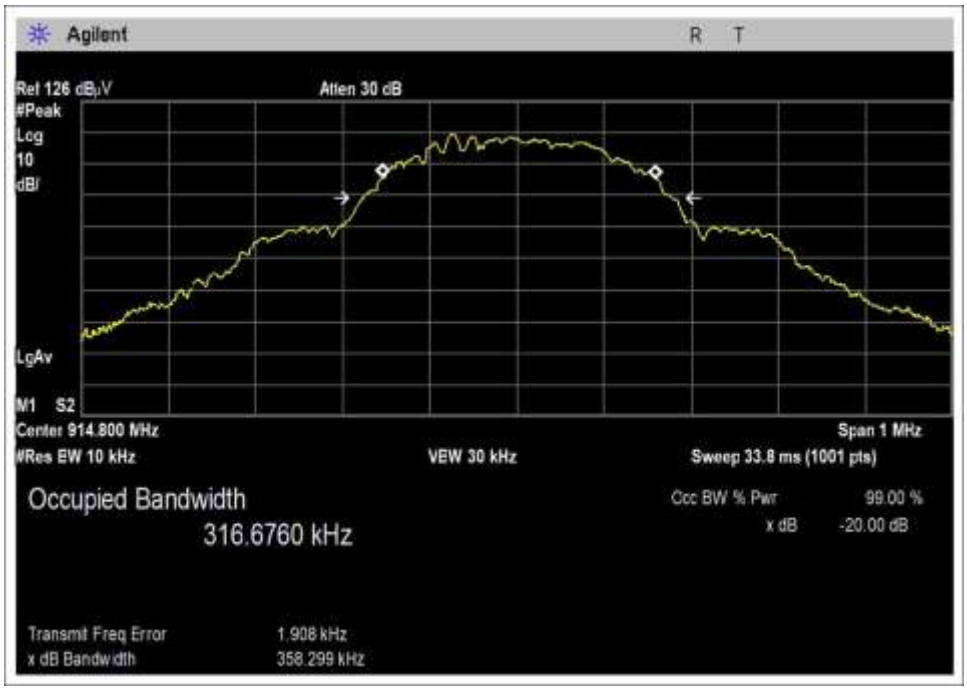


High Channel

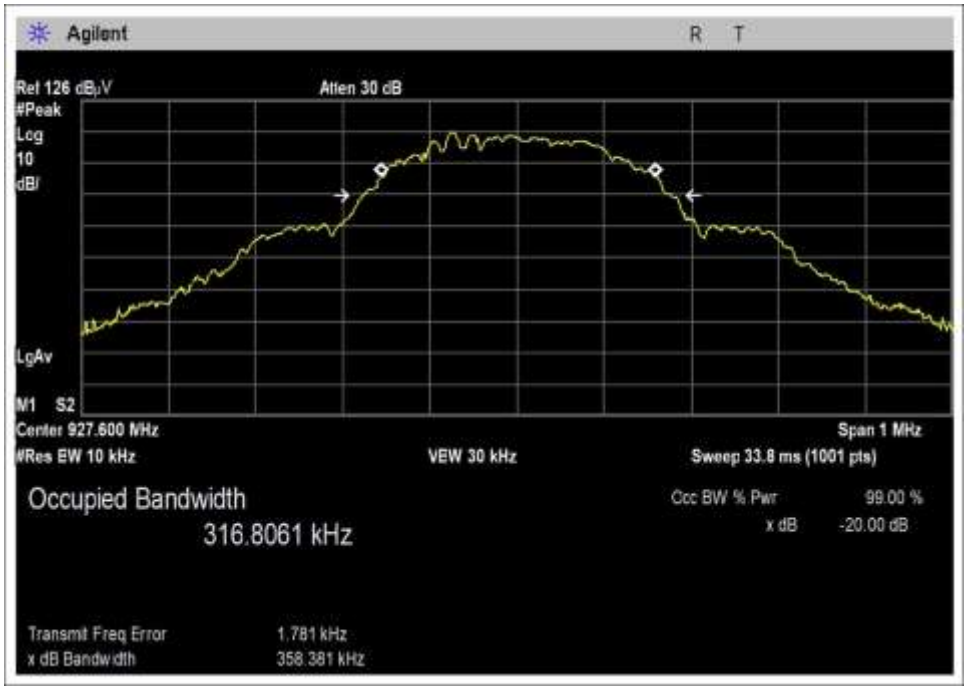
GFSK 300kbps



Low Channel

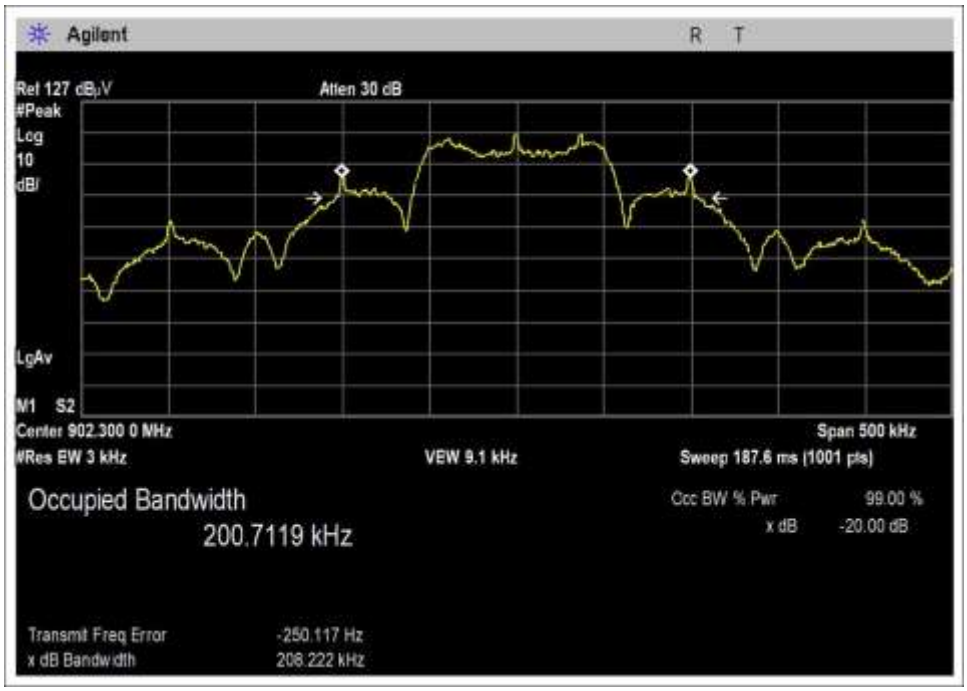


Middle Channel



High Channel

FSK 100kbps



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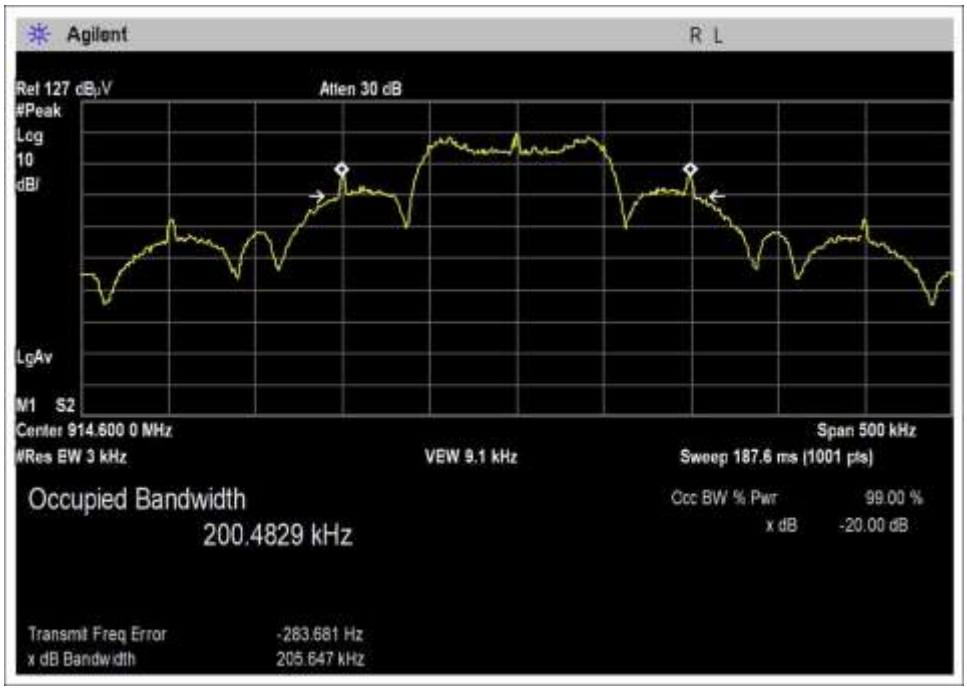
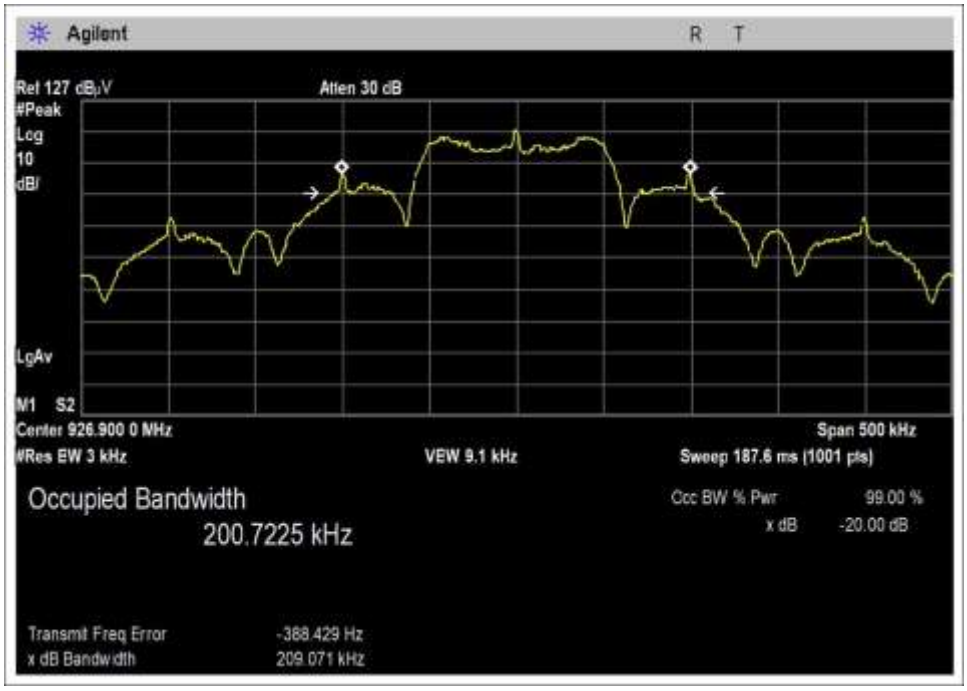
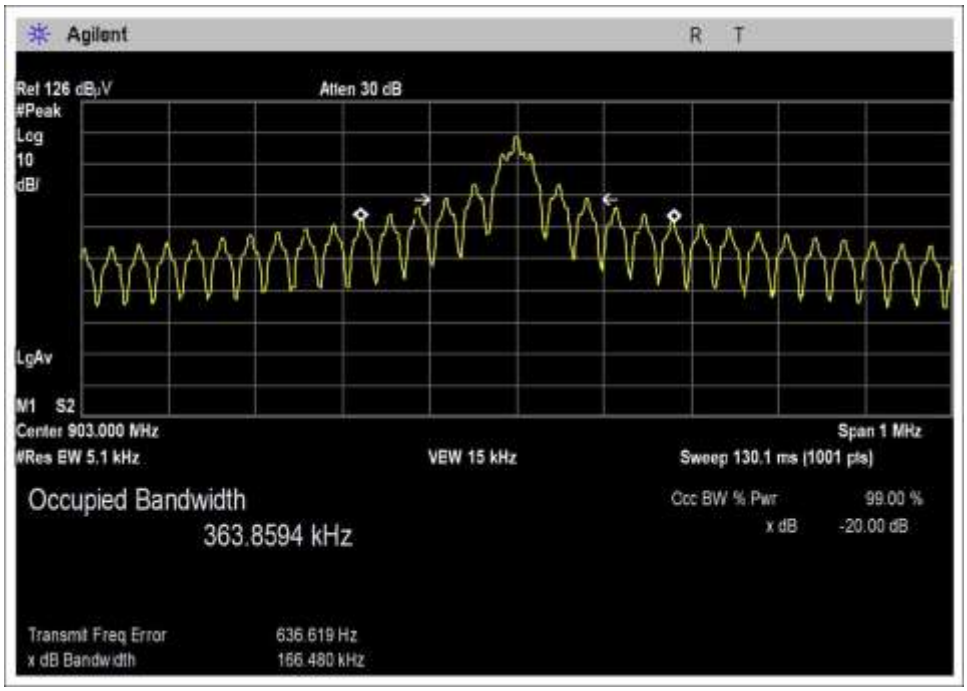


Middle Channel



High Channel

OOK



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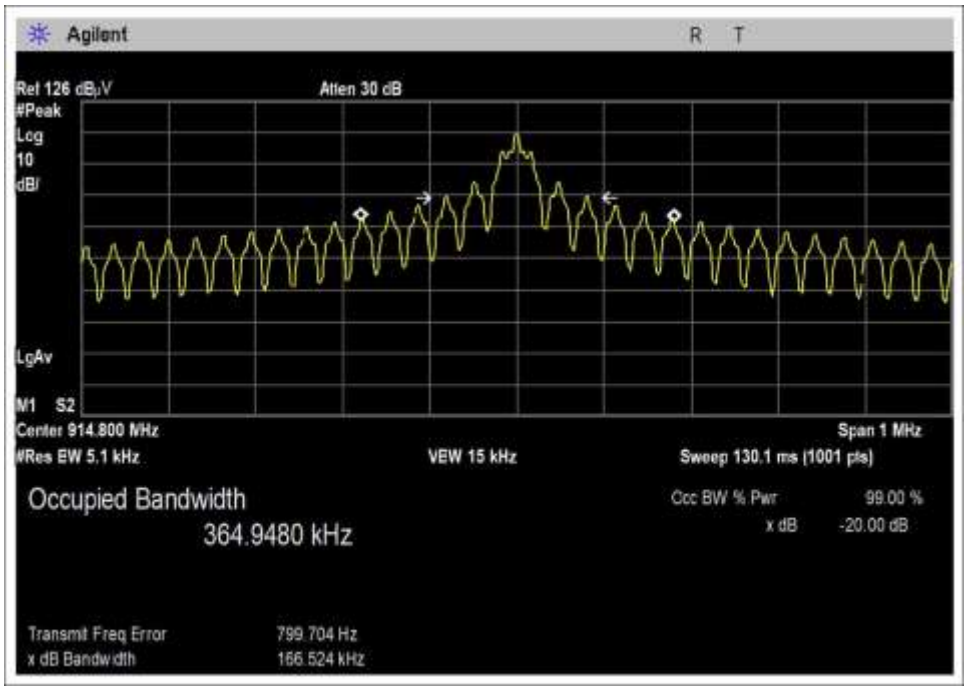
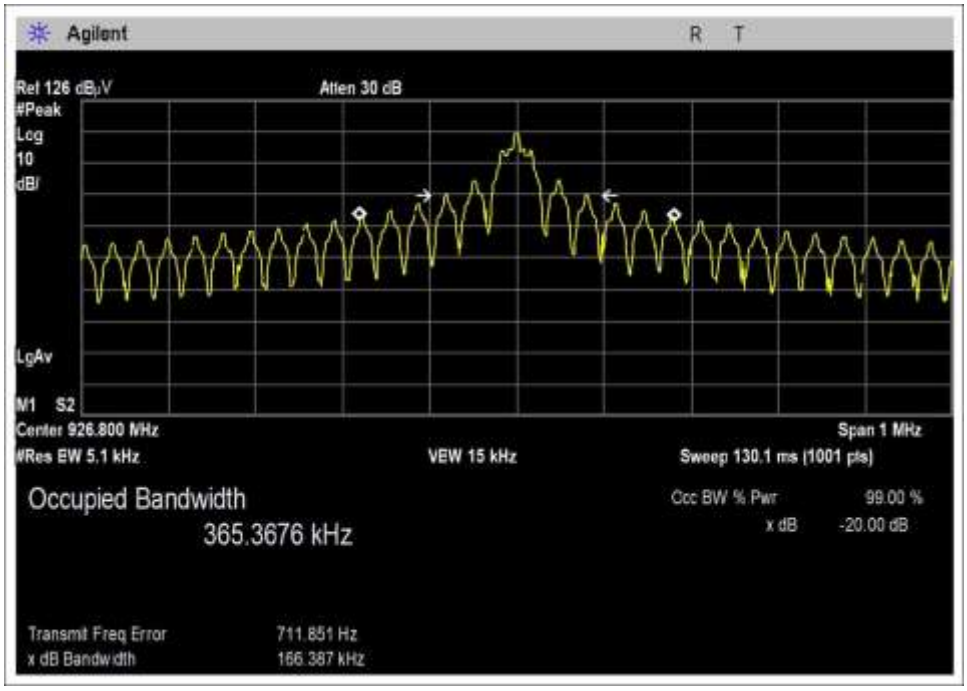


Middle Channel



High Channel

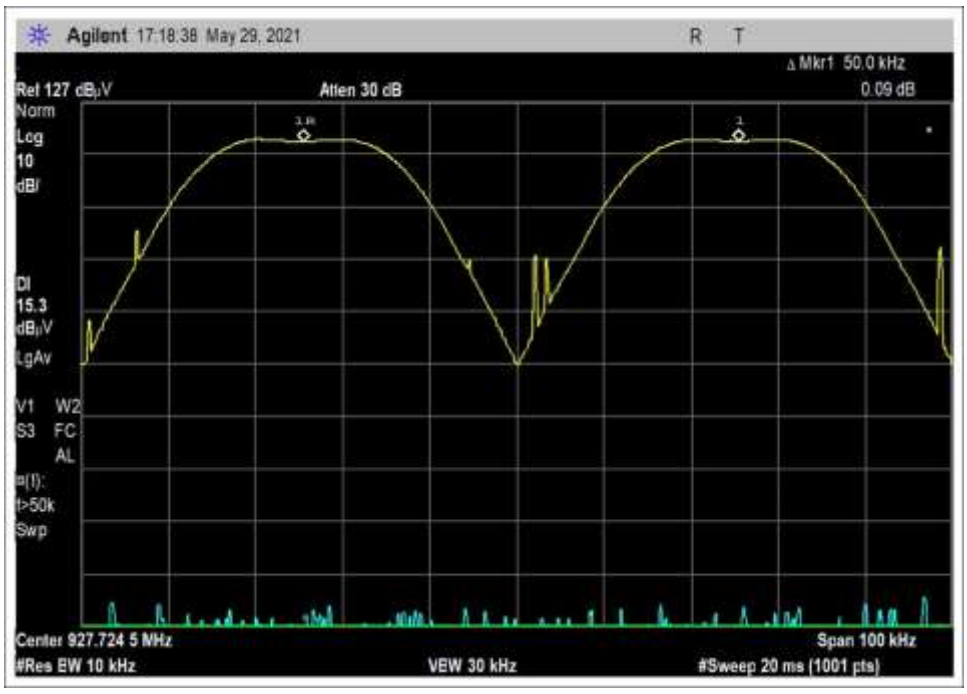
15.247(a)(1) Carrier Separation

Test Data Summary				
Limit applied: 20dB bandwidth of the hopping channel.				
Antenna Port	**Operational Mode**	**Measured (kHz)**	**Limit (kHz)**	**Results**
1	GFSK 10kbps	50.0	> 19.9	Pass
1	GFSK 25kbps	50.0	> 29.5	Pass
1	GFSK 50kbps	200.3	> 101.8	Pass
1	GFSK 150kbps	400.0	> 269.6	Pass
1	GFSK 300kbps	400.0	> 358.4	Pass
1	FSK 100kbps	300.0	> 209.1	Pass
1	OOK	200.3	> 166.5	Pass

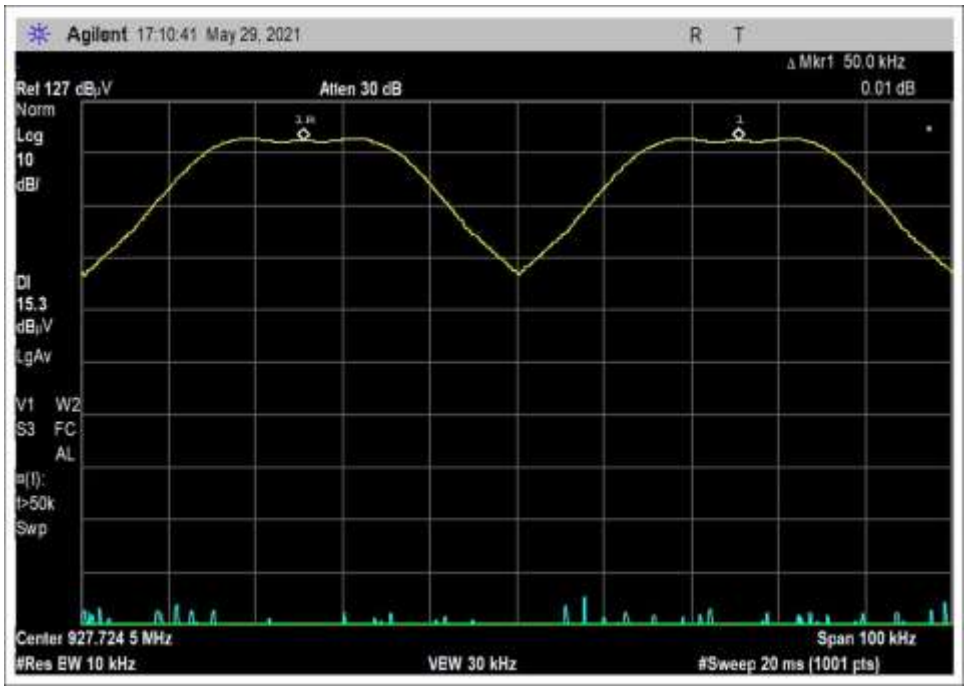
Plot(s)

(Note: At the time of the test the spectrum analyzer date and time was not set correctly.)

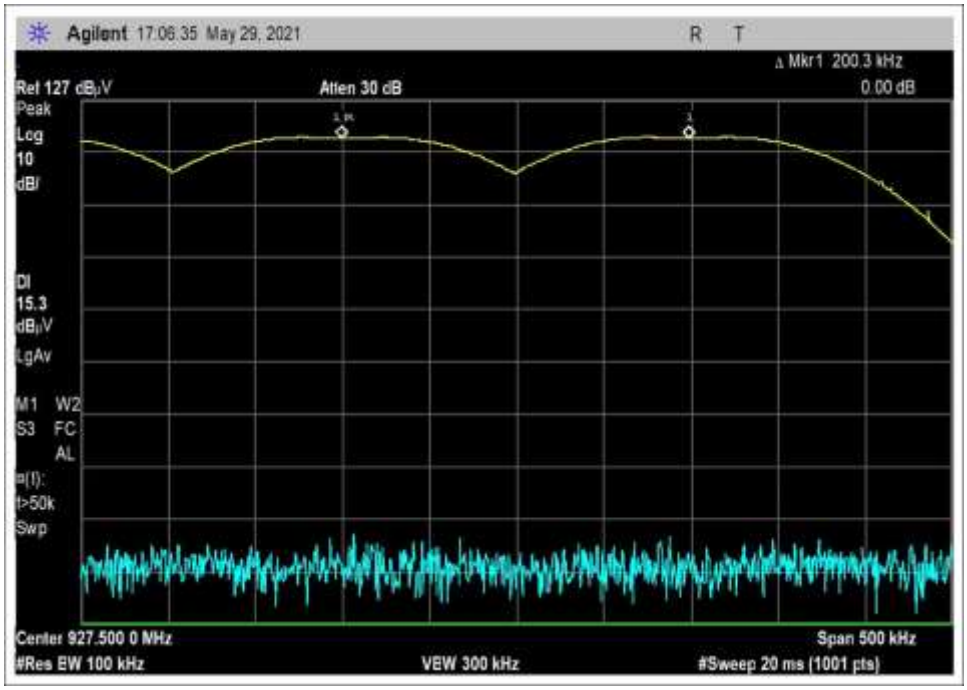
GFSK 10kbps



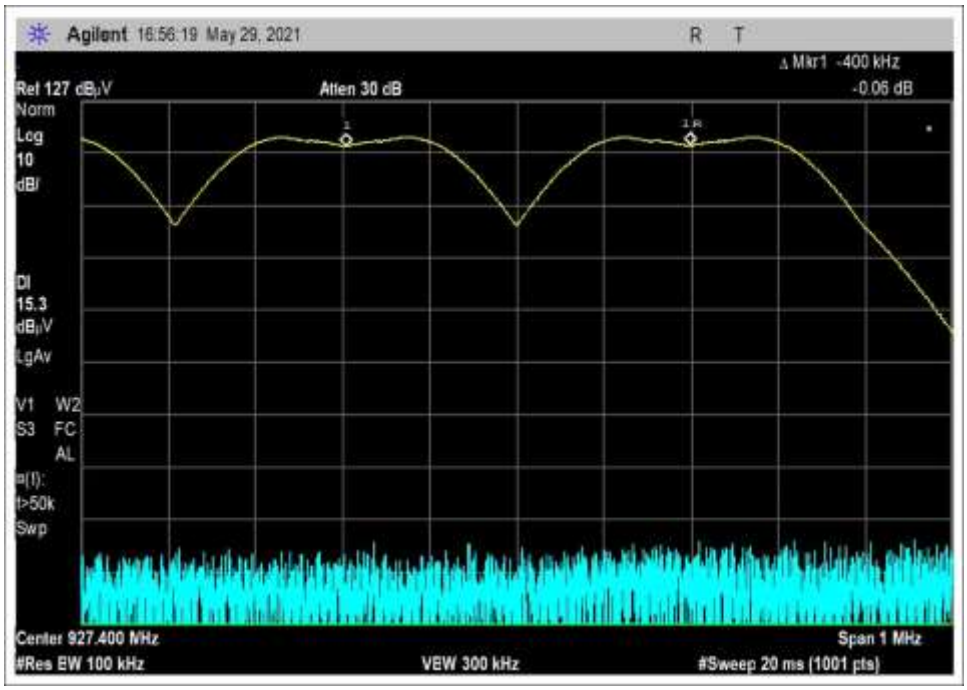
GFSK 25kbps



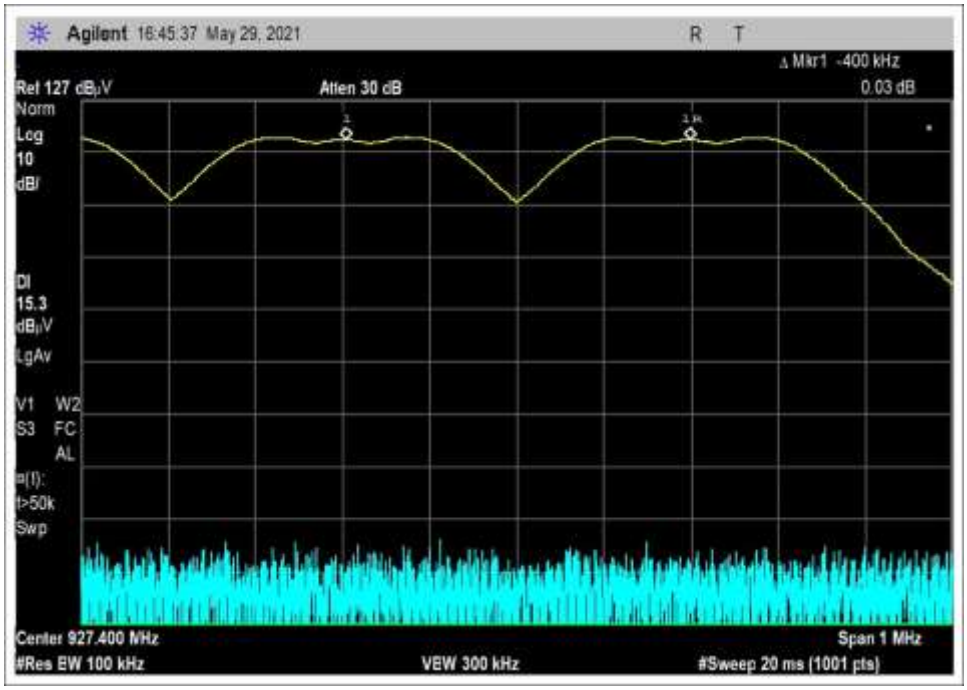
GFSK 50kbps



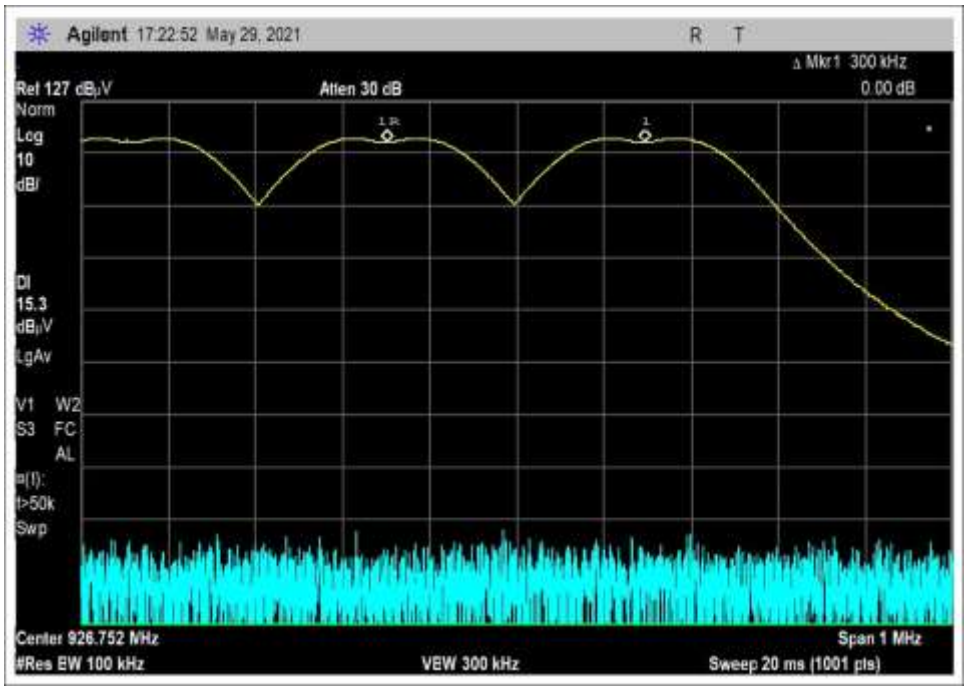
GFSK 150kbps



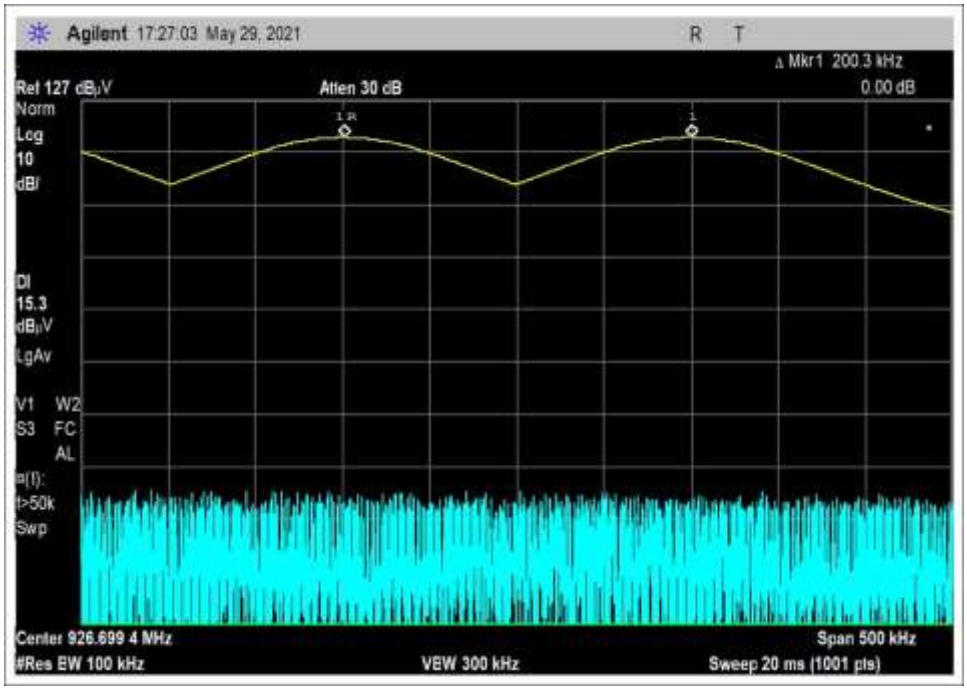
GFSK 300kbps



FSK 100kbps



OOK

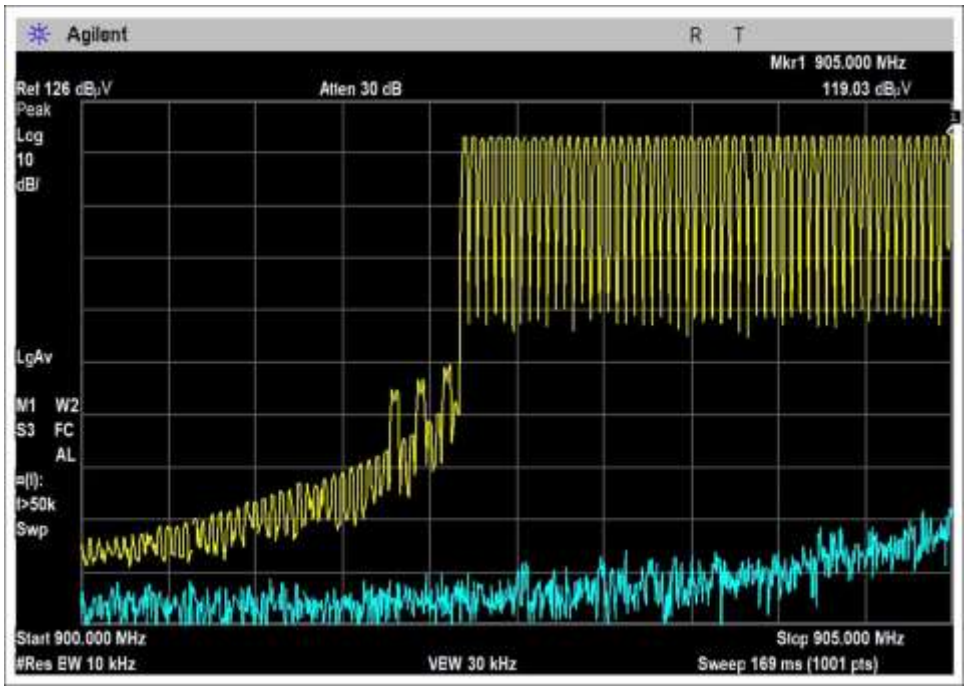


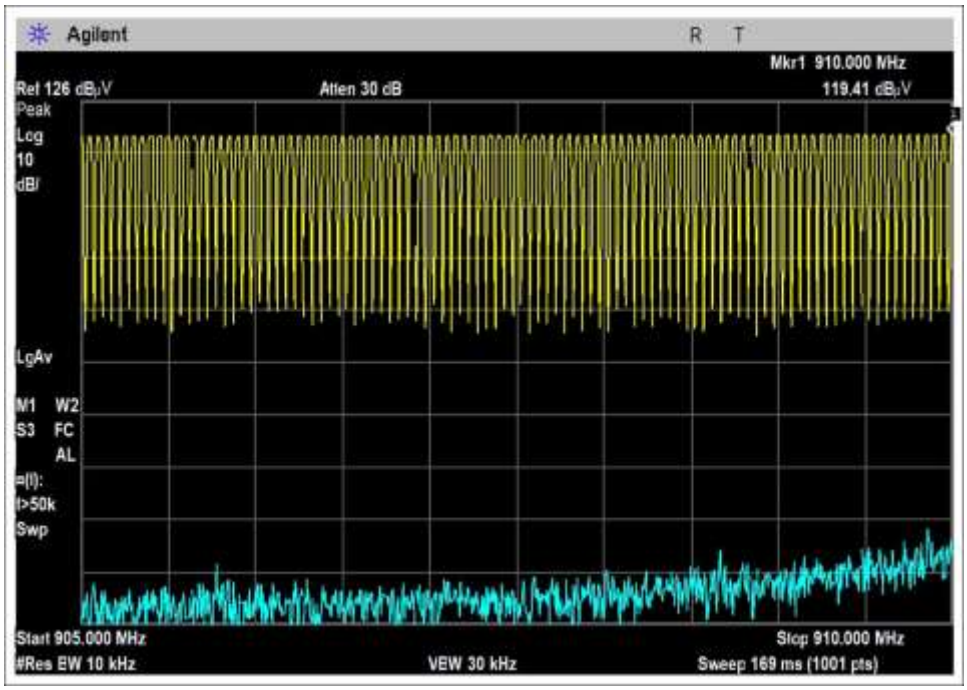
15.247(a)(1)(i) Number of Hopping Channels

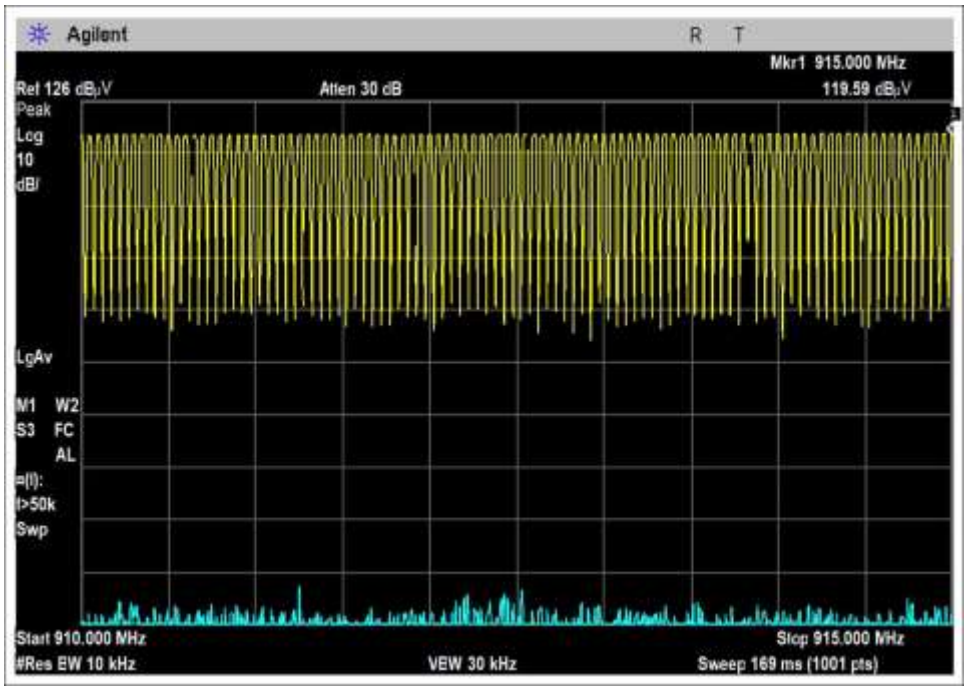
Test Data Summary				
$Limit = \begin{cases} 50\ Channels \mid 20\ dB\ BW < 250kHz \\ 25\ Channels \mid 20\ dB\ BW \geq 250kHz \end{cases}$				
Antenna Port	**Operational Mode**	**Measured (Channels)**	**Limit (Channels)**	**Results**
1	GFSK 10kbps	512	≥ 25	Pass
1	GFSK 25kbps	512	≥ 25	Pass
1	GFSK 50kbps	128	≥ 25	Pass
1	GFSK 150kbps	64	≥ 50	Pass
1	GFSK 300kbps	64	≥ 50	Pass
1	FSK 100kbps	83	≥ 50	Pass
1	OOK	120	≥ 50	Pass

Plot(s)

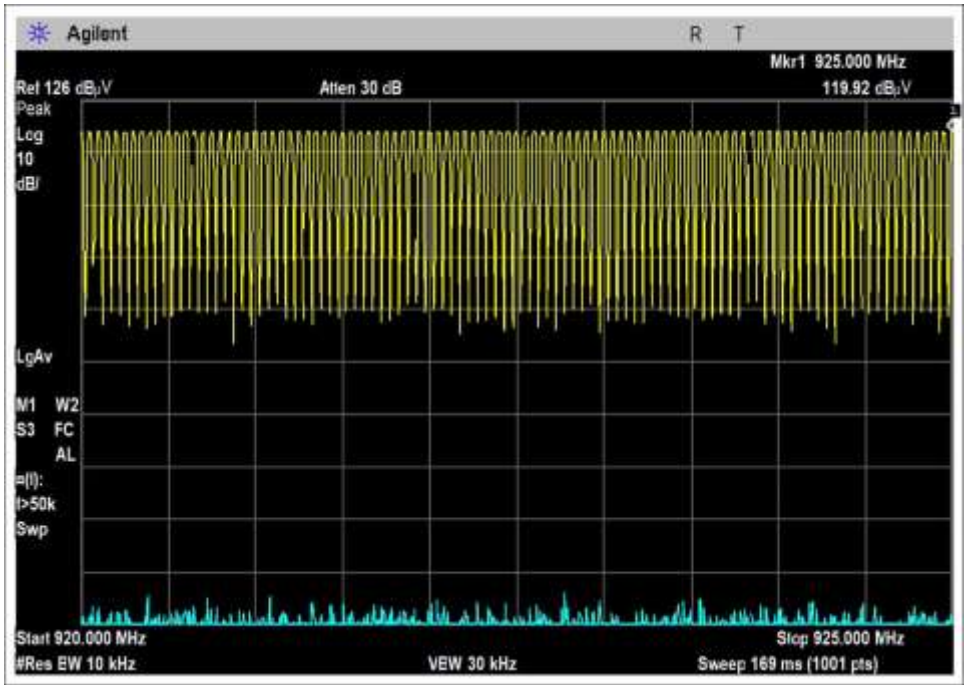
GFSK 10kbps

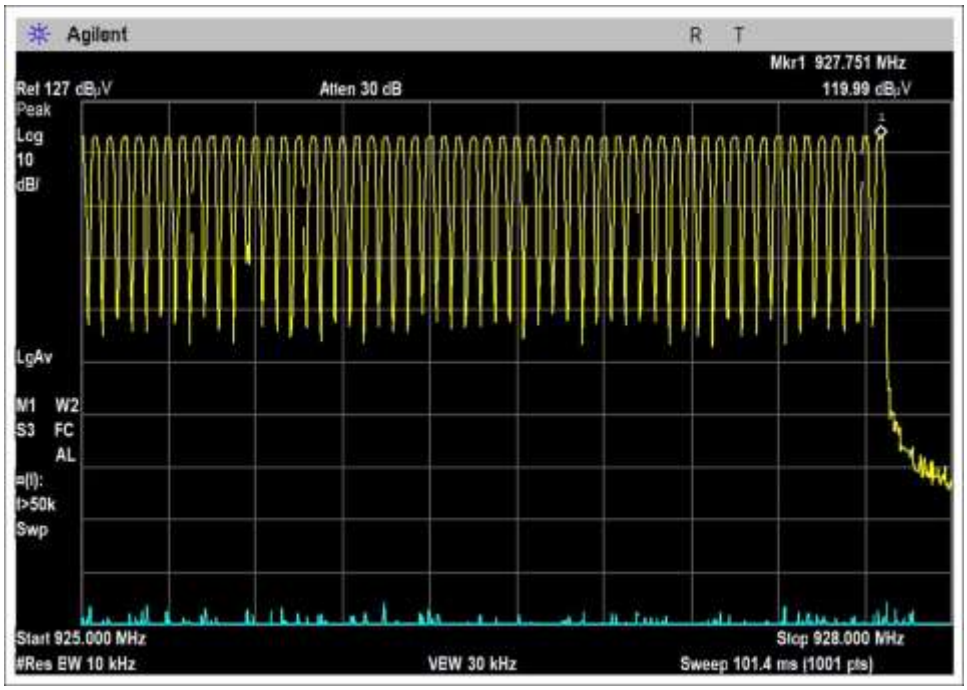



Agilent
R T
Mkr1 910.000 MHz
Ref 126 dBµV
Atten 30 dB
119.41 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
ε(l):
t>50k
Swp
Start 905.000 MHz
Stop 910.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)

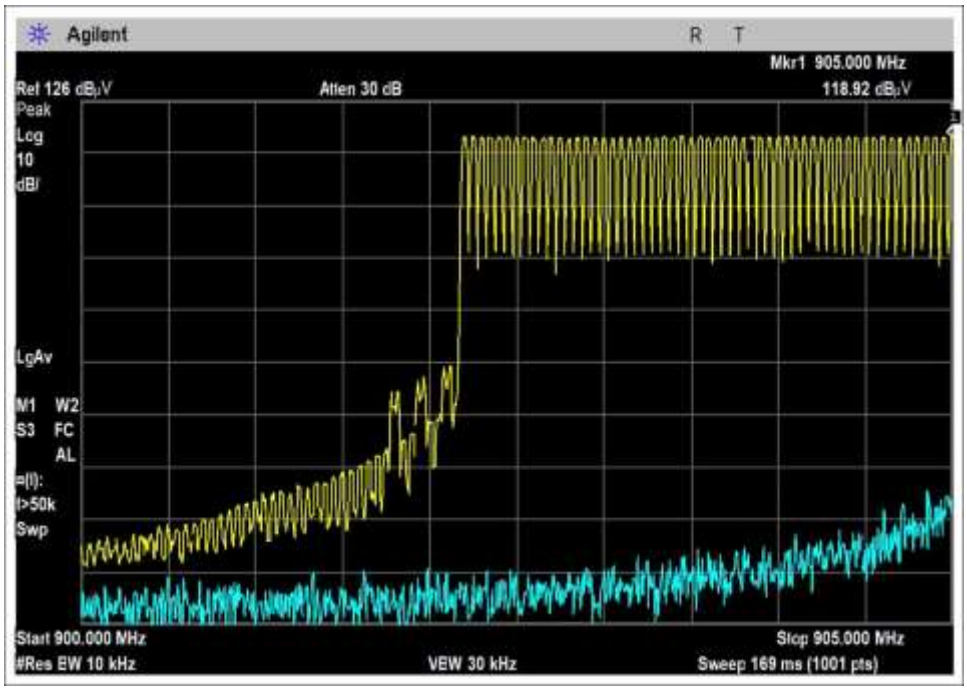

Agilent
R T
Mkr1 915.000 MHz
Ref 126 dBµV
Atten 30 dB
119.59 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
ε(l):
t>50k
Swp
Start 910.000 MHz
Stop 915.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)

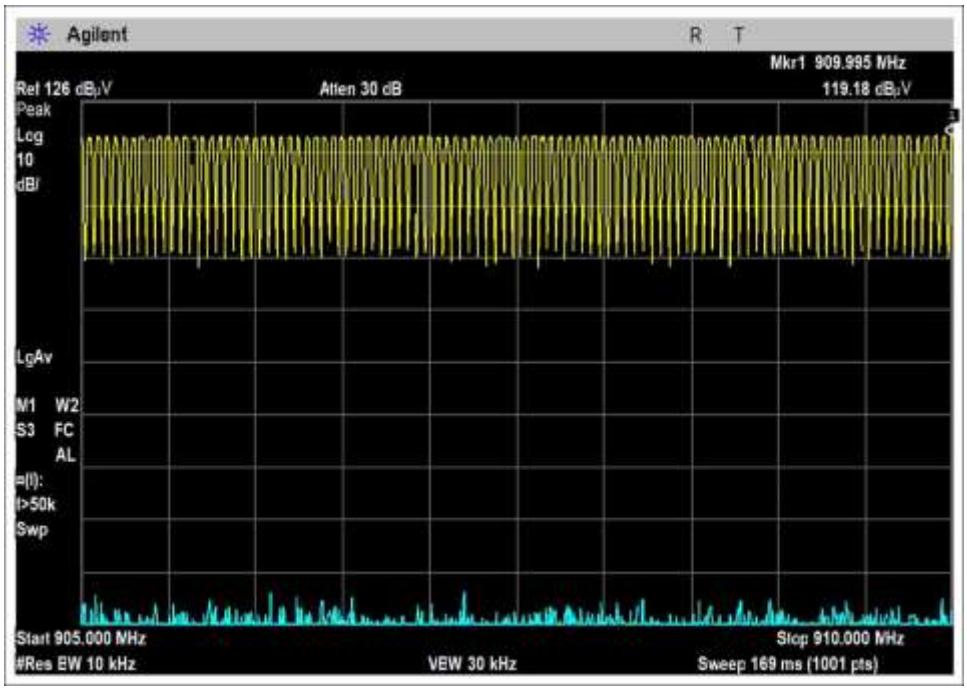

Agilent
R T
Mkr1 920.000 MHz
Ref 126 dBµV
Atten 30 dB
119.79 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 915.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 920.000 MHz
Sweep 169 ms (1001 pts)

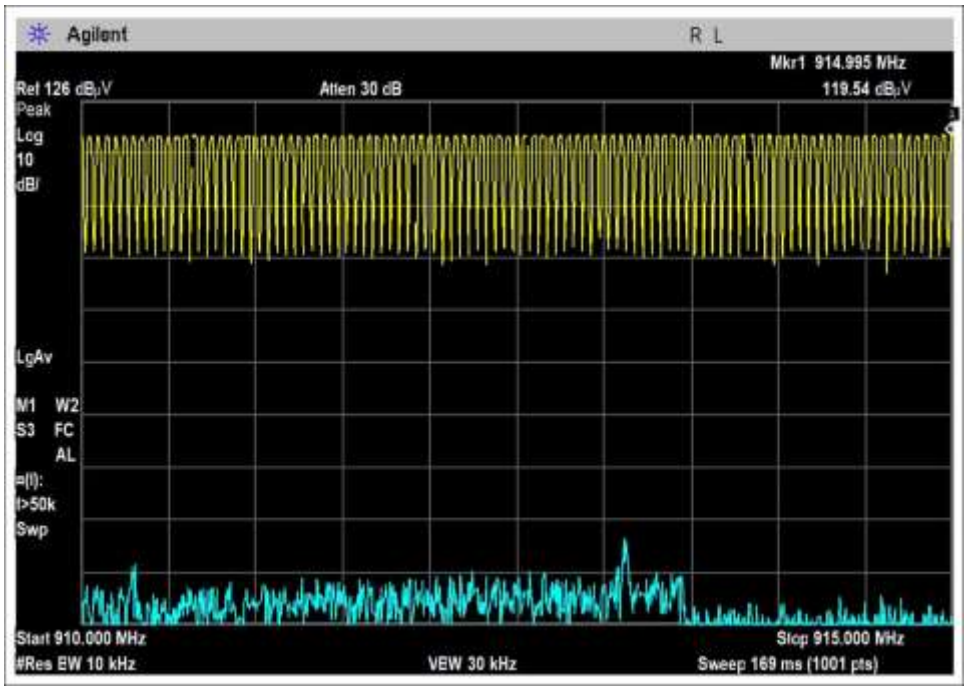

Agilent
R T
Mkr1 925.000 MHz
Ref 126 dBµV
Atten 30 dB
119.92 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 920.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Stop 925.000 MHz
Sweep 169 ms (1001 pts)


Agilent
R T
Mkr1 927.751 MHz
Ref 127 dBµV
Atten 30 dB
119.99 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(I):
f>50k
Swp
Start 925.000 MHz
Stop 928.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 101.4 ms (1001 pts)

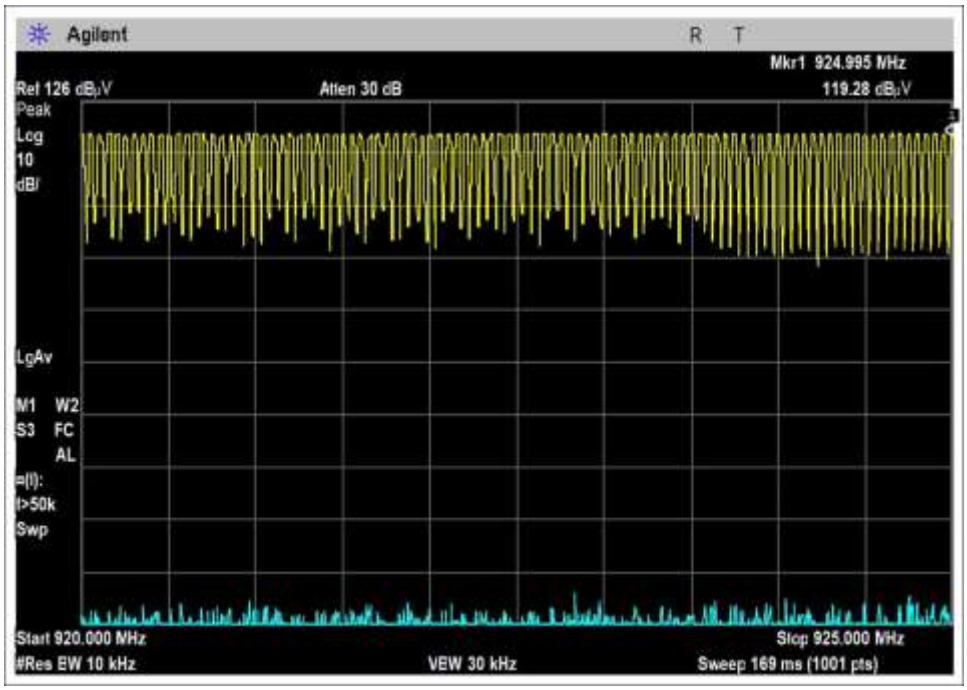
GFSK 25kbps

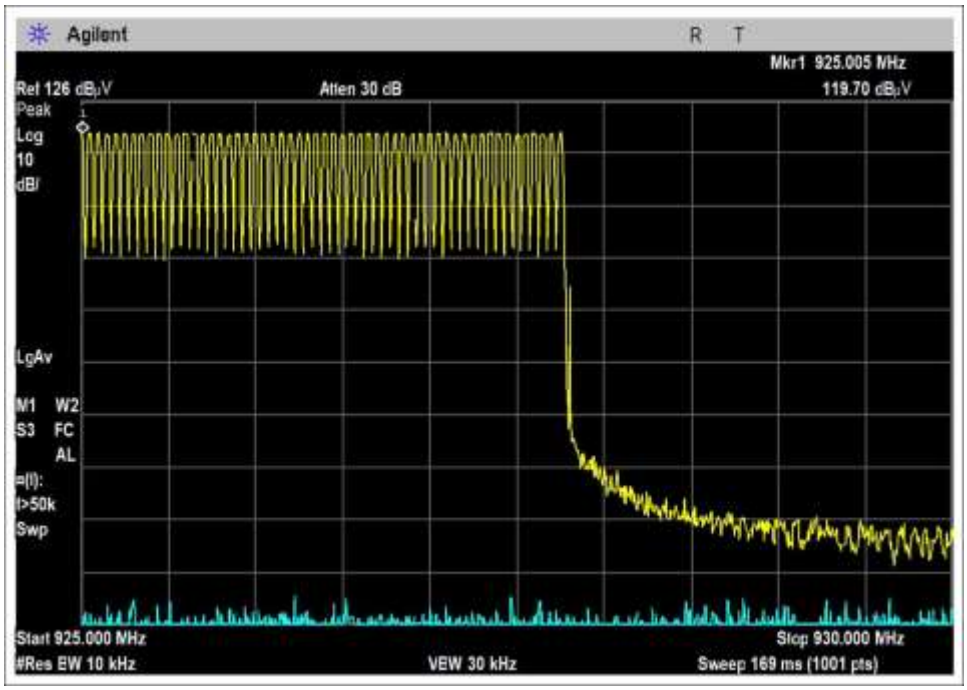

Agilent
R T
Mkr1 905.000 MHz
Ref 126 dBµV
Atten 30 dB
118.92 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 900.000 MHz
Stop 905.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)


Agilent
R T
Mkr1 909.995 MHz
Ref 126 dBµV
Atten 30 dB
119.18 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 905.000 MHz
Stop 910.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)

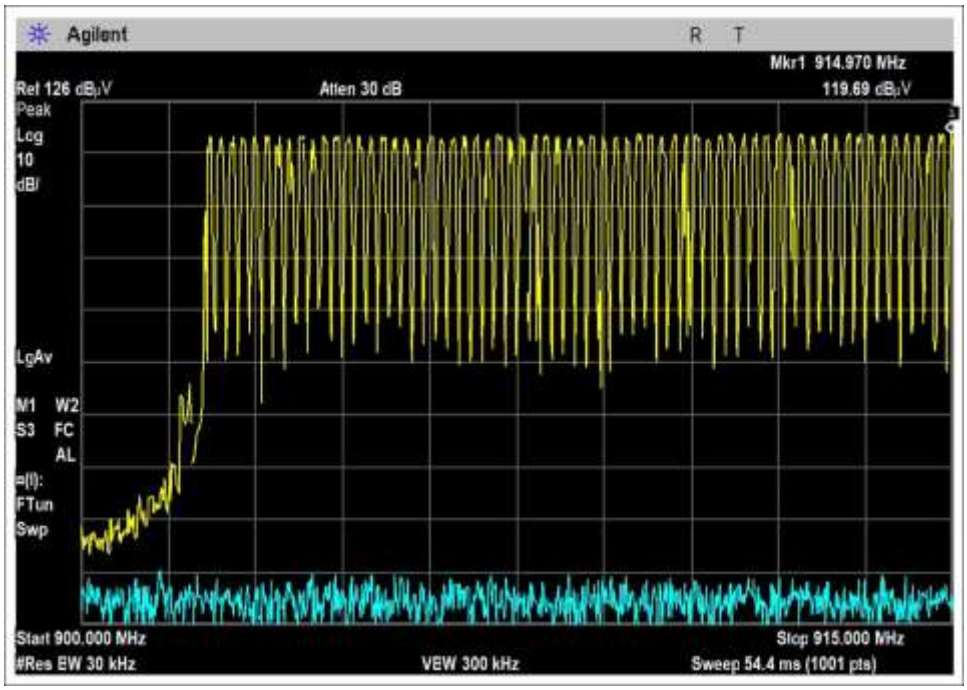

Agilent
R L
Mkr1 914.995 MHz
Ref 126 dBµV
Atten 30 dB
119.54 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 910.000 MHz
Stop 915.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)

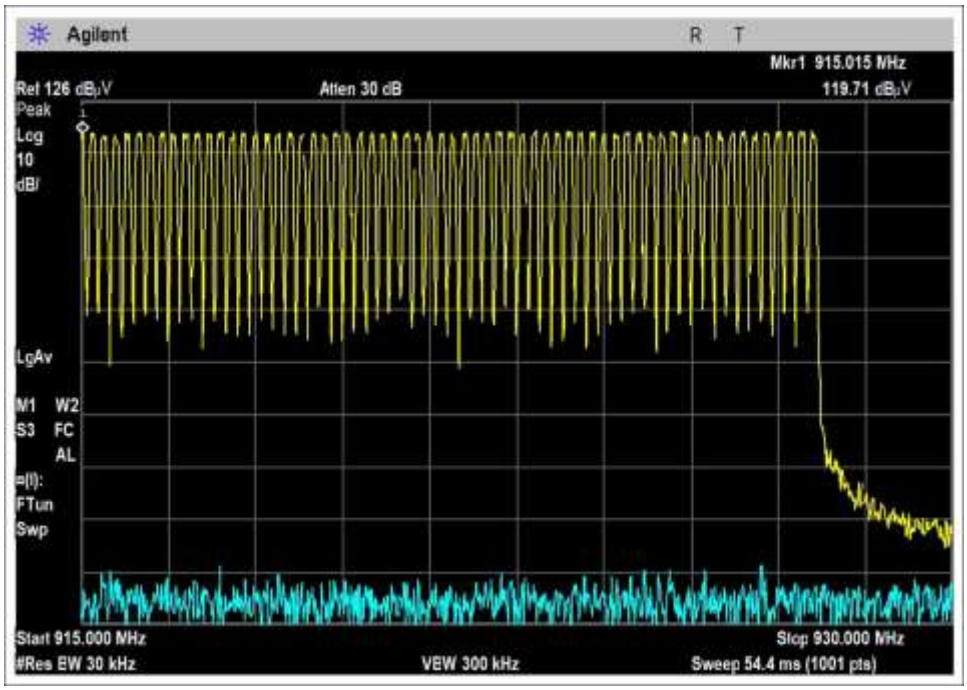

Agilent
R T
Mkr1 919.995 MHz
Ref 126 dBµV
Atten 30 dB
119.76 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 915.000 MHz
Stop 920.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)


Agilent
R T
Mkr1 924.995 MHz
Ref 126 dBµV
Atten 30 dB
119.28 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 920.000 MHz
Stop 925.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)

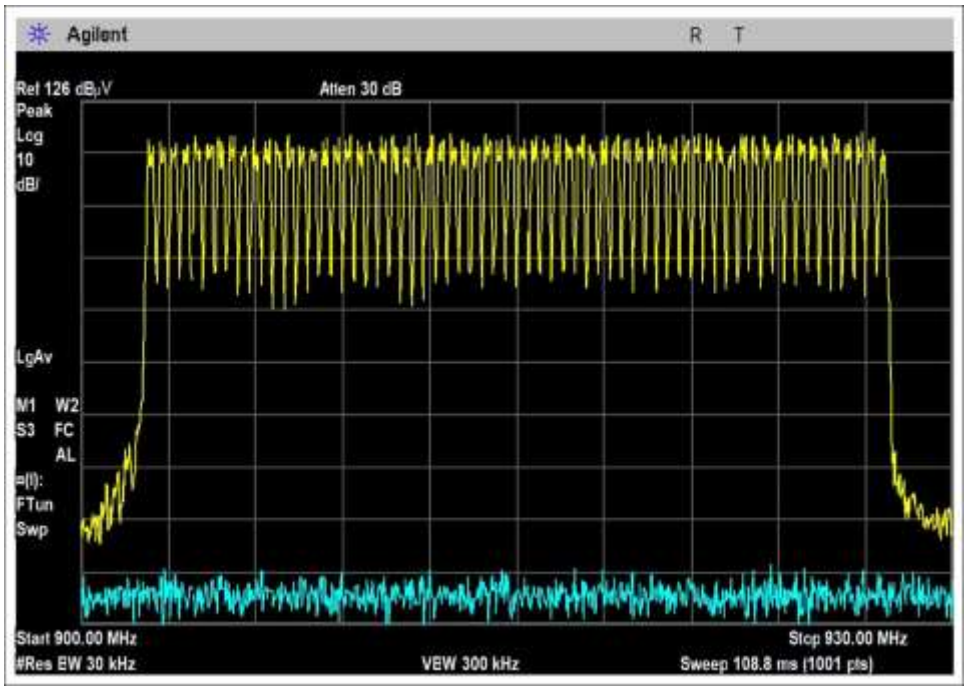

Agilent
R T
Mkr1 925.005 MHz
Ref 126 dBµV
Atten 30 dB
119.70 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
t>50k
Swp
Start 925.000 MHz
Stop 930.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 169 ms (1001 pts)

GFSK 50kbps

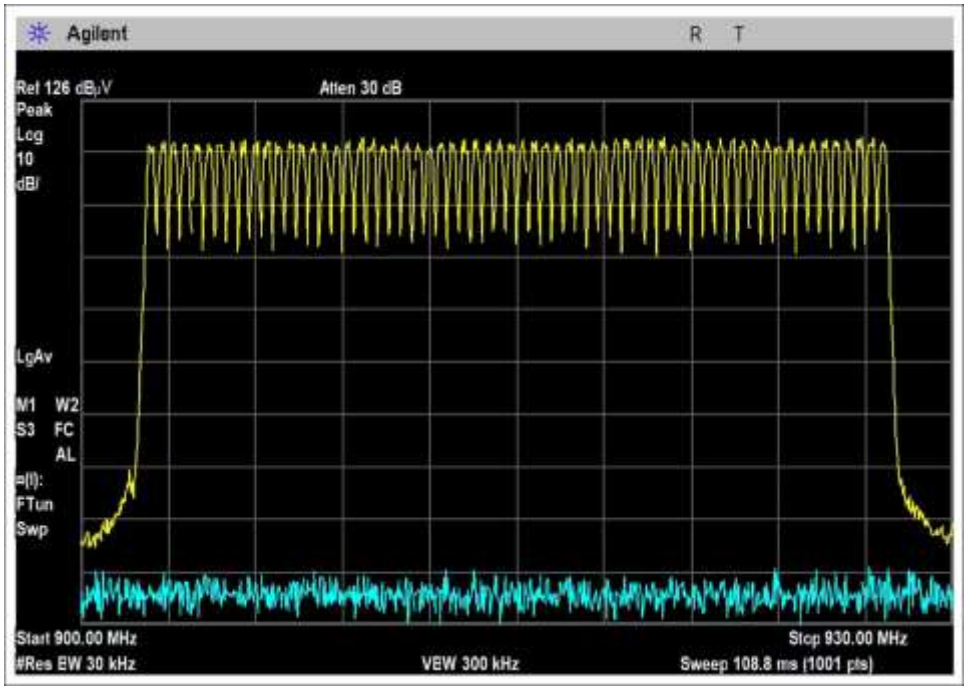

Agilent
R T
Mkr1 914.970 MHz
Ref 126 dBµV
Atten 30 dB
119.69 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
FTun
Swp
Start 900.000 MHz
Stop 915.000 MHz
#Res BW 30 kHz
VBW 300 kHz
Sweep 54.4 ms (1001 pts)


Agilent
R T
Mkr1 915.015 MHz
Ref 126 dBµV
Atten 30 dB
119.71 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
FTun
Swp
Start 915.000 MHz
Stop 930.000 MHz
#Res BW 30 kHz
VBW 300 kHz
Sweep 54.4 ms (1001 pts)

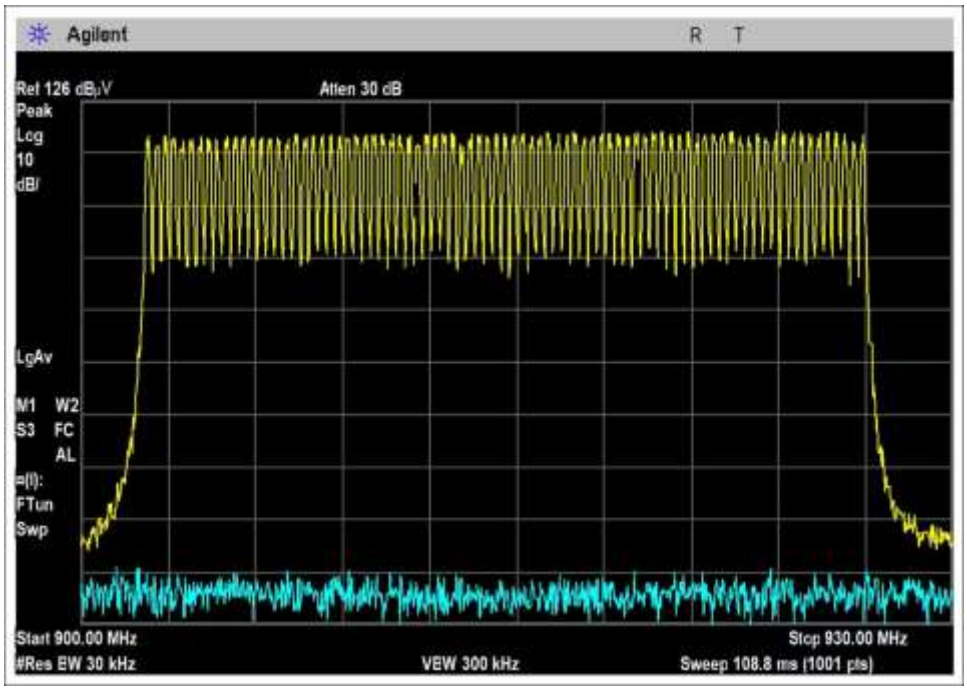
GFSK 150kbps



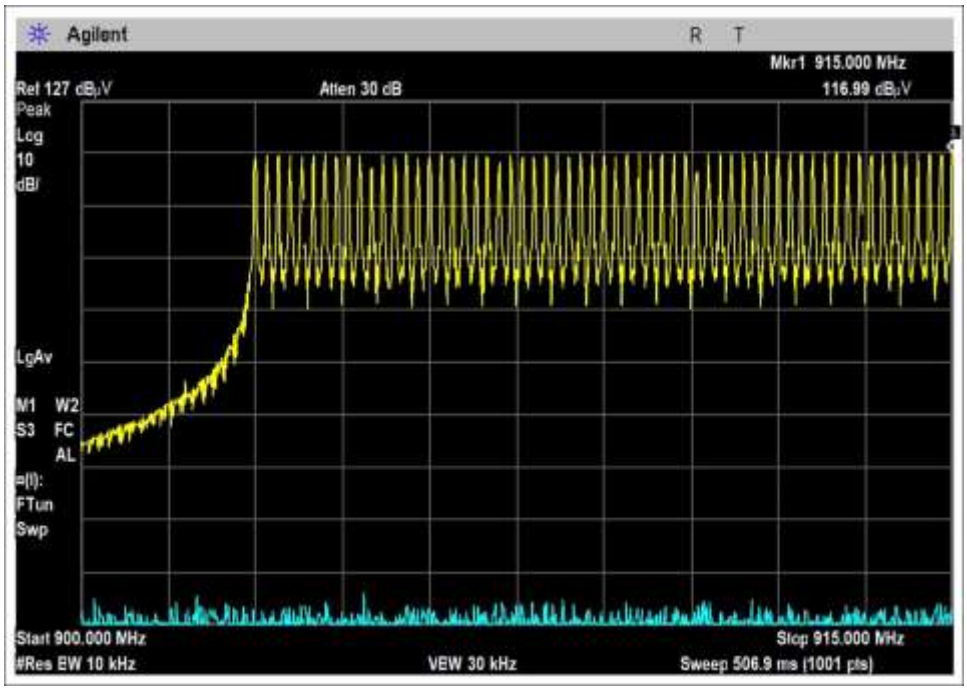
GFSK 300kbps

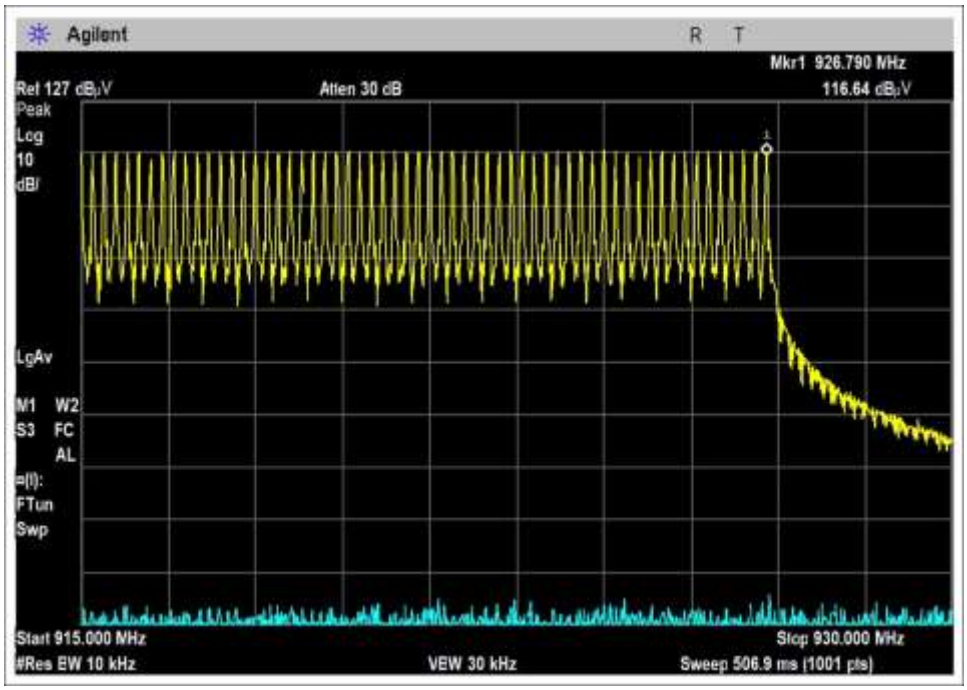


FSK 100kbps


Agilent
R T
Ref 126 dBµV
Atten 30 dB
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
ρ(l):
FTun
Swp
Start 900.00 MHz
#Res BW 30 kHz
VBW 300 kHz
Stop 930.00 MHz
Sweep 108.8 ms (1001 pts)

OOK Level 3


Agilent
R T
Mkr1 915.000 MHz
Ref 127 dBµV
Atten 30 dB
116.99 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
FTun
Swp
Start 900.000 MHz
Stop 915.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 506.9 ms (1001 pts)


Agilent
R T
Mkr1 926.790 MHz
Ref 127 dBµV
Atten 30 dB
116.64 dBµV
Peak
Log
10
dB/
LgAv
M1 W2
S3 FC
AL
#(!):
FTun
Swp
Start 915.000 MHz
Stop 930.000 MHz
#Res BW 10 kHz
VBW 30 kHz
Sweep 506.9 ms (1001 pts)

Test Setup Photo(s)

15.247(b)(2) Output Power

Test Setup/Conditions			
Test Location:	Bothell Lab C3	Test Engineer:	M. Harrison
Test Method:	ANSI C63.10 (2013)	Test Date(s):	1/11/2023
Configuration:	1		
Test Setup:	EUT is setup for conducted measurements. It is directly connected to a spectrum analyzer via cable and attenuator.		

Environmental Conditions			
Temperature (ºC)	18	Relative Humidity (%):	40

Test Equipment					
Asset#	**Description**	**Manufacturer**	**Model**	**Cal Date**	**Cal Due**
02673	Spectrum Analyzer	Agilent	E4446A	2/3/2021	2/3/2023
P05503	Attenuator	Narda	766-10	6/8/2021	6/8/2023
P06540	Cable	Andrews	Heliax	1/17/2022	1/17/2024

Test Data Summary - Voltage Variations

This equipment is battery powered. Power output tests were performed using a fresh battery.

Test Data Summary - RF Conducted Measurement

$$Limit = \begin{cases} 30dBm\ Conducted/36dBm\ EIRP \mid \geq 50\ Channels \\ 24dBm\ Conducted/30dBm\ EIRP \mid < 50\ Channels\ (\min 25) \end{cases}$$

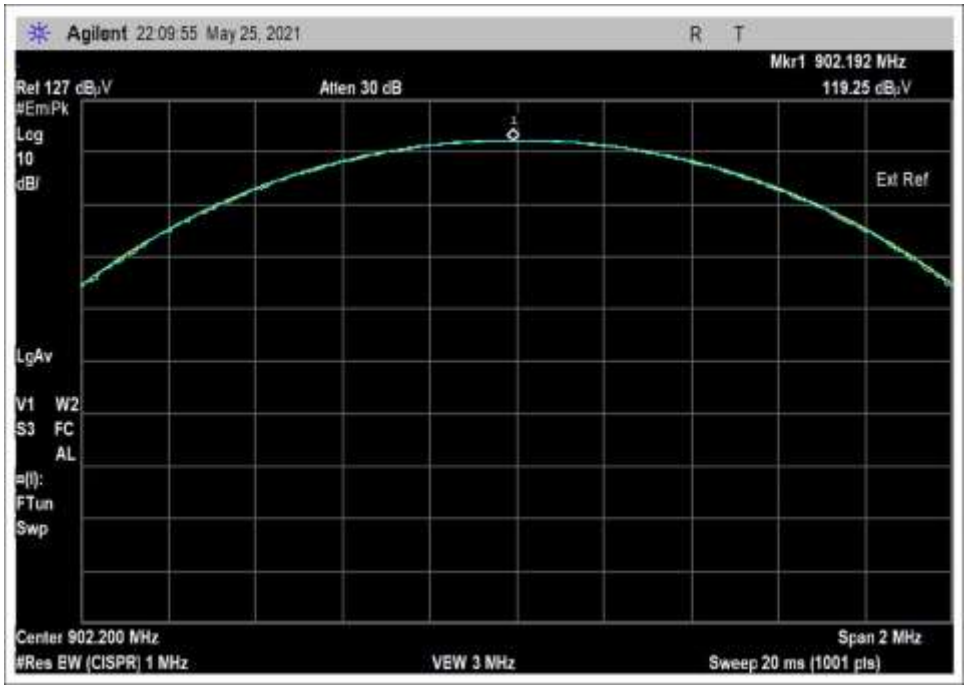
Frequency (MHz)	Modulation	Ant. Type / Gain (dBi)	Measured (dBm)	Limit (dBm)	Results
902.2	GFSK 10kbps	F / 5dBi	22.7	≤ 30	Pass
914.95	GFSK 10kbps	F / 5dBi	23.1	≤ 30	Pass
927.75	GFSK 10kbps	F / 5dBi	23.4	≤ 30	Pass
902.2	GFSK 25kbps	F / 5dBi	22.7	≤ 30	Pass
914.95	GFSK 25kbps	F / 5dBi	23.1	≤ 30	Pass
927.75	GFSK 25kbps	F / 5dBi	23.4	≤ 30	Pass
902.2	GFSK 50kbps	F / 5dBi	22.8	≤ 30	Pass
914.8	GFSK 50kbps	F / 5dBi	23.1	≤ 30	Pass
927.6	GFSK 50kbps	F / 5dBi	23.4	≤ 30	Pass
902.4	GFSK 150kbps	F / 5dBi	22.9	≤ 30	Pass
914.8	GFSK 150kbps	F / 5dBi	23.2	≤ 30	Pass
927.6	GFSK 150kbps	F / 5dBi	23.5	≤ 30	Pass
902.4	GFSK 300kbps	F / 5dBi	22.8	≤ 30	Pass
914.8	GFSK 300kbps	F / 5dBi	23.1	≤ 30	Pass
927.6	GFSK 300kbps	F / 5dBi	23.4	≤ 30	Pass
902.3	FSK 100kbps	F / 5dBi	22.8	≤ 30	Pass
914.6	FSK 100kbps	F / 5dBi	23.1	≤ 30	Pass
926.9	FSK 100kbps	F / 5dBi	23.4	≤ 30	Pass

Frequency (MHz)	Modulation	Ant. Type / Gain (dBi)	Measured (dBm)	Limit (dBm)	Results
903.0	OOK Level 3	F / 5dBi	22.8	≤ 30	Pass
914.8	OOK Level 3	F / 5dBi	23.1	≤ 30	Pass
926.8	OOK Level 3	F / 5dBi	23.4	≤ 30	Pass
903.0	OOK Level 1	F / 5dBi	5.7	≤ 30	Pass
914.8	OOK Level 1	F / 5dBi	6.1	≤ 30	Pass
926.8	OOK Level 1	F / 5dBi	6.5	≤ 30	Pass

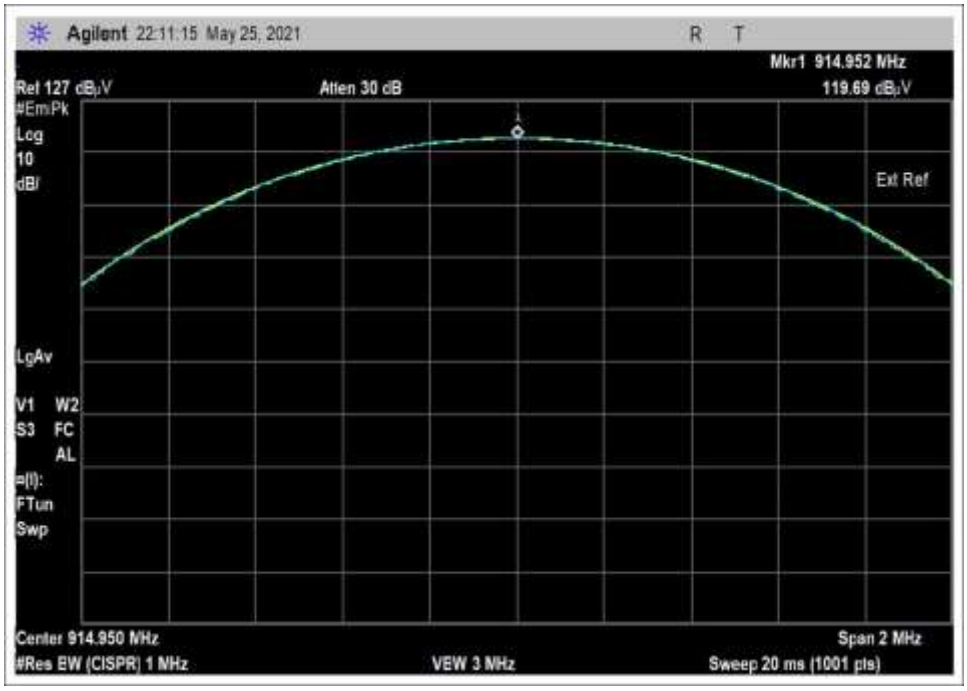
Plots

(Note: At the time of the test the spectrum analyzer date and time was not set correctly.)

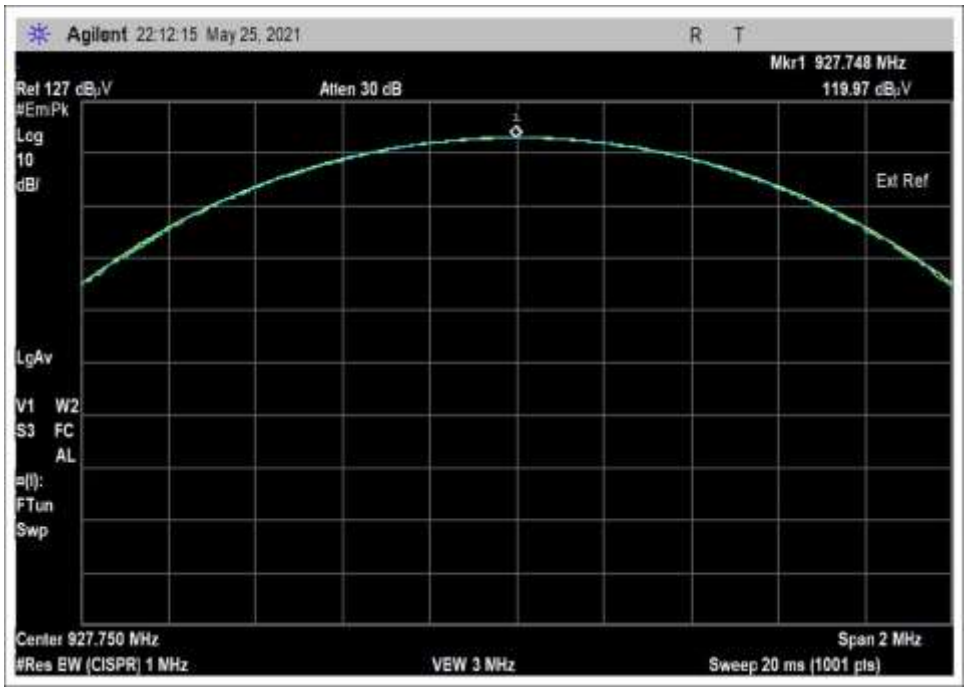
GFSK 10kbps Level 3



Low Channel

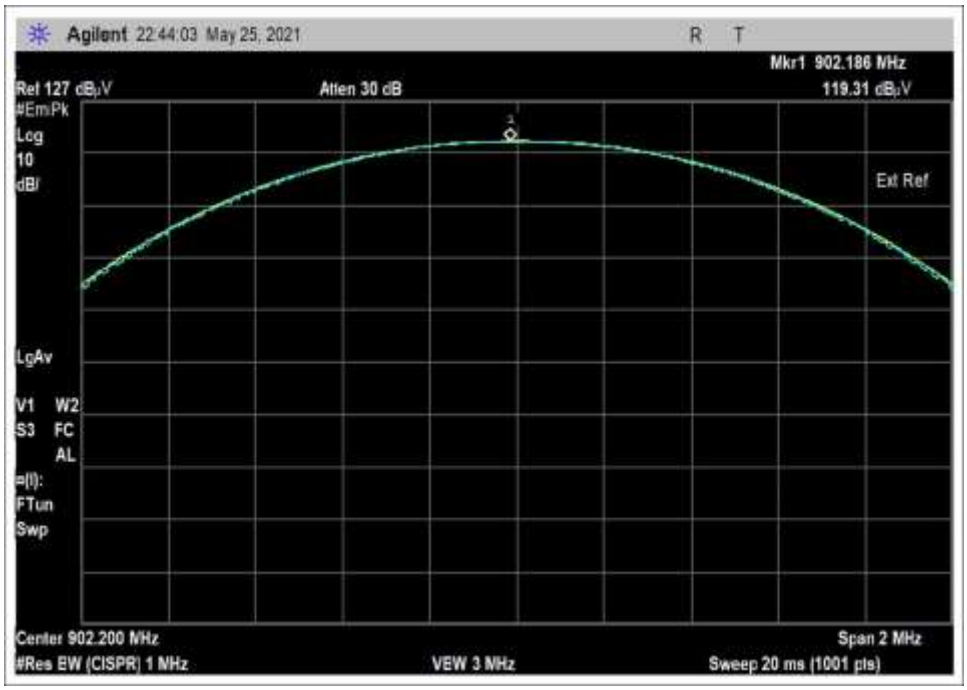


Middle Channel

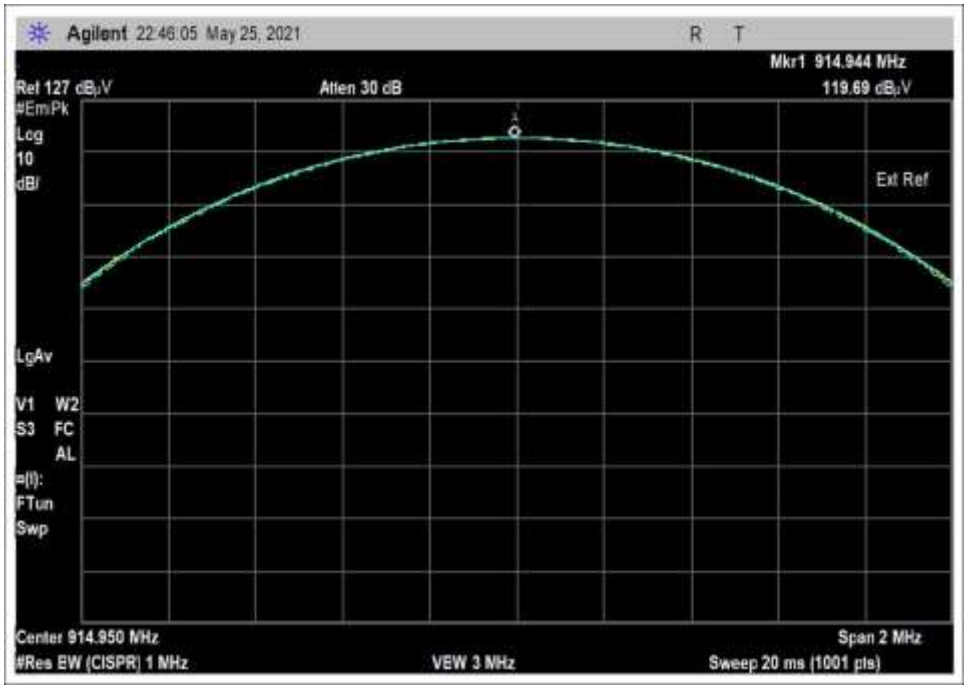


High Channel

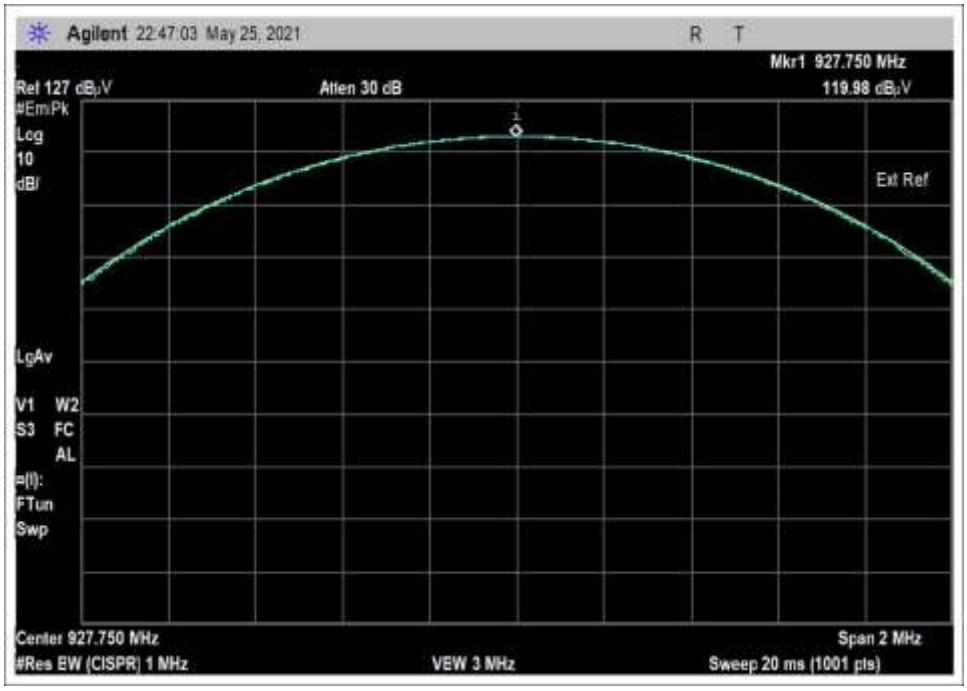
GFSK 25kbps Level 3



Low Channel

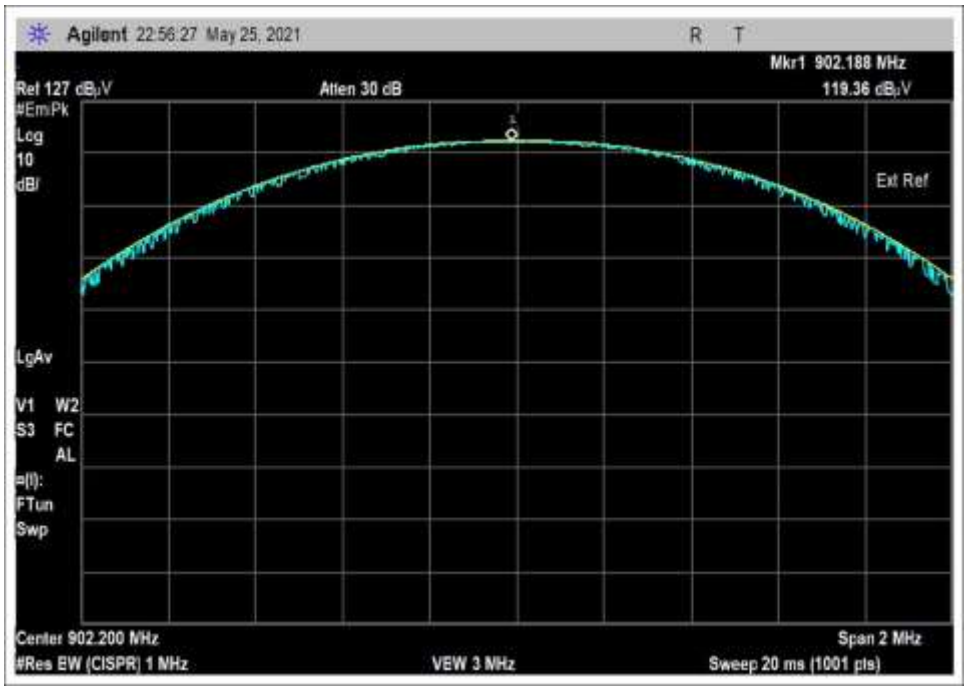


Middle Channel

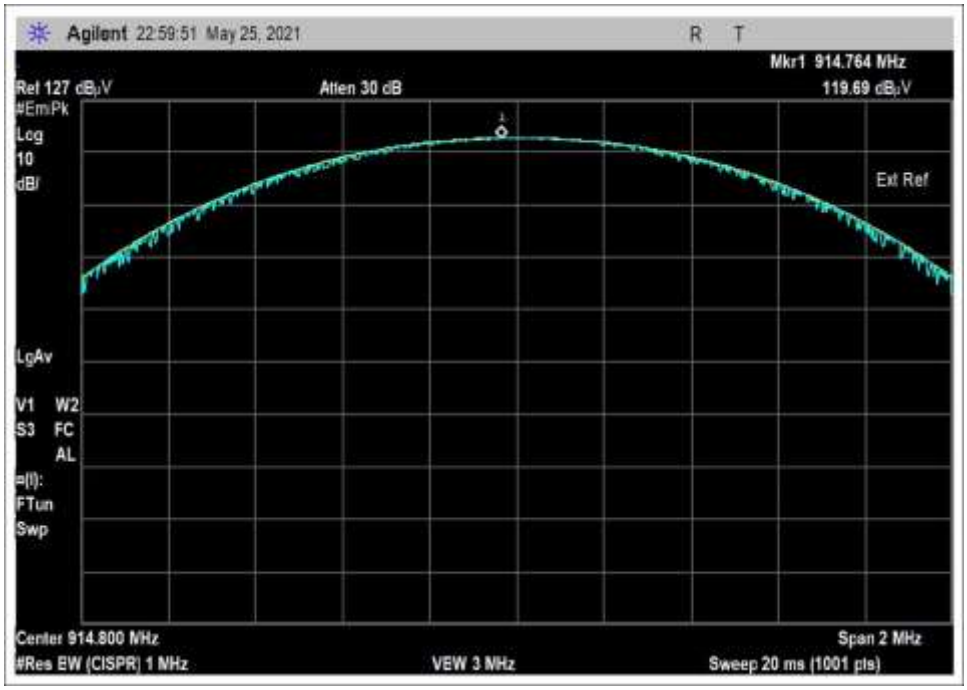


High Channel

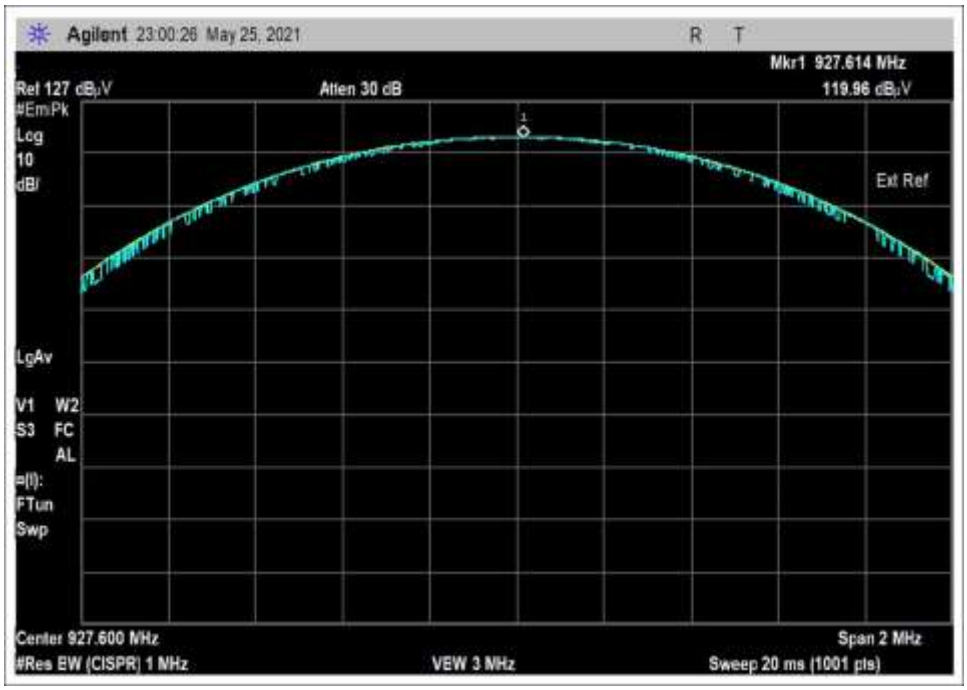
GFSK 50kbps Level 3



Low Channel

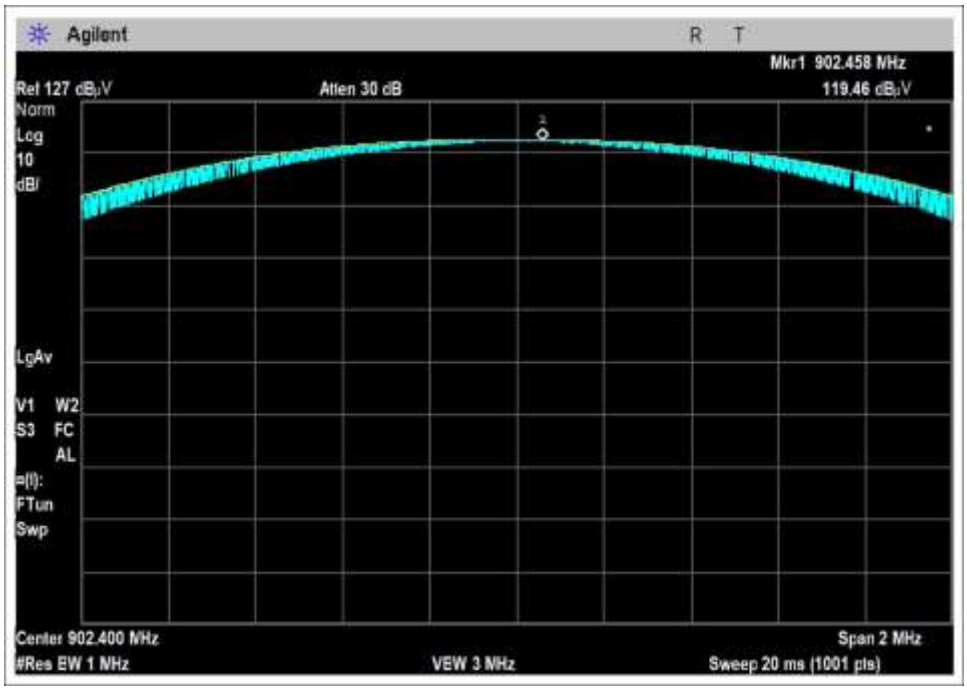


Middle Channel

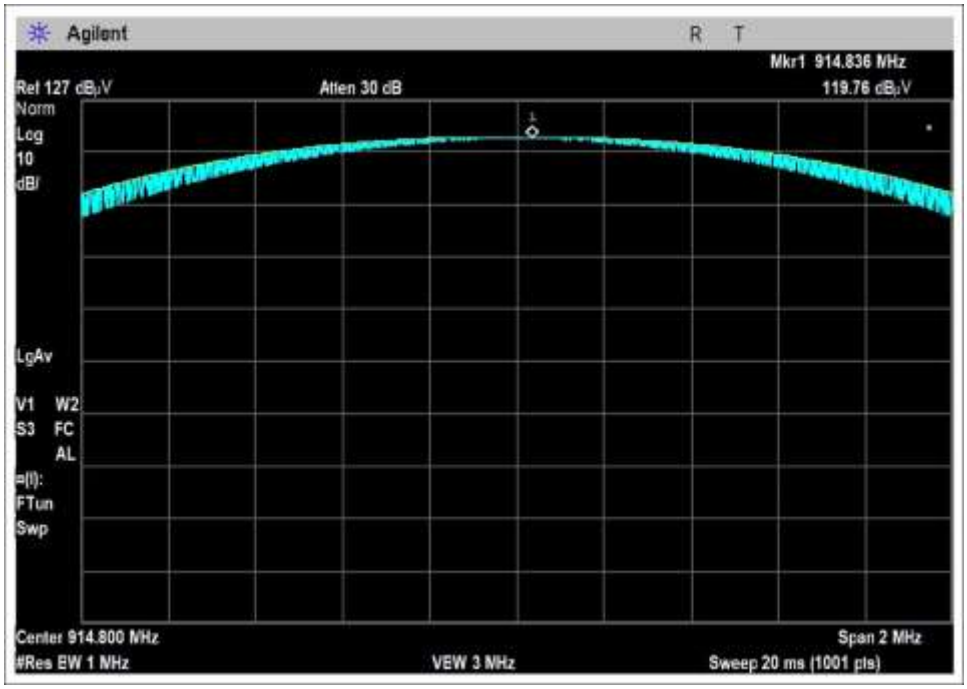


High Channel

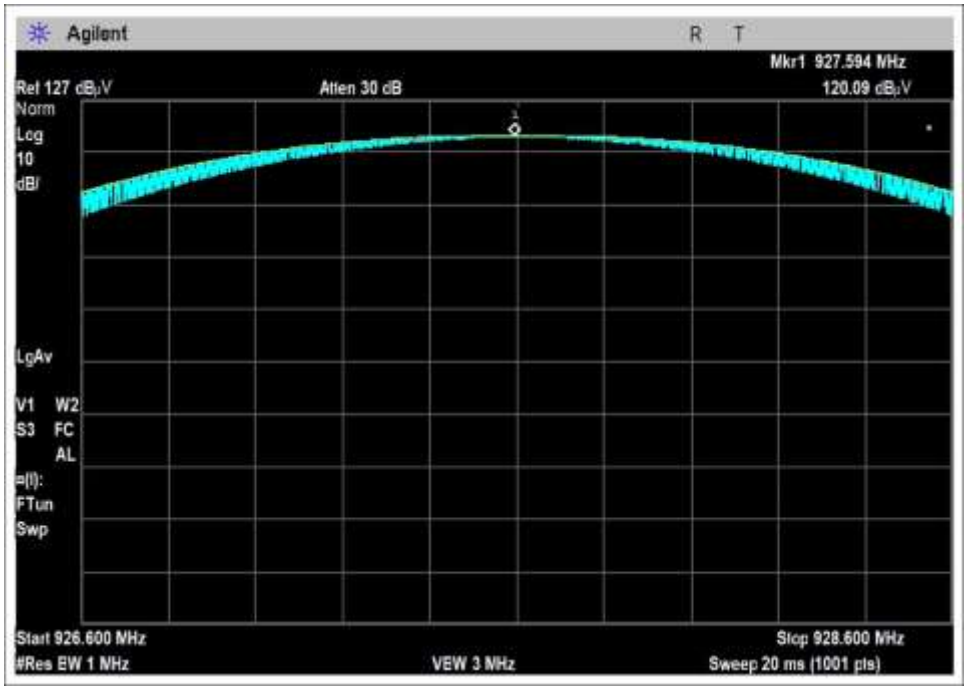
GFSK 150kbps Level 3



Low Channel

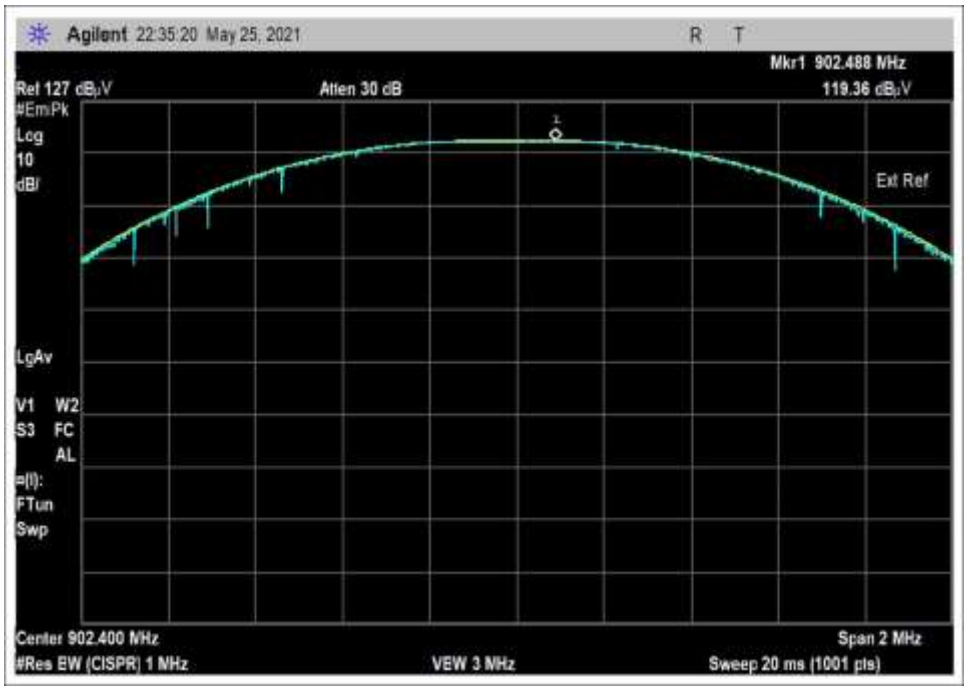


Middle Channel

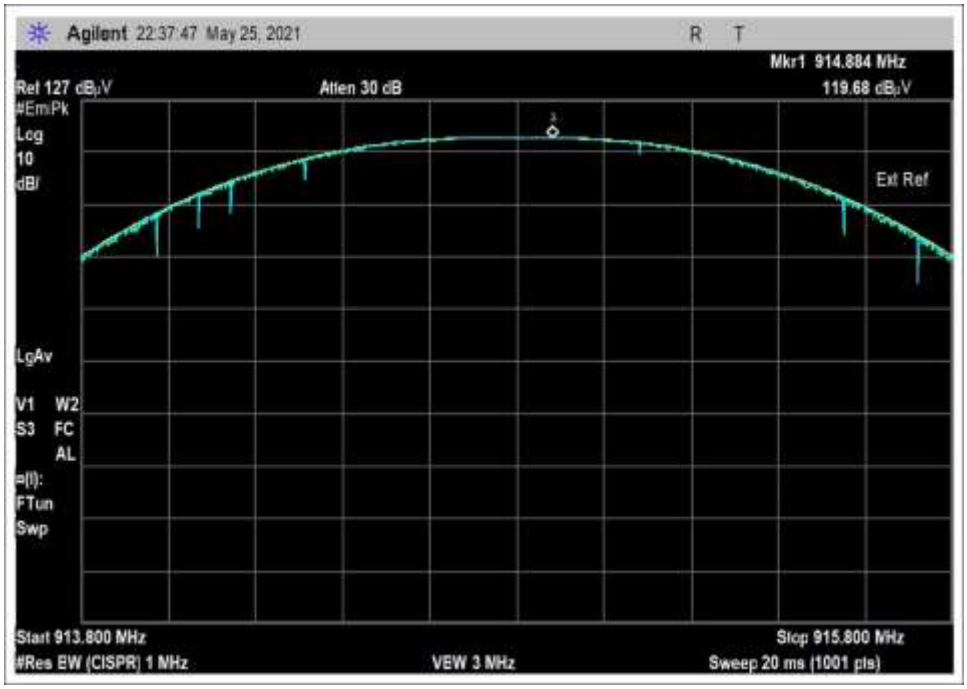


High Channel

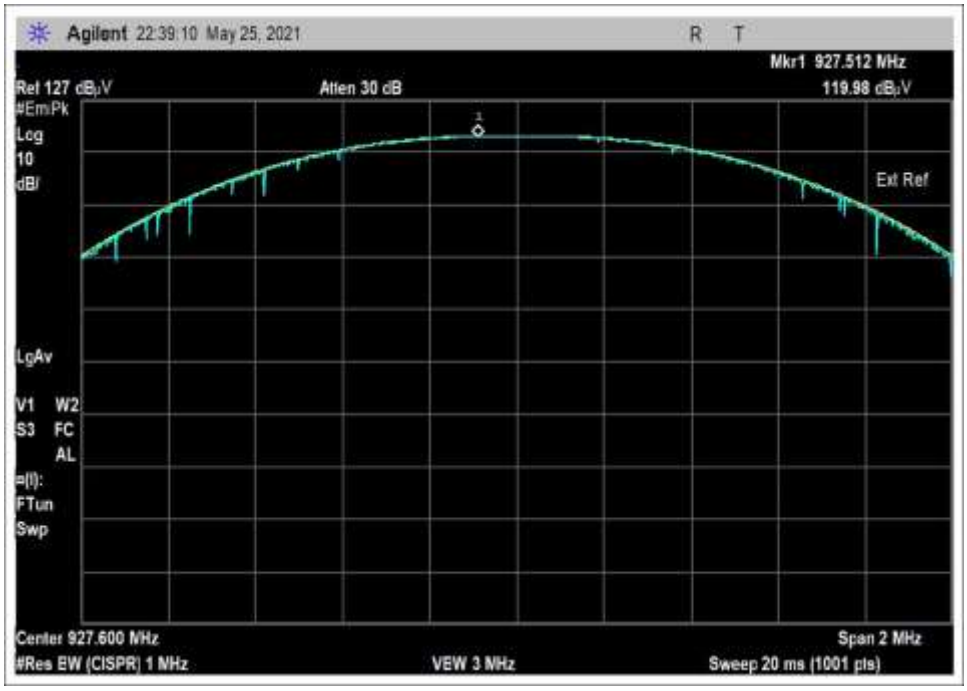
GFSK 300kbps Level 3



Low Channel

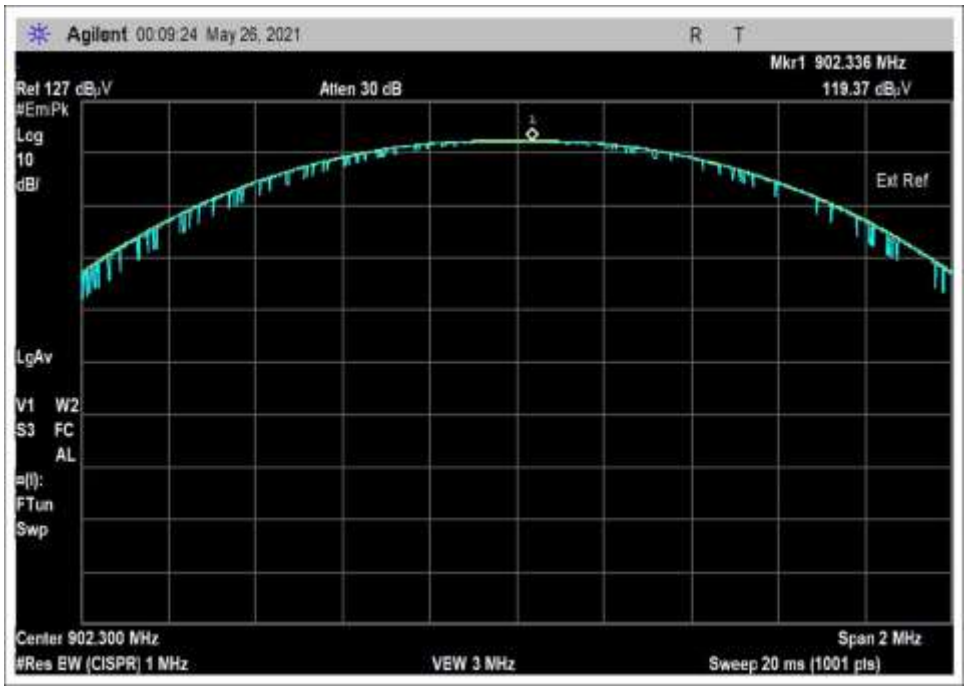


Middle Channel

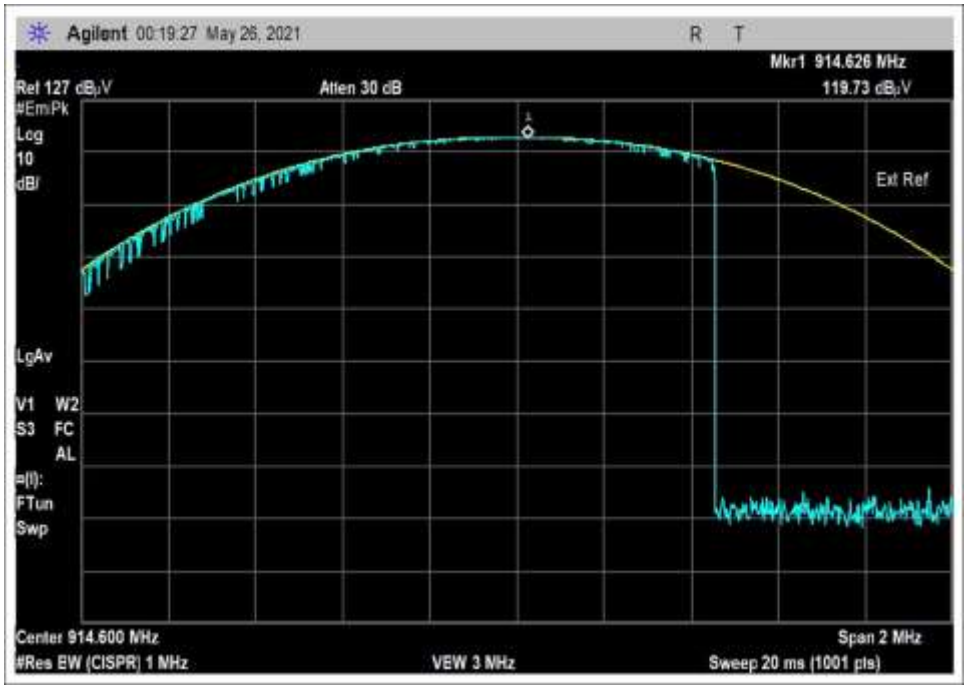


High Channel

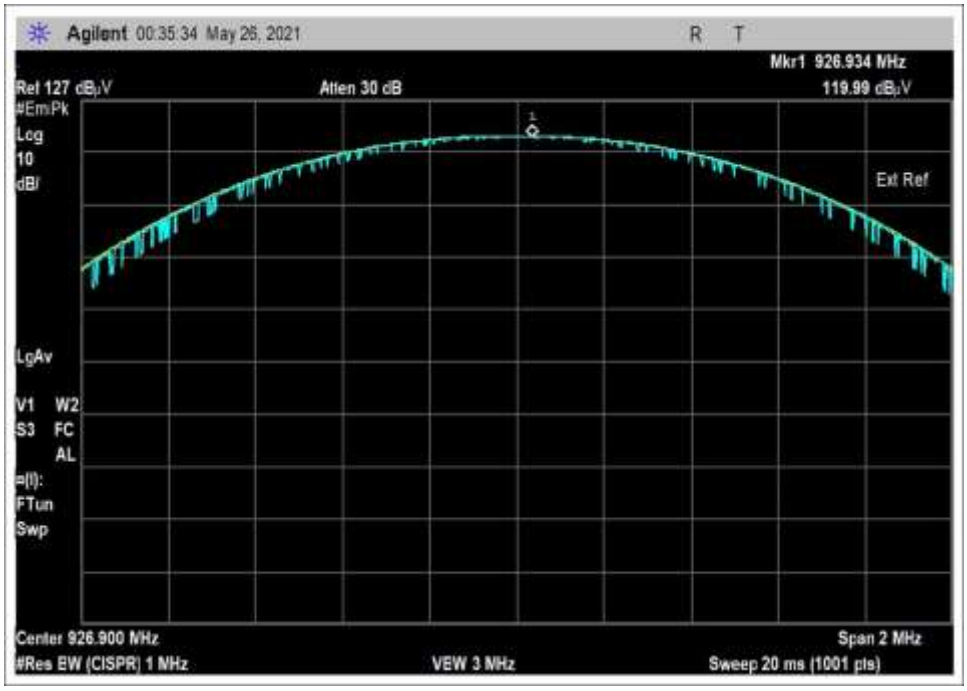
FSK 100kbps



Low Channel

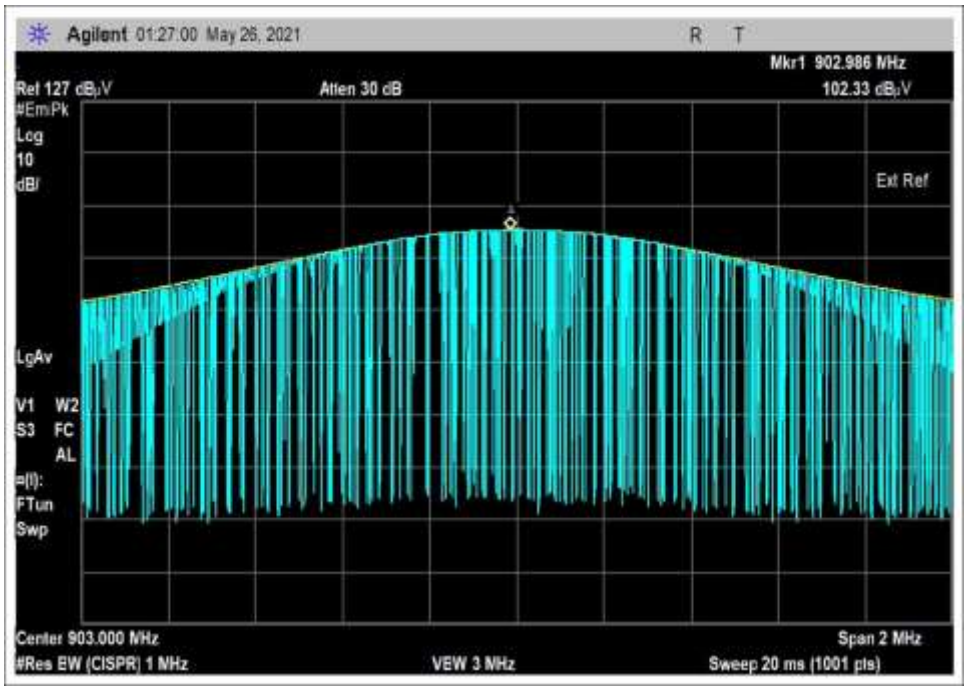


Middle Channel

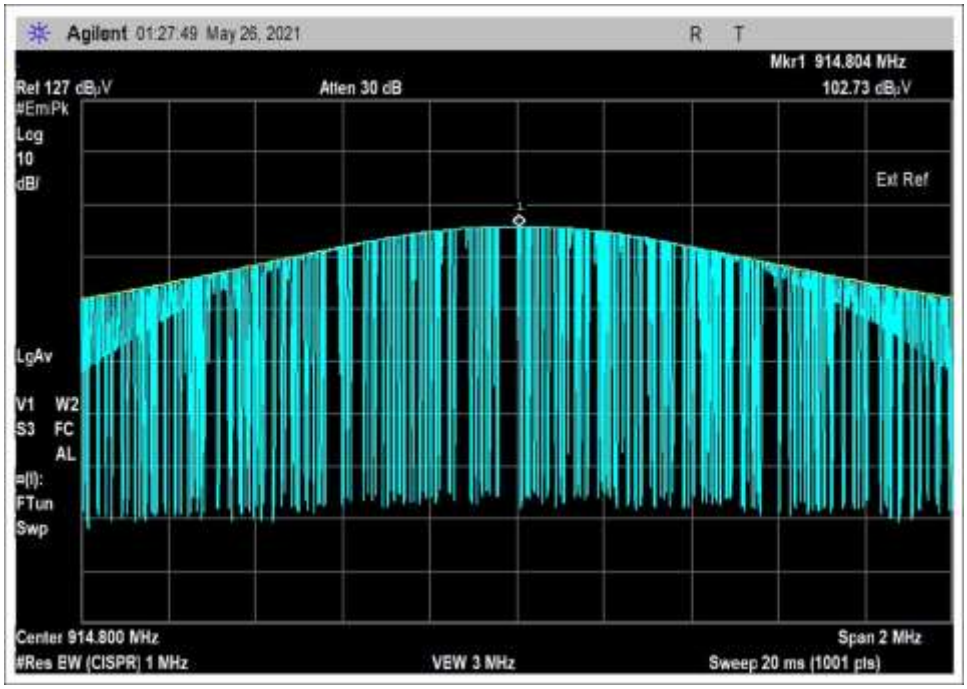


High Channel

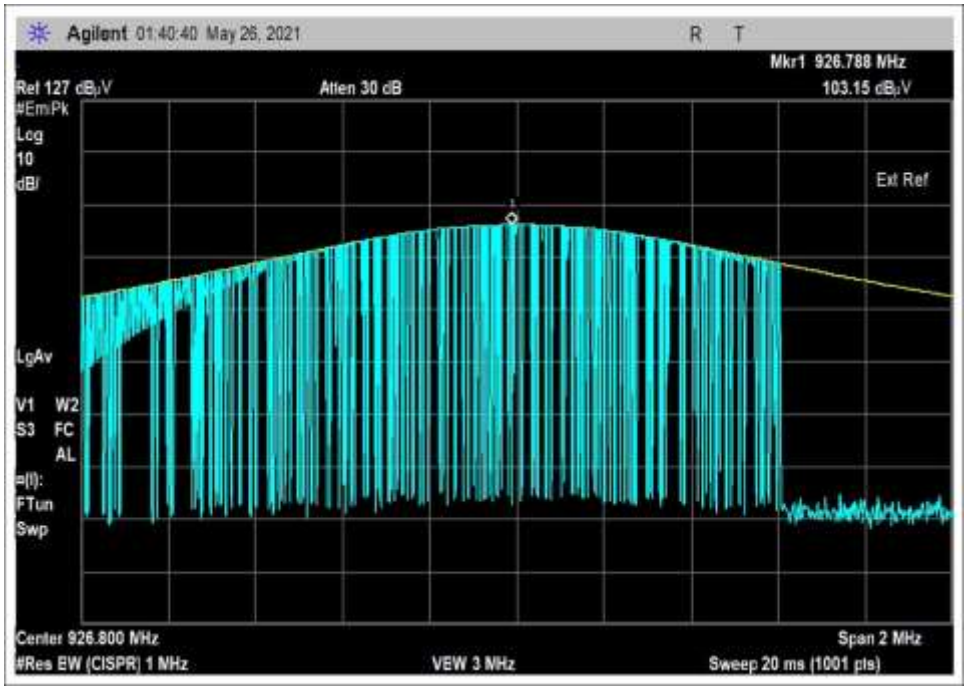
OOK Level 1



Low Channel

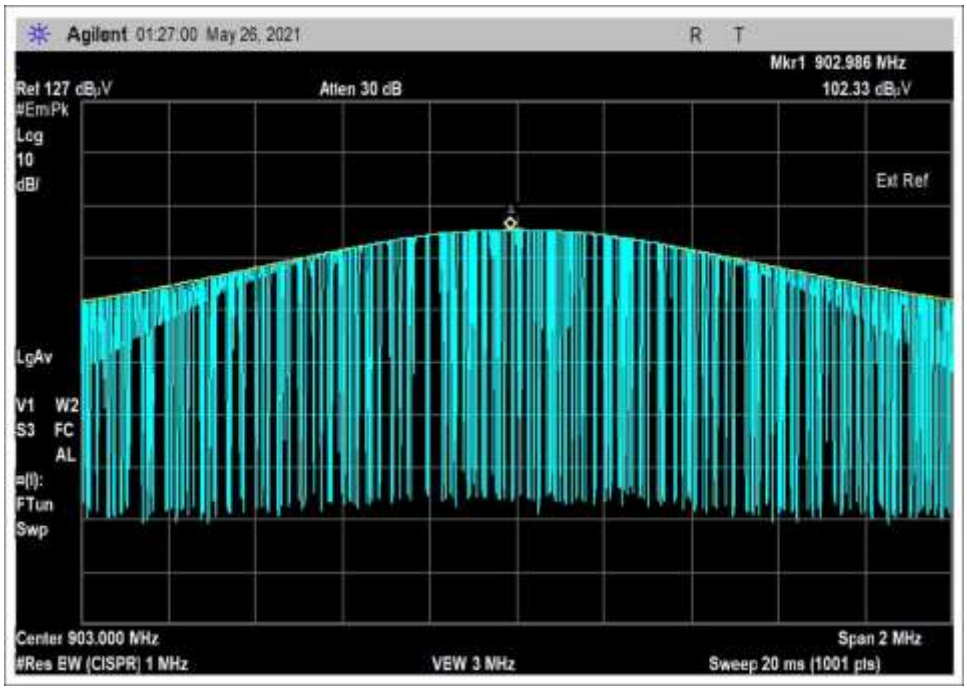


Middle Channel

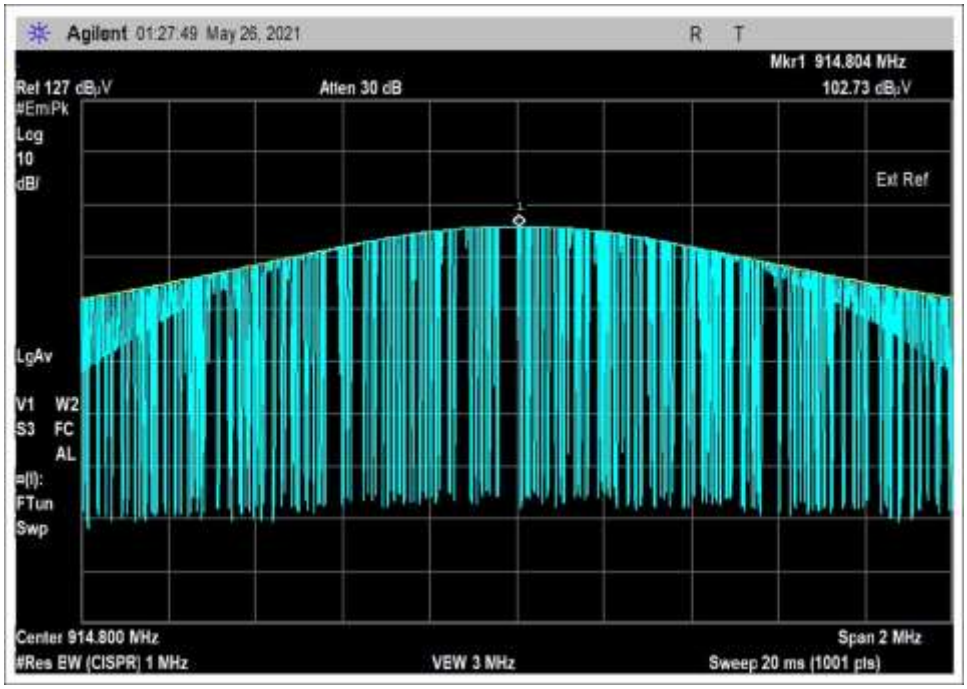


High Channel

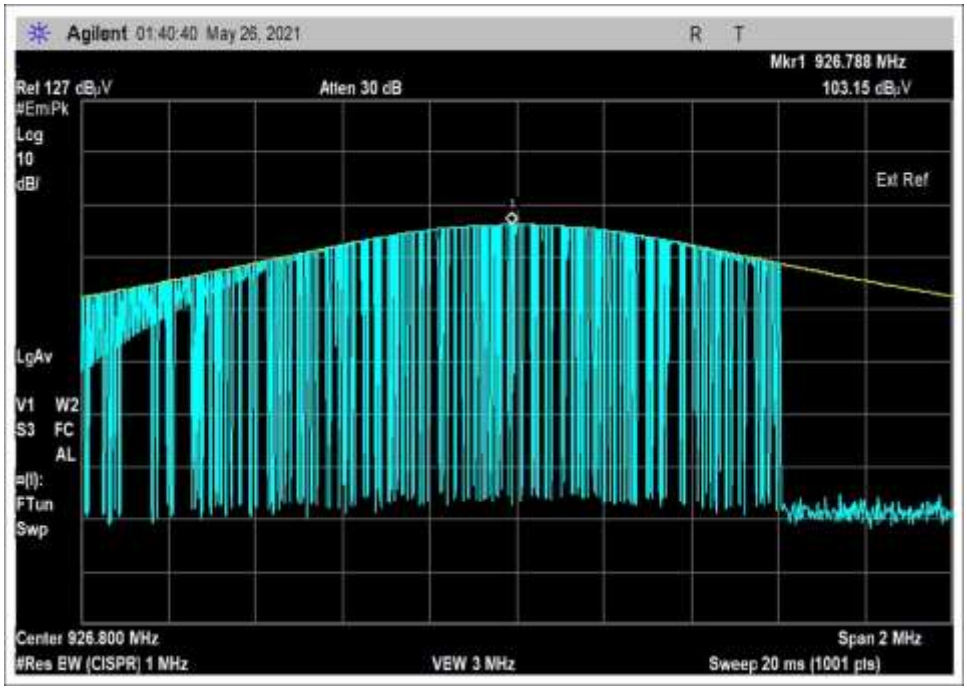
OOK Level 3



Low Channel



Middle Channel



High Channel

Test Setup / Conditions / Data

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/10/2023
Test Type:	**Conducted Emissions**	Time:	13:58:16
Tested By:	Matt Harrison	Sequence#:	7
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

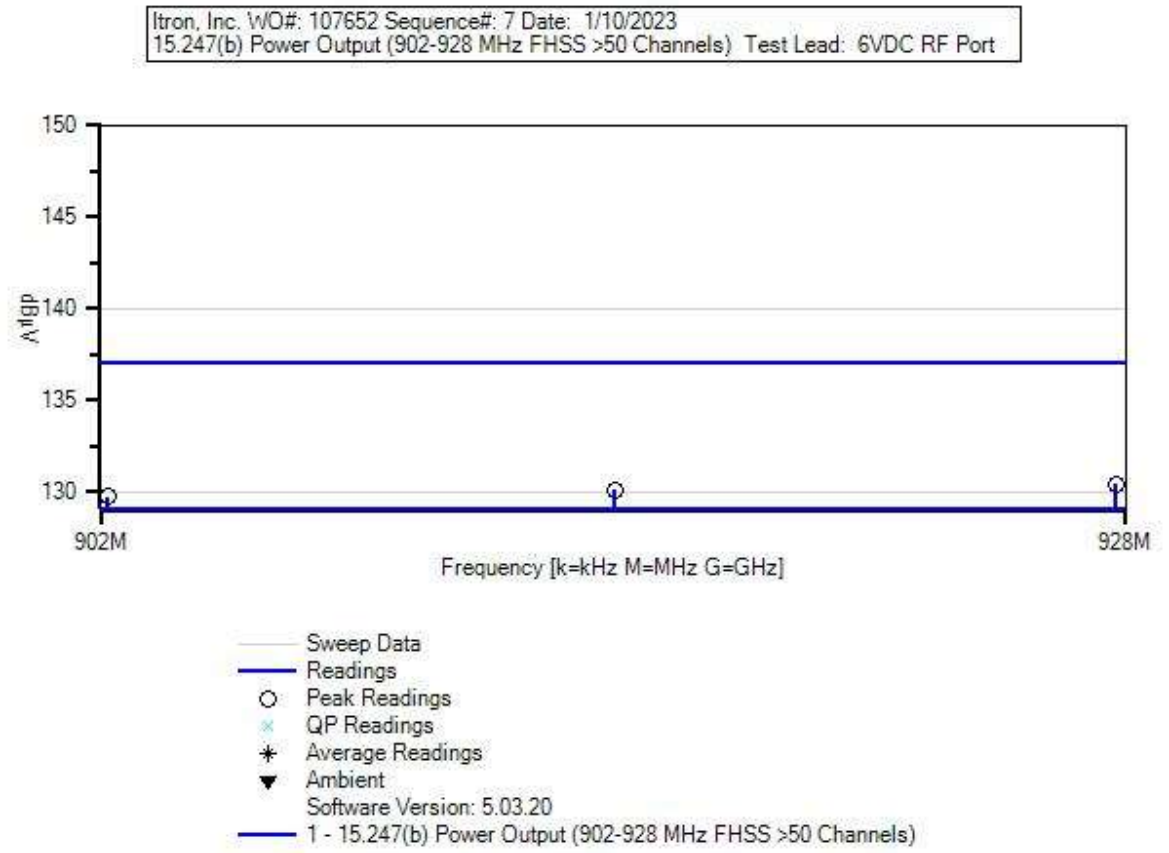
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 914.95, 927.75
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK, 10kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	927.748M	120.0	+10.1	+0.3			+0.0	130.4	137.0	-6.6	RF Po
2	914.952M	119.7	+10.1	+0.3			+0.0	130.1	137.0	-6.9	RF Po
3	902.192M	119.3	+10.1	+0.3			+0.0	129.7	137.0	-7.3	RF Po

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/10/2023
Test Type:	**Conducted Emissions**	Time:	14:34:58
Tested By:	Matt Harrison	Sequence#:	9
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

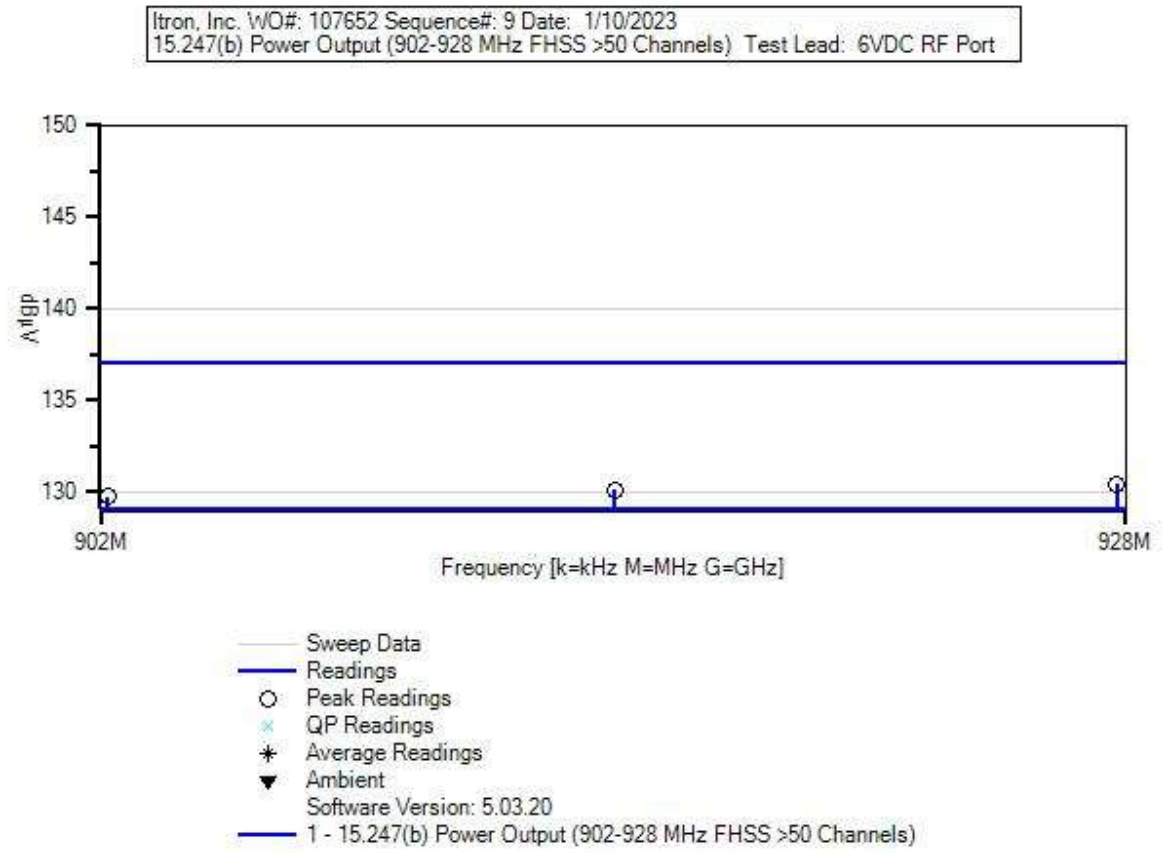
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 914.95, 927.75
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK, 25kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	927.750M	120.0	+10.1	+0.3			+0.0	130.4	137.0	-6.6	RF Po
2	914.944M	119.7	+10.1	+0.3			+0.0	130.1	137.0	-6.9	RF Po
3	902.186M	119.3	+10.1	+0.3			+0.0	129.7	137.0	-7.3	RF Po

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/10/2023
Test Type:	**Conducted Emissions**	Time:	14:46:27
Tested By:	Matt Harrison	Sequence#:	10
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

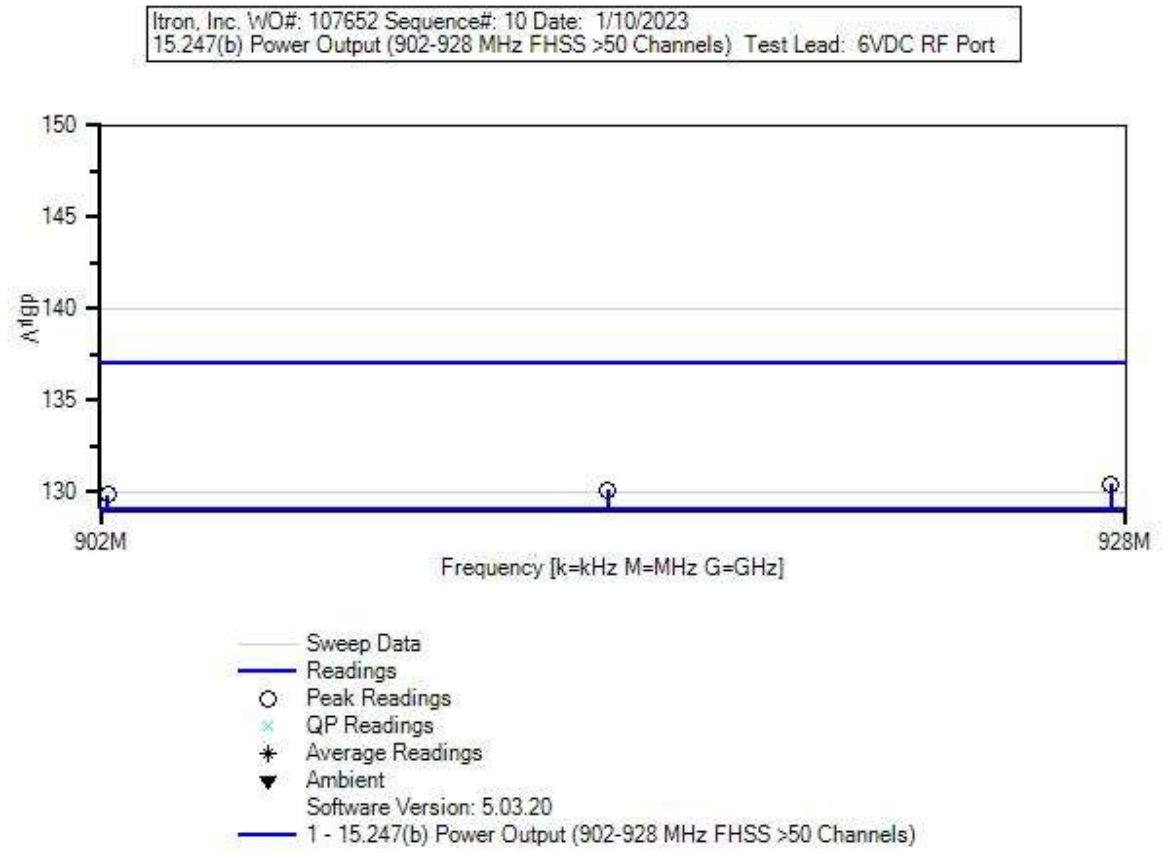
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 914.8, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK, 50kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	927.614M	120.0	+10.1	+0.3			+0.0	130.4	137.0	-6.6	RF Po
2	914.764M	119.7	+10.1	+0.3			+0.0	130.1	137.0	-6.9	RF Po
3	902.188M	119.4	+10.1	+0.3			+0.0	129.8	137.0	-7.2	RF Po

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/3/2023
Test Type:	**Conducted Emissions**	Time:	10:28:50
Tested By:	Matt Harrison	Sequence#:	1
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

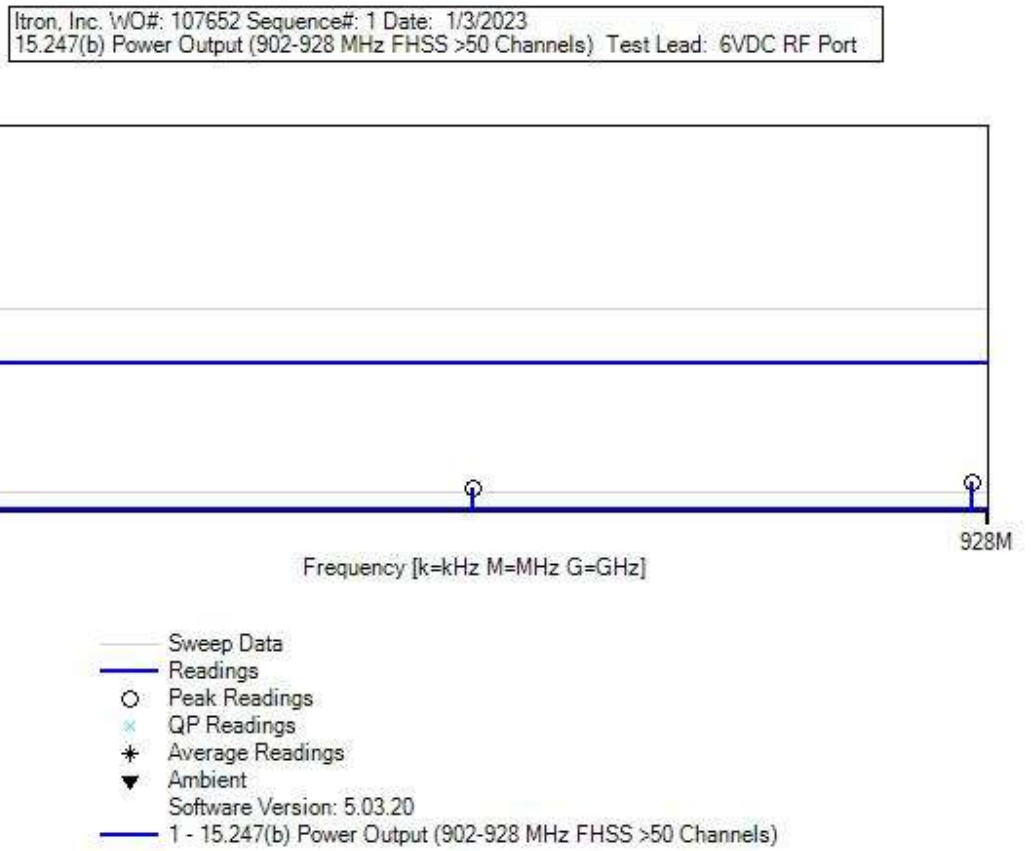
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.4, 916, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK, 150kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	927.594M	120.1	+10.1	+0.3			+0.0	130.5	137.0	-6.5	RF Po
2	914.836M	119.8	+10.1	+0.3			+0.0	130.2	137.0	-6.8	RF Po
3	902.458M	119.5	+10.1	+0.3			+0.0	129.9	137.0	-7.1	RF Po

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/10/2023
Test Type:	**Conducted Emissions**	Time:	14:24:55
Tested By:	Matt Harrison	Sequence#:	8
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.4, 914.8, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK, 300kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	927.512M	120.0	+10.1	+0.3			+0.0	130.4	137.0	-6.6	RF Po
2	914.884M	119.7	+10.1	+0.3			+0.0	130.1	137.0	-6.9	RF Po
3	902.488M	119.4	+10.1	+0.3			+0.0	129.8	137.0	-7.2	RF Po

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/11/2023
Test Type:	**Conducted Emissions**	Time:	07:43:19
Tested By:	Matt Harrison	Sequence#:	12
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

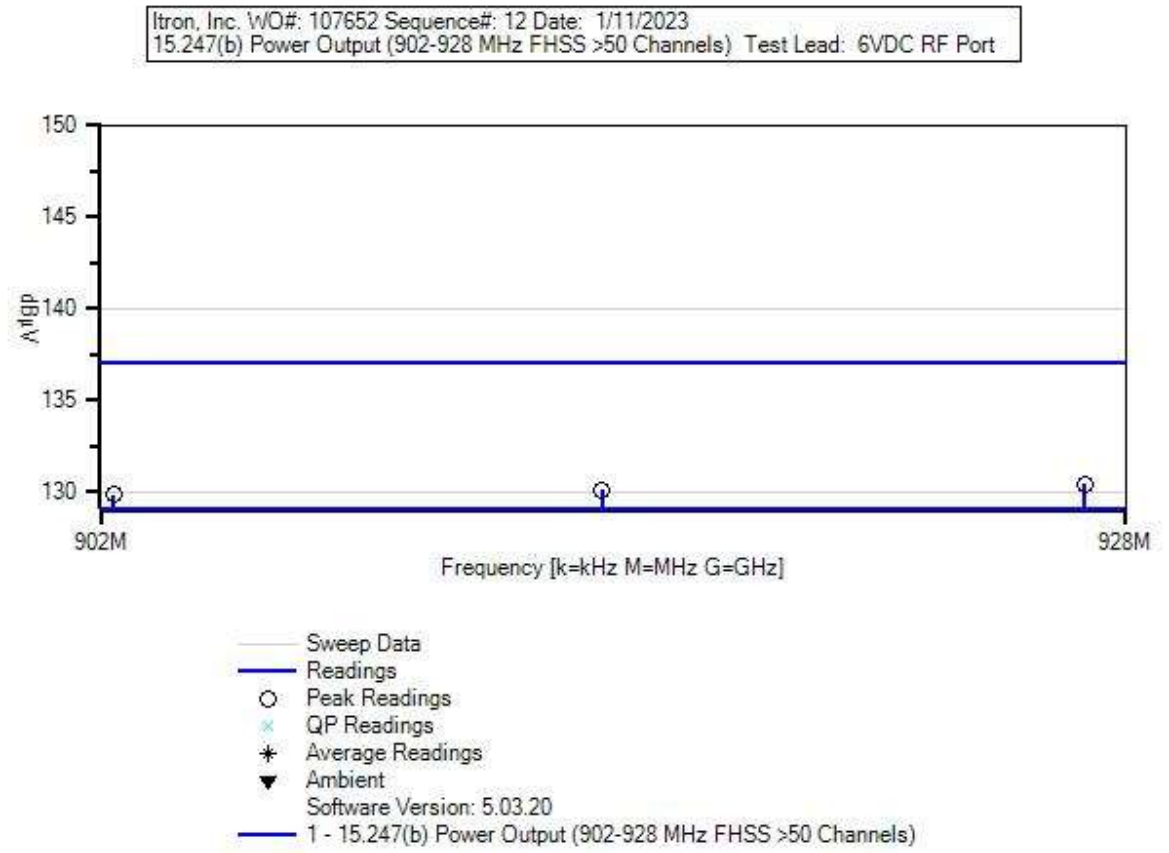
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.3, 914.6, 926.9 MHz
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **FSK, 100kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	926.934M	120.0	+10.1	+0.3			+0.0	130.4	137.0	-6.6	RF Po
2	914.626M	119.7	+10.1	+0.3			+0.0	130.1	137.0	-6.9	RF Po
3	902.336M	119.4	+10.1	+0.3			+0.0	129.8	137.0	-7.2	RF Po

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/11/2023
Test Type:	**Conducted Emissions**	Time:	08:18:54
Tested By:	Matt Harrison	Sequence#:	13
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

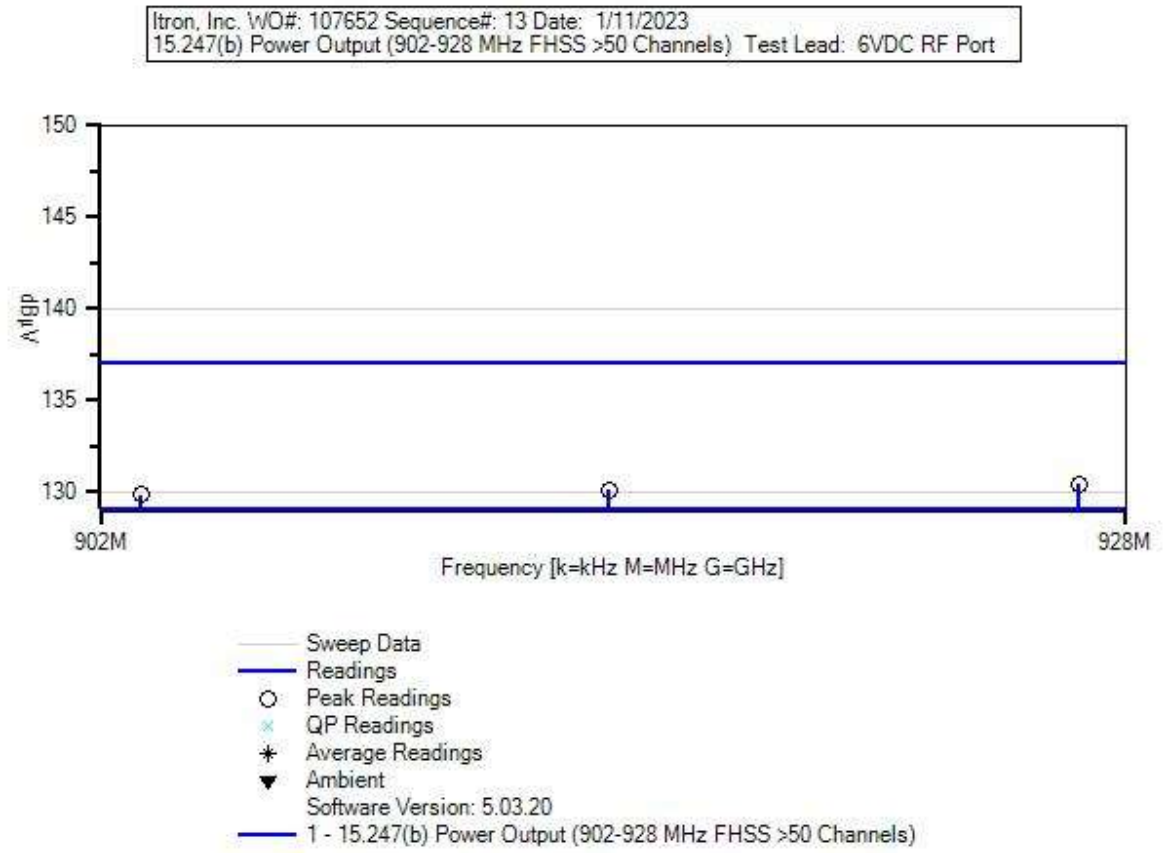
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 903, 914.8, 926.8 MHz
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **OOK**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	926.794M	120.0	+10.1	+0.3			+0.0	130.4	137.0	-6.6	RF Po
2	914.802M	119.7	+10.1	+0.3			+0.0	130.1	137.0	-6.9	RF Po
3	903.008M	119.4	+10.1	+0.3			+0.0	129.8	137.0	-7.2	RF Po

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(b) Power Output (902-928 MHz FHSS >50 Channels)**		
Work Order #:	**107652**	Date:	1/11/2023
Test Type:	**Conducted Emissions**	Time:	08:48:15
Tested By:	Matt Harrison	Sequence#:	14
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

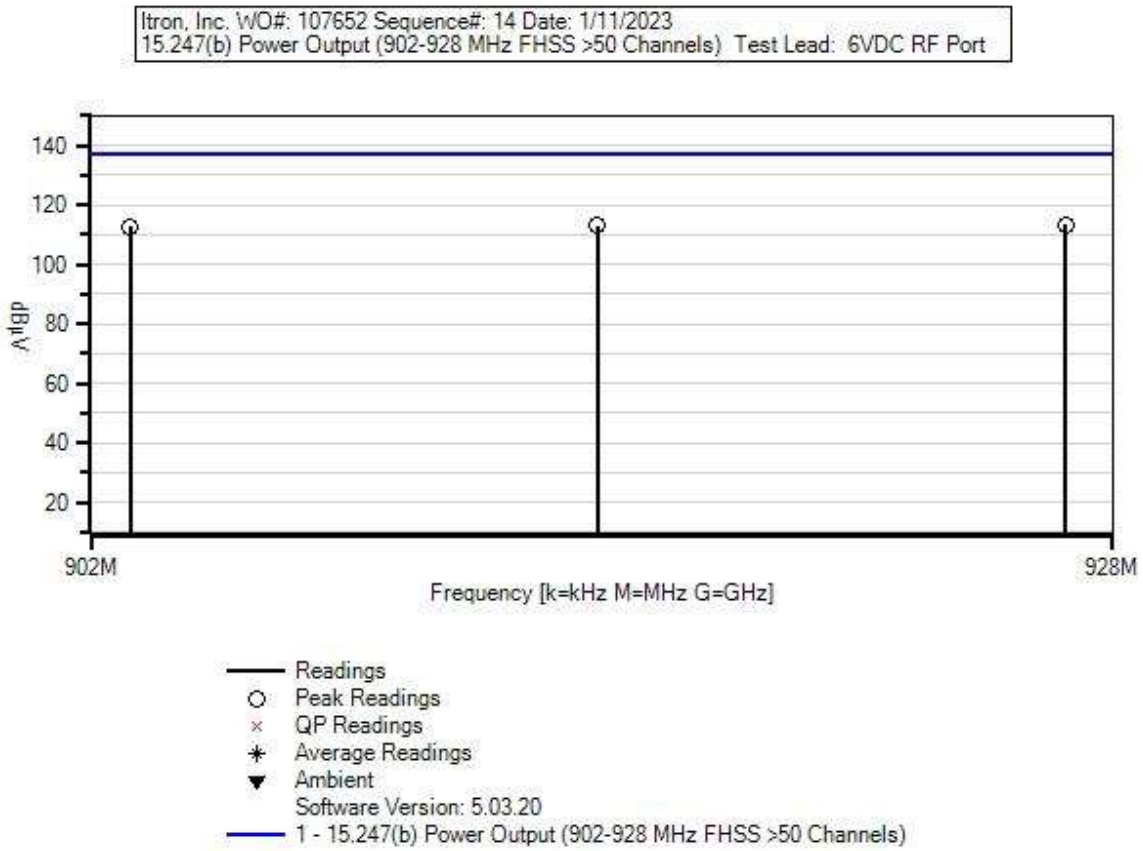
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 903, 914.8, 926.8 MHz
Firmware power setting: Level 1
EUT Firmware:
Protocol /MCS/Modulation: **OOK**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	926.788M	103.1	+10.1	+0.3			+0.0	113.5	137.0	-23.5	RF Po
2	914.804M	102.7	+10.1	+0.3			+0.0	113.1	137.0	-23.9	RF Po
3	902.986M	102.3	+10.1	+0.3			+0.0	112.7	137.0	-24.3	RF Po

Test Setup Photo(s)

15.247(d) RF Conducted Emissions & Band Edge

Test Setup / Conditions / Data

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**107652**	Date:	4/24/2023
Test Type:	**Conducted Emissions**	Time:	12:46:52
Tested By:	Matt Harrison	Sequence#:	66
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

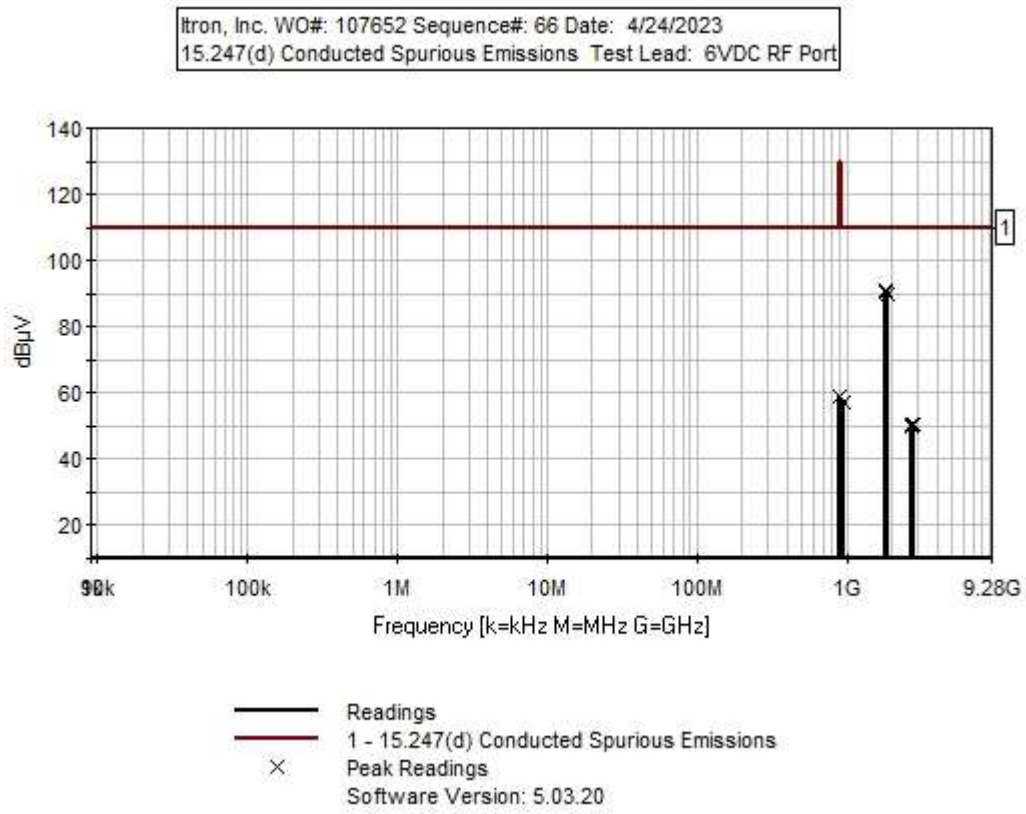
Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6◦C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: 30-10000MHz
Frequency tested: 902.4, 914.8, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK, 300kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
	AN03807	Spectrum Analyzer	E4440A	12/14/2022	12/14/2024
T2	ANP06454	Cable	Heliax	1/25/2022	1/25/2024

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	1804.959M	80.1	+10.2	+1.0			+0.0	91.3	109.8	-18.5	RF Po
2	1829.453M	79.0	+10.2	+1.0			+0.0	90.2	109.8	-19.6	RF Po
3	1855.350M	78.8	+10.2	+1.0			+0.0	90.0	109.8	-19.8	RF Po
4	891.600M	47.9	+10.1	+0.7			+0.0	58.7	109.8	-51.1	RF Po
5	940.800M	46.1	+10.1	+0.7			+0.0	56.9	109.8	-52.9	RF Po
6	2706.957M	39.4	+10.2	+1.2			+0.0	50.8	109.8	-59.0	RF Po
7	2783.029M	39.0	+10.2	+1.2			+0.0	50.4	109.8	-59.4	RF Po
8	2744.193M	38.4	+10.2	+1.2			+0.0	49.8	109.8	-60.0	RF Po

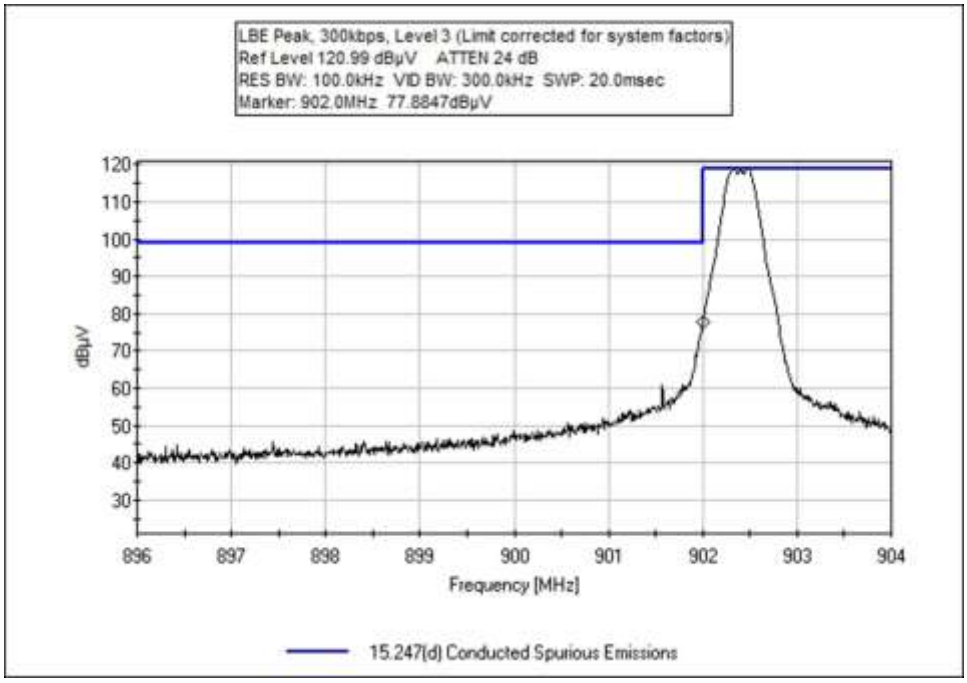
Band Edge

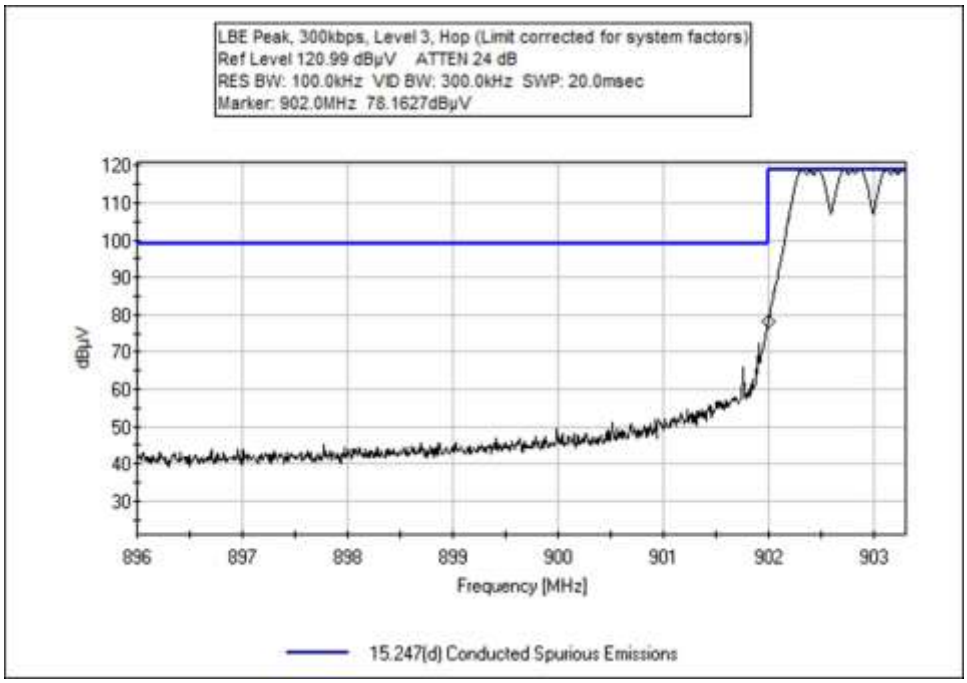
Testing Notes: Band edge plots must be performed with center frequency set at L and H and also in hopping mode.

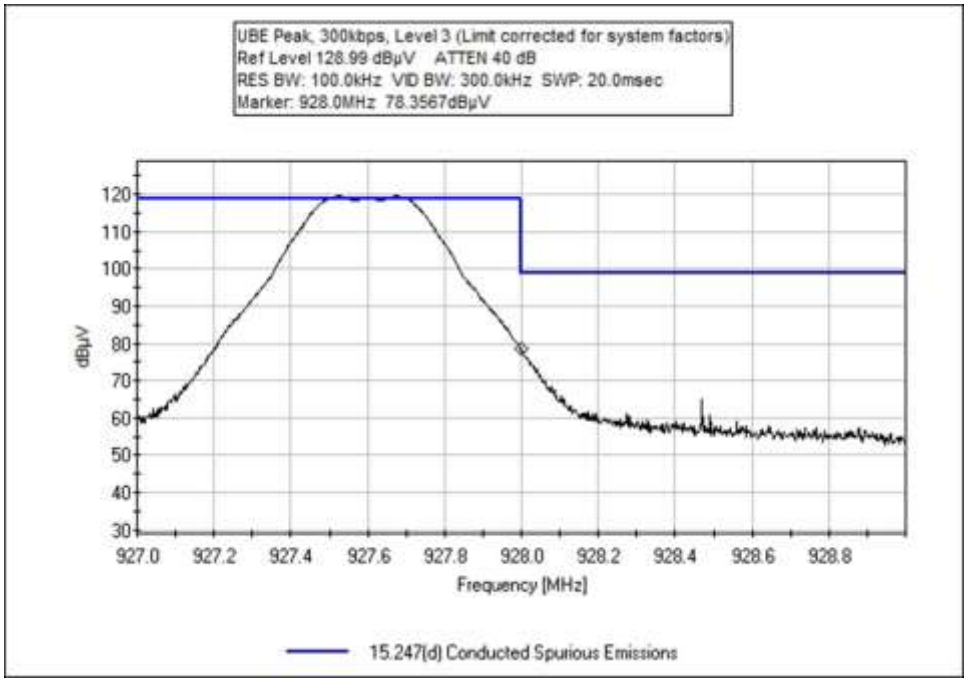
Band Edge Summary				
Limit applied: Max Power/100kHz - 20dB. Operating Mode: Single Channel (Low and High)				
Frequency (MHz)	**Modulation**	**Measured (dBm)**	**Limit (dBm)**	**Results**
902	GFSK 300kbps (Worst-Case)	88.7	<109.8	Pass
928	GFSK 300kbps (Worst-Case)	89.2	<109.8	Pass

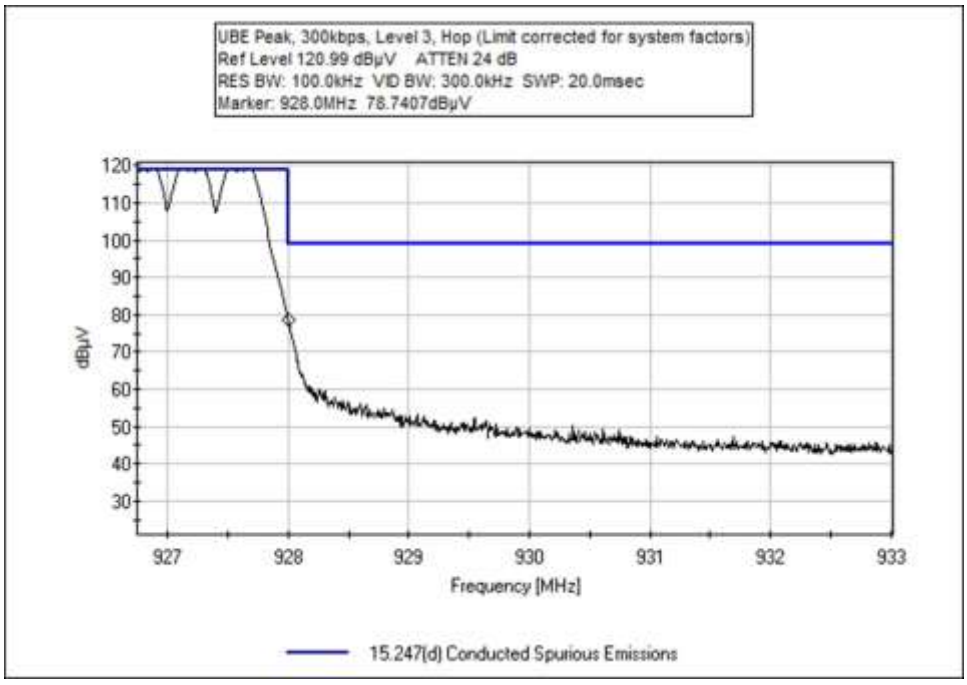
Band Edge Summary				
Limit applied: Max Power/100kHz - 20dB. Operating Mode: Hopping				
Frequency (MHz)	**Modulation**	**Measured (dBm)**	**Limit (dBm)**	**Results**
902	GFSK 300kbps (Worst-Case)	89.0	<109.8	Pass
928	GFSK 300kbps (Worst-Case)	89.5	<109.8	Pass

Band Edge Plots






UBE Peak, 300kbps, Level 3 (Limit corrected for system factors)
Ref Level 128.99 dBµV ATTEN 40 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 78.3567dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
927.0
927.2
927.4
927.6
927.8
928.0
928.2
928.4
928.6
928.8
Frequency [MHz]
15.247(d) Conducted Spurious Emissions


UBE Peak, 300kbps, Level 3, Hop (Limit corrected for system factors)
Ref Level 120.99 dBµV ATTEN 24 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 78.7407dBµV
dBµV
120
110
100
90
80
70
60
50
40
30
927
928
929
930
931
932
933
Frequency [MHz]
15.247(d) Conducted Spurious Emissions

Test Setup / Conditions / Data

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) Conducted Spurious Emissions**		
Work Order #:	**107652**	Date:	4/24/2023
Test Type:	**Conducted Emissions**	Time:	13:29:55
Tested By:	Matt Harrison	Sequence#:	67
Software:	EMITest 5.03.20		6VDC

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6◦C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: 900-928MHz
Frequency tested: 902.4, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK, 300kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup for conducted measurement. It is directly connected to the Analyzer via cable and attenuator
Modifications Added: None

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05503	Attenuator	766-10	6/8/2021	6/8/2023
T2	AN03807	Spectrum Analyzer	E4440A	12/14/2022	12/14/2024
T3	ANP06454	Cable	Heliax	1/25/2022	1/25/2024

Measurement Data: Reading listed by margin. Test Lead: RF 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	78.7	+10.1	+0.0	+0.7		+0.0	89.5	109.8 Hop	-20.3	RF Po
2	928.000M	78.4	+10.1	+0.0	+0.7		+0.0	89.2	109.8 SC	-20.6	RF Po
3	902.000M	78.2	+10.1	+0.0	+0.7		+0.0	89.0	109.8 Hop	-20.8	RF Po
4	902.000M	77.9	+10.1	+0.0	+0.7		+0.0	88.7	109.8 SC	-21.1	RF Po

Test Setup Photo(s)

15.247(d) Radiated Emissions & Band Edge

Test Setup / Conditions / Data

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/28/2023
Test Type:	**Radiated Scan**	Time:	13:25:17
Tested By:	Matt Harrison	Sequence#:	39
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

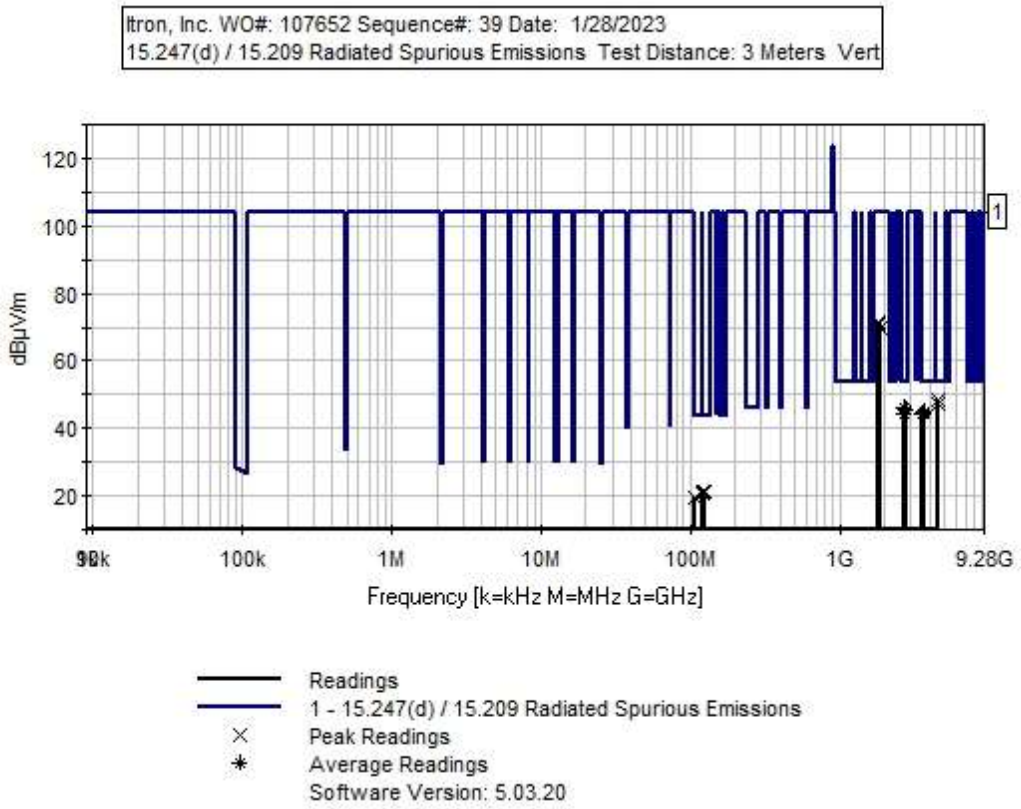
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 916, 927.75
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 10kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T5	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T6	ANP05333	Cable	Heliax	3/14/2022	3/14/2024
T7	ANP07505	Cable	CLU40-KMKM-02.00F	1/24/2023	1/24/2025

Measurement Data: Reading listed by order taken. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1804.400M	75.0	-34.7 +0.6	+27.3 +2.2	+0.4 +0.4	+0.0	+0.0	71.2	103.7	-32.5	Vert
2	2706.600M	50.3	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	49.7	54.0	-4.3	Vert
3	2706.600M Ave	46.5	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	45.9	54.0	-8.1	Vert
4	3608.800M	47.6	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	50.2	54.0	-3.8	Vert
5	3608.800M Ave	41.5	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	44.1	54.0	-9.9	Vert
6	4511.380M	42.6	-33.6 +0.5	+32.2 +4.3	+0.6 +0.4	+0.0	+0.0	47.0	54.0	-7.0	Vert
7	1829.840M	74.4	-34.7 +0.6	+27.5 +2.3	+0.4 +0.4	+0.0	+0.0	70.9	103.7	-32.8	Vert
8	2744.850M	49.2	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	48.5	54.0	-5.5	Vert
9	2744.850M Ave	44.8	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	44.1	54.0	-9.9	Vert
10	3659.800M	47.5	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	50.3	54.0	-3.7	Vert
11	3659.800M Ave	41.6	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	44.4	54.0	-9.6	Vert
12	4574.750M	44.4	-33.6 +0.5	+32.2 +4.2	+0.6 +0.4	+0.0	+0.0	48.7	54.0	-5.3	Vert
13	1855.445M	72.9	-34.7 +0.6	+27.7 +2.3	+0.4 +0.4	+0.0	+0.0	69.6	103.7	-34.1	Vert
14	2783.250M	49.9	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	49.2	54.0	-4.8	Vert
15	2783.250M Ave	46.4	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	45.7	54.0	-8.3	Vert
16	3711.000M	47.3	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	50.4	54.0	-3.6	Vert
17	3711.000M Ave	41.8	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	44.9	54.0	-9.1	Vert
18	123.400M	34.5	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.5	43.5	-22.0	Horiz
19	122.300M	34.3	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.3	43.5	-22.2	Horiz
20	120.780M	33.4	+13.2 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	20.5	43.5	-23.0	Vert
21	106.500M	31.6	+14.2 -27.7	+0.6 +0.0	+0.1	+0.6	+0.0	19.4	43.5	-24.1	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/28/2023
Test Type:	**Radiated Scan**	Time:	13:55:04
Tested By:	Matt Harrison	Sequence#:	40
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

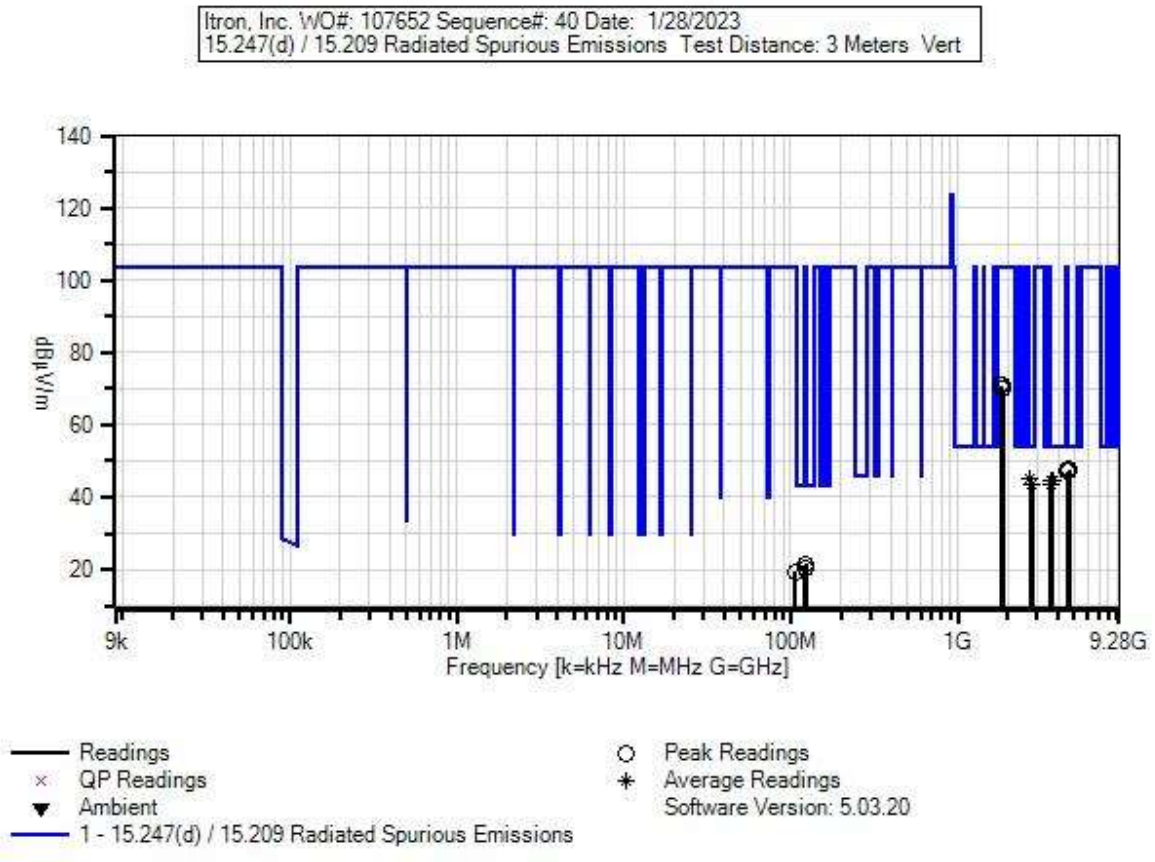
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 914.95, 927.75
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 25kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T4	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024
T6	ANP07505	Cable	CLU40-KMKM-02.00F	1/24/2023	1/24/2025
T7	AN02307	Preamp	8447D	1/6/2022	1/6/2024
	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
T8	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T9	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03807	Spectrum Analyzer	E4440A	10/6/2022	10/6/2024

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	4638.750M	43.2	-33.6 +4.1 +0.0	+32.5 +0.5	+0.6 +0.0	+0.4 +0.0	+0.0	47.7	54.0	-6.3	Vert
2	4510.830M	42.7	-33.6 +4.3 +0.0	+32.2 +0.4	+0.6 +0.0	+0.5 +0.0	+0.0	47.1	54.0	-6.9	Vert
3	4574.635M	42.8	-33.6 +4.2 +0.0	+32.2 +0.4	+0.6 +0.0	+0.5 +0.0	+0.0	47.1	54.0	-6.9	Vert
4	2706.600M Ave	45.6	-34.1 +2.8 +0.0	+29.5 +0.5	+0.5 +0.0	+0.2 +0.0	+0.0	45.0	54.0	-9.0	Vert
^	2706.600M	49.2	-34.1 +2.8 +0.0	+29.5 +0.5	+0.5 +0.0	+0.2 +0.0	+0.0	48.6	54.0	-5.4	Vert
6	3659.800M Ave	41.7	-33.8 +3.5 +0.0	+31.7 +0.6	+0.6 +0.0	+0.2 +0.0	+0.0	44.5	54.0	-9.5	Vert
^	3659.800M	47.5	-33.8 +3.5 +0.0	+31.7 +0.6	+0.6 +0.0	+0.2 +0.0	+0.0	50.3	54.0	-3.7	Vert
8	3711.000M Ave	41.3	-33.8 +3.5 +0.0	+32.0 +0.6	+0.6 +0.0	+0.2 +0.0	+0.0	44.4	54.0	-9.6	Vert
^	3711.000M	47.1	-33.8 +3.5 +0.0	+32.0 +0.6	+0.6 +0.0	+0.2 +0.0	+0.0	50.2	54.0	-3.8	Vert
10	2744.850M Ave	44.4	-34.1 +2.8 +0.0	+29.3 +0.5	+0.5 +0.0	+0.3 +0.0	+0.0	43.7	54.0	-10.3	Vert
^	2744.850M	48.8	-34.1 +2.8 +0.0	+29.3 +0.5	+0.5 +0.0	+0.3 +0.0	+0.0	48.1	54.0	-5.9	Vert
12	2783.250M Ave	44.3	-34.1 +2.8 +0.0	+29.3 +0.5	+0.5 +0.0	+0.3 +0.0	+0.0	43.6	54.0	-10.4	Vert
^	2783.250M	49.6	-34.1 +2.8 +0.0	+29.3 +0.5	+0.5 +0.0	+0.3 +0.0	+0.0	48.9	54.0	-5.1	Vert
14	3608.800M Ave	40.7	-33.8 +3.4 +0.0	+31.7 +0.5	+0.5 +0.0	+0.3 +0.0	+0.0	43.3	54.0	-10.7	Vert
^	3608.800M	47.4	-33.8 +3.4 +0.0	+31.7 +0.5	+0.5 +0.0	+0.3 +0.0	+0.0	50.0	54.0	-4.0	Vert

16	123.400M	34.5	+0.0 +0.7 +0.7	+0.0 +0.0	+0.1 -27.6	+0.0 +13.1	+0.0	21.5	43.5	-22.0	Horiz
17	122.300M	34.3	+0.0 +0.7 +0.7	+0.0 +0.0	+0.1 -27.6	+0.0 +13.1	+0.0	21.3	43.5	-22.2	Horiz
18	120.780M	33.4	+0.0 +0.7 +0.7	+0.0 +0.0	+0.1 -27.6	+0.0 +13.2	+0.0	20.5	43.5	-23.0	Vert
19	106.500M	31.6	+0.0 +0.6 +0.6	+0.0 +0.0	+0.1 -27.7	+0.0 +14.2	+0.0	19.4	43.5	-24.1	Vert
20	1804.415M	74.6	-34.7 +2.2 +0.0	+27.3 +0.4	+0.4 +0.0	+0.6 +0.0	+0.0	70.8	103.7	-32.9	Vert
21	1829.880M	74.3	-34.7 +2.3 +0.0	+27.5 +0.4	+0.4 +0.0	+0.6 +0.0	+0.0	70.8	103.7	-32.9	Vert
22	1855.525M	73.0	-34.7 +2.3 +0.0	+27.7 +0.4	+0.4 +0.0	+0.6 +0.0	+0.0	69.7	103.7	-34.0	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/28/2023
Test Type:	**Radiated Scan**	Time:	12:53:19
Tested By:	Matt Harrison	Sequence#:	38
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

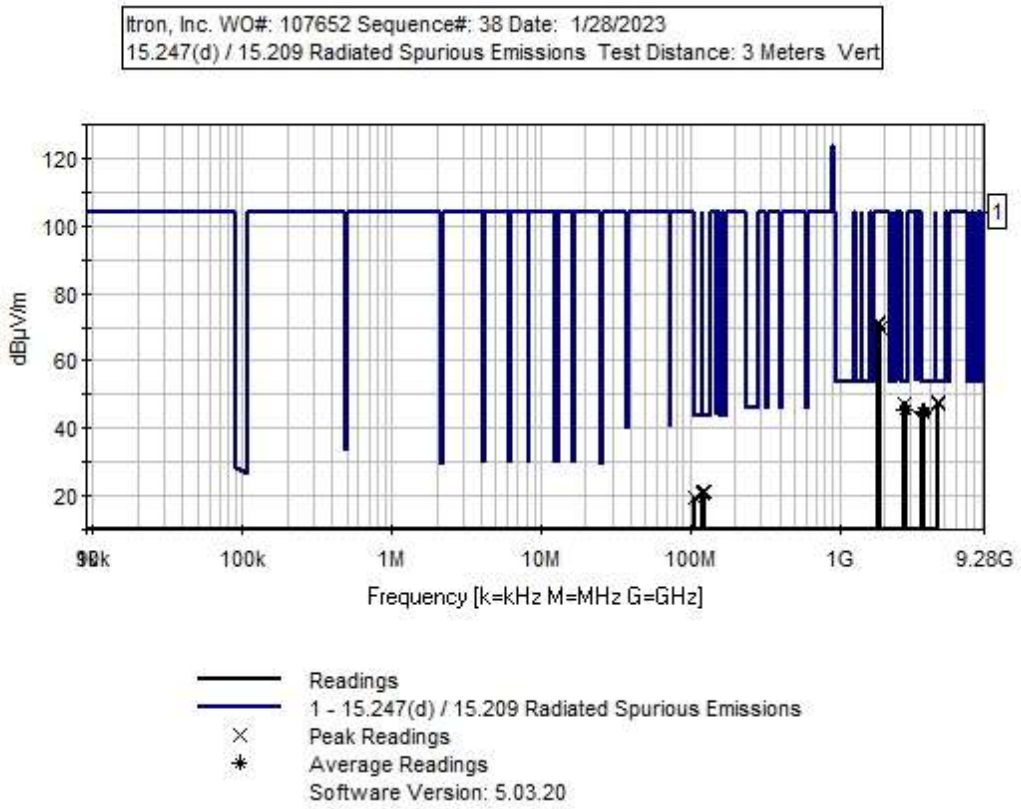
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 916, 927.8
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 50kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T5	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T6	ANP05333	Cable	Heliax	3/14/2022	3/14/2024
T7	ANP07505	Cable	CLU40-KMKM-02.00F	1/24/2023	1/24/2025
	AN02307	Preamp	8447D	1/6/2022	1/6/2024
	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03807	Spectrum Analyzer	E4440A	10/6/2022	10/6/2024

Measurement Data: Reading listed by order taken. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1804.370M	75.2	-34.7 +0.6	+27.3 +2.2	+0.4 +0.4	+0.0	+0.0	71.4	103.7	-32.3	Vert
2	2706.575M	49.9	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	49.3	54.0	-4.7	Vert
3	2706.575M Ave	46.0	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	45.4	54.0	-8.6	Vert
4	3608.855M	47.9	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	50.5	54.0	-3.5	Vert
5	3608.855M Ave	42.5	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	45.1	54.0	-8.9	Vert
6	4511.020M	42.6	-33.6 +0.5	+32.2 +4.3	+0.6 +0.4	+0.0	+0.0	47.0	54.0	-7.0	Vert
7	1829.565M	74.4	-34.7 +0.6	+27.5 +2.3	+0.4 +0.4	+0.0	+0.0	70.9	103.7	-32.8	Vert
8	2744.400M	48.0	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	47.3	54.0	-6.7	Vert
9	3659.200M	47.7	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	50.5	54.0	-3.5	Vert
10	3659.200M Ave	41.3	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	44.1	54.0	-9.9	Vert
11	4573.790M	43.4	-33.6 +0.5	+32.2 +4.2	+0.6 +0.4	+0.0	+0.0	47.7	54.0	-6.3	Vert
12	1855.200M	73.1	-34.7 +0.6	+27.7 +2.3	+0.4 +0.4	+0.0	+0.0	69.8	103.7	-33.9	Vert
13	2782.800M	50.4	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	49.7	54.0	-4.3	Vert
14	2782.800M Ave	46.0	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	45.3	54.0	-8.7	Vert
15	3710.490M	47.5	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	50.6	54.0	-3.4	Vert
16	3710.490M Ave	41.9	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	45.0	54.0	-9.0	Vert
17	4637.640M	43.0	-33.6 +0.4	+32.4 +4.1	+0.6 +0.5	+0.0	+0.0	47.4	54.0	-6.6	Vert
18	123.400M	34.5	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.5	43.5	-22.0	Horiz
19	122.300M	34.3	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.3	43.5	-22.2	Horiz
20	120.780M	33.4	+13.2 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	20.5	43.5	-23.0	Vert
21	106.500M	31.6	+14.2 -27.7	+0.6 +0.0	+0.1	+0.6	+0.0	19.4	43.5	-24.1	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/10/2023
Test Type:	**Radiated Scan**	Time:	08:56:54
Tested By:	Matt Harrison	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			

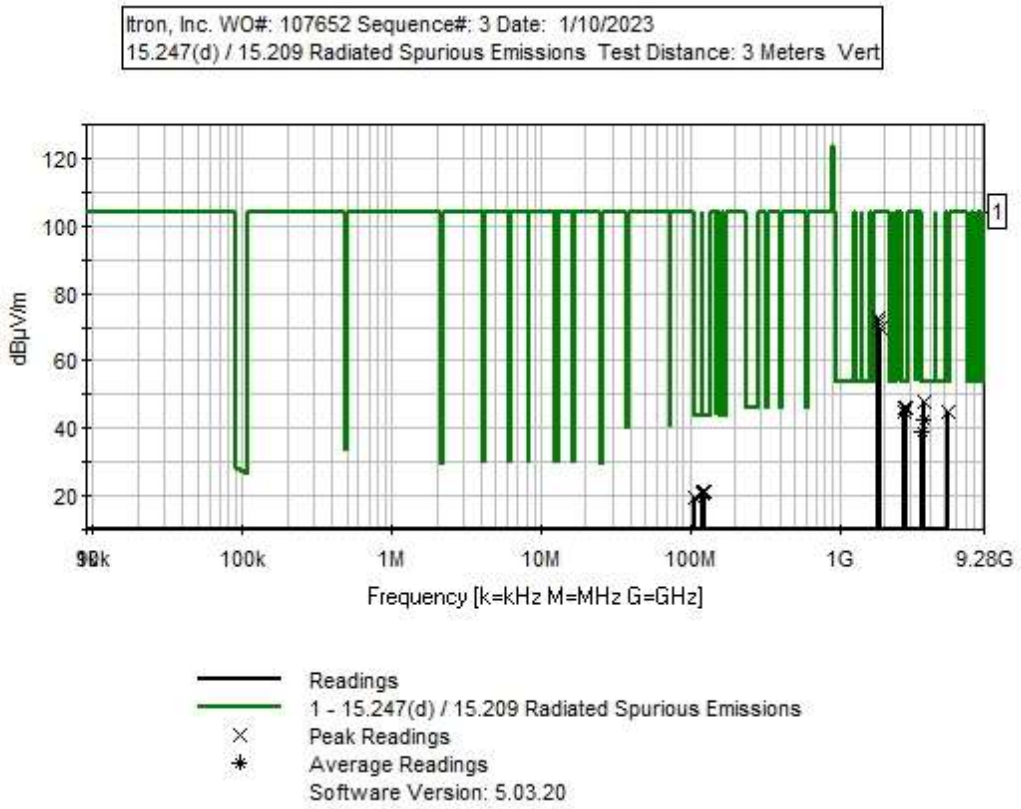
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 904.2, 916, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 150kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP05305	Cable	ETSI-50T	9/15/2021	9/15/2023
T4	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T5	ANP07504	Cable	CLU40-KMKM-02.00F	1/26/2021	1/26/2023
T6	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T7	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
	AN02307	Preamp	8447D	1/6/2022	1/6/2024
	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03807	Spectrum Analyzer	E4440A	10/6/2022	10/6/2024

Measurement Data: Reading listed by order taken. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1804.650M	76.8	-34.7 +0.3	+27.3 +0.0	+2.1 +0.6	+0.4	+0.0	72.8	103.7	-30.9	Vert
2	2706.990M	45.8	-34.1 +0.5	+29.5 +0.0	+2.7 +0.2	+0.5	+0.0	45.1	54.0	-8.9	Vert
3	3609.630M	47.8	-33.8 +0.4	+31.7 +0.0	+3.2 +0.3	+0.5	+0.0	50.1	54.0	-3.9	Horiz
4	3609.630M Ave	36.8	-33.8 +0.4	+31.7 +0.0	+3.2 +0.3	+0.5	+0.0	39.1	54.0	-14.9	Horiz
5	5413.935M	38.1	-33.6 +0.6	+34.7 +0.0	+4.0 +0.4	+0.8	+0.0	45.0	54.0	-9.0	Vert
6	1829.545M	75.4	-34.7 +0.3	+27.5 +0.0	+2.1 +0.6	+0.4	+0.0	71.6	103.7	-32.1	Vert
7	2744.620M	46.6	-34.1 +0.5	+29.3 +0.0	+2.7 +0.3	+0.5	+0.0	45.8	54.0	-8.2	Vert
8	3659.200M	46.8	-33.8 +0.4	+31.7 +0.0	+3.3 +0.2	+0.6	+0.0	49.2	54.0	-4.8	Vert
9	3659.200M Ave	40.3	-33.8 +0.4	+31.7 +0.0	+3.3 +0.2	+0.6	+0.0	42.7	54.0	-11.3	Vert
10	1855.170M	73.2	-34.7 +0.3	+27.7 +0.0	+2.1 +0.6	+0.4	+0.0	69.6	103.7	-34.1	Vert
11	2782.555M	46.7	-34.1 +0.5	+29.3 +0.0	+2.7 +0.3	+0.5	+0.0	45.9	54.0	-8.1	Vert
12	3710.400M	45.4	-33.8 +0.3	+32.0 +0.0	+3.3 +0.2	+0.6	+0.0	48.0	54.0	-6.0	Vert
13	123.400M	34.5	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.5	43.5	-22.0	Horiz
14	122.300M	34.3	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.3	43.5	-22.2	Horiz
15	120.780M	33.4	+13.2 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	20.5	43.5	-23.0	Vert
16	106.500M	31.6	+14.2 -27.7	+0.6 +0.0	+0.1	+0.6	+0.0	19.4	43.5	-24.1	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/28/2023
Test Type:	**Radiated Scan**	Time:	12:00:08
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			

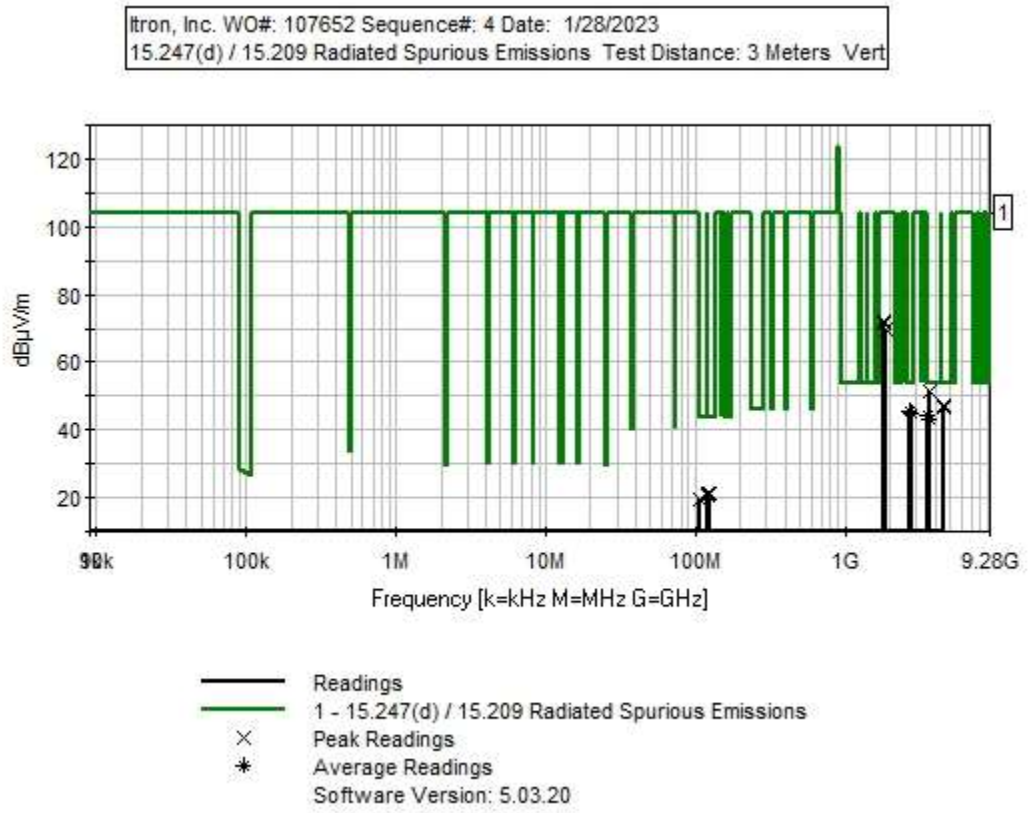
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 904.2, 916, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 300kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T5	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T6	ANP05333	Cable	Heliax	3/14/2022	3/14/2024
T7	ANP07505	Cable	CLU40-KMKM-02.00F	1/24/2023	1/24/2025
	AN02307	Preamp	8447D	1/6/2022	1/6/2024
	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03807	Spectrum Analyzer	E4440A	10/6/2022	10/6/2024

Measurement Data: Reading listed by order taken. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1804.940M	75.6	-34.7 +0.6	+27.3 +2.2	+0.4 +0.4	+0.0	+0.0	71.8	103.7	-31.9	Vert
2	2707.200M	50.8	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	50.2	54.0	-3.8	Vert
3	2707.200M Ave	46.0	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	45.4	54.0	-8.6	Vert
4	3609.600M	47.7	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	50.3	54.0	-3.7	Vert
5	3609.600M Ave	41.9	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	44.5	54.0	-9.5	Vert
6	4511.560M	42.4	-33.6 +0.5	+32.2 +4.3	+0.6 +0.4	+0.0	+0.0	46.8	54.0	-7.2	Vert
7	1829.705M	74.9	-34.7 +0.6	+27.5 +2.3	+0.4 +0.4	+0.0	+0.0	71.4	103.7	-32.3	Vert
8	3659.200M	47.6	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	50.4	54.0	-3.6	Vert
9	3659.200M Ave	40.2	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	43.0	54.0	-11.0	Vert
10	4574.280M	43.1	-33.6 +0.5	+32.2 +4.2	+0.6 +0.4	+0.0	+0.0	47.4	54.0	-6.6	Vert
11	1855.045M	73.2	-34.7 +0.6	+27.7 +2.3	+0.4 +0.4	+0.0	+0.0	69.9	103.7	-33.8	Vert
12	2782.800M	50.3	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	49.6	54.0	-4.4	Vert
13	2782.800M Ave	45.5	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	44.8	54.0	-9.2	Vert
14	3709.970M	48.1	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	51.2	54.0	-2.8	Vert
15	3710.400M Ave	40.2	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	43.3	54.0	-10.7	Vert
16	4638.055M	42.6	-33.6 +0.4	+32.5 +4.1	+0.6 +0.5	+0.0	+0.0	47.1	54.0	-6.9	Vert
17	123.400M	34.5	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.5	43.5	-22.0	Horiz
18	122.300M	34.3	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.3	43.5	-22.2	Horiz
19	120.780M	33.4	+13.2 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	20.5	43.5	-23.0	Vert
20	106.500M	31.6	+14.2 -27.7	+0.6 +0.0	+0.1	+0.6	+0.0	19.4	43.5	-24.1	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/30/2023
Test Type:	**Radiated Scan**	Time:	07:08:40
Tested By:	Matt Harrison	Sequence#:	41
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

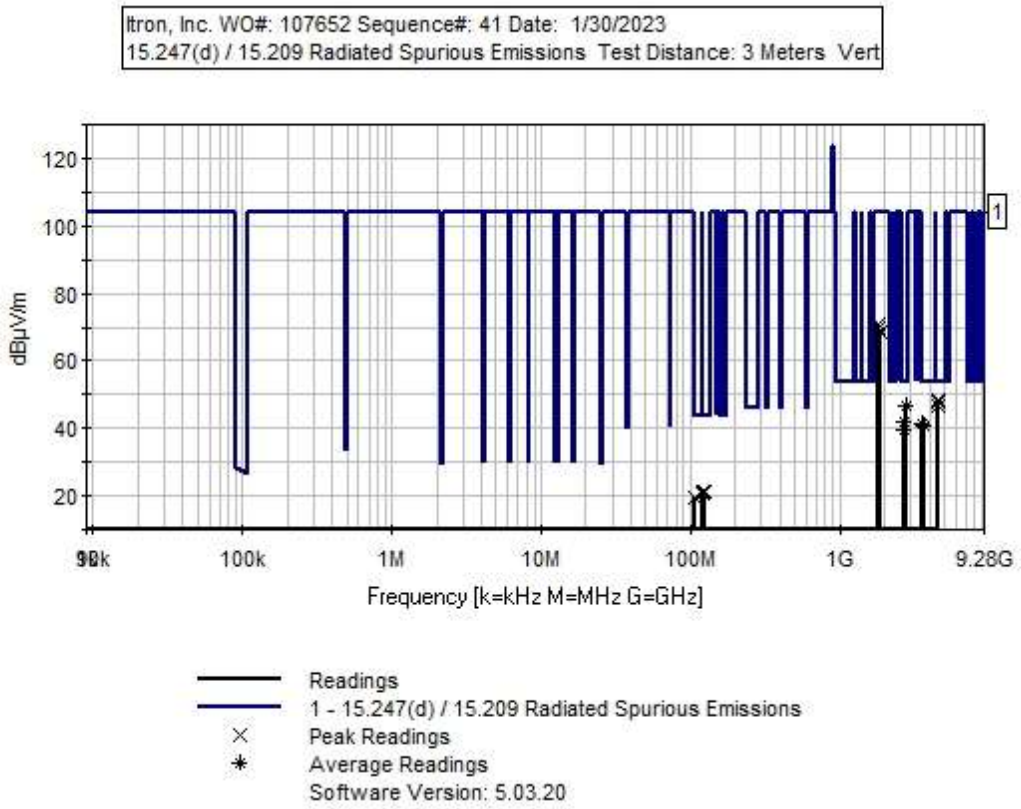
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 903, 914.8, 926.8
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **OOK**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T5	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T6	ANP05333	Cable	Heliax	3/14/2022	3/14/2024
T7	ANP07505	Cable	CLU40-KMKM-02.00F	1/24/2023	1/24/2025
	AN02307	Preamp	8447D	1/6/2022	1/6/2024
	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03807	Spectrum Analyzer	E4440A	10/6/2022	10/6/2024

Measurement Data: Reading listed by order taken. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1805.955M	74.8	-34.7 +0.6	+27.3 +2.2	+0.4 +0.4	+0.0	+0.0	71.0	103.7	-32.7	Vert
2	3612.000M	48.0	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	50.6	54.0	-3.4	Vert
3	3612.000M Ave	39.0	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	41.6	54.0	-12.4	Vert
4	4515.000M	42.5	-33.6 +0.5	+32.2 +4.3	+0.6 +0.4	+0.0	+0.0	46.9	54.0	-7.1	Vert
5	2709.000M	52.8	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	52.2	54.0	-1.8	Vert
6	2709.000M Ave	42.5	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	41.9	54.0	-12.1	Vert
7	1829.555M	73.5	-34.7 +0.6	+27.5 +2.3	+0.4 +0.4	+0.0	+0.0	70.0	103.7	-33.7	Vert
8	2744.400M	50.3	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	49.6	54.0	-4.4	Vert
9	2744.400M Ave	40.2	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	39.5	54.0	-14.5	Vert
10	3659.135M	48.2	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	51.0	54.0	-3.0	Vert
11	3659.135M Ave	37.8	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	40.6	54.0	-13.4	Vert
12	4573.885M	44.3	-33.6 +0.5	+32.2 +4.2	+0.6 +0.4	+0.0	+0.0	48.6	54.0	-5.4	Vert
13	1853.560M	71.8	-34.7 +0.6	+27.7 +2.3	+0.4 +0.4	+0.0	+0.0	68.5	103.7	-35.2	Vert
14	2780.400M	53.7	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	53.0	54.0	-1.0	Vert
15	2780.400M Ave	47.1	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	46.4	54.0	-7.6	Vert
16	3707.200M	48.5	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	51.6	54.0	-2.4	Vert
17	3707.200M Ave	37.6	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	40.7	54.0	-13.3	Vert
18	4633.785M	43.5	-33.6 +0.4	+32.4 +4.1	+0.6 +0.5	+0.0	+0.0	47.9	54.0	-6.1	Vert
19	123.400M	34.5	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.5	43.5	-22.0	Horiz
20	122.300M	34.3	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.3	43.5	-22.2	Horiz
21	120.780M	33.4	+13.2 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	20.5	43.5	-23.0	Vert
22	106.500M	31.6	+14.2 -27.7	+0.6 +0.0	+0.1	+0.6	+0.0	19.4	43.5	-24.1	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/30/2023
Test Type:	**Radiated Scan**	Time:	07:58:58
Tested By:	Matt Harrison	Sequence#:	42
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

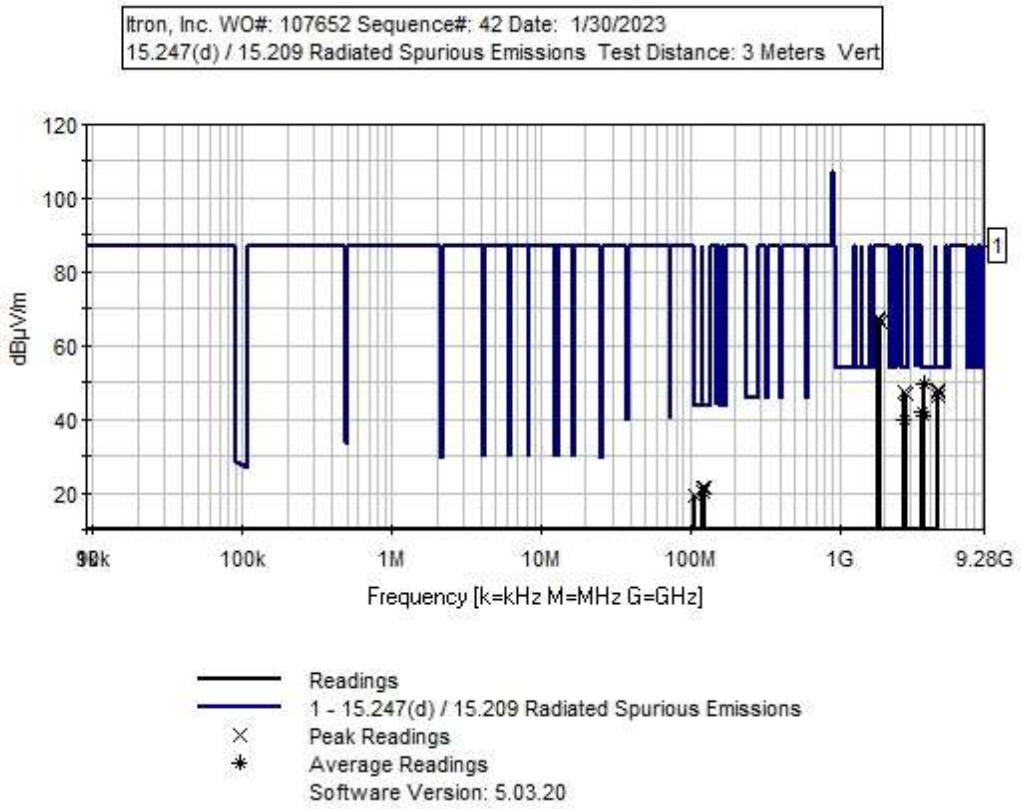
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 903, 914.8, 926.8
Firmware power setting: Level 1
EUT Firmware:
Protocol /MCS/Modulation: **OOK**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T5	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T6	ANP05333	Cable	Heliax	3/14/2022	3/14/2024
T7	ANP07505	Cable	CLU40-KMKM-02.00F	1/24/2023	1/24/2025
	AN02307	Preamp	8447D	1/6/2022	1/6/2024
	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024
	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03807	Spectrum Analyzer	E4440A	10/6/2022	10/6/2024

Measurement Data: Reading listed by order taken. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1806.025M	71.2	-34.7 +0.6	+27.3 +2.2	+0.4 +0.4	+0.0	+0.0	67.4	87.2	-19.8	Vert
2	2709.000M	48.9	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	48.3	54.0	-5.7	Vert
3	2709.000M Ave	40.4	-34.1 +0.2	+29.5 +2.8	+0.5 +0.5	+0.0	+0.0	39.8	54.0	-14.2	Vert
4	3612.000M	49.5	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	52.1	54.0	-1.9	Vert
5	3612.000M Ave	39.6	-33.8 +0.3	+31.7 +3.4	+0.5 +0.5	+0.0	+0.0	42.2	54.0	-11.8	Vert
6	4514.855M	42.8	-33.6 +0.5	+32.2 +4.3	+0.6 +0.4	+0.0	+0.0	47.2	54.0	-6.8	Vert
7	1829.635M	70.2	-34.7 +0.6	+27.5 +2.3	+0.4 +0.4	+0.0	+0.0	66.7	87.2	-20.5	Vert
8	2744.400M	48.2	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	47.5	54.0	-6.5	Vert
9	3659.200M	48.4	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	51.2	54.0	-2.8	Vert
10	3659.200M Ave	46.5	-33.8 +0.2	+31.7 +3.5	+0.6 +0.6	+0.0	+0.0	49.3	54.0	-4.7	Vert
11	4574.225M	43.4	-33.6 +0.5	+32.2 +4.2	+0.6 +0.4	+0.0	+0.0	47.7	54.0	-6.3	Vert
12	1853.585M	69.5	-34.7 +0.6	+27.7 +2.3	+0.4 +0.4	+0.0	+0.0	66.2	87.2	-21.0	Vert
13	2780.305M	47.6	-34.1 +0.3	+29.3 +2.8	+0.5 +0.5	+0.0	+0.0	46.9	54.0	-7.1	Vert
14	3707.210M	47.4	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	50.5	54.0	-3.5	Vert
15	3707.210M Ave	38.0	-33.8 +0.2	+32.0 +3.5	+0.6 +0.6	+0.0	+0.0	41.1	54.0	-12.9	Vert
16	4633.985M	41.8	-33.6 +0.4	+32.4 +4.1	+0.6 +0.5	+0.0	+0.0	46.2	54.0	-7.8	Vert
17	123.400M	34.5	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.5	43.5	-22.0	Horiz
18	122.300M	34.3	+13.1 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	21.3	43.5	-22.2	Horiz
19	120.780M	33.4	+13.2 -27.6	+0.7 +0.0	+0.1	+0.7	+0.0	20.5	43.5	-23.0	Vert
20	106.500M	31.6	+14.2 -27.7	+0.6 +0.0	+0.1	+0.6	+0.0	19.4	43.5	-24.1	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/31/2023
Test Type:	**Radiated Scan**	Time:	07:27:32
Tested By:	Matt Harrison	Sequence#:	51
Software:	EMITest 5.03.20		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

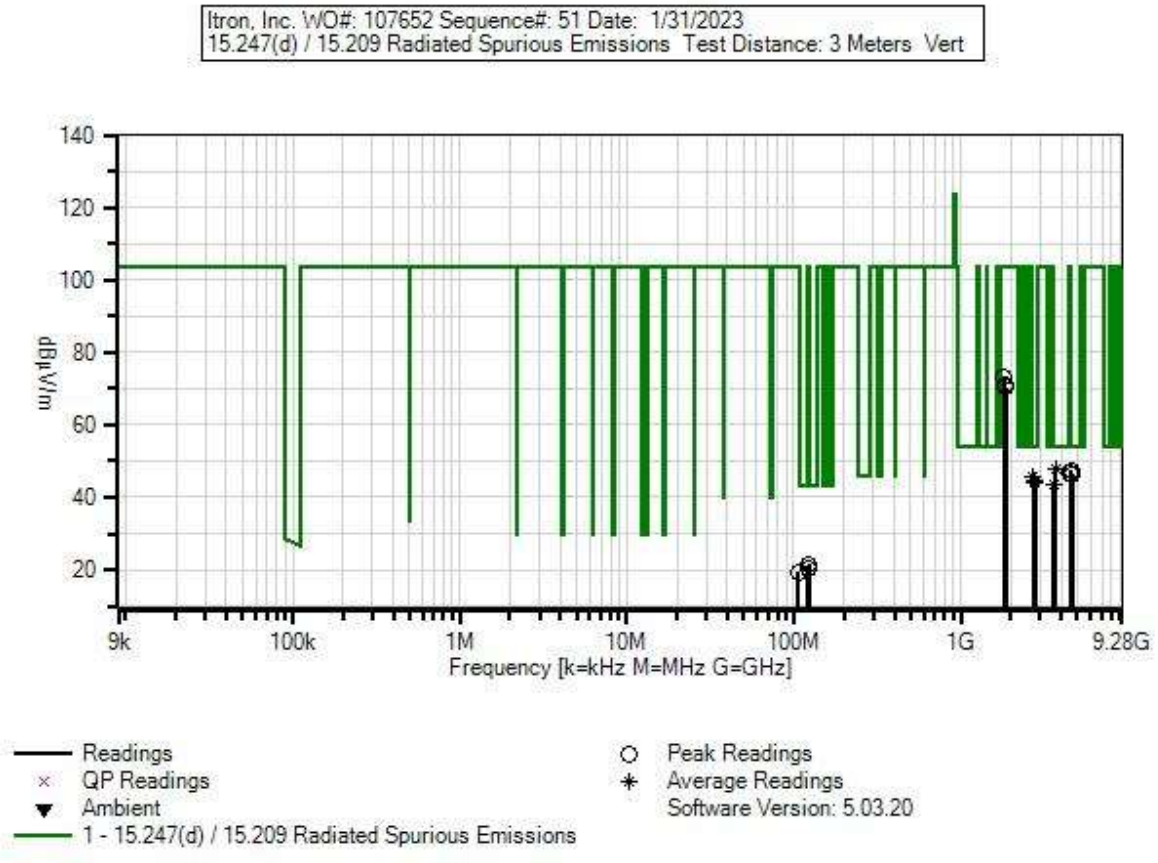
Test Conditions / Notes:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.3, 914.6, 926.9
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **FSK 100kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high for below 1GHz and 150cm above 1GHz on a Styrofoam table.
Modifications Added: None

Notes:
No EUT emissions found within 20dB of the limit below 30MHz



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03540	Preamp	83017A	5/14/2021	5/14/2023
T2	AN02374ANSI	Horn Antenna	RGA-60	5/25/2021	5/25/2023
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02673	Spectrum Analyzer	E4446A	2/3/2021	2/3/2023
T5	AN03170	High Pass Filter	HM1155-11SS	9/16/2021	9/16/2023
T6	ANP05333	Cable	Heliax	3/14/2022	3/14/2024
T7	ANP07505	Cable	CLU40-KMKM-02.00F	1/24/2023	1/24/2025
	AN02307	Preamp	8447D	1/6/2022	1/6/2024
	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
	ANP05360	Cable	RG214	2/4/2022	2/4/2024
	AN03807	Spectrum Analyzer	E4440A	10/6/2022	10/6/2024
	AN00052	Loop Antenna	6502	5/11/2022	5/11/2024

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

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	3707.600M	44.8	-33.8	+32.0	+0.6	+0.0	+0.0	47.9	54.0	-6.1	Vert
	Ave		+0.2	+3.5	+0.6						
^	3707.600M	48.3	-33.8	+32.0	+0.6	+0.0	+0.0	51.4	54.0	-2.6	Vert
			+0.2	+3.5	+0.6						
3	4573.340M	43.1	-33.6	+32.2	+0.6	+0.0	+0.0	47.4	54.0	-6.6	Vert
			+0.5	+4.2	+0.4						
4	4511.360M	42.4	-33.6	+32.2	+0.6	+0.0	+0.0	46.8	54.0	-7.2	Vert
			+0.5	+4.3	+0.4						
5	4634.240M	41.9	-33.6	+32.4	+0.6	+0.0	+0.0	46.3	54.0	-7.7	Vert
			+0.4	+4.1	+0.5						
6	2706.900M	46.2	-34.1	+29.5	+0.5	+0.0	+0.0	45.6	54.0	-8.4	Vert
	Ave		+0.2	+2.8	+0.5						
^	2706.900M	50.6	-34.1	+29.5	+0.5	+0.0	+0.0	50.0	54.0	-4.0	Vert
			+0.2	+2.8	+0.5						
8	2780.700M	45.1	-34.1	+29.3	+0.5	+0.0	+0.0	44.4	54.0	-9.6	Vert
	Ave		+0.3	+2.8	+0.5						
^	2780.700M	49.8	-34.1	+29.3	+0.5	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.3	+2.8	+0.5						
10	2743.800M	44.8	-34.1	+29.3	+0.5	+0.0	+0.0	44.1	54.0	-9.9	Vert
	Ave		+0.3	+2.8	+0.5						
^	2743.800M	49.1	-34.1	+29.3	+0.5	+0.0	+0.0	48.4	54.0	-5.6	Vert
			+0.3	+2.8	+0.5						
12	3609.200M	41.0	-33.8	+31.7	+0.5	+0.0	+0.0	43.6	54.0	-10.4	Vert
	Ave		+0.3	+3.4	+0.5						
^	3609.200M	47.8	-33.8	+31.7	+0.5	+0.0	+0.0	50.4	54.0	-3.6	Vert
			+0.3	+3.4	+0.5						
14	123.400M	34.5	+13.1	+0.7	+0.1	+0.7	+0.0	21.5	43.5	-22.0	Horiz
			-27.6	+0.0	+0.0						
15	122.300M	34.3	+13.1	+0.7	+0.1	+0.7	+0.0	21.3	43.5	-22.2	Horiz
			-27.6	+0.0	+0.0						
16	120.780M	33.4	+13.2	+0.7	+0.1	+0.7	+0.0	20.5	43.5	-23.0	Vert
			-27.6	+0.0	+0.0						
17	106.500M	31.6	+14.2	+0.6	+0.1	+0.6	+0.0	19.4	43.5	-24.1	Vert
			-27.7	+0.0	+0.0						
18	1804.525M	76.7	-34.7	+27.3	+0.4	+0.0	+0.0	72.9	103.7	-30.8	Vert
			+0.6	+2.2	+0.4						
19	1829.275M	74.7	-34.7	+27.5	+0.4	+0.0	+0.0	71.2	103.7	-32.5	Vert
			+0.6	+2.3	+0.4						
20	1853.685M	73.7	-34.7	+27.7	+0.4	+0.0	+0.0	70.4	103.7	-33.3	Vert
			+0.6	+2.3	+0.4						

Band Edge

Band Edge Summary Level 3 10kbps					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 10kbps	F	40.2	<46	Pass
902	GFSK 10kbps	F	73.9	<103.7	Pass
928	GFSK 10kbps	F	70.9	< 103.7	Pass
960	GFSK 10kbps	F	49.1	<54	Pass

Band Edge Summary Level 3 10kbps					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 10kbps	F	40.0	<46	Pass
902	GFSK 10kbps	F	74.9	<103.7	Pass
928	GFSK 10kbps	F	70.3	< 103.7	Pass
960	GFSK 10kbps	F	49.1	<54	Pass

Band Edge Summary Level 3 25kbps					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 25kbps	F	40.2	<46	Pass
902	GFSK 25kbps	F	74.8	<103.7	Pass
928	GFSK 25kbps	F	71.1	< 103.7	Pass
960	GFSK 25kbps	F	48.1	<54	Pass

Band Edge Summary Level 3 25kbps					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 25kbps	F	40.0	<46	Pass
902	GFSK 25kbps	F	75.6	<103.7	Pass
928	GFSK 25kbps	F	68.8	< 103.7	Pass
960	GFSK 25kbps	F	48.3	<54	Pass

Band Edge Summary Level 3 50kbps					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 50kbps	F	40.0	<46	Pass
902	GFSK 50kbps	F	85.0	<103.7	Pass
928	GFSK 50kbps	F	65.5	< 103.7	Pass
960	GFSK 50kbps	F	47.9	<54	Pass

Band Edge Summary Level 3 50kbps					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 50kbps	F	40.1	<46	Pass
902	GFSK 50kbps	F	83.4	<103.7	Pass
928	GFSK 50kbps	F	66.1	< 103.7	Pass
960	GFSK 50kbps	F	49.6	<54	Pass

Band Edge Summary Level 3 150kbps					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 150kbps	F	40	<46	Pass
902	GFSK 150kbps	F	71.1	<103.7	Pass
928	GFSK 150kbps	F	69.7	< 103.7	Pass
960	GFSK 150kbps	F	49	<54	Pass

Band Edge Summary Level 3 150kbps					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 150kbps	F	40.1	<46	Pass
902	GFSK 150kbps	F	71.1	<103.7	Pass
928	GFSK 150kbps	F	71.4	< 103.7	Pass
960	GFSK 150kbps	F	49.1	<54	Pass

Band Edge Summary Level 3 300kbps					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 300kbps	F	40.0	<46	Pass
902	GFSK 300kbps	F	83.0	<103.7	Pass
928	GFSK 300kbps	F	86.5	< 103.7	Pass
960	GFSK 300kbps	F	48.2	<54	Pass

Band Edge Summary Level 3 300kbps					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	GFSK 300kbps	F	40.1	<46	Pass
902	GFSK 300kbps	F	82.4	<103.7	Pass
928	GFSK 300kbps	F	85.6	< 103.7	Pass
960	GFSK 300kbps	F	49.3	<54	Pass

Band Edge Summary OOK Level 3					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	OOK Level 3	F	40.0	<46	Pass
902	OOK Level 3	F	90.7	<103.7	Pass
928	OOK Level 3	F	89.9	< 103.7	Pass
960	OOK Level 3	F	47.1	<54	Pass

Band Edge Summary OOK Level 3					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	OOK Level 3	F	40.1	<46	Pass
902	OOK Level 3	F	90.4	<103.7	Pass
928	OOK Level 3	F	90.1	<103.7	Pass
960	OOK Level 3	F	47.1	<54	Pass

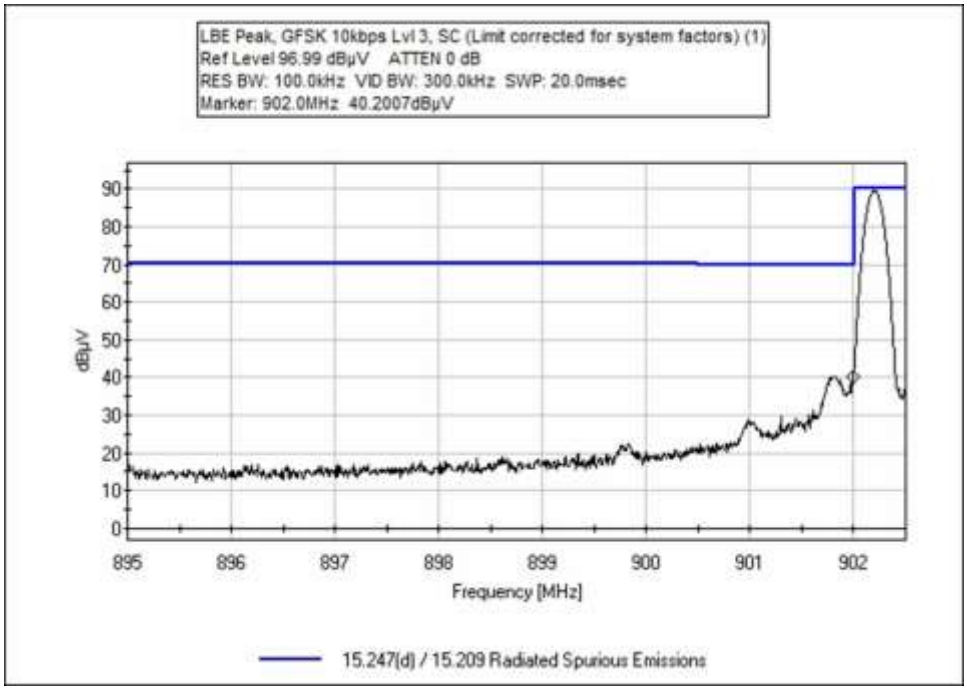
Band Edge Summary OOK Level 1					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	OOK Level 1	F	40.1	<46	Pass
902	OOK Level 1	F	74.6	<87.2	Pass
928	OOK Level 1	F	73.7	< 87.2	Pass
960	OOK Level 1	F	49.0	<54	Pass

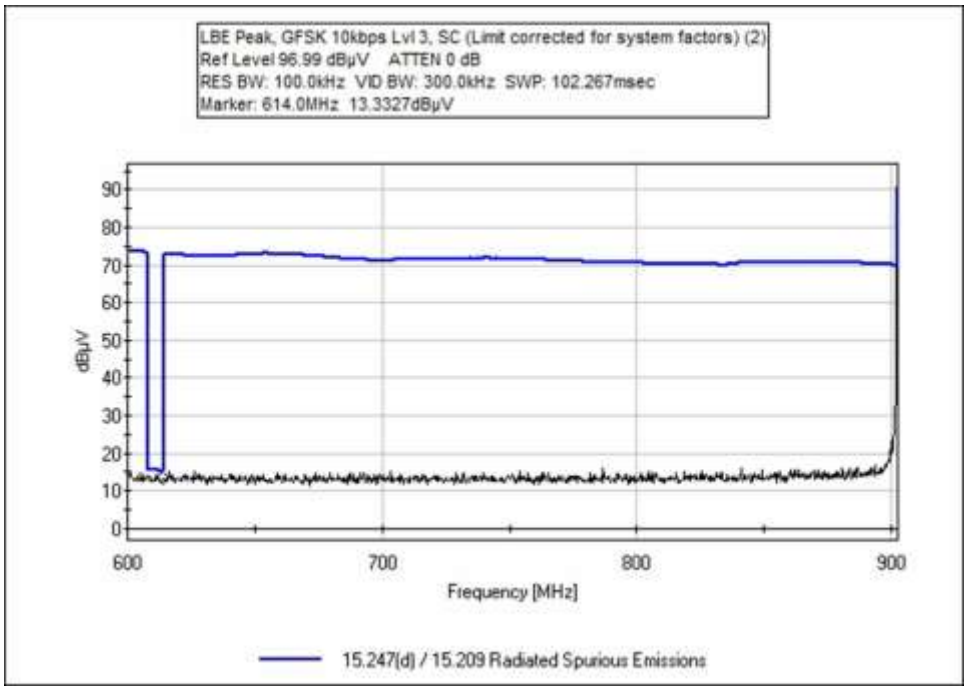
Band Edge Summary OOK Level 1					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	OOK Level 1	F	40.0	<46	Pass
902	OOK Level 1	F	74.4	<87.2	Pass
928	OOK Level 1	F	73.2	< 87.2	Pass
960	OOK Level 1	F	47.9	<54	Pass

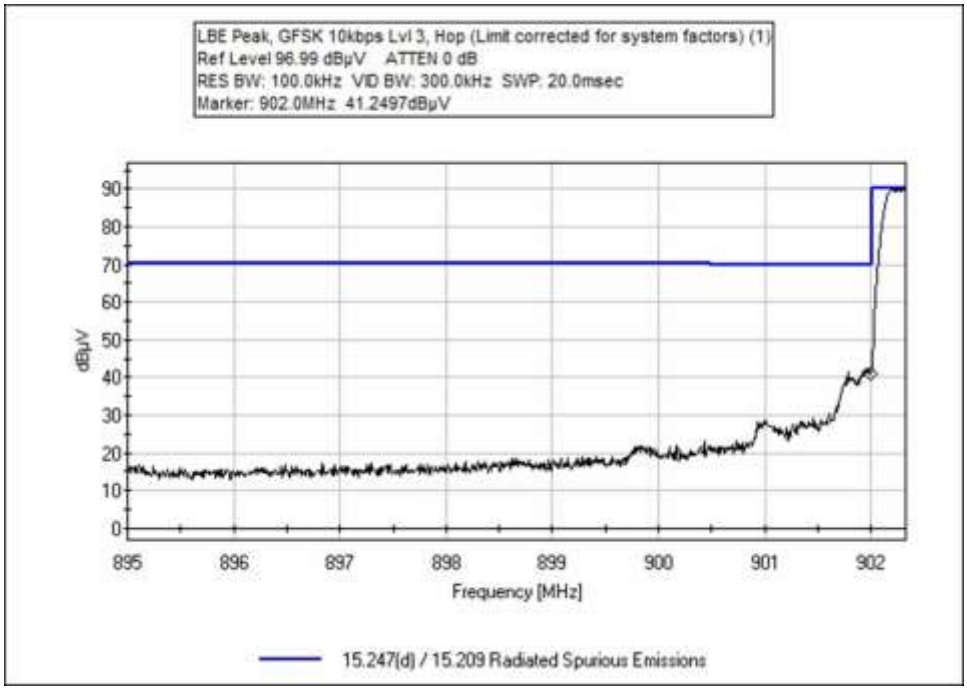
Band Edge Summary FSK Level 3					
Operating Mode: Single Channel (Low and High)					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	FSK 100kbps	F	40.1	<46	Pass
902	FSK 100kbps	F	89.5	<103.7	Pass
928	FSK 100kbps	F	60.2	< 103.7	Pass
960	FSK 100kbps	F	47	<54	Pass

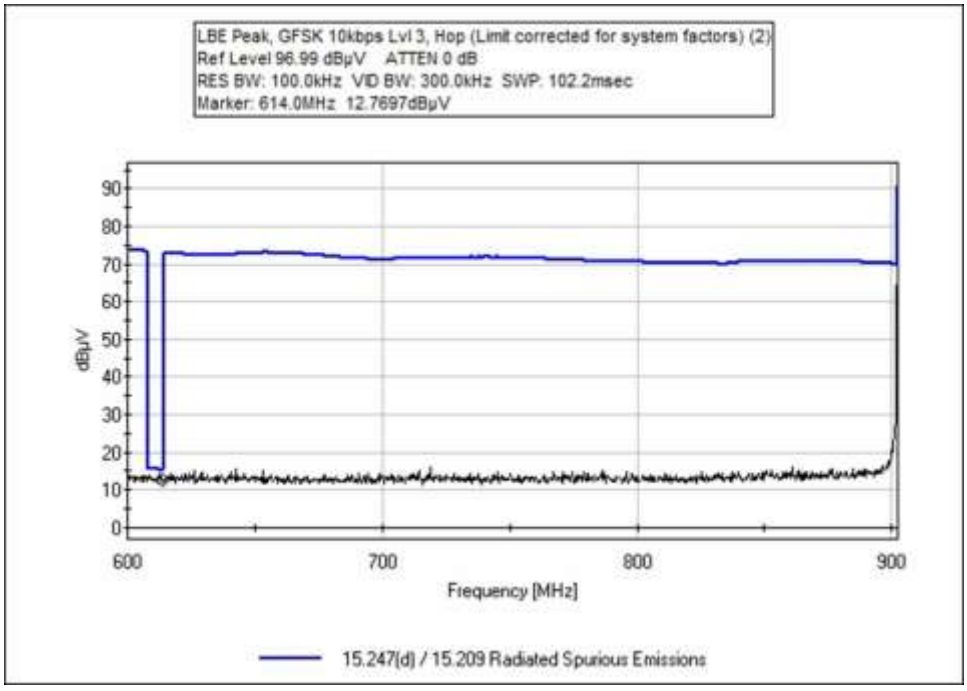
Band Edge Summary FSK Level 3					
Operating Mode: Hopping					
Frequency (MHz)	**Modulation**	**Ant. Type**	**Field Strength (dBuV/m @3m)**	**Limit (dBuV/m @3m)**	**Results**
614	FSK 100kbps	F	40.1	<46	Pass
902	FSK 100kbps	F	90.1	<103.7	Pass
928	FSK 100kbps	F	60.1	< 103.7	Pass
960	FSK 100kbps	F	48.2	<54	Pass

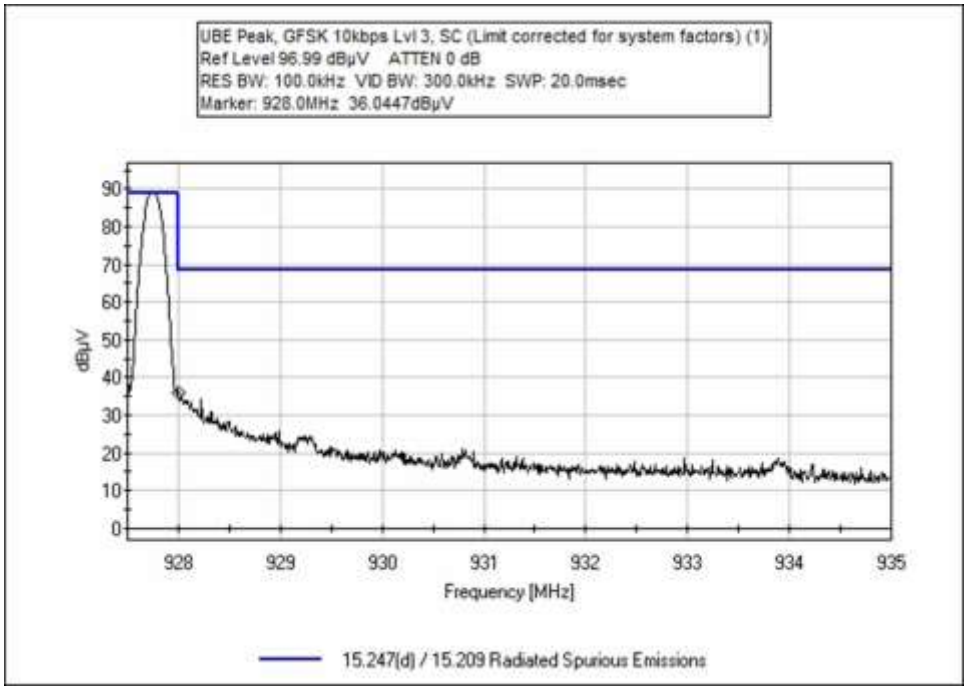
Band Edge Plots

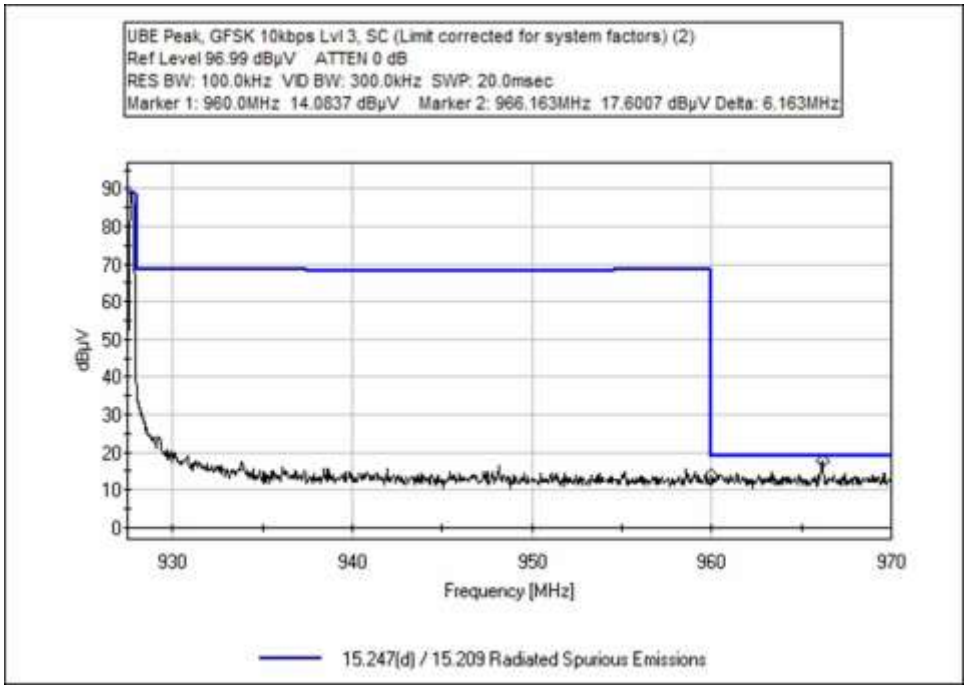


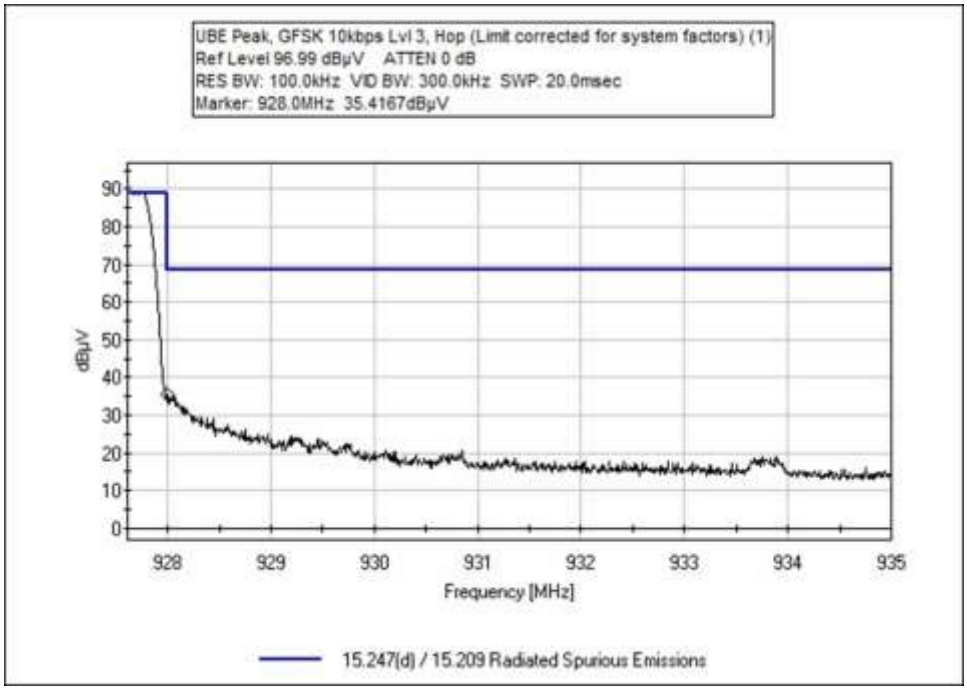


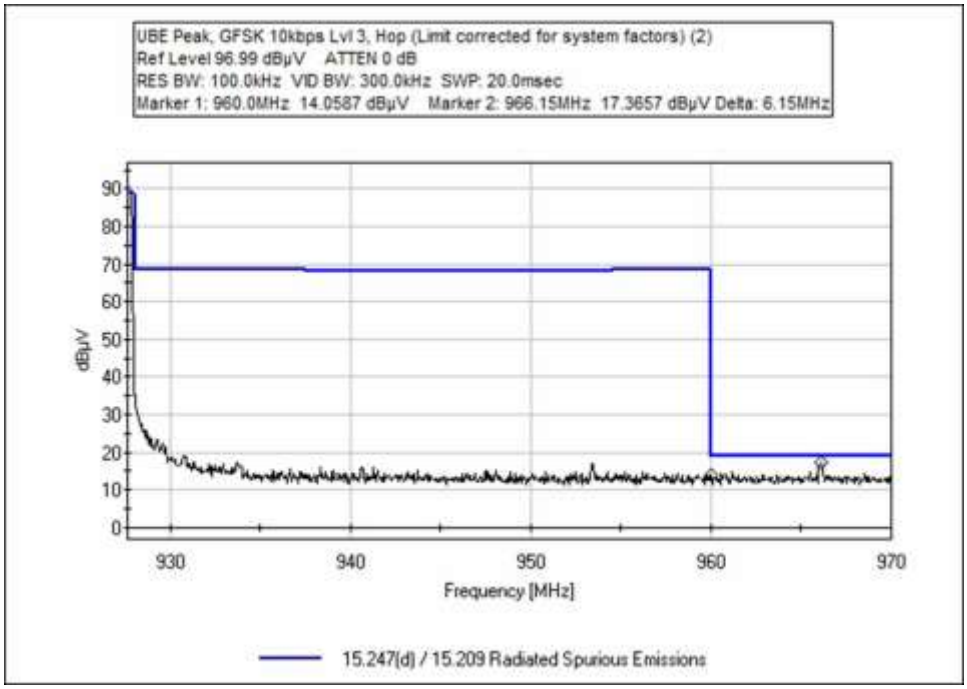

LBE Peak, GFSK 10kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 41.2497dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
895
896
897
898
899
900
901
902
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

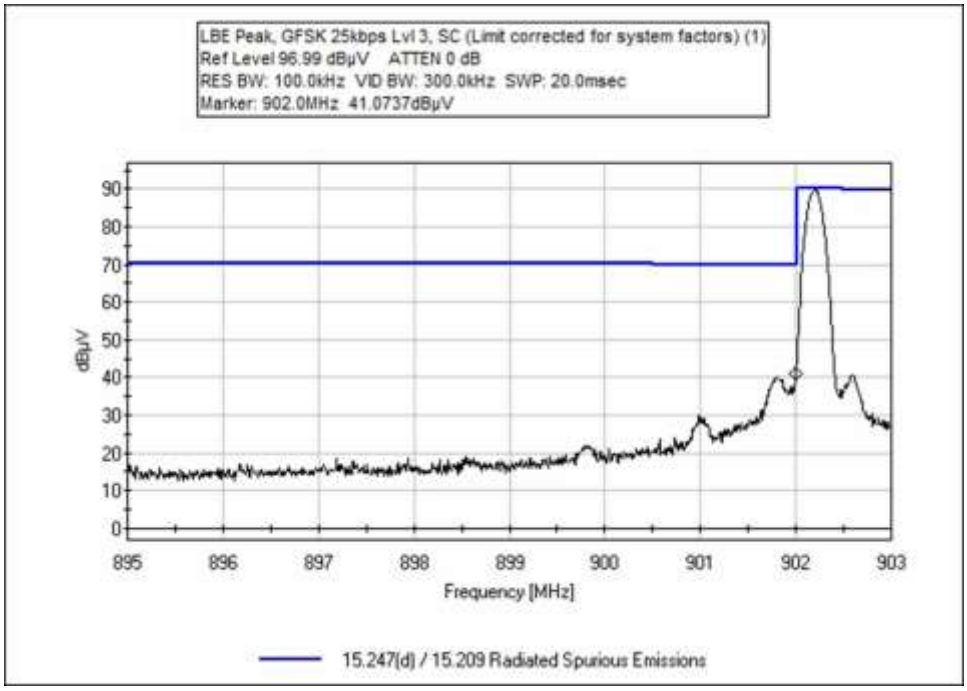

LBE Peak, GFSK 10kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.2msec
Marker: 614.0MHz 12.7697dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
600
700
800
900
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

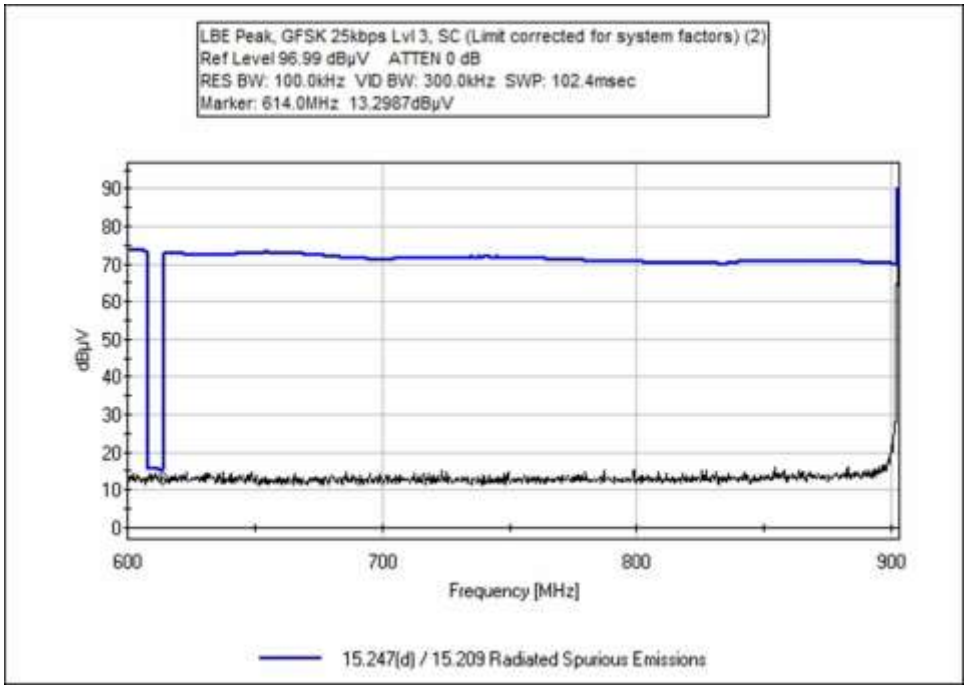

UBE Peak, GFSK 10kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 36.0447dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

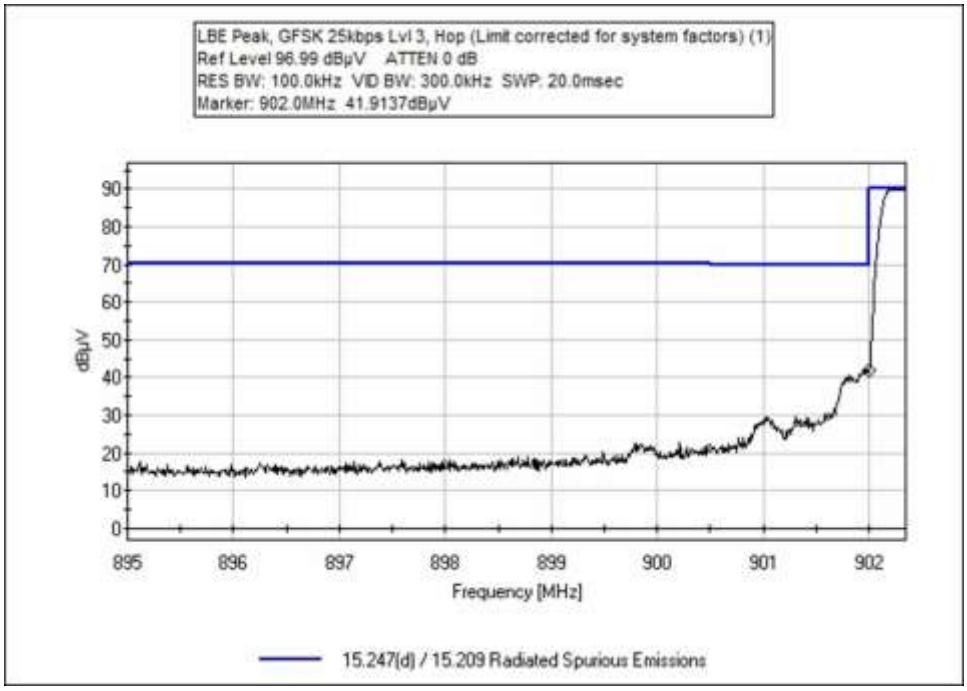

UBE Peak, GFSK 10kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 14.0837 dBµV Marker 2: 966.163MHz 17.6007 dBµV Delta: 6.163MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

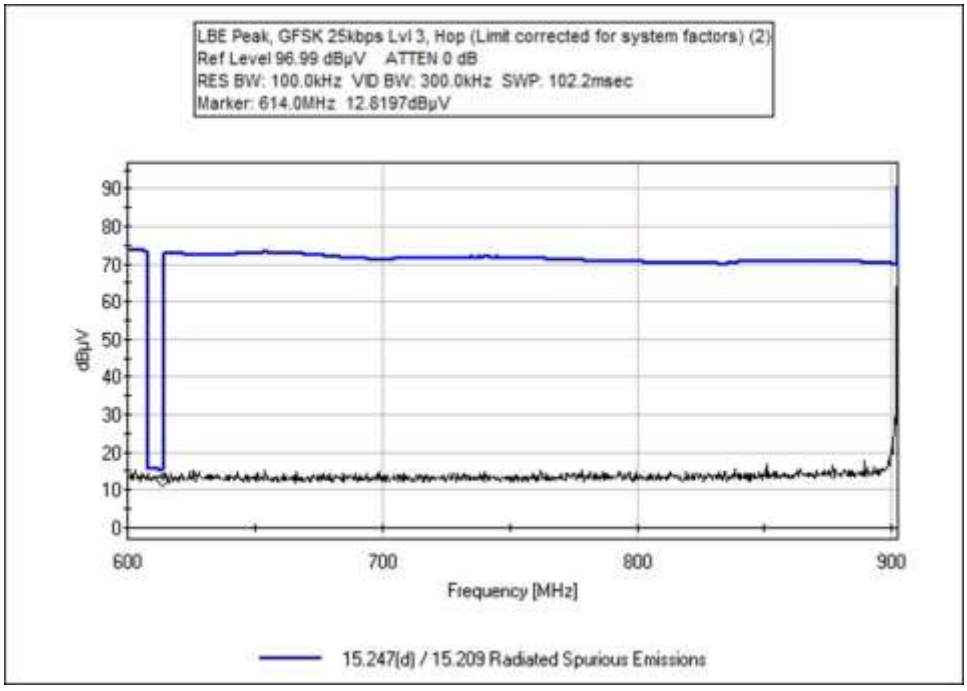

UBE Peak, GFSK 10kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 35.4167dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

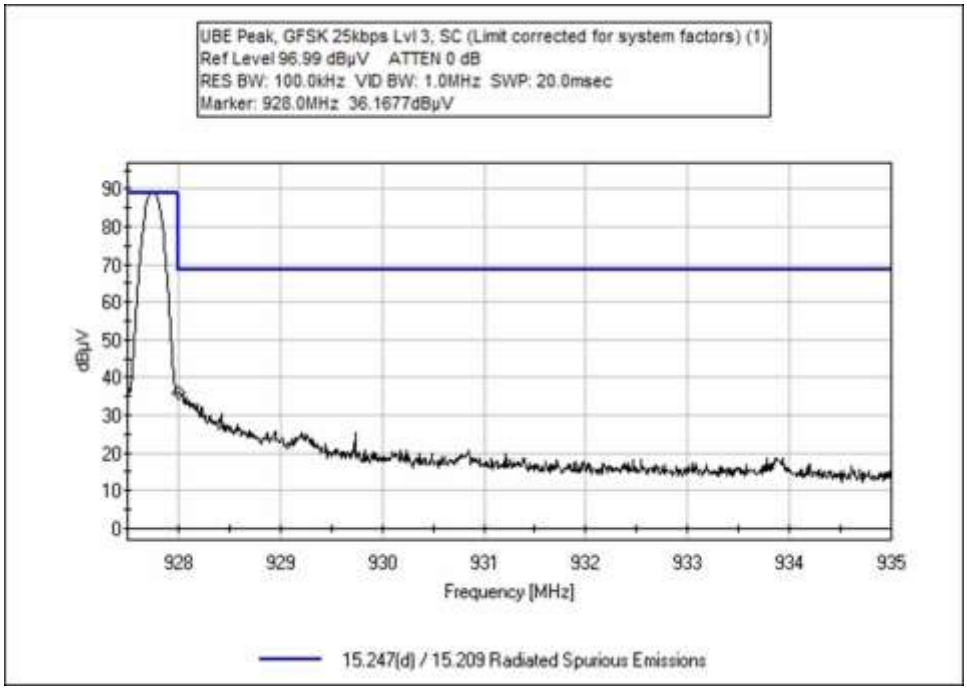

UBE Peak, GFSK 10kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 14.0587 dBµV Marker 2: 966.15MHz 17.3657 dBµV Delta: 6.15MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

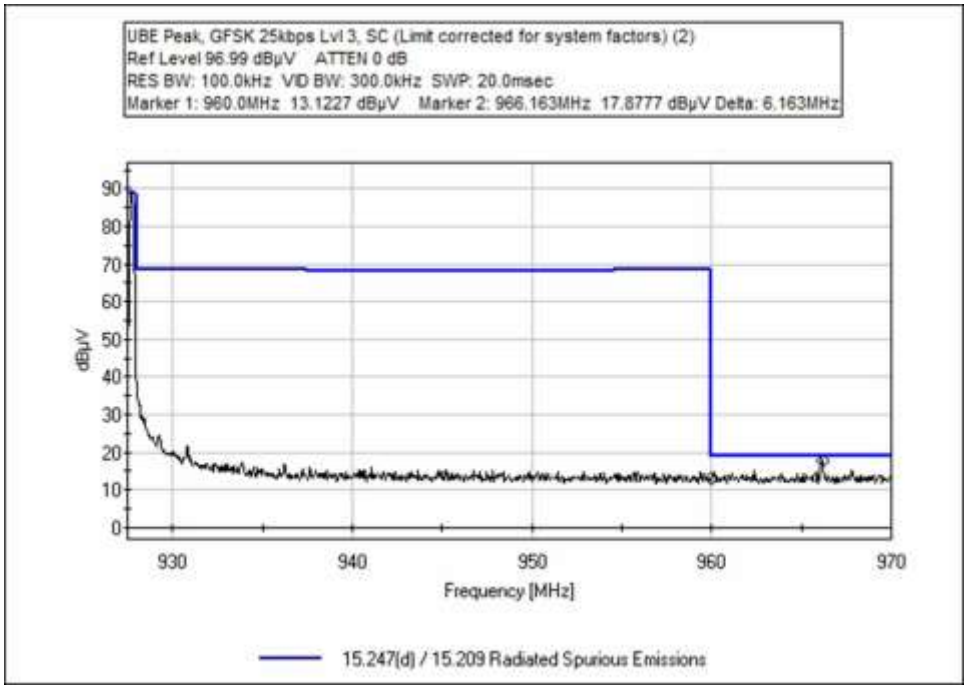

LBE Peak, GFSK 25kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 41.0737dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

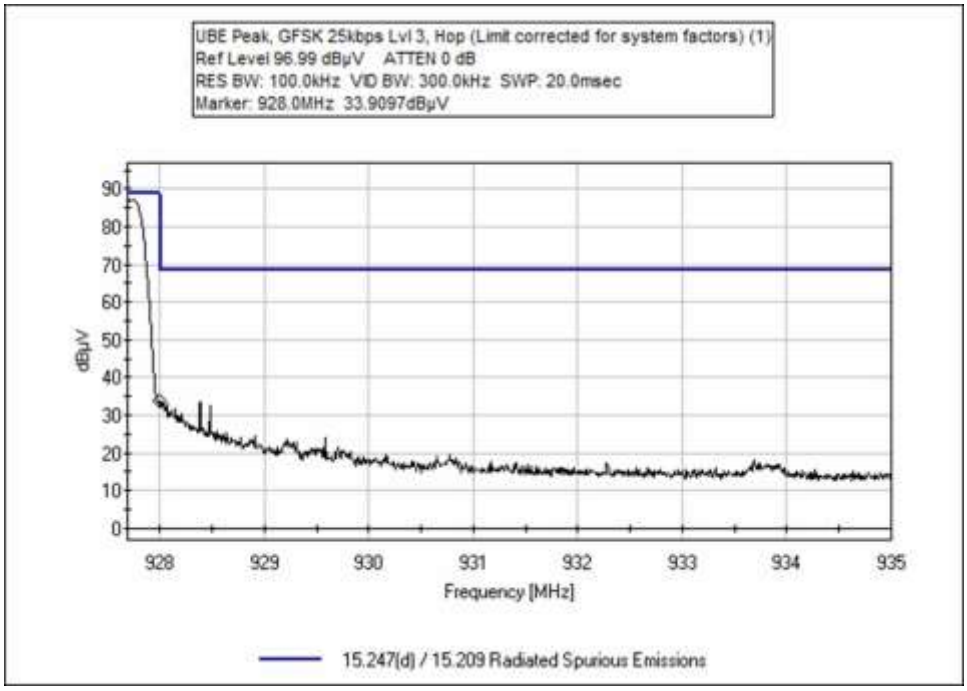

LBE Peak, GFSK 25kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.4msec
Marker: 614.0MHz 13.2987dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

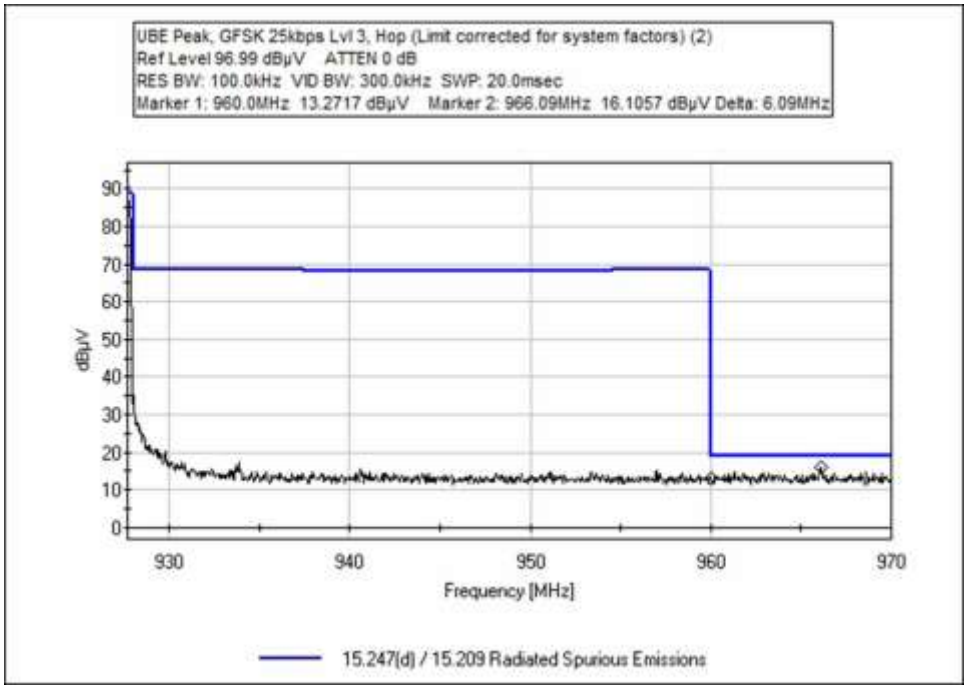

LBE Peak, GFSK 25kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 41.9137dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
895
896
897
898
899
900
901
902
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

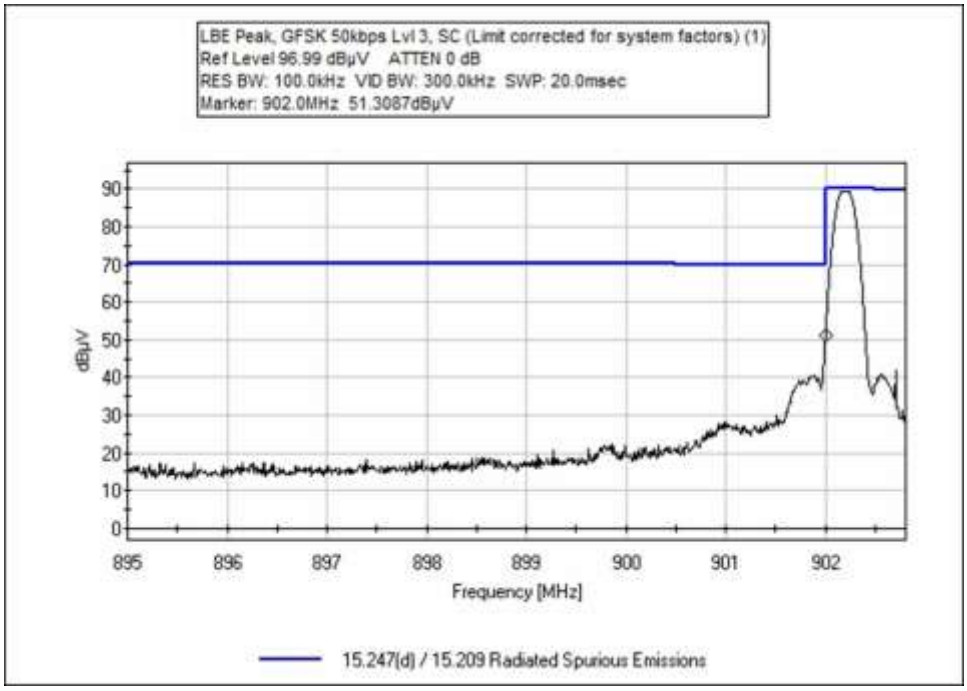

LBE Peak, GFSK 25kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.2msec
Marker: 614.0MHz 12.8197dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
600
700
800
900
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

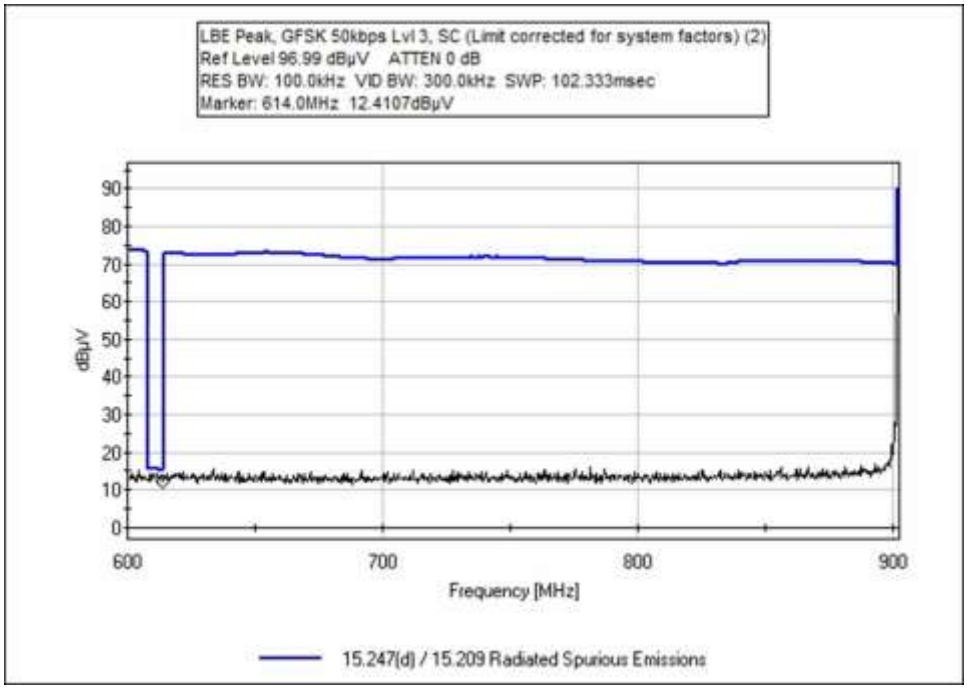

UBE Peak, GFSK 25kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 36.1677dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

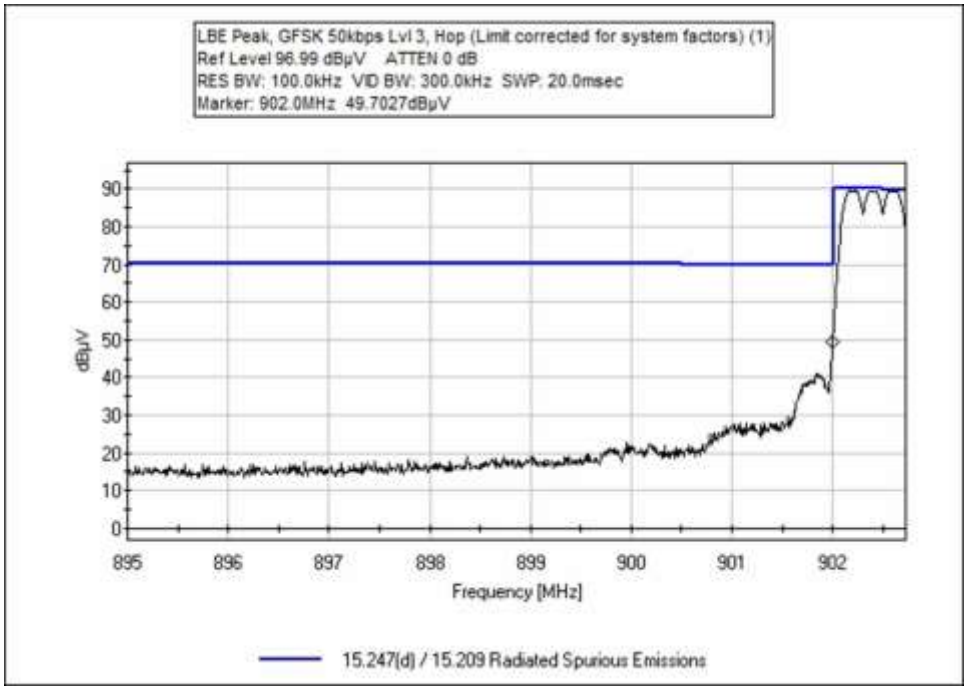

UBE Peak, GFSK 25kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 13.1227 dBµV Marker 2: 966.163MHz 17.8777 dBµV Delta: 6.163MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

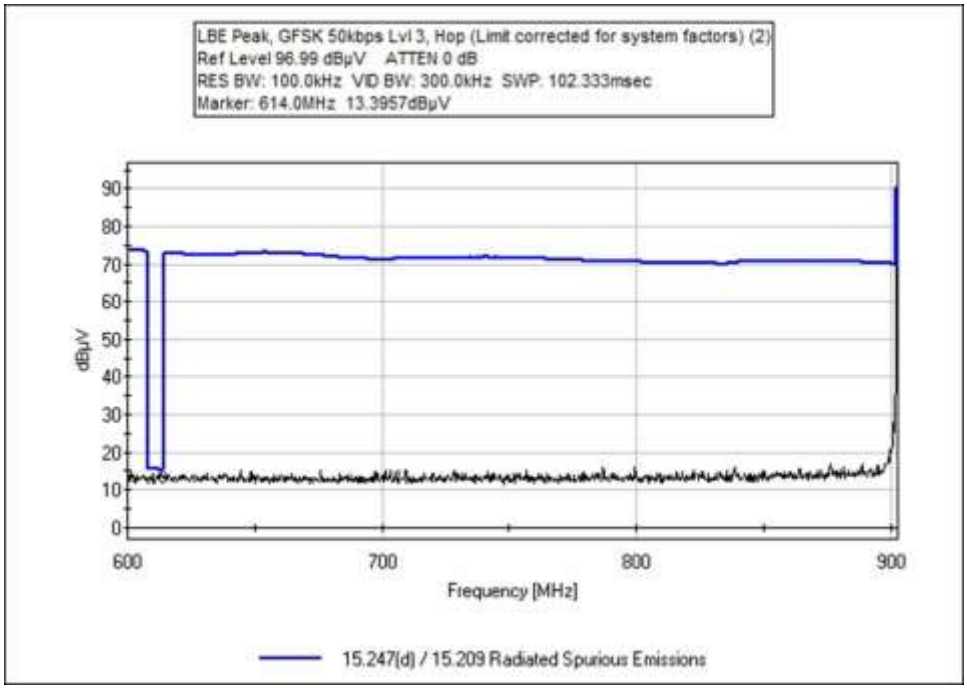

UBE Peak, GFSK 25kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 33.9097dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

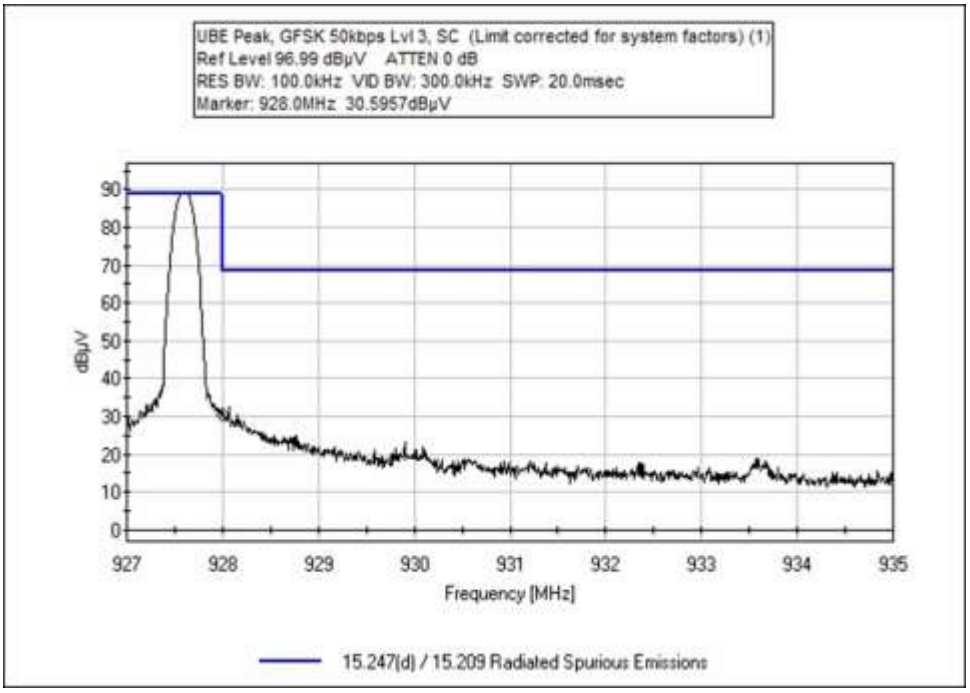

UBE Peak, GFSK 25kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 13.2717 dBµV Marker 2: 966.09MHz 16.1057 dBµV Delta: 6.09MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

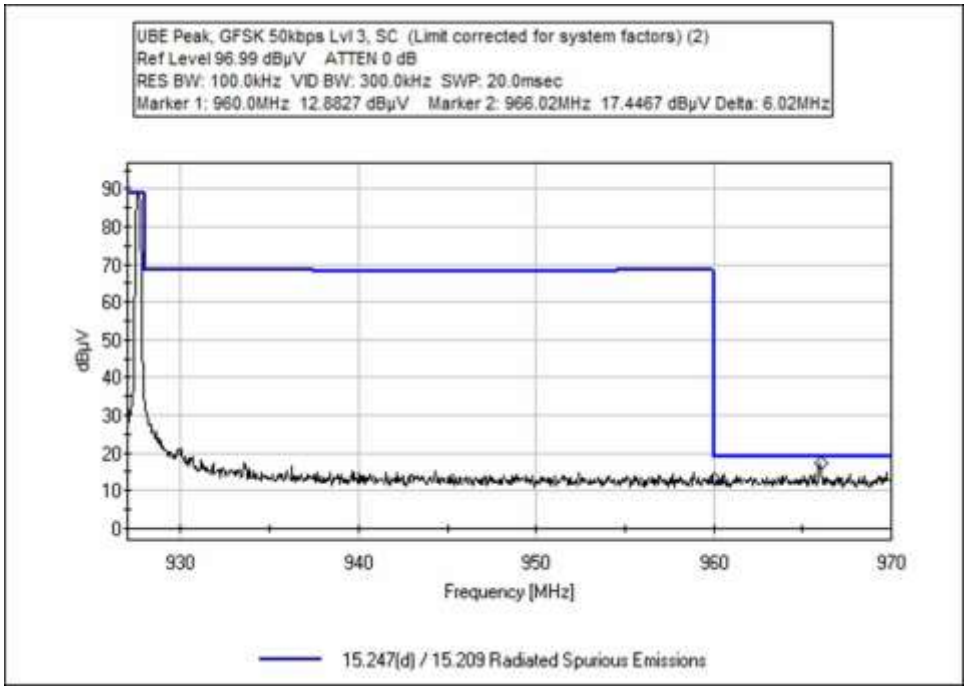

LBE Peak, GFSK 50kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 51.3087dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
895
896
897
898
899
900
901
902
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

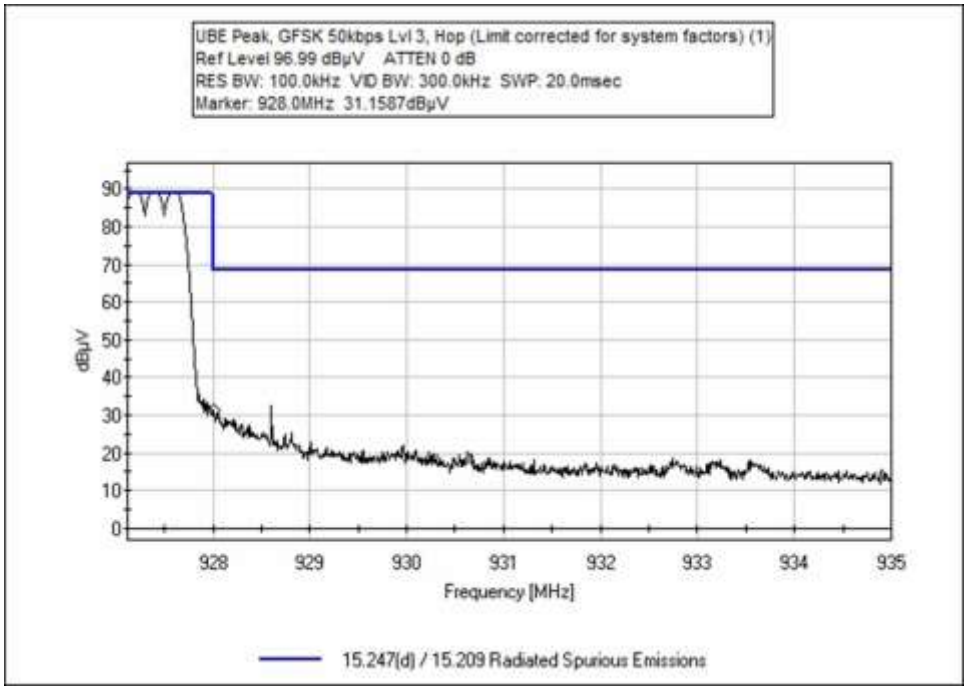

LBE Peak, GFSK 50kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.333msec
Marker: 614.0MHz 12.4107dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
600
700
800
900
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

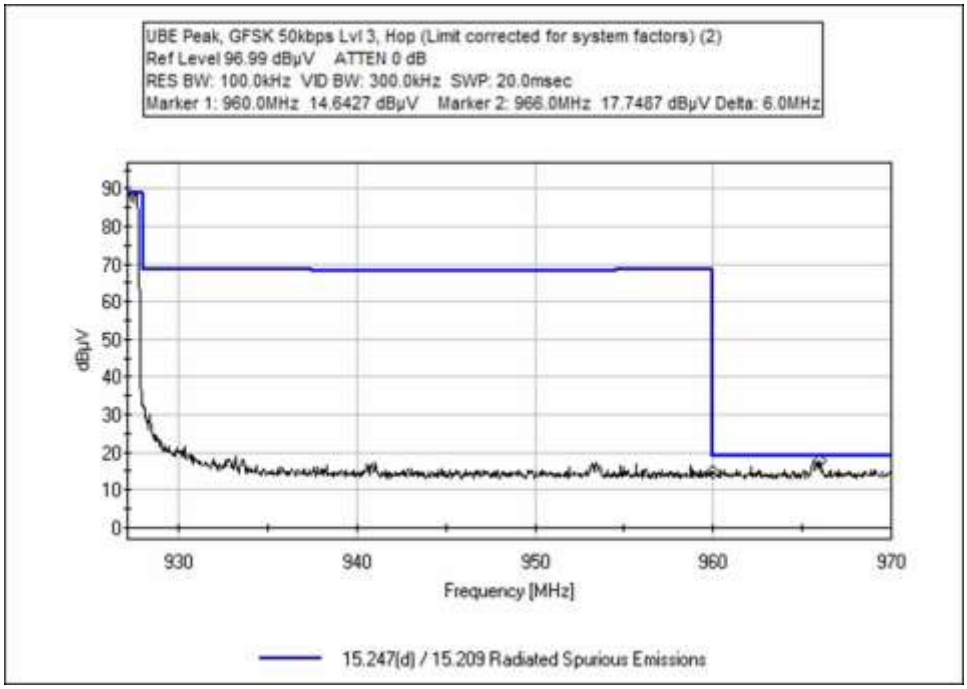

LBE Peak, GFSK 50kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 49.7027dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
895
896
897
898
899
900
901
902
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

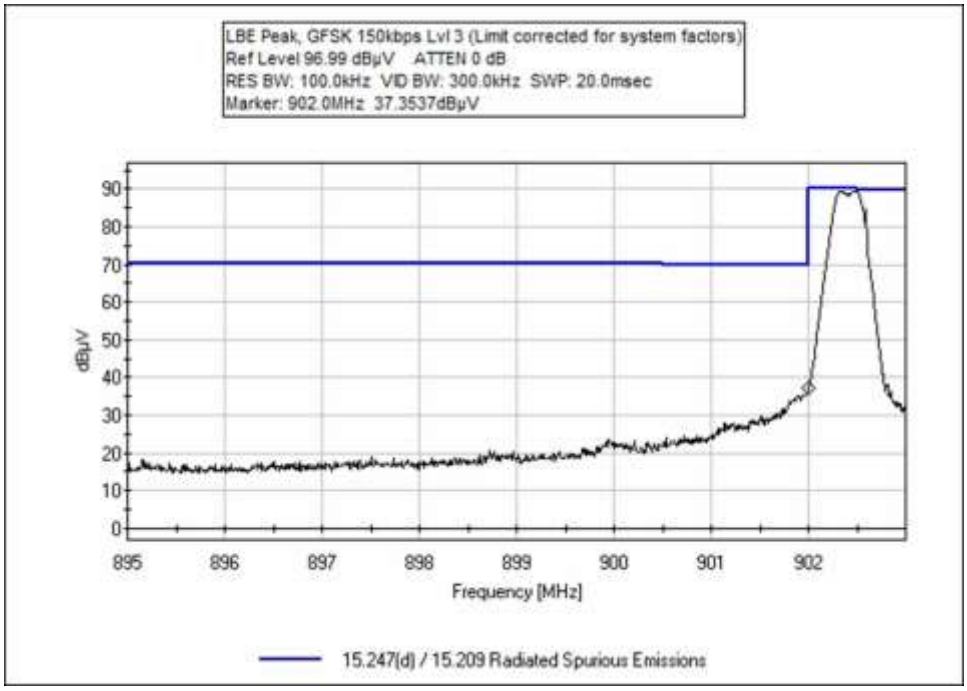

LBE Peak, GFSK 50kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.333msec
Marker: 614.0MHz 13.3957dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
600
700
800
900
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

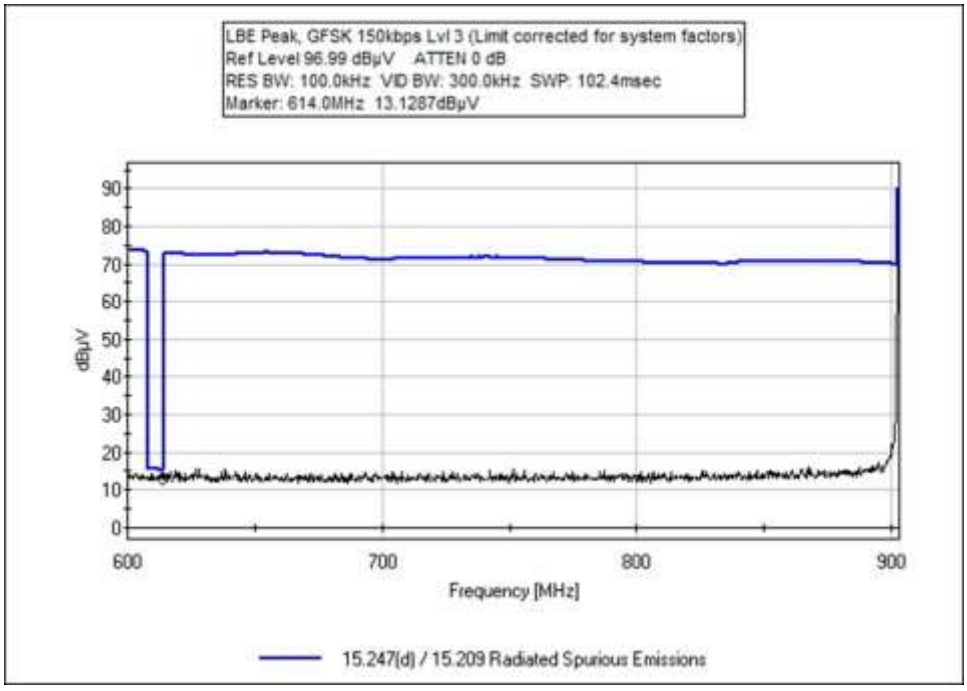

UBE Peak, GFSK 50kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 30.5957dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

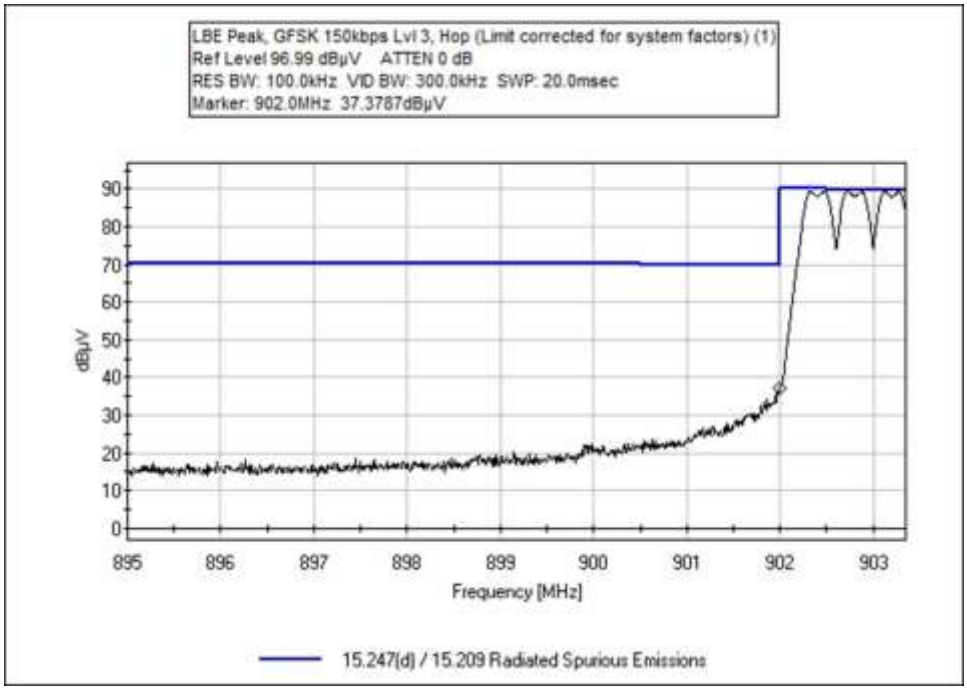

UBE Peak, GFSK 50kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 12.8827 dBµV Marker 2: 966.02MHz 17.4467 dBµV Delta: 6.02MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

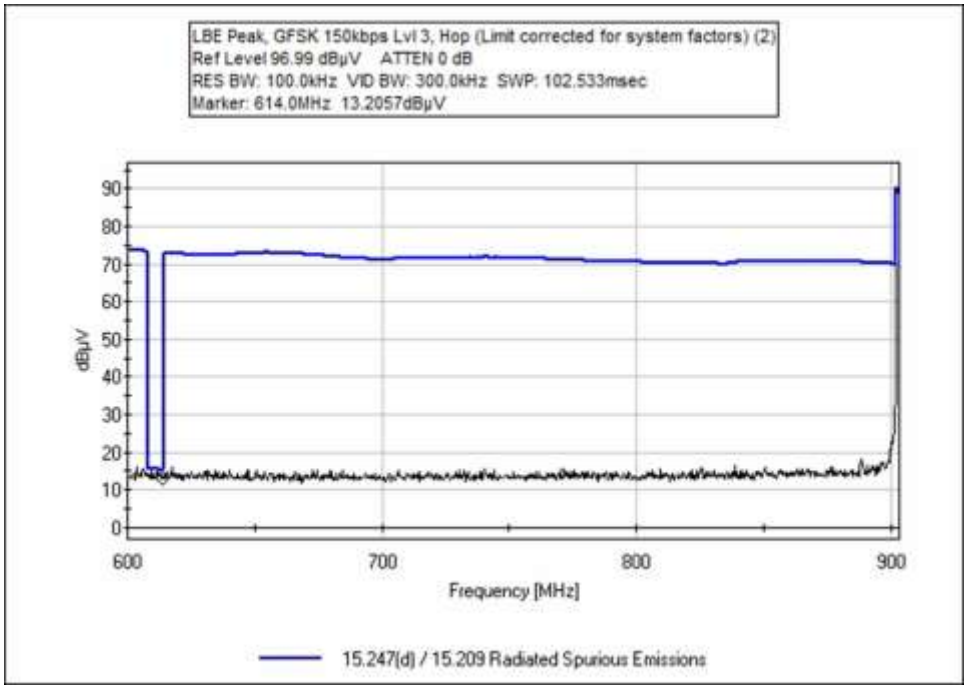

UBE Peak, GFSK 50kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 31.1587dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

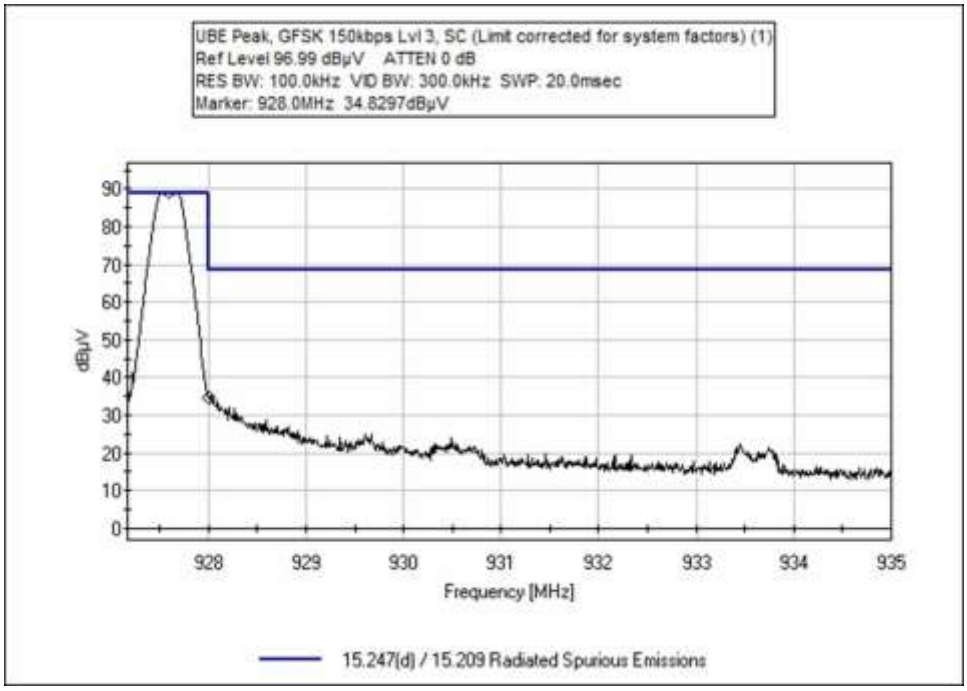

UBE Peak, GFSK 50kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 14.6427 dBµV Marker 2: 966.0MHz 17.7487 dBµV Delta: 6.0MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

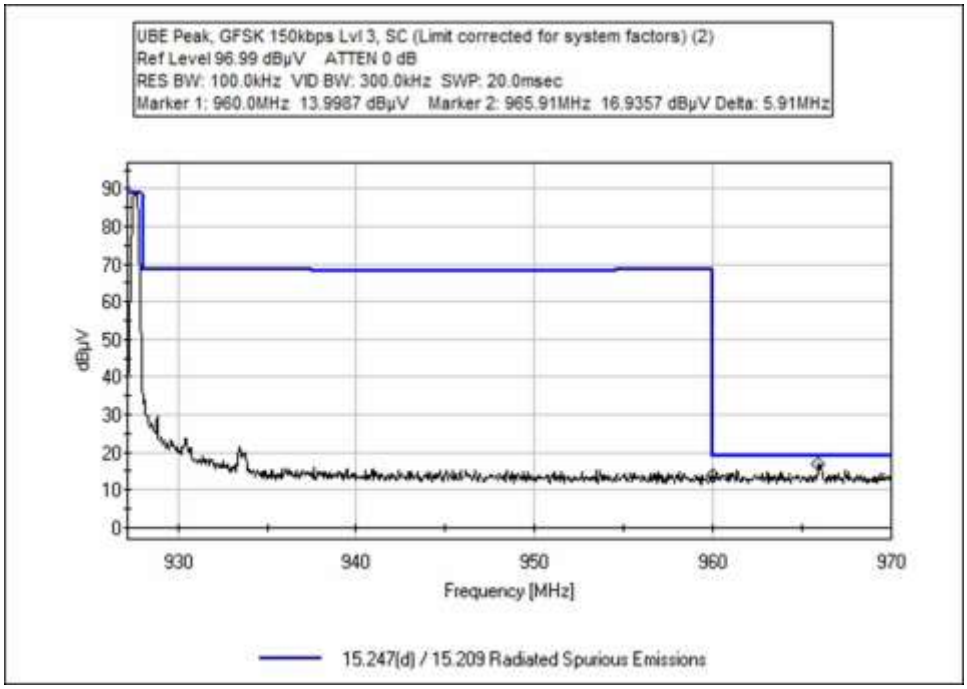

LBE Peak, GFSK 150kbps Lvl 3 (Limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 37.3537dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

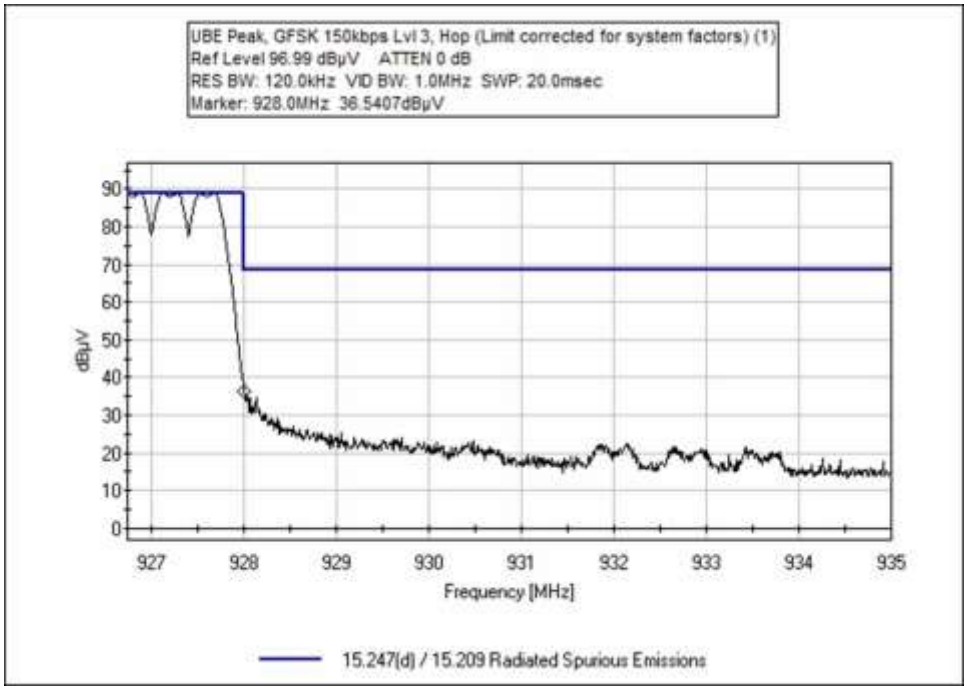

LBE Peak, GFSK 150kbps Lvl 3 (Limit corrected for system factors)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.4msec
Marker: 614.0MHz 13.1287dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

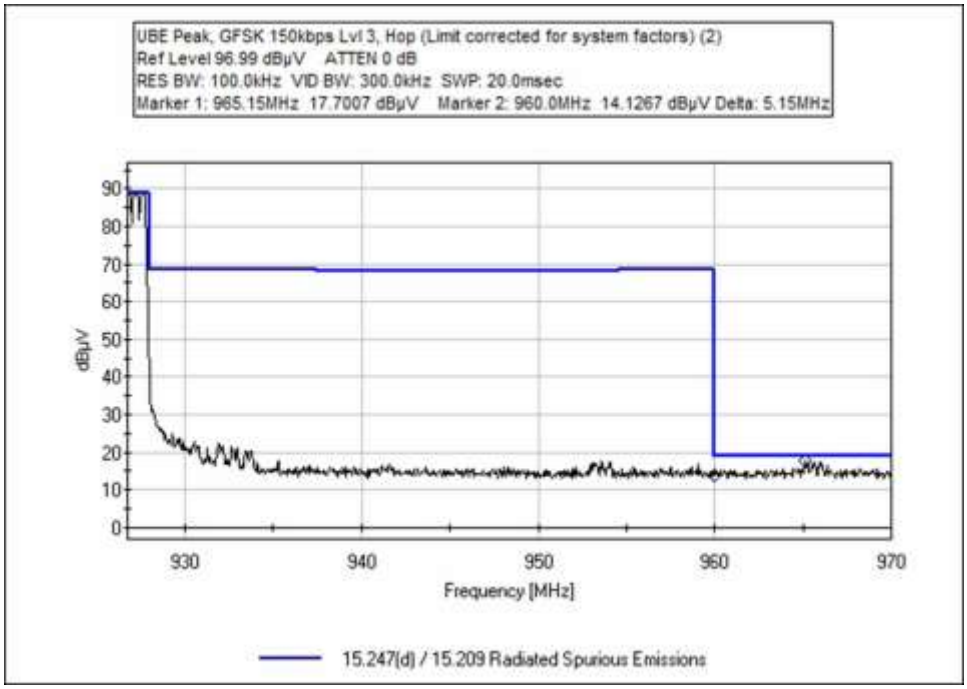

LBE Peak, GFSK 150kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 37.3787dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

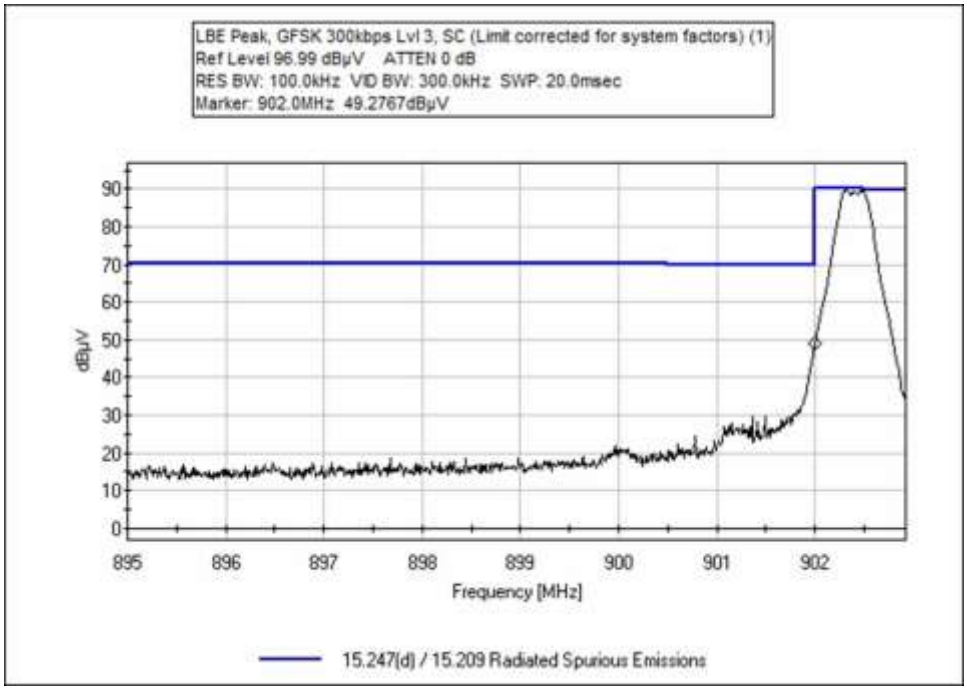

LBE Peak, GFSK 150kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.533msec
Marker: 614.0MHz 13.2057dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

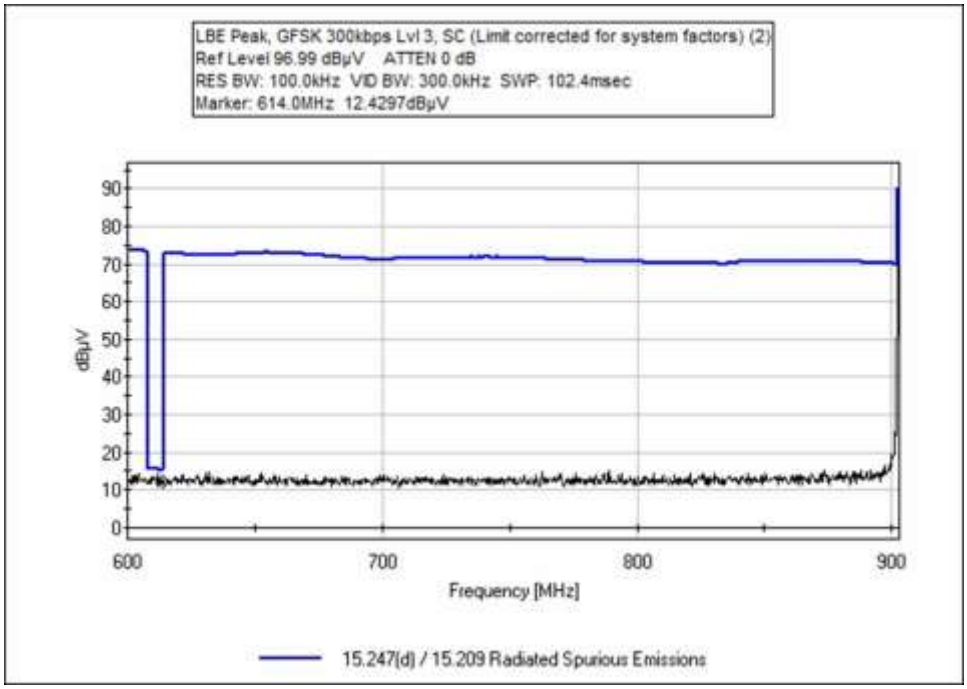

UBE Peak, GFSK 150kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 34.8297dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

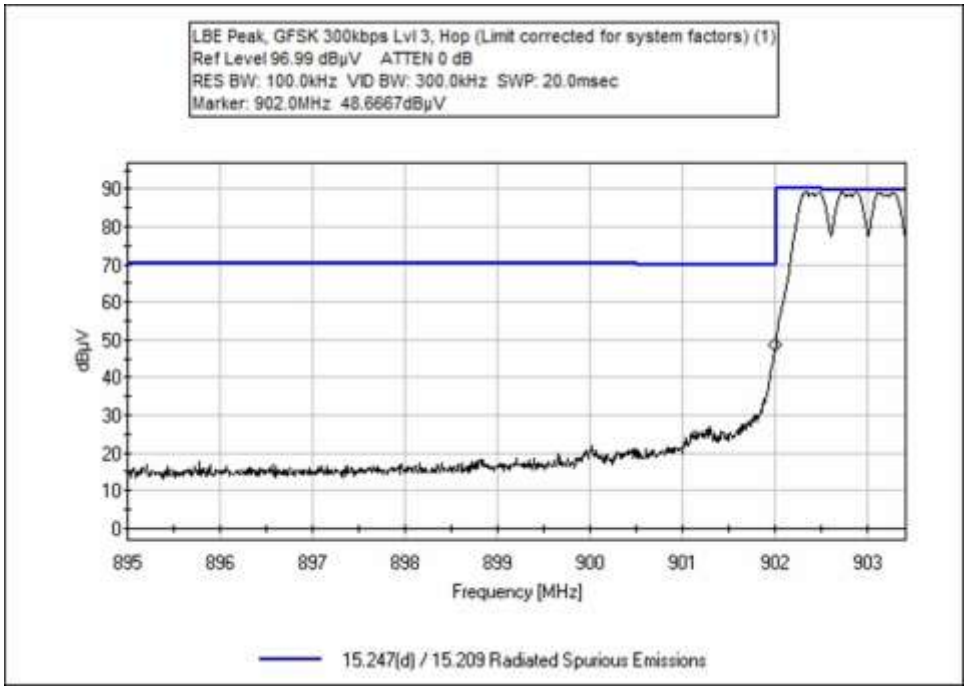

UBE Peak, GFSK 150kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 13.9987 dBµV Marker 2: 965.91MHz 16.9357 dBµV Delta: 5.91MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

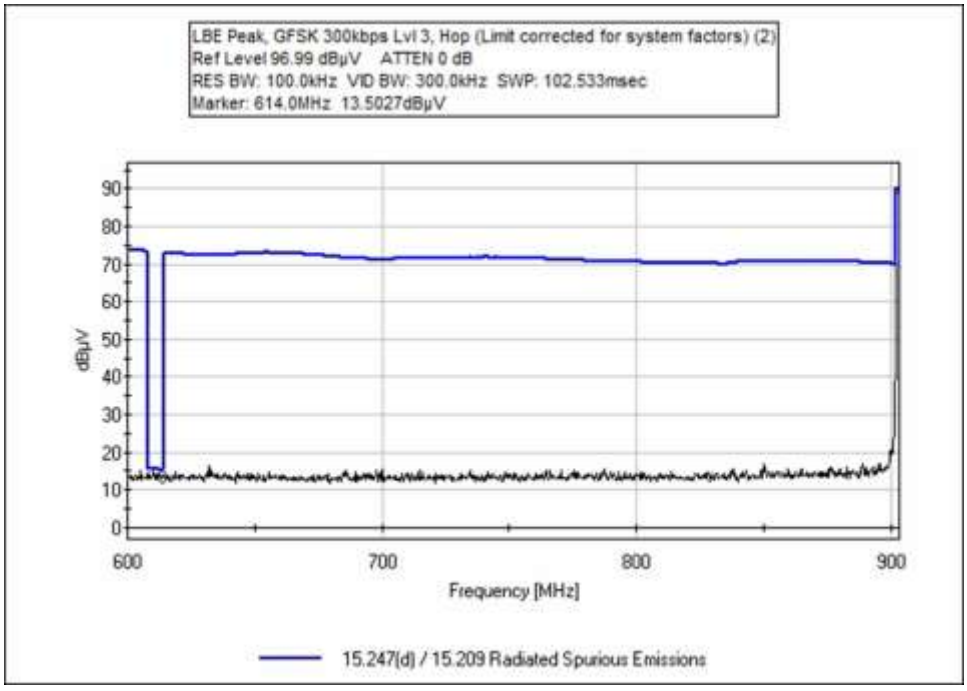

UBE Peak, GFSK 150kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 1.0MHz SWP: 20.0msec
Marker: 928.0MHz 36.5407dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

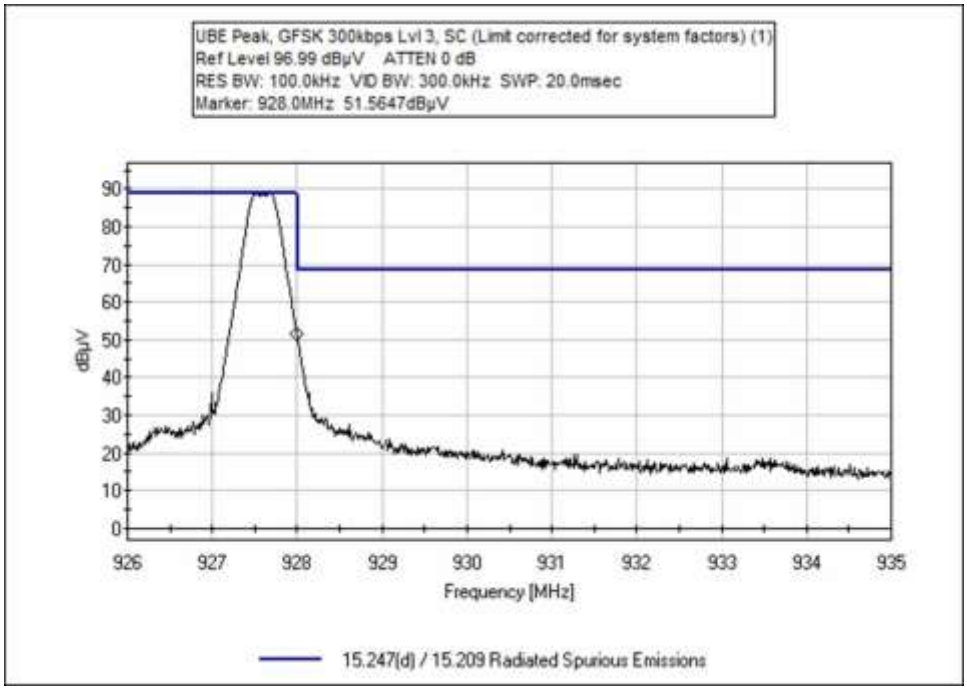

UBE Peak, GFSK 150kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 965.15MHz 17.7007 dBµV Marker 2: 960.0MHz 14.1267 dBµV Delta: 5.15MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

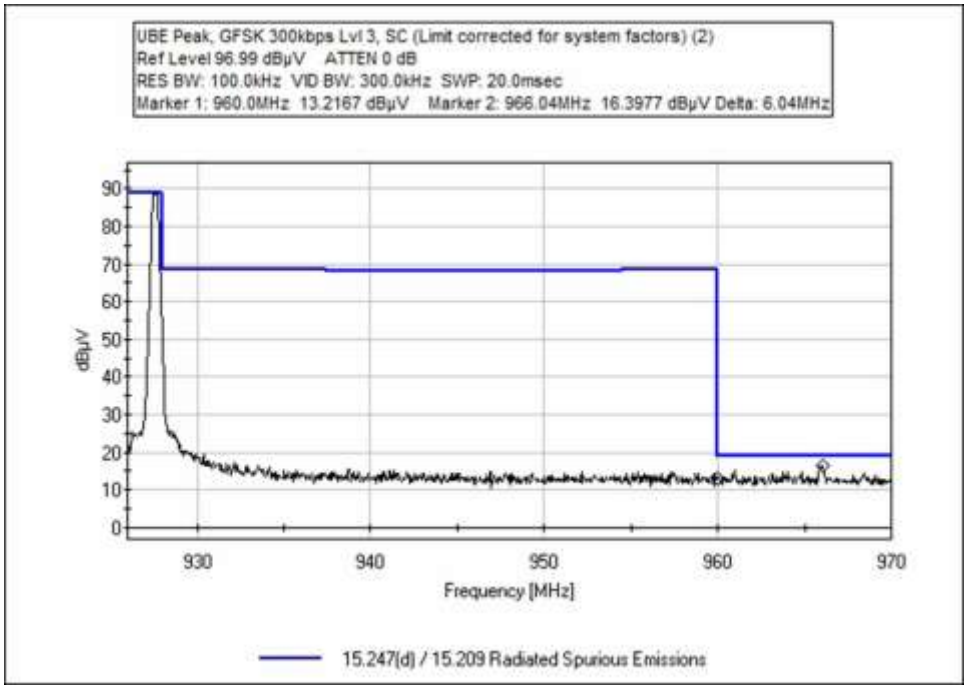

LBE Peak, GFSK 300kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 49.2767dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

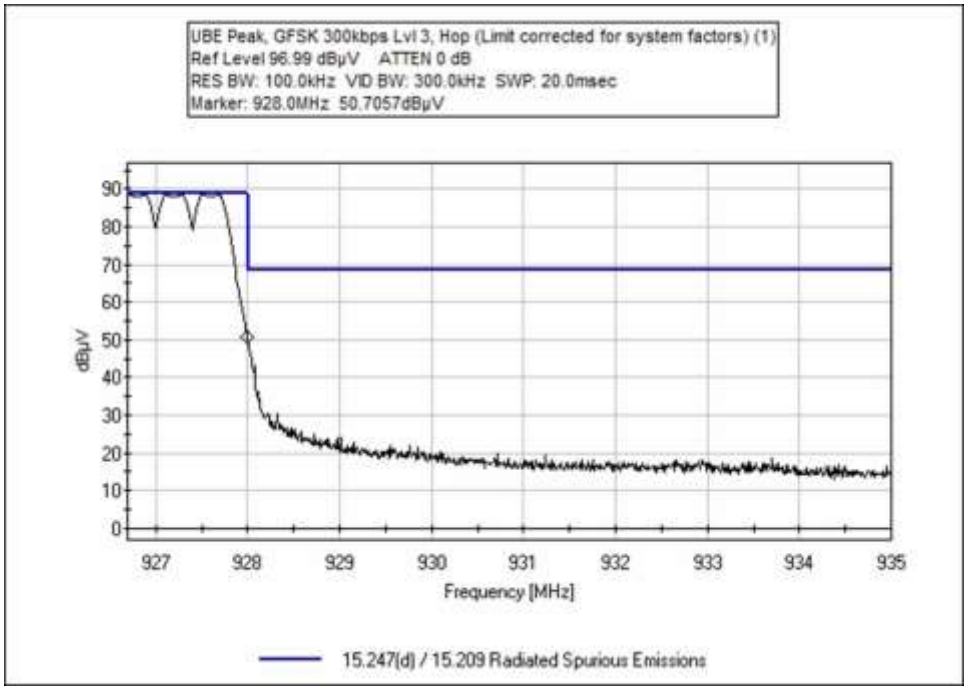

LBE Peak, GFSK 300kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.4msec
Marker: 614.0MHz 12.4297dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

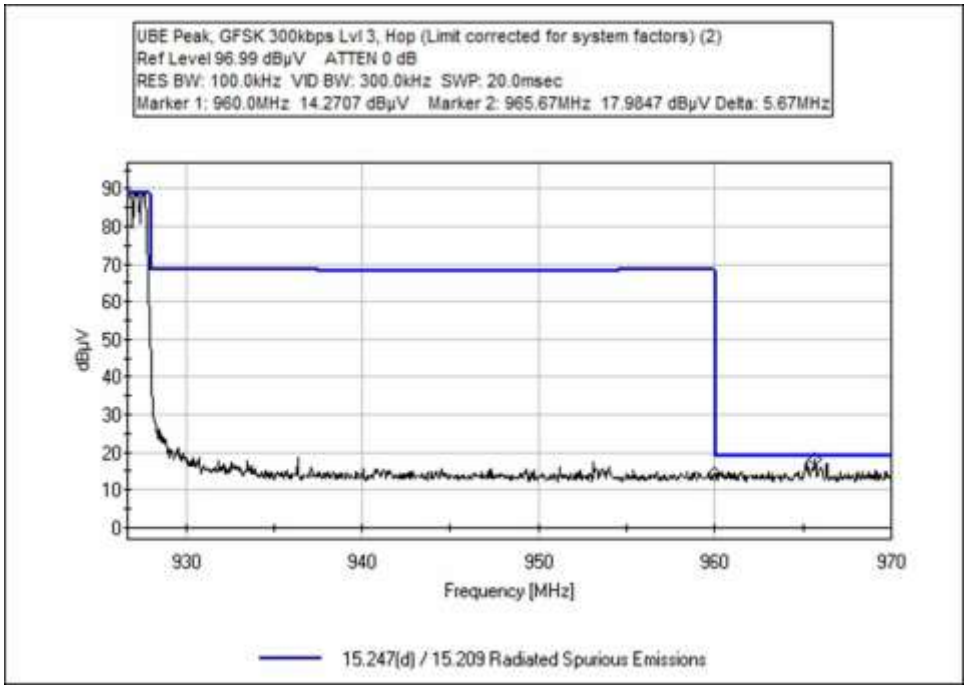

LBE Peak, GFSK 300kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 48.6667dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
895
896
897
898
899
900
901
902
903
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

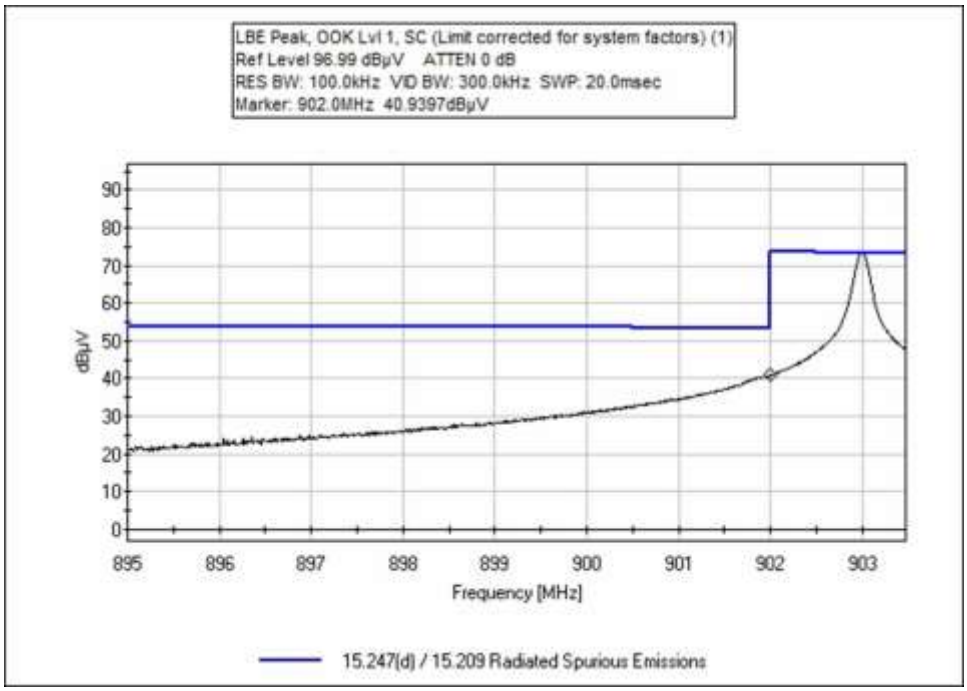

LBE Peak, GFSK 300kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.533msec
Marker: 614.0MHz 13.5027dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
600
700
800
900
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

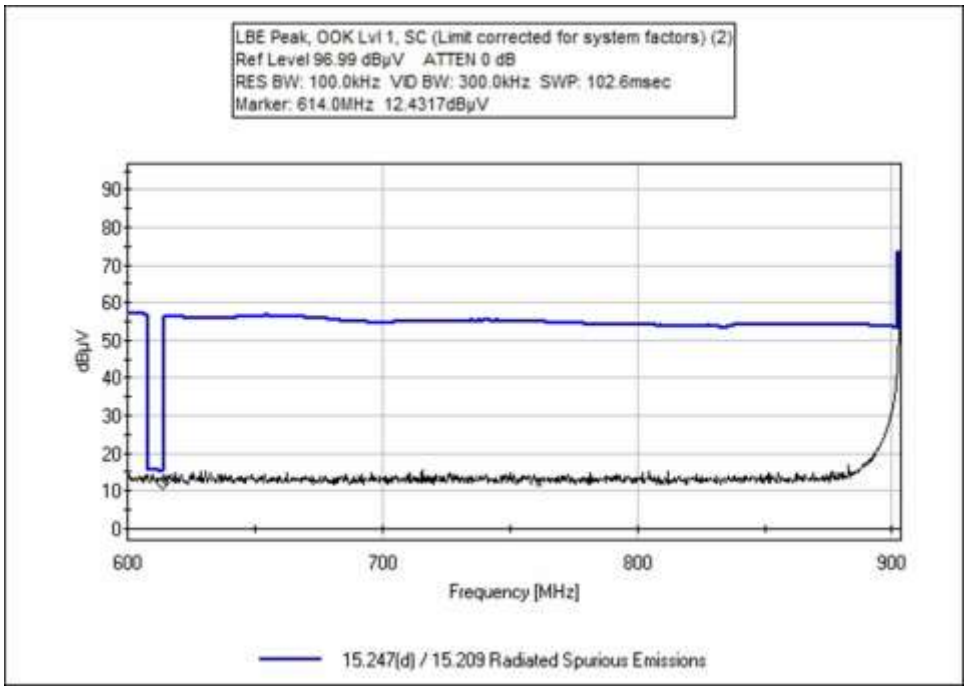

UBE Peak, GFSK 300kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 51.5647dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

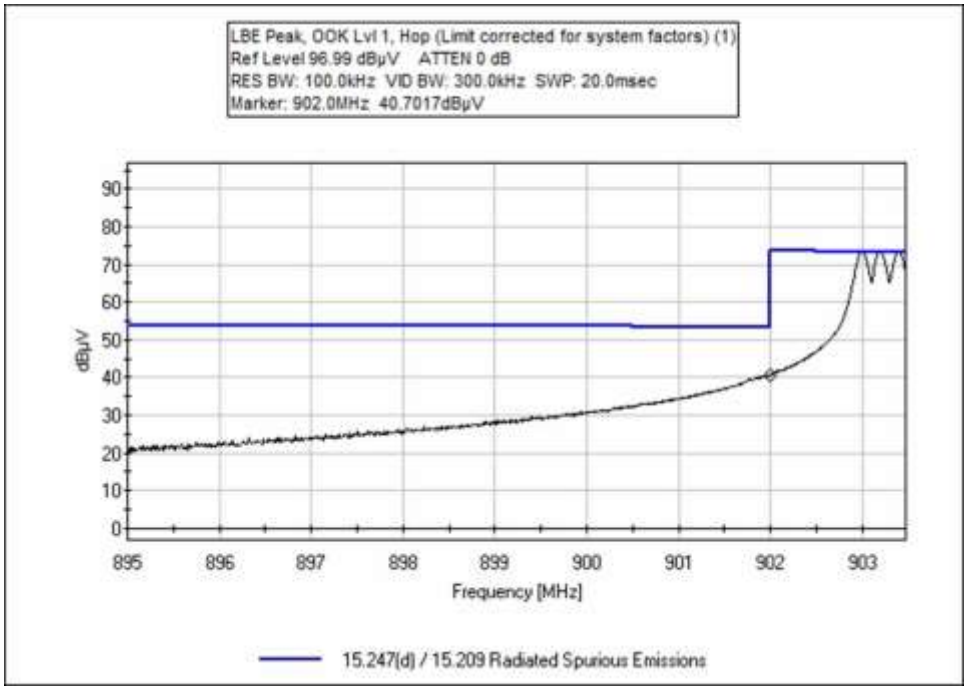

UBE Peak, GFSK 300kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 13.2167 dBµV Marker 2: 966.04MHz 16.3977 dBµV Delta: 6.04MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

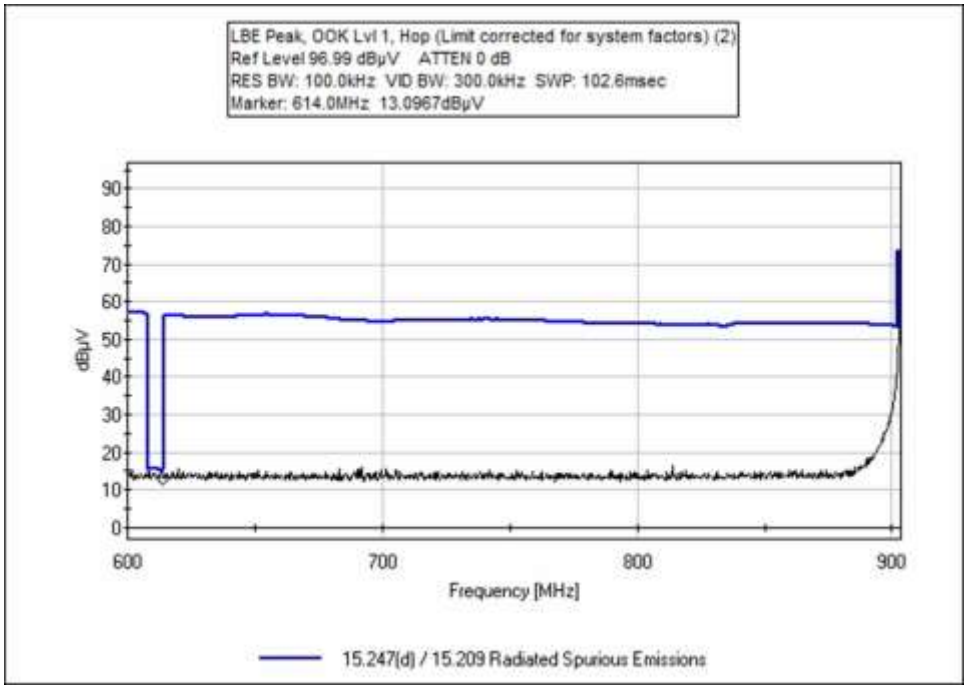

UBE Peak, GFSK 300kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 50.7057dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

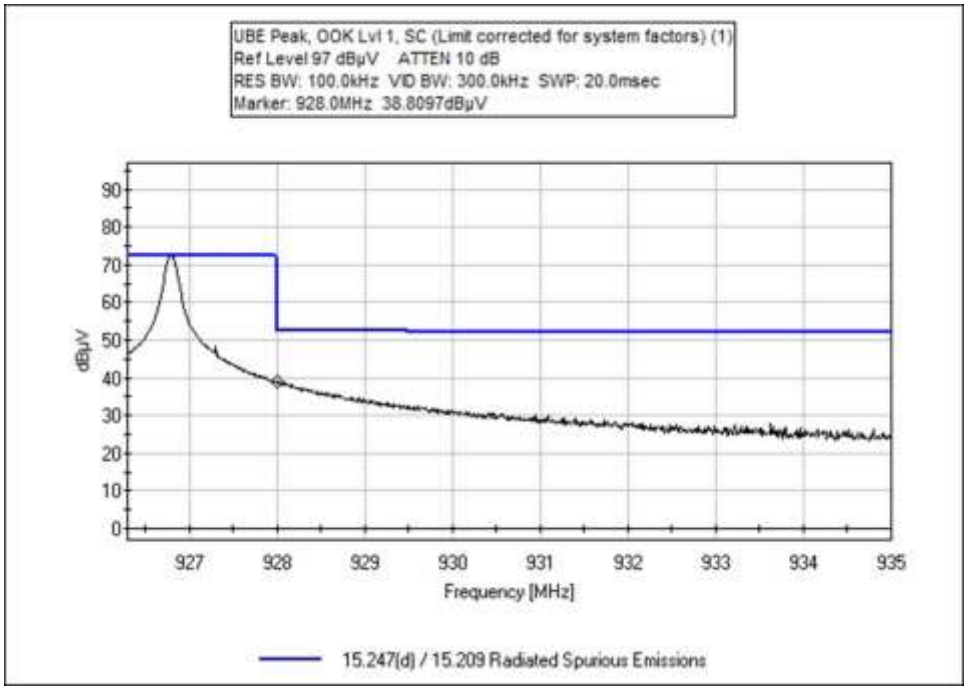

UBE Peak, GFSK 300kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 14.2707 dBµV Marker 2: 965.67MHz 17.9847 dBµV Delta: 5.67MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

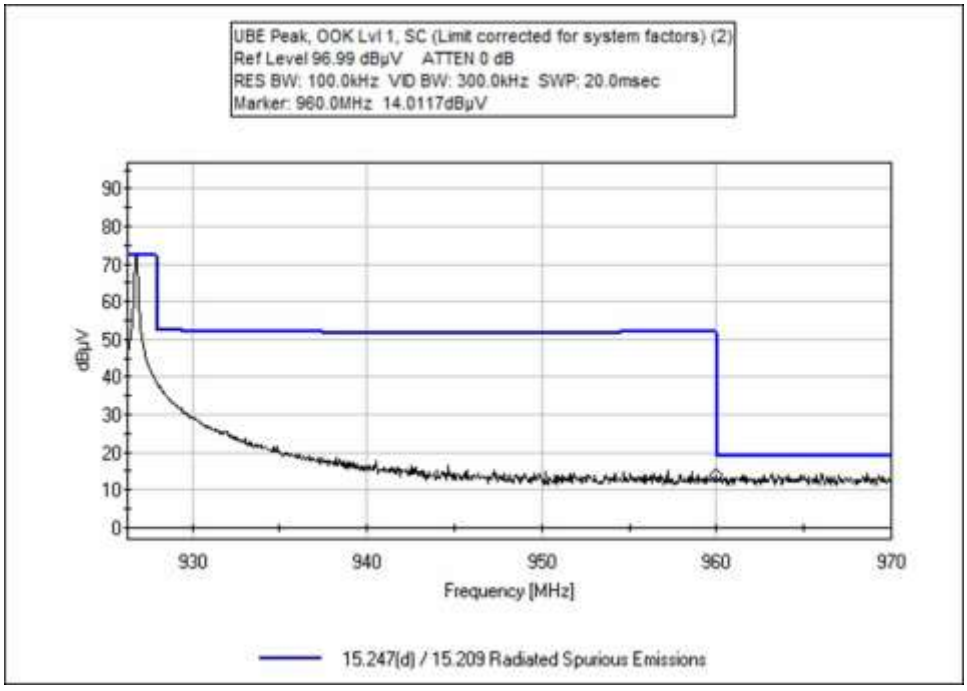

LBE Peak, OOK Lvl 1, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 40.9397dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
895
896
897
898
899
900
901
902
903
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

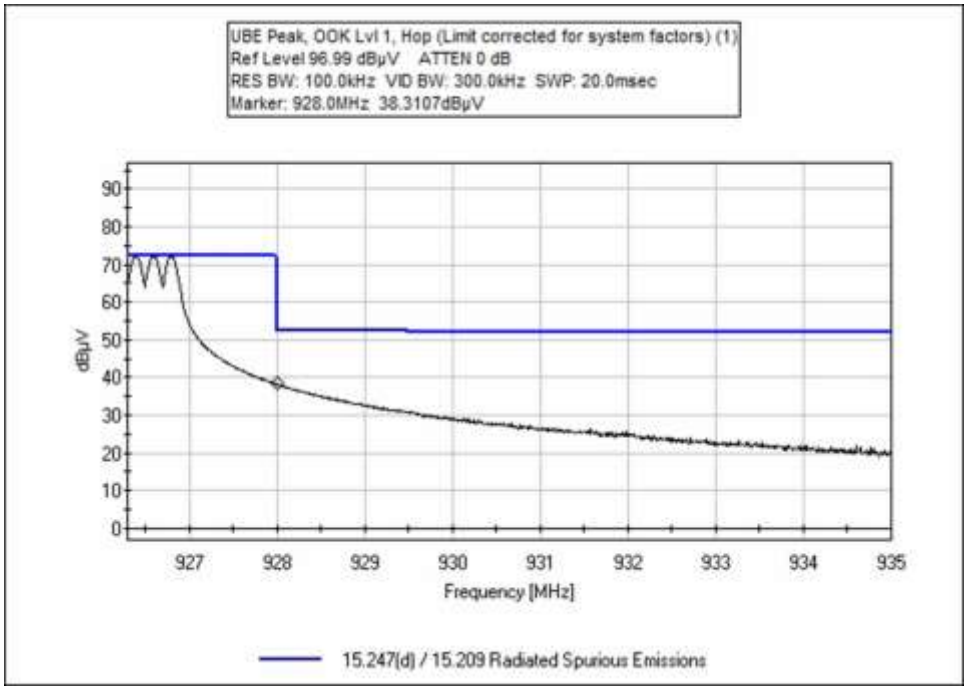

LBE Peak, OOK Lvl 1, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.6msec
Marker: 614.0MHz 12.4317dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
600
700
800
900
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

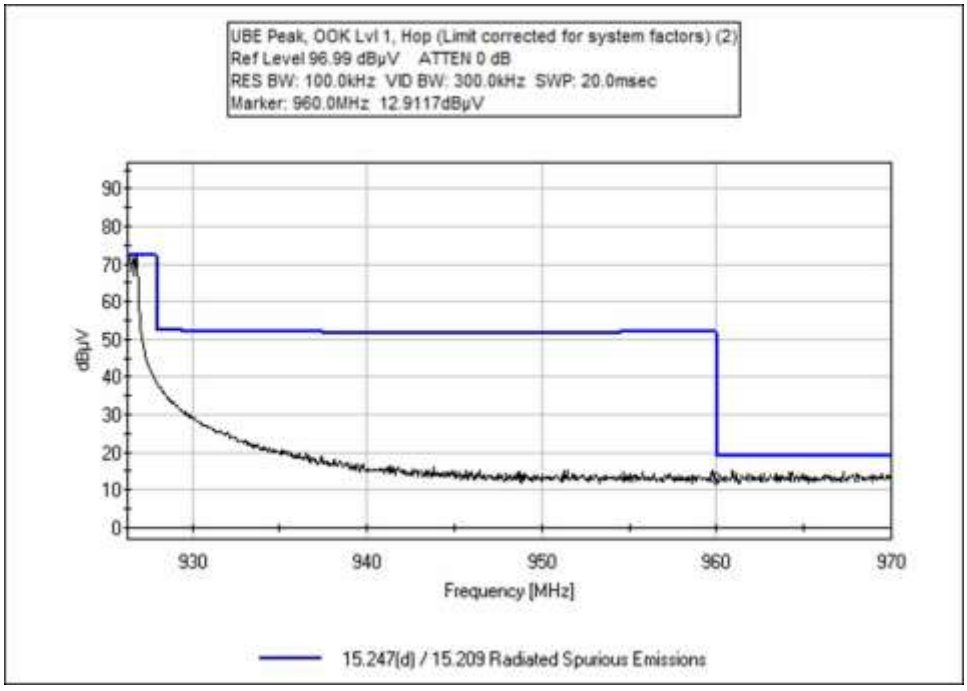

LBE Peak, OOK Lvl 1, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 40.7017dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
895
896
897
898
899
900
901
902
903
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

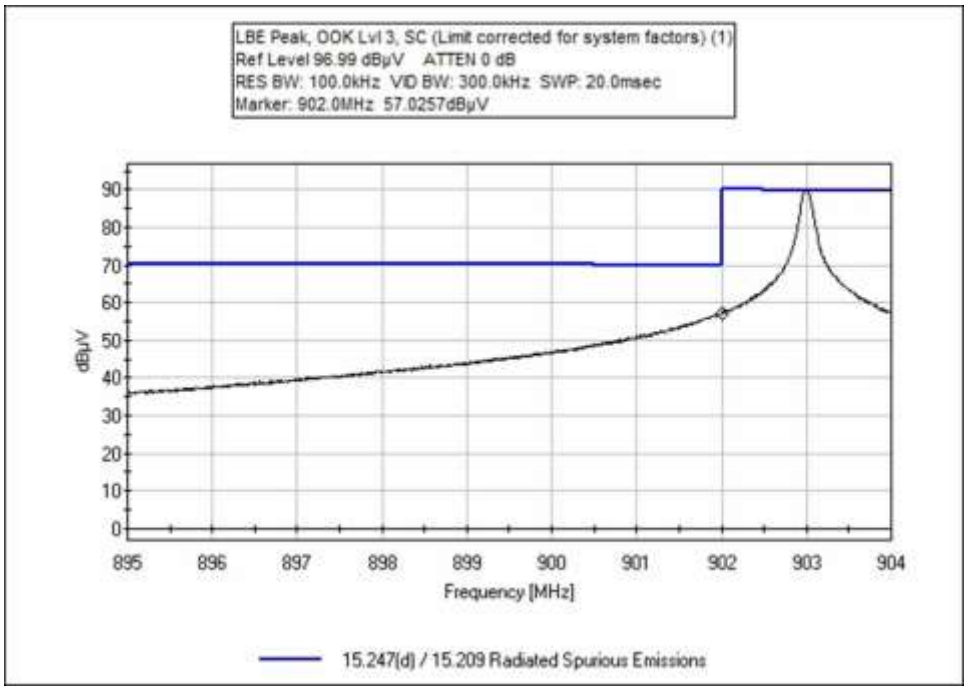

LBE Peak, OOK Lvl 1, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.6msec
Marker: 614.0MHz 13.0967dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
600
700
800
900
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

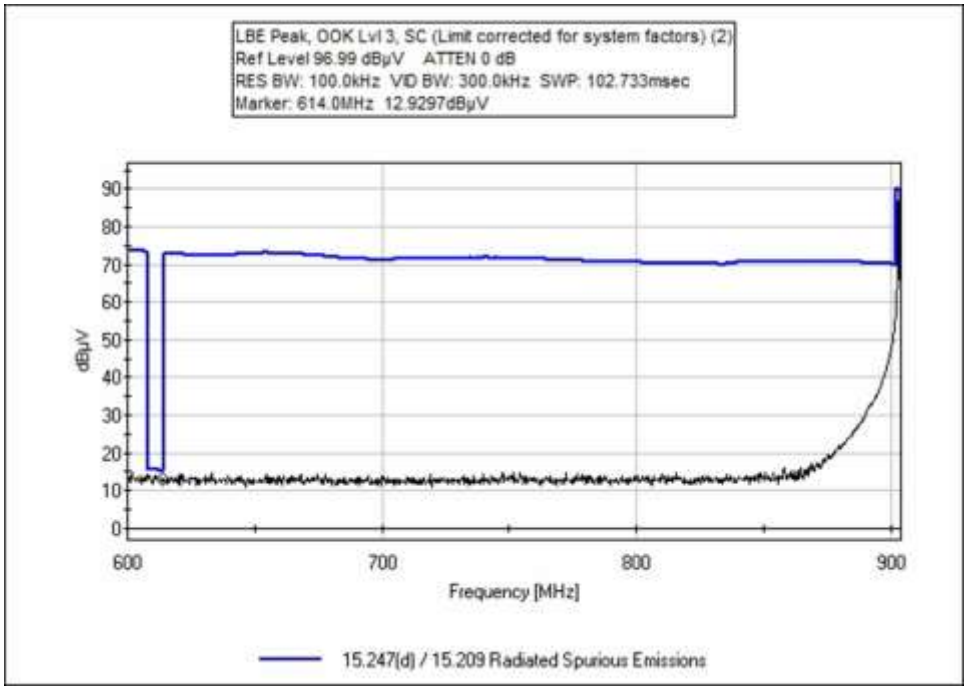

UBE Peak, OOK Lvl 1, SC (Limit corrected for system factors) (1)
Ref Level 97 dBµV ATTEN 10 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 38.8097dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
927
928
929
930
931
932
933
934
935
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

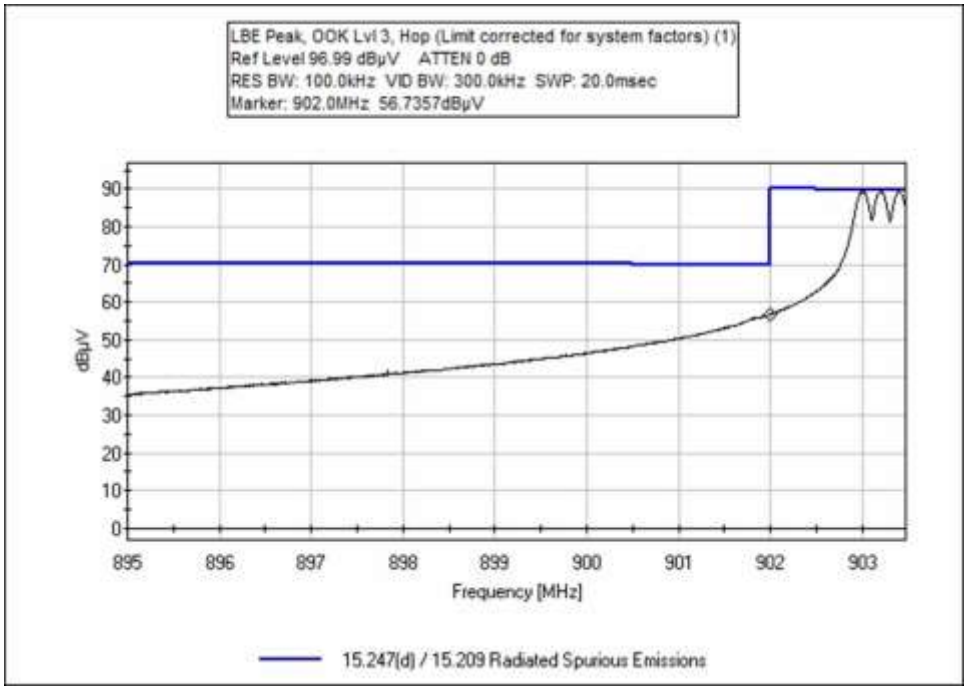

UBE Peak, OOK Lvl 1, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 960.0MHz 14.0117dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
930
940
950
960
970
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

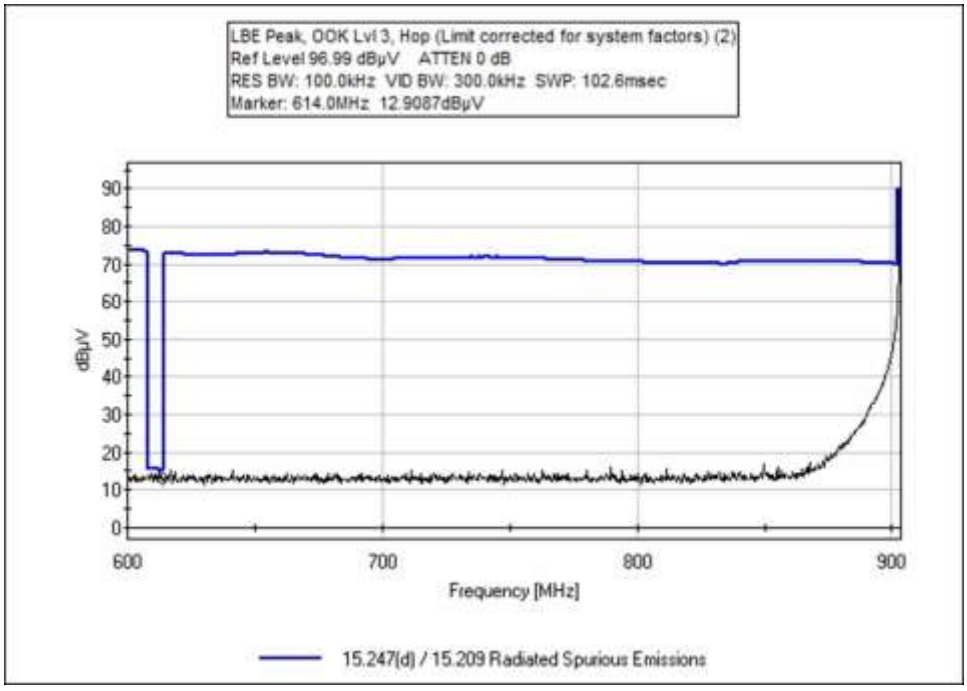

UBE Peak, OOK Lvl 1, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 38.3107dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
927
928
929
930
931
932
933
934
935
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

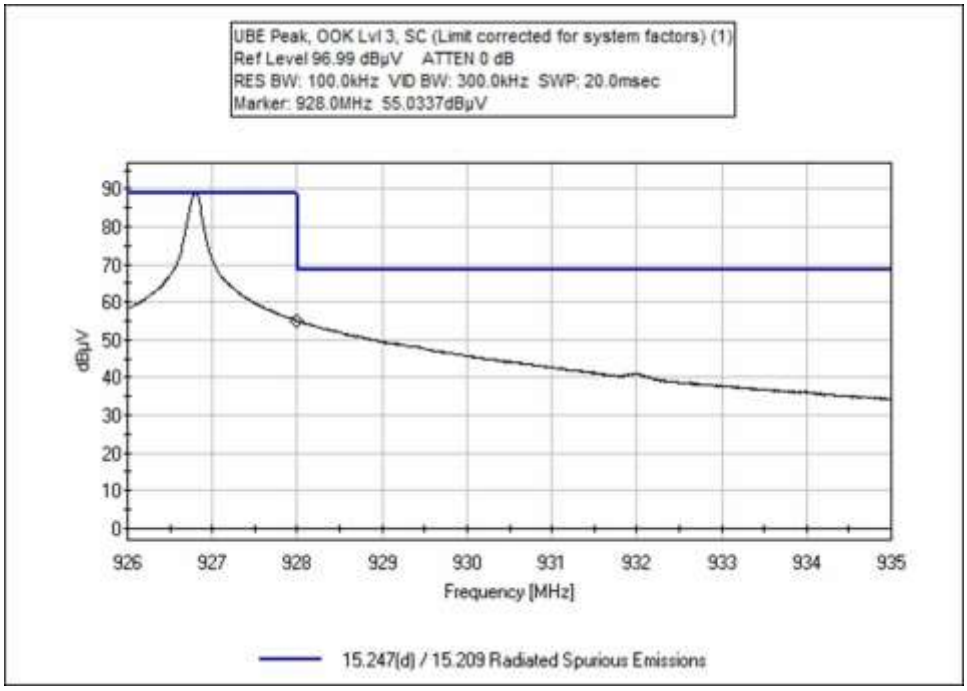

UBE Peak, OOK Lvl 1, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 960.0MHz 12.9117dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
930
940
950
960
970
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

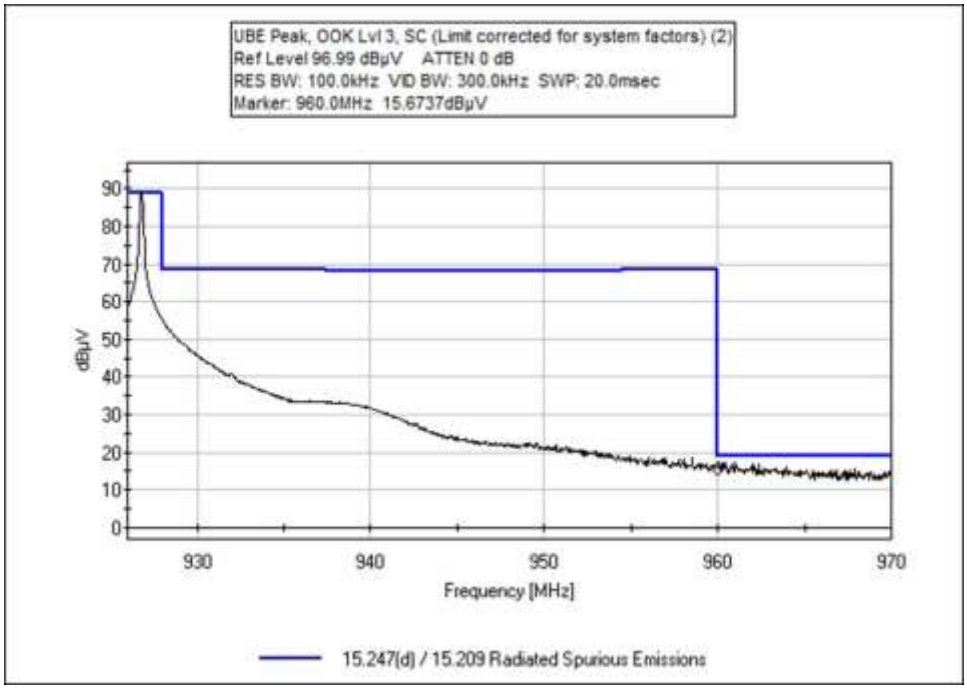

LBE Peak, OOK Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 57.0257dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

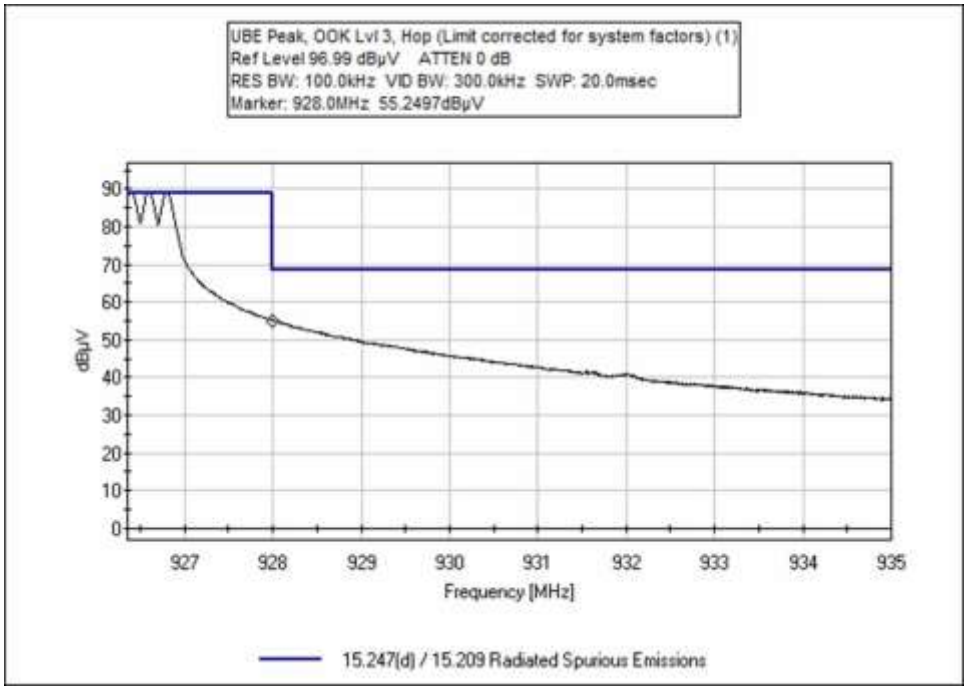

LBE Peak, OOK Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.733msec
Marker: 614.0MHz 12.9297dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

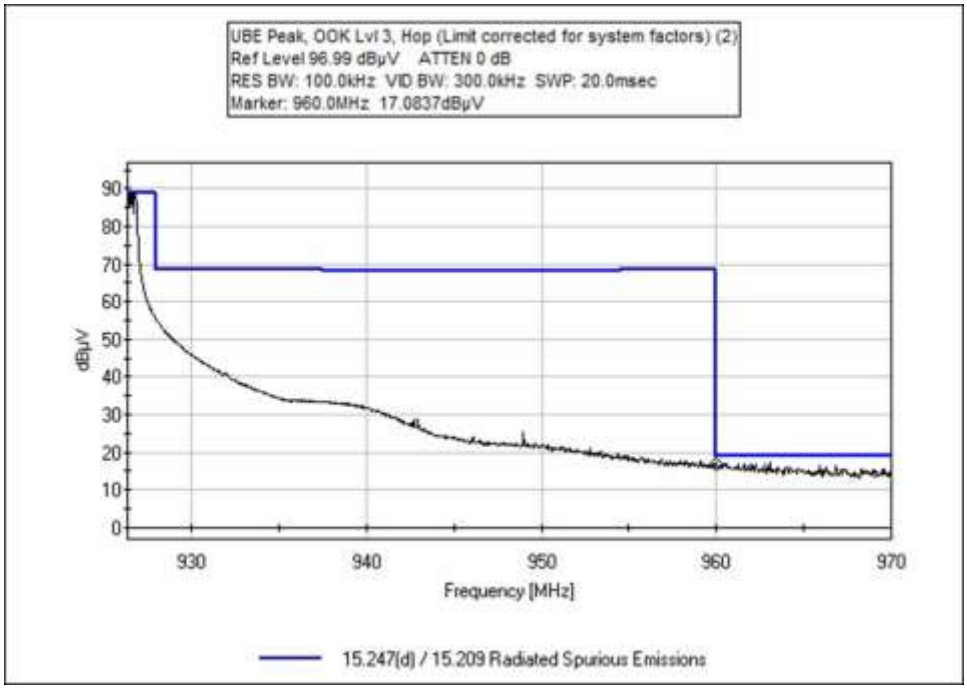

LBE Peak, OOK Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 56.7357dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

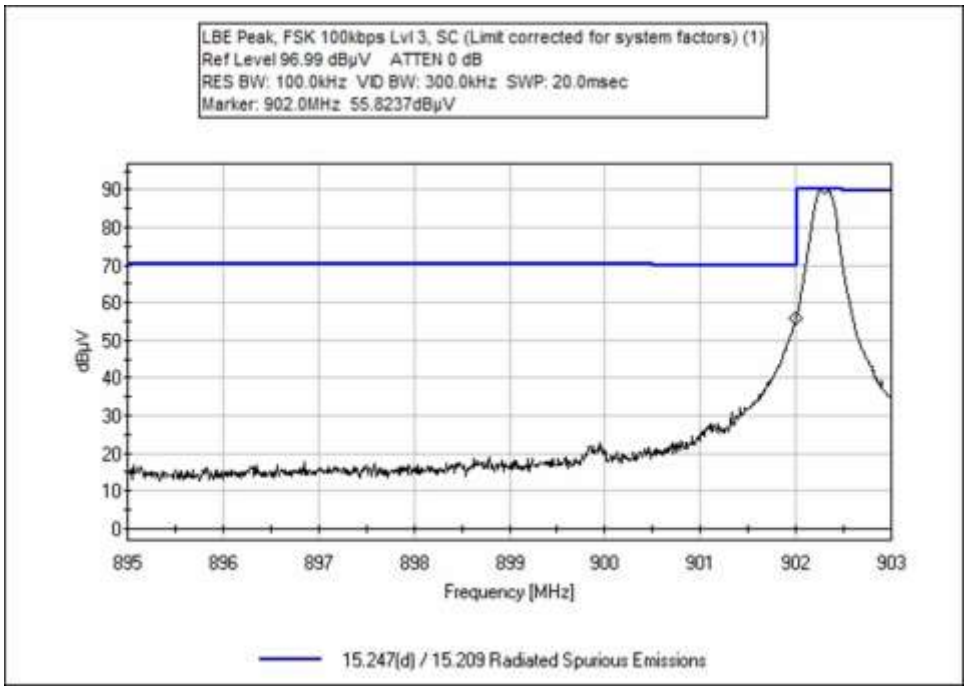

LBE Peak, OOK Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.6msec
Marker: 614.0MHz 12.9087dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

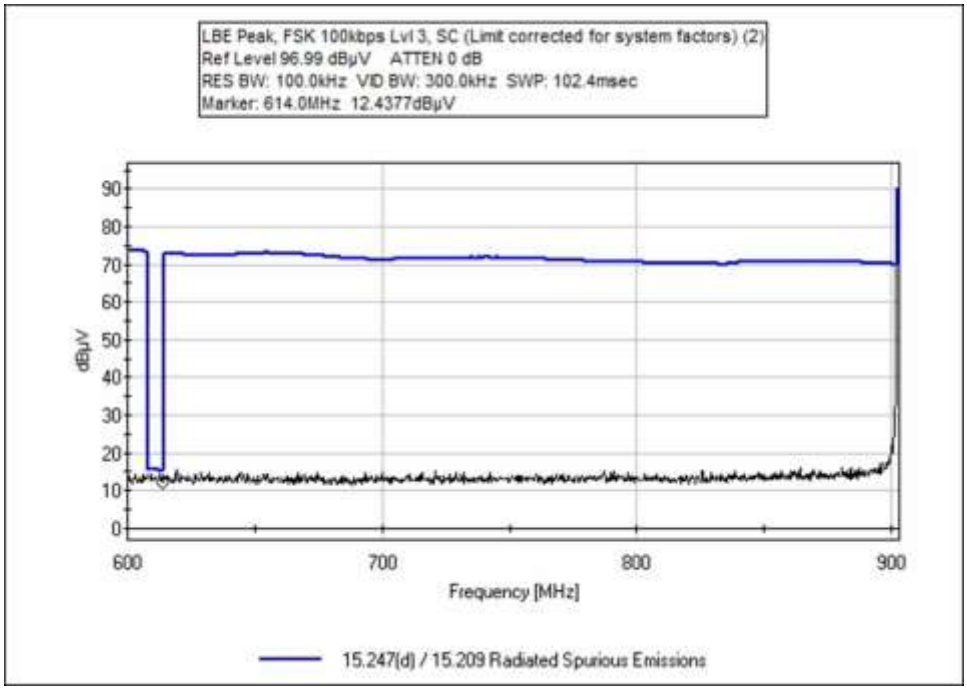

UBE Peak, OOK Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 55.0337dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

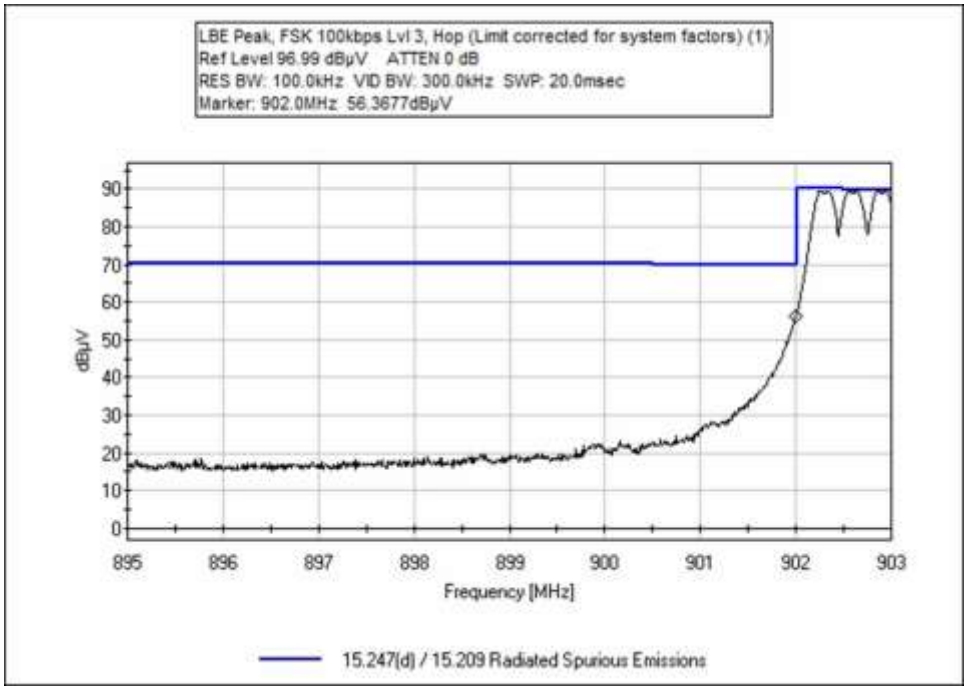

UBE Peak, OOK Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 960.0MHz 15.6737dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

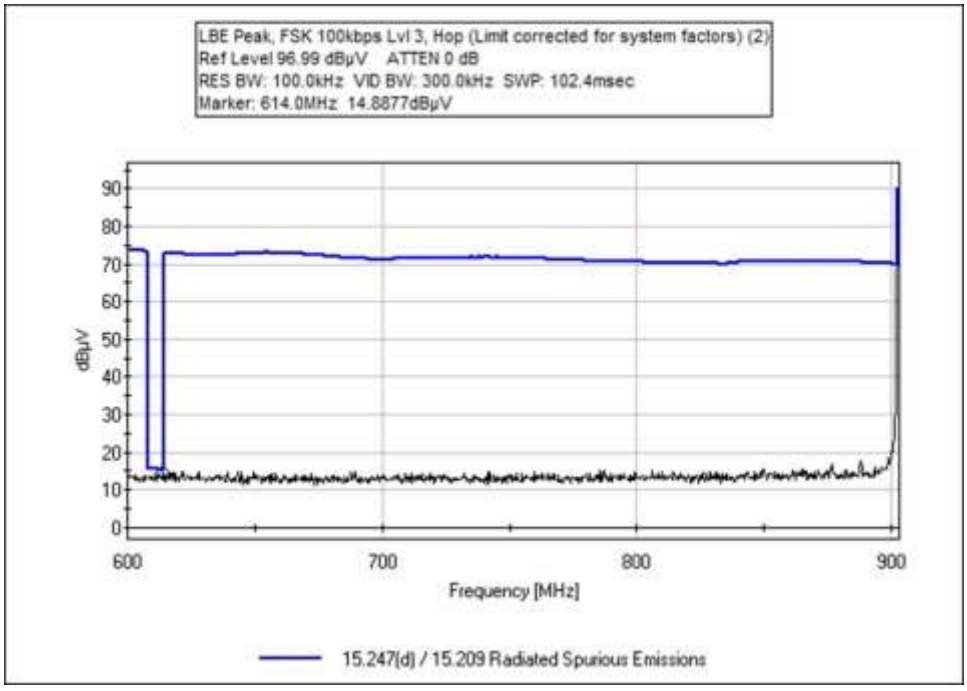

UBE Peak, OOK Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 55.2497dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
927
928
929
930
931
932
933
934
935
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

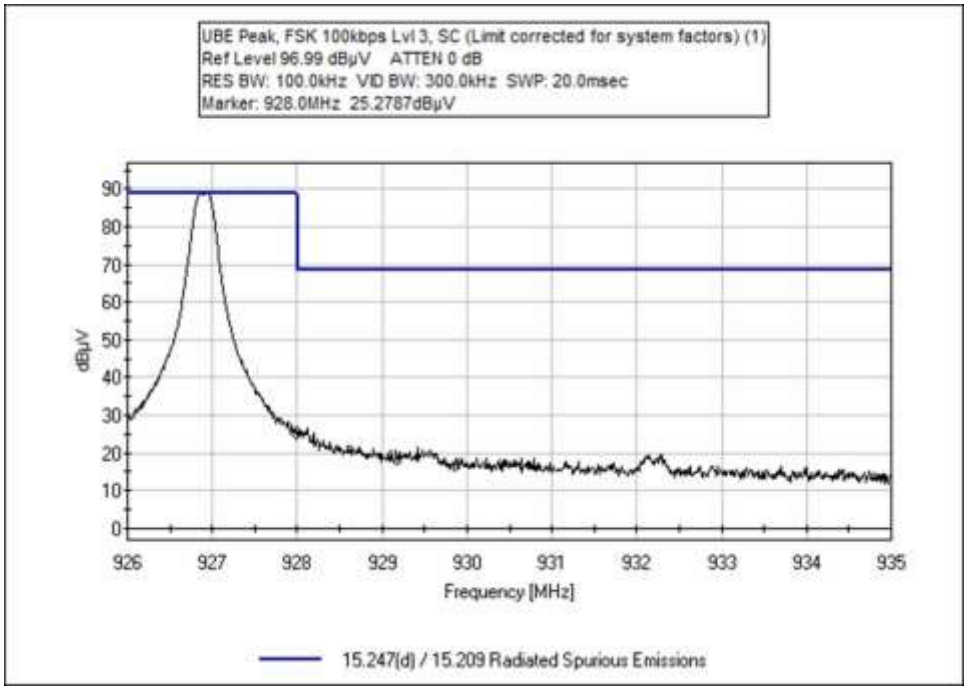

UBE Peak, OOK Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 960.0MHz 17.0837dBµV
dBµV
90
80
70
60
50
40
30
20
10
0
930
940
950
960
970
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

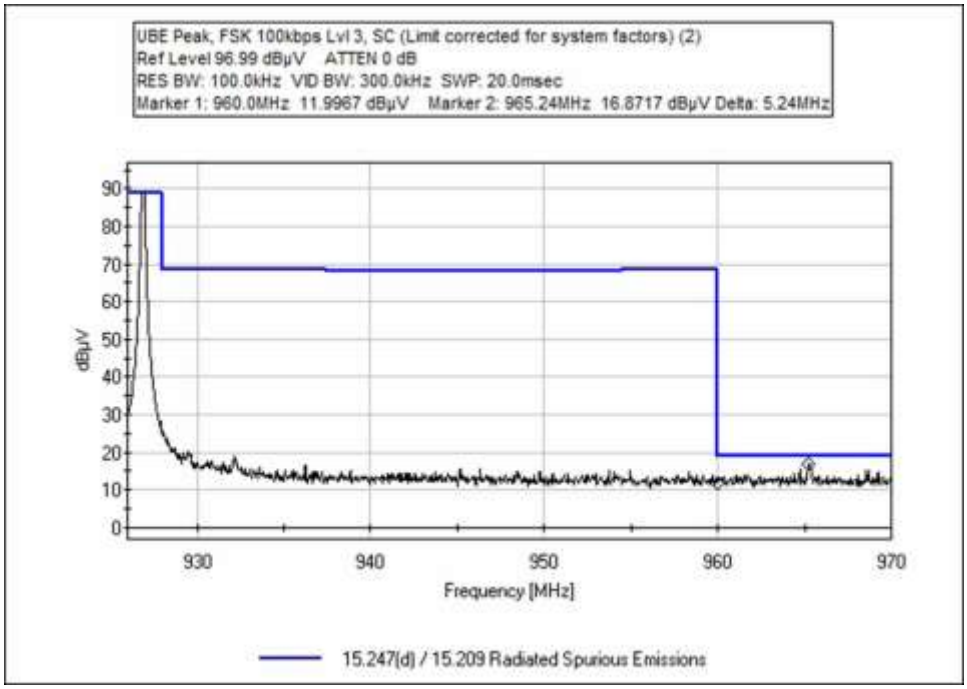

LBE Peak, FSK 100kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 55.8237dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

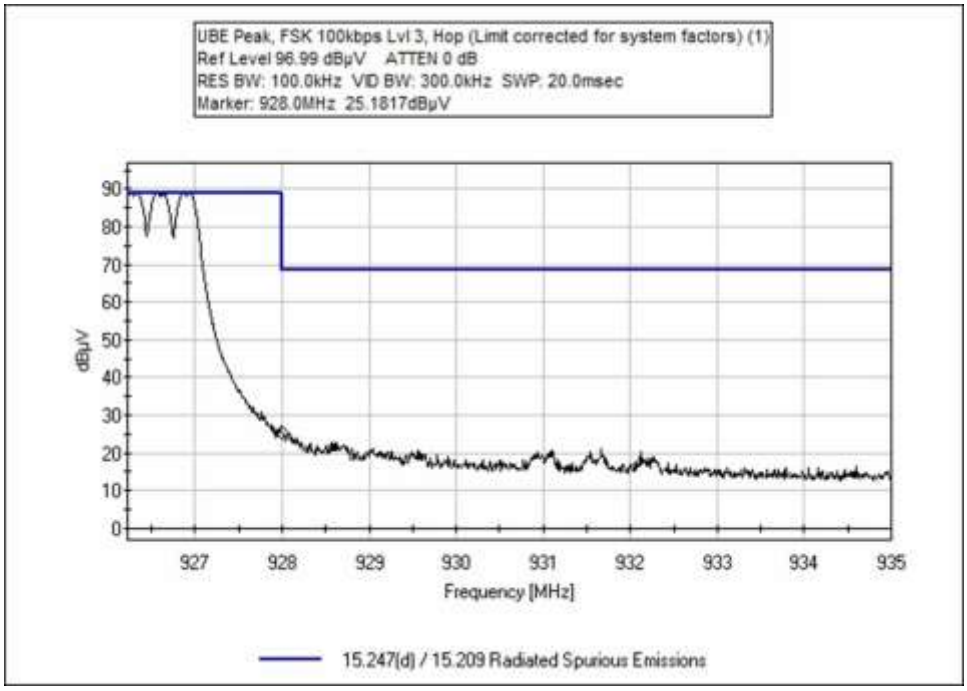

LBE Peak, FSK 100kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.4msec
Marker: 614.0MHz 12.4377dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

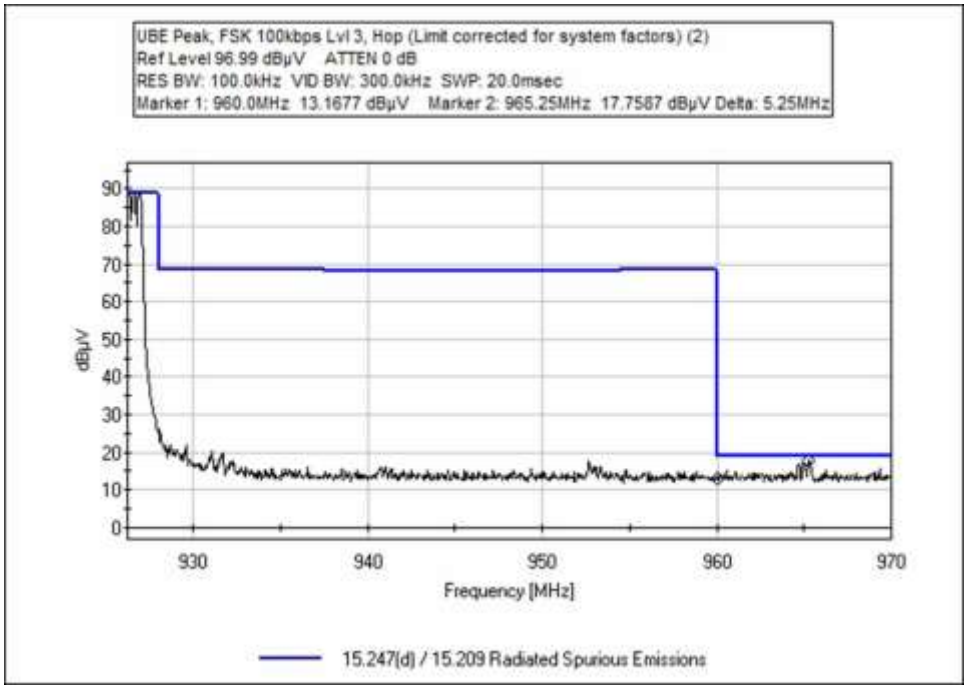

LBE Peak, FSK 100kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 902.0MHz 56.3677dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


LBE Peak, FSK 100kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 102.4msec
Marker: 614.0MHz 14.8877dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


UBE Peak, FSK 100kbps Lvl 3, SC (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 25.2787dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


UBE Peak, FSK 100kbps Lvl 3, SC (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 11.9967 dBµV Marker 2: 965.24MHz 16.8717 dBµV Delta: 5.24MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


UBE Peak, FSK 100kbps Lvl 3, Hop (Limit corrected for system factors) (1)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker: 928.0MHz 25.1817dBµV
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


UBE Peak, FSK 100kbps Lvl 3, Hop (Limit corrected for system factors) (2)
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 100.0kHz VID BW: 300.0kHz SWP: 20.0msec
Marker 1: 960.0MHz 13.1677 dBµV Marker 2: 965.25MHz 17.7587 dBµV Delta: 5.25MHz
dBµV
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

Test Setup / Conditions / Data

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/21/2023
Test Type:	**Radiated Scan**	Time:	10:37:11
Tested By:	Matt Harrison	Sequence#:	10
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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 927.75
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 10kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

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	966.150M QP	16.0	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	50.9	54.0 Hop	-3.1	Horiz
2	966.163M QP	15.8	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	50.7	54.0 SC	-3.3	Horiz
^	966.163M	17.6	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.5	54.0 SC	-1.5	Horiz
^	966.150M	17.4	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.3	54.0 Hop	-1.7	Horiz
5	960.000M	14.1	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	49.1	54.0 SC	-4.9	Horiz
6	960.000M	14.1	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	49.1	54.0 Hop	-4.9	Horiz
7	614.000M QP	9.5	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.2	46.0 SC	-5.8	Horiz
8	614.000M QP	9.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.0	46.0 Hop	-6.0	Horiz
^	614.000M	13.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	44.0	46.0 SC	-2.0	Horiz
^	614.000M	12.8	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.5	46.0 Hop	-2.5	Horiz
11	902.000M	41.2	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	74.9	103.7 Hop	-28.8	Horiz
12	902.000M	40.2	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	73.9	103.7 SC	-29.8	Horiz
13	928.000M	36.0	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	70.9	103.7 SC	-32.8	Horiz
14	928.000M	35.4	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	70.3	103.7 Hop	-33.4	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/21/2023
Test Type:	**Radiated Scan**	Time:	09:05:23
Tested By:	Matt Harrison	Sequence#:	9
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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.2, 927.75
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 25kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

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	966.163M QP	15.9	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	50.8	54.0 SC	-3.2	Horiz
2	966.090M QP	13.9	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	48.8	54.0 Hop	-5.2	Horiz
^	966.163M	17.9	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.8	54.0 SC	-1.2	Horiz
^	966.090M	16.1	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	51.0	54.0 Hop	-3.0	Horiz
5	960.000M	13.3	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	48.3	54.0 Hop	-5.7	Horiz
6	614.000M QP	9.5	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.2	46.0 SC	-5.8	Horiz
7	960.000M	13.1	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	48.1	54.0 SC	-5.9	Horiz
8	614.000M QP	9.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.0	46.0 Hop	-6.0	Horiz
^	614.000M	13.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	44.0	46.0 SC	-2.0	Horiz
^	614.000M	12.8	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.5	46.0 Hop	-2.5	Horiz
11	902.000M	41.9	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	75.6	103.7 Hop	-28.1	Horiz
12	902.000M	41.1	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	74.8	103.7 SC	-28.9	Horiz
13	928.000M	36.2	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	71.1	103.7 SC	-32.6	Horiz
14	928.000M	33.9	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	68.8	103.7 Hop	-34.9	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/20/2023
Test Type:	**Radiated Scan**	Time:	13:47:16
Tested By:	Matt Harrison	Sequence#:	8
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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.1, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 50kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

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	966.020M QP	14.9	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	49.8	54.0 SC	-4.2	Horiz
2	966.000M QP	14.9	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	49.8	54.0 Hop	-4.2	Horiz
^	966.000M	17.7	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.6	54.0 Hop	-1.4	Horiz
^	966.020M	17.4	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.3	54.0 SC	-1.7	Horiz
5	960.000M	14.6	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	49.6	54.0 Hop	-4.4	Horiz
6	614.000M QP	9.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.1	46.0 Hop	-5.9	Horiz
7	614.000M QP	9.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.0	46.0 SC	-6.0	Horiz
^	614.000M	13.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	44.1	46.0 Hop	-1.9	Horiz
^	614.000M	12.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.1	46.0 SC	-2.9	Horiz
10	960.000M	12.9	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	47.9	54.0 SC	-6.1	Horiz
11	902.000M	51.3	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	85.0	103.7 SC	-18.7	Horiz
12	902.000M	49.7	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	83.4	103.7 Hop	-20.3	Horiz
13	928.000M	31.2	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	66.1	103.7 Hop	-37.6	Horiz
14	928.000M	30.6	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	65.5	103.7 SC	-38.2	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/20/2023
Test Type:	**Radiated Scan**	Time:	09:12:56
Tested By:	Matt Harrison	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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.4, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 150kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

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	960.000M	14.1	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	49.1	54.0 Hop	-4.9	Horiz
2	960.000M	14.0	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	49.0	54.0 SC	-5.0	Horiz
3	965.150M QP	14.1	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	49.0	54.0 Hop	-5.0	Horiz
^	965.150M	17.7	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.6	54.0 Hop	-1.4	Horiz
5	965.910M QP	14.0	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	48.9	54.0 SC	-5.1	Horiz
^	965.910M	16.9	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	51.8	54.0 SC	-2.2	Horiz
7	614.000M QP	9.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.1	46.0 Hop	-5.9	Horiz
8	614.000M QP	9.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.0	46.0 SC	-6.0	Horiz
^	614.000M	13.2	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.9	46.0 Hop	-2.1	Horiz
^	614.000M	13.1	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.8	46.0 SC	-2.2	Horiz
11	928.000M	36.5	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	71.4	103.7 Hop	-32.3	Horiz
12	902.000M	37.4	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	71.1	103.7 SC	-32.6	Horiz
13	902.000M	37.4	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	71.1	103.7 Hop	-32.6	Horiz
14	928.000M	34.8	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	69.7	103.7 SC	-34.0	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/20/2023
Test Type:	**Radiated Scan**	Time:	12:12:57
Tested By:	Matt Harrison	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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.4, 927.6
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **GFSK 300kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset # #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

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	960.000M	14.3	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	49.3	54.0 Hop	-4.7	Horiz
2	966.040M QP	13.7	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	48.6	54.0 SC	-5.4	Horiz
^	966.040M	16.4	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	51.3	54.0 SC	-2.7	Horiz
4	960.000M	13.2	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	48.2	54.0 SC	-5.8	Horiz
5	614.000M QP	9.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.1	46.0 Hop	-5.9	Horiz
6	614.000M QP	9.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.0	46.0 SC	-6.0	Horiz
^	614.000M	13.5	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	44.2	46.0 Hop	-1.8	Horiz
^	614.000M	12.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.1	46.0 SC	-2.9	Horiz
9	965.670M QP	9.7	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	44.6	54.0 Hop	-9.4	Horiz
^	965.670M	18.0	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.9	54.0 Hop	-1.1	Horiz
11	928.000M	51.6	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	86.5	103.7 SC	-17.2	Horiz
12	928.000M	50.7	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	85.6	103.7 Hop	-18.1	Horiz
13	902.000M	49.3	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	83.0	103.7 SC	-20.7	Horiz
14	902.000M	48.7	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	82.4	103.7 Hop	-21.3	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/23/2023
Test Type:	**Radiated Scan**	Time:	08:52:21
Tested By:	Matt Harrison	Sequence#:	12
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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 903, 926.8
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **OOK**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

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	9.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.1	46.0 Hop	-5.9	Horiz
2	614.000M QP	9.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.0	46.0 SC	-6.0	Horiz
^	614.000M	12.9	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.6	46.0 SC	-2.4	Horiz
^	614.000M	12.9	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.6	46.0 Hop	-2.4	Horiz
5	960.000M QP	12.1	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	47.1	54.0 SC	-6.9	Horiz
6	960.000M QP	12.1	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	47.1	54.0 Hop	-6.9	Horiz
^	960.000M	17.1	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	52.1	54.0 Hop	-1.9	Horiz
^	960.000M	15.7	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	50.7	54.0 SC	-3.3	Horiz
9	902.000M	57.0	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	90.7	103.7 SC	-13.0	Horiz
10	902.000M	56.7	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	90.4	103.7 Hop	-13.3	Horiz
11	928.000M	55.2	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	90.1	103.7 Hop	-13.6	Horiz
12	928.000M	55.0	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	89.9	103.7 SC	-13.8	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/24/2023
Test Type:	**Radiated Scan**	Time:	08:41:08
Tested By:	Matt Harrison	Sequence#:	14
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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 903, 926.8
Firmware power setting: Level 1
EUT Firmware:
Protocol /MCS/Modulation: **OOK**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

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	960.000M	14.0	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	49.0	54.0 SC	-5.0	Horiz
2	614.000M QP	9.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.1	46.0 SC	-5.9	Horiz
3	614.000M QP	9.3	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.0	46.0 Hop	-6.0	Horiz
^	614.000M	13.1	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.8	46.0 Hop	-2.2	Horiz
^	614.000M	12.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.1	46.0 SC	-2.9	Horiz
6	960.000M	12.9	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	47.9	54.0 Hop	-6.1	Horiz
7	902.000M	40.9	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	74.6	87.2 SC	-12.6	Horiz
8	902.000M	40.7	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	74.4	87.2 Hop	-12.8	Horiz
9	928.000M	38.8	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	73.7	87.2 SC	-13.5	Horiz
10	928.000M	38.3	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	73.2	87.2 Hop	-14.0	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Itron, Inc.**		
Specification:	**15.247(d) / 15.209 Radiated Spurious Emissions**		
Work Order #:	**107652**	Date:	1/21/2023
Test Type:	**Radiated Scan**	Time:	13:10:04
Tested By:	Matt Harrison	Sequence#:	11
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:

Environmental Conditions:
Temperature: 18.6°C
Pressure: 100.9 kPa
Humidity: 40%

Frequency Range: Fundamental
Frequency tested: 902.3, 926.9
Firmware power setting: Level 3
EUT Firmware:
Protocol /MCS/Modulation: **FSK 100kbps**

Test Method: ANSI C63.10: 2013
Test Mode: Transmitting
Test Setup: EUT is setup in a tabletop configuration. It is 80cm high on a Styrofoam table.
Modifications Added: None

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03628	Biconilog Antenna	3142E	6/3/2021	6/3/2023
T2	ANP05360	Cable	RG214	2/4/2022	2/4/2024
T3	ANP06540	Cable	Heliax	1/17/2022	1/17/2024
T4	AN02872	Spectrum Analyzer	E4440A	11/29/2021	11/29/2023
T5	ANP05333	Cable	Heliax	3/14/2022	3/14/2024

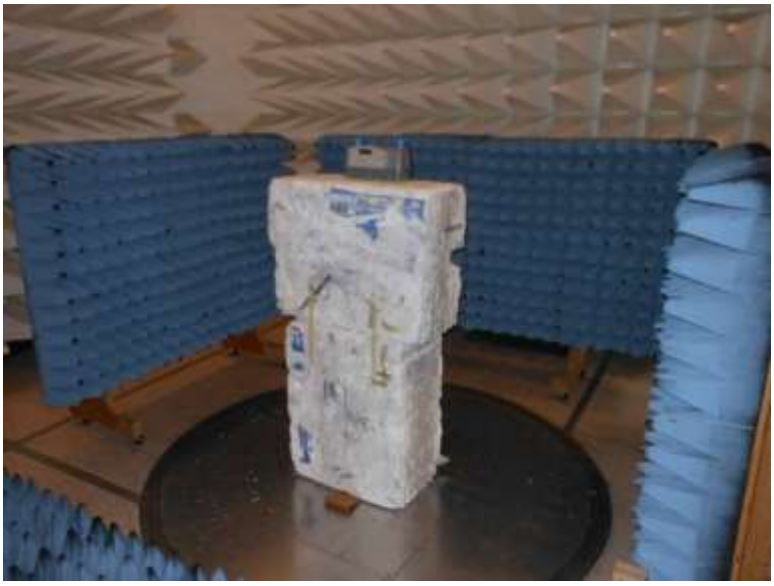
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	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	965.250M QP	15.1	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	50.0	54.0 Hop	-4.0	Horiz
2	965.240M QP	14.7	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	49.6	54.0 SC	-4.4	Horiz
^	965.250M	17.8	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	52.7	54.0 Hop	-1.3	Horiz
^	965.240M	16.9	+30.5 +1.6	+2.5	+0.3	+0.0	+0.0	51.8	54.0 SC	-2.2	Horiz
5	960.000M	13.2	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	48.2	54.0 Hop	-5.8	Horiz
6	614.000M QP	9.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.1	46.0 Hop	-5.9	Horiz
7	614.000M QP	9.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	40.1	46.0 SC	-5.9	Horiz
^	614.000M	14.9	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	45.6	46.0 Hop	-0.4	Horiz
^	614.000M	12.4	+27.2 +1.3	+1.9	+0.3	+0.0	+0.0	43.1	46.0 SC	-2.9	Horiz
10	960.000M	12.0	+30.7 +1.6	+2.4	+0.3	+0.0	+0.0	47.0	54.0 SC	-7.0	Horiz
11	902.000M	56.4	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	90.1	103.7 Hop	-13.6	Horiz
12	902.000M	55.8	+29.6 +1.5	+2.3	+0.3	+0.0	+0.0	89.5	103.7 SC	-14.2	Horiz
13	928.000M	25.3	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	60.2	103.7 SC	-43.5	Horiz
14	928.000M	25.2	+30.6 +1.6	+2.4	+0.3	+0.0	+0.0	60.1	103.7 Hop	-43.6	Horiz

Test Setup Photo(s)

Below 1GHz

Above 1GHz, View #1



Above 1GHz, View #2

Appendix A: Manufacturer Declaration

The following model have been tested by CKC Laboratories:
Device: Intelis Gas
Model: ERG-7300-312

The Intelis Gas, Model: ERG-7300-312 are representative of worst-case testing of the following models per the manufacturer:

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.

Equivalent Models:

Device	Manufacturer	Model #
Intelis Gas	Itron, Inc.	MTR-7300 (425 – 8.25”)
Intelis Gas	Itron, Inc.	MTR-7300 (425-6”)
Intelis Gas	Itron, Inc.	MTR-7400 (250)
Intelis Gas	Itron, Inc.	MTR-7500 (250 w/Pressure Sensor)

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.