

10	2783.250M	55.8	+0.0 -38.6 +0.2	+0.0 +29.5 +3.5	+0.0 +3.5 +0.4	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	50.8	54.0	-3.2	Vert
11	2706.600M	55.4	+0.0 -38.6 +0.2	+0.0 +29.1 +3.4	+0.0 +3.4 +0.4	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	49.9	54.0	-4.1	Vert
12	2745.004M	55.1	+0.0 -38.6 +0.2	+0.0 +29.4 +3.4	+0.0 +3.4 +0.4	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	49.9	54.0	-4.1	Vert
13	4511.000M	48.2	+0.0 -37.8 +0.2	+0.0 +32.9 +4.5	+0.0 +0.7 +0.7	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	48.7	54.0	-5.3	Horiz
14	2783.250M	53.4	+0.0 -38.6 +0.2	+0.0 +29.5 +3.5	+0.0 +0.4 +0.4	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	48.4	54.0	-5.6	Horiz
15	2745.000M	53.6	+0.0 -38.6 +0.2	+0.0 +29.4 +3.4	+0.0 +0.4 +0.4	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	48.4	54.0	-5.6	Horiz
16	4575.000M	47.7	+0.0 -37.8 +0.2	+0.0 +33.0 +4.6	+0.0 +0.7 +0.7	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	48.4	54.0	-5.6	Horiz
17	3660.004M	50.1	+0.0 -38.3 +0.2	+0.0 +31.6 +4.1	+0.0 +0.5 +0.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	48.2	54.0	-5.8	Vert
18	3660.000M	50.0	+0.0 -38.3 +0.2	+0.0 +31.6 +4.1	+0.0 +0.5 +0.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	48.1	54.0	-5.9	Horiz
19	3711.000M	49.7	+0.0 -38.3 +0.2	+0.0 +31.9 +4.1	+0.0 +0.5 +0.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	48.1	54.0	-5.9	Horiz
20	3711.000M	49.4	+0.0 -38.3 +0.2	+0.0 +31.9 +4.1	+0.0 +0.5 +0.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	47.8	54.0	-6.2	Vert
21	4638.750M	46.2	+0.0 -37.7 +0.2	+0.0 +32.8 +4.7	+0.0 +0.6 +0.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	46.8	54.0	-7.2	Horiz
22	4511.000M	46.3	+0.0 -37.8 +0.2	+0.0 +32.9 +4.5	+0.0 +0.7 +0.7	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	46.8	54.0	-7.2	Vert
23	3608.800M	48.5	+0.0 -38.4 +0.1	+0.0 +31.1 +4.1	+0.0 +0.6 +0.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	46.0	54.0	-8.0	Horiz
24	3608.800M	48.2	+0.0 -38.4 +0.1	+0.0 +31.1 +4.1	+0.0 +0.6 +0.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	45.7	54.0	-8.3	Vert
25	4575.004M	45.0	+0.0 -37.8 +0.2	+0.0 +33.0 +4.6	+0.0 +0.7 +0.7	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	45.7	54.0	-8.3	Vert
26	5413.200M	42.9	+0.0 -37.5 +0.2	+0.0 +33.9 +5.3	+0.0 +0.4 +0.4	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	45.2	54.0	-8.8	Vert

27	5413.200M	42.8	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	45.1	54.0	-8.9	Horiz
28	4638.750M	44.5	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	45.1	54.0	-8.9	Vert
29	1830.000M	73.9	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	65.1	107.9	-42.8	Horiz
30	1855.500M	73.6	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	65.1	107.9	-42.8	Horiz
31	1804.400M	73.9	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	65.0	107.9	-42.9	Horiz
32	1804.400M	73.4	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	64.5	107.9	-43.4	Vert
33	1830.004M	71.9	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	63.1	107.9	-44.8	Vert
34	1855.500M	70.2	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	61.7	107.9	-46.2	Vert
35	5566.500M	45.3	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	47.9	107.9	-60.0	Horiz
36	5566.500M	43.9	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	46.5	107.9	-61.4	Vert
37	5490.004M	43.2	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	45.9	107.9	-62.0	Vert
38	5490.000M	42.0	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	44.7	107.9	-63.2	Horiz
39	65.700M	22.5	+5.9 +0.0 +0.0	+6.0 +0.0	+1.5 +0.0	+0.0 +0.0	+0.0	35.9	107.9	-72.0	Vert
40	61.950M	18.2	+5.8 +0.0 +0.0	+6.0 +0.0	+1.4 +0.0	+0.0 +0.0	+0.0	31.4	107.9	-76.5	Vert

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • 714-993-6112
 Customer: **Itron, Inc.**
 Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
 Work Order #: **103182** Date: 11/15/2019
 Test Type: **Maximized Emissions** Time: 13:51:39
 Tested By: Don Nguyen Sequence#: 19
 Software: EMITest 5.03.12

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 3			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 3			

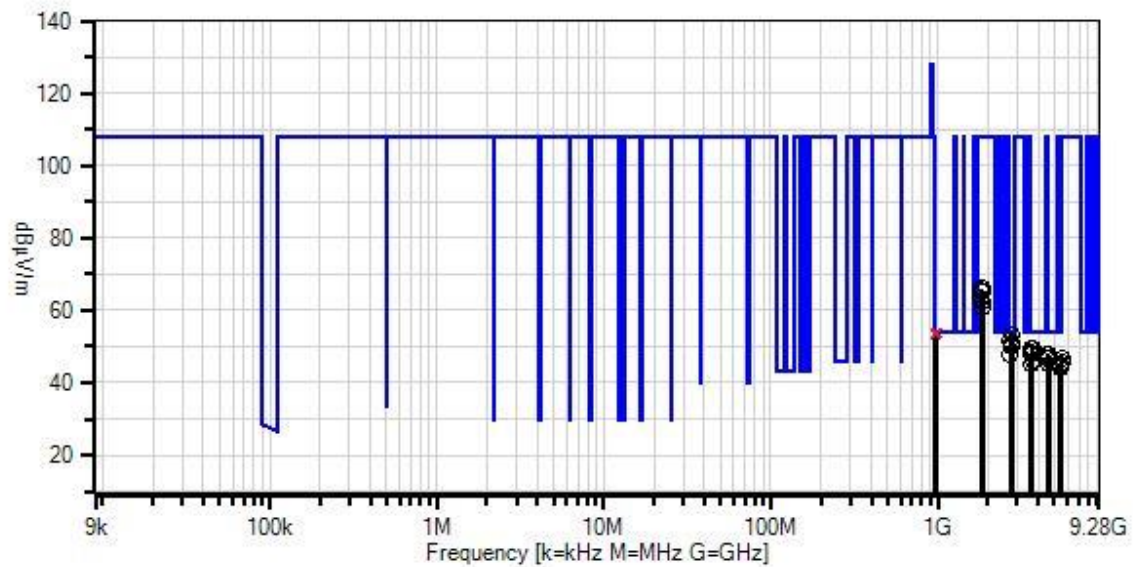
Test Conditions / Notes:

The EUT is placed on Styrofoam platform. The serial port is connected to a support laptop via serial to USB adapter. The laptop is running software Command Line Interface Tool to turn on TX.
 The EUT is powered from fresh battery 6.0Vdc.
 Modulation: 50kbps GFSK Level 3

 Frequency of measurement: 9kHz-9280MHz
 9 kHz -150 kHz;RBW=200 Hz,VBW=600 Hz;
 150 kHz-30 MHz;RBW=9 kHz,VBW=27 kHz;
 30 MHz-1000 MHz;RBW=120 kHz,VBW=360 kHz,
 1000 MHz-9280MHz;RBW=1 MHz,VBW=3 MHz.
 RBW=100kHz, VBW=300kHz (-20dbc limit)

 Site A
 Test Method: ANSI C63.10 (2013)
 Temperature (°C): 23
 Relative Humidity (%): 47

Itron, Inc. WO#: 103182 Sequence#: 19 Date: 11/15/2019
 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Horiz



— Readings
 × QP Readings
 ▼ Ambient
 — 1 - 15.247(d) / 15.209 Radiated Spurious Emissions
 ○ Peak Readings
 * Average Readings
 Software Version: 5.03.12

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01995	Biconilog Antenna	CBL6111C	4/23/2018	4/23/2020
T2	ANP05275	Attenuator	1W	4/5/2018	4/5/2020
T3	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
	AN00309	Preamp	8447D	2/19/2018	2/19/2020
	AN00314	Loop Antenna	6502	5/13/2018	5/13/2020
	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	AN02672	Spectrum Analyzer	E4446A	3/13/2019	3/13/2021
T5	AN00786	Preamp	83017A	5/12/2018	5/12/2020
T6	AN00849	Horn Antenna	3115	3/14/2018	3/14/2020
T7	ANP07139	Cable	ANDL1- PNMNM-48	3/4/2019	3/4/2021
T8	ANP07244	Cable	32022-29094K- 29094K-24TC	7/5/2018	7/5/2020
T9	AN03169	High Pass Filter	HM1155-11SS	5/8/2019	5/8/2021

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	993.000M	17.2	+24.2	+6.1	+6.3	+0.0	+0.0	53.8	54.0	-0.2	Vert
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	993.000M	21.0	+24.2	+6.1	+6.3	+0.0	+0.0	57.6	54.0	+3.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
3	980.200M	17.5	+24.0	+6.1	+6.2	+0.0	+0.0	53.8	54.0	-0.2	Vert
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	980.200M	21.5	+24.0	+6.1	+6.2	+0.0	+0.0	57.8	54.0	+3.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
5	967.000M	17.5	+23.8	+6.1	+6.1	+0.0	+0.0	53.5	54.0	-0.5	Vert
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	967.000M	21.5	+23.8	+6.1	+6.1	+0.0	+0.0	57.5	54.0	+3.5	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
7	2783.400M	58.4	+0.0	+0.0	+0.0	+0.0	+0.0	53.4	54.0	-0.6	Vert
			-38.6	+29.5	+3.5	+0.4					
			+0.2								
8	979.755M	16.9	+24.0	+6.1	+6.2	+0.0	+0.0	53.2	54.0	-0.8	Vert
	QP		+0.0	+0.0	+0.0	+0.0					
			+0.0								
^	979.755M	20.2	+24.0	+6.1	+6.2	+0.0	+0.0	56.5	54.0	+2.5	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

10	2706.600M	57.1	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	51.6	54.0	-2.4	Vert
11	2745.000M	56.3	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	51.1	54.0	-2.9	Vert
12	2783.400M	55.7	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	50.7	54.0	-3.3	Horiz
13	2745.000M	55.3	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	50.1	54.0	-3.9	Horiz
14	3711.200M	51.3	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	49.7	54.0	-4.3	Vert
15	3660.000M	51.4	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	49.5	54.0	-4.5	Vert
16	3660.000M	50.4	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	48.5	54.0	-5.5	Horiz
17	3608.800M	50.5	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	48.0	54.0	-6.0	Vert
18	2706.600M	53.5	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	48.0	54.0	-6.0	Horiz
19	4575.000M	47.2	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	47.9	54.0	-6.1	Vert
20	4511.000M	47.3	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	47.8	54.0	-6.2	Vert
21	4639.000M	46.4	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	47.0	54.0	-7.0	Vert
22	4575.000M	46.0	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	46.7	54.0	-7.3	Horiz
23	4511.000M	46.0	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	46.5	54.0	-7.5	Horiz
24	3711.200M	48.0	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	46.4	54.0	-7.6	Horiz
25	5413.200M	42.9	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	45.2	54.0	-8.8	Horiz
26	4639.000M	44.5	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	45.1	54.0	-8.9	Horiz

27	3608.800M	47.4	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	44.9	54.0	-9.1	Horiz
28	5413.200M	42.2	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	44.5	54.0	-9.5	Vert
29	1830.000M	74.7	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	65.9	107.9	-42.0	Vert
30	1804.400M	74.6	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	65.7	107.9	-42.2	Vert
31	1855.600M	73.5	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	65.0	107.9	-42.9	Vert
32	1804.400M	72.6	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	63.7	107.9	-44.2	Horiz
33	1830.000M	71.1	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	62.3	107.9	-45.6	Horiz
34	1855.600M	69.1	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	60.6	107.9	-47.3	Horiz
35	5566.800M	43.9	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	46.5	107.9	-61.4	Horiz
36	5566.800M	43.2	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	45.8	107.9	-62.1	Vert
37	5490.000M	42.0	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	44.7	107.9	-63.2	Horiz
38	5490.000M	41.5	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	44.2	107.9	-63.7	Vert

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • 714-993-6112
 Customer: **Itron, Inc.**
 Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
 Work Order #: **103182** Date: 11/15/2019
 Test Type: **Maximized Emissions** Time: 15:05:32
 Tested By: Don Nguyen Sequence#: 11
 Software: EMITest 5.03.12

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 4			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 4			

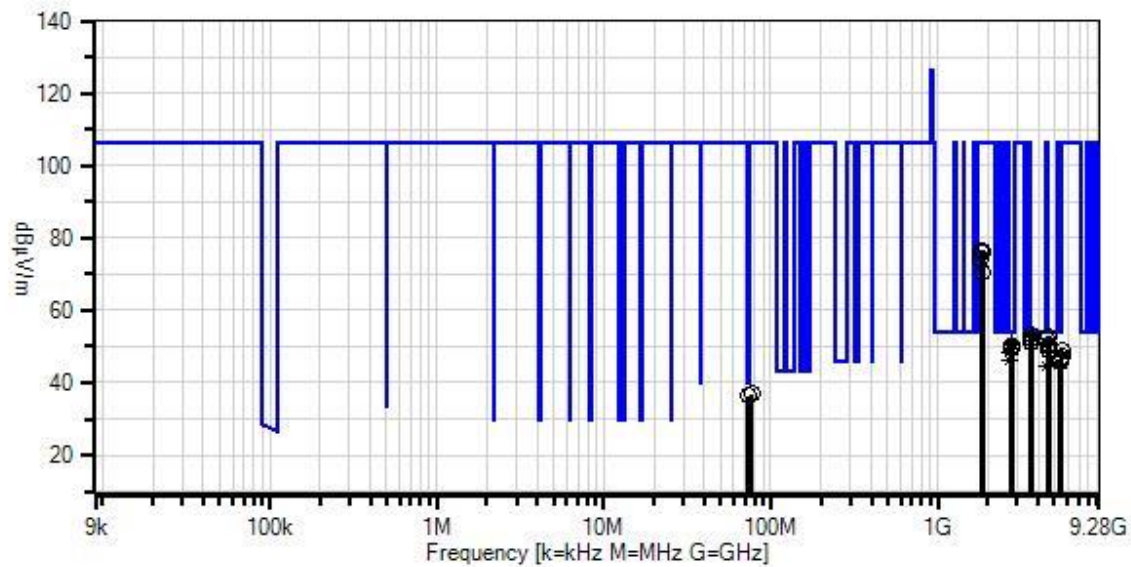
Test Conditions / Notes:

The EUT is placed on Styrofoam platform. The serial port is connected to a support laptop via serial to USB adapter. The laptop is running software Command Line Interface Tool to turn on TX.
 The EUT is powered from fresh battery 6.0Vdc.
 Modulation: 25kbps GFSK Level 3

Frequency of measurement: 9kHz-9280MHz
 9 kHz -150 kHz;RBW=200 Hz,VBW=600 Hz;
 150 kHz-30 MHz;RBW=9 kHz,VBW=27 kHz;
 30 MHz-1000 MHz;RBW=120 kHz,VBW=360 kHz,
 1000 MHz-9280MHz;RBW=1 MHz,VBW=3 MHz.
 RBW=100kHz, VBW=300kHz (-20dbc limit)

Site A
 Test Method: ANSI C63.10 (2013)
 Temperature (°C): 23
 Relative Humidity (%): 47

Itron, Inc. WO#: 103182 Sequence#: 11 Date: 11/15/2019
 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Horiz



— Readings
 × QP Readings
 ▼ Ambient
 — 1 - 15.247(d) / 15.209 Radiated Spurious Emissions

○ Peak Readings
 * Average Readings
 Software Version: 5.03.12

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01995	Biconilog Antenna	CBL6111C	4/23/2018	4/23/2020
T2	ANP05275	Attenuator	1W	4/5/2018	4/5/2020
T3	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
	AN00309	Preamp	8447D	2/19/2018	2/19/2020
	AN00314	Loop Antenna	6502	5/13/2018	5/13/2020
	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	AN02672	Spectrum Analyzer	E4446A	3/13/2019	3/13/2021
T5	AN00786	Preamp	83017A	5/12/2018	5/12/2020
T6	AN00849	Horn Antenna	3115	3/14/2018	3/14/2020
T7	ANP07139	Cable	ANDL1- PNMNM-48	3/4/2019	3/4/2021
T8	ANP07244	Cable	32022-29094K- 29094K-24TC	7/5/2018	7/5/2020
T9	AN03169	High Pass Filter	HM1155-11SS	5/8/2019	5/8/2021

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	3608.800M	55.7	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	53.2	54.0	-0.8	Vert
2	3711.000M Ave	54.6	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	53.0	54.0	-1.0	Horiz
^	3711.000M	62.6	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	61.0	54.0	+7.0	Horiz
4	3711.000M Ave	54.3	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	52.7	54.0	-1.3	Vert
^	3711.000M	62.1	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	60.5	54.0	+6.5	Vert
6	4638.750M	52.0	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	52.6	54.0	-1.4	Horiz
7	4511.000M	51.6	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	52.1	54.0	-1.9	Vert
8	3660.000M	53.8	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	51.9	54.0	-2.1	Horiz

9	2783.250M Ave	56.2	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	51.2	54.0	-2.8	Vert
^	2783.250M	63.8	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	58.8	54.0	+4.8	Vert
11	3660.000M	53.1	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	51.2	54.0	-2.8	Vert
12	3608.800M	53.5	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	51.0	54.0	-3.0	Horiz
13	4575.000M	50.0	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	50.7	54.0	-3.3	Horiz
14	2745.000M	55.2	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	50.0	54.0	-4.0	Vert
15	4638.750M	49.3	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	49.9	54.0	-4.1	Vert
16	2745.000M	54.7	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	49.5	54.0	-4.5	Horiz
17	2783.250M Ave	54.3	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	49.3	54.0	-4.7	Horiz
^	2783.250M	62.1	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	57.1	54.0	+3.1	Horiz
19	4575.000M	48.2	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	48.9	54.0	-5.1	Vert
20	2706.600M Ave	54.1	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	48.6	54.0	-5.4	Vert
^	2706.600M	62.1	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	56.6	54.0	+2.6	Vert
22	5413.200M	44.2	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	46.5	54.0	-7.5	Horiz
23	2706.600M Ave	51.9	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	46.4	54.0	-7.6	Horiz
^	2706.600M	59.5	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	54.0	54.0	+0.0	Horiz
25	5413.200M	43.3	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	45.6	54.0	-8.4	Vert

26	4511.000M Ave	44.1	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	44.6	54.0	-9.4	Horiz
^	4511.000M	51.8	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	52.3	54.0	-1.7	Horiz
28	1855.500M	85.1	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	76.6	106.4	-29.8	Vert
29	1804.400M	85.3	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	76.4	106.4	-30.0	Vert
30	1855.500M	84.4	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	75.9	106.4	-30.5	Horiz
31	1804.400M	82.9	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	74.0	106.4	-32.4	Horiz
32	1830.000M	79.5	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	70.7	106.4	-35.7	Vert
33	1830.000M	79.1	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	70.3	106.4	-36.1	Horiz
34	5566.500M	46.4	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	49.0	106.4	-57.4	Horiz
35	5566.500M	44.9	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	47.5	106.4	-58.9	Vert
36	5490.000M	43.7	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	46.4	106.4	-60.0	Vert
37	5490.000M	43.0	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	45.7	106.4	-60.7	Horiz
38	76.750M	22.0	+7.3 +0.0 +0.0	+6.0 +0.0	+1.6 +0.0	+0.0 +0.0	+0.0	36.9	106.4	-69.5	Vert
39	72.500M	22.4	+6.5 +0.0 +0.0	+6.0 +0.0	+1.5 +0.0	+0.0 +0.0	+0.0	36.4	106.4	-70.0	Vert

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • 714-993-6112
 Customer: **Itron, Inc.**
 Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
 Work Order #: **103182** Date: 11/15/2019
 Test Type: **Maximized Emissions** Time: 15:59:18
 Tested By: Don Nguyen Sequence#: 12
 Software: EMITest 5.03.12

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 4			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 4			

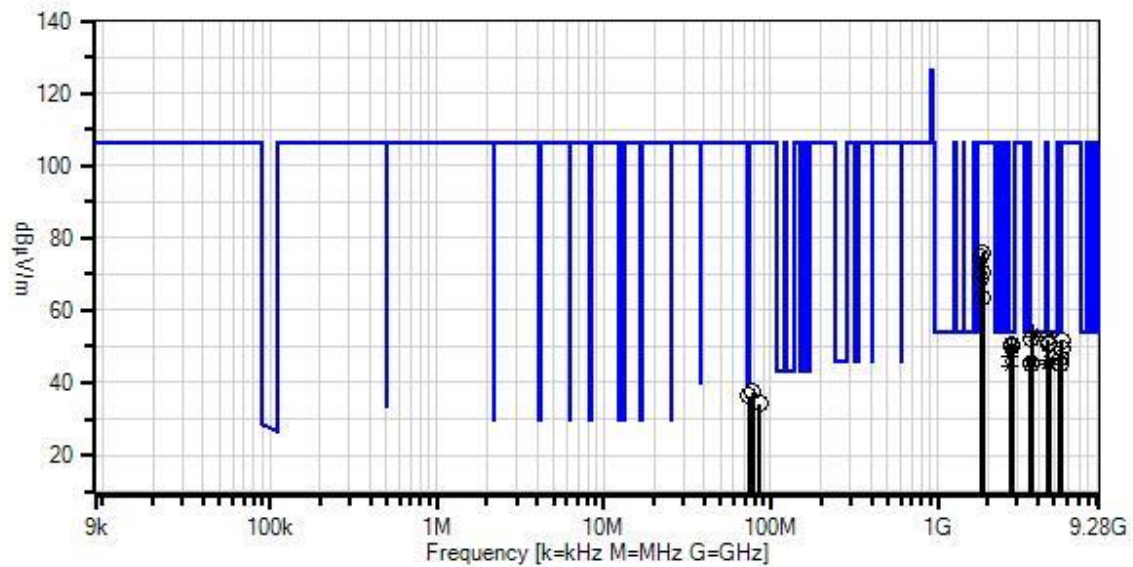
Test Conditions / Notes:

The EUT is placed on Styrofoam platform. The serial port is connected to a support laptop via serial to USB adapter. The laptop is running software Command Line Interface Tool to turn on TX.
 The EUT is powered from fresh battery 6.0Vdc.
 Modulation: 50kbps GFSK Level 3

 Frequency of measurement: 9kHz-9280MHz
 9 kHz -150 kHz;RBW=200 Hz,VBW=600 Hz;
 150 kHz-30 MHz;RBW=9 kHz,VBW=27 kHz;
 30 MHz-1000 MHz;RBW=120 kHz,VBW=360 kHz,
 1000 MHz-9280MHz;RBW=1 MHz,VBW=3 MHz.
 RBW=100kHz, VBW=300kHz (-20dbc limit)

 Site A
 Test Method: ANSI C63.10 (2013)
 Temperature (°C): 23
 Relative Humidity (%): 47

Itron, Inc. WO#: 103182 Sequence#: 12 Date: 11/15/2019
 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Horiz



— Readings
 × QP Readings
 ▼ Ambient
 — 1 - 15.247(d) / 15.209 Radiated Spurious Emissions

○ Peak Readings
 * Average Readings
 Software Version: 5.03.12

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01995	Biconilog Antenna	CBL6111C	4/23/2018	4/23/2020
T2	ANP05275	Attenuator	1W	4/5/2018	4/5/2020
T3	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
	AN00309	Preamp	8447D	2/19/2018	2/19/2020
	AN00314	Loop Antenna	6502	5/13/2018	5/13/2020
	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	AN02672	Spectrum Analyzer	E4446A	3/13/2019	3/13/2021
T5	AN00786	Preamp	83017A	5/12/2018	5/12/2020
T6	AN00849	Horn Antenna	3115	3/14/2018	3/14/2020
T7	ANP07139	Cable	ANDL1- PNMNM-48	3/4/2019	3/4/2021
T8	ANP07244	Cable	32022-29094K- 29094K-24TC	7/5/2018	7/5/2020
T9	AN03169	High Pass Filter	HM1155-11SS	5/8/2019	5/8/2021

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	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	3711.200M Ave	55.5	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	53.9	54.0	-0.1	Horiz
^	3711.200M	65.0	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	63.4	54.0	+9.4	Horiz
3	3711.200M Ave	54.0	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	52.4	54.0	-1.6	Vert
^	3711.200M	63.4	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	61.8	54.0	+7.8	Vert
5	3660.000M	54.0	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	52.1	54.0	-1.9	Horiz
6	4511.000M	51.4	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	51.9	54.0	-2.1	Vert
7	4575.000M	50.2	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	50.9	54.0	-3.1	Vert
8	4575.000M	50.0	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	50.7	54.0	-3.3	Horiz
9	2745.000M	55.9	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	50.7	54.0	-3.3	Horiz

10	74.200M	22.0	+6.8 +0.0 +0.0	+6.0 +0.0	+1.5 +0.0	+0.0 +0.0	+0.0	36.3	40.0	-3.7	Vert
11	2745.000M	55.2	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	50.0	54.0	-4.0	Vert
12	2783.400M Ave	54.8	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	49.8	54.0	-4.2	Horiz
^	2783.400M	62.4	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	57.4	54.0	+3.4	Horiz
14	2783.400M Ave	54.7	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	49.7	54.0	-4.3	Vert
^	2783.400M	62.4	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	57.4	54.0	+3.4	Vert
16	2706.600M Ave	52.7	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	47.2	54.0	-6.8	Vert
^	2706.600M	60.0	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	54.5	54.0	+0.5	Vert
18	5413.200M	44.5	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	46.8	54.0	-7.2	Vert
19	5413.200M	44.2	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	46.5	54.0	-7.5	Horiz
20	3660.000M Ave	48.3	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	46.4	54.0	-7.6	Vert
^	3660.000M	54.7	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	52.8	54.0	-1.2	Vert
22	3608.800M Ave	48.6	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	46.1	54.0	-7.9	Vert
^	3608.800M	56.1	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	53.6	54.0	-0.4	Vert
24	4639.000M Ave	45.4	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	46.0	54.0	-8.0	Horiz
^	4639.000M	53.1	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	53.7	54.0	-0.3	Horiz

26	4639.000M Ave	44.7	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	45.3	54.0	-8.7	Vert
^	4639.000M	52.9	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	53.5	54.0	-0.5	Vert
28	4511.000M Ave	44.7	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	45.2	54.0	-8.8	Horiz
^	4511.000M	53.0	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	53.5	54.0	-0.5	Horiz
30	3660.000M	46.8	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	44.9	54.0	-9.1	Horiz
31	2706.600M Ave	50.2	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	44.7	54.0	-9.3	Horiz
^	2706.600M	59.6	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	54.1	54.0	+0.1	Horiz
33	3608.800M Ave	47.2	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	44.7	54.0	-9.3	Horiz
^	3608.800M	55.4	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	52.9	54.0	-1.1	Horiz
35	1855.600M	84.5	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	76.0	106.3	-30.3	Horiz
36	1804.400M	83.8	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	74.9	106.3	-31.4	Horiz
37	1830.000M	79.3	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	70.5	106.3	-35.8	Vert
38	1830.000M	79.3	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	70.5	106.3	-35.8	Horiz
39	1804.400M	77.7	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	68.8	106.3	-37.5	Vert
40	1855.630M	71.7	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	63.2	106.3	-43.1	Vert
41	5566.800M	48.8	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	51.4	106.3	-54.9	Vert
42	5566.800M	46.9	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	49.5	106.3	-56.8	Horiz

43	5490.000M	42.6	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	45.3	106.3	-61.0	Horiz
44	5490.000M	42.2	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	44.9	106.3	-61.4	Vert
45	77.700M	22.4	+7.4 +0.0 +0.0	+6.0 +0.0	+1.6 +0.0	+0.0 +0.0	+0.0	37.4	106.3	-68.9	Vert
46	85.450M	18.2	+8.3 +0.0 +0.0	+6.0 +0.0	+1.7 +0.0	+0.0 +0.0	+0.0	34.2	106.3	-72.1	Vert

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • 714-993-6112
 Customer: **Itron, Inc.**
 Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
 Work Order #: **103182** Date: 11/13/2019
 Test Type: **Maximized Emissions** Time: 16:04:03
 Tested By: Don Nguyen Sequence#: 10
 Software: EMITest 5.03.12

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 5			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 5			

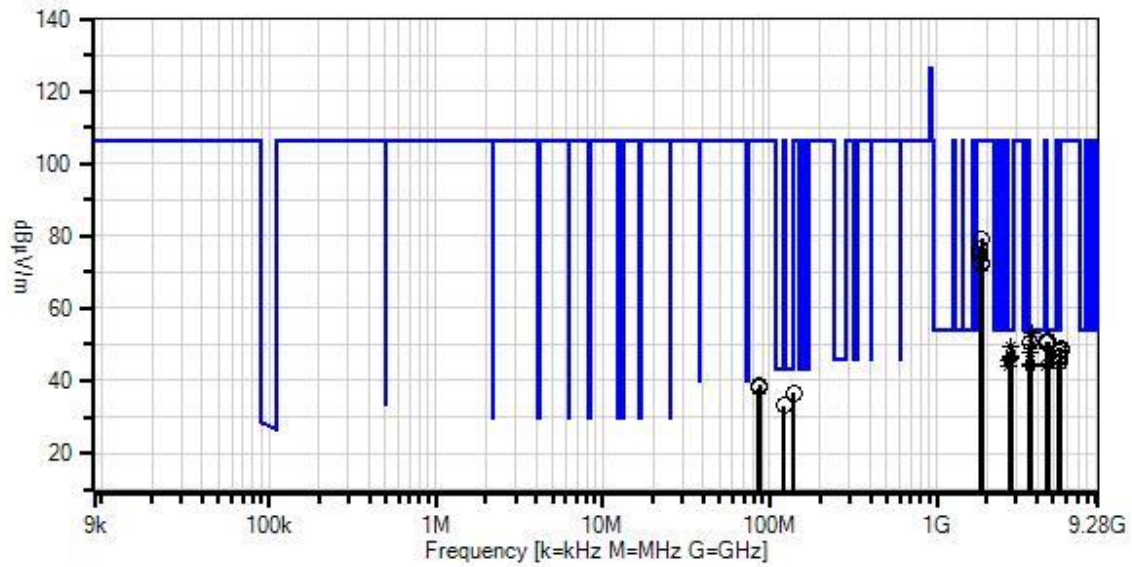
Test Conditions / Notes:

The EUT is placed on Styrofoam platform. The serial port is connected to a support laptop via serial to USB adapter. The laptop is running software Command Line Interface Tool to turn on TX.
 The EUT is powered from fresh battery 6.0Vdc.
 Modulation: 25kbps GFSK Level 3

Frequency of measurement: 9kHz-9280MHz
 9 kHz -150 kHz;RBW=200 Hz,VBW=600 Hz;
 150 kHz-30 MHz;RBW=9 kHz,VBW=27 kHz;
 30 MHz-1000 MHz;RBW=120 kHz,VBW=360 kHz,
 1000 MHz-9280MHz;RBW=1 MHz,VBW=3 MHz.
 RBW=100kHz, VBW=300kHz (-20dbc limit)

Site A
 Test Method: ANSI C63.10 (2013)
 Temperature (°C): 23
 Relative Humidity (%): 47

Itron, Inc. WO#: 103182 Sequence#: 10 Date: 11/13/2019
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Horiz



— Readings
× QP Readings
▼ Ambient
— 1 - 15.247(d) / 15.209 Radiated Spurious Emissions

○ Peak Readings
* Average Readings
Software Version: 5.03.12

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01995	Biconilog Antenna	CBL6111C	4/23/2018	4/23/2020
T2	ANP05275	Attenuator	1W	4/5/2018	4/5/2020
T3	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
	AN00309	Preamp	8447D	2/19/2018	2/19/2020
	AN00314	Loop Antenna	6502	5/13/2018	5/13/2020
	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	AN02672	Spectrum Analyzer	E4446A	3/13/2019	3/13/2021
T5	AN00786	Preamp	83017A	5/12/2018	5/12/2020
T6	AN00849	Horn Antenna	3115	3/14/2018	3/14/2020
T7	ANP07139	Cable	ANDL1- PNMNM-48	3/4/2019	3/4/2021
T8	ANP07244	Cable	32022-29094K- 29094K-24TC	7/5/2018	7/5/2020
T9	AN03169	High Pass Filter	HM1155-11SS	5/8/2019	5/8/2021

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	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	3711.000M Ave	55.0	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	53.4	54.0	-0.6	Vert
^	3711.000M	64.1	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	62.5	54.0	+8.5	Vert
3	4638.750M	50.4	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	51.0	54.0	-3.0	Vert
4	4511.000M	50.1	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	50.6	54.0	-3.4	Vert
5	3608.800M	52.9	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	50.4	54.0	-3.6	Horiz
6	4575.000M	49.6	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	50.3	54.0	-3.7	Vert
7	3711.000M Ave	51.7	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	50.1	54.0	-3.9	Horiz
^	3711.000M	59.9	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	58.3	54.0	+4.3	Horiz

9	2783.250M Ave	54.7	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	49.7	54.0	-4.3	Horiz
^	2783.250M	63.3	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	58.3	54.0	+4.3	Horiz
11	2783.250M Ave	54.3	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	49.3	54.0	-4.7	Vert
^	2783.250M	62.0	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	57.0	54.0	+3.0	Vert
13	3660.000M Ave	49.5	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	47.6	54.0	-6.4	Vert
^	3660.000M	58.1	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	56.2	54.0	+2.2	Vert
15	2745.000M Ave	52.1	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	46.9	54.0	-7.1	Horiz
^	2745.000M	60.6	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	55.4	54.0	+1.4	Horiz
17	2745.000M Ave	51.3	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	46.1	54.0	-7.9	Vert
^	2745.000M	60.6	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	55.4	54.0	+1.4	Vert
19	5413.200M	43.7	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	46.0	54.0	-8.0	Horiz
20	2706.600M Ave	51.4	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	45.9	54.0	-8.1	Horiz
^	2706.600M	58.5	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	53.0	54.0	-1.0	Horiz
22	5413.200M	42.7	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	45.0	54.0	-9.0	Vert
23	4638.750M Ave	44.2	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	44.8	54.0	-9.2	Horiz
^	4638.750M	52.2	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	52.8	54.0	-1.2	Horiz

25	4575.000M Ave	44.1	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	44.8	54.0	-9.2	Horiz
^	4575.000M	52.4	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	53.1	54.0	-0.9	Horiz
27	3608.800M Ave	46.9	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	44.4	54.0	-9.6	Vert
^	3608.800M	56.8	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	54.3	54.0	+0.3	Vert
29	3660.000M Ave	46.2	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	44.3	54.0	-9.7	Horiz
^	3660.000M	54.9	+0.0 -38.3 +0.2	+0.0 +31.6	+0.0 +4.1	+0.0 +0.5	+0.0	53.0	54.0	-1.0	Horiz
31	2706.600M Ave	49.6	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	44.1	54.0	-9.9	Vert
^	2706.600M	59.3	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	53.8	54.0	-0.2	Vert
33	4511.000M Ave	43.6	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	44.1	54.0	-9.9	Horiz
^	4511.000M	51.6	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	52.1	54.0	-1.9	Horiz
35	1855.500M	87.8	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	79.3	106.3	-27.0	Horiz
36	1855.500M	87.4	+0.0 -38.9 +0.2	+0.0 +27.3	+0.0 +2.7	+0.0 +0.2	+0.0	78.9	106.3	-27.4	Vert
37	1804.400M	85.3	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	76.4	106.3	-29.9	Vert
38	1804.400M	83.9	+0.0 -38.9 +0.2	+0.0 +27.0	+0.0 +2.6	+0.0 +0.2	+0.0	75.0	106.3	-31.3	Horiz
39	1830.000M	81.6	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	72.8	106.3	-33.5	Horiz
40	1830.000M	80.7	+0.0 -38.9 +0.2	+0.0 +27.1	+0.0 +2.6	+0.0 +0.2	+0.0	71.9	106.3	-34.4	Vert
41	5566.500M	46.3	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	48.9	106.3	-57.4	Vert

42	5566.500M	45.8	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	48.4	106.3	-57.9	Horiz
43	5490.000M	45.0	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	47.7	106.3	-58.6	Horiz
44	5490.000M	44.1	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	46.8	106.3	-59.5	Vert
45	87.020M	22.8	+8.4 +0.0 +0.0	+6.0 +0.0	+1.7 +0.0	+0.0 +0.0	+0.0	38.9	106.3	-67.4	Vert
46	86.220M	22.0	+8.4 +0.0 +0.0	+6.0 +0.0	+1.7 +0.0	+0.0 +0.0	+0.0	38.1	106.3	-68.2	Vert
47	139.720M	16.8	+11.7 +0.0 +0.0	+6.0 +0.0	+2.1 +0.0	+0.0 +0.0	+0.0	36.6	106.3	-69.7	Vert
48	122.320M	13.5	+11.8 +0.0 +0.0	+6.0 +0.0	+1.9 +0.0	+0.0 +0.0	+0.0	33.2	106.3	-73.1	Vert

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • 714-993-6112
 Customer: **Itron, Inc.**
 Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
 Work Order #: **103182** Date: 11/14/2019
 Test Type: **Maximized Emissions** Time: 10:45:04
 Tested By: Don Nguyen Sequence#: 11
 Software: EMITest 5.03.12

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 5			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 5			

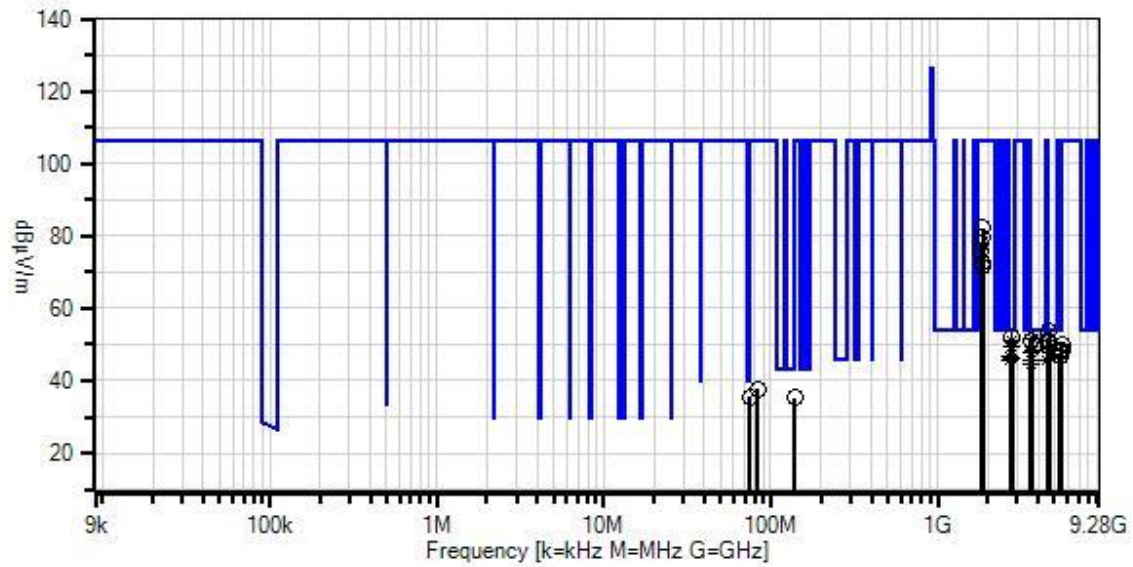
Test Conditions / Notes:

The EUT is placed on Styrofoam platform. The serial port is connected to a support laptop via serial to USB adapter. The laptop is running software Command Line Interface Tool to turn on TX.
 The EUT is powered from fresh battery 6.0Vdc.
 Modulation: 50kbps GFSK Level 3

Frequency of measurement: 9kHz-9280MHz
 9 kHz -150 kHz;RBW=200 Hz,VBW=600 Hz;
 150 kHz-30 MHz;RBW=9 kHz,VBW=27 kHz;
 30 MHz-1000 MHz;RBW=120 kHz,VBW=360 kHz,
 1000 MHz-9280MHz;RBW=1 MHz,VBW=3 MHz.
 RBW=100kHz, VBW=300kHz (-20dbc limit)

Site A
 Test Method: ANSI C63.10 (2013)
 Temperature (°C): 23
 Relative Humidity (%): 47

Itron, Inc. WO#: 103182 Sequence#: 11 Date: 11/14/2019
 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert



— Readings
 × QP Readings
 ▼ Ambient
 — 1 - 15.247(d) / 15.209 Radiated Spurious Emissions

○ Peak Readings
 * Average Readings
 Software Version: 5.03.12

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01995	Biconilog Antenna	CBL6111C	4/23/2018	4/23/2020
T2	ANP05275	Attenuator	1W	4/5/2018	4/5/2020
T3	ANP05198	Cable-Amplitude +15C to +45C (dB)	8268	12/4/2018	12/4/2020
	AN00309	Preamp	8447D	2/19/2018	2/19/2020
	AN00314	Loop Antenna	6502	5/13/2018	5/13/2020
	ANP05050	Cable	RG223/U	12/24/2018	12/24/2020
T4	AN02672	Spectrum Analyzer	E4446A	3/13/2019	3/13/2021
T5	AN00786	Preamp	83017A	5/12/2018	5/12/2020
T6	AN00849	Horn Antenna	3115	3/14/2018	3/14/2020
T7	ANP07139	Cable	ANDL1- PNMNM-48	3/4/2019	3/4/2021
T8	ANP07244	Cable	32022-29094K- 29094K-24TC	7/5/2018	7/5/2020
T9	AN03169	High Pass Filter	HM1155-11SS	5/8/2019	5/8/2021

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	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	4639.000M	52.9	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	53.5	54.0	-0.5	Horiz
2	2745.000M	57.2	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	52.0	54.0	-2.0	Vert
3	3711.200M Ave	53.4	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	51.8	54.0	-2.2	Vert
^	3711.200M	60.7	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	59.1	54.0	+5.1	Vert
5	4639.000M	50.6	+0.0 -37.7 +0.2	+0.0 +32.8	+0.0 +4.7	+0.0 +0.6	+0.0	51.2	54.0	-2.8	Vert
6	3608.800M	53.7	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	51.2	54.0	-2.8	Horiz
7	4511.000M	50.7	+0.0 -37.8 +0.2	+0.0 +32.9	+0.0 +4.5	+0.0 +0.7	+0.0	51.2	54.0	-2.8	Vert
8	2783.400M Ave	56.1	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	51.1	54.0	-2.9	Vert
^	2783.400M	63.9	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	58.9	54.0	+4.9	Vert

10	4575.000M	49.6	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	50.3	54.0	-3.7	Vert
11	4575.000M	48.9	+0.0 -37.8 +0.2	+0.0 +33.0	+0.0 +4.6	+0.0 +0.7	+0.0	49.6	54.0	-4.4	Horiz
12	2783.400M Ave	54.6	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	49.6	54.0	-4.4	Horiz
^	2783.400M	62.4	+0.0 -38.6 +0.2	+0.0 +29.5	+0.0 +3.5	+0.0 +0.4	+0.0	57.4	54.0	+3.4	Horiz
14	3711.200M Ave	50.1	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	48.5	54.0	-5.5	Horiz
^	3711.200M	58.5	+0.0 -38.3 +0.2	+0.0 +31.9	+0.0 +4.1	+0.0 +0.5	+0.0	56.9	54.0	+2.9	Horiz
16	3608.800M Ave	50.3	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	47.8	54.0	-6.2	Vert
^	3608.800M	57.4	+0.0 -38.4 +0.1	+0.0 +31.1	+0.0 +4.1	+0.0 +0.6	+0.0	54.9	54.0	+0.9	Vert
18	5413.200M	45.5	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	47.8	54.0	-6.2	Horiz
19	2706.600M Ave	52.1	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	46.6	54.0	-7.4	Horiz
^	2706.600M	60.6	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	55.1	54.0	+1.1	Horiz
21	5413.200M	44.2	+0.0 -37.5 +0.2	+0.0 +33.9	+0.0 +5.3	+0.0 +0.4	+0.0	46.5	54.0	-7.5	Vert
22	2745.000M Ave	51.2	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	46.0	54.0	-8.0	Horiz
^	2745.000M	59.0	+0.0 -38.6 +0.2	+0.0 +29.4	+0.0 +3.4	+0.0 +0.4	+0.0	53.8	54.0	-0.2	Horiz
24	2706.600M Ave	51.3	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	45.8	54.0	-8.2	Vert
^	2706.600M	58.7	+0.0 -38.6 +0.2	+0.0 +29.1	+0.0 +3.4	+0.0 +0.4	+0.0	53.2	54.0	-0.8	Vert

26	4511.000M Ave	45.1	+0.0 -37.8 +0.2	+0.0 +32.9 +4.5	+0.0 +0.7	+0.0	+0.0	45.6	54.0	-8.4	Horiz
^	4511.000M	53.7	+0.0 -37.8 +0.2	+0.0 +32.9 +4.5	+0.0 +0.7	+0.0	+0.0	54.2	54.0	+0.2	Horiz
28	3660.000M Ave	47.3	+0.0 -38.3 +0.2	+0.0 +31.6 +4.1	+0.0 +0.5	+0.0	+0.0	45.4	54.0	-8.6	Vert
^	3660.000M	54.9	+0.0 -38.3 +0.2	+0.0 +31.6 +4.1	+0.0 +0.5	+0.0	+0.0	53.0	54.0	-1.0	Vert
30	3660.000M Ave	46.3	+0.0 -38.3 +0.2	+0.0 +31.6 +4.1	+0.0 +0.5	+0.0	+0.0	44.4	54.0	-9.6	Horiz
^	3660.000M	54.3	+0.0 -38.3 +0.2	+0.0 +31.6 +4.1	+0.0 +0.5	+0.0	+0.0	52.4	54.0	-1.6	Horiz
32	1855.600M	90.8	+0.0 -38.9 +0.2	+0.0 +27.3 +2.7	+0.0 +0.2	+0.0	+0.0	82.3	106.3	-24.0	Horiz
33	1855.600M	88.2	+0.0 -38.9 +0.2	+0.0 +27.3 +2.7	+0.0 +0.2	+0.0	+0.0	79.7	106.3	-26.6	Vert
34	1804.400M	86.7	+0.0 -38.9 +0.2	+0.0 +27.0 +2.6	+0.0 +0.2	+0.0	+0.0	77.8	106.3	-28.5	Horiz
35	1804.400M	84.9	+0.0 -38.9 +0.2	+0.0 +27.0 +2.6	+0.0 +0.2	+0.0	+0.0	76.0	106.3	-30.3	Vert
36	1830.000M	81.6	+0.0 -38.9 +0.2	+0.0 +27.1 +2.6	+0.0 +0.2	+0.0	+0.0	72.8	106.3	-33.5	Horiz
37	1830.000M	80.6	+0.0 -38.9 +0.2	+0.0 +27.1 +2.6	+0.0 +0.2	+0.0	+0.0	71.8	106.3	-34.5	Vert
38	5566.800M	47.5	+0.0 -37.4 +0.2	+0.0 +33.9 +5.5	+0.0 +0.4	+0.0	+0.0	50.1	106.3	-56.2	Horiz
39	5490.000M	45.7	+0.0 -37.5 +0.2	+0.0 +34.1 +5.5	+0.0 +0.4	+0.0	+0.0	48.4	106.3	-57.9	Horiz

40	5490.000M	45.6	+0.0 -37.5 +0.2	+0.0 +34.1	+0.0 +5.5	+0.0 +0.4	+0.0	48.3	106.3	-58.0	Vert
41	5566.800M	45.5	+0.0 -37.4 +0.2	+0.0 +33.9	+0.0 +5.5	+0.0 +0.4	+0.0	48.1	106.3	-58.2	Vert
42	83.600M	22.1	+8.1 +0.0 +0.0	+6.0 +0.0	+1.6 +0.0	+0.0 +0.0	+0.0	37.8	106.3	-68.5	Vert
43	74.700M	21.1	+6.9 +0.0 +0.0	+6.0 +0.0	+1.5 +0.0	+0.0 +0.0	+0.0	35.5	106.3	-70.8	Vert
44	139.300M	15.4	+11.7 +0.0 +0.0	+6.0 +0.0	+2.1 +0.0	+0.0 +0.0	+0.0	35.2	106.3	-71.1	Vert

Band Edge

Band Edge Summary-Configuration 2

Operating Mode: Single Channel (Low and High)

Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
614	25kbps GFSK Level 3	Integral Omni Antenna	42.7	<46	Pass
902	25kbps GFSK Level 3	Integral Omni Antenna	86.5	<107.6	Pass
928	25kbps GFSK Level 3	Integral Omni Antenna	80.5	<107.6	Pass
960	25kbps GFSK Level 3	Integral Omni Antenna	48.8	<54	Pass
614	50kbps GFSK Level 3	Integral Omni Antenna	40.2	<46	Pass
902	50kbps GFSK Level 3	Integral Omni Antenna	93.1	<107.9	Pass
928	50kbps GFSK Level 3	Integral Omni Antenna	88.9	<107.9	Pass
960	50kbps GFSK Level 3	Integral Omni Antenna	47.9	<54	Pass

Band Edge Summary-Configuration 2

Operating Mode: Hopping

Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
614	25kbps GFSK Level 3	Integral Omni Antenna	42.4	<46	Pass
902	25kbps GFSK Level 3	Integral Omni Antenna	86.0	<107.6	Pass
928	25kbps GFSK Level 3	Integral Omni Antenna	84.2	<107.6	Pass
960	25kbps GFSK Level 3	Integral Omni Antenna	49.2	<54	Pass
614	50kbps GFSK Level 3	Integral Omni Antenna	39.6	<46	Pass
902	50kbps GFSK Level 3	Integral Omni Antenna	91.9	<107.9	Pass
928	50kbps GFSK Level 3	Integral Omni Antenna	91.2	<107.9	Pass
960	50kbps GFSK Level 3	Integral Omni Antenna	47.8	<54	Pass

Band Edge Summary-Configuration 3

Operating Mode: Single Channel (Low and High)

Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
614	25kbps GFSK Level 3	Integral Omni Antenna	41.1	<46	Pass
902	25kbps GFSK Level 3	Integral Omni Antenna	82.8	<107.9	Pass
928	25kbps GFSK Level 3	Integral Omni Antenna	78.0	<107.9	Pass
960	25kbps GFSK Level 3	Integral Omni Antenna	46.6	<54	Pass
614	50kbps GFSK Level 3	Integral Omni Antenna	41.3	<46	Pass
902	50kbps GFSK Level 3	Integral Omni Antenna	87.3	<107.9	Pass
928	50kbps GFSK Level 3	Integral Omni Antenna	89.5	<107.9	Pass
960	50kbps GFSK Level 3	Integral Omni Antenna	45.2	<54	Pass

Band Edge Summary-Configuration 3

Operating Mode: Hopping

Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
614	25kbps GFSK Level 3	Integral Omni Antenna	41.6	<46	Pass
902	25kbps GFSK Level 3	Integral Omni Antenna	80.0	<107.9	Pass
928	25kbps GFSK Level 3	Integral Omni Antenna	77.6	<107.9	Pass
960	25kbps GFSK Level 3	Integral Omni Antenna	46.1	<54	Pass
614	50kbps GFSK Level 3	Integral Omni Antenna	41.2	<46	Pass
902	50kbps GFSK Level 3	Integral Omni Antenna	87.6	<107.9	Pass
928	50kbps GFSK Level 3	Integral Omni Antenna	89.0	<107.9	Pass
960	50kbps GFSK Level 3	Integral Omni Antenna	47.3	<54	Pass

Band Edge Summary-Configuration 4

Operating Mode: Single Channel (Low and High)

Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
614	25kbps GFSK Level 3	External Omni Antenna	44.2	<46	Pass
902	25kbps GFSK Level 3	External Omni Antenna	75.3	<106.4	Pass
928	25kbps GFSK Level 3	External Omni Antenna	76.1	<106.4	Pass
960	25kbps GFSK Level 3	External Omni Antenna	49.1	<54	Pass
614	50kbps GFSK Level 3	External Omni Antenna	41.1	<46	Pass
902	50kbps GFSK Level 3	External Omni Antenna	81.2	<106.3	Pass
928	50kbps GFSK Level 3	External Omni Antenna	85.8	<106.3	Pass
960	50kbps GFSK Level 3	External Omni Antenna	44.9	<54	Pass

Band Edge Summary-Configuration 4

Operating Mode: Hopping

Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
614	25kbps GFSK Level 3	External Omni Antenna	44.0	<46	Pass
902	25kbps GFSK Level 3	External Omni Antenna	75.1	<106.4	Pass
928	25kbps GFSK Level 3	External Omni Antenna	76.5	<106.4	Pass
960	25kbps GFSK Level 3	External Omni Antenna	46.9	<54	Pass
614	50kbps GFSK Level 3	External Omni Antenna	41.7	<46	Pass
902	50kbps GFSK Level 3	External Omni Antenna	81.8	<106.3	Pass
928	50kbps GFSK Level 3	External Omni Antenna	83.2	<106.3	Pass
960	50kbps GFSK Level 3	External Omni Antenna	47.7	<54	Pass

Band Edge Summary-Configuration 5

Operating Mode: Single Channel (Low and High)

Frequency (MHz)	Modulation	Ant. Type	Field Strength (dBuV/m @3m)	Limit (dBuV/m @3m)	Results
614	25kbps GFSK Level 3	External Omni Antenna	40.6	<46	Pass
902	25kbps GFSK Level 3	External Omni Antenna	76.0	<106.3	Pass
928	25kbps GFSK Level 3	External Omni Antenna	78.0	<106.3	Pass
960	25kbps GFSK Level 3	External Omni Antenna	49.2	<54	Pass
614	50kbps GFSK Level 3	External Omni Antenna	43.3	<46	Pass
902	50kbps GFSK Level 3	External Omni Antenna	83.3	<106.3	Pass
928	50kbps GFSK Level 3	External Omni Antenna	87.8	<106.3	Pass
960	50kbps GFSK Level 3	External Omni Antenna	48.3	<54	Pass

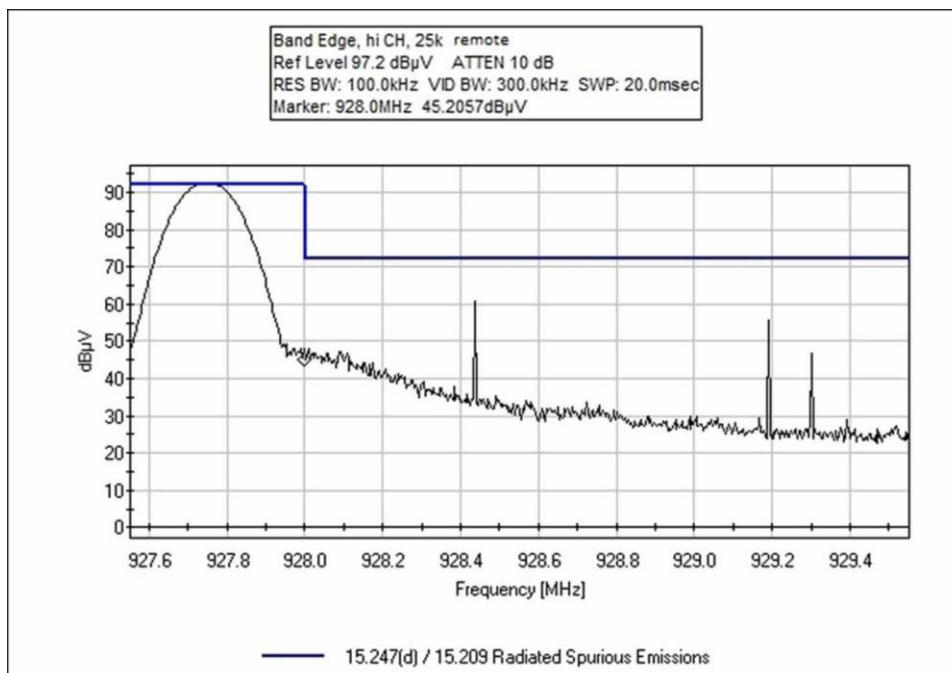
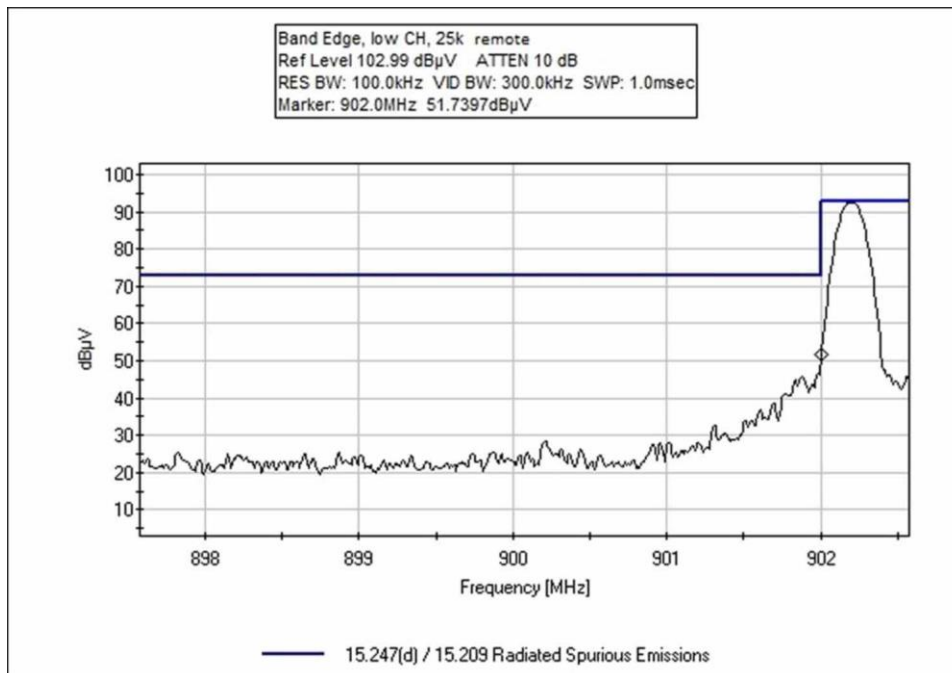
Band Edge Summary-Configuration 5

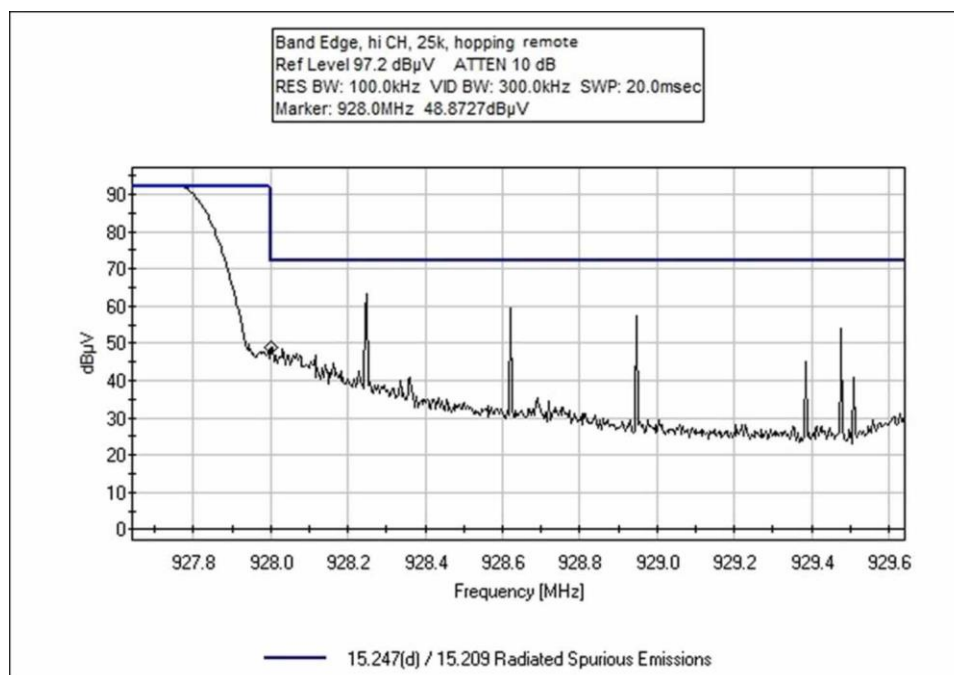
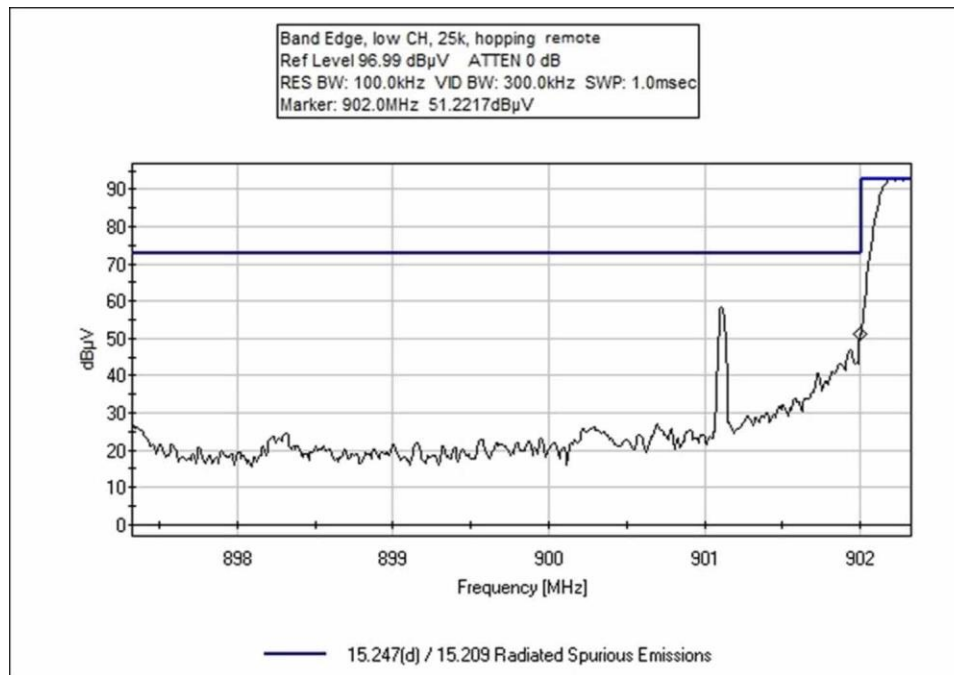
Operating Mode: Hopping

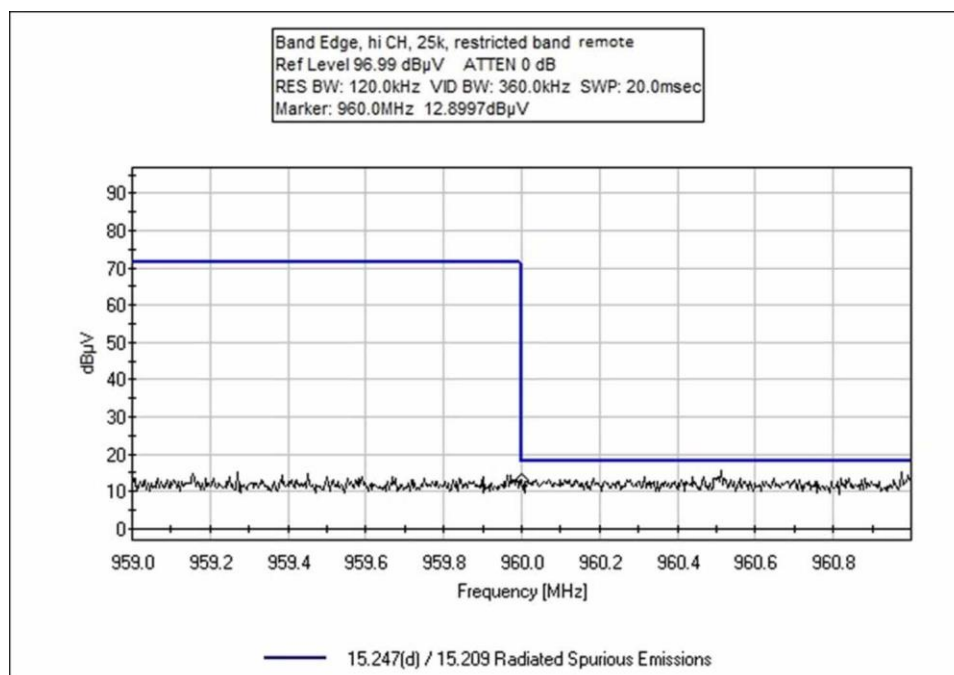
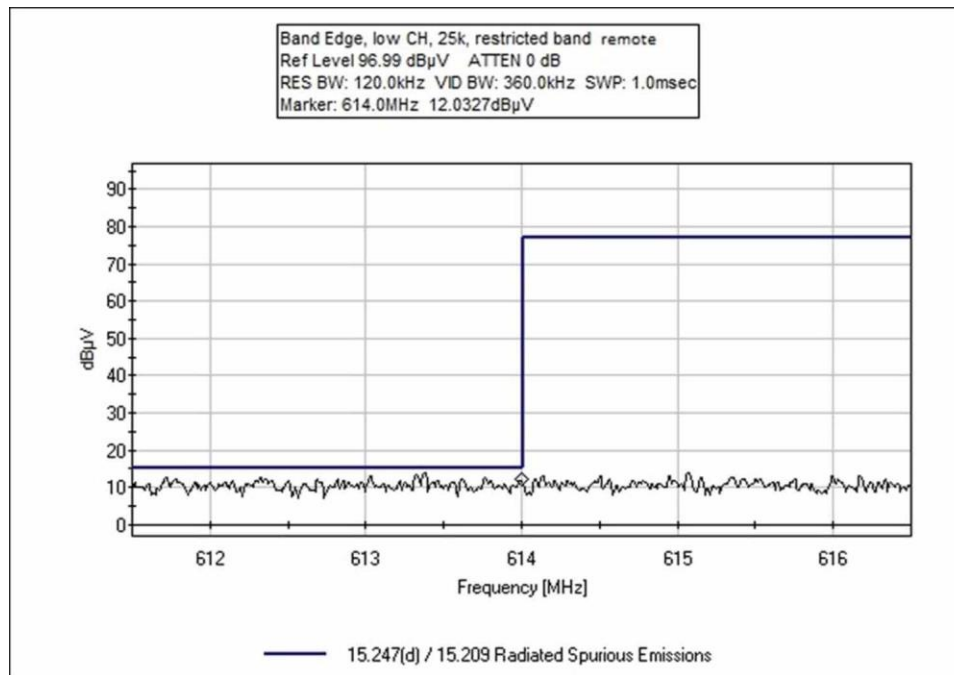
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614	25kbps GFSK Level 3	External Omni Antenna	46.0	<46	Pass
902	25kbps GFSK Level 3	External Omni Antenna	77.8	<106.3	Pass
928	25kbps GFSK Level 3	External Omni Antenna	81.2	<106.3	Pass
960	25kbps GFSK Level 3	External Omni Antenna	46.9	<54	Pass
614	50kbps GFSK Level 3	External Omni Antenna	41.3	<46	Pass
902	50kbps GFSK Level 3	External Omni Antenna	83.9	<106.3	Pass
928	50kbps GFSK Level 3	External Omni Antenna	87.0	<106.3	Pass
960	50kbps GFSK Level 3	External Omni Antenna	46.8	<54	Pass

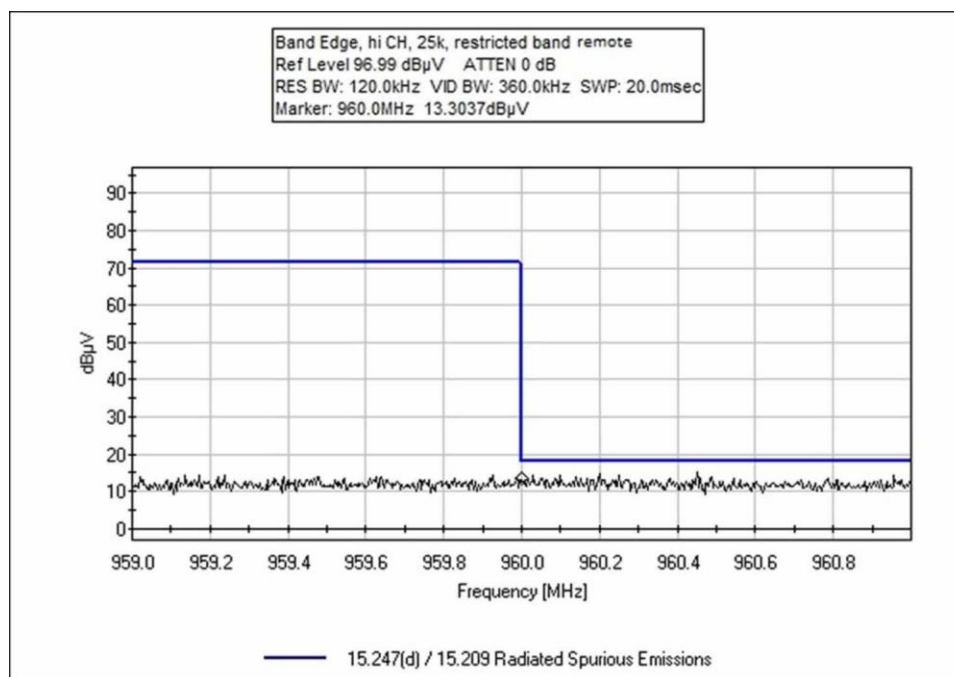
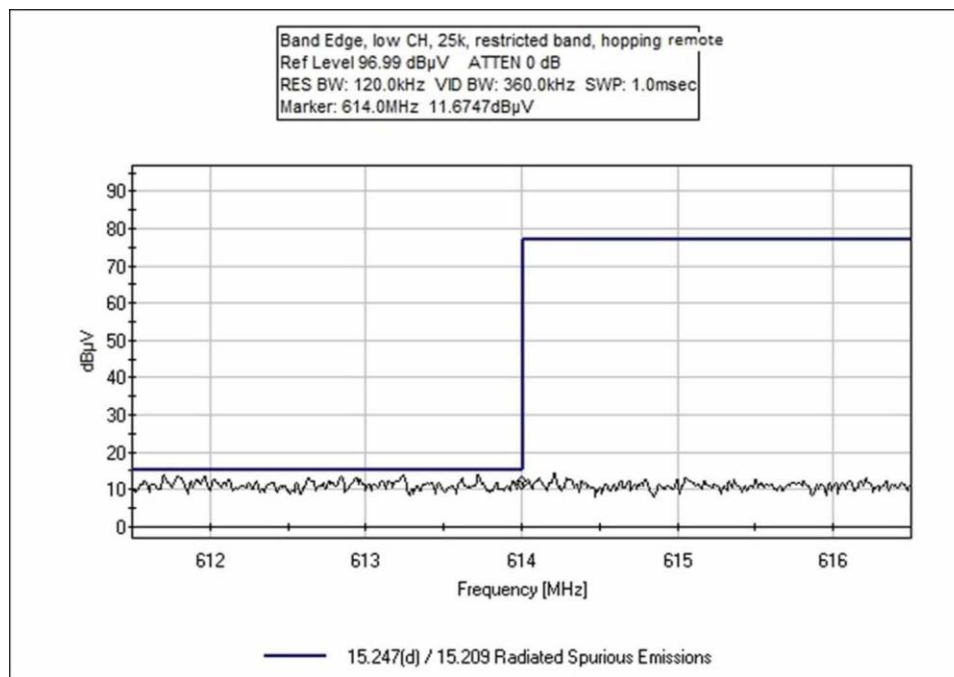
Band Edge Plots

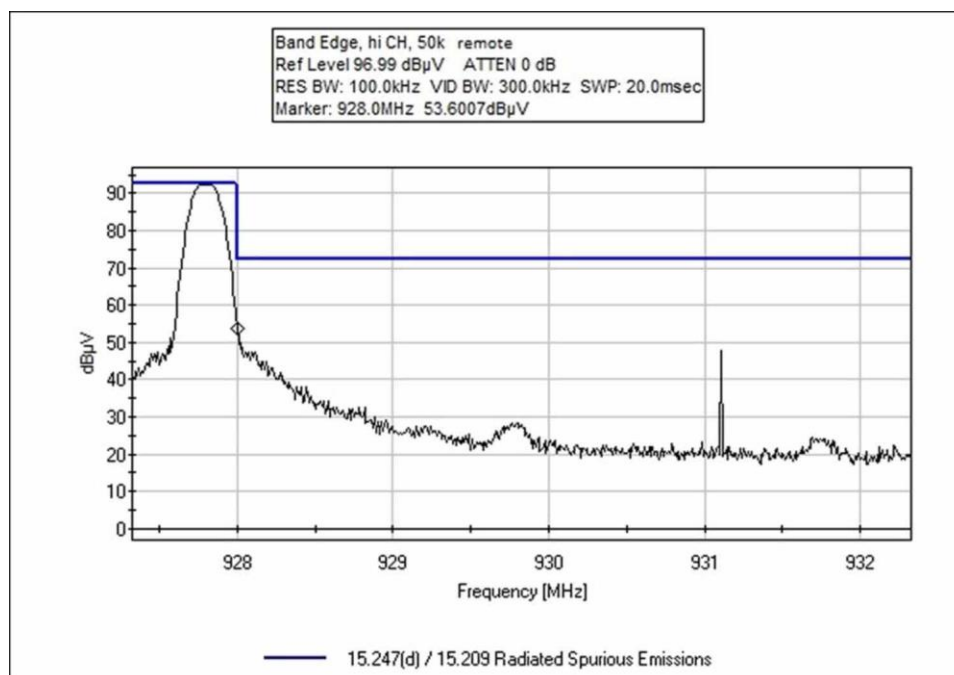
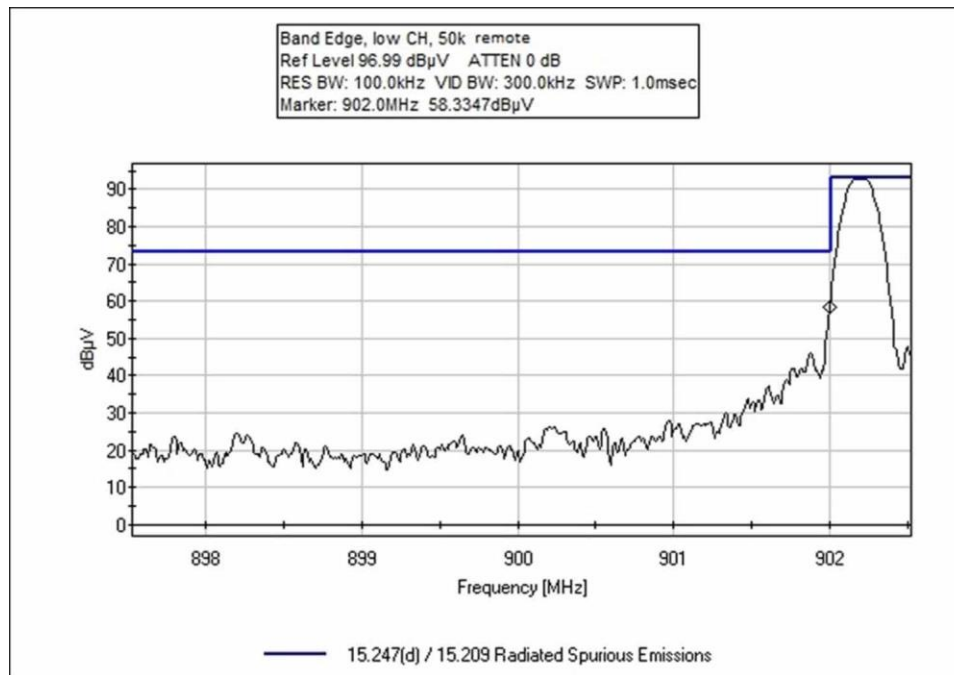
Configuration 2

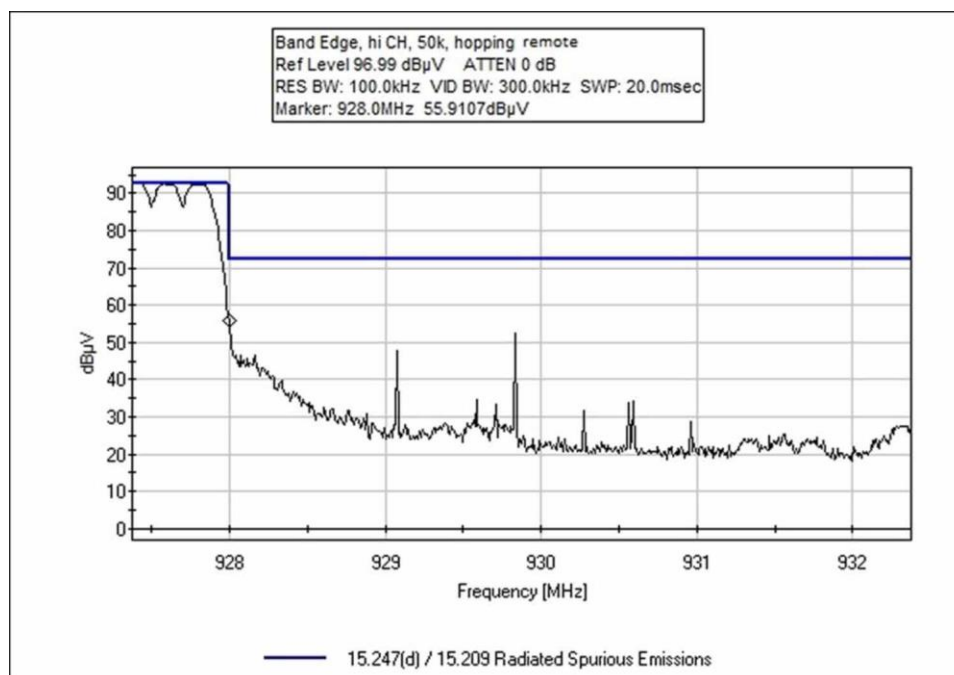
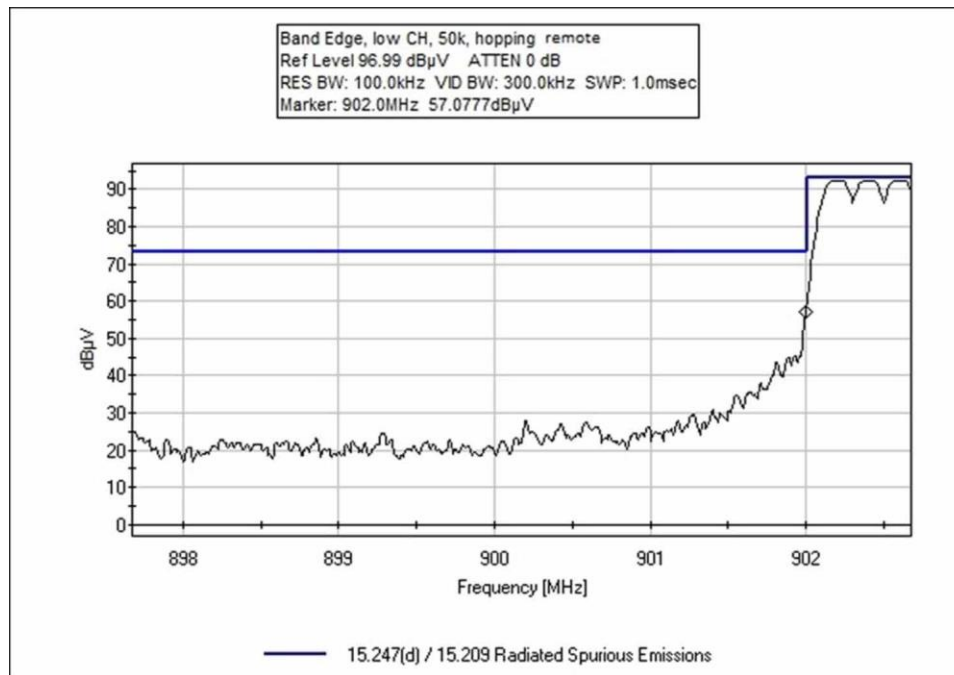


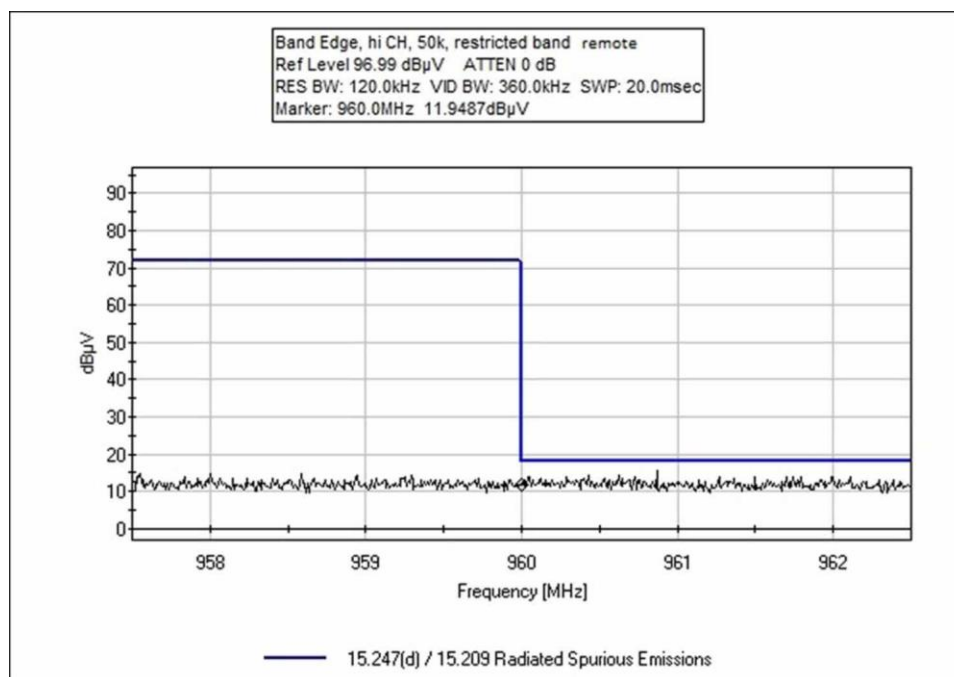
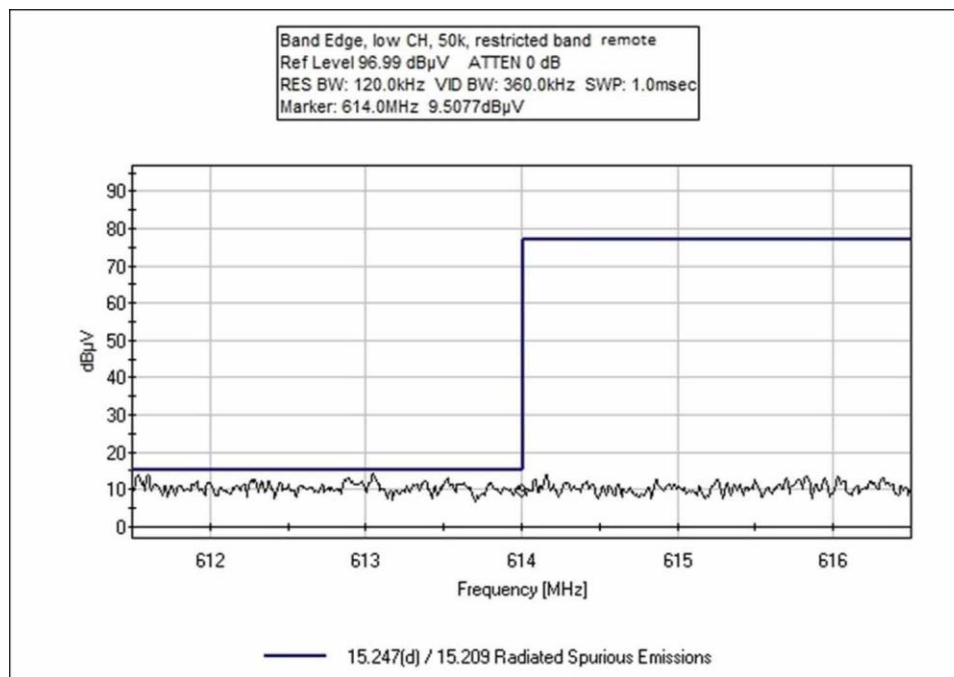


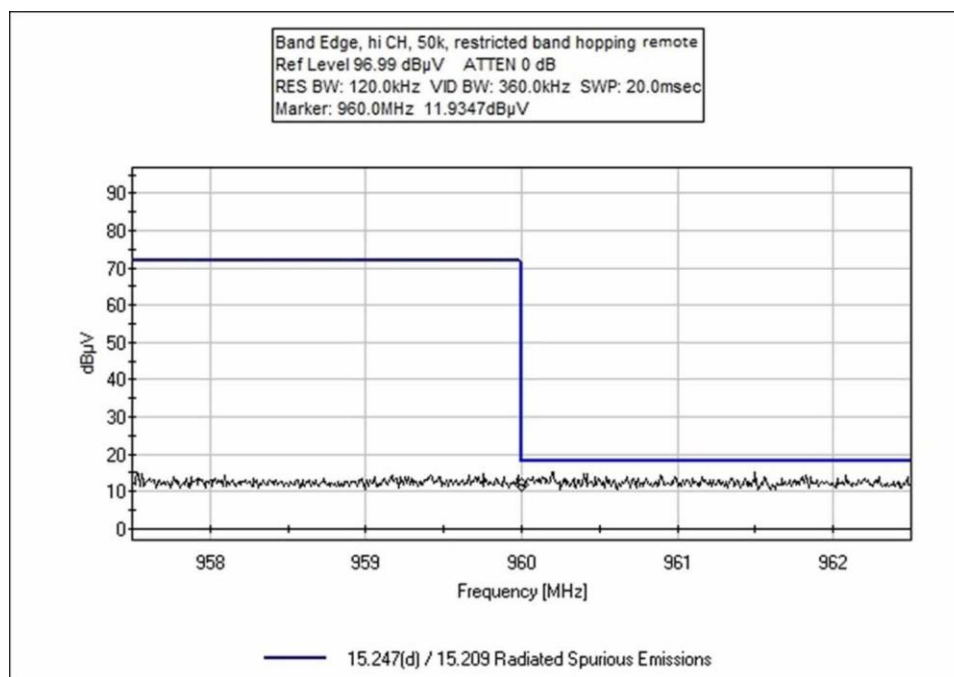
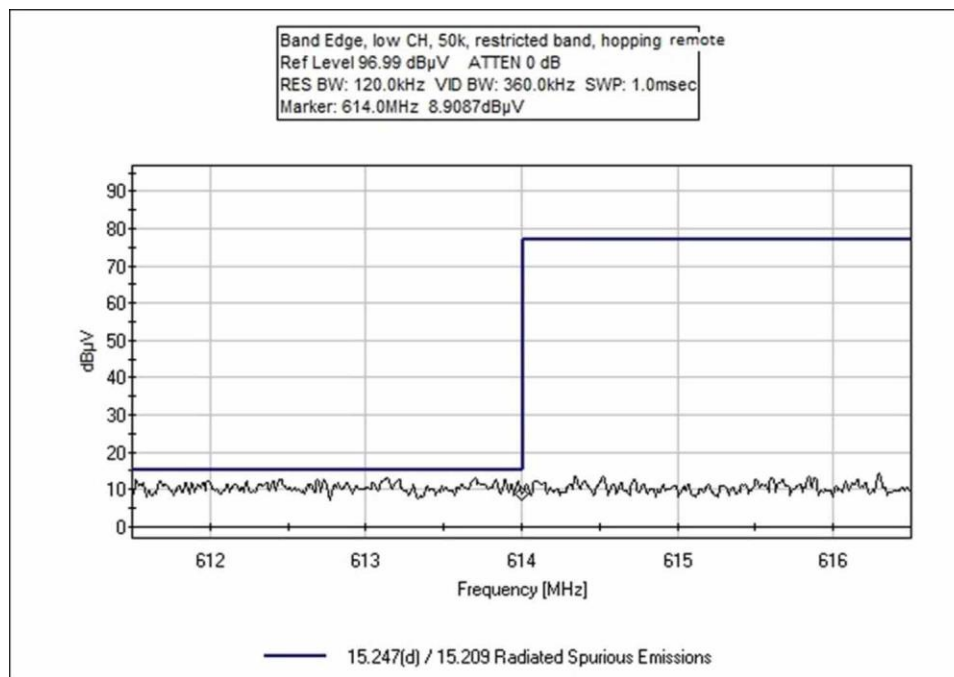




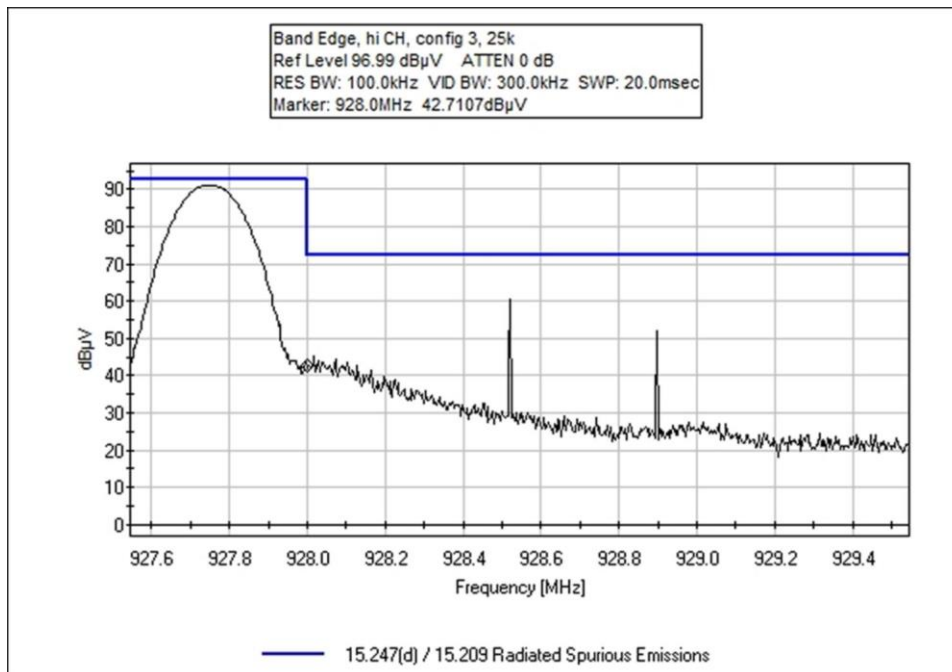
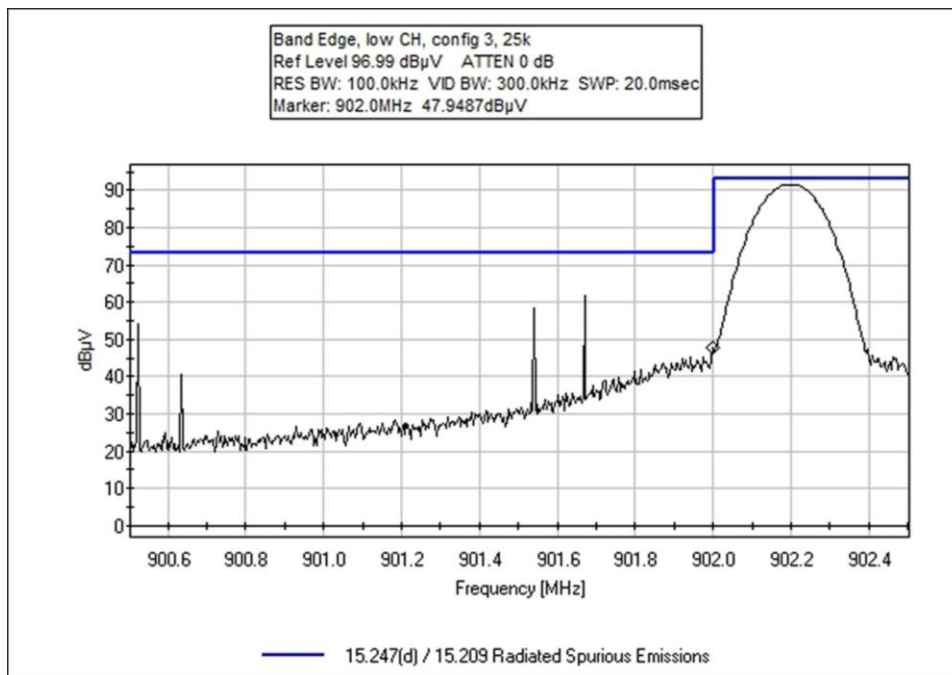


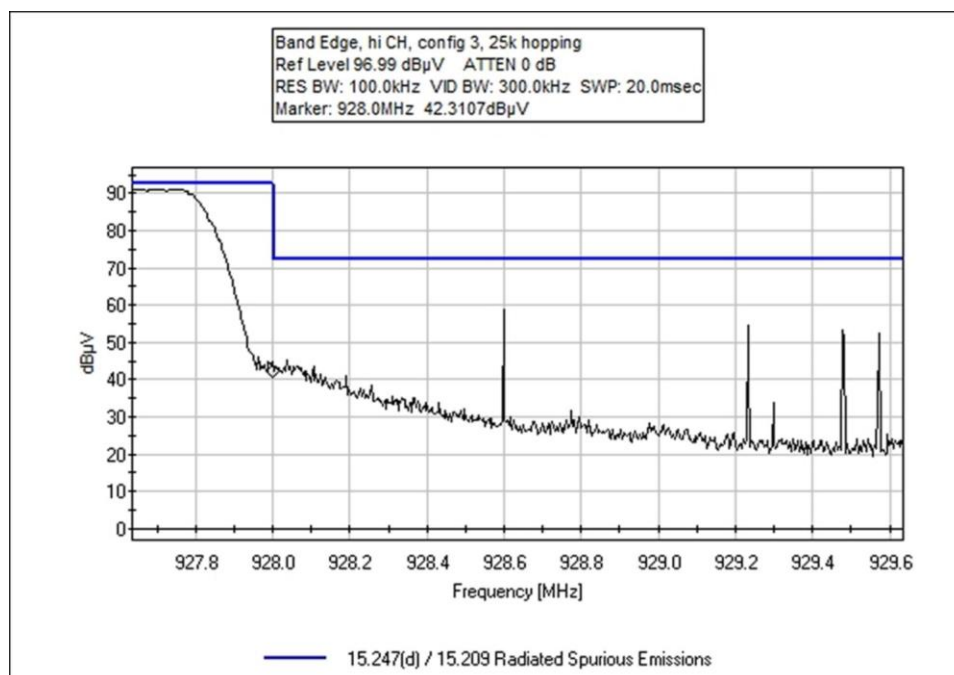
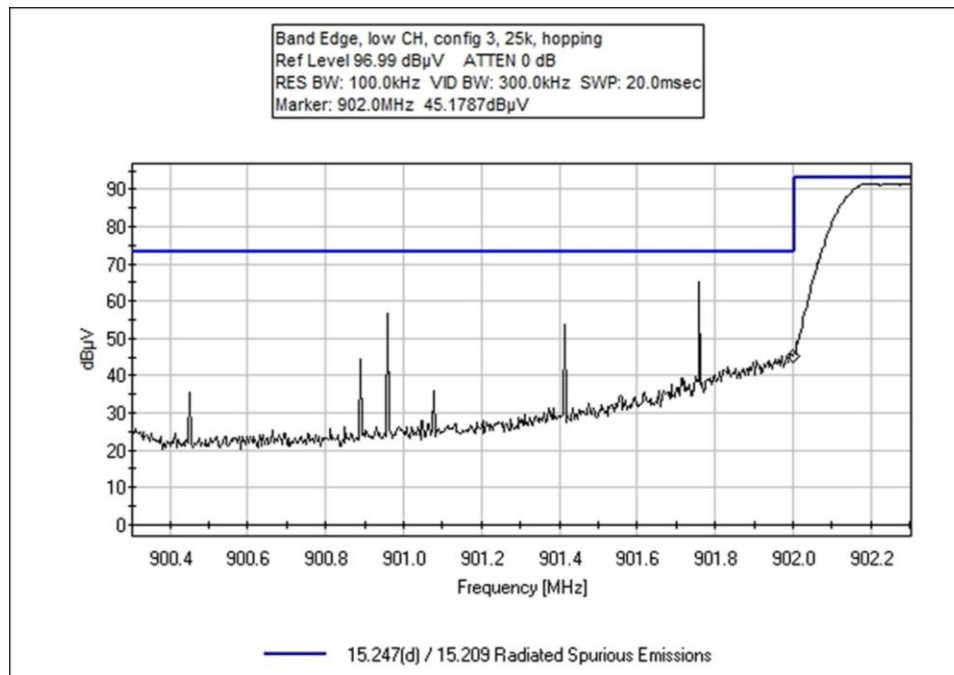


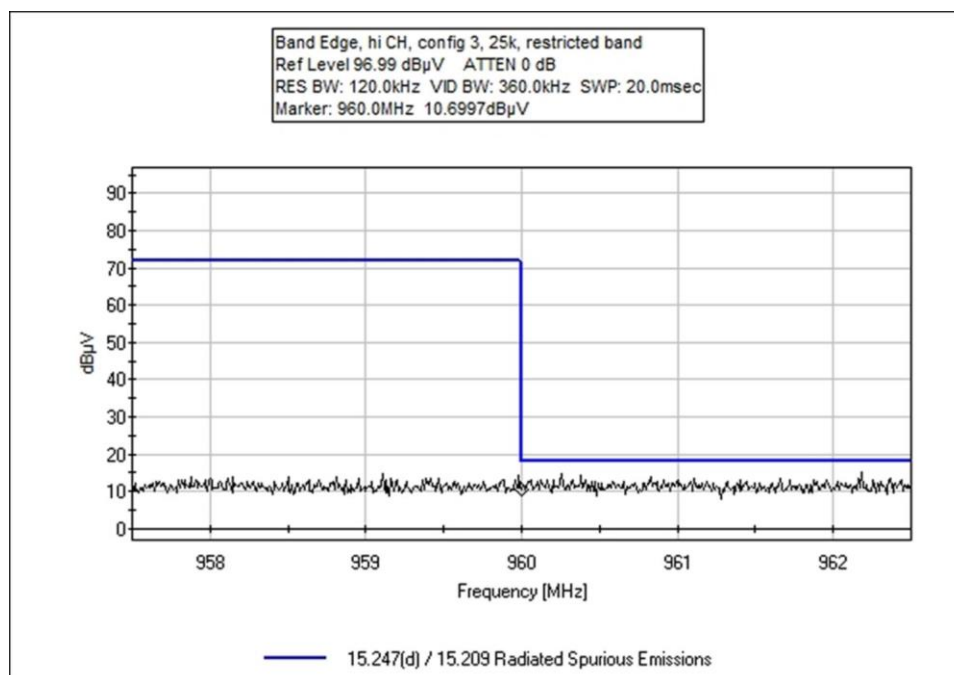
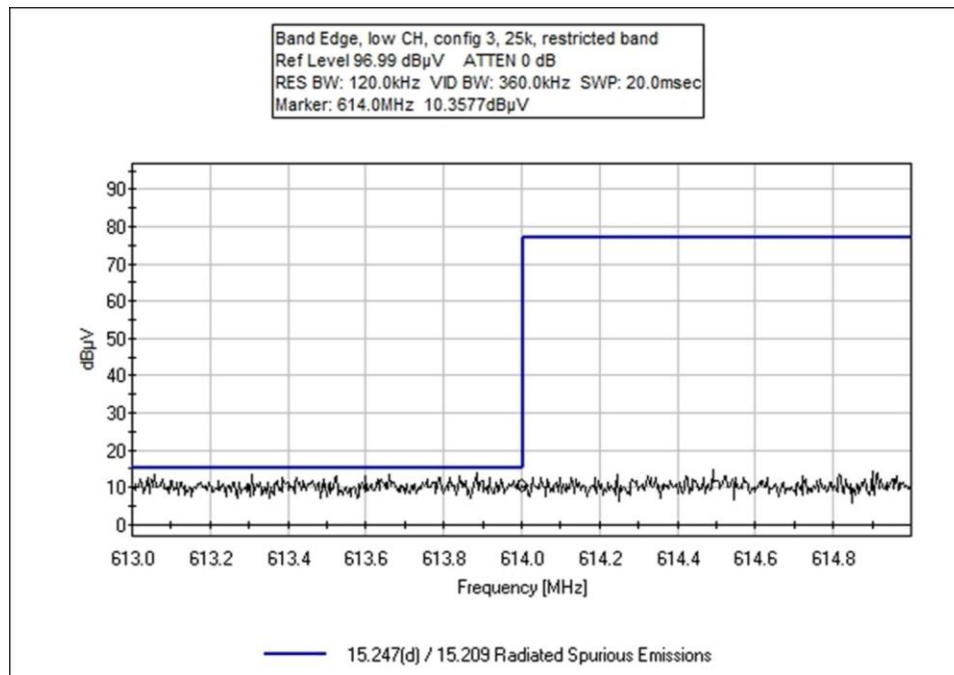


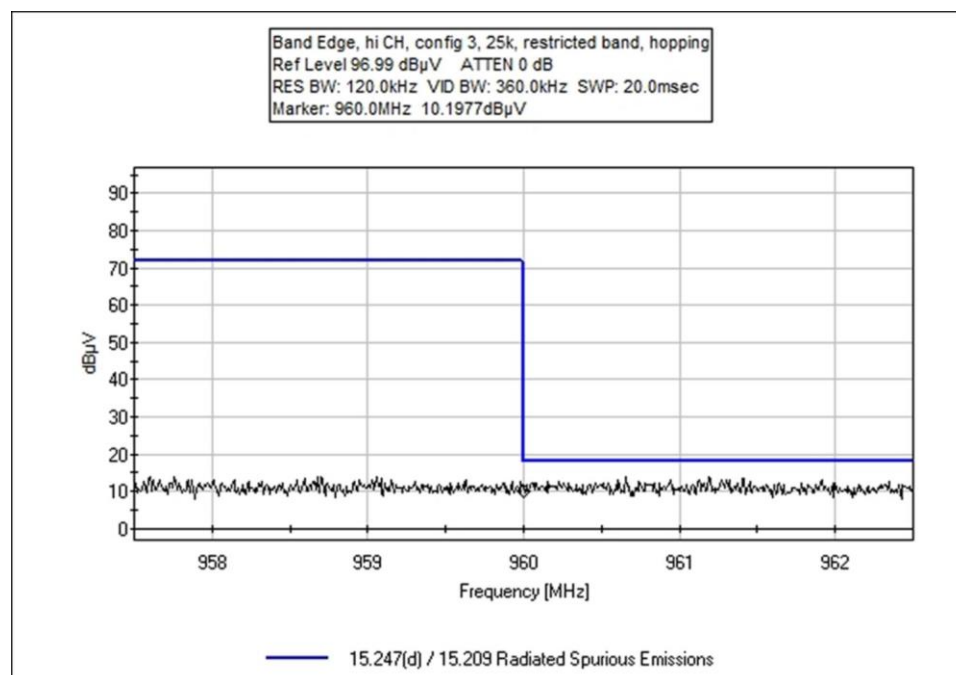
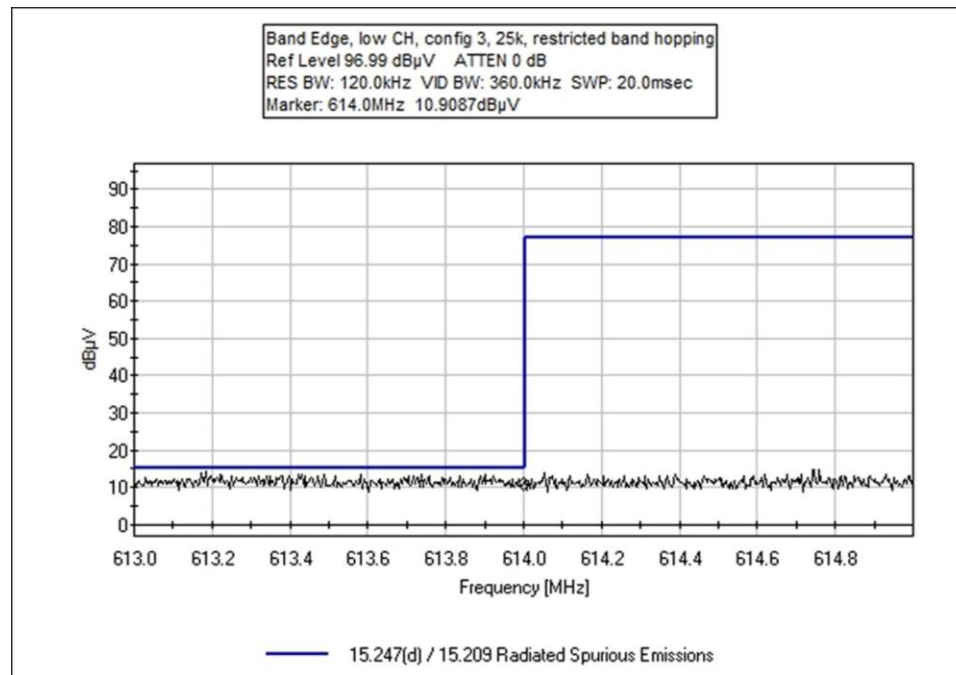


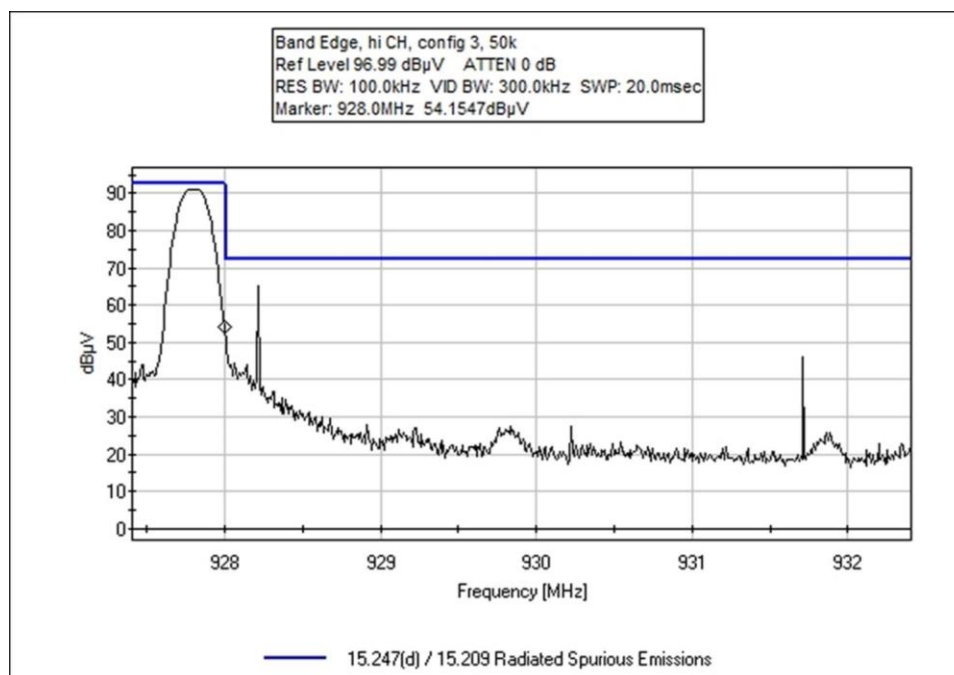
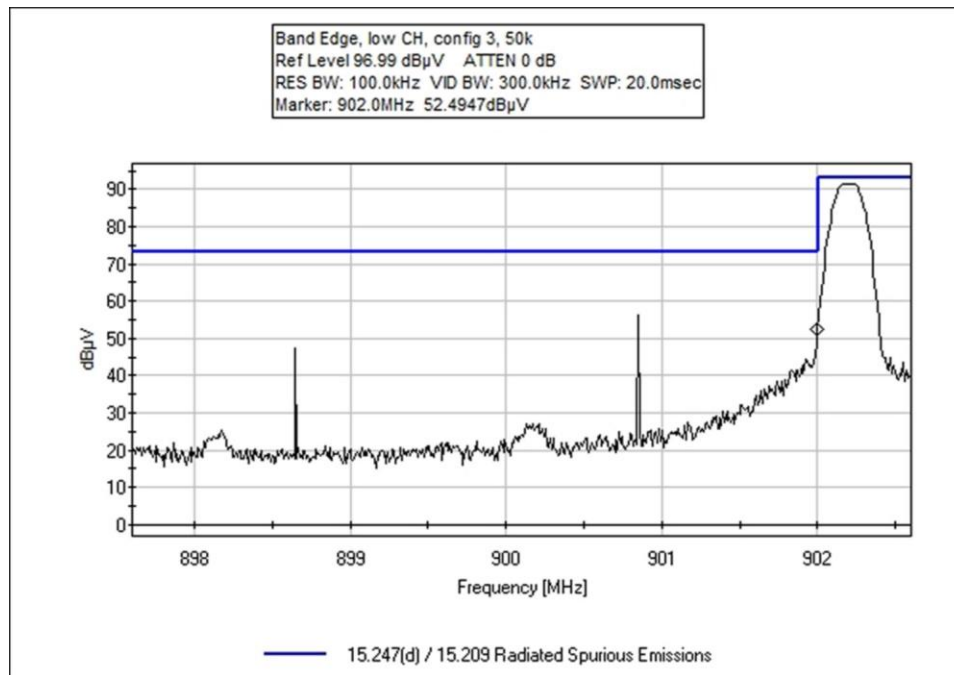
Configuration 3

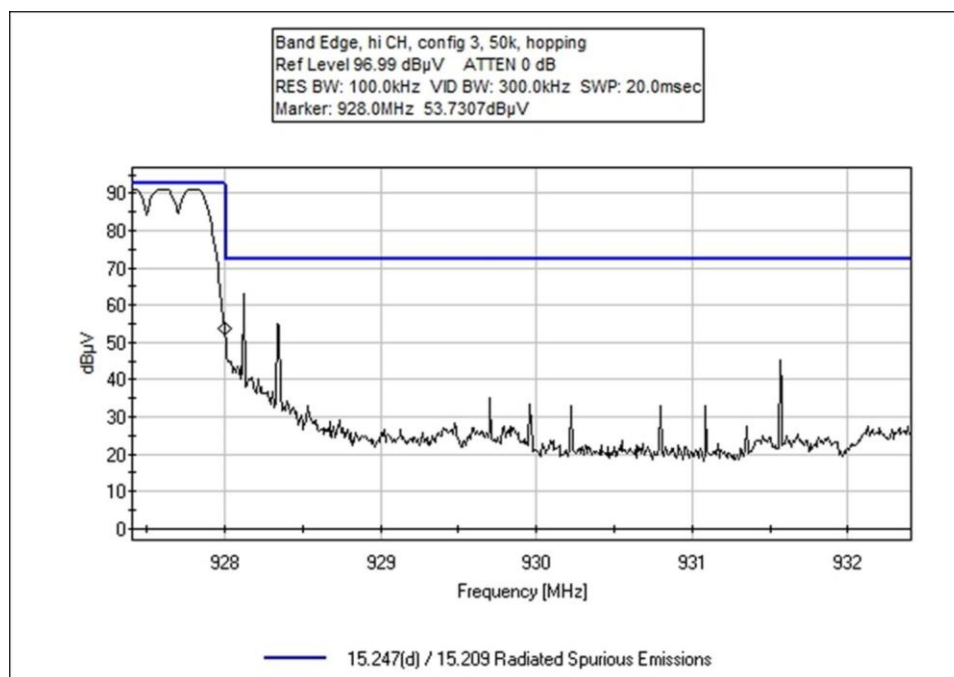
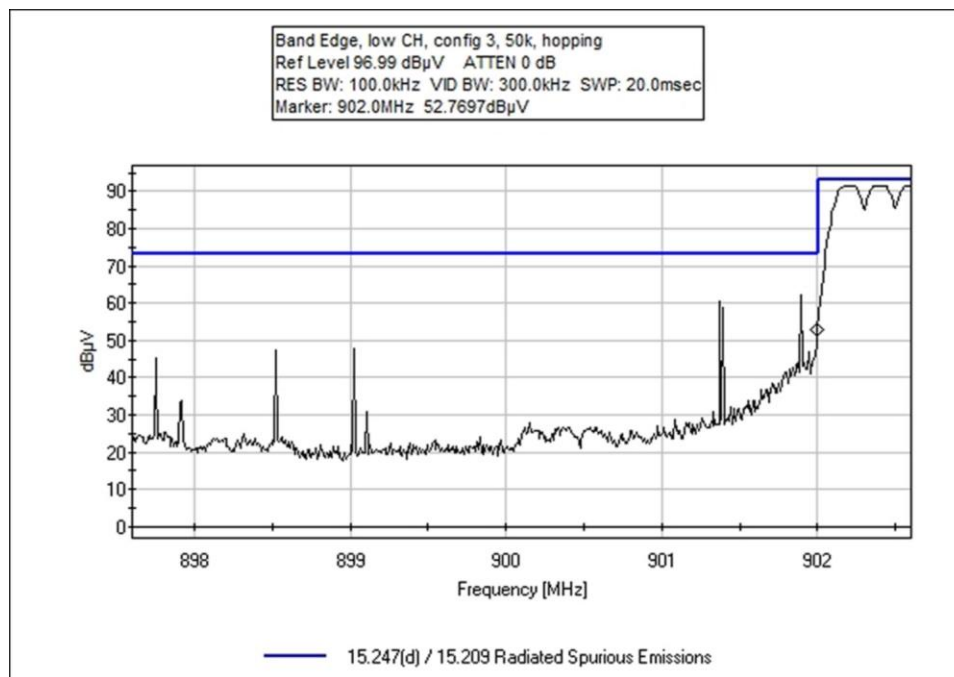


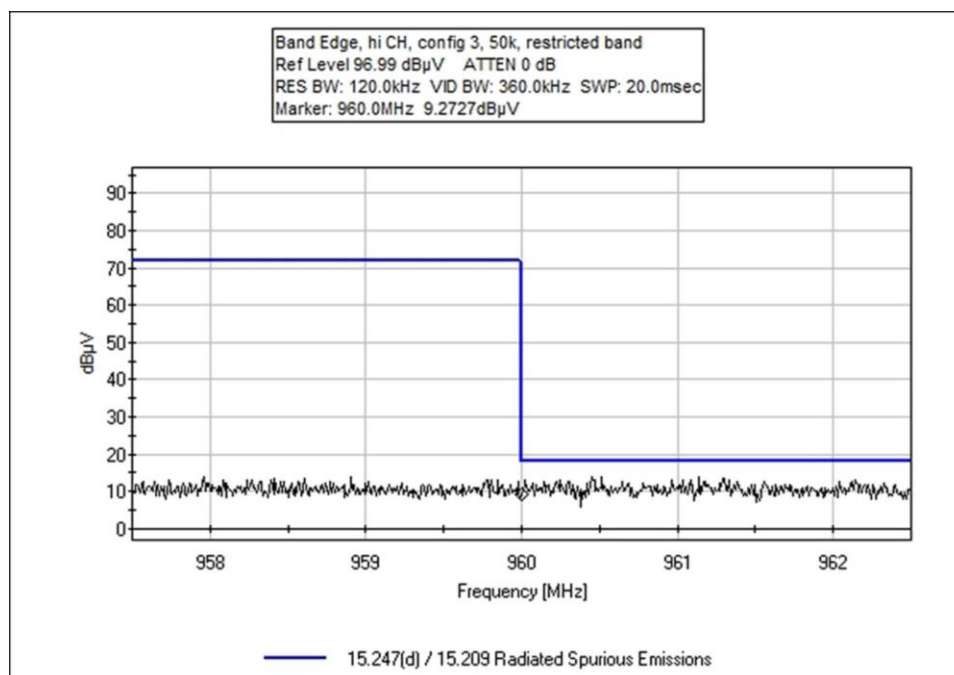
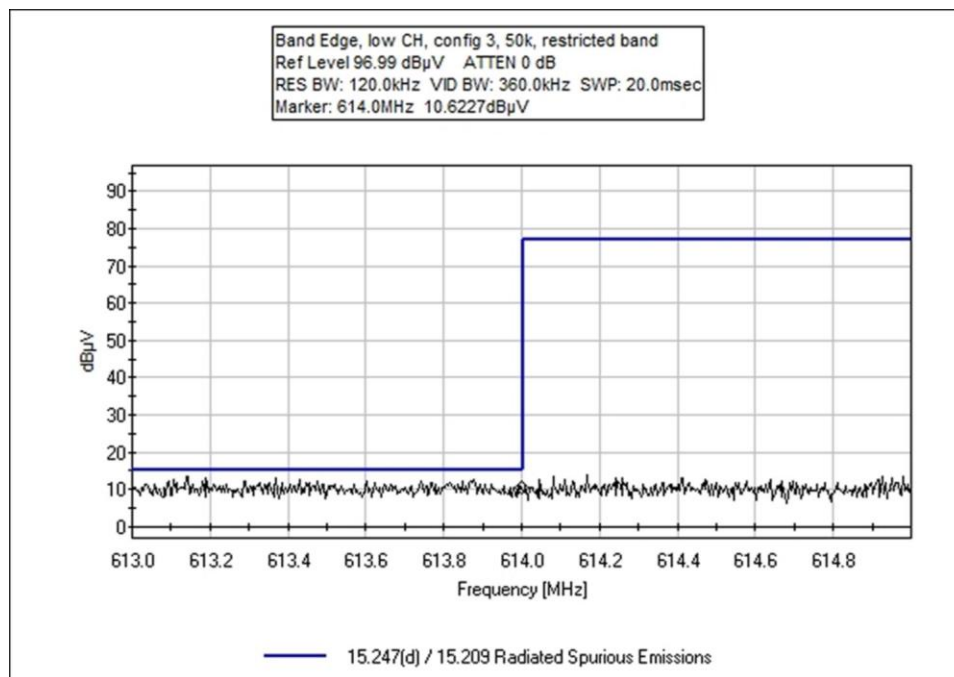


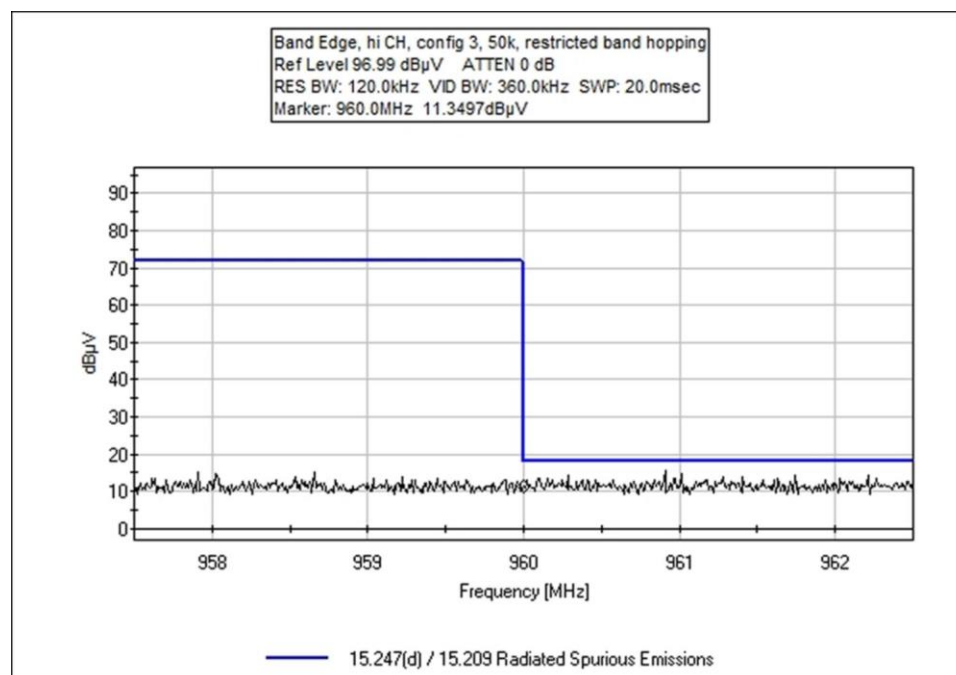
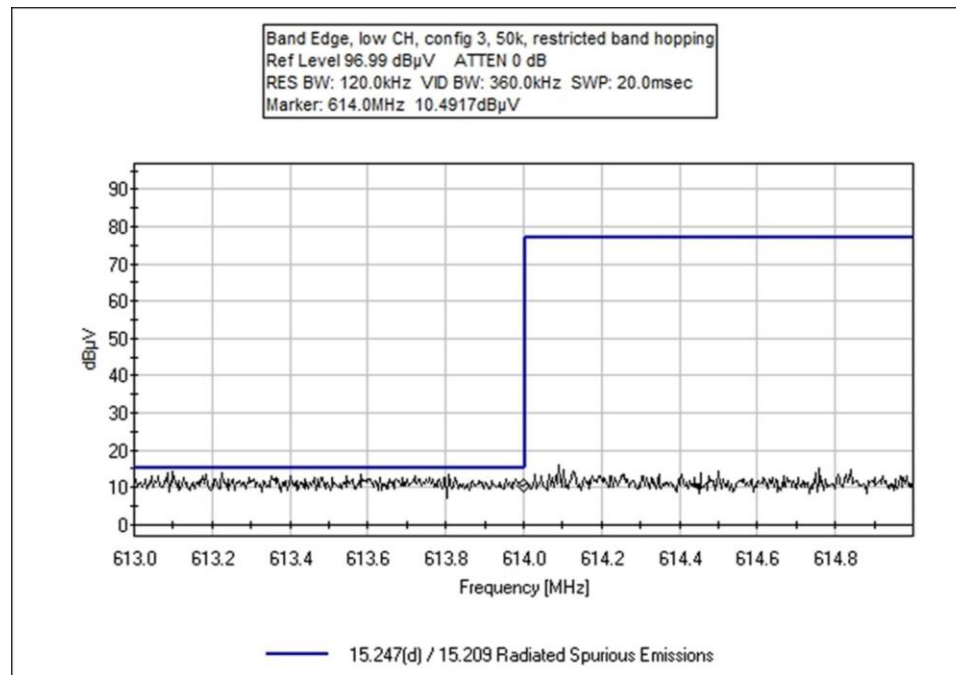












Configuration 4

