RF Test Report

Project Number:	**5045970**	**Offer Number:**	**SUW-202212003797**
Report Number:	**5045970EMC02**	**Revision Level:**	**1**
Client:	**Philips Medical Systems**		

Equipment Under Test:	**Telemetry Monitor**
Product Name:	**Philips Telemetry Monitor 5500**
Model Number:	**867232**
FCC ID:	**PQC-5500SH1A4**
IC:	**3549B-5500SH1A4**

Applicable Standards:	**FCC Part 95 Subpart H (WMTS)**
	RSS-210 Issue 11 (Annex C); RSS-GEN Issue 5
	ANSI C63.26-2015

Report issued on:	**09 July 2025**
Test Result:	**Compliant**

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01
Report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.

Prepared by: Martin Taylor, Project Engineer

Reviewed by: Dan Alvarez, RF/EMC Sr. Staff Engineer

Table of Contents

1 SUMMARY OF TEST RESULTS 4

1.1 MODIFICATIONS REQUIRED FOR COMPLIANCE 4

2 GENERAL INFORMATION 5

2.1 CLIENT INFORMATION 5
2.2 TEST LABORATORY 5
2.3 GENERAL INFORMATION OF EUT 5
2.4 OPERATING MODES AND CONDITIONS 5
2.5 EUT CONNECTION BLOCK DIAGRAM – CONDUCTED MEASUREMENTS 6
2.6 EUT CONNECTION BLOCK DIAGRAM – RADIATED MEASUREMENTS 6
2.7 SYSTEM CONFIGURATIONS 6
2.8 CABLE LIST 6

3 OCCUPIED BANDWIDTH 7

3.1 TEST RESULT 7
3.2 TEST METHOD 7
3.3 TEST SITE 7
3.4 TEST EQUIPMENT 7
3.5 TEST DATA 8

4 CONDUCTED OUTPUT POWER 9

4.1 TEST RESULT 9
4.2 TEST METHOD 9
4.3 TEST SITE 9
4.4 TEST EQUIPMENT 9
4.5 TEST DATA 10

5 FREQUENCY ACCURACY 11

5.1 TEST RESULT 11
5.2 TEST METHOD 11
5.3 TEST SITE 11
5.4 TEST EQUIPMENT 11
5.5 TEST DATA 12

6 FIELD STRENGTH OF FUNDAMENTAL 15

6.1 TEST RESULT 15
6.2 TEST METHOD 15
6.3 TEST SETUP DIAGRAM 16
6.4 TEST SITE 16
6.5 TEST EQUIPMENT 16
6.6 TEST DATA 17

7 FIELD STRENGTH OF SPURIOUS EMISSIONS 20

7.1 TEST RESULT 20
7.2 TEST METHOD 20
7.3 TEST SETUP DIAGRAM 20
7.4 TEST SITE 21
7.5 TEST EQUIPMENT 21
7.6 DUTY CYCLE CORRECTION FACTOR (DCCF) 21
7.7 TEST DATA – 30-960 MHZ 22
7.8 TEST DATA – 960-2790 MHZ 24
7.9 TEST DATA – 2.79-15 GHZ 35

8 MEASUREMENT UNCERTAINTY 44

9 REVISION HISTORY 45

1 Summary of Test Results

Test Description	Test Specification		Test Result
	FCC	ISED	
Occupied Bandwidth	2.1049	RSS-GEN 6.7	Reported
Conducted Output Power	2.1046	RSS-GEN 6.12	Reported
Frequency Accuracy	95.2365	RSS-210 C.4(d)	Compliant
Field Strength of Fundamental	95.2369(b)	RSS-210 C.4(a)	Compliant
Field Strength of Spurious Emissions	95.2379	RSS-210 C.4(b)(c)	Compliant
AC Powerline Conducted Emissions	15.207	RSS-GEN 8.8	N/A (1)
Antenna Requirement	15.203	RSS-GEN 6.8	Compliant (2)

(1) The EUT has no facility to connect to AC Mains.
(2) The device uses an internal PCB trace antenna which cannot be replaced by the end user.

1.1 *Modifications Required for Compliance*

None

2 General Information

2.1 *Client Information*

Company Name:	Philips Medical Systems North America Co.
Address:	222 Jacobs Street
City, State, Zip, Country:	Cambridge, MA 02141, USA

2.2 *Test Laboratory*

Name:	SGS North America, Inc.
Address:	620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country:	Suwanee, GA 30024, USA
Accrediting Body:	A2LA
Type of lab:	Testing Laboratory
Certificate Number:	3212.01
CAB Identification:	US0186

2.3 *General Information of EUT*

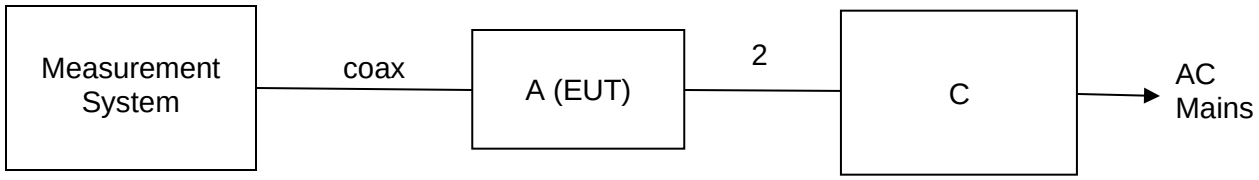
Equipment Under Test:	Telemetry Monitor
Product Name:	Philips Telemetry Monitor 5500
Model Number:	867232
Serial Numbers:	USPP000164 (Conducted Sample) USPP000091 (Radiated Sample)
FCC ID:	PQC-5500SH1A4
IC:	3549B-5500SH1A4
Frequency Ranges:	1395 – 1400 MHz (USA & Canada) 1427 – 1432 MHz (USA) 1427 – 1429.5 MHz (Canada)
Data Modes:	Smart Hopping (GFSK/BPSK/QPSK/8PSK) WMTS
Antenna:	PCB Planar Antenna (2.0dBi peak gain)*
Rated Voltage:	$4.5V_{DC}$
Test Voltage:	$4.5V_{DC}$ (from three D cell batteries or via USB from laptop)
Sample Received Date:	18 May 2023
Dates of testing:	26 June to 26 July 2023

*Data was not measured by SGS laboratory and therefore SGS is not responsible for accuracy. Data obtained via customer, specification sheet, previous filing or other.

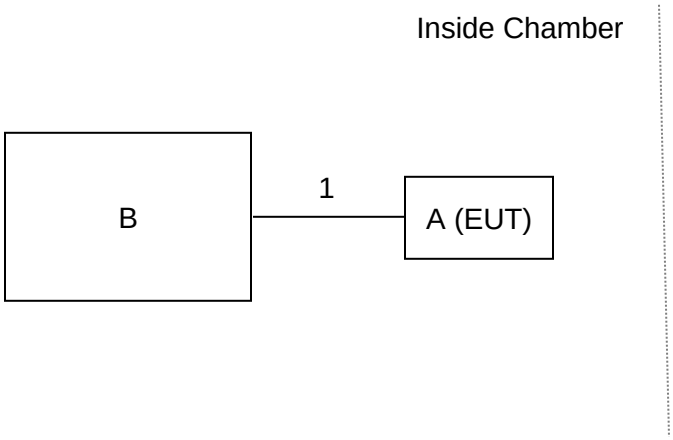
2.4 *Operating Modes and Conditions*

The EUT was running test mode firmware which allowed commands to be sent to transmit on all supported channels and with all supported modulations for each channel. The test mode commands were configured to transmit at the maximum output power defined for each channel. The transmitted signals had very low duty cycles; however, the max hold function on the spectrum analyzer was used to capture the peak signal levels during transmit on times, and duty cycle correction was used if needed.

2.5 *EUT Connection Block Diagram – Conducted Measurements*



2.6 *EUT Connection Block Diagram – Radiated Measurements*



2.7 *System Configurations*

Device Reference	Manufacturer	Description	Model Number	Serial Number
A	Philips Medical Systems	Philips Telemetry Monitor 5500 (EUT)	867232	USPP000164 USPP000091
B	Philips Medical Systems	Test Power Adapter	(none)	(none)
C	Lenovo	Laptop Computer	T420	R8-X9XFV

2.8 *Cable List*

Cable reference	Port Name	Start	End	Cable Length (m)	Ferrite installed?	Shielded?
1	DC Power	Test Power Adapter	EUT	0.15	N	N
2	DC Power	Laptop Computer	EUT	0.80	N	N

3 Occupied Bandwidth

3.1 *Test Result*

Test Description	Test Specification		Test Result
Occupied Bandwidth	FCC 2.1049	RSS-GEN 6.7	Reported

3.2 *Test Method*

The WMTS antenna port of the EUT conducted sample was connected directly to a spectrum analyzer using a coaxial cable and attenuator. The procedures from ANSI C63.26-2015 clause 5.4.4 were used to determine the 99% bandwidth.

3.3 *Test Site*

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature:	24.2 °C
Relative Humidity:	50.8 %
Atmospheric Pressure:	97.3 kPa

3.4 *Test Equipment*

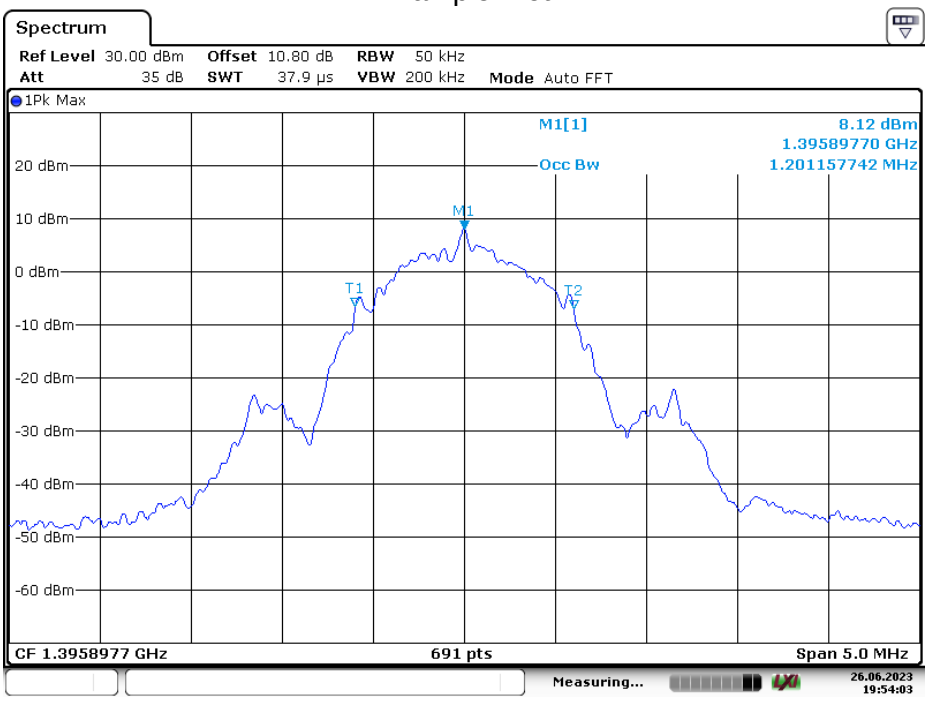
Test End Date: 26-Jun-2023 Tester: MT

Equipment	Model	Manufacturer	Asset	Cal Date	Cal Due Date
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	7-Dec-2022	7-Dec-2023
ATTENUATOR, 10DB	BW-S10W2	MINI-CIRCUITS	15032	3-Oct-2022	3-Oct-2023
RF CABLE SMA TO SMA, 0.01-40GHZ	084-0505-059	TELEDYNE STORM MICROWAVE	20107	13-Mar-2023	13-Mar-2024

3.5 *Test Data*

Channel	Center Frequency (MHz)	Modulation	Occupied Bandwidth (MHz)
1	1395.8977	GFSK	1.201
2	1397.4970	GFSK	1.201
3	1399.0963	GFSK	1.201
4	1427.8979	GFSK	1.201
4a	1430.2410	GFSK	1.201
5	1429.4972	GFSK	1.201
6	1431.0965	GFSK	1.201
14	1396.636	BPSK	1.411
14	1396.636	QPSK	1.382
14	1396.636	8PSK	1.368
15	1398.364	BPSK	1.411
15	1398.364	QPSK	1.382
15	1398.364	8PSK	1.368
16	1428.513	BPSK	1.418
16	1428.513	QPSK	1.382
16	1428.513	8PSK	1.368
17	1430.241	BPSK	1.411
17	1430.241	QPSK	1.382
17	1430.241	8PSK	1.368

Example Plot



Date: 26.JUN.2023 19:54:04

4 Conducted Output Power

4.1 *Test Result*

Test Description	Test Specification		Test Result
Conducted Output Power	FCC 2.1046	RSS-GEN 6.12	Reported

4.2 *Test Method*

The WMTS antenna port of the EUT conducted sample was connected directly to a spectrum analyzer using a coaxial cable and attenuator. The procedures from ANSI C63.26-2015 clause 5.2.3.3 were used to determine the output power.

4.3 *Test Site*

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature:	24.1 °C
Relative Humidity:	53.6 %
Atmospheric Pressure:	98.2 kPa

4.4 *Test Equipment*

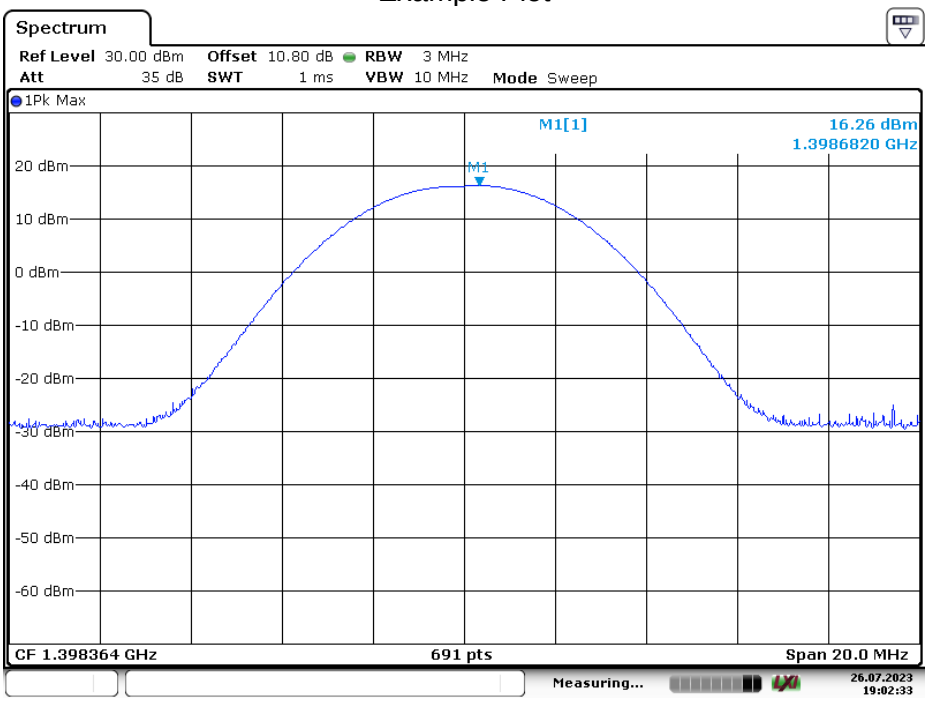
Test End Date: 26-Jul-2023 Tester: MT

Equipment	Model	Manufacturer	Asset	Cal Date	Cal Due Date
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	7-Dec-2022	7-Dec-2023
ATTENUATOR, 10DB	BW-S10W2	MINI-CIRCUITS	15032	3-Oct-2022	3-Oct-2023
RF CABLE SMA TO SMA, 0.01-40GHZ	084-0505-059	TELEDYNE STORM MICROWAVE	20107	13-Mar-2023	13-Mar-2024

4.5 *Test Data*

Channel	Center Frequency (MHz)	Modulation	Conducted Output Power (dBm)
1	1395.8977	GFSK	9.43
2	1397.4970	GFSK	9.52
3	1399.0963	GFSK	9.91
4	1427.8979	GFSK	9.75
4a	1430.2410	GFSK	9.30
5	1429.4972	GFSK	9.50
6	1431.0965	GFSK	10.10
14	1396.636	BPSK	15.84
14	1396.636	QPSK	15.84
14	1396.636	8PSK	15.84
15	1398.364	BPSK	16.26
15	1398.364	QPSK	16.26
15	1398.364	8PSK	16.25
16	1428.513	BPSK	16.06
16	1428.513	QPSK	16.03
16	1428.513	8PSK	16.03
17	1430.241	BPSK	16.06
17	1430.241	QPSK	16.05
17	1430.241	8PSK	16.01

Example Plot



Date: 26.JUL.2023 19:02:33

Note: Cable and attenuator losses were accounted for in spectrum analyzer offset.

5 Frequency Accuracy

5.1 *Test Result*

Test Description	Test Specification		Test Result
Frequency Accuracy	95.2365	RSS-210 C.4(d)	Compliant

5.2 *Test Method*

The WMTS antenna port of the EUT conducted sample was connected directly to a spectrum analyzer using a coaxial cable. Frequency accuracy was tested and verified to maintain the fundamental emissions within the designated bands of operation over the manufacturer's stated temperature range of 0°C to 37°C.

The channels closest to the band edges were measured.

5.3 *Test Site*

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature:	23.8 °C
Relative Humidity:	51.9 %
Atmospheric Pressure:	98.0 kPa

5.4 *Test Equipment*

Test End Date: 3-Jul-2023 Tester: MT

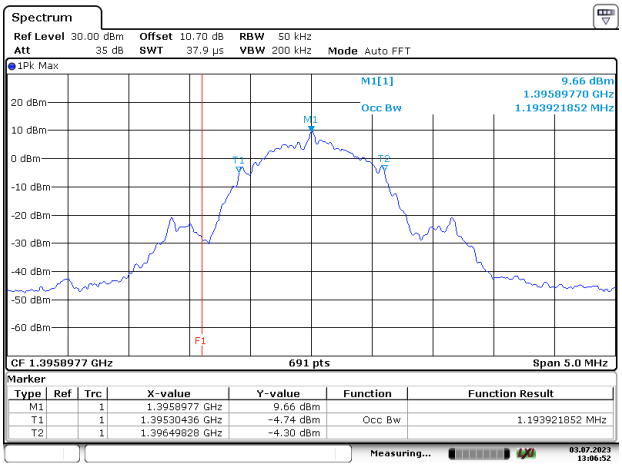
Equipment	Model	Manufacturer	Asset	Cal Date	Cal Due Date
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	7-Dec-2022	7-Dec-2023
ATTENUATOR, 10DB	BW-S10W2	MINI-CIRCUITS	15032	3-Oct-2022	3-Oct-2023
RF CABLE SMA TO SMA, 0.01-40GHZ	084-0505-059	TELEDYNE STORM MICROWAVE	20108	13-Mar-2023	13-Mar-2024
ENVIRONMENTAL CHAMBER	S 1.20	Thermotron	SAF-ENV-08	22-Nov-2022	22-Nov-2023

5.5 *Test Data*

The vertical red lines in the plots below indicate the band edges of the designated frequency bands.

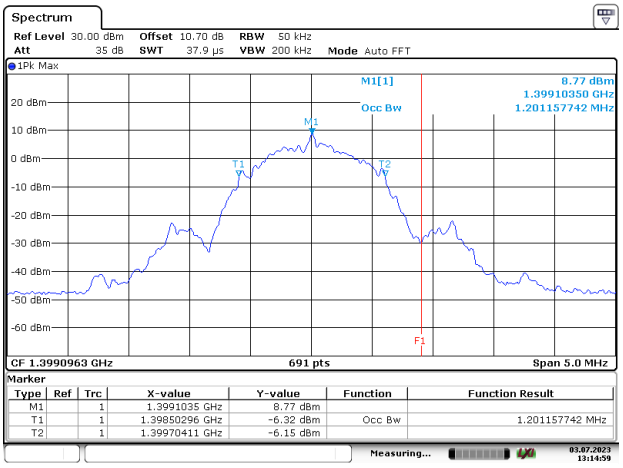
1395 – 1400 MHz (USA & Canada)

Channel 1 at 0°C



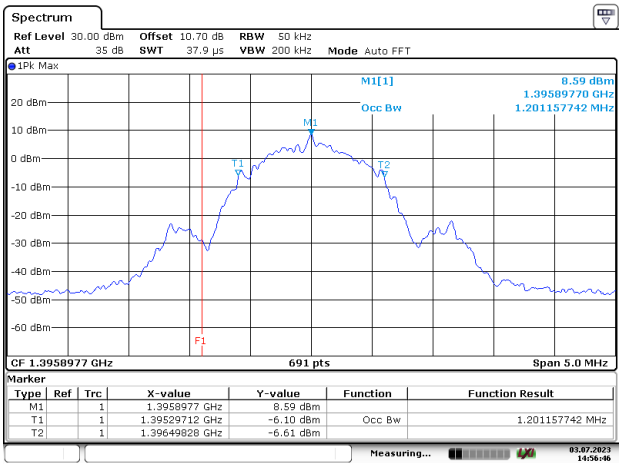
Date: 3.JUL.2023 13:06:52

Channel 3 at 0°C



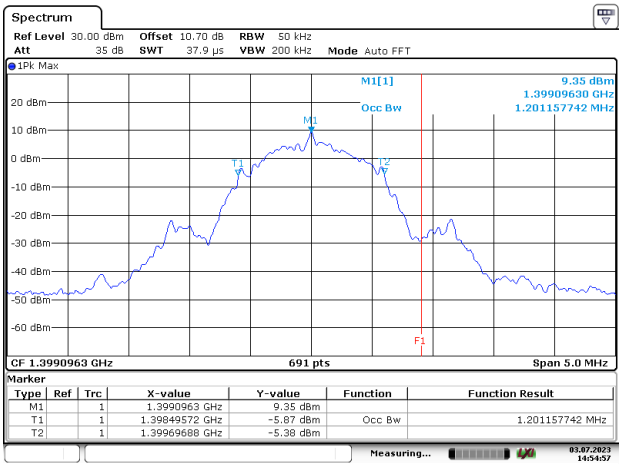
Date: 3.JUL.2023 13:14:59

Channel 1 at 25°C



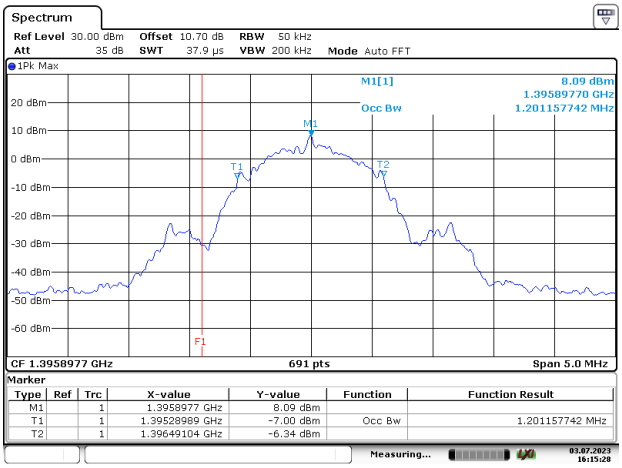
Date: 3.JUL.2023 14:56:46

Channel 3 at 25°C



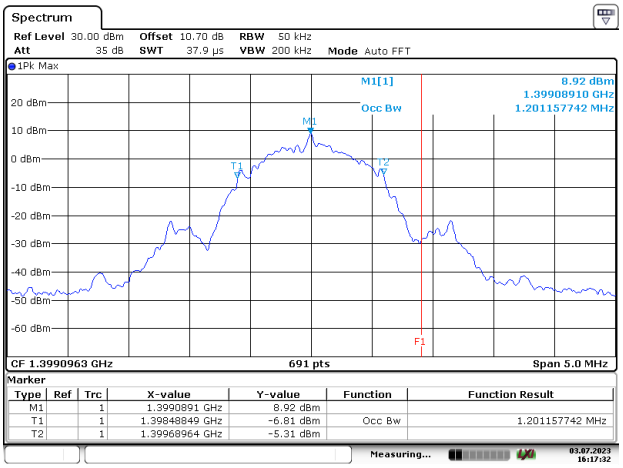
Date: 3.JUL.2023 14:54:58

Channel 1 at 37°C



Date: 3.JUL.2023 16:15:28

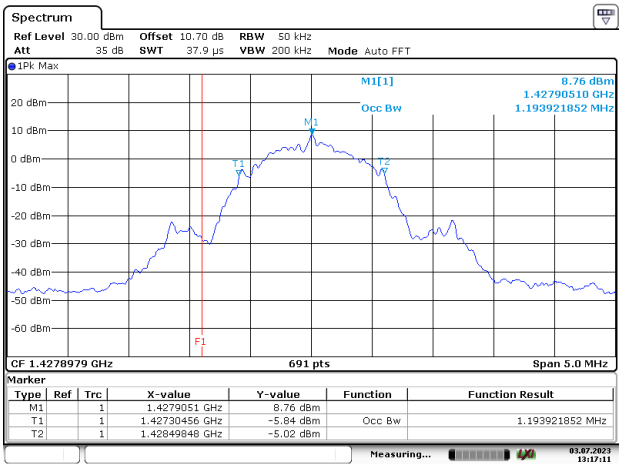
Channel 3 at 37°C



Date: 3.JUL.2023 16:17:32

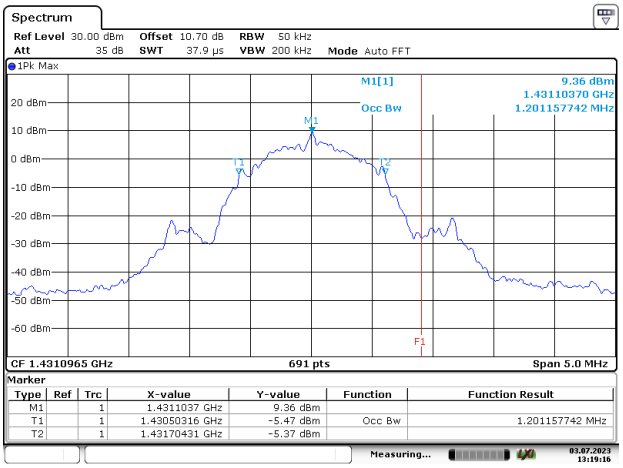
1427 – 1432 MHz (USA)

Channel 4 at 0°C



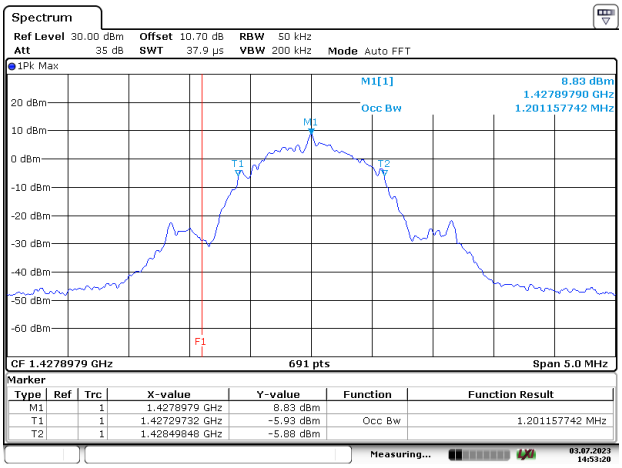
Date: 3.JUL.2023 13:17:11

Channel 6 at 0°C



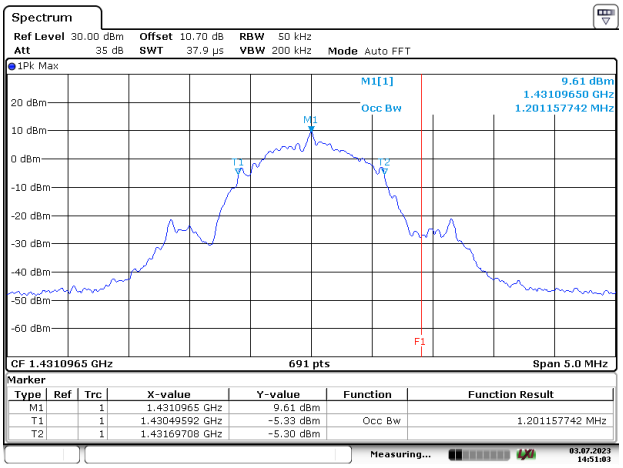
Date: 3.JUL.2023 13:19:16

Channel 4 at 25°C



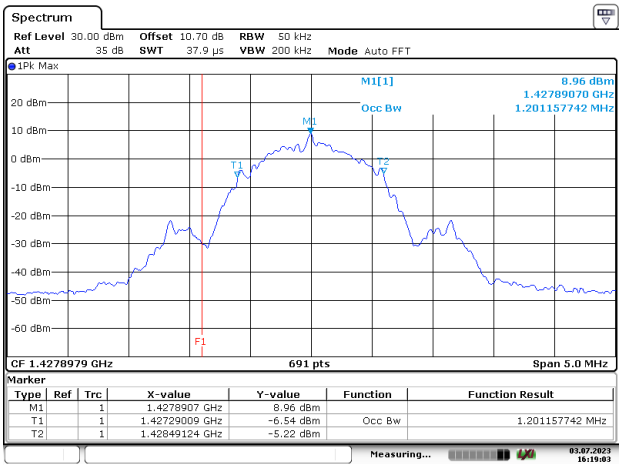
Date: 3.JUL.2023 14:53:20

Channel 6 at 25°C



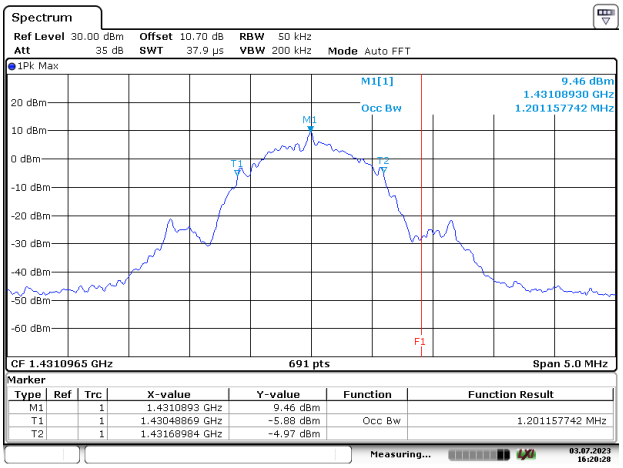
Date: 3.JUL.2023 14:51:03

Channel 4 at 37°C



Date: 3.JUL.2023 16:19:03

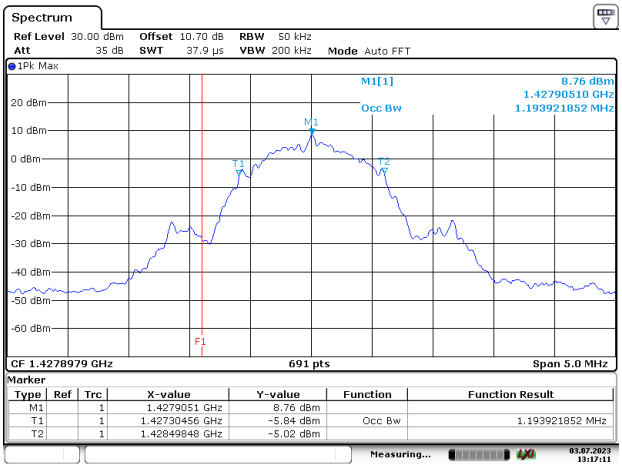
Channel 6 at 37°C



Date: 3.JUL.2023 16:20:29

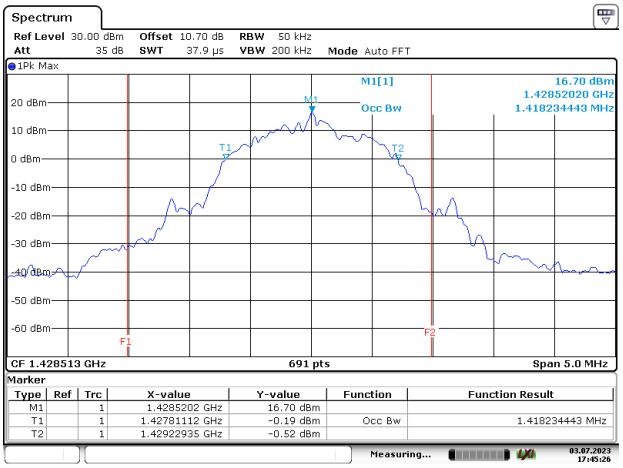
1427 – 1429.5 MHz (Canada)

Channel 4 at 0°C



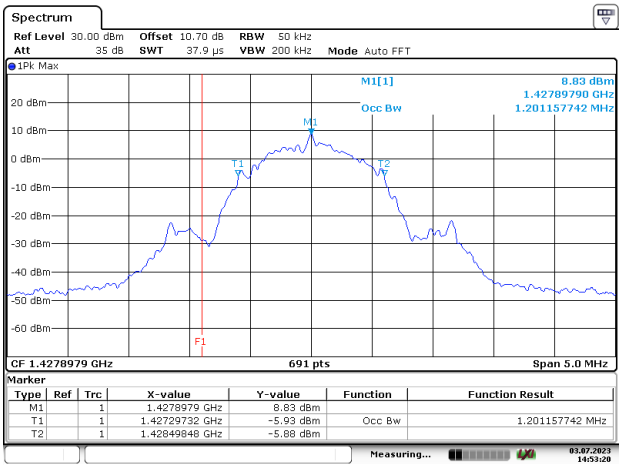
Date: 3.JUL.2023 13:17:11

Channel 16 at 0°C



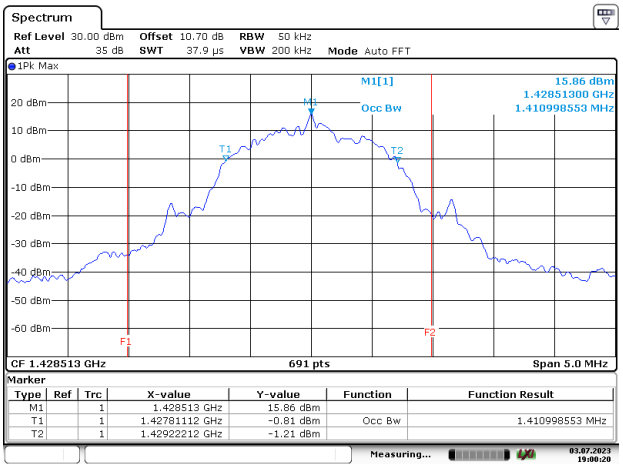
Date: 3.JUL.2023 17:45:26

Channel 4 at 25°C



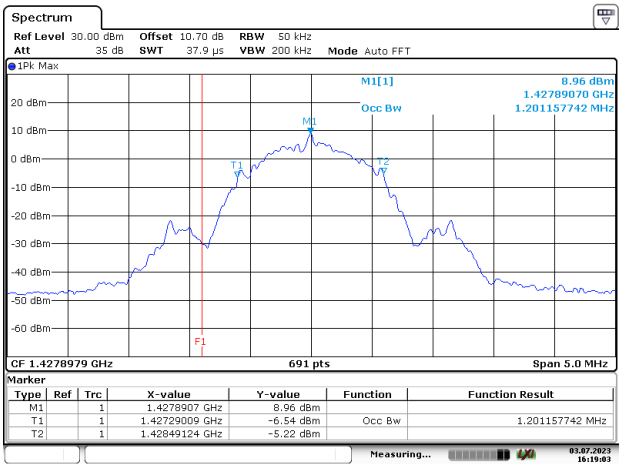
Date: 3.JUL.2023 14:53:20

Channel 16 at 25°C



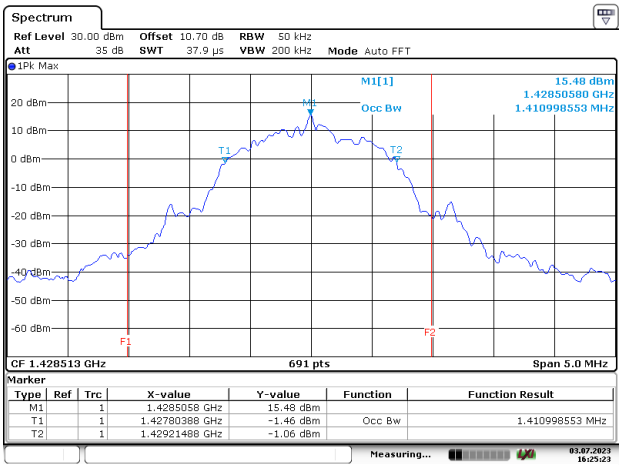
Date: 3.JUL.2023 19:00:20

Channel 4 at 37°C



Date: 3.JUL.2023 16:19:03

Channel 16 at 37°C



Date: 3.JUL.2023 16:25:24

6 Field Strength of Fundamental

6.1 *Test Result*

Test Description	Test Specification		Test Result
Field Strength of Fundamental	95.2369(b)	RSS-210 C.4(a)	Compliant

6.2 *Test Method*

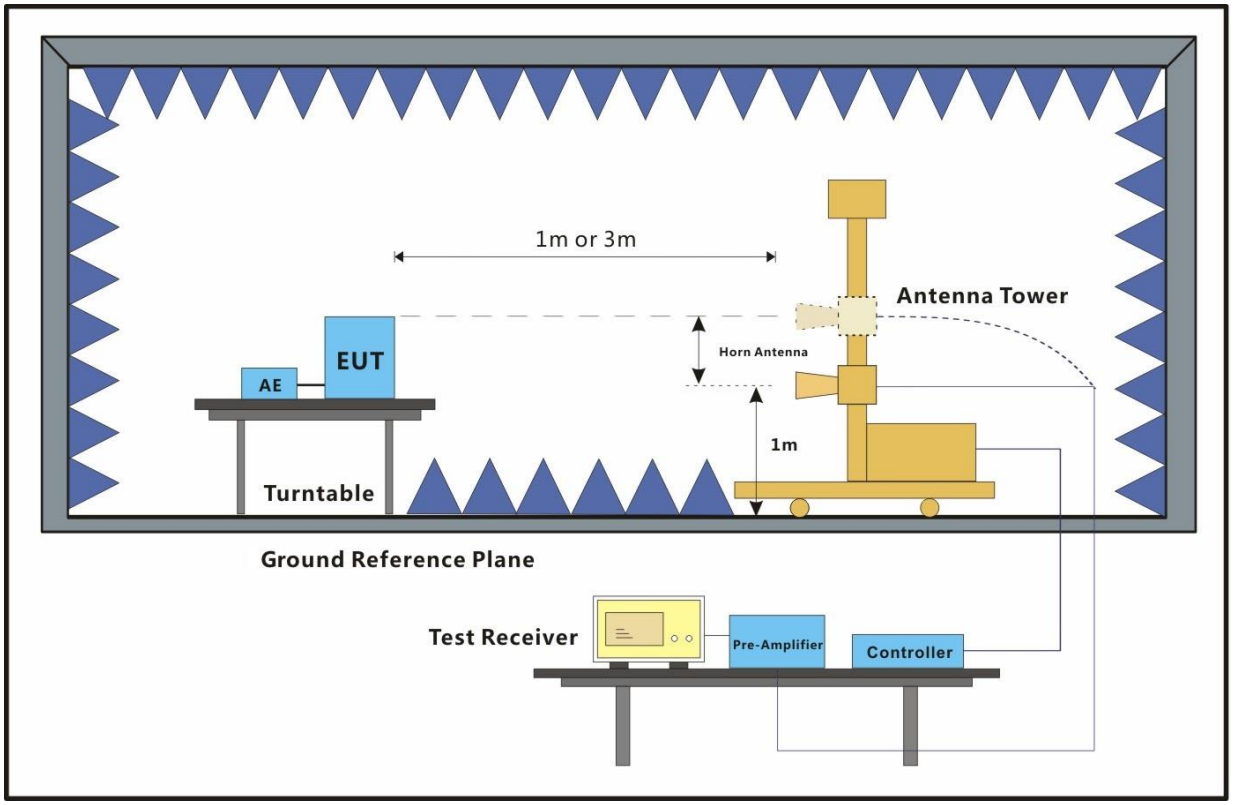
The fundamental field strength limit shown below is for measurements using an average detector. However, test data was measured using a peak detector and was found to meet this limit, which also shows compliance. This method was preferred due to the low duty cycle of the transmit signals.

The EUT radiated sample was oriented in each of its three orthogonal axes and data for each was reported. The receiver's resolution bandwidth was set to 1MHz. Measurements were made with the antenna positioned at a 3m distance from the EUT in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency. The radiated measurements were recorded and compared to the limit given below.

Limit (from FCC §95.2369(b):
For WMTS transmitter types operating in the 1395–1400 MHz and 1427–1432 MHz bands, the field strength of the transmitted signal must not exceed 740 mV/m, measured at 3 meters, using instrumentation with an averaging detector and a 1 MHz reference bandwidth.

Note: 740 mV/m equates to 117.4 dBuV/m

6.3 *Test Setup Diagram*



6.4 *Test Site*

3m Absorber Lined Shielded Enclosure (ALSE), Suwanee, GA

Environmental Conditions

Temperature:	22.5 – 22.9 °C
Relative Humidity:	48.9 – 53.7 %
Atmospheric Pressure:	98.2 – 98.5 kPa

6.5 *Test Equipment*

Test End Date: 25-Jul-2023 Tester: MT

Equipment	Model	Manufacturer	Asset	Cal Date	Cal Due Date
ANTENNA, DRG HORN (MEDIUM)	3117	ETS LINDGREN	B079699	29-Jul-2022	29-Jul-2024
N to N RF Cable	EM-B810NM-276	ECHELON	23007	31-Mar-2023	31-Mar-2024
N-FEMALE TO N-MALE RF CABLE	EM-B810NMNF-118	ECHELON	23010	1-May-2023	1-May-2024
RF CABLE NM TO NM, 0.01-18GHZ	90-195-118	TELEDYNE STORM MICROWAVE	20126	9-Feb-2023	9-Feb-2024
RF CABLE RIGHT ANGLE NM TO NM, 0.01-18GHZ	90-076-020	TELEDYNE STORM MICROWAVE	20132	13-Mar-2023	13-Mar-2024
ATTENUATOR, 10DB (TS8997)	10DB	ROHDE & SCHWARZ	B095591	10-May-2023	10-May-2024
LOW NOISE AMPLIFIER	TS-PR18	ROHDE & SCHWARZ	15003	3-Oct-2022	3-Oct-2023
EMI TEST RECEIVER	ESW44	ROHDE & SCHWARZ	22032	24-Nov-2022	24-Nov-2023

6.6 *Test Data*

Channel 1 – GFSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1395.9	98.2	X	V	88.0	299.0	28.5	2.7	10.0	42.6	96.8	117.4	-20.6
1395.9	105.8	X	H	6.0	129.0	28.5	2.7	10.0	42.6	104.4	117.4	-13.0
1395.9	97.4	Y	V	135.0	285.0	28.5	2.7	10.0	42.6	96.0	117.4	-21.4
1395.9	103.5	Y	H	147.0	123.0	28.5	2.7	10.0	42.6	102.1	117.4	-15.3
1395.9	105.4	Z	V	261.0	177.0	28.5	2.7	10.0	42.6	104.0	117.4	-13.4
1395.9	97.5	Z	H	158.0	192.0	28.5	2.7	10.0	42.6	96.1	117.4	-21.3

Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Channel 3 – GFSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1399.1	95.5	X	V	17.0	154.0	28.5	2.7	10.0	42.6	94.1	117.4	-23.3
1399.1	105.7	X	H	6.0	132.0	28.5	2.7	10.0	42.6	104.3	117.4	-13.1
1399.1	96.7	Y	V	266.0	170.0	28.5	2.7	10.0	42.6	95.3	117.4	-22.1
1399.1	103.7	Y	H	169.0	318.0	28.5	2.7	10.0	42.6	102.3	117.4	-15.1
1399.1	102.1	Z	V	277.0	206.0	28.5	2.7	10.0	42.6	100.7	117.4	-16.7
1399.1	97.0	Z	H	1.0	313.0	28.5	2.7	10.0	42.6	95.6	117.4	-21.8

Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Channel 4 – GFSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1427.9	96.1	X	V	88.0	287.0	28.5	2.8	10.0	42.6	94.8	117.4	-22.6
1427.9	103.3	X	H	7.0	245.0	28.5	2.8	10.0	42.6	102.0	117.4	-15.4
1427.9	94.2	Y	V	115.0	305.0	28.5	2.8	10.0	42.6	92.9	117.4	-24.5
1427.9	101.5	Y	H	167.0	259.0	28.5	2.8	10.0	42.6	100.2	117.4	-17.2
1427.9	102.7	Z	V	80.0	136.0	28.5	2.8	10.0	42.6	101.4	117.4	-16.0
1427.9	97.1	Z	H	38.0	134.0	28.5	2.8	10.0	42.6	95.8	117.4	-21.6

Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Channel 6 – GFSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1431.1	96.6	X	V	89.0	289.0	28.4	2.8	10.0	42.5	95.3	117.4	-22.1
1431.1	103.9	X	H	10.0	158.0	28.4	2.8	10.0	42.5	102.6	117.4	-14.8
1431.1	94.8	Y	V	277.0	206.0	28.4	2.8	10.0	42.5	93.5	117.4	-23.9
1431.1	101.9	Y	H	172.0	259.0	28.4	2.8	10.0	42.5	100.6	117.4	-16.8
1431.1	101.6	Z	V	138.0	179.0	28.4	2.8	10.0	42.5	100.3	117.4	-17.1
1431.1	96.3	Z	H	124.0	281.0	28.4	2.8	10.0	42.5	95.0	117.4	-22.4

Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Channel 14 – QPSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1396.6	100.6	X	V	22.0	152.0	28.5	2.7	10.0	42.6	99.2	117.4	-18.2
1396.6	111.4	X	H	5.0	130.0	28.5	2.7	10.0	42.6	110.0	117.4	-7.4
1396.6	100.4	Y	V	352.0	183.0	28.5	2.7	10.0	42.6	99.0	117.4	-18.4
1396.6	109.3	Y	H	170.0	315.0	28.5	2.7	10.0	42.6	107.9	117.4	-9.5
1396.6	109.7	Z	V	81.0	132.0	28.5	2.7	10.0	42.6	108.3	117.4	-9.1
1396.6	102.5	Z	H	3.0	312.0	28.5	2.7	10.0	42.6	101.1	117.4	-16.3

Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Channel 15 – QPSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1398.4	103.2	X	V	92.0	299.0	28.5	2.7	10.0	42.6	101.8	117.4	-15.6
1398.4	111.2	X	H	8.0	204.0	28.5	2.7	10.0	42.6	109.8	117.4	-7.6
1398.4	102.1	Y	V	118.0	340.0	28.5	2.7	10.0	42.6	100.7	117.4	-16.7
1398.4	109.3	Y	H	170.0	315.0	28.5	2.7	10.0	42.6	107.9	117.4	-9.5
1398.4	109.8	Z	V	87.0	169.0	28.5	2.7	10.0	42.6	108.4	117.4	-9.0
1398.4	102.1	Z	H	4.0	312.0	28.5	2.7	10.0	42.6	100.7	117.4	-16.7

Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Channel 16 – QPSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1428.5	97.6	X	V	22.0	151.0	28.5	2.8	10.0	42.6	96.3	117.4	-21.1
1428.5	109.2	X	H	10.0	123.0	28.5	2.8	10.0	42.6	107.9	117.4	-9.5
1428.5	100.2	Y	V	276.0	205.0	28.5	2.8	10.0	42.6	98.9	117.4	-18.5
1428.5	106.5	Y	H	19.0	366.0	28.5	2.8	10.0	42.6	105.2	117.4	-12.2
1428.5	108.2	Z	V	72.0	135.0	28.5	2.8	10.0	42.6	106.9	117.4	-10.5
1428.5	102.2	Z	H	31.0	136.0	28.5	2.8	10.0	42.6	100.9	117.4	-16.5

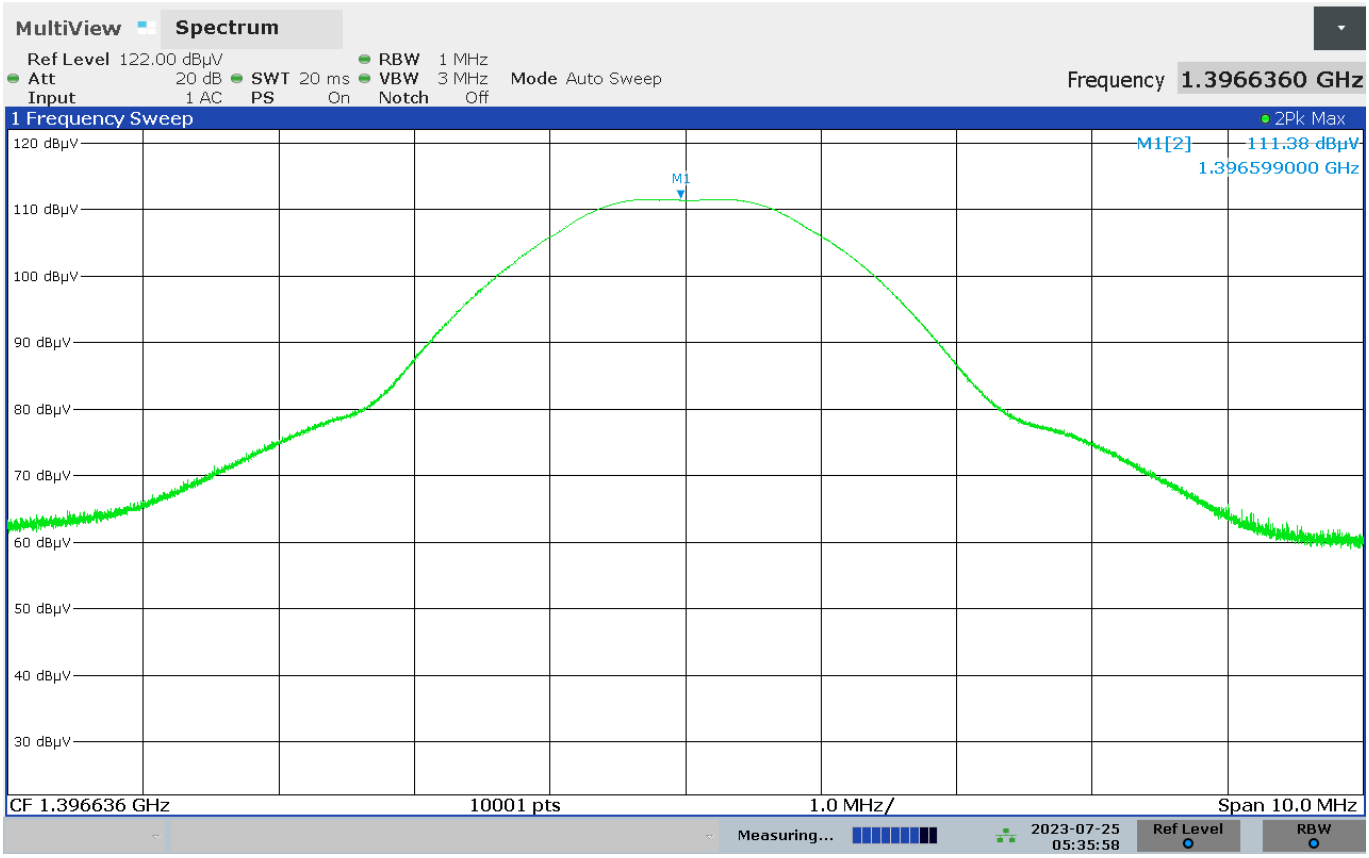
Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Channel 17 – QPSK

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	Atten (dB)	Amp (dB)	Pk Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
1430.2	97.3	X	V	25.0	146.0	28.4	2.8	10.0	42.5	96.0	117.4	-21.4
1430.2	109.0	X	H	12.0	245.0	28.4	2.8	10.0	42.5	107.7	117.4	-9.7
1430.2	98.5	Y	V	349.0	140.0	28.4	2.8	10.0	42.5	97.2	117.4	-20.2
1430.2	107.9	Y	H	169.0	258.0	28.4	2.8	10.0	42.5	106.6	117.4	-10.8
1430.2	108.6	Z	V	81.0	134.0	28.4	2.8	10.0	42.5	107.3	117.4	-10.1
1430.2	102.9	Z	H	36.0	134.0	28.4	2.8	10.0	42.5	101.6	117.4	-15.8

Pk Value = Raw Pk + AF + CL + Atten - Amp
Margin = Pk Value - Limit

Example Plot



7 Field Strength of Spurious Emissions

7.1 *Test Result*

Test Description	Test Specification		Test Result
Field Strength of Spurious Emissions	95.2379	RSS-210 C.4(b)(c)	Compliant

7.2 *Test Method*

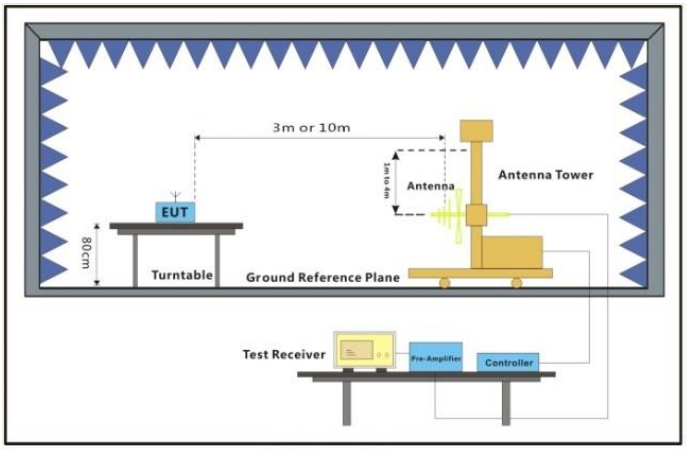
Exploratory scans were performed using the max hold function and incorporating a peak detector and using TILE! software. The final test data was measured using a quasi-peak detector below 960MHz and average and peak detectors above 960MHz. For harmonics of the fundamental, average measurements were made by correcting the peak value with the duty cycle correction factor (DCCF). For emissions other than harmonics of the fundamental, measurements were made using both the average and peak detectors. The receiver's resolution bandwidth was set to 120 kHz for measurements taken in the 30 MHz to 960 MHz frequency range and 1MHz for measurements 960 MHz and higher. Measurements were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency. The EUT was tested in each of its three orthogonal axes and the worst-case data was reported. The radiated measurements were recorded and compared to the limits shown below.

Limits (from FCC §95.2379):
(a) Unwanted emissions on frequencies below 960 MHz must not exceed 200 μ V/m, measured at a distance of 3 meters using measuring instrumentation with a CISPR quasi-peak detector.
(b) Unwanted emissions on frequencies above 960 MHz must not exceed 500 μ V/m, measured at a distance of 3 meters using measuring equipment with an averaging detector and a 1 MHz measurement bandwidth.

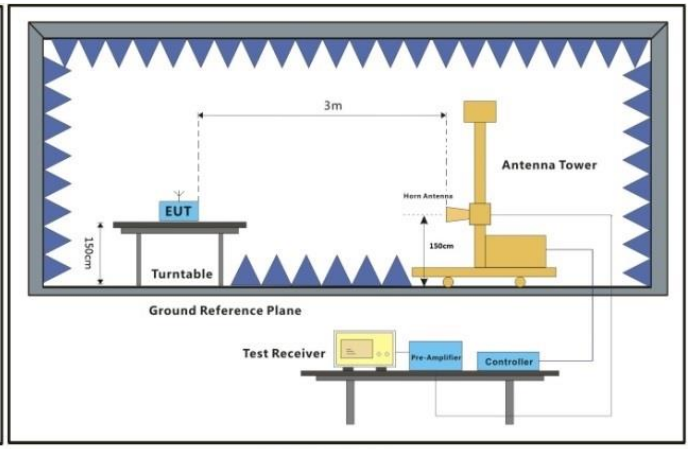
Note: 200 μV/m equates to 46 dBμV/m and 500 μV/m equates to 54 dBμV/m
Peak limits are 20dB higher than the average limits.

Spurious emissions shall meet the average and peak limits indicated above. Also, emissions that fall in the restricted bands given in §15.205 shall meet the general emission limits of §15.209.

7.3 *Test Setup Diagram*



30MHz-1GHz



Above 1GHz

7.4 *Test Site*

3m Absorber Lined Shielded Enclosure (ALSE), Suwanee, GA

Environmental Conditions

Temperature:	22.5 – 23.9 °C
Relative Humidity:	52.9 – 58.0 %
Atmospheric Pressure:	97.7 – 98.5 kPa

7.5 *Test Equipment*

30 – 960 MHz

Test End Date: 20-Jul-2023 Tester: MT

Equipment	Model	Manufacturer	Asset	Cal Date	Cal Due Date
ANTENNA, BILOG	JB6	SUNOL	B079689	26-May-2022	26-May-2024
N to N RF Cable	EM-B810NM-276	ECHELON	23007	31-Mar-2023	31-Mar-2024
N-FEMALE TO N-MALE RF CABLE	EM-B810NMNF-118	ECHELON	23010	1-May-2023	1-May-2024
RF CABLE NM TO NM, 0.01-18GHZ	90-195-118	TELEDYNE STORM MICROWAVE	20126	9-Feb-2023	9-Feb-2024
RF CABLE RIGHT ANGLE NM TO NM, 0.01-18GHZ	90-076-020	TELEDYNE STORM MICROWAVE	20132	13-Mar-2023	13-Mar-2024
LOW NOISE AMPLIFIER	ZKL-2+	MINI-CIRCUITS	B079800	14-Sep-2022	14-Sep-2023
EMI TEST RECEIVER	ESW44	ROHDE & SCHWARZ	22032	24-Nov-2022	24-Nov-2023

960 MHz – 15 GHz

Test End Date: 25-Jul-2023 Tester: MT

Equipment	Model	Manufacturer	Asset	Cal Date	Cal Due Date
ANTENNA, DRG HORN (MEDIUM)	3117	ETS LINDGREN	B079699	29-Jul-2022	29-Jul-2024
N to N RF Cable	EM-B810NM-276	ECHELON	23007	31-Mar-2023	31-Mar-2024
N-FEMALE TO N-MALE RF CABLE	EM-B810NMNF-118	ECHELON	23010	1-May-2023	1-May-2024
RF CABLE NM TO NM, 0.01-18GHZ	90-195-118	TELEDYNE STORM MICROWAVE	20126	9-Feb-2023	9-Feb-2024
RF CABLE RIGHT ANGLE NM TO NM, 0.01-18GHZ	90-076-020	TELEDYNE STORM MICROWAVE	20132	13-Mar-2023	13-Mar-2024
5DB ATTENUATOR NM TO NF	BW-N5W5+	MINI-CIRCUITS	19007	31-Mar-2023	31-Mar-2024
LOW NOISE AMPLIFIER	TS-PR18	ROHDE & SCHWARZ	15003	3-Oct-2022	3-Oct-2023
EMI TEST RECEIVER	ESW44	ROHDE & SCHWARZ	22032	24-Nov-2022	24-Nov-2023
FILTER, HIGH PASS, >2800MHZ	HPM50111	MICRO-TRONICS	22017	16-Jun-2023	16-Jun-2024

Software:
“RSE 30-1000 MHz T7 220318” TILE7 profile dated 18 March 2022
“RSE 1-18 GHz T7 210212” TILE7 profile dated 12 February 2021

7.6 *Duty Cycle Correction Factor (DCCF)*

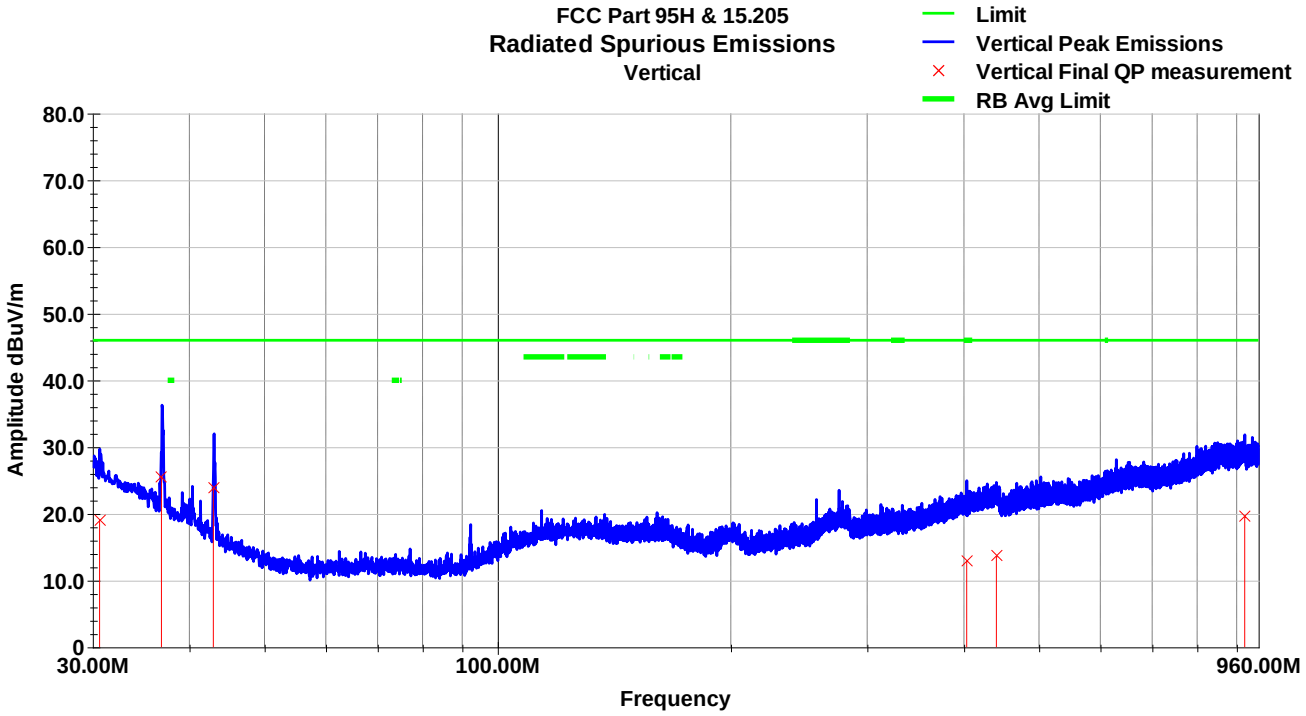
Duty Cycle				
Configuration	Tx On Time (ms)	Period, T (ms)	Duty Cycle (%)	DCCF (dB)
Normal	3.1	100.0	3.1 [1]	-20 [2]

Notes: (1) Duty cycle information and data was provided by the client; it was not measured by SGS.
(2) Limited to -20dB from peak to average (although 3.1% duty cycle would call for -30.2dB).

7.7 *Test Data – 30-960 MHz*

Emissions in the 30-960 MHz range were similar regardless of channel or EUT axis (worst-case shown).

Vertical Plot – Channel 17

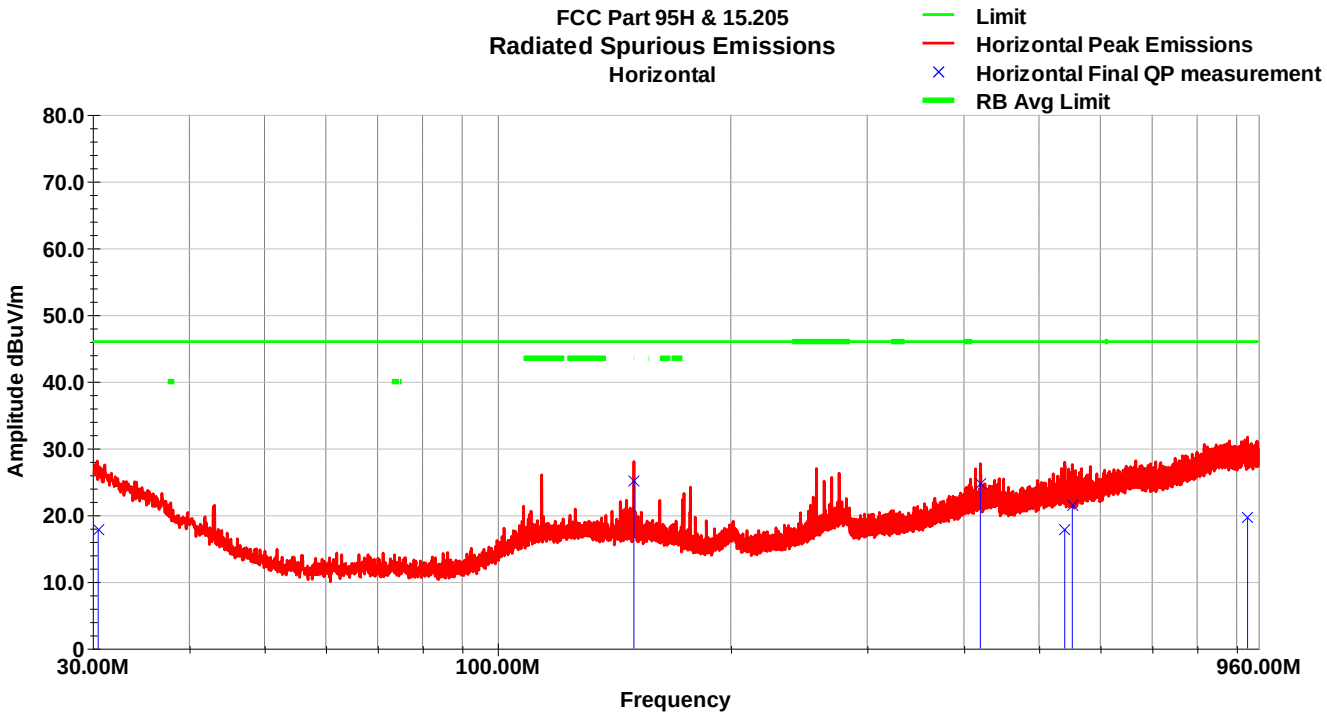


Vertical Data – Channel 17

Frequency MHz	Raw QP (dBuV)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	QP Value (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.63	24.2	V	220.0	100.0	25.5	0.3	30.9	19.1	46.0	-26.9
36.81	35.3	V	273.0	100.0	20.8	0.3	30.9	25.5	46.0	-20.5
42.95	38.1	V	251.0	100.0	16.2	0.3	30.8	23.8	46.0	-22.2
403.37	22.3	V	116.0	138.0	20.3	1.6	31.4	12.9	46.0	-33.1
440.54	22.4	V	111.0	226.0	21.0	1.7	31.4	13.6	46.0	-32.4
921.80	21.6	V	11.0	341.0	27.0	2.0	31.1	19.5	46.0	-26.5

QP Value = Raw QP + AF + Loss - Amp
Margin = QP Value - Limit

Horizontal Plot – Channel 17



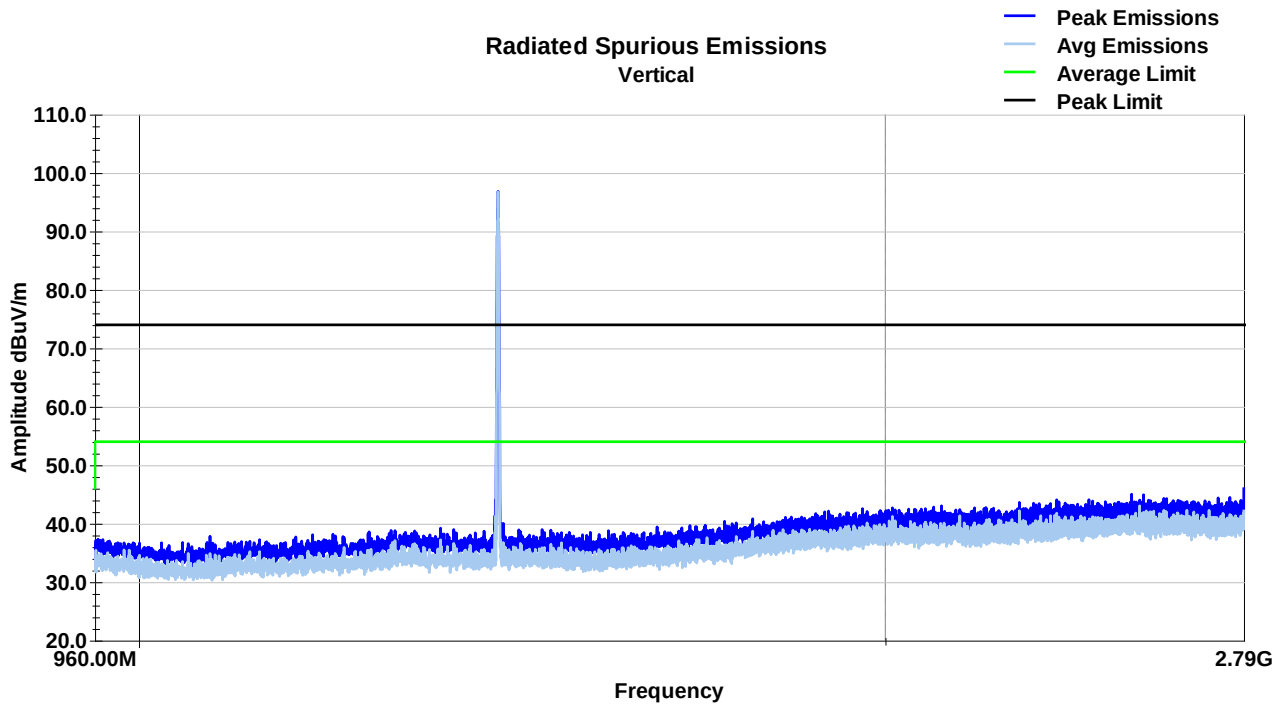
Horizontal Data – Channel 17

Frequency MHz	Raw QP (dBuV)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	QP Value (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.50	22.7	H	298.0	175.0	25.7	0.3	30.9	17.7	46.0	-28.3
149.97	39.1	H	186.0	100.0	16.8	0.7	31.5	25.1	46.0	-20.9
420.01	33.8	H	360.0	244.0	20.5	1.7	31.4	24.6	46.0	-21.4
539.83	24.6	H	210.0	157.0	22.6	1.9	31.4	17.9	46.0	-28.1
552.00	28.2	H	-1.0	226.0	22.6	1.9	31.4	21.5	46.0	-24.5
929.62	21.6	H	24.0	342.0	27.0	2.1	31.1	19.6	46.0	-26.4

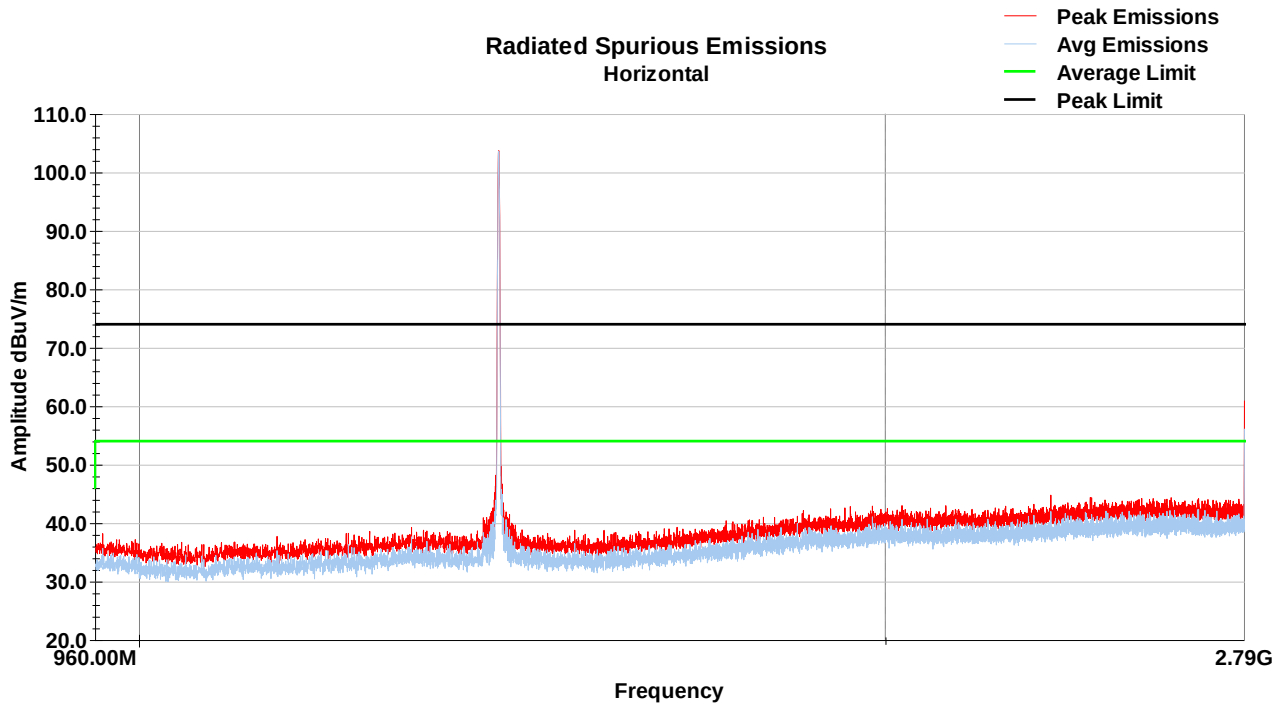
QP Value = Raw QP + AF + Loss - Amp
Margin = QP Value - Limit

7.8 *Test Data – 960-2790 MHz*

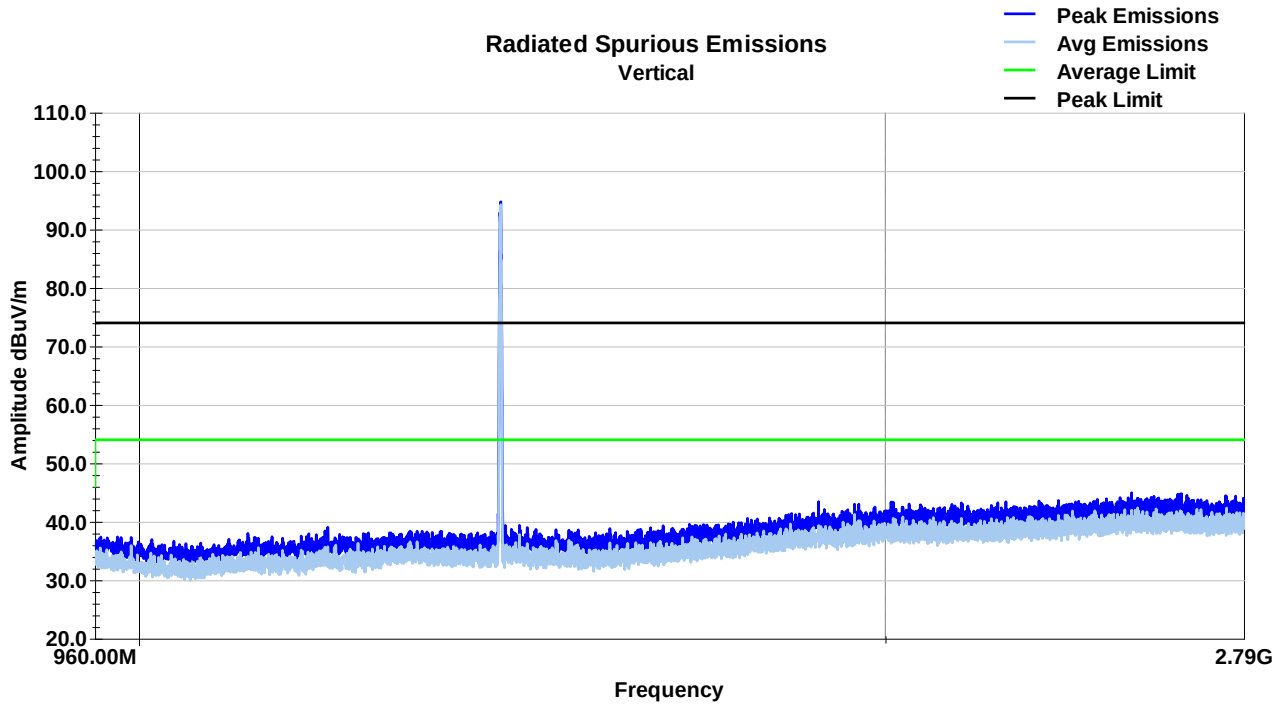
Vertical Plot – Channel 1



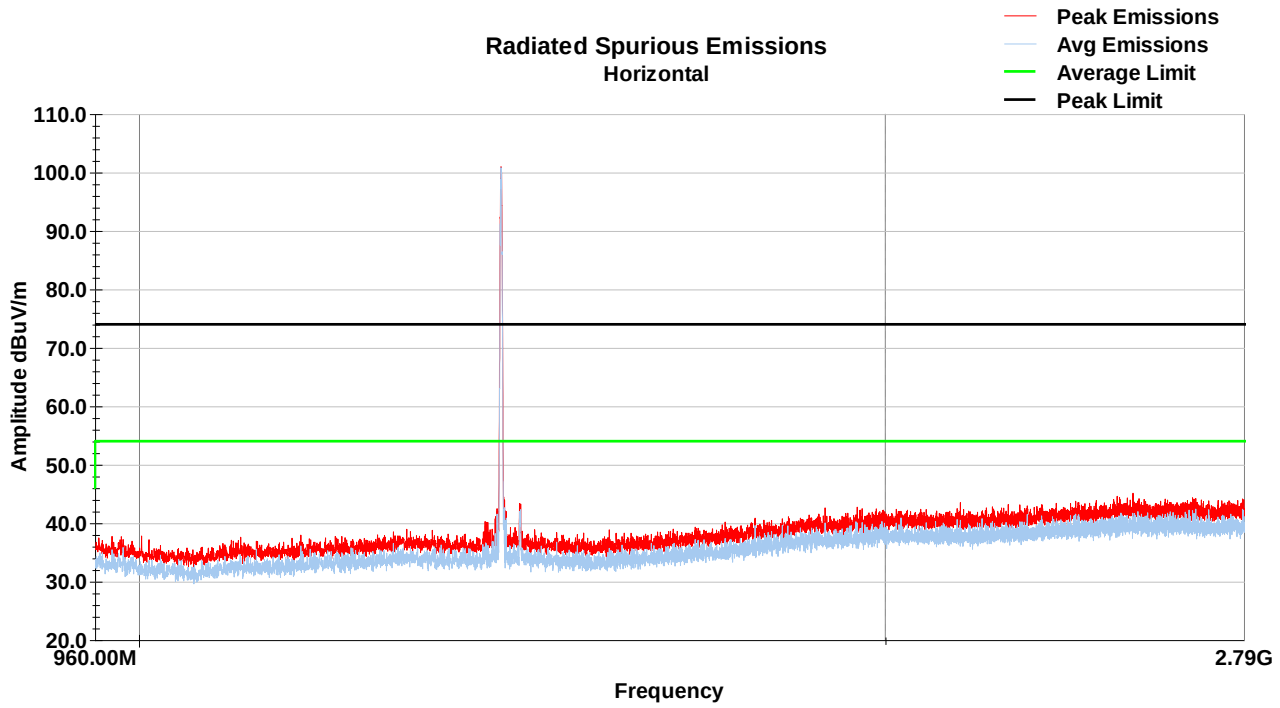
Horizontal Plot – Channel 1



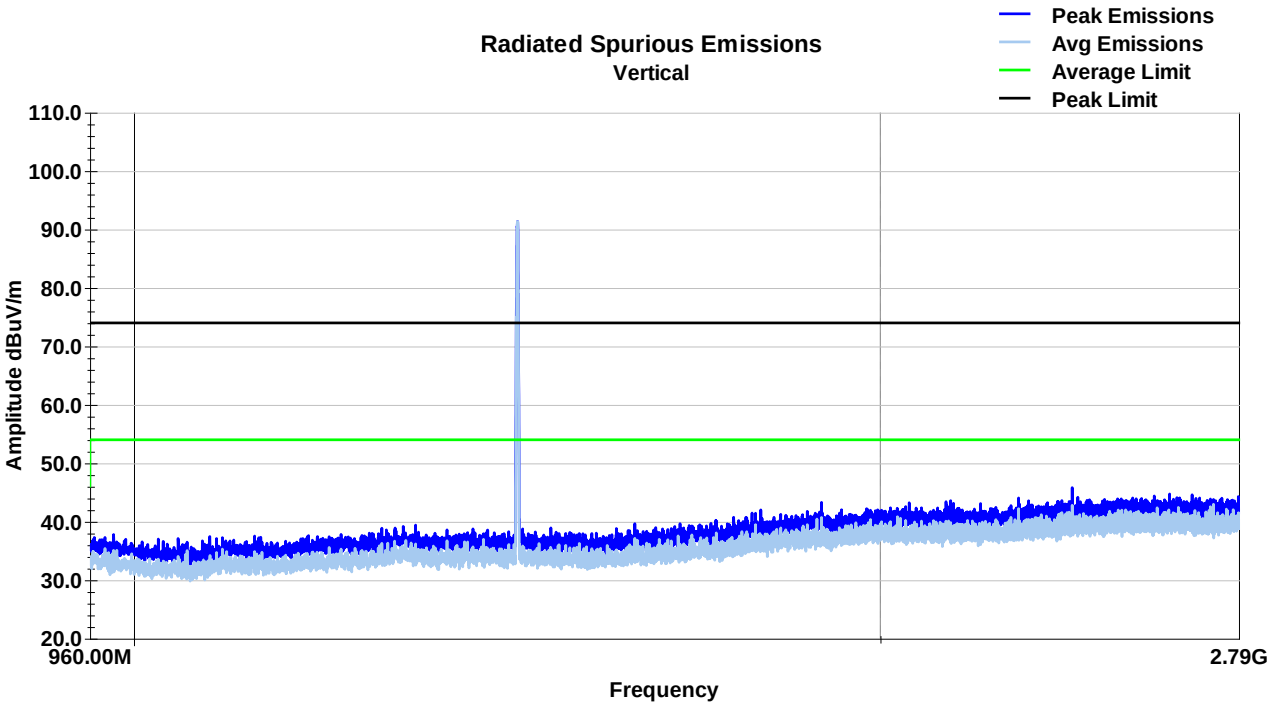
Vertical Plot – Channel 3



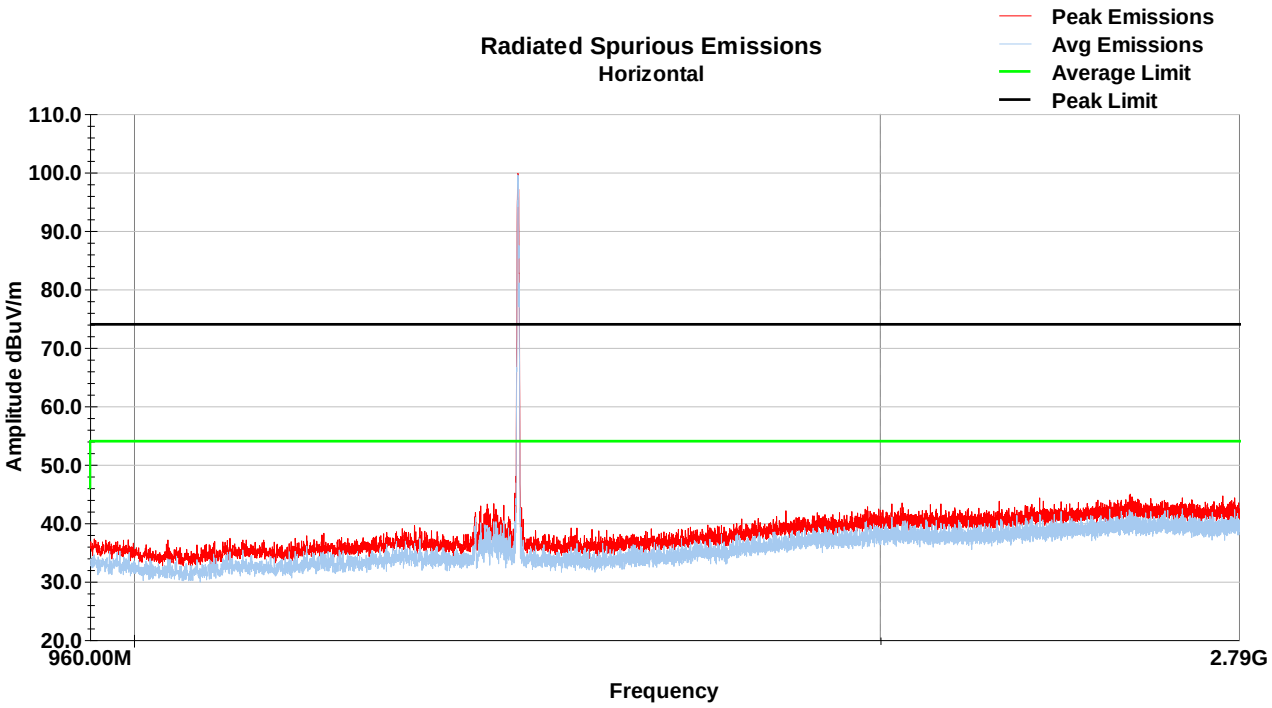
Horizontal Plot – Channel 3



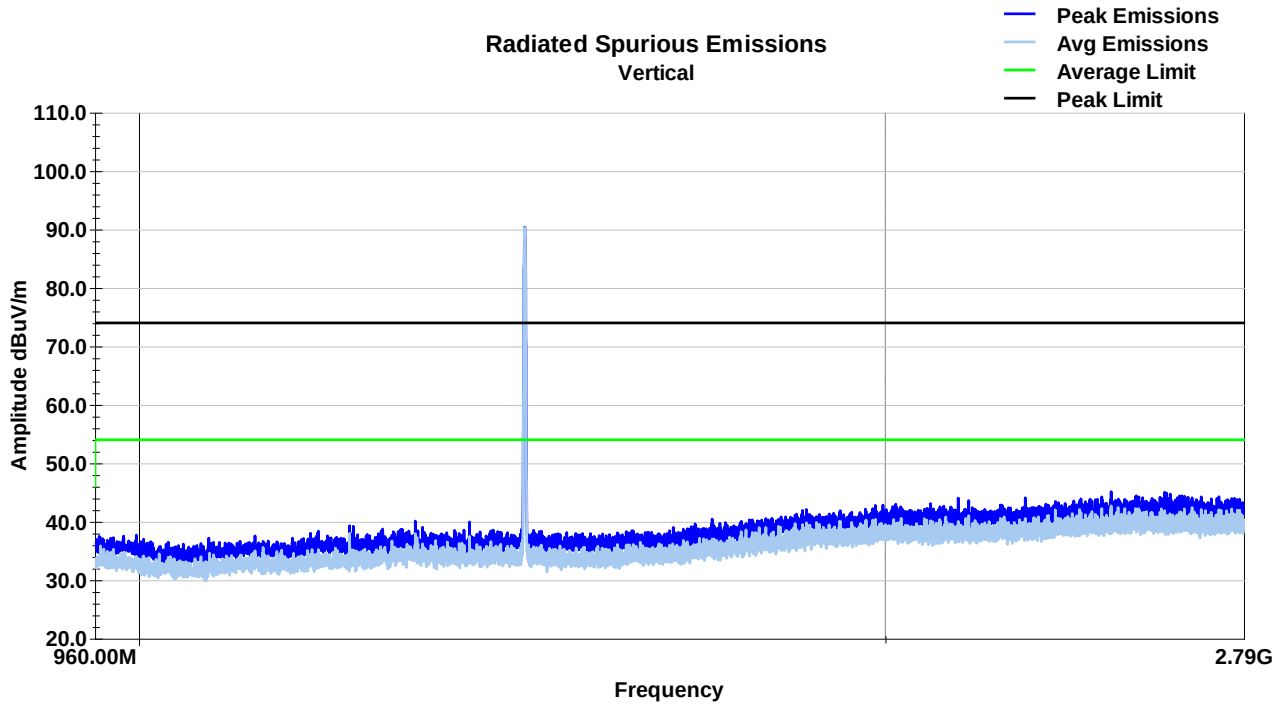
Vertical Plot – Channel 4



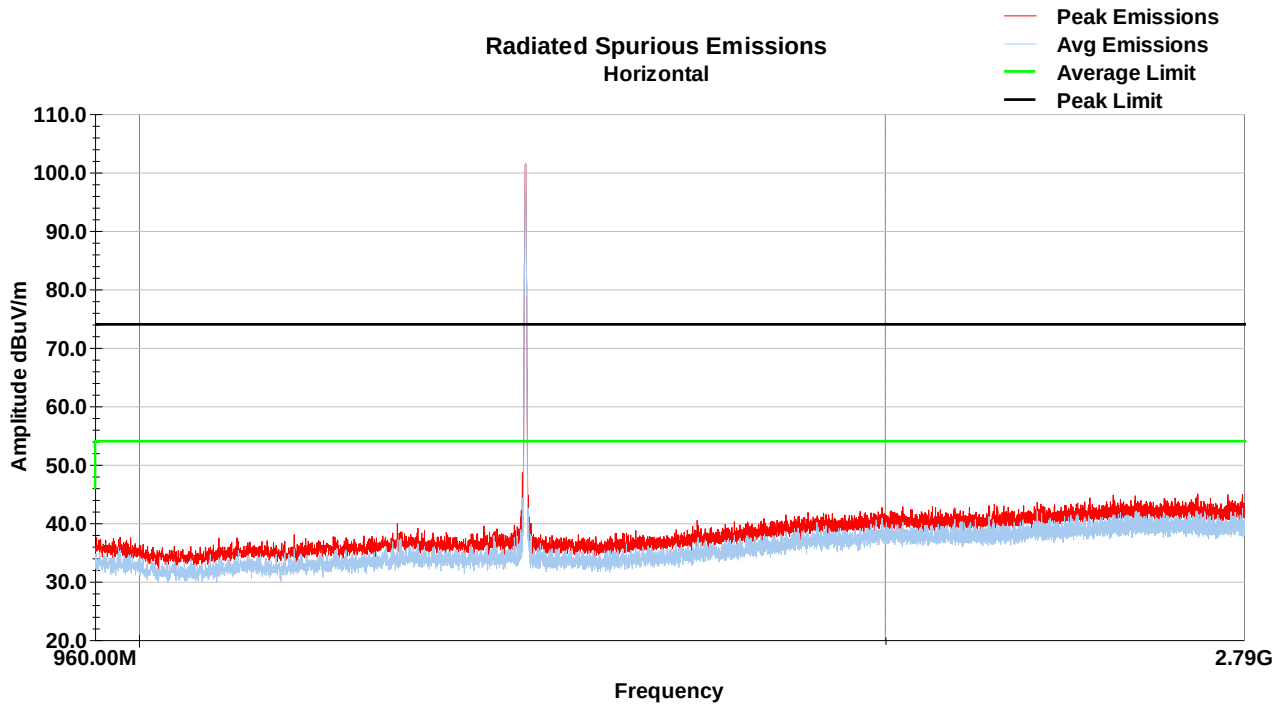
Horizontal Plot – Channel 4



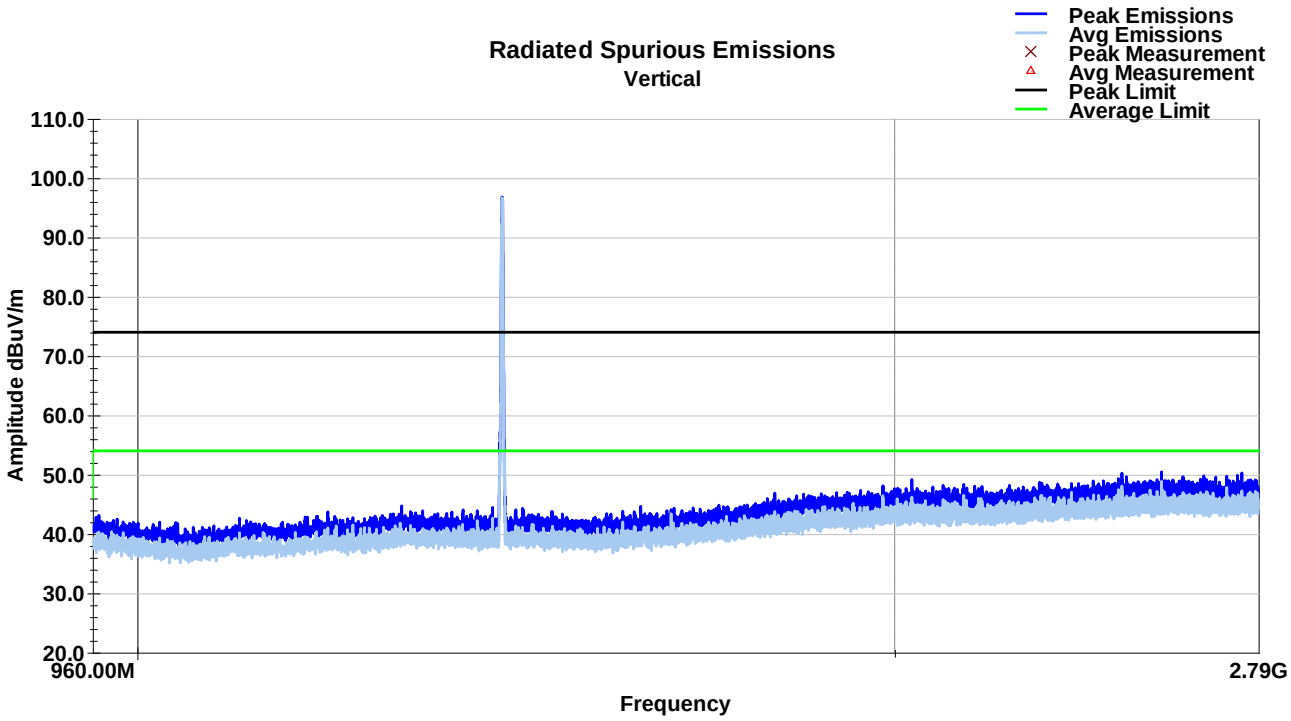
Vertical Plot – Channel 6



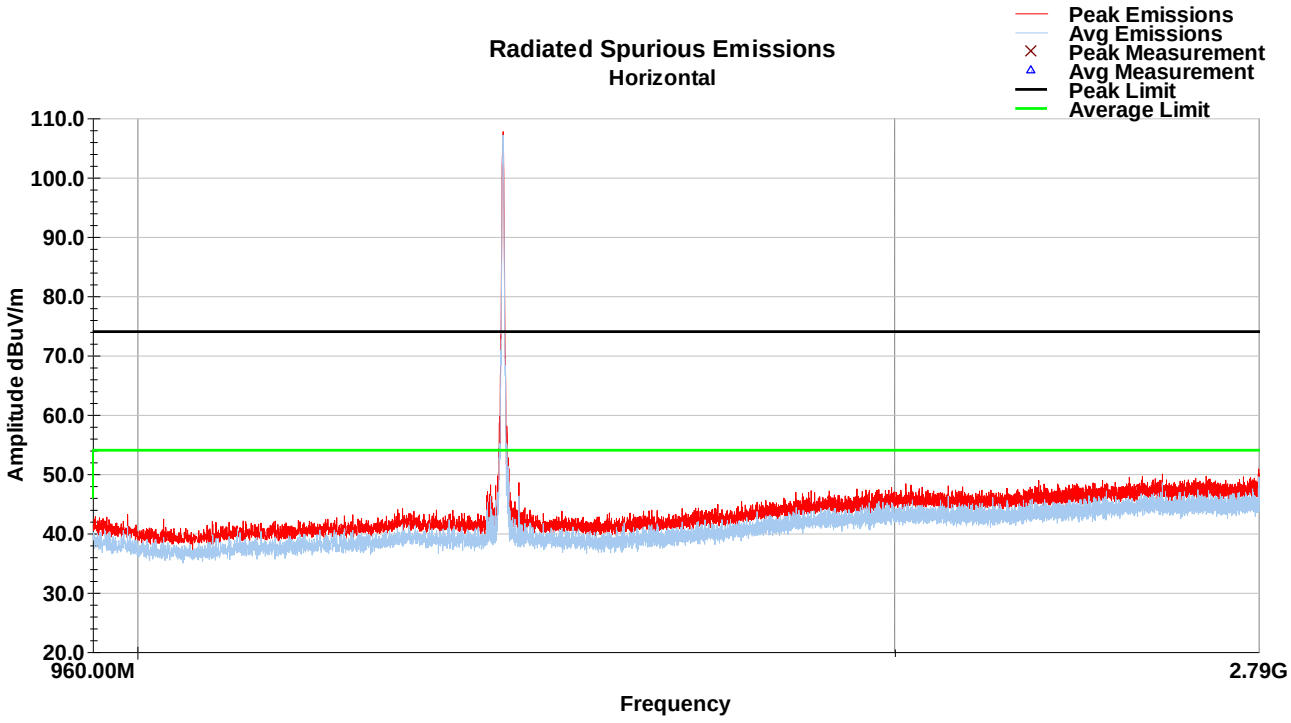
Horizontal Plot – Channel 6



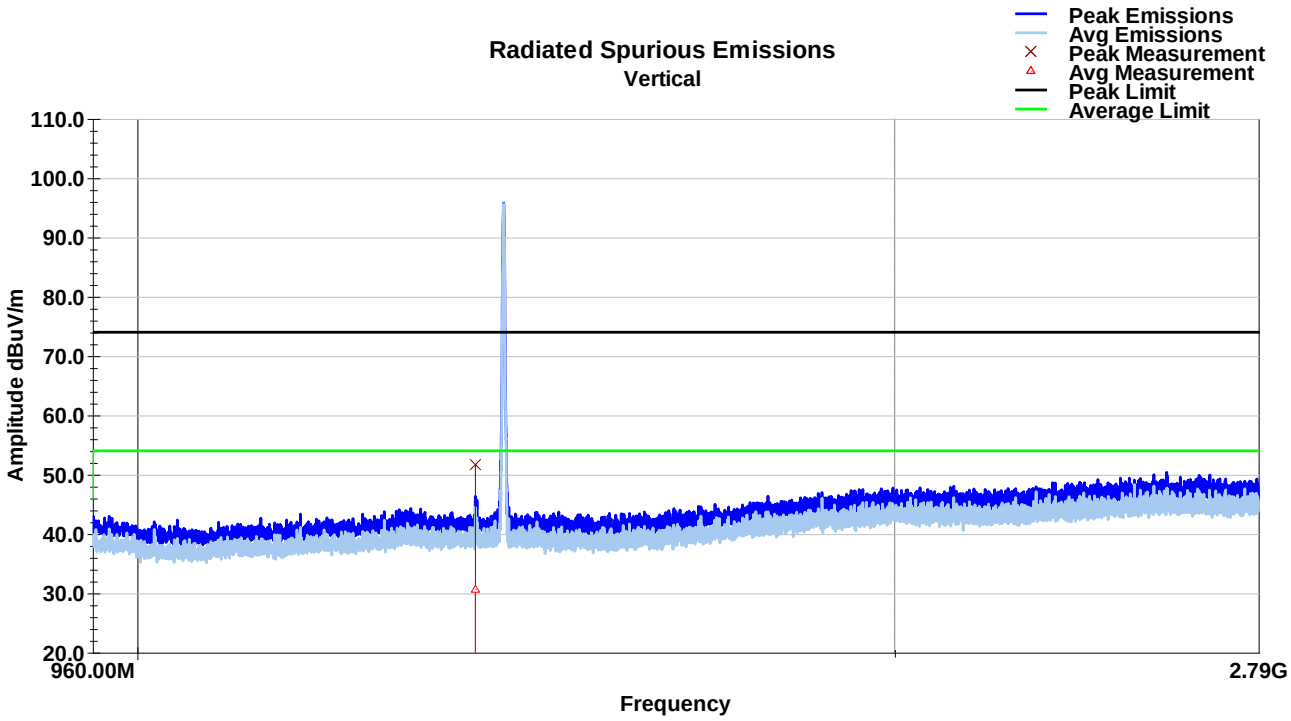
Vertical Plot – Channel 14



Horizontal Plot – Channel 14



Vertical Plot – Channel 15



Vertical Data – Channel 15

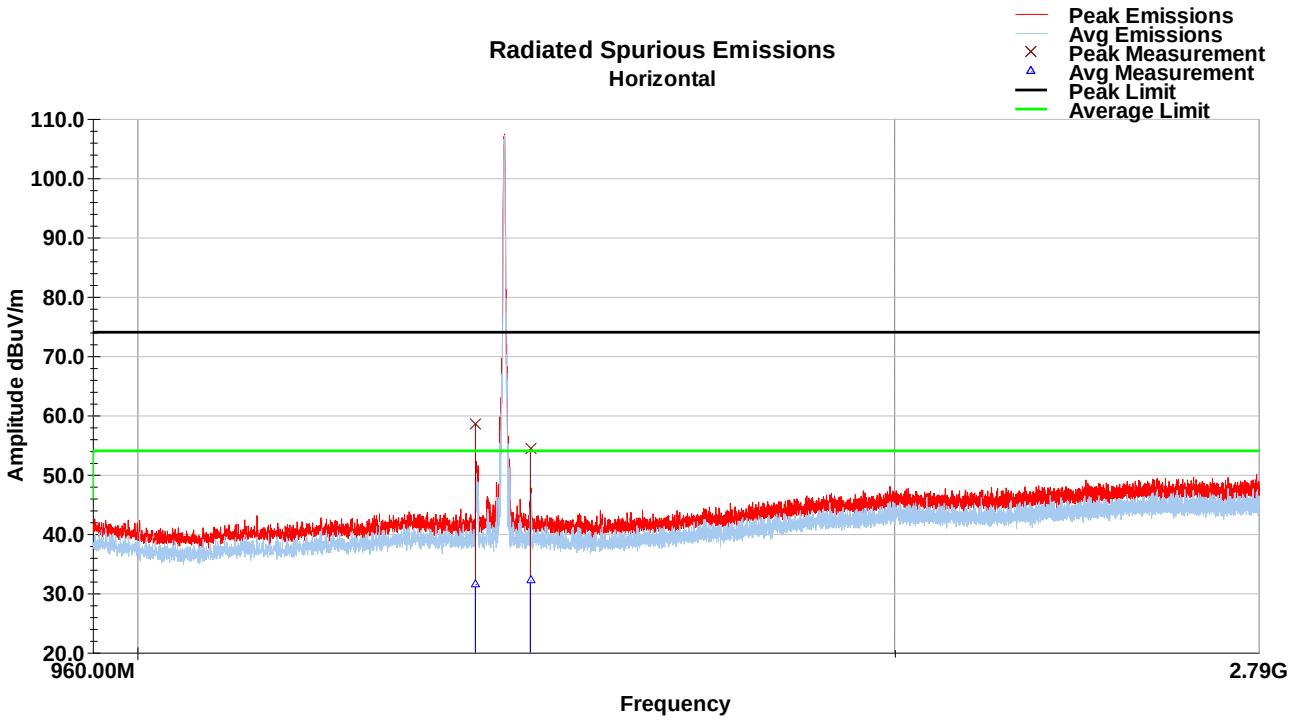
Peak

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
1362.68	58.2	V	83.0	249.0	28.7	7.4	42.6	51.7	74.0	-22.3
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Average

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Avg dBuV/m	Limit (dBuV/m)	Margin (dB)
1362.68	37.2	V	83.0	249.0	28.7	7.4	42.6	30.7	54.0	-23.3
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Horizontal Plot – Channel 15



Horizontal Data – Channel 15

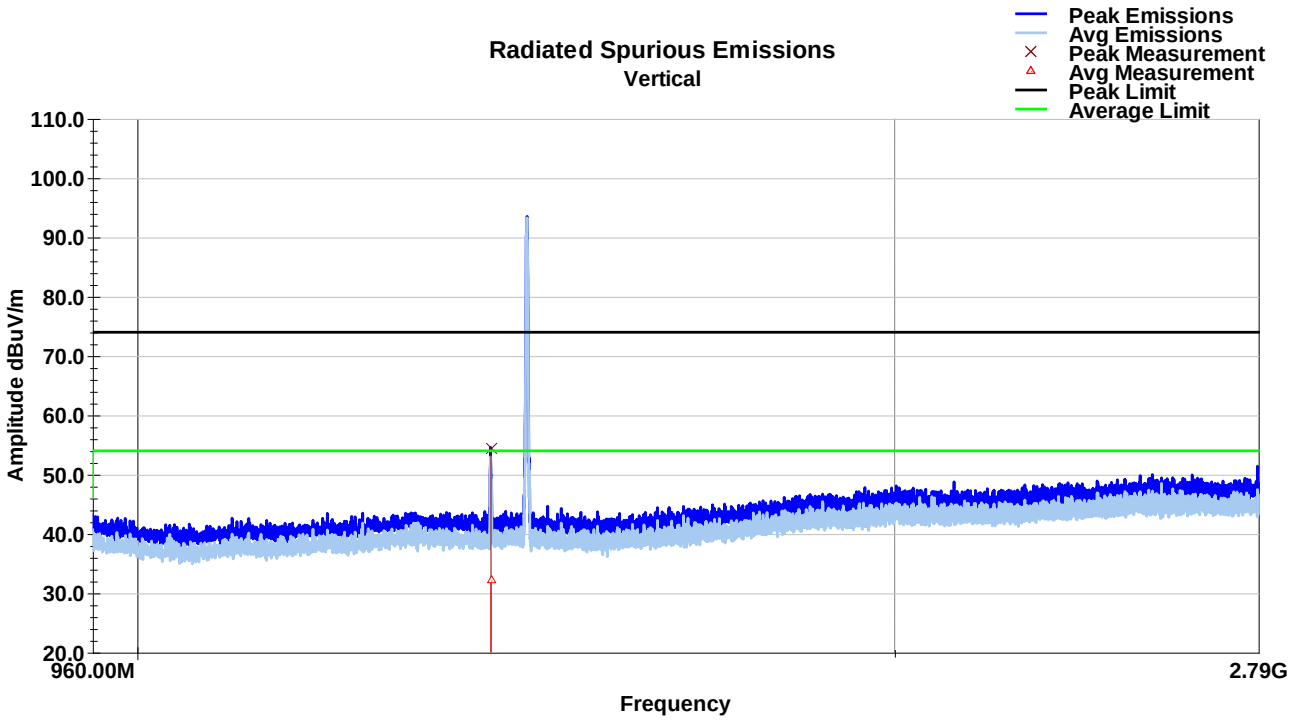
Peak

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
1362.68	64.9	H	7.0	174.0	28.7	7.4	42.6	58.5	74.0	-15.5
1433.04	60.8	H	7.0	188.0	28.4	7.7	42.5	54.3	74.0	-19.7
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Average

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Avg Value dBuV/m	Limit (dBuV/m)	Margin (dB)
1362.68	38.1	H	7.0	174.0	28.7	7.4	42.6	31.6	54.0	-22.4
1433.04	38.7	H	7.0	188.0	28.4	7.7	42.5	32.2	54.0	-21.8
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Vertical Plot – Channel 16



Vertical Data – Channel 16

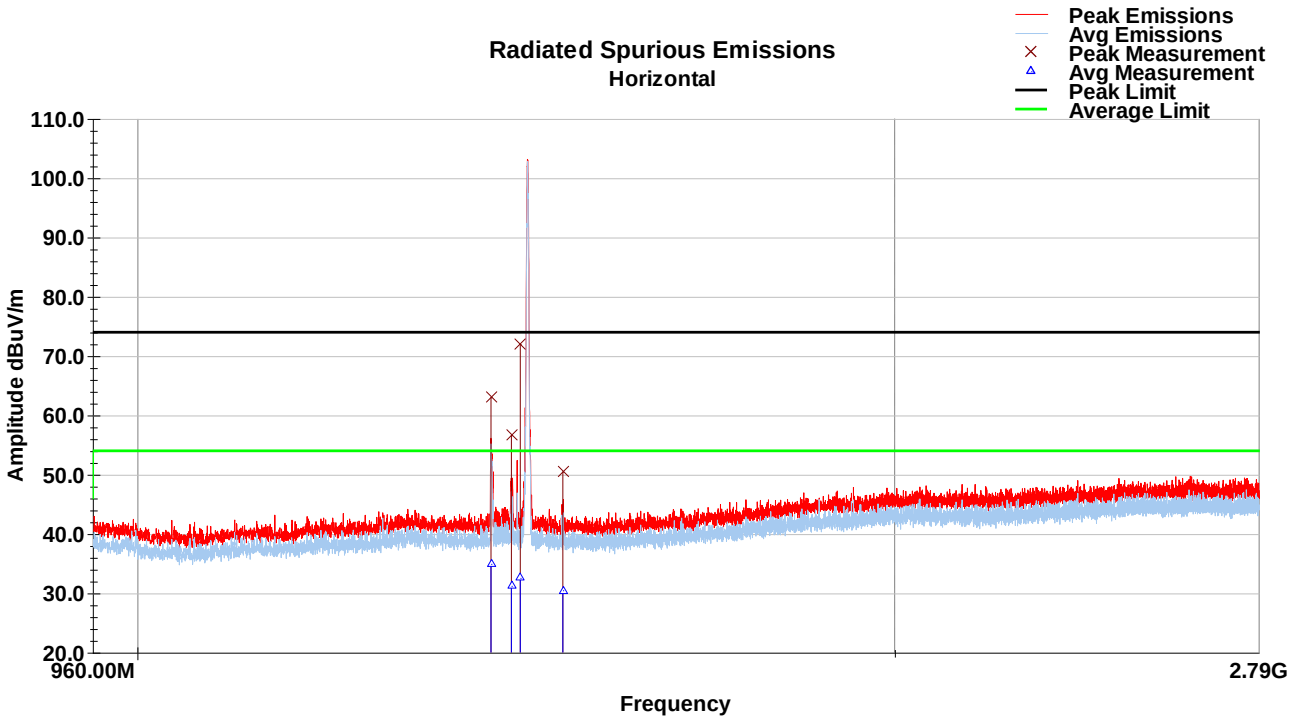
Peak

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
1382.28	61.0	V	81.0	249.0	28.5	7.5	42.6	54.5	74.0	-19.5
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Average

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Avg dBuV/m	Limit (dBuV/m)	Margin (dB)
1382.28	38.7	V	81.0	249.0	28.5	7.5	42.6	32.2	54.0	-21.8
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Horizontal Plot – Channel 16



Horizontal Data – Channel 16

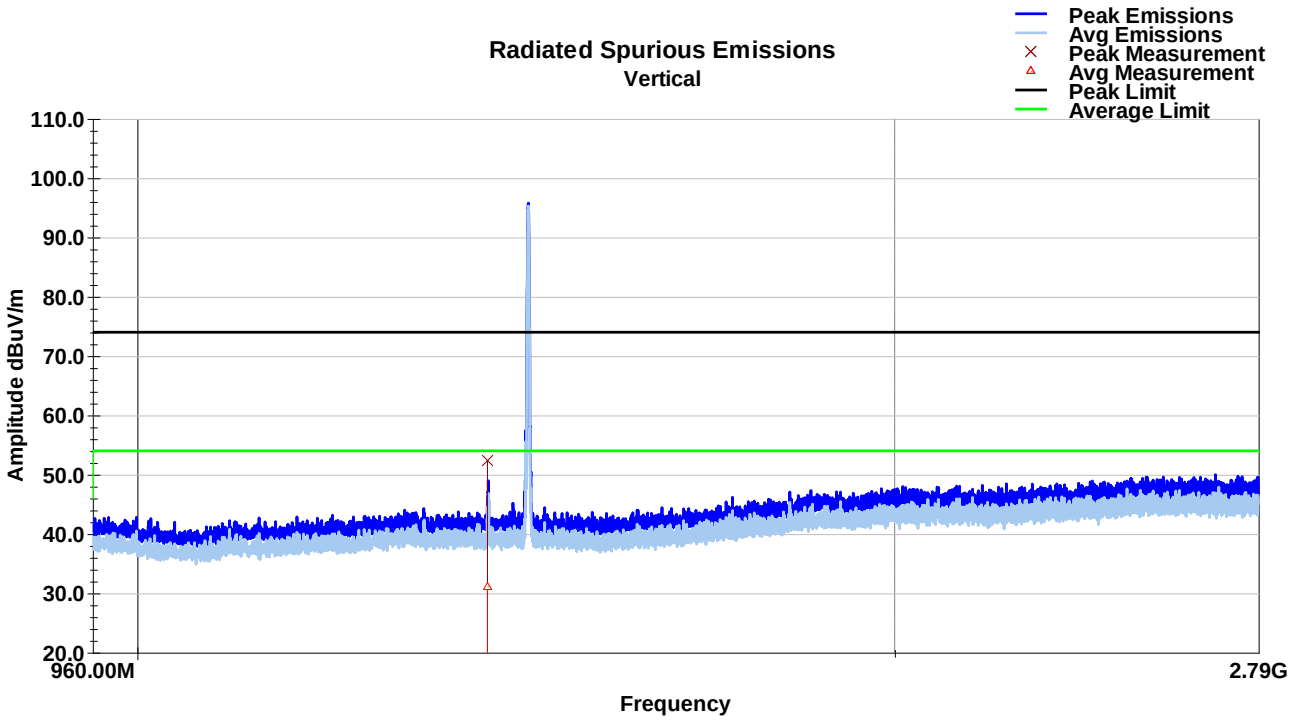
Peak

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
1382.28	69.6	H	5.0	128.0	28.5	7.5	42.6	63.0	74.0	-11.0
1408.40	63.2	H	5.0	198.0	28.5	7.6	42.6	56.7	74.0	-17.3
1419.84	78.5	H	9.0	164.0	28.5	7.6	42.6	72.0	74.0	-2.0
1476.24	57.3	H	10.0	121.0	28.1	7.7	42.6	50.5	74.0	-23.5
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Average

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Avg Value dBuV/m	Limit (dBuV/m)	Margin (dB)
1382.28	41.5	H	5.0	128.0	28.5	7.5	42.6	35.0	54.0	-19.0
1408.40	37.8	H	5.0	198.0	28.5	7.6	42.6	31.3	54.0	-22.7
1419.84	39.1	H	9.0	164.0	28.5	7.6	42.6	32.6	54.0	-21.4
1476.24	37.3	H	10.0	121.0	28.1	7.7	42.6	30.5	54.0	-23.5
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Vertical Plot – Channel 17



Vertical Data – Channel 17

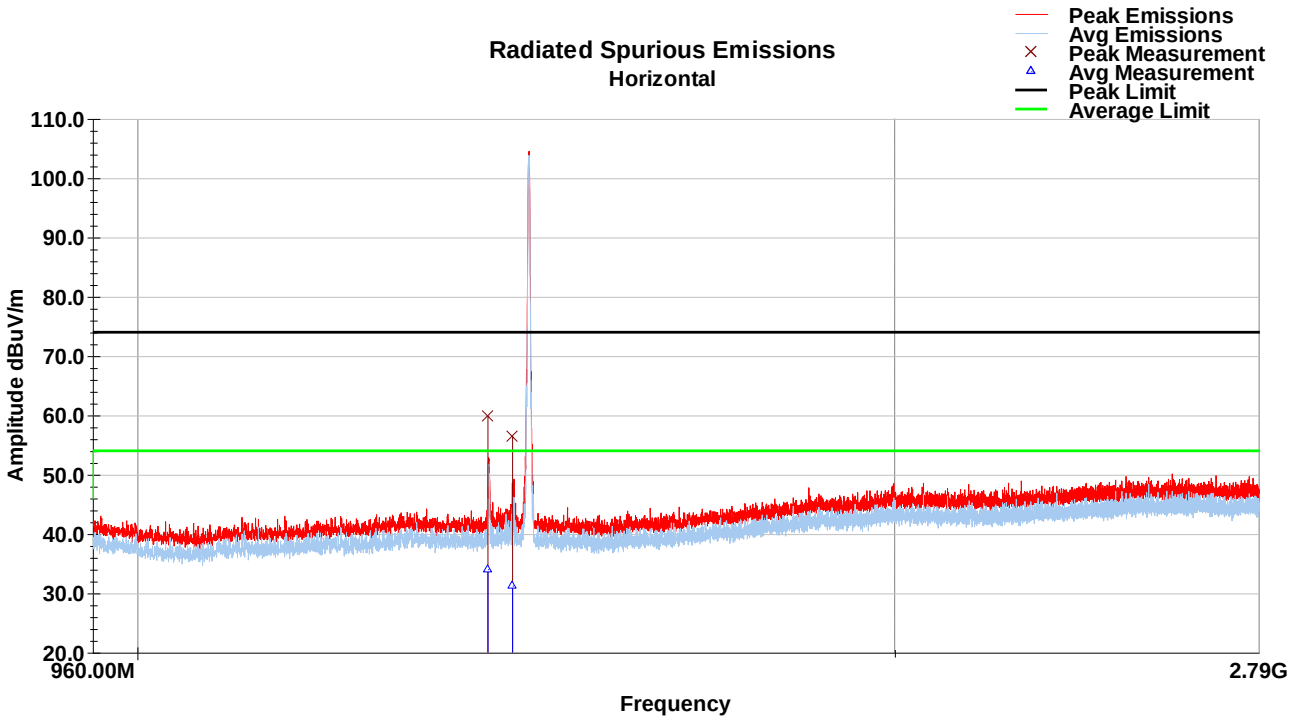
Peak

Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
1377.84	58.9	V	76.0	249.0	28.6	7.5	42.6	52.3	74.0	-21.7
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Average

Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Avg dBuV/m	Limit (dBuV/m)	Margin (dB)
1377.84	37.7	V	76.0	249.0	28.6	7.5	42.6	31.2	54.0	-22.8
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

Horizontal Plot – Channel 17



Horizontal Data – Channel 17

Peak

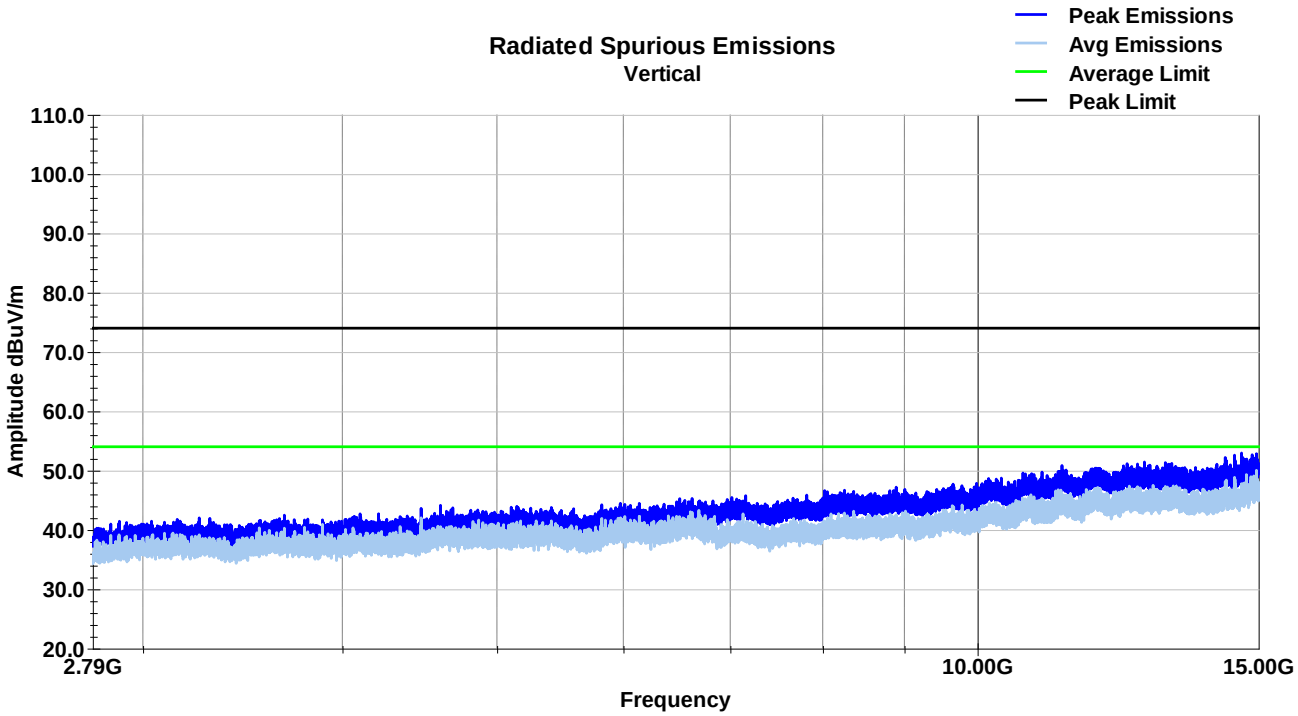
Frequency MHz	Raw Pk dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Pk dBuV/m	Limit dBuV/m	Margin dB
1378.44	66.4	H	7.0	171.0	28.5	7.5	42.6	59.8	74.0	-14.2
1409.92	62.9	H	6.0	120.0	28.5	7.6	42.6	56.4	74.0	-17.6
Final Pk = Raw Pk + AF + Loss - Amp										
Margin = Final Pk - Limit										

Average

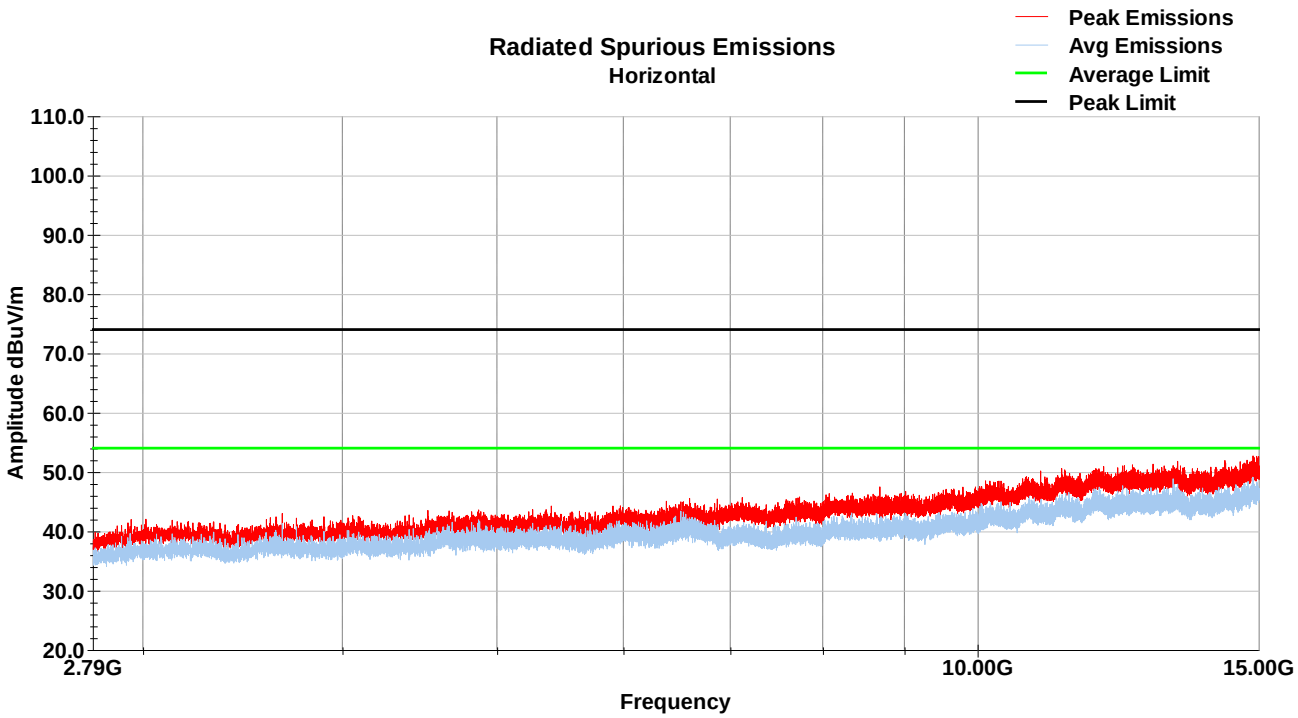
Frequency MHz	Raw Avg dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Avg Value dBuV/m	Limit (dBuV/m)	Margin (dB)
1378.44	40.6	H	7.0	171.0	28.5	7.5	42.6	34.1	54.0	-19.9
1409.92	37.8	H	6.0	120.0	28.5	7.6	42.6	31.3	54.0	-22.7
Final Avg = Raw Avg + AF + Loss - Amp										
Margin = Final Avg - Limit										

7.9 *Test Data – 2.79-15 GHz*

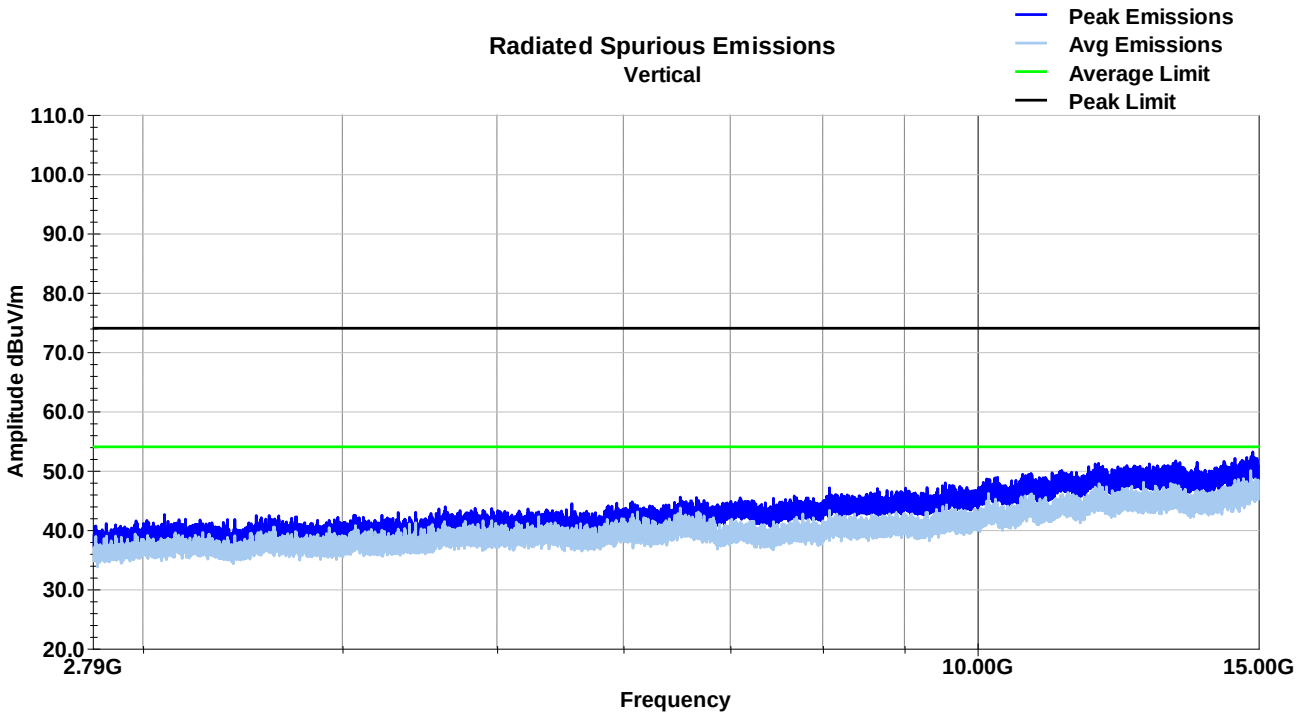
Vertical Plot – Channel 1



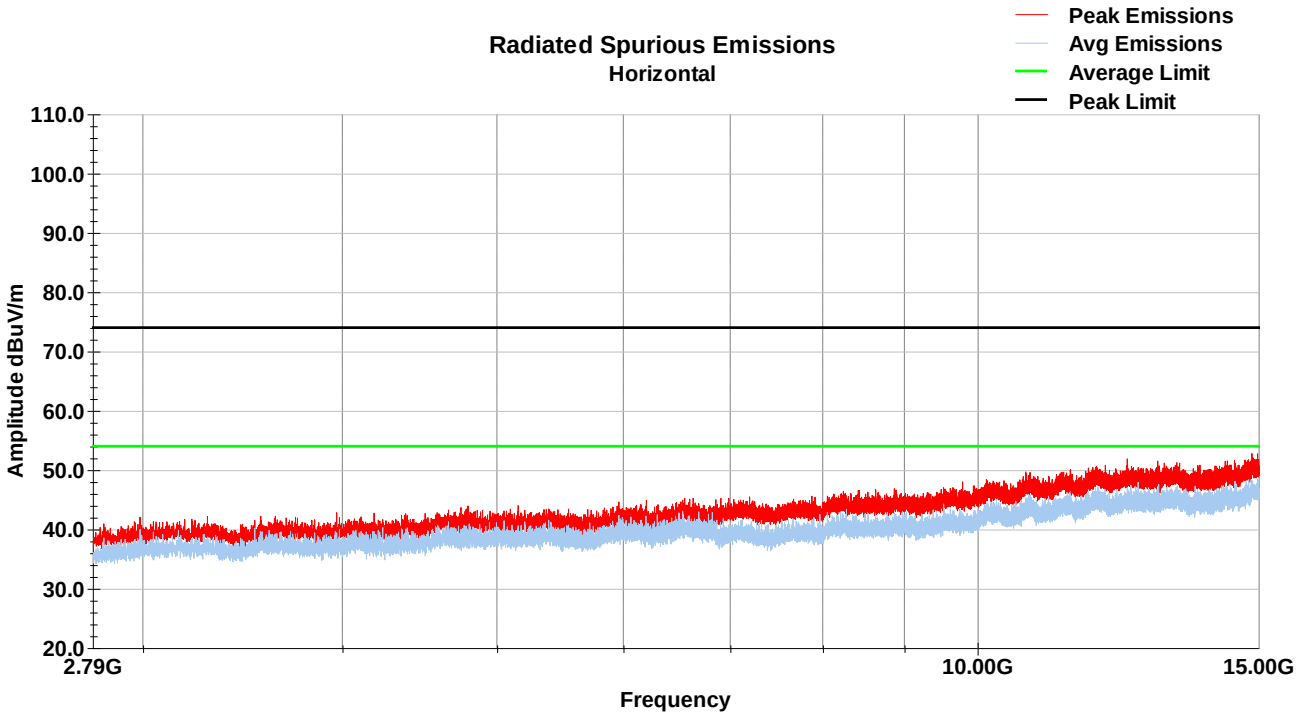
Horizontal Plot – Channel 1



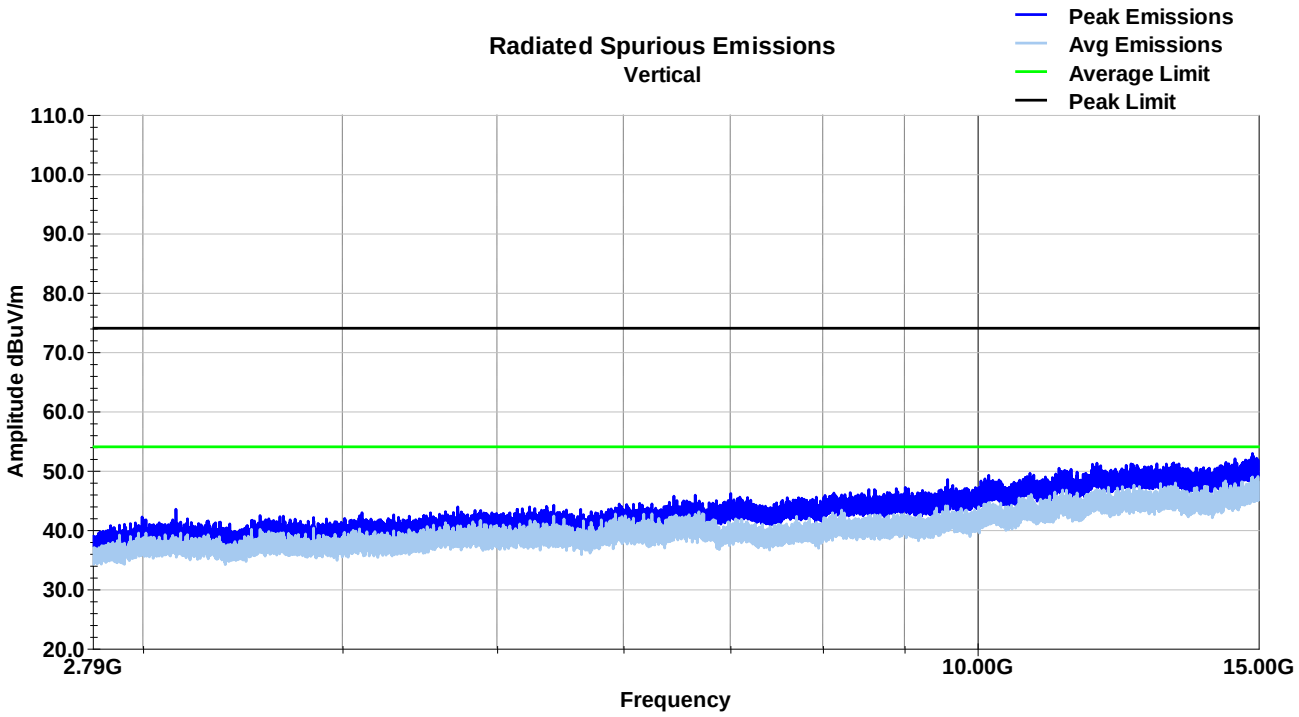
Vertical Plot – Channel 3



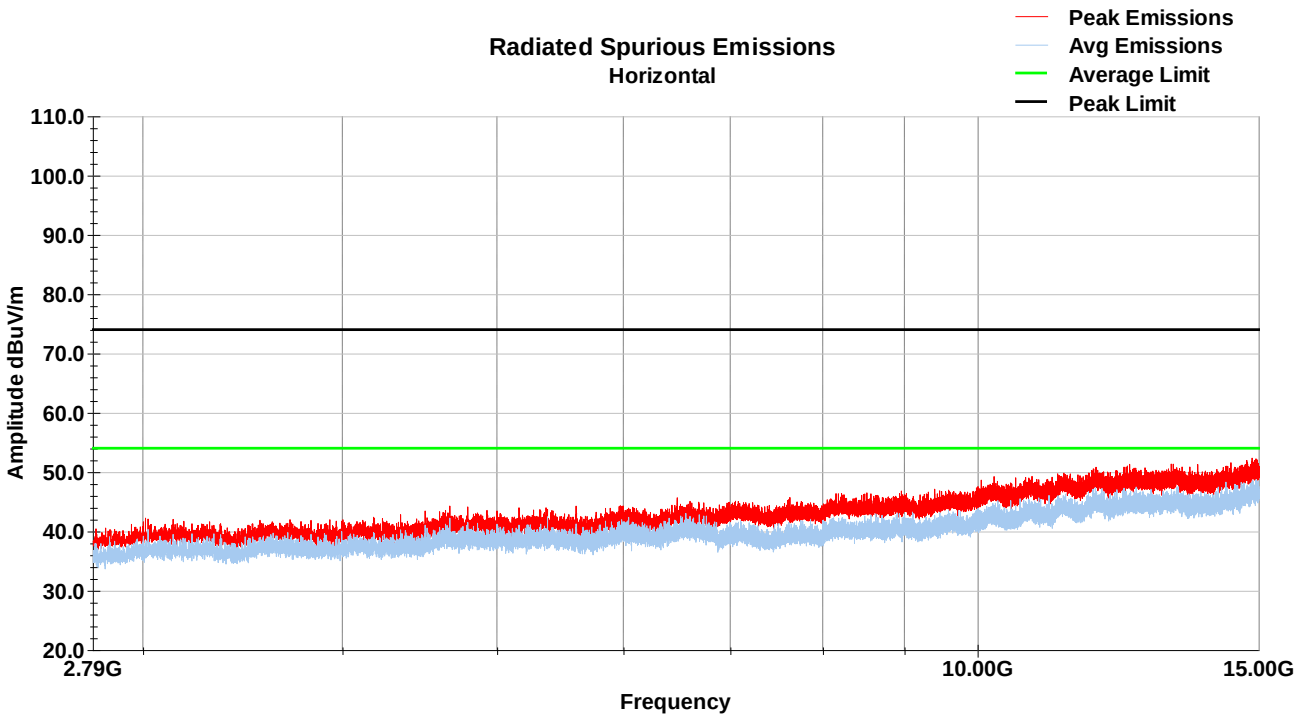
Horizontal Plot – Channel 3



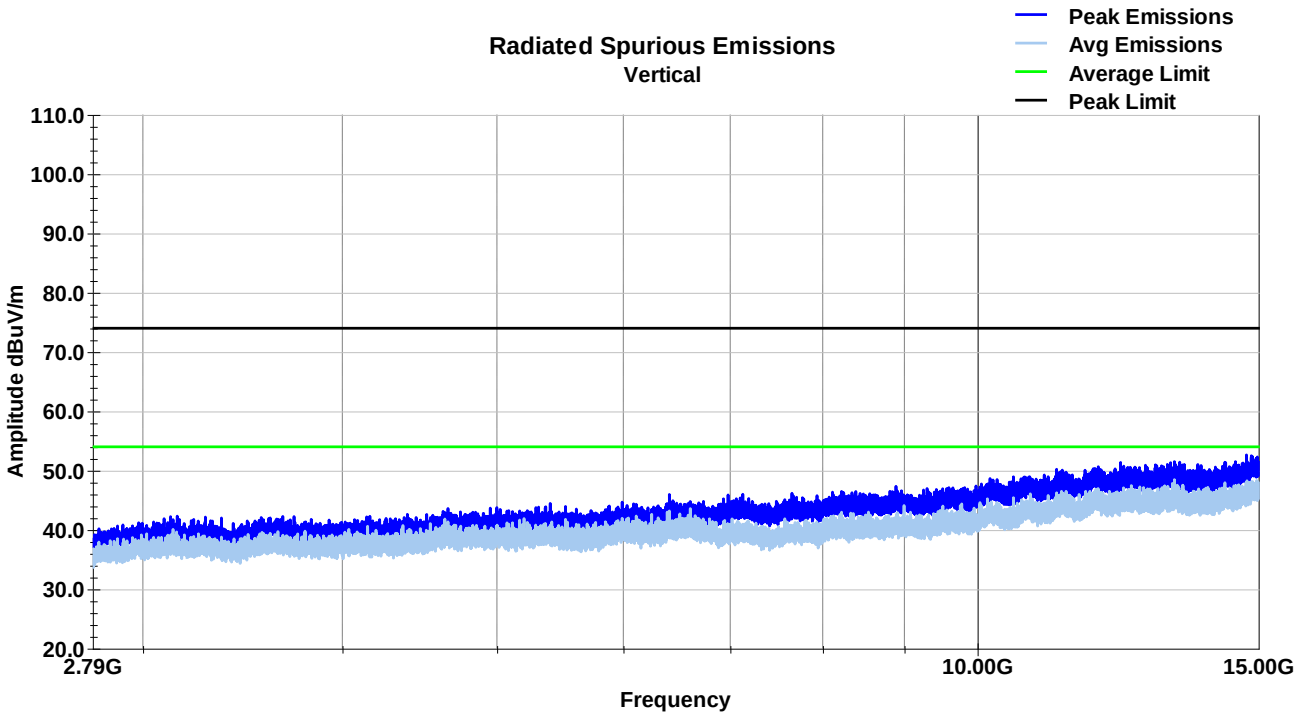
Vertical Plot – Channel 4



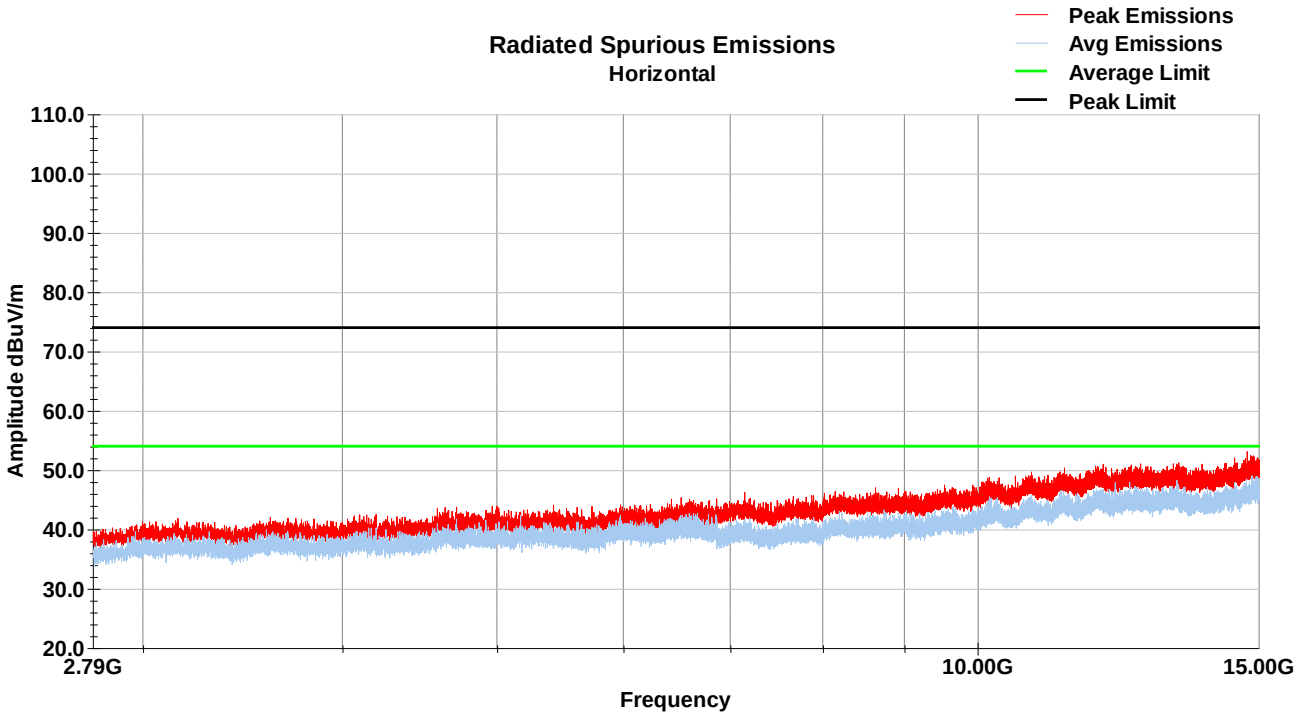
Horizontal Plot – Channel 4



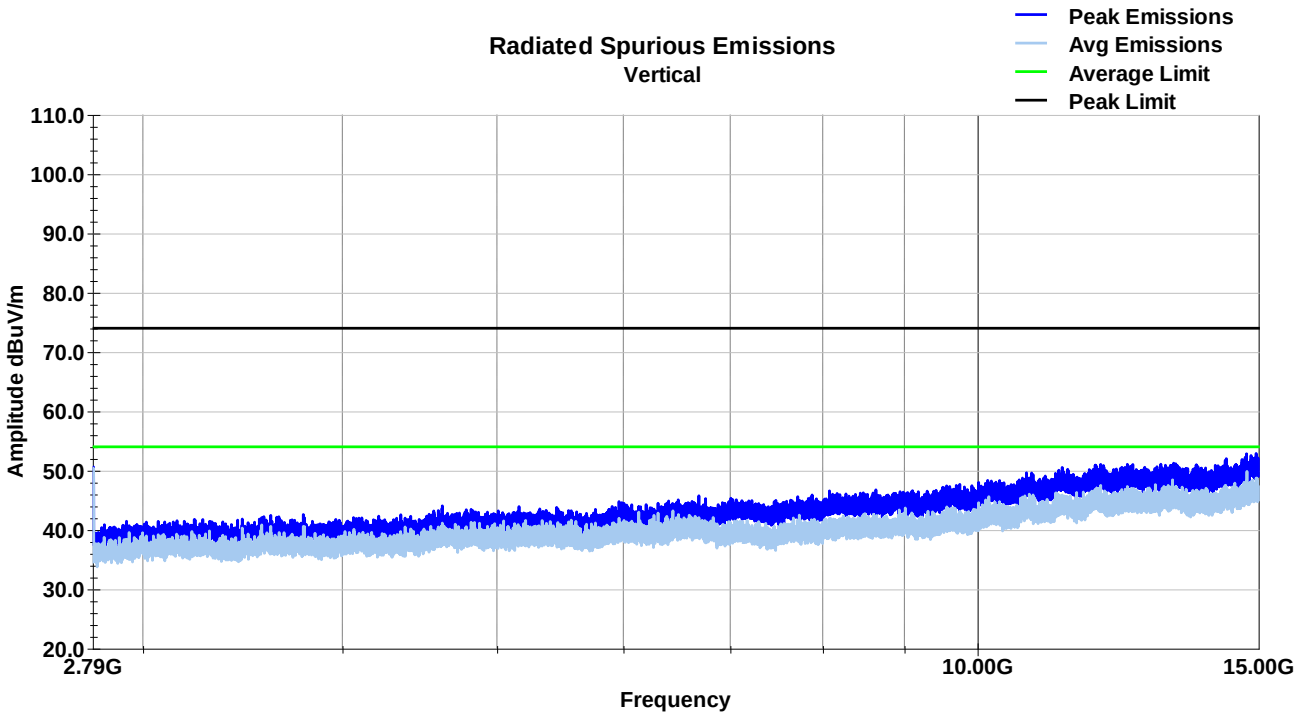
Vertical Plot – Channel 6



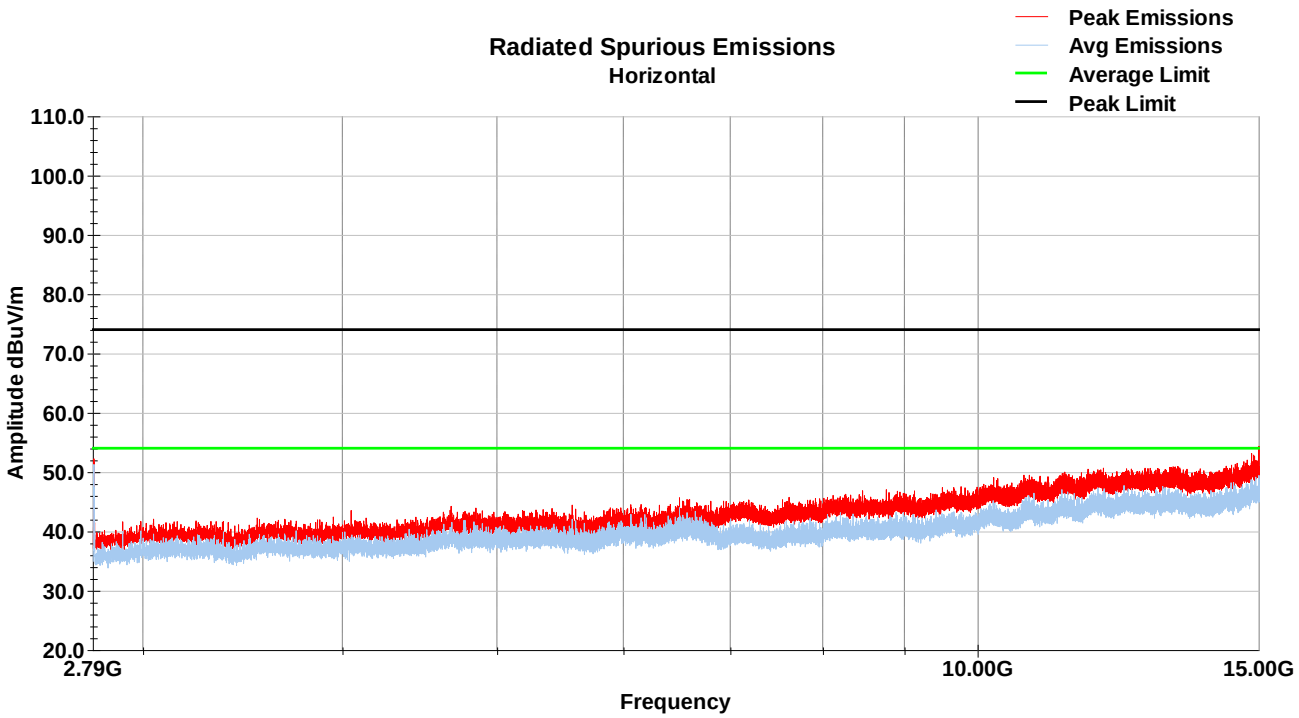
Horizontal Plot – Channel 6



Vertical Plot – Channel 14

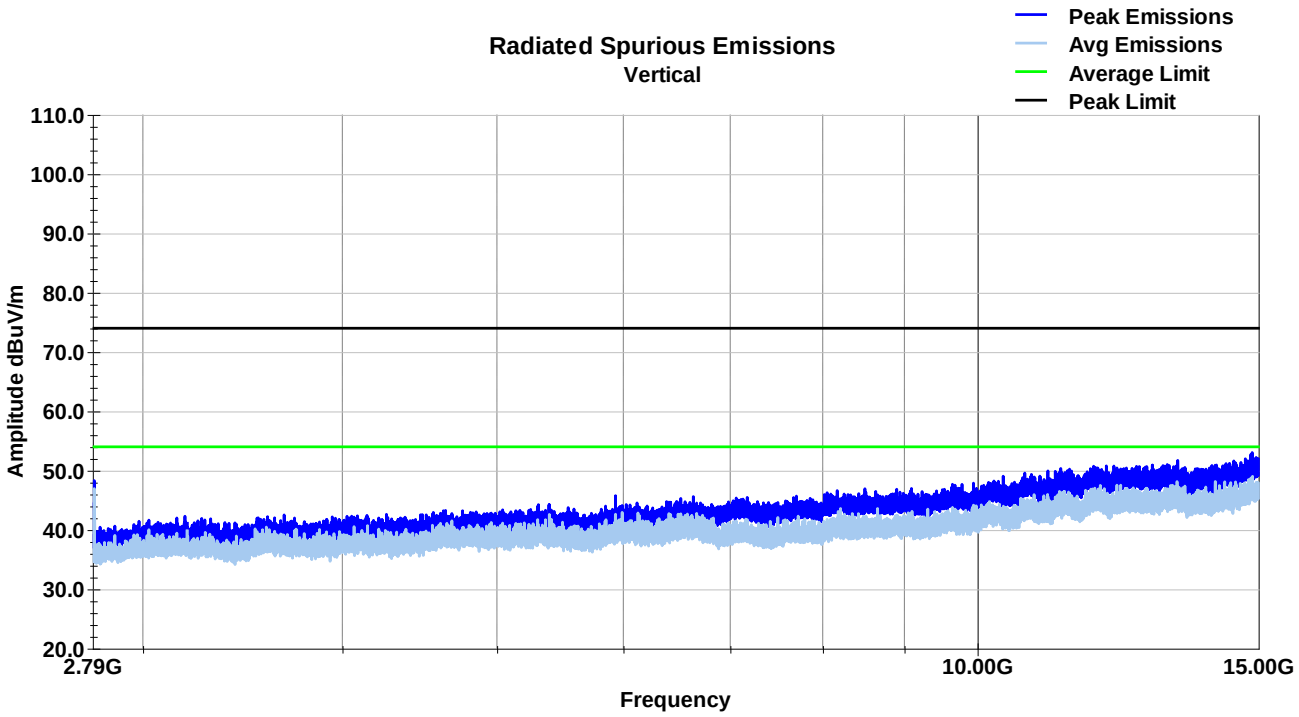


Horizontal Plot – Channel 14

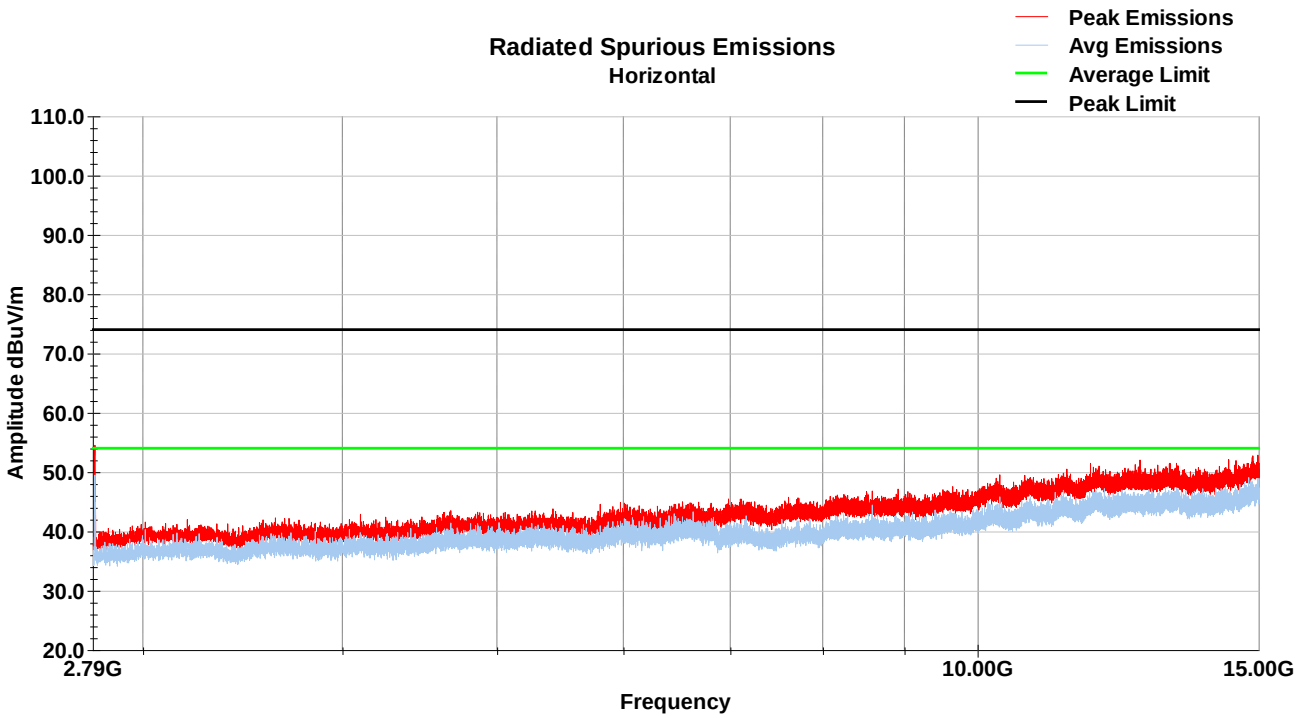


See below for final tabular data for 2nd harmonics of fundamental

Vertical Plot – Channel 15

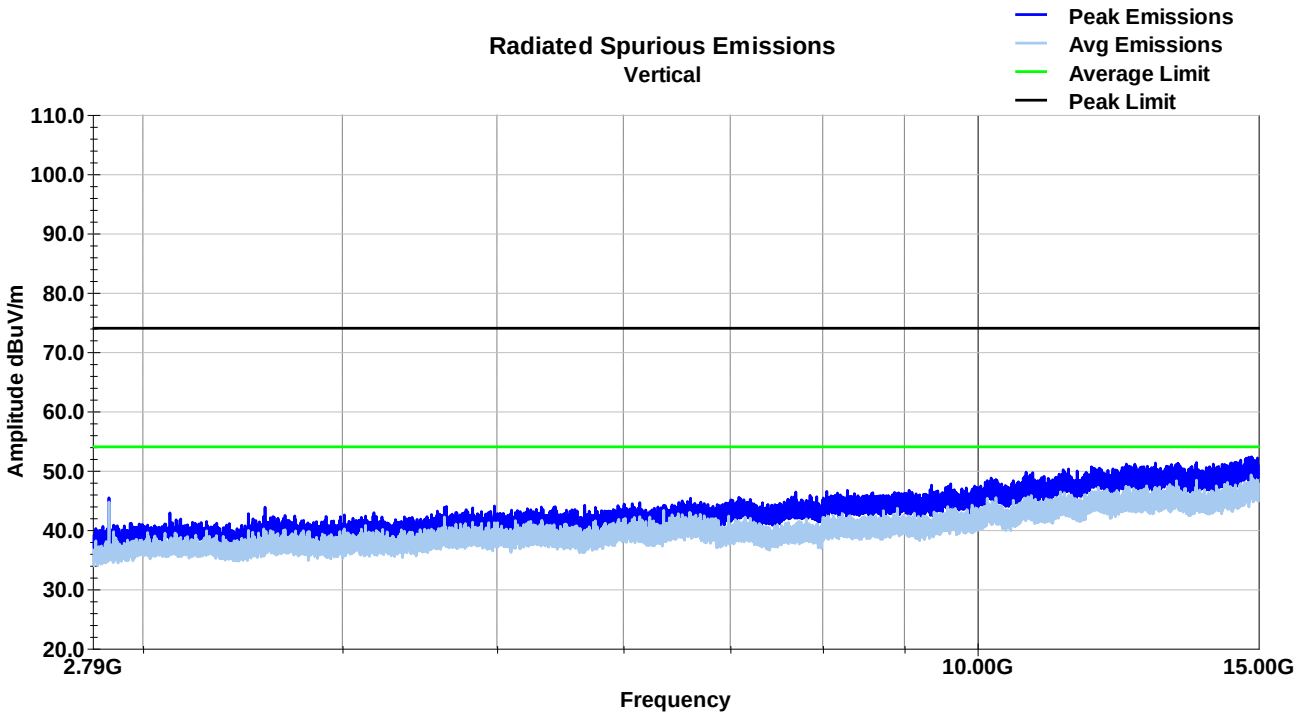


Horizontal Plot – Channel 15

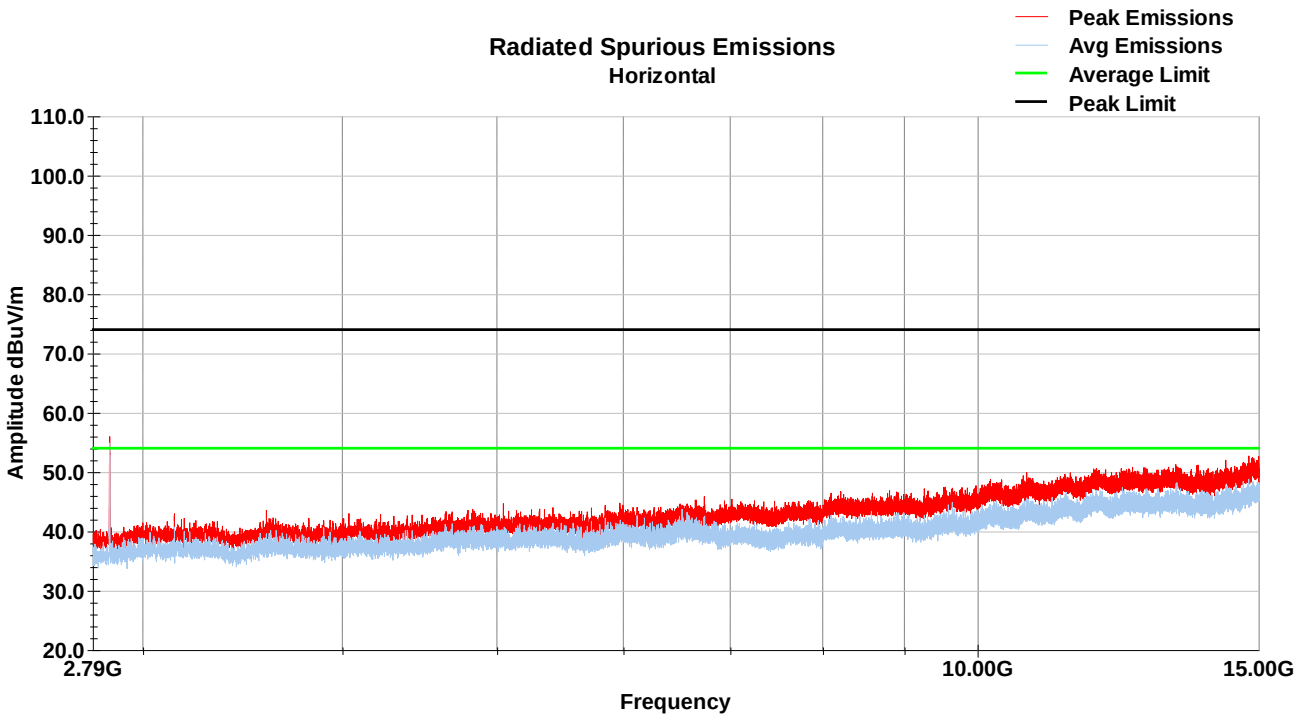


See below for final tabular data for 2nd harmonics of fundamental

Vertical Plot – Channel 16

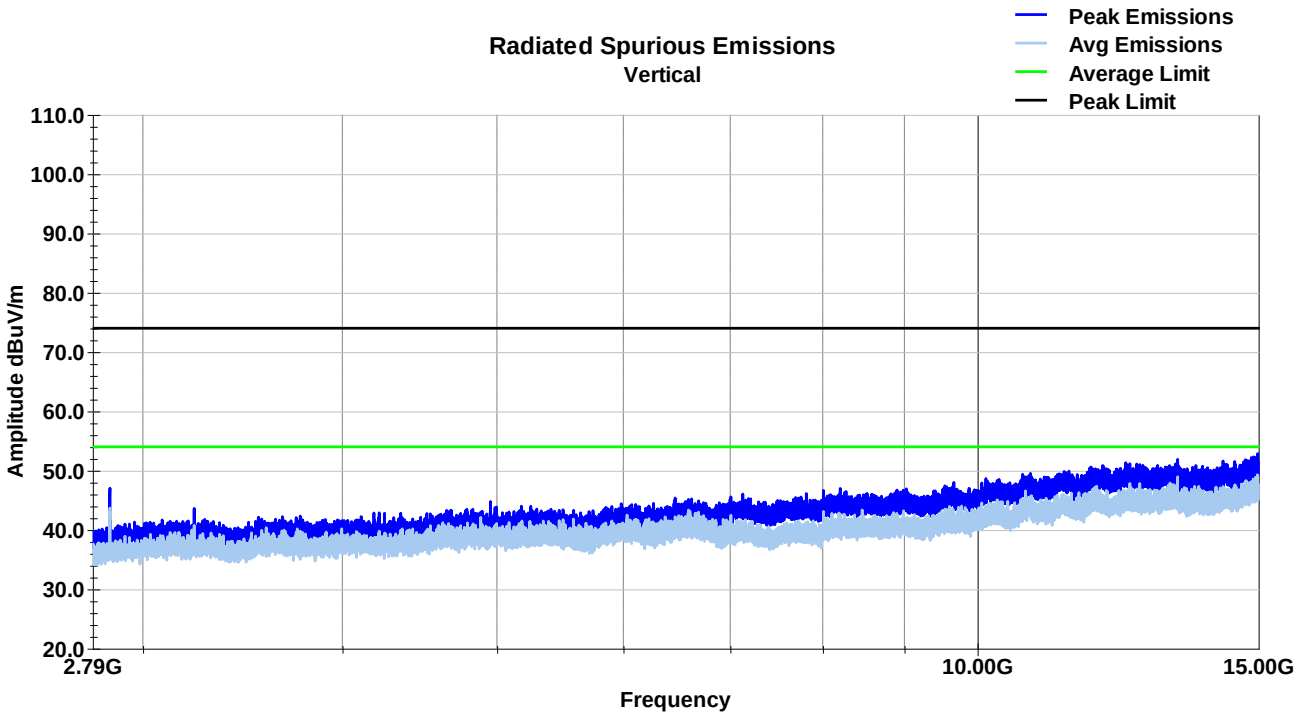


Horizontal Plot – Channel 16

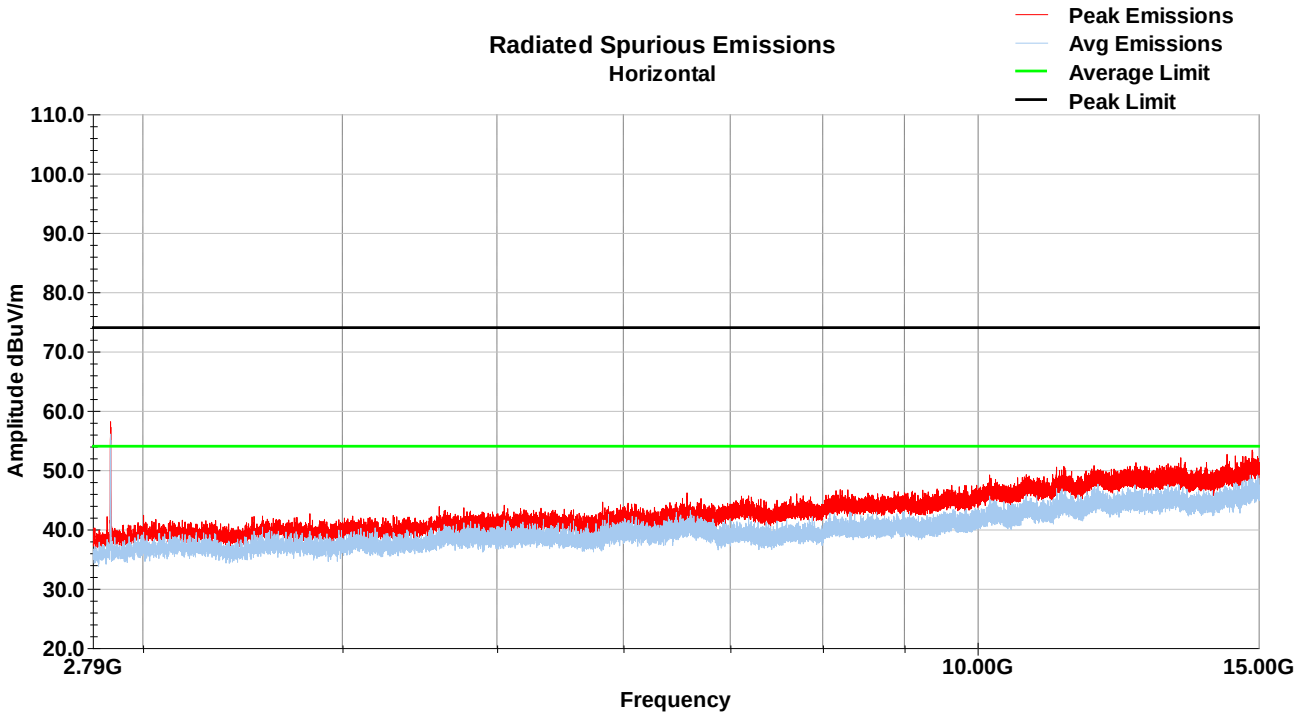


See below for final tabular data for 2nd harmonics of fundamental

Vertical Plot – Channel 17



Horizontal Plot – Channel 17



See below for final tabular data for 2nd harmonic of fundamental

Final Tabular Data

Channel 14

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	DCCF (dB)	Amp (dB)	Avg Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
2793.3	61.3	X	V	18.0	247.0	28.2	2.9	-20.0	42.5	29.8	54.0	-24.2
2793.3	64.8	X	H	321.0	106.0	28.2	2.9	-20.0	42.5	33.3	54.0	-20.7
2793.3	63.0	Y	V	296.0	183.0	28.2	2.9	-20.0	42.5	31.5	54.0	-22.5
2793.3	63.9	Y	H	312.0	249.0	28.2	2.9	-20.0	42.5	32.4	54.0	-21.6
2793.3	63.0	Z	V	6.0	131.0	28.2	2.9	-20.0	42.5	31.5	54.0	-22.5
2793.3	60.9	Z	H	311.0	117.0	28.2	2.9	-20.0	42.5	29.4	54.0	-24.6

DCCF = Duty Cycle Correction Factor
Avg Value = Raw Pk + AF + CL + DCCF - Amp
Margin = Avg Value - Limit

Channel 15

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	DCCF (dB)	Amp (dB)	Avg Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
2796.7	62.5	X	V	17.0	248.0	28.2	2.9	-20.0	42.5	31.0	54.0	-23.0
2796.7	66.2	X	H	323.0	107.0	28.2	2.9	-20.0	42.5	34.7	54.0	-19.3
2796.7	64.5	Y	V	292.0	247.0	28.2	2.9	-20.0	42.5	33.0	54.0	-21.0
2796.7	65.7	Y	H	310.0	248.0	28.2	2.9	-20.0	42.5	34.2	54.0	-19.8
2796.7	64.4	Z	V	0.0	134.0	28.2	2.9	-20.0	42.5	32.9	54.0	-21.1
2796.7	62.3	Z	H	80.0	173.0	28.2	2.9	-20.0	42.5	30.8	54.0	-23.2

DCCF = Duty Cycle Correction Factor
Avg Value = Raw Pk + AF + CL + DCCF - Amp
Margin = Avg Value - Limit

Channel 16

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	DCCF (dB)	Amp (dB)	Avg Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
2857.0	61.1	X	V	315.0	331.0	28.2	2.9	-20.0	42.5	29.6	54.0	-24.4
2857.0	65.0	X	H	160.0	254.0	28.2	2.9	-20.0	42.5	33.5	54.0	-20.5
2857.0	63.9	Y	V	22.0	329.0	28.2	2.9	-20.0	42.5	32.4	54.0	-21.6
2857.0	64.8	Y	H	233.0	328.0	28.2	2.9	-20.0	42.5	33.3	54.0	-20.7
2857.0	65.5	Z	V	98.0	288.0	28.2	2.9	-20.0	42.5	34.0	54.0	-20.0
2857.0	61.8	Z	H	221.0	318.0	28.2	2.9	-20.0	42.5	30.3	54.0	-23.7

DCCF = Duty Cycle Correction Factor
Avg Value = Raw Pk + AF + CL + DCCF - Amp
Margin = Avg Value - Limit

Channel 17

Frequency (MHz)	Raw Pk (dBuV)	EUT Axis (X/Y/Z)	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	CL (dB)	DCCF (dB)	Amp (dB)	Avg Value (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
2860.5	63.1	X	V	265.0	107.0	28.2	2.9	-20.0	42.5	31.6	54.0	-22.4
2860.5	68.2	X	H	314.0	133.0	28.2	2.9	-20.0	42.5	36.7	54.0	-17.3
2860.5	65.4	Y	V	290.0	105.0	28.2	2.9	-20.0	42.5	33.9	54.0	-20.1
2860.5	67.9	Y	H	300.0	241.0	28.2	2.9	-20.0	42.5	36.4	54.0	-17.6
2860.5	67.2	Z	V	103.0	264.0	28.2	2.9	-20.0	42.5	35.7	54.0	-18.3
2860.5	64.0	Z	H	119.0	239.0	28.2	2.9	-20.0	42.5	32.5	54.0	-21.5

DCCF = Duty Cycle Correction Factor
Avg Value = Raw Pk + AF + CL + DCCF - Amp
Margin = Avg Value - Limit

8 Measurement Uncertainty

The measurement uncertainty figures are calculated in accordance with TR 100 028-1 [2] and correspond to an expansion factor (coverage factor) k = 2 (which provides confidence levels of 95.45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Parameter	Expanded Uncertainty for Normal k factor equal to 2	
	Required	Laboratory Actual
Radio Frequency	±1 x 10-5	±9.8 x 10-8
total RF power, conducted	±1.5 dB	±1.2 dB
RF power density, conducted	±3 dB	±0.7 dB
spurious emissions, conducted	±3 dB	±2.1 dB
all emissions, radiated	±6 dB	±4.8 dB
temperature	±1°C	±0.5°C
humidity	±5 %	±3.5%
DC and low frequency voltages	±3 %	±0.4%
Conducted disturbance at mains port using AMN	± 3.4 dB	± 2.5 dB

9 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	02 November 2023
1	- Updated RSS-210 to latest issue on title page - Added ANSI C63.26 reference on title page - Changed ANSI C63.10 to ANSI C63.26 in various sections	09 July 2025