

RF Test Report

Project Number: 4824404

Proposal: SUW-202109001591

Report Number: 4824404EMC01

Revision Level: 0

Client: Landis+Gyr Technology, Inc.

Equipment Under Test: Smart Meter

Model Number: AXei

FCC ID: R7PEG1R2X6

IC ID: 5294A-EG1R2X6

Applicable Standards: ANSI C63.10: 2013 (FCC Part 15 Subpart C, § 15.247)

RSS-247, Issue 2

RSS-GEN Issue 5

Report issued on: 01 October 2021

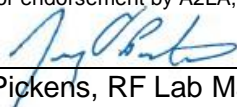
Test Result: Compliant



FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01

This 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:


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Reviewed by:


David Schramm, Operations Manager

Remarks: This report details the results of the testing carried out on one sample; the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 Summary of Test Results

Test Description	Test Specification		Test Result
Bandwidth	15.247(a)(2)	RSS-247 5.2(a) RSS-GEN 6.7	Compliant
Peak Output Power	15.247(b)(3)	RSS-247 5.4 (d)	Compliant
Power Spectral Density	15.247(e)	RSS-247 5.2 (b)	Compliant
Conducted Spurious Emissions / Band Edge	15.247(d)	RSS-247 5.5	Compliant
Field Strength of Spurious Radiation	15.247(d)	RSS-247 5.5	Compliant
Emissions in Restricted Frequency Bands	15.205, 15.209	RSS-GEN 8.9, 8.10	Compliant
Antenna Requirement	15.203	RSS-GEN 6.8	Compliant ¹
AC Powerline Conducted Emissions	15.107, 15.207	RSS-GEN 8.8	Compliant

1) The antenna is a PCB trace and therefore meet the antenna requirements.

1.1 Modifications Required for Compliance

None

2 General Information

2.1 Client Information

Name: Landis+Gyr Technology, Inc.
Address: 30000 Mill Creek Avenue, Suite 100
City, State, Zip, Country: Alpharetta, GA 30022, 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 Identifier: US0186

2.3 General Information of EUT

Product Description: Smart Meter
Model Number: AXei
Serial Number: 40E24B75 (Radiated) / 40E24B60 (Conducted)

Frequency Range: 2405 – 2475 MHz
Data Modes: O-QPSK
Antenna: PIFA, 5dBi Max

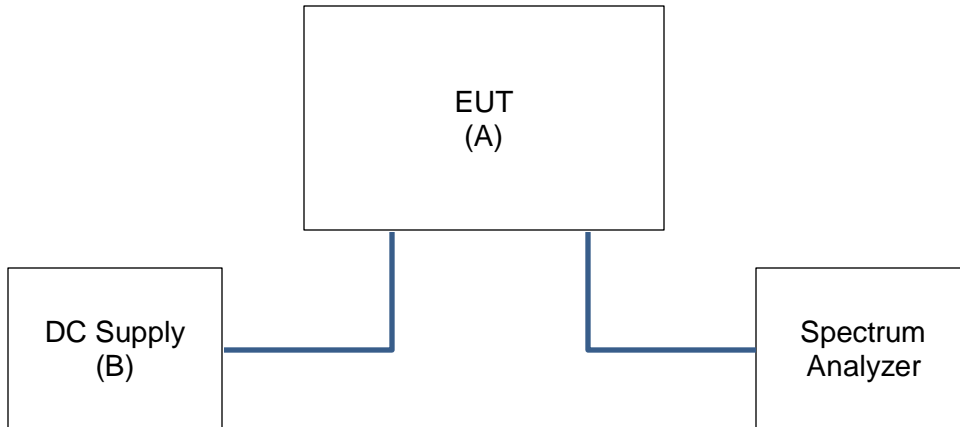
Rated Voltage: 100-240Vac, 60Hz
Test Voltage: 120Vac, 60Hz (Radiated Tests); 12Vdc direct to Board (Conducted Tests)

Sample Received Date: 21 September 2021
Dates of testing: 21– 29 September 2021

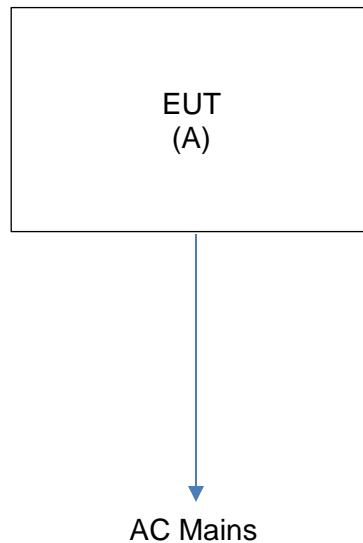
2.4 Operating Modes and Conditions

Using SCPI commands, the Zigbee output power and channels were set. For all testing, a target power of 200 (20dBm) was used. The duty-cycle was 100%.

2.5 EUT Connection Block Diagram – Conducted Measurements



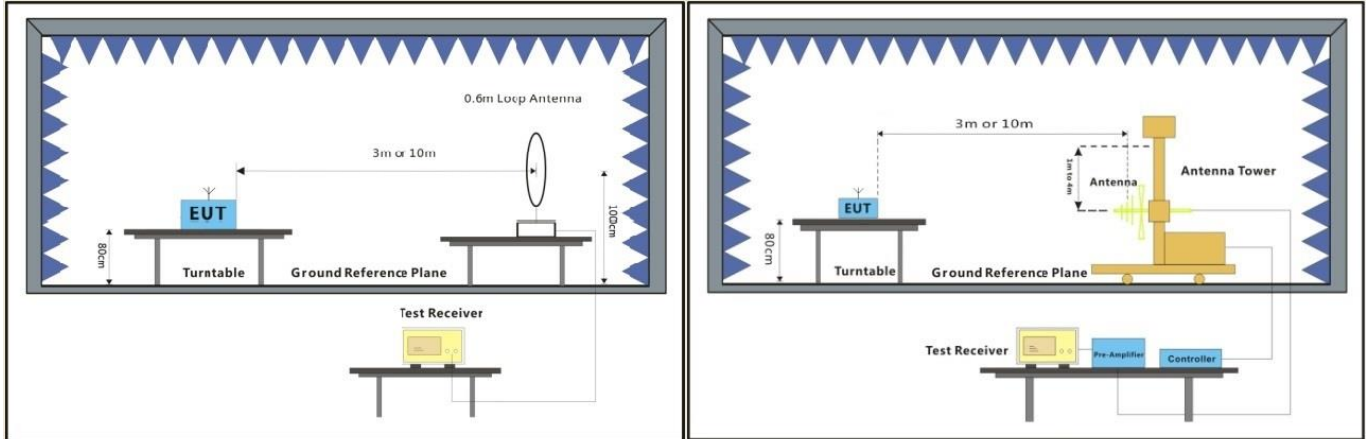
2.6 EUT Connection Block Diagram – Radiated Measurements



2.7 System Configurations

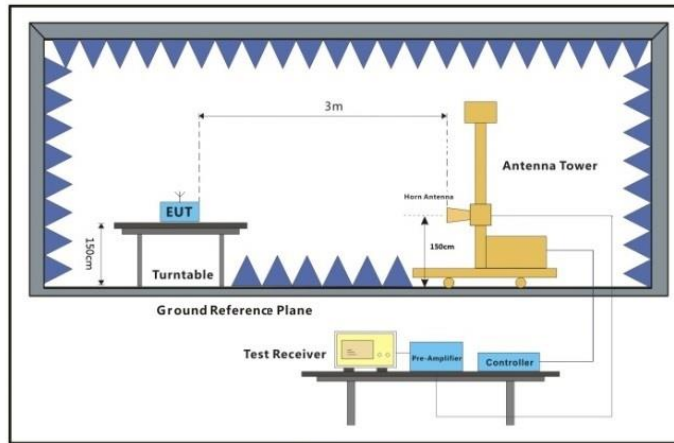
Device reference	Manufacturer	Description	Model Number	Serial Number
A	Landis+Gyr	Smart Meter	AXei	40E24B75 (Radiated) 40E24B60 (Conducted)
B	Rigol	DC Power Supply	DP711	DP7A182700833

2.8 Configuration Diagrams (Radiated)



Below 30MHz

30MHz-1GHz



Above 1GHz

3 Bandwidth

3.1 Test Result

Test Description	Test Specification		Test Result
6 dB Bandwidth 99% Occupied Bandwidth	15.247(a)(2)	RSS-247 5.2(a) RSS-GEN 6.7	Compliant

3.2 Test Method

The procedures from ANSI C63.10: 2013 clause 11.8 and 558074 D01 DTS Meas Guidance v05r2 were used to determine the 6 dB bandwidth.

The procedures from ANSI C63.10: 2013 clause 6.9.2 were used to measure the 99% Occupied Bandwidth.

3.3 Test Site

EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 23.5 °C

Relative Humidity: 44.5 %

Atmospheric Pressure: 97.9 kPa

3.4 Test Equipment

Test End Date: 9/23/2021

Tester: JOP

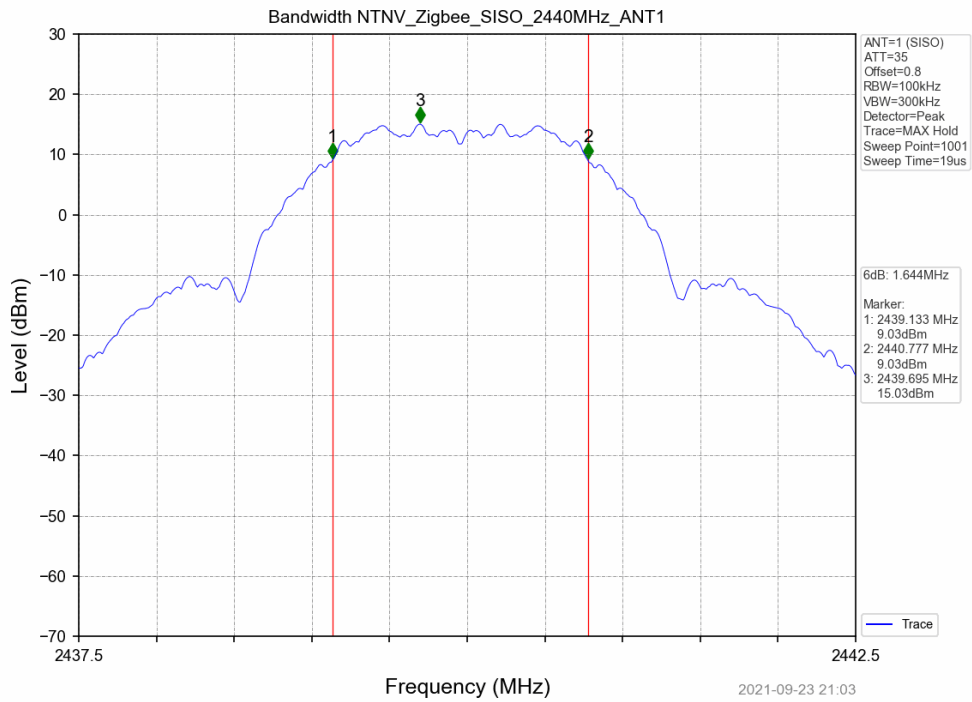
Equipment	Model	Manufacturer	Asset Number	Cal Date	Cal Due Date
DC POWER SUPPLY,	DP711	Rigol	17004	VBU	VBU
RF Cable SMA to SMA, 0.01-	084-0505-059	TELEDYNE STORM MICROWAVE	20108	16-Mar-2021	16-Mar-2022
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	27-Dec-2019	27-Dec-2021

3.5 Test Data – 6dB Bandwidth

Frequency (MHz)	TX Type	ANT No.	6dB BW (MHz)	Limit (MHz)	Verdict
2405	SISO	1	1.647	≥0.5	PASS
2440	SISO	1	1.644	≥0.5	PASS
2475	SISO	1	1.651	≥0.5	PASS

Sample Plot

Mid Channel (2440MHz)

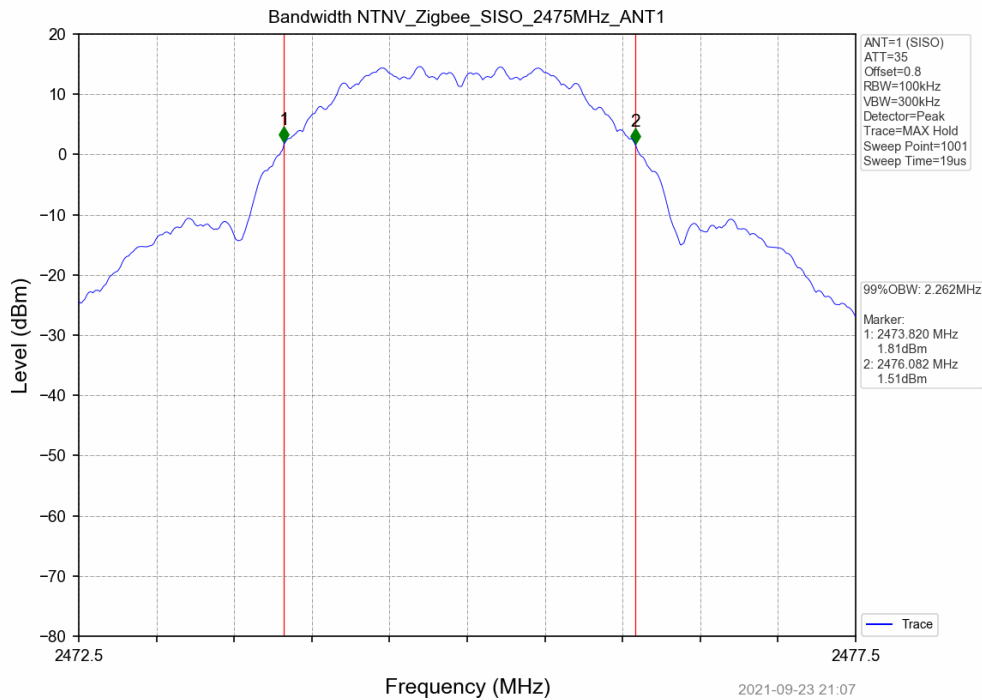


3.6 Test Data – 99% Bandwidth

Frequency (MHz)	TX Type	ANT No.	99% BW (MHz)	Limit (MHz)	Verdict
2405	SISO	1	2.252	≥0.5	Reported
2440	SISO	1	2.251	≥0.5	Reported
2475	SISO	1	2.262	≥0.5	Reported

Sample Plot

High Channel (2475MHz)



4 Peak Output Power

4.1 Test Result

Test Description	Test Specification		Test Result
Peak Output Power	15.247(b)(3)	RSS-247 S5.4 (d)	Compliant

4.2 Test Method

Fundamental peak power measurements were recorded using the procedures from ANSI C63.10: 2013 clause 11.9 and KDB 558074 D01 Measurement Guidance v05r2.

Limit

(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. For using antennas with greater than 6dBi of gain, the limit is reduced in dB by the amount the gain exceeds 6dBi (e.g. for a 7.4dBi antenna, the limit is reduced from 30dBm to 28.6dBm)

4.3 Test Site

EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 23.5 °C

Relative Humidity: 44.5 %

Atmospheric Pressure: 97.9 kPa

4.4 Test Equipment

Test End Date: 9/23/2021

Tester: JOP

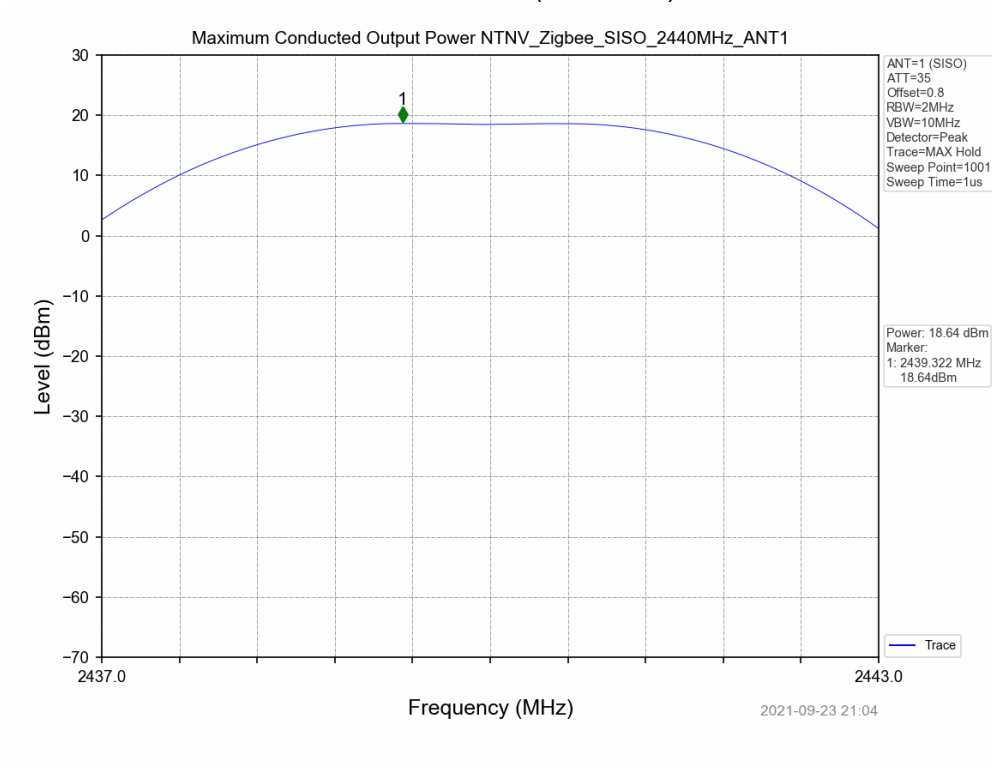
Equipment	Model	Manufacturer	Asset Number	Cal Date	Cal Due Date
DC POWER SUPPLY,	DP711	Rigol	17004	VBU	VBU
RF Cable SMA to SMA, 0.01-	084-0505-059	TELEDYNE STORM MICROWAVE	20108	16-Mar-2021	16-Mar-2022
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	27-Dec-2019	27-Dec-2021

4.5 Test Data

Frequency (MHz)	TX Type	ANT No.	Peak Output Power (dBm)	Limit (dBm)	Verdict
2405	SISO	1	18.38	30	PASS
2440	SISO	1	18.64	30	PASS
2475	SISO	1	18.22	30	PASS

Sample Plot

Mid Channel (2440MHz)



5 Power Spectral Density

5.1 Test Result

Test Description	Test Specification		Test Result
Power Spectral Density	15.247(e)	RSS-247 S5.2 (b)	Compliant

5.2 Test Method

Power spectral density measurements were recorded using the procedures from ANSI C63.10: 2013 clause 11.10 and KDB 558074 D01 Measurement Guidance v05r2.

Limit

The limit is 8 dBm.

5.3 Test Site

EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 23.5 °C

Relative Humidity: 44.5 %

Atmospheric Pressure: 97.9 kPa

5.4 Test Equipment

Test End Date: 9/23/2021

Tester: JOP

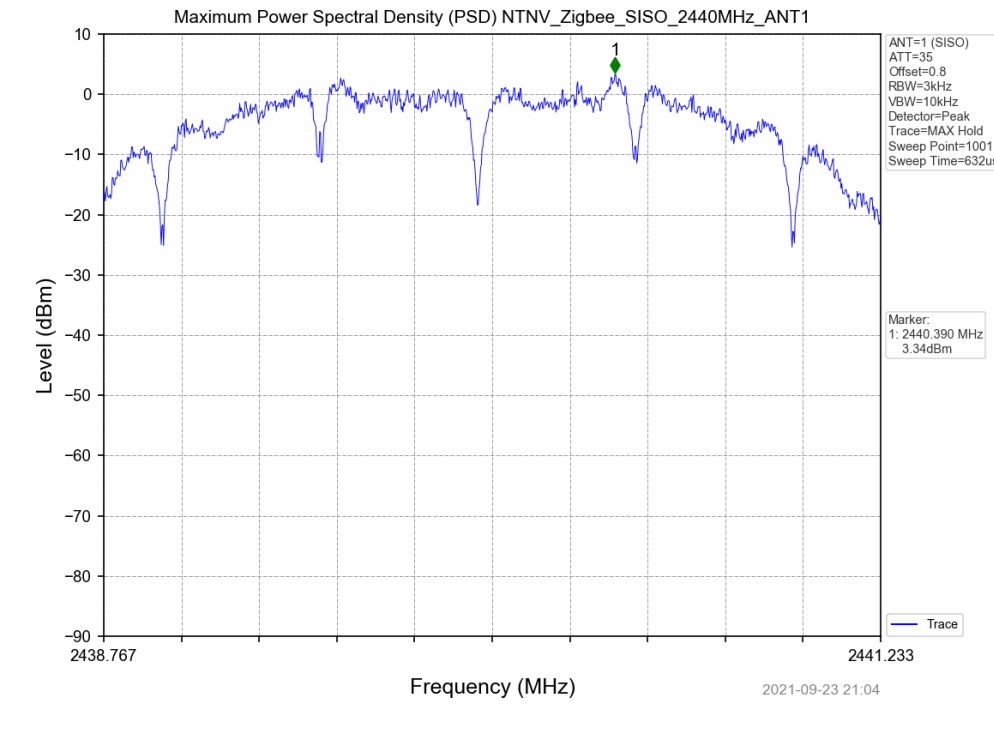
Equipment	Model	Manufacturer	Asset Number	Cal Date	Cal Due Date
DC POWER SUPPLY,	DP711	Rigol	17004	VBU	VBU
RF Cable SMA to SMA, 0.01-	084-0505-059	TELEDYNE STORM MICROWAVE	20108	16-Mar-2021	16-Mar-2022
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	27-Dec-2019	27-Dec-2021

5.5 Test Data

Frequency (MHz)	TX Type	ANT No.	Peak PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
2405	SISO	1	3.10	≤8	PASS
2440	SISO	1	3.34	≤8	PASS
2475	SISO	1	2.87	≤8	PASS

Sample Plot

Mid Channel (2440MHz)



6 Conducted Spurious Emissions / Band Edge

6.1 Test Result

Test Description	Test Specification		Test Result
Conducted Spurious Emissions	15.247(d)	RSS-247 S5.5	Compliant

6.2 Test Method

Spurious emissions in non-restricted frequency bands were recorded using the methods defined in ANSI C63.10: 2013 clause 11.11 and KDB 558074 D01 Measurement Guidance v05r2.

Lowest, middle, and highest channels were investigated.

Because the maximum conducted peak output power was used to determine compliance with the output power limits, the limit in any 100 kHz band outside of the authorized band is 20 dB below the maximum in-band peak level.

6.3 Test Site

EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 23.5 °C

Relative Humidity: 44.5 %

Atmospheric Pressure: 97.9 kPa

6.4 Test Equipment

Test End Date: 9/23/2021

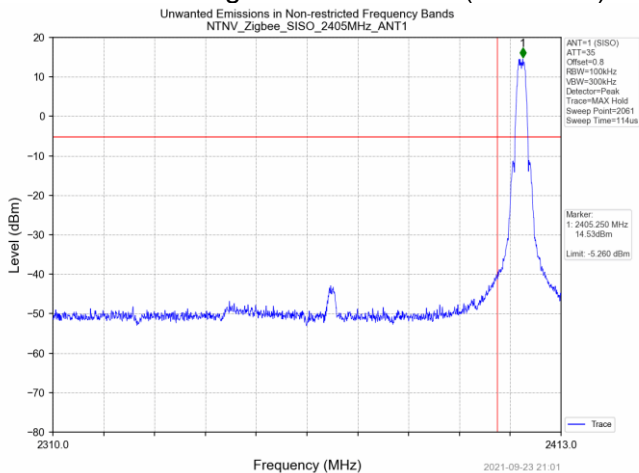
Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Date	Cal Due Date
DC POWER SUPPLY,	DP711	Rigol	17004	VBU	VBU
RF Cable SMA to SMA, 0.01-	084-0505-059	TELEDYNE STORM MICROWAVE	20108	16-Mar-2021	16-Mar-2022
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	27-Dec-2019	27-Dec-2021

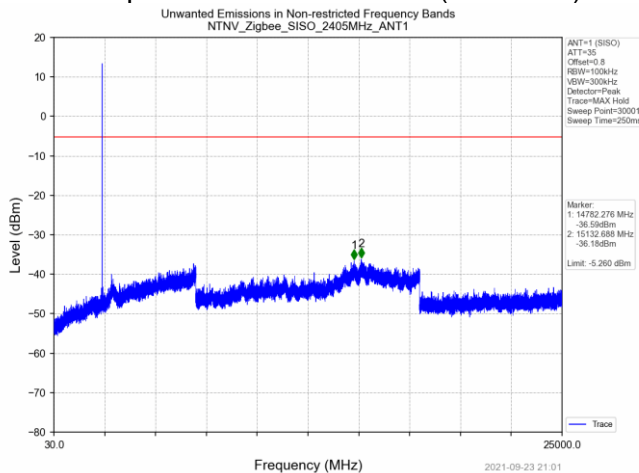
6.5 Test Data

Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limit (dBm)	Verdict
2405	SISO	1	Refer to test graph	-5.26	PASS
2440	SISO	1	Refer to test graph	-4.99	PASS
2475	SISO	1	Refer to test graph	-5.45	PASS

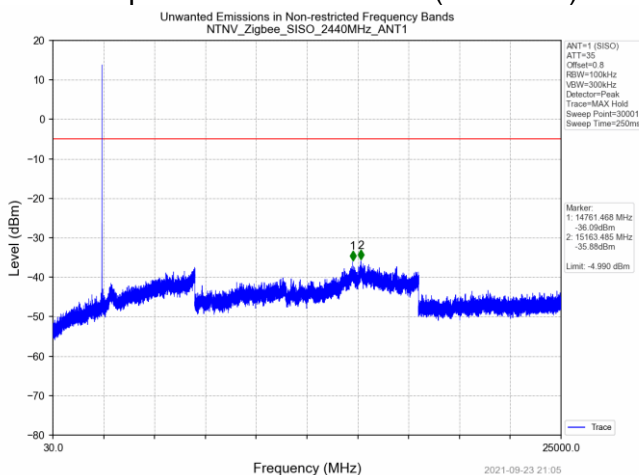
Lower Band Edge - Low Channel (2405MHz)



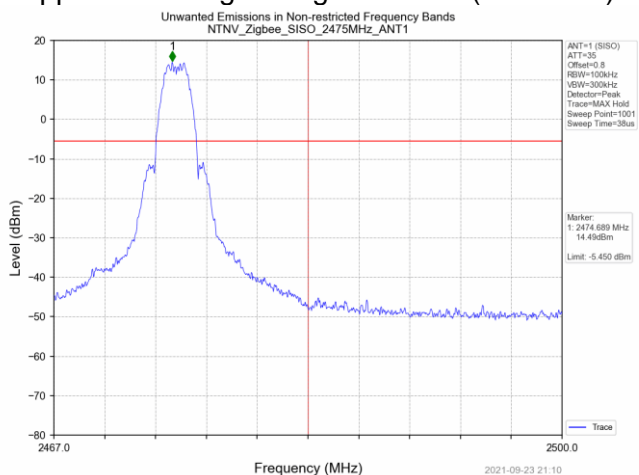
Full Spectrum - Low Channel (2405MHz)



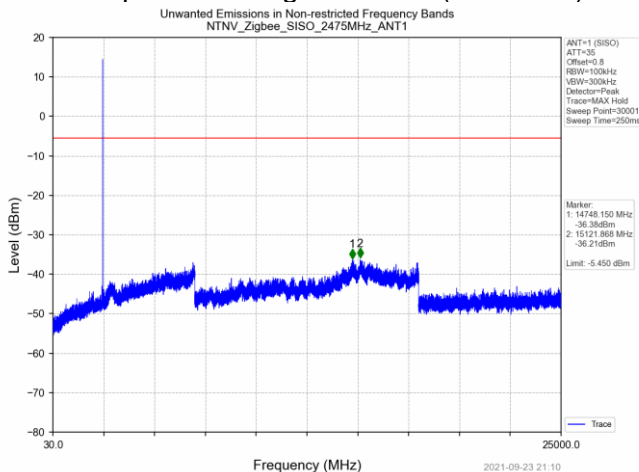
Full Spectrum - Mid Channel (2440MHz)



Upper Band Edge - High Channel (2475MHz)



Full Spectrum - High Channel (2475MHz)



7 Field Strength of Spurious Radiation (Restricted Bands)

7.1 Test Result

Test Description	Test Specification		Test Result
Radiated Spurious Emissions	15.247(d) and 15.209	RSS-247 S5.5	Compliant

7.2 Test Method

The measurement methods defined in ANSI C63.10: 2013 were used.

Lowest, middle, and highest channels were investigated – the device was commanded to continuously transmit on low, middle, and high channels.

Test distance:

- 9k to 30 MHz – The EUT to measurement antenna distance was 3 meters
- 30 to 1000 MHz - The EUT to measurement antenna distance was 3 meters
- 1 to 18 GHz - The EUT to measurement antenna distance was 3 meters
- 18 to 26 GHz - The EUT to measurement antenna distance was 3 meters

Limits within restricted bands of operation:

Frequency	Limits ⁽¹⁾		Peak Limits dBuV/m
	Microvolts/m	dBuV/m	
30 - 88 MHz	100	40 ⁽²⁾	--
88 - 216 MHz	150	43.5 ⁽²⁾	--
216 - 960 MHz	200	46 ⁽²⁾	--
960 - 1000 MHz	500	54 ⁽²⁾	--
1 - 40 GHz	500	54 ⁽³⁾	74

(1) These limits are applicable to emissions outside of the intentional transmit frequency band.

(2) Quasi-peak limit

(3) Average limit

7.3 Test Site

10m Absorber Lined Shielded Enclosure (ALSE), Suwanee, GA

Environmental Conditions

Temperature: 23.9 °C

Relative Humidity: 45.8 %

Atmospheric Pressure: 98.0 kPa

7.4 Test Equipment

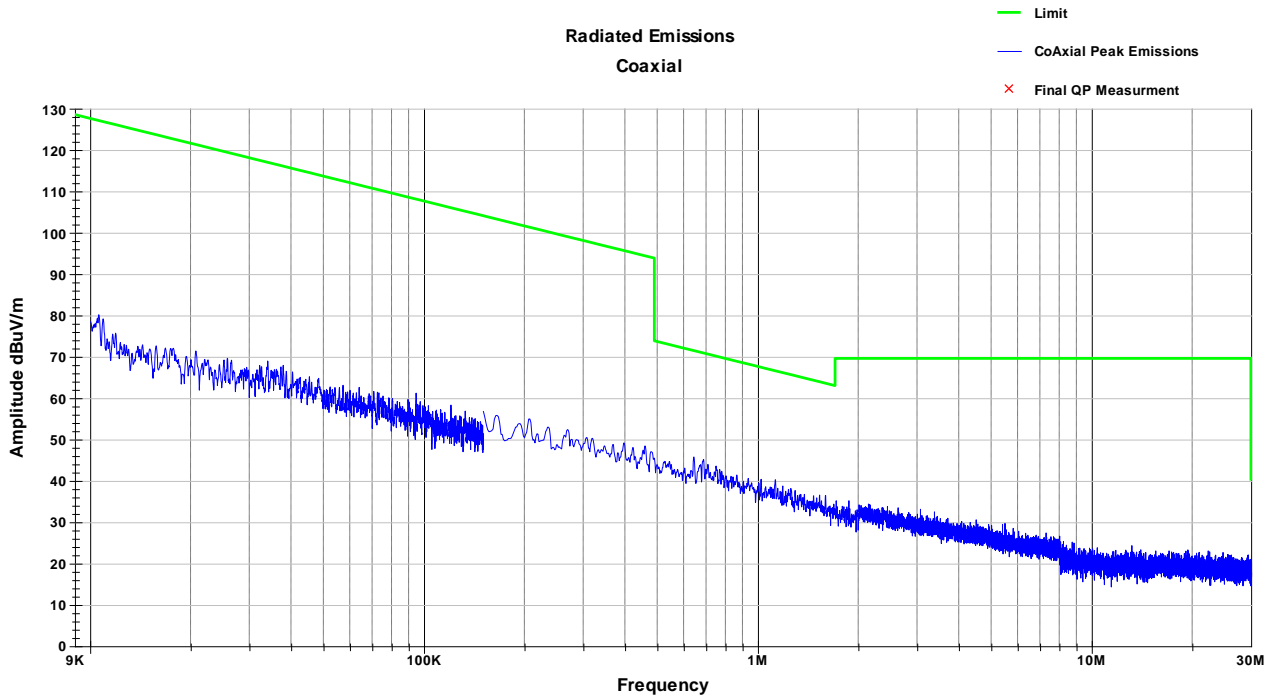
Test End Date: 9/30/2021

Tester: ZH/AB

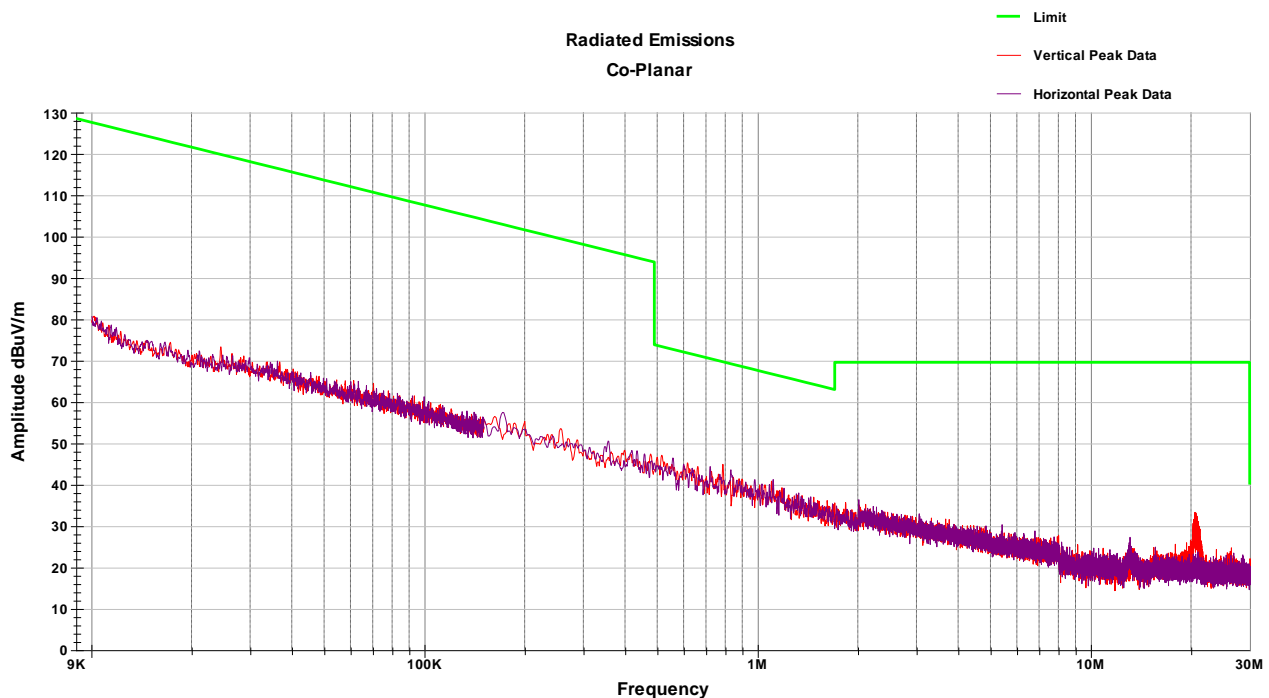
Equipment	Model	Manufacturer	Asset Number	Cal Date	Cal Due Date
RF CABLE NM TO NF, 0.01-18GHZ	90-213-118	TELEDYNE STORM MICROWAVE	20117	17-Feb-2021	17-Feb-2022
RF CABLE NM TO NM, 0.01-18GHZ	90-195-079	TELEDYNE STORM MICROWAVE	20124	17-Feb-2021	17-Feb-2022
RF CABLE NM TO NM, 0.01-18GHZ	90-195-118	TELEDYNE STORM MICROWAVE	20125	17-Feb-2021	17-Feb-2022
RF CABLE, NM TO NM.	90-195-276	TELEDYNE STORM MICROWAVE	21020	26-Mar-2021	26-Mar-2022
EMI TEST RECEIVER	ESU40	ROHDE & SCHWARZ	B079629	21-Jun-2021	21-Jun-2022
ANTENNA, BILOG	JB6	SUNOL	B079689	5-Nov-2020	5-Nov-2022
ANTENNA, DRG HORN (MEDIUM)	3117	ETS LINDGREN	B079699	15-Jul-2020	15-Jul-2022
RF CABLE	SF106	HUBER & SUHNER	B079713	26-Aug-2021	26-Aug-2022
LOW NOISE AMPLIFIER	ZKL-2+	MINI-CIRCUITS	B079800	7-Jul-2021	7-Jul-2022
FILTER, HIGH PASS, >2800MHZ	HPM50111	MICRO-TRONICS	B085747	6-Jul-2021	6-Jul-2022
ANTENNA, LOOP, ACTIVE	6502	ETS LINDGREN	B085752	20-Aug-2020	20-Aug-2022
EMI TEST RECEIVER	ESU8	ROHDE & SCHWARZ	B085759	9-Jul-2021	9-Jul-2022
LOW NOISE AMPLIFIER	TS-PR18	ROHDE & SCHWARZ	B094463	7-Jul-2021	7-Jul-2022
RF CABLE	SUCOFLEX 100	HUBER & SUHNER	B108523	26-Aug-2021	26-Aug-2022

7.5 Test Data – Peak Plots

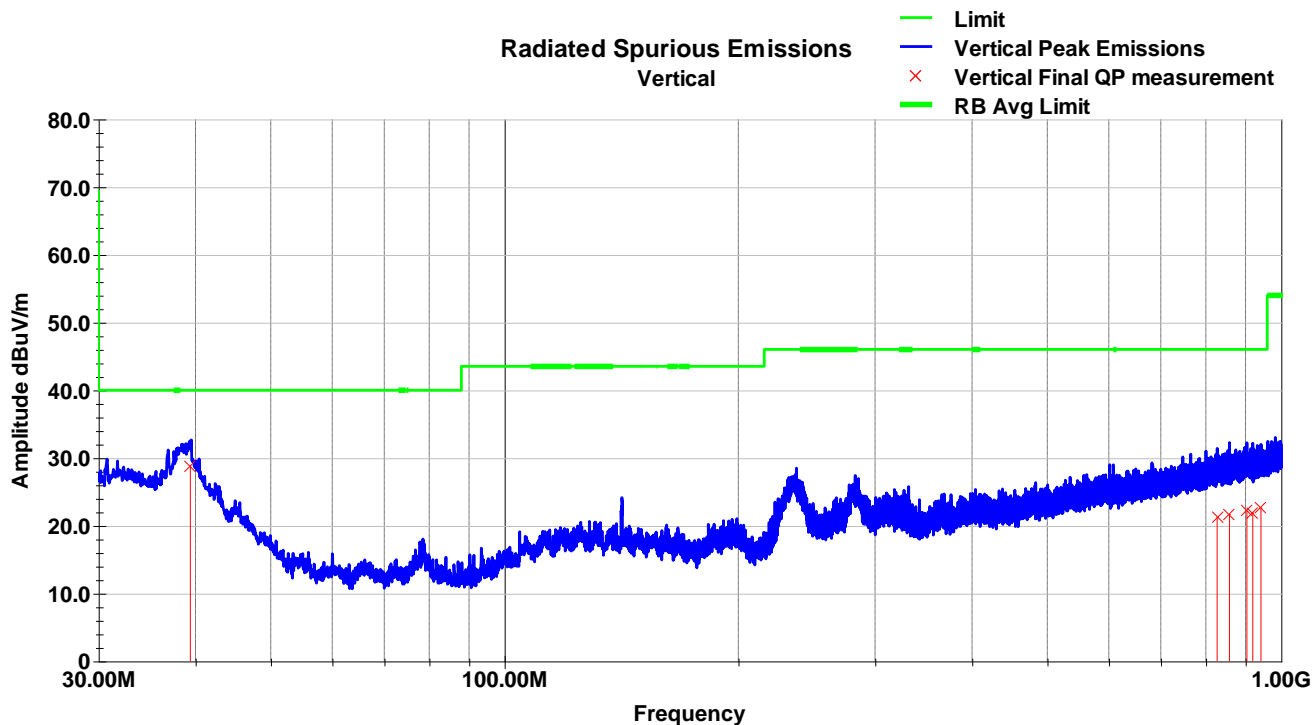
Between 9kHz and 1000MHz, there was no significant deviation with respect to axis or channel
 Co-Axial Radiated Spurious Emissions – 9kHz-30MHz (LCH)



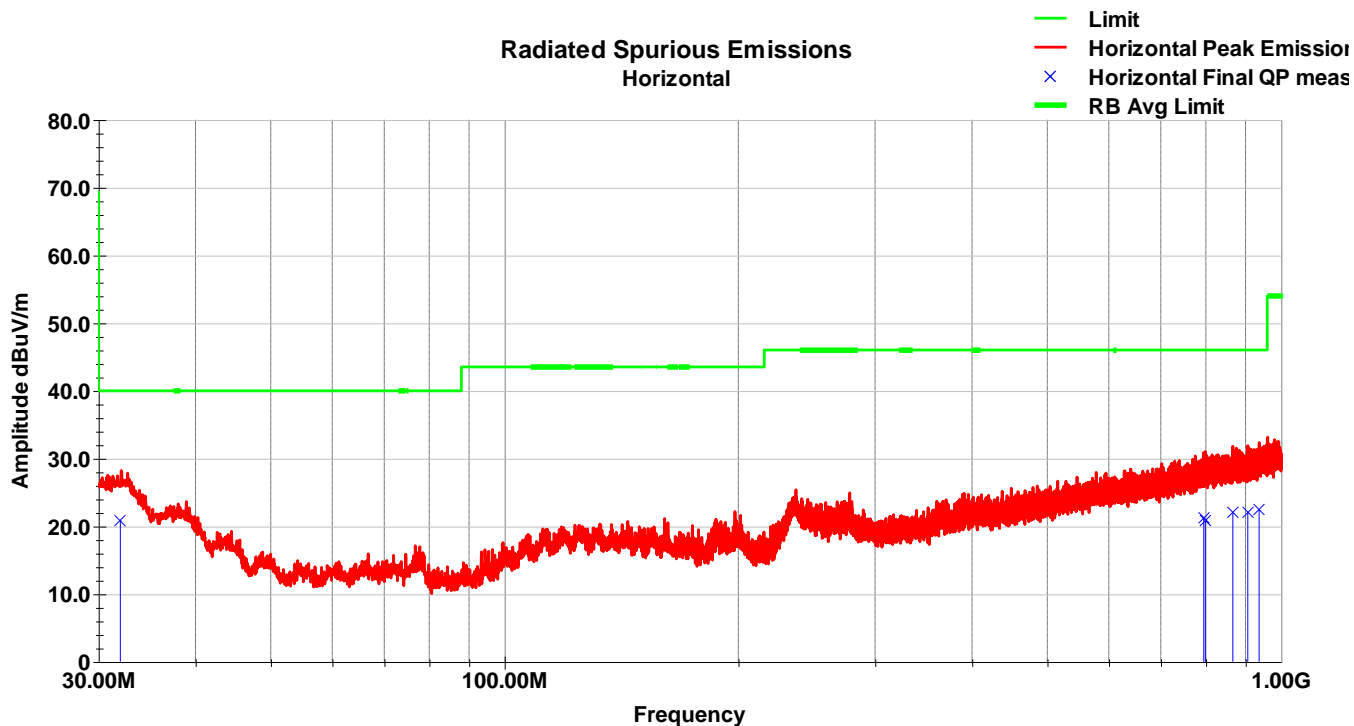
Co-Planar Radiated Spurious Emissions – 9kHz-30MHz (LCH)



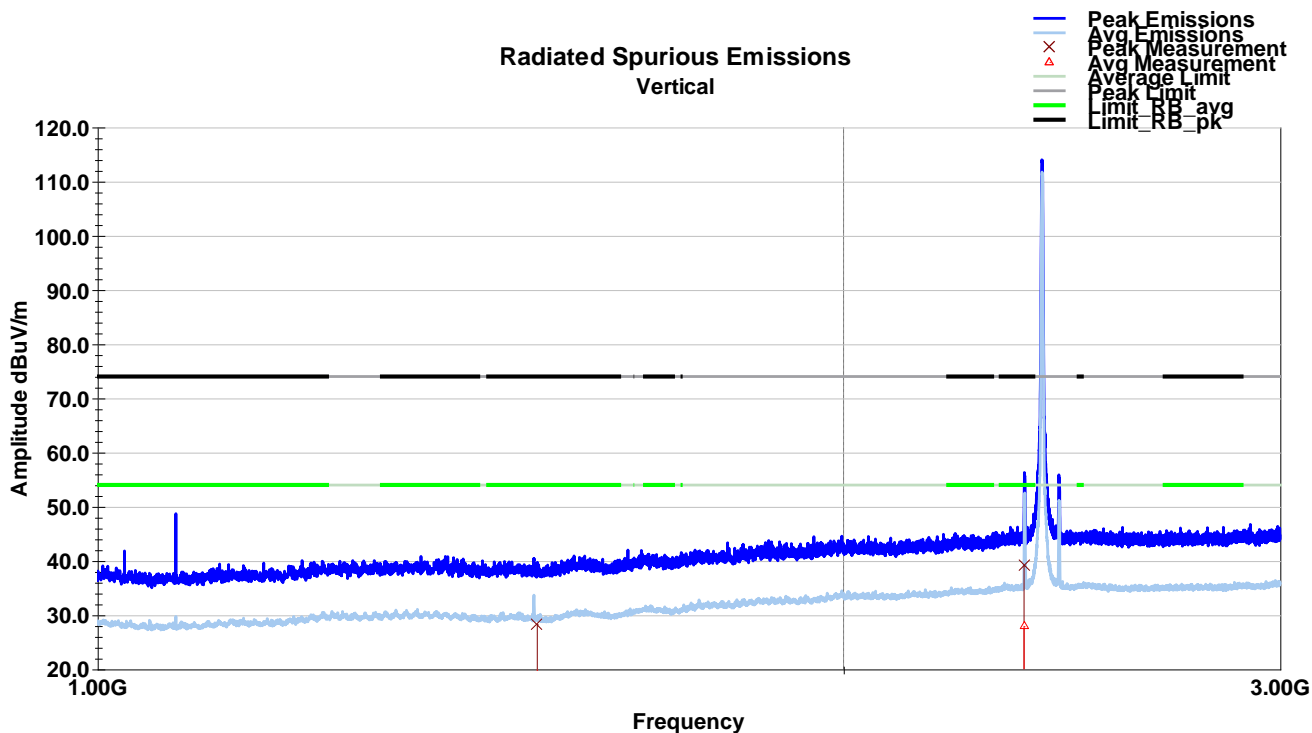
Vertical Radiated Spurious Emissions – 30-1000MHz (LCH)



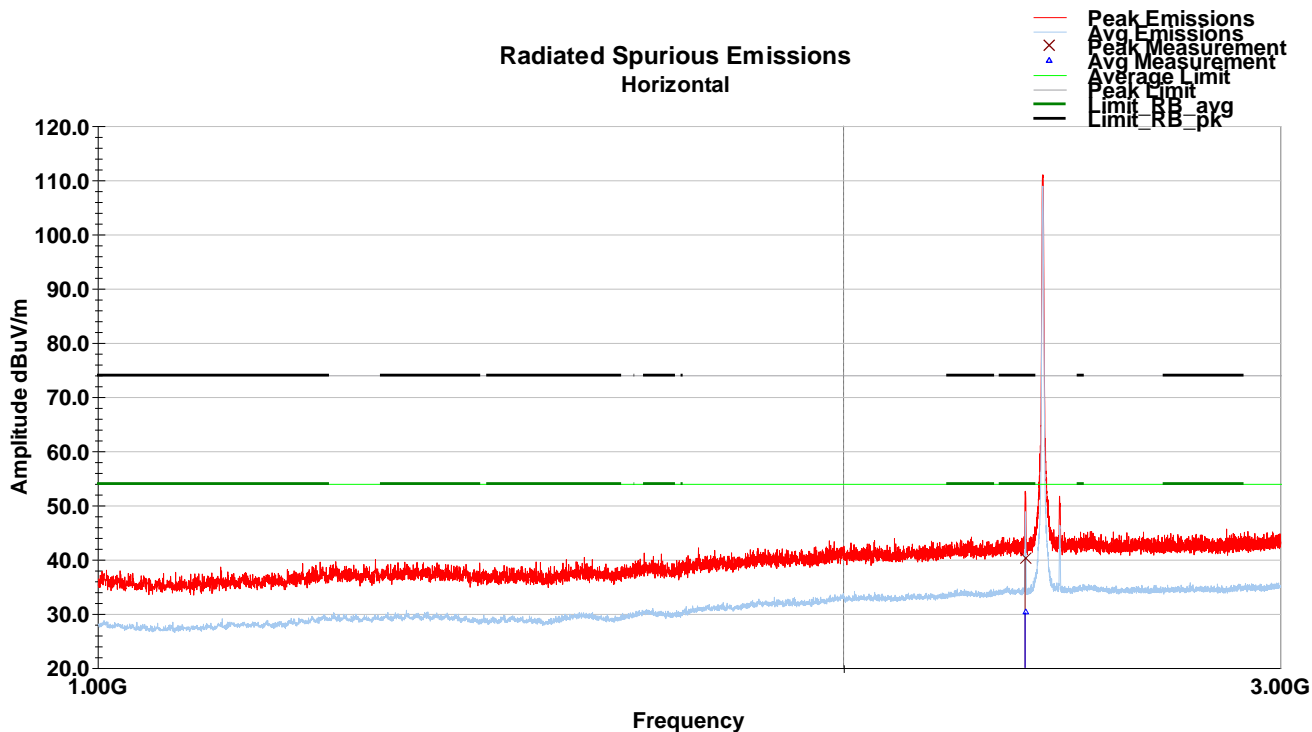
Horizontal Radiated Spurious Emissions – 30-1000MHz (LCH)



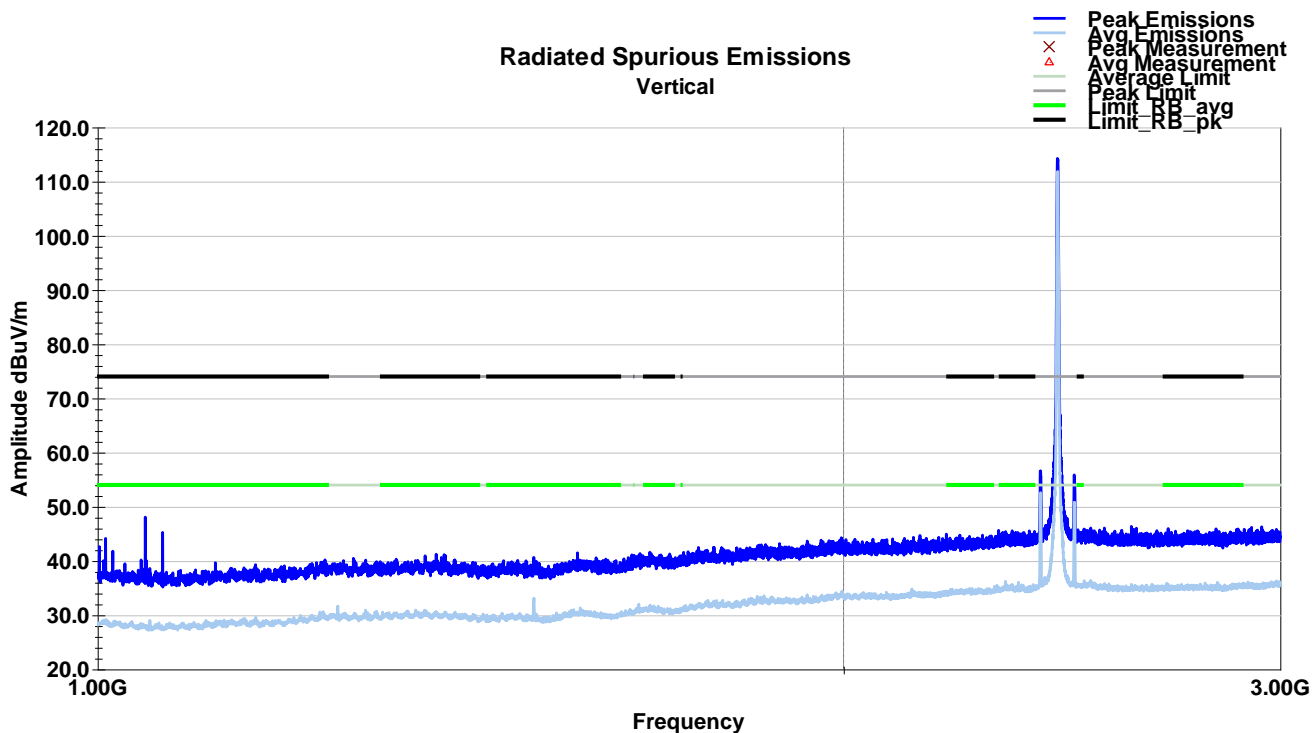
Vertical Radiated Spurious Emissions – 1-3GHz (LCH)



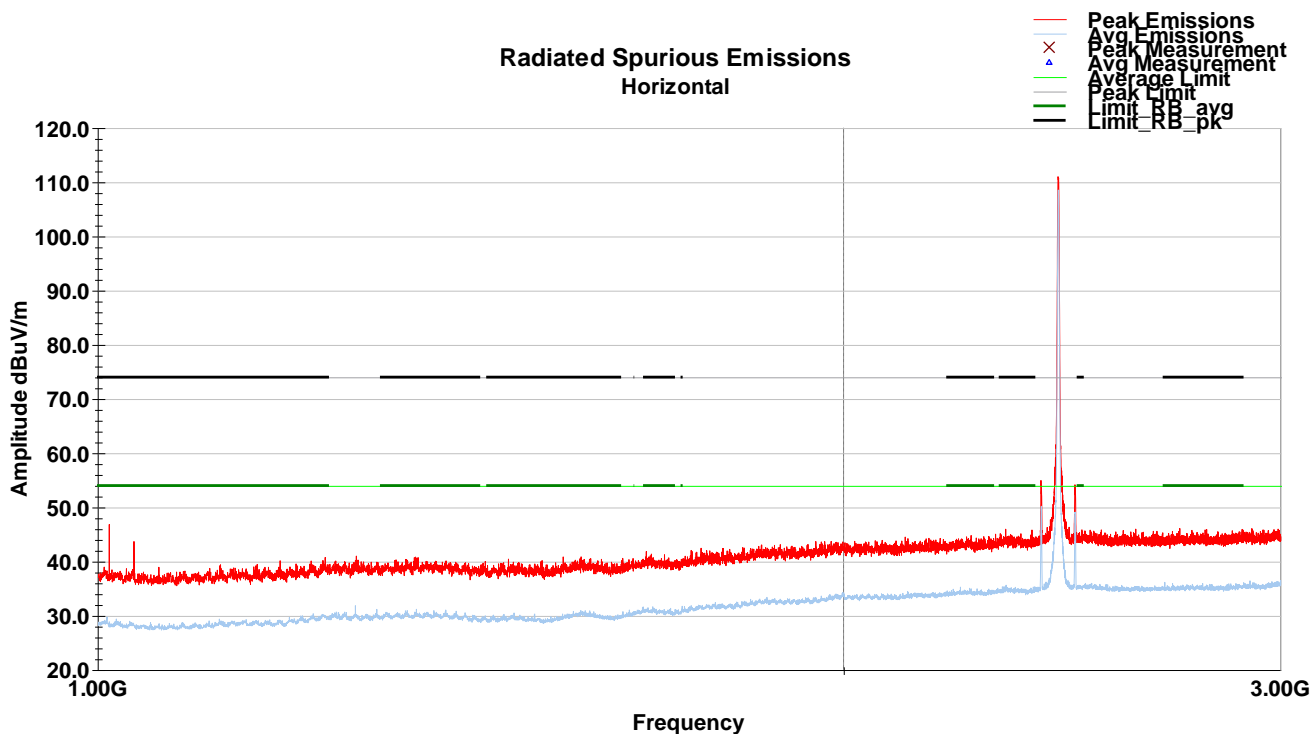
Horizontal Radiated Spurious Emissions – 1-3GHz (LCH)



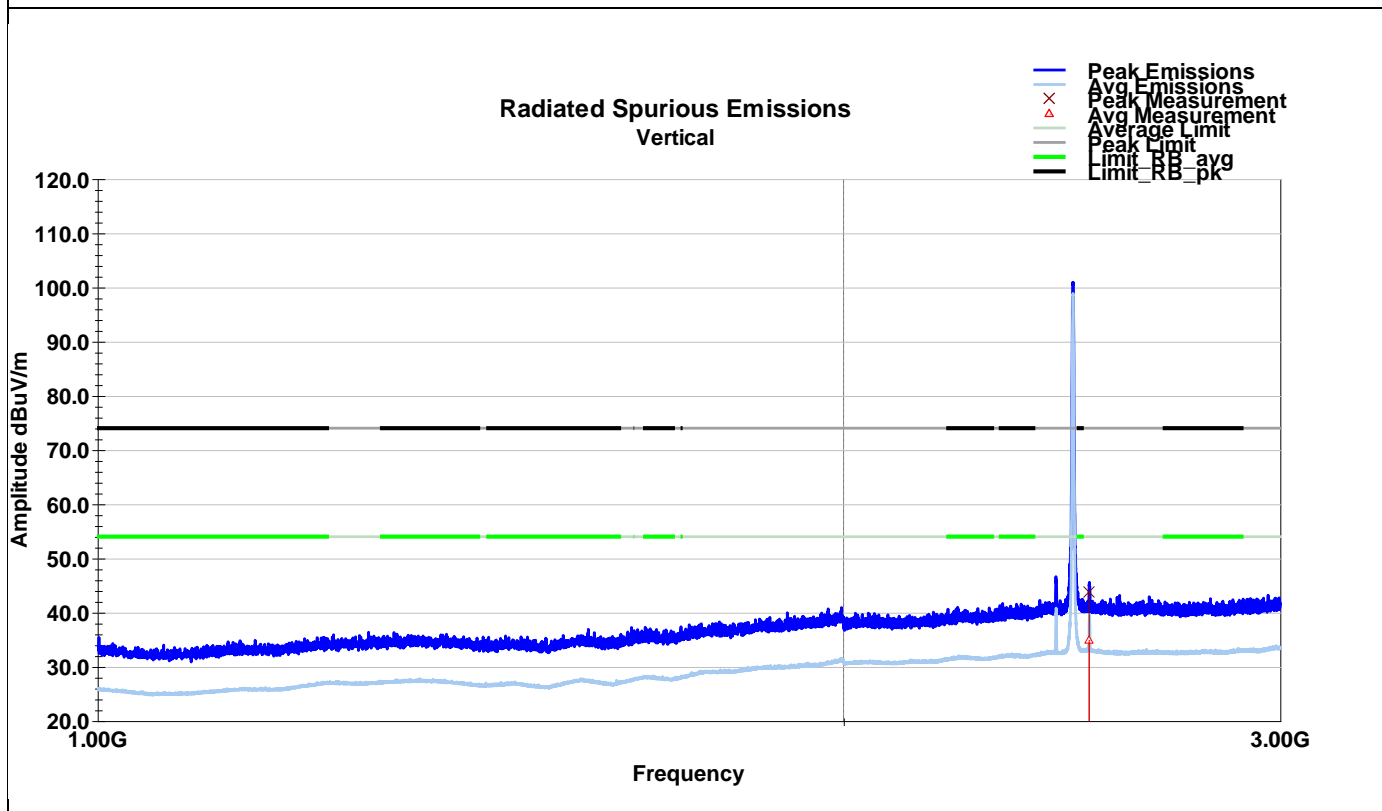
Vertical Radiated Spurious Emissions – 1-3GHz (MCH)



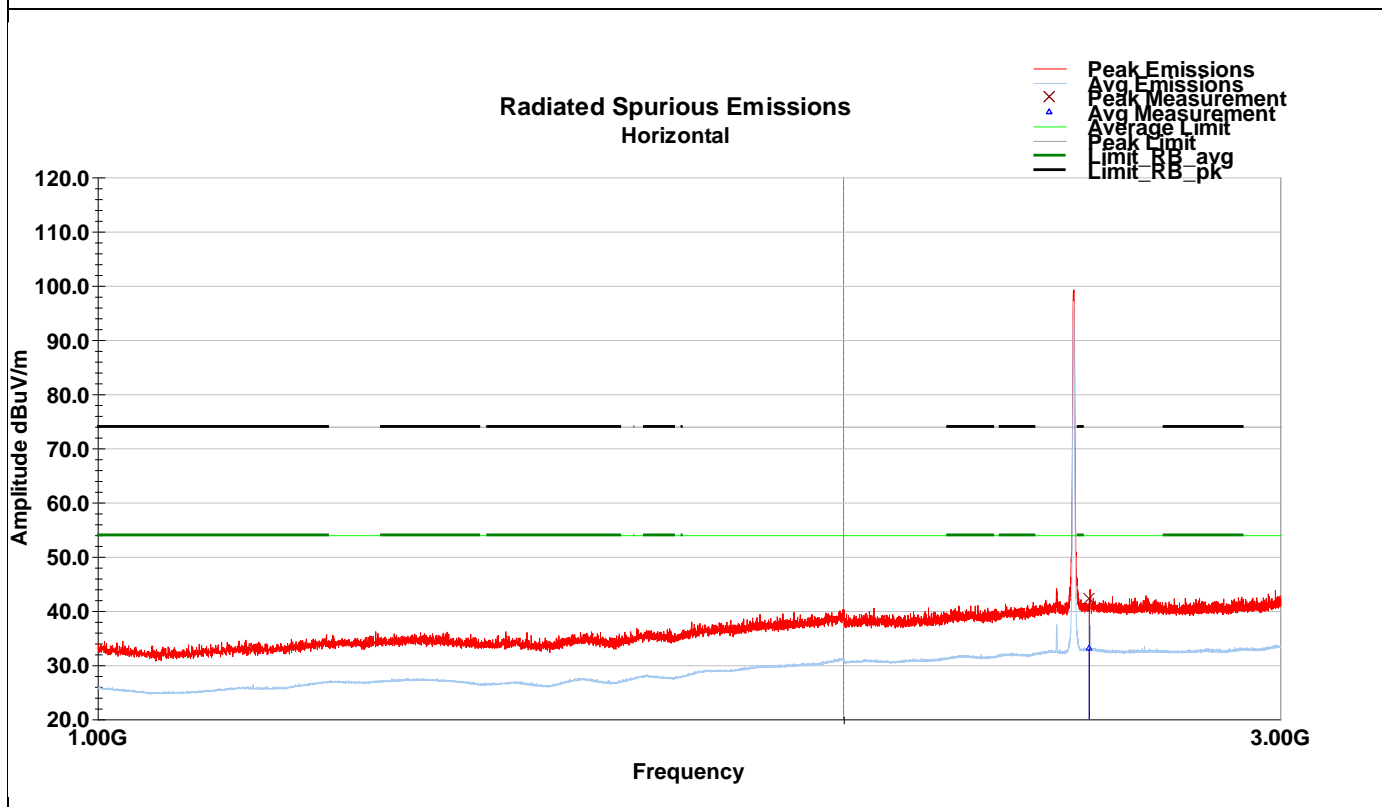
Horizontal Radiated Spurious Emissions – 1-3GHz (MCH)



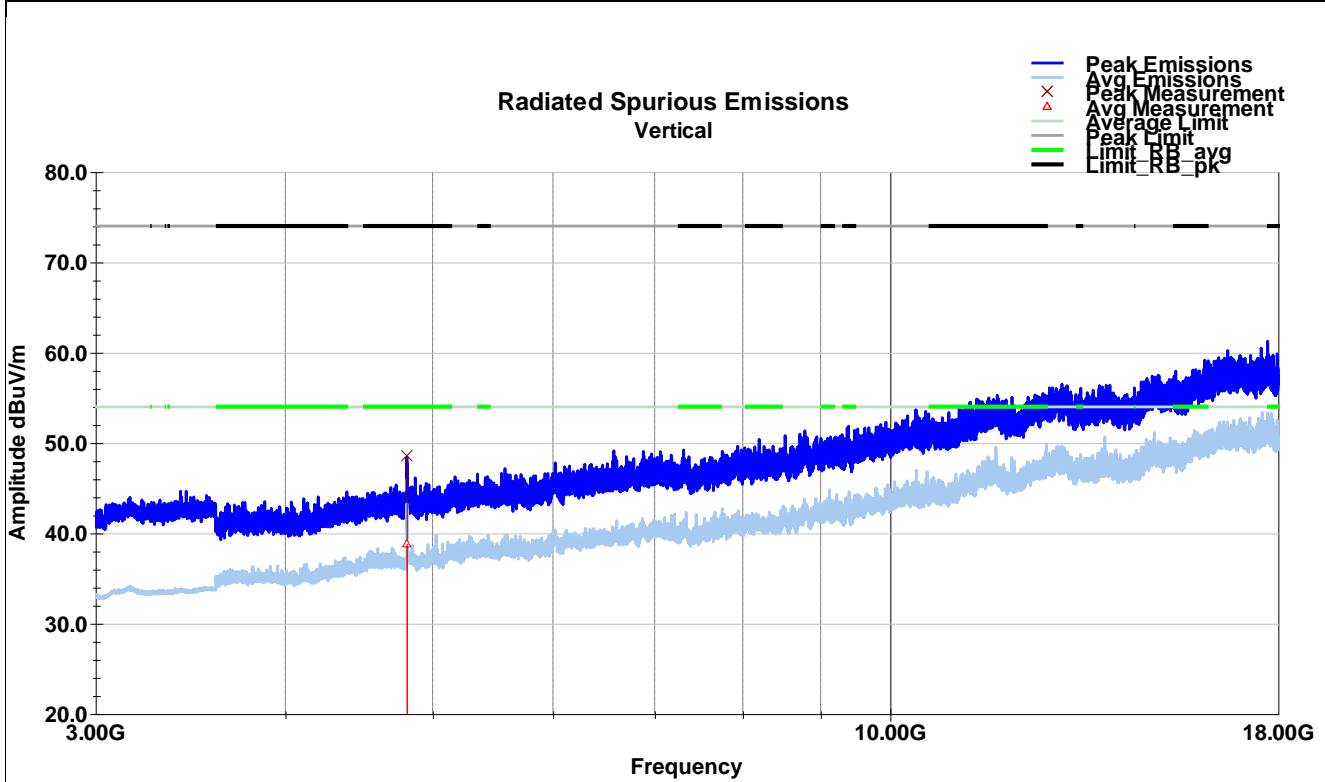
Vertical Radiated Spurious Emissions – 1-3GHz (HCH)



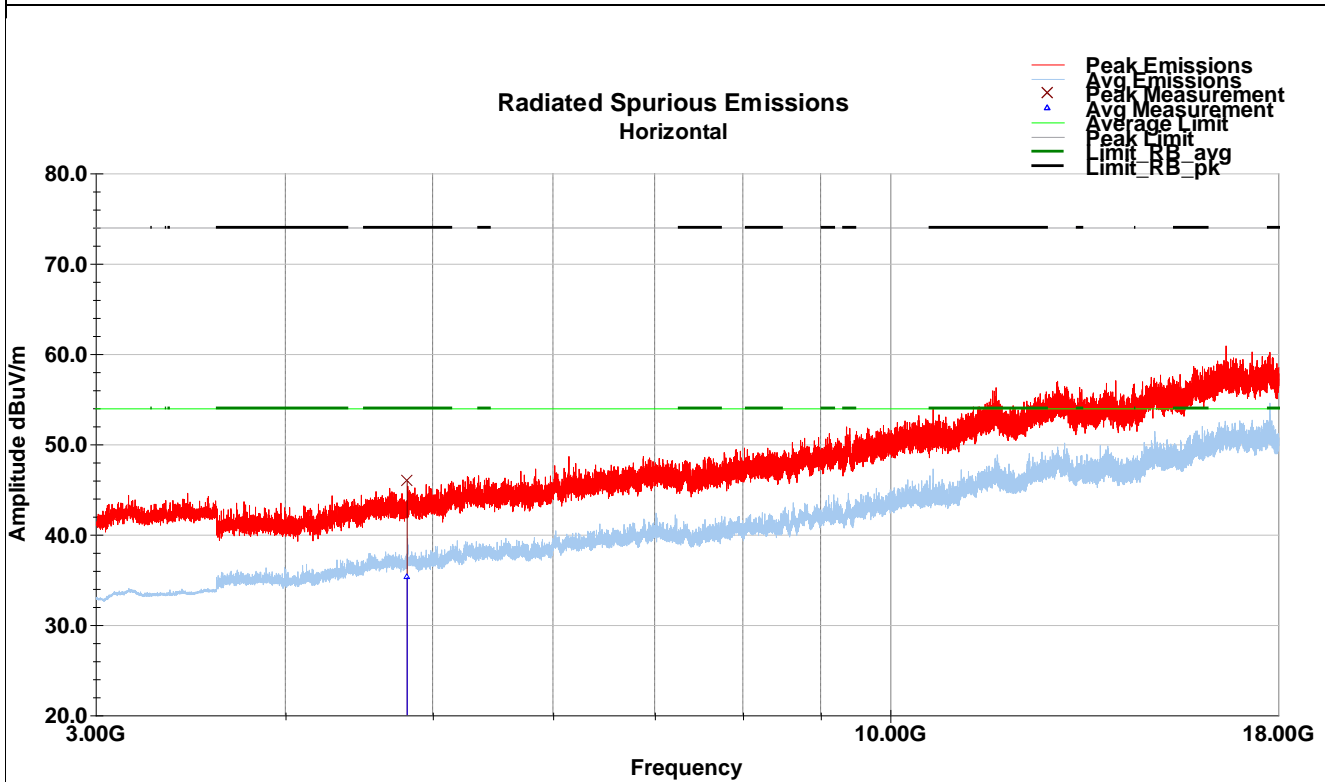
Horizontal Radiated Spurious Emissions – 1-3GHz (HCH)



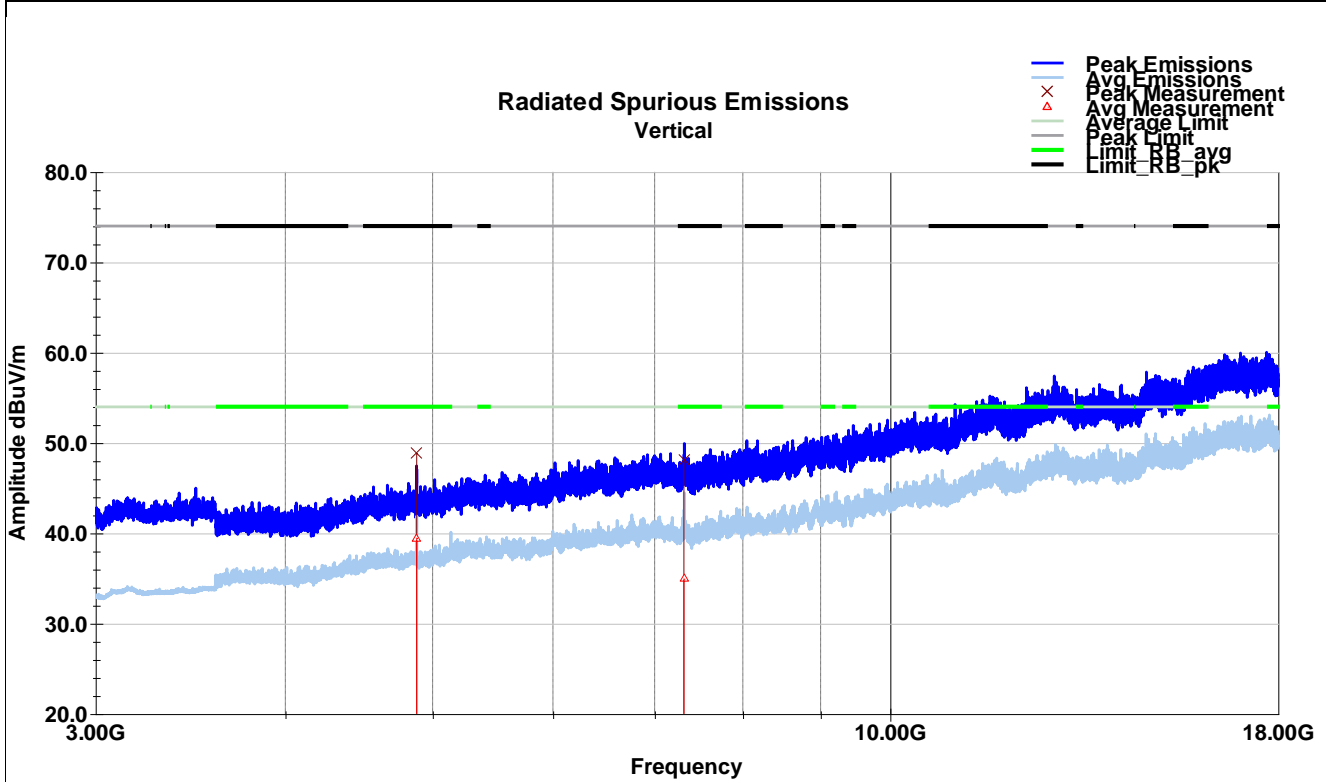
Vertical Radiated Spurious Emissions – 3-18GHz (LCH)



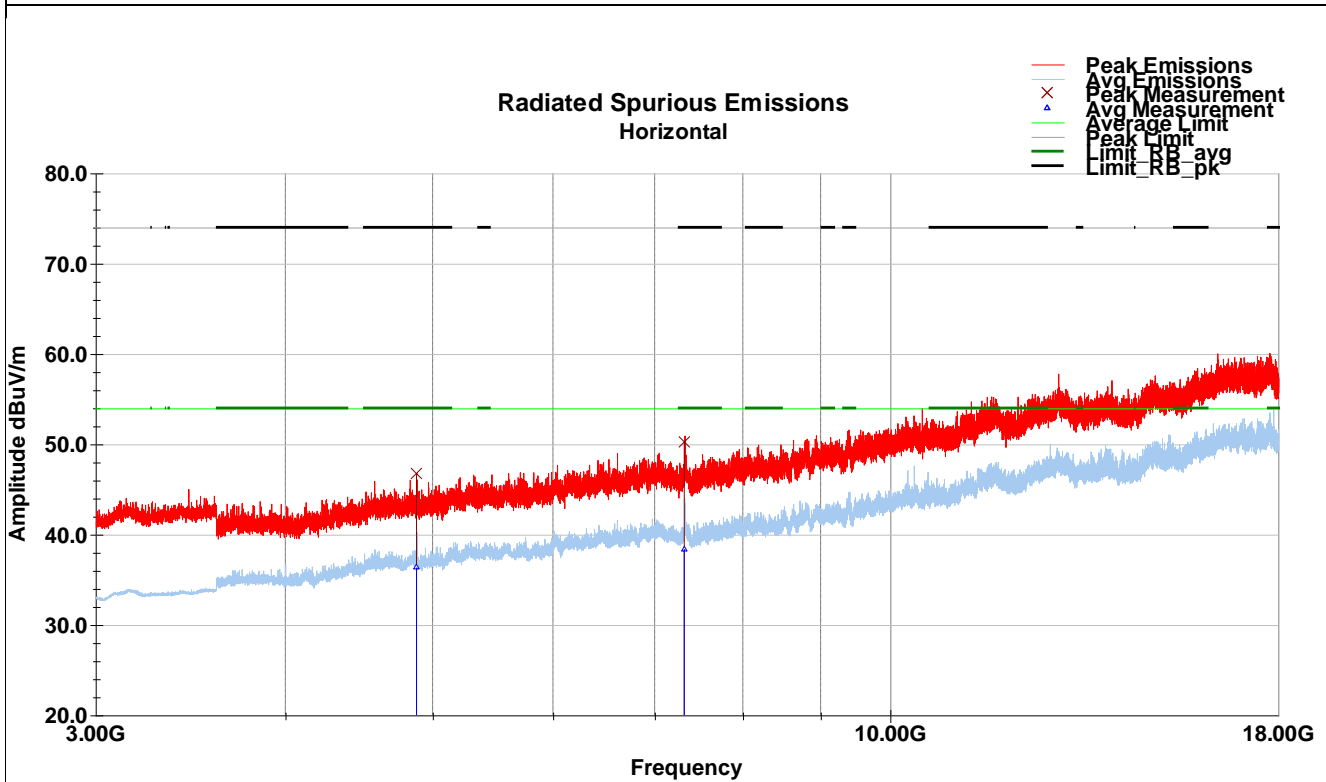
Horizontal Radiated Spurious Emissions – 3-18GHz (LCH)



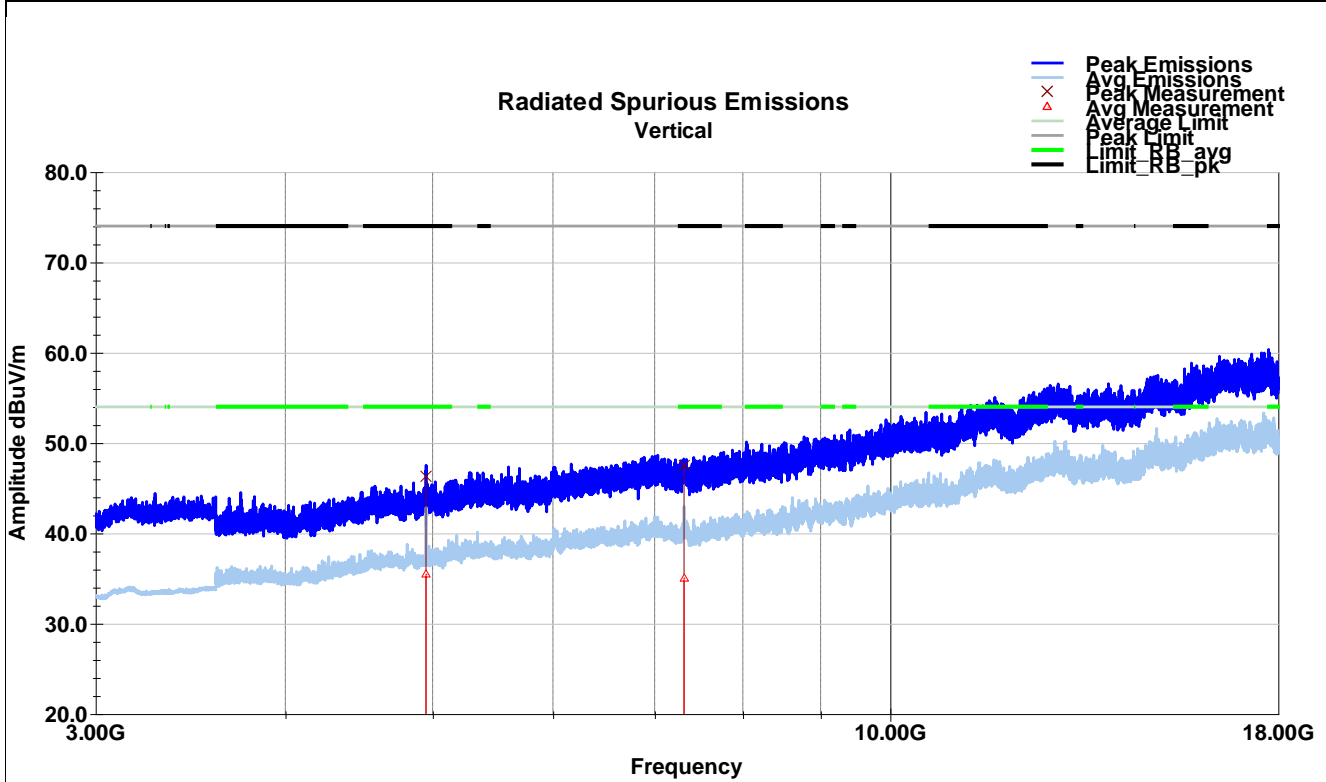
Vertical Radiated Spurious Emissions – 3-18GHz (MCH)



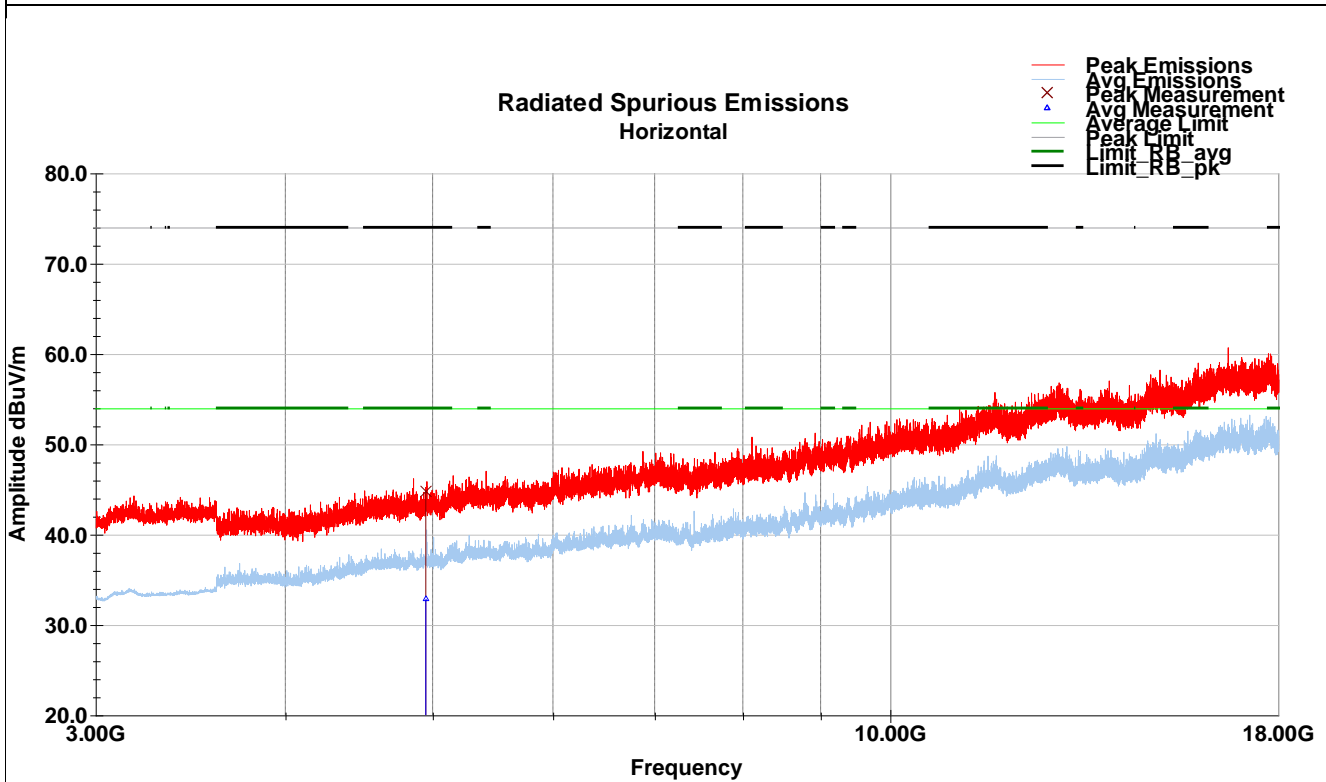
Horizontal Radiated Spurious Emissions – 3-18GHz (MCH)



Vertical Radiated Spurious Emissions – 3-18GHz (HCH)



Horizontal Radiated Spurious Emissions – 3-18GHz (HCH)



7.6 Test Data – Tabular Data

Tabular Test Results

Frequency MHz	Raw Value dBuV	Polarity (V/H)	Azimuth (degrees)	Height (cm)	AF (dB/m)	Loss (dB)	Amp (dB)	Final Value dBuV/m	Limit dBuV/m	Margin dB	Detector
Low Channel (2405MHz)											
4810.00	44.4	V	38.0	180.0	34.6	4.6	35.1	48.5	74.0	-25.5	Peak
4810.00	34.7	V	38.0	180.0	34.6	4.6	35.1	38.8	54.0	-15.2	Average
4810.00	41.8	H	182.0	249.0	34.6	4.6	35.1	45.9	74.0	-28.1	Peak
4810.00	31.2	H	182.0	249.0	34.6	4.6	35.1	35.3	54.0	-18.7	Average
Mid Channel (2440MHz)											
4880.00	45.0	V	63.0	191.0	34.5	4.6	35.3	48.9	74.0	-25.1	Peak
4880.00	35.6	V	63.0	191.0	34.5	4.6	35.3	39.5	54.0	-14.5	Average
4880.00	42.9	H	330.0	187.0	34.6	4.6	35.3	46.8	74.0	-27.2	Peak
4880.00	32.5	H	330.0	187.0	34.6	4.6	35.3	36.3	54.0	-17.7	Average
7320.00	42.0	V	216.0	201.0	35.7	5.7	35.3	48.1	74.0	-25.9	Peak
7320.00	28.8	V	216.0	201.0	35.7	5.7	35.3	35.0	54.0	-19.0	Average
7320.00	44.1	H	237.0	100.0	35.7	5.8	35.3	50.3	74.0	-23.7	Peak
7320.00	32.2	H	237.0	100.0	35.7	5.8	35.3	38.4	54.0	-15.6	Average
High Channel (2475MHz)											
4950.00	42.2	V	15.0	249.0	34.5	4.7	35.1	46.2	74.0	-27.8	Peak
4950.00	31.5	V	15.0	249.0	34.5	4.7	35.1	35.5	54.0	-18.5	Average
4950.00	40.7	H	282.0	175.0	34.5	4.7	35.1	44.7	74.0	-29.3	Peak
4950.00	28.8	H	282.0	175.0	34.5	4.7	35.1	32.8	54.0	-21.2	Average
Final Value = Raw Value + AF + CL - Amp											
Margin = QP Value - Limit											

Note: There no emissions detected above 18GHz

8 Emissions in Restricted Frequency Bands (Band Edge)

8.1 Test Result

Test Description	Test Specification		Test Result
Restricted Band Emissions	15.205 / 15.209	RSS-GEN S8.9 / 8.10	Compliant

8.2 Test Method

Field strength measurements were performed at the restricted band edges of 2390MHz and 2483.5MHz for each modulation. Measurements were made using the radiated methods defined in ANSI C63.10, Section 11.12.2.5.1.

8.3 Test Site

EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 25.0 °C

Relative Humidity: 45.2 %

Atmospheric Pressure: 97.9 kPa

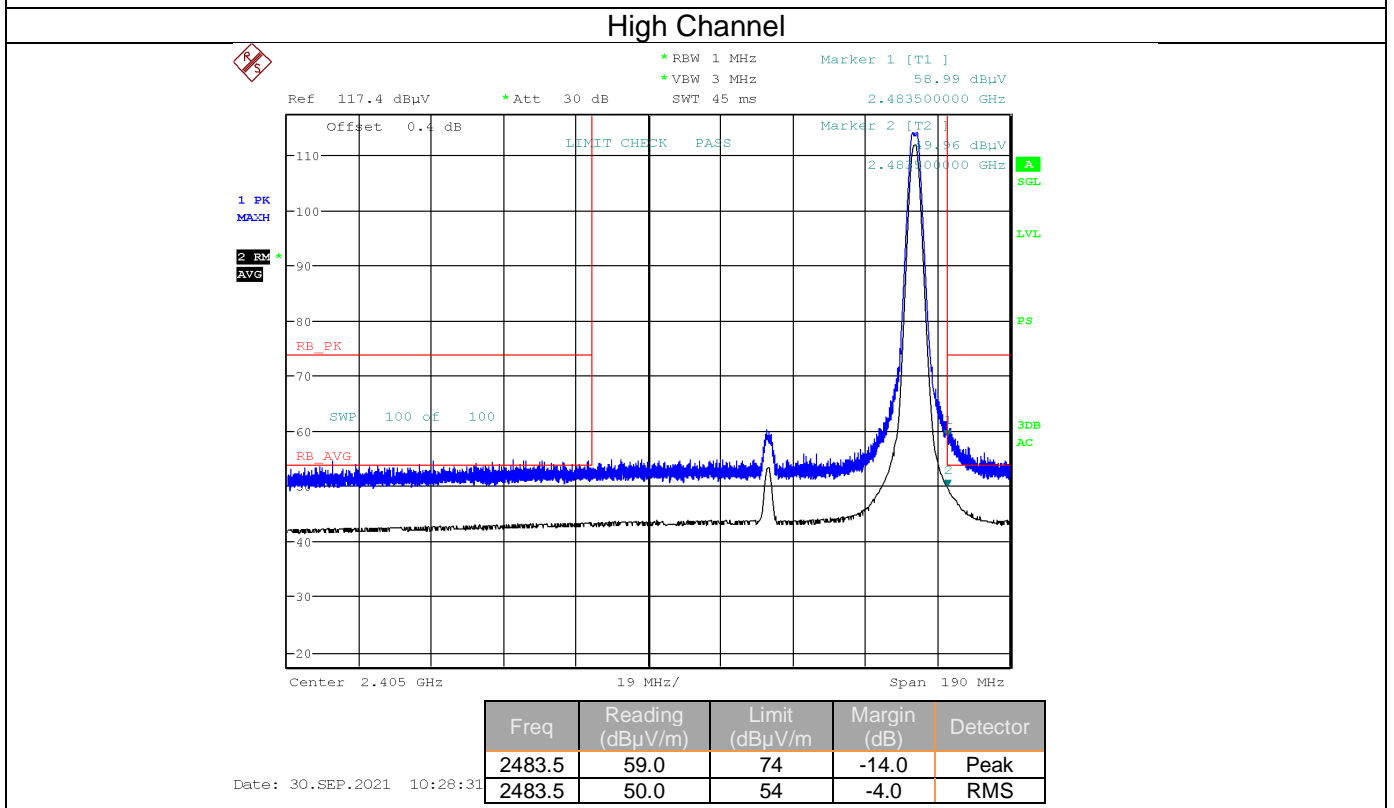
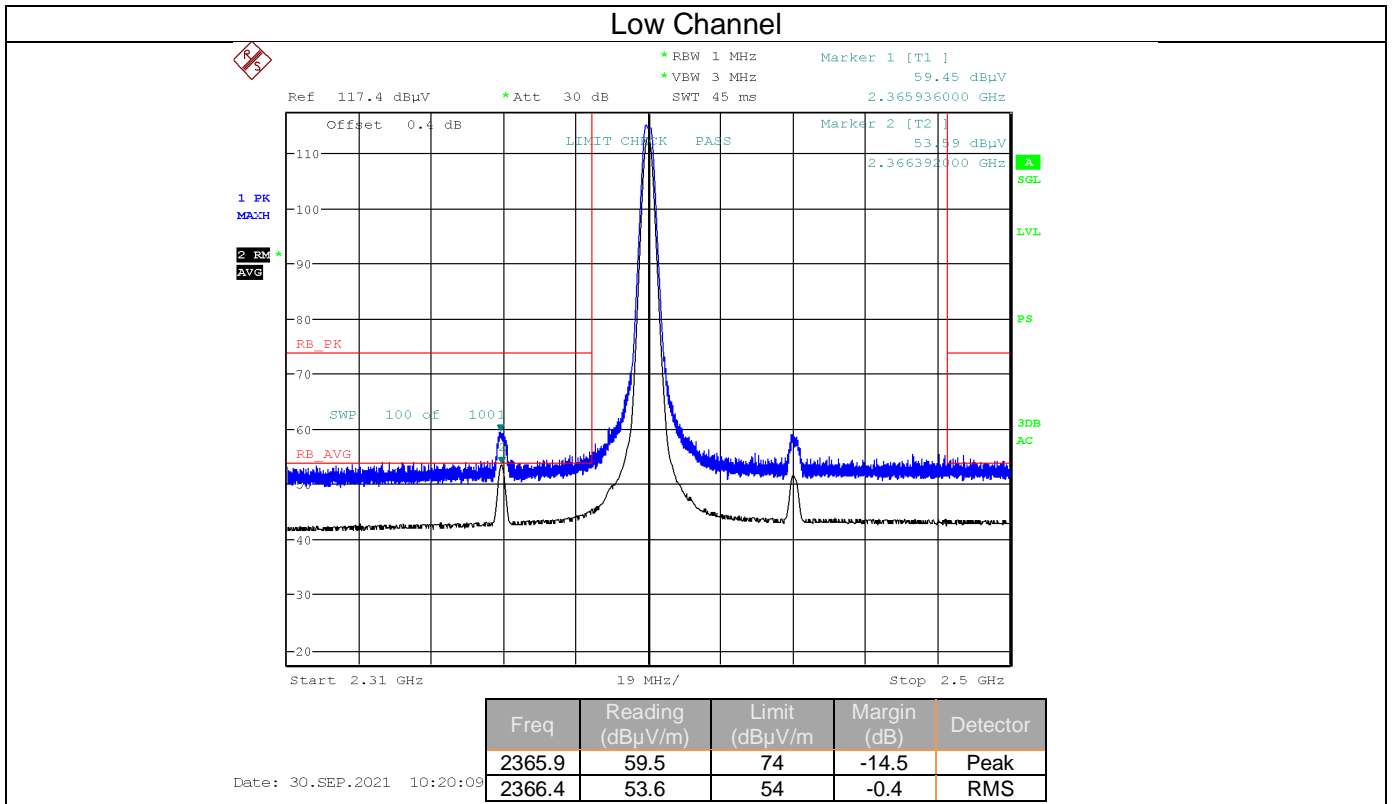
8.4 Test Equipment

Test End Date: 9/30/2021

Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Date	Cal Due Date
RF CABLE NM TO NM, 0.01-18GHZ	90-195-354	TELEDYNE STORM MICROWAVE	20120	17-Feb-2021	17-Feb-2022
EMI TEST RECEIVER	ESU40	ROHDE & SCHWARZ	B079629	21-Jun-2021	21-Jun-2022
ANTENNA, DRG HORN (MEDIUM)	3117	ETS LINDGREN	B079691	10-Aug-2020	10-Aug-2022
LOW NOISE AMPLIFIER	TS-PR18	ROHDE & SCHWARZ	B094463	7-Jul-2021	7-Jul-2022
RF CABLE	SUCOFLEX 100	HUBER & SUHNER	B108523	26-Aug-2021	26-Aug-2022

8.5 Test Data – Restricted Band Edges



Note: Duty-cycle was 100% - other than path loss, no correction of the RMS data was required

9 Conducted Emissions

9.1 Test Result

Test Description	Test Specification	Test Result
Conducted Emissions	RSS-GEN ANSI C63.4:2014	Compliant

9.2 Test Method

With the receiver's Resolution Bandwidth (RBW) set to 9 kHz, exploratory scans were performed over the measuring frequency range (0.15MHz to 30MHz) using a max hold mode incorporating a Peak detector and using the TILE! software. The final test data was measured using a 9kHz RBW in conjunction with a Quasi-Peak detector and Average detector and compared against the limits indicated in the table below.

Frequency Range	Limits (dB μ V)
0.15 to 0.5 MHz	Quasi-Peak 66 to 56 / Average 56 to 46
0.5 to 5 MHz	Quasi-Peak 56 / Average 46
5 to 30 MHz	Quasi-Peak 60 / Average 50

9.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.3 °C

Relative Humidity: 45.2 %

Atmospheric Pressure: 97.9 kPa

9.4 Test Equipment

Test End Date: 9/29/2021

Tester: JOP

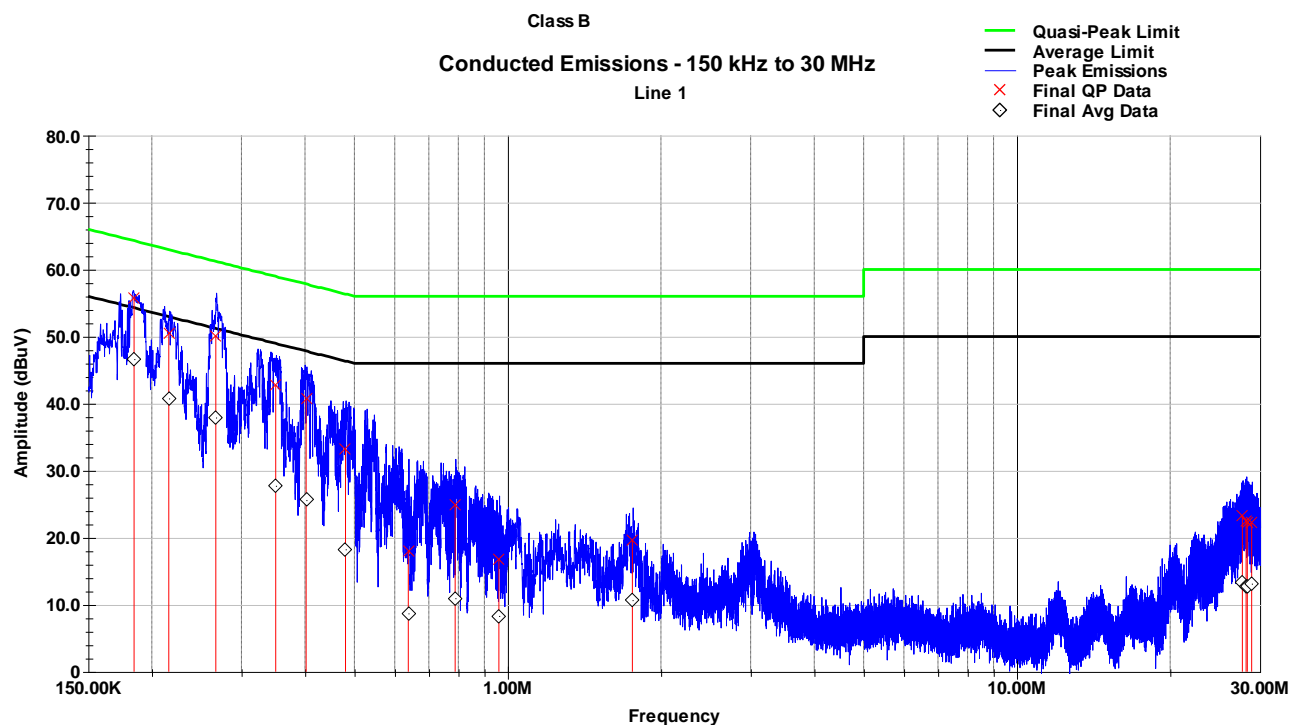
Equipment	Model	Manufacturer	Asset Number	Cal Date	Cal Due Date
RF CABLE	UC-N-MM-78	MAURY MICROWAVE	17017	25-Aug-2021	25-Aug-2022
EMI TEST RECEIVER	ESU8	ROHDE & SCHWARZ	B085759	9-Jul-2021	9-Jul-2022
LINE IMPEDANCE STABILIZATION	NNB 51	TESEQ	B085882	21-Apr-2021	21-Apr-2022

Software:

TILE! software profile "Conducted Emissions T7 210216" dated 16 February 2021

9.5 Test Data

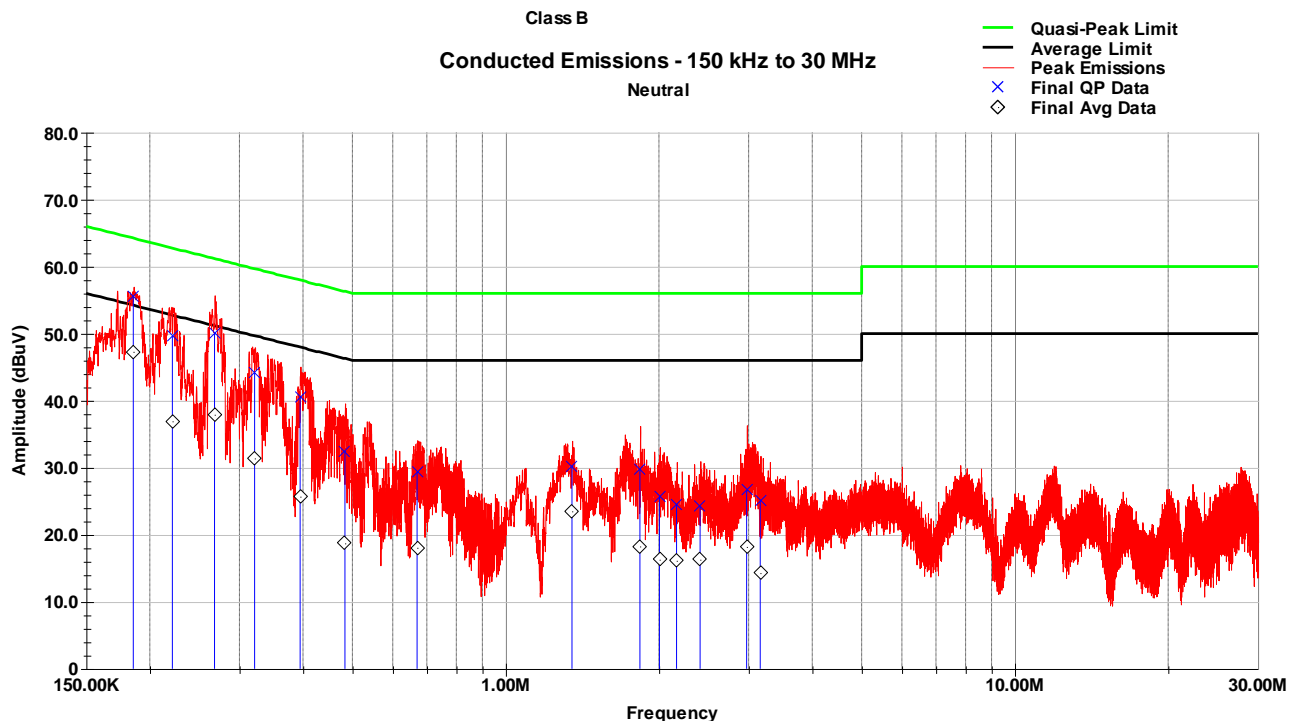
Line 1 Conducted Emissions – Peak Plot



Line 1 Conducted Emissions – Tabular Data

Frequency MHz	QP Value dBUV	QP Limit dBUV	QP Margin dB	Avg Value dBUV	Avg Limit dBUV	Avg Margin dB
0.185	55.7	64.3	-8.6	46.7	54.3	-7.7
0.216	50.6	63.0	-12.4	40.8	53.0	-12.2
0.267	50.1	61.2	-11.1	37.9	51.2	-13.3
0.350	42.7	59.0	-16.3	27.8	49.0	-21.2
0.402	40.7	57.9	-17.1	25.6	47.9	-22.2
0.480	33.2	56.3	-23.1	18.3	46.3	-28.0
0.638	18.0	56.0	-38.0	8.7	46.0	-37.3
0.789	24.9	56.0	-31.1	11.0	46.0	-35.0
0.961	16.8	56.0	-39.2	8.3	46.0	-37.7
1.758	19.6	56.0	-36.4	10.7	46.0	-35.3
27.720	23.3	60.0	-36.7	13.3	50.0	-36.7
28.193	22.4	60.0	-37.6	12.7	50.0	-37.3
28.342	22.3	60.0	-37.7	12.8	50.0	-37.2
28.915	22.2	60.0	-37.8	13.2	50.0	-36.8

Neutral Conducted Emissions – Peak Plot



Neutral Conducted Emissions – Tabular Data

Frequency MHz	QP Value dBuV	QP Limit dBuV	QP Margin dB	Avg Value dBuV	Avg Limit dBuV	Avg Margin dB
0.186	55.5	64.3	-8.7	47.3	54.3	-7.0
0.221	49.6	62.7	-13.1	36.9	52.7	-15.8
0.268	50.1	61.2	-11.1	37.9	51.2	-13.3
0.321	44.1	59.7	-15.5	31.4	49.7	-18.3
0.395	40.6	58.0	-17.4	25.7	48.0	-22.3
0.483	32.5	56.3	-23.8	18.7	46.3	-27.6
0.670	29.4	56.0	-26.6	18.1	46.0	-27.9
1.350	30.3	56.0	-25.7	23.5	46.0	-22.5
1.834	29.8	56.0	-26.2	18.3	46.0	-27.7
2.005	25.7	56.0	-30.3	16.3	46.0	-29.7
2.166	24.5	56.0	-31.5	16.1	46.0	-29.9
2.409	24.2	56.0	-31.8	16.3	46.0	-29.7
2.973	26.7	56.0	-29.3	18.2	46.0	-27.8
3.162	25.2	56.0	-30.8	14.3	46.0	-31.7

10 Measurement Uncertainty

The measurement uncertainty figures are be calculated in accordance with TR 100 028-1 [2] and correspond to an expansion factor (coverage factor) $k = 2$ (which provide 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	$\pm 1 \times 10^{-5}$	$\pm 9.8 \times 10^{-8}$
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	$\pm 1^{\circ}\text{C}$	$\pm 0.5^{\circ}\text{C}$
humidity	± 5 %	± 3.5 %
DC and low frequency voltages	± 3 %	± 0.4 %

11 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	01 October 2021