



CERTIFICATION TEST REPORT

Report Number: R13111116-E1

Applicant : Resideo
2 Corporate Center Drive
Melville, NY 11749,US

Model : SiXMINICT2A, PROSiXMINICT

FCC ID : CFS8DLSIXMINICT

IC : 573F-SIXMINICT

EUT Description : Wireless Door/Window Contact

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 5

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Prepared by:

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REPORT REVISION HISTORY

Ver.	Issue Date	Revisions	Revised By
1	12/2/2019	Initial Issue	Brian T. Kiewra

TABLE OF CONTENTS

REPORT REVISION HISTORY	2
TABLE OF CONTENTS	3
1. ATTESTATION OF TEST RESULTS	5
2. TEST METHODOLOGY	6
3. FACILITIES AND ACCREDITATION	6
4. CALIBRATION AND UNCERTAINTY	7
4.1. MEASURING INSTRUMENT CALIBRATION	7
4.2. SAMPLE CALCULATION	7
4.3. MEASUREMENT UNCERTAINTY.....	7
5. EQUIPMENT UNDER TEST.....	8
5.1. EUT DESCRIPTION	8
5.2. MAXIMUM OUTPUT POWER.....	8
5.3. DESCRIPTION OF AVAILABLE ANTENNAS	8
5.4. SOFTWARE AND FIRMWARE.....	8
5.5. WORST-CASE CONFIGURATION AND MODE.....	8
5.6. DESCRIPTION OF TEST SETUP.....	9
6. TEST AND MEASUREMENT EQUIPMENT	10
7. MEASUREMENT METHOD.....	12
8. ANTENNA PORT TEST RESULTS.....	13
8.1. ON TIME AND DUTY CYCLE.....	13
8.2. 99% BANDWIDTH.....	14
8.3. 6 dB BANDWIDTH.....	15
8.4. OUTPUT POWER.....	16
8.5. AVERAGE POWER.....	17
8.6. POWER SPECTRAL DENSITY	18
8.7. CONDUCTED SPURIOUS EMISSIONS.....	19
9. RADIATED TEST RESULTS.....	21
9.1. LIMITS AND PROCEDURE.....	21
9.2. TRANSMITTER ABOVE 1 GHz	23
9.2.1. CHAIN 0	23
9.2.2. CHAIN 1	33

9.3. WORST CASE.....	43
9.3.1. CHAIN 0	43
9.3.1. CHAIN 1	48
10. SETUP PHOTOS	53
END OF TEST REPORT	57

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Resideo
2 Corporate Center Drive
Melville, NY 11749,US

EUT DESCRIPTION: Wireless Door/Window Contact

MODEL: SiXMINICT2A, PROSiXMINICT

SERIAL NUMBER: MEL-857, MEL-858

DATE TESTED: 2019-11-19 to 2019-11-27

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5	Complies

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. government.

Approved & Released
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Prepared By:



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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, RSS-GEN Issue 5, and RSS-247 Issue 2.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 12 Laboratory Drive, Research Triangle Park, NC 27709, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, NC 27560, USA. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

12 Laboratory Dr.		2800 Perimeter Park Dr.	
Site Code: 2180C			
☐	Chamber A RTP	☒	North Chamber
☐	Chamber C RTP	☒	South Chamber

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	2.00%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
RF output power, radiated (SAC)	4.52 dB
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	2.50 dB
All emissions, radiated	4.88 dB
Conducted Emissions (0.150-30MHz) - LISN	3.07 dB
Temperature	2.26°C
Humidity	6.79%
DC Supply voltages	1.70%
Time	3.39%

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a wireless door/window contact with an 802.15.4 radio that is battery operated. EUT does not utilize 2480MHz channel. This report covers 2 models, the PROSiXMINICT and SiXMINICT2A. The models are mechanically & electrically identical, the difference is due to marketing only.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power Chain 0 (dBm)	Output Power Chain 0 (mW)	Output Power Chain 1 (dBm)	Output Power Chain 1 (mW)
2405-2475	802.15.4	18.50	70.79	16.98	49.89

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two antennas for diversity, Chain 0 has a maximum gain of 2.98dBi and Chain 1 has a maximum gain of 1.27dBi.

Note – Throughout this report:

Chain 0 = ANT1

Chain 1 = ANT2

5.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 4.1.7

The test utility software used during testing was FCC code binary, RF6MINICT2_JN5169_FCC_PRBS_TX0_20190826.bin.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle and high channels.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

Conducted testing performed on antenna chain with the highest output power (Chain 0/ANT1). Radiated testing performed on both chains.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
None				

I/O CABLES

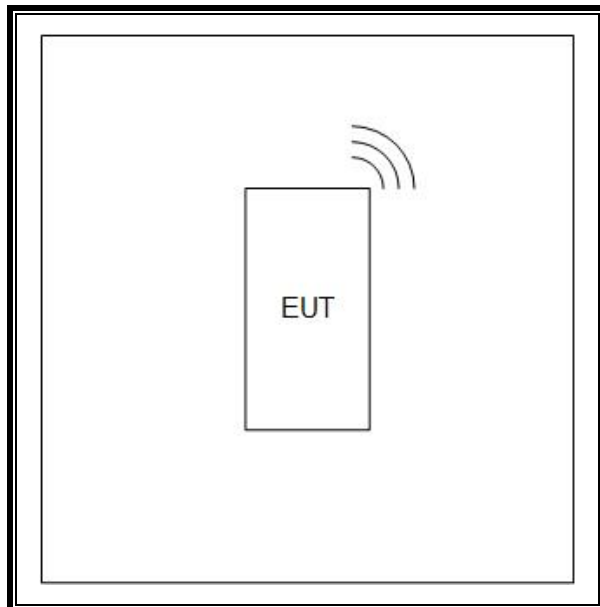
I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
None						

TEST SETUP

The EUT is installed as a standalone device

SETUP DIAGRAMS

Please refer to R13111116-EP1 for setup diagrams



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - South Chamber)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
0.009-30MHz (Loop Ant.)					
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2019-08-08	2020-08-08
30-1000 MHz					
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2019-07-16	2020-07-16
1-18 GHz					
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-04-22	2020-04-22
18-26 GHz					
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2019-11-07	2020-11-07
Gain-Loss Chains					
S-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2019-05-02	2020-05-02
S-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2019-05-02	2020-05-02
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2019-03-13	2020-03-13
S62/AMP017/ CBL269426-001	Gain-loss string: 18-40GHz	Huber+Suhner Miteq MegaPhase	SUCOFLEX 102EA TTA1840-35-HG NC12-K1K1-216	2019-03-21	2020-03-21
Receiver & Software					
SA0025	Spectrum Analyzer	Agilent	N9030A	2019-02-28	2020-02-28
SA0027 (18-40GHz RSE)	Spectrum Analyzer	Agilent	N9030A	2019-05-15	2020-05-15
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
Additional Equipment used					
s/n 181474409	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27
ATA176 (in S-SAC)	10dB, DC-18GHz, 5W	Mini-Circuits	BW-N10W5	2019-03-07	2020-03-07

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - North Chamber)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
1-18 GHz					
AT0067	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-03-22	2020-03-22
Gain-Loss Chains					
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2019-03-15	2020-03-15
Receiver & Software					
SA0026	Spectrum Analyzer	Agilent	N9030A	2019-03-19	2020-03-19
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
Additional Equipment used					
ATA174 (in N-SAC)	10dB, DC-18GHz, 5W	Mini-Circuits	BW-N10W5	2019-03-07	2020-03-07

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
T177 (PRE0079253)	Spectrum Analyzer	Agilent Technologies	E4446A	2019-04-22	2020-04-22
PWM002 (PRE0137344)	RF Power Meter	Keysight Technologies	N1911A	2019-08-23	2020-08-23
PWS003 (PRE0126442)	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2019-08-23	2020-08-23
SN 181562858	Environmental Meter	Fisher Scientific	14-650-118	2018-09-04	2020-09-04
76022	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	N/A	N/A
SOFTEMI	EMC Software	UL	Version2019.10.18	NA	NA

7. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10 Section 11.6

6 dB BW: ANSI C63.10 Subclause -11.8.1 RBW $\geq$ DTS BW

Occupied BW (99%): ANSI C63.10-2013 Section 6.9.3

Output Power: ANSI C63.10 Subclause -11.9.1.3.1 Method PKPM1(Measurement using a Peak Power meter)

ANSI C63.10 Subclause -11.9.2.3.2 Method AVGPM-G (Measurement using a gated RF average-reading power meter)

PSD: ANSI C63.10 Subclause -11.10.2 Method PKPSD (peak PSD)

Out-of-band emissions in non-restricted bands: ANSI C63.10-2013 Section 11.11 & 6.10.4

Out-of-band emissions in restricted bands: ANSI C63.10-2013 Section 11.12.1 & 6.10.5

General Radiated Emissions: ANSI C63.10:2013 Sections 6.3 – 6.6

8. ANTENNA PORT TEST RESULTS

Note – Throughout this report:

Chain 0 = ANT1

Chain 1 = ANT2

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

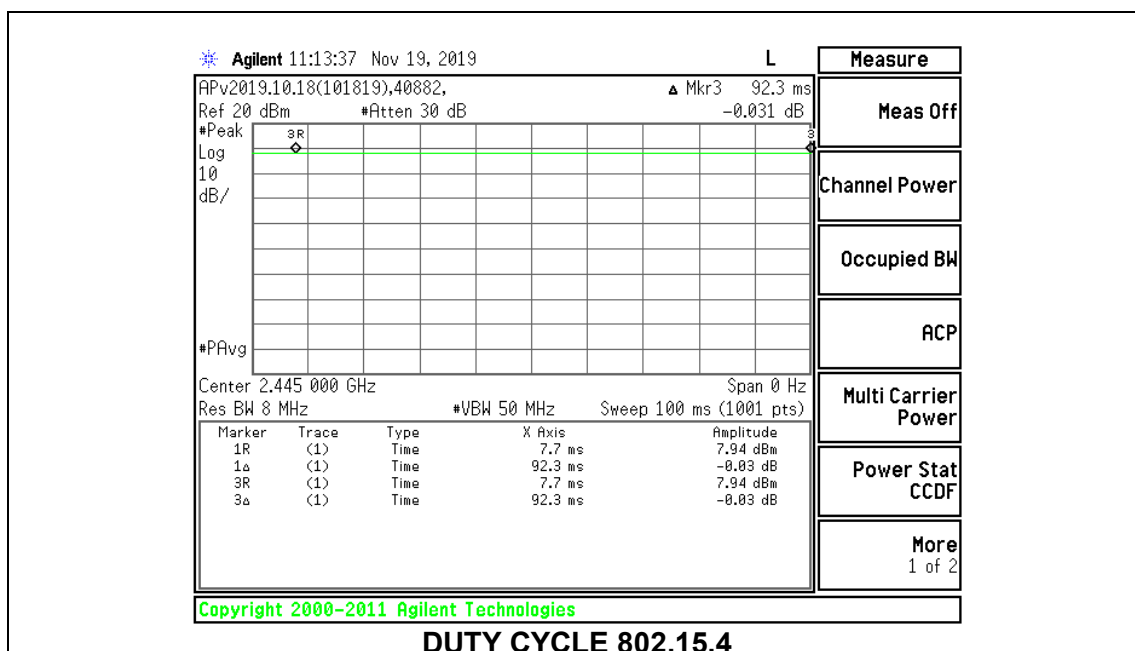
PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Note: Duty cycle below shows how sample operated during testing. Real life worst-case duty cycle is protocol limited to 6.976% resulting in a duty cycle correction of $20\log(.06976) = -23.1\text{dB}$.

Mode	ON Time B (msec)	Period (msec)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.15.4	100	100	100.0%	0.00	0.010



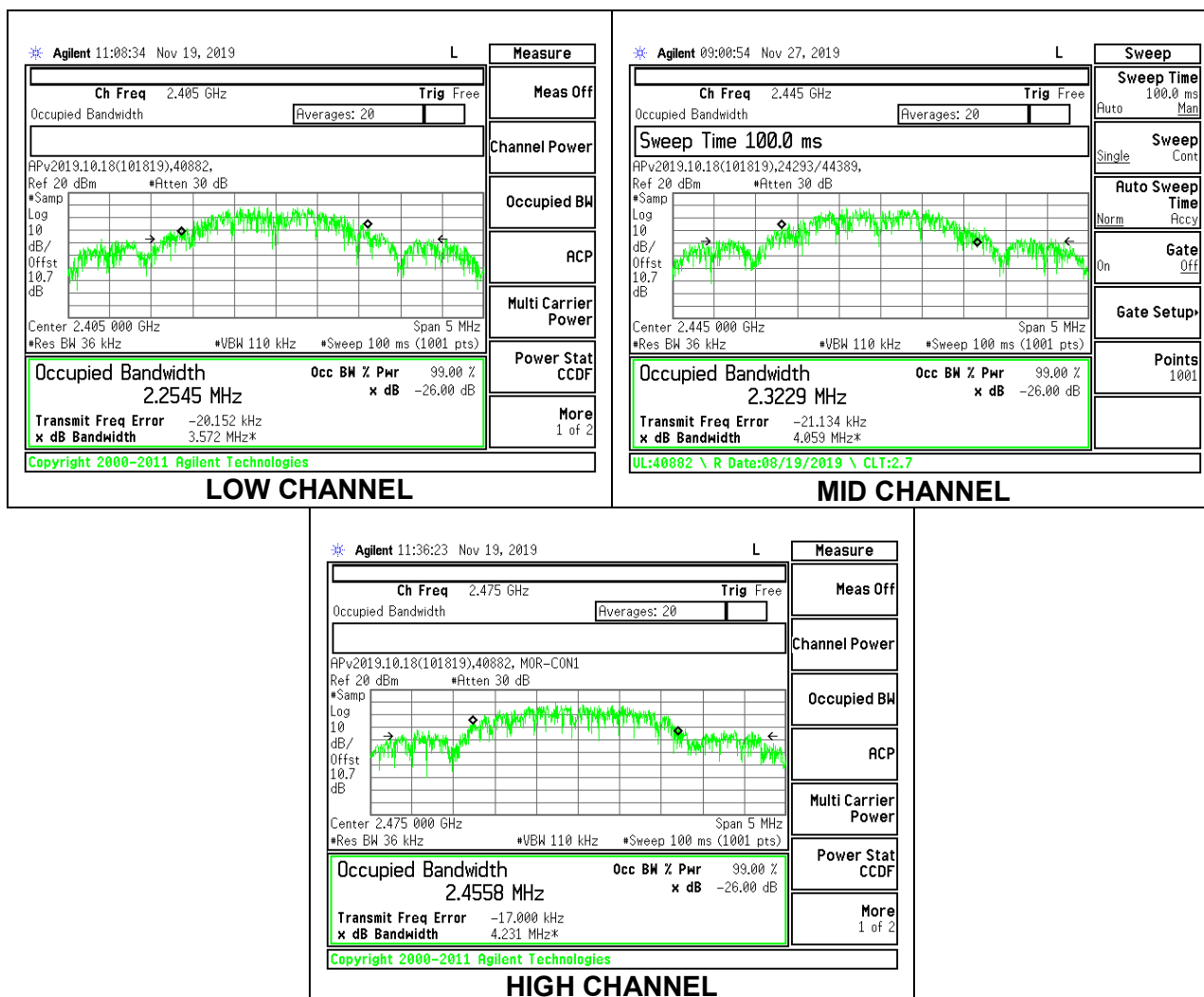
8.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2545
Middle	2445	2.3229
High	2475	2.4558



8.3. 6 dB BANDWIDTH

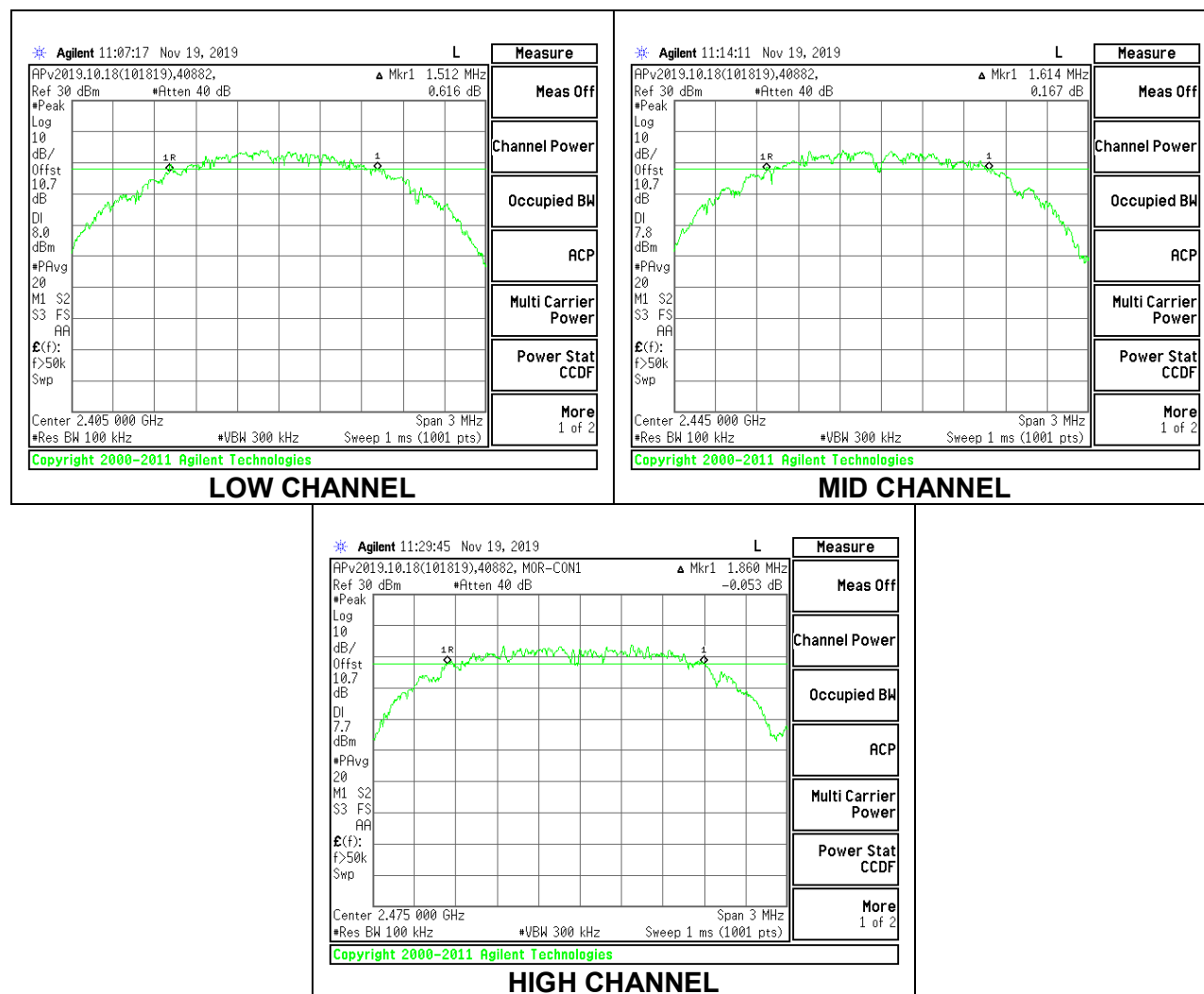
LIMITS

FCC §15.247 (a) (2)
RSS-247 5.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.512	0.5
Middle	2445	1.614	0.5
High	2475	1.860	0.5



8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)
RSS-247 5.4 (d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.70 dB (including 10.43dB EUT cable loss and 0.27dB test cable loss) was entered as an offset in the power meter to allow for a gated peak reading of power.

RESULTS

Tested By:	40882
Date:	2019-11-19

Channel	Frequency (MHz)	Peak Power Reading Chain 0 (dBm)	Peak Power Reading Chain 1 (dBm)	Limit (dBm)	Worst-Case Margin (dB)
Low	2405	17.76	15.88	30	-12.24
Middle	2445	18.22	16.56	30	-11.78
High	2475	18.50	16.98	30	-11.50

8.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.70 dB (including 10.43dB EUT cable loss and 0.27dB test cable loss) was entered as an offset in the power meter to allow for a gated peak reading of power.

RESULTS

Tested By:	40882
Date:	2019-11-19

Channel	Frequency (MHz)	AV power Chain 0 (dBm)	AV power Chain 1 (dBm)
Low	2405	17.66	15.73
Middle	2445	18.11	16.44
High	2475	18.39	16.84

8.6. POWER SPECTRAL DENSITY

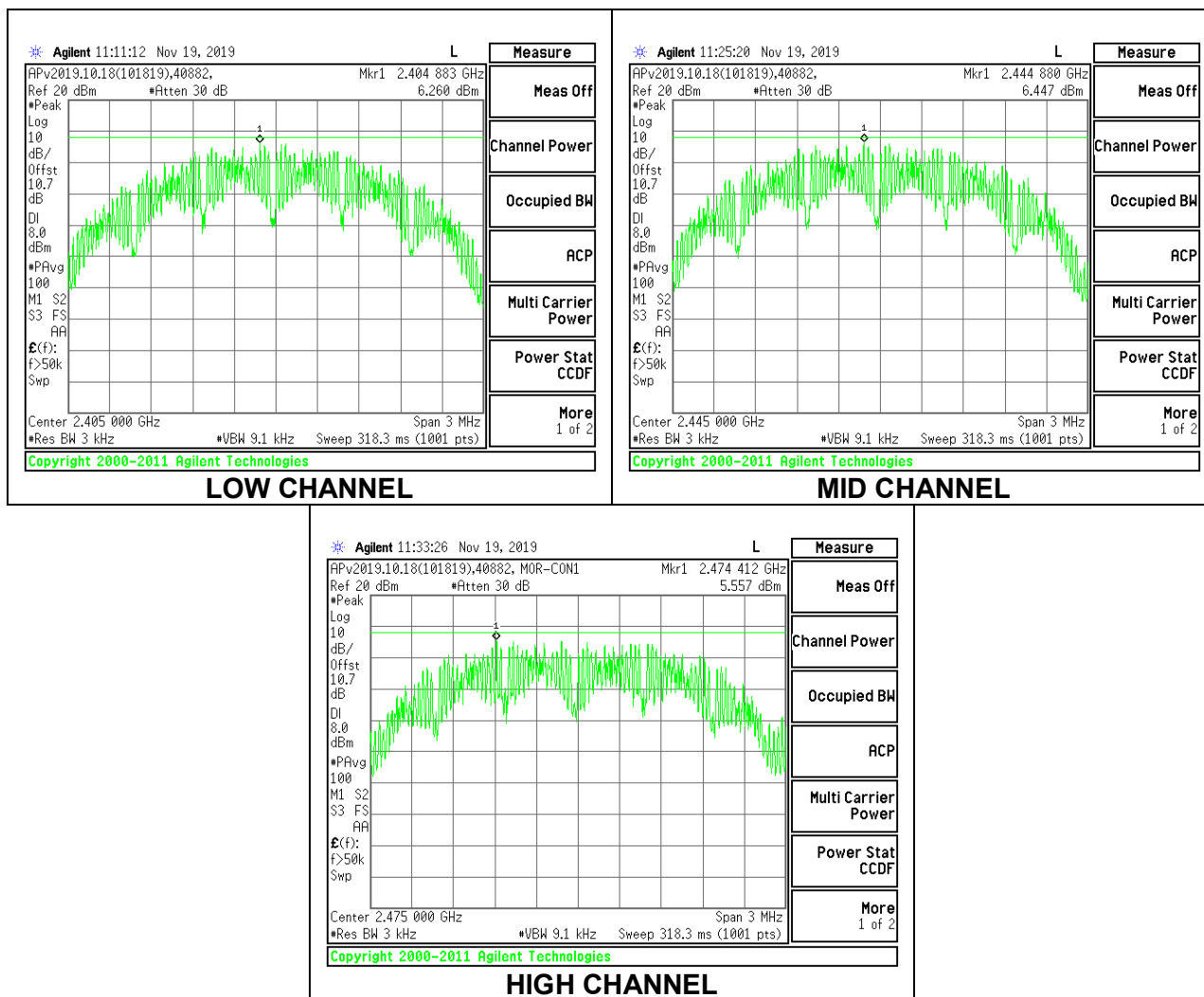
LIMITS

FCC §15.247 (e)
RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	6.260	8	-1.74
Middle	2445	6.447	8	-1.55
High	2475	5.557	8	-2.44



8.7. CONDUCTED SPURIOUS EMISSIONS

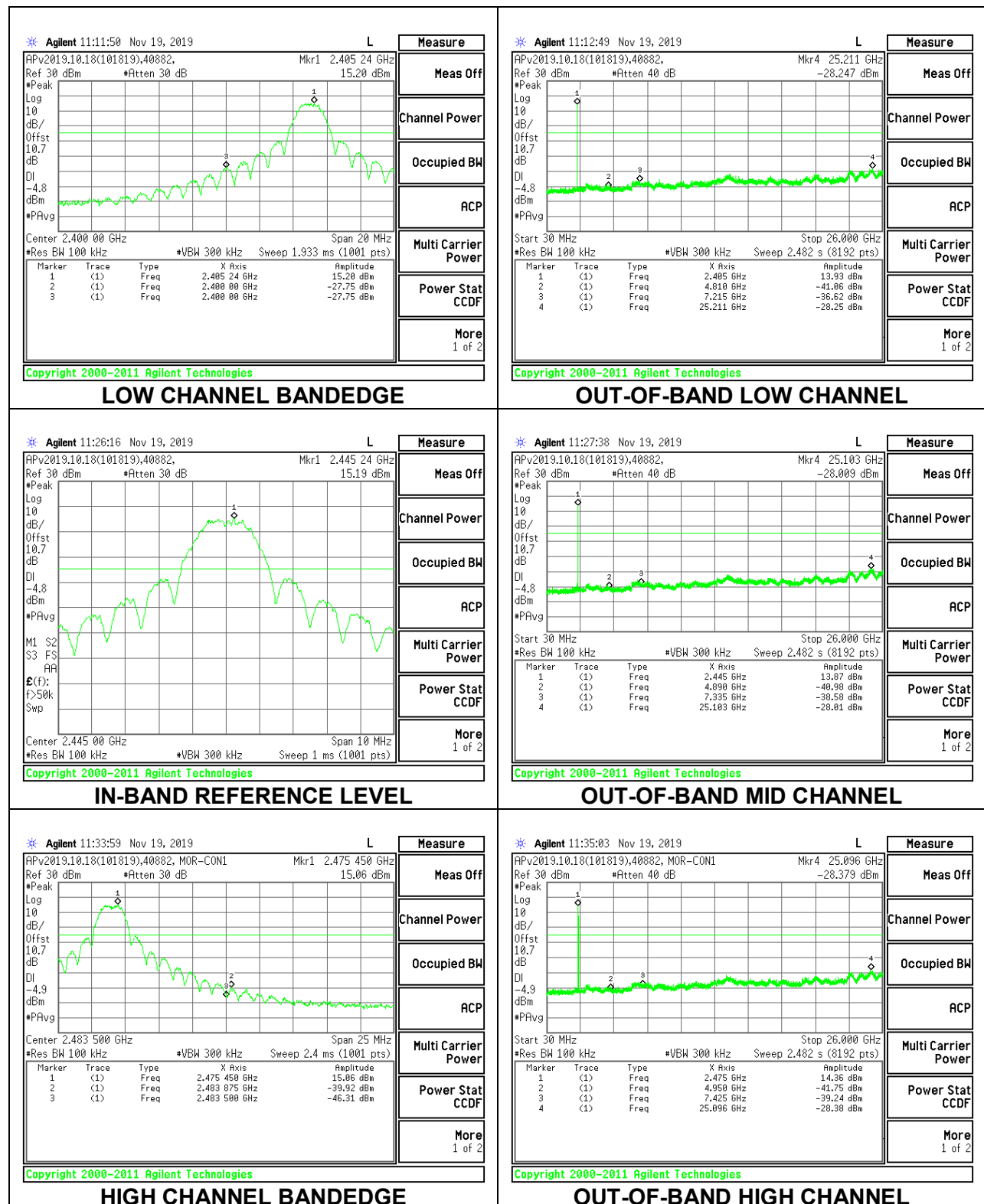
LIMITS

FCC §15.247 (d)

RSS-247 5.5

Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS



9. RADIATED TEST RESULTS

Note – Throughout this report:

Chain 0 = ANT1

Chain 1 = ANT2

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209
RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 120 kHz for peak and/or quasi-peak detection measurements in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements. The particular averaging method used for this test program was voltage and duty cycle correction per KDB 558074 D01 15.247 V05r02, FAQ Answer 3c).

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

3D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel).

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

KDB 558074 D01 15.247 Meas Guidance V05r02

11. Frequently Asked Questions; Answer 3: c)

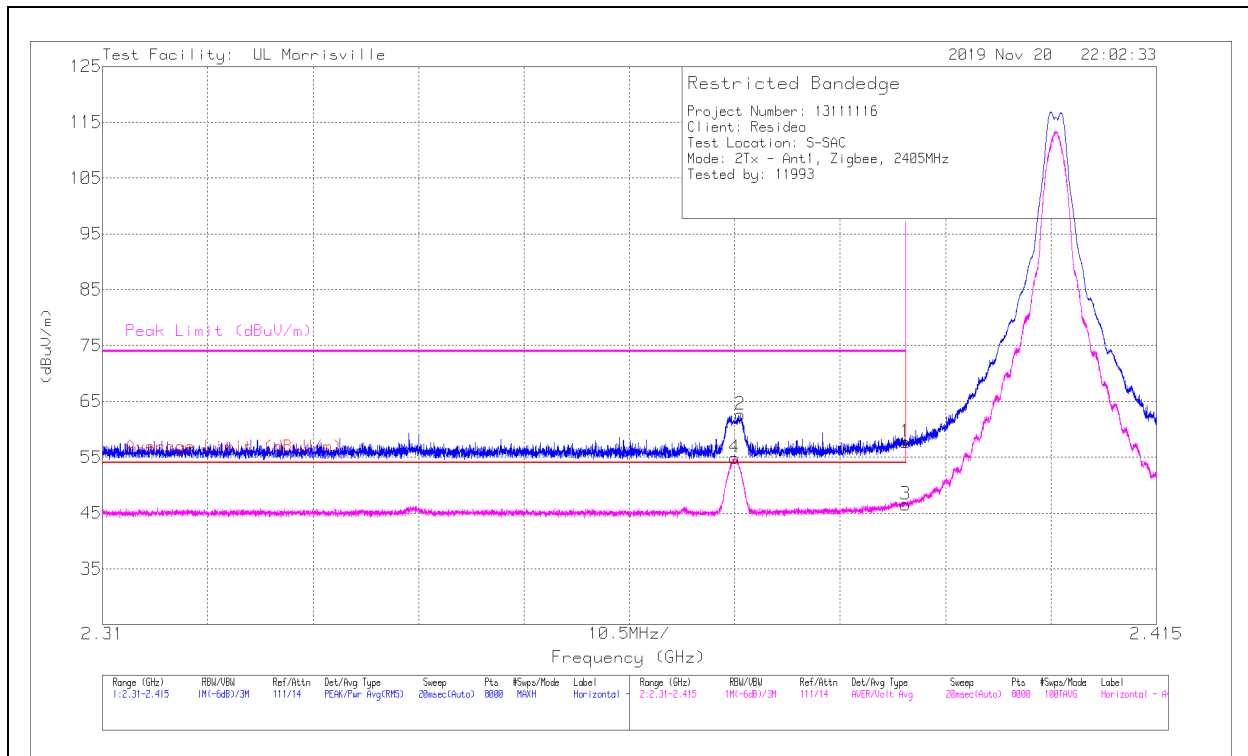
A voltage averaging measurement was taken in accordance to ANSI C63.10. The average measurement was corrected down based on the protocol-limited worst-case duty cycle of 6.75% provided by the manufacturer. The calculation of $20 \cdot \log(1/0.06976)$ leads to a -23.1dB correction factor that is subtracted from the average measurement.

9.2. TRANSMITTER ABOVE 1 GHz

9.2.1. CHAIN 0

BANDEGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	39.73	Pk	31.9	-24	10.1	0	57.73	-	-	74	-16.27	192	115	H
2	* ** 2.37355	44.69	Pk	31.8	-24	10.1	0	62.59	-	-	74	-11.41	192	115	H
3	* ** 2.39	28.56	ADV	31.9	-24	10.1	-23.1	23.46	54	-30.54	-	-	192	115	H
4	* ** 2.37297	36.98	ADV	31.8	-24	10.1	-23.1	31.78	54	-22.22	-	-	192	115	H

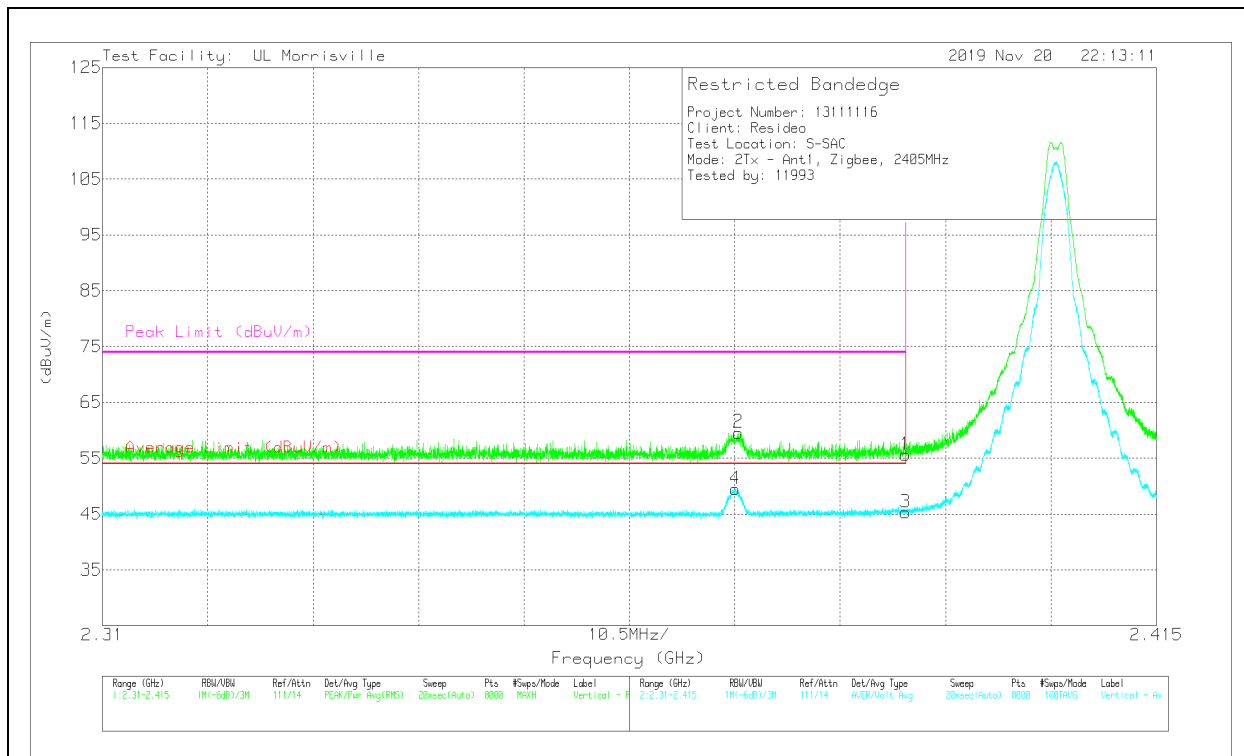
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - AD primary method, Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	37.59	Pk	31.9	-24	10.1	0	55.59	-	-	74	-18.41	147	391	V
2	* ** 2.37336	41.71	Pk	31.8	-24	10.1	0	59.61	-	-	74	-14.39	147	391	V
3	* ** 2.39	27.29	ADV	31.9	-24	10.1	-23.1	22.19	54	-31.81	-	-	147	391	V
4	* ** 2.37304	31.58	ADV	31.8	-24	10.1	-23.1	26.38	54	-27.62	-	-	147	391	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

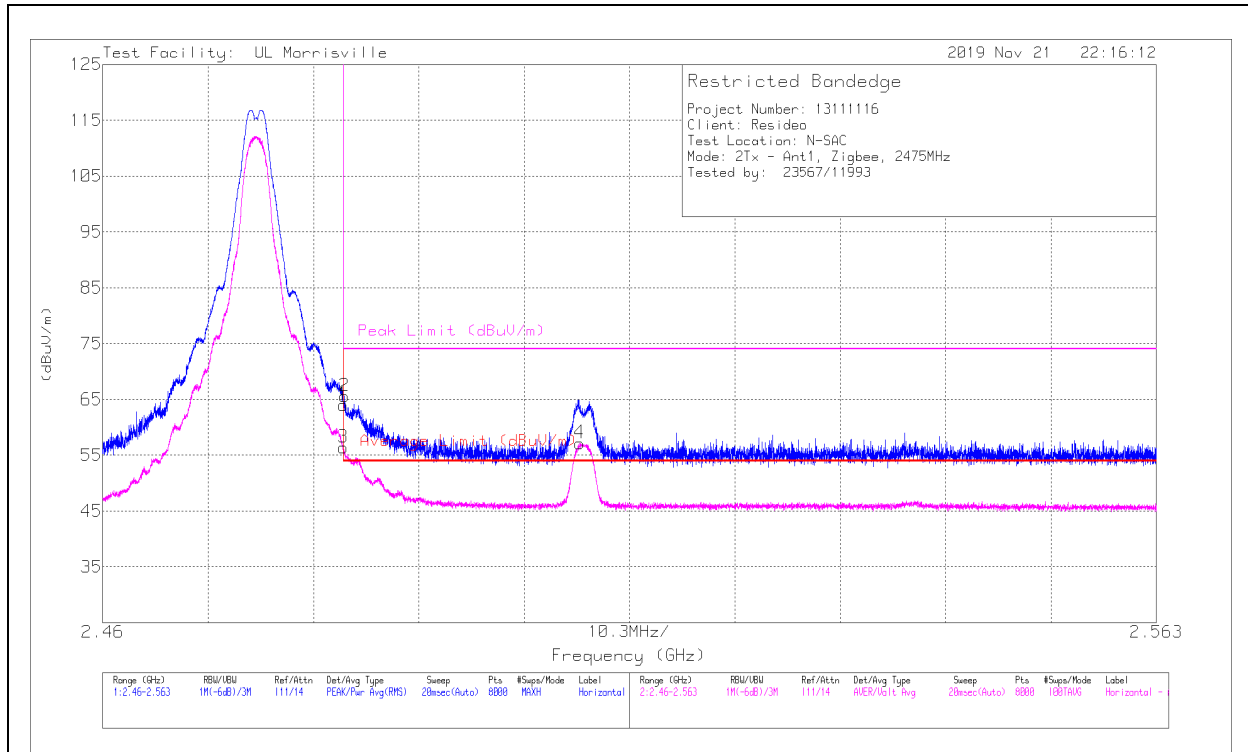
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - AD primary method, Linear Voltage Average

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	45.83	Pk	32.4	-24.3	10.1	0	64.03	-	-	74	-9.97	105	138	H
2	* ** 2.48366	47.41	Pk	32.4	-24.3	10.1	0	65.61	-	-	74	-8.39	105	138	H
3	* ** 2.4835	38.18	ADV	32.4	-24.3	10.1	-23.1	33.28	54	-20.72	-	-	105	137	H
4	** 2.50663	38.87	ADV	32.5	-24.3	10.1	-23.1	34.07	54	-19.93	-	-	105	137	H

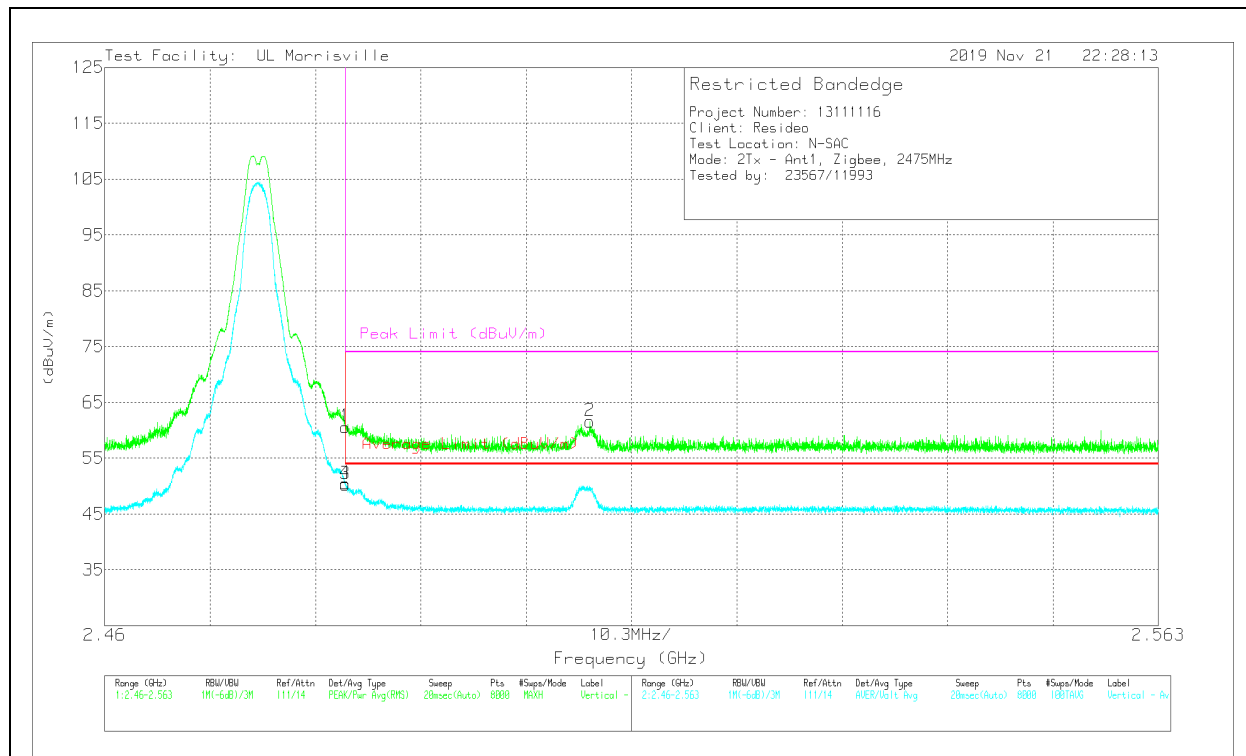
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - AD primary method, Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Ftr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	42.42	Pk	32.4	-24.3	10.1	0	60.62	-	-	74	-13.38	14	372	V
2	** 2.50743	43.31	Pk	32.5	-24.3	10.1	0	61.61	-	-	74	-12.39	14	372	V
3	* ** 2.4835	32.13	ADV	32.4	-24.3	10.1	-23.1	27.23	54	-26.77	-	-	14	371	V
4	* ** 2.48353	32.28	ADV	32.4	-24.3	10.1	-23.1	27.38	54	-26.62	-	-	14	371	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

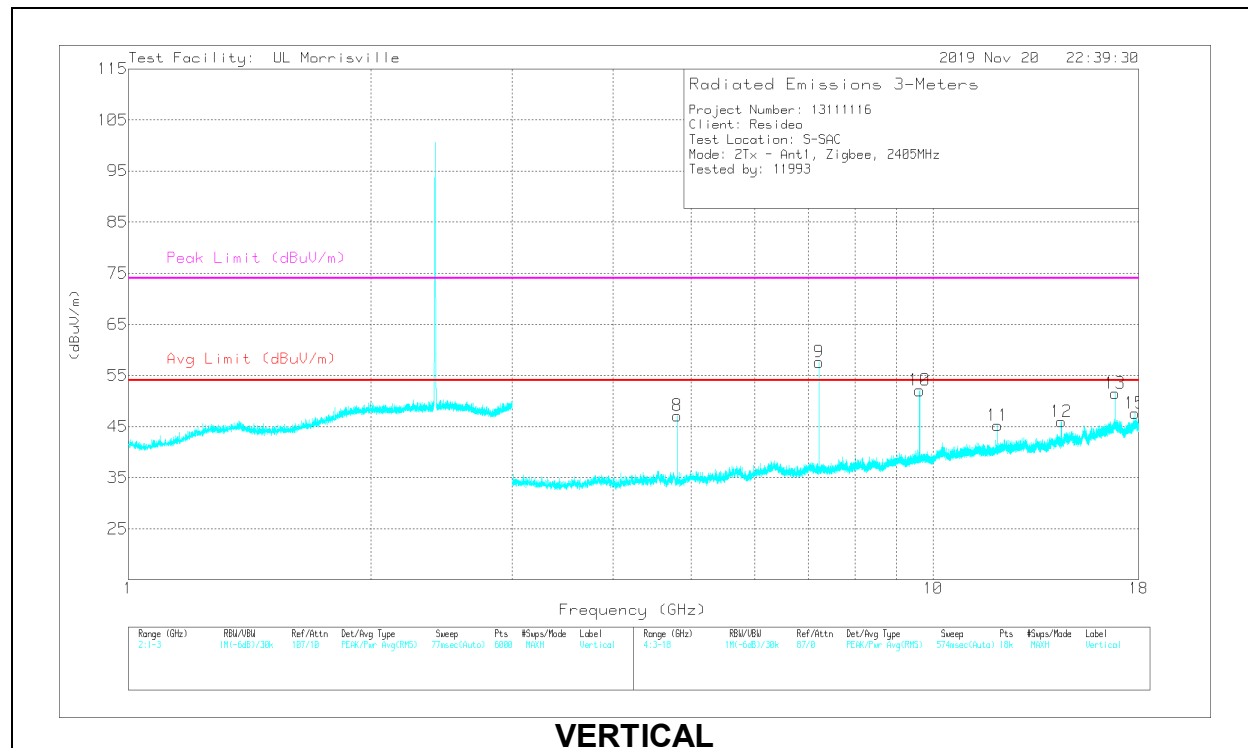
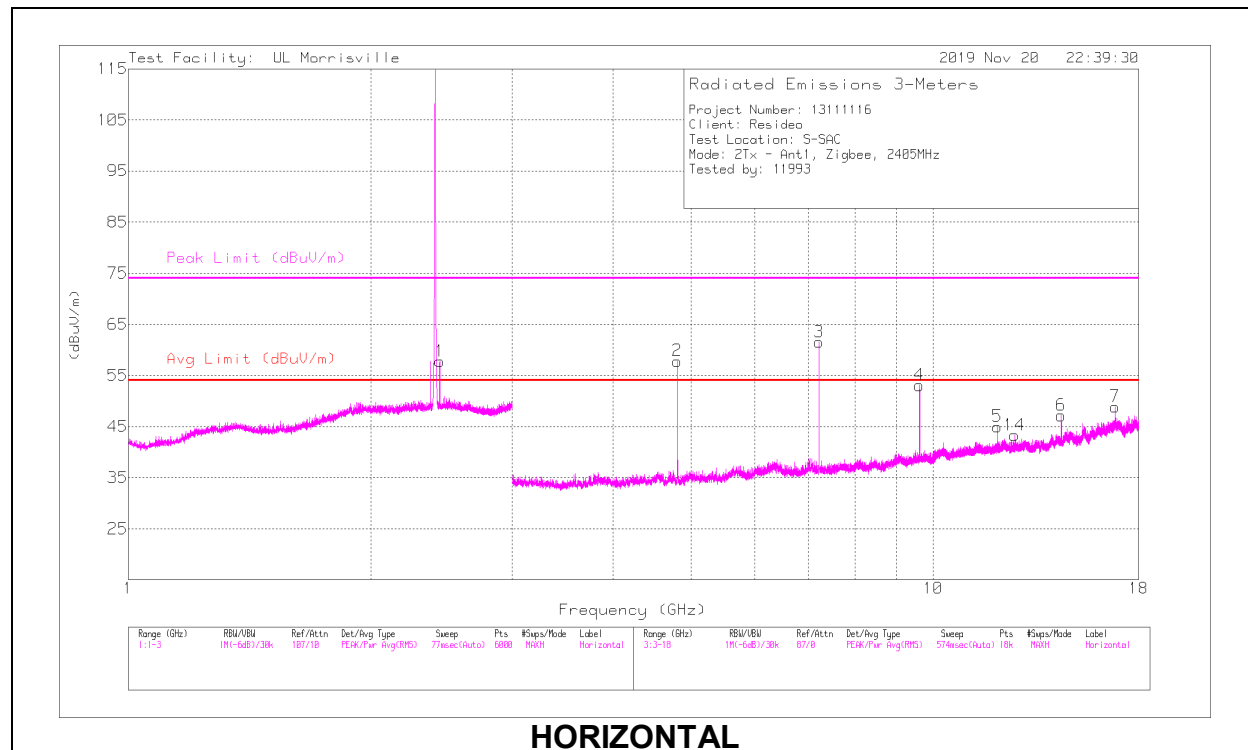
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - AD primary method, Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 4.80894	56.94	PK2	34.2	-31	0	0	60.14	-	-	74	-13.86	322	108	H
	* ** 4.80894	50.52	ADV	34.2	-31	0	-23.1	30.62	54	-23.38	-	-	322	108	H
5	* ** 12.02225	36.51	PK2	38.7	-23.6	0	0	51.61	-	-	74	-22.39	137	242	H
	* ** 12.02235	26.23	ADV	38.7	-23.6	0	-23.1	18.23	54	-35.77	-	-	137	242	H
14	* ** 12.62308	33.72	PK2	39.1	-23.9	0	0	48.92	-	-	74	-25.08	139	316	H
	* ** 12.62323	20.53	ADV	39.1	-23.9	0	-23.1	12.63	54	-41.37	-	-	139	316	H
8	* ** 4.8109	48.63	PK2	34.2	-30.9	0	0	51.93	-	-	74	-22.07	198	382	V
	* ** 4.81093	41.27	ADV	34.2	-30.9	0	-23.1	21.47	54	-35.53	-	-	198	382	V
11	* ** 12.02752	37.61	PK2	38.7	-23.5	0	0	52.81	-	-	74	-21.19	344	282	V
	* ** 12.02743	26.71	ADV	38.7	-23.5	0	-23.1	18.81	54	-35.19	-	-	344	282	V
15	* ** 17.81164	34.16	PK2	41.2	-20.8	0	0	54.56	-	-	74	-19.44	85	268	V
	* ** 17.81114	20.86	ADV	41.2	-20.8	0	-23.1	18.16	54	-35.84	-	-	85	268	V
6	14.42731	32.27	Pk	39.2	-24.3	0	0	47.17	-	-	-	-	0-360	101	H
12	14.43314	31.07	Pk	39.2	-24.3	0	0	45.97	-	-	-	-	0-360	101	V
13	16.83161	31.72	Pk	41.9	-22.1	0	0	51.52	-	-	-	-	0-360	101	V
7	16.83828	28.91	Pk	41.9	-21.9	0	0	48.91	-	-	-	-	0-360	101	H
9	7.21274	49.8	Pk	35.7	-27.9	0	0	57.6	-	-	-	-	0-360	101	V
3	7.21607	53.74	Pk	35.7	-27.9	0	0	61.54	-	-	-	-	0-360	101	H
4	9.61787	41.97	Pk	37.1	-26	0	0	53.07	-	-	-	-	0-360	101	H
10	9.6212	40.97	Pk	37.1	-26	0	0	52.07	-	-	-	-	0-360	101	V
1	2.43724	39.75	Pk	32.1	-24.2	10.1	0	57.75	-	-	-	-	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

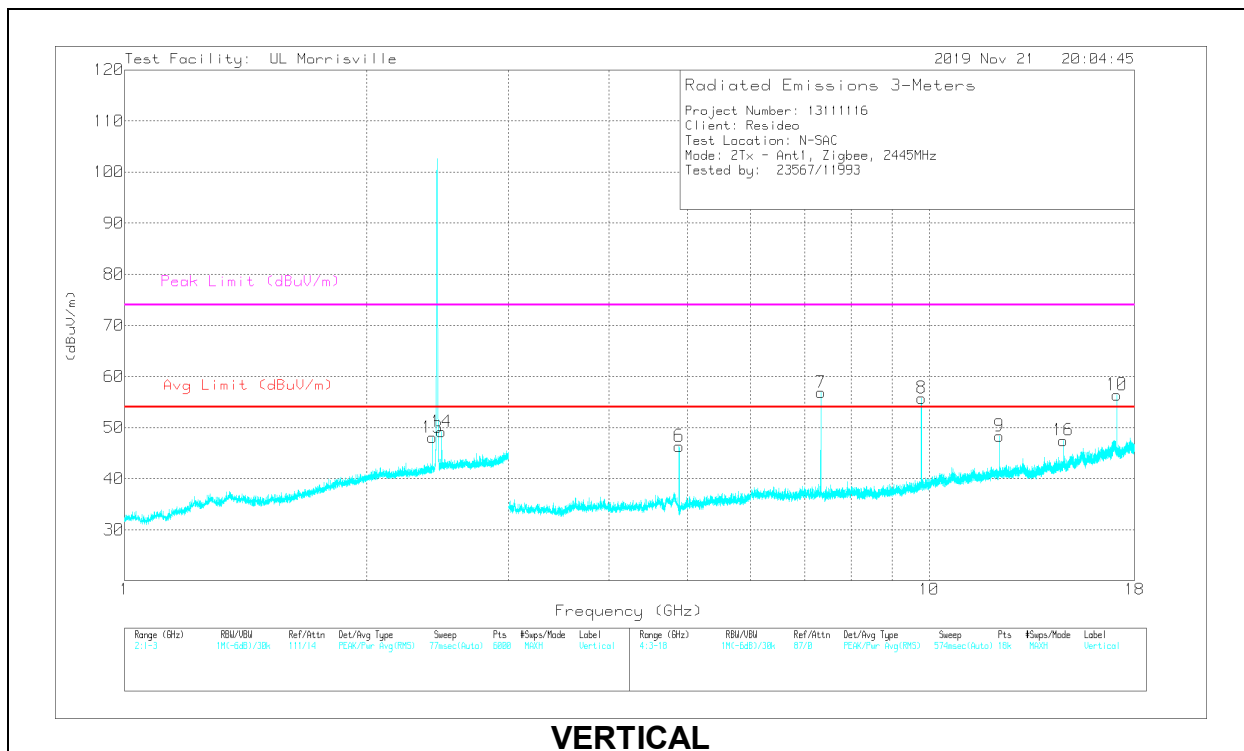
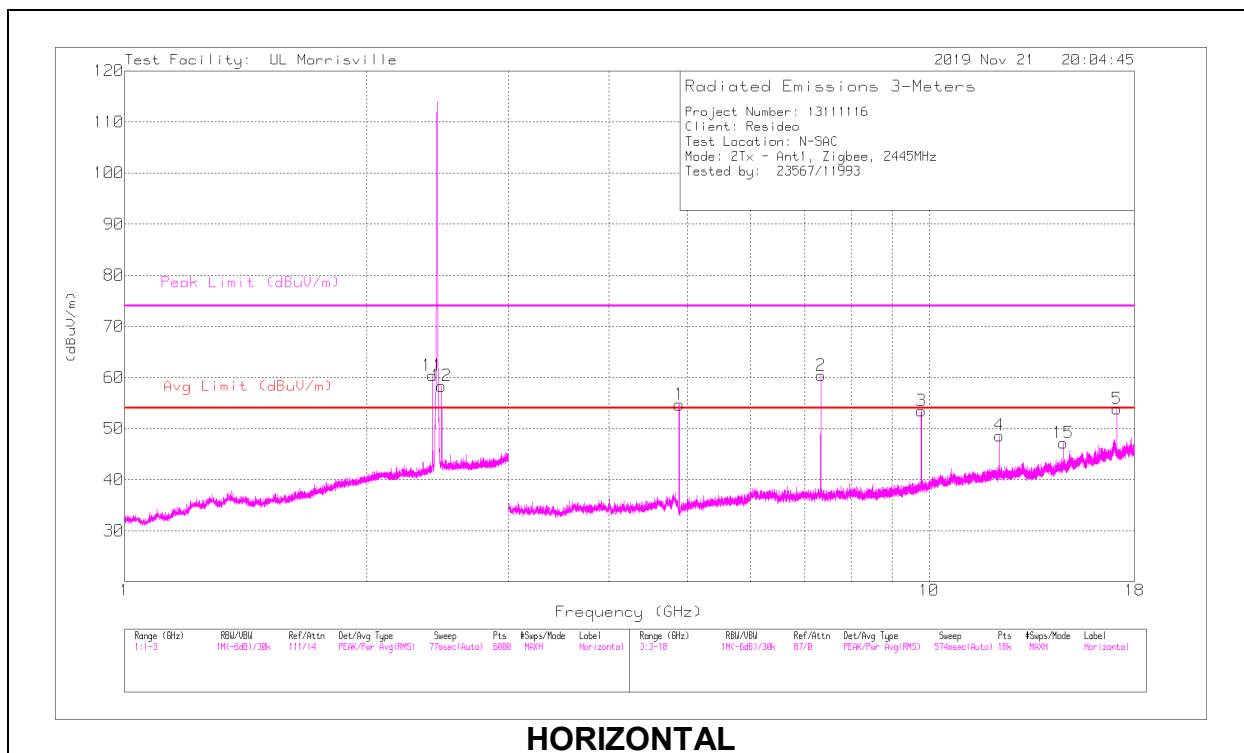
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

ADV - Linear Voltage Average

Pk - Peak detector

MID CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.88889	56.64	PK2	33.9	-31.4	0	59.14	-	-	74	-14.86	266	102	H
	* ** 4.88891	50.21	ADV	33.9	-31.4	-23.1	29.61	54	-24.39	-	-	266	102	H
2	* ** 7.33352	56.98	PK2	35.6	-29.1	0	63.48	-	-	74	-10.52	192	390	H
	* ** 7.33335	49.86	ADV	35.6	-29.1	-23.1	33.26	54	-20.74	-	-	192	390	H
4	* ** 12.22217	41.59	PK2	38.8	-26.2	0	54.19	-	-	74	-19.81	29	112	H
	* ** 12.22218	30.52	ADV	38.8	-26.2	-23.1	20.02	54	-33.98	-	-	29	112	H
6	* ** 4.88894	49.14	PK2	33.9	-31.4	0	51.64	-	-	74	-22.36	76	103	V
	* ** 4.88898	41.38	ADV	33.9	-31.4	-23.1	20.78	54	-33.22	-	-	76	103	V
7	* ** 7.33347	54.43	PK2	35.6	-29.1	0	60.93	-	-	74	-13.07	201	101	V
	* ** 7.3333	47.02	ADV	35.6	-29.1	-23.1	30.42	54	-23.58	-	-	201	101	V
9	* ** 12.22211	42.09	PK2	38.8	-26.2	0	54.69	-	-	74	-19.31	31	111	V
	* ** 12.22212	32.21	ADV	38.8	-26.2	-23.1	21.71	54	-32.29	-	-	31	111	V
13	2.4129	40.48	Pk	32	-24.4	0	48.08	-	-	-	-	0-360	198	V
11	2.41324	52.81	Pk	32	-24.4	0	60.41	-	-	-	-	0-360	102	H
12	2.47725	50.22	Pk	32.4	-24.3	0	58.32	-	-	-	-	0-360	198	H
14	2.47725	41.12	Pk	32.4	-24.3	0	49.22	-	-	-	-	0-360	198	V
3	9.77788	43.79	Pk	36.8	-27.1	0	53.49	-	-	-	-	0-360	102	H
8	9.78205	46.18	Pk	36.8	-27.2	0	55.78	-	-	-	-	0-360	102	V
15	14.67315	33.47	Pk	39.5	-25.8	0	47.17	-	-	-	-	0-360	102	H
16	14.67315	33.81	Pk	39.5	-25.8	0	47.51	-	-	-	-	0-360	102	V
5	17.11079	37.18	Pk	41.2	-24.5	0	53.88	-	-	-	-	0-360	102	H
10	17.11121	39.72	Pk	41.2	-24.5	0	56.42	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

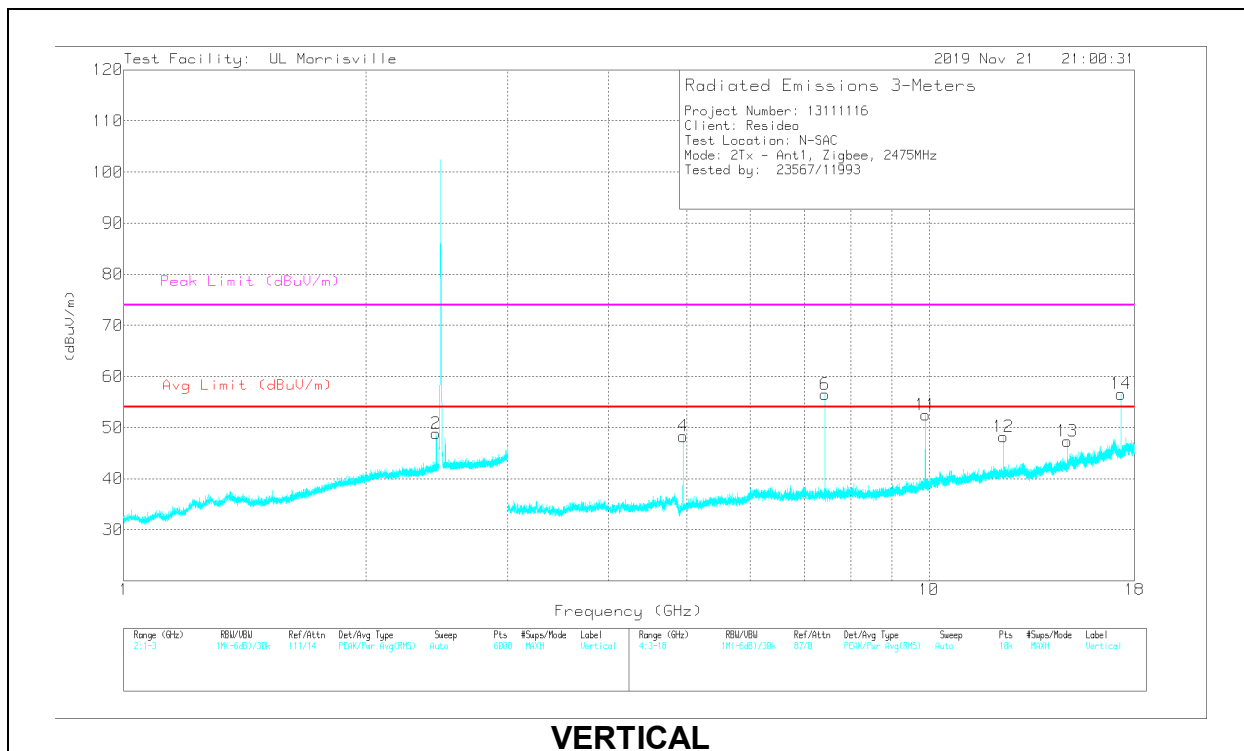
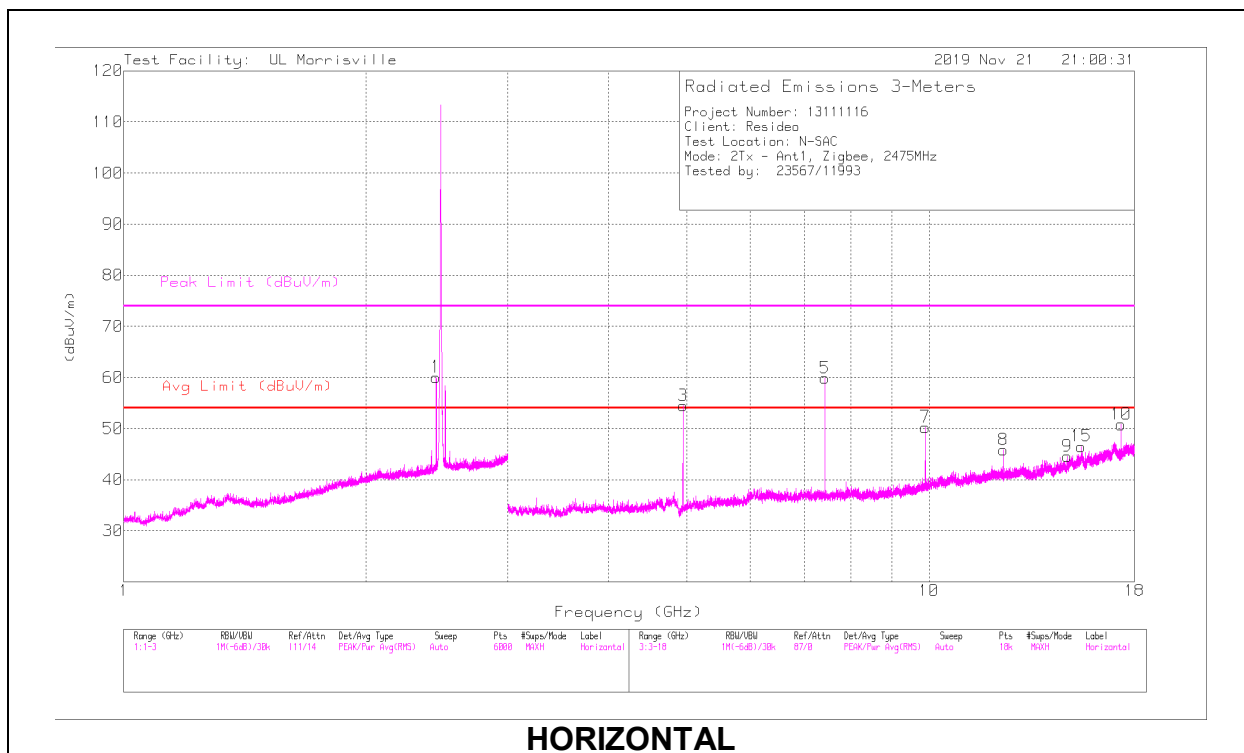
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

ADV - Linear Voltage Average

Pk - Peak detector

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	*** 4.9489	56	PK2	33.9	-32.1	0	57.8	-	-	74	-16.2	146	322	H
	* ** 4.94888	49.09	ADV	33.9	-32.1	-23.1	27.79	54	-26.21	-	-	146	322	H
5	*** 7.42638	56.55	PK2	35.6	-29.2	0	62.95	-	-	74	-11.05	229	107	H
	*** 7.42657	48.75	ADV	35.6	-29.2	-23.1	32.05	54	-21.95	-	-	229	107	H
8	*** 12.37753	38.61	PK2	38.8	-26.3	0	51.11	-	-	74	-22.89	16	108	H
	* ** 12.37757	25.77	ADV	38.8	-26.3	-23.1	15.17	54	-38.83	-	-	16	108	H
15	* ** 15.4577	35.11	PK2	40.1	-23.9	0	51.31	-	-	74	-22.69	290	238	H
	* ** 15.45795	22.3	ADV	40.1	-23.9	-23.1	15.4	54	-38.6	-	-	290	238	H
4	*** 4.94882	49.47	PK2	33.9	-32.1	0	51.27	-	-	74	-22.73	35	103	V
	*** 4.94892	41.57	ADV	33.9	-32.1	-23.1	20.27	54	-33.73	-	-	35	103	V
6	*** 7.4233	54.32	PK2	35.6	-29.2	0	60.72	-	-	74	-13.28	181	104	V
	*** 7.4233	46.52	ADV	35.6	-29.2	-23.1	29.82	54	-24.18	-	-	181	104	V
12	*** 12.3725	41.9	PK2	38.8	-26.3	0	54.4	-	-	74	-19.6	17	108	V
	* ** 12.37229	29.95	ADV	38.8	-26.3	-23.1	19.35	54	-34.65	-	-	17	108	V
2	2.44257	40.96	Pk	32.3	-24.4	0	48.86	-	-	-	-	0-360	198	V
1	2.44324	52.16	Pk	32.3	-24.4	0	60.06	-	-	-	-	0-360	102	H
7	9.89705	40.87	Pk	37	-27.6	0	50.27	-	-	-	-	0-360	102	H
11	9.90205	43.05	Pk	37	-27.6	0	52.45	-	-	-	-	0-360	101	V
13	14.8465	34.93	Pk	39.7	-27.3	0	47.33	-	-	-	-	0-360	101	V
9	14.85316	32.09	Pk	39.7	-27.2	0	44.59	-	-	-	-	0-360	102	H
10	17.3208	34.51	Pk	41	-24.7	0	50.81	-	-	-	-	0-360	102	H
14	17.32164	40.27	Pk	41	-24.7	0	56.57	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

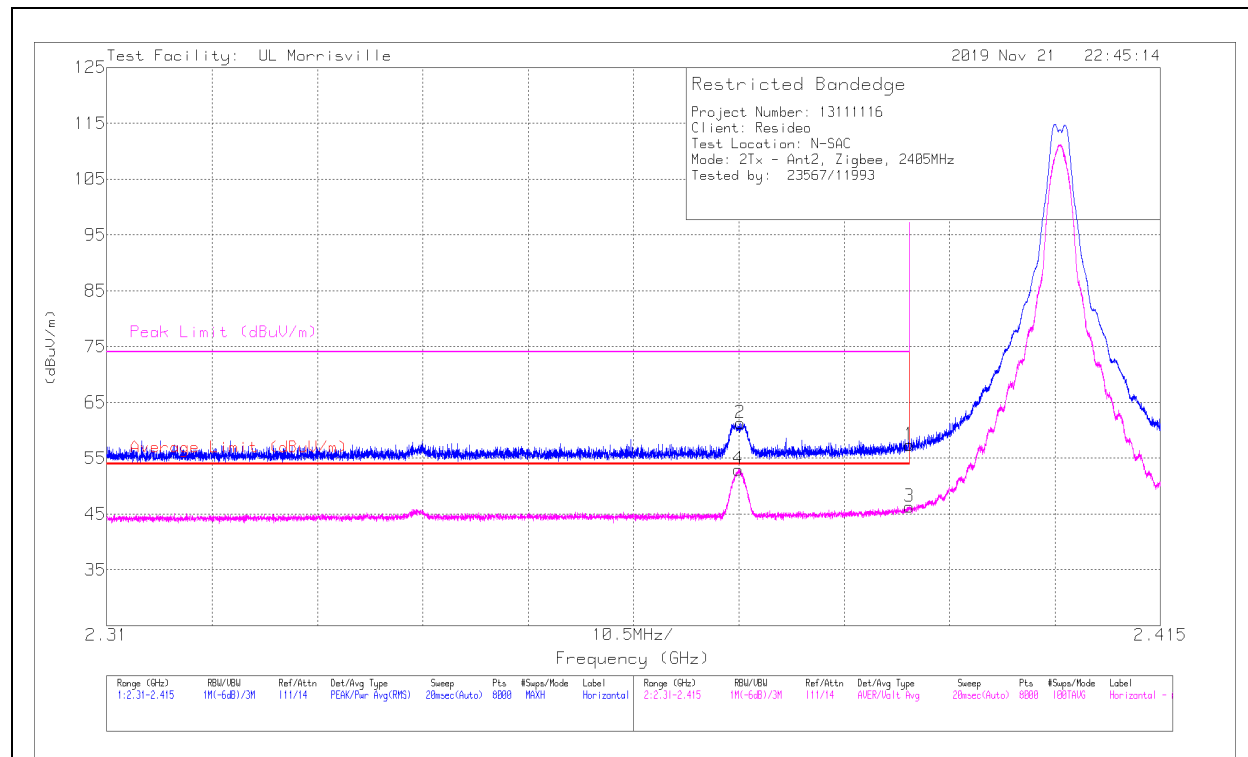
ADV - Linear Voltage Average

Pk - Peak detector

9.2.2. CHAIN 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.39	39.68	Pk	32	-24.4	10.1	0	57.38	-	-	74	-16.62	279	116	H
2	* ** 2.37314	43.66	Pk	31.9	-24.4	10.1	0	61.26	-	-	74	-12.74	279	116	H
3	*** 2.39	28.65	ADV	32	-24.4	10.1	-23.1	23.25	54	-30.75	-	-	279	116	H
4	* ** 2.37294	35.42	ADV	31.9	-24.4	10.1	-23.1	29.92	54	-24.08	-	-	279	116	H

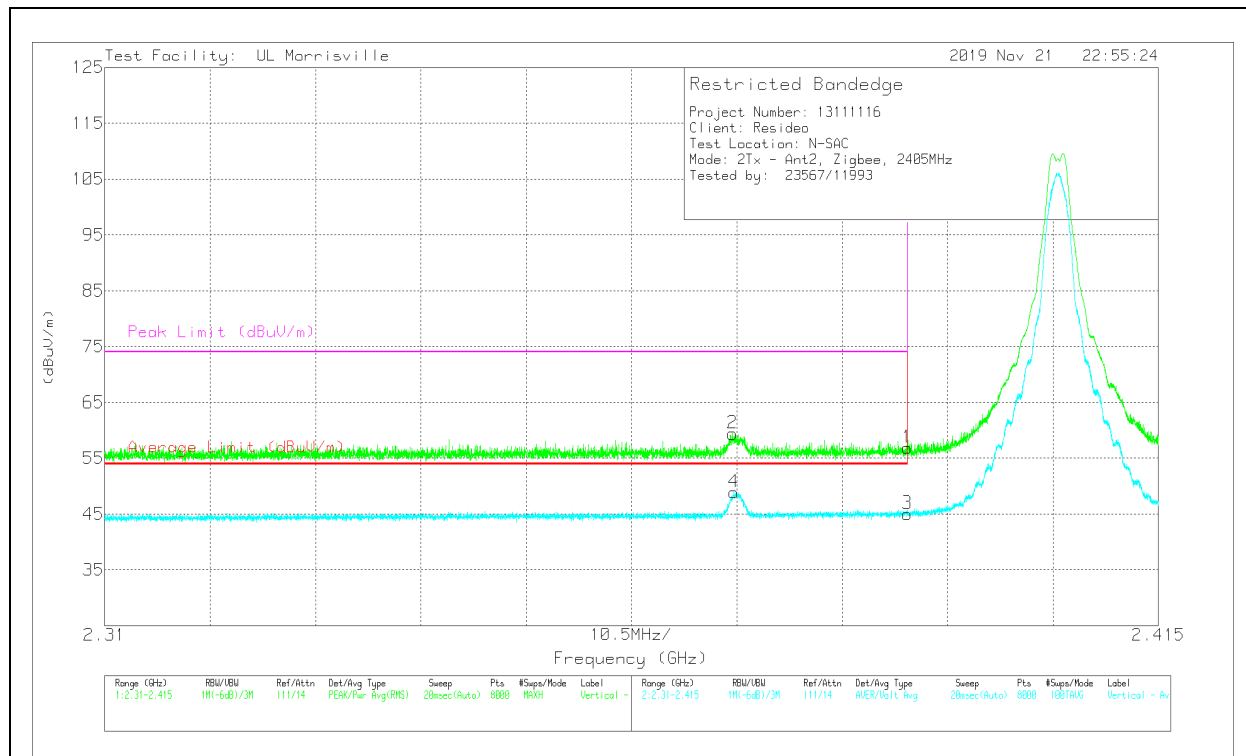
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	39.16	Pk	32	-24.4	10.1	0	56.86	-	-	74	-17.14	198	348	V
2	* ** 2.37256	41.91	Pk	31.9	-24.5	10.1	0	59.41	-	-	74	-14.59	198	348	V
3	* ** 2.39	27.33	ADV	32	-24.4	10.1	-23.1	21.93	54	-32.07	-	-	198	348	V
4	* ** 2.3727	31.4	ADV	31.9	-24.5	10.1	-23.1	25.8	54	-28.2	-	-	198	348	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

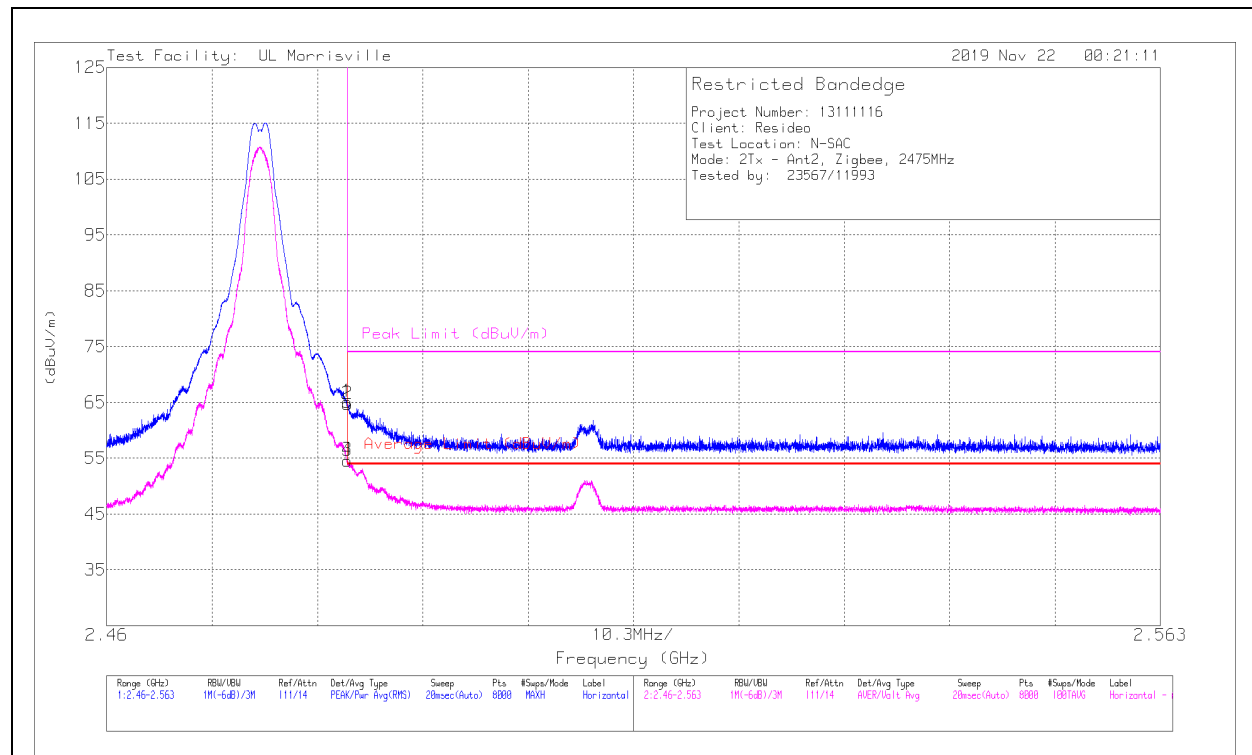
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	46.86	Pk	32.4	-24.3	10.1	0	65.06	-	-	74	-8.94	308	159	H
2	* ** 2.48354	46.5	Pk	32.4	-24.3	10.1	0	64.7	-	-	74	-9.3	308	159	H
3	* ** 2.4835	36.4	ADV	32.4	-24.3	10.1	-23.1	31.5	54	-22.5	-	-	308	159	H
4	* ** 2.48353	36.38	ADV	32.4	-24.3	10.1	-23.1	31.48	54	-22.52	-	-	308	159	H

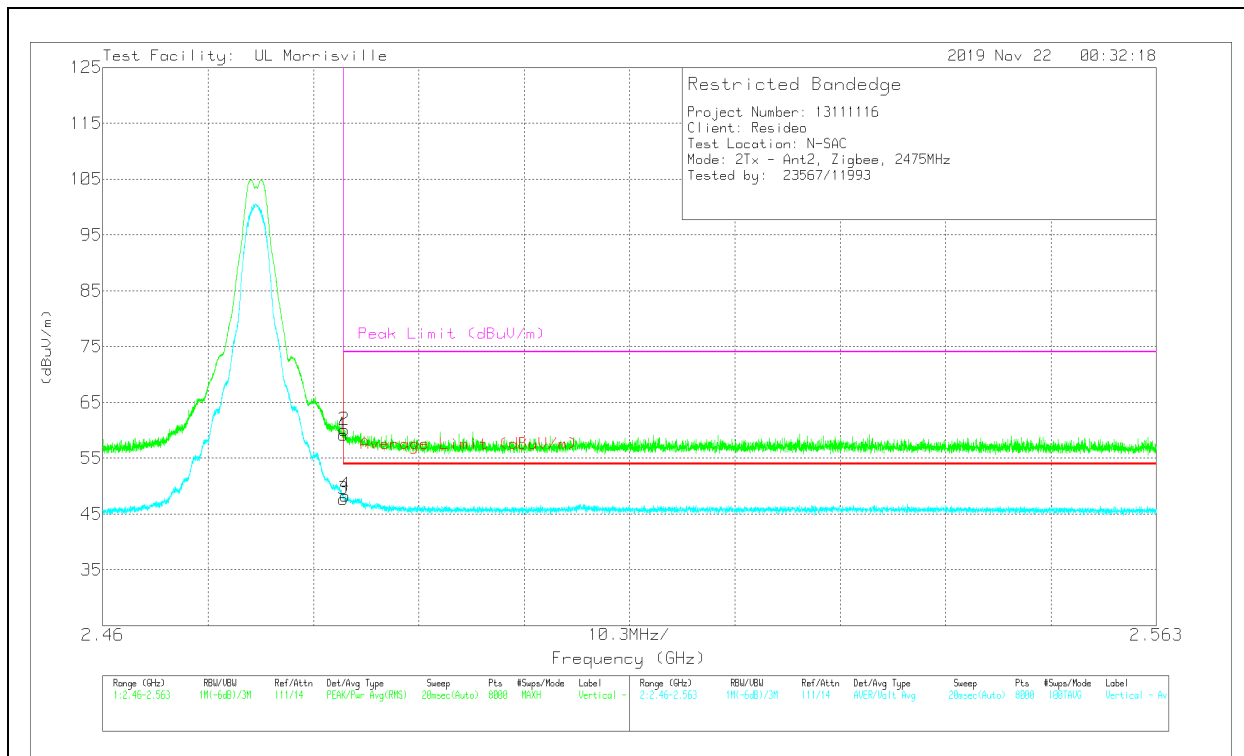
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Ftr/Pad (dB)	Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	40.98	Pk	32.4	-24.3	10.1	0	59.18	-	-	74	-14.82	349	378	V
2	* ** 2.4836	41.87	Pk	32.4	-24.3	10.1	0	60.07	-	-	74	-13.93	349	378	V
3	* ** 2.4835	29.45	ADV	32.4	-24.3	10.1	-23.1	24.55	54	-29.45	-	-	349	378	V
4	* ** 2.48371	30.13	ADV	32.4	-24.3	10.1	-23.1	25.23	54	-28.77	-	-	349	378	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

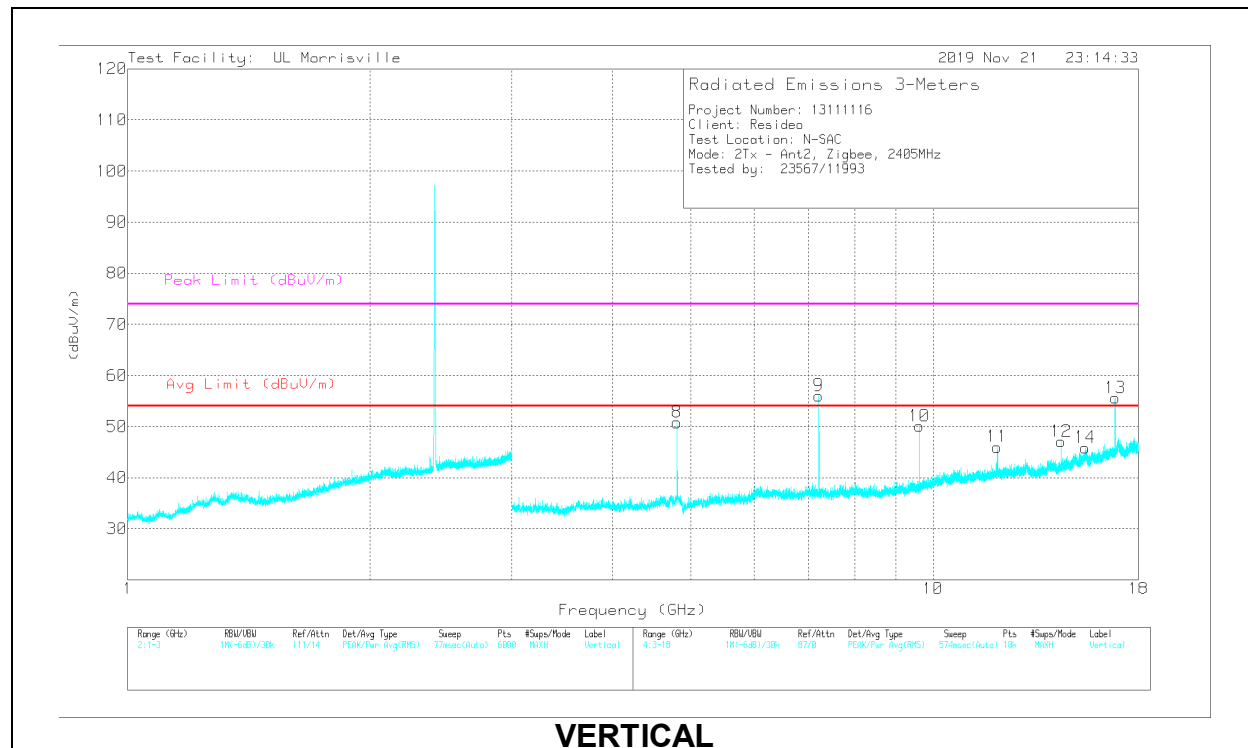
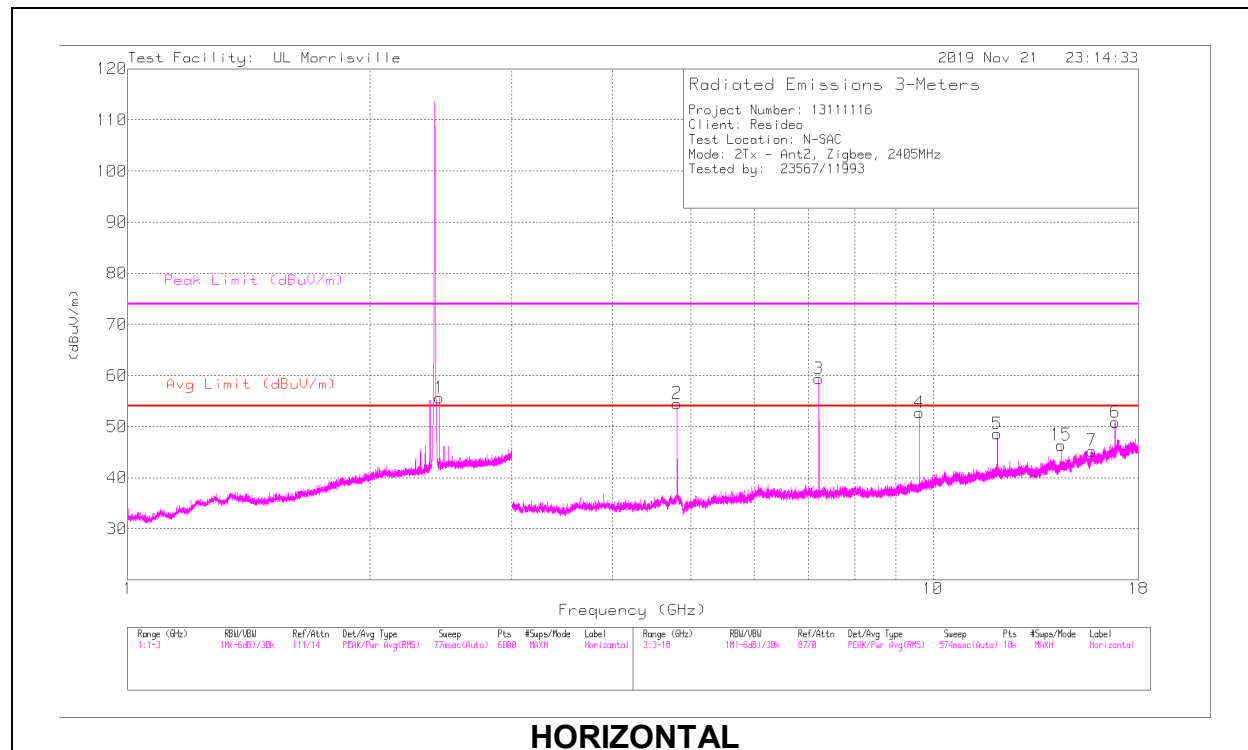
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*** 4.81089	56.32	PK2	34.1	-31.6	0	58.82	-	-	74	-15.18	55	103	H
	*** 4.81089	49.32	ADV	34.1	-31.6	-23.1	28.72	54	-25.28	-	-	55	103	H
5	*** 12.02238	41.49	PK2	38.7	-25.5	0	54.69	-	-	74	-19.31	59	109	H
	*** 12.02236	31.21	ADV	38.7	-25.5	-23.1	21.31	54	-32.69	-	-	59	109	H
7	*** 15.75296	35.57	PK2	40.1	-24.2	0	51.47	-	-	74	-22.53	48	307	H
	*** 15.75288	22.2	ADV	40.1	-24.2	-23.1	15	54	-39	-	-	48	307	H
8	*** 4.81093	53.16	PK2	34.1	-31.6	0	55.66	-	-	74	-18.34	160	104	V
	*** 4.81096	45.48	ADV	34.1	-31.6	-23.1	24.88	54	-29.12	-	-	160	104	V
11	*** 12.02244	40.51	PK2	38.7	-25.5	0	53.71	-	-	74	-20.29	265	109	V
	*** 12.02242	29.83	ADV	38.7	-25.5	-23.1	19.93	54	-34.07	-	-	265	109	V
14	*** 15.4555	35.71	PK2	40.1	-24	0	51.81	-	-	74	-22.19	257	111	V
	*** 15.45551	22.33	ADV	40.1	-24	-23.1	15.33	54	-38.67	-	-	257	111	V
1	2.43691	47.69	Pk	32.3	-24.4	0	55.59	-	-	-	-	0-360	102	H
3	7.21357	53.58	Pk	35.6	-29.8	0	59.38	-	-	-	-	0-360	102	H
9	7.21607	50.24	Pk	35.6	-29.8	0	56.04	-	-	-	-	0-360	102	V
4	9.6212	44.2	Pk	36.6	-28.1	0	52.7	-	-	-	-	0-360	102	H
10	9.6212	41.57	Pk	36.6	-28.1	0	50.07	-	-	-	-	0-360	102	V
15	14.42731	34.29	Pk	39.2	-27.1	0	46.39	-	-	-	-	0-360	102	H
12	14.43314	35.12	Pk	39.2	-27.2	0	47.12	-	-	-	-	0-360	102	V
6	16.83828	34.13	Pk	41.3	-24.6	0	50.83	-	-	-	-	0-360	102	H
13	16.83828	38.93	Pk	41.3	-24.6	0	55.63	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

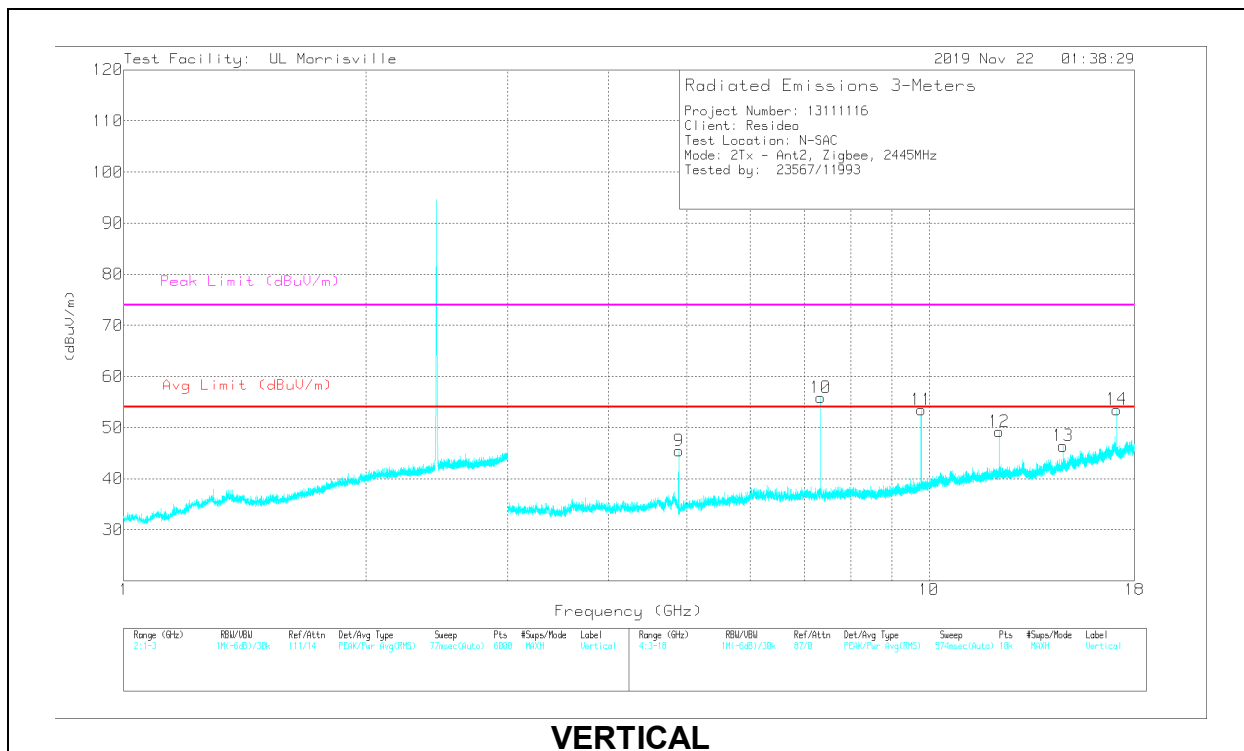
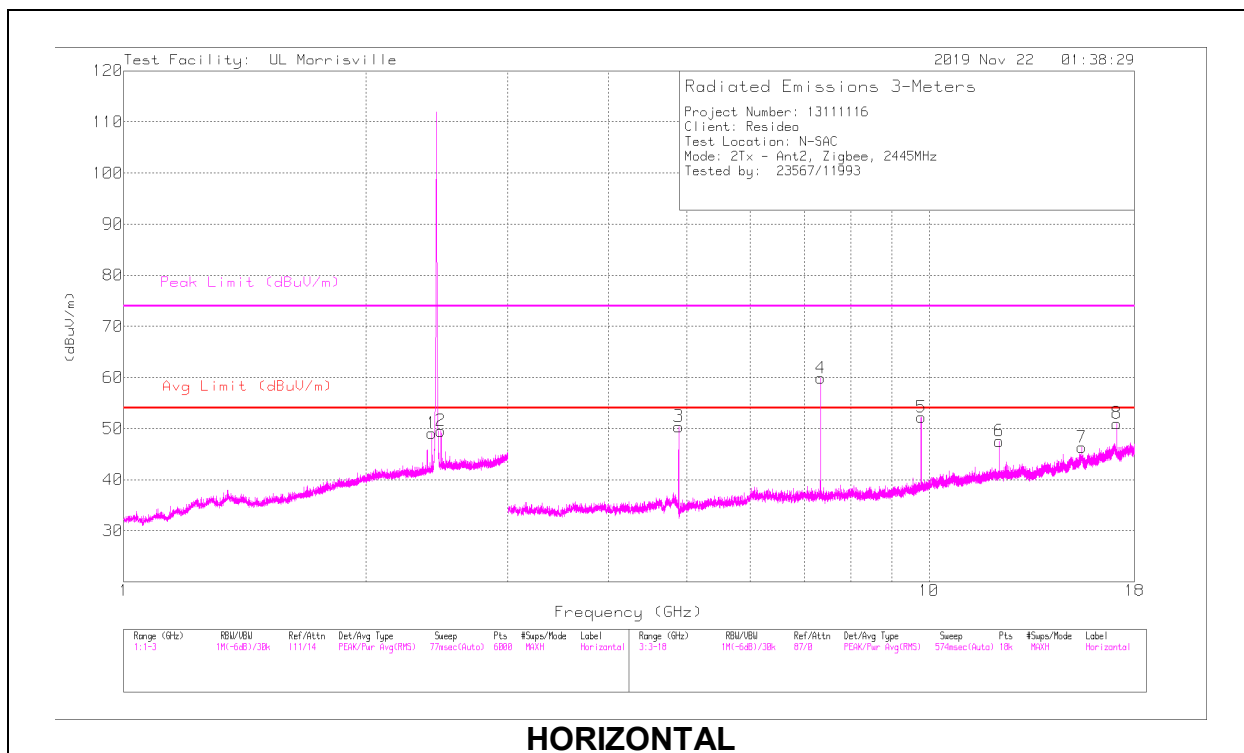
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

ADV - Linear Voltage Average

Pk - Peak detector

MID CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	*** 4.88889	52.81	PK2	33.9	-31.4	0	55.31	-	-	74	-18.69	277	102	H
	*** 4.88894	45.78	ADV	33.9	-31.4	-23.1	25.18	54	-28.82	-	-	277	102	H
4	*** 7.33651	56.6	PK2	35.6	-29.1	0	63.1	-	-	74	-10.9	197	105	H
	*** 7.33651	49.24	ADV	35.6	-29.1	-23.1	32.64	54	-21.36	-	-	197	105	H
6	*** 12.2275	41.27	PK2	38.8	-26.1	0	53.97	-	-	74	-20.03	70	112	H
	*** 12.22763	31.2	ADV	38.8	-26.1	-23.1	20.8	54	-33.2	-	-	70	112	H
7	** 15.48544	35.04	PK2	40.1	-23.6	0	51.54	-	-	74	-22.46	22	146	H
	** 15.48544	22.14	ADV	40.1	-23.6	-23.1	15.54	54	-38.46	-	-	22	146	H
9	*** 4.89104	48.68	PK2	33.9	-31.4	0	51.18	-	-	74	-22.82	171	392	V
	*** 4.89092	40.55	ADV	33.9	-31.4	-23.1	19.95	54	-34.05	-	-	171	392	V
10	*** 7.33342	52.03	PK2	35.6	-29.1	0	58.53	-	-	74	-15.47	180	105	V
	*** 7.33335	44.18	ADV	35.6	-29.1	-23.1	27.58	54	-26.42	-	-	180	105	V
12	*** 12.22231	42.85	PK2	38.8	-26.2	0	55.45	-	-	74	-18.55	25	113	V
	** 12.22228	32.93	ADV	38.8	-26.2	-23.1	22.43	54	-31.57	-	-	25	113	V
1	2.41357	41.52	Pk	32	-24.4	0	49.12	-	-	-	-	0-360	102	H
2	2.47725	41.46	Pk	32.4	-24.3	0	49.56	-	-	-	-	0-360	102	H
5	9.78121	42.65	Pk	36.8	-27.2	0	52.25	-	-	-	-	0-360	102	H
11	9.78121	43.9	Pk	36.8	-27.2	0	53.5	-	-	-	-	0-360	102	V
13	14.67315	32.72	Pk	39.5	-25.8	0	46.42	-	-	-	-	0-360	102	V
8	17.11079	34.33	Pk	41.2	-24.5	0	51.03	-	-	-	-	0-360	102	H
14	17.11162	36.84	Pk	41.2	-24.5	0	53.54	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

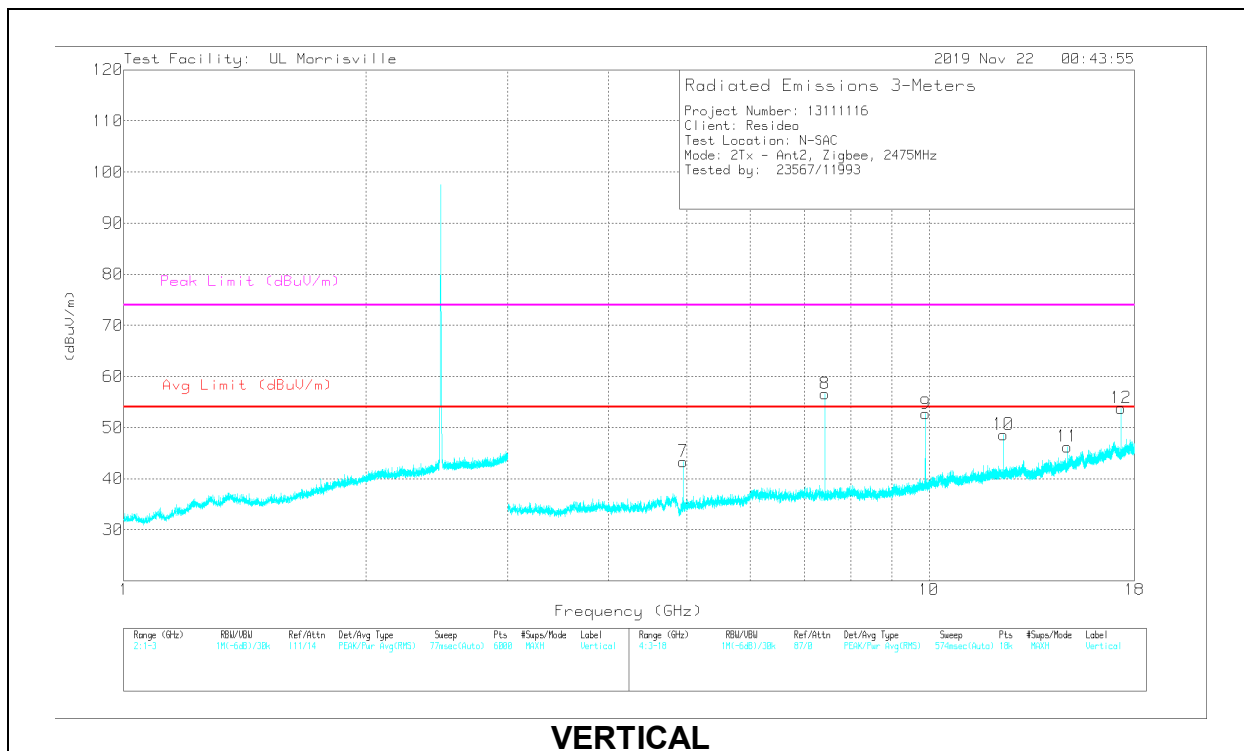
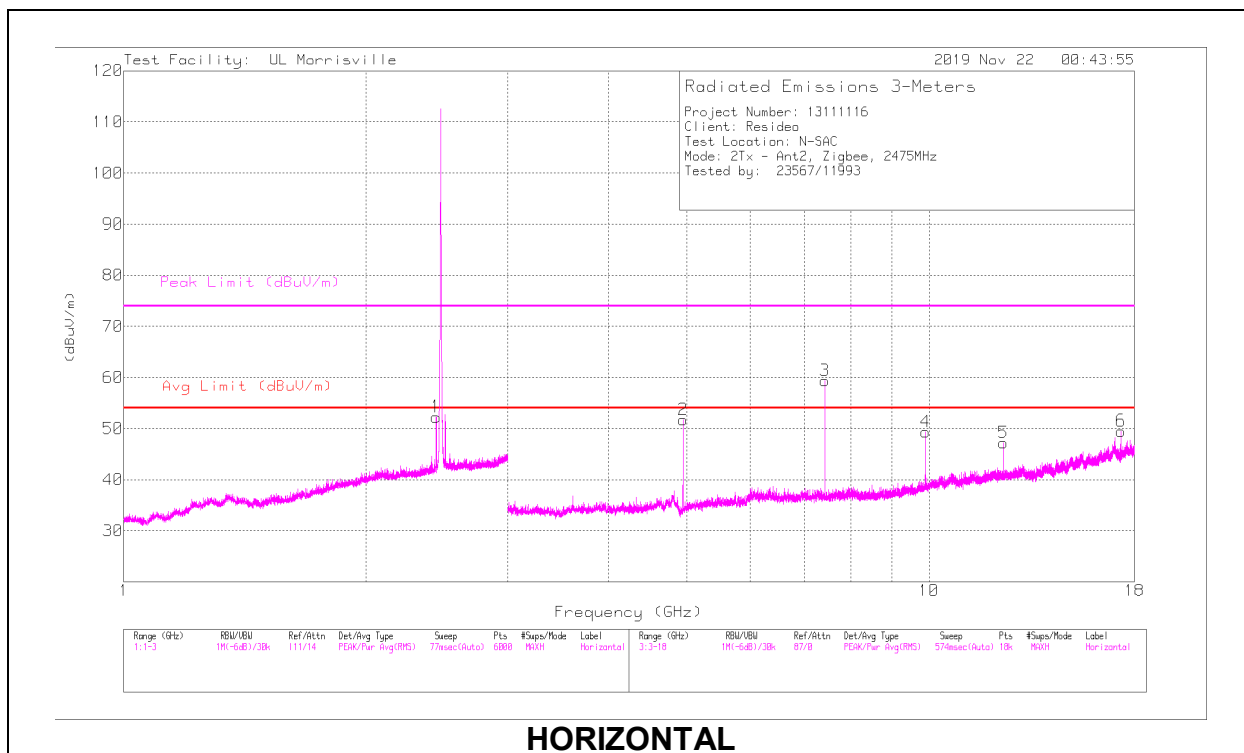
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

ADV - Linear Voltage Average

Pk - Peak detector

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	*** 4.94888	52.34	PK2	33.9	-32.1	0	54.14	-	-	74	-19.86	256	102	H
	*** 4.94893	45.09	ADV	33.9	-32.1	-23.1	23.79	54	-30.21	-	-	256	102	H
3	*** 7.42342	56.16	PK2	35.6	-29.2	0	62.56	-	-	74	-11.44	197	102	H
	*** 7.42332	48.97	ADV	35.6	-29.2	-23.1	32.27	54	-21.73	-	-	197	102	H
5	*** 12.37728	41.61	PK2	38.8	-26.3	0	54.11	-	-	74	-19.89	70	112	H
	*** 12.37741	30.48	ADV	38.8	-26.3	-23.1	19.88	54	-34.12	-	-	70	112	H
7	*** 4.94898	46.07	PK2	33.9	-32.1	0	47.87	-	-	74	-26.13	184	108	V
	*** 4.94893	37.14	ADV	33.9	-32.1	-23.1	15.84	54	-38.16	-	-	184	108	V
8	*** 7.42657	53.51	PK2	35.6	-29.2	0	59.91	-	-	74	-14.09	194	102	V
	*** 7.42661	46.02	ADV	35.6	-29.2	-23.1	29.32	54	-24.68	-	-	194	102	V
10	*** 12.37759	41.32	PK2	38.8	-26.3	0	53.82	-	-	74	-20.18	16	105	V
	*** 12.37767	30.91	ADV	38.8	-26.3	-23.1	20.31	54	-33.69	-	-	16	105	V
1	2.44341	44.37	Pk	32.3	-24.4	0	52.27	-	-	-	-	0-360	102	H
4	9.89789	39.95	Pk	37	-27.6	0	49.35	-	-	-	-	0-360	102	H
9	9.90122	43.34	Pk	37	-27.6	0	52.74	-	-	-	-	0-360	102	V
11	14.85316	33.78	Pk	39.7	-27.2	0	46.28	-	-	-	-	0-360	102	V
12	17.3208	37.51	Pk	41	-24.7	0	53.81	-	-	-	-	0-360	102	V
6	17.32164	33.22	Pk	41	-24.7	0	49.52	-	-	-	-	0-360	102	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

ADV - Linear Voltage Average

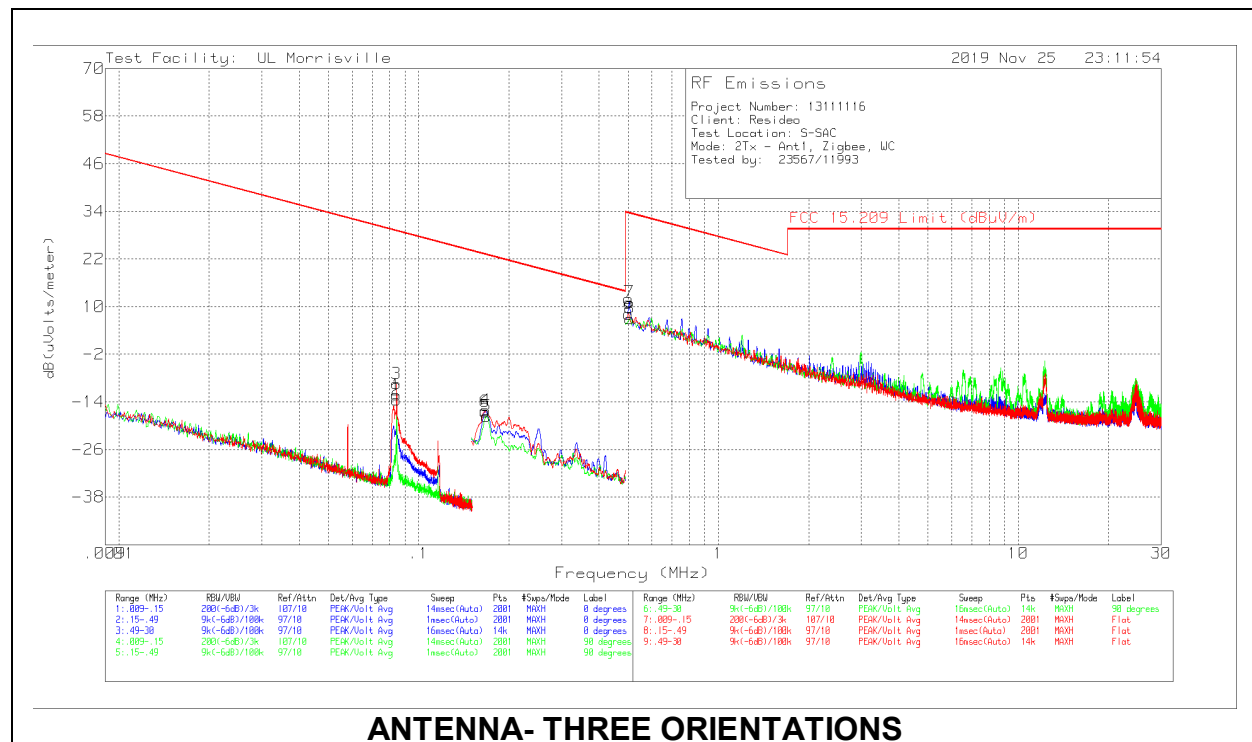
Pk - Peak detector

9.3. WORST CASE

9.3.1. CHAIN 0

BELOW 30MHZ

Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were $40 \cdot \log(\text{test distance} / \text{specification distance})$.

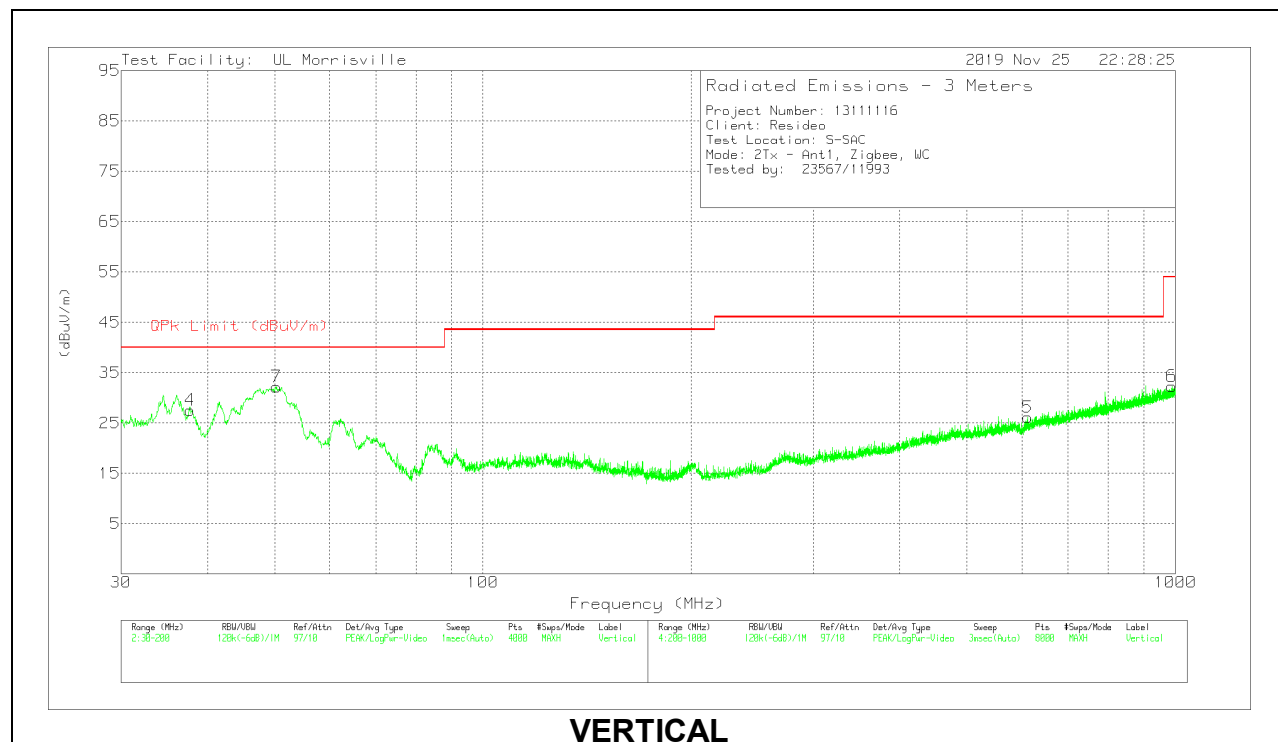
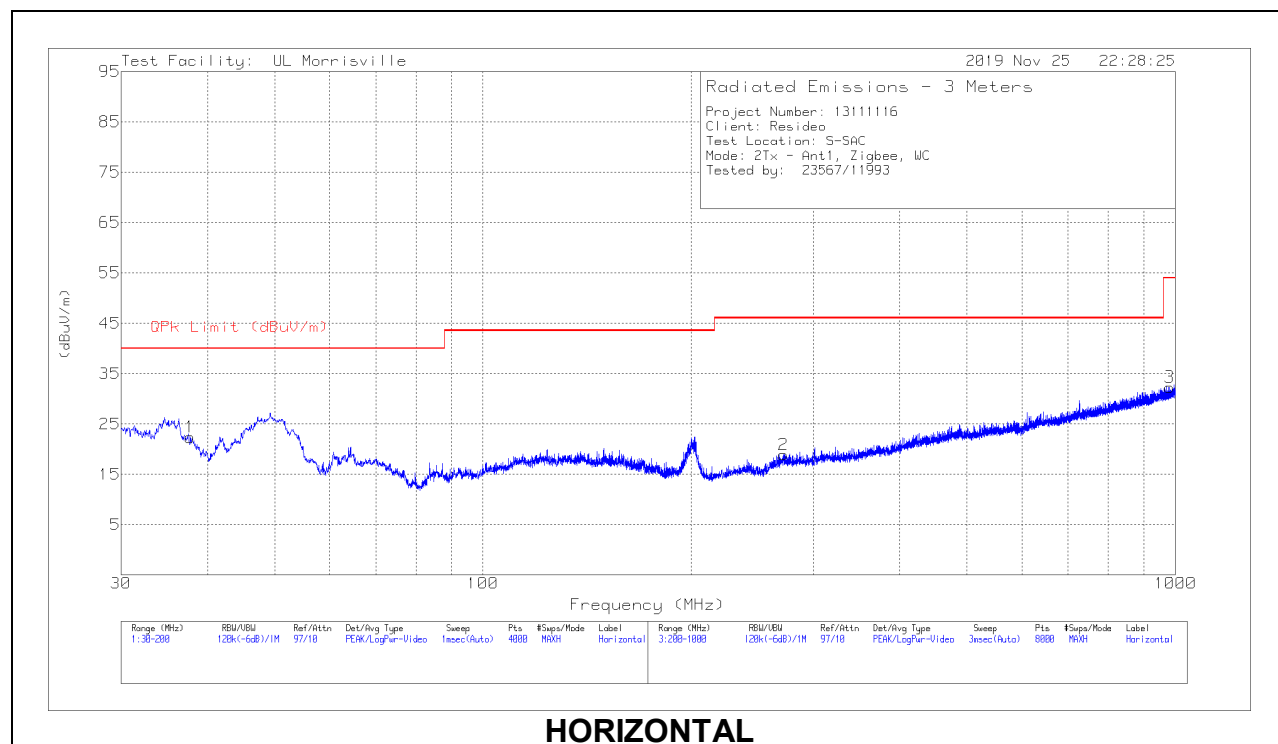


BELOW 30MHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 QP/AV Limit (dBuV/m)	FCC 15.209 PK Limit (dBuV/m)	Worst-Case Margin (dB)	Azimuth (Degs)
1	.0844	56.53	Pk	11.1	.1	-80	-12.27	29.08	49.08	-41.35	0-360
2	.0844	55.26	Pk	11.1	.1	-80	-13.54	29.08	49.08	-42.62	0-360
3	.0844	59.37	Pk	11.1	.1	-80	-9.43	29.08	49.08	-38.51	0-360
6	.16683	52.44	Pk	11	.1	-80	-16.46	23.16	43.16	-39.62	0-360
4	.167	52.76	Pk	11	.1	-80	-16.14	23.15	43.15	-39.29	0-360
5	.16845	51.33	Pk	11	.1	-80	-17.57	23.07	43.07	-40.64	0-360
9	.50054	37.05	Pk	11	.1	-40	8.15	33.62	-	-25.47	0-360
7	.50476	40.02	Pk	11	.1	-40	11.12	33.54	-	-22.42	0-360
8	.50686	35.92	Pk	11	.1	-40	7.02	33.51	-	-26.49	0-360

Pk - Peak detector

30-1000MHZ



30-1000MHz DATA

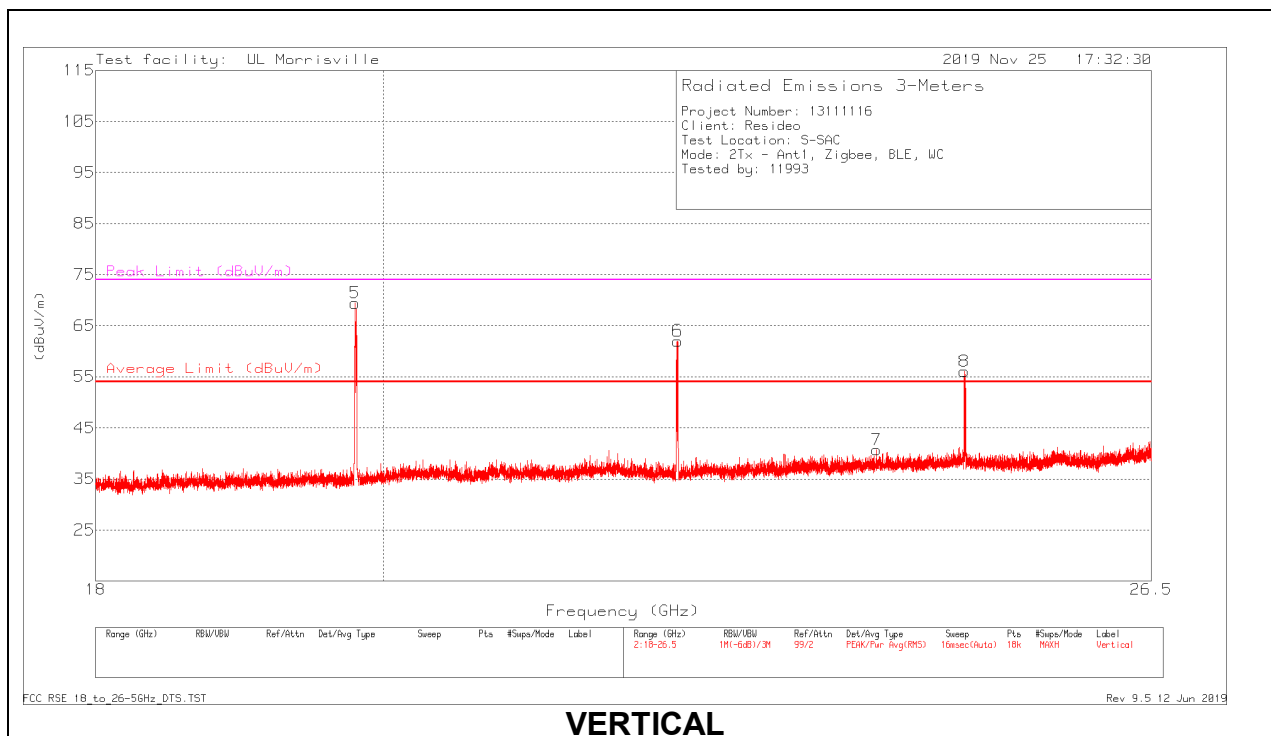
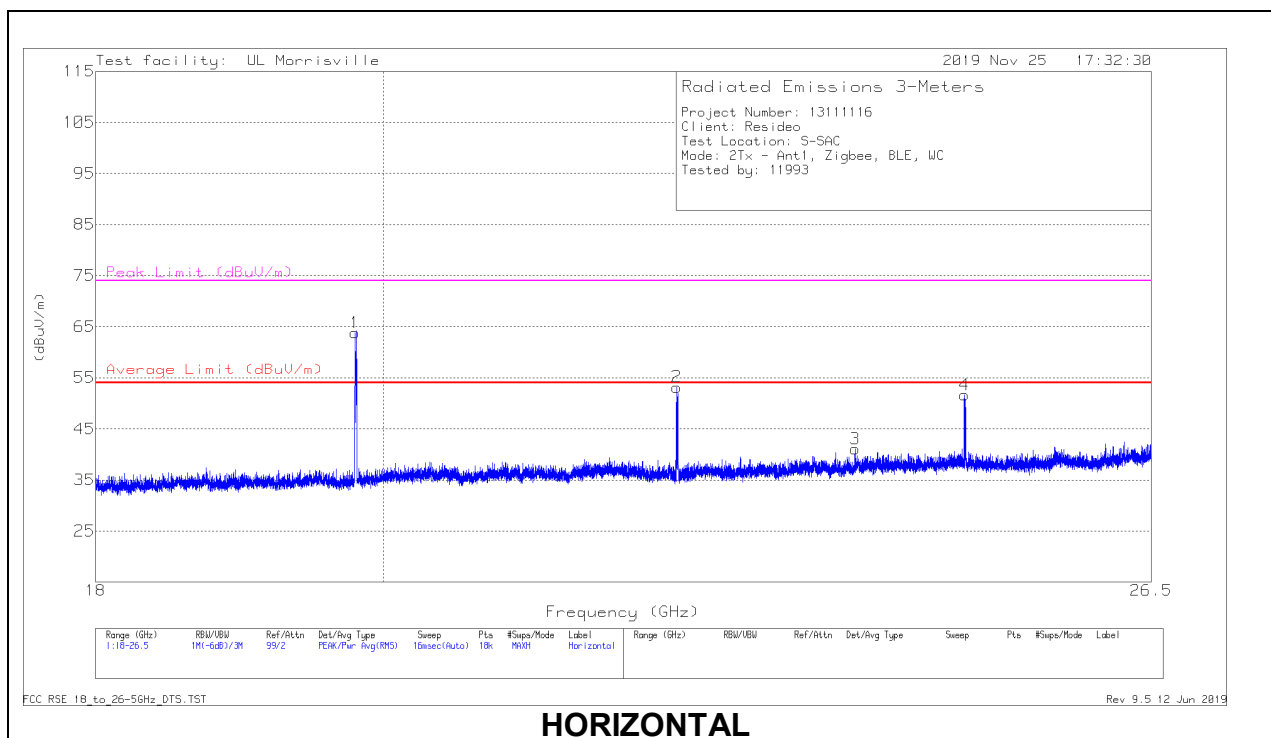
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 37.7795	32.56	Pk	21.5	-31.7	22.36	40	-17.64	0-360	299	H
4	* ** 37.7795	37.76	Pk	21.5	-31.7	27.56	40	-12.44	0-360	102	V
2	* ** 271.5093	29.1	Pk	19.4	-29.6	18.9	46.02	-27.12	0-360	399	H
3	* ** 981.8016	28.4	Pk	29.2	-25.3	32.3	53.97	-21.67	0-360	102	H
5	* ** 612.0536	29.42	Pk	24.9	-28.2	26.12	46.02	-19.9	0-360	299	V
6	* ** 988.4025	28.22	Pk	29.3	-25.2	32.32	53.97	-21.65	0-360	199	V
7	50.3203	49.9	Pk	13.8	-31.5	32.2	40	-7.8	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

18-26GHZ



18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 19.796	62.23	Av	33	-35.3	-23.1	36.83	54	-17.17	-	-	337	107	H
	* ** 19.796	66.76	Pk	33	-35.3	0	64.46	-	-	74	-9.54	337	107	H
2	* ** 22.26958	49.86	Av	33.6	-34.5	-23.1	25.86	54	-28.14	-	-	110	118	H
	* ** 22.26958	53.9	Pk	33.6	-34.5	0	53	-	-	74	-21	110	118	H
5	* ** 19.79595	71.11	Av	33	-35.3	-23.1	45.71	54	-8.29	-	-	286	123	V
	* ** 19.79595	74.76	Pk	33	-35.3	0	72.46	-	-	74	-1.54	286	123	V
6	* ** 22.279	57.9	Av	33.6	-34.5	-23.1	33.9	54	-20.1	-	-	282	109	V
	* ** 22.279	63	Pk	33.6	-34.5	0	62.1	-	-	74	-11.9	282	109	V
3	* ** 23.77654	40.69	Pk	34	-33.6	0	41.09	54	-12.91	74	-32.91	0-360	298	H
7	* ** 23.96308	40.14	Pk	34.1	-33.5	0	40.74	54	-13.26	74	-33.26	0-360	252	V
8	24.74512	54.7	Pk	34.5	-33.1	0	56.1	-	-	-	-	0-360	102	V
4	24.74559	50.24	Pk	34.5	-33.1	0	51.64	-	-	-	-	0-360	102	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

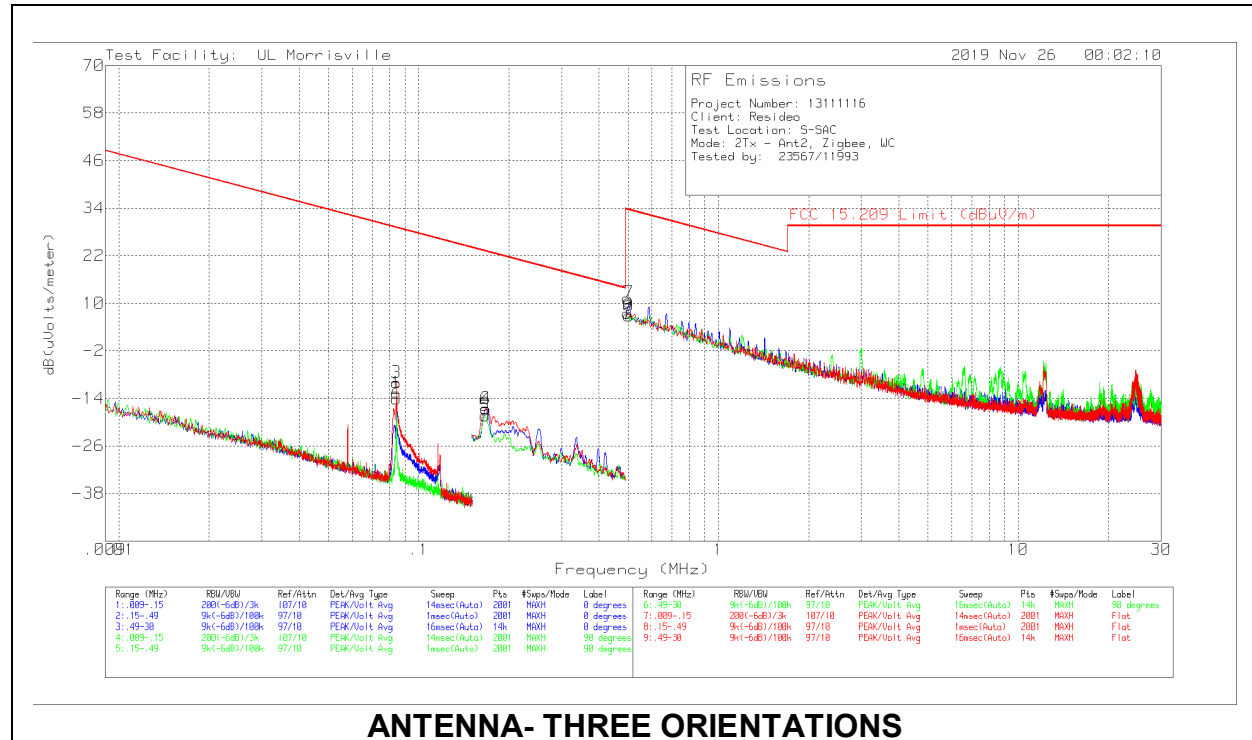
Pk - Peak detector

Av - Average detection

9.3.1. CHAIN 1

BELOW 30MHZ

Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).

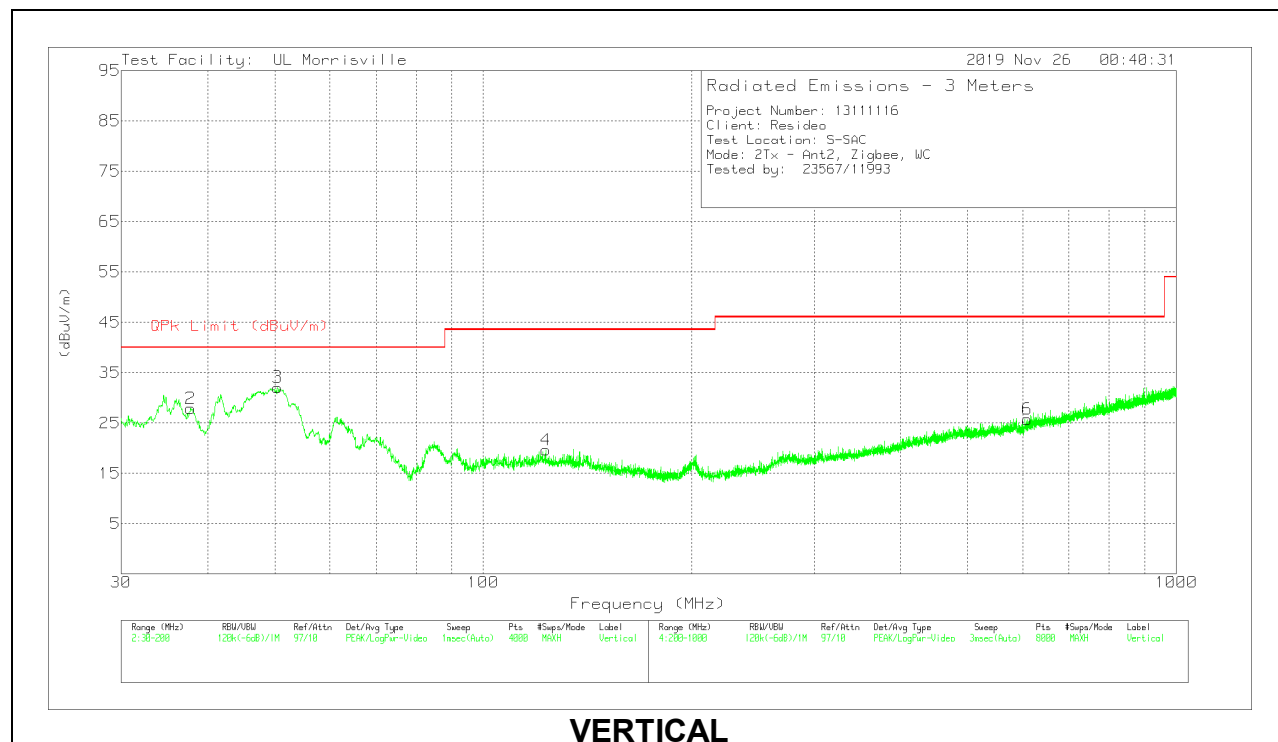
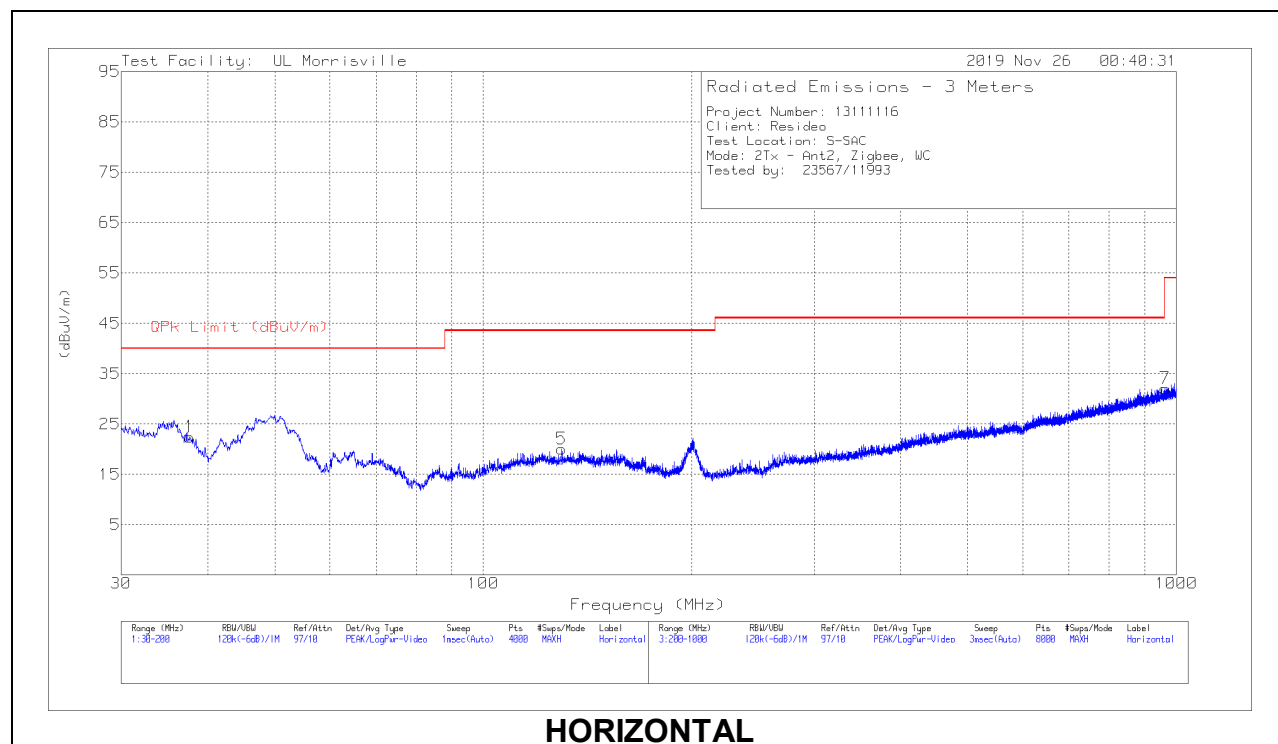


BELOW 30MHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 QP/AV Limit (dBuV/m)	FCC 15.209 PK Limit (dBuV/m)	Worst-Case Margin (dB)	Azimuth (Degs)
1	.0844	56.11	Pk	11.1	.1	-80	-12.69	29.08	49.08	-41.77	0-360
2	.0844	54.73	Pk	11.1	.1	-80	-14.07	29.08	49.08	-43.15	0-360
3	.0844	58.77	Pk	11.1	.1	-80	-10.03	29.08	49.08	-39.11	0-360
5	.16649	50.54	Pk	11	.1	-80	-18.36	23.18	43.18	-41.54	0-360
6	.16751	52.36	Pk	11	.1	-80	-16.54	23.12	43.12	-39.66	0-360
4	.16777	52.22	Pk	11	.1	-80	-16.68	23.11	43.11	-39.79	0-360
9	.49738	36.33	Pk	11	.1	-40	7.43	33.67	-	-26.24	0-360
7	.50265	39.18	Pk	11	.1	-40	10.28	33.58	-	-23.3	0-360
8	.50265	35.77	Pk	11	.1	-40	6.87	33.58	-	-26.71	0-360

Pk - Peak detector

30-1000MHZ



30-1000MHz DATA

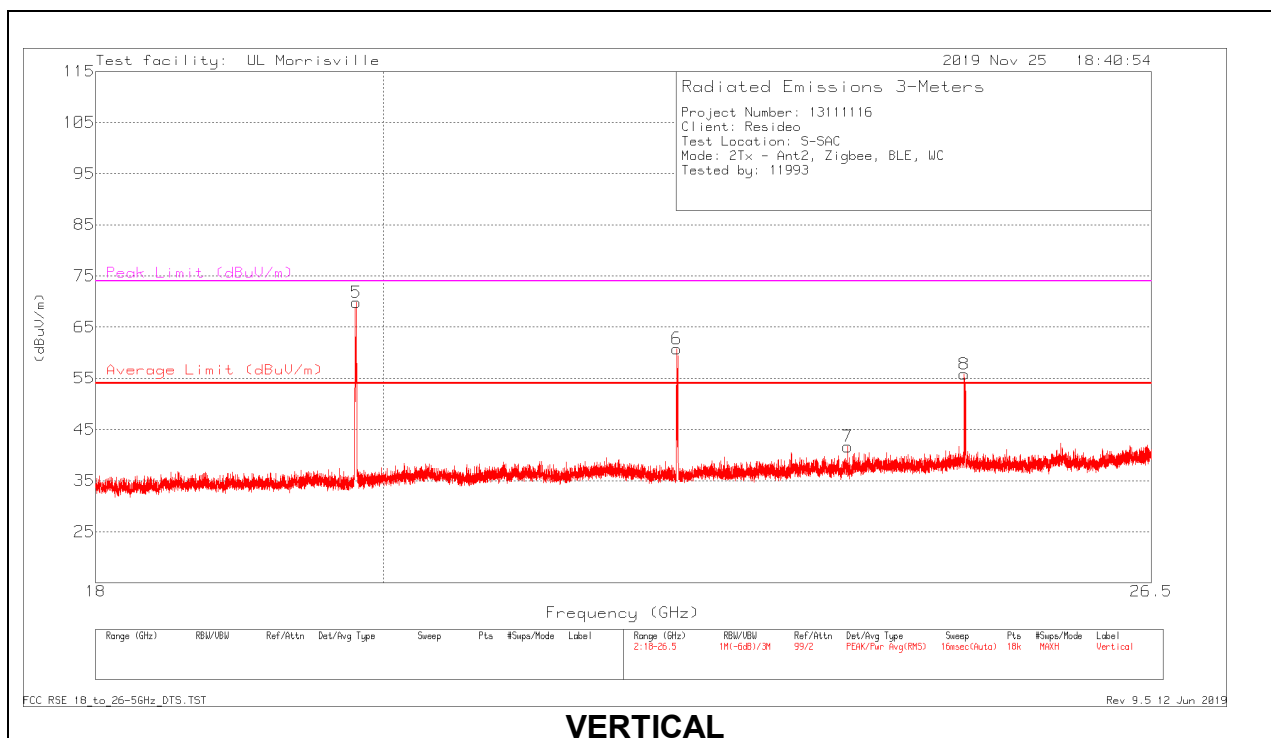
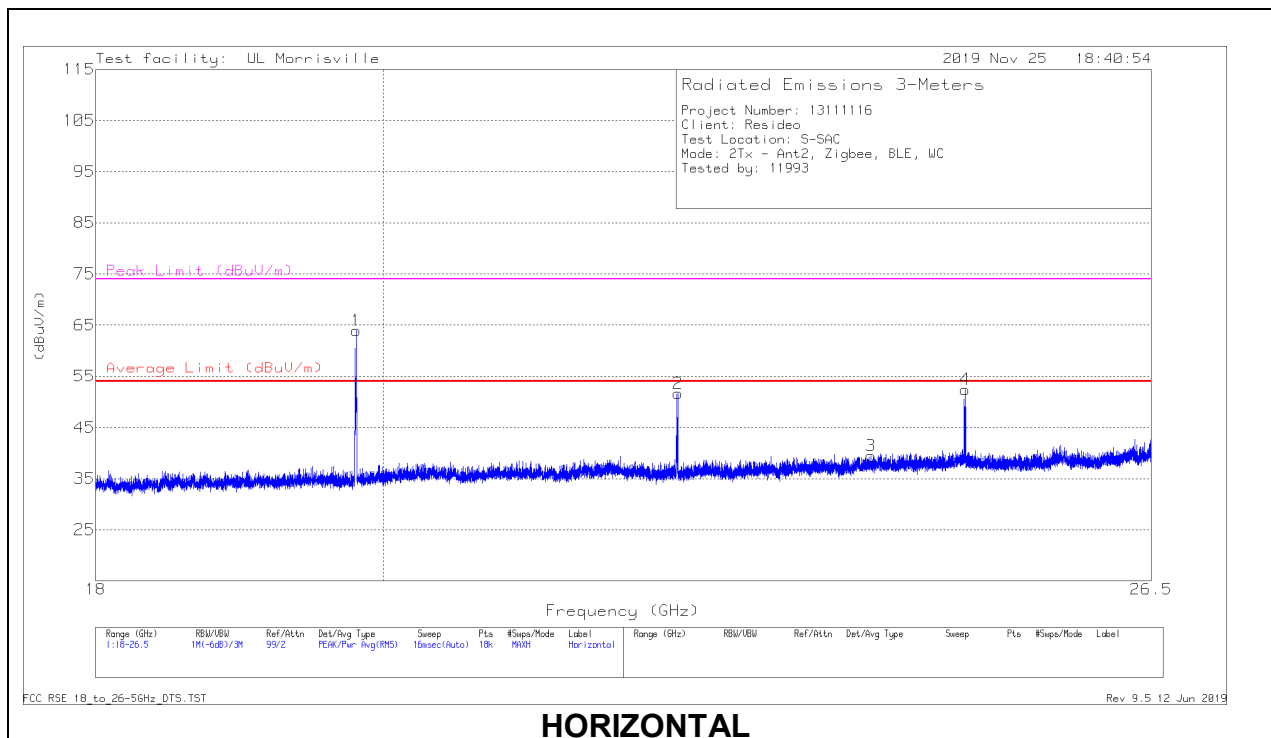
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 37.6945	32.63	Pk	21.5	-31.7	22.43	40	-17.57	0-360	399	H
5	* ** 129.8158	30.96	Pk	19.8	-30.7	20.06	43.52	-23.46	0-360	199	H
2	* ** 37.8008	38.18	Pk	21.4	-31.7	27.88	40	-12.12	0-360	102	V
4	* ** 123.0566	30.45	Pk	19.9	-30.7	19.65	43.52	-23.87	0-360	102	V
7	* ** 963.7993	28.65	Pk	29	-25.6	32.05	53.97	-21.92	0-360	102	H
6	* ** 609.6532	29.02	Pk	24.8	-28.1	25.72	46.02	-20.3	0-360	199	V
3	50.4903	49.76	Pk	13.8	-31.5	32.06	40	-7.94	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

18-26GHZ



18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 19.80417	58.51	Av	33	-35.3	-23.1	33.11	54	-20.89	-	-	235	116	H
	* ** 19.80417	59.13	Pk	33	-35.3	0	56.83	-	-	74	-17.17	235	116	H
2	* ** 22.27909	53.39	Av	33.6	-34.5	-23.1	29.39	54	-24.61	-	-	4	248	H
	* ** 22.27909	57.34	Pk	33.6	-34.5	0	56.44	-	-	74	-17.56	4	248	H
5	* ** 19.80429	69.05	Av	33	-35.3	-23.1	43.65	54	-10.35	-	-	272	121	V
	* ** 19.80429	72.79	Pk	33	-35.3	0	70.49	-	-	74	-3.51	272	121	V
6	* ** 22.27036	60.13	Av	33.6	-34.5	-23.1	30.12	54	-23.87	-	-	285	112	V
	* ** 22.27036	63.23	Pk	33.6	-34.5	0	62.33	-	-	74	-11.67	285	112	V
3	* ** 23.91255	38.93	Pk	34.1	-33.6	0	39.43	54	-14.57	74	-34.57	0-360	298	H
7	* ** 23.71231	41.35	Pk	34	-33.7	0	41.65	54	-12.35	74	-32.35	0-360	102	V
8	24.74465	54.39	Pk	34.5	-33.1	0	55.79	-	-	-	-	0-360	102	V
4	24.75456	51.02	Pk	34.5	-33.1	0	52.42	-	-	-	-	0-360	102	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

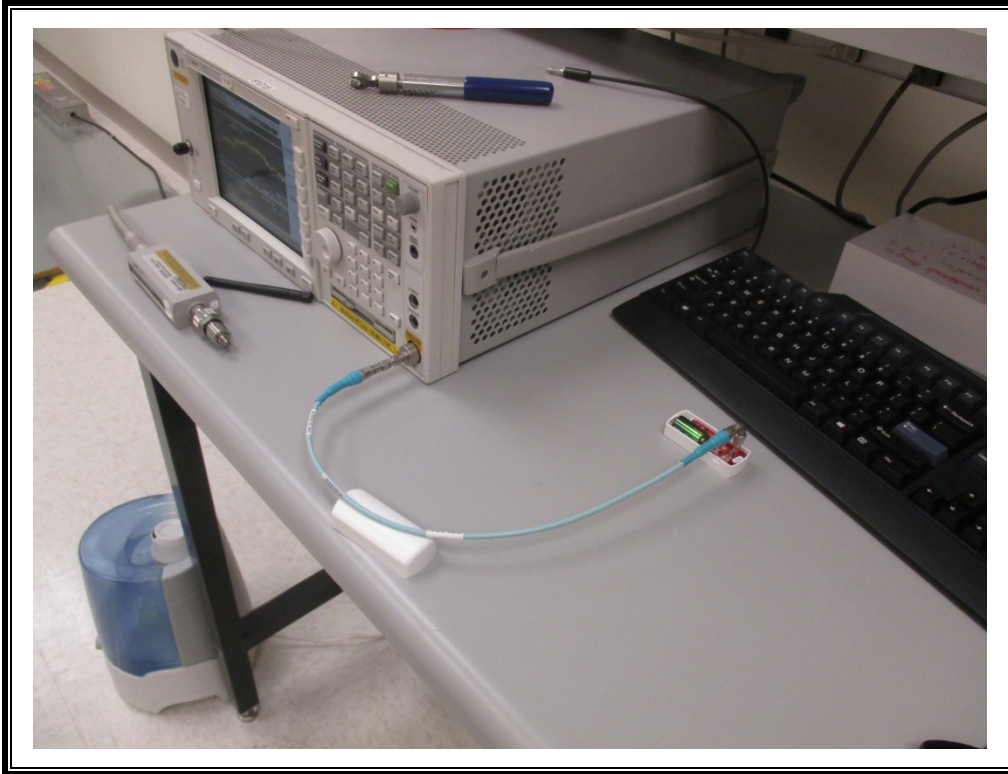
Pk - Peak detector

Av - Average detection

10. SETUP PHOTOS

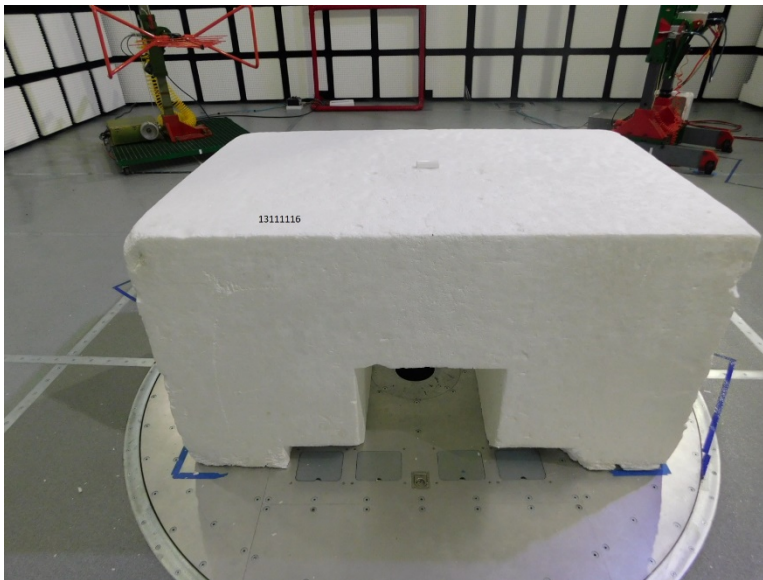
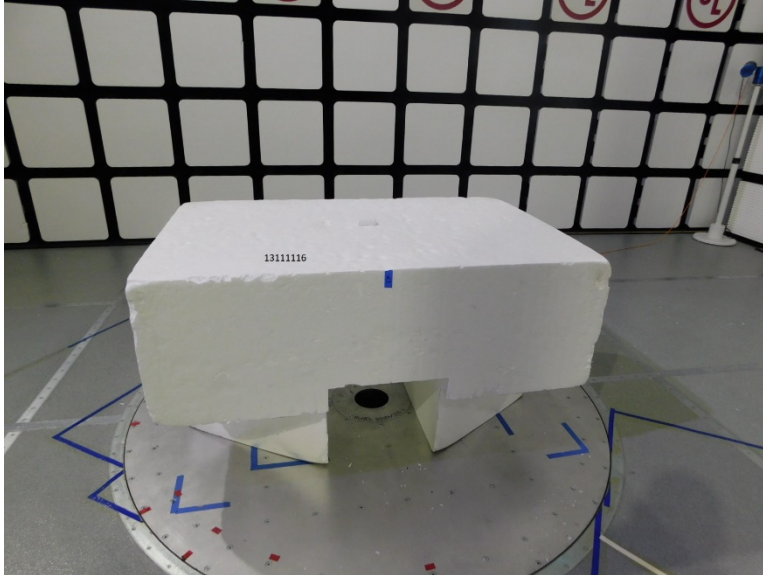
Please refer to R13111116-EP1 for setup photos

CONDUCTED MEASUREMENT SETUP

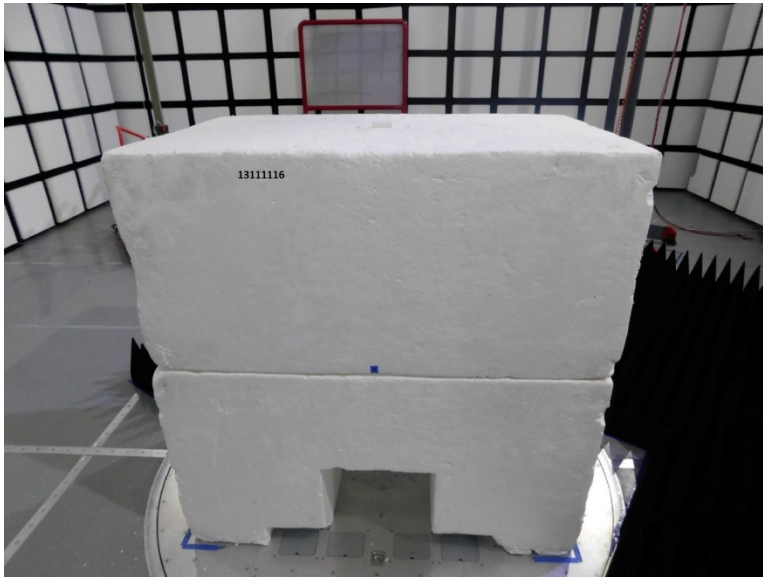
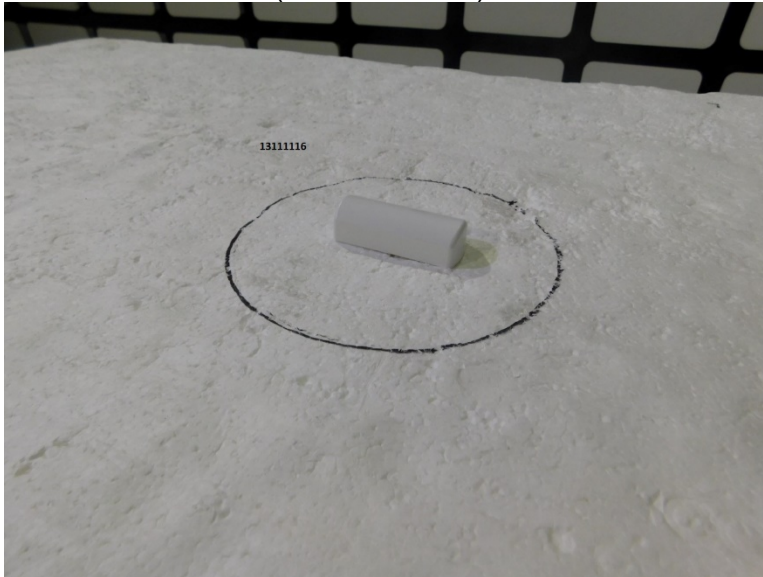


RADIATED RF MEASUREMENT SETUP

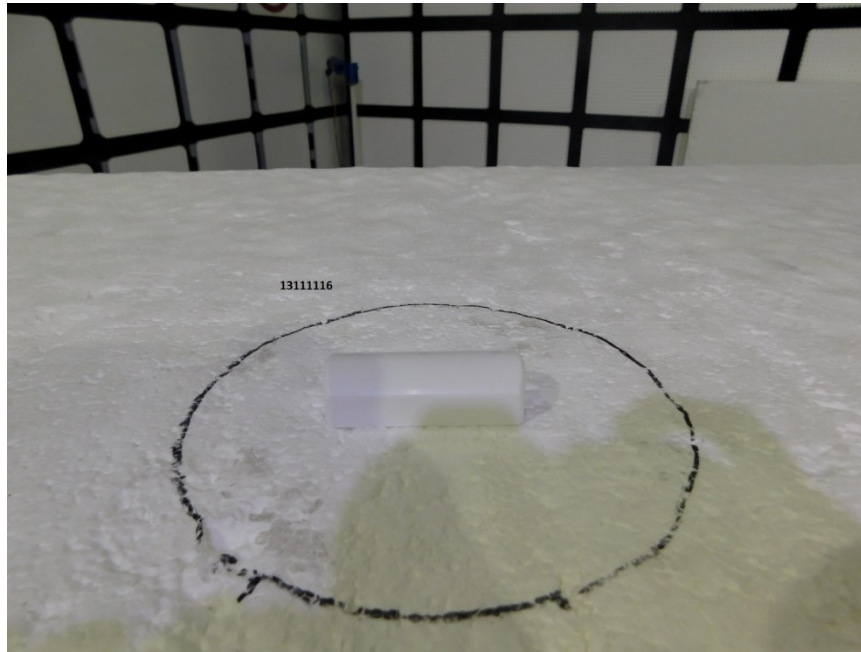
RADIATED PHOTO (BELOW 1 GHz)



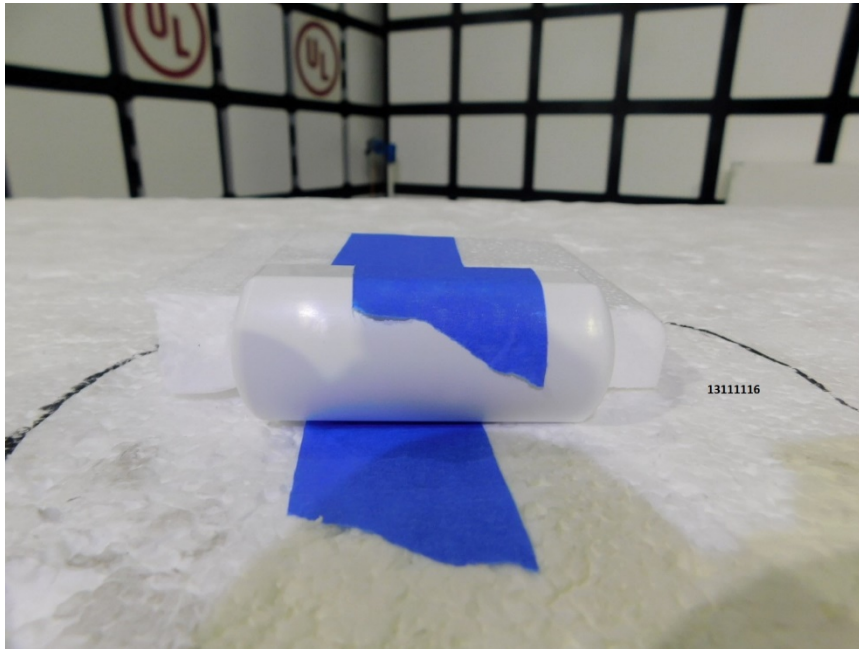
RADIATED PHOTO (ABOVE 1 GHz)



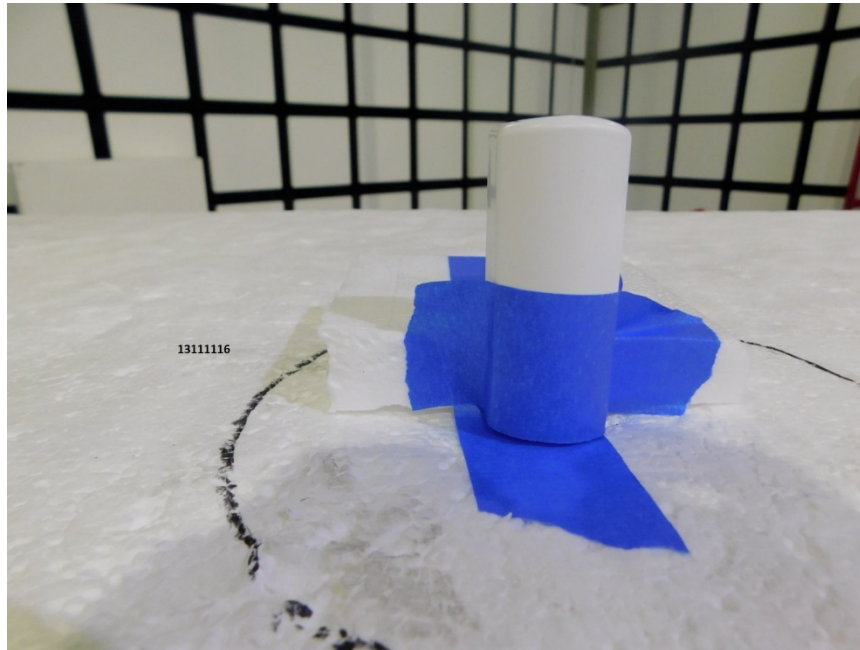
X-AXIS PHOTO



Y-AXIS PHOTO



Z-AXIS PHOTO



END OF TEST REPORT