



TEST REPORT

Report Number: R12761322-E7V1

Applicant : Weber-Stephen Products LLC
1415 S Roselle Rd
Palatine, IL 60067, U.S.A.

Model : WEBER CONNECT SMART GRILLING HUB

FCC ID : 2AHSR-CONNECT1

IC : 21267-CONNECT1

EUT Description : Smart grilling hub with 2.4 WLAN and BLE radio

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

Date of Issue:
2020-08-10

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2020-07-20	Initial Issue	Niklas Haydon
V2	2020-08-10	Added additional radiated emissions data	Niklas Haydon

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Weber-Stephen Products LLC
1415 S Roselle Rd
Palatine, IL 60067, U.S.A.

EUT DESCRIPTION: Smart grilling hub with 2.4 WLAN and BLE radio

MODEL: WEBER CONNECT SMART GRILLING HUB

SERIAL NUMBER: WLAN – 30190000000048, BLE - 30190000000118

SAMPLE RECEIPT DATE: 2020-06-25

DATE TESTED: 2020-07-14 to 2020-08-02
2019-04-29 (DUTY CYCLE FOR WLAN)
2019-05-14 (DUTY CYCLE FOR BLE)

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

*This report covers radiated emissions and ac power line conducted emissions. Refer to R12761322-E1 and R12761322-E2 for all other test data.

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.

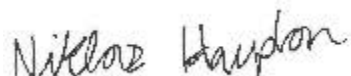
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Approved & Released For
UL LLC By:



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Niklas Haydon
Operations Leader
Consumer Technology Division
UL LLC

2. TEST RESULTS SUMMARY

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only.	ANSI C63.10 Section 11.6.
-	RSS-GEN 6.7	99% OBW	Not performed.	See UL LLC reports R12761322-E1 and R12761322-E2
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW	Not performed.	
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power	Not performed.	
See Comment		Average power	Not performed.	
15.247 (e)	RSS-247 5.2 (b)	PSD	Not performed.	
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Not performed.	
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Compliant.	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Compliant.	None.

3. 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, KDB 414788 D01 Radiated Test Site v01r01, RSS-GEN Issue 5, and RSS-247 Issue 2.

4. 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	
<input type="checkbox"/> Chamber A RTP	<input checked="" type="checkbox"/> North Chamber
<input checked="" type="checkbox"/> Chamber C RTP	<input checked="" type="checkbox"/> South Chamber

The above test sites and facilities are covered under FCC Test Firm Registration # 703469. Chambers above are covered under Industry Canada company address and respective code.

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

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U_{Lab}
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	2.00%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	1.94 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%.

5.4. 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.

$$36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a smart grilling hub with 2.4 WLAN and BLE radio.

6.2. MAXIMUM OUTPUT POWER

Refer to UL LLC reports R12761322-E1 and R12761322-E2 for maximum output power.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an OnBoard SMD antenna, with a maximum gain of 4.9 dBi.

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 01-68e4a7a6.
The test utility software used during testing was 7.45.98.50 (r688715 CY WLTEST).

6.5. 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 and data rate with highest power spectral density across all data rates 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 Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation.

Worst-case data rates were:

BLE: 1Mbps
802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20mode: MCS0

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	L470	PF0ZV674	NA
Laptop Charger	Lenovo	ADLX65NDC2A	11S36200282ZZ20053B8X2	NA
Meat Temperature Probes	Weber Stephen	SKU 7211	Non-serialized	NA

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	Type B	USB TypeB Micro	<3m	none
2	Probe	1	Barrel	Probe	<3m	none

TEST SETUP

The EUT is connected to a test laptop that has software to exercise the radio card.

SETUP DIAGRAMS

Please refer to R12761322-EP2 for setup diagrams

7. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10-2013 Section 11.6.

Emissions in non-restricted frequency bands: ANSI C63.10 Subclause -11.11 and 6.10.4

Emissions in restricted frequency bands: ANSI C63.10 Subclause -11.12.1 and 6.10.5

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

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

8. TEST AND MEASUREMENT EQUIPMENT

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

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	1-18 GHz				
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2020-04-27	2021-04-27
	Gain-Loss Chains				
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2020-03-15	2021-03-15
	Receiver & Software				
SA0025	Spectrum Analyzer	Agilent	N9030A	2020-03-17	2021-03-17
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	Additional Equipment used				
s/n 181474341	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27
s/n 200037635	Environmental Meter	Fisher Scientific	06-662-4	2020-1-22	2022-01-22

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2020-03-26	2021-03-26
s/n 200037610	Environmental Meter	fisherbrand	06-662-4	2020-01-21	2022-01-21
LISN003	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2019-08-19	2020-08-19
75141 (PRE0101521)	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2019-08-20	2020-08-20
ATA222	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2020-03-26	2021-03-26
PS214	AC Power Source	Elgar	CW2501M (s/n 1523A02396)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA

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

Equip. 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				
AT0078	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-10-28	2020-10-28
	18-40 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	2020-04-23	2021-04-23
S-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2020-04-23	2021-04-23
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2020-05-15	2021-05-15
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2020-03-23	2021-03-23
	Receiver & Software				
SA0026	Spectrum Analyzer	Agilent	N9030A	2020-06-24	2021-06-24
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2020-03-27	2021-03-27
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	Additional Equipment used				
s/n 181474341	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27
s/n 200037610	Environmental Meter	Fisher Scientific	06-662-4	2020-1-22	2022-01-22
76022	DC Regulated Power Supply	CircuitSpecialists .Com	CSI3005X5	N/A	N/A

Test Equipment Used - Radiated Disturbance Emissions (E-field) – Chamber C

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	30-1000 MHz				
AT0066	Hybrid Broadband Antenna	Sunar RF Motion	JB3	2019-12-18	2020-12-18
	1-18 GHz				
AT0062	HORN Antenna	ETS-Lindgren	3117	2020-01-30	2021-01-30
	Gain-Loss Chains				
C-SAC01	Gain-loss string: 0.009-1000MHz	Various	Various	2020-03-03	2021-03-03
C-SAC02	Gain-loss string: 1-18GHz	Various	Various	2020-03-03	2021-03-03
C-SAC02 Path 7	Gain-loss string 1-7GHz	Various	Various	2020-04-03	2021-04-03
	Receiver & Software				
SA0018	Spectrum Analyzer	Agilent	PXA (N9030A)	2020-03-02	2021-03-02
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	Additional Equipment used				
HI0085	Temp/Humid/Pressure Meter	EXTECH	SD700	2020-04-20	2021-04-30

Note: All equipment was calibrated at time of test.

9. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

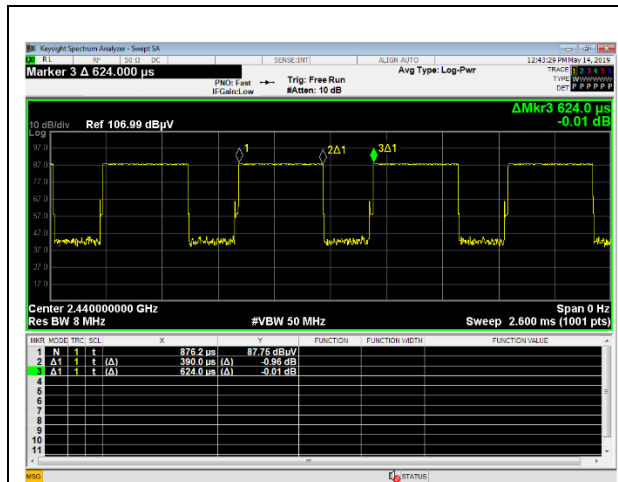
ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor Radiated (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
BLE	0.390	0.624	0.625	62.50%	4.08	2.564
802.11b 1TX	8.400	8.450	0.994	99.41%	0.00	0.010
802.11g 1TX	1.396	1.436	0.972	97.21%	0.25	0.716
802.11n HT20 1TX	1.307	1.350	0.968	96.81%	0.28	0.765

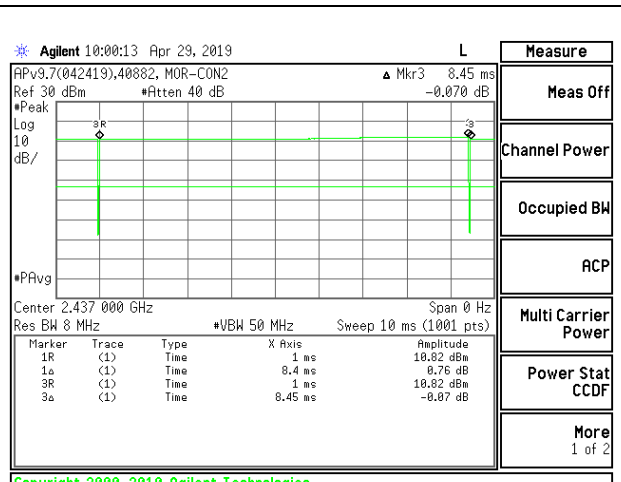
Note: This data has been referenced from UL LLC reports R12761322-E1 and R12761322-E2.

Tester: 12015/40882

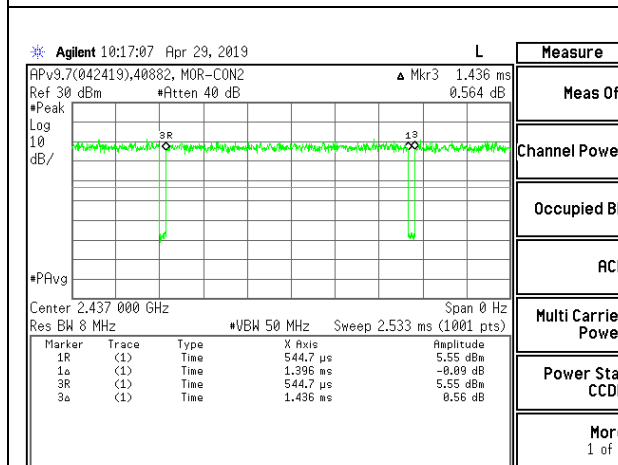
DUTY CYCLE PLOTS



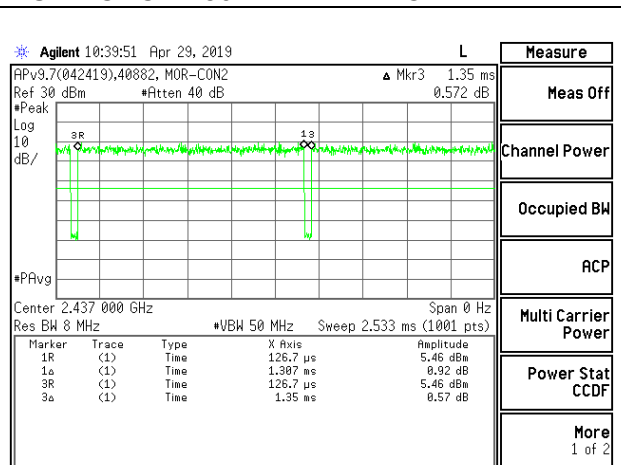
DUTY CYCLE BLE



DUTY CYCLE 802.11b 1TX MODE



DUTY CYCLE 802.11g 1TX MODE



DUTY CYCLE 802.11nHT20 1TX MODE

10. RADIATED TEST RESULTS

10.1. 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. For this test program, voltage average detection was used.

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.

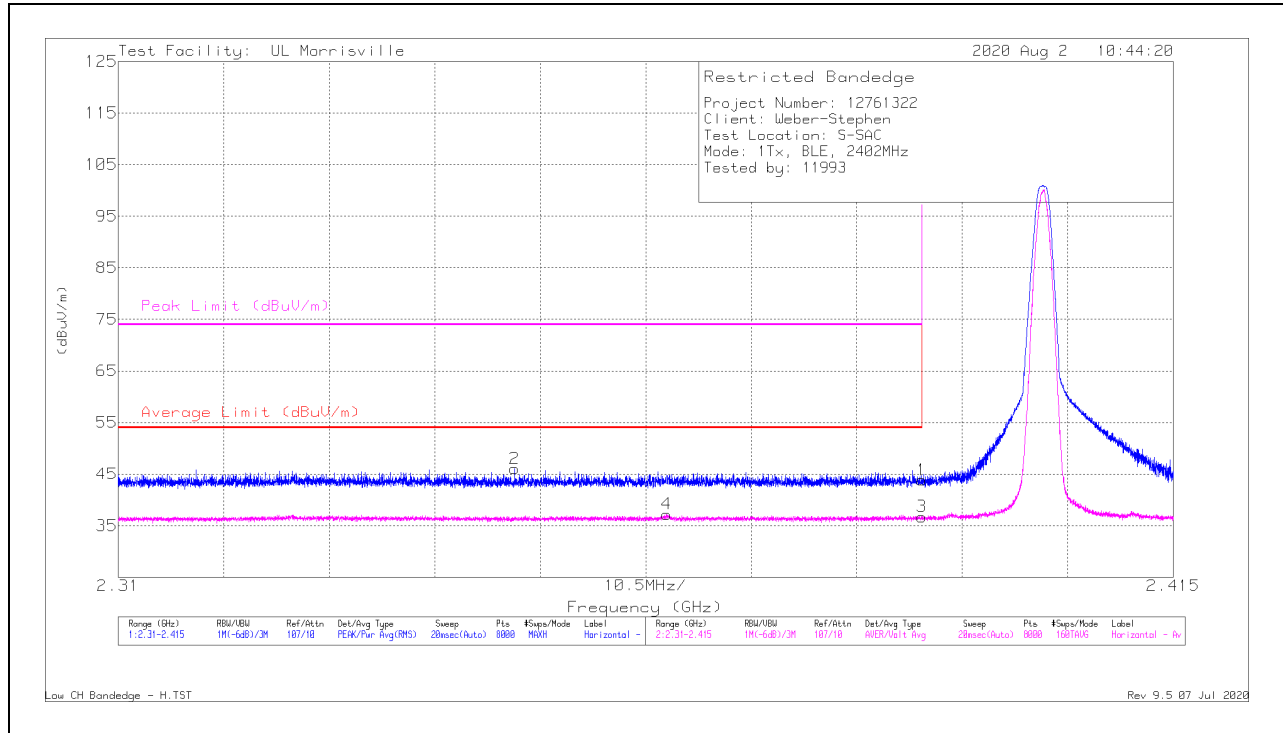
OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/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	35.74	Pk	32.1	-24	0	43.84	-	-	74	-30.16	168	166	H
2	* ** 2.34946	37.74	Pk	32.2	-23.9	0	46.04	-	-	74	-27.96	168	166	H
3	* ** 2.39	24.55	ADV	32.1	-24	4.08	36.73	54	-17.27	-	-	168	166	H
4	* ** 2.3646	24.84	ADV	32.2	-23.9	4.08	37.22	54	-16.78	-	-	168	166	H

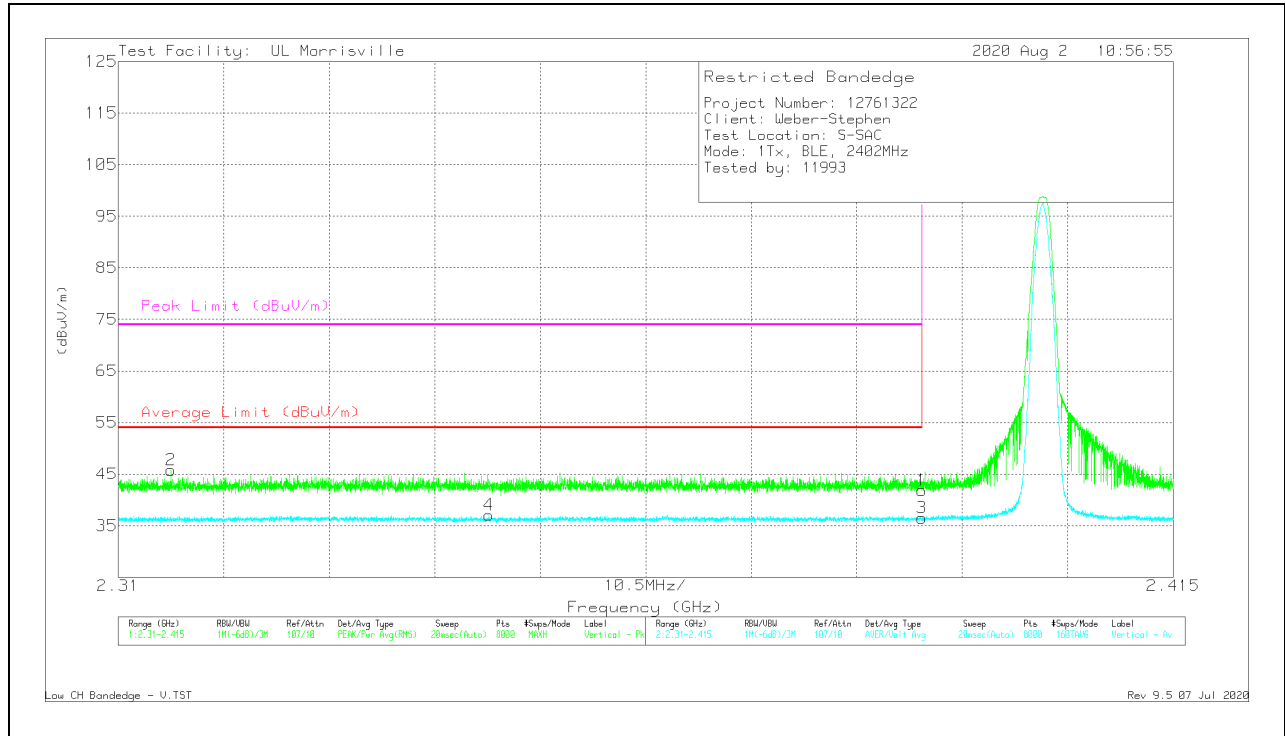
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

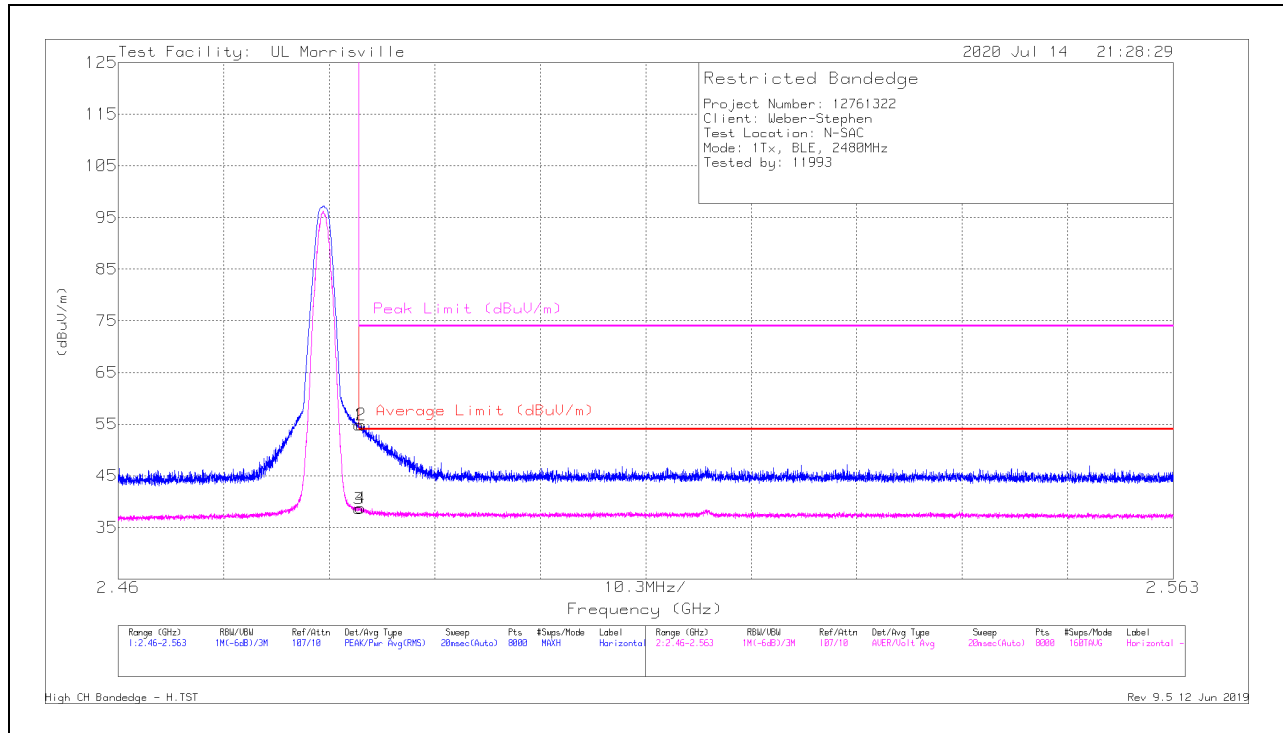


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	33.76	Pk	32.1	-24	0	41.86	-	-	74	-32.14	173	172	V
2	* ** 2.31524	37.38	Pk	32	-23.6	0	45.78	-	-	74	-28.22	173	172	V
3	* ** 2.39	24.33	ADV	32.1	-24	4.08	36.51	54	-17.49	-	-	173	172	V
4	* ** 2.34687	24.68	ADV	32.2	-23.9	4.08	37.06	54	-16.94	-	-	173	172	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	AT0072 dB(/m)	Amp/Cbl/Filtr/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	45.82	Pk	32.4	-23.4	0	54.82	-	-	74	-19.18	203	331	H
2	* ** 2.48372	45.83	Pk	32.4	-23.4	0	54.83	-	-	74	-19.17	203	331	H
3	* ** 2.4835	25.5	ADV	32.4	-23.4	4.08	38.58	54	-15.42	-	-	203	331	H
4	* ** 2.48366	25.65	ADV	32.4	-23.4	4.08	38.73	54	-15.27	-	-	203	331	H

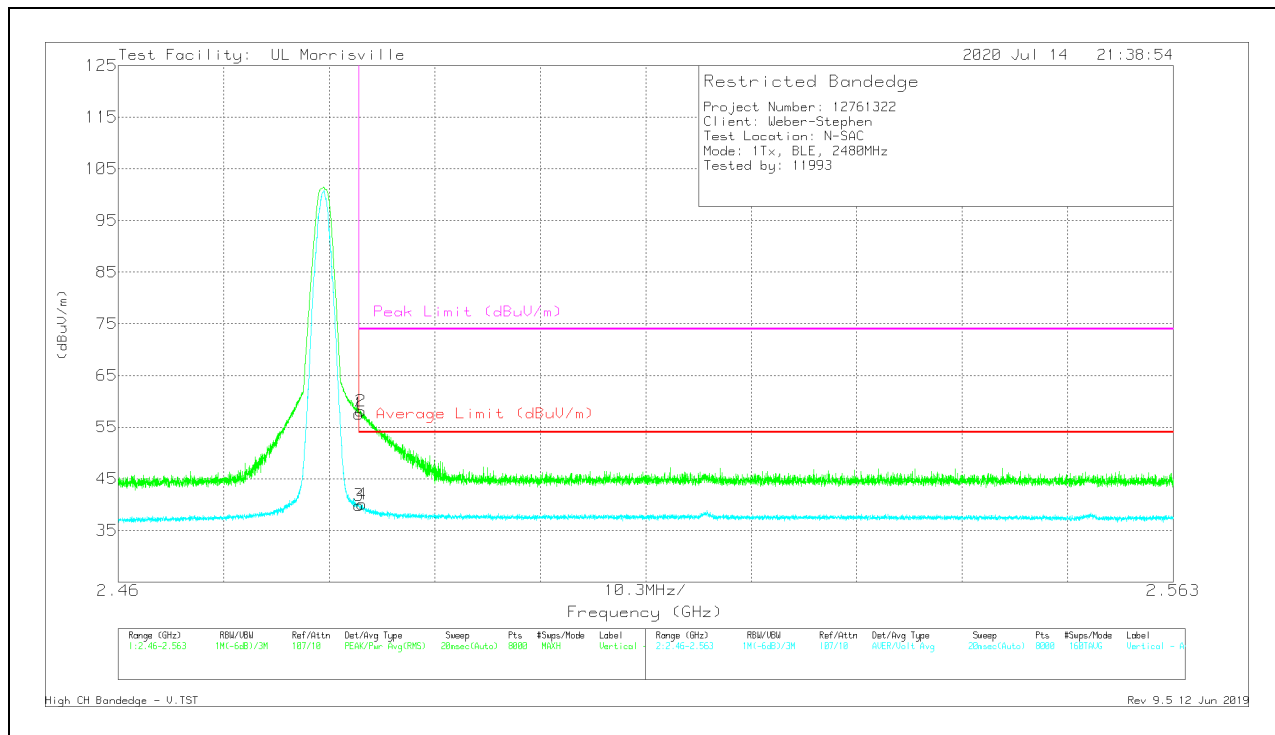
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 dB(/m)	Amp/Cbl/Filtr/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	48.59	Pk	32.4	-23.4	0	57.59	-	-	74	-16.41	175	215	V
2	* ** 2.48369	49.11	Pk	32.4	-23.4	0	58.11	-	-	74	-15.89	175	215	V
3	* ** 2.4835	26.79	ADV	32.4	-23.4	4.08	39.87	54	-14.13	-	-	175	215	V
4	* ** 2.48381	26.99	ADV	32.4	-23.4	4.08	40.07	54	-13.93	-	-	175	215	V

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

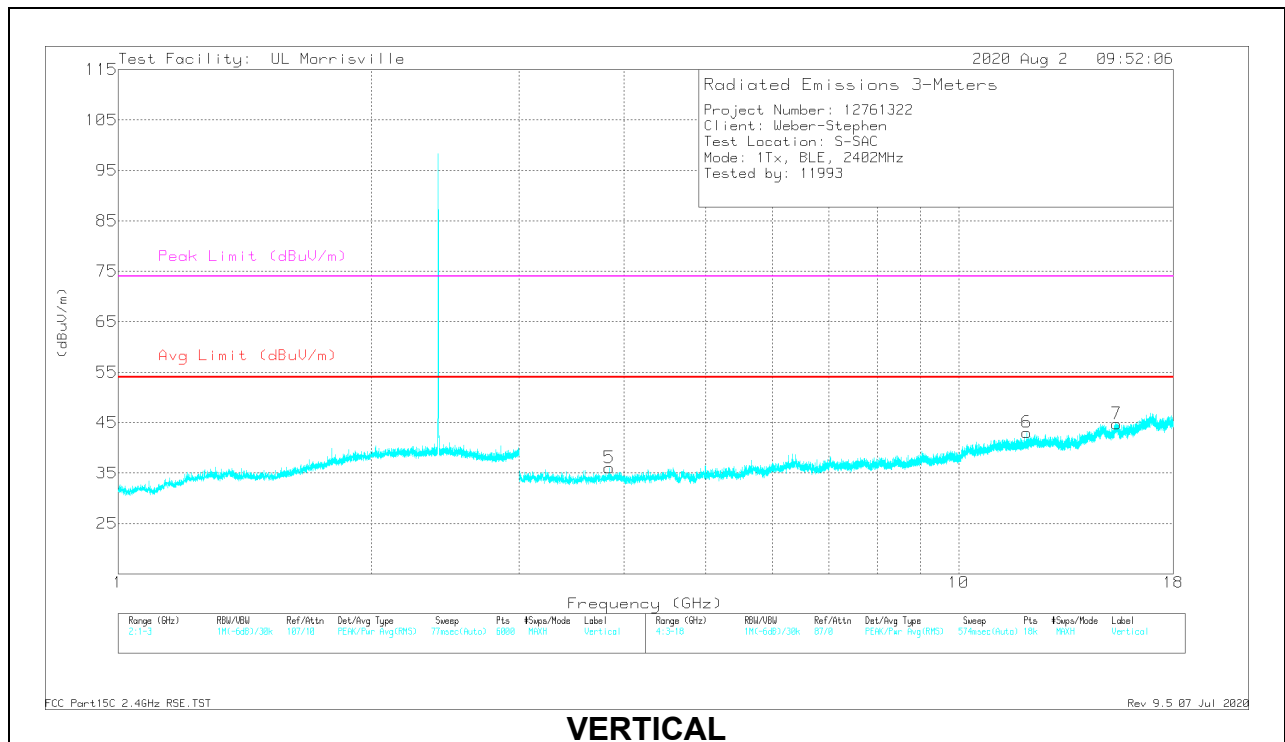
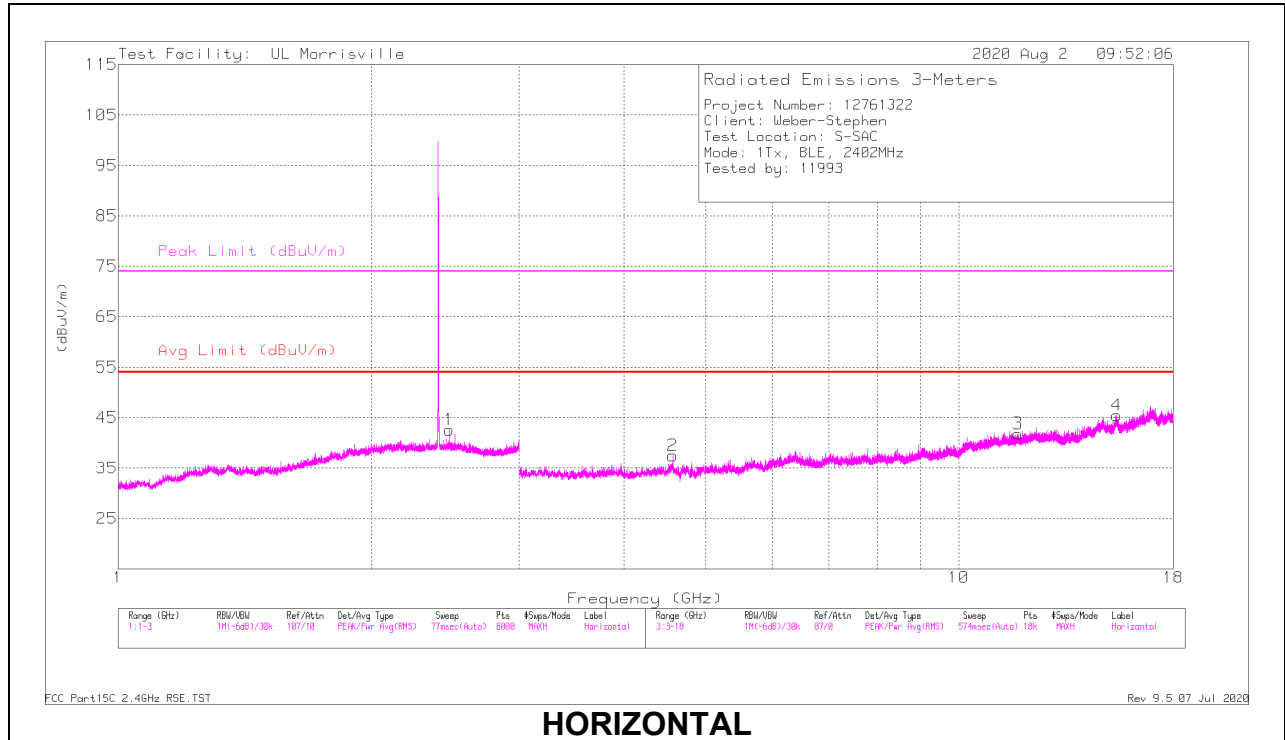
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/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	*** 4.56569	39.63	PK2	34	-31.4	0	42.23	-	-	74	-31.77	102	135	H
	*** 4.56545	26.59	ADV	34	-31.4	4.08	33.27	54	-20.73	-	-	102	135	H
3	*** 11.76258	33.9	PK2	38.5	-24.1	0	48.3	-	-	74	-25.7	210	243	H
	*** 11.76166	20.53	ADV	38.5	-24.1	4.08	39.01	54	-14.99	-	-	210	243	H
4	*** 15.42216	33.95	PK2	40.3	-21.9	0	52.35	-	-	74	-21.65	177	195	H
	*** 15.42301	20.25	ADV	40.3	-21.9	4.08	42.73	54	-11.27	-	-	177	195	H
5	*** 3.83886	40.29	PK2	33.3	-32.1	0	41.49	-	-	74	-32.51	246	173	V
	*** 3.83807	27.39	ADV	33.3	-32.1	4.08	32.67	54	-21.33	-	-	246	173	V
6	*** 12.05724	33.3	PK2	38.7	-23.9	0	48.1	-	-	74	-25.9	315	111	V
	*** 12.05735	20.42	ADV	38.7	-23.9	4.08	39.3	54	-14.7	-	-	315	111	V
7	*** 15.42361	34.1	PK2	40.3	-21.9	0	52.5	-	-	74	-21.5	14	148	V
	*** 15.42357	20.14	ADV	40.3	-21.9	4.08	42.62	54	-11.38	-	-	14	148	V
1	2.47691	34.7	Pk	32.4	-24.5	0	42.6	-	-	-	-	0-360	101	H

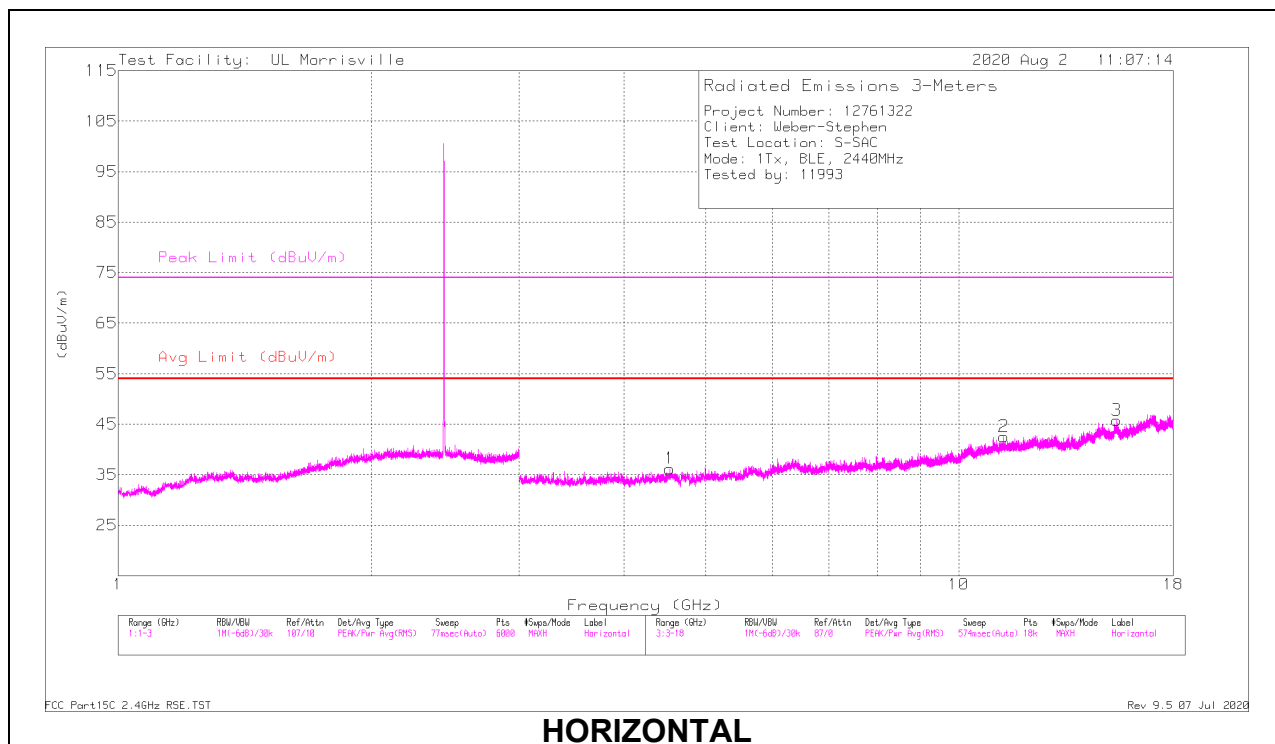
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

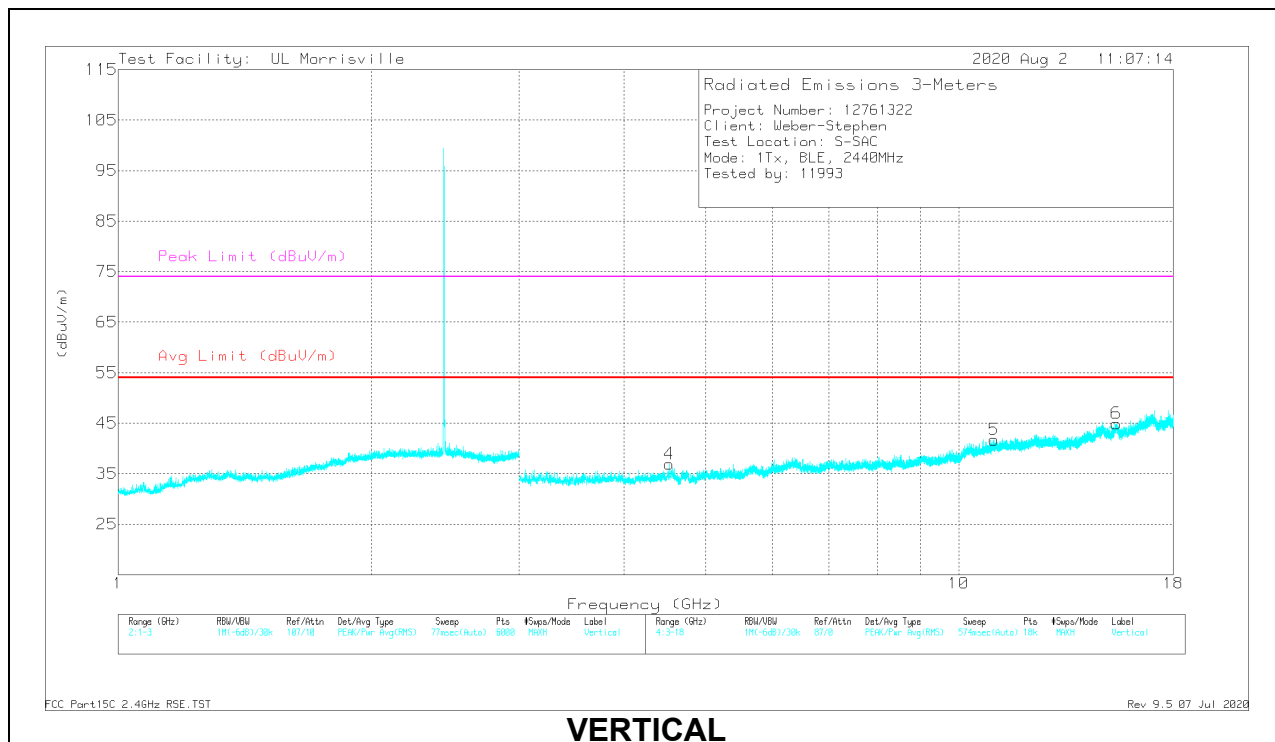
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/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
1	*** 4.52865	39.96	PK2	34	-31.3	0	42.66	-	-	74	-31.34	8	182	H
	*** 4.52869	26.51	ADV	34	-31.3	4.08	33.29	54	-20.71	-	-	8	182	H
2	*** 11.31508	33.24	PK2	38.1	-23	0	48.34	-	-	74	-25.66	260	200	H
	*** 11.31487	20.09	ADV	38.1	-23	4.08	39.27	54	-14.73	-	-	260	200	H
3	*** 15.4205	33.17	PK2	40.3	-21.9	0	51.57	-	-	74	-22.43	173	203	H
	*** 15.42061	20.27	ADV	40.3	-21.9	4.08	42.75	54	-11.25	-	-	173	203	H
4	*** 4.52425	40.48	PK2	34	-31.3	0	43.18	-	-	74	-30.82	356	233	V
	*** 4.5243	26.61	ADV	34	-31.3	4.08	33.39	54	-20.61	-	-	356	233	V
5	*** 11.01943	34.06	PK2	38.1	-24.1	0	48.06	-	-	74	-25.94	305	253	V
	*** 11.01934	20.9	ADV	38.1	-24.1	4.08	38.98	54	-15.02	-	-	305	253	V
6	*** 15.40387	33.49	PK2	40.3	-22	0	51.79	-	-	74	-22.21	119	144	V
	*** 15.40306	20.24	ADV	40.3	-22	4.08	42.62	54	-11.38	-	-	119	144	V

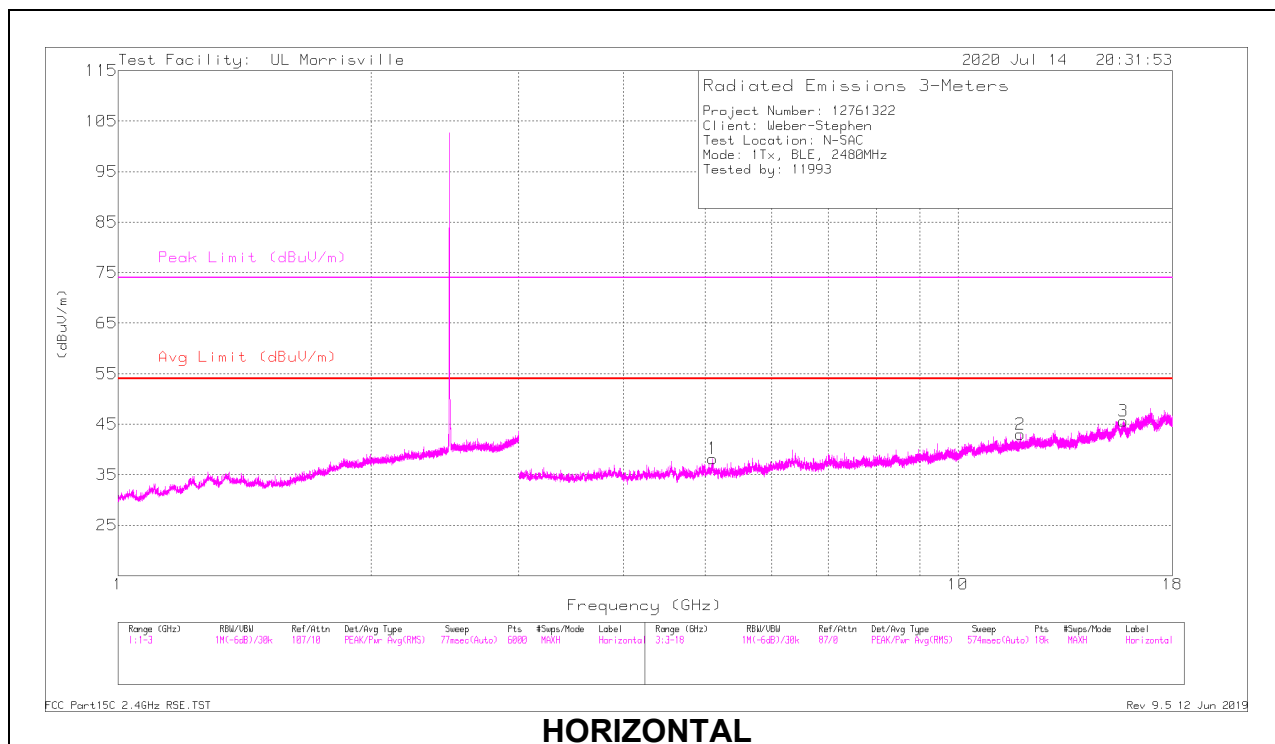
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

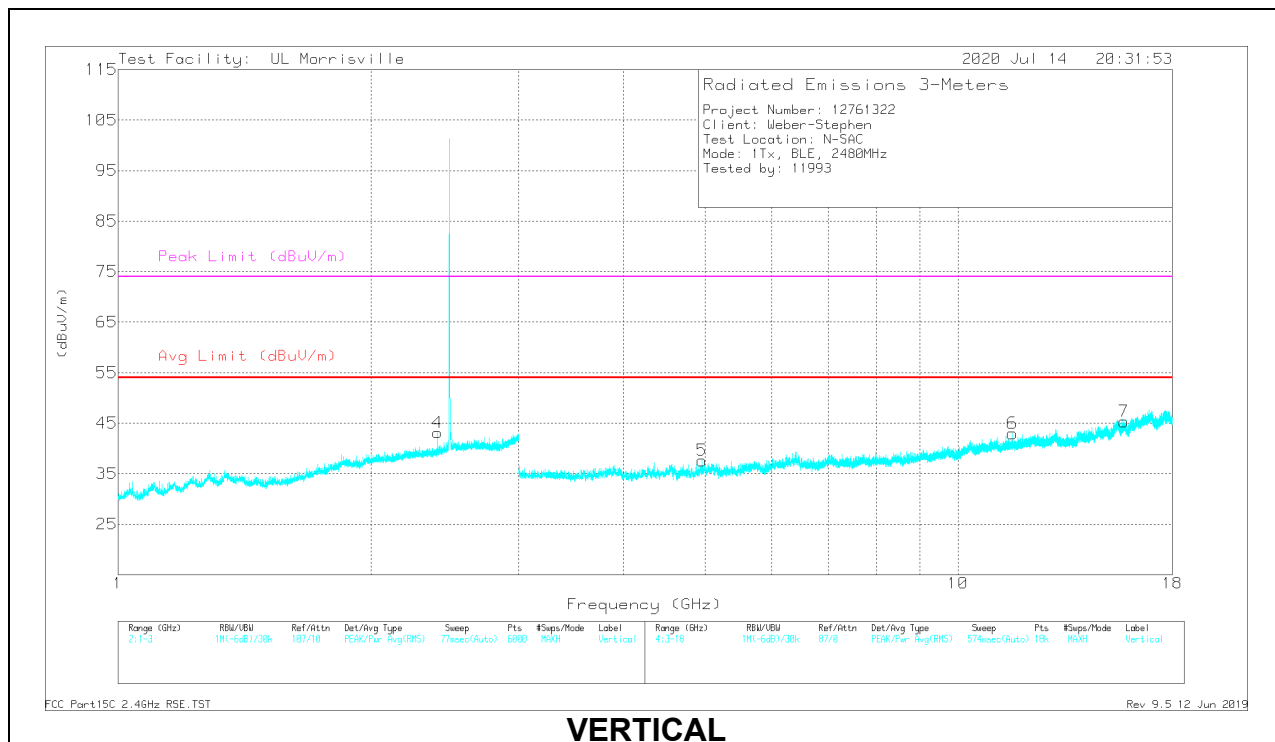
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

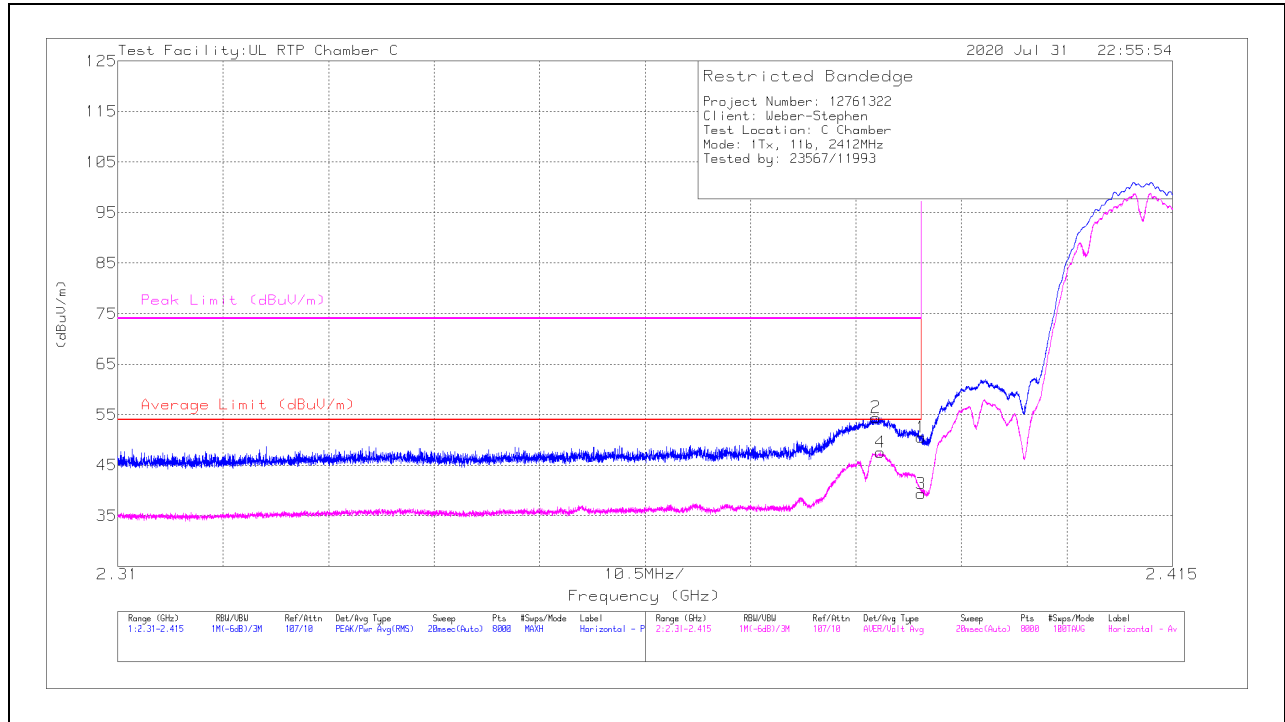
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 dB(/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.09964	39.51	PK2	34.3	-30.7	0	43.11	-	-	74	-30.89	99	115	H
	* ** 5.09972	26.69	ADV	34.3	-30.7	4.08	34.37	54	-19.63	-	-	99	115	H
2	* ** 11.86945	35.1	PK2	38.6	-25.2	0	48.5	-	-	74	-25.5	175	360	H
	* ** 11.86886	21.87	ADV	38.6	-25.2	4.08	39.37	54	-14.65	-	-	175	360	H
3	* ** 15.74259	34.91	PK2	40.1	-23.5	0	51.51	-	-	74	-22.49	346	327	H
	* ** 15.74335	22.02	ADV	40.1	-23.5	4.08	42.70	54	-11.30	-	-	346	327	H
5	* ** 4.96004	42.67	PK2	34.1	-31.7	0	45.07	-	-	74	-28.93	139	119	V
	* ** 4.95976	29.89	ADV	34.1	-31.7	4.08	36.37	54	-17.63	-	-	139	119	V
6	* ** 11.61295	35.65	PK2	38.3	-25.5	0	48.45	-	-	74	-25.55	17	194	V
	* ** 11.61272	22.48	ADV	38.3	-25.5	4.08	39.36	54	-14.64	-	-	17	194	V
7	* ** 15.76067	35.44	PK2	40	-23.7	0	51.74	-	-	74	-22.26	135	337	V
	* ** 15.76089	22.19	ADV	40	-23.7	4.08	42.57	54	-11.43	-	-	135	337	V
4	2.40223	34.7	Pk	31.9	-23.5	0	43.1	-	-	-	-	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

10.2.2. 2.4 WLAN 802.11b

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (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	37.77	Pk	32.1	-19.3	50.57	-	-	74	-23.43	44	103	H
2	*** 2.38548	41.85	Pk	32	-19.4	54.45	-	-	74	-19.55	44	103	H
3	*** 2.39	26.59	ADV	32.1	-19.3	39.39	54	-14.61	-	-	44	103	H
4	*** 2.38593	34.91	ADV	32	-19.4	47.51	54	-6.49	-	-	44	103	H

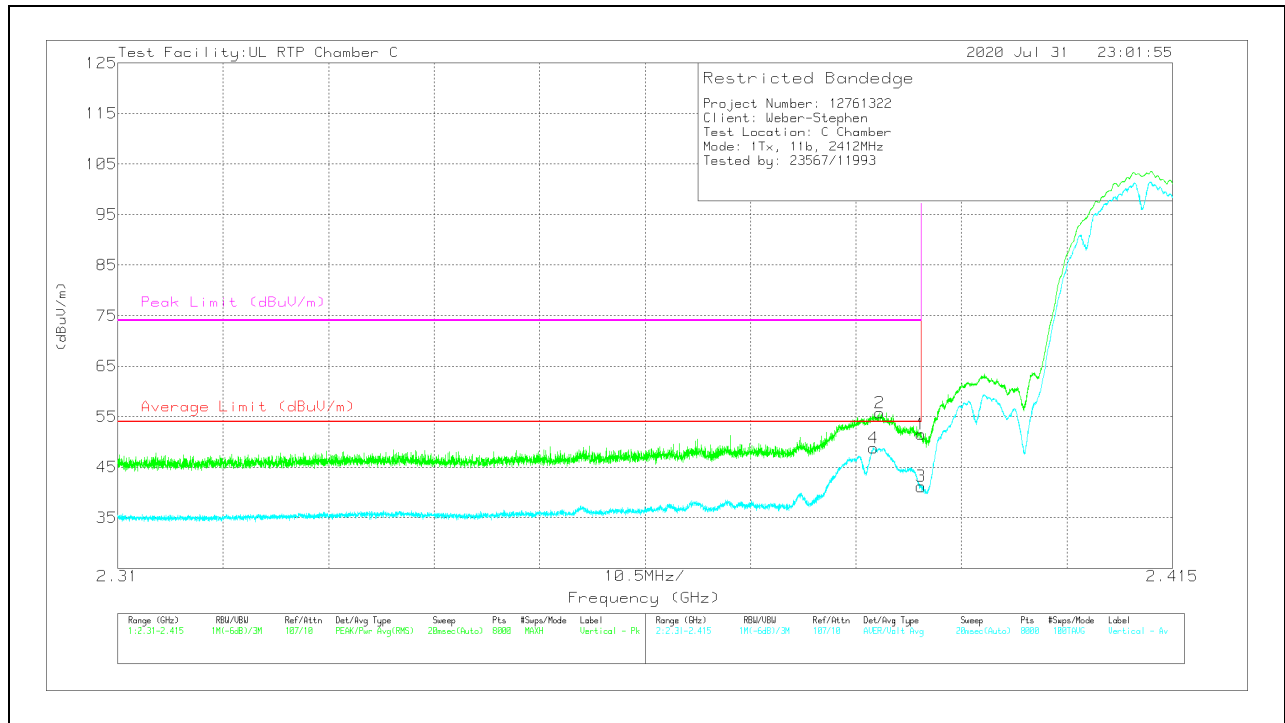
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

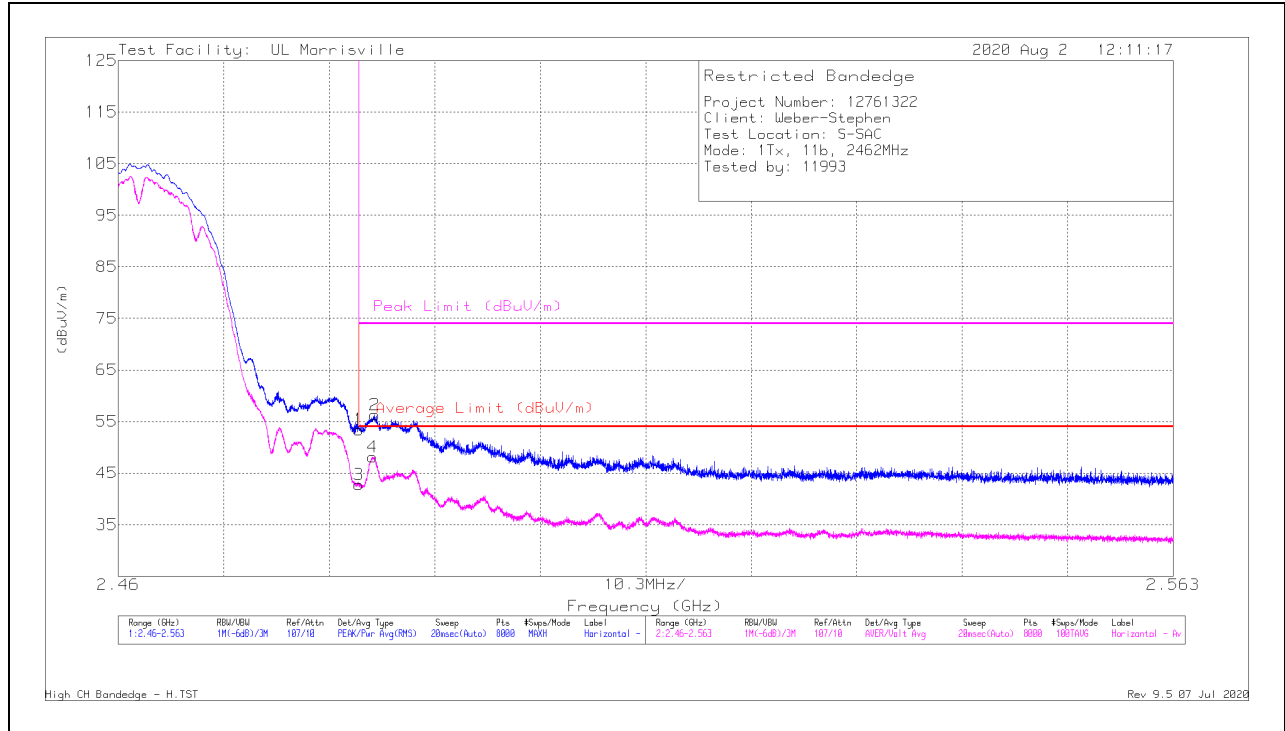


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.39	38.73	Pk	32.1	-19.3	51.53	-	-	74	-22.47	121	102	V
2	*** 2.38589	43.17	Pk	32	-19.4	55.77	-	-	74	-18.23	121	102	V
3	*** 2.39	28.37	ADV	32.1	-19.3	41.17	54	-12.83	-	-	121	102	V
4	*** 2.38522	36.23	ADV	32	-19.4	48.83	54	-5.17	-	-	121	102	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

BANDEGE (HIGH CHANNEL)

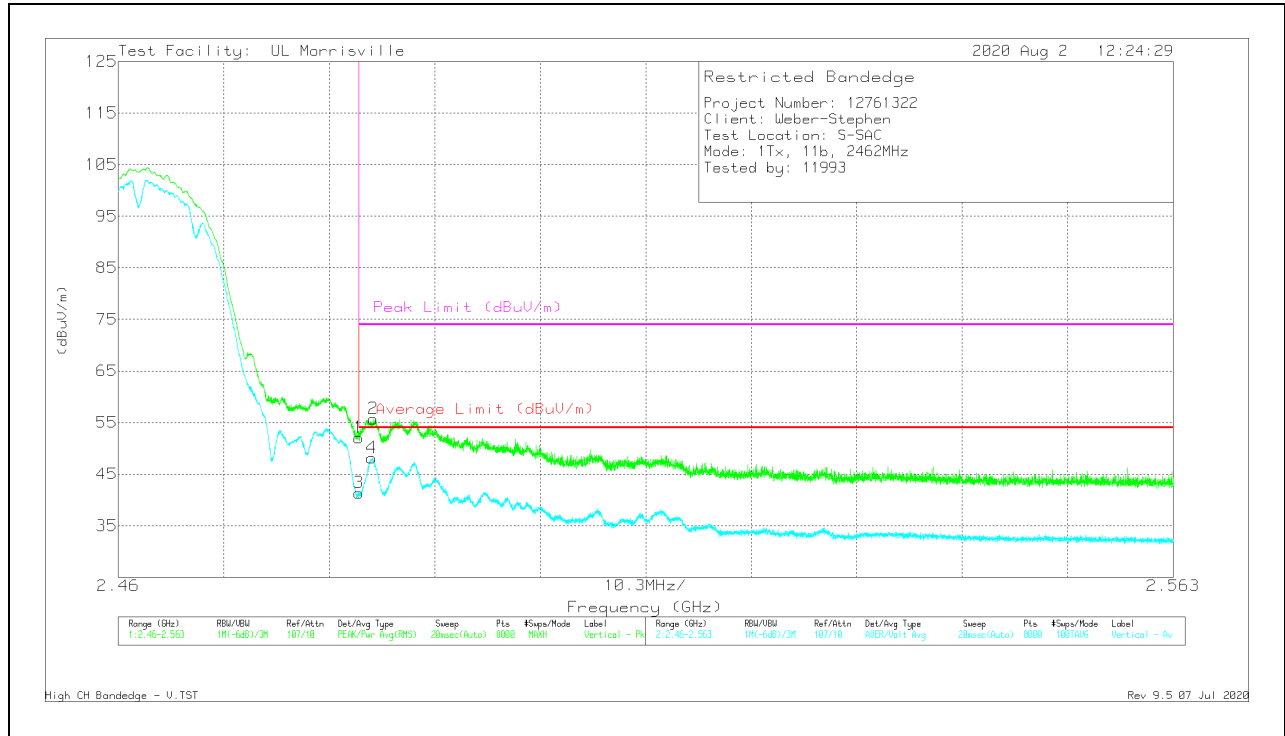
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (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	45.41	Pk	32.4	-24.4	53.41	-	-	74	-20.59	74	145	H
2	* ** 2.48505	48.29	Pk	32.4	-24.4	56.29	-	-	74	-17.71	74	145	H
3	* ** 2.4835	34.74	ADV	32.4	-24.4	42.74	54	-11.26	-	-	74	145	H
4	* ** 2.48485	40.13	ADV	32.4	-24.4	48.13	54	-5.87	-	-	74	145	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

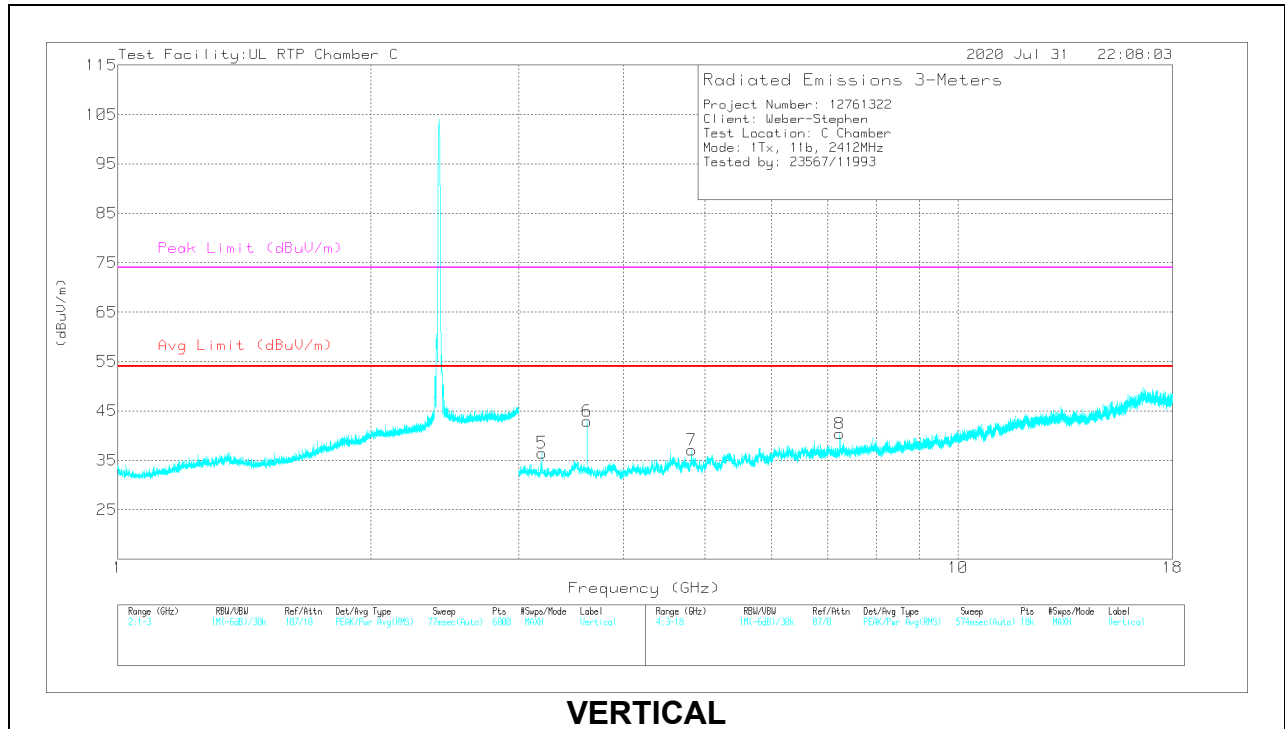
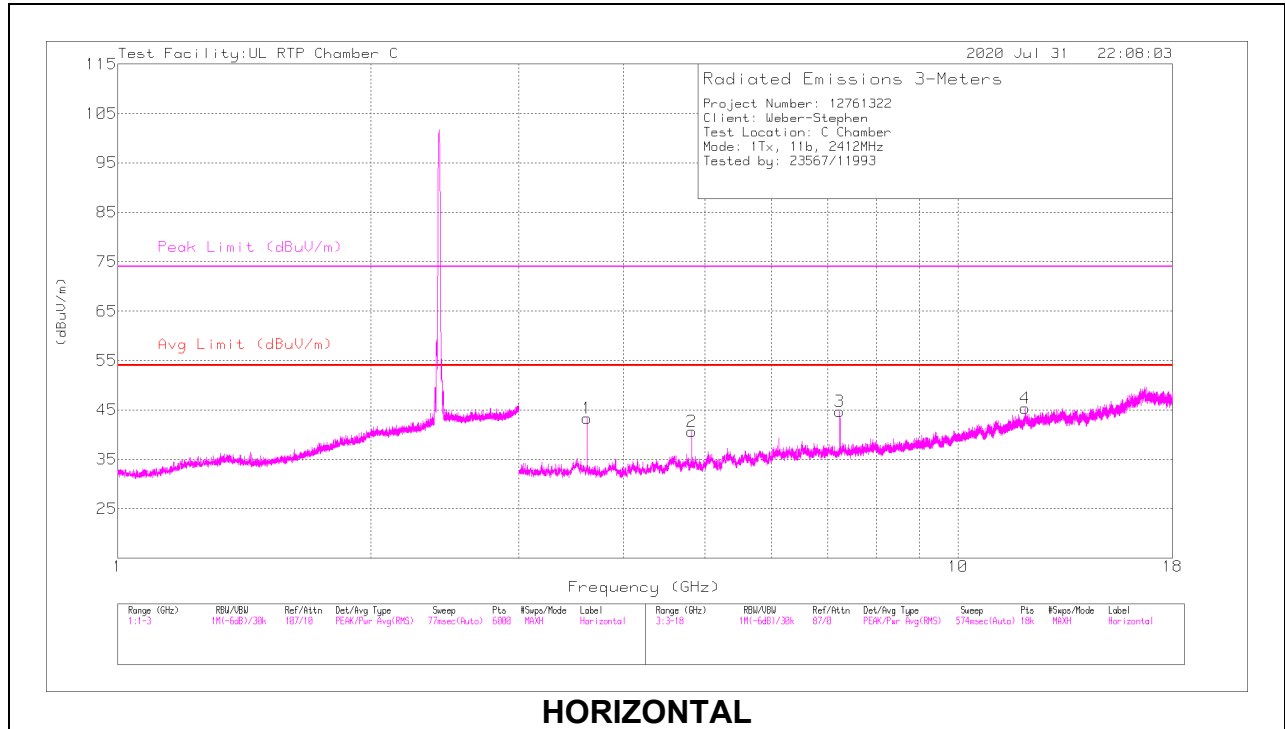


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	44.05	Pk	32.4	-24.4	52.05	-	-	74	-21.95	124	347	V
2	* ** 2.48492	47.73	Pk	32.4	-24.4	55.73	-	-	74	-18.27	124	347	V
3	* ** 2.4835	33.36	ADV	32.4	-24.4	41.36	54	-12.64	-	-	124	346	V
4	* ** 2.48475	40.16	ADV	32.4	-24.4	48.16	54	-5.84	-	-	124	346	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	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.61795	64.22	PK2	33.1	-49.9	47.42	-	-	74	-26.58	305	224	H
	*** 3.61801	60.34	ADV	33.1	-49.9	43.54	54	-10.46	-	-	305	224	H
2	*** 4.82396	60.59	PK2	34.1	-49.6	45.09	-	-	74	-28.91	95	222	H
	*** 4.824	52.65	ADV	34.1	-49.6	37.15	54	-16.85	-	-	95	222	H
4	*** 12.0148	52.11	PK2	38.8	-40.1	50.81	-	-	74	-23.19	275	203	H
	*** 12.01451	38.85	ADV	38.8	-40.1	37.55	54	-16.45	-	-	275	203	H
6	*** 3.61791	63.32	PK2	33.1	-49.9	46.52	-	-	74	-27.48	297	220	V
	*** 3.618	58.86	ADV	33.1	-49.9	42.06	54	-11.94	-	-	297	220	V
7	*** 4.82407	59.36	PK2	34.1	-49.6	43.86	-	-	74	-30.14	158	221	V
	*** 4.82405	49.97	ADV	34.1	-49.6	34.47	54	-19.53	-	-	158	221	V
5	3.19918	54.22	Pk	32.9	-50.6	36.52	-	-	-	-	0-360	199	V
3	7.23607	56.1	Pk	35.7	-47.1	44.7	-	-	-	-	0-360	199	H
8	7.23607	51.78	Pk	35.7	-47.1	40.38	-	-	-	-	0-360	199	V

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

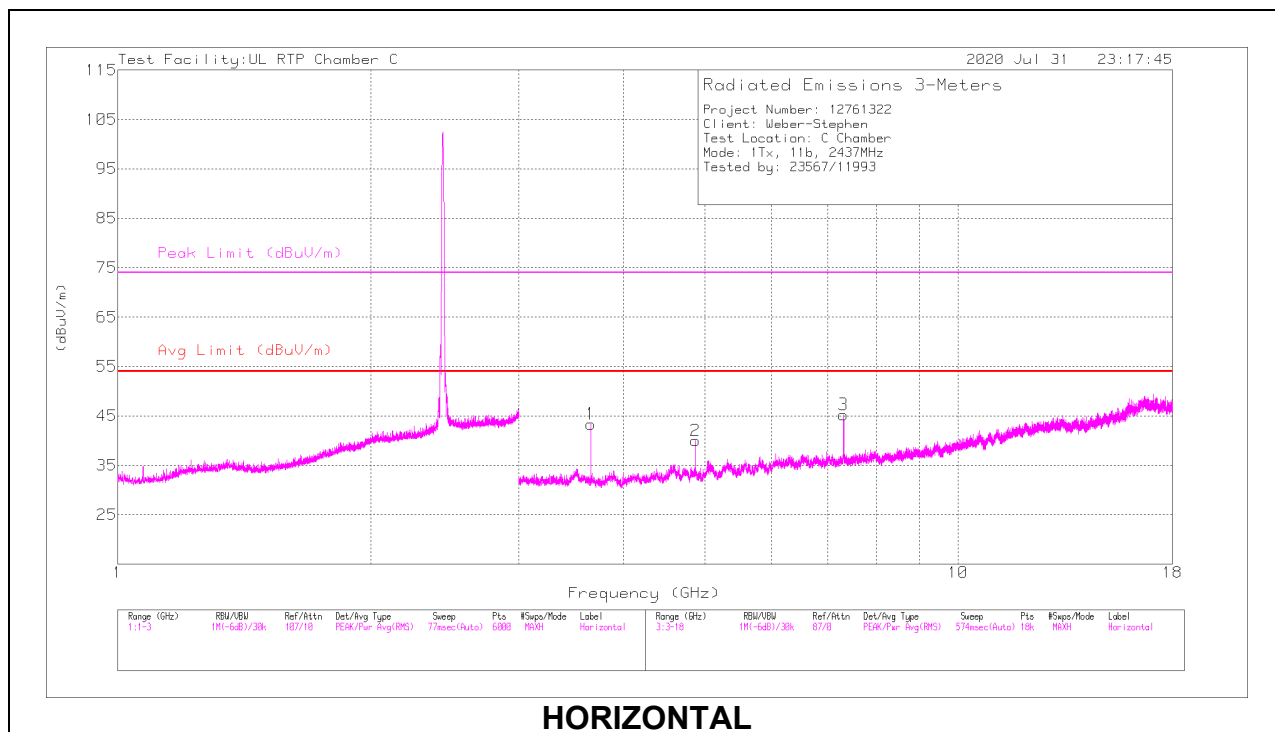
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

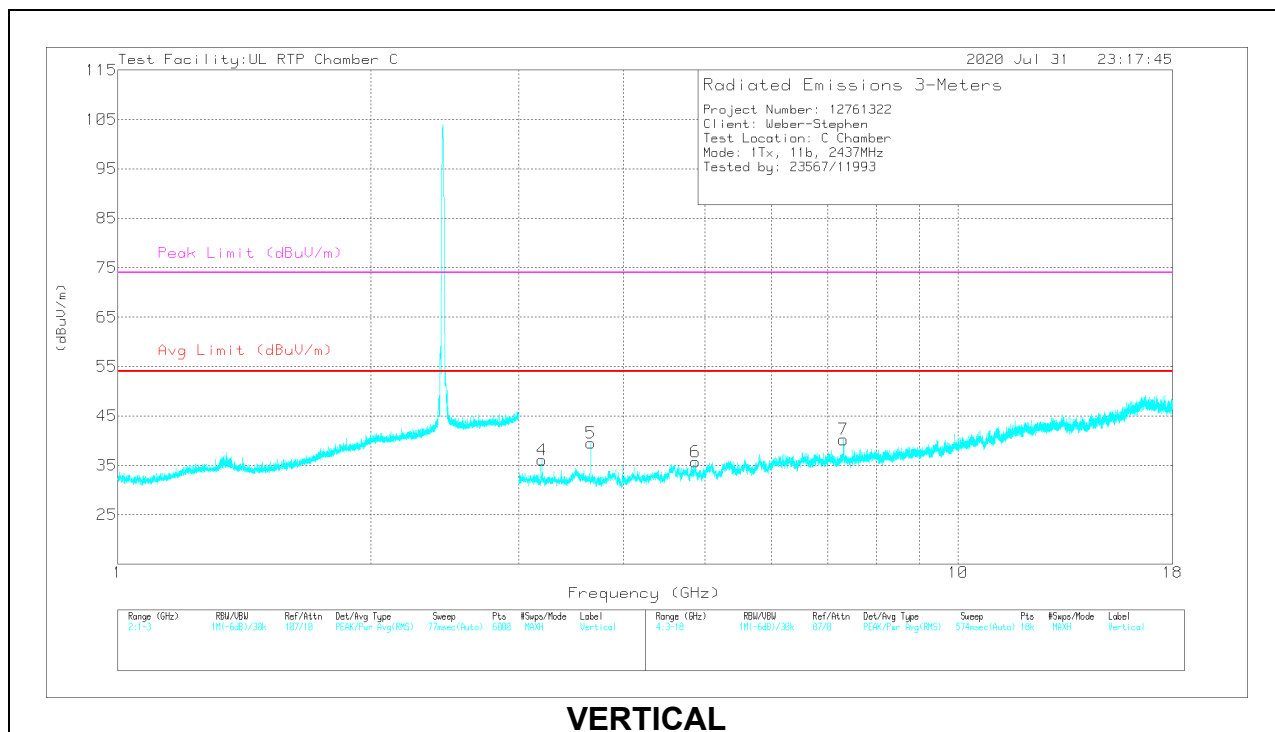
ADV - Linear Voltage Average

Pk - Peak detector

MID CHANNEL RESULTS



HORIZONTAL



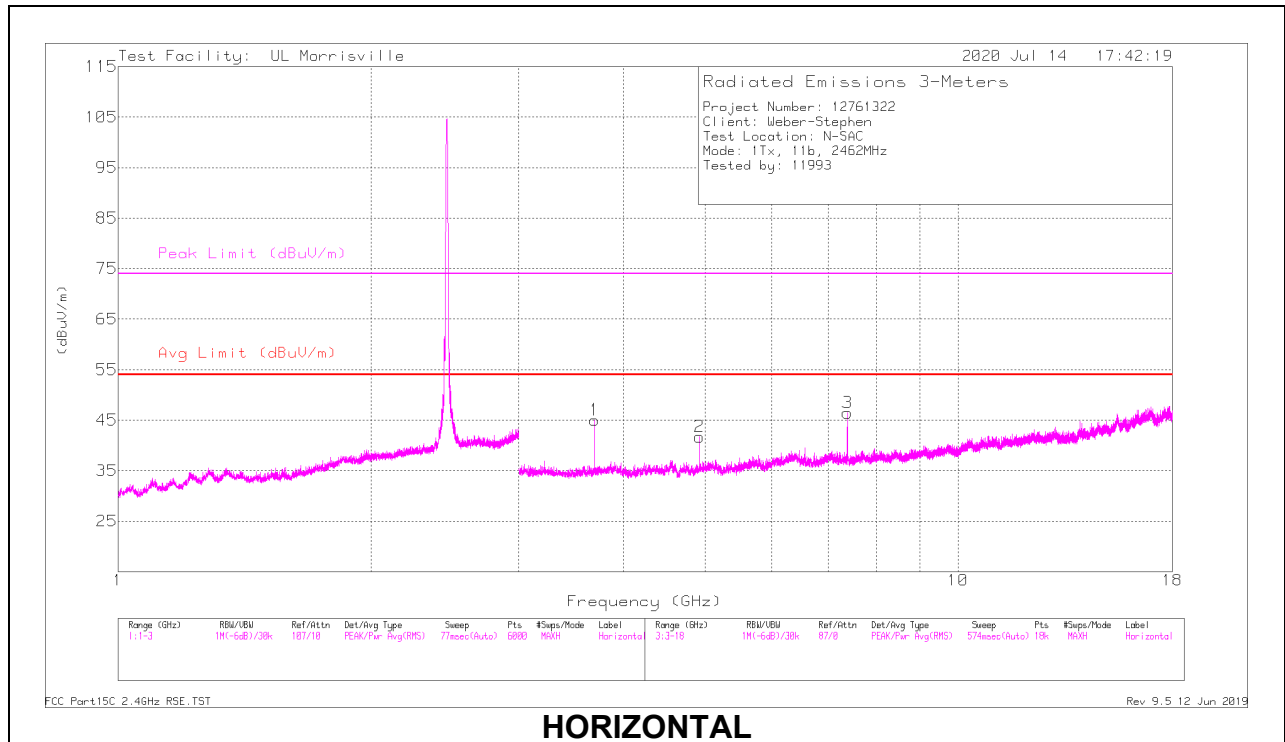
VERTICAL

RADIATED EMISSIONS

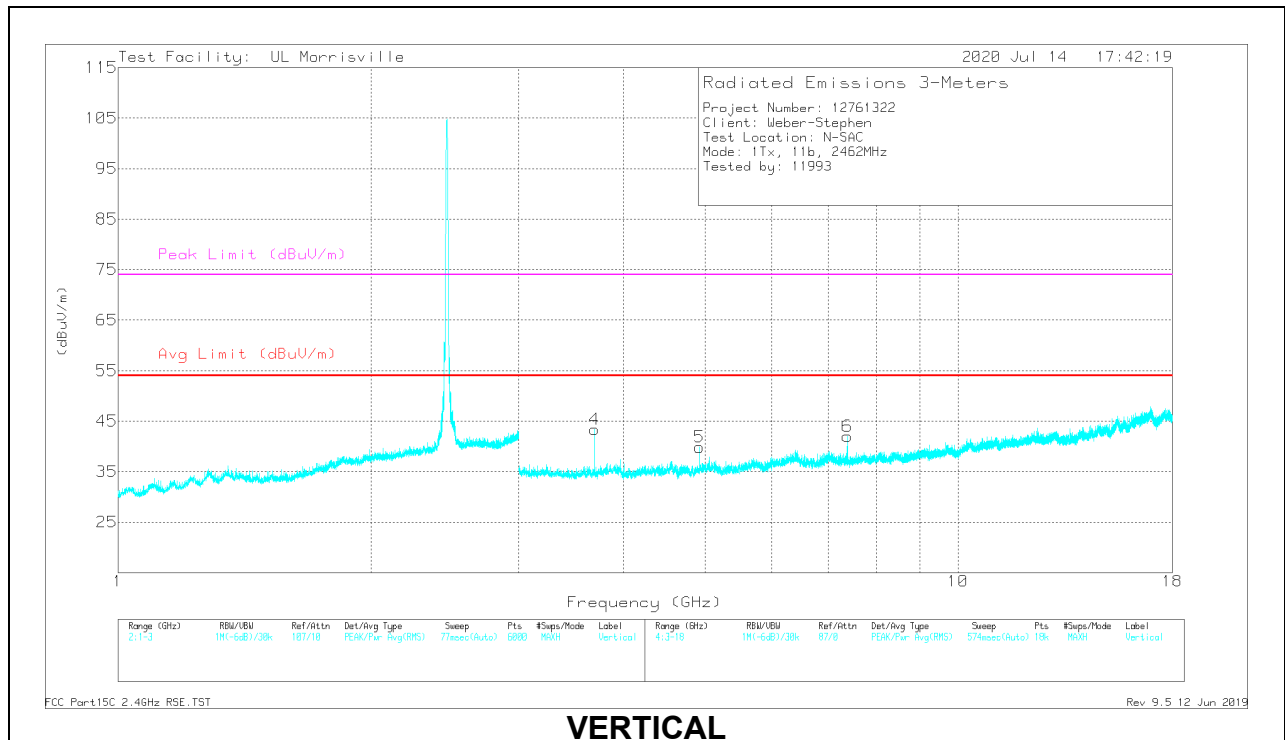
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.65555	64.27	PK2	33.1	-49.8	47.57	-	-	74	-26.43	305	246	H
	*** 3.65553	60.49	ADV	33.1	-49.8	43.79	54	-10.21	-	-	305	246	H
2	*** 4.87401	57.43	PK2	34	-48.9	42.53	-	-	74	-31.47	145	103	H
	*** 4.874	48.71	ADV	34	-48.9	33.81	54	-20.19	-	-	145	103	H
3	*** 7.31099	61.26	PK2	35.7	-47	49.96	-	-	74	-24.04	0	221	H
	*** 7.311	55.09	ADV	35.7	-47	43.79	54	-10.21	-	-	0	221	H
5	*** 3.65553	60.6	PK2	33.1	-49.8	43.9	-	-	74	-30.1	82	224	V
	*** 3.65553	54.43	ADV	33.1	-49.8	37.73	54	-16.27	-	-	82	224	V
6	*** 4.87407	57.24	PK2	34	-48.9	42.34	-	-	74	-31.66	175	102	V
	*** 4.874	46.46	ADV	34	-48.9	31.56	54	-22.44	-	-	175	102	V
7	*** 7.31092	59.35	PK2	35.7	-47	48.05	-	-	74	-25.95	253	208	V
	*** 7.31105	48.3	ADV	35.7	-47	37	54	-17	-	-	253	208	V
4	3.19918	53.81	Pk	32.9	-50.6	36.11	-	-	-	-	0-360	199	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



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 dB(/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 3.69301	47.74	PK2	33.1	-31.5	49.34	-	-	74	-24.66	2	272	H
	* ** 3.69297	43.27	ADV	33.1	-31.5	44.87	54	-9.13	-	-	2	272	H
2	* ** 4.92397	44.14	PK2	34	-31.2	46.94	-	-	74	-27.06	136	102	H
	* ** 4.92396	37.09	ADV	34	-31.2	39.89	54	-14.11	-	-	136	102	H
3	* ** 7.38509	43.63	PK2	35.7	-28.4	50.93	-	-	74	-23.07	166	108	H
	* ** 7.38522	37.37	ADV	35.7	-28.4	44.67	54	-9.33	-	-	166	108	H
4	* ** 3.69299	47.97	PK2	33.1	-31.5	49.57	-	-	74	-24.43	0	285	V
	* ** 3.693	43.42	ADV	33.1	-31.5	45.02	54	-8.98	-	-	0	285	V
5	* ** 4.92399	43.9	PK2	34	-31.2	46.7	-	-	74	-27.3	105	349	V
	* ** 4.92397	36.45	ADV	34	-31.2	39.25	54	-14.75	-	-	105	349	V
6	* ** 7.38642	41.2	PK2	35.7	-28.4	48.5	-	-	74	-25.5	154	103	V
	* ** 7.38664	31.95	ADV	35.7	-28.4	39.25	54	-14.75	-	-	154	103	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

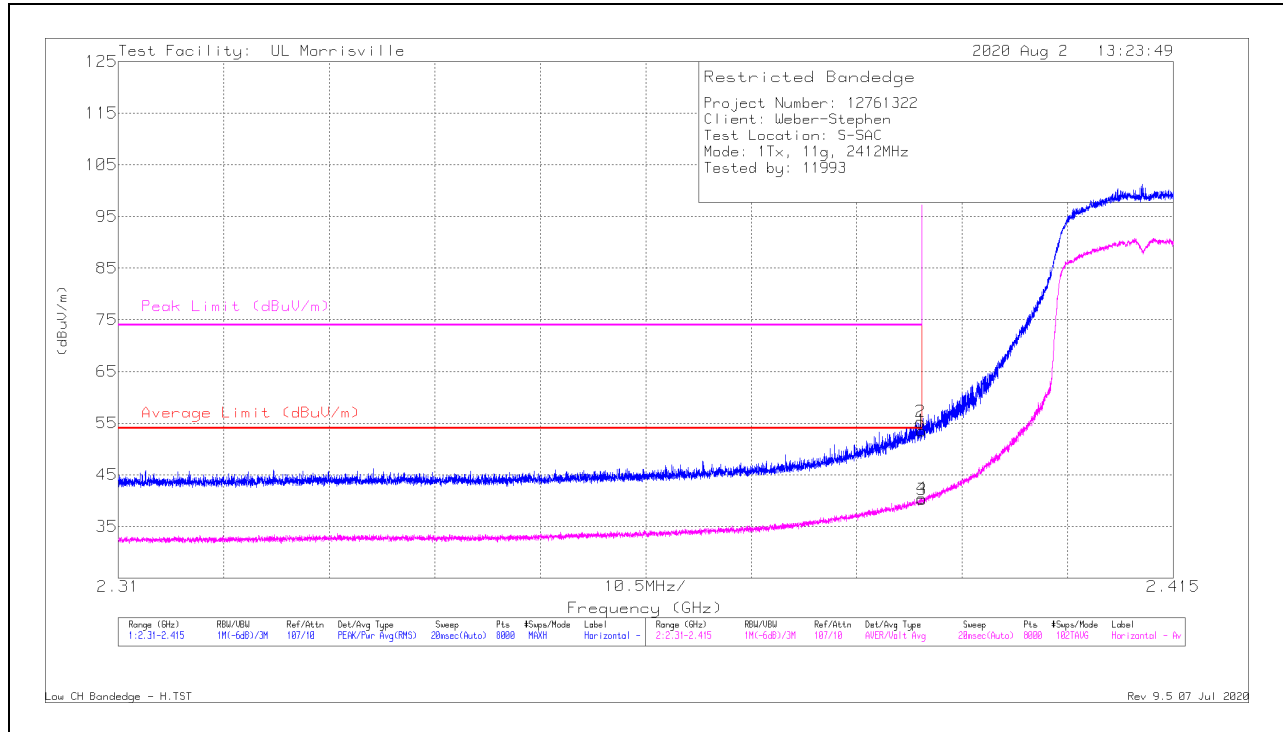
PK2 - Maximum Peak

ADV - Linear Voltage Average

10.2.3. 2.4 WLAN 802.11g

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/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	45.4	Pk	32.1	-24	0	53.5	-	-	74	-20.5	267	143	H
2	* ** 2.38985	47.16	Pk	32.1	-24	0	55.26	-	-	74	-18.74	267	143	H
3	* ** 2.39	31.86	ADV	32.1	-24	.25	40.3	54	-13.7	-	-	267	143	H
4	* ** 2.38996	32.11	ADV	32.1	-24	.25	40.46	54	-13.54	-	-	267	143	H

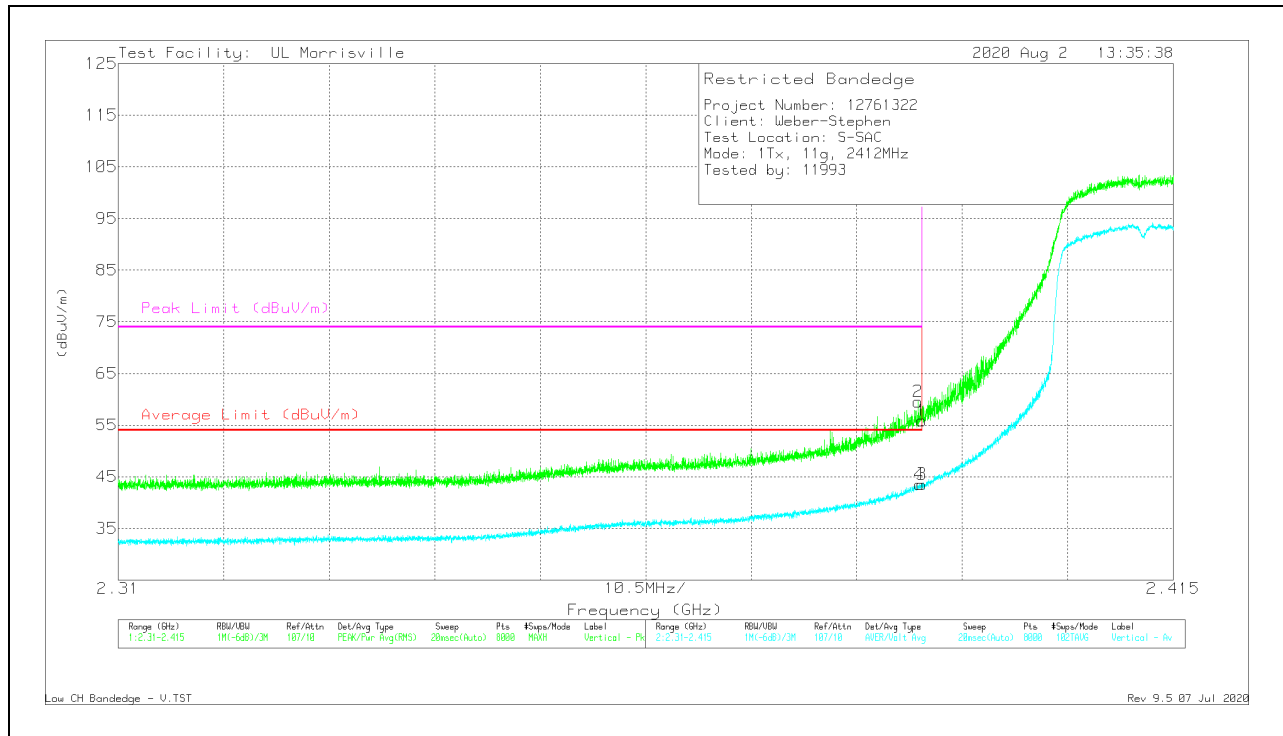
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

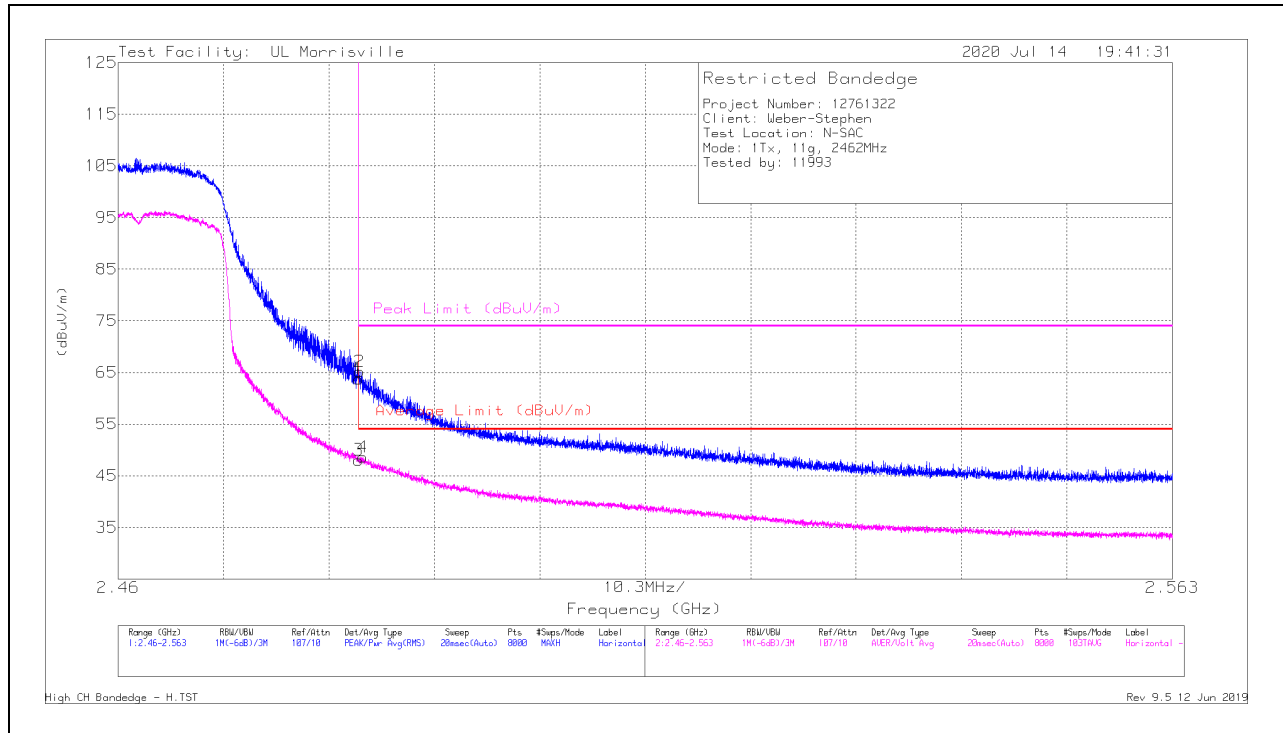


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	47.77	Pk	32.1	-24	0	55.87	-	-	74	-18.13	129	333	V
2	* ** 2.38959	51.43	Pk	32.1	-24	0	59.53	-	-	74	-14.47	129	333	V
3	* ** 2.39	35.2	ADV	32.1	-24	.24	43.54	54	-10.46	-	-	129	333	V
4	* ** 2.38973	35.14	ADV	32.1	-24	.24	43.48	54	-10.52	-	-	129	333	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	AT0072 dB(/m)	Amp/Cbl/Filtr/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	54.7	Pk	32.4	-23.4	0	63.7	-	-	74	-10.3	99	107	H
2	* ** 2.48358	56.15	Pk	32.4	-23.4	0	65.15	-	-	74	-8.85	99	107	H
3	* ** 2.4835	38.73	ADV	32.4	-23.4	.25	47.98	54	-6.02	-	-	99	107	H
4	* ** 2.4839	39.32	ADV	32.4	-23.4	.25	48.57	54	-5.43	-	-	99	107	H

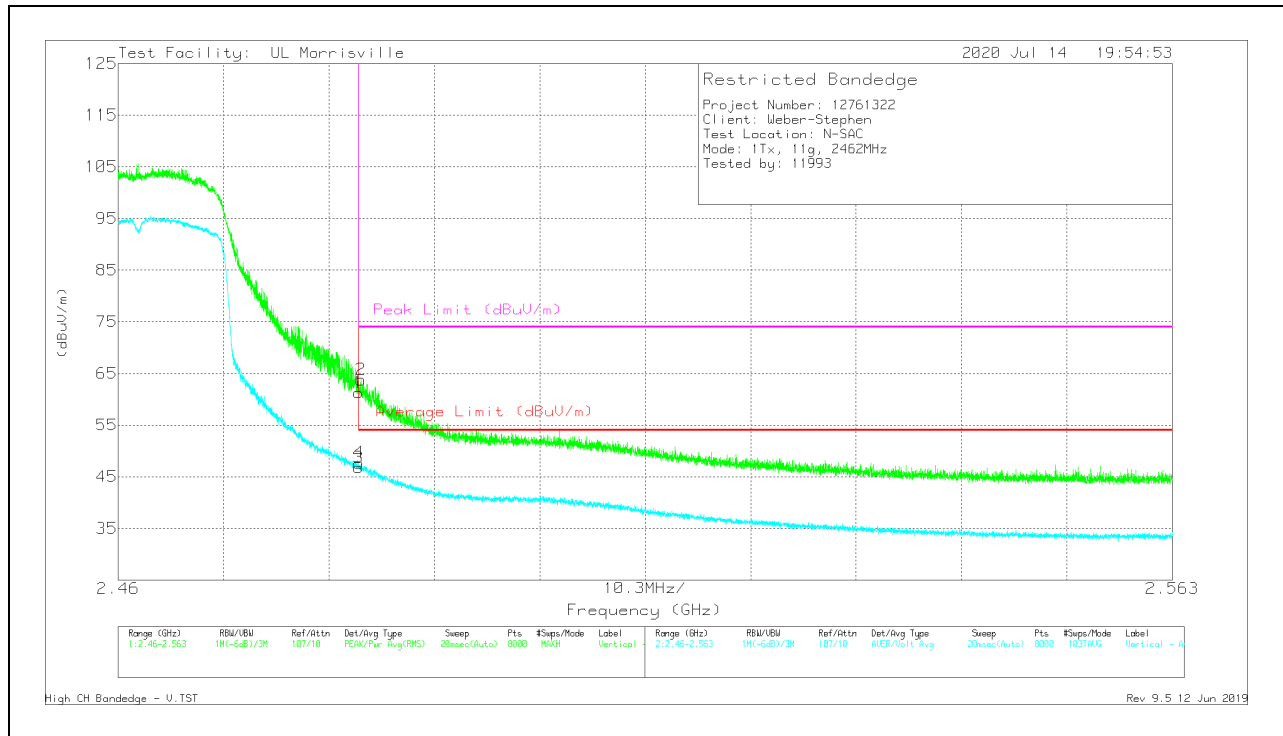
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

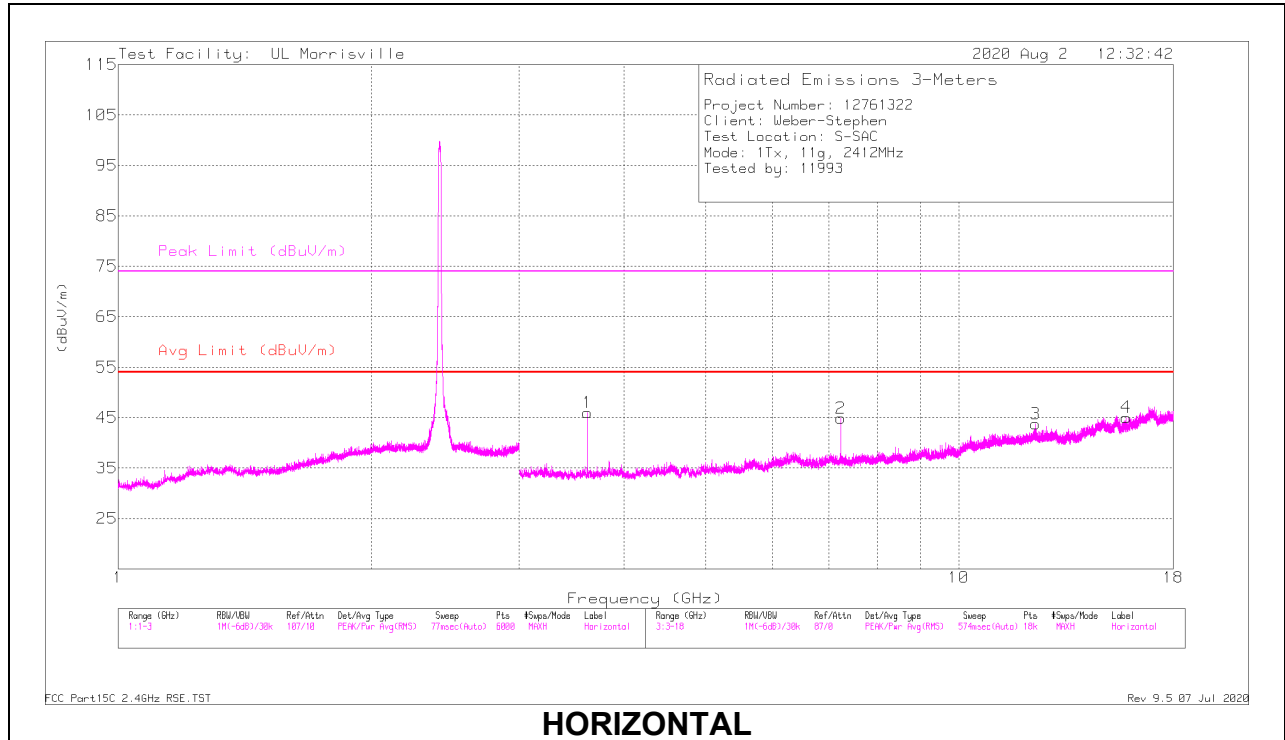


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 dB(/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	52.31	Pk	32.4	-23.4	0	61.31	-	-	74	-12.69	251	110	V
2	* ** 2.48372	54.8	Pk	32.4	-23.4	0	63.8	-	-	74	-10.2	251	110	V
3	* ** 2.4835	37.5	ADV	32.4	-23.4	.25	46.77	54	-7.25	-	-	251	110	V
4	* ** 2.48351	38.42	ADV	32.4	-23.4	.25	47.67	54	-6.33	-	-	251	110	V

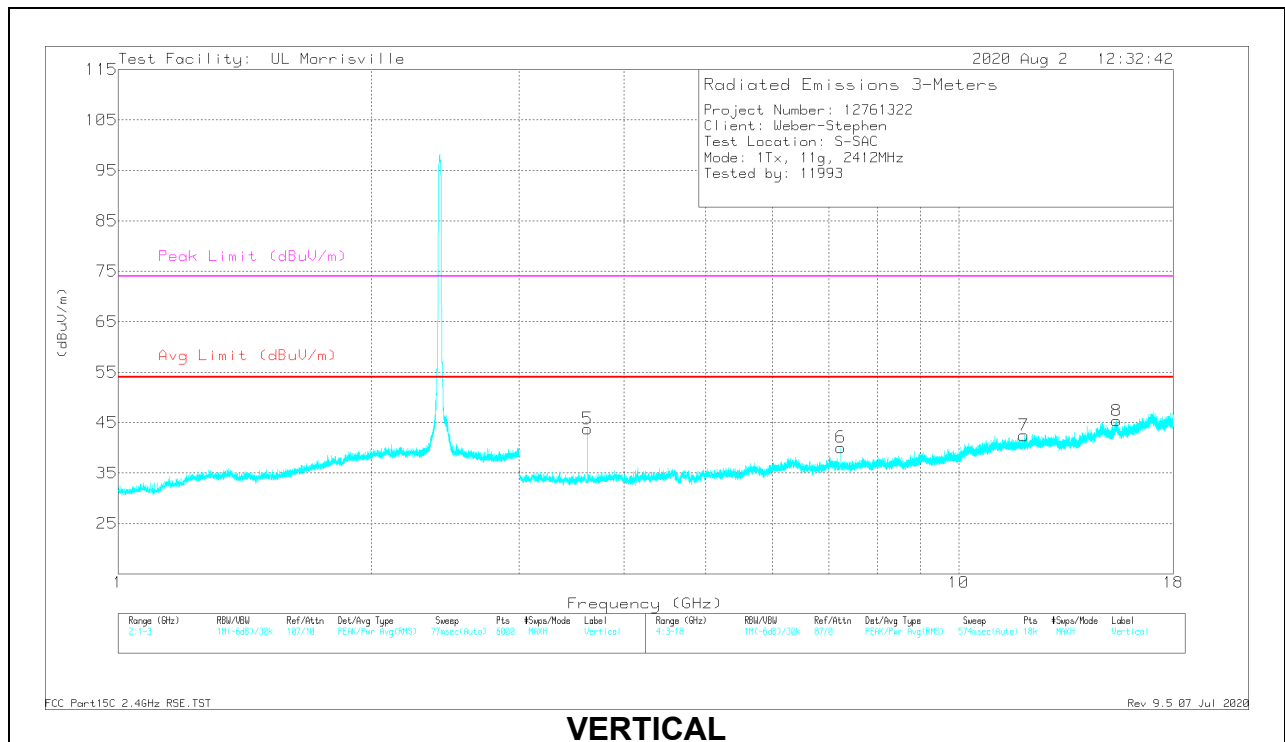
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/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
1	*** 3.61796	48.01	PK2	33	-31.7	0	49.31	-	-	74	-24.69	58	294	H
	*** 3.618	44.48	ADV	33	-31.7	.25	46.03	54	-7.97	-	-	58	294	H
3	*** 12.34528	34.07	PK2	38.9	-24	0	48.97	-	-	74	-25.03	194	291	H
	*** 12.34526	20.88	ADV	38.9	-24	.25	36.03	54	-17.97	-	-	194	291	H
4	*** 15.82855	34.73	PK2	40.3	-23.5	0	51.53	-	-	74	-22.47	198	163	H
	*** 15.82878	21.29	ADV	40.3	-23.5	.25	38.34	54	-15.66	-	-	198	163	H
5	*** 3.61798	46.96	PK2	33	-31.7	0	48.26	-	-	74	-25.74	44	116	V
	*** 3.61797	43.21	ADV	33	-31.7	.25	44.76	54	-9.24	-	-	44	116	V
7	*** 11.95607	33.68	PK2	38.6	-24.2	0	48.08	-	-	74	-25.92	350	283	V
	*** 11.95586	20.68	ADV	38.6	-24.2	.25	35.33	54	-18.67	-	-	350	283	V
8	*** 15.42015	33.55	PK2	40.3	-21.9	0	51.95	-	-	74	-22.05	154	321	V
	*** 15.42014	20.36	ADV	40.3	-21.9	.25	39.01	54	-14.99	-	-	154	321	V
2	7.23607	37.06	Pk	35.6	-27.8	0	44.86	-	-	-	-	0-360	199	H
6	7.23607	32.27	Pk	35.6	-27.8	0	40.07	-	-	-	-	0-360	101	V

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

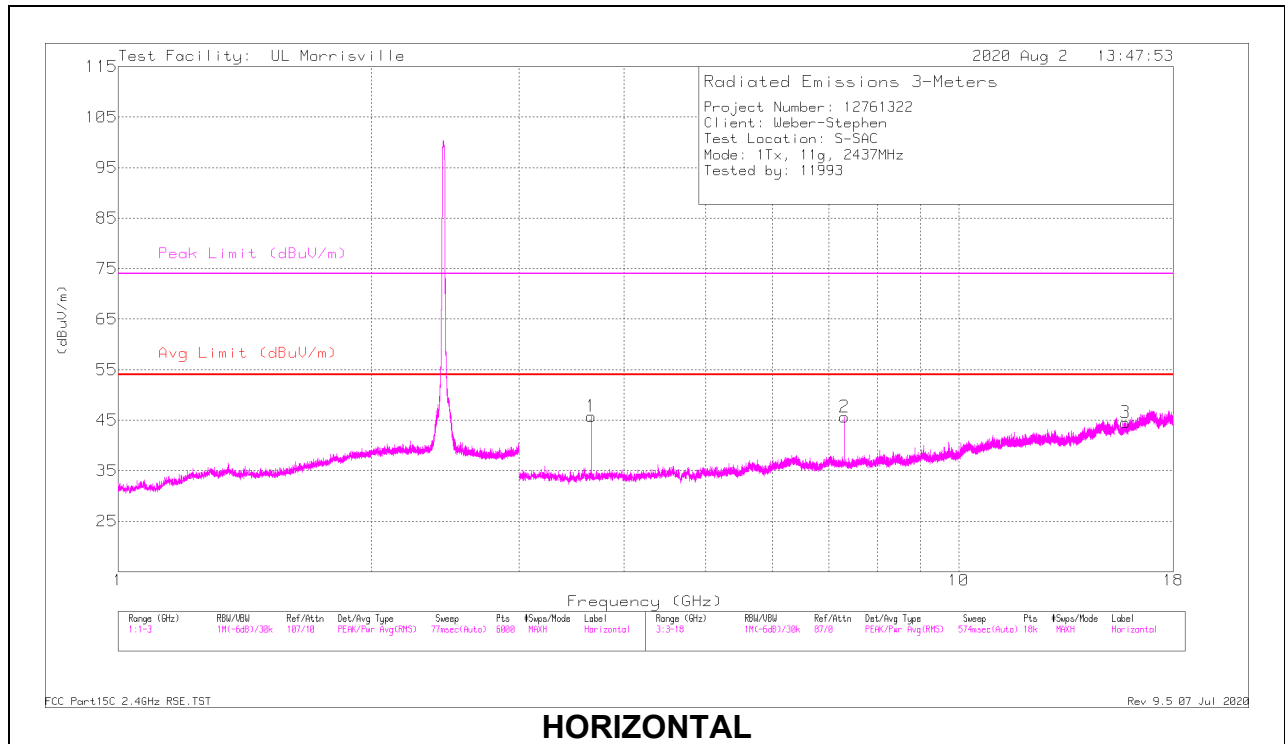
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

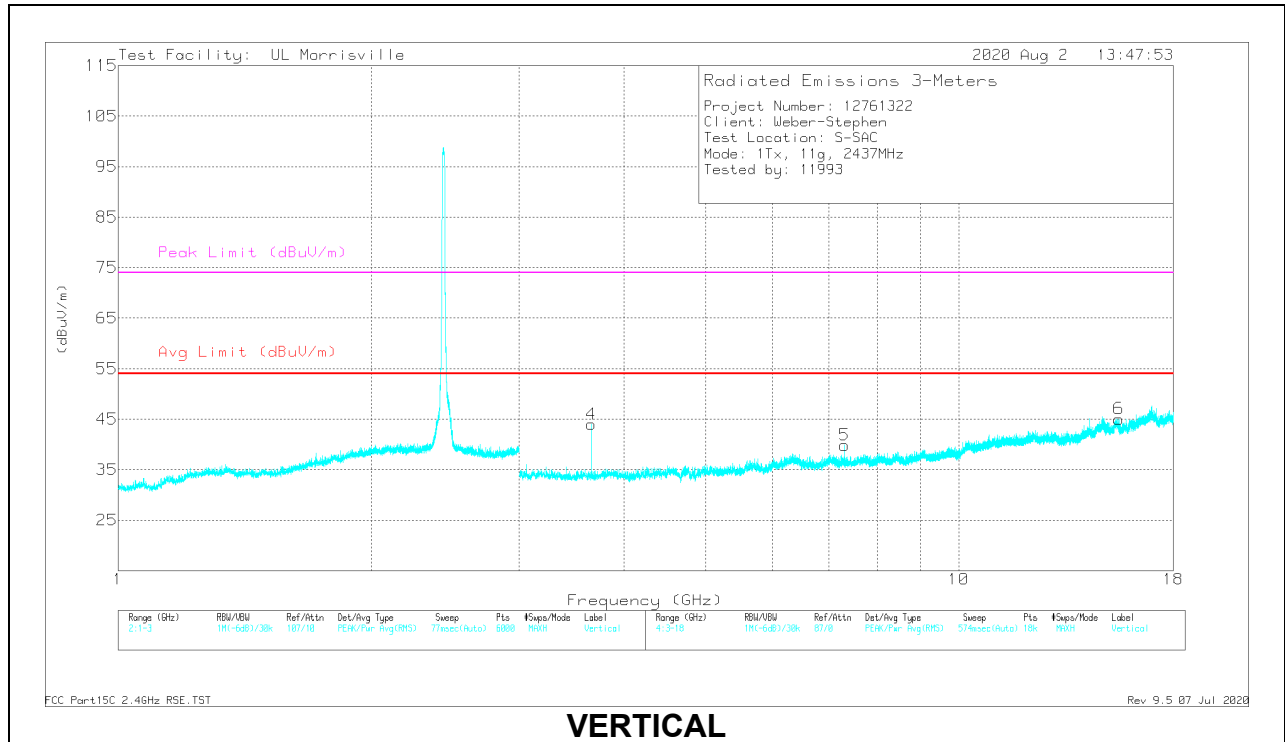
ADV - Linear Voltage Average

Pk - Peak detector

MID CHANNEL RESULTS



HORIZONTAL



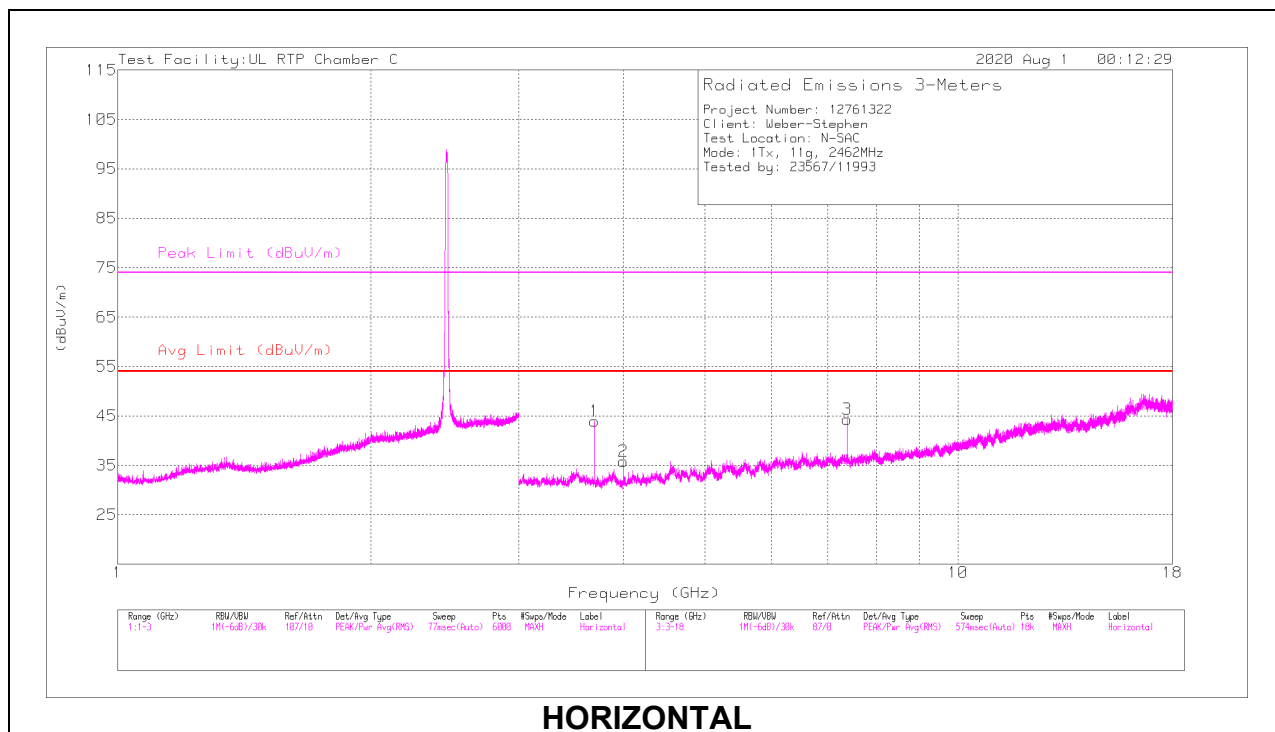
VERTICAL

RADIATED EMISSIONS

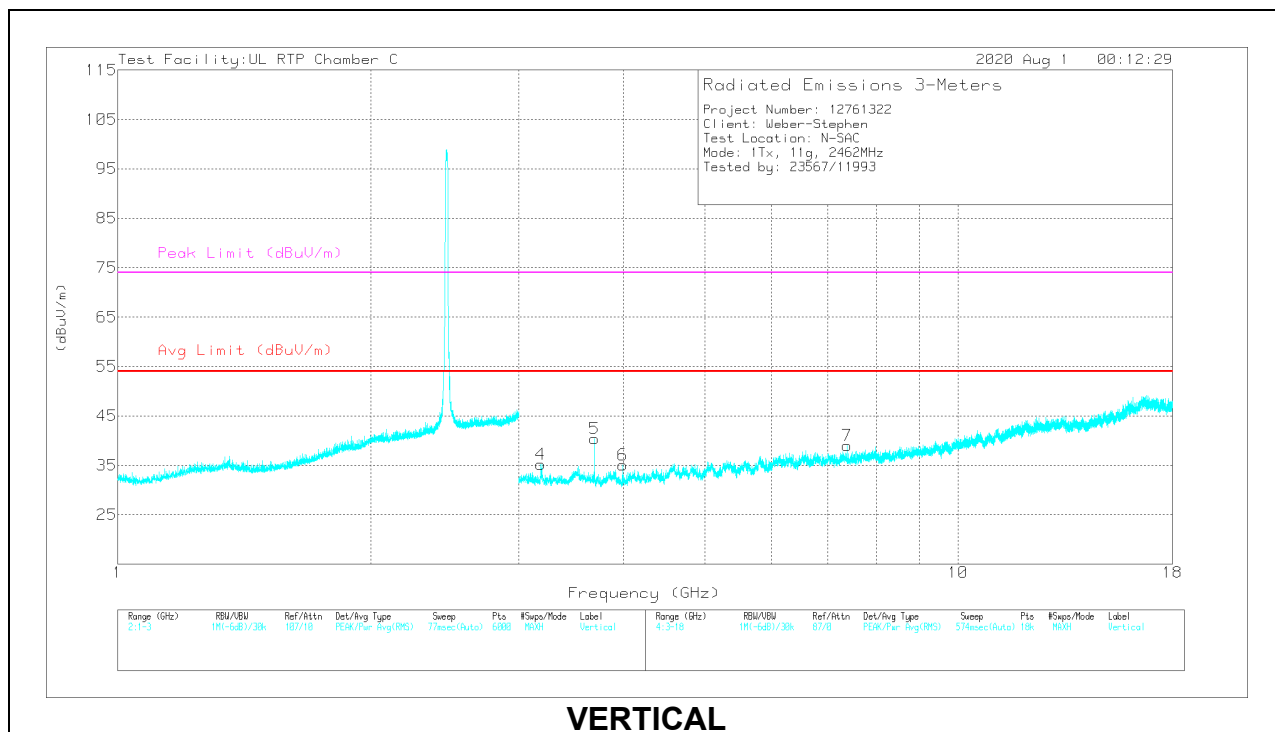
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.6555	48.75	PK2	33.1	-32.2	0	49.65	-	-	74	-24.35	70	270	H
	*** 3.65548	45.12	ADV	33.1	-32.2	.25	46.27	54	-7.73	-	-	70	270	H
2	*** 7.3111	41.42	PK2	35.6	-27.5	0	49.52	-	-	74	-24.48	100	213	H
	*** 7.31101	36.39	ADV	35.6	-27.5	.25	44.74	54	-9.26	-	-	100	213	H
3	*** 15.79235	34.01	PK2	40.3	-23.4	0	50.91	-	-	74	-23.09	9	234	H
	*** 15.79222	21.07	ADV	40.3	-23.4	.25	38.22	54	-15.78	-	-	9	234	H
4	*** 3.65557	47.32	PK2	33.1	-32.2	0	48.22	-	-	74	-25.78	78	101	V
	*** 3.6555	42.51	ADV	33.1	-32.2	.25	43.66	54	-10.34	-	-	78	101	V
5	*** 7.31097	37.84	PK2	35.6	-27.5	0	45.94	-	-	74	-28.06	119	200	V
	*** 7.311	28.61	ADV	35.6	-27.5	.25	36.96	54	-17.04	-	-	119	200	V
6	*** 15.50853	35.23	PK2	40.3	-23.9	0	51.63	-	-	74	-22.37	270	117	V
	*** 15.50865	21.56	ADV	40.3	-23.9	.25	38.21	54	-15.79	-	-	270	117	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

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

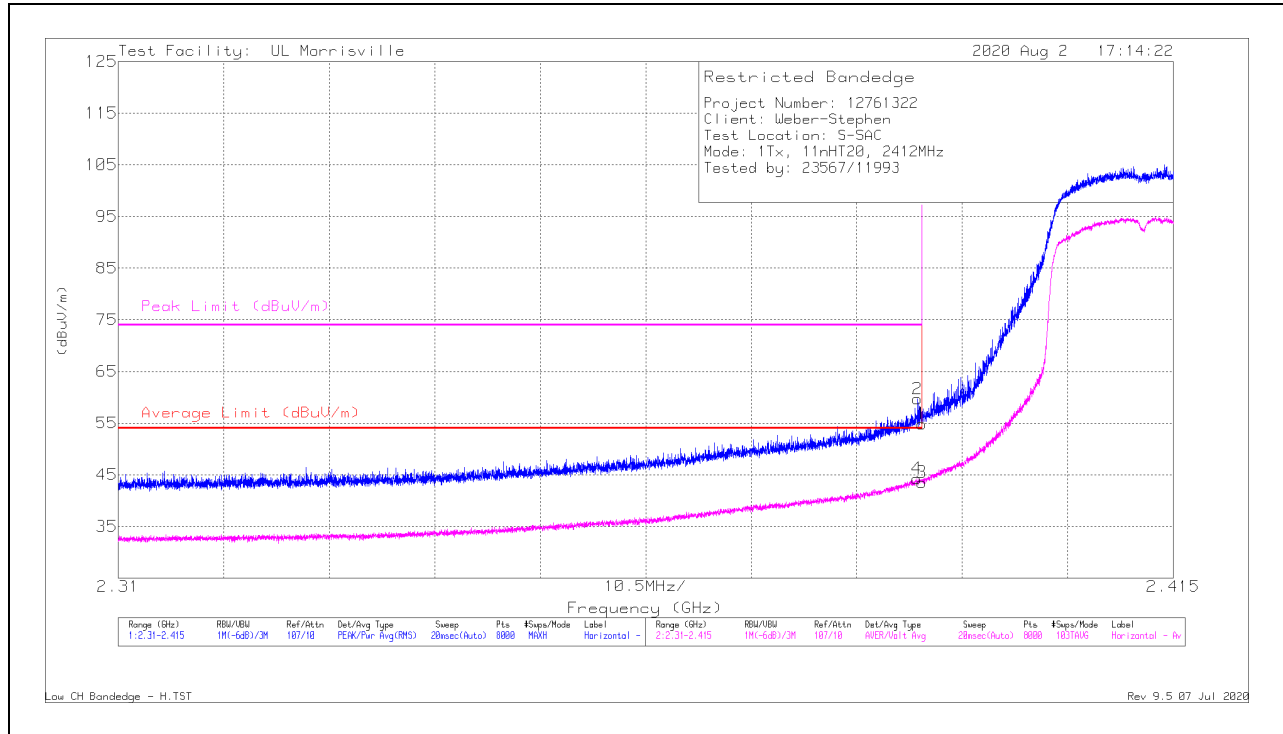
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.693	62.98	PK2	33.2	-49.6	0	46.58	-	-	74	-27.42	360	102	H
	*** 3.693	59.43	ADV	33.2	-49.6	.28	43.31	54	-10.69	-	-	360	102	H
2	* ** 3.99683	60.82	PK2	33.4	-49.6	0	44.62	-	-	74	-29.38	168	233	H
	*** 3.99664	43.64	ADV	33.4	-49.6	.28	27.72	54	-26.28	-	-	168	233	H
3	*** 7.38601	60.55	PK2	35.8	-47	0	49.35	-	-	74	-24.65	348	223	H
	*** 7.38607	55.49	ADV	35.8	-47	.28	44.57	54	-9.43	-	-	348	223	H
5	*** 3.69291	61.51	PK2	33.2	-49.6	0	45.11	-	-	74	-28.89	102	102	V
	*** 3.69299	56.42	ADV	33.2	-49.6	.28	40.3	54	-13.7	-	-	102	102	V
6	*** 3.99001	60.33	PK2	33.4	-49.6	0	44.13	-	-	74	-29.87	22	180	V
	* ** 3.98941	42.97	ADV	33.4	-49.6	.28	27.05	54	-26.95	-	-	22	180	V
7	*** 7.38601	56.98	PK2	35.8	-47	0	45.78	-	-	74	-28.22	247	217	V
	*** 7.38602	47.43	ADV	35.8	-47	.28	36.51	54	-17.49	-	-	247	217	V
4	3.18751	53.13	Pk	32.9	-50.8	0	35.23	-	-	-	-	0-360	199	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

10.2.4. 2.4 WLAN 802.11n HT20

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/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	46.79	Pk	32.1	-24	0	54.89	-	-	74	-19.11	171	264	H
2	* ** 2.38952	51.57	Pk	32.1	-24	0	59.67	-	-	74	-14.33	171	264	H
3	* ** 2.39	35.14	ADV	32.1	-24	.28	43.52	54	-10.48	-	-	171	264	H
4	* ** 2.38947	35.87	ADV	32.1	-24	.28	44.25	54	-9.75	-	-	171	264	H

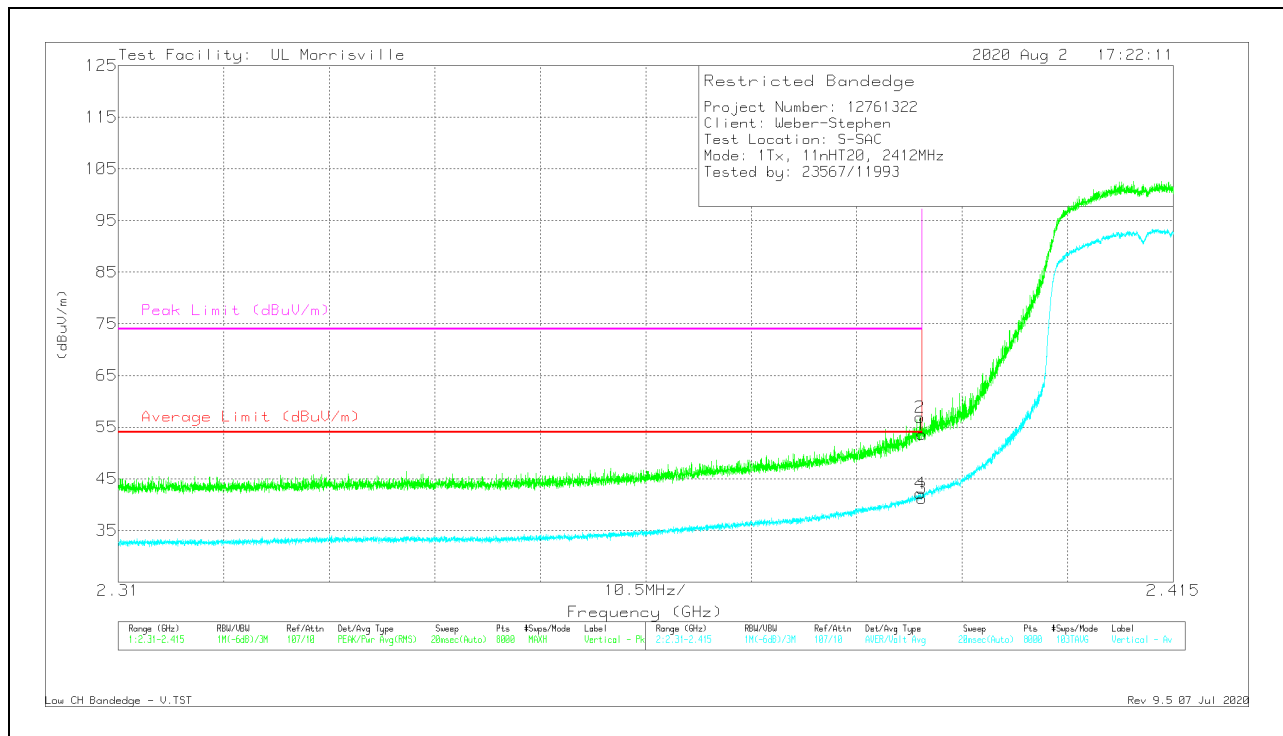
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

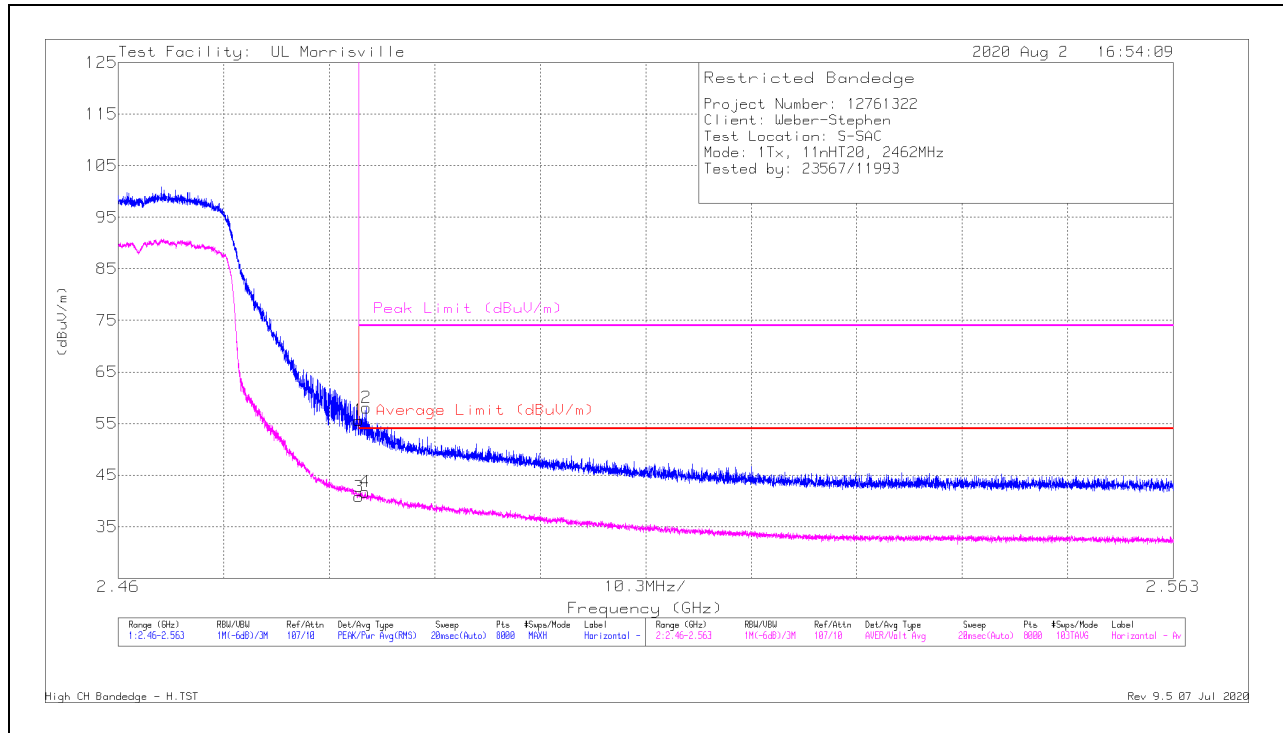


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	45.49	Pk	32.1	-24	0	53.59	-	-	74	-20.41	133	254	V
2	* ** 2.38979	48.77	Pk	32.1	-24	0	56.87	-	-	74	-17.13	133	254	V
3	* ** 2.39	32.85	ADV	32.1	-24	.28	41.23	54	-12.77	-	-	133	254	V
4	* ** 2.38983	33.75	ADV	32.1	-24	.28	42.13	54	-11.87	-	-	133	254	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 (dB/m)	Amp/Cbl/Filtr/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	47.61	Pk	32.4	-24.4	0	55.61	-	-	74	-18.39	343	262	H
2	* ** 2.48422	50.08	Pk	32.4	-24.4	0	58.08	-	-	74	-15.92	343	262	H
3	* ** 2.4835	32.52	ADV	32.4	-24.4	.28	40.8	54	-13.2	-	-	343	262	H
4	* ** 2.48412	33.46	ADV	32.4	-24.4	.28	41.74	54	-12.26	-	-	343	262	H

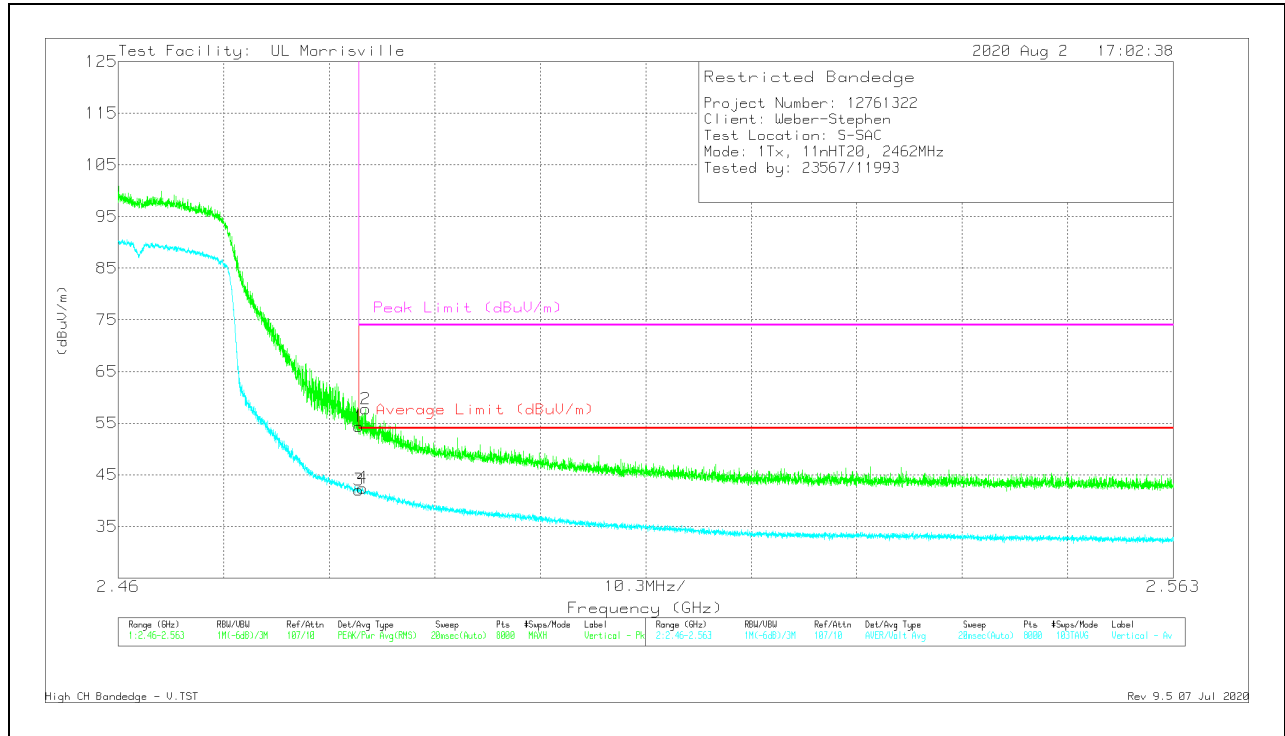
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

ADV - Linear Voltage Average

VERTICAL RESULT

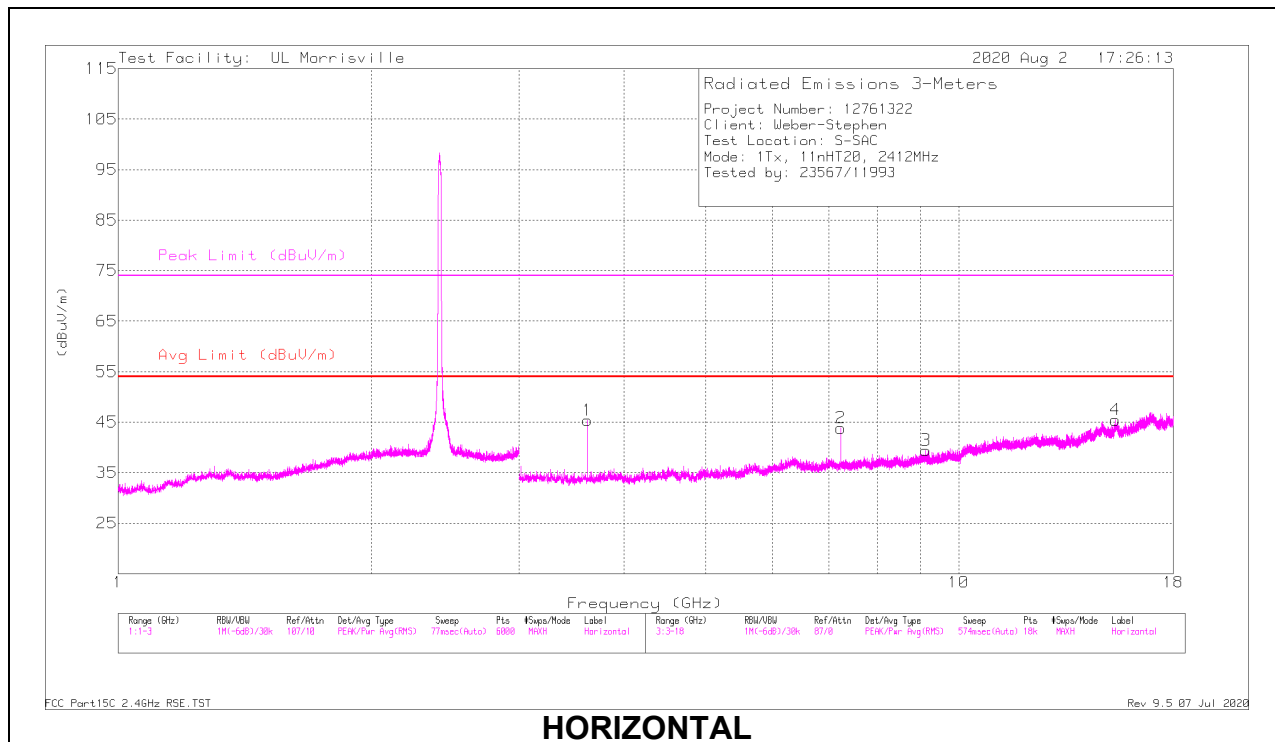


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.4835	46.35	Pk	32.4	-24.4	0	54.35	-	-	74	-19.65	308	105	V
2	*** 2.48414	49.74	Pk	32.4	-24.4	0	57.74	-	-	74	-16.26	308	105	V
3	*** 2.4835	33.79	ADV	32.4	-24.4	.28	42.07	54	-11.93	-	-	308	105	V
4	*** 2.48384	34.17	ADV	32.4	-24.4	.28	42.45	54	-11.55	-	-	308	105	V

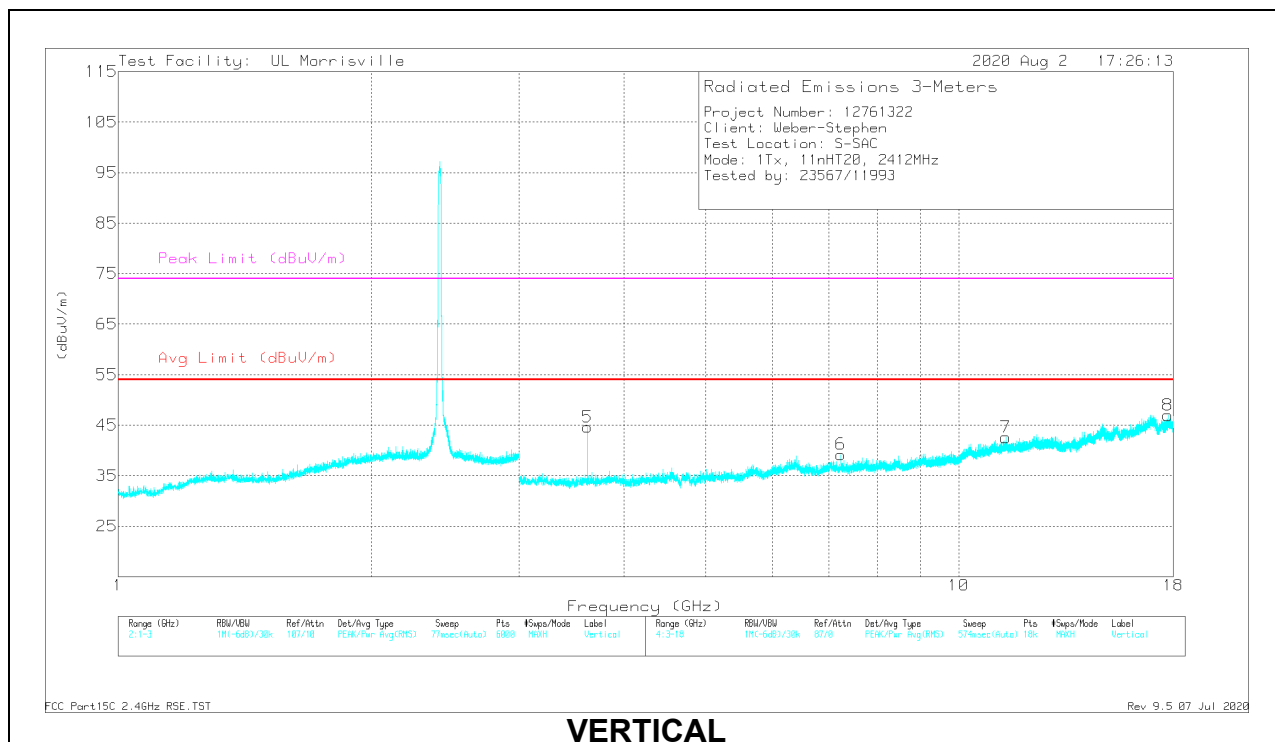
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 Pk - Peak detector
 ADV - Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/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
1	*** 3.61792	48.24	PK2	33	-31.7	0	49.54	-	-	74	-24.46	53	234	H
	*** 3.61801	45.05	ADV	33	-31.7	.28	46.63	54	-7.37	-	-	53	234	H
3	*** 9.14107	34.95	PK2	36.3	-26.1	0	45.15	-	-	74	-28.85	187	316	H
	*** 9.13958	21.94	ADV	36.3	-26	.28	32.52	54	-21.48	-	-	187	316	H
4	*** 15.35477	34.35	PK2	40.3	-22.8	0	51.85	-	-	74	-22.15	40	349	H
	*** 15.35566	21.04	ADV	40.3	-22.8	.28	38.82	54	-15.18	-	-	40	349	H
5	*** 3.61794	46.75	PK2	33	-31.7	0	48.05	-	-	74	-25.95	48	102	V
	*** 3.61799	42.22	ADV	33	-31.7	.28	43.8	54	-10.2	-	-	48	102	V
7	*** 11.37624	33.55	PK2	38.1	-23.5	0	48.15	-	-	74	-25.85	248	178	V
	*** 11.37758	20.48	ADV	38.1	-23.5	.28	35.36	54	-18.64	-	-	248	178	V
8	*** 17.73625	34.61	PK2	41.1	-22.2	0	53.51	-	-	74	-20.49	155	354	V
	*** 17.73674	21.49	ADV	41.1	-22.2	.28	40.67	54	-13.33	-	-	155	354	V
6	7.23524	31.4	Pk	35.6	-27.8	0	39.2	-	-	-	-	0-360	199	V
2	7.23607	36.03	Pk	35.6	-27.8	0	43.83	-	-	-	-	0-360	199	H

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

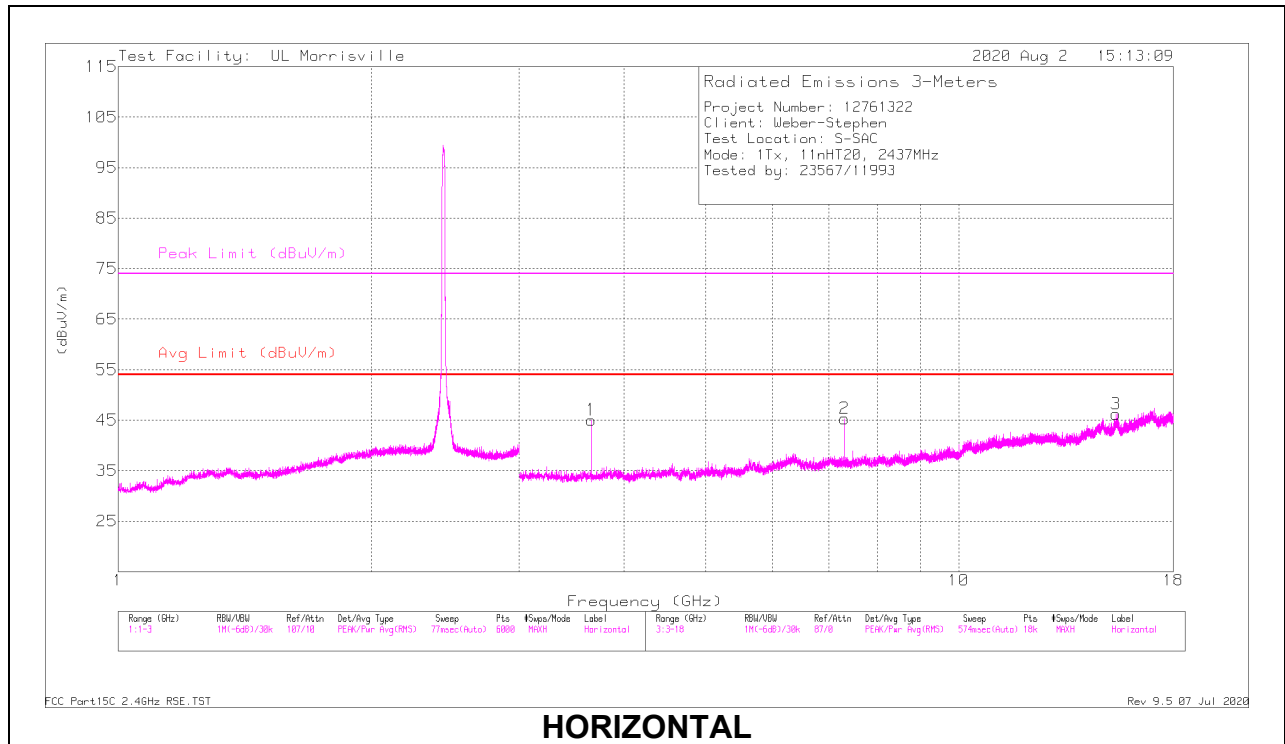
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

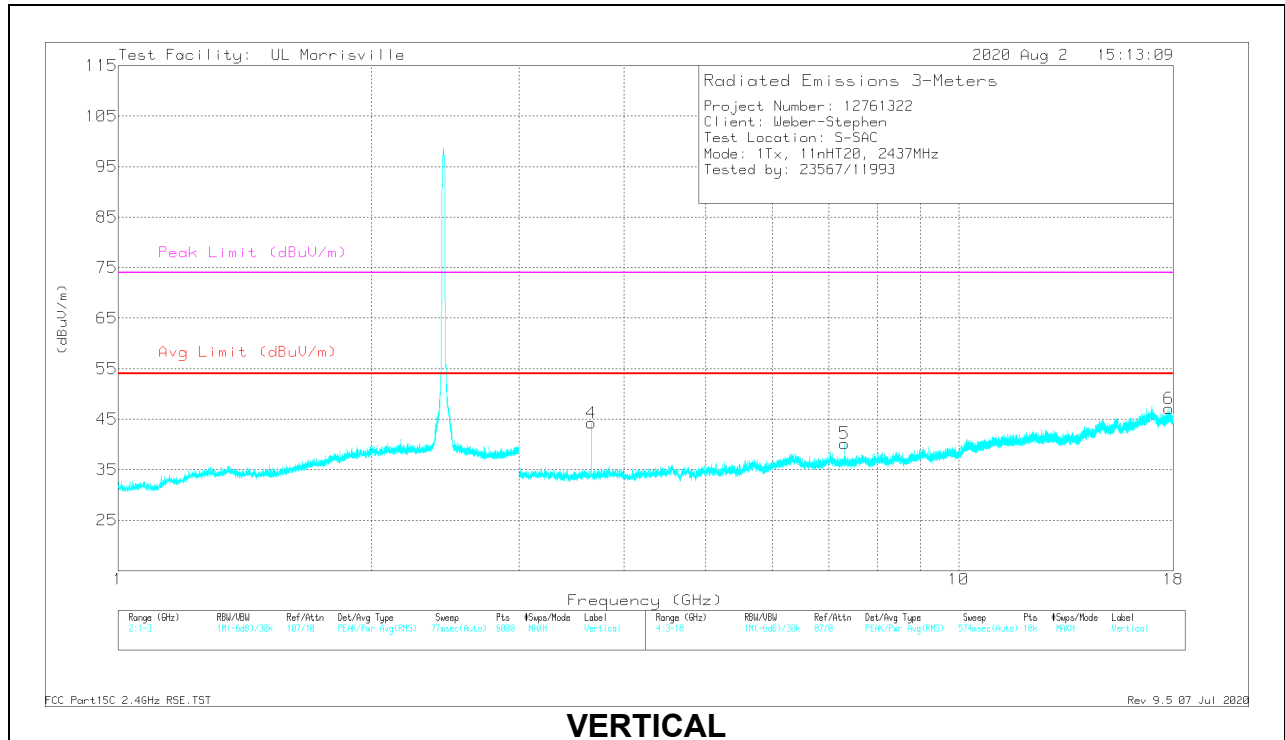
ADV - Linear Voltage Average

Pk - Peak detector

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/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
1	*** 3.65557	47.56	PK2	33.1	-32.2	0	48.46	-	-	74	-25.54	96	113	H
	*** 3.6555	43.45	ADV	33.1	-32.2	.28	44.63	54	-9.37	-	-	96	113	H
2	*** 7.31095	41.34	PK2	35.6	-27.5	0	49.44	-	-	74	-24.56	91	214	H
	*** 7.311	36.48	ADV	35.6	-27.5	.28	44.86	54	-9.14	-	-	91	214	H
3	*** 15.3807	34.35	PK2	40.3	-22.5	0	52.15	-	-	74	-21.85	75	121	H
	*** 15.38032	20.89	ADV	40.3	-22.6	.28	38.87	54	-15.13	-	-	75	121	H
4	*** 3.65543	47.42	PK2	33.1	-32.2	0	48.32	-	-	74	-25.68	51	303	V
	*** 3.65552	43.4	ADV	33.1	-32.2	.28	44.58	54	-9.42	-	-	51	303	V
5	*** 7.31112	37.8	PK2	35.6	-27.5	0	45.9	-	-	74	-28.1	5	104	V
	*** 7.31103	28.55	ADV	35.6	-27.5	.28	36.93	54	-17.07	-	-	5	104	V
6	*** 17.79233	33.94	PK2	41.1	-22.1	0	52.94	-	-	74	-21.06	118	228	V
	*** 17.79227	21.26	ADV	41.1	-22.1	.28	40.54	54	-13.46	-	-	118	228	V

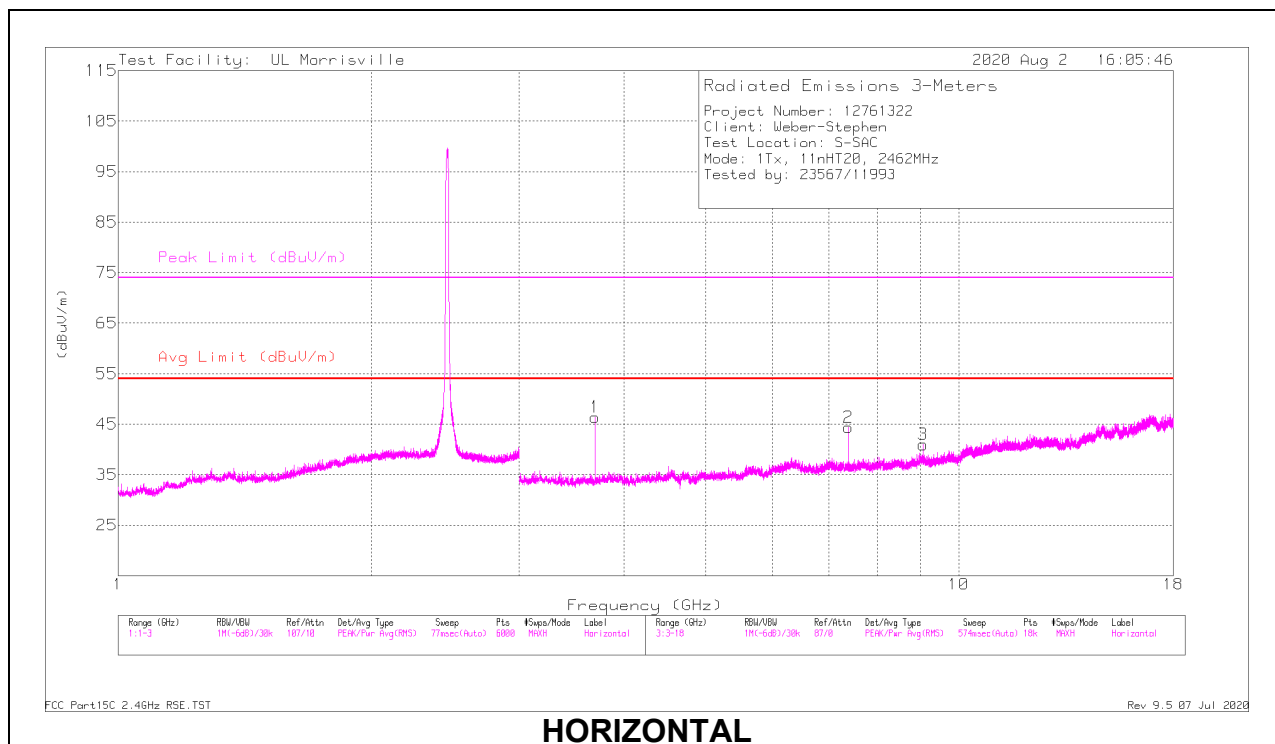
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

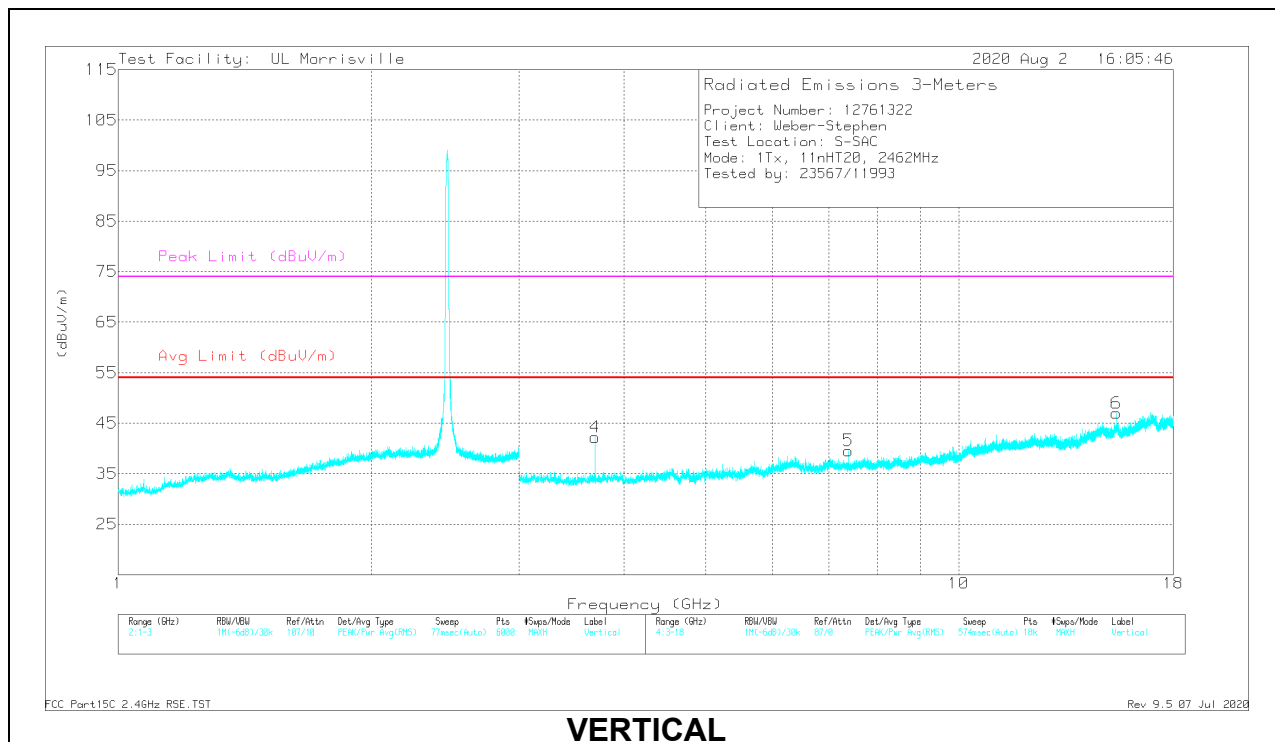
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/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
1	*** 3.693	49.61	PK2	33.1	-32.3	0	50.41	-	-	74	-23.59	191	216	H
	*** 3.69301	46.55	ADV	33.1	-32.3	.28	47.63	54	-6.37	-	-	191	216	H
2	*** 7.38598	41.66	PK2	35.6	-27.5	0	49.76	-	-	74	-24.24	88	216	H
	*** 7.38598	36.67	ADV	35.6	-27.5	.28	45.05	54	-8.95	-	-	88	216	H
3	*** 9.06539	35.72	PK2	36.2	-26.3	0	45.62	-	-	74	-28.38	160	130	H
	*** 9.06399	22.55	ADV	36.2	-26.3	.28	32.73	54	-21.27	-	-	160	130	H
4	*** 3.69303	48.52	PK2	33.1	-32.3	0	49.32	-	-	74	-24.68	52	347	V
	*** 3.69299	44.82	ADV	33.1	-32.3	.28	45.9	54	-8.1	-	-	52	347	V
5	*** 7.38588	38.6	PK2	35.6	-27.5	0	46.7	-	-	74	-27.3	107	203	V
	*** 7.38602	28.79	ADV	35.6	-27.5	.28	37.17	54	-16.83	-	-	107	203	V
6	*** 15.40165	33.79	PK2	40.3	-22	0	52.09	-	-	74	-21.91	340	230	V
	*** 15.40211	20.6	ADV	40.3	-22	.28	39.18	54	-14.82	-	-	340	230	V

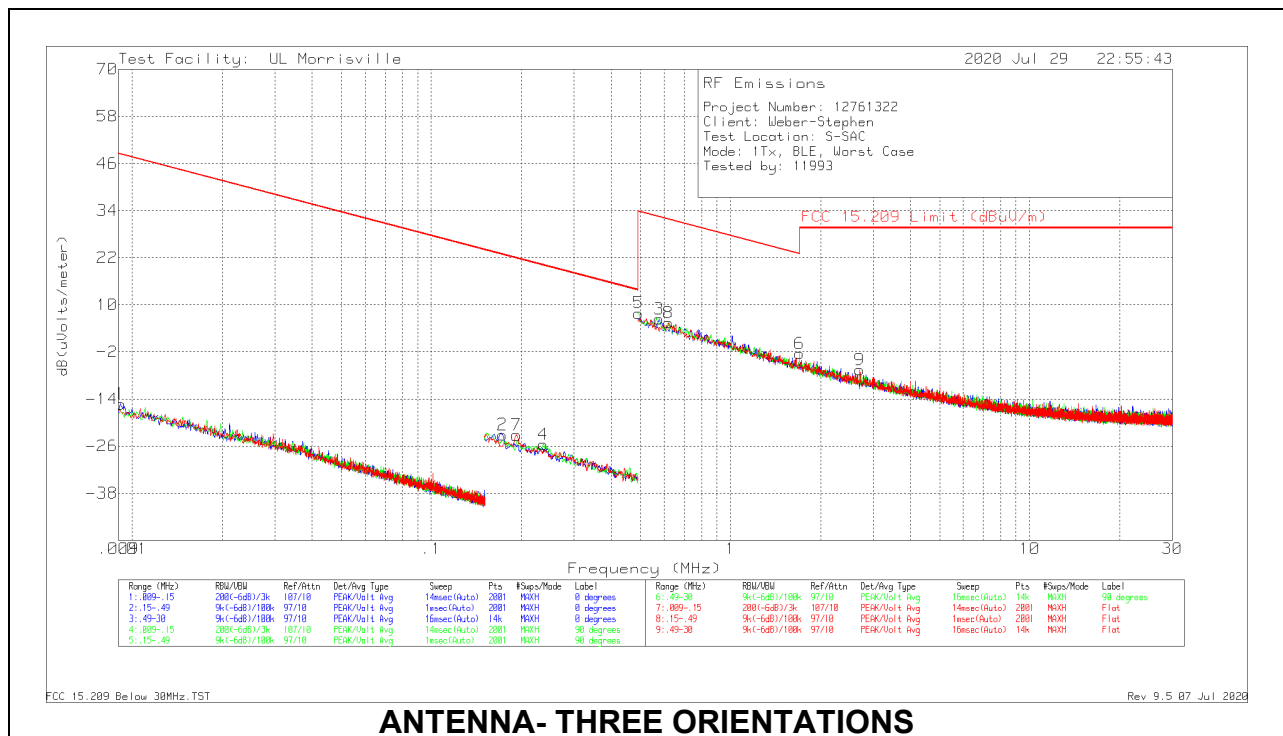
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 ** - indicates frequency in Taiwan NCC LP0002 Restricted Band
 PK2 - Maximum Peak
 ADV - Linear Voltage Average

10.3. WORST CASE BELOW 30MHZ

Note for below 30 MHz scans: 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 $40 \cdot \log(\text{test distance} / \text{specification distance})$.

The below 30 MHz limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω . For example, the measurement frequency 9.14 KHz resulted in a level of -15.26 dBuV/m, which is equivalent to $-15.26 - 51.5 = -66.76$ dBuA/m, which has the same margin, -63.64 dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION) - BLE

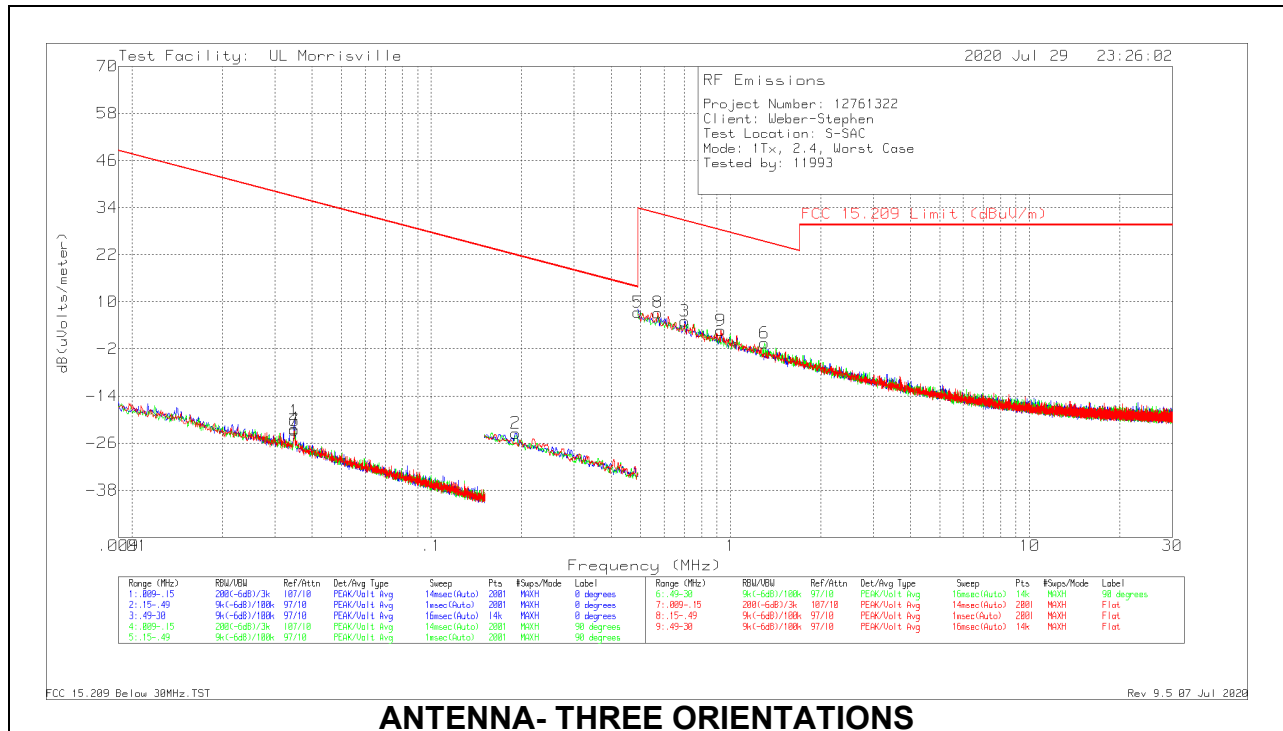


Below 30MHz Data

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 Avg/QP Limit (dBuV/m)	FCC 15.209 Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Antenna Face
1	.00914	45.74	Pk	18.9	.1	-80	-15.26	48.38	68.38	-63.64	0-360	On
2	.17295	45.78	Pk	11	.1	-80	-23.12	22.85	42.85	-45.97	0-360	On
3	.57748	35.24	Pk	11	.1	-40	6.34	32.37	-	-26.03	0-360	On
4	.23636	43.34	Pk	11	.1	-80	-25.56	20.13	40.13	-45.69	0-360	Off
5	.49211	36.78	Pk	11	.1	-40	7.88	33.76	-	-25.88	0-360	Off
6	1.69999	26.23	Pk	11.1	.2	-40	-2.47	23	-	-25.47	0-360	Off
7	.19276	45.66	Pk	11	.1	-80	-23.24	21.9	41.9	-45.14	0-360	Flat
8	.6207	34.17	Pk	11	.2	-40	5.37	31.75	-	-26.38	0-360	Flat
9	2.70551	21.94	Pk	11.2	.3	-40	-6.56	29.54	-	-36.1	0-360	Flat

Pk - Peak detector

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION) – 2.4 WLAN



ANTENNA- THREE ORIENTATIONS

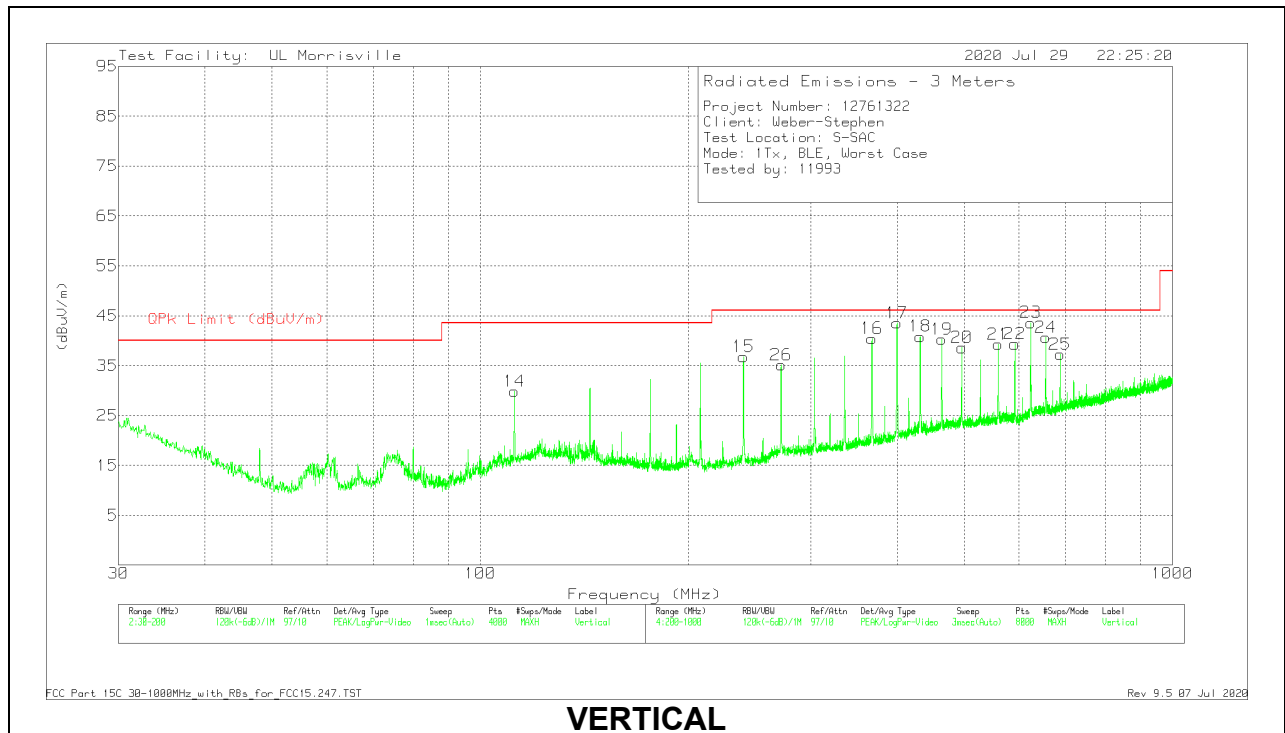
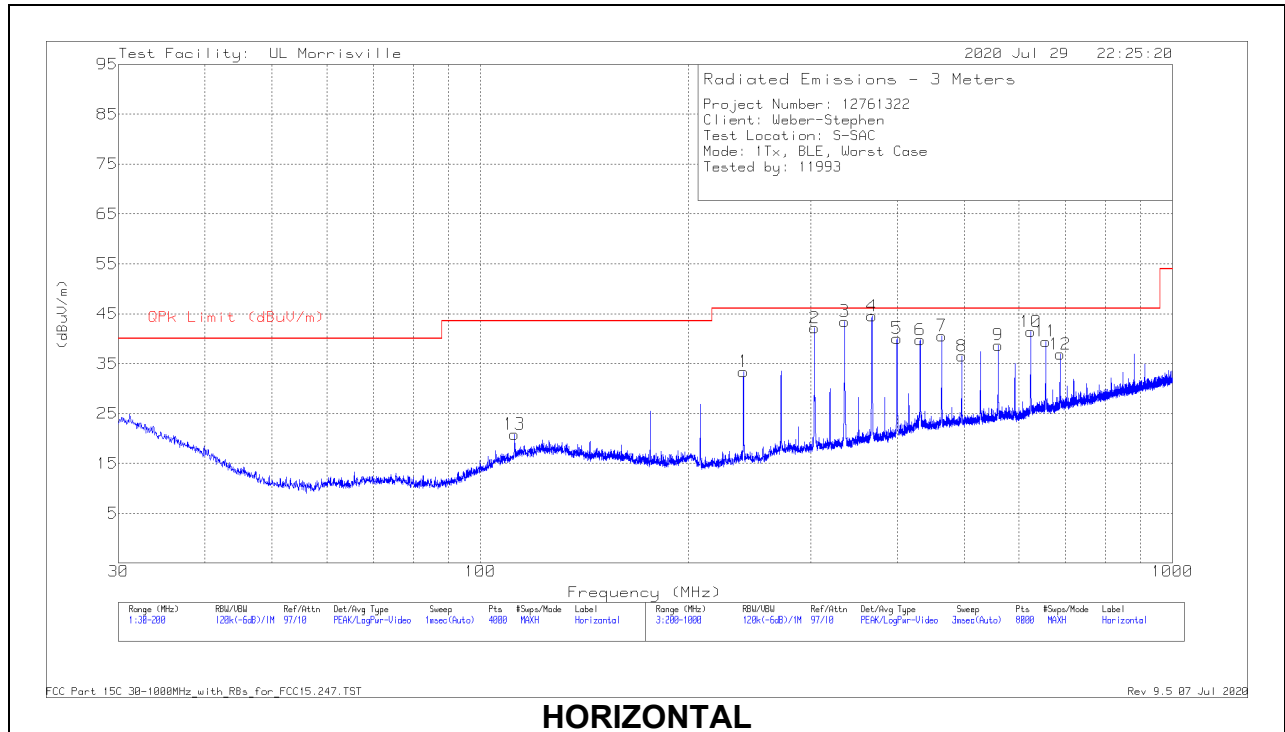
Below 30MHz Data

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 Avg/QP Limit (dBuV/m)	FCC 15.209 Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Antenna Face
1	.03484	46.77	Pk	12.8	.1	-80	-20.33	36.76	56.76	-57.09	0-360	On
2	.19157	45.47	Pk	11	.1	-80	-23.43	21.96	41.96	-45.39	0-360	On
3	.70502	33.89	Pk	11	.2	-40	5.09	30.64	-	-25.55	0-360	On
4	.03492	44.78	Pk	12.8	.1	-80	-22.32	36.74	56.74	-59.06	0-360	Off
5	.49	36.25	Pk	11	.1	-40	7.35	13.8	33.8	-6.45	0-360	Off
6	1.29947	28.15	Pk	11.1	.2	-40	-5.55	25.33	-	-25.88	0-360	Off
7	.03484	44.36	Pk	12.8	.1	-80	-22.74	36.76	56.76	-59.5	0-360	Flat
8	.57221	36.14	Pk	11	.1	-40	7.24	32.45	-	-25.21	0-360	Flat
9	.92846	31.49	Pk	11	.2	-40	2.69	28.25	-	-25.56	0-360	Flat

Pk - Peak detector

10.4. WORST CASE BELOW 1 GHZ

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION) - BLE

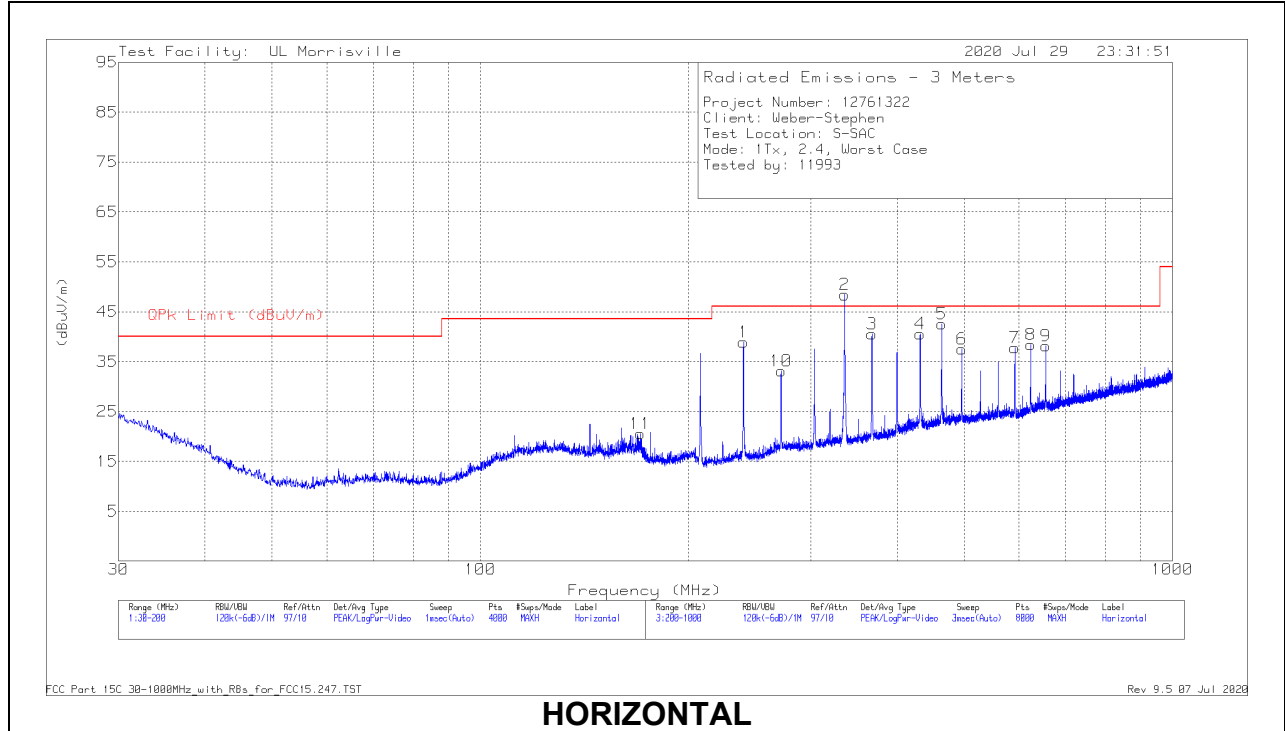


Below 1GHz Data

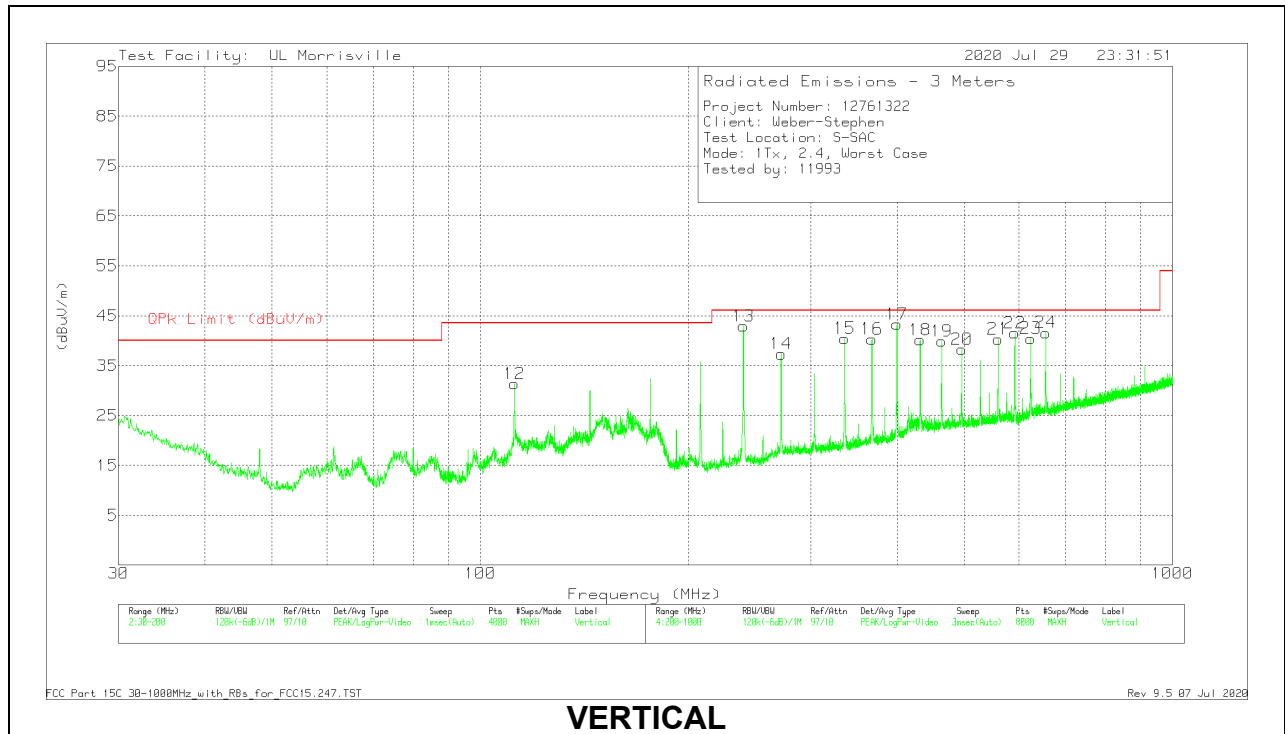
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
13	* 112.0037	32.26	Pk	19.1	-30.5	20.86	43.52	-22.66	0-360	199	H
14	* 112.0037	41.26	Pk	19.1	-30.5	29.86	43.52	-13.66	0-360	101	V
1	* 240.0052	45.03	Pk	17.7	-29.3	33.43	46.02	-12.59	0-360	101	H
5	* 400.0044	42.52	Qp	21.7	-28.3	35.92	46.02	-10.1	193	103	H
15	* 240.0052	48.4	Pk	17.7	-29.3	36.8	46.02	-9.22	0-360	101	V
17	* 400.0073	45.58	Qp	21.7	-28.3	38.98	46.02	-7.04	190	128	V
26	* 272.0094	44.84	Pk	19.3	-29	35.14	46.02	-10.88	0-360	200	V
2	304.0135	51.23	Pk	19.6	-28.7	42.13	-	-	0-360	101	H
3	336.0177	51.98	Pk	20.1	-28.6	43.48	-	-	0-360	101	H
4	368.0218	52.06	Pk	20.9	-28.4	44.56	-	-	0-360	101	H
16	368.0218	47.95	Pk	20.9	-28.4	40.45	-	-	0-360	101	V
6	432.0302	45.39	Pk	22.6	-28.2	39.79	-	-	0-360	200	H
18	432.0302	46.45	Pk	22.6	-28.2	40.85	-	-	0-360	101	V
7	464.0343	45.28	Pk	23.3	-28	40.58	-	-	0-360	200	H
19	464.0343	45.01	Pk	23.3	-28	40.31	-	-	0-360	101	V
8	496.0385	40.49	Pk	23.7	-27.7	36.49	-	-	0-360	200	H
20	496.0385	42.6	Pk	23.7	-27.7	38.6	-	-	0-360	101	V
9	560.0468	41.72	Pk	24.5	-27.5	38.72	-	-	0-360	200	H
21	560.0468	42.3	Pk	24.5	-27.5	39.3	-	-	0-360	101	V
22	591.9509	42.36	Pk	24.4	-27.4	39.36	-	-	0-360	200	V
10	623.9551	43.19	Pk	25.4	-27.2	41.39	-	-	0-360	299	H
23	623.9551	45.42	Pk	25.4	-27.2	43.62	-	-	0-360	200	V
11	655.9593	40.87	Pk	25.8	-27.2	39.47	-	-	0-360	299	H
24	656.0593	42.04	Pk	25.8	-27.2	40.64	-	-	0-360	101	V
12	687.9634	37.99	Pk	26.1	-27.2	36.89	-	-	0-360	101	H
25	687.9634	38.33	Pk	26.1	-27.2	37.23	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 Qp - Quasi-Peak detector

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION) – 2.4 WLAN



HORIZONTAL



VERTICAL

Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11	* 170.2438	32.53	Pk	17.8	-29.8	20.53	43.52	-22.99	0-360	200	H
12	* 112.0037	42.77	Pk	19.1	-30.5	31.37	43.52	-12.15	0-360	101	V
1	* 240.0052	50.5	Pk	17.7	-29.3	38.9	46.02	-7.12	0-360	101	H
10	* 272.0094	42.82	Pk	19.3	-29	33.12	46.02	-12.9	0-360	101	H
13	* 240.0023	52.78	Qp	17.7	-29.3	41.18	46.02	-4.84	211	101	V
14	* 272.0094	47.05	Pk	19.3	-29	37.35	46.02	-8.67	0-360	200	V
17	* 400.002	47.71	Qp	21.7	-28.3	41.11	46.02	-4.91	106	112	V
2	336.0177	56.91	Pk	20.1	-28.6	48.41	-	-	0-360	101	H
15	336.0177	48.95	Pk	20.1	-28.6	40.45	-	-	0-360	200	V
3	368.0218	48.03	Pk	20.9	-28.4	40.53	-	-	0-360	101	H
16	368.0218	47.83	Pk	20.9	-28.4	40.33	-	-	0-360	101	V
4	432.0302	46.17	Pk	22.6	-28.2	40.57	-	-	0-360	200	H
18	432.0302	45.73	Pk	22.6	-28.2	40.13	-	-	0-360	101	V
5	464.0343	47.26	Pk	23.3	-28	42.56	-	-	0-360	200	H
19	464.0343	44.57	Pk	23.3	-28	39.87	-	-	0-360	101	V
6	496.0385	41.51	Pk	23.7	-27.7	37.51	-	-	0-360	200	H
20	496.0385	42.3	Pk	23.7	-27.7	38.3	-	-	0-360	101	V
21	559.9468	43.34	Pk	24.5	-27.5	40.34	-	-	0-360	101	V
7	591.9509	40.74	Pk	24.4	-27.4	37.74	-	-	0-360	299	H
22	591.9509	44.53	Pk	24.4	-27.4	41.53	-	-	0-360	101	V
23	623.9551	42.25	Pk	25.4	-27.2	40.45	-	-	0-360	101	V
8	624.0551	40.17	Pk	25.4	-27.2	38.37	-	-	0-360	299	H
9	656.0593	39.57	Pk	25.8	-27.2	38.17	-	-	0-360	101	H
24	656.0593	43.01	Pk	25.8	-27.2	41.61	-	-	0-360	101	V

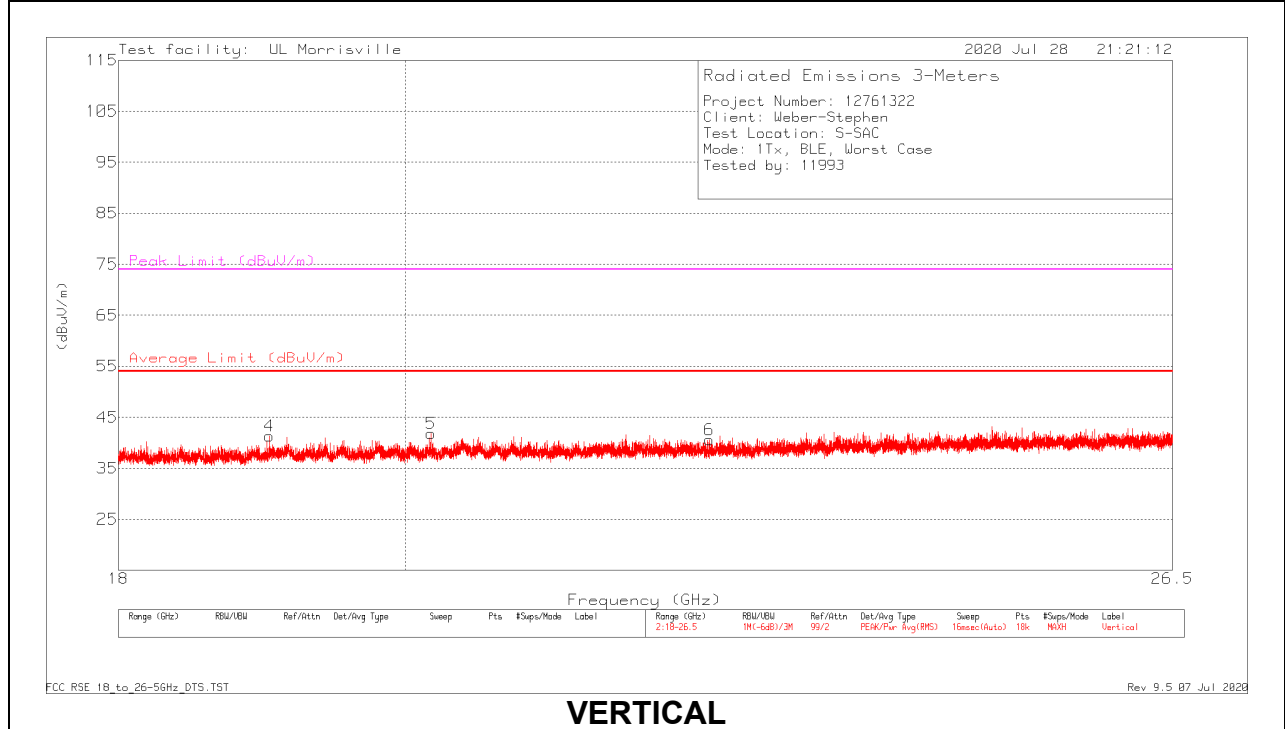
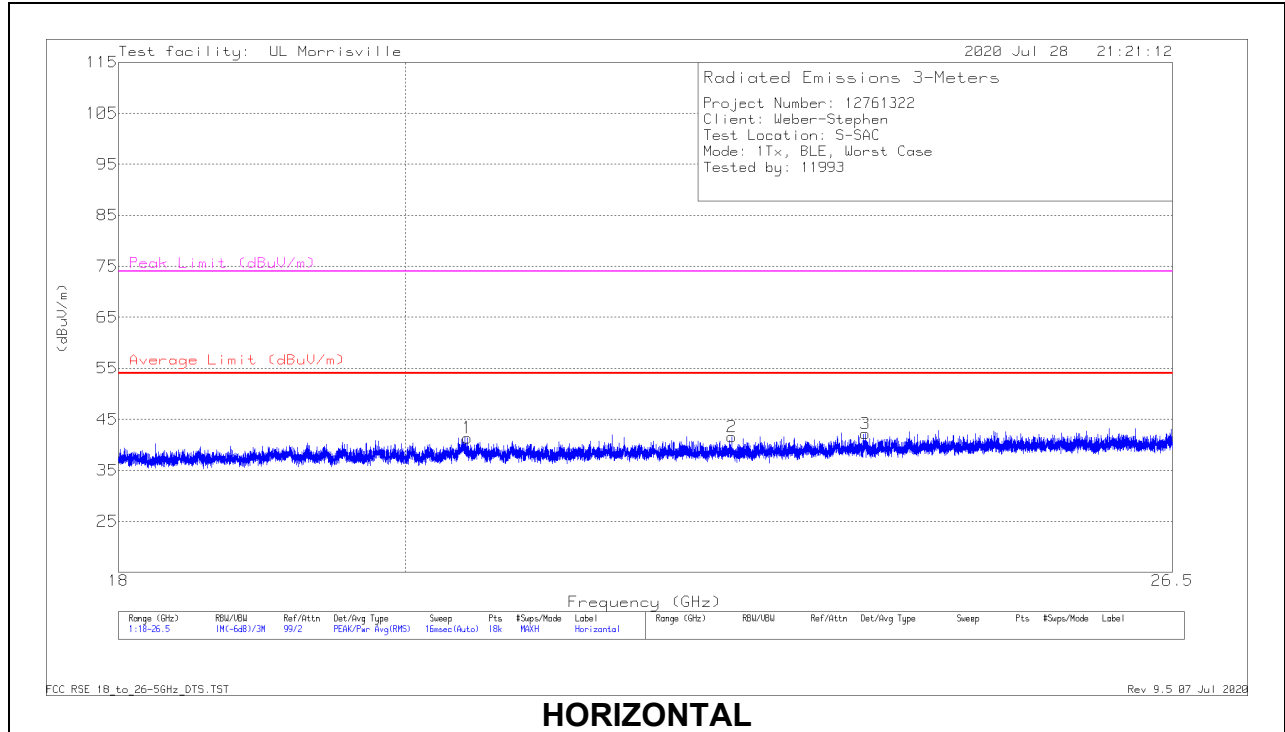
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Qp - Quasi-Peak detector

10.5. WORST CASE 18-26 GHZ

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION) - BLE



18 – 26GHz DATA

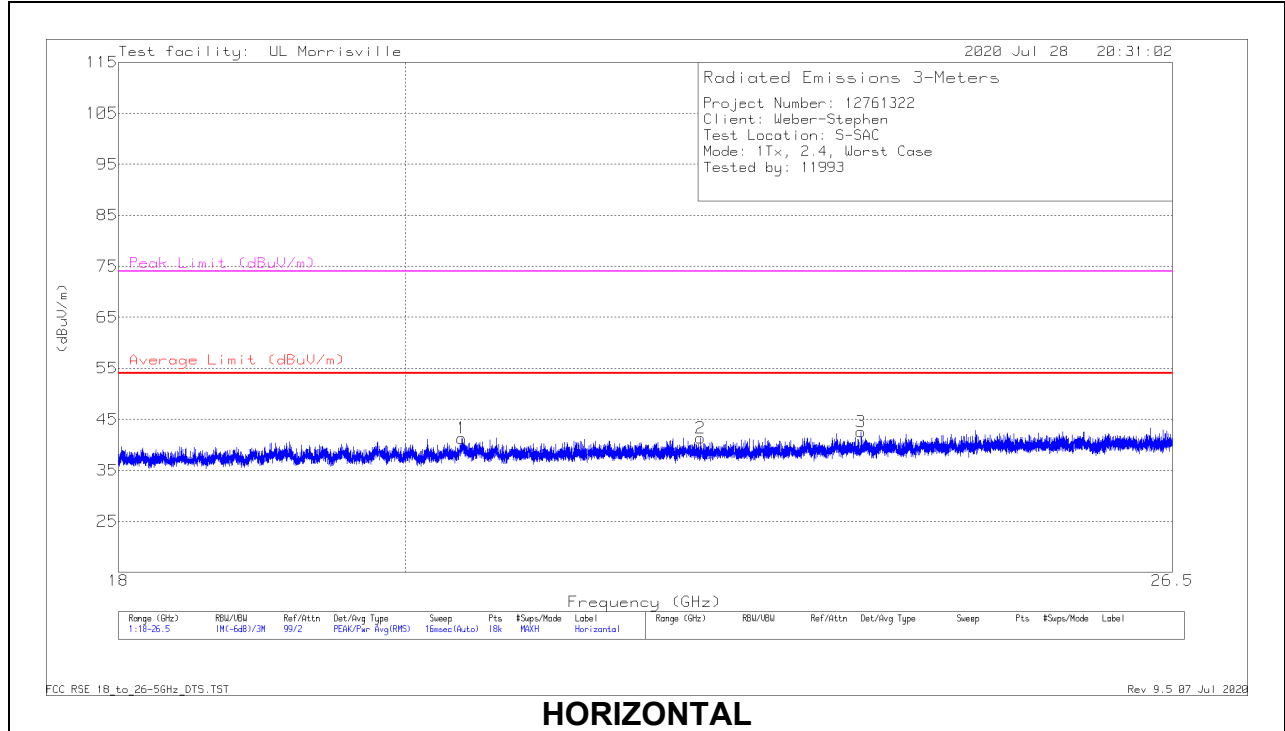
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.45947	47.27	Pk	33.2	-39.1	41.37	54	-12.63	74	-32.63	0-360	150	H
2	* ** 22.54255	47.19	Pk	33.6	-39.2	41.59	54	-12.41	74	-32.41	0-360	101	H
3	* ** 23.67737	46.66	Pk	34	-38.5	42.16	54	-11.84	74	-31.84	0-360	200	H
4	* ** 19.02619	47.9	Pk	32.7	-39.3	41.3	54	-12.7	74	-32.7	0-360	250	V
5	* ** 20.18604	47.72	Pk	32.8	-38.7	41.82	54	-12.18	74	-32.18	0-360	150	V
6	* ** 22.35602	46.01	Pk	33.6	-39	40.61	54	-13.39	74	-33.39	0-360	150	V

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

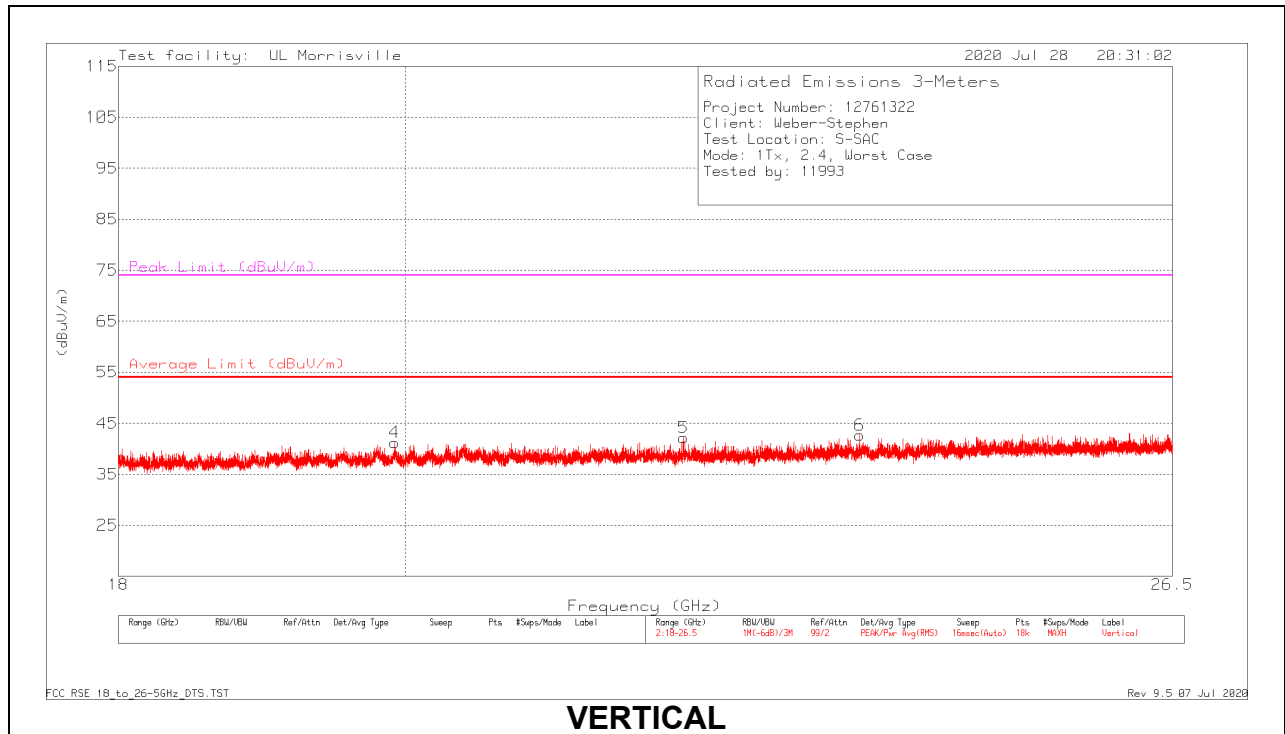
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION) – 2.4 WLAN



HORIZONTAL



VERTICAL

18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 20.41697	46.87	Pk	33.1	-38.7	41.27	54	-12.73	74	-32.73	0-360	249	H
2	*** 22.2866	47.14	Pk	33.6	-39.4	41.34	54	-12.66	74	-32.66	0-360	150	H
3	*** 23.63817	47.24	Pk	34	-38.7	42.54	54	-11.46	74	-31.46	0-360	200	H
4	*** 19.91969	47.15	Pk	32.8	-38.7	41.25	54	-12.75	74	-32.75	0-360	201	V
5	*** 22.14728	47.97	Pk	33.5	-39.3	42.17	54	-11.83	74	-31.83	0-360	201	V
6	*** 23.62731	47.35	Pk	34	-38.7	42.65	54	-11.35	74	-31.35	0-360	201	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)
RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

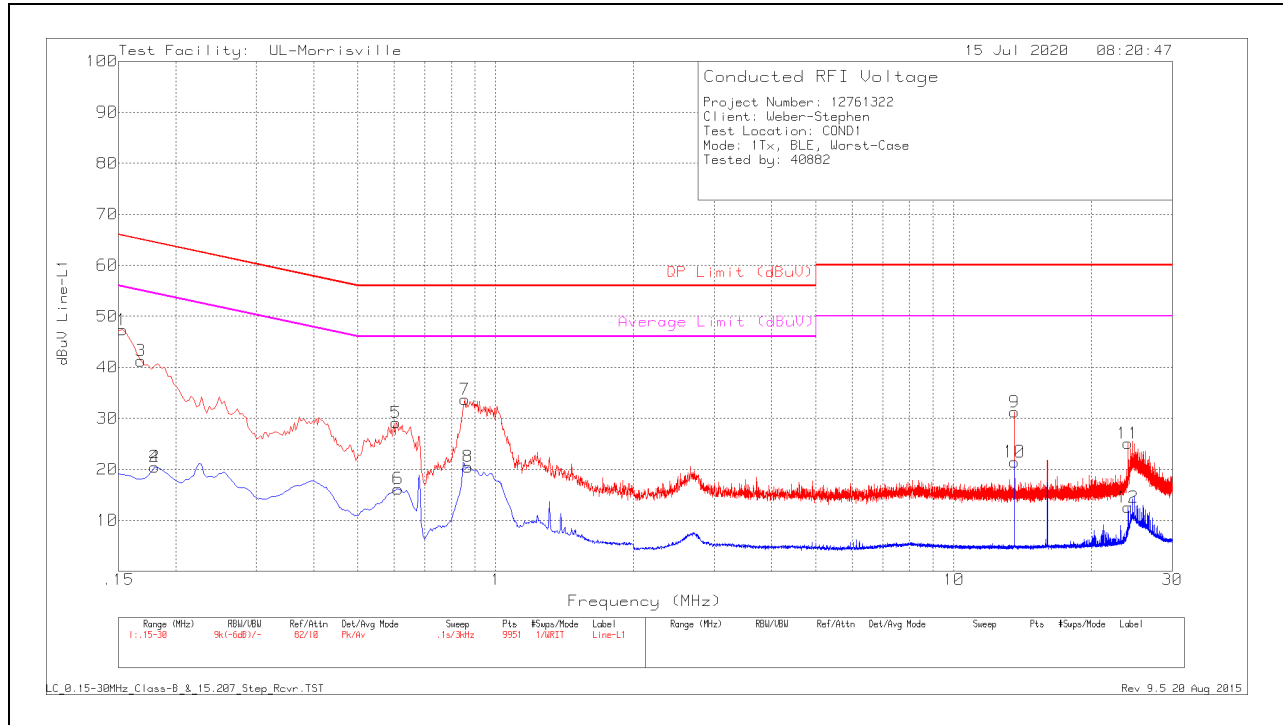
*Decreases with the logarithm of the frequency.

RESULTS

11.1.1. AC Power Line Host

BLE

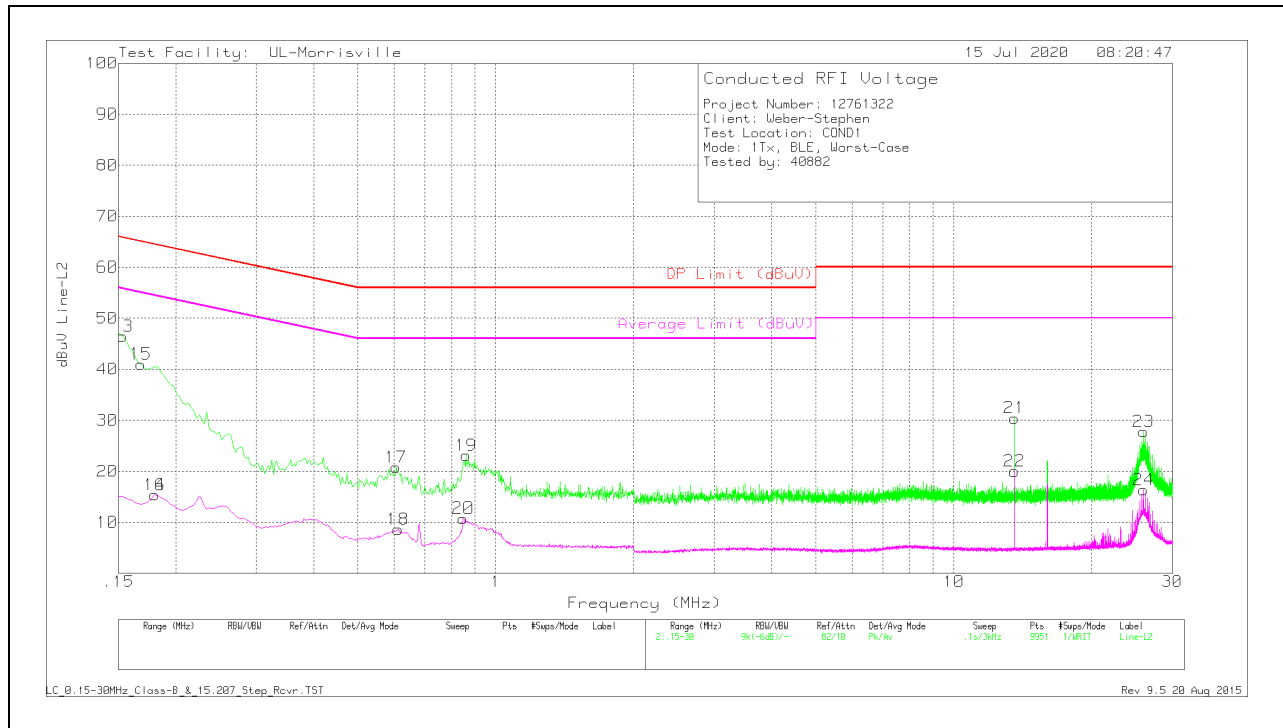
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.153	37.43	Pk	.2	9.7	47.33	65.84	-18.51	-	-
2	.18	10.59	Av	.2	9.7	20.49	-	-	54.49	-34
3	.168	31.37	Pk	.2	9.7	41.27	65.06	-23.79	-	-
4	.18	10.59	Av	.2	9.7	20.49	-	-	54.49	-34
5	.606	19.27	Pk	.1	9.8	29.17	56	-26.83	-	-
6	.612	6.29	Av	.1	9.8	16.19	-	-	46	-29.81
7	.855	23.89	Pk	0	9.8	33.69	56	-22.31	-	-
8	.87	10.7	Av	0	9.8	20.5	-	-	46	-25.5
9	13.563	21.15	Pk	.1	10	31.25	60	-28.75	-	-
10	13.56	11.35	Av	.1	10	21.45	-	-	50	-28.55
11	24.003	14.72	Pk	.2	10.2	25.12	60	-34.88	-	-
12	24	2.13	Av	.2	10.2	12.53	-	-	50	-37.47

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS

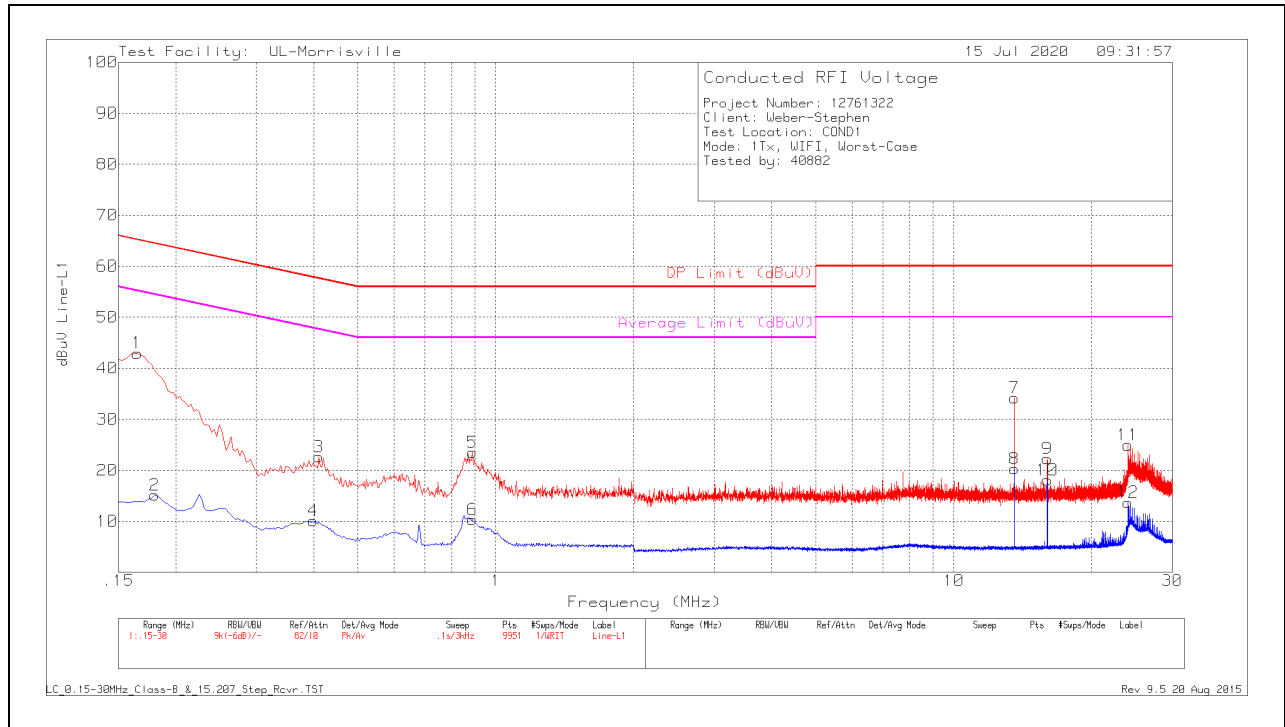


Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.153	36.58	Pk	.2	9.7	46.48	65.84	-19.36	-	-
14	.18	5.51	Av	.2	9.7	15.41	-	-	54.49	-39.08
15	.168	31.1	Pk	.2	9.7	41	65.06	-24.06	-	-
16	.18	5.51	Av	.2	9.7	15.41	-	-	54.49	-39.08
17	.606	11	Pk	0	9.8	20.8	56	-35.2	-	-
18	.612	-1.18	Av	0	9.8	8.62	-	-	46	-37.38
19	.861	13.32	Pk	0	9.8	23.12	56	-32.88	-	-
20	.849	.97	Av	0	9.8	10.77	-	-	46	-35.23
21	13.56	20.34	Pk	.1	10	30.44	60	-29.56	-	-
22	13.56	9.91	Av	.1	10	20.01	-	-	50	-29.99
23	25.941	17.41	Pk	.2	10.2	27.81	60	-32.19	-	-
24	25.941	5.95	Av	.2	10.2	16.35	-	-	50	-33.65

Pk - Peak detector
 Av - Average detection

2.4 WLAN

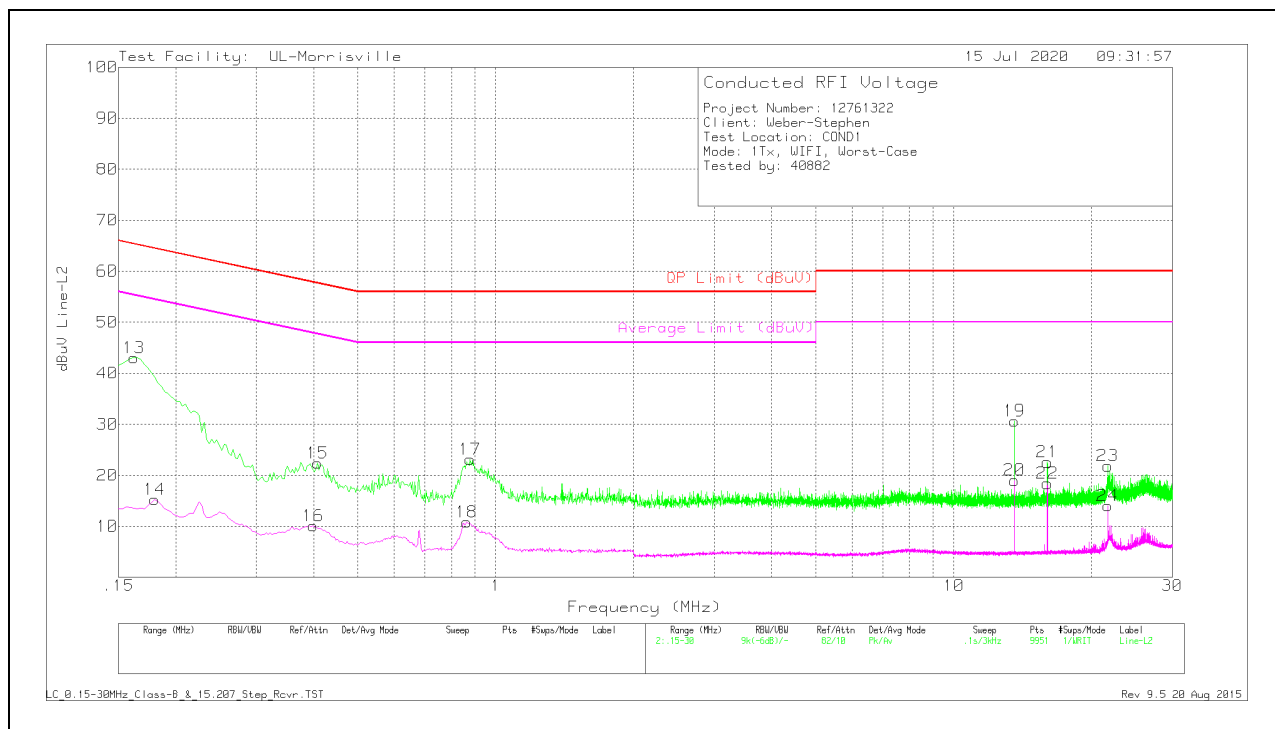
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.165	33.07	Pk	.2	9.7	42.97	65.21	-22.24	-	-
2	.18	5.27	Av	.2	9.7	15.17	-	-	54.49	-39.32
3	.411	12.82	Pk	.1	9.7	22.62	57.63	-35.01	-	-
4	.399	.28	Av	.1	9.7	10.08	-	-	47.87	-37.79
5	.888	13.72	Pk	0	9.8	23.52	56	-32.48	-	-
6	.888	.55	Av	0	9.8	10.35	-	-	46	-35.65
7	13.56	24.06	Pk	.1	10	34.16	60	-25.84	-	-
8	13.56	10.2	Av	.1	10	20.3	-	-	50	-29.7
9	15.999	12.07	Pk	.1	10.1	22.27	60	-37.73	-	-
10	15.999	7.92	Av	.1	10.1	18.12	-	-	50	-31.88
11	24	14.53	Pk	.2	10.2	24.93	60	-35.07	-	-
12	24	3.3	Av	.2	10.2	13.7	-	-	50	-36.3

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.162	33.16	Pk	.2	9.7	43.06	65.36	-22.3	-	-
14	.18	5.35	Av	.2	9.7	15.25	-	-	54.49	-39.24
15	.408	12.57	Pk	.1	9.7	22.37	57.69	-35.32	-	-
16	.399	.33	Av	.1	9.7	10.13	-	-	47.87	-37.74
17	.879	13.31	Pk	0	9.8	23.11	56	-32.89	-	-
18	.864	1	Av	0	9.8	10.8	-	-	46	-35.2
19	13.563	20.56	Pk	.1	10	30.66	60	-29.34	-	-
20	13.563	8.92	Av	.1	10	19.02	-	-	50	-30.98
21	15.999	12.39	Pk	.1	10.1	22.59	60	-37.41	-	-
22	15.999	8.21	Av	.1	10.1	18.41	-	-	50	-31.59
23	21.663	11.55	Pk	.2	10.1	21.85	60	-38.15	-	-
24	21.663	3.72	Av	.2	10.1	14.02	-	-	50	-35.98

Pk - Peak detector
 Av - Average detection

12. SETUP PHOTOS

Please refer to R12761322-EP2 for setup photos

END OF TEST REPORT