



# **CERTIFICATION TEST REPORT**

**Report Number. :** R12761322-E1

**Applicant :** Weber-Stephen Products LLC  
1415 S Roselle Rd  
Palatine, IL, 60067, US

**Model :** CONNECT1

**FCC ID :** 2AHSR-CONNECT1

**IC :** 21267-CONNECT1

**EUT Description :** 2.4 WLAN and BLE Radio module

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

**Date Of Issue:**

2019-06-13

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NVLAP Lab code: 200246-0

## REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2019-06-13	Initial Issue	Niklas Haydon
V2	2019-07-25	Corrected model name	Lariah Ijames

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** Weber-Stephen Products LLC  
1415 S Roselle Rd  
Palatine, IL, 60067, US

**EUT DESCRIPTION:** 2.4 WLAN and BLE Radio module

**MODEL:** CONNECT1

**SERIAL NUMBER:** Non-serialized

**DATE TESTED:** 2019-04-18 to 2019-05-14

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.

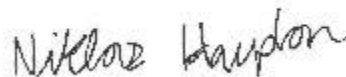
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Approved & Released For  
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## 2. TEST METHODOLOGY

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, North Carolina, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, North Carolina, 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., Suite B
ISED Site Code: 2180C	
<input type="checkbox"/> Chamber A RTP	<input checked="" type="checkbox"/> North Chamber
<input 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

## 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:

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

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

#### MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

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

### 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)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	2.50 dB
All emissions, radiated	4.88 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 CONNECT1 is an 802.11 b/g/n (1x1, 20 MHz) and BLE radio module. The CONNECT1 is referred to in this report as the Pulse and Saber units. The differences are described below.

### 5.2. MAXIMUM OUTPUT POWER

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

#### 2.4GHz BAND – Pulse

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
<b>1Tx</b>			
2412 - 2462	802.11b	19.68	92.90
2412 - 2462	802.11g	14.23	26.49
2412 - 2462	802.11n HT20	13.03	20.09

#### 2.4GHz BAND – Saber

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
<b>1Tx</b>			
2412 - 2462	802.11b	17.70	58.88
2412 - 2462	802.11g	13.80	23.99
2412 - 2462	802.11n HT20	12.71	18.66



### **5.3. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes an OnBoard SMD antenna, with a maximum gain of 3 dBi.

### **5.4. 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).

### **5.1. DESCRIPTION OF MODEL DIFFERENCES**

The manufacturer is producing units of varying trace lengths. The shortest and longest of the trace lengths were selected to represent all variations. The trace lengths between the Pulse and Saber units vary between 15mm and 20mm. Both units were tested for antenna port conducted power, power line conducted emissions, and radiated emissions. The unit with the higher antenna port conducted power was tested for antenna port conducted emissions to represent all models.

### **5.2. 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 and PSD 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 Pulse EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that Z orientation was worst-case orientation; therefore, all final radiated testing was performed with the Pulse EUT in Z orientation.

The fundamental of the Saber 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 Saber EUT in X orientation.

Worst-case data rates as provided by the client were:

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

### 5.3. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	L470	PF0ZV674	NA
Laptop Charger	Lenovo	ADLX65NCC2A	11S45N0263Z1ZS995256HR	NA

#### I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB Type A	1	USB-Micro B	USB	<3M	None

#### TEST SETUP

The EUT is connected to a host laptop computer during the tests. Test software exercised the radio card.

#### SETUP DIAGRAM

Please refer to R12761322-EP1 for setup diagrams

## 6. MEASUREMENT METHOD

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

6 dB BW: ANSI C63.10 Subclause -11.8.1

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

Output Power: 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

Power-Line Conducted Emissions: ANSI C63.10:2013 Sections 6.2

## 7. TEST AND MEASUREMENT EQUIPMENT

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

### Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
<b>Common Equipment</b>					
76022	DC Regulated Power Supply	CircuitSpecialists .Com	CSI3005X5	N/A	N/A
<b>Conducted Room 2</b>					
72822 (PRE0100902)	Spectrum Analyzer	Agilent Technologies	E4446A	2018-11-19	2019-11-19
PWM003 (PRE0137346)	RF Power Meter	Keysight Technologies	N1911A	2018-07-30	2019-07-30
PWS003 (PRE0126443)	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2018-07-30	2019-07-30
SN 181474341	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27
76021	DC Regulated Power Supply	CircuitSpecialists .Com	CSI3005X5	N/A	N/A

### 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	2018-06-19	2019-06-19
s/n 181562858	Environmental Meter	Fisher Scientific	14-650-118	2018-09-04	2020-09-04
LISN003	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2018-08-21	2019-08-21
75141 (PRE0101521)	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2018-08-22	2019-08-22
TL001	Transient Limiter, 0.009-30MHz	Com-Power	LIT-930A	2018-06-13	2019-06-13
PS215	AC Power Source	Elgar	CW2501M (s/n 1523A02397)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
MM0169	Multi-meter	Agilent	U1232A	2019-03-15	2020-03-15

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	<b>1-18 GHz</b>				
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2018-04-30	2019-04-30
AT0067	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-03-22	2020-03-22
	<b>Gain-Loss Chains</b>				
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2019-03-15	2020-03-15
	<b>Receiver &amp; Software</b>				
SA0027	Spectrum Analyzer	Agilent	N9030A	2018-04-04	2019-04-04
SA0026	Spectrum Analyzer	Agilent	N9030A	2019-03-19	2020-03-19
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	<b>Additional Equipment used</b>				
s/n 181474409	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	<b>0.009-30MHz</b>	<b>(Loop Ant.)</b>			
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2019-01-24	2020-01-31
	<b>30-1000 MHz</b>				
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2018-07-24	2019-07-24
	<b>1-18 GHz</b>				
AT0069	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2018-04-30	2019-04-30
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-04-22	2020-04-22
	<b>18-40 GHz</b>				
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2018-11-08	2019-11-08
	<b>Gain-Loss Chains</b>				
S-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2018-09-06	2019-09-06
S-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2018-05-20	2019-05-20
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2019-03-13	2020-03-13
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2018-09-30	2019-09-30
	<b>Receiver &amp; Software</b>				
SA0025	Spectrum Analyzer	Agilent	N9030A	2019-02-28	2020-02-28
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	<b>Additional Equipment used</b>				
s/n 181474409	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27

## 8. ANTENNA PORT TEST RESULTS

### 8.1. ON TIME AND DUTY CYCLE

#### LIMITS

None; for reporting purposes only.

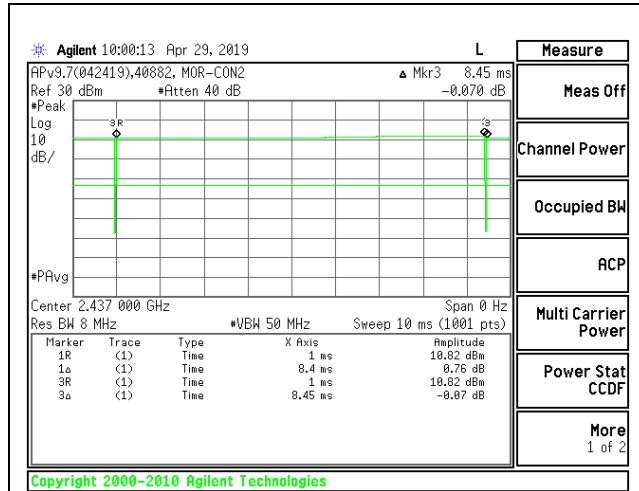
#### PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

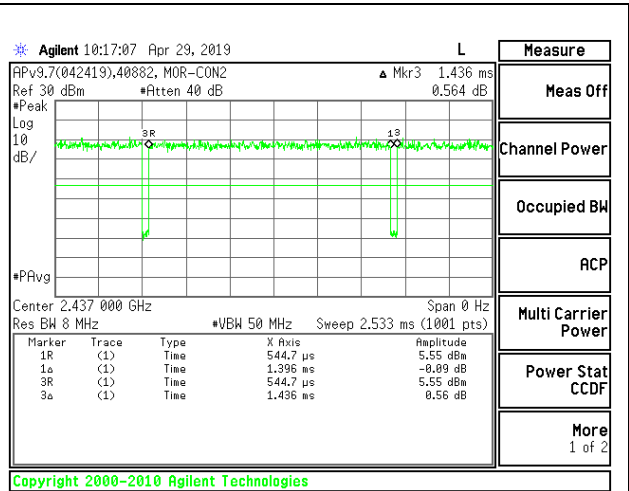
#### ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
<b>2.4GHz Band</b>						
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%	0.12	0.716
802.11n HT20 1TX	1.307	1.350	0.968	96.81%	0.14	0.765

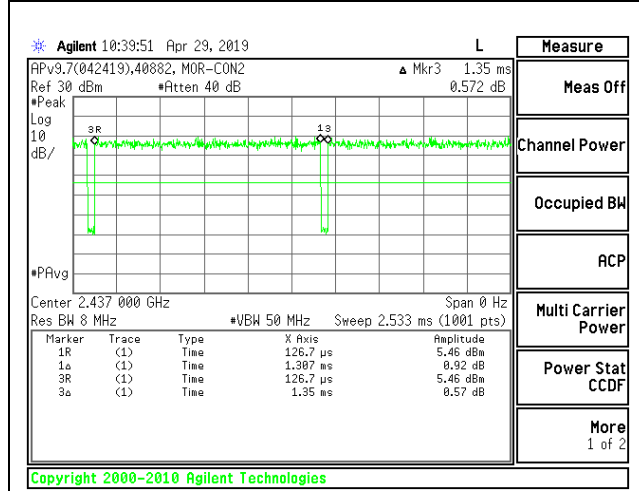
DUTY CYCLE PLOTS



DUTY CYCLE 802.11b 1TX MODE



DUTY CYCLE 802.11g 1TX MODE



DUTY CYCLE 802.11nHT20 1TX MODE



## 8.2. 99% BANDWIDTH

### LIMITS

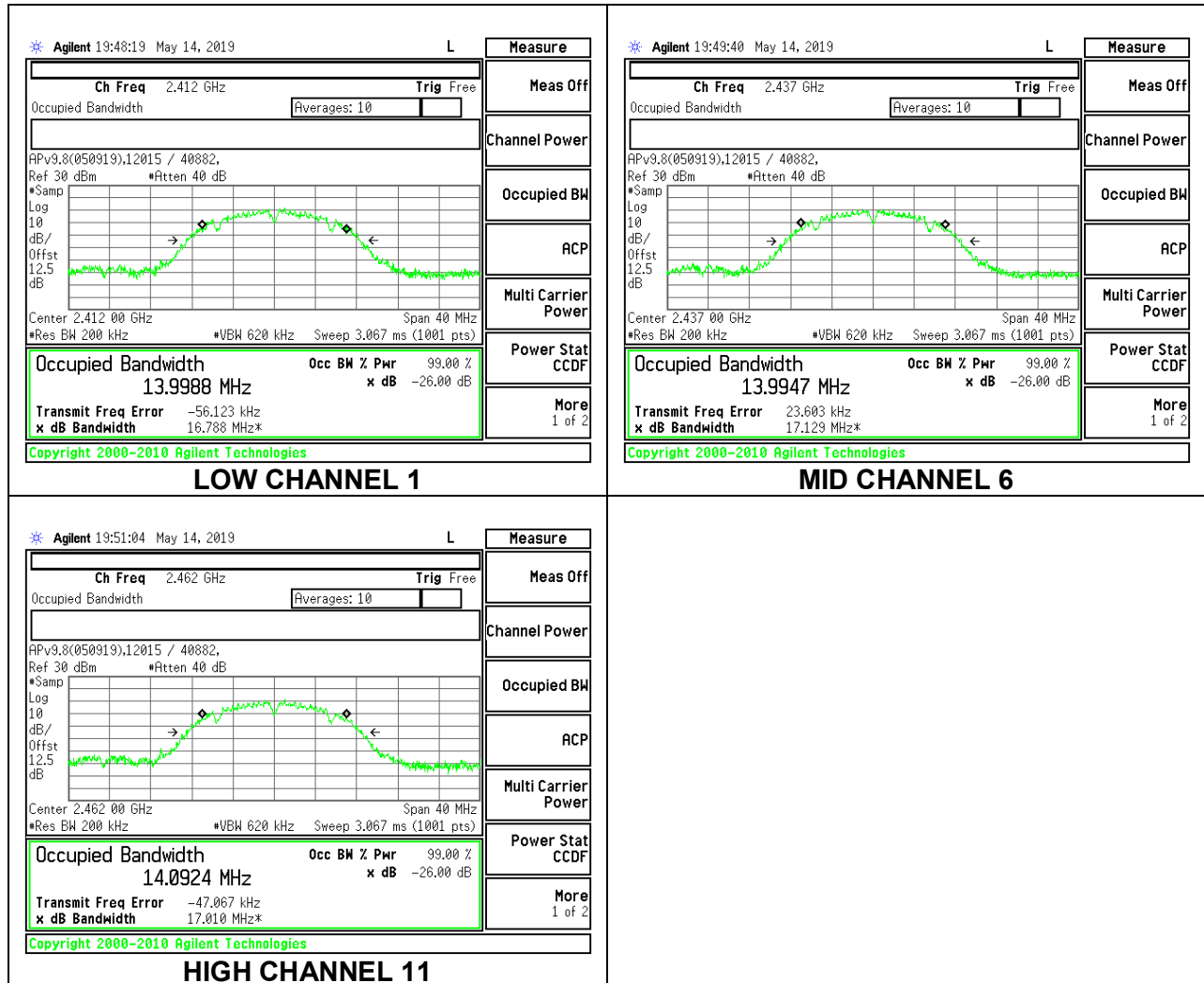
None; for reporting purposes only.

### RESULTS

#### 8.2.1. 802.11b MODE

#### 1TX Antenna 1 MODE

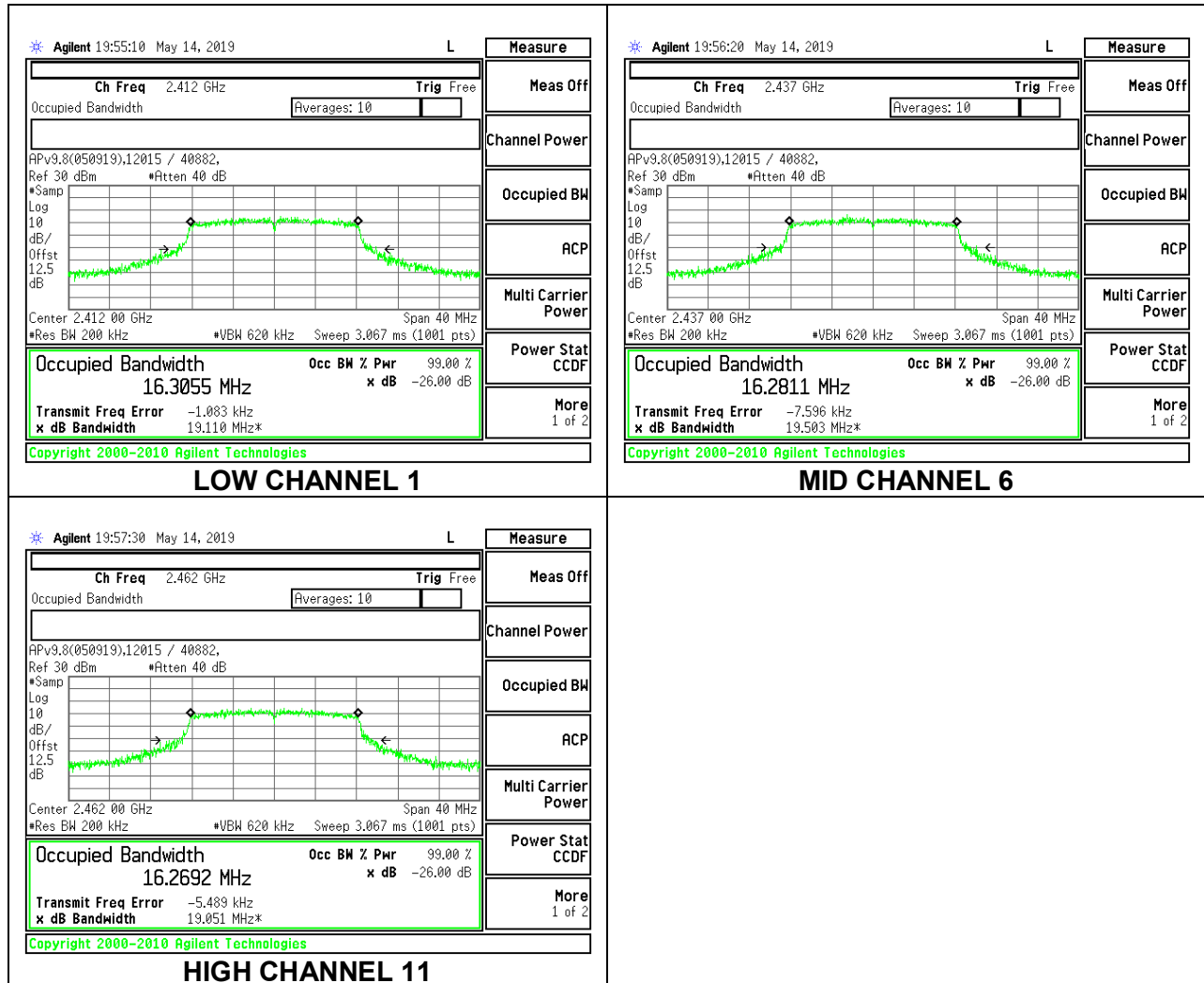
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	13.999
Mid 6	2437	13.995
High 11	2462	14.092



### 8.2.2. 802.11g MODE

#### 1TX Antenna 1 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	16.305
Mid 6	2437	16.281
High 11	2462	16.269



### 8.2.3. 802.11n HT20 MODE

#### 1TX Antenna 1 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	17.389
Mid 6	2437	17.334
High 11	2462	17.464

**LOW CHANNEL 1**

Agilent 19:59:59 May 14, 2019

Ch Freq: 2.412 GHz

Occupied Bandwidth: 17.3888 MHz

Transmit Freq Error: -16.831 kHz

x dB Bandwidth: 19.370 MHz\*

**MID CHANNEL 6**

Agilent 20:01:23 May 14, 2019

Ch Freq: 2.437 GHz

Occupied Bandwidth: 17.3339 MHz

Transmit Freq Error: 15.398 kHz

x dB Bandwidth: 20.217 MHz\*

**HIGH CHANNEL 11**

Agilent 20:02:33 May 14, 2019

Ch Freq: 2.462 GHz

Occupied Bandwidth: 17.4644 MHz

Transmit Freq Error: -10.694 kHz

x dB Bandwidth: 20.176 MHz\*

### **8.3. 6 dB BANDWIDTH**

#### **LIMITS**

FCC §15.247 (a) (2)  
RSS-247 5.2 (a)

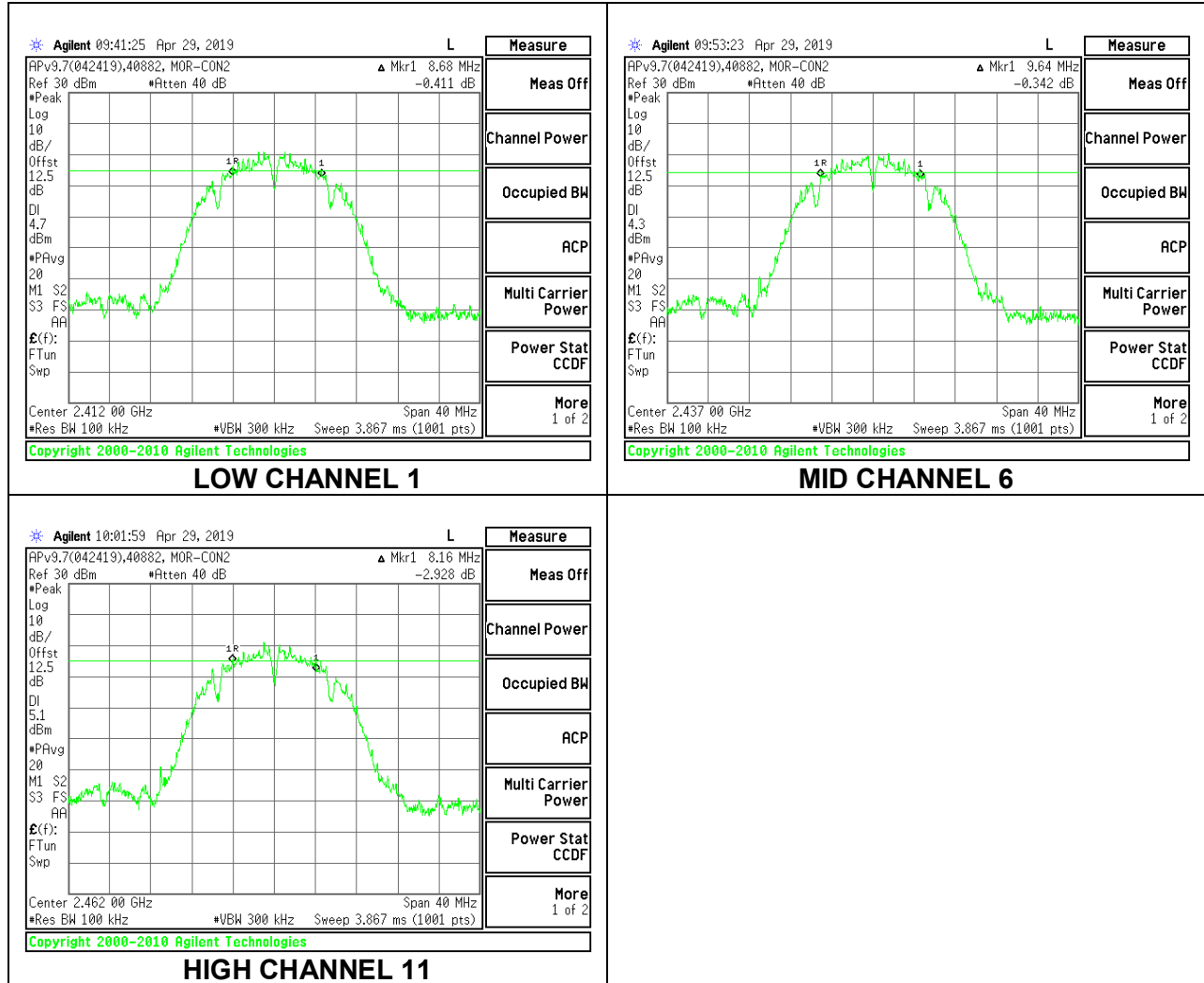
The minimum 6 dB bandwidth shall be at least 500 kHz.

#### **RESULTS**

### 8.3.1. 802.11b MODE

#### 1TX Antenna 1 MODE

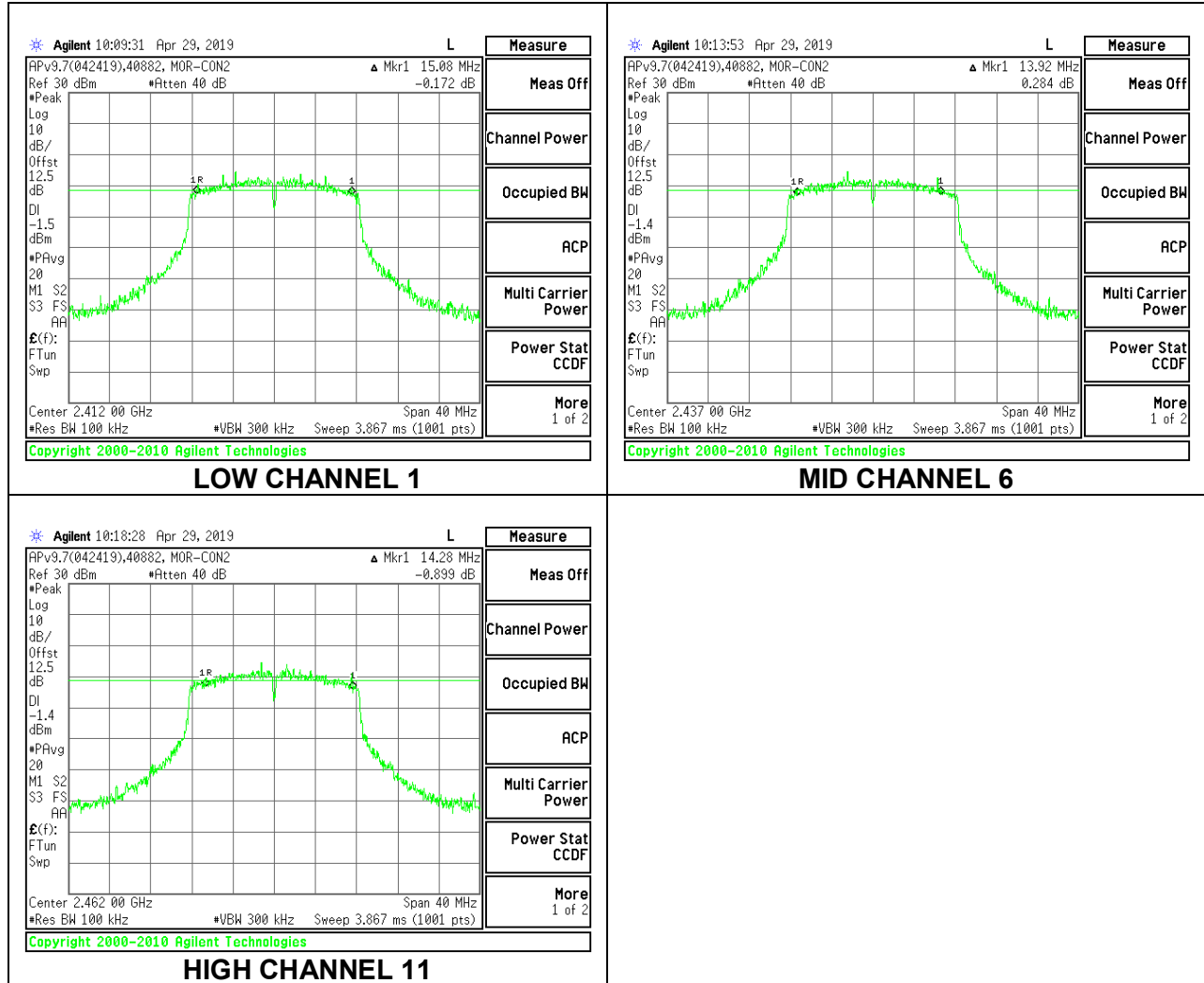
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	8.6800	0.5
Mid 6	2437	9.6400	0.5
High 11	2462	8.1600	0.5



### 8.3.2. 802.11g MODE

#### 1TX Antenna 1 MODE

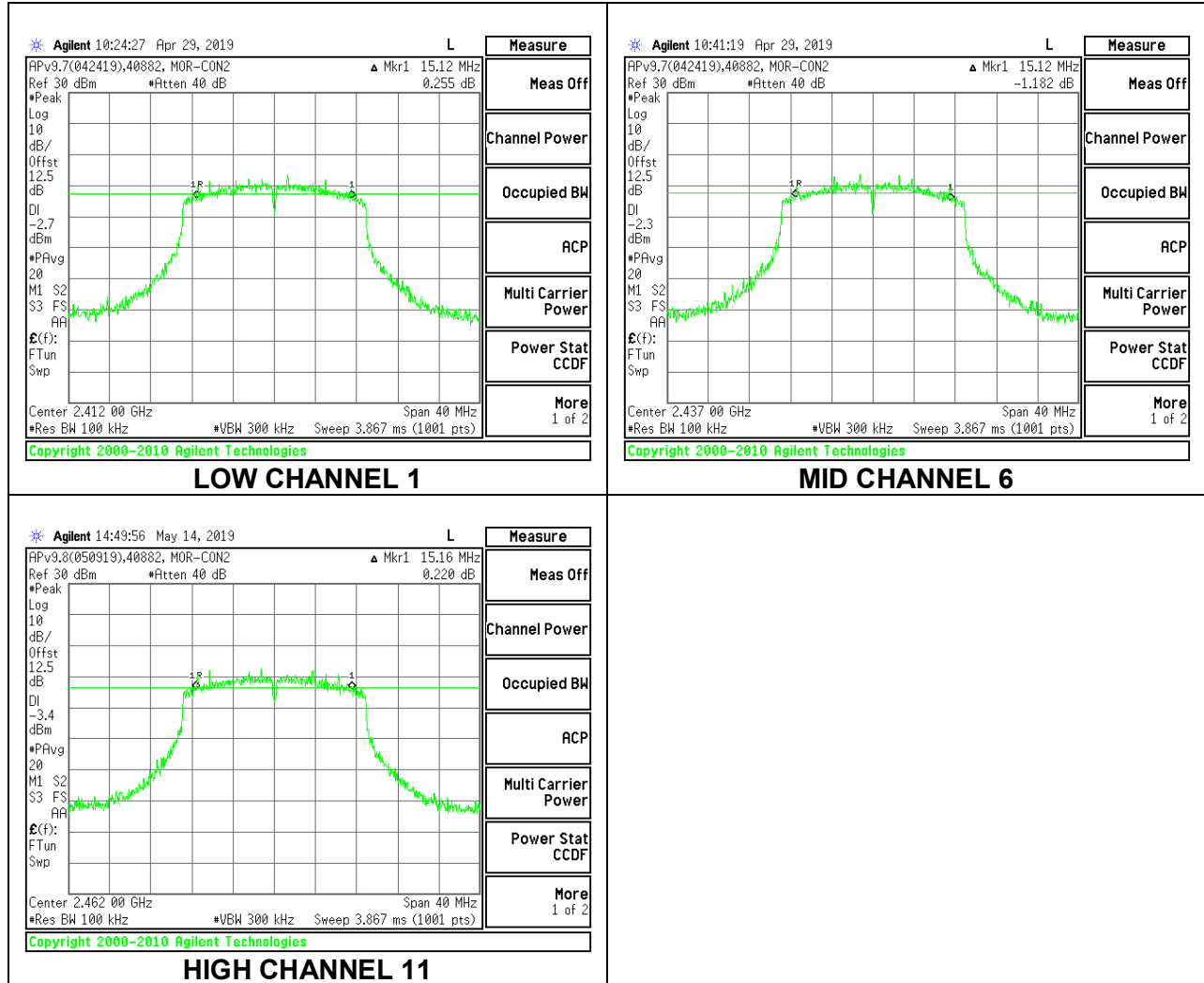
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	15.0800	0.5
Mid 6	2437	13.9200	0.5
High 11	2462	14.2800	0.5



### 8.3.3. 802.11n HT20 MODE

#### 1TX Antenna 1 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	15.1200	0.5
Mid 6	2437	15.1200	0.5
High 11	2462	15.1600	0.5



## 8.4. OUTPUT POWER

### LIMITS

FCC §15.247 (b) (3)  
 RSS-247 5.4 (d)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.3 dB (including 10 dB pad and 1.3 dB cable) was entered as an offset in the power meter to allow for a gated average reading of power.

### DIRECTIONAL ANTENNA GAIN

For 1 TX:

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

### RESULTS - Pulse

#### 8.4.1. 802.11b MODE

##### 1TX Antenna 1 MODE

##### Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	3.00	30.00	30	36	30.00
Mid 6	2437	3.00	30.00	30	36	30.00
High 11	2462	3.00	30.00	30	36	30.00

##### Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	19.68	19.68	30.00	-10.32
Mid 6	2437	19.39	19.39	30.00	-10.61
High 11	2462	19.16	19.16	30.00	-10.84



### 8.4.2. 802.11g MODE

#### 1TX Antenna 1 MODE

##### Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	3.00	30.00	30	36	30.00
Mid 6	2437	3.00	30.00	30	36	30.00
High 11	2462	3.00	30.00	30	36	30.00

##### Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	14.23	14.23	30.00	-15.77
Mid 6	2437	13.73	13.73	30.00	-16.27
High 11	2462	13.48	13.48	30.00	-16.52

### 8.4.3. 802.11n HT20 MODE

#### 1TX Antenna 1 MODE

##### Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	3.00	30.00	30	36	30.00
Mid 6	2437	3.00	30.00	30	36	30.00
High 11	2462	3.00	30.00	30	36	30.00

##### Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	13.03	13.03	30.00	-16.97
Mid 6	2437	12.51	12.51	30.00	-17.49
High 11	2462	12.61	12.61	30.00	-17.39

**RESULTS – Saber**

**8.4.4. 802.11b MODE**

**1TX Antenna 1 MODE**

**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	3.00	30.00	30	36	30.00
Mid 6	2437	3.00	30.00	30	36	30.00
High 11	2462	3.00	30.00	30	36	30.00

**Results**

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	17.70	17.70	30.00	-12.30
Mid 6	2437	17.35	17.35	30.00	-12.65
High 11	2462	17.13	17.13	30.00	-12.87

**8.4.5. 802.11g MODE**

**1TX Antenna 1 MODE**

**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	3.00	30.00	30	36	30.00
Mid 6	2437	3.00	30.00	30	36	30.00
High 11	2462	3.00	30.00	30	36	30.00

**Results**

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	13.80	13.80	30.00	-16.20
Mid 6	2437	13.59	13.59	30.00	-16.41
High 11	2462	13.35	13.35	30.00	-16.65

### 8.4.6. 802.11n HT20 MODE

#### 1TX Antenna 1 MODE

##### Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	3.00	30.00	30	36	30.00
Mid 6	2437	3.00	30.00	30	36	30.00
High 11	2462	3.00	30.00	30	36	30.00

##### Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	12.71	12.71	30.00	-17.29
Mid 6	2437	12.34	12.34	30.00	-17.66
High 11	2462	12.29	12.29	30.00	-17.71

## **8.5. 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.

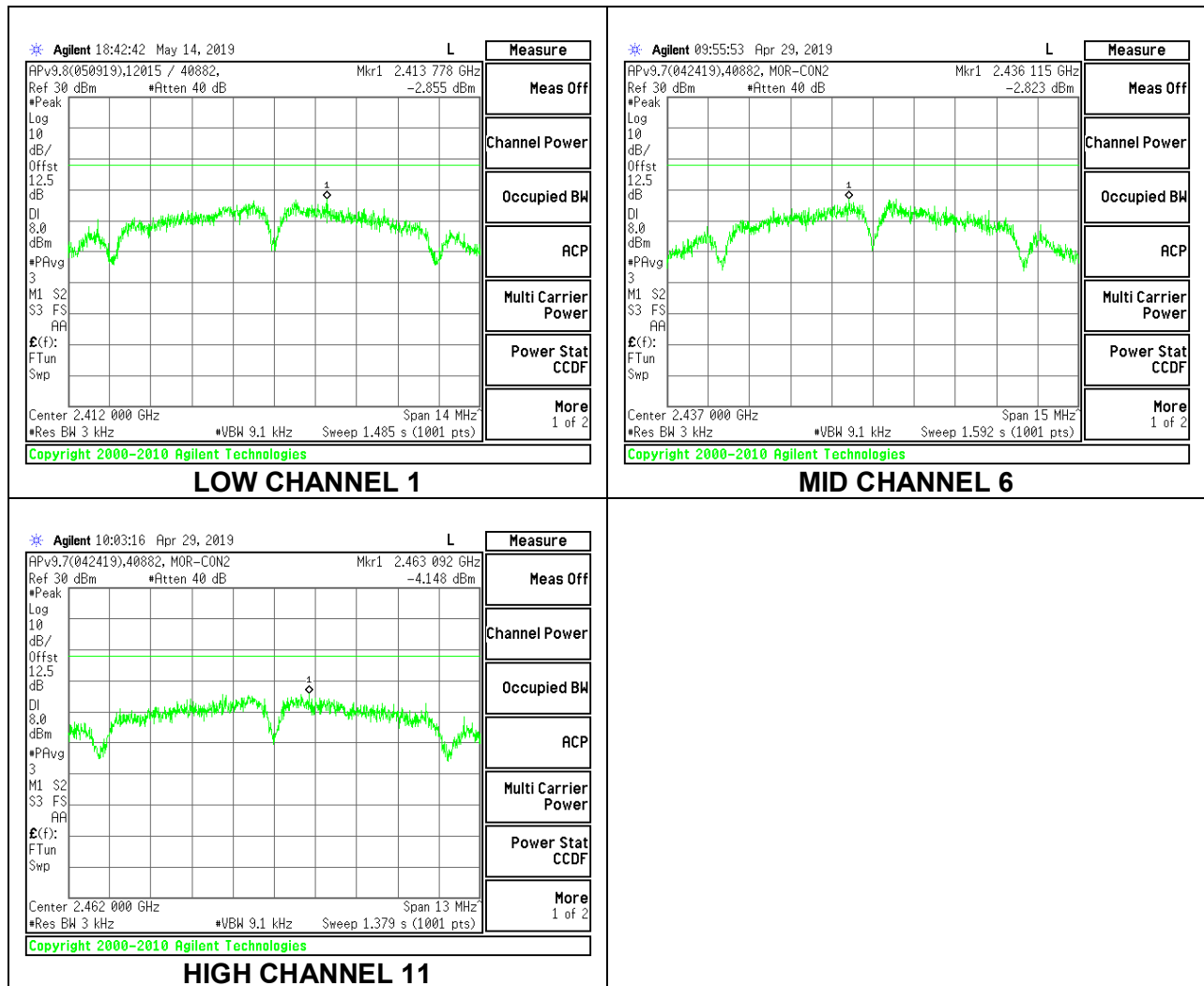
### **RESULTS**

### 8.5.1. 802.11b MODE

#### 1TX Antenna 1 MODE

##### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-2.85	-2.85	8.0	-10.9
Mid 6	2437	-2.82	-2.82	8.0	-10.8
High 11	2462	-4.15	-4.15	8.0	-12.2

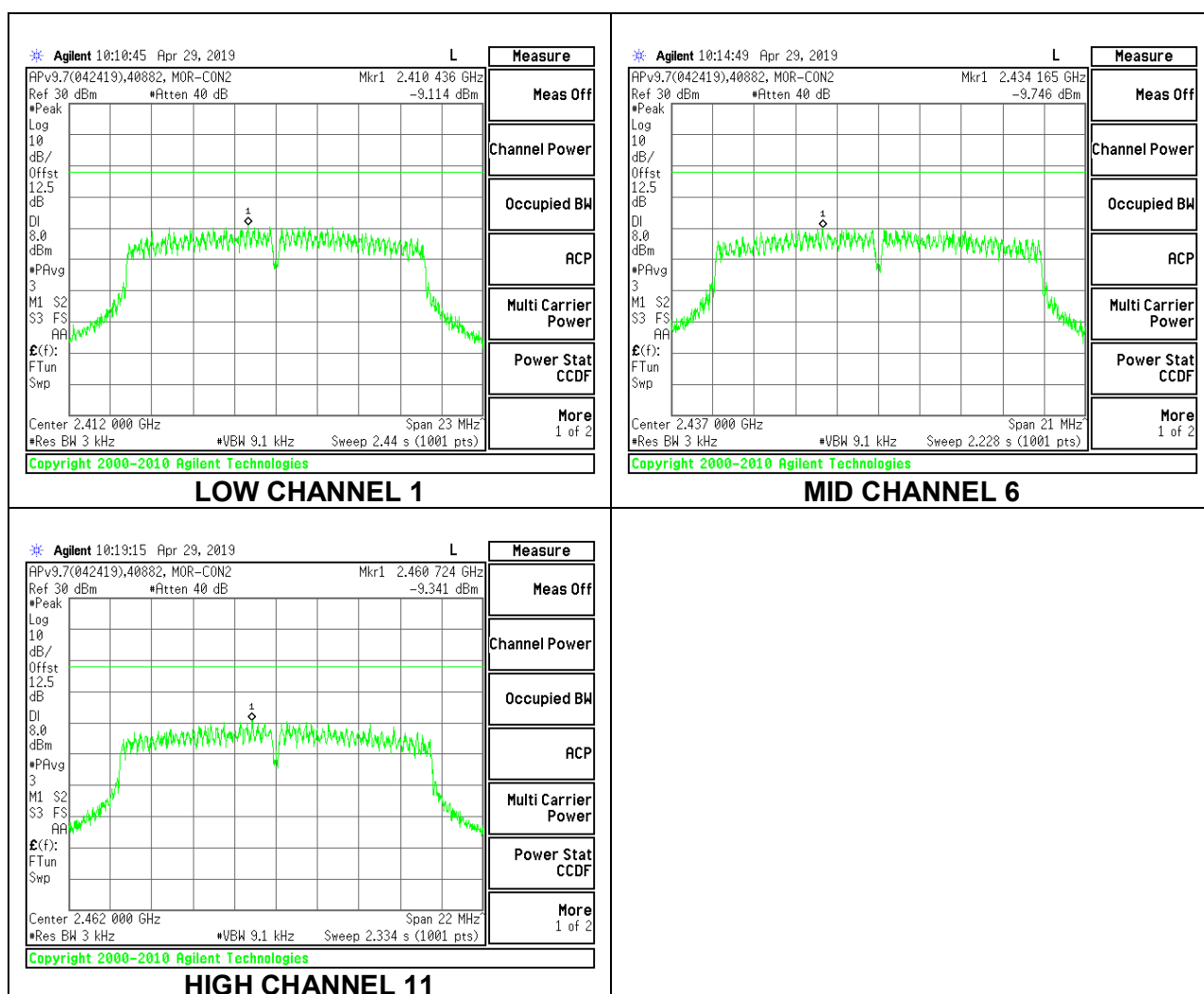


### 8.5.2. 802.11g MODE

#### 1TX Antenna 1 MODE

##### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-9.11	-9.11	8.0	-17.1
Mid 6	2437	-9.75	-9.75	8.0	-17.8
High 11	2462	-9.34	-9.34	8.0	-17.3

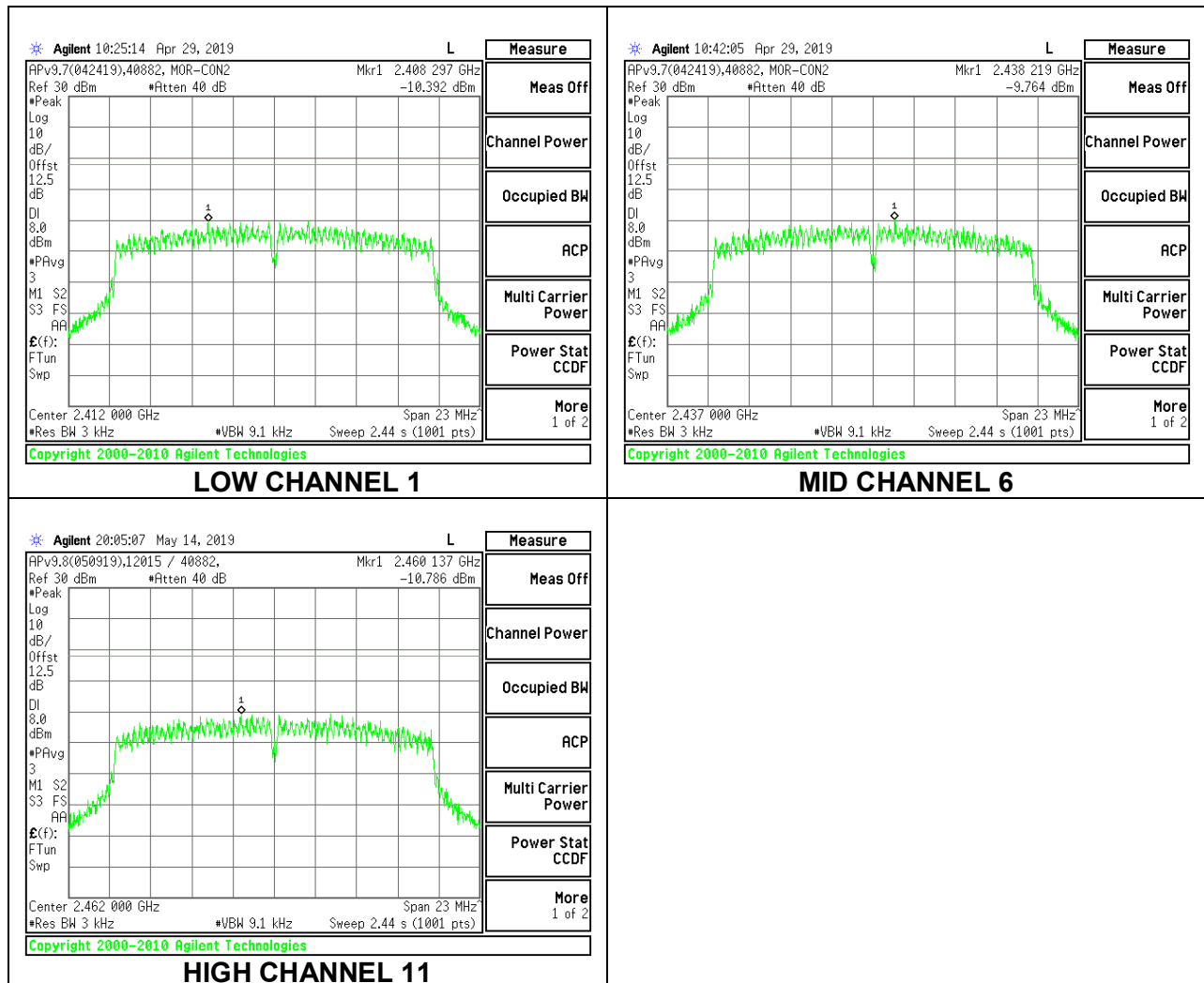


### 8.5.3. 802.11n HT20 MODE

#### 1TX Antenna 1 MODE

##### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-10.39	-10.39	8.0	-18.4
Mid 6	2437	-9.76	-9.76	8.0	-17.8
High 11	2462	-10.79	-10.79	8.0	-18.8



## **8.6. CONDUCTED SPURIOUS EMISSIONS**

### **LIMITS**

FCC §15.247 (d)

RSS-247 5.5

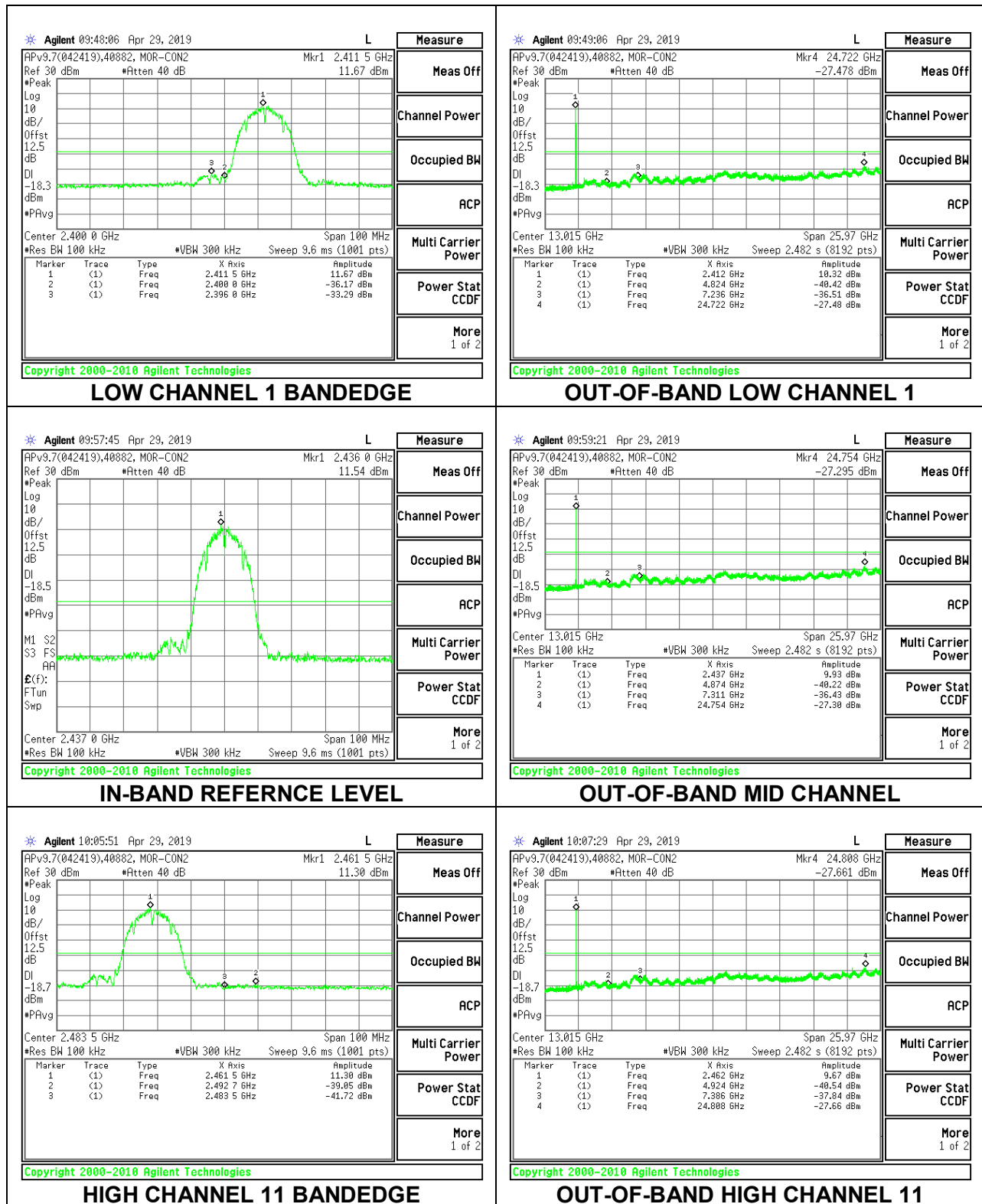
Output power was measured based on the use of average measurement, therefore the required attenuation is 30 dB.

### **RESULTS**



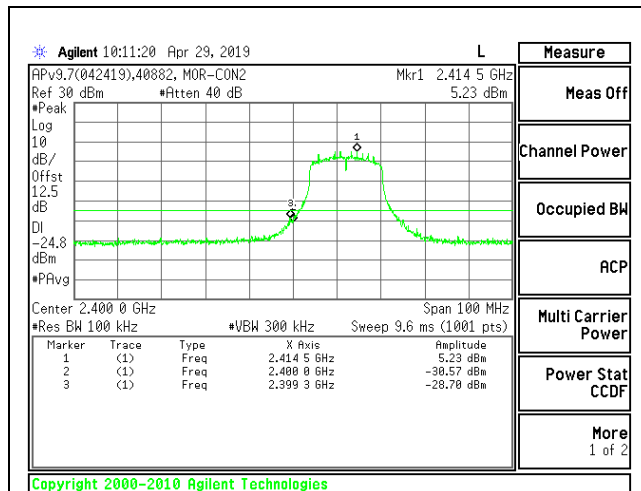
### 8.6.1. 802.11b MODE

#### 1TX Antenna 1 MODE

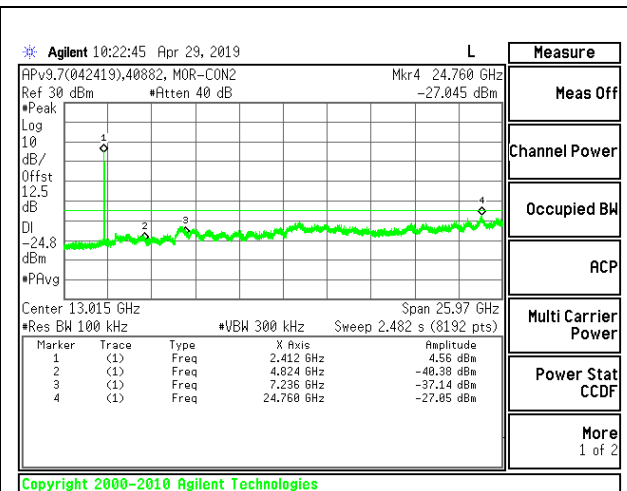


### 8.6.2. 802.11g MODE

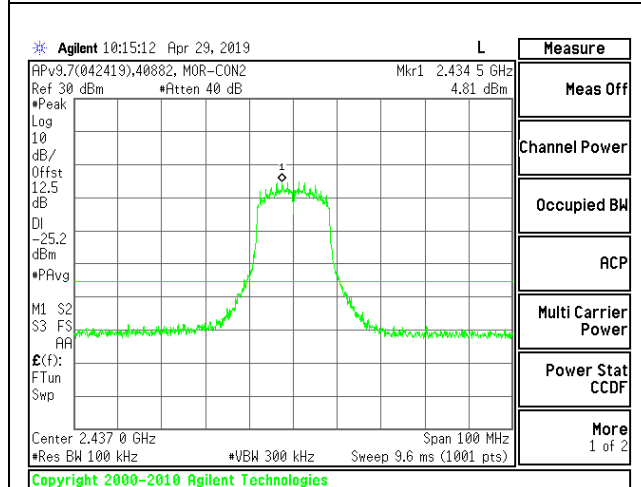
#### 1TX Antenna 1 MODE



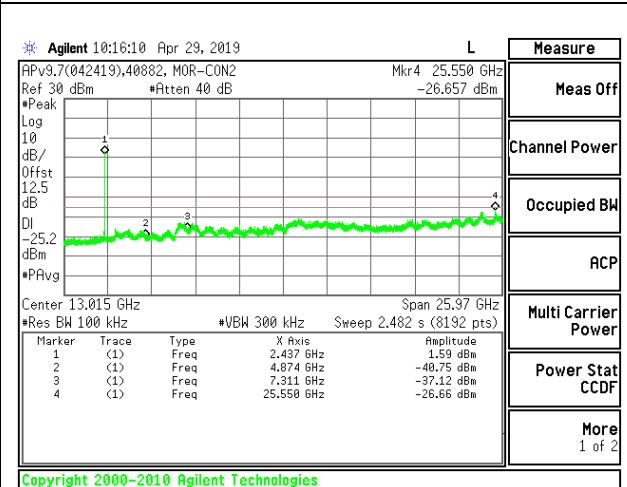
**LOW CHANNEL 1 BANDEDGE**



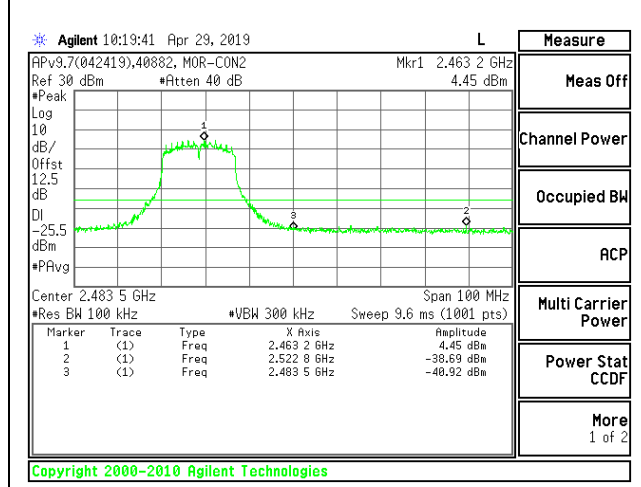
**OUT-OF-BAND LOW CHANNEL 1**



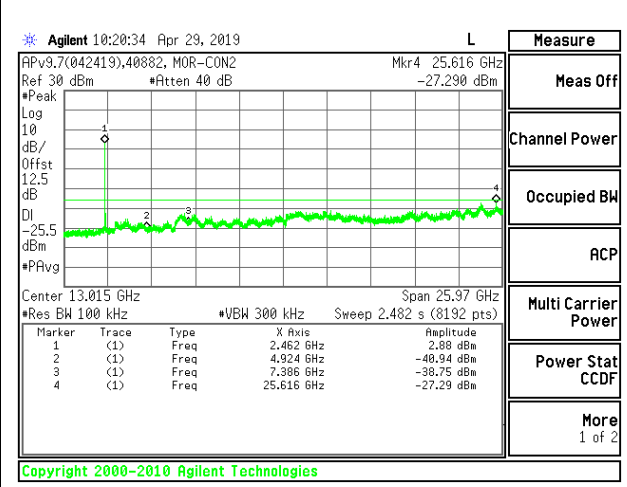
**IN-BAND REFERENCE LEVEL**



**OUT-OF-BAND MID CHANNEL**



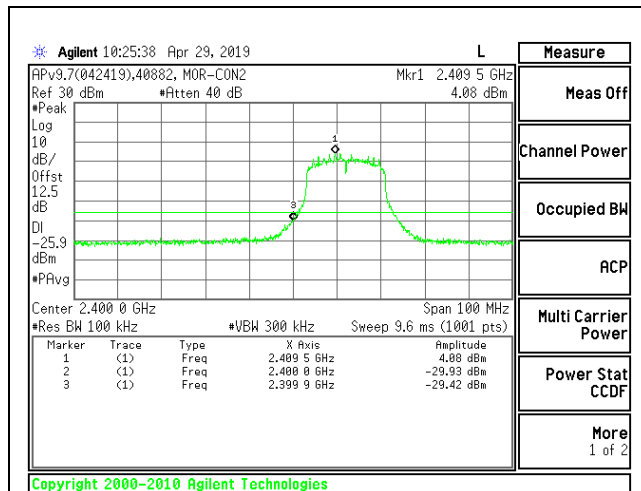
**HIGH CHANNEL 11 BANDEDGE**



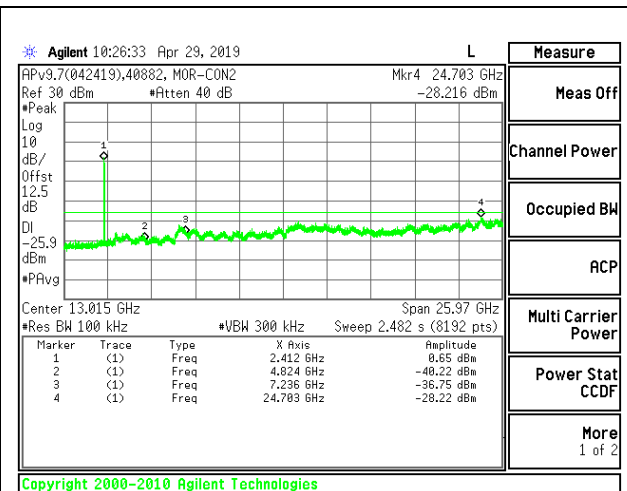
**OUT-OF-BAND HIGH CHANNEL 11**

### 8.6.3. 802.11n HT20 MODE

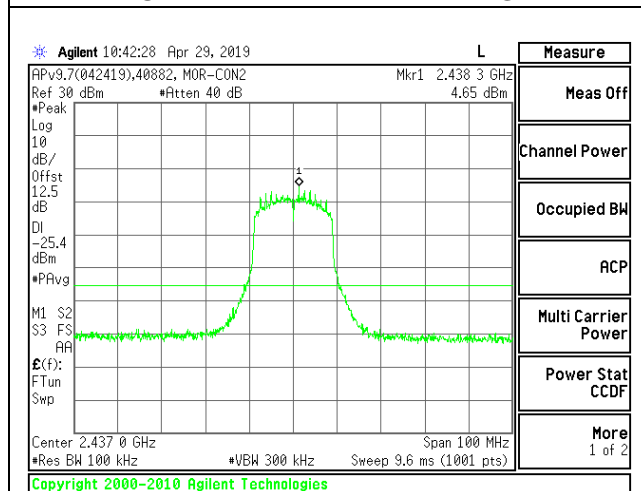
#### 1TX Antenna 1 MODE



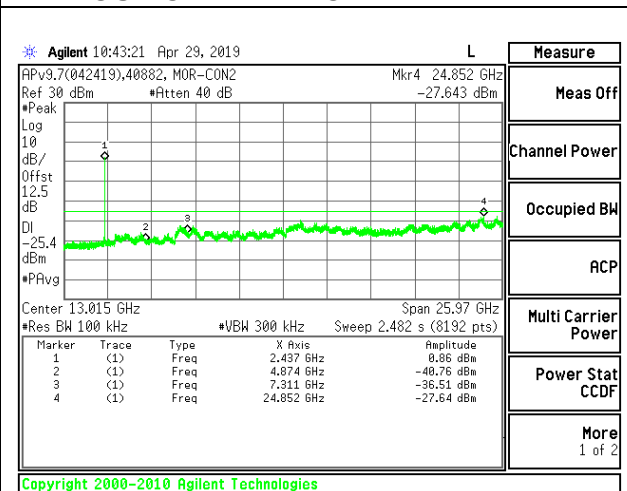
**LOW CHANNEL 1 BANDEDGE**



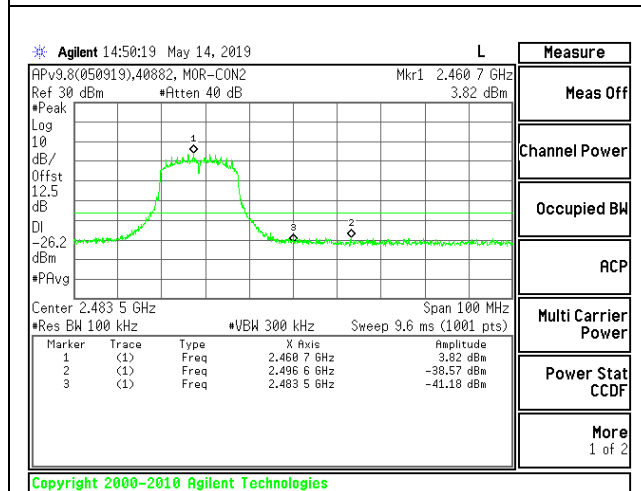
**OUT-OF-BAND LOW CHANNEL 1**



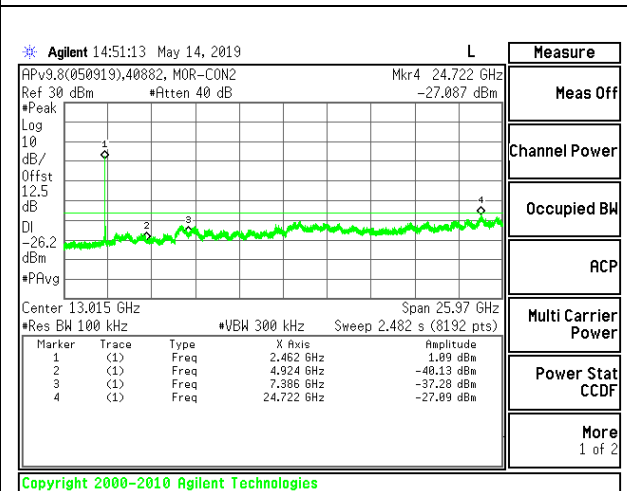
**IN-BAND REFERENCE LEVEL**



**OUT-OF-BAND MID CHANNEL**



**HIGH CHANNEL 11 BANDEDGE**



**OUT-OF-BAND HIGH CHANNEL 11**

## 9. RADIATED TEST RESULTS

### 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 detection measurements or 120 kHz for quasi-peak detection measurements for the 30-1000 MHz range, 9 kHz for peak detection measurements or 9 kHz for quasi-peak detection measurements for the 0.15-30 MHz range and 200 Hz for peak detection measurements or 200 Hz for quasi-peak detection measurements for the 9 to 150 kHz 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 peak measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz. For final average measurements above 1GHz, the resolution bandwidth and video bandwidth are set as described in ANSI C63.10:2013 for the applicable measurement. The particular averaging method used for this test program was RMS averaging.

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 and PSD 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.

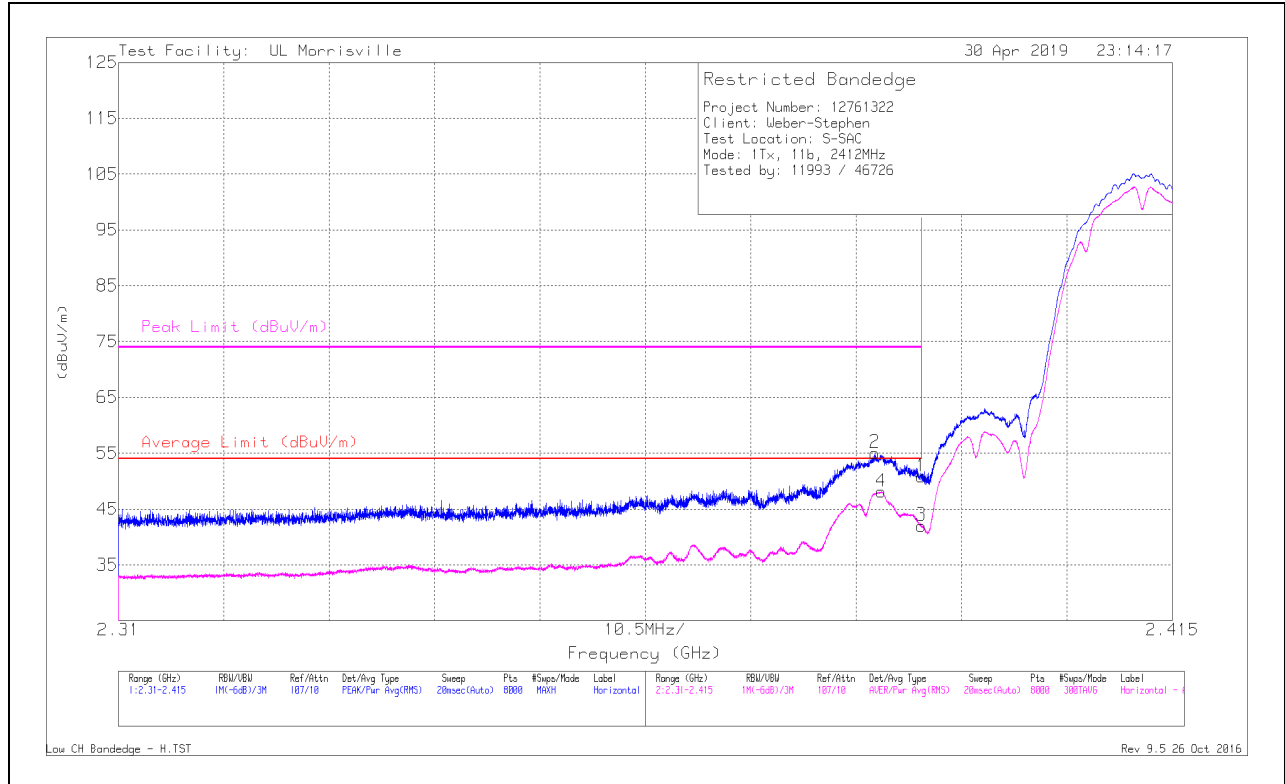
## 9.1. TRANSMITTER ABOVE 1 GHz

### 9.1.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

#### Pulse

#### BANDEDGE (LOW CHANNEL, CH 1)

#### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (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	42.9	Pk	31.9	-24	50.8	-	-	74	-23.2	235	124	H
2	*** 2.385	47.17	Pk	31.9	-24	55.07	-	-	74	-18.93	235	124	H
3	*** 2.39	34.14	RMS	31.9	-24	42.04	54	-11.96	-	-	235	124	H
4	** 2.386	40.2	RMS	31.9	-24	48.1	54	-5.9	-	-	235	124	H

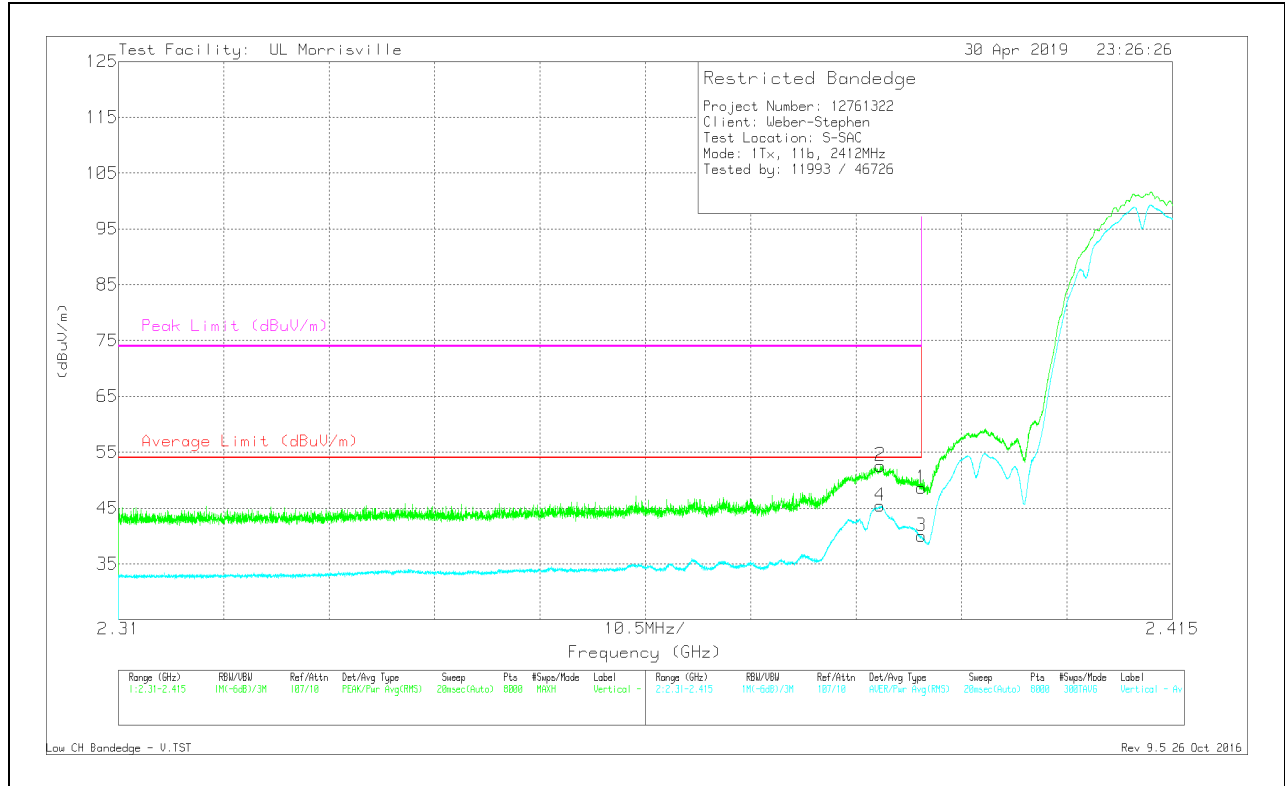
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

### VERTICAL RESULT

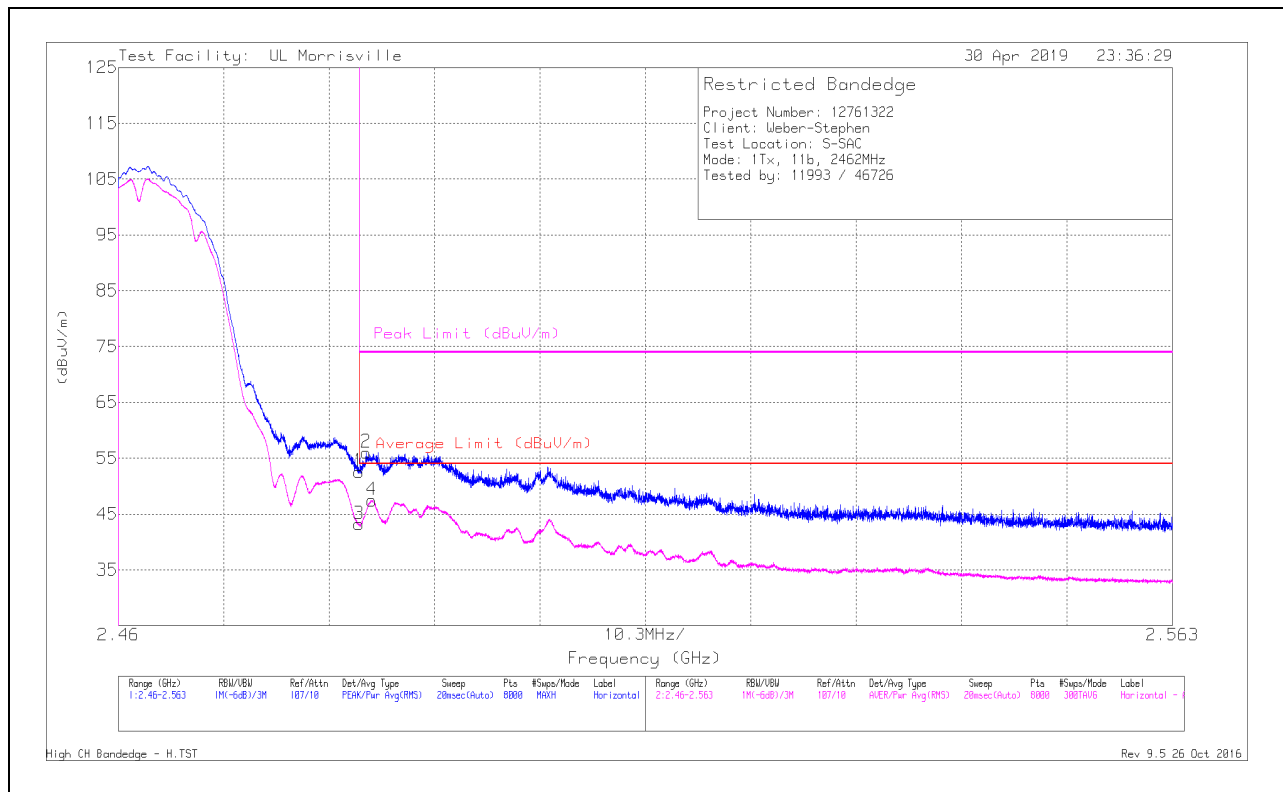


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	40.7	Pk	31.9	-24	48.6	-	-	74	-25.4	212	223	V
2	* ** 2.386	44.71	Pk	31.9	-24	52.61	-	-	74	-21.39	212	223	V
3	* ** 2.39	32.1	RMS	31.9	-24	40	54	-14	-	-	212	223	V
4	* ** 2.386	37.5	RMS	31.9	-24	45.4	54	-8.6	-	-	212	223	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### BANDEDGE (HIGH CHANNEL, CH 11)

### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (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	*** 2.484	44.81	Pk	32.3	-24.5	52.61	-	-	74	-21.39	222	249	H
2	*** 2.484	48.25	Pk	32.3	-24.5	56.05	-	-	74	-17.95	222	249	H
3	*** 2.484	35.42	RMS	32.3	-24.5	43.22	54	-10.78	-	-	222	249	H
4	*** 2.485	39.66	RMS	32.3	-24.5	47.46	54	-6.54	-	-	222	249	H

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

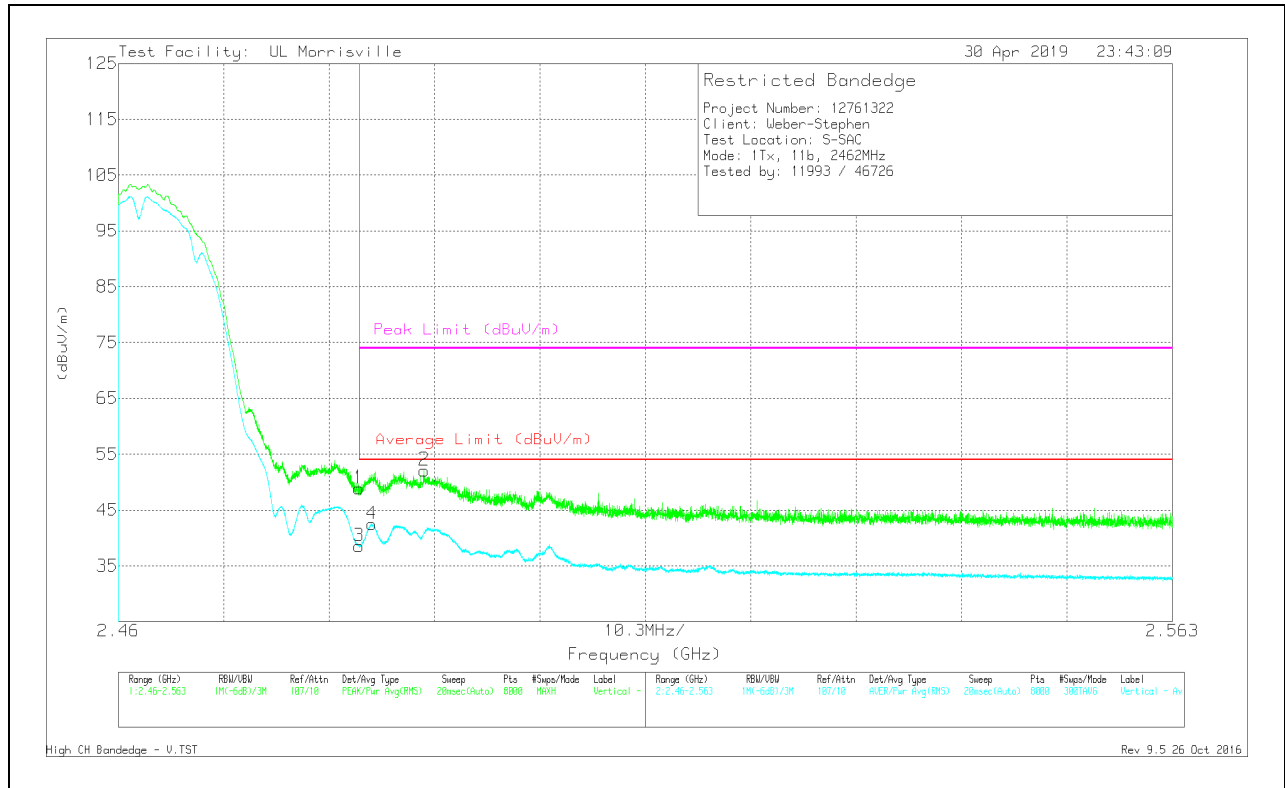
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection



### VERTICAL RESULT

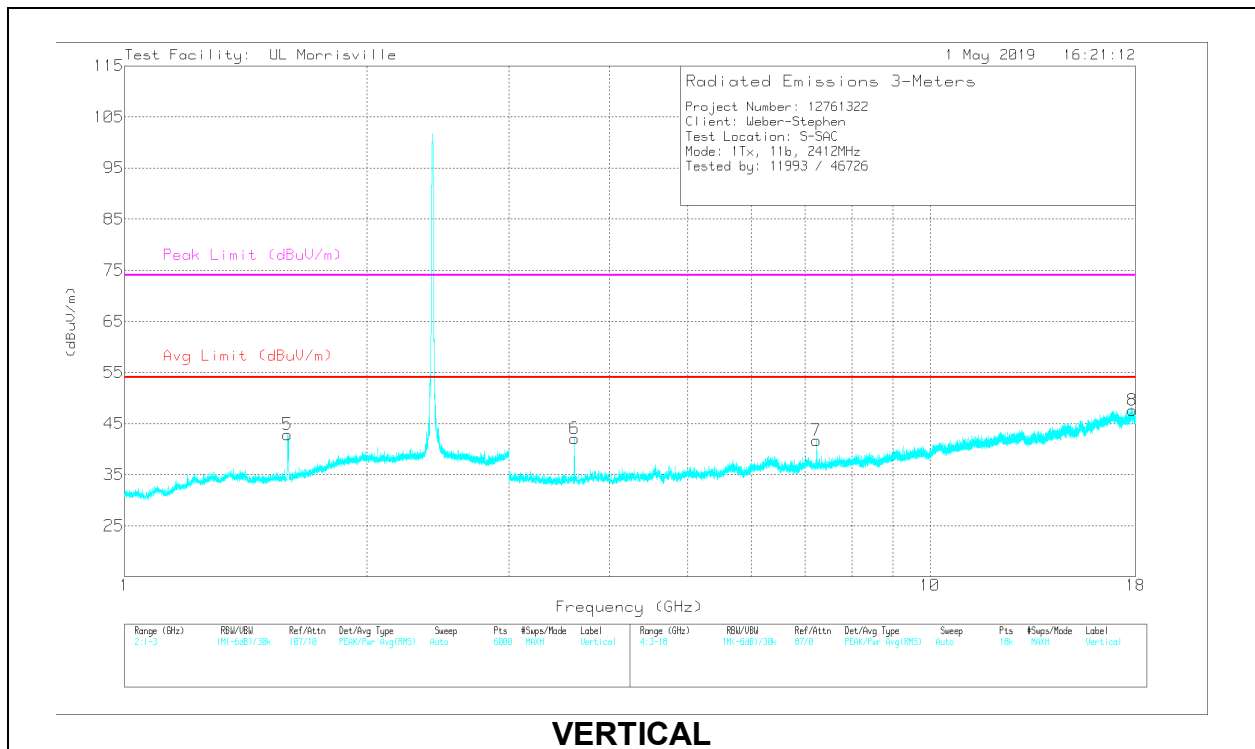
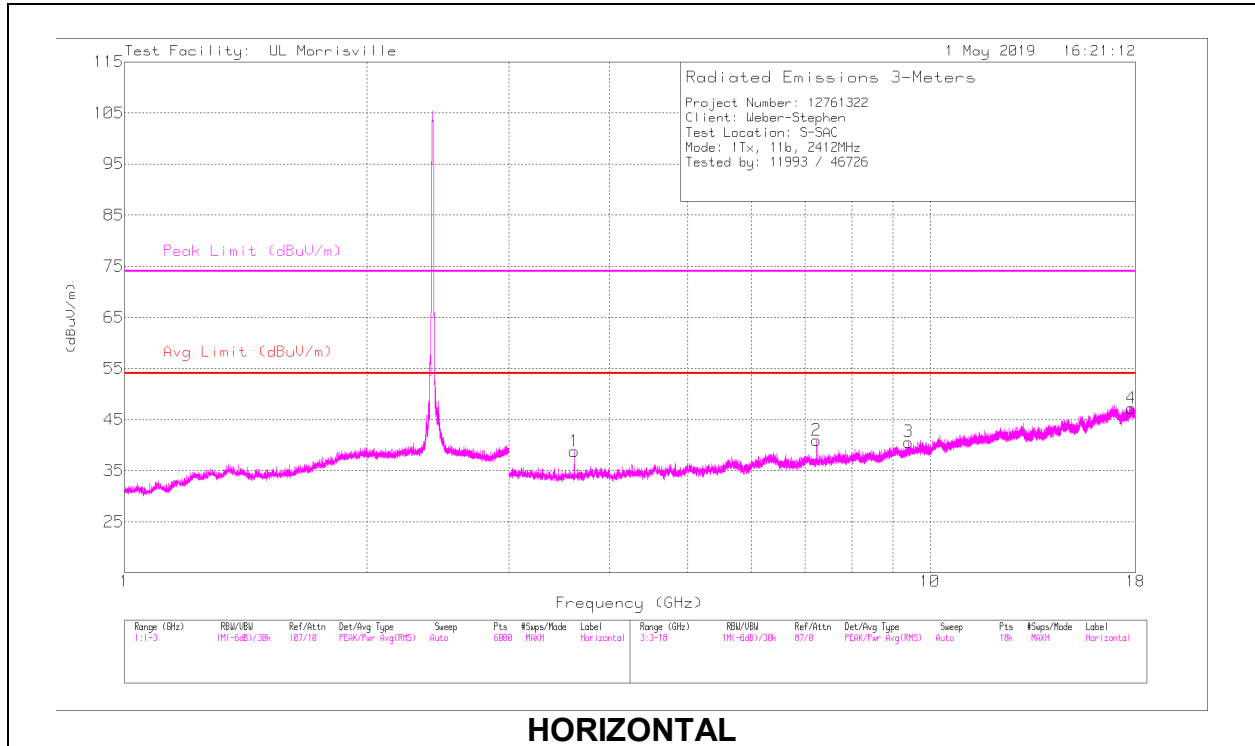


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.484	41.1	Pk	32.3	-24.5	48.9	-	-	74	-25.1	251	221	V
2	** 2.49	44.31	Pk	32.3	-24.5	52.11	-	-	74	-21.89	251	221	V
3	** 2.484	30.73	RMS	32.3	-24.5	38.53	54	-15.47	-	-	251	221	V
4	** 2.485	34.64	RMS	32.3	-24.5	42.44	54	-11.56	-	-	251	221	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

**HARMONICS AND SPURIOUS EMISSIONS**

**LOW CHANNEL, CH 1 RESULTS**



**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
5	*** 1.593	45.53	PK2	27.8	-22.2	51.13	-	-	74	-22.87	214	385	V
	*** 1.594	24.71	MAv1	27.8	-22.2	30.31	54	-23.69	-	-	214	385	V
1	*** 3.618	43.65	PK2	32.9	-31.9	44.65	-	-	74	-29.35	24	102	H
	*** 3.618	36.21	MAv1	32.9	-31.9	37.21	54	-16.79	-	-	24	102	H
3	*** 9.405	35.71	PK2	36.9	-26.3	46.31	-	-	74	-27.69	44	332	H
	*** 9.406	23.68	MAv1	36.9	-26.3	34.28	54	-19.72	-	-	44	332	H
4	*** 17.769	34.62	PK2	41.2	-21.4	54.42	-	-	74	-19.58	177	225	H
	*** 17.77	22.36	MAv1	41.2	-21.4	42.16	54	-11.84	-	-	177	225	H
6	*** 3.618	45.1	PK2	32.9	-31.9	46.1	-	-	74	-27.9	32	220	V
	*** 3.618	39.03	MAv1	32.9	-31.9	40.03	54	-13.97	-	-	32	220	V
8	*** 17.834	33.16	PK2	41.2	-20.9	53.46	-	-	74	-20.54	352	260	V
	*** 17.837	21.7	MAv1	41.2	-20.9	42	54	-12	-	-	352	260	V
2	7.235	33.1	Pk	35.7	-27.9	40.9	-	-	-	-	0-360	102	H
7	7.235	33.92	Pk	35.7	-27.9	41.72	-	-	-	-	0-360	101	V

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

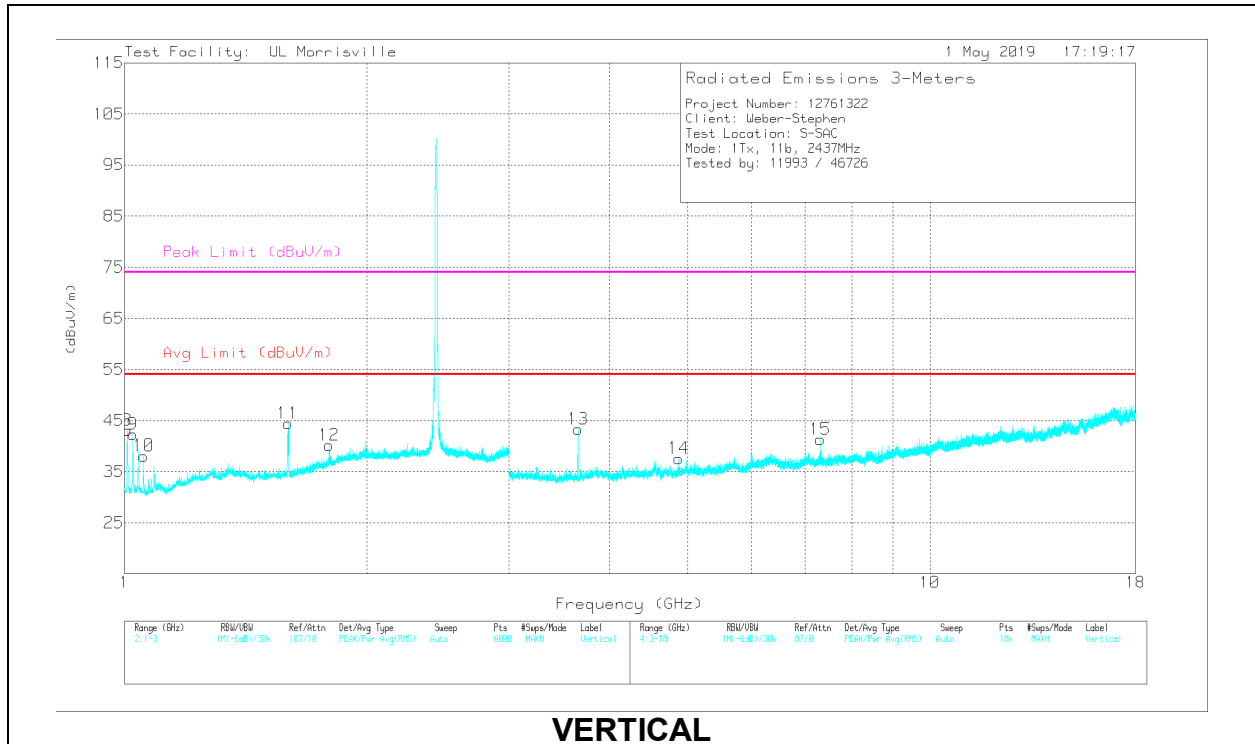
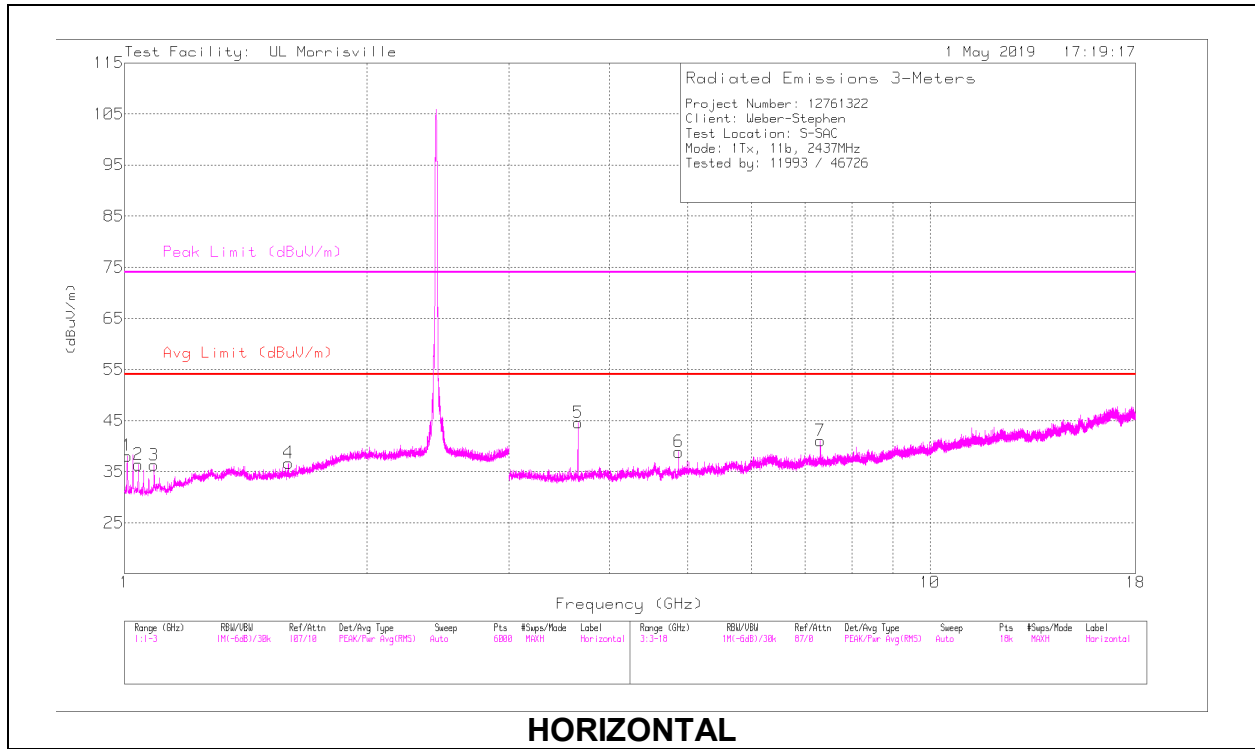
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

MAv1 - Maximum RMS Average

Pk - Peak detector

### MID CHANNEL, CH 6 RESULTS



**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	*** 1.008	40.98	PK2	27.8	-24.8	43.98	-	-	74	-30.02	168	207	H
	*** 1.008	33.81	MAv1	27.8	-24.8	36.81	54	-17.19	-	-	168	207	H
2	*** 1.04	39.7	PK2	27	-24.6	42.1	-	-	74	-31.9	157	193	H
	*** 1.04	31.71	MAv1	27	-24.6	34.11	54	-19.89	-	-	157	193	H
3	*** 1.088	39.54	PK2	27.5	-24.4	42.64	-	-	74	-31.36	88	119	H
	*** 1.088	31.13	MAv1	27.5	-24.4	34.23	54	-19.77	-	-	88	119	H
4	*** 1.598	39.87	PK2	27.8	-22.2	45.47	-	-	74	-28.53	109	382	H
	*** 1.598	24.22	MAv1	27.8	-22.2	29.82	54	-24.18	-	-	109	382	H
8	*** 1.009	43.38	PK2	27.8	-24.8	46.38	-	-	74	-27.62	243	110	V
	*** 1.008	37.87	MAv1	27.8	-24.8	40.87	54	-13.13	-	-	243	110	V
9	*** 1.024	43.57	PK2	27.3	-24.7	46.17	-	-	74	-27.83	242	102	V
	*** 1.024	38.48	MAv1	27.3	-24.7	41.08	54	-12.92	-	-	242	102	V
10	*** 1.056	39.91	PK2	27.1	-24.5	42.51	-	-	74	-31.49	242	108	V
	*** 1.056	32.5	MAv1	27.1	-24.5	35.1	54	-18.9	-	-	242	108	V
11	*** 1.595	47.44	PK2	27.8	-22.2	53.04	-	-	74	-20.96	193	253	V
	*** 1.595	26.79	MAv1	27.8	-22.2	32.39	54	-21.61	-	-	193	253	V
5	*** 3.655	45.35	PK2	32.9	-32	46.25	-	-	74	-27.75	0	104	H
	*** 3.655	39.68	MAv1	32.9	-32	40.58	54	-13.42	-	-	0	104	H
6	*** 4.874	42.07	PK2	34	-30.7	45.37	-	-	74	-28.63	29	120	H
	*** 4.874	34.49	MAv1	34	-30.7	37.79	54	-16.21	-	-	29	120	H
7	*** 7.311	40.02	PK2	35.7	-27.5	48.22	-	-	74	-25.78	190	134	H
	*** 7.311	30.58	MAv1	35.7	-27.5	38.78	54	-15.22	-	-	190	134	H
13	*** 3.655	47.14	PK2	32.9	-32	48.04	-	-	74	-25.96	235	218	V
	*** 3.655	42.61	MAv1	32.9	-32	43.51	54	-10.49	-	-	235	218	V
14	*** 4.874	41.02	PK2	34	-30.7	44.32	-	-	74	-29.68	290	208	V
	*** 4.874	33.14	MAv1	34	-30.7	36.44	54	-17.56	-	-	290	208	V
15	*** 7.311	39.02	PK2	35.7	-27.5	47.22	-	-	74	-26.78	231	199	V
	*** 7.311	30.48	MAv1	35.7	-27.5	38.68	54	-15.32	-	-	231	199	V
12	1.794	32.49	PK	30	-22.3	40.19	-	-	-	-	0-360	101	V

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

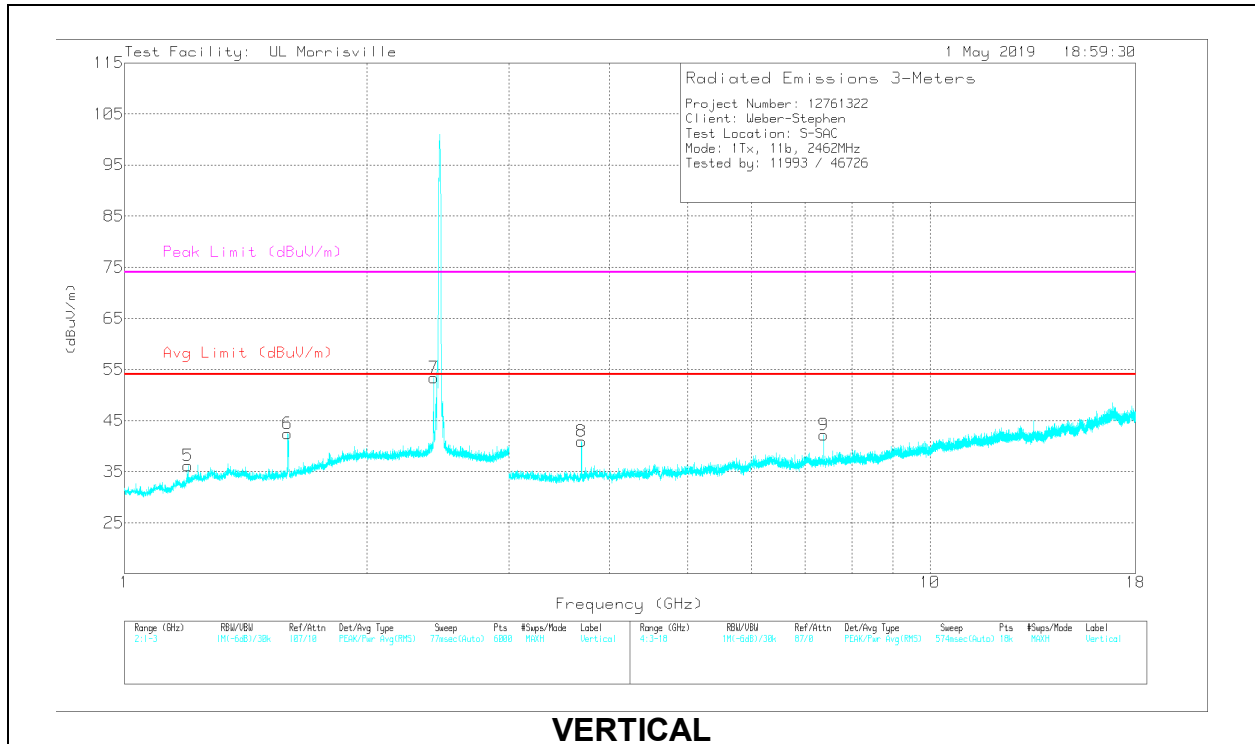
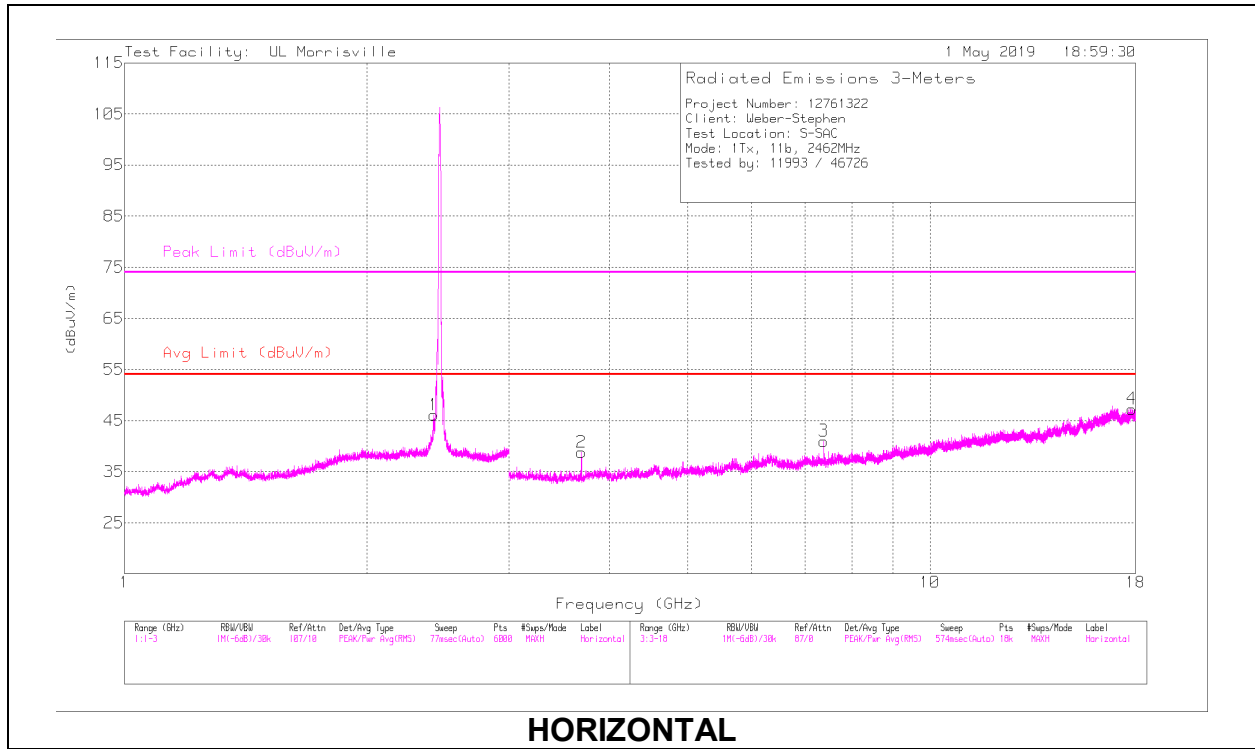
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

MAv1 - Maximum RMS Average

PK - Peak detector

### HIGH CHANNEL, CH 11 RESULTS



**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
5	*** 1.197	38.23	PK2	28.6	-23.7	43.13	-	-	74	-30.87	232	109	V
	*** 1.199	23.49	MAv1	28.6	-23.7	28.39	54	-25.61	-	-	232	109	V
6	*** 1.596	40.99	PK2	27.8	-22.2	46.59	-	-	74	-27.41	176	236	V
	*** 1.595	23.96	MAv1	27.8	-22.2	29.56	54	-24.44	-	-	176	236	V
2	*** 3.693	43.85	PK2	33	-32.3	44.55	-	-	74	-29.45	47	329	H
	*** 3.693	36.58	MAv1	33	-32.3	37.28	54	-16.72	-	-	47	329	H
3	*** 7.386	39.16	PK2	35.7	-27.6	47.26	-	-	74	-26.74	354	122	H
	*** 7.386	30.51	MAv1	35.7	-27.6	38.61	54	-15.39	-	-	354	122	H
4	*** 17.81	34.13	PK2	41.2	-20.8	54.53	-	-	74	-19.47	43	231	H
	*** 17.81	22.35	MAv1	41.2	-20.8	42.75	54	-11.25	-	-	43	231	H
8	*** 3.693	45.62	PK2	33	-32.3	46.32	-	-	74	-27.68	23	118	V
	*** 3.693	39.75	MAv1	33	-32.3	40.45	54	-13.55	-	-	23	118	V
9	*** 7.386	39.01	PK2	35.7	-27.6	47.11	-	-	74	-26.89	213	150	V
	*** 7.386	30.88	MAv1	35.7	-27.6	38.98	54	-15.02	-	-	213	150	V
7	2.42	45.57	PK	32	-24.2	53.37	-	-	-	-	0-360	199	V
1	2.422	38.28	PK	32	-24.2	46.08	-	-	-	-	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

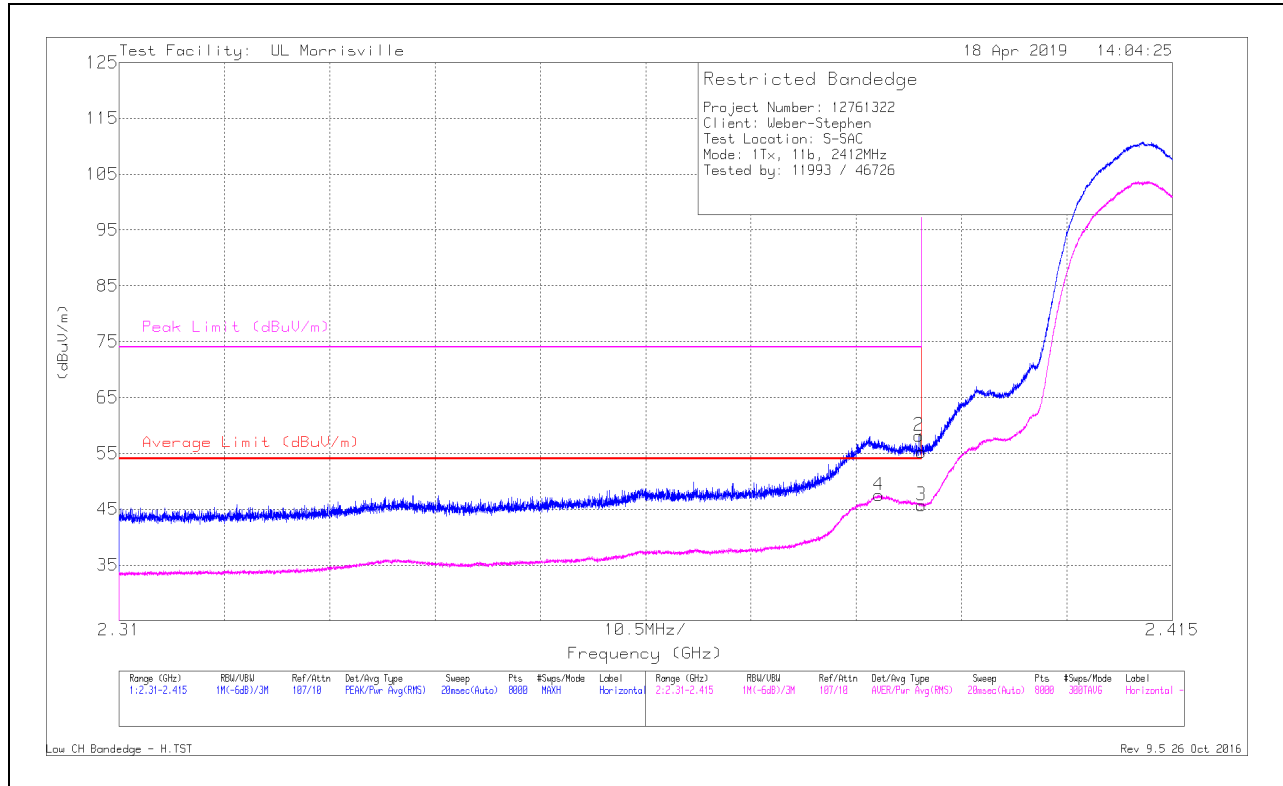
MAv1 - Maximum RMS Average

PK - Peak detector

**Saber**

**BANDEDGE (LOW CHANNEL, CH 1)**

**HORIZONTAL RESULT**



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (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	47.25	Pk	32	-24	55.25	-	-	74	-18.75	235	128	H
2	* ** 2.39	50.16	Pk	32	-24	58.16	-	-	74	-15.84	235	128	H
3	* ** 2.39	37.42	RMS	32	-24	45.42	54	-8.58	-	-	235	128	H
4	* ** 2.386	39.22	RMS	32	-24	47.22	54	-6.78	-	-	235	128	H

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

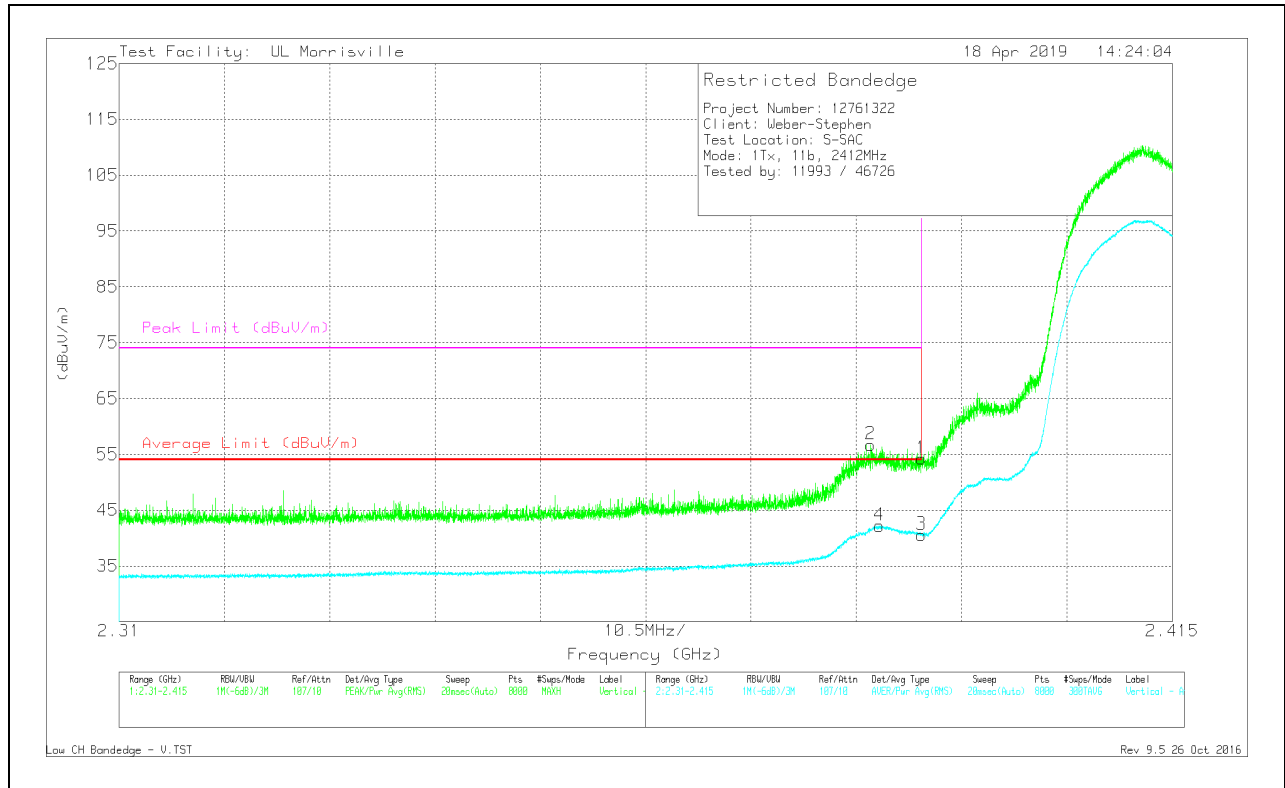
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection



### VERTICAL RESULT

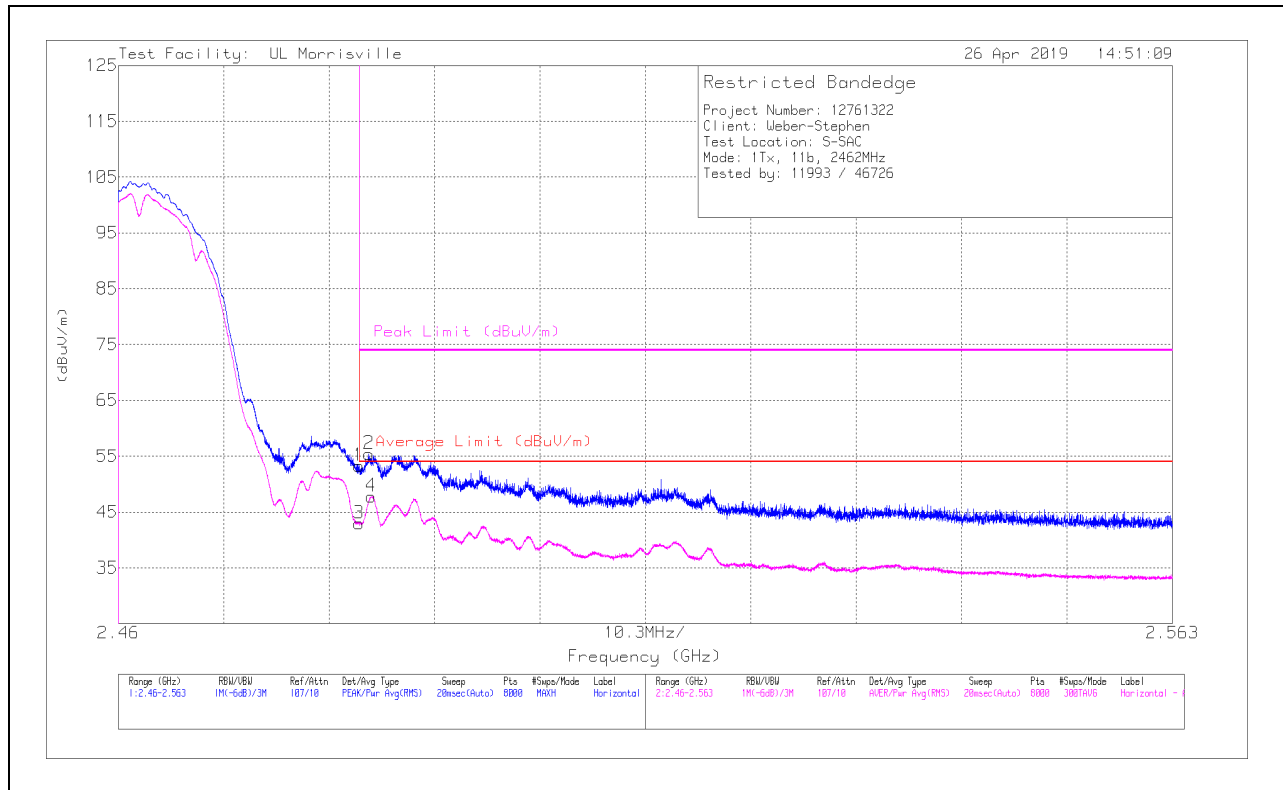


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	46.21	Pk	32	-24	54.21	-	-	74	-19.79	242	127	V
2	* ** 2.385	48.64	Pk	32	-23.9	56.74	-	-	74	-17.26	242	127	V
3	* ** 2.39	32.3	RMS	32	-24	40.3	54	-13.7	-	-	242	127	V
4	* ** 2.386	33.92	RMS	32	-24	41.92	54	-12.08	-	-	242	127	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

**BANDEDGE (HIGH CHANNEL, CH 11)**

**HORIZONTAL RESULT**



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (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	*** 2.484	45.4	Pk	32.4	-24.5	53.3	-	-	74	-20.7	11	124	H
2	*** 2.484	47.52	Pk	32.4	-24.5	55.42	-	-	74	-18.58	11	124	H
3	*** 2.484	34.85	RMS	32.4	-24.5	42.75	54	-11.25	-	-	11	124	H
4	*** 2.485	39.7	RMS	32.4	-24.5	47.6	54	-6.4	-	-	11	124	H

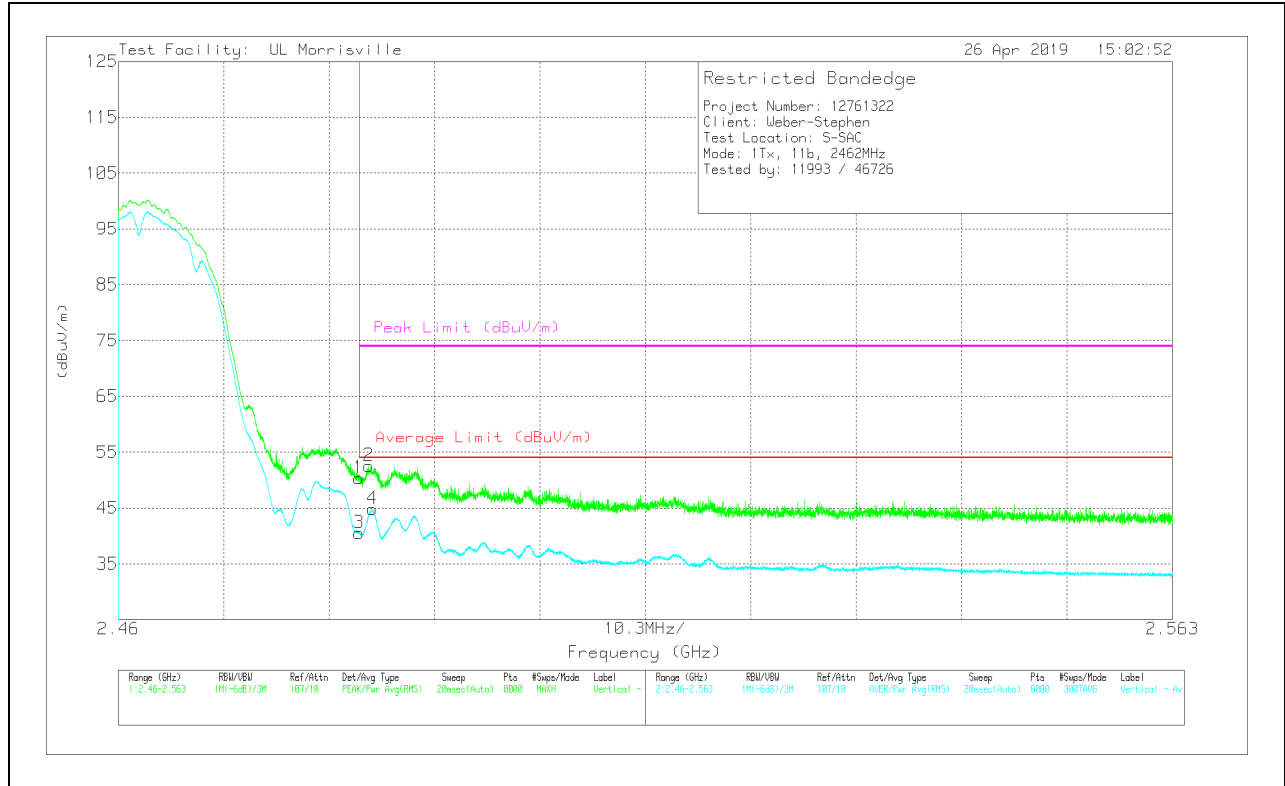
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

### VERTICAL RESULT

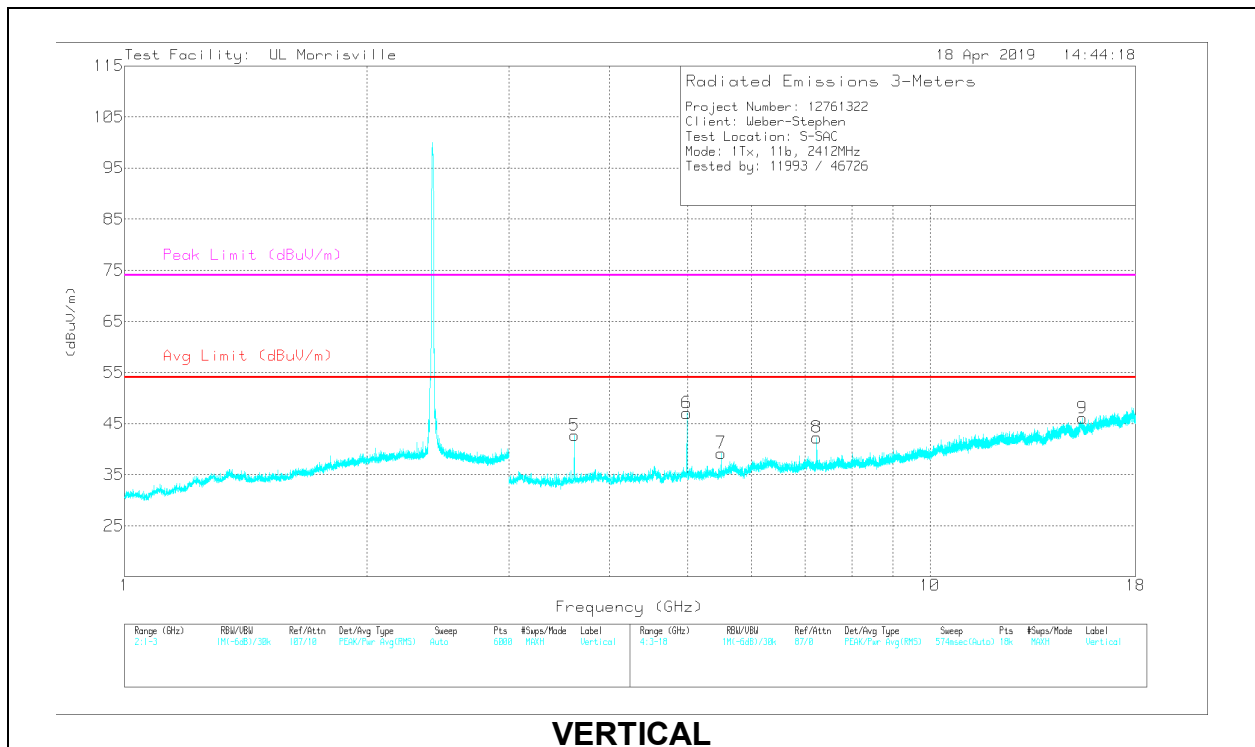
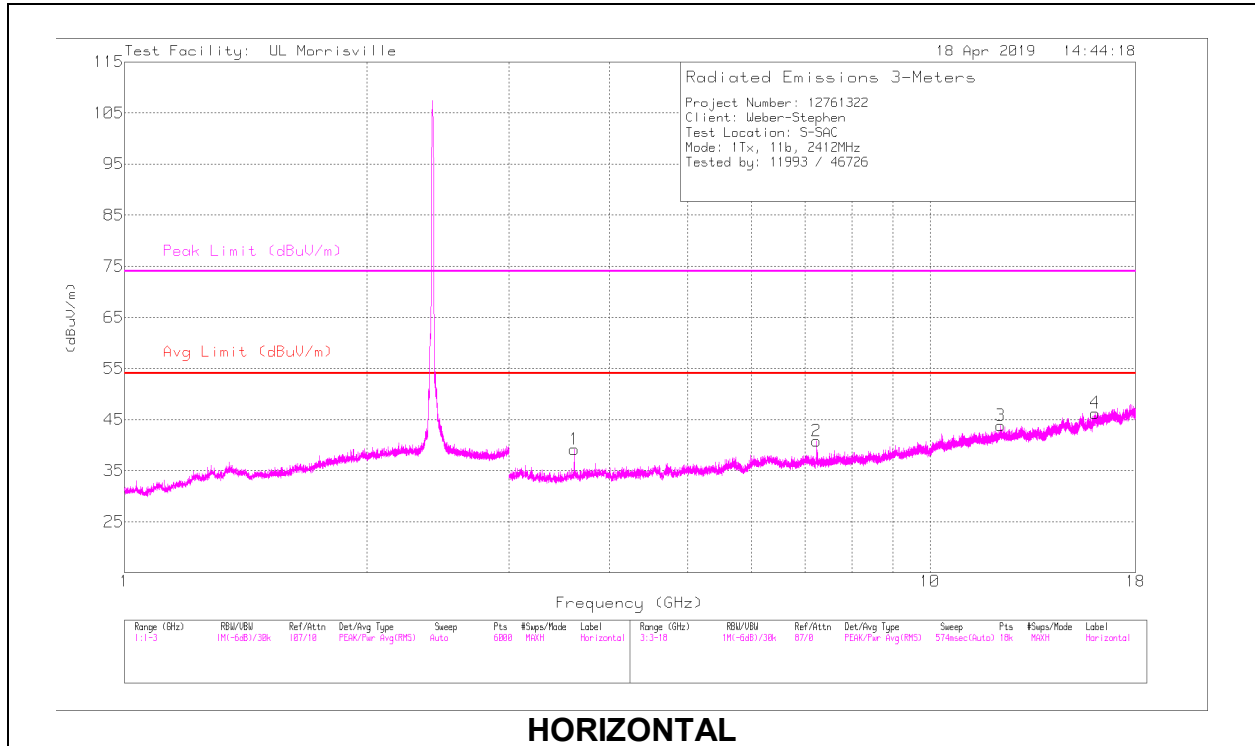


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.484	42.45	Pk	32.4	-24.5	50.35	-	-	74	-23.65	305	105	V
2	* ** 2.484	44.64	Pk	32.4	-24.5	52.54	-	-	74	-21.46	305	105	V
3	* ** 2.484	32.4	RMS	32.4	-24.5	40.3	54	-13.7	-	-	305	105	V
4	* ** 2.485	36.67	RMS	32.4	-24.5	44.57	54	-9.43	-	-	305	105	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

# HARMONICS AND SPURIOUS EMISSIONS

## LOW CHANNEL, CH 1 RESULTS



**RADIATED EMISSIONS**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (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	* ** 3.618	43.15	PK2	33	-31.9	44.25	-	-	74	-29.75	39	108	H
	* ** 3.618	36.62	MAv1	33	-31.9	37.72	54	-16.28	-	-	39	108	H
3	* ** 12.245	34.75	PK2	38.8	-23.6	49.95	-	-	74	-24.05	0	311	H
	* ** 12.245	22.69	MAv1	38.8	-23.6	37.89	54	-16.11	-	-	0	311	H
4	* ** 16.039	36.12	PK2	40.5	-23.5	53.12	-	-	74	-20.88	148	338	H
	* ** 16.038	23.8	MAv1	40.5	-23.5	40.8	54	-13.2	-	-	148	338	H
5	* ** 3.618	46.27	PK2	33	-31.9	47.37	-	-	74	-26.63	34	100	V
	* ** 3.618	41.18	MAv1	33	-31.9	42.28	54	-11.72	-	-	34	100	V
6	* ** 4.991	49.32	PK2	34	-31.1	52.22	-	-	74	-21.78	176	141	V
	* ** 4.991	27.82	MAv1	34	-31.1	30.72	54	-23.28	-	-	176	141	V
9	* ** 15.468	33.94	PK2	40.1	-22.2	51.84	-	-	74	-22.16	242	299	V
	* ** 15.468	22.42	MAv1	40.1	-22.2	40.32	54	-13.68	-	-	242	299	V
7	5.505	35.81	Pk	34.4	-31	39.21	-	-	-	-	0-360	199	V
2	7.235	33.21	Pk	35.5	-27.9	40.81	-	-	-	-	0-360	102	H
8	7.236	34.66	Pk	35.5	-27.9	42.26	-	-	-	-	0-360	199	V

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

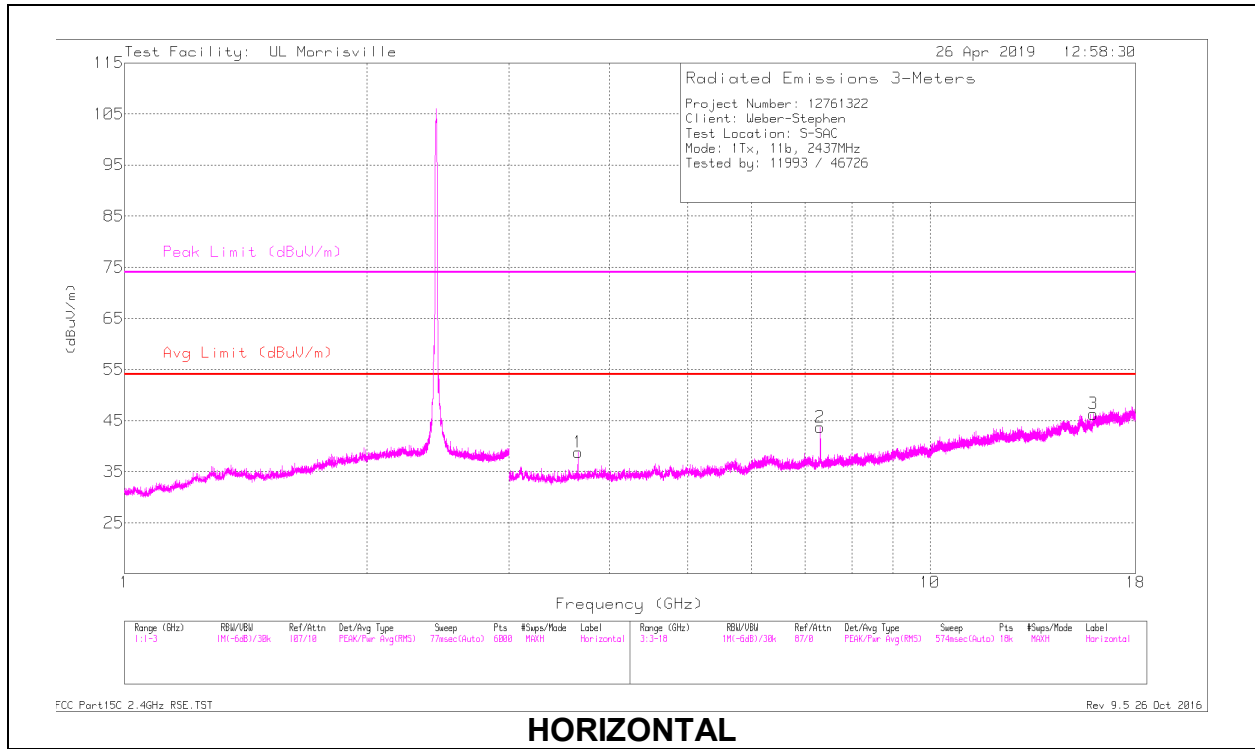
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

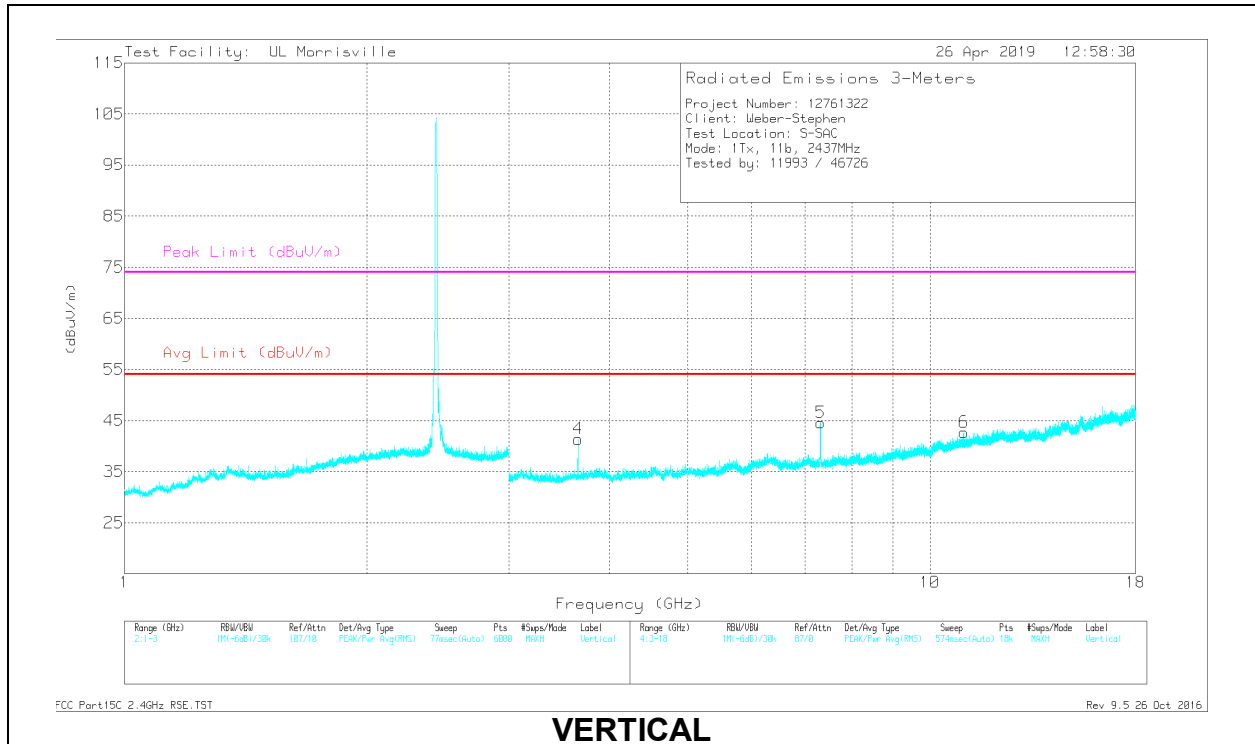
MAv1 - Maximum RMS Average

Pk - Peak detector

### MID CHANNEL, CH 6 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (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	* ** 3.655	44.52	PK2	33	-32	45.52	-	-	74	-28.48	262	318	H
	* ** 3.656	38.68	MAv1	33	-32	39.68	54	-14.32	-	-	262	318	H
2	* ** 7.311	42.85	PK2	35.5	-27.5	50.85	-	-	74	-23.15	65	105	H
	* ** 7.31	30.54	MAv1	35.5	-27.5	38.54	54	-15.46	-	-	65	105	H
3	* ** 15.947	35.11	PK2	40.3	-23.3	52.11	-	-	74	-21.89	95	183	H
	* ** 15.947	23.19	MAv1	40.3	-23.3	40.19	54	-13.81	-	-	95	183	H
4	* ** 3.655	46.16	PK2	33	-32	47.16	-	-	74	-26.84	171	311	V
	* ** 3.656	41.36	MAv1	33	-32	42.36	54	-11.64	-	-	171	311	V
5	* ** 7.311	44.63	PK2	35.5	-27.5	52.63	-	-	74	-21.37	126	102	V
	* ** 7.312	32.77	MAv1	35.5	-27.5	40.77	54	-13.23	-	-	126	102	V
6	* ** 11.023	34.25	PK2	37.8	-24	48.05	-	-	74	-25.95	258	110	V
	* ** 11.024	22.34	MAv1	37.8	-24	36.14	54	-17.86	-	-	258	110	V

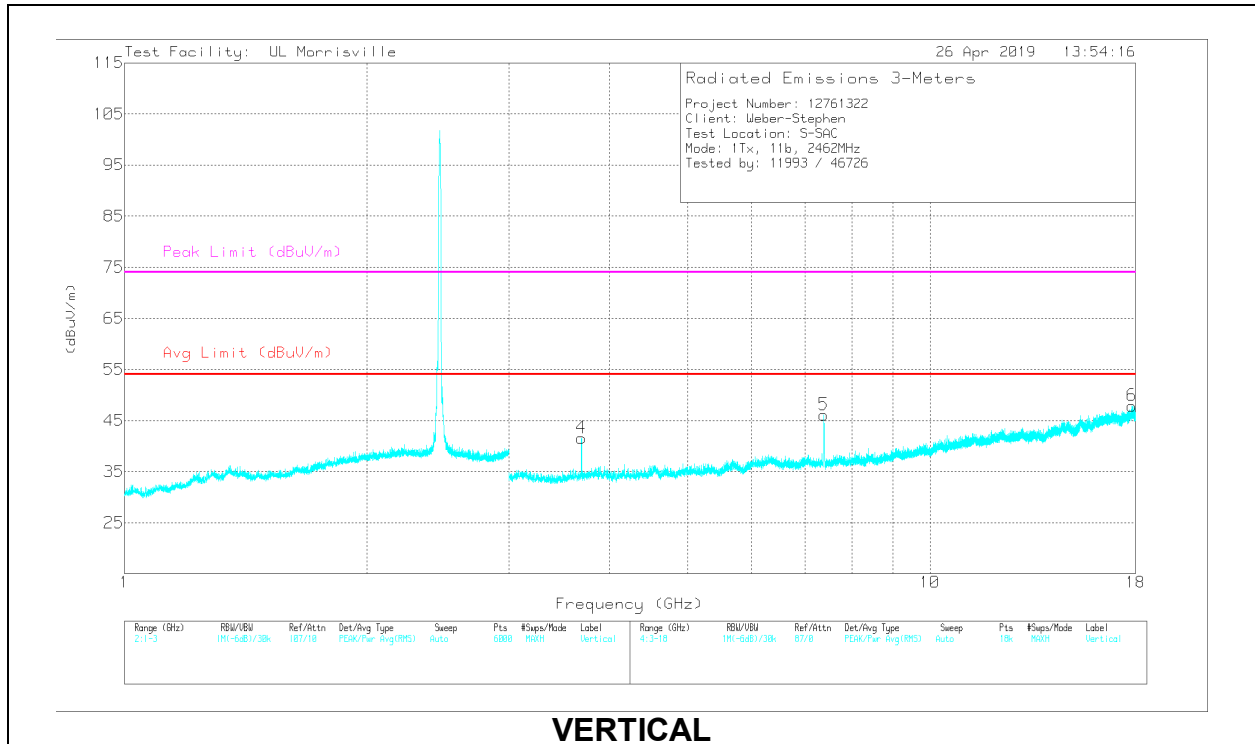
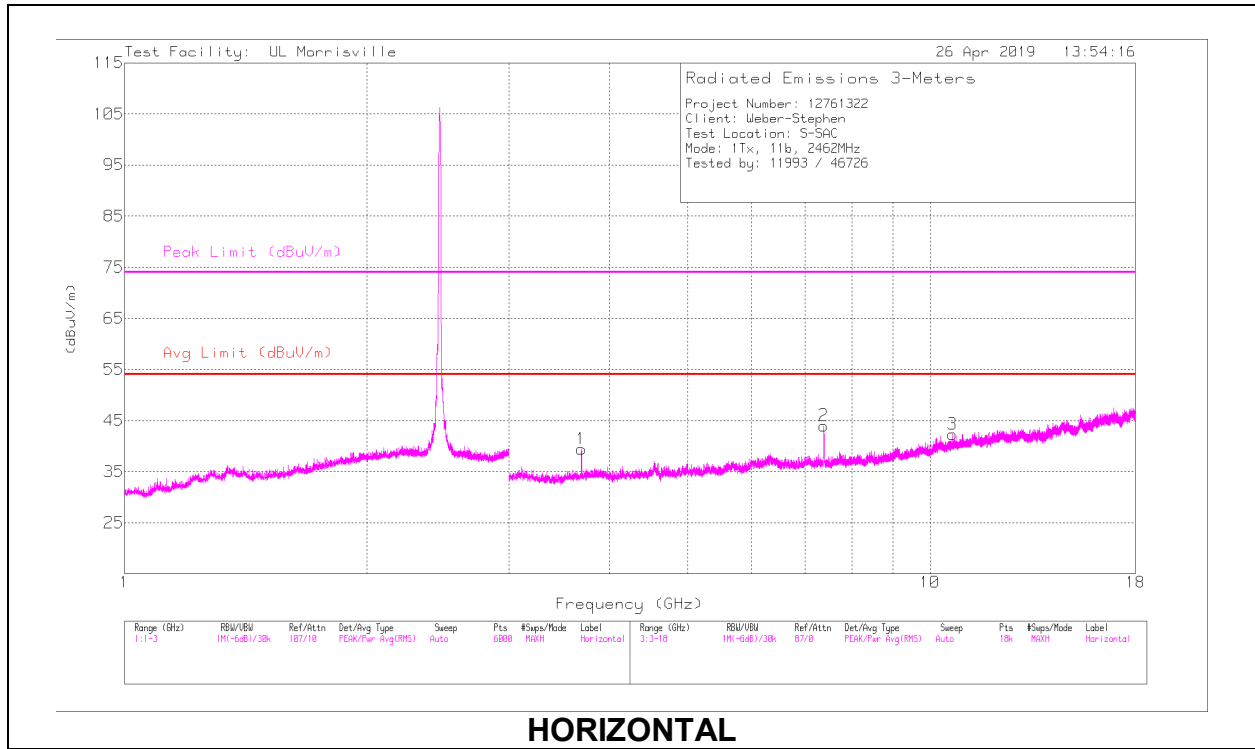
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

MAv1 - Maximum RMS Average

### HIGH CHANNEL, CH 11 RESULTS





**RADIATED EMISSIONS**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (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	* ** 3.693	45.49	PK2	33.2	-32.3	46.39	-	-	74	-27.61	262	286	H
	* ** 3.693	38.64	MAv1	33.2	-32.3	39.54	54	-14.46	-	-	262	286	H
2	* ** 7.386	44.54	PK2	35.5	-27.6	52.44	-	-	74	-21.56	56	102	H
	* ** 7.387	32.06	MAv1	35.5	-27.6	39.96	54	-14.04	-	-	56	102	H
3	* ** 10.669	34.13	PK2	37.8	-24.4	47.53	-	-	74	-26.47	2	150	H
	* ** 10.669	22.27	MAv1	37.8	-24.4	35.67	54	-18.33	-	-	2	150	H
4	* ** 3.693	47.04	PK2	33.2	-32.3	47.94	-	-	74	-26.06	173	305	V
	* ** 3.693	41.78	MAv1	33.2	-32.3	42.68	54	-11.32	-	-	173	305	V
5	* ** 7.386	46.27	PK2	35.5	-27.6	54.17	-	-	74	-19.83	125	105	V
	* ** 7.387	34.59	MAv1	35.5	-27.6	42.49	54	-11.51	-	-	125	105	V
6	* ** 17.812	34.38	PK2	41.3	-20.8	54.88	-	-	74	-19.12	228	128	V
	* ** 17.813	21.92	MAv1	41.3	-20.8	42.42	54	-11.58	-	-	228	128	V

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

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

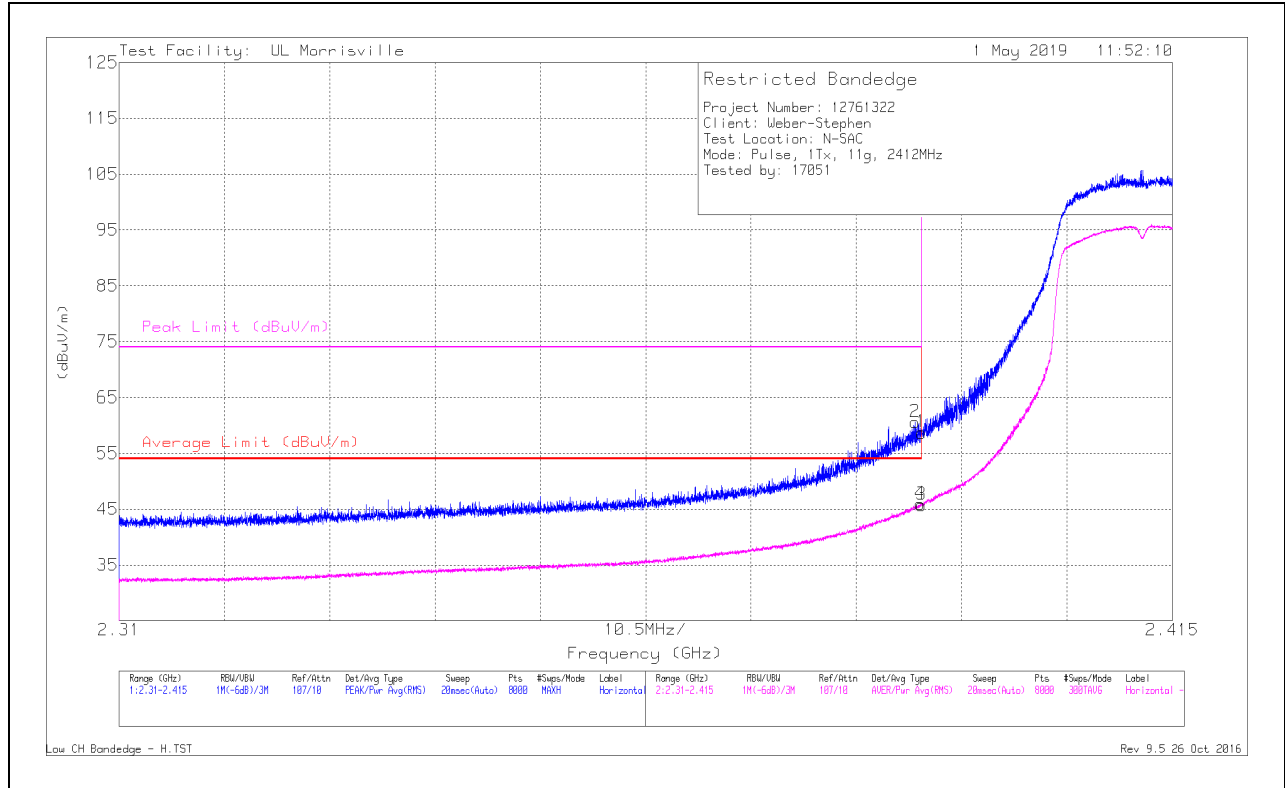
MAv1 - Maximum RMS Average

### 9.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

**Pulse**

**BANDEDGE (LOW CHANNEL, CH 1)**

**HORIZONTAL RESULT**



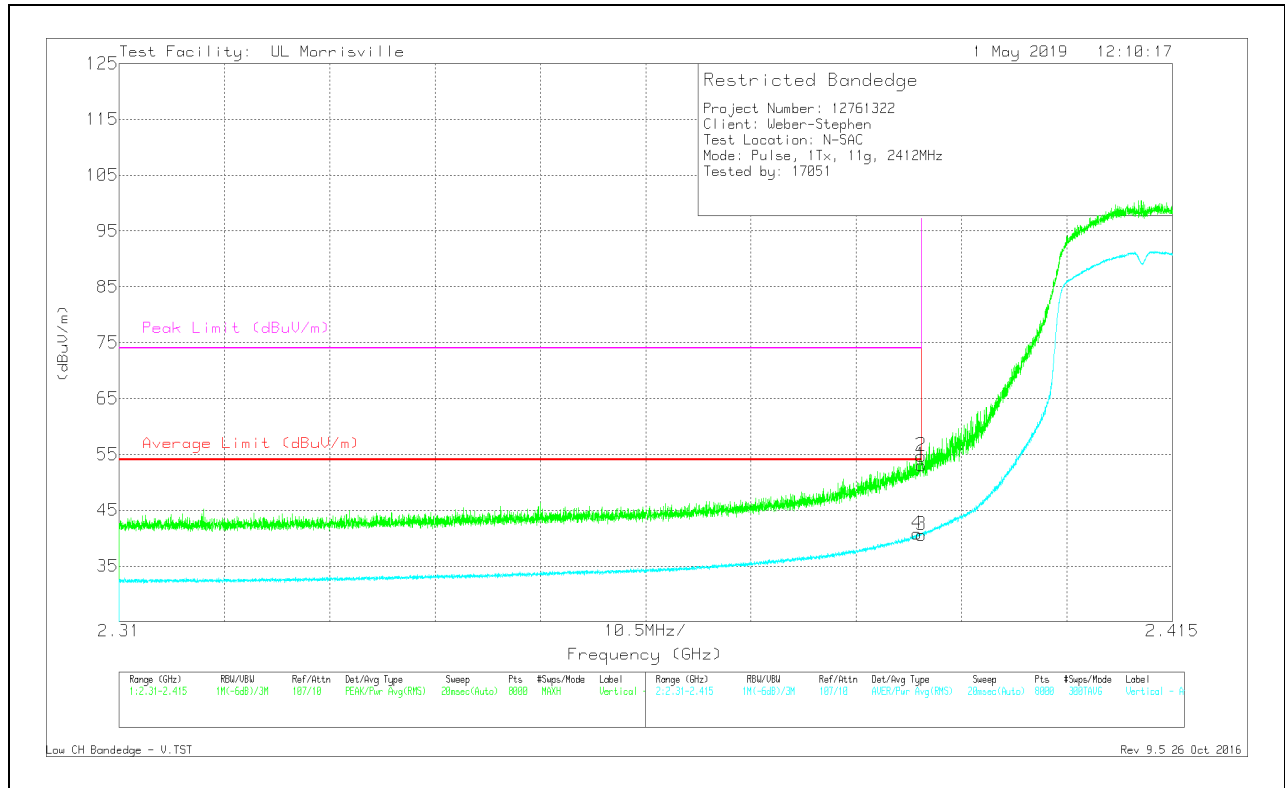
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.389	52.99	Pk	32	-24.4	0	60.59	-	-	74	-13.41	177	153	H
1	* 2.39	51.1	Pk	32	-24.4	0	58.7	-	-	74	-15.3	177	153	H
3	* 2.39	38.17	RMS	32	-24.4	.12	45.89	54	-8.11	-	-	177	153	H
4	* 2.39	38.32	RMS	32	-24.4	.12	46.04	54	-7.96	-	-	177	153	H

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

Pk - Peak detector

RMS - RMS detection

### VERTICAL RESULT

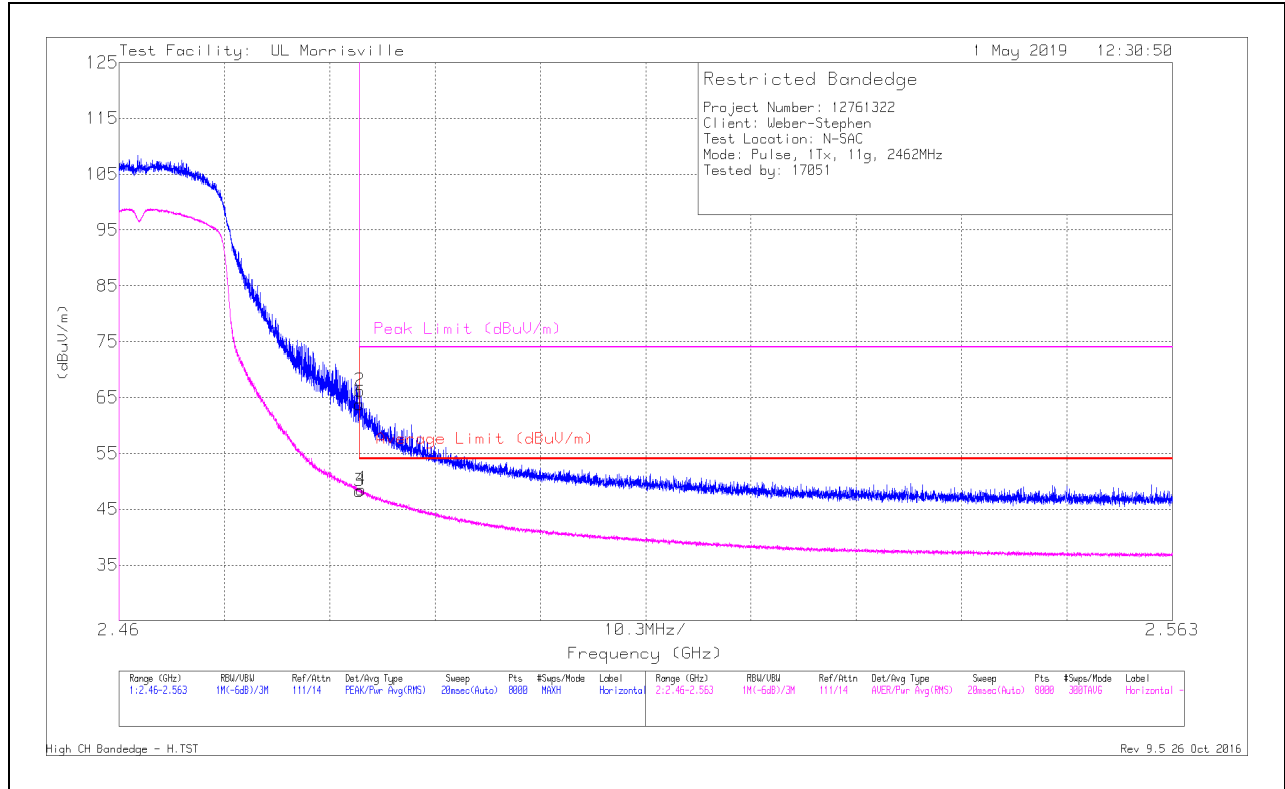


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	45.46	Pk	32	-24.4	0	53.06	-	-	74	-20.94	160	150	V
2	* 2.39	47.15	Pk	32	-24.4	0	54.75	-	-	74	-19.25	160	150	V
3	* 2.39	32.87	RMS	32	-24.4	.12	40.59	54	-13.41	-	-	160	150	V
4	* 2.39	33.08	RMS	32	-24.4	.12	40.8	54	-13.2	-	-	160	150	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

**BANDEDGE (HIGH CHANNEL, CH 11)**

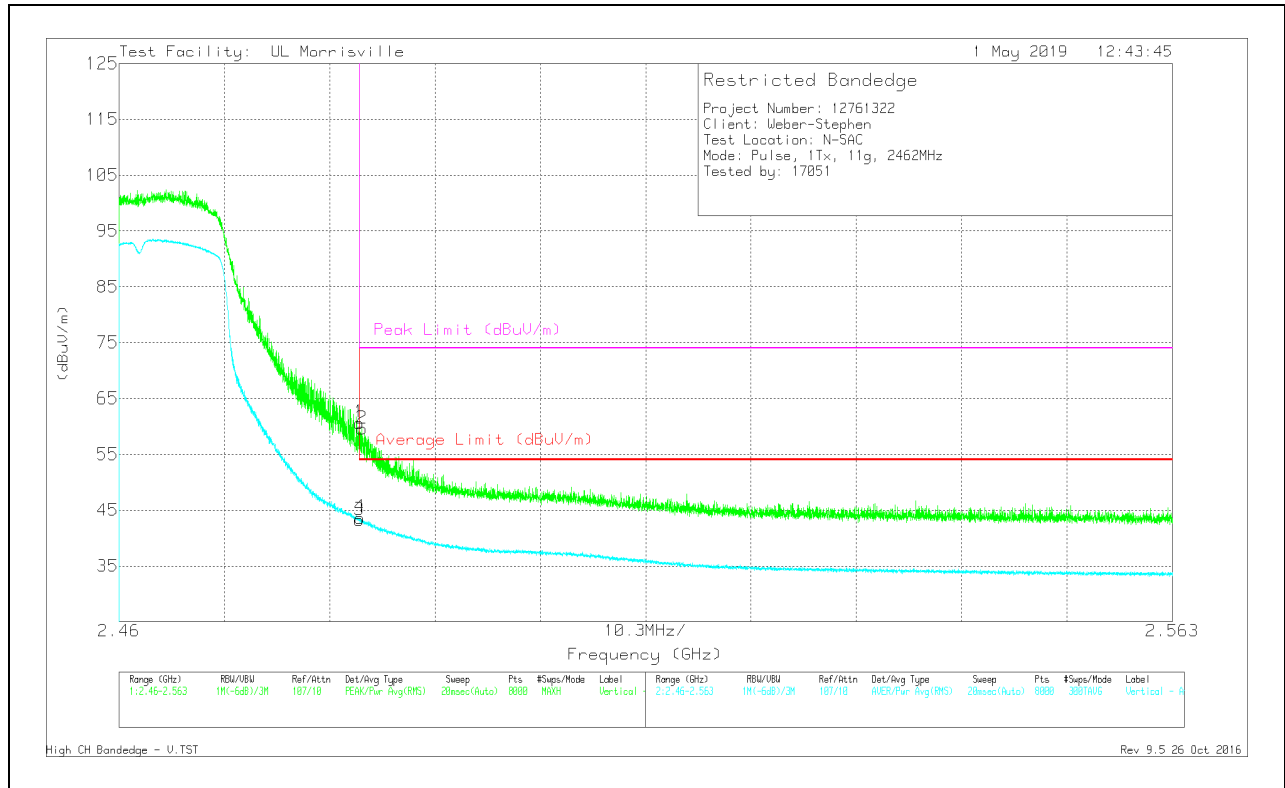
**HORIZONTAL RESULT**



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/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	* 2.484	55.7	Pk	32.4	-24.3	0	63.8	-	-	74	-10.2	174	140	H
2	* 2.484	58.09	Pk	32.4	-24.3	0	66.19	-	-	74	-7.81	174	140	H
3	* 2.484	40	RMS	32.4	-24.3	.12	48.22	54	-5.78	-	-	174	140	H
4	* 2.484	40.3	RMS	32.4	-24.3	.12	48.52	54	-5.48	-	-	174	140	H

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT

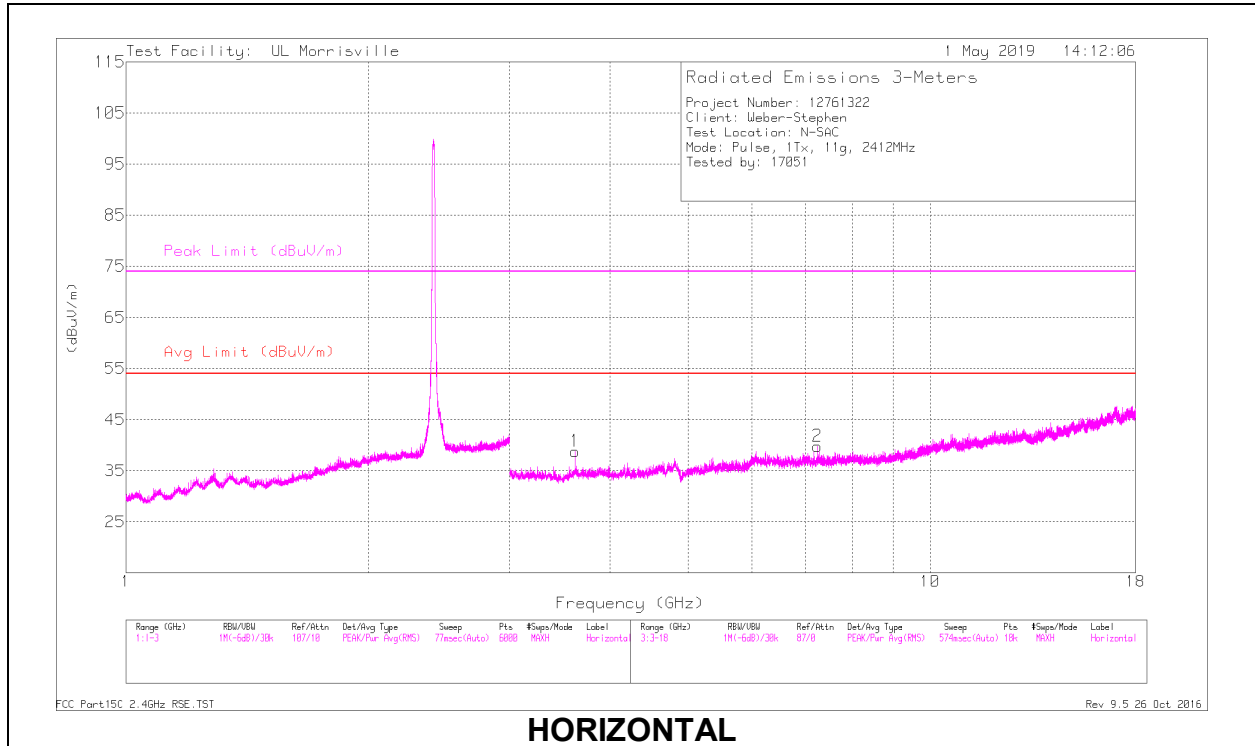


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.55	Pk	32.4	-24.3	0	60.65	-	-	74	-13.35	147	162	V
2	* 2.484	51.49	Pk	32.4	-24.3	0	59.59	-	-	74	-14.41	147	162	V
3	* 2.484	34.99	RMS	32.4	-24.3	.12	43.21	54	-10.79	-	-	147	162	V
4	* 2.484	35.45	RMS	32.4	-24.3	.12	43.67	54	-10.33	-	-	147	162	V

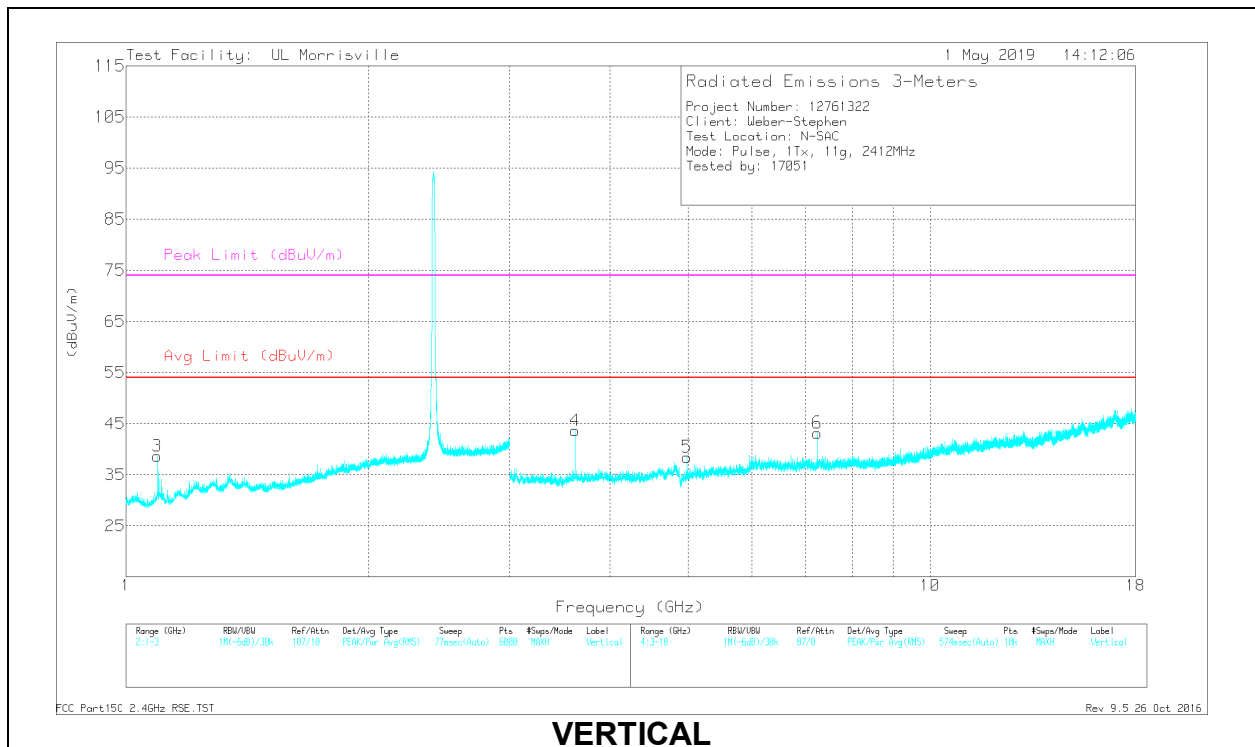
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

# HARMONICS AND SPURIOUS EMISSIONS

## LOW CHANNEL, CH 1 RESULTS



**HORIZONTAL**



**VERTICAL**

**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	* 1.099	48.36	PK2	27.5	-26.8	0	49.06	-	-	74	-24.94	330	139	V
	* 1.1	26.12	MAv1	27.5	-26.7	.12	27.04	54	-26.96	-	-	330	139	V
1	* 3.618	44.14	PK2	33.1	-31.7	0	45.54	-	-	74	-28.46	344	103	H
	* 3.618	36.41	MAv1	33.1	-31.7	.12	37.93	54	-16.07	-	-	344	103	H
4	* 3.618	45.78	PK2	33.1	-31.7	0	47.18	-	-	74	-26.82	310	100	V
	* 3.618	40.37	MAv1	33.1	-31.7	.12	41.89	54	-12.11	-	-	310	100	V
5	* 4.99	54.39	PK2	34	-32.6	0	55.79	-	-	74	-18.21	101	127	V
	* 4.99	29.08	MAv1	34	-32.6	.12	30.6	54	-23.4	-	-	101	127	V
2	7.236	33.82	Pk	35.6	-29.6	0	39.82	-	-	-	-	0-360	103	H
6	7.236	37.18	Pk	35.6	-29.6	0	43.18	-	-	-	-	0-360	199	V

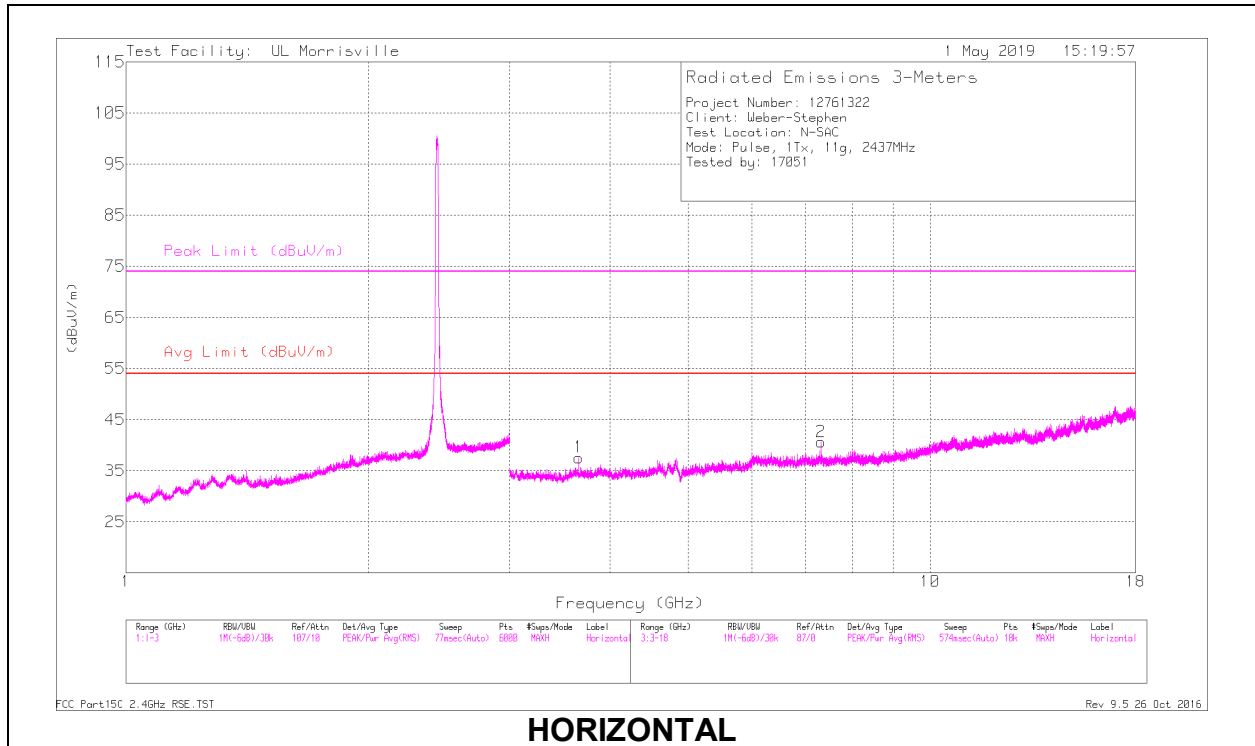
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

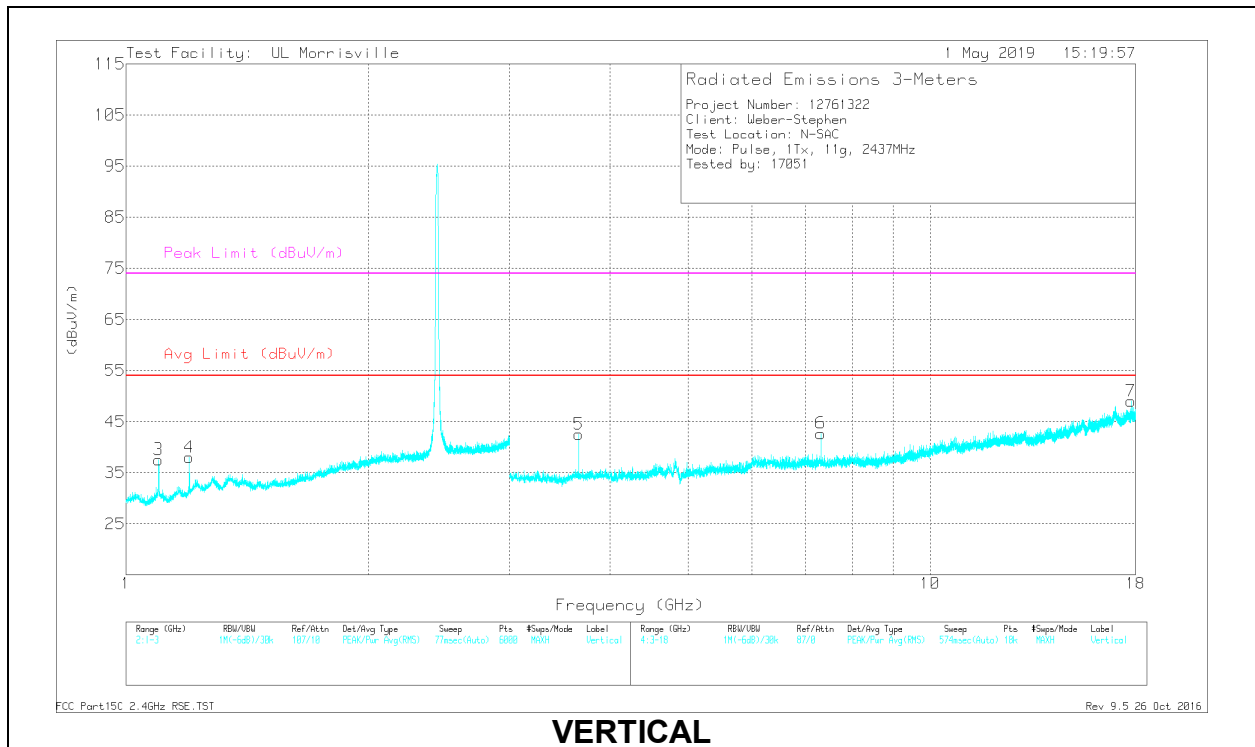
PK2 - Maximum Peak

MAv1 - Maximum RMS Average

### MID CHANNEL, CH 6 RESULTS



**HORIZONTAL**



**VERTICAL**



**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	* 1.096	43.22	PK2	27.4	-26.8	0	43.82	-	-	74	-30.18	331	152	V
	* 1.099	26.11	MAV1	27.5	-26.8	.12	26.93	54	-27.07	-	-	331	152	V
4	* 1.199	40.35	PK2	28.4	-26.1	0	42.65	-	-	74	-31.35	146	104	V
	* 1.2	24.04	MAV1	28.5	-26.1	.12	26.56	54	-27.44	-	-	146	104	V
1	* 3.655	43.79	PK2	33.1	-31.4	0	45.49	-	-	74	-28.51	8	334	H
	* 3.655	37.06	MAV1	33.1	-31.4	.12	38.88	54	-15.12	-	-	8	334	H
2	* 7.311	40.3	PK2	35.6	-29.1	0	46.8	-	-	74	-27.2	120	100	H
	* 7.311	31.79	MAV1	35.6	-29.1	.12	38.41	54	-15.59	-	-	120	100	H
5	* 3.656	44.98	PK2	33.1	-31.4	0	46.68	-	-	74	-27.32	325	101	V
	* 3.655	39.64	MAV1	33.1	-31.4	.12	41.46	54	-12.54	-	-	325	101	V
6	* 7.311	41.83	PK2	35.6	-29.1	0	48.33	-	-	74	-25.67	154	198	V
	* 7.311	35.09	MAV1	35.6	-29.1	.12	41.71	54	-12.29	-	-	154	198	V
7	* 17.764	34.73	PK2	41.1	-22.7	0	53.13	-	-	74	-20.87	57	180	V
	* 17.765	23.43	MAV1	41.1	-22.7	.12	41.95	54	-12.05	-	-	57	180	V

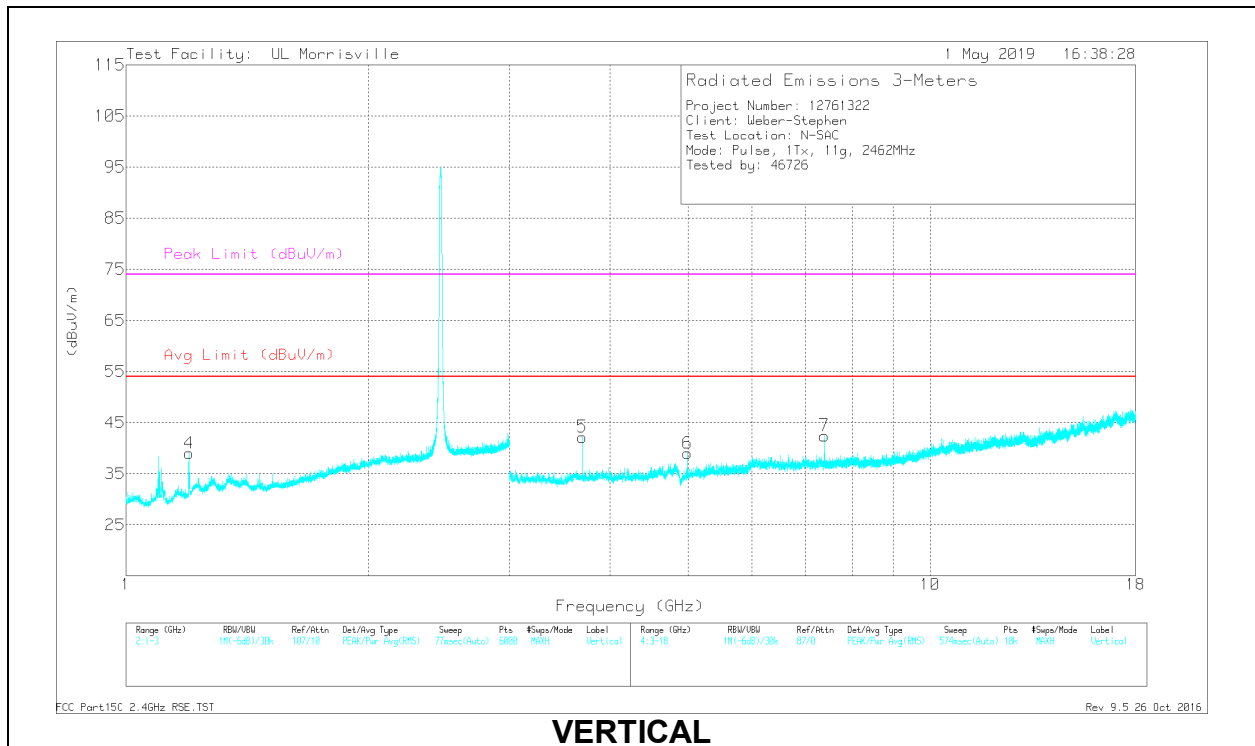
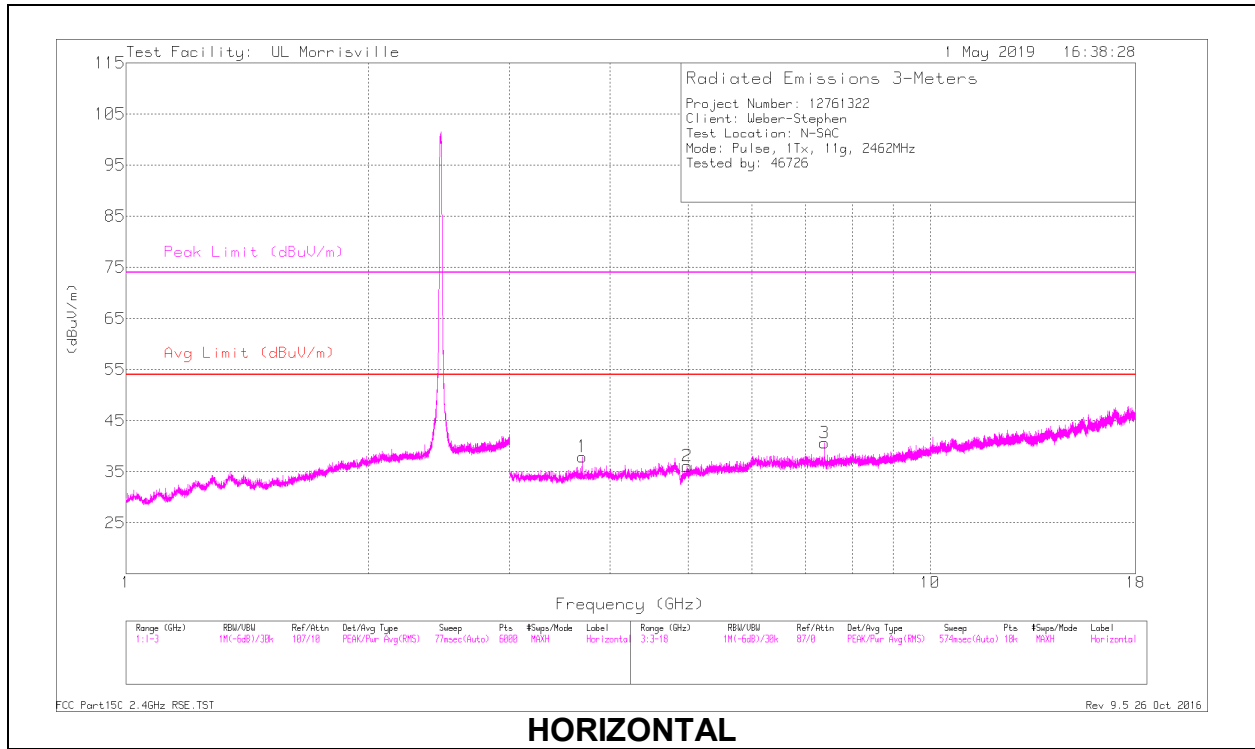
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

PK2 - Maximum Peak

MAV1 - Maximum RMS Average

### HIGH CHANNEL, CH 11 RESULTS



**RADIATED EMISSIONS**

Markers	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
4	* 1.2	35.88	PK2	28.4	-26.1	0	38.18	-	-	74	-35.82	185	169	V
	* 1.2	24.02	MAV1	28.4	-26.1	.12	26.44	54	-27.56	-	-	185	169	V
1	* 3.693	43.74	PK2	33.1	-31.9	0	44.94	-	-	74	-29.06	88	174	H
	* 3.693	36.21	MAV1	33.1	-31.9	.12	37.53	54	-16.47	-	-	88	174	H
2	* 4.988	40.23	PK2	34	-32.6	0	41.63	-	-	74	-32.37	252	270	H
	* 4.988	28.48	MAV1	34	-32.6	.12	30	54	-24	-	-	252	270	H
3	* 7.386	40.98	PK2	35.6	-29.2	0	47.38	-	-	74	-26.62	104	227	H
	* 7.386	32.24	MAV1	35.6	-29.2	.12	38.76	54	-15.24	-	-	104	227	H
5	* 3.693	45.58	PK2	33.1	-31.9	0	46.78	-	-	74	-27.22	336	104	V
	* 3.693	39.77	MAV1	33.1	-31.9	.12	41.09	54	-12.91	-	-	336	104	V
6	* 4.99	52.41	PK2	34	-32.6	0	53.81	-	-	74	-20.19	90	152	V
	* 4.99	28.76	MAV1	34	-32.6	.12	30.28	54	-23.72	-	-	90	152	V
7	* 7.386	41.97	PK2	35.6	-29.2	0	48.37	-	-	74	-25.63	151	231	V
	* 7.386	34.5	MAV1	35.6	-29.2	.12	41.02	54	-12.98	-	-	151	231	V

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

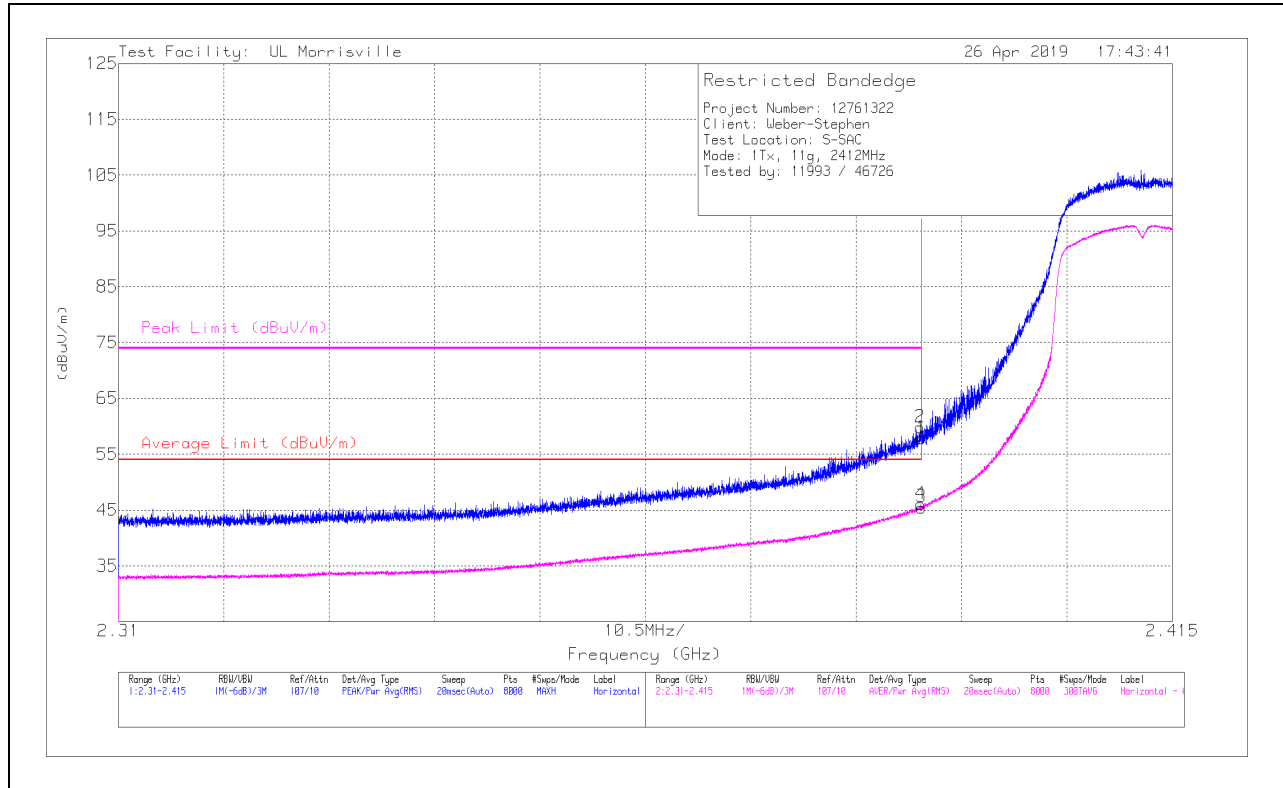
PK2 - Maximum Peak

MAV1 - Maximum RMS Average

**Saber**

**BANDEDGE (LOW CHANNEL, CH 1)**

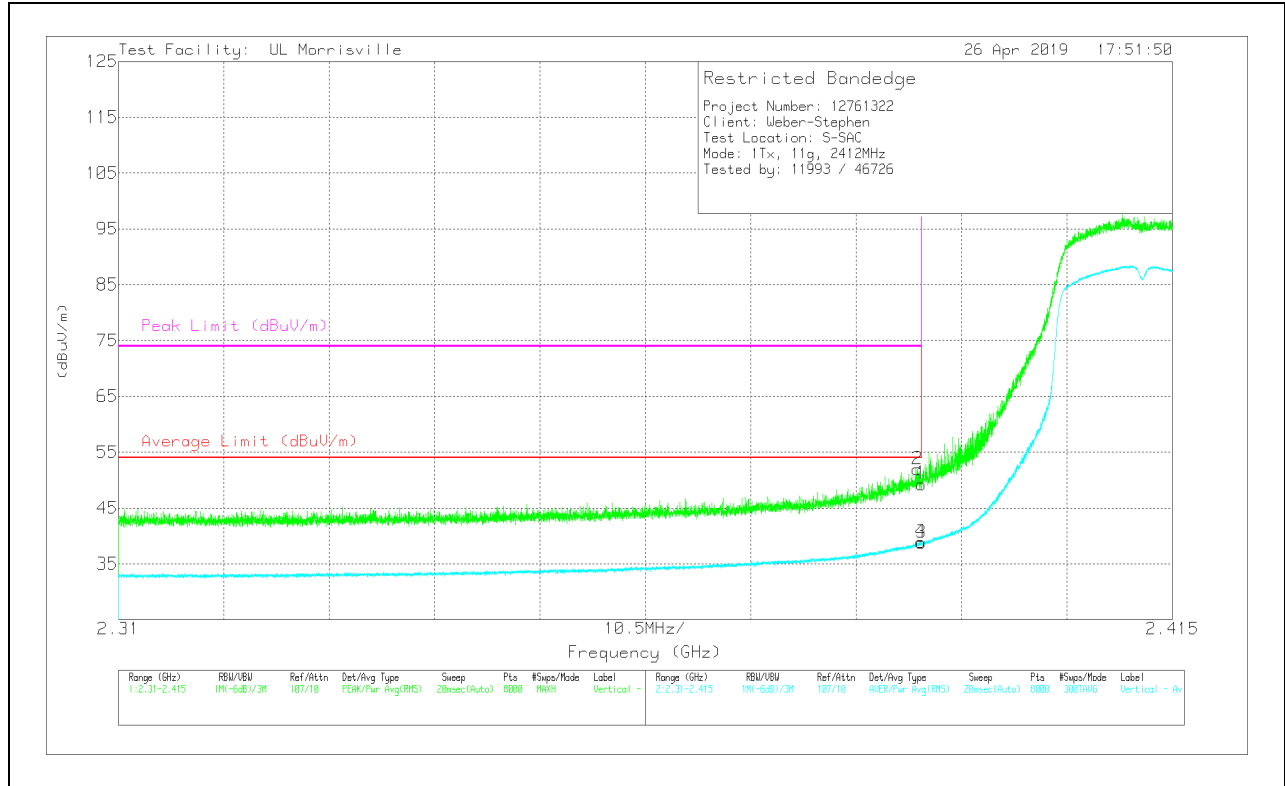
**HORIZONTAL RESULT**



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (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	49.87	PK	32	-24	0	57.87	-	-	74	-16.13	307	147	H
2	* ** 2.39	51.79	Pk	32	-24	0	59.79	-	-	74	-14.21	307	147	H
3	* ** 2.39	37.37	RMS	32	-24	.12	45.49	54	-8.51	-	-	307	147	H
4	* ** 2.39	37.92	RMS	32	-24	.12	46.04	54	-7.96	-	-	307	147	H

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT

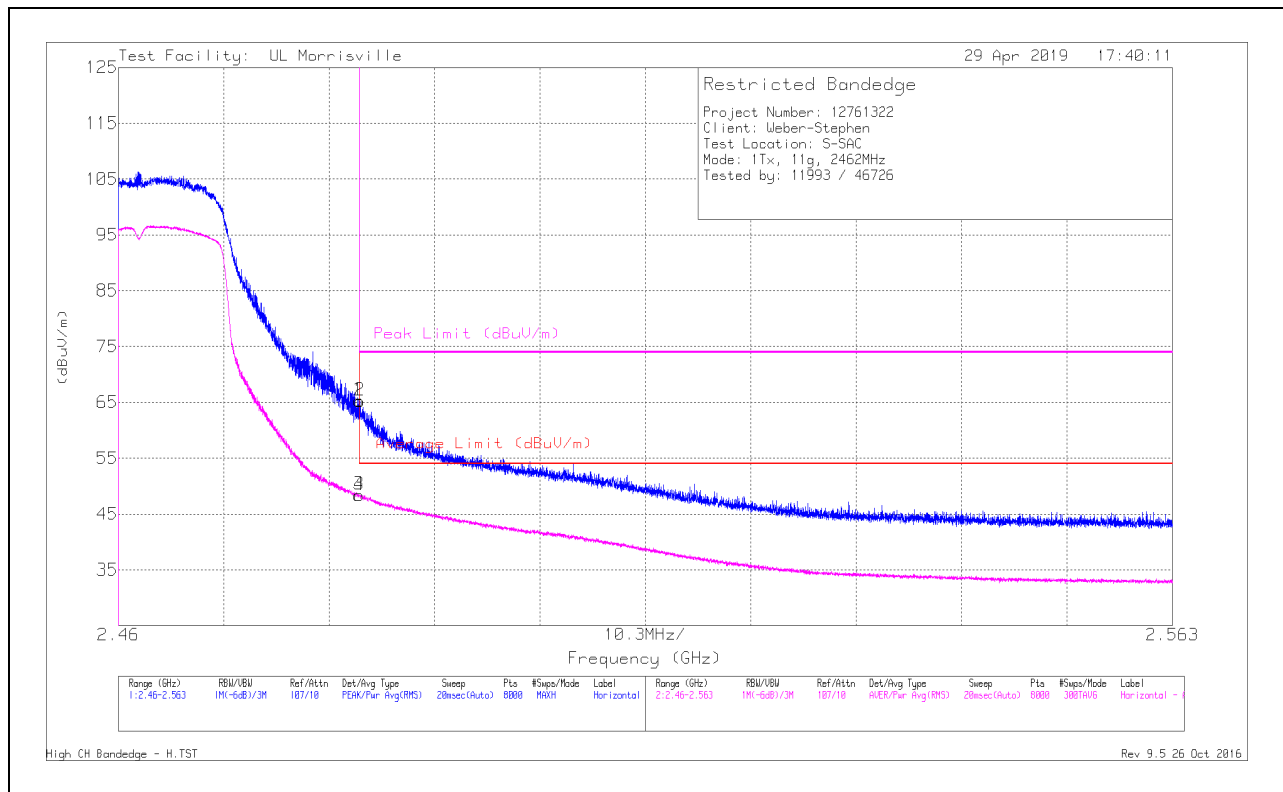


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	41.29	PK	32	-24	0	49.29	-	-	74	-24.71	15	120	V
2	* ** 2.39	43.95	Pk	32	-24	0	51.95	-	-	74	-22.05	15	120	V
3	* ** 2.39	30.63	RMS	32	-24	.12	38.75	54	-15.25	-	-	15	120	V
4	* ** 2.39	30.81	RMS	32	-24	.12	38.93	54	-15.07	-	-	15	120	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

**BANEDGE (HIGH CHANNEL, CH 11)**

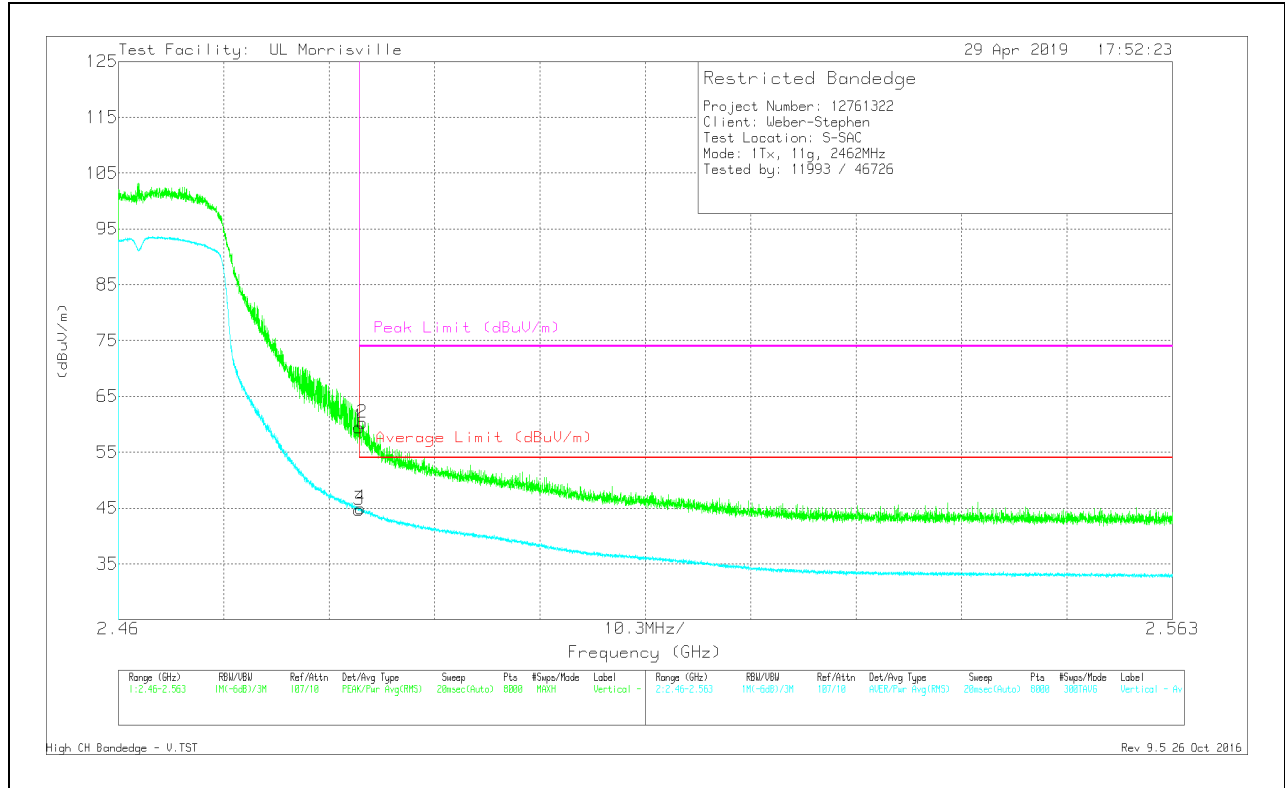
**HORIZONTAL RESULT**



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	*** 2.484	57.53	Pk	32.3	-24.5	0	65.33	-	-	74	-8.67	321	286	H
2	*** 2.484	57.48	PK	32.3	-24.5	0	65.28	-	-	74	-8.72	321	286	H
3	*** 2.484	40.52	RMS	32.3	-24.5	.12	48.44	54	-5.56	-	-	321	286	H
4	*** 2.484	40.5	RMS	32.3	-24.5	.12	48.42	54	-5.58	-	-	321	286	H

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### 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	*** 2.484	51.7	PK	32.3	-24.5	0	59.5	-	-	74	-14.5	268	379	V
2	*** 2.484	52.51	Pk	32.3	-24.5	0	60.31	-	-	74	-13.69	268	379	V
3	*** 2.484	36.81	RMS	32.3	-24.5	.12	44.73	54	-9.27	-	-	268	379	V
4	*** 2.484	37.08	RMS	32.3	-24.5	.12	45	54	-9	-	-	268	379	V

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

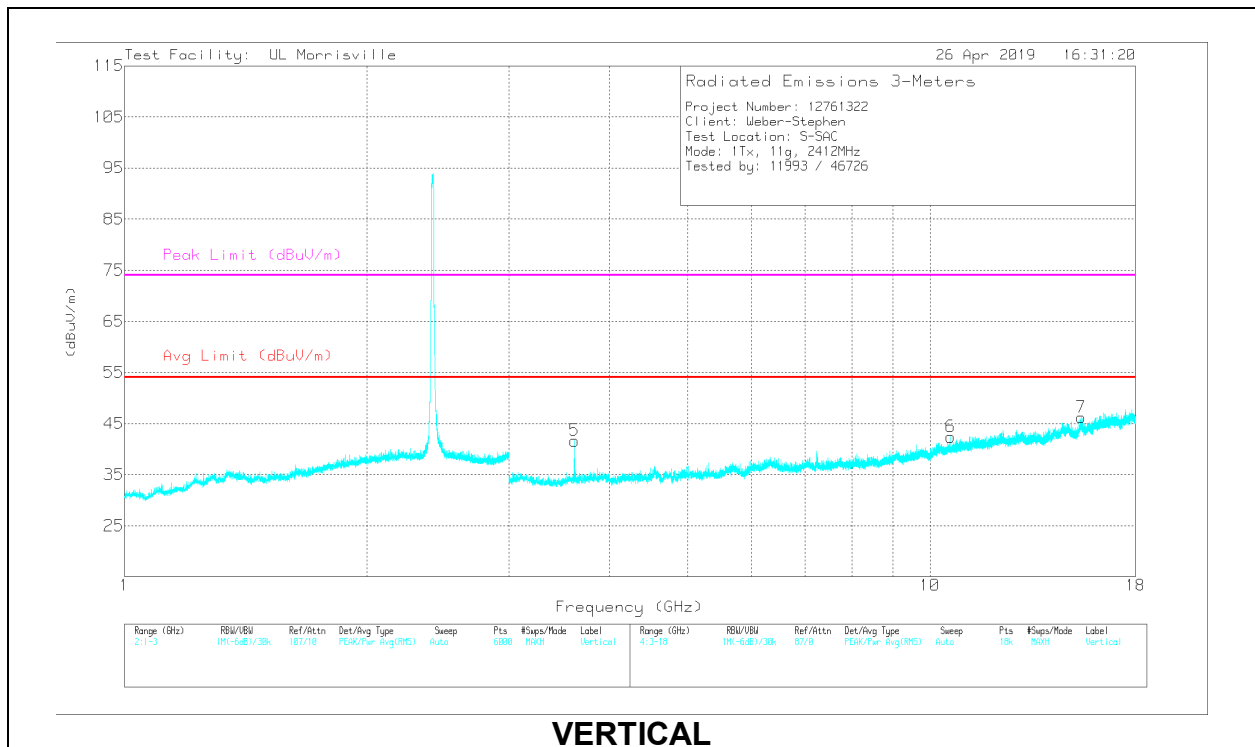
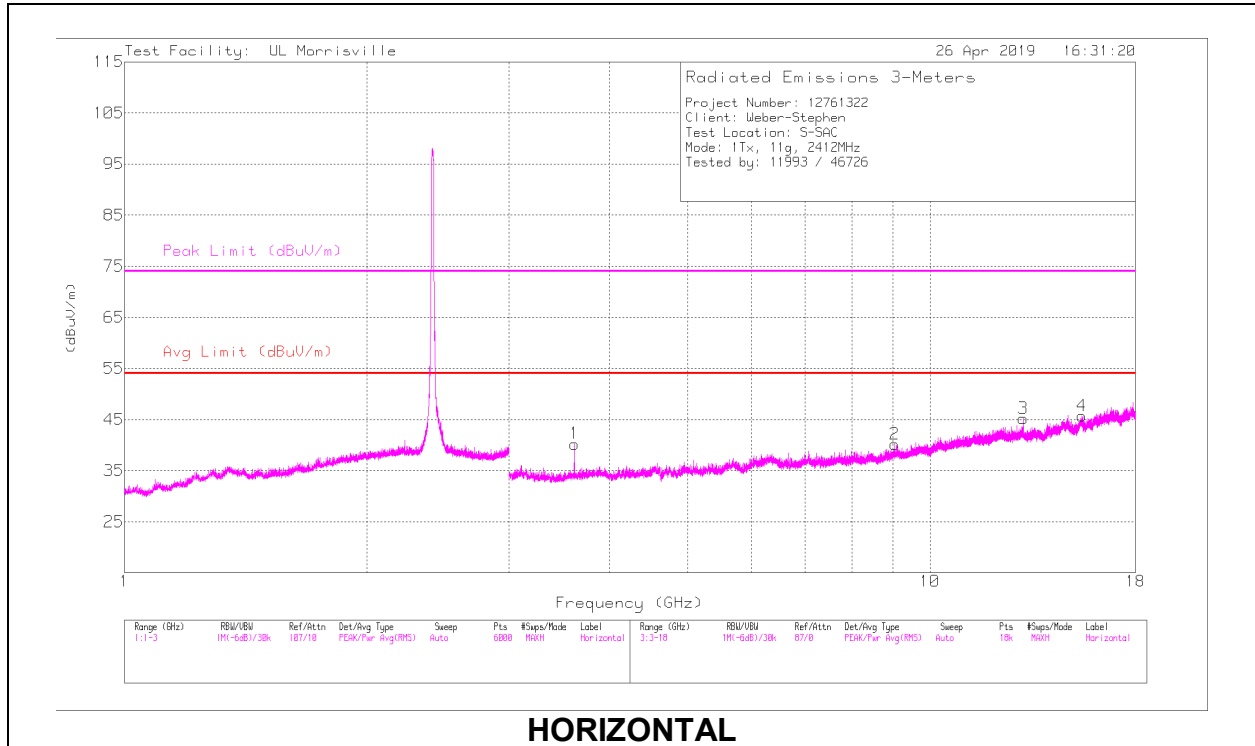
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection

# HARMONICS AND SPURIOUS EMISSIONS

## LOW CHANNEL, CH 1 RESULTS



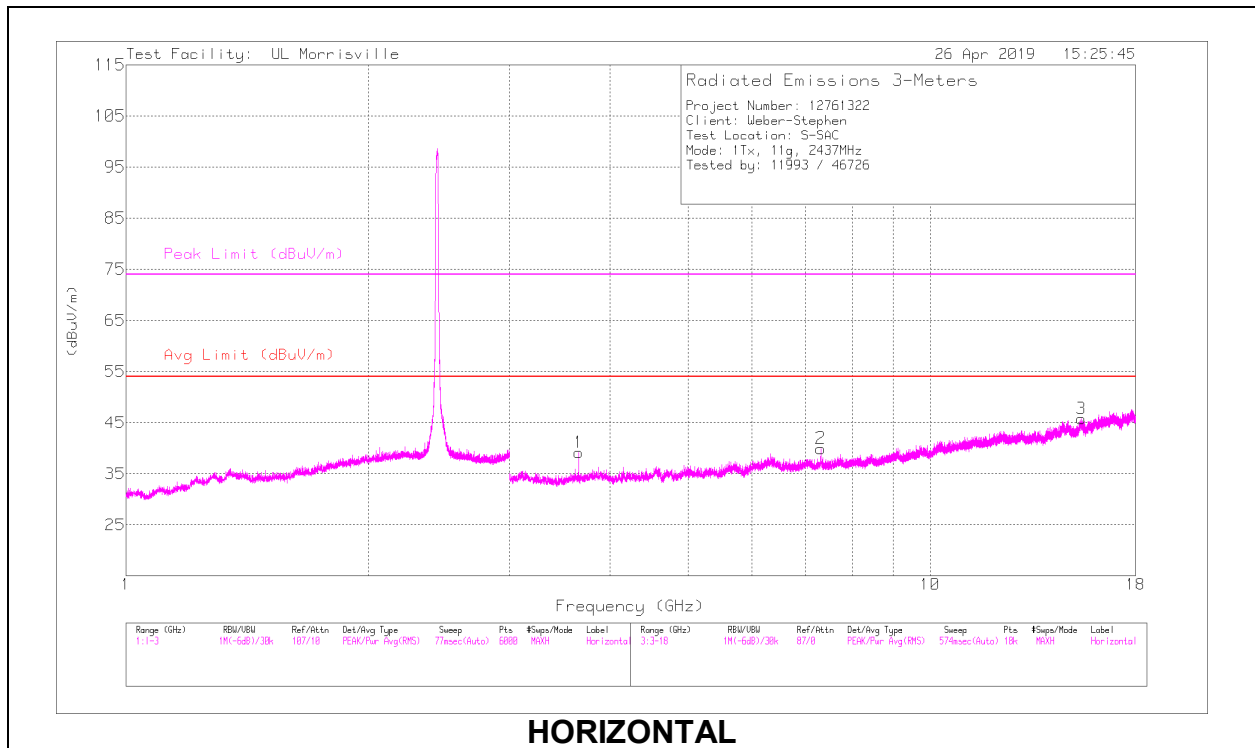


**RADIATED EMISSIONS**

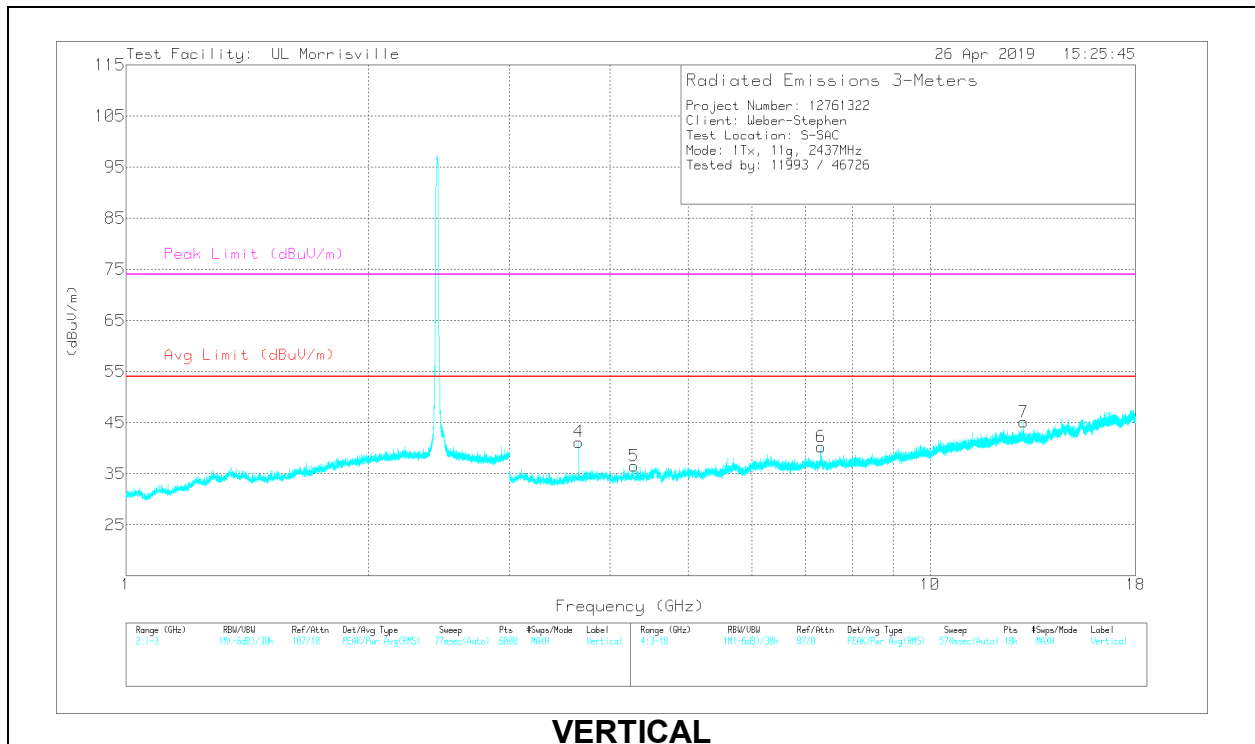
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 3.618	45.12	PK2	33	-31.9	0	46.22	-	-	74	-27.78	261	304	H
	*** 3.618	39.22	MAv1	33	-31.9	.12	40.44	54	-13.56	-	-	261	304	H
2	*** 9.048	35.99	PK2	36.1	-26.4	0	45.69	-	-	74	-28.31	341	259	H
	*** 9.048	23.93	MAv1	36.1	-26.4	.12	33.75	54	-20.25	-	-	341	259	H
4	*** 15.45	33.29	PK2	40	-22	0	51.29	-	-	74	-22.71	77	249	H
	** 15.448	21.96	MAv1	40	-22	.12	40.08	54	-13.92	-	-	77	249	H
5	*** 3.618	45.98	PK2	33	-31.9	0	47.08	-	-	74	-26.92	77	392	V
	*** 3.618	40.43	MAv1	33	-31.9	.12	41.65	54	-12.35	-	-	77	392	V
6	*** 10.61	34.23	PK2	37.7	-24.3	0	47.63	-	-	74	-26.37	2	298	V
	** 10.609	21.99	MAv1	37.7	-24.3	.12	35.51	54	-18.49	-	-	2	298	V
7	*** 15.415	33.67	PK2	40	-21.7	0	51.97	-	-	74	-22.03	87	147	V
	*** 15.415	21.89	MAv1	40	-21.7	.12	40.31	54	-13.69	-	-	87	147	V
3	13.056	29.7	Pk	39	-23.5	0	45.2	-	-	-	-	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  
 MAv1 - Maximum RMS Average  
 Pk - Peak detector

### MID CHANNEL, CH 6 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 AF (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	*** 3.655	45.14	PK2	33	-32	0	46.14	-	-	74	-27.86	261	318	H
	*** 3.655	39.13	MAv1	33	-32	.12	40.25	54	-13.75	-	-	261	318	H
2	*** 7.311	40.25	PK2	35.5	-27.5	0	48.25	-	-	74	-25.75	350	116	H
	*** 7.311	29.02	MAv1	35.5	-27.5	.12	37.14	54	-16.86	-	-	350	116	H
3	*** 15.406	33.98	PK2	40	-21.5	0	52.48	-	-	74	-21.52	191	131	H
	*** 15.406	21.78	MAv1	40	-21.5	.12	40.4	54	-13.6	-	-	191	131	H
4	*** 3.655	47.13	PK2	33	-32	0	48.13	-	-	74	-25.87	182	311	V
	*** 3.656	42	MAv1	33	-32	.12	43.12	54	-10.88	-	-	182	311	V
5	*** 4.283	40.73	PK2	33.3	-31.4	0	42.63	-	-	74	-31.37	284	272	V
	*** 4.283	27.98	MAv1	33.3	-31.4	.12	30	54	-24	-	-	284	272	V
6	*** 7.311	38.64	PK2	35.5	-27.5	0	46.64	-	-	74	-27.36	10	109	V
	*** 7.311	30.09	MAv1	35.5	-27.5	.12	38.21	54	-15.79	-	-	10	109	V
7	13.062	29.73	Pk	39	-23.6	0	45.13	-	-	-	-	0-360	7	V

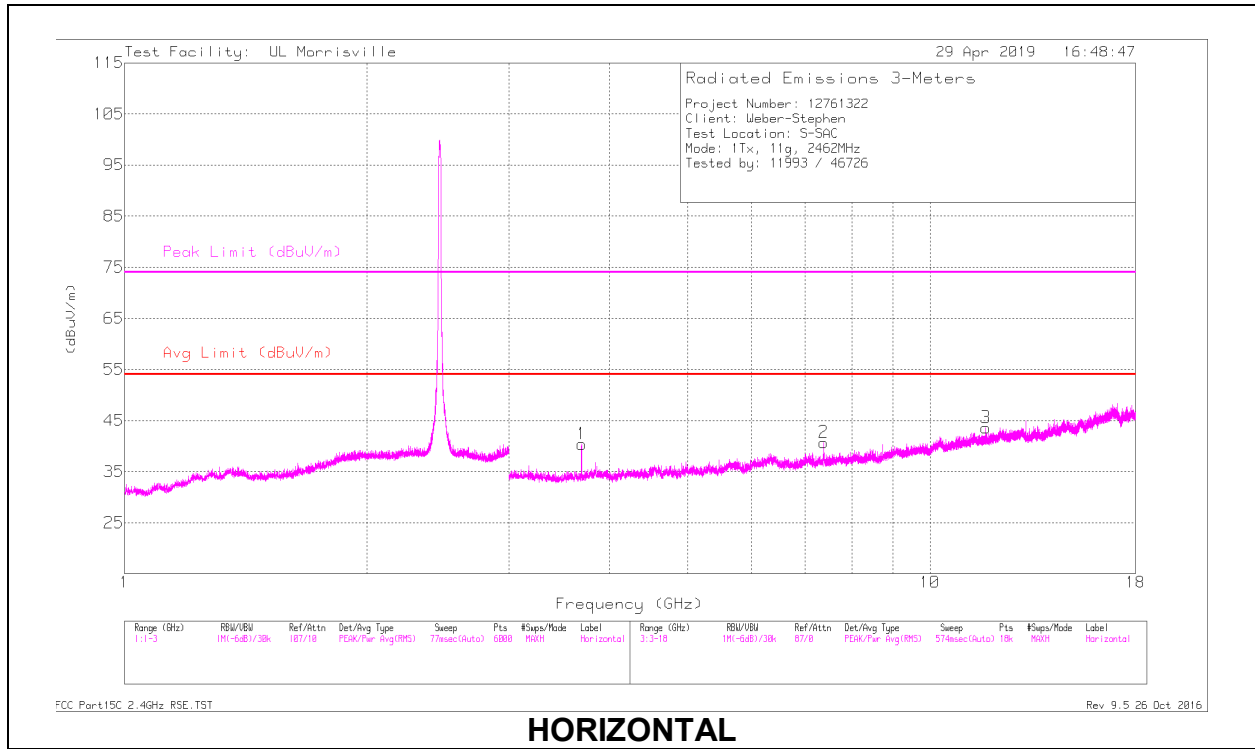
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

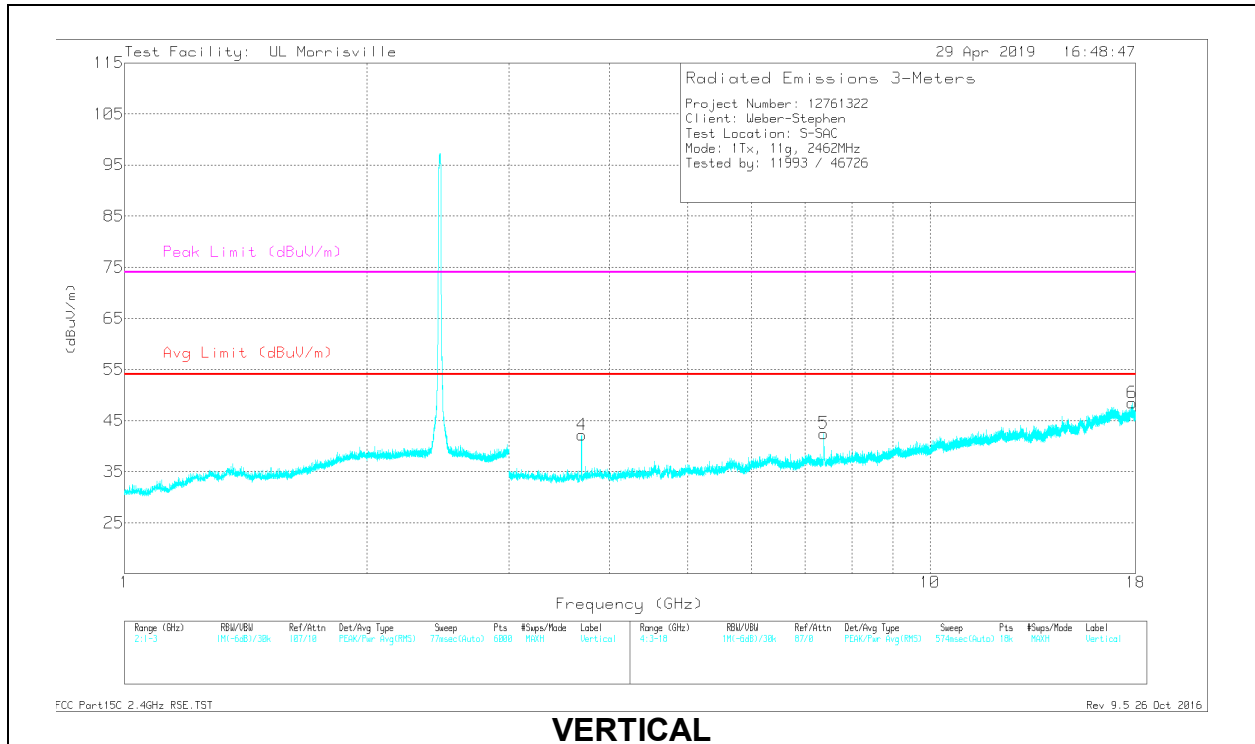
PK2 - Maximum Peak

MAv1 - Maximum RMS Average

### HIGH CHANNEL, CH 11 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	*** 3.693	45.26	PK2	33	-32.3	0	45.96	-	-	74	-28.04	267	326	H
	*** 3.693	39.33	MAv1	33	-32.3	.12	40.15	54	-13.85	-	-	267	326	H
2	*** 7.386	39.76	PK2	35.7	-27.6	0	47.86	-	-	74	-26.14	344	103	H
	*** 7.386	30.51	MAv1	35.7	-27.6	.12	38.73	54	-15.27	-	-	344	103	H
3	*** 11.736	34.24	PK2	38.5	-23.8	0	48.94	-	-	74	-25.06	64	388	H
	*** 11.737	22.28	MAv1	38.5	-23.8	.12	37.1	54	-16.9	-	-	64	388	H
4	*** 3.693	47.03	PK2	33	-32.3	0	47.73	-	-	74	-26.27	172	321	V
	*** 3.693	42.18	MAv1	33	-32.3	.12	43	54	-11	-	-	172	321	V
5	*** 7.386	40.05	PK2	35.7	-27.6	0	48.15	-	-	74	-25.85	357	123	V
	*** 7.386	31.35	MAv1	35.7	-27.6	.12	39.57	54	-14.43	-	-	357	123	V
6	*** 17.826	34.42	PK2	41.2	-20.8	0	54.82	-	-	74	-19.18	292	247	V
	*** 17.827	21.89	MAv1	41.2	-20.8	.12	42.41	54	-11.59	-	-	292	247	V

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

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

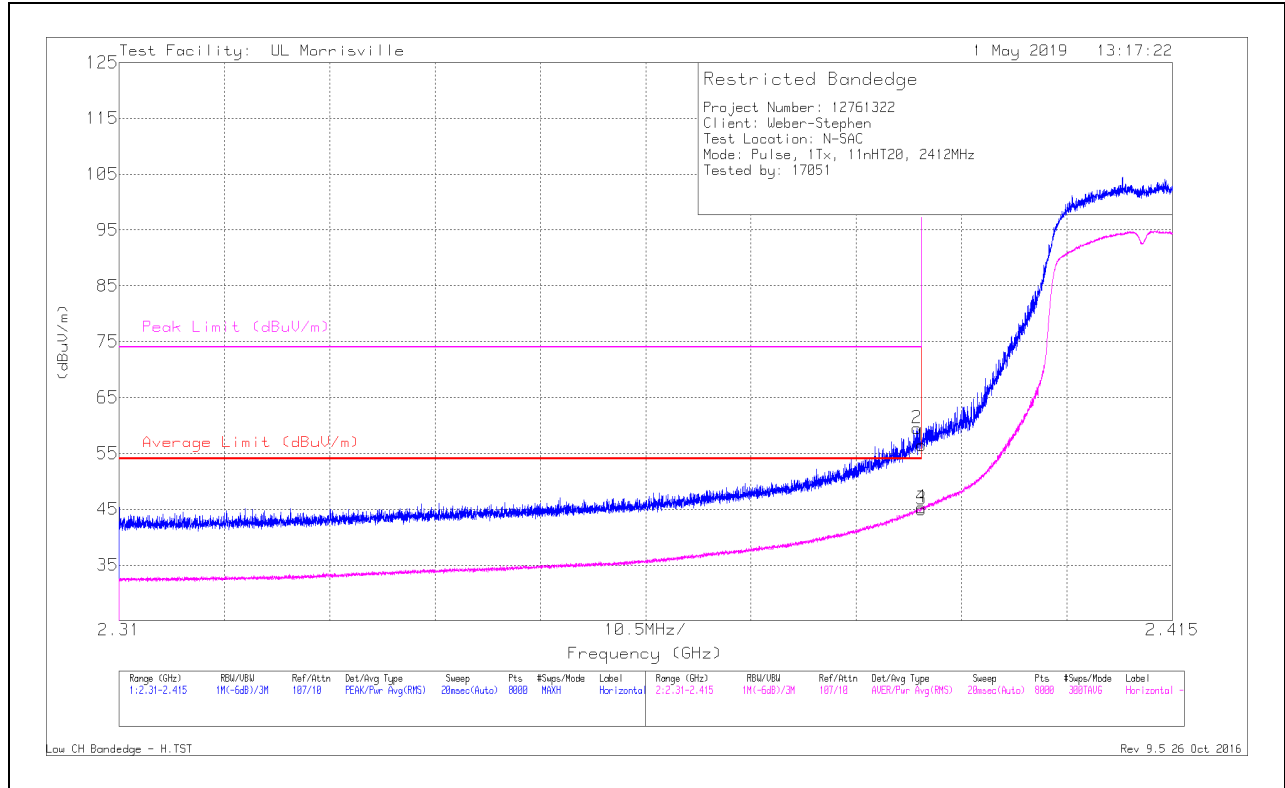
MAv1 - Maximum RMS Average

### 9.1.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

**Pulse**

**BANDEDGE (LOW CHANNEL, CH 1)**

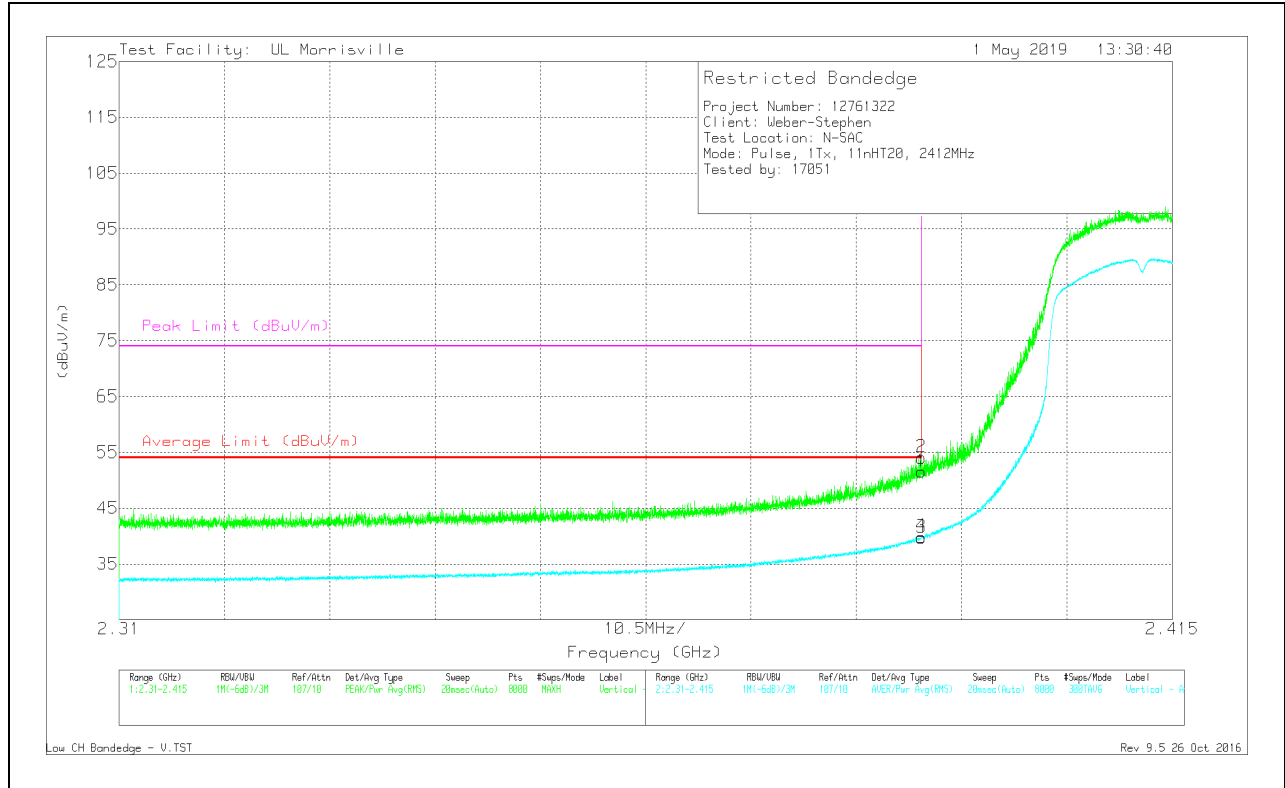
**HORIZONTAL RESULT**



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/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	48.83	Pk	32	-24.4	0	56.43	-	-	74	-17.57	179	151	H
2	* 2.39	51.9	Pk	32	-24.4	0	59.5	-	-	74	-14.5	179	151	H
3	* 2.39	37.24	RMS	32	-24.4	.14	44.98	54	-9.02	-	-	179	151	H
4	* 2.39	37.55	RMS	32	-24.4	.14	45.29	54	-8.71	-	-	179	151	H

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT

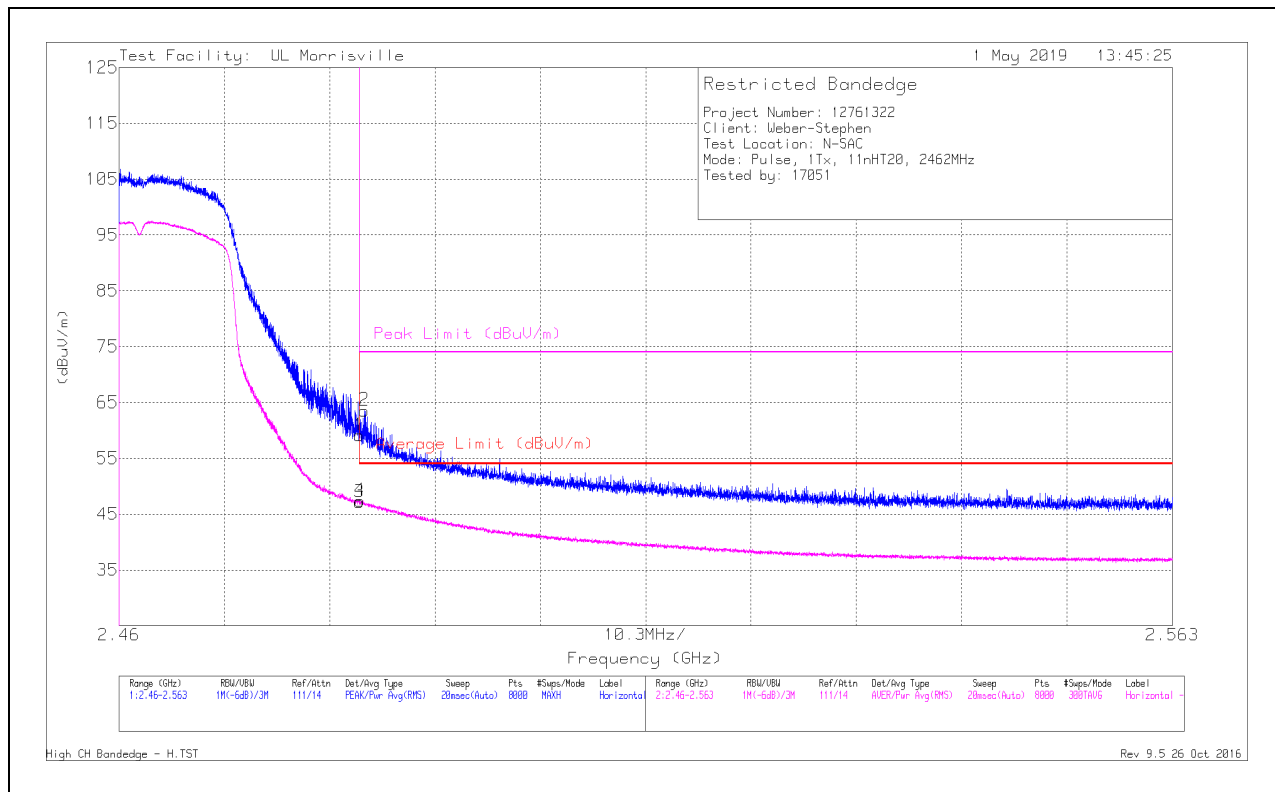


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	43.94	Pk	32	-24.4	0	51.54	-	-	74	-22.46	163	147	V
2	* 2.39	46.46	Pk	32	-24.4	0	54.06	-	-	74	-19.94	163	147	V
3	* 2.39	32.14	RMS	32	-24.4	.14	39.88	54	-14.12	-	-	163	147	V
4	* 2.39	32.26	RMS	32	-24.4	.14	40	54	-14	-	-	163	147	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

## BANDEGE (HIGH CHANNEL, CH 11)

### HORIZONTAL RESULT

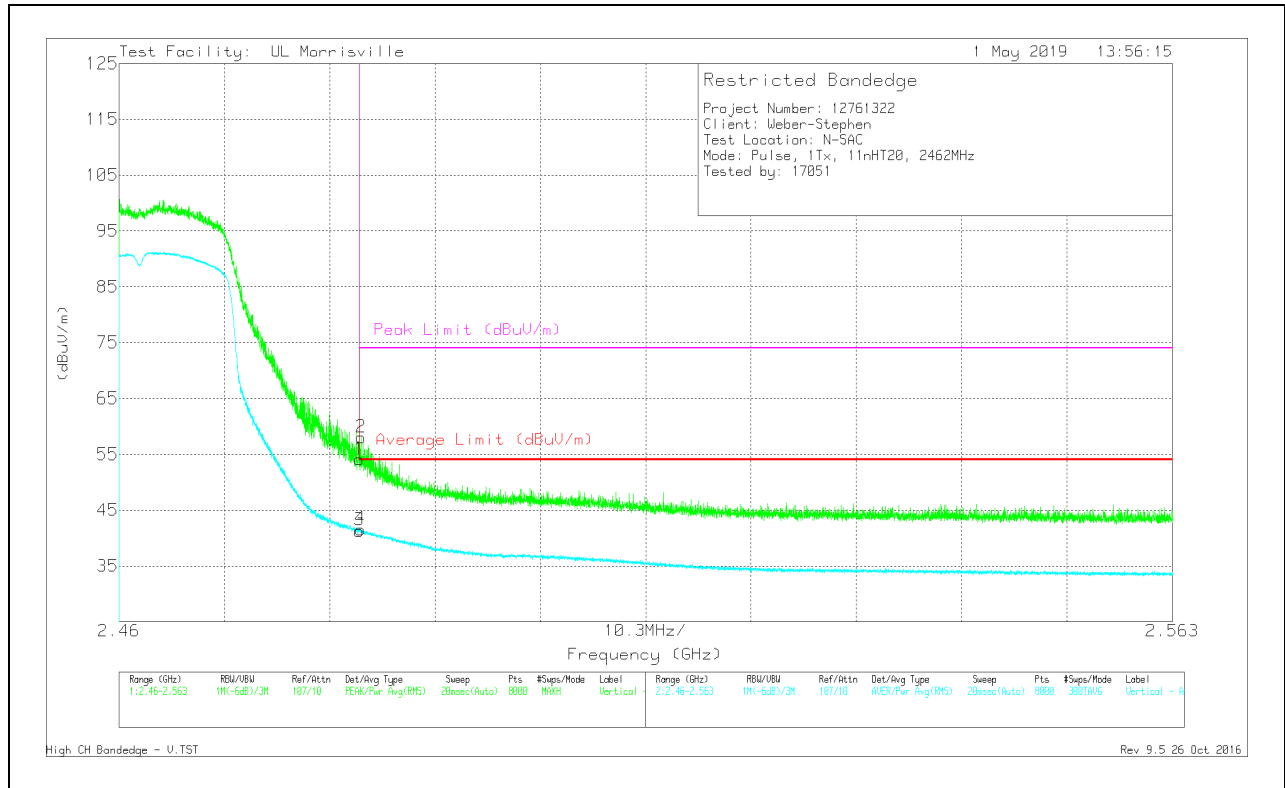


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	51.03	Pk	32.4	-24.3	0	59.13	-	-	74	-14.87	172	140	H
2	* 2.484	55.45	Pk	32.4	-24.3	0	63.55	-	-	74	-10.45	172	140	H
3	* 2.484	38.88	RMS	32.4	-24.3	.14	47.12	54	-6.88	-	-	172	140	H
4	* 2.484	39.12	RMS	32.4	-24.3	.14	47.36	54	-6.64	-	-	172	140	H

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection



### VERTICAL RESULT

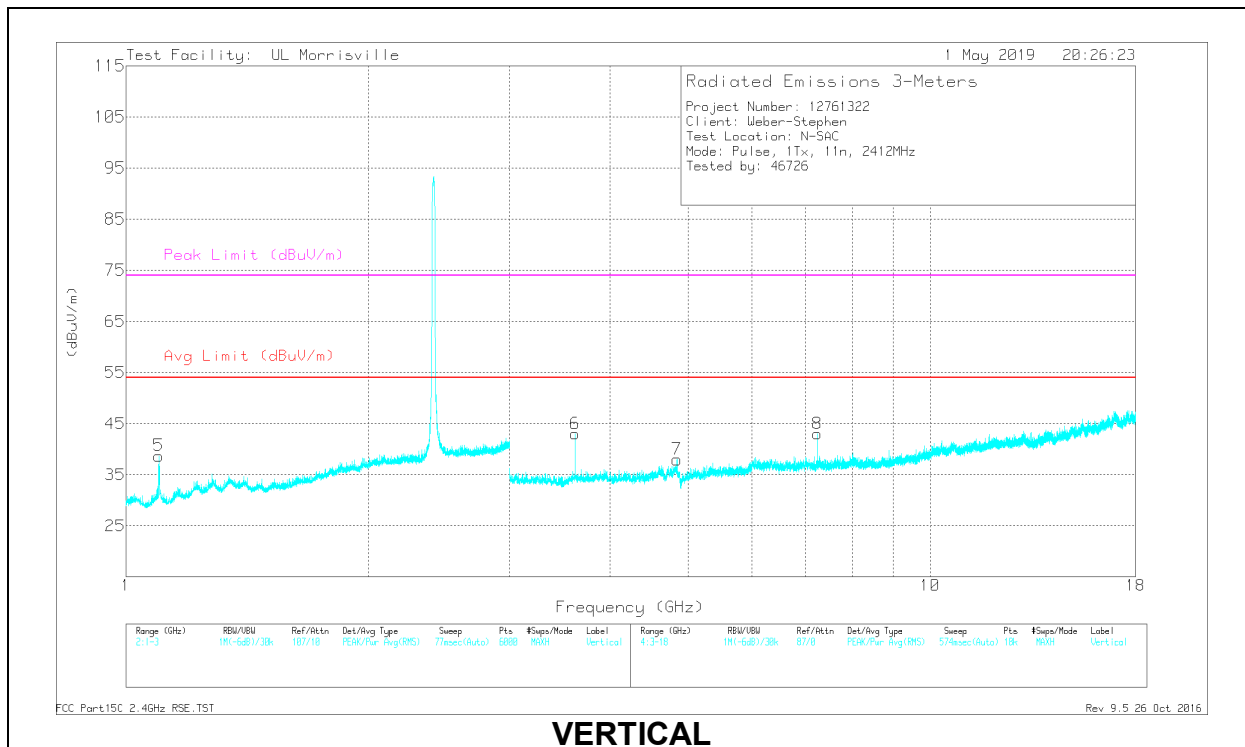
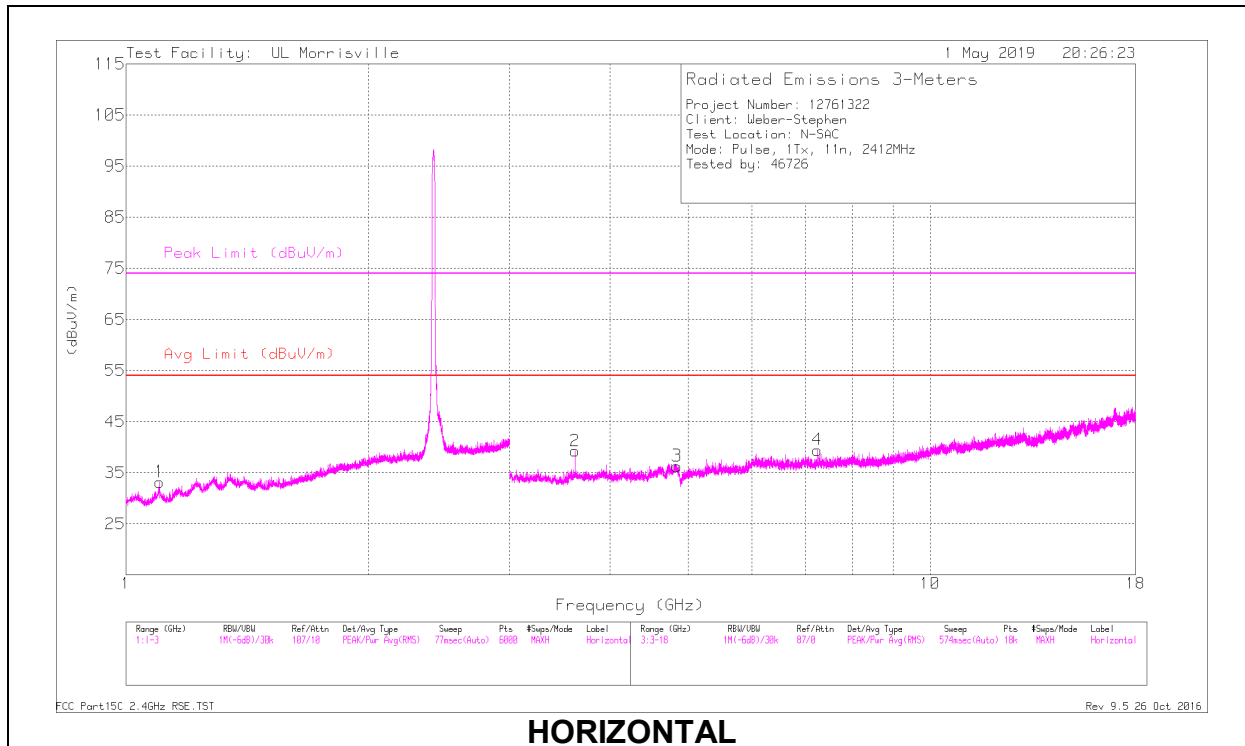


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	46.02	Pk	32.4	-24.3	0	54.12	-	-	74	-19.88	150	163	V
2	* 2.484	49.93	Pk	32.4	-24.3	0	58.03	-	-	74	-15.97	150	163	V
3	* 2.484	33.11	RMS	32.4	-24.3	.14	41.35	54	-12.65	-	-	150	163	V
4	* 2.484	33.35	RMS	32.4	-24.3	.14	41.59	54	-12.41	-	-	150	163	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

# HARMONICS AND SPURIOUS EMISSIONS

## LOW CHANNEL, CH 1 RESULTS

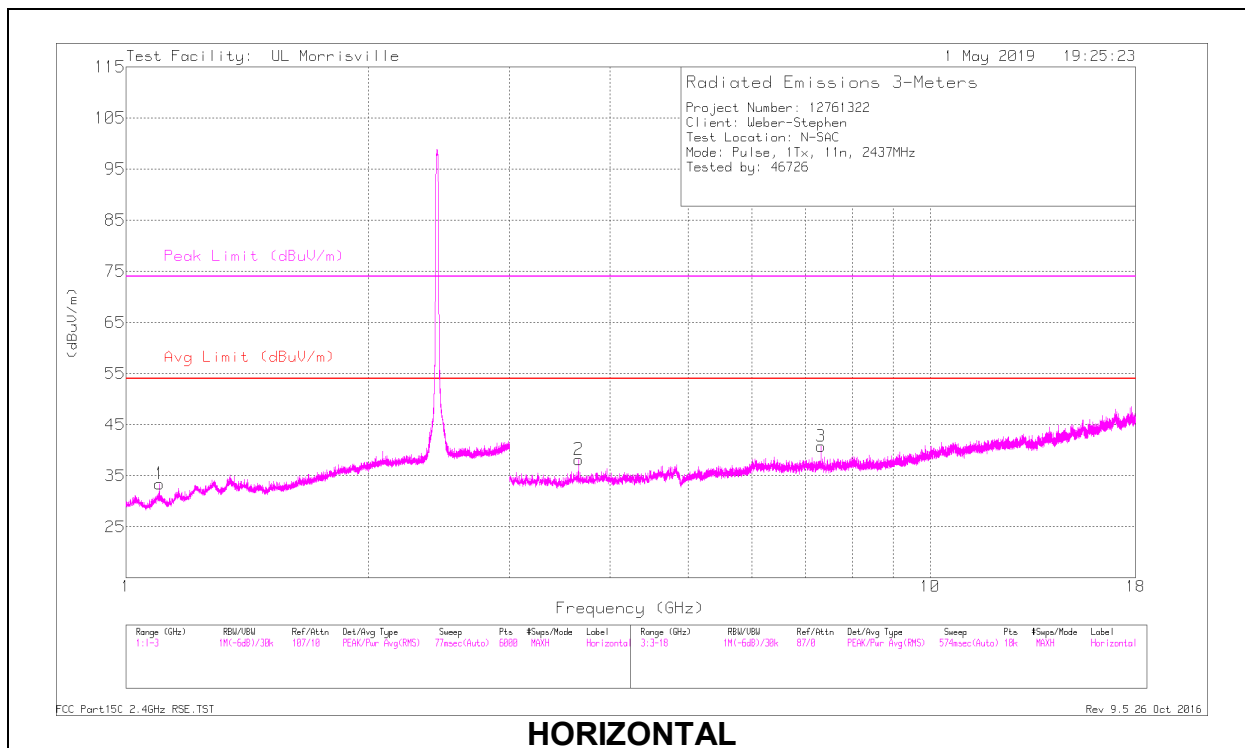


**RADIATED EMISSIONS**

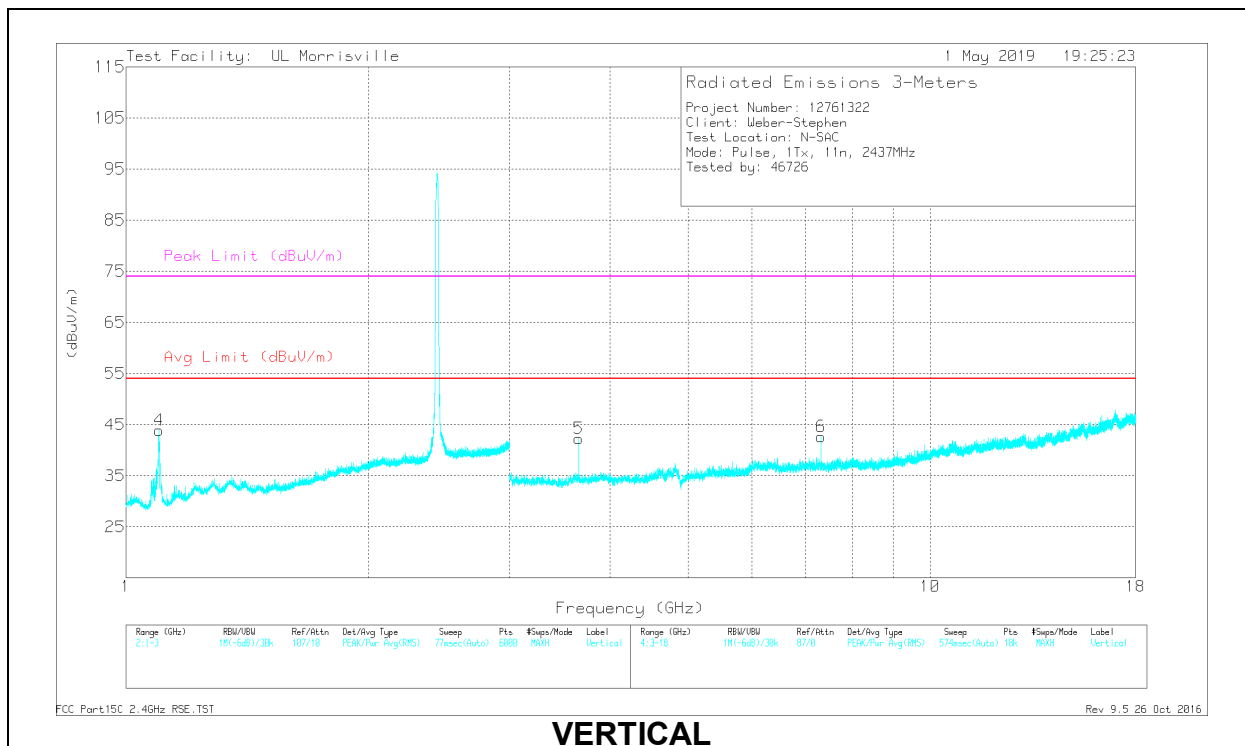
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.1	37.26	PK2	27.5	-26.7	0	38.06	-	-	74	-35.94	193	113	H
	* 1.1	25.11	MAv1	27.5	-26.7	.14	26.05	54	-27.95	-	-	193	113	H
5	* 1.1	53.24	PK2	27.5	-26.7	0	54.04	-	-	74	-19.96	138	112	V
	* 1.1	25.15	MAv1	27.5	-26.7	.14	26.09	54	-27.91	-	-	138	112	V
2	* 3.618	44.28	PK2	33.1	-31.7	0	45.68	-	-	74	-28.32	346	318	H
	* 3.618	35.89	MAv1	33.1	-31.7	.14	37.43	54	-16.57	-	-	346	318	H
3	* 4.843	39.64	PK2	34	-31.3	0	42.34	-	-	74	-31.66	105	353	H
	* 4.843	27.62	MAv1	34	-31.3	.14	30.46	54	-23.54	-	-	105	353	H
6	* 3.618	46.36	PK2	33.1	-31.7	0	47.76	-	-	74	-26.24	313	105	V
	* 3.618	40.33	MAv1	33.1	-31.7	.14	41.87	54	-12.13	-	-	313	105	V
7	* 4.845	39.54	PK2	34	-31.3	0	42.24	-	-	74	-31.76	63	383	V
	* 4.845	27.75	MAv1	34	-31.3	.14	30.59	54	-23.41	-	-	63	383	V
4	7.236	33.47	Pk	35.6	-29.6	0	39.47	-	-	-	-	0-360	102	H
8	7.236	37	Pk	35.6	-29.6	0	43	-	-	-	-	0-360	199	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - Maximum Peak  
 MAv1 - Maximum RMS Average  
 Pk - Peak detector

### MID CHANNEL, CH 6 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

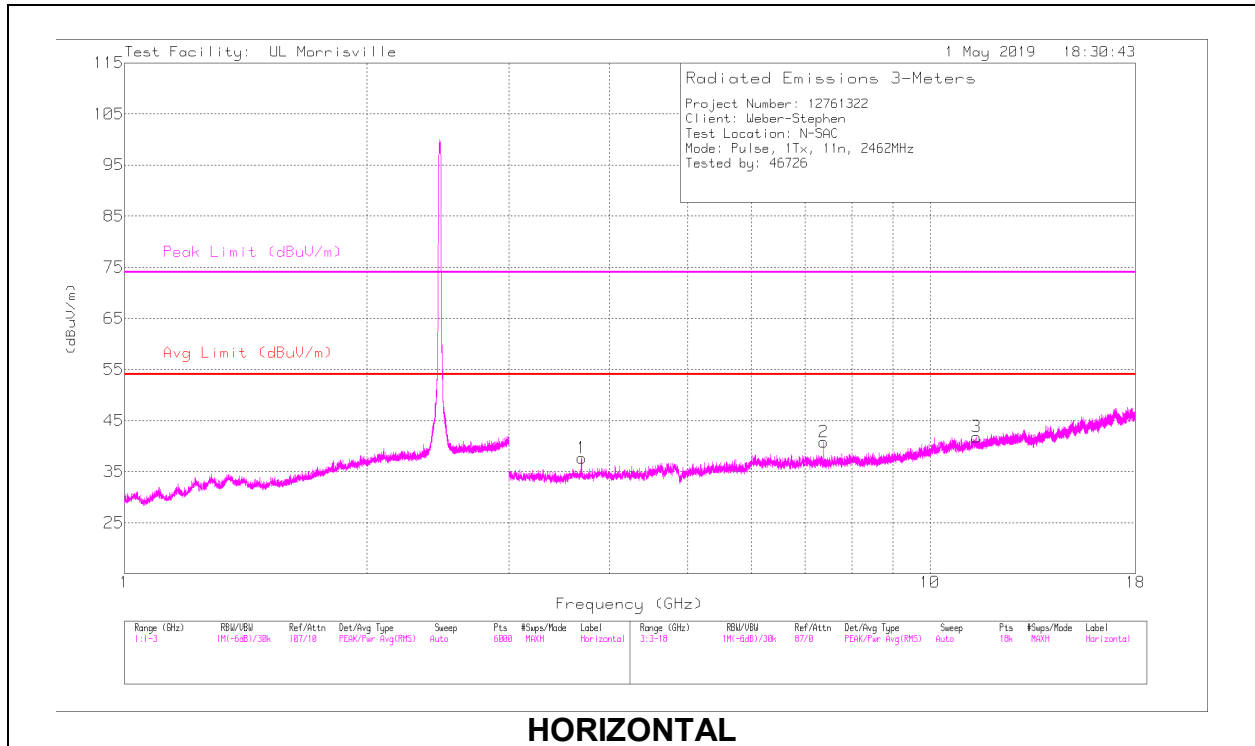
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.101	41.5	PK2	27.5	-26.7	0	42.3	-	-	74	-31.7	153	130	H
	* 1.101	25.1	MAv1	27.5	-26.7	.14	26.04	54	-27.96	-	-	153	130	H
4	* 1.099	55.21	PK2	27.5	-26.7	0	56.01	-	-	74	-17.99	345	268	V
	* 1.099	26.5	MAv1	27.5	-26.7	.14	27.44	54	-26.56	-	-	345	268	V
2	* 3.656	43.59	PK2	33.1	-31.4	0	45.29	-	-	74	-28.71	44	339	H
	* 3.656	36.01	MAv1	33.1	-31.4	.14	37.85	54	-16.15	-	-	44	339	H
3	* 7.311	39.9	PK2	35.6	-29.1	0	46.4	-	-	74	-27.6	279	116	H
	* 7.311	30.39	MAv1	35.6	-29.1	.14	37.03	54	-16.97	-	-	279	116	H
5	* 3.656	45.16	PK2	33.1	-31.4	0	46.86	-	-	74	-27.14	313	115	V
	* 3.656	39.47	MAv1	33.1	-31.4	.14	41.31	54	-12.69	-	-	313	115	V
6	* 7.311	41.61	PK2	35.6	-29.1	0	48.11	-	-	74	-25.89	162	146	V
	* 7.311	34.54	MAv1	35.6	-29.1	.14	41.18	54	-12.82	-	-	162	146	V

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

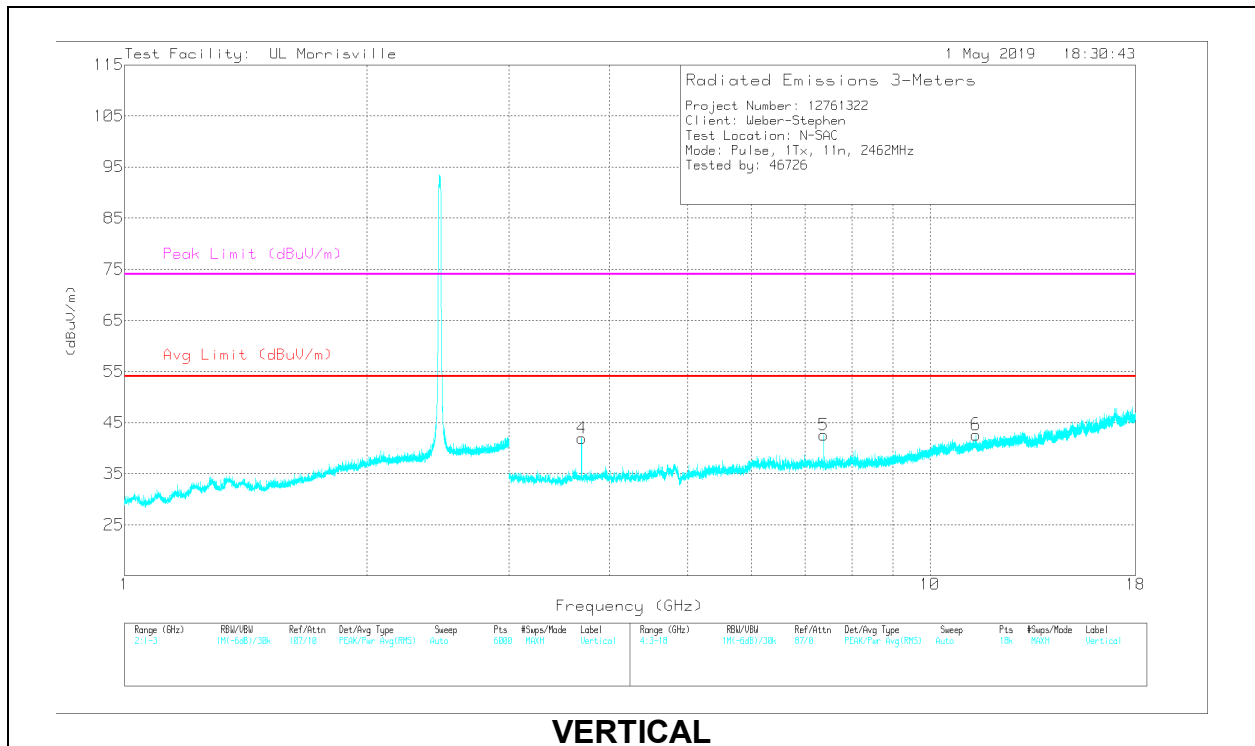
PK2 - Maximum Peak

MAv1 - Maximum RMS Average

### HIGH CHANNEL, CH 11 RESULTS



**HORIZONTAL**



**VERTICAL**

**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	* 3.693	43.95	PK2	33.1	-31.9	0	45.15	-	-	74	-28.85	354	221	H
	* 3.693	36.27	MAv1	33.1	-31.9	.14	37.61	54	-16.39	-	-	354	221	H
2	* 7.386	40.8	PK2	35.6	-29.2	0	47.2	-	-	74	-26.8	108	147	H
	* 7.386	32.13	MAv1	35.6	-29.2	.14	38.67	54	-15.33	-	-	108	147	H
3	* 11.422	35.63	PK2	38	-25.5	0	48.13	-	-	74	-25.87	32	295	H
	* 11.422	23.22	MAv1	38	-25.5	.14	35.86	54	-18.14	-	-	32	295	H
4	* 3.693	45.63	PK2	33.1	-31.9	0	46.83	-	-	74	-27.17	325	102	V
	* 3.693	39.95	MAv1	33.1	-31.9	.14	41.29	54	-12.71	-	-	325	102	V
5	* 7.386	42.3	PK2	35.6	-29.2	0	48.7	-	-	74	-25.3	162	221	V
	* 7.386	35.12	MAv1	35.6	-29.2	.14	41.66	54	-12.34	-	-	162	221	V
6	* 11.399	35.4	PK2	38	-25.2	0	48.2	-	-	74	-25.8	187	110	V
	* 11.399	23.23	MAv1	38	-25.2	.14	36.17	54	-17.83	-	-	187	110	V

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

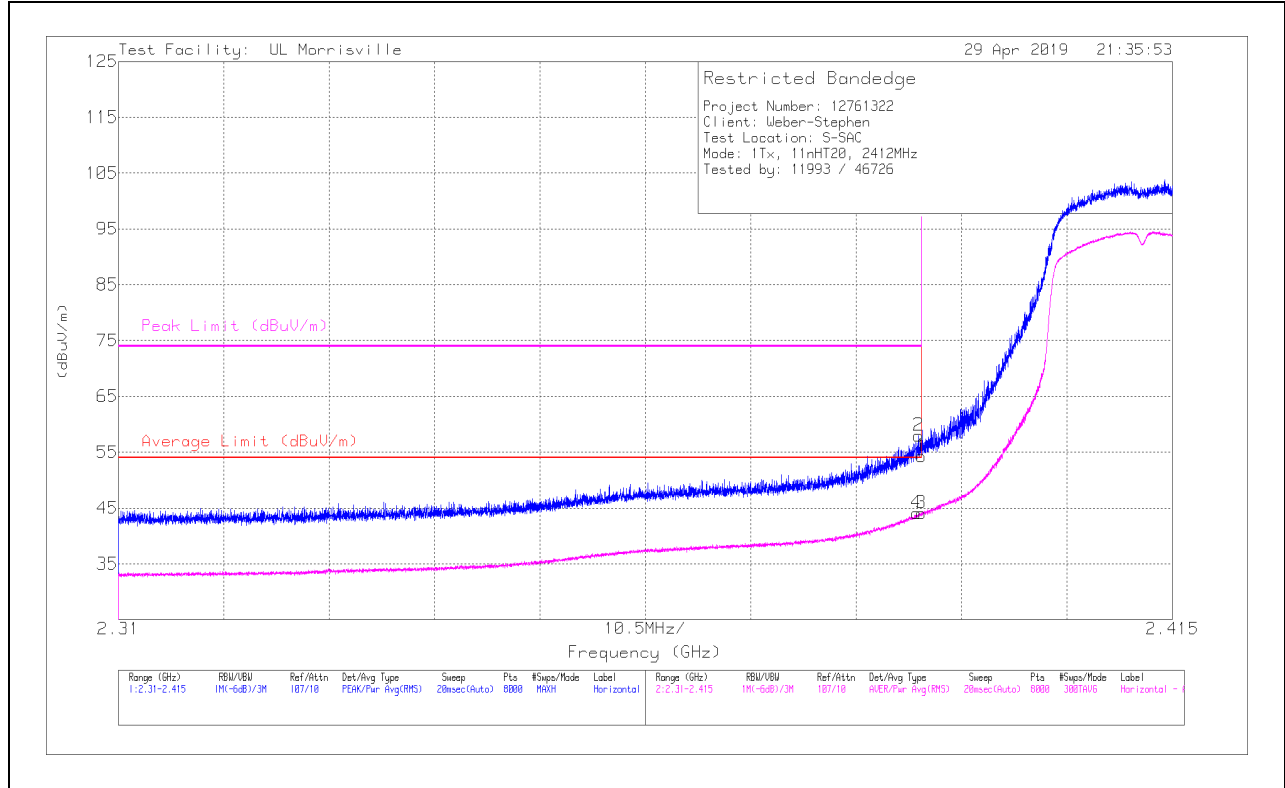
PK2 - Maximum Peak

MAv1 - Maximum RMS Average

**Saber**

**BANDEDGE (LOW CHANNEL, CH 1)**

**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	* ** 2.39	46.37	PK	31.9	-24	0	54.27	-	-	74	-19.73	306	114	H
2	* ** 2.39	50.04	Pk	31.9	-24	0	57.94	-	-	74	-16.06	306	114	H
3	* ** 2.39	36.06	RMS	31.9	-24	.14	44.1	54	-9.9	-	-	306	114	H
4	* ** 2.389	36.04	RMS	31.9	-24	.14	44.08	54	-9.92	-	-	306	114	H

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

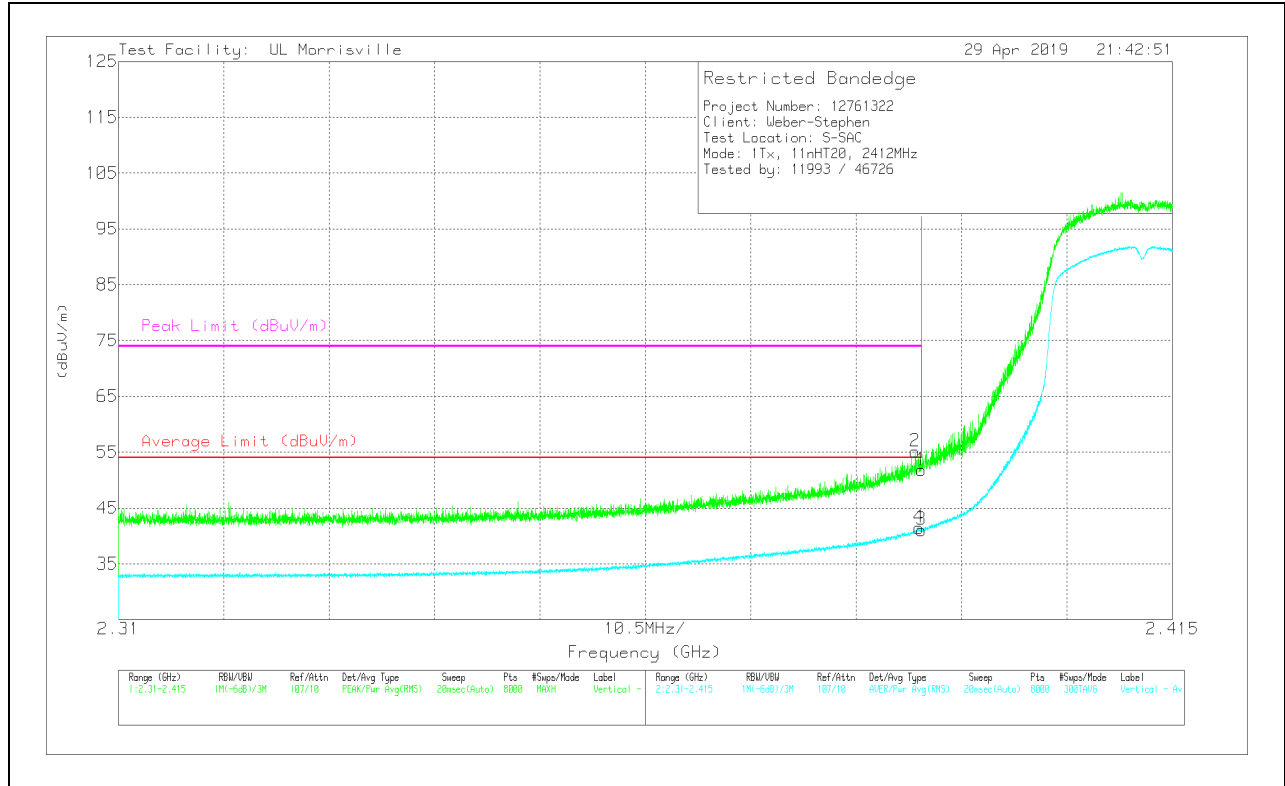
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

RMS - RMS detection



### VERTICAL RESULT

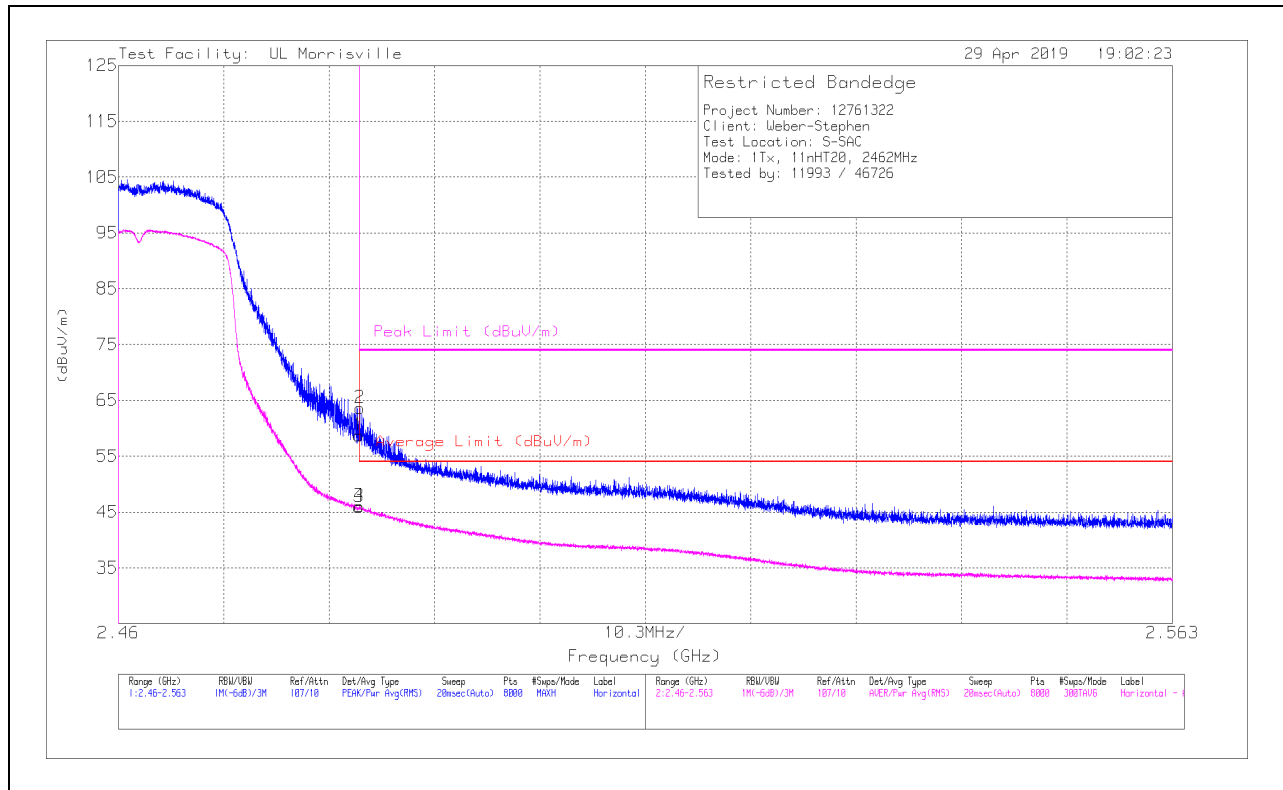


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	43.93	PK	31.9	-24	0	51.83	-	-	74	-22.17	49	111	V
2	* ** 2.389	47.24	Pk	31.9	-24	0	55.14	-	-	74	-18.86	49	111	V
3	* ** 2.39	33.03	RMS	31.9	-24	.14	41.07	54	-12.93	-	-	49	111	V
4	* ** 2.39	33.4	RMS	31.9	-24	.14	41.44	54	-12.56	-	-	49	111	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### BANDEDGE (HIGH CHANNEL, CH 11)

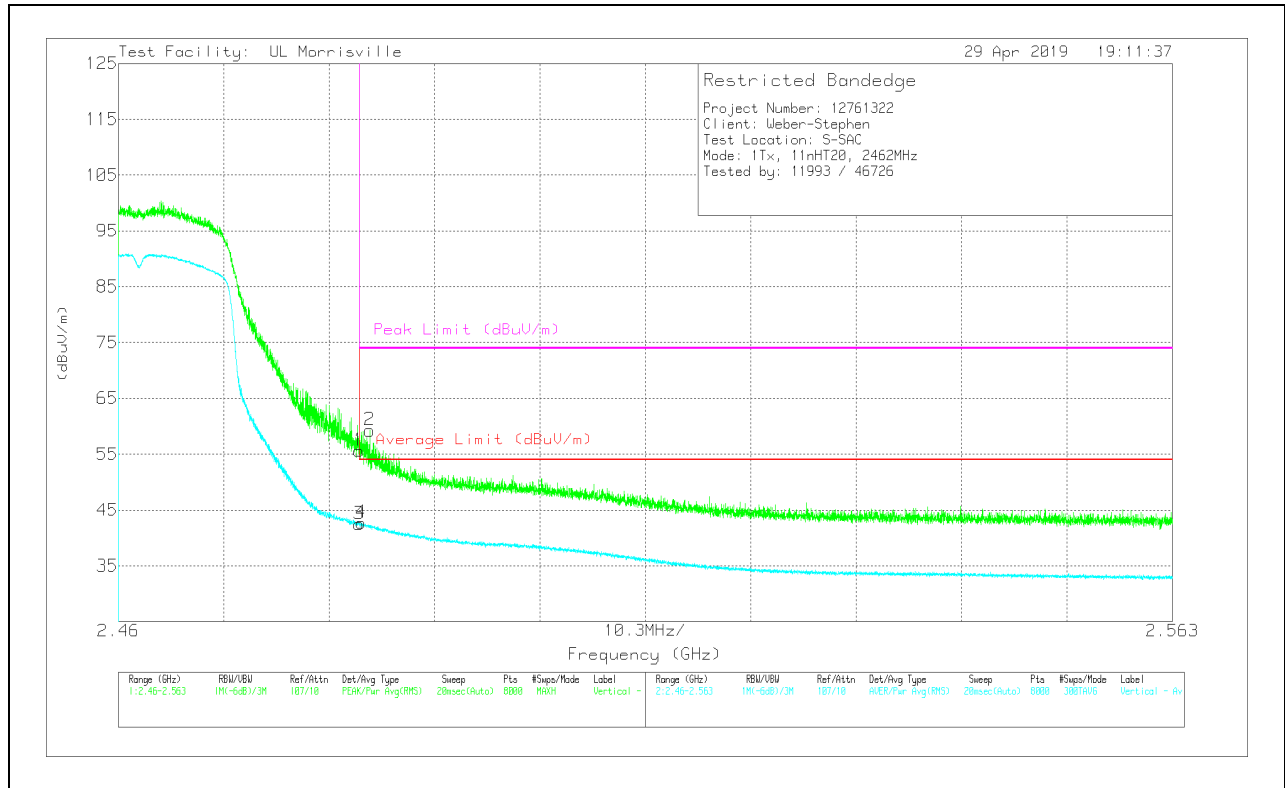
### HORIZONTAL RESULT



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	*** 2.484	50.94	Pk	32.3	-24.5	0	58.74	-	-	74	-15.26	244	116	H
2	*** 2.484	55.81	PK	32.3	-24.5	0	63.61	-	-	74	-10.39	244	116	H
3	*** 2.484	38.02	RMS	32.3	-24.5	.14	45.96	54	-8.04	-	-	244	116	H
4	*** 2.484	38.06	RMS	32.3	-24.5	.14	46	54	-8	-	-	244	116	H

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT

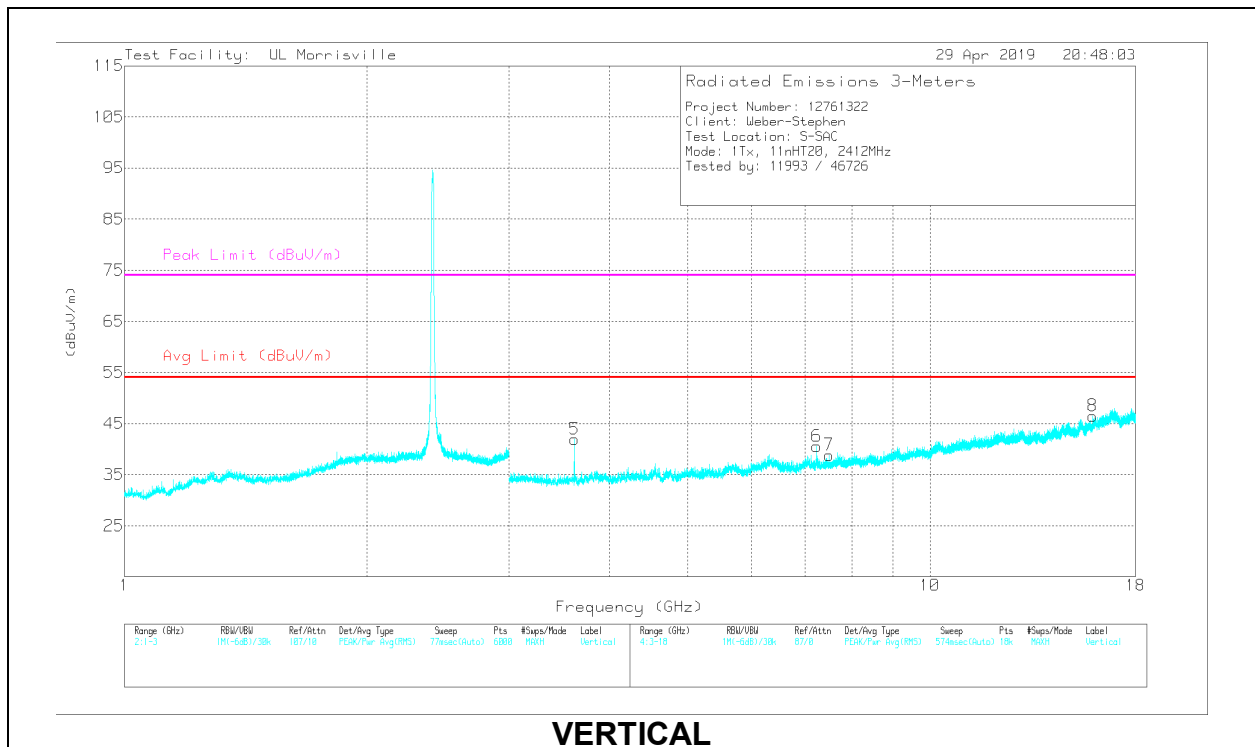
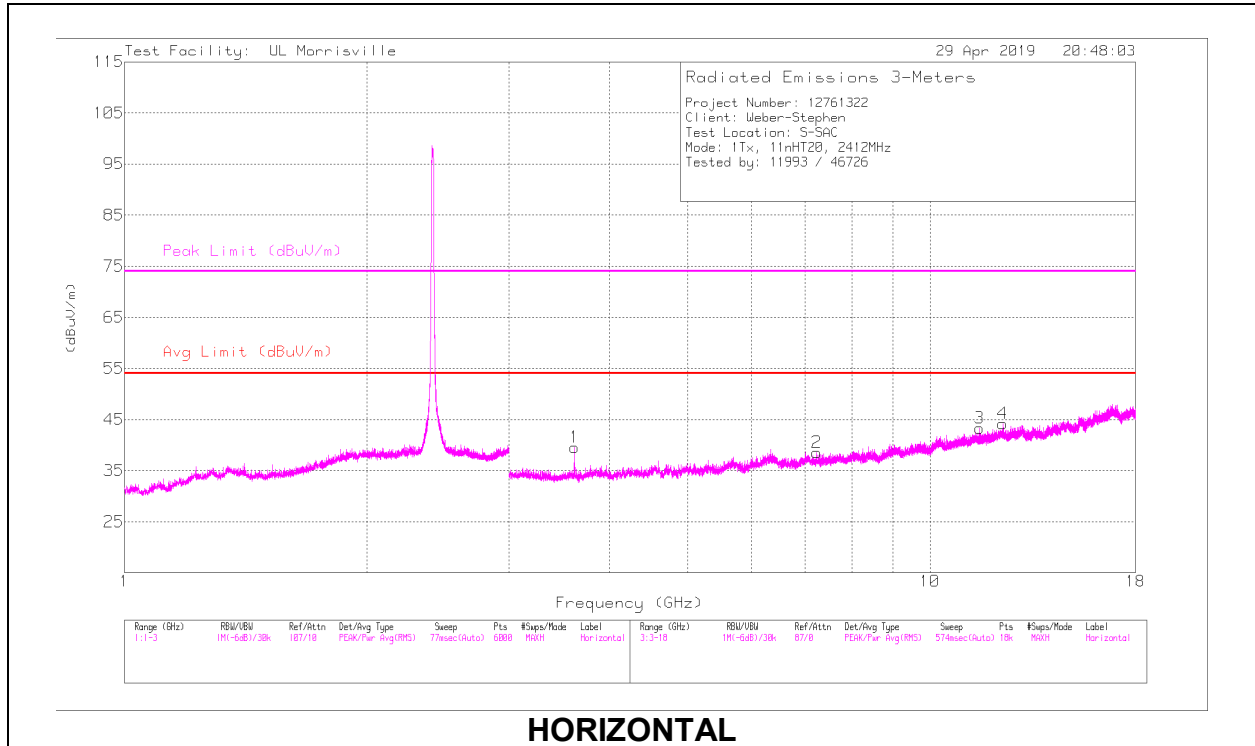


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.484	47.85	PK	32.3	-24.5	0	55.65	-	-	74	-18.35	354	120	V
2	*** 2.485	51.47	PK	32.3	-24.5	0	59.27	-	-	74	-14.73	354	120	V
3	*** 2.484	34.56	RMS	32.3	-24.5	.14	42.5	54	-11.5	-	-	354	120	V
4	*** 2.484	34.77	RMS	32.3	-24.5	.14	42.71	54	-11.29	-	-	354	120	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 \*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

# HARMONICS AND SPURIOUS EMISSIONS

## LOW CHANNEL, CH 1 RESULTS



**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	*** 3.618	45.52	PK2	32.9	-31.9	0	46.52	-	-	74	-27.48	262	385	H
	*** 3.618	40.04	MAv1	32.9	-31.9	.14	41.18	54	-12.82	-	-	262	385	H
3	*** 11.532	35.08	PK2	38.2	-24.2	0	49.08	-	-	74	-24.92	118	269	H
	*** 11.532	22.62	MAv1	38.2	-24.2	.14	36.76	54	-17.24	-	-	118	269	H
4	*** 12.315	34.57	PK2	38.8	-23.7	0	49.67	-	-	74	-24.33	191	116	H
	*** 12.316	22.49	MAv1	38.8	-23.7	.14	37.73	54	-16.27	-	-	191	116	H
5	*** 3.618	46.4	PK2	32.9	-31.9	0	47.4	-	-	74	-26.6	179	303	V
	*** 3.618	40.88	MAv1	32.9	-31.9	.14	42.02	54	-11.98	-	-	179	303	V
7	*** 7.497	36.49	PK2	35.8	-28	0	44.29	-	-	74	-29.71	332	208	V
	*** 7.496	24.66	MAv1	35.8	-28	.14	32.6	54	-21.4	-	-	332	208	V
8	*** 15.937	34.83	PK2	40.6	-23.4	0	52.03	-	-	74	-21.97	296	289	V
	*** 15.937	22.98	MAv1	40.6	-23.4	.14	40.32	54	-13.68	-	-	296	289	V
2	7.236	30.73	Pk	35.7	-27.9	0	38.53	-	-	-	-	0-360	199	H
6	7.236	32.74	Pk	35.7	-27.9	0	40.54	-	-	-	-	0-360	200	V

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

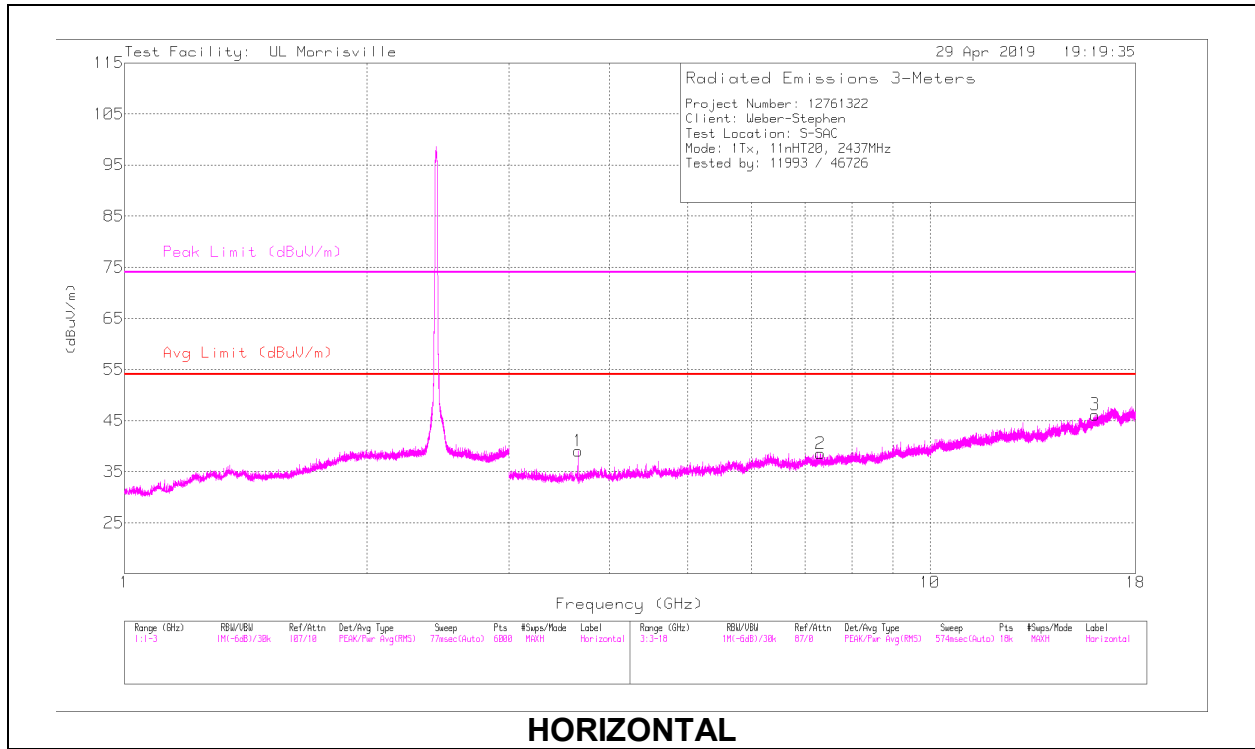
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

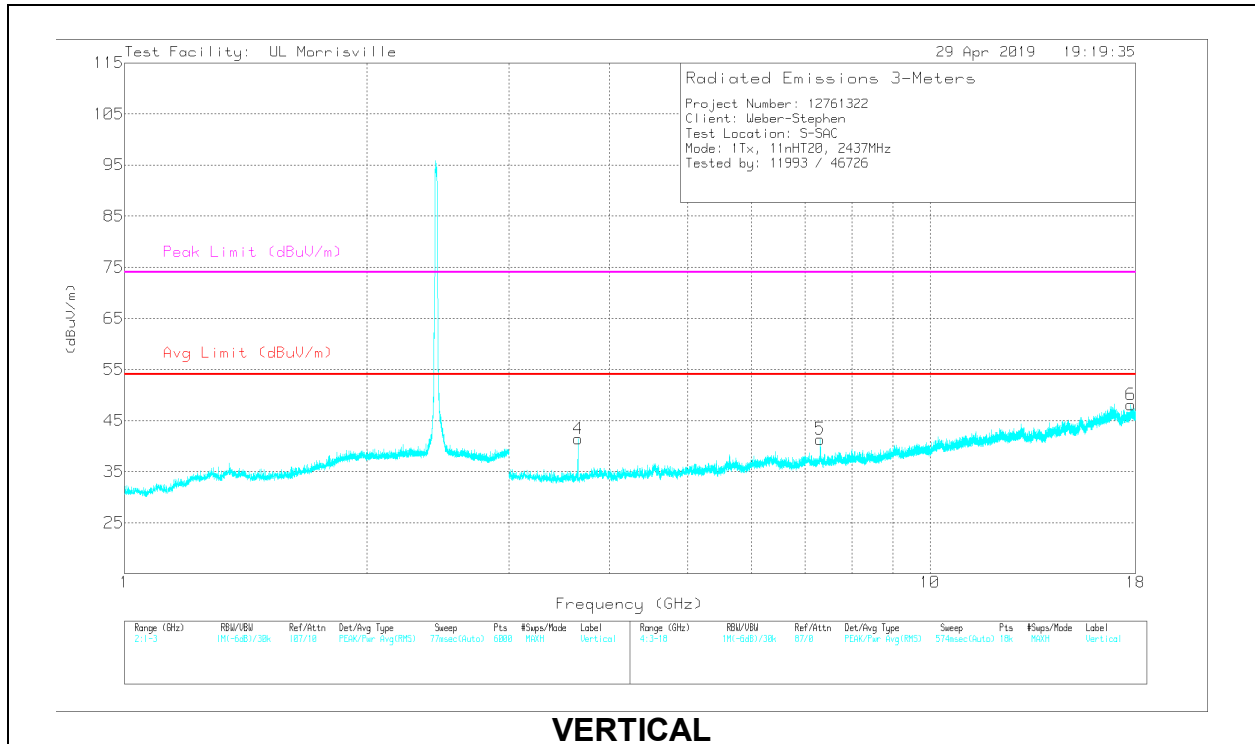
MAv1 - Maximum RMS Average

Pk - Peak detector

### MID CHANNEL, CH 6 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	*** 3.655	45.05	PK2	32.9	-32	0	45.95	-	-	74	-28.05	256	267	H
	*** 3.655	39.68	MAv1	32.9	-32	.14	40.72	54	-13.28	-	-	256	267	H
2	*** 7.311	38.56	PK2	35.7	-27.5	0	46.76	-	-	74	-27.24	349	118	H
	*** 7.311	29.04	MAv1	35.7	-27.5	.14	37.38	54	-16.62	-	-	349	118	H
3	*** 16.037	35.86	PK2	40.8	-23.5	0	53.16	-	-	74	-20.84	300	224	H
	*** 16.038	23.7	MAv1	40.8	-23.5	.14	41.14	54	-12.86	-	-	300	224	H
4	*** 3.656	46.37	PK2	32.9	-32	0	47.27	-	-	74	-26.73	181	357	V
	*** 3.656	41.49	MAv1	32.9	-32	.14	42.53	54	-11.47	-	-	181	357	V
5	*** 7.311	39.13	PK2	35.7	-27.5	0	47.33	-	-	74	-26.67	6	116	V
	*** 7.311	30.73	MAv1	35.7	-27.5	.14	39.07	54	-14.93	-	-	6	116	V
6	*** 17.764	35.23	PK2	41.2	-21.5	0	54.93	-	-	74	-19.07	221	215	V
	*** 17.763	22.49	MAv1	41.2	-21.5	.14	42.33	54	-11.67	-	-	221	215	V

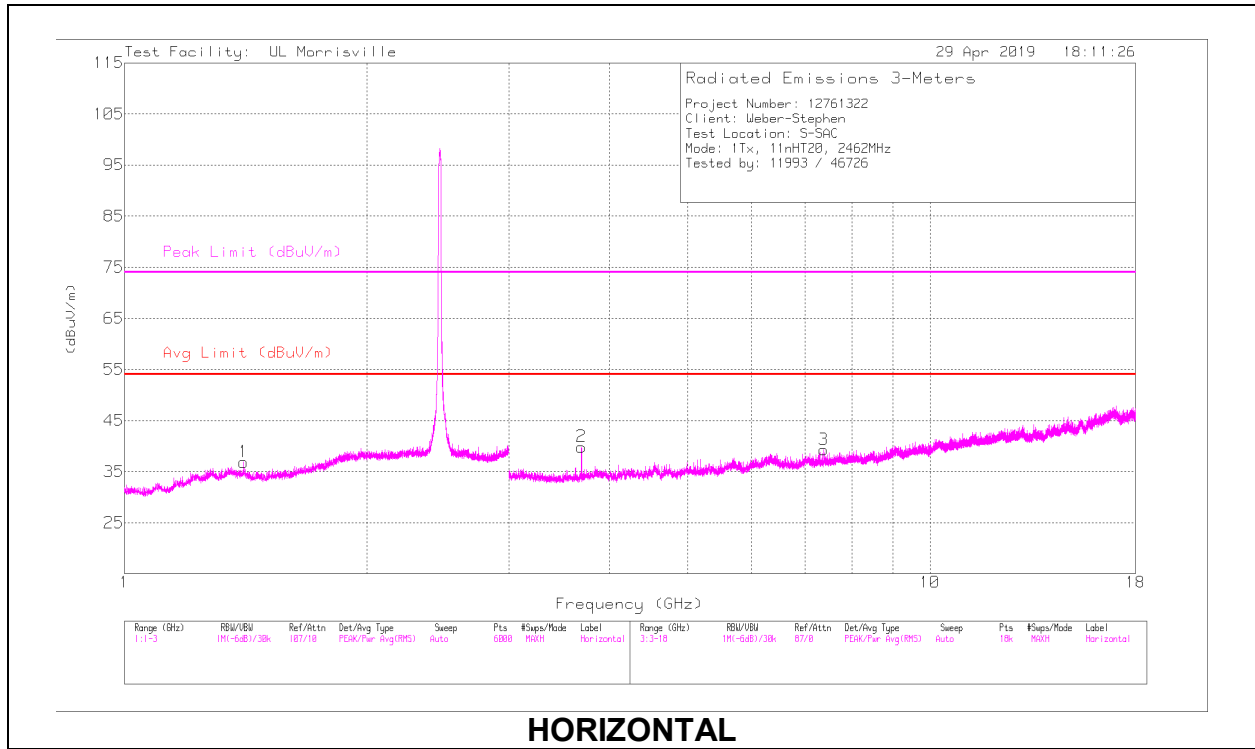
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

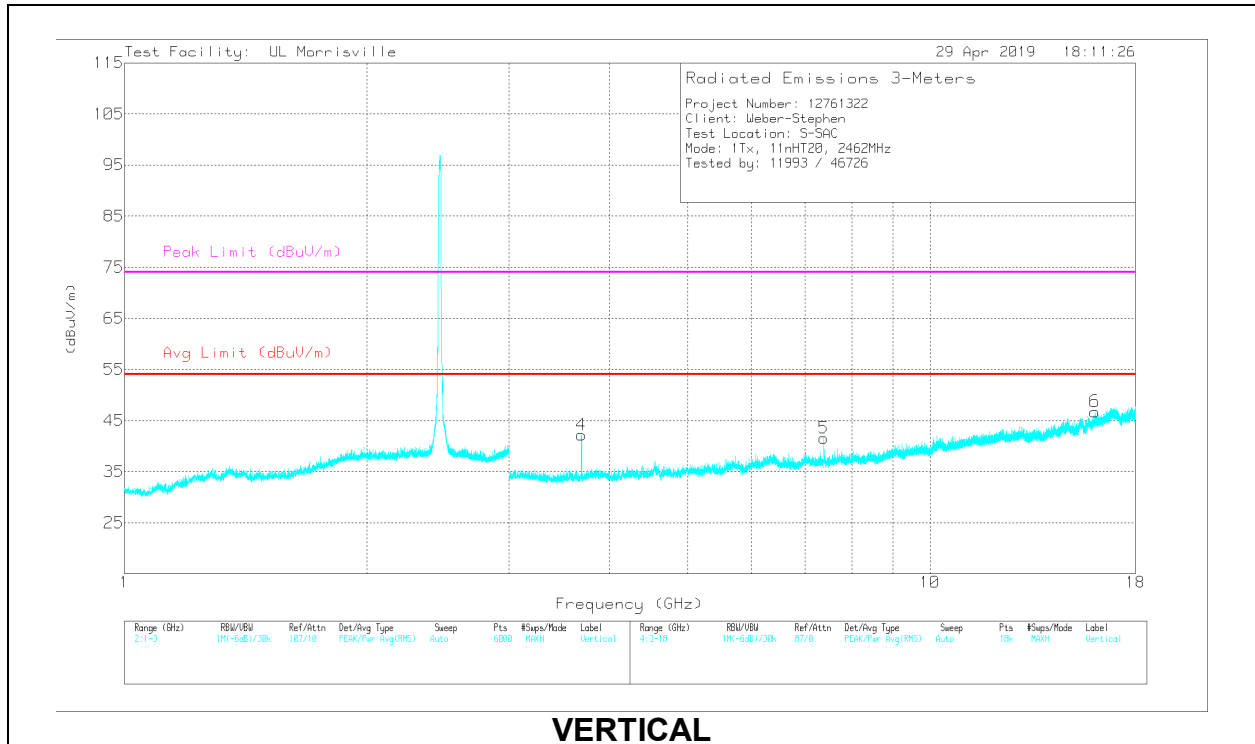
PK2 - Maximum Peak

MAv1 - Maximum RMS Average

### HIGH CHANNEL, CH 11 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	*** 1.408	35.46	PK2	28.6	-22.7	0	41.36	-	-	74	-32.64	118	375	H
	*** 1.409	23.67	MAv1	28.6	-22.7	.14	29.71	54	-24.29	-	-	118	375	H
2	*** 3.693	44.81	PK2	33	-32.3	0	45.51	-	-	74	-28.49	268	278	H
	*** 3.693	39.63	MAv1	33	-32.3	.14	40.47	54	-13.53	-	-	268	278	H
3	*** 7.386	39.71	PK2	35.7	-27.6	0	47.81	-	-	74	-26.19	350	120	H
	*** 7.386	30.19	MAv1	35.7	-27.6	.14	38.43	54	-15.57	-	-	350	120	H
4	*** 3.693	46.99	PK2	33	-32.3	0	47.69	-	-	74	-26.31	171	315	V
	*** 3.693	42.18	MAv1	33	-32.3	.14	43.02	54	-10.98	-	-	171	315	V
5	*** 7.386	39.84	PK2	35.7	-27.6	0	47.94	-	-	74	-26.06	8	102	V
	*** 7.386	32.5	MAv1	35.7	-27.6	.14	40.74	54	-13.26	-	-	8	102	V
6	*** 16.024	35.92	PK2	40.7	-23.5	0	53.12	-	-	74	-20.88	80	400	V
	*** 16.024	23.88	MAv1	40.7	-23.5	.14	41.22	54	-12.78	-	-	80	400	V

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

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - Maximum Peak

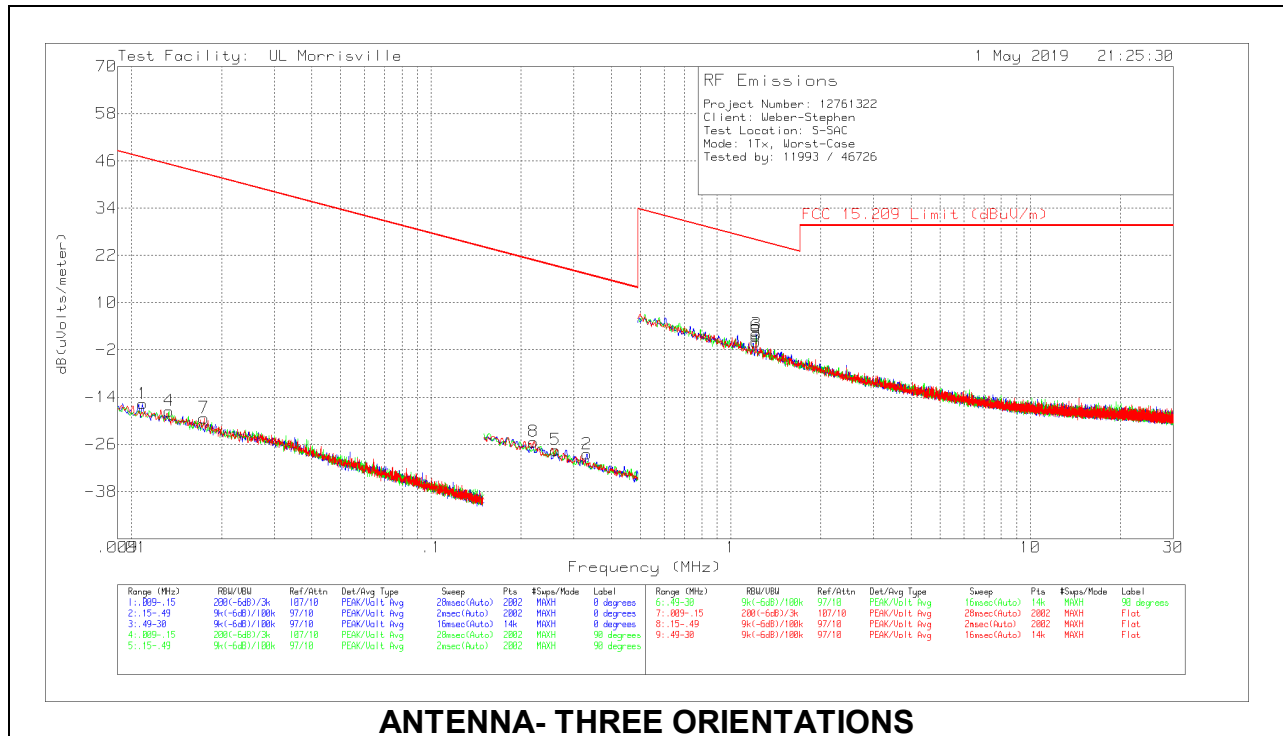
MAv1 - Maximum RMS Average

## 9.2. WORST CASE 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).

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

#### Pulse

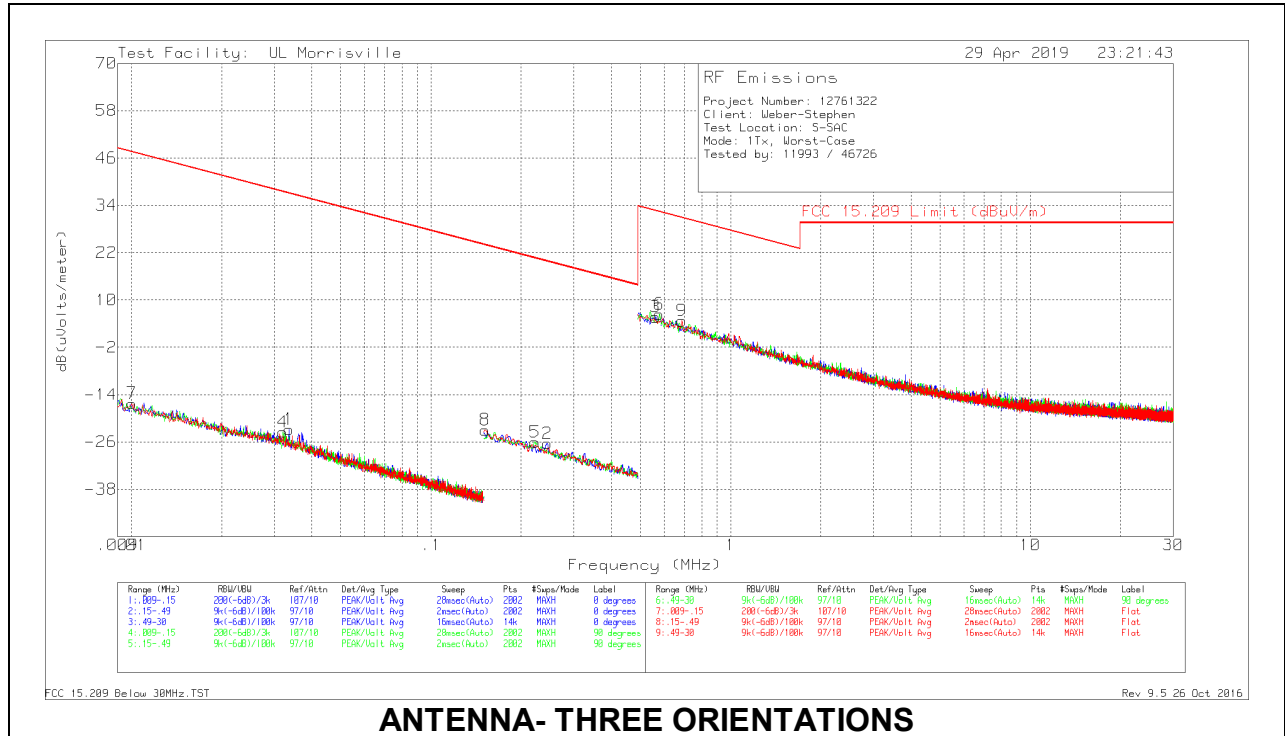


#### Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP FCC 15.209 Limit (dBuV/m)	AVG FCC 15.209 Limit (dBuV/m)	PK FCC 15.209 Limit (dBuV/m)	Worst-Case Margin (dB)	Azimuth (Degs)	Antenna Face
1	.01089	46.34	Pk	17.9	.1	-80	-15.66	46.86	-	-	-62.52	0-360	On
4	.01334	45.49	Pk	16.9	.1	-80	-17.51	-	45.1	65.1	-62.61	0-360	Off
7	.01747	45.51	Pk	15.1	.1	-80	-19.29	-	42.76	62.76	-62.05	0-360	Flat
8	.22021	43.86	Pk	10.7	.1	-80	-25.34	-	20.75	40.75	-46.09	0-360	Flat
5	.25991	41.88	Pk	10.6	.1	-80	-27.42	-	19.31	39.31	-46.73	0-360	Off
2	.33131	40.81	Pk	10.6	.1	-80	-28.49	-	17.2	37.2	-45.69	0-360	On
6	1.21515	30.29	Pk	11	.2	-40	1.49	25.91	-	-	-24.42	0-360	Off
9	1.21515	28.88	Pk	11	.2	-40	.08	25.91	-	-	-25.83	0-360	Flat
3	1.21726	30.83	Pk	11	.2	-40	2.03	25.9	-	-	-23.87	0-360	On

Pk - Peak detector

**Saber**



**ANTENNA- THREE ORIENTATIONS**

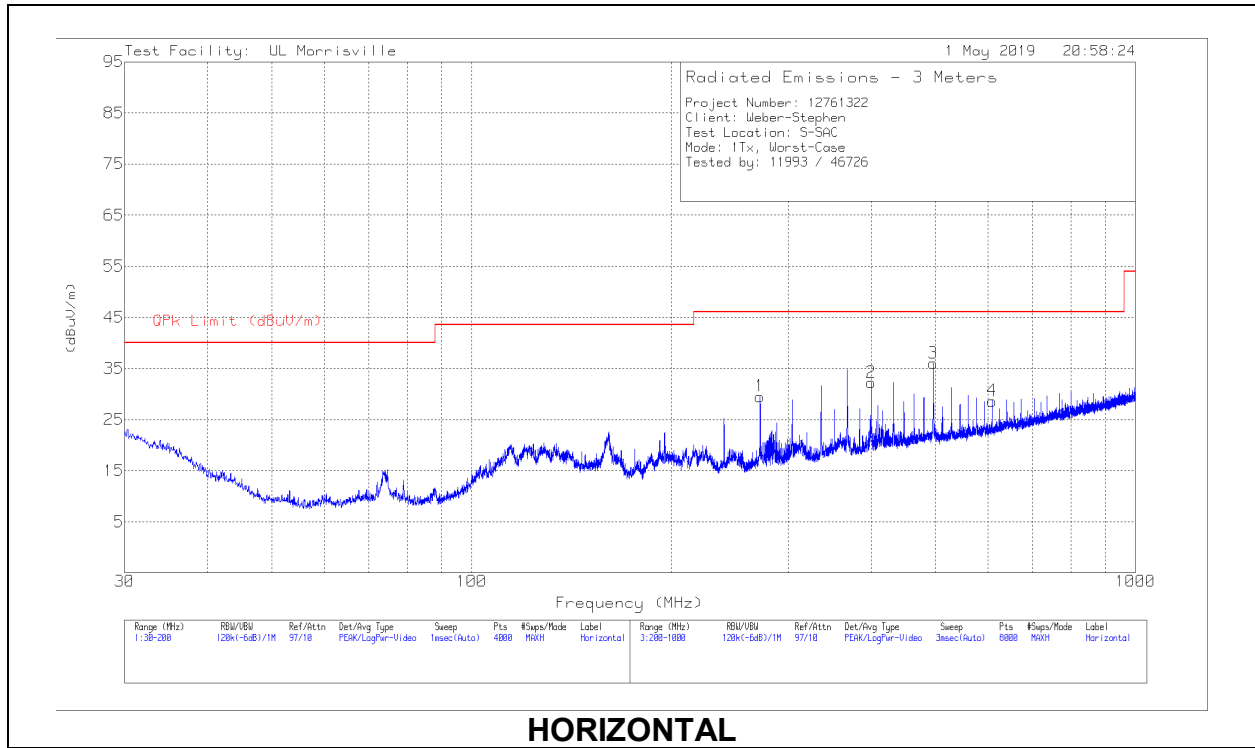
**Below 30MHz Data**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP FCC 15.209 Limit (dBuV/m)	AVG FCC 15.209 Limit (dBuV/m)	PK FCC 15.209 Limit (dBuV/m)	Worst-Case Margin (dB)	Azimuth (Degs)	Antenna Face
7	.01005	45.35	Pk	18.3	.1	-80	-16.25	47.56	-	-	-63.81	0-360	Flat
4	.03203	43.1	Pk	13.3	.1	-80	-23.5	-	37.49	57.49	-60.99	0-360	Off
1	.03364	43.99	Pk	13.1	.1	-80	-22.81	-	37.07	57.07	-59.88	0-360	On
8	.15179	46.24	Pk	10.7	.1	-80	-22.96	-	23.98	43.98	-46.94	0-360	Flat
5	.22242	43.12	Pk	10.7	.1	-80	-26.08	-	20.66	40.66	-46.74	0-360	Off
2	.24435	42.78	Pk	10.7	.1	-80	-26.42	-	19.84	39.84	-46.26	0-360	On
3	.56167	34.77	Pk	10.8	.1	-40	5.67	32.61	-	-	-26.94	0-360	On
6	.57854	35.51	Pk	10.8	.1	-40	6.41	32.36	-	-	-25.95	0-360	Off
9	.68815	33.8	Pk	10.8	.1	-40	4.7	30.85	-	-	-26.15	0-360	Flat

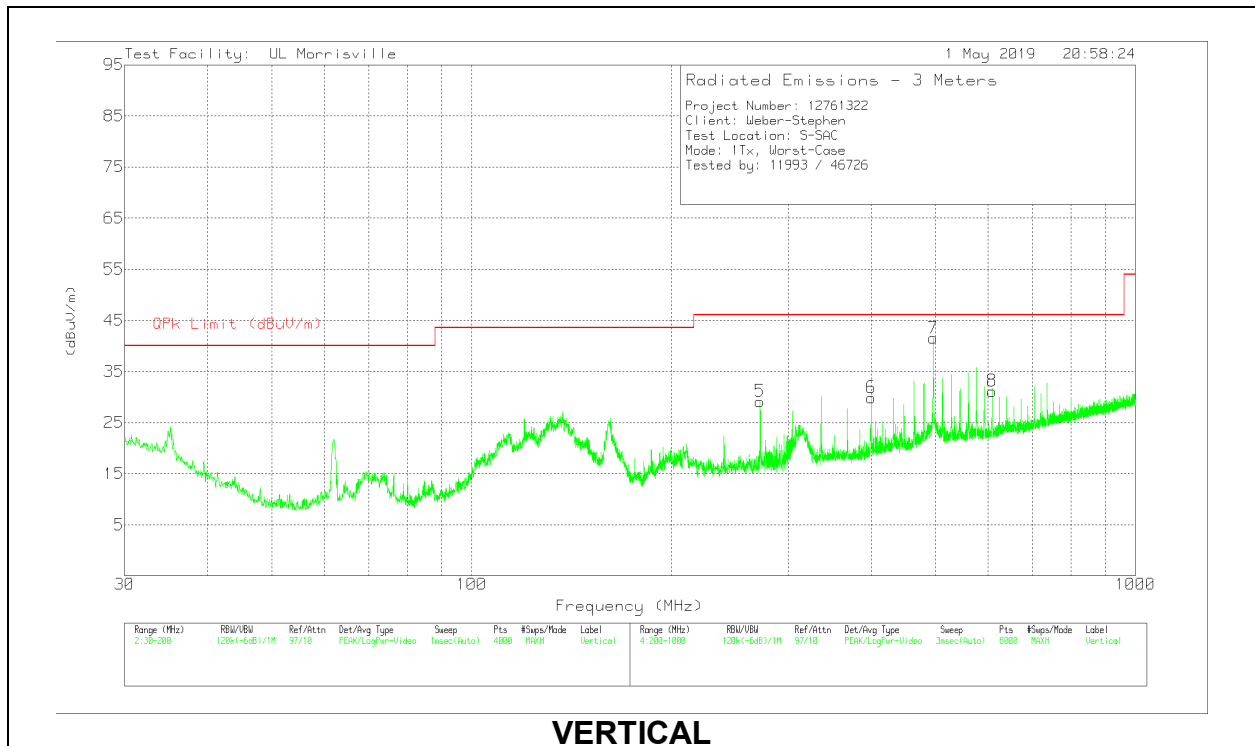
Pk - Peak detector

### 9.3. WORST CASE BELOW 1 GHZ

#### Pulse



**HORIZONTAL**



**VERTICAL**

**Below 1GHz DATA**

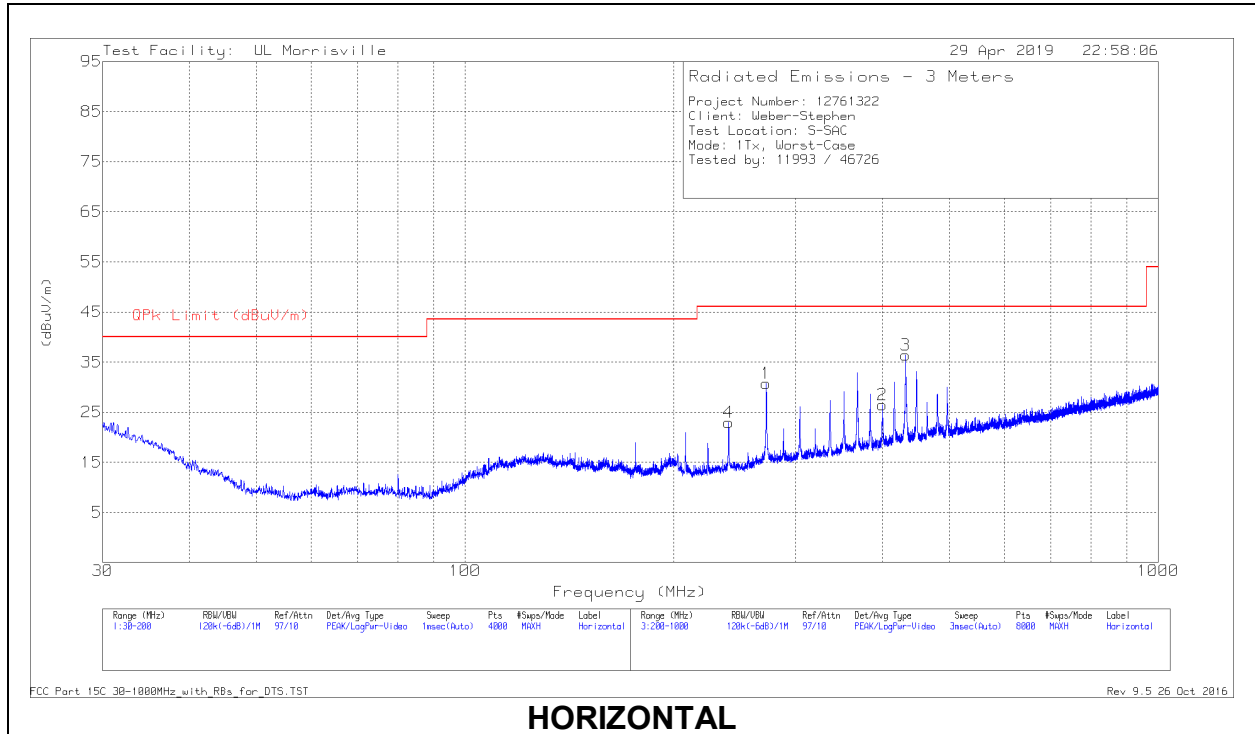
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 AF (dB/m)	Cbl/Amp	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 272.0094	41.44	Pk	17.9	-29.8	29.54	46.02	-16.48	0-360	102	H
2	* ** 399.976	41.22	Pk	20.3	-29.3	32.22	46.02	-13.8	0-360	102	H
4	* ** 608.053	33.85	Pk	23.6	-28.8	28.65	46.02	-17.37	0-360	198	H
5	* ** 272.0094	41.05	Pk	17.9	-29.8	29.15	46.02	-16.87	0-360	102	V
6	* ** 400.026	38.9	Pk	20.3	-29.3	29.9	46.02	-16.12	0-360	102	V
8	* ** 608.053	36.36	Pk	23.6	-28.8	31.16	46.02	-14.86	0-360	102	V
3	495.9385	42.52	Pk	22.2	-28.7	36.02	46.02	-10	0-360	102	H
7	496.0385	48.03	Pk	22.2	-28.7	41.53	46.02	-4.49	0-360	102	V

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

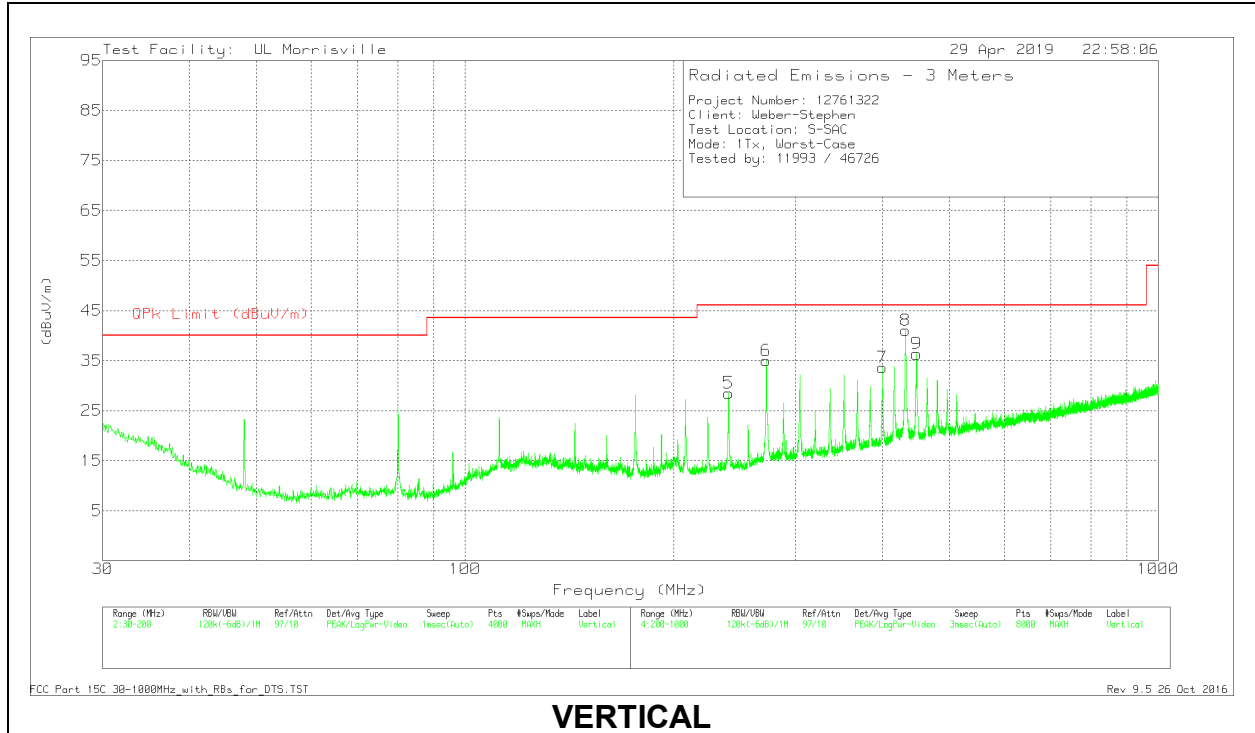
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

**Saber**



**HORIZONTAL**



**VERTICAL**

**Below 1GHz DATA**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 AF (dB/m)	Cbl/Amp	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 272.0094	42.6	Pk	17.9	-29.8	30.7	46.02	-15.32	0-360	102	H
2	* ** 400.026	35.47	Pk	20.3	-29.3	26.47	46.02	-19.55	0-360	299	H
4	* ** 240.0052	36.65	Pk	16.3	-30	22.95	46.02	-23.07	0-360	102	H
5	* ** 240.0052	42.22	Pk	16.3	-30	28.52	46.02	-17.5	0-360	198	V
6	* ** 272.0094	46.87	Pk	17.9	-29.8	34.97	46.02	-11.05	0-360	102	V
7	* ** 400.026	42.62	Pk	20.3	-29.3	33.62	46.02	-12.4	0-360	102	V
3	432.0302	44.39	Pk	21	-29	36.39	46.02	-9.63	0-360	199	H
8	432.0302	49.01	Pk	21	-29	41.01	46.02	-5.01	0-360	102	V
9	448.0322	44.14	Pk	21.2	-29	36.34	46.02	-9.68	0-360	102	V

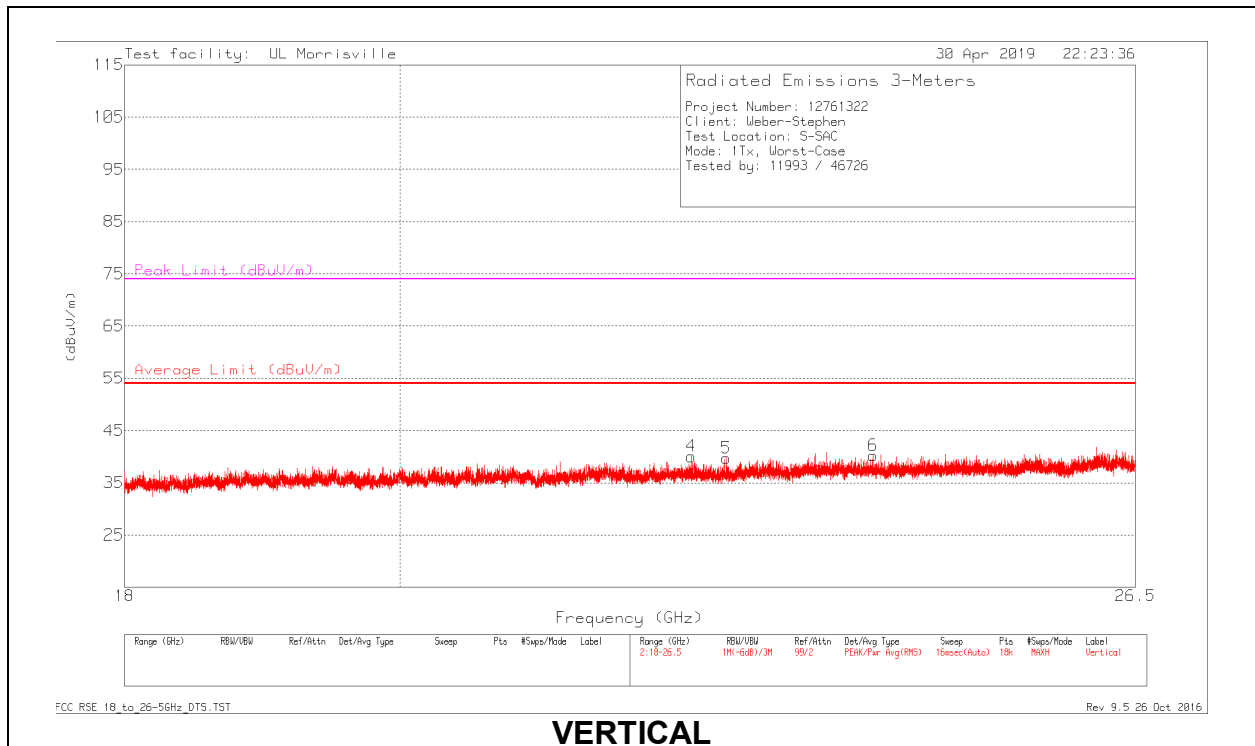
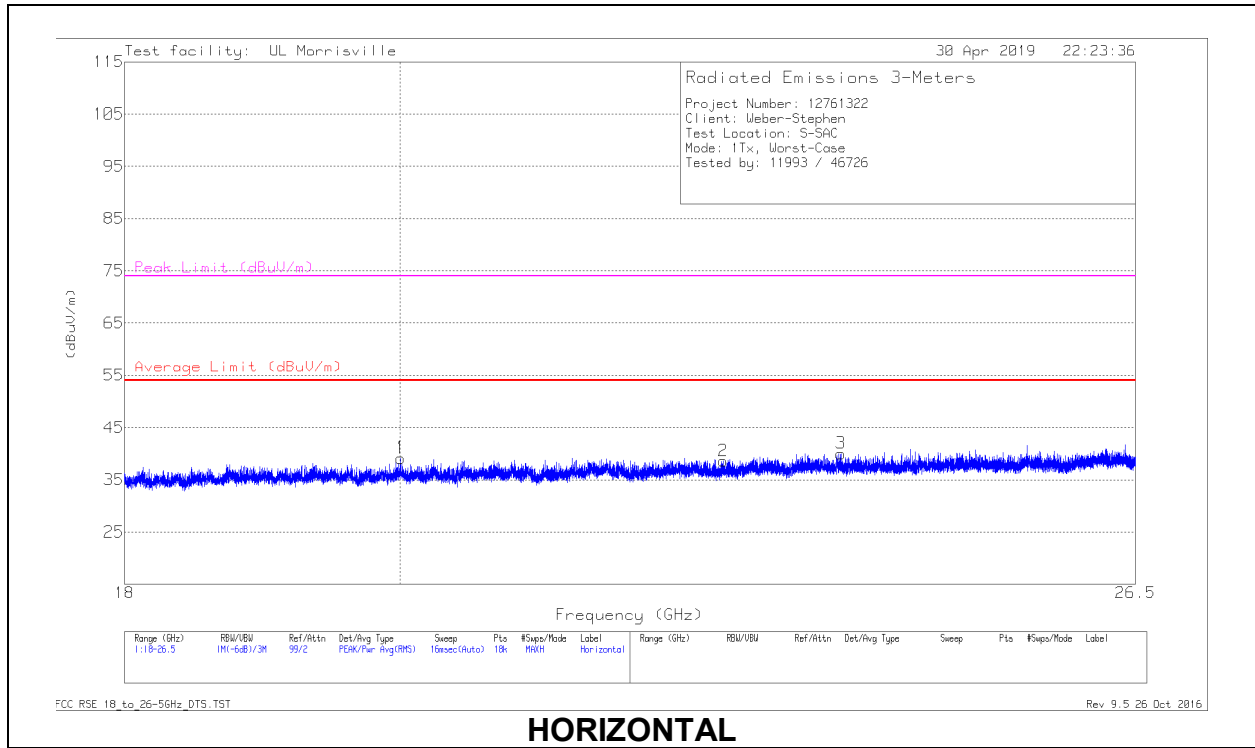
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

### 9.4. WORST CASE 18-26 GHZ

#### Pulse





**18 – 26GHz DATA**

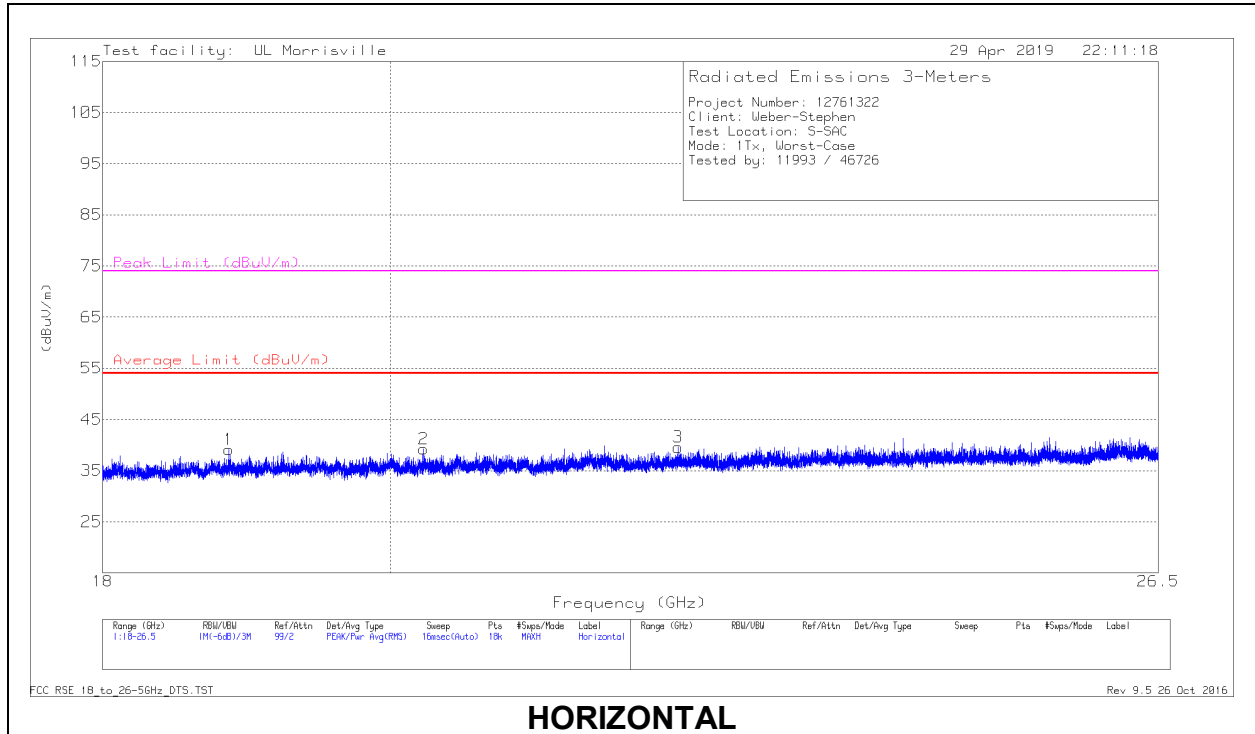
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.006	44.66	Pk	33	-38.5	39.16	54	-14.84	74	-34.84	0-360	102	H
2	* ** 22.633	43.2	Pk	33.4	-38	38.6	54	-15.4	74	-35.4	0-360	199	H
3	* ** 23.675	43.44	Pk	34	-37.4	40.04	54	-13.96	74	-33.96	0-360	249	H
4	* ** 22.36	44.55	Pk	33.5	-38	40.05	54	-13.95	74	-33.95	0-360	151	V
5	* ** 22.658	44.25	Pk	33.5	-38	39.75	54	-14.25	74	-34.25	0-360	151	V
6	* ** 23.97	43.38	Pk	34	-37.2	40.18	54	-13.82	74	-33.82	0-360	201	V

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

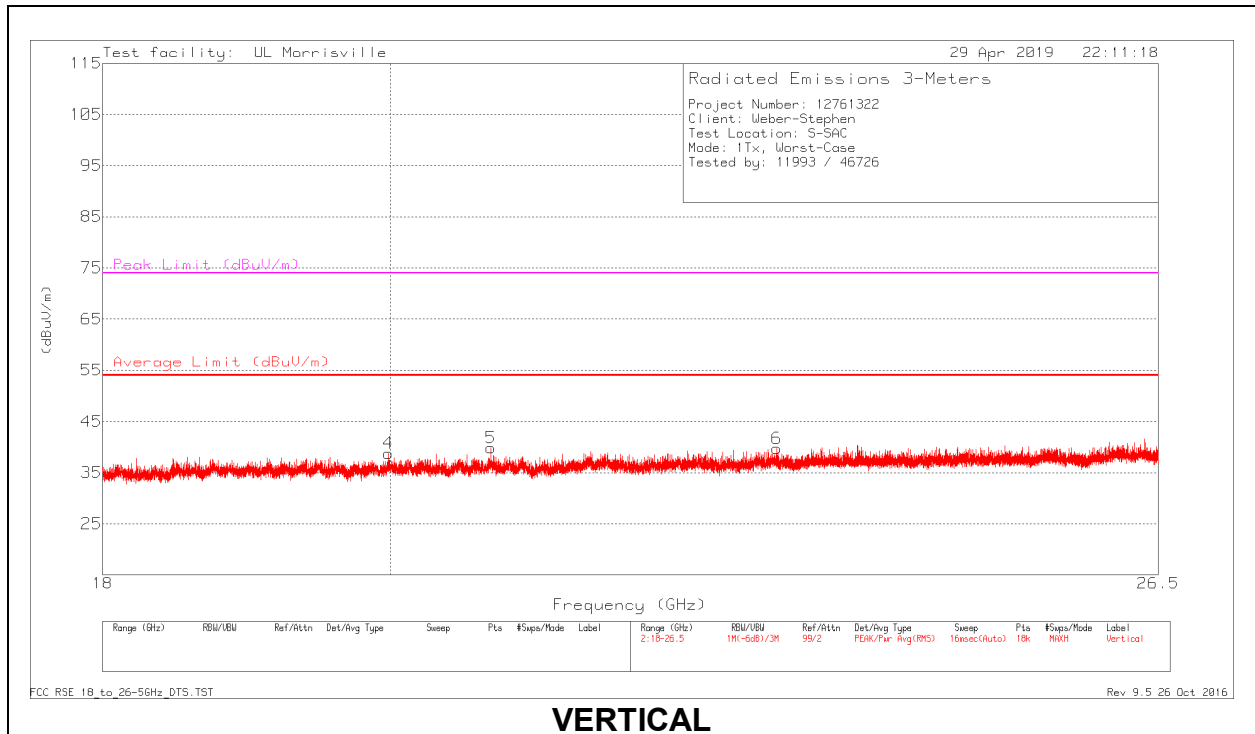
\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

**Saber**



**HORIZONTAL**



**VERTICAL**

**18 – 26GHz DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 18.851	45.33	Pk	32.6	-38.8	39.13	54	-14.87	74	-34.87	0-360	249	H
2	* ** 20.247	44.73	Pk	32.9	-38.4	39.23	54	-14.77	74	-34.77	0-360	299	H
3	* ** 22.225	43.96	Pk	33.6	-38	39.56	54	-14.44	74	-34.44	0-360	199	H
4	* ** 19.988	44.4	Pk	32.9	-38.5	38.8	54	-15.2	74	-35.2	0-360	151	V
5	* ** 20.751	44.97	Pk	33	-38.1	39.87	54	-14.13	74	-34.13	0-360	201	V
6	* ** 23.042	43.72	Pk	33.7	-37.7	39.72	54	-14.28	74	-34.28	0-360	299	V

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

\*\* - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

## 10. 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.

### TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

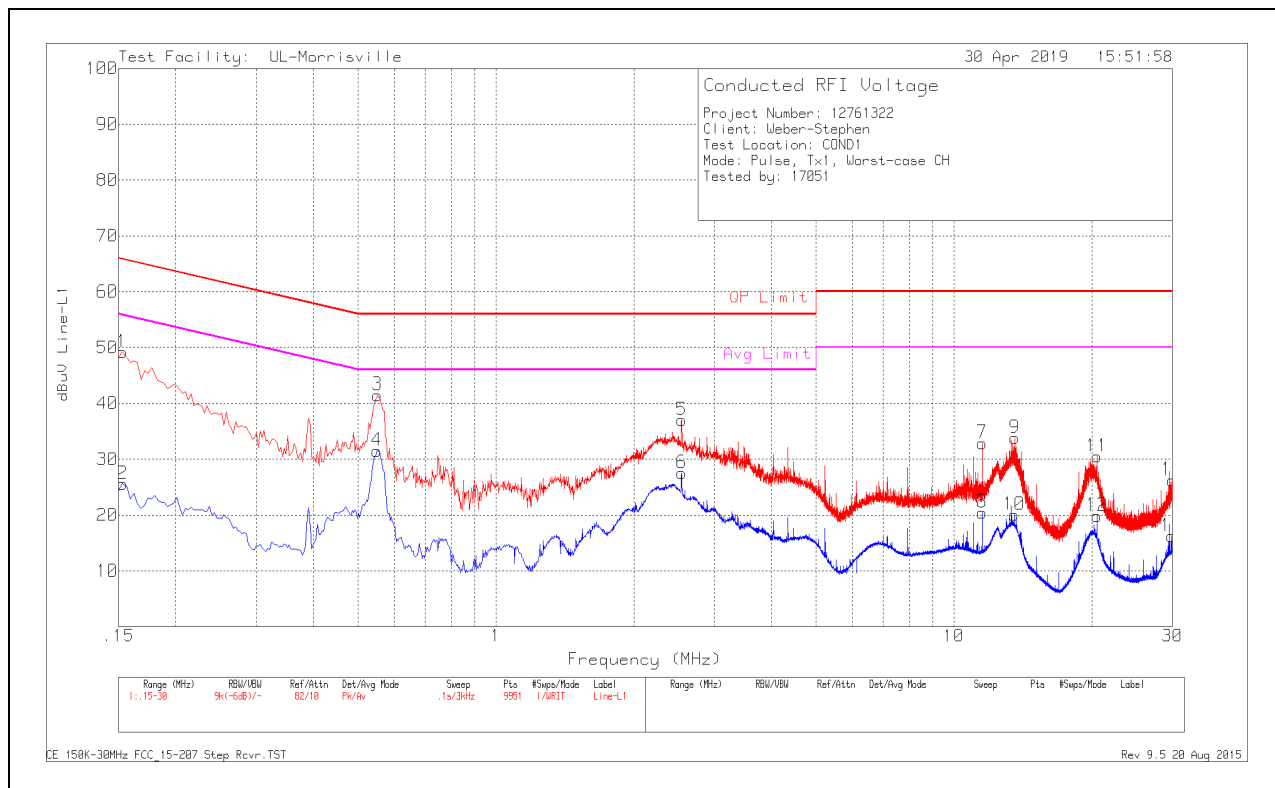
Line conducted data is recorded for both NEUTRAL and HOT lines.

### RESULTS

### 10.1.1. AC Power Line Host

#### Pulse

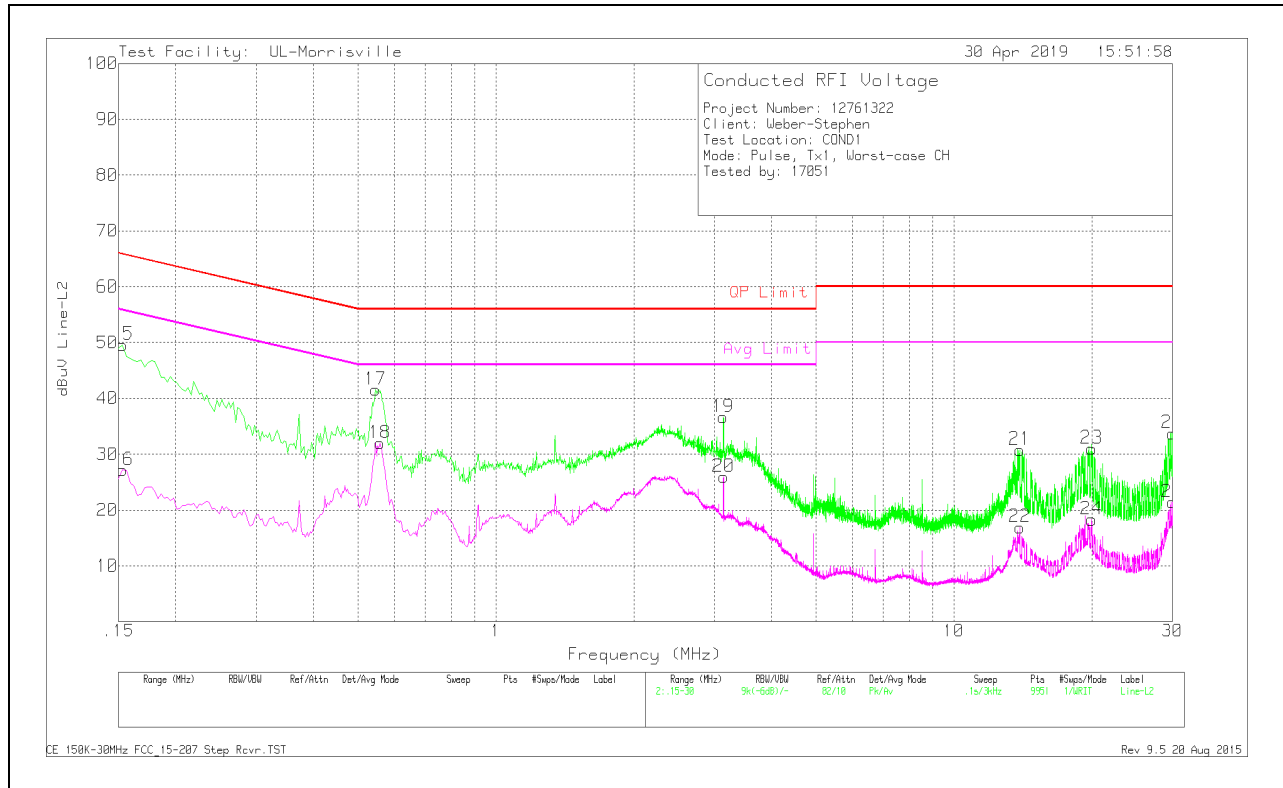
### LINE 1 RESULTS



Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
1	.153	38.97	Pk	.2	10	49.17	65.84	-16.67	-	-
2	.153	15.39	Av	.2	10	25.59	-	-	55.84	-30.25
3	.552	31.5	Pk	0	10	41.5	56	-14.5	-	-
4	.549	21.52	Av	0	10	31.52	-	-	46	-14.48
5	2.547	26.89	Pk	0	10.1	36.99	56	-19.01	-	-
6	2.544	17.46	Av	0	10.1	27.56	-	-	46	-18.44
7	11.532	22.49	Pk	.1	10.3	32.89	60	-27.11	-	-
8	11.529	10.07	Av	.1	10.3	20.47	-	-	50	-29.53
9	13.578	23.3	Pk	.1	10.4	33.8	60	-26.2	-	-
10	13.542	9.55	Av	.1	10.4	20.05	-	-	50	-29.95
11	20.526	19.68	Pk	.2	10.6	30.48	60	-29.52	-	-
12	20.526	9.06	Av	.2	10.6	19.86	-	-	50	-30.14
13	29.961	15.15	Pk	.3	10.8	26.25	60	-33.75	-	-
14	29.919	5.14	Av	.3	10.8	16.24	-	-	50	-33.76

Pk - Peak detector  
 Av - Average detection

### LINE 2 RESULTS

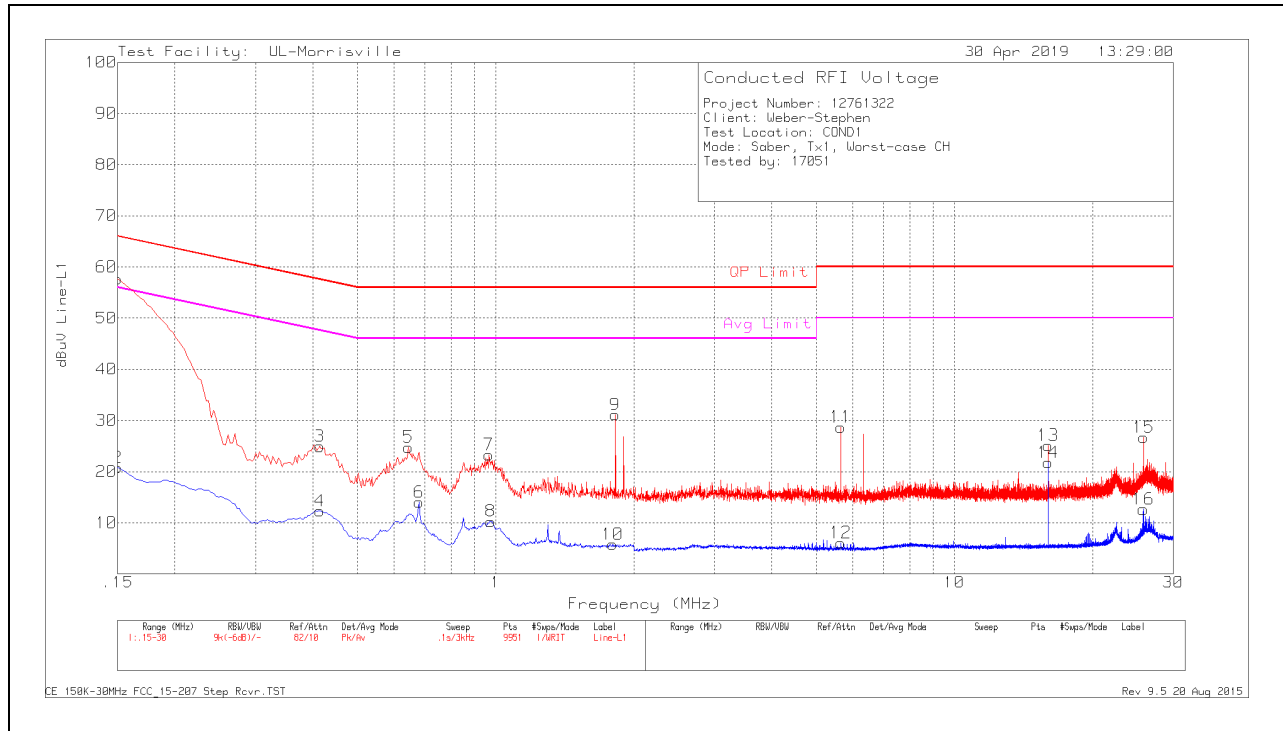


Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
15	.153	39.41	Pk	.2	10	49.61	65.84	-16.23	-	-
16	.153	16.99	Av	.2	10	27.19	-	-	55.84	-28.65
17	.546	31.59	Pk	0	10	41.59	56	-14.41	-	-
18	.558	21.98	Av	0	10	31.98	-	-	46	-14.02
19	3.138	26.53	Pk	0	10.1	36.63	56	-19.37	-	-
20	3.141	15.88	Av	0	10.1	25.98	-	-	46	-20.02
21	13.932	20.3	Pk	.1	10.4	30.8	60	-29.2	-	-
22	13.926	6.42	Av	.1	10.4	16.92	-	-	50	-33.08
23	19.992	20.43	Pk	.1	10.5	31.03	60	-28.97	-	-
24	19.992	7.69	Av	.1	10.5	18.29	-	-	50	-31.71
25	29.994	22.66	Pk	.3	10.8	33.76	60	-26.24	-	-
26	29.997	10.34	Av	.3	10.8	21.44	-	-	50	-28.56

Pk - Peak detector  
 Av - Average detection

**Saber**

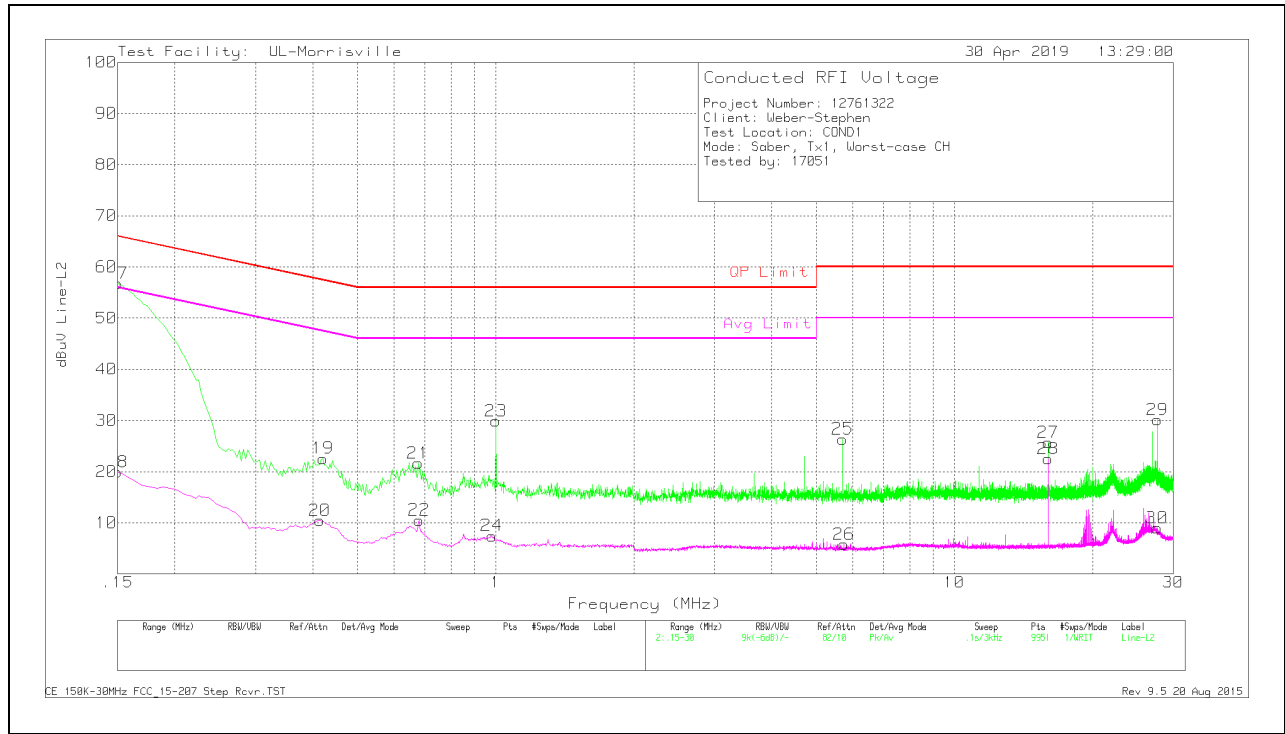
**LINE 1 RESULTS**



Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
1	.15	47.44	Pk	.2	10	57.64	66	-8.36	-	-
2	.15	10.57	Av	.2	10	20.77	-	-	56	-35.23
3	.414	14.83	Pk	.1	10	24.93	57.57	-32.64	-	-
4	.414	2.24	Av	.1	10	12.34	-	-	47.57	-35.23
5	.645	14.78	Pk	0	10	24.78	56	-31.22	-	-
6	.681	4.04	Av	0	10	14.04	-	-	46	-31.96
7	.966	13.29	Pk	0	10	23.29	56	-32.71	-	-
8	.9765	.29	Av	0	10	10.29	-	-	46	-35.71
9	1.824	21.02	Pk	0	10.1	31.12	56	-24.88	-	-
10	1.8	-4.28	Av	0	10.1	5.82	-	-	46	-40.18
11	5.652	18.5	Pk	0	10.2	28.7	60	-31.3	-	-
12	5.652	-4.11	Av	0	10.2	6.09	-	-	50	-43.91
13	15.999	14.53	Pk	.1	10.5	25.13	60	-34.87	-	-
14	15.999	11.19	Av	.1	10.5	21.79	-	-	50	-28.21
15	25.857	15.77	Pk	.2	10.7	26.67	60	-33.33	-	-
16	25.815	1.73	Av	.2	10.7	12.63	-	-	50	-37.37

Pk - Peak detector  
 Av - Average detection

### LINE 2 RESULTS



Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
17	.15	46.59	Pk	.2	10	56.79	66	-9.21	-	-
18	.15	9.7	Av	.2	10	19.9	-	-	56	-36.1
19	.42	12.48	Pk	.1	10	22.58	57.45	-34.87	-	-
20	.414	.39	Av	.1	10	10.49	-	-	47.57	-37.08
21	.678	11.65	Pk	0	10	21.65	56	-34.35	-	-
22	.681	.52	Av	0	10	10.52	-	-	46	-35.48
23	1.002	19.9	Pk	0	10	29.9	56	-26.1	-	-
24	.981	-2.54	Av	0	10	7.46	-	-	46	-38.54
25	5.703	16.08	Pk	.1	10.2	26.38	60	-33.62	-	-
26	5.748	-4.54	Av	.1	10.2	5.76	-	-	50	-44.24
27	16.002	15.13	Pk	.1	10.5	25.73	60	-34.27	-	-
28	15.999	11.94	Av	.1	10.5	22.54	-	-	50	-27.46
29	27.735	19.23	Pk	.2	10.7	30.13	60	-29.87	-	-
30	27.672	-1.94	Av	.2	10.7	8.96	-	-	50	-41.04

Pk - Peak detector  
 Av - Average detection



## 11. SETUP PHOTOS

Please refer to R12761322-EP1 for setup photos.

**END OF TEST REPORT**