



**FCC CFR47 PART 15 SUBPART C**

**DTS Wireless LAN**

**CERTIFICATION TEST REPORT**

**FOR**

**DTS b/g/n, LE and NFC player**

**MODEL NUMBER : IWINGTV 100**

**FCC ID: 2AUMM-IWING100**

**REPORT NUMBER: 4789155370-E1V2**

**ISSUE DATE: NOV 19, 2019**

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**ACCREDITED**

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**TL-637**

Revision History

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V1	11/08/19	Initial issue	Hoonpyo, Lee
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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** MFLARE CO.,LTD  
**EUT DESCRIPTION:** DTS b/g/n, LE and NFC player  
**MODEL NUMBER:** IWINGTV 100  
**SERIAL NUMBER:** #1 (CONDUCTED)  
#2 (RADIATED);  
**DATE TESTED:** SEP 18, 2019 – NOV 06, 2019;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For  
UL Korea, Ltd. By:



Changyoung Choi  
Suwon Lab Engineer  
UL Korea, Ltd.

Tested By:



Hoonpyo Lee  
Suwon Lab Engineer  
UL Korea, Ltd.

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. KDB 558074 D01 DTS Meas Guidance v05r02.
4. ANSI C63.10-2013.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. 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.

218 Maeyeong-ro	
<input checked="" type="checkbox"/>	Chamber 1
<input checked="" type="checkbox"/>	Chamber 2
<input type="checkbox"/>	Chamber 3

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <http://www.iasonline.org/wp-content/uploads/2017/05/TL-637.pdf>.

## 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

Where relevant, the following sample calculation is provided:

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

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.35 dB
Radiated Disturbance, 9 kHz to 30 MHz	1.72 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.49 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.82 dB
Radiated Disturbance, 18 GHz to 40 GHz	5.49 dB

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

### 4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 1, Clause 4.4.2 in IEC Guide 115:2007.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a DTS b/g/n, LE and NFC player.  
 This test report addresses the DTS (WLAN) operational mode.

#### WiFi operating mode

Frequency Range	Mode	Antenna 1
2.4 GHz	802.11b	TX / RX
	802.11g	TX / RX
	802.11n (HT20)	TX / RX

### 5.2. MAXIMUM OUTPUT POWER

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

Frequency Range [MHz]	Mode	Output Power [dBm]	Output Power [mW]
2412 - 2462	802.11b	13.94	24.77
	802.11g	14.05	25.41
	802.11n (HT20)	13.84	24.21

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal antennas, with antenna1 maximum gain of 3 dBi

### 5.4. TESTED CHANNELS LIST

Mode	Channel	Frequency [MHz]
802.11b/g/n(HT20)	1	2412
	6	2437
	11	2462



## 5.5. WORST-CASE CONFIGURATION AND MODE

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

Radiated emission above 1GHz was performed with the EUT set to transmit low/mid/High Channels.

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

Note : The radiated tests for 30MHz ~1000MHz were performed with monitor for the worst case condition mode. The remaining tests were similar or worst in standalone.

Based on the baseline scan, the worst-case data rates were:

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20 mode: MCS0

## 5.6. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacture	Model	Serial Number	FCC ID
Adapter	SAMSUNG	EP-TA200	R37M14P3GY1SE3	N/A
Micro USB Cable	N/A	N/A	N/A	N/A
Monitor	SAMSUNG	LS24PULKF/EN	PU24H9XZ201088Y	N/A
Adapter (For Monitor)	SAMSUNG	ADS-30SI-12-2	N/A	N/A
HDMI Cable	SONY	N/A	N/A	N/A

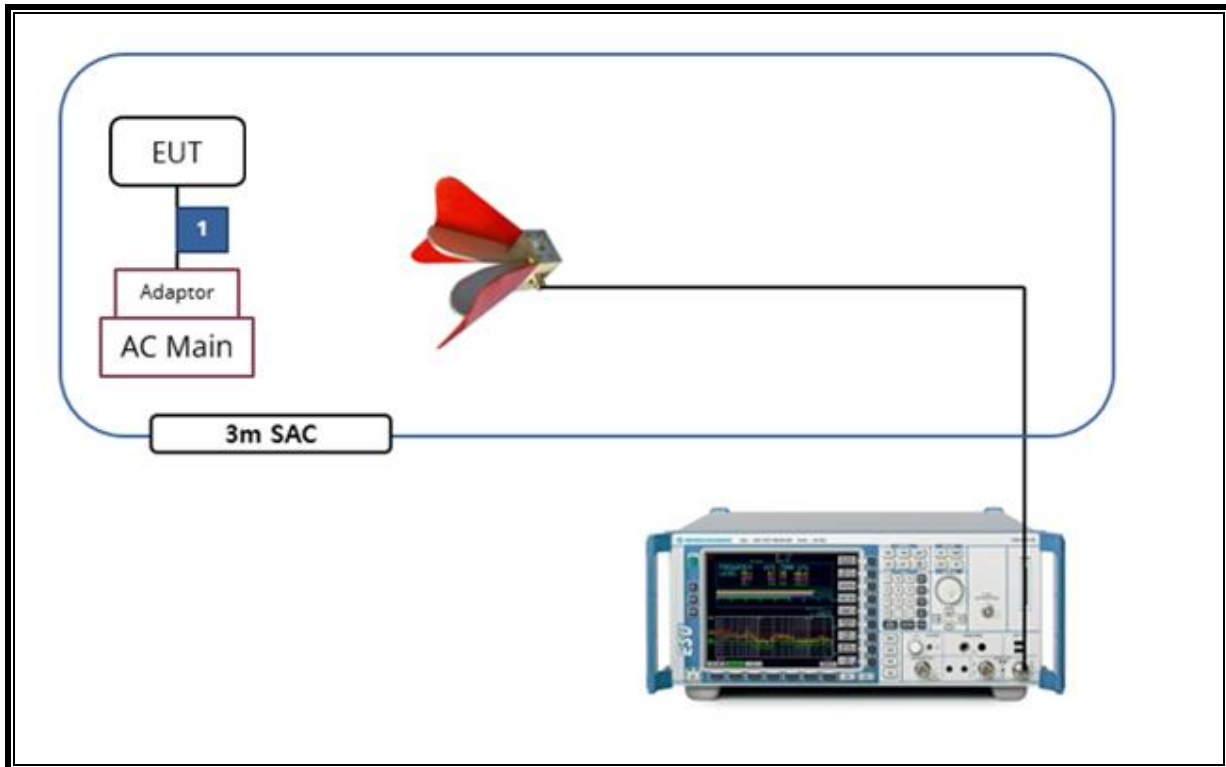
### TEST SETUP

The EUT was forced to transmit using software.

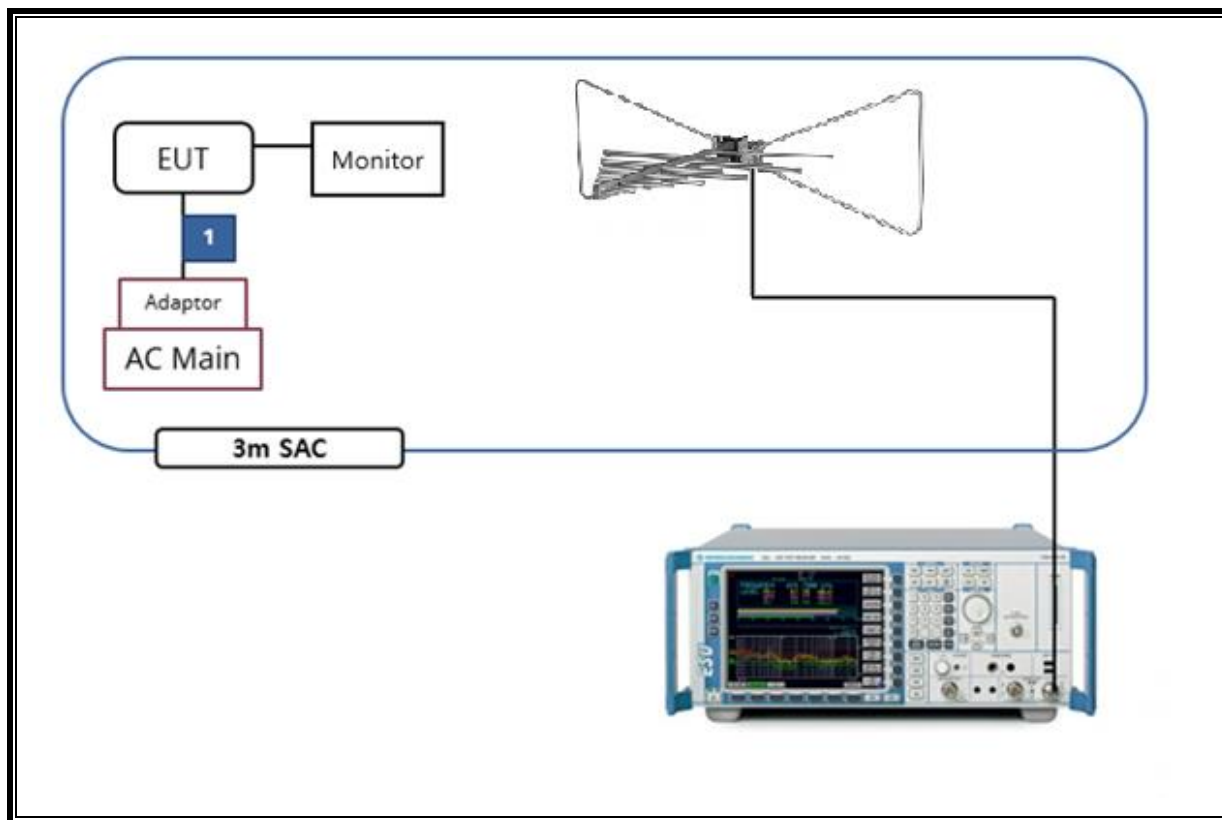
**SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)**



**SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)**



**SETUP DIAGRAM FOR TESTS (RADIATED TEST FOR 30MHz – 1000MHz SETUP)**



## 6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00167211	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00161451	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168724	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168717	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00205959	08-04-20
Antenna, Horn, 40 GHz	ETS	3116C	00166155	08-14-20
Antenna, Horn, 40 GHz	ETS	3116C	00168645	10-02-21
Preamplifier	ETS	3116C-PA	00168841	08-08-20
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-05-20
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-05-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-06-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-06-20
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	08-06-20
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	08-06-20
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	08-06-20
Spectrum Analyzer, 43.5 GHz	R&S	FSW43	104089	08-06-20
Average Power Sensor	Agilent / HP	U2000	MY54270007	08-09-20
Attenuator	PASTERNAK	PE7087-10	A001	08-08-20
Attenuator	PASTERNAK	PE7087-10	A008	08-08-20
Attenuator	PASTERNAK	PE7004-10	2	08-06-20
Attenuator	PASTERNAK	PE7087-10	A009	08-08-20
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-06-20
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-06-20
EMI Test Receive, 44 GHz	R&S	ESW44	101590	08-05-20
EMI Test Receive, 3 GHz	R&S	ESR3	101832	08-05-20
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	08-06-20
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	015	08-06-20
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	020	08-06-20
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	08-06-20
High Pass Filter 3GHz	Micro-Tronics	HPM17543	015	08-06-20
High Pass Filter 3GHz	Micro-Tronics	HPM17543	020	08-06-20
High Pass Filter 6GHz	Micro-Tronics	HPS17542	009	08-06-20
High Pass Filter 6GHz	Micro-Tronics	HPS17542	016	08-06-20
High Pass Filter 6GHz	Micro-Tronics	HPS17542	021	08-06-20
LISN	R&S	ENV-216	101837	08-09-20
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	10-02-21
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

## 7. REFERENCE MEASUREMENT RESULTS

### 7.1. ON TIME AND DUTY CYCLE RESULTS

#### LIMITS

None; for reporting purposes only.

Frequency Range [MHz]	Mode	On Time [ms]	Period [ms]	Duty cycle X [Linear]	Duty cycle X [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
2412 - 2462	802.11b	8.413	8.434	1.00	99.75	0.00	0.119
	802.11g	1.395	1.416	0.99	98.52	0.00	0.717
	802.11n (HT20)	1.308	1.332	0.98	98.20	0.00	0.765



## 8. MEASUREMENT METHODS

6 dB BW : KDB 558074 D01 v05r02, Section 8.2

OUTPUT POWER : KDB 558074 D01 v05r02, Section 8.3.2.3.

POWER SPECTRAL DENSITY : KDB 558074 D01 v05r02, Section 8.4.

Out-of-band EMISSIONS (Conducted) : KDB 558074 D01 v05r02, Section 8.5.

Out-of-band EMISSIONS IN NON-RESTRICTED BANDS: KDB 558074 D01 v05r02, Section 8.5.

Out-of-band EMISSIONS IN RESTRICTED BANDS KDB 558074 D01 v05r02, Section 8.6.

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

## 9. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	Occupied Band width (6dB)	>500kHz	Conducted	Pass
2.1051, 15.247 (d)	Band Edge / Conducted Spurious Emission	-30dBc		Pass
15.247 (b)(3)	TX conducted output power	<30dBm		Pass
15.247 (e)	PSD	<8dBm		Pass
15.207 (a)	AC Power Line conducted emissions	Section 10	Power Line conducted	Pass
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m	Radiated	Pass



## 10. ANTENNA PORT TEST RESULTS

### 10.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

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

#### TEST PROCEDURE

Reference to KDB 558074 D01 15.247 Meas Guidance: The transmitter output is connected to a spectrum analyzer with the RBW set to 100 kHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### 10.1.1. 6 dB BANDWIDTH RESULT

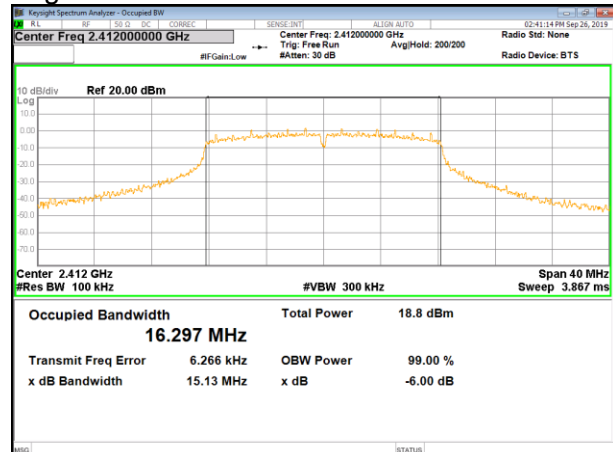
Mode	Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
802.11b	1	2412	9.074	0.5
	6	2437	8.108	0.5
	11	2462	9.520	0.5
802.11g	1	2412	15.13	0.5
	6	2437	15.11	0.5
	11	2462	15.14	0.5
802.11n(HT20)	1	2412	15.15	0.5
	6	2437	15.15	0.5
	11	2462	15.10	0.5

### 10.1.2. 6 dB BANDWIDTH PLOTS

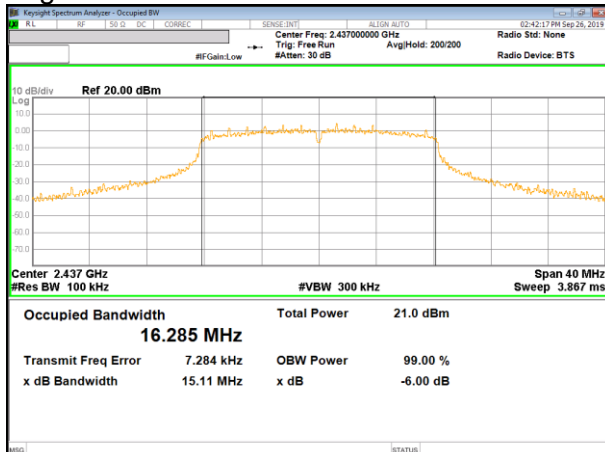


ANT 1

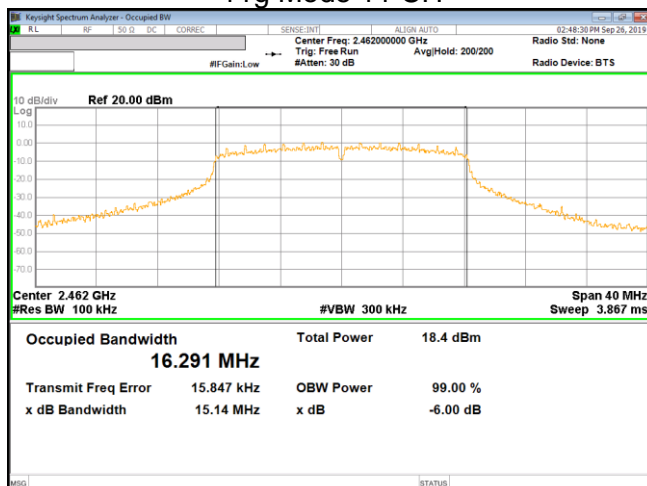
11g Mode 1 CH



11g Mode 6 CH

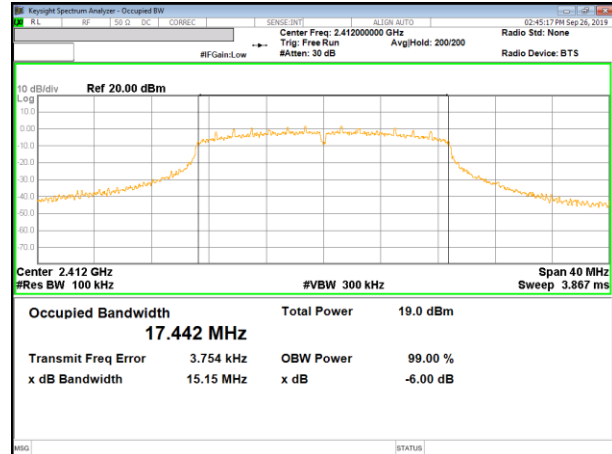


11g Mode 11 CH

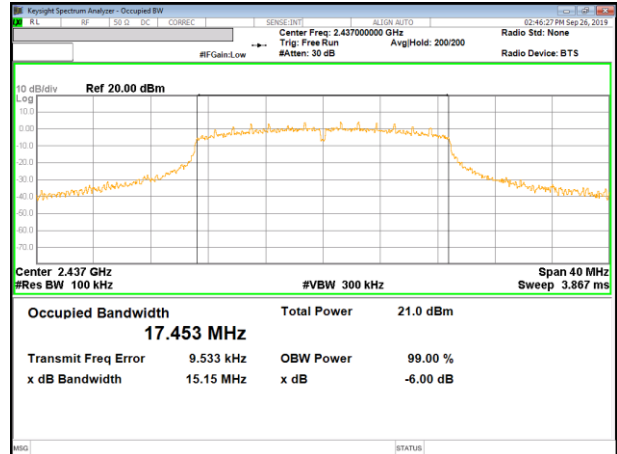


**ANT 1**

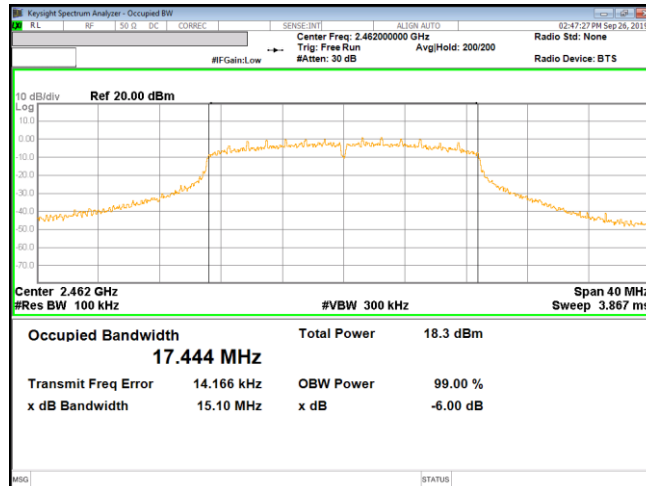
**11n20 Mode 1 CH**



**11n20 Mode 6 CH**



**11n20 Mode 11 CH**



## 10.2. OUTPUT POWER

### LIMITS

FCC §15.247

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 was entered as an offset in the power meter to allow for direct reading of power.

Output power measurement was performed utilizing the 8.3.2.3 under KDB558074 D01 15.247 Meas Guidance.

Duty cycle correction factor is not added to the average output power results for duty cycle factor > 98%.

### ANTENNA GAIN

Frequency Band [MHz]	Antenna1 Gain [dBi]
2400 ~ 2483.5	3.0

**RESULTS**

**10.2.1. TEST RESULTS**

Frequency Range [MHz]	Directional Gain ANT1 [dBi]	FCC Power Limit [dBm]	Max Power [dBm]
2412-2462	3	30.00	30.00
<b>Included in Calculations of Corr'd Power</b>			
<b>Duty Cycle CF [dB]</b>		<b>b</b>	0.00 <b>dB</b>
		<b>g</b>	0.00 <b>dB</b>
		<b>n20</b>	0.00 <b>dB</b>

**Calculation of Output Power result**

→ Corr'd Power [dBm] = Meas Power [dBm] + Duty CF [dB]

**Output Power Results**

Mode	Channel	Frequency [MHz]	ANT1 Meas Power [dBm]	ANT1 Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
802.11b	1	2412	13.83	13.83	30.00	-16.17
	6	2437	13.80	13.80	30.00	-16.20
	11	2462	13.94	13.94	30.00	-16.06
<b>Worst Case</b>				13.94	30.00	-16.06
Mode	Channel	Frequency [MHz]	ANT1 Meas Power [dBm]	ANT1 Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
802.11g	1	2412	11.88	11.88	30.00	-18.12
	6	2437	14.05	14.05	30.00	-15.95
	11	2462	11.24	11.24	30.00	-18.76
<b>Worst Case</b>				14.05	30.00	-15.95
Mode	Channel	Frequency [MHz]	ANT1 Meas Power [dBm]	ANT1 Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
802.11n20	1	2412	11.73	11.73	30.00	-18.27
	6	2437	13.84	13.84	30.00	-16.16
	11	2462	11.01	11.01	30.00	-18.99
<b>Worst Case</b>				13.84	30.00	-16.16

### **10.3. PSD**

#### **LIMITS**

FCC §15.247

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.

#### **TEST PROCEDURE**

Power Spectral Density was performed utilizing the section 8.4 under KDB558074 D01 15.247 Meas Guidance.

**RESULTS**

**10.3.1. TEST RESULTS**

Included in Calculations of Corr'd Power			
Duty Cycle CF [dB]	b	0.00	dB
	g	0.00	dB
	n20	0.00	dB

**Calculation of PSD result**

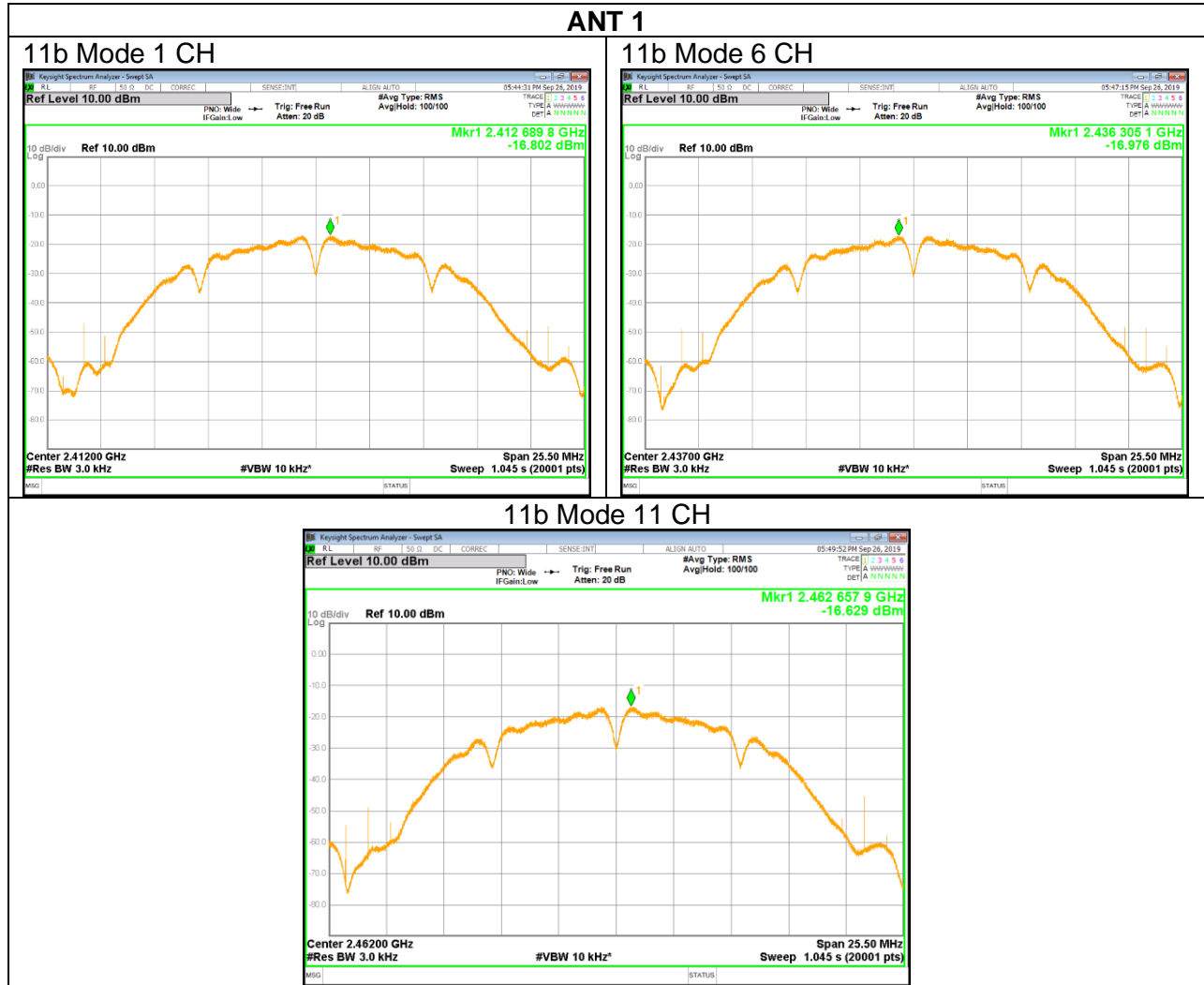
→ Corr'd PSD [dBm] = Meas PSD [dBm] + Duty CF [dB]

**PSD Results**

Mode	Channel	Frequency [MHz]	ANT1 Meas PSD [dBm/3kHz]	ANT1 Corr'd PSD [dBm/3kHz]	Power Limit [dBm/3kHz]	Power Margin [dB]
802.11b	1	2412	-16.80	-16.80	8.00	-24.80
	6	2437	-16.98	-16.98	8.00	-24.98
	11	2462	-16.63	-16.63	8.00	-24.63
Worst Case				<b>-16.63</b>	8.00	<b>-24.63</b>
Mode	Channel	Frequency [MHz]	ANT1 Meas PSD [dBm/3kHz]	ANT1 Corr'd PSD [dBm/3kHz]	Power Limit [dBm/3kHz]	Power Margin [dB]
802.11g	1	2412	-20.89	-20.89	8.00	-28.89
	6	2437	-18.59	-18.59	8.00	-26.59
	11	2462	-21.37	-21.37	8.00	-29.37
Worst Case				<b>-18.59</b>	8.00	<b>-26.59</b>
Mode	Channel	Frequency [MHz]	ANT1 Meas PSD [dBm/3kHz]	ANT1 Corr'd PSD [dBm/3kHz]	Power Limit [dBm/3kHz]	Power Margin [dB]
802.11n20	1	2412	-20.85	-20.85	8.00	-28.85
	6	2437	-18.18	-18.18	8.00	-26.18
	11	2462	-21.03	-21.03	8.00	-29.03
Worst Case				<b>-18.18</b>	8.00	<b>-26.18</b>

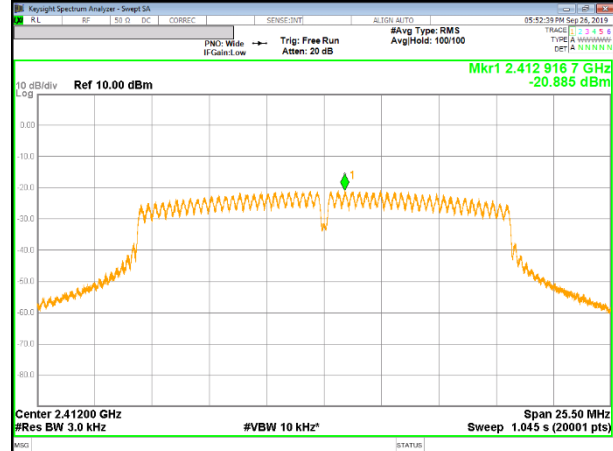


### 10.3.2. PSD PLOTS

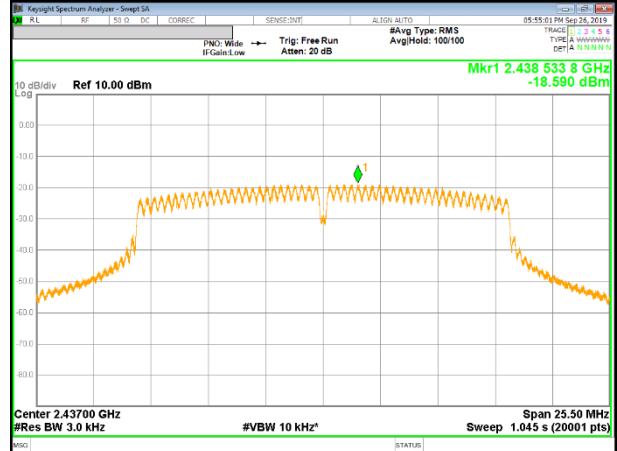


ANT 1

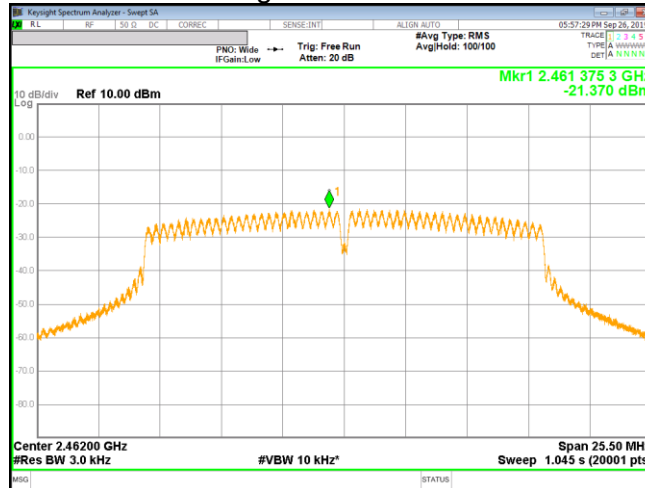
11g Mode 1 CH



11g Mode 6 CH

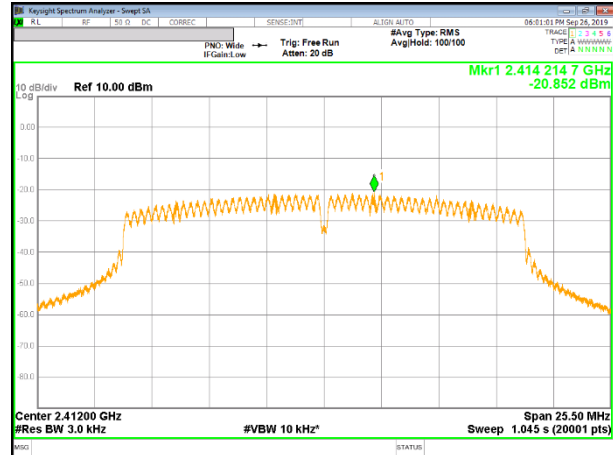


11g Mode 11 CH

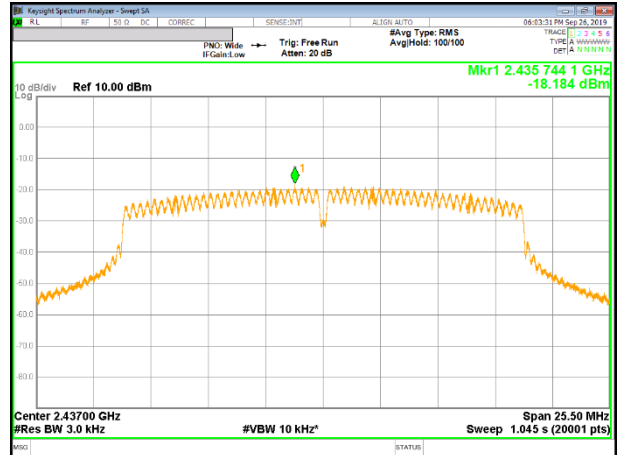


ANT 1

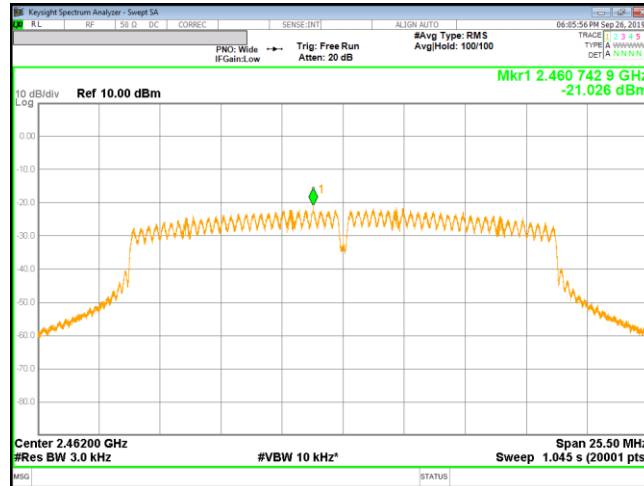
11n20 Mode 1 CH



11n20 Mode 6 CH



11n20 Mode 11 CH



## 10.4. OUT-OF-BAND EMISSIONS

### LIMITS

FCC §15.247 (d)

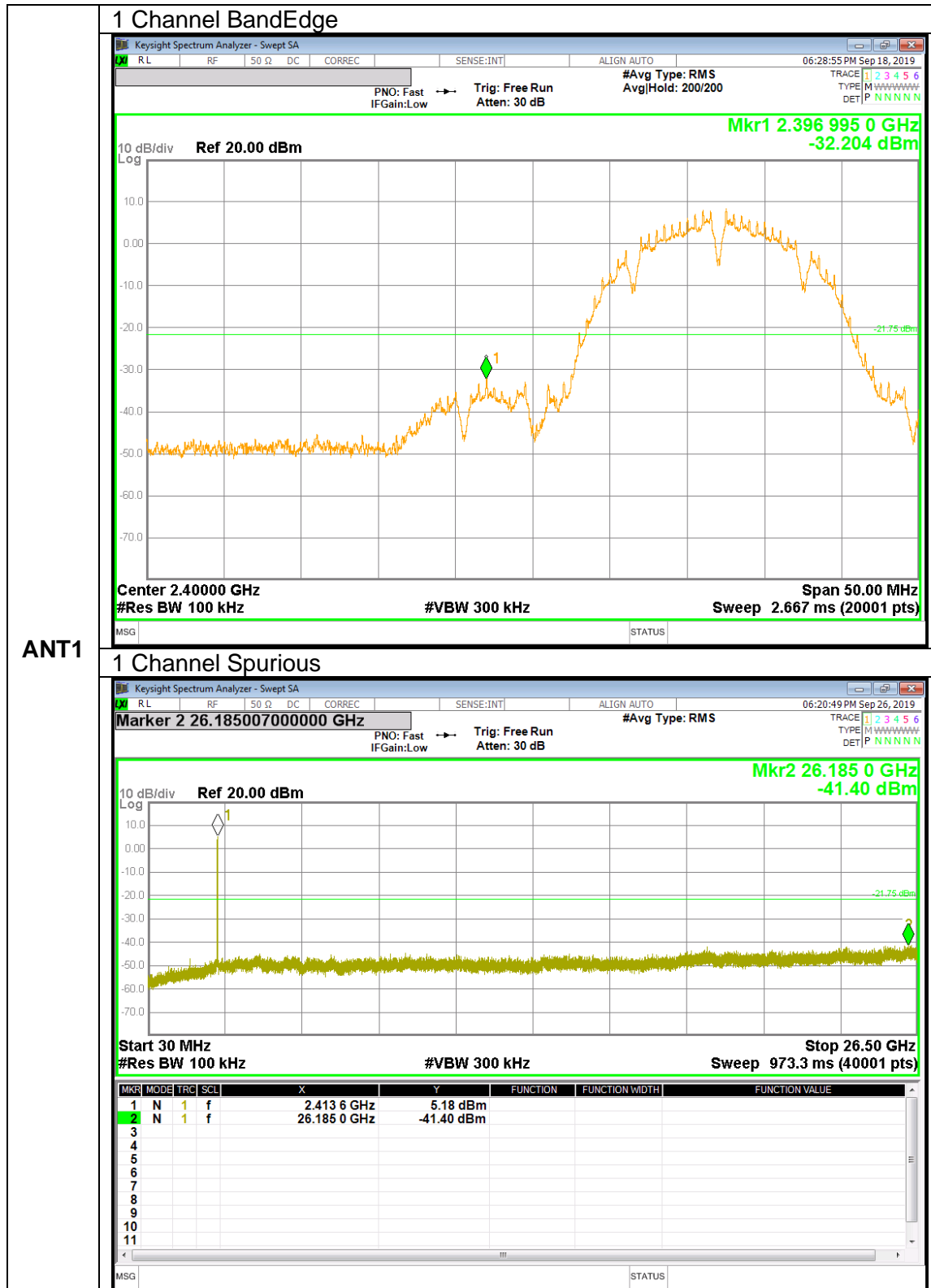
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

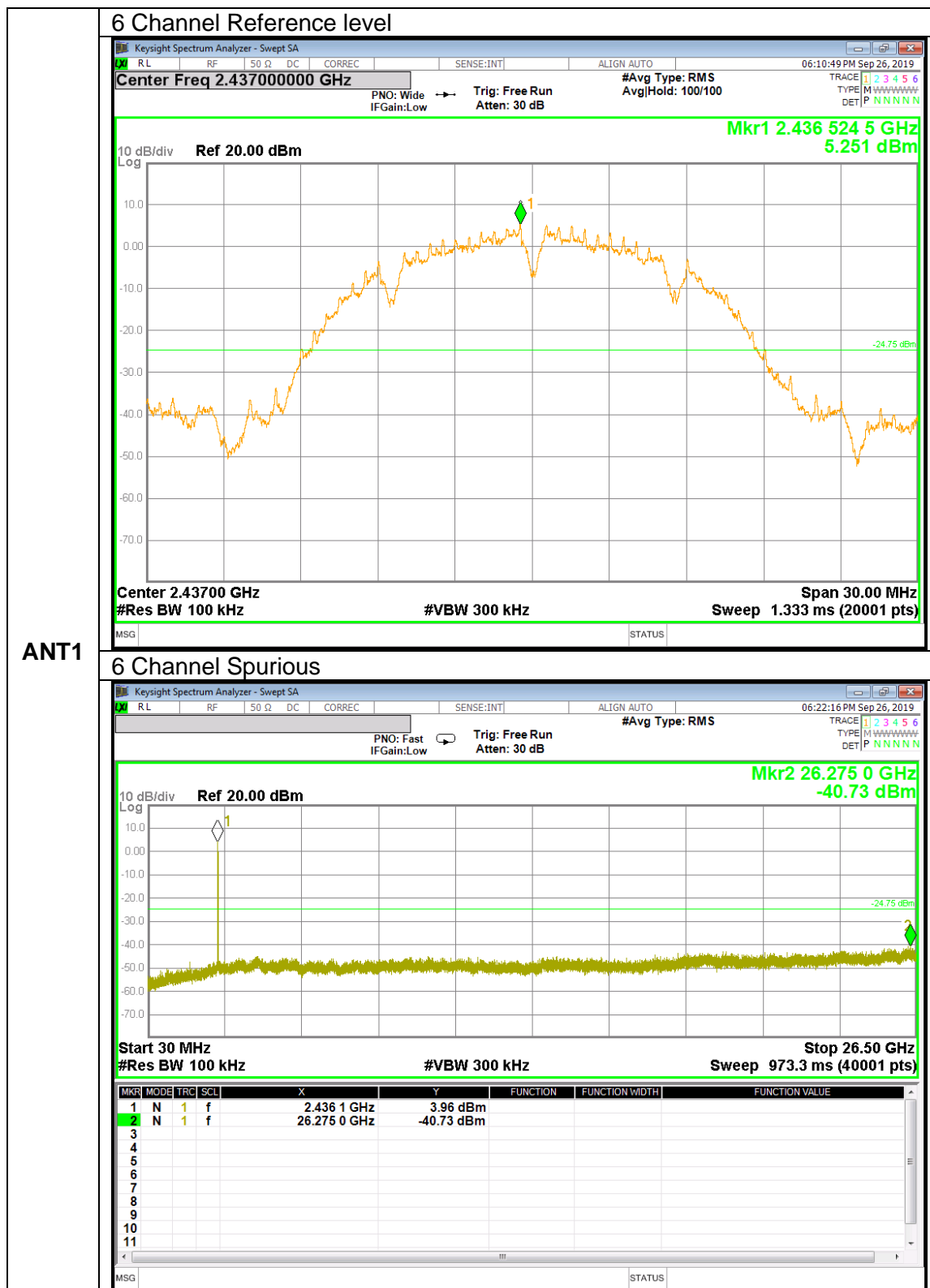
### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge, out-of-band emissions (where measurements to the general radiated limits will not be made)

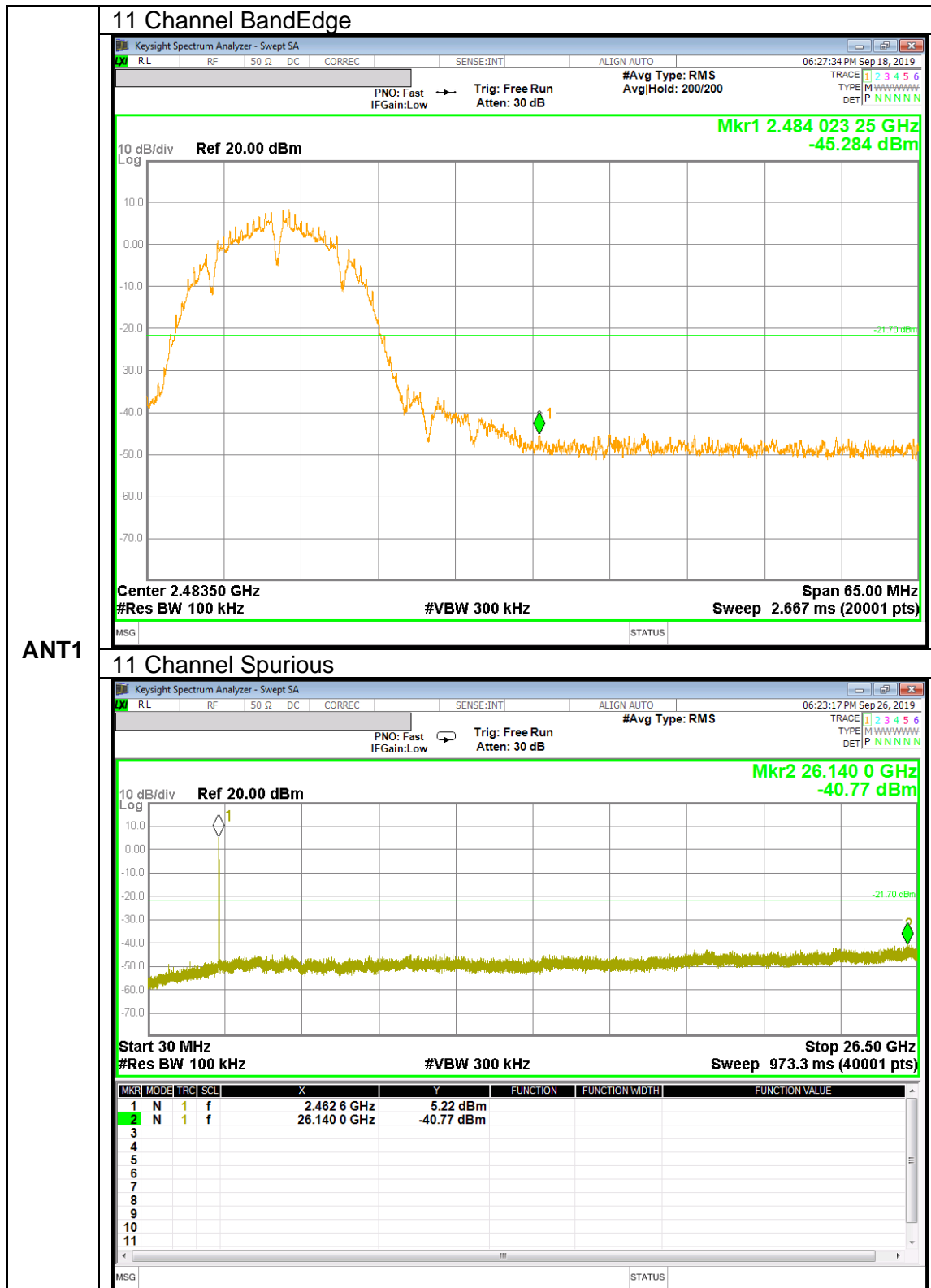
**RESULTS**

**10.4.1. 802.11b MODE IN THE 2.4 GHz BAND**

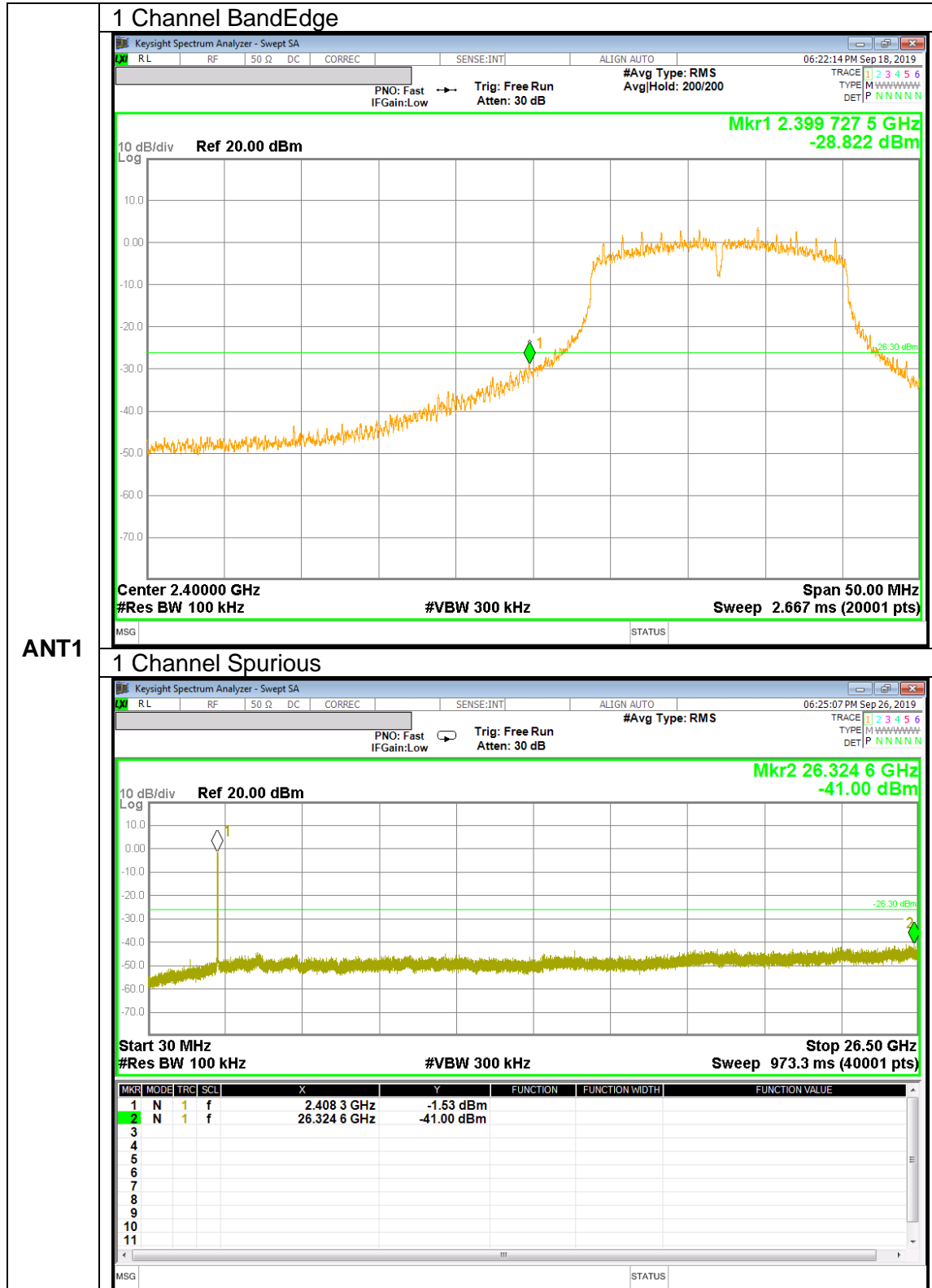




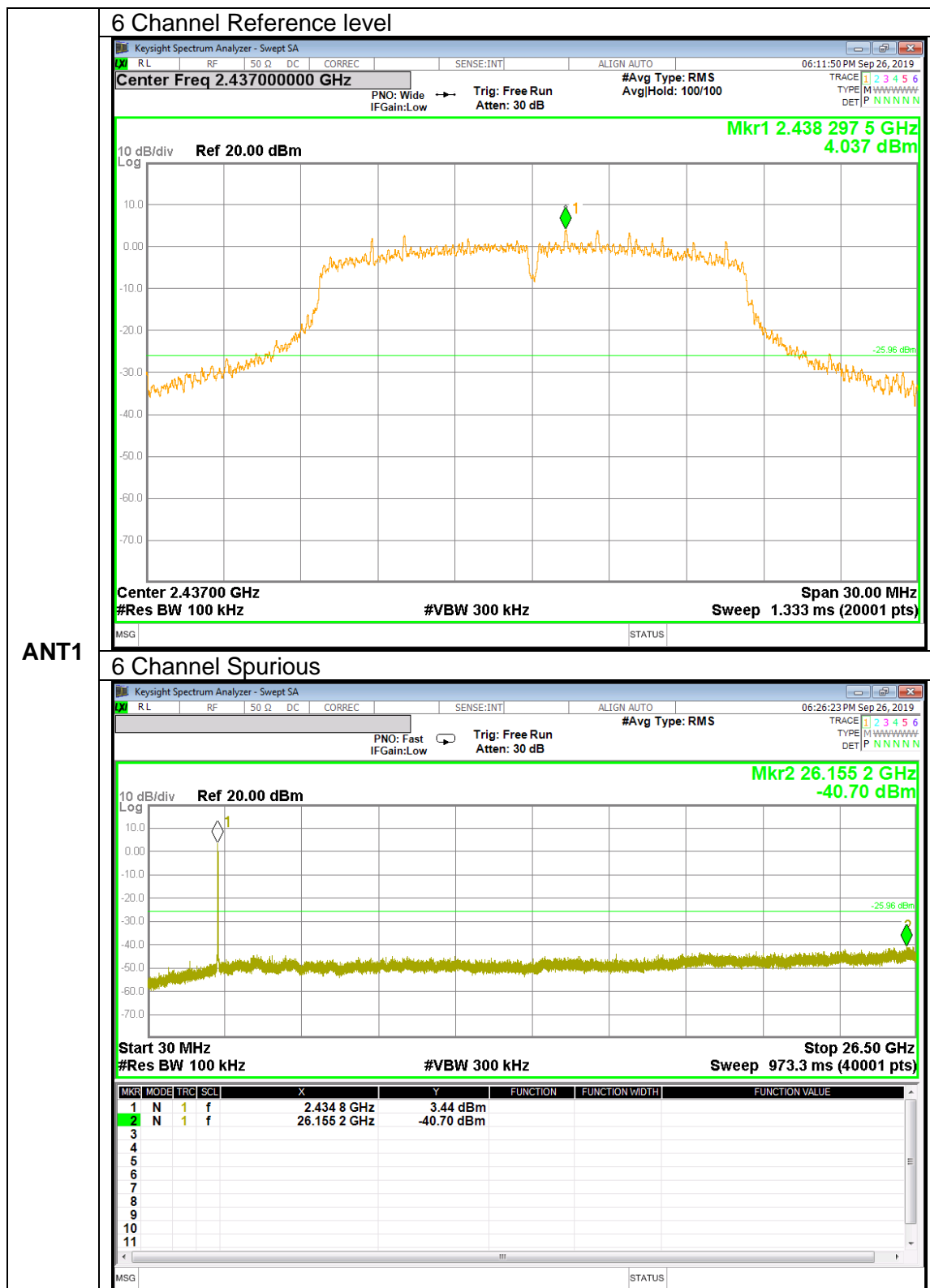
ANT1

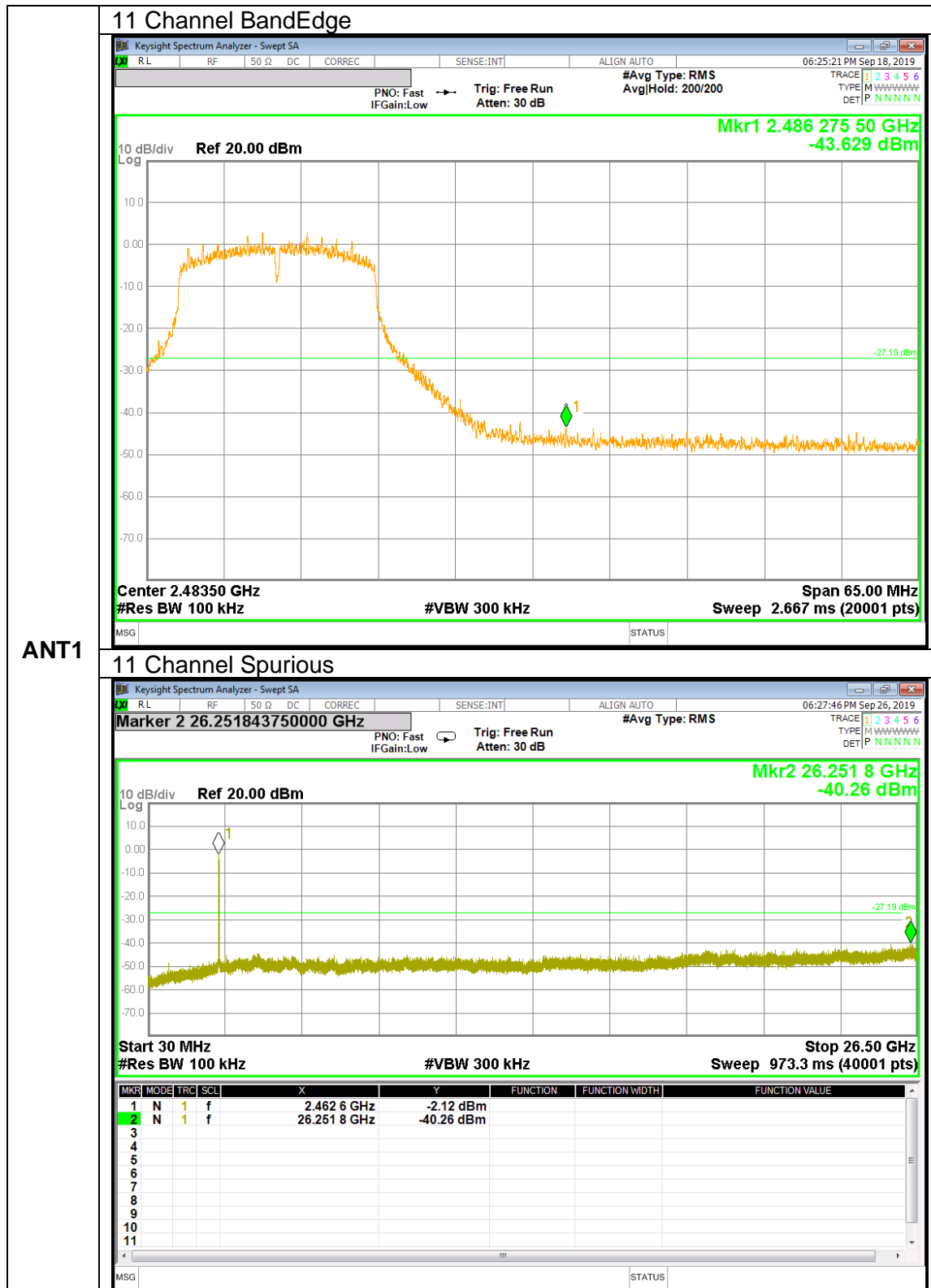


### 10.4.2. 802.11g MODE IN THE 2.4 GHz BAND

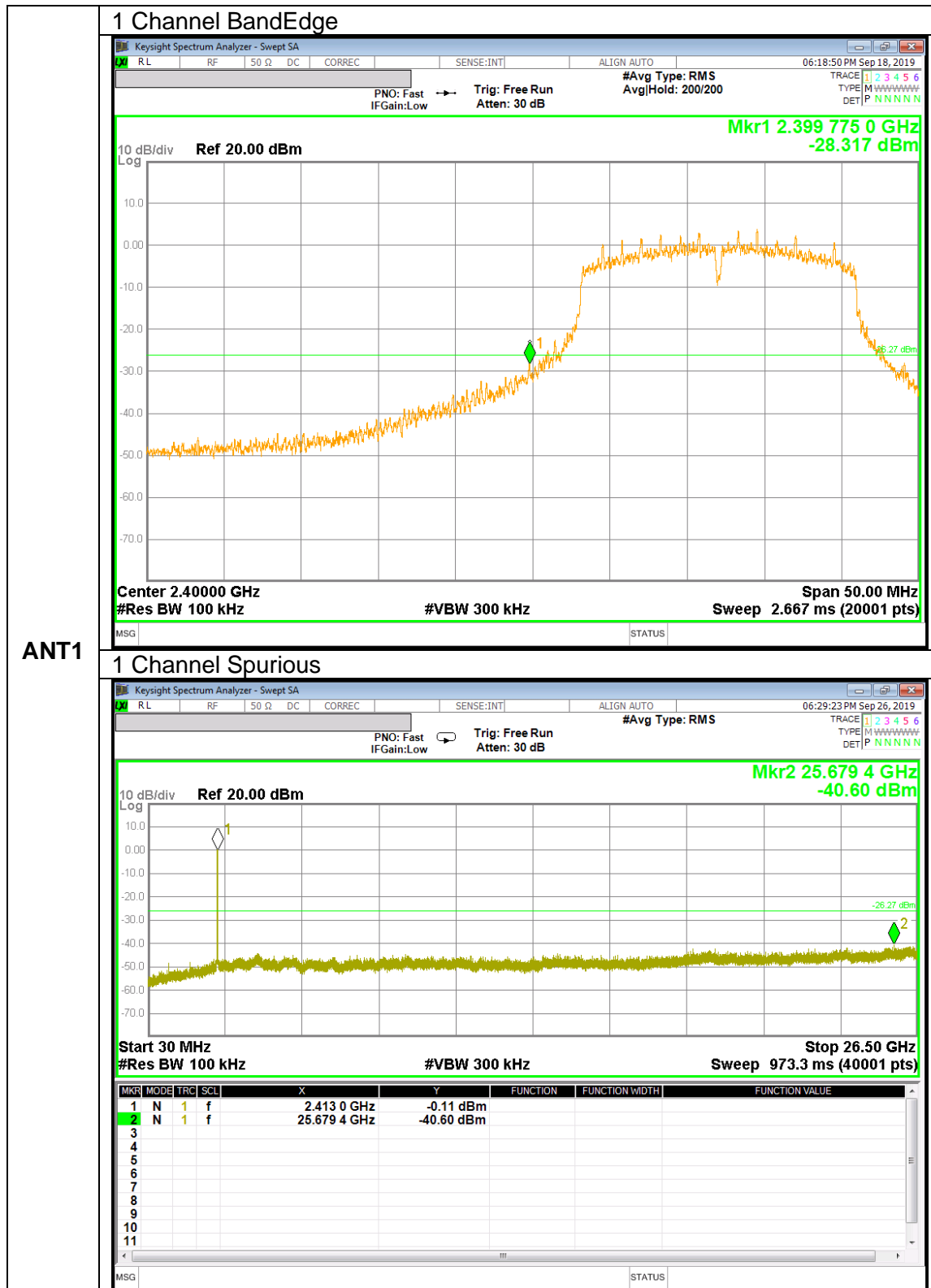




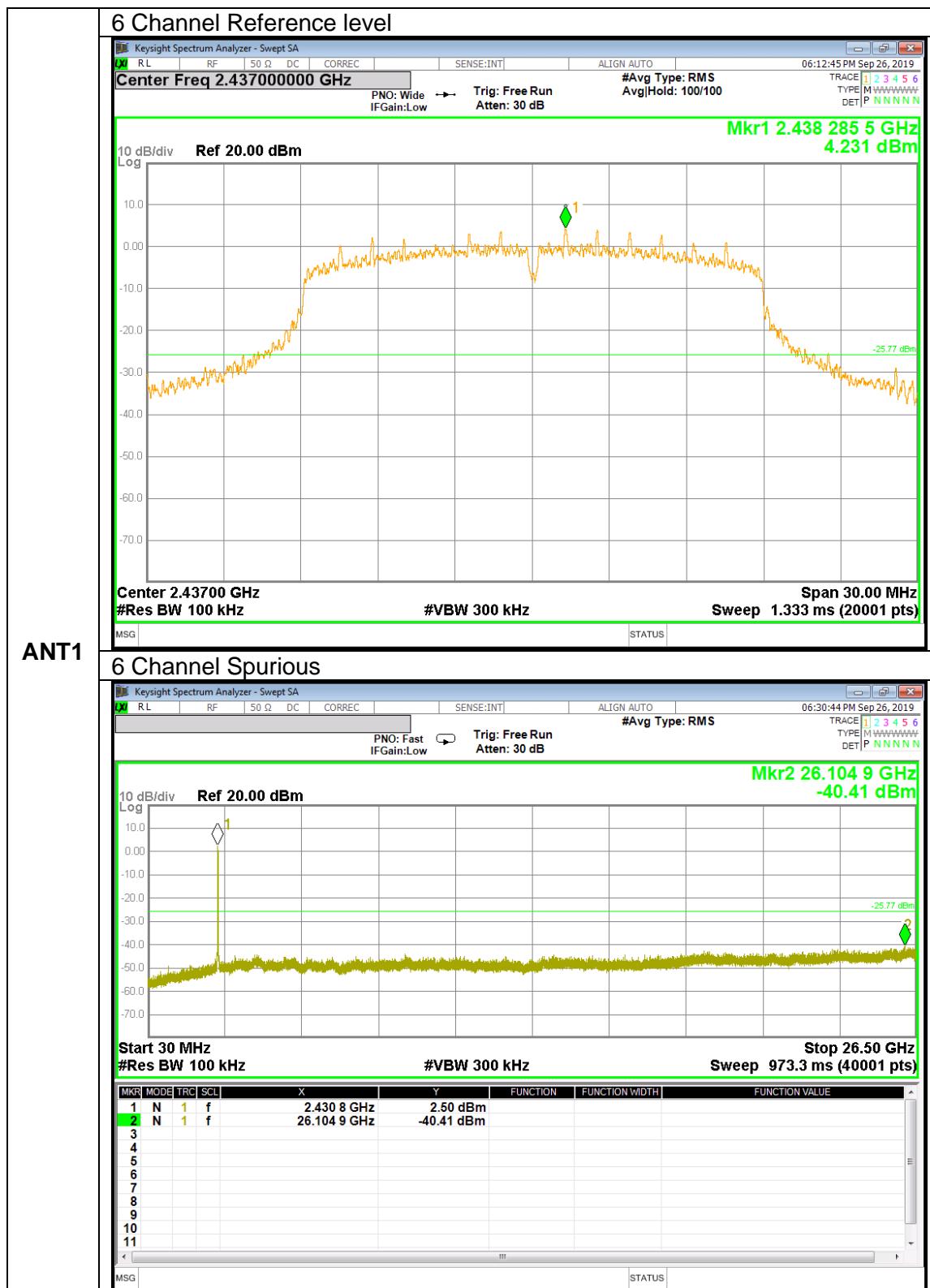


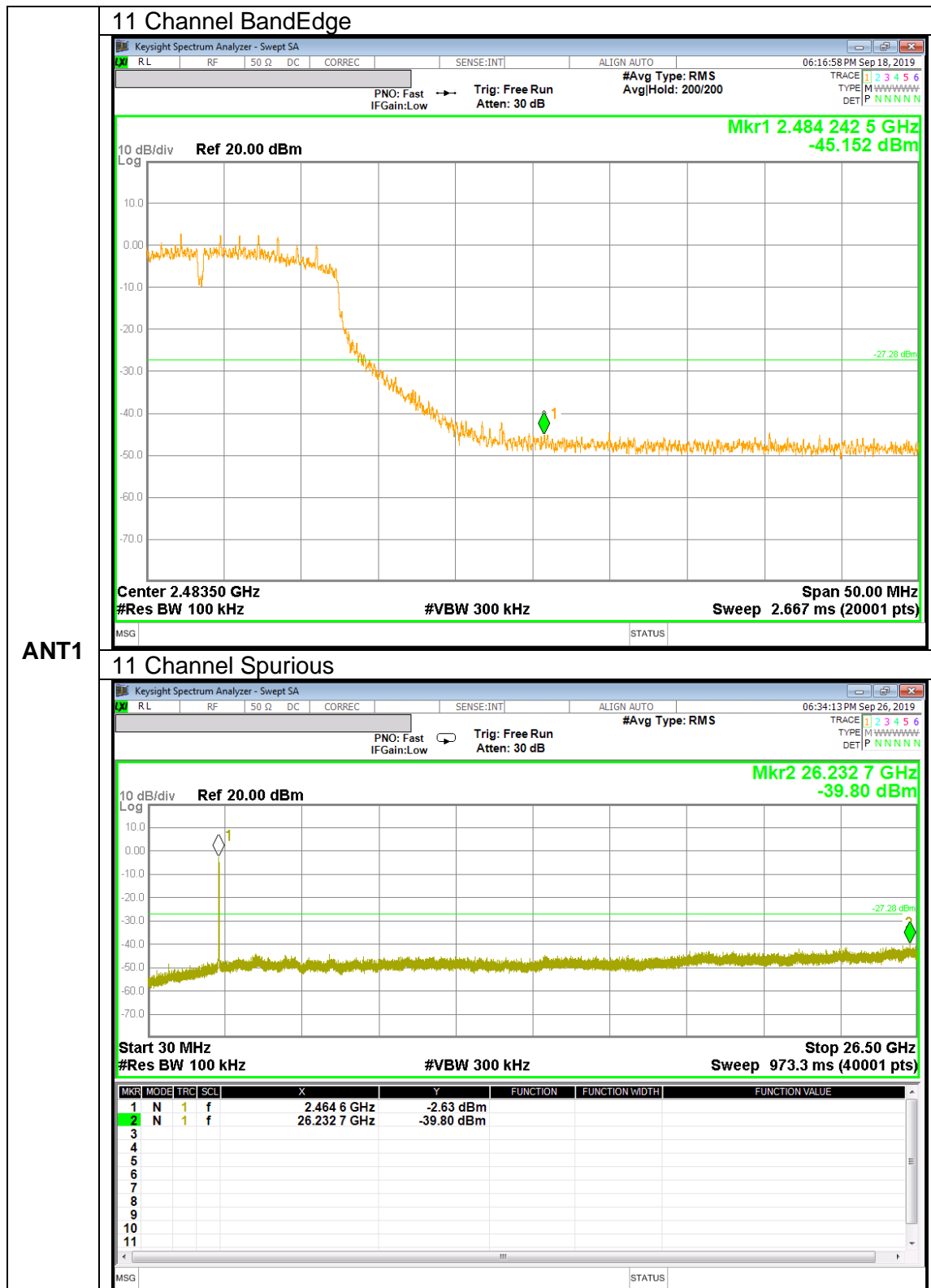


### 10.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND



ANT1





# 11. RADIATED TEST RESULTS

## 11.1. LIMITS AND PROCEDURE

### LIMITS

FCC §15.205 and §15.209

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

FCC Part 15.205 (a) : Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~ 156.52525	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.7 ~ 156.9	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	162.0125 ~ 167.17	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	167.72 ~ 173.2	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	240 ~ 285	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	322 ~ 335.4	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	960 ~ 1240	3345.8 ~ 3358 3600 ~ 4400		

▪ FCC Part 15.205(b) : The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

## **TEST PROCEDURE**

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1 GHz and 150 cm for above 1 GHz. 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 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. (Restricted bandedge, Final detection of spurious harmonic emissions)  
Duty cycle factor=  $10\log(1/x)$  For this sample 802.11b mode = 0dB (duty cycle >98%); 802.11g mode = 0dB (duty cycle >98%); 802.11n(HT20) mode = 0dB (duty cycle >98%).

Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 kHz for peak measurements.

The spectrum from 1 GHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.  
(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

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.

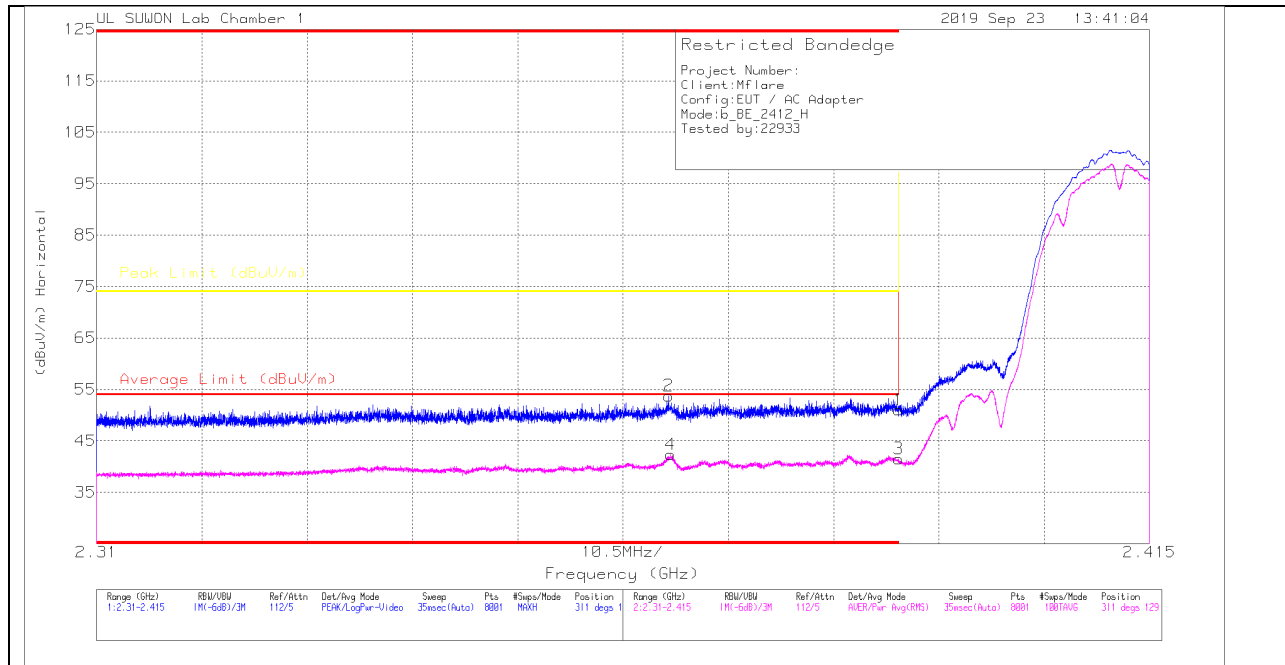
Note : Emission was pre-scanned from 9 kHz to 30 MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).  
Per FCC part 15.31(o), test results were not reported.

Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 10m open field test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlated with the one of tests made in an open field site based on KDB 414788.

## 11.2. TRANSMITTER ABOVE 1 GHz

### 11.2.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND ANT1 RESTRICTED BANDEDGE (1 CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

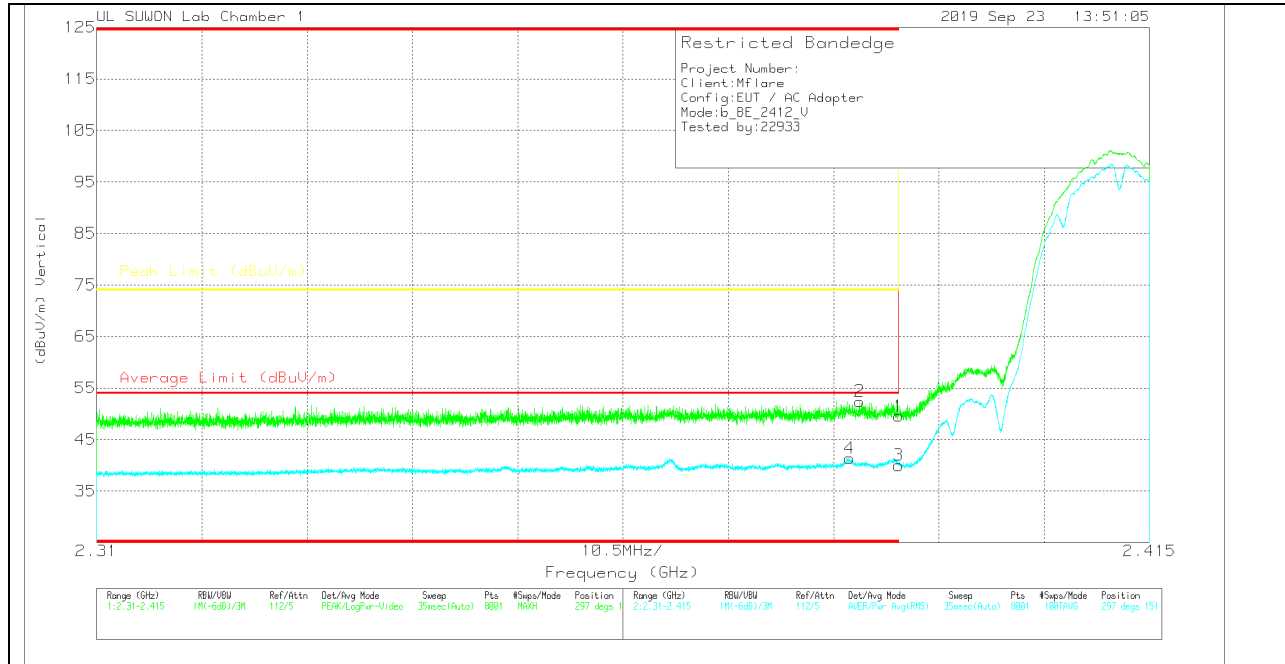
##### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	10dB[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	44.8	Pk		-25.5	51	-	-	74	-23	311	129	H
2	* 2.36703	47.76	Pk		-25.6	53.76	-	-	74	-20.24	311	129	H
3	* 2.39	35.33	RMS		-25.5	41.53	54	-12.47	-	-	311	129	H
4	* 2.36724	36.37	RMS		-25.6	42.37	54	-11.63	-	-	311	129	H

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



**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

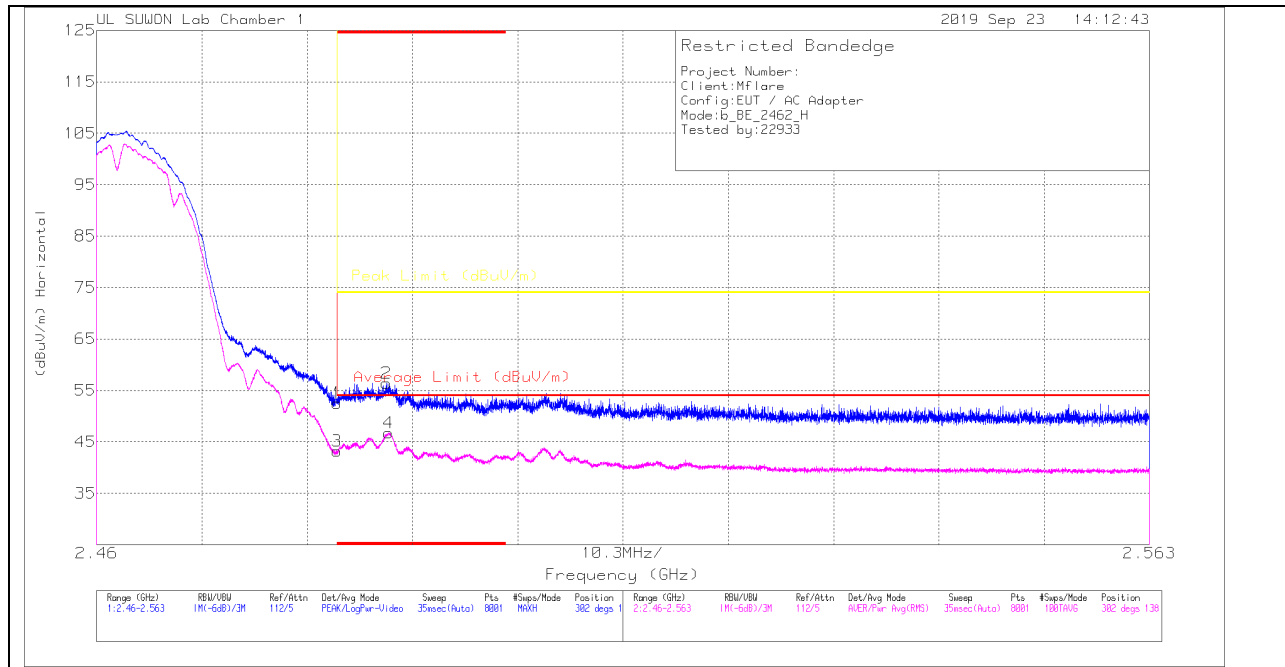
**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	10dB(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	43.35	Pk	31.7	-25.5	49.55	-	-	74	-24.45	297	151	V
2	* 2.38611	46.2	Pk	31.7	-25.5	52.4	-	-	74	-21.6	297	151	V
3	* 2.39	33.78	RMS	31.7	-25.5	39.98	54	-14.02	-	-	297	151	V
4	* 2.38511	35.16	RMS	31.7	-25.5	41.36	54	-12.64	-	-	297	151	V

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

## AUTHORIZED BANDEDGE (11 CHANNEL)

### HORIZONTAL PEAK AND AVERAGE PLOT



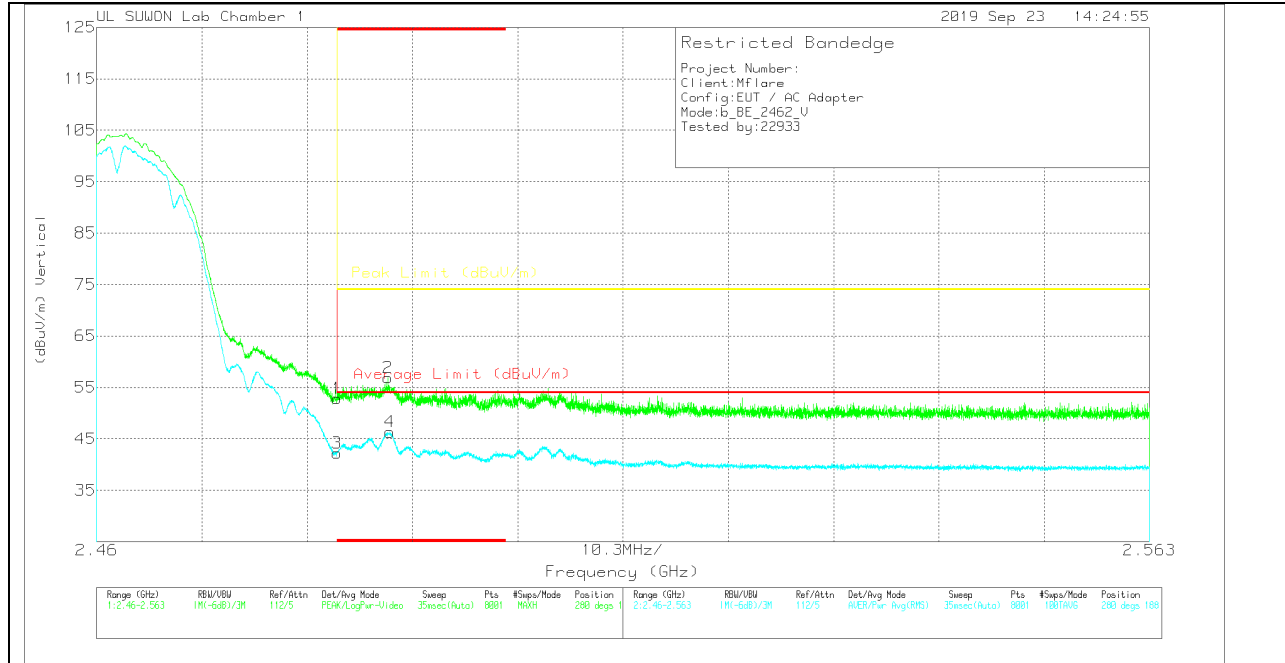
### HORIZONTAL DATA

#### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	10dB[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	45.92	Pk	31.9	-25.3	52.52	-	-	74	-21.48	302	138	H
2	* 2.48834	49.69	Pk	31.9	-25.2	56.39	-	-	74	-17.61	302	138	H
3	* 2.48351	36.57	RMS	31.9	-25.3	43.17	54	-10.83	-	-	302	138	H
4	* 2.48857	40.05	RMS	31.9	-25.2	46.75	54	-7.25	-	-	302	138	H

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

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	10dB[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	46.23	Pk	31.9	-25.3	52.83	-	-	74	-21.17	280	188	V
2	* 2.48848	50.18	Pk	31.9	-25.2	56.88	-	-	74	-17.12	280	188	V
3	* 2.48351	35.62	RMS	31.9	-25.3	42.22	54	-11.78	-	-	280	188	V
4	* 2.48867	39.63	RMS	31.9	-25.2	46.33	54	-7.67	-	-	280	188	V

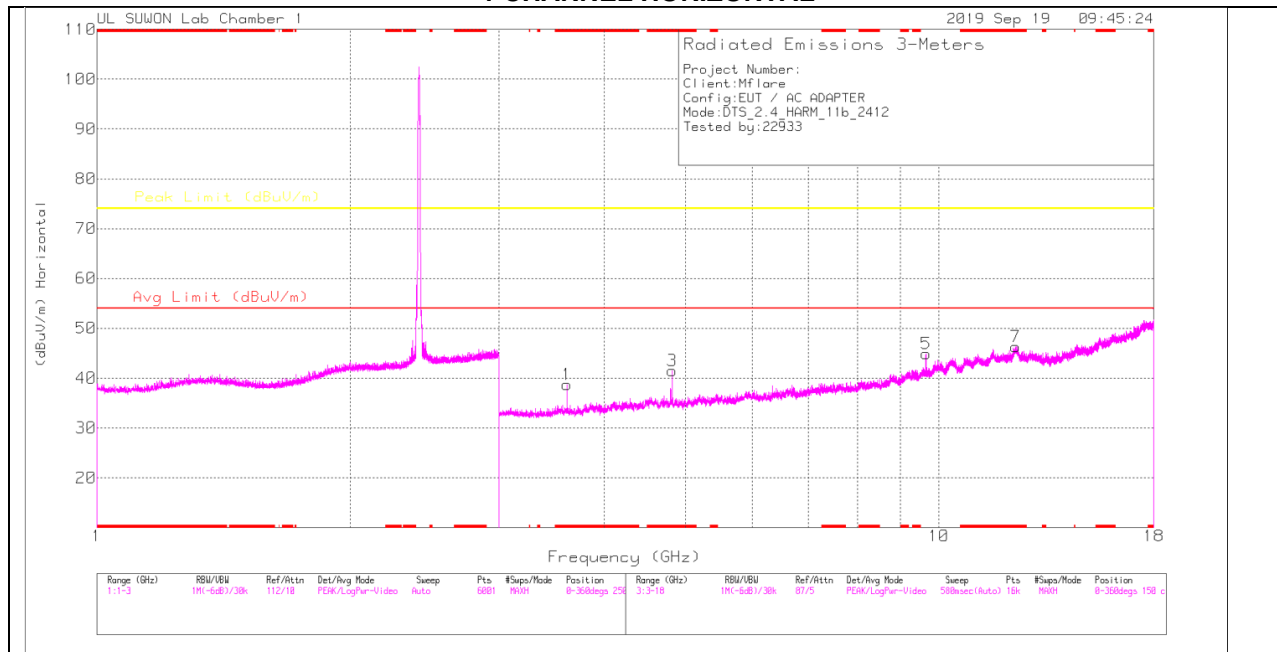
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

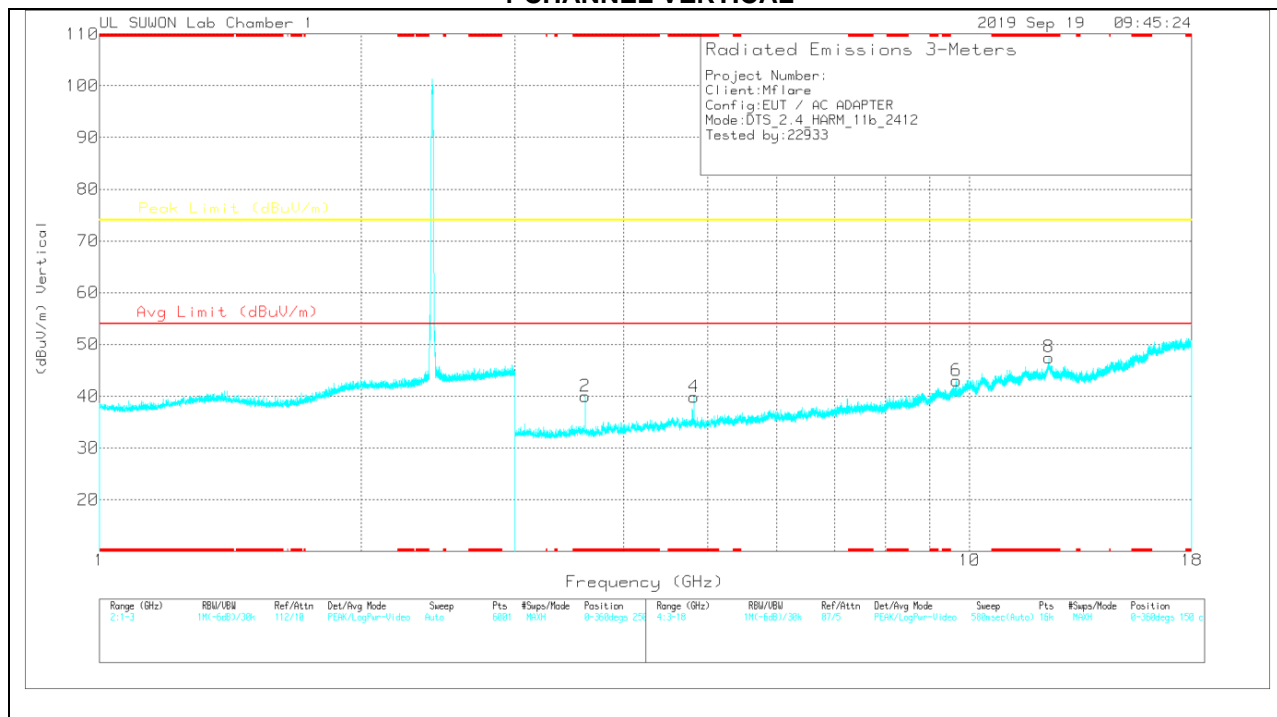
RMS - RMS detection

### HARMONICS AND SPURIOUS EMISSIONS

#### 1 CHANNEL HORIZONTAL



#### 1 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**1 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.61777	38.56	PK	33.1	-32.9	38.76	-	-	74	-35.24	0-360	250	H
3	* 4.82332	38.69	PK	34.2	-31.4	41.49	-	-	74	-32.51	0-360	250	H
5	9.64833	31.06	PK	37.1	-23.3	44.86	-	-	74	-29.14	0-360	250	H
7	* 12.3266	27.97	PK	38.9	-20.6	46.27	-	-	74	-27.73	0-360	150	H
2	* 3.61777	39.78	PK	33.1	-32.9	39.98	-	-	74	-34.02	0-360	250	V
4	* 4.82332	37.11	PK	34.2	-31.4	39.91	-	-	74	-34.09	0-360	250	V
6	9.64833	29.21	PK	37.1	-23.3	43.01	-	-	74	-30.99	0-360	250	V
8	* 12.33129	29.21	PK	38.9	-20.6	47.51	-	-	74	-26.49	0-360	250	V

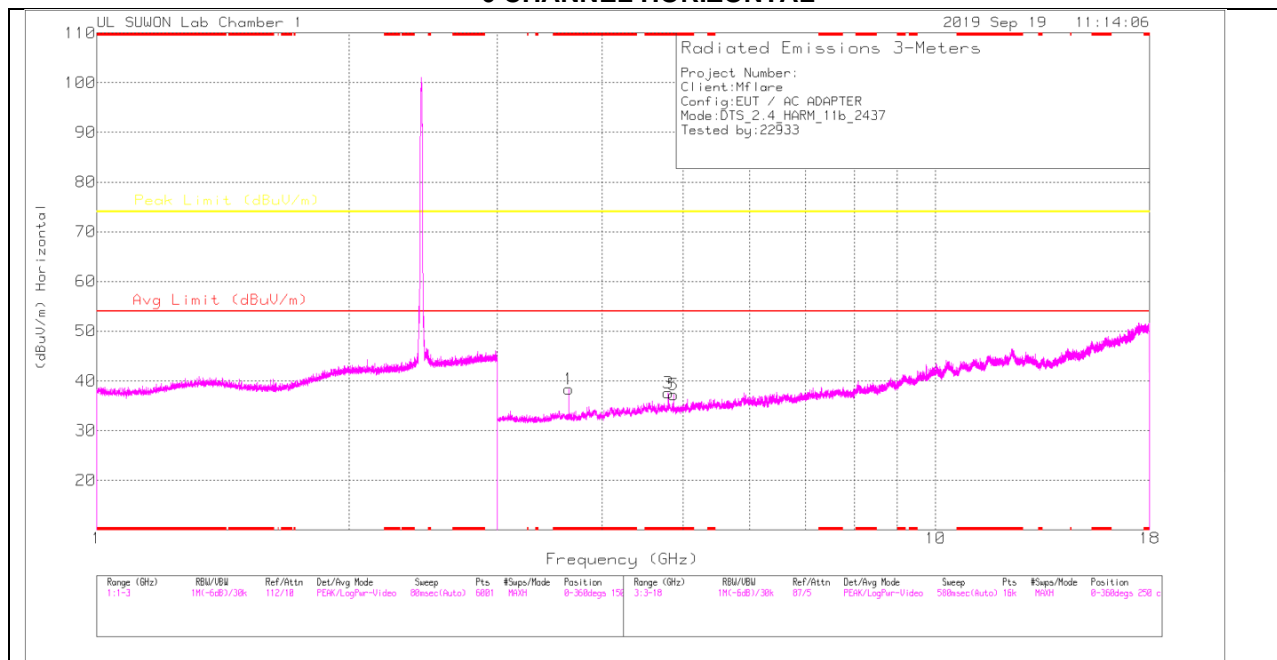
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

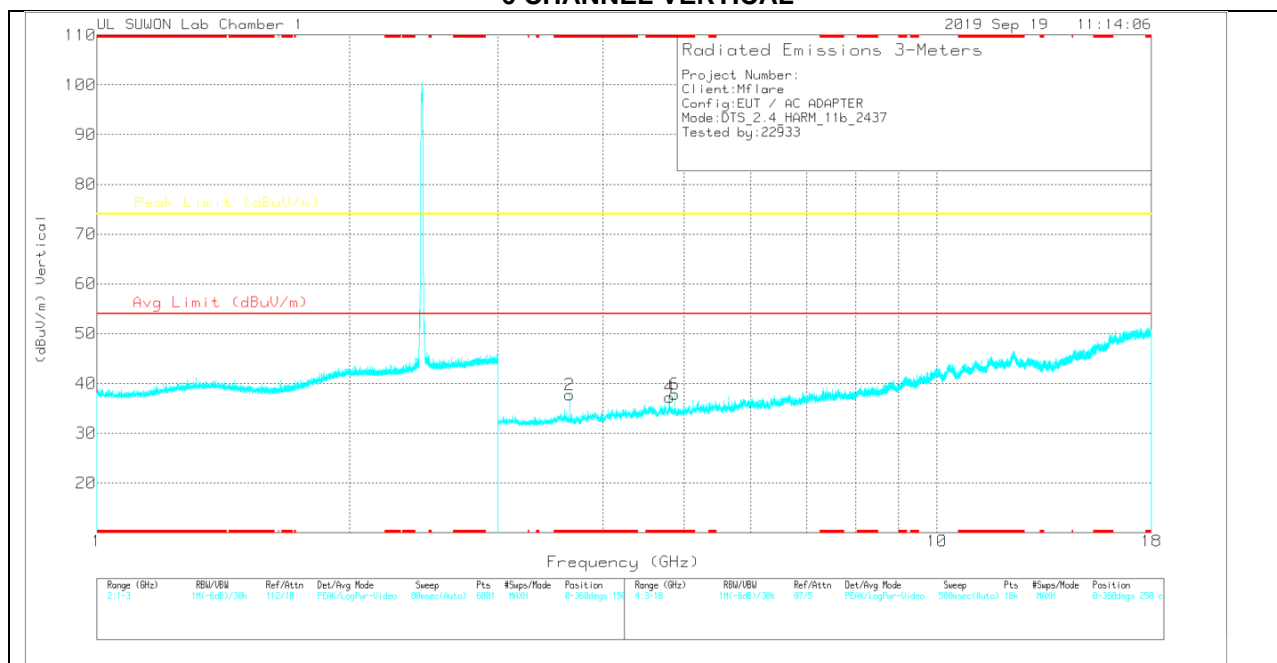
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.61815	45.43	PK2	33.1	-32.9	45.63	-	-	74	-28.37	88	121	H
* 3.61797	39.69	MAV1	33.1	-32.9	39.89	54	-14.11	-	-	88	121	H
* 3.61787	44.81	PK2	33.1	-32.9	45.01	-	-	74	-28.99	289	208	V
* 3.61797	38.17	MAV1	33.1	-32.9	38.37	54	-15.63	-	-	289	208	V
* 4.82382	42.93	PK2	34.2	-31.4	45.73	-	-	74	-28.27	31	286	H
* 4.82408	34.48	MAV1	34.2	-31.4	37.28	54	-16.72	-	-	31	286	H
* 4.82396	44.65	PK2	34.2	-31.4	47.45	-	-	74	-26.55	295	381	V
* 4.82396	38.54	MAV1	34.2	-31.4	41.34	54	-12.66	-	-	295	381	V
9.63927	36.77	PK2	37	-23.2	50.57	-	-	74	-23.43	156	192	H
9.64803	37.95	PK2	37.1	-23.3	51.75	-	-	74	-22.25	135	115	V
* 12.33256	36.47	PK2	38.9	-20.6	54.77	-	-	74	-19.23	57	146	H
* 12.32904	24.2	MAV1	38.9	-20.6	42.5	54	-11.5	-	-	57	146	H
* 12.32356	35.68	PK2	38.9	-20.6	53.98	-	-	74	-20.02	122	275	V
* 12.33382	24.22	MAV1	38.9	-20.6	42.52	54	-11.48	-	-	122	275	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAV1 - KDB558074 Option 1 Maximum RMS Average

### 6 CHANNEL HORIZONTAL



### 6 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**6 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.65527	38.35	PK	33.1	-33.1	38.35	-	-	74	-35.65	0-360	150	H
3	* 4.80082	34.84	PK	34.2	-31.4	37.64	-	-	74	-36.36	0-360	250	H
5	* 4.87395	34.52	PK	34.2	-31.5	37.22	-	-	74	-36.78	0-360	150	H
2	* 3.65527	37.68	PK	33.1	-33.1	37.68	-	-	74	-36.32	0-360	250	V
4	* 4.80176	34.45	PK	34.2	-31.4	37.25	-	-	74	-36.75	0-360	250	V
6	* 4.87395	35.1	PK	34.2	-31.5	37.8	-	-	74	-36.2	0-360	250	V

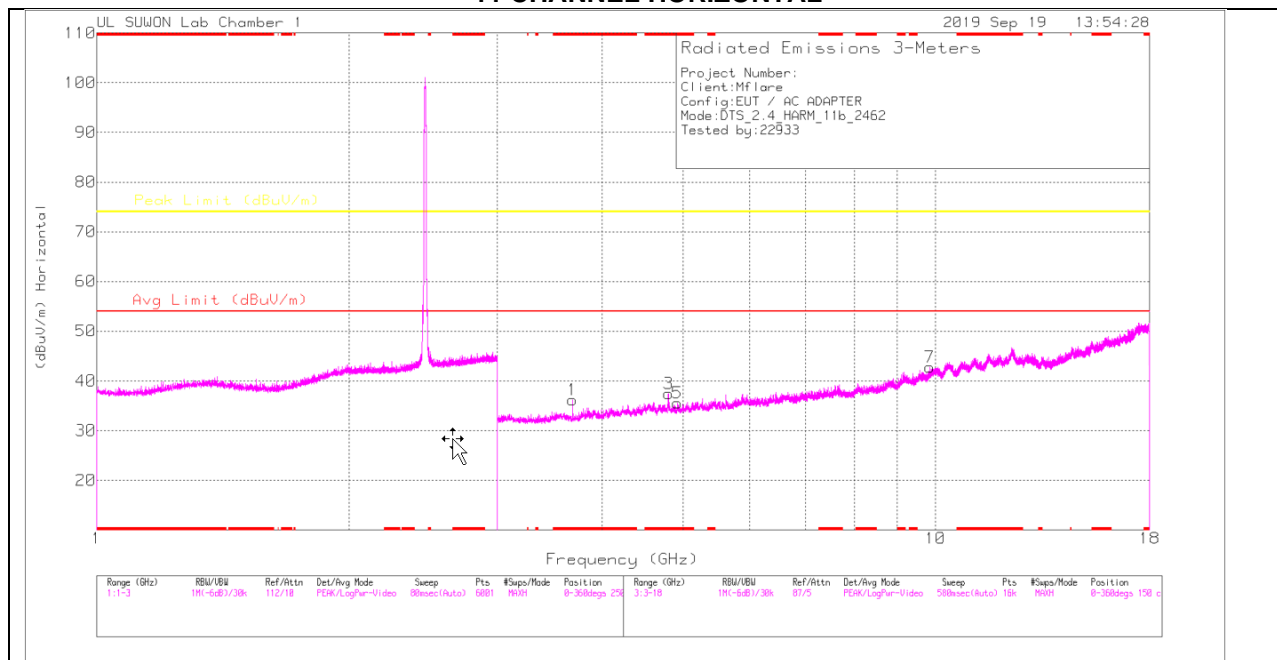
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK –Peak Detector

**Radiated Emissions**

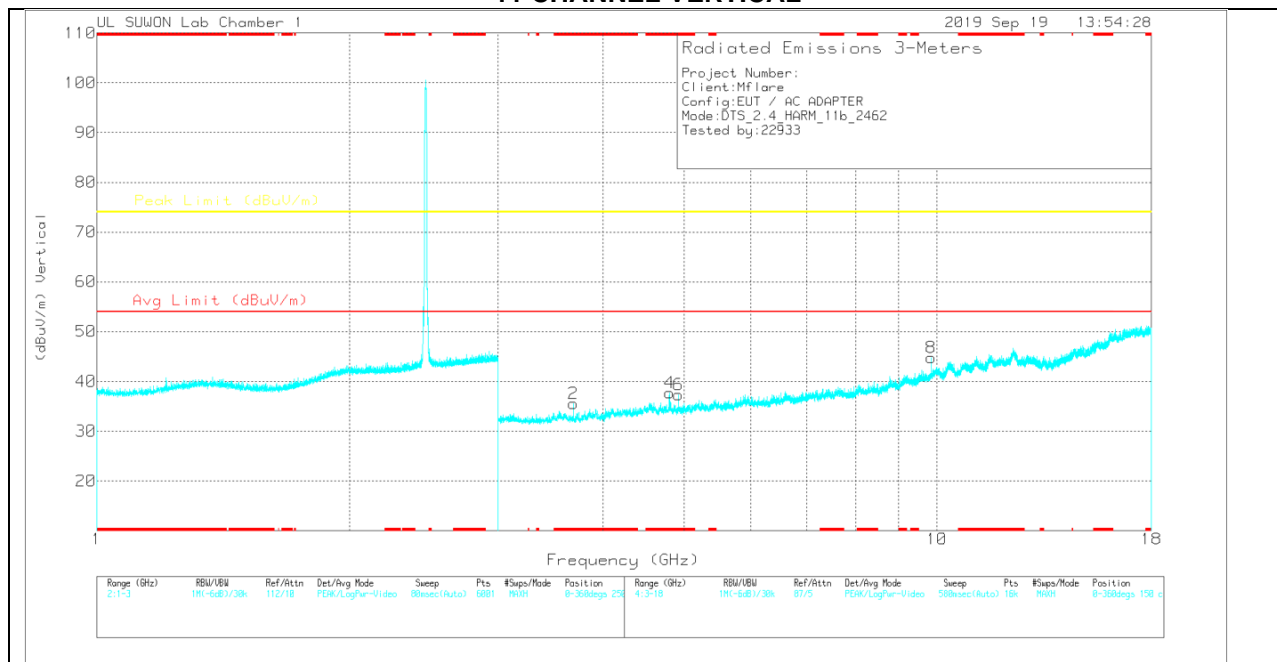
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.65565	45.79	PK2	33.1	-33.1	45.79	-	-	74	-28.21	67	325	V
* 3.65547	39.46	MAV1	33.1	-33.1	39.46	54	-14.54	-	-	67	325	V
* 3.65557	44.29	PK2	33.1	-33.1	44.29	-	-	74	-29.71	84	145	H
* 3.65545	37.81	MAV1	33.1	-33.1	37.81	54	-16.19	-	-	84	145	H
* 4.80158	44.05	PK2	34.2	-31.4	46.85	-	-	74	-27.15	68	105	H
* 4.80176	34.87	MAV1	34.2	-31.4	37.67	54	-16.33	-	-	68	105	H
* 4.80198	43.07	PK2	34.2	-31.4	45.87	-	-	74	-28.13	263	107	V
* 4.80178	33.61	MAV1	34.2	-31.4	36.41	54	-17.59	-	-	263	107	V
* 4.87399	41.92	PK2	34.2	-31.5	44.62	-	-	74	-29.38	193	241	H
* 4.87401	32.52	MAV1	34.2	-31.5	35.22	54	-18.78	-	-	193	241	H
* 4.87409	42.45	PK2	34.2	-31.5	45.15	-	-	74	-28.85	283	186	V
* 4.87401	34.32	MAV1	34.2	-31.5	37.02	54	-16.98	-	-	283	186	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAV1 - KDB558074 Option 1 Maximum RMS Average

### 11 CHANNEL HORIZONTAL



### 11 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



11 CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.69277	36.06	PK	33.1	-33	36.16	-	-	74	-37.84	0-360	250	H
3	* 4.80176	34.61	PK	34.2	-31.4	37.41	-	-	74	-36.59	0-360	150	H
5	* 4.92363	32.99	PK	34.2	-31.6	35.59	-	-	74	-38.41	0-360	150	H
7	9.84801	28.53	PK	37.4	-23.2	42.73	-	-	74	-31.27	0-360	250	H
2	* 3.69277	35.47	PK	33.1	-33	35.57	-	-	74	-38.43	0-360	150	V
4	* 4.80176	34.91	PK	34.2	-31.4	37.71	-	-	74	-36.29	0-360	150	V
6	* 4.92363	34.71	PK	34.2	-31.6	37.31	-	-	74	-36.69	0-360	250	V
8	9.84801	30.62	PK	37.4	-23.2	44.82	-	-	74	-29.18	0-360	250	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

Radiated Emissions

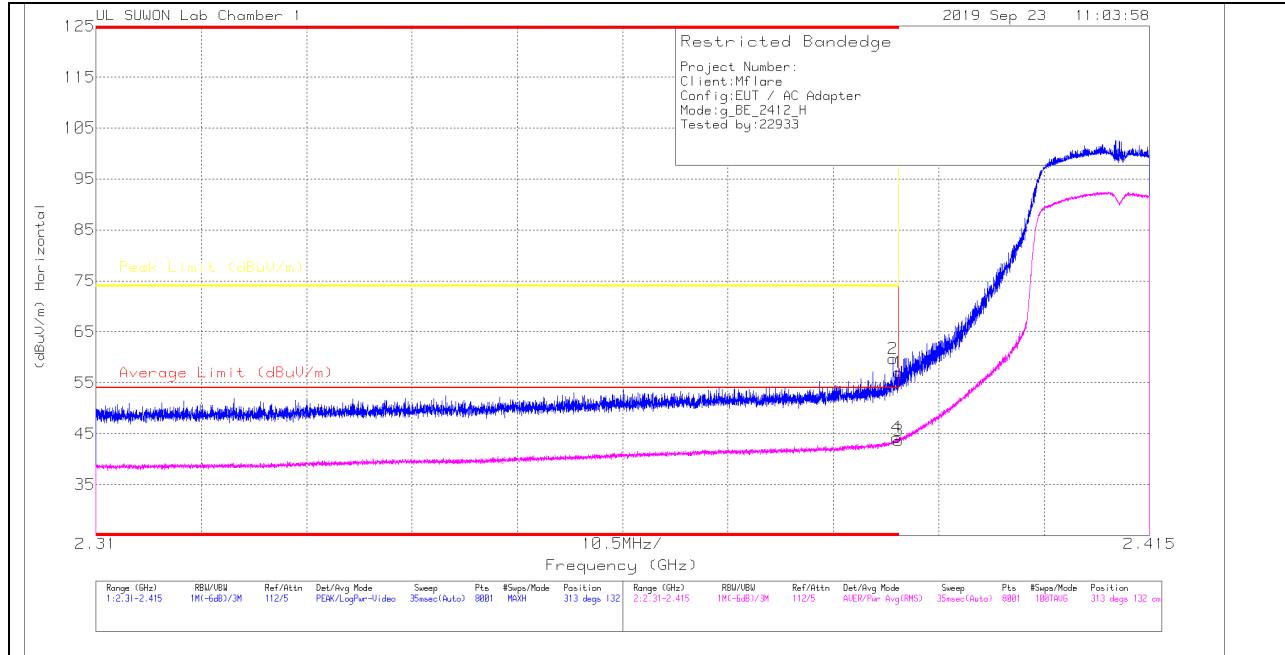
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.69291	44.47	PK2	33.1	-33	44.57	-	-	74	-29.43	95	104	H
* 3.69303	37.44	MAv1	33.1	-33.1	37.44	54	-16.56	-	-	95	104	H
* 3.69275	44.09	PK2	33.1	-33	44.19	-	-	74	-29.81	84	126	V
* 3.69299	35.97	MAv1	33.1	-33.1	35.97	54	-18.03	-	-	84	126	V
* 4.8016	43.26	PK2	34.2	-31.4	46.06	-	-	74	-27.94	63	107	H
* 4.80166	34.52	MAv1	34.2	-31.4	37.32	54	-16.68	-	-	63	107	H
* 4.80208	43.68	PK2	34.2	-31.4	46.48	-	-	74	-27.52	264	100	V
* 4.80178	33.52	MAv1	34.2	-31.4	36.32	54	-17.68	-	-	264	100	V
* 4.92685	42.81	PK2	34.2	-31.6	45.41	-	-	74	-28.59	346	203	H
* 4.92399	31.71	MAv1	34.2	-31.6	34.31	54	-19.69	-	-	346	203	H
* 4.92411	42.06	PK2	34.2	-31.6	44.66	-	-	74	-29.34	287	126	V
* 4.92399	32.42	MAv1	34.2	-31.6	35.02	54	-18.98	-	-	287	126	V
9.85137	36.26	PK2	37.4	-23.2	50.46	-	-	74	-23.54	166	106	H
9.84795	37.23	PK2	37.4	-23.2	51.43	-	-	74	-22.57	138	113	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

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

#### RESTRICTED BANDEDGE (1 CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

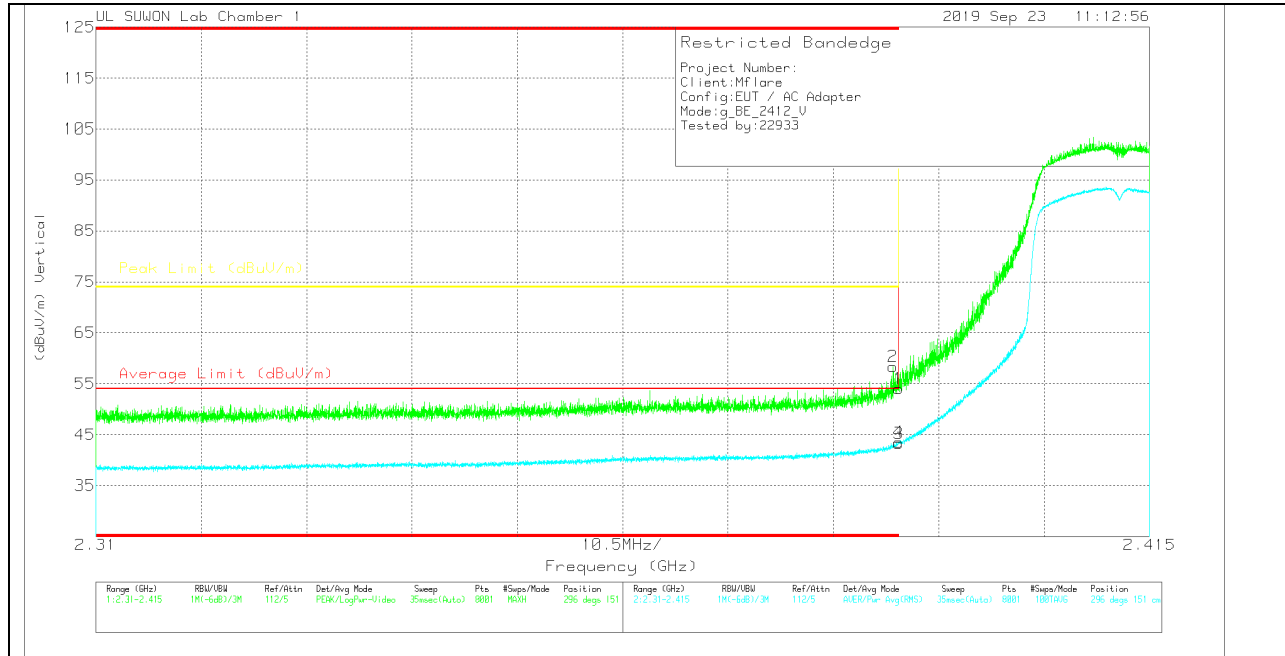
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	10dB[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	50.86	Pk	31.7	-25.5	57.06	-	-	74	-16.94	313	132	H
2	* 2.38943	53.49	Pk	31.7	-25.5	59.69	-	-	74	-14.31	313	132	H
3	* 2.39	37.42	RMS	31.7	-25.5	43.62	54	-10.38	-	-	313	132	H
4	* 2.38983	38.01	RMS	31.7	-25.5	44.21	54	-9.79	-	-	313	132	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

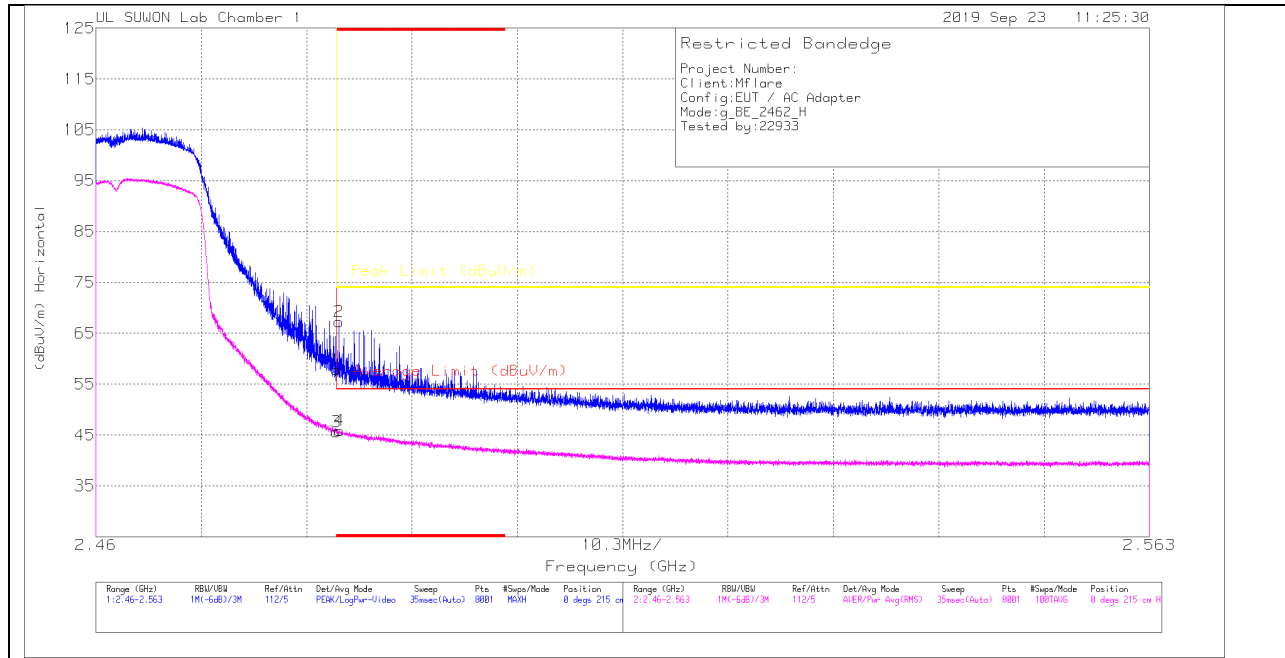
**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	10dB[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	47.86	Pk	31.7	-25.5	54.06	-	-	74	-19.94	296	151	V
2	* 2.38943	52.14	Pk	31.7	-25.5	58.34	-	-	74	-15.66	296	151	V
3	* 2.39	37.06	RMS	31.7	-25.5	43.26	54	-10.74	-	-	296	151	V
4	* 2.38998	37.34	RMS	31.7	-25.5	43.54	54	-10.46	-	-	296	151	V

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

## AUTHORIZED BANDEDGE (11 CHANNEL)

### HORIZONTAL PEAK AND AVERAGE PLOT



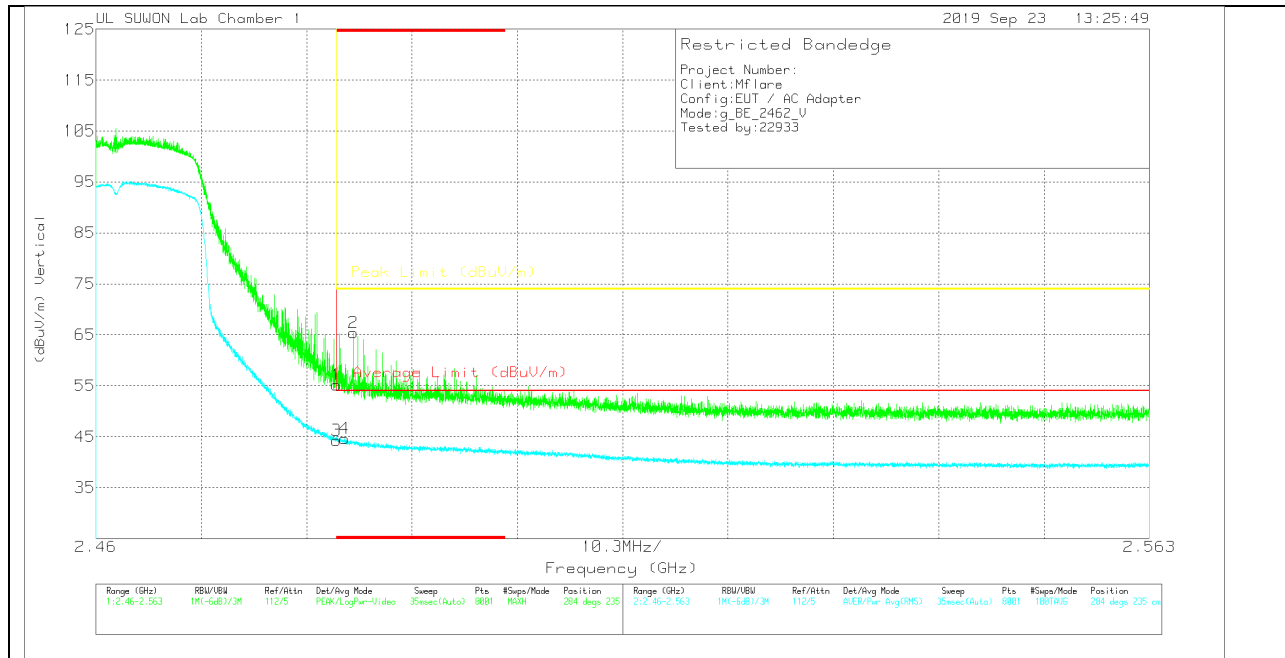
### HORIZONTAL DATA

#### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	10dB[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	51.31	Pk	31.9	-25.3	57.91	-	-	74	-16.09	0	215	H
2	* 2.48377	60.63	Pk	31.9	-25.3	67.23	-	-	74	-6.77	0	215	H
3	* 2.48351	39.07	RMS	31.9	-25.3	45.67	54	-8.33	-	-	0	215	H
4	* 2.48381	39.32	RMS	31.9	-25.3	45.92	54	-8.08	-	-	0	215	H

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

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	10dB[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	48.58	Pk	31.9	-25.3	55.18	-	-	74	-18.82	284	235	V
2	* 2.48517	58.77	Pk	31.9	-25.3	65.37	-	-	74	-8.63	284	235	V
3	* 2.48351	37.65	RMS	31.9	-25.3	44.25	54	-9.75	-	-	284	235	V
4	* 2.48428	38.09	RMS	31.9	-25.3	44.69	54	-9.31	-	-	284	235	V

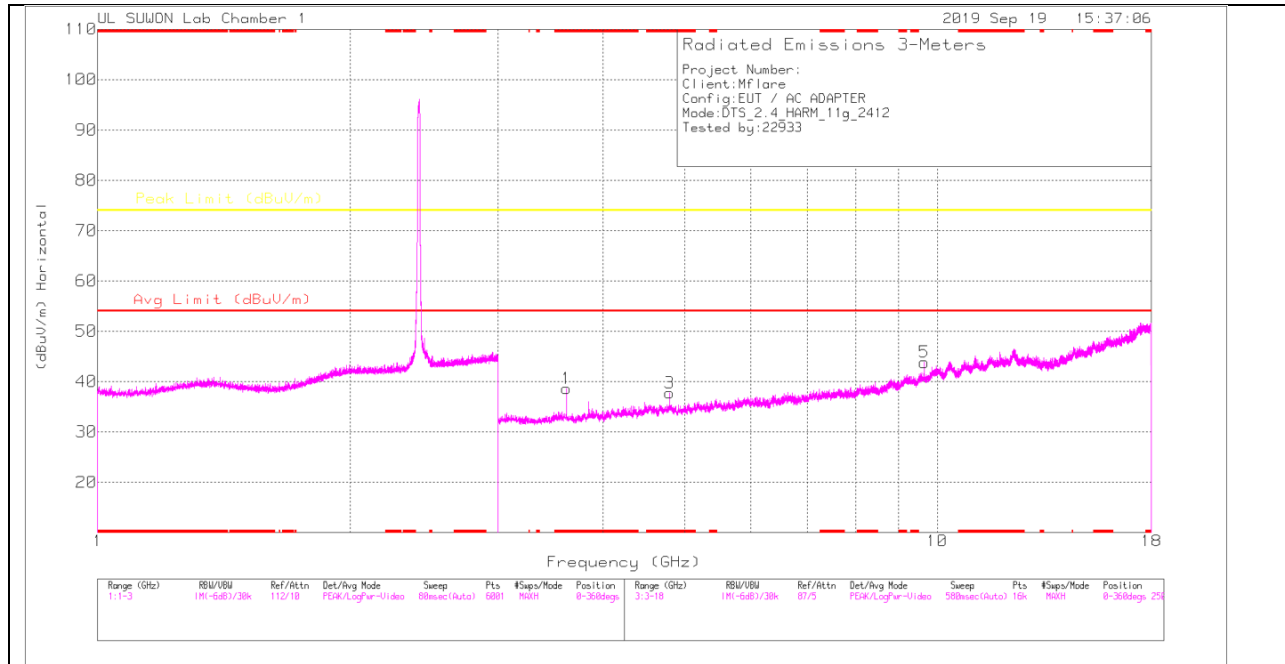
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

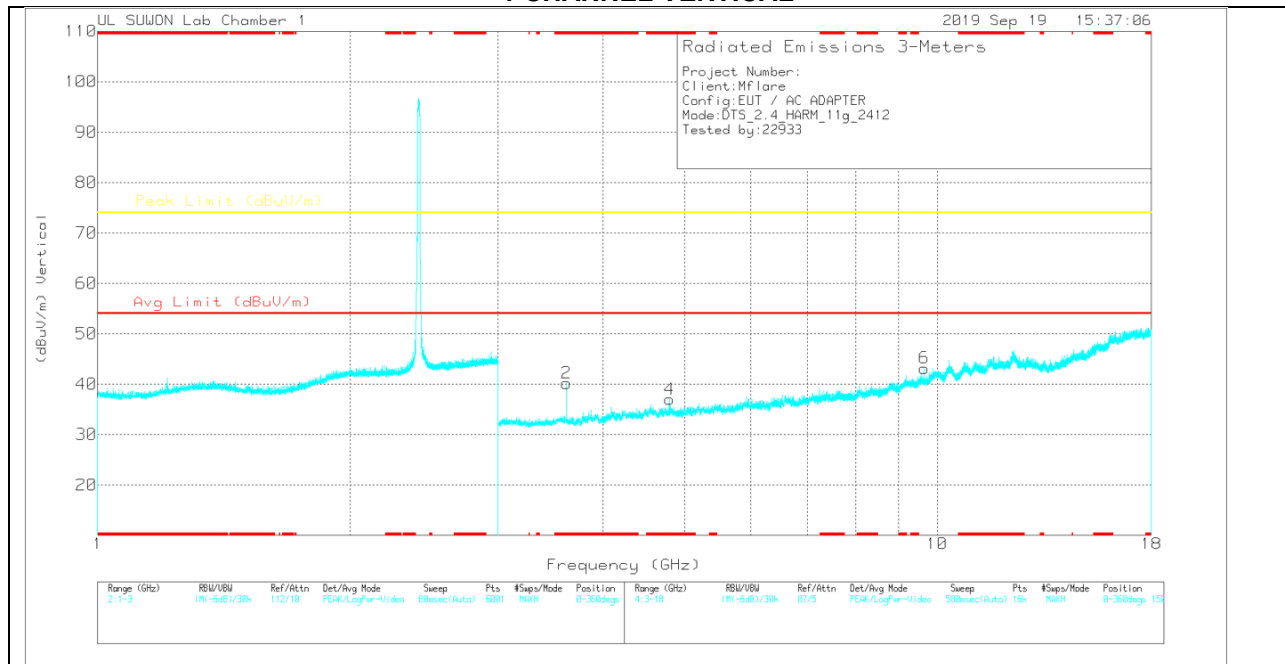
RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS

### 1 CHANNEL HORIZONTAL



### 1 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**1 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.61777	38.4	PK	33.1	-32.9	38.6	-	-	74	-35.4	0-360	150	H
3	* 4.80176	34.96	PK	34.2	-31.4	37.76	-	-	74	-36.24	0-360	150	H
5	9.64833	30.02	PK	37.1	-23.3	43.82	-	-	74	-30.18	0-360	250	H
2	* 3.61777	40	PK	33.1	-32.9	40.2	-	-	74	-33.8	0-360	250	V
4	* 4.80176	34.21	PK	34.2	-31.4	37.01	-	-	74	-36.99	0-360	250	V
6	9.64833	29.38	PK	37.1	-23.3	43.18	-	-	74	-30.82	0-360	250	V

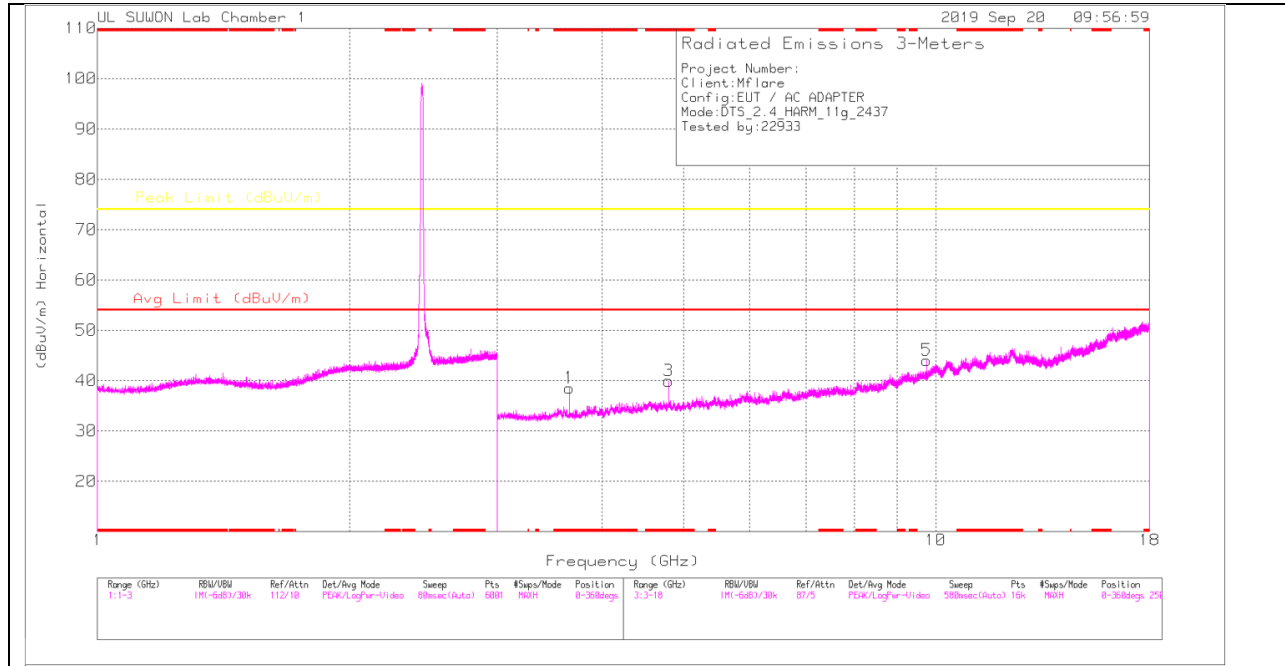
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

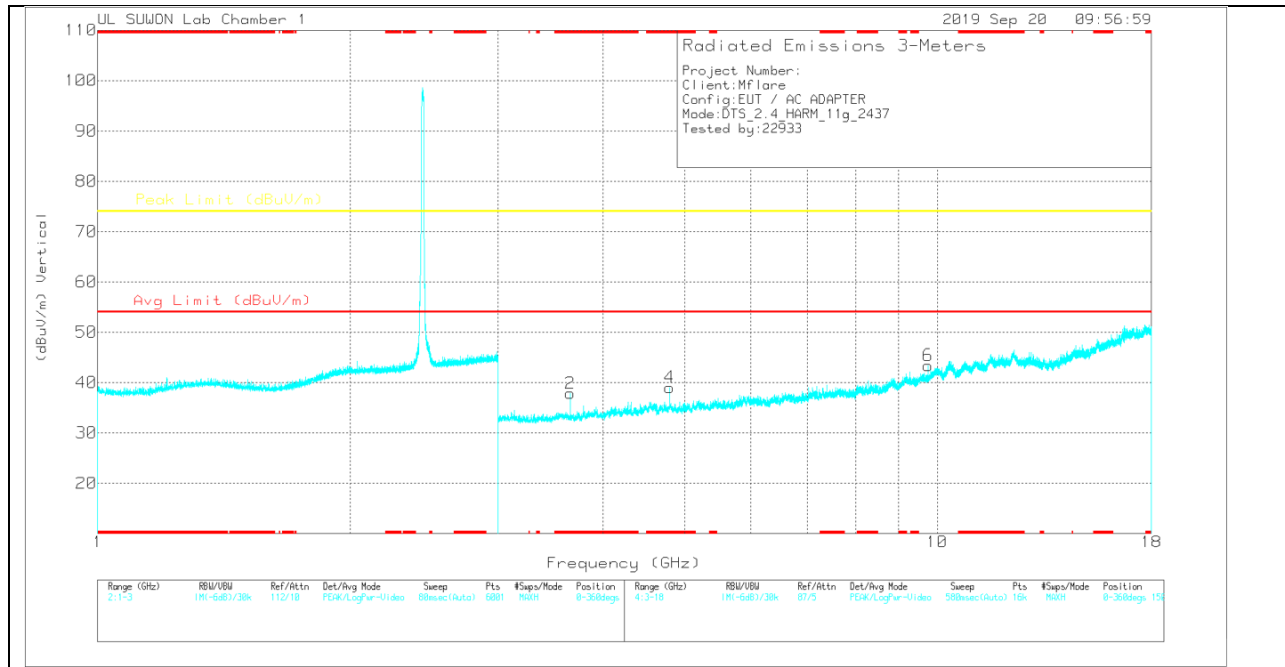
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.61799	45.98	PK2	33.1	-32.9	46.18	-	-	74	-27.82	94	292	H
* 3.61801	40.4	MAv1	33.1	-32.9	40.6	54	-13.4	-	-	94	292	H
* 3.61803	45.53	PK2	33.1	-32.9	45.73	-	-	74	-28.27	87	230	V
* 3.61799	39.38	MAv1	33.1	-32.9	39.58	54	-14.42	-	-	87	230	V
* 4.8019	43.27	PK2	34.2	-31.4	46.07	-	-	74	-27.93	68	108	H
* 4.8017	33.82	MAv1	34.2	-31.4	36.62	54	-17.38	-	-	68	108	H
* 4.8019	42.74	PK2	34.2	-31.4	45.54	-	-	74	-28.46	192	115	V
* 4.8018	32.81	MAv1	34.2	-31.4	35.61	54	-18.39	-	-	192	115	V
9.84769	36.68	PK2	37.4	-23.3	50.78	-	-	74	-23.22	169	100	H
9.84777	38.33	PK2	37.4	-23.3	52.43	-	-	74	-21.57	137	112	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

**6 CHANNEL HORIZONTAL**



**6 CHANNEL VERTICAL**



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



**6 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.65527	38.55	PK	33.1	-33.1	38.55	-	-	74	-35.45	0-360	150	H
3	* 4.80176	37.14	PK	34.2	-31.4	39.94	-	-	74	-34.06	0-360	250	H
5	9.7477	30.75	PK	37.2	-23.9	44.05	-	-	74	-29.95	0-360	250	H
2	* 3.65527	37.89	PK	33.1	-33.1	37.89	-	-	74	-36.11	0-360	250	V
4	* 4.80176	36.23	PK	34.2	-31.4	39.03	-	-	74	-34.97	0-360	250	V
6	9.7477	30.1	PK	37.2	-23.9	43.4	-	-	74	-30.6	0-360	250	V

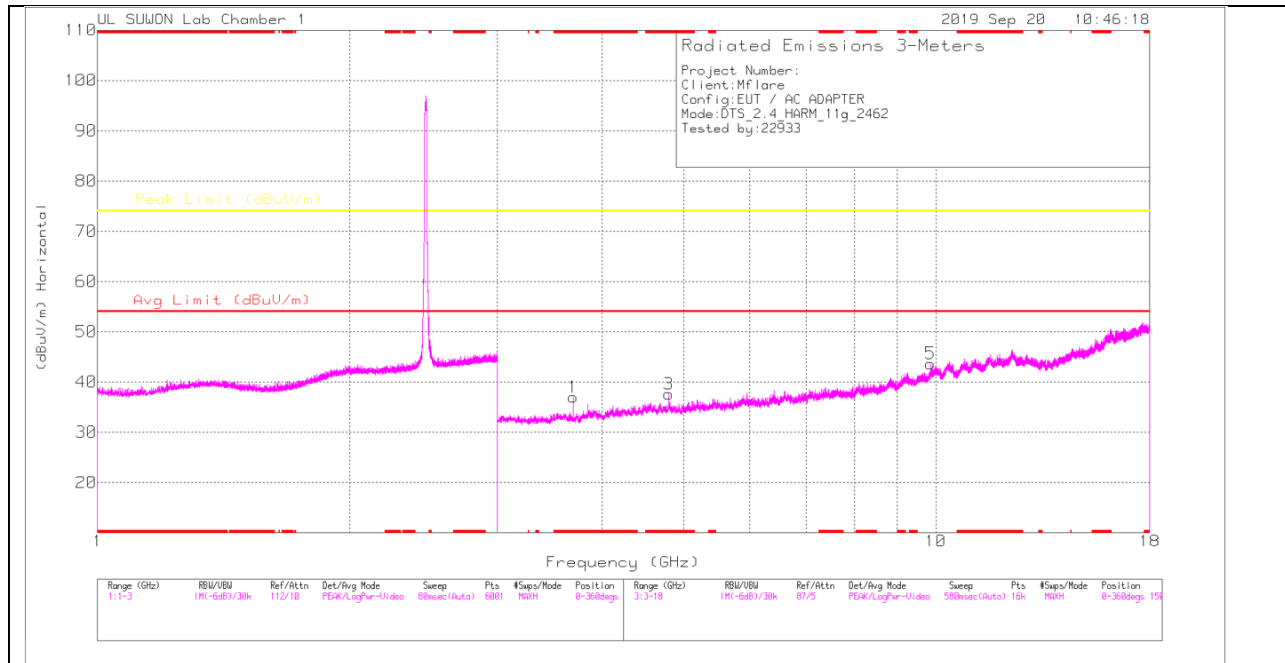
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

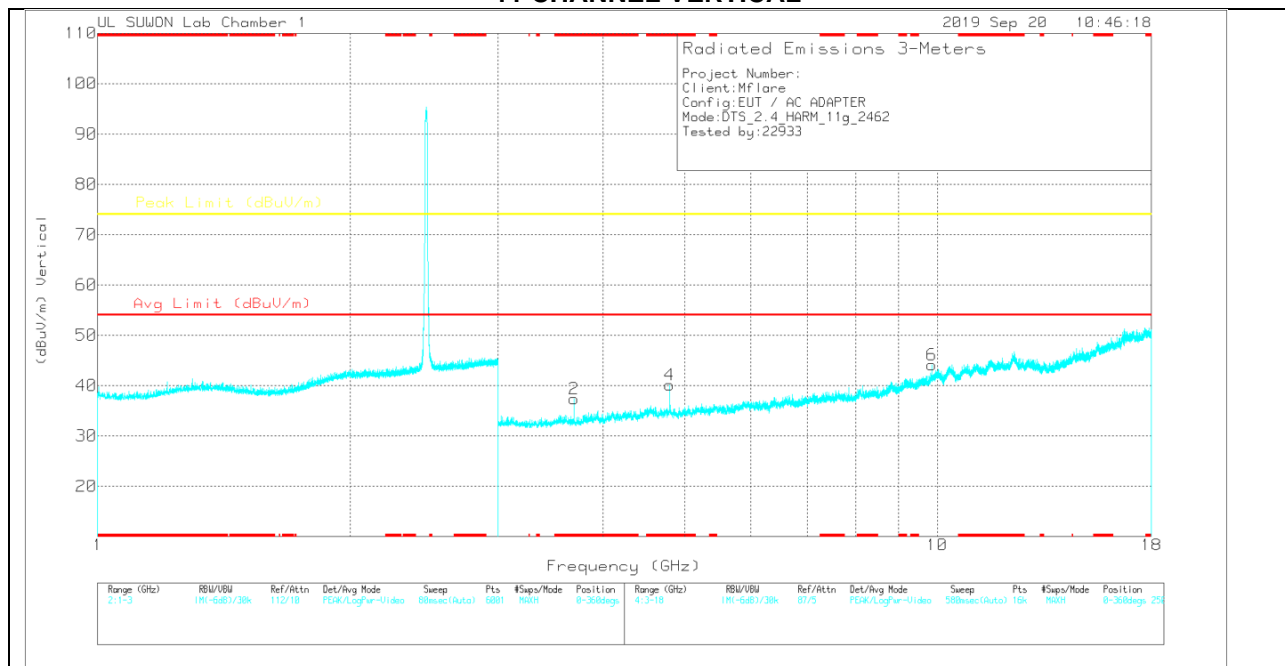
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.65549	45.45	PK2	33.1	-33.1	45.45	-	-	74	-28.55	88	235	H
* 3.65555	38.52	MAv1	33.1	-33.1	38.52	54	-15.48	-	-	88	235	H
* 3.65551	45.56	PK2	33.1	-33.1	45.56	-	-	74	-28.44	67	325	V
* 3.65549	39.73	MAv1	33.1	-33.1	39.73	54	-14.27	-	-	67	325	V
* 4.8018	44.75	PK2	34.2	-31.4	47.55	-	-	74	-26.45	68	100	H
* 4.80172	35.51	MAv1	34.2	-31.4	38.31	54	-15.69	-	-	68	100	H
* 4.80158	43.91	PK2	34.2	-31.4	46.71	-	-	74	-27.29	268	100	V
* 4.80176	33.99	MAv1	34.2	-31.4	36.79	54	-17.21	-	-	268	100	V
9.84769	36.68	PK2	37.4	-23.3	50.78	-	-	74	-23.22	169	100	H
9.84777	38.33	PK2	37.4	-23.3	52.43	-	-	74	-21.57	137	112	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

### 11 CHANNEL HORIZONTAL



### 11 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**10 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.69277	36.9	PK	33.1	-33	37	-	-	74	-37	0-360	250	H
3	* 4.80176	34.83	PK	34.2	-31.4	37.63	-	-	74	-36.37	0-360	150	H
5	9.84801	29.47	PK	37.4	-23.2	43.67	-	-	74	-30.33	0-360	250	H
2	* 3.69277	37.24	PK	33.1	-33	37.34	-	-	74	-36.66	0-360	250	V
4	* 4.80176	37.29	PK	34.2	-31.4	40.09	-	-	74	-33.91	0-360	250	V
6	9.84801	29.9	PK	37.4	-23.2	44.1	-	-	74	-29.9	0-360	250	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

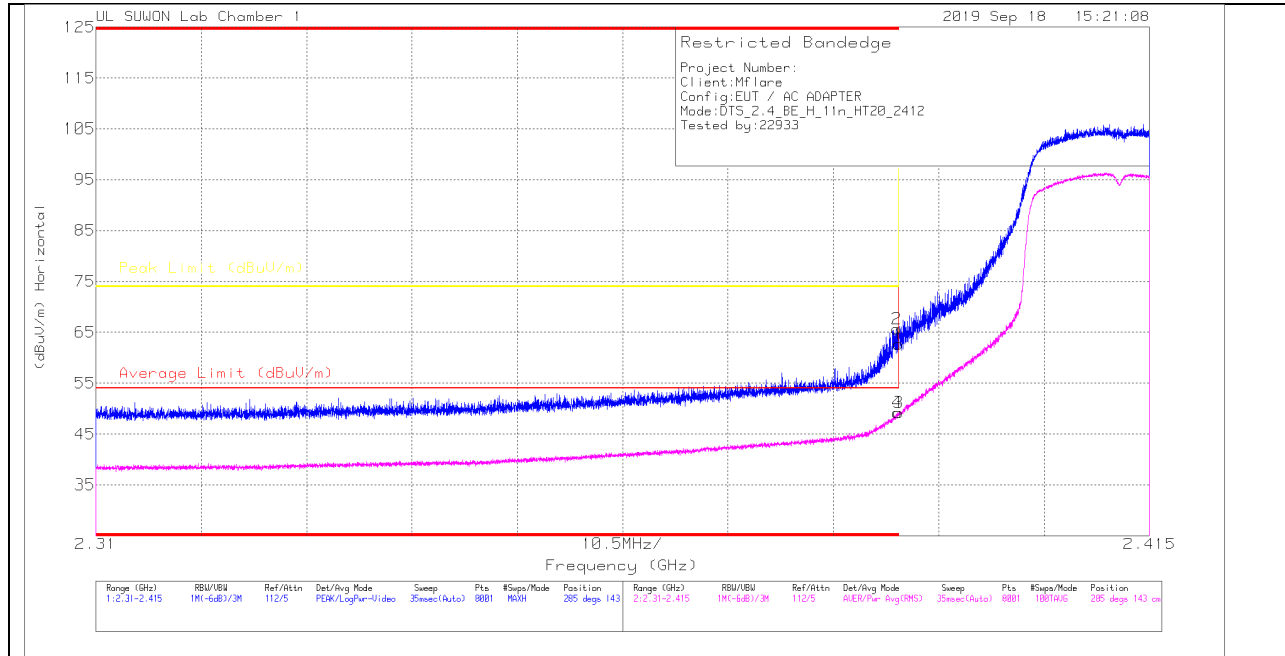
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.69299	44.3	PK2	33.1	-33.1	44.3	-	-	74	-29.7	95	103	H
* 3.69299	37.6	MAv1	33.1	-33.1	37.6	54	-16.4	-	-	95	103	H
* 3.69297	45.56	PK2	33.1	-33.1	45.56	-	-	74	-28.44	84	272	V
* 3.69299	38.11	MAv1	33.1	-33.1	38.11	54	-15.89	-	-	84	272	V
* 4.80176	43.43	PK2	34.2	-31.4	46.23	-	-	74	-27.77	196	258	H
* 4.80172	34.33	MAv1	34.2	-31.4	37.13	54	-16.87	-	-	196	258	H
* 4.80188	43.59	PK2	34.2	-31.4	46.39	-	-	74	-27.61	272	167	V
* 4.80168	33.26	MAv1	34.2	-31.4	36.06	54	-17.94	-	-	272	167	V
9.84769	36.68	PK2	37.4	-23.3	50.78	-	-	74	-23.22	169	100	H
9.84777	38.33	PK2	37.4	-23.3	52.43	-	-	74	-21.57	137	112	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

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

#### RESTRICTED BANDEDGE (1 CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



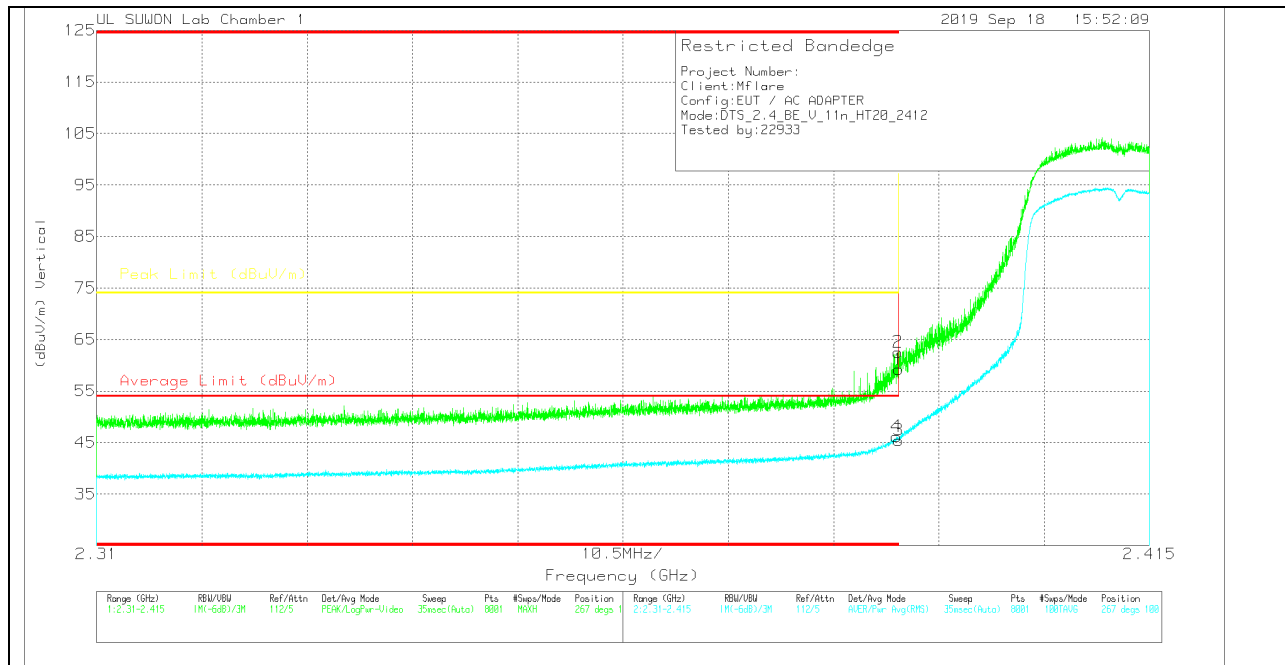
#### HORIZONTAL DATA

##### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB(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	58.44	Pk	31.7	-25.5	0	62.64	-	-	74	-11.36	285	143	H
2	* 2.38983	59.5	Pk	31.7	-25.5	0	65.7	-	-	74	-8.3	285	143	H
3	* 2.39	43.05	RMS	31.7	-25.5	0	49.25	54	-4.75	-	-	285	143	H
4	* 2.38989	43.07	RMS	31.7	-25.5	0	49.27	54	-4.73	-	-	285	143	H

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

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

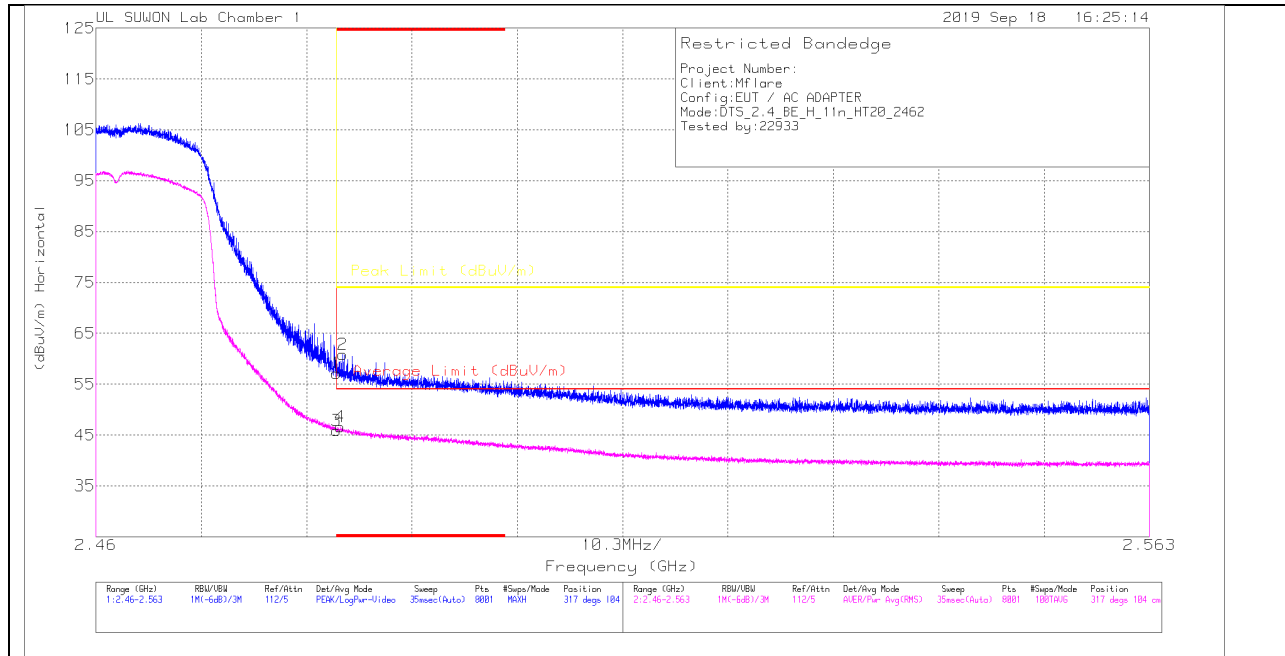
**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB[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	52.99	Pk	31.7	-25.5	0	59.19	-	-	74	-14.81	267	100	V
2	* 2.38989	56.36	Pk	31.7	-25.5	0	62.56	-	-	74	-11.44	267	100	V
3	* 2.39	39.26	RMS	31.7	-25.5	0	45.46	54	-8.54	-	-	267	100	V
4	* 2.38976	39.97	RMS	31.7	-25.5	0	46.17	54	-7.83	-	-	267	100	V

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

### AUTHORIZED BANDEDGE (11 CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



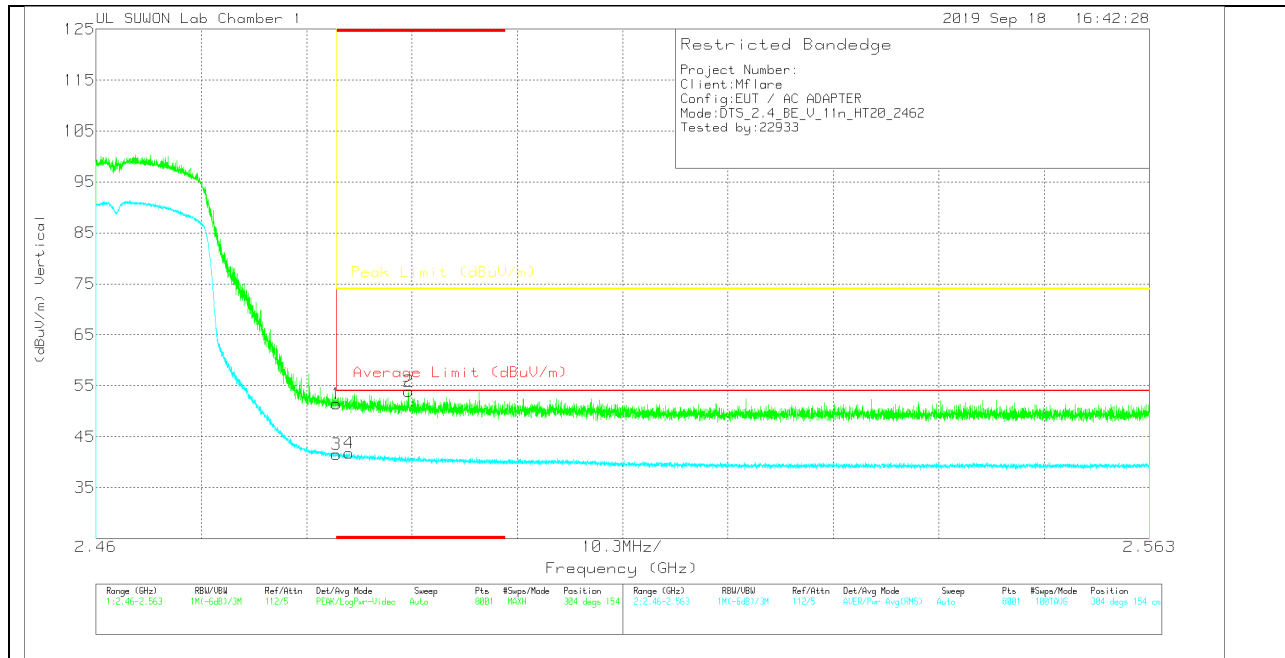
#### HORIZONTAL DATA

##### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB[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	* 2.48351	50.58	Pk	31.9	-25.3	0	57.18	-	-	74	-16.82	317	104	H
2	* 2.48412	54.26	Pk	31.9	-25.3	0	60.86	-	-	74	-13.14	317	104	H
3	* 2.48351	39.31	RMS	31.9	-25.3	0	45.91	54	-8.09	-	-	317	104	H
4	* 2.48387	40.04	RMS	31.9	-25.3	0	46.64	54	-7.36	-	-	317	104	H

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

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

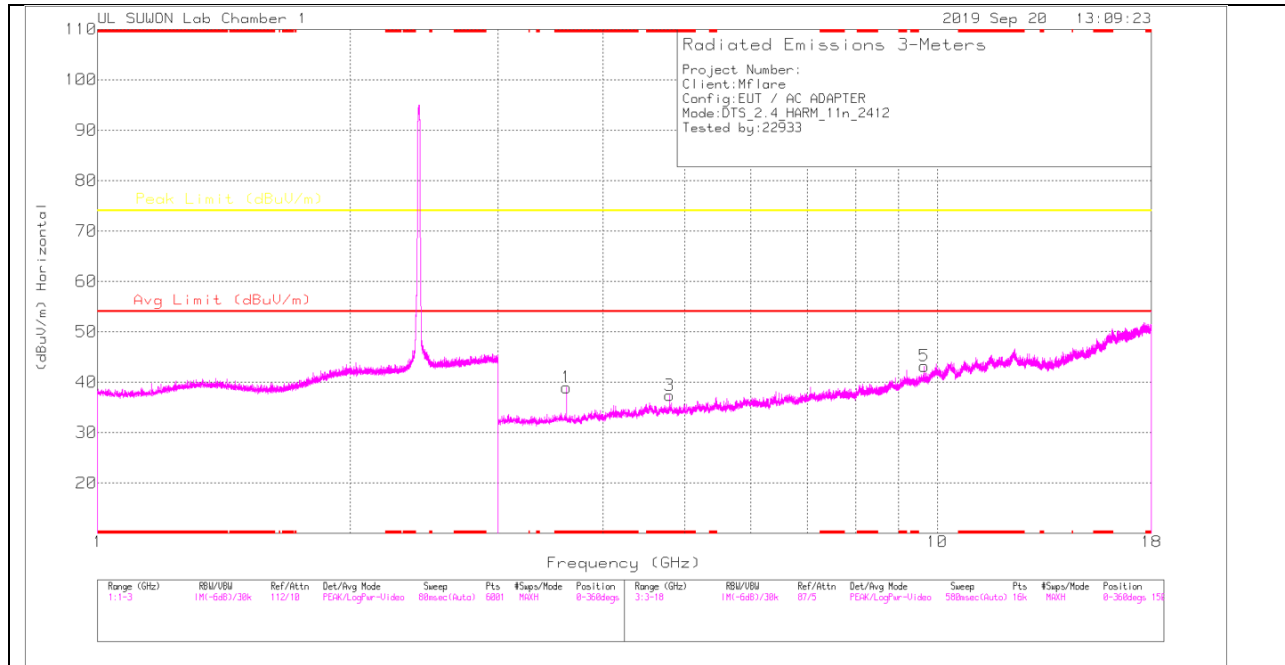
**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	10dB[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	44.8	Pk	31.9	-25.3	51.4	-	-	74	-22.6	304	154	V
2	* 2.49055	47.31	Pk	31.9	-25.3	53.91	-	-	74	-20.09	304	154	V
3	* 2.48351	34.95	RMS	31.9	-25.3	41.55	54	-12.45	-	-	304	154	V
4	* 2.48472	35.21	RMS	31.9	-25.3	41.81	54	-12.19	-	-	304	154	V

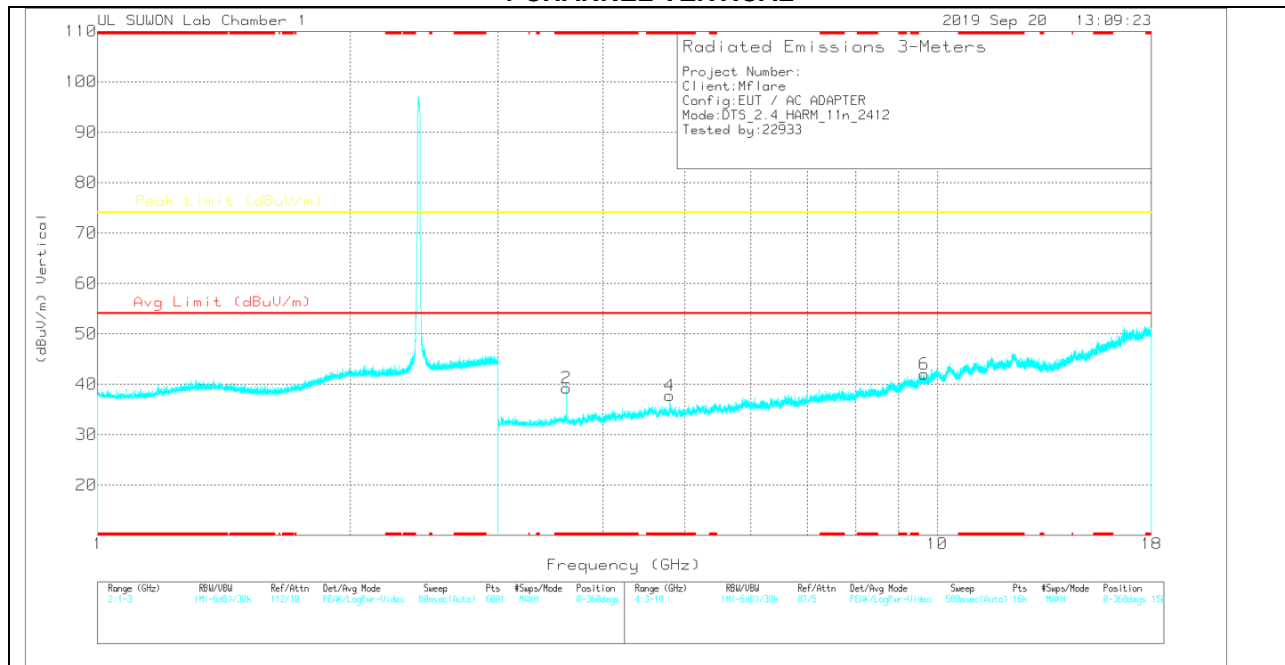
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### HARMONICS AND SPURIOUS EMISSIONS

#### 1 CHANNEL HORIZONTAL



#### 1 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



**2 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.61777	38.75	PK	33.1	-32.9	38.95	-	-	74	-35.05	0-360	150	H
3	* 4.80176	34.58	PK	34.2	-31.4	37.38	-	-	74	-36.62	0-360	150	H
5	9.64739	29.39	PK	37.1	-23.3	43.19	-	-	74	-30.81	0-360	250	H
2	* 3.61777	39.02	PK	33.1	-32.9	39.22	-	-	74	-34.78	0-360	250	V
4	* 4.80176	34.97	PK	34.2	-31.4	37.77	-	-	74	-36.23	0-360	250	V
6	9.64833	28.16	PK	37.1	-23.3	41.96	-	-	74	-32.04	0-360	250	V

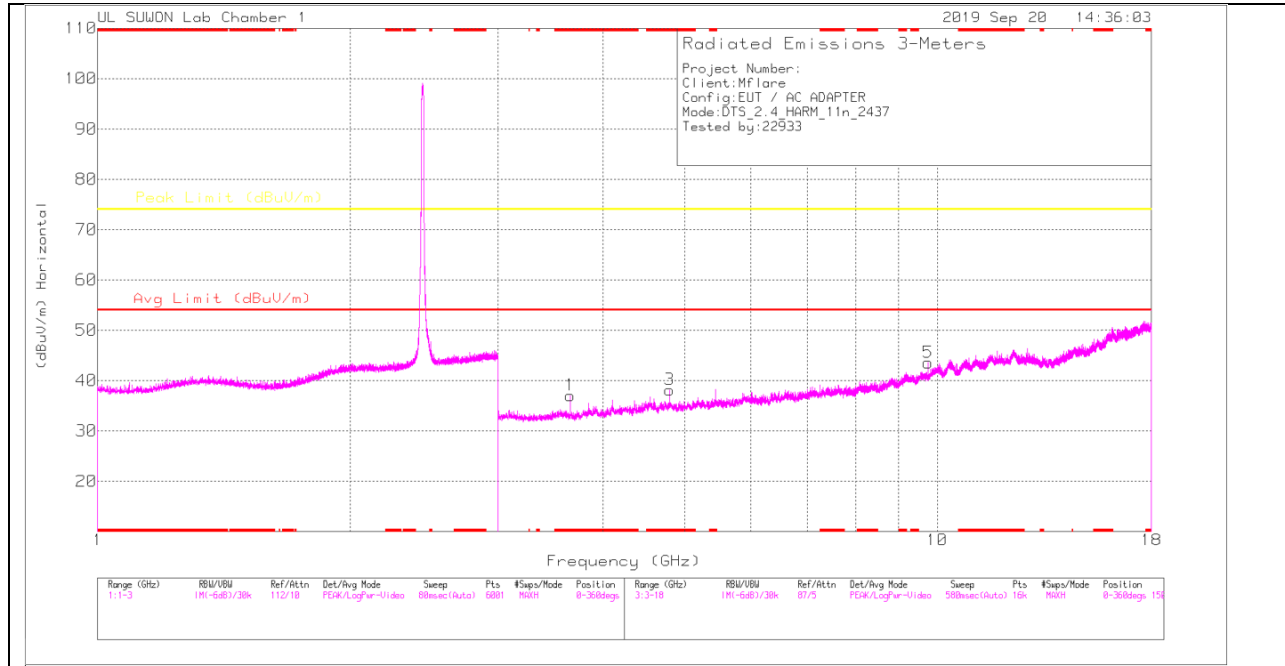
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

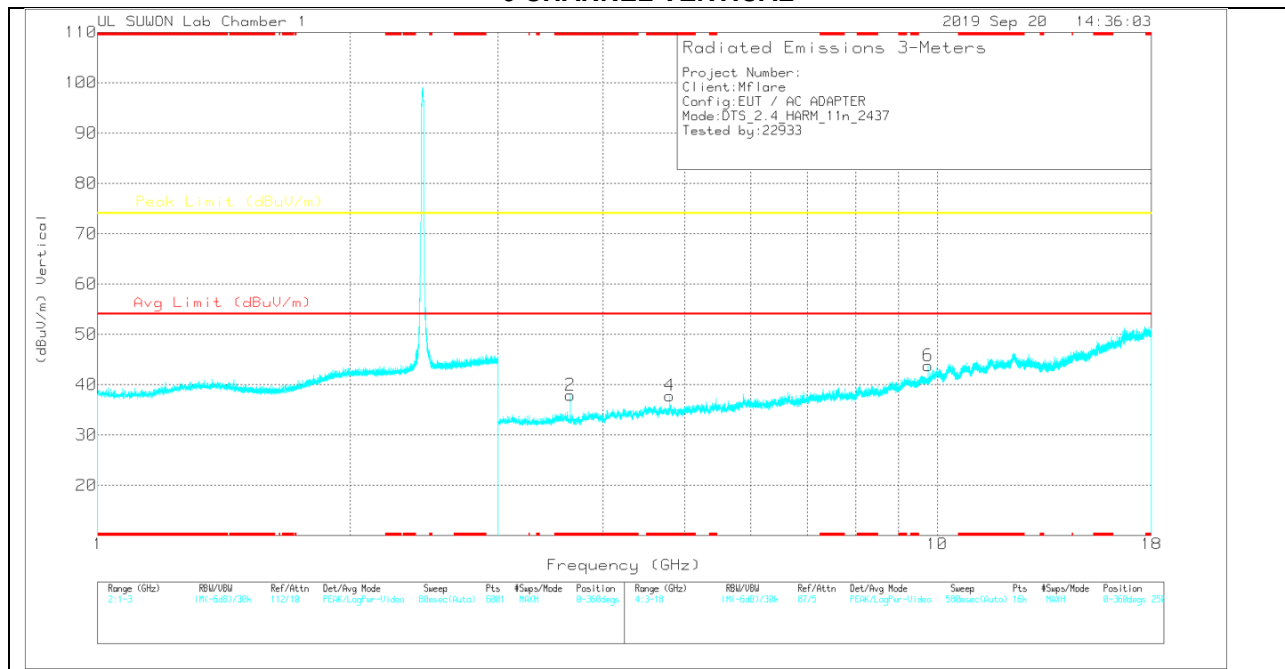
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.61789	45.79	PK2	33.1	-32.9	45.99	-	-	74	-28.01	92	207	H
* 3.61799	40.39	MAV1	33.1	-32.9	40.59	54	-13.41	-	-	92	207	H
* 3.61805	45.54	PK2	33.1	-32.9	45.74	-	-	74	-28.26	94	229	V
* 3.61799	39.76	MAV1	33.1	-32.9	39.96	54	-14.04	-	-	94	229	V
* 4.8017	43.44	PK2	34.2	-31.4	46.24	-	-	74	-27.76	64	120	H
* 4.80188	34.16	MAV1	34.2	-31.4	36.96	54	-17.04	-	-	64	120	H
* 4.80178	42.77	PK2	34.2	-31.4	45.57	-	-	74	-28.43	269	143	V
* 4.80172	33.47	MAV1	34.2	-31.4	36.27	54	-17.73	-	-	269	143	V
9.84769	36.68	PK2	37.4	-23.3	50.78	-	-	74	-23.22	169	100	H
9.84777	38.33	PK2	37.4	-23.3	52.43	-	-	74	-21.57	137	112	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAV1 - KDB558074 Option 1 Maximum RMS Average

### 6 CHANNEL HORIZONTAL



### 6 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**6 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.65527	37.06	PK	33.1	-33.1	37.06	-	-	74	-36.94	0-360	150	H
3	* 4.80082	35.39	PK	34.2	-31.4	38.19	-	-	74	-35.81	0-360	250	H
5	9.7477	30.27	PK	37.2	-23.9	43.57	-	-	74	-30.43	0-360	250	H
2	* 3.65527	37.92	PK	33.1	-33.1	37.92	-	-	74	-36.08	0-360	250	V
4	* 4.80082	35.01	PK	34.2	-31.4	37.81	-	-	74	-36.19	0-360	250	V
6	9.7477	30.5	PK	37.2	-23.9	43.8	-	-	74	-30.2	0-360	250	V

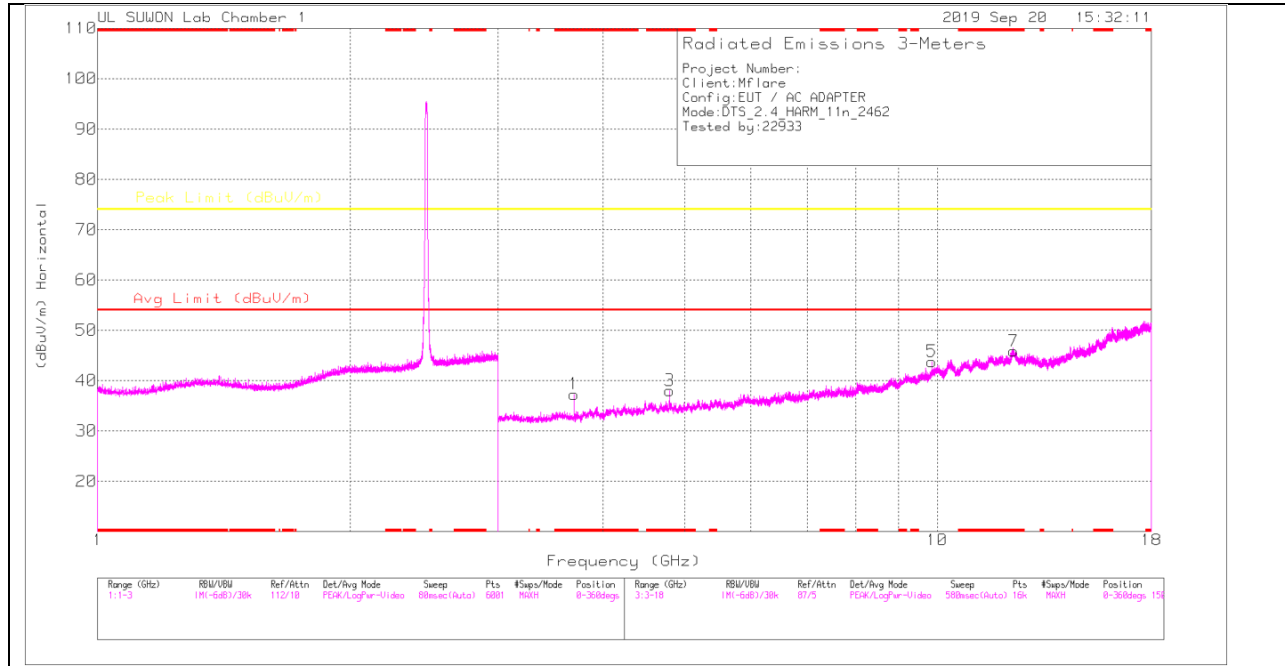
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

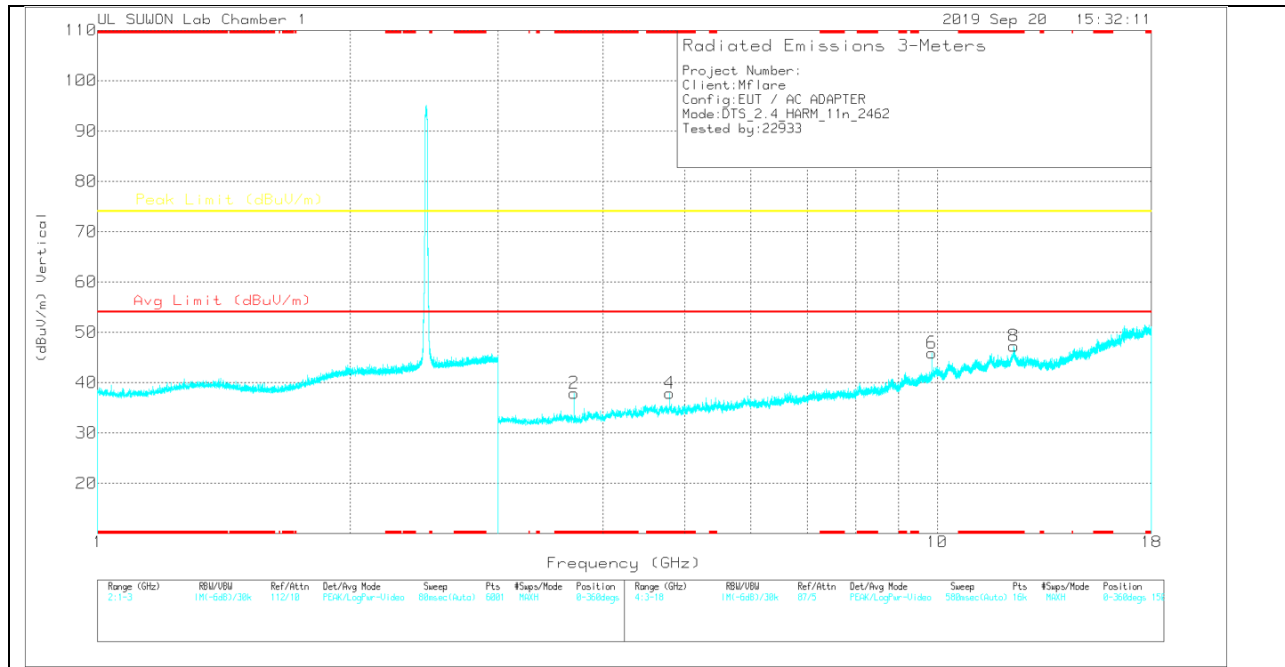
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.65541	44.37	PK2	33.1	-33.1	44.37	-	-	74	-29.63	331	119	H
* 3.65547	37	MAv1	33.1	-33.1	37	54	-17	-	-	331	119	H
* 3.65541	45.87	PK2	33.1	-33.1	45.87	-	-	74	-28.13	69	307	V
* 3.65547	40.33	MAv1	33.1	-33.1	40.33	54	-13.67	-	-	69	307	V
* 4.8016	43.33	PK2	34.2	-31.4	46.13	-	-	74	-27.87	51	140	H
* 4.8017	33.29	MAv1	34.2	-31.4	36.09	54	-17.91	-	-	51	140	H
* 4.80148	44.41	PK2	34.2	-31.4	47.21	-	-	74	-26.79	266	100	V
* 4.80186	34.75	MAv1	34.2	-31.4	37.55	54	-16.45	-	-	266	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

### 11 CHANNEL HORIZONTAL



### 11 CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**11 CHANNEL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016871 7	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.69277	37.21	PK	33.1	-33	37.31	-	-	74	-36.69	0-360	250	H
3	* 4.80176	35.23	PK	34.2	-31.4	38.03	-	-	74	-35.97	0-360	150	H
5	9.84801	29.6	PK	37.4	-23.2	43.8	-	-	74	-30.2	0-360	250	H
7	* 12.33691	27.55	PK	38.9	-20.6	45.85	-	-	74	-28.15	0-360	150	H
2	* 3.69277	37.82	PK	33.1	-33	37.92	-	-	74	-36.08	0-360	250	V
4	* 4.80176	35.12	PK	34.2	-31.4	37.92	-	-	74	-36.08	0-360	250	V
6	9.84801	31.7	PK	37.4	-23.2	45.9	-	-	74	-28.1	0-360	250	V
8	* 12.33973	28.98	PK	38.9	-20.6	47.28	-	-	74	-26.72	0-360	250	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

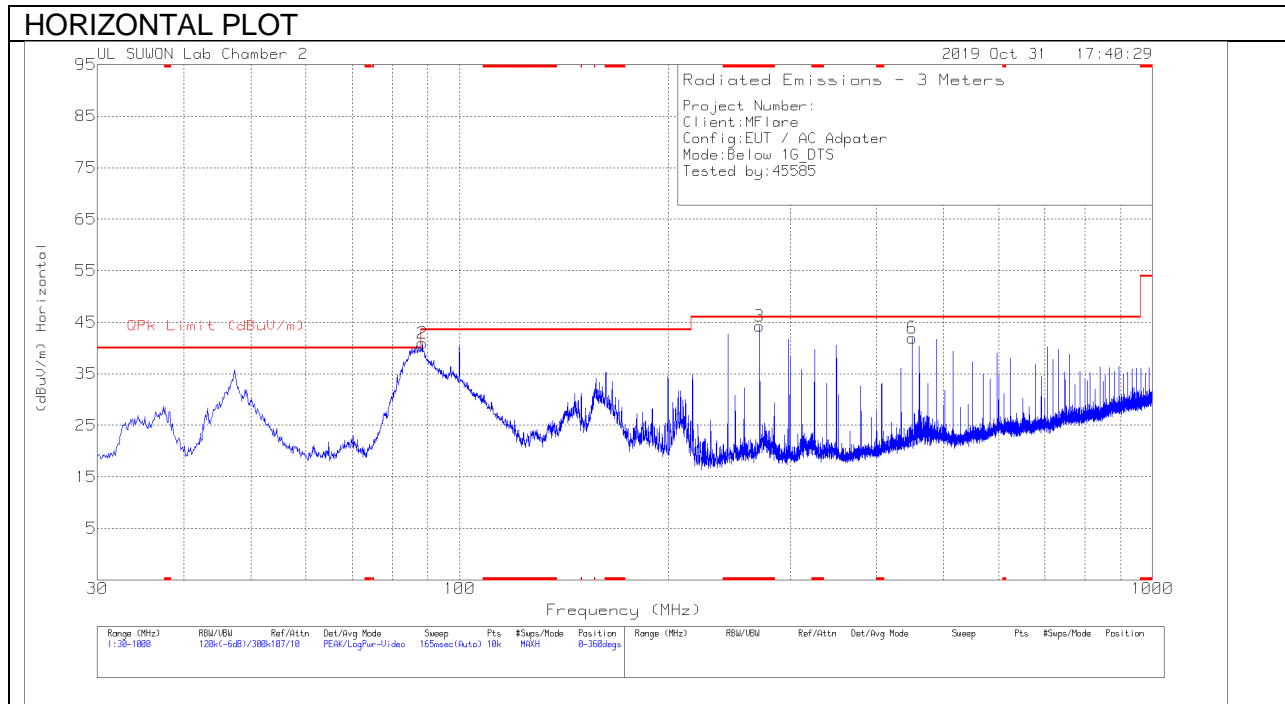
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_001687 17	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.69293	45.42	PK2	33.1	-33.1	45.42	-	-	74	-28.58	93	105	H
* 3.69301	38.49	MAv1	33.1	-33.1	38.49	54	-15.51	-	-	93	105	H
* 3.69291	44.78	PK2	33.1	-33	44.88	-	-	74	-29.12	86	244	V
* 3.69303	37.09	MAv1	33.1	-33.1	37.09	54	-16.91	-	-	86	244	V
* 4.80184	44.4	PK2	34.2	-31.4	47.2	-	-	74	-26.8	65	112	H
* 4.80178	35.31	MAv1	34.2	-31.4	38.11	54	-15.89	-	-	65	112	H
* 4.80172	43.41	PK2	34.2	-31.4	46.21	-	-	74	-27.79	262	166	V
* 4.80182	32.92	MAv1	34.2	-31.4	35.72	54	-18.28	-	-	262	166	V
9.84769	36.68	PK2	37.4	-23.3	50.78	-	-	74	-23.22	169	100	H
9.84777	38.33	PK2	37.4	-23.3	52.43	-	-	74	-21.57	137	112	V

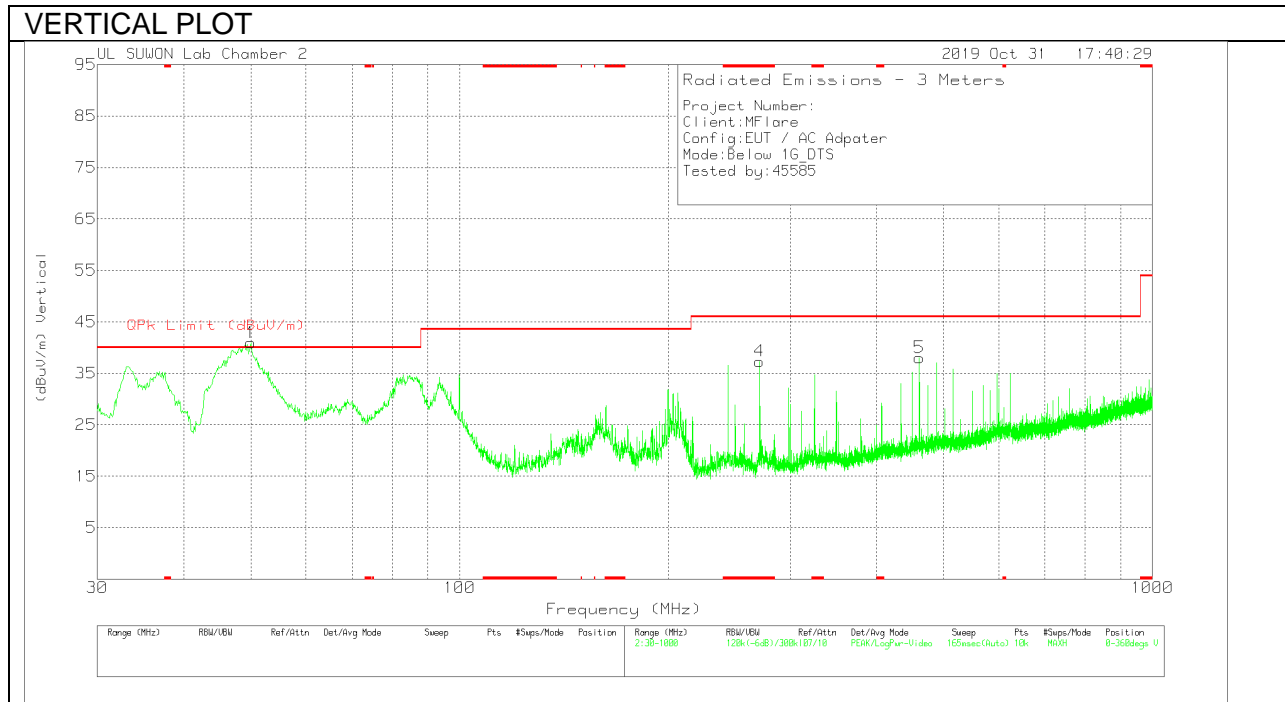
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

### 11.3. WORST-CASE BELOW 1 GHz

#### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



#### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



**Below 1G Data**

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	88.394	57.22	Pk	15	-31.3	40.92	43.52	-2.6	0-360	300	H
3	* 271.142	56.12	Pk	18.6	-30.5	44.22	46.02	-1.8	0-360	100	H
6	450.01	49.64	Pk	22.2	-29.9	41.94	46.02	-4.08	0-360	200	H
1	49.982	53.05	Pk	19.7	-31.8	40.95	40	.95	0-360	200	V
4	* 271.142	49.24	Pk	18.6	-30.5	37.34	46.02	-8.68	0-360	200	V
5	461.068	45.63	Pk	22.2	-29.8	38.03	46.02	-7.99	0-360	100	V

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

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
86.6875	55.93	Qp	14.2	-31.5	38.63	40	-1.37	167	212	H
* 271.1915	55.82	Qp	18.6	-30.4	44.02	46.02	-2	202	117	H
50.0048	51.46	Qp	19.7	-31.8	39.36	40	-.64	18	102	V

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

Qp - Quasi-Peak detector

## 12. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)  
IC RSS-GEN Clause 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.

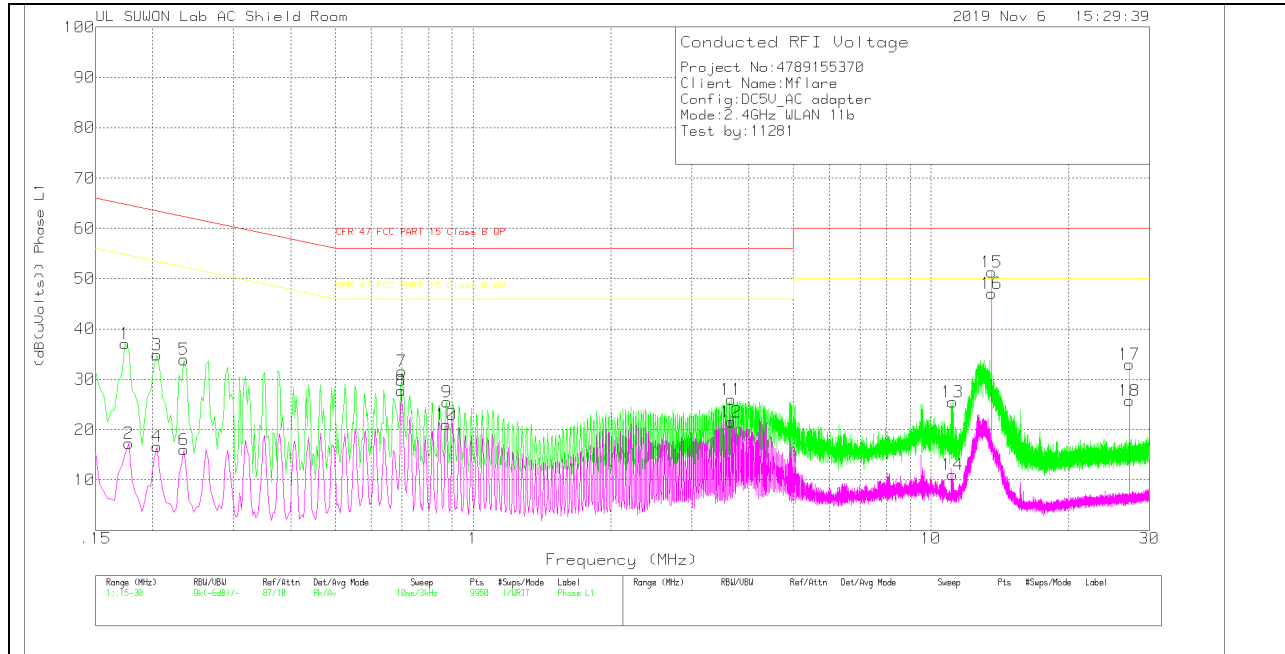
Line conducted data is recorded for both NEUTRAL and HOT lines.



**RESULTS**

**WORST EMISSIONS**

**LINE 1 PLOT**



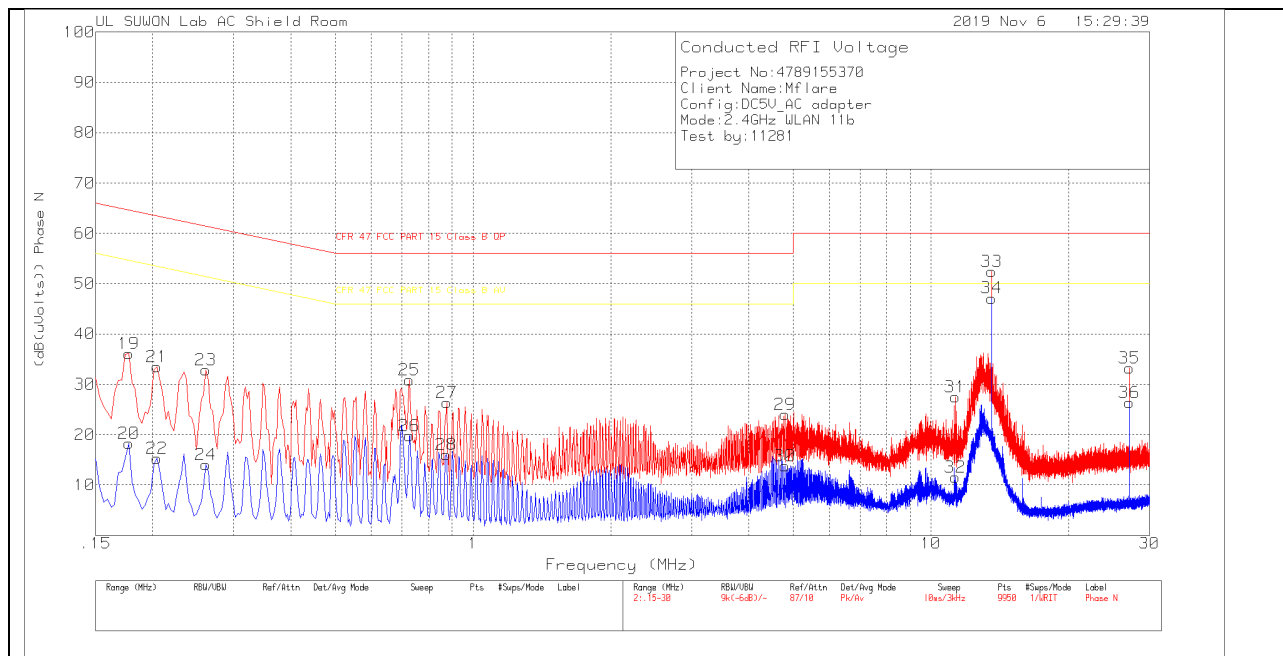
**LINE 1 RESULTS**

**Trace Markers**

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h Ex_L1[dB]	CABLELOS S(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.174	26.78	Pk	10.1	.2	37.08	64.77	-27.69	-	-
2	.177	7.13	Av	10	.2	17.33	-	-	54.63	-37.3
3	.204	24.79	Pk	9.9	.2	34.89	63.45	-28.56	-	-
4	.204	6.5	Av	9.9	.2	16.6	-	-	53.45	-36.85
5	.234	23.92	Pk	9.8	.2	33.92	62.31	-28.39	-	-
6	.234	6.08	Av	9.8	.2	16.08	-	-	52.31	-36.23
7	.699	21.48	Pk	9.9	.2	31.58	56	-24.42	-	-
8	.696	17.62	Av	9.9	.2	27.72	-	-	46	-18.28
9	.876	15.45	Pk	9.8	.3	25.55	56	-30.45	-	-
10	.873	10.92	Av	9.8	.3	21.02	-	-	46	-24.98
11	3.666	15.93	Pk	9.8	.3	26.03	56	-29.97	-	-
12	3.666	11.43	Av	9.8	.3	21.53	-	-	46	-24.47
13	11.145	15.2	Pk	10	.3	25.5	60	-34.5	-	-
14	11.145	.76	Av	10	.3	11.06	-	-	50	-38.94
15	13.56	40.81	Pk	10.1	.4	51.31	60	-8.69	-	-
16	13.56	36.51	Av	10.1	.4	47.01	-	-	50	-2.99
17	27.12	22.1	Pk	10.6	.3	33	60	-27	-	-
18	27.12	14.91	Av	10.6	.3	25.81	-	-	50	-24.19

### LINE 2 PLOT



### LINE 2 RESULTS

#### Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_N[dB]	CABLELOS S(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
19	.177	25.93	Pk	10	.2	36.13	64.63	-28.5	-	-
20	.177	8.13	Av	10	.2	18.33	-	-	54.63	-36.3
21	.204	23.39	Pk	9.9	.2	33.49	63.45	-29.96	-	-
22	.204	5.2	Av	9.9	.2	15.3	-	-	53.45	-38.15
23	.261	22.99	Pk	9.7	.2	32.89	61.4	-28.51	-	-
24	.261	4.19	Av	9.7	.2	14.09	-	-	51.4	-37.31
25	.726	20.75	Pk	9.9	.2	30.85	56	-25.15	-	-
26	.726	9.71	Av	9.9	.2	19.81	-	-	46	-26.19
27	.876	16.29	Pk	9.8	.3	26.39	56	-29.61	-	-
28	.873	5.98	Av	9.8	.3	16.08	-	-	46	-29.92
29	4.797	13.95	Pk	9.8	.3	24.05	56	-31.95	-	-
30	4.797	3.66	Av	9.8	.3	13.76	-	-	46	-32.24
31	11.31	17.2	Pk	10	.3	27.5	60	-32.5	-	-
32	11.31	1.22	Av	10	.3	11.52	-	-	50	-38.48
33	13.56	41.95	Pk	10.1	.4	52.45	60	-7.55	-	-
34	13.56	36.63	Av	10.1	.4	47.13	-	-	50	-2.87
35	27.12	22.2	Pk	10.7	.3	33.2	60	-26.8	-	-
36	27.12	15.43	Av	10.7	.3	26.43	-	-	50	-23.57

PK - Peak detector  
 Av - Average detection