

# FCC Radio Test Report

## FCC ID: Q87-RE4100W

This report concerns (check one): ☒ Original Grant ☐ Class II Change

**Project No.** : 1411127  
**Equipment** : Wi-Fi repeater  
**Model Name** : RE4100W  
**Applicant** : Linksys LLC.  
**Address** : 121 Theory Drive, Irvine, California, 92617, United States of America

**Date of Receipt** : Nov. 17, 2014  
**Date of Test** : Nov. 17, 2014 ~ Dec. 06, 2014  
**Issued Date** : Dec. 08, 2014  
**Tested by** : BTL Inc.

**Testing Engineer** : David Mao  
(David Mao)  
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(Leo Hung)  
**Authorized Signatory** : Steven Lu  
(Steven Lu)

# **B T L I N C .**

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### **Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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### **Limitation**

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### REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-2-1411127	Original Issue.	Dec. 08, 2014

## 1. CERTIFICATION

Equipment : Wi-Fi repeater  
Brand Name : Linksys  
Model Name : RE4100W  
Applicant : Linksys LLC.  
Manufacturer : U-MEDIA Communications, Inc.  
Address : 3F, No.1, Jin-Shan 8th St., Hsinchu 300, Taiwan, ROC  
Factory : U-MEDIA Communications, Inc.  
Address : NO.90, Kuang Fu Nth.Rd., Hsinchu Industrial Park, Hu Kou, Hsinchu 303, Taiwan, R.O.C.  
Date of Test : Nov. 17, 2014 ~ Dec. 06, 2014  
Test Sample : ENGINEERING SAMPLE  
Standard(s) : FCC Part15, Subpart E(15.407) / ANSI C63.4: 2009  
FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-2-1411127) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart E			
Standard(s) Section	Test Item	Judgment	Under Limit
FCC			
15.207	AC Power Line Conducted Emissions	PASS	Limit Minimum passing margin is -4.66 dB at 0.5717 MHz
15.407(a)	Radiated Emissions	PASS	Limit Minimum passing margin is -3.15 dB at 10359.30 MHz
15.407(b)	Band Edge Emissions	PASS	Limit Minimum passing margin is -1.04 dB at 5725.00 MHz
15.407(a)	26dB Spectrum Bandwidth	PASS	-
15.407(a)	Maximum Conducted Output Power	PASS	Limit Minimum passing margin is -8.74 dB at 5240 MHz
15.203	Antenna Requirements	PASS	-
15.407(a)	Power Spectral Density	PASS	-
15.407(g)	Frequency Stability	PASS	-

### NOTE:

- (1) "N/A" denotes test is not applicable to this device.
- (2) FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.



## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China. 523792  
BTL's test firm number for FCC: 319330

## 2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

### A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
DG-C02	CISPR	150 KHz ~ 30MHz	1.94	

### B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)	NOTE
DG-CB03	CISPR	9KHz~30MHz	V	3.79	
		9KHz~30MHz	H	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
		1GHz~18GHz	V	3.12	
		1GHz~18GHz	H	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	H	4.14	

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wi-Fi repeater	
Brand Name	Linksys	
Model Name	RE4100W	
Mode Different	N/A	
Product Description	Operation Frequency	UNII-1: 5150-5250MHz UNII-3: 5725-5850MHz
	Modulation Type	OFDM
	Bit Rate of Transmitter	up to 300Mbps
	Output Power (Max.)for UNII-1	802.11a: 18.22dBm 802.11n (20M): 21.26dBm 802.11n (40M): 20.54dBm
	Output Power (Max.)for UNII-3	802.11a: 20.25dBm 802.11n (20M): 21.23dBm 802.11n (40M): 21.14dBm
Power Source	AC mains. Power board: 1) Brand / Model: HON-KWANG / HKSC-141145 2) Brand / Model: KUANTECH / KS045858	
Power Rating	I/P: AC 100-240V 50/60Hz O/P: DC 5V 2.0A	

**Note:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

## 2. Channel List:

802.11a 802.11n 20MHz		802.11n 40MHz	
UNII-1		UNII-1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220		
48	5240		

802.11a 802.11n 20MHz		802.11n 40MHz	
UNII-3		UNII-3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755
153	5765	159	5795
157	5785		
161	5805		
165	5825		

## 3. Antenna Specification:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	Internal	N/A	2.00	TX/RX
2	N/A	N/A	Internal	N/A	2.00	TX/RX

Note: The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R)..

Operating Mode		1TX	2TX
TX Mode			
802.11a		V (ANT 1)	-
802.11n (20MHz)		-	V (ANT 1 + ANT 2)
802.11n (40MHz)		-	V (ANT 1 + ANT 2)

Note: For IEEE 802.11a mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both Ant. 1 and Ant. 2 support transmit and receive functions, but only one of them will be used at one time.

The Ant. 1 generated the worst case, so it was selected to test and record in the report.

For IEEE 802.11n mode (2TX/2RX):

Both Ant. 1 and Ant. 2 can be used as transmitting/receiving antenna.

Ant. 1 and Ant. 2 could both transmit/receive simultaneously.

### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 5	TX N20 Mode / CH149,CH157,CH165 (UNII-3)
Mode 6	TX N40 Mode / CH151,CH159 (UNII-3)
Mode 7	Normal Link

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 7	Normal Link

For Radiated Test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 5	TX N20 Mode / CH149,CH157,CH165 (UNII-3)
Mode 6	TX N40 Mode / CH151,CH159 (UNII-3)

For Band Edge Test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 5	TX N20 Mode / CH149,CH157,CH165 (UNII-3)
Mode 6	TX N40 Mode / CH151,CH159 (UNII-3)

26dB Spectrum Bandwidth	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 5	TX N20 Mode / CH149,CH157,CH165 (UNII-3)
Mode 6	TX N40 Mode / CH151,CH159 (UNII-3)

Maximum Conducted Output Power	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 5	TX N20 Mode / CH149,CH157,CH165 (UNII-3)
Mode 6	TX N40 Mode / CH151,CH159 (UNII-3)

Antenna Requirements	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX A Mode / CH149, CH165 (UNII-3)
Mode 5	TX N20 Mode / CH149, CH165 (UNII-3)
Mode 6	TX N40 Mode / CH151,CH159 (UNII-3)

Power Spectral Density	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX A Mode / CH149,CH157,CH165 (UNII-3)
Mode 5	TX N20 Mode / CH149,CH157,CH165 (UNII-3)
Mode 6	TX N40 Mode / CH151,CH159 (UNII-3)

Frequency Stability	
Final Test Mode	Description
Mode 1	TX A Mode / CH36 (UNII-1)
Mode 2	TX A Mode / CH149 (UNII-3)

**Note:**

- (1) For radiated below 1G test, the 802.11a mode is found to be the worst case and recorded.
- (2) The EUT was pre-tested on the positioned of each 3 axis. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

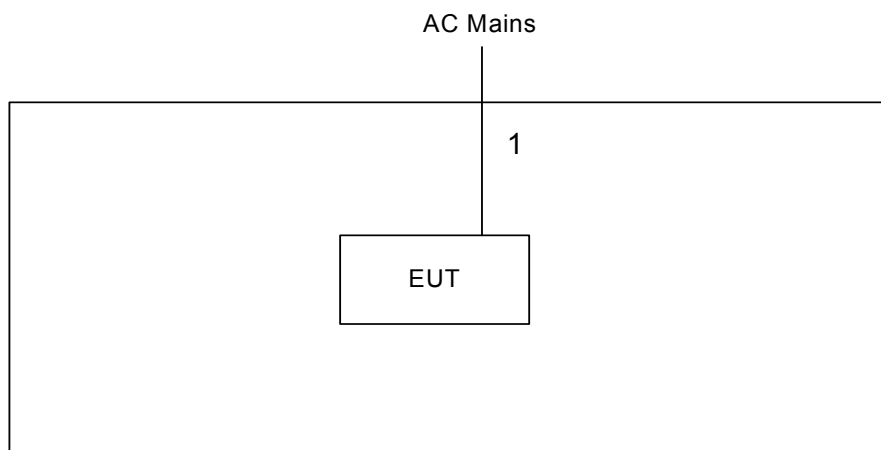
### 3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product

UNII-1			
Test Software Version	RT5x9x V1.0.9.1 AP_5G		
Frequency (MHz)	5180	5200	5240
A Mode	15	2B	2B
N20 Mode	16/18	2B/2B	2B/2B
Frequency (MHz)	5190	5230	
N40 Mode	0E/10	2B/2B	

UNII-3			
Test Software Version	RT5x9x V1.0.9.1 AP_5G		
Frequency (MHz)	5745	5785	5825
A Mode	1F	2B	22
N20 Mode	16/18	2B/2B	25/27
Frequency (MHz)	5755	5795	
N40 Mode	19/21	23/25	

### 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



### 3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
-	-	-	-	-	-	

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.5m	AC Cable



## 4. EMC EMISSION TEST

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:  
 Measurement Value = Reading Level + Correct Factor  
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)  
 Margin Level = Measurement Value - Limit Value

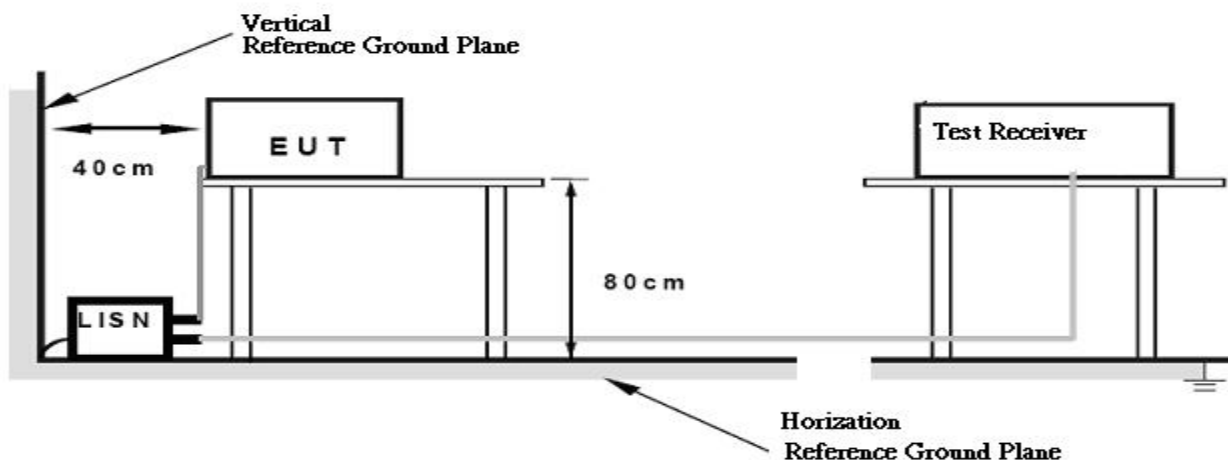
#### 4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.4 TEST SETUP



#### 4.1.5 EUT OPERATING CONDITIONS

The EUT was placed on the test table and programmed in normal function.

#### 4.1.6 EUT TEST CONDITIONS

Temperature: 25°C    Relative Humidity: 55%    Test Voltage: AC 120V/60Hz

#### 4.1.7 TEST RESULTS

Please refer to the Attachment A.

Remark:

- (1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “\*” marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.

## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 RADIATED EMISSION LIMITS

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
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

Note:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) The test result calculated as following:  
 Measurement Value = Reading Level + Correct Factor  
 Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)  
 Margin Level = Measurement Value - Limit Value

#### LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.3
5725-5850	-27 (beyond 10MHz of the band edge)	68.3
	-17 (within 10 MHz of band edge)	78.3

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:  $E = \frac{1000000 \sqrt{30P}}{3}$  μV/m, where P is the eirp (Watts)

#### 4.2.2 TEST PROCEDURE

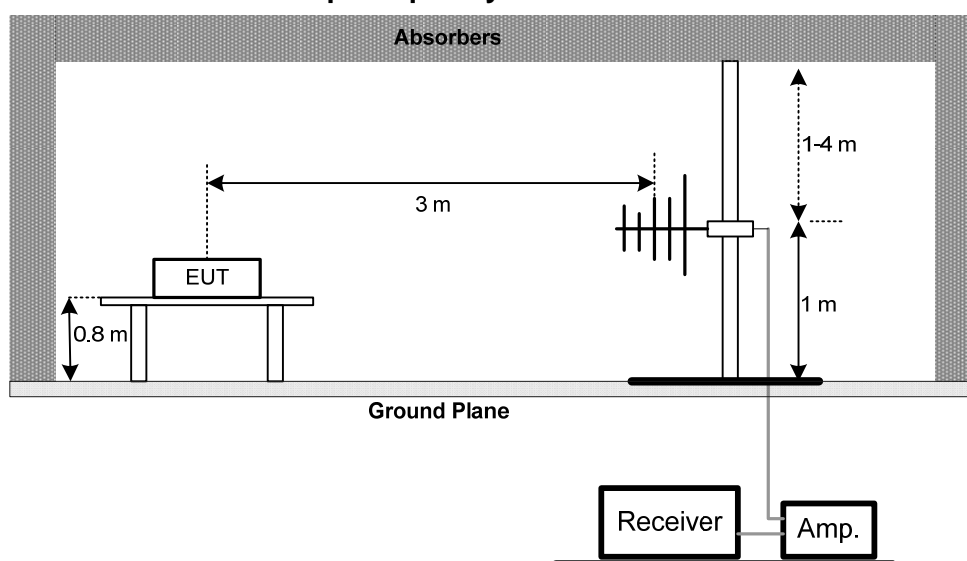
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.2.3 DEVIATION FROM TEST STANDARD

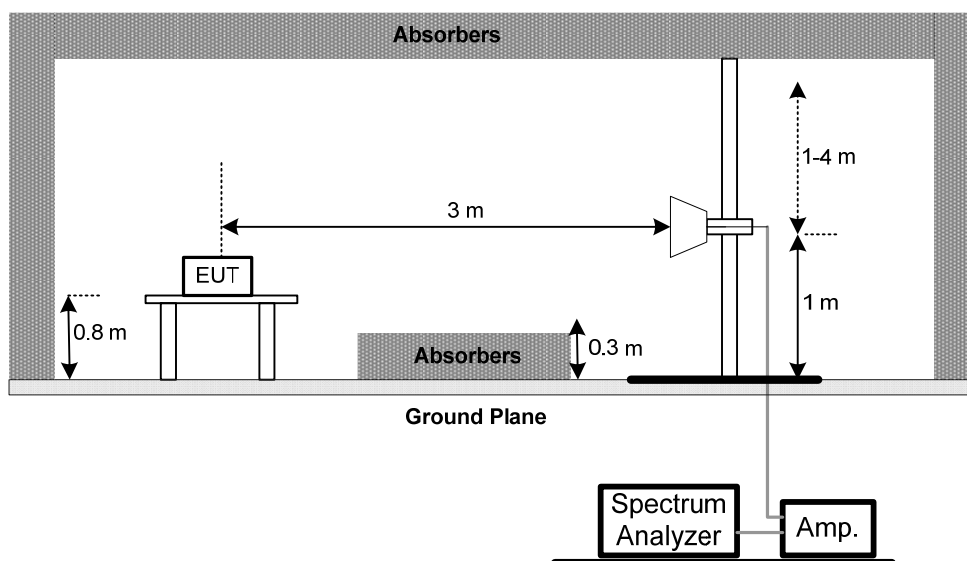
No deviation

#### 4.2.4 TEST SETUP

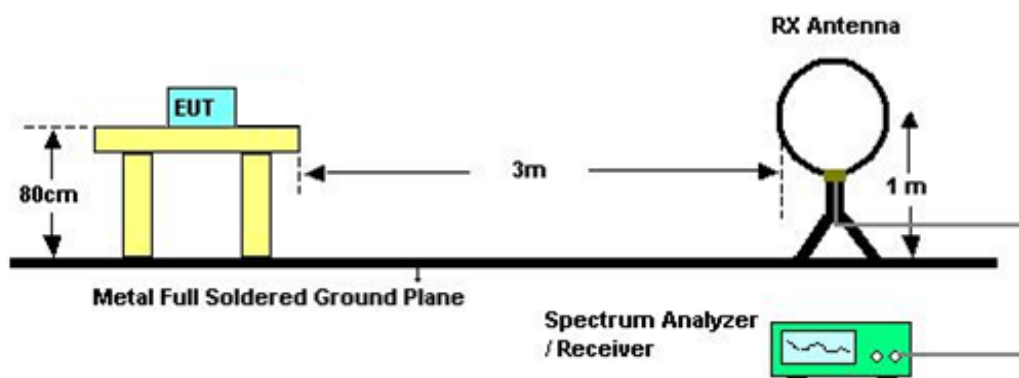
##### (A) Radiated Emission Test Set-Up Frequency 30 - 1000MHz



## (B) Radiated Emission Test Set-Up Frequency Above 1 GHz



## (C) Radiated emissions below 30MHz



### 4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 4.2.6 EUT TEST CONDITIONS

Temperature: 25°C    Relative Humidity: 55%    Test Voltage: AC 120V/60Hz

#### 4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB);
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.

#### 4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

Remark:

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz ◦
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦

#### 4.2.9 TEST RESULTS (1GHZ~10<sup>TH</sup> HARMONIC)

Please refer to the Attachment D.

Remark:

- (1) Spectrum Setting: 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axes:  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (7) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.
- (8) No limit: This is fundamental signal, the judgment is not applicable.  
For fundamental signal judgment was referred to Peak output test.

## 4.3 BAND EDGE MEASUREMENT

### 4.3.1 RADIATED EMISSION LIMITS

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
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

Note:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) The test result calculated as following:  
 Measurement Value = Reading Level + Correct Factor  
 Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)  
 Margin Level = Measurement Value - Limit Value

### LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.3
5725-5850	-27 (beyond 10MHz of the band edge)	68.3
	-17 (within 10 MHz of band edge)	78.3

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:  $E = \frac{1000000 \sqrt{30P}}{3}$  μV/m, where P is the eirp (Watts)

#### 4.3.2 TEST PROCEDURE

For Radiated band edges Measurement:

- a. The test procedure is the same as section 4.2.2, only the frequency range investigated is limited to 100MHz around band edges.

For Radiated Out of Band Emission Measurement:

- a. Test was performed in accordance with KDB 789033 D02 General UNII Test Procedures New Rules v01.

#### 4.3.3 TEST SETUP LAYOUT

For Radiated band edges Measurement:

This test setup layout is the same as that shown in section 4.2.4.

For Radiated Out of Band Emission Measurement:

This test setup layout is the same as that shown in section 4.2.4.

#### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.3.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 4.3.6 TEST RESULTS (BAND EDGE AND FUNDAMENTAL EMISSIONS)

Please refer to the Attachment E.

Remark:

- (1) Spectrum Setting: 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note 』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (4) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axes:  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (7) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.
- (8) No limit: This is fundamental signal, the judgment is not applicable.  
For fundamental signal judgment was referred to Peak output test.



## 5. 26dB SPECTRUM BANDWIDTH

### 5.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Bandwidth	26 dB Bandwidth	5150-5250	PASS
	Minimum 500KHz 6dB Bandwidth	5725-5850	PASS

#### 5.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RBW	300 kHz
VBW	1000 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

c. Measured the spectrum width with power higher than 26dB below carrier

#### 5.1.2 DEVIATION FROM STANDARD

No deviation.

#### 5.1.3 TEST SETUP



#### 5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### **5.1.5 EUT TEST CONDITIONS**

Temperature: 25°C    Relative Humidity: 55%    Test Voltage: AC 120V/60Hz

#### **5.1.6 TEST RESULTS**

Please refer to the Attachment F.

## 6. MAXIMUM CONDUCTED OUTPUT POWER

### 6.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Conducted Output Power	Fixed:1 Watt (30dBm) Mobile and portable: 250mW (24dBm)	5150-5250	PASS
	1 Watt (30dBm)	5725-5850	PASS

#### 6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	= 1MHz.
VBW	$\geq$ 3MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	auto

c. Test was performed in accordance with method of KDB 789033 D02.

### 6.1.2 DEVIATION FROM STANDARD

No deviation.

### 6.1.3 TEST SETUP



### 6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 6.1.5 EUT TEST CONDITIONS

Temperature: 25°C    Relative Humidity: 55%    Test Voltage: AC 120V/60Hz

### 6.1.6 TEST RESULTS

Please refer to the Attachment G.

## 7. ANTENNA CONDUCTED SPURIOUS EMISSION

### 7.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Antenna conducted Spurious Emission	-27dBm/MHz	5150-5250	PASS
	Below -17dBm/MHz within 10MHz of band edge, below -27dBm/MHz beyond 10MHz of the band edge	5725-5850	PASS

#### 7.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
RBW	1000kHz
VBW	1000kHz
Trace	Max Hold
Sweep Time	Auto

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

#### 7.1.3 TEST SETUP



#### 7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 7.1.5 EUT TEST CONDITIONS

Temperature: 25°C    Relative Humidity: 55%    Test Voltage: AC 120V/60Hz

#### 7.1.6 TEST RESULTS

Please refer to the Attachment H.

## 8. POWER SPECTRAL DENSITY TEST

### 8.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Power Spectral Density	Other then Mobile and portable:17dBm/MHz Mobile and portable:11dBm/MHz	5150-5250	PASS
	30dBm/500KHz	5725-5850	PASS

#### 8.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	= 1MHz.
VBW	≥ 3MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	Auto

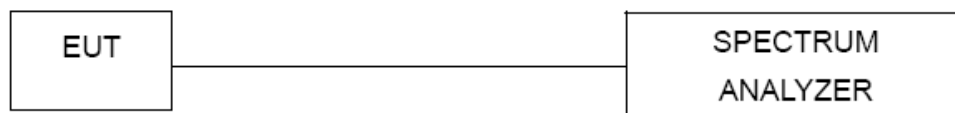
Note:

- For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v01, section II.F.5., it is acceptable to set RBW at 1MHz and VBW at 3MHz if the spectrum analyzer does not have 500kHz RBW.
- The value measured with RBW=1MHz is to be added with  $10\log(500\text{kHz}/1\text{MHz})$  which is -3dB. For example, if the measured value is +10dBm using RBW=1MHz (that is +10dBm/MHz), then the converted value will be +7dBm/500kHz.

### 8.1.1 DEVIATION FROM STANDARD

No deviation.

### 8.1.2 TEST SETUP



### 8.1.3 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 8.1.4 EUT TEST CONDITIONS

Temperature: 25°C    Relative Humidity: 55%    Test Voltage: AC 120V/60Hz

### 8.1.5 TEST RESULTS

Please refer to the Attachment I.

## 9. FREQUENCY STABILITY MEASUREMENT

### 9.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Frequency Stability	Specified in the user's manual	5150-5250	PASS
		5725-5850	PASS

#### 9.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

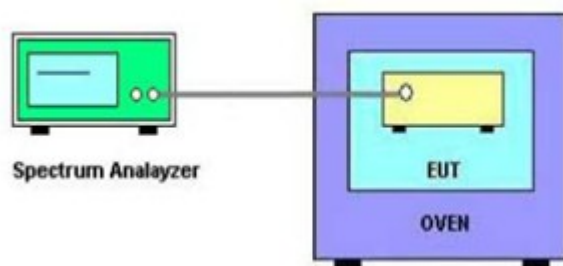
d. User manual temperature is 0°C~40°C.

#### 9.1.2 DEVIATION FROM STANDARD

No deviation.



### 9.1.3 TEST SETUP



### 9.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 9.1.5 EUT TEST CONDITIONS

Temperature: 25°C    Relative Humidity: 55%    Test Voltage: AC 120V/60Hz

### 9.1.6 TEST RESULTS

Please refer to the Attachment J.

## 10. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 29, 2015
2	LISN	R&S	ENV216	100087	Mar. 29, 2015
3	Test Cable	N/A	C_17	N/A	Mar. 14, 2015
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	Mar. 29, 2015
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 29, 2015
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 29, 2015
2	Amplifier	HP	8447D	2944A09673	Mar. 29, 2015
3	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
4	Test Cable	N/A	C-01_CB03	N/A	Jul. 01, 2015
5	Controller	CT	SC100	N/A	N/A
6	Antenna	ETS	3115	00075789	Mar. 29, 2015
7	Amplifier	Agilent	8449B	3008A02274	Mar. 29, 2015
8	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
9	Test Cable	HUBER+SUHNER	C-48	N/A	Apr. 30, 2015
10	Controller	CT	SC100	N/A	N/A
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Feb. 22, 2015
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Feb. 22, 2015
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Mar. 29, 2015
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Spectrum Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Maximum Conducted Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	P-series Power meter	Agilent	N1911A	MY45100473	Mar. 29, 2015
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Mar. 29, 2015

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015
2	Precision Oven Tester	HOLINK	H-T-1F-D	BA03101701	May. 24, 2015

Remark: "N/A" denotes no model name, serial no. or calibration specified.  
All calibration period of equipment list is one year.

## 11. EUT TEST PHOTOS

### Conducted Measurement Photos



## Radiated Measurement Photos

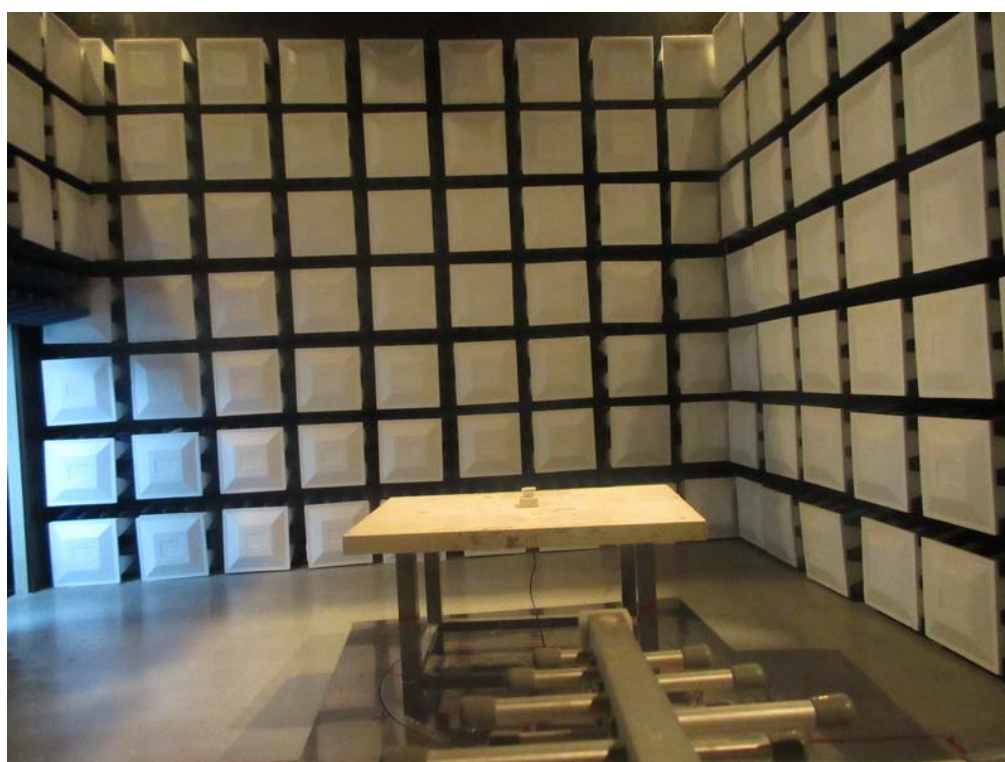
9KHz to 30MHz





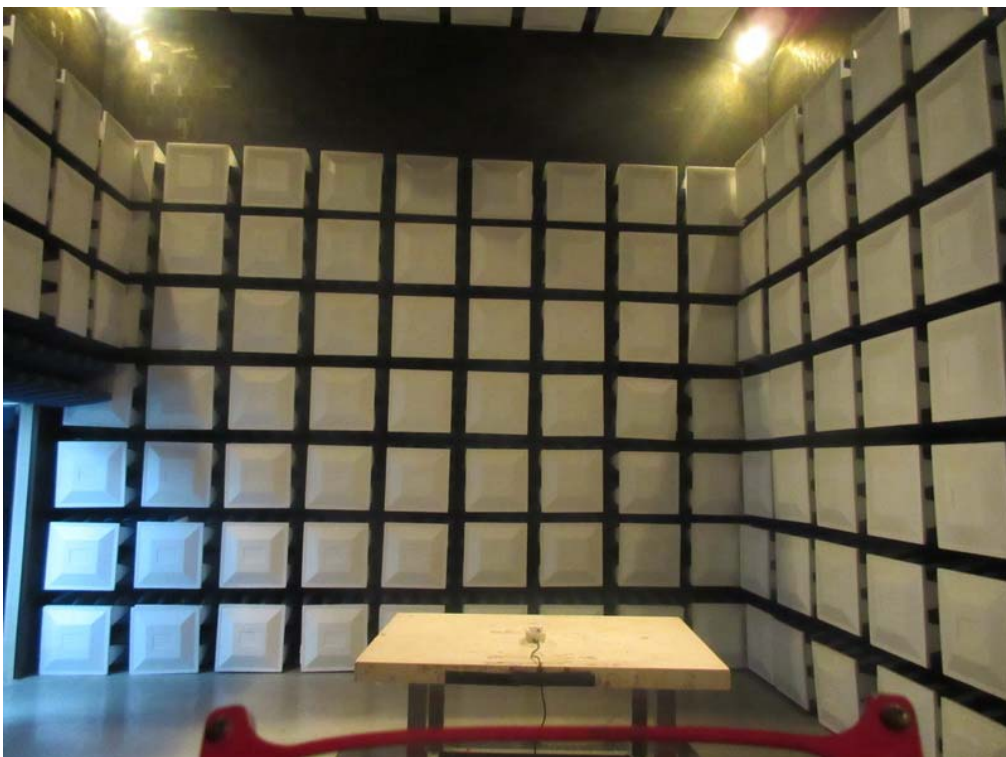
## Radiated Measurement Photos

30MHz to 1000MHz



## Radiated Measurement Photos

Above 1000MHz

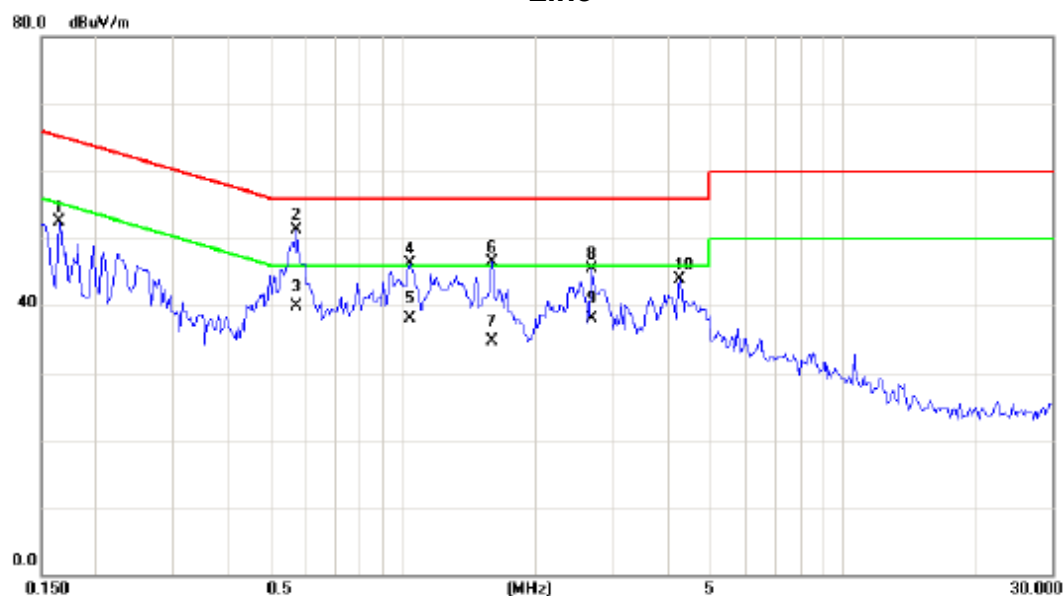


## **ATTACHMENT A - CONDUCTED EMISSION**



Test Mode: Normal Link

### Line

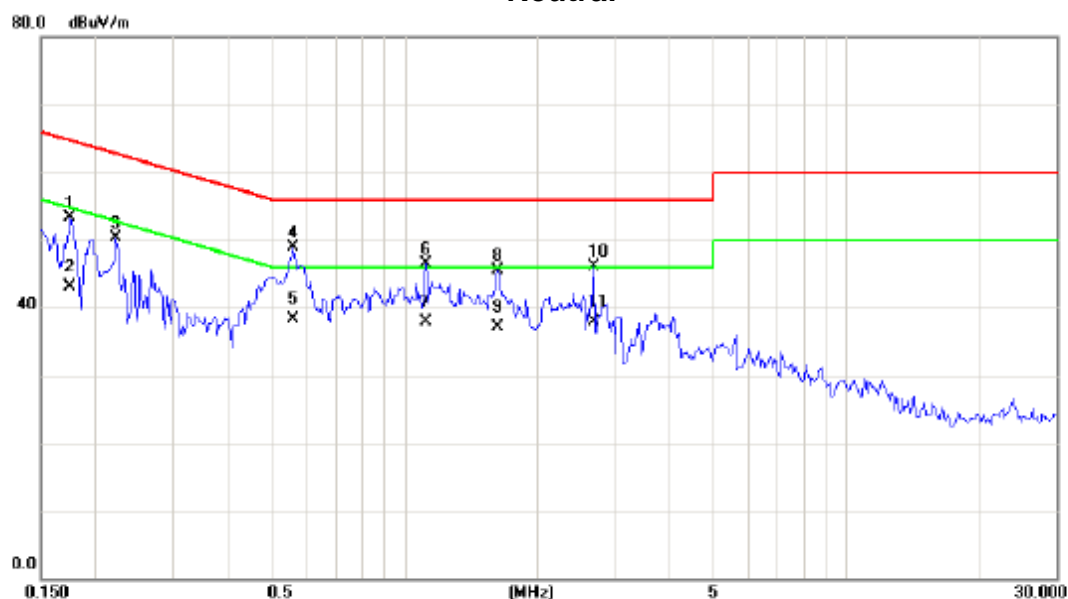


No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.1655	43.05	9.49	52.54	65.18	-12.64	peak	
2	*	0.5717	41.74	9.60	51.34	56.00	-4.66	peak	
3		0.5717	30.28	9.60	39.88	46.00	-6.12	AVG	
4		1.0374	36.73	9.63	46.36	56.00	-9.64	peak	
5		1.0374	28.57	9.63	38.20	46.00	-7.80	AVG	
6		1.5952	36.98	9.61	46.59	56.00	-9.41	peak	
7		1.5952	25.13	9.61	34.74	46.00	-11.26	AVG	
8		2.6850	35.96	9.61	45.57	56.00	-10.43	peak	
9		2.6850	28.52	9.61	38.13	46.00	-7.87	AVG	
10		4.2500	34.33	9.65	43.98	56.00	-12.02	peak	

Note : The test result has included the cable loss.

Test Mode: Normal Link

### Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.1750	43.79	9.58	53.37	64.72	-11.35	peak	
2		0.1750	33.52	9.58	43.10	54.72	-11.62	AVG	
3		0.2220	40.70	9.57	50.27	62.74	-12.47	peak	
4	*	0.5601	39.33	9.58	48.91	56.00	-7.09	peak	
5		0.5601	28.65	9.58	38.23	46.00	-7.77	AVG	
6		1.1187	36.81	9.60	46.41	56.00	-9.59	peak	
7		1.1187	28.36	9.60	37.96	46.00	-8.04	AVG	
8		1.6304	35.85	9.62	45.47	56.00	-10.53	peak	
9		1.6304	27.49	9.62	37.11	46.00	-8.89	AVG	
10		2.6890	36.43	9.64	46.07	56.00	-9.93	peak	
11		2.6890	28.19	9.64	37.83	46.00	-8.17	AVG	

Note : The test result has included the cable loss.

## **ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)**

Test Mode:	TX A Mode 5180MHz
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Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit(QP) (dBuV/m)	Margin (dB)	Note
0.0087	0°	13.48	25.02	38.50	108.83	-70.34	AVG
0.0087	0°	14.42	25.02	39.44	128.83	-89.40	PEAK
0.0133	0°	6.44	24.72	31.16	105.13	-73.96	AVG
0.0133	0°	7.43	24.72	32.15	125.13	-92.97	PEAK
0.0258	0°	3.29	23.93	27.22	99.37	-72.15	AVG
0.0258	0°	5.27	23.93	29.20	119.37	-90.17	PEAK
0.0335	0°	0.91	23.45	24.36	97.10	-72.75	AVG
0.0350	0°	2.86	23.45	26.31	117.10	-90.80	PEAK
0.5746	0°	30.57	20.04	50.61	72.42	-21.81	QP
1.7559	0°	21.49	19.52	41.01	69.54	-28.53	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit(QP) (dBuV/m)	Margin (dB)	Note
0.0085	90°	13.44	24.30	37.74	129.02	-91.28	AVG
0.0085	90°	14.32	24.30	38.62	149.02	-110.40	PEAK
0.0252	90°	6.31	23.97	30.28	119.58	-89.30	AVG
0.0252	90°	8.59	23.97	32.56	139.58	-107.02	PEAK
0.0343	90°	3.44	23.39	26.83	116.90	-90.06	AVG
0.0343	90°	5.35	23.39	28.74	136.90	-108.15	PEAK
0.0472	90°	0.58	22.58	23.16	114.13	-90.97	AVG
0.0472	90°	2.86	22.58	25.44	134.13	-108.69	PEAK
0.4941	90°	30.71	19.81	50.52	73.73	-23.20	QP
1.7172	90°	21.55	19.53	41.08	69.54	-28.46	QP

## **ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)**

Test Mode: UNII-1/TX A Mode 5180MHz

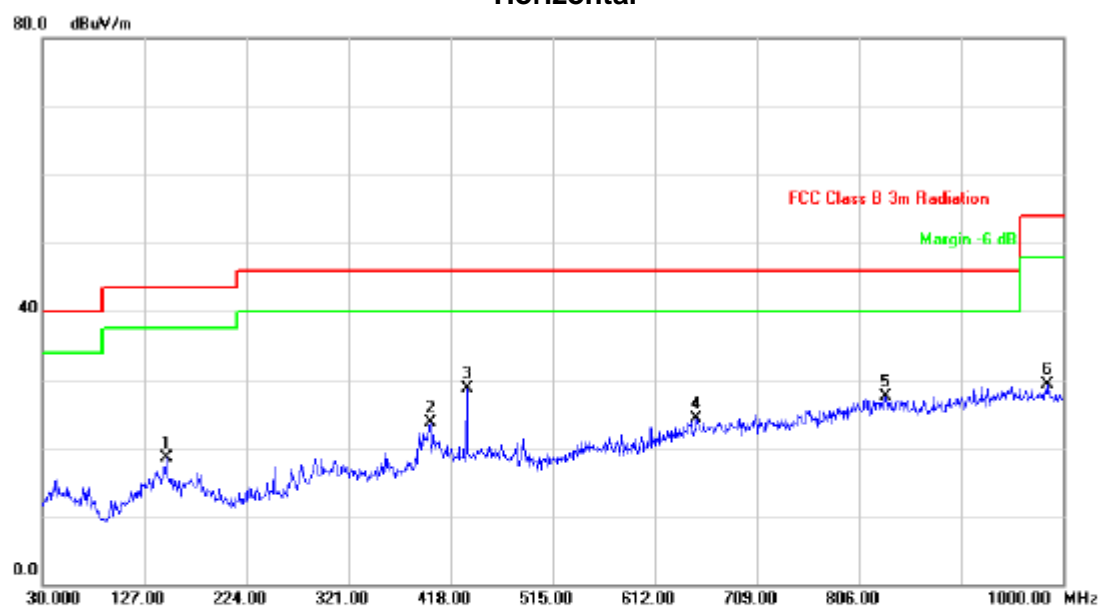
### Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
1		43.5800	38.91	-13.74	25.17	40.00	-14.83	peak	
2		98.8700	42.54	-16.55	25.99	43.50	-17.51	peak	
3		148.3400	35.44	-13.18	22.26	43.50	-21.24	peak	
4		250.1900	33.88	-14.02	19.86	46.00	-26.14	peak	
5	*	579.9900	43.02	-7.92	35.10	46.00	-10.90	peak	
6		617.8200	37.33	-6.92	30.41	46.00	-15.59	peak	

Test Mode: UNII-1/TX A Mode 5180MHz

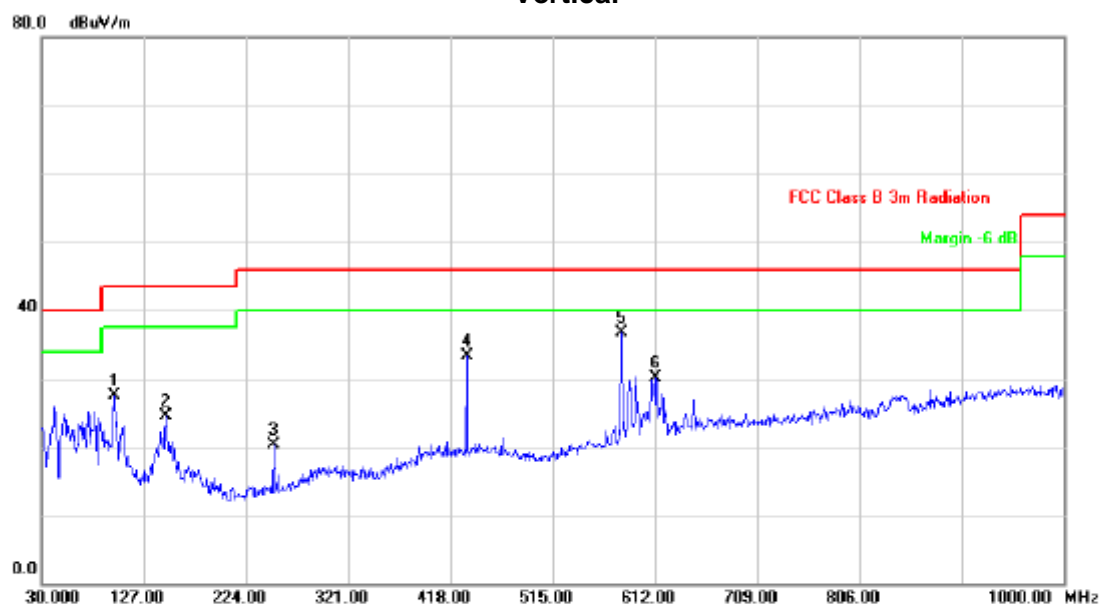
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		148.3400	31.65	-13.18	18.47	43.50	-25.03	peak	
2		398.6000	33.23	-9.60	23.63	46.00	-22.37	peak	
3	*	433.5200	37.68	-8.92	28.76	46.00	-17.24	peak	
4		651.7700	29.46	-5.15	24.31	46.00	-21.69	peak	
5		831.2200	30.46	-3.05	27.41	46.00	-18.59	peak	
6		985.4500	29.60	-0.35	29.25	54.00	-24.75	peak	

Test Mode: UNII-1/TX A Mode 5200MHz

### Vertical

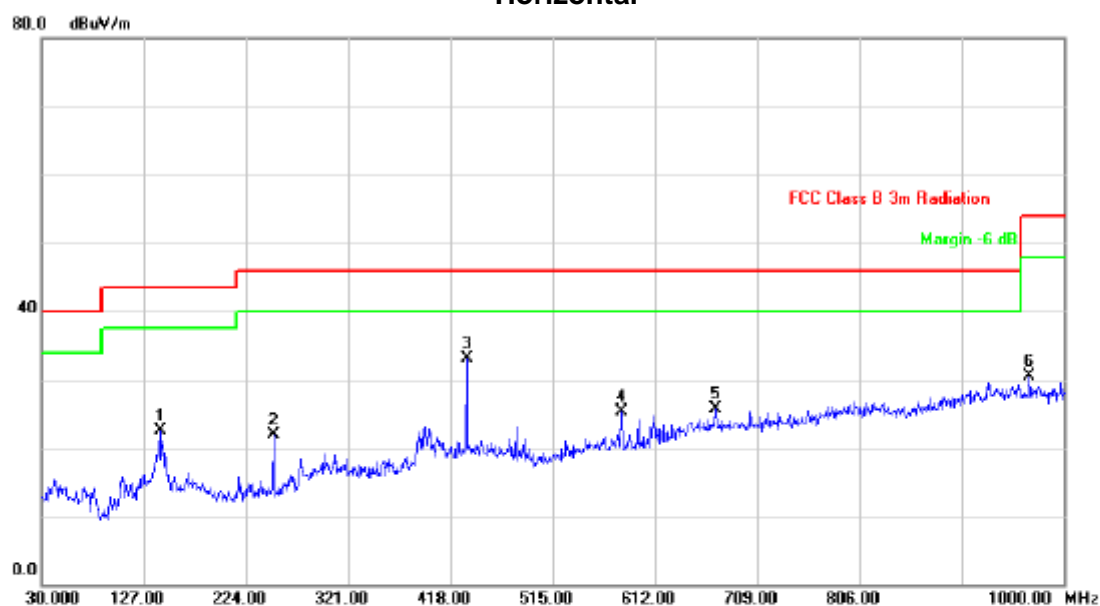


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		98.8700	44.02	-16.55	27.47	43.50	-16.03	peak	
2		148.3400	37.62	-13.18	24.44	43.50	-19.06	peak	
3		250.1900	34.29	-14.02	20.27	46.00	-25.73	peak	
4		433.5200	42.23	-8.92	33.31	46.00	-12.69	peak	
5	*	579.9900	44.57	-7.92	36.65	46.00	-9.35	peak	
6		612.9700	37.31	-7.19	30.12	46.00	-15.88	peak	



Test Mode: UNII-1/TX A Mode 5200MHz

### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		142.5200	35.76	-13.17	22.59	43.50	-20.91	peak	
2		250.1900	35.85	-14.02	21.83	46.00	-24.17	peak	
3	*	433.5200	41.96	-8.92	33.04	46.00	-12.96	peak	
4		579.9900	33.25	-7.92	25.33	46.00	-20.67	peak	
5		669.2300	30.85	-5.06	25.79	46.00	-20.21	peak	
6		967.0200	30.87	-0.28	30.59	54.00	-23.41	peak	

Test Mode: UNII-1/TX A Mode 5240MHz

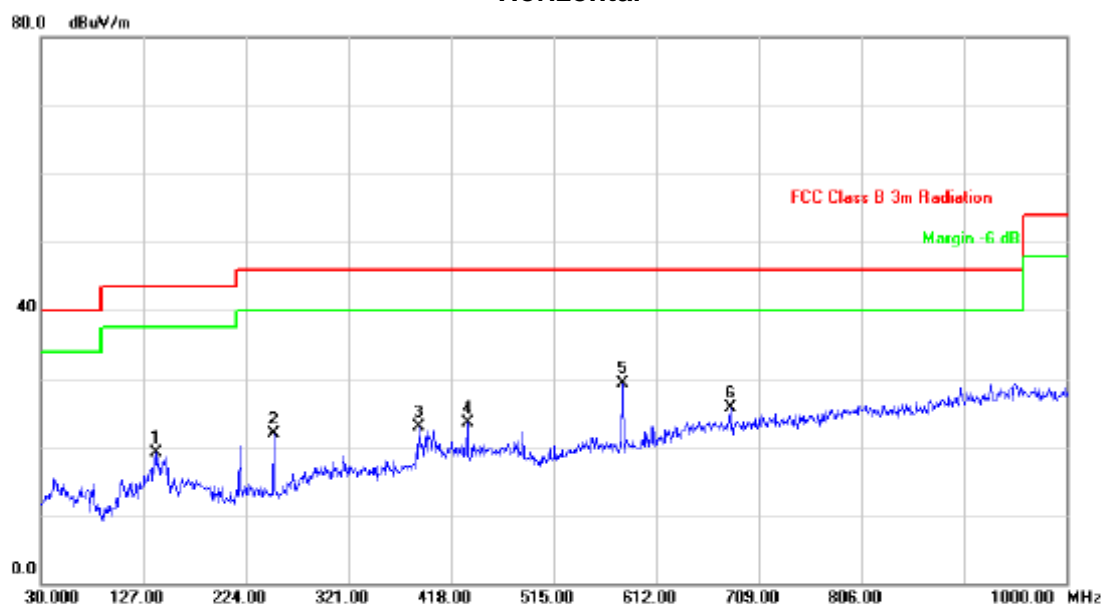
Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		42.6100	38.12	-13.88	24.24	40.00	-15.76	peak	
2		65.8900	41.66	-15.67	25.99	40.00	-14.01	peak	
3		148.3400	35.12	-13.18	21.94	43.50	-21.56	peak	
4		579.9900	38.51	-7.92	30.59	46.00	-15.41	peak	
5	*	621.7000	40.59	-6.71	33.88	46.00	-12.12	peak	
6		948.5900	29.37	-0.25	29.12	46.00	-16.88	peak	

Test Mode: UNII-1/TX A Mode 5240MHz

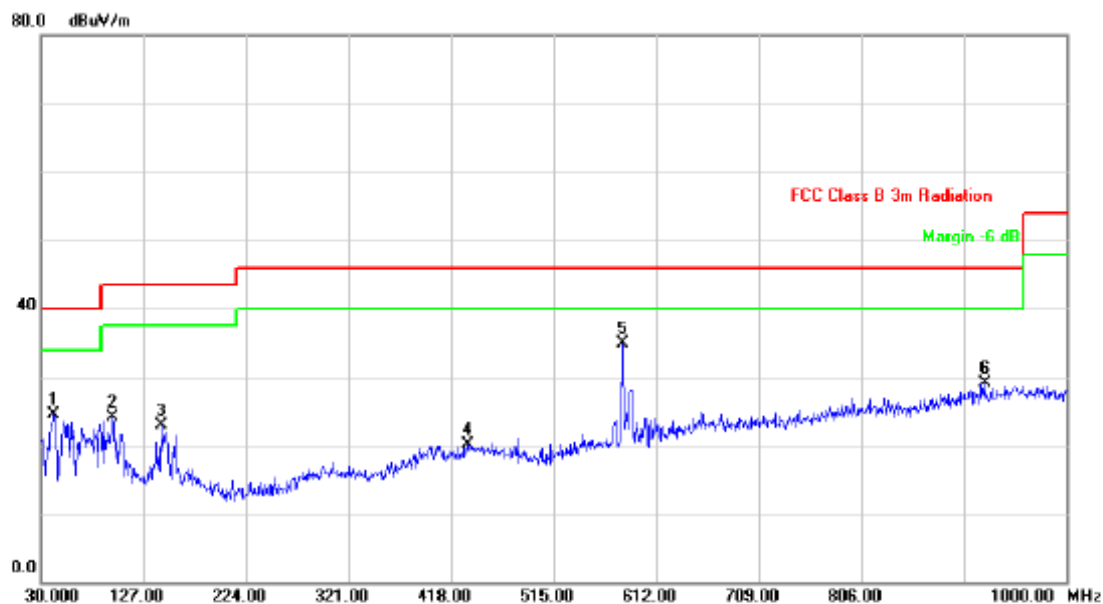
# Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		138.6400	32.19	-13.15	19.04	43.50	-24.46	peak	
2		250.1900	35.97	-14.02	21.95	46.00	-24.05	peak	
3		386.9600	33.04	-10.13	22.91	46.00	-23.09	peak	
4		433.5200	32.48	-8.92	23.56	46.00	-22.44	peak	
5	*	579.9900	37.23	-7.92	29.31	46.00	-16.69	peak	
6		681.8400	30.63	-5.01	25.62	46.00	-20.38	peak	

Test Mode: UNII-3/TX A Mode 5745MHz

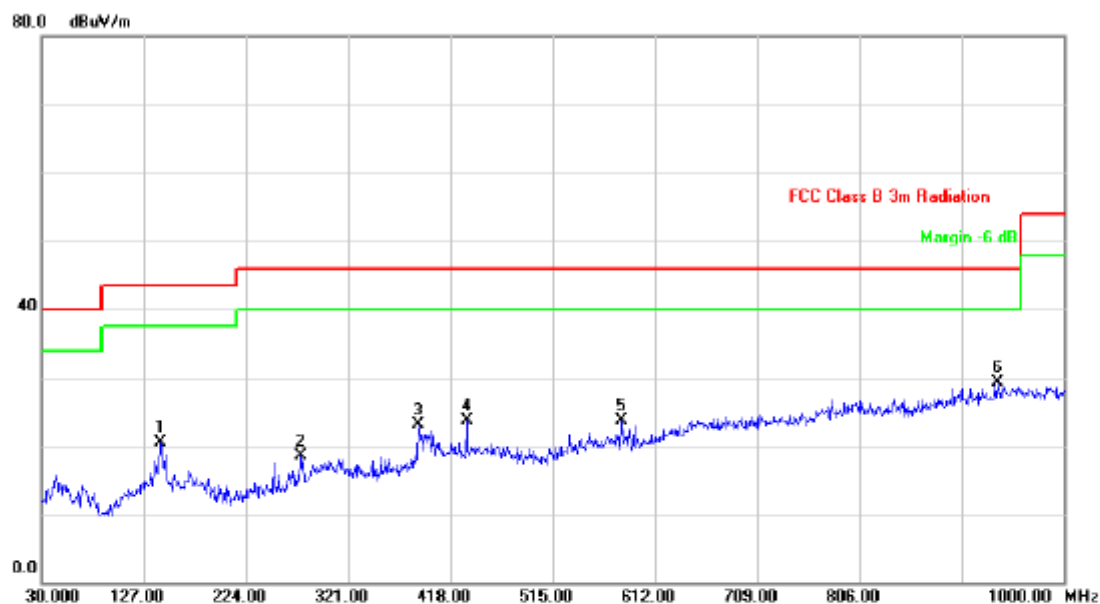
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		42.6100	38.34	-13.88	24.46	40.00	-15.54	peak	
2		97.9000	40.72	-16.68	24.04	43.50	-19.46	peak	
3		144.4600	35.99	-13.16	22.83	43.50	-20.67	peak	
4		433.5200	29.11	-8.92	20.19	46.00	-25.81	peak	
5	*	579.9900	42.76	-7.92	34.84	46.00	-11.16	peak	
6		922.4000	30.05	-0.94	29.11	46.00	-16.89	peak	

Test Mode: UNII-3/TX A Mode 5745MHz

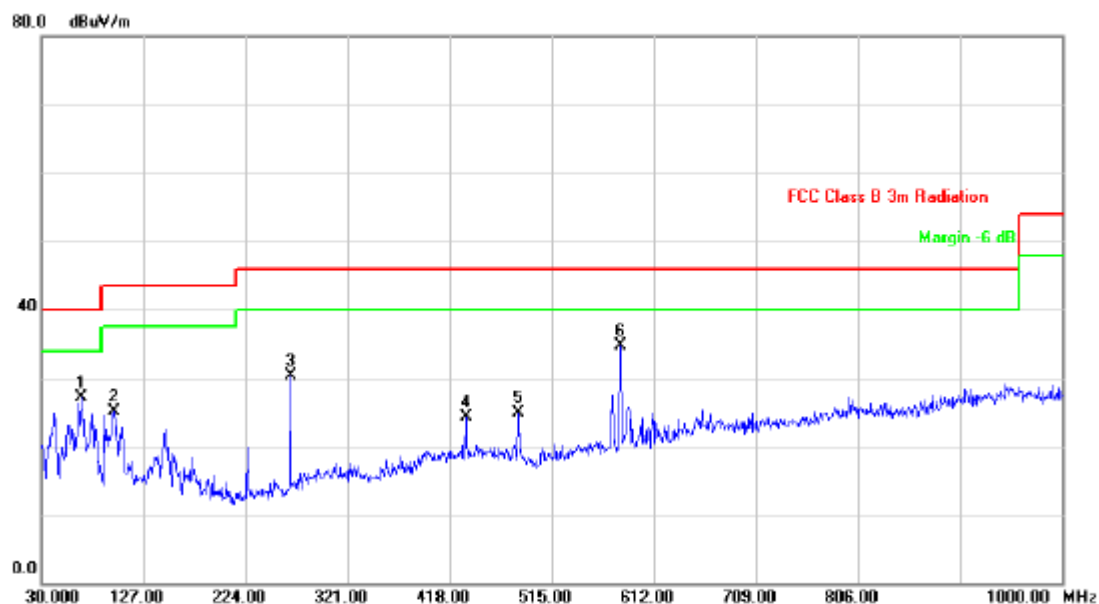
### Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	dBuV	Factor	ment	dBuV/m	dB	Detector	Comment
1		143.4900	33.61	-13.17	20.44	43.50	-23.06	peak	
2		276.3800	31.08	-12.63	18.45	46.00	-27.55	peak	
3		386.9600	33.28	-10.13	23.15	46.00	-22.85	peak	
4		433.5200	32.69	-8.92	23.77	46.00	-22.23	peak	
5		579.9900	31.59	-7.92	23.67	46.00	-22.33	peak	
6	*	936.9500	29.88	-0.55	29.33	46.00	-16.67	peak	

Test Mode: UNII-3/TX A Mode 5785MHz

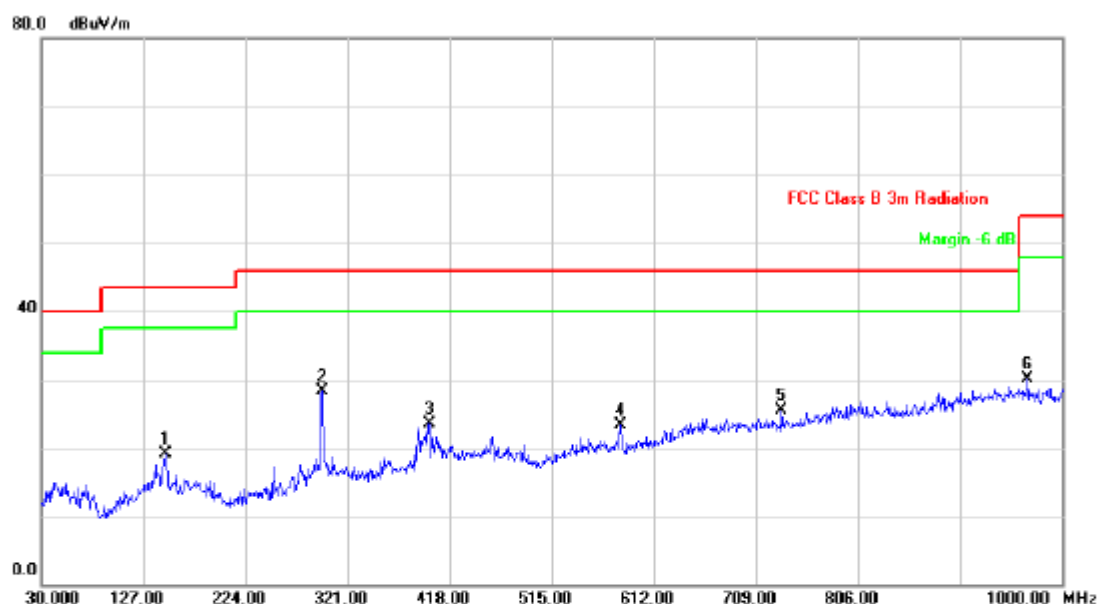
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		67.8300	43.13	-15.95	27.18	40.00	-12.82	peak	
2		98.8700	41.61	-16.55	25.06	43.50	-18.44	peak	
3		266.6800	43.73	-13.41	30.32	46.00	-15.68	peak	
4		433.5200	33.16	-8.92	24.24	46.00	-21.76	peak	
5		482.9900	34.70	-9.87	24.83	46.00	-21.17	peak	
6	*	579.9900	42.68	-7.92	34.76	46.00	-11.24	peak	

Test Mode: UNII-3/TX A Mode 5785MHz

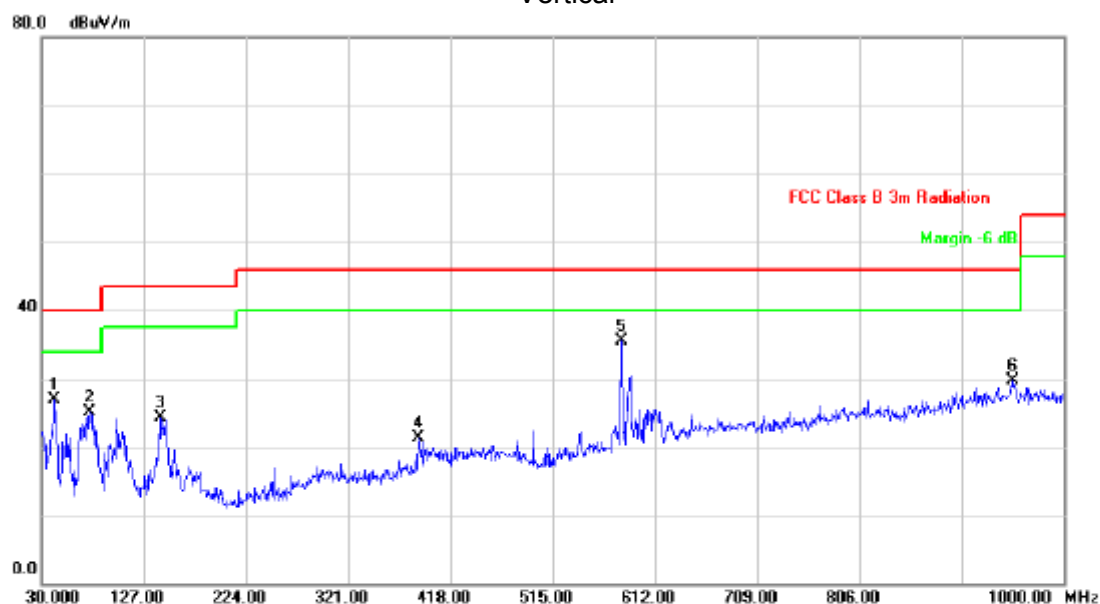
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		148.3400	32.34	-13.18	19.16	43.50	-24.34	peak	
2	*	296.7500	39.27	-11.05	28.22	46.00	-17.78	peak	
3		398.6000	33.15	-9.60	23.55	46.00	-22.45	peak	
4		579.9900	31.21	-7.92	23.29	46.00	-22.71	peak	
5		733.2500	30.23	-4.72	25.51	46.00	-20.49	peak	
6		967.0200	30.32	-0.28	30.04	54.00	-23.96	peak	

Test Mode: UNII-3/TX A Mode 5825MHz

Vertical

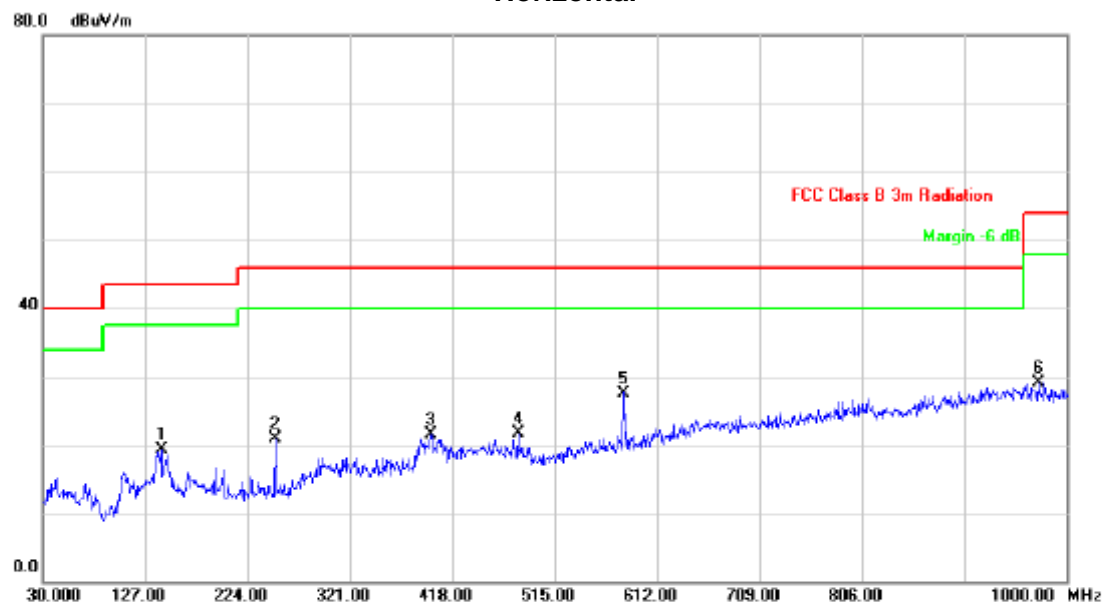


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		42.6100	40.70	-13.88	26.82	40.00	-13.18	peak	
2		75.5900	41.77	-16.67	25.10	40.00	-14.90	peak	
3		142.5200	37.43	-13.17	24.26	43.50	-19.24	peak	
4		386.9600	31.46	-10.13	21.33	46.00	-24.67	peak	
5	*	579.9900	43.48	-7.92	35.56	46.00	-10.44	peak	
6		951.5000	29.87	-0.21	29.66	46.00	-16.34	peak	



Test Mode: UNII-3/TX A Mode 5825MHz

### Horizontal

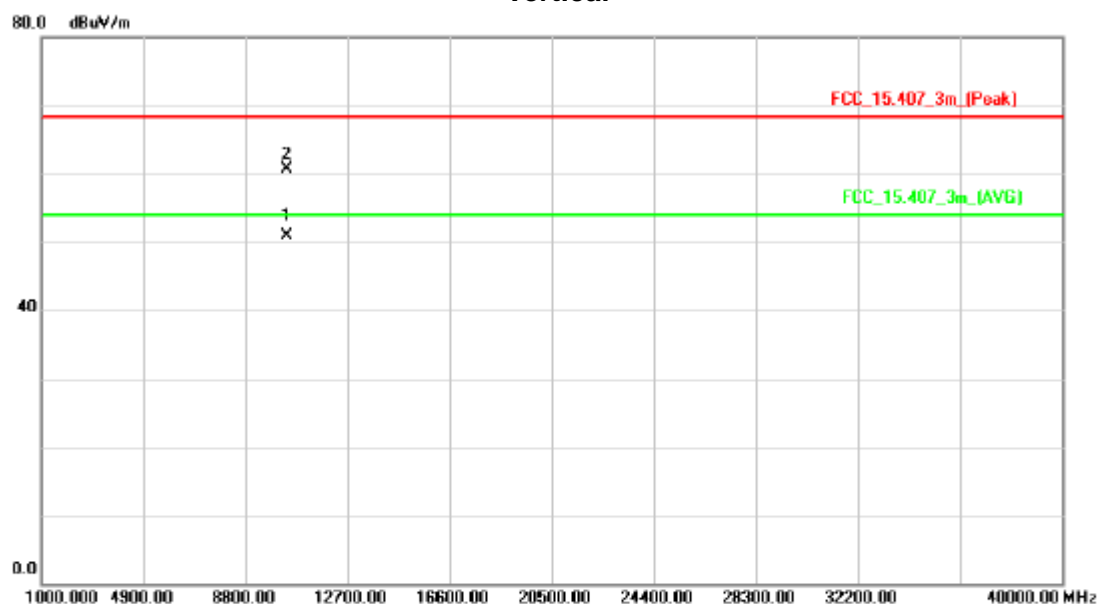


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		142.5200	32.40	-13.17	19.23	43.50	-24.27	peak	
2		250.1900	34.95	-14.02	20.93	46.00	-25.07	peak	
3		397.6300	31.15	-9.63	21.52	46.00	-24.48	peak	
4		480.0800	31.41	-9.76	21.65	46.00	-24.35	peak	
5	*	579.9900	35.52	-7.92	27.60	46.00	-18.40	peak	
6		972.8400	29.33	-0.30	29.03	54.00	-24.97	peak	

## **ATTACHMENT D - RADIATED EMISSION (1GHZ~10<sup>TH</sup> HARMONIC)**

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

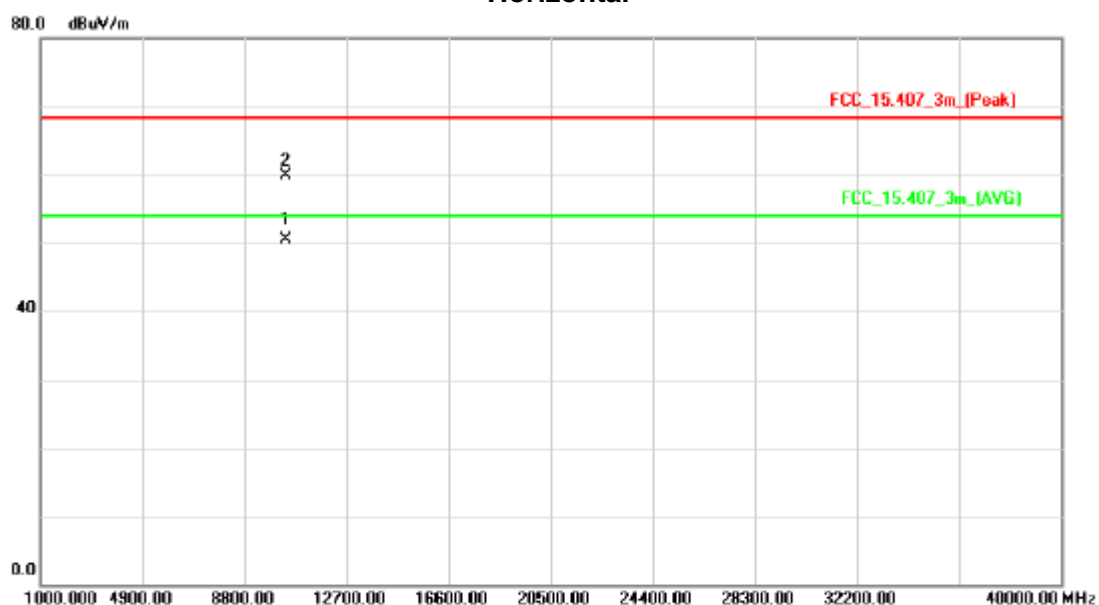
### Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10359.30	35.15	15.70	50.85	54.00	-3.15	AVG	
2		10360.30	45.07	15.70	60.77	68.30	-7.53	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

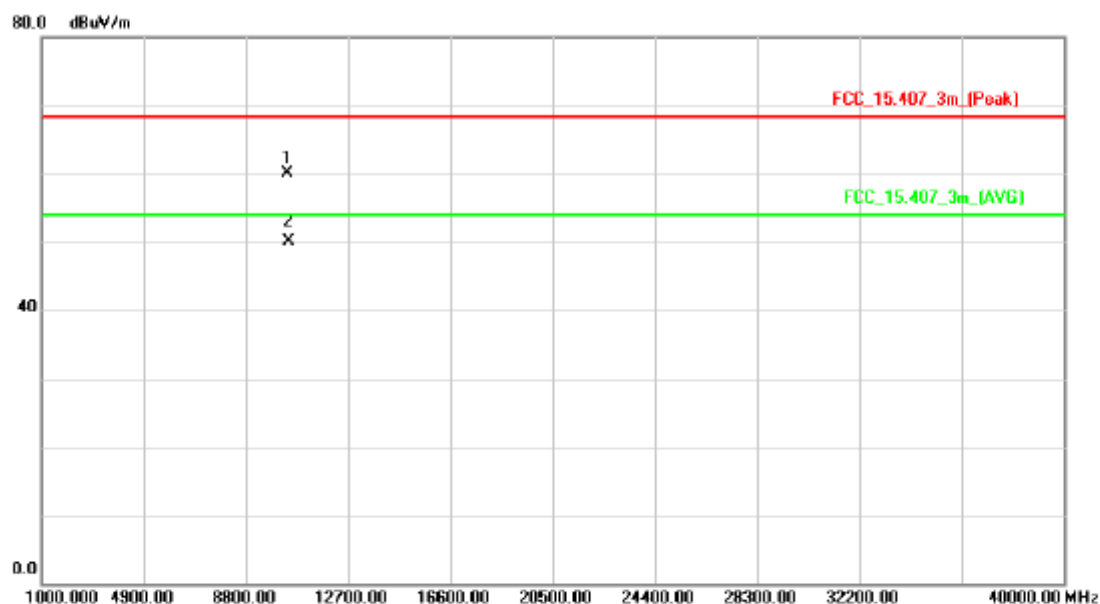
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	10359.75	34.76	15.70	50.46	54.00	-3.54	AVG	
2		10360.75	44.23	15.70	59.93	68.30	-8.37	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

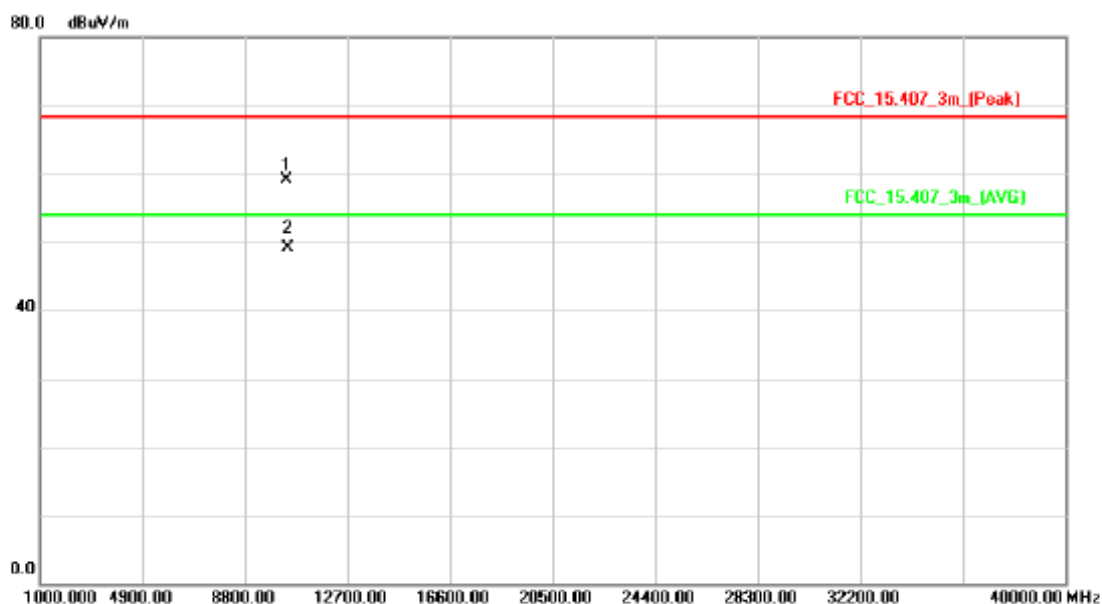
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10398.95	44.37	15.64	60.01	68.30	-8.29	peak	
2	*	10401.95	34.54	15.63	50.17	54.00	-3.83	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

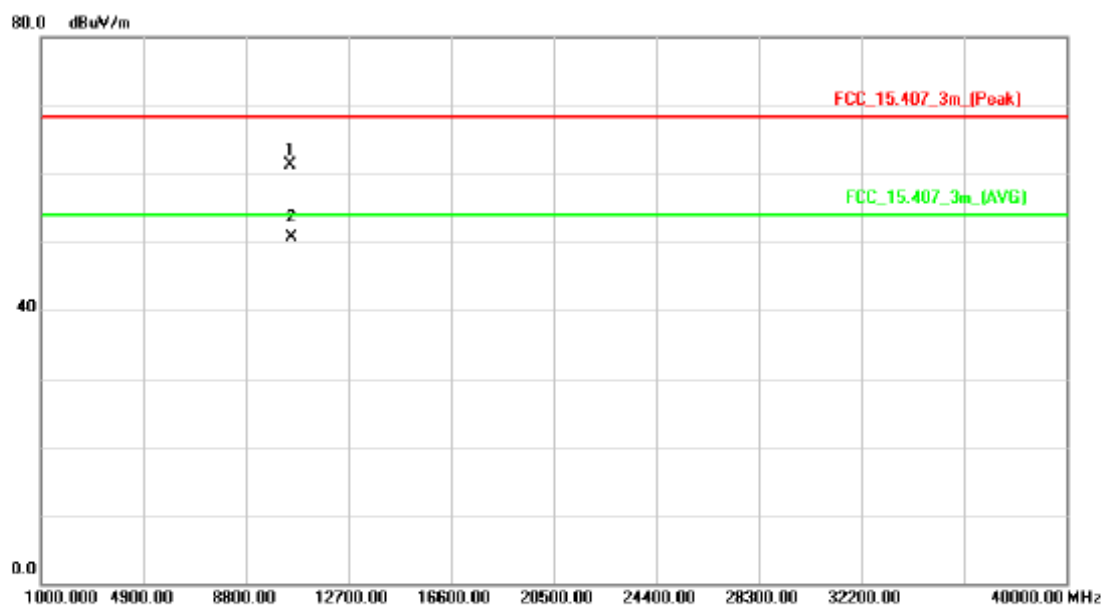
### Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10398.45	43.49	15.64	59.13	68.30	-9.17	peak	
2	*	10401.45	33.51	15.63	49.14	54.00	-4.86	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz

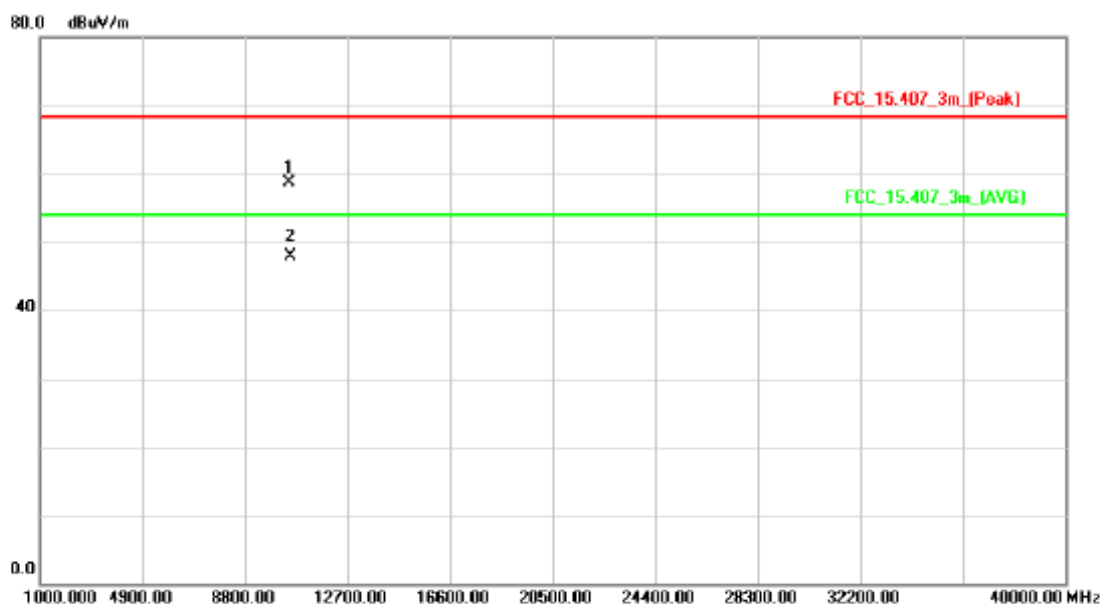
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10478.45	45.71	15.52	61.23	68.30	-7.07	peak	
2	*	10481.45	35.17	15.51	50.68	54.00	-3.32	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz

### Horizontal

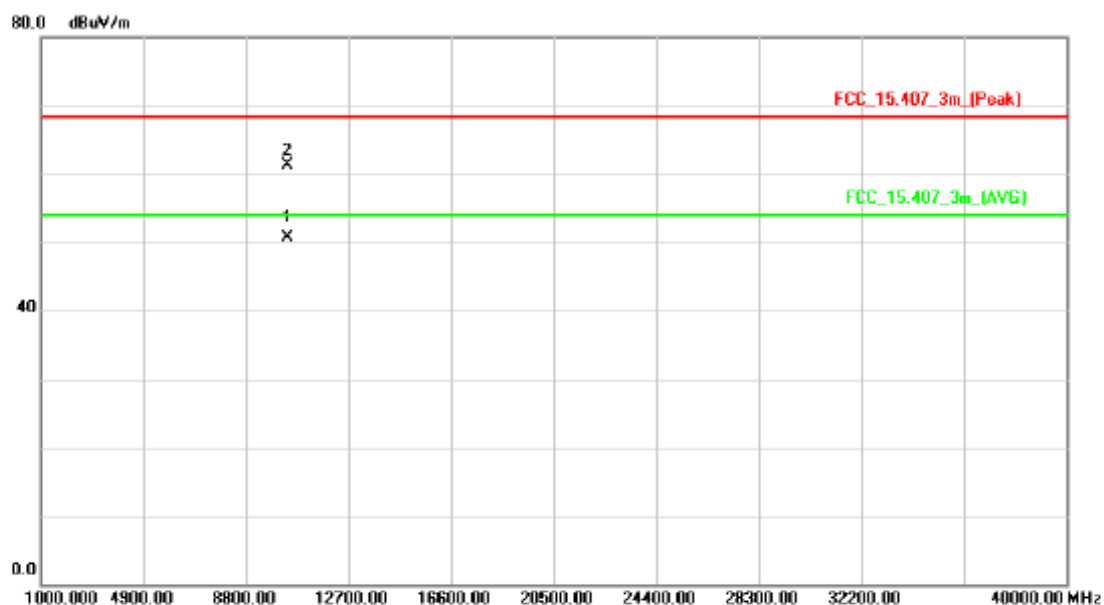


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10479.24	43.25	15.52	58.77	68.30	-9.53	peak	
2	*	10480.24	32.32	15.51	47.83	54.00	-6.17	AVG	



Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

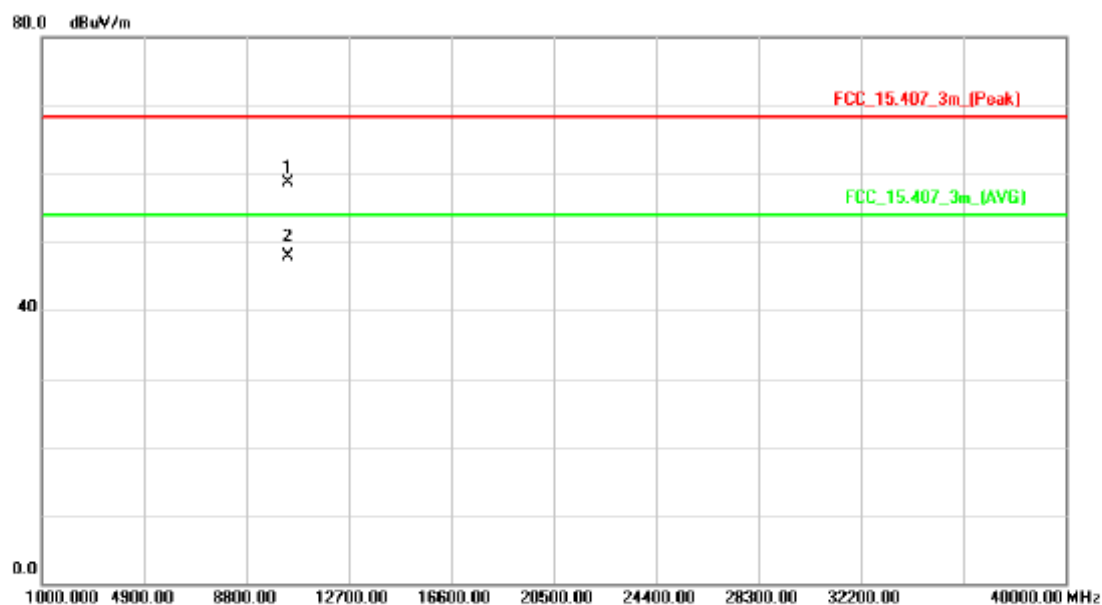
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	10360.23	34.98	15.70	50.68	54.00	-3.32	AVG	
2		10361.23	45.54	15.69	61.23	68.30	-7.07	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

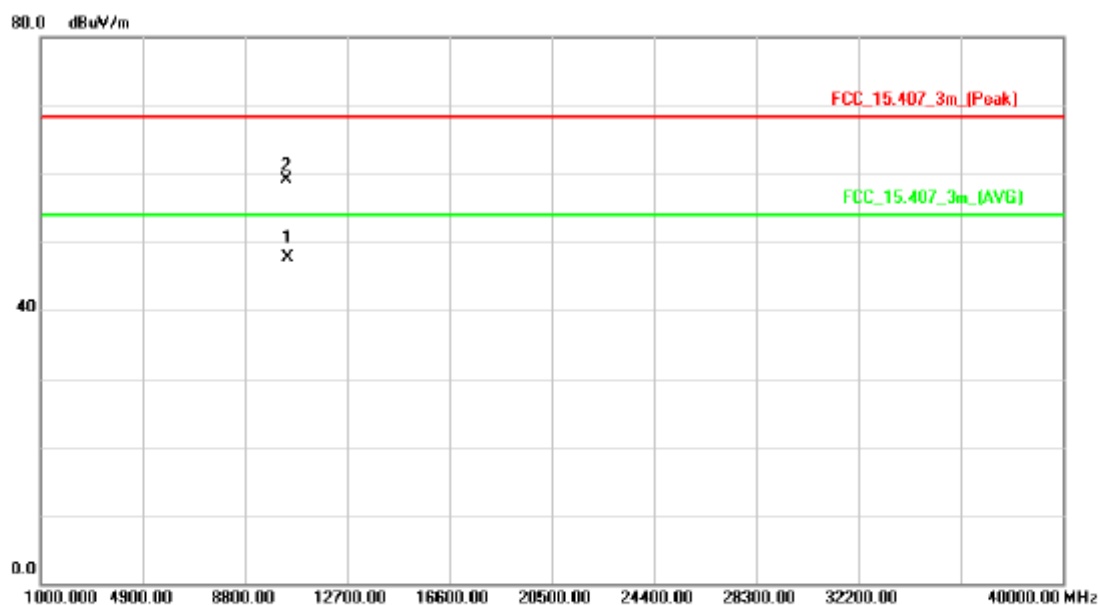
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10360.45	43.07	15.70	58.77	68.30	-9.53	peak	
2	*	10360.45	32.13	15.70	47.83	54.00	-6.17	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

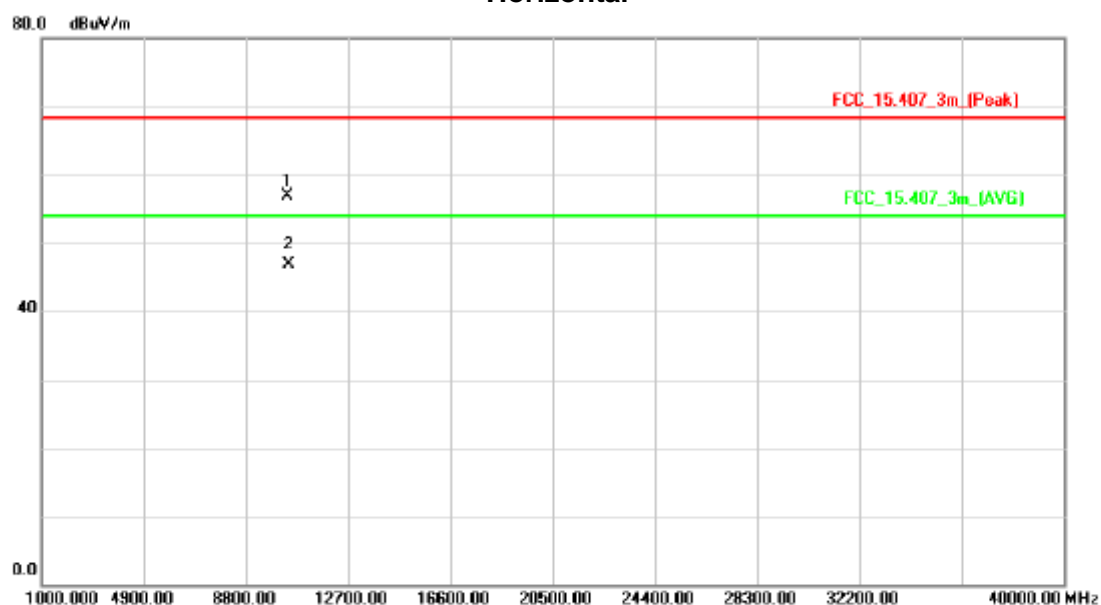
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	10399.62	32.09	15.64	47.73	54.00	-6.27	AVG	
2		10400.62	43.55	15.63	59.18	68.30	-9.12	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

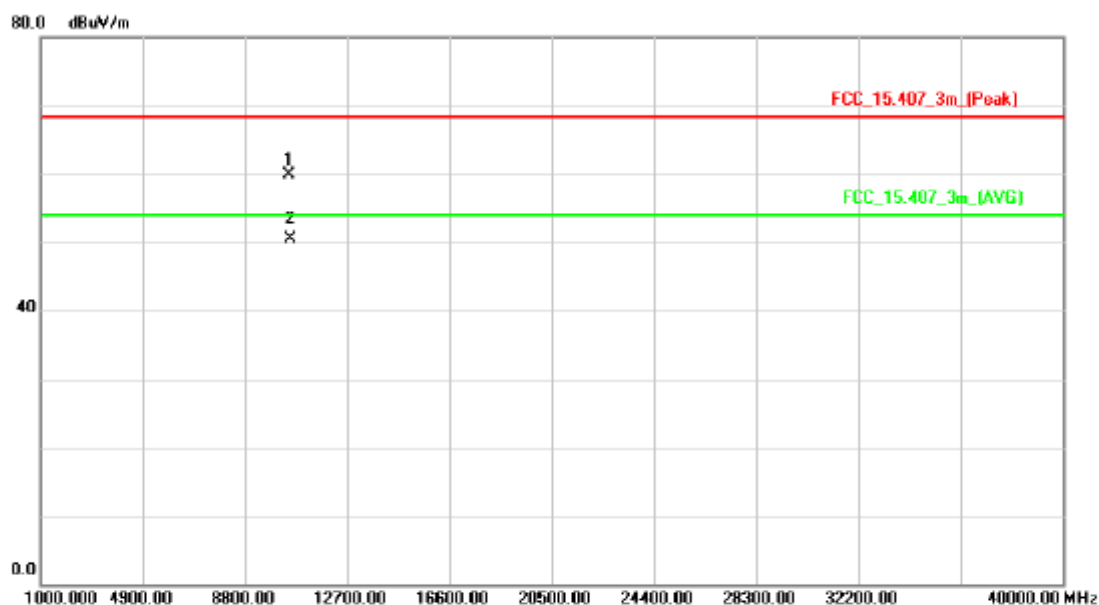
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10400.54	41.22	15.64	56.86	68.30	-11.44	peak	
2	*	10401.54	31.31	15.63	46.94	54.00	-7.06	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

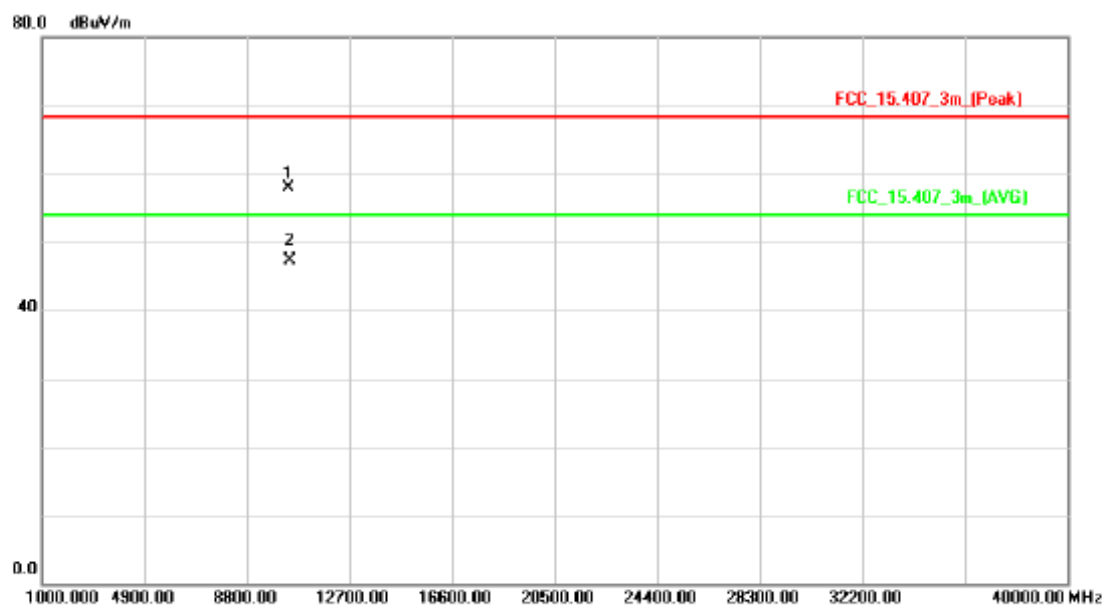
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10480.24	44.35	15.51	59.86	68.30	-8.44	peak	
2	*	10480.24	35.05	15.51	50.56	54.00	-3.44	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

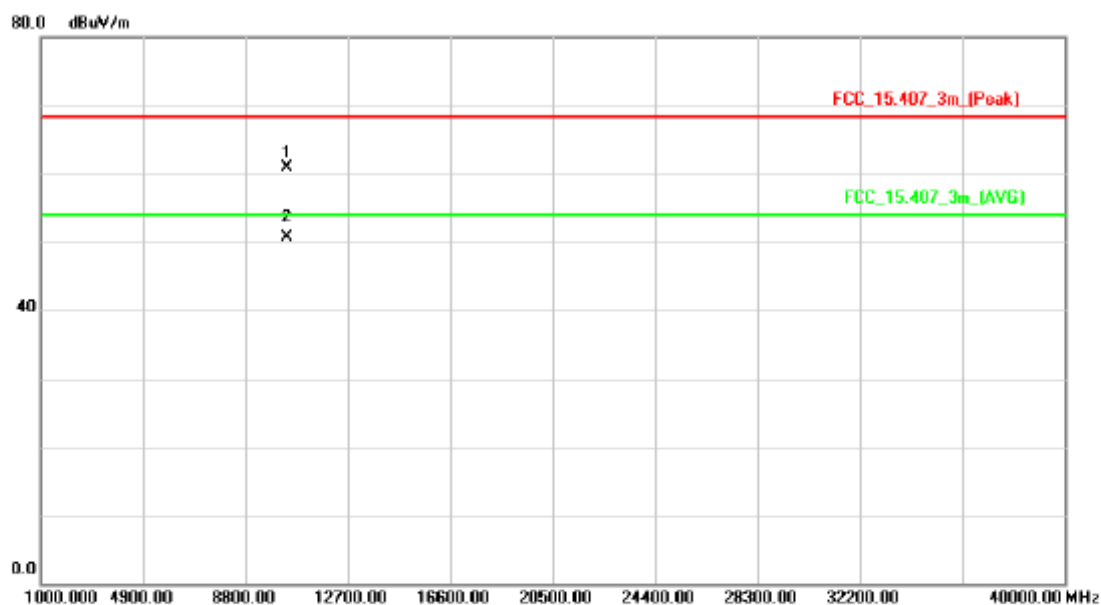
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10400.24	42.25	15.64	57.89	68.30	-10.41	peak	
2	*	10401.24	31.61	15.63	47.24	54.00	-6.76	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5190MHz

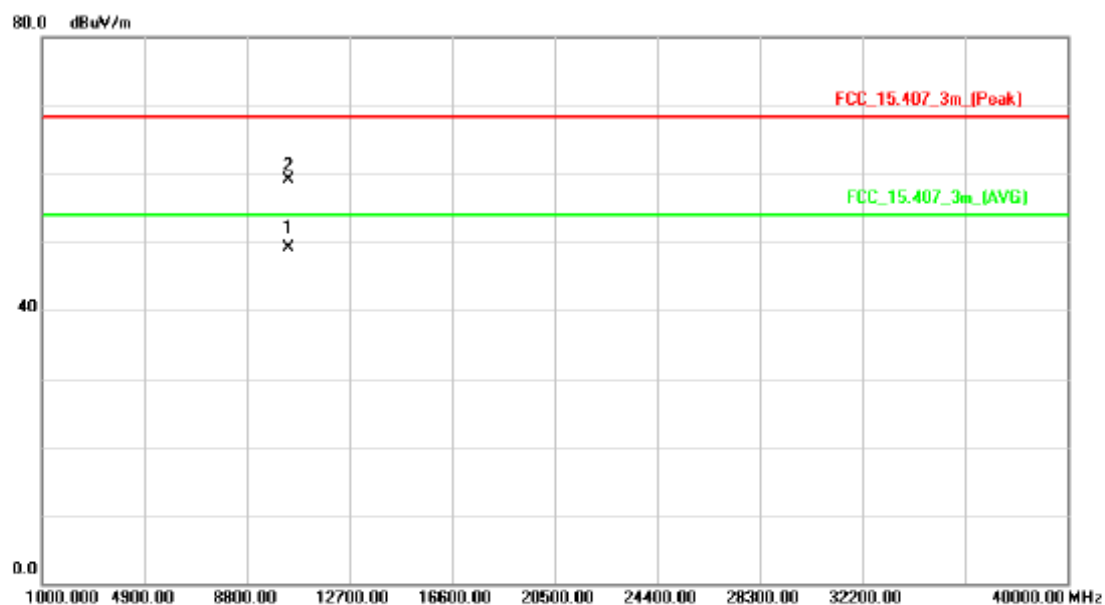
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10380.32	45.33	15.67	61.00	68.30	-7.30	peak	
2	*	10381.32	35.09	15.67	50.76	54.00	-3.24	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5190MHz

### Horizontal

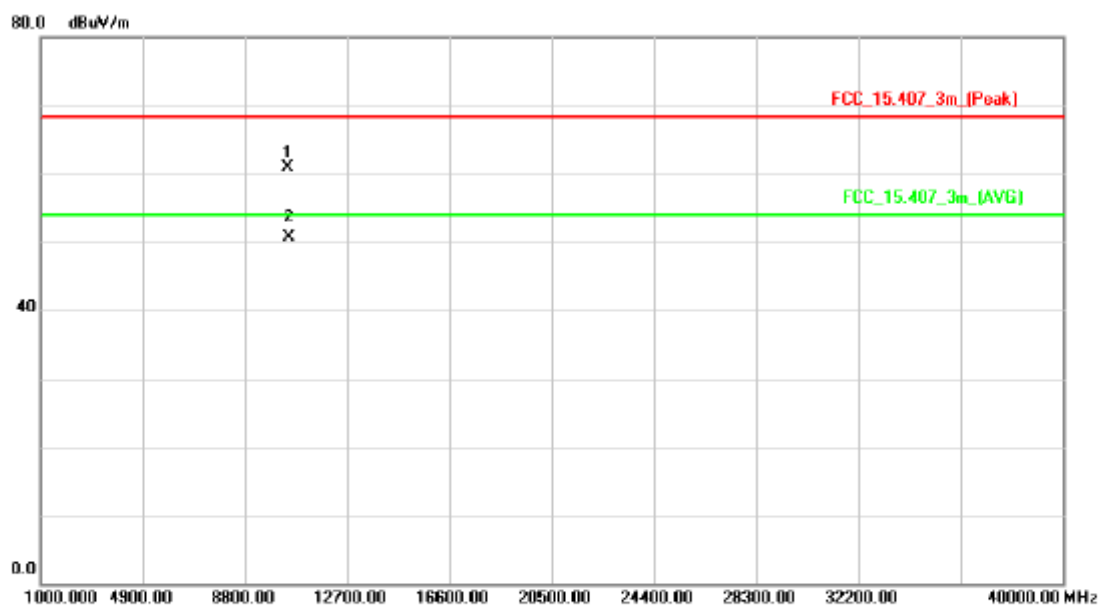


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	10379.23	33.52	15.67	49.19	54.00	-4.81	AVG	
2		10380.23	43.41	15.67	59.08	68.30	-9.22	peak	



Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5230MHz

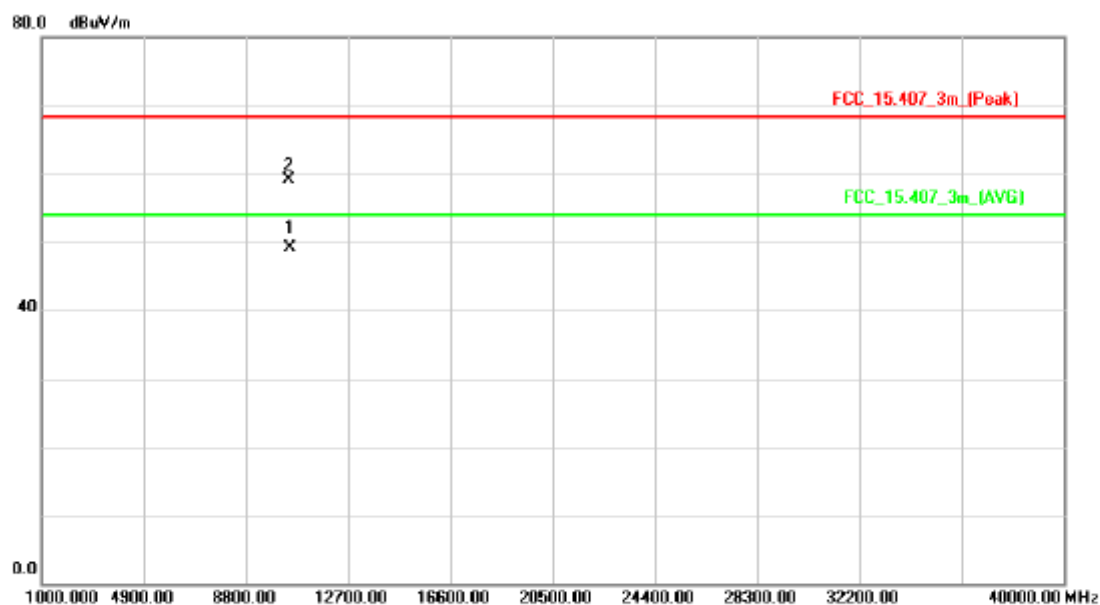
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		10459.75	45.46	15.54	61.00	68.30	-7.30	peak	
2	*	10460.75	35.22	15.54	50.76	54.00	-3.24	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5230MHz

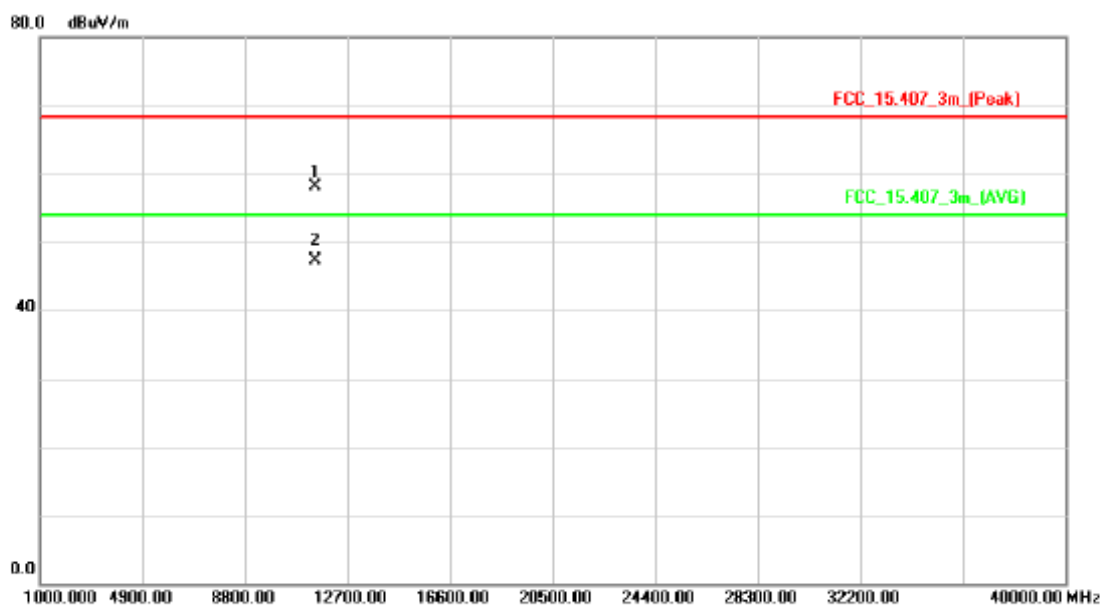
### Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10460.35	33.65	15.54	49.19	54.00	-4.81	AVG	
2		10461.35	43.54	15.54	59.08	68.30	-9.22	peak	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5745MHz

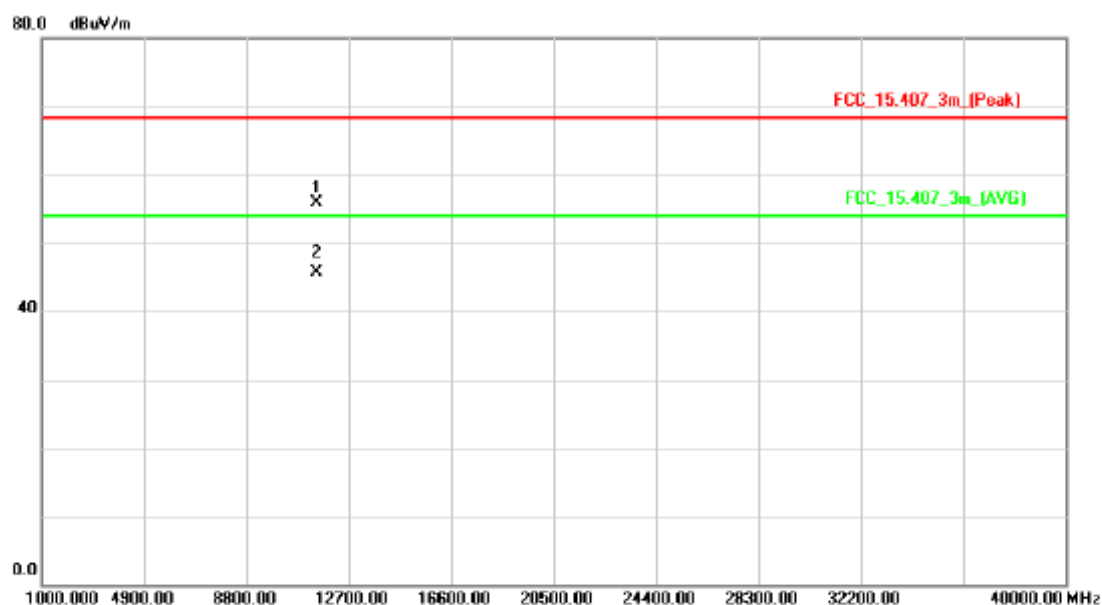
### Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		11490.40	41.65	16.47	58.12	68.30	-10.18	peak	
2	*	11490.40	30.89	16.47	47.36	54.00	-6.64	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5745MHz

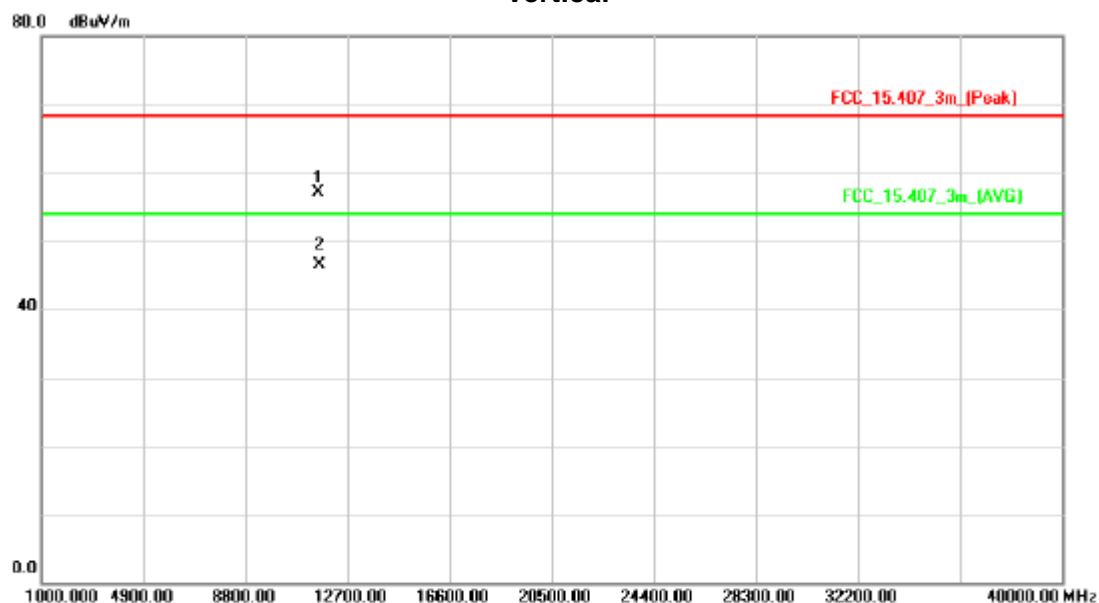
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11484.40	39.52	16.45	55.97	68.30	-12.33	peak	
2	*	11490.40	29.19	16.47	45.66	54.00	-8.34	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5785MHz

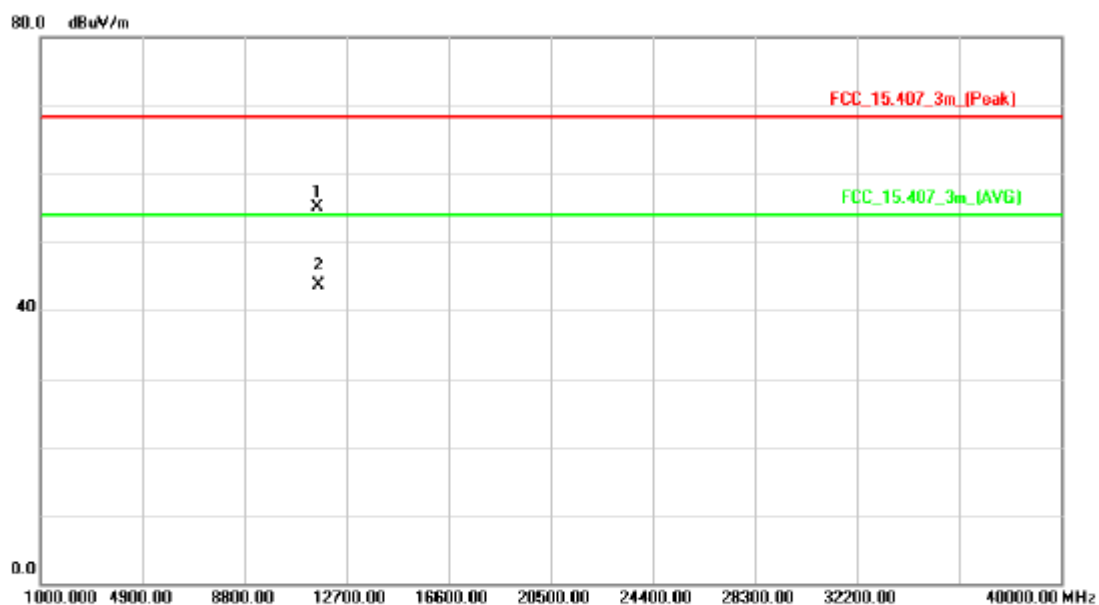
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11570.60	40.57	16.44	57.01	68.30	-11.29	peak	
2	*	11570.60	30.01	16.44	46.45	54.00	-7.55	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5785MHz

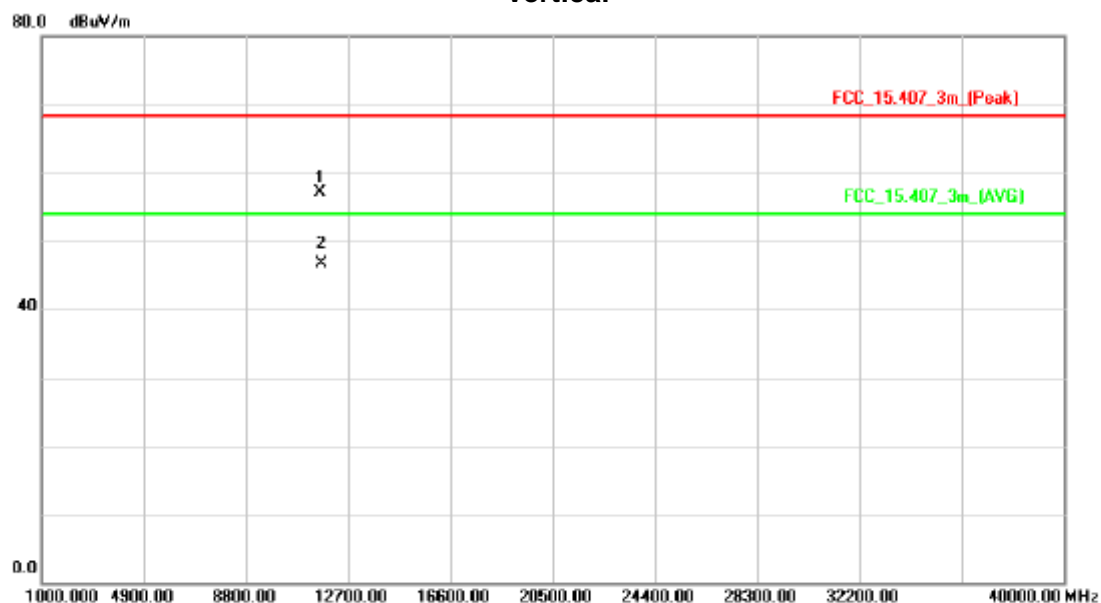
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11570.23	38.61	16.44	55.05	68.30	-13.25	peak	
2	*	11570.23	27.34	16.44	43.78	54.00	-10.22	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5825MHz

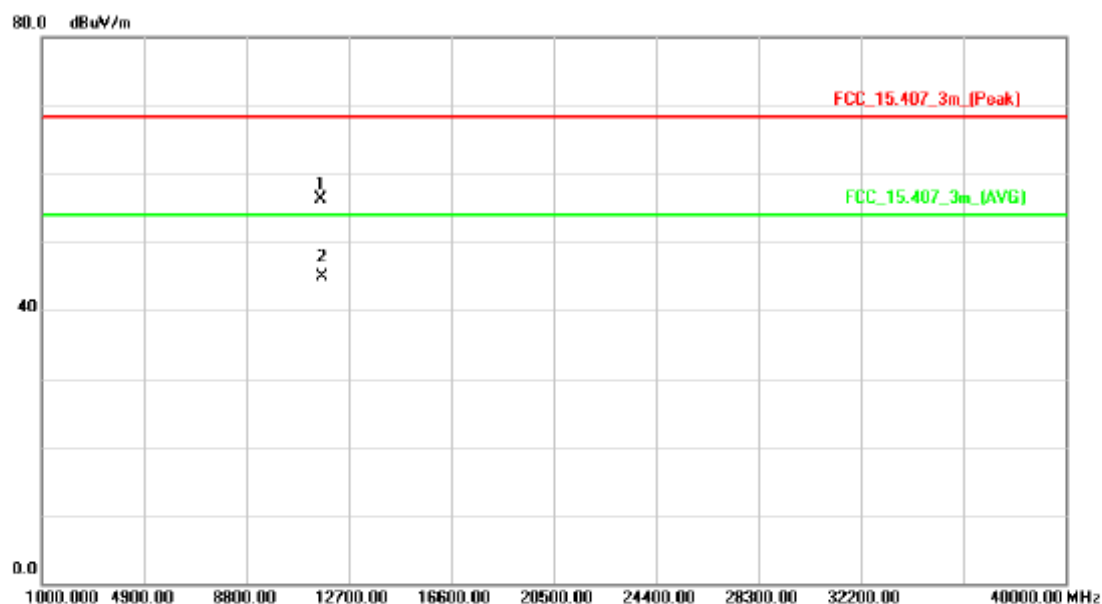
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11649.80	40.65	16.40	57.05	68.30	-11.25	peak	
2	*	11649.80	30.22	16.40	46.62	54.00	-7.38	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5825MHz

### Horizontal

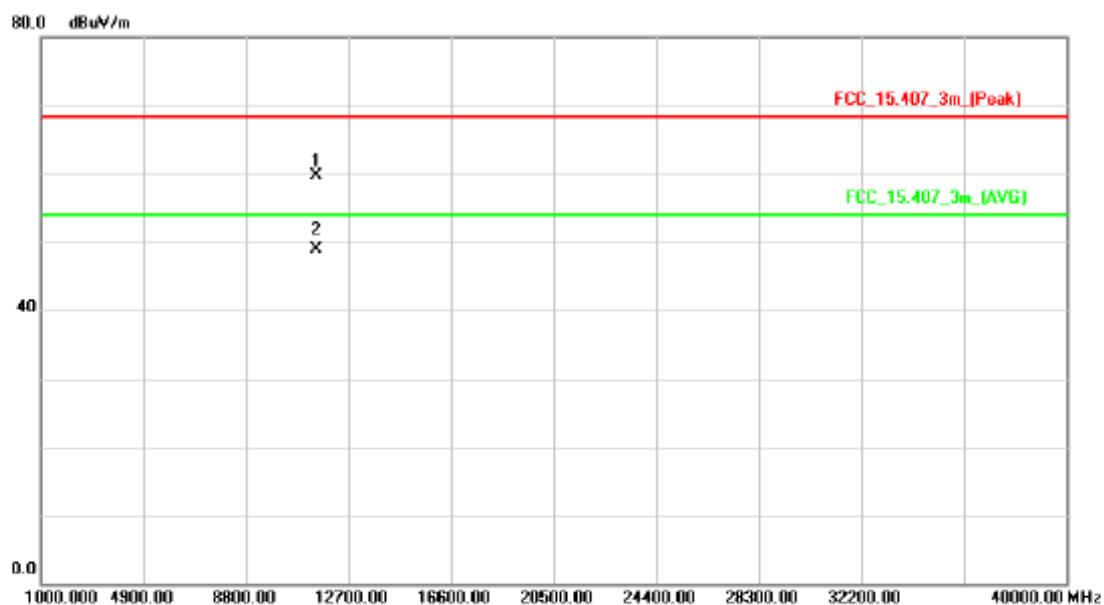


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11650.90	39.93	16.40	56.33	68.30	-11.97	peak	
2	*	11650.90	28.56	16.40	44.96	54.00	-9.04	AVG	



Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5745MHz

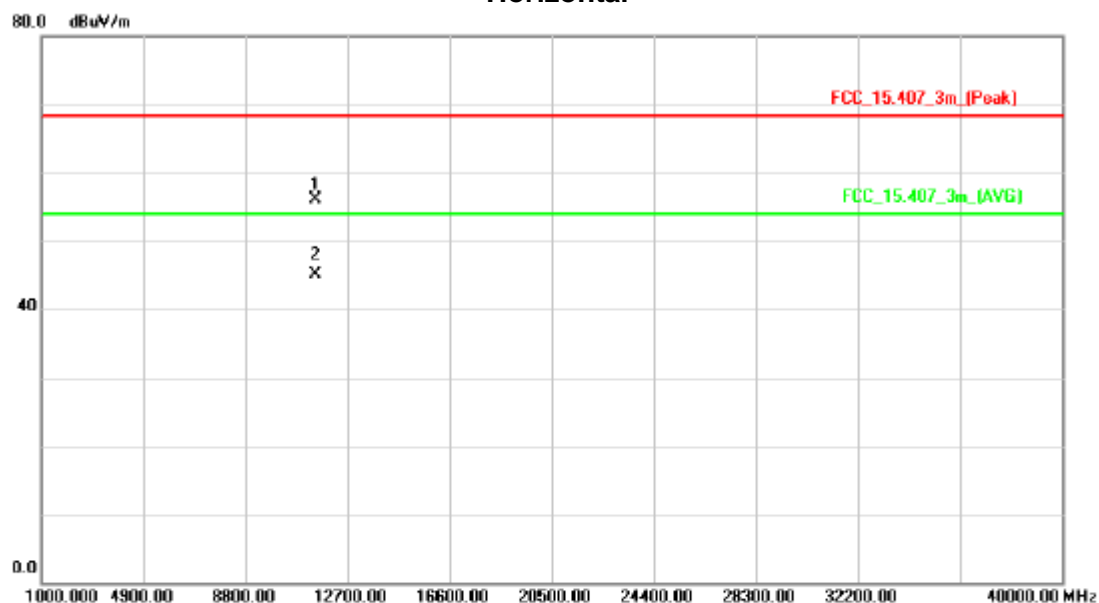
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11490.30	43.14	16.47	59.61	68.30	-8.69	peak	
2	*	11490.30	32.52	16.47	48.99	54.00	-5.01	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5745MHz

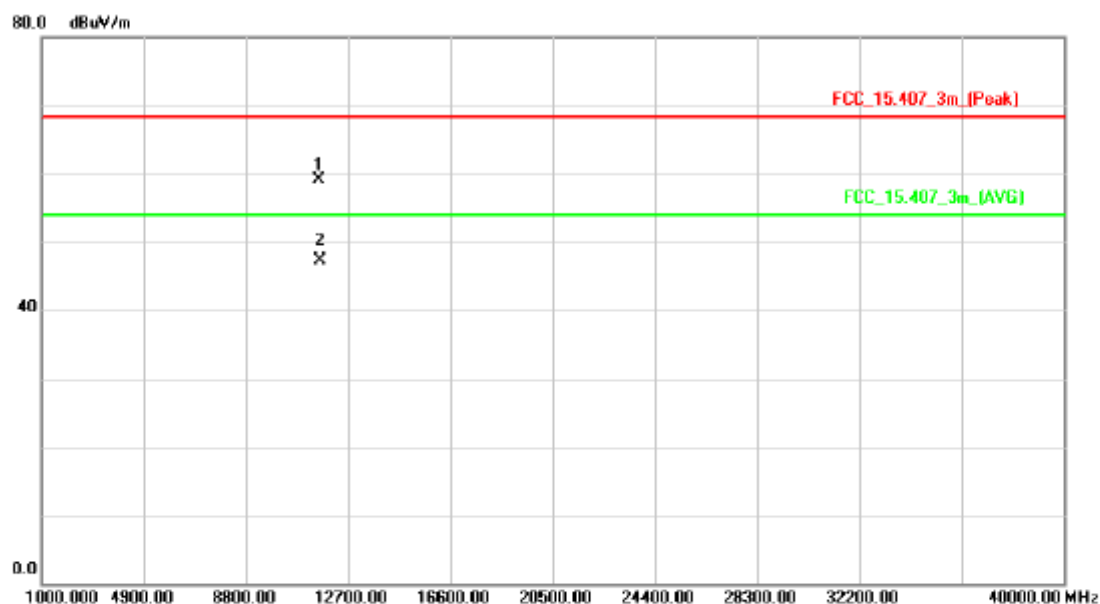
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11484.40	39.67	16.45	56.12	68.30	-12.18	peak	
2	*	11484.40	28.64	16.45	45.09	54.00	-8.91	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5785MHz

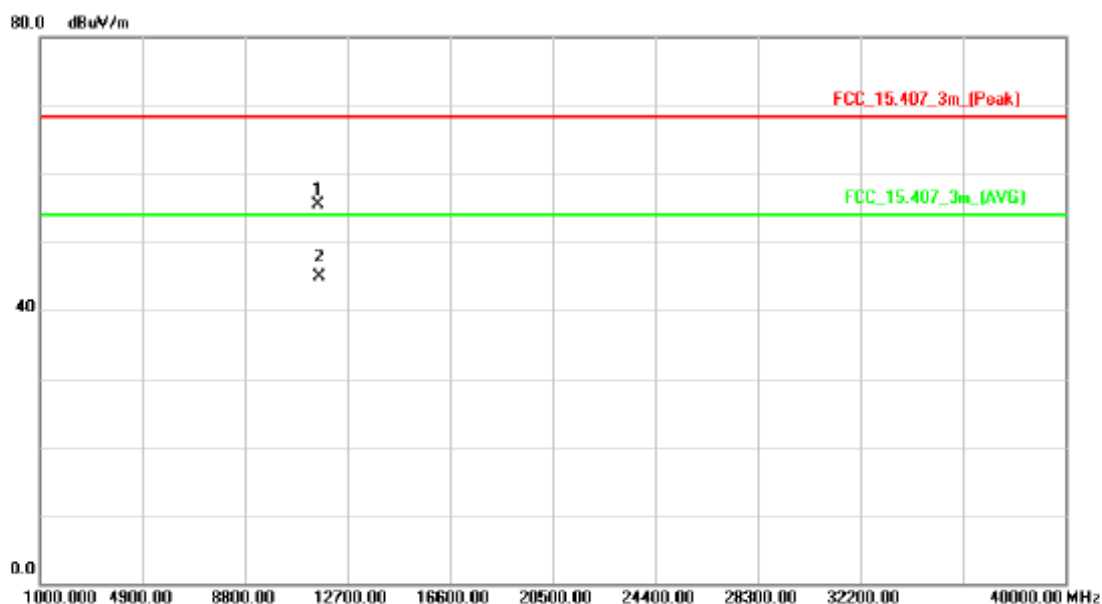
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11570.70	42.70	16.44	59.14	68.30	-9.16	peak	
2	*	11570.70	30.85	16.44	47.29	54.00	-6.71	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5785MHz

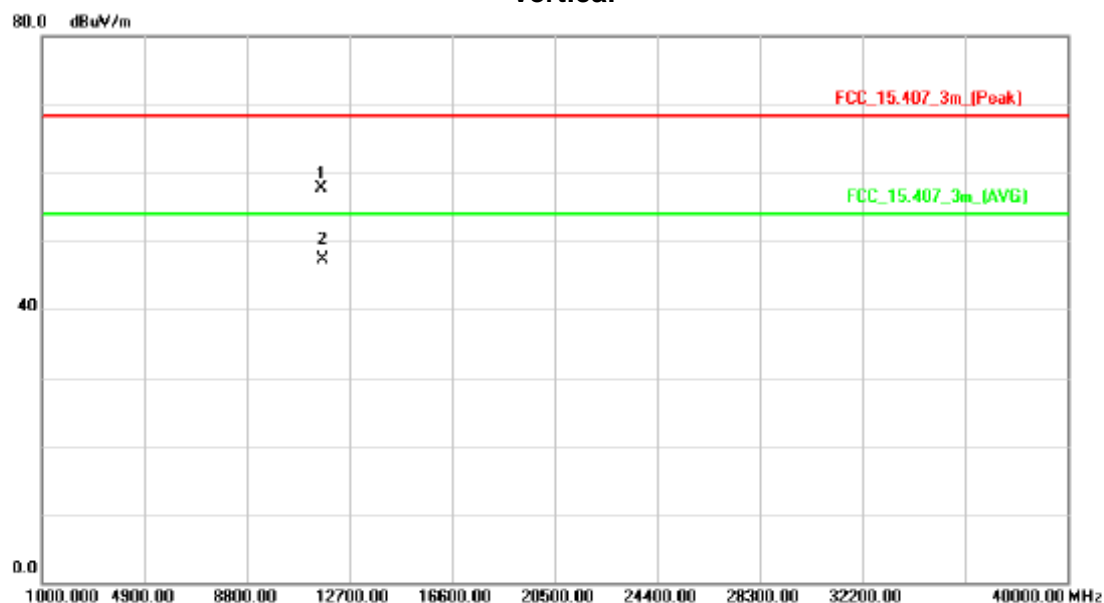
### Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11570.26	39.02	16.44	55.46	68.30	-12.84	peak	
2	*	11570.26	28.41	16.44	44.85	54.00	-9.15	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5825MHz

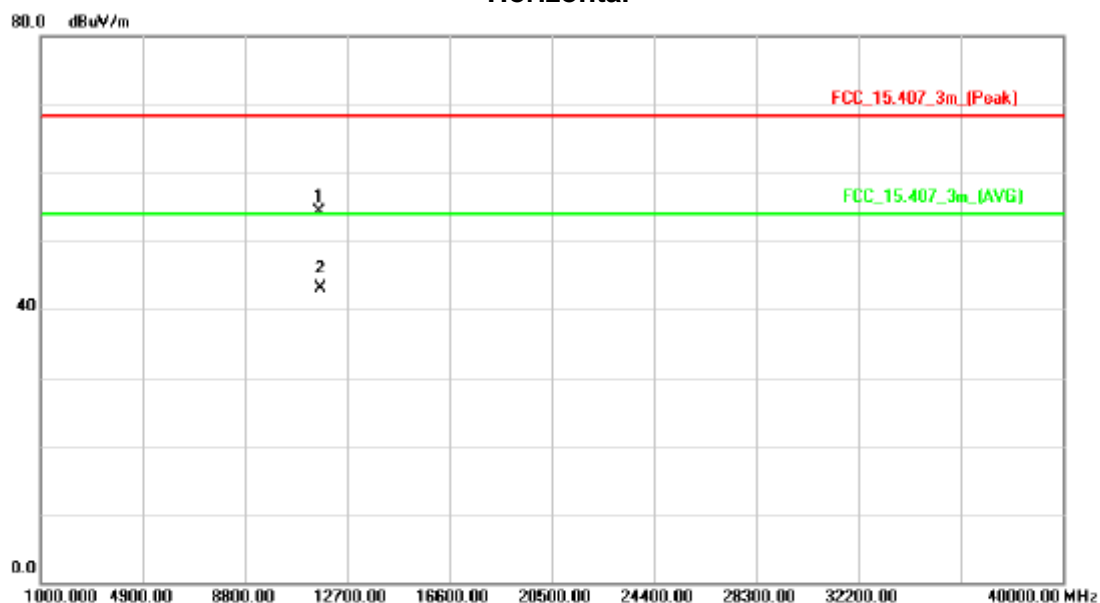
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11650.04	41.29	16.40	57.69	68.30	-10.61	peak	
2	*	11650.10	30.86	16.40	47.26	54.00	-6.74	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5825MHz

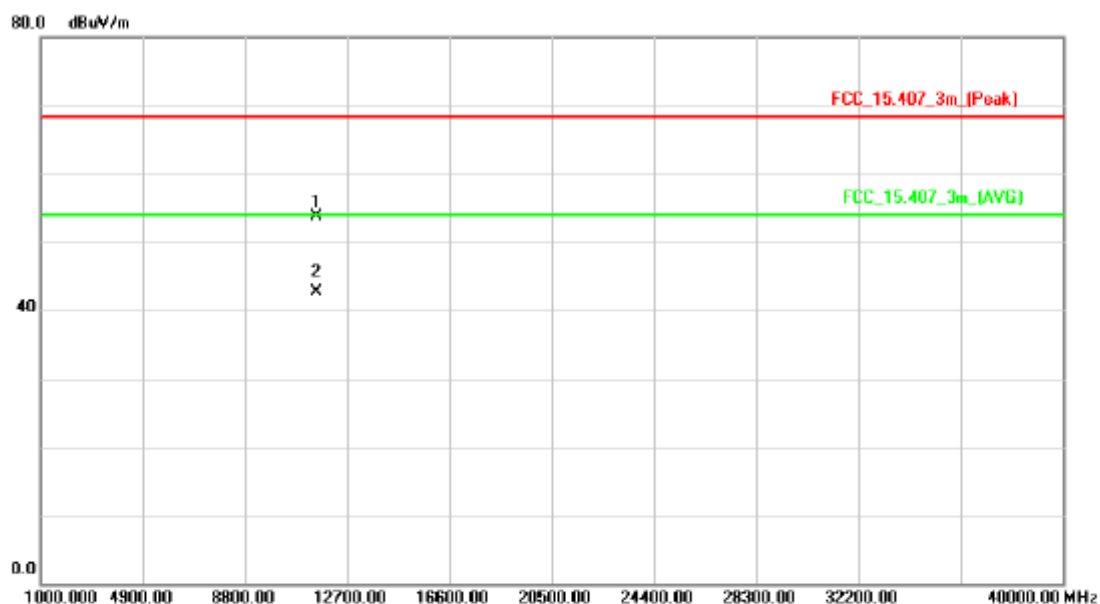
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11650.60	37.83	16.40	54.23	68.30	-14.07	peak	
2	*	11650.60	26.62	16.40	43.02	54.00	-10.98	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5755MHz

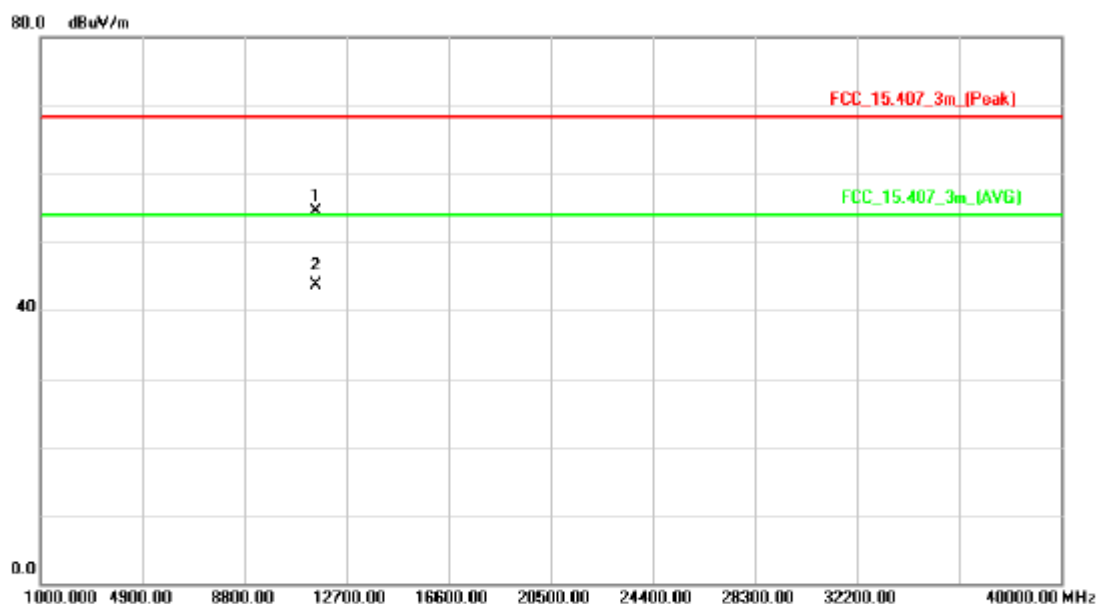
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11510.45	37.30	16.49	53.79	68.30	-14.51	peak	
2	*	11510.45	26.24	16.49	42.73	54.00	-11.27	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5755MHz

### Horizontal

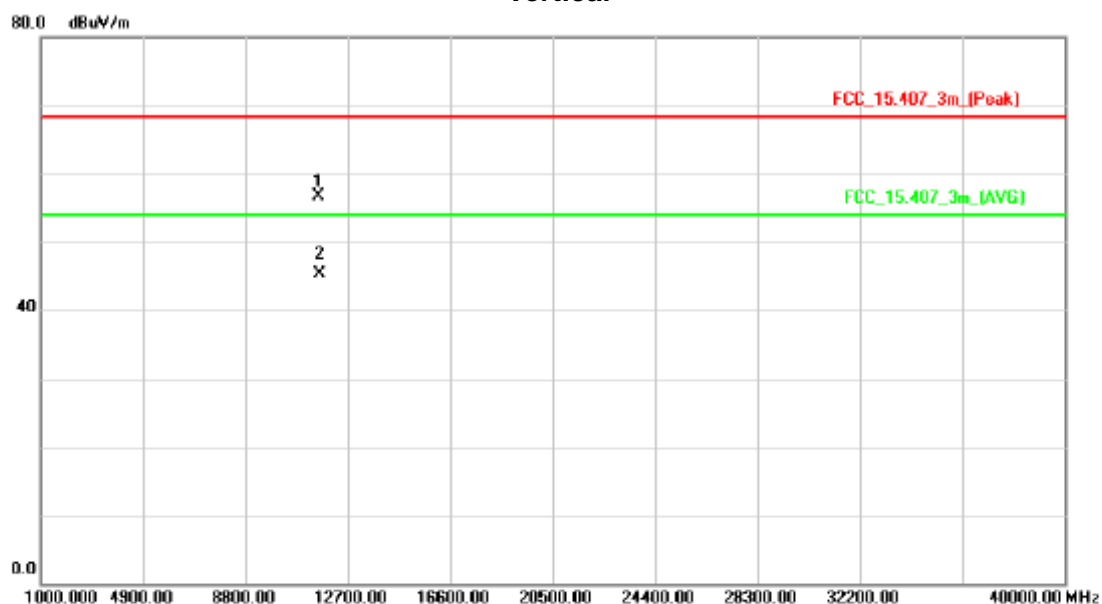


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11510.26	38.00	16.49	54.49	68.30	-13.81	peak	
2	*	11510.26	27.13	16.49	43.62	54.00	-10.38	AVG	



Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5795MHz

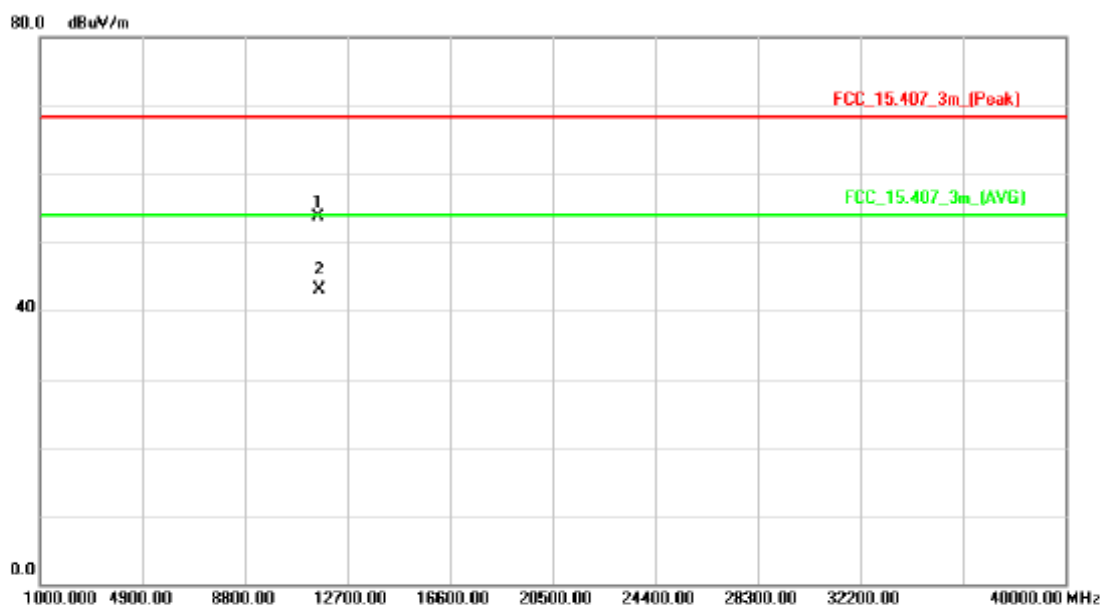
### Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11590.08	40.20	16.43	56.63	68.30	-11.67	peak	
2	*	11590.08	28.85	16.43	45.28	54.00	-8.72	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5795MHz

### Horizontal

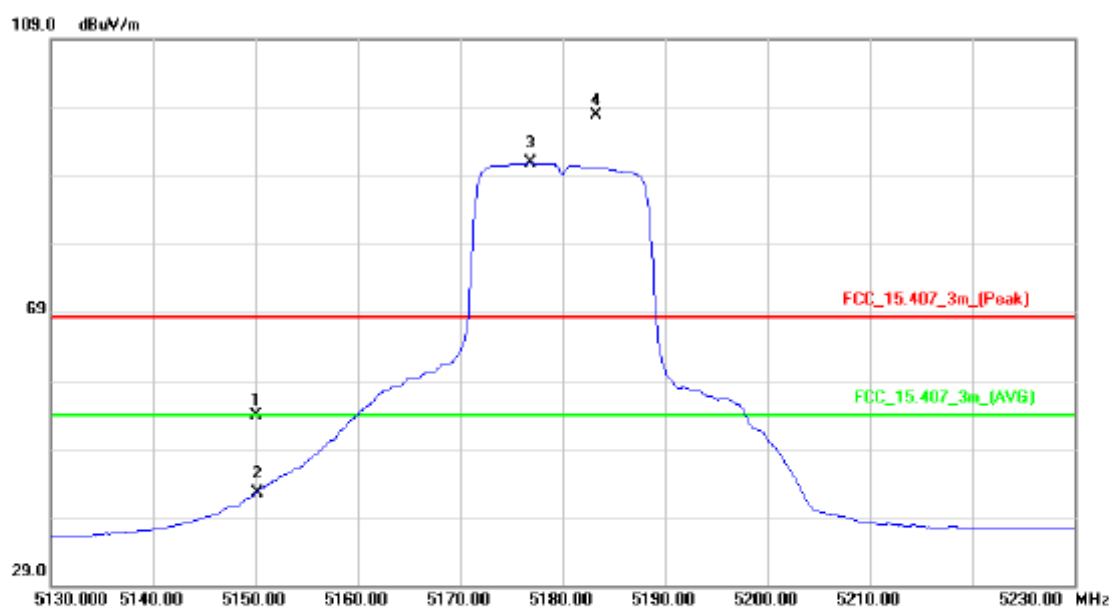


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11590.08	37.21	16.43	53.64	68.30	-14.66	peak	
2	*	11590.08	26.75	16.43	43.18	54.00	-10.82	AVG	

## **ATTACHMENT E - BAND EDGE AND FUNDAMENTAL EMISSIONS**

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

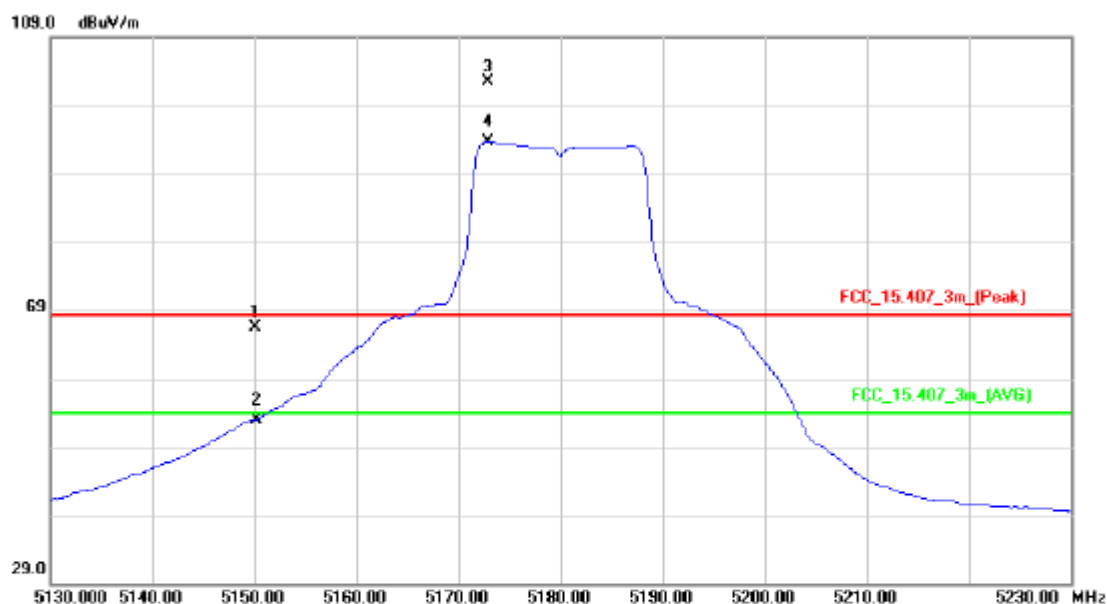
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	14.83	39.00	53.83	68.30	-14.47	peak	band edge
2		5150.000	3.52	39.00	42.52	54.00	-11.48	AVG	band edge
3	*	5176.800	51.72	39.09	90.81	54.00	36.81	AVG	no limit
4	X	5183.200	58.72	39.11	97.83	68.30	29.53	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

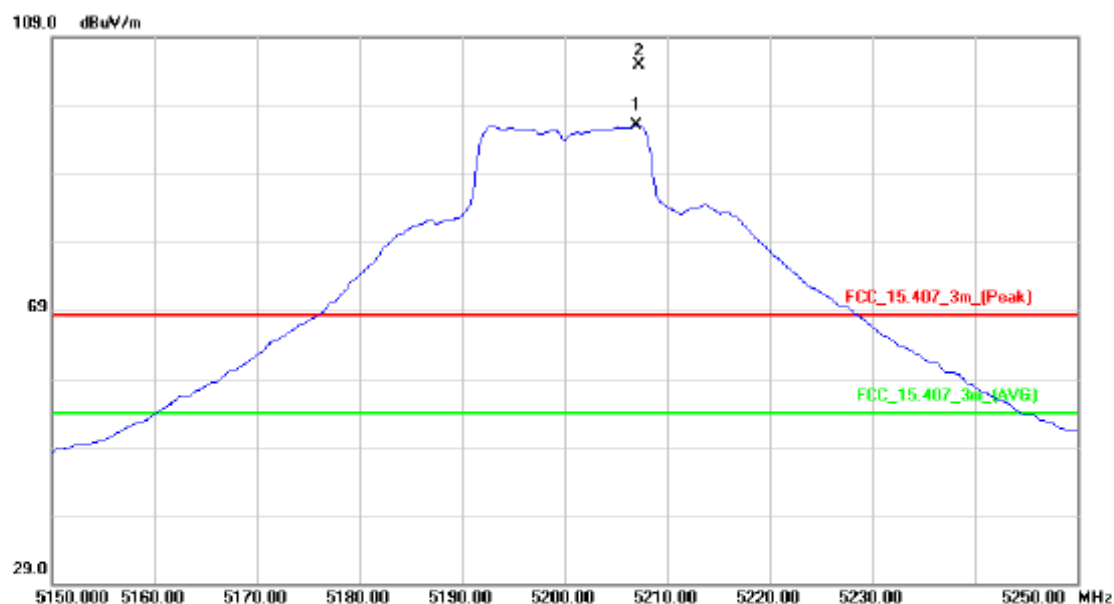
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	27.48	39.00	66.48	68.30	-1.82	peak	band edge
2		5150.000	13.92	39.00	52.92	54.00	-1.08	AVG	band edge
3	X	5172.900	63.36	39.07	102.43	68.30	34.13	peak	no limit
4	*	5172.900	54.63	39.07	93.70	54.00	39.70	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

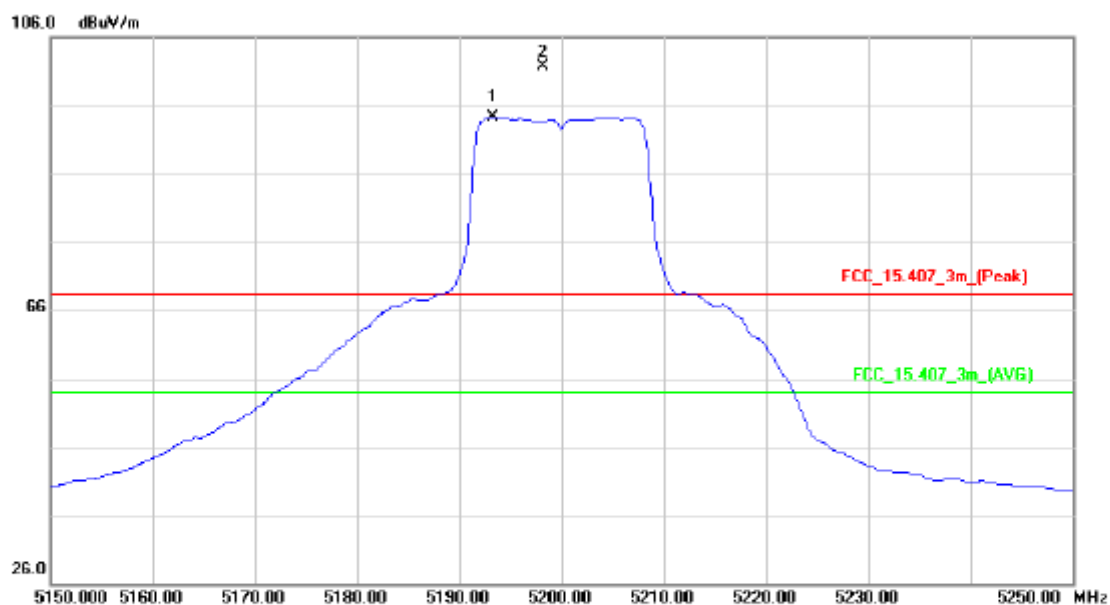
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5207.000	56.82	39.19	96.01	54.00	42.01	A/VG	no limit
2	X	5207.200	65.79	39.19	104.98	68.30	36.68	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

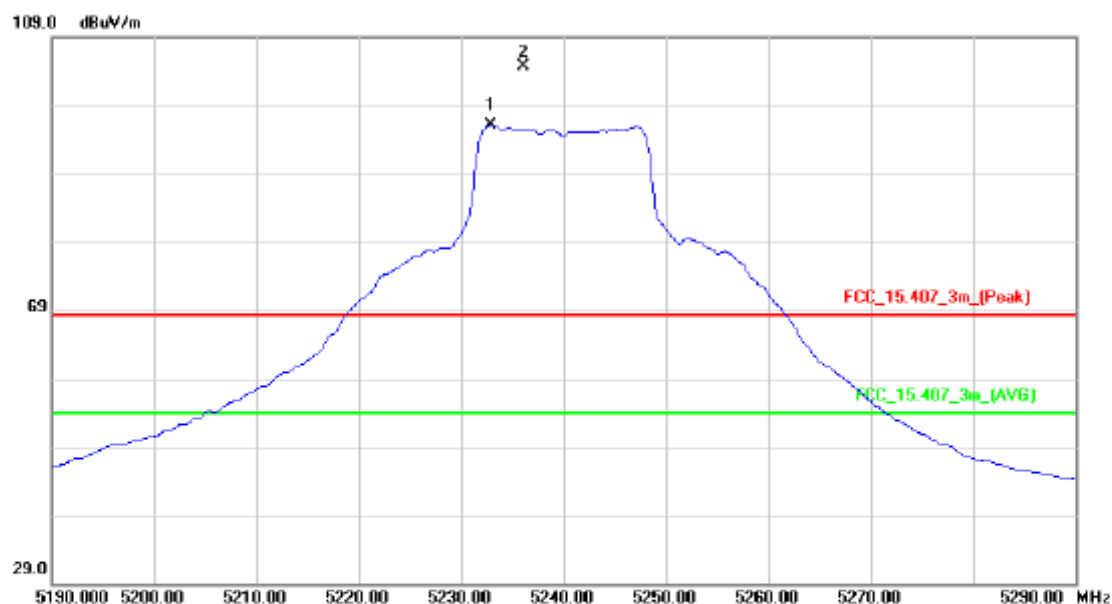
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5193.300	55.17	39.15	94.32	54.00	40.32	AVG	no limit
2	X	5198.200	62.65	39.15	101.80	68.30	33.50	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz

### Vertical

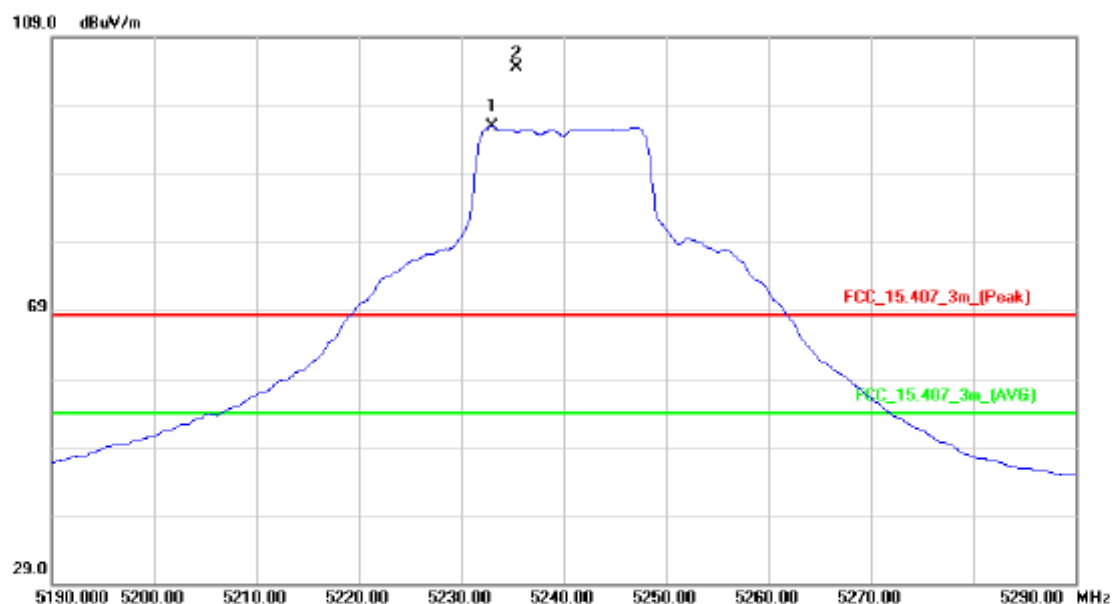


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5232.900	56.88	39.27	96.15	54.00	42.15	AVG	no limit
2	X	5236.000	65.41	39.28	104.69	68.30	36.39	peak	no limit



Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz

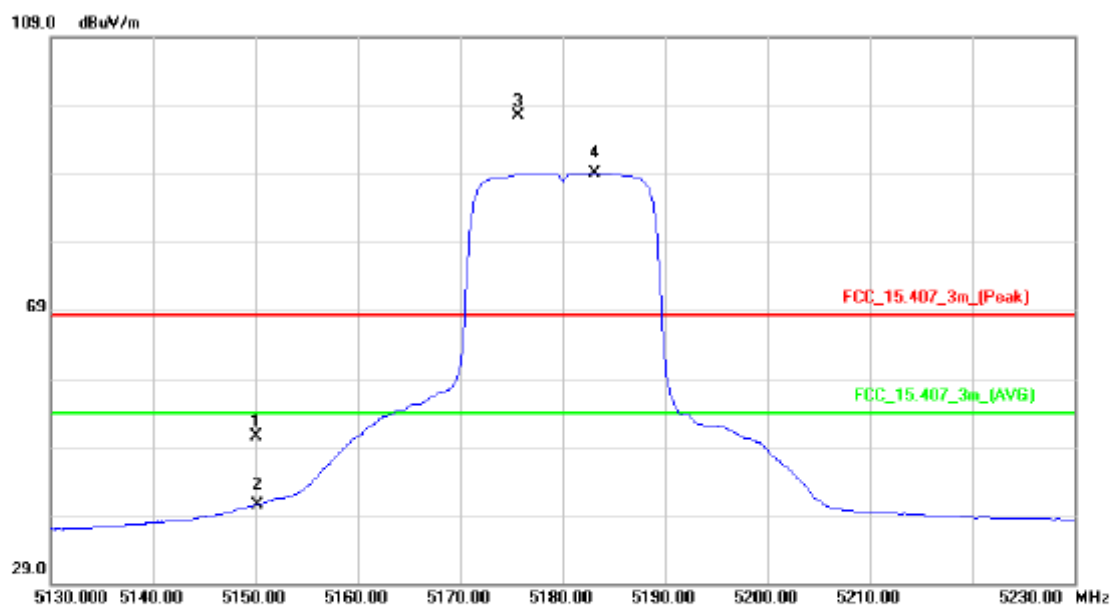
### Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5233.000	56.64	39.27	95.91	54.00	41.91	AVG	no limit
2	X	5235.400	65.15	39.28	104.43	68.30	36.13	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

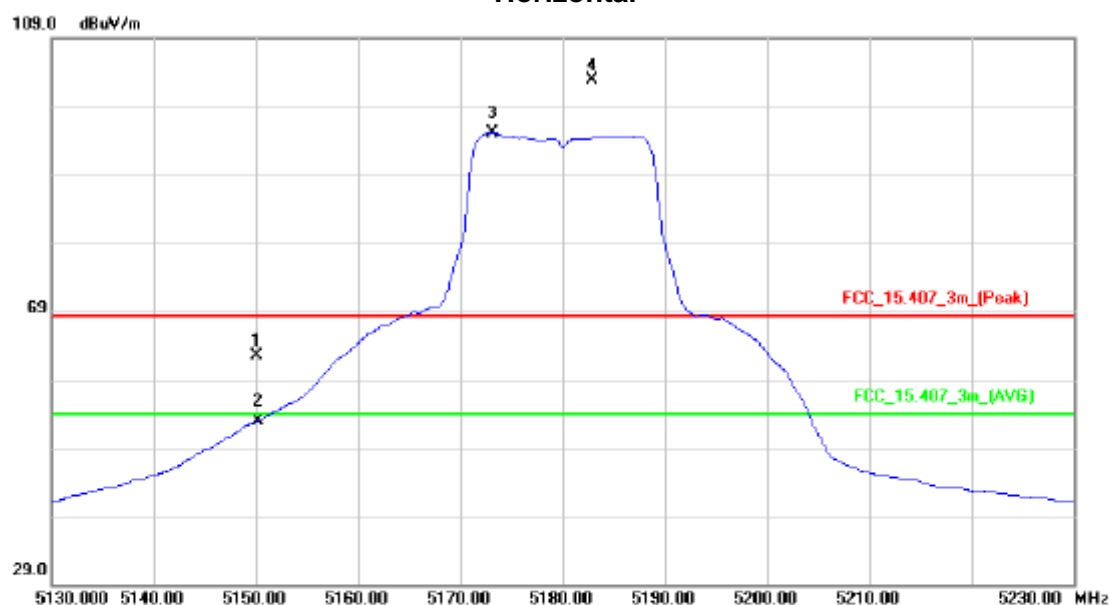
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	11.56	39.00	50.56	68.30	-17.74	peak	band edge
2		5150.000	1.52	39.00	40.52	54.00	-13.48	AVG	band edge
3	X	5175.600	58.52	39.08	97.60	68.30	29.30	peak	no limit
4	*	5183.100	50.08	39.11	89.19	54.00	35.19	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

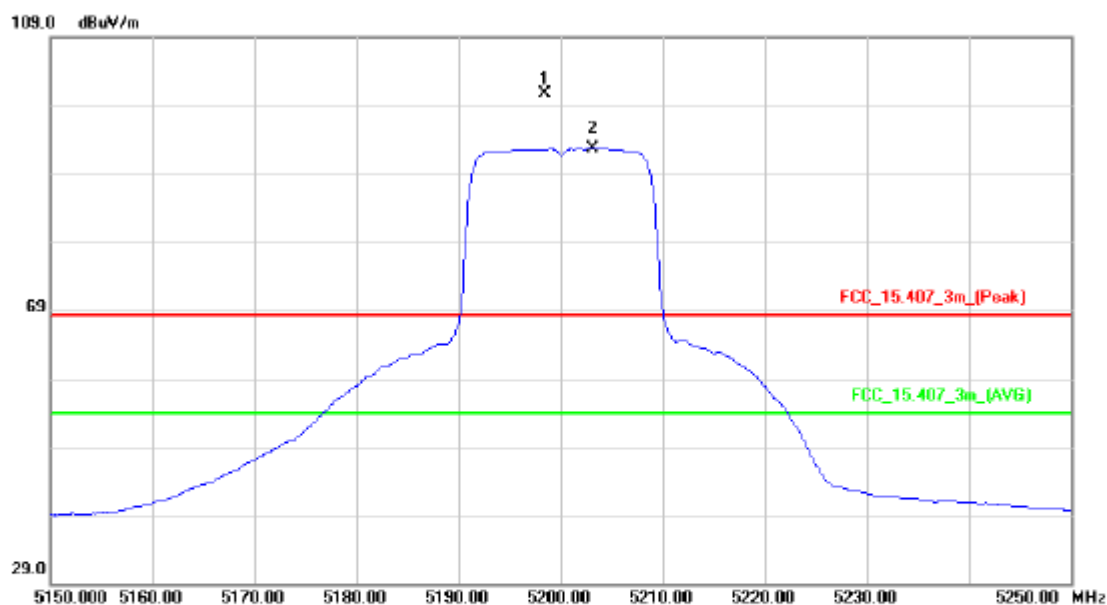
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	23.49	39.00	62.49	68.30	-5.81	peak	band edge
2		5150.000	13.83	39.00	52.83	54.00	-1.17	AVG	band edge
3	*	5173.100	56.08	39.07	95.15	54.00	41.15	AVG	no limit
4	X	5182.800	63.80	39.11	102.91	68.30	34.61	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

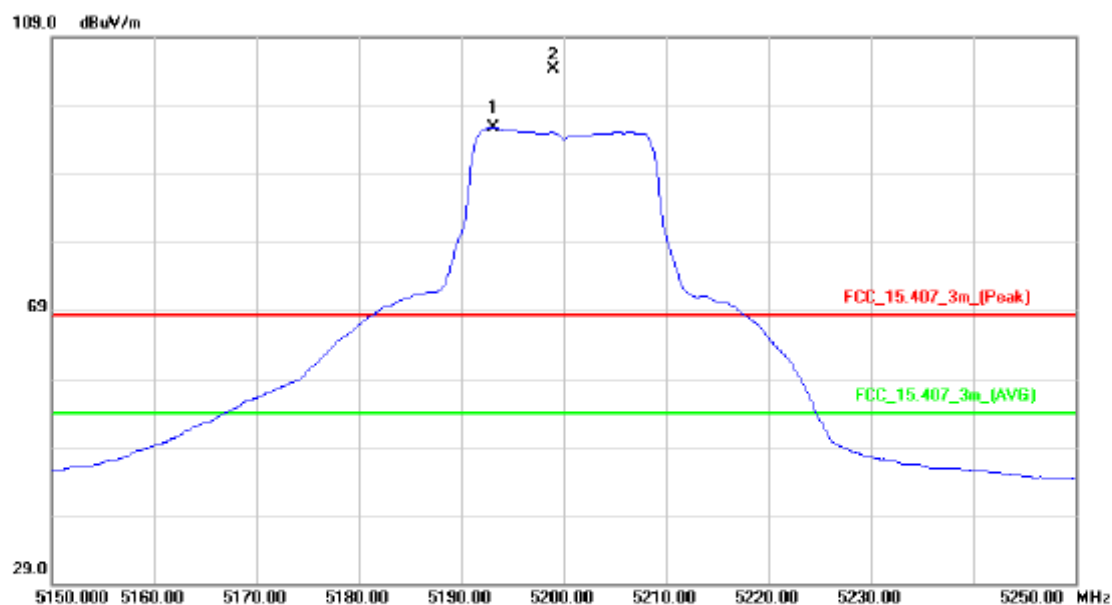
### Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5198.400	61.53	39.15	100.68	68.30	32.38	peak	no limit
2	*	5203.100	53.56	39.17	92.73	54.00	38.73	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

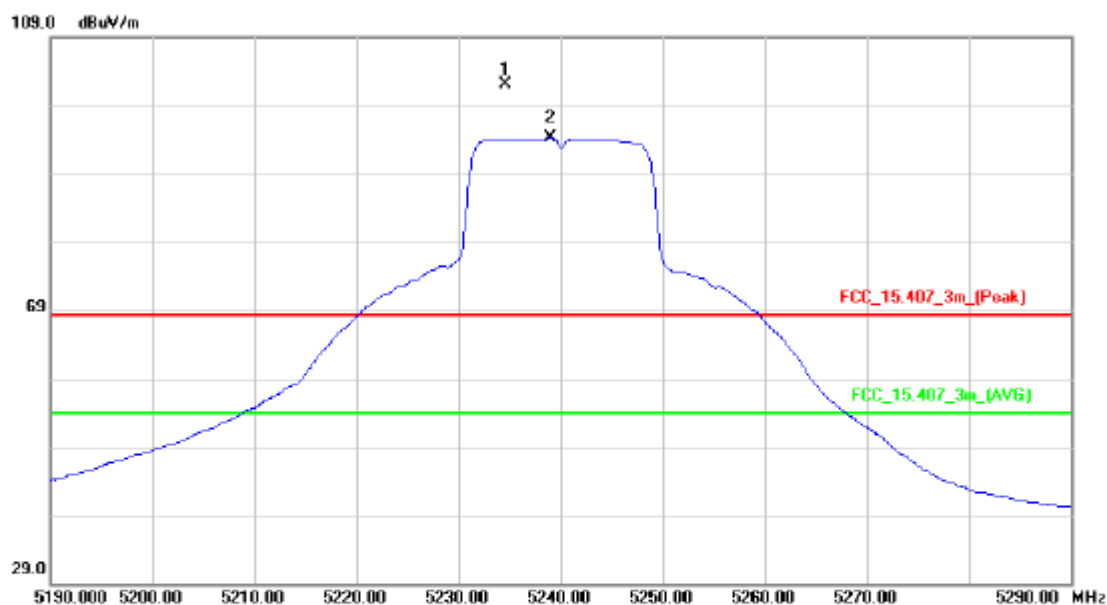
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5193.100	56.61	39.15	95.76	54.00	41.76	AVG	no limit
2	X	5199.000	65.18	39.16	104.34	68.30	36.04	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

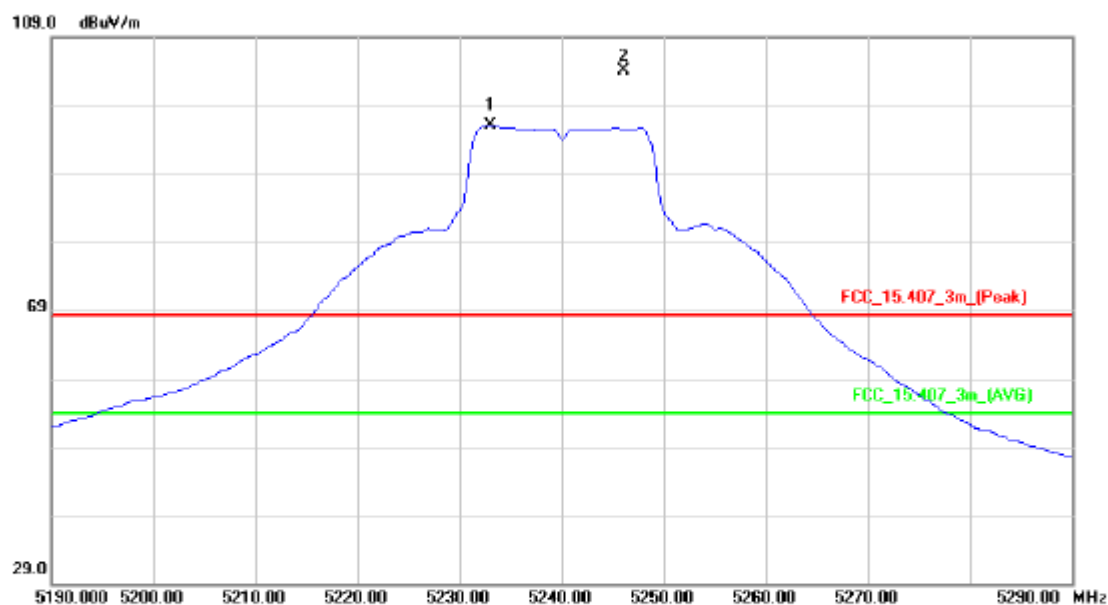
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5234.600	62.78	39.27	102.05	68.30	33.75	peak	no limit
2	*	5239.000	54.93	39.29	94.22	54.00	40.22	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

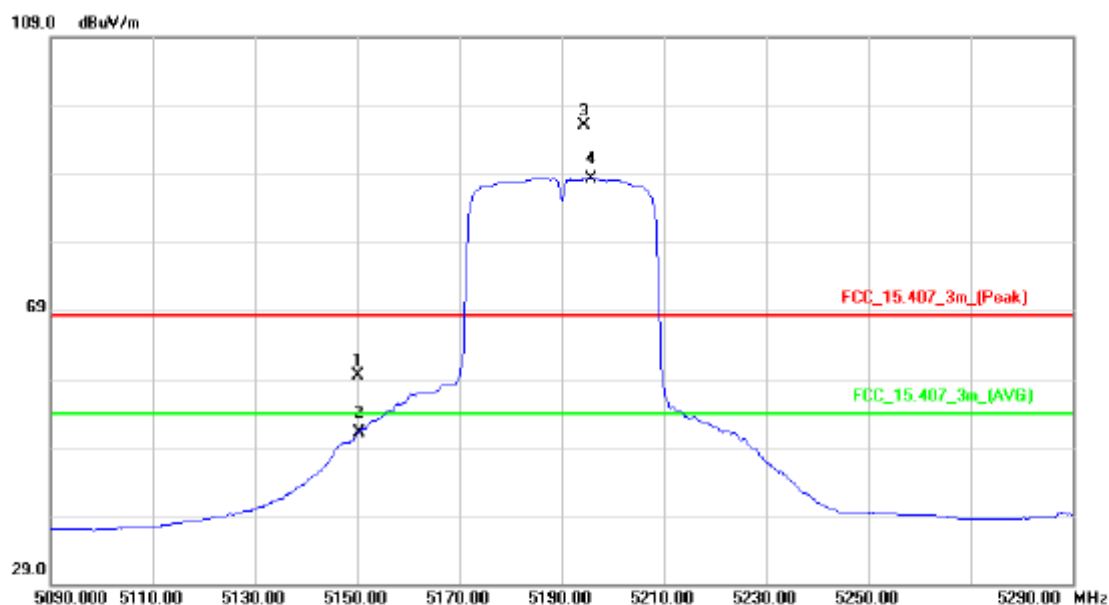
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5233.000	56.87	39.27	96.14	54.00	42.14	AVG	no limit
2	X	5246.000	64.80	39.32	104.12	68.30	35.82	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5190MHz

### Vertical

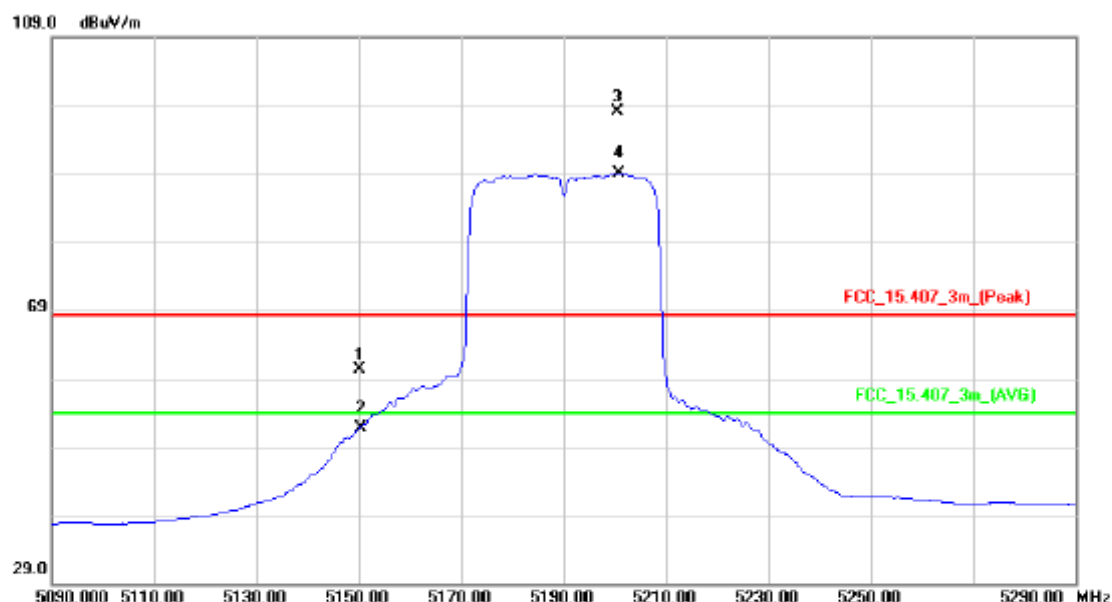


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	20.48	39.00	59.48	68.30	-8.82	peak	band edge
2		5150.000	12.08	39.00	51.08	54.00	-2.92	AVG	band edge
3	X	5194.400	56.95	39.15	96.10	68.30	27.80	peak	no limit
4	*	5195.600	49.19	39.15	88.34	54.00	34.34	AVG	no limit



Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5190MHz

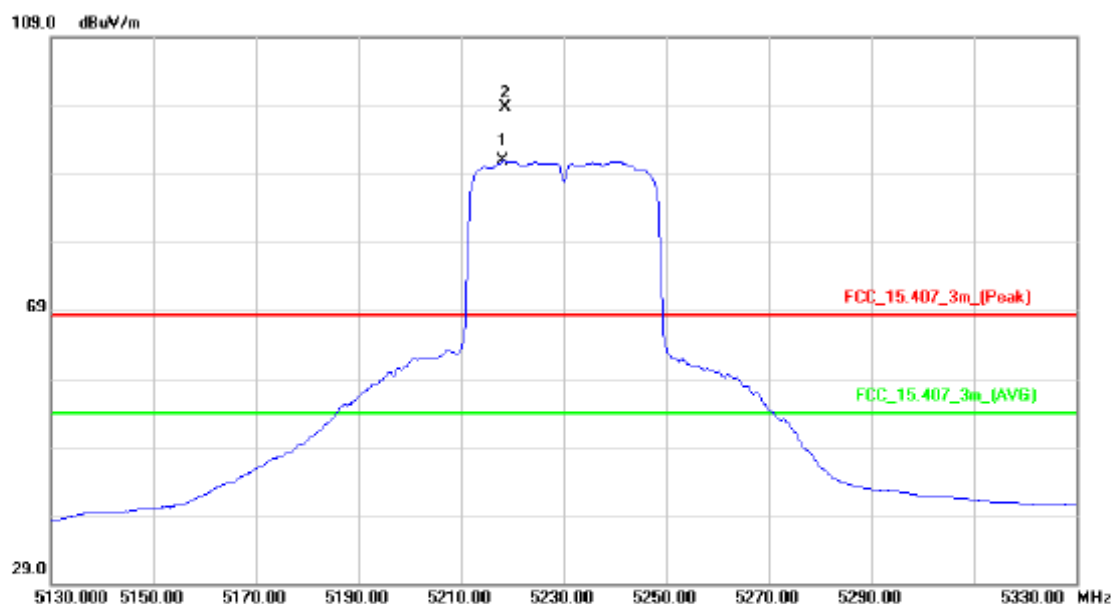
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	21.21	39.00	60.21	68.30	-8.09	peak	band edge
2		5150.000	12.77	39.00	51.77	54.00	-2.23	AVG	band edge
3	X	5200.400	58.94	39.16	98.10	68.30	29.80	peak	no limit
4	*	5200.800	49.95	39.16	89.11	54.00	35.11	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5230MHz

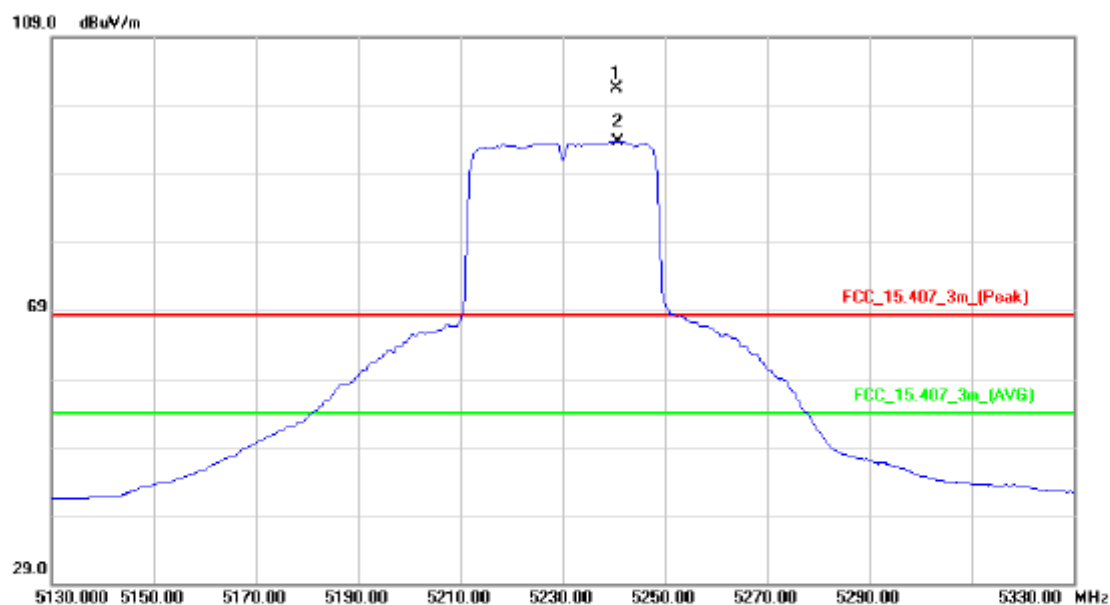
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5218.200	51.61	39.23	90.84	54.00	36.84	AVG	no limit
2	X	5218.600	59.47	39.23	98.70	68.30	30.40	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N40 Mode 5230MHz

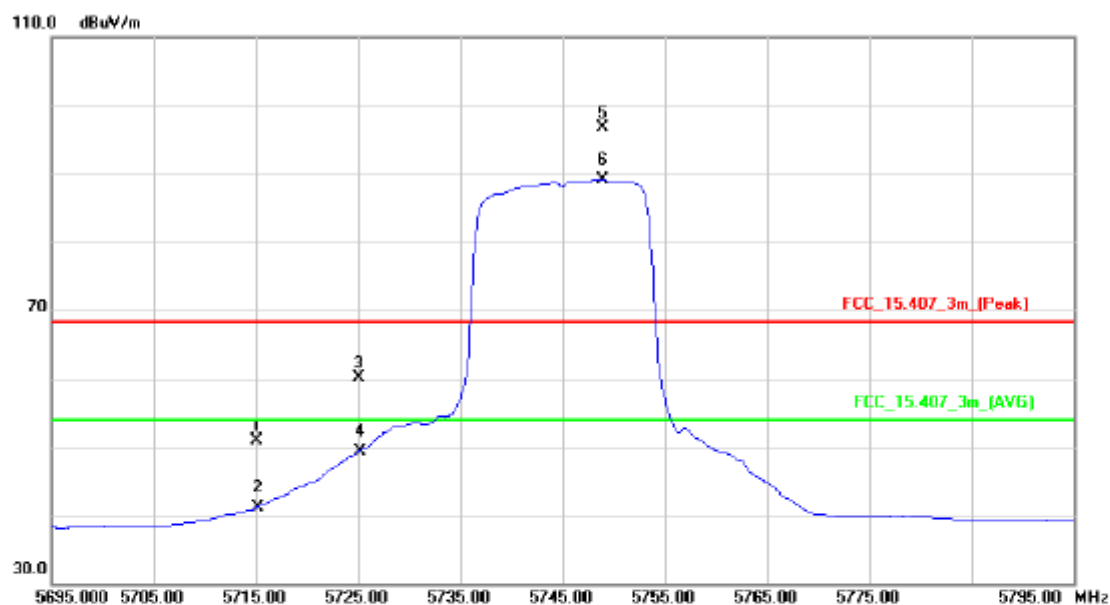
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5240.600	62.30	39.30	101.60	68.30	33.30	peak	no limit
2	*	5240.800	54.46	39.30	93.76	54.00	39.76	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5745MHz

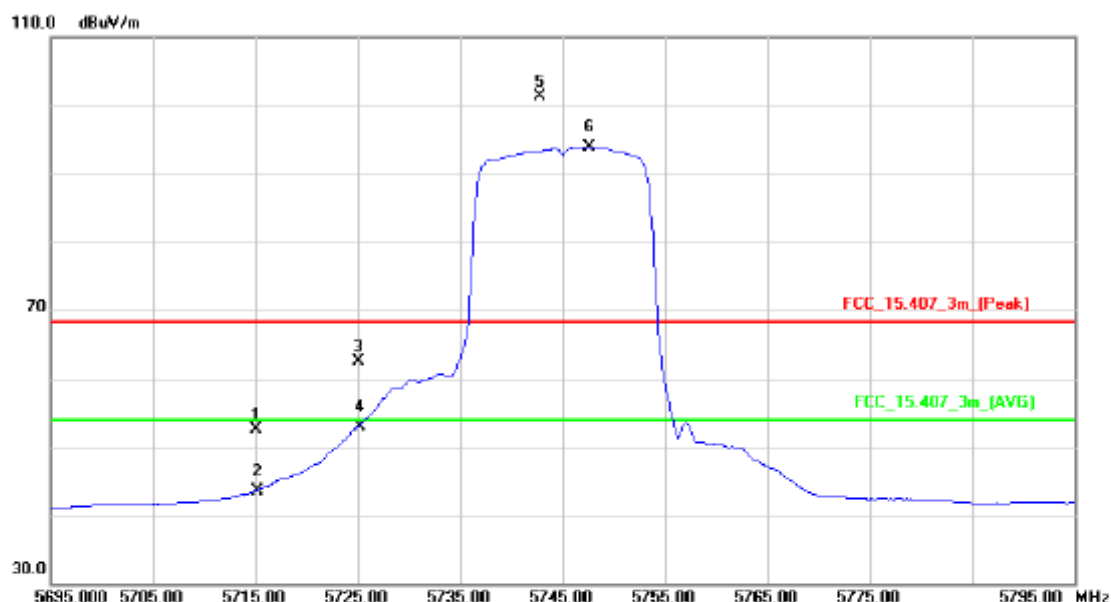
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5715.000	9.88	41.06	50.94	68.30	-17.36	peak	band edge
2		5715.000	0.07	41.06	41.13	54.00	-12.87	AVG	band edge
3		5725.000	18.92	41.10	60.02	68.30	-8.28	peak	band edge
4		5725.000	8.23	41.10	49.33	54.00	-4.67	AVG	band edge
5	X	5748.900	55.41	41.20	96.61	68.30	28.31	peak	no limit
6	*	5748.900	47.87	41.20	89.07	54.00	35.07	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5745MHz

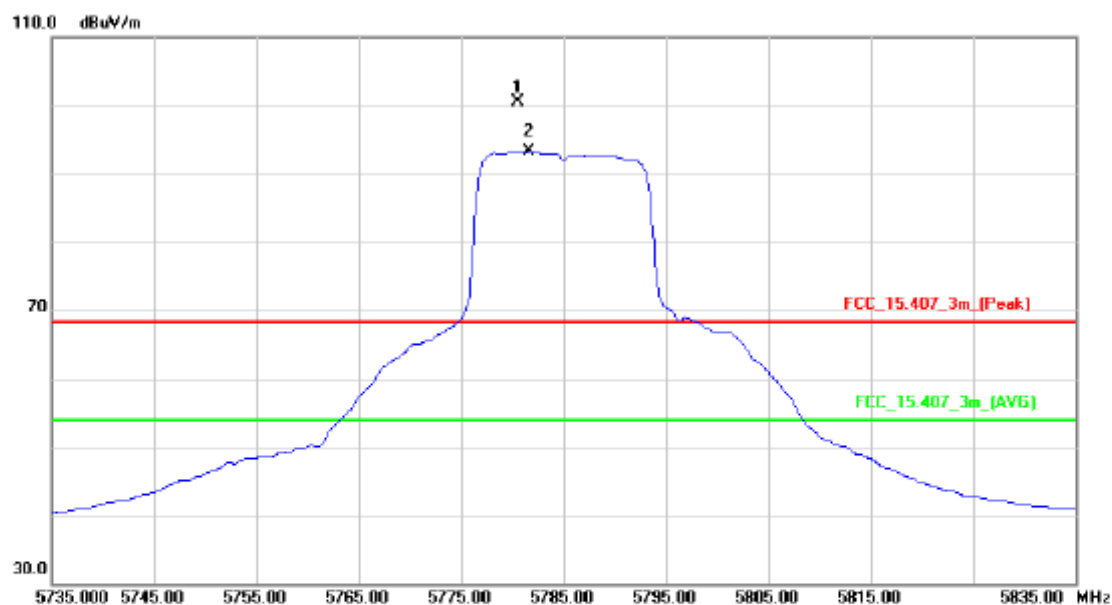
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5715.000	11.39	41.06	52.45	68.30	-15.85	peak	band edge
2		5715.000	2.51	41.06	43.57	54.00	-10.43	AVG	band edge
3		5725.000	21.41	41.10	62.51	68.30	-5.79	peak	band edge
4		5725.000	11.86	41.10	52.96	54.00	-1.04	AVG	band edge
5	X	5742.800	60.20	41.17	101.37	68.30	33.07	peak	no limit
6	*	5747.600	52.71	41.19	93.90	54.00	39.90	AVG	no limit

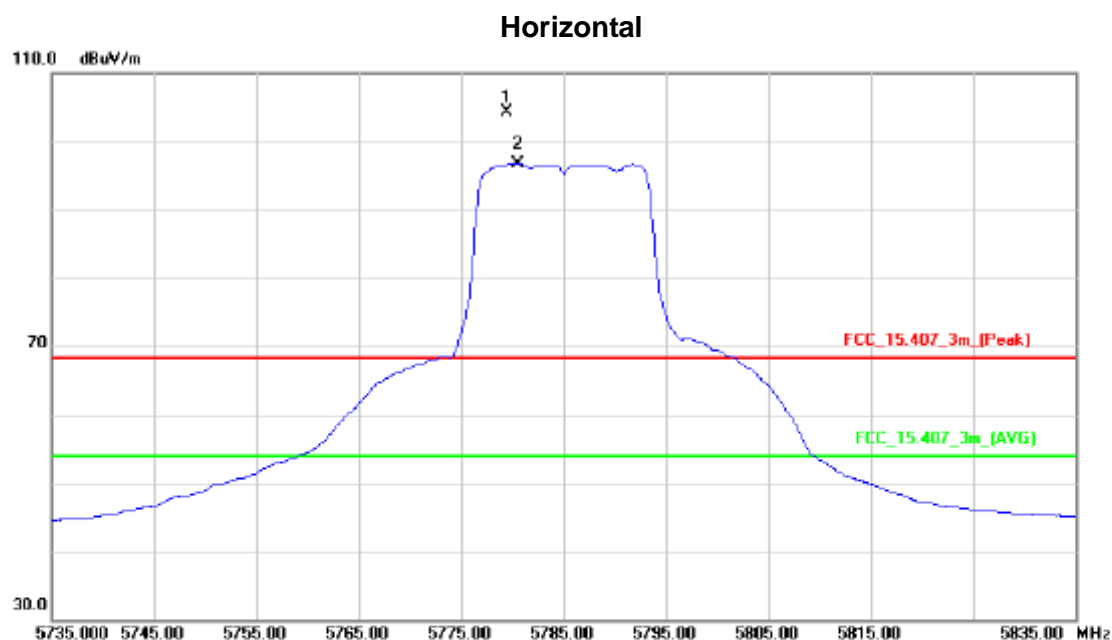
Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5785MHz

### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5780.500	59.16	41.32	100.48	68.30	32.18	peak	no limit
2	*	5781.600	51.88	41.33	93.21	54.00	39.21	AVG	no limit

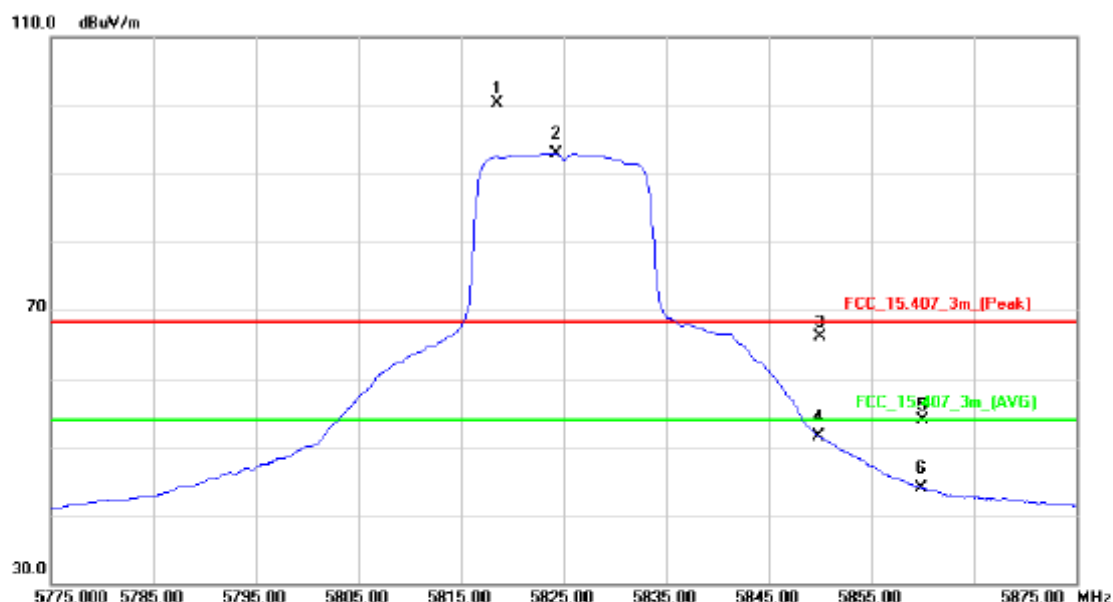
Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5785MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5779.400	63.05	41.32	104.37	68.30	36.07	peak	no limit
2	*	5780.500	55.46	41.32	96.78	54.00	42.78	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5825MHz

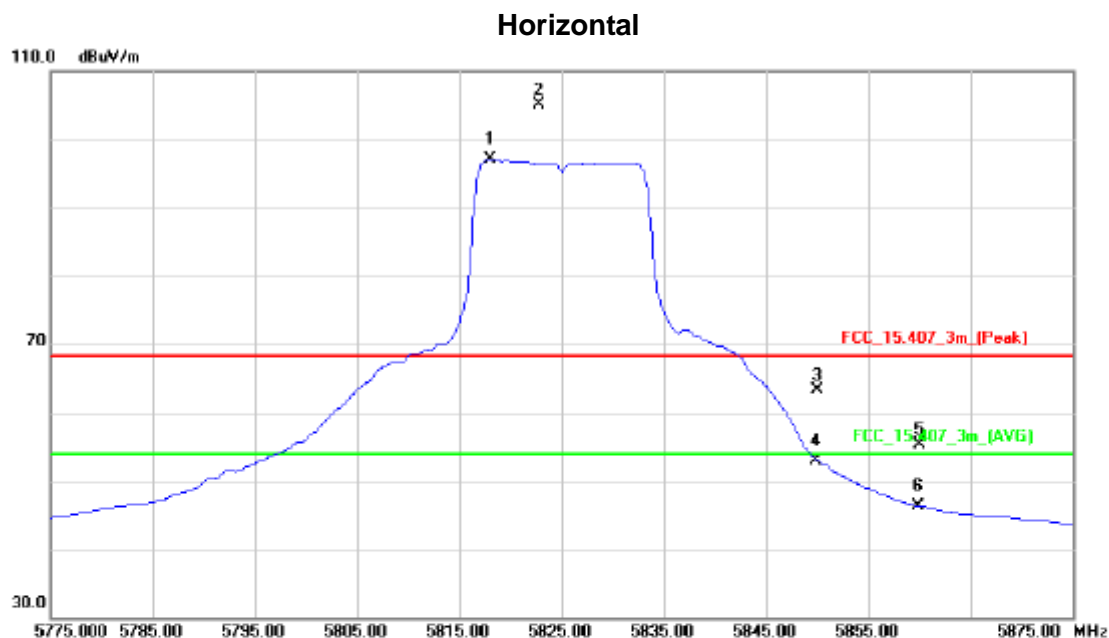
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5818.500	58.85	41.48	100.33	68.30	32.03	peak	no limit
2	*	5824.200	51.41	41.51	92.92	54.00	38.92	AVG	no limit
3		5850.000	24.44	41.62	66.06	68.30	-2.24	peak	band edge
4		5850.000	9.87	41.62	51.49	54.00	-2.51	AVG	band edge
5		5860.000	12.25	41.65	53.90	68.30	-14.40	peak	band edge
6		5860.000	2.25	41.65	43.90	54.00	-10.10	AVG	band edge



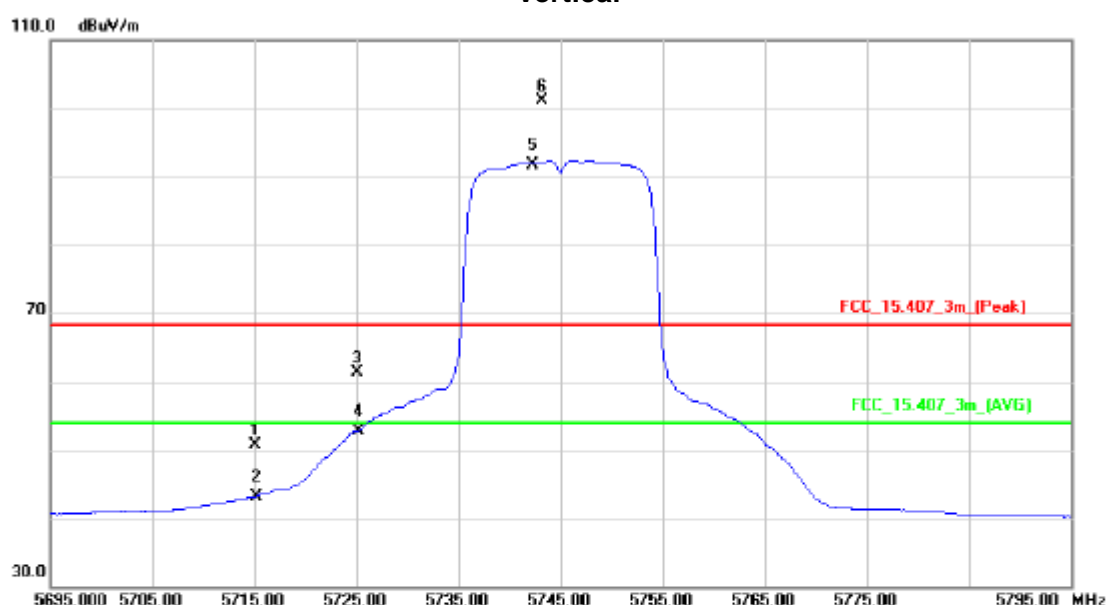
Orthogonal Axis:	X
Test Mode:	UNII-3/TX A Mode 5825MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5818.000	55.67	41.48	97.15	54.00	43.15	AVG	no limit
2	X	5822.800	63.51	41.50	105.01	68.30	36.71	peak	no limit
3		5850.000	21.71	41.62	63.33	68.30	-4.97	peak	band edge
4		5850.000	11.30	41.62	52.92	54.00	-1.08	AVG	band edge
5		5860.000	13.69	41.65	55.34	68.30	-12.96	peak	band edge
6		5860.000	4.63	41.65	46.28	54.00	-7.72	AVG	band edge

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5745MHz

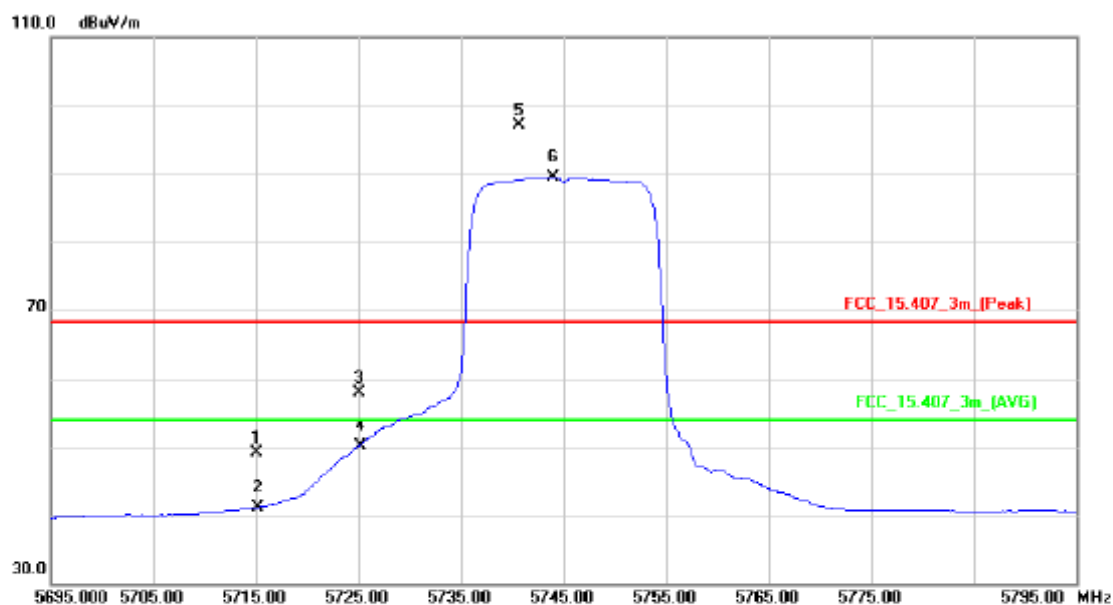
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5715.000	9.71	41.06	50.77	68.30	-17.53	peak	band edge
2		5715.000	2.08	41.06	43.14	54.00	-10.86	AVG	band edge
3		5725.000	20.21	41.10	61.31	68.30	-6.99	peak	band edge
4		5725.000	11.58	41.10	52.68	54.00	-1.32	AVG	band edge
5	*	5742.000	50.61	41.16	91.77	54.00	37.77	AVG	no limit
6	X	5743.200	59.87	41.17	101.04	68.30	32.74	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5745MHz

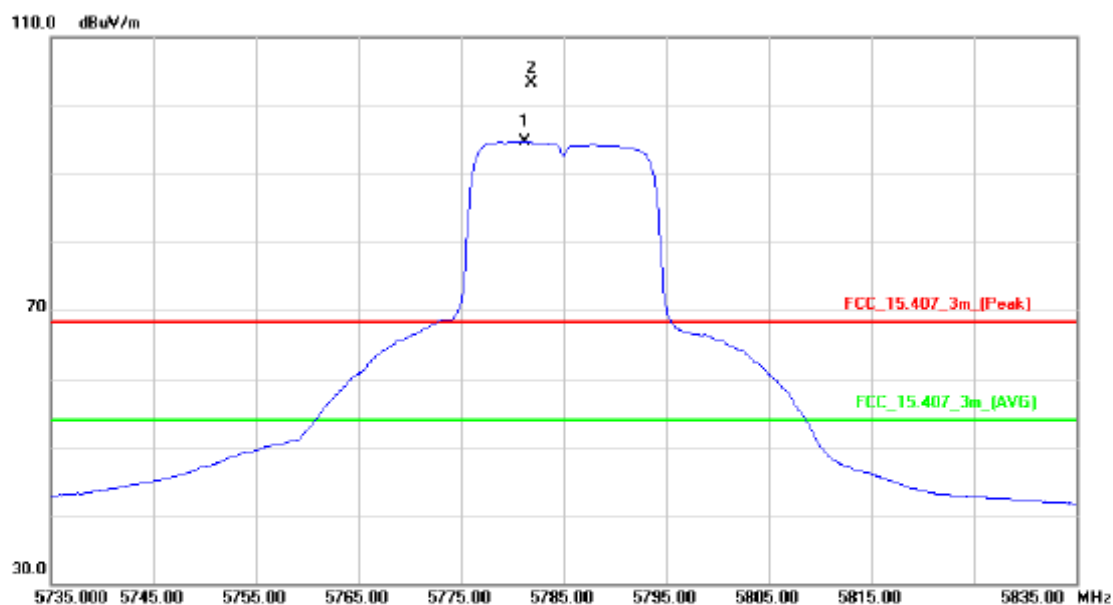
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5715.000	8.03	41.06	49.09	68.30	-19.21	peak	band edge
2		5715.000	0.08	41.06	41.14	54.00	-12.86	AVG	band edge
3		5725.000	16.72	41.10	57.82	68.30	-10.48	peak	band edge
4		5725.000	9.02	41.10	50.12	54.00	-3.88	AVG	band edge
5	X	5740.700	55.96	41.16	97.12	68.30	28.82	peak	no limit
6	*	5744.000	48.29	41.17	89.46	54.00	35.46	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5785MHz

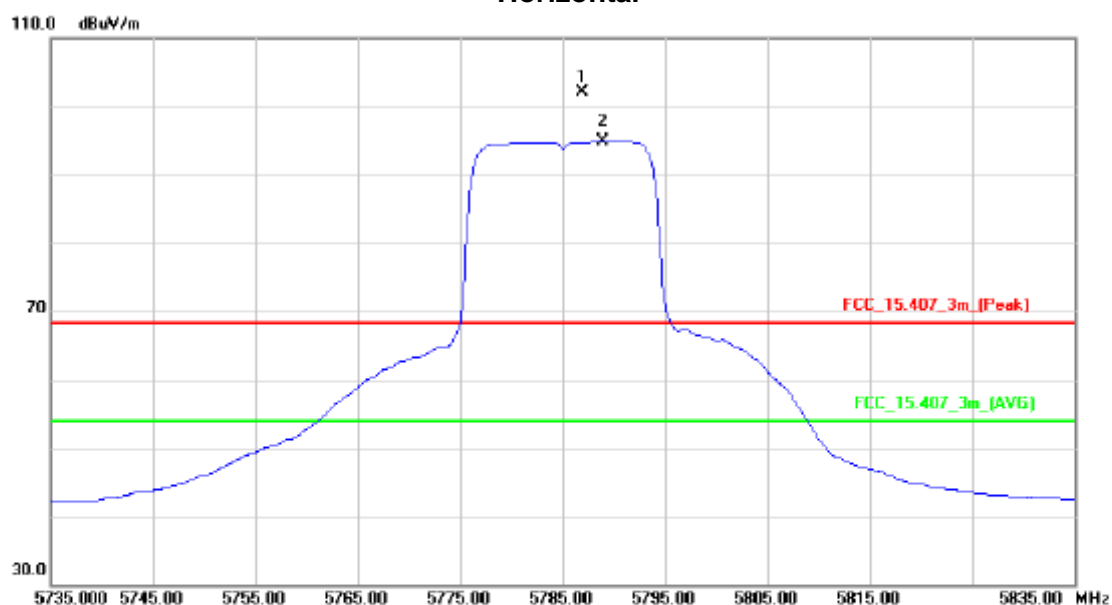
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5781.200	53.42	41.33	94.75	54.00	40.75	AVG	no limit
2	X	5781.900	61.88	41.33	103.21	68.30	34.91	peak	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5785MHz

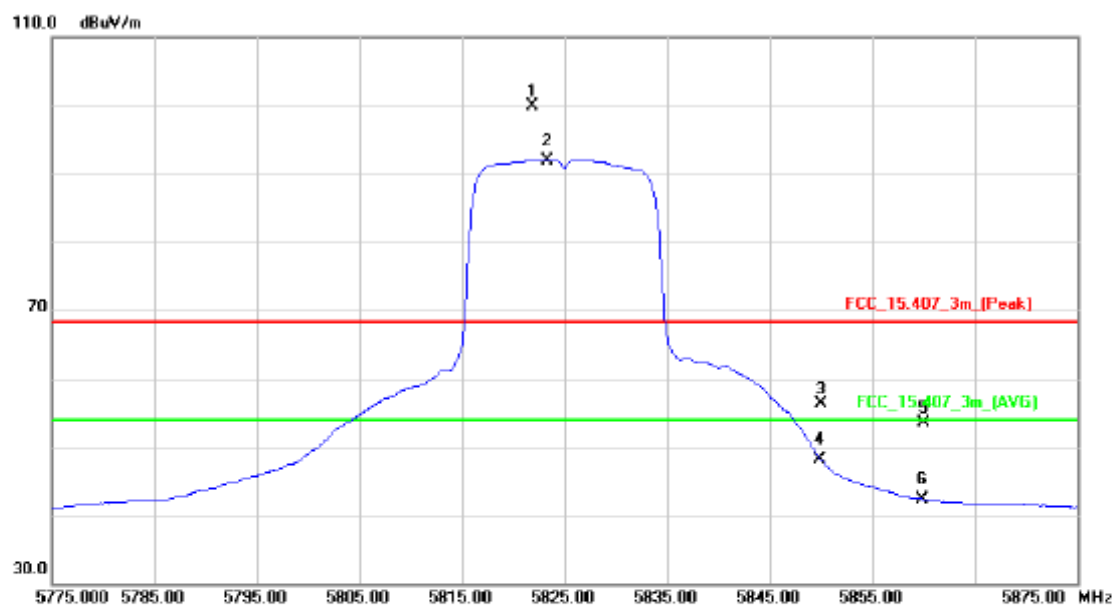
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5786.900	60.73	41.35	102.08	68.30	33.78	peak	no limit
2	*	5788.900	53.58	41.36	94.94	54.00	40.94	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5825MHz

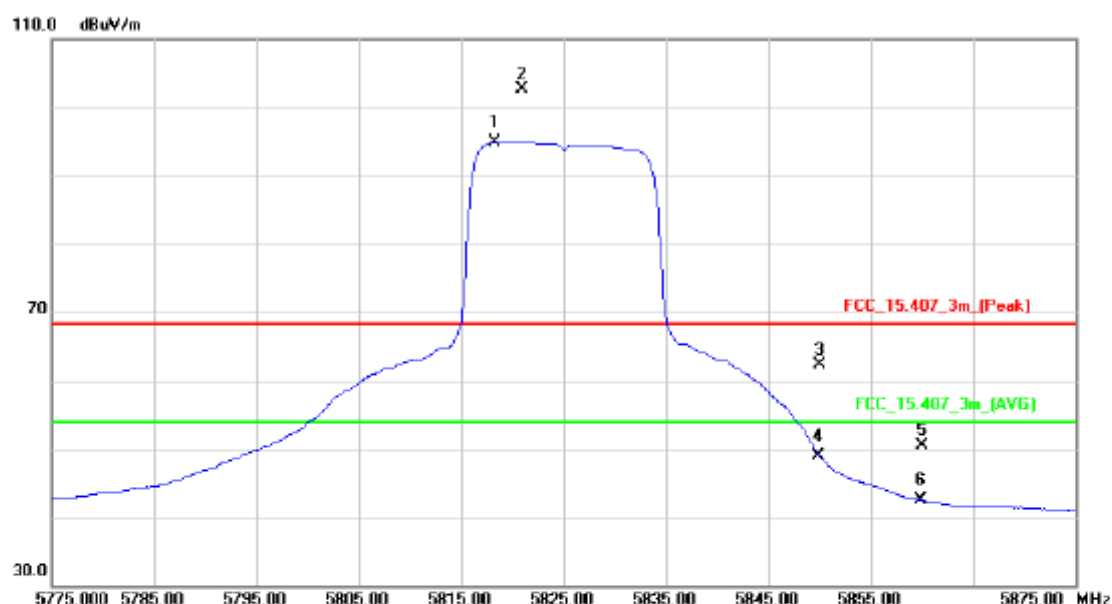
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5821.800	58.37	41.50	99.87	68.30	31.57	peak	no limit
2	*	5823.300	50.46	41.50	91.96	54.00	37.96	AVG	no limit
3		5850.000	14.75	41.62	56.37	68.30	-11.93	peak	band edge
4		5850.000	6.47	41.62	48.09	54.00	-5.91	AVG	band edge
5		5860.000	11.82	41.65	53.47	68.30	-14.83	peak	band edge
6		5860.000	0.72	41.65	42.37	54.00	-11.63	AVG	band edge

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N20 Mode 5825MHz

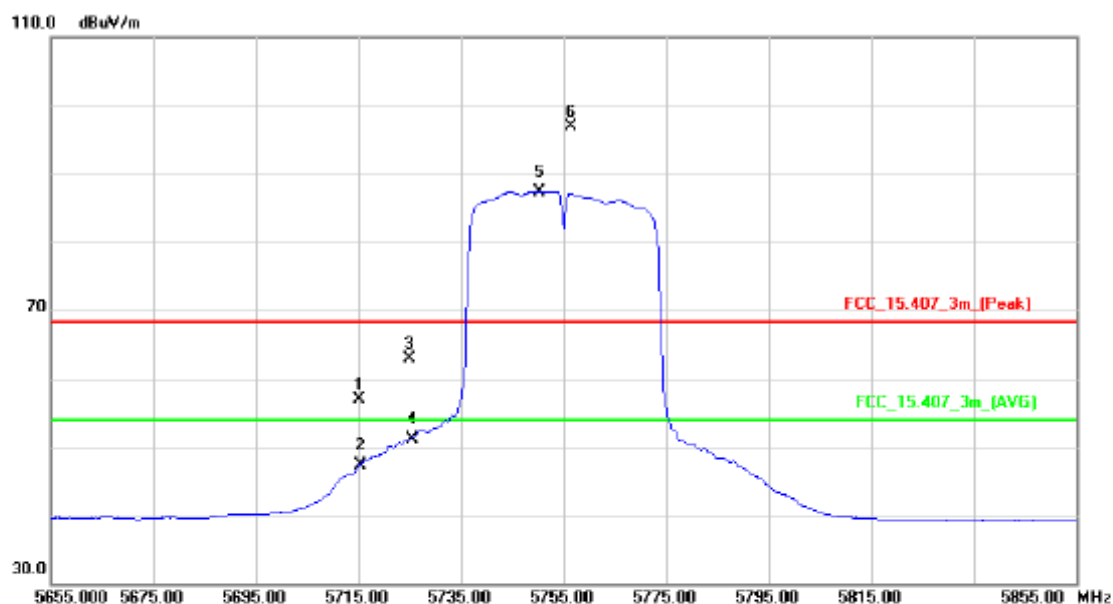
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5818.300	53.44	41.48	94.92	54.00	40.92	AVG	no limit
2	X	5820.900	61.29	41.49	102.78	68.30	34.48	peak	no limit
3		5850.000	20.72	41.62	62.34	68.30	-5.96	peak	band edge
4		5850.000	7.32	41.62	48.94	54.00	-5.06	AVG	band edge
5		5860.000	8.93	41.65	50.58	68.30	-17.72	peak	band edge
6		5860.000	0.84	41.65	42.49	54.00	-11.51	AVG	band edge

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5755MHz

### Vertical

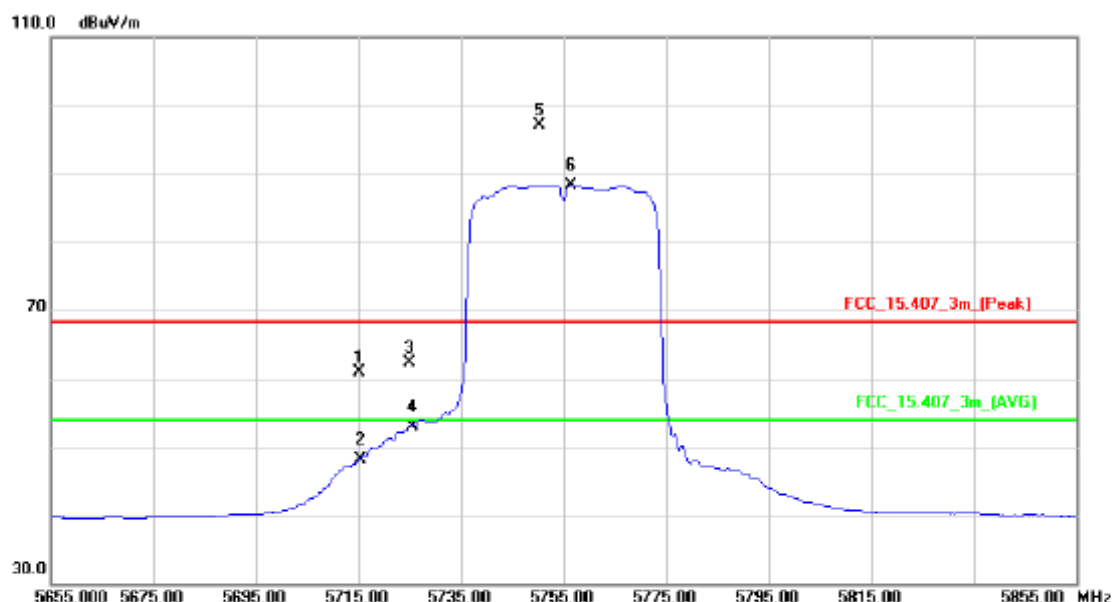


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5715.000	15.80	41.06	56.86	68.30	-11.44	peak	band edge
2		5715.000	6.24	41.06	47.30	54.00	-6.70	AVG	band edge
3		5725.000	21.83	41.10	62.93	68.30	-5.37	peak	band edge
4		5725.000	10.06	41.10	51.16	54.00	-2.84	AVG	band edge
5	*	5750.200	46.20	41.20	87.40	54.00	33.40	AVG	no limit
6	X	5756.400	55.68	41.23	96.91	68.30	28.61	peak	no limit



Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5755MHz

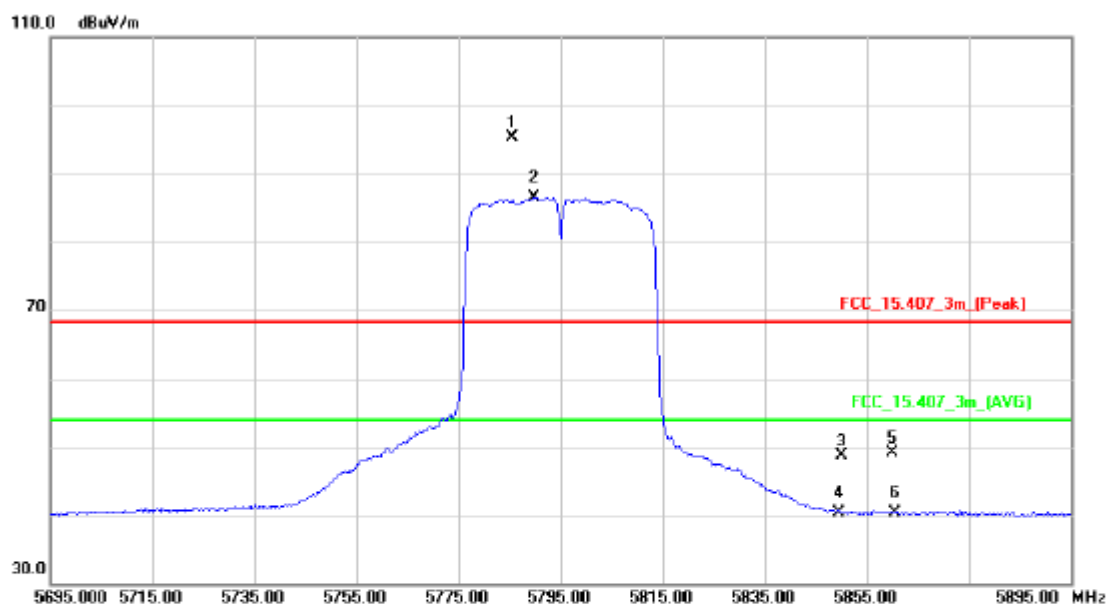
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5715.000	19.89	41.06	60.95	68.30	-7.35	peak	band edge
2		5715.000	7.10	41.06	48.16	54.00	-5.84	AVG	band edge
3		5725.000	21.11	41.10	62.21	68.30	-6.09	peak	band edge
4		5725.000	11.76	41.10	52.86	54.00	-1.14	AVG	band edge
5	X	5750.200	55.93	41.20	97.13	68.30	28.83	peak	no limit
6	*	5756.400	47.05	41.23	88.28	54.00	34.28	AVG	no limit

Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5795MHz

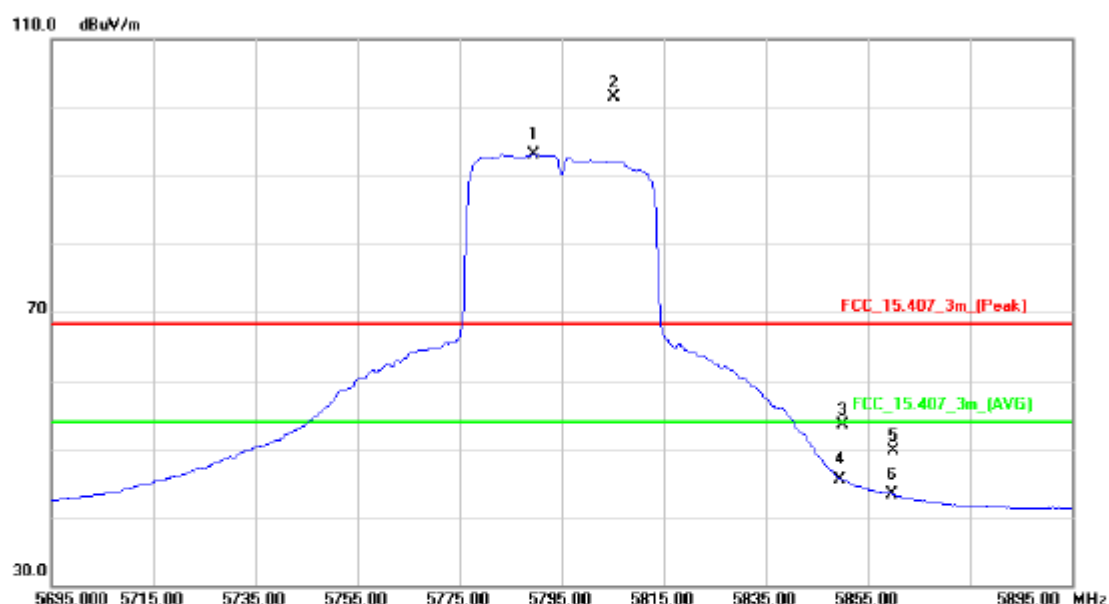
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5785.400	54.01	41.35	95.36	68.30	27.06	peak	no limit
2	*	5789.800	45.21	41.37	86.58	54.00	32.58	AVG	no limit
3		5850.000	7.16	41.62	48.78	68.30	-19.52	peak	band edge
4		5850.000	-1.25	41.62	40.37	54.00	-13.63	AVG	band edge
5		5860.000	7.54	41.65	49.19	68.30	-19.11	peak	band edge
6		5860.000	-1.25	41.65	40.40	54.00	-13.60	AVG	band edge

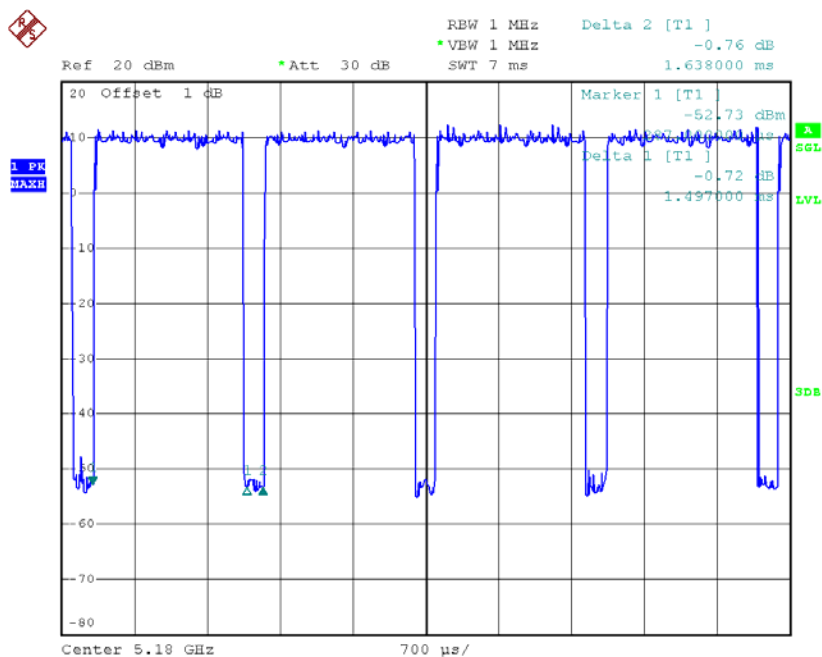
Orthogonal Axis:	X
Test Mode:	UNII-3/TX N40 Mode 5795MHz

### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5789.400	51.73	41.36	93.09	54.00	39.09	AVG	no limit
2	X	5805.200	60.04	41.43	101.47	68.30	33.17	peak	no limit
3		5850.000	11.93	41.62	53.55	68.30	-14.75	peak	band edge
4		5850.000	3.89	41.62	45.51	54.00	-8.49	AVG	band edge
5		5860.000	8.13	41.65	49.78	68.30	-18.52	peak	band edge
6		5860.000	1.59	41.65	43.24	54.00	-10.76	AVG	band edge

### TX A Mode\_DUTY CYCLE



Date: 6.DEC.2014 10:28:35

Duty cycle: TX 5180MHz

Duty cycle =  $T_{ON} / T_{Total}$

$T_{ON}$ : 1.497 msec

$T_{Total}$ : 1.63 msec

Duty cycle: 0.918

Duty Factor =  $10 \log(1/\text{Duty cycle})$

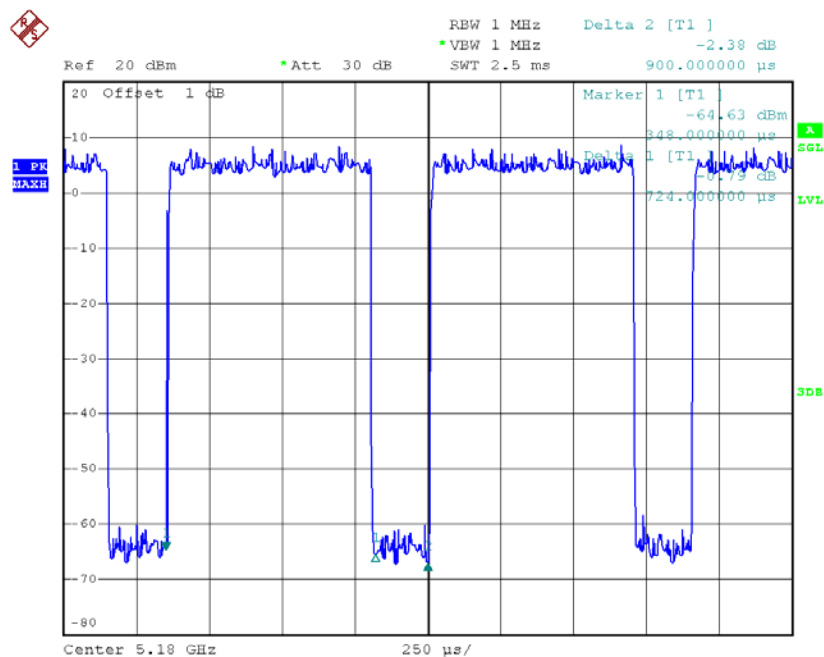
Duty Factor = 0.37

Note: The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle is less than 98 %, so, the output power and power density should be caculated as

Output Power = Measured power + Ducus factor

Power Spectral Density = Measured density + Duty factor

# TX N20 Mode\_DUTY CYCLE



Date: 6.DEC.2014 10:44:28

Duty cycle: TX 5180MHz

Duty cycle =  $T_{ON} / T_{Total}$

$T_{ON}$ : 0.724 msec

$T_{Total}$ : 0.9 msec

Duty cycle: 0.804

Duty Factor =  $10 \log(1/\text{Duty cycle})$

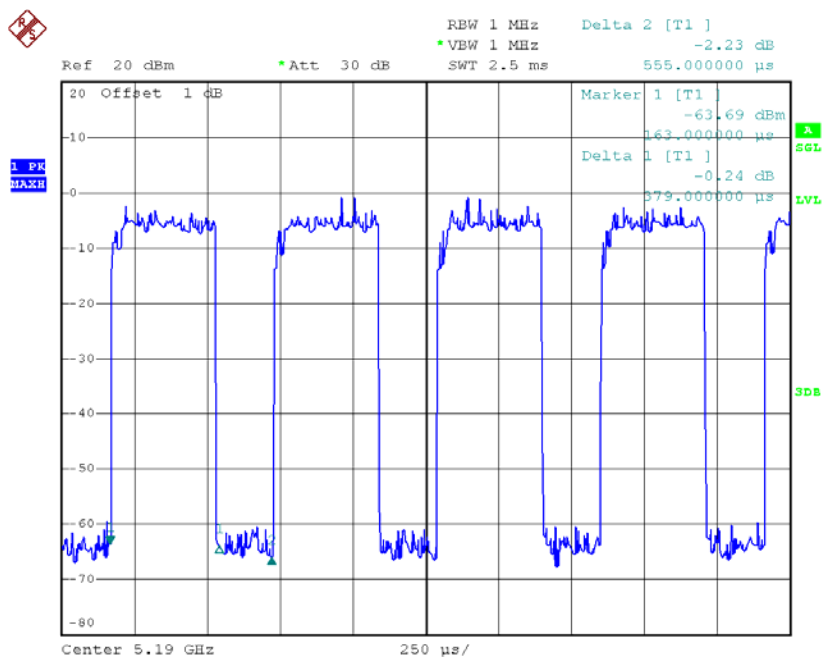
Duty Factor = 0.95

Note: The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle is less than 98 %, so, the output power and power density should be caculated as

Output Power = Measured power + Ducus factor

Power Spectral Density = Measured density + Duty factor

# TX N40 Mode\_DUTY CYCLE



Date: 6.DEC.2014 10:56:18

Duty cycle: TX 5190MHz

Duty cycle =  $T_{ON} / T_{Total}$

$T_{ON}$ : 0.379 msec

$T_{Total}$ : 0.555 msec

Duty cycle: 0.683

Duty Factor =  $10 \log(1/\text{Duty cycle})$

Duty Factor = 1.66

Note: The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle is less than 98 %, so, the output power and power density should be caculated as

Output Power = Measured power + Ducus factor

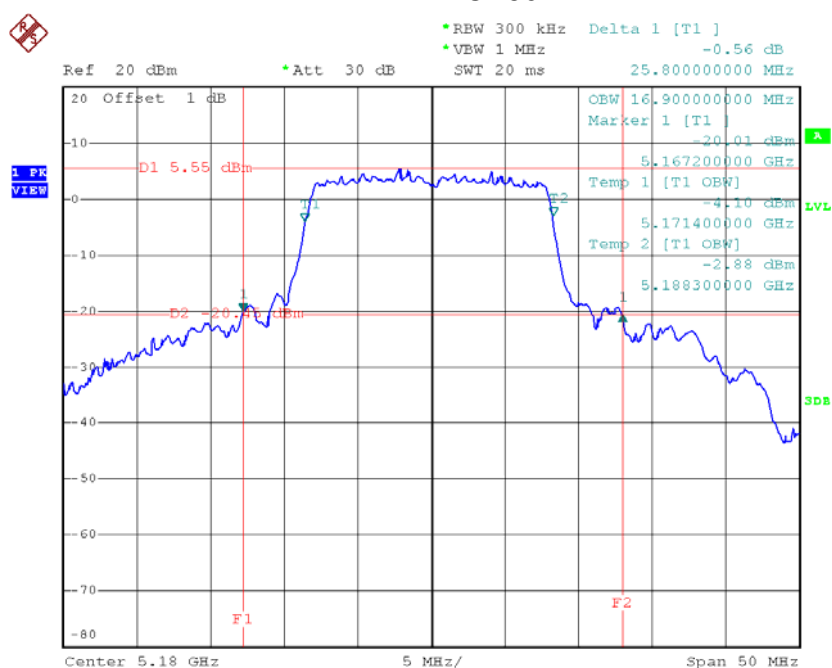
Power Spectral Density = Measured density + Duty factor

## **ATTACHMENT F - BANDWIDTH**

**Test Mode: UNII-1/TX A Mode\_CH36/CH40/CH48**

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH36	5180	25.80	16.90
CH40	5200	40.19	23.10
CH48	5240	47.09	31.30

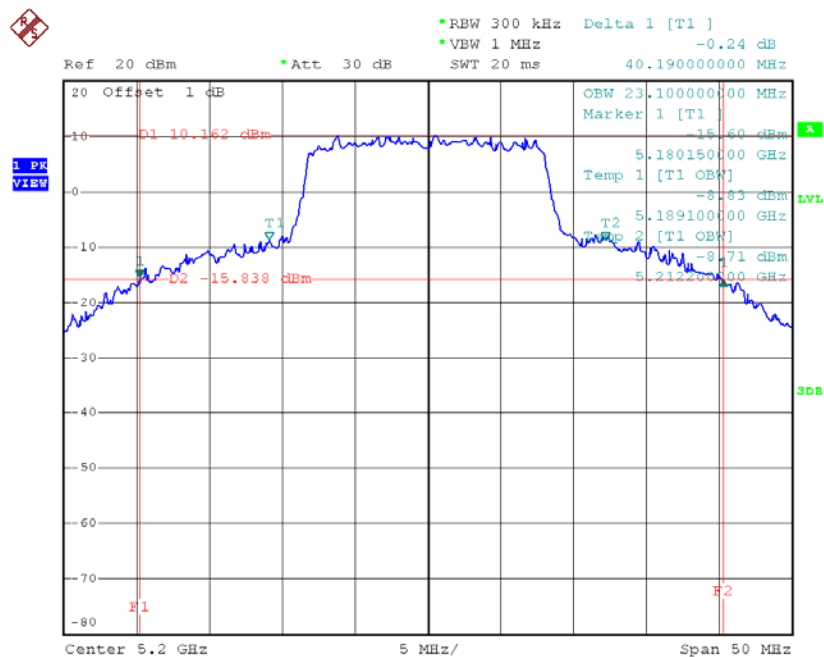
**TX CH36**



Date: 6.DEC.2014 10:24:12

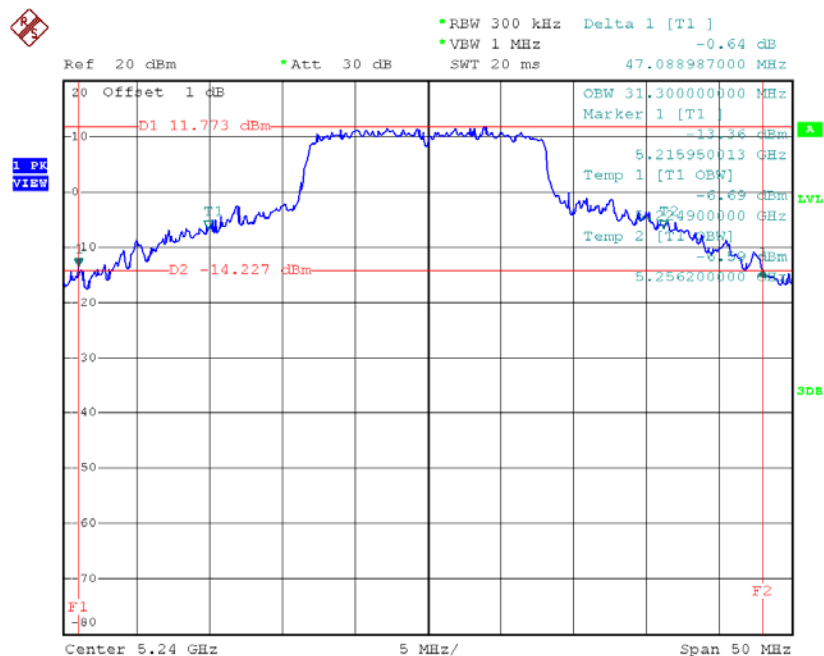


## TX CH40



Date: 6.DEC.2014 10:33:24

## TX CH48

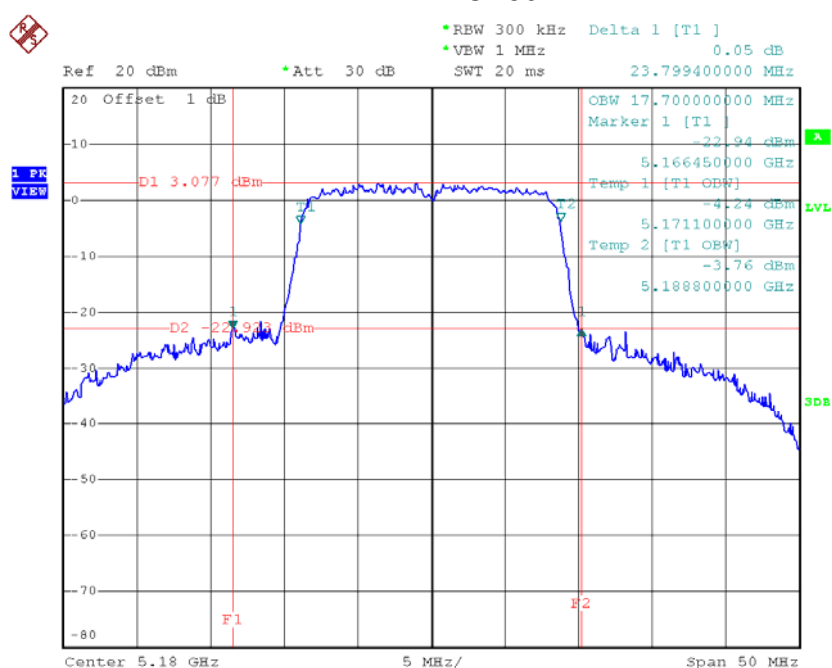


Date: 6.DEC.2014 10:35:55

Test Mode: UNII-1/TX N20 Mode\_CH36/CH40/CH48

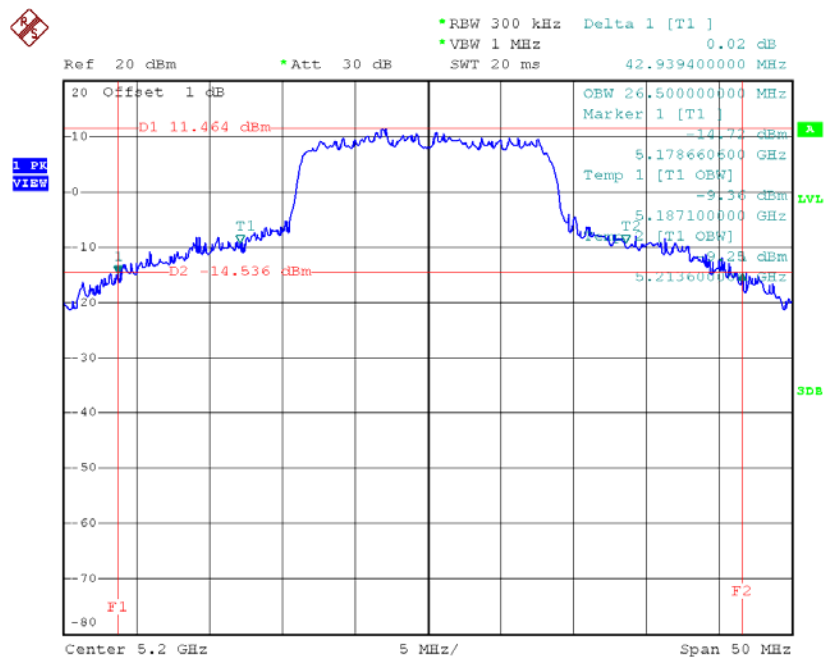
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH36	5180	23.80	17.70
CH40	5200	42.94	26.50
CH48	5240	46.20	31.00

TX CH36



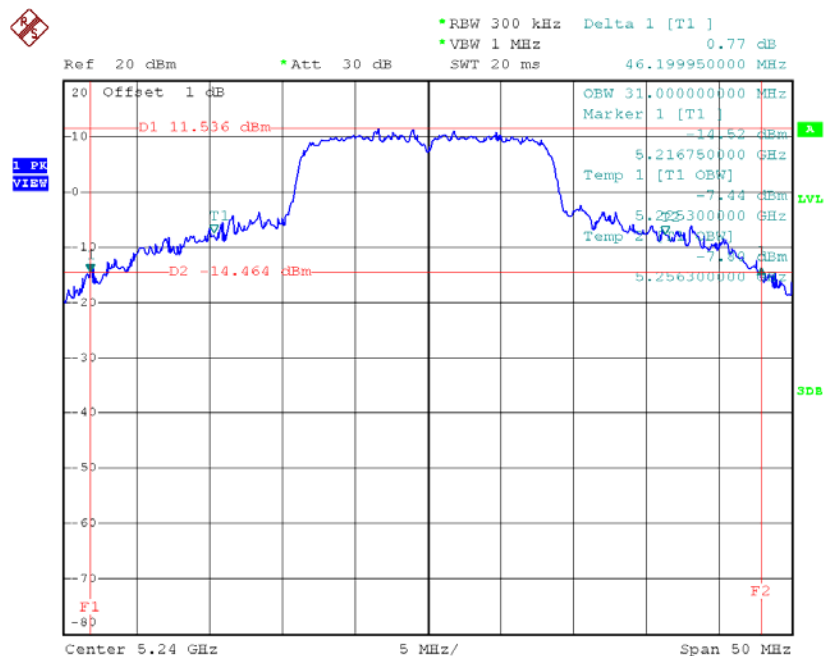
Date: 6.DEC.2014 10:43:04

## TX CH40



Date: 6.DEC.2014 10:46:31

## TX CH48

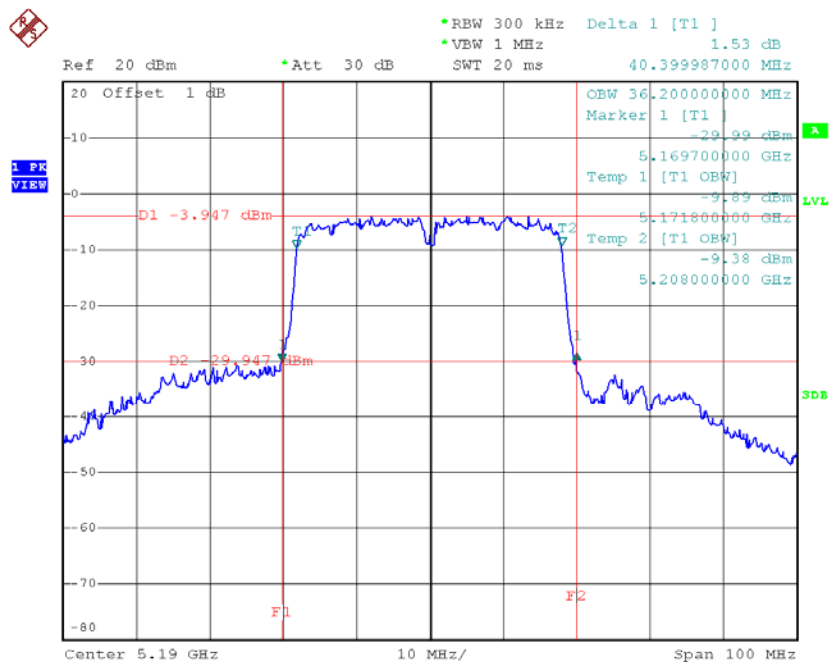


Date: 6.DEC.2014 10:47:21

**Test Mode: UNII-1/TX N40 Mode\_CH38/CH46**

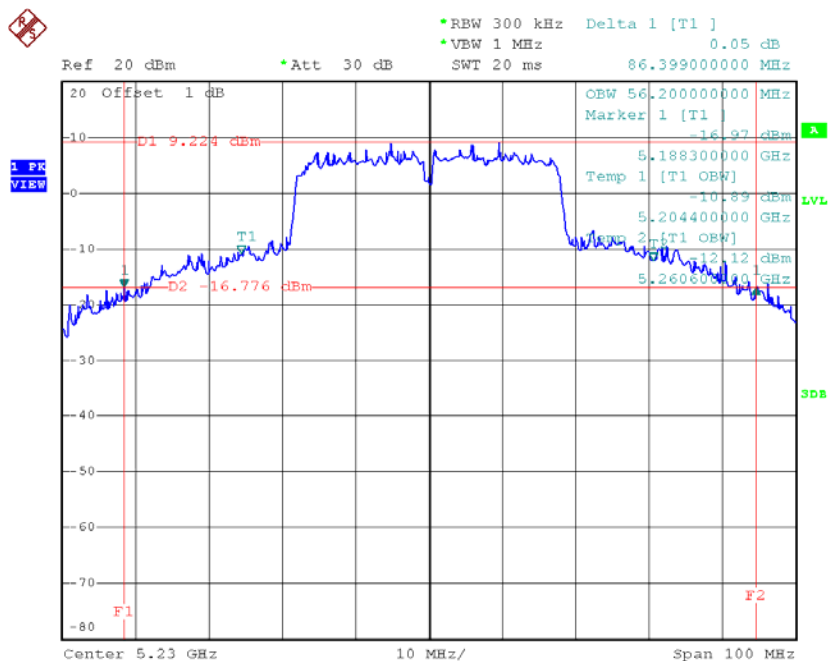
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH38	5190	40.40	36.20
CH46	5230	86.40	56.20

# TX CH38



Date: 6.DEC.2014 10:56:01

# TX CH46

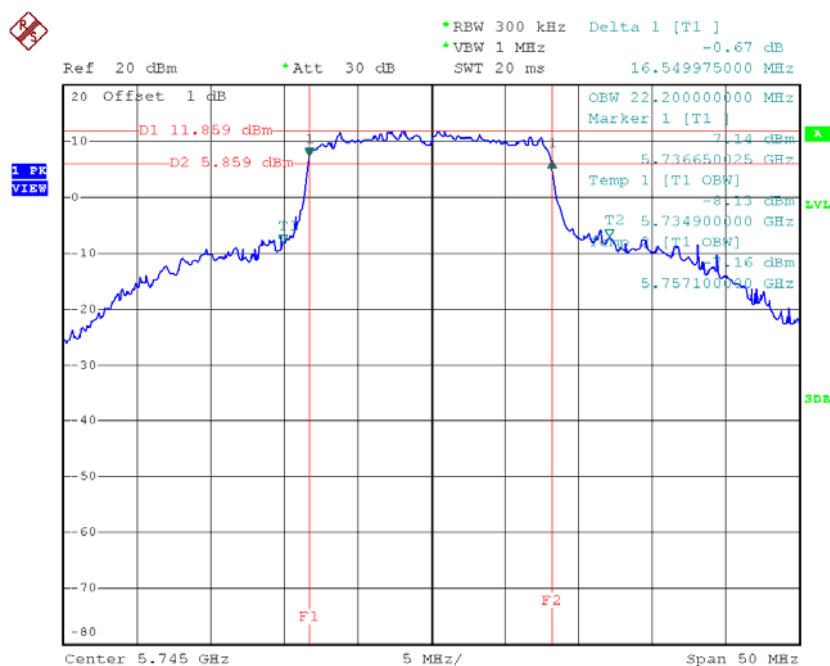


Date: 6.DEC.2014 10:57:36

Test Mode: UNII-3/ TX A Mode\_CH149/CH157/CH165

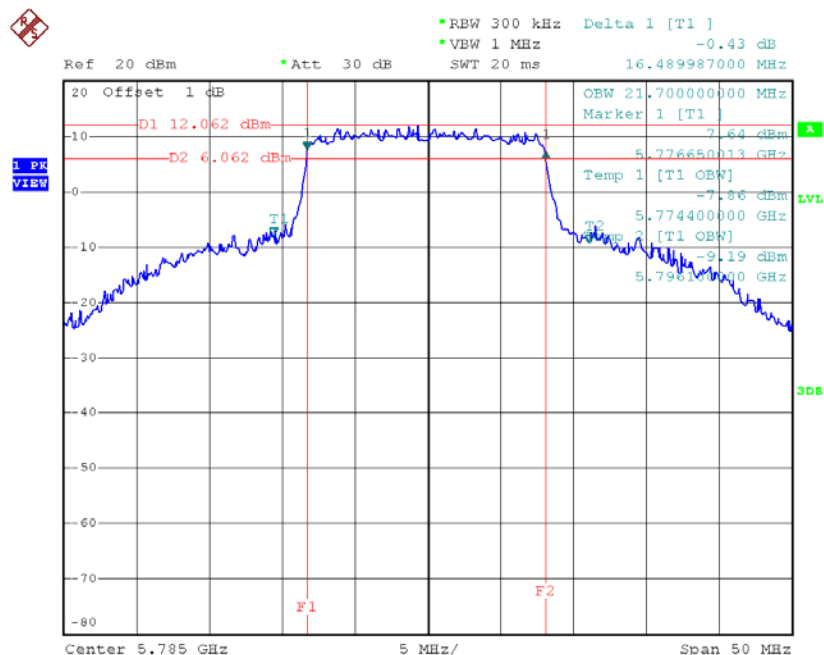
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit (KHz)
CH149	5745	16.55	22.20	>=500
CH157	5785	16.49	21.70	>=500
CH165	5825	16.50	28.60	>=500

TX CH 149



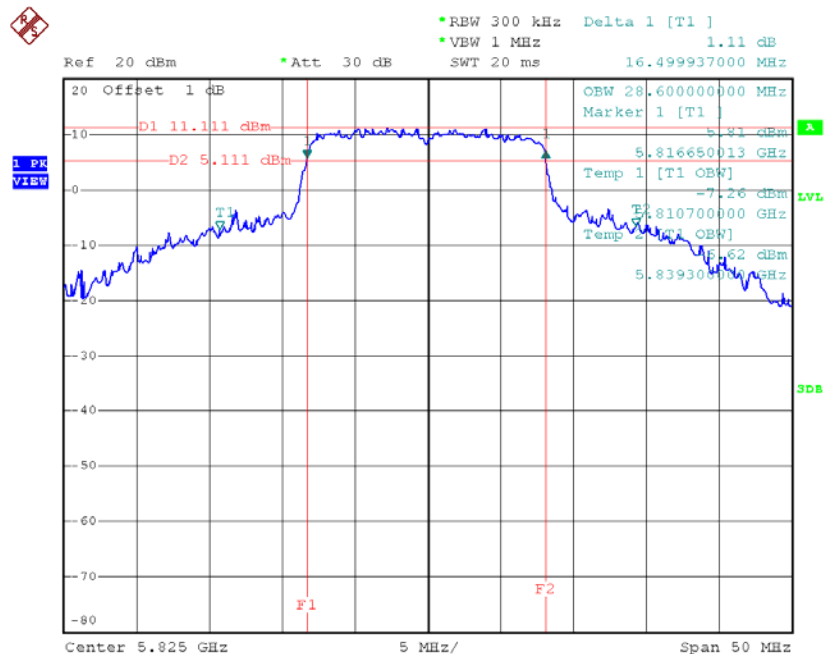
Date: 6.DEC.2014 11:53:18

# TX CH 157



Date: 6.DEC.2014 11:55:25

# TX CH 165

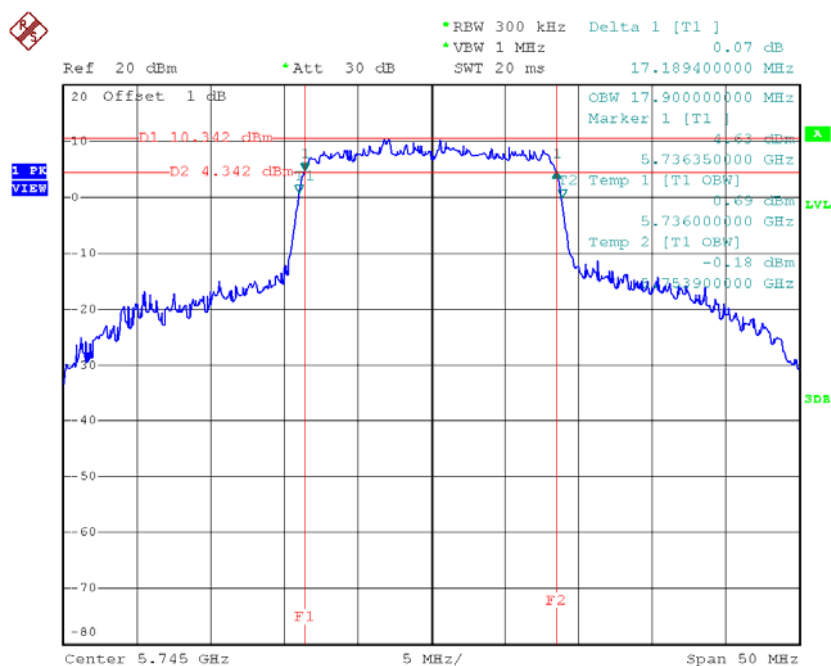


Date: 6.DEC.2014 11:56:29

**Test Mode: UNII-3/ TX N20 Mode\_CH149/CH157/CH165**

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit (KHz)
CH149	5745	17.19	17.90	>=500
CH157	5785	17.20	19.30	>=500
CH165	5825	17.35	18.50	>=500

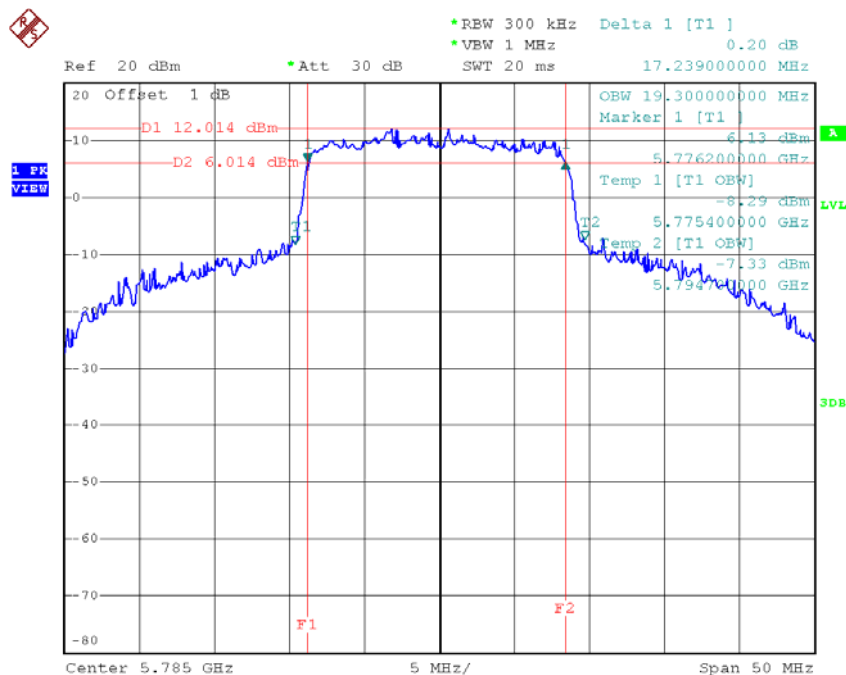
**TX CH 149**



Date: 6.DEC.2014 11:59:51

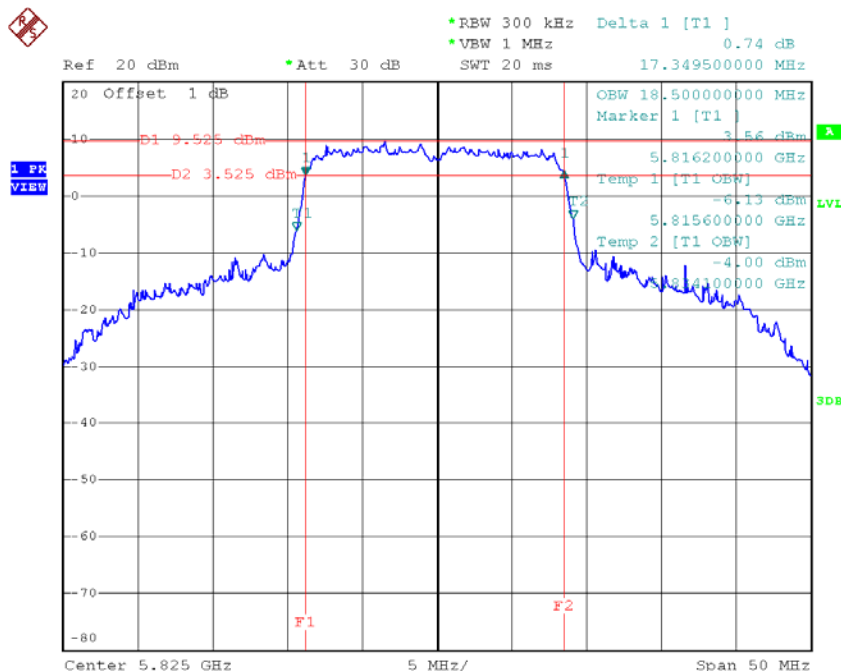


# TX CH 157



Date: 6.DEC.2014 12:01:27

# TX CH 165

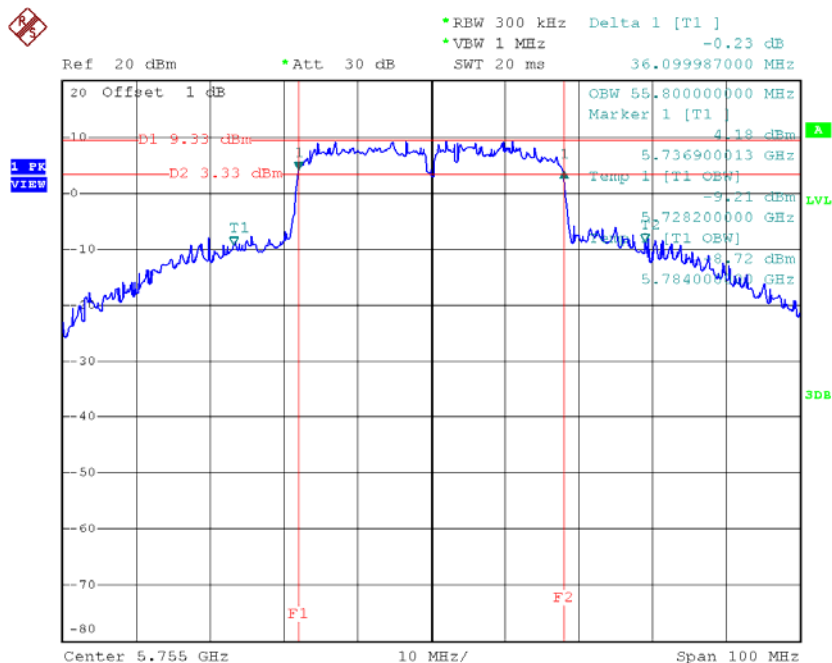


Date: 6.DEC.2014 12:02:10

**Test Mode: UNII-3/ TX N40 Mode\_CH151/CH159**

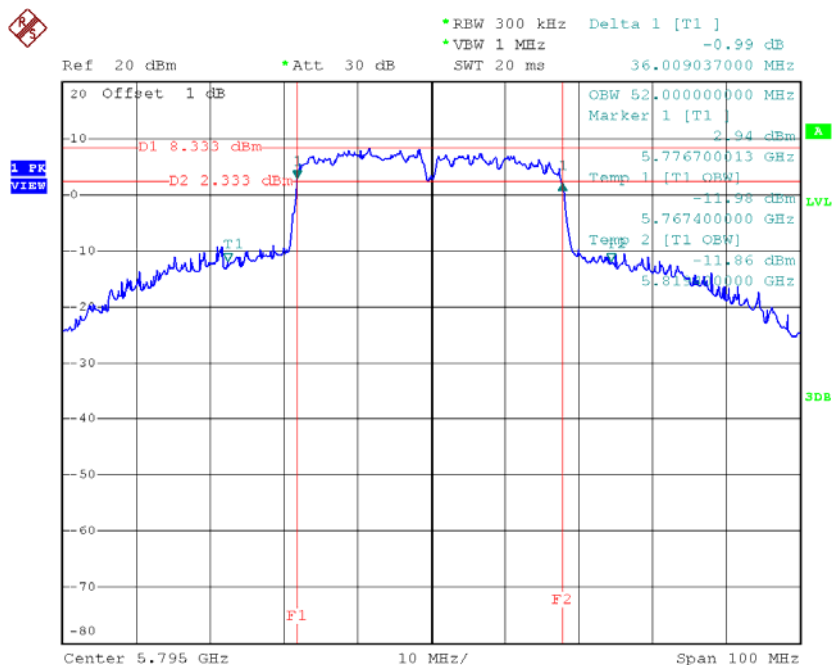
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit (KHz)
CH151	5755	36.10	55.80	>=500
CH159	5795	36.01	52.00	>=500

# TX CH 151



Date: 6.DEC.2014 12:03:03

# TX CH 159



Date: 6.DEC.2014 12:05:31

## **ATTACHMENT G - MAXIMUM OUTPUT POWER**

**Test Mode: UNII-1/TX A Mode\_ANT 1**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH36	5180	17.49	0.37	17.86	30.00	1.00
CH40	5200	17.85	0.37	18.22	30.00	1.00
CH48	5240	17.77	0.37	18.14	30.00	1.00

**Test Mode: UNII-1/TX N20 Mode\_ANT 1**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH36	5180	10.65	0.95	11.60	30.00	1.00
CH40	5200	15.79	0.95	16.74	30.00	1.00
CH48	5240	16.40	0.95	17.35	30.00	1.00

**Test Mode: UNII-1/TX N20 Mode\_ANT 2**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH36	5180	13.89	0.95	14.84	30.00	1.00
CH40	5200	17.65	0.95	18.60	30.00	1.00
CH48	5240	18.06	0.95	19.01	30.00	1.00

**Test Mode: UNII-1/TX N20 Mode\_Total**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH36	5180	15.58	0.95	16.52	30.00	1.00
CH40	5200	19.83	0.95	20.77	30.00	1.00
CH48	5240	20.32	0.95	21.26	30.00	1.00

**Test Mode: UNII-1/TX N40 Mode\_ANT 1**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH38	5190	10.60	1.66	12.26	30.00	1.00
CH46	5230	16.20	1.66	17.86	30.00	1.00

**Test Mode: UNII-1/TX N40 Mode\_ANT 2**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH38	5190	10.12	1.66	11.78	30.00	1.00
CH46	5230	15.51	1.66	17.17	30.00	1.00

**Test Mode: UNII-1/TX N40 Mode\_Total**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH38	5190	13.38	1.66	15.03	30.00	1.00
CH46	5230	18.88	1.66	20.54	30.00	1.00

**Test Mode: UNII-3/ TX A Mode\_ANT 1**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH149	5745	18.23	0.37	18.60	30.00	1.00
CH157	5785	19.88	0.37	20.25	30.00	1.00
CH165	5825	18.91	0.37	19.28	30.00	1.00



**Test Mode: UNII-3/TX N20 Mode\_ANT 1**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH149	5745	13.89	0.95	14.84	30.00	1.00
CH157	5785	17.65	0.95	18.60	30.00	1.00
CH165	5825	18.06	0.95	19.01	30.00	1.00

**Test Mode: UNII-3/TX N20 Mode\_ANT 2**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH149	5745	13.21	0.95	14.16	30.00	1.00
CH157	5785	16.86	0.95	17.81	30.00	1.00
CH165	5825	15.97	0.95	16.92	30.00	1.00

**Test Mode: UNII-3/TX N20 Mode\_Total**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH149	5745	16.57	0.95	17.52	30.00	1.00
CH157	5785	20.28	0.95	21.23	30.00	1.00
CH165	5825	20.15	0.95	21.09	30.00	1.00

**Test Mode: UNII-3/ TX N40 Mode\_ANT 1**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH151	5755	13.01	1.66	14.67	30.00	1.00
CH159	5795	17.34	1.66	19.00	30.00	1.00

**Test Mode: UNII-3/ TX N40 Mode\_ANT 2**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH151	5755	16.23	1.66	17.89	30.00	1.00
CH159	5795	15.39	1.66	17.05	30.00	1.00

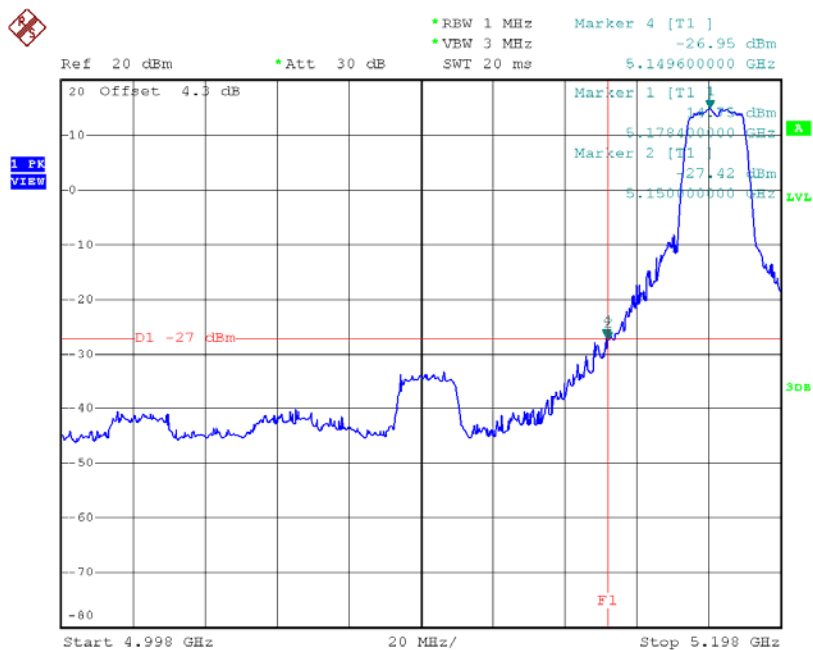
**Test Mode: UNII-3/ TX N40 Mode\_Total**

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dBm)	Output Power+Duty Factor (dBm)	Limit (dBm)	Limit (Watt)
CH151	5755	17.92	1.66	19.58	30.00	1.00
CH159	5795	19.48	1.66	21.14	30.00	1.00

## **ATTACHMENT H - ANTENNA CONDUCTED SPURIOUS EMISSION**

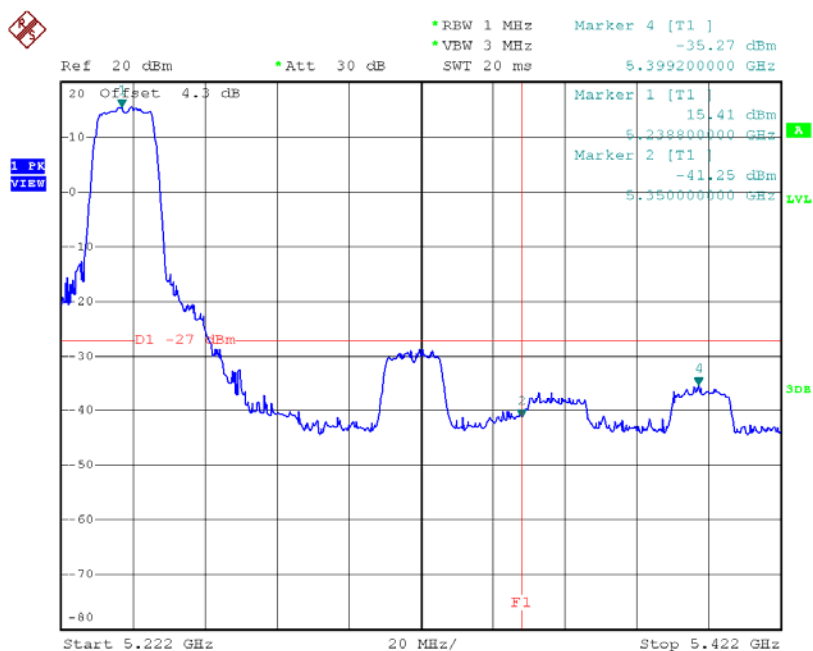
Test Mode: UNII-1/TX A Mode

### TX mode CH36



Date: 5.DEC.2014 10:05:17

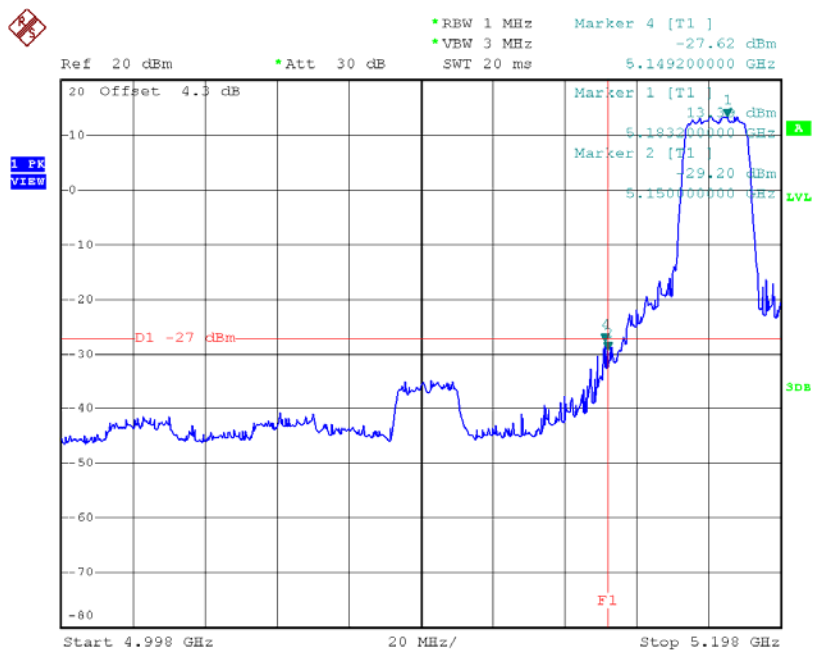
### TX mode CH48



Date: 5.DEC.2014 10:09:35

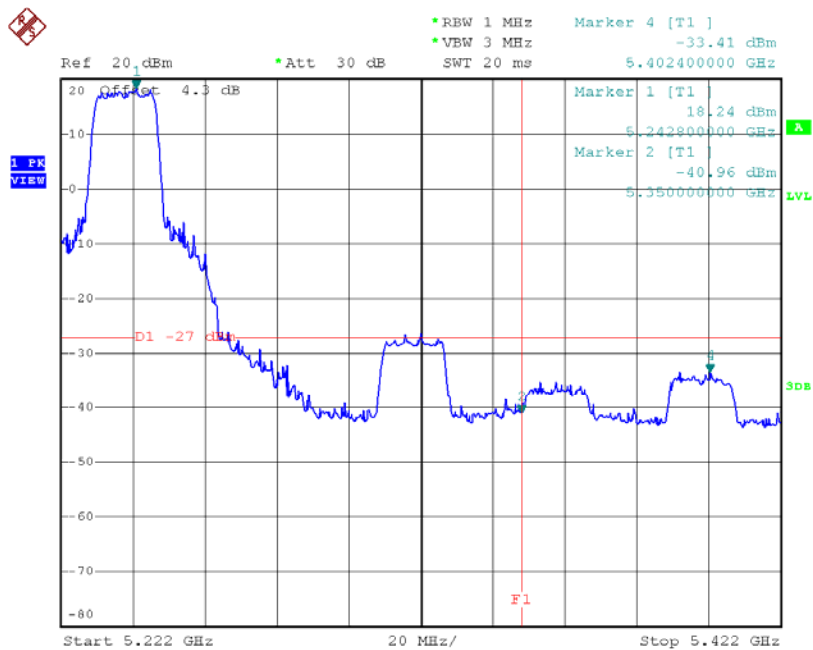
Test Mode: UNII-1/TX N20 Mode\_ANT 1

### TX mode CH36



Date: 5.DEC.2014 10:16:15

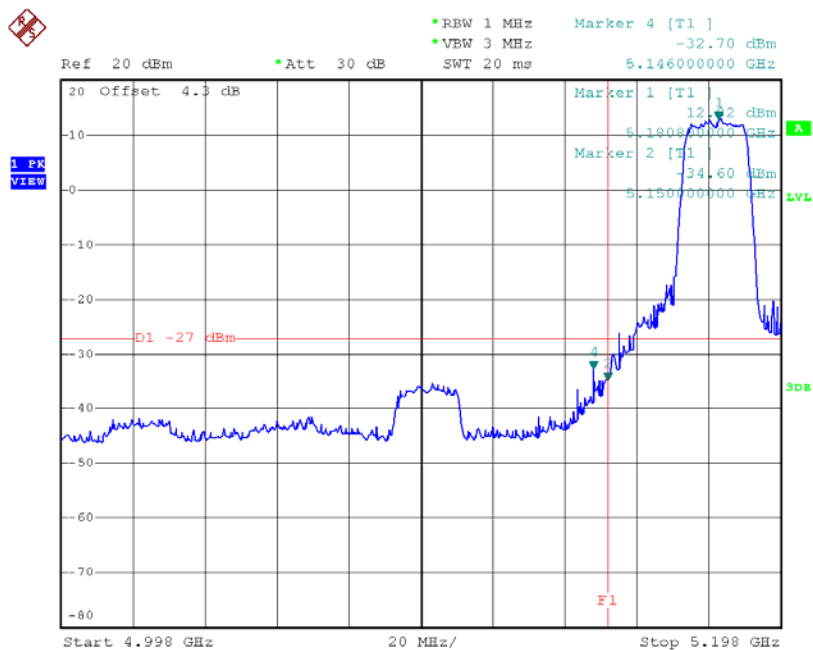
### TX mode CH48



Date: 5.DEC.2014 10:19:09

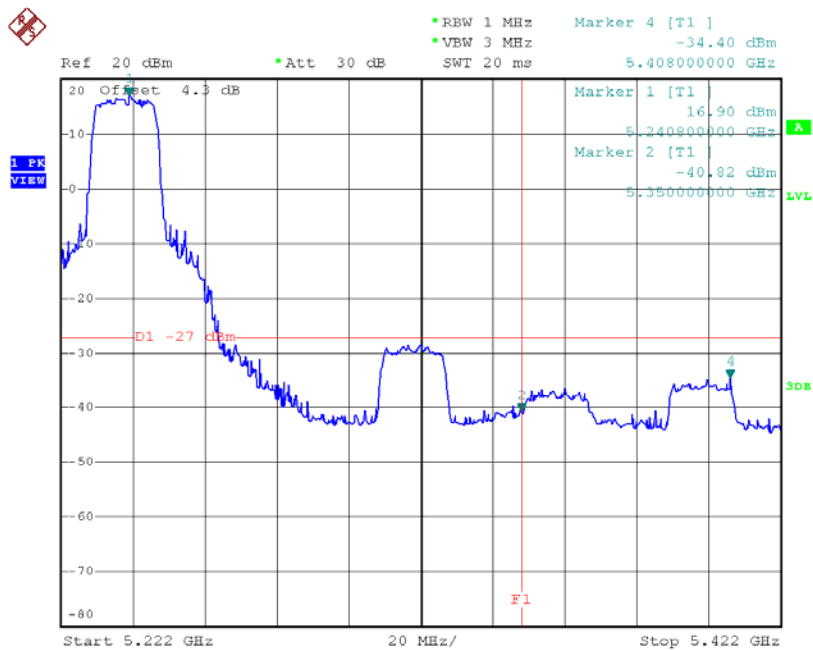
Test Mode: UNII-1/TX N20 Mode\_ANT 2

### TX mode CH36



Date: 5.DEC.2014 10:59:31

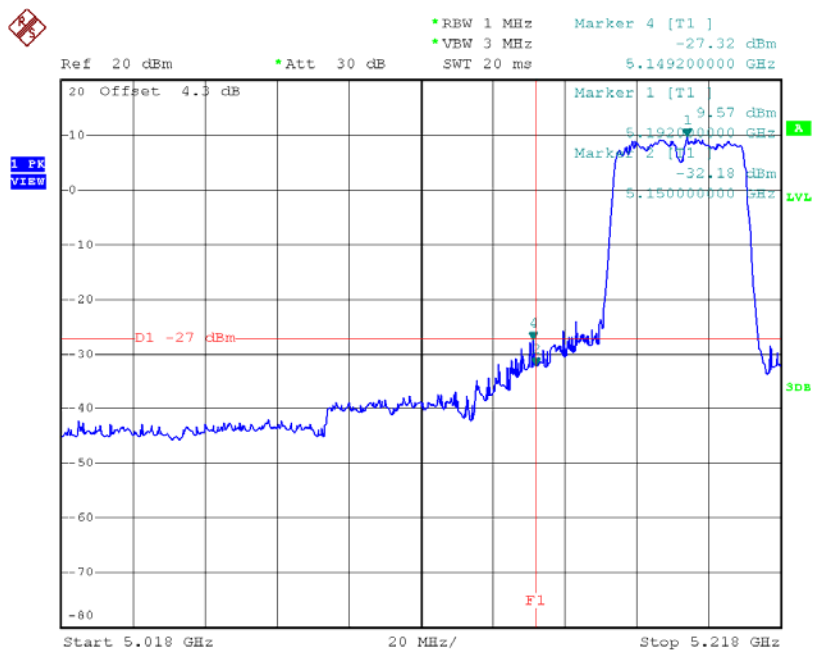
### TX mode CH48



Date: 5.DEC.2014 11:01:29

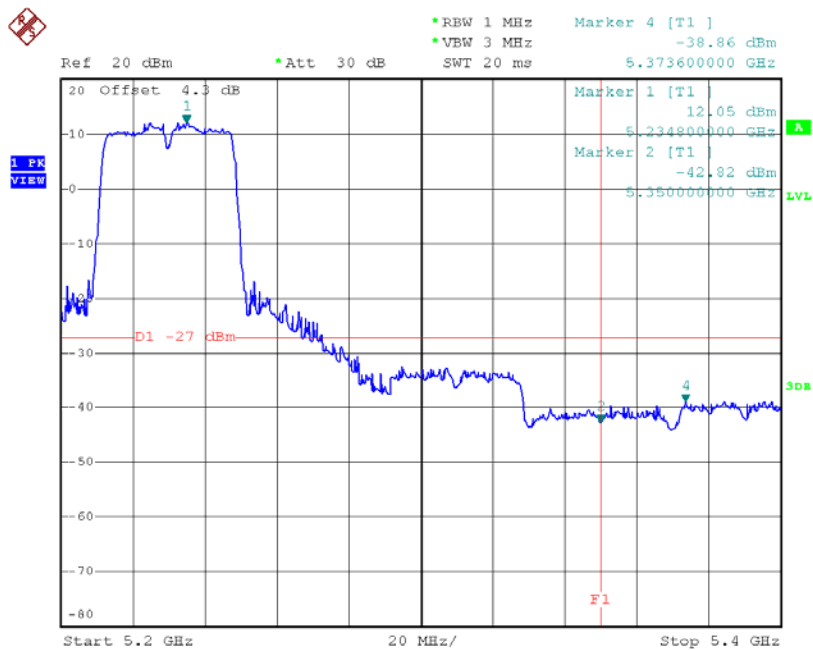
Test Mode: UNII-1/TX N40 Mode\_ANT 1

### TX mode CH38



Date: 5.DEC.2014 10:54:34

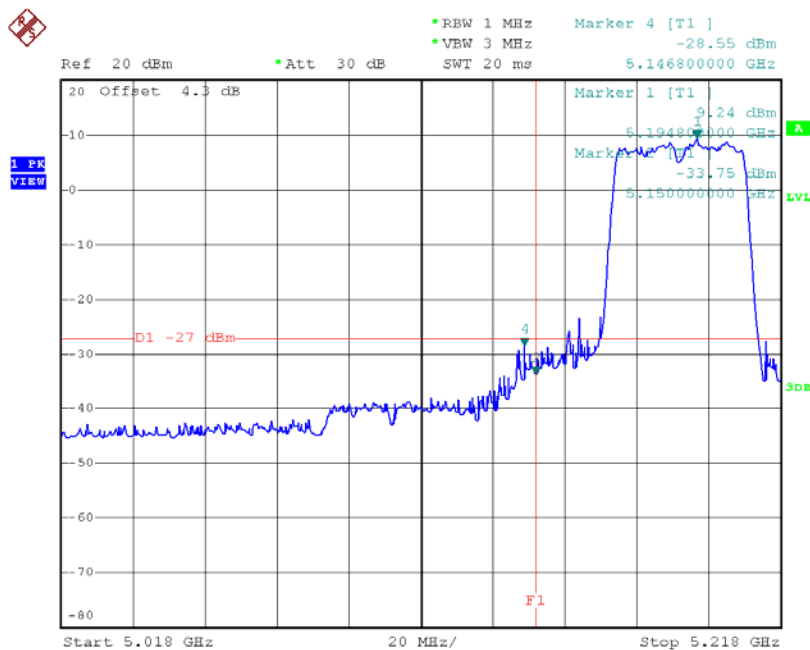
### TX mode CH46



Date: 5.DEC.2014 10:55:45

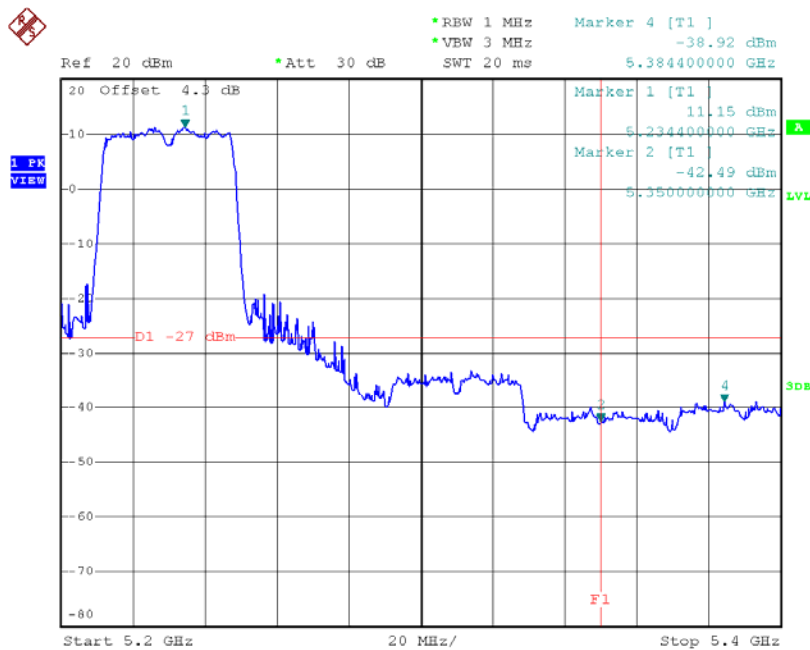
Test Mode: UNII-1/TX N40 Mode\_ANT 2

### TX mode CH38



Date: 5.DEC.2014 11:07:33

### TX mode CH46

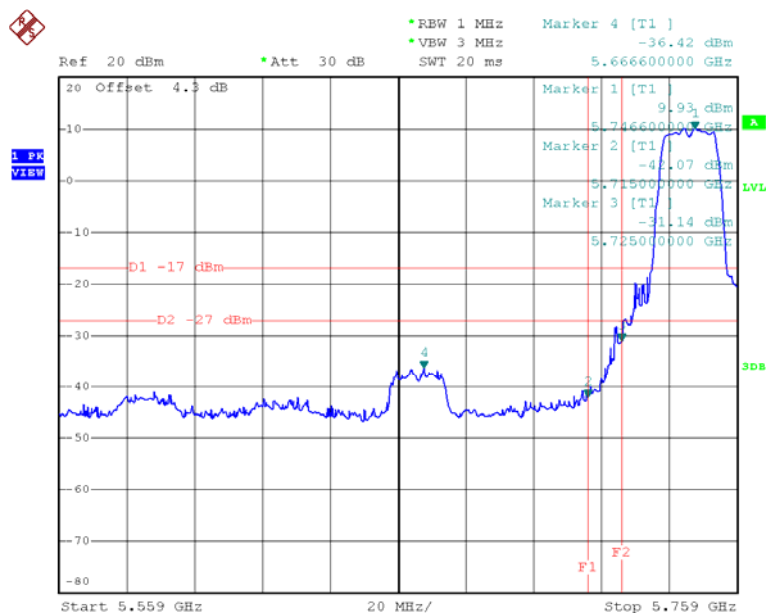


Date: 5.DEC.2014 11:09:02



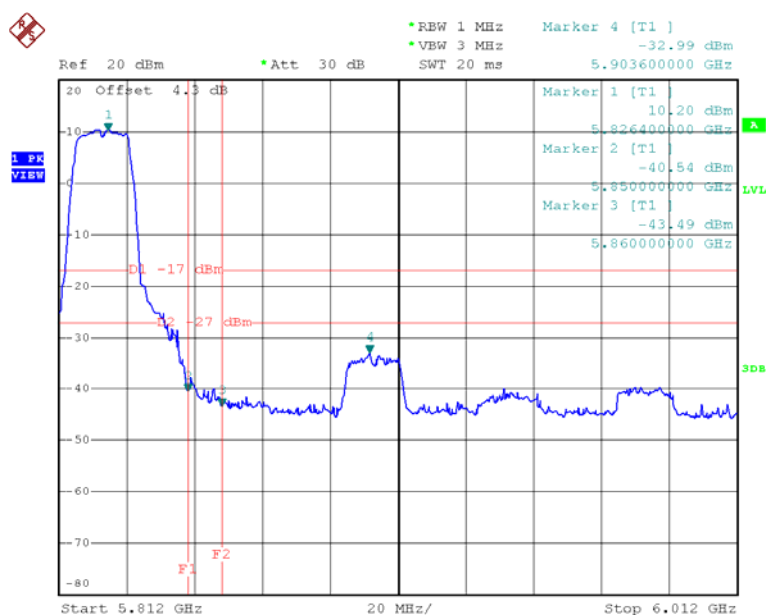
Test Mode: UNII-3/TX A Mode

### TX A Mode CH149



Date: 5.DEC.2014 14:11:16

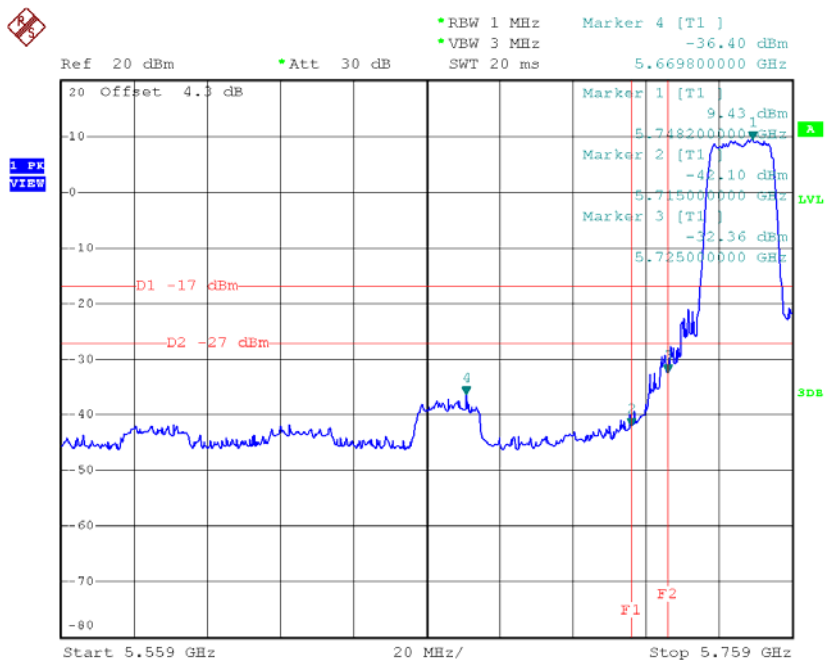
### TX A Mode CH165



Date: 5.DEC.2014 14:19:10

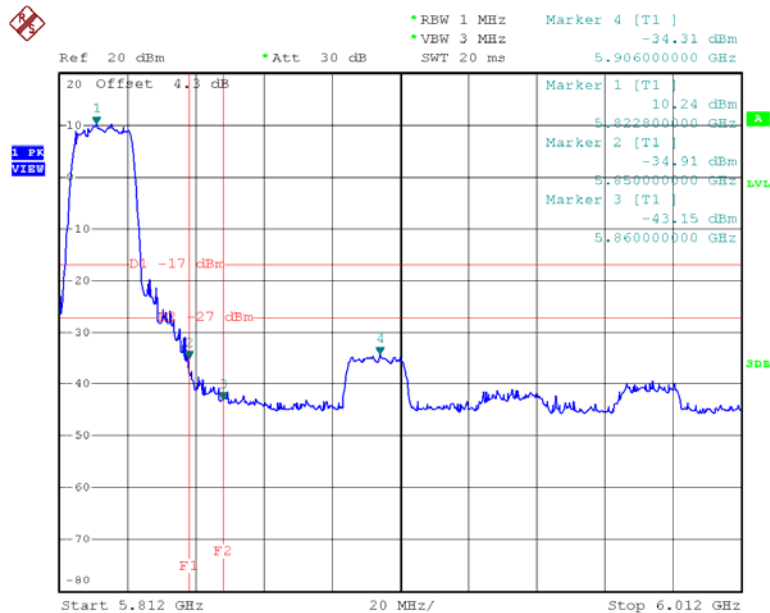
Test Mode: UNII-3/TX N20 Mode\_ANT 1

### TX HT20 mode CH149



Date: 5.DEC.2014 14:20:42

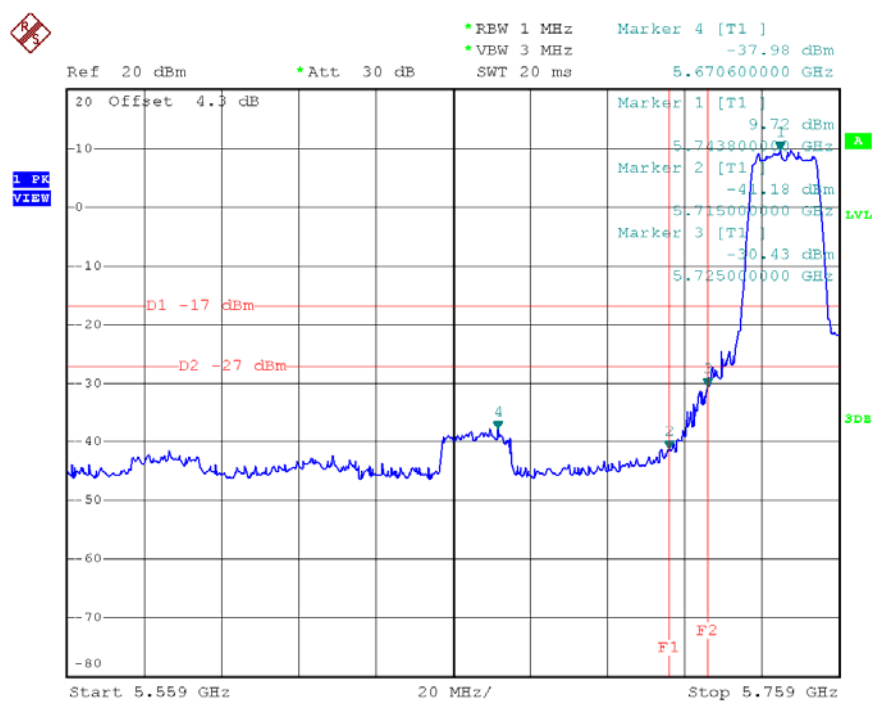
### TX HT20 mode CH165



Date: 5.DEC.2014 14:22:24

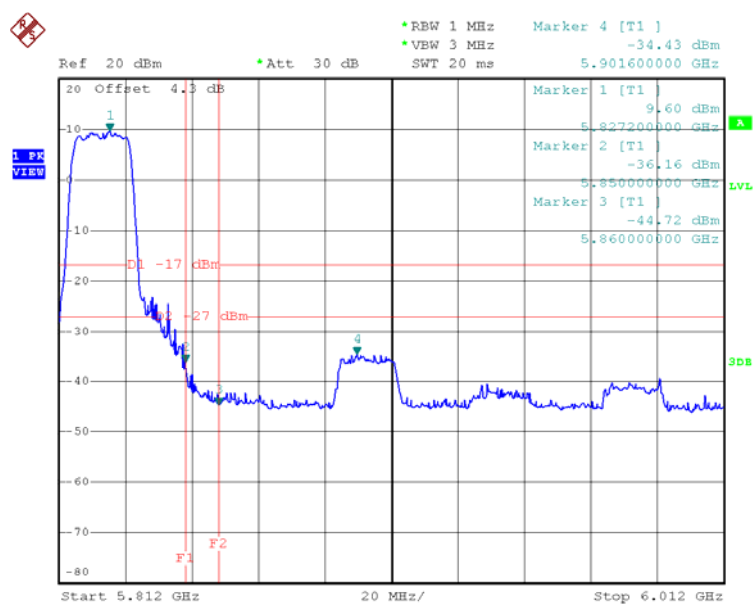
Test Mode: UNII-3/TX N20 Mode\_ANT 2

### TX HT20 mode CH149



Date: 5.DEC.2014 13:41:15

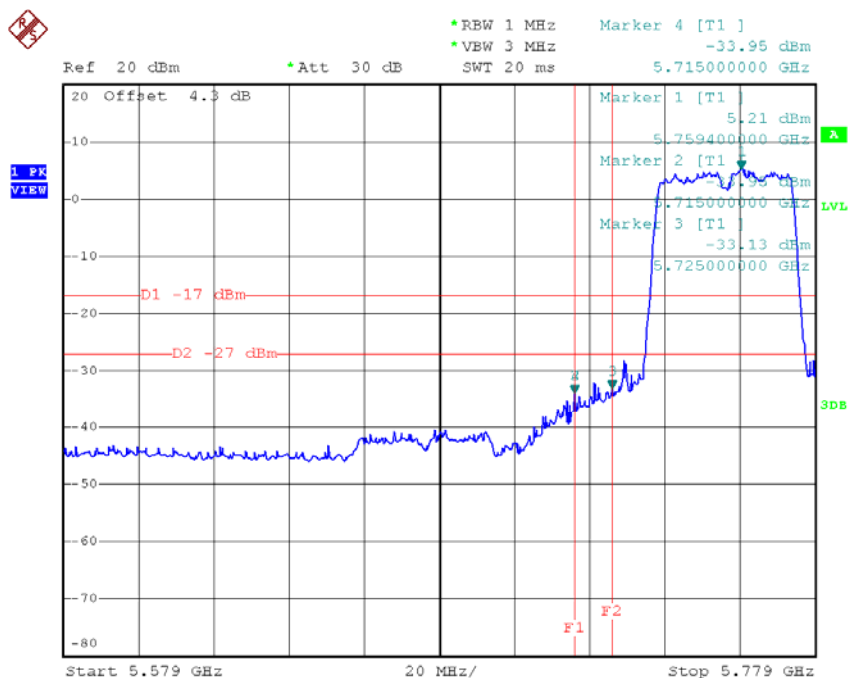
### X HT20 mode CH165



Date: 5.DEC.2014 13:42:58

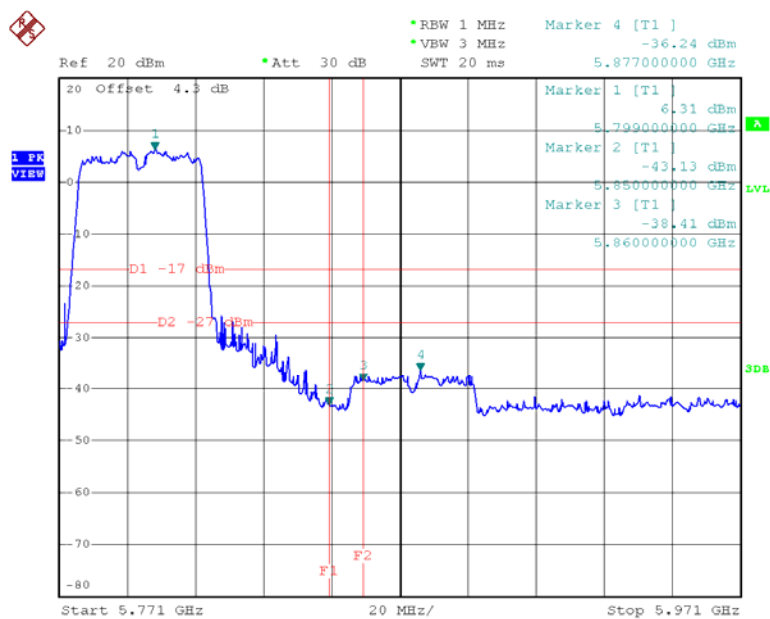
Test Mode: UNII-3/TX N40 Mode\_ANT 1

### UNII-3/TX HT40 mode CH151



Date: 5.DEC.2014 14:28:23

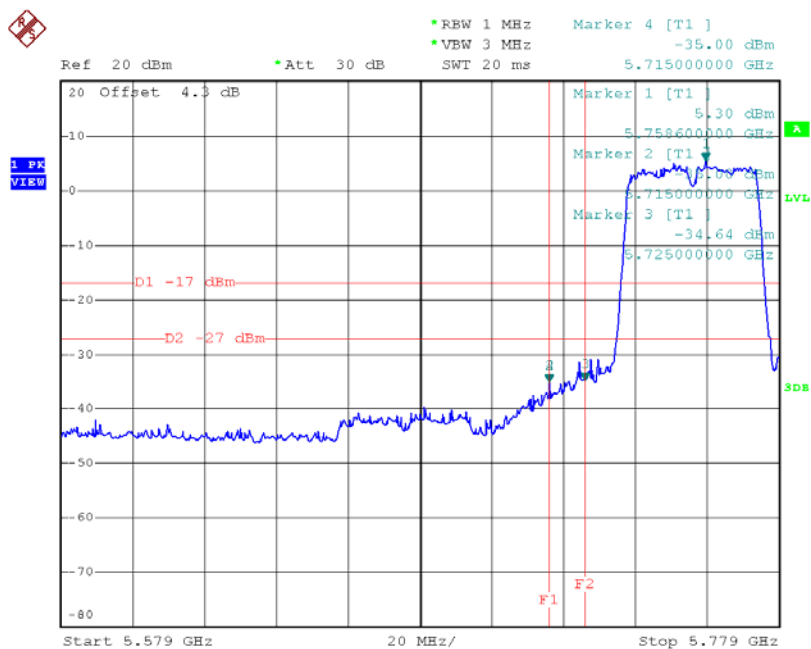
### UNII-3/TX HT40 mode CH159



Date: 5.DEC.2014 14:29:08

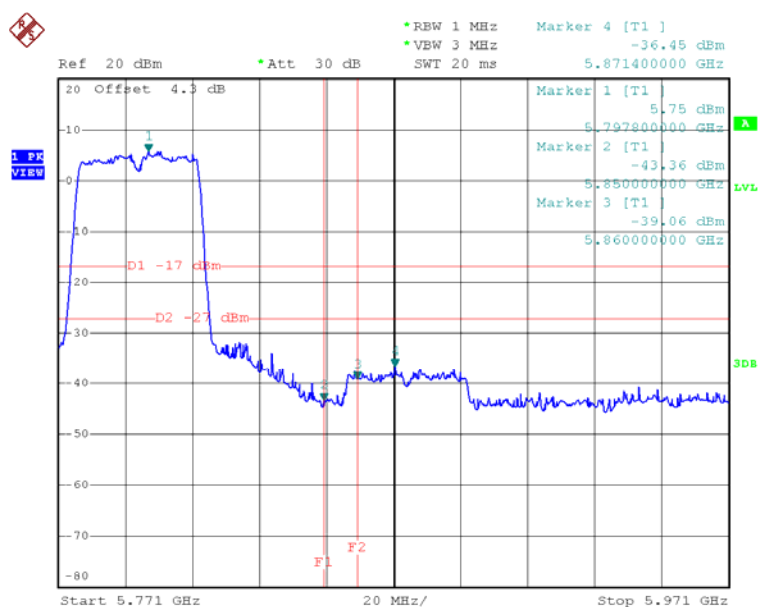
Test Mode: UNII-3/TX N40 Mode\_ANT 2

### TX HT40 mode CH151



Date: 5.DEC.2014 13:49:25

### HT40 mode CH159



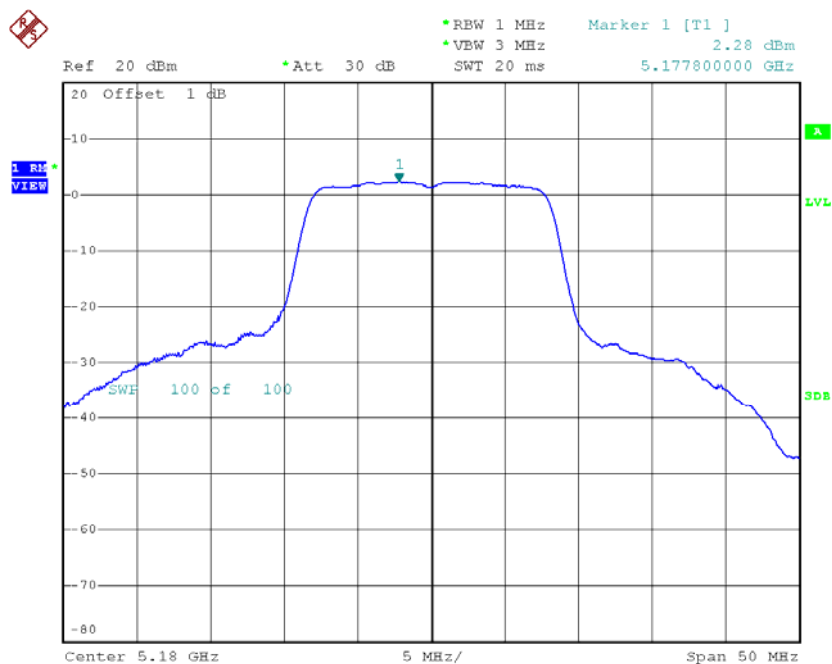
Date: 5.DEC.2014 13:51:10

## **ATTACHMENT I - POWER SPECTRAL DENSITY**

**Test Mode: UNII-1/ TX A Mode\_CH36/CH40/CH48**

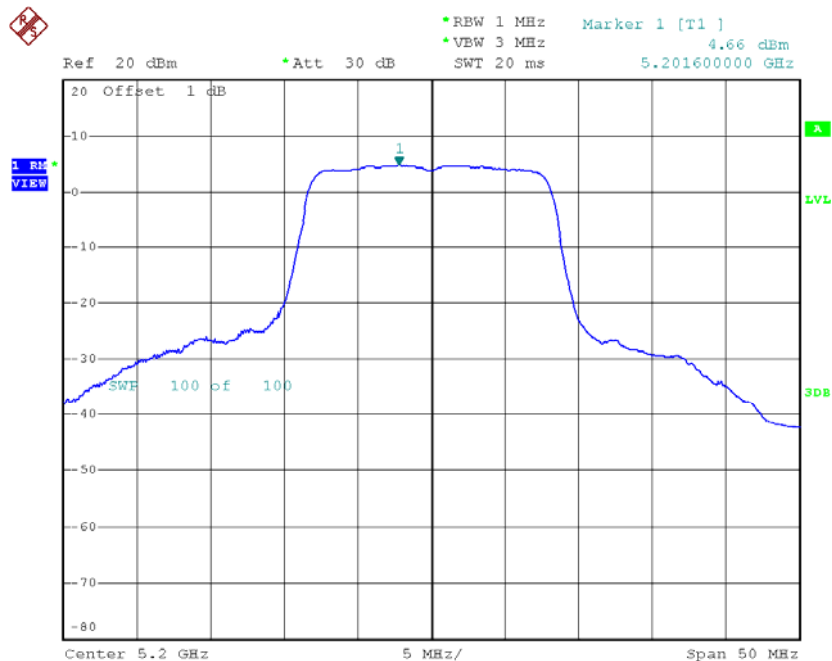
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/MHz)	Limit (dBm/MHz)
CH36	5180	2.28	0.37	2.65	17.00
CH40	5200	4.66	0.37	5.03	17.00
CH48	5240	9.49	0.37	9.86	17.00

**CH36**



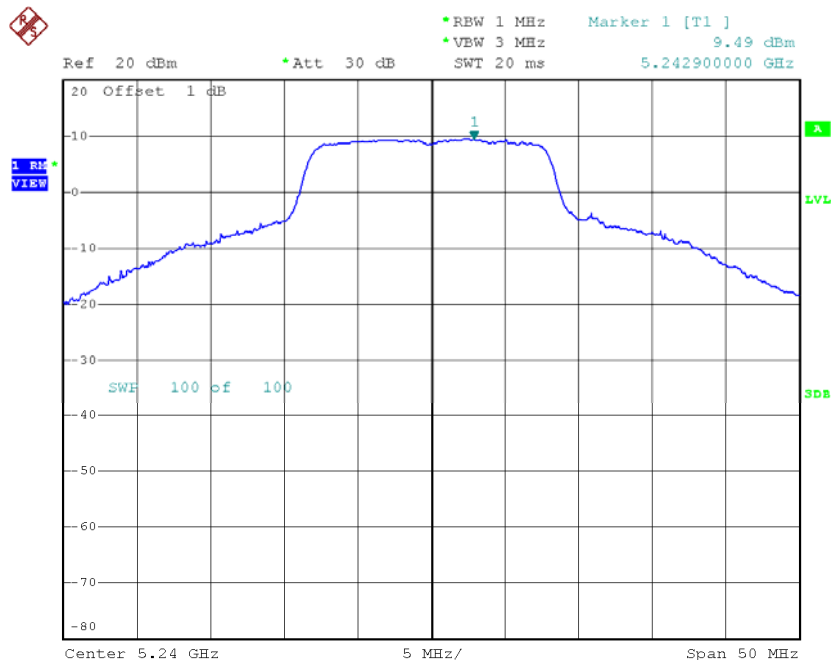
Date: 6.DEC.2014 10:24:21

# CH40



Date: 6.DEC.2014 10:33:33

# CH48



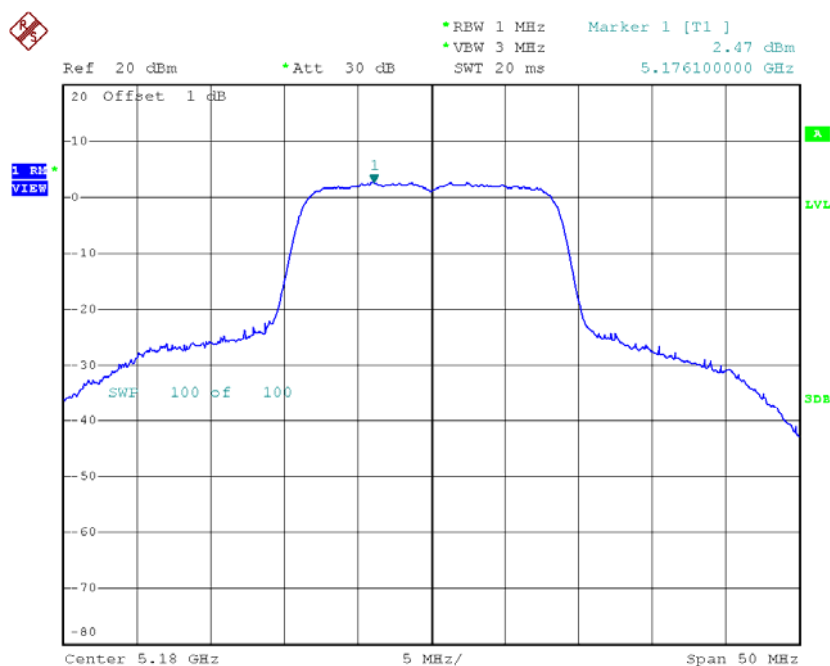
Date: 6.DEC.2014 10:36:04



**Test Mode: UNII-1/TX N20 Mode\_CH36/CH40/CH48\_ANT 1**

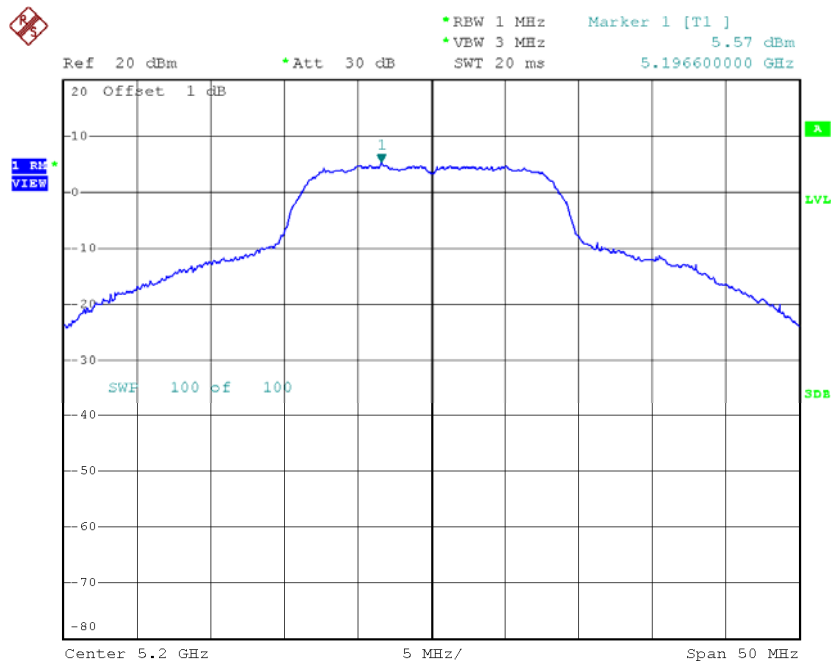
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/MHz)	Limit (dBm/MHz)
CH36	5180	2.47	0.95	3.42	17.00
CH40	5200	5.57	0.95	6.52	17.00
CH48	5240	4.42	0.95	5.37	17.00

**CH36**



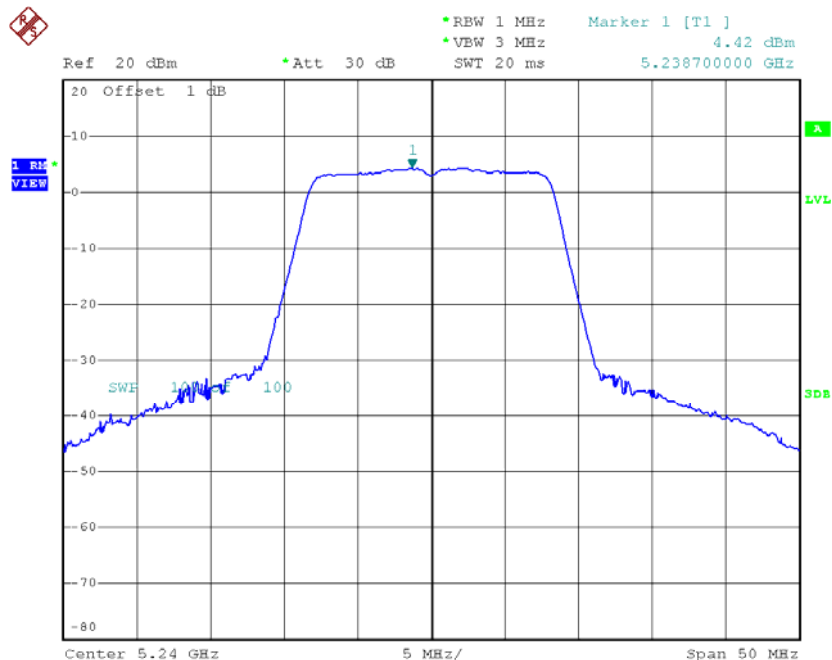
Date: 6.DEC.2014 10:43:13

# CH40



Date: 6.DEC.2014 10:46:40

# CH48

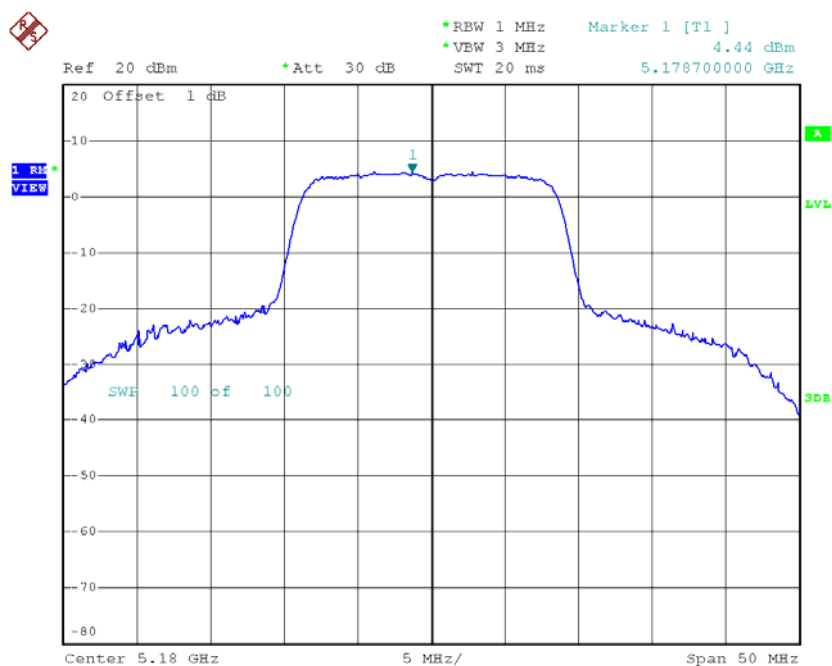


Date: 5.DEC.2014 10:09:28

**Test Mode: UNII-1/TX N20 Mode\_CH36/CH40/CH48\_ANT 2**

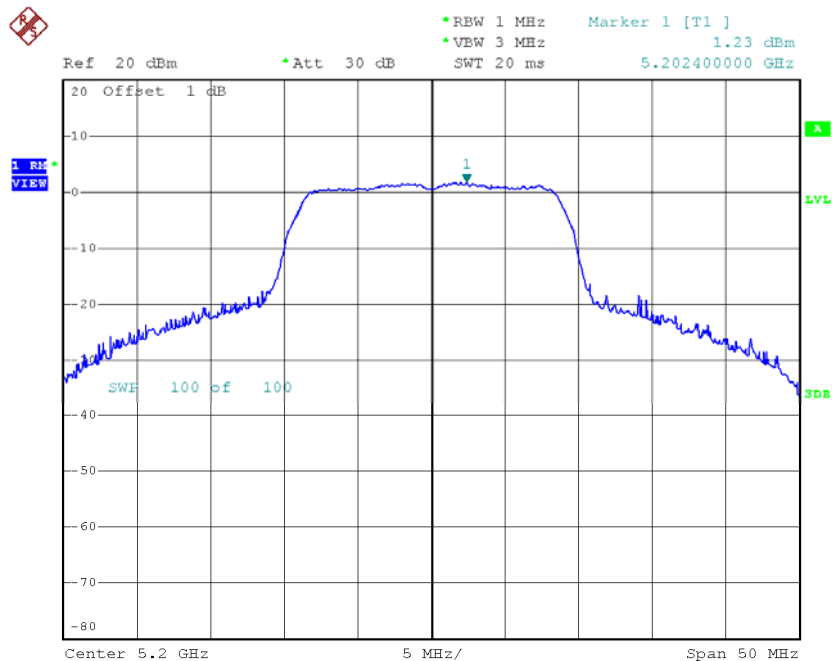
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/MHz)	Limit (dBm/MHz)
CH36	5180	4.44	0.95	5.39	17.00
CH40	5200	1.23	0.95	2.18	17.00
CH48	5240	3.45	0.95	4.40	17.00

**CH36**



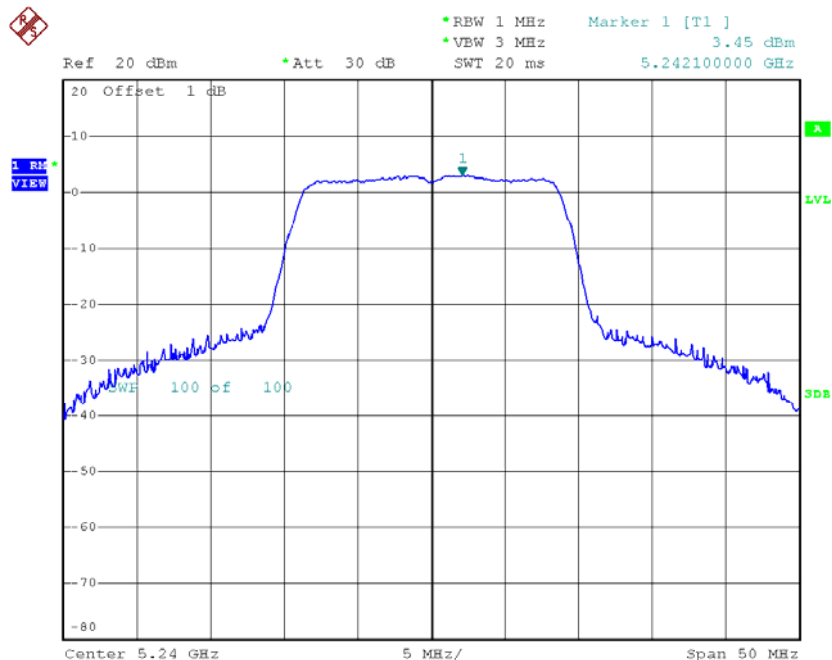
Date: 6.DEC.2014 11:01:08

# CH40



Date: 5.DEC.2014 11:00:30

# CH48



Date: 5.DEC.2014 11:01:21

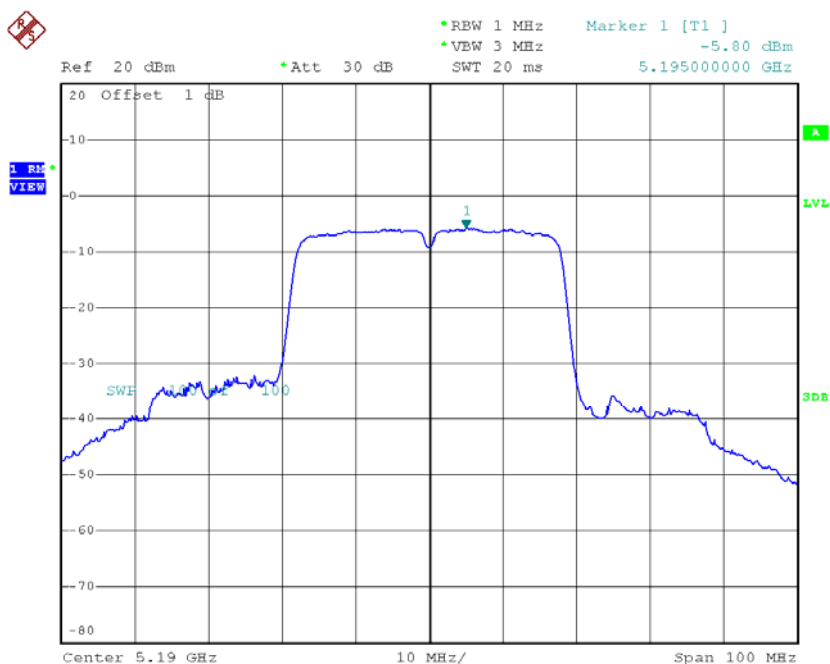
**Test Mode: UNII-1/TX N20 Mode\_CH36/CH40/CH48\_Total**

Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/MHz)	Limit (dBm/MHz)
CH36	5180	6.58	0.95	7.52	17.00
CH40	5200	6.93	0.95	7.88	17.00
CH48	5240	6.97	0.95	7.92	17.00

**Test Mode: UNII-1/TX N40 Mode\_CH38/CH46\_ANT 1**

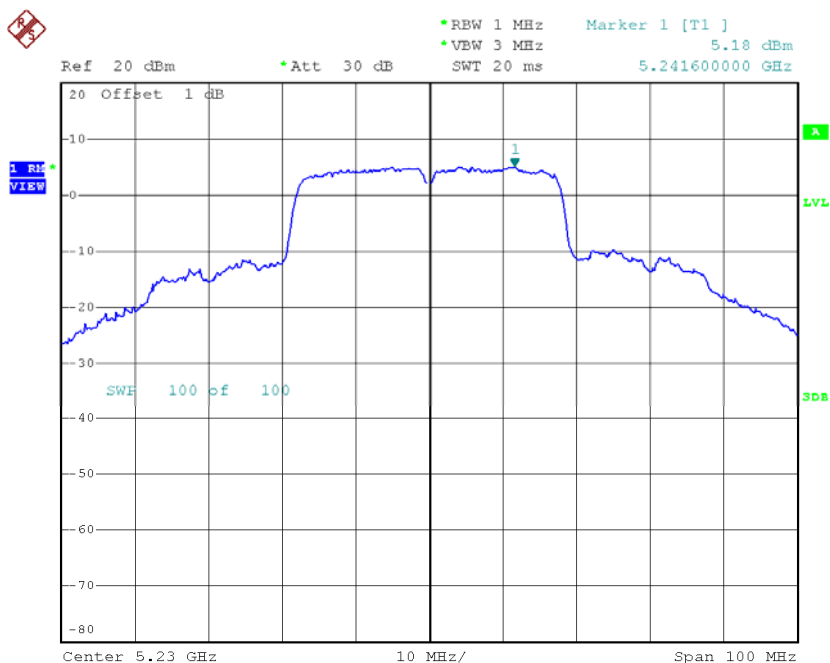
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/MHz)	Limit (dBm/MHz)
CH38	5190	-5.80	1.66	-4.14	17.00
CH46	5230	5.18	1.66	6.84	17.00

# CH38



Date: 6.DEC.2014 10:56:10

# CH46



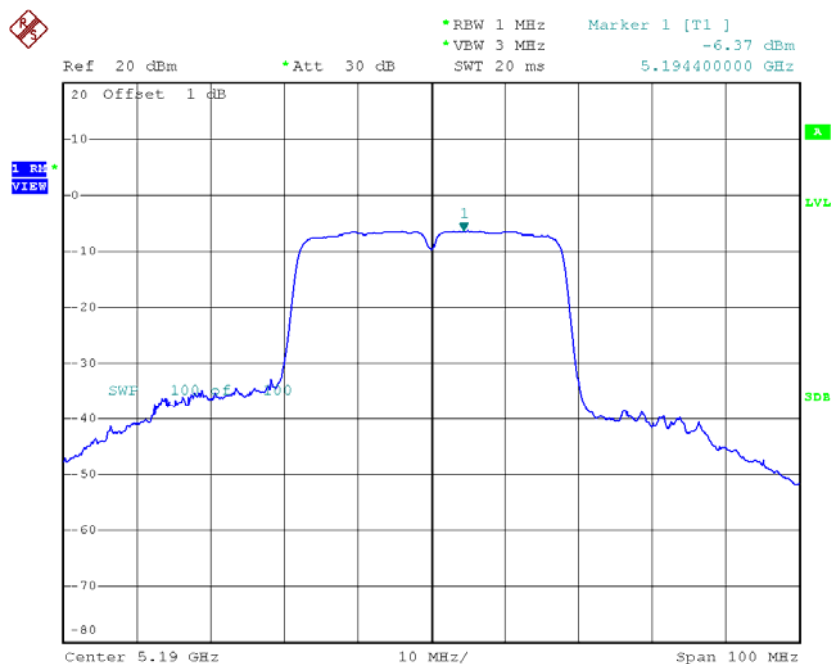
Date: 6.DEC.2014 10:57:45

**Test Mode: UNII-1/TX N40 Mode\_CH38/CH46\_ANT 2**

Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/MHz)	Limit (dBm/MHz)
CH38	5190	-6.37	1.66	-4.71	17.00
CH46	5230	6.11	1.66	7.77	17.00

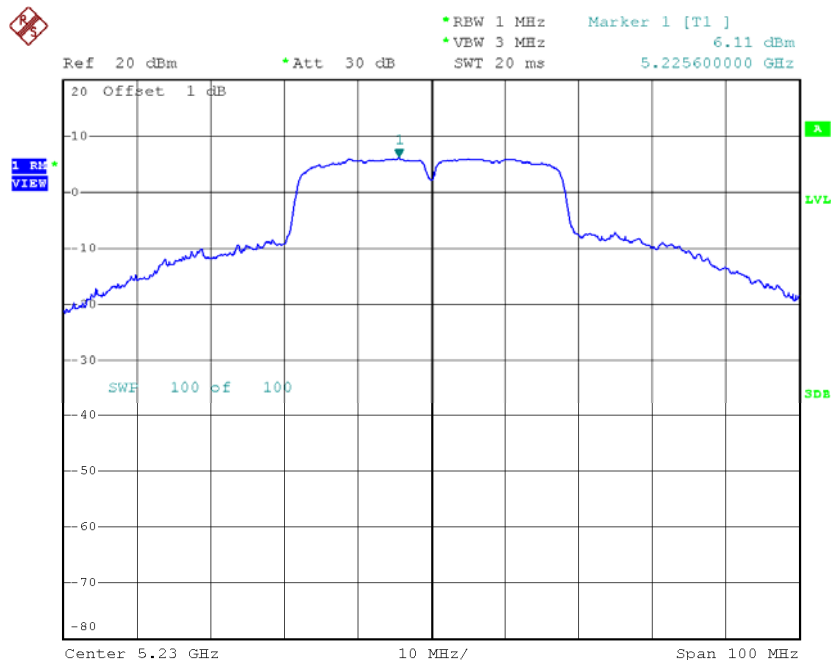


# CH38



Date: 6.DEC.2014 11:04:03

# CH46



Date: 6.DEC.2014 11:05:04

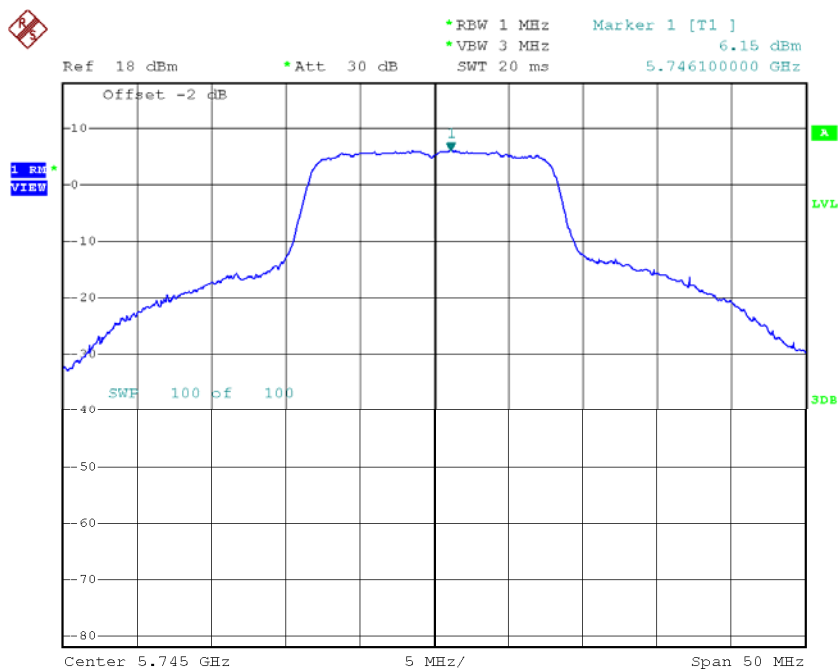
**Test Mode: UNII-1/TX N40 Mode\_CH38/CH46\_Total**

Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/MHz)	Limit (dBm/MHz)
CH38	5190	-3.07	1.66	-1.41	17.00
CH46	5230	8.68	1.66	10.34	17.00

**Test Mode: UNII-3/TX A Mode\_CH149/CH157/CH165**

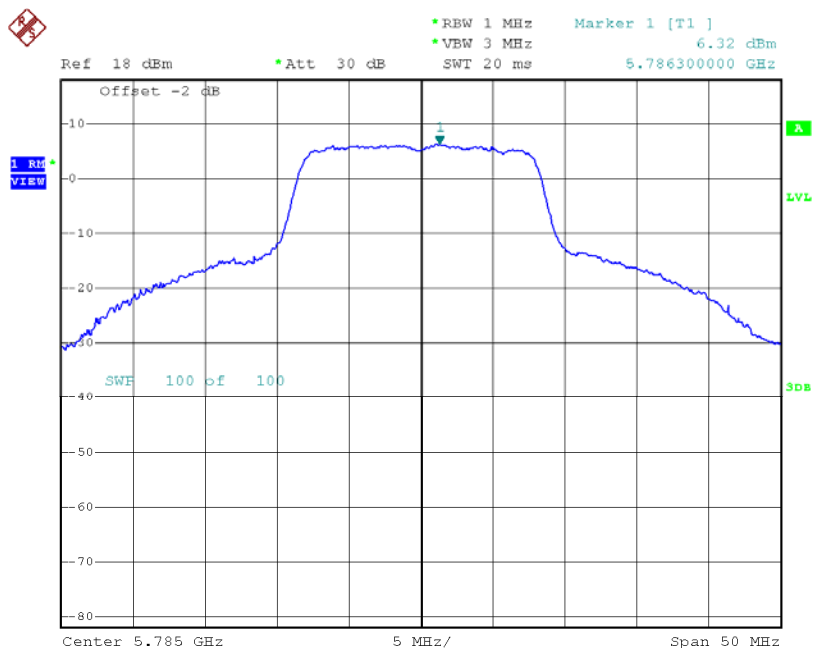
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)
CH149	5745	6.15	0.37	6.52	30.00
CH157	5785	6.32	0.37	6.69	30.00
CH165	5825	6.13	0.37	6.50	30.00

**TX CH149**



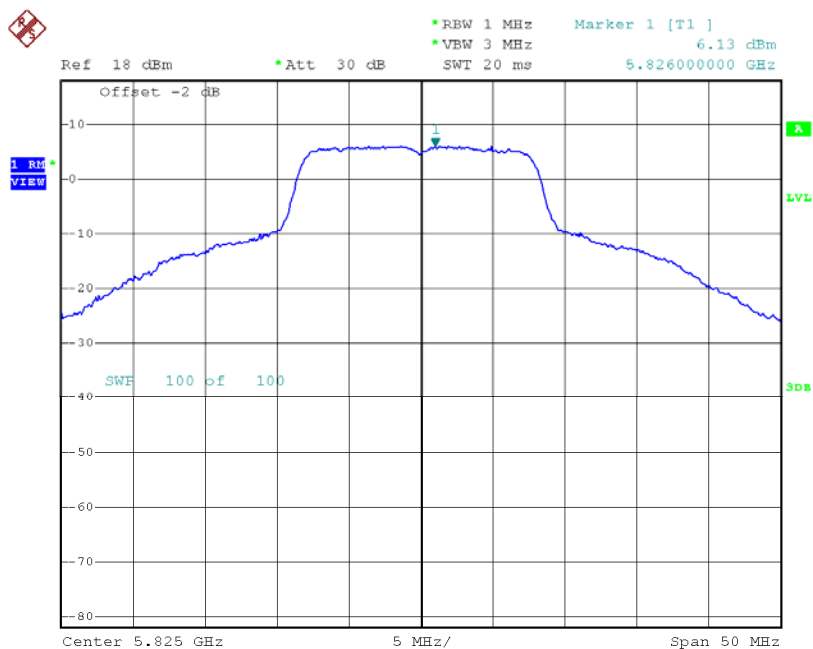
Date: 6.DEC.2014 11:53:27

# TX CH157



Date: 6.DEC.2014 11:55:34

# TX CH165

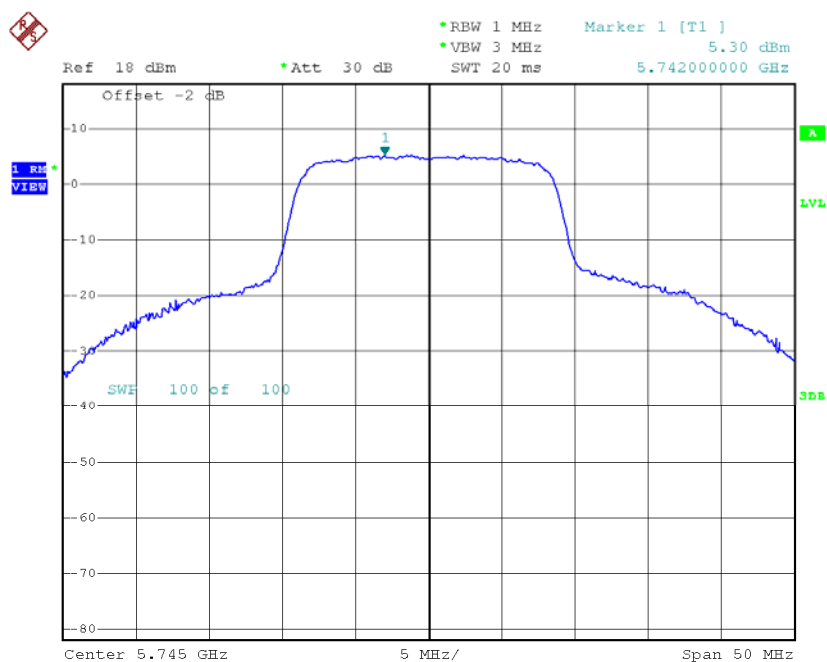


Date: 6.DEC.2014 11:56:38

**Test Mode: UNII-3/ TX N20 Mode\_CH149/CH157/CH165\_ANT 1**

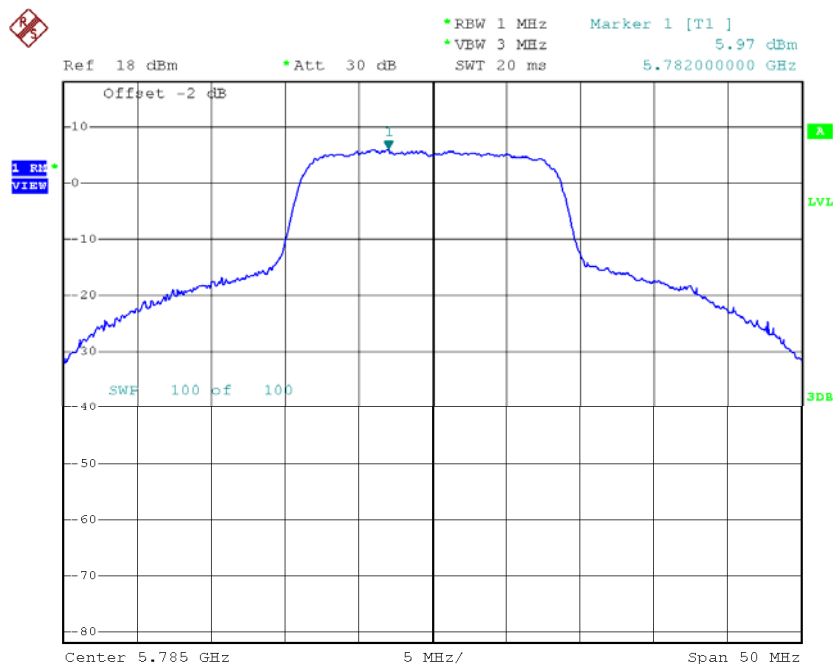
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)
CH149	5745	5.30	0.95	6.25	30.00
CH157	5785	5.97	0.95	6.92	30.00
CH165	5825	4.09	0.95	5.04	30.00

**TX CH149**



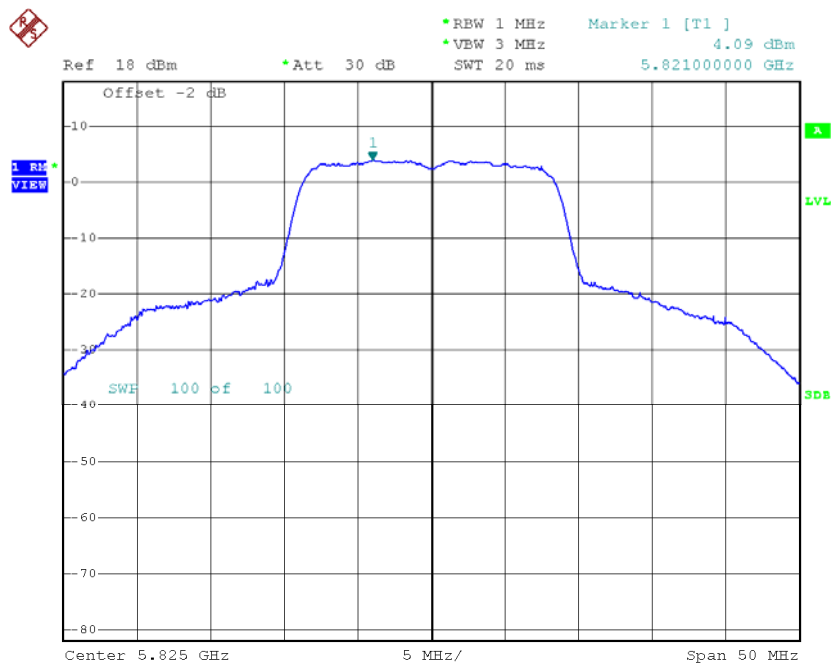
Date: 6.DEC.2014 12:00:00

# TX CH157



Date: 6.DEC.2014 12:01:37

# TX CH165

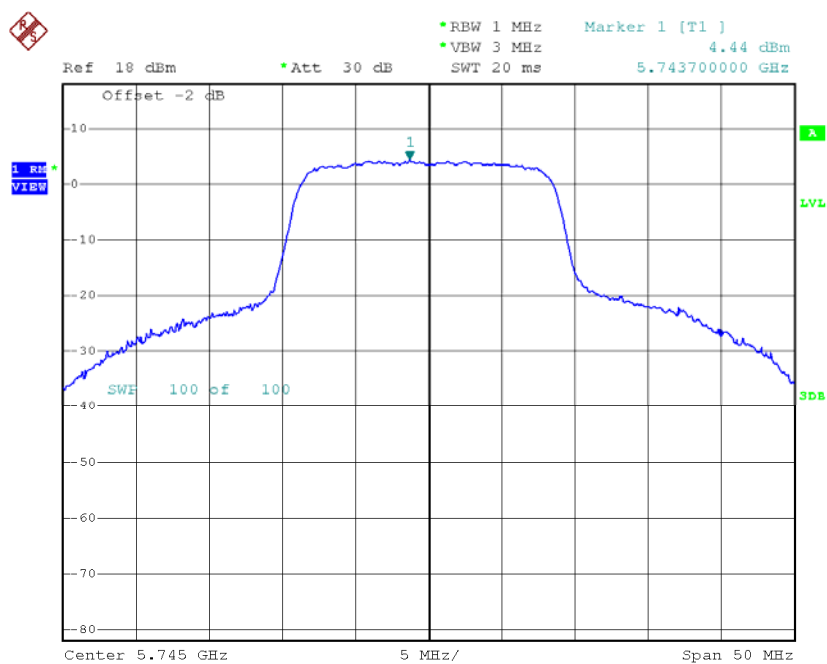


Date: 6.DEC.2014 12:02:19

**Test Mode: UNII-3/ TX N20 Mode\_CH149/CH157/CH165\_ANT 2**

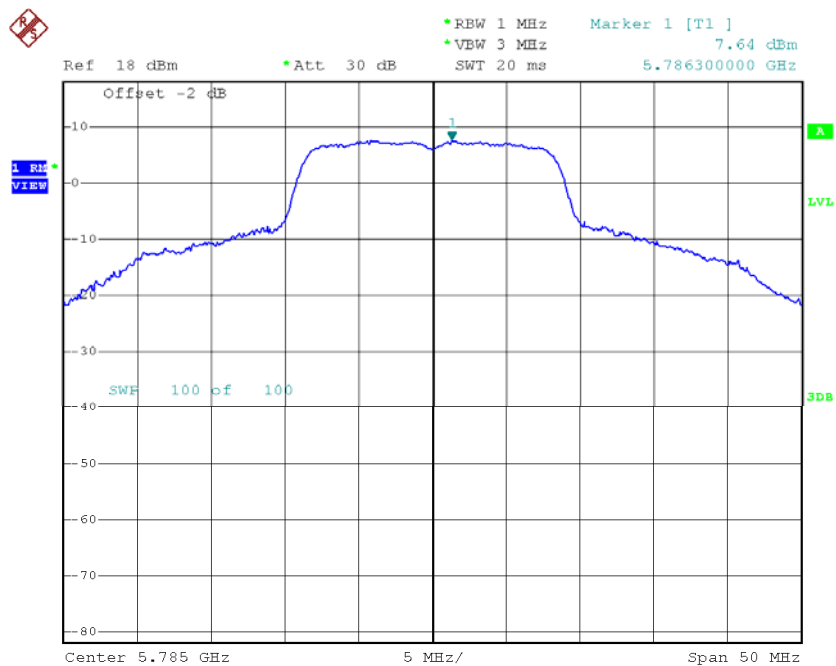
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)
CH149	5745	4.44	0.95	5.39	30.00
CH157	5785	7.64	0.95	8.59	30.00
CH165	5825	5.69	0.95	6.64	30.00

**TX CH149**



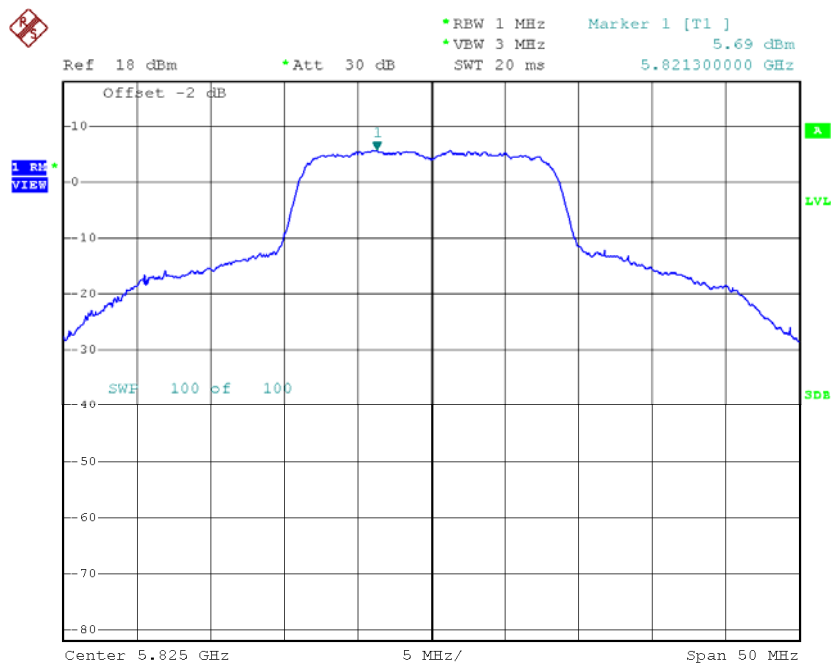
Date: 6.DEC.2014 12:17:37

## TX CH157



Date: 6.DEC.2014 12:18:44

## TX CH165



Date: 6.DEC.2014 12:19:33



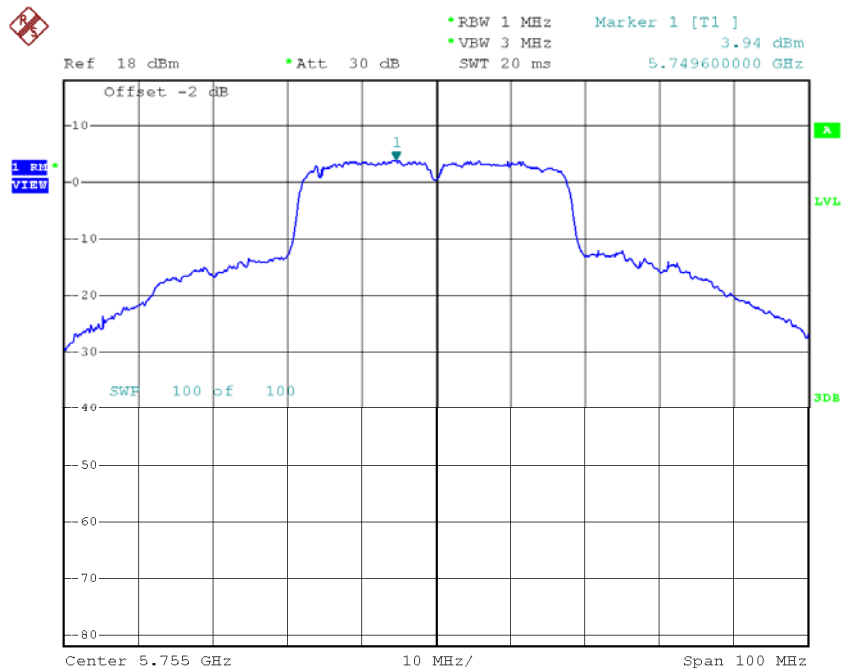
**Test Mode: UNII-3/ TX N20 Mode\_CH149/CH157/CH165\_Total**

Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)
CH149	5745	7.90	0.95	8.85	30.00
CH157	5785	9.90	0.95	10.84	30.00
CH165	5825	7.97	0.95	8.92	30.00

**Test Mode: UNII-3/ TX N40 Mode\_CH151/CH159\_ANT 1**

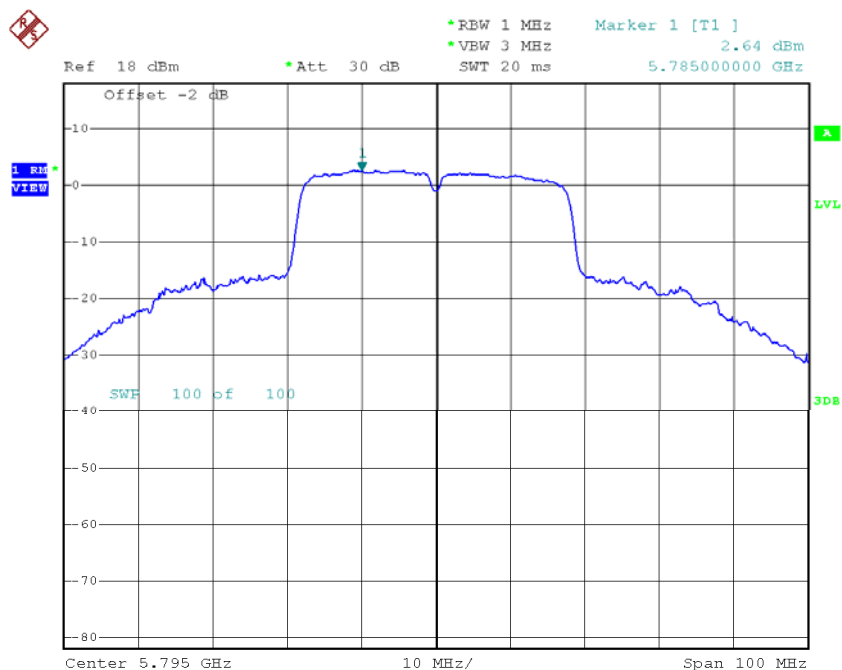
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)
CH151	5755	3.94	1.66	5.60	30.00
CH159	5795	2.64	1.66	4.30	30.00

# TX CH151



Date: 6.DEC.2014 12:03:12

# TX CH159

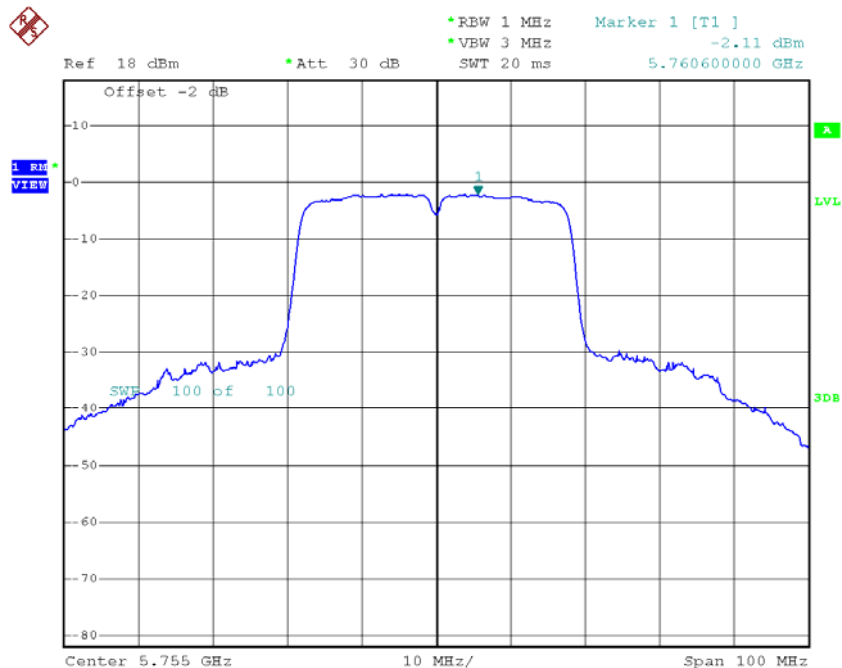


Date: 6.DEC.2014 12:05:40

**Test Mode: UNII-3/ TX N40 Mode\_CH151/CH159\_ANT 2**

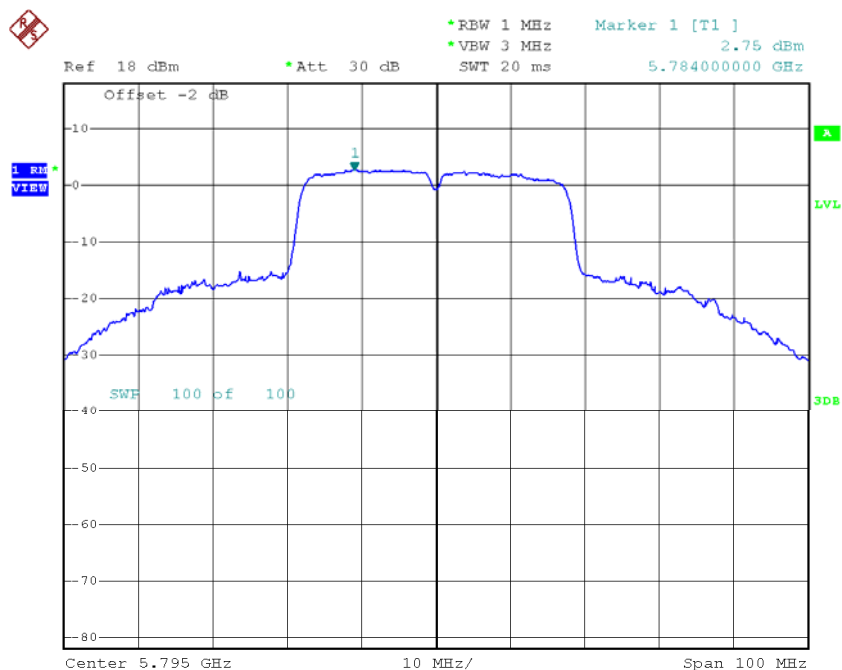
Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)
CH151	5755	-2.11	1.66	-0.45	30.00
CH159	5795	2.75	1.66	4.41	30.00

# TX CH151



Date: 6.DEC.2014 12:21:32

# TX CH159



Date: 6.DEC.2014 12:22:40

**Test Mode: UNII-3/ TX N40 Mode\_CH151/CH159\_Total**

Channel	Frequency (MHz)	Power Density (dBm/MHz)	Duty Factor (dBm/MHz)	Power Density+Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)
CH151	5755	4.90	1.66	6.56	30.00
CH159	5795	5.71	1.66	7.36	30.00

## **ATTACHMENT J - FREQUENCY STABILITY**

<b>Test Mode:</b>	<b>UNII-1</b>
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### Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5180.0000
132	5180.0850
120	5180.0810
108	5180.0870
Max. Deviation (MHz)	0.0870
Max. Deviation (ppm)	16.7954

### Temperature vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(°C)	5180.0000
0	5180.0450
10	5180.0260
20	5180.0380
30	5180.0340
40	5180.0430
Max. Deviation (MHz)	0.0450
Max. Deviation (ppm)	8.6873



<b>Test Mode:</b>	<b>UNII-3</b>
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### Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5745.0000
132	5745.0360
120	5745.0380
108	5745.0410
Max. Deviation (MHz)	0.0410
Max. Deviation (ppm)	7.1366

### Temperature vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(°C)	5745.0000
0	5745.0280
10	5745.0250
20	5745.0270
30	5745.0260
40	5745.0210
Max. Deviation (MHz)	0.0280
Max. Deviation (ppm)	4.8738