

# FCC Radio Test Report

## FCC ID: QWHDEEPMIND12

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

**Project No.** : 1611C014  
**Equipment** : Synthesizers and Samplers  
**Model Name** : DEEPMIND 12  
**Applicant** : MUSIC Group Manufacturing PH Ltd.  
**Address** : 17A Brunswick Street Hamilton HM 10 Bermuda

**Date of Receipt** : Nov. 04, 2016  
**Date of Test** : Nov. 04, 2016 ~ Dec. 01, 2016  
**Issued Date** : Dec. 02, 2016  
**Tested by** : BTL Inc.

**Testing Engineer** : Vitas Zhou  
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# **B T L I N C .**

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### **Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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## REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1611C014	Original Issue.	Dec. 02, 2016

## 1. CERTIFICATION

Equipment : Synthesizers and Samplers  
Brand Name : BEHRINGER  
Model Name : DEEPMIND 12  
Applicant : MUSIC Group Manufacturing PH Ltd.  
Manufacturer : MUSIC Group Manufacturing PH Ltd.  
Address : 17A Brunswick Street Hamilton HM 10 Bermuda  
Factory : Zhongshan Eurotec Electronics Ltd.  
Address : Eurotec Industrial Park, No.1 Junjing Road, Panzhong Road Side, Minzhong Town, Zhongshan City, Guangdong Province 528441 ,P.R. China.  
Date of Test : Nov. 04, 2016 ~ Dec. 01, 2016  
Test Sample : Engineering Sample  
Standard(s) : FCC Part15, Subpart C:(15.247) / ANSI C63.10-2013

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-1-1611C014) 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):

Applied Standard(s): FCC Part15 (15.247) , Subpart C			
Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(b)(3)	Peak Output Power	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
15.209/15.205	Transmitter Radiated Emissions	PASS	

### NOTE:

(1) "N/A" denotes test is not applicable in this test report.

## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 319330

## 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2  $U_{\text{CISPR}}$  requirement.

The reported uncertainty of measurement  $y \pm U$ , where expanded 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)
DG-C02	CISPR	150 KHz ~ 30MHz	2.32

### B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9KHz~30MHz	V	3.79
		9KHz~30MHz	H	3.57
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	H	3.78
		200MHz ~ 1,000MHz	V	4.10
		200MHz ~ 1,000MHz	H	4.06
		1GHz~18GHz	V	3.12
		1GHz~18GHz	H	3.68
		18GHz~40GHz	V	4.15
		18GHz~40GHz	H	4.14

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Synthesizers and Samplers	
Brand Name	BEHRINGER	
Model Name	DEEPMIND 12	
Model Difference	N/A	
Product Description	Operation Frequency	2412~2462 MHz
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 150 Mbps
	Output Power (Max.)	802.11b: 15.93 dBm 802.11g: 19.33 dBm 802.11n(20MHz): 19.17dBm
Power Source	AC Mains.	
Power Rating	I/P: 100-240V~50-60Hz 55W	

Note:

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

2. Channel List:

CH01 – CH11 for 802.11b, 802.11g, 802.11n(20MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	molex	0479502001	Internal	N/A	3.07

### 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 Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX Mode

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 4	TX Mode

For Radiated Test	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11

For Band Edge Test	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11

6dB Spectrum Bandwidth	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11

Maximum Conducted Output Power	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11

Antenna Conducted Spurious Emission	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11

Power Spectral Density	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11

**Note:**

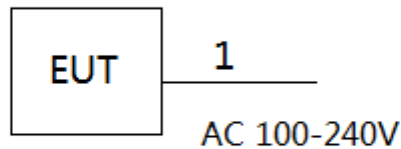
- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)  
802.11g mode: OFDM (6Mbps)  
802.11n HT20 mode : BPSK (6.5Mbps)  
For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.
- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

### 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 power parameters of WLAN.

Test software version	Radio Tool GUI		
Frequency (MHz)	2412	2437	2462
802.11b	0	0	0
802.11g	0	0	0
802.11n (20MHz)	1	2	0

### 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.
-	-	-	-	-	-

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 LIMITS (Frequency Range 150KHz-30MHz)

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 -0.50	66 to 56*	56 to 46*
0.50 -5.0	56	46
5.0 -30.0	60	50

Note:

- (1) The limit of " \* " decreases with the logarithm of the frequency
- (2) 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

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

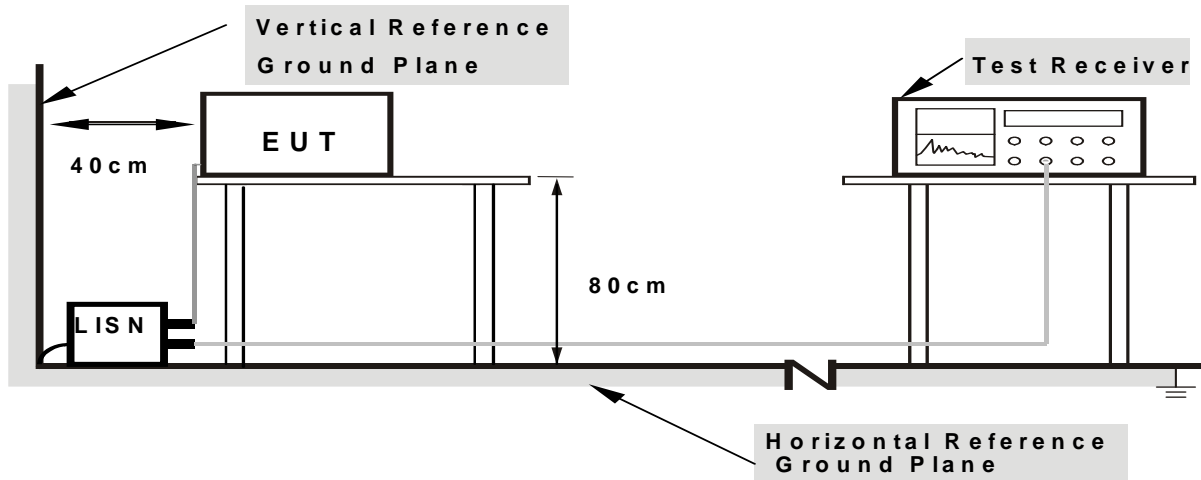
#### 4.1.2 TEST PROCEDURE

- 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



**Note:** 1.Support units were connected to second LISN.  
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

#### 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.

## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 RADIATED EMISSION LIMITS

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.

#### LIMITS OF RADIATED EMISSION MEASUREMENT (9KHz-1000MHz)

Frequency (MHz)	Field Strength (microvolts/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
960~1000	500	3

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	Band edge at 3m (dBμV/m)		Harmonic at 1.5m (dBμV/m)	
	Peak	Average	Peak	Average
Above 1000	74	54	80 (Note 5)	60(Note 5)

#### Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) 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

$$(5) \quad FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

$$20\log d_{\text{limit}}/d_{\text{measure}}=20\log 3/1.5=6\text{dB.}$$



Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

#### 4.2.2 TEST PROCEDURE

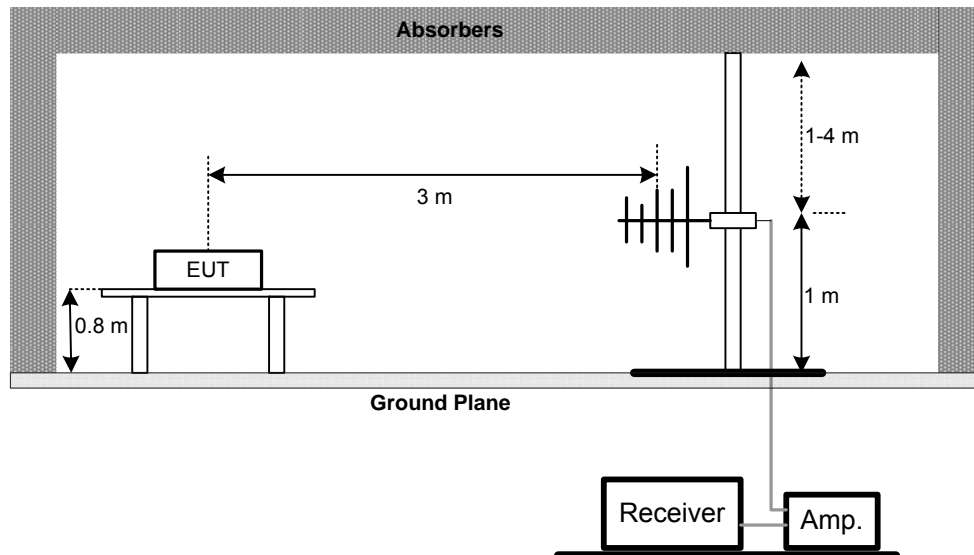
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-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 0.8m or 1.5m; 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.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- 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. (below 1GHz)
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.2.3 DEVIATION FROM TEST STANDARD

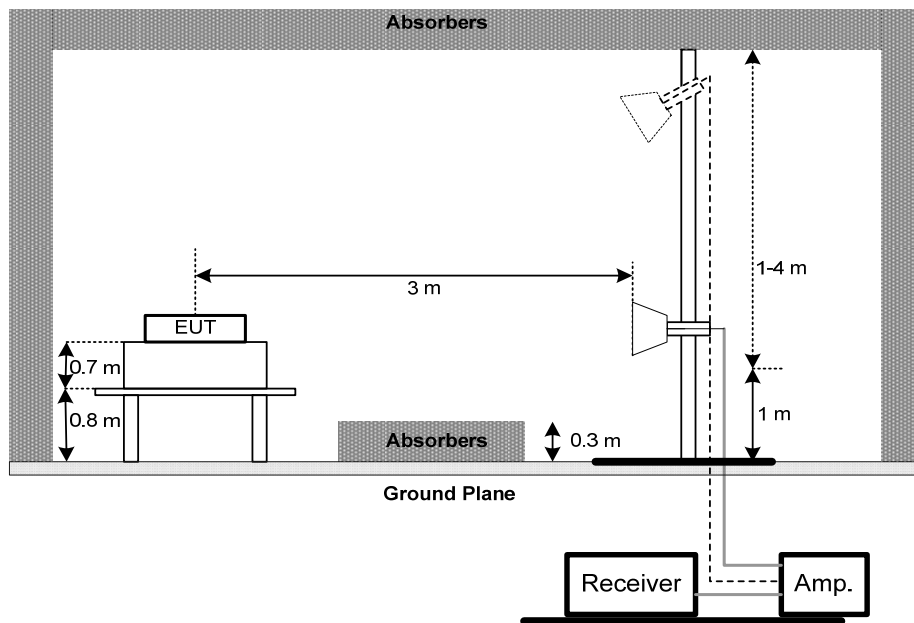
No deviation

#### 4.2.4 TEST SETUP

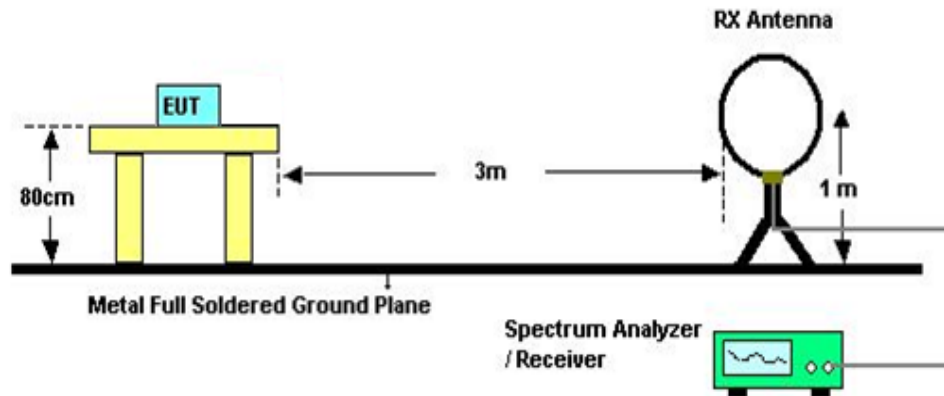
##### (A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For 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.

#### 4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable.  
For fundamental signal judgment was referred to Peak output test.

## 5. BANDWIDTH TEST

### 5.1 APPLIED PROCEDURES

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	2400-2483.5	PASS

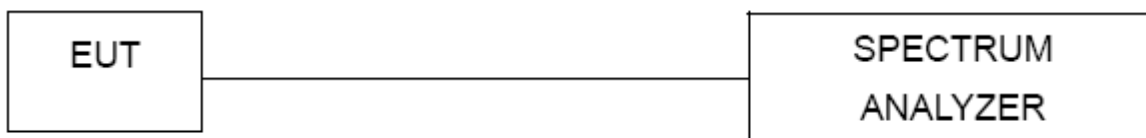
#### 5.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

#### 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 E.

## 6. MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST

### 6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Maximum Output Power	1 Watt or 30dBm	2400-2483.5	PASS

#### 6.1.1 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance.

#### 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 F.

## 7. ANTENNA CONDUCTED SPURIOUS EMISSION

### 7.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits.

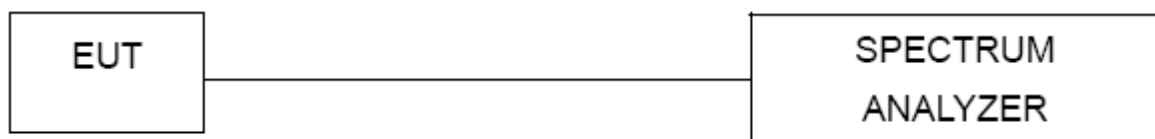
#### 7.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.
- Offset=antenna gain+cable loss

#### 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 G.

## 8. POWER SPECTRAL DENSITY TEST

### 8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

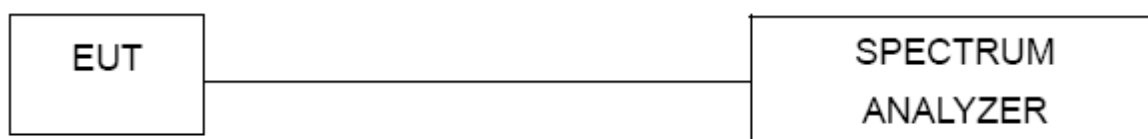
#### 8.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW=3KHz, VBW=10KHz, Sweep time = Auto.

#### 8.1.2 DEVIATION FROM STANDARD

No deviation.

#### 8.1.3 TEST SETUP



#### 8.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 8.1.5 EUT TEST CONDITIONS

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

#### 8.1.6 TEST RESULTS

Please refer to the Attachment H.

## 9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	0052765	Mar. 27, 2017
2	LISN	R&S	ENV216	101447	Mar. 27, 2017
3	Test Cable	emci	RG223(9KHz-30MHz)	C_17	Mar. 10, 2017
4	EMI Test Receiver	R&S	ESCI	100382	Mar. 27, 2017
5	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 27, 2017
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. 27, 2017
2	Amplifier	HP	8447D	2944A09673	Oct. 20, 2017
3	Receiver	AGILENT	N9038A	MY52130039	Sep. 04, 2017
4	Test Cable	emci	LMR-400(30MHz-1GHz)	C-01	Jun. 26, 2017
5	Control	CT	SC100	N/A	N/A
6	Position Control	MF	MF-7802	MF780208416	N/A
7	Antenna	ETS	3115	00075789	Mar. 27, 2017
8	Amplifier	Agilent	8449B	3008A02274	Mar. 10, 2017
9	Test Cable	emci	EMC104-SM-SM-10000(1GHz-26.5GHz)	C-68	Jun. 26, 2017
10	Controller	CT	SC100	N/A	N/A
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 23, 2017
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 27, 2017
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Sep. 06, 2017
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A



6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	P-series Power meter	Agilent	N1911A	MY45100473	Sep. 04, 2017
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Sep. 04, 2017

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017

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

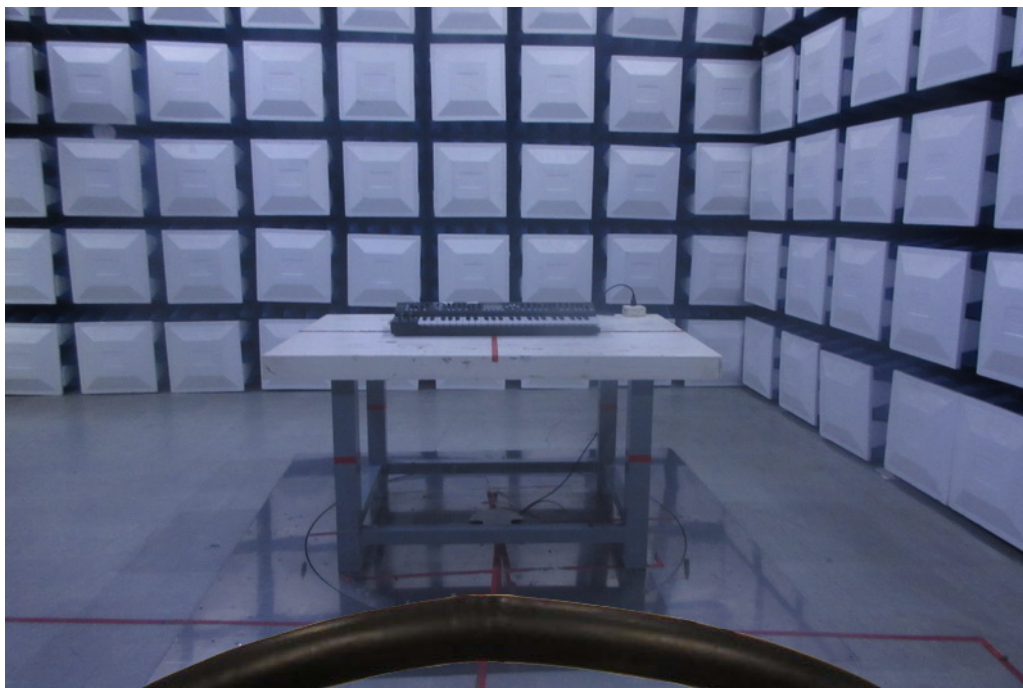
## 10. EUT TEST PHOTO

### Conducted Measurement Photos



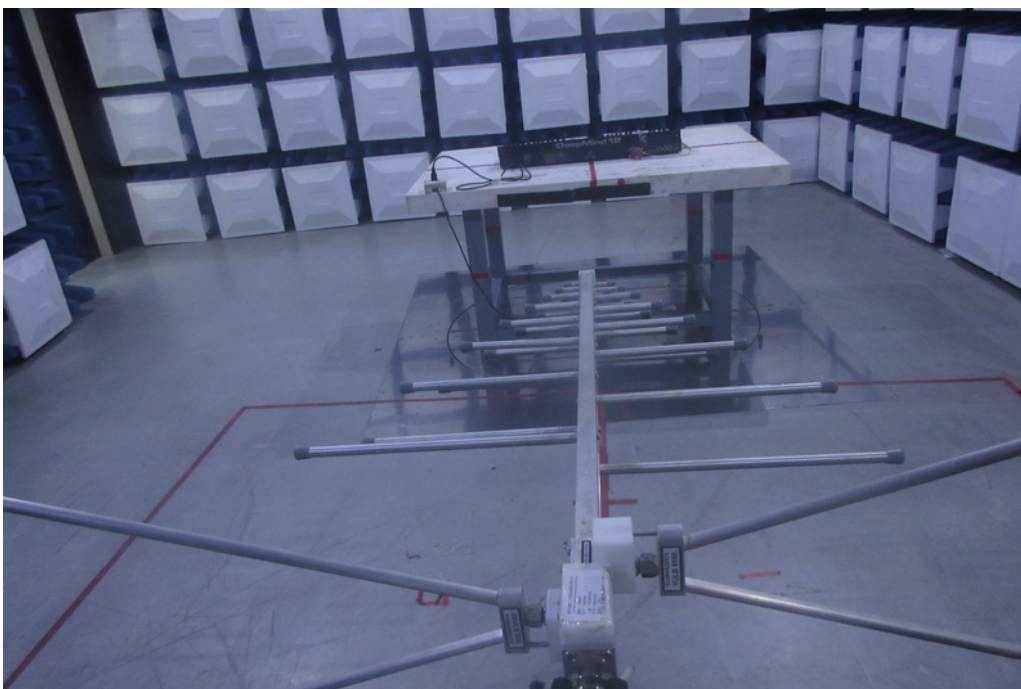
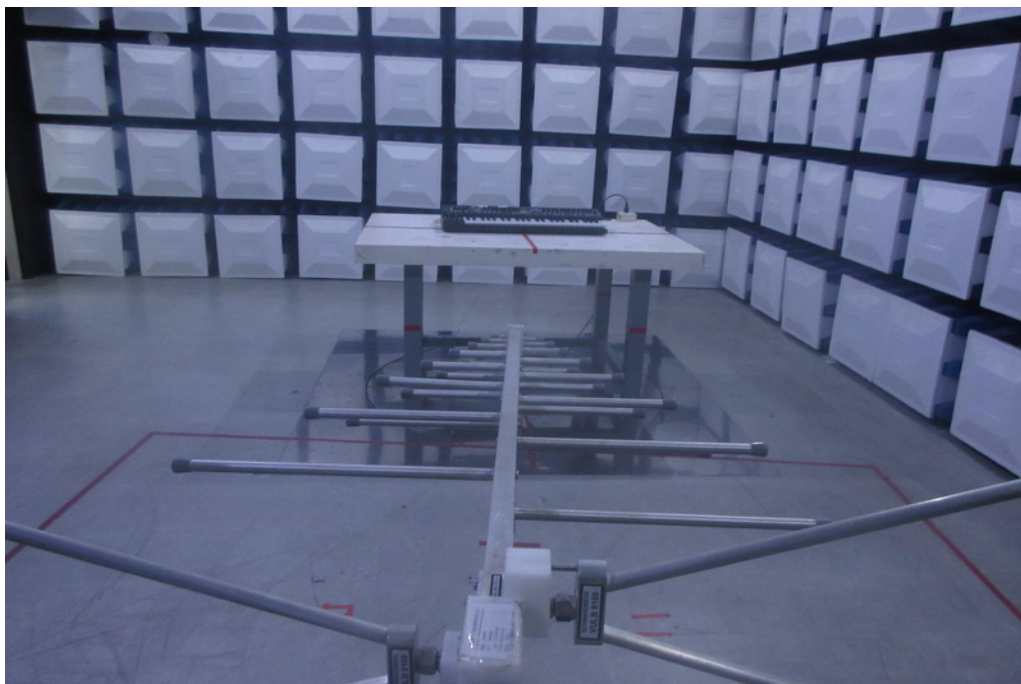
## Radiated Measurement Photos

9KHz to 30MHz



## Radiated Measurement Photos

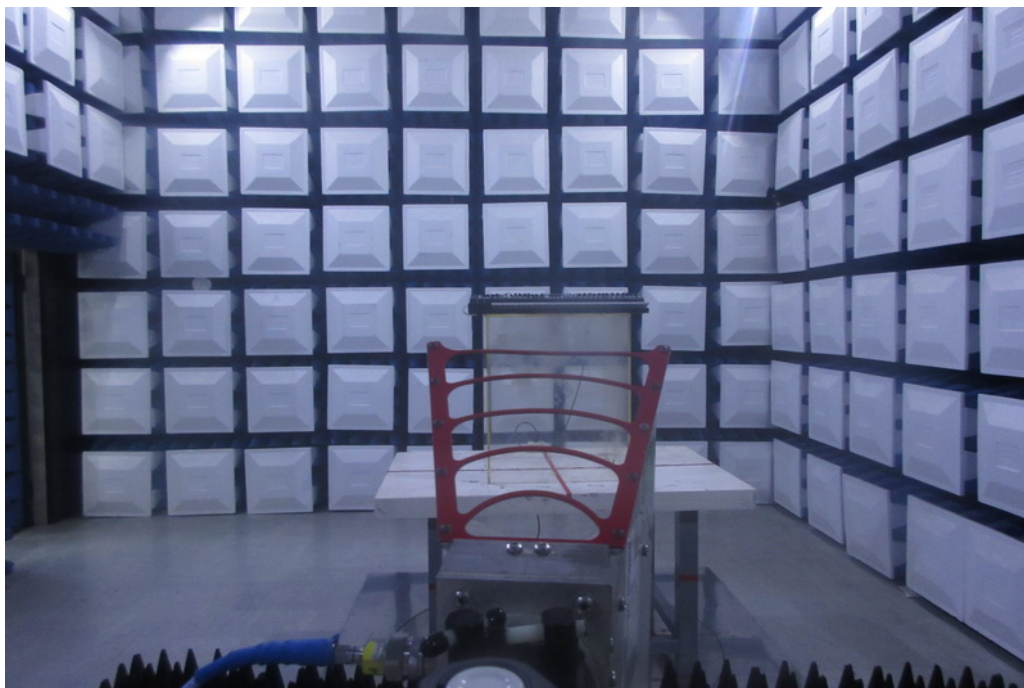
30MHz to 1000MHz





## Radiated Measurement Photos

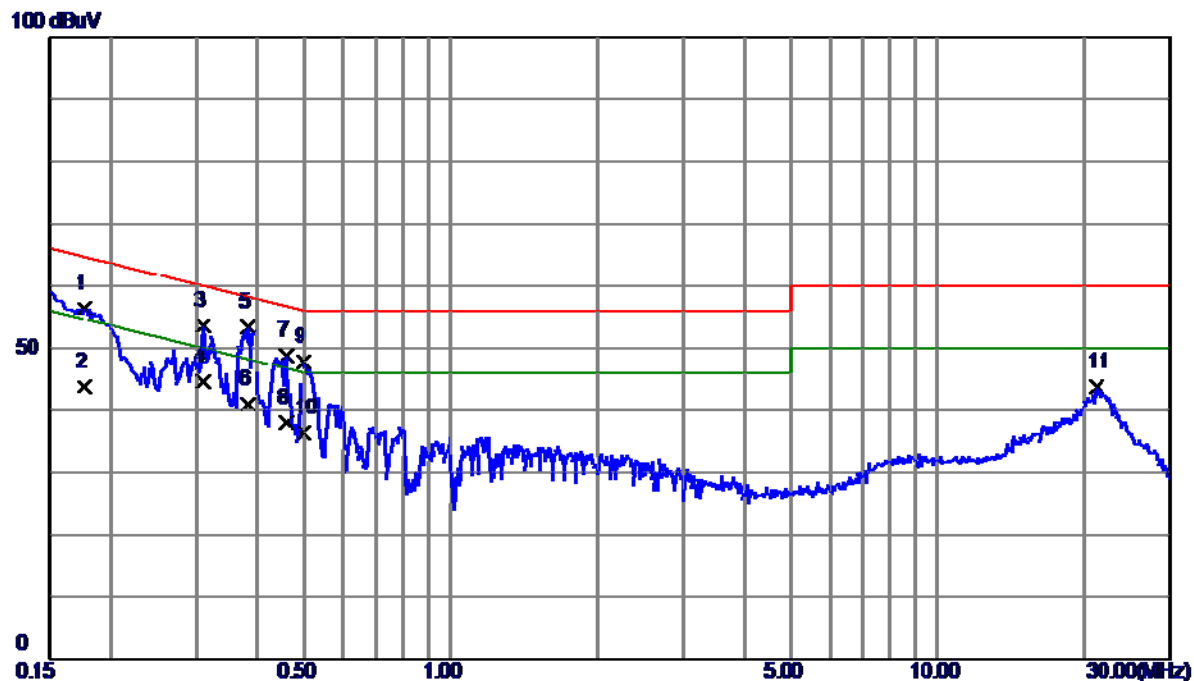
Above 1GHz



## ATTACHMENT A - CONDUCTED EMISSION

Test Mode : TX Mode

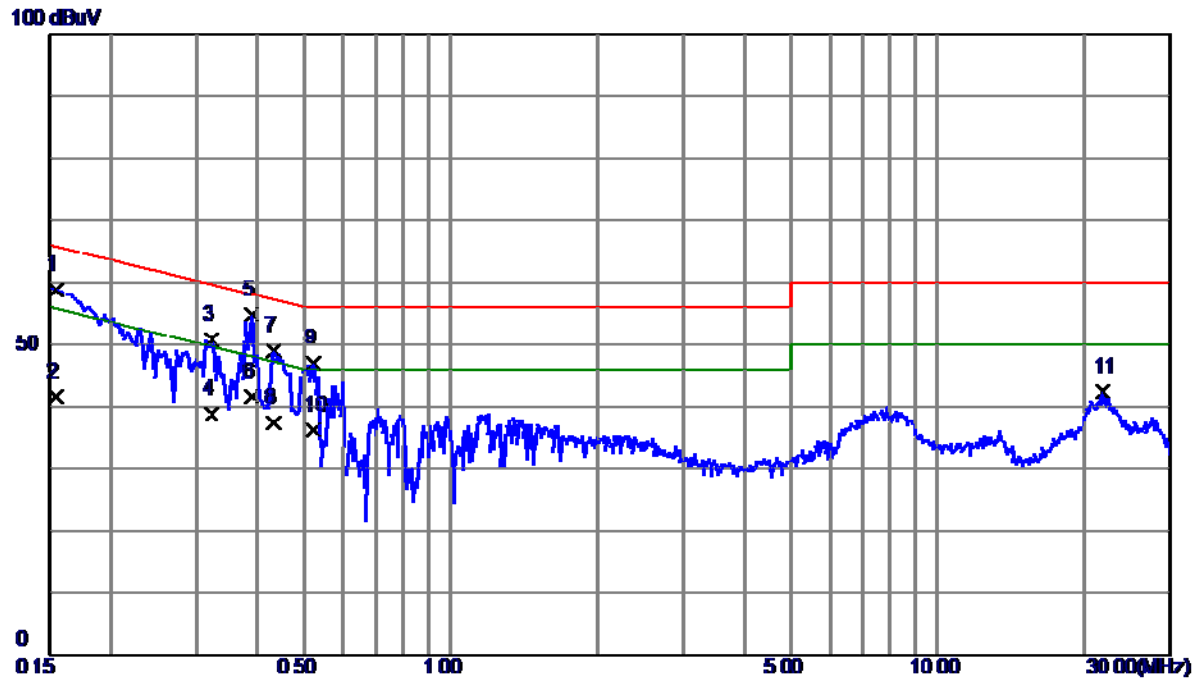
# Line



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1768	46.89	9.53	56.42	64.63	-8.21	Peak	
2	0.1768	34.33	9.53	43.86	54.63	-10.77	AVG	
3	0.3100	44.06	9.53	53.59	59.97	-6.38	Peak	
4	0.3100	35.09	9.53	44.62	49.97	-5.35	AVG	
5 *	0.3820	43.93	9.54	53.47	58.24	-4.77	Peak	
6	0.3820	31.51	9.54	41.05	48.24	-7.19	AVG	
7	0.4580	39.28	9.60	48.88	56.73	-7.85	Peak	
8	0.4580	28.33	9.60	37.93	46.73	-8.80	AVG	
9	0.4980	38.21	9.64	47.85	56.03	-8.18	Peak	
10	0.4980	26.69	9.64	36.33	46.03	-9.70	AVG	
11	21.1580	33.36	10.40	43.76	60.00	-16.24	Peak	

Test Mode : TX Mode

# Neutral



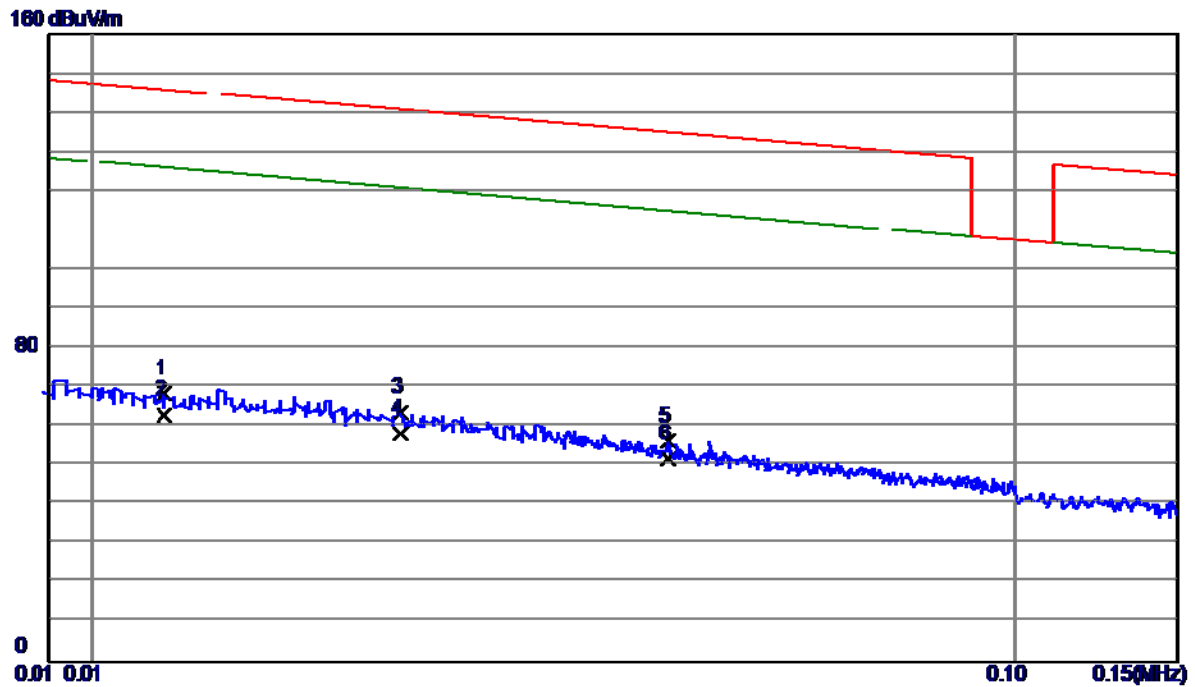
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1547	49.34	9.50	58.84	65.74	-6.90	Peak	
2	0.1547	32.14	9.50	41.64	55.74	-14.10	AVG	
3	0.3234	41.18	9.53	50.71	59.62	-8.91	Peak	
4	0.3234	29.18	9.53	38.71	49.62	-10.91	AVG	
5 *	0.3899	45.29	9.46	54.75	58.07	-3.32	Peak	
6	0.3899	32.17	9.46	41.63	48.07	-6.44	AVG	
7	0.4340	39.58	9.44	49.02	57.18	-8.16	Peak	
8	0.4340	27.87	9.44	37.31	47.18	-9.87	AVG	
9	0.5220	37.52	9.44	46.96	56.00	-9.04	Peak	
10	0.5220	26.75	9.44	36.19	46.00	-9.81	AVG	
11	21.7939	31.83	10.51	42.34	60.00	-17.66	Peak	



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

Test Mode: TX Mode

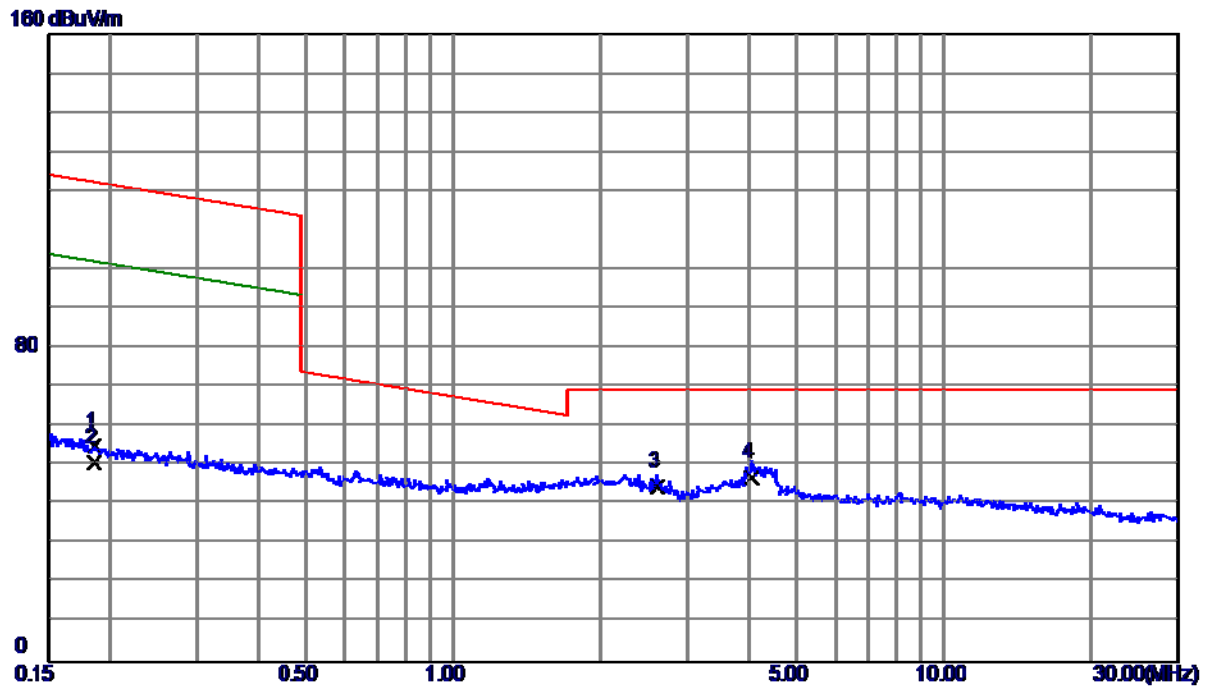
Ant 0°



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.0120	44.46	24.00	68.46	147.75	-79.29	Peak	
2 *	0.0120	39.01	24.00	63.01	127.75	-64.74	AVG	
3	0.0216	40.47	23.32	63.79	145.38	-81.59	Peak	
4	0.0216	34.99	23.32	58.31	125.38	-67.07	AVG	
5	0.0422	35.55	20.79	56.34	140.30	-83.96	Peak	
6	0.0422	30.90	20.79	51.69	120.30	-68.61	AVG	

Test Mode: TX Mode

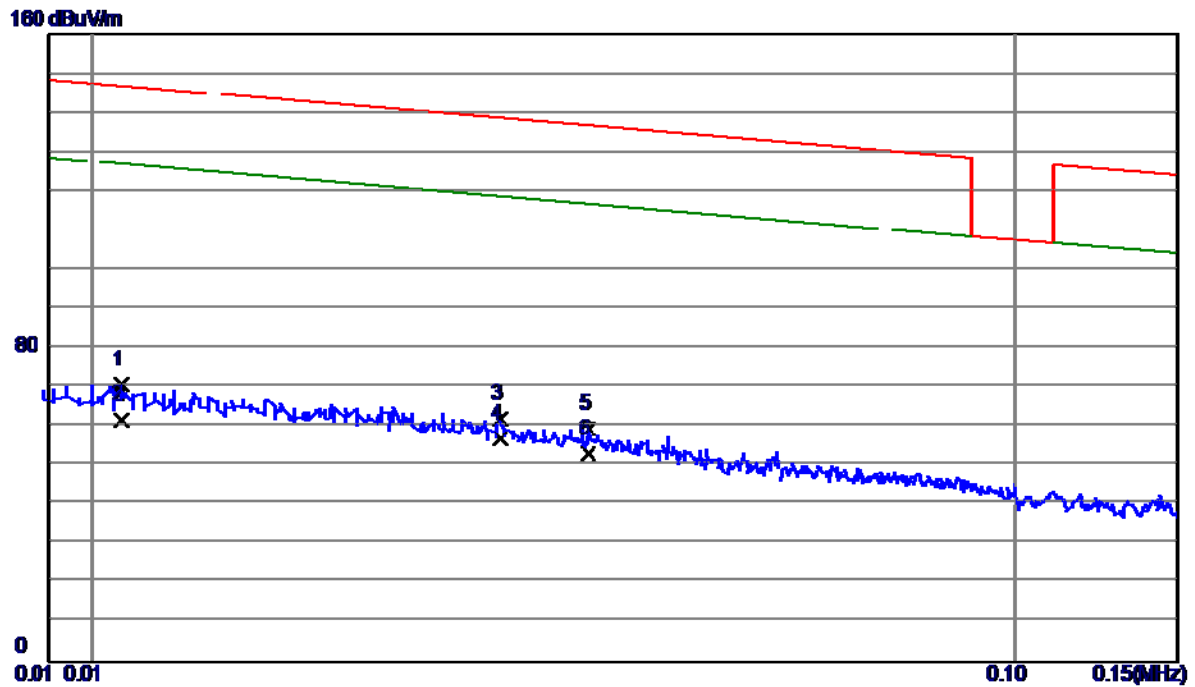
Ant 0°



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.1853	36.20	18.71	54.91	124.21	-69.30	Peak	
2	0.1853	32.07	18.71	50.78	104.21	-53.43	AVG	
3	2.6082	27.59	17.13	44.72	69.54	-24.82	QP	
4 *	4.0486	28.44	18.65	47.09	69.54	-22.45	QP	

Test Mode: TX Mode

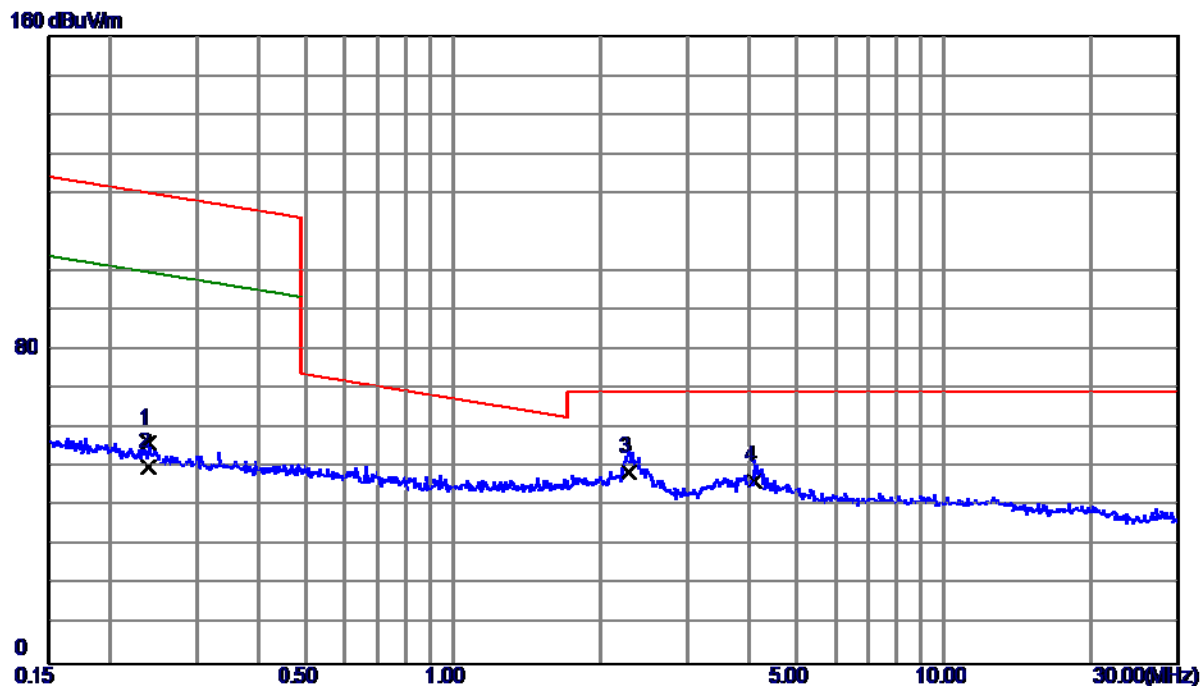
Ant 90°



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.0108	46.57	24.07	70.64	148.05	-77.41	Peak	
2 *	0.0108	37.69	24.07	61.76	128.05	-66.29	AVG	
3	0.0277	39.61	22.57	62.18	143.88	-81.70	Peak	
4	0.0277	34.28	22.57	56.85	123.88	-67.03	AVG	
5	0.0345	37.65	21.73	59.38	142.20	-82.82	Peak	
6	0.0345	31.48	21.73	53.21	122.20	-68.99	AVG	

Test Mode: TX Mode

Ant 90°

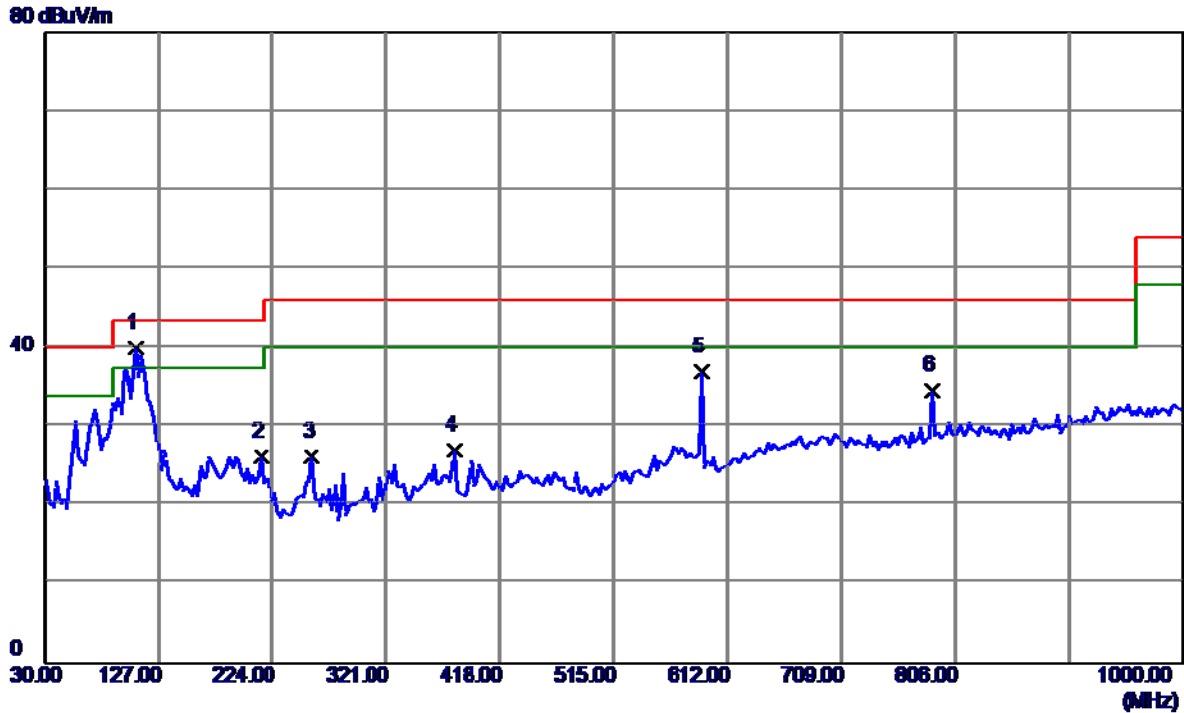


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.2391	37.77	18.66	56.43	122.37	-65.94	Peak	
2	0.2391	31.69	18.66	50.35	102.37	-52.02	AVG	
3 *	2.2724	31.48	17.56	49.04	69.54	-20.50	QP	
4	4.1136	28.20	18.52	46.72	69.54	-22.82	QP	

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

Test Mode: TX B MODE CHANNEL 01

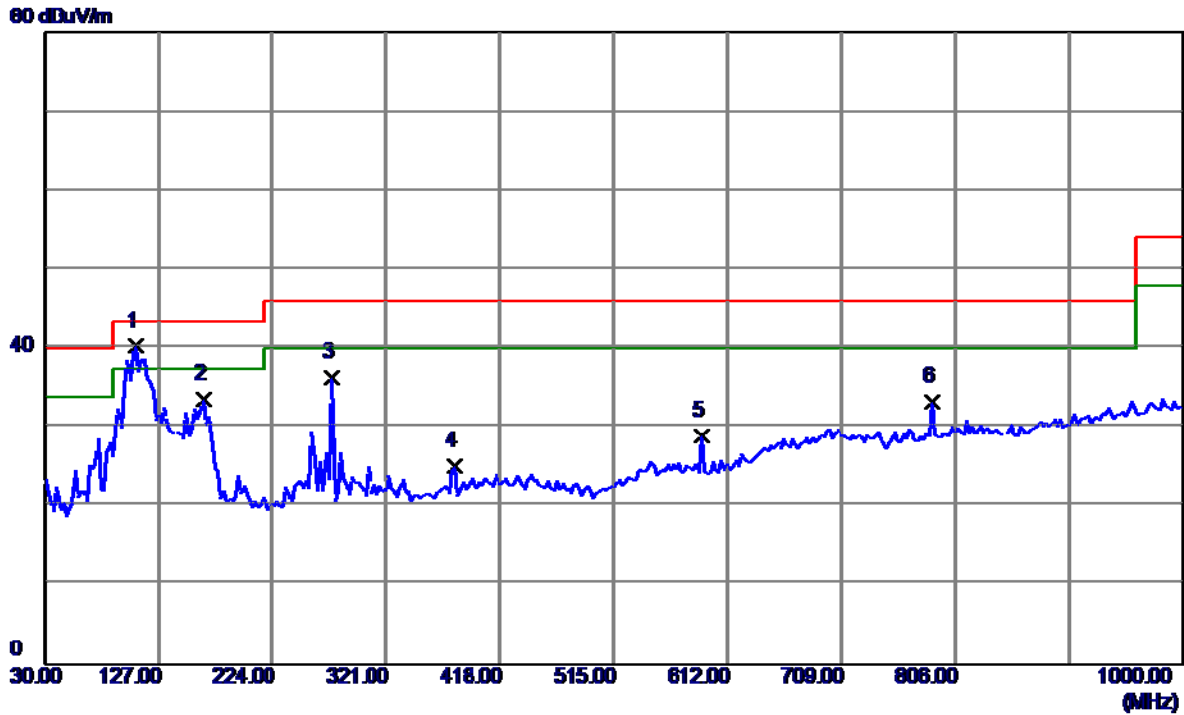
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	107.6000	54.04	-14.03	40.01	43.50	-3.49	Peak	
2	214.3000	40.34	-14.04	26.30	43.50	-17.20	Peak	
3	257.9500	39.26	-12.99	26.27	46.00	-19.73	Peak	
4	379.2000	35.78	-8.69	27.09	46.00	-18.91	Peak	
5	590.1750	41.69	-4.75	36.94	46.00	-9.06	Peak	
6	786.6000	34.40	0.21	34.61	46.00	-11.39	Peak	

Test Mode: TX B MODE CHANNEL 01

Horizontal

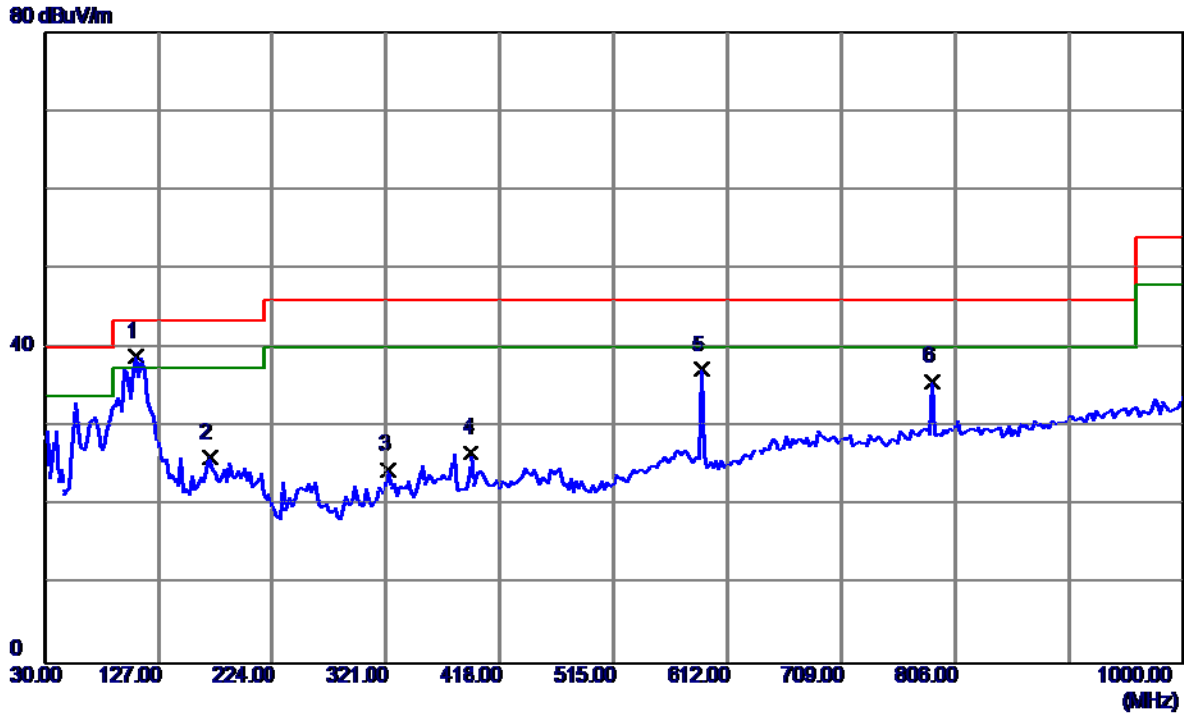


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	107.6000	54.37	-14.03	40.34	43.50	-3.16	Peak	
2	165.8000	45.08	-11.48	33.60	43.50	-9.90	Peak	
3	274.9250	48.23	-11.89	36.34	46.00	-9.66	Peak	
4	379.2000	33.77	-8.69	25.08	46.00	-20.92	Peak	
5	590.1750	33.74	-4.75	28.99	46.00	-17.01	Peak	
6	786.6000	33.07	0.21	33.28	46.00	-12.72	Peak	



Test Mode: TX B MODE CHANNEL 06

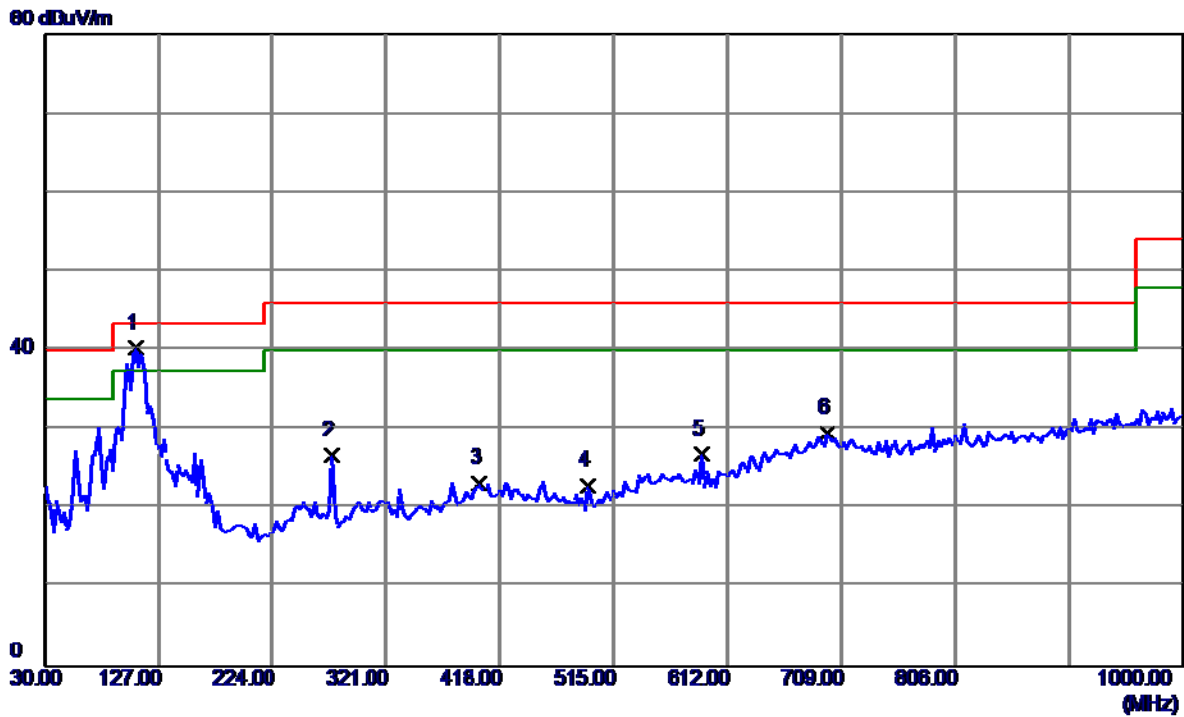
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	107.6000	52.86	-14.03	38.83	43.50	-4.67	Peak	
2	170.6500	36.83	-10.80	26.03	43.50	-17.47	Peak	
3	323.4250	34.89	-10.33	24.56	46.00	-21.44	Peak	
4	393.7500	34.37	-7.65	26.72	46.00	-19.28	Peak	
5	590.1750	41.95	-4.75	37.20	46.00	-8.80	Peak	
6	786.6000	35.47	0.21	35.68	46.00	-10.32	Peak	

Test Mode: TX B MODE CHANNEL 06

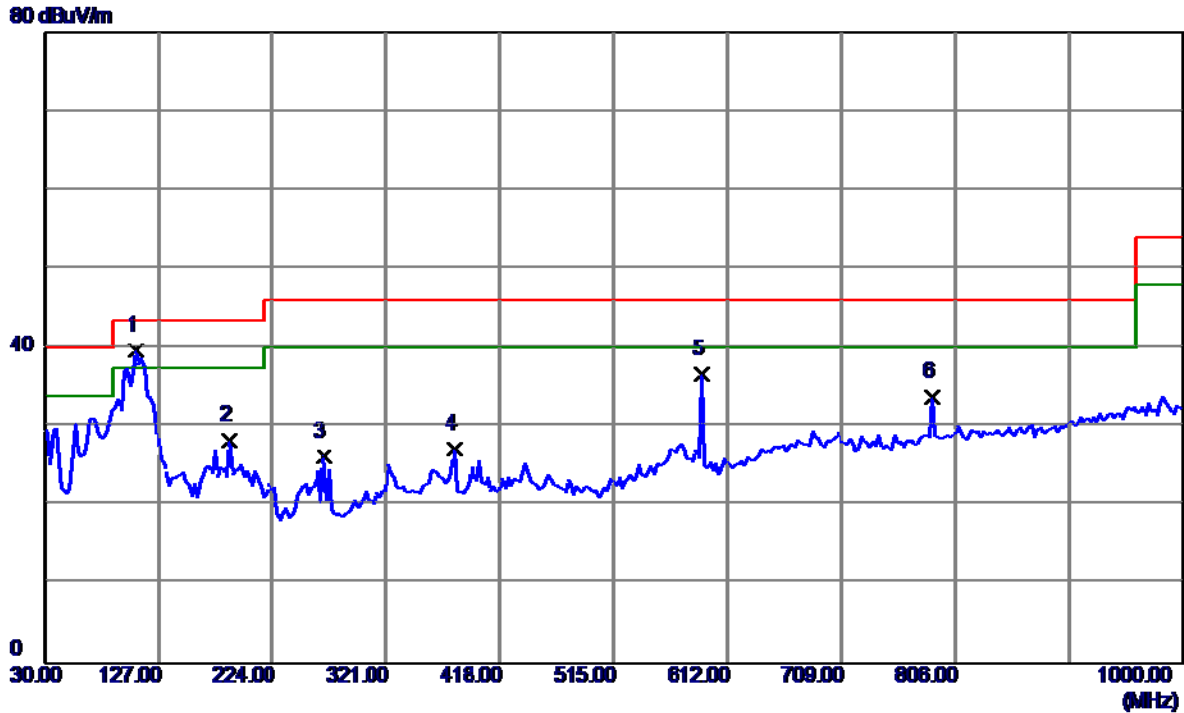
### Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	107.6000	54.42	-14.03	40.39	43.50	-3.11	Peak	
2	274.9250	38.59	-11.89	26.70	46.00	-19.30	Peak	
3	401.0250	30.40	-7.20	23.20	46.00	-22.80	Peak	
4	493.1750	30.47	-7.57	22.90	46.00	-23.10	Peak	
5	590.1750	31.63	-4.75	26.88	46.00	-19.12	Peak	
6	696.8750	30.35	-0.72	29.63	46.00	-16.37	Peak	

Test Mode: TX B MODE CHANNEL 11

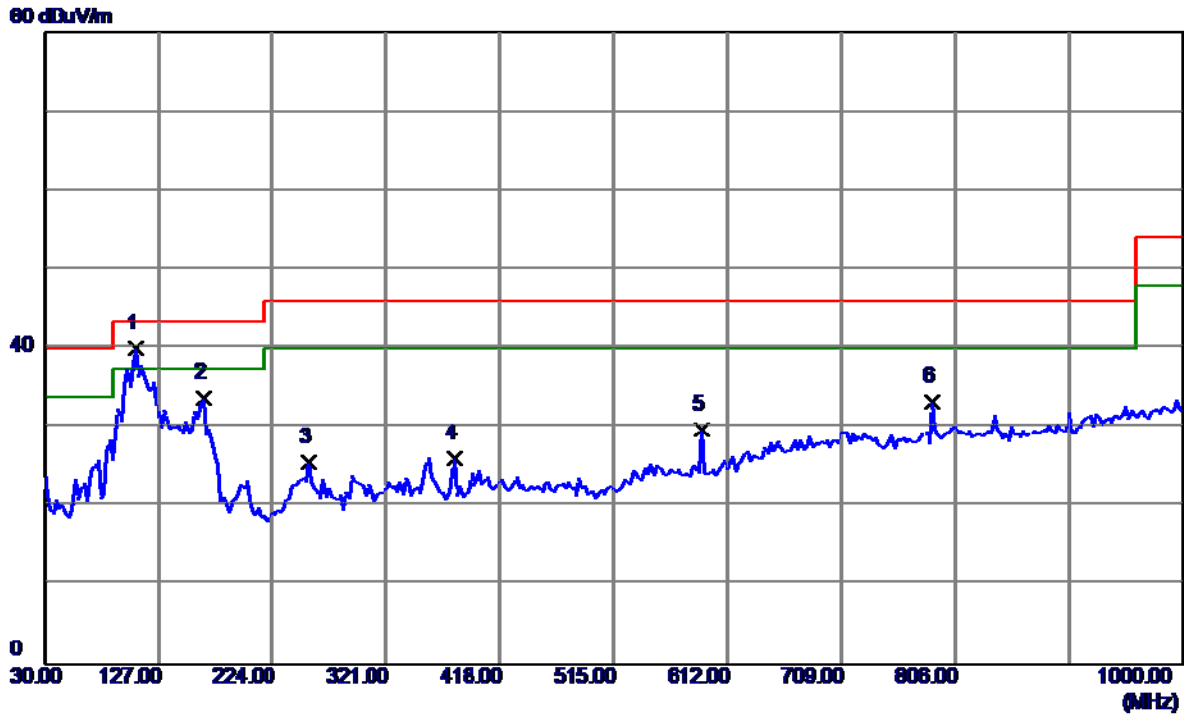
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	107.6000	53.75	-14.03	39.72	43.50	-3.78	Peak	
2	187.6250	41.34	-12.95	28.39	43.50	-15.11	Peak	
3	267.6500	38.46	-12.26	26.20	46.00	-19.80	Peak	
4	379.2000	35.95	-8.69	27.26	46.00	-18.74	Peak	
5	590.1750	41.44	-4.75	36.69	46.00	-9.31	Peak	
6	786.6000	33.51	0.21	33.72	46.00	-12.28	Peak	

Test Mode: TX B MODE CHANNEL 11

Horizontal

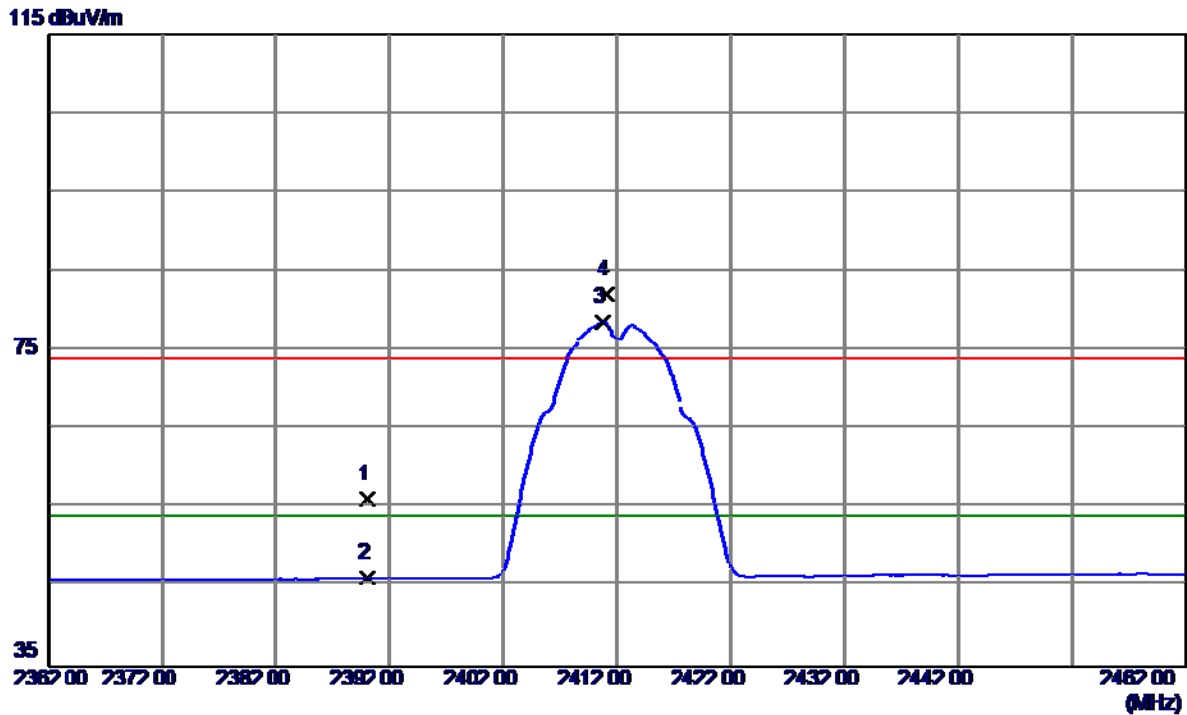


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	107.6000	54.08	-14.03	40.05	43.50	-3.45	Peak	
2	165.8000	45.29	-11.48	33.81	43.50	-9.69	Peak	
3	255.5250	38.68	-13.10	25.58	46.00	-20.42	Peak	
4	379.2000	34.74	-8.69	26.05	46.00	-19.95	Peak	
5	590.1750	34.49	-4.75	29.74	46.00	-16.26	Peak	
6	786.6000	33.07	0.21	33.28	46.00	-12.72	Peak	

## ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 01

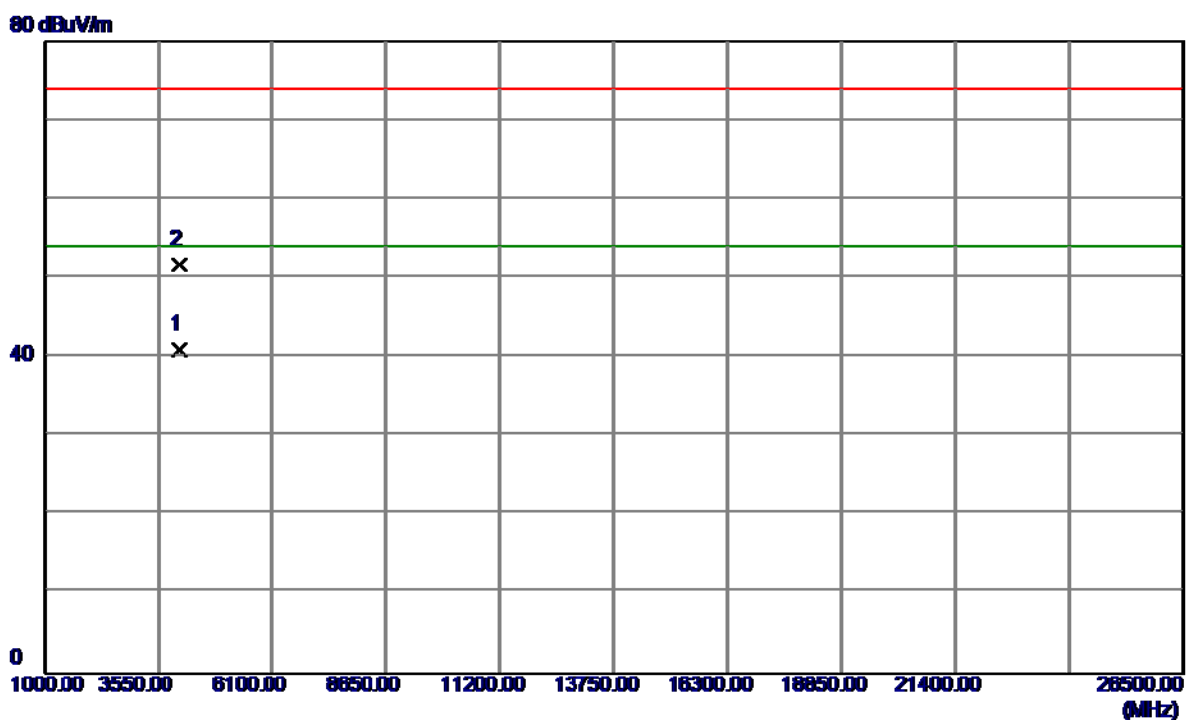
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	22.30	33.88	56.18	74.00	-17.82	Peak	
2	2390.0000	12.26	33.88	46.14	54.00	-7.86	AVG	
3 *	2410.8000	44.56	34.00	78.56	54.00	24.56	AVG	No Limit
4	2411.1000	48.08	34.00	82.08	74.00	8.08	Peak	No Limit

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 01

### Vertical

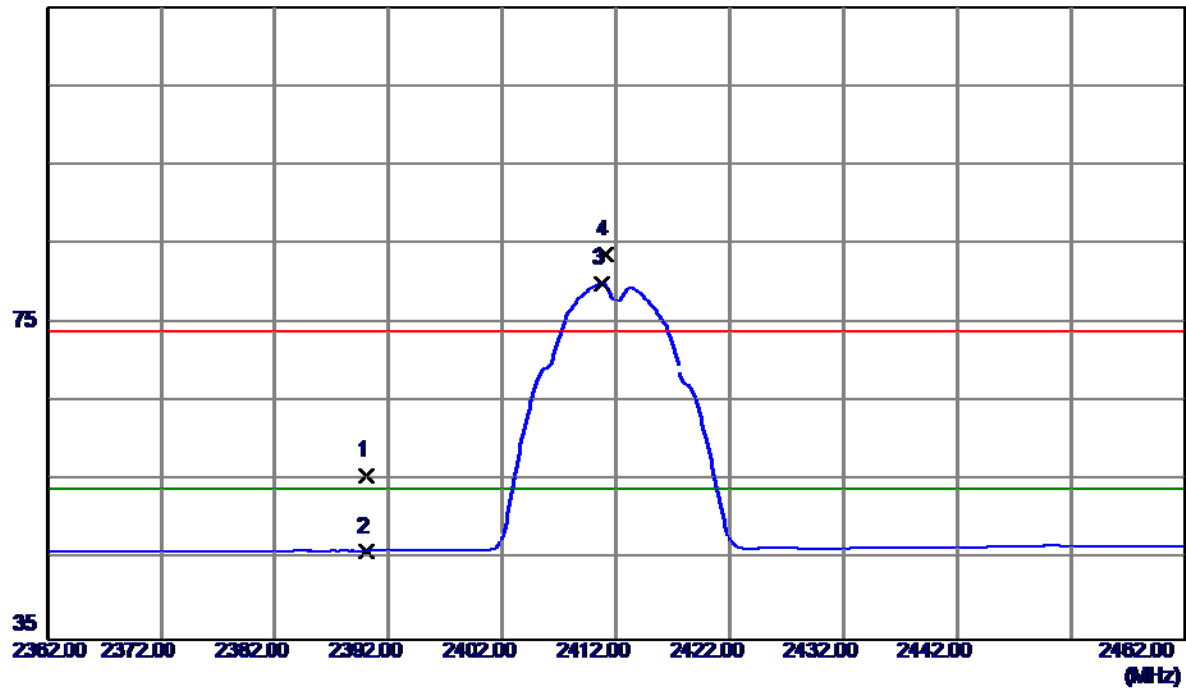


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4017.7450	38.14	2.76	40.90	54.00	-13.10	AVG	
2	4021.8250	48.96	2.77	51.73	74.00	-22.27	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 01

### Horizontal

115 dBuV/m

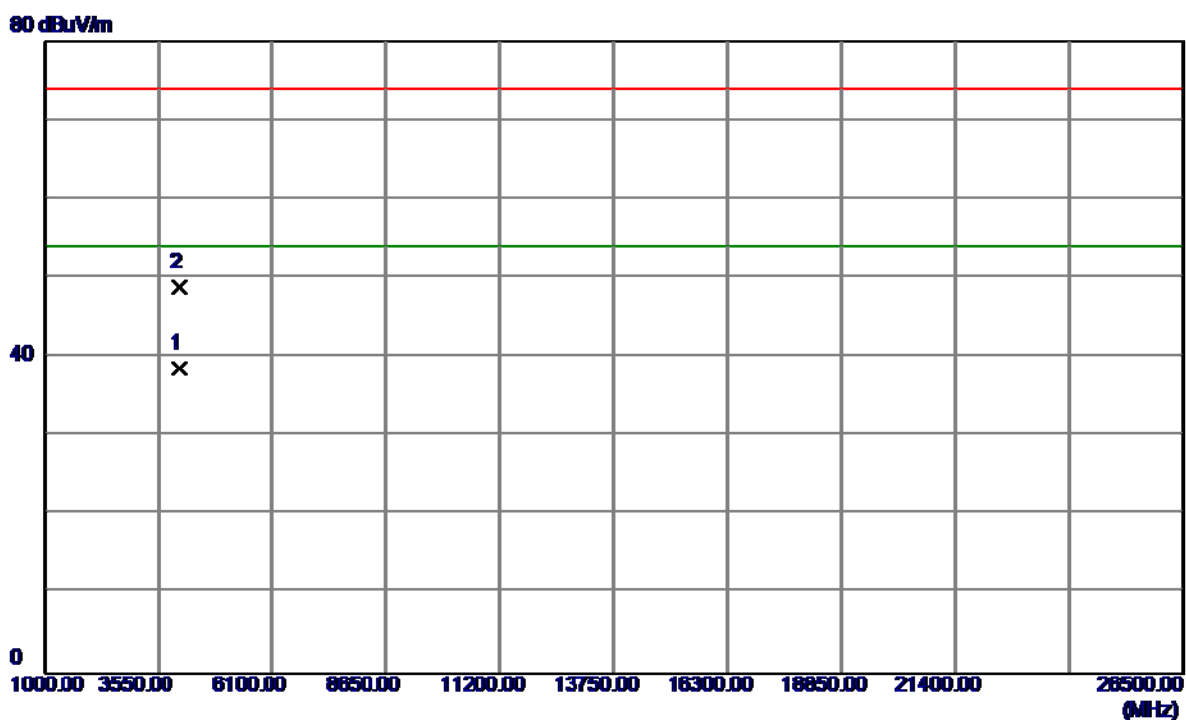


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	21.82	33.88	55.70	74.00	-18.30	Peak	
2	2390.0000	12.23	33.88	46.11	54.00	-7.89	AVG	
3 *	2410.8000	46.03	34.00	80.03	54.00	26.03	AVG	No Limit
4	2411.1000	49.61	34.00	83.61	74.00	9.61	Peak	No Limit



Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 01

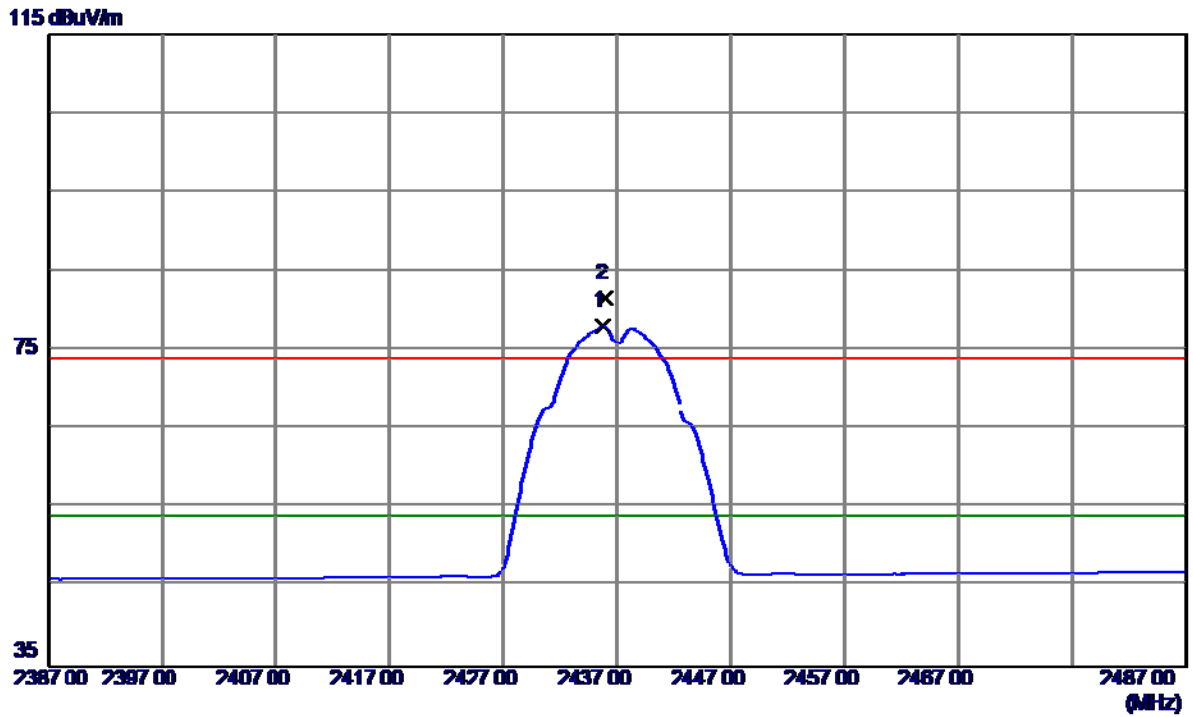
### Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4018.7840	35.76	2.76	38.52	54.00	-15.48	AVG	
2	4020.9340	46.02	2.77	48.79	74.00	-25.21	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 06

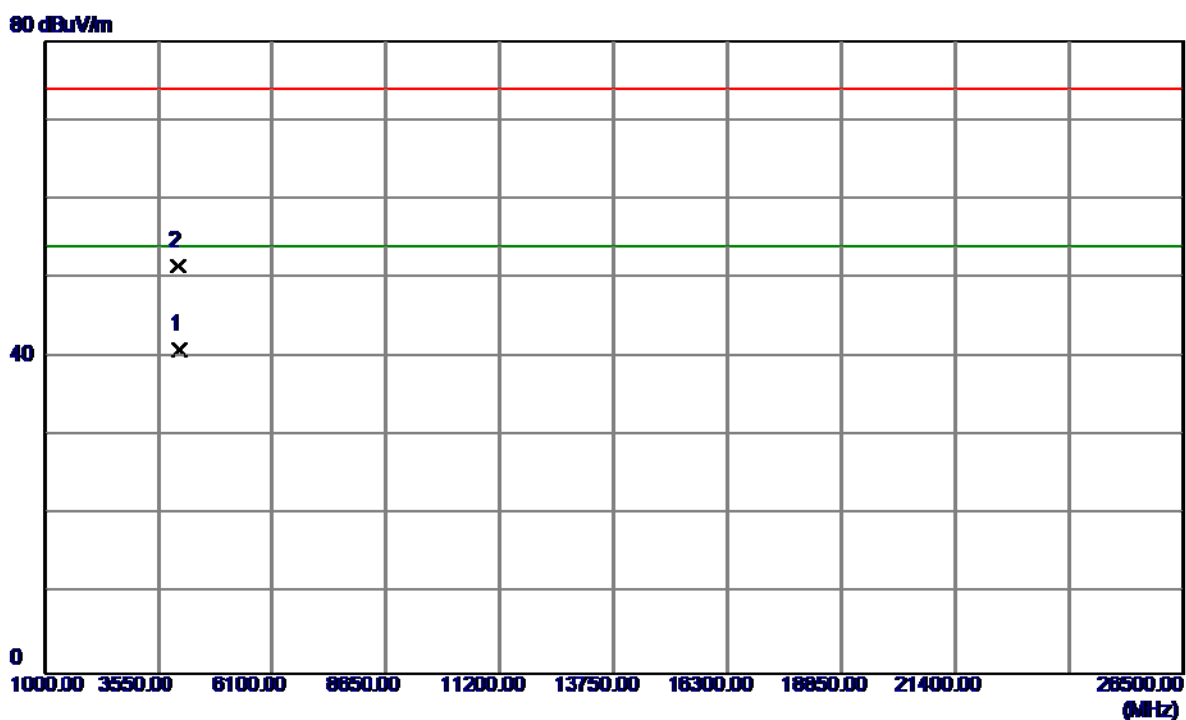
**Vertical**



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.8000	43.88	34.14	78.02	54.00	24.02	AVG	No Limit
2	2436.0000	47.34	34.14	81.48	74.00	7.48	Peak	No Limit

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 06

### Vertical

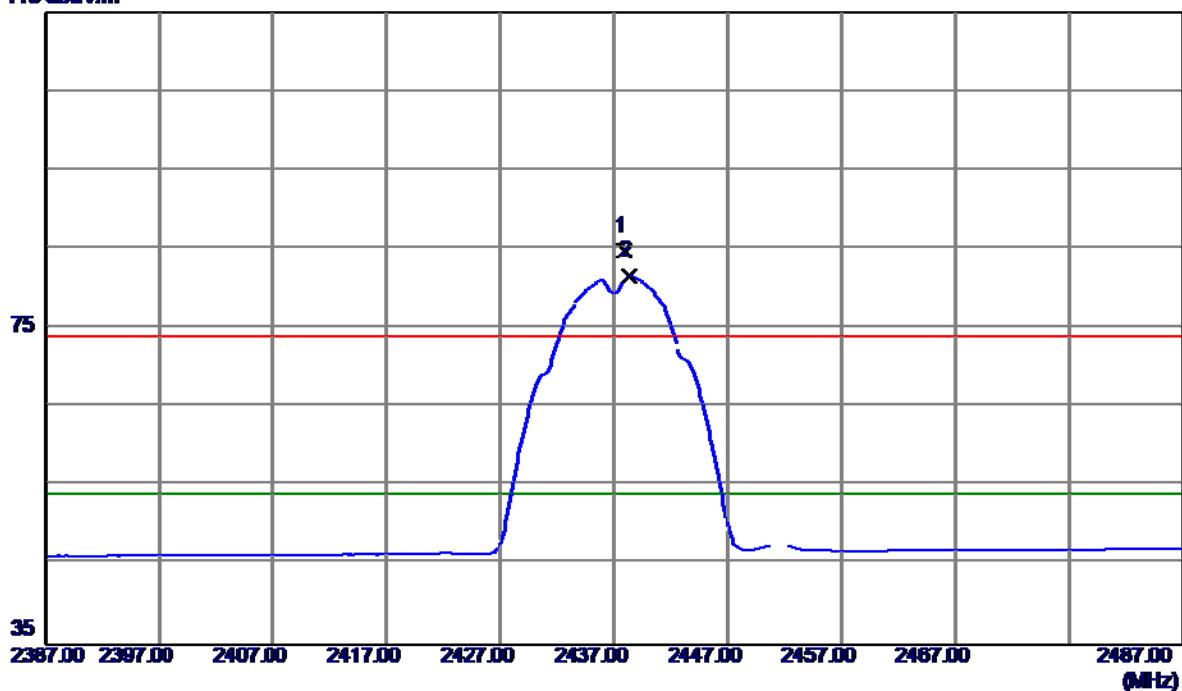


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4022.2500	38.26	2.77	41.03	54.00	-12.97	AVG	
2	4014.7500	48.74	2.75	51.49	74.00	-22.51	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 06

### Horizontal

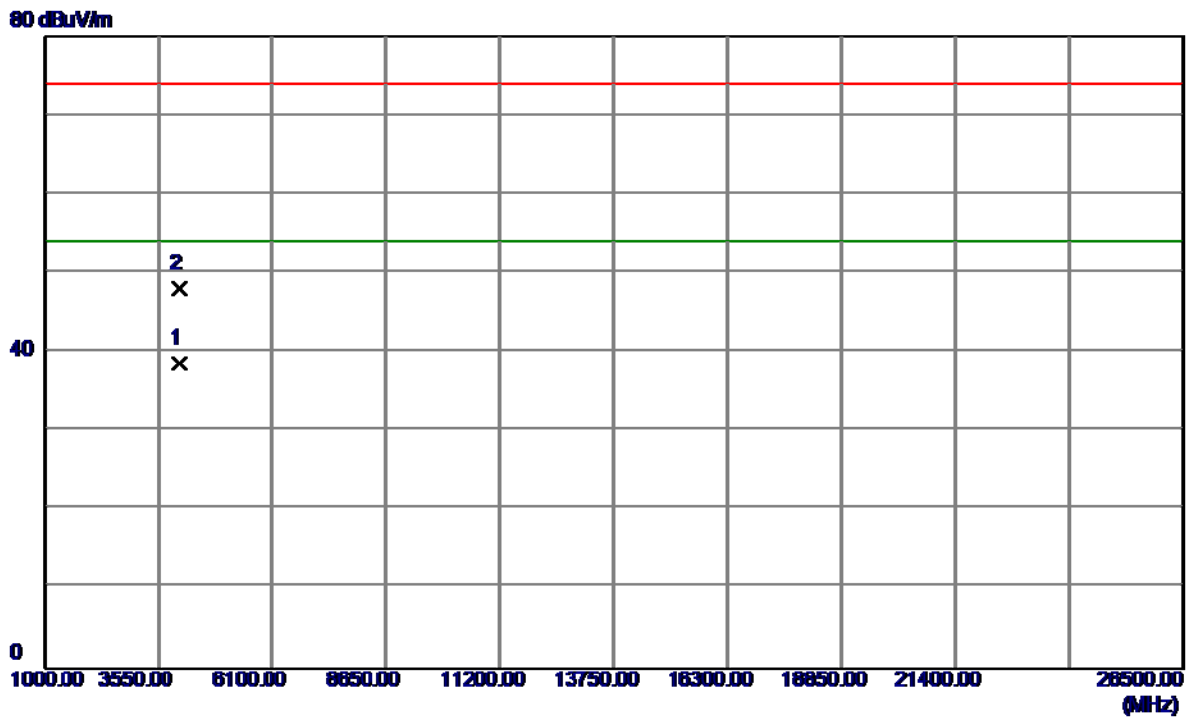
115 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2437.9000	50.62	34.15	84.77	74.00	10.77	Peak	No Limit
2 *	2438.3000	47.41	34.15	81.56	54.00	27.56	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 06

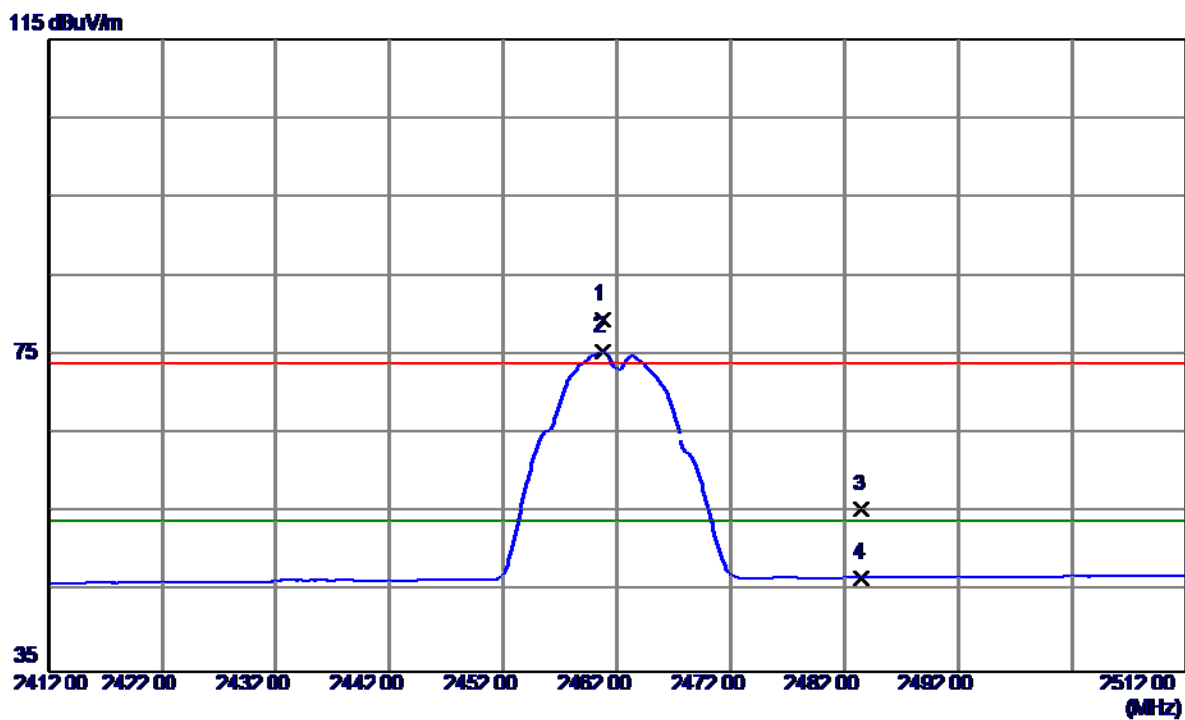
### Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4023.2450	35.84	2.77	38.61	54.00	-15.39	AVG	
2	4024.1900	45.16	2.78	47.94	74.00	-26.06	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 11

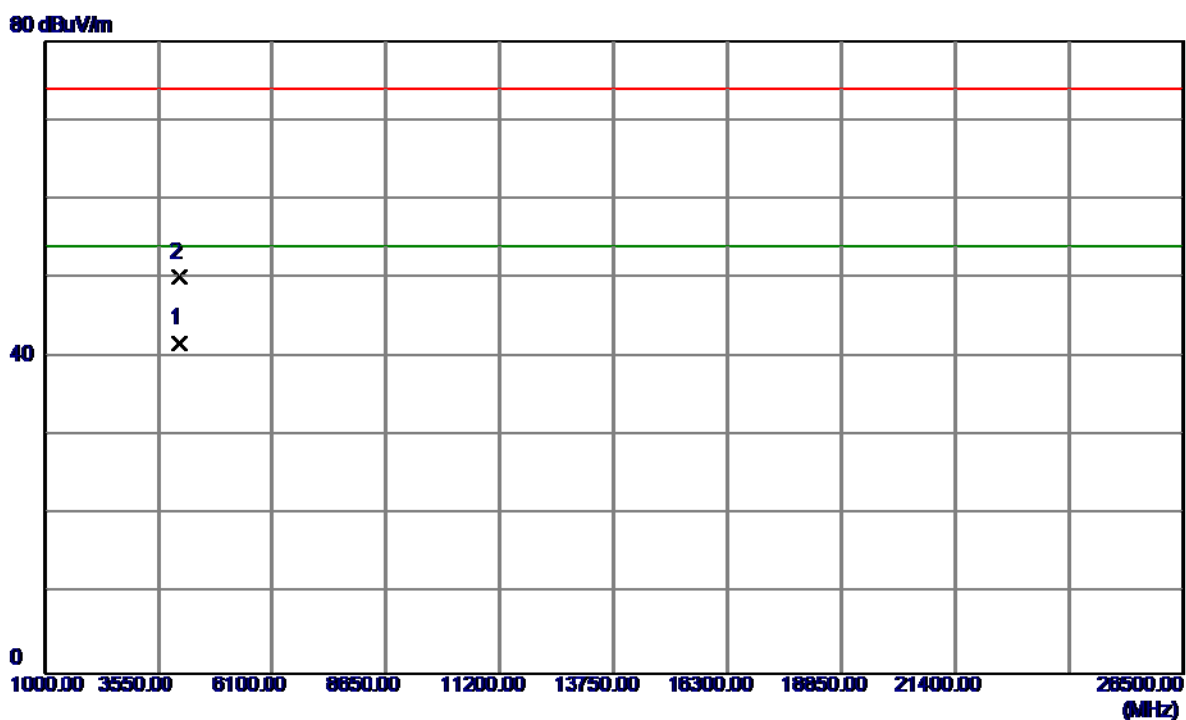
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.8000	45.23	34.28	79.51	74.00	5.51	Peak	No Limit
2 *	2460.8000	41.21	34.28	75.49	54.00	21.49	AVG	No Limit
3	2483.5000	21.09	34.41	55.50	74.00	-18.50	Peak	
4	2483.5000	12.51	34.41	46.92	54.00	-7.08	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 11

## Vertical

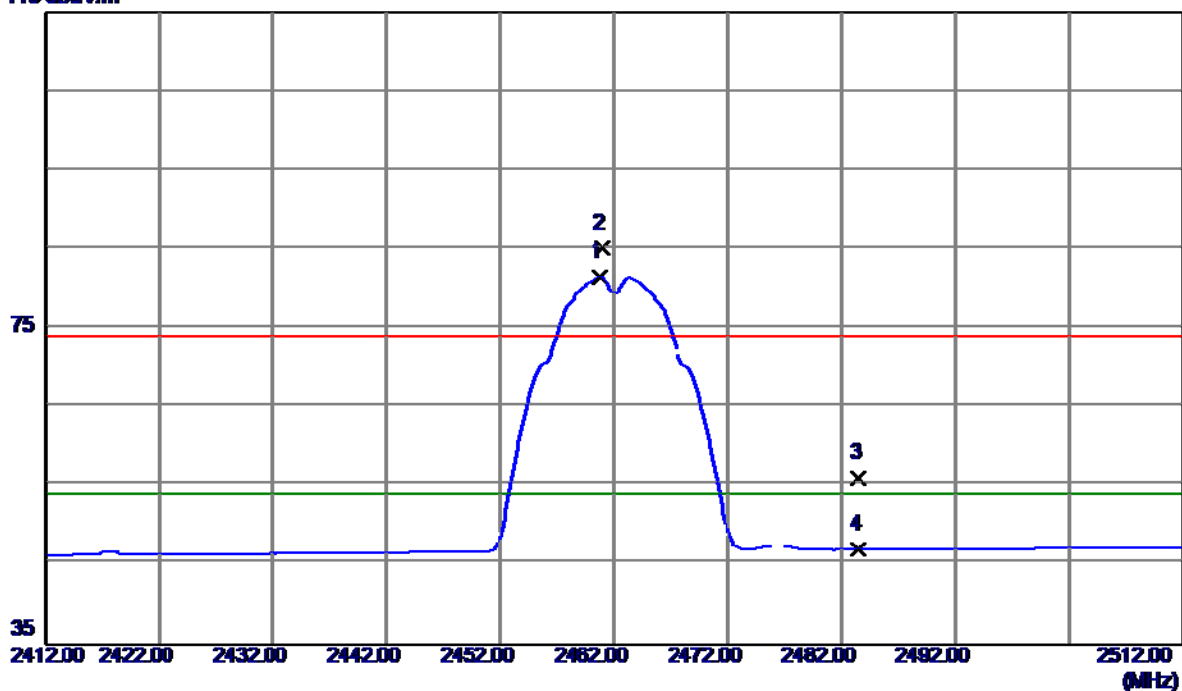


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4032.8400	38.95	2.80	41.75	54.00	-12.25	AVG	
2	4034.2750	47.31	2.80	50.11	74.00	-23.89	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 11

### Horizontal

115 dBuV/m

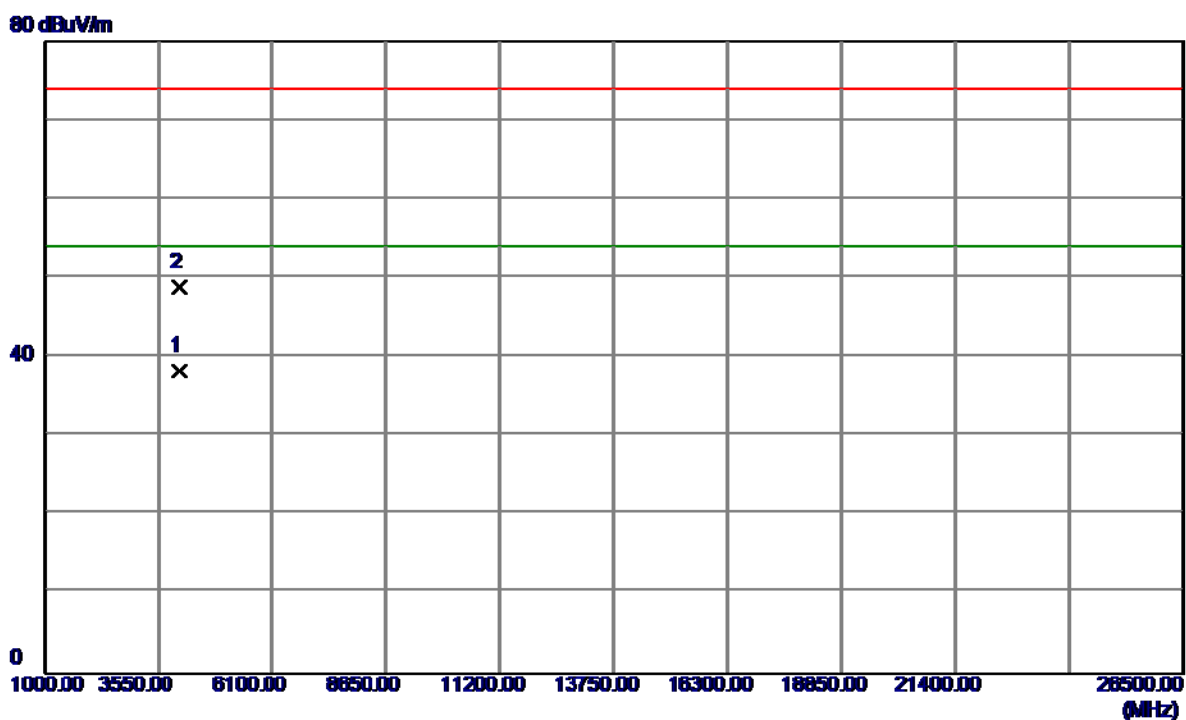


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2460.8000	47.16	34.28	81.44	54.00	27.44	AVG	No Limit
2	2461.0000	50.77	34.29	85.06	74.00	11.06	Peak	No Limit
3	2483.5000	21.61	34.41	56.02	74.00	-17.98	Peak	
4	2483.5000	12.53	34.41	46.94	54.00	-7.06	AVG	



Orthogonal Axis :	X
Test Mode :	TX B MODE CHANNEL 11

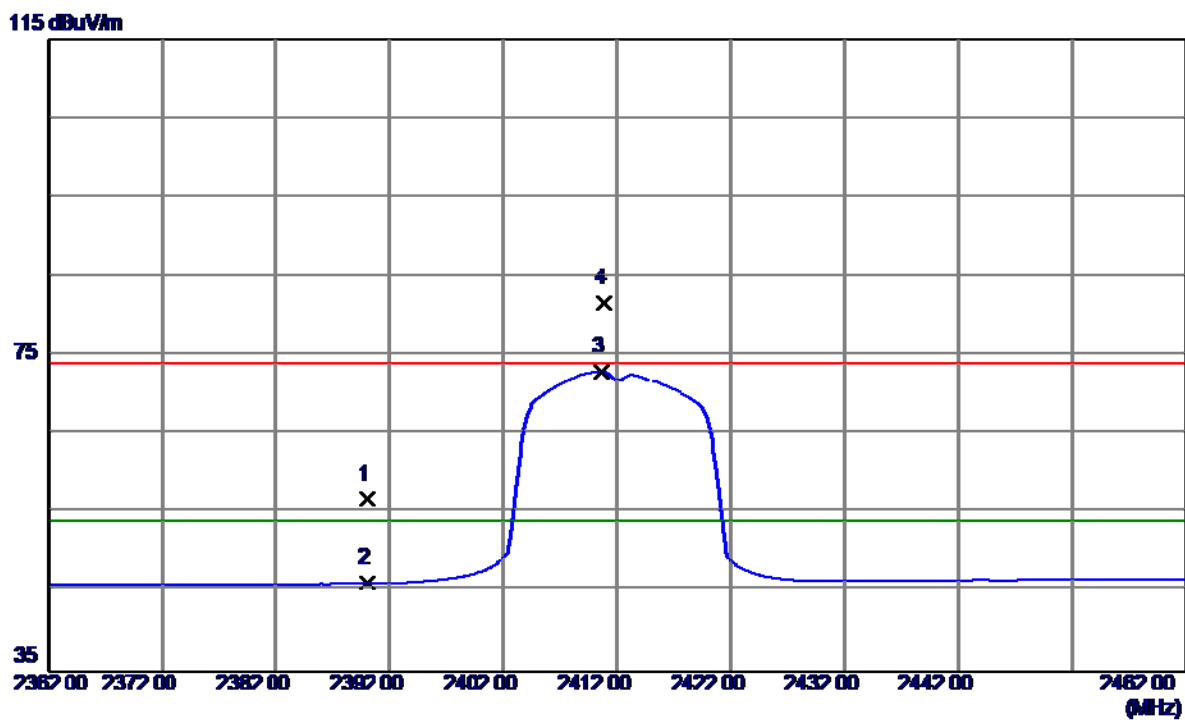
### Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4033.5000	35.39	2.80	38.19	54.00	-15.81	AVG	
2	4034.9500	45.94	2.80	48.74	74.00	-25.26	Peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 01

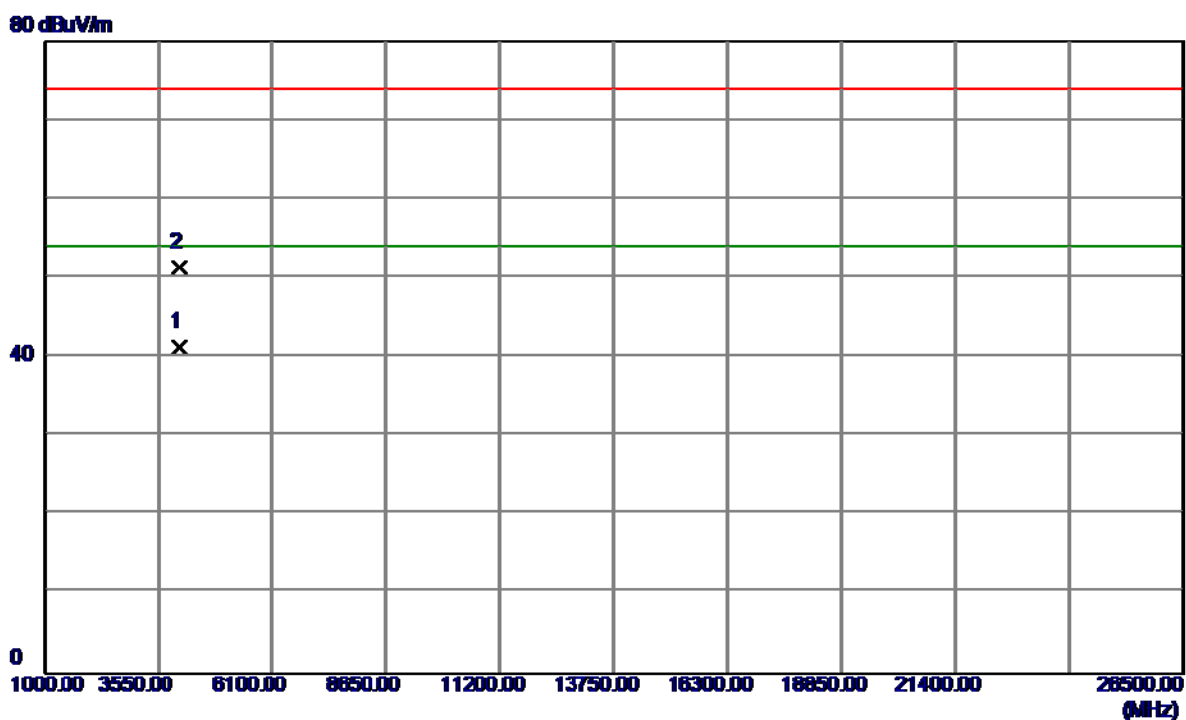
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	22.93	33.88	56.81	74.00	-17.19	Peak	
2	2390.0000	12.29	33.88	46.17	54.00	-7.83	AVG	
3 *	2410.7000	38.97	34.00	72.97	54.00	18.97	AVG	No Limit
4	2410.9000	47.50	34.00	81.50	74.00	7.50	Peak	No Limit

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 01

### Vertical

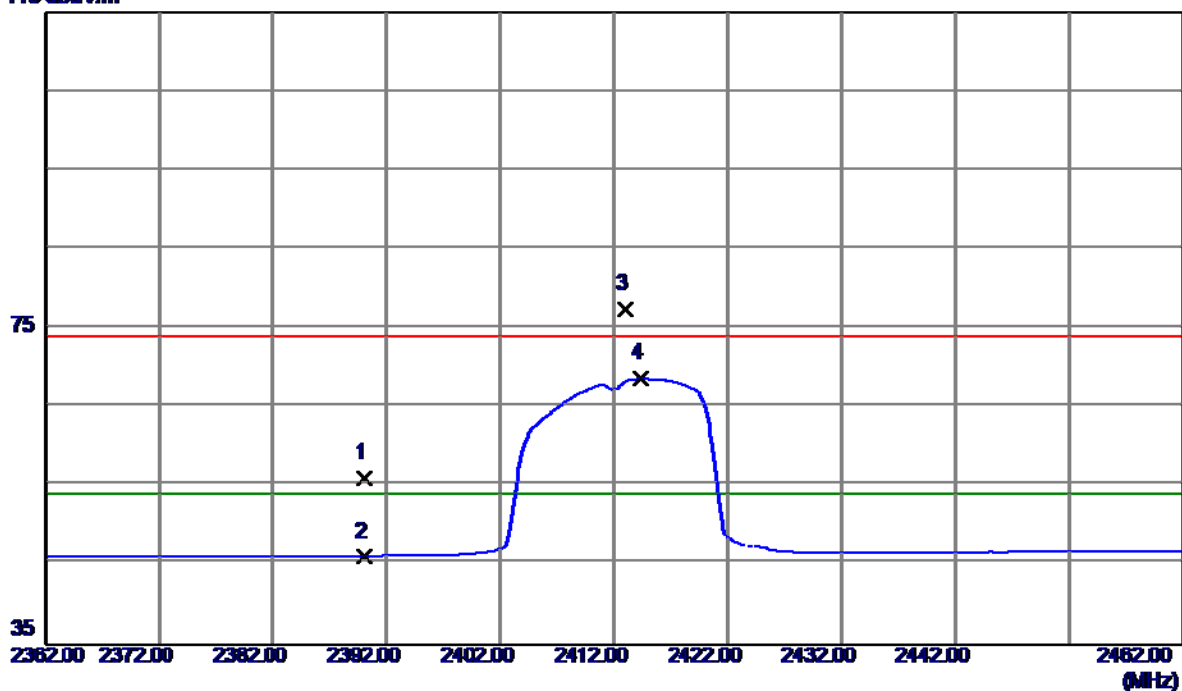


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4019.7750	38.55	2.77	41.32	54.00	-12.68	AVG	
2	4021.9500	48.64	2.77	51.41	74.00	-22.59	Peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 01

### Horizontal

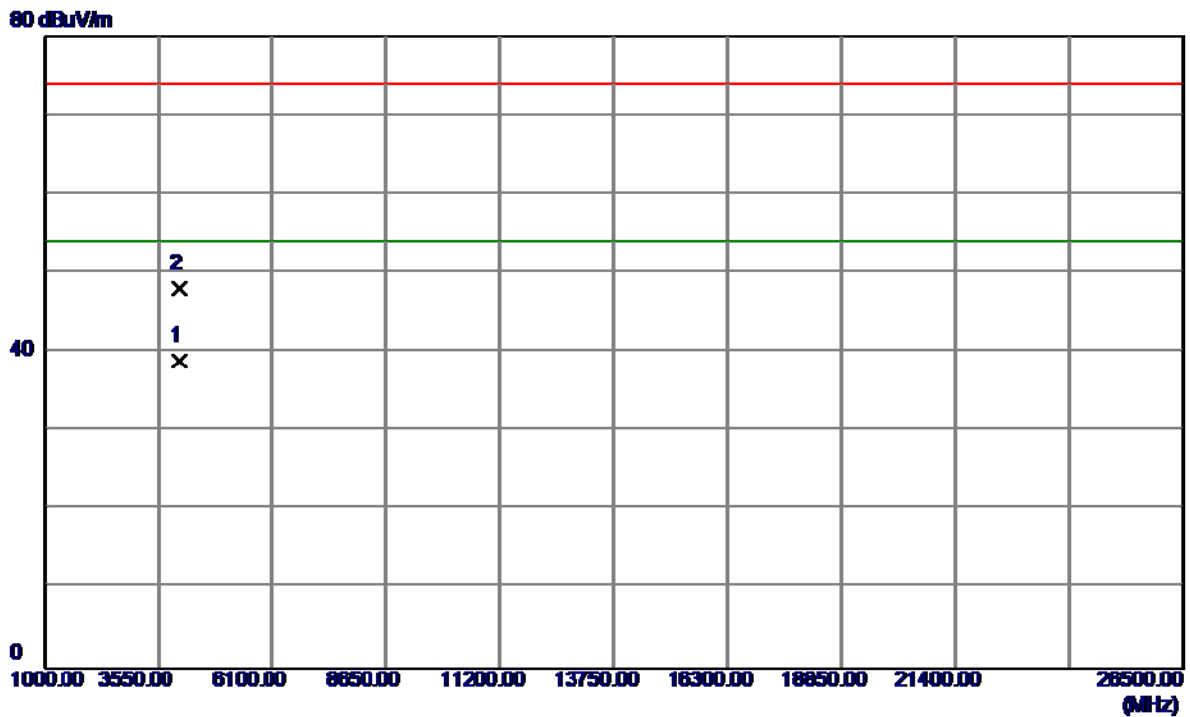
115 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	22.01	33.88	55.89	74.00	-18.11	Peak	
2	2390.0000	12.22	33.88	46.10	54.00	-7.90	AVG	
3	2413.0000	43.43	34.01	77.44	74.00	3.44	Peak	No Limit
4 *	2414.3000	34.54	34.02	68.56	54.00	14.56	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 01

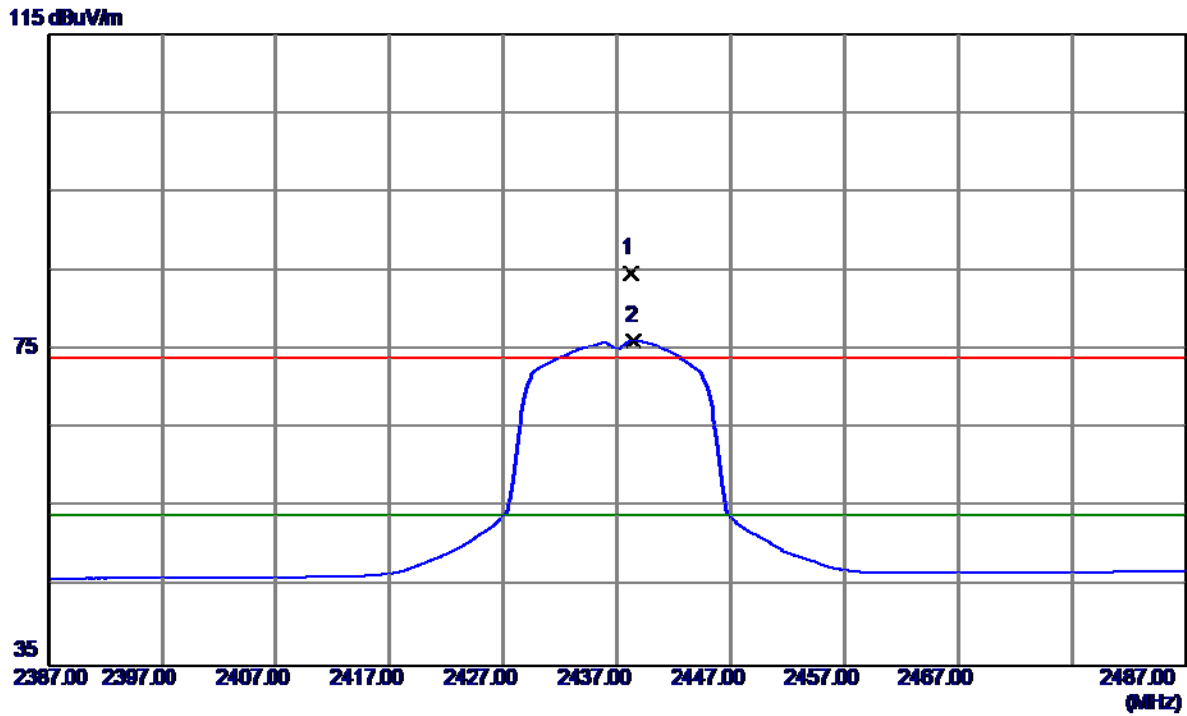
### Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4018.7500	36.18	2.76	38.94	54.00	-15.06	AVG	
2	4021.9750	45.28	2.77	48.05	74.00	-25.95	Peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 06

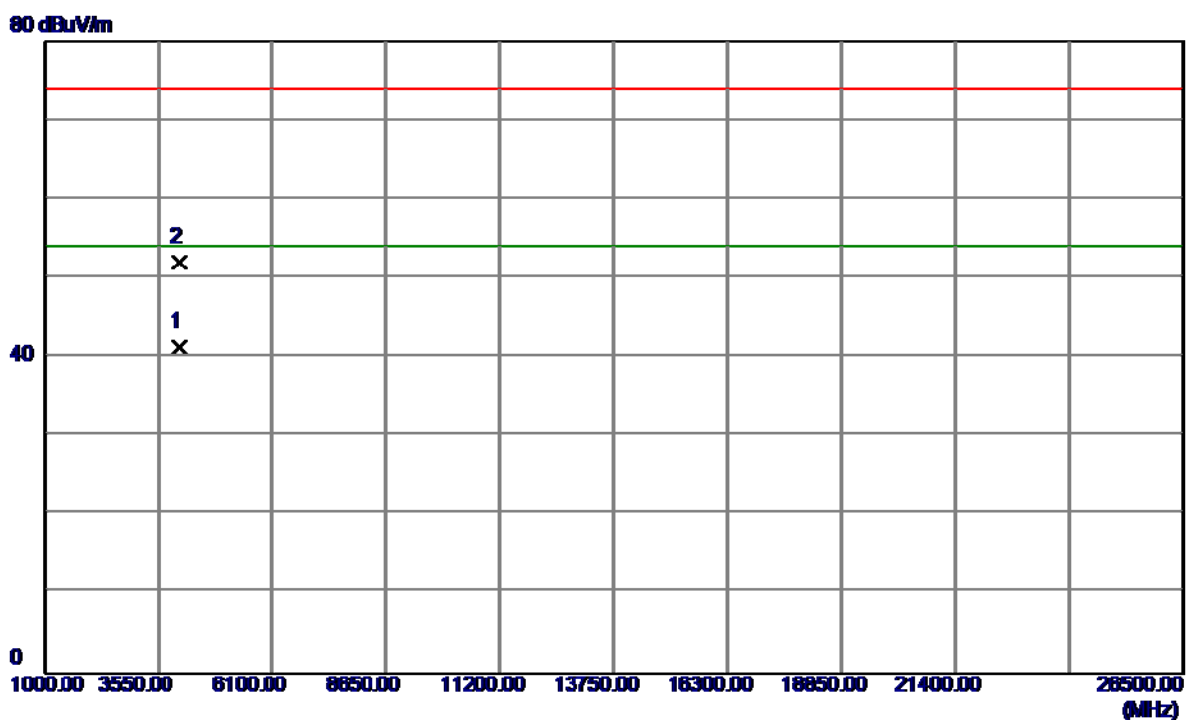
**Vertical**



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2438.2000	50.57	34.15	84.72	74.00	10.72	Peak	No Limit
2 *	2438.5000	42.01	34.16	76.17	54.00	22.17	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 06

**Vertical**

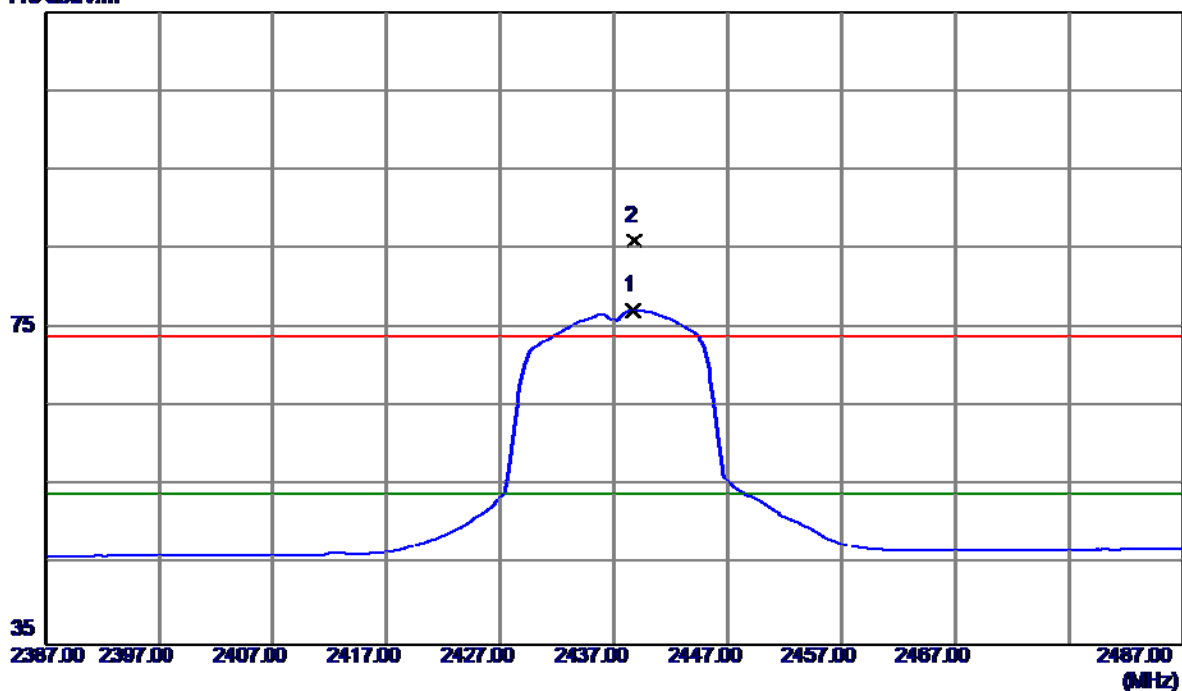


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4028.4000	38.55	2.79	41.34	54.00	-12.66	AVG	
2	4026.4500	49.24	2.78	52.02	74.00	-21.98	Peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 06

### Horizontal

115 dBuV/m

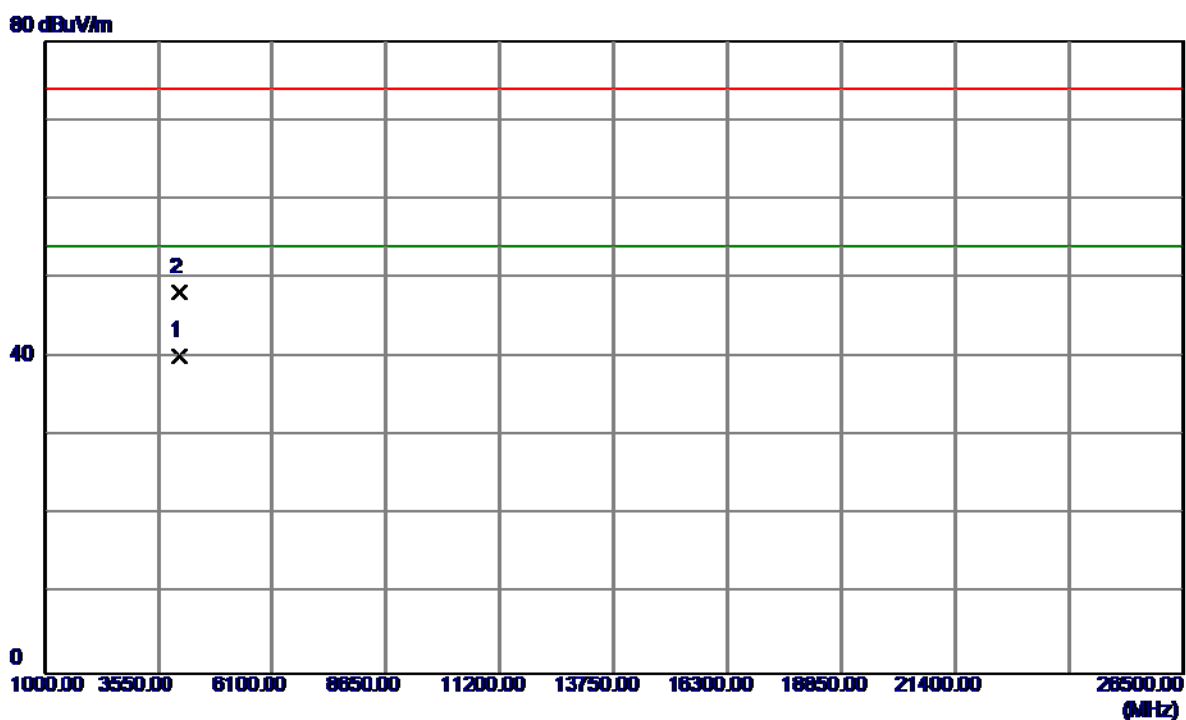


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2438.7000	43.14	34.16	77.30	54.00	23.30	AVG	No Limit
2	2438.8000	51.82	34.16	85.98	74.00	11.98	Peak	No Limit



Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 06

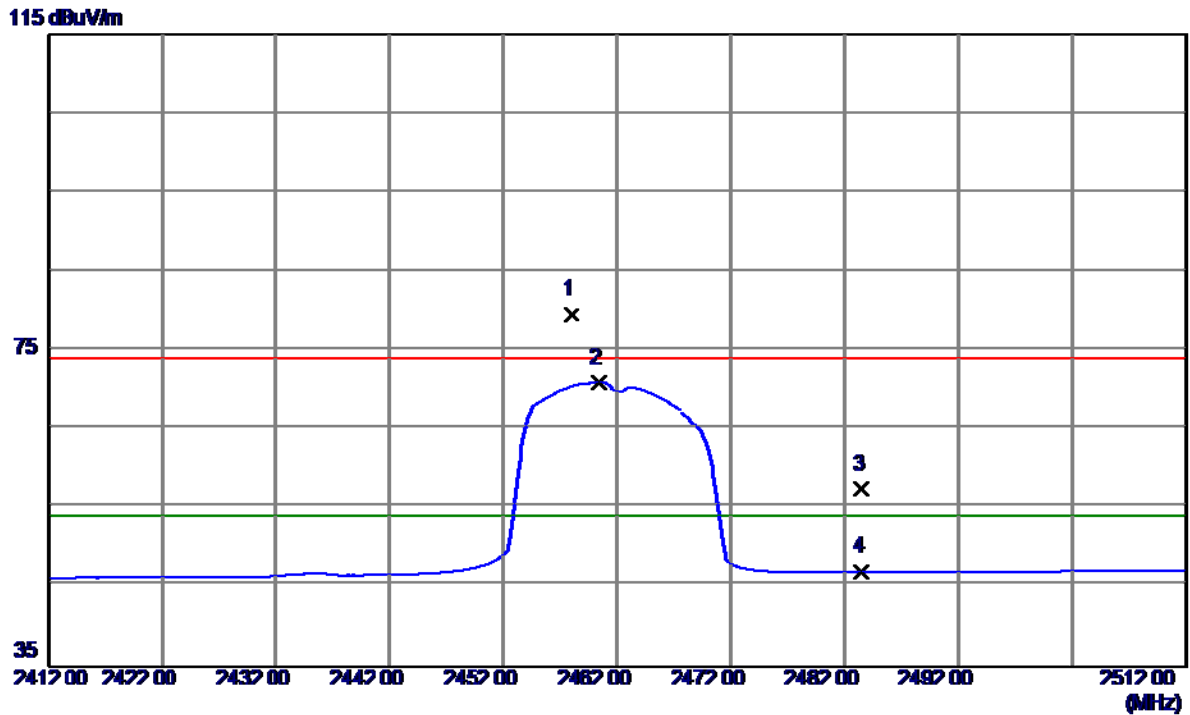
### Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4032.5800	37.34	2.80	40.14	54.00	-13.86	AVG	
2	4036.1450	45.38	2.80	48.18	74.00	-25.82	Peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 11

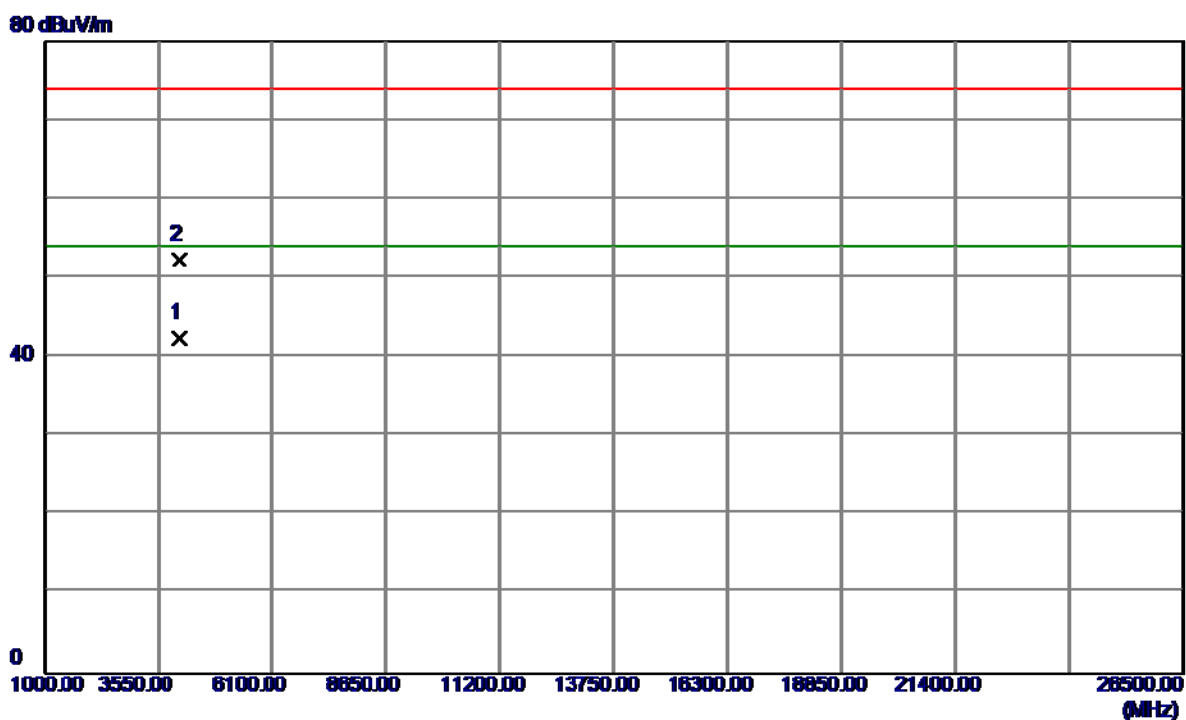
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2458.0000	45.28	34.27	79.55	74.00	5.55	Peak	No Limit
2 *	2460.4000	36.60	34.28	70.88	54.00	16.88	AVG	No Limit
3	2483.5000	22.98	34.41	57.39	74.00	-16.61	Peak	
4	2483.5000	12.52	34.41	46.93	54.00	-7.07	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 11

## Vertical

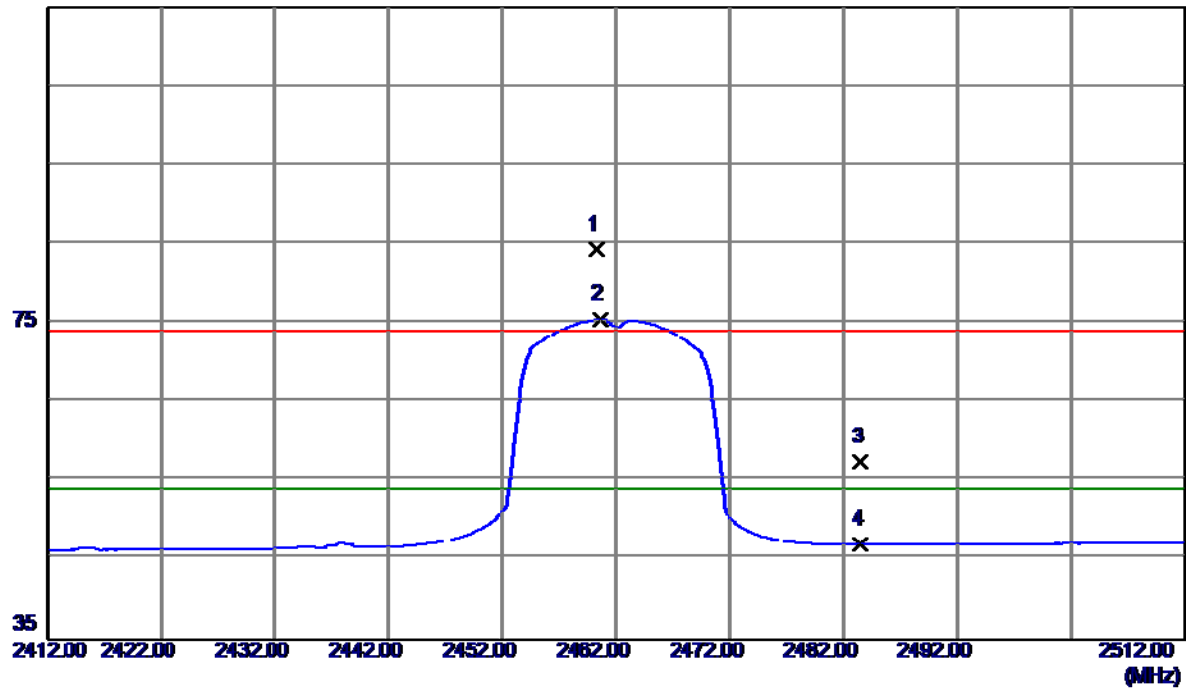


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4025.8500	39.58	2.78	42.36	54.00	-11.64	AVG	
2	4028.6000	49.56	2.79	52.35	74.00	-21.65	Peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 11

Horizontal

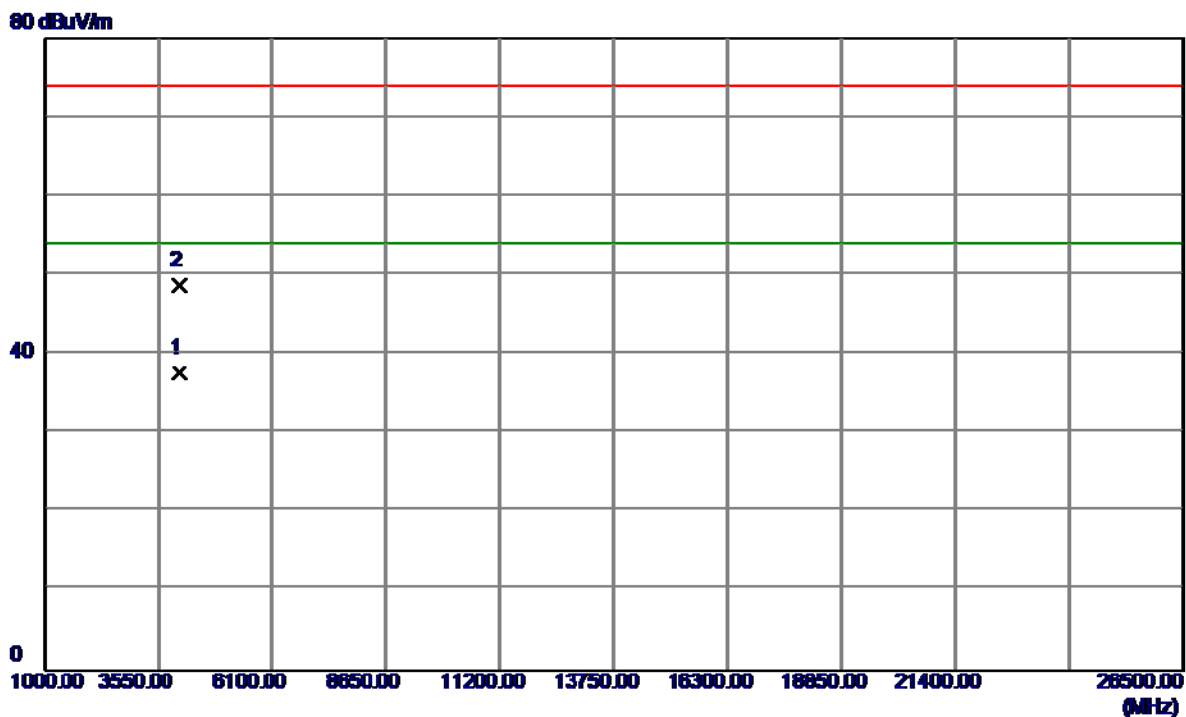
115 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.3000	50.03	34.28	84.31	74.00	10.31	Peak	No Limit
2 *	2460.7000	41.24	34.28	75.52	54.00	21.52	AVG	No Limit
3	2483.5000	23.03	34.41	57.44	74.00	-16.56	Peak	
4	2483.5000	12.56	34.41	46.97	54.00	-7.03	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE CHANNEL 11

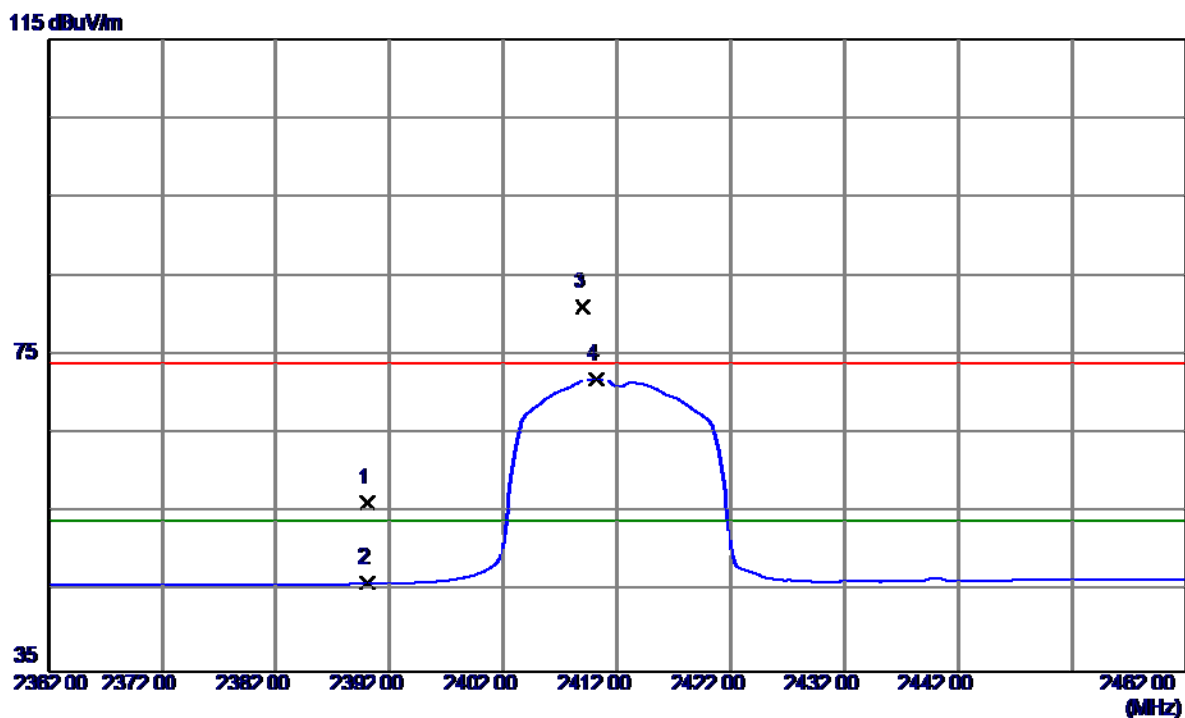
### Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4032.7000	34.74	2.80	37.54	54.00	-16.46	AVG	
2	4034.5000	45.85	2.80	48.65	74.00	-25.35	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 01

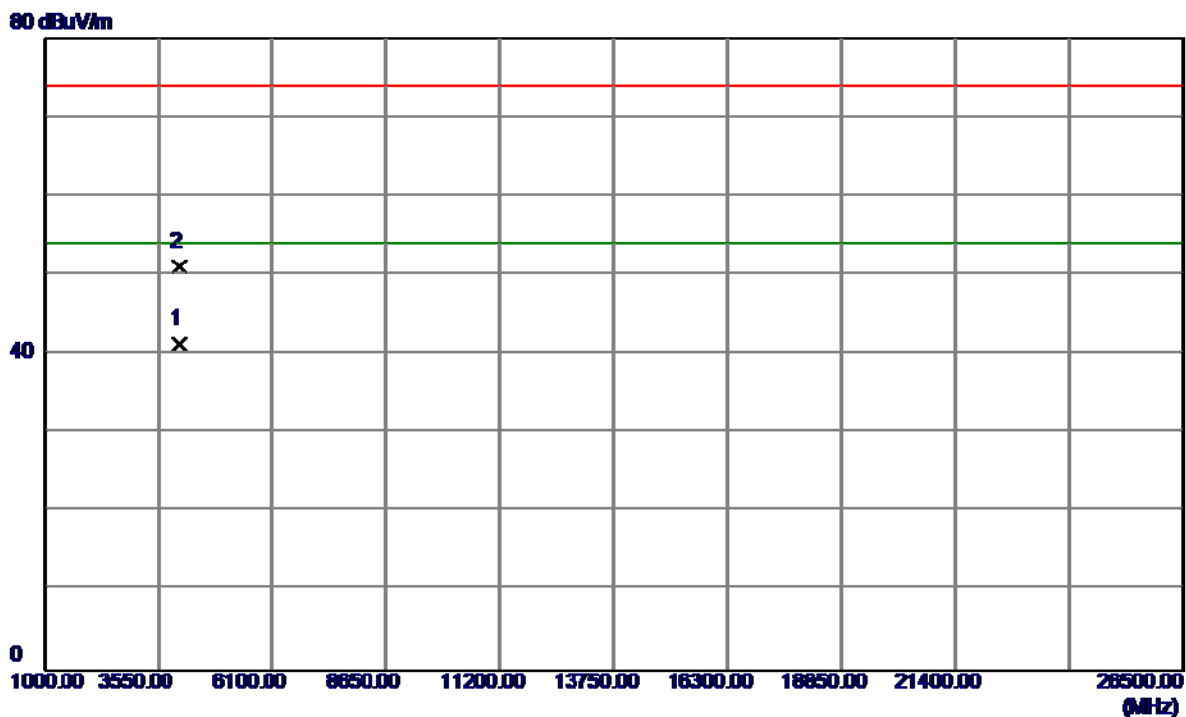
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	22.40	33.88	56.28	74.00	-17.72	Peak	
2	2390.0000	12.28	33.88	46.16	54.00	-7.84	AVG	
3	2409.0000	47.08	33.99	81.07	74.00	7.07	Peak	No Limit
4 *	2410.2000	37.98	33.99	71.97	54.00	17.97	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 01

## Vertical

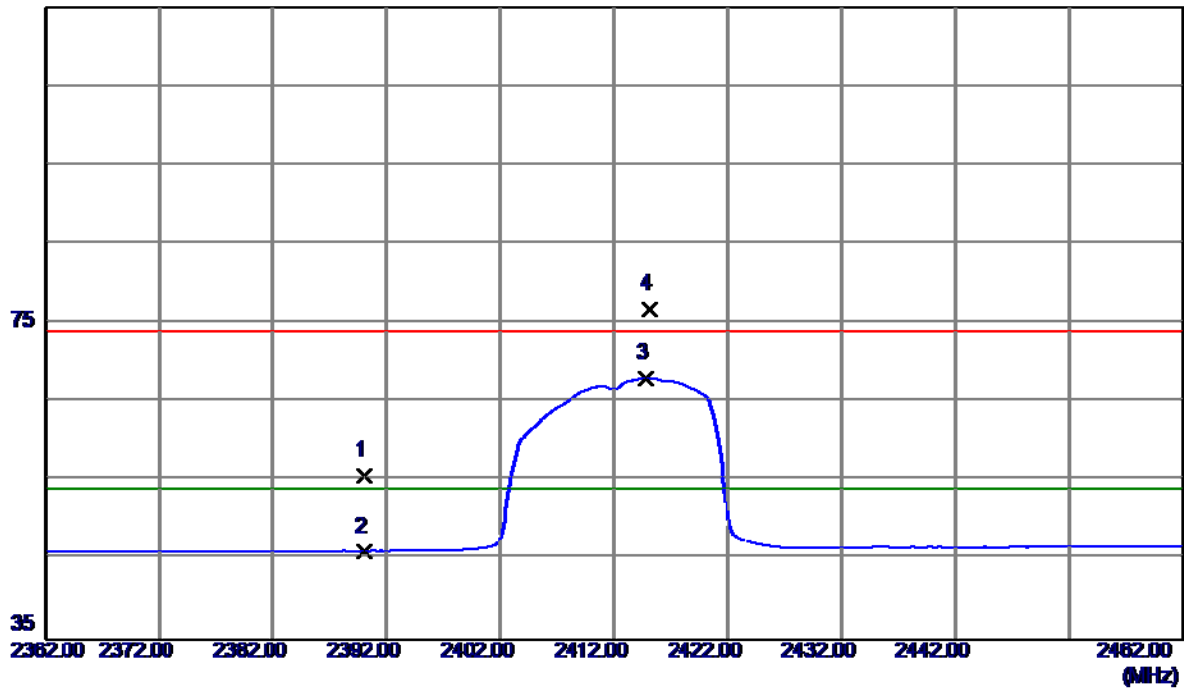


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4019.7240	38.52	2.77	41.29	54.00	-12.71	AVG	
2	4023.1700	48.26	2.77	51.03	74.00	-22.97	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 01

### Horizontal

115 dBuV/m

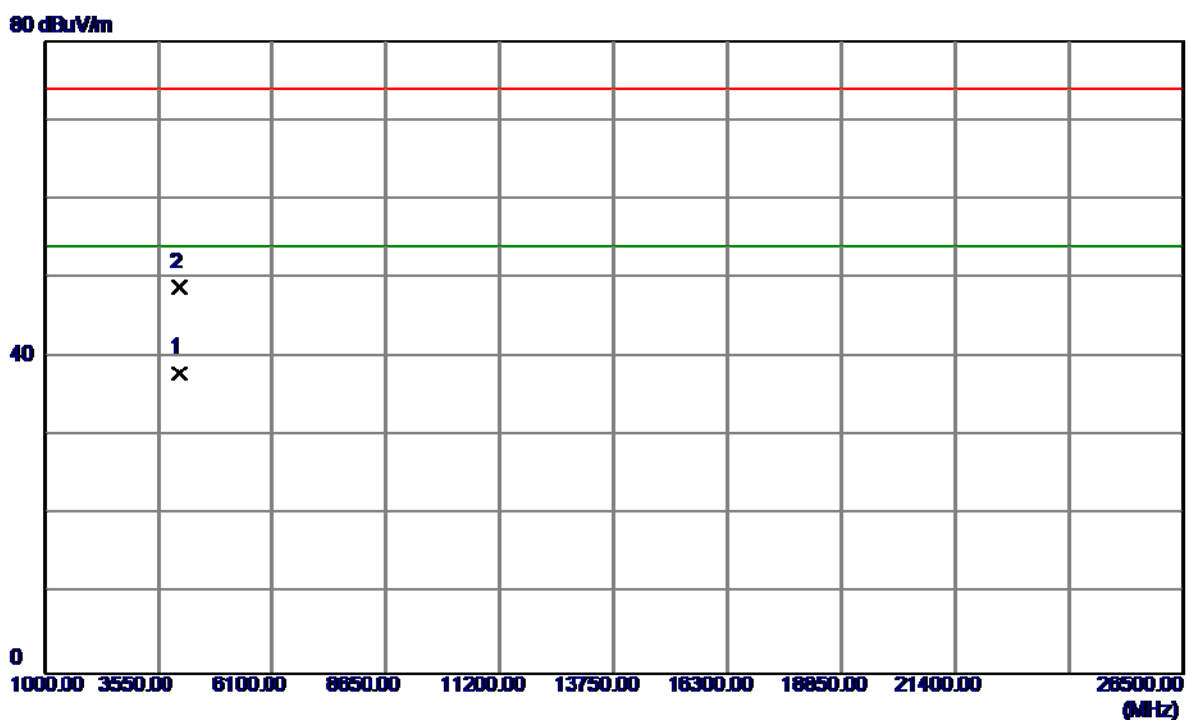


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	21.81	33.88	55.69	74.00	-18.31	Peak	
2	2390.0000	12.22	33.88	46.10	54.00	-7.90	AVG	
3 *	2414.8000	34.00	34.02	68.02	54.00	14.02	AVG	No Limit
4	2415.1000	42.79	34.02	76.81	74.00	2.81	Peak	No Limit



Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 01

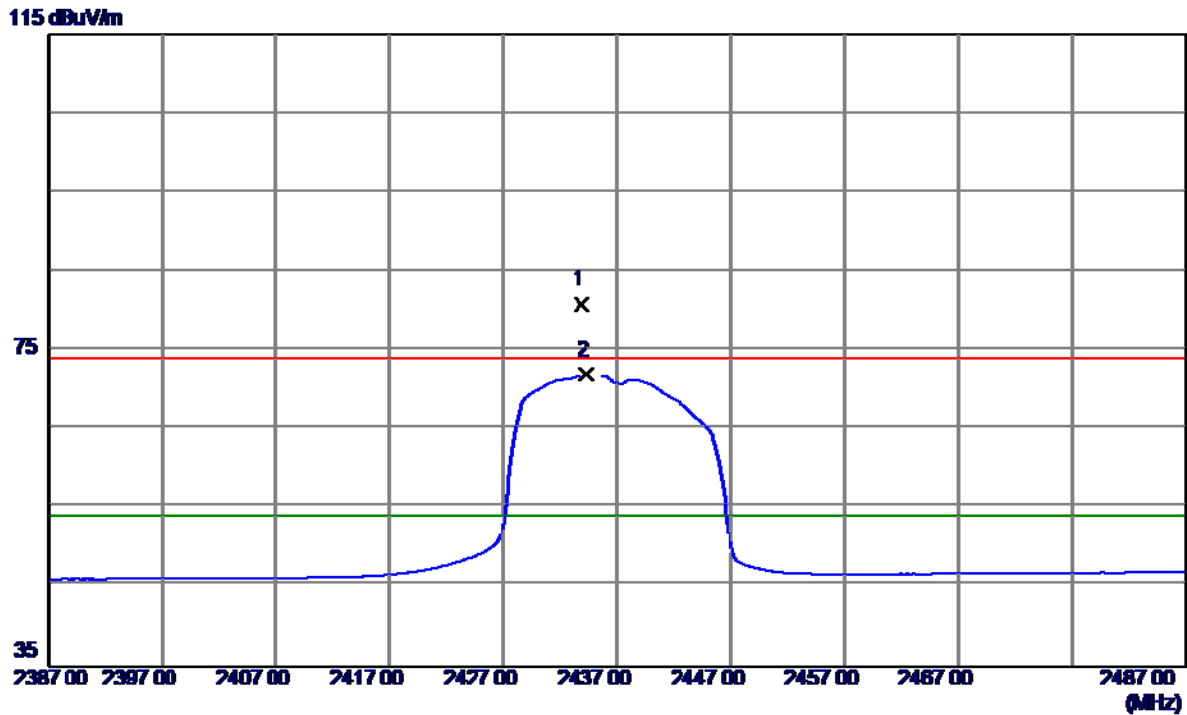
## Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4020.7750	35.23	2.77	38.00	54.00	-16.00	AVG	
2	4024.9100	46.04	2.78	48.82	74.00	-25.18	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 06

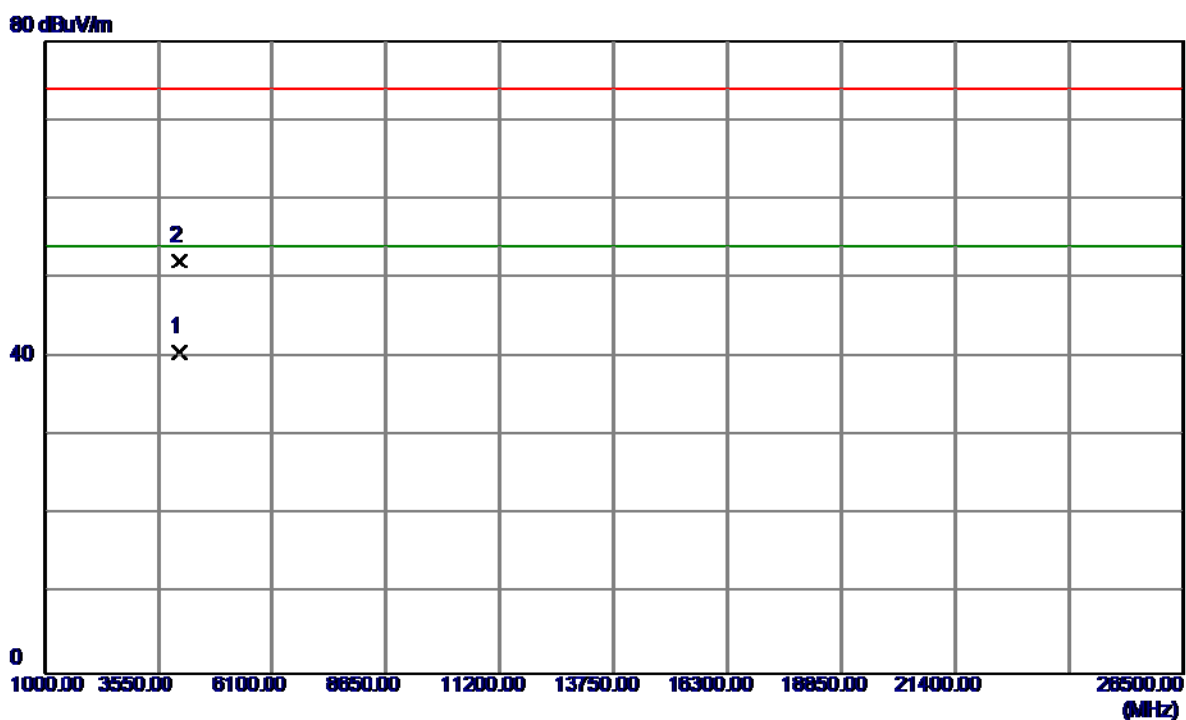
**Vertical**



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2433.9000	46.67	34.13	80.80	74.00	6.80	Peak	No Limit
2 *	2434.3000	37.75	34.13	71.88	54.00	17.88	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 06

## Vertical

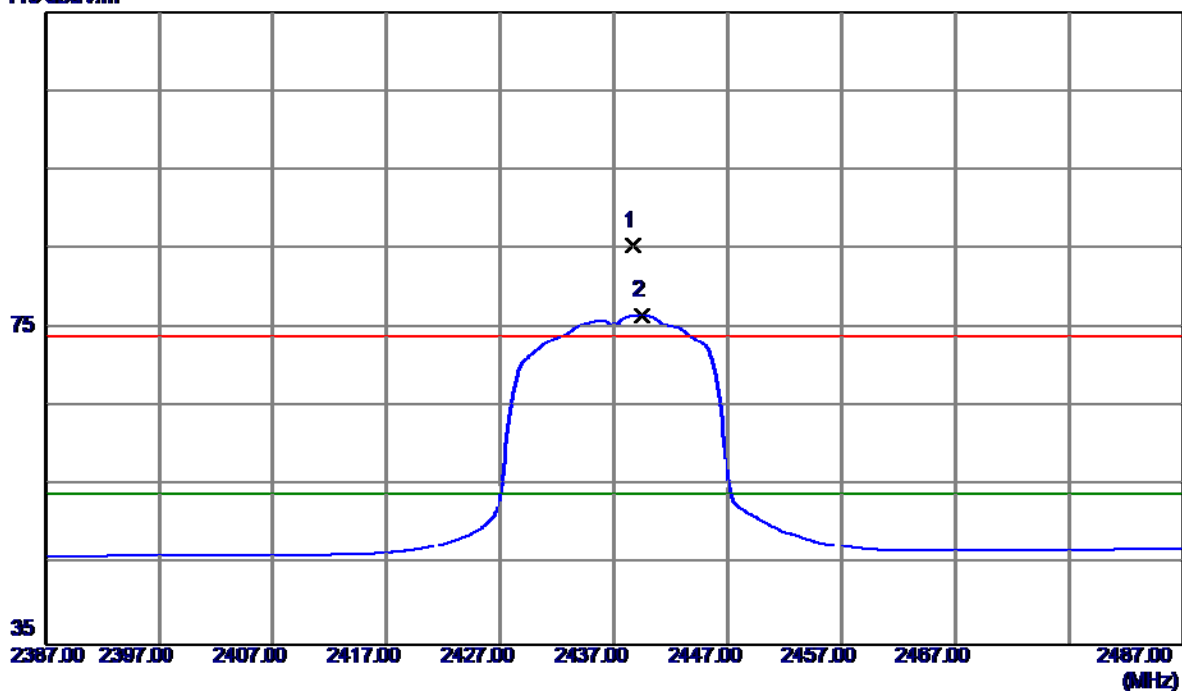


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4019.7150	37.88	2.77	40.65	54.00	-13.35	AVG	
2	4021.9400	49.43	2.77	52.20	74.00	-21.80	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 06

### Horizontal

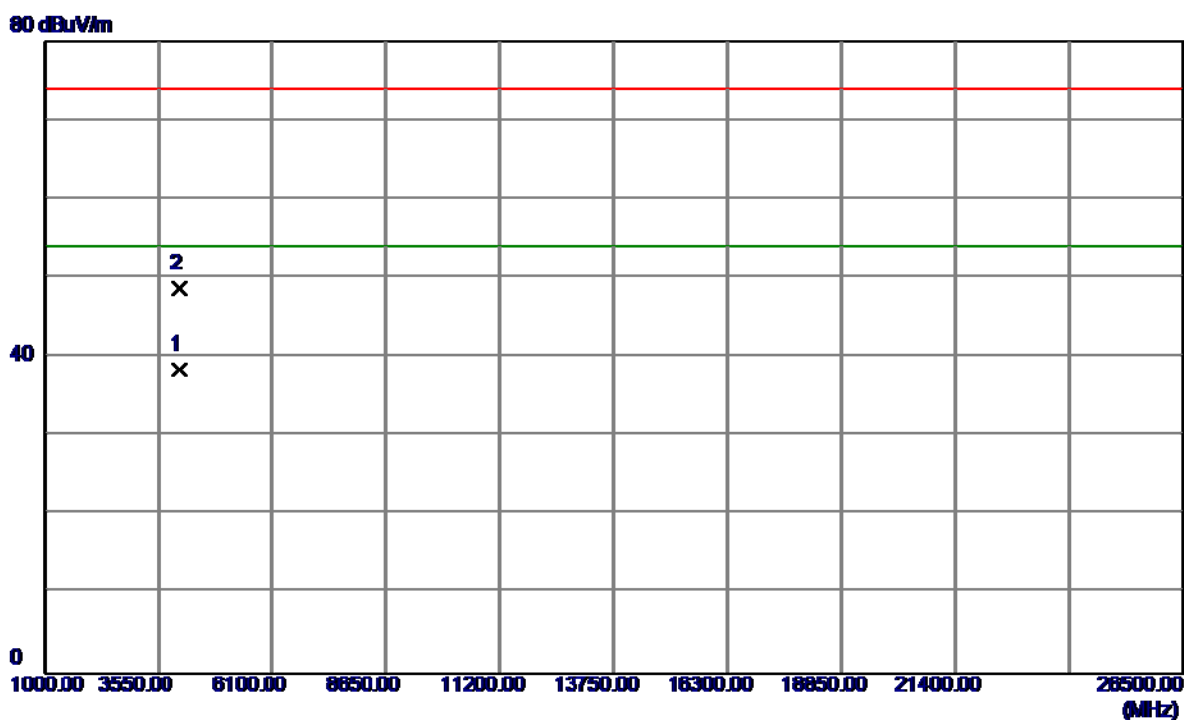
115 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2438.7000	51.31	34.16	85.47	74.00	11.47	Peak	No Limit
2 *	2439.4000	42.46	34.16	76.62	54.00	22.62	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 06

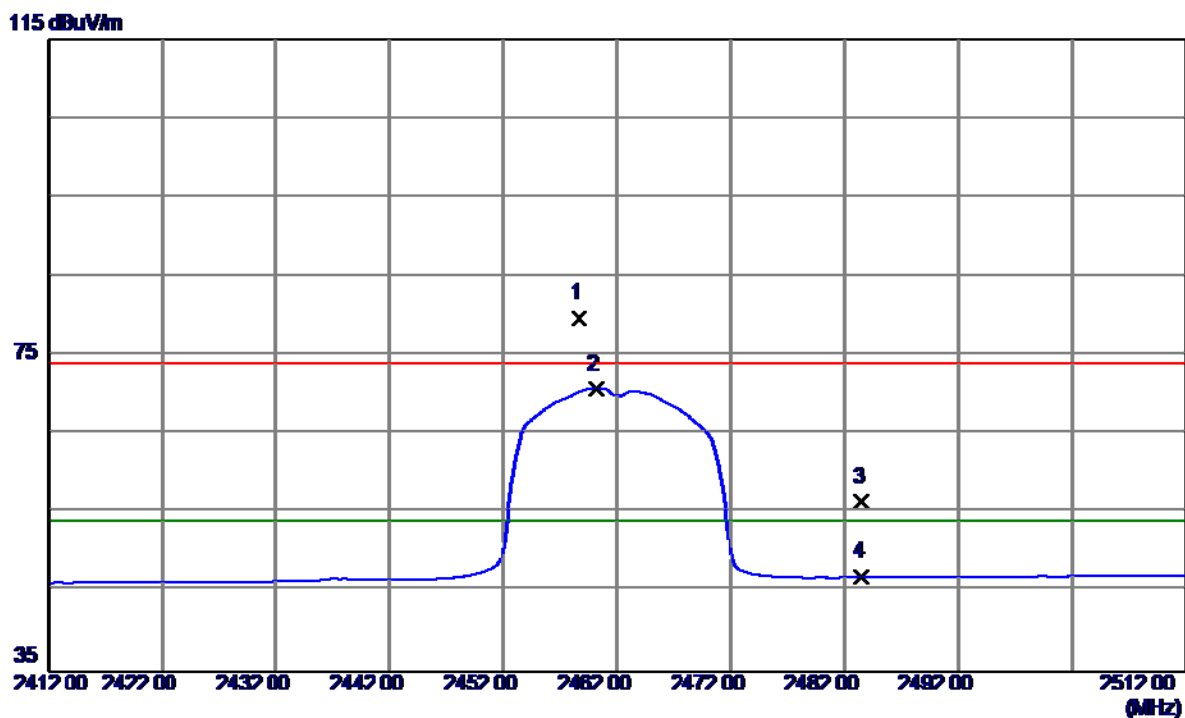
### Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4019.4800	35.70	2.77	38.47	54.00	-15.53	AVG	
2	4023.4900	45.84	2.77	48.61	74.00	-25.39	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 11

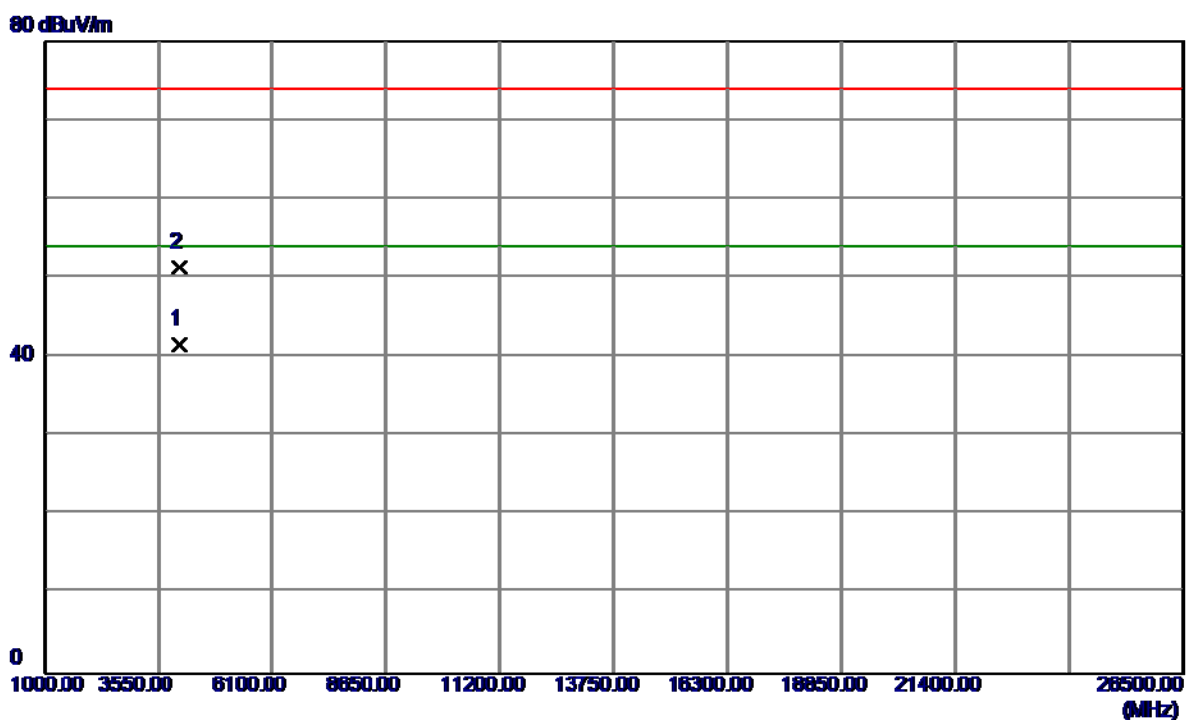
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2458.7000	45.35	34.27	79.62	74.00	5.62	Peak	No Limit
2 *	2460.2000	36.44	34.28	70.72	54.00	16.72	AVG	No Limit
3	2483.5000	22.10	34.41	56.51	74.00	-17.49	Peak	
4	2483.5000	12.53	34.41	46.94	54.00	-7.06	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 11

### Vertical

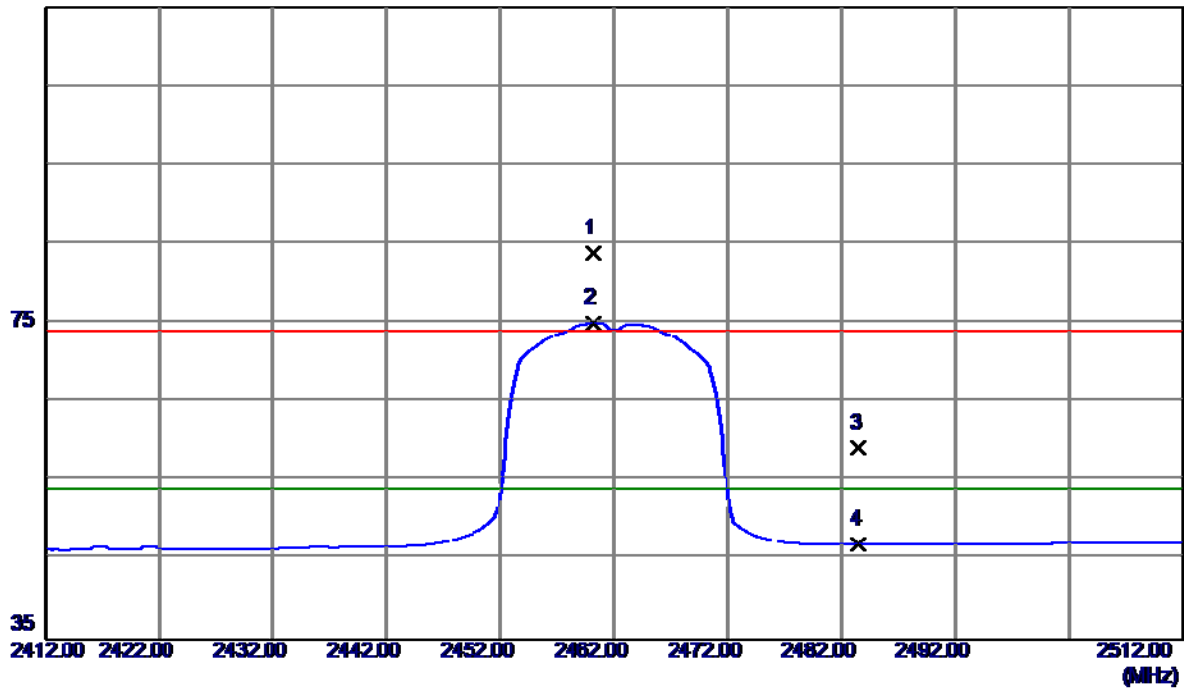


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4038.5000	38.83	2.81	41.64	54.00	-12.36	AVG	
2	4034.2000	48.54	2.80	51.34	74.00	-22.66	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 11

### Horizontal

115 dBuV/m

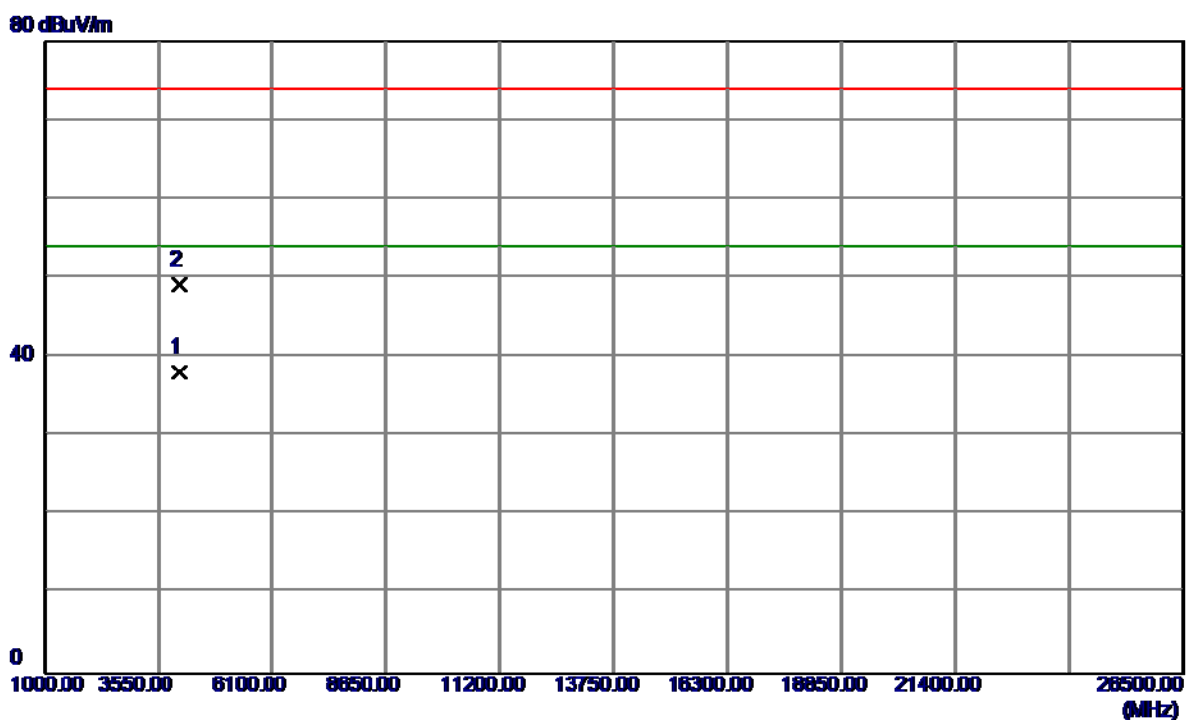


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.2000	49.46	34.28	83.74	74.00	9.74	Peak	No Limit
2 *	2460.2000	40.74	34.28	75.02	54.00	21.02	AVG	No Limit
3	2483.5000	24.70	34.41	59.11	74.00	-14.89	Peak	
4	2483.5000	12.55	34.41	46.96	54.00	-7.04	AVG	



Orthogonal Axis :	X
Test Mode :	TX N-20M MODE CHANNEL 11

### Horizontal



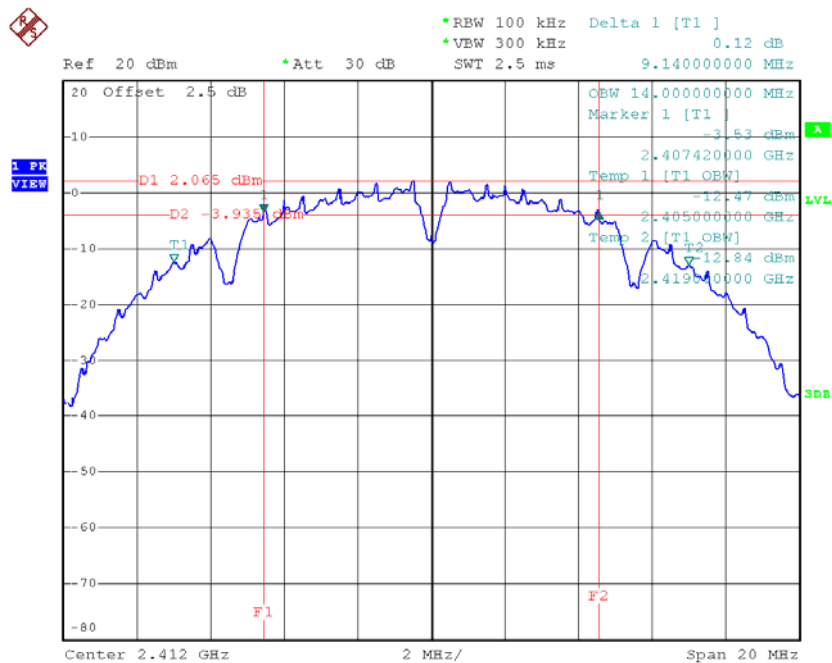
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4032.4500	35.28	2.80	38.08	54.00	-15.92	AVG	
2	4035.6500	46.37	2.80	49.17	74.00	-24.83	Peak	

## ATTACHMENT E - BANDWIDTH

Test Mode : TX B MODE CHANNEL 01/06/11

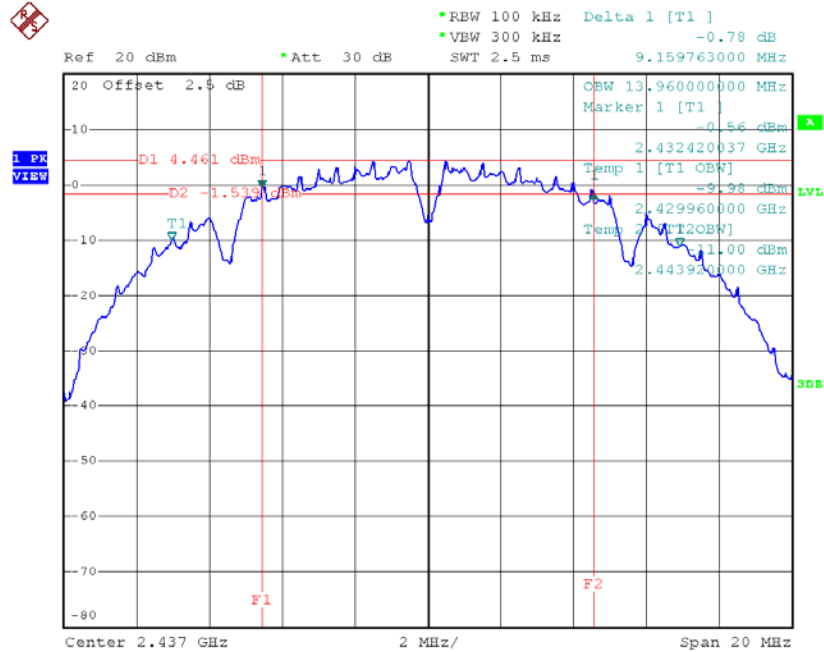
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	9.14	14	500	Complies
2437	9.16	13.96	500	Complies
2462	9.06	13.92	500	Complies

TX CH01



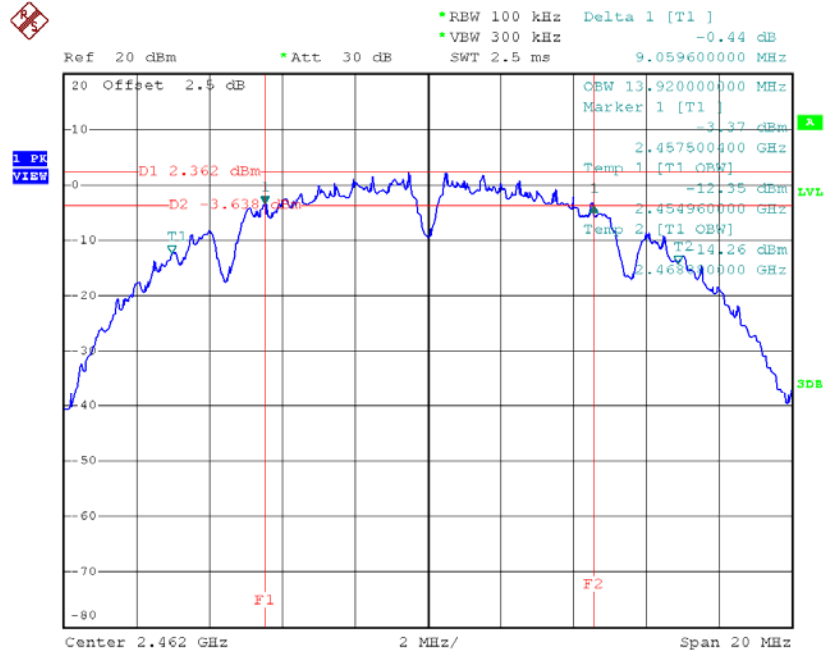
Date: 24.NOV.2016 16:08:29

### TX CH06



Date: 24.NOV.2016 16:11:07

### TX CH11

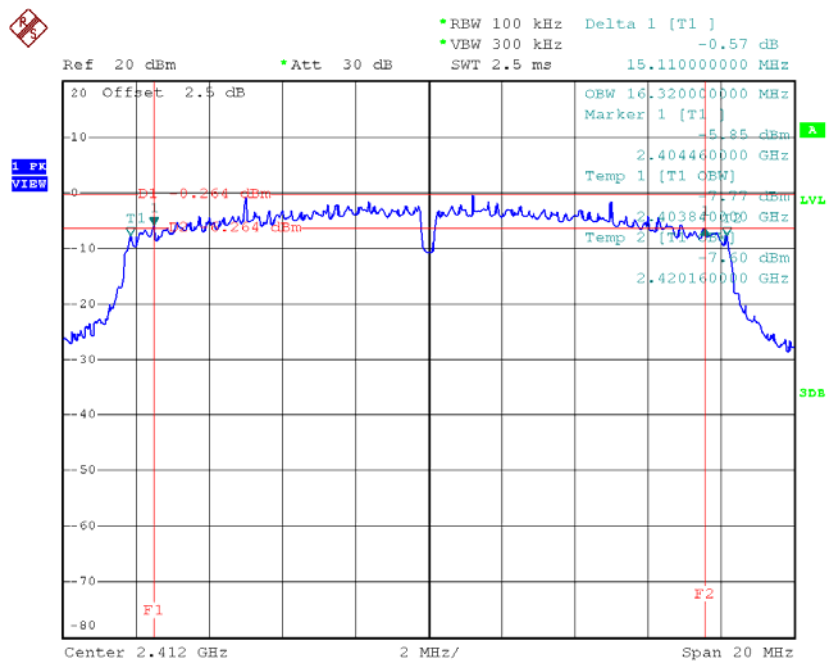


Date: 24.NOV.2016 16:14:55

**Test Mode: TX G MODE CHANNEL 01/06/11**

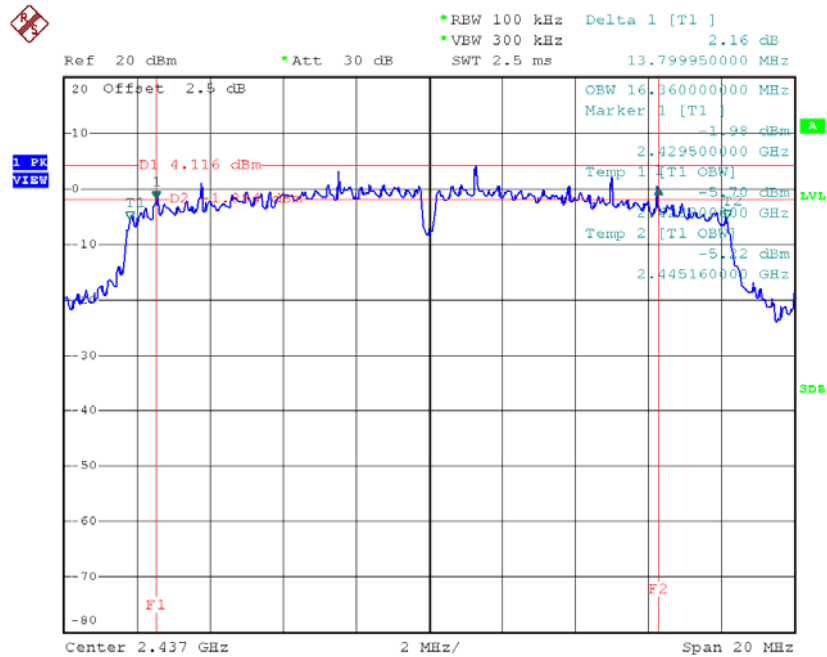
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	15.11	16.32	500	Complies
2437	13.8	16.36	500	Complies
2462	15.12	16.28	500	Complies

**TX CH01**



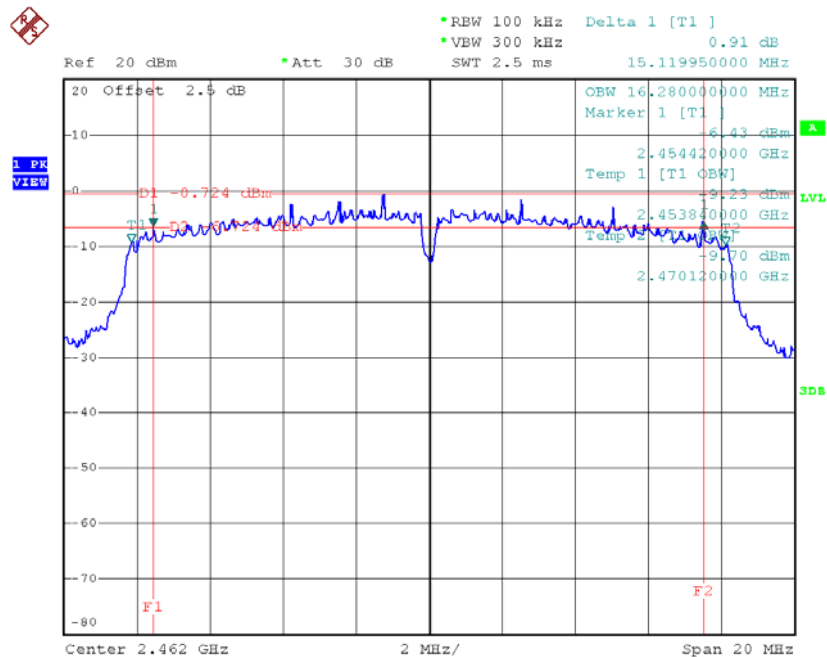
Date: 24.NOV.2016 16:17:41

### TX CH06



Date: 24.NOV.2016 16:30:15

### TX CH11

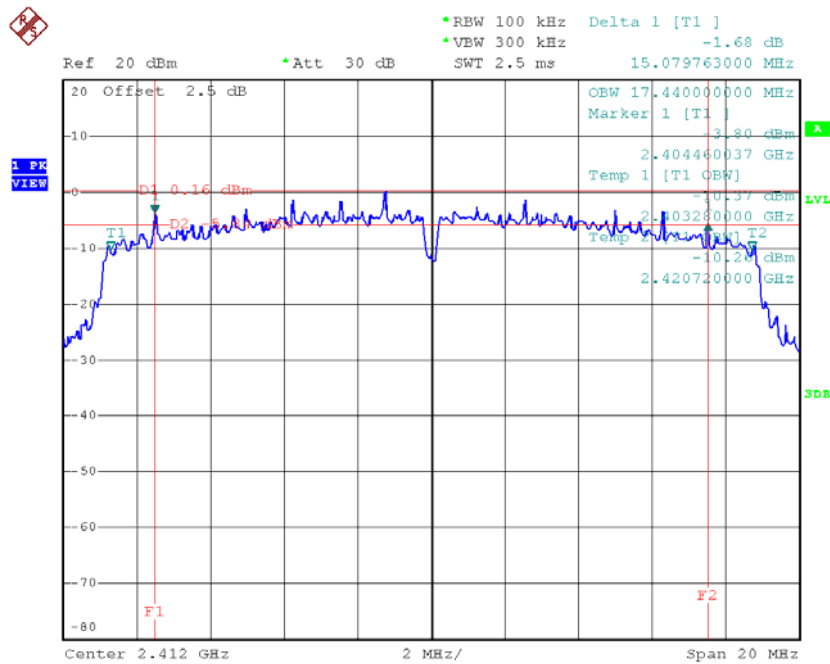


Date: 24.NOV.2016 16:34:07

Test Mode : TX N-20M MODE CHANNEL 01/06/11

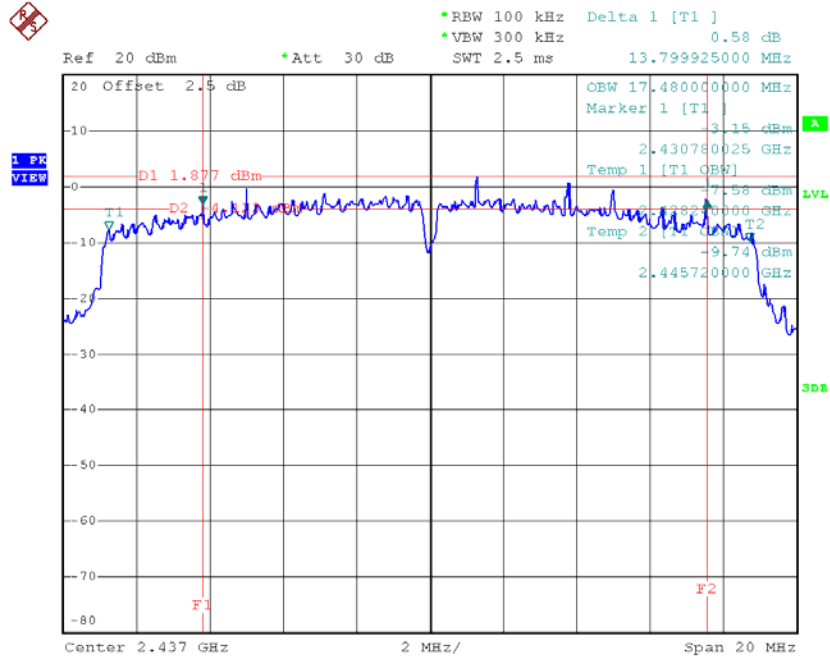
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	15.08	17.44	500	Complies
2437	13.8	17.48	500	Complies
2462	15.1	17.44	500	Complies

TX CH01



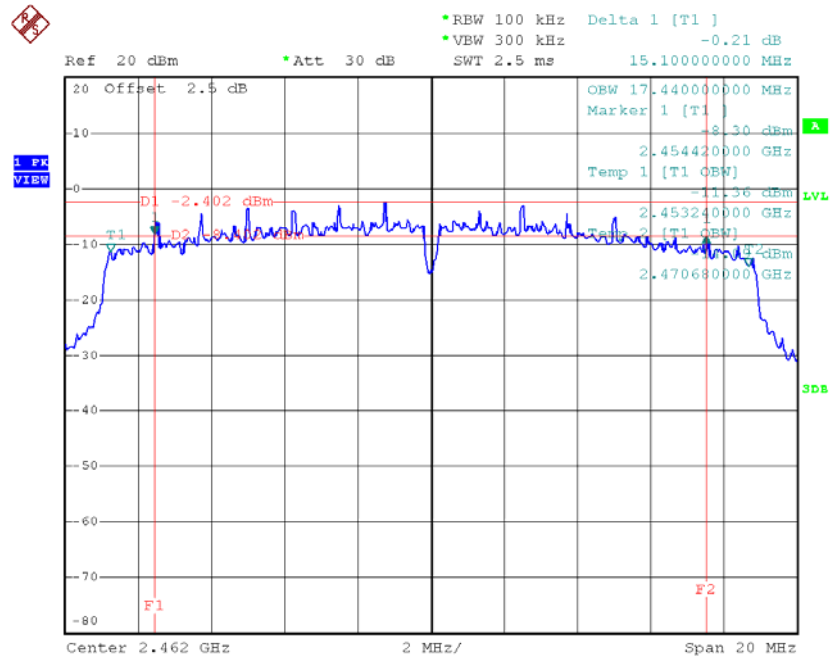
Date: 24.NOV.2016 16:36:05

### TX CH06



Date: 24.NOV.2016 16:50:18

### TX CH11



Date: 24.NOV.2016 16:51:52



## ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

Test Mode :TX B MODE CHANNEL 01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	15.35	0.03	30.00	1.00	Complies
2437	15.93	0.04	30.00	1.00	Complies
2462	14.66	0.03	30.00	1.00	Complies

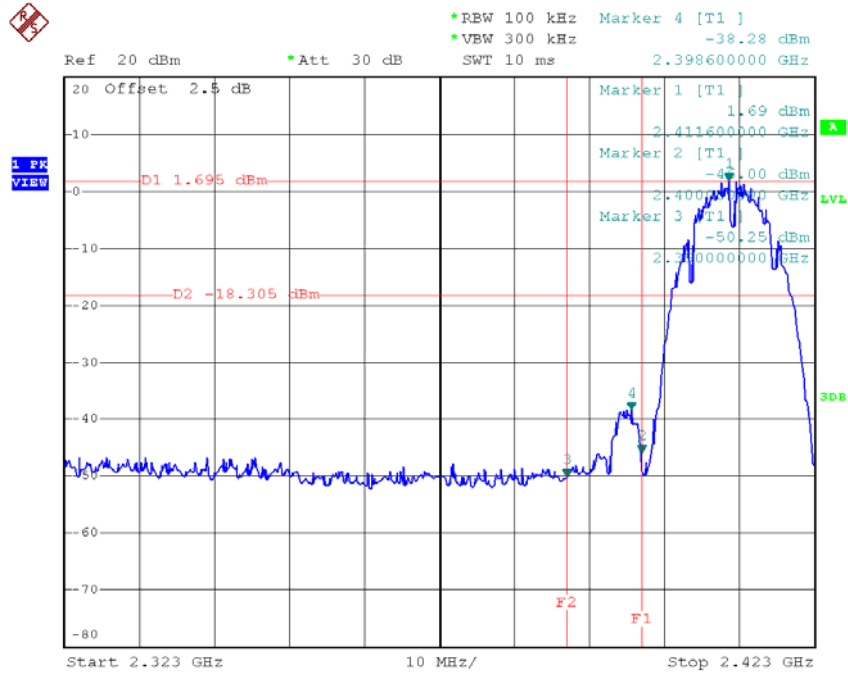
Test Mode :TX G MODE CHANNEL 01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.27	0.08	30.00	1.00	Complies
2437	19.33	0.09	30.00	1.00	Complies
2462	18.14	0.07	30.00	1.00	Complies

Test Mode :TX N-20M MODE CHANNEL 01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.17	0.08	30.00	1.00	Complies
2437	18.83	0.08	30.00	1.00	Complies
2462	18.12	0.06	30.00	1.00	Complies

## ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

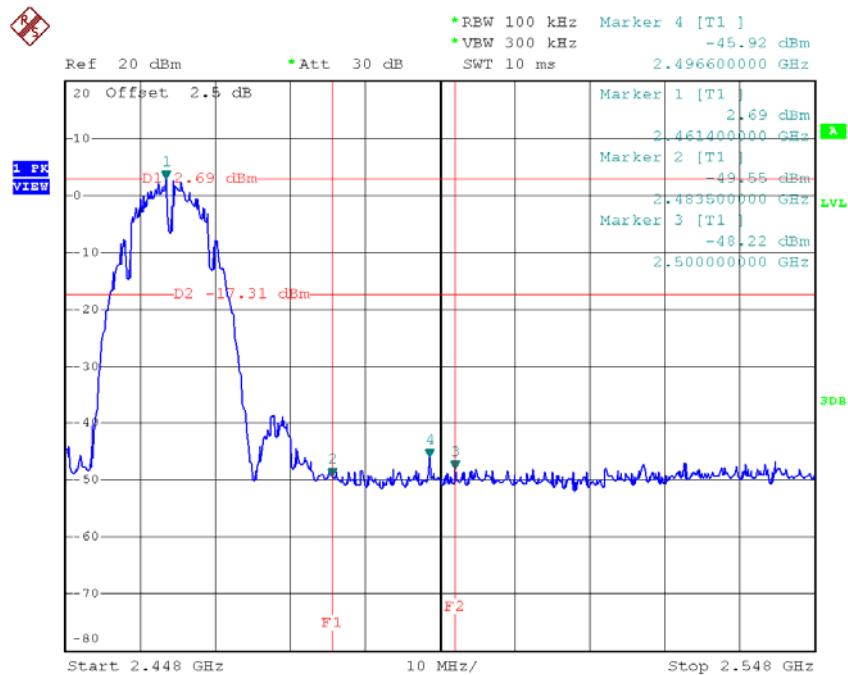
Test Mode : TX B MODE CHANNEL 01/06/11

### TX B mode CH01



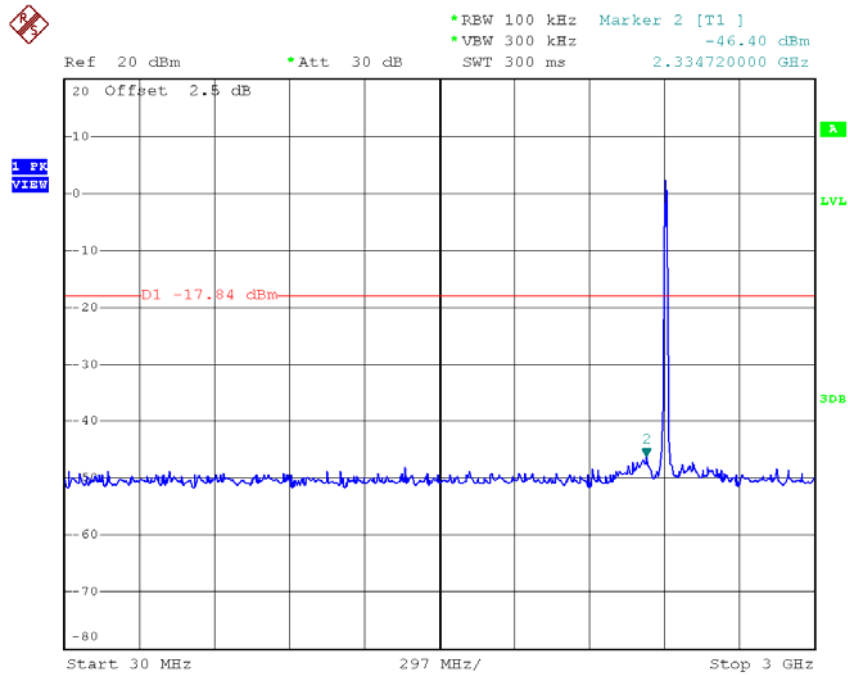
Date: 24.NOV.2016 16:09:08

### TX B mode CH11

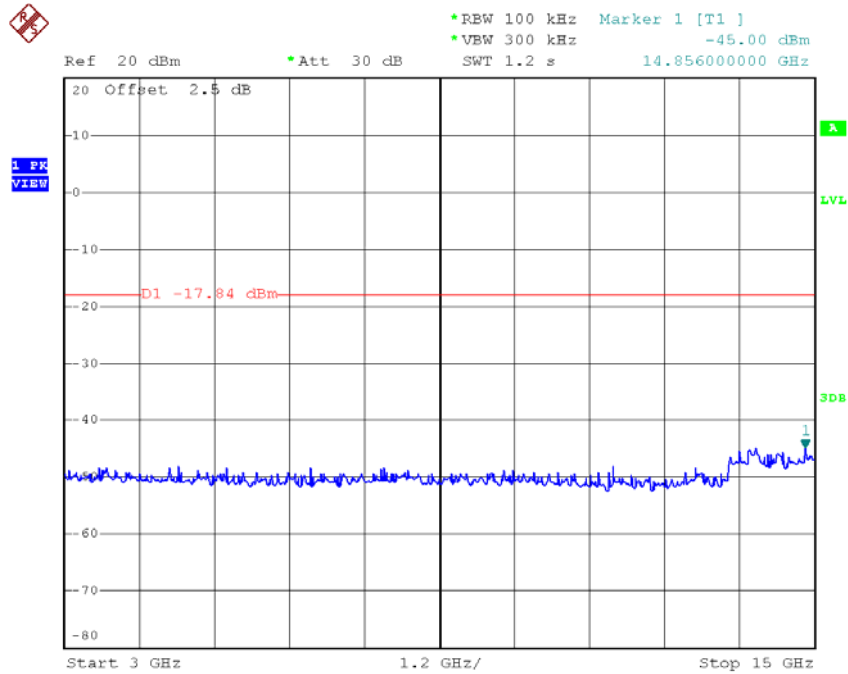


Date: 24.NOV.2016 16:15:33

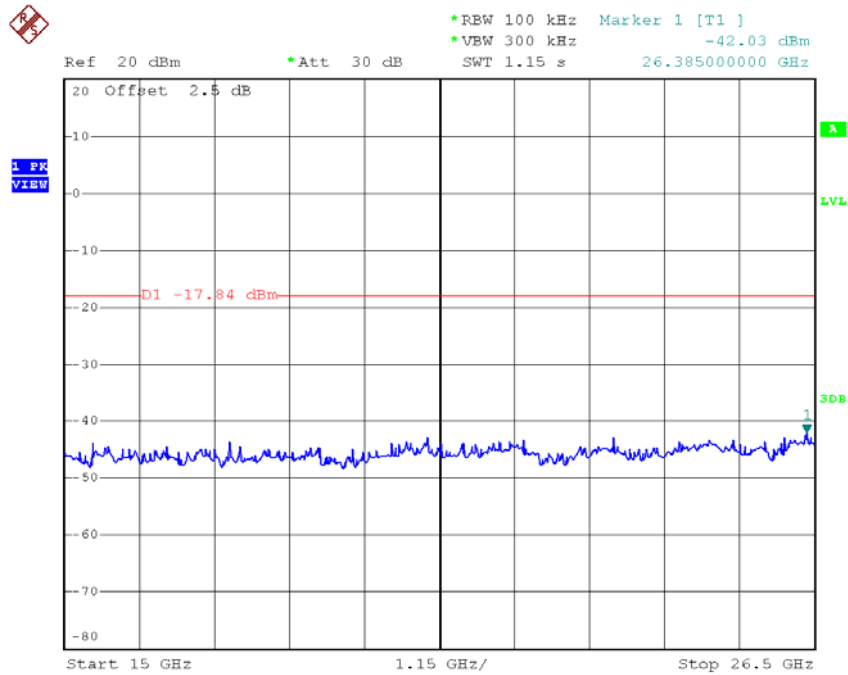
### TX B mode CH01 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:08:43

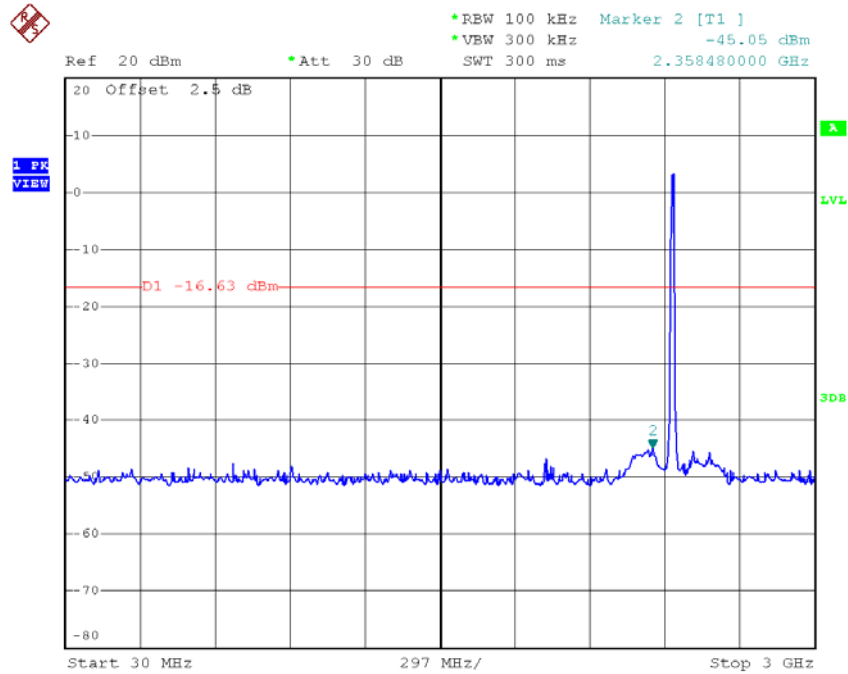


Date: 24.NOV.2016 16:08:52

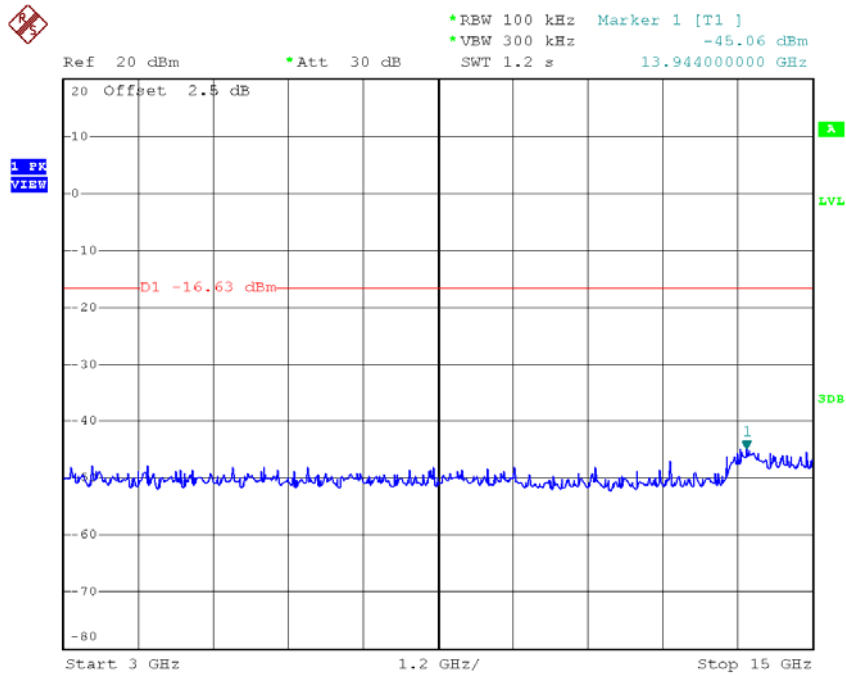


Date: 24.NOV.2016 16:09:00

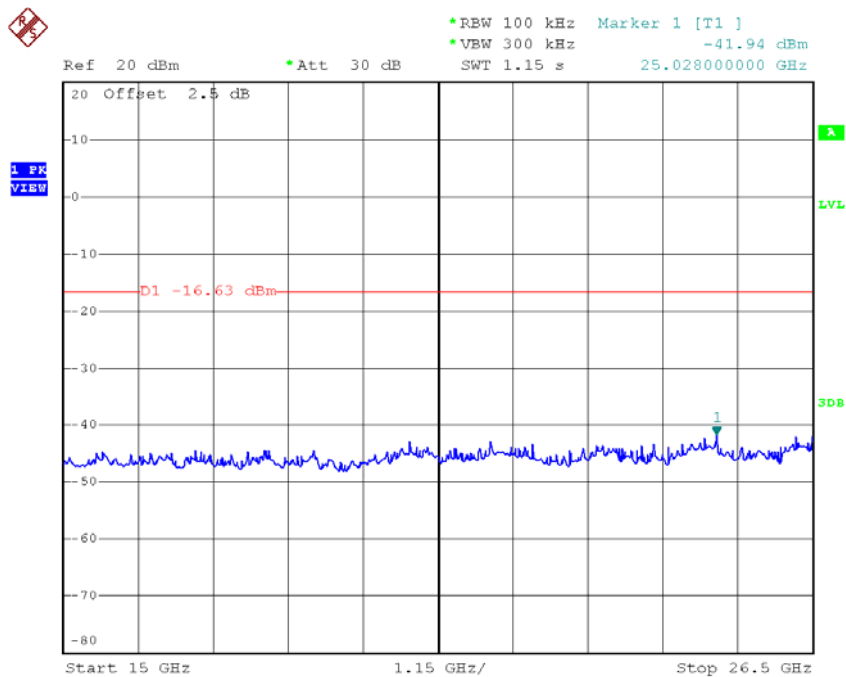
### TX B mode CH06 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:11:21

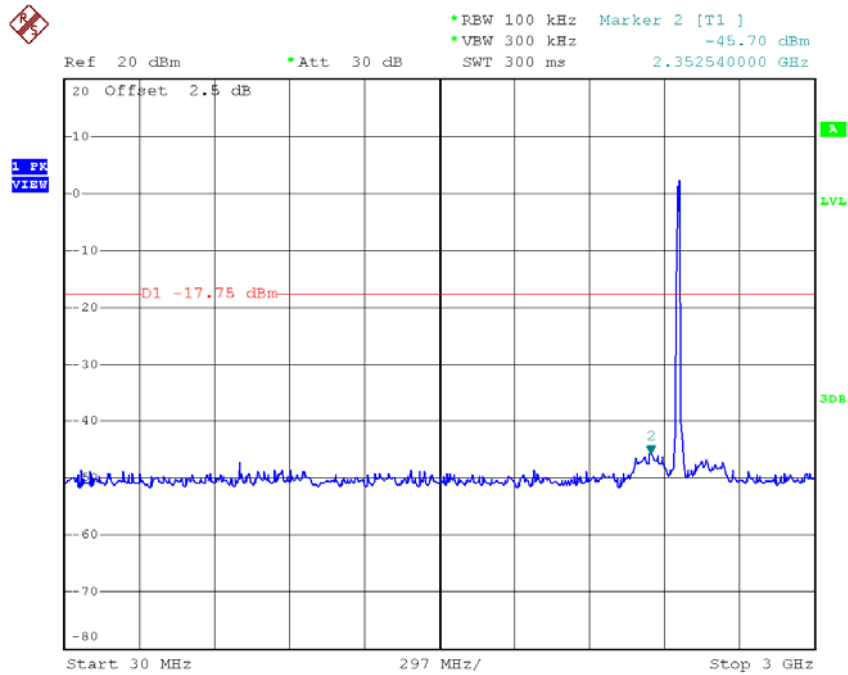


Date: 24.NOV.2016 16:11:30

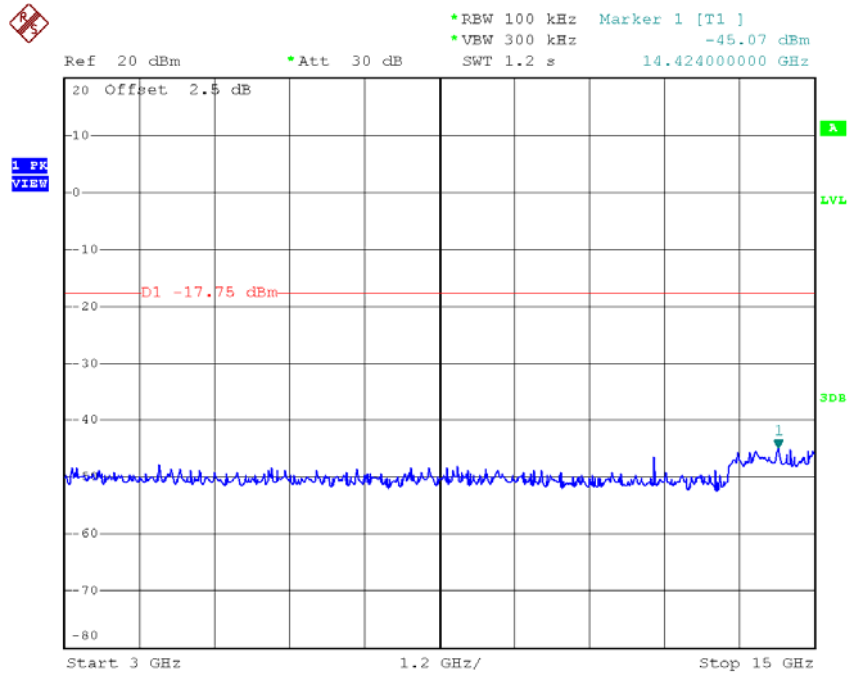


Date: 24.NOV.2016 16:11:38

### TX B mode CH11 (10 Harmonic of the frequency)

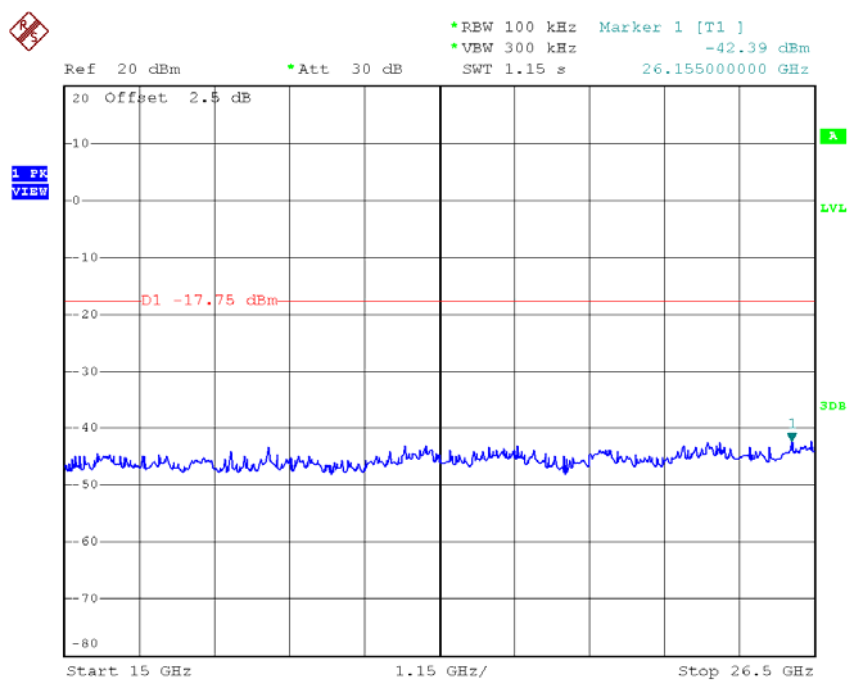


Date: 24.NOV.2016 16:15:09



Date: 24.NOV.2016 16:15:17

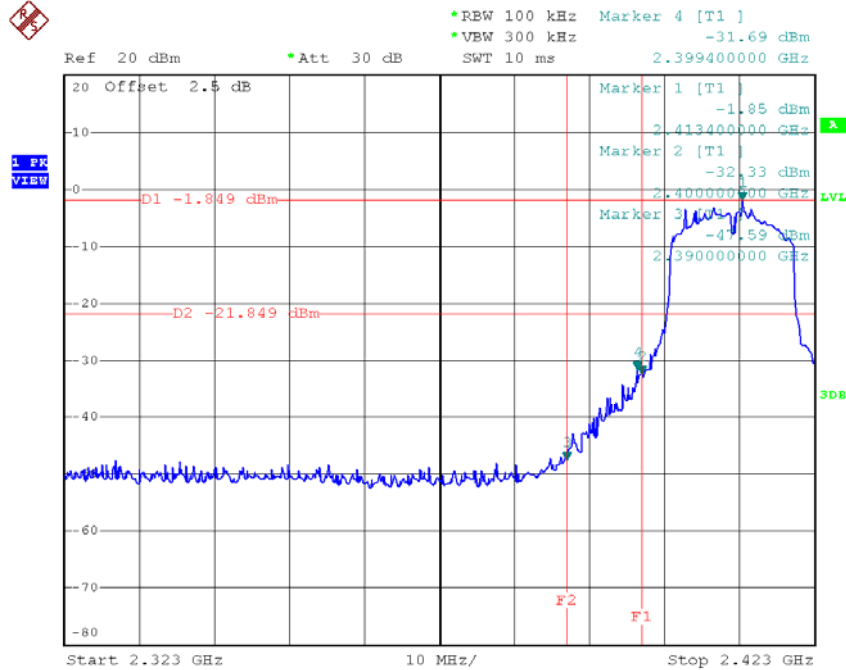




Date: 24.NOV.2016 16:15:26

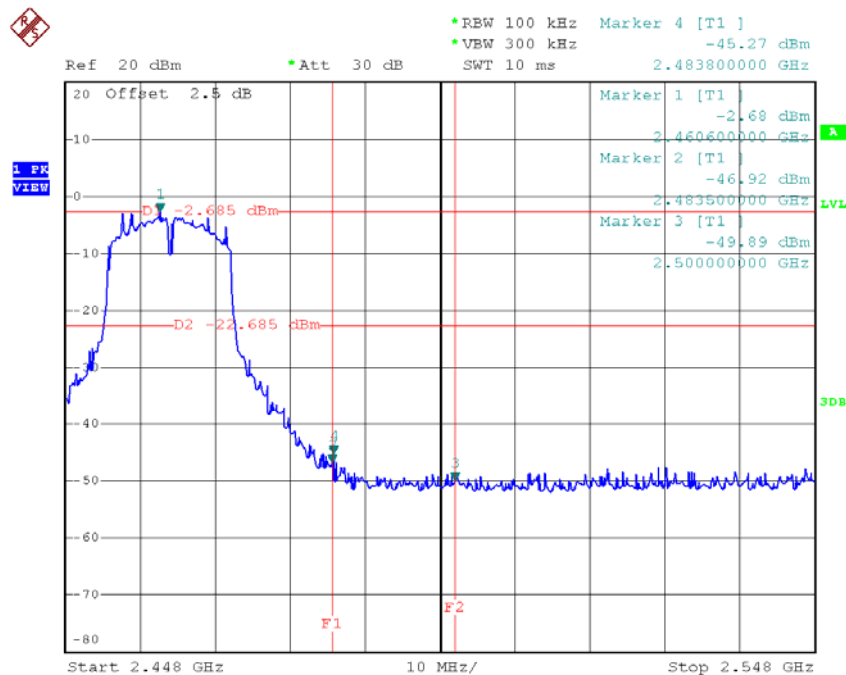
Test Mode : TX G MODE CHANNEL 01/06/11

### TX G mode CH01



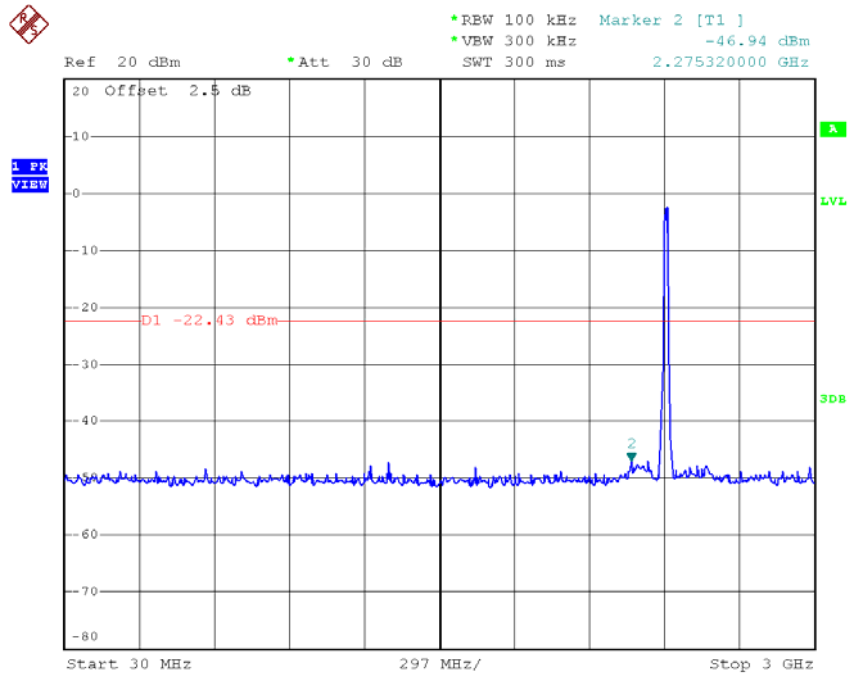
Date: 24.NOV.2016 16:18:20

### TX G mode CH11

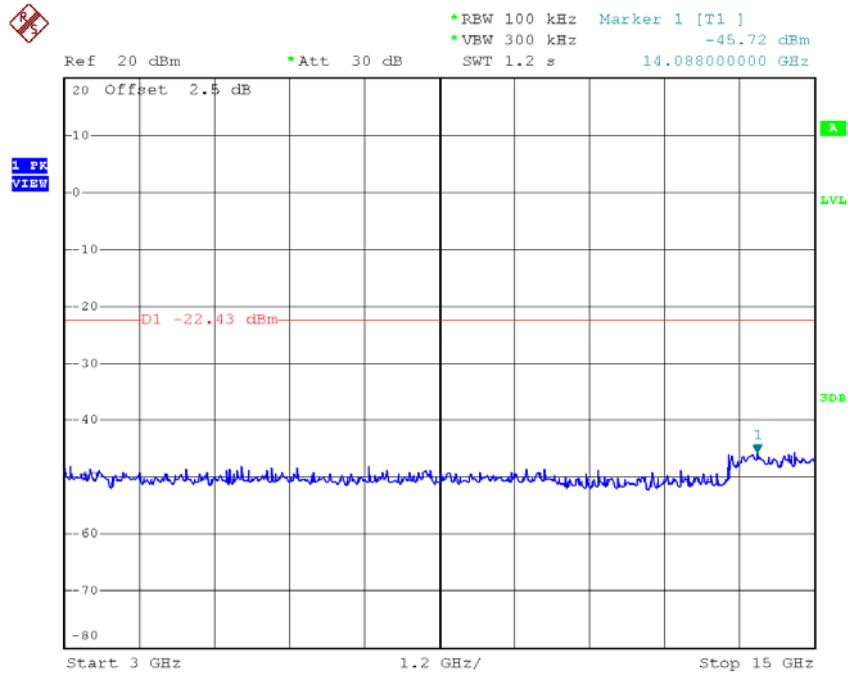


Date: 24.NOV.2016 16:34:46

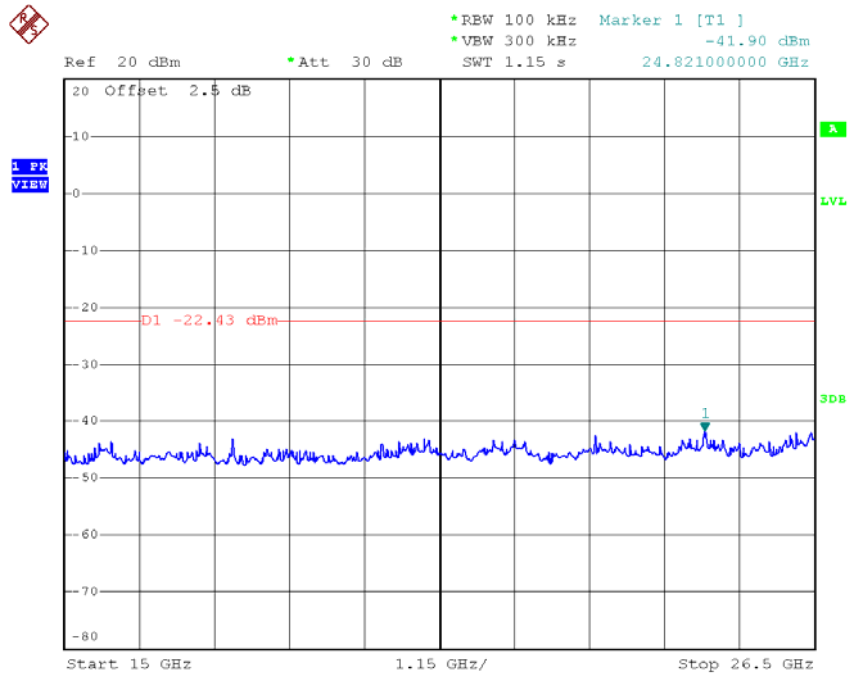
### TX G mode CH01 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:17:55

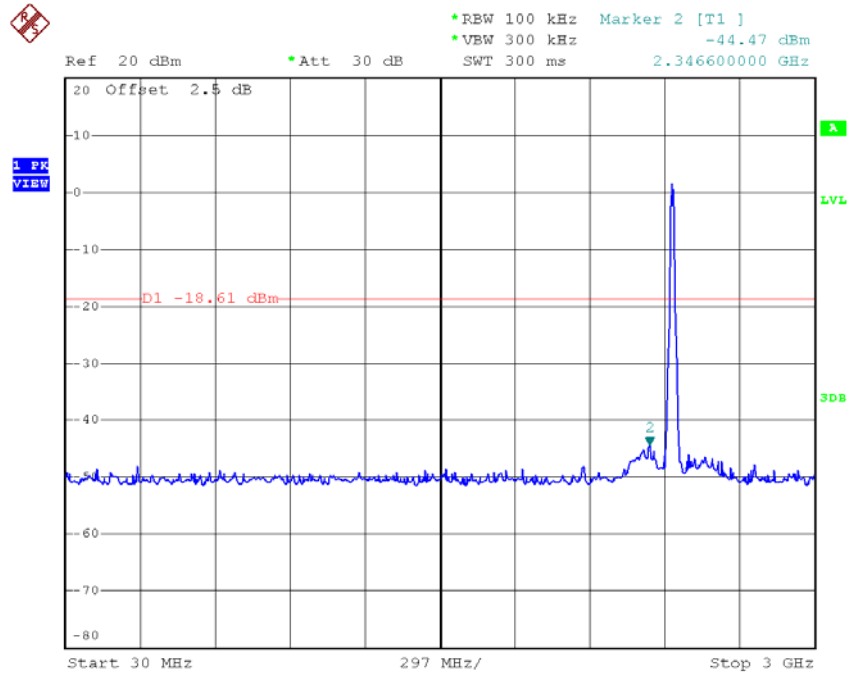


Date: 24.NOV.2016 16:18:03

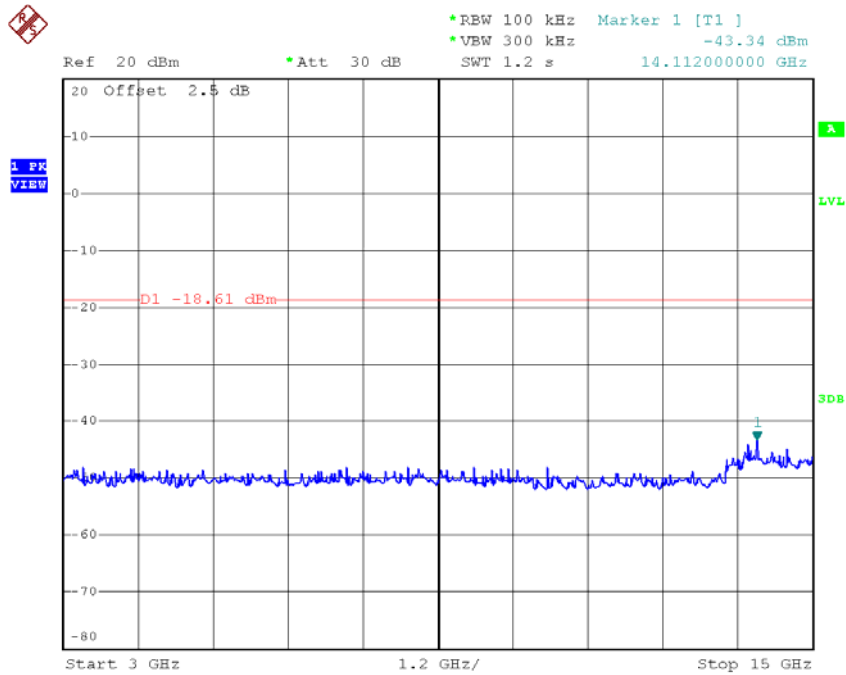


Date: 24.NOV.2016 16:18:12

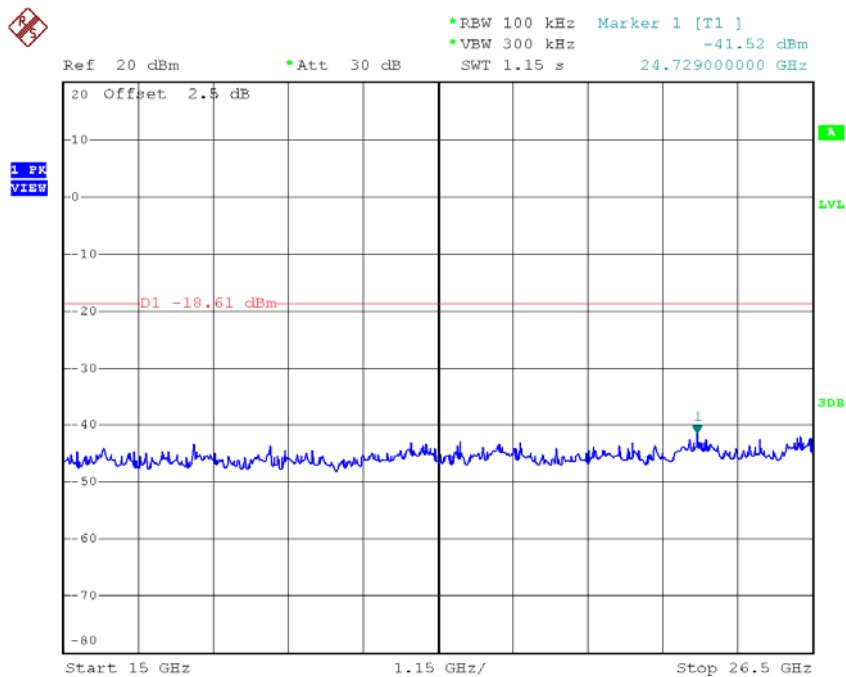
### TX G mode CH06 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:30:29

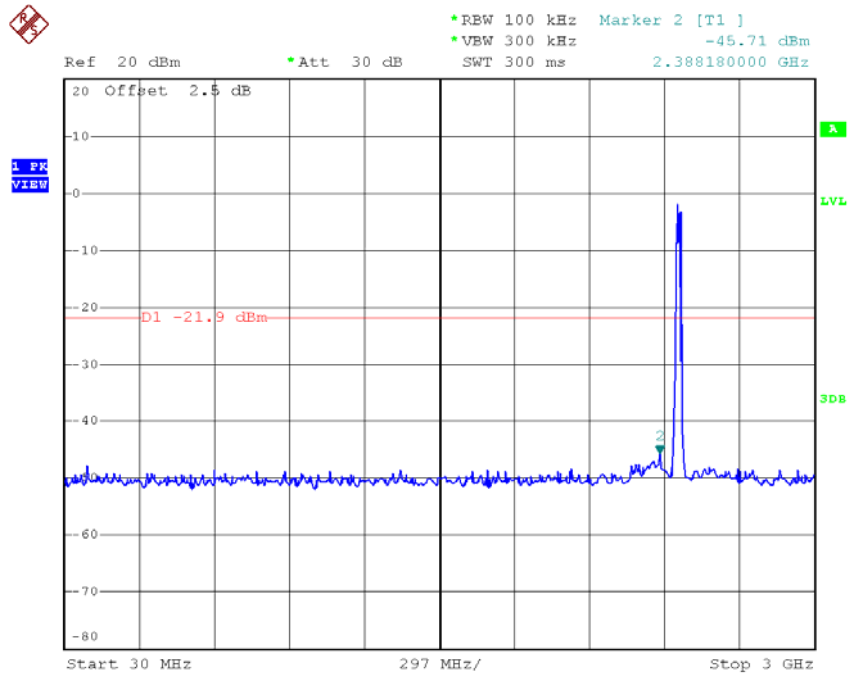


Date: 24.NOV.2016 16:30:38

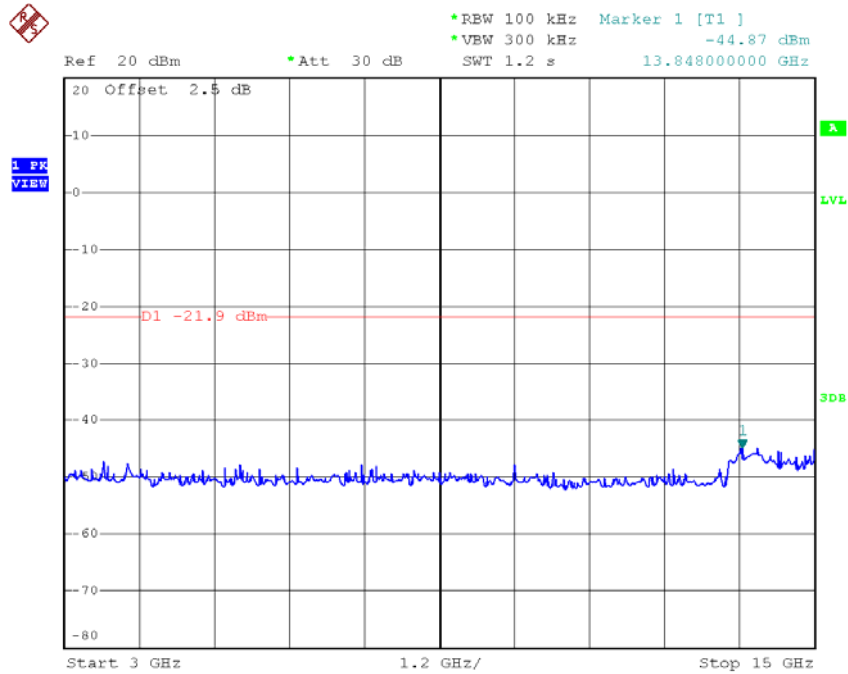


Date: 24.NOV.2016 16:30:46

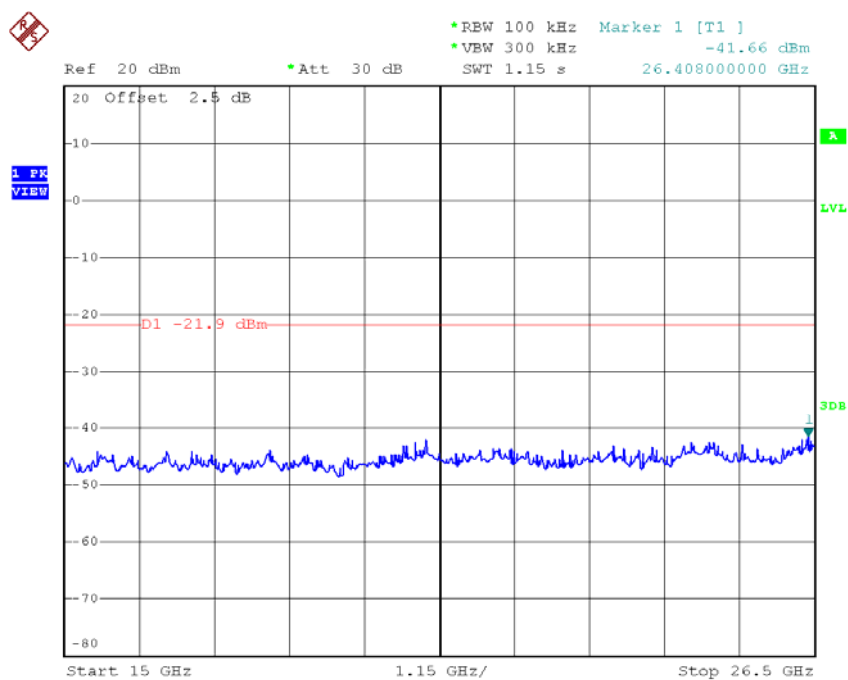
### TX G mode CH11 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:34:21



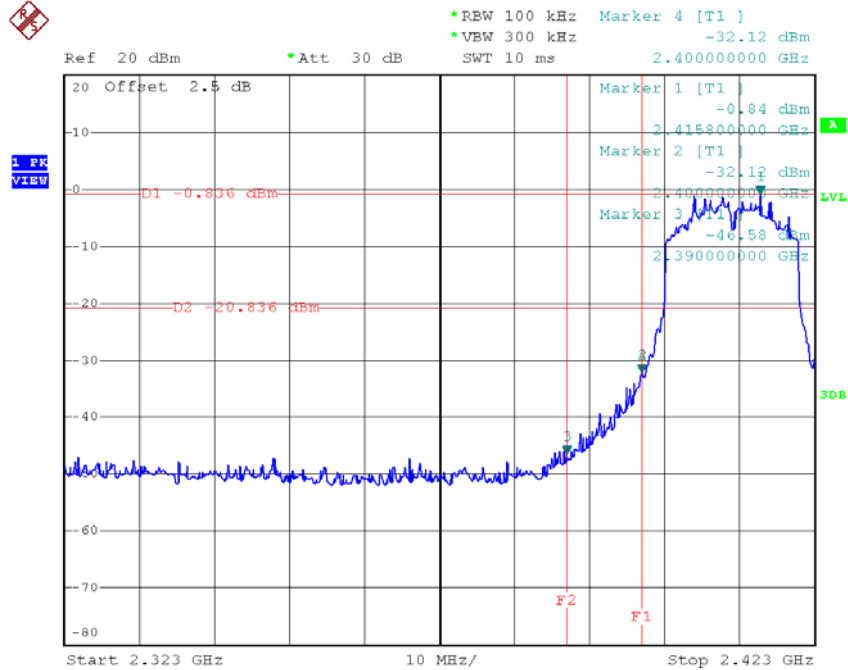
Date: 24.NOV.2016 16:34:29



Date: 24.NOV.2016 16:34:38

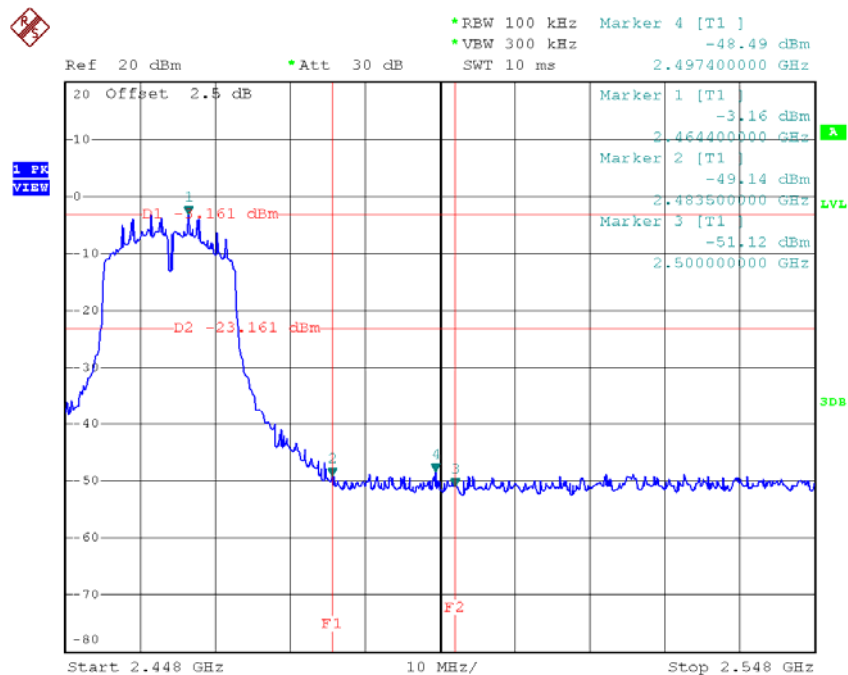
Test Mode : TX N-20M MODE CHANNEL 01/06/11

### TX HT20 mode CH01



Date: 24.NOV.2016 16:36:43

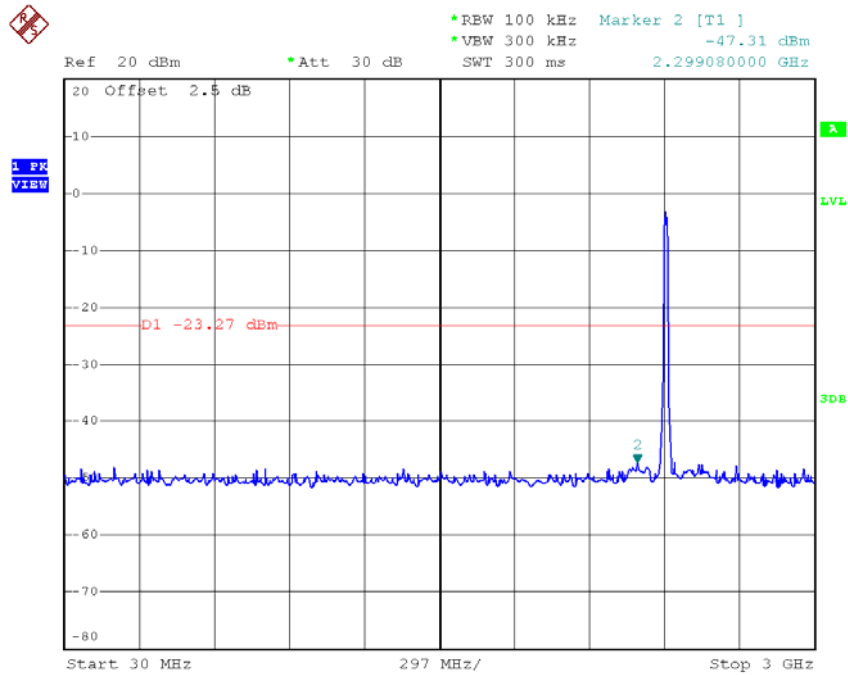
### TX HT20 mode CH11



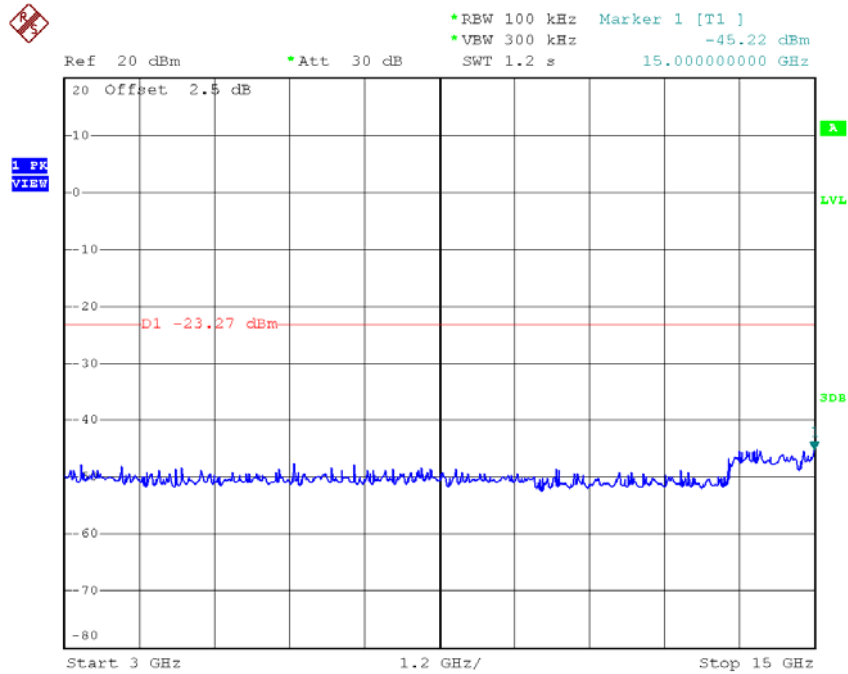
Date: 24.NOV.2016 16:52:31



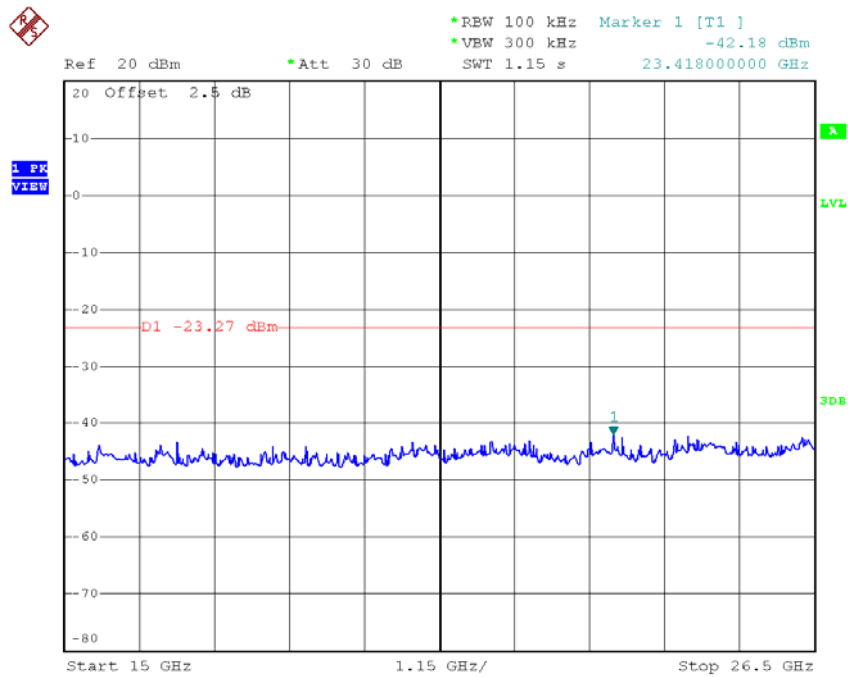
### TX HT20 mode CH01 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:36:18

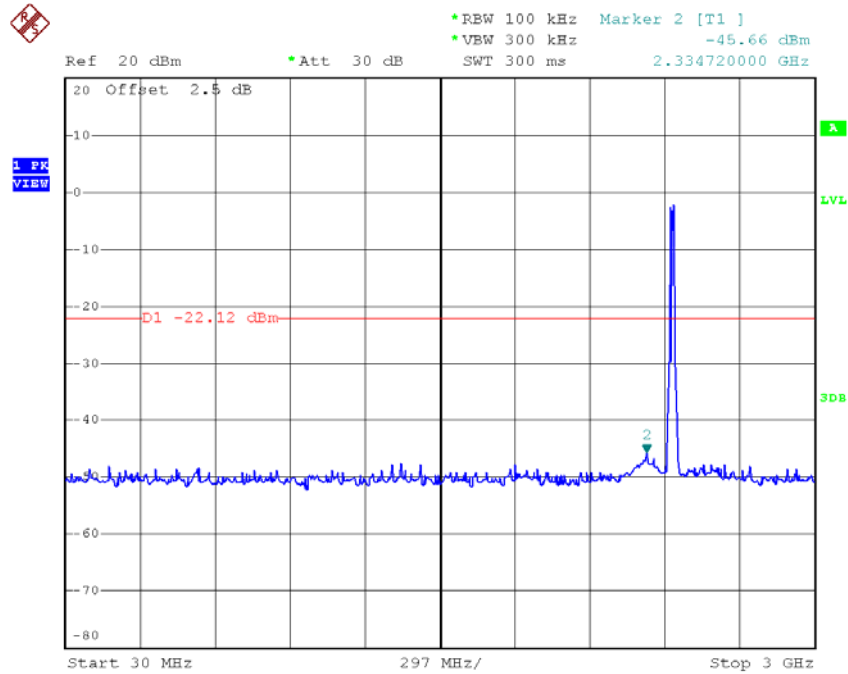


Date: 24.NOV.2016 16:36:27

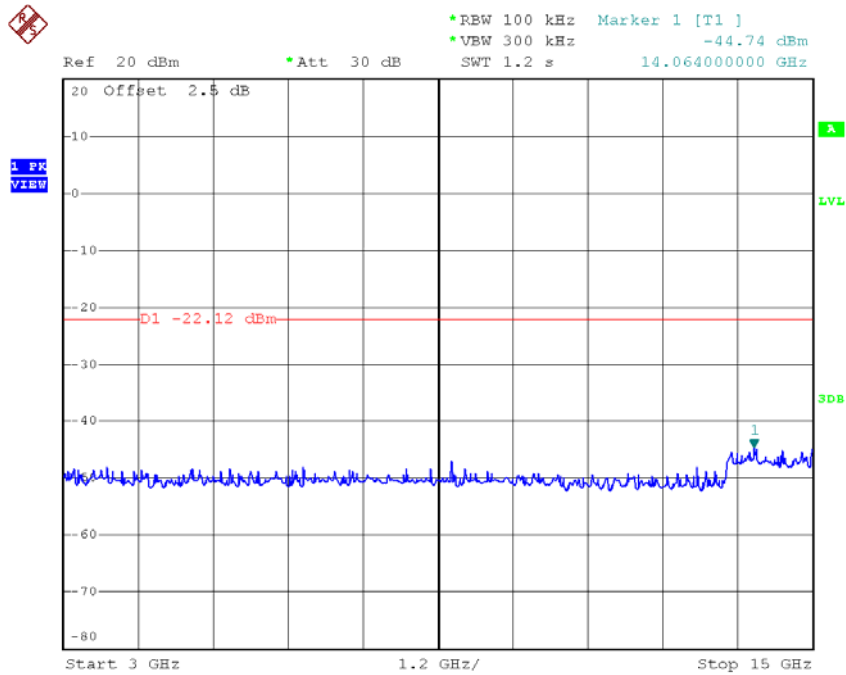


Date: 24.NOV.2016 16:36:35

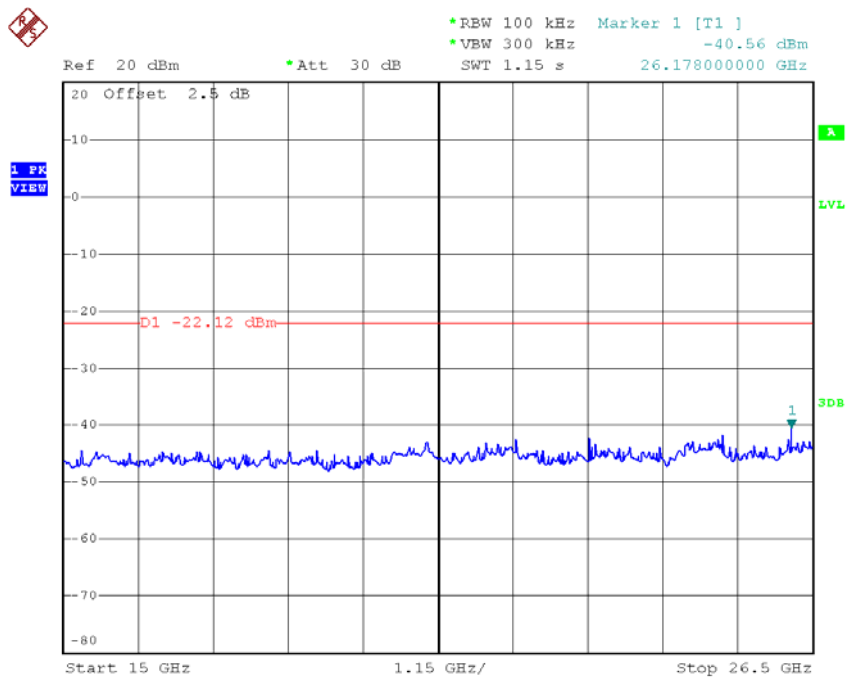
### TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:50:32

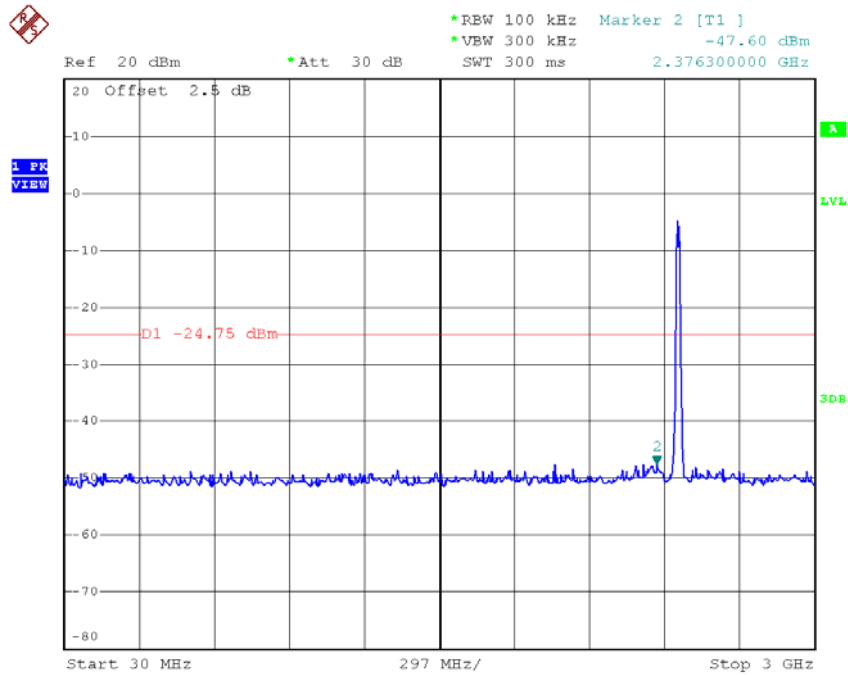


Date: 24.NOV.2016 16:50:40

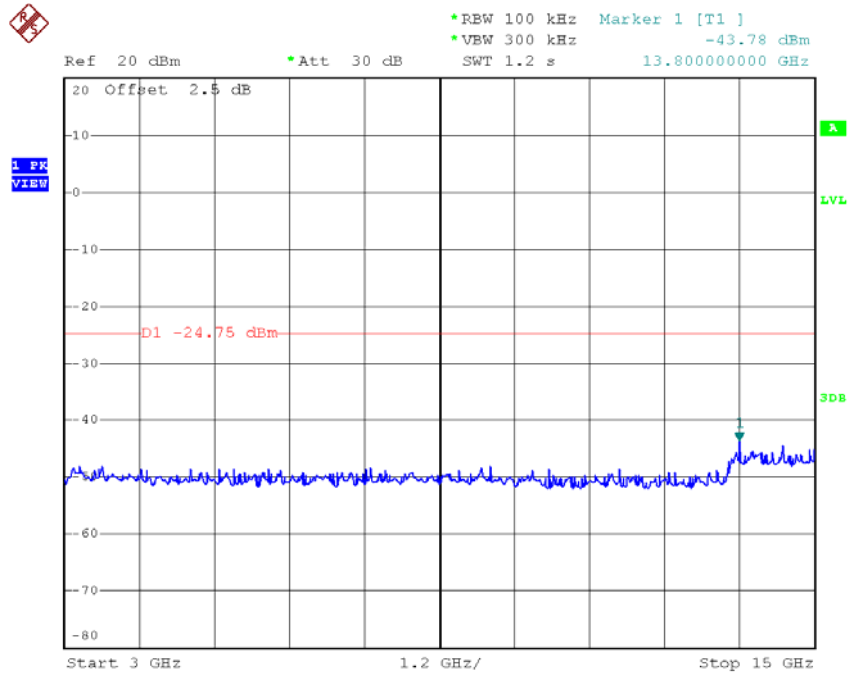


Date: 24.NOV.2016 16:50:49

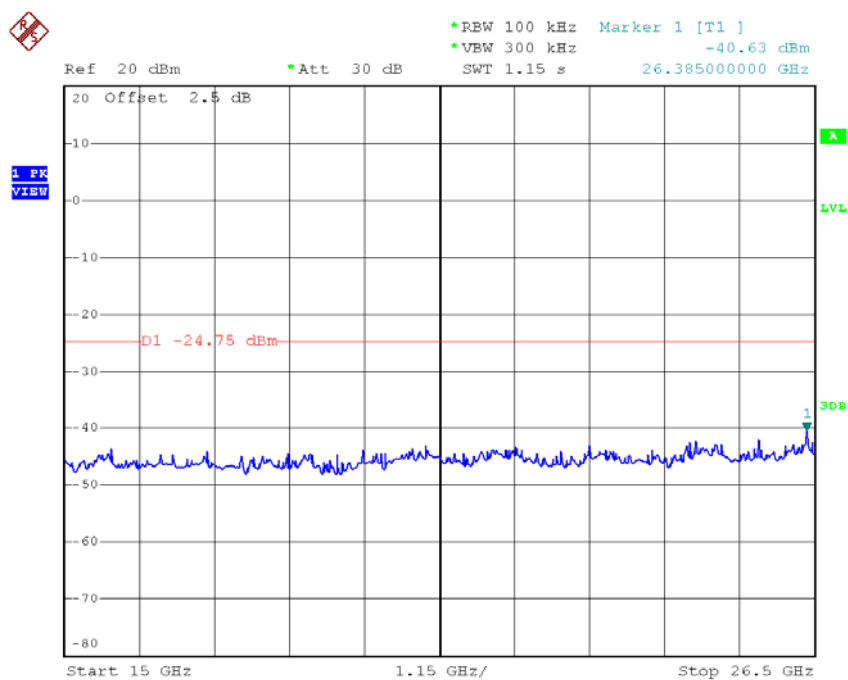
### TX HT20 mode CH11 (10 Harmonic of the frequency)



Date: 24.NOV.2016 16:52:06



Date: 24.NOV.2016 16:52:14



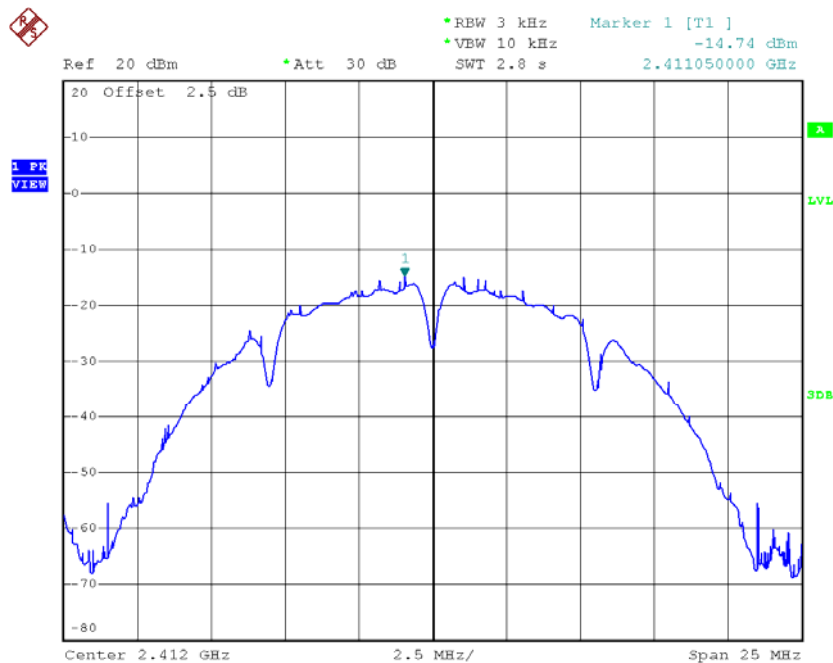
Date: 24.NOV.2016 16:52:23

## ATTACHMENT H - POWER SPECTRAL DENSITY

**Test Mode :TX B MODE CHANNEL 01/06/11**

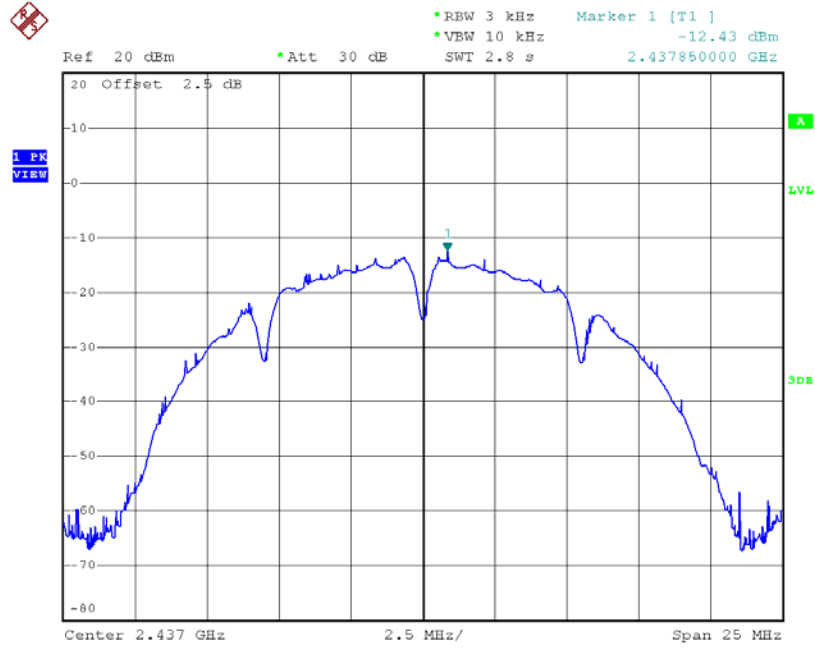
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-14.74	0.0336	8.00	Complies
2437	-12.43	0.0571	8.00	Complies
2462	-12.92	0.0511	8.00	Complies

**TX CH01**



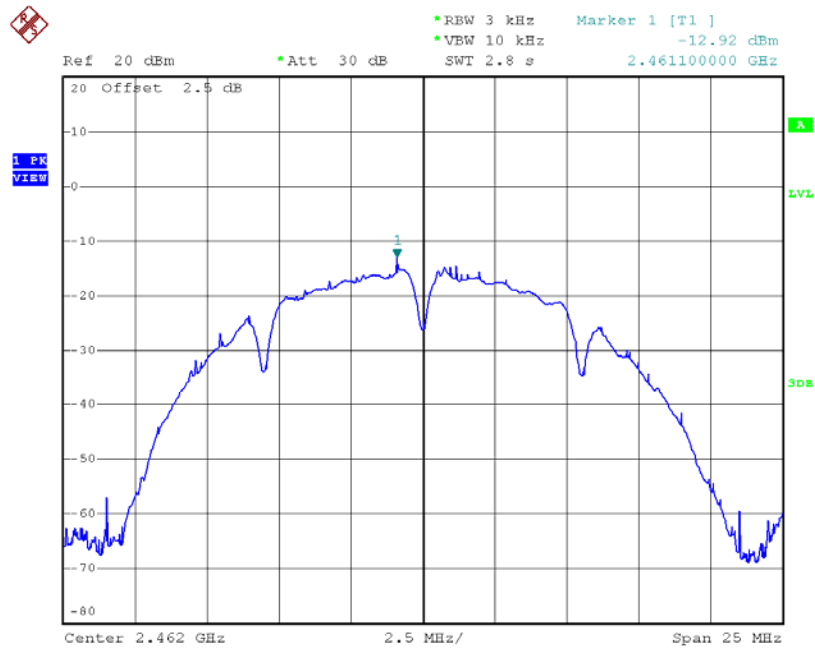
Date: 24.NOV.2016 16:09:17

### TX CH06



Date: 24.NOV.2016 16:11:47

### TX CH11



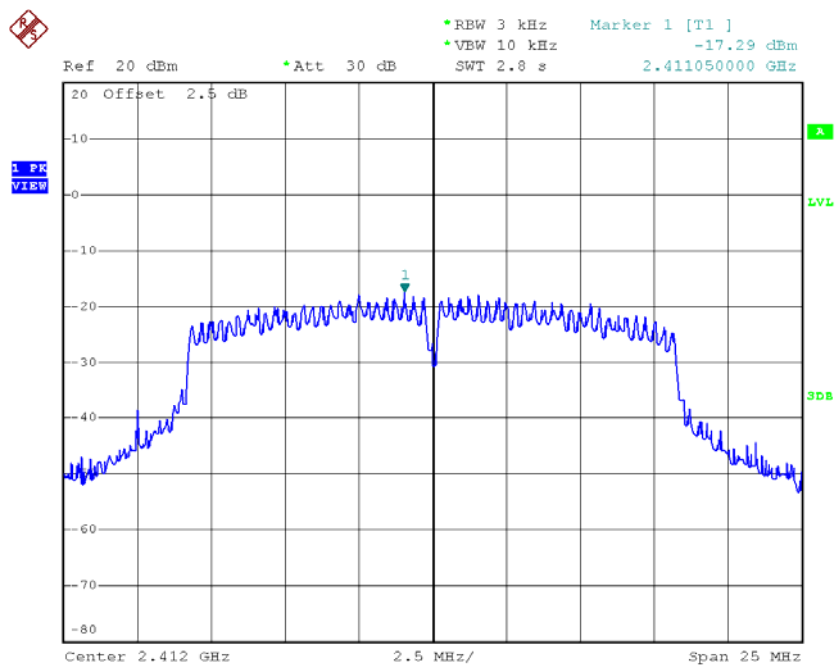
Date: 24.NOV.2016 16:15:43



**Test Mode :TX G MODE CHANNEL 01/06/11**

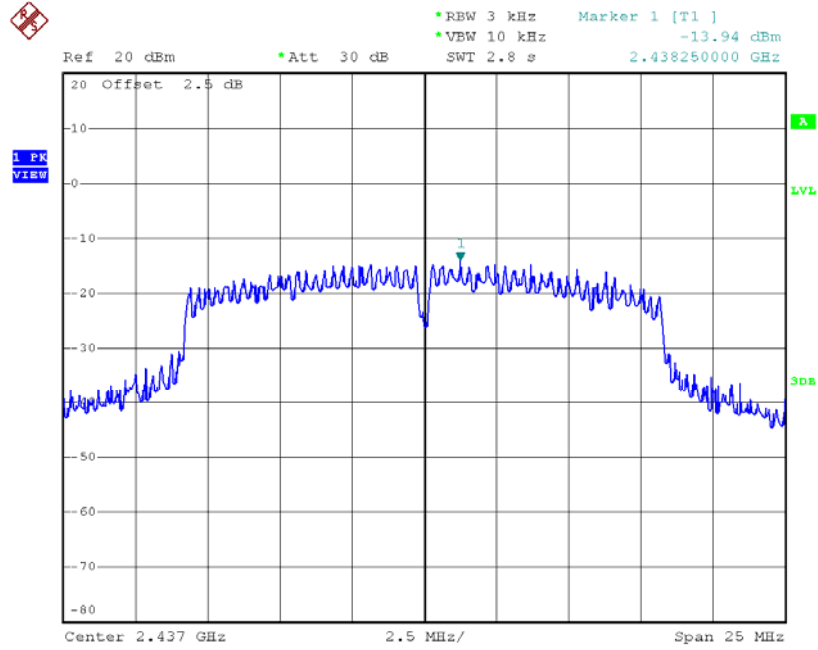
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-17.29	0.0187	8.00	Complies
2437	-13.94	0.0404	8.00	Complies
2462	-16.72	0.0213	8.00	Complies

**TX CH01**



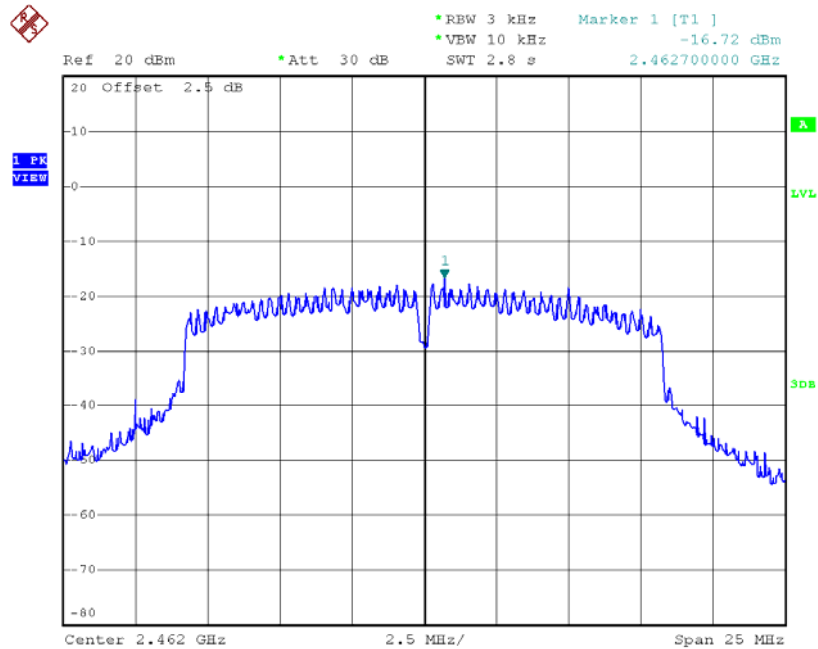
Date: 24.NOV.2016 16:18:29

### TX CH06



Date: 24.NOV.2016 16:30:55

### TX CH11

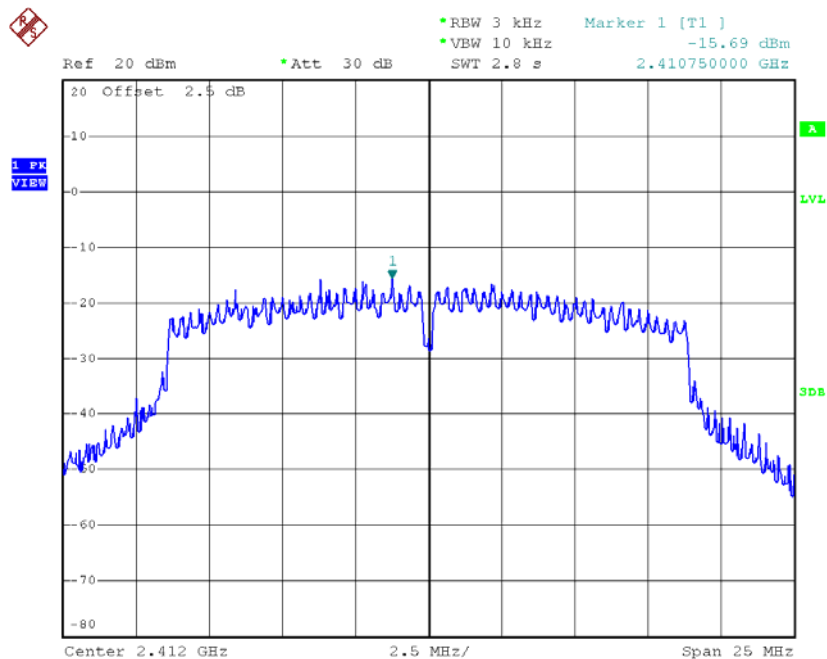


Date: 24.NOV.2016 16:34:55

**Test Mode : TX N-20M MODE CHANNEL 01/06/11**

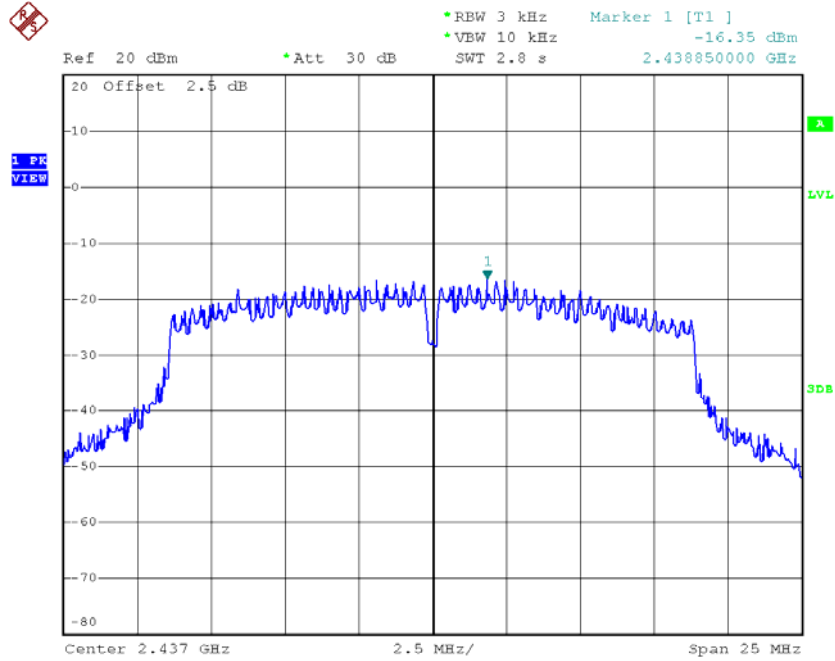
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-15.69	0.0270	8.00	Complies
2437	-16.35	0.0232	8.00	Complies
2462	-18.55	0.0140	8.00	Complies

**TX CH01**



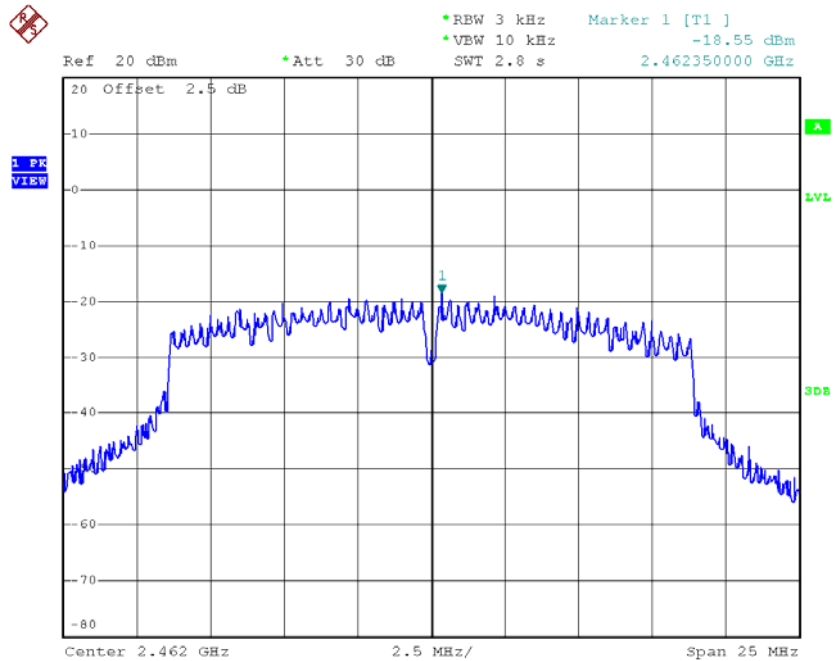
Date: 24.NOV.2016 16:36:52

### TX CH06



Date: 24.NOV.2016 16:50:58

### TX CH11



Date: 24.NOV.2016 16:52:40