

# FCC Radio Test Report

## FCC ID: W59XAP310

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

**Project No.** : 1501C010  
**Equipment** : Standard Power Wireless 300N Low Profile Access Point  
**Model Name** : XAP-310  
**Applicant** : Luxul Wireless  
**Address** : 14203 Minuteman Drive, Suite 201, Draper, UT USA

**Date of Receipt** : Jan. 04, 2015  
**Date of Test** : Jan. 04, 2015 ~ Jan. 16, 2015  
**Issued Date** : Jan. 23, 2015  
**Tested by** : BTL Inc.

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### REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1501C010	Original Issue.	Jan. 23, 2015

## 1. CERTIFICATION

Equipment : Standard Power Wireless 300N Low Profile Access Point  
Brand Name : LUXUL  
Model Name : XAP-310  
Applicant : Luxul Wireless  
Manufacturer : Luxul Wireless  
Address : 14203 Minuteman Drive, Suite 201, Draper, UT USA  
Date of Test : Jan. 04, 2015 ~ Jan. 16, 2015  
Test Sample : ENGINEERING SAMPLE  
Standard(s) : FCC Part15, Subpart C: 2013 (15.247) / ANSI C63.4-2009

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-1-1501C010) 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: 2013			
Standard(s) Section FCC	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) The test follows FCC KDB Publication No. 558074 D01 DTS Meas Guidance v03r02 (Measurement Guidelines of DTS)

## 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

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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)	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	Standard Power Wireless 300N Low Profile Access Point	
Brand Name	LUXUL	
Model Name	XAP-310	
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 300 Mbps
	Output Power (Max.)	802.11b: 19.72 dBm 802.11g: 25.38 dBm 802.11n(20MHz): 26.96 dBm 802.11n(40MHz): 26.86 dBm
Power Source	Supplied from PoE Brand/Model: LUXUL/XPE-1500	
Power Rating	I/P: AC 100-240V 0.6A 50/60Hz O/P: DC 48V 15.4W	

**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) CH03 – CH09 for 802.11n(40MHz)							
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)	Note
1	LUXUL	50000963	PCB	N/A	3.81	TX/RX
2	LUXUL	50001379	PCB	N/A	3.09	TX/RX

Note:

- (1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R), all transmit signals are completely uncorrelated, then, **Direction gain =  $G_{ANT}$** , that is Directional gain=3.81.
- (2) ANT 1 was the worst case for 1TX.

## 4.

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

### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly 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 N-40MHZ MODE CHANNEL 03/06/09
Mode 5	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 5	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
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09

Note:

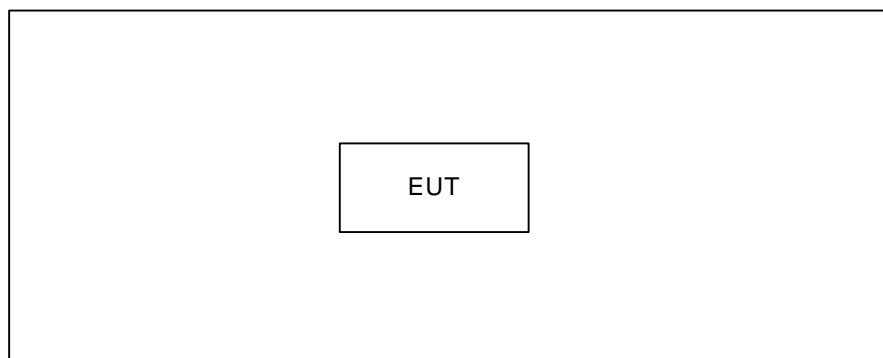
- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)  
802.11g mode: OFDM (6Mbps)  
802.11n HT20 mode : BPSK (13Mbps)  
802.11n HT40 mode : BPSK (27Mbps)  
For radiated emission tests, the highest output powers were set for final test.
- (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	MTool_2.0.1.1		
Frequency (MHz)	2412	2437	2462
802.11b	65	65	65
802.11g	61	65	65
802.11n (20MHz)	55	55	55
Frequency	2422	2437	2452
802.11n (40MHz)	46	55	55

### 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/IC	Series No.	Note
-	-	-	-	-	-	

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	

## 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.	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

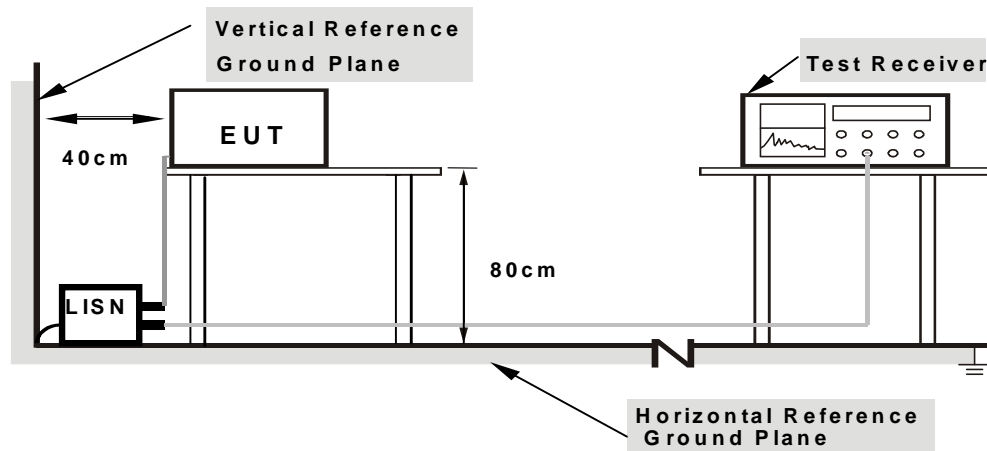
#### 4.1.2 TEST PROCEDURE

- 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 configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

#### 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

20dB 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.

#### 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)	(dBuV/m) (at 3 meters)	
	PEAK	AVERAGE
Above 1000	74	54

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	RBW 1MHz VBW 3MHz peak detector for Pk value RMS detector for AV value



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

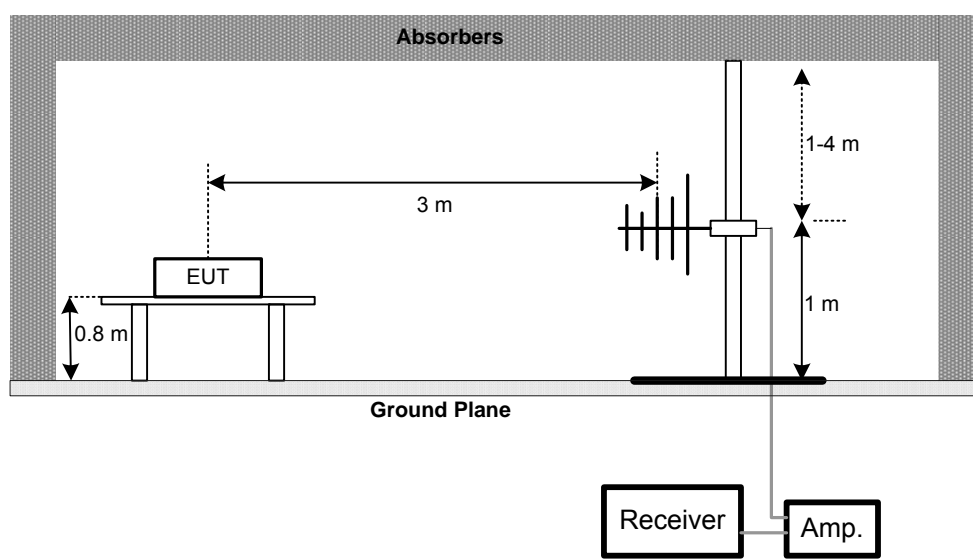
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 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

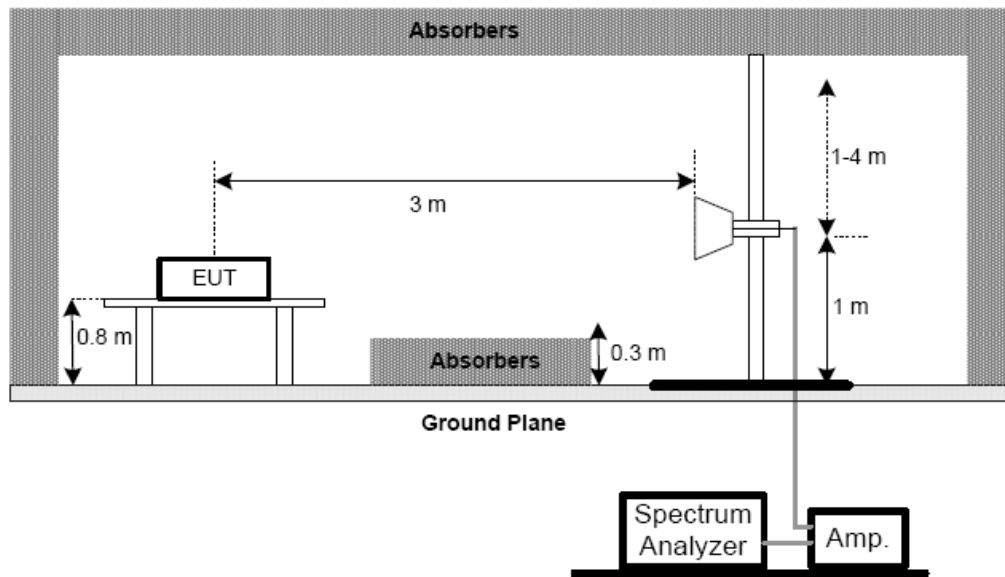
No deviation

#### 4.2.4 TEST SETUP

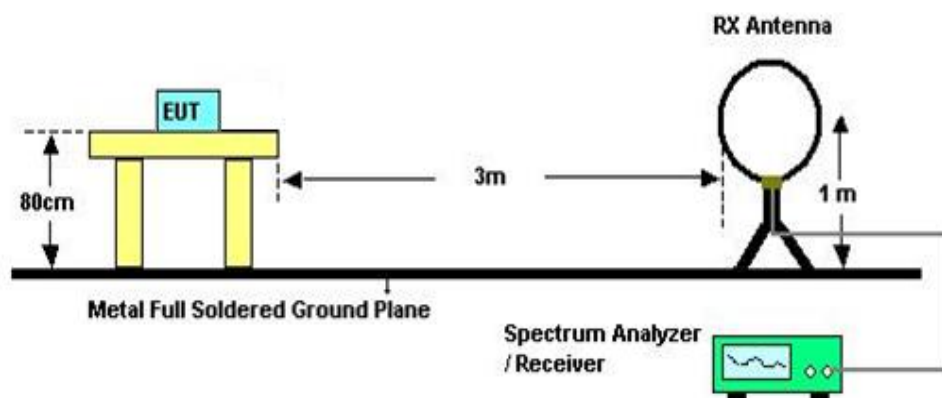
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For radiated emissions below 30MHz



#### 4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.5 Unless** otherwise a special operating condition is specified in the follows during the testing.

#### 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 (BETWEEN 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

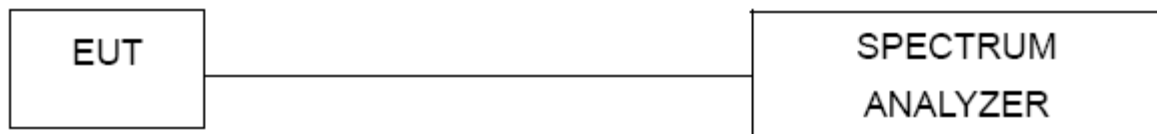
#### 5.1.1 TEST PROCEDURE

- 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 tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 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 v03r02.

#### 6.1.2 DEVIATION FROM STANDARD

No deviation.

#### 6.1.3 TEST SETUP



#### 6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing. Transmit output power was measured while the host equipment supply voltage was varied from 85 % to 115 % of the nominal rated supply voltage. No change in transmit output power was observed.

#### 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 intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

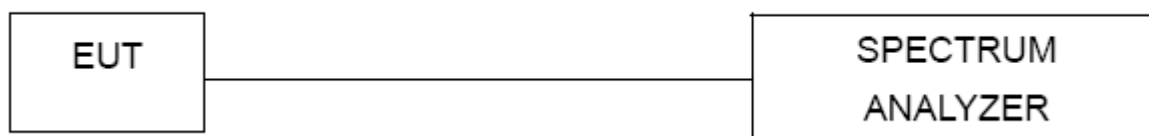
#### 7.1.1 TEST PROCEDURE

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

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

#### 7.1.3 TEST SETUP



#### 7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 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 tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 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	00052765	Mar. 29, 2015
2	LISN	R&S	ENV216	101447	Mar. 29, 2015
3	Test Cable	N/A	C_17	N/A	Mar. 14, 2015
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	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	Antenna	ETS	3115	00075789	Mar. 29, 2015
6	Amplifier	Agilent	8449B	3008A02274	Mar. 29, 2015
7	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
8	Test Cable	HUBER+SUHNER	C-48	N/A	Apr. 30, 2015
9	Controller	CT	SC100	N/A	N/A
10	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Feb. 22, 2015
11	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Feb. 22, 2015
12	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Mar. 29, 2015
13	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	Nov. 02, 2015

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	power Meter	ANRITSU	ML2495A	1128009	May. 29, 2015
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	May. 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

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

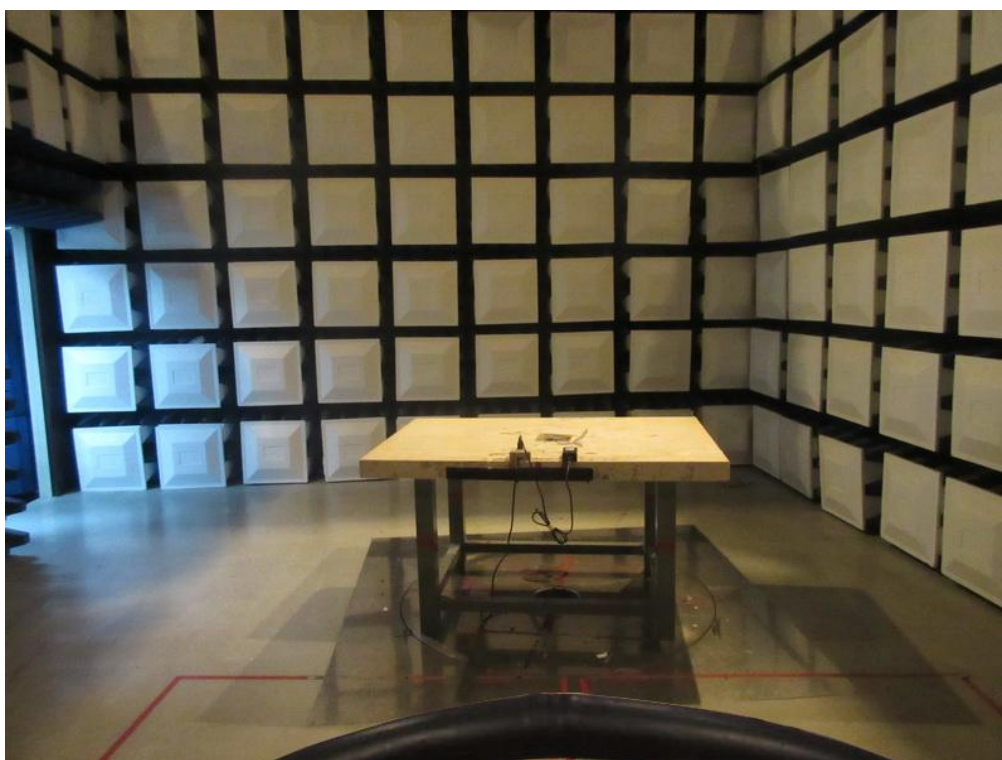
## 10. EUT TEST PHOTO

### Conducted Measurement Photos



## Radiated Measurement Photos

9KHz to 30MHz



## Radiated Measurement Photos

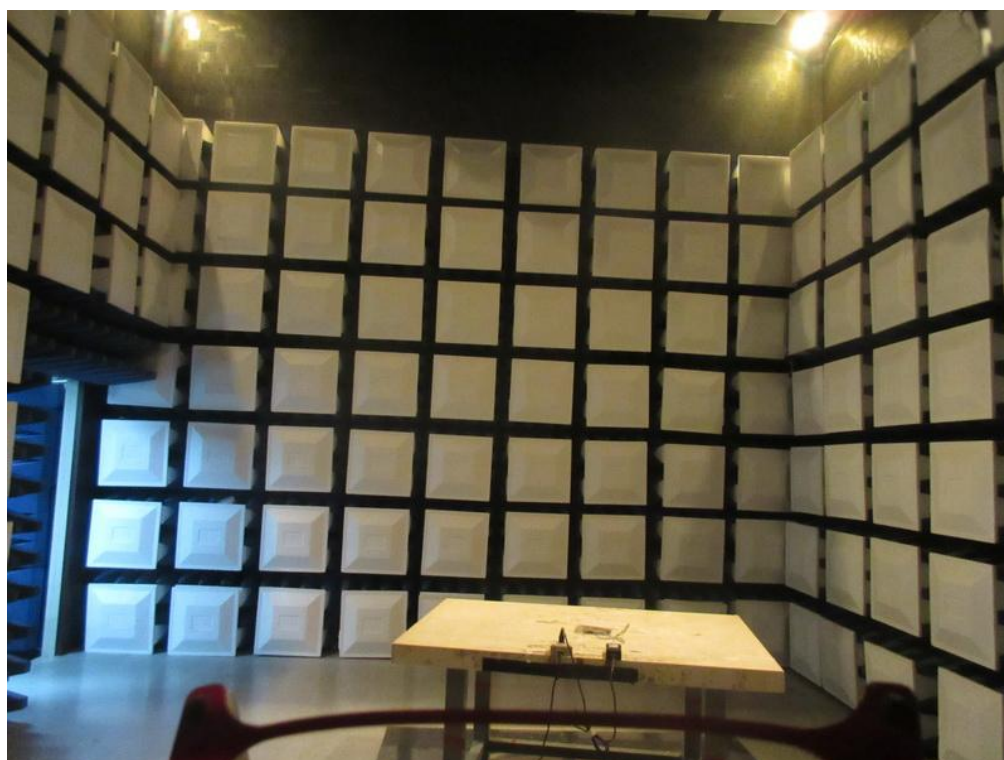
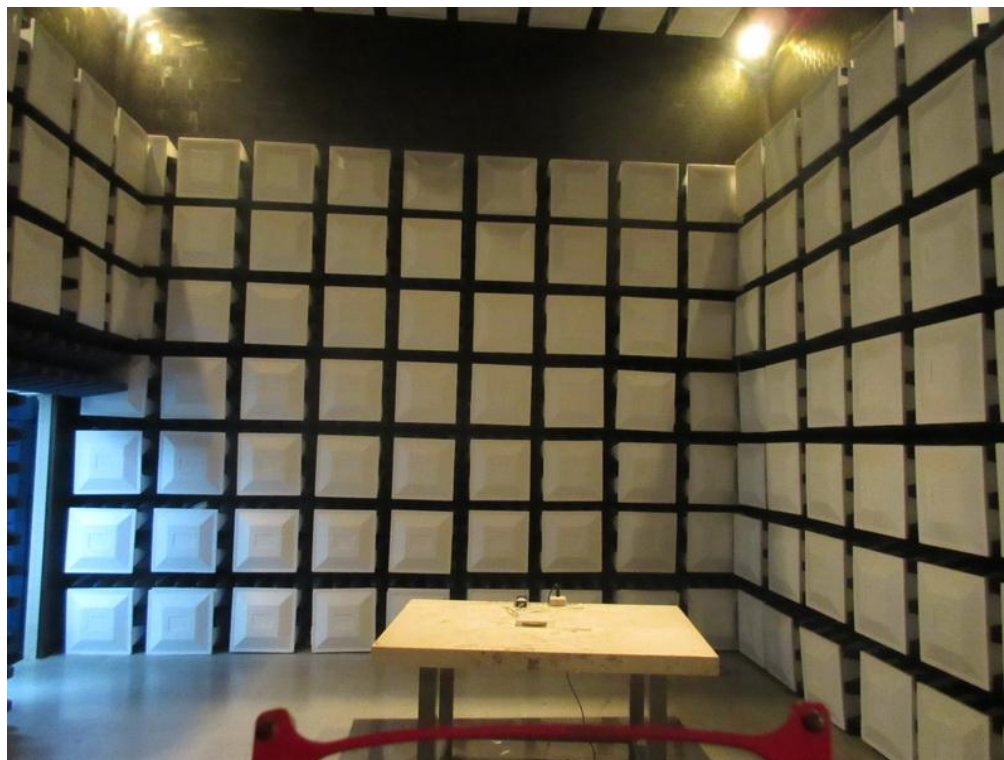
30MHz to 1000MHz





## Radiated Measurement Photos

Above 1000MHz



## **ATTACHMENT A - CONDUCTED EMISSION**

Test Mode : TX MODE

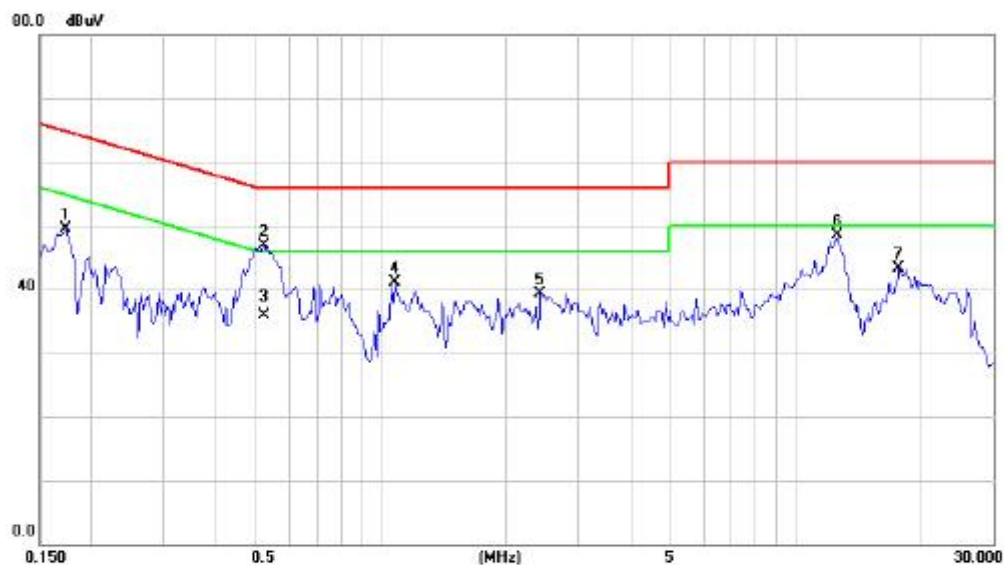
# Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1734	39.75	9.58	49.33	64.80	-15.47	peak	
2		0.5523	38.19	9.58	47.77	56.00	-8.23	peak	
3	*	0.5523	28.36	9.58	37.94	46.00	-8.06	AVG	
4		1.4898	29.75	9.61	39.36	56.00	-16.64	peak	
5		3.3515	30.39	9.65	40.04	56.00	-15.96	peak	
6		12.6445	38.66	9.87	48.53	60.00	-11.47	peak	
7		18.3085	34.28	10.00	44.28	60.00	-15.72	peak	

Test Mode : TX MODE

# Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1734	40.03	9.49	49.52	64.80	-15.28	peak	
2	*	0.5210	37.33	9.63	46.96	56.00	-9.04	peak	
3		0.5210	26.18	9.63	35.81	46.00	-10.19	AVG	
4		1.0796	31.54	9.63	41.17	56.00	-14.83	peak	
5		2.4312	29.68	9.61	39.29	56.00	-16.71	peak	
6		12.6640	38.68	9.84	48.52	60.00	-11.48	peak	
7		17.8045	33.28	9.97	43.25	60.00	-16.75	peak	



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

Test Mode: TX Mode 2412MHz

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit(QP) (dBuV/m)	Margin (dB)	Note
0.0069	0°	12.38	25.13	37.51	110.83	-73.32	AVG
0.0069	0°	14.11	25.13	39.24	130.83	-91.59	PEAK
0.0156	0°	5.17	24.58	29.75	103.74	-73.99	AVG
0.0156	0°	7.68	24.58	32.26	123.74	-91.48	PEAK
0.0283	0°	3.72	23.77	27.49	98.57	-71.07	AVG
0.0283	0°	5.47	23.77	29.24	118.57	-89.32	PEAK
0.0349	0°	0.82	23.36	24.18	96.75	-72.57	AVG
0.0349	0°	2.64	23.36	26.00	116.75	-90.75	PEAK
0.4810	0°	30.17	19.85	50.02	73.96	-23.95	QP
1.7620	0°	21.47	19.52	40.99	69.54	-28.55	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit(QP) (dBuV/m)	Margin (dB)	Note
0.0071	90°	12.17	24.30	36.47	130.58	-94.11	AVG
0.0071	90°	14.28	24.30	38.58	150.58	-112.00	PEAK
0.0362	90°	6.27	23.27	29.54	116.43	-86.89	AVG
0.0362	90°	8.11	23.27	31.38	136.43	-105.05	PEAK
0.0439	90°	3.38	22.79	26.17	114.75	-88.59	AVG
0.0439	90°	5.87	22.79	28.66	134.75	-106.10	PEAK
0.0491	90°	0.86	22.46	23.32	113.78	-90.47	AVG
0.0491	90°	2.65	22.46	25.11	133.78	-108.68	PEAK
0.4950	90°	30.27	19.81	50.08	73.71	-23.63	QP
1.8730	90°	21.63	19.51	41.14	69.54	-28.40	QP

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

Test Mode: TX B MODE CHANNEL 01

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	115.3600	49.02	-14.71	34.31	43.50	-9.19	peak	
2		169.6800	43.91	-12.78	31.13	43.50	-12.37	peak	
3		450.0100	36.84	-8.62	28.22	46.00	-17.78	peak	
4		600.3600	35.66	-7.89	27.77	46.00	-18.23	peak	
5		670.2000	32.23	-5.06	27.17	46.00	-18.83	peak	
6		843.8300	30.31	-3.12	27.19	46.00	-18.81	peak	

Test Mode: TX B MODE CHANNEL 01

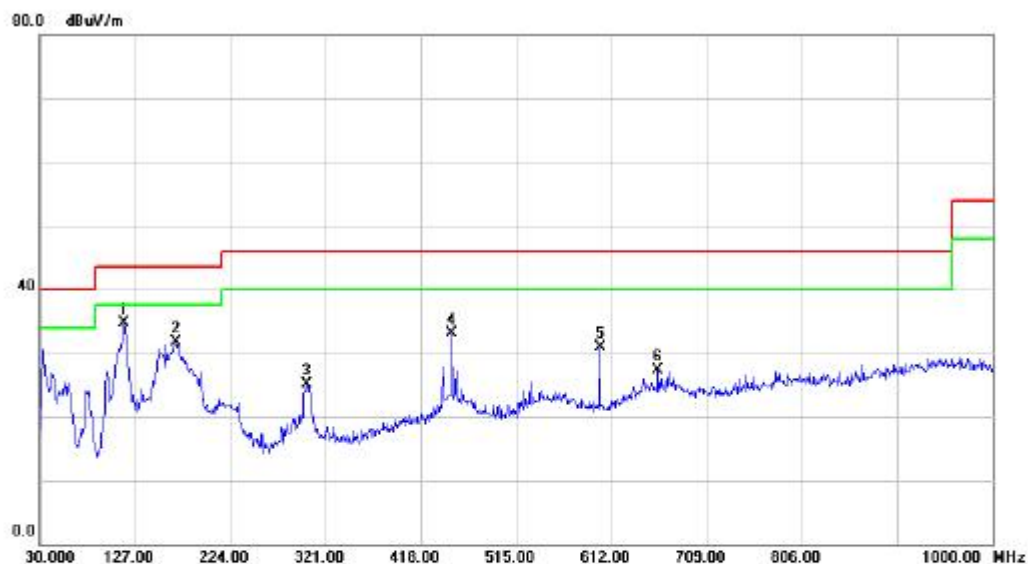
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		150.2800	39.86	-13.20	26.66	43.50	-16.84	peak	
2		191.9900	42.27	-14.48	27.79	43.50	-15.71	peak	
3	*	299.6600	42.02	-10.99	31.03	46.00	-14.97	peak	
4		366.5900	38.99	-11.03	27.96	46.00	-18.04	peak	
5		450.0100	38.81	-8.62	30.19	46.00	-15.81	peak	
6		800.1800	30.45	-2.89	27.56	46.00	-18.44	peak	

Test Mode: TX B MODE CHANNEL 06

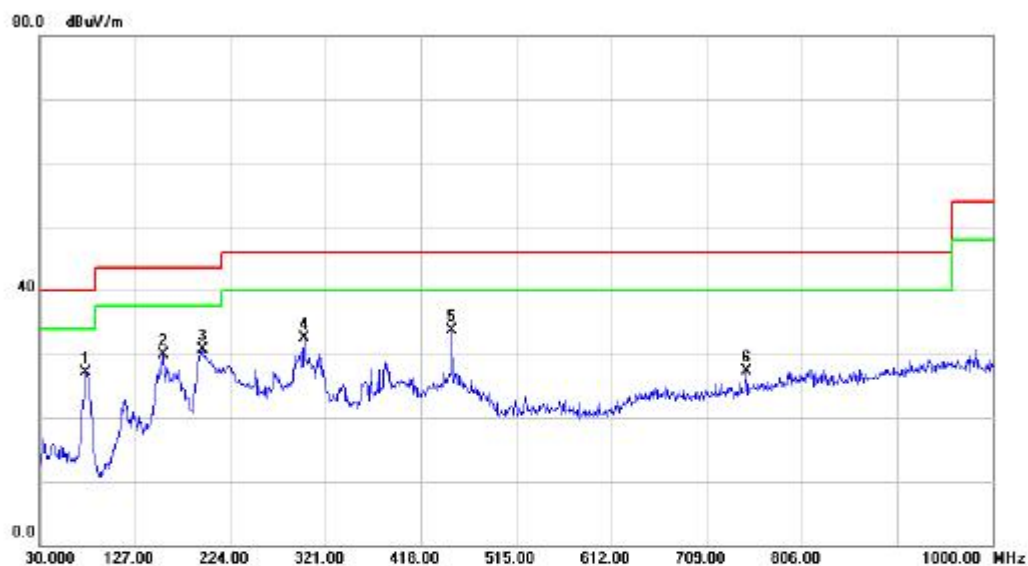
# Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	116.3300	49.23	-14.59	34.64	43.50	-8.86	peak	
2		168.7100	44.57	-12.89	31.68	43.50	-11.82	peak	
3		302.5700	36.16	-11.03	25.13	46.00	-20.87	peak	
4		450.0100	41.71	-8.62	33.09	46.00	-12.91	peak	
5		600.3600	38.75	-7.89	30.86	46.00	-15.14	peak	
6		659.5300	32.40	-5.11	27.29	46.00	-18.71	peak	

Test Mode: TX B MODE CHANNEL 06

### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		77.5300	44.06	-16.87	27.19	40.00	-12.81	peak	
2		156.1000	43.53	-13.62	29.91	43.50	-13.59	peak	
3		195.8700	45.39	-14.73	30.66	43.50	-12.84	peak	
4		299.6600	43.53	-10.99	32.54	46.00	-13.46	peak	
5	*	450.0100	42.30	-8.62	33.68	46.00	-12.32	peak	
6		749.7400	32.02	-4.63	27.39	46.00	-18.61	peak	

Test Mode: TX B MODE CHANNEL 11

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	117.3000	50.69	-14.50	36.19	43.50	-7.31	peak	
2		159.0100	46.12	-13.81	32.31	43.50	-11.19	peak	
3		288.9900	34.12	-11.29	22.83	46.00	-23.17	peak	
4		450.0100	40.12	-8.62	31.50	46.00	-14.50	peak	
5		600.3600	36.78	-7.89	28.89	46.00	-17.11	peak	
6		749.7400	38.29	-4.63	33.66	46.00	-12.34	peak	



Test Mode: TX B MODE CHANNEL 11

# Horizontal

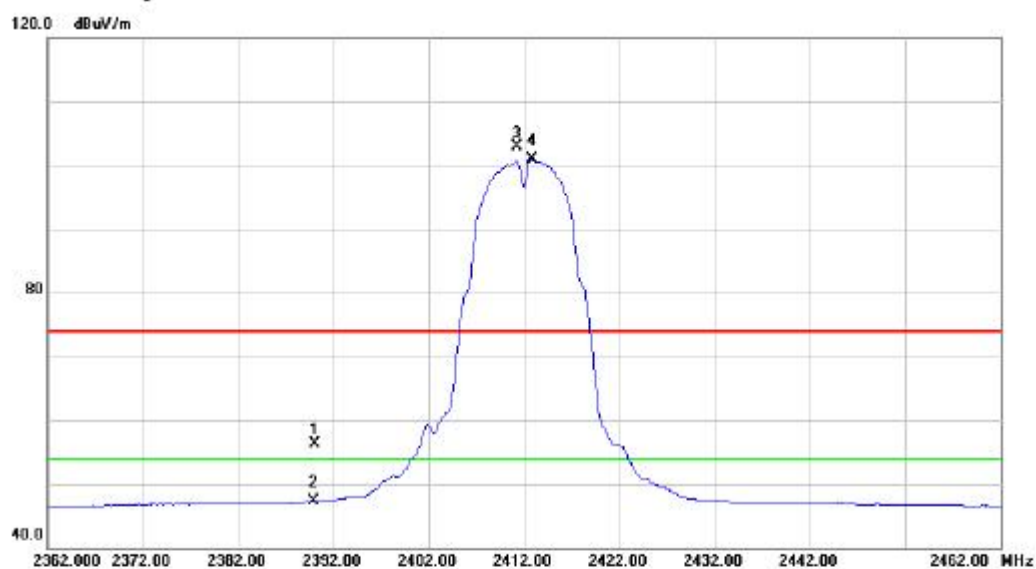


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		116.3300	44.78	-14.59	30.19	43.50	-13.31	peak	
2		150.2800	42.67	-13.20	29.47	43.50	-14.03	peak	
3	*	191.9900	46.04	-14.48	31.56	43.50	-11.94	peak	
4		307.4200	44.43	-11.11	33.32	46.00	-12.68	peak	
5		450.0100	42.55	-8.62	33.93	46.00	-12.07	peak	
6		670.2000	34.80	-5.06	29.74	46.00	-16.26	peak	

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

Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

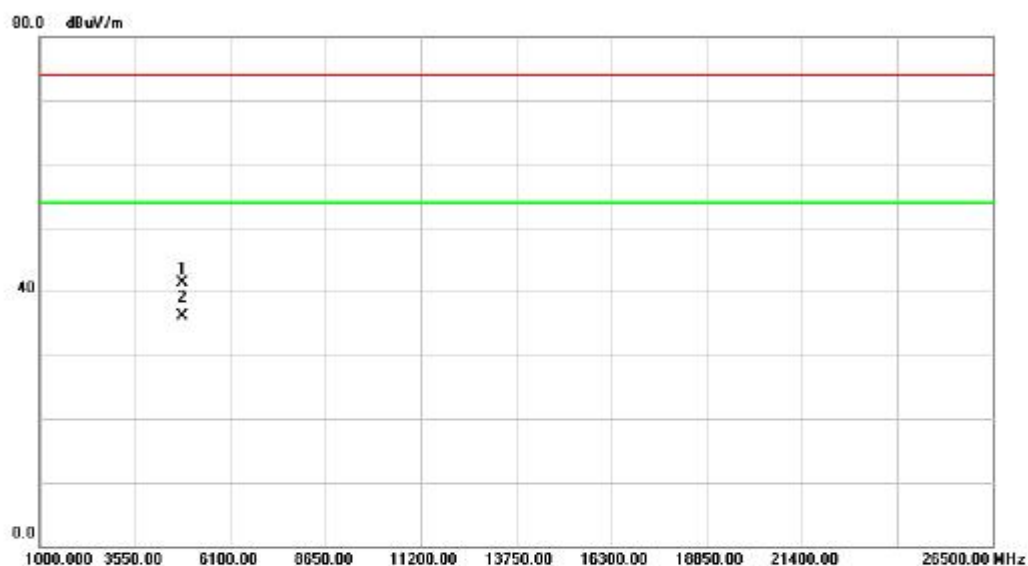
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	24.44	31.88	56.32	74.00	-17.68	peak	
2		2390.000	15.40	31.88	47.28	54.00	-6.72	A/VG	
3	X	2411.200	70.94	31.91	102.85	74.00	28.85	peak	no limit
4	*	2412.800	68.98	31.91	100.89	54.00	46.89	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

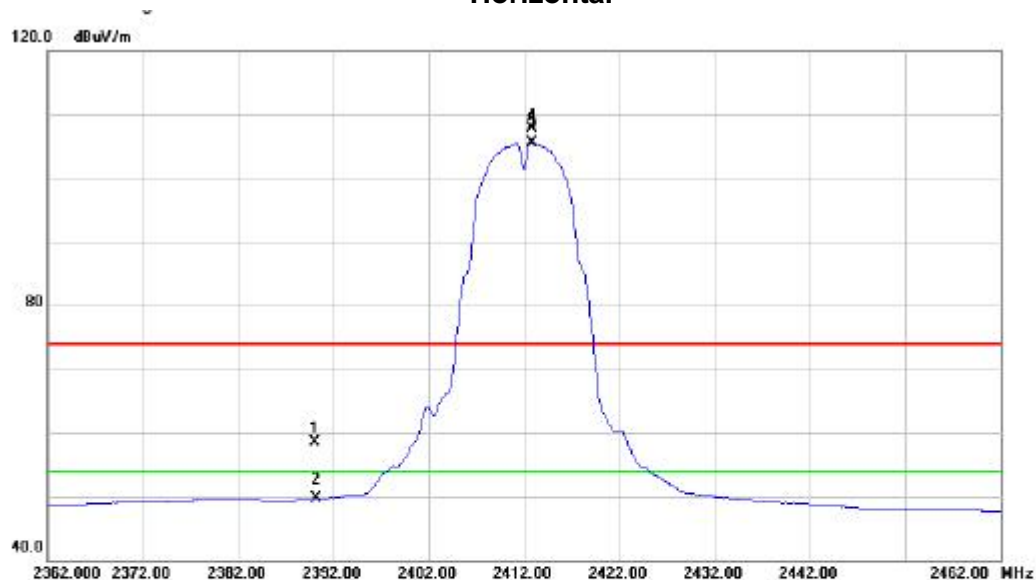
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	37.68	3.62	41.30	74.00	-32.70	peak	
2	*	4824.000	32.55	3.62	36.17	54.00	-17.83	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

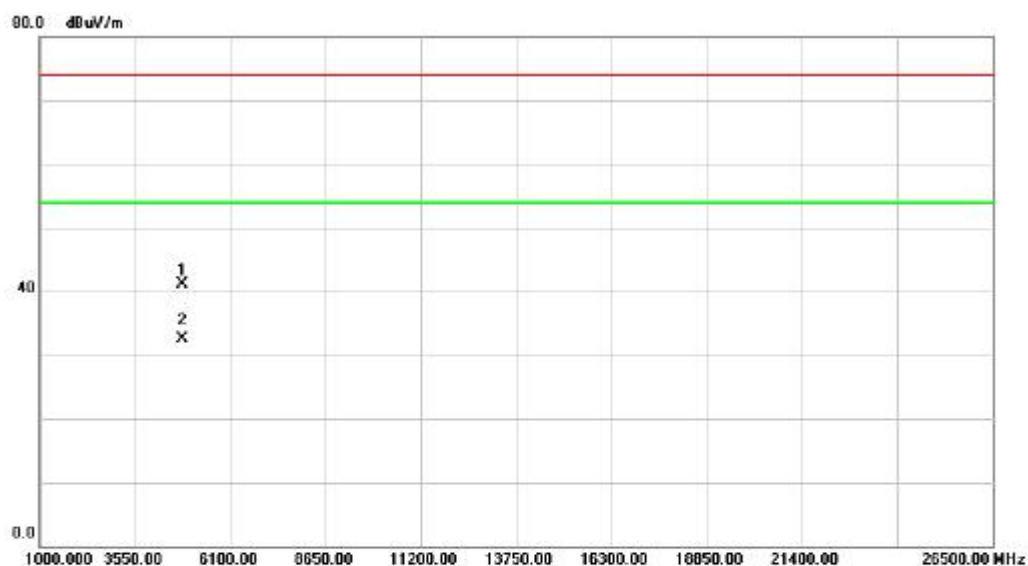
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	26.53	31.88	58.41	74.00	-15.59	peak	
2		2390.000	17.74	31.88	49.62	54.00	-4.38	AVG	
3	*	2412.800	73.64	31.91	105.55	54.00	51.55	AVG	no limit
4	X	2412.900	75.87	31.91	107.78	74.00	33.78	peak	no limit

Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

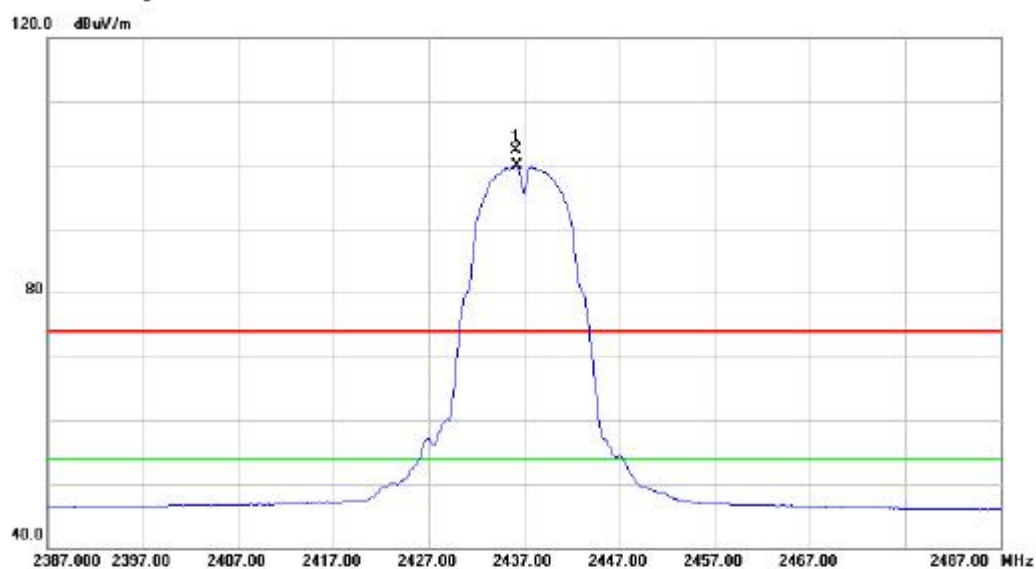
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.100	37.41	3.62	41.03	74.00	-32.97	peak	
2	*	4824.100	28.85	3.62	32.47	54.00	-21.53	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz

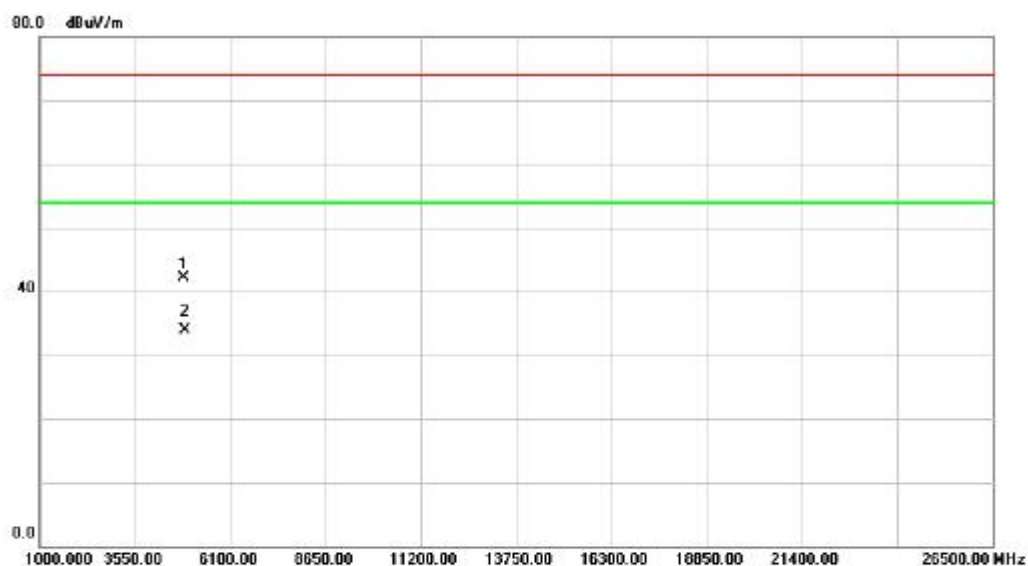
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2436.100	70.27	31.94	102.21	74.00	28.21	peak	no limit
2	*	2436.200	67.98	31.94	99.92	54.00	45.92	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz

### Vertical

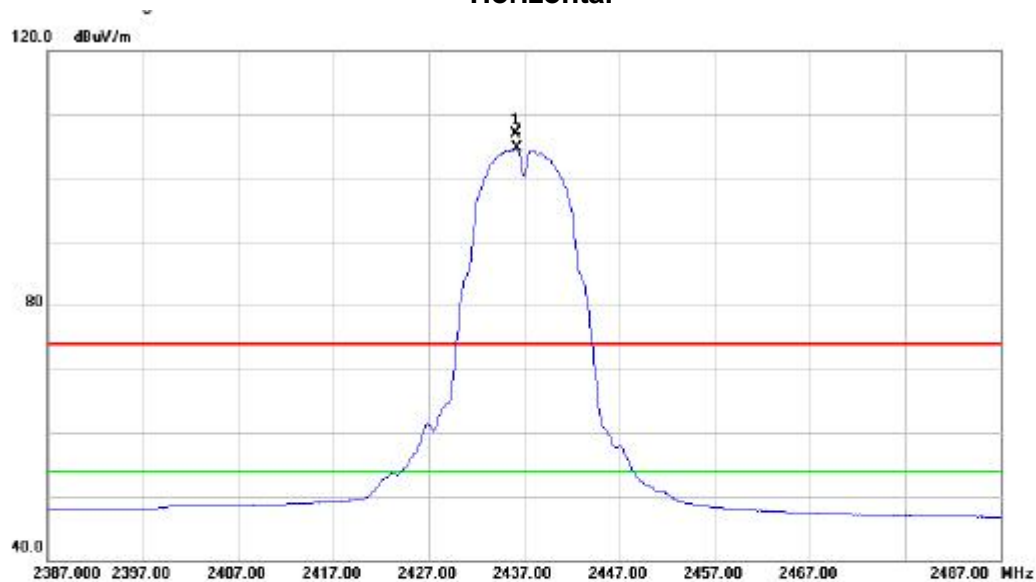


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	38.33	3.72	42.05	74.00	-31.95	peak	
2	*	4874.000	30.11	3.72	33.83	54.00	-20.17	AVG	



Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz

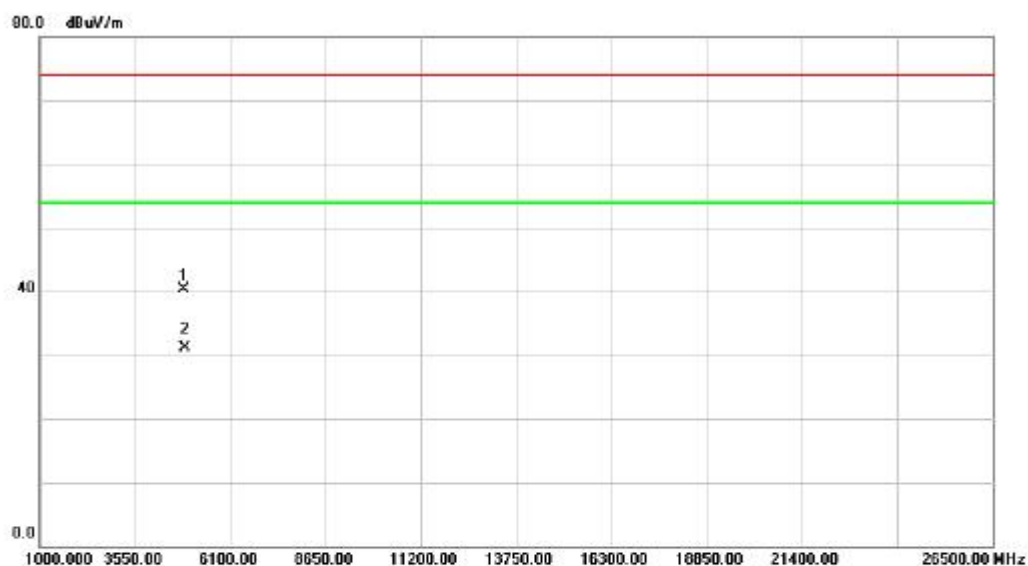
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2436.100	75.03	31.94	106.97	74.00	32.97	peak	no limit
2	*	2436.200	72.75	31.94	104.69	54.00	50.69	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz

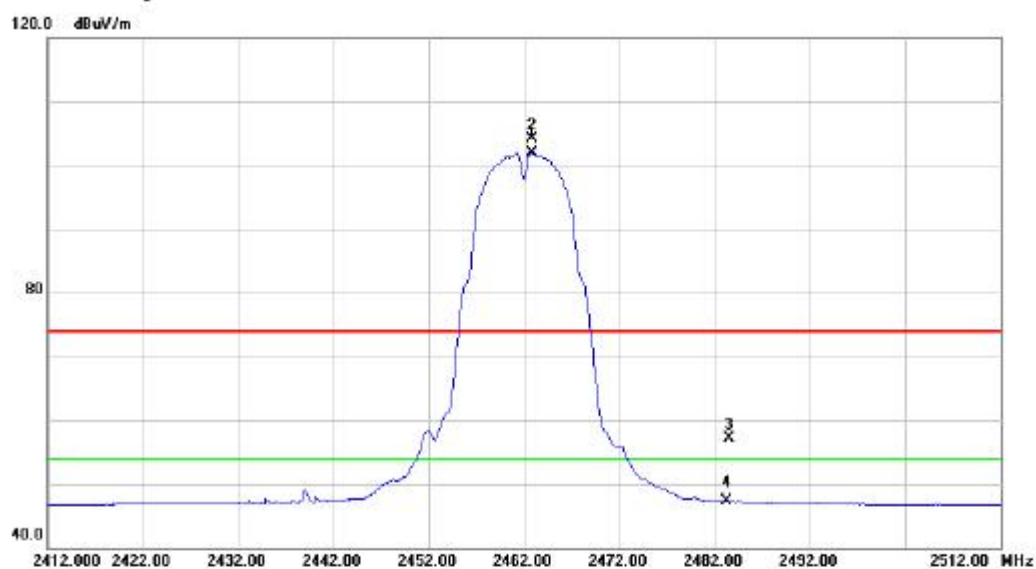
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.050	36.51	3.72	40.23	74.00	-33.77	peak	
2	*	4874.050	27.30	3.72	31.02	54.00	-22.98	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2462.800	69.92	31.98	101.90	54.00	47.90	AVG	no limit
2	X	2462.900	72.16	31.98	104.14	74.00	30.14	peak	no limit
3		2483.500	25.00	32.01	57.01	74.00	-16.99	peak	
4		2483.500	15.28	32.01	47.29	54.00	-6.71	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

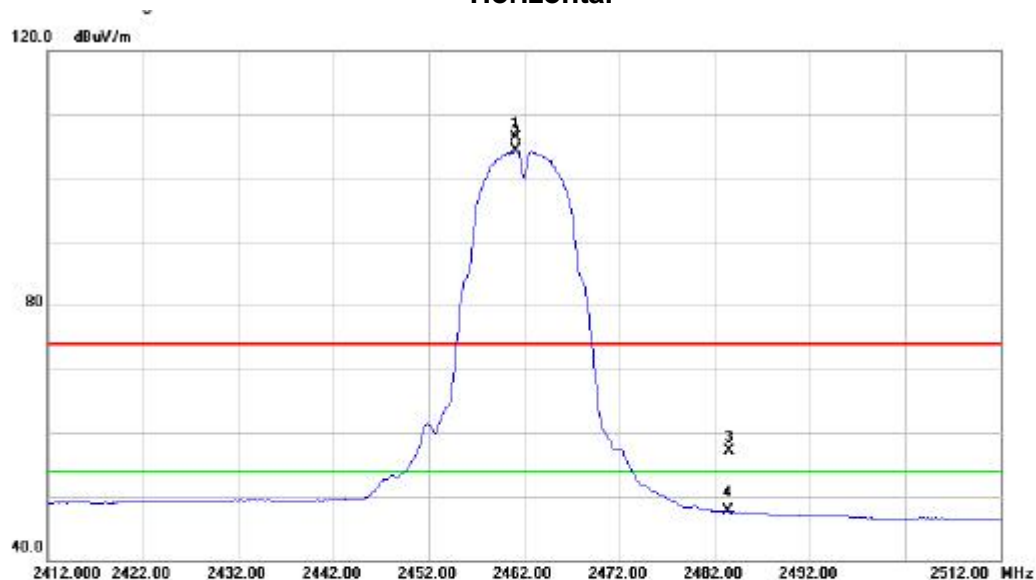
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	40.20	3.80	44.00	74.00	-30.00	peak	
2	*	4924.000	33.24	3.80	37.04	54.00	-16.96	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

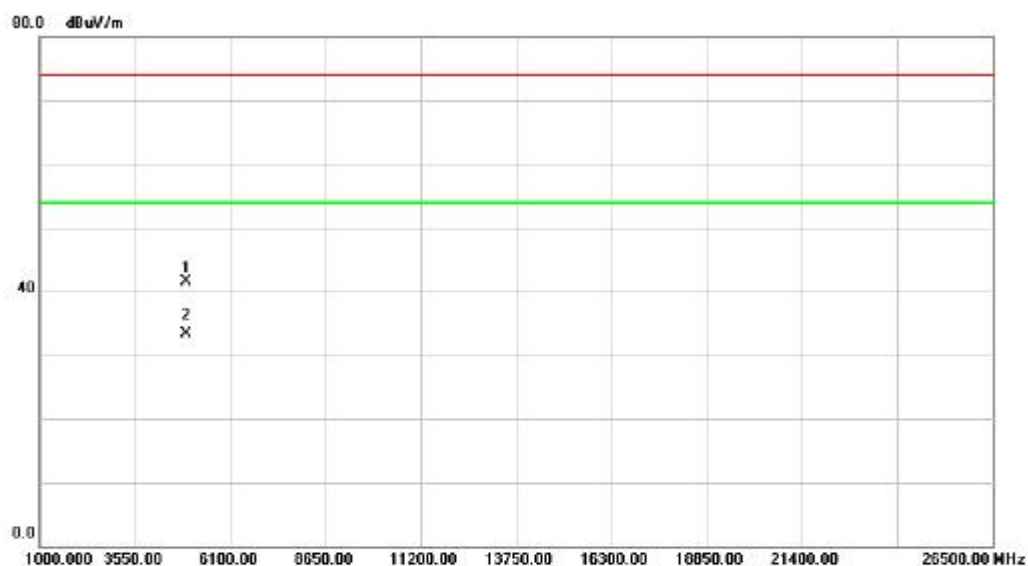
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2461.100	74.42	31.98	106.40	74.00	32.40	peak	no limit
2	*	2461.100	72.35	31.98	104.33	54.00	50.33	AVG	no limit
3		2483.500	25.10	32.01	57.11	74.00	-16.89	peak	
4		2483.500	15.64	32.01	47.65	54.00	-6.35	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

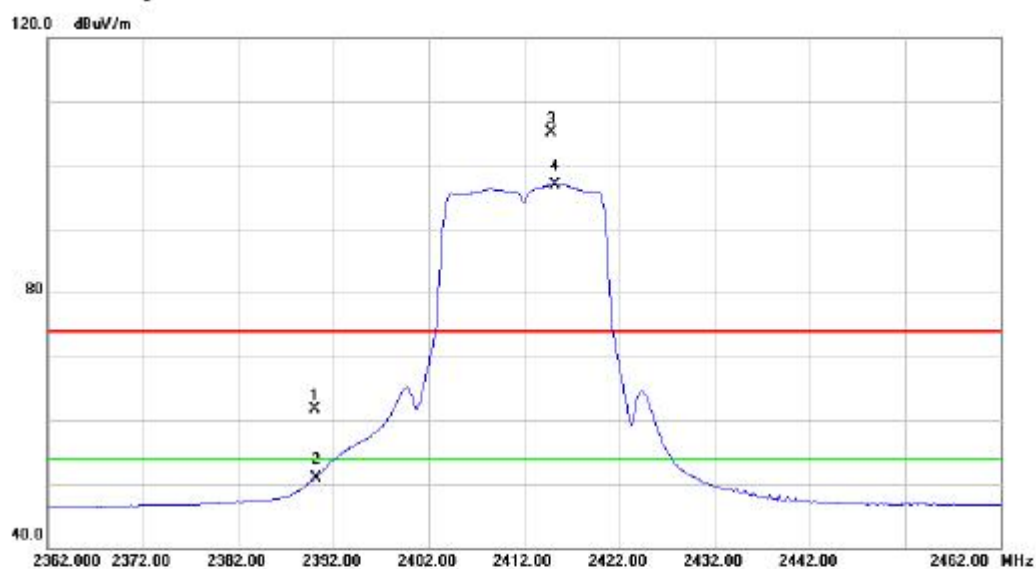
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	37.77	3.80	41.57	74.00	-32.43	peak	
2	*	4924.000	29.45	3.80	33.25	54.00	-20.75	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz

### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	29.77	31.88	61.65	74.00	-12.35	peak	
2		2390.000	19.11	31.88	50.99	54.00	-3.01	A/VG	
3	X	2414.900	73.25	31.91	105.16	74.00	31.16	peak	no limit
4	*	2415.200	65.08	31.91	96.99	54.00	42.99	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz

### Vertical

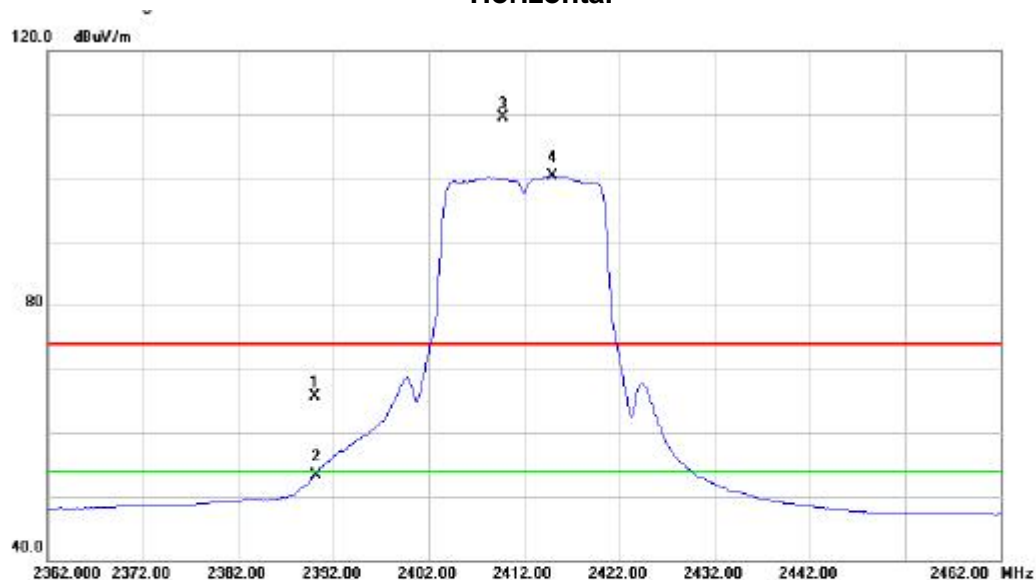


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.100	35.33	3.62	38.95	74.00	-35.05	peak	
2	*	4824.100	29.91	3.62	33.53	54.00	-20.47	AVG	



Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz

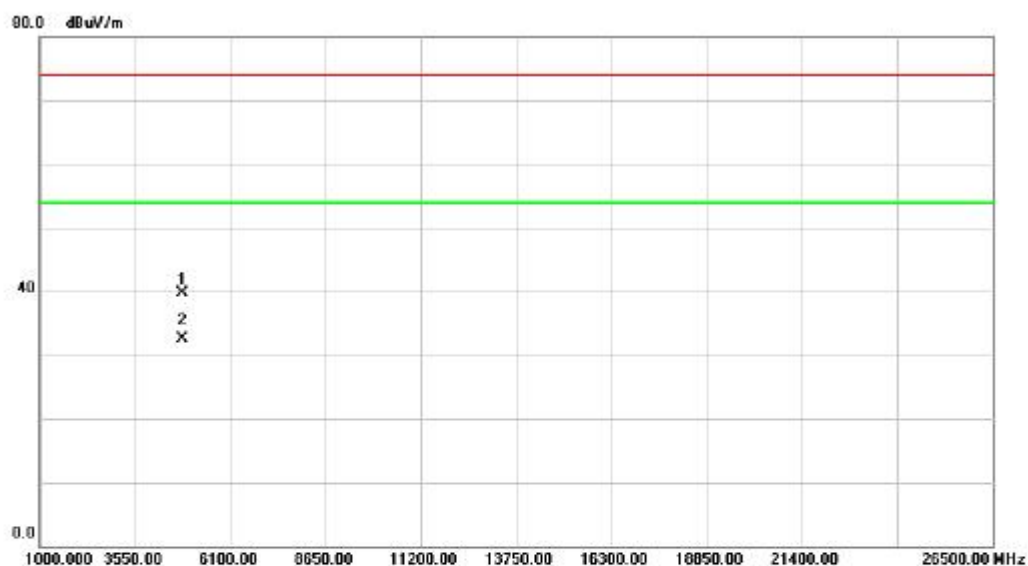
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	33.86	31.88	65.74	74.00	-8.26	peak	
2		2390.000	21.51	31.88	53.39	54.00	-0.61	AVG	
3	X	2409.800	77.63	31.91	109.54	74.00	35.54	peak	no limit
4	*	2415.000	68.40	31.91	100.31	54.00	46.31	AVG	no limit

Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz

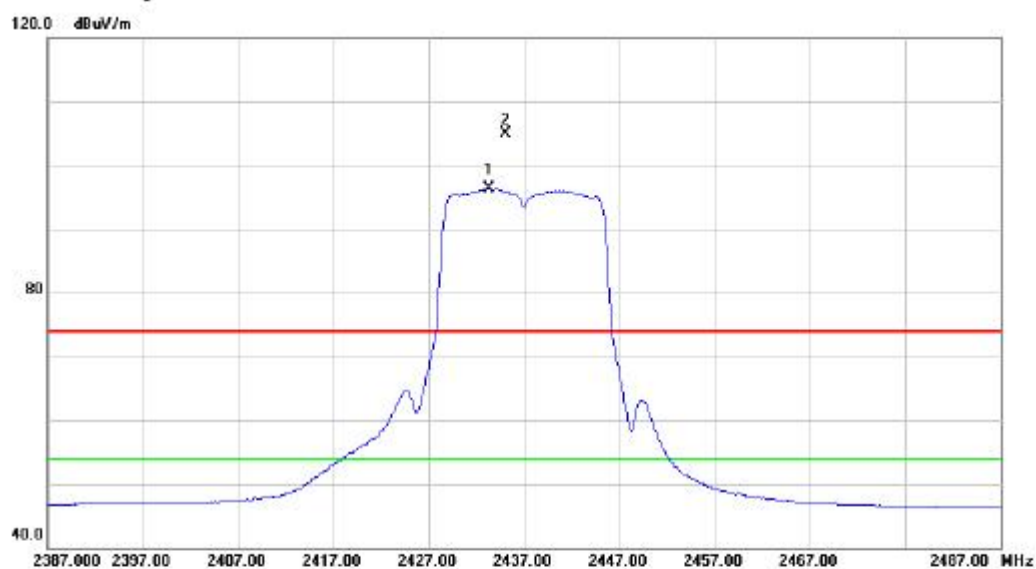
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.100	36.00	3.62	39.62	74.00	-34.38	peak	
2	*	4824.100	28.81	3.62	32.43	54.00	-21.57	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

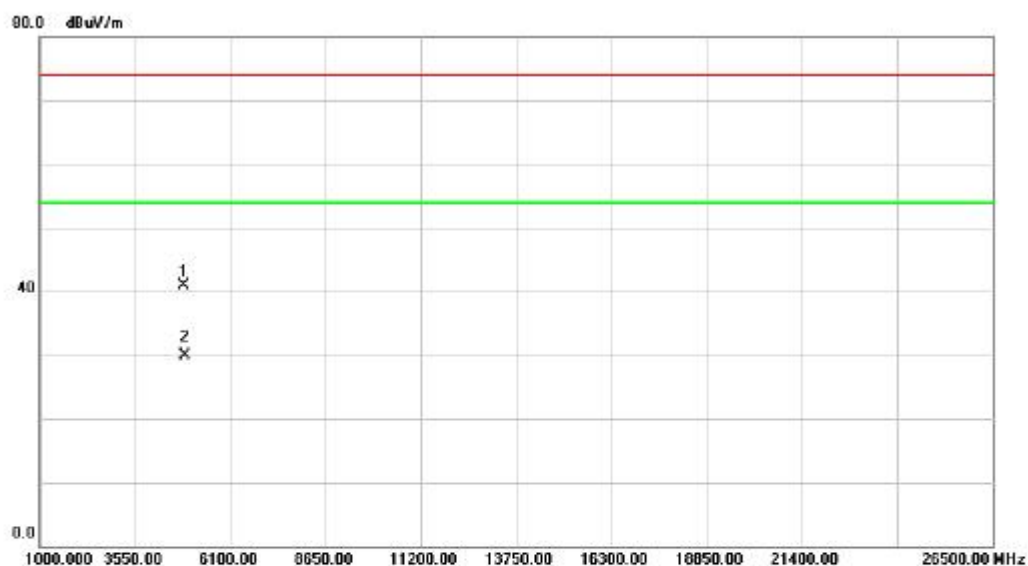
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2433.300	64.44	31.94	96.38	54.00	42.38	A/VG	no limit
2	X	2435.100	72.94	31.94	104.88	74.00	30.88	peak	no limit

Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

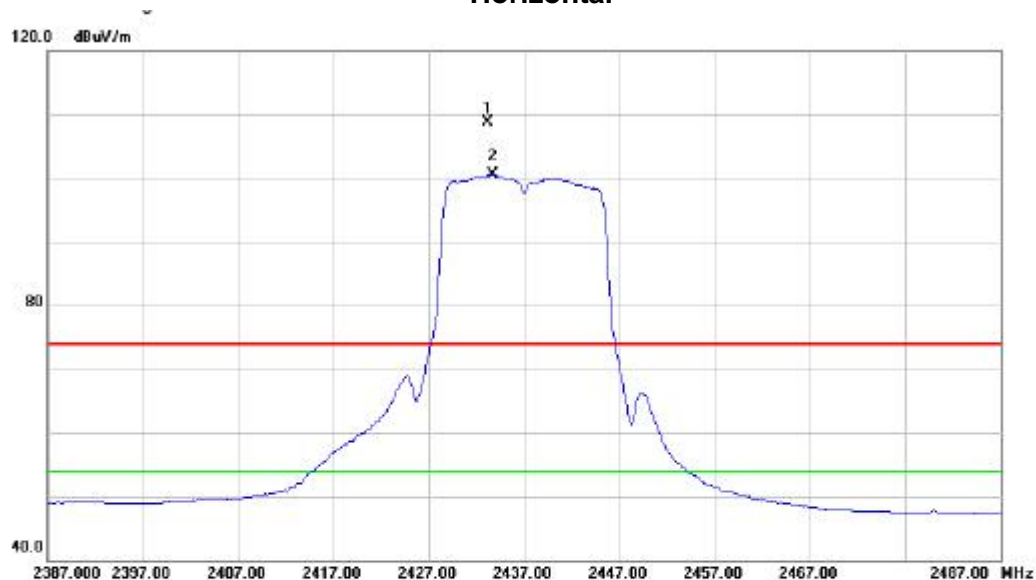
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4873.950	37.24	3.72	40.96	74.00	-33.04	peak	
2	*	4873.950	26.15	3.72	29.87	54.00	-24.13	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

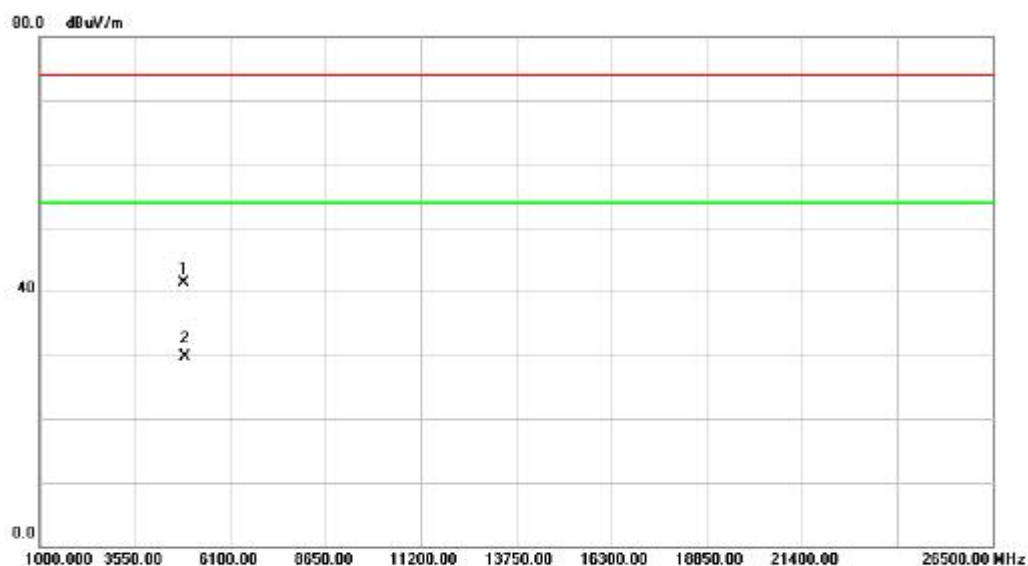
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2433.200	76.83	31.94	108.77	74.00	34.77	peak	no limit
2	*	2433.700	68.65	31.94	100.59	54.00	46.59	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

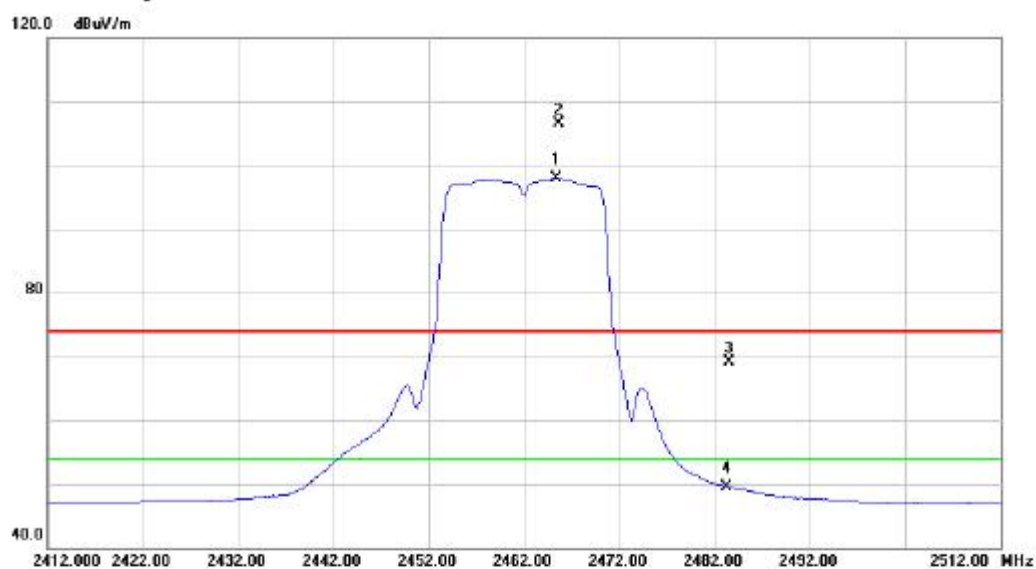
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4873.950	37.62	3.72	41.34	74.00	-32.66	peak	
2	*	4873.950	26.05	3.72	29.77	54.00	-24.23	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz

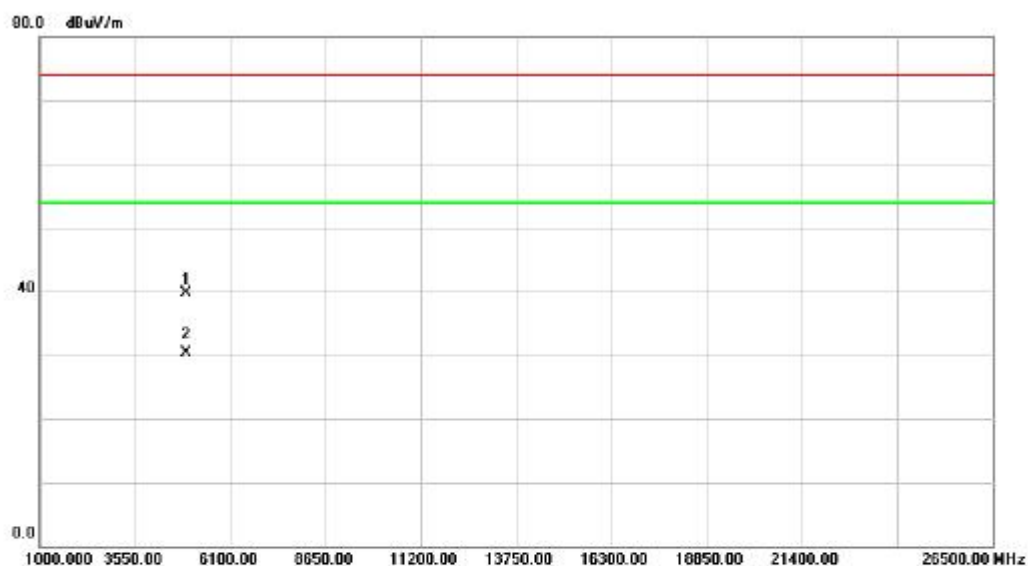
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2465.400	65.88	31.98	97.86	54.00	43.86	AVG	no limit
2	X	2465.700	74.52	31.98	106.50	74.00	32.50	peak	no limit
3		2483.500	37.07	32.01	69.08	74.00	-4.92	peak	
4		2483.500	17.55	32.01	49.56	54.00	-4.44	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz

### Vertical

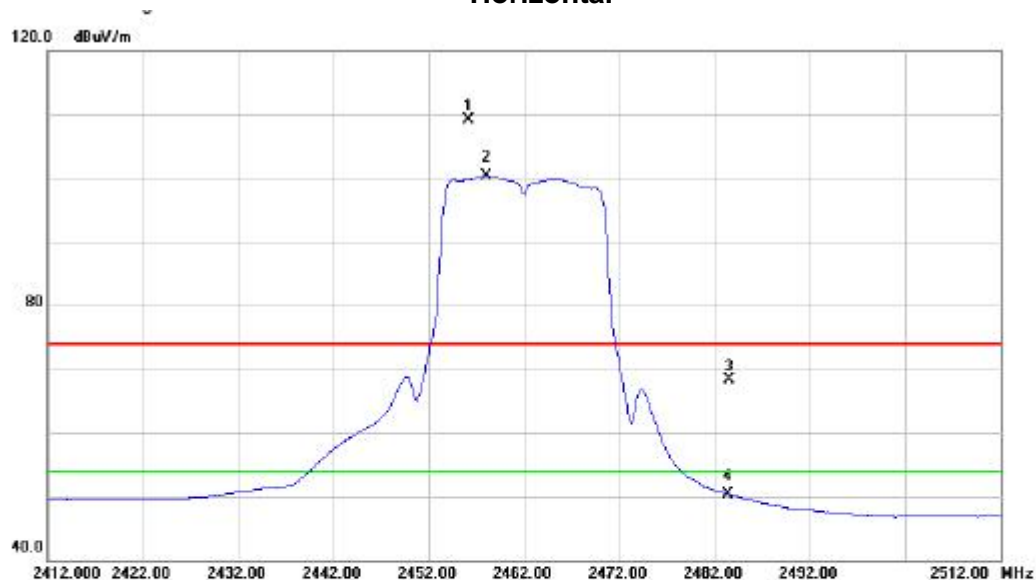


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.250	35.83	3.80	39.63	74.00	-34.37	peak	
2	*	4924.250	26.43	3.80	30.23	54.00	-23.77	AVG	



Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz

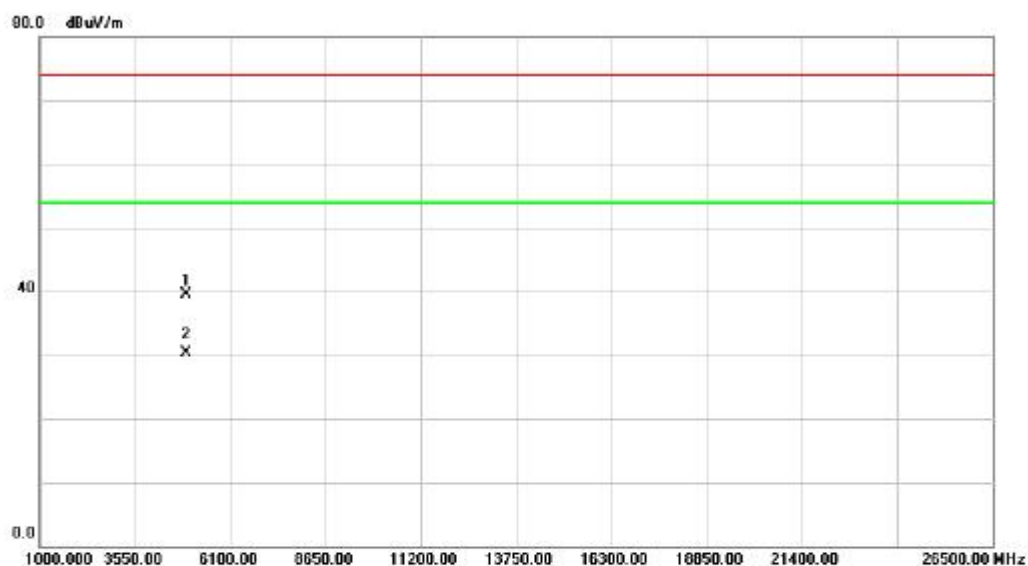
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2456.200	77.08	31.96	109.04	74.00	35.04	peak	no limit
2	*	2458.100	68.27	31.98	100.25	54.00	46.25	AVG	no limit
3		2483.500	36.35	32.01	68.36	74.00	-5.64	peak	
4		2483.500	18.38	32.01	50.39	54.00	-3.61	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz

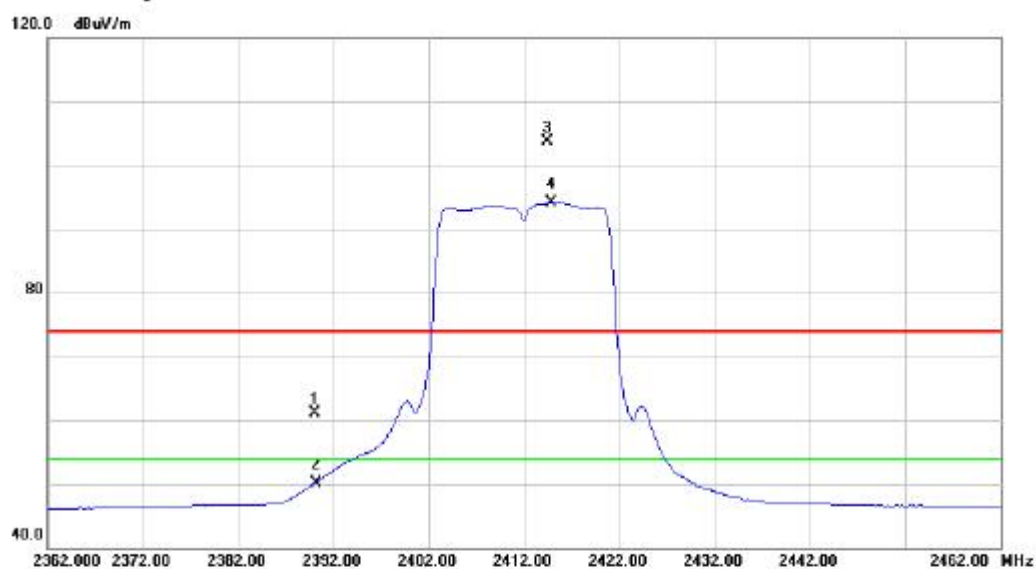
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.650	35.65	3.80	39.45	74.00	-34.55	peak	
2	*	4924.650	26.48	3.80	30.28	54.00	-23.72	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz

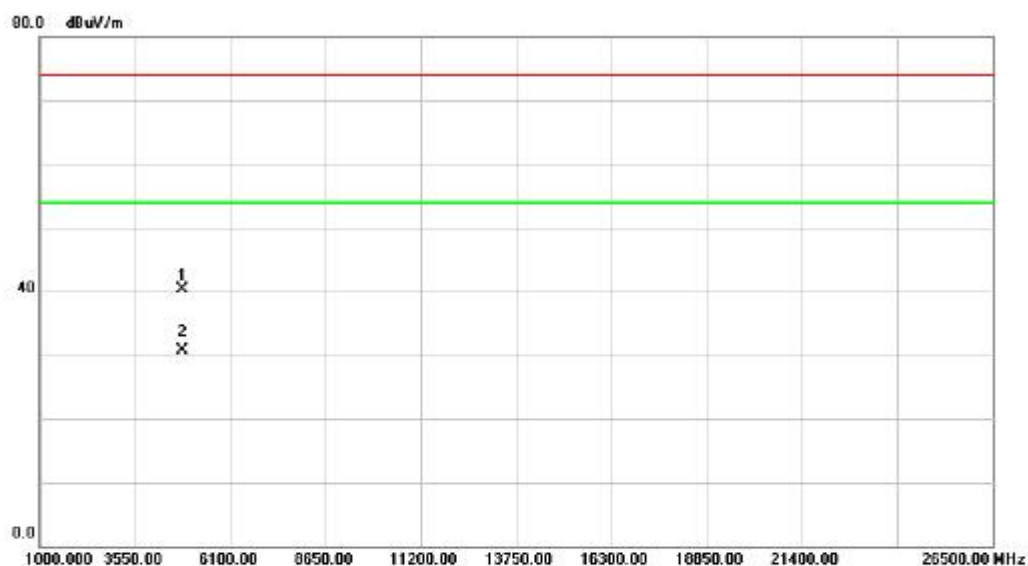
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	29.18	31.88	61.06	74.00	-12.94	peak	
2		2390.000	18.25	31.88	50.13	54.00	-3.87	A/VG	
3	X	2414.500	71.73	31.91	103.64	74.00	29.64	peak	no limit
4	*	2414.800	62.29	31.91	94.20	54.00	40.20	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz

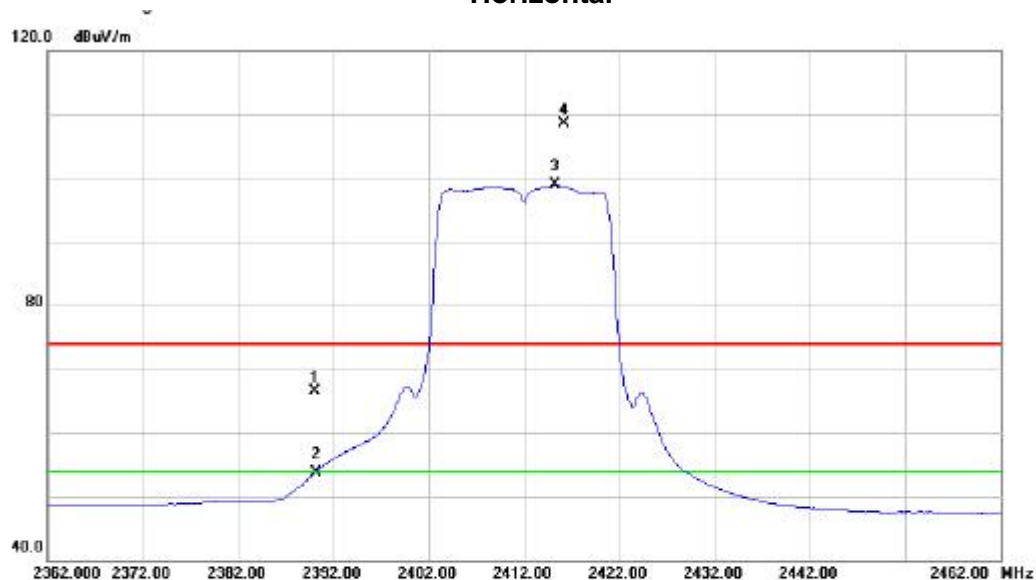
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.050	36.78	3.62	40.40	74.00	-33.60	peak	
2	*	4824.050	27.12	3.62	30.74	54.00	-23.26	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz

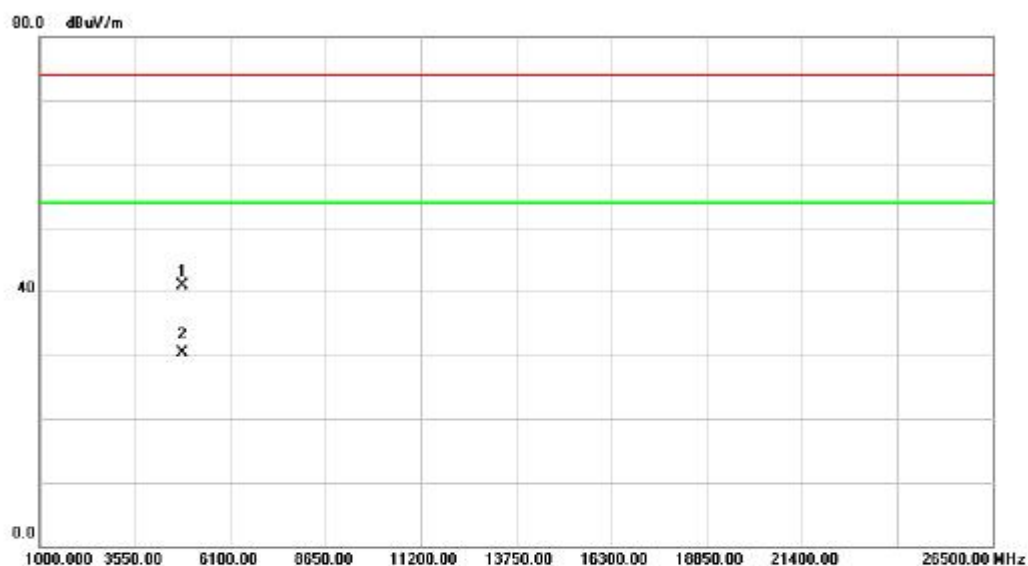
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	34.59	31.88	66.47	74.00	-7.53	peak	
2		2390.000	21.74	31.88	53.62	54.00	-0.38	AVG	
3	*	2415.300	66.92	31.91	98.83	54.00	44.83	AVG	no limit
4	X	2416.200	76.57	31.91	108.48	74.00	34.48	peak	no limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz

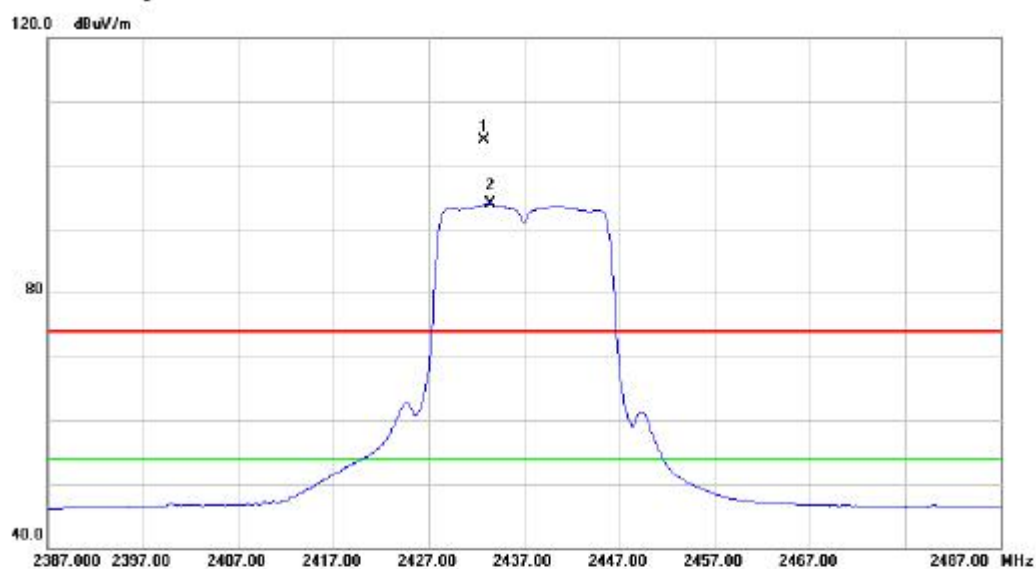
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4823.050	37.34	3.62	40.96	74.00	-33.04	peak	
2	*	4823.050	26.76	3.62	30.38	54.00	-23.62	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz

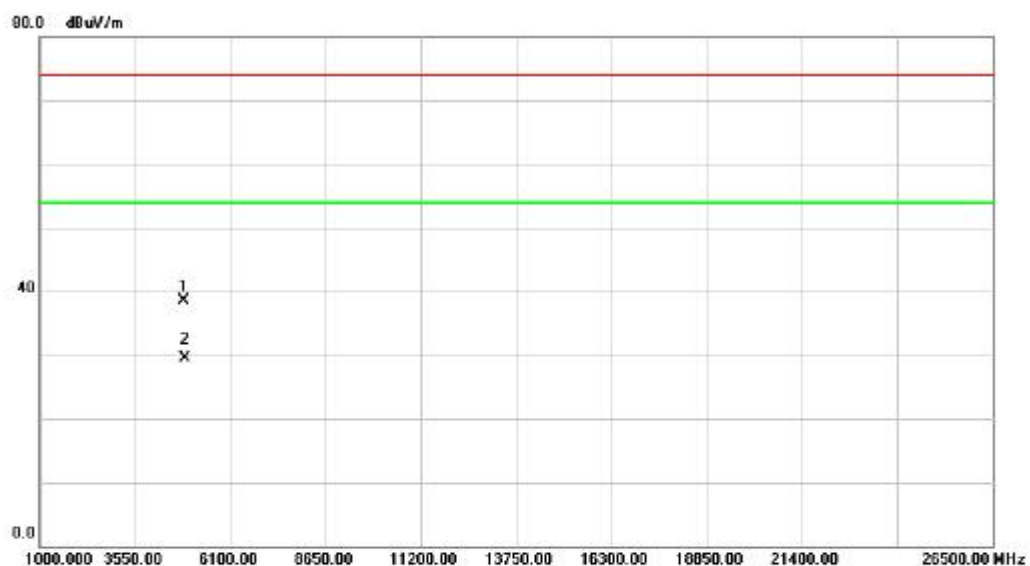
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2432.800	71.89	31.94	103.83	74.00	29.83	peak	no limit
2	*	2433.400	62.03	31.94	93.97	54.00	39.97	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz

### Vertical

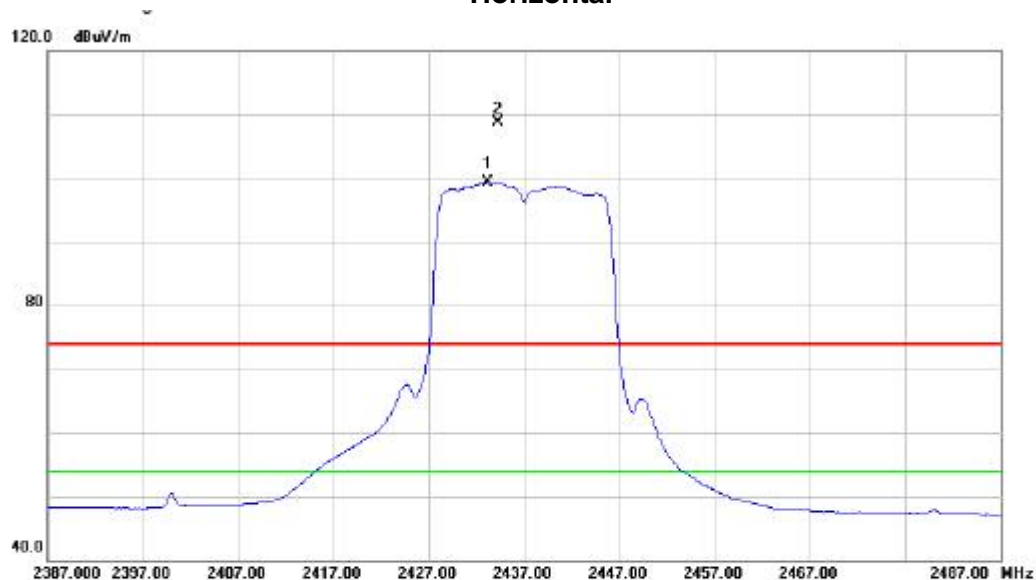


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.850	34.79	3.72	38.51	74.00	-35.49	peak	
2	*	4874.850	25.74	3.72	29.46	54.00	-24.54	AVG	



Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz

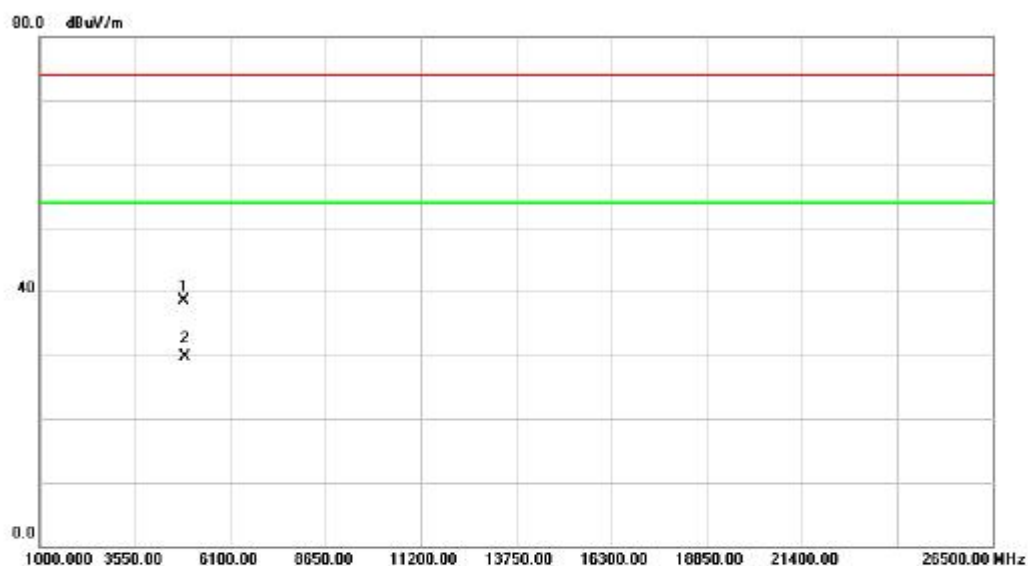
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2433.200	67.28	31.94	99.22	54.00	45.22	A/VG	no limit
2	X	2434.300	76.81	31.94	108.75	74.00	34.75	peak	no limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz

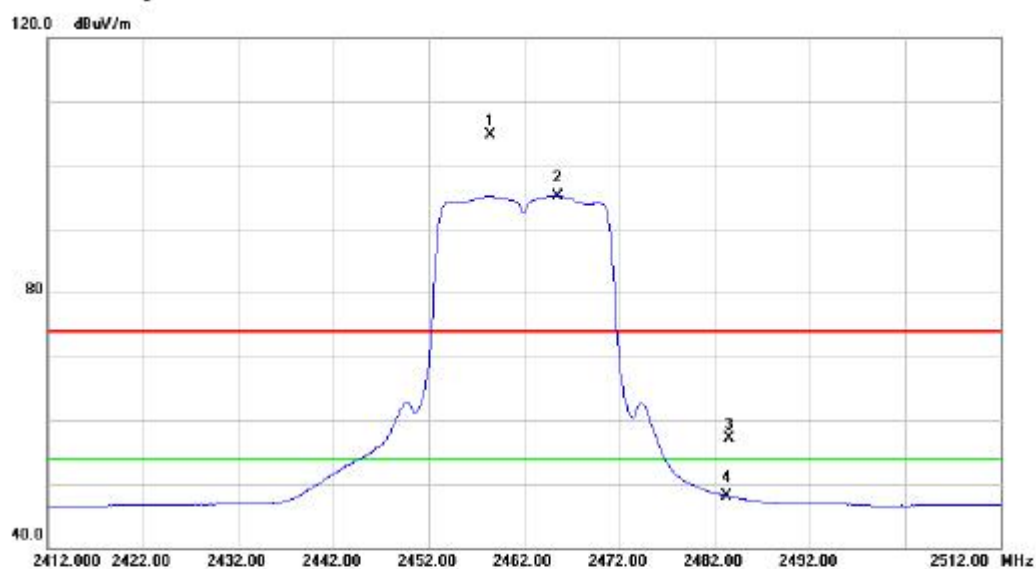
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4873.350	34.87	3.72	38.59	74.00	-35.41	peak	
2	*	4873.350	26.06	3.72	29.78	54.00	-24.22	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2462MHz

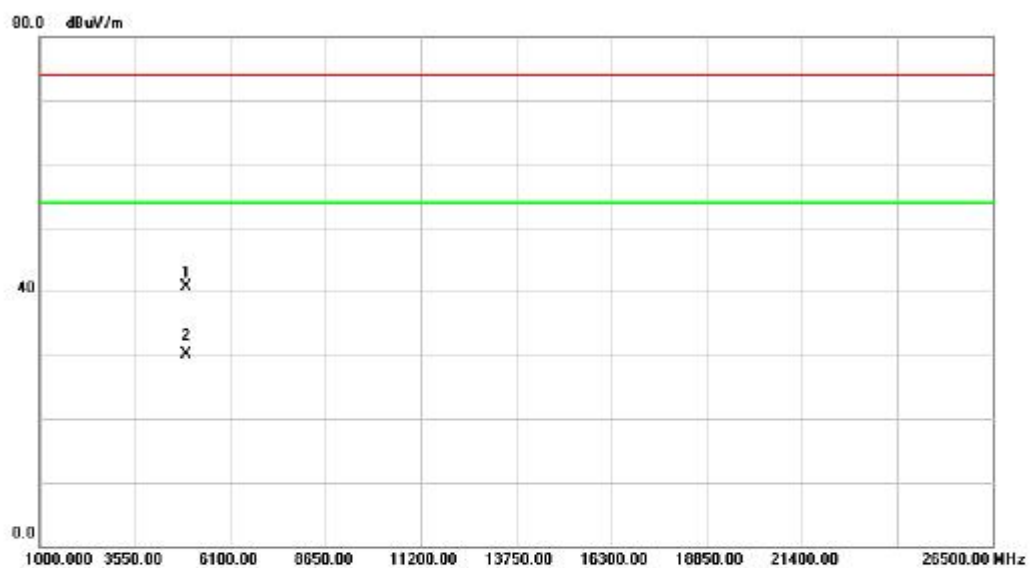
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2458.500	72.70	31.98	104.68	74.00	30.68	peak	no limit
2	*	2465.500	63.17	31.98	95.15	54.00	41.15	AVG	no limit
3		2483.500	25.13	32.01	57.14	74.00	-16.86	peak	
4		2483.500	16.01	32.01	48.02	54.00	-5.98	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2462MHz

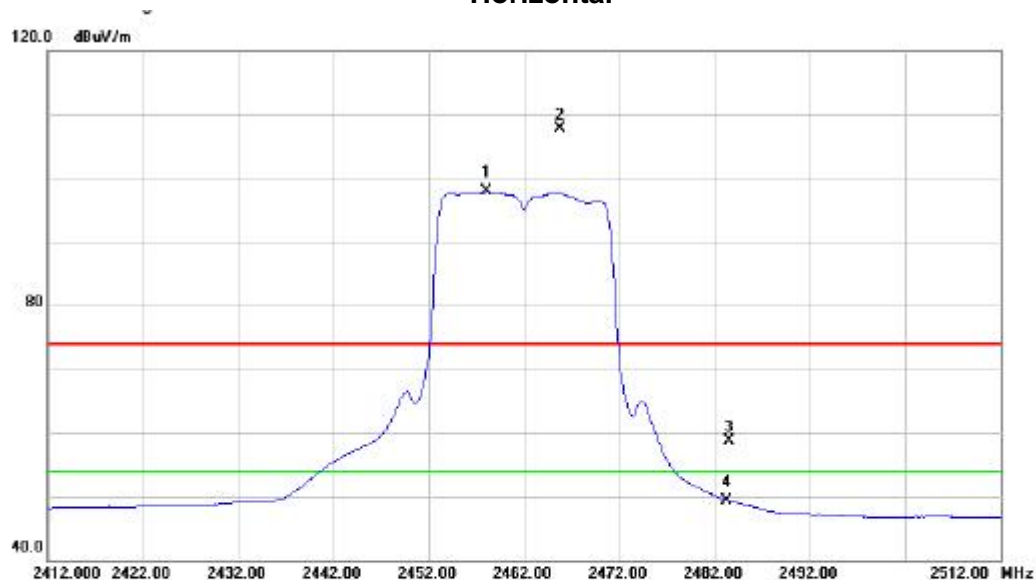
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.500	36.99	3.80	40.79	74.00	-33.21	peak	
2	*	4924.500	26.32	3.80	30.12	54.00	-23.88	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2462MHz

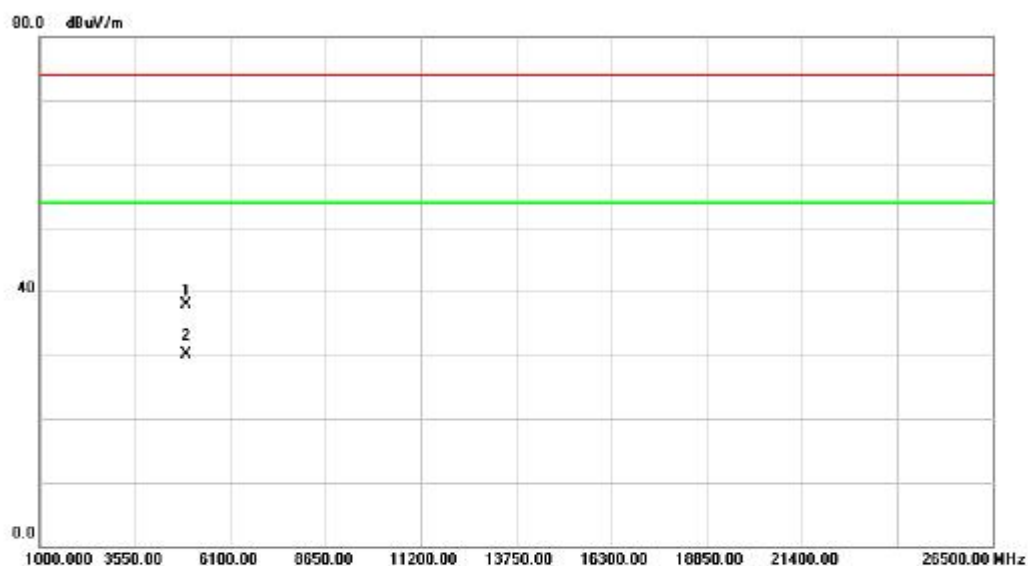
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2458.100	65.87	31.98	97.85	54.00	43.85	AVG	no limit
2	X	2465.800	75.76	31.98	107.74	74.00	33.74	peak	no limit
3		2483.500	26.71	32.01	58.72	74.00	-15.28	peak	
4		2483.500	17.35	32.01	49.36	54.00	-4.64	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2462MHz

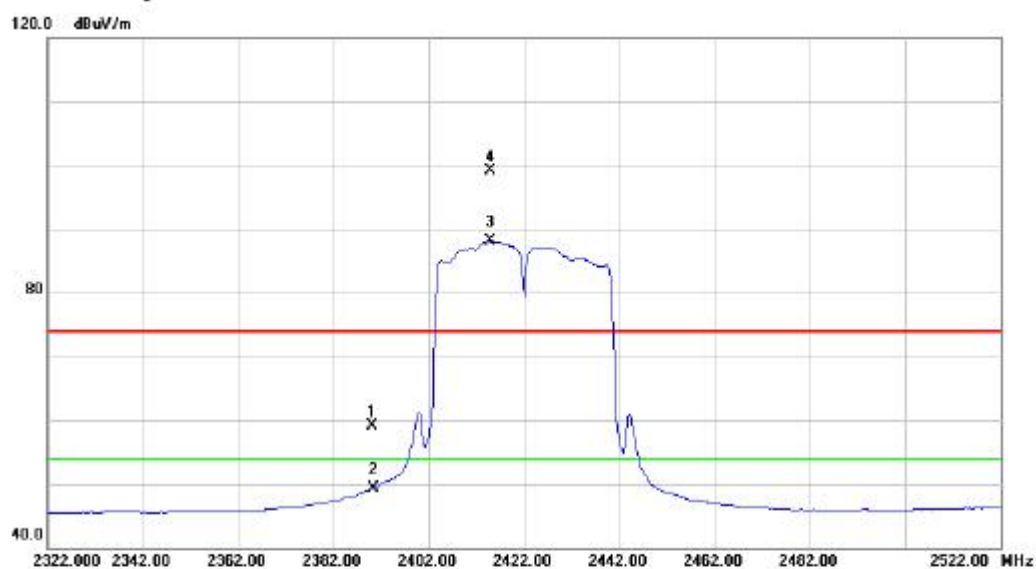
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4925.700	34.11	3.80	37.91	74.00	-36.09	peak	
2	*	4925.700	26.30	3.80	30.10	54.00	-23.90	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2422MHz

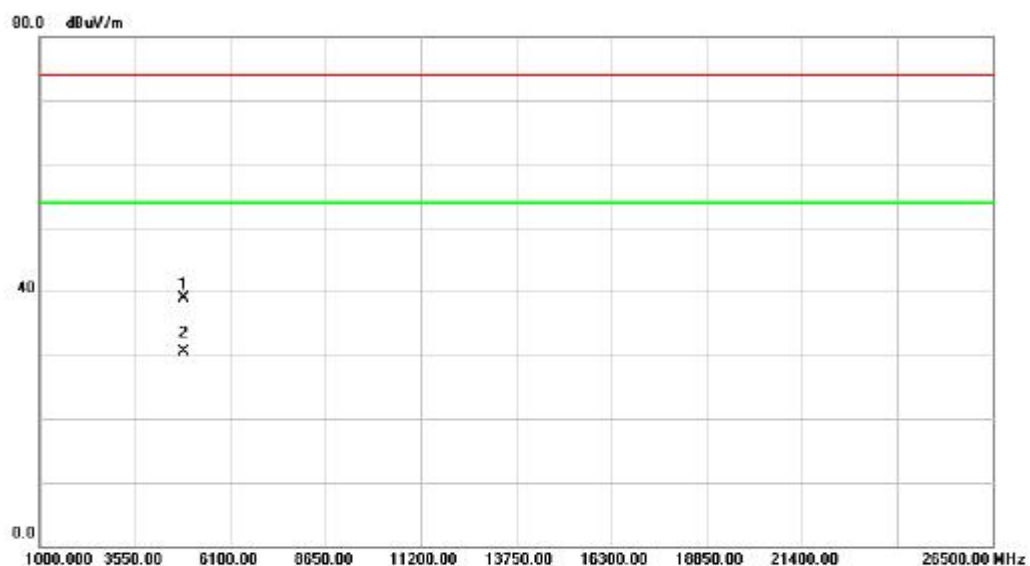
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	27.16	31.88	59.04	74.00	-14.96	peak	
2		2390.000	17.40	31.88	49.28	54.00	-4.72	AVG	
3	*	2414.800	56.17	31.91	88.08	54.00	34.08	AVG	no limit
4	X	2415.000	67.10	31.91	99.01	74.00	25.01	peak	no limit

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2422MHz

### Vertical

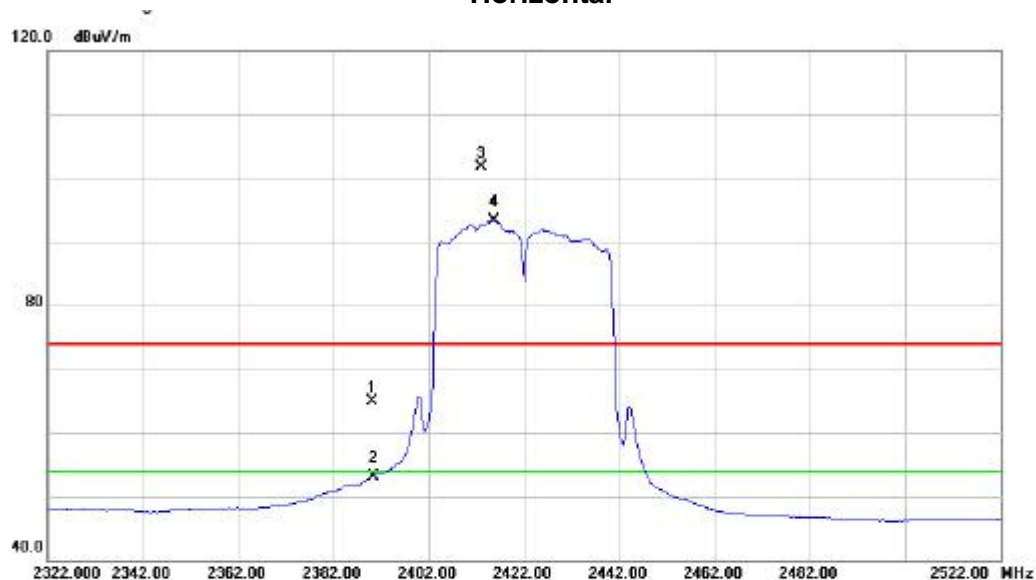


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4845.700	35.23	3.66	38.89	74.00	-35.11	peak	
2	*	4845.700	26.92	3.66	30.58	54.00	-23.42	AVG	



Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2422MHz

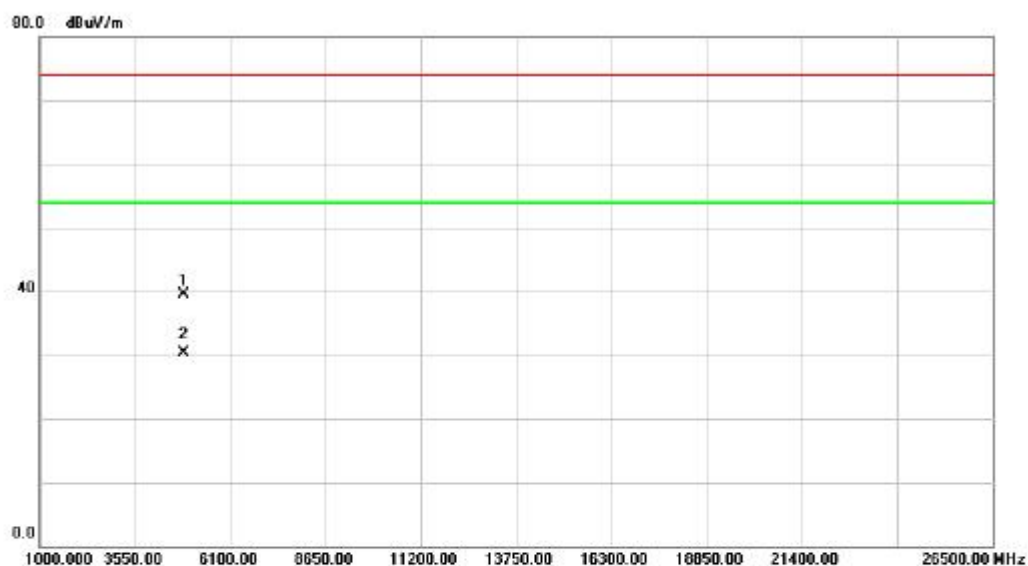
### Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	2390.000	32.96	31.88	64.84	74.00	-9.16	peak	
2	2390.000	21.22	31.88	53.10	54.00	-0.90	AVG	
3 X	2413.000	69.87	31.91	101.78	74.00	27.78	peak	no limit
4 *	2415.600	61.33	31.91	93.24	54.00	39.24	AVG	no limit

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2422MHz

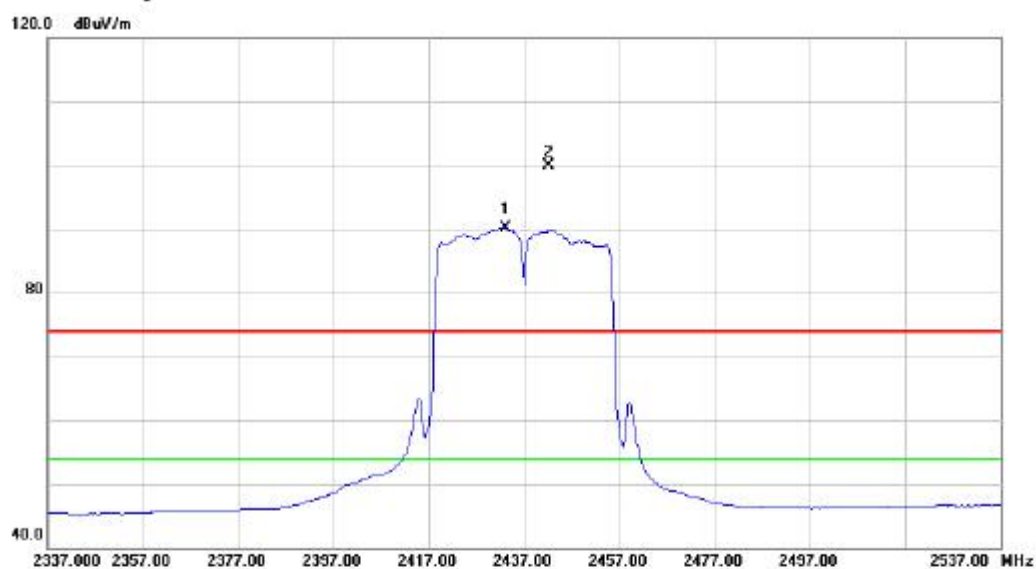
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4843.700	35.88	3.66	39.54	74.00	-34.46	peak	
2	*	4843.700	26.69	3.66	30.35	54.00	-23.65	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2437MHz

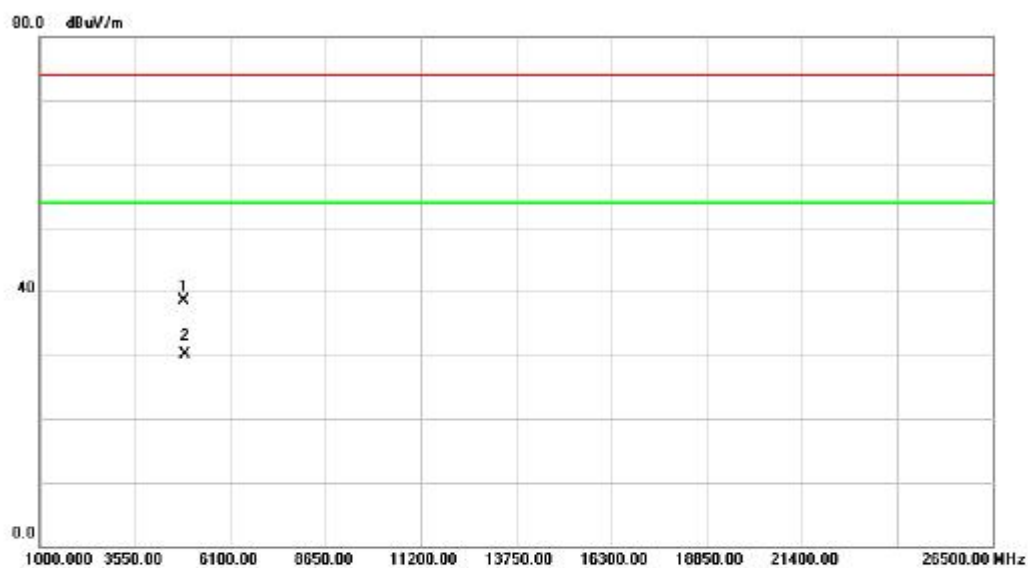
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2433.000	58.16	31.94	90.10	54.00	36.10	A/VG	no limit
2	X	2442.200	67.92	31.95	99.87	74.00	25.87	peak	no limit

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2437MHz

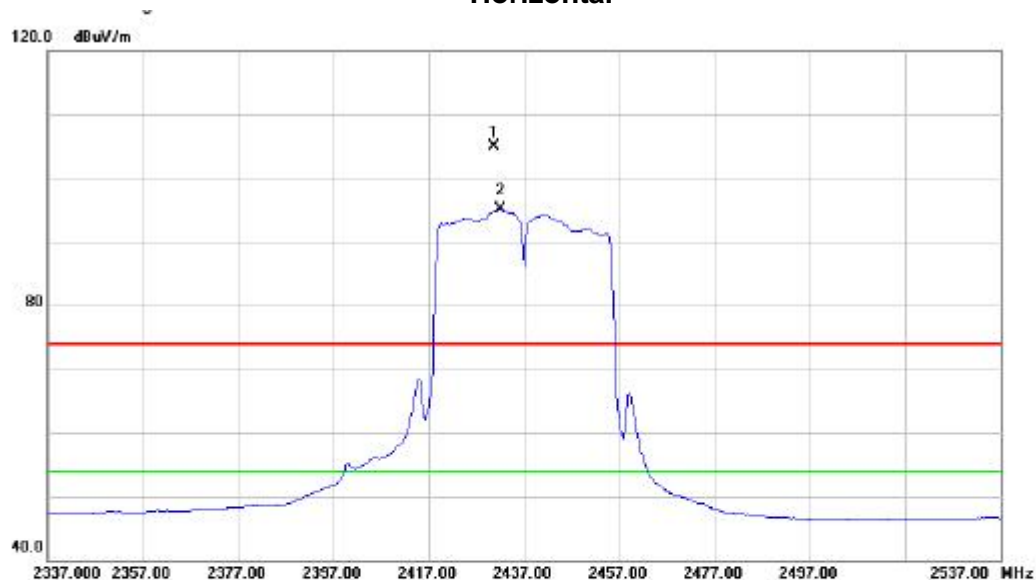
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.300	34.76	3.72	38.48	74.00	-35.52	peak	
2	*	4874.300	26.32	3.72	30.04	54.00	-23.96	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2437MHz

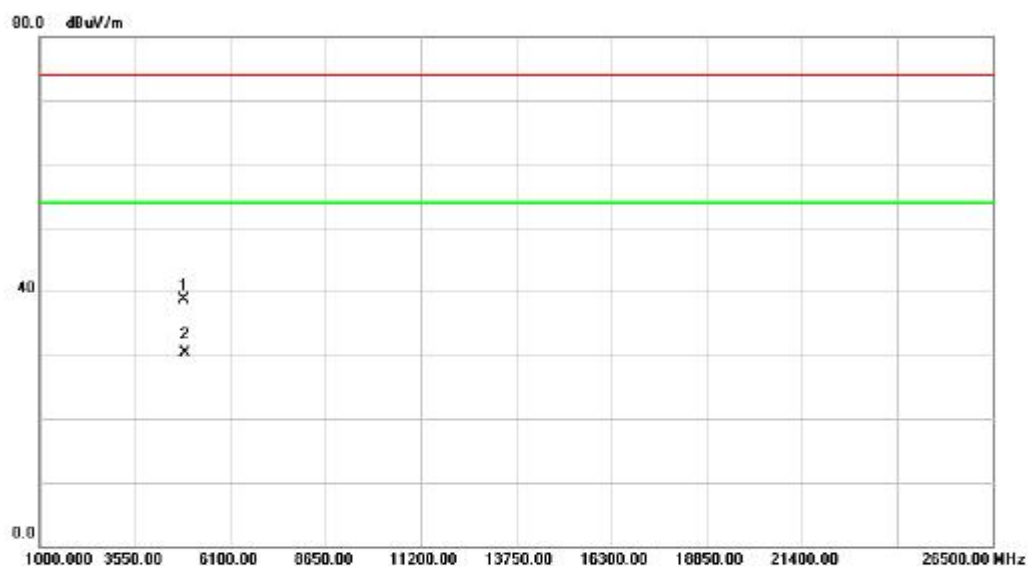
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2430.600	73.02	31.93	104.95	74.00	30.95	peak	no limit
2	*	2432.000	63.13	31.94	95.07	54.00	41.07	A/VG	no limit

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2437MHz

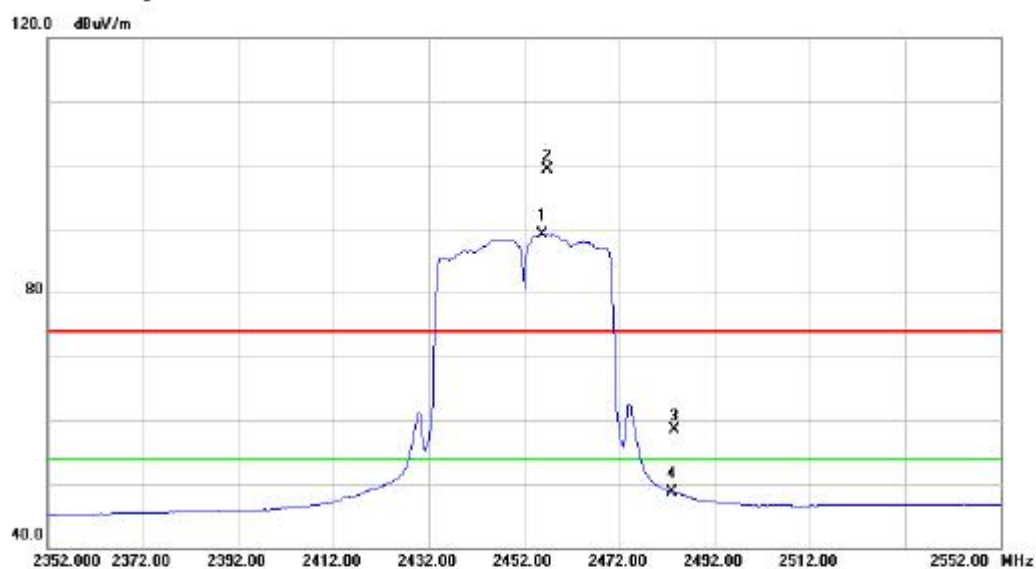
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4873.100	35.00	3.72	38.72	74.00	-35.28	peak	
2	*	4873.100	26.55	3.72	30.27	54.00	-23.73	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2452MHz

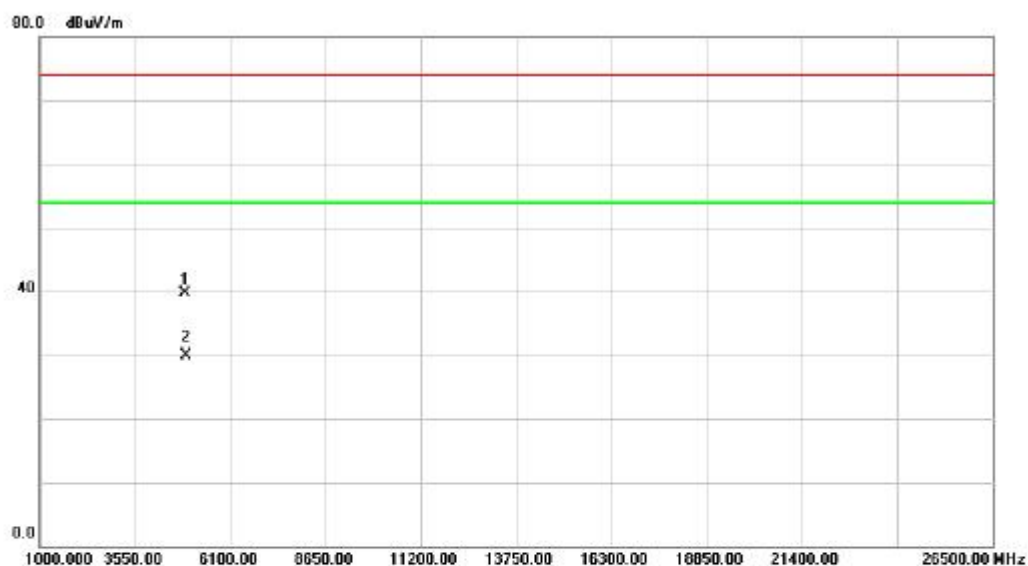
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2455.800	57.22	31.96	89.18	54.00	35.18	AVG	no limit
2	X	2456.800	67.38	31.97	99.35	74.00	25.35	peak	no limit
3		2483.500	26.57	32.01	58.58	74.00	-15.42	peak	
4		2483.500	16.69	32.01	48.70	54.00	-5.30	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2452MHz

### Vertical

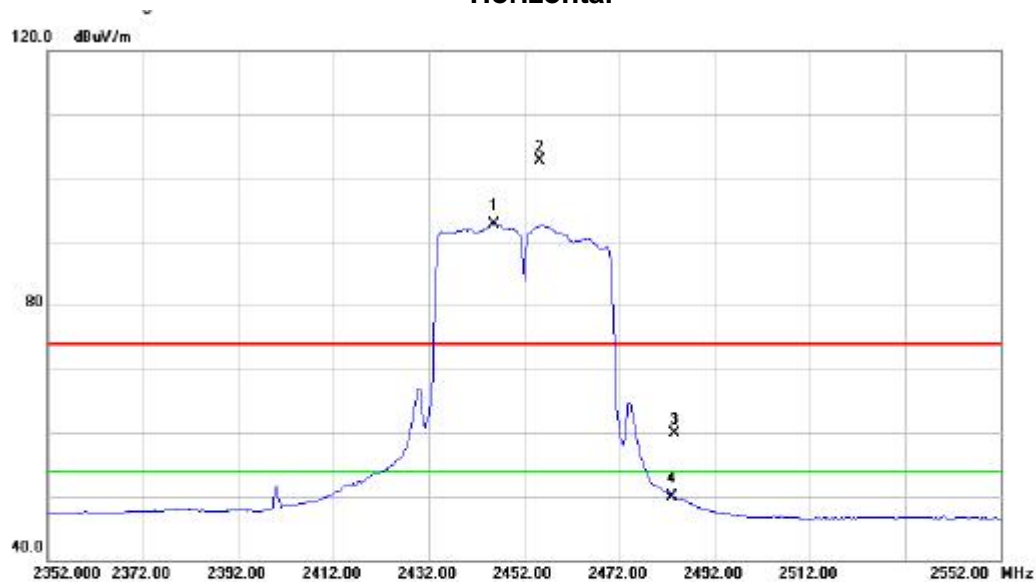


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4902.900	35.97	3.76	39.73	74.00	-34.27	peak	
2	*	4902.900	26.16	3.76	29.92	54.00	-24.08	AVG	



Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2452MHz

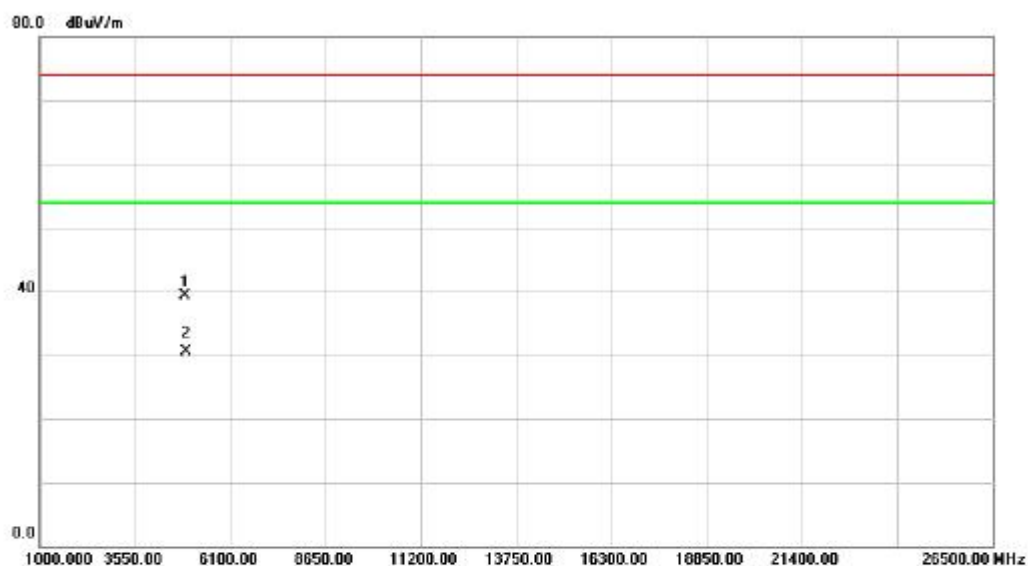
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2445.600	60.74	31.96	92.70	54.00	38.70	AVG	no limit
2	X	2455.400	70.83	31.96	102.79	74.00	28.79	peak	no limit
3		2483.500	27.80	32.01	59.81	74.00	-14.19	peak	
4		2483.500	17.91	32.01	49.92	54.00	-4.08	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2452MHz

### Horizontal



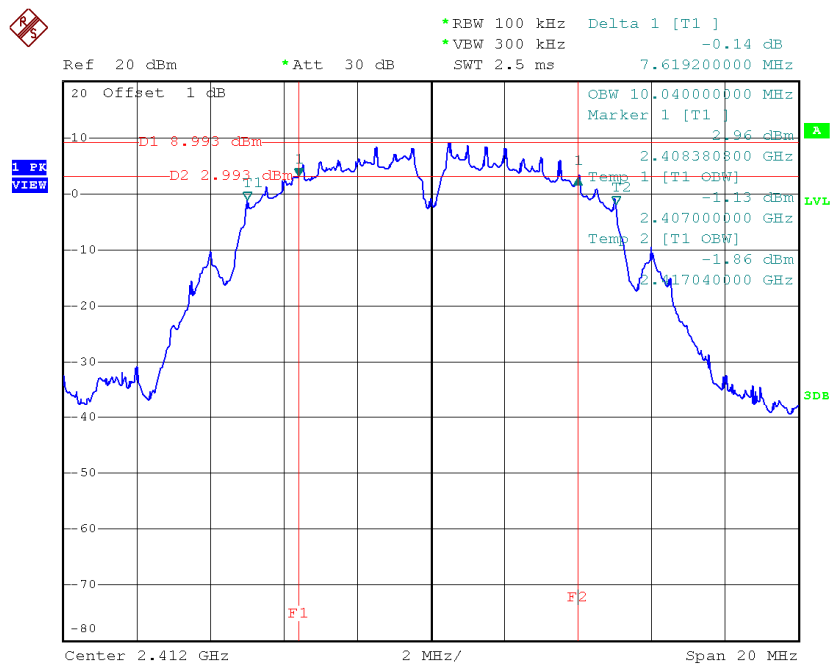
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4904.900	35.59	3.77	39.36	74.00	-34.64	peak	
2	*	4904.900	26.78	3.77	30.55	54.00	-23.45	AVG	

## **ATTACHMENT E - BANDWIDTH**

Test Mode : TX B Mode\_CH01/06/11

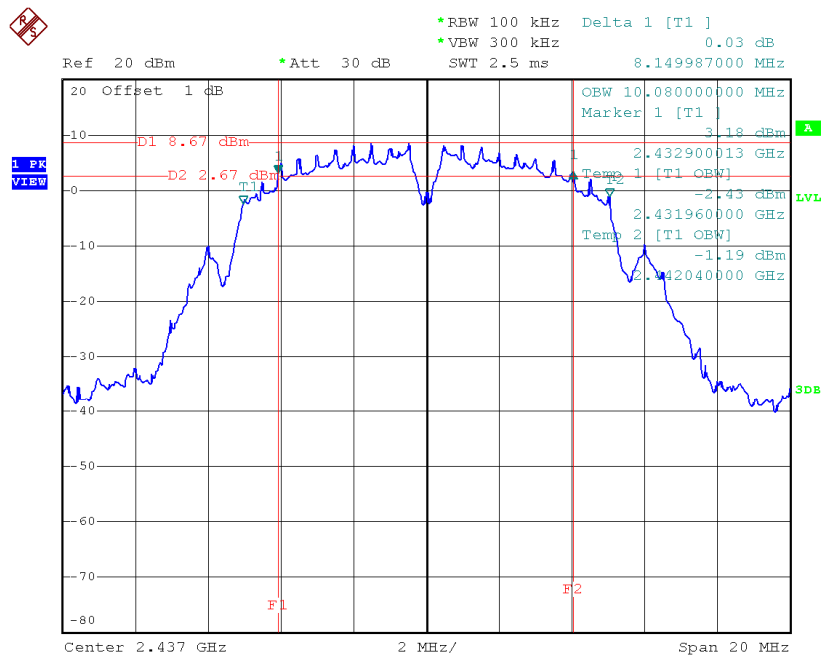
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	7.62	10.04	500	Complies
2437	8.15	10.08	500	Complies
2462	7.63	10.08	500	Complies

TX CH01



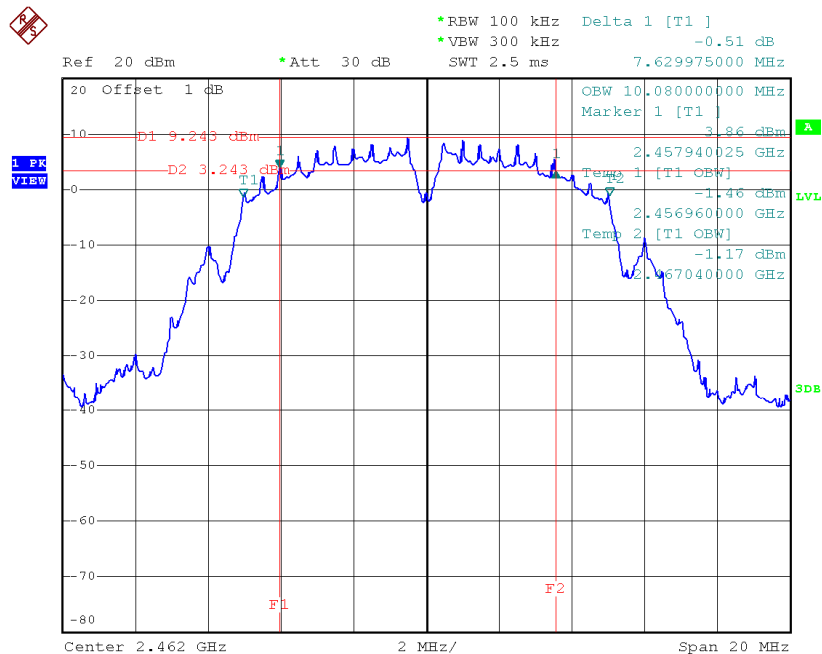
Date: 13.JAN.2015 18:35:27

# TX CH06



Date: 13.JAN.2015 18:36:27

# TX CH11

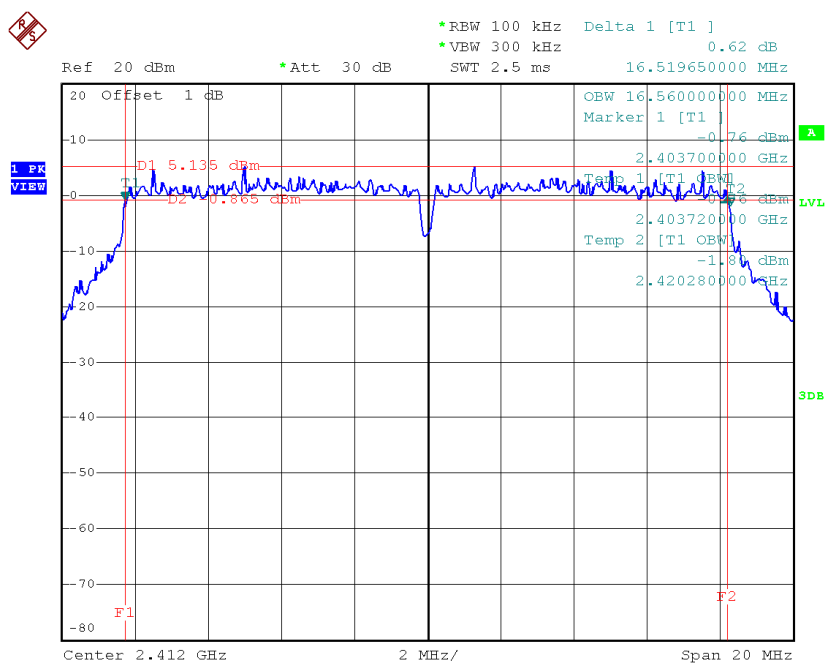


Date: 13.JAN.2015 18:37:32

Test Mode: TX G Mode\_CH01/06/11

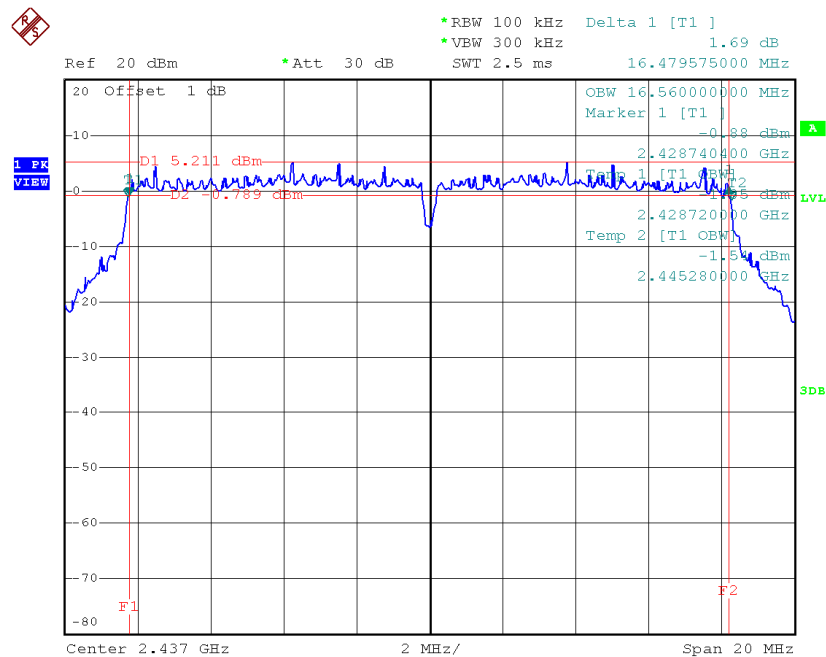
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.52	16.56	500	Complies
2437	16.48	16.56	500	Complies
2462	16.51	16.52	500	Complies

TX CH01



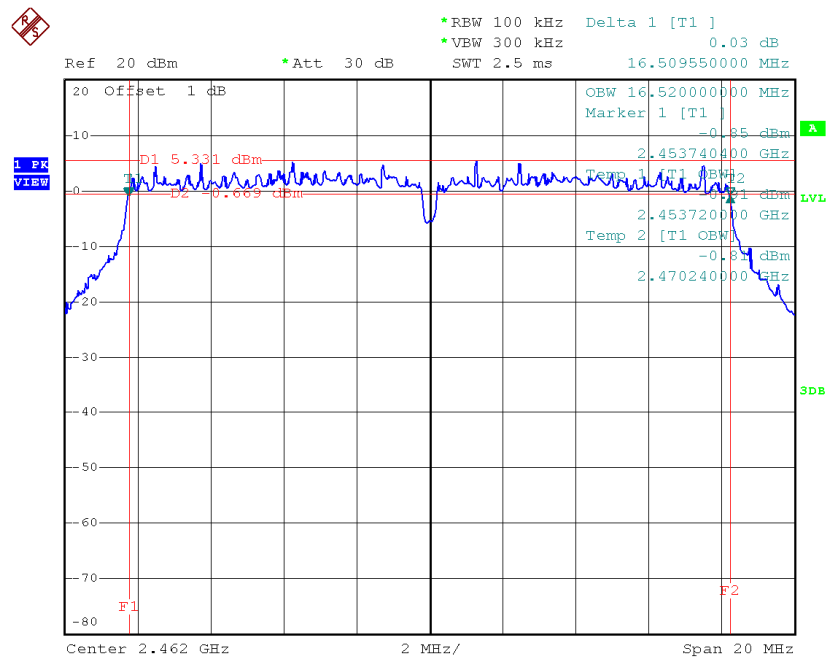
Date: 13.JAN.2015 18:38:25

### TX CH06



Date: 13.JAN.2015 18:39:27

### TX CH11

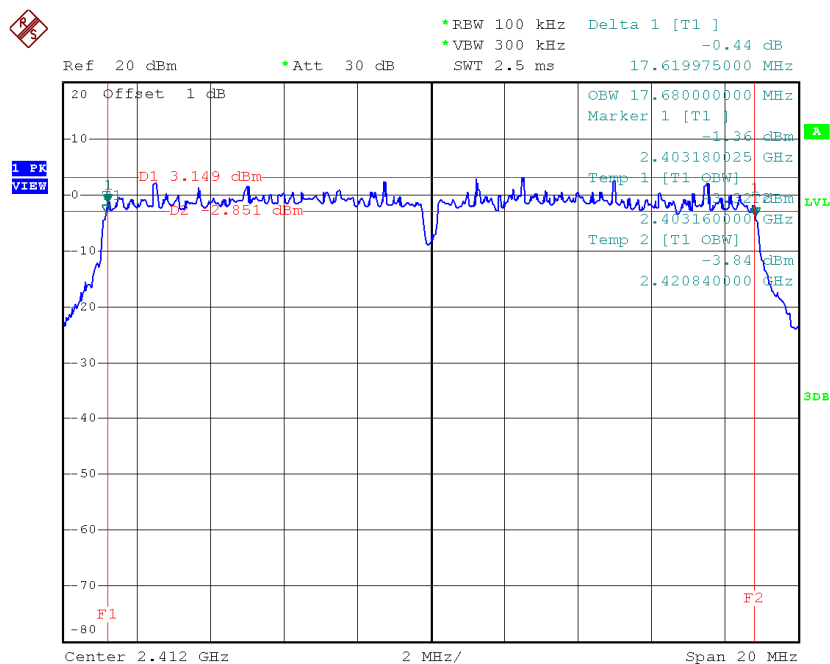


Date: 13.JAN.2015 18:40:14

Test Mode : TX N-20MHz Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.62	17.68	500	Complies
2437	17.67	17.64	500	Complies
2462	17.66	17.68	500	Complies

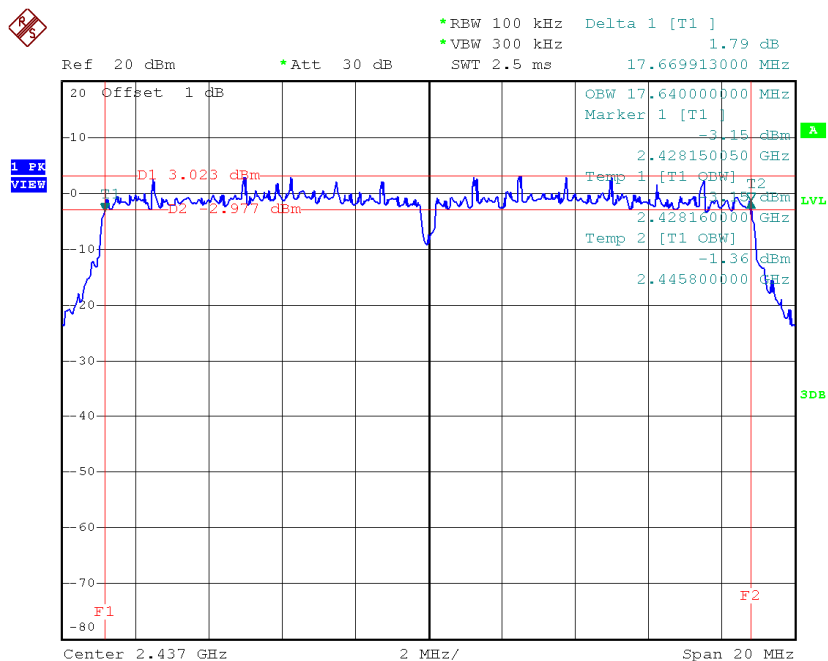
TX CH01



Date: 13.JAN.2015 18:41:48

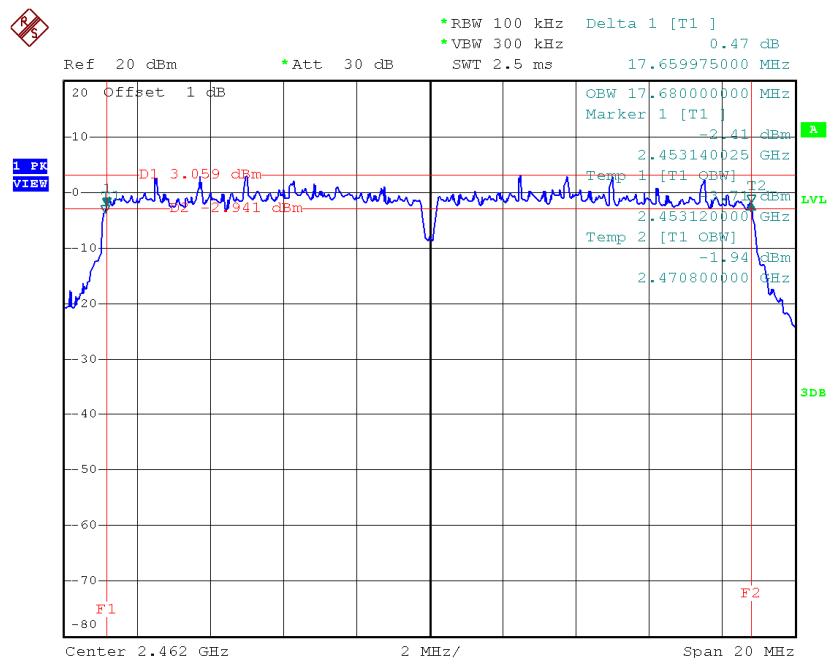


# TX CH06



Date: 13.JAN.2015 18:43:49

# TX CH11

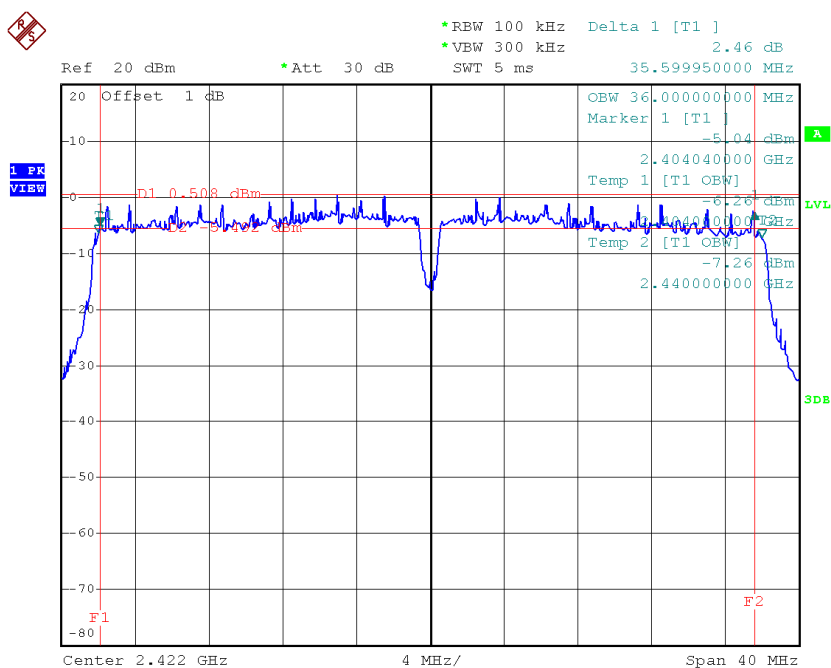


Date: 13.JAN.2015 18:46:03

Test Mode : TX N-40MHz Mode\_CH03/06/09

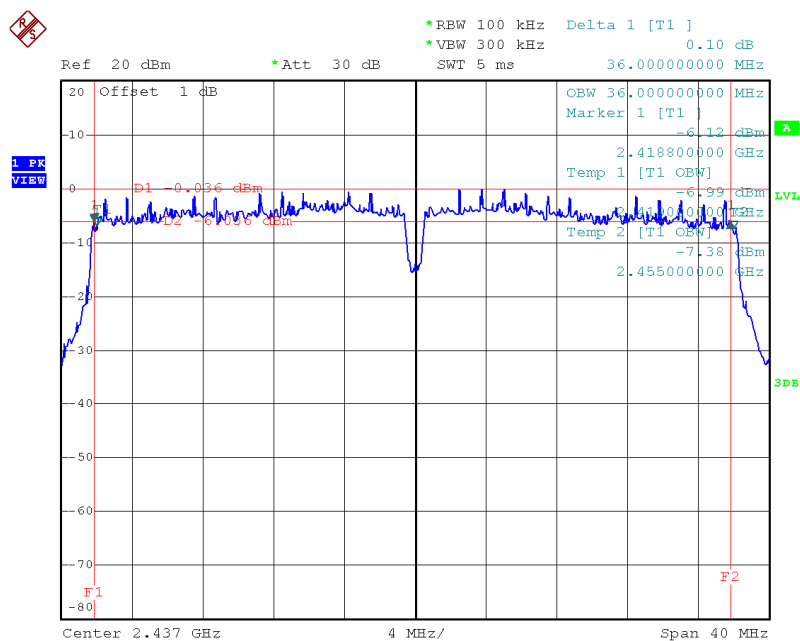
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	35.60	36.00	500	Complies
2437	36.00	36.00	500	Complies
2452	35.60	36.00	500	Complies

TX CH03



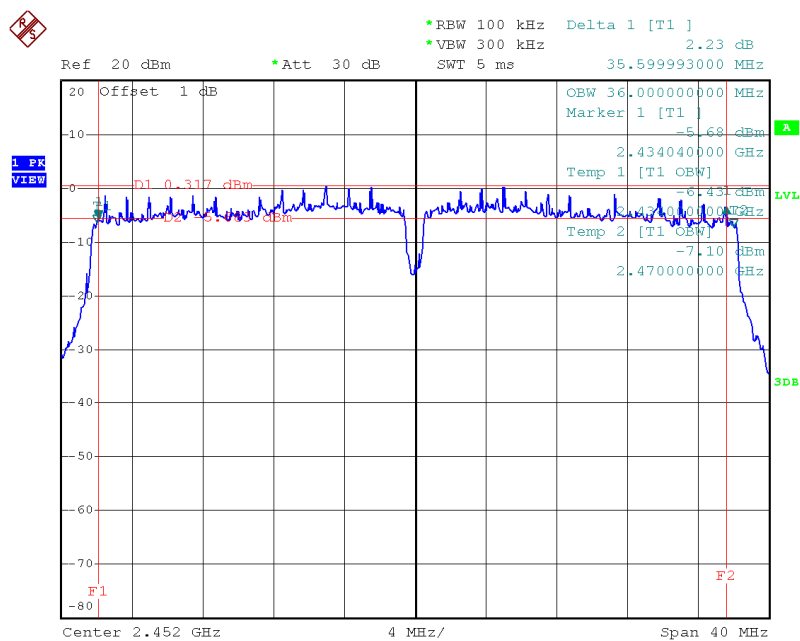
Date: 13.JAN.2015 18:50:39

## TX CH06



Date: 13.JAN.2015 18:52:39

## TX CH09



Date: 13.JAN.2015 18:53:47

## **ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER**

**Test Mode :TX B Mode\_CH01/06/11\_ANT 1**

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.72	0.09	30.00	1.00	Complies
2437	19.26	0.08	30.00	1.00	Complies
2462	19.36	0.09	30.00	1.00	Complies

**Test Mode :TX G Mode\_CH01/06/11\_ANT 1**

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	25.12	0.33	30.00	1.00	Complies
2437	25.37	0.34	30.00	1.00	Complies
2462	25.38	0.35	30.00	1.00	Complies

**Test Mode :TX N20 Mode\_CH01/06/11\_ANT 1**

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	24.16	0.26	30.00	1.00	Complies
2437	24.20	0.26	30.00	1.00	Complies
2462	24.25	0.27	30.00	1.00	Complies

**Test Mode :TX N20 Mode\_CH01/06/11\_ANT 2**

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	23.43	0.22	30.00	1.00	Complies
2437	23.54	0.23	30.00	1.00	Complies
2462	23.63	0.23	30.00	1.00	Complies

**Test Mode :TX N20 Mode\_CH01/06/11\_Total**

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	26.82	0.48	30.00	1.00	Complies
2437	26.89	0.49	30.00	1.00	Complies
2462	26.96	0.50	30.00	1.00	Complies

**Test Mode :TX N40 Mode\_CH03/06/09\_ANT 1**

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	24.02	0.25	30.00	1.00	Complies
2437	24.22	0.26	30.00	1.00	Complies
2452	24.17	0.26	30.00	1.00	Complies

**Test Mode :TX N40 Mode\_CH03/06/09\_ANT 2**

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	23.37	0.22	30.00	1.00	Complies
2437	23.45	0.22	30.00	1.00	Complies
2452	23.35	0.22	30.00	1.00	Complies

**Test Mode :TX N40 Mode\_CH03/06/09\_Total**

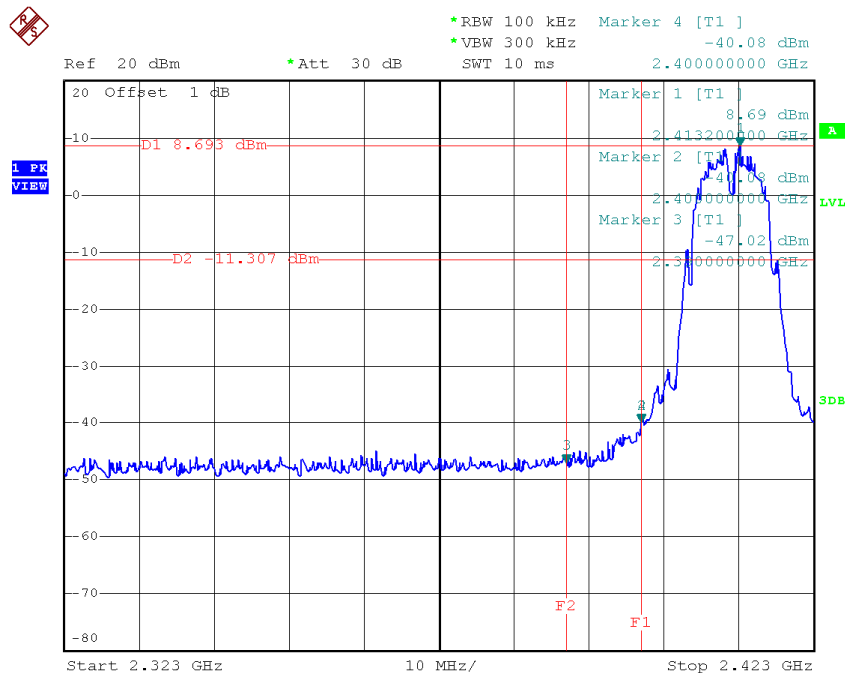
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	26.72	0.47	30.00	1.00	Complies
2437	26.86	0.49	30.00	1.00	Complies
2452	26.79	0.48	30.00	1.00	Complies

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



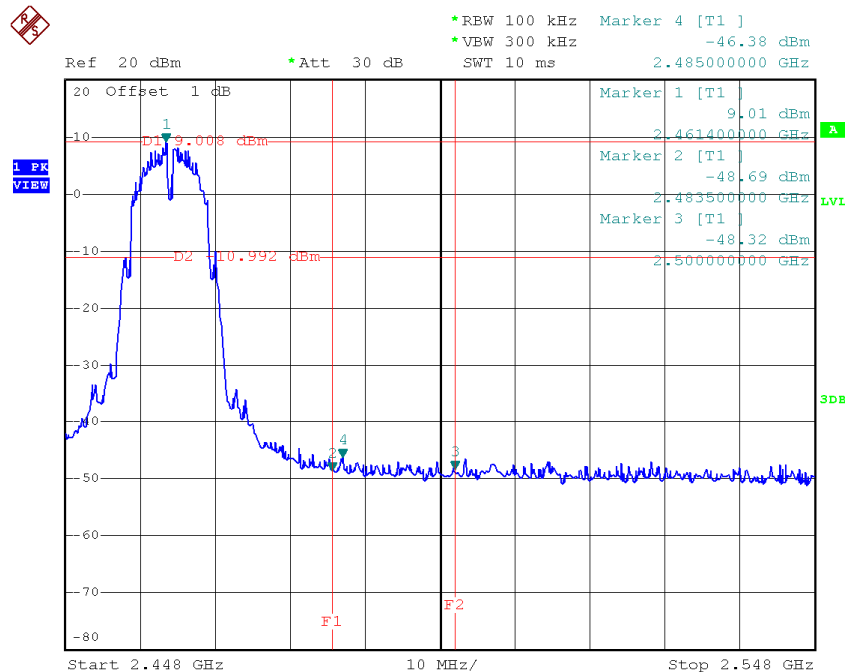
<b>Test Mode :</b>	<b>TX B Mode</b>
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# TX B mode CH01



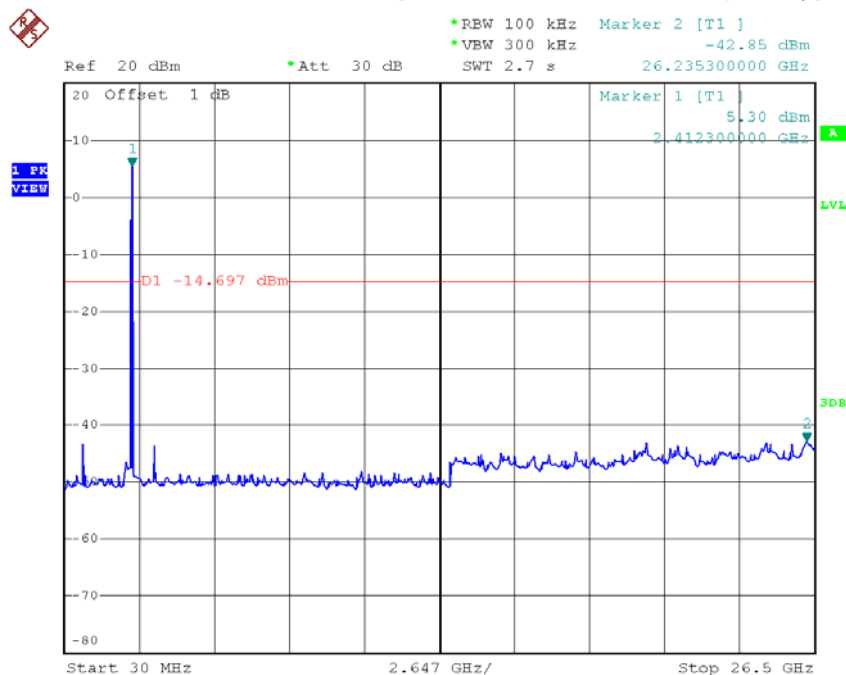
Date: 13.JAN.2015 18:35:49

# TX B mode CH11



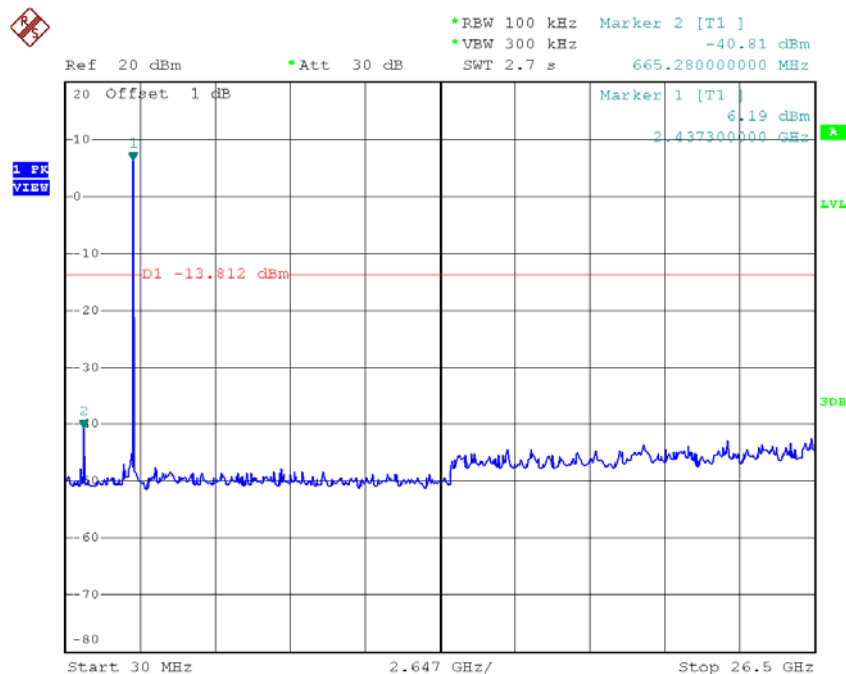
Date: 13.JAN.2015 18:37:53

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



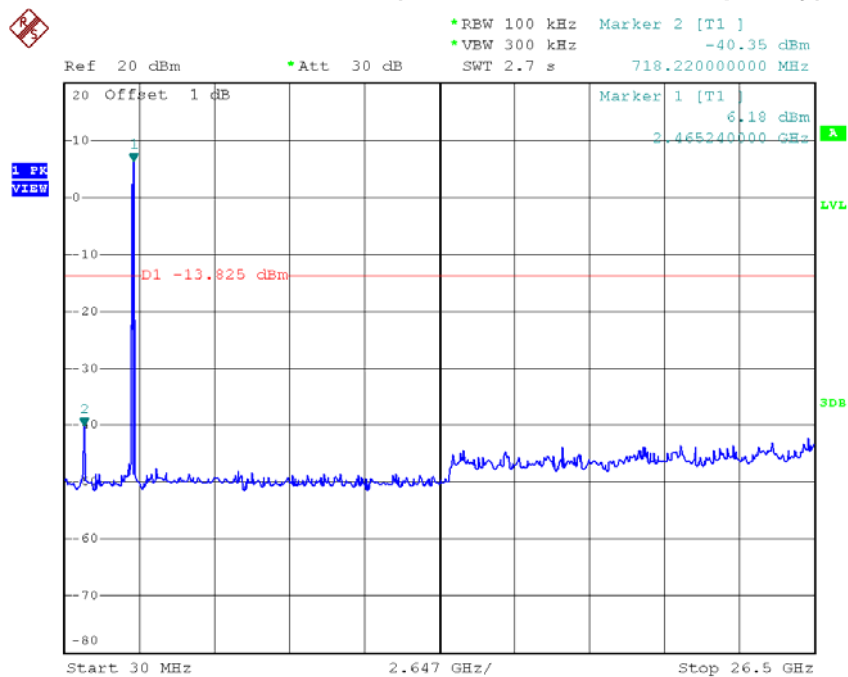
Date: 13.JAN.2015 18:35:41

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



Date: 13.JAN.2015 18:36:40

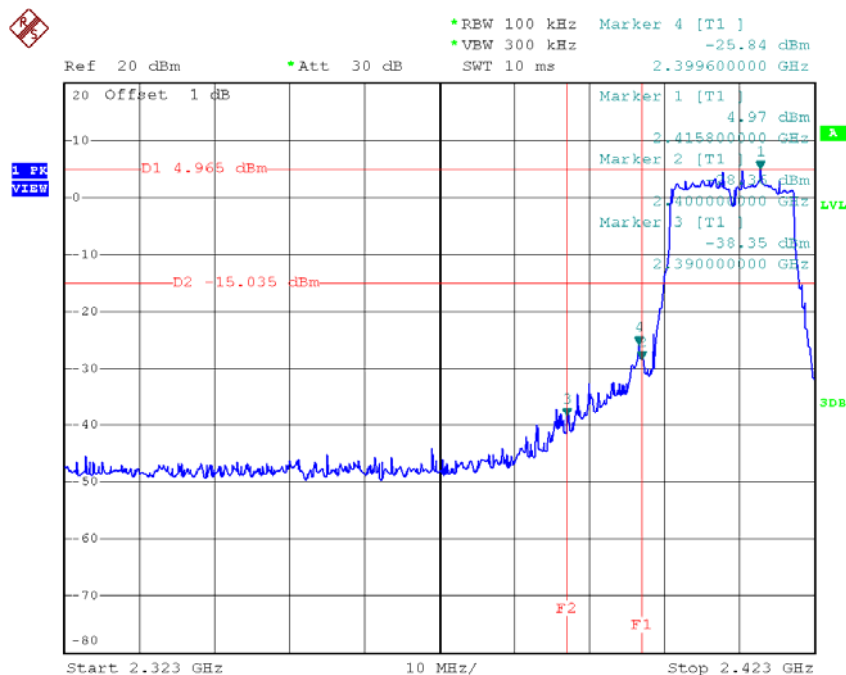
# TX B mode CH11 (10 Harmonic of the frequency)



Date: 13.JAN.2015 18:37:45

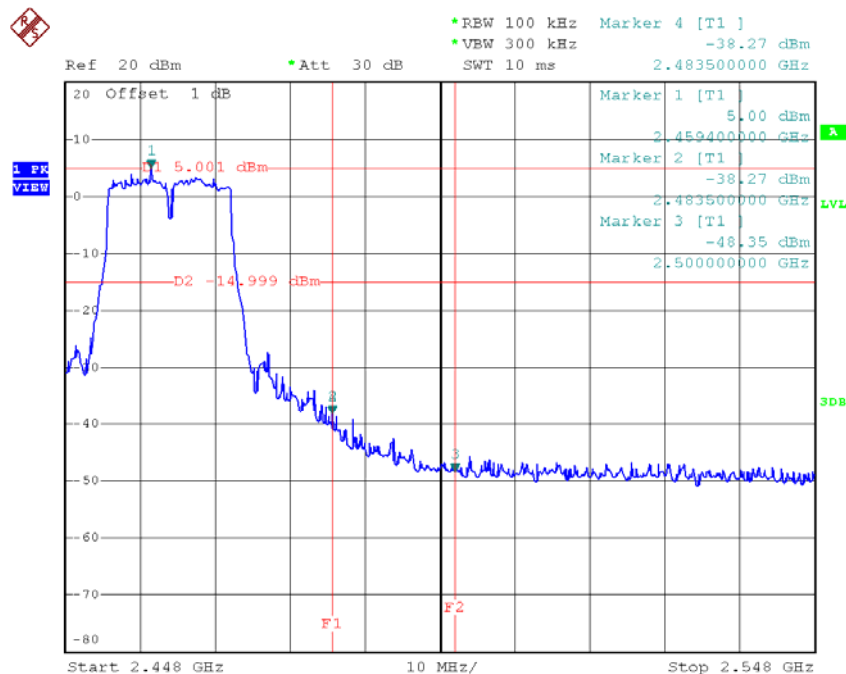
<b>Test Mode :</b>	<b>TX G Mode</b>
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# TX G mode CH01



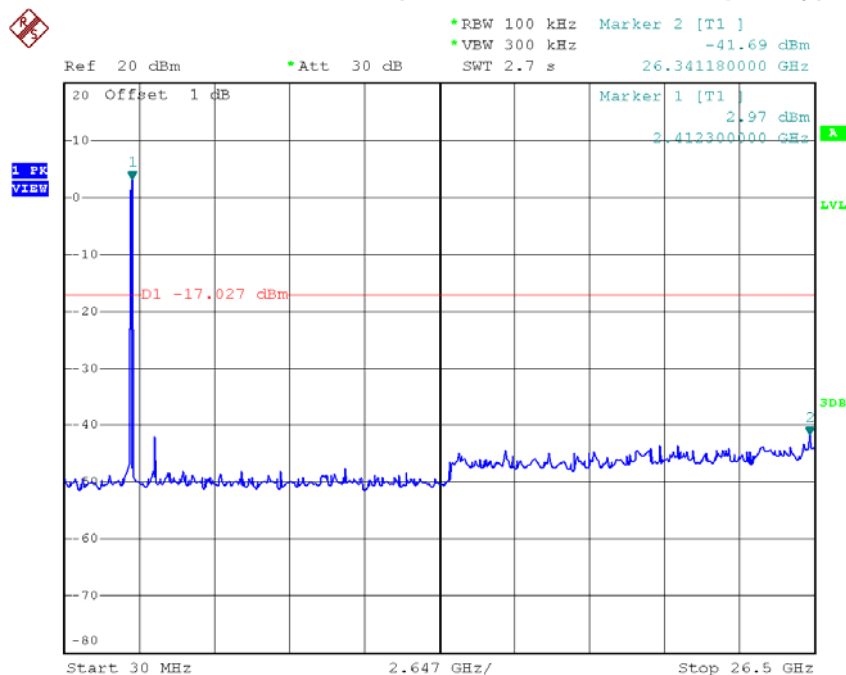
Date: 13.JAN.2015 18:38:46

# TX G mode CH11



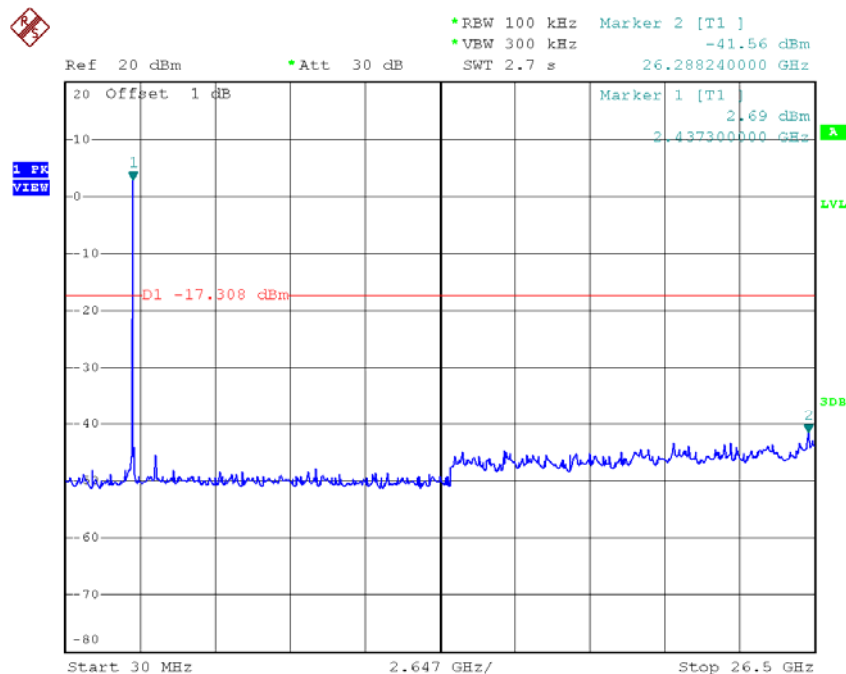
Date: 13.JAN.2015 18:40:35

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



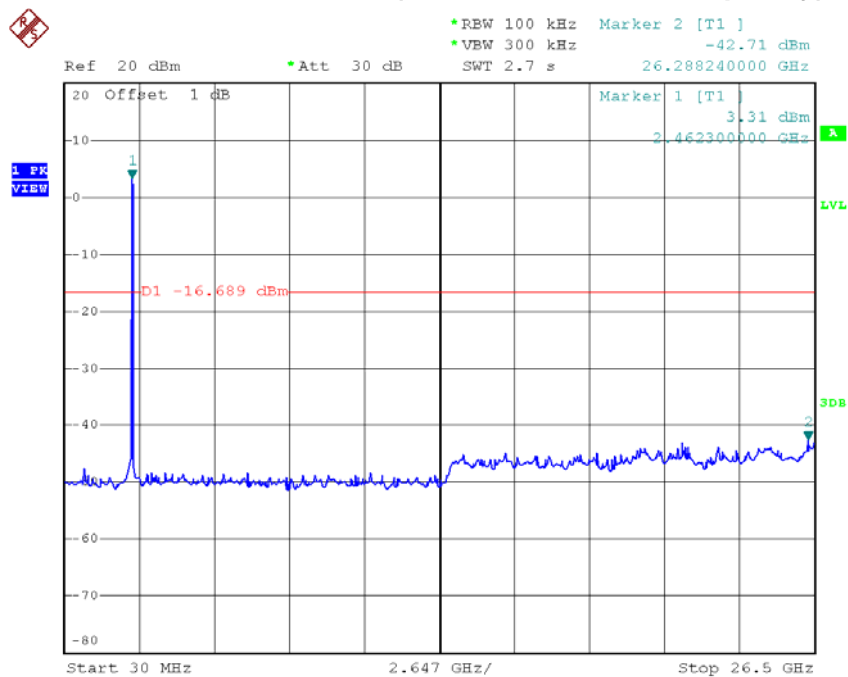
Date: 13.JAN.2015 18:38:39

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



Date: 13.JAN.2015 18:39:40

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

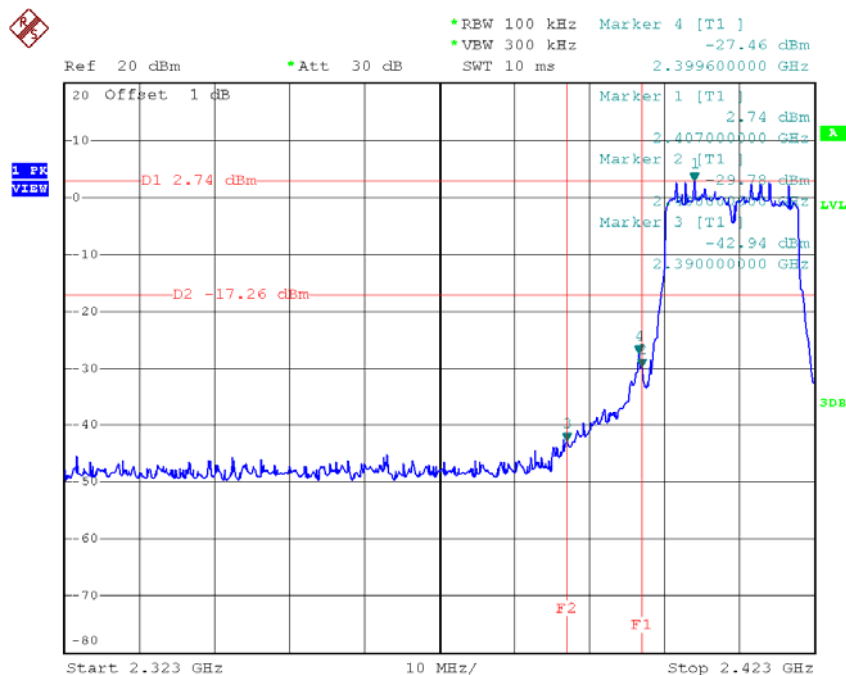


Date: 13.JAN.2015 18:40:28



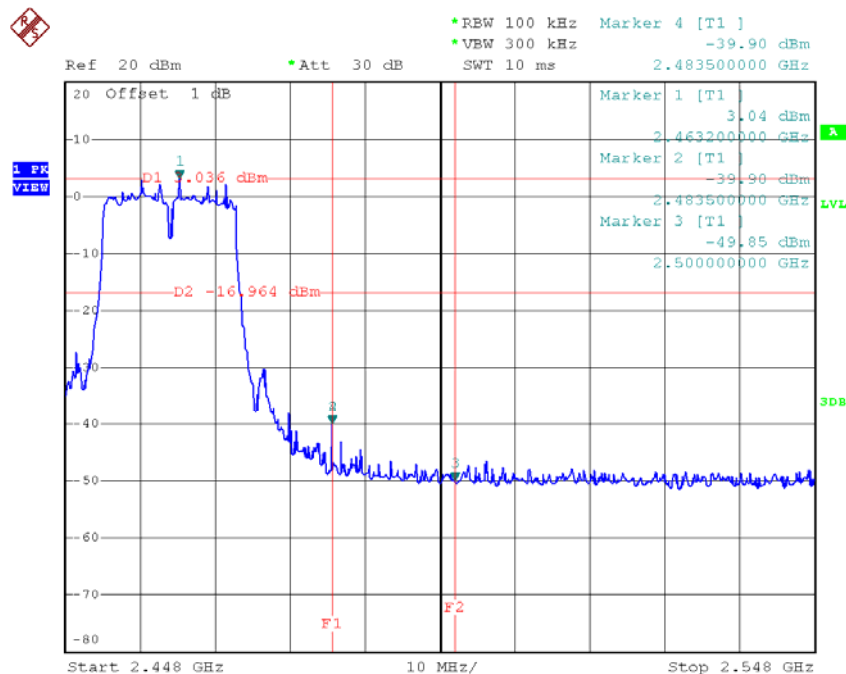
Test Mode :	TX N-20M Mode_ANT 1
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# TX HT20 mode CH01



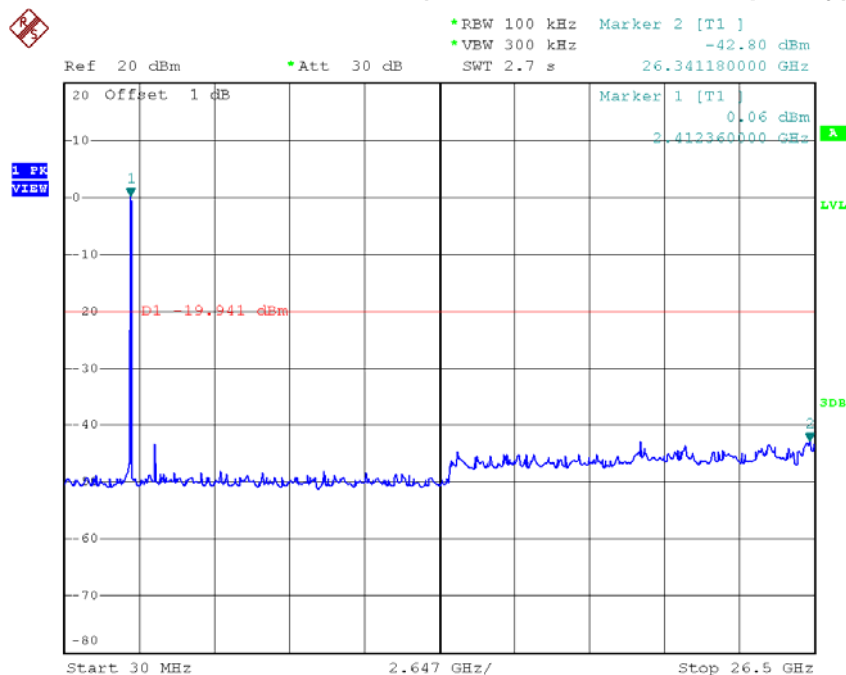
Date: 13.JAN.2015 18:42:09

# TX HT20 mode CH11



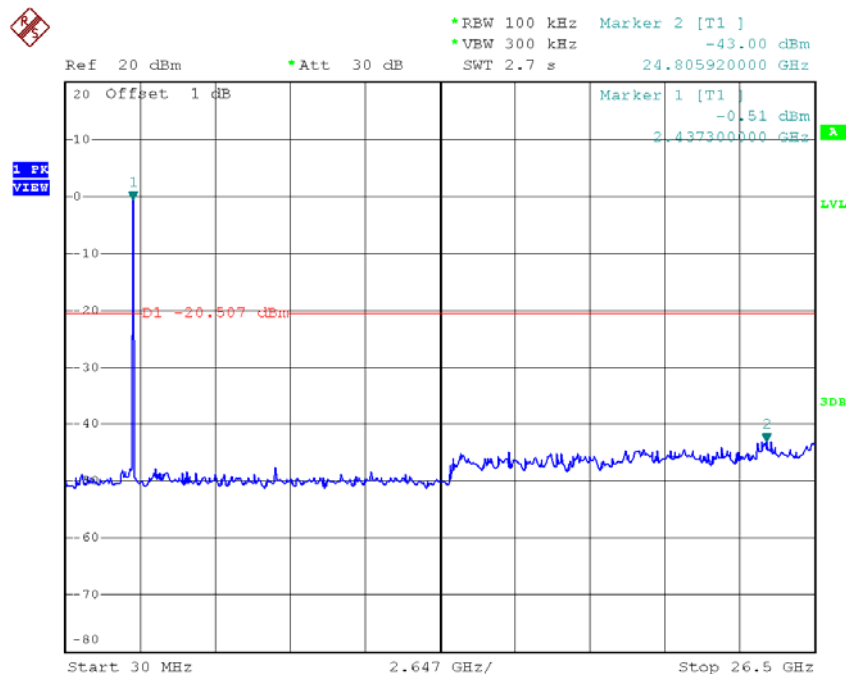
Date: 13.JAN.2015 18:46:32

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



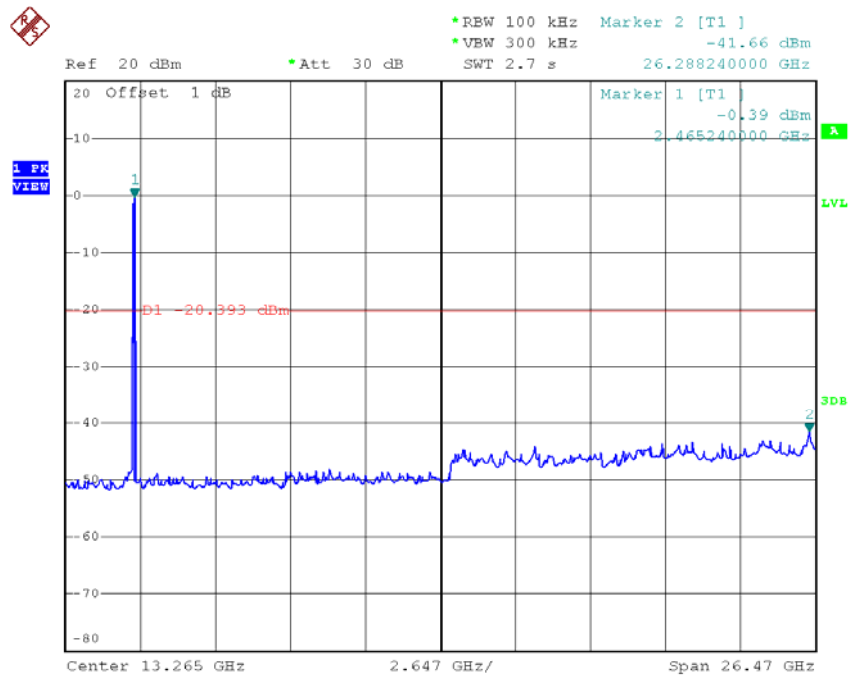
Date: 13.JAN.2015 18:42:02

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



Date: 13.JAN.2015 18:44:03

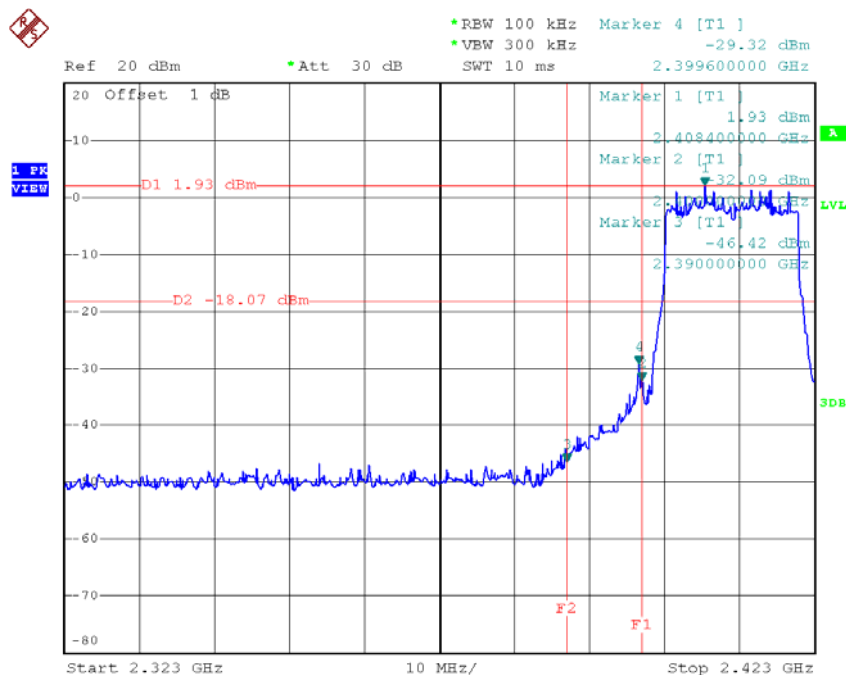
# TX HT20 mode CH11 (10 Harmonic of the frequency)



Date: 13.JAN.2015 18:46:24

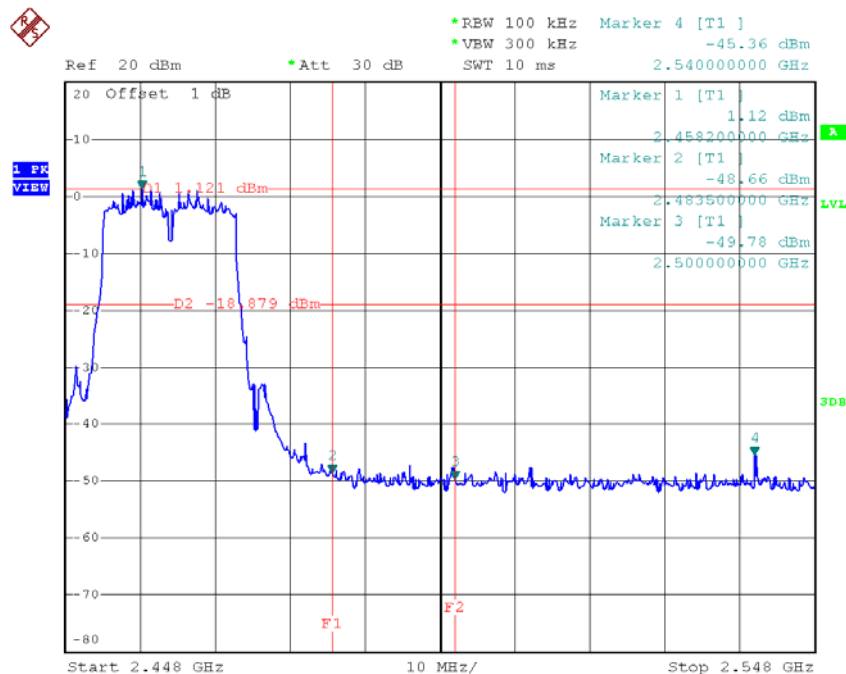
<b>Test Mode :</b>	<b>TX N-20M Mode_ANT 2</b>
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# TX HT20 mode CH01



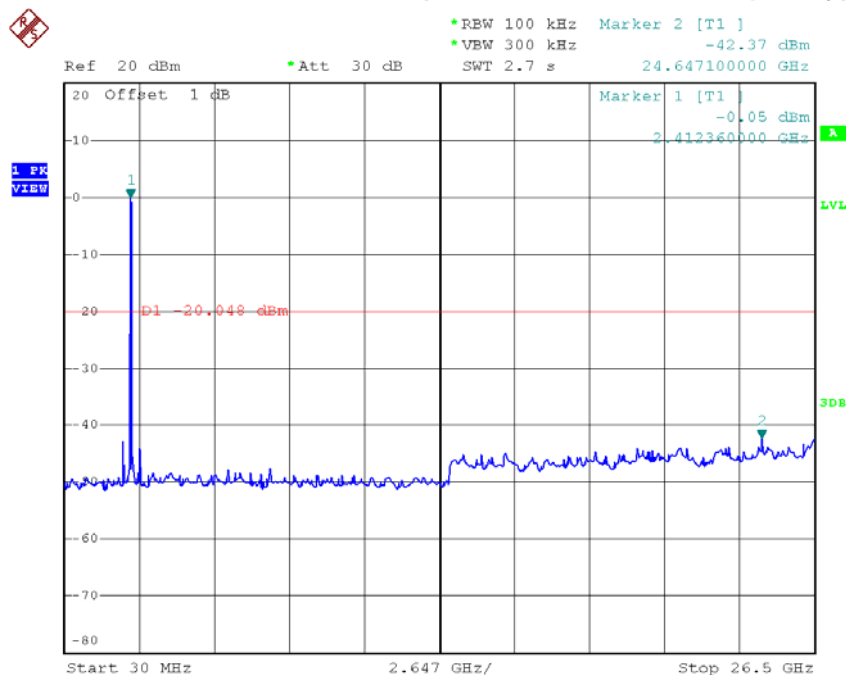
Date: 13.JAN.2015 18:47:39

# TX HT20 mode CH11



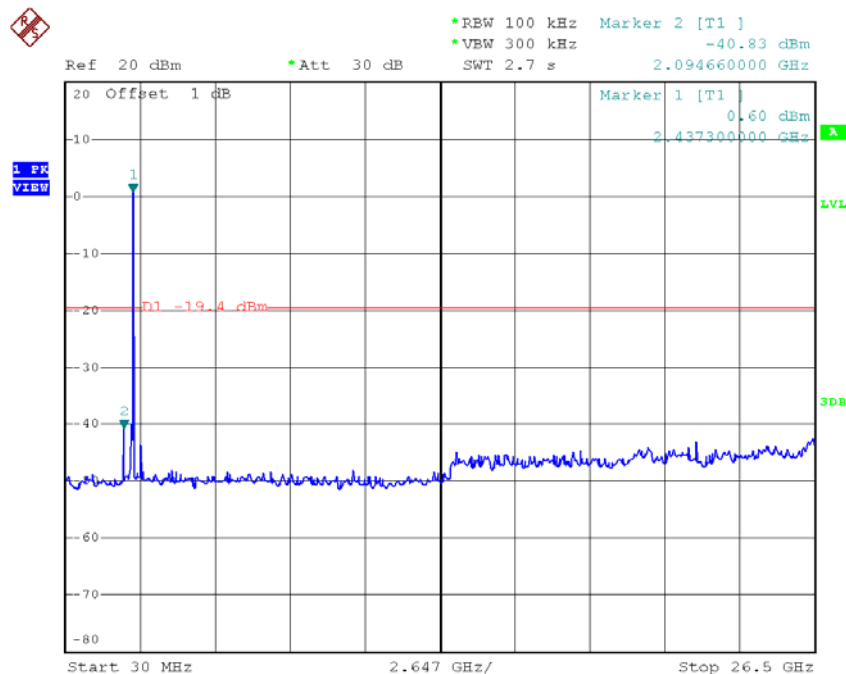
Date: 13.JAN.2015 18:49:55

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



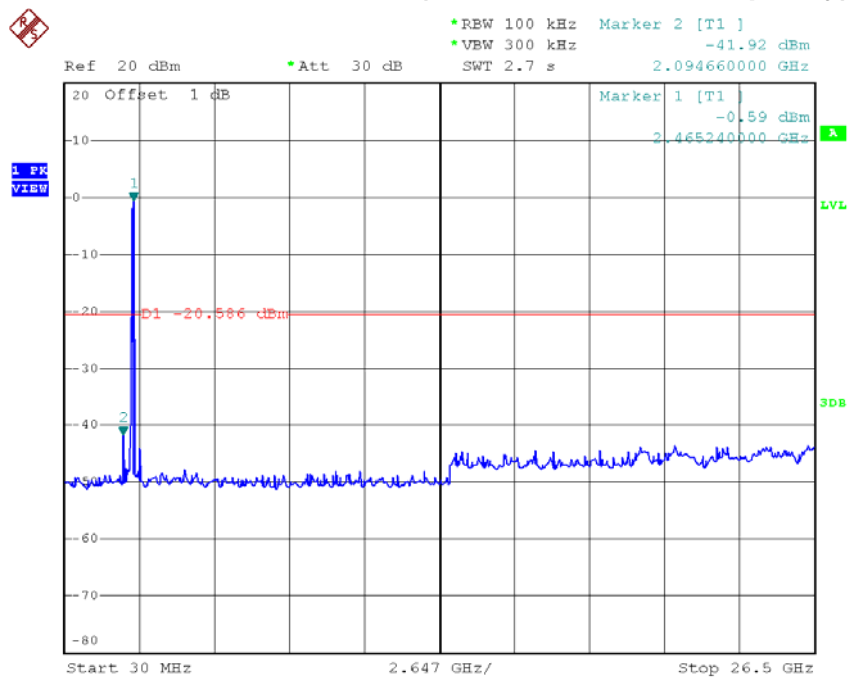
Date: 13.JAN.2015 18:47:32

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



Date: 13.JAN.2015 18:48:55

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

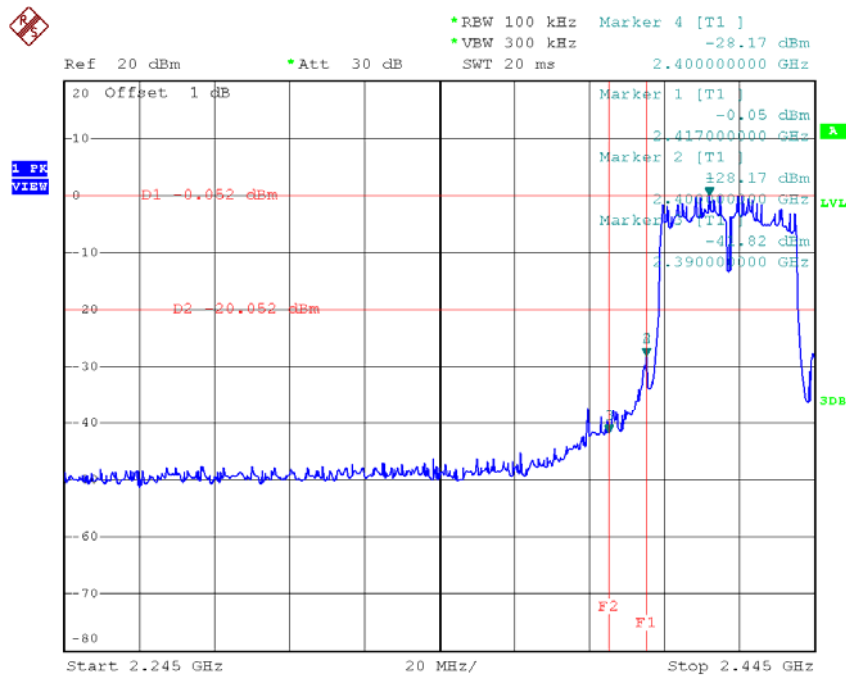


Date: 13.JAN.2015 18:49:48



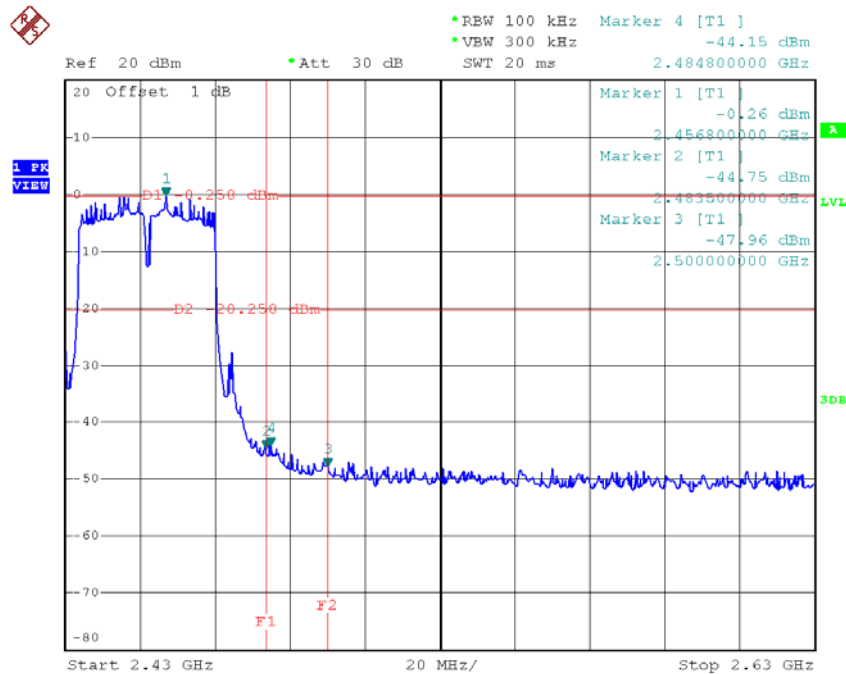
Test Mode :	TX N-40M Mode_ANT 1
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### TX HT40 mode CH03



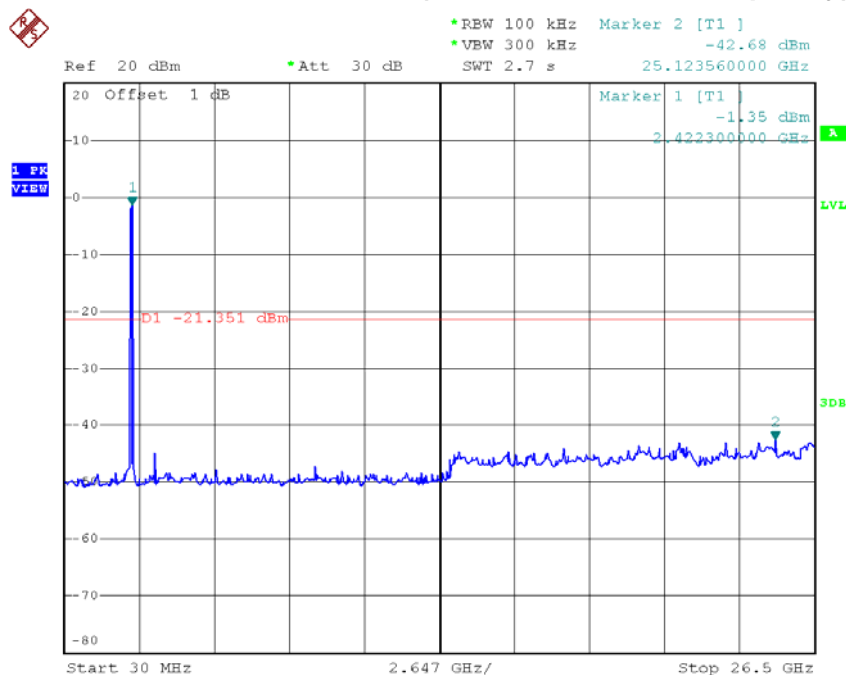
Date: 13.JAN.2015 18:51:57

### TX HT40 mode CH09



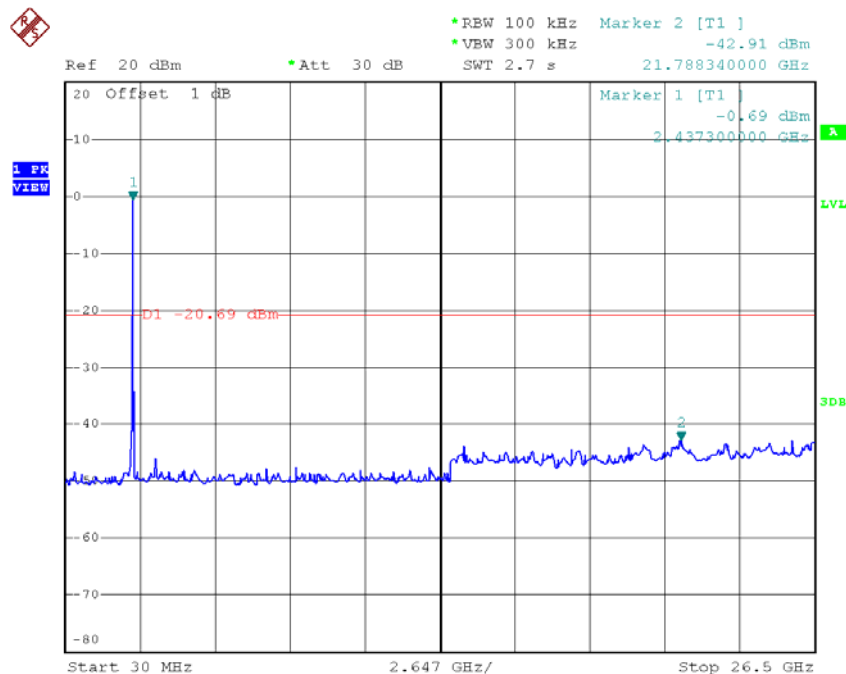
Date: 13.JAN.2015 18:54:19

### TX HT40 mode CH03 (10 Harmonic of the frequency)



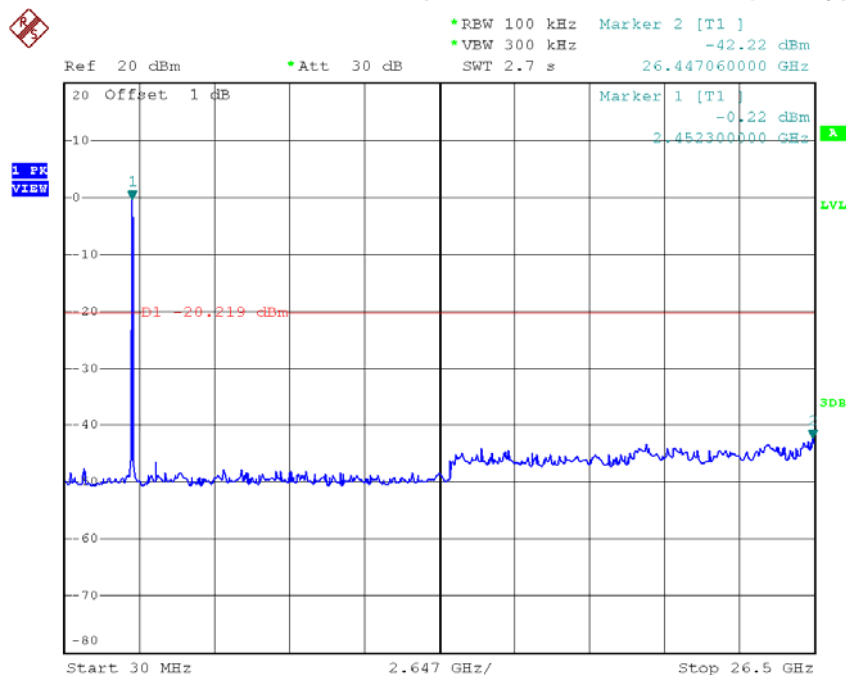
Date: 13.JAN.2015 18:51:49

### TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 13.JAN.2015 18:53:03

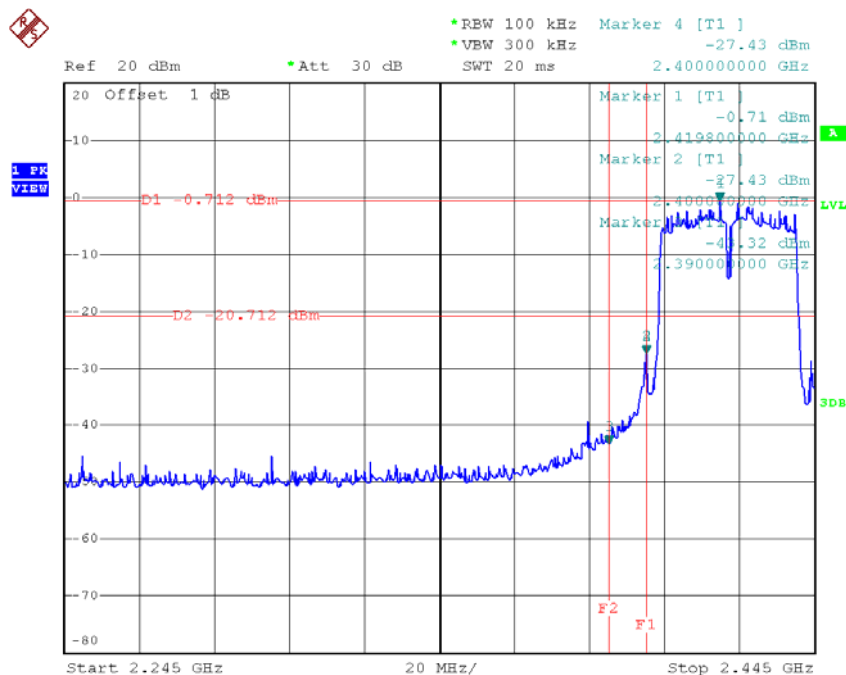
# TX HT40 mode CH09 (10 Harmonic of the frequency)



Date: 13.JAN.2015 18:54:12

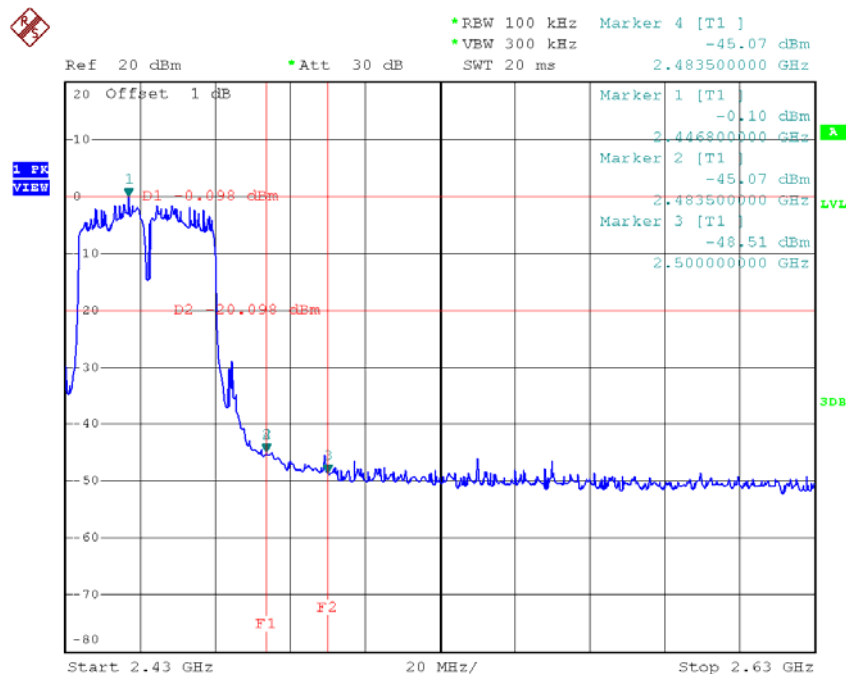
<b>Test Mode :</b>	<b>TX N-40M Mode_ANT 2</b>
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# TX HT40 mode CH03



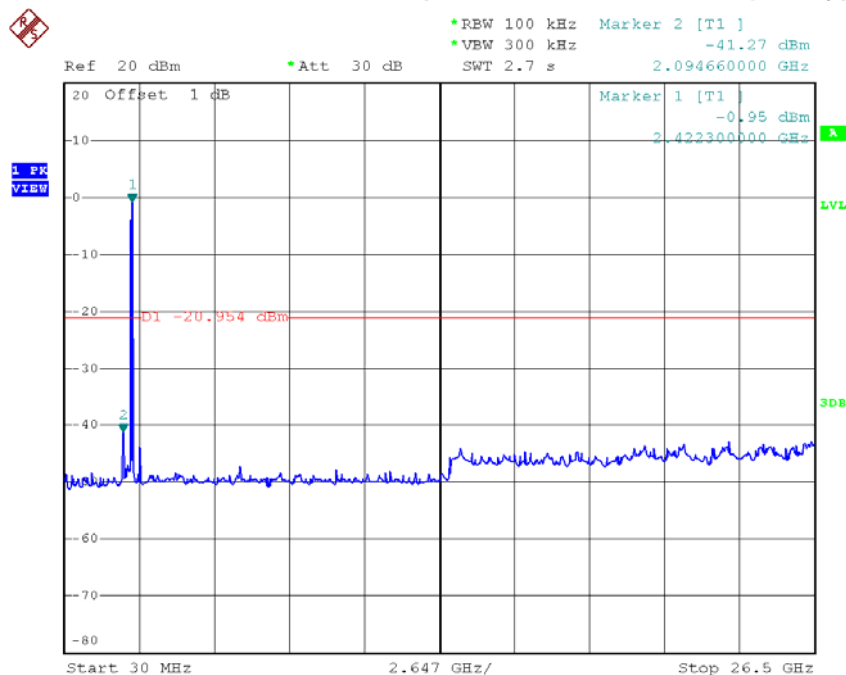
Date: 13.JAN.2015 18:55:38

# TX HT40 mode CH09



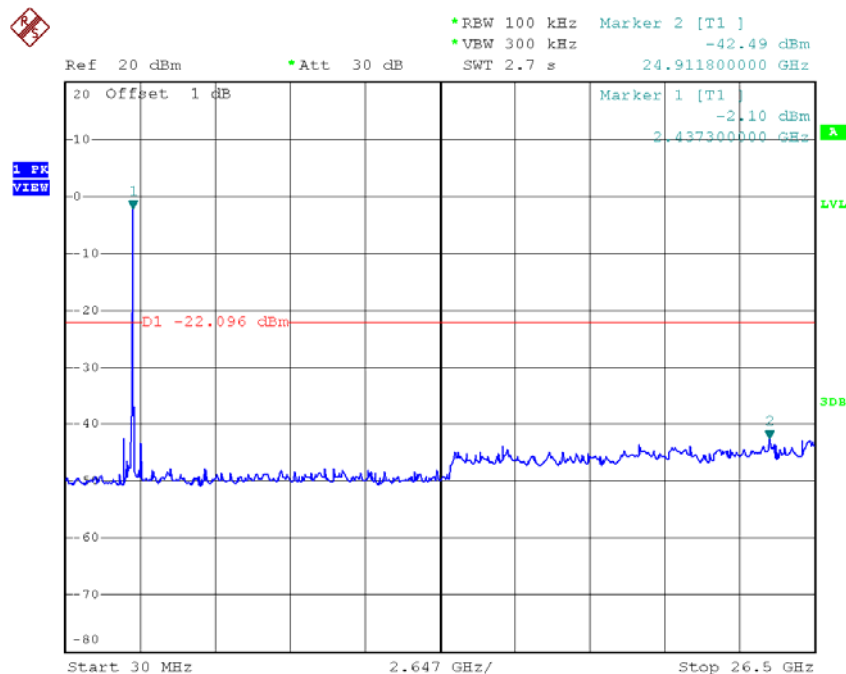
Date: 13.JAN.2015 18:57:42

### TX HT40 mode CH03 (10 Harmonic of the frequency)



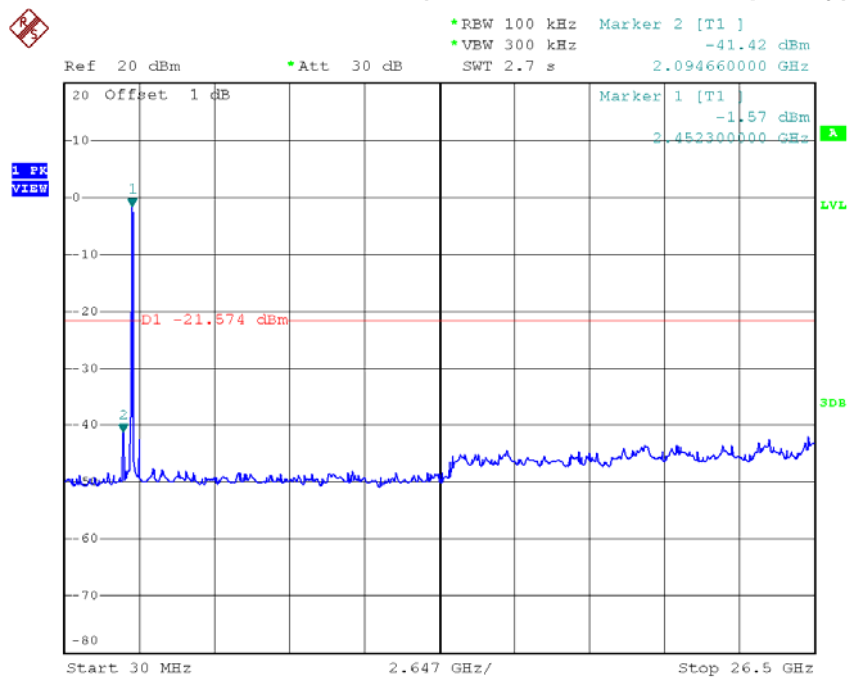
Date: 13.JAN.2015 18:55:31

### TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 13.JAN.2015 18:56:40

# TX HT40 mode CH09 (10 Harmonic of the frequency)



Date: 13.JAN.2015 18:57:35

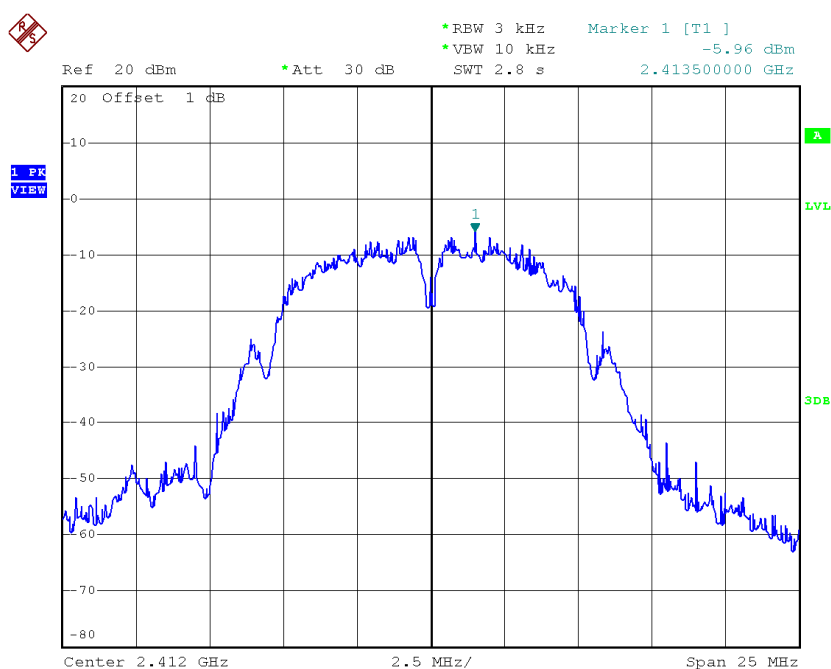


## **ATTACHMENT H - POWER SPECTRAL DENSITY**

Test Mode :TX B Mode\_CH01/06/11

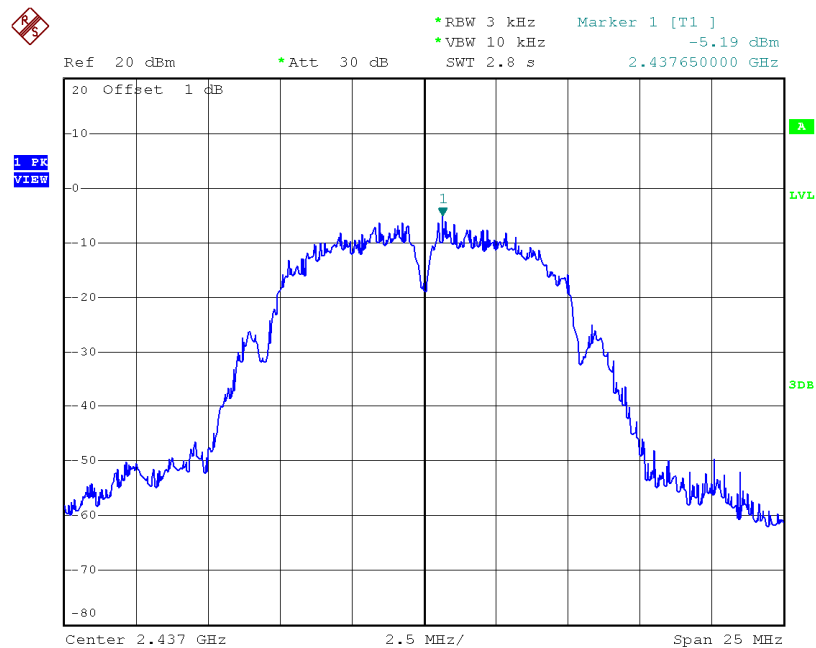
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-5.96	0.25	8.00	Complies
2437	-5.19	0.30	8.00	Complies
2462	-6.41	0.23	8.00	Complies

TX CH01



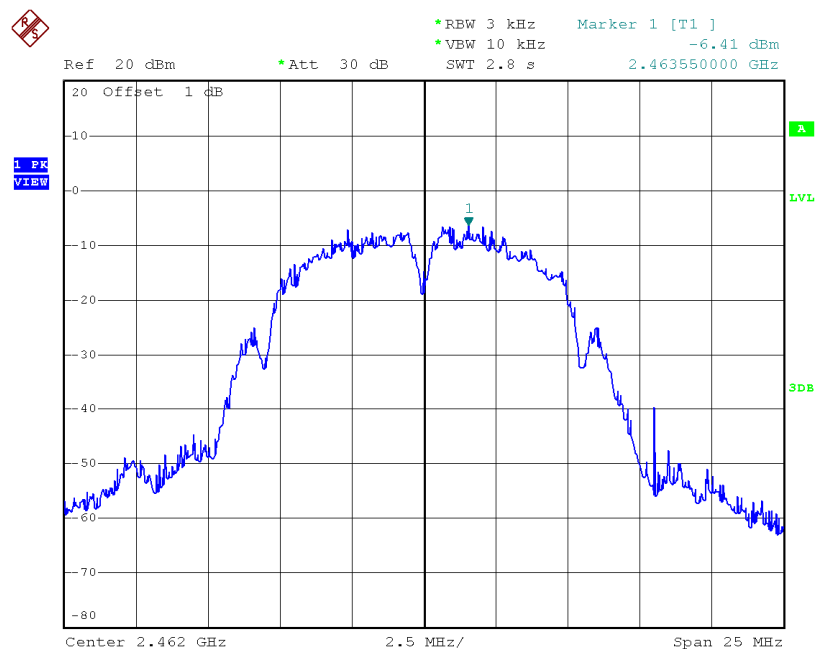
Date: 13.JAN.2015 18:35:57

### TX CH06



Date: 13.JAN.2015 18:36:49

### TX CH11

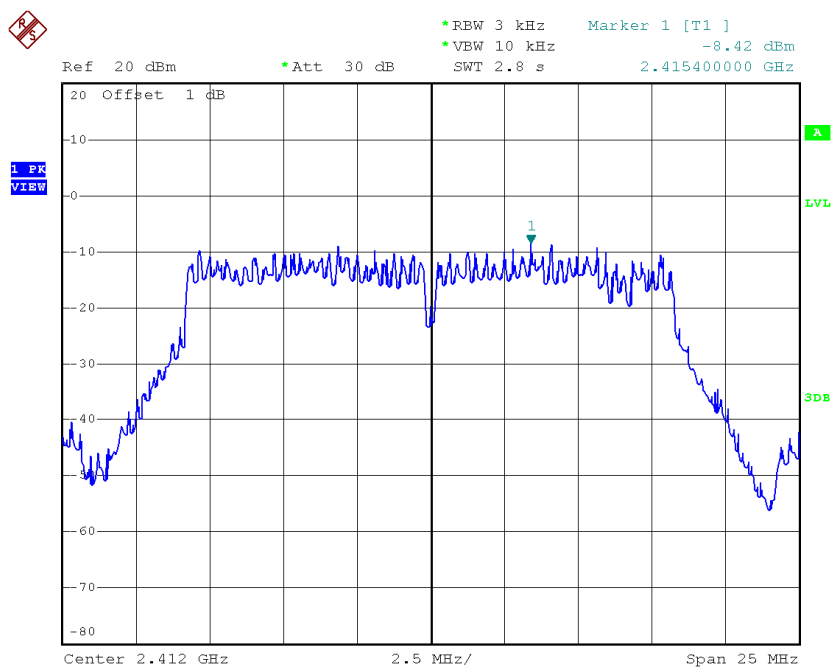


Date: 13.JAN.2015 18:38:02

Test Mode :TX G Mode\_CH01/06/11

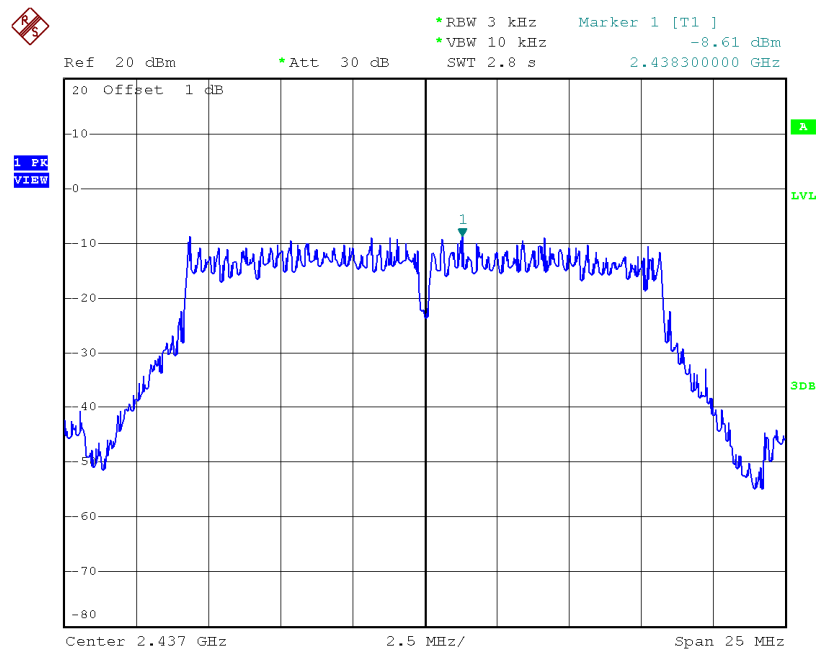
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-8.42	0.14	8.00	Complies
2437	-8.61	0.14	8.00	Complies
2462	-8.15	0.15	8.00	Complies

TX CH01



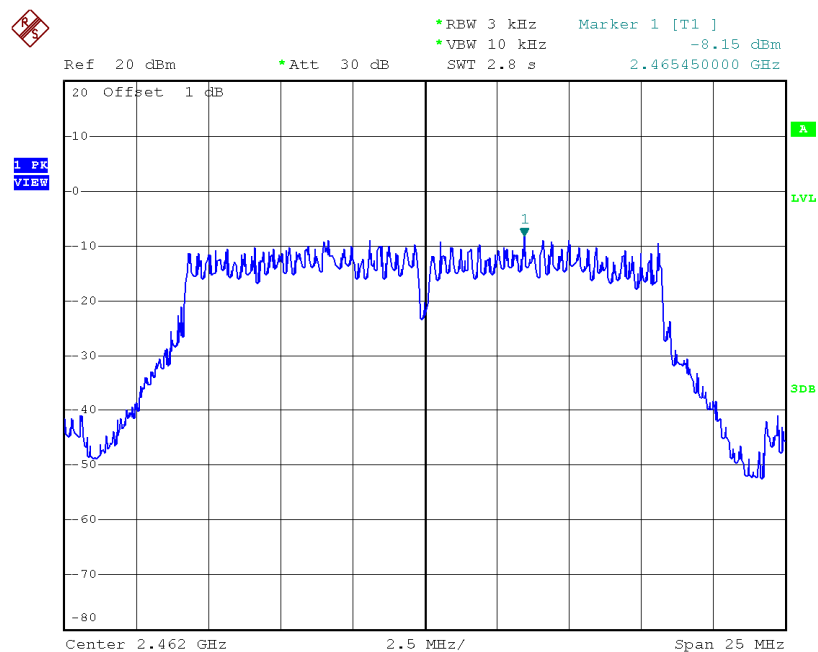
Date: 13.JAN.2015 18:38:55

### TX CH06



Date: 13.JAN.2015 18:39:49

### TX CH11

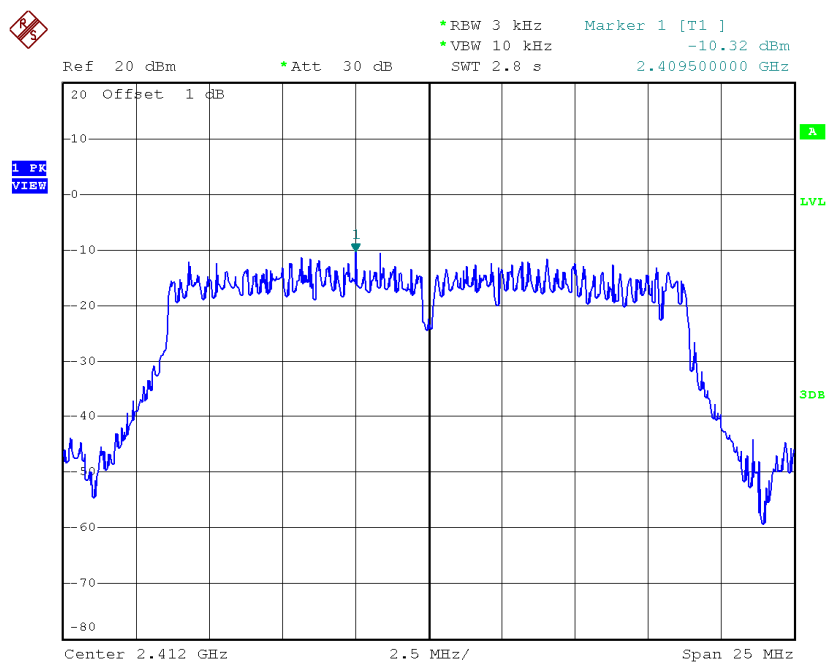


Date: 13.JAN.2015 18:40:44

**Test Mode : TX N-20M Mode\_CH01/06/11\_ANT 1**

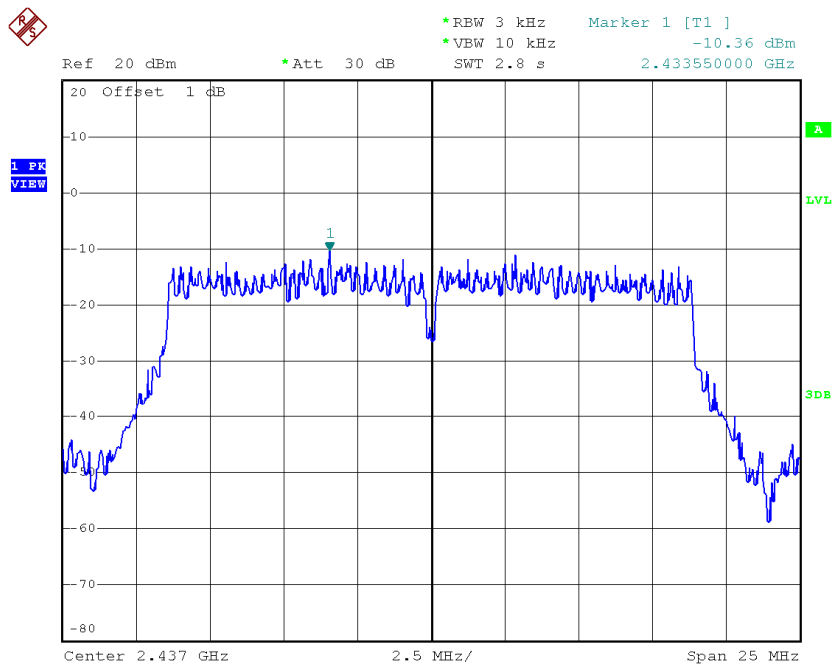
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.32	0.09	8.00	Complies
2437	-10.36	0.09	8.00	Complies
2462	-11.71	0.07	8.00	Complies

**TX CH01**



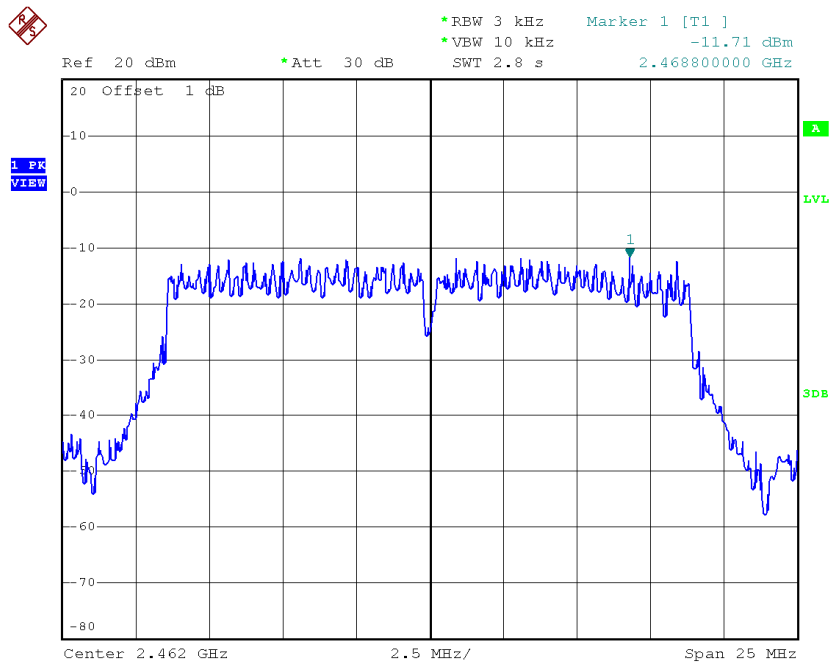
Date: 13.JAN.2015 18:42:18

### TX CH06



Date: 13.JAN.2015 18:44:12

### TX CH11

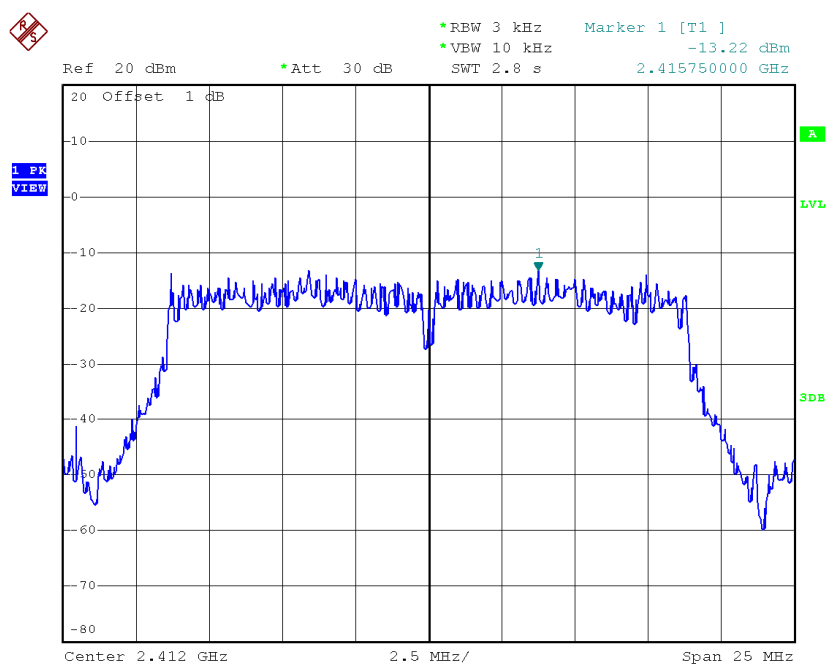


Date: 13.JAN.2015 18:46:41

**Test Mode : TX N-20M Mode\_CH01/06/11\_ANT 2**

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.22	0.05	8.00	Complies
2437	-13.14	0.05	8.00	Complies
2462	-12.73	0.05	8.00	Complies

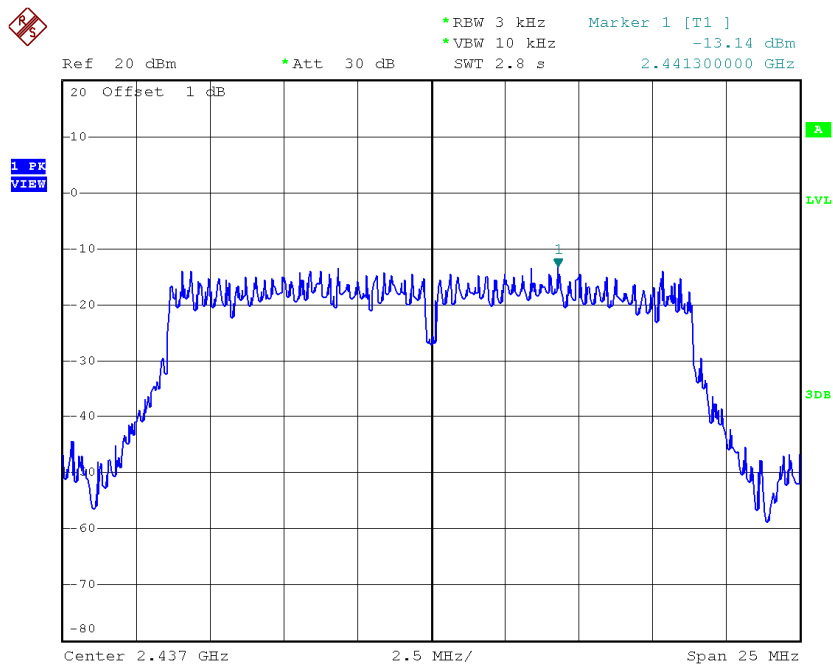
**TX CH01**



Date: 13.JAN.2015 18:47:48

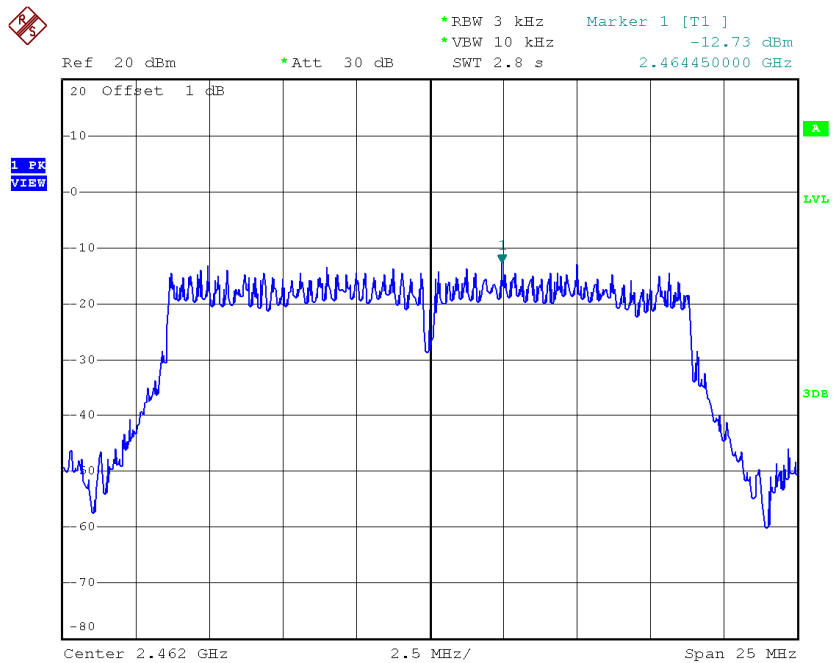


### TX CH06



Date: 13.JAN.2015 18:49:04

### TX CH11



Date: 13.JAN.2015 18:50:04

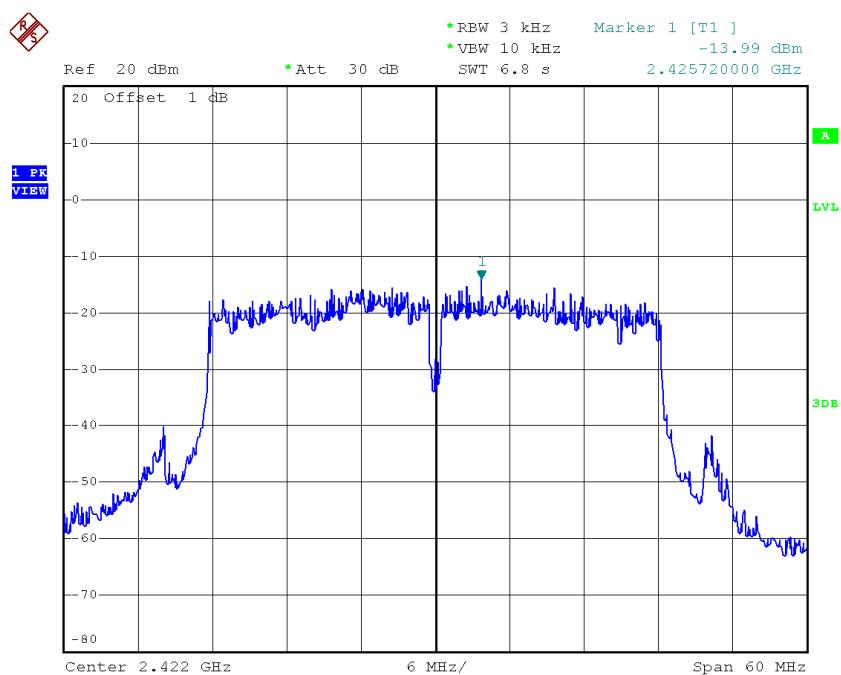
**Test Mode : TX N-20M Mode\_CH01/06/11\_Total**

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-8.52	0.14	8.00	Complies
2437	-8.52	0.14	8.00	Complies
2462	-9.18	0.12	8.00	Complies

Test Mode : TX N-40M Mode\_CH03/06/09\_ANT 1

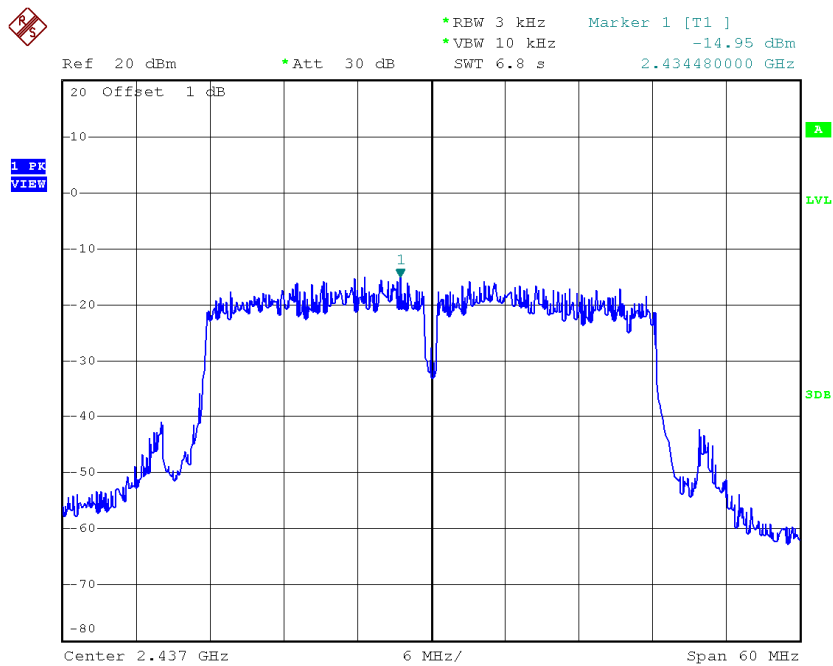
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-13.99	0.04	8.00	Complies
2437	-14.95	0.03	8.00	Complies
2452	-14.58	0.03	8.00	Complies

TX CH03



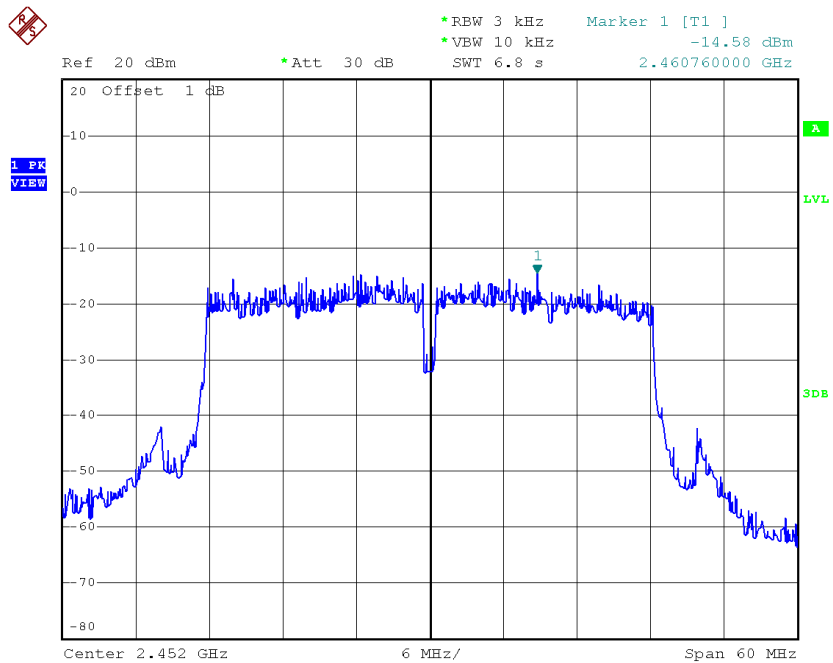
Date: 13.JAN.2015 18:52:09

### TX CH06



Date: 13.JAN.2015 18:53:15

### TX CH09

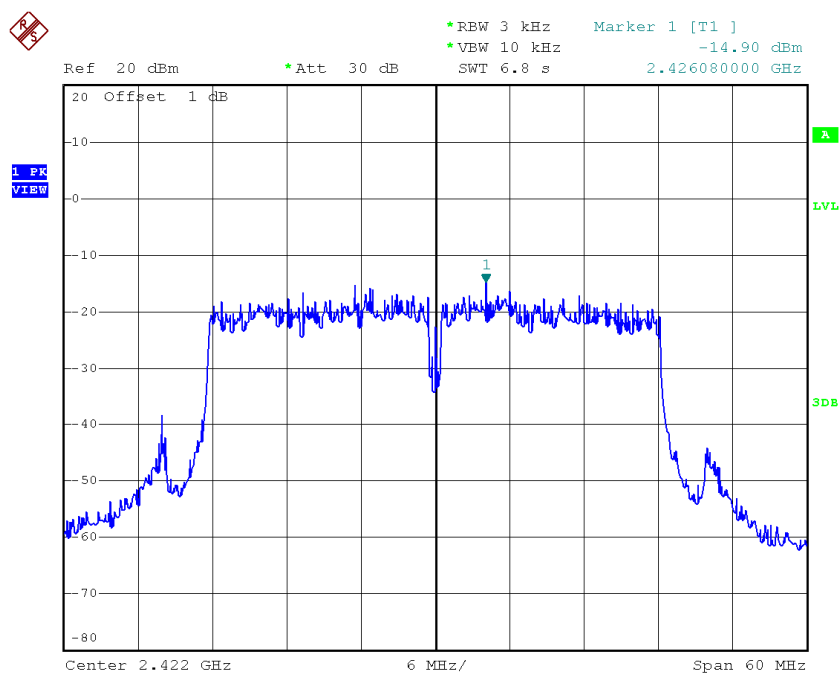


Date: 13.JAN.2015 18:54:31

**Test Mode : TX N-40M Mode\_CH03/06/09\_ANT 2**

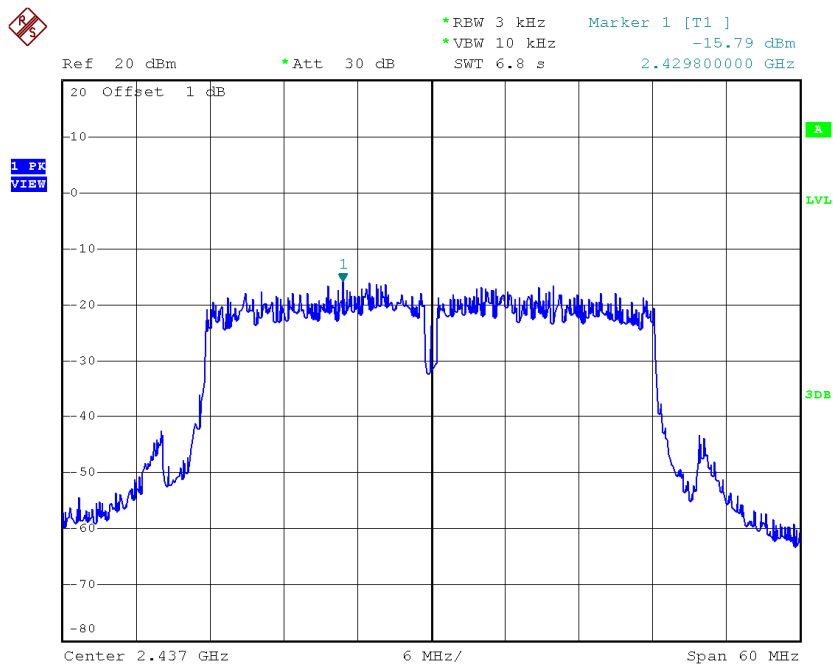
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-14.90	0.03	8.00	Complies
2437	-15.79	0.03	8.00	Complies
2452	-15.66	0.03	8.00	Complies

**TX CH03**



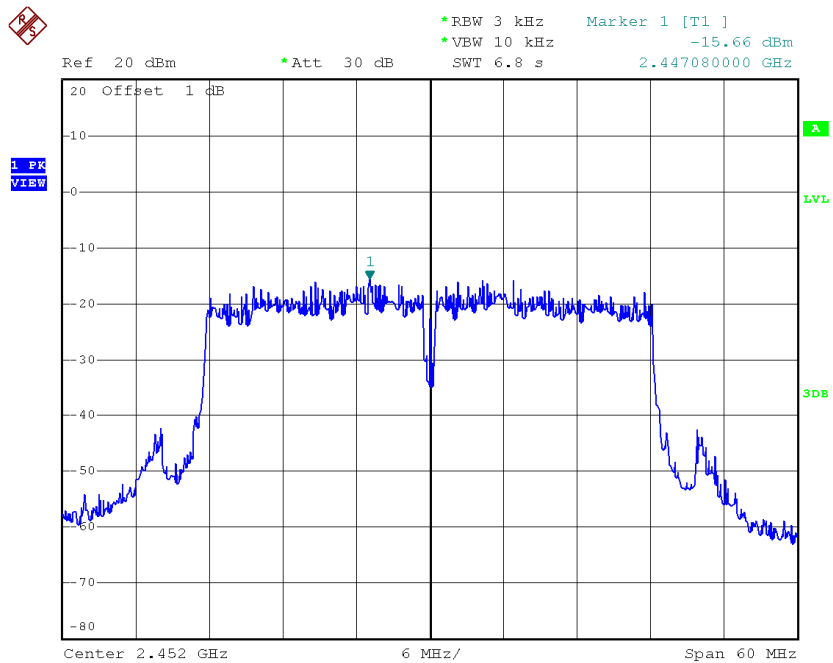
Date: 13.JAN.2015 18:55:50

### TX CH06



Date: 13.JAN.2015 18:56:51

### TX CH09



Date: 13.JAN.2015 18:57:54

**Test Mode : TX N-40M Mode\_CH03/06/09\_Total**

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-11.41	0.07	8.00	Complies
2437	-12.34	0.06	8.00	Complies
2452	-12.08	0.06	8.00	Complies