

FCC Radio Test Report

FCC ID:TL449160

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

Project No. : 1601C239
Equipment : Wi-Fi microSD Card Reader
Model Name : MediaShare Wireless Mini, 49160
Applicant : Verbatim Americas, LLC
Address : 1200 West W. T. Harris Blvd. Charlotte, NC 28262
USA

Date of Receipt : Feb. 01, 2016
Date of Test : Feb. 01, 2016 ~ Feb. 23, 2016
Issued Date : Feb. 23, 2016
Tested by : BTL Inc.

Testing Engineer : Shawn Xiao
(Shawn Xiao)

Technical Manager : David Mao
(David Mao)

Authorized Signatory : Steven Lu
(Steven Lu)

B T L I N C .

No.3,Jinshagang 1st Road, Shixia,Dalang Town, Dongguan,
Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacturer's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

BTL's report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and **BTL-self**, extracts from the test report shall not be reproduced except in full with **BTL**'s authorized written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

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.

Table of Contents	Page
1 . CERTIFICATION	6
2 . SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3 . GENERAL INFORMATION	9
3.1 GENERAL DESCRIPTION OF EUT	9
3.2 DESCRIPTION OF TEST MODES	10
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	11
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	12
3.5 DESCRIPTION OF SUPPORT UNITS	12
4 . EMC EMISSION TEST	13
4.1 CONDUCTED EMISSION MEASUREMENT	13
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	13
4.1.2 TEST PROCEDURE	13
4.1.3 DEVIATION FROM TEST STANDARD	13
4.1.4 TEST SETUP	14
4.1.5 EUT OPERATING CONDITIONS	14
4.1.6 EUT TEST CONDITIONS	14
4.1.7 TEST RESULTS	14
4.2 RADIATED EMISSION MEASUREMENT	15
4.2.1 RADIATED EMISSION LIMITS	15
4.2.2 TEST PROCEDURE	16
4.2.3 DEVIATION FROM TEST STANDARD	16
4.2.4 TEST SETUP	17
4.2.5 EUT OPERATING CONDITIONS	18
4.2.6 EUT TEST CONDITIONS	18
4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	19
4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)	19
4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	19
5 . BANDWIDTH TEST	20
5.1 APPLIED PROCEDURES	20
5.1.1 TEST PROCEDURE	20
5.1.2 DEVIATION FROM STANDARD	20
5.1.3 TEST SETUP	20
5.1.4 EUT OPERATION CONDITIONS	20
5.1.5 EUT TEST CONDITIONS	20
5.1.6 TEST RESULTS	20
6 . MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST	21

Table of Contents	Page
6.1 APPLIED PROCEDURES / LIMIT	21
6.1.1 TEST PROCEDURE	21
6.1.2 DEVIATION FROM STANDARD	21
6.1.3 TEST SETUP	21
6.1.4 EUT OPERATION CONDITIONS	21
6.1.5 EUT TEST CONDITIONS	21
6.1.6 TEST RESULTS	21
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	22
7.1 APPLIED PROCEDURES / LIMIT	22
7.1.1 TEST PROCEDURE	22
7.1.2 DEVIATION FROM STANDARD	22
7.1.3 TEST SETUP	22
7.1.4 EUT OPERATION CONDITIONS	22
7.1.5 EUT TEST CONDITIONS	22
7.1.6 TEST RESULTS	22
8 . POWER SPECTRAL DENSITY TEST	23
8.1 APPLIED PROCEDURES / LIMIT	23
8.1.1 TEST PROCEDURE	23
8.1.2 DEVIATION FROM STANDARD	23
8.1.3 TEST SETUP	23
8.1.4 EUT OPERATION CONDITIONS	23
8.1.5 EUT TEST CONDITIONS	23
8.1.6 TEST RESULTS	23
9 . MEASUREMENT INSTRUMENTS LIST	24
10 . EUT TEST PHOTO	26
ATTACHMENT A -CONDUCTED EMISSION	30
ATTACHMENT B -RADIATED EMISSION (9KHZ TO 30MHZ)	33
ATTACHMENT C -RADIATED EMISSION (30MHZ TO 1000MHZ)	35
ATTACHMENT D -RADIATED EMISSION (ABOVE 1000MHZ)	42
ATTACHMENT E - BANDWIDTH	91
ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER	100
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION	102
ATTACHMENT H - POWER SPECTRAL DENSITY	119

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1601C239	Original Issue.	Feb. 23, 2016

1. CERTIFICATION

Equipment : Wi-Fi microSD Card Reader
Brand Name : Verbatim
Model Name : MediaShare Wireless Mini, 49160
Applicant : Verbatim Americas, LLC
Manufacturer : Verbatim Americas, LLC
Address : 1200 West W. T. Harris Blvd. Charlotte, NC 28262 USA
Factory : Power7 Technology(Dongguan) Co., Ltd
Address : No.28 BinjiangSt.ShishuikouVillage,QiaotouTown,Dongguan City, GuangDong Province P.R.China.
Date of Test : Feb. 01, 2016 ~ Feb. 23, 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-1-1601C239) 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
	FCC		
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_{cisp} 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	Wi-Fi microSD Card Reader		
Brand Name	Verbatim		
Model Name	MediaShare Wireless Mini, 49160		
Model Difference	MediaShare Wireless Mini is Model Name, 49160 is Model number no other difference existed.		
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: 18.18dBm 802.11g: 22.96dBm 802.11n(20MHz): 23.95dBm 802.11n(40MHz): 21.97dBm	
	PowerSource	#1 Supplied from USB port. #2 Supplied from Battery. Model SP 472154	
Power Rating	#1 DC 5V #2 DC 3.8V 740mAh 2.812Wh		

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	N/A	N/A	PCB	N/A	0	N/A

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 N-40MHZ MODE CHANNEL 03/06/09
Mode 5	Normal Link

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

For Conducted Test	
Final Test Mode	Description
Mode 5	Normal Link

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

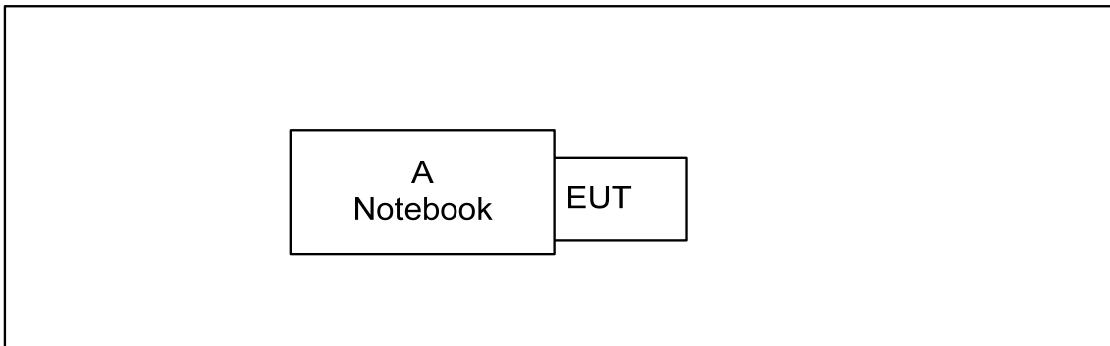
Note:

- (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 (6.5Mbps)
802.11n HT40mode : BPSK (13.5Mbps)
- For radiated emission tests, the highest output powers were set for final test.
- (3)For radiated below 1G test, the 802.11bis 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	QATool_Dbg.exe		
Frequency (MHz)	2412	2437	2462
802.11b	19	19	19
802.11g	17	17	17
802.11n (20MHz)	18	18	18
Frequency (MHz)	2422	2437	2452
802.11n (40MHz)	18	18	18

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.
A	Notebook	DELL	INSPIRON 1420	DOC	N/A

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 (dB μ V)	
	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

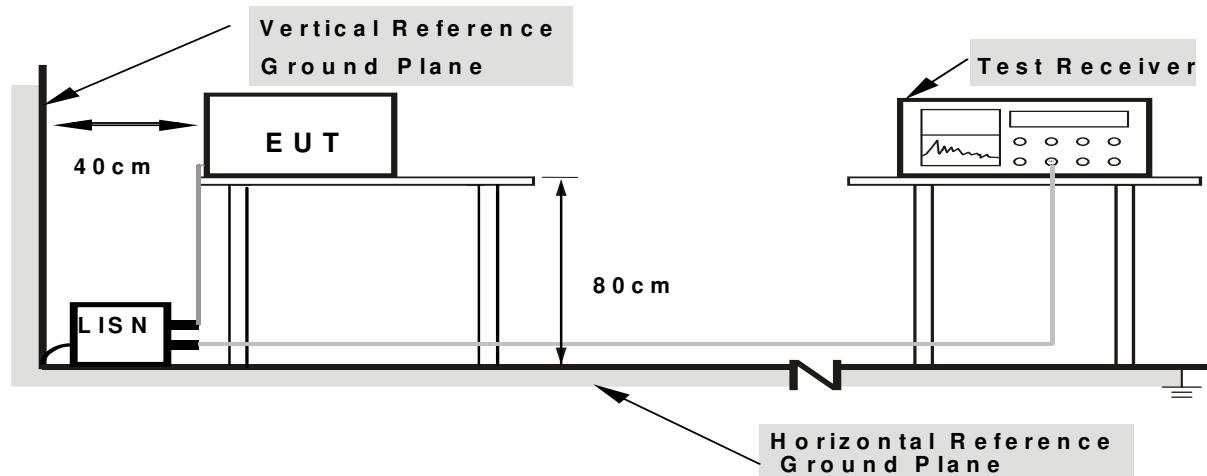
4.1.2 TEST PROCEDURE

- 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.
- Interconnecting cables that hang closer than 40 cm to the groundplane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- 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 TESTSETUP



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: 24°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)	(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)	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 TESTPROCEDURE

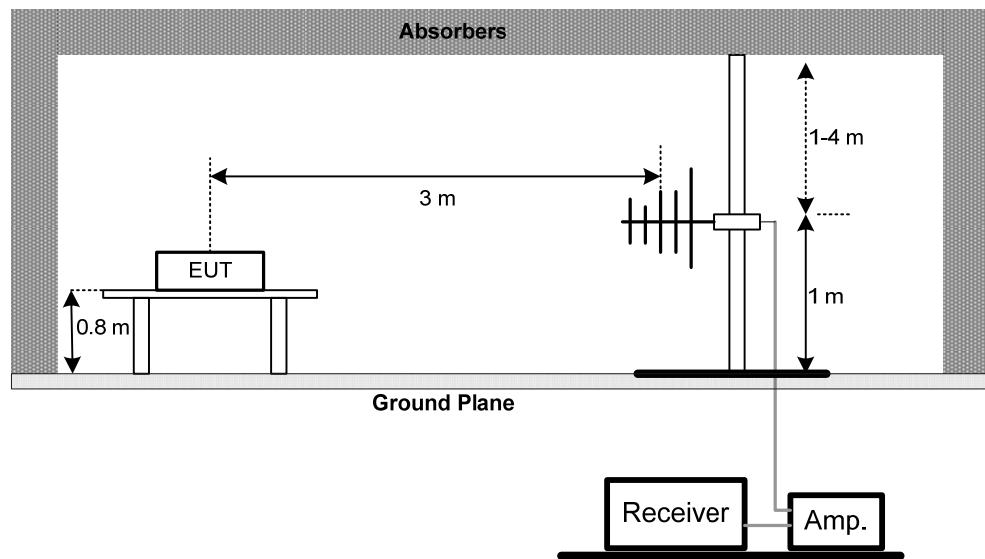
- The measuring distance of at 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of at 3 m 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 0.8 m or 1.5 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 receiver 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 DEVIATIONFROMTESTSTANDARD

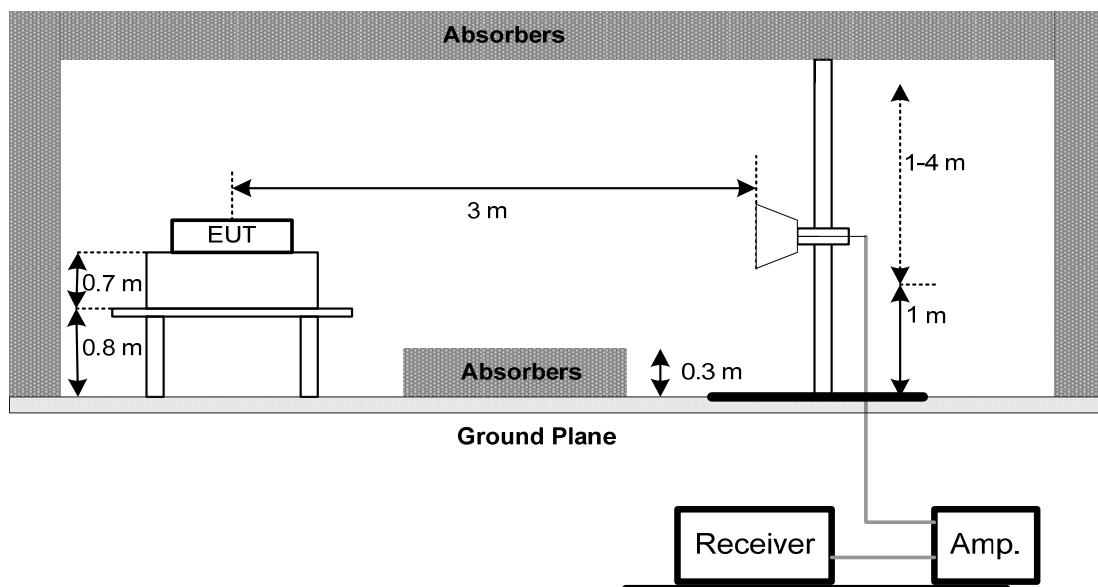
No deviation

4.2.4 TESTSETUP

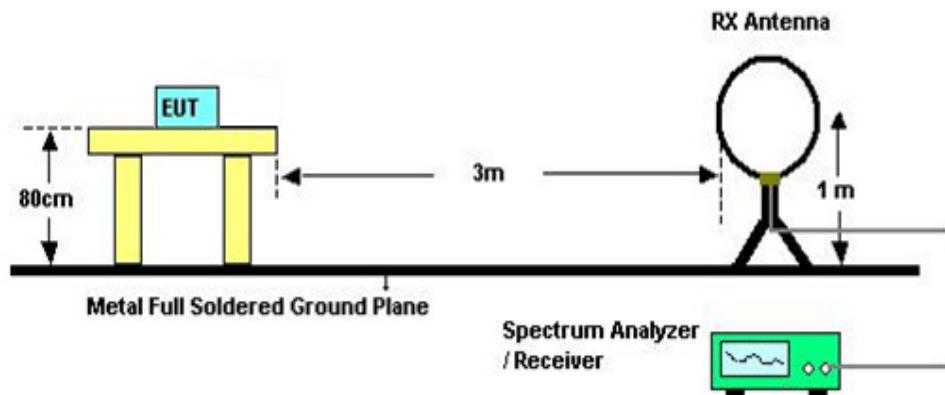
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

Temperature: 23°C
Relative Humidity: 65%
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(30MHZTO 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

5.1APPLIED PROCEDURES

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

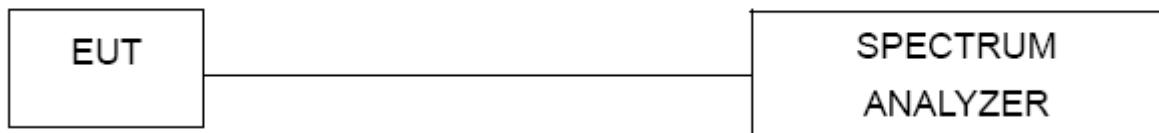
5.1.1TEST PROCEDURE

- 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 = 2.5 ms.

5.1.2DEVIATION FROM STANDARD

No deviation.

5.1.3TEST SETUP



5.1.4EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.1.5EUT TEST CONDITIONS

Temperature: 23°C
Relative Humidity: 65%
Test Voltage: AC 120V/60Hz

5.1.6TEST RESULTS

Please refer to the Attachment E.

6.MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST

6.1APPLIED 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

6.1.1TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- b. The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074D01 DTS Meas Guidance v03r04.

6.1.2DEVIATION FROM STANDARD

No deviation.

6.1.3TEST SETUP



6.1.4EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5EUT TEST CONDITIONS

Temperature: 23°C
Relative Humidity: 65%
Test Voltage: AC 120V/60Hz

6.1.6TEST 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

- 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.
- c. 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

- 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=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: 23°C Relative Humidity: 65% 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. 28, 2016
2	LISN	R&S	ENV216	101447	Mar. 28, 2016
3	Test Cable	emci	RG223(9KHz -30MHz)	C_17	Mar. 13, 2016
4	EMI Test Receiver	R&S	ESCS30	826547/022	Mar. 28, 2016
5	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 28, 2016
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. 28, 2016
2	Amplifier	HP	8447D	2944A09673	Nov. 09, 2016
3	Receiver	AGILENT	N9038A	MY5213003 9	Oct. 11, 2016
4	Test Cable	emci	LMR-400(30MHz -1GHz)	C-01	Jun. 28, 2016
5	Controller	CT	SC100	N/A	N/A
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
7	Antenna	ETS	3115	00075789	Mar. 28, 2016
8	Amplifier	Agilent	8449B	3008A02274	Nov. 01, 2016
9	Receiver	AGILENT	N9038A	MY5213003 9	Oct. 11, 2016
10	Test Cable	emci	EMC104-SM-S M-10000(1GHz -26.5GHz)	C-68	Jun. 28, 2016
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Mar. 28, 2016
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 28, 2016
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Sep. 07, 2016
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

6dB BandwidthMeasurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Oct. 11, 2016

Peak Output PowerMeasurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	P-series Power meter	Agilent	N1911A	MY45100473	Mar. 28, 2016
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Mar. 28, 2016

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Oct. 11, 2016

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Oct. 11, 2016

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

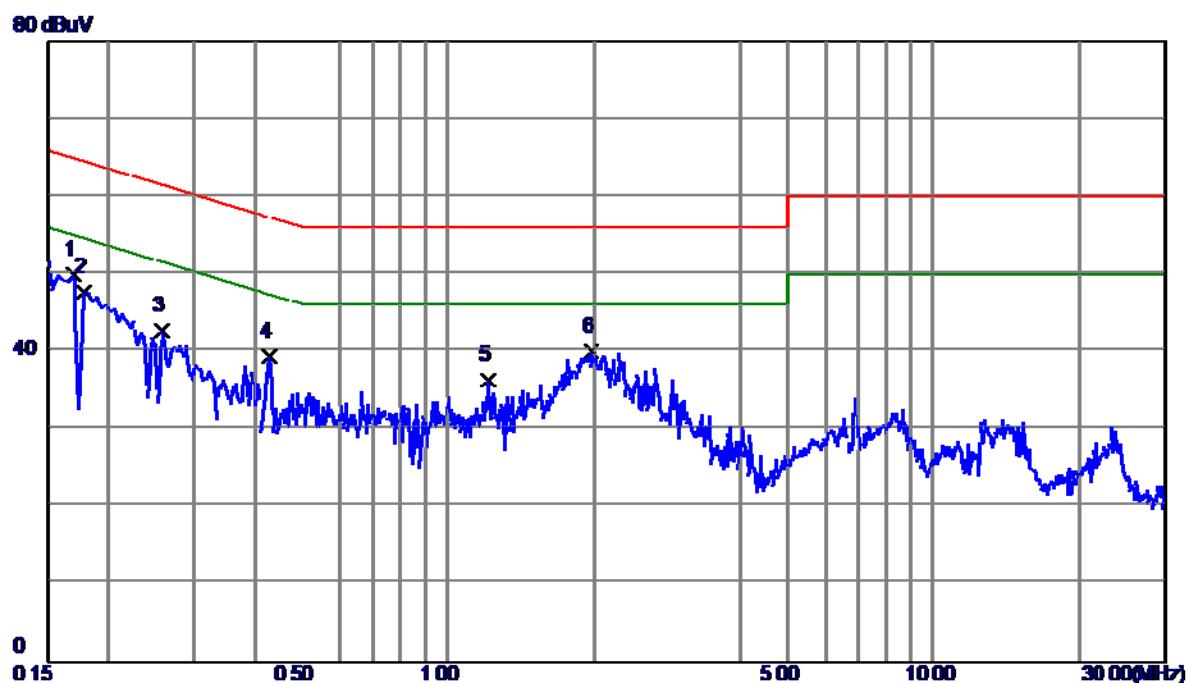
Above 1000MHz



ATTACHMENT A - CONDUCTED EMISSION

Test Mode : TX MODE

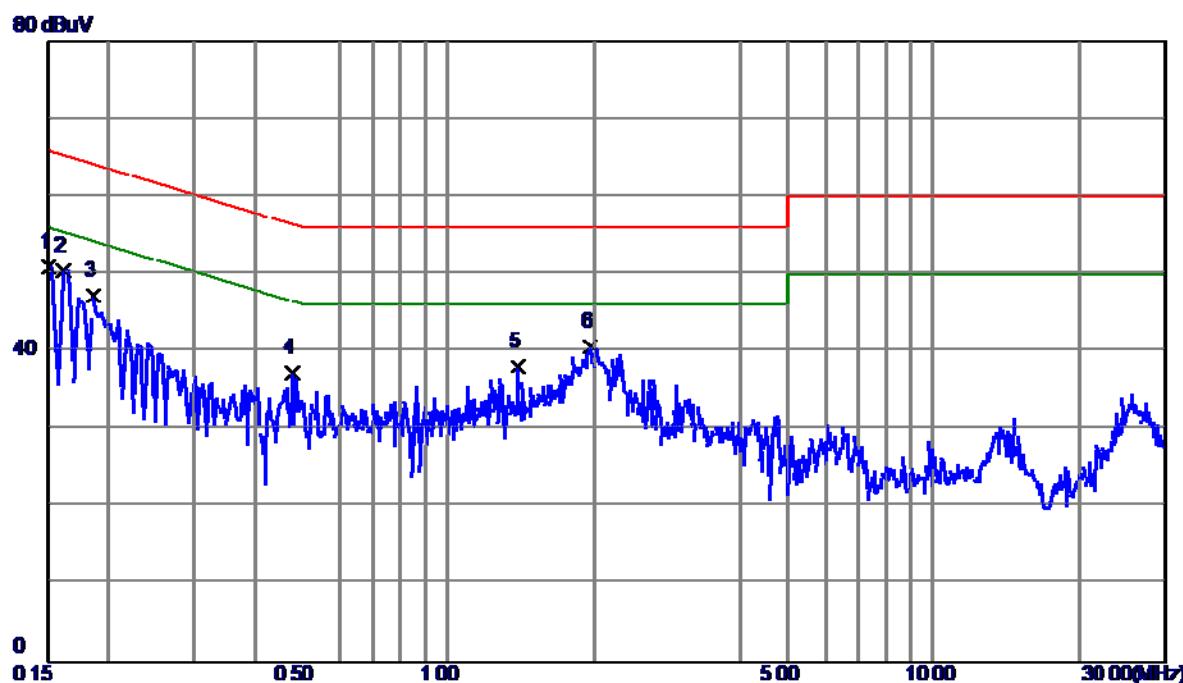
Line



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1700	40.42	9.56	49.98	64.96	-14.98	Peak	
2	0.1780	38.15	9.56	47.71	64.58	-16.87	Peak	
3	0.2580	33.08	9.62	42.70	61.50	-18.80	Peak	
4	0.4300	29.68	9.68	39.36	57.25	-17.89	Peak	
5	1.2100	26.52	9.81	36.33	56.00	-19.67	Peak	
6	1.9820	30.05	9.92	39.97	56.00	-16.03	Peak	

Test Mode : TX MODE

Neutral



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dB	Margin	Detector	Comment
1	0.1508	41.37	9.49	50.86	65.96	-15.10	Peak	
2	0.1620	40.98	9.48	50.46	65.36	-14.90	Peak	
3	0.1860	37.65	9.49	47.14	64.21	-17.07	Peak	
4	0.4780	27.66	9.55	37.21	56.37	-19.16	Peak	
5	1.3940	28.39	9.65	38.04	56.00	-17.96	Peak	
6	1.9660	30.99	9.72	40.71	56.00	-15.29	Peak	

ATTACHMENTB -RADIATED EMISSION (9KHZ TO 30MHZ)

Test Mode:	TX B MODE CHANNEL 01
------------	----------------------

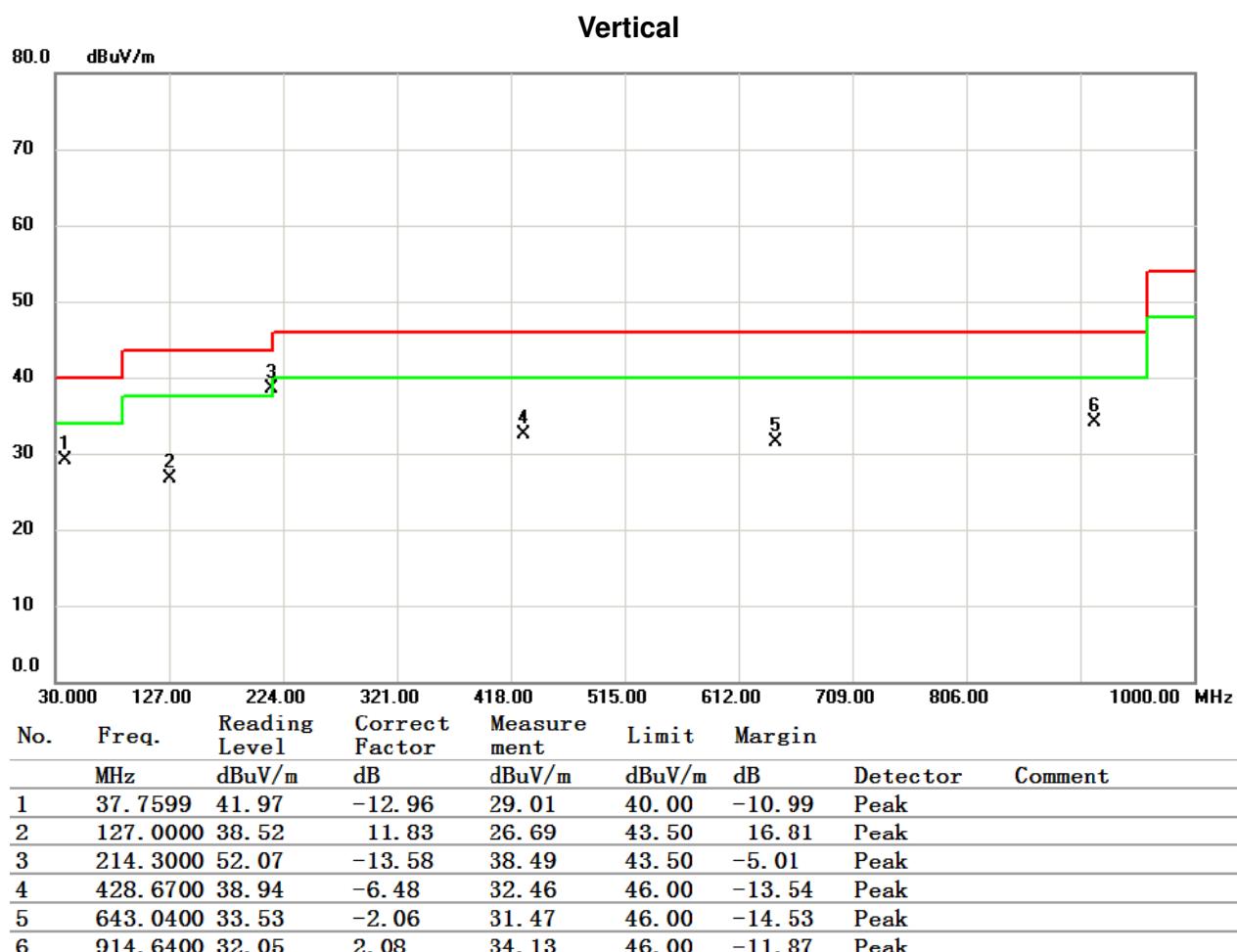
Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0098	0°	13.11	24.9460	38.0560	127.7797	-89.7237	AVG
0.0098	0°	14.51	24.9460	39.4560	147.7797	-108.3237	PEAK
0.0415	0°	6.72	22.9383	29.6583	115.2433	-85.5849	AVG
0.0415	0°	8.22	22.9383	31.1583	135.2433	-104.0849	PEAK
0.0569	0°	3.19	22.2620	25.4520	112.5020	-87.0500	AVG
0.0569	0°	5.88	22.2620	28.1420	132.5020	-104.3600	PEAK
0.078	0°	1.24	21.8400	23.0800	109.7623	-86.6823	AVG
0.078	0°	2.11	21.8400	23.9500	129.7623	-105.8123	PEAK
0.5396	0°	19.51	19.9267	39.4367	72.9628	-33.5261	QP
1.7521	0°	23.31	19.5248	42.8348	69.5400	-26.7052	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0182	90°	13.93	24.3000	38.2300	122.4028	-84.1728	AVG
0.0182	90°	14.24	24.3000	38.5400	142.4028	-103.8628	PEAK
0.0212	90°	7.52	24.2240	31.7440	121.0775	-89.3335	AVG
0.0212	90°	8.17	24.2240	32.3940	141.0775	-108.6835	PEAK
0.0409	90°	5.75	22.9763	28.7263	115.3698	-86.6434	AVG
0.0409	90°	6.82	22.9763	29.7963	135.3698	-105.5734	PEAK
0.0588	90°	1.14	22.2240	23.3640	112.2167	-88.8527	AVG
0.0588	90°	2.83	22.2240	25.0540	132.2167	-107.1627	PEAK
0.61	90°	22.97	20.1520	43.1220	71.8976	-28.7756	QP
2.1773	90°	24.44	19.3936	43.8336	69.5400	-25.7064	QP

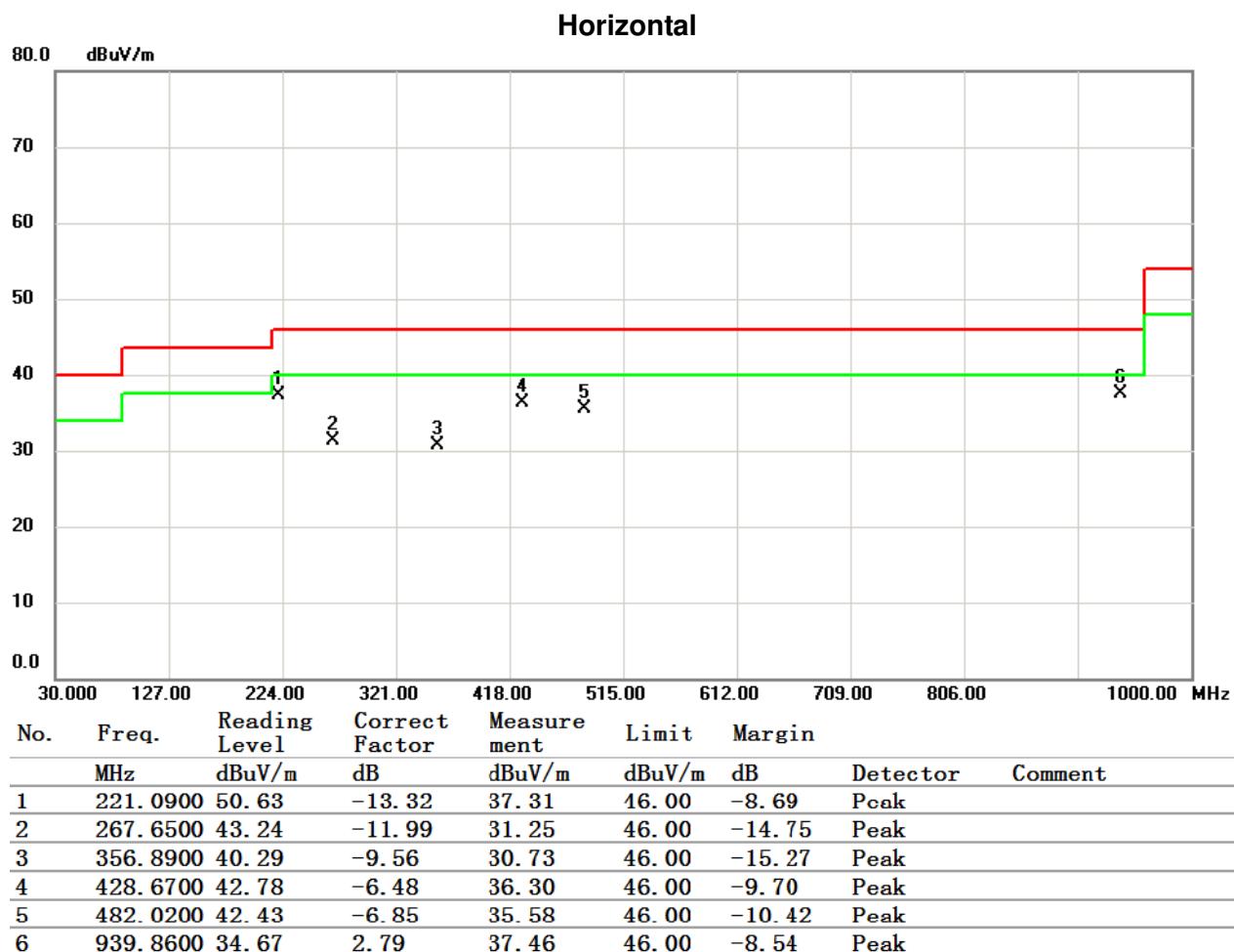
ATTACHMENTC -RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode:

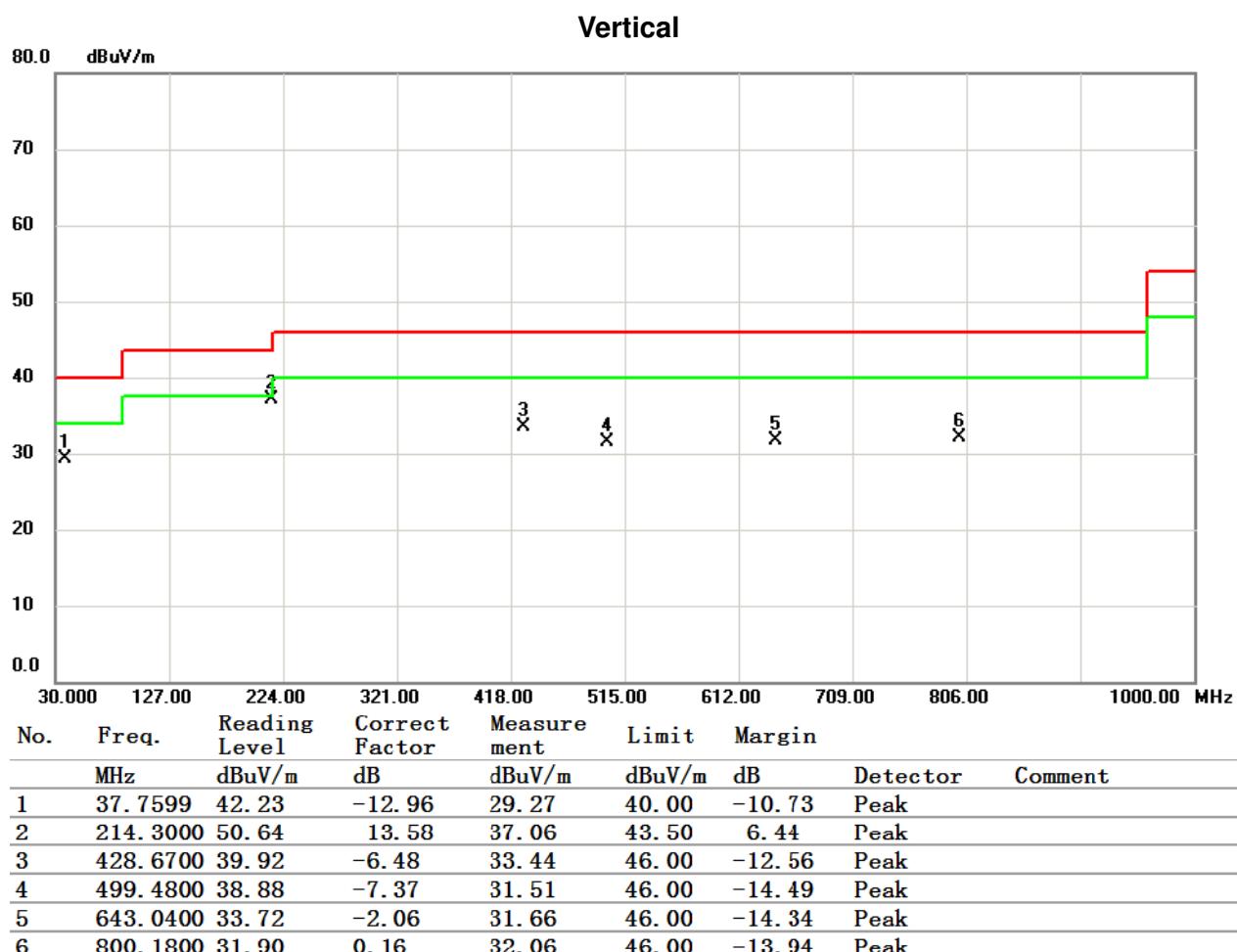
TX B MODE CHANNEL 01



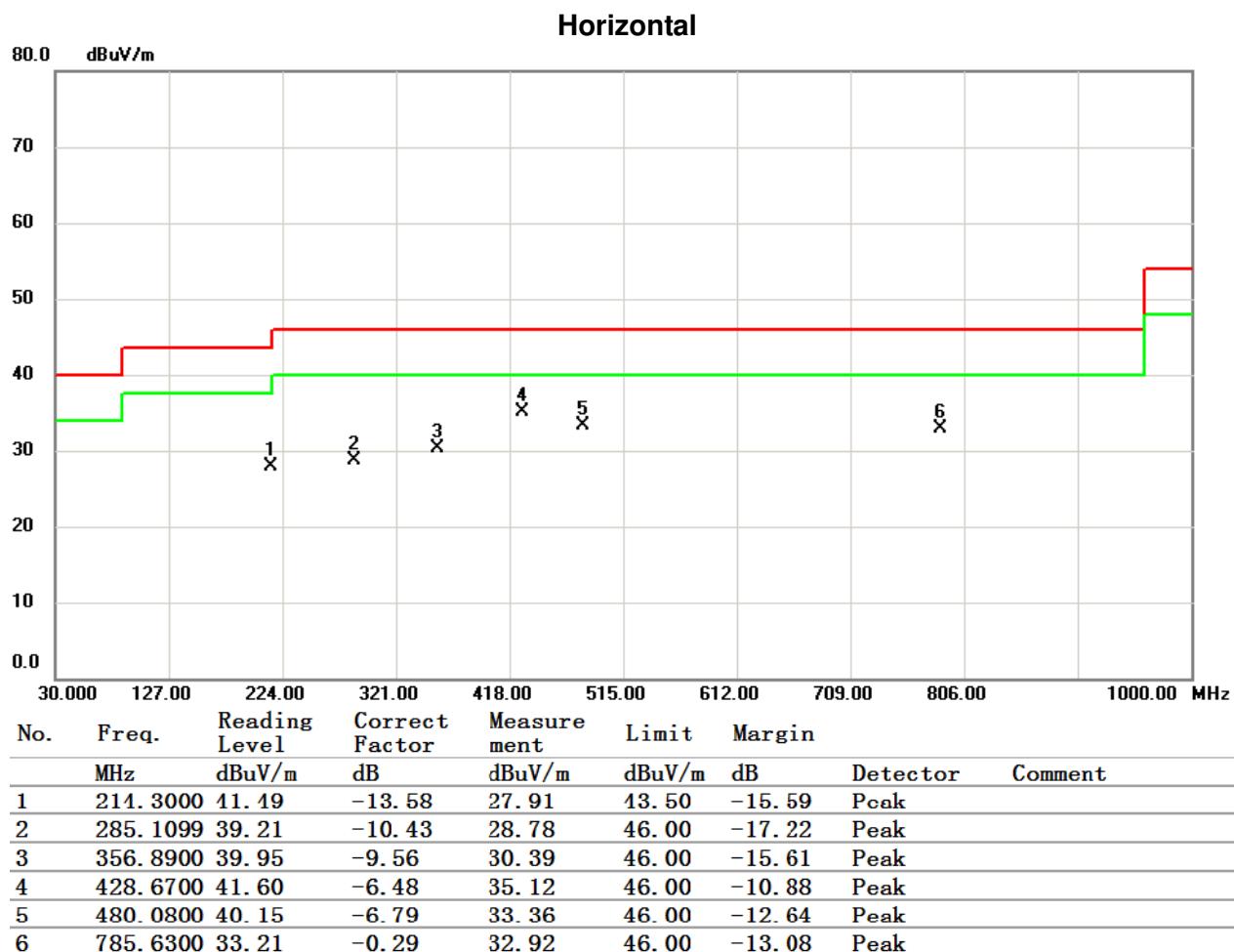
Test Mode: TX B MODE CHANNEL 01



Test Mode: TX B MODE CHANNEL 06

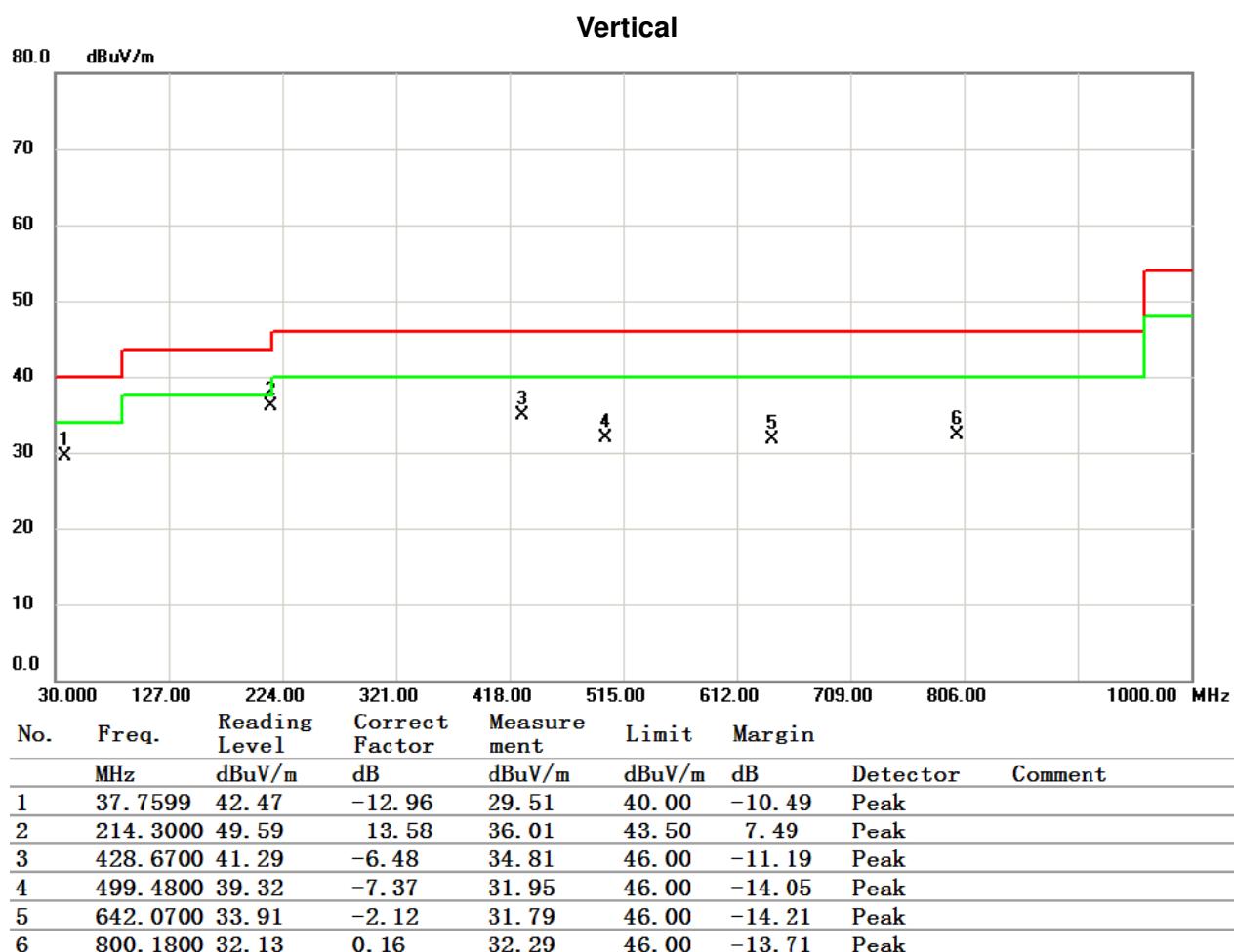


Test Mode: TX B MODE CHANNEL 06

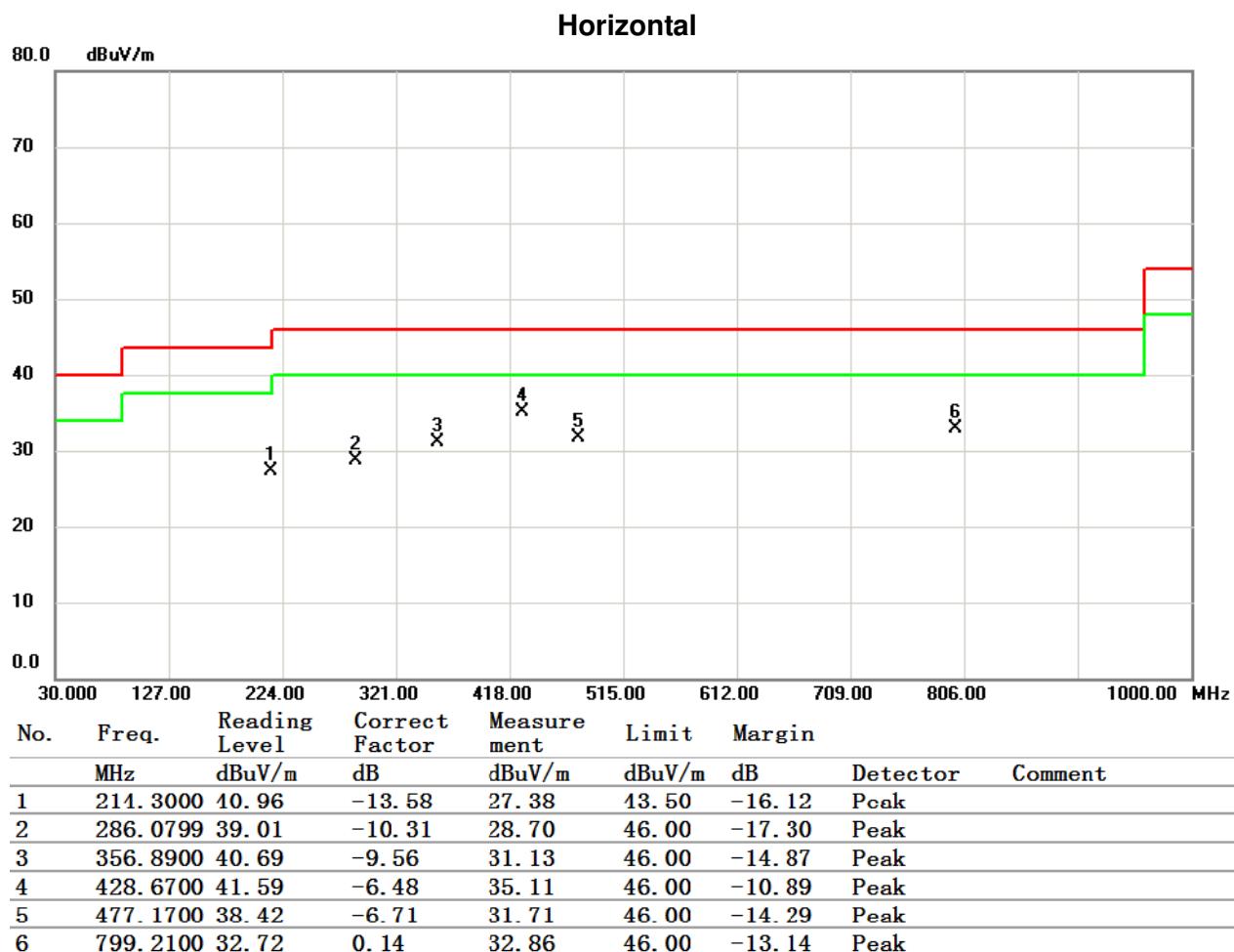


Test Mode:

TX B MODE CHANNEL 11



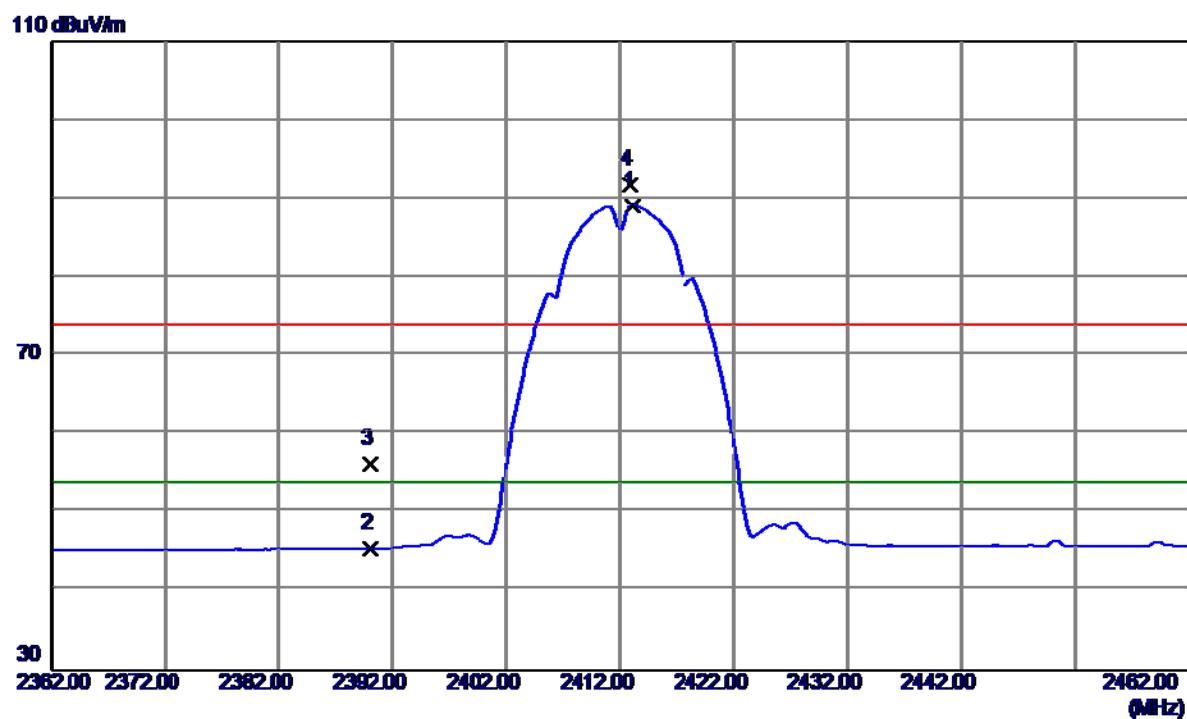
Test Mode: TX B MODE CHANNEL 11



ATTACHMENTD -RADIATED EMISSION (ABOVE 1000MHZ)

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

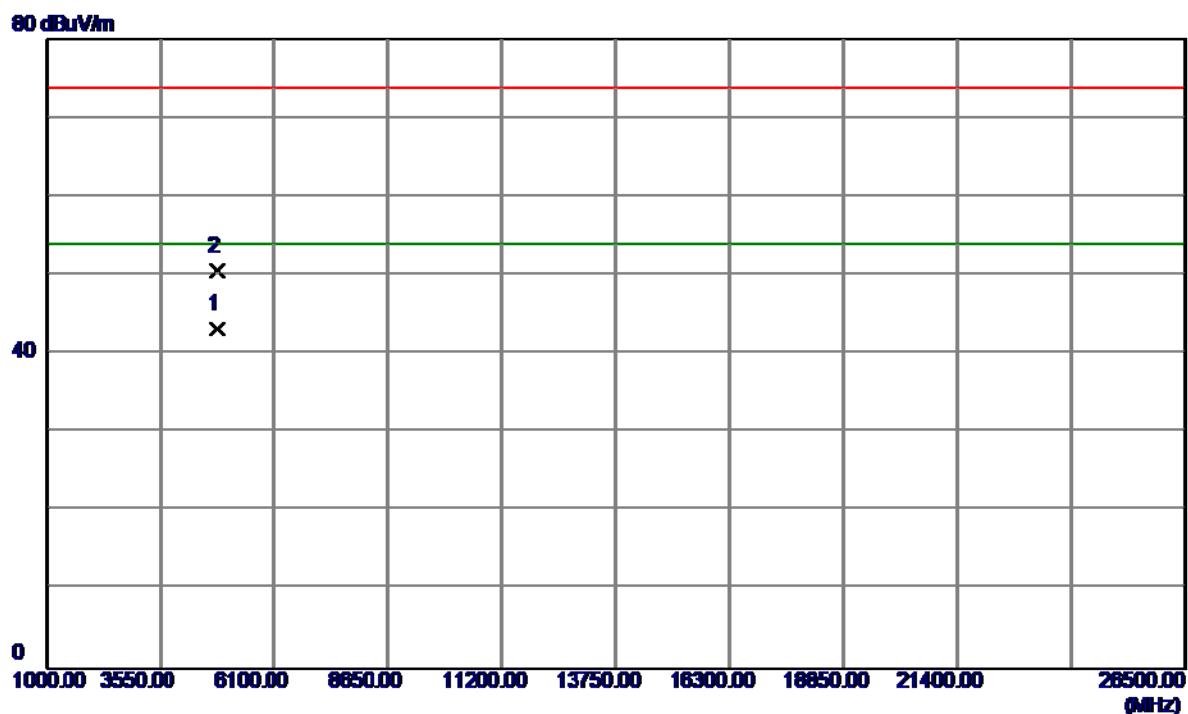
Vertical



No.	Freq.	Reading	Correct	Measure	Limit	Margin	Detector	Comment
		Level	Factor	ment	dBuV/m	dB		
1	2413.1000	56.38	32.71	89.09	54.00	35.09	AVG	No Limit
2	2390.0000	12.84	32.68	45.52	54.00	-8.48	AVG	
3	2390.0000	23.54	32.68	56.22	74.00	-17.78	Peak	
4	2412.9000	59.10	32.71	91.81	74.00	17.81	Peak	No Limit

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

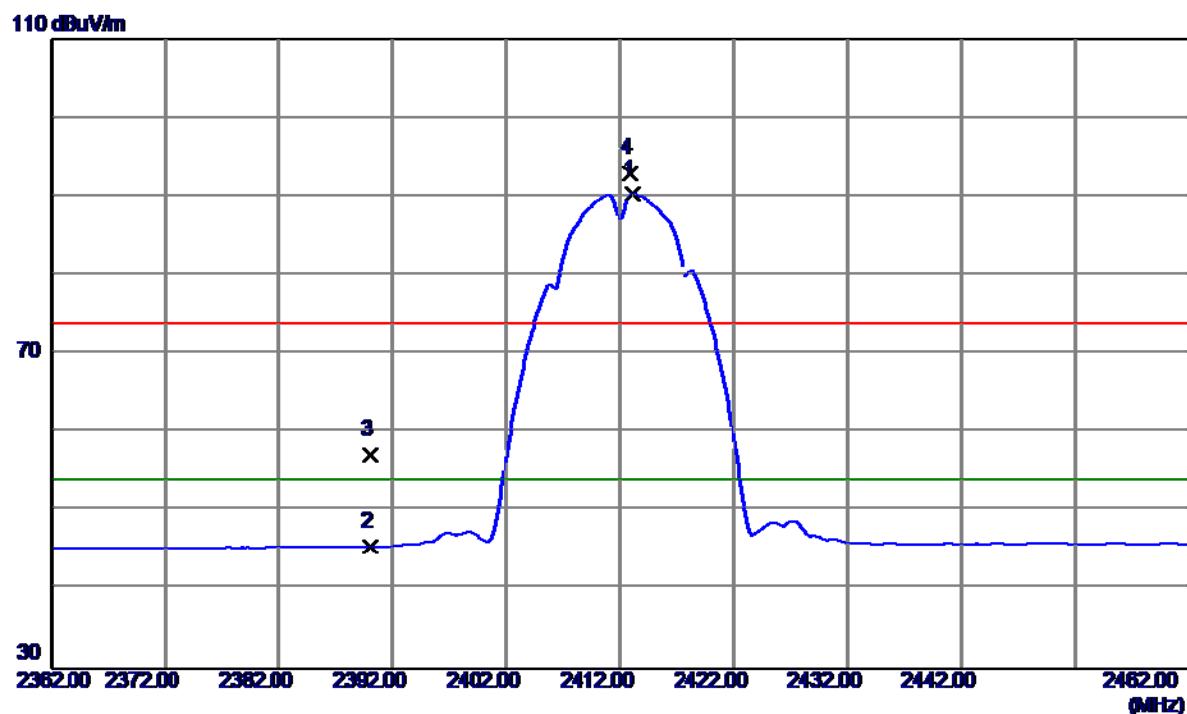
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4823.9760	37.26	5.87	43.13	54.00	-10.87	AVG	
2	4823.9880	44.67	5.87	50.54	74.00	-23.46	Peak	

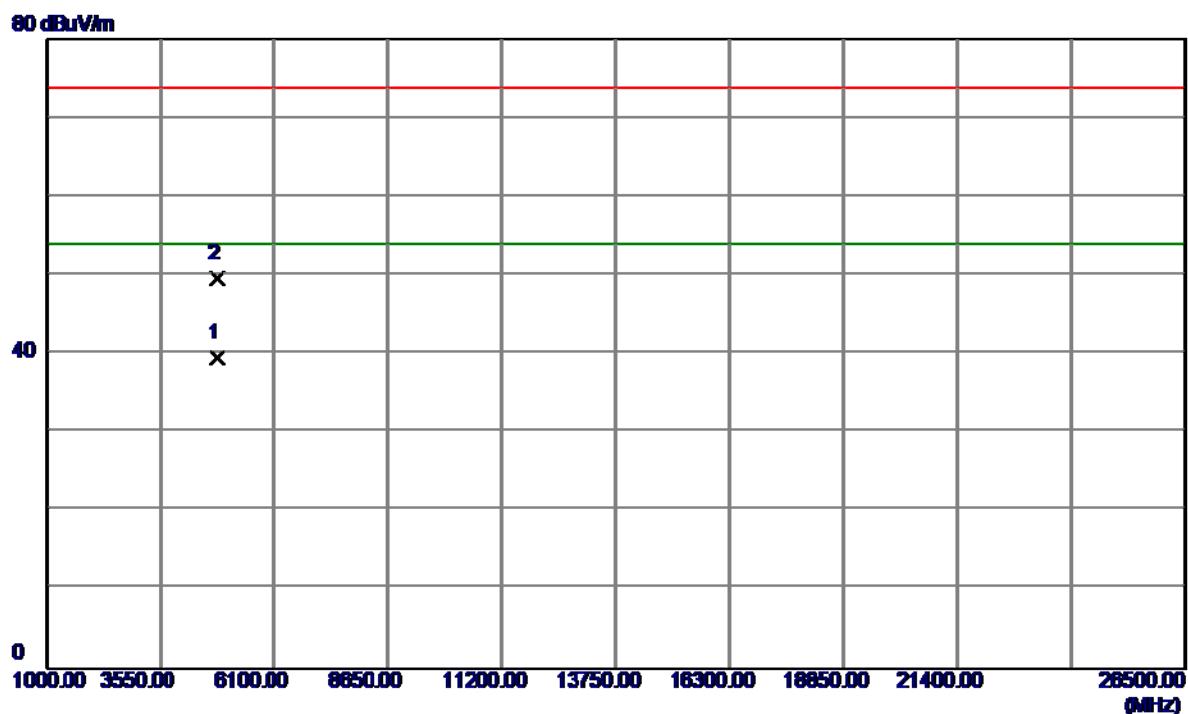
Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2413.1000	57.63	32.71	90.34	54.00	36.34	AVG	No Limit
2	2390.0000	12.84	32.68	45.52	54.00	-8.48	AVG	
3	2390.0000	24.54	32.68	57.22	74.00	-16.78	Peak	
4	2412.9000	60.35	32.71	93.06	74.00	19.06	Peak	No Limit

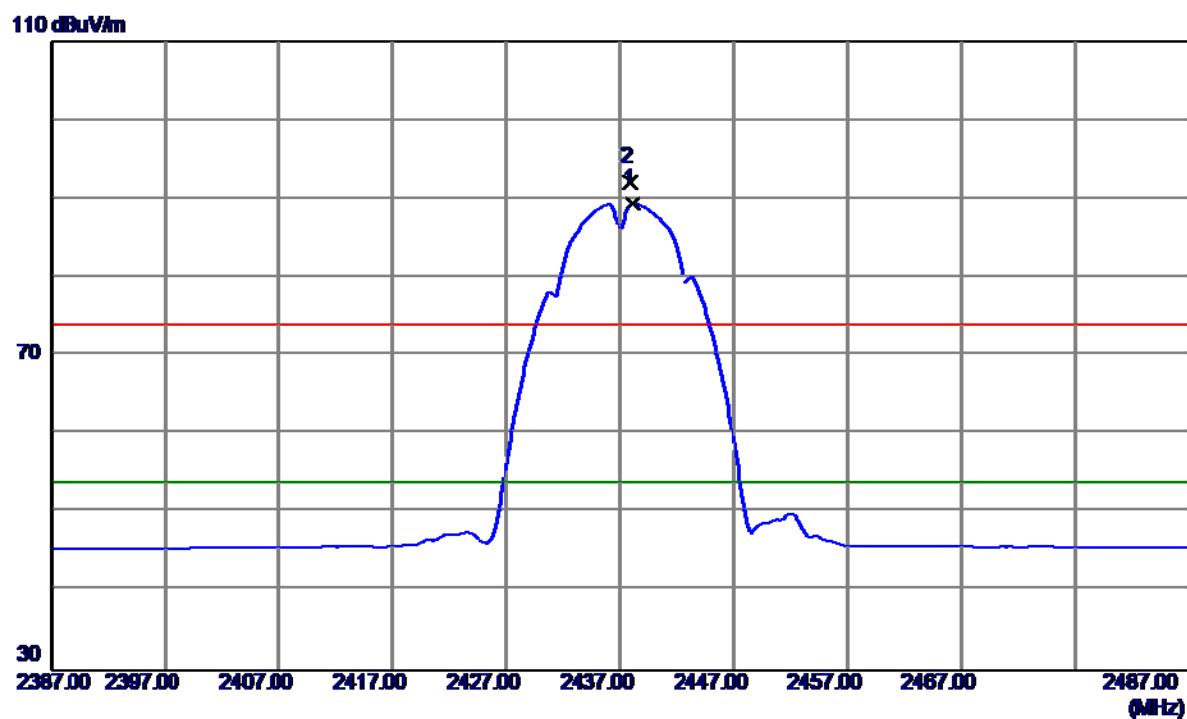
Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4823.9720	33.58	5.87	39.45	54.00	-14.55	AVG	
2	4823.9500	43.80	5.87	49.67	74.00	-24.33	Peak	

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

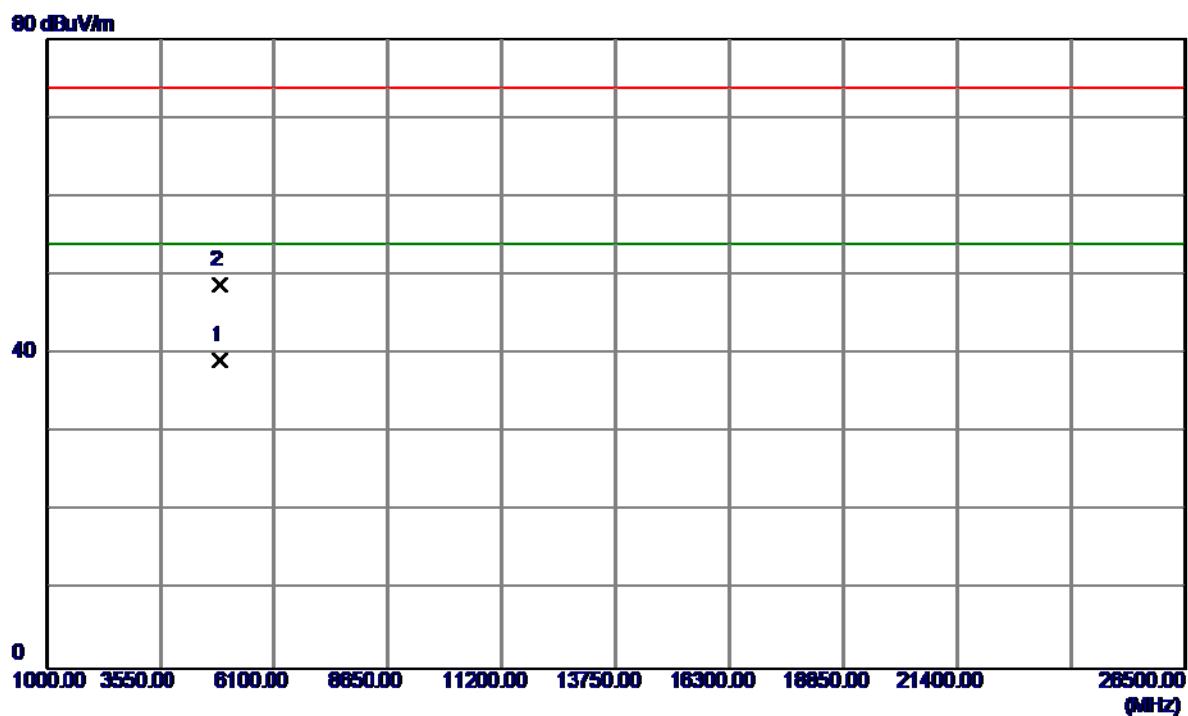
Vertical



No.	Freq.	Reading	Correct	Measure	Limit	Margin	Detector	Comment
		Level	Factor	ment	dBuV/m	dB		
1	2438.1000	56.58	32.74	89.32	54.00	35.32	AVG	No Limit
2	2437.9000	59.31	32.74	92.05	74.00	18.05	Peak	No Limit

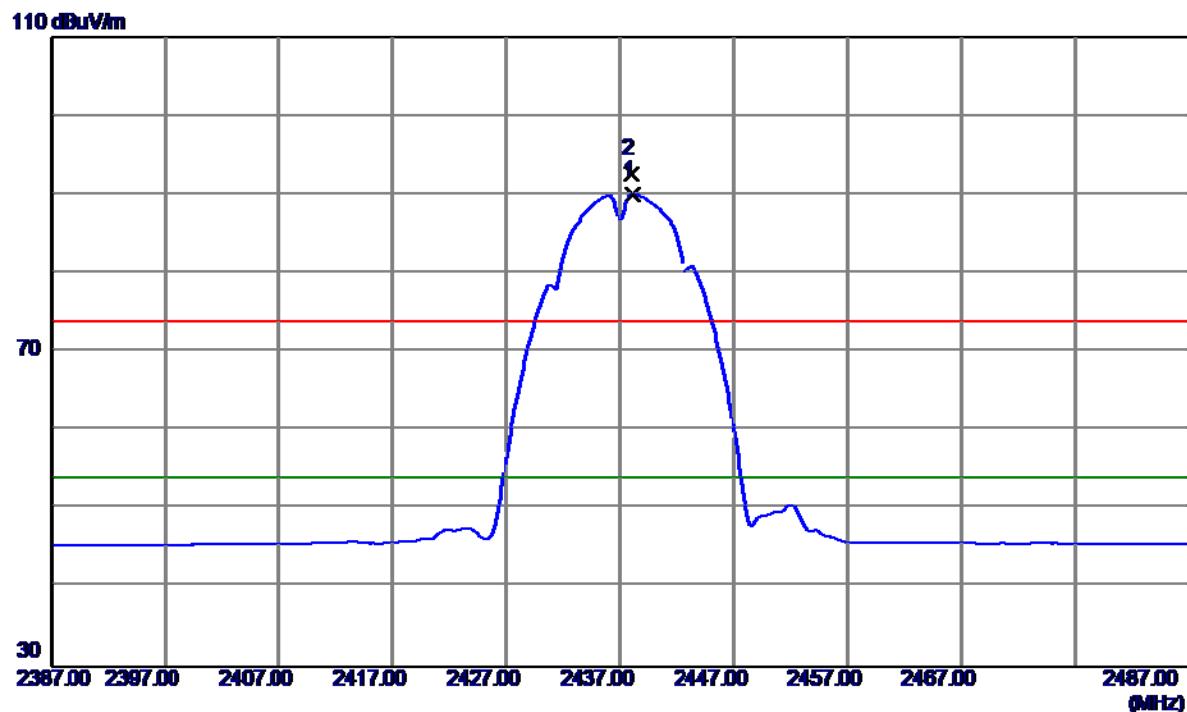
Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz

Vertical



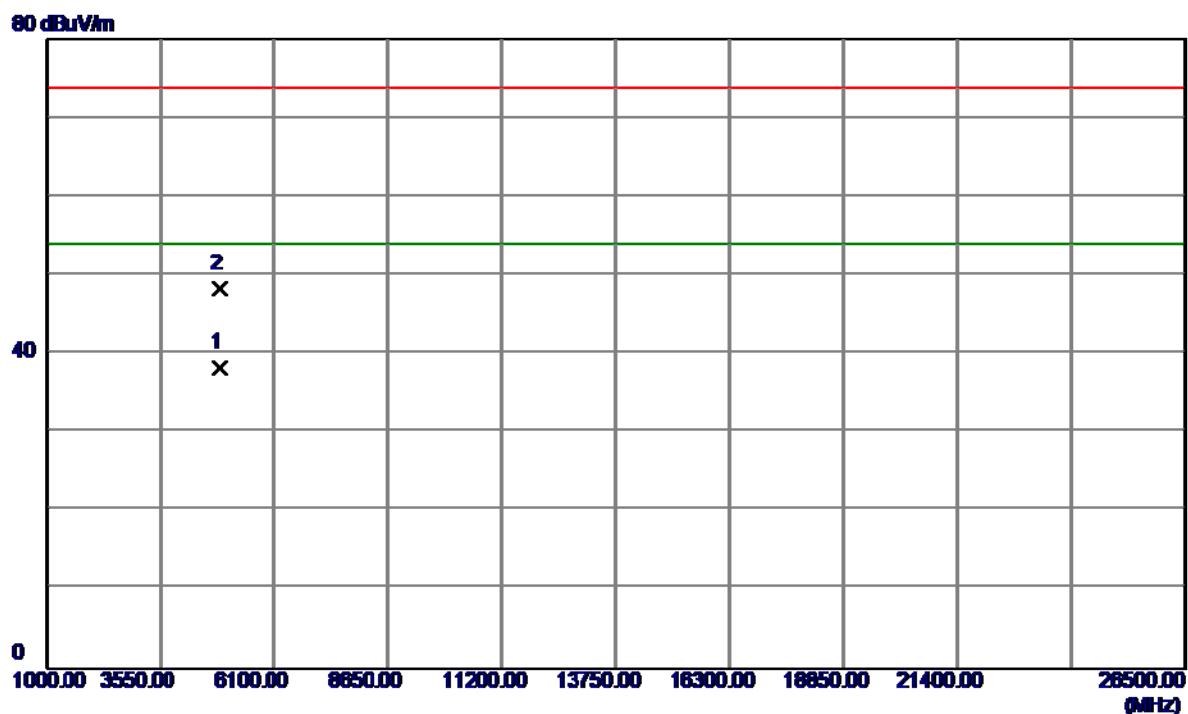
No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4873.9840	33.22	6.00	39.22	54.00	-14.78	AVG	
2	4874.1120	42.74	6.00	48.74	74.00	-25.26	Peak	

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

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2438.1000	57.32	32.74	90.06	54.00	36.06	AVG	No Limit
2	2438.0000	60.01	32.74	92.75	74.00	18.75	Peak	No Limit

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

Horizontal

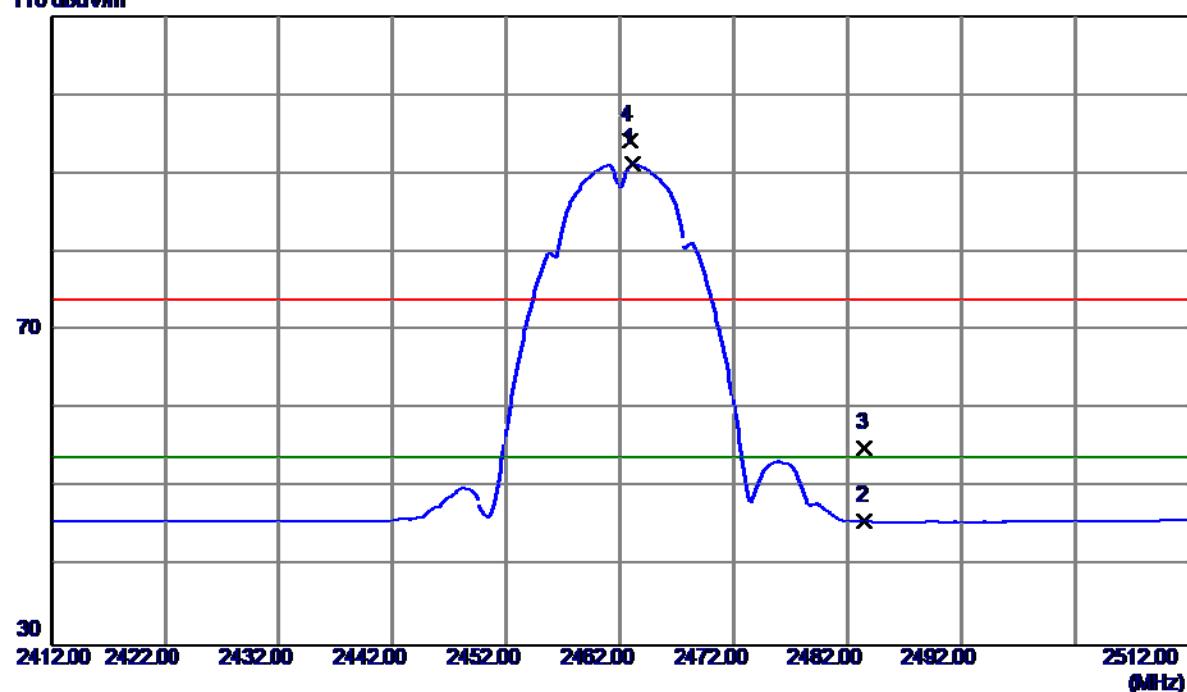
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4873.9720	32.21	6.00	38.21	54.00	-15.79	AVG	
2	4874.0580	42.27	6.00	48.27	74.00	-25.73	Peak	

Orthogonal Axis : X

Test Mode : TX B MODE 2462MHz

Vertical

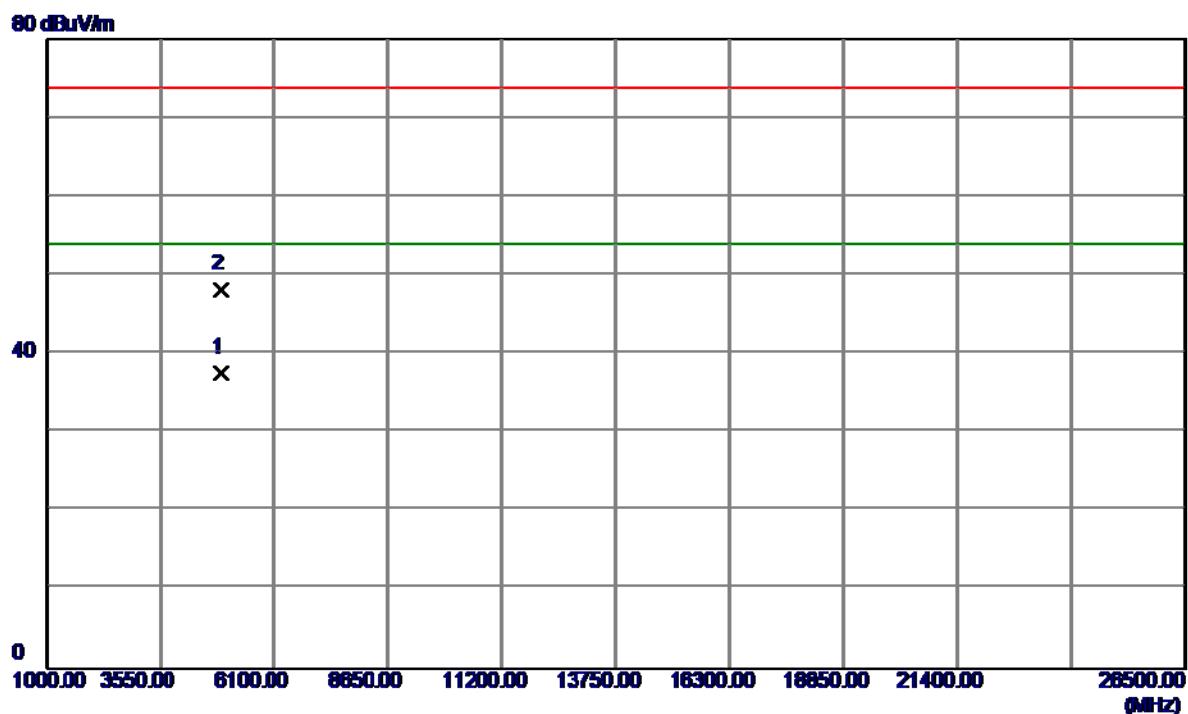
110 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector		Comment
							Detector	Comment	
1	2463.1000	58.47	32.78	91.25	54.00	37.25	AVG	No Limit	
2	2483.5000	13.03	32.81	45.84	54.00	-8.16	AVG		
3	2483.5000	22.30	32.81	55.11	74.00	-18.89	Peak		
4	2462.9000	61.41	32.78	94.19	74.00	20.19	Peak	No Limit	

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

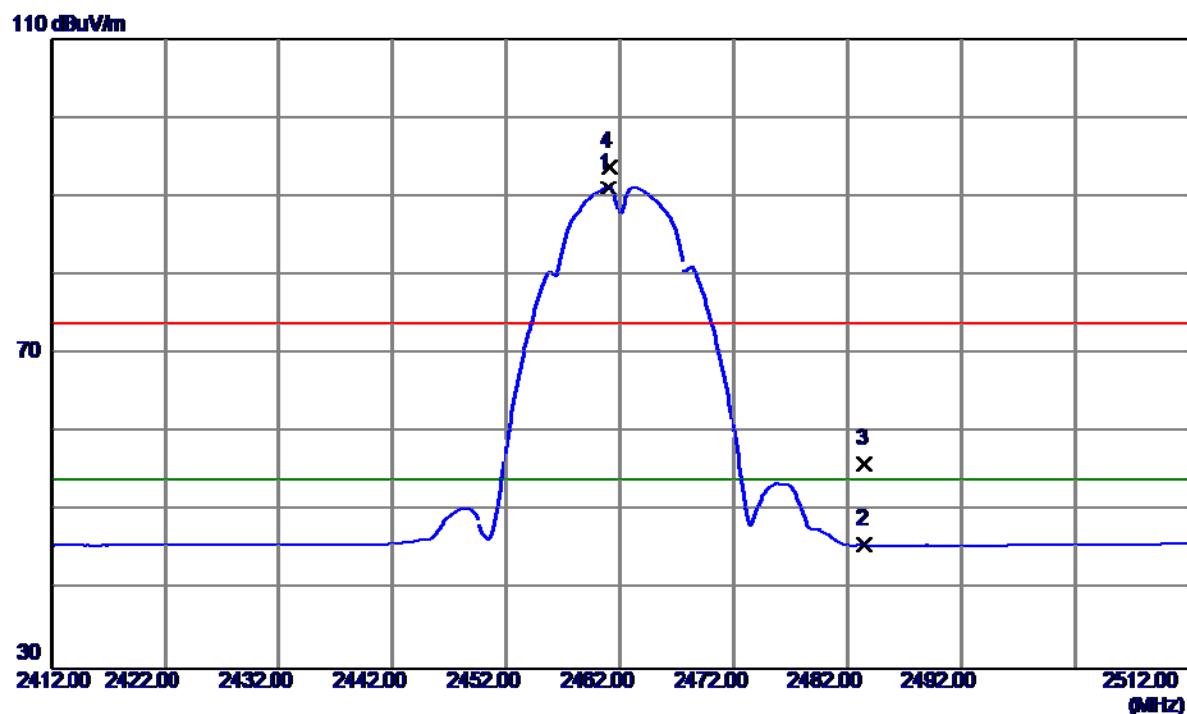
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4923.9620	31.46	6.14	37.60	54.00	-16.40	AVG	
2	4923.8980	42.10	6.14	48.24	74.00	-25.76	Peak	

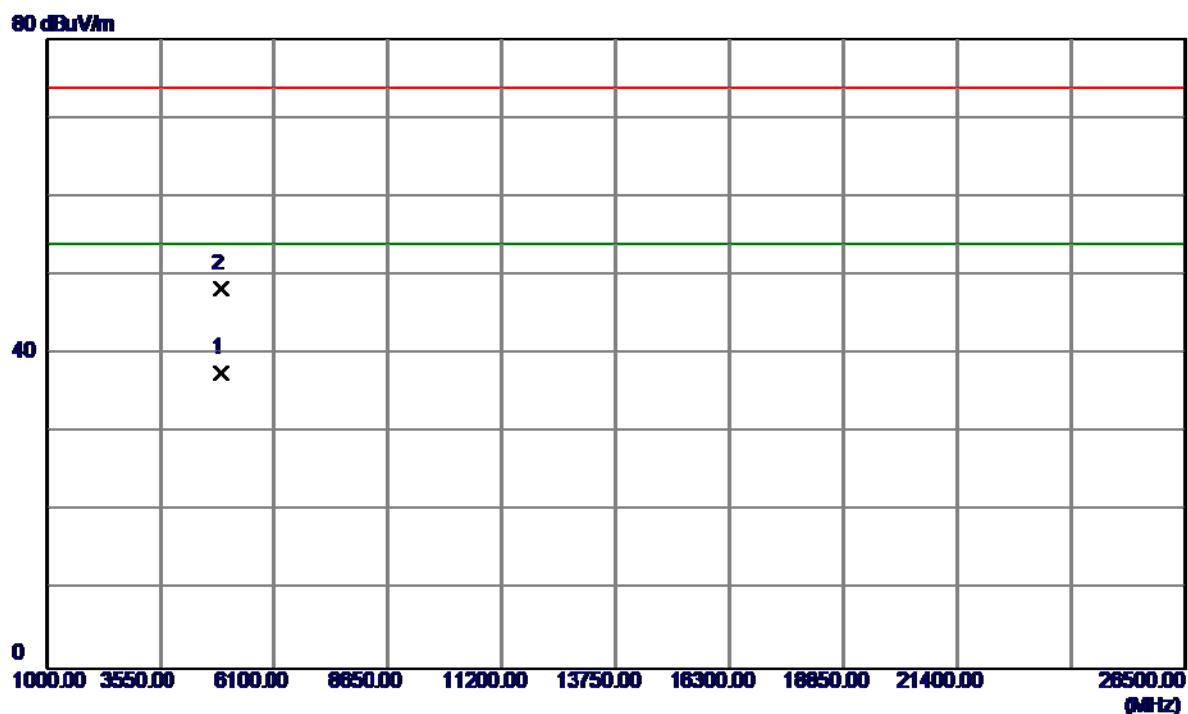
Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2461.0000	58.41	32.78	91.19	54.00	37.19	AVG	No Limit
2	2483.5000	12.96	32.81	45.77	54.00	-8.23	AVG	
3	2483.5000	23.29	32.81	56.10	74.00	-17.90	Peak	
4	2461.1000	61.10	32.78	93.88	74.00	19.88	Peak	No Limit

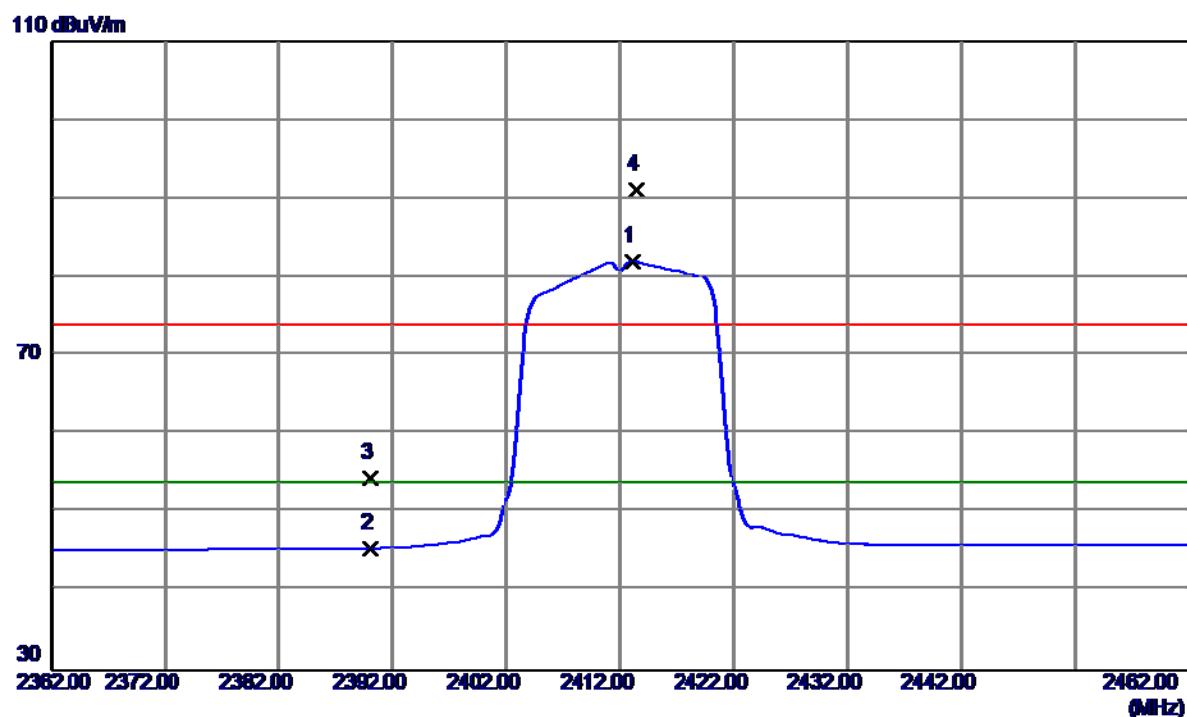
Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4924.0040	31.43	6.14	37.57	54.00	-16.43	AVG	
2	4924.0139	42.24	6.14	48.38	74.00	-25.62	Peak	

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

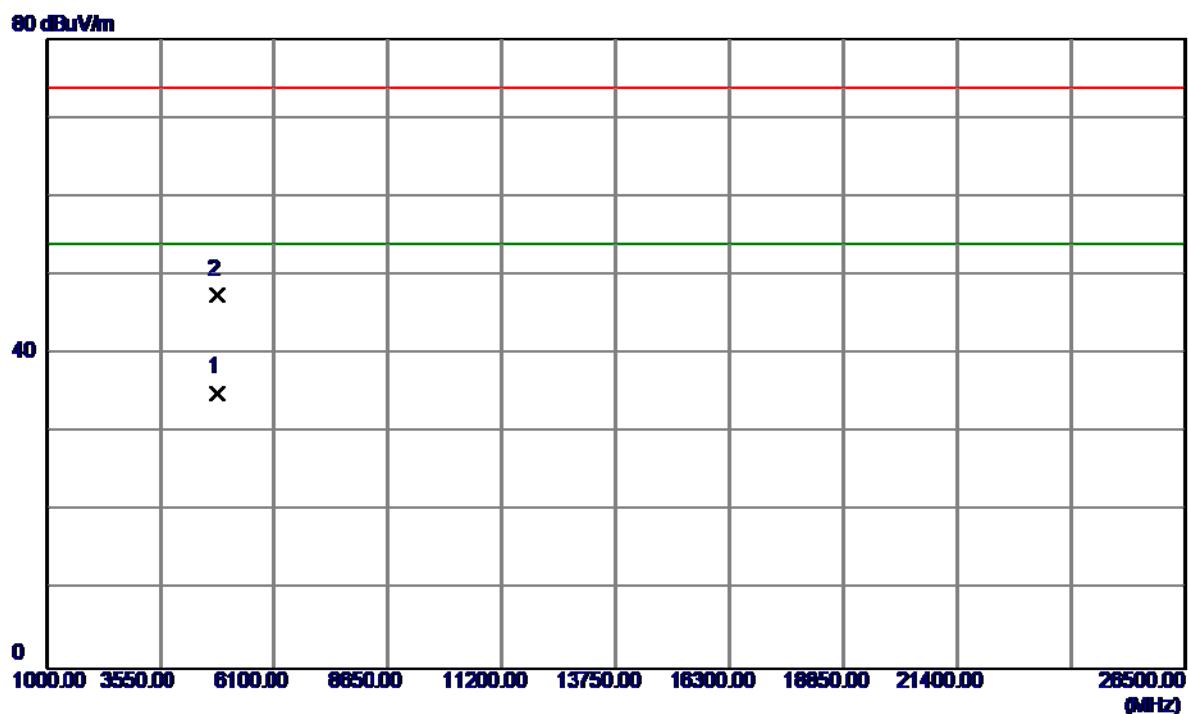
Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
							MHz	dBuV/m
1	2413.1000	49.34	32.71	82.05	54.00	28.05	AVG	No Limit
2	2390.0000	12.89	32.68	45.57	54.00	-8.43	AVG	
3	2390.0000	21.81	32.68	54.49	74.00	-19.51	Peak	
4	2413.4000	58.34	32.71	91.05	74.00	17.05	Peak	No Limit

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

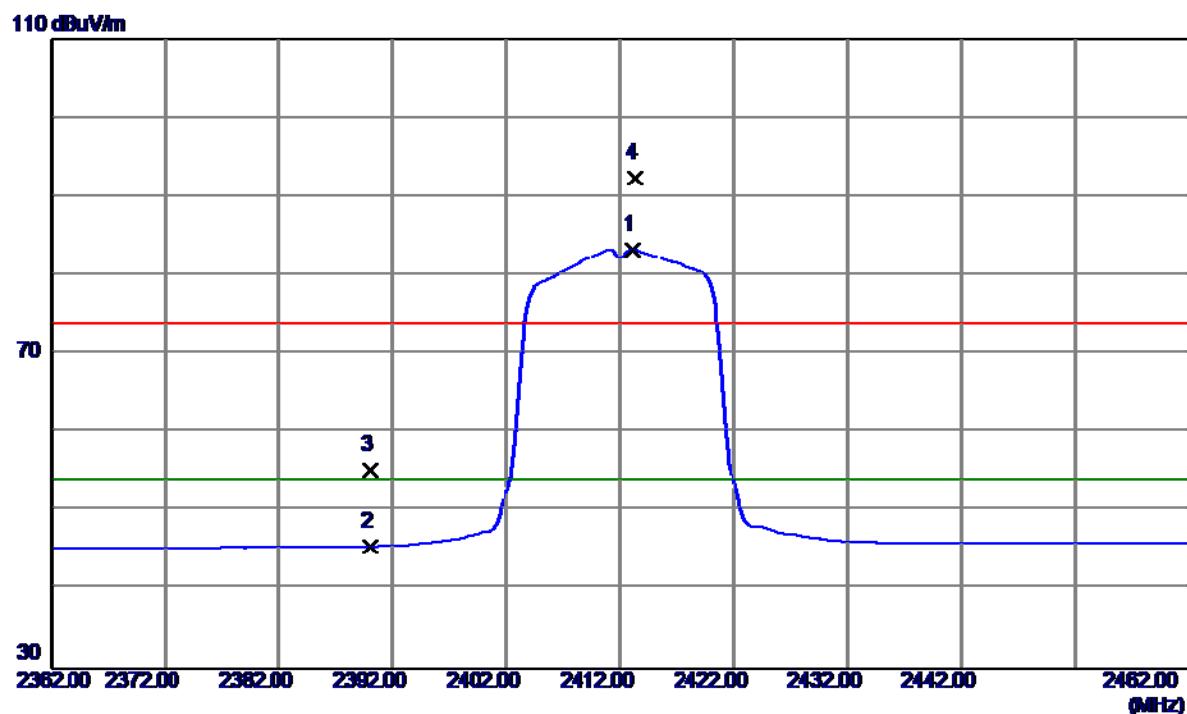
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4824.3790	29.25	5.87	35.12	54.00	-18.88	AVG	
2	4824.4000	41.61	5.87	47.48	74.00	-26.52	Peak	

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

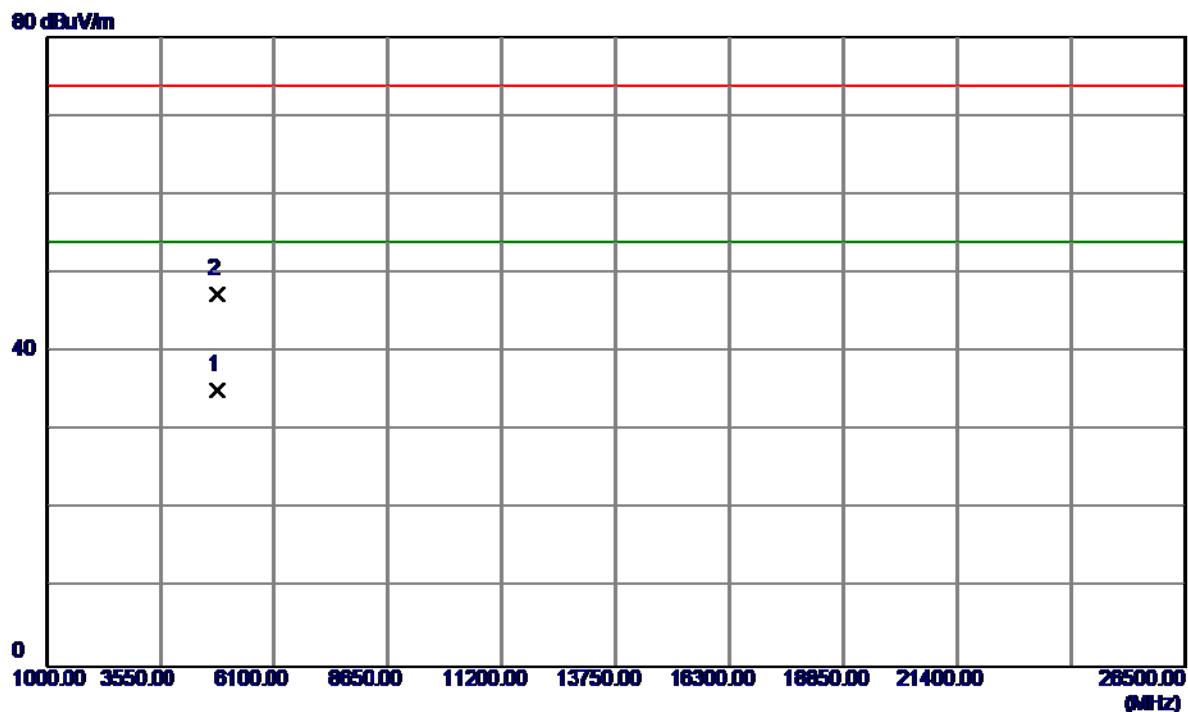
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2413.1000	50.61	32.71	83.32	54.00	29.32	AVG	No Limit
2	2390.0000	12.91	32.68	45.59	54.00	-8.41	AVG	
3	2390.0000	22.53	32.68	55.21	74.00	-18.79	Peak	
4	2413.3000	59.70	32.71	92.41	74.00	18.41	Peak	No Limit

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

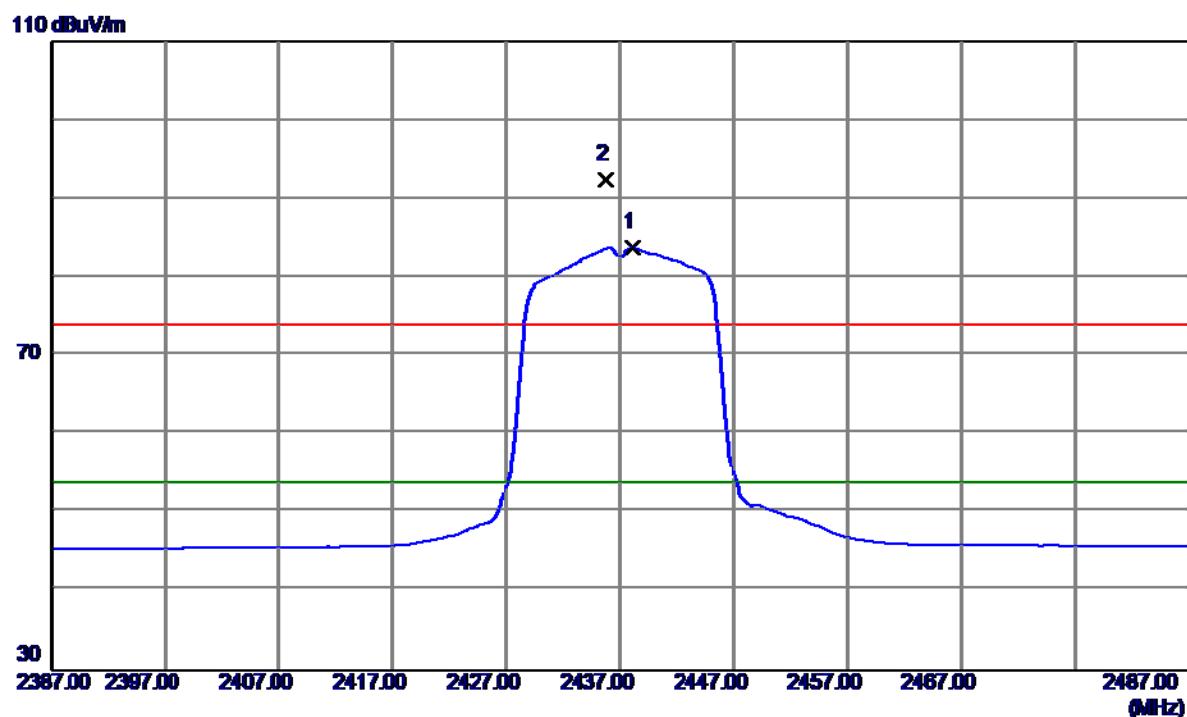
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.0430	29.33	5.87	35.20	54.00	-18.80	AVG	
2	4823.8800	41.43	5.87	47.30	74.00	-26.70	Peak	

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

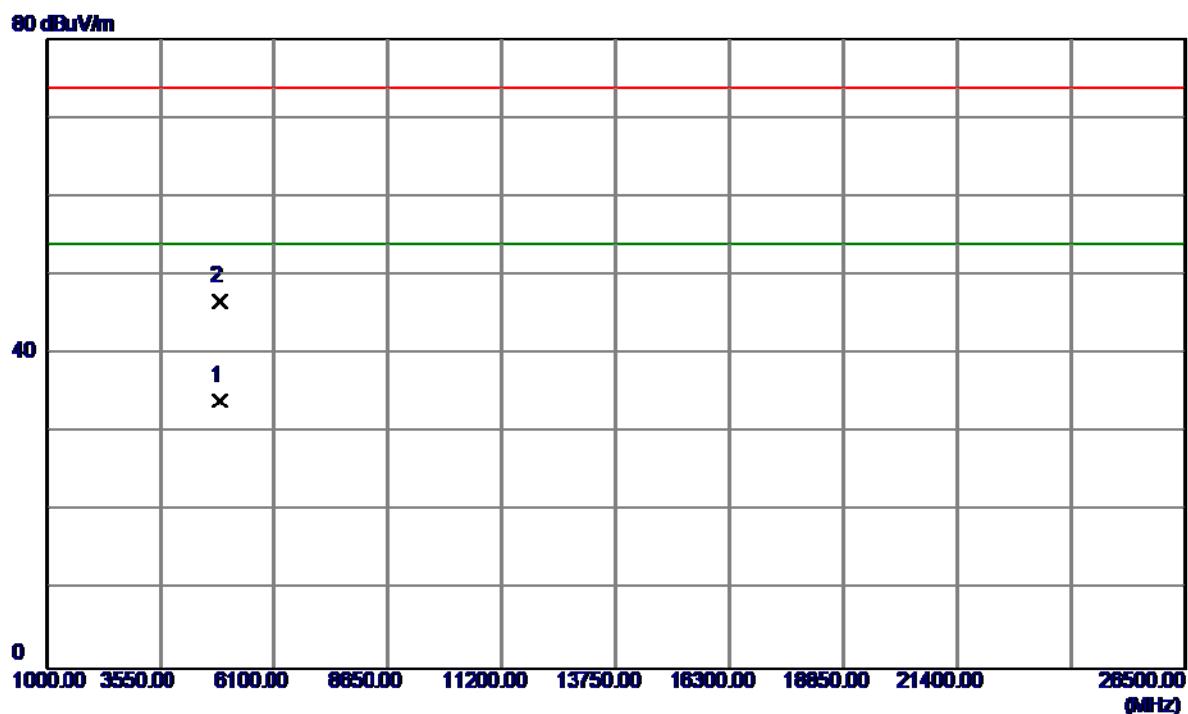
Vertical



No.	Freq.	Reading	Correct	Measure	Limit	Margin	Detector	Comment
		Level	Factor	ment	dBuV/m	dB		
1	2438.1000	50.98	32.74	83.72	54.00	29.72	AVG	No Limit
2	2435.8000	59.65	32.74	92.39	74.00	18.39	Peak	No Limit

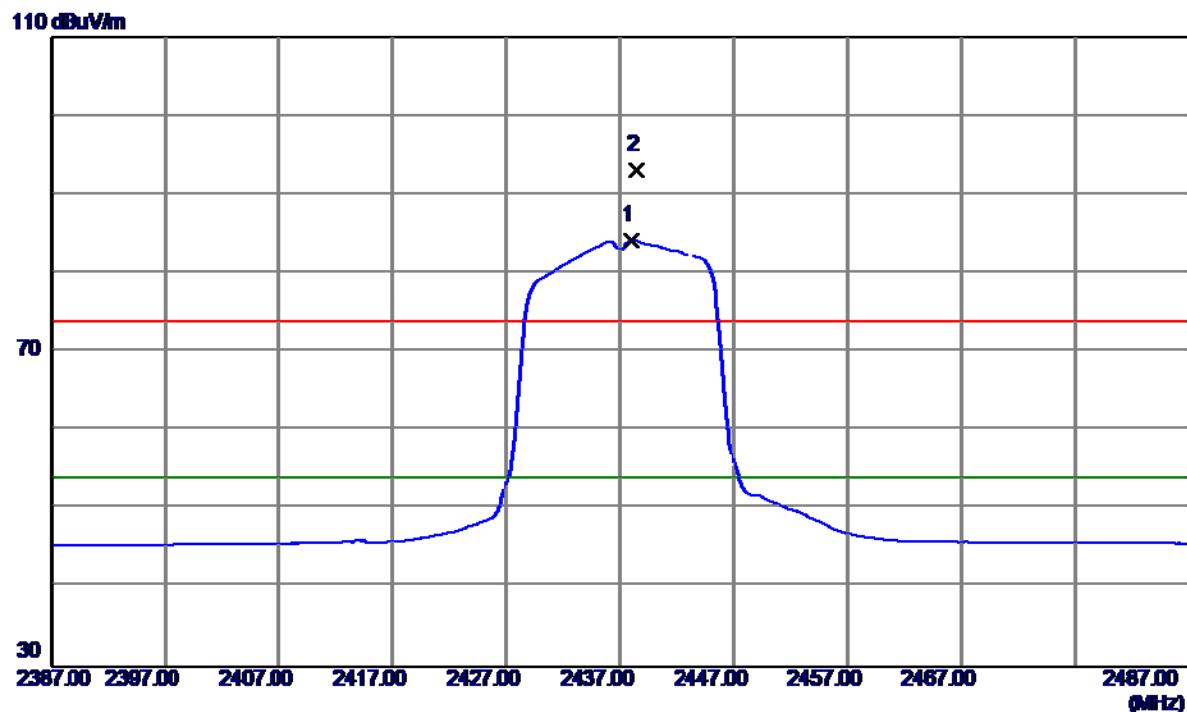
Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4874.2340	28.09	6.00	34.09	54.00	-19.91	AVG	
2	4874.4650	40.69	6.00	46.69	74.00	-27.31	Peak	

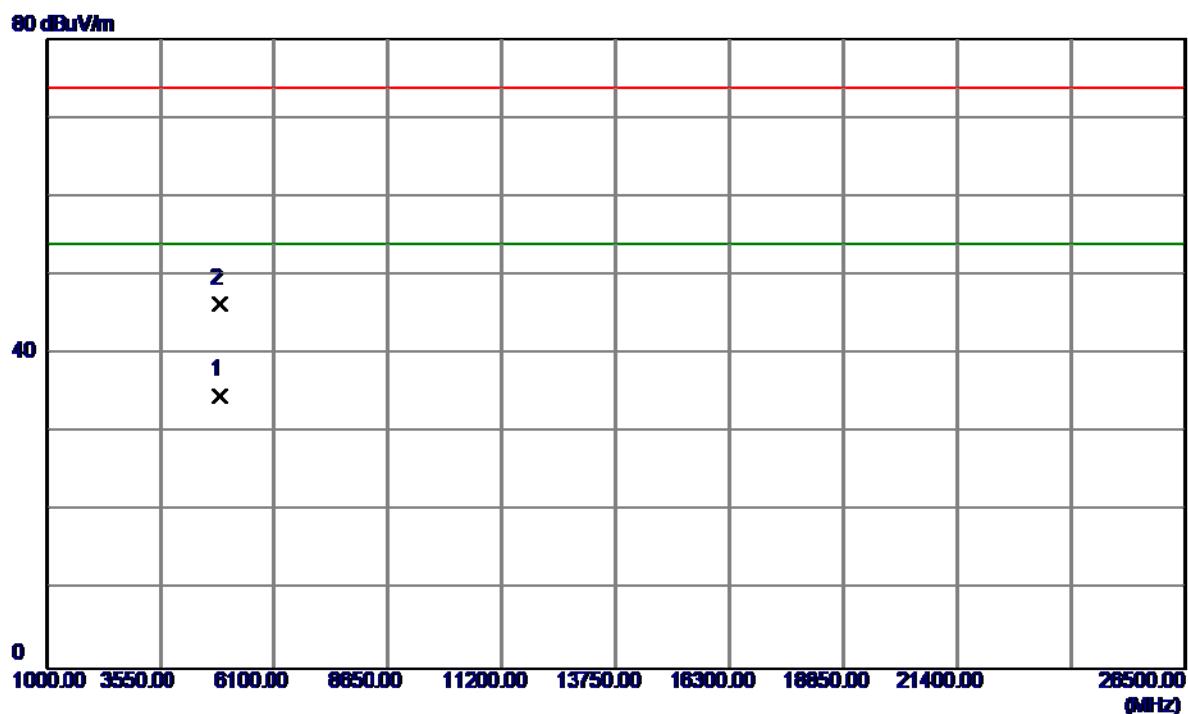
Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2438.0000	51.51	32.74	84.25	54.00	30.25	AVG	No Limit
2	2438.4000	60.49	32.74	93.23	74.00	19.23	Peak	No Limit

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

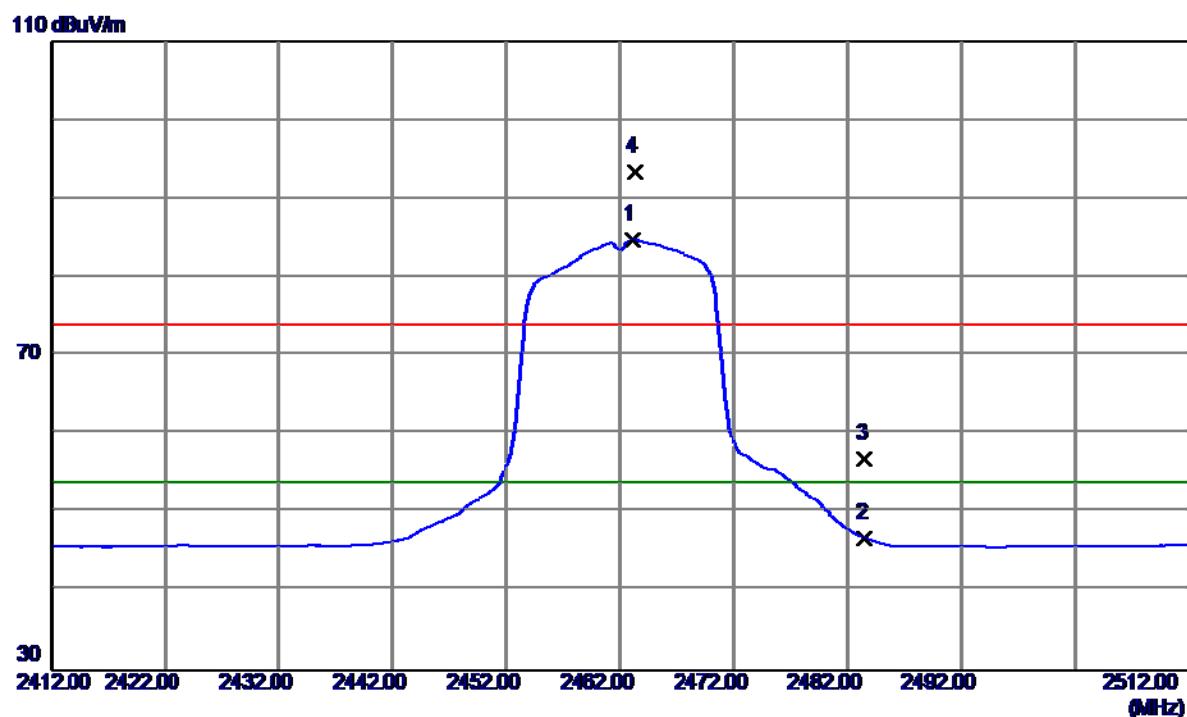
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4874.5000	28.80	6.00	34.80	54.00	-19.20	AVG	
2	4874.2310	40.44	6.00	46.44	74.00	-27.56	Peak	

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

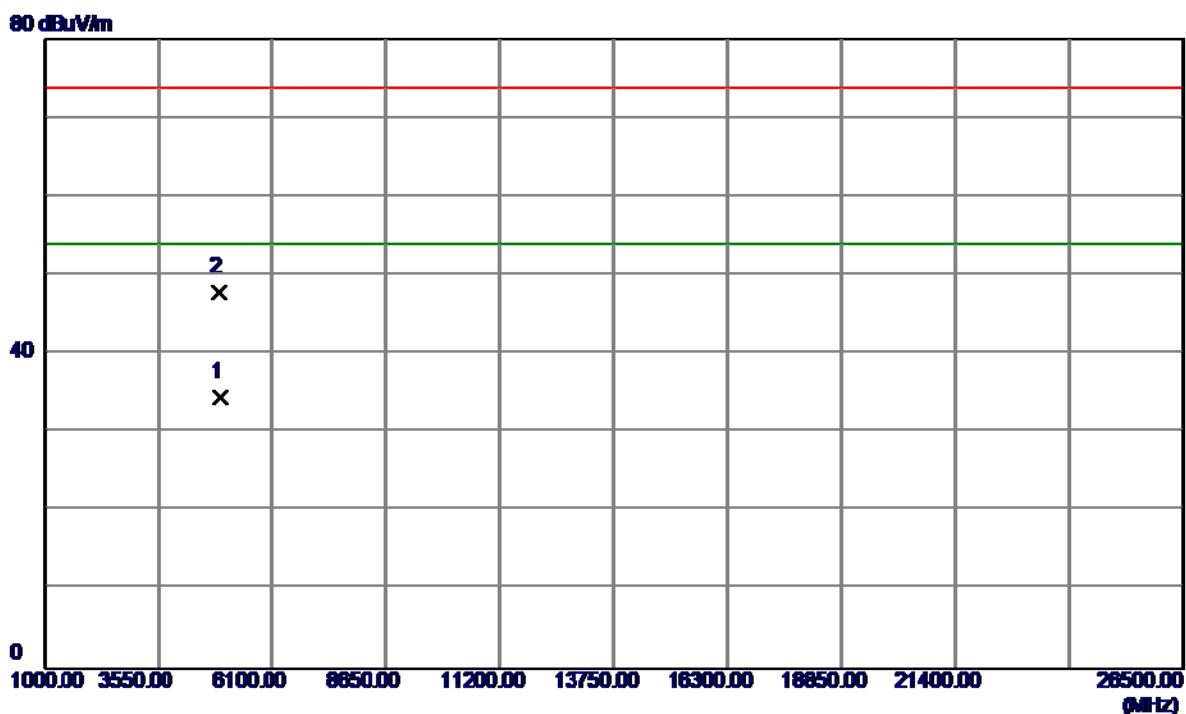
Vertical



No.	Freq.	Reading	Correct	Measure	Limit	Margin	Detector	Comment
		Level	Factor	ment	dBuV/m	dB		
1	2463.1000	51.94	32.78	84.72	54.00	30.72	AVG	No Limit
2	2483.5000	14.05	32.81	46.86	54.00	-7.14	AVG	
3	2483.5000	24.08	32.81	56.89	74.00	-17.11	Peak	
4	2463.3000	60.62	32.78	93.40	74.00	19.40	Peak	No Limit

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

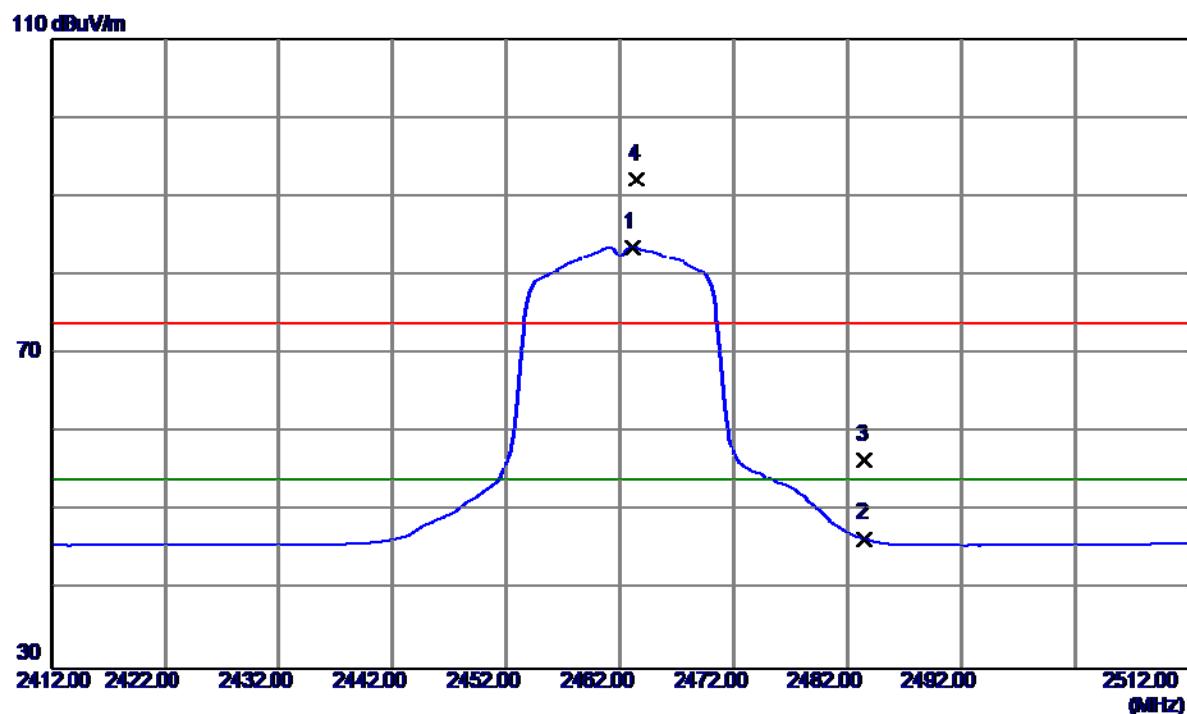
Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4924.2070	28.47	6.14	34.61	54.00	-19.39	AVG	
2	4923.9740	41.72	6.14	47.86	74.00	-26.14	Peak	

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

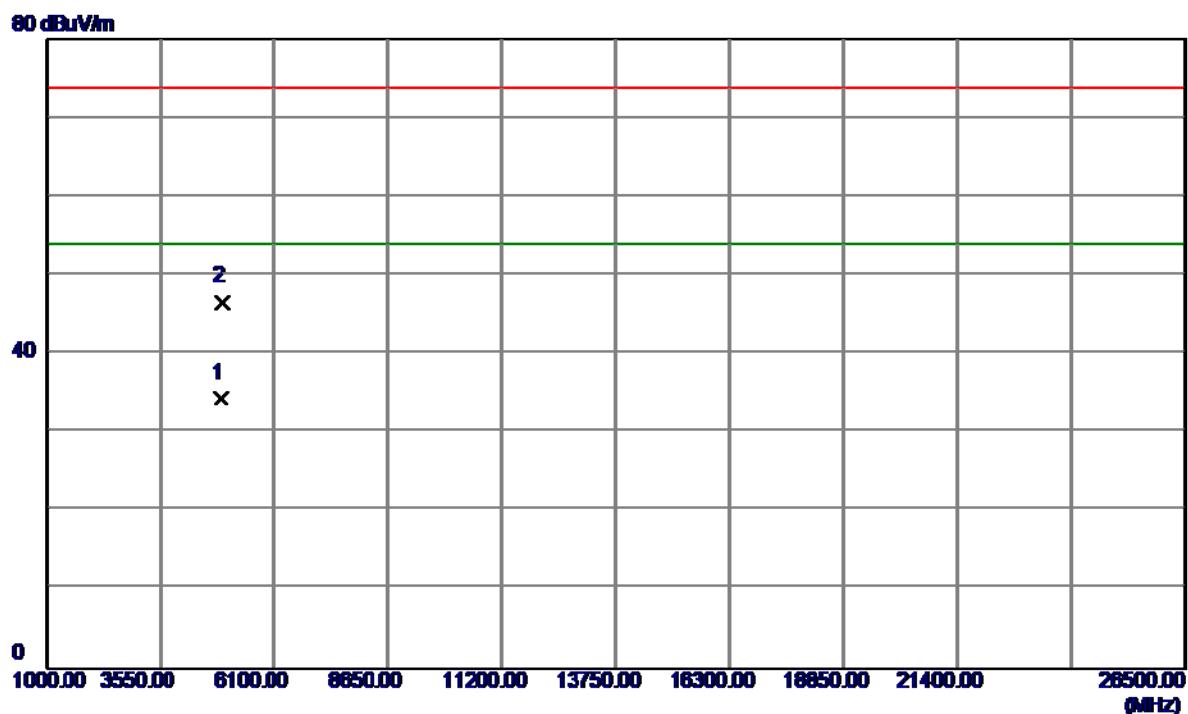
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2463.1000	50.86	32.78	83.64	54.00	29.64	AVG	No Limit
2	2483.5000	13.75	32.81	46.56	54.00	-7.44	AVG	
3	2483.5000	23.72	32.81	56.53	74.00	-17.47	Peak	
4	2463.5000	59.44	32.78	92.22	74.00	18.22	Peak	No Limit

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

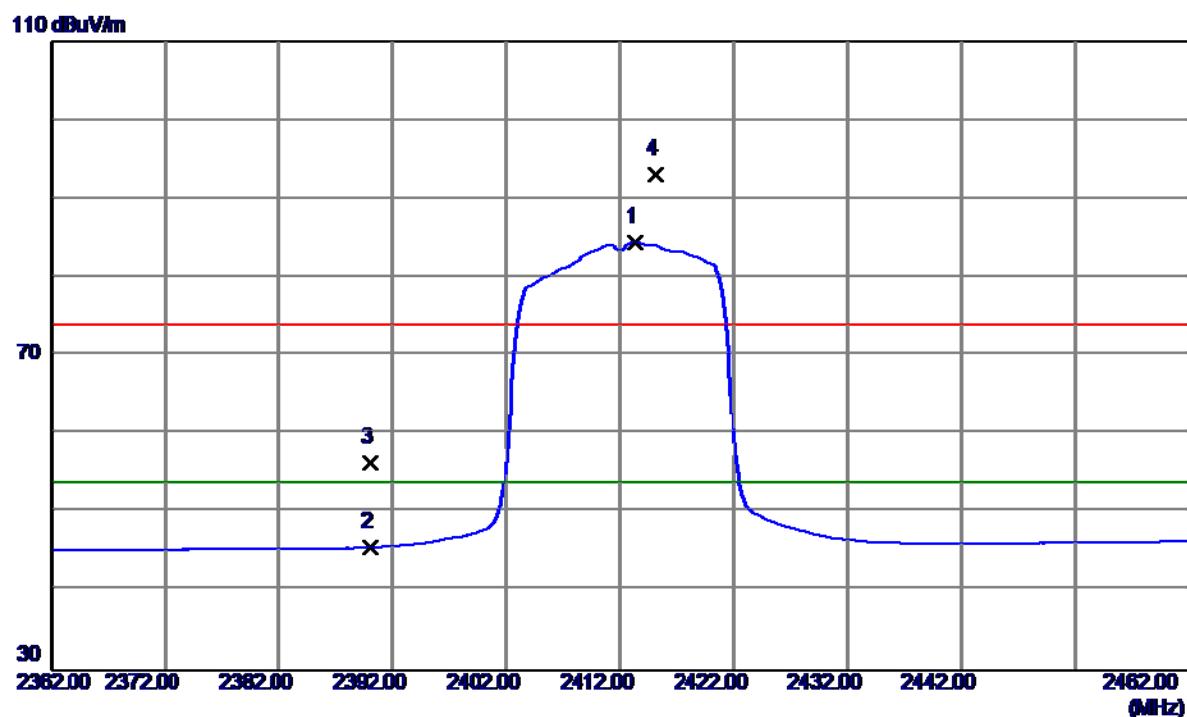
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4924.0160	28.31	6.14	34.45	54.00	-19.55	AVG	
2	4924.4020	40.50	6.14	46.64	74.00	-27.36	Peak	

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

Vertical

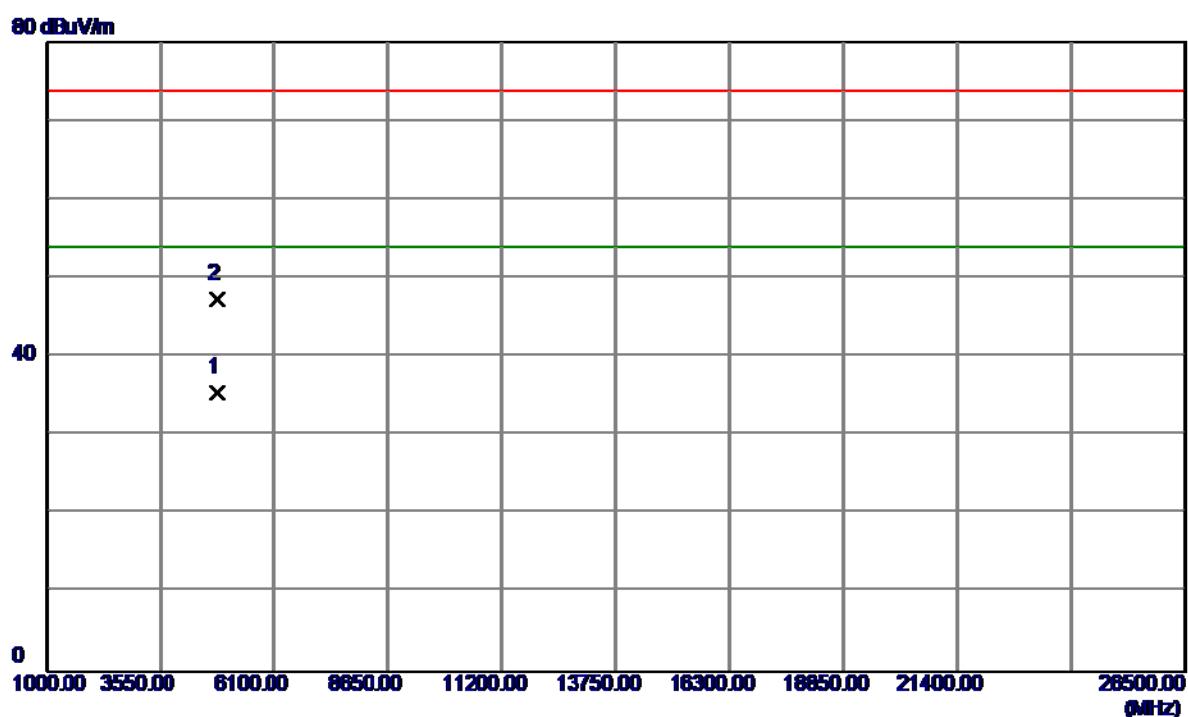


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2413.3000	51.65	32.71	84.36	54.00	30.36	AVG	No Limit
2	2390.0000	12.99	32.68	45.67	54.00	-8.33	AVG	
3	2390.0000	23.79	32.68	56.47	74.00	-17.53	Peak	
4	2415.1000	60.38	32.71	93.09	74.00	19.09	Peak	No Limit

Orthogonal Axis : X

Test Mode : TX N-20M MODE 2412MHz

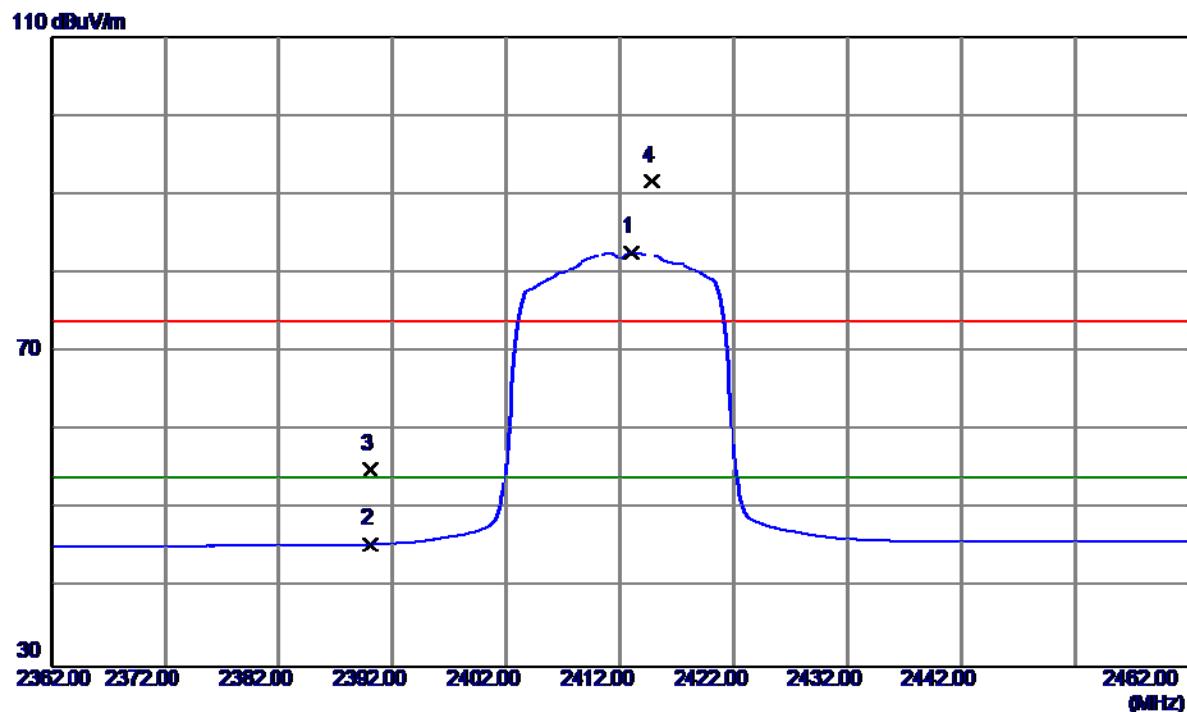
Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4823.8990	29.65	5.87	35.52	54.00	-18.48	AVG	
2	4824.1629	41.51	5.87	47.38	74.00	-26.62	Peak	

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

Horizontal

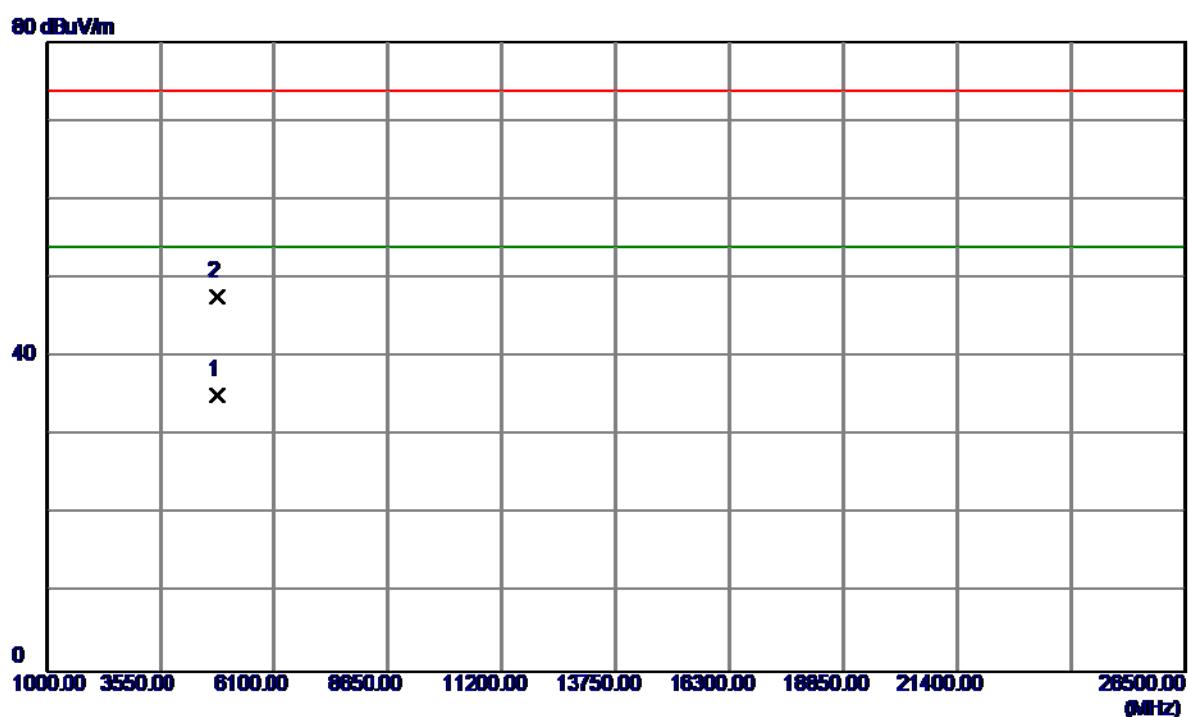


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2413.0000	50.01	32.71	82.72	54.00	28.72	AVG	No Limit
2	2390.0000	12.92	32.68	45.60	54.00	-8.40	AVG	
3	2390.0000	22.49	32.68	55.17	74.00	-18.83	Peak	
4	2414.8000	59.00	32.71	91.71	74.00	17.71	Peak	No Limit

Orthogonal Axis : X

Test Mode : TX N-20M MODE 2412MHz

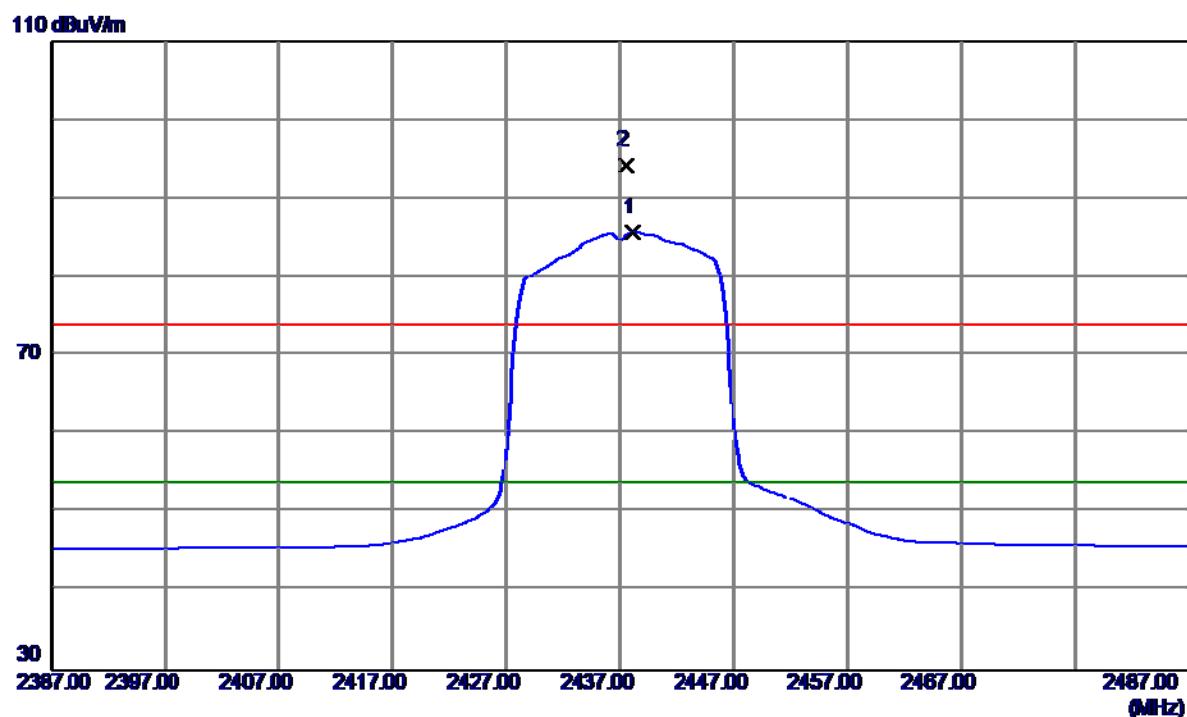
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4824.2940	29.38	5.87	35.25	54.00	-18.75	AVG	
2	4823.9880	41.75	5.87	47.62	74.00	-26.38	Peak	

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

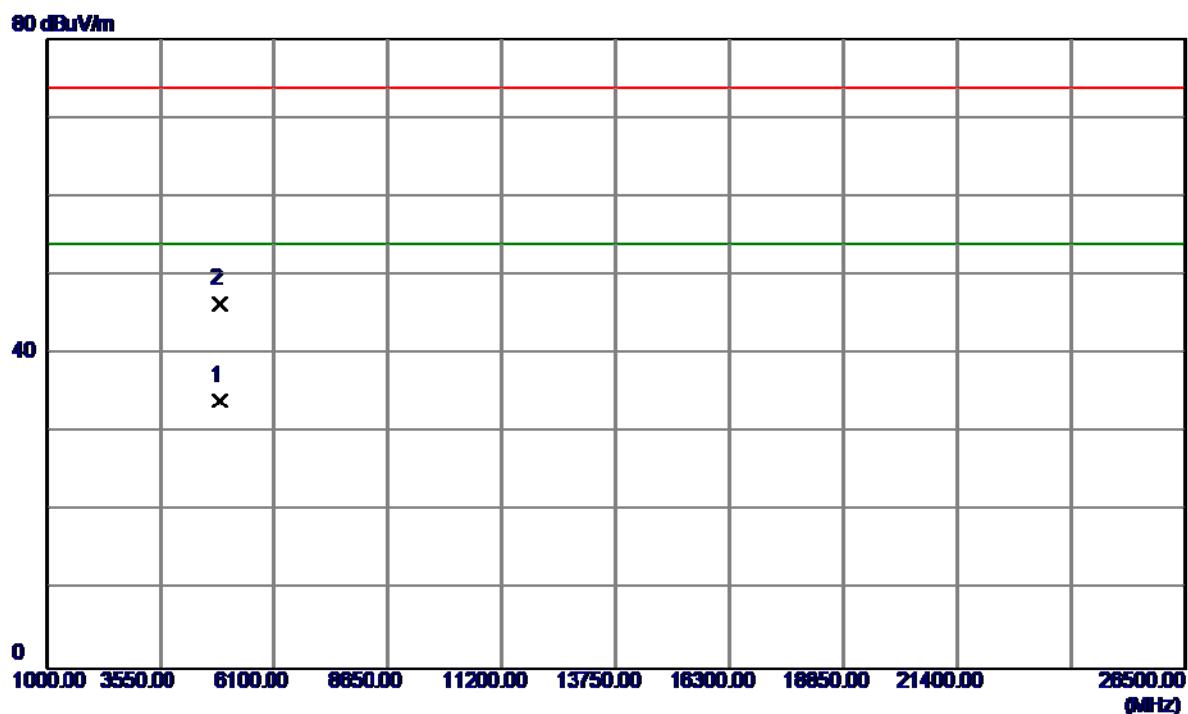
Vertical



No.	Freq.	Reading	Correct	Measure	Limit	Margin	Detector	Comment
		Level	Factor	ment	dBuV/m	dB		
1	2438.1000	52.92	32.74	85.66	54.00	31.66	AVG	No Limit
2	2437.6000	61.38	32.74	94.12	74.00	20.12	Peak	No Limit

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

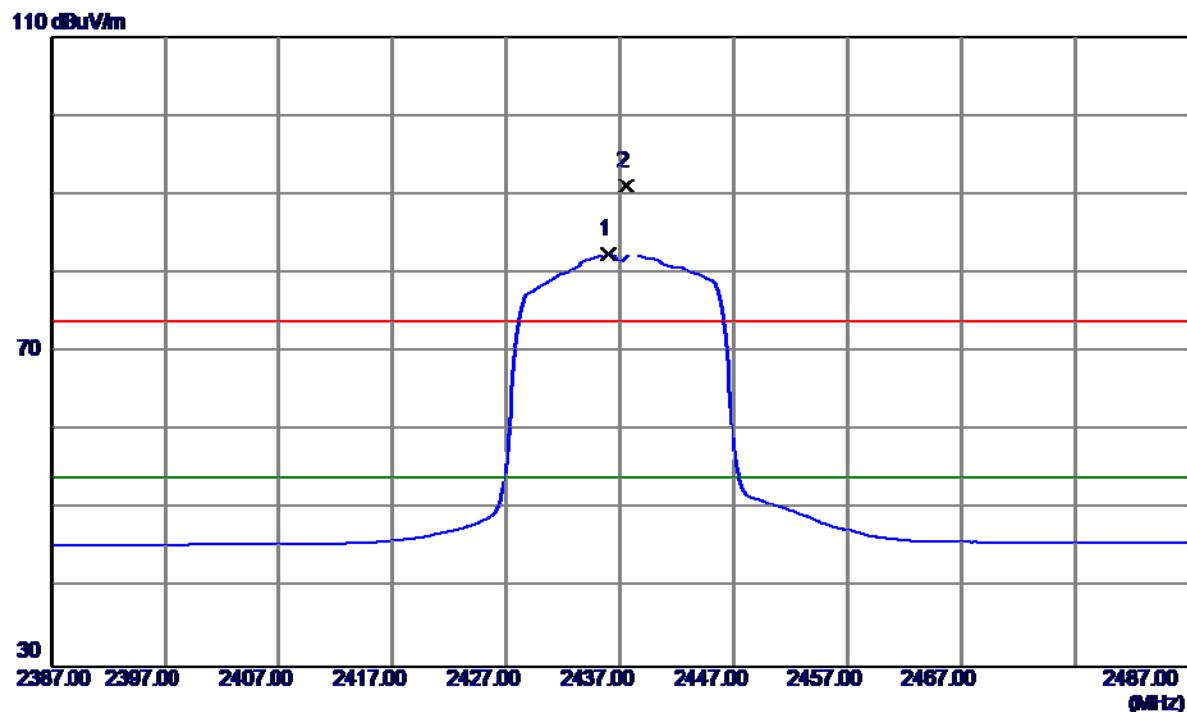
Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4874.1269	28.08	6.00	34.08	54.00	-19.92	AVG	
2	4873.7879	40.44	6.00	46.44	74.00	-27.56	Peak	

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

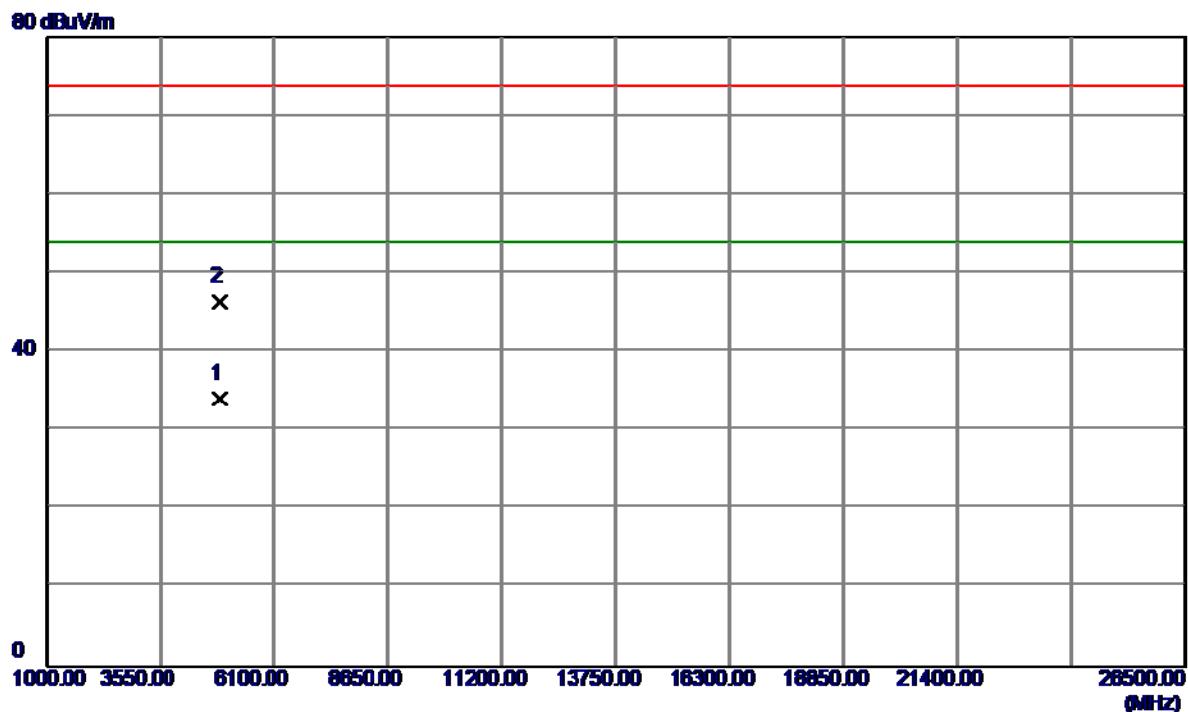
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2436.0000	49.69	32.74	82.43	54.00	28.43	AVG	No Limit
2	2437.6000	58.31	32.74	91.05	74.00	17.05	Peak	No Limit

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

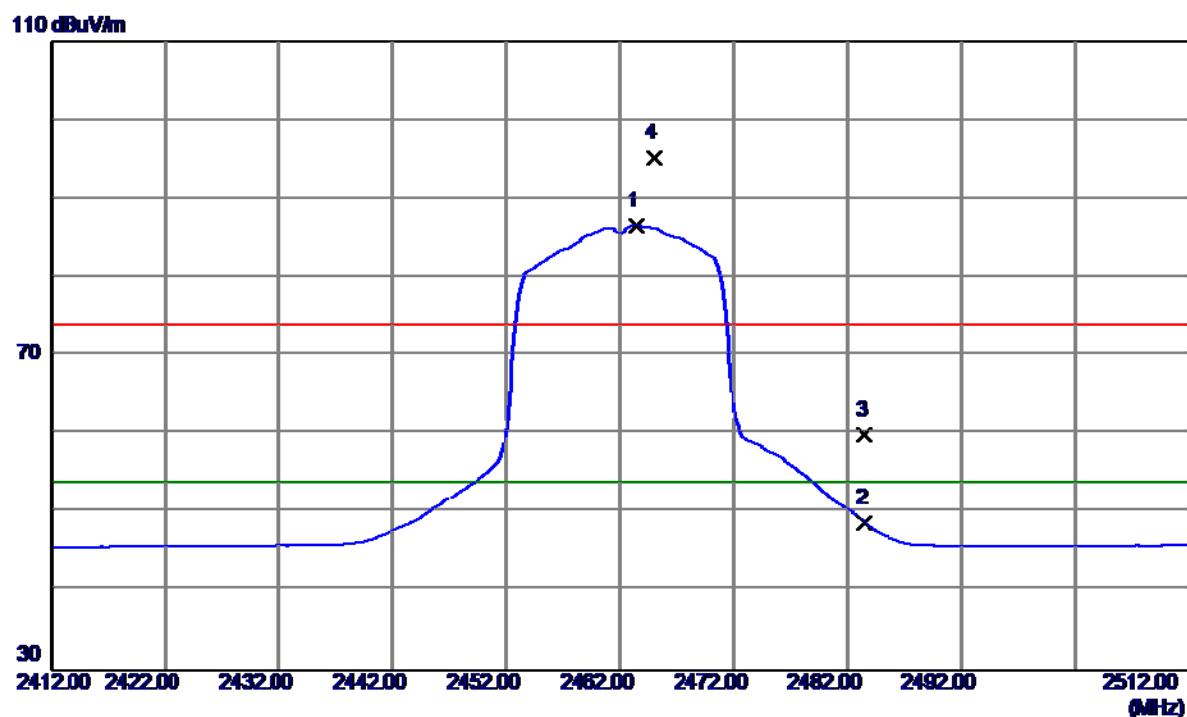
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4874.3889	28.09	6.00	34.09	54.00	-19.91	AVG	
2	4873.8340	40.39	6.00	46.39	74.00	-27.61	Peak	

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

Vertical

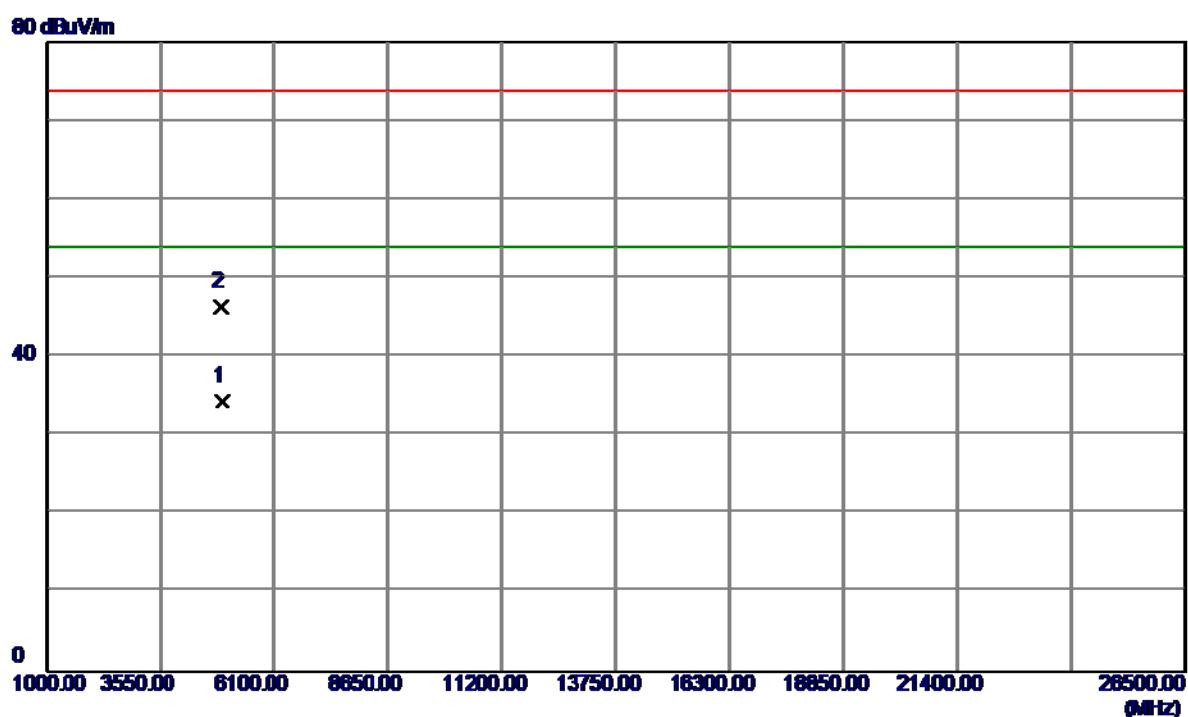


No.	Freq.	Reading	Correct	Measure	Limit	Margin	Detector	Comment
		Level	Factor	ment	dBuV/m	dB		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2463.4000	53.72	32.78	86.50	54.00	32.50	AVG	No Limit
2	2483.5000	15.94	32.81	48.75	54.00	-5.25	AVG	
3	2483.5000	27.16	32.81	59.97	74.00	-14.03	Peak	
4	2465.0000	62.37	32.78	95.15	74.00	21.15	Peak	No Limit

Orthogonal Axis : X

Test Mode : TX N-20M MODE 2462MHz

Vertical

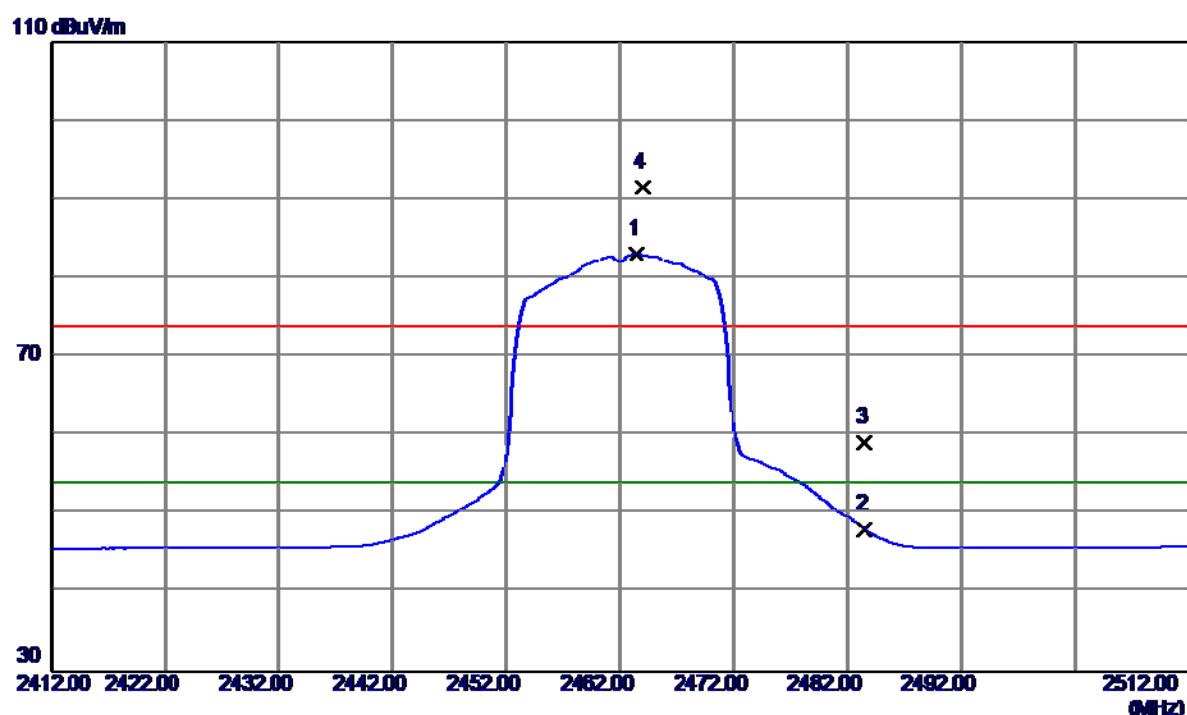


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4924.3260	28.29	6.14	34.43	54.00	-19.57	AVG	
2	4923.9990	40.28	6.14	46.42	74.00	-27.58	Peak	

Orthogonal Axis : X

Test Mode : TX N-20M MODE 2462MHz

Horizontal

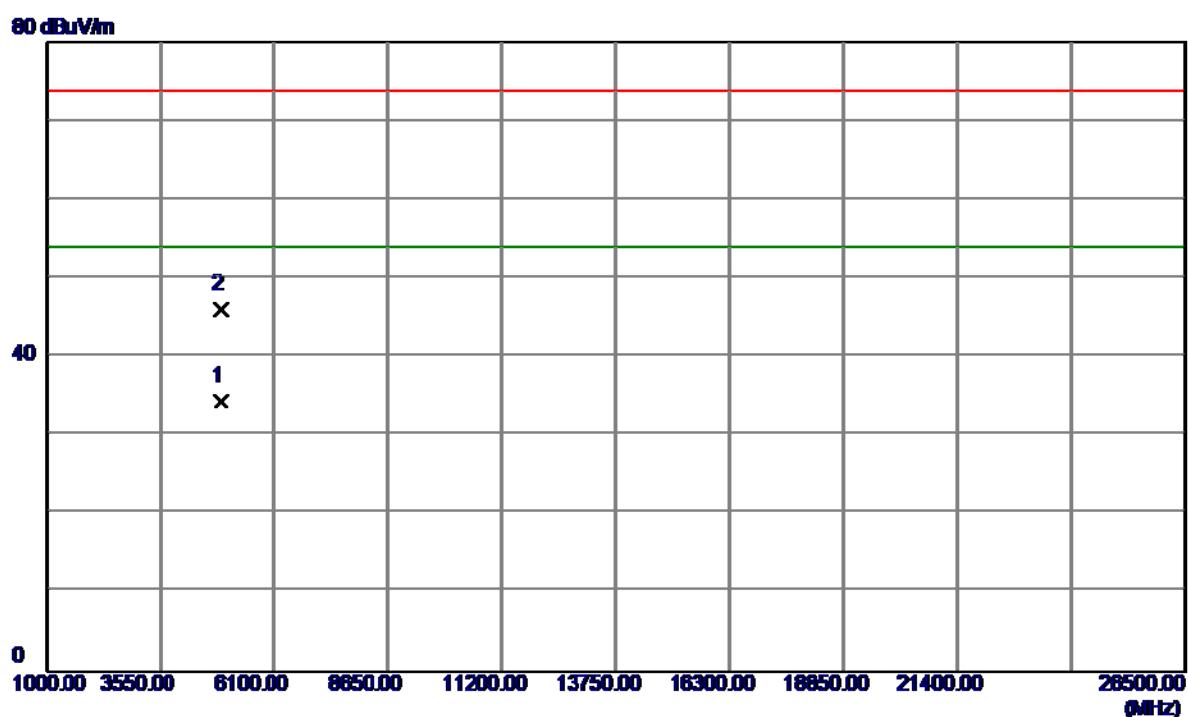


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2463.5000	50.32	32.78	83.10	54.00	29.10	AVG	No Limit
2	2483.5000	15.32	32.81	48.13	54.00	-5.87	AVG	
3	2483.5000	26.29	32.81	59.10	74.00	-14.90	Peak	
4	2464.0000	58.89	32.78	91.67	74.00	17.67	Peak	No Limit

Orthogonal Axis : X

Test Mode : TX N-20M MODE 2462MHz

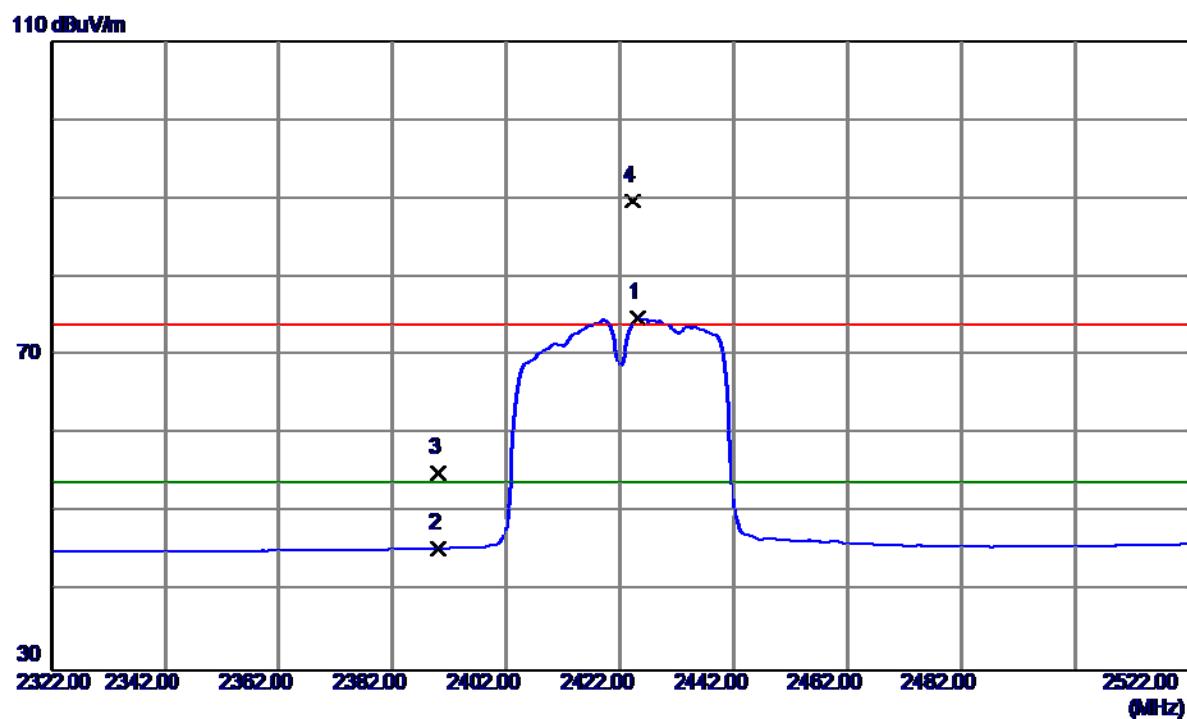
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4924.0080	28.27	6.14	34.41	54.00	-19.59	AVG	
2	4923.8510	39.99	6.14	46.13	74.00	-27.87	Peak	

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

Vertical

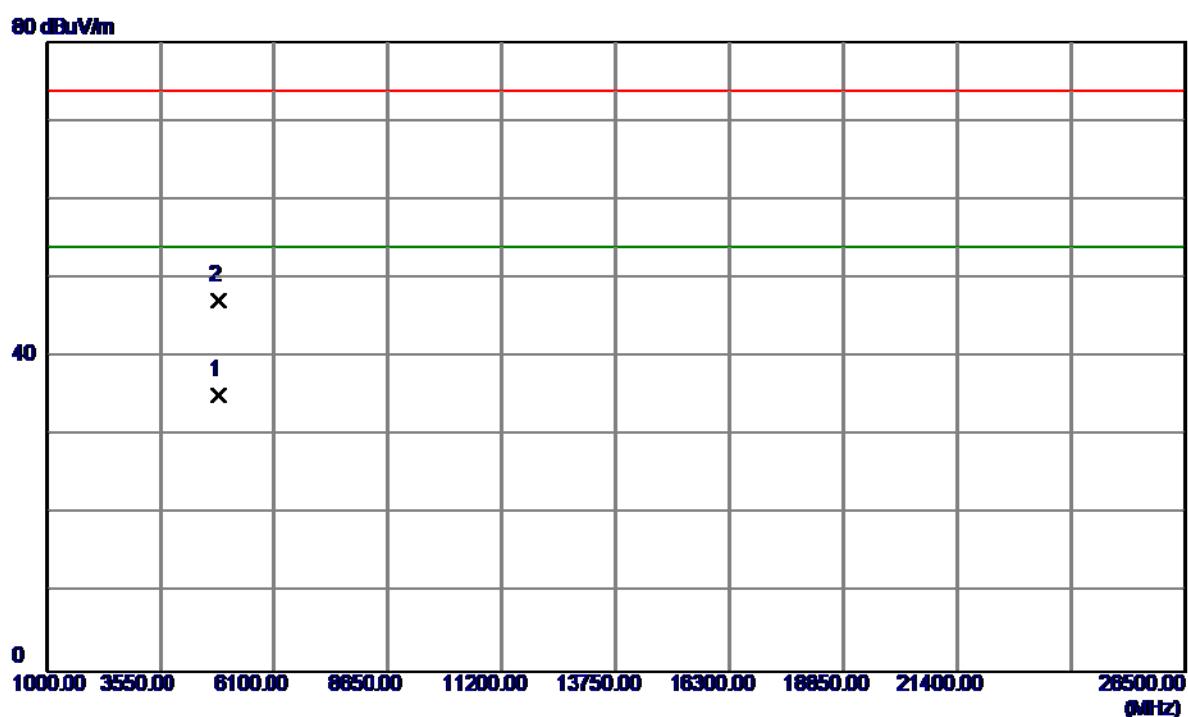


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	2425.2000	42.06	32.73	74.79	54.00	20.79	AVG	No Limit
2	2390.0000	12.86	32.68	45.54	54.00	-8.46	AVG	
3	2390.0000	22.40	32.68	55.08	74.00	-18.92	Peak	
4	2424.2000	56.93	32.73	89.66	74.00	15.66	Peak	No Limit

Orthogonal Axis : X

Test Mode : TX N-40M MODE 2422MHz

Vertical

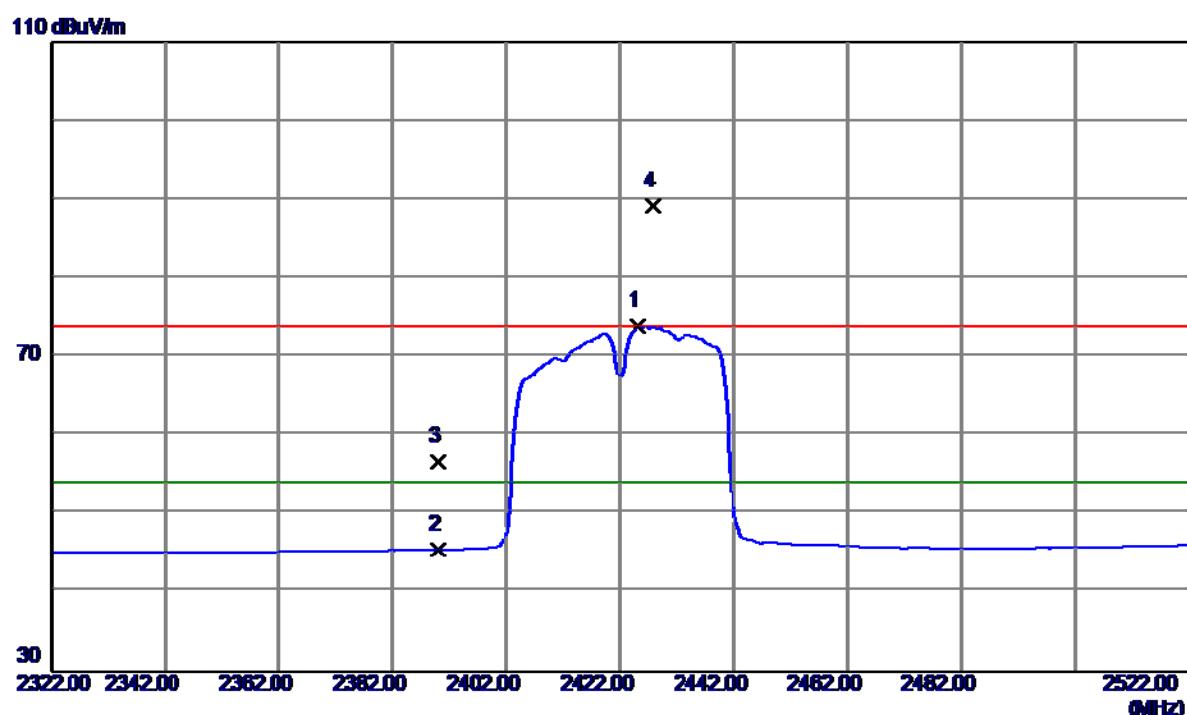


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4844.2180	29.21	5.92	35.13	54.00	-18.87	AVG	
2	4843.6070	41.28	5.92	47.20	74.00	-26.80	Peak	

Orthogonal Axis : X

Test Mode : TX N-40M MODE 2422MHz

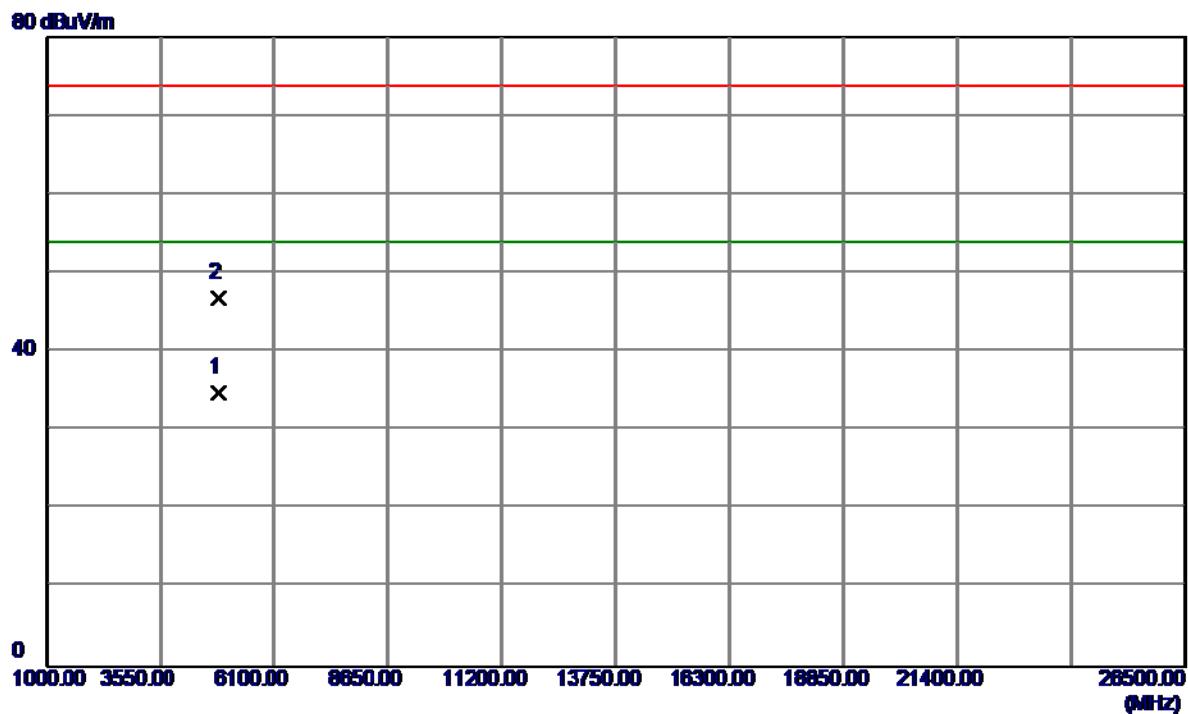
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2425.2000	41.23	32.73	73.96	54.00	19.96	AVG	No Limit
2	2390.0000	12.84	32.68	45.52	54.00	-8.48	AVG	
3	2390.0000	24.04	32.68	56.72	74.00	-17.28	Peak	
4	2427.8000	56.43	32.73	89.16	74.00	15.16	Peak	No Limit

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

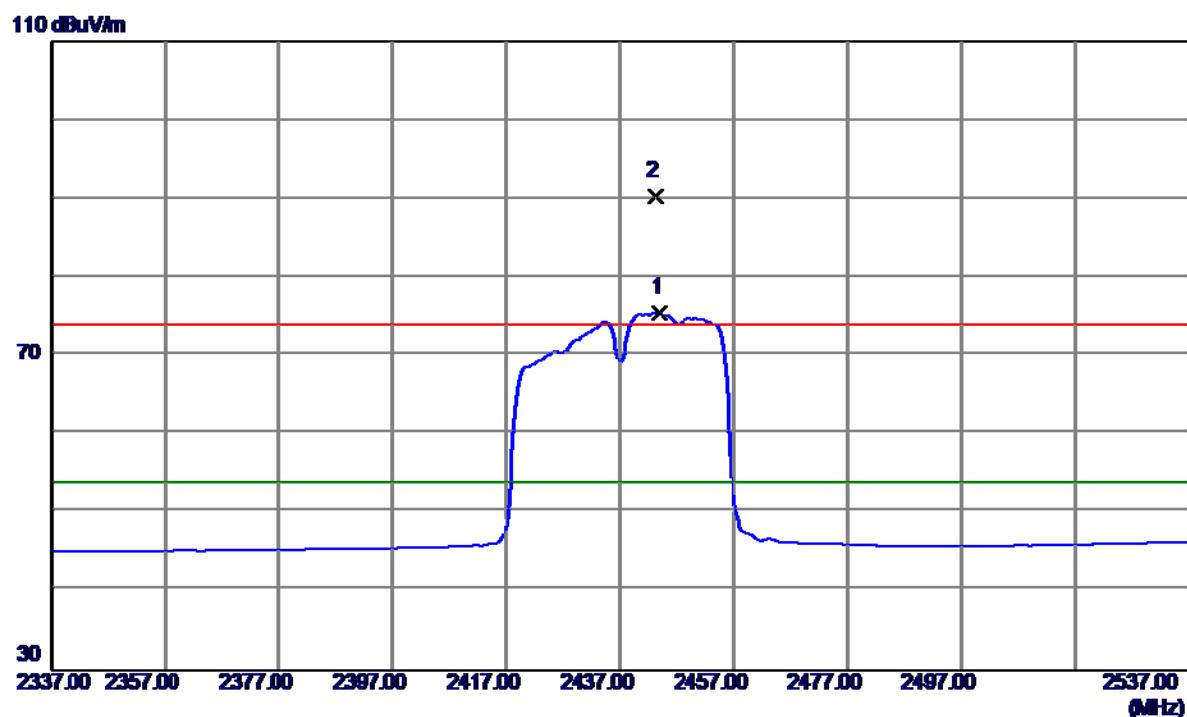
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4843.6170	29.01	5.92	34.93	54.00	-19.07	AVG	
2	4843.9530	40.89	5.92	46.81	74.00	-27.19	Peak	

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

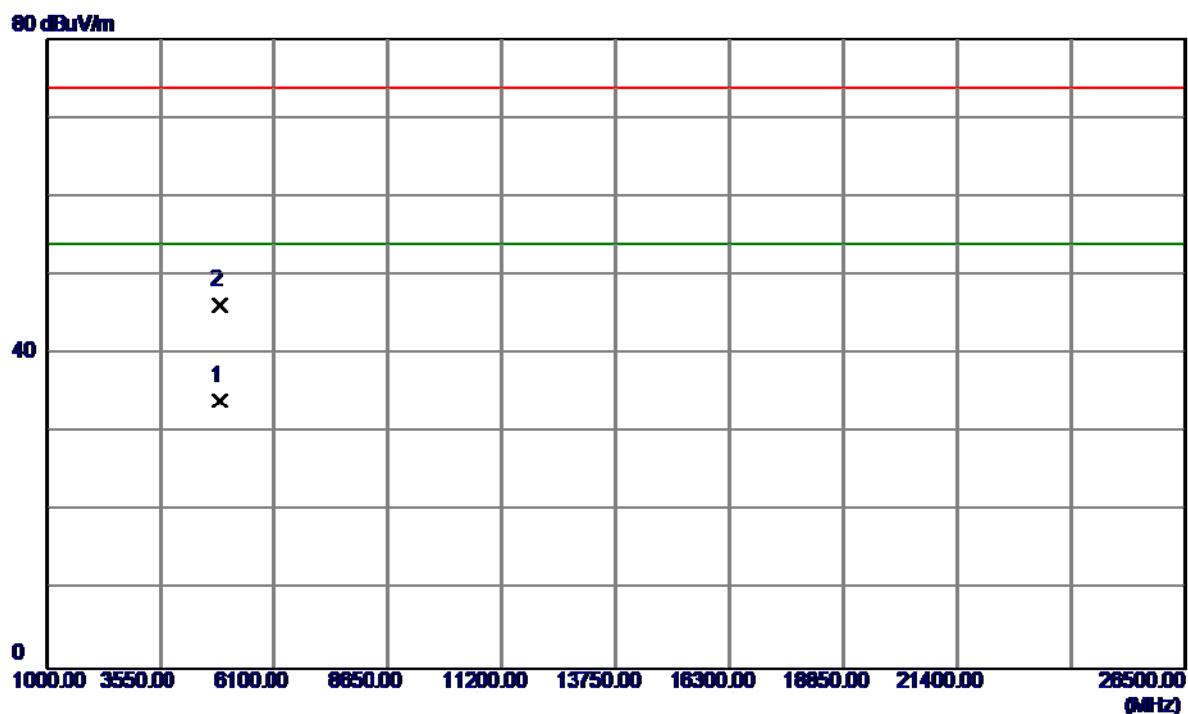
Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
							MHz	dBuV/m
1	2444.0000	42.68	32.75	75.43	54.00	21.43	AVG	No Limit
2	2443.2000	57.61	32.75	90.36	74.00	16.36	Peak	No Limit

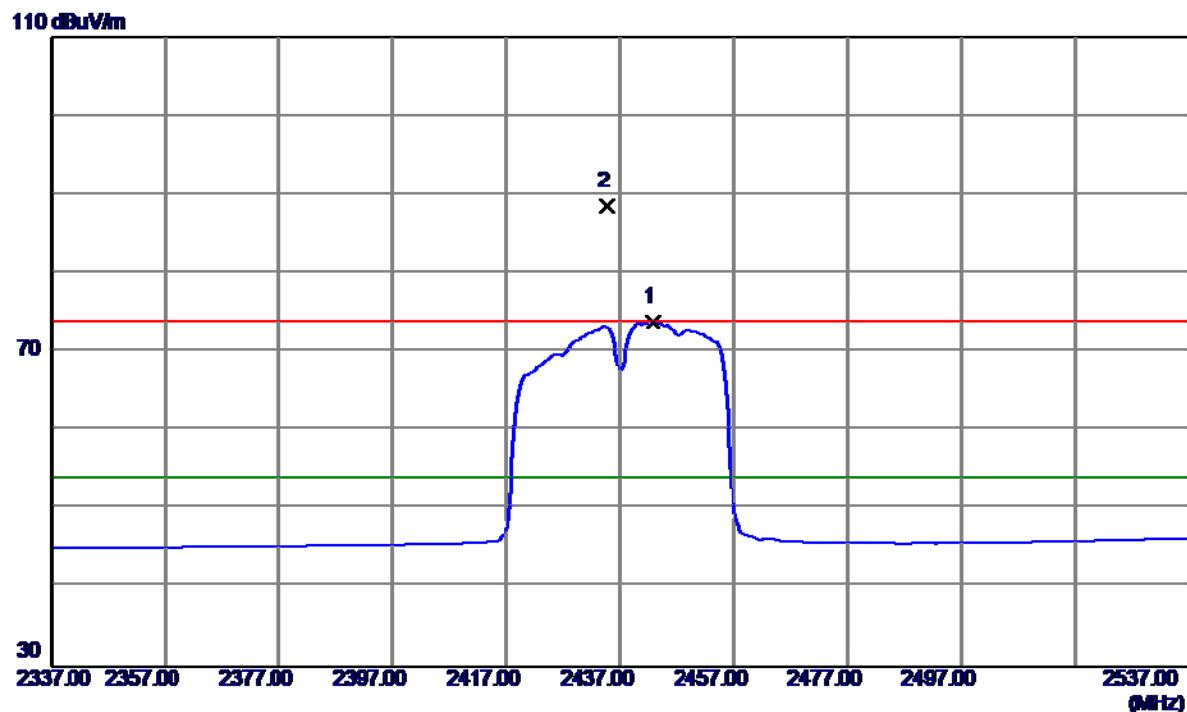
Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2437MHz

Vertical



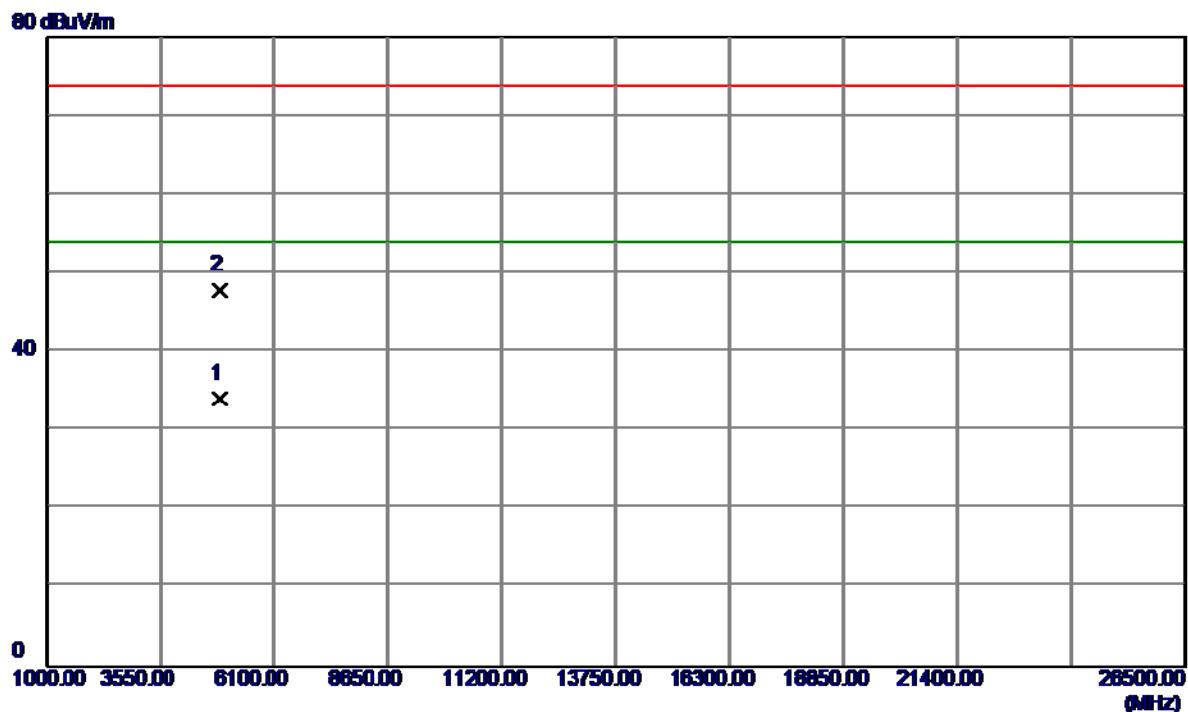
No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		Detector	Comment
						MHz	dBuV/m	dB	dBuV/m
1	4874.1230	28.08	6.00	34.08	54.00	-19.92	AVG		
2	4874.2839	40.21	6.00	46.21	74.00	-27.79	Peak		

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

Horizontal

No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2442.8000	41.02	32.75	73.77	54.00	19.77	AVG	No Limit
2	2434.8000	55.76	32.74	88.50	74.00	14.50	Peak	No Limit

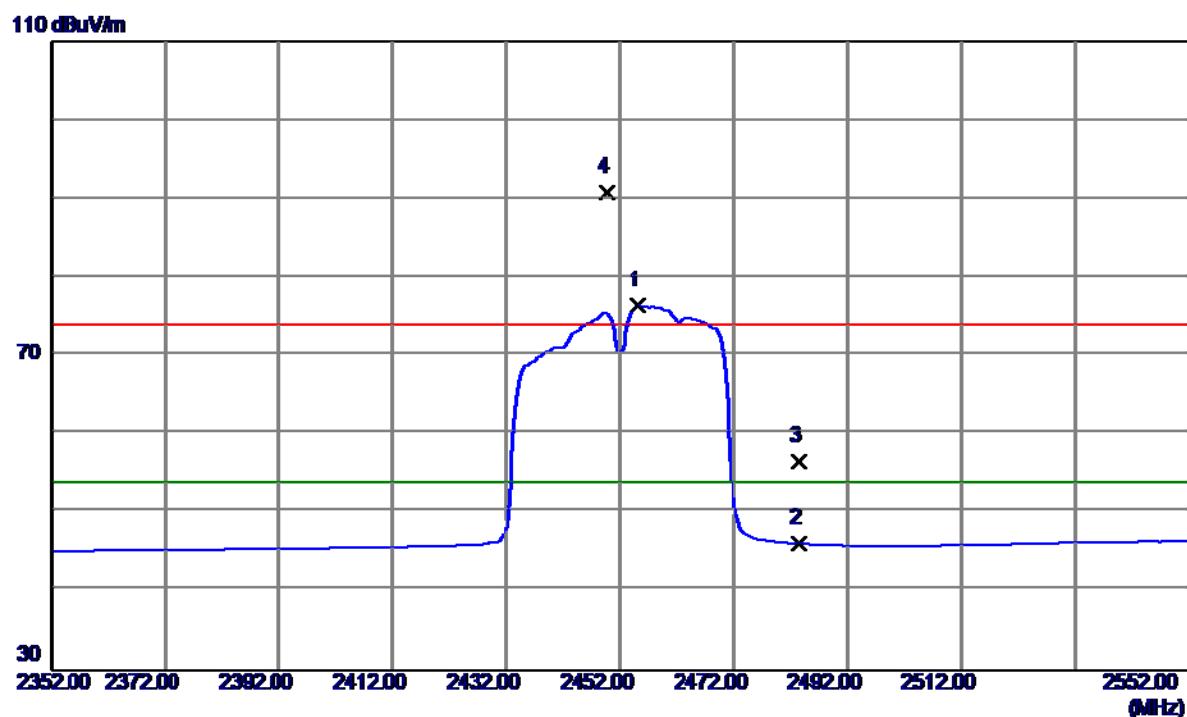
Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2437MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4874.3280	28.10	6.00	34.10	54.00	-19.90	AVG	
2	4873.8190	41.77	6.00	47.77	74.00	-26.23	Peak	

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

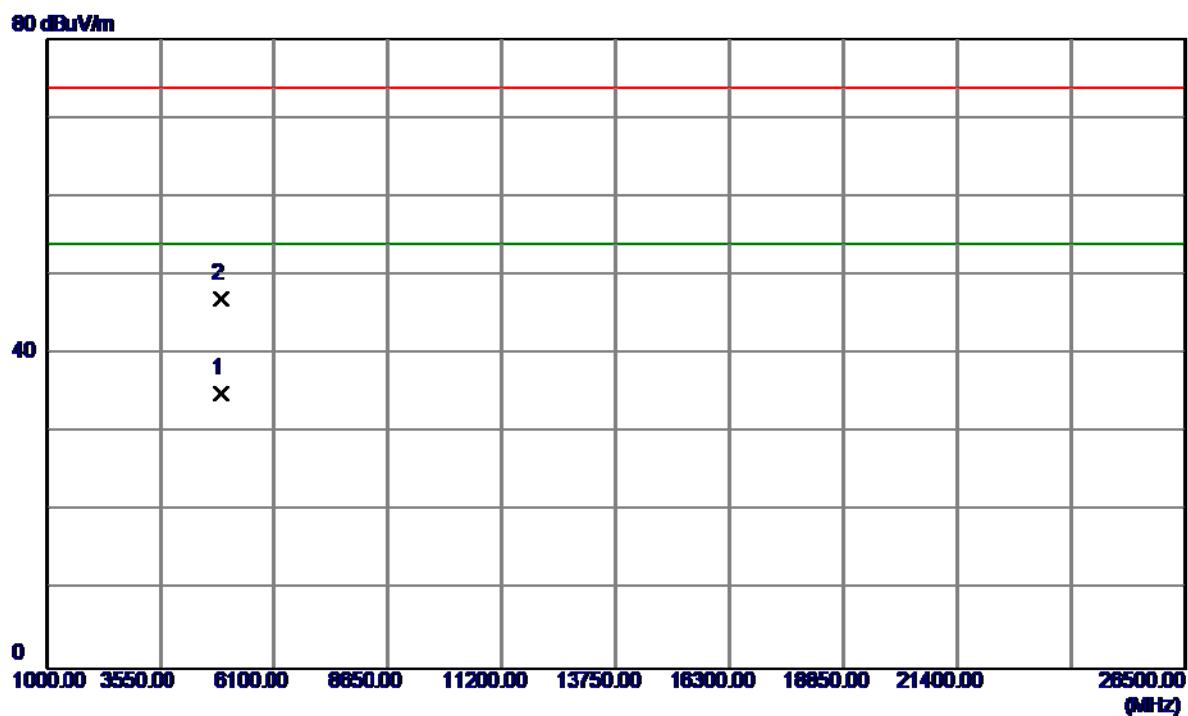
Vertical



No.	Freq.	Reading	Correct	Measure	Limit	Margin	Detector	Comment
		Level	Factor	ment	dBuV/m	dB		
1	2455.2000	43.64	32.77	76.41	54.00	22.41	AVG	No Limit
2	2483.5000	13.34	32.81	46.15	54.00	-7.85	AVG	
3	2483.5000	23.71	32.81	56.52	74.00	-17.48	Peak	
4	2449.8000	58.03	32.76	90.79	74.00	16.79	Peak	No Limit

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

Vertical

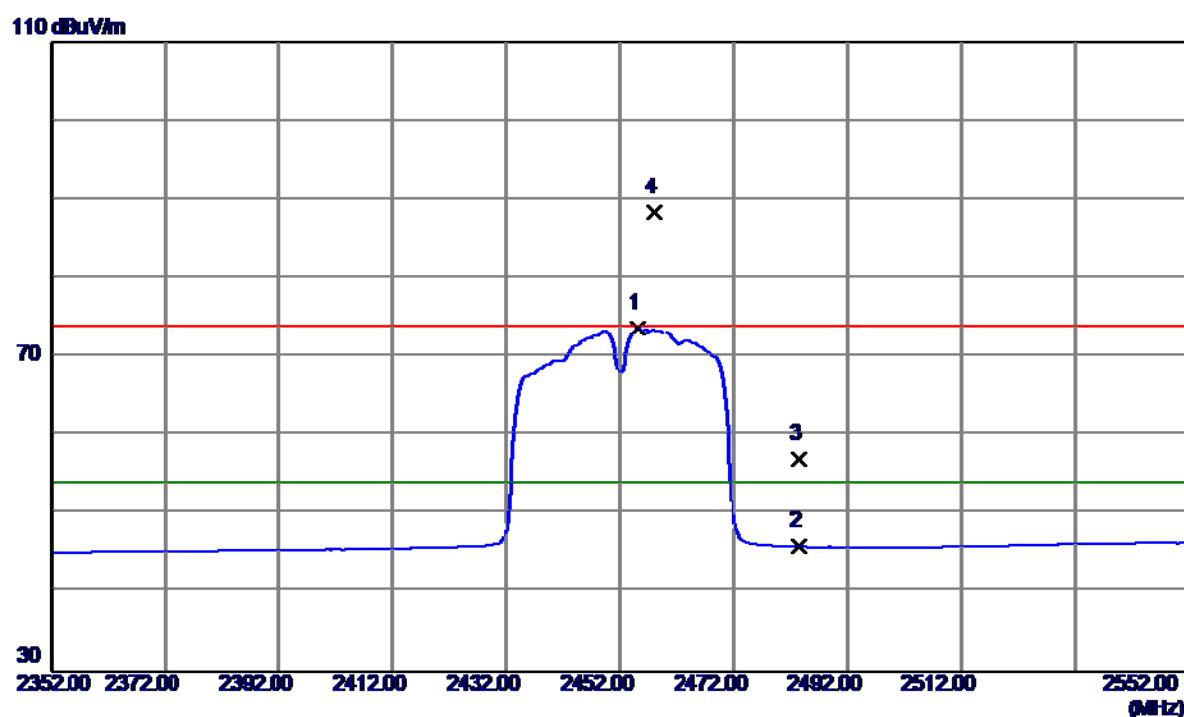


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4904.3320	28.90	6.08	34.98	54.00	-19.02	AVG	
2	4904.1290	40.97	6.08	47.05	74.00	-26.95	Peak	

Orthogonal Axis : X

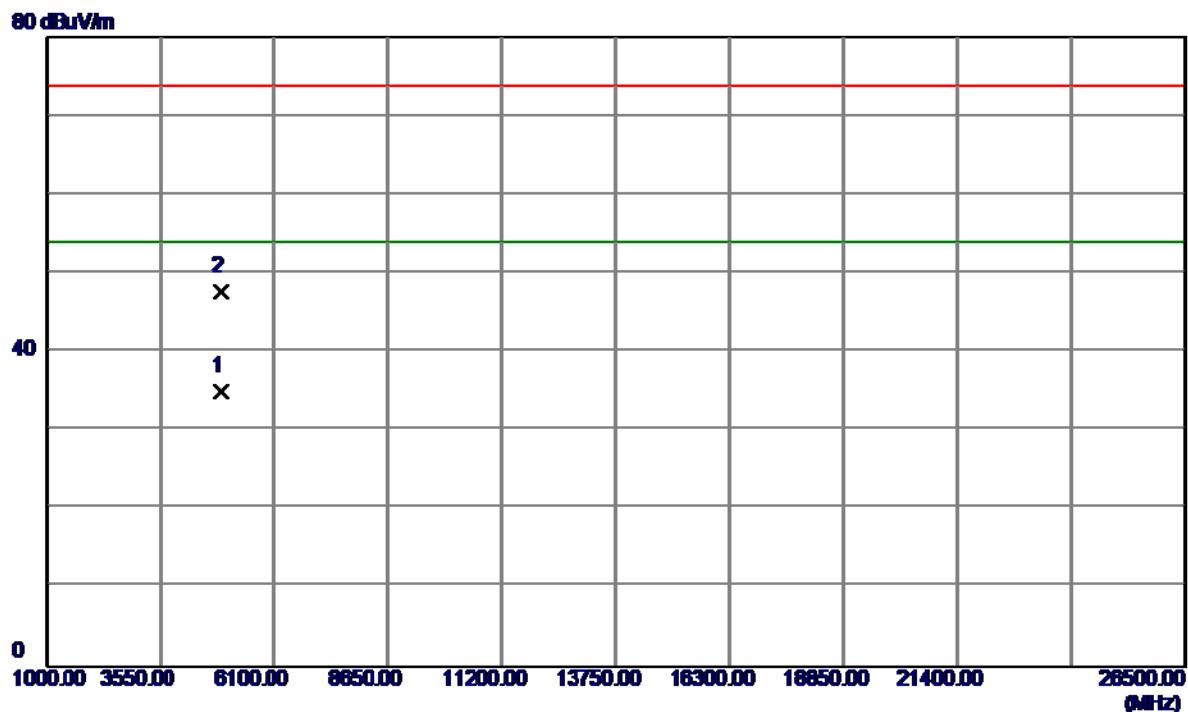
Test Mode : TX N-40M MODE 2452MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2455.2000	40.91	32.77	73.68	54.00	19.68	AVG	No Limit
2	2483.5000	13.13	32.81	45.94	54.00	-8.06	AVG	
3	2483.5000	24.29	32.81	57.10	74.00	-16.90	Peak	
4	2458.0000	55.61	32.77	88.38	74.00	14.38	Peak	No Limit

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

Horizontal

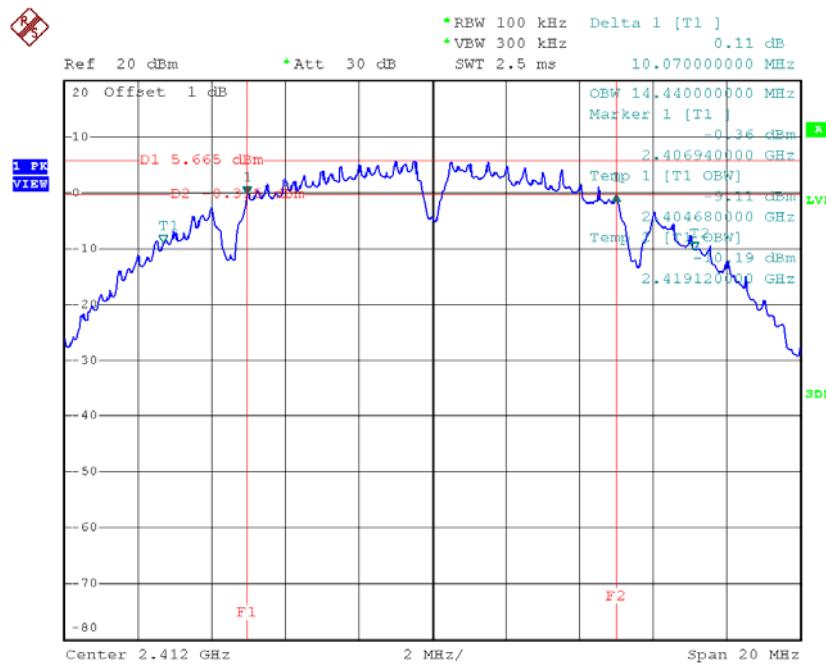
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	4904.2290	28.92	6.08	35.00	54.00	-19.00	AVG	
2	4904.1440	41.61	6.08	47.69	74.00	-26.31	Peak	

ATTACHMENTE - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

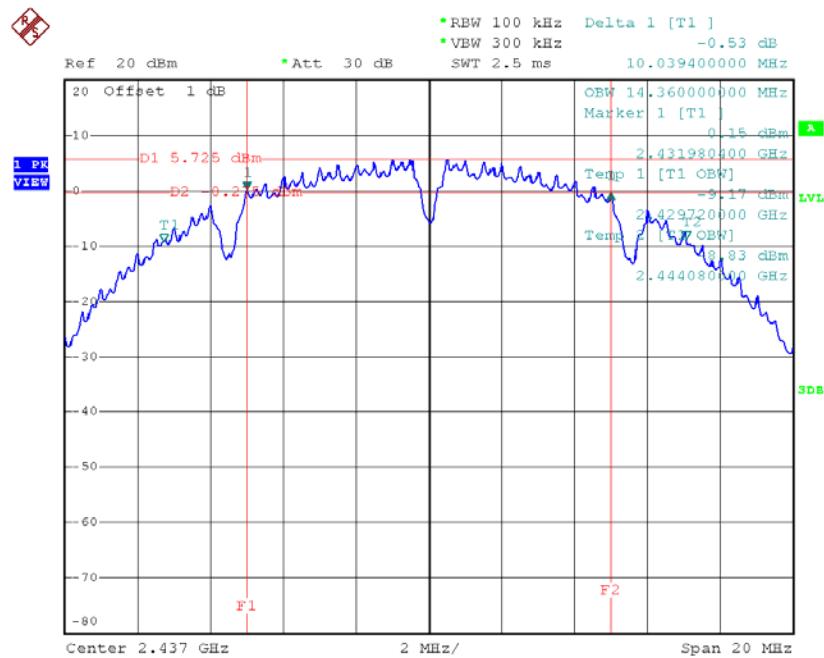
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.07	14.44	500	Complies
2437	10.04	14.36	500	Complies
2462	9.87	14.44	500	Complies

TX CH01



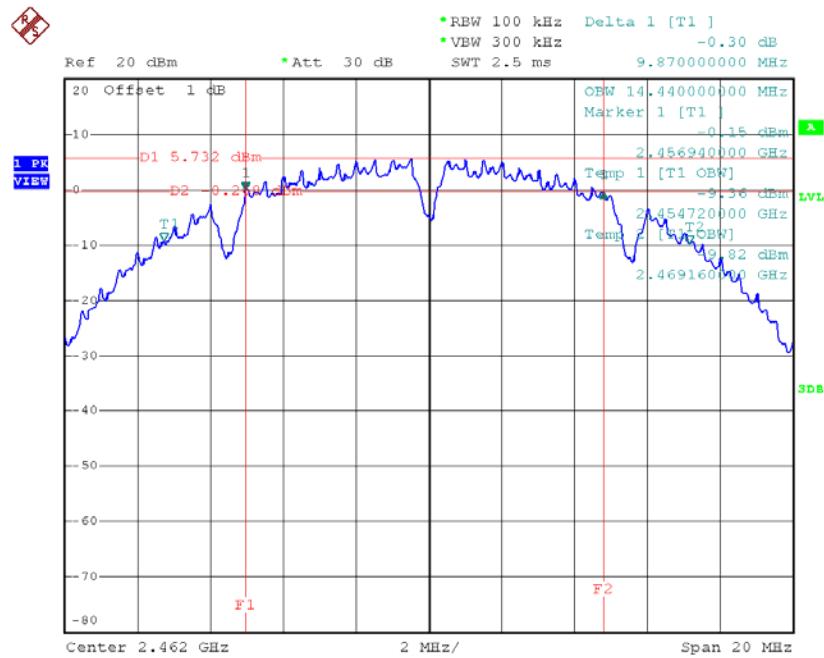
Date: 18.FEB.2016 09:15:02

TX CH06



Date: 18.FEB.2016 09:16:21

TX CH11

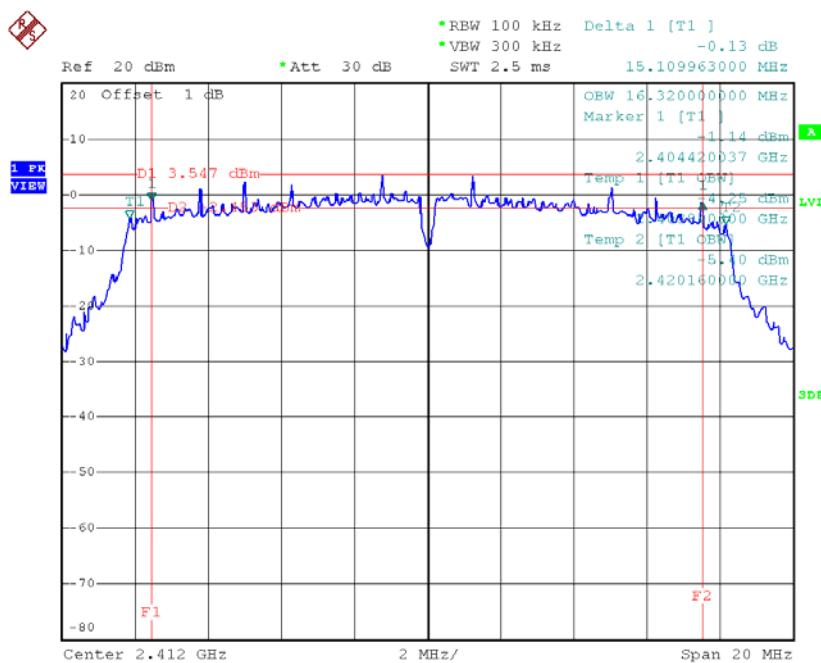


Date: 18.FEB.2016 09:17:27

Test Mode: TX G Mode_CH01/06/11

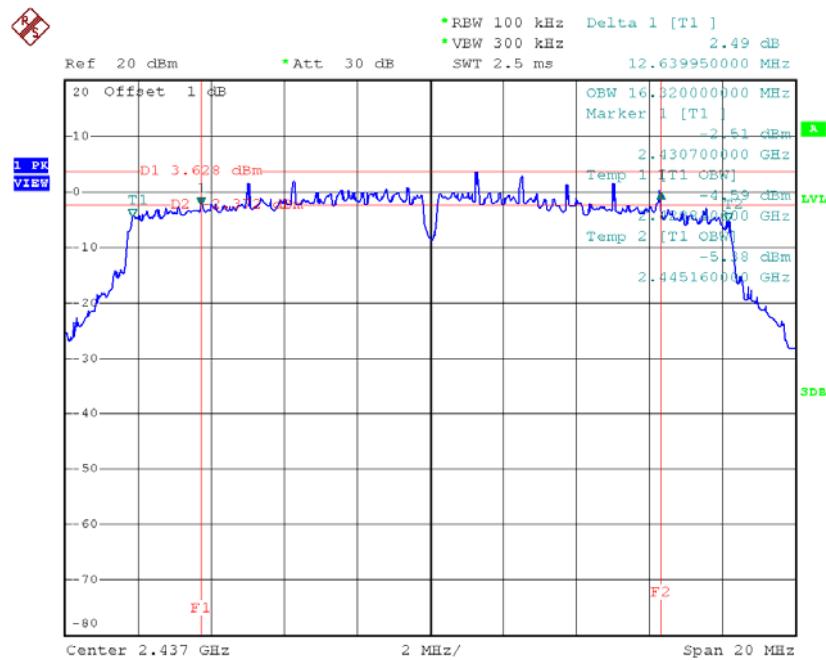
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	15.11	16.32	500	Complies
2437	12.64	16.32	500	Complies
2462	15.10	16.32	500	Complies

TX CH01



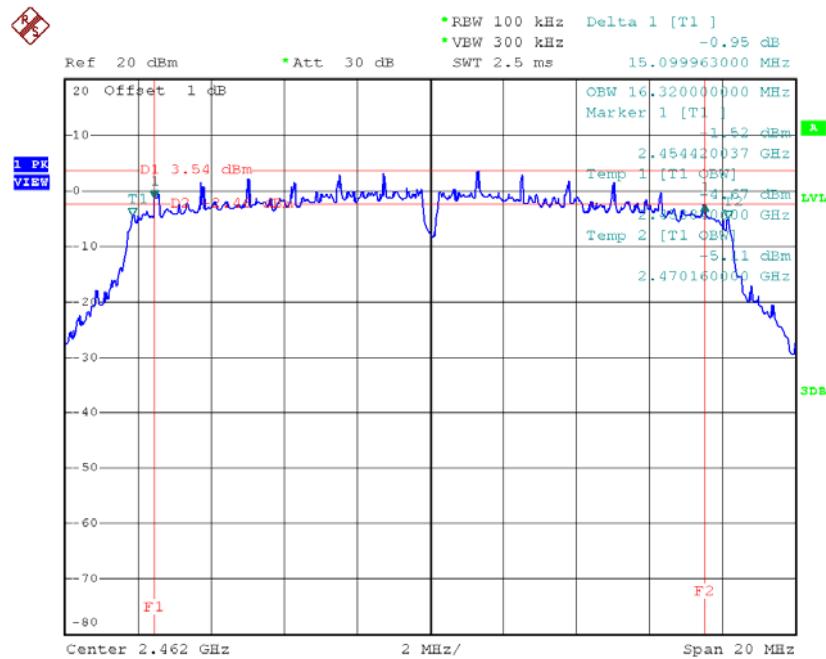
Date: 18.FEB.2016 09:18:58

TX CH06



Date: 18.FEB.2016 09:20:09

TX CH11

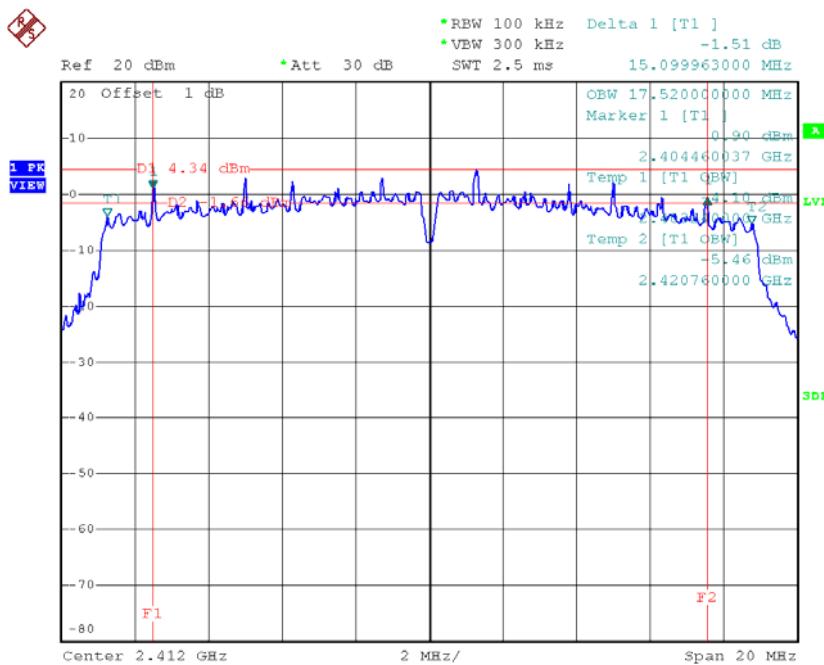


Date: 18.FEB.2016 09:21:10

Test Mode : TX N-20MHz Mode_CH01/06/11

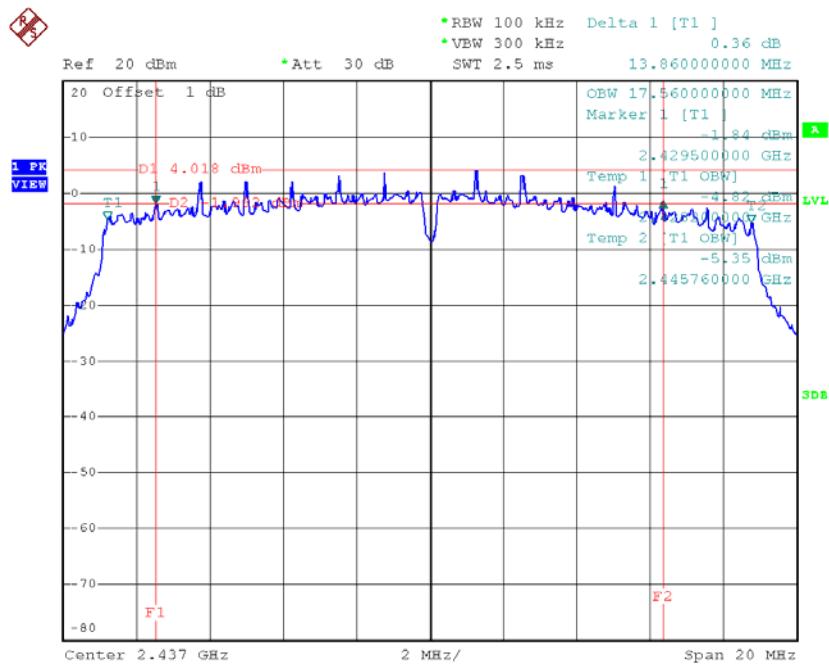
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	15.10	17.52	500	Complies
2437	13.86	17.56	500	Complies
2462	15.11	17.52	500	Complies

TX CH01



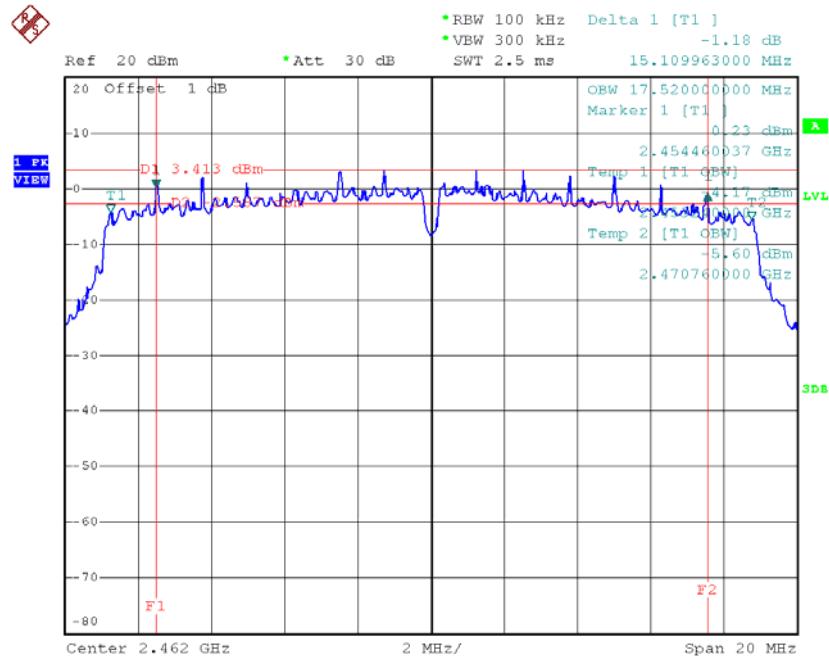
Date: 18.FEB.2016 09:22:27

TX CH06



Date: 18.FEB.2016 09:23:31

TX CH11

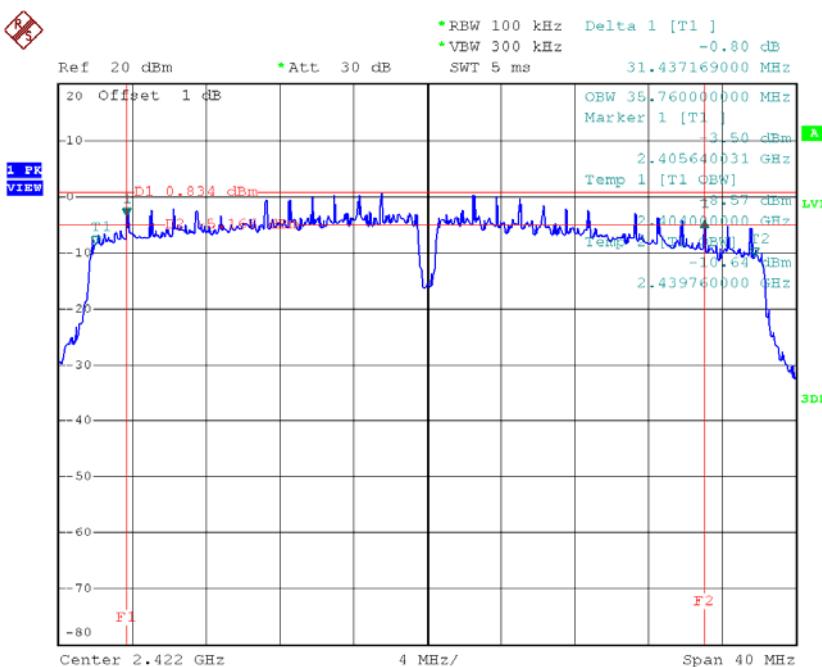


Date: 18.FEB.2016 09:24:28

Test Mode : TX N-40MHz Mode_CH03/06/09

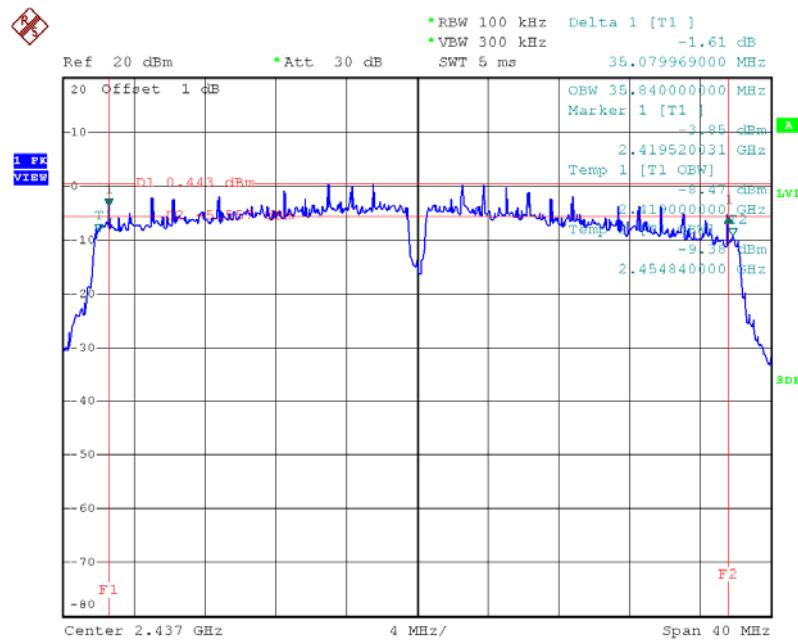
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	31.44	35.76	500	Complies
2437	35.08	35.84	500	Complies
2452	35.11	35.84	500	Complies

TX CH03



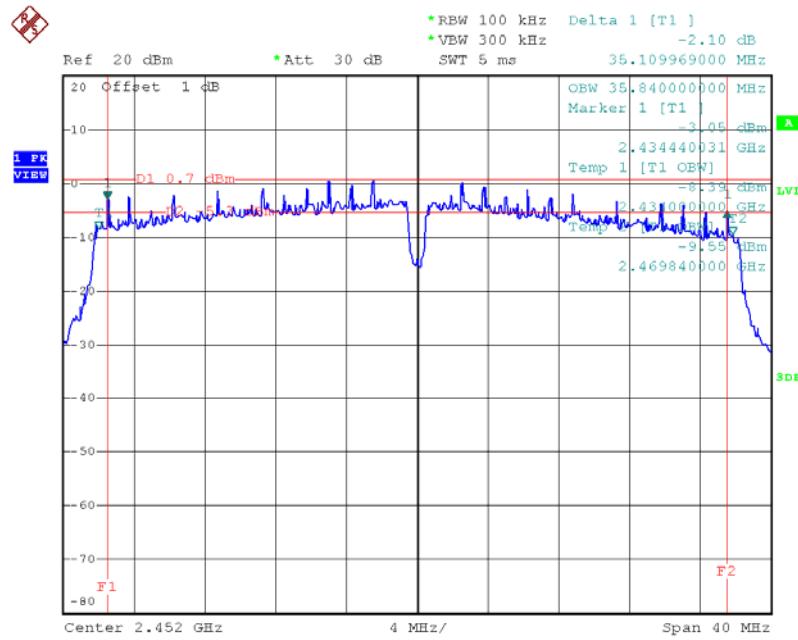
Date: 18.FEB.2016 09:26:21

TX CH06



Date: 18.FEB.2016 09:27:24

TX CH09



Date: 18.FEB.2016 09:28:19

ATTACHMENTF– MAXIMUM PEAK CONDUCTED OUTPUT POWER

Test Mode :TX B Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.16	0.07	30.00	1.00	Complies
2437	18.18	0.07	30.00	1.00	Complies
2462	18.07	0.06	30.00	1.00	Complies

Test Mode :TX G Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.96	0.20	30.00	1.00	Complies
2437	22.88	0.19	30.00	1.00	Complies
2462	22.86	0.19	30.00	1.00	Complies

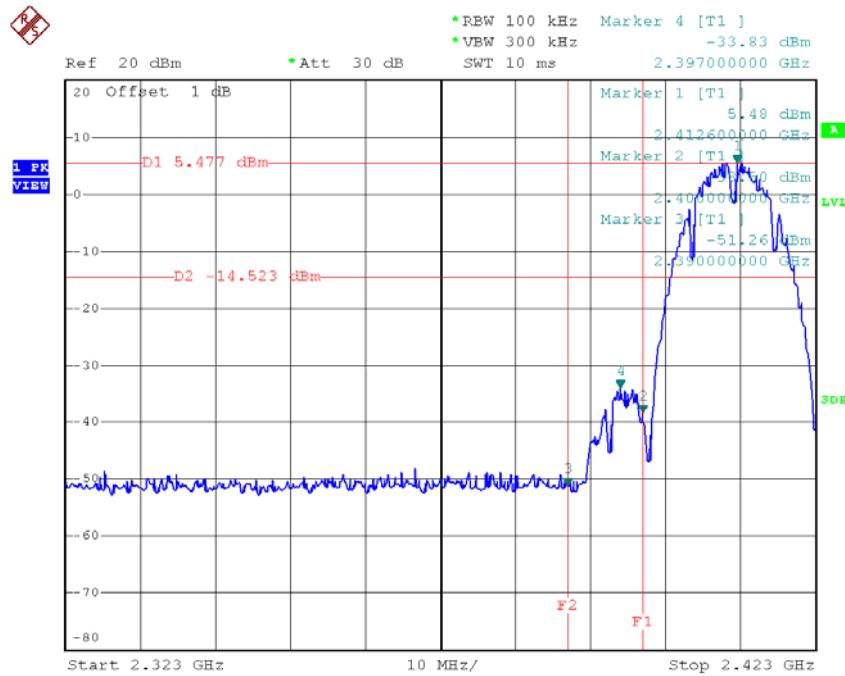
Test Mode :TX N20 Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	23.95	0.25	30.00	1.00	Complies
2437	23.26	0.21	30.00	1.00	Complies
2462	23.35	0.22	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	21.97	0.16	30.00	1.00	Complies
2437	21.89	0.15	30.00	1.00	Complies
2452	21.94	0.16	30.00	1.00	Complies

**ATTACHMENTG - ANTENNA CONDUCTED SPURIOUS
EMISSION**

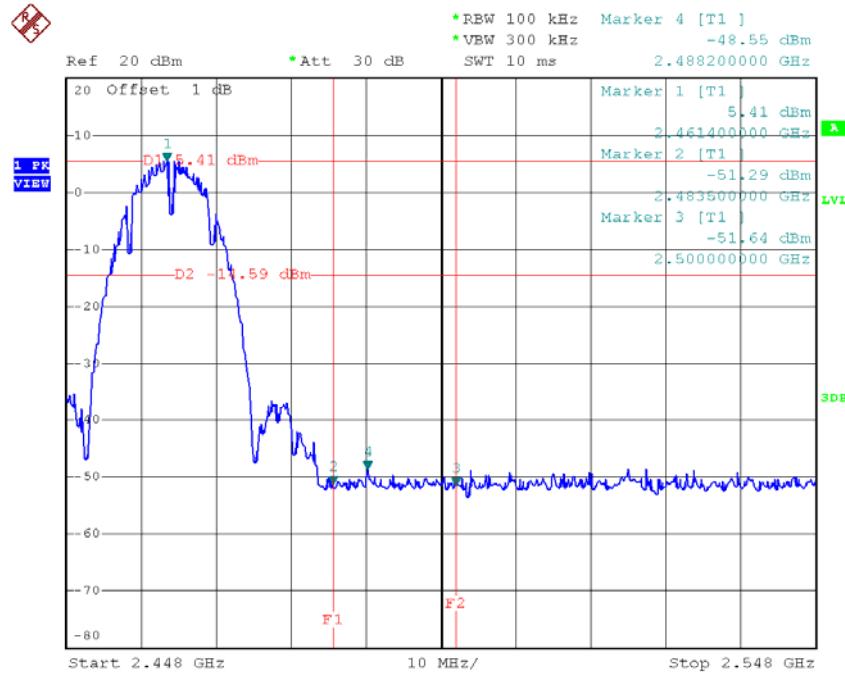
Test Mode :	TX B Mode
--------------------	------------------

TX B mode CH01

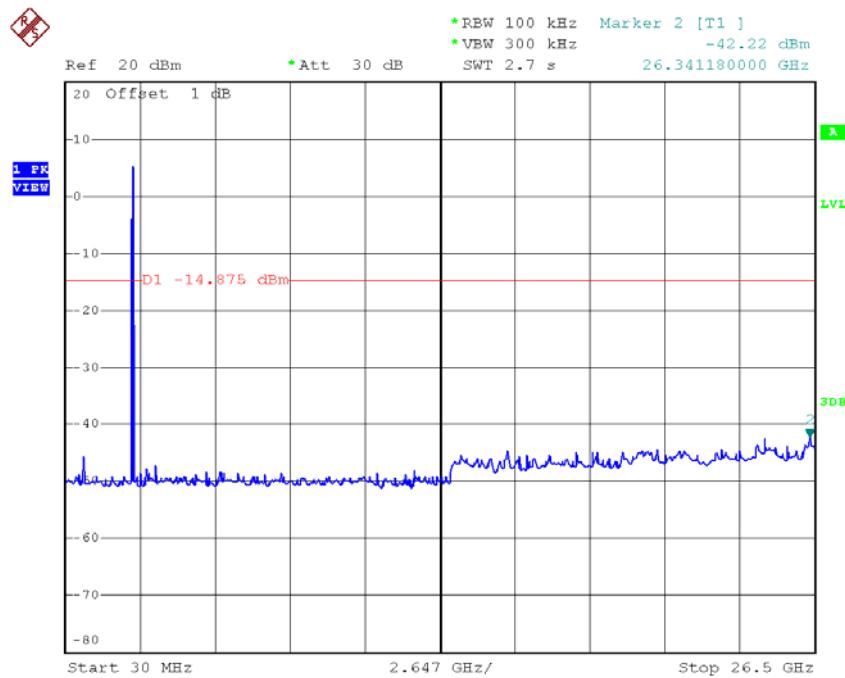


Date: 18.FEB.2016 09:15:24

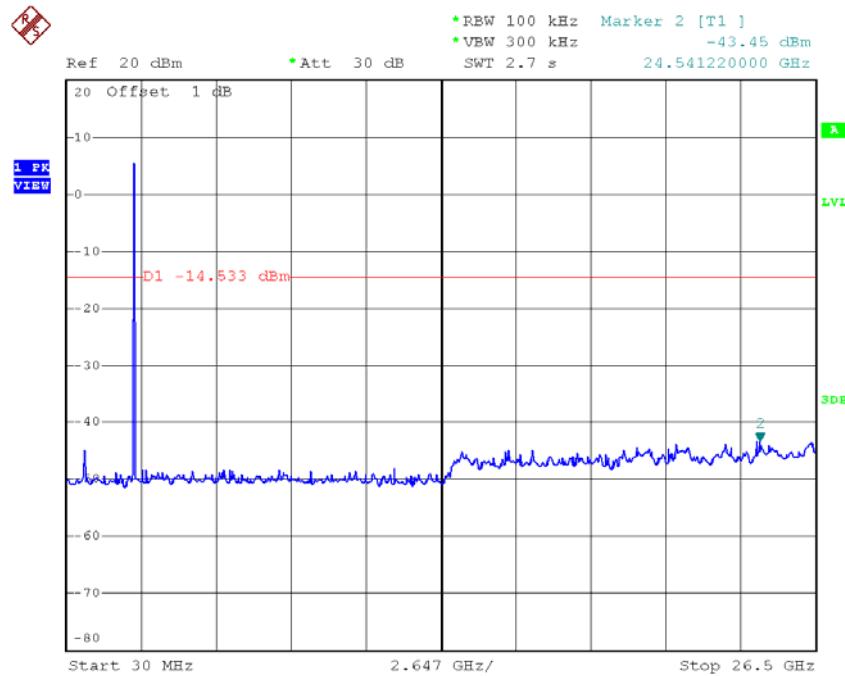
TX B mode CH11



Date: 18.FEB.2016 09:17:49

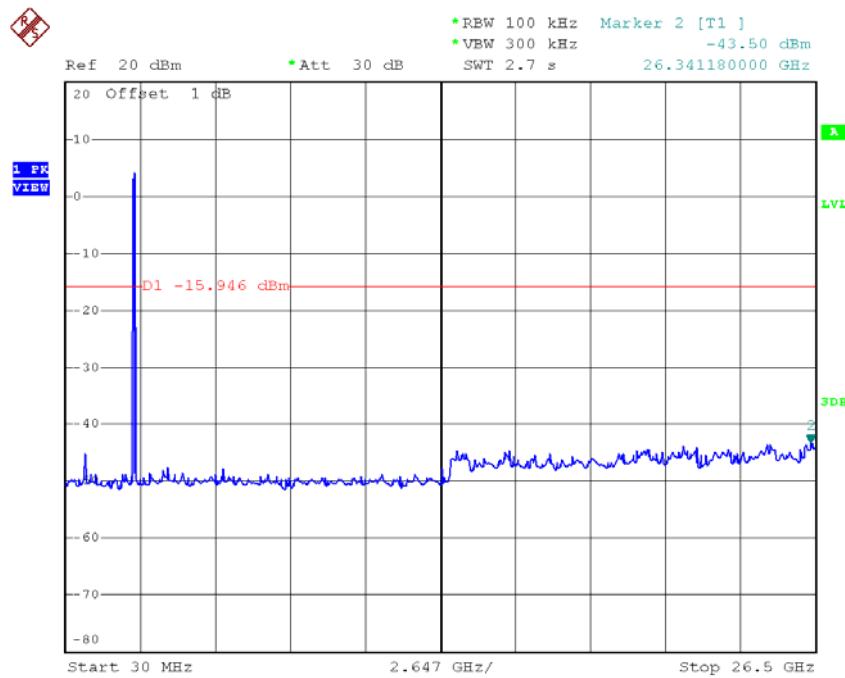
TX B mode CH01 (10 Harmonic of the frequency)

Date: 18.FEB.2016 09:15:16

TX B mode CH06 (10 Harmonic of the frequency)

Date: 18.FEB.2016 09:16:34

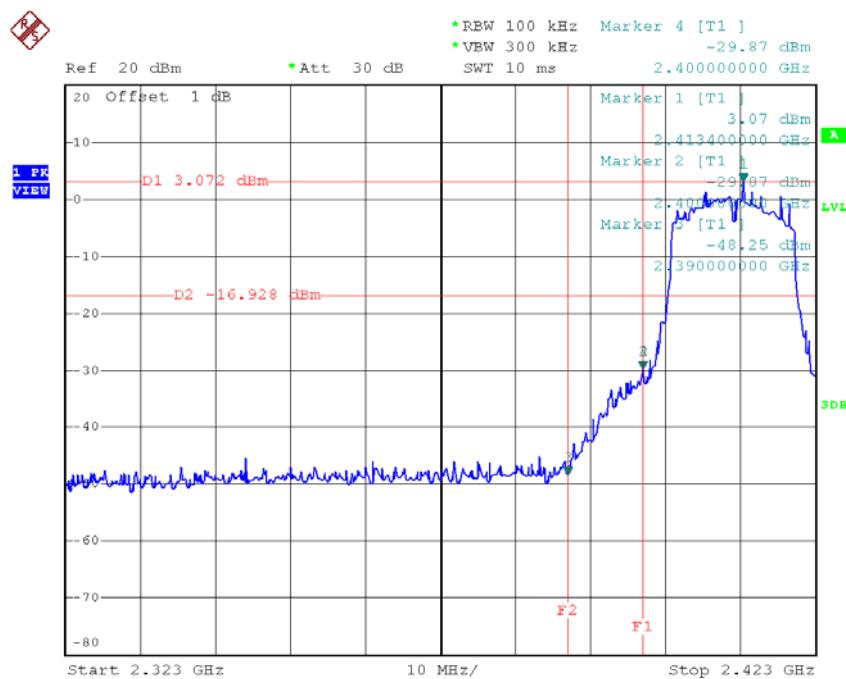
TX B mode CH11 (10 Harmonic of the frequency)



Date: 18.FEB.2016 09:17:41

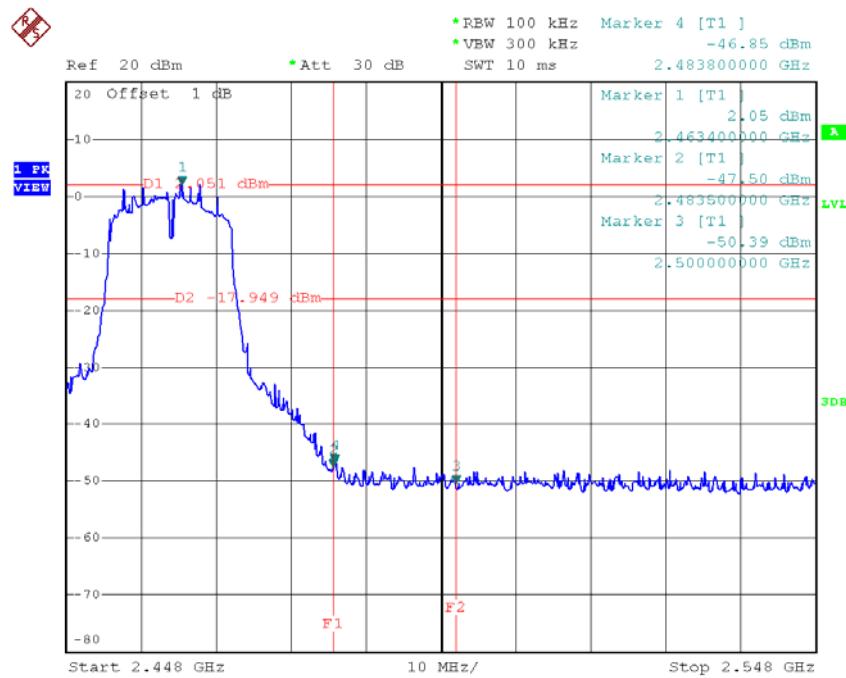
Test Mode :	TX G Mode
--------------------	------------------

TX G mode CH01

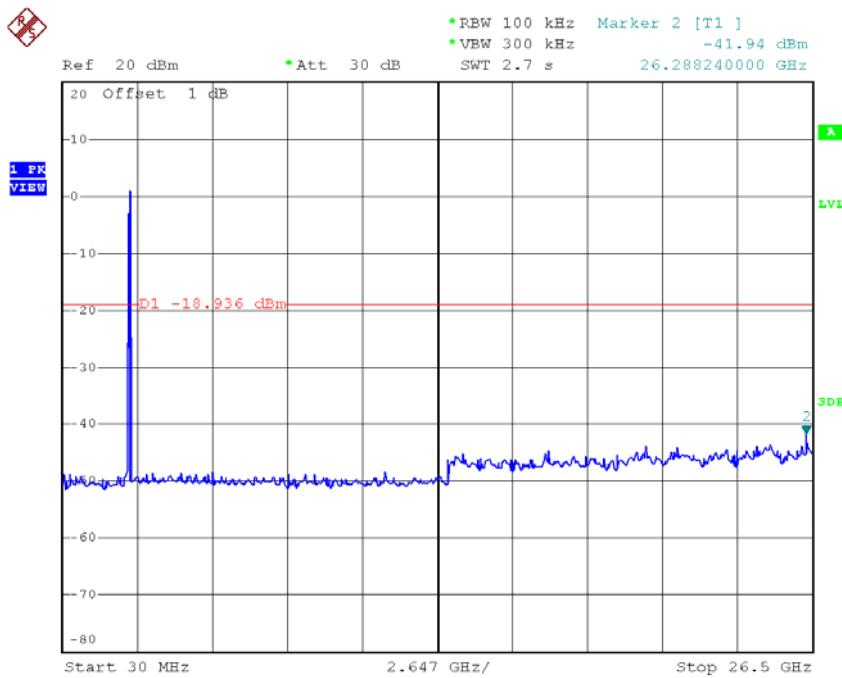


Date: 18.FEB.2016 09:19:20

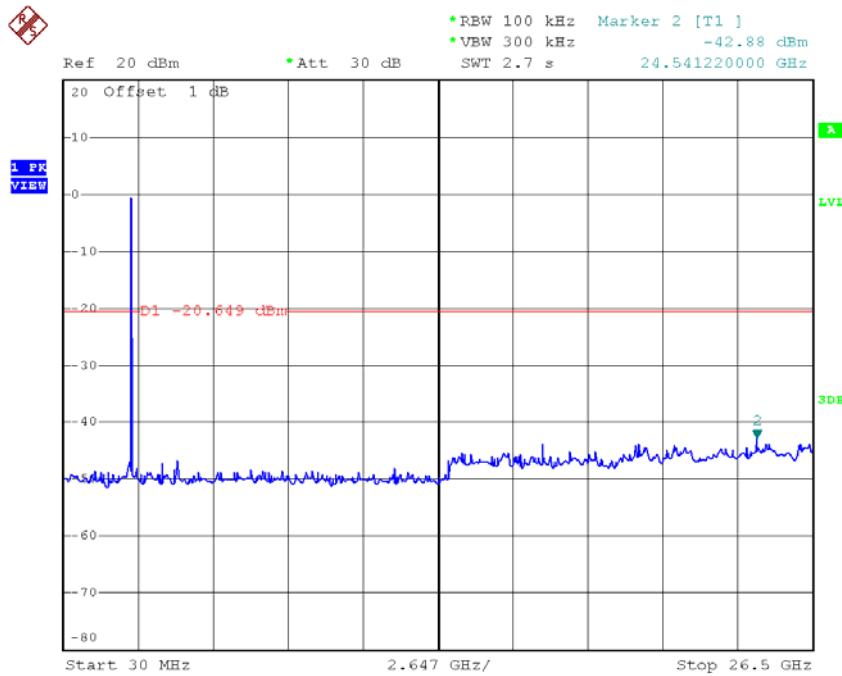
TX G mode CH11



Date: 18.FEB.2016 09:21:32

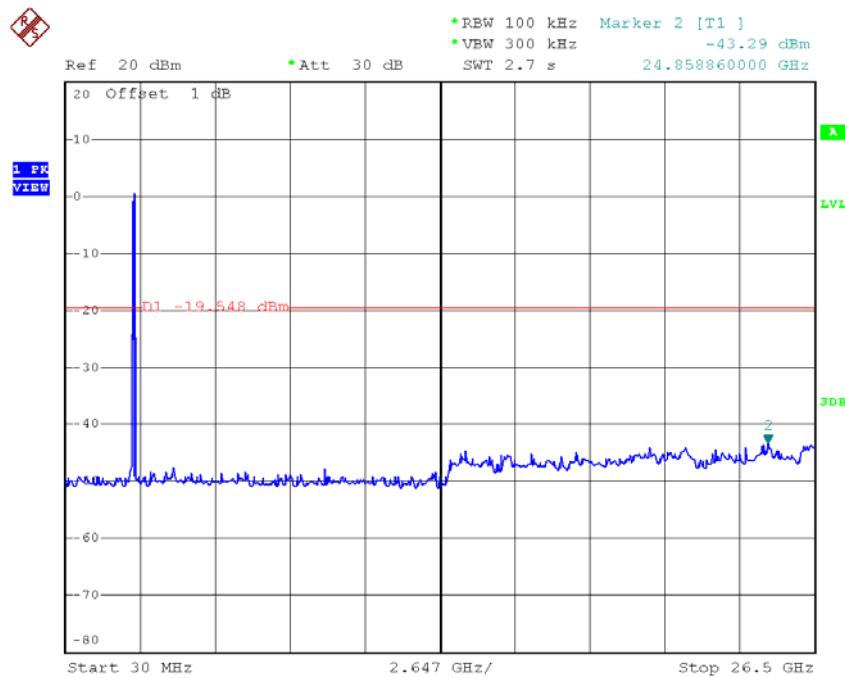
TX G mode CH01 (10 Harmonic of the frequency)

Date: 18.FEB.2016 09:19:13

TX G mode CH06 (10 Harmonic of the frequency)

Date: 18.FEB.2016 09:20:23

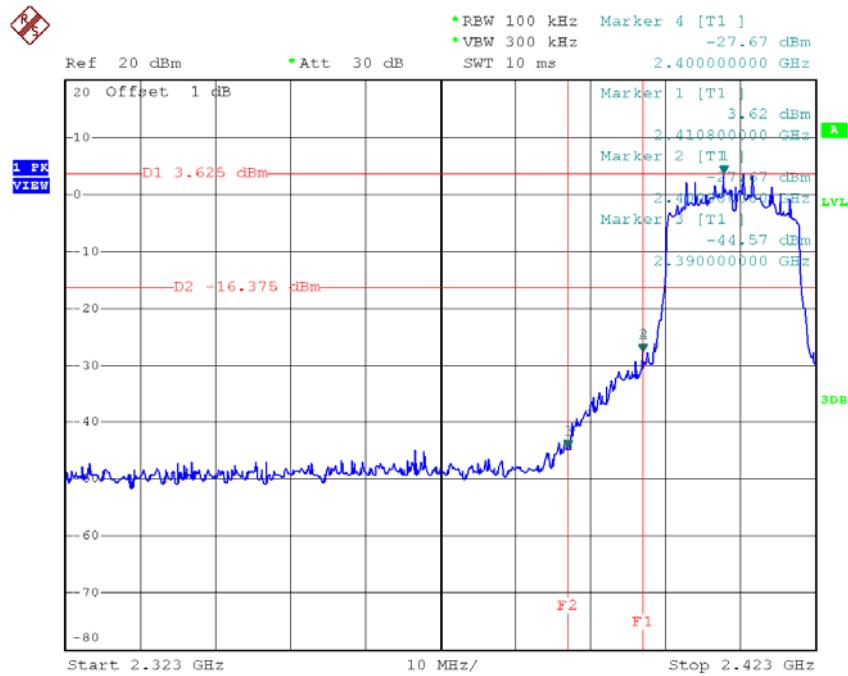
TX G mode CH11 (10 Harmonic of the frequency)



Date: 18.FEB.2016 09:21:24

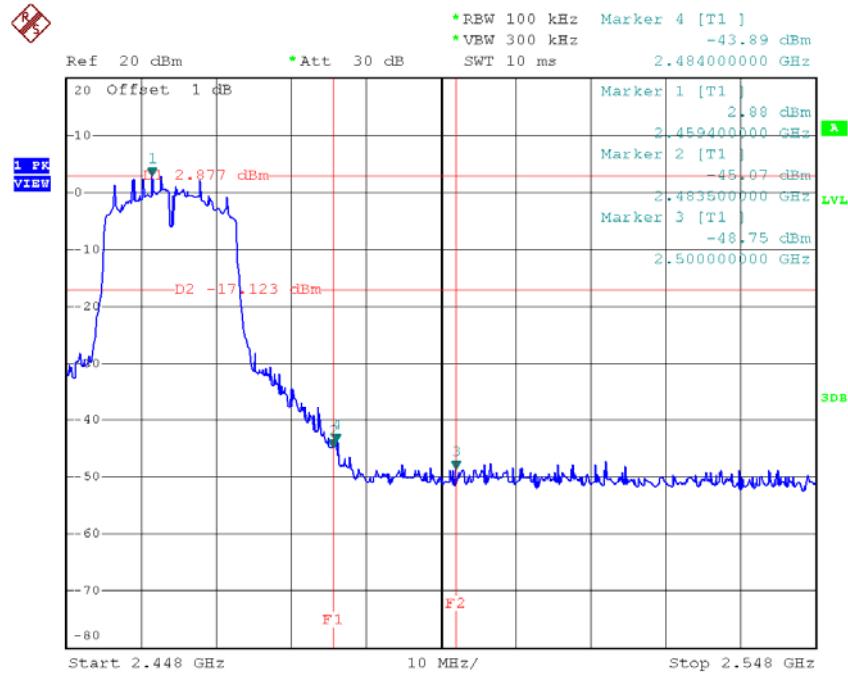
Test Mode :	TX N-20M Mode
--------------------	----------------------

TX HT20 mode CH01

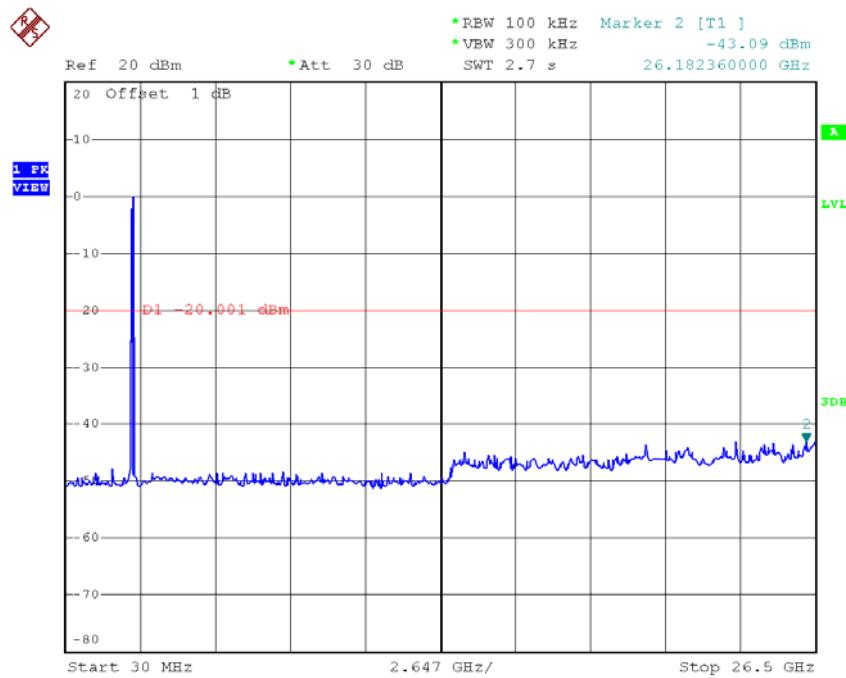


Date: 18.FEB.2016 09:22:48

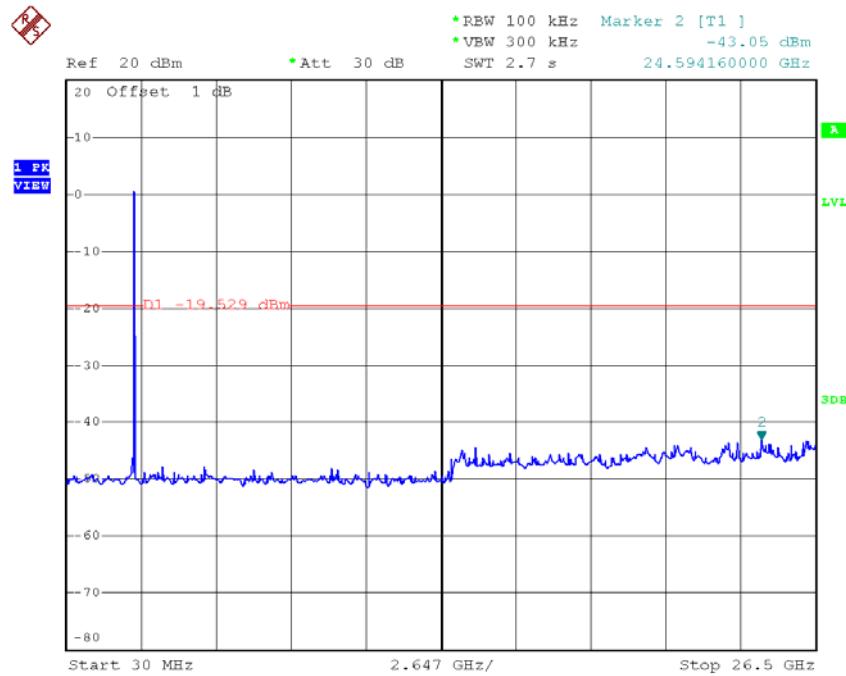
TX HT20 mode CH11



Date: 18.FEB.2016 09:24:50

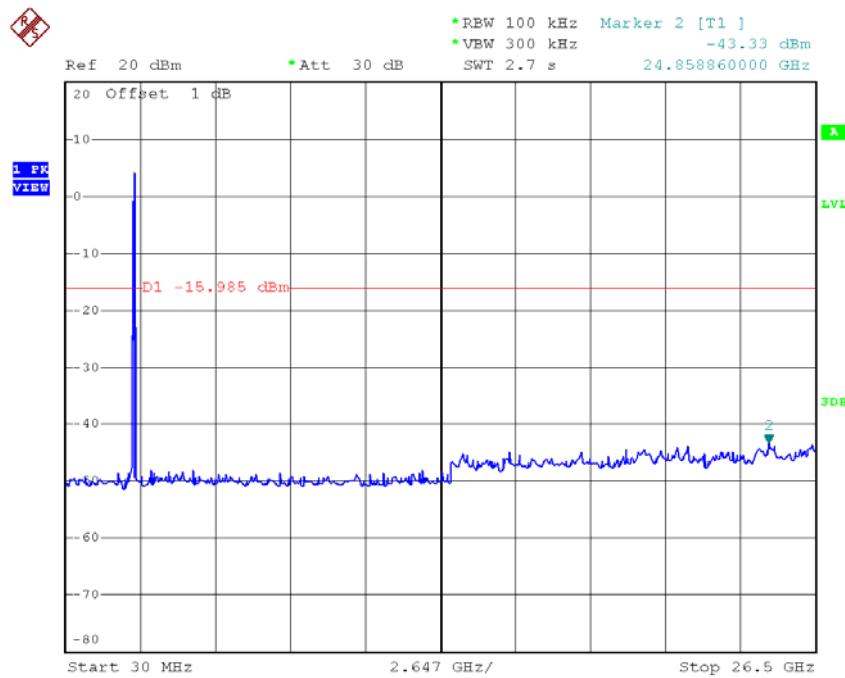
TX HT20 mode CH01 (10 Harmonic of the frequency)

Date: 18.FEB.2016 09:22:40

TX HT20 mode CH06 (10 Harmonic of the frequency)

Date: 18.FEB.2016 09:23:45

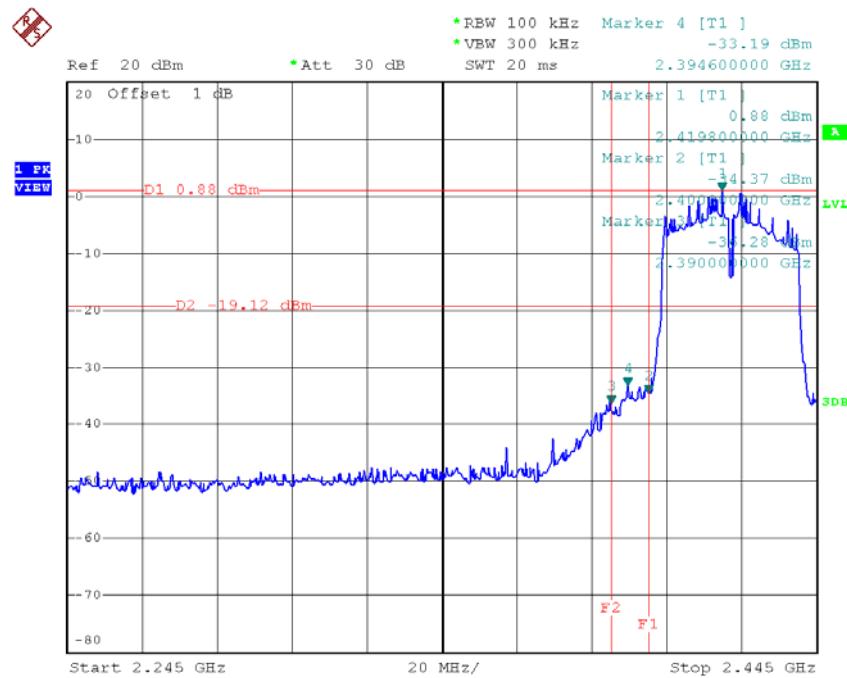
TX HT20 mode CH11 (10 Harmonic of the frequency)



Date: 18.FEB.2016 09:24:42

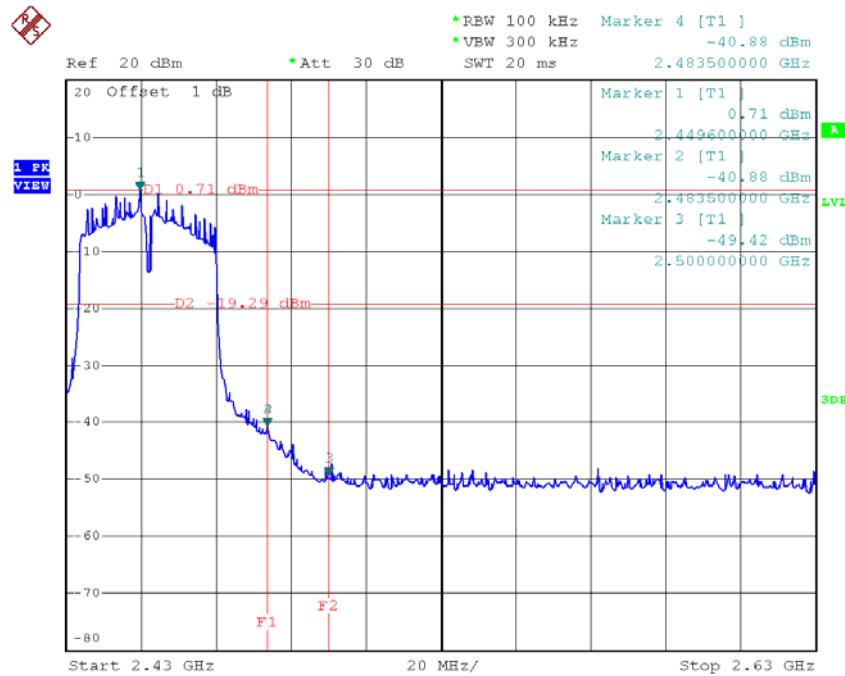
Test Mode :	TX N-40M Mode
--------------------	----------------------

TX HT40 mode CH03



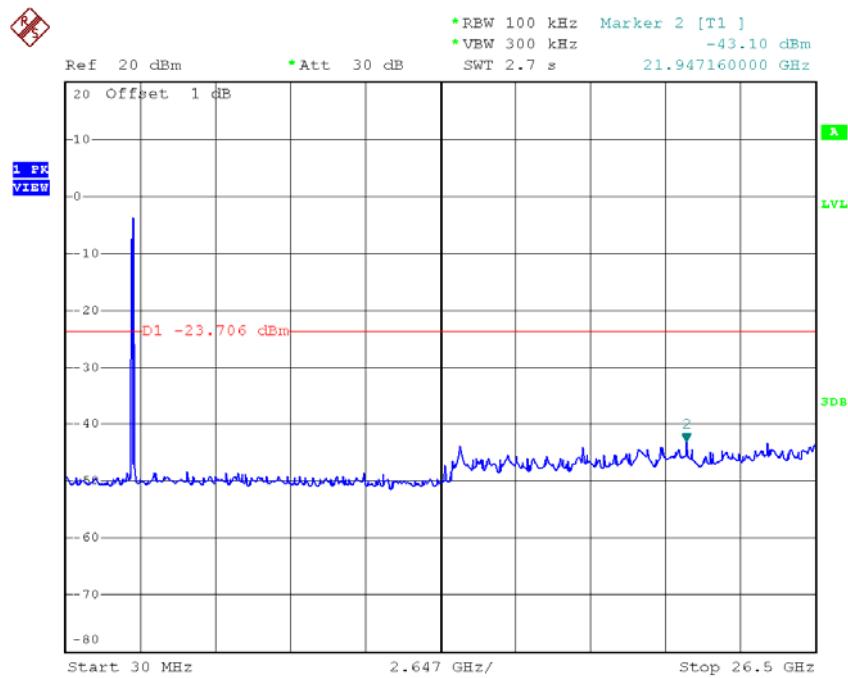
Date: 18.FEB.2016 09:26:42

TX HT40 mode CH09



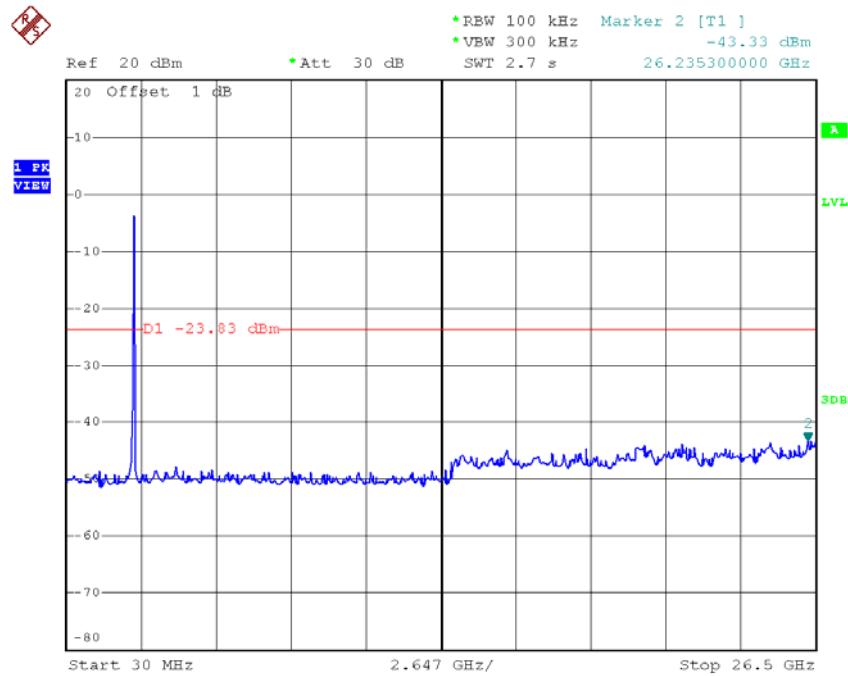
Date: 18.FEB.2016 09:28:40

TX HT40 mode CH03 (10 Harmonic of the frequency)



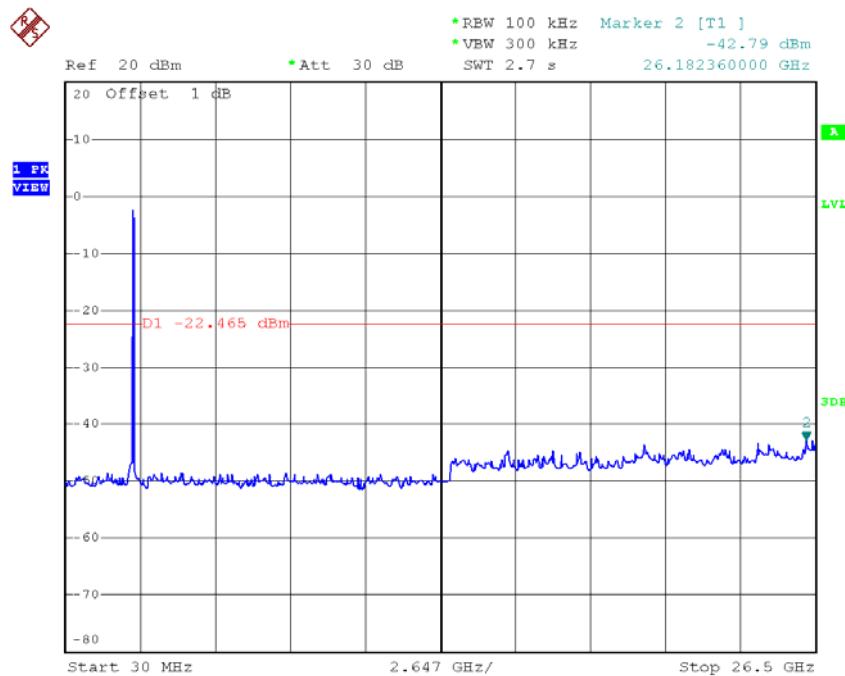
Date: 18.FEB.2016 09:26:34

TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 18.FEB.2016 09:27:38

TX HT40 mode CH09 (10 Harmonic of the frequency)

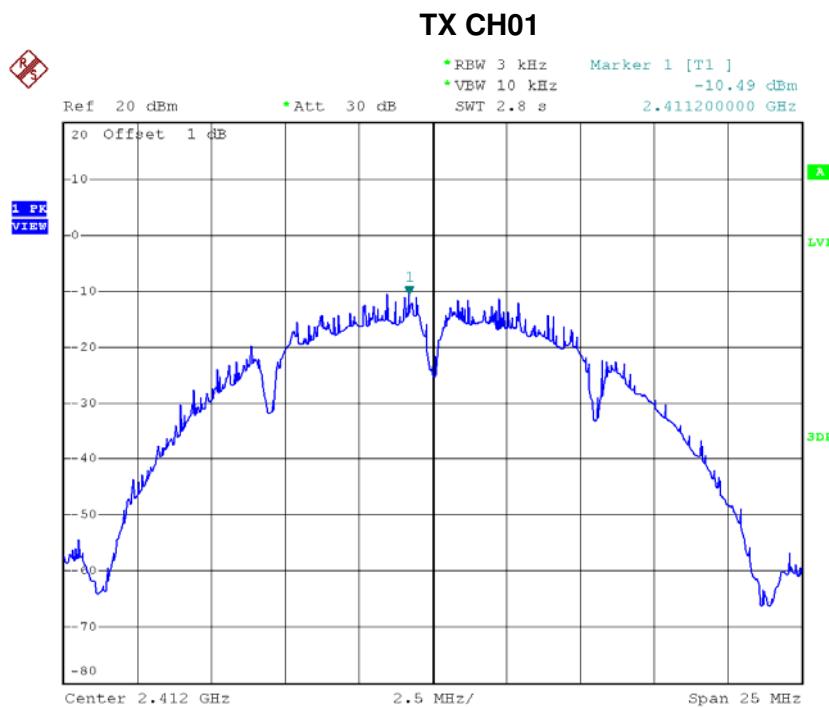


Date: 18.FEB.2016 09:28:32

ATTACHMENT - POWER SPECTRAL DENSITY

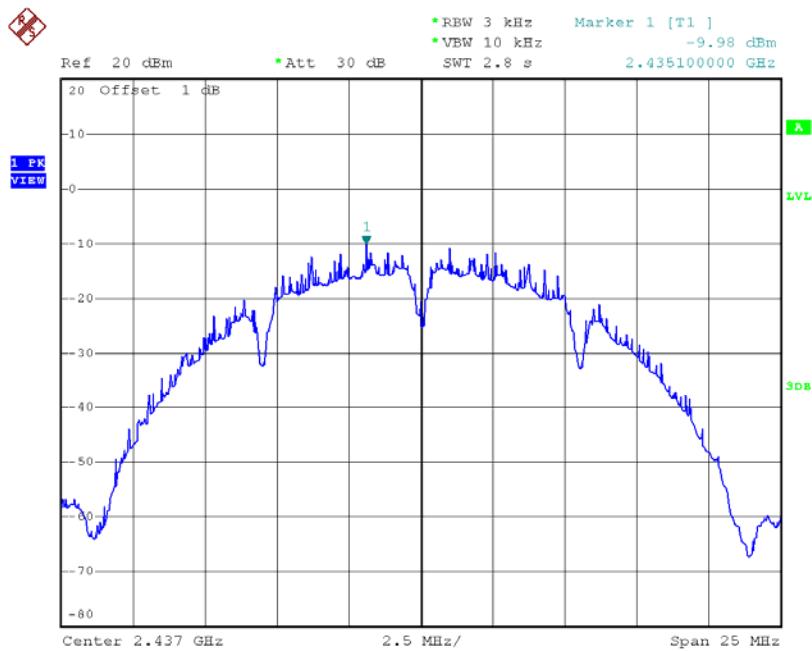
Test Mode :TX B Mode CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.49	0.09	8.00	Complies
2437	-9.98	0.10	8.00	Complies
2462	-9.99	0.10	8.00	Complies



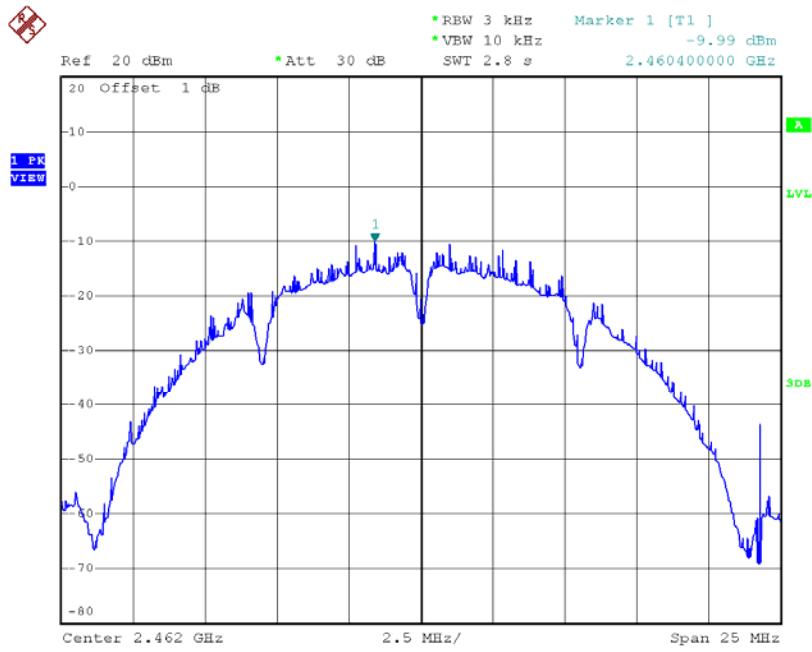
Date: 18.FEB.2016 09:15:33

TX CH06



Date: 18.FEB.2016 09:16:43

TX CH11

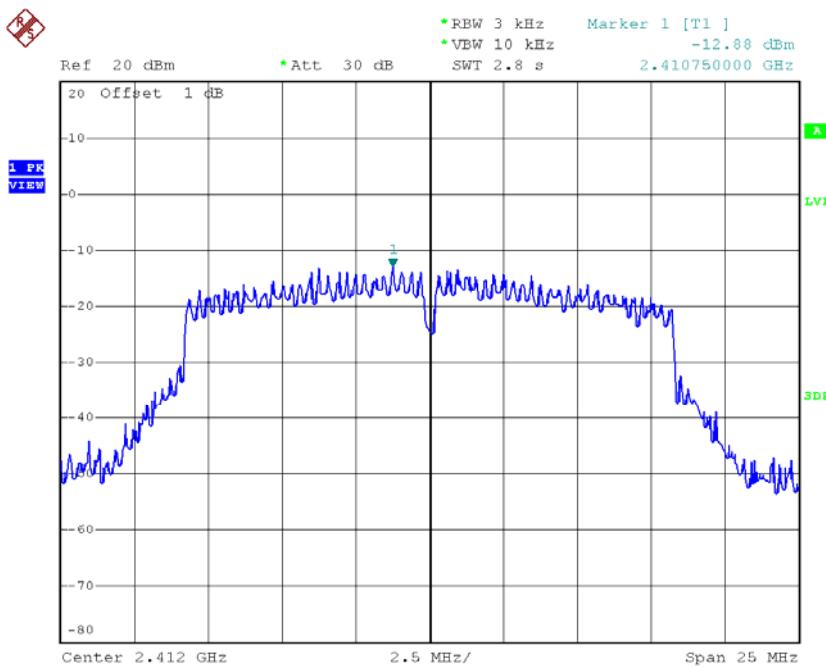


Date: 18.FEB.2016 09:17:58

Test Mode :TX G Mode_CH01/06/11

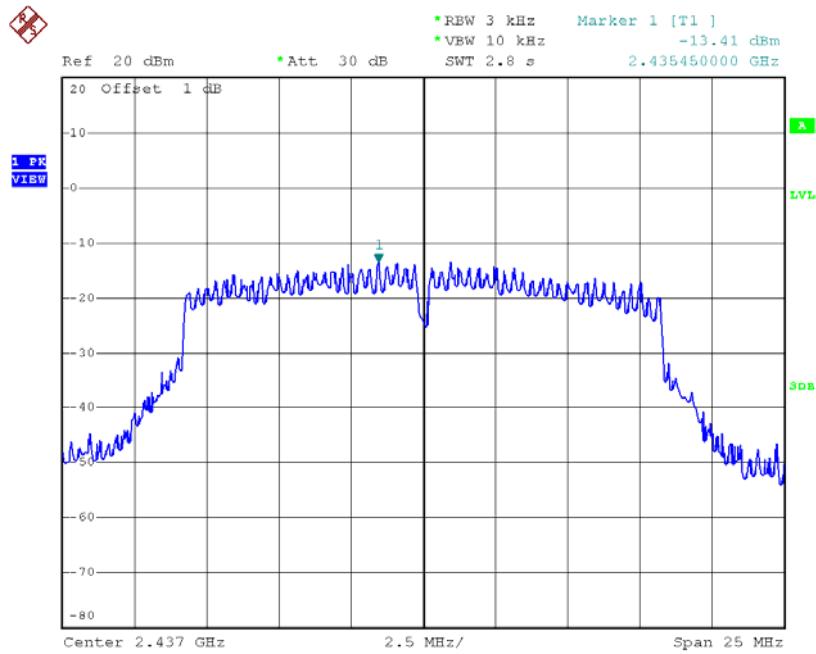
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.88	0.05	8.00	Complies
2437	-13.41	0.05	8.00	Complies
2462	-13.20	0.05	8.00	Complies

TX CH01



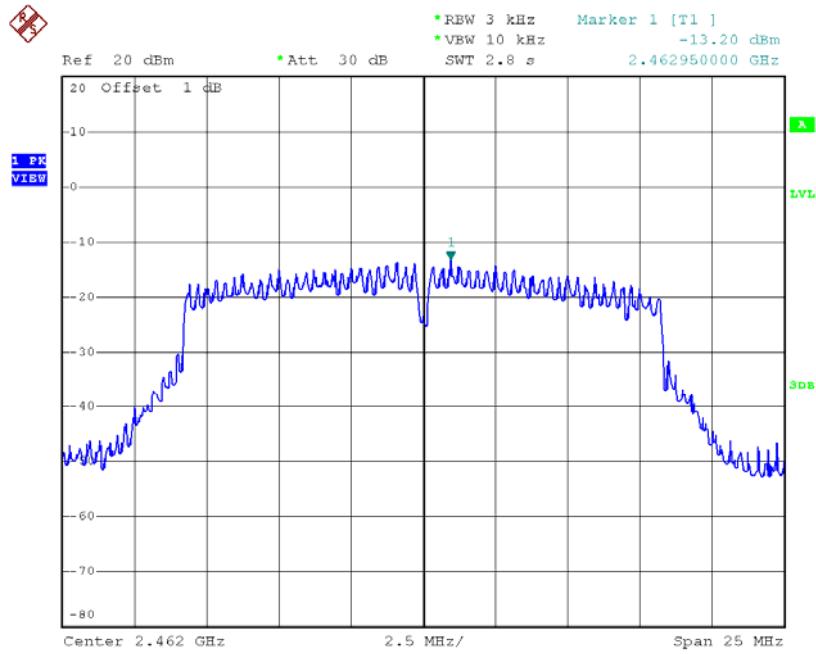
Date: 18.FEB.2016 09:19:29

TX CH06



Date: 18.FEB.2016 09:20:32

TX CH11

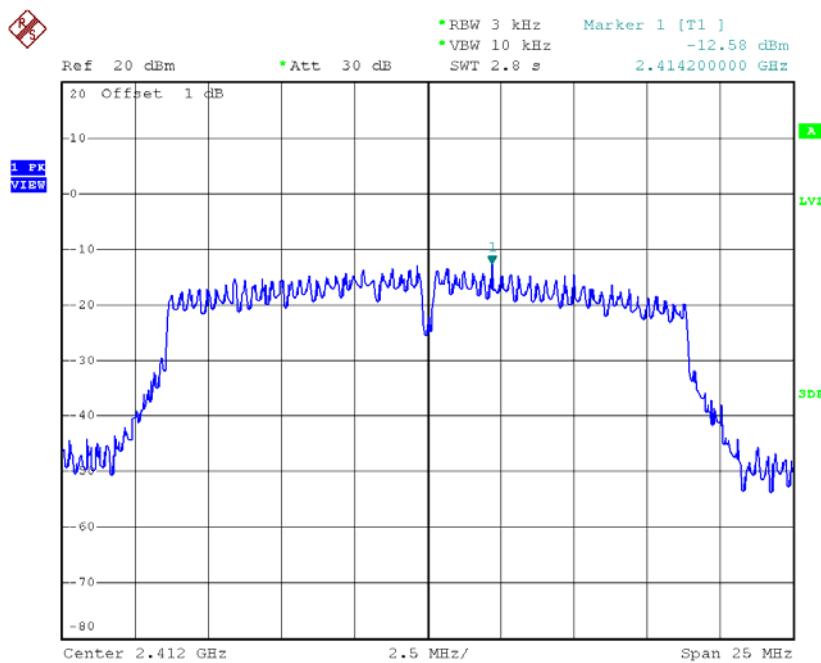


Date: 18.FEB.2016 09:21:41

Test Mode : TX N-20M Mode_CH01/06/11

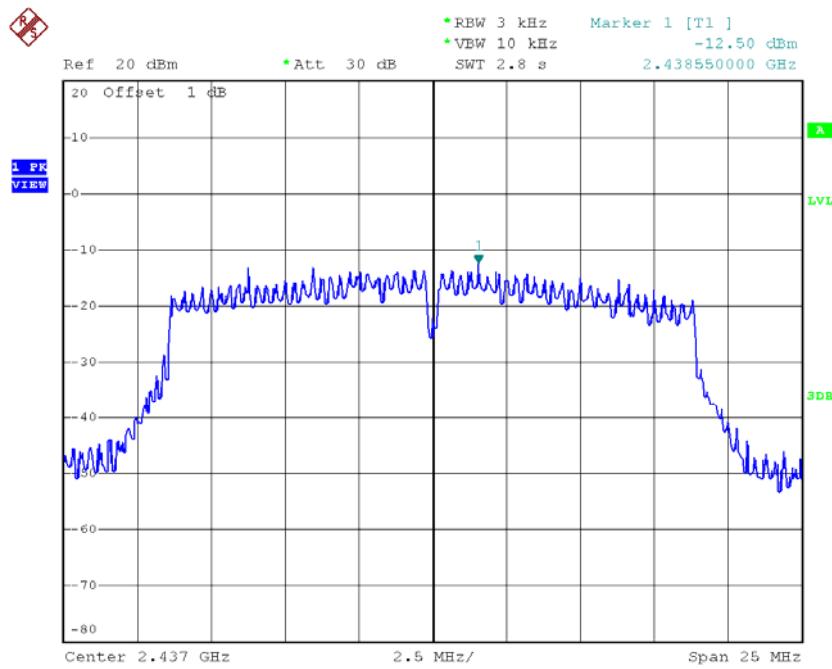
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.58	0.06	8.00	Complies
2437	-12.50	0.06	8.00	Complies
2462	-12.27	0.06	8.00	Complies

TX CH01



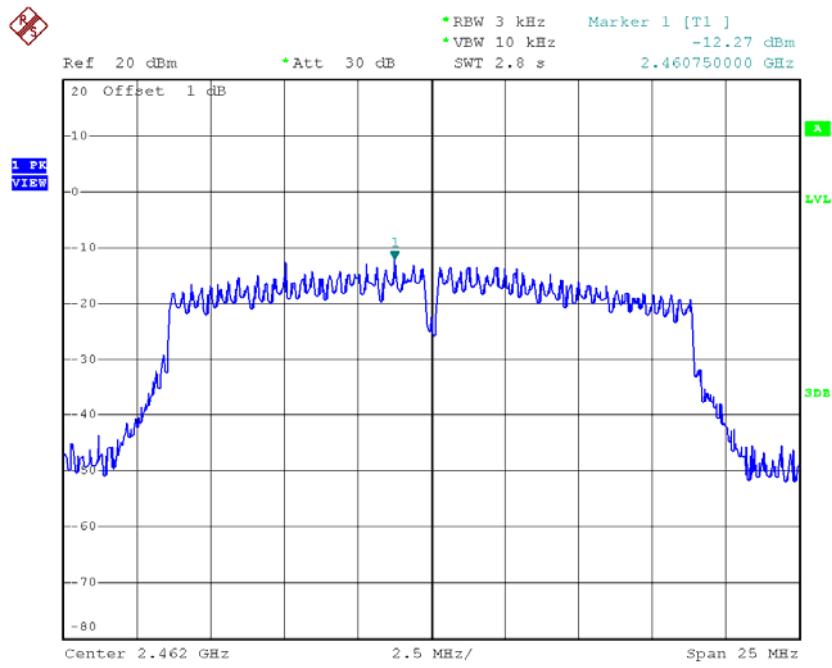
Date: 18.FEB.2016 09:22:57

TX CH06



Date: 18.FEB.2016 09:23:54

TX CH11

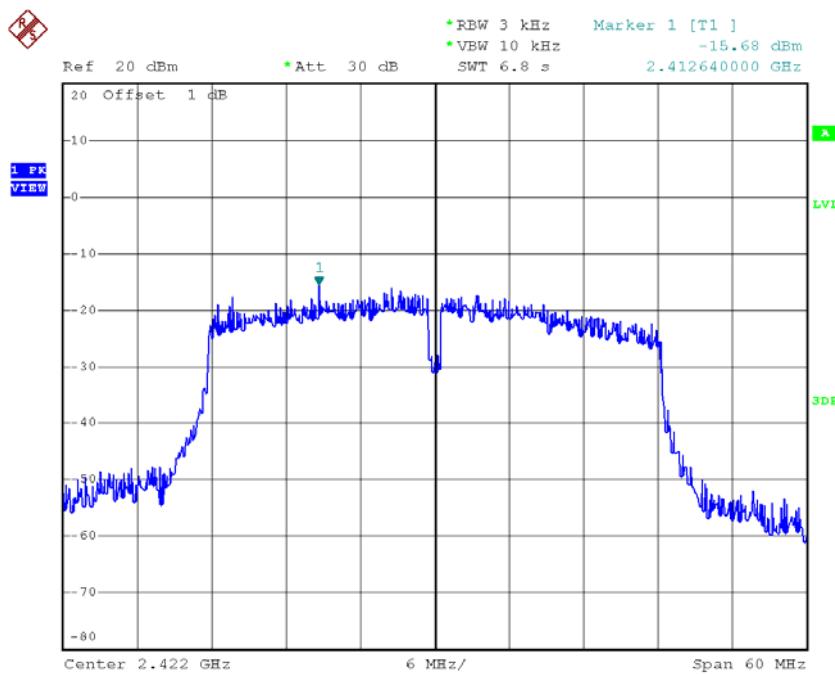


Date: 18.FEB.2016 09:24:59

Test Mode : TX N-40M Mode_CH03/06/09

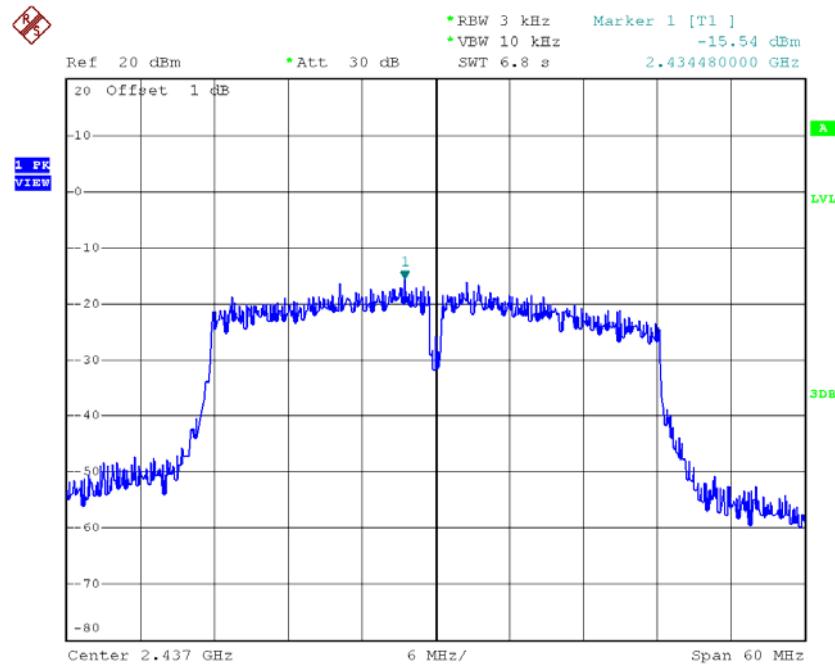
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-15.68	0.03	8.00	Complies
2437	-15.54	0.03	8.00	Complies
2452	-14.05	0.04	8.00	Complies

TX CH03



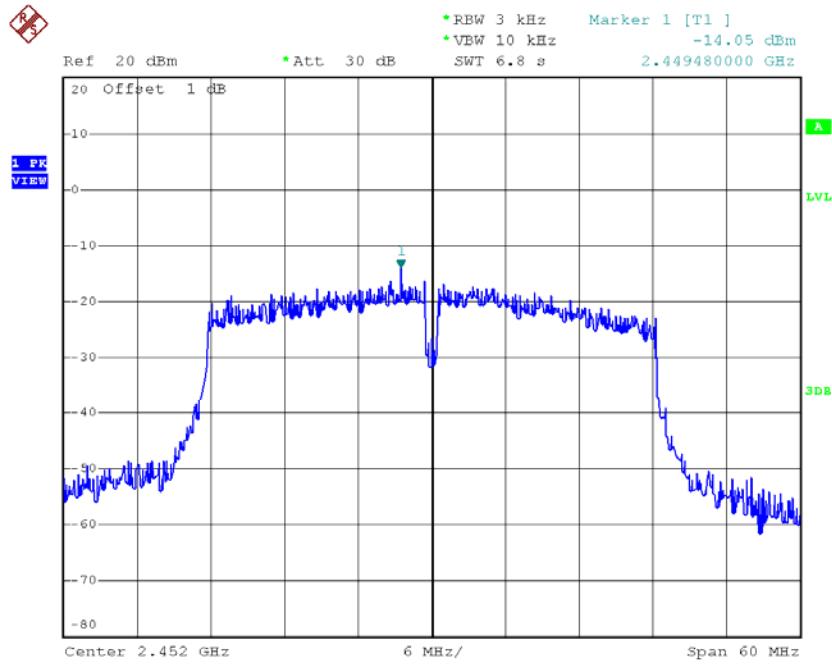
Date: 18.FEB.2016 09:26:55

TX CH06



Date: 18.FEB.2016 09:27:50

TX CH09



Date: 18.FEB.2016 09:28:52