


FCC Radio Test Report


FCC ID: YWTWF7601U7MX


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

Project No. : 1511C190
Equipment : 150Mbps WiFi Module
Model Name : GWF-7M02
Applicant : Shenzhen Ogemray Tech CO.,LTD
Address : 3/F~4/F,NO.5 Bldg, Dongwu Industrial Park,
Donghuan 1st Road, Longhua Town, Shenzhen,
China

Date of Receipt : Nov. 13, 2015
Date of Test : Nov. 13, 2015 ~ Dec. 01, 2015
Issued Date : Dec. 02, 2015
Tested by : BTL Inc.

Testing Engineer : 
(Niklaus Lai)

Technical Manager : 
(David Mao)

Authorized Signatory : 
(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 the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**, or National Institute of Standards and Technology (**NIST**) of **U.S.A**.

BTL's reports apply only to the specific samples tested under conditions. It is manufacture'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 Guide 17025** 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 (BETWEEN 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	115

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1511C190	Original Issue.	Dec. 02, 2015

1. CERTIFICATION

Equipment : 150Mbps WiFi Module
Brand Name : N/A
Model Name : GWF-7M02
Applicant : Shenzhen Ogemray Tech CO.,LTD
Manufacturer : Shenzhen Ogemray Tech CO.,LTD
Address : 3/F~4/F,NO.5 Bldg, Dongwu Industrial Park, Donghuan 1st Road, Longhua Town, Shenzhen, China
Factory : Shenzhen Ogemray Tech CO.,LTD
Address : 3/F~4/F,NO.5 Bldg, Dongwu Industrial Park, Donghuan 1st Road, Longhua Town, Shenzhen, China
Date of Test : Nov. 13, 2015 ~ Dec. 01, 2015
Test Sample : Engineering Sample
Standard(s) : FCC Part15, Subpart C: 2014 (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-1-1511C190) 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: 2014				
Standard(s)	Section	Test Item	Judgment	Remark
	15.207	Conducted Emission	PASS	
	15.247(d)	Antenna conducted Spurious Emission	PASS	
	15.247(a)(2)	6dB Bandwidth	PASS	
	15.247(b)(3)	Peak Output Power	PASS	
	15.247(e)	Power Spectral Density	PASS	
	15.203	Antenna Requirement	PASS	
	15.209/15.205	Transmitter Radiated Emissions	PASS	

NOTE:

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

2.1 TEST FACILITY

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

2.2 MEASUREMENT UNCERTAINTY

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

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

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U ,(dB)
DG-C02	CISPR	150 kHz ~ 30MHz	2.32

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U ,(dB)
DG-CB03 (3m)	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

Test Site	Method	Measurement Frequency Range	Ant. H / V	U ,(dB)
DG-CB03 (3m)	CISPR	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	150Mbps WiFi Module		
Brand Name	N/A		
Model Name	GWF-7M02		
Model Difference	NA		
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: 20.48 dBm 802.11g: 24.09 dBm 802.11n(20MHz): 23.04 dBm 802.11n(40MHz): 22.55 dBm	
Power Source	Supplied from host system.		
Power Rating	EUT I/P: DC 5V		

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 – CH11 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	Printed	N/A	2	TX/RX

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	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:

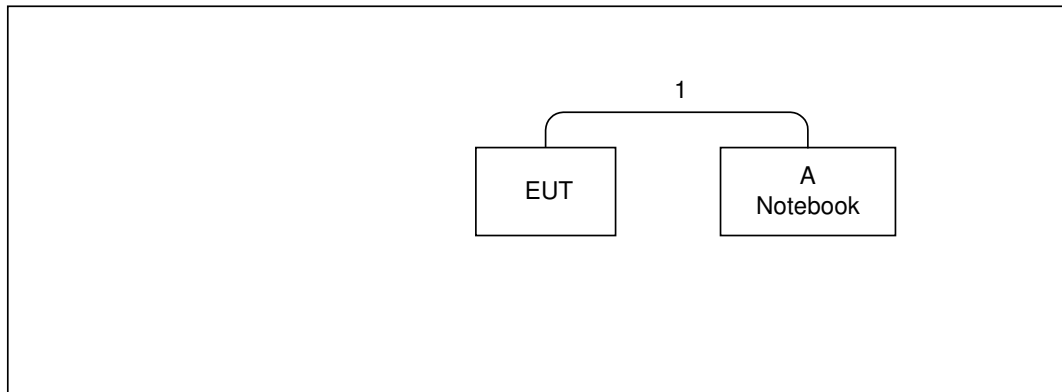
- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)
 802.11g mode: OFDM (6Mbps)
 802.11n HT20 mode : BPSK (6.5Mbps)
 802.11n HT40 mode : BPSK (13.5Mbps)
 For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.
- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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

Test software version	RT3x7xQA		
Frequency (MHz)	2412	2437	2462
802.11b	3	5	7
802.11g	0	1	2
802.11n (20MHz)	0	0	1
Frequency	2422	2437	2452
802.11n (40MHz)	1	2	3

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	JX193A01SDC2

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	0.8m	Fixture Cable

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 -0.5	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

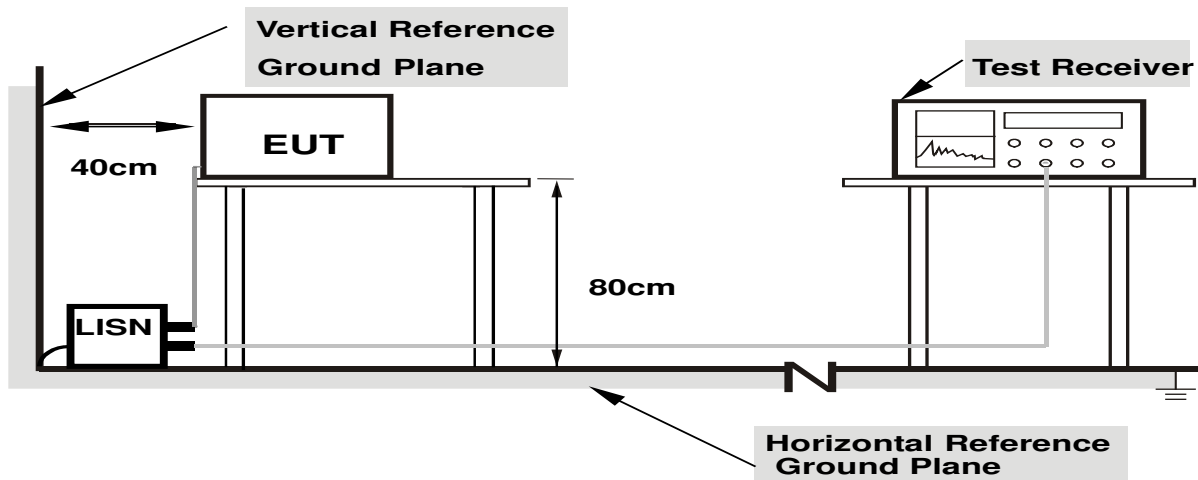
4.1.2 TEST PROCEDURE

- 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 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: 60% 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 TEST PROCEDURE

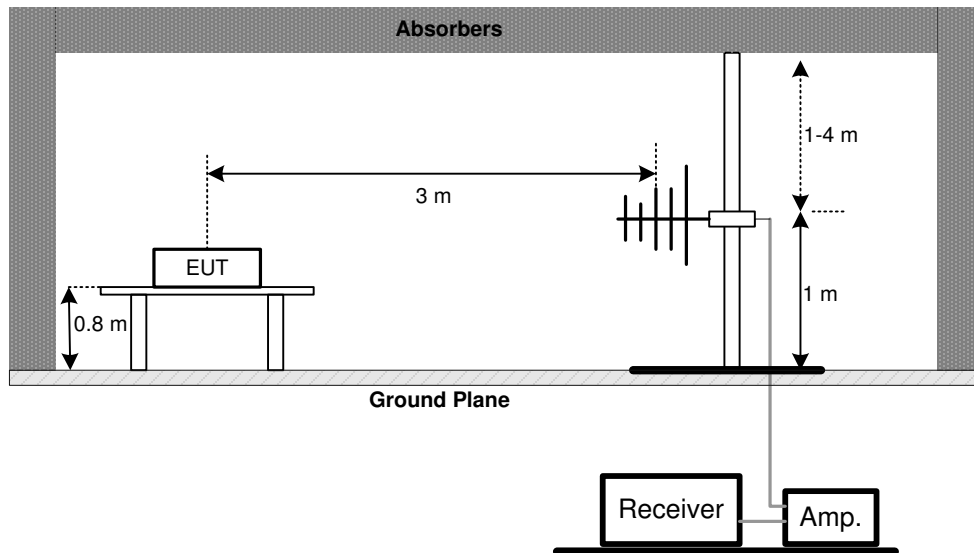
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 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)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- f. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- g. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

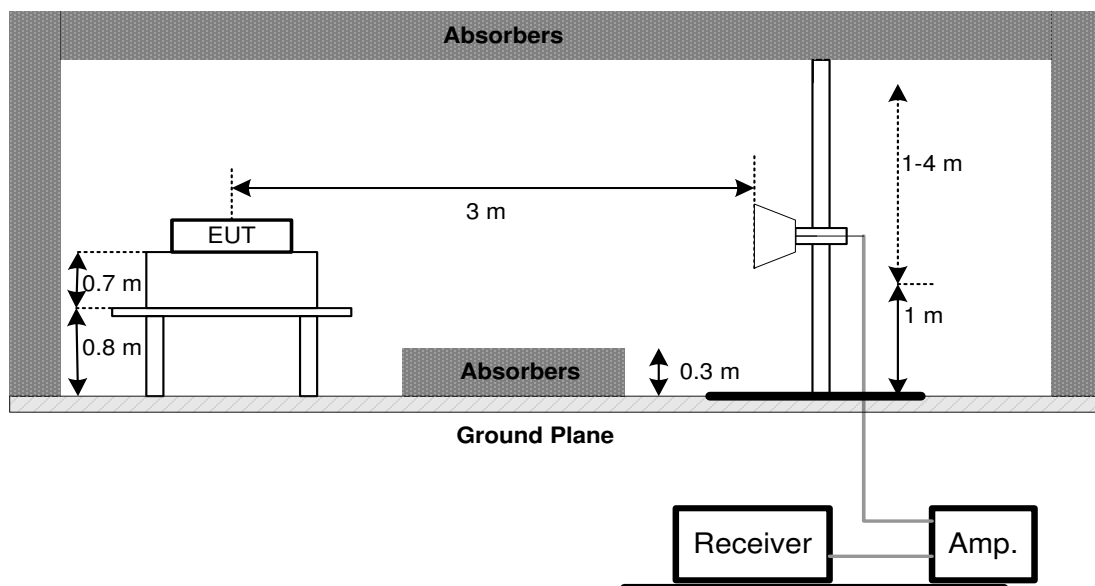
No deviation

4.2.4 TEST SETUP

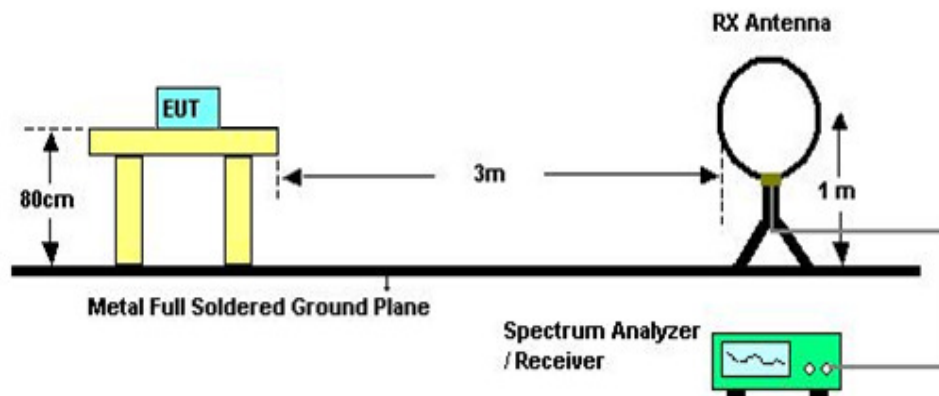
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 52% Test Voltage: AC 120V/60Hz

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

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

4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

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

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

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

5.1.1 TEST PROCEDURE

- 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.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 50% 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

- 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 558074 D01 DTS Meas Guidance v03r03.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 50% Test Voltage: AC 120V/60Hz

6.1.6 TEST RESULTS

Please refer to the Attachment F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

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

7.1.1 TEST PROCEDURE

- 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: 24°C Relative Humidity: 50% 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

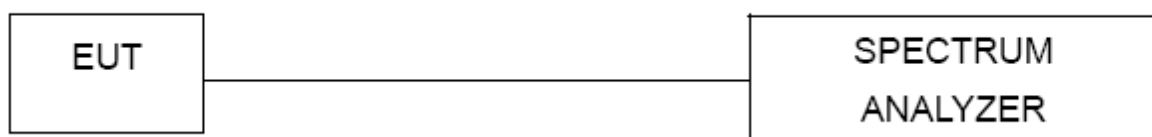
8.1.1 TEST PROCEDURE

- 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: 24°C Relative Humidity: 50% 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(30MH z-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	Test Cable	emci	EMC104-SM-S M-10000(1GHz -26.5GHz)	C-68	Jun. 28, 2016
10	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Mar. 28, 2016
11	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 28, 2016
12	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Sep. 07, 2016

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

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	ANRITSU	ML2495A	1128009	Mar. 28, 2016
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	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



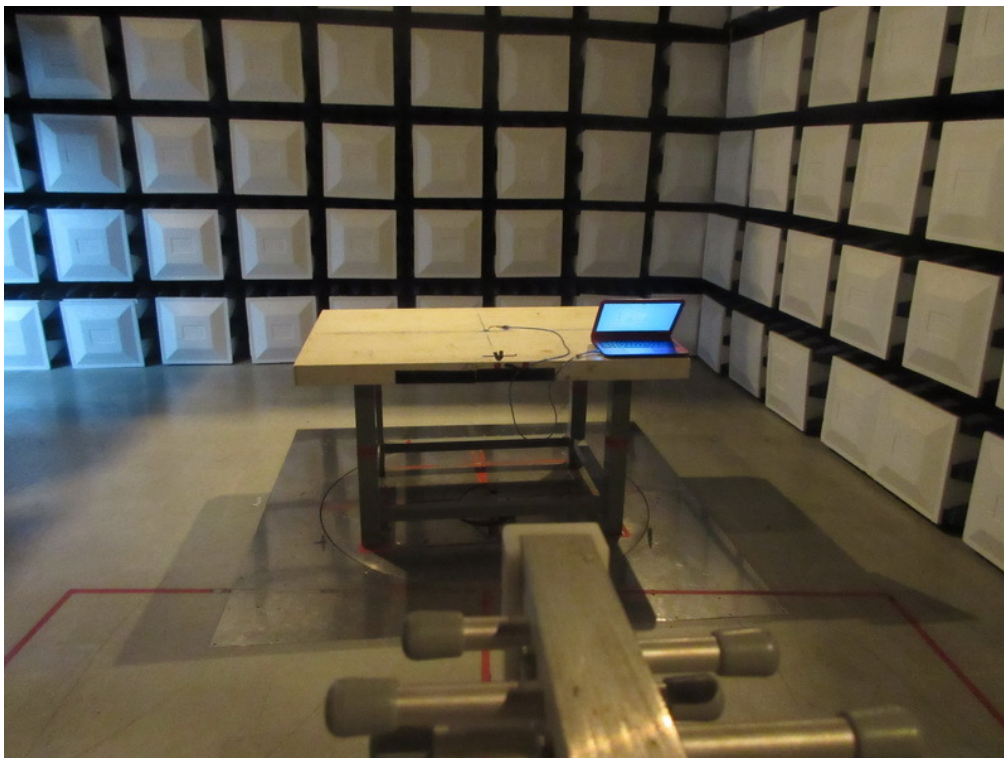
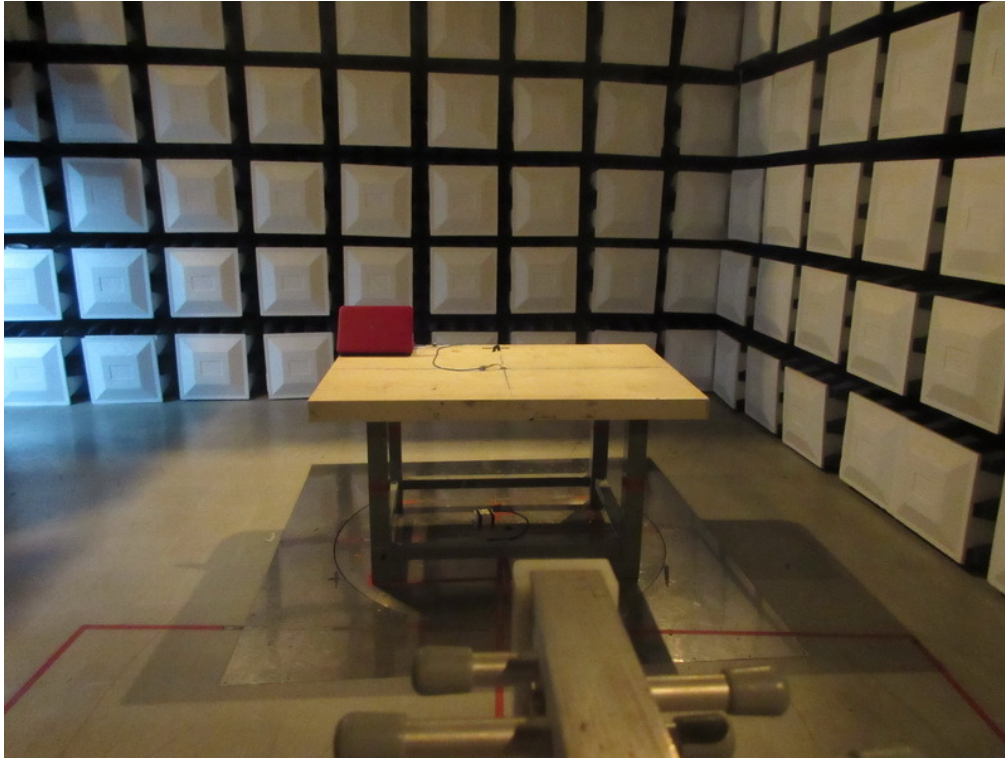
Radiated Measurement Photos

9KHz to 30MHz



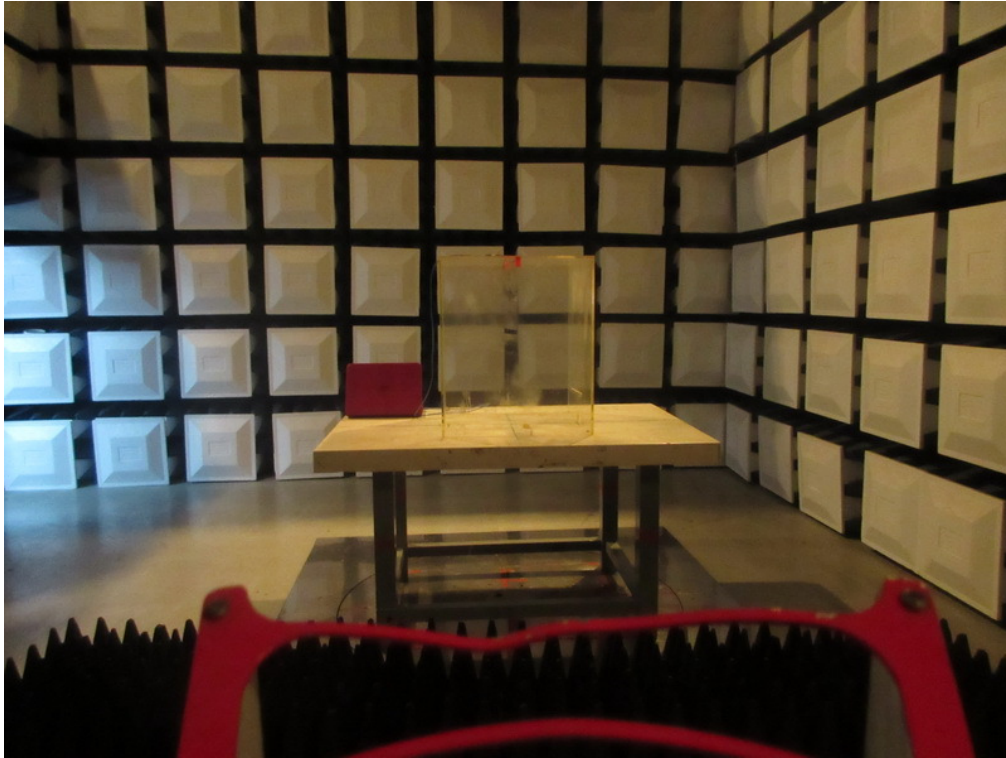
Radiated Measurement Photos

30MHz to 1000MHz



Radiated Measurement Photos

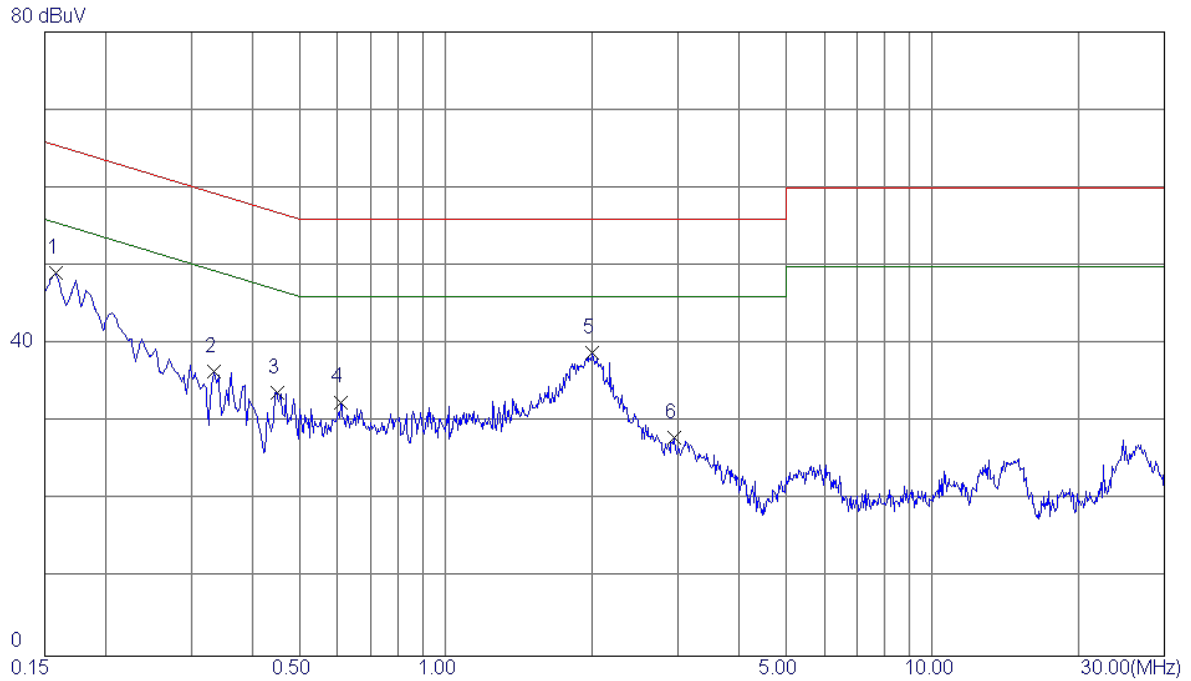
Above 1000MHz



ATTACHMENT A - CONDUCTED EMISSION

Test Mode : Normal Link

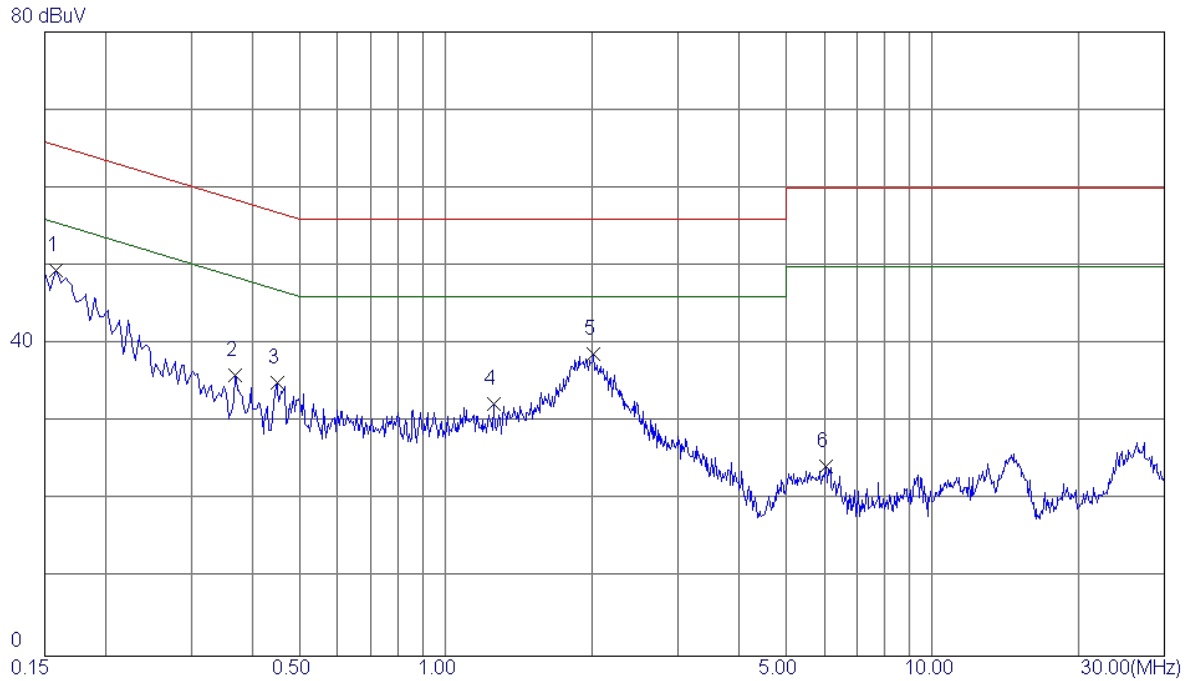
Line



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1580	39.57	9.55	49.12	65.57	-16.45	Peak	
2	0.3339	26.78	9.64	36.42	59.35	-22.93	Peak	
3	0.4500	24.14	9.68	33.82	56.88	-23.06	Peak	
4	0.6100	22.84	9.72	32.56	56.00	-23.44	Peak	
5	2.0059	28.98	9.92	38.90	56.00	-17.10	Peak	
6	2.9420	17.95	10.03	27.98	56.00	-28.02	Peak	

Test Mode : Normal Link

Neutral



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1580	39.99	9.49	49.48	65.57	-16.09	Peak	
2	0.3700	26.50	9.53	36.03	58.50	-22.47	Peak	
3	0.4500	25.52	9.54	35.06	56.88	-21.82	Peak	
4	1.2540	22.71	9.63	32.34	56.00	-23.66	Peak	
5	2.0140	28.99	9.72	38.71	56.00	-17.29	Peak	
6	6.0380	14.51	9.88	24.39	60.00	-35.61	Peak	

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

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

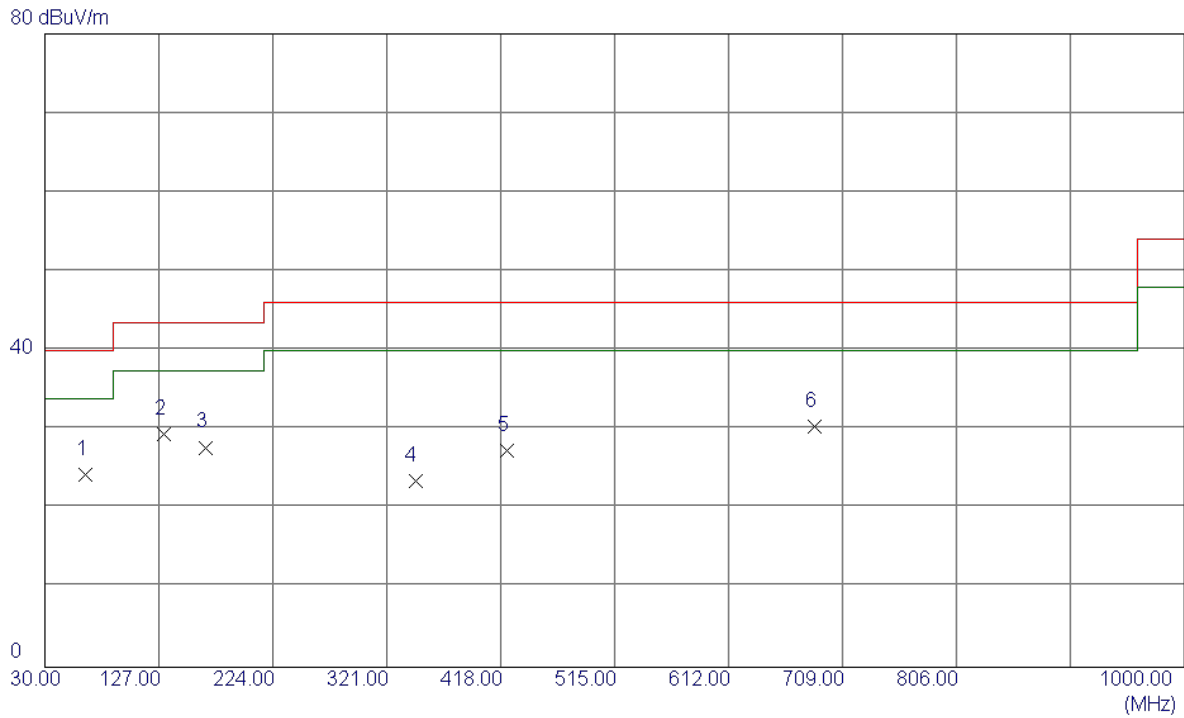
Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0116	0°	13.34	24.8320	38.1720	126.3151	-88.1431	AVG
0.0116	0°	14.25	24.8320	39.0820	146.3151	-107.2331	PEAK
0.0257	0°	6.38	23.9390	30.3190	119.4056	-89.0866	AVG
0.0257	0°	8.23	23.9390	32.1690	139.4056	-107.2366	PEAK
0.0379	0°	3.26	23.1663	26.4263	116.0314	-89.6051	AVG
0.0379	0°	5.36	23.1663	28.5263	136.0314	-107.5051	PEAK
0.0546	0°	1.42	22.3080	23.7280	112.8604	-89.1324	AVG
0.0546	0°	2.53	22.3080	24.8380	132.8604	-108.0224	PEAK
0.5024	0°	19.36	19.8077	39.1677	73.5832	-34.4156	QP
1.9573	0°	23.6	19.5043	43.1043	69.5400	-26.4357	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0137	90°	13.35	24.3000	37.6500	124.8698	-87.2198	AVG
0.0137	90°	14.71	24.3000	39.0100	144.8698	-105.8598	PEAK
0.0253	90°	7.41	23.9643	31.3743	119.5418	-88.1675	AVG
0.0253	90°	8.77	23.9643	32.7343	139.5418	-106.8075	PEAK
0.0416	90°	5.31	22.9320	28.2420	115.2224	-86.9804	AVG
0.0416	90°	6.33	22.9320	29.2620	135.2224	-105.9604	PEAK
0.0564	90°	1.46	22.2720	23.7320	112.5786	-88.8466	AVG
0.0564	90°	2.53	22.2720	24.8020	132.5786	-107.7766	PEAK
0.6217	90°	22.12	20.1894	42.3094	71.7326	-29.4232	QP
2.0522	90°	24.41	19.4687	43.8787	69.5400	-25.6613	QP

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

Test Mode: TX B MODE CHANNEL 01

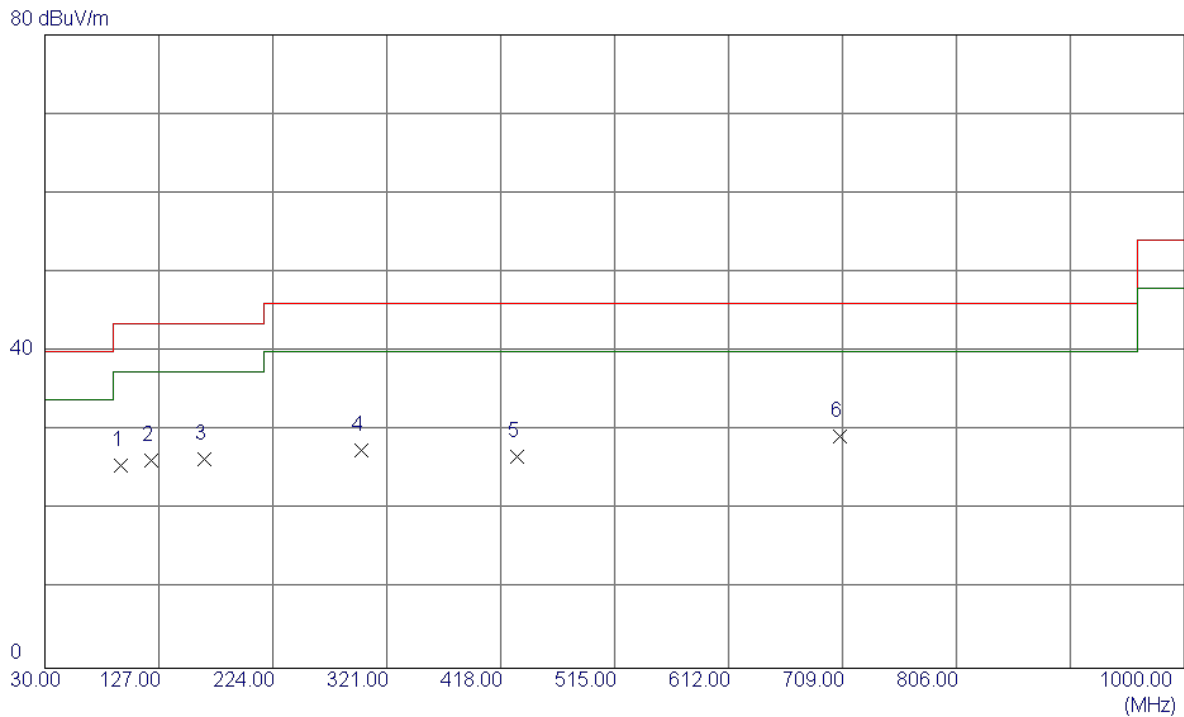
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	64.9200	38.36	-14.03	24.33	40.00	-15.67	Peak	
2	130.8800	41.01	-11.51	29.50	43.50	-14.00	Peak	
3	166.7700	39.25	-11.49	27.76	43.50	-15.74	Peak	
4	345.2500	33.41	-9.89	23.52	46.00	-22.48	Peak	
5	423.8200	34.03	-6.61	27.42	46.00	-18.58	Peak	
6	685.7199	31.97	-1.52	30.45	46.00	-15.55	Peak	

Test Mode: TX B MODE CHANNEL 01

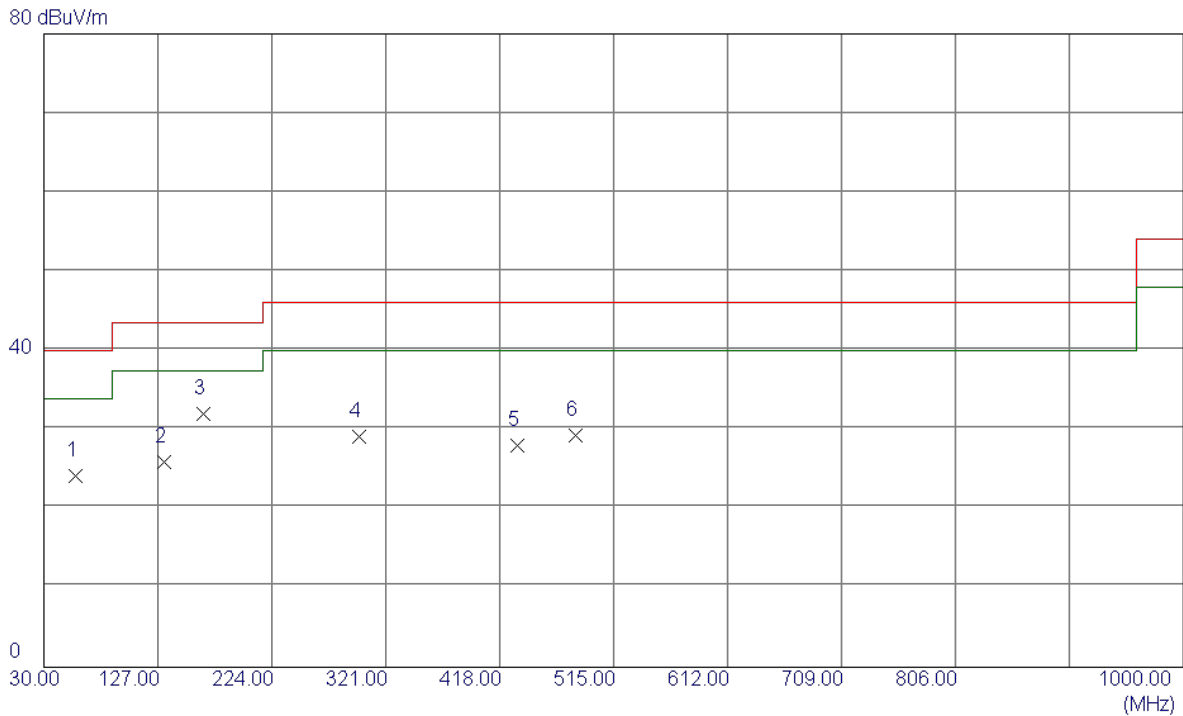
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	94.9900	41.12	-15.51	25.61	43.50	-17.89	Peak	
2	120.2100	38.84	-12.54	26.30	43.50	-17.20	Peak	
3	165.8000	38.04	-11.60	26.44	43.50	-17.06	Peak	
4	299.6600	37.04	-9.59	27.45	46.00	-18.55	Peak	
5	431.5800	33.09	-6.40	26.69	46.00	-19.31	Peak	
6	707.0600	30.72	-1.46	29.26	46.00	-16.74	Peak	

Test Mode: TX B MODE CHANNEL 06

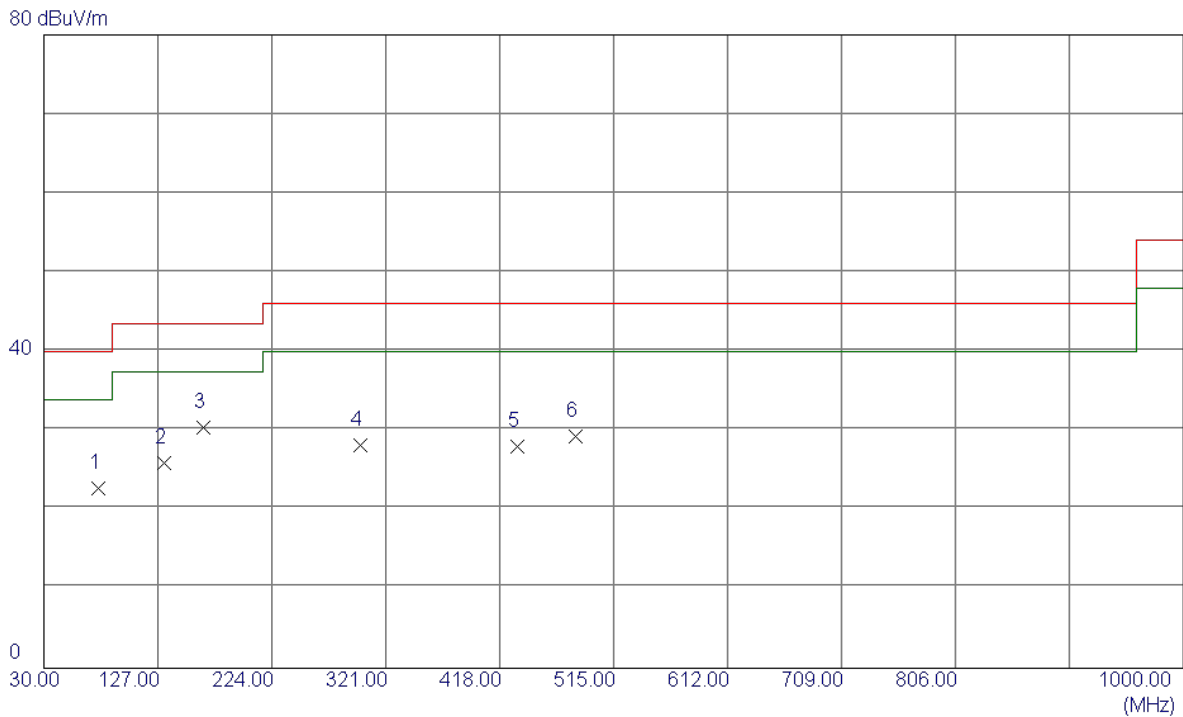
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	57.1600	37.16	-13.02	24.14	40.00	-15.86	Peak	
2	132.8200	37.51	-11.52	25.99	43.50	-17.51	Peak	
3	165.8000	43.54	-11.60	31.94	43.50	-11.56	Peak	
4	298.6900	38.77	-9.61	29.16	46.00	-16.84	Peak	
5	433.5200	34.28	-6.35	27.93	46.00	-18.07	Peak	
6	482.9900	36.15	-6.88	29.27	46.00	-16.73	Peak	

Test Mode: TX B MODE CHANNEL 06

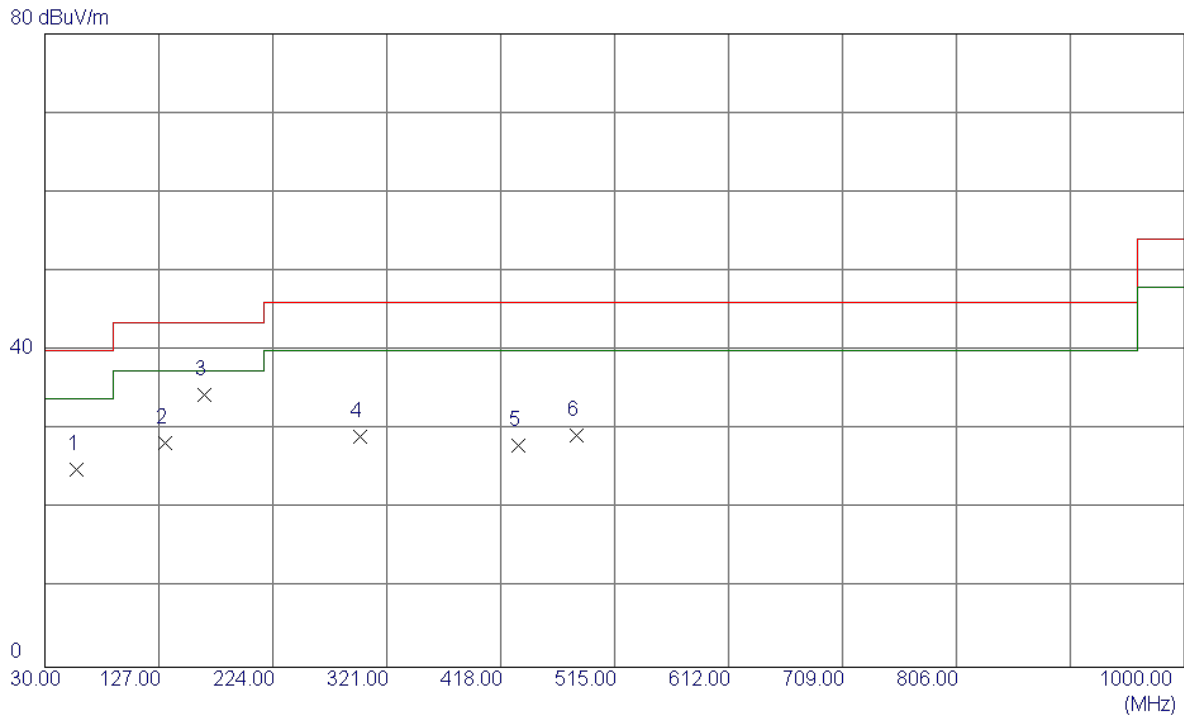
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	76.5600	38.18	-15.39	22.79	40.00	-17.21	Peak	
2	132.8200	37.51	-11.52	25.99	43.50	-17.51	Peak	
3	165.8000	41.96	-11.60	30.36	43.50	-13.14	Peak	
4	299.6600	37.80	-9.59	28.21	46.00	-17.79	Peak	
5	433.5200	34.28	-6.35	27.93	46.00	-18.07	Peak	
6	482.9900	36.15	-6.88	29.27	46.00	-16.73	Peak	

Test Mode: TX B MODE CHANNEL 11

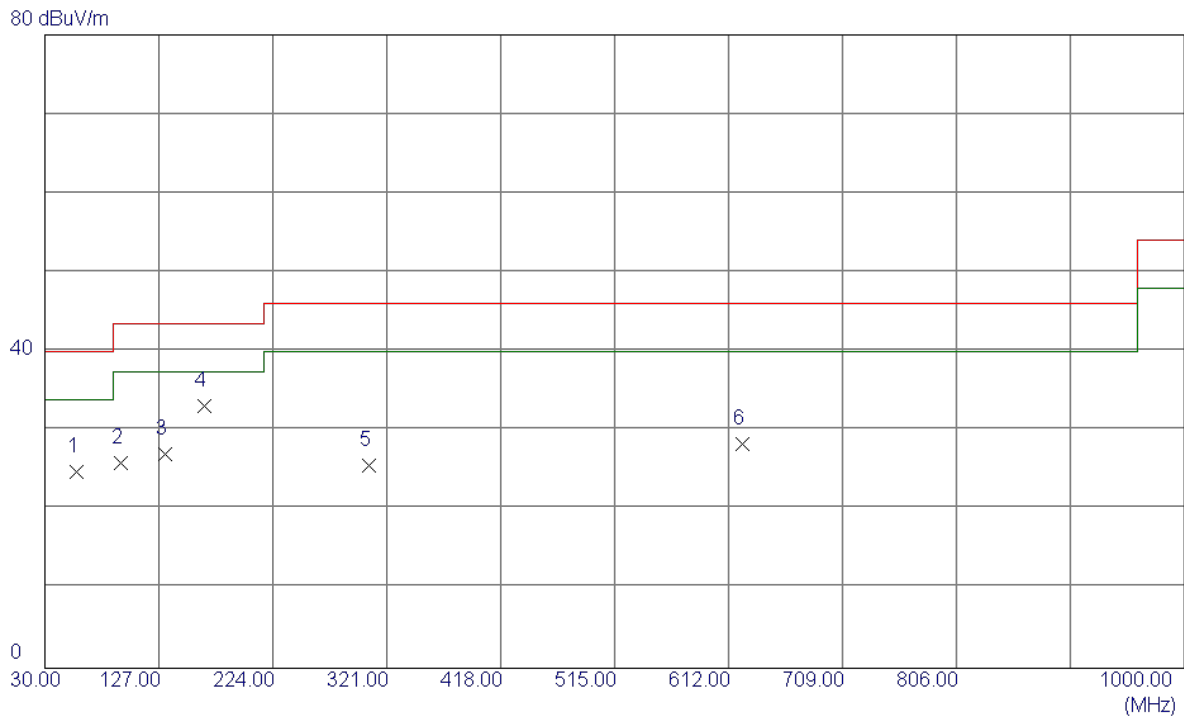
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	57.1600	38.02	-13.02	25.00	40.00	-15.00	Peak	
2	132.8200	39.87	-11.52	28.35	43.50	-15.15	Peak	
3	165.8000	45.94	-11.60	34.34	43.50	-9.16	Peak	
4	298.6900	38.77	-9.61	29.16	46.00	-16.84	Peak	
5	433.5200	34.28	-6.35	27.93	46.00	-18.07	Peak	
6	482.9900	36.15	-6.88	29.27	46.00	-16.73	Peak	

Test Mode: TX B MODE CHANNEL 11

Horizontal

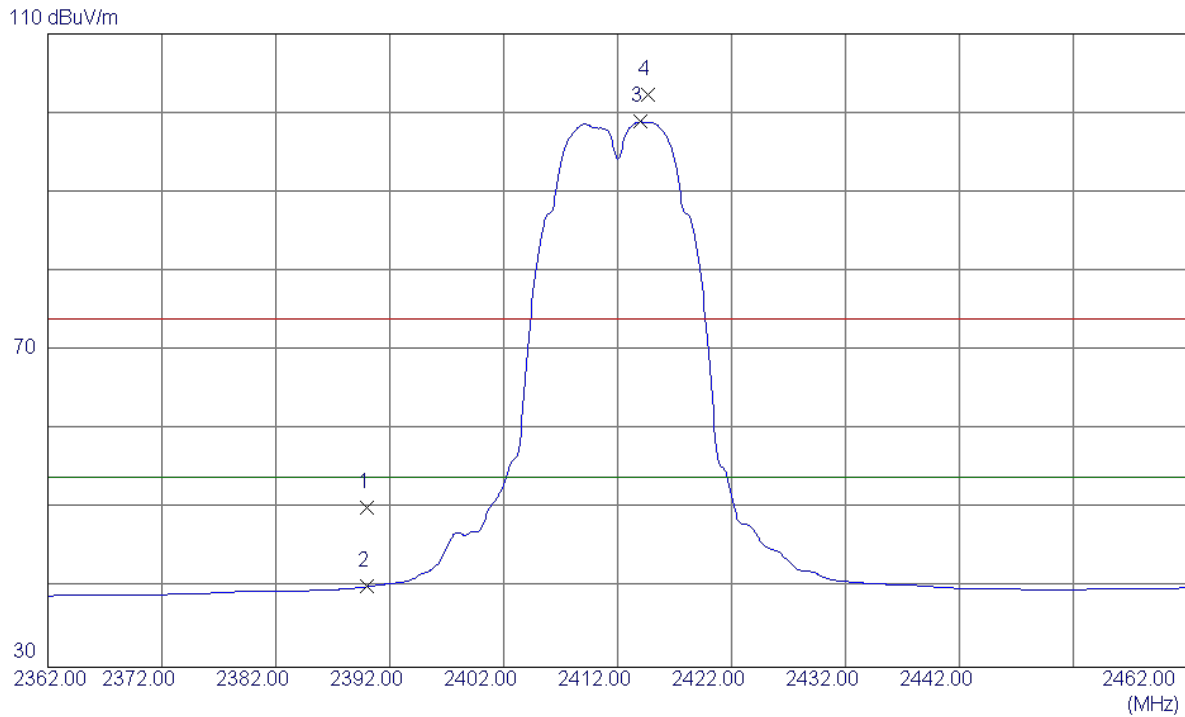


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	57.1600	37.81	-13.02	24.79	40.00	-15.21	Peak	
2	94.9900	41.39	-15.51	25.88	43.50	-17.62	Peak	
3	132.8200	38.62	-11.52	27.10	43.50	-16.40	Peak	
4	165.8000	44.71	-11.60	33.11	43.50	-10.39	Peak	
5	305.4800	35.26	-9.62	25.64	46.00	-20.36	Peak	
6	623.6400	31.49	-3.22	28.27	46.00	-17.73	Peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

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

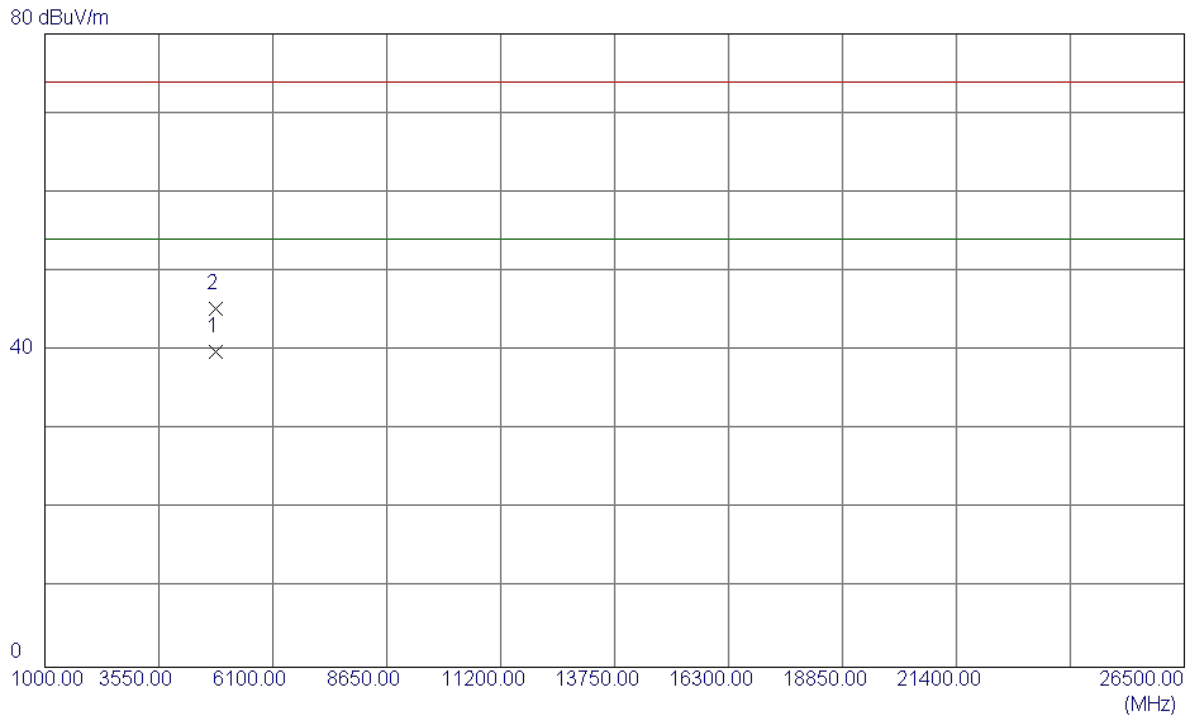
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	15.99	34.23	50.22	74.00	-23.78	Peak	
2	2390.0000	5.94	34.23	40.17	54.00	-13.83	AVG	
3	2414.0000	64.52	34.37	98.89	54.00	44.89	AVG	No Limit
4	2414.7000	67.94	34.38	102.32	74.00	28.32	Peak	No Limit

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

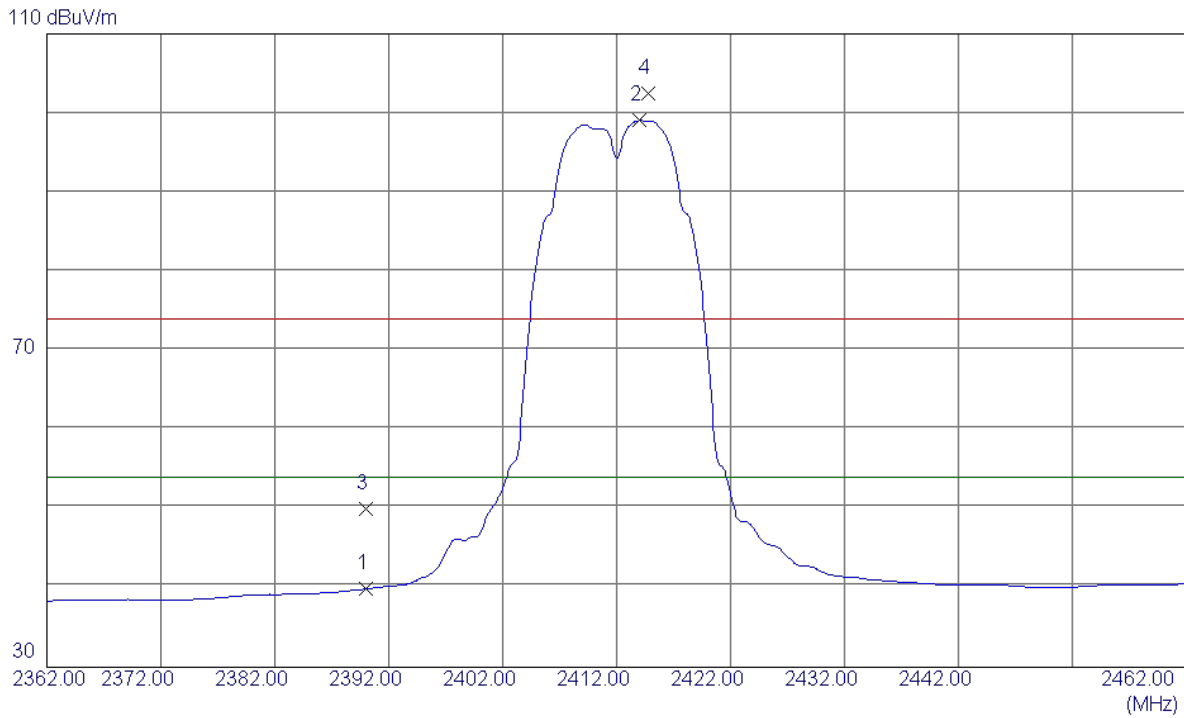
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.0000	36.84	3.00	39.84	54.00	-14.16	AVG	
2	4824.2599	42.29	3.00	45.29	74.00	-28.71	Peak	

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

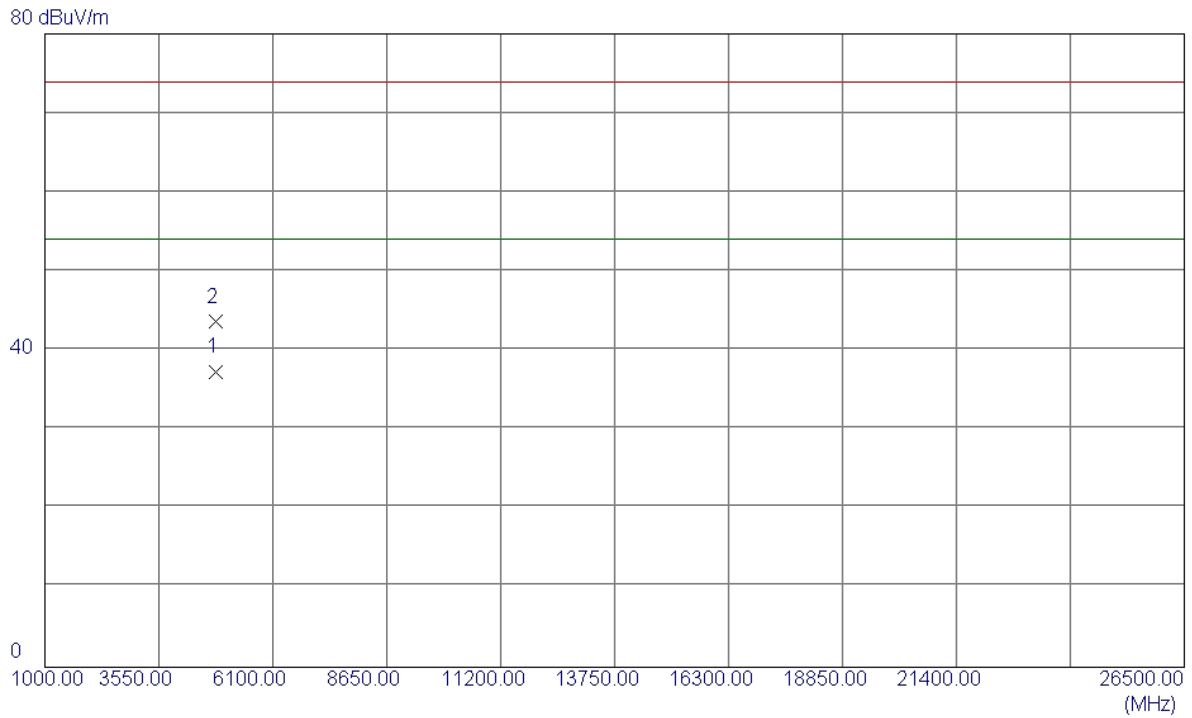
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	5.65	34.23	39.88	54.00	-14.12	AVG	
2	2414.0000	64.70	34.37	99.07	54.00	45.07	AVG	No Limit
3	2390.0000	15.83	34.23	50.06	74.00	-23.94	Peak	
4	2414.8000	68.12	34.38	102.50	74.00	28.50	Peak	No Limit

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

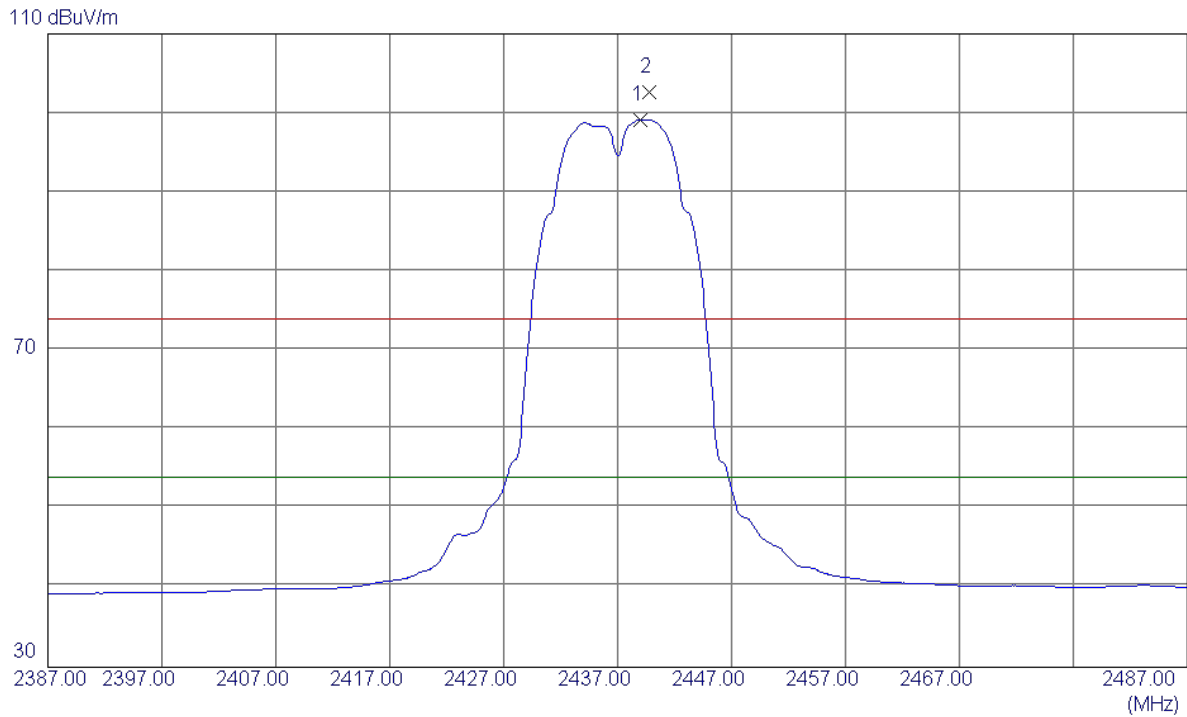
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.1000	34.29	3.00	37.29	54.00	-16.71	AVG	
2	4824.3500	40.60	3.00	43.60	74.00	-30.40	Peak	

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

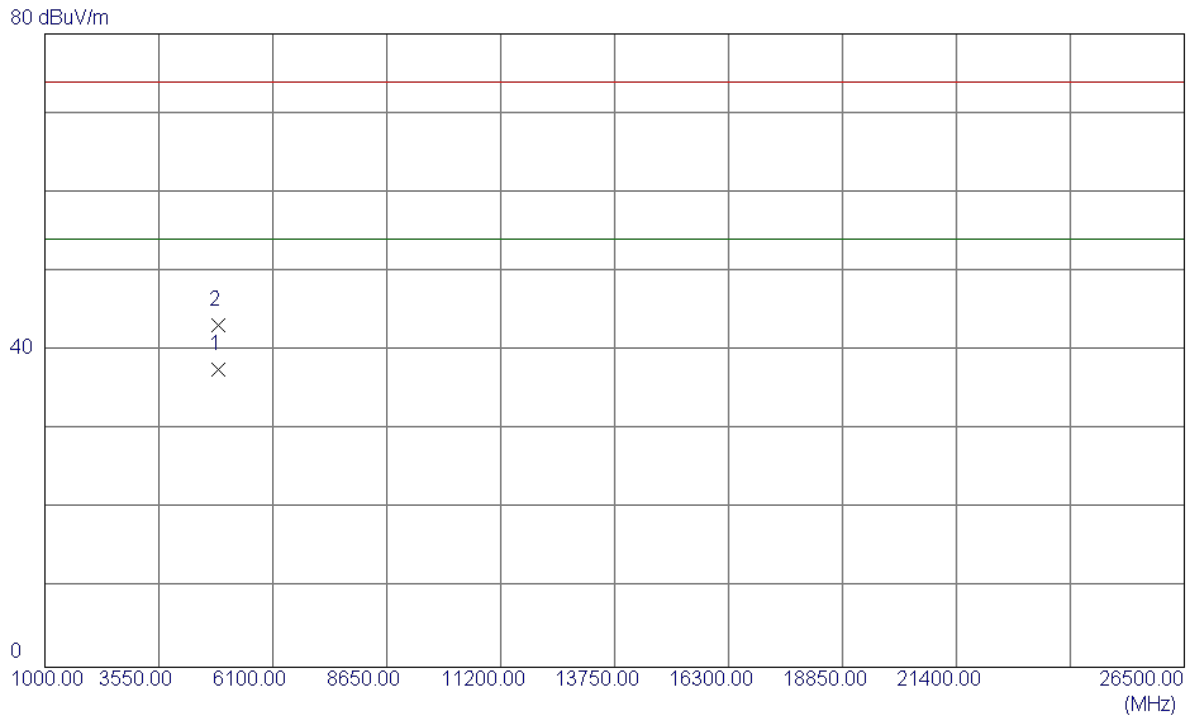
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2439.0000	64.62	34.52	99.14	54.00	45.14	AVG	No Limit
2	2439.8000	68.05	34.52	102.57	74.00	28.57	Peak	No Limit

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

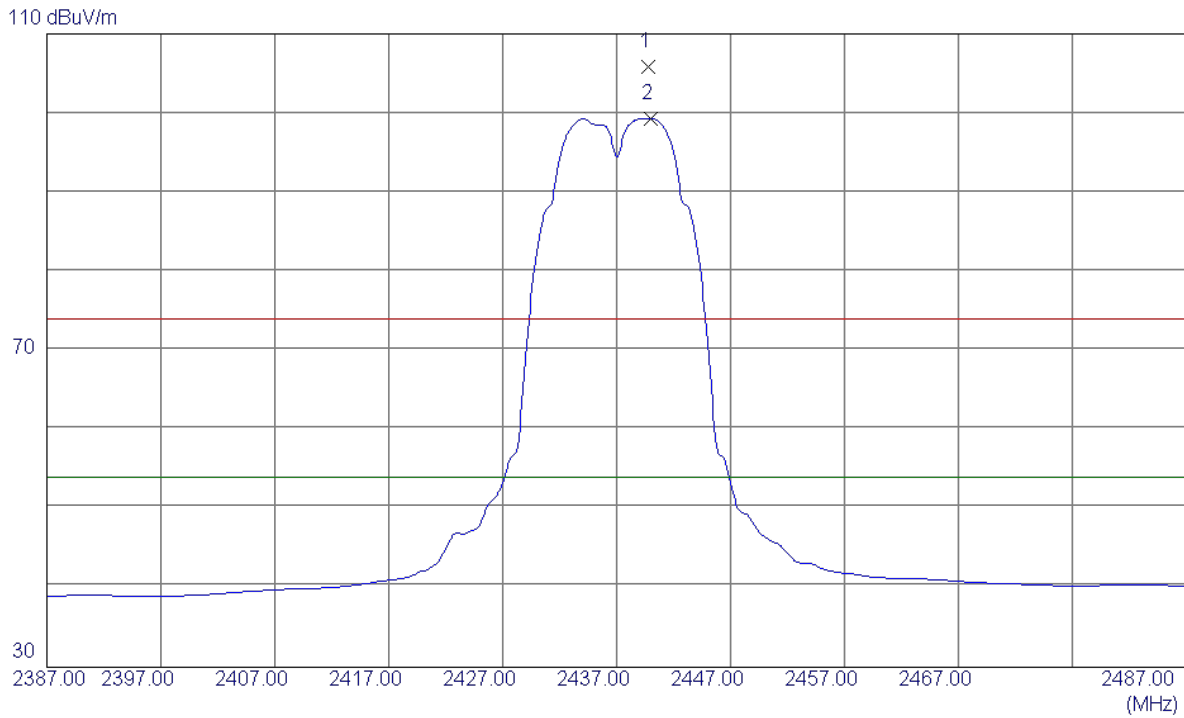
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4874.2300	34.54	3.03	37.57	54.00	-16.43	AVG	
2	4874.2000	40.12	3.03	43.15	74.00	-30.85	Peak	

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

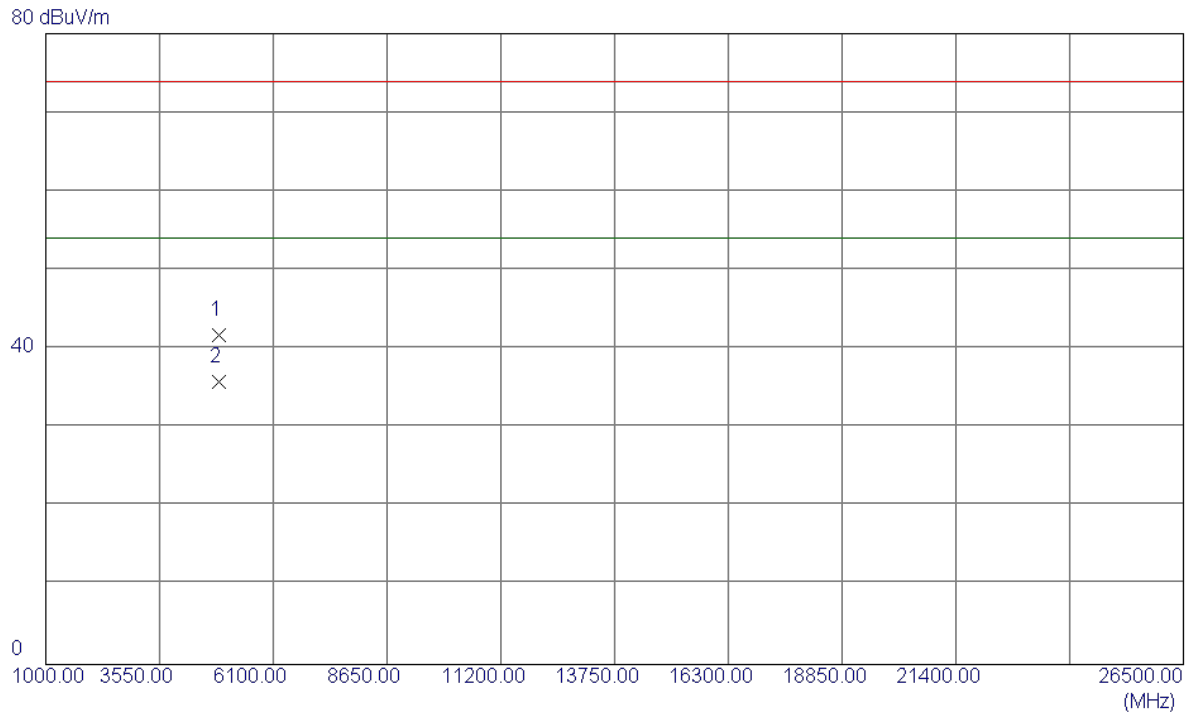
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2439.8000	71.38	34.52	105.90	74.00	31.90	Peak	No Limit
2	2440.0000	64.82	34.52	99.34	54.00	45.34	AVG	No Limit

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

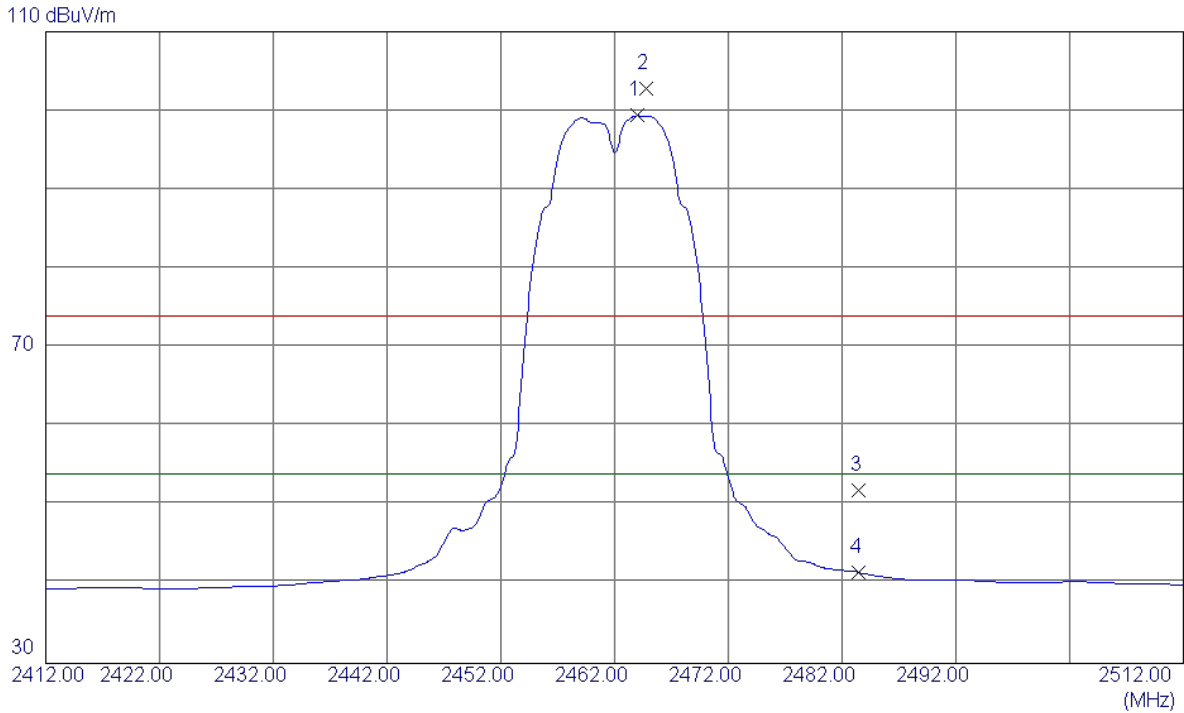
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.5600	38.76	3.03	41.79	74.00	-32.21	Peak	
2	4874.1000	32.89	3.03	35.92	54.00	-18.08	AVG	

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

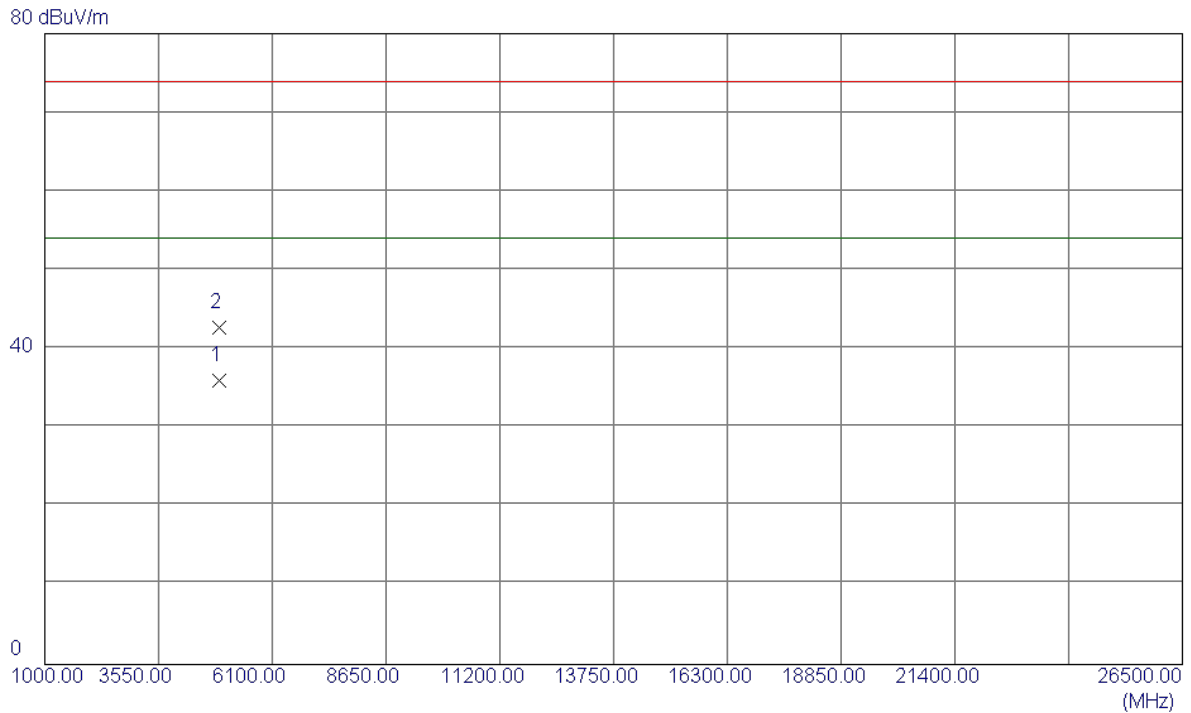
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2464.0000	64.72	34.66	99.38	54.00	45.38	AVG	No Limit
2	2464.8000	68.19	34.67	102.86	74.00	28.86	Peak	No Limit
3	2483.5000	17.19	34.77	51.96	74.00	-22.04	Peak	
4	2483.5000	6.73	34.77	41.50	54.00	-12.50	AVG	

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

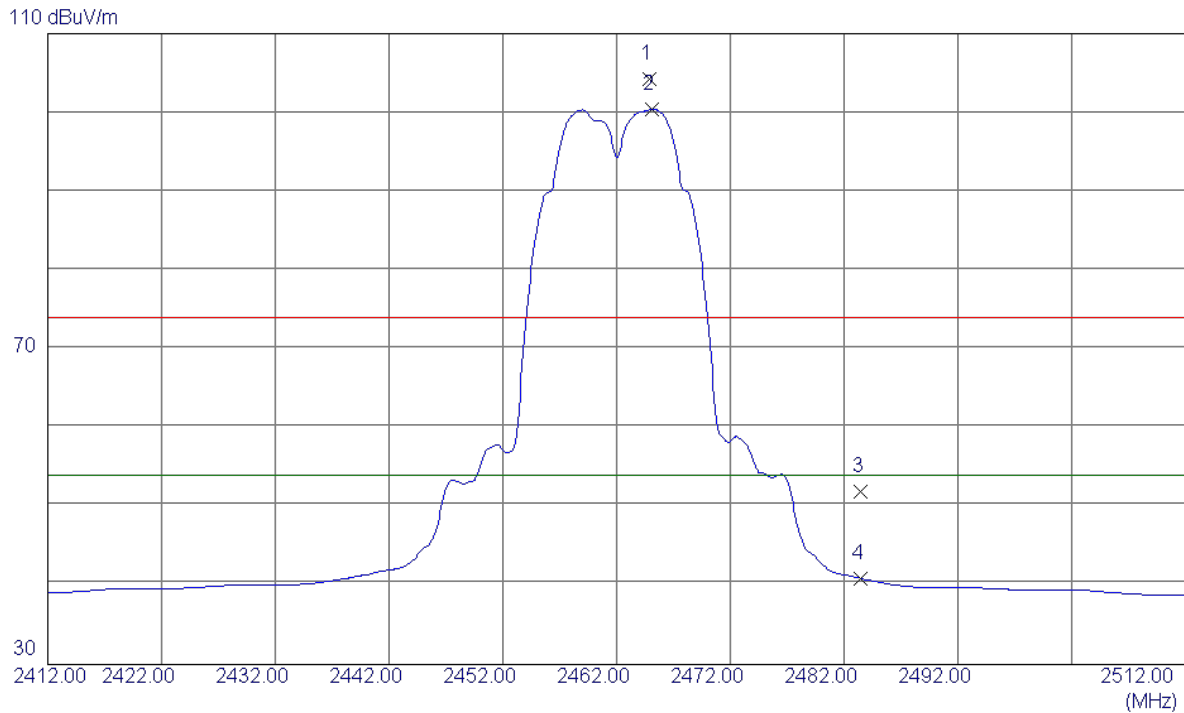
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4924.0000	33.02	3.05	36.07	54.00	-17.93	AVG	
2	4924.1400	39.61	3.05	42.66	74.00	-31.34	Peak	

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

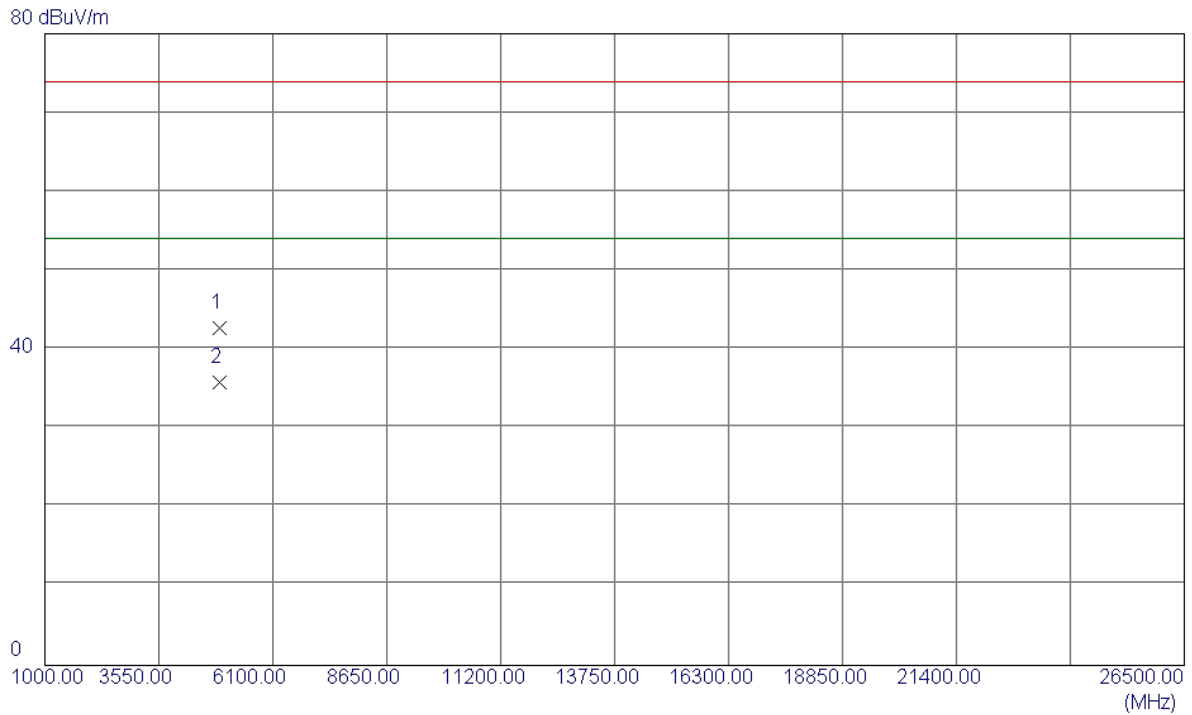
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2464.9000	69.50	34.67	104.17	74.00	30.17	Peak	NO LIMIT
2	2465.1000	65.76	34.67	100.43	54.00	46.43	AVG	NO LIMIT
3	2483.5000	17.11	34.77	51.88	74.00	-22.12	Peak	
4	2483.5000	6.12	34.77	40.89	54.00	-13.11	AVG	

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

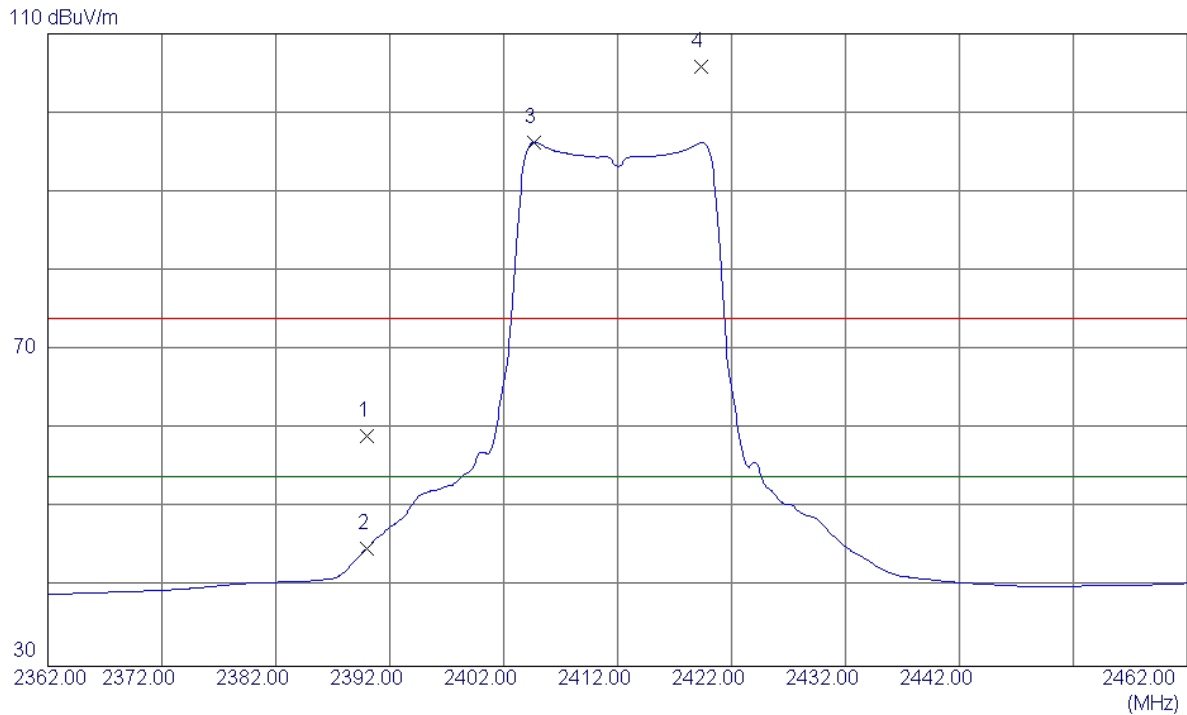
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.9800	39.61	3.05	42.66	74.00	-31.34	Peak	
2	4924.1400	32.83	3.05	35.88	54.00	-18.12	AVG	

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

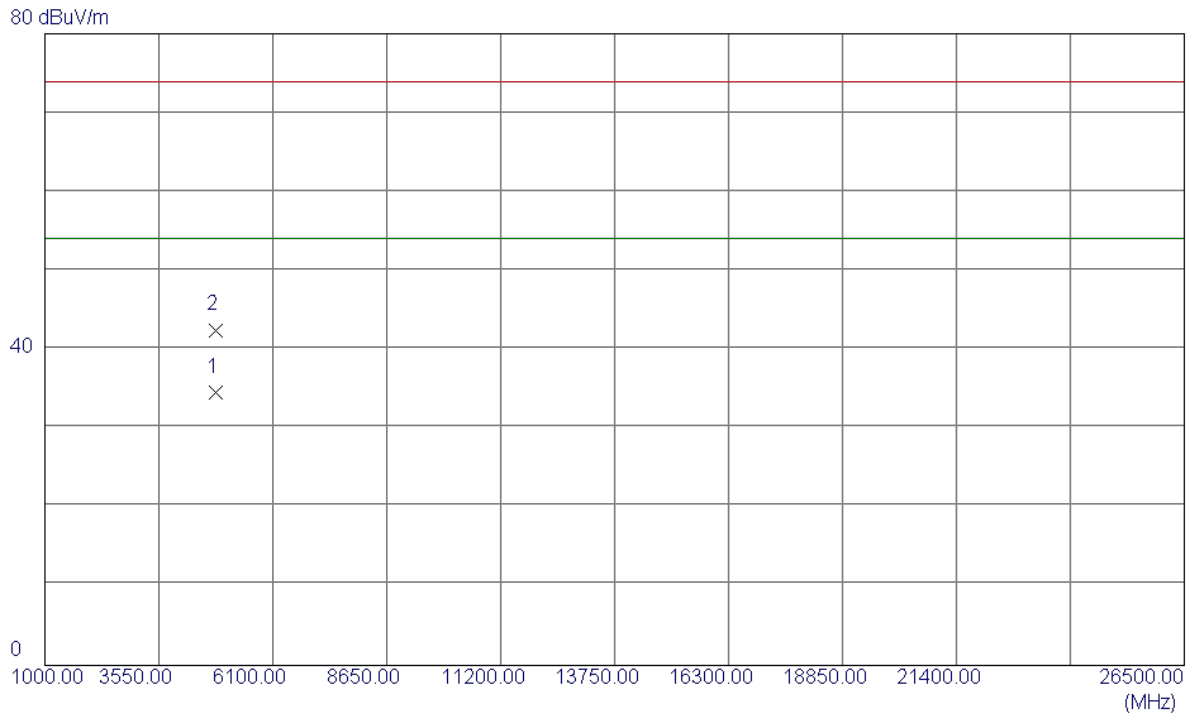
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	24.84	34.23	59.07	74.00	-14.93	Peak	
2	2390.0000	10.72	34.23	44.95	54.00	-9.05	AVG	
3	2404.7000	61.96	34.32	96.28	54.00	42.28	AVG	No Limit
4	2419.3000	71.44	34.40	105.84	74.00	31.84	Peak	No Limit

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

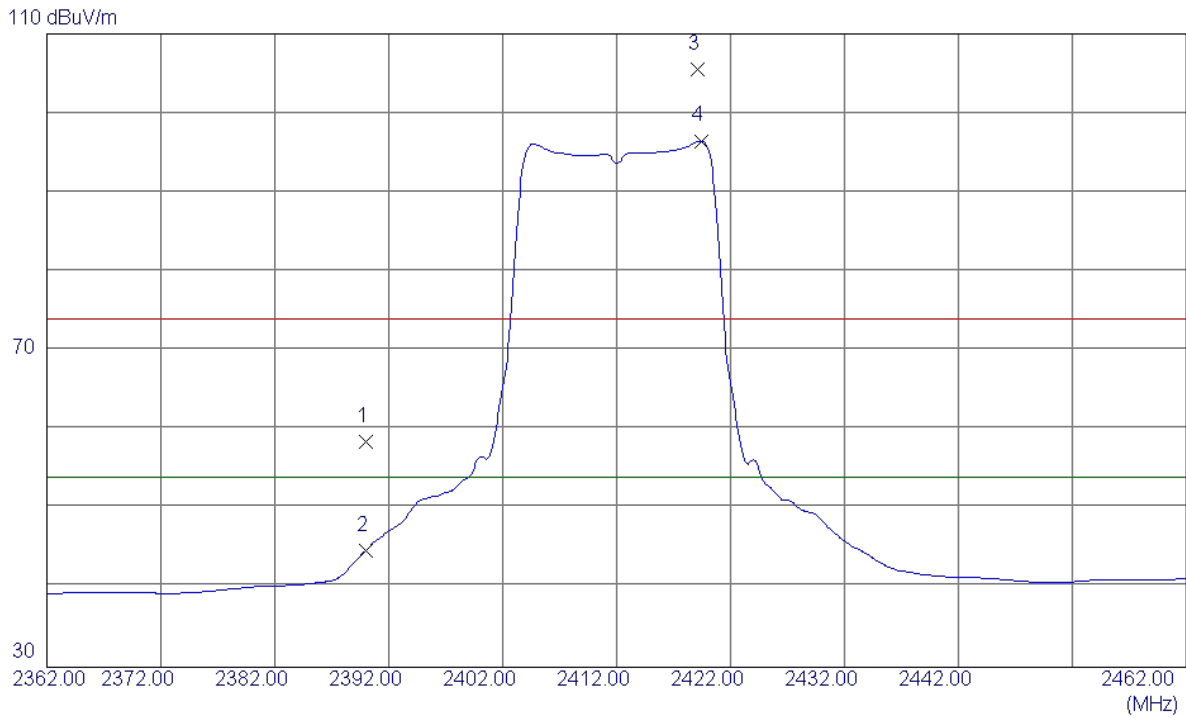
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.2000	31.57	3.00	34.57	54.00	-19.43	AVG	
2	4824.2000	39.48	3.00	42.48	74.00	-31.52	Peak	

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

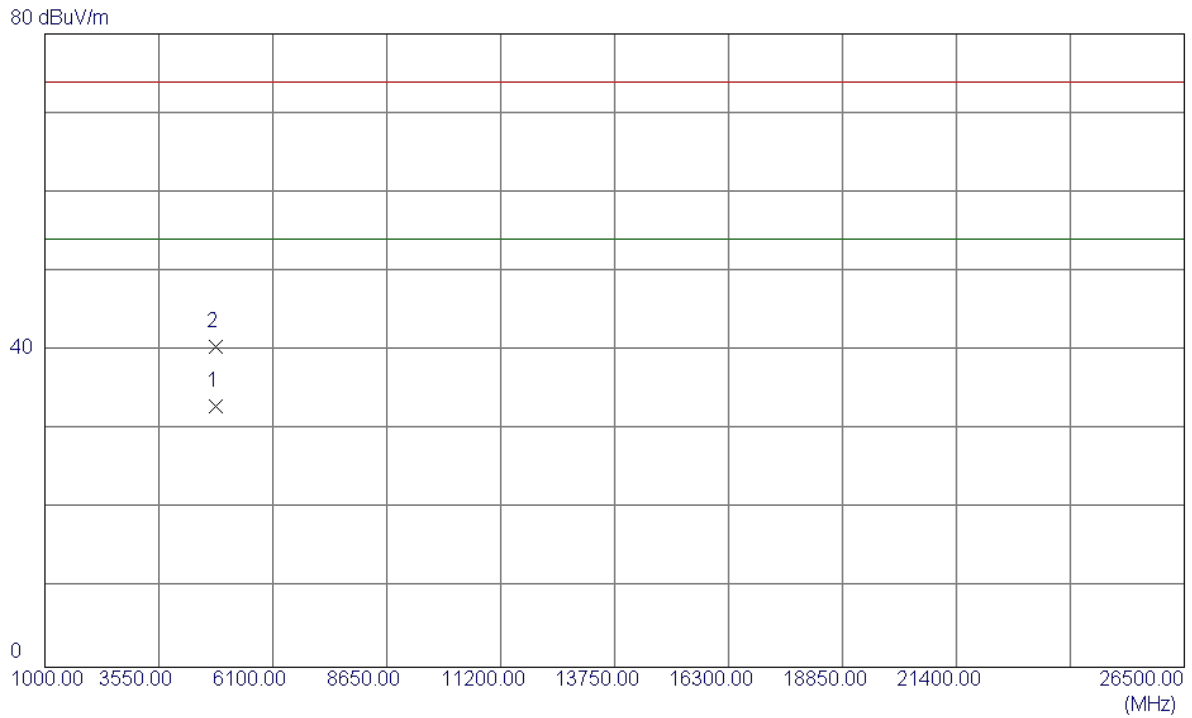
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	24.28	34.23	58.51	74.00	-15.49	Peak	
2	2390.0000	10.54	34.23	44.77	54.00	-9.23	AVG	
3	2419.1000	71.13	34.40	105.53	74.00	31.53	Peak	No Limit
4	2419.4000	62.08	34.40	96.48	54.00	42.48	AVG	No Limit

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

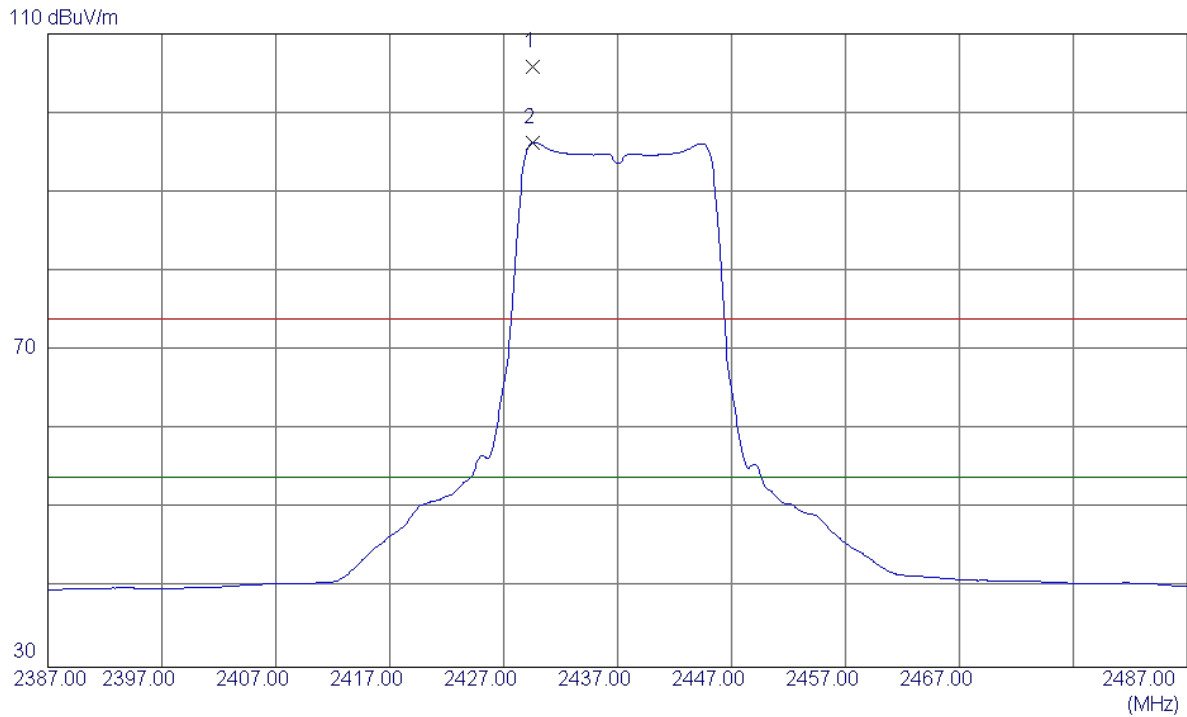
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.0000	30.02	3.00	33.02	54.00	-20.98	AVG	
2	4824.2100	37.53	3.00	40.53	74.00	-33.47	Peak	

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

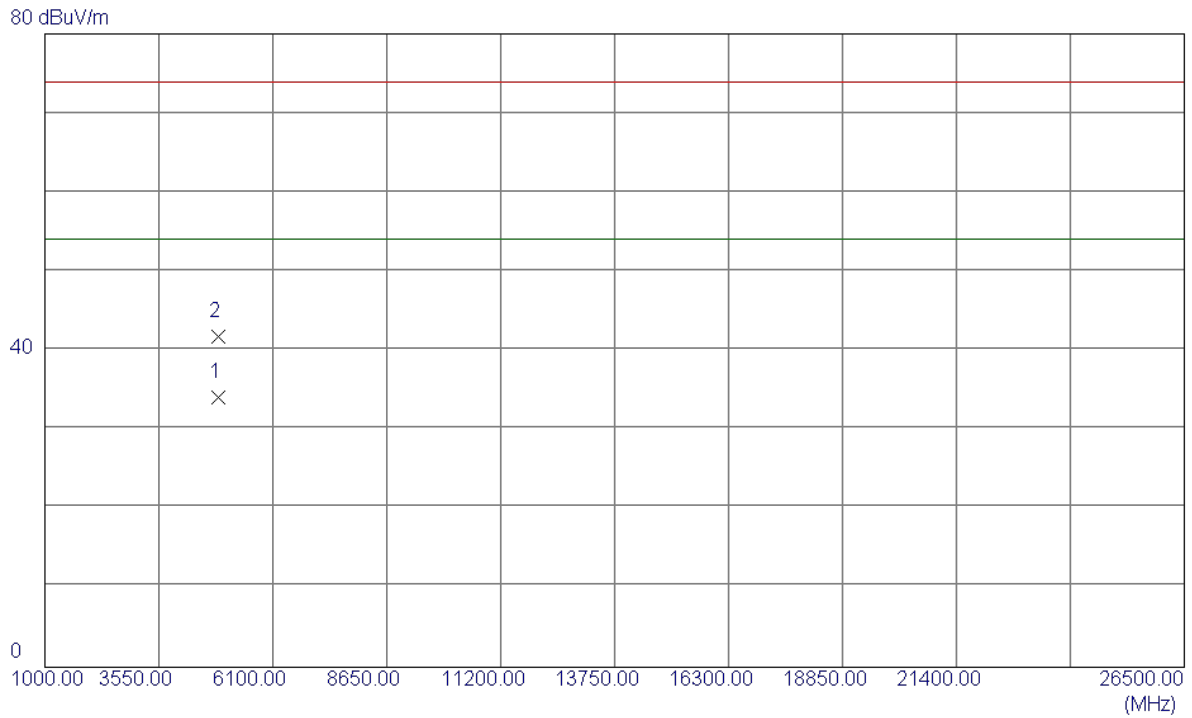
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2429.6000	71.31	34.46	105.77	74.00	31.77	Peak	No Limit
2	2429.6000	61.85	34.46	96.31	54.00	42.31	AVG	No Limit

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

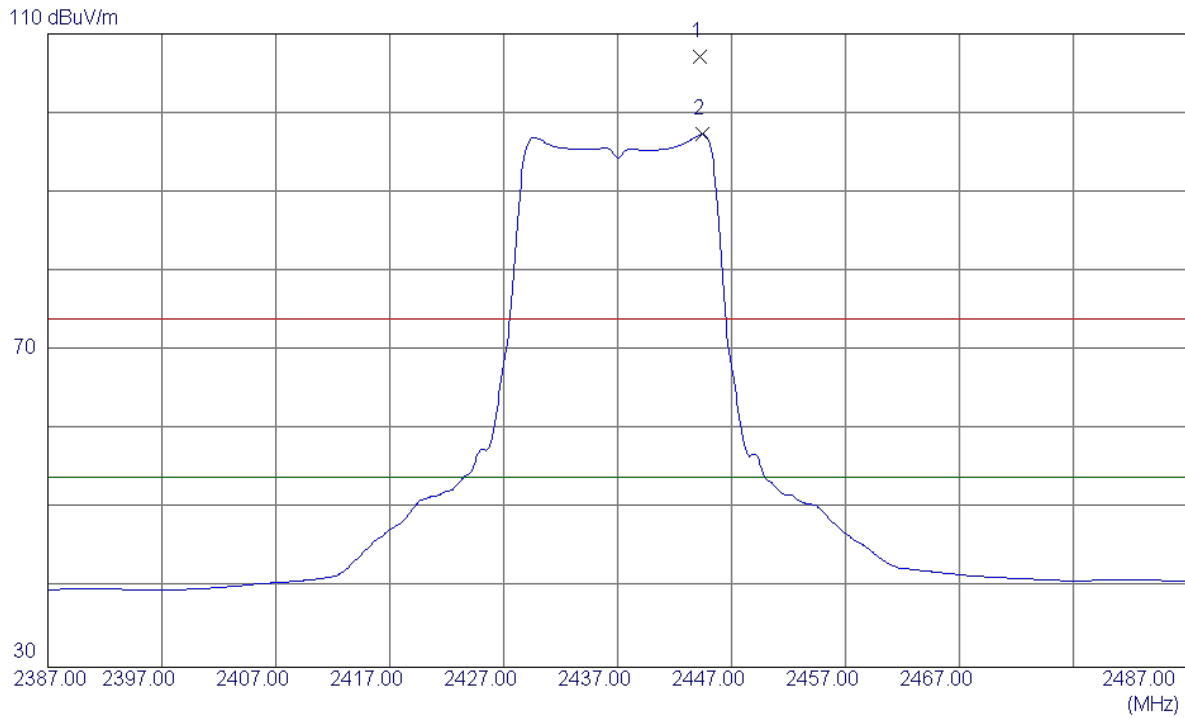
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.1500	31.08	3.03	34.11	54.00	-19.89	AVG	
2	4874.6000	38.66	3.03	41.69	74.00	-32.31	Peak	

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

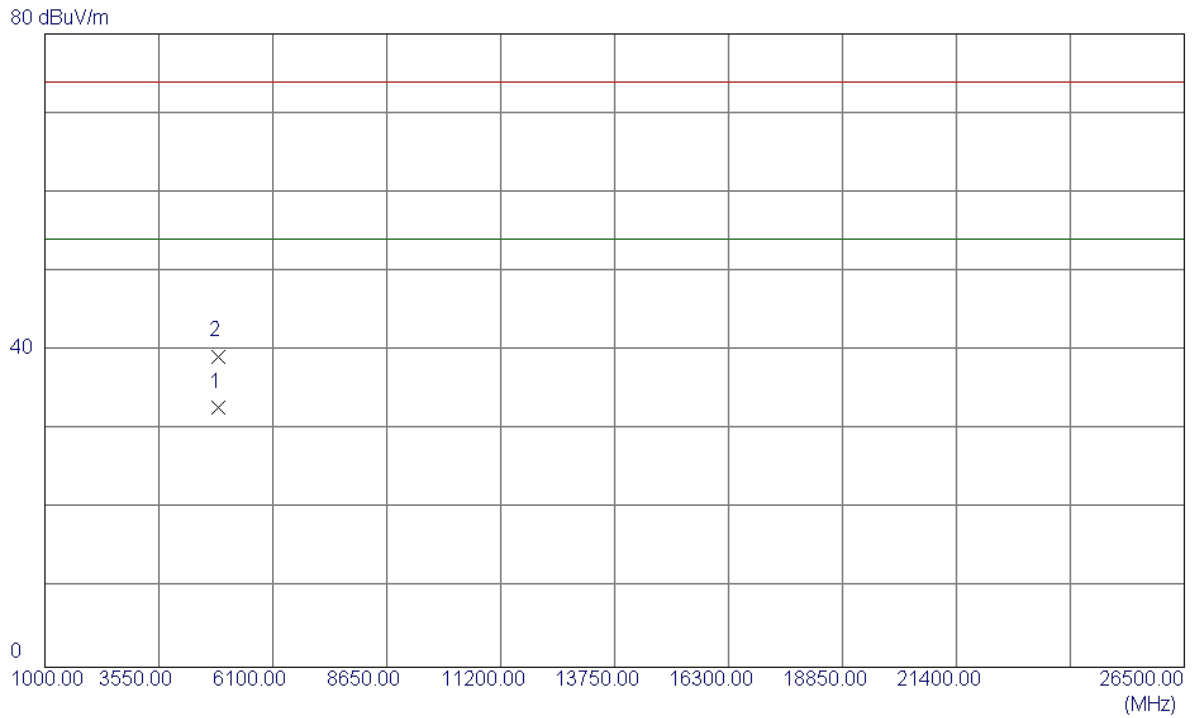
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2444.2000	72.56	34.55	107.11	74.00	33.11	Peak	No Limit
2	2444.4000	62.77	34.55	97.32	54.00	43.32	AVG	No Limit

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

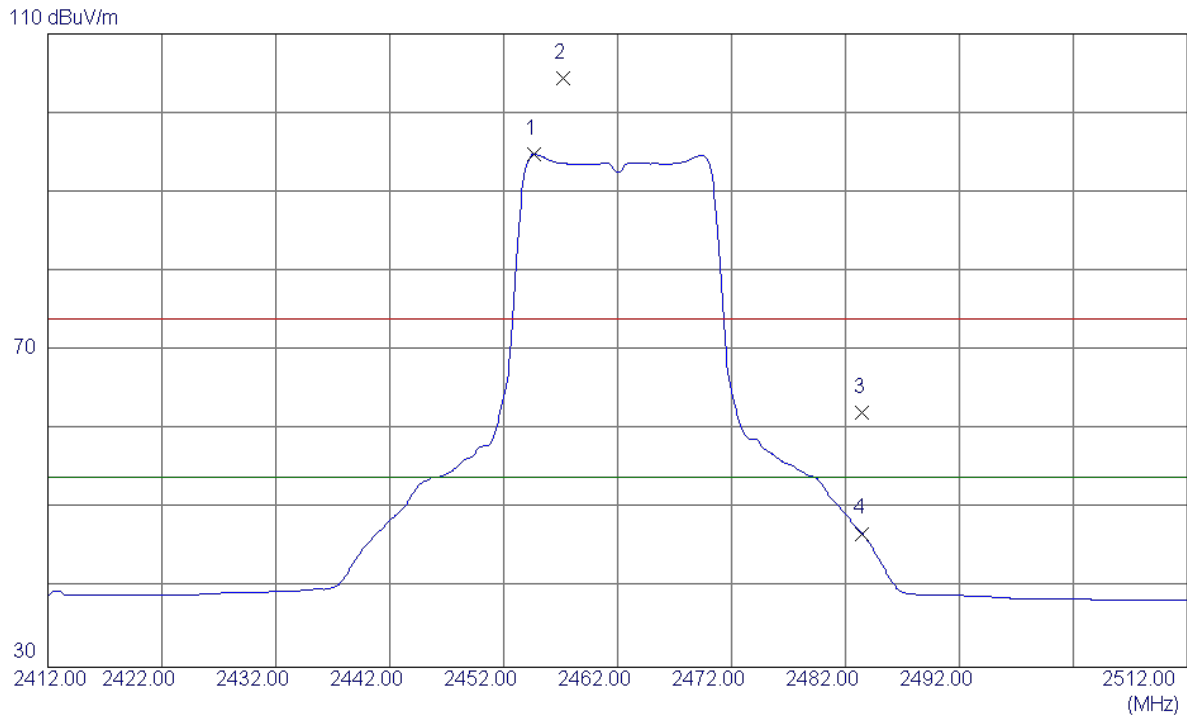
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.6000	29.76	3.03	32.79	54.00	-21.21	AVG	
2	4874.0000	36.25	3.03	39.28	74.00	-34.72	Peak	

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

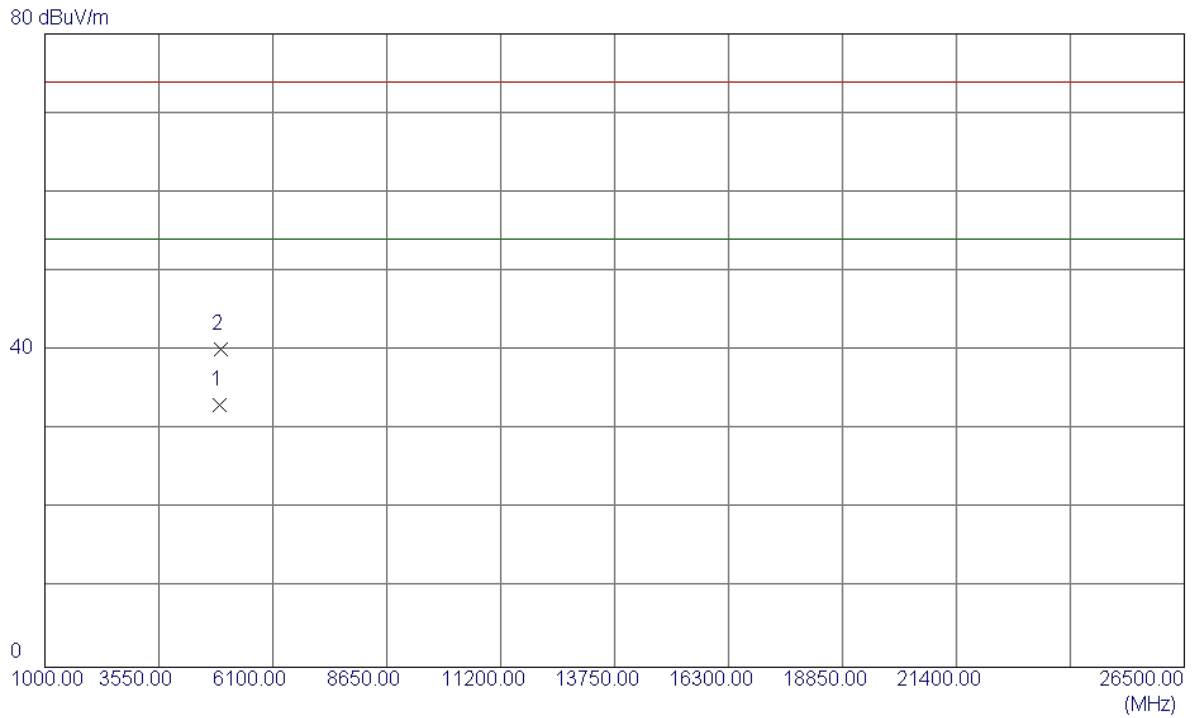
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2454.7000	60.17	34.61	94.78	54.00	40.78	AVG	NO LIMIT
2	2457.2000	69.78	34.62	104.40	74.00	30.40	Peak	NO LIMIT
3	2483.5000	27.44	34.77	62.21	74.00	-11.79	Peak	
4	2483.5000	12.11	34.77	46.88	54.00	-7.12	AVG	

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

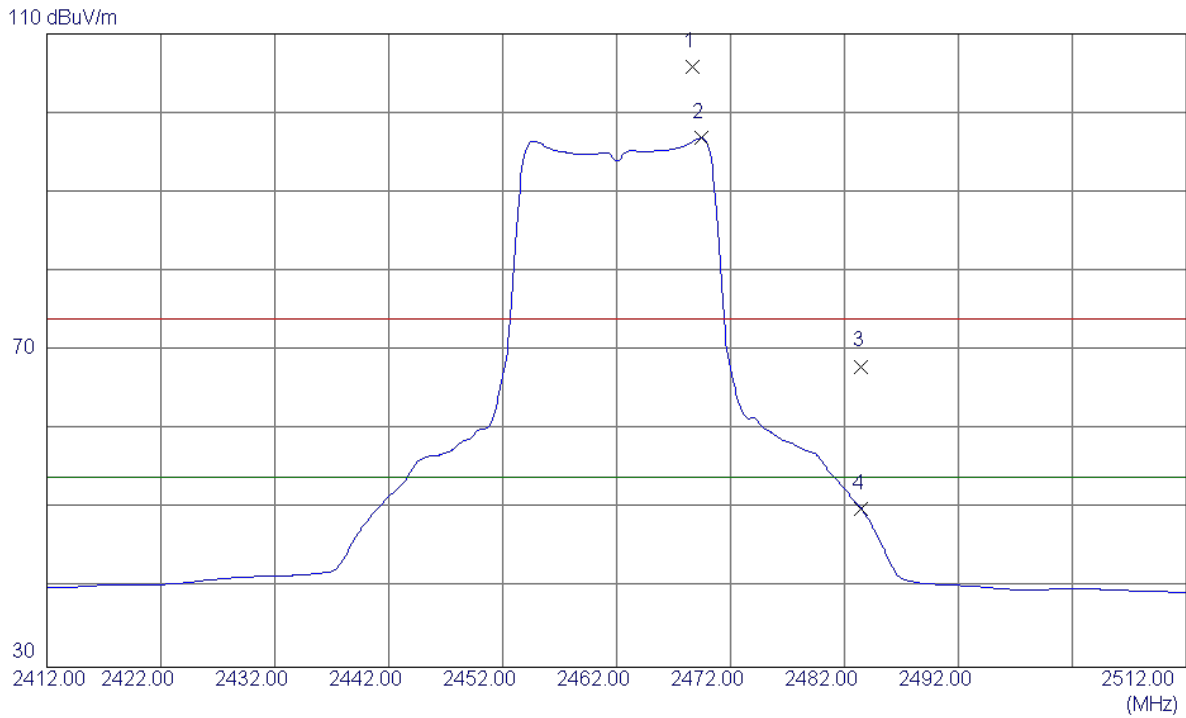
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.0000	30.13	3.05	33.18	54.00	-20.82	AVG	
2	4924.2000	37.16	3.05	40.21	74.00	-33.79	Peak	

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

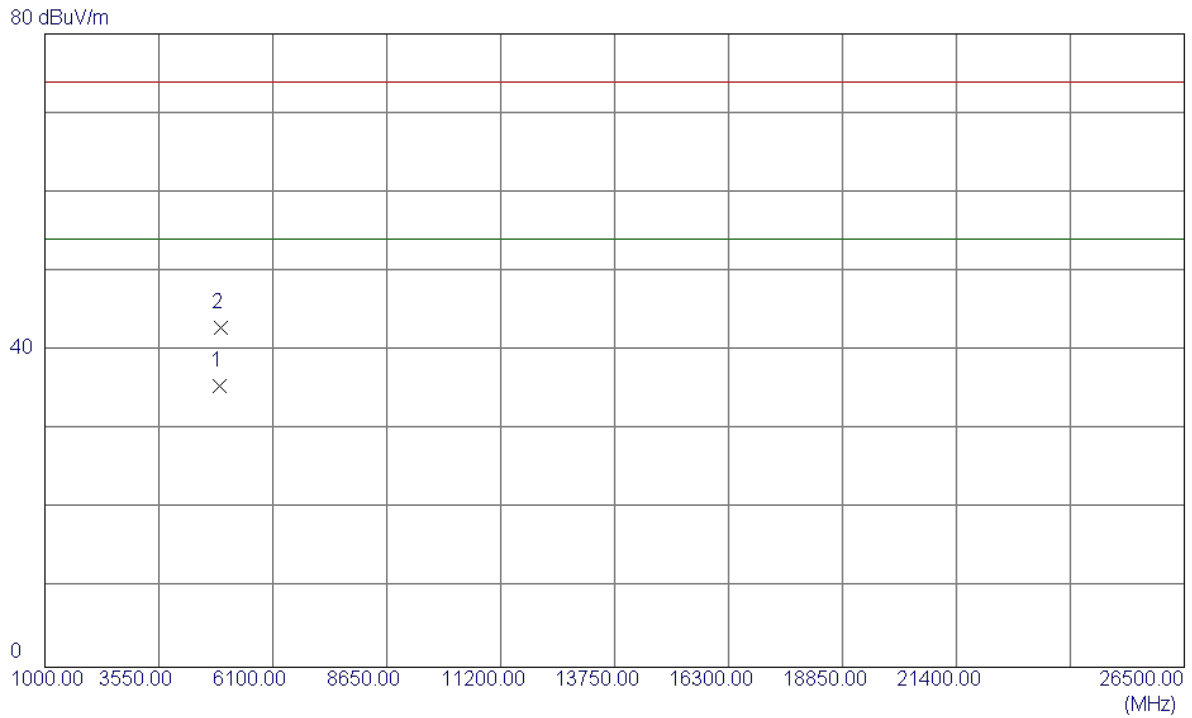
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2468.7000	71.18	34.69	105.87	74.00	31.87	Peak	NO LIMIT
2	2469.4000	62.13	34.69	96.82	54.00	42.82	AVG	NO LIMIT
3	2483.5000	33.23	34.77	68.00	74.00	-6.00	Peak	
4	2483.5000	15.25	34.77	50.02	54.00	-3.98	AVG	

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

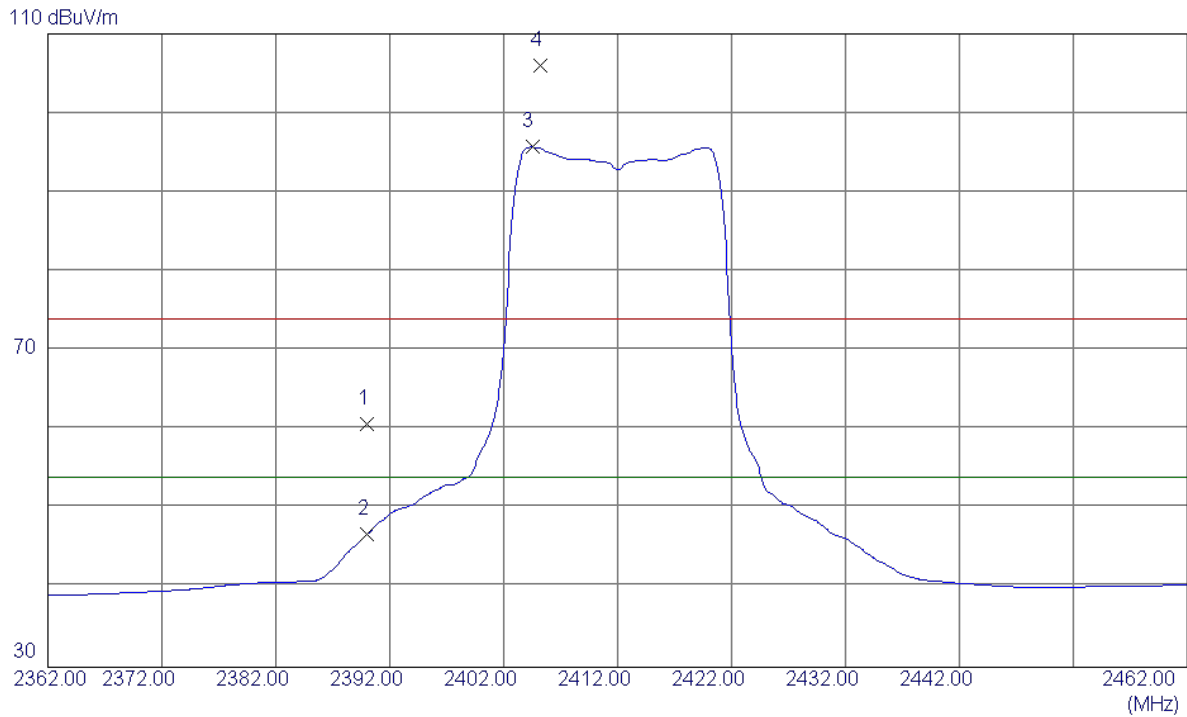
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4924.0000	32.44	3.05	35.49	54.00	-18.51	AVG	
2	4924.2000	39.90	3.05	42.95	74.00	-31.05	Peak	

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

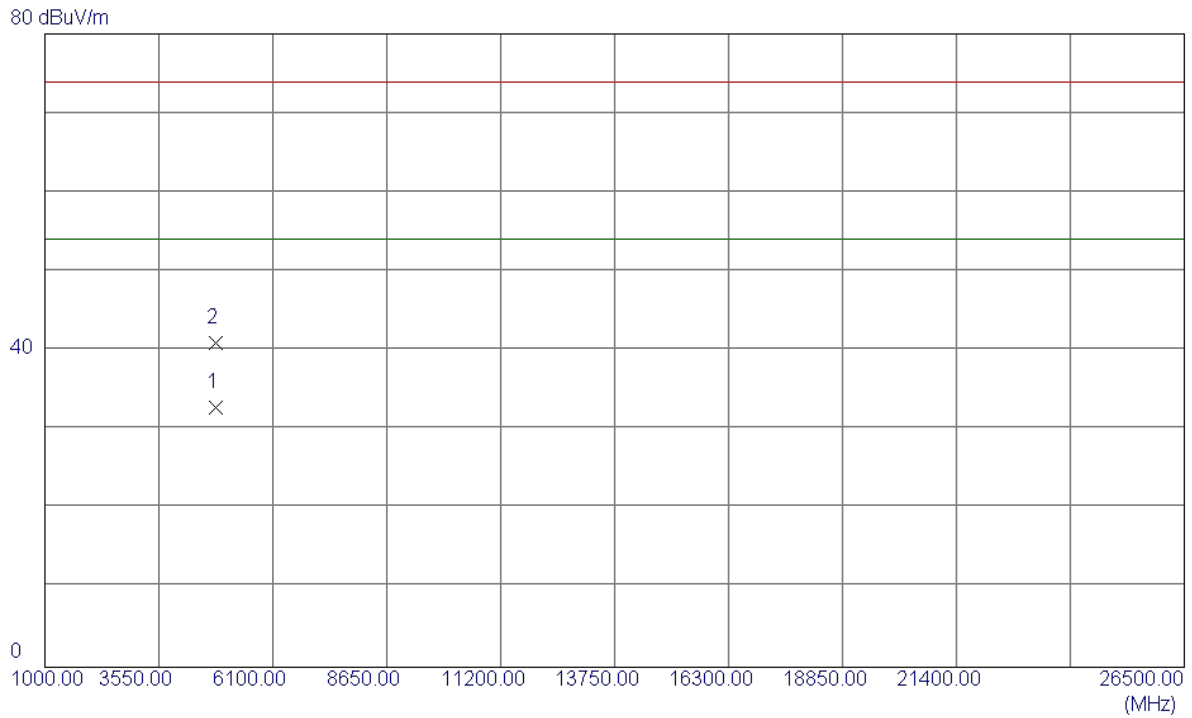
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	26.55	34.23	60.78	74.00	-13.22	Peak	
2	2390.0000	12.53	34.23	46.76	54.00	-7.24	AVG	
3	2404.5000	61.38	34.32	95.70	54.00	41.70	AVG	No Limit
4	2405.2000	71.71	34.32	106.03	74.00	32.03	Peak	No Limit

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

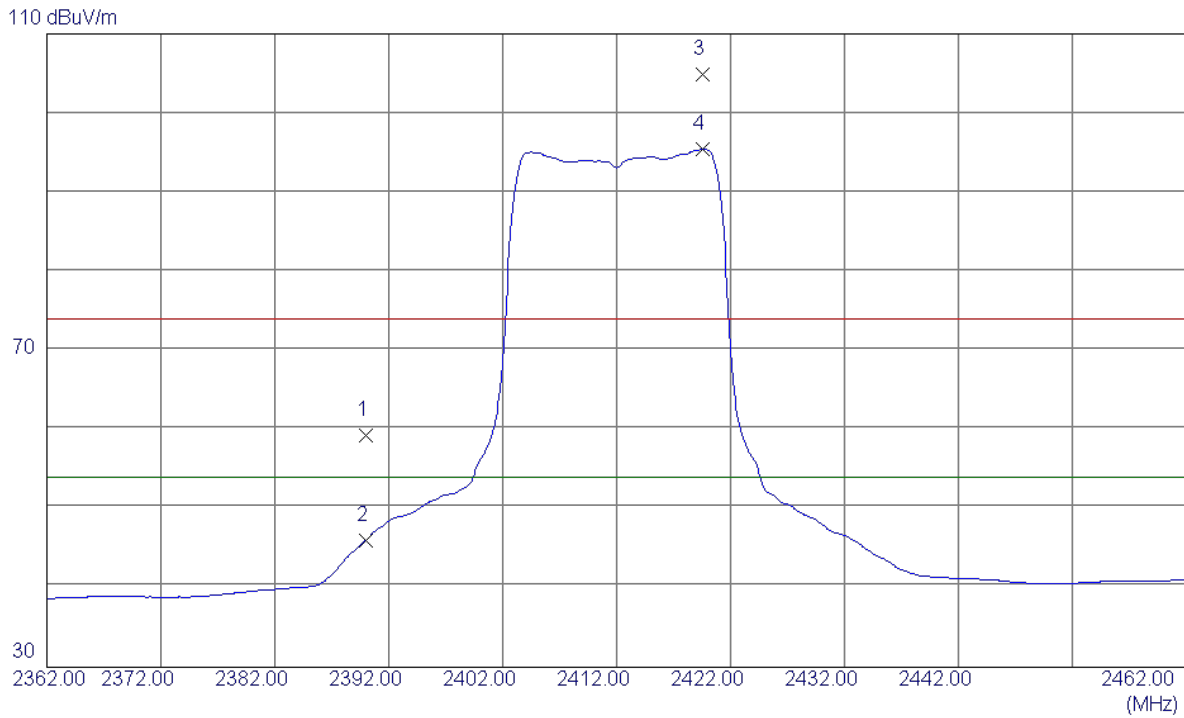
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.0500	29.87	3.00	32.87	54.00	-21.13	AVG	
2	4824.6100	37.95	3.00	40.95	74.00	-33.05	Peak	

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

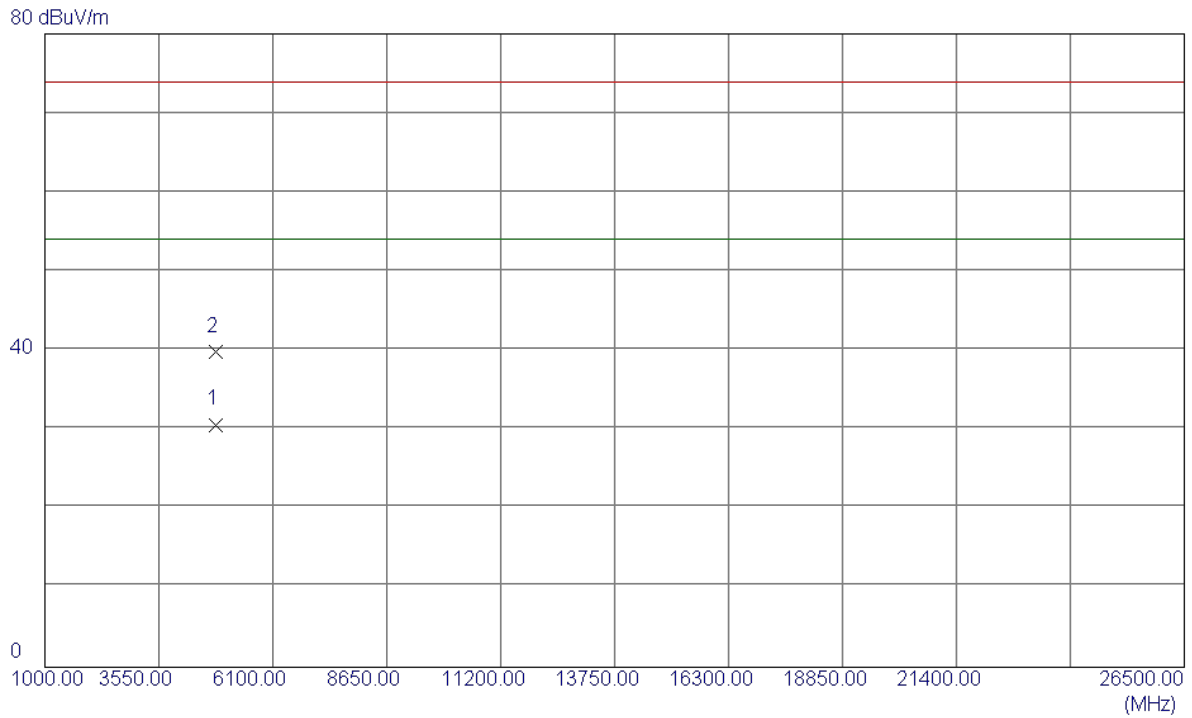
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	25.09	34.23	59.32	74.00	-14.68	Peak	
2	2390.0000	11.82	34.23	46.05	54.00	-7.95	AVG	
3	2419.6000	70.52	34.40	104.92	74.00	30.92	Peak	No Limit
4	2419.6000	61.02	34.40	95.42	54.00	41.42	AVG	No Limit

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

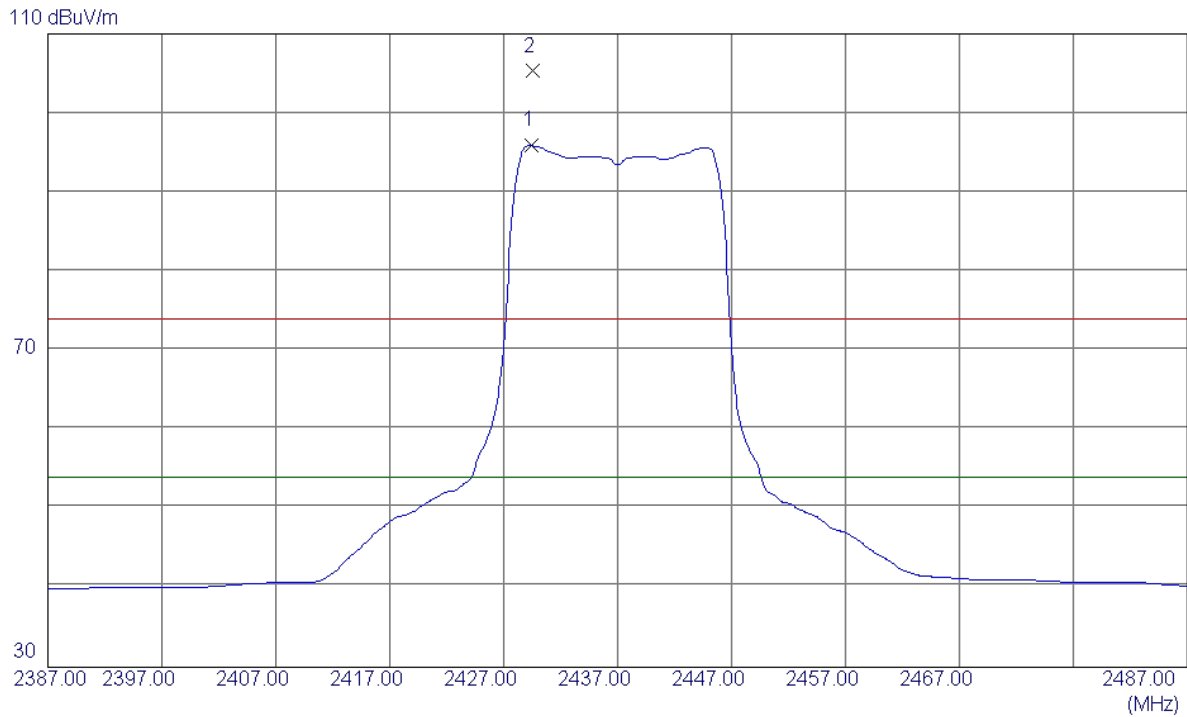
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.1300	27.64	3.00	30.64	54.00	-23.36	AVG	
2	4824.2500	36.85	3.00	39.85	74.00	-34.15	Peak	

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

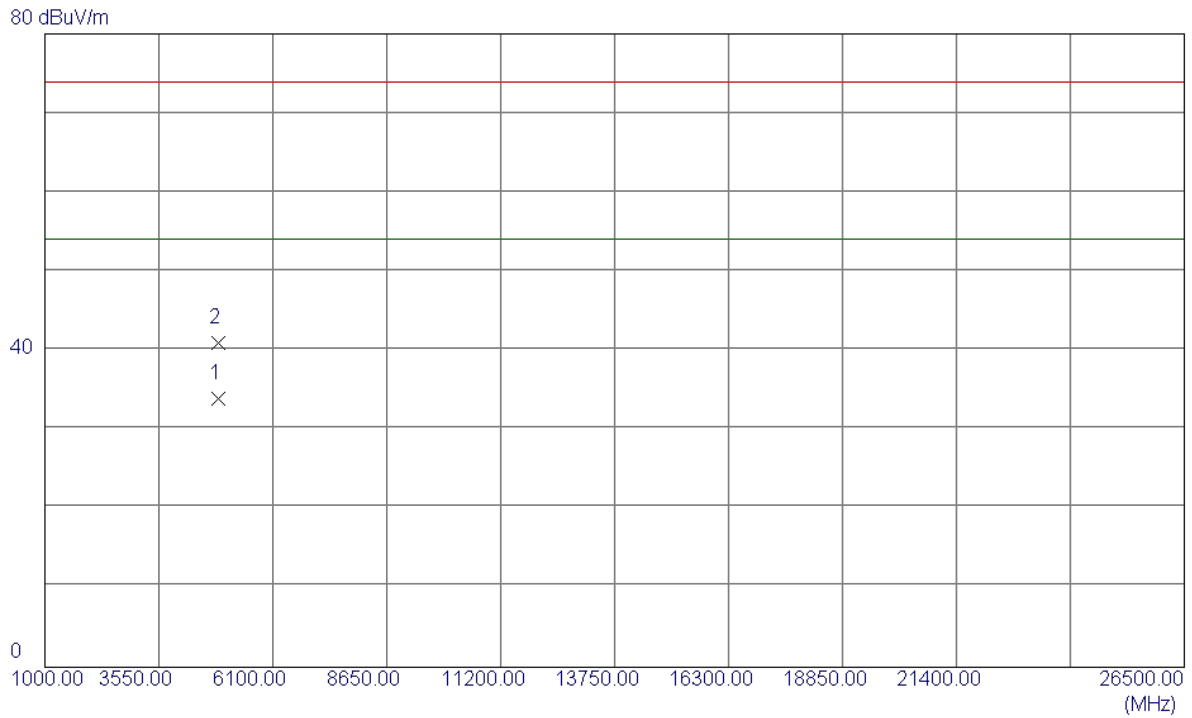
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2429.4000	61.43	34.46	95.89	54.00	41.89	AVG	No Limit
2	2429.6000	70.82	34.46	105.28	74.00	31.28	Peak	No Limit

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

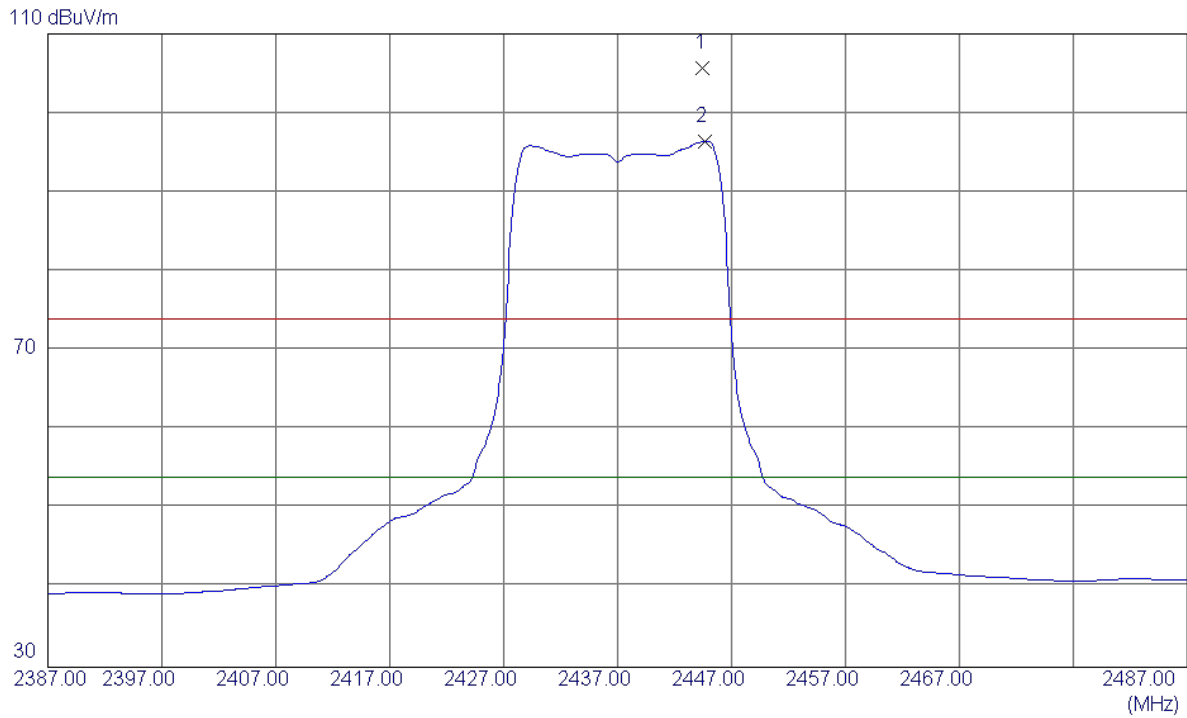
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.8600	30.88	3.03	33.91	54.00	-20.09	AVG	
2	4874.1000	37.98	3.03	41.01	74.00	-32.99	Peak	

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

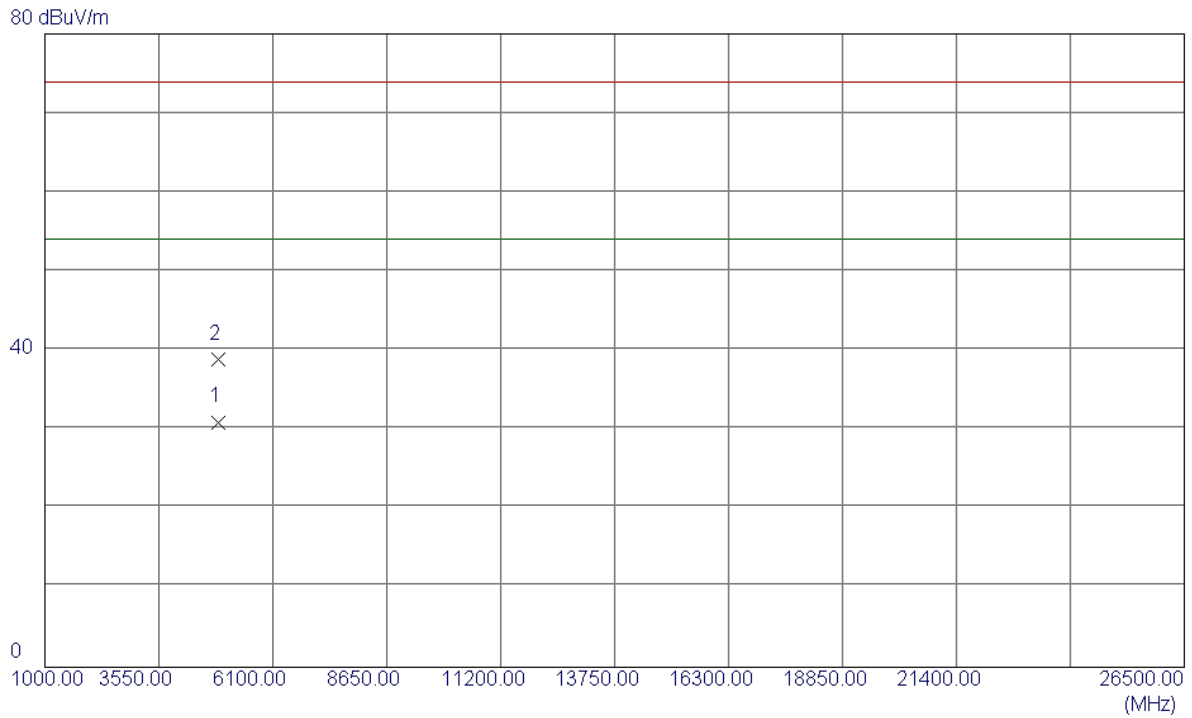
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2444.5000	71.08	34.55	105.63	74.00	31.63	Peak	No Limit
2	2444.7000	61.88	34.55	96.43	54.00	42.43	AVG	No Limit

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

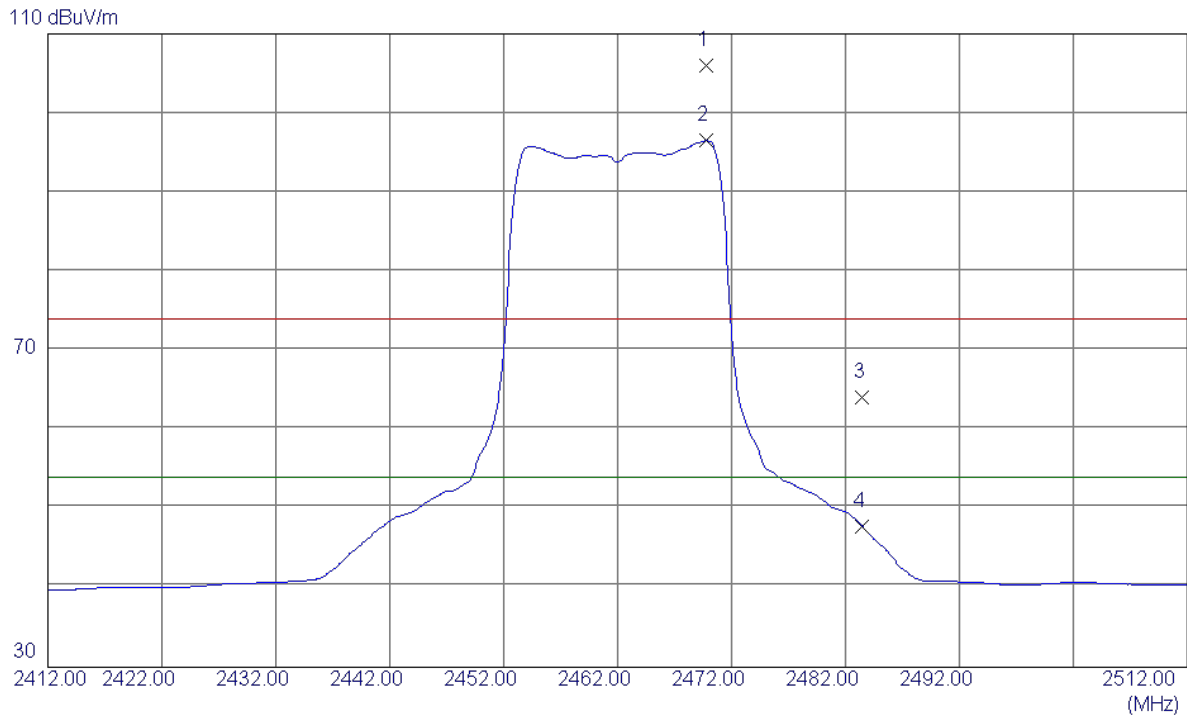
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9000	27.93	3.03	30.96	54.00	-23.04	AVG	
2	4874.0000	35.78	3.03	38.81	74.00	-35.19	Peak	

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

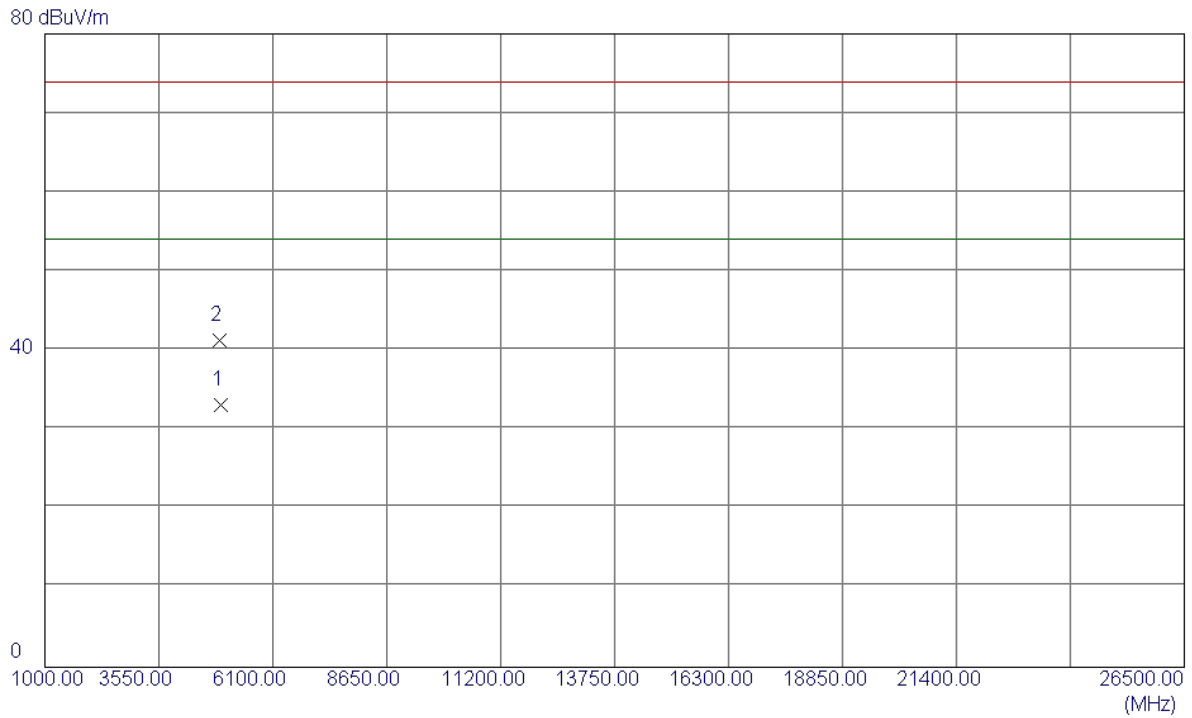
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2469.8000	71.24	34.69	105.93	74.00	31.93	Peak	No Limit
2	2469.8000	61.80	34.69	96.49	54.00	42.49	AVG	No Limit
3	2483.5000	29.33	34.77	64.10	74.00	-9.90	Peak	
4	2483.5000	13.06	34.77	47.83	54.00	-6.17	AVG	

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

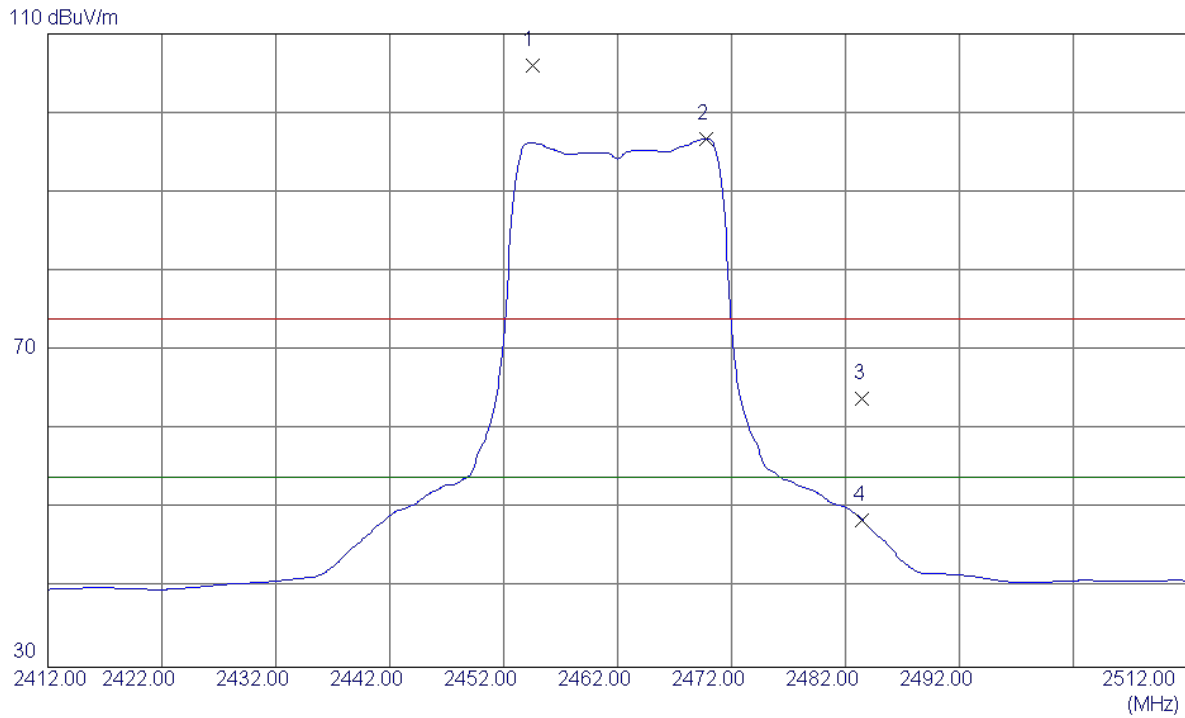
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4924.3000	30.02	3.05	33.07	54.00	-20.93	AVG	
2	4924.0000	38.25	3.05	41.30	74.00	-32.70	Peak	

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

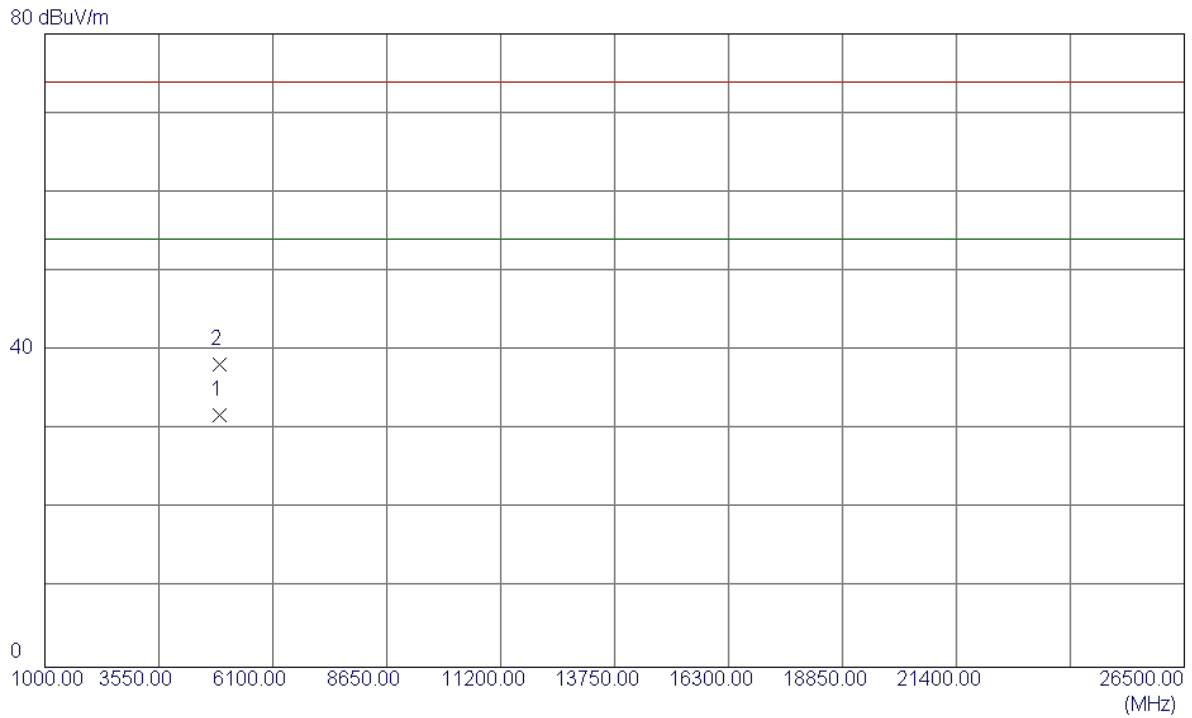
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2454.5000	71.38	34.61	105.99	74.00	31.99	Peak	No Limit
2	2469.8000	62.10	34.69	96.79	54.00	42.79	AVG	No Limit
3	2483.5000	29.22	34.77	63.99	74.00	-10.01	Peak	
4	2483.5000	13.78	34.77	48.55	54.00	-5.45	AVG	

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

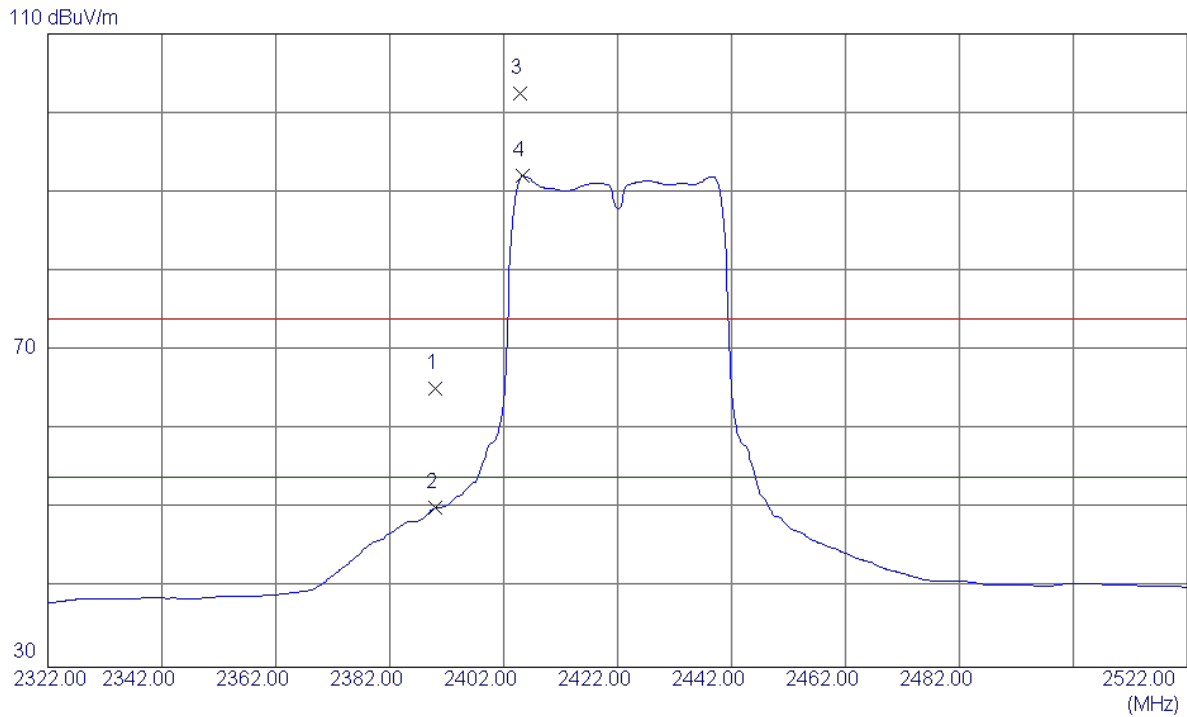
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4924.0000	28.77	3.05	31.82	54.00	-22.18	AVG	
2	4924.0000	35.12	3.05	38.17	74.00	-35.83	Peak	

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

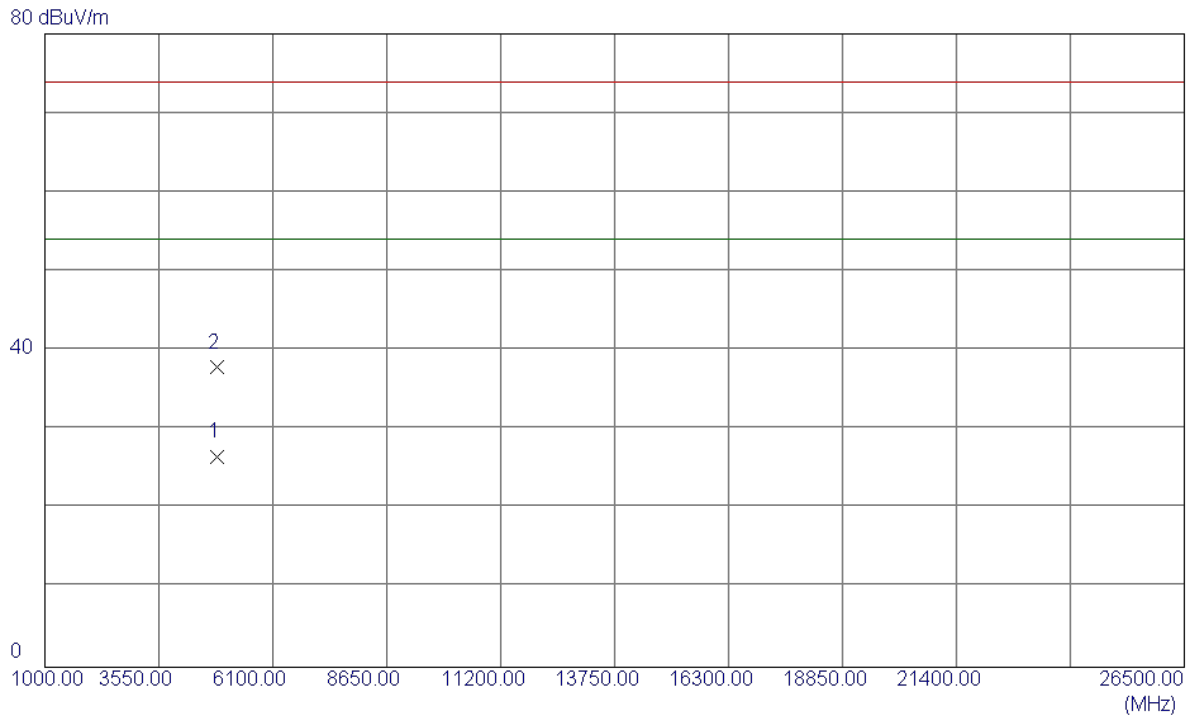
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	31.00	34.23	65.23	74.00	-8.77	Peak	
2	2390.0000	15.91	34.23	50.14	54.00	-3.86	AVG	
3	2404.8000	68.16	34.32	102.48	74.00	28.48	Peak	No Limit
4	2405.4000	57.72	34.32	92.04	54.00	38.04	AVG	No Limit

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

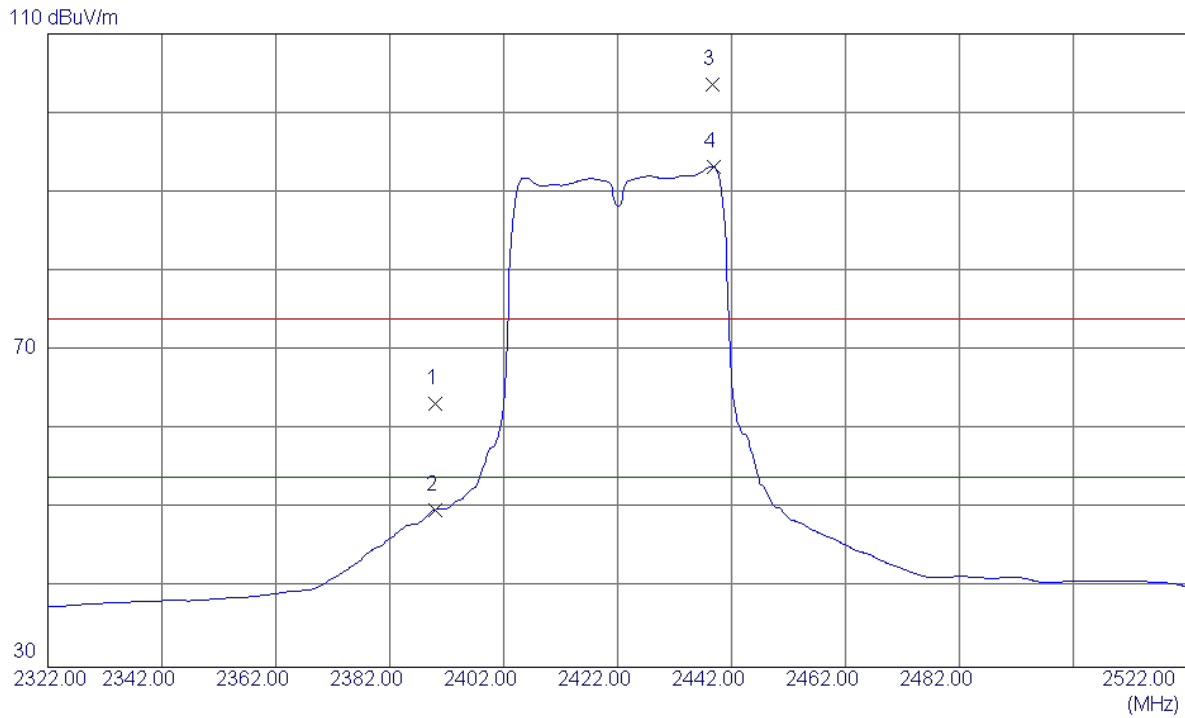
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4844.1900	23.56	3.01	26.57	54.00	-27.43	AVG	
2	4844.3200	34.83	3.01	37.84	74.00	-36.16	Peak	

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

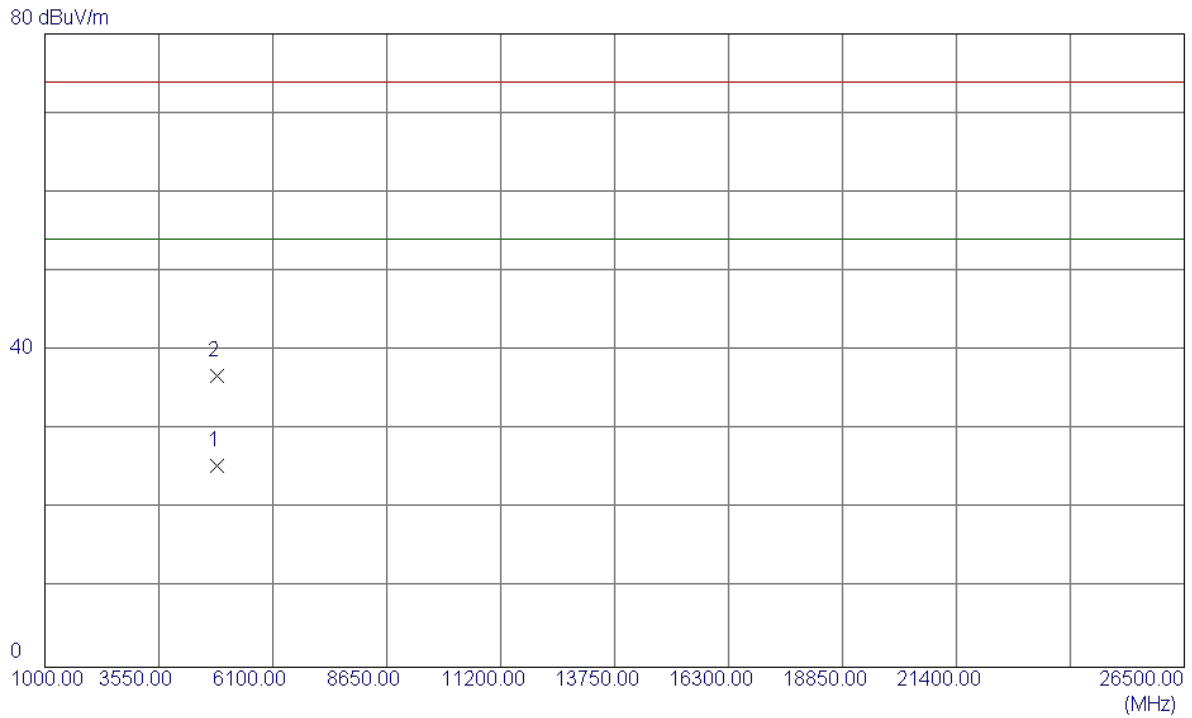
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	29.05	34.23	63.28	74.00	-10.72	Peak	
2	2390.0000	15.69	34.23	49.92	54.00	-4.08	AVG	
3	2438.6000	69.06	34.51	103.57	74.00	29.57	Peak	No Limit
4	2438.8000	58.73	34.52	93.25	54.00	39.25	AVG	No Limit

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

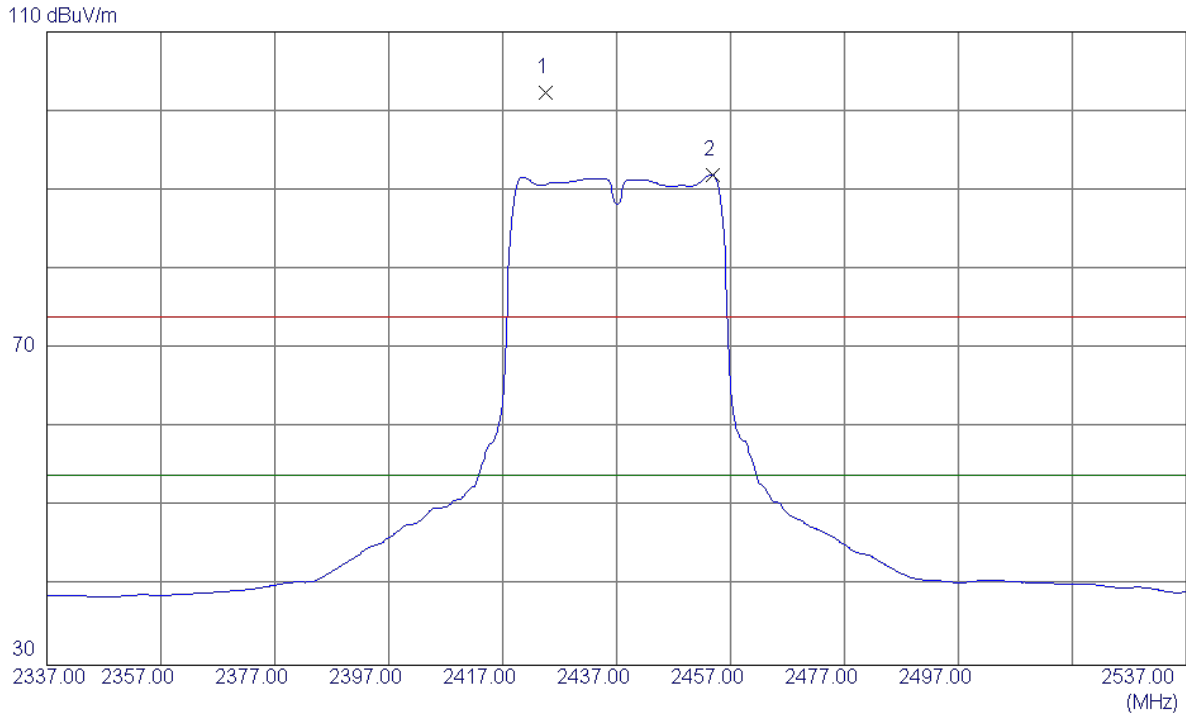
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4845.5099	22.38	3.01	25.39	54.00	-28.61	AVG	
2	4844.7200	33.76	3.01	36.77	74.00	-37.23	Peak	

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

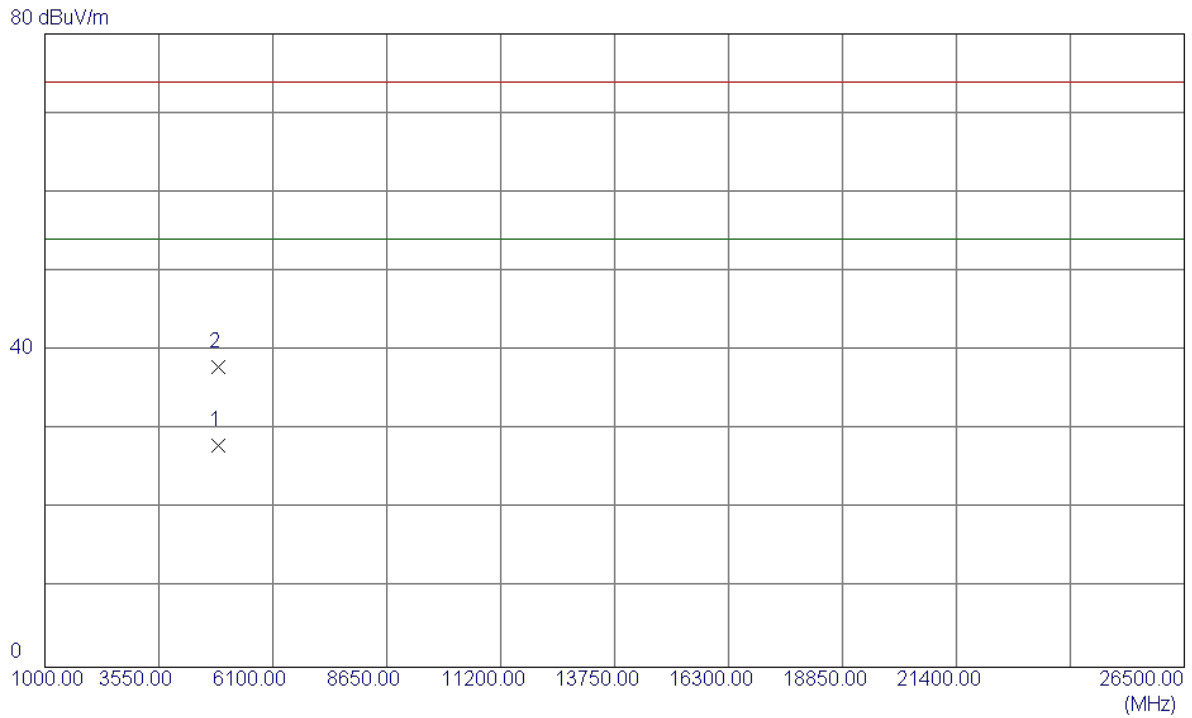
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2424.6000	67.85	34.43	102.28	74.00	28.28	Peak	No Limit
2	2453.8000	57.36	34.60	91.96	54.00	37.96	AVG	No Limit

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

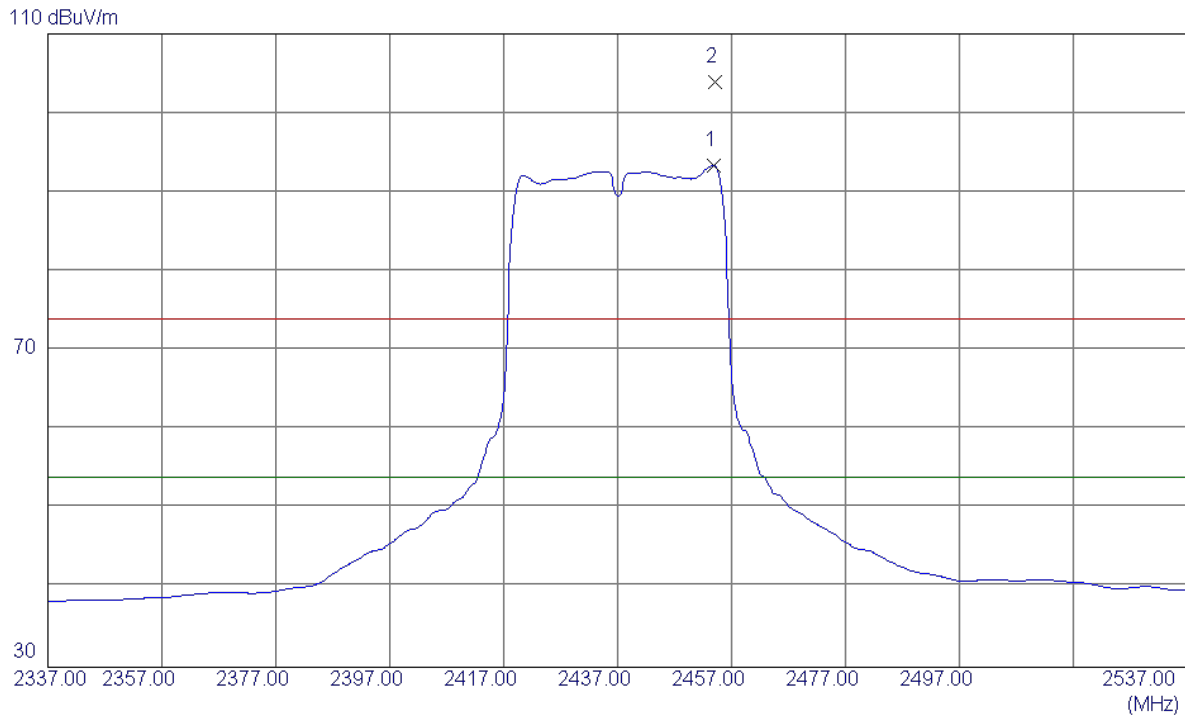
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.5400	25.02	3.03	28.05	54.00	-25.95	AVG	
2	4874.6000	34.92	3.03	37.95	74.00	-36.05	Peak	

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

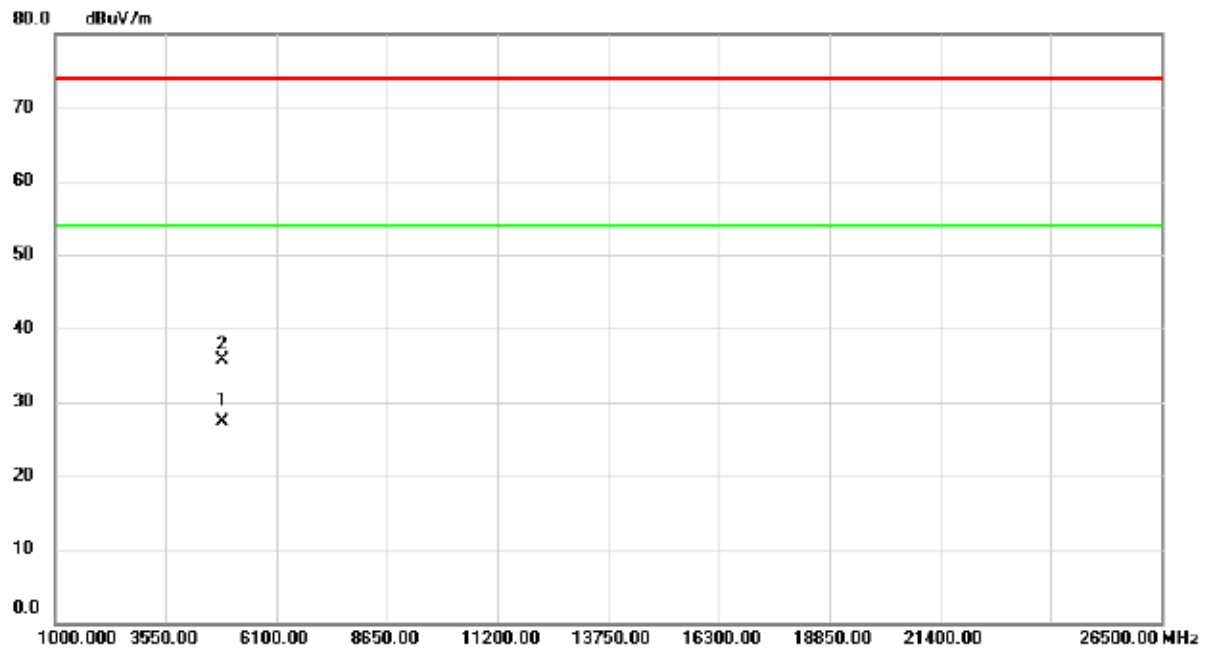
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2453.8000	58.80	34.60	93.40	54.00	39.40	AVG	No Limit
2	2454.2000	69.36	34.60	103.96	74.00	29.96	Peak	No Limit

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

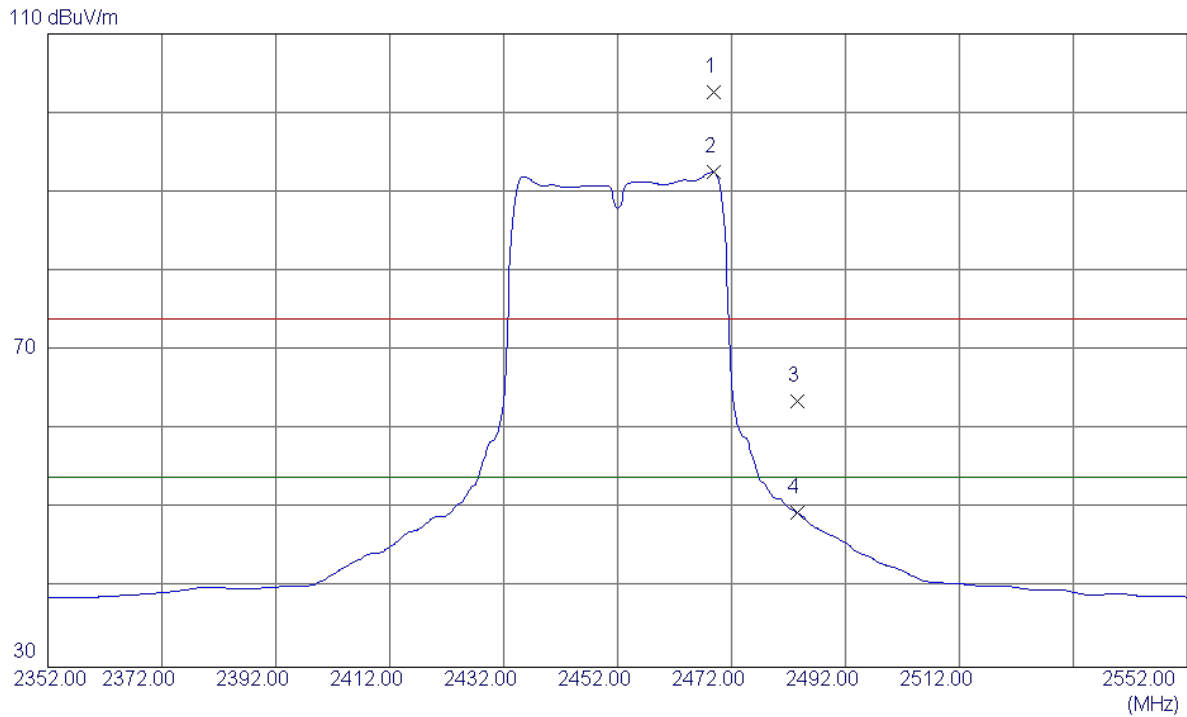
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	4874.180	24.37	3.03	27.40	54.00	-26.60	AVG	
2		4874.360	32.63	3.03	35.66	74.00	-38.34	peak	

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

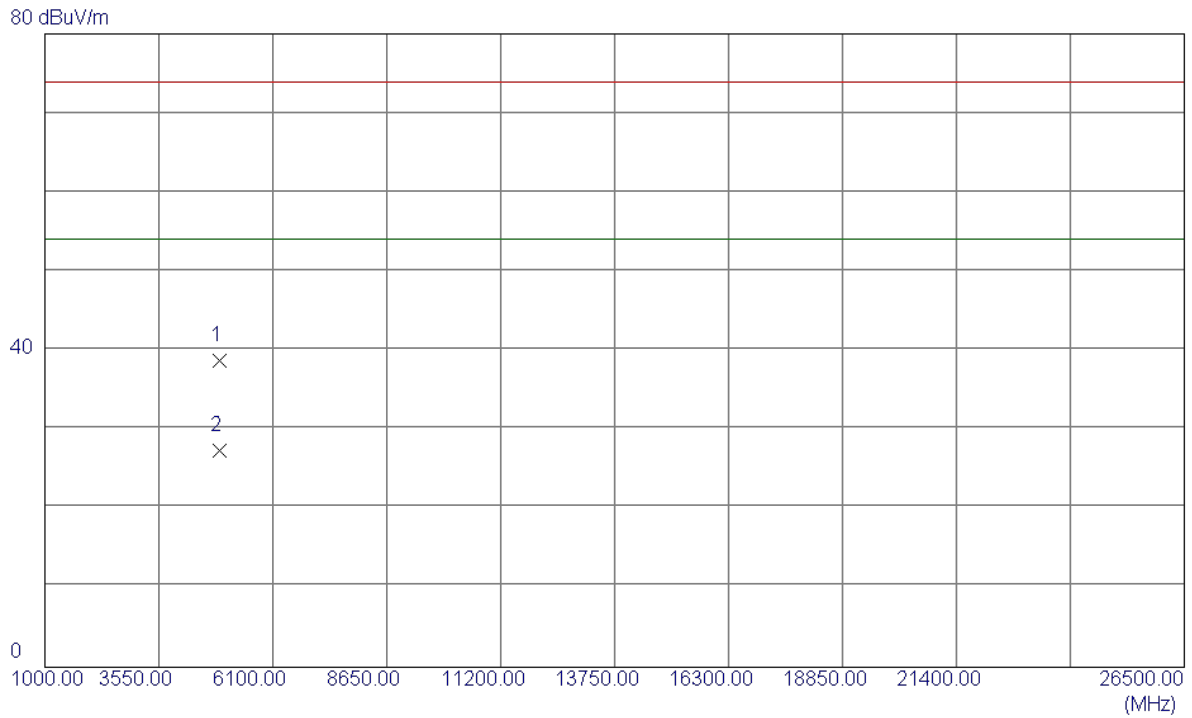
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2468.8000	67.98	34.69	102.67	74.00	28.67	Peak	No Limit
2	2468.8000	57.88	34.69	92.57	54.00	38.57	AVG	No Limit
3	2483.5000	28.81	34.77	63.58	74.00	-10.42	Peak	
4	2483.5000	14.71	34.77	49.48	54.00	-4.52	AVG	

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

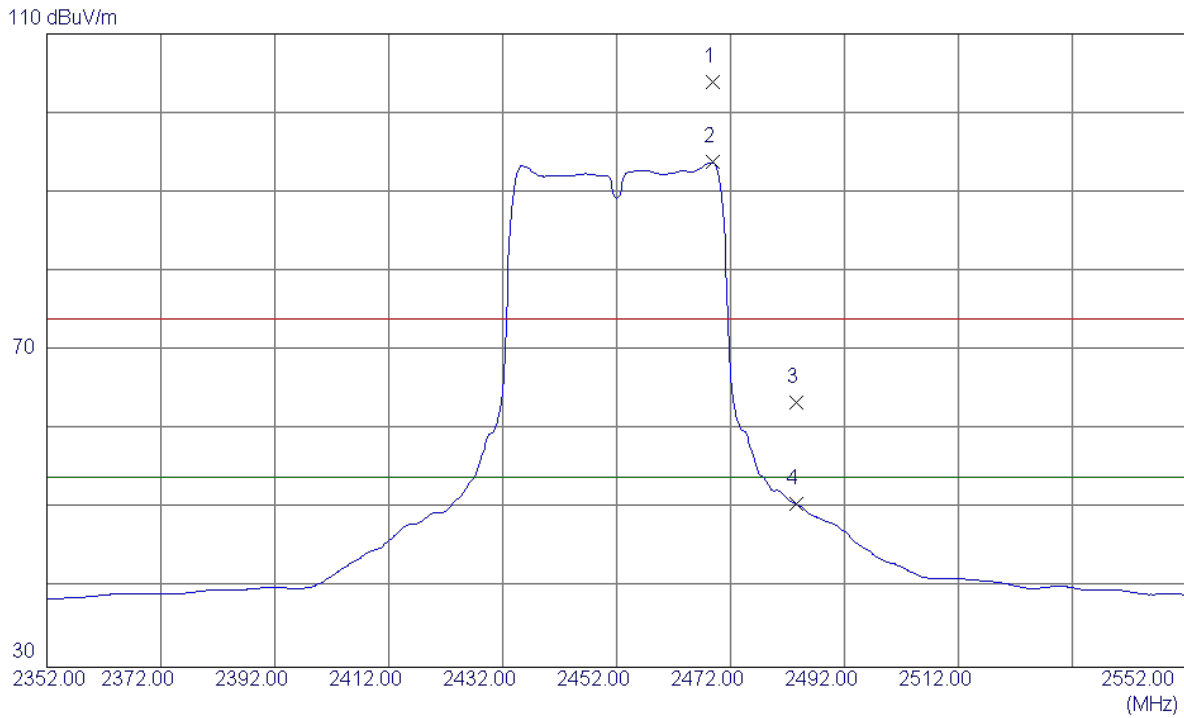
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4903.4400	35.72	3.04	38.76	74.00	-35.24	Peak	
2	4904.0400	24.35	3.04	27.39	54.00	-26.61	AVG	

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

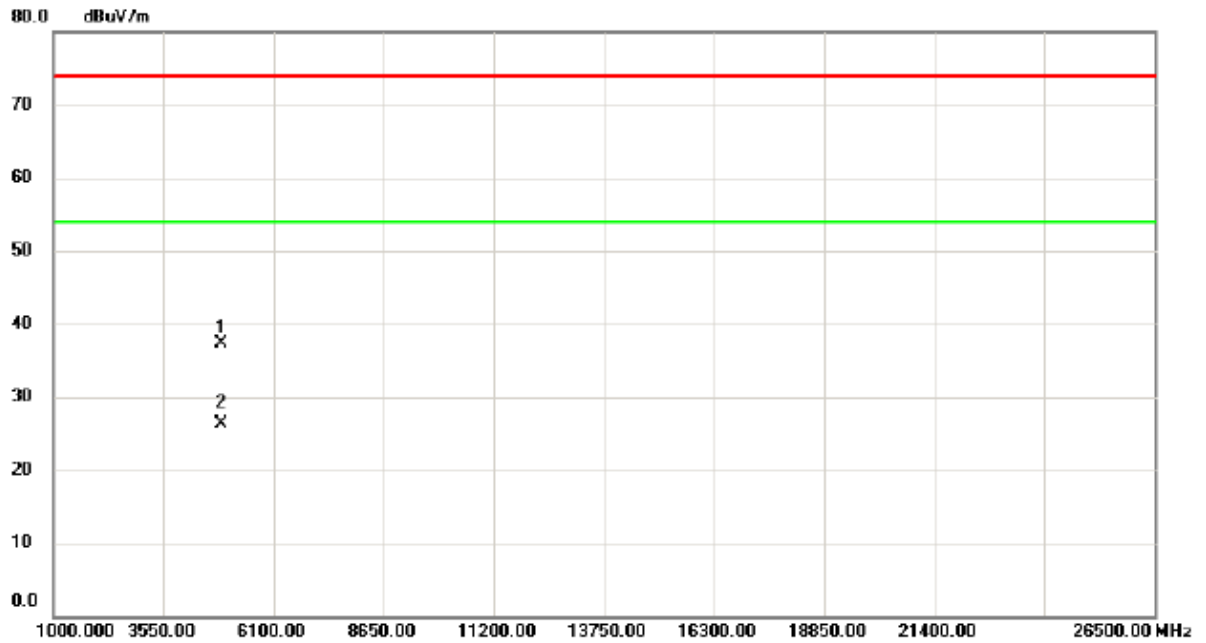
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2468.8000	69.20	34.69	103.89	74.00	29.89	Peak	No Limit
2	2468.8000	59.08	34.69	93.77	54.00	39.77	AVG	No Limit
3	2483.5000	28.66	34.77	63.43	74.00	-10.57	Peak	
4	2483.5000	15.85	34.77	50.62	54.00	-3.38	AVG	

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

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4903.590	34.30	3.04	37.34	74.00	-36.66	peak	
2	*	4904.200	23.17	3.04	26.21	54.00	-27.79	AVG	

ATTACHMENT E - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

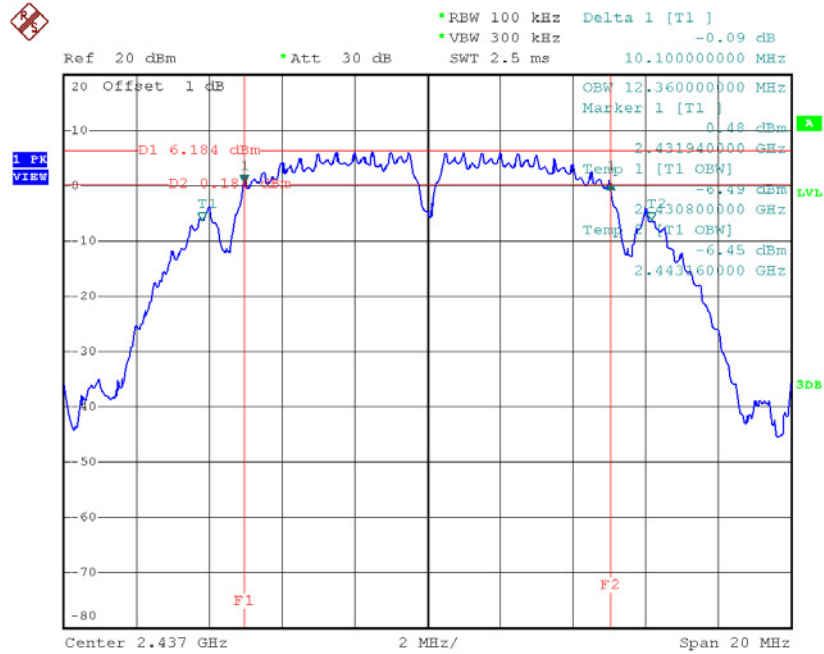
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.10	12.44	500	Complies
2437	10.10	12.36	500	Complies
2462	10.10	12.44	500	Complies

TX CH01



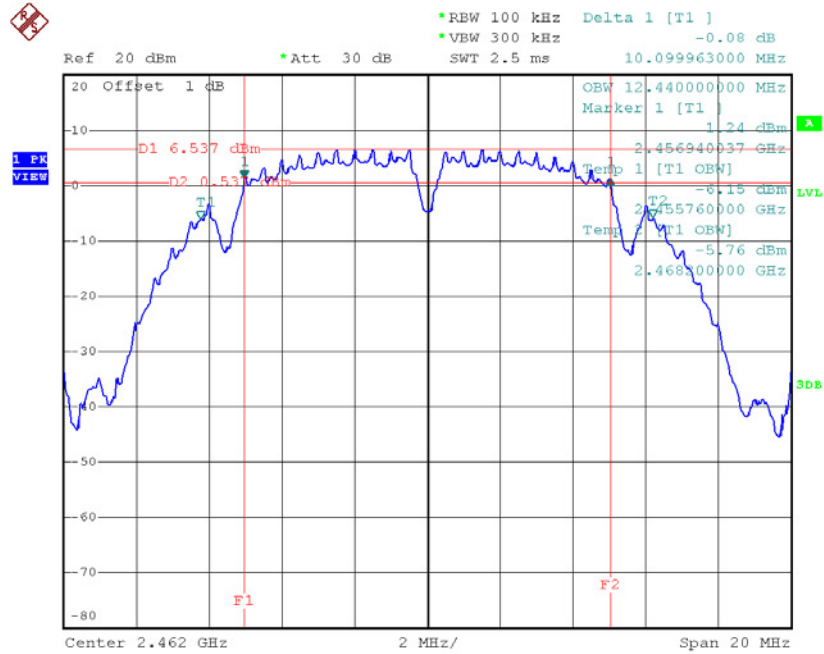
Date: 27.NOV.2015 08:58:35

TX CH06



Date: 27.NOV.2015 08:59:52

TX CH11

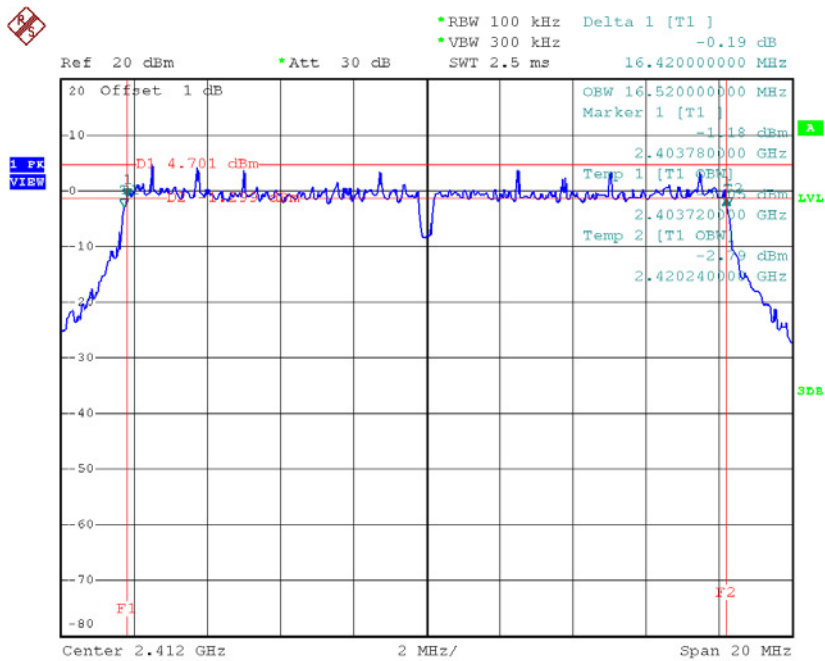


Date: 27.NOV.2015 09:00:58

Test Mode: TX G Mode_CH01/06/11

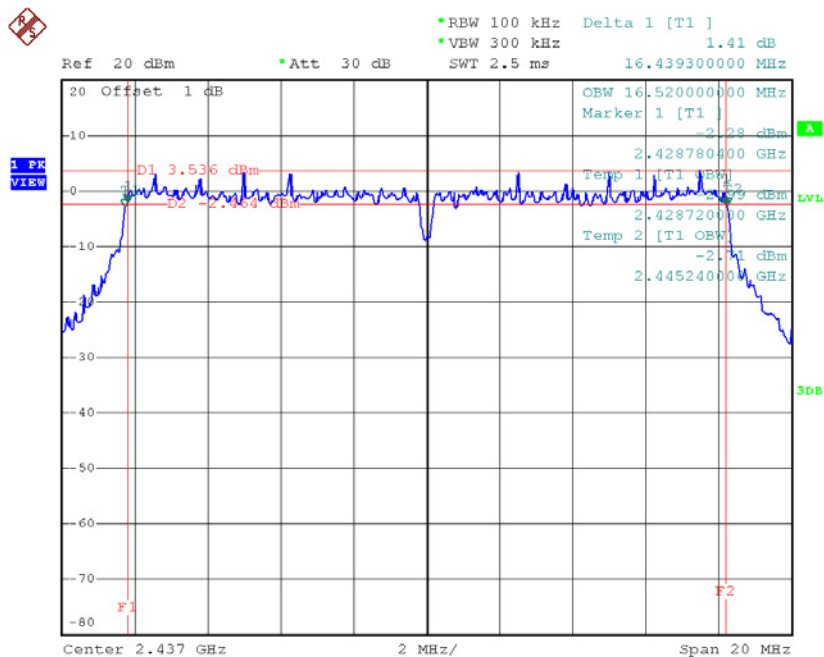
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.42	16.52	500	Complies
2437	16.44	16.52	500	Complies
2462	16.44	16.52	500	Complies

TX CH01



Date: 27.NOV.2015 09:03:27

TX CH06



Date: 27.NOV.2015 09:04:39

TX CH11

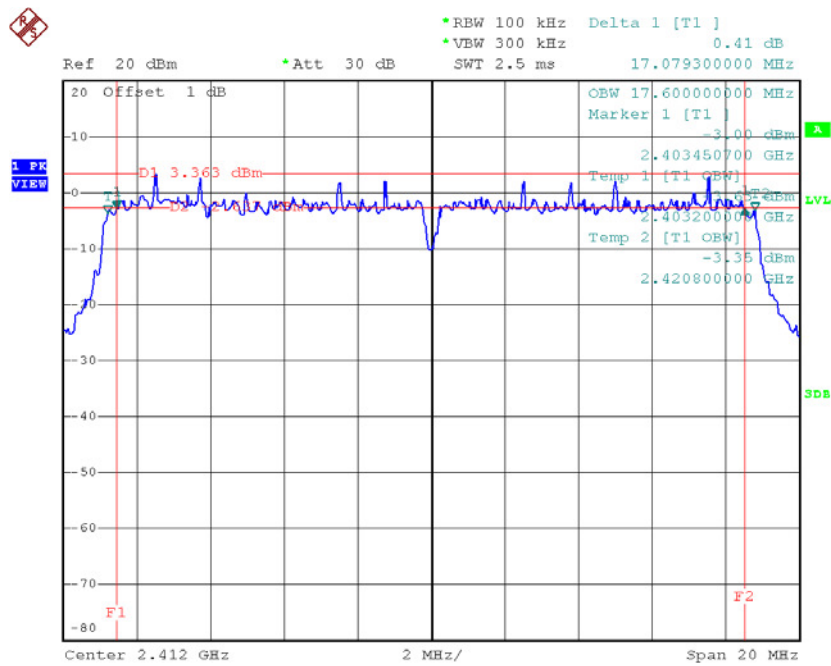


Date: 27.NOV.2015 09:05:33

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

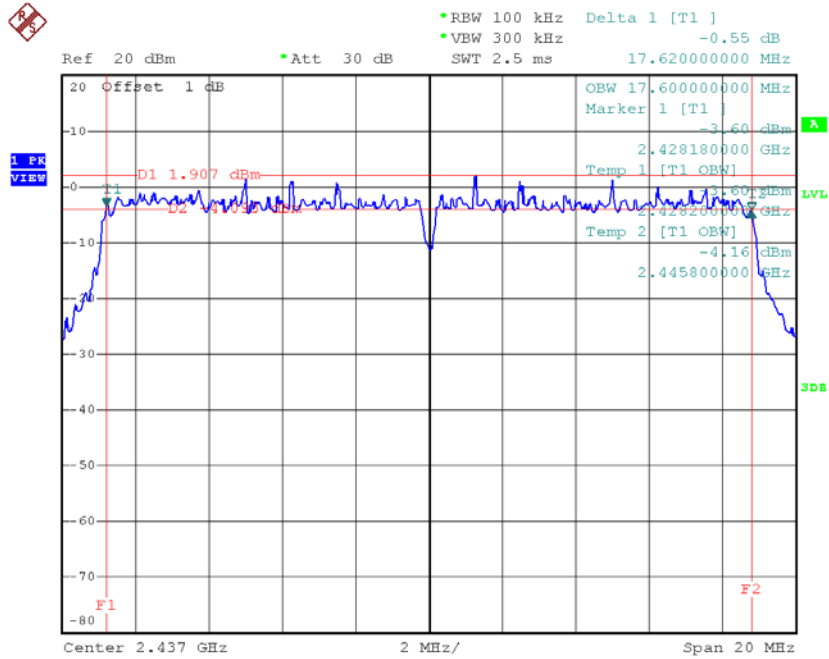
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.08	17.60	500	Complies
2437	17.62	17.60	500	Complies
2462	17.35	17.60	500	Complies

TX CH01



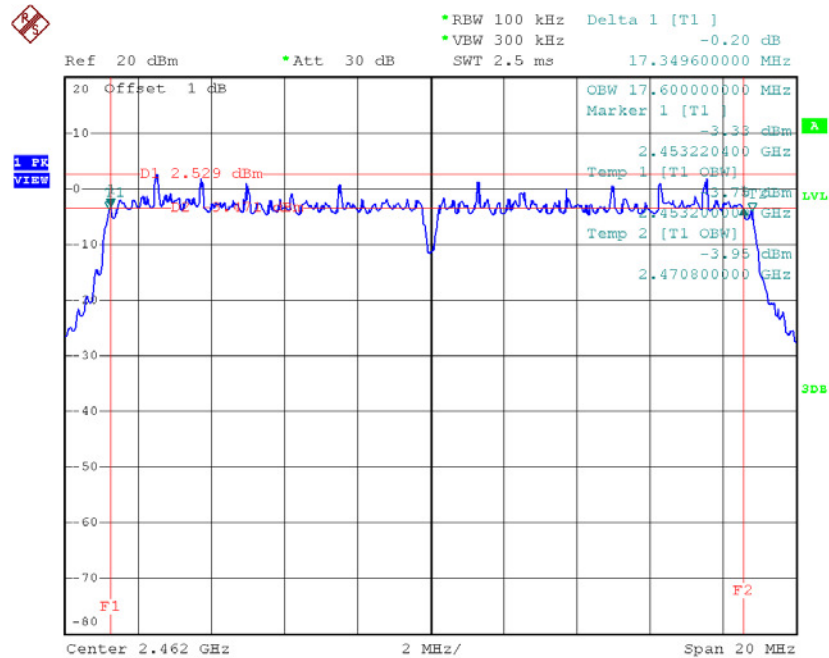
Date: 27.NOV.2015 09:06:54

TX CH06



Date: 27.NOV.2015 09:07:57

TX CH11

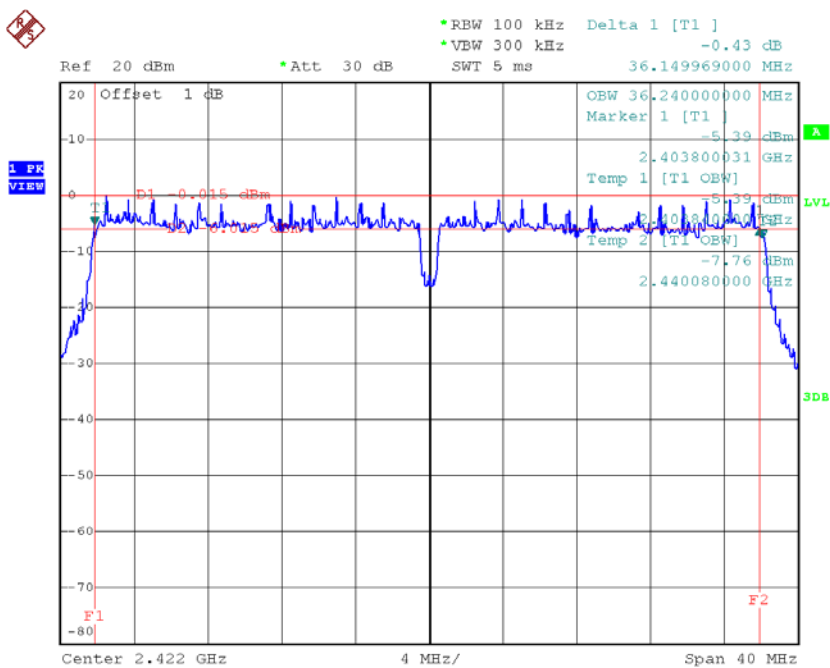


Date: 27.NOV.2015 09:09:03

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

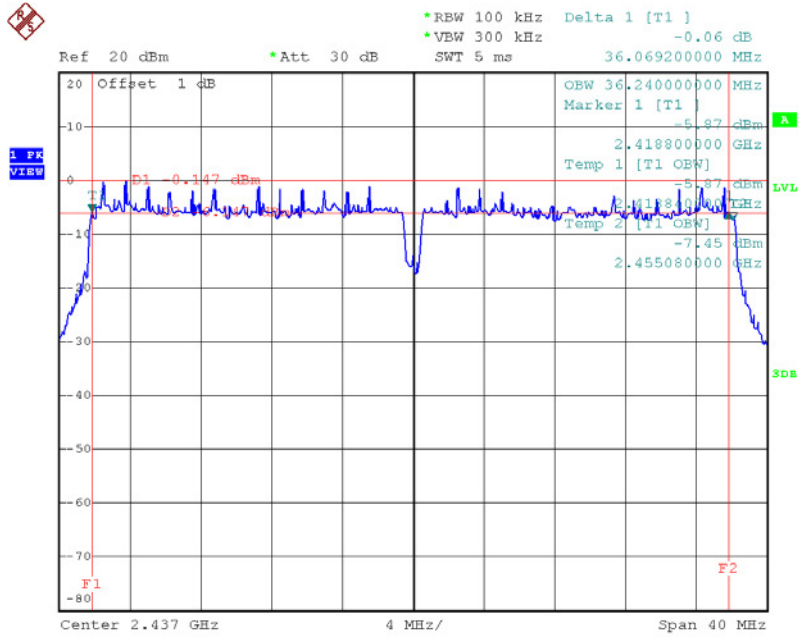
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.15	36.24	500	Complies
2437	36.07	36.24	500	Complies
2452	36.40	36.24	500	Complies

TX CH03



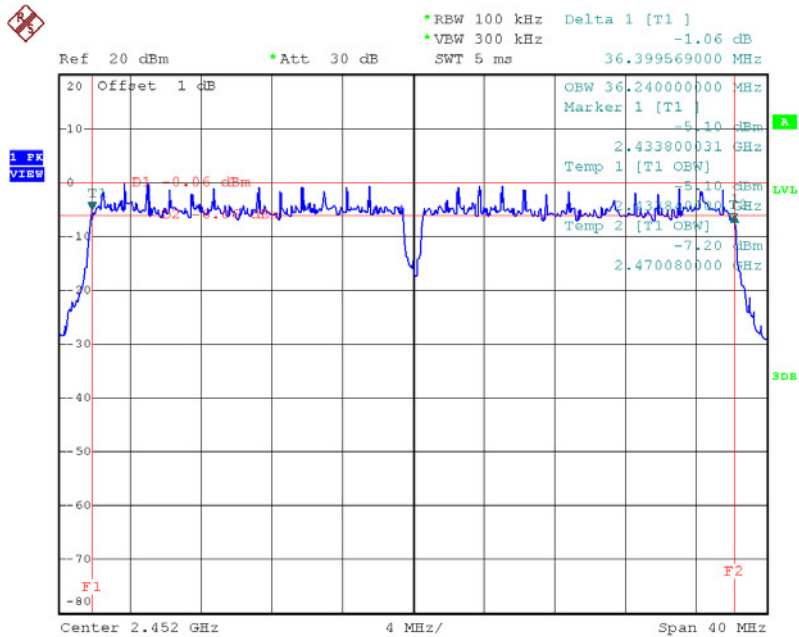
Date: 27.NOV.2015 09:10:25

TX CH06



Date: 27.NOV.2015 09:11:27

TX CH09



Date: 27.NOV.2015 09:12:17

ATTACHMENT F – 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	20.36	0.11	30.00	1.00	Complies
2437	20.34	0.11	30.00	1.00	Complies
2462	20.48	0.11	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	24.06	0.25	30.00	1.00	Complies
2437	24.09	0.26	30.00	1.00	Complies
2462	24.04	0.25	30.00	1.00	Complies

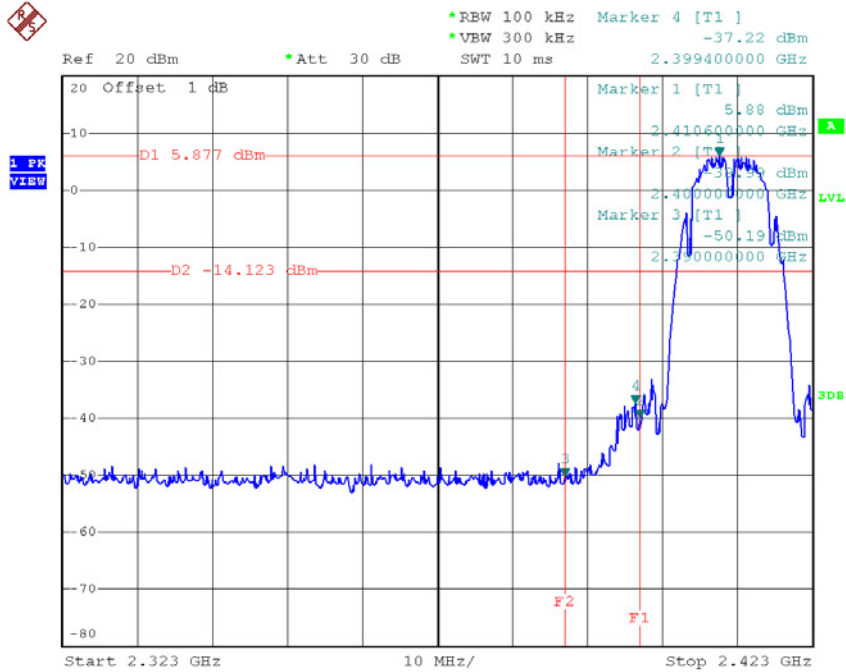
Test Mode :TX N20 Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	23.04	0.20	30.00	1.00	Complies
2437	22.82	0.19	30.00	1.00	Complies
2462	22.63	0.18	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	22.31	0.17	30.00	1.00	Complies
2437	22.42	0.17	30.00	1.00	Complies
2452	22.55	0.18	30.00	1.00	Complies

**ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS
EMISSION**

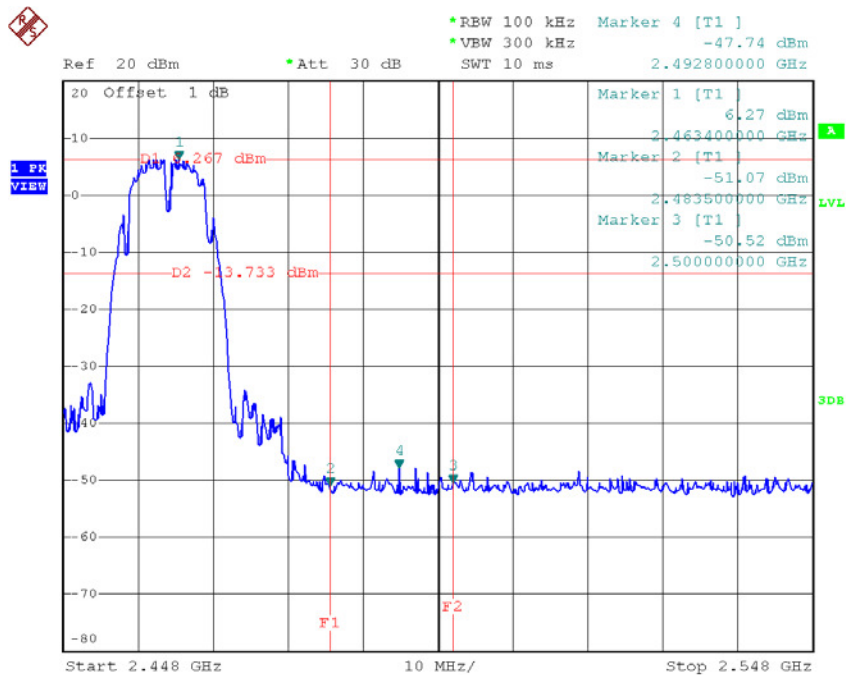
Test Mode : TX B Mode

TX B mode CH01



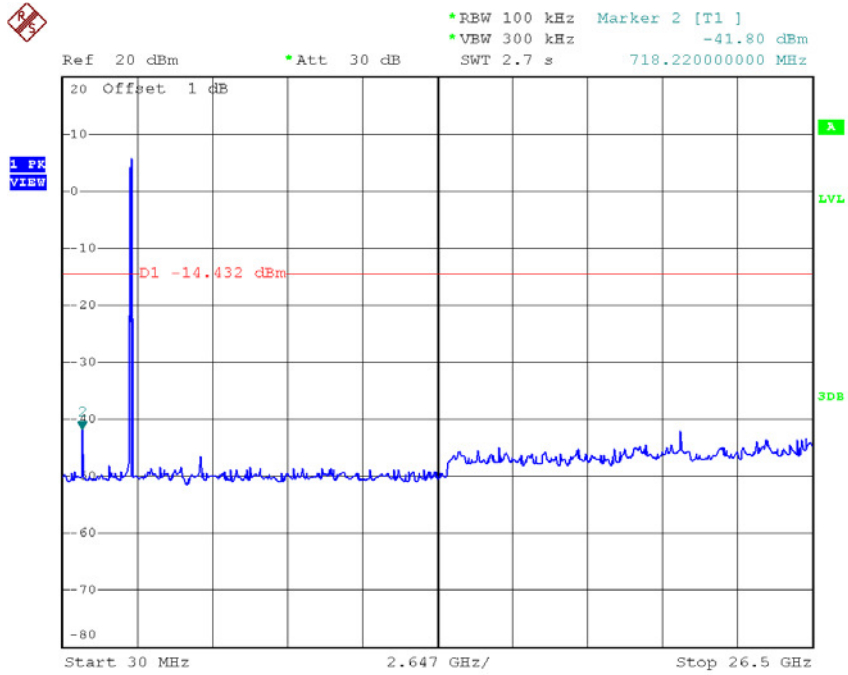
Date: 27.NOV.2015 08:58:57

TX B mode CH11



Date: 27.NOV.2015 09:01:19

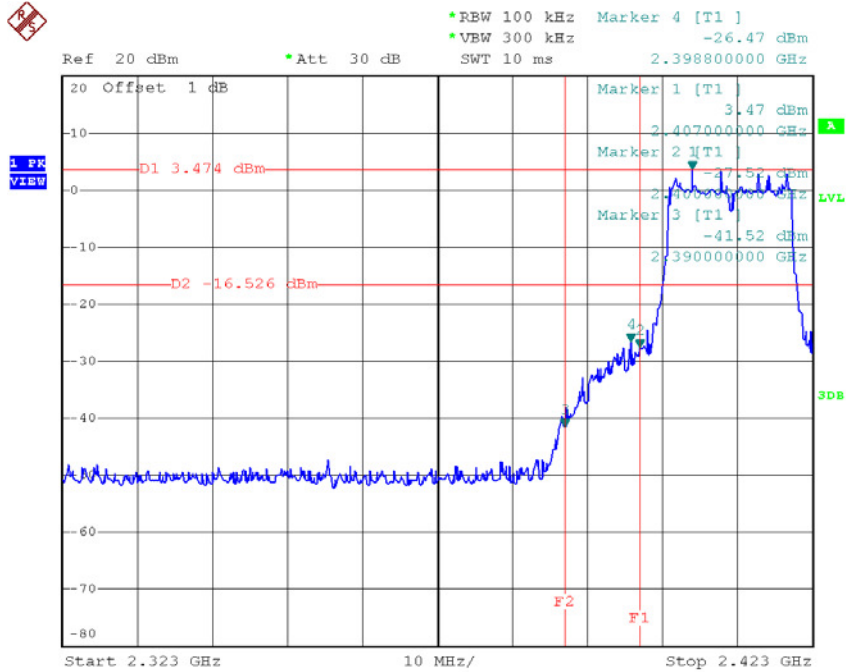
TX B mode CH11 (10 Harmonic of the frequency)



Date: 27.NOV.2015 09:01:12

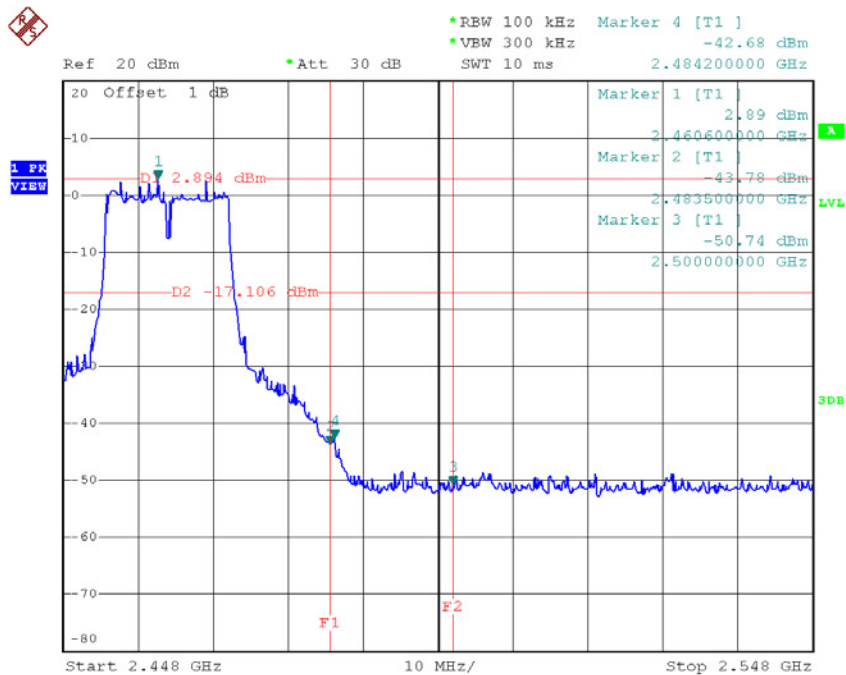
Test Mode : TX G Mode

TX G mode CH01



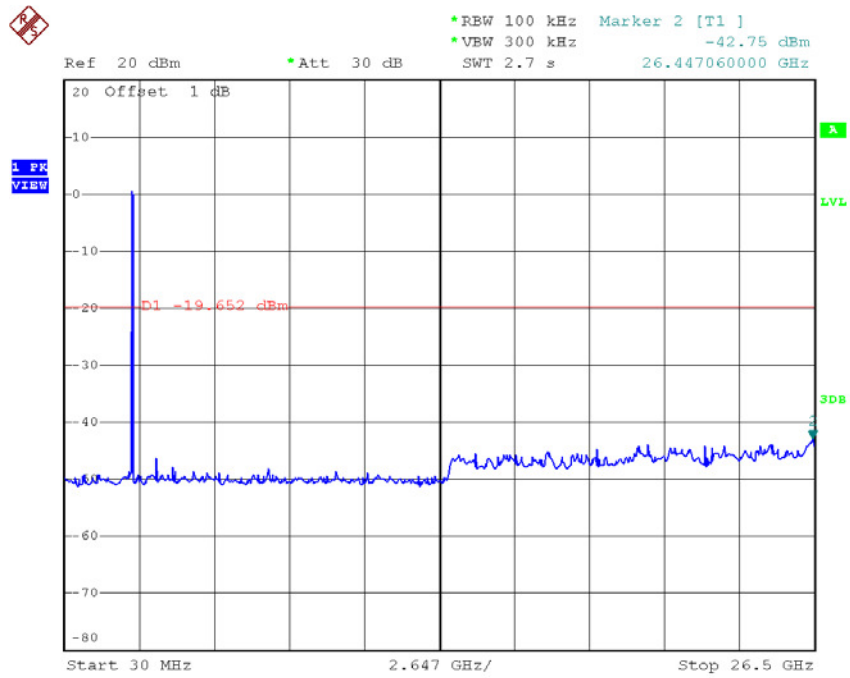
Date: 27.NOV.2015 09:03:49

TX G mode CH11



Date: 27.NOV.2015 09:05:54

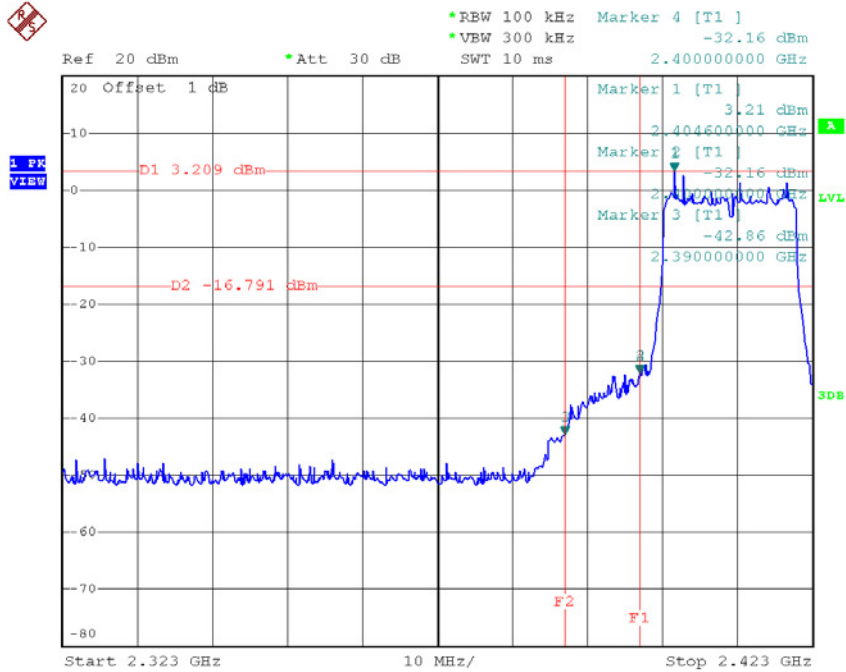
TX G mode CH11 (10 Harmonic of the frequency)



Date: 27.NOV.2015 09:05:46

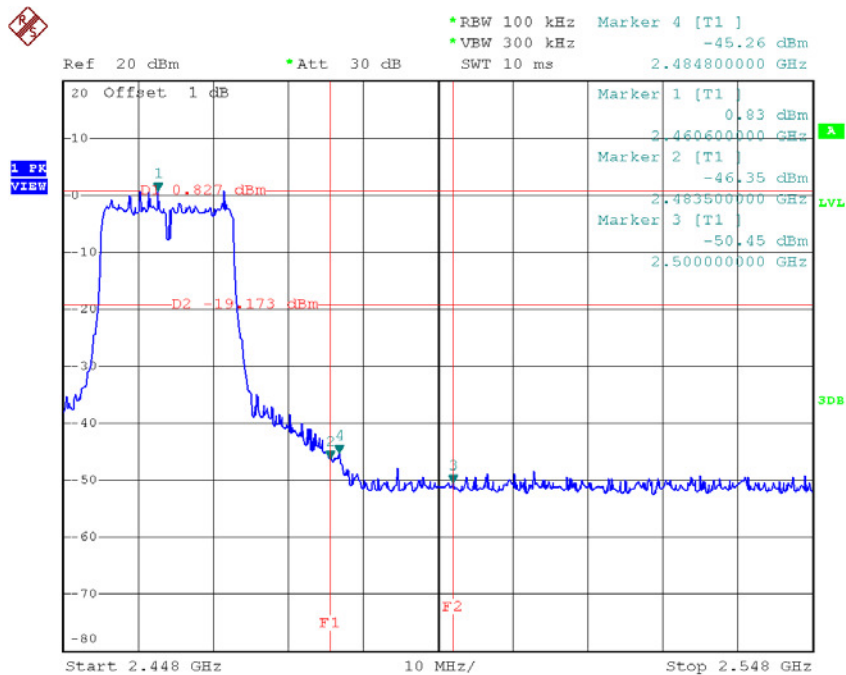
Test Mode : TX N-20M Mode

TX HT20 mode CH01



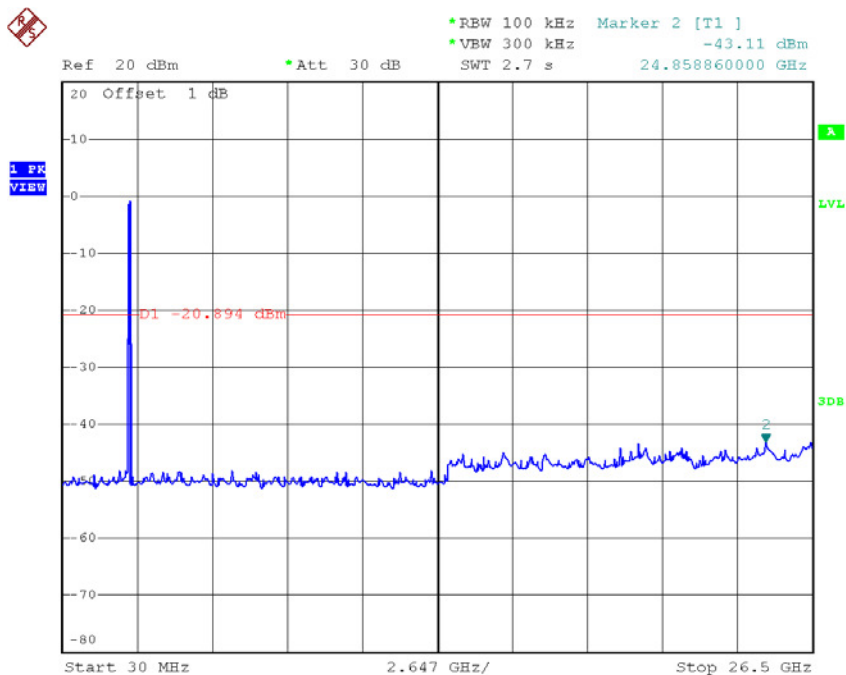
Date: 27.NOV.2015 09:07:16

TX HT20 mode CH11



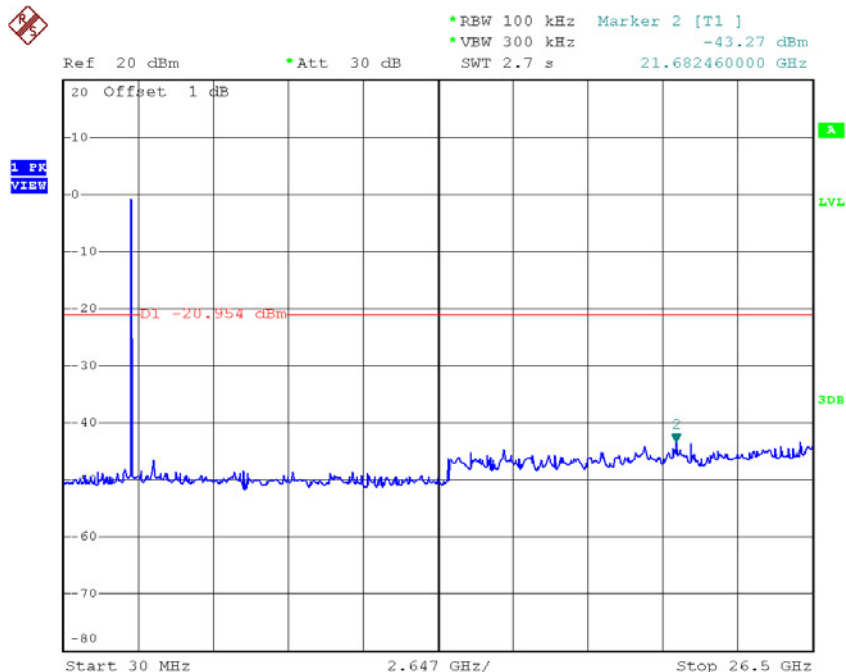
Date: 27.NOV.2015 09:09:25

TX HT20 mode CH01 (10 Harmonic of the frequency)



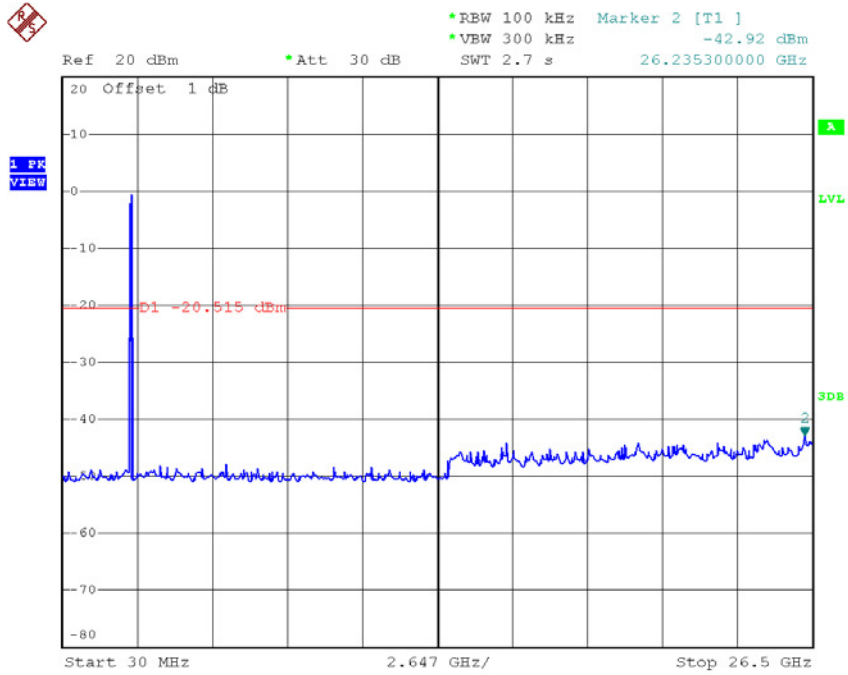
Date: 27.NOV.2015 09:07:08

TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 27.NOV.2015 09:08:11

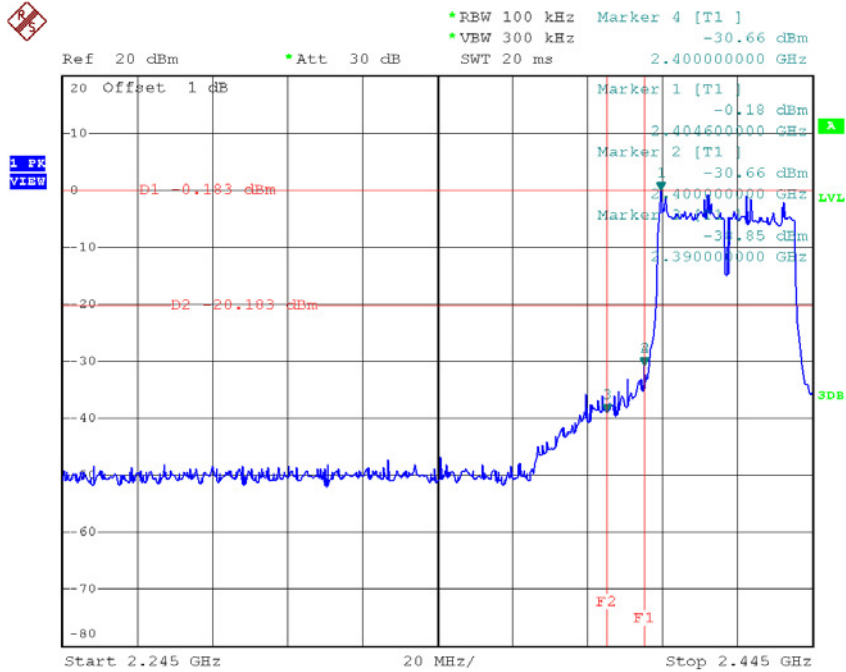
TX HT20 mode CH11 (10 Harmonic of the frequency)



Date: 27.NOV.2015 09:09:18

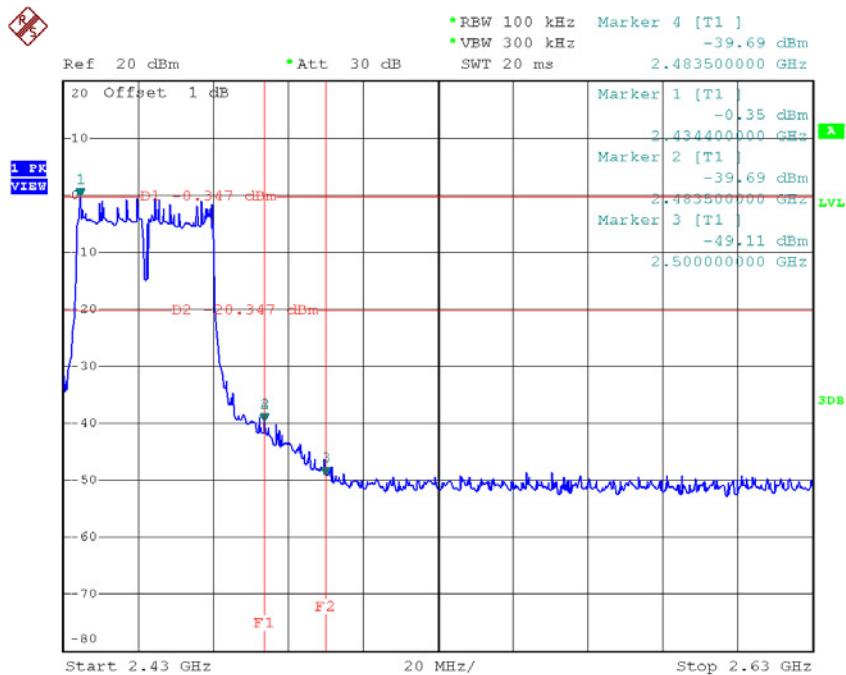
Test Mode : TX N-40M Mode

TX HT40 mode CH03



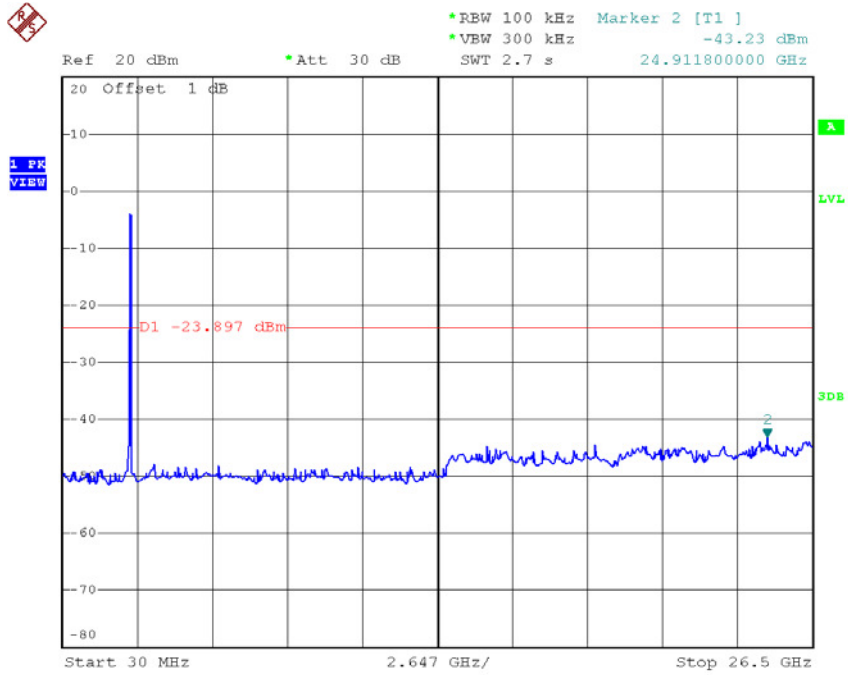
Date: 27.NOV.2015 09:10:47

TX HT40 mode CH09



Date: 27.NOV.2015 09:12:38

TX HT40 mode CH09 (10 Harmonic of the frequency)



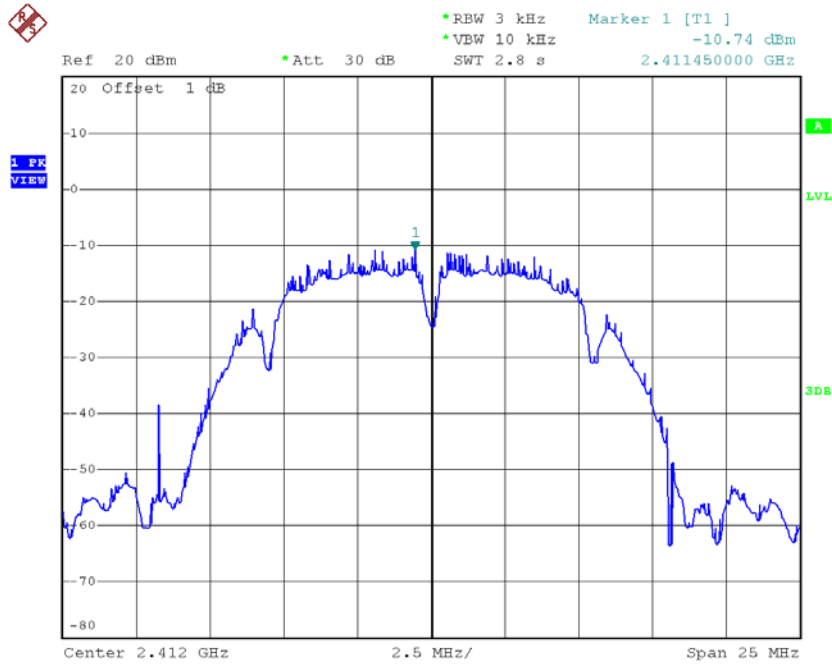
Date: 27.NOV.2015 09:12:31

ATTACHMENT H - POWER SPECTRAL DENSITY

Test Mode :TX B Mode_CH01/06/11

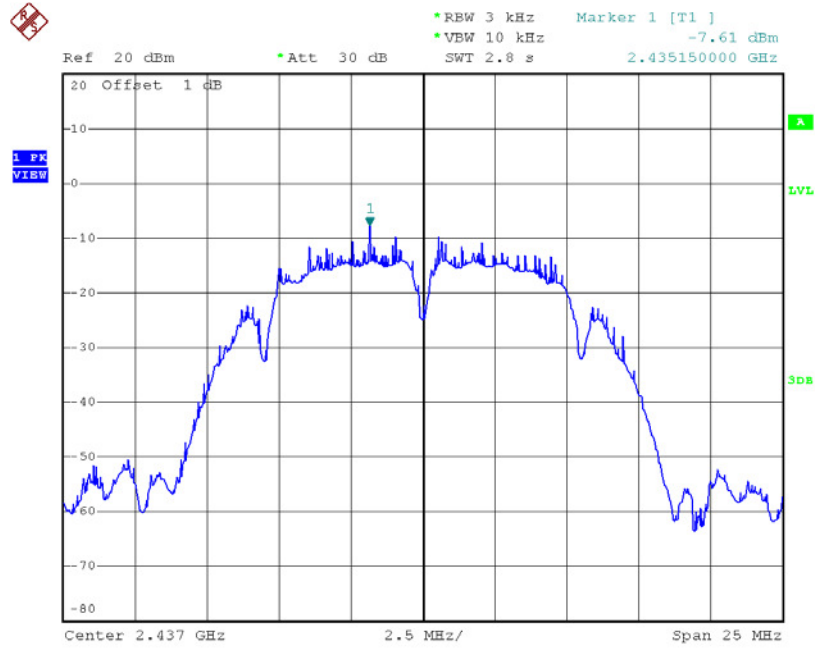
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.74	0.08	8.00	Complies
2437	-7.61	0.17	8.00	Complies
2462	-10.18	0.10	8.00	Complies

TX CH01



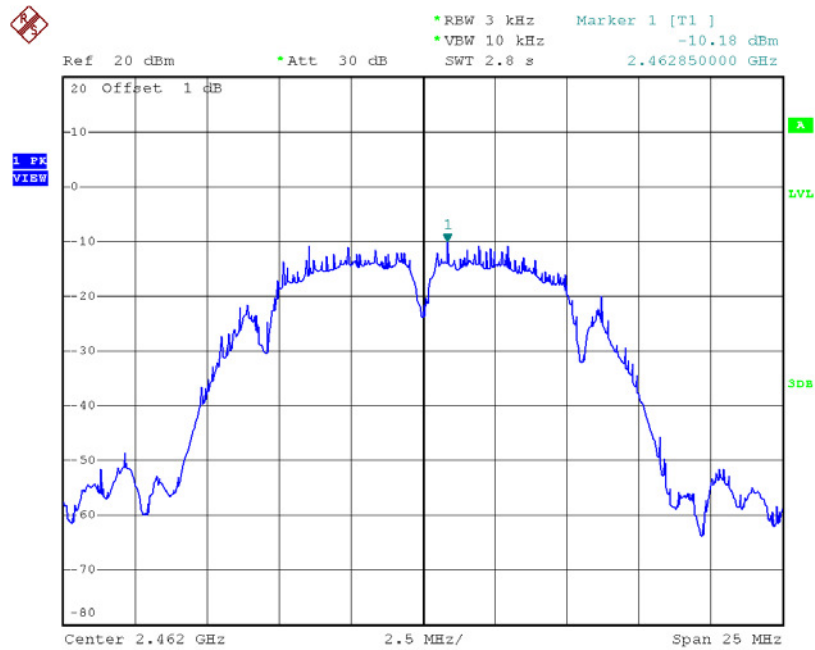
Date: 27.NOV.2015 08:59:06

TX CH06



Date: 27.NOV.2015 09:00:15

TX CH11

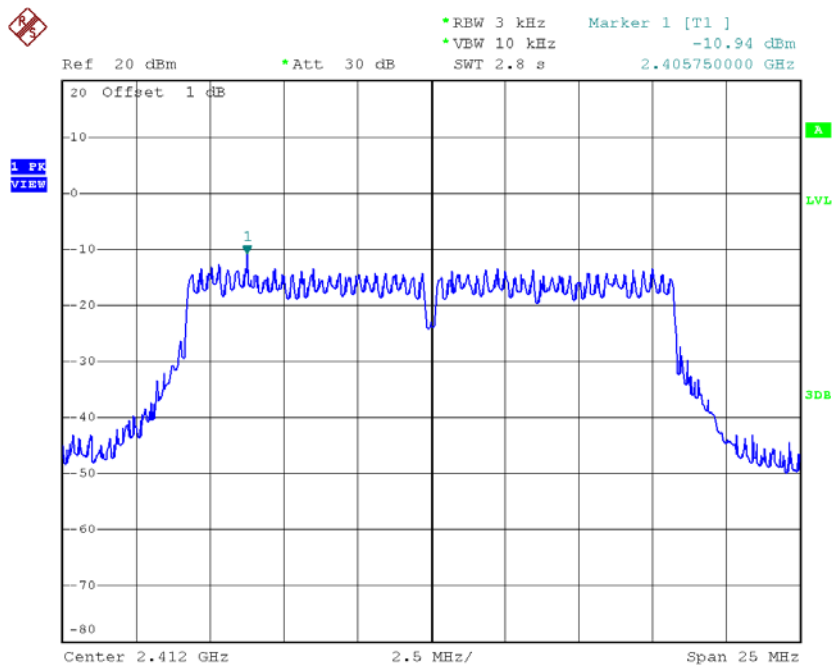


Date: 27.NOV.2015 09:01:29

Test Mode :TX G Mode_CH01/06/11

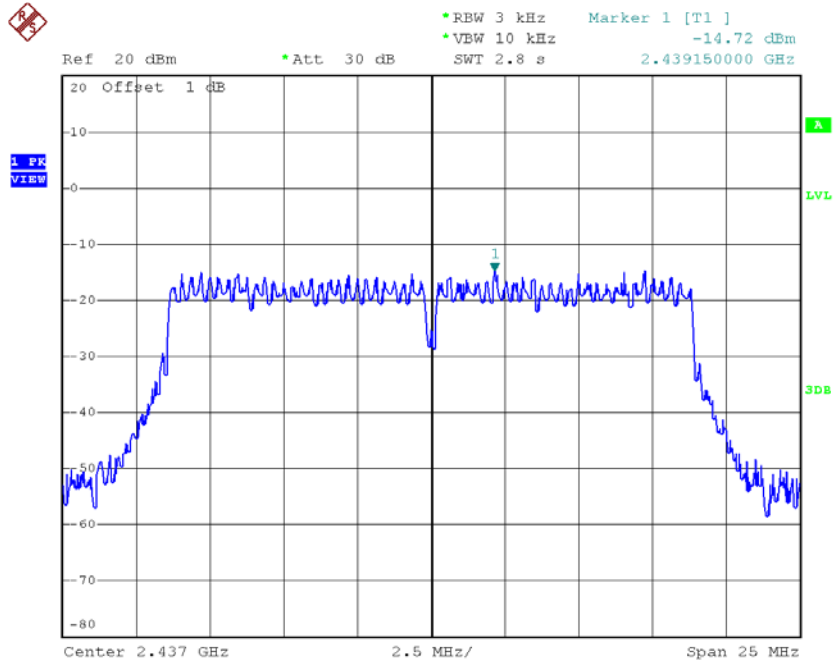
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.94	0.08	8.00	Complies
2437	-12.73	0.05	8.00	Complies
2462	-13.16	0.05	8.00	Complies

TX CH01



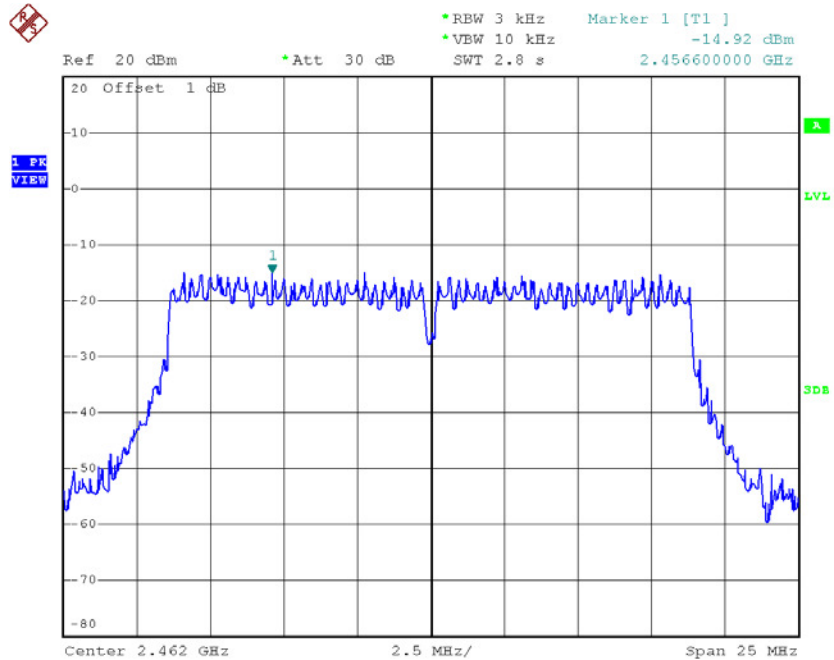
Date: 27.NOV.2015 09:03:58

TX CH06



Date: 27.NOV.2015 09:08:20

TX CH11

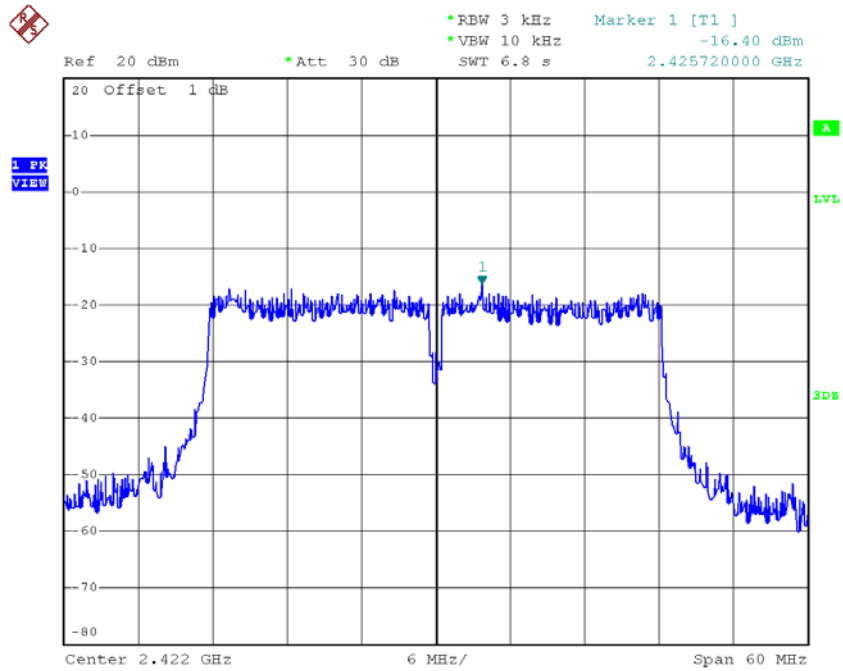


Date: 27.NOV.2015 09:09:34

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	-16.40	0.02	8.00	Complies
2437	-17.21	0.02	8.00	Complies
2452	-15.16	0.03	8.00	Complies

TX CH03



Date: 27.NOV.2015 09:10:59

