

FCC Radio Test Report

FCC ID: TE7KP400

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

Project No. : 1807C080
Equipment : Smart Outdoor Plug
Test Model : KP400
Series Model : N/A
Applicant : TP-Link Technologies Co., Ltd.
Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central
Science and Technology Park, Shennan Rd,
Nanshan, Shenzhen, China

Date of Receipt : Jul. 16, 2018
Date of Test : Jul. 17, 2018~Jul. 30, 2018
Issued Date : Oct. 23, 2018
Tested by : BTL Inc.

Testing Engineer : Welly Zhou
(Welly Zhou)

Technical Manager : Shawn Xiao
(Shawn Xiao)

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



Certificate #5123.02

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 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.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our 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.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements in all the possible configurations as representative of its intended use.

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 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	12
3.4 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)	18
4.2.8 TEST RESULTS (30MHZ TO 1000MHZ)	18
4.2.9 TEST RESULTS (ABOVE 1000MHZ)	18
5 . BANDWIDTH TEST	19
5.1 APPLIED PROCEDURES	19
5.1.1 TEST PROCEDURE	19
5.1.2 DEVIATION FROM STANDARD	19
5.1.3 TEST SETUP	19
5.1.4 EUT OPERATION CONDITIONS	19
5.1.5 EUT TEST CONDITIONS	19
5.1.6 TEST RESULTS	19
6 . MAXIMUM AVERAGE OUTPUT POWER TEST	20
6.1 APPLIED PROCEDURES / LIMIT	20

Table of Contents	Page
6.1.1 TEST PROCEDURE	20
6.1.2 DEVIATION FROM STANDARD	20
6.1.3 TEST SETUP	20
6.1.4 EUT OPERATION CONDITIONS	20
6.1.5 EUT TEST CONDITIONS	20
6.1.6 TEST RESULTS	20
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	21
7.1 APPLIED PROCEDURES / LIMIT	21
7.1.1 TEST PROCEDURE	21
7.1.2 DEVIATION FROM STANDARD	21
7.1.3 TEST SETUP	21
7.1.4 EUT OPERATION CONDITIONS	21
7.1.5 EUT TEST CONDITIONS	21
7.1.6 TEST RESULTS	21
8 . POWER SPECTRAL DENSITY TEST	22
8.1 APPLIED PROCEDURES / LIMIT	22
8.1.1 TEST PROCEDURE	22
8.1.2 DEVIATION FROM STANDARD	22
8.1.3 TEST SETUP	22
8.1.4 EUT OPERATION CONDITIONS	22
8.1.5 EUT TEST CONDITIONS	22
8.1.6 TEST RESULTS	22
9 . MEASUREMENT INSTRUMENTS LIST	23
10 . EUT TEST PHOTO	25
APPENDIX A - CONDUCTED EMISSION	29
APPENDIX B - RADIATED EMISSION (9KHZ TO 30MHZ)	32
APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)	37
APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)	44
APPENDIX E - BANDWIDTH	125
APPENDIX F - MAXIMUM AVERAGE OUTPUT POWER	142
APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION	144
APPENDIX H - POWER SPECTRAL DENSITY	169

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1807C080	Original Issue.	Oct. 23, 2018

1. CERTIFICATION

Equipment : Smart Outdoor Plug
Brand Name : tp-link
Test Model : KP400
Series Model : N/A
Applicant : TP-Link Technologies Co., Ltd.
Manufacturer : TP-Link Technologies Co., Ltd.
Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Factory : TP-Link Technologies Co., Ltd.
Address : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Date of Test : Jul. 17, 2018~Jul. 30, 2018
Test Sample : Engineering Sample No.: D180705809
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-1-1807C080) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15 (15.247) , Subpart C			
Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	Bandwidth	PASS	
15.247(b)(3)	Average Output Power	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
15.247(d)/ 15.205/ 15.209	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: 854385

BTL's designation number for FCC: CN5020

2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor) $k=1.96$ or $k=2$ (which provide confidence levels of respectively 90% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)). Measurement Uncertainty for a Level of Confidence of 95 %, $U=2 \times U_c(y)$.

The BTL measurement uncertainty as below table:

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	Smart Outdoor Plug	
Brand Name	tp-link	
Test Model	KP400	
Series Model	N/A	
Model Difference	N/A	
Product Description	Operation Frequency	2412~2462 MHz
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 150 Mbps
	Average Output Power (Max.)	802.11b: 22.89dBm 802.11g: 22.91dBm 802.11n(20MHz): 22.87dBm 802.11n(40MHz): 22.31dBm
Power Source	AC Mains.	
Power Rating	I/P:15A 125V	

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)
1	N/A	N/A	PIFA	N/A	2.5

3.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09
Mode 5	TX MODE

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

For Conducted Test	
Final Test Mode	Description
Mode 5	TX MODE

For Radiated Test	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09

For Band Edge Test	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09

Spectrum Bandwidth	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09

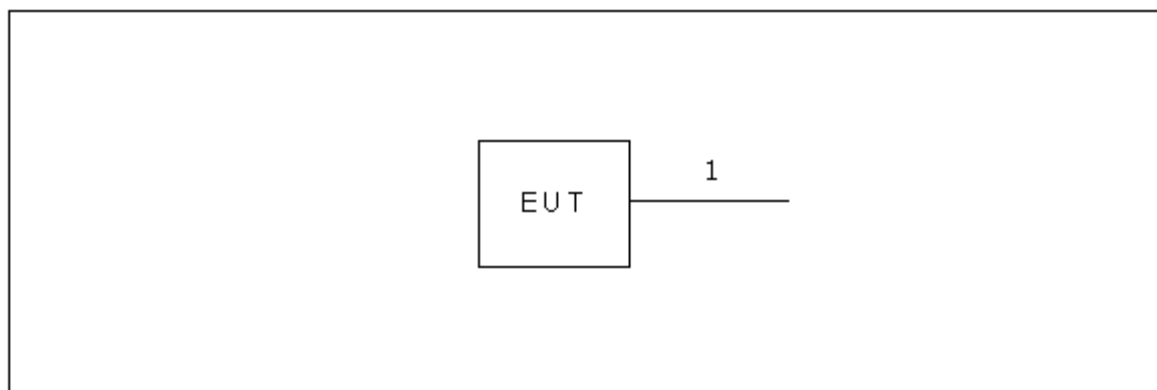
Average Conducted Output Power	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09

Power Spectral Density	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
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%.
- (5) The test items of RF are tested at fixed frequency and added the load to verify which does not affect the test result, so the test photo had not updated. The added load was evaluated in the EMC tests.

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF SUPPORT UNITS

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

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

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	0.4m	AC Cable

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 -0.50	60 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

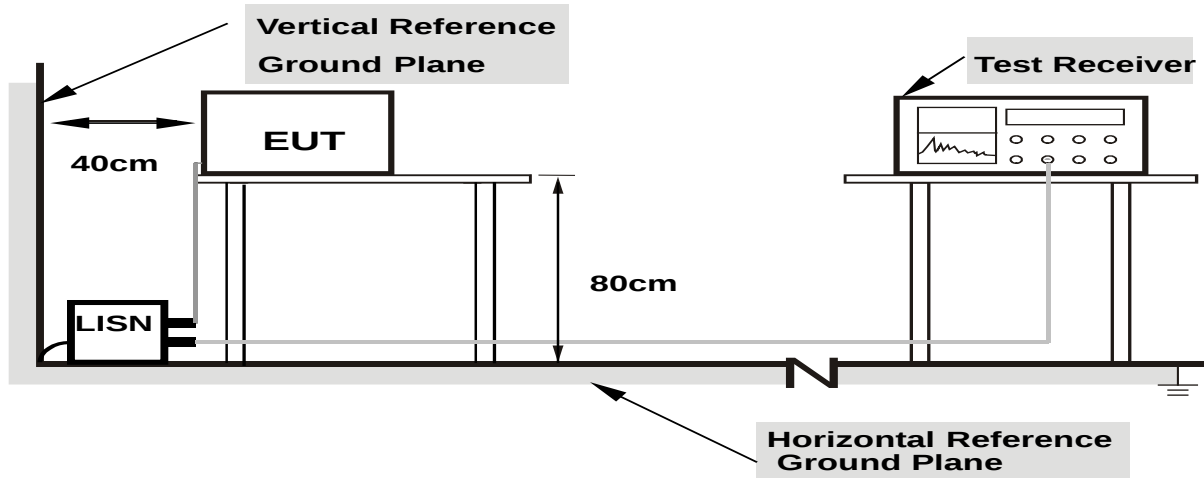
4.1.2 TEST PROCEDURE

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

4.1.7 TEST RESULTS

Please refer to the Appendix 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

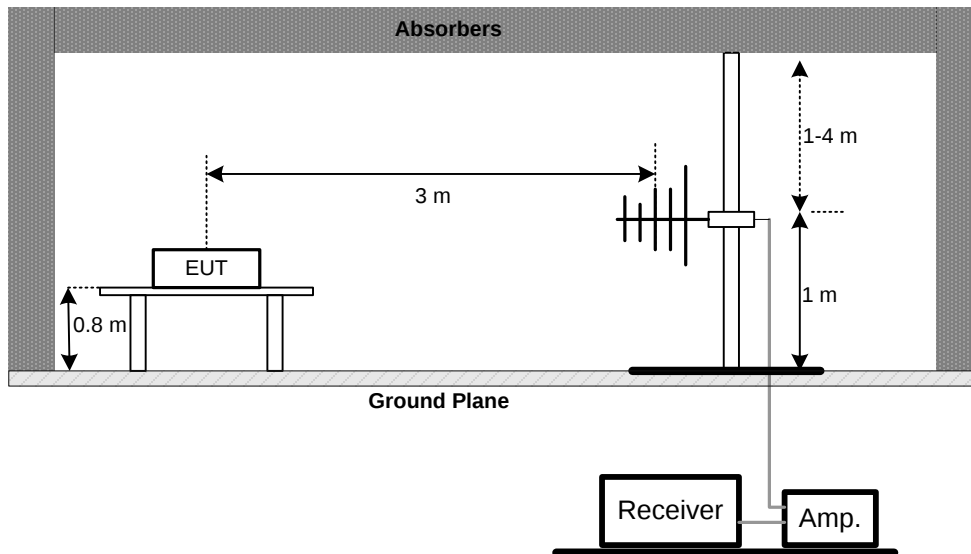
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of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

4.2.3 DEVIATION FROM TEST STANDARD

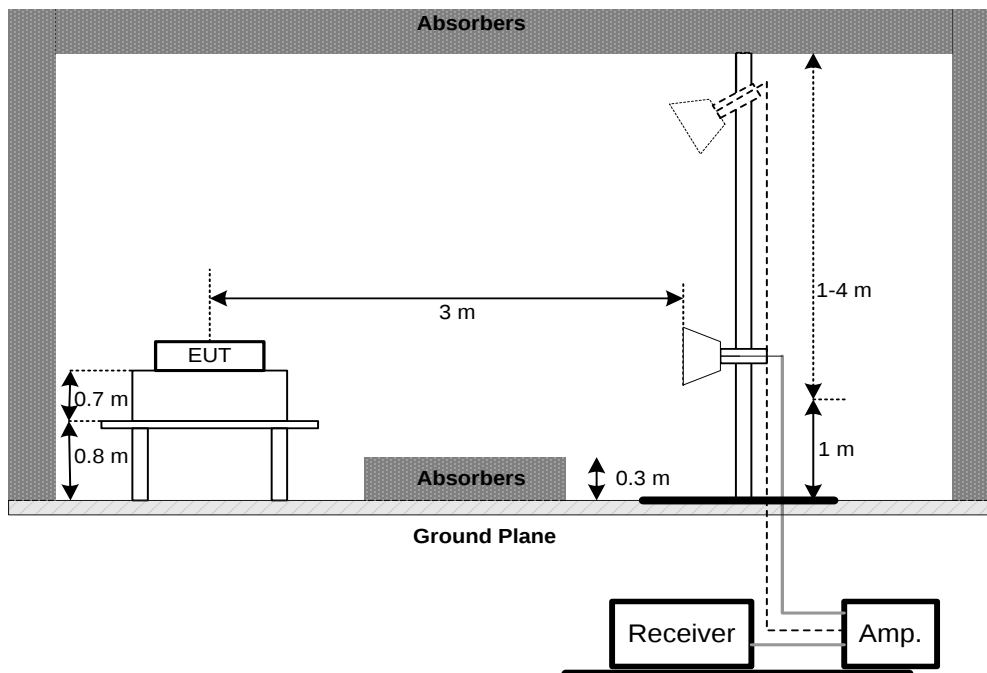
No deviation

4.2.4 TEST SETUP

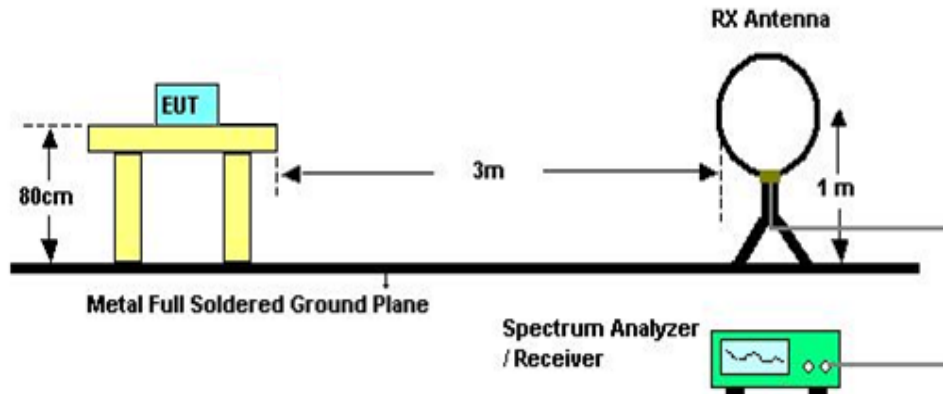
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

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

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Appendix 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 1000MHZ)

Please refer to the Appendix C.

4.2.9 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the Appendix D.

Remark:

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

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

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

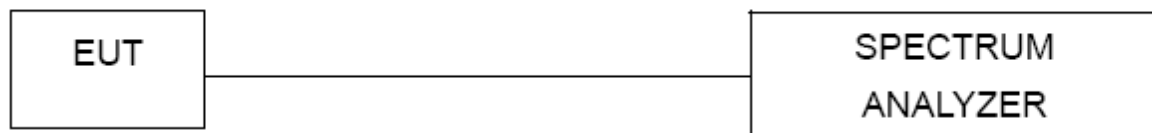
5.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- The bandwidth was performed in accordance with method 8.2 of FCC KDB 558074 D01 v05 DTS Meas Guidance and 11.8 of ANSI C63.10-2013.
- For 6dB Bandwidth Spectrum setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.
For 99% OBW Spectrum Setting: For B,G.N20 mode: RBW= 300KHz, VBW=1MHz,For N40 mode: RBW= 1MHz, VBW=3MHz Sweep time = 2.5 ms.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.1.5 EUT TEST CONDITIONS

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

5.1.6 TEST RESULTS

Please refer to the Appendix E.

6. MAXIMUM AVERAGE 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)	Average Output Power	1 Watt or 30dBm	2400-2483.5	PASS

6.1.1 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- The maximum AVG output power was performed in accordance with method 8.3.2.3 of FCC KDB 558074 D01 v05 DTS Meas Guidance and 11.9.2.3 of ANSI C63.10-2013.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5 EUT TEST CONDITIONS

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

6.1.6 TEST RESULTS

Please refer to the Appendix F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

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

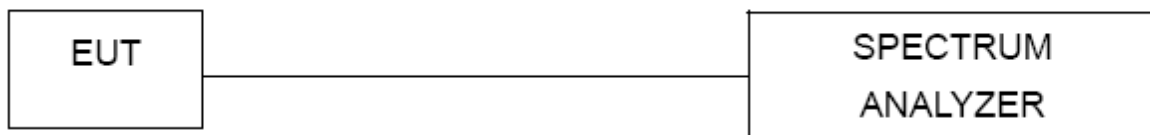
7.1.1 TEST PROCEDURE

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

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.1.5 EUT TEST CONDITIONS

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

7.1.6 TEST RESULTS

Please refer to the Appendix G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

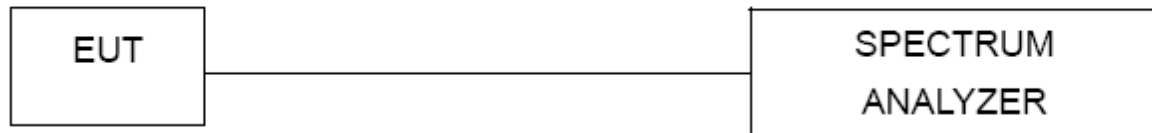
8.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- The Power Spectral Density was performed in accordance with method 8.4 of FCC KDB 558074 D01 v05 DTS Meas Guidance and 11.10.2 of ANSI C63.10-2013.
- Spectrum Setting: RBW=3KHz, VBW=10KHz, Sweep time = Auto.

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.1.5 EUT TEST CONDITIONS

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

8.1.6 TEST RESULTS

Please refer to the Appendix H.

9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 11, 2019
2	LISN	EMCO	3816/2	52765	Mar. 11, 2019
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 11, 2019
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 11, 2019
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Oct. 19, 2018

Radiated Emission Measurement - Below 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 11, 2019
2	Amplifier	HP	8447D	2944A09673	Oct. 19, 2018
3	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	Jun. 26, 2019
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	Antenna	EM	EM-6876-1	230	Feb. 07, 2019

Radiated Emission Measurement - Above 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 11, 2019
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 30, 2019
3	Amplifier	Agilent	8449B	3008A02274	Mar. 11, 2019
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 11, 2019
5	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	emci	EMC104-SM-SM-1 2000(12m)	N/A	Jun. 26, 2019
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

6dB Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 20, 2018

Average Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	ANRITSU	ML2495A	1128009	Mar. 11, 2019
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 11, 2019

Antenna Conducted Spurious Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 20, 2018

Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 20, 2018

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

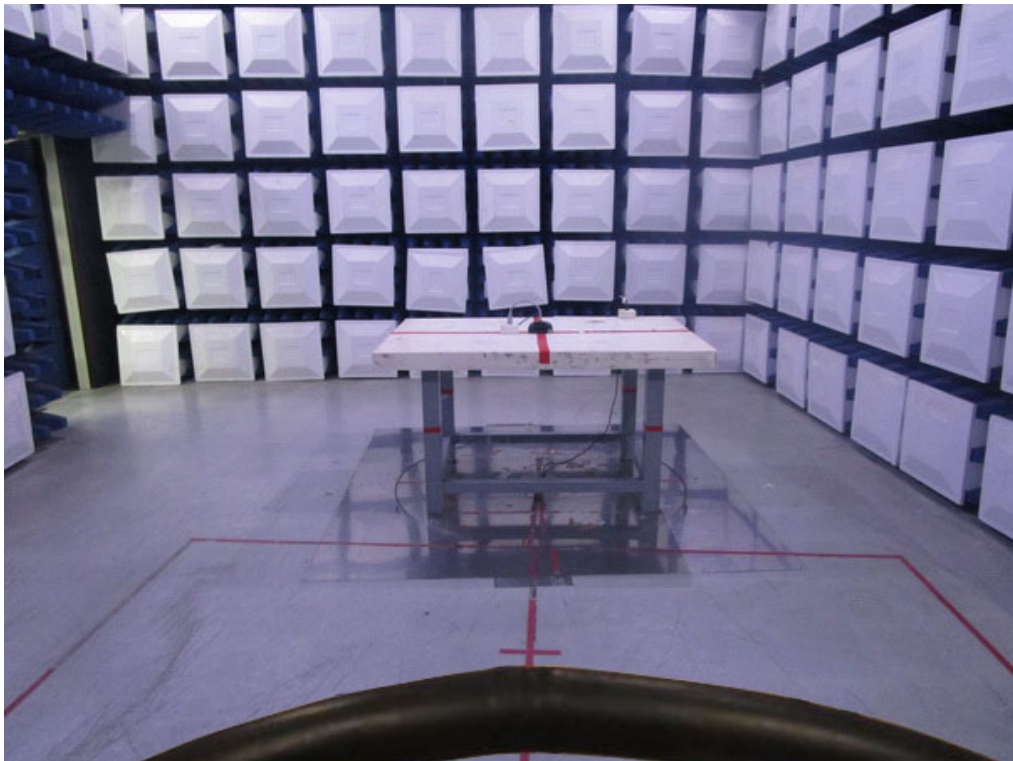
10. EUT TEST PHOTO

Conducted Measurement Photos



Radiated Measurement Photos

9KHz to 30MHz



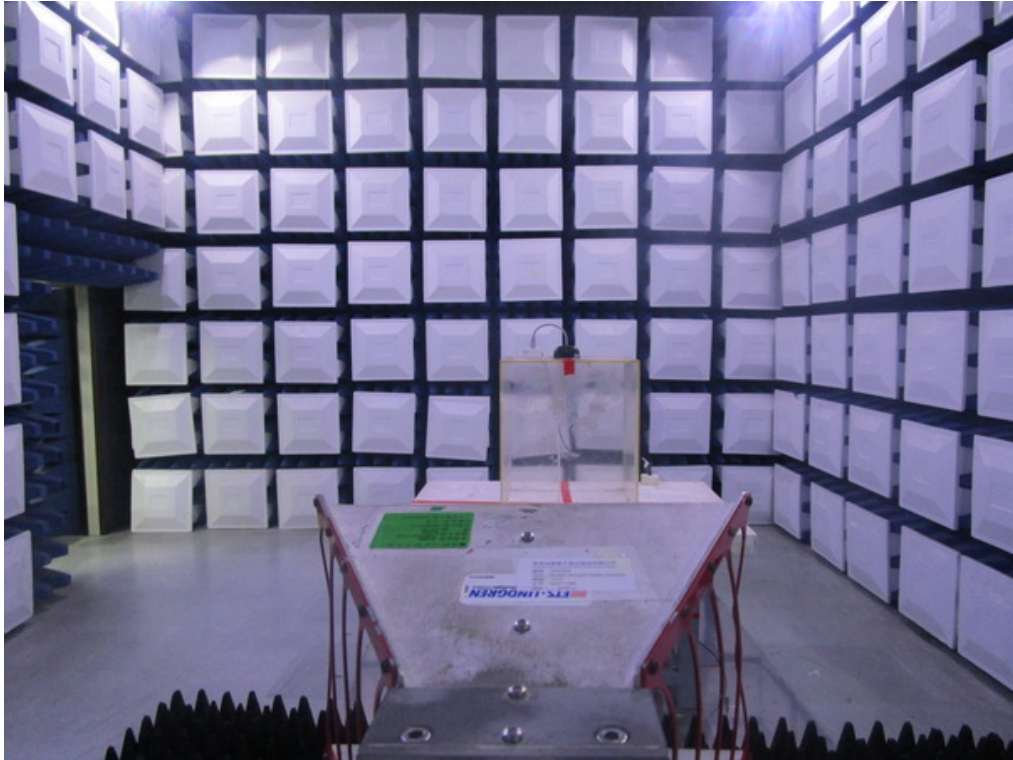
Radiated Measurement Photos

30MHz to 1000MHz



Radiated Measurement Photos

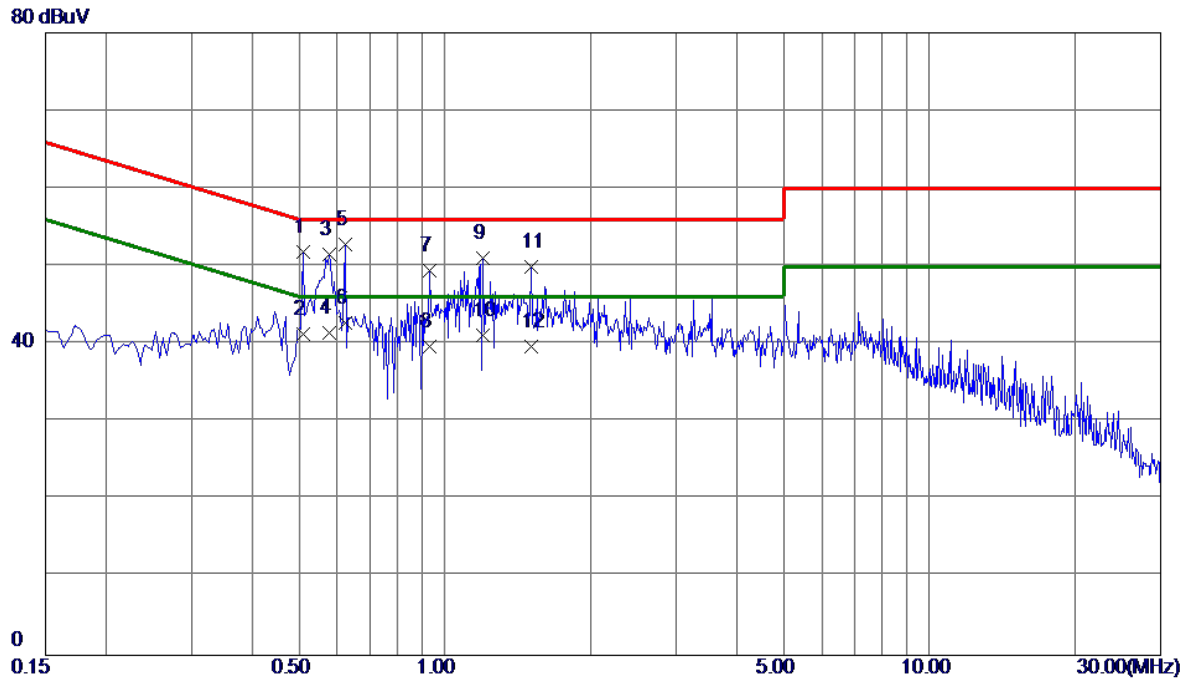
Above 1000MHz



APPENDIX A - CONDUCTED EMISSION

Test Mode : TX MODE

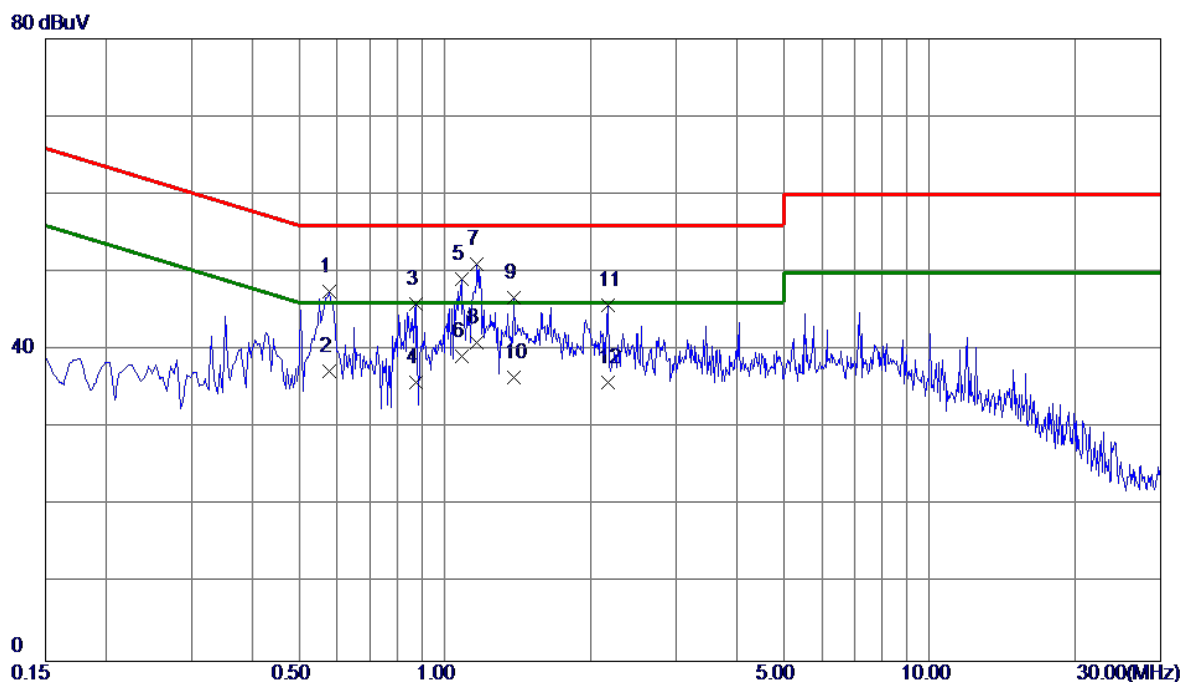
Line



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.5100	42.01	9.79	51.80	56.00	-4.20	Peak	
2	0.5100	31.50	9.79	41.29	46.00	-4.71	AVG	
3	0.5775	41.67	9.82	51.49	56.00	-4.51	Peak	
4	0.5775	31.60	9.82	41.42	46.00	-4.58	AVG	
5 *	0.6225	42.92	9.84	52.76	56.00	-3.24	Peak	
6	0.6225	32.90	9.84	42.74	46.00	-3.26	AVG	
7	0.9330	39.50	9.92	49.42	56.00	-6.58	Peak	
8	0.9330	29.70	9.92	39.62	46.00	-6.38	AVG	
9	1.1985	41.10	9.93	51.03	56.00	-4.97	Peak	
10	1.1985	31.20	9.93	41.13	46.00	-4.87	AVG	
11	1.5045	39.89	9.96	49.85	56.00	-6.15	Peak	
12	1.5045	29.80	9.96	39.76	46.00	-6.24	AVG	

Test Mode : TX MODE

Neutral

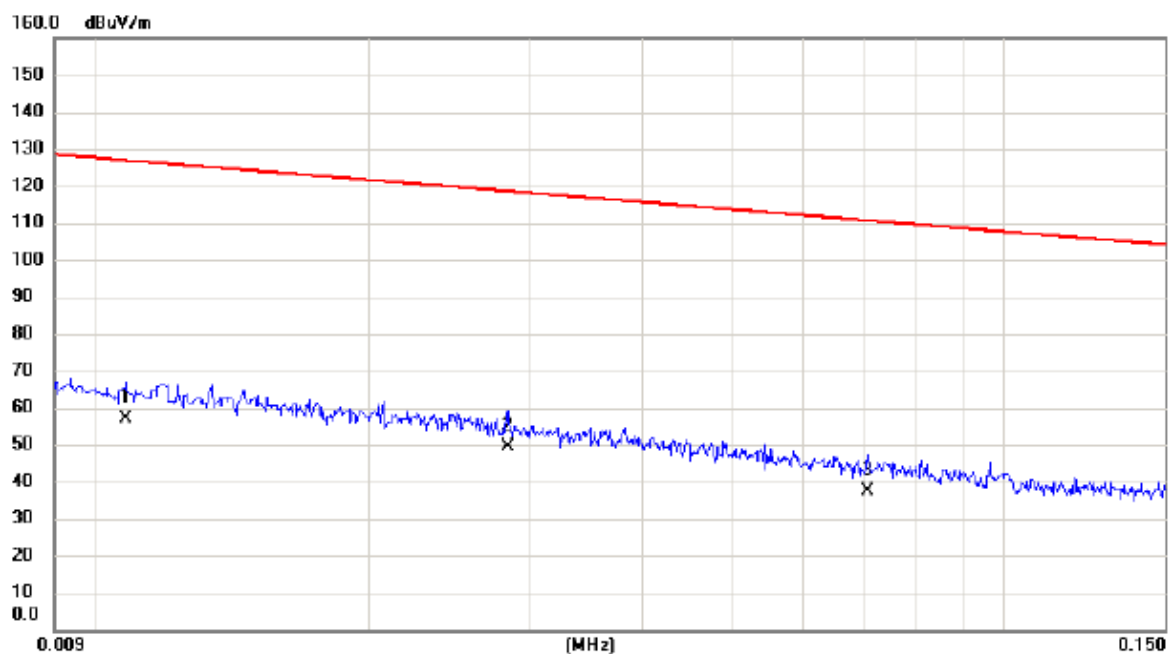


No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.5775	37.53	9.97	47.50	56.00	-8.50	Peak	
2	0.5775	27.30	9.97	37.27	46.00	-8.73	AVG	
3	0.8745	35.83	10.09	45.92	56.00	-10.08	Peak	
4	0.8745	25.70	10.09	35.79	46.00	-10.21	AVG	
5	1.0815	39.01	10.13	49.14	56.00	-6.86	Peak	
6	1.0815	29.10	10.13	39.23	46.00	-6.77	AVG	
7 *	1.1670	40.95	10.13	51.08	56.00	-4.92	Peak	
8	1.1670	30.80	10.13	40.93	46.00	-5.07	AVG	
9	1.3920	36.54	10.15	46.69	56.00	-9.31	Peak	
10	1.3920	26.40	10.15	36.55	46.00	-9.45	AVG	
11	2.1705	35.55	10.20	45.75	56.00	-10.25	Peak	
12	2.1705	25.60	10.20	35.80	46.00	-10.20	AVG	

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

Test Mode: TX MODE

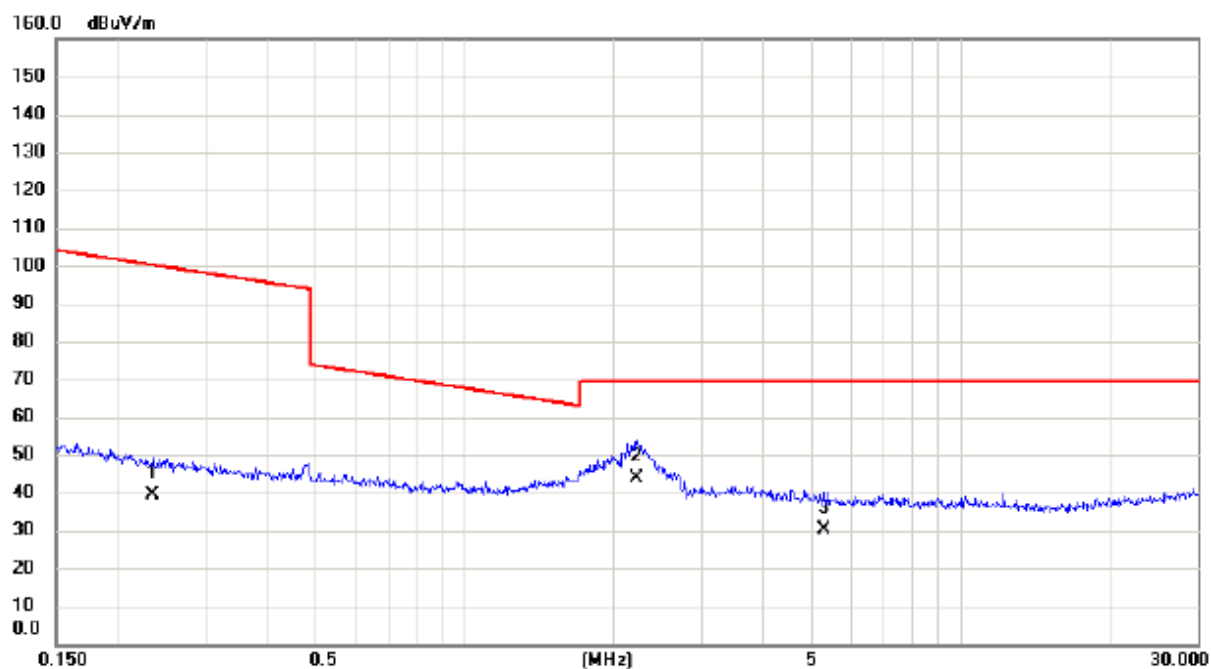
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0108	35.80	21.31	57.11	126.94	-69.83	AVG	
2	*	0.0284	29.50	19.88	49.38	118.54	-69.16	AVG	
3		0.0708	18.30	19.11	37.41	110.60	-73.19	AVG	

Test Mode:	TX MODE
------------	---------

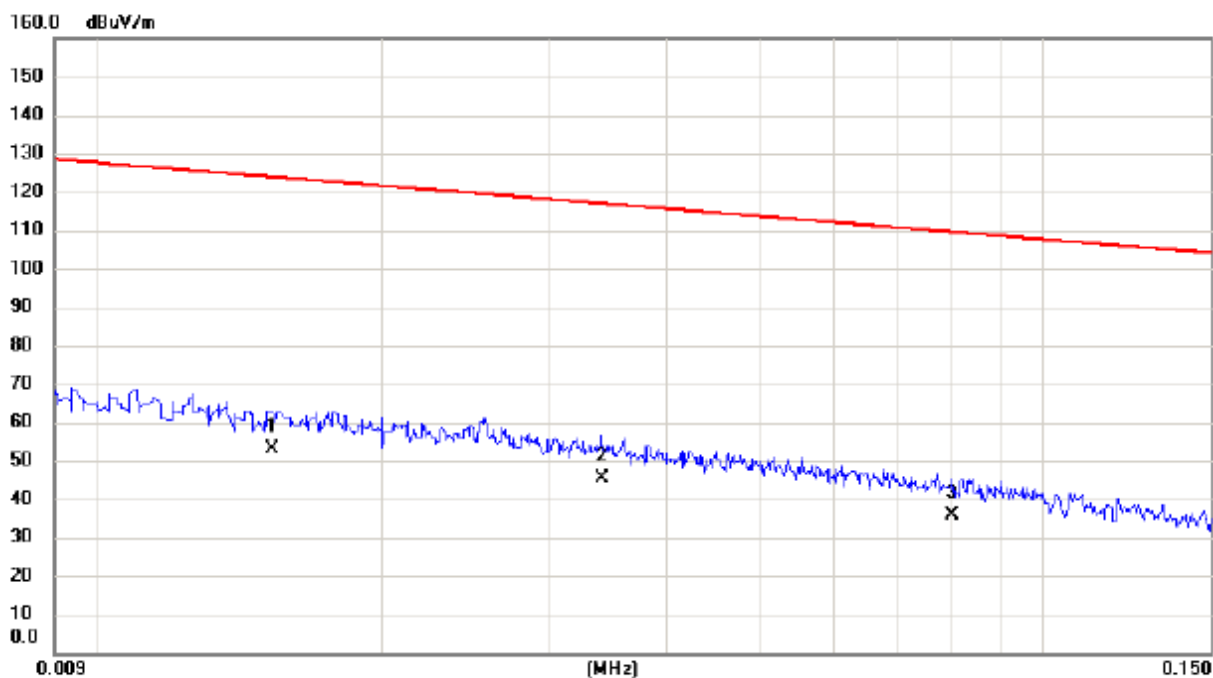
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.2353	22.30	17.08	39.38	100.17	-60.79	AVG	
2	*	2.2132	26.70	16.98	43.68	69.54	-25.86	QP	
3		5.3050	15.10	15.12	30.22	69.54	-39.32	QP	

Test Mode: TX MODE

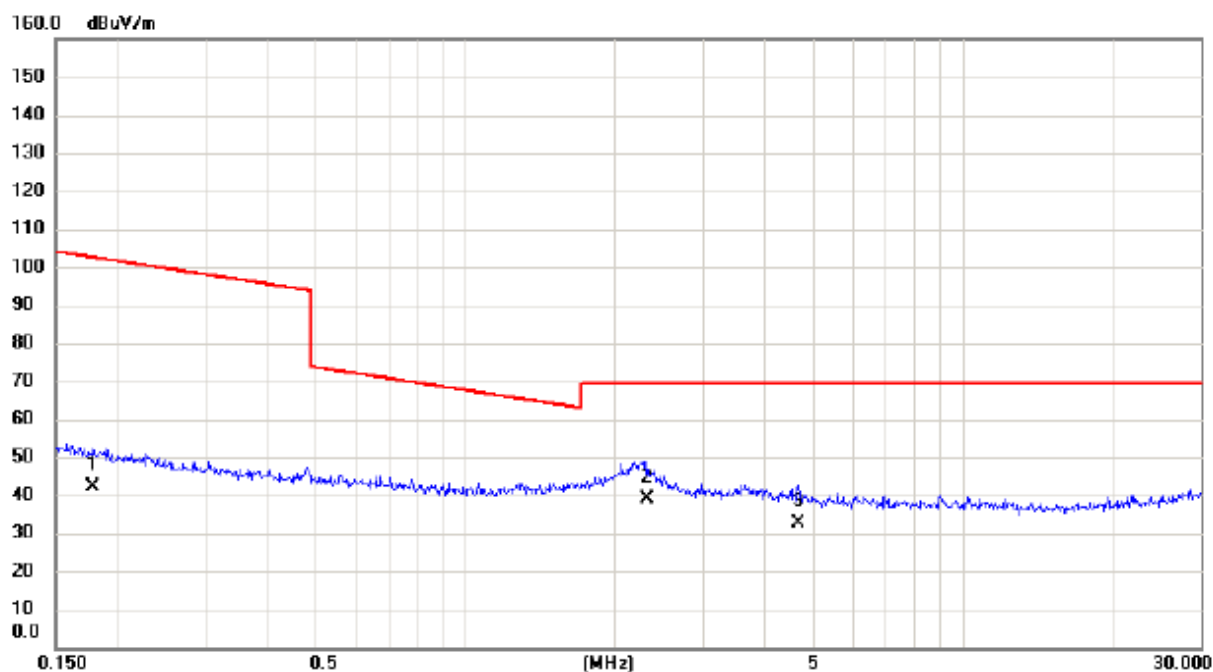
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0153	32.50	20.68	53.18	123.91	-70.73	AVG	
2		0.0342	25.80	19.78	45.58	116.92	-71.34	AVG	
3		0.0801	16.70	18.91	35.61	109.53	-73.92	AVG	

Test Mode: TX MODE

Ant 90°



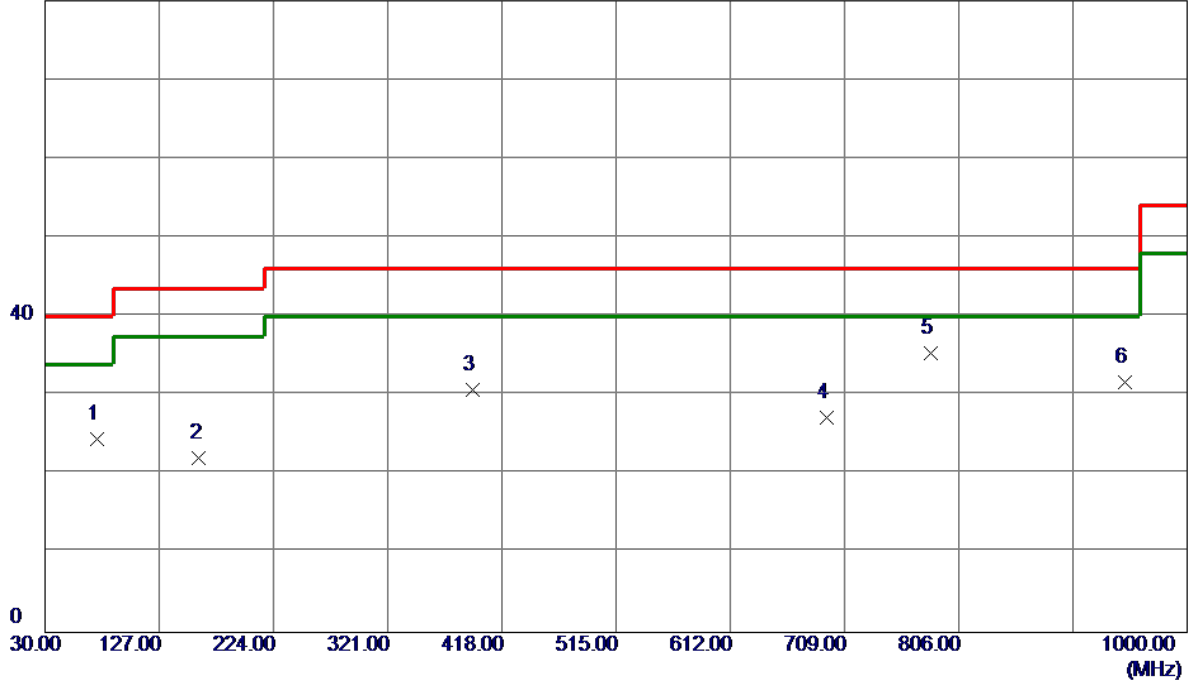
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1787	25.20	17.19	42.39	102.56	-60.17	AVG	
2	*	2.3213	22.10	16.93	39.03	69.54	-30.51	QP	
3		4.6715	17.30	15.36	32.66	69.54	-36.88	QP	

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

Test Mode: TX B MODE CHANNEL 01

Vertical

80 dBuV/m

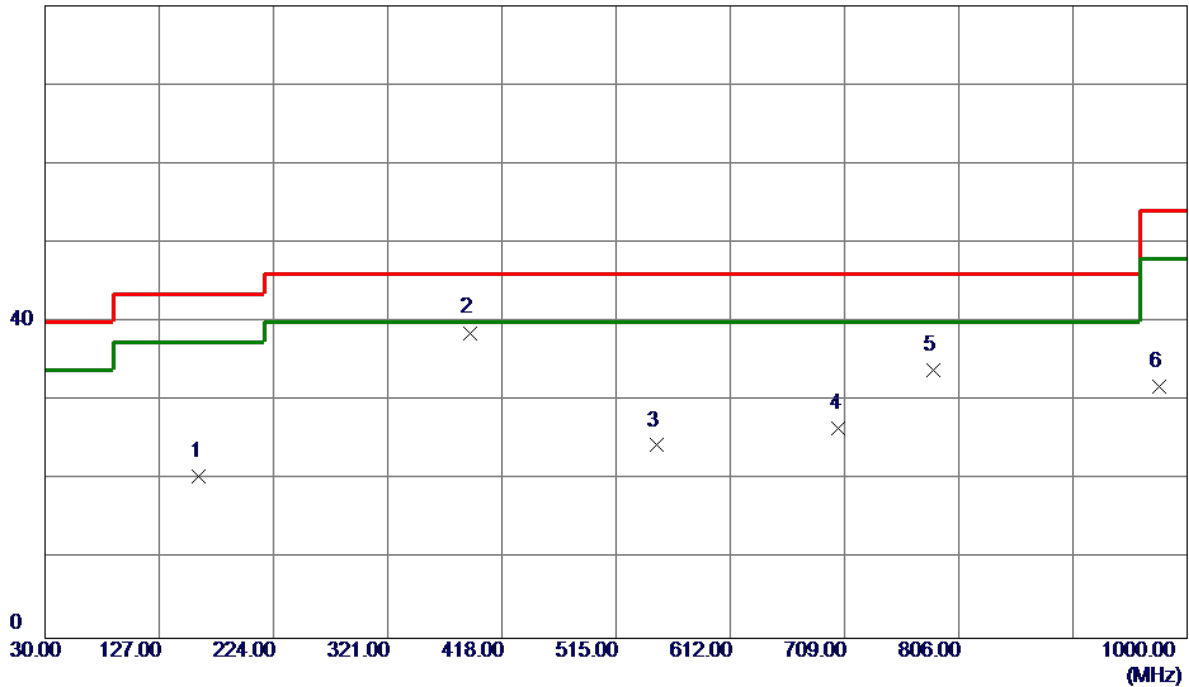


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	74.6200	42.80	-18.34	24.46	40.00	-15.54	Peak	
2	160.9500	32.79	-10.66	22.13	43.50	-21.37	Peak	
3	392.7800	40.32	-9.63	30.69	46.00	-15.31	Peak	
4	693.4800	30.31	-3.06	27.25	46.00	-18.75	Peak	
5 *	782.7199	37.37	-2.08	35.29	46.00	-10.71	Peak	
6	947.6200	30.37	1.31	31.68	46.00	-14.32	Peak	

Test Mode: TX B MODE CHANNEL 01

Horizontal

80 dBuV/m

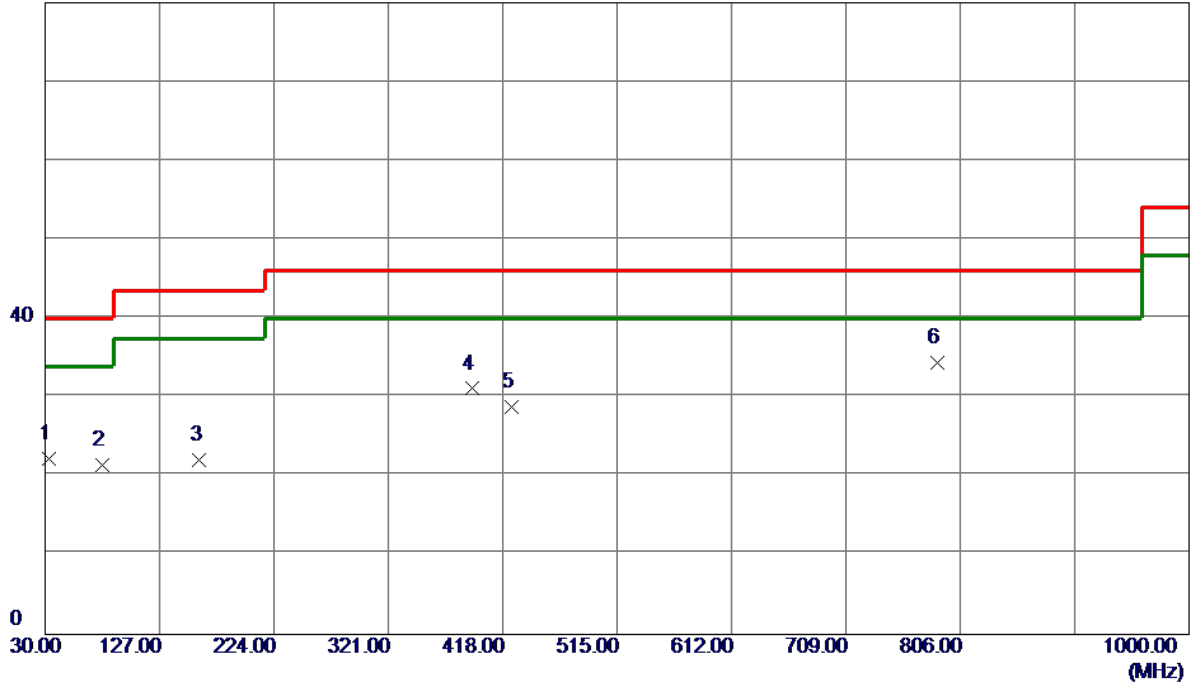


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	160.9500	31.11	-10.66	20.45	43.50	-23.05	Peak	
2 *	390.8400	48.33	-9.69	38.64	46.00	-7.36	Peak	
3	549.9200	29.87	-5.47	24.40	46.00	-21.60	Peak	
4	704.1500	29.46	-2.85	26.61	46.00	-19.39	Peak	
5	784.6599	35.85	-1.96	33.89	46.00	-12.11	Peak	
6	976.7200	31.02	0.77	31.79	54.00	-22.21	Peak	

Test Mode: TX B MODE CHANNEL 06

Vertical

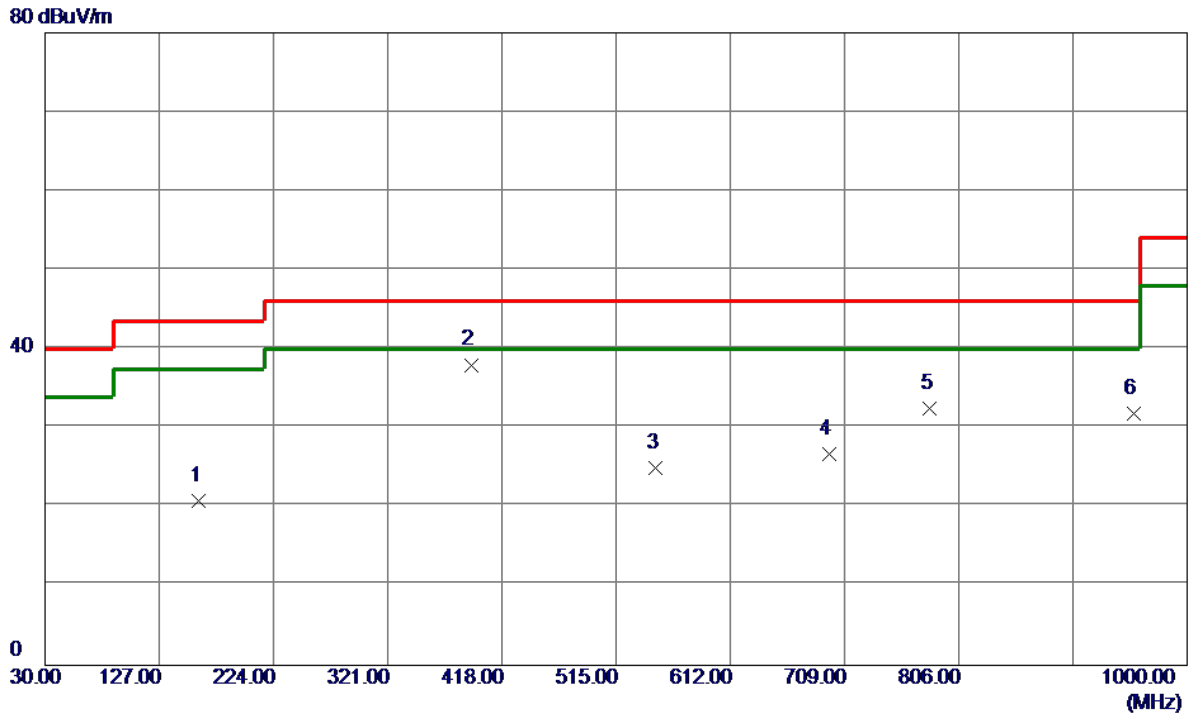
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.9100	37.16	-14.94	22.22	40.00	-17.78	Peak	
2	78.5000	40.00	-18.53	21.47	40.00	-18.53	Peak	
3	160.9500	32.70	-10.66	22.04	43.50	-21.46	Peak	
4	391.8100	40.78	-9.66	31.12	46.00	-14.88	Peak	
5	425.7600	37.12	-8.36	28.76	46.00	-17.24	Peak	
6 *	786.6000	36.19	-1.84	34.35	46.00	-11.65	Peak	

Test Mode: TX B MODE CHANNEL 06

Horizontal

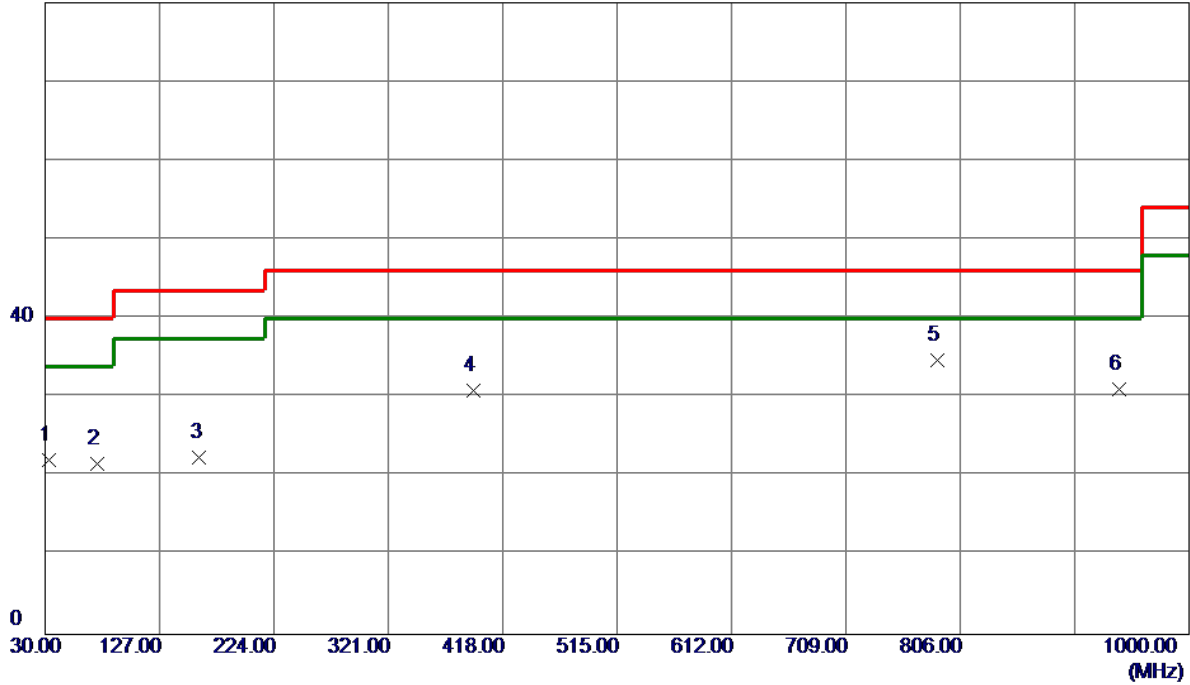


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	160.9500	31.50	-10.66	20.84	43.50	-22.66	Peak	
2 *	391.8100	47.66	-9.66	38.00	46.00	-8.00	Peak	
3	548.9500	30.49	-5.53	24.96	46.00	-21.04	Peak	
4	696.3900	29.59	-2.92	26.67	46.00	-19.33	Peak	
5	781.7500	34.61	-2.14	32.47	46.00	-13.53	Peak	
6	954.4100	30.52	1.31	31.83	46.00	-14.17	Peak	

Test Mode: TX B MODE CHANNEL 11

Vertical

80 dBuV/m

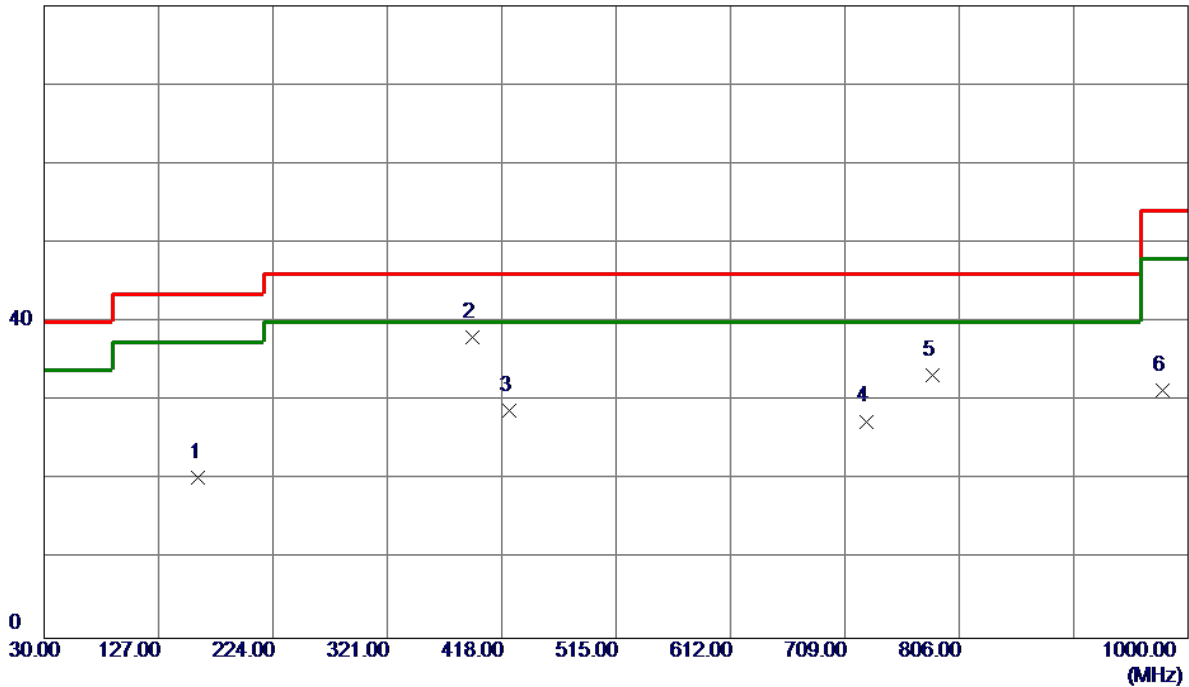


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.9100	37.04	-14.94	22.10	40.00	-17.90	Peak	
2	74.6200	39.90	-18.34	21.56	40.00	-18.44	Peak	
3	160.9500	33.10	-10.66	22.44	43.50	-21.06	Peak	
4	392.7800	40.50	-9.63	30.87	46.00	-15.13	Peak	
5 *	786.6000	36.50	-1.84	34.66	46.00	-11.34	Peak	
6	940.8300	29.94	1.04	30.98	46.00	-15.02	Peak	

Test Mode: TX B MODE CHANNEL 11

Horizontal

80 dBuV/m



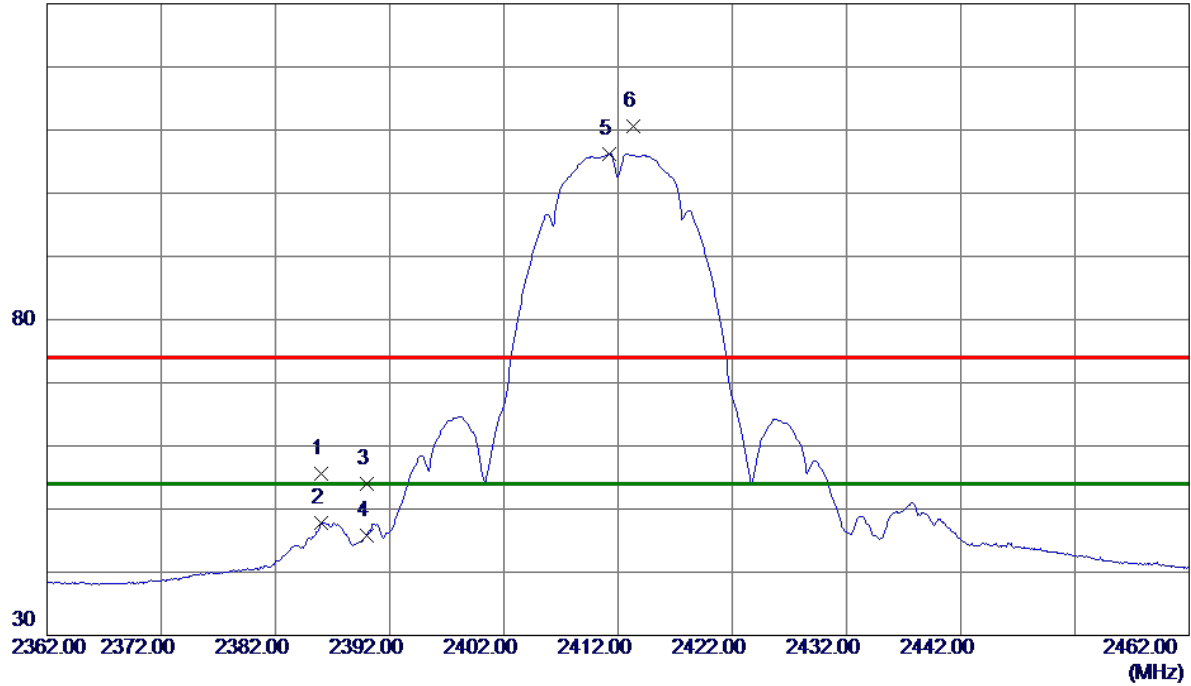
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	160.9500	30.93	-10.66	20.27	43.50	-23.23	Peak	
2 *	392.7800	47.72	-9.63	38.09	46.00	-7.91	Peak	
3	424.7900	37.21	-8.40	28.81	46.00	-17.19	Peak	
4	727.4300	30.90	-3.46	27.44	46.00	-18.56	Peak	
5	783.6900	35.26	-2.02	33.24	46.00	-12.76	Peak	
6	978.6600	30.63	0.73	31.36	54.00	-22.64	Peak	

APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)

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

Vertical

130 dBuV/m

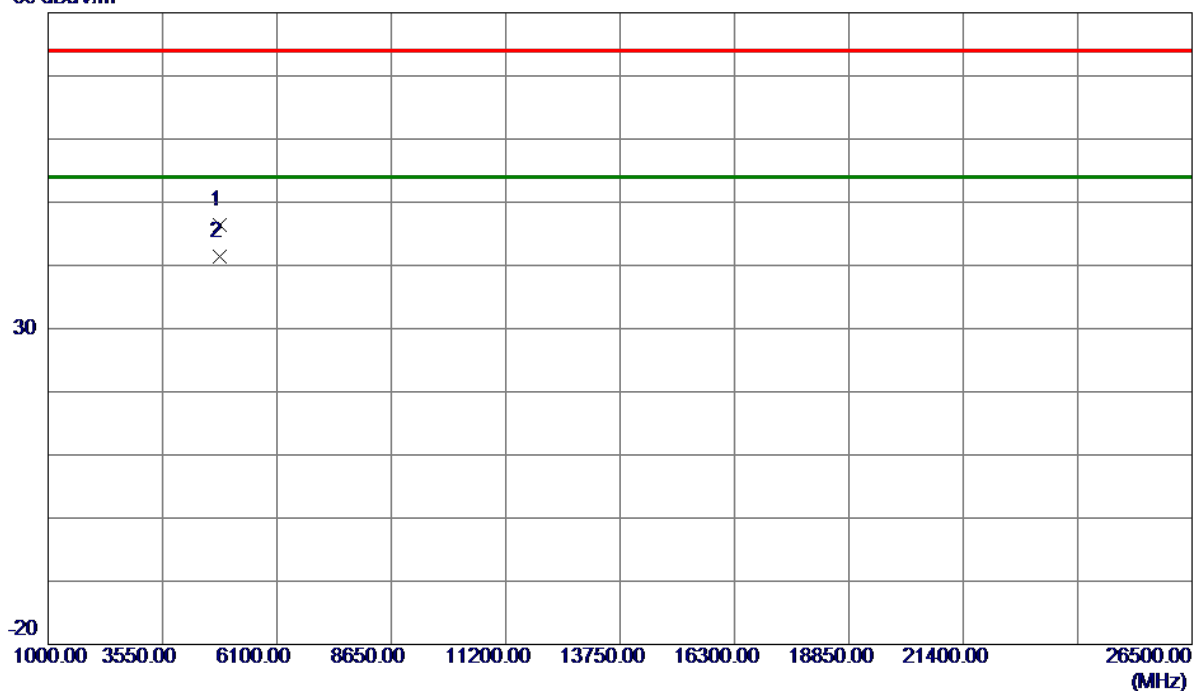


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2386.0000	44.31	11.30	55.61	74.00	-18.39	Peak	
2	2386.0000	36.56	11.30	47.86	54.00	-6.14	AVG	
3	2390.0000	42.71	11.30	54.01	74.00	-19.99	Peak	
4	2390.0000	34.41	11.30	45.71	54.00	-8.29	AVG	
5 *	2411.2000	94.97	11.30	106.27	54.00	52.27	AVG	No Limit
6	2413.3000	99.38	11.30	110.68	74.00	36.68	Peak	No Limit

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

Vertical

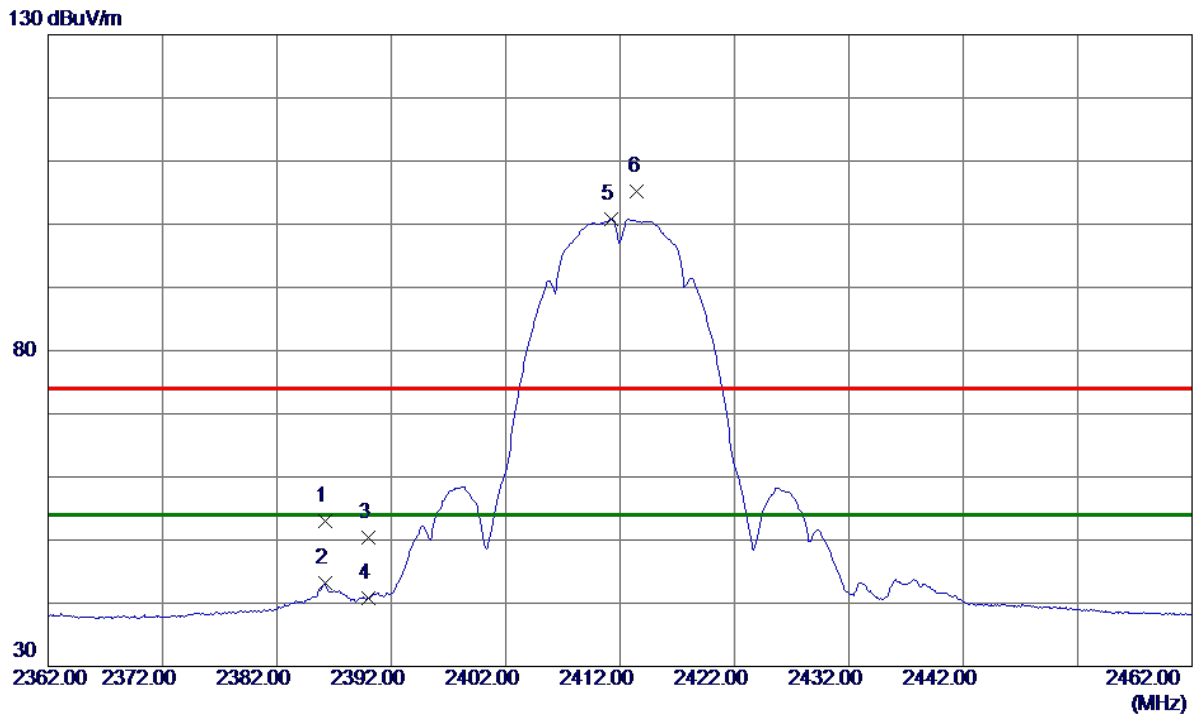
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.0250	36.46	9.91	46.37	74.00	-27.63	Peak	
2 *	4824.0299	31.40	9.91	41.31	54.00	-12.69	AVG	

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

Horizontal

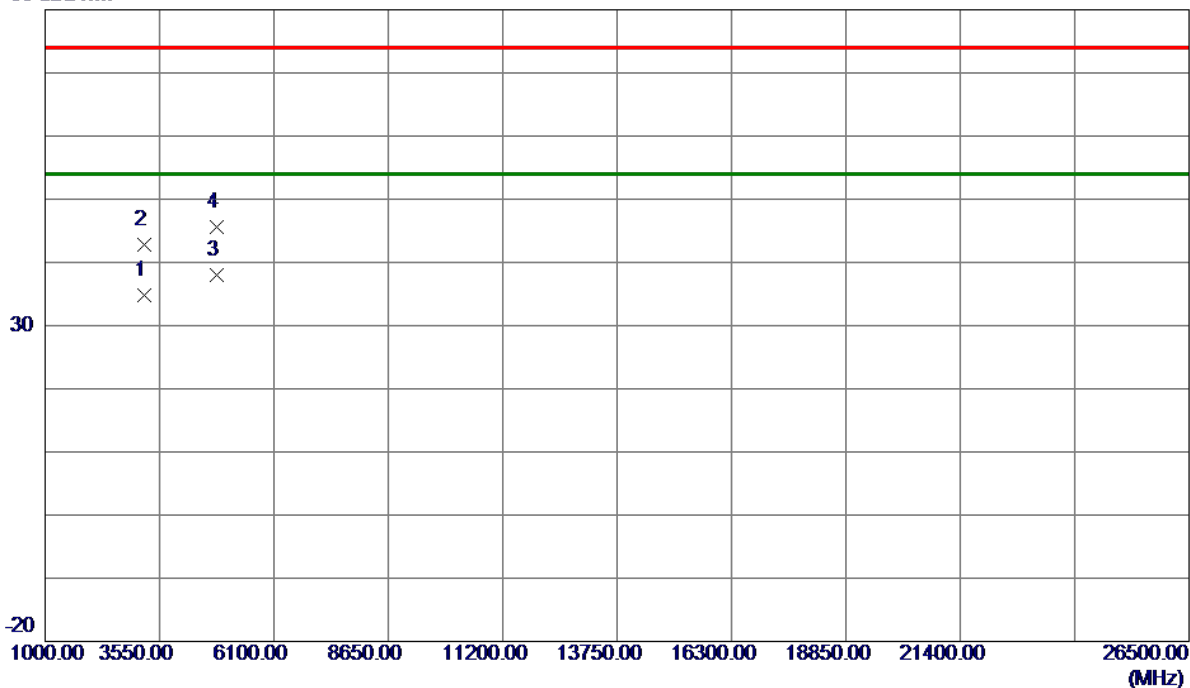


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2386.2000	41.61	11.30	52.91	74.00	-21.09	Peak	
2	2386.2000	31.82	11.30	43.12	54.00	-10.88	AVG	
3	2390.0000	39.13	11.30	50.43	74.00	-23.57	Peak	
4	2390.0000	29.56	11.30	40.86	54.00	-13.14	AVG	
5 *	2411.2000	89.49	11.30	100.79	54.00	46.79	AVG	No Limit
6	2413.5000	93.92	11.30	105.22	74.00	31.22	Peak	No Limit

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

Horizontal

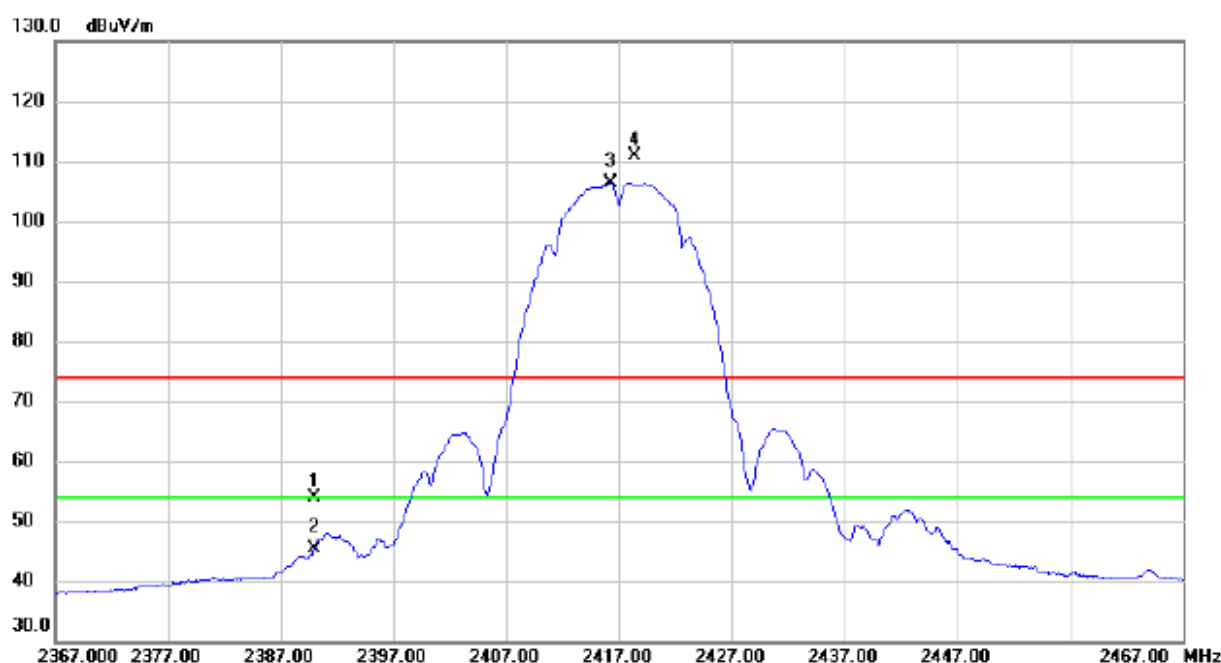
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	3215.9150	29.67	5.16	34.83	54.00	-19.17	AVG	
2	3216.0700	37.60	5.16	42.76	74.00	-31.24	Peak	
3 *	4823.9450	28.17	9.91	38.08	54.00	-15.92	AVG	
4	4824.0150	35.69	9.91	45.60	74.00	-28.40	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2417MHz

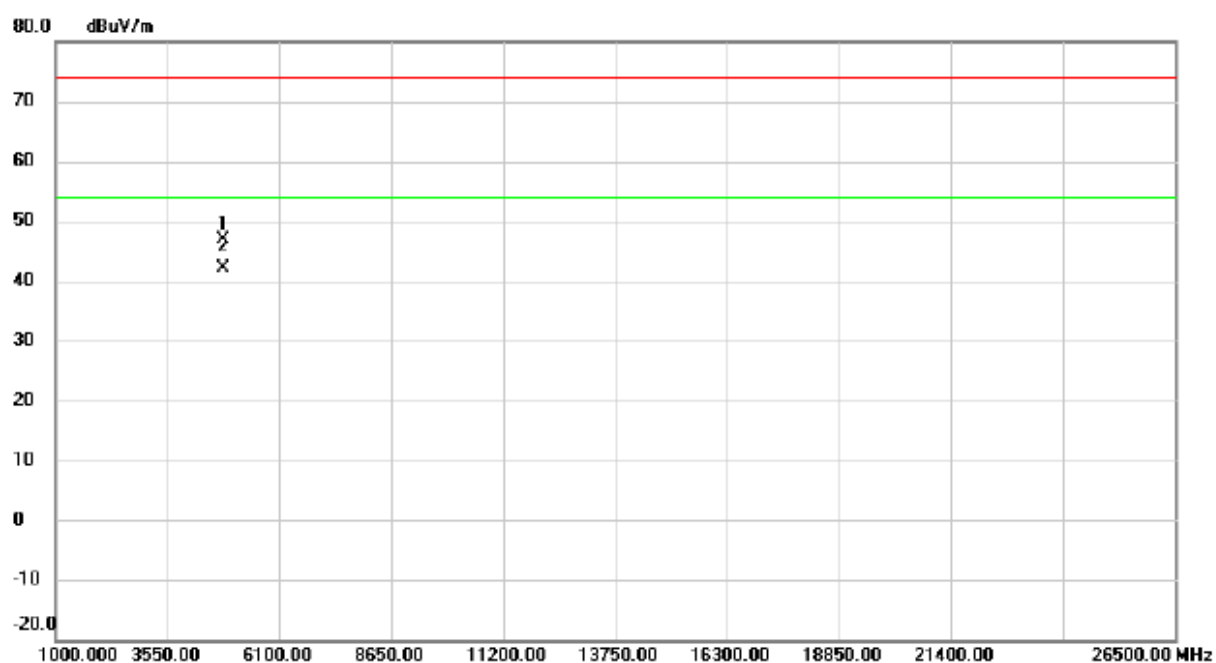
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	42.60	11.29	53.89	74.00	-20.11	peak	
2		2390.000	34.05	11.29	45.34	54.00	-8.66	AVG	
3 *		2416.300	95.16	11.31	106.47	54.00	52.47	AVG	No Limit
4 X		2418.400	99.57	11.30	110.87	74.00	36.87	peak	No Limit

Orthogonal Axis :	X
Test Mode :	TX B MODE 2417MHz

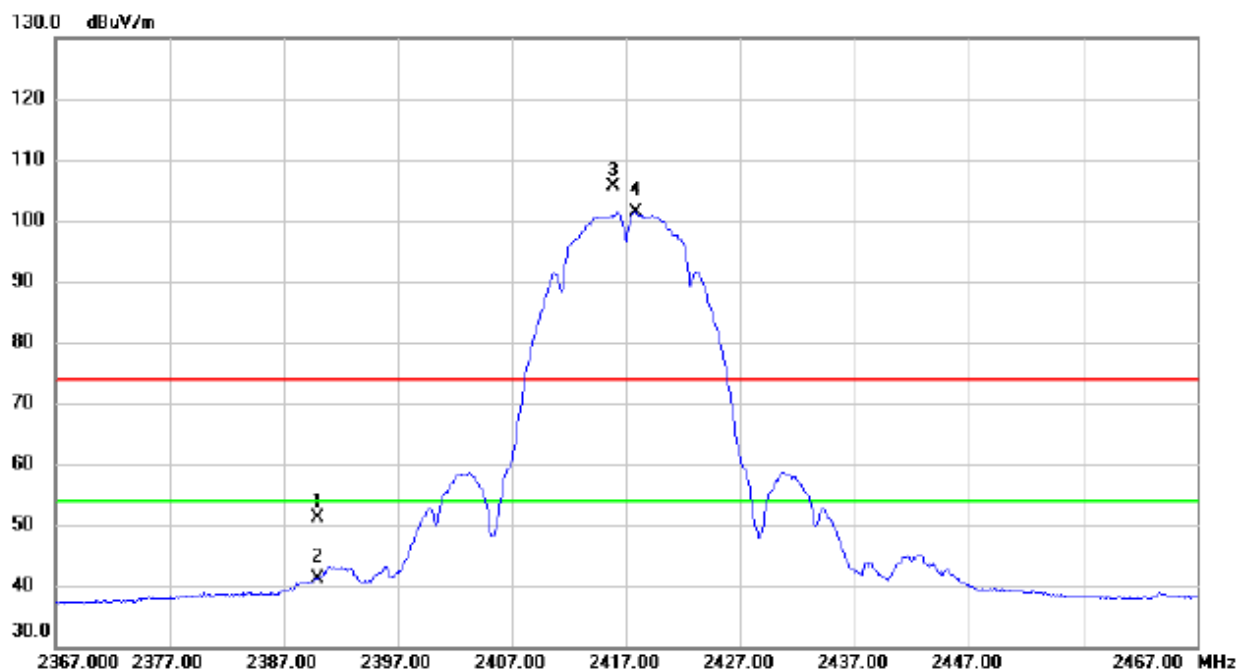
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4833.940	37.03	9.94	46.97	74.00	-27.03	peak	
2	*	4834.010	32.23	9.94	42.17	54.00	-11.83	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2417MHz

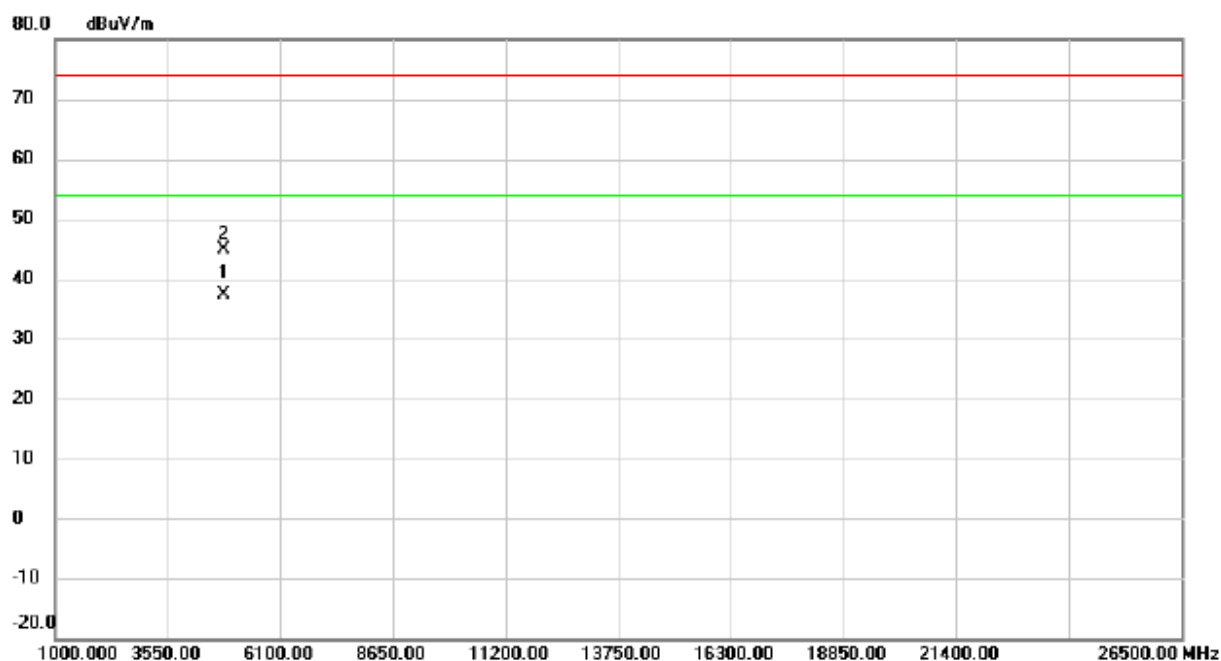
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	39.96	11.29	51.25	74.00	-22.75	peak	
2		2390.000	29.92	11.29	41.21	54.00	-12.79	AVG	
3	X	2415.900	94.26	11.31	105.57	74.00	31.57	peak	No Limit
4	*	2417.800	90.03	11.31	101.34	54.00	47.34	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX B MODE 2417MHz

Horizontal

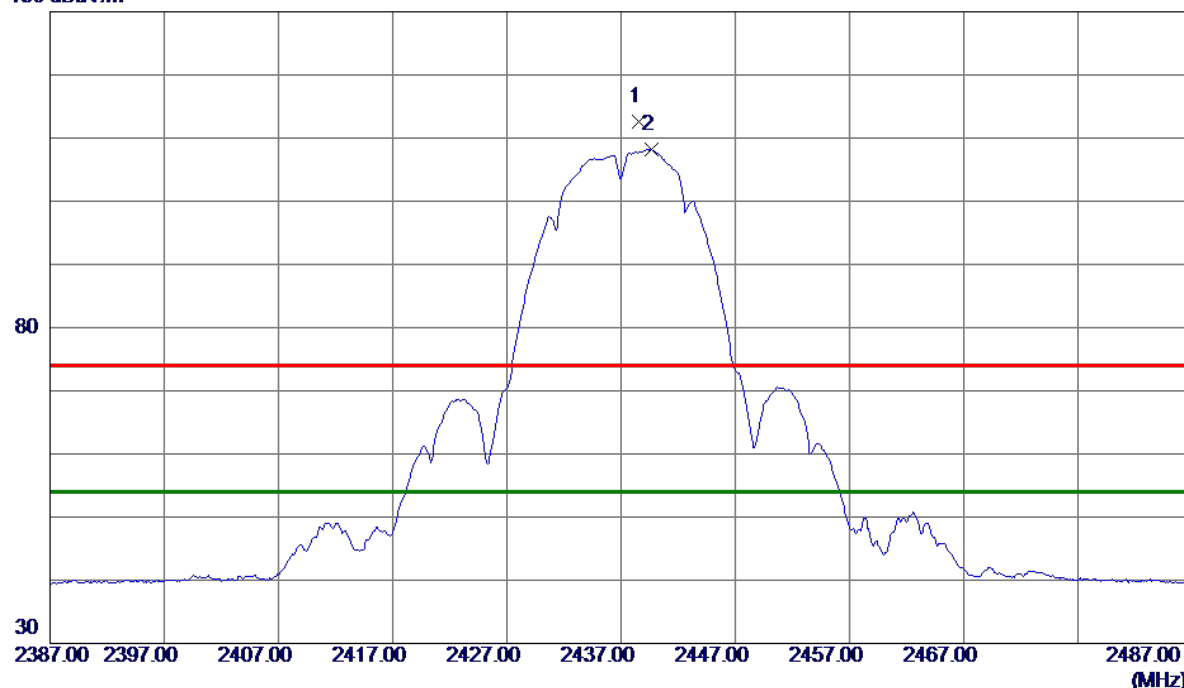


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4833.930	27.32	9.94	37.26	54.00	-16.74	AVG	
2		4833.940	34.93	9.94	44.87	74.00	-29.13	peak	

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

Vertical

130 dBuV/m

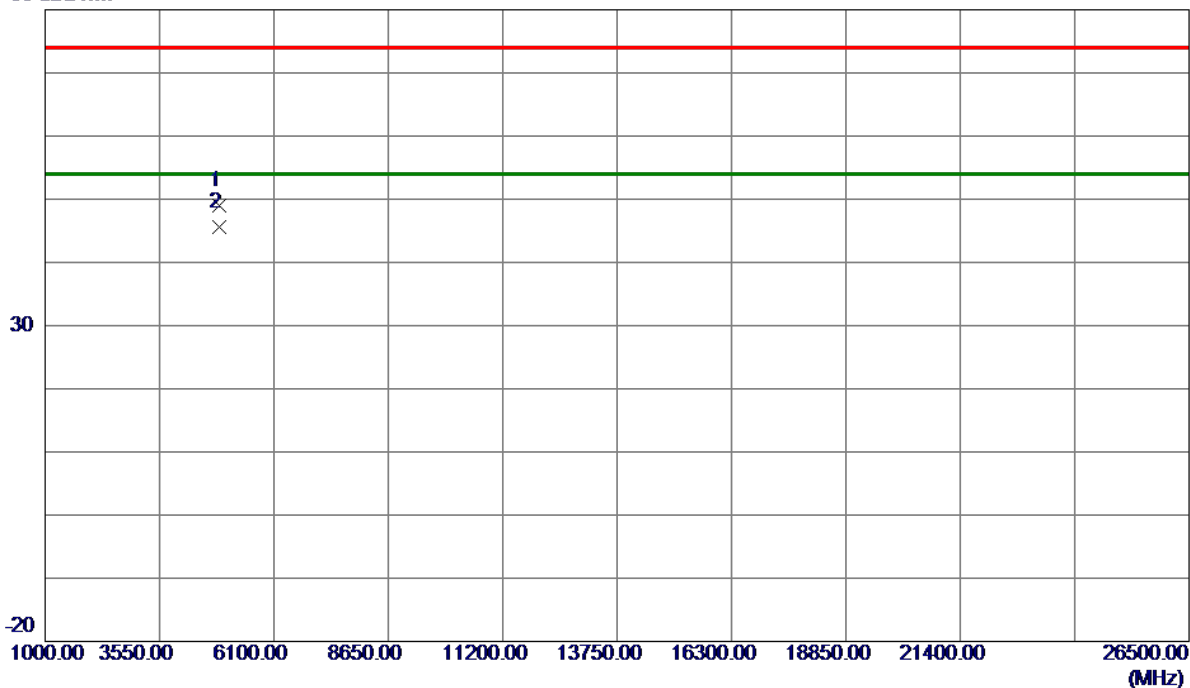


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2438.6000	101.25	11.31	112.56	74.00	38.56	Peak	No Limit
2 *	2439.7000	96.83	11.31	108.14	54.00	54.14	AVG	No Limit

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

Vertical

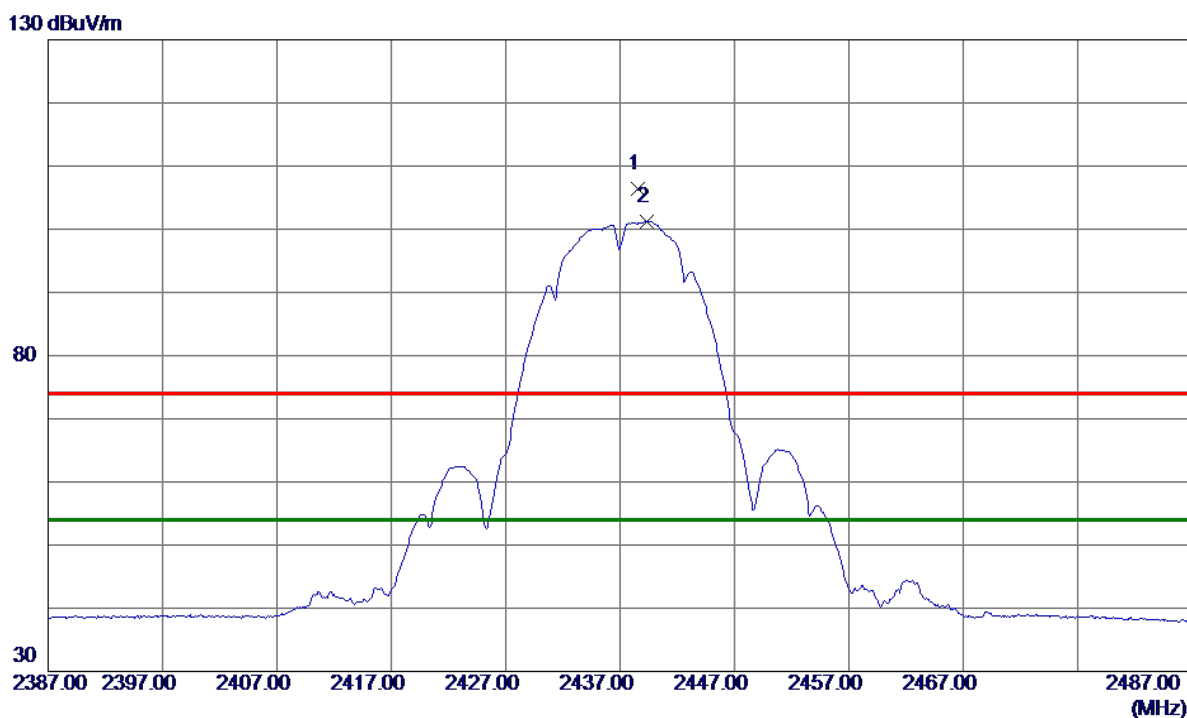
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9350	38.98	10.05	49.03	74.00	-24.97	Peak	
2 *	4873.9700	35.52	10.05	45.57	54.00	-8.43	AVG	

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

Horizontal

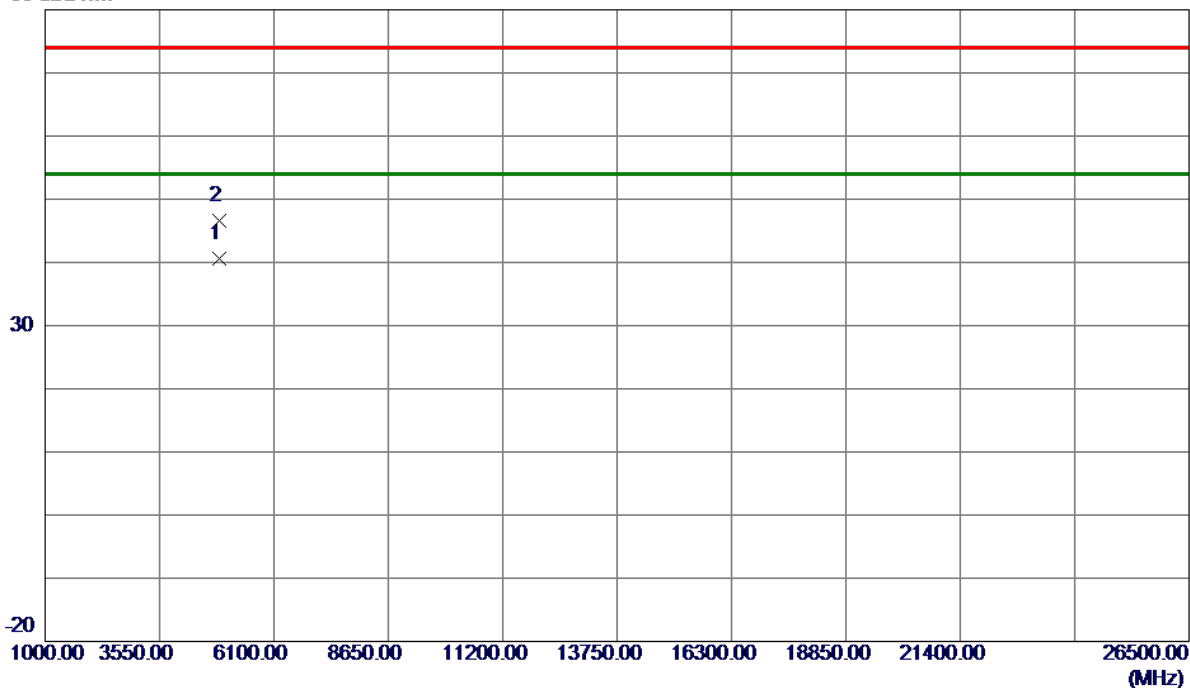


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2438.6000	95.05	11.31	106.36	74.00	32.36	Peak	No Limit
2 *	2439.3000	89.93	11.31	101.24	54.00	47.24	AVG	No Limit

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

Horizontal

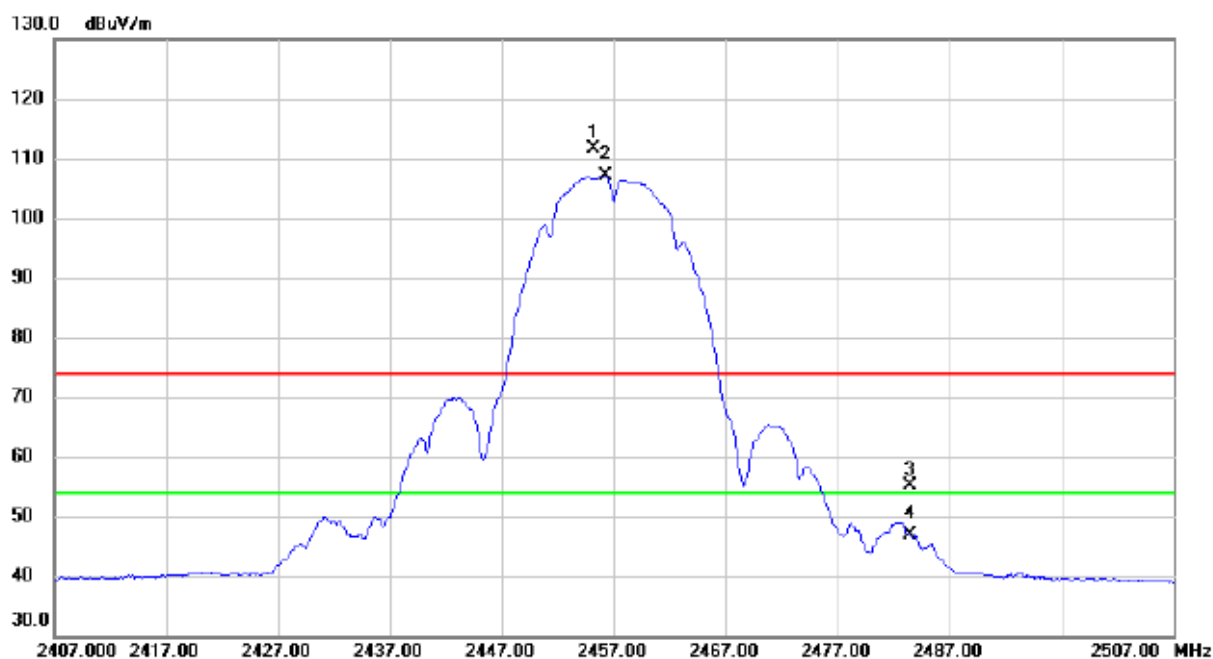
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4873.9600	30.58	10.05	40.63	54.00	-13.37	AVG	
2	4874.2500	36.60	10.05	46.65	74.00	-27.35	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2457MHz

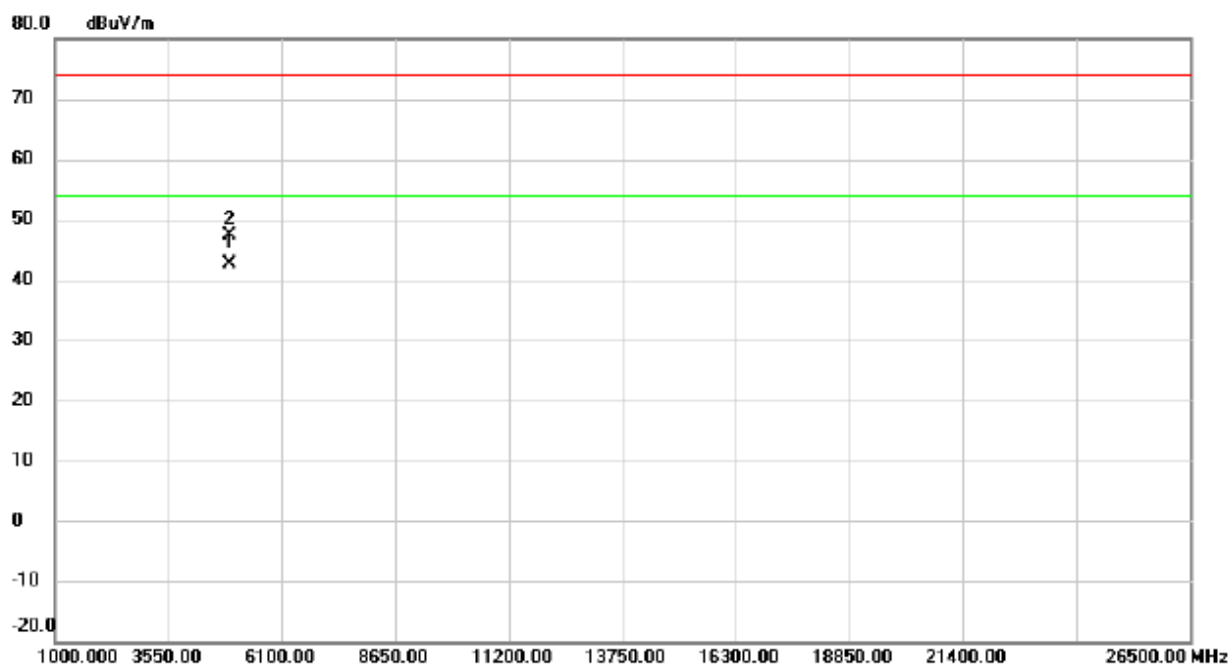
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2455.200	100.25	11.31	111.56	74.00	37.56	peak	No Limit
2	*	2456.300	95.83	11.31	107.14	54.00	53.14	AVG	No Limit
3		2483.500	43.76	11.32	55.08	74.00	-18.92	peak	
4		2483.500	35.49	11.32	46.81	54.00	-7.19	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2457MHz

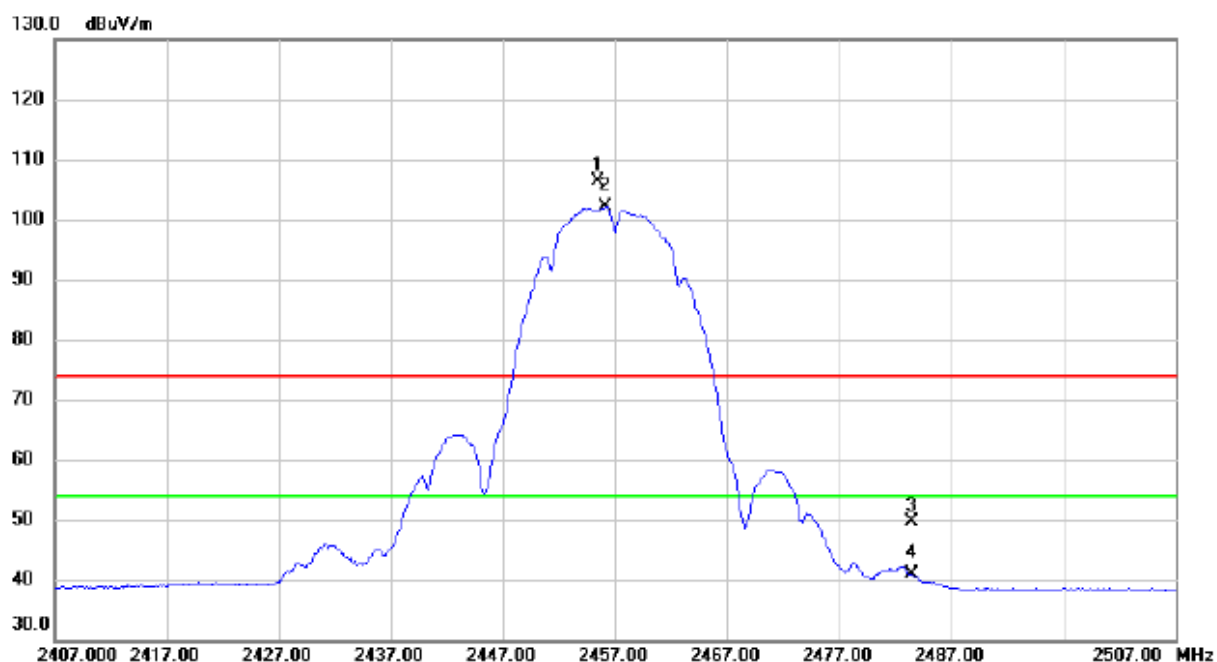
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4913.905	32.40	10.16	42.56	54.00	-11.44	AVG	
2		4913.925	37.26	10.16	47.42	74.00	-26.58	peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2457MHz

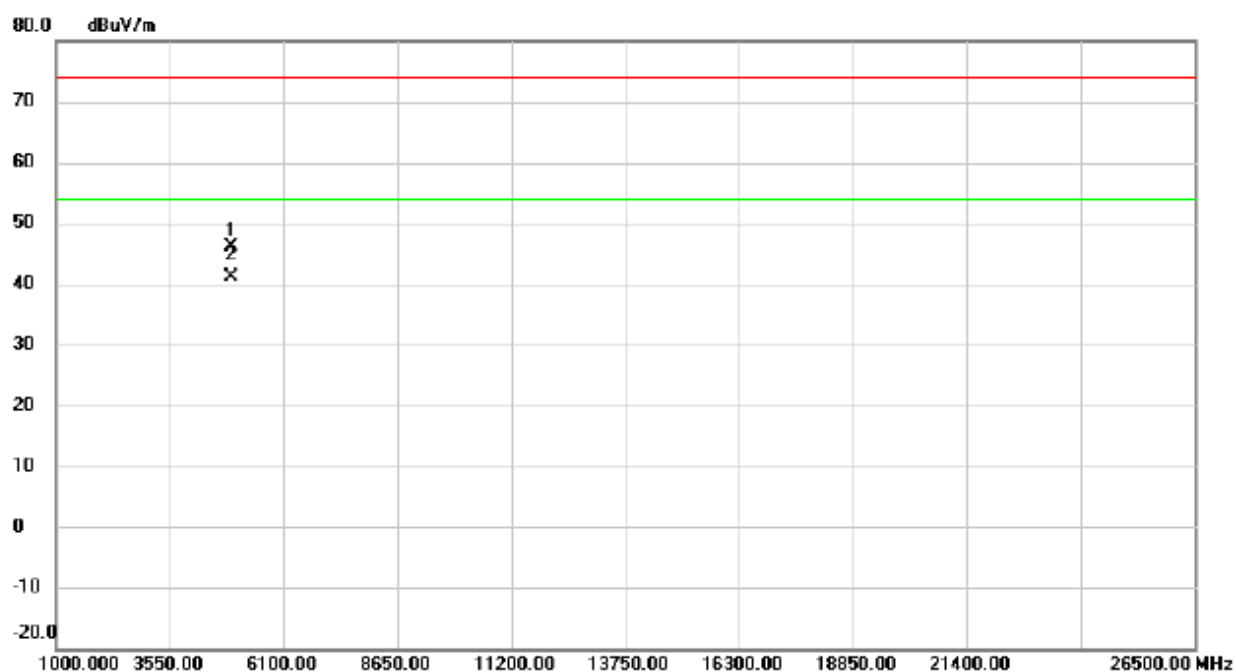
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2455.500	95.02	11.31	106.33	74.00	32.33	peak	No Limit
2	*	2456.200	90.80	11.31	102.11	54.00	48.11	AVG	No Limit
3		2483.500	38.24	11.32	49.56	74.00	-24.44	peak	
4		2483.500	29.60	11.32	40.92	54.00	-13.08	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE 2457MHz

Horizontal

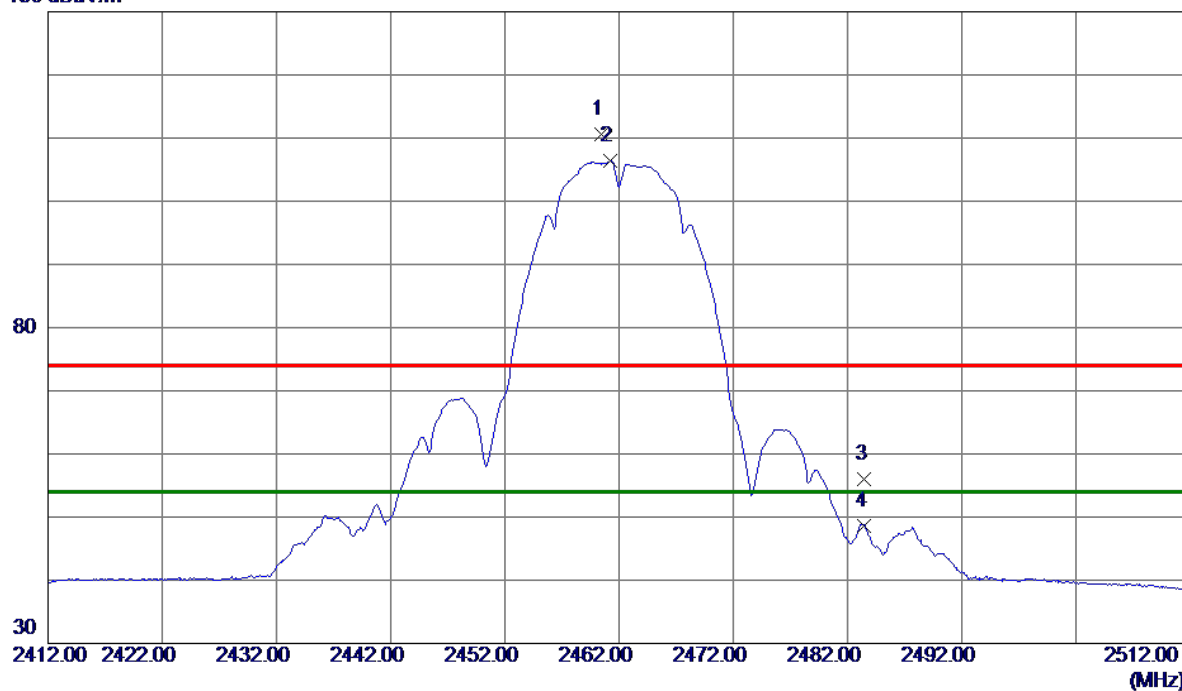


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4913.875	35.98	10.15	46.13	74.00	-27.87	peak	
2	*	4913.940	30.89	10.16	41.05	54.00	-12.95	AVG	

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

Vertical

130 dBuV/m

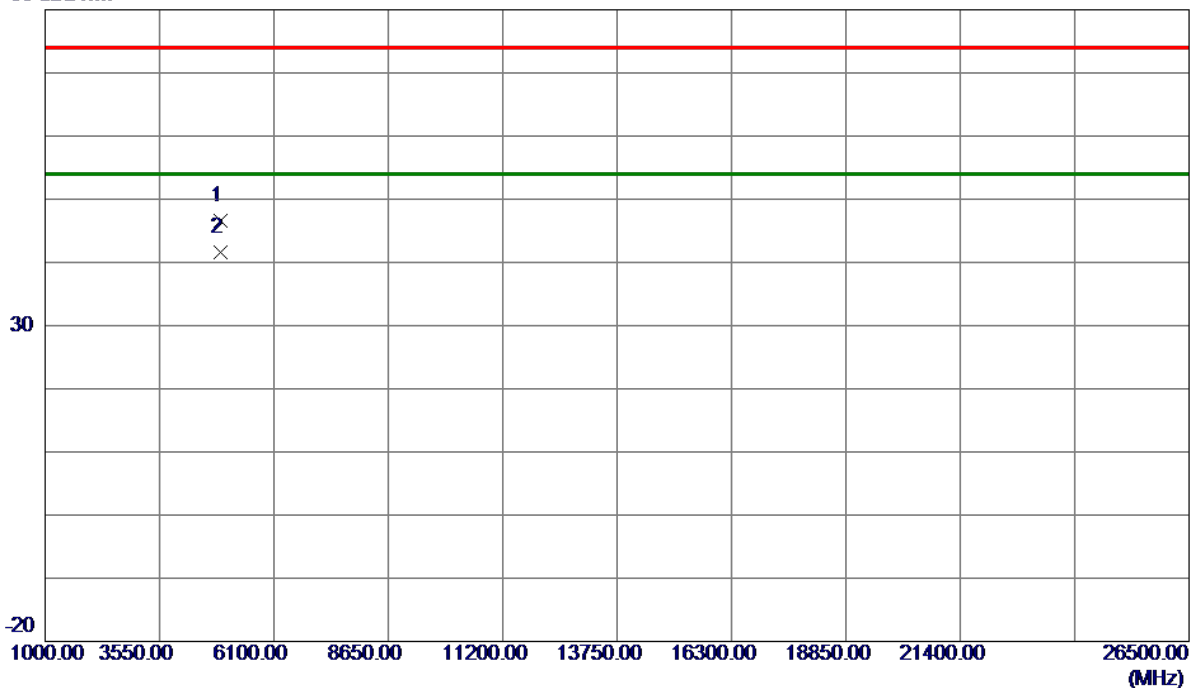


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.4000	99.22	11.32	110.54	74.00	36.54	Peak	No Limit
2 *	2461.2000	95.01	11.32	106.33	54.00	52.33	AVG	No Limit
3	2483.5000	44.64	11.32	55.96	74.00	-18.04	Peak	
4	2483.5000	37.32	11.32	48.64	54.00	-5.36	AVG	

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

Vertical

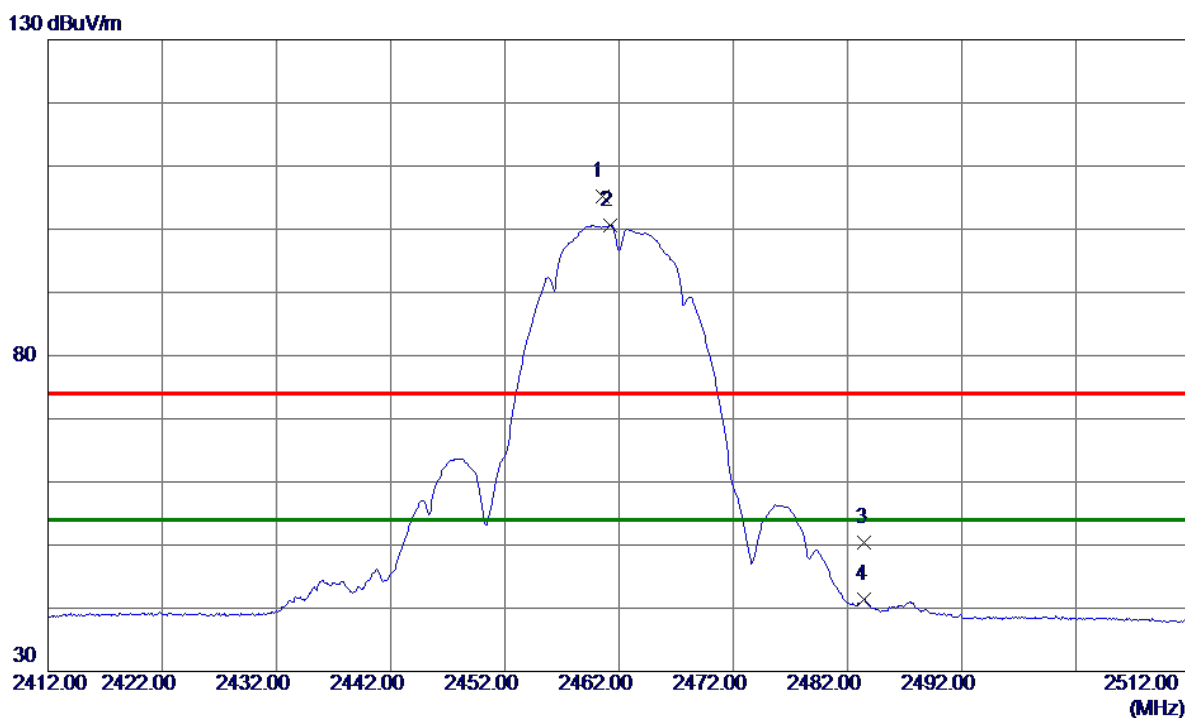
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.8350	36.35	10.18	46.53	74.00	-27.47	Peak	
2 *	4923.8550	31.36	10.18	41.54	54.00	-12.46	AVG	

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

Horizontal

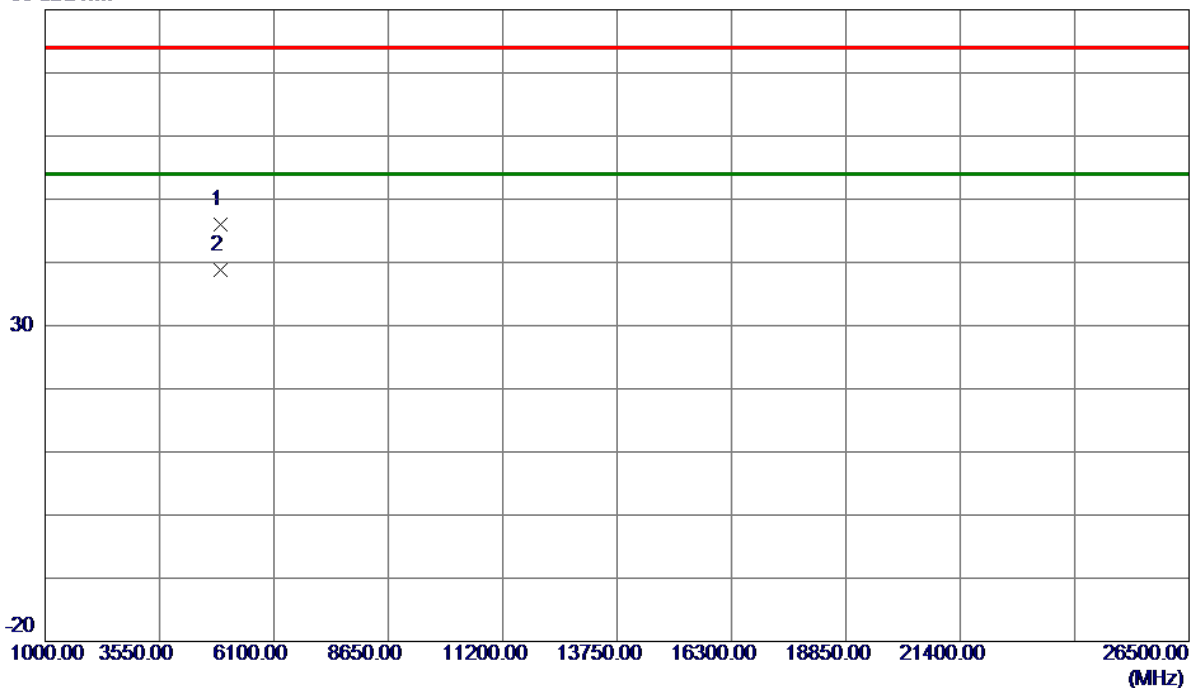


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.5000	93.84	11.32	105.16	74.00	31.16	Peak	No Limit
2 *	2461.2000	89.35	11.32	100.67	54.00	46.67	AVG	No Limit
3	2483.5000	39.13	11.32	50.45	74.00	-23.55	Peak	
4	2483.5000	30.08	11.32	41.40	54.00	-12.60	AVG	

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

Horizontal

80 dBuV/m

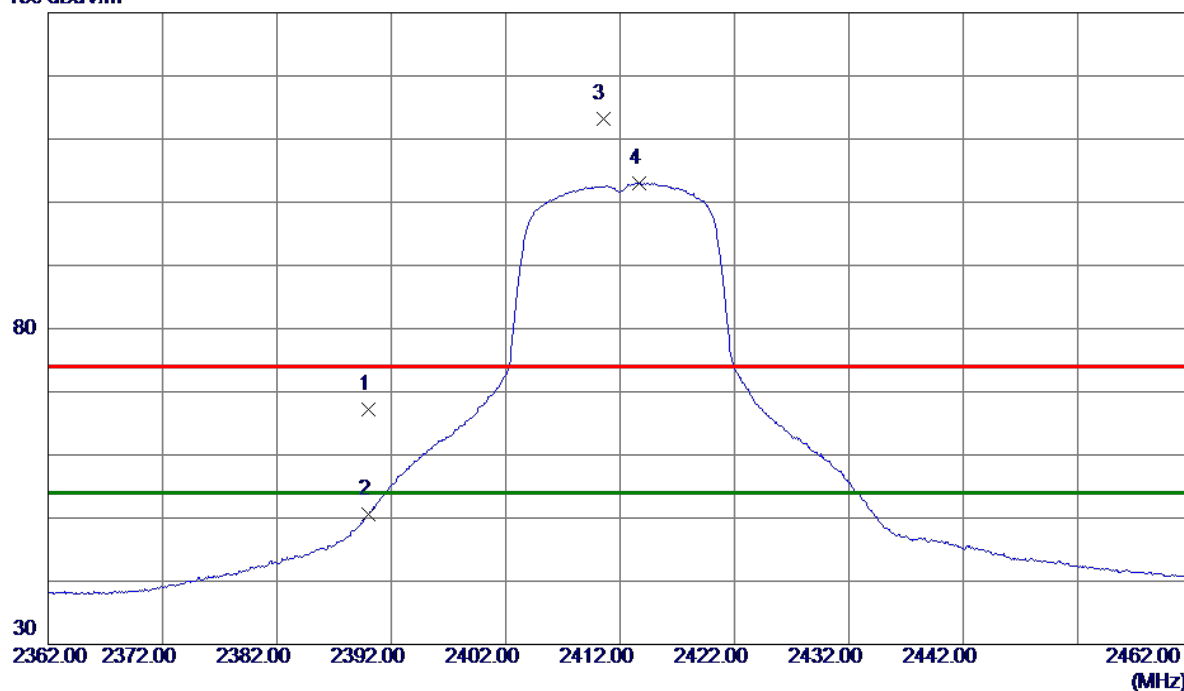


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.8350	35.89	10.18	46.07	74.00	-27.93	Peak	
2 *	4923.9200	28.54	10.18	38.72	54.00	-15.28	AVG	

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

Vertical

130 dBuV/m

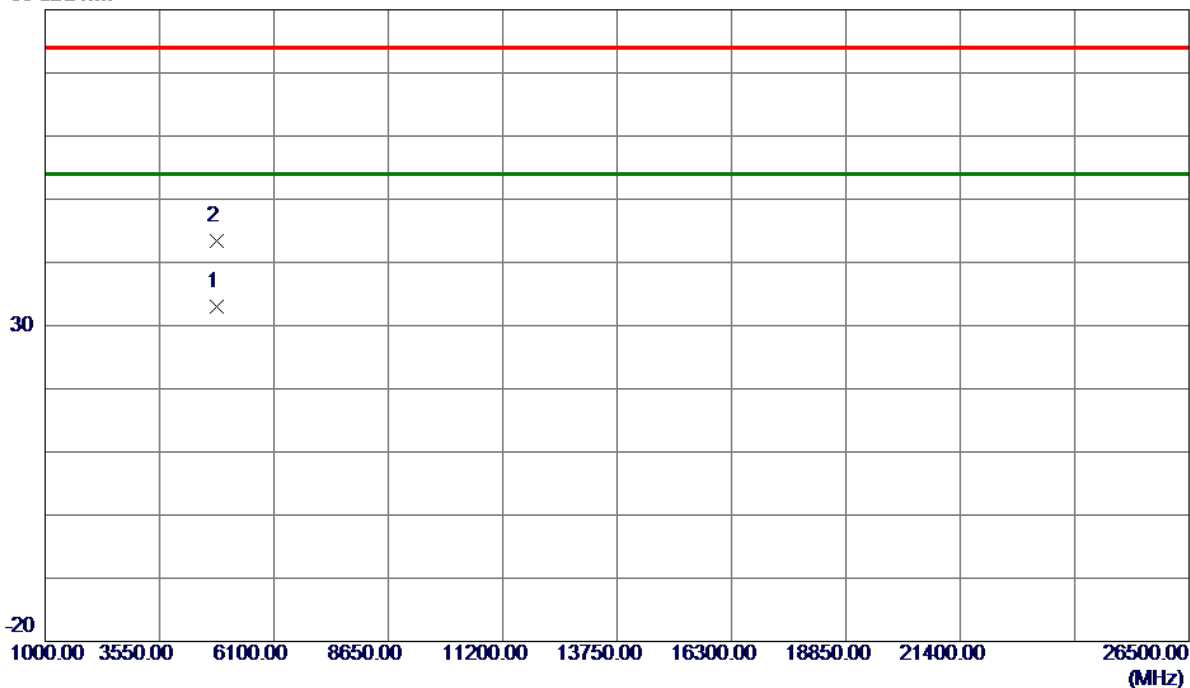


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	55.90	11.30	67.20	74.00	-6.80	Peak	
2	2390.0000	39.33	11.30	50.63	54.00	-3.37	AVG	
3	2410.5000	101.89	11.30	113.19	74.00	39.19	Peak	No Limit
4 *	2413.7000	91.78	11.31	103.09	54.00	49.09	AVG	No Limit

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

Vertical

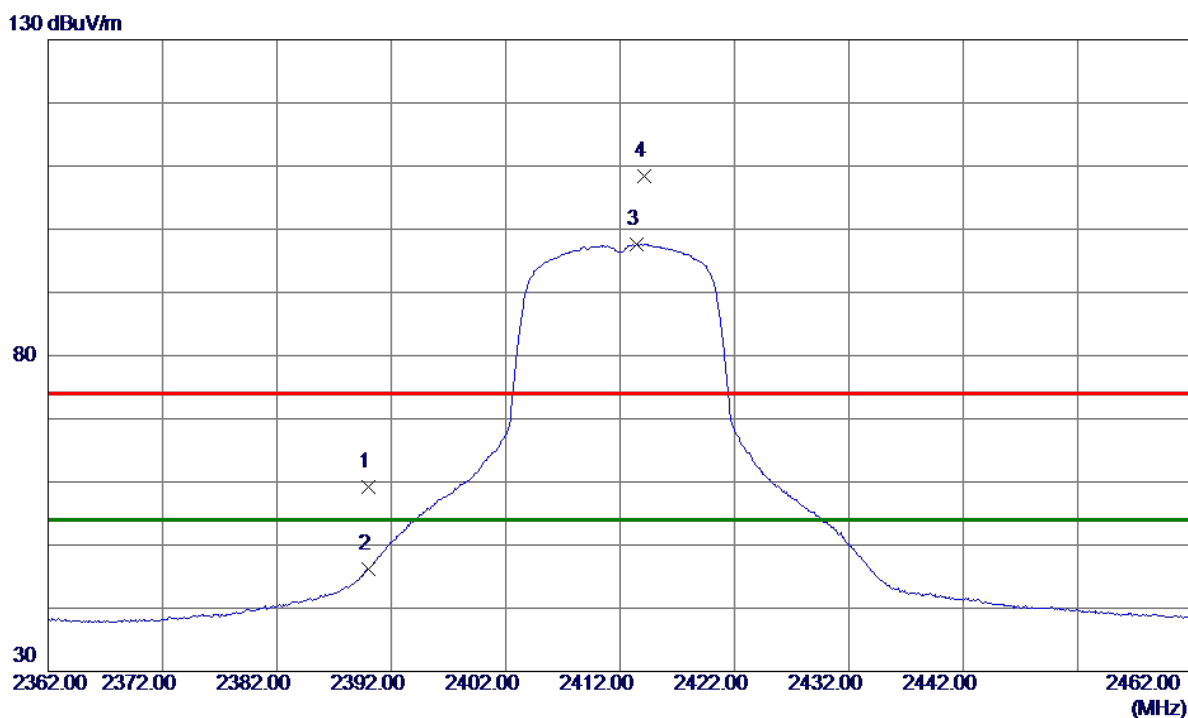
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4823.7000	23.01	9.91	32.92	54.00	-21.08	AVG	
2	4829.0000	33.41	9.93	43.34	74.00	-30.66	Peak	

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

Horizontal

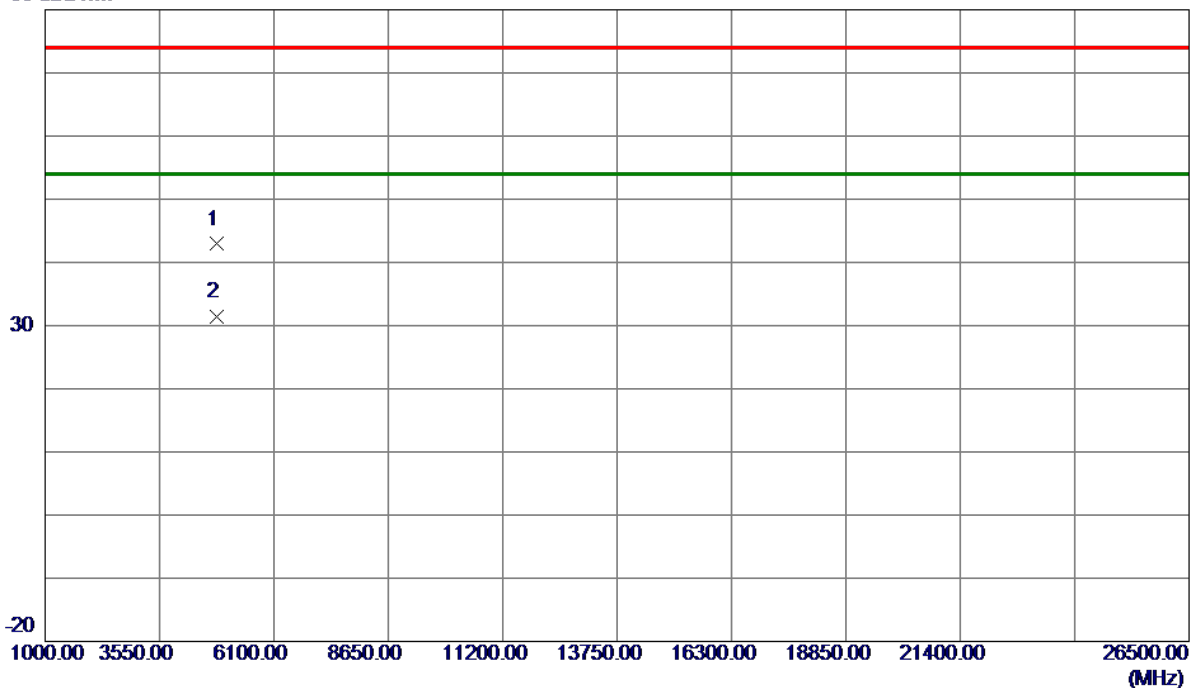


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	47.98	11.30	59.28	74.00	-14.72	Peak	
2	2390.0000	34.99	11.30	46.29	54.00	-7.71	AVG	
3 *	2413.4000	86.36	11.30	97.66	54.00	43.66	AVG	No Limit
4	2414.1000	97.09	11.31	108.40	74.00	34.40	Peak	No Limit

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

Horizontal

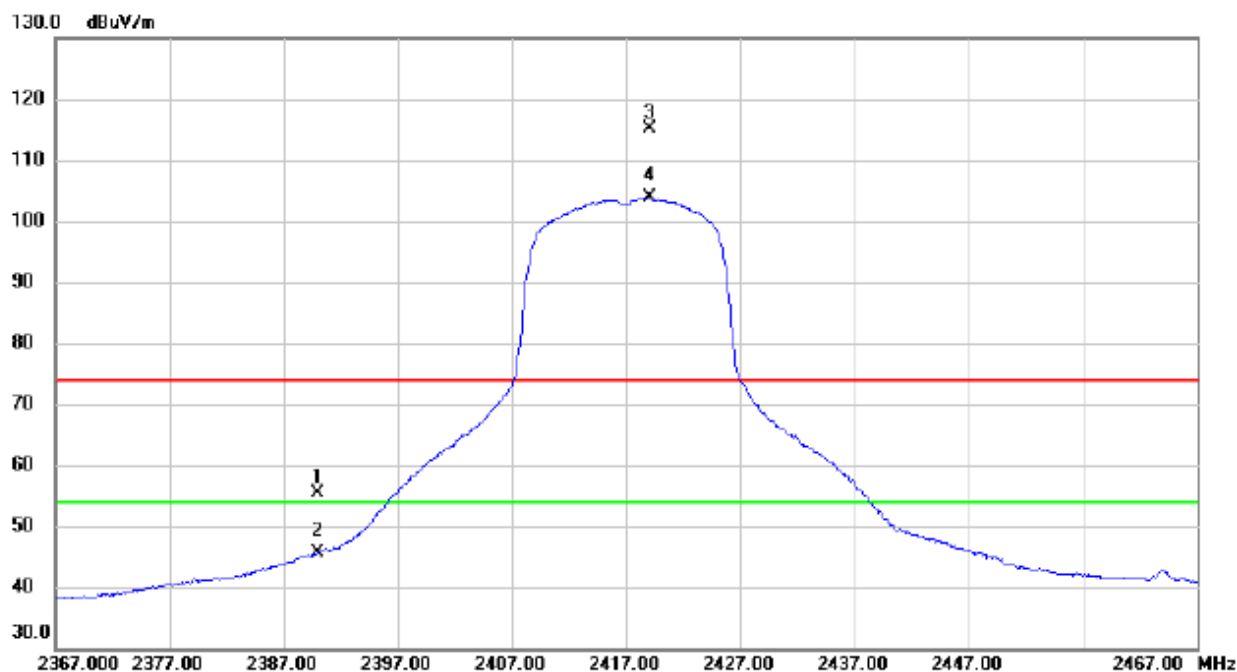
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.4400	32.99	9.91	42.90	74.00	-31.10	Peak	
2 *	4825.1850	21.55	9.92	31.47	54.00	-22.53	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2417MHz

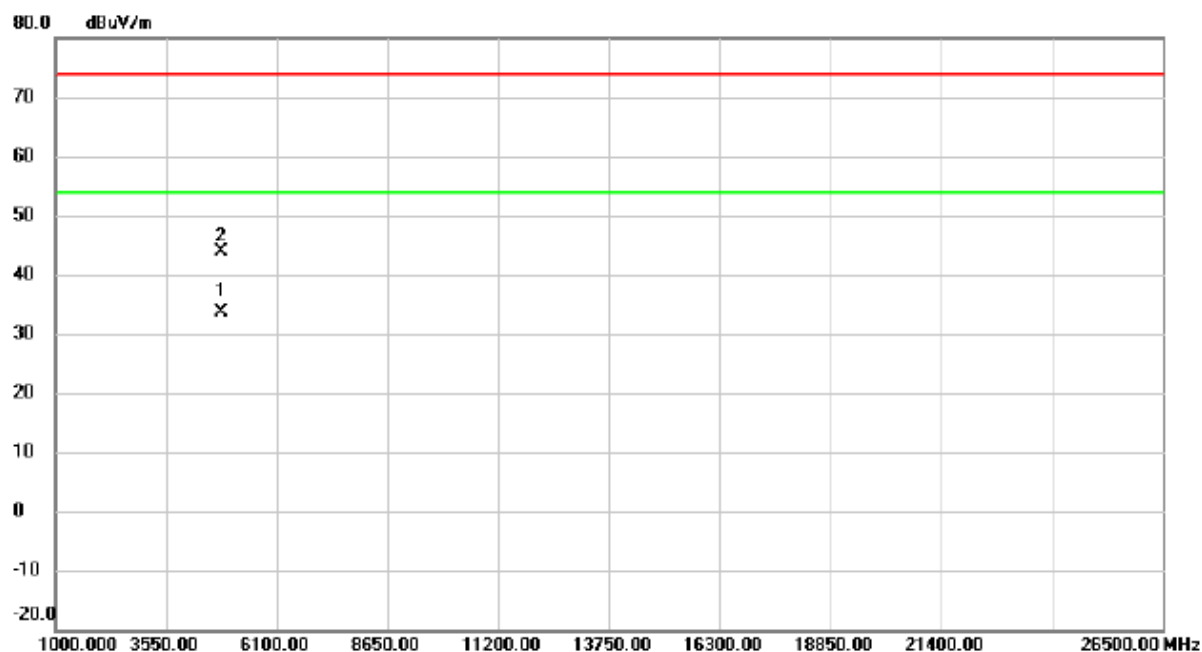
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	44.03	11.29	55.32	74.00	-18.68	peak	
2		2390.000	34.35	11.29	45.64	54.00	-8.36	AVG	
3	X	2419.100	103.85	11.31	115.16	74.00	41.16	peak	No Limit
4	*	2419.100	92.60	11.31	103.91	54.00	49.91	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX G MODE 2417MHz

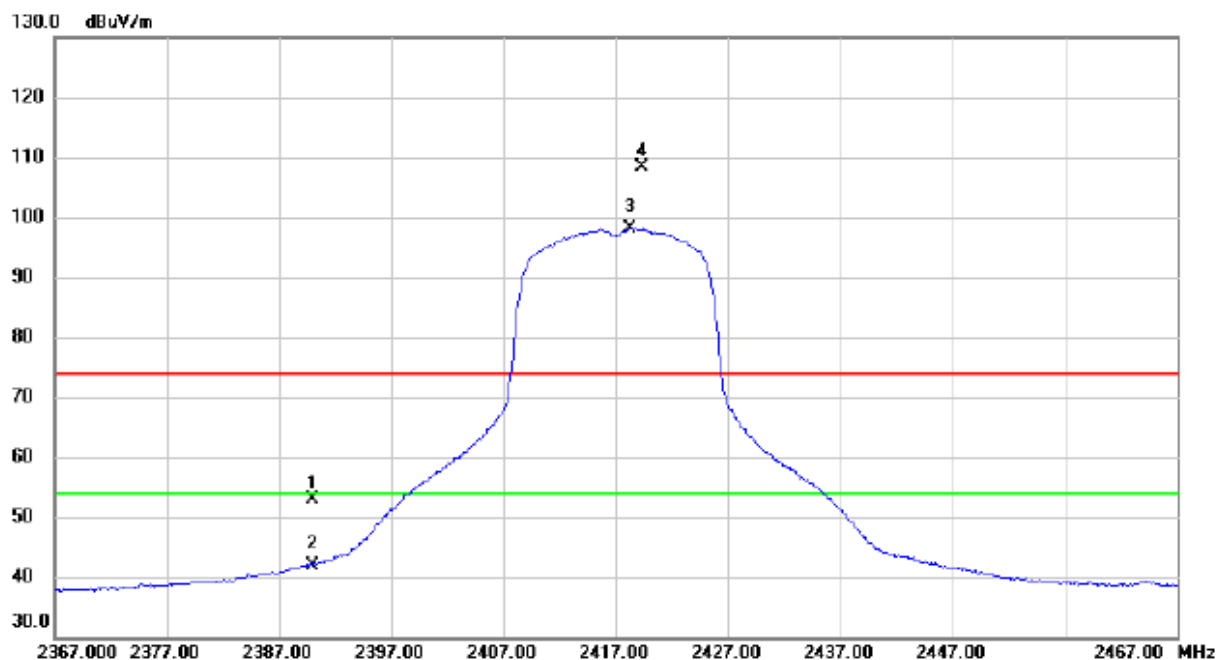
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4833.650	23.61	9.94	33.55	54.00	-20.45	AVG	
2		4835.050	33.86	9.94	43.80	74.00	-30.20	peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2417MHz

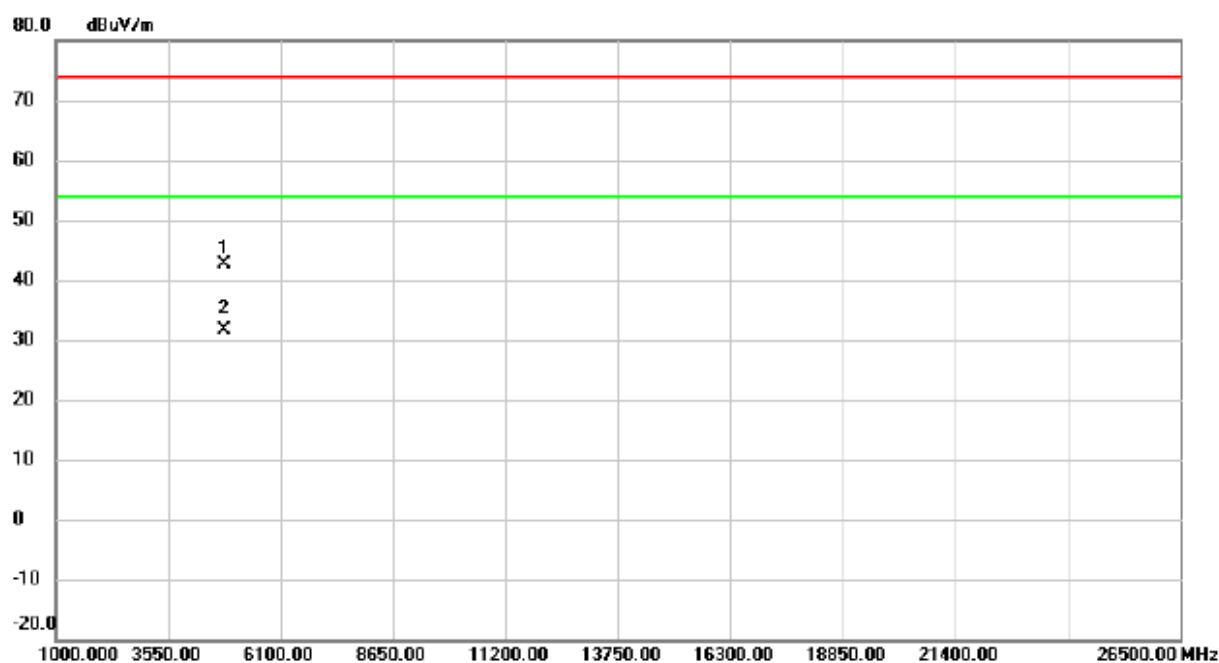
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	41.65	11.29	52.94	74.00	-21.06	peak	
2		2390.000	30.67	11.29	41.96	54.00	-12.04	AVG	
3	*	2418.300	86.83	11.30	98.13	54.00	44.13	AVG	No Limit
4	X	2419.300	97.19	11.31	108.50	74.00	34.50	peak	No Limit

Orthogonal Axis :	X
Test Mode :	TX G MODE 2417MHz

Horizontal

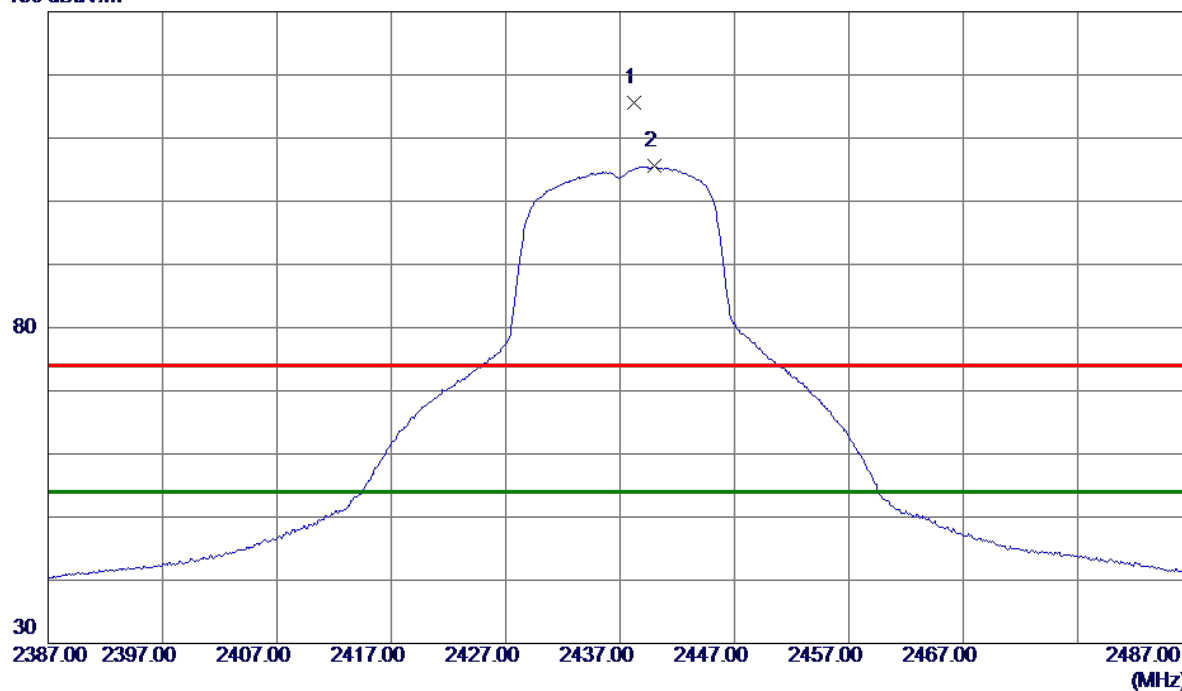


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4834.765	32.76	9.94	42.70	74.00	-31.30	peak	
2	*	4835.235	21.73	9.94	31.67	54.00	-22.33	AVG	

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

Vertical

130 dBuV/m

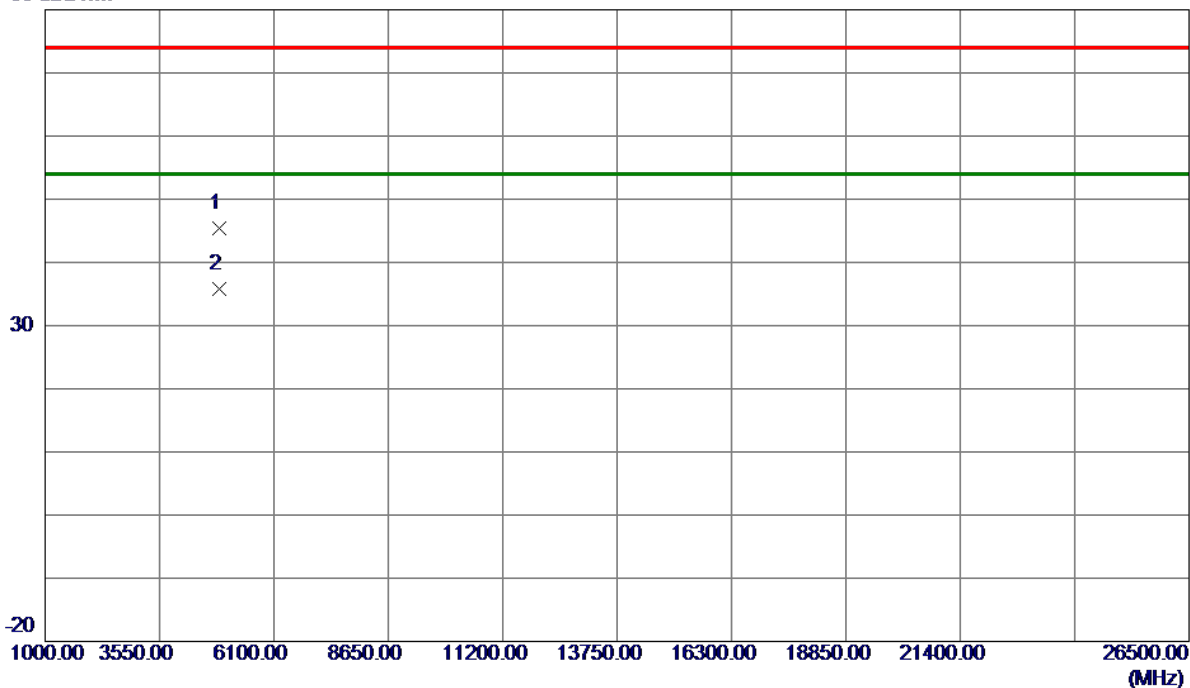


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2438.2000	104.28	11.31	115.59	74.00	41.59	Peak	No Limit
2 *	2440.0000	94.21	11.31	105.52	54.00	51.52	AVG	No Limit

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

Vertical

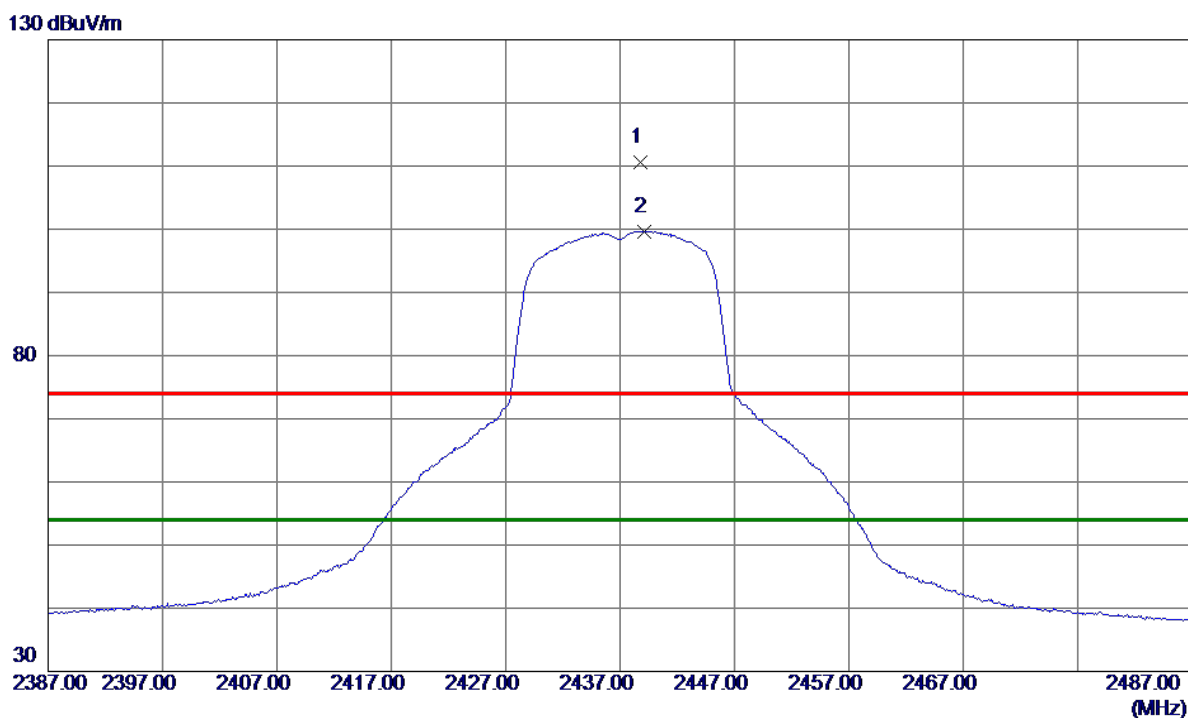
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4876.3500	35.28	10.06	45.34	74.00	-28.66	Peak	
2 *	4876.7000	25.82	10.06	35.88	54.00	-18.12	AVG	

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

Horizontal

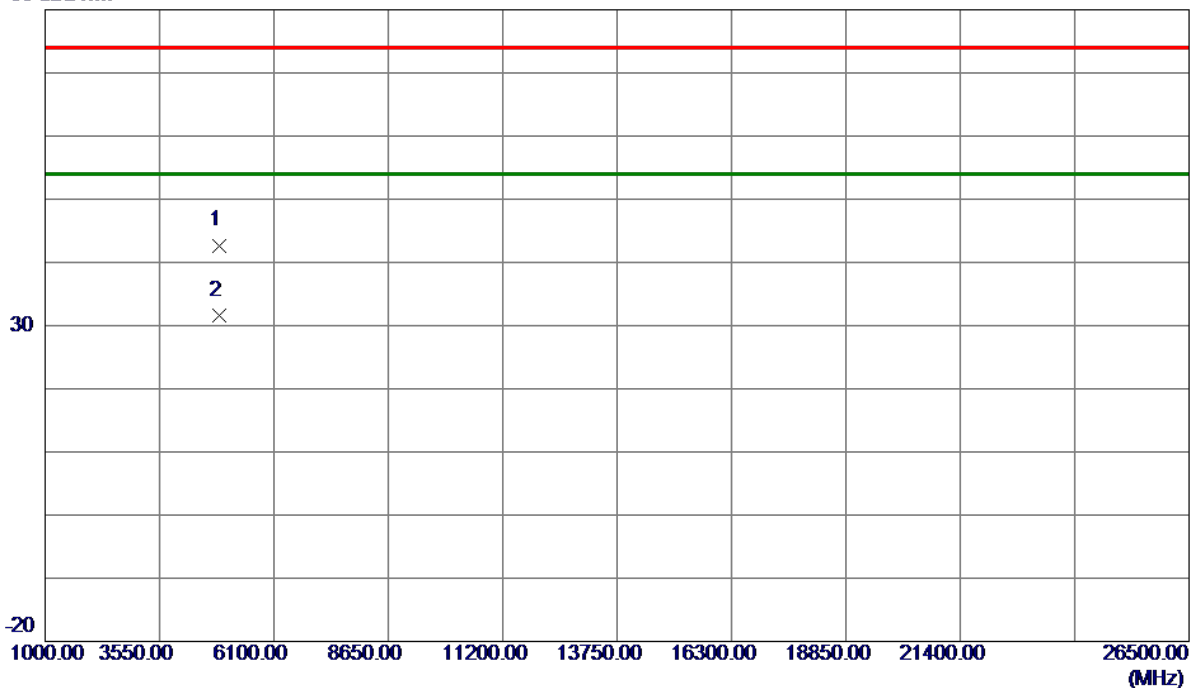


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2438.8000	99.21	11.31	110.52	74.00	36.52	Peak	No Limit
2 *	2439.1000	88.36	11.31	99.67	54.00	45.67	AVG	No Limit

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

Horizontal

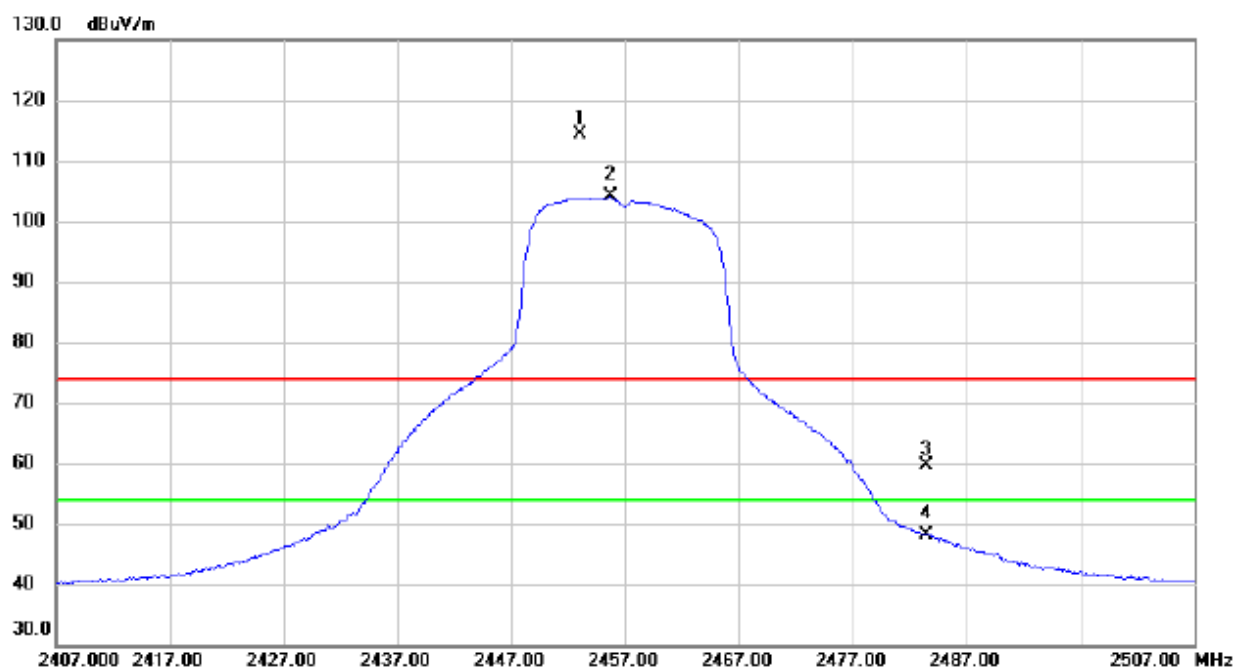
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4872.8250	32.65	10.05	42.70	74.00	-31.30	Peak	
2 *	4876.0099	21.49	10.06	31.55	54.00	-22.45	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2457MHz

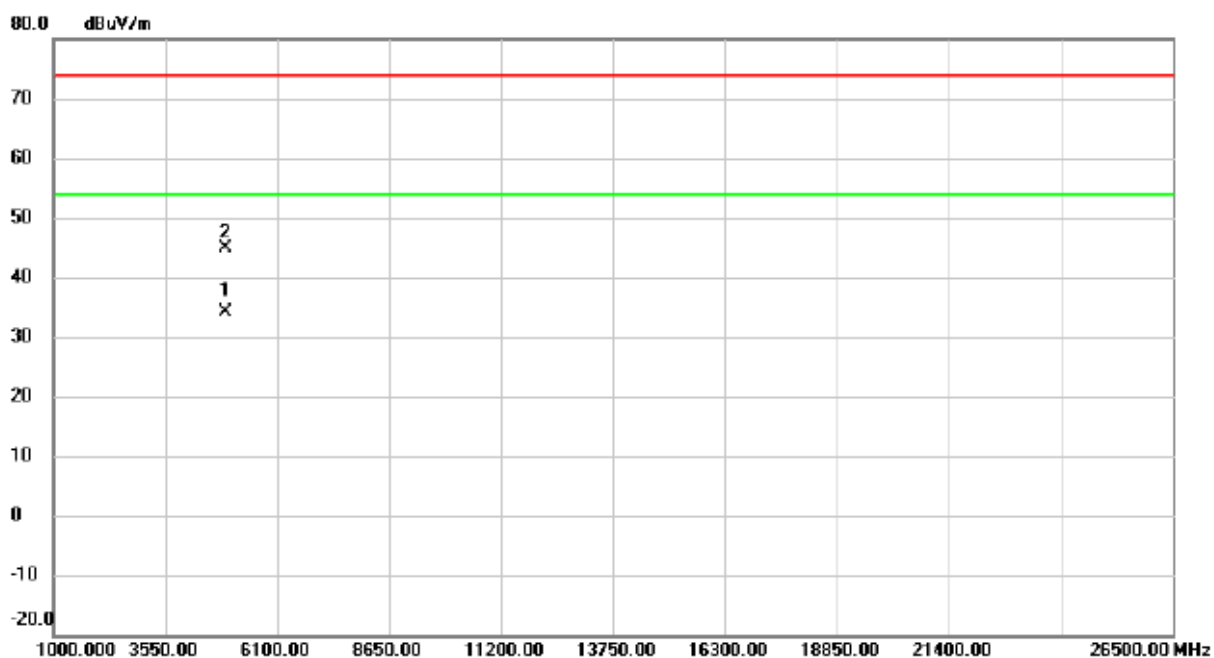
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2453.100	103.16	11.32	114.48	74.00	40.48	peak	No Limit
2	*	2455.700	92.72	11.31	104.03	54.00	50.03	AVG	No Limit
3		2483.500	48.39	11.32	59.71	74.00	-14.29	peak	
4		2483.500	36.83	11.32	48.15	54.00	-5.85	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2457MHz

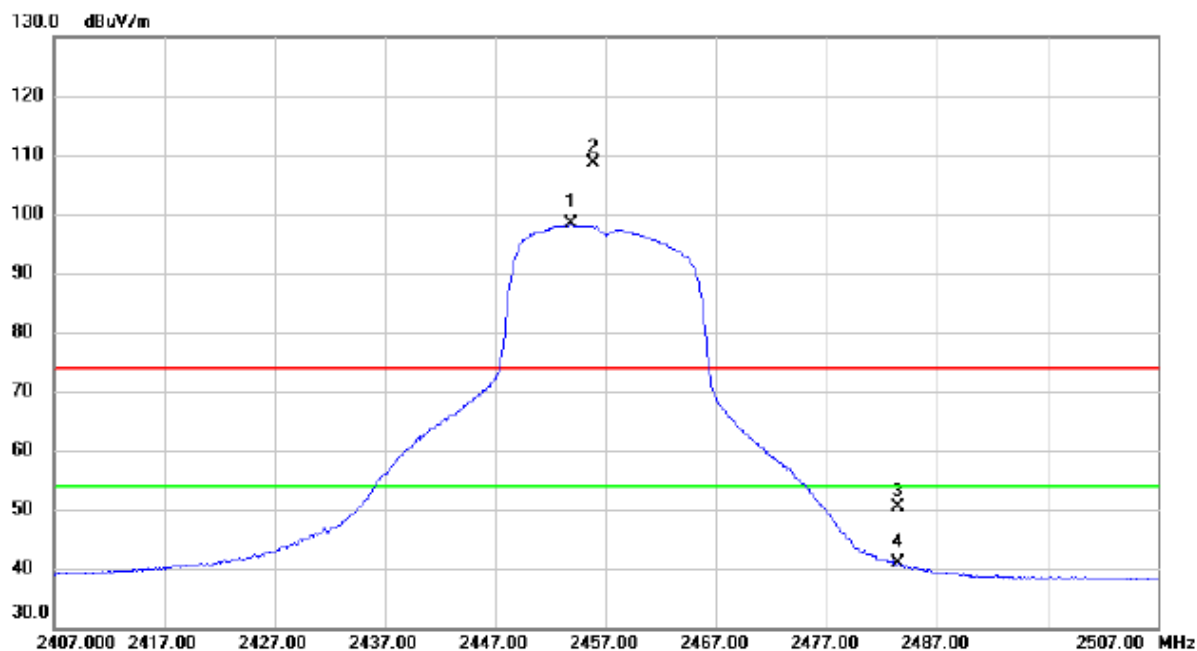
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4913.900	24.00	10.16	34.16	54.00	-19.84	AVG	
2		4915.600	34.61	10.16	44.77	74.00	-29.23	peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2457MHz

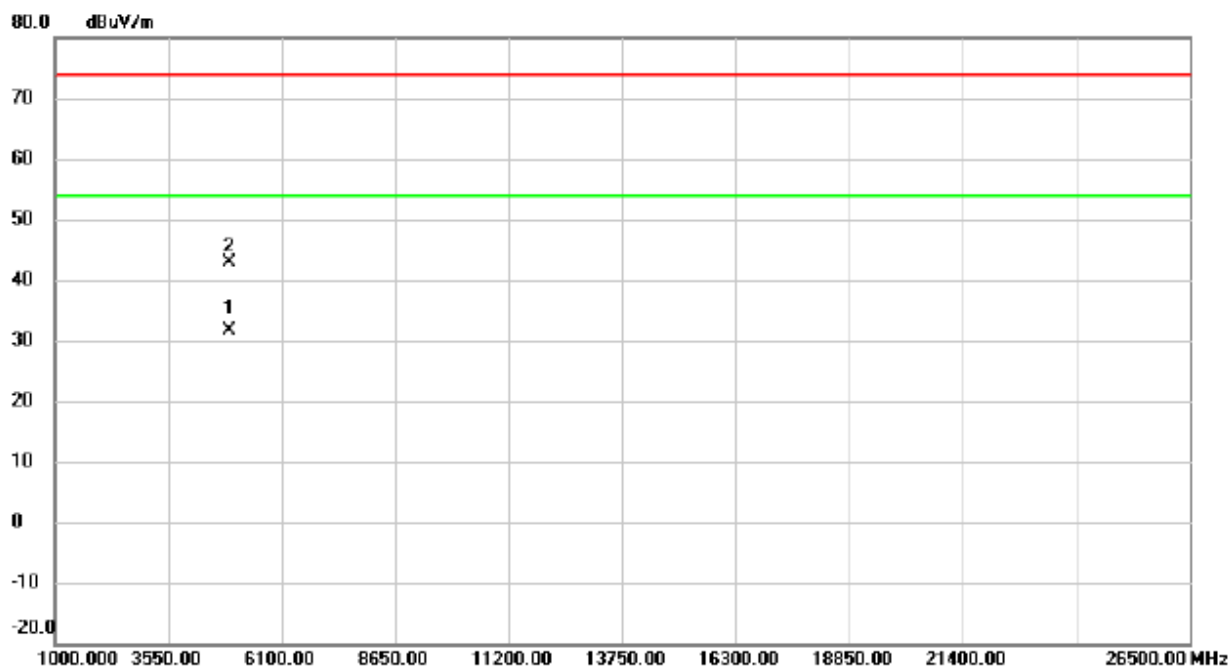
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2453.900	86.99	11.31	98.30	54.00	44.30	AVG	No Limit
2	X	2455.800	97.36	11.31	108.67	74.00	34.67	peak	No Limit
3		2483.500	39.05	11.32	50.37	74.00	-23.63	peak	
4		2483.500	29.47	11.32	40.79	54.00	-13.21	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE 2457MHz

Horizontal

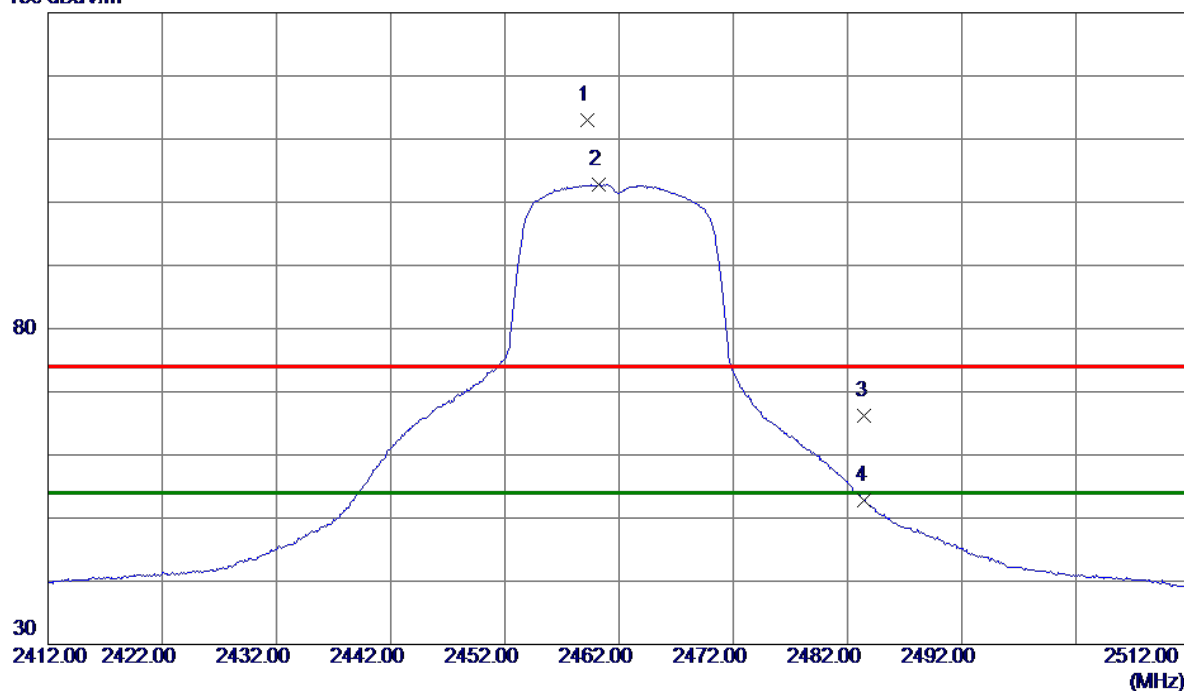


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4914.600	21.56	10.16	31.72	54.00	-22.28	AVG	
2		4915.480	32.62	10.16	42.78	74.00	-31.22	peak	

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

Vertical

130 dBuV/m

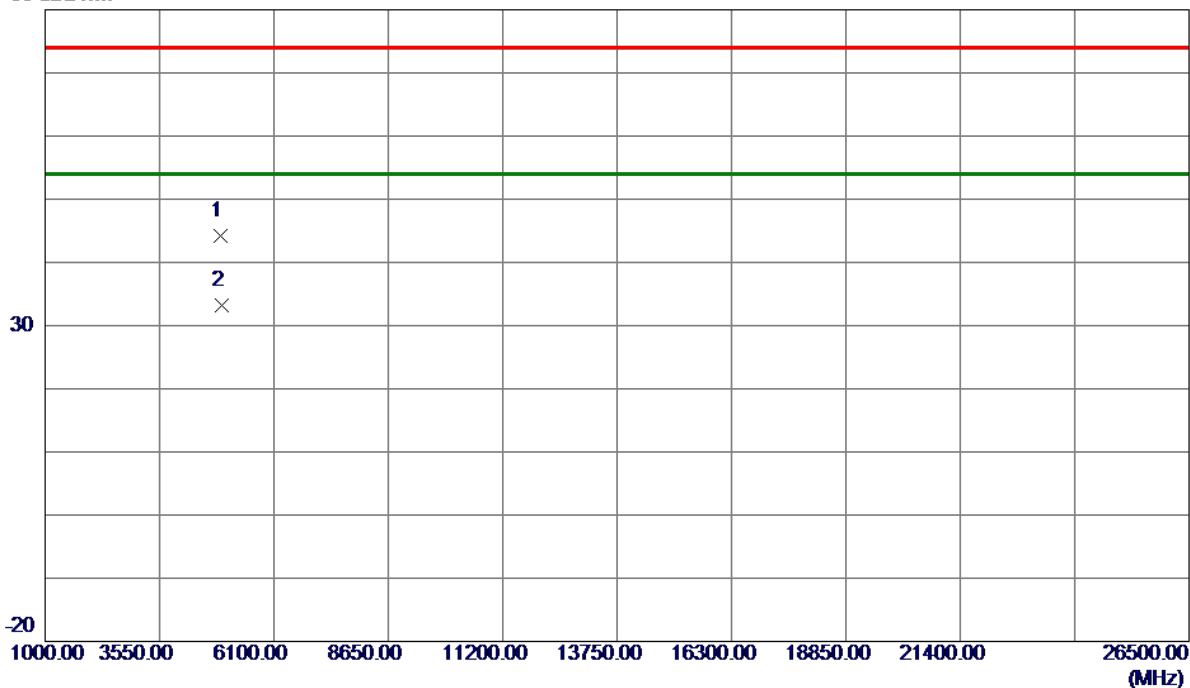


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2459.2000	101.76	11.32	113.08	74.00	39.08	Peak	No Limit
2 *	2460.2000	91.48	11.32	102.80	54.00	48.80	AVG	No Limit
3	2483.5000	54.93	11.32	66.25	74.00	-7.75	Peak	
4	2483.5000	41.45	11.32	52.77	54.00	-1.23	AVG	

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

Vertical

80 dBuV/m

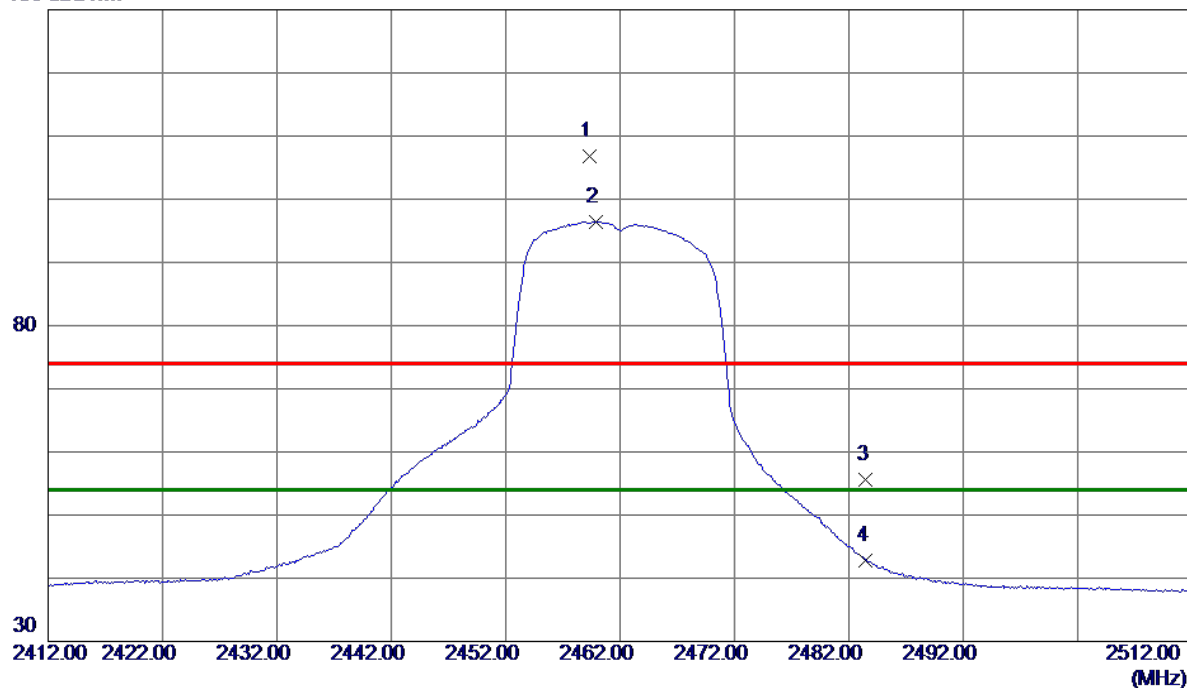


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4919.4000	34.04	10.17	44.21	74.00	-29.79	Peak	
2 *	4924.5000	22.98	10.19	33.17	54.00	-20.83	AVG	

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

Horizontal

130 dBuV/m

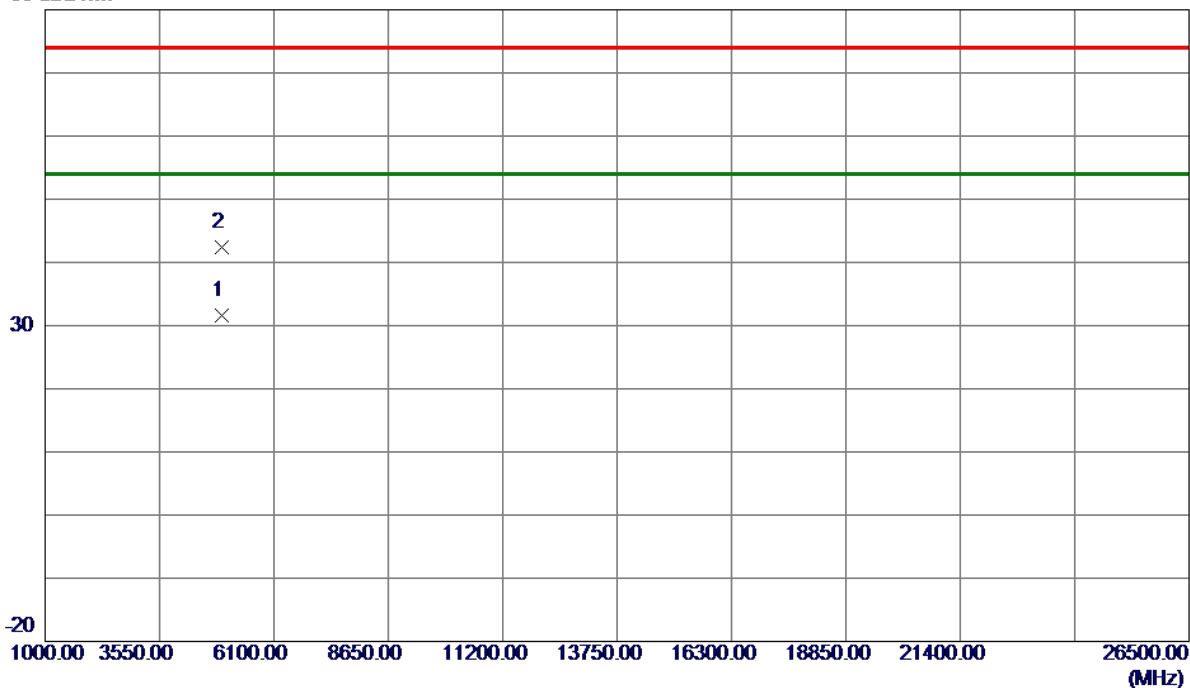


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2459.3000	95.46	11.32	106.78	74.00	32.78	Peak	No Limit
2 *	2459.9000	85.16	11.32	96.48	54.00	42.48	AVG	No Limit
3	2483.5000	44.22	11.32	55.54	74.00	-18.46	Peak	
4	2483.5000	31.44	11.32	42.76	54.00	-11.24	AVG	

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

Horizontal

80 dBuV/m

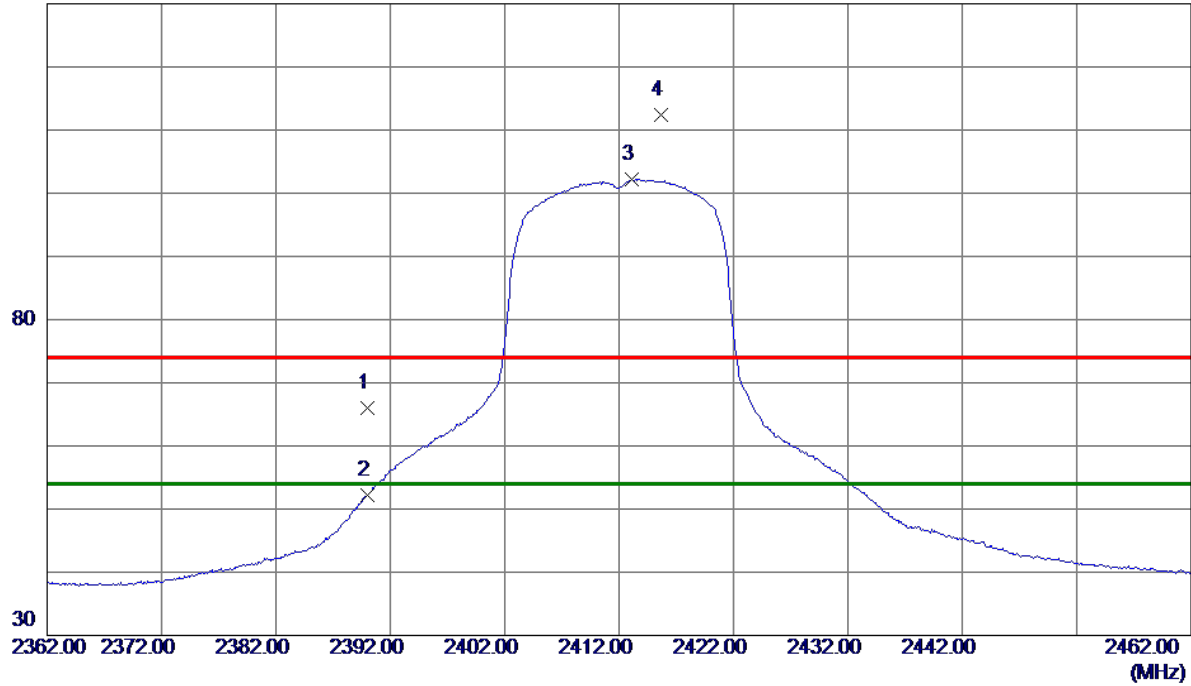


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4924.2350	21.34	10.19	31.53	54.00	-22.47	AVG	
2	4924.5600	32.19	10.19	42.38	74.00	-31.62	Peak	

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

Vertical

130 dBuV/m

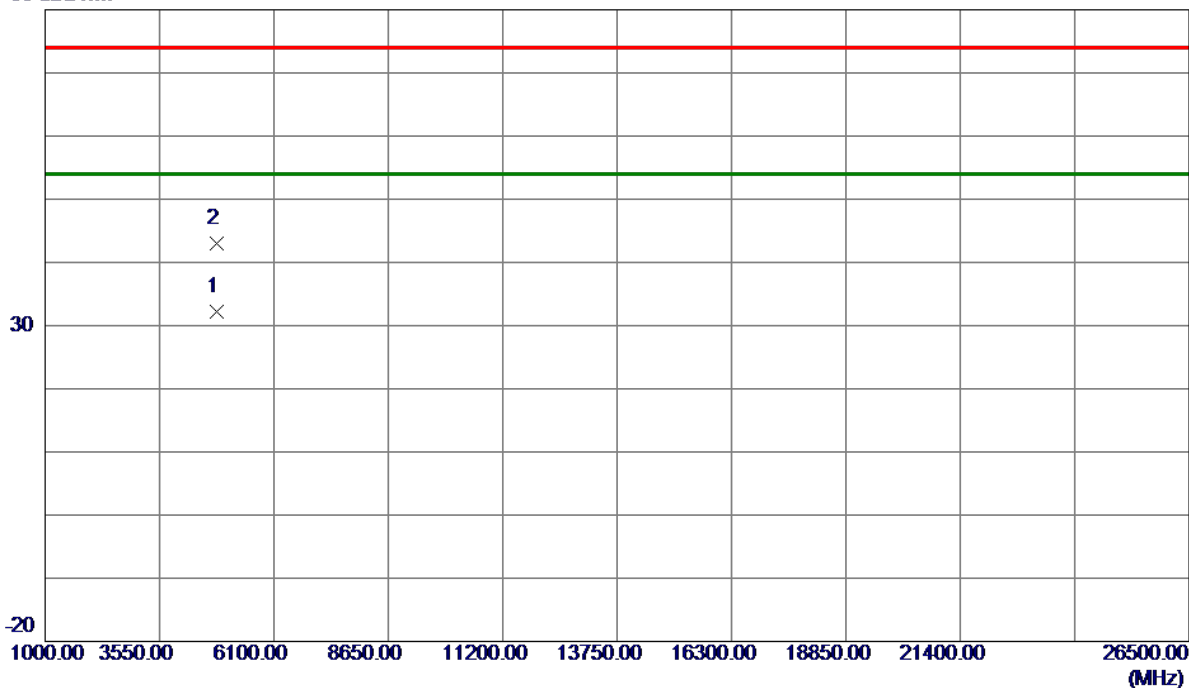


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	54.75	11.30	66.05	74.00	-7.95	Peak	
2	2390.0000	40.84	11.30	52.14	54.00	-1.86	AVG	
3 *	2413.1000	90.87	11.30	102.17	54.00	48.17	AVG	No Limit
4	2415.7000	101.14	11.31	112.45	74.00	38.45	Peak	No Limit

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

Vertical

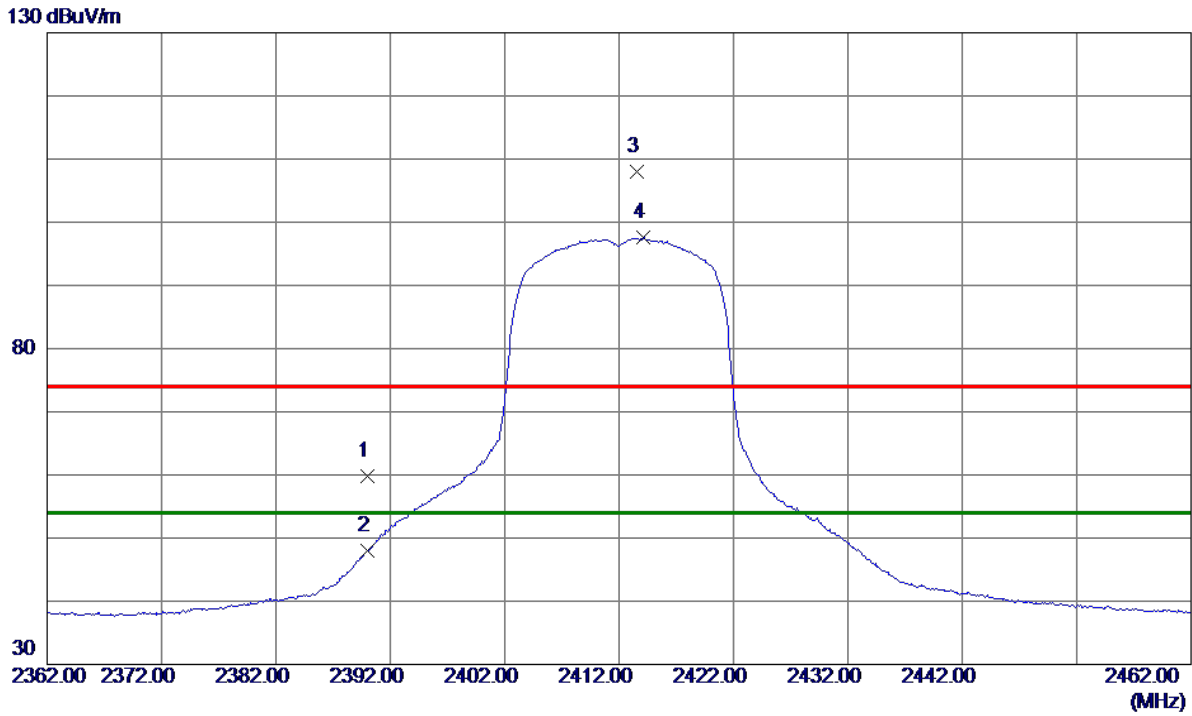
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4824.0500	22.36	9.91	32.27	54.00	-21.73	AVG	
2	4824.5000	33.11	9.92	43.03	74.00	-30.97	Peak	

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

Horizontal

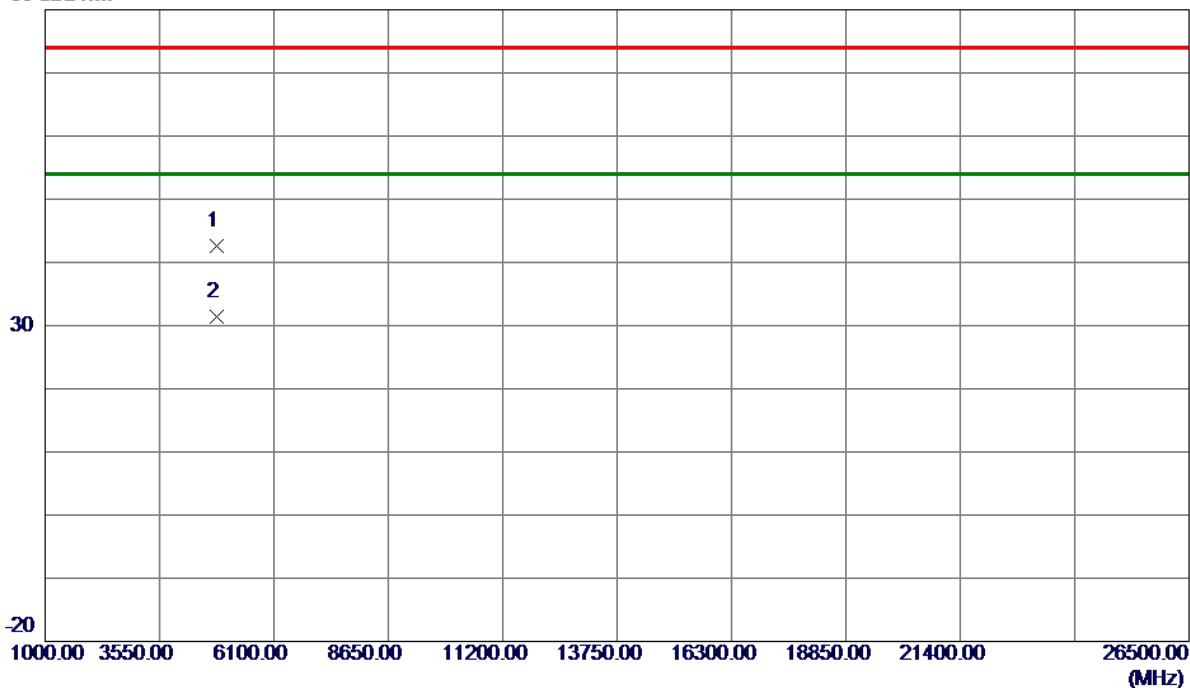


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	48.51	11.30	59.81	74.00	-14.19	Peak	
2	2390.0000	36.63	11.30	47.93	54.00	-6.07	AVG	
3	2413.6000	96.68	11.31	107.99	74.00	33.99	Peak	No Limit
4 *	2414.1000	86.31	11.31	97.62	54.00	43.62	AVG	No Limit

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

Horizontal

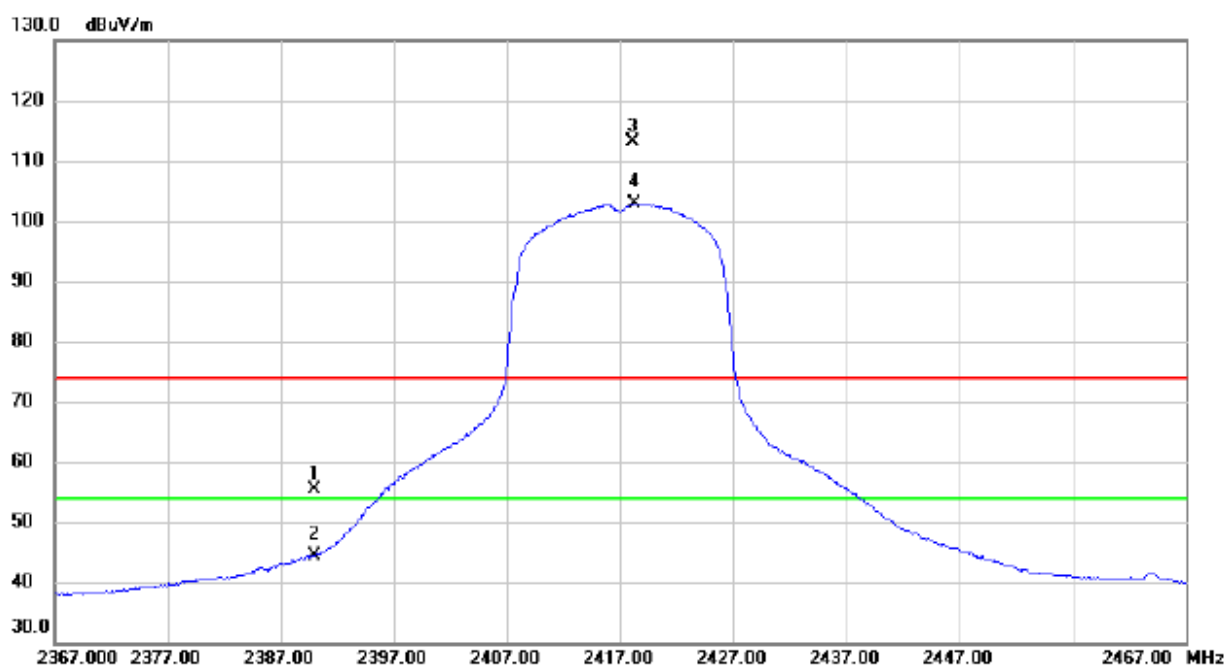
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4821.7799	32.70	9.91	42.61	74.00	-31.39	Peak	
2 *	4825.8750	21.54	9.92	31.46	54.00	-22.54	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2417MHz

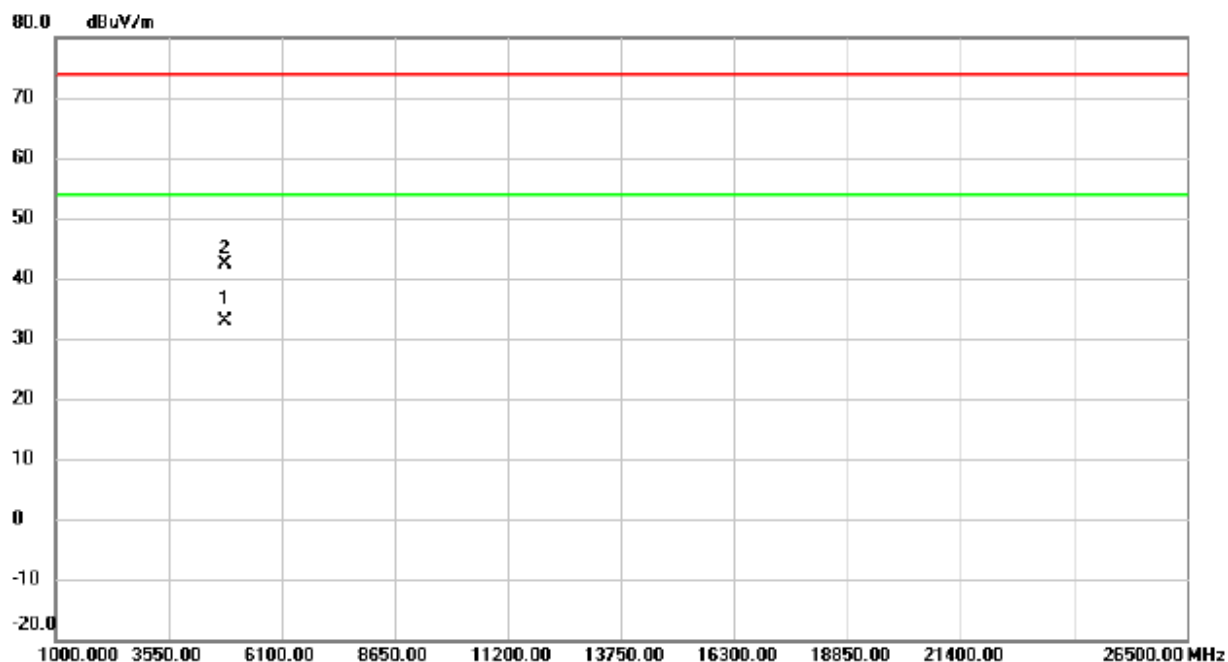
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	43.98	11.29	55.27	74.00	-18.73	peak	
2		2390.000	33.18	11.29	44.47	54.00	-9.53	AVG	
3	X	2418.100	101.84	11.30	113.14	74.00	39.14	peak	No Limit
4	*	2418.300	91.69	11.30	102.99	54.00	48.99	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2417MHz

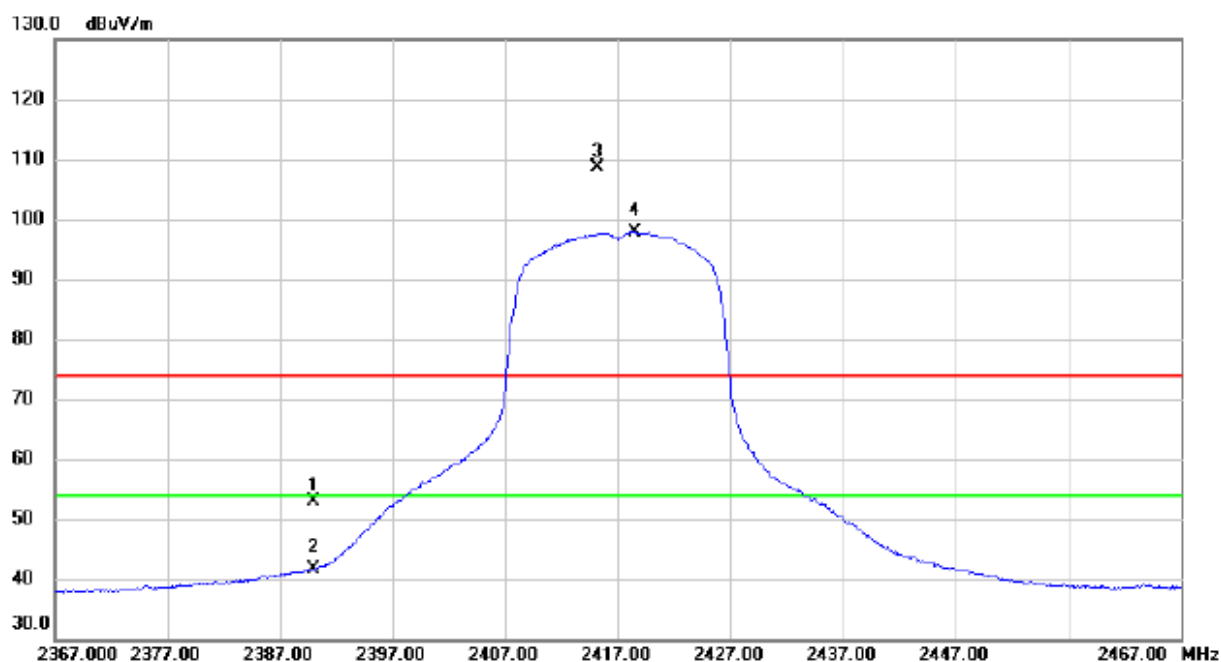
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4833.950	22.87	9.94	32.81	54.00	-21.19	AVG	
2		4834.950	32.55	9.94	42.49	74.00	-31.51	peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2417MHz

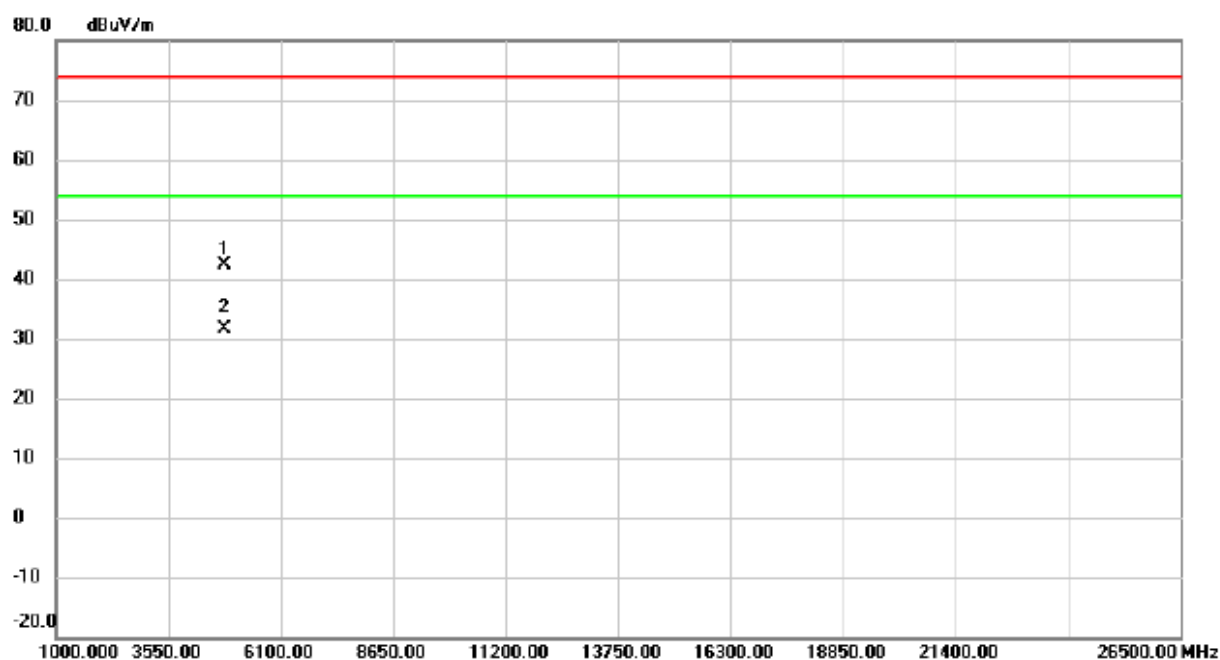
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	41.52	11.29	52.81	74.00	-21.19	peak	
2		2390.000	30.36	11.29	41.65	54.00	-12.35	AVG	
3	X	2415.200	97.25	11.31	108.56	74.00	34.56	peak	No Limit
4	*	2418.600	86.61	11.31	97.92	54.00	43.92	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2417MHz

Horizontal

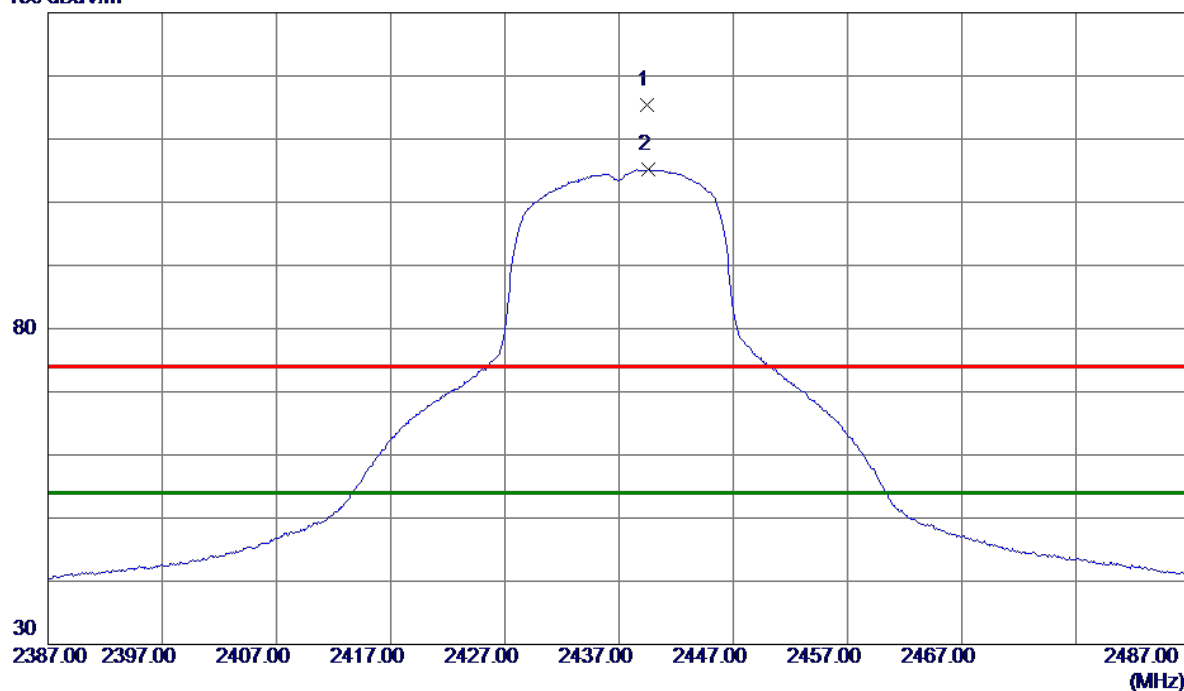


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4833.875	32.55	9.94	42.49	74.00	-31.51	peak	
2	*	4835.360	21.65	9.94	31.59	54.00	-22.41	AVG	

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

Vertical

130 dBuV/m

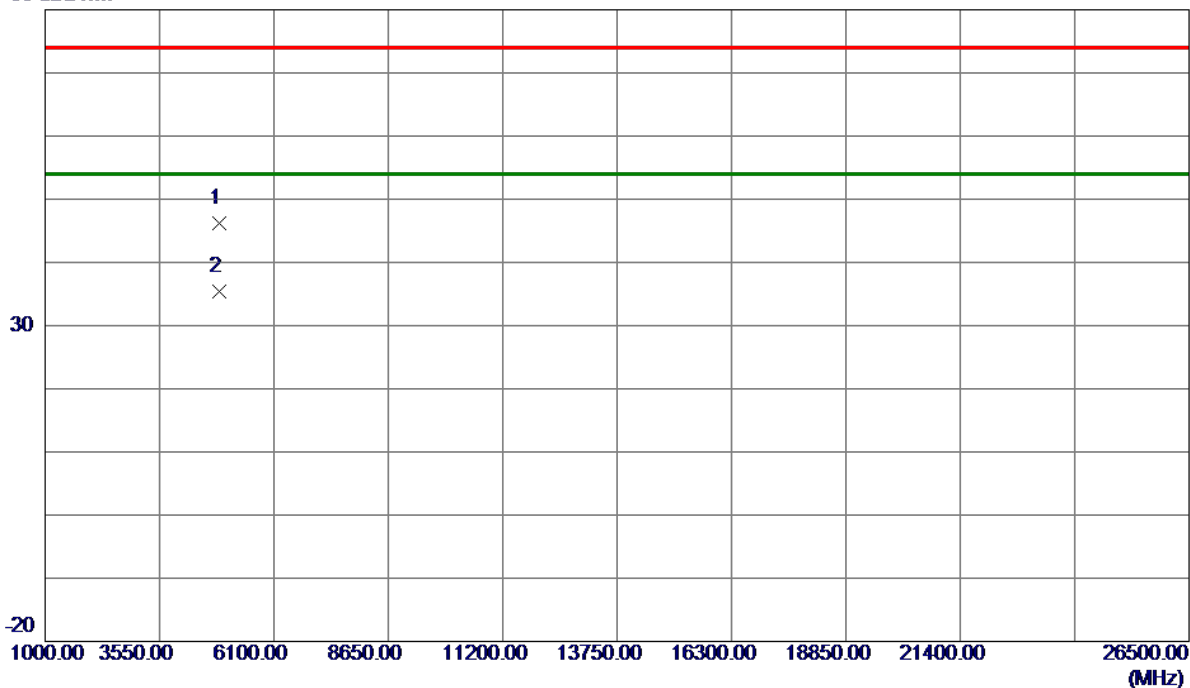


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2439.4000	104.18	11.31	115.49	74.00	41.49	Peak	No Limit
2 *	2439.6000	93.91	11.31	105.22	54.00	51.22	AVG	No Limit

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

Vertical

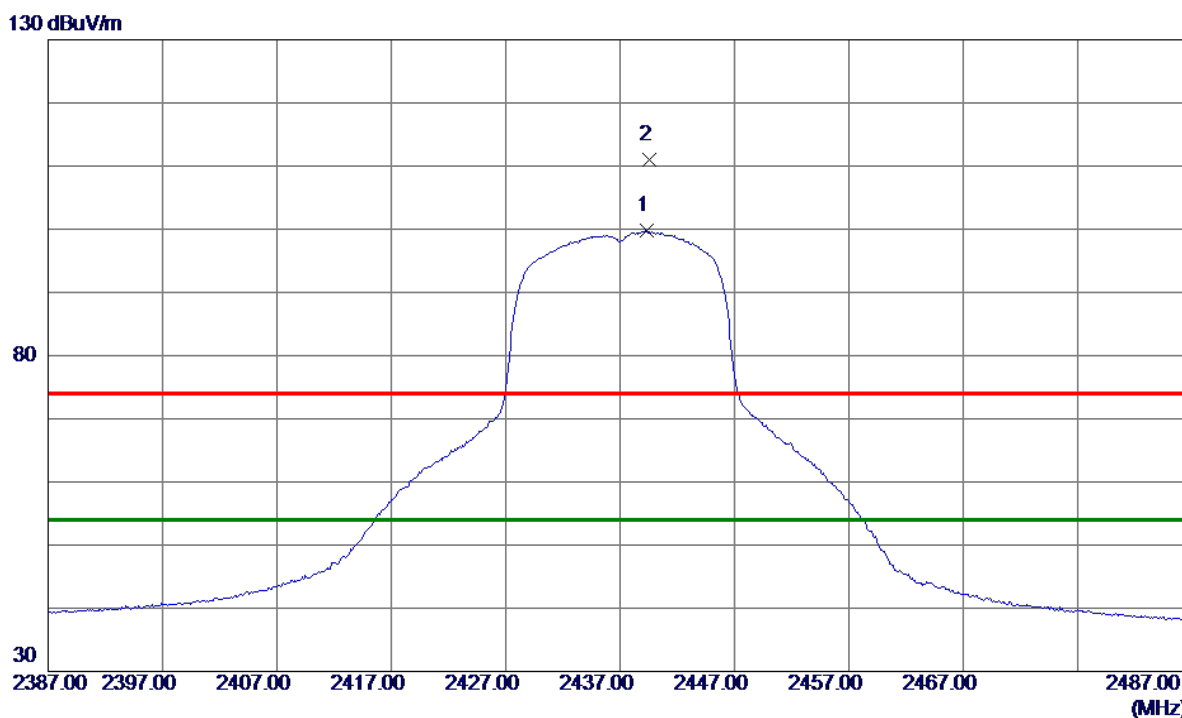
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4875.1500	36.10	10.05	46.15	74.00	-27.85	Peak	
2 *	4875.2500	25.36	10.05	35.41	54.00	-18.59	AVG	

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

Horizontal

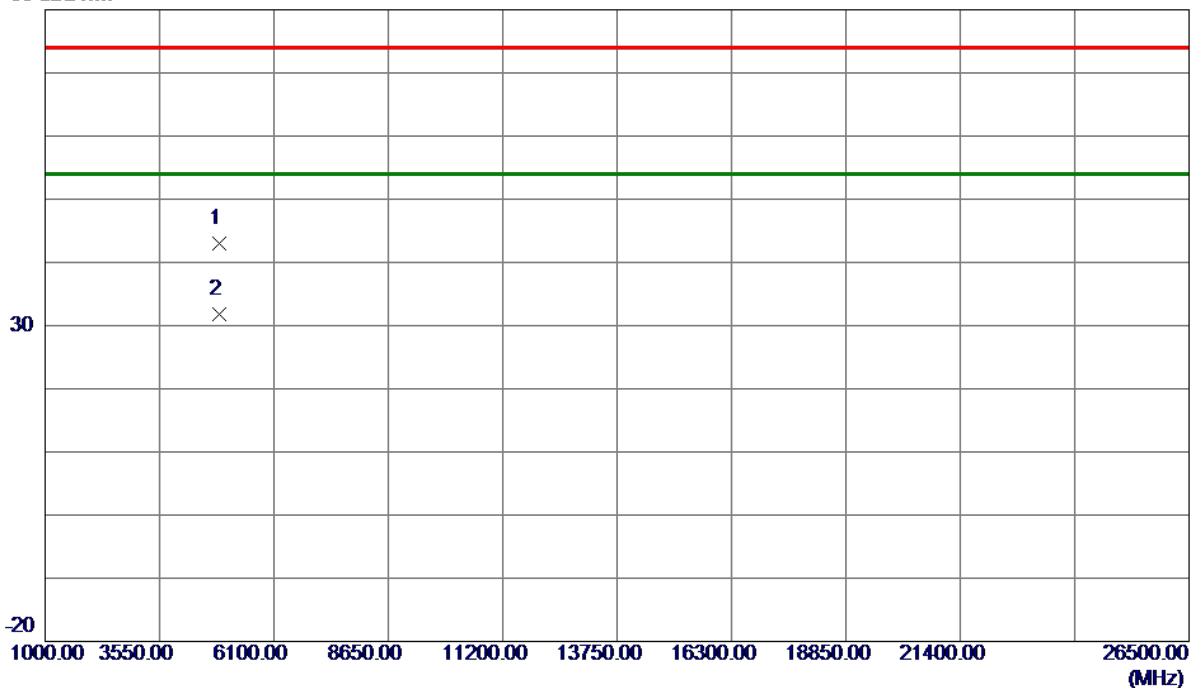


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2439.3000	88.46	11.31	99.77	54.00	45.77	AVG	No Limit
2	2439.6000	99.59	11.31	110.90	74.00	36.90	Peak	No Limit

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

Horizontal

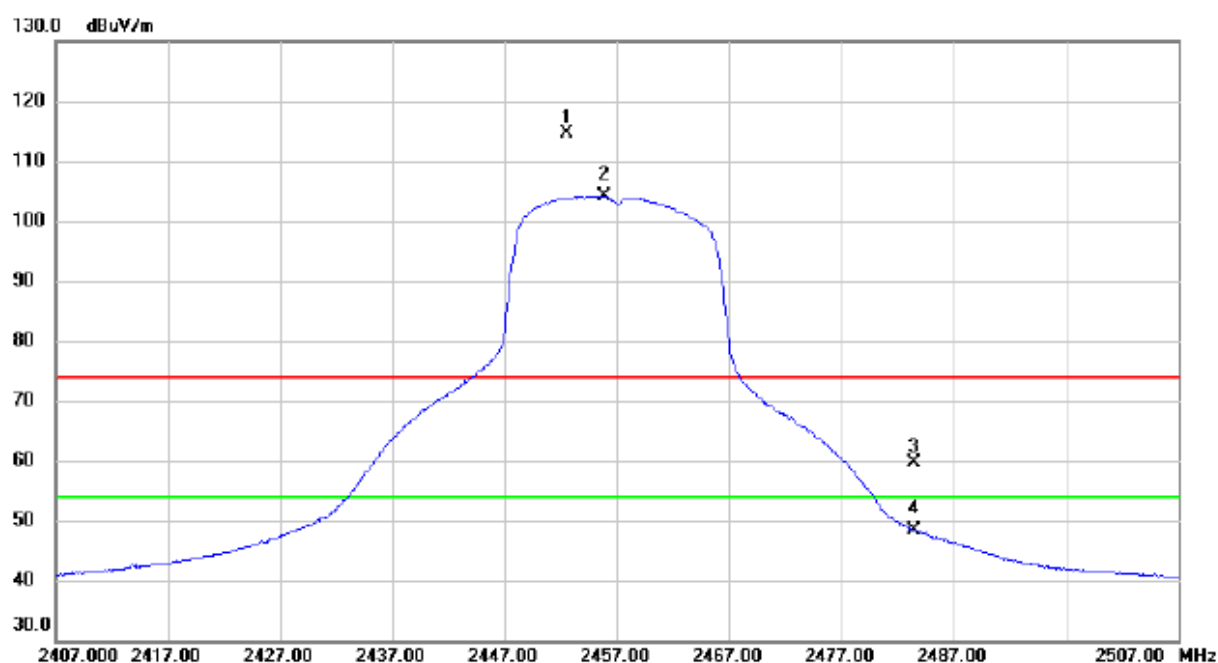
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4874.5200	32.90	10.05	42.95	74.00	-31.05	Peak	
2 *	4874.5200	21.68	10.05	31.73	54.00	-22.27	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2457MHz

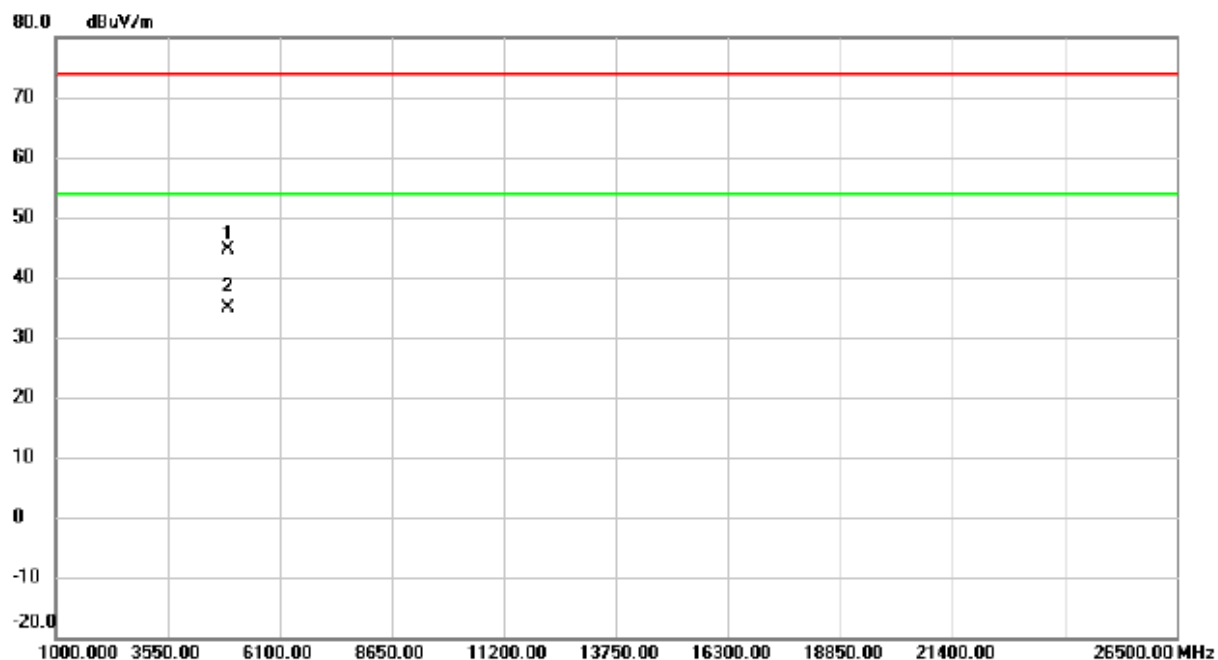
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2452.600	103.31	11.32	114.63	74.00	40.63	peak	No Limit
2	*	2455.800	92.88	11.31	104.19	54.00	50.19	AVG	No Limit
3		2483.500	48.22	11.32	59.54	74.00	-14.46	peak	
4		2483.500	37.13	11.32	48.45	54.00	-5.55	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2457MHz

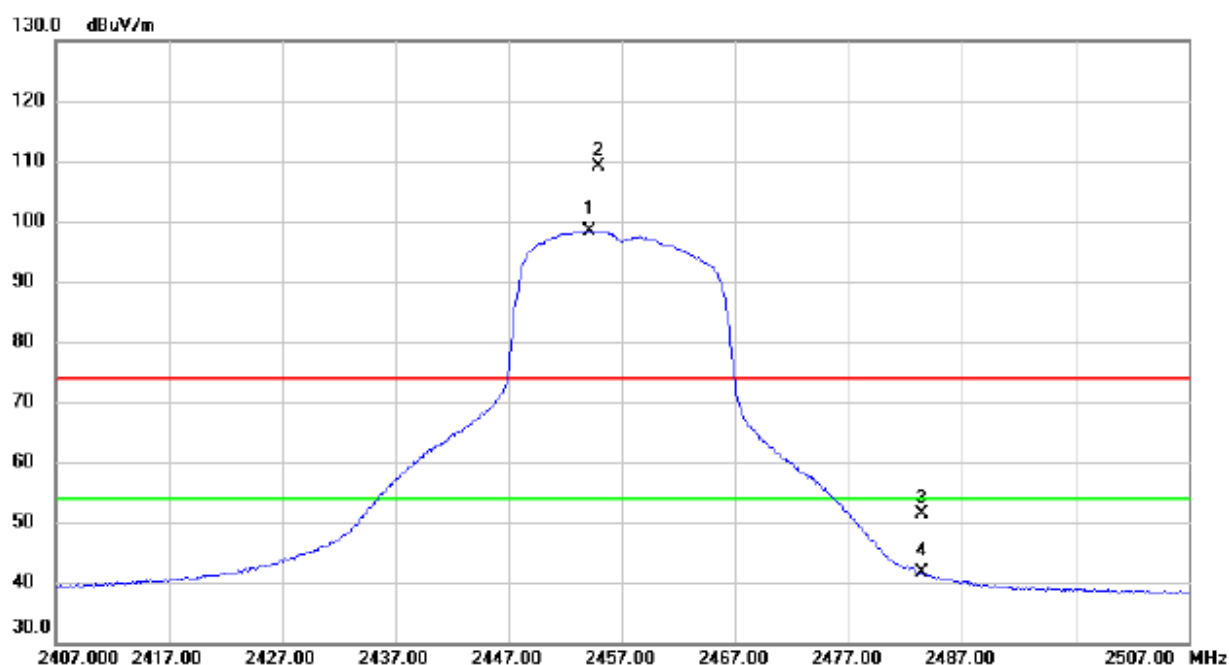
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4912.600	34.52	10.15	44.67	74.00	-29.33	peak	
2	*	4913.150	24.79	10.15	34.94	54.00	-19.06	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2457MHz

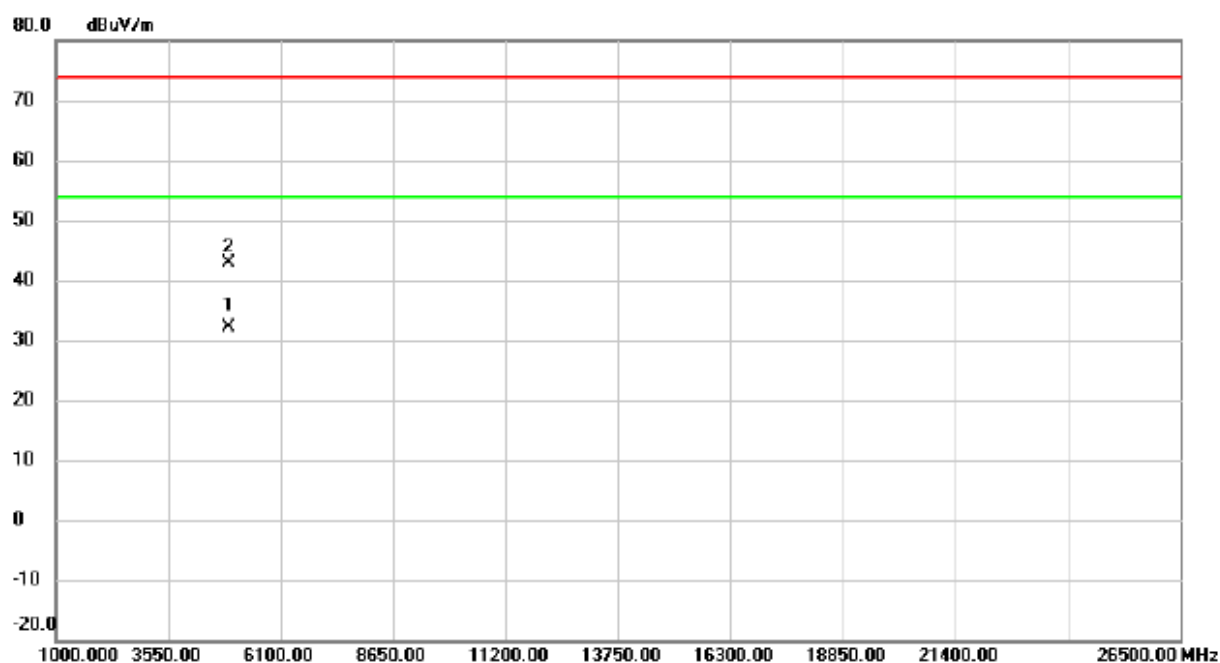
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2454.100	87.04	11.31	98.35	54.00	44.35	AVG	No Limit
2	X	2454.900	97.94	11.31	109.25	74.00	35.25	peak	No Limit
3		2483.500	40.08	11.32	51.40	74.00	-22.60	peak	
4		2483.500	30.20	11.32	41.52	54.00	-12.48	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2457MHz

Horizontal

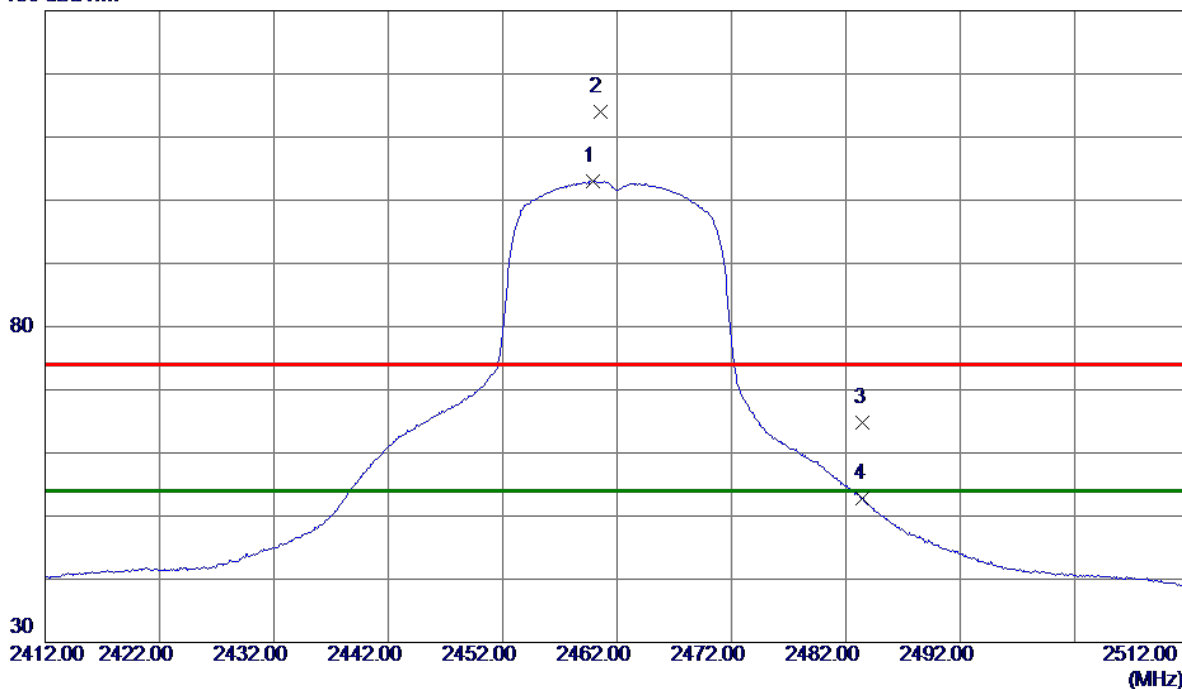


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4911.695	21.91	10.15	32.06	54.00	-21.94	AVG	
2		4914.950	32.82	10.16	42.98	74.00	-31.02	peak	

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

Vertical

130 dBuV/m

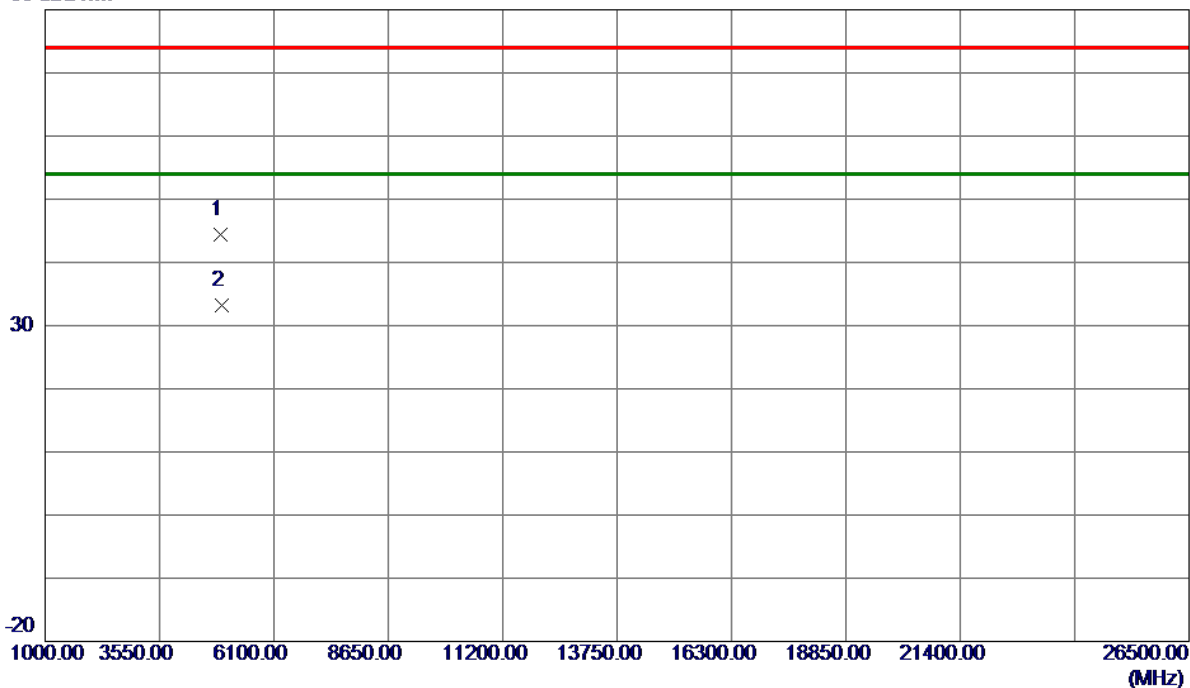


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2459.9000	91.69	11.32	103.01	54.00	49.01	AVG	No Limit
2	2460.5000	102.60	11.32	113.92	74.00	39.92	Peak	No Limit
3	2483.5000	53.46	11.32	64.78	74.00	-9.22	Peak	
4	2483.5000	41.41	11.32	52.73	54.00	-1.27	AVG	

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

Vertical

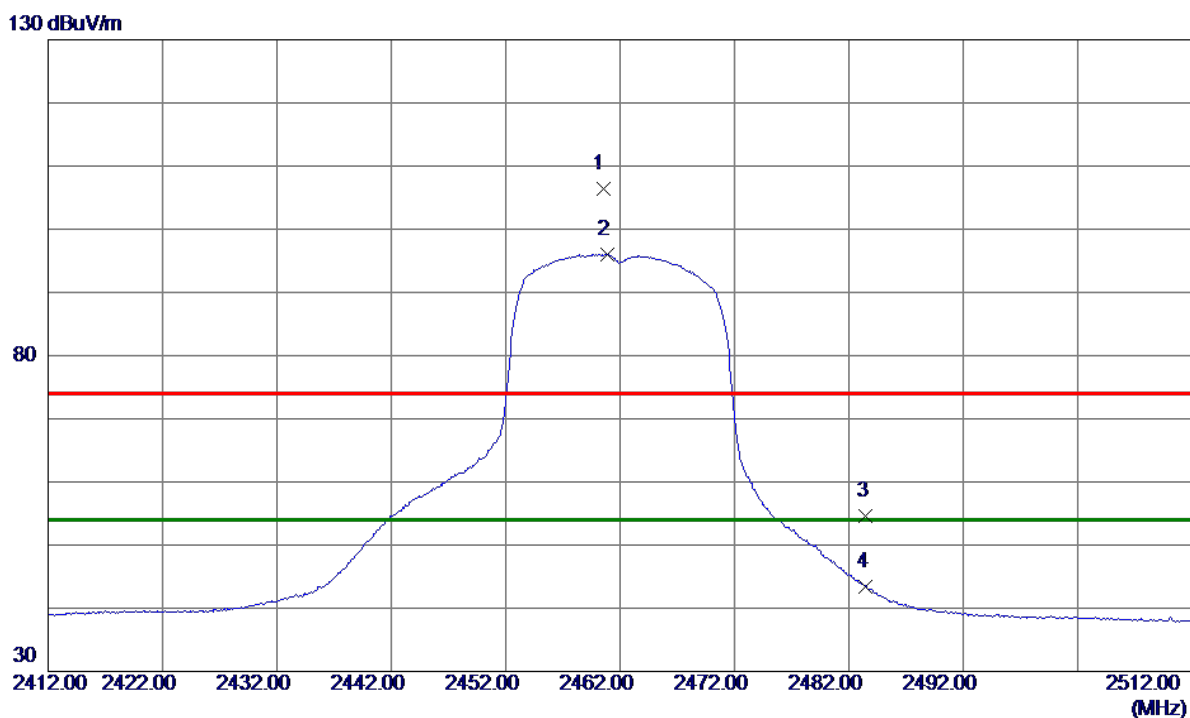
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4918.6000	34.19	10.17	44.36	74.00	-29.64	Peak	
2 *	4925.7500	22.92	10.19	33.11	54.00	-20.89	AVG	

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

Horizontal

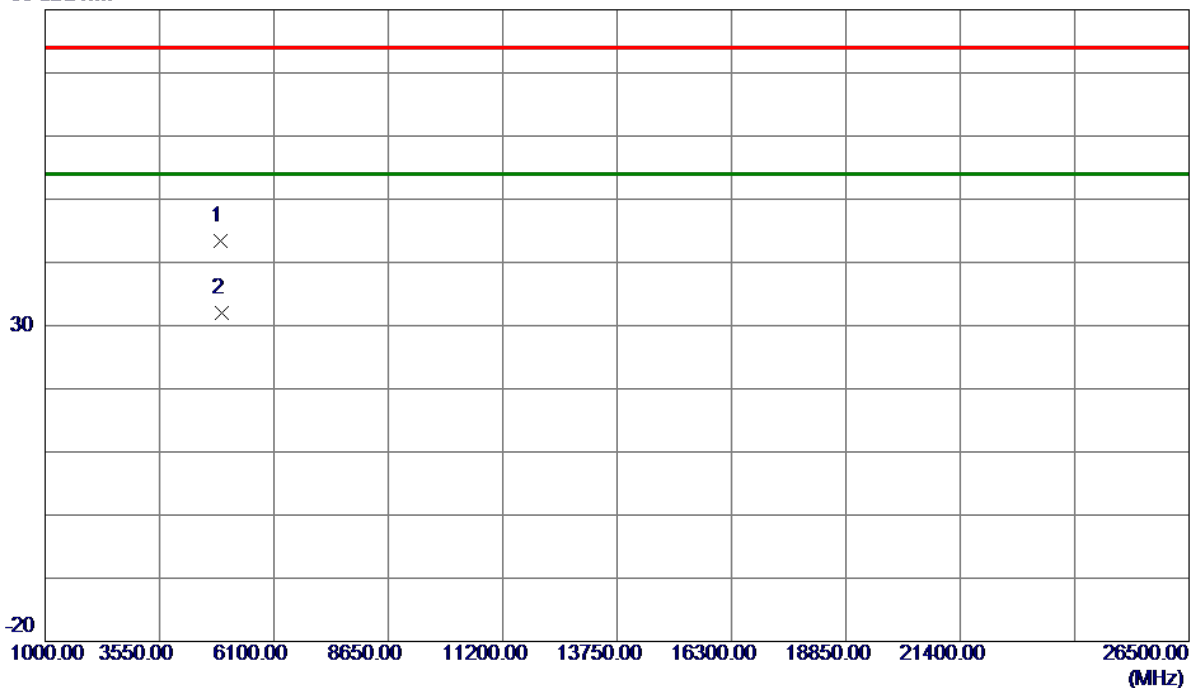


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.5000	95.09	11.32	106.41	74.00	32.41	Peak	No Limit
2 *	2460.9000	84.76	11.32	96.08	54.00	42.08	AVG	No Limit
3	2483.5000	43.20	11.32	54.52	74.00	-19.48	Peak	
4	2483.5000	32.16	11.32	43.48	54.00	-10.52	AVG	

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

Horizontal

80 dBuV/m

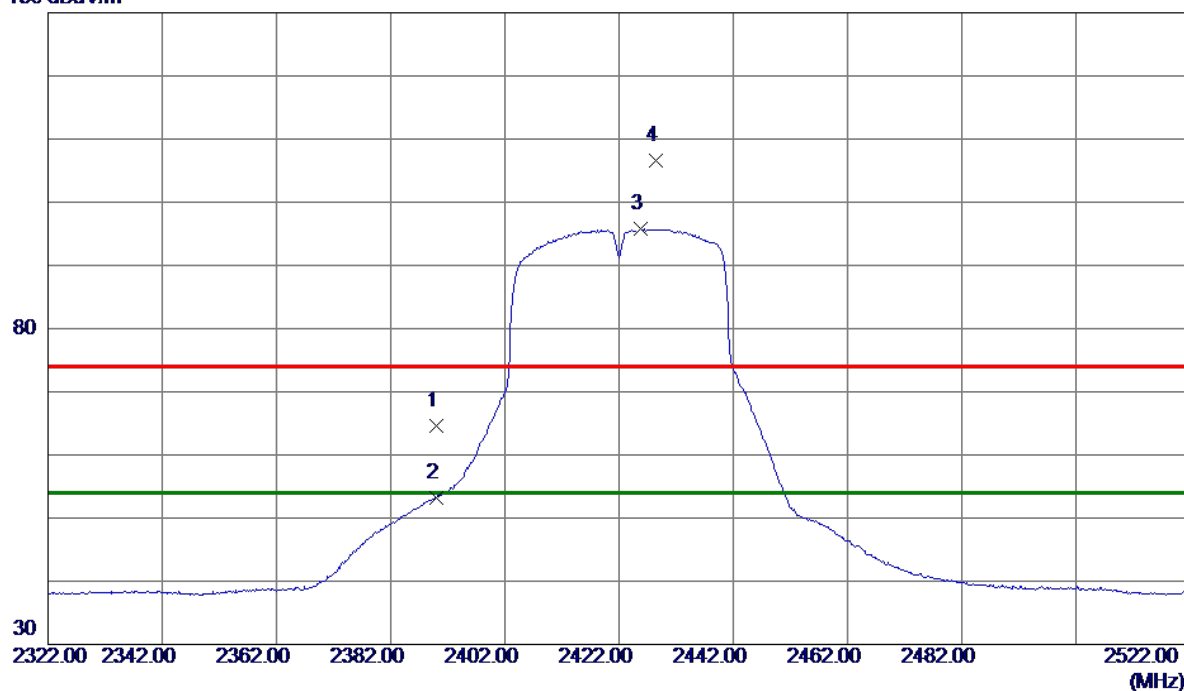


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4922.2900	33.22	10.18	43.40	74.00	-30.60	Peak	
2 *	4924.8250	21.80	10.19	31.99	54.00	-22.01	AVG	

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

Vertical

130 dBuV/m

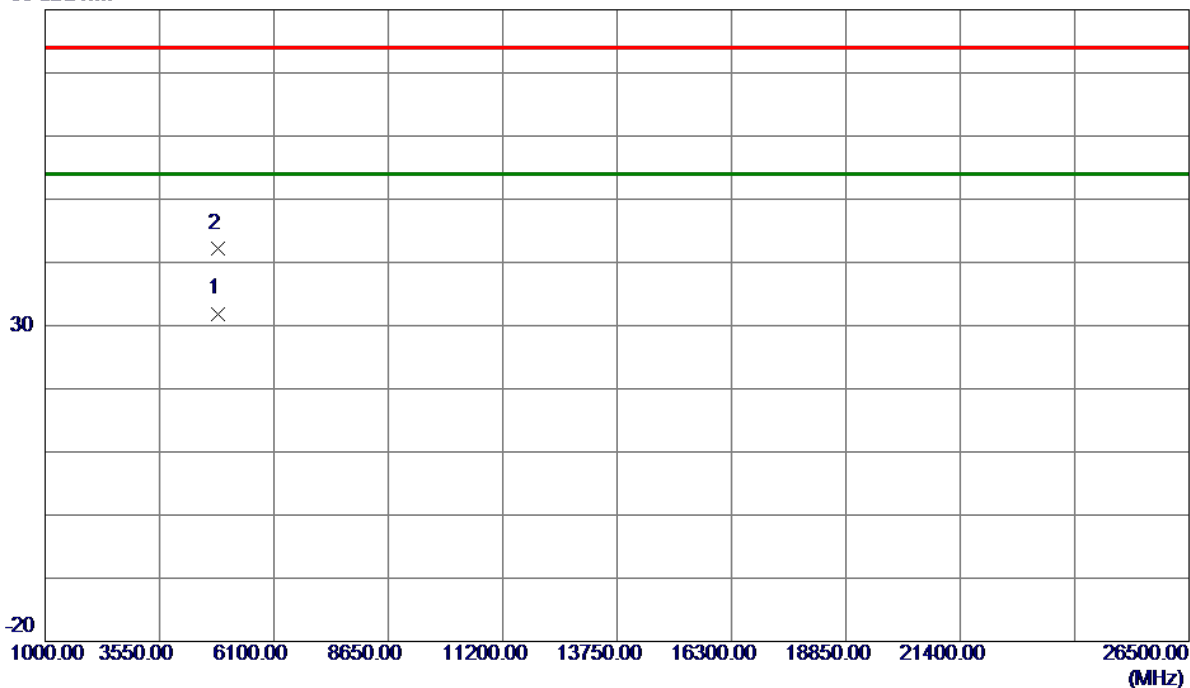


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	53.39	11.30	64.69	74.00	-9.31	Peak	
2	2390.0000	41.90	11.30	53.20	54.00	-0.80	AVG	
3 *	2425.8000	84.42	11.31	95.73	54.00	41.73	AVG	No Limit
4	2428.4000	95.33	11.31	106.64	74.00	32.64	Peak	No Limit

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

Vertical

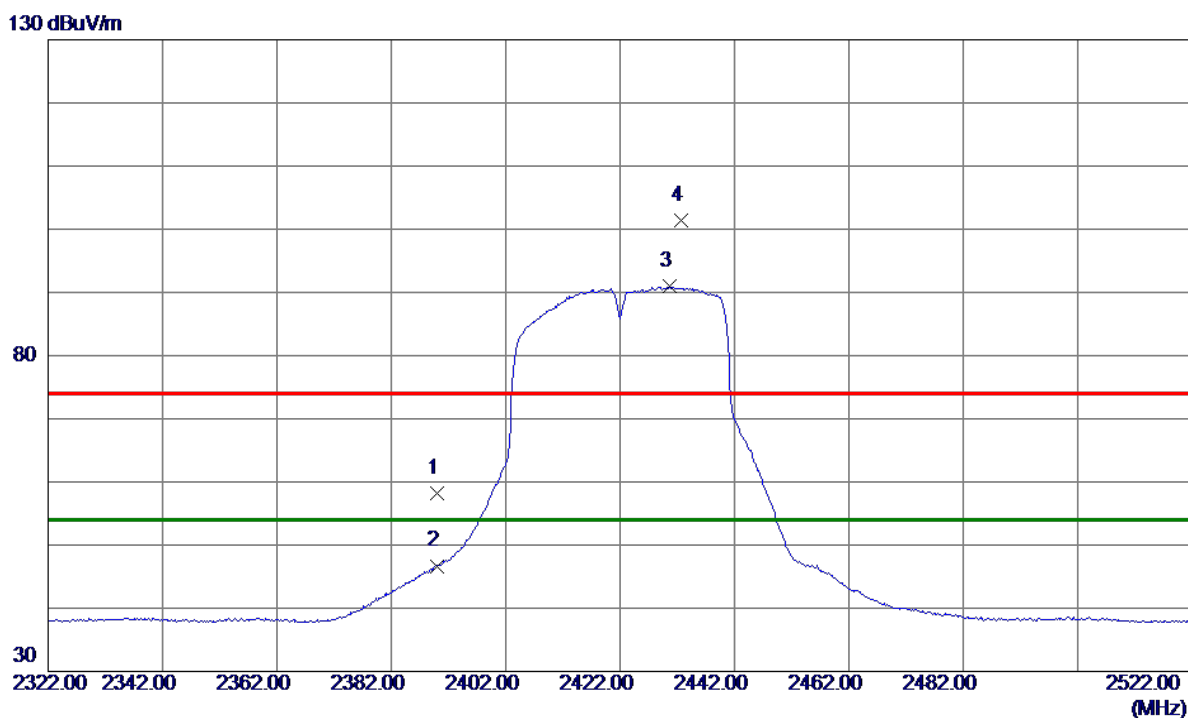
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4844.0000	21.93	9.97	31.90	54.00	-22.10	AVG	
2	4865.9500	32.17	10.03	42.20	74.00	-31.80	Peak	

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

Horizontal

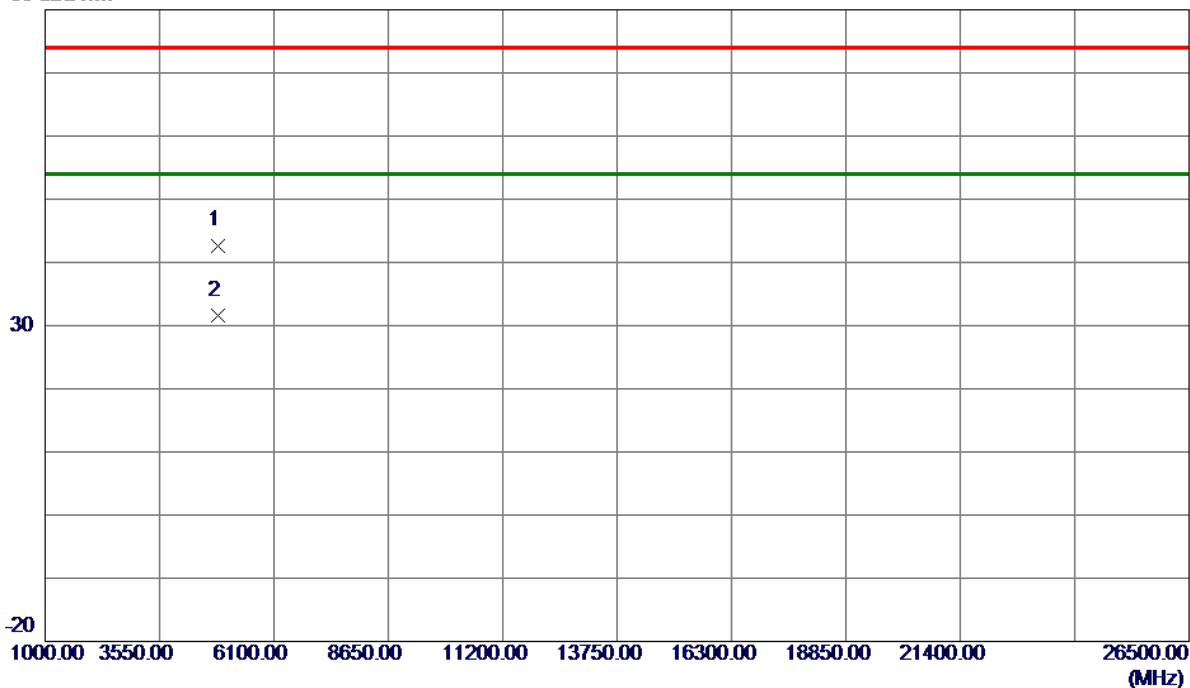


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	46.89	11.30	58.19	74.00	-15.81	Peak	
2	2390.0000	35.40	11.30	46.70	54.00	-7.30	AVG	
3 *	2430.6000	79.68	11.31	90.99	54.00	36.99	AVG	No Limit
4	2432.6000	90.14	11.31	101.45	74.00	27.45	Peak	No Limit

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

Horizontal

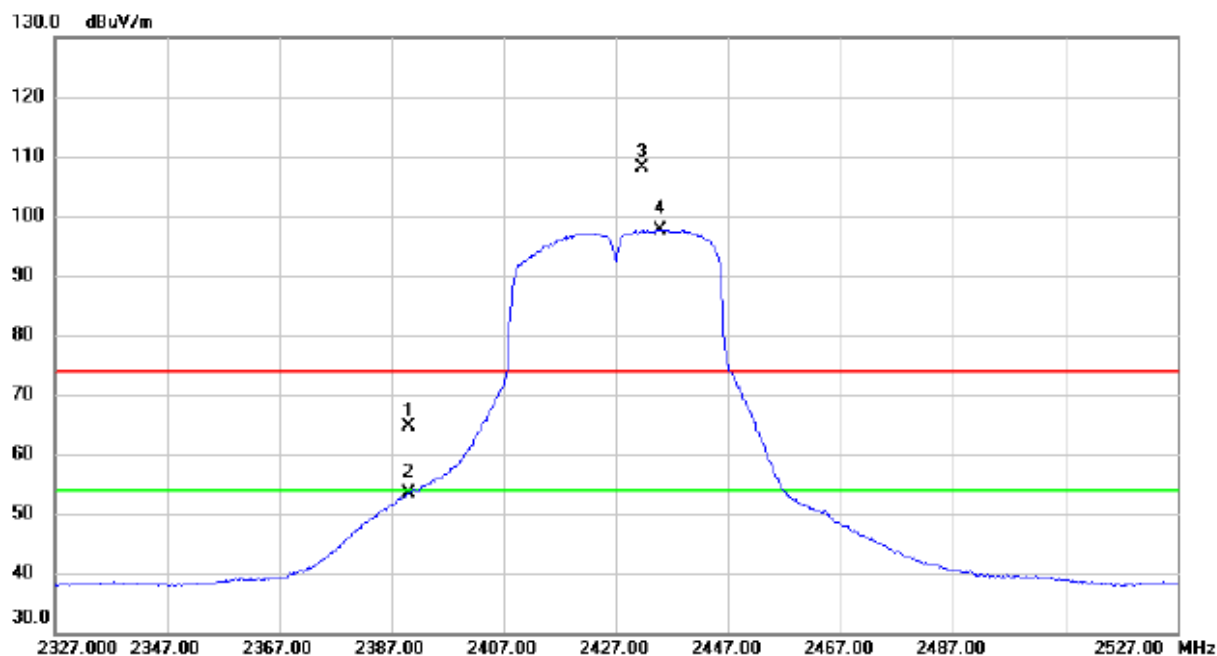
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4844.2150	32.73	9.97	42.70	74.00	-31.30	Peak	
2 *	4844.6300	21.57	9.97	31.54	54.00	-22.46	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2427MHz

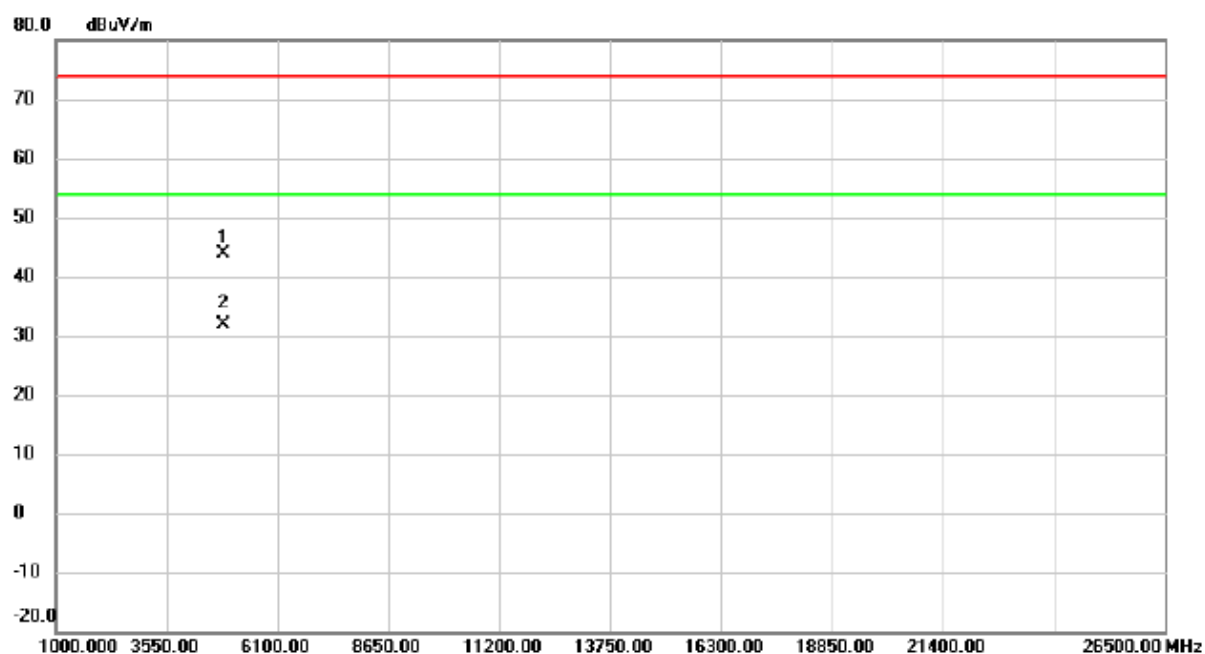
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	53.41	11.29	64.70	74.00	-9.30	peak	
2		2390.000	42.12	11.29	53.41	54.00	-0.59	AVG	
3	X	2431.600	96.91	11.32	108.23	74.00	34.23	peak	No Limit
4	*	2434.800	86.43	11.30	97.73	54.00	43.73	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2427MHz

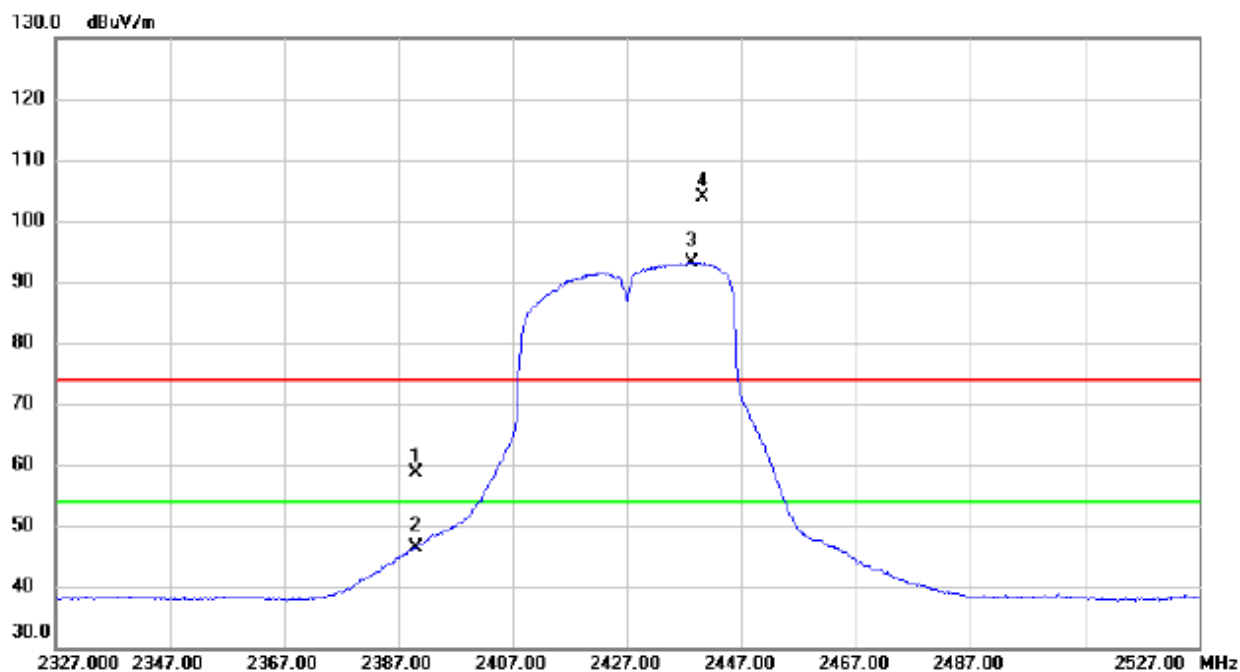
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4852.285	33.90	9.99	43.89	74.00	-30.11	peak	
2	*	4853.570	21.94	10.00	31.94	54.00	-22.06	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2427MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	47.22	11.29	58.51	74.00	-15.49	peak	
2		2390.000	35.10	11.29	46.39	54.00	-7.61	AVG	
3	*	2438.400	81.89	11.31	93.20	54.00	39.20	AVG	No Limit
4	X	2440.200	92.50	11.30	103.80	74.00	29.80	peak	No Limit

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2427MHz

Horizontal

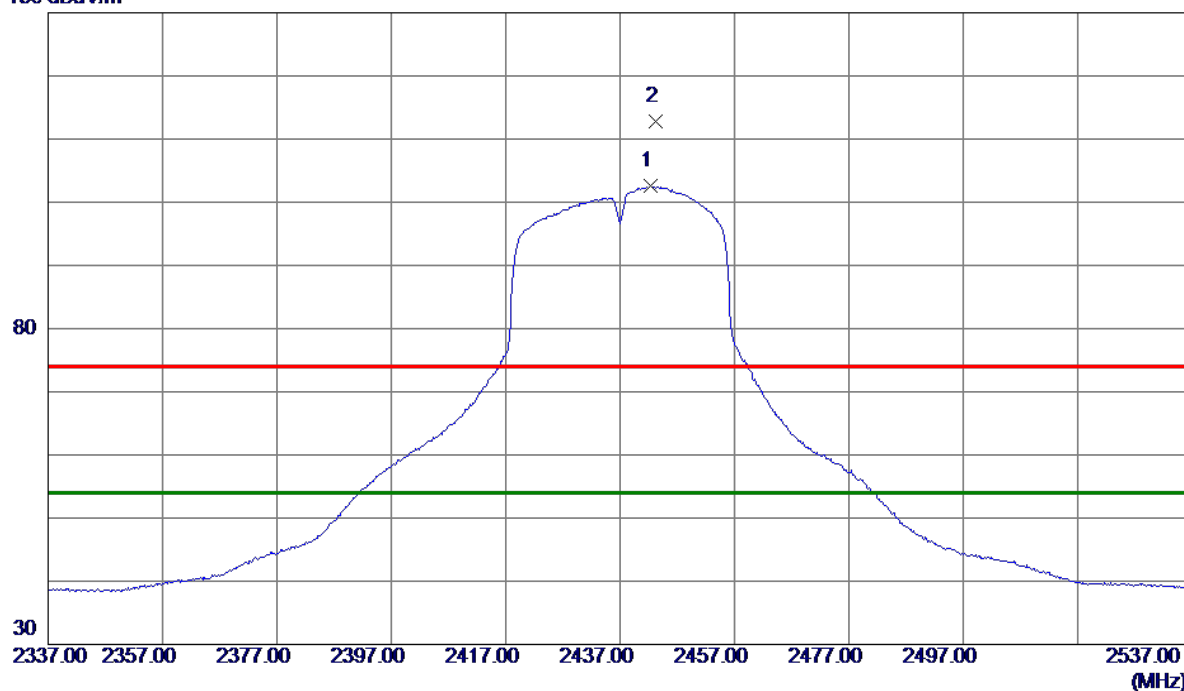


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4852.680	21.29	9.99	31.28	54.00	-22.72	AVG	
2		4854.330	33.17	10.00	43.17	74.00	-30.83	peak	

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

Vertical

130 dBuV/m

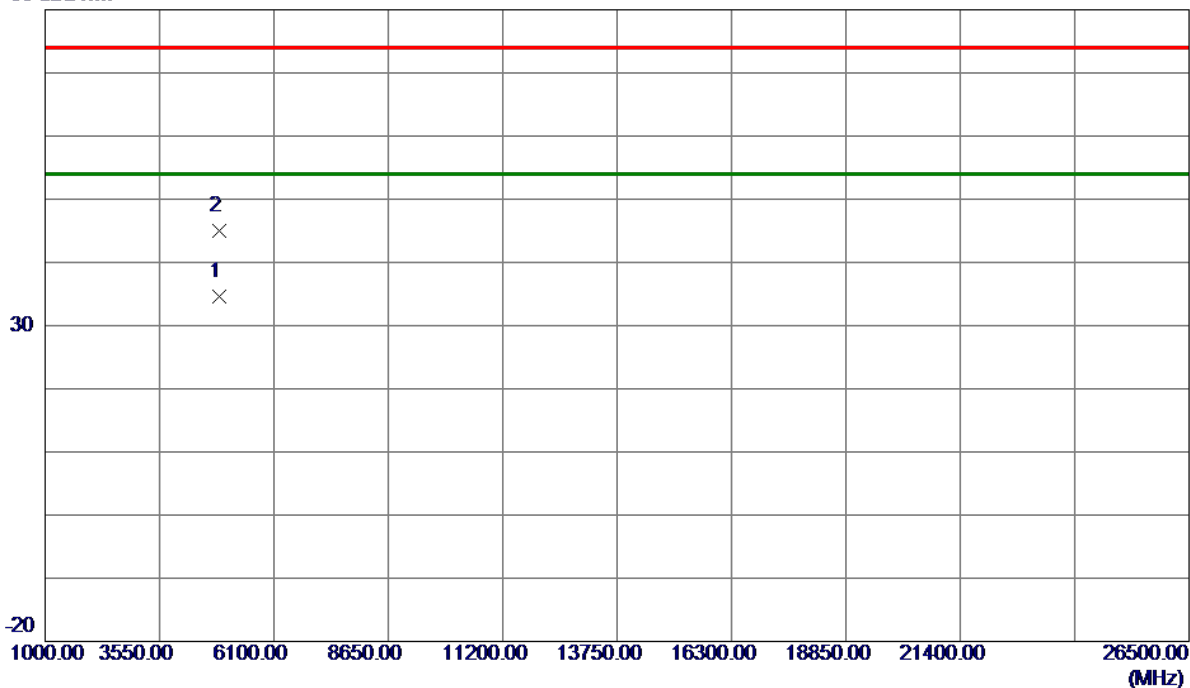


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2442.4000	91.24	11.31	102.55	54.00	48.55	AVG	No Limit
2	2443.2000	101.41	11.31	112.72	74.00	38.72	Peak	No Limit

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

Vertical

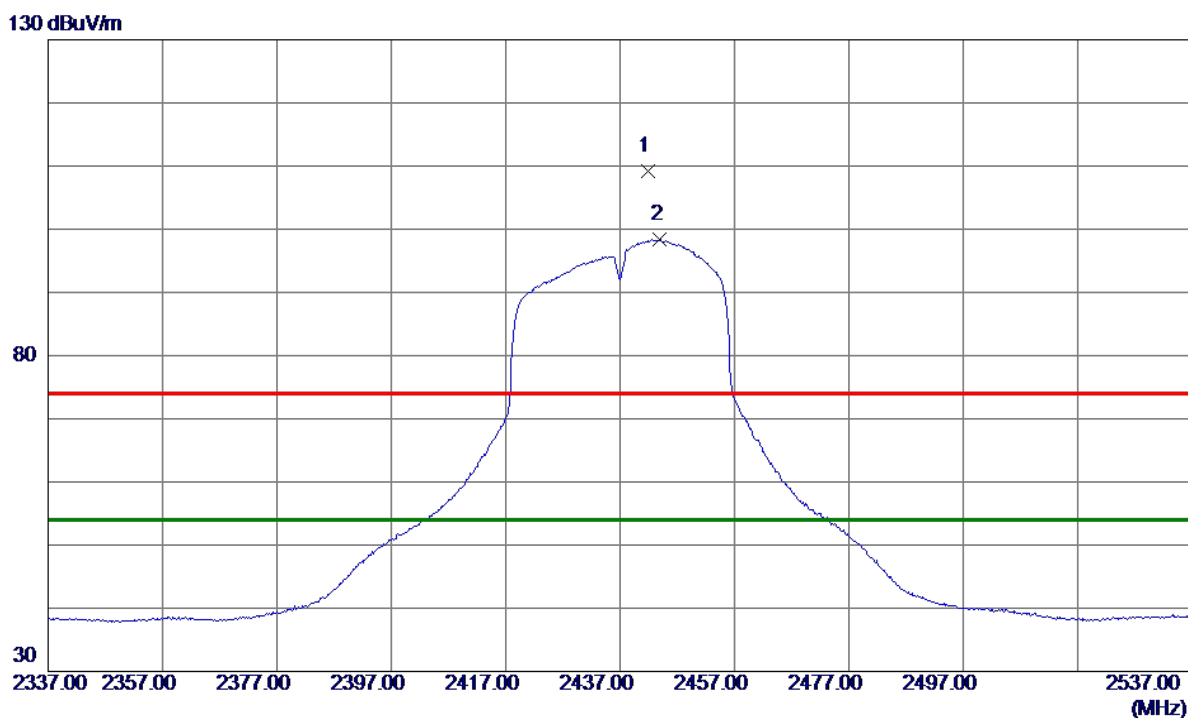
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.1900	24.46	10.05	34.51	54.00	-19.49	AVG	
2	4874.3700	34.99	10.05	45.04	74.00	-28.96	Peak	

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

Horizontal

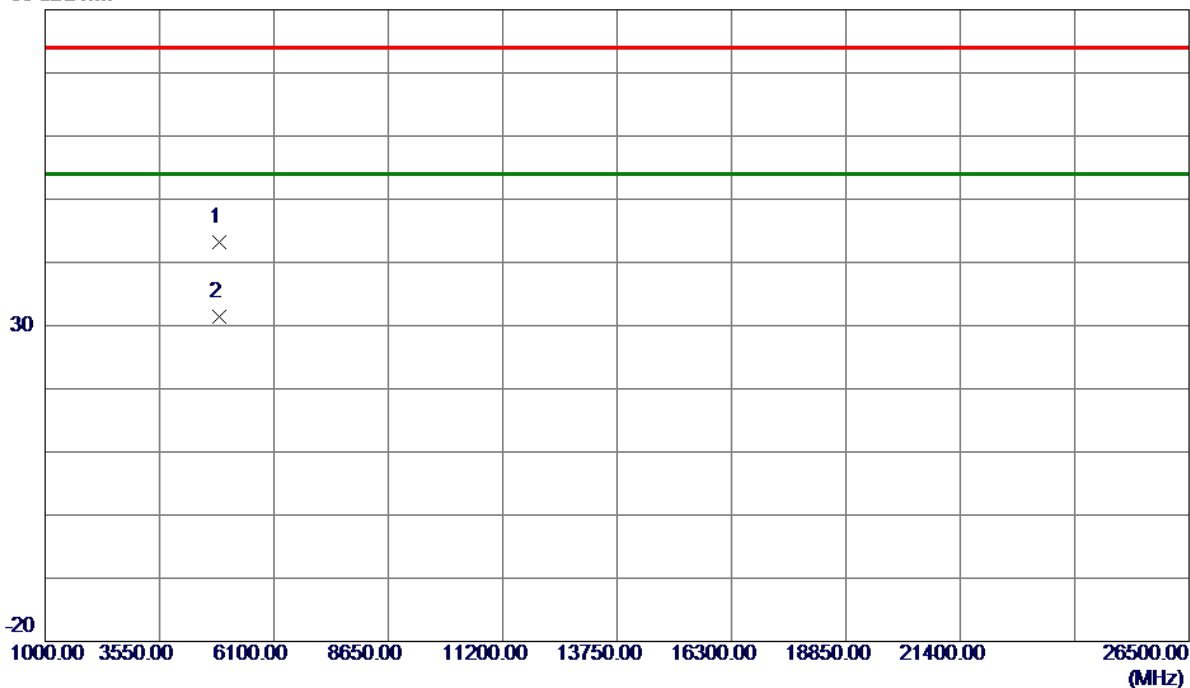


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2441.8000	97.82	11.31	109.13	74.00	35.13	Peak	No Limit
2 *	2444.0000	87.03	11.31	98.34	54.00	44.34	AVG	No Limit

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

Horizontal

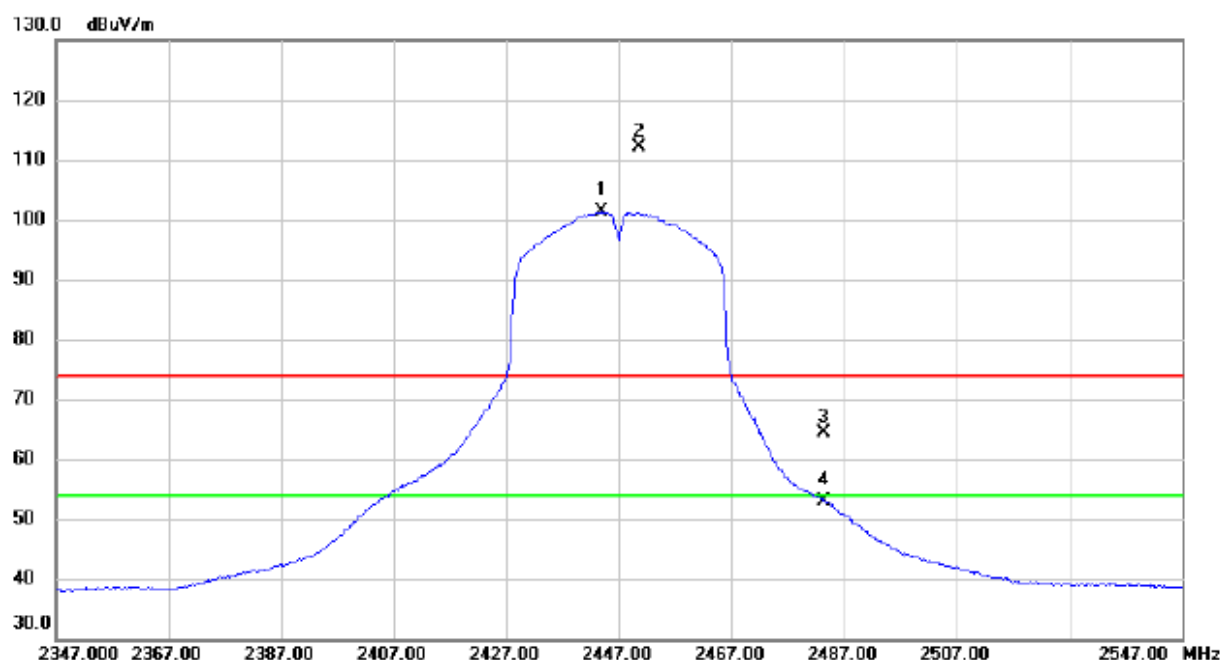
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4874.2000	33.09	10.05	43.14	74.00	-30.86	Peak	
2 *	4875.2700	21.36	10.05	31.41	54.00	-22.59	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2447MHz

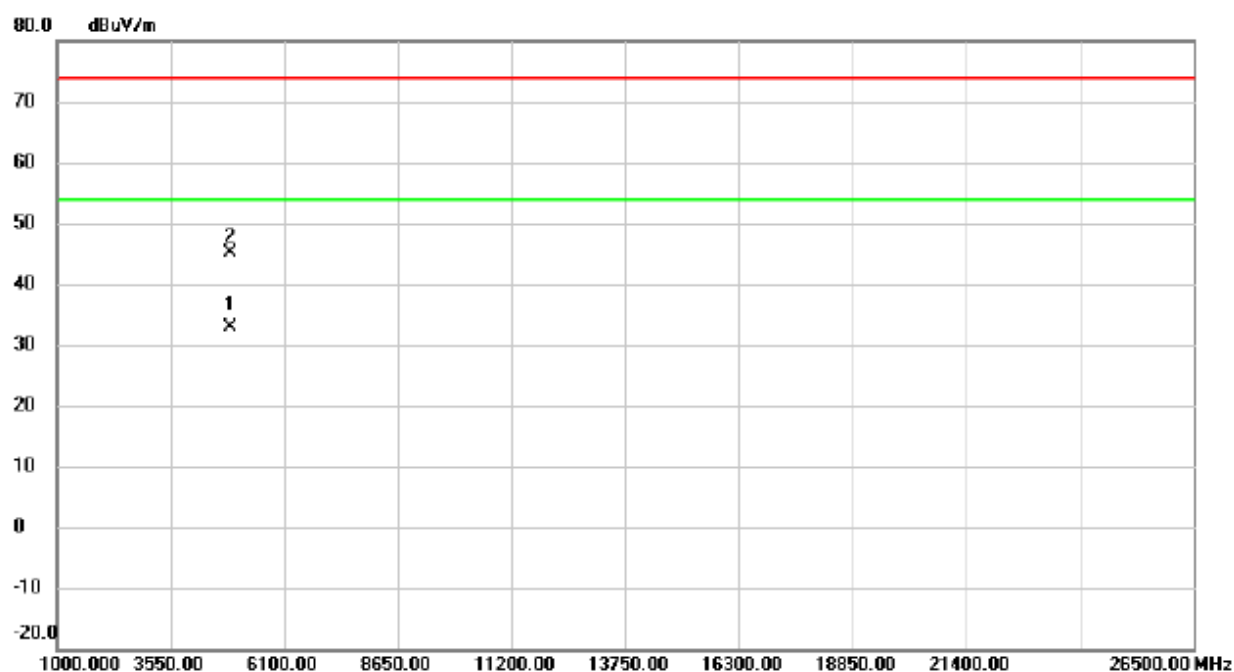
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2443.800	90.08	11.31	101.39	54.00	47.39	AVG	No Limit
2	X	2450.600	100.71	11.31	112.02	74.00	38.02	peak	No Limit
3		2483.500	53.13	11.32	64.45	74.00	-9.55	peak	
4		2483.500	41.67	11.32	52.99	54.00	-1.01	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2447MHz

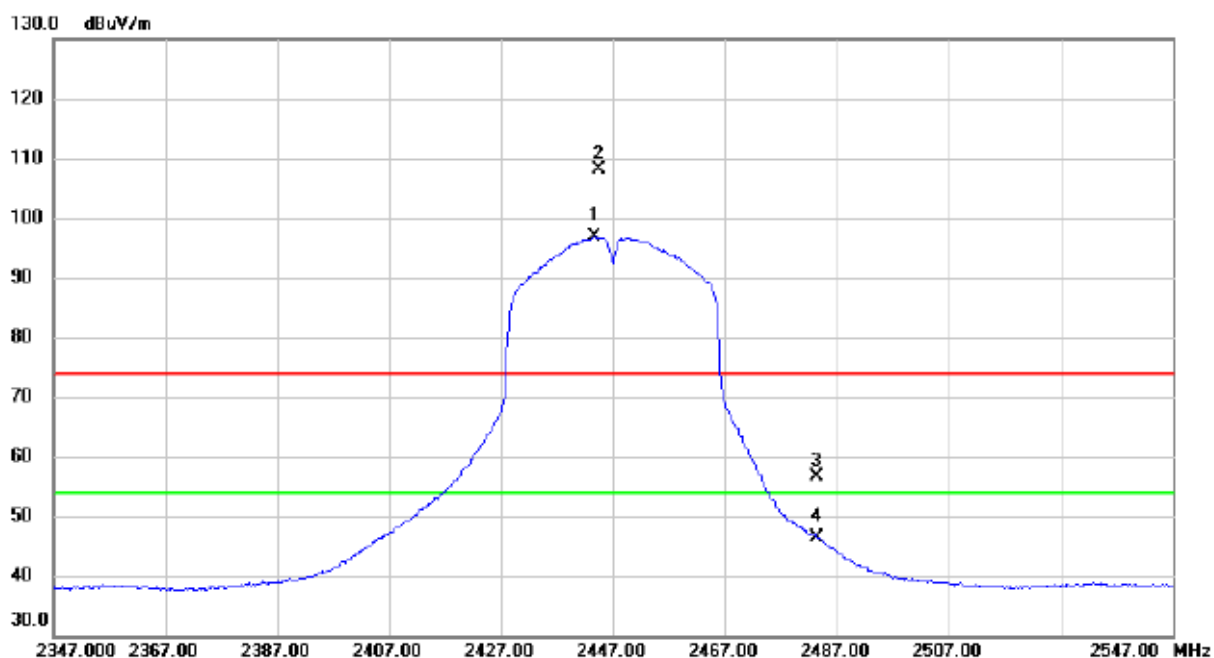
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4895.440	22.83	10.11	32.94	54.00	-21.06	AVG	
2		4896.430	35.03	10.11	45.14	74.00	-28.86	peak	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2447MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2443.600	85.58	11.31	96.89	54.00	42.89	AVG	No Limit
2	X	2444.400	96.86	11.31	108.17	74.00	34.17	peak	No Limit
3		2483.500	45.40	11.32	56.72	74.00	-17.28	peak	
4		2483.500	35.09	11.32	46.41	54.00	-7.59	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2447MHz

Horizontal

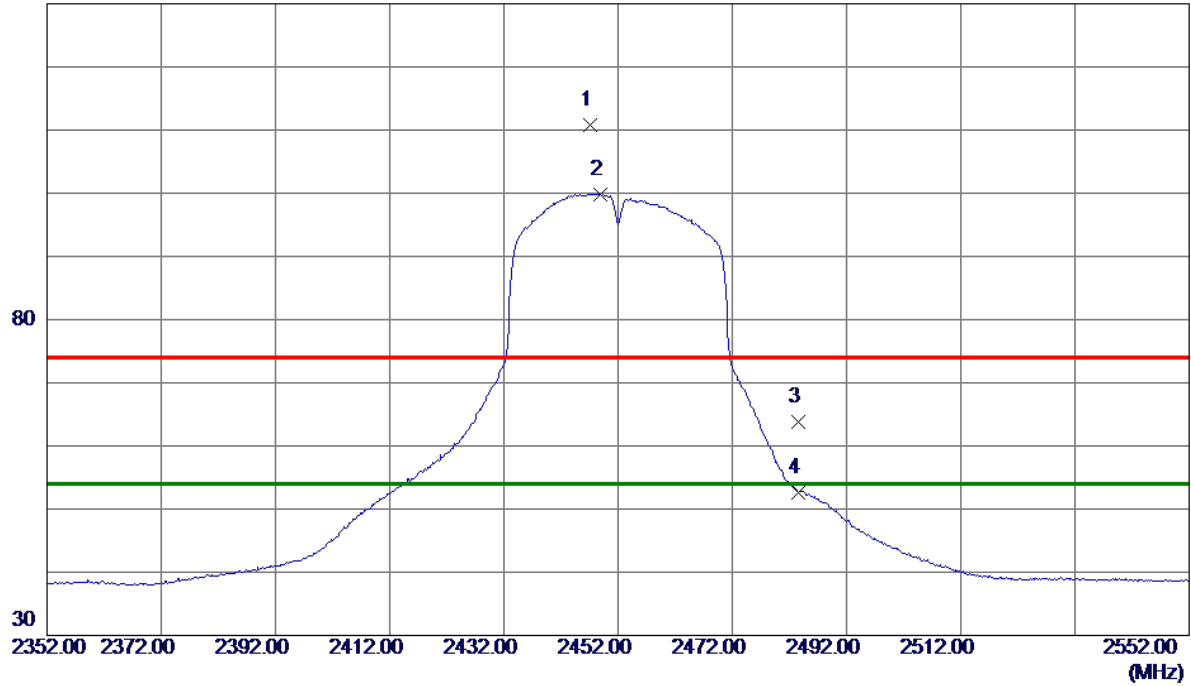


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4892.275	33.24	10.10	43.34	74.00	-30.66	peak	
2	*	4895.985	21.93	10.11	32.04	54.00	-21.96	AVG	

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

Vertical

130 dBuV/m

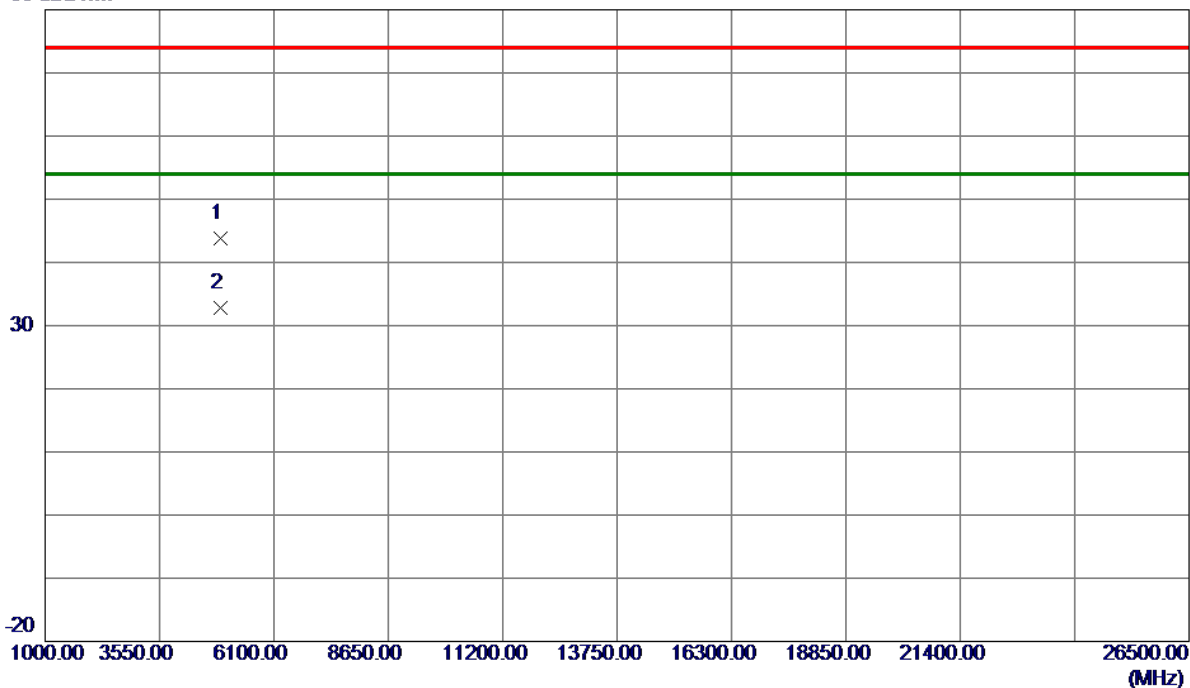


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2447.2000	99.40	11.31	110.71	74.00	36.71	Peak	No Limit
2 *	2448.8000	88.58	11.31	99.89	54.00	45.89	AVG	No Limit
3	2483.5000	52.53	11.32	63.85	74.00	-10.15	Peak	
4	2483.5000	41.36	11.32	52.68	54.00	-1.32	AVG	

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

Vertical

80 dBuV/m

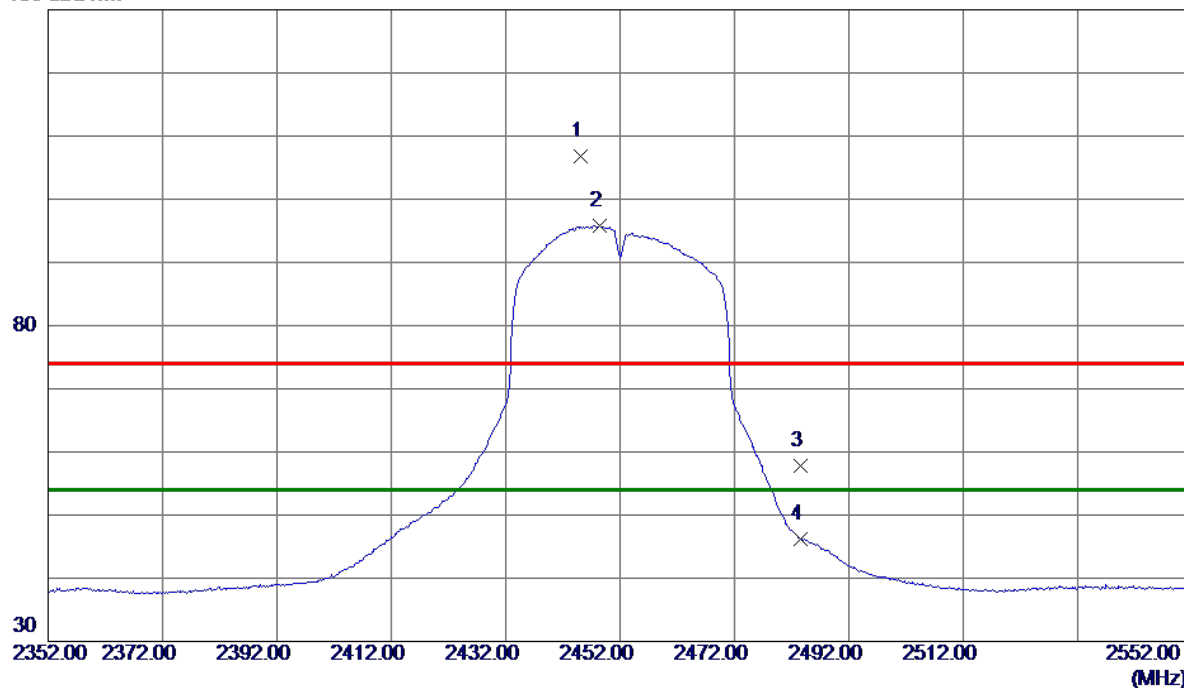


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4903.1750	33.64	10.13	43.77	74.00	-30.23	Peak	
2 *	4903.5000	22.74	10.13	32.87	54.00	-21.13	AVG	

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

Horizontal

130 dBuV/m

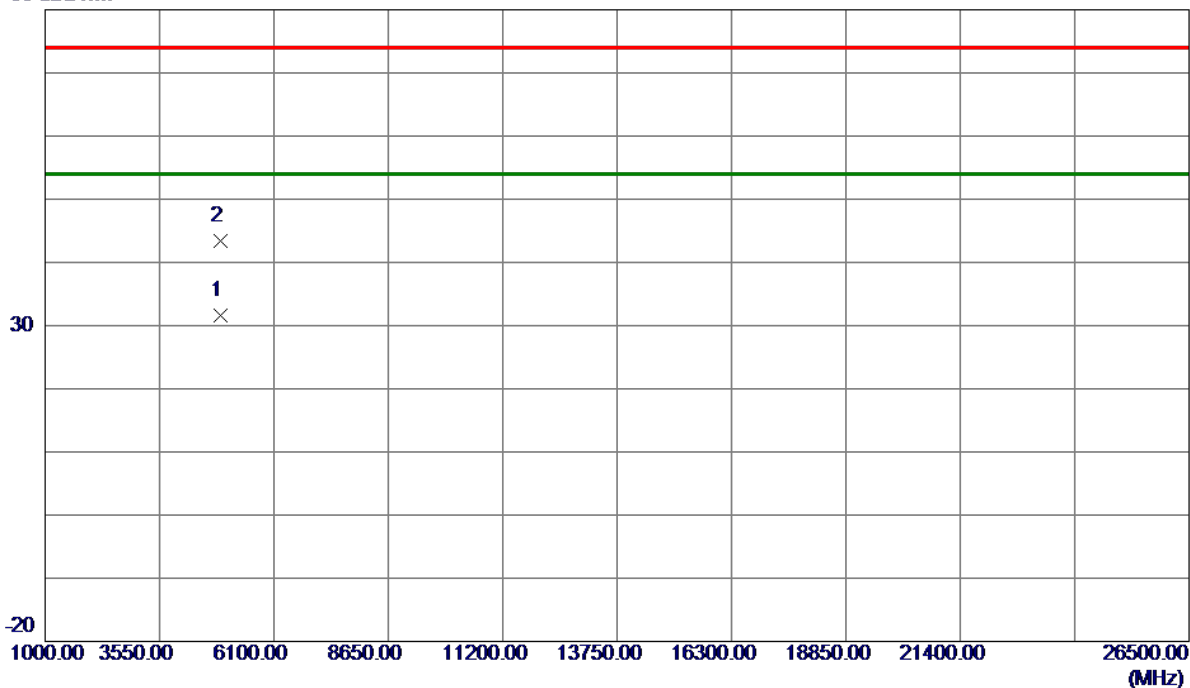


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2445.2000	95.52	11.31	106.83	74.00	32.83	Peak	No Limit
2 *	2448.4000	84.55	11.31	95.86	54.00	41.86	AVG	No Limit
3	2483.5000	46.43	11.32	57.75	74.00	-16.25	Peak	
4	2483.5000	34.97	11.32	46.29	54.00	-7.71	AVG	

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

Horizontal

80 dBuV/m



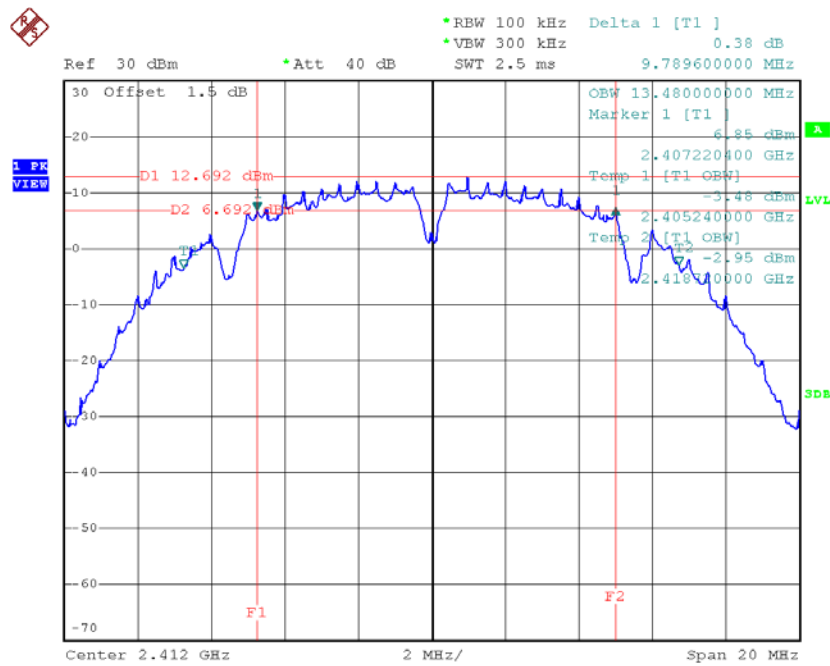
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4903.7150	21.56	10.13	31.69	54.00	-22.31	AVG	
2	4906.1600	33.27	10.14	43.41	74.00	-30.59	Peak	

APPENDIX E - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

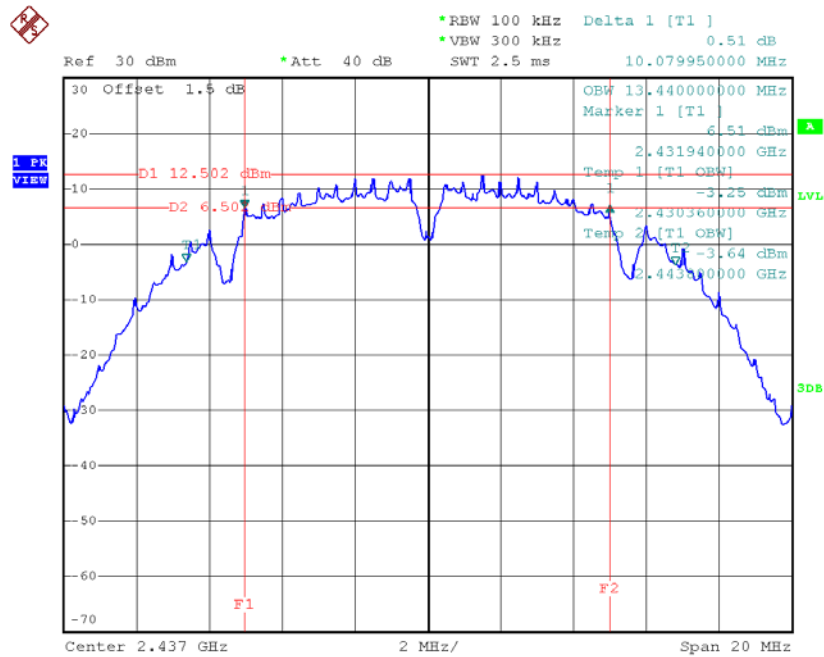
Frequency (MHz)	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	9.79	500	Complies
2437	10.08	500	Complies
2462	9.55	500	Complies

TX CH01



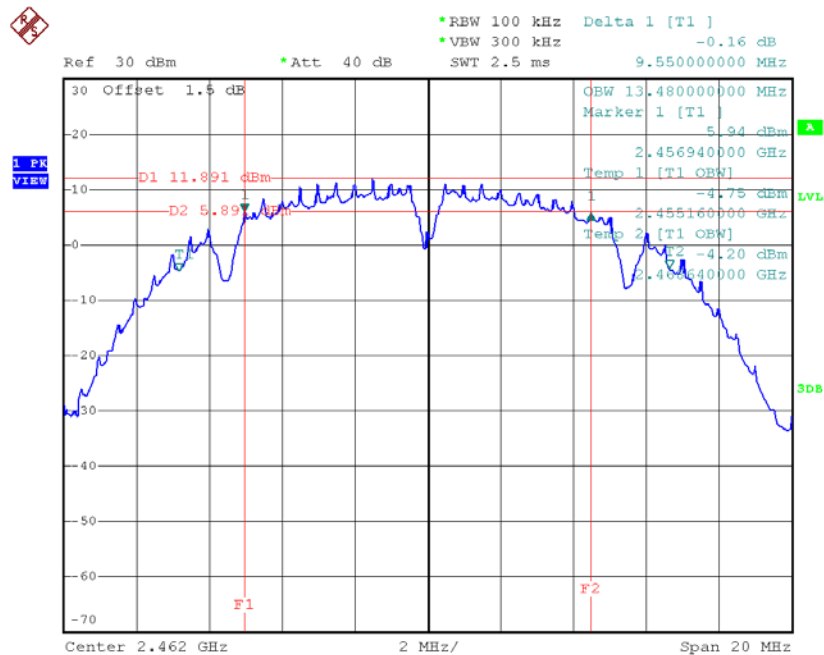
Date: 20.JUL.2018 10:27:05

TX CH06



Date: 20.JUL.2018 10:30:40

TX CH11

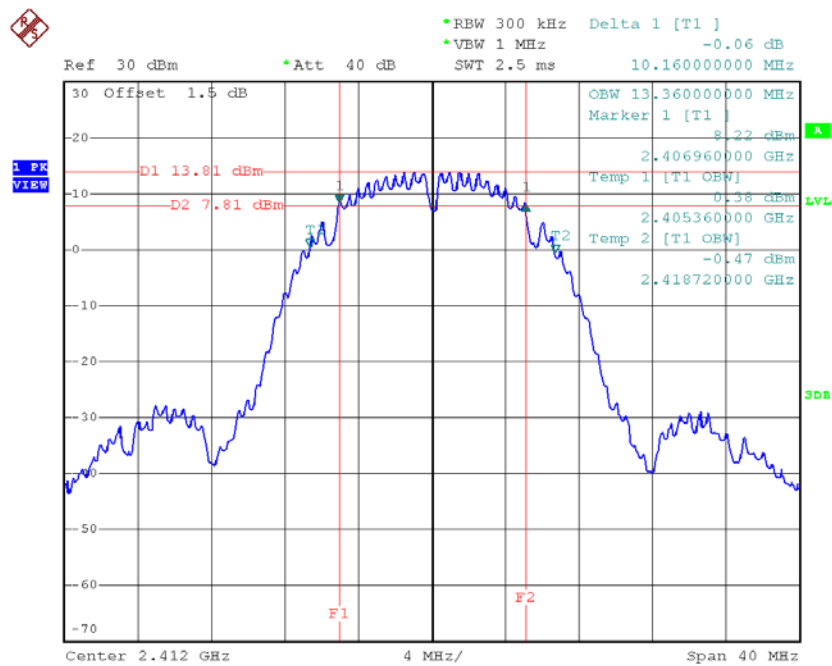


Date: 20.JUL.2018 10:32:12

Test Mode : TX B Mode_CH01/06/11

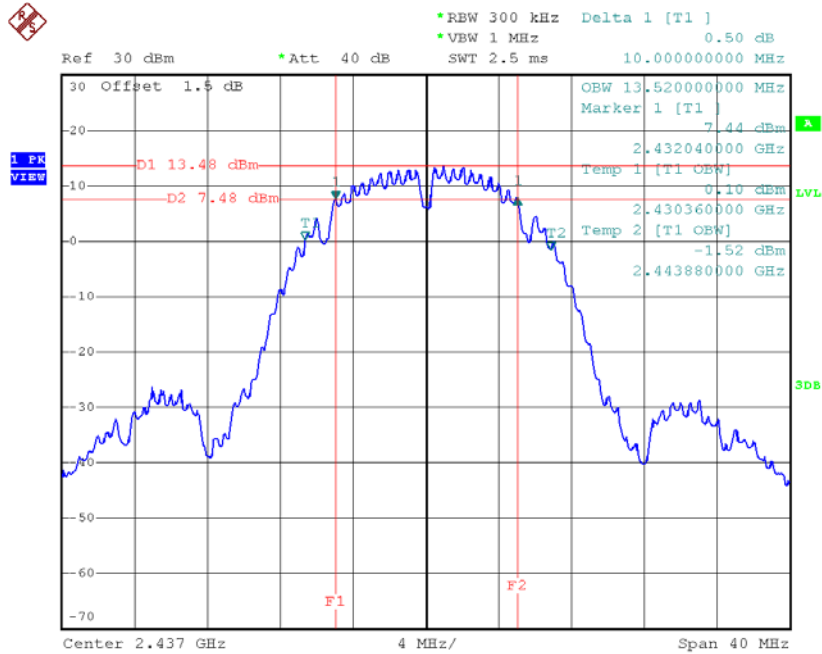
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	13.36	500	Complies
2437	13.52	500	Complies
2462	13.44	500	Complies

TX CH01



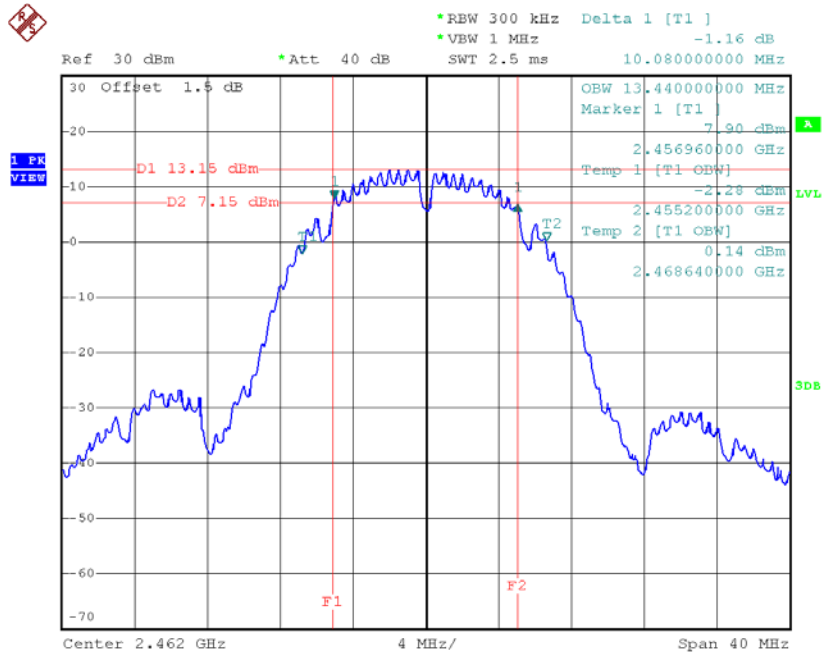
Date: 20.JUL.2018 16:28:03

TX CH06



Date: 20.JUL.2018 16:18:10

TX CH11

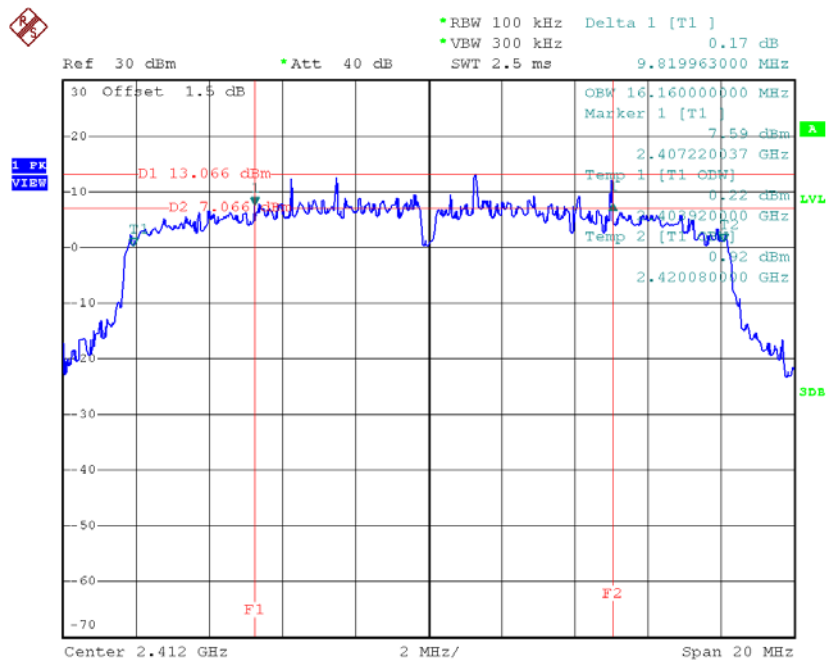


Date: 20.JUL.2018 16:30:56

Test Mode: TX G Mode_CH01/06/11

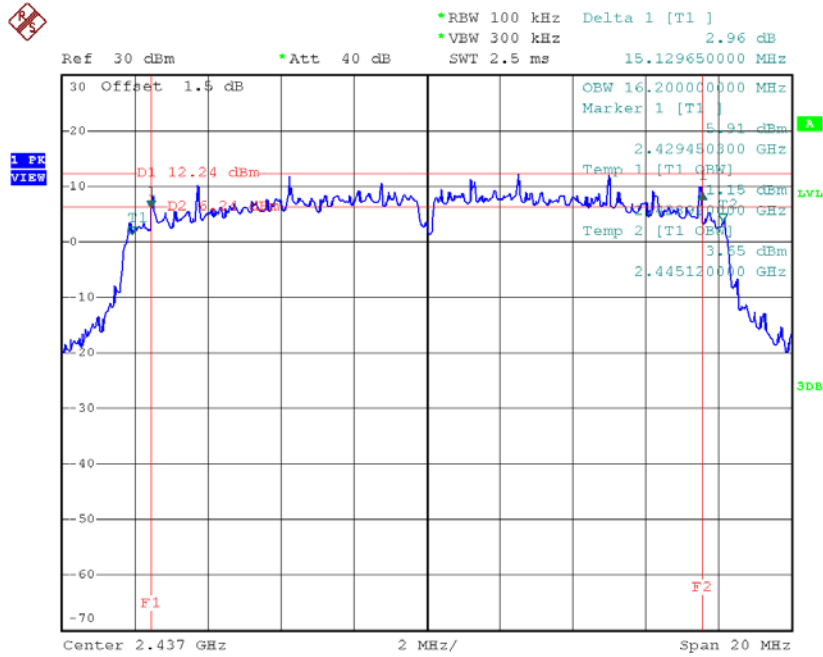
Frequency (MHz)	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	9.82	500	Complies
2437	15.13	500	Complies
2462	13.79	500	Complies

TX CH01



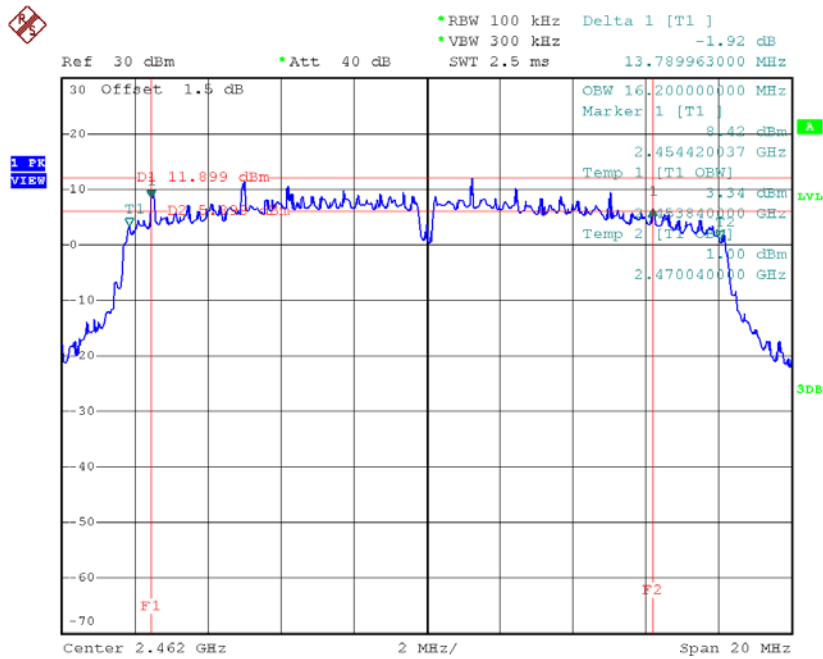
Date: 20.JUL.2018 10:35:24

TX CH06



Date: 20.JUL.2018 10:43:06

TX CH11

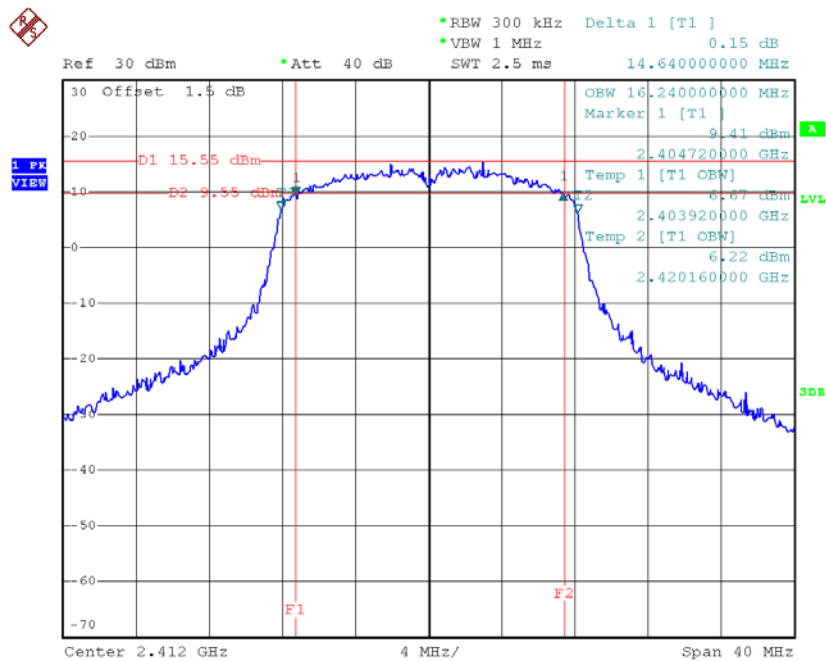


Date: 20.JUL.2018 10:44:59

Test Mode: TX G Mode_CH01/06/11

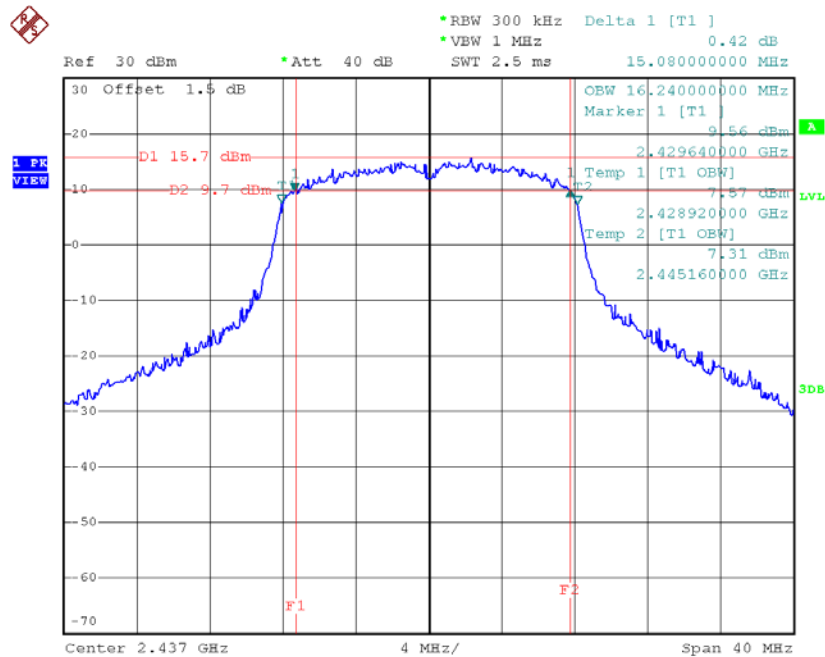
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.24	500	Complies
2437	16.24	500	Complies
2462	16.24	500	Complies

TX CH01



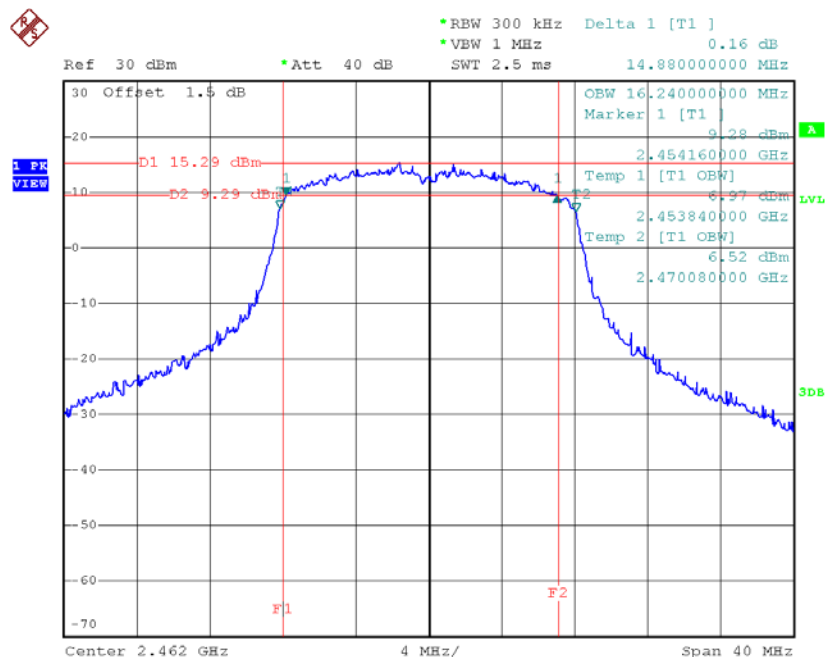
Date: 20.JUL.2018 16:35:16

TX CH06



Date: 20.JUL.2018 16:38:29

TX CH11

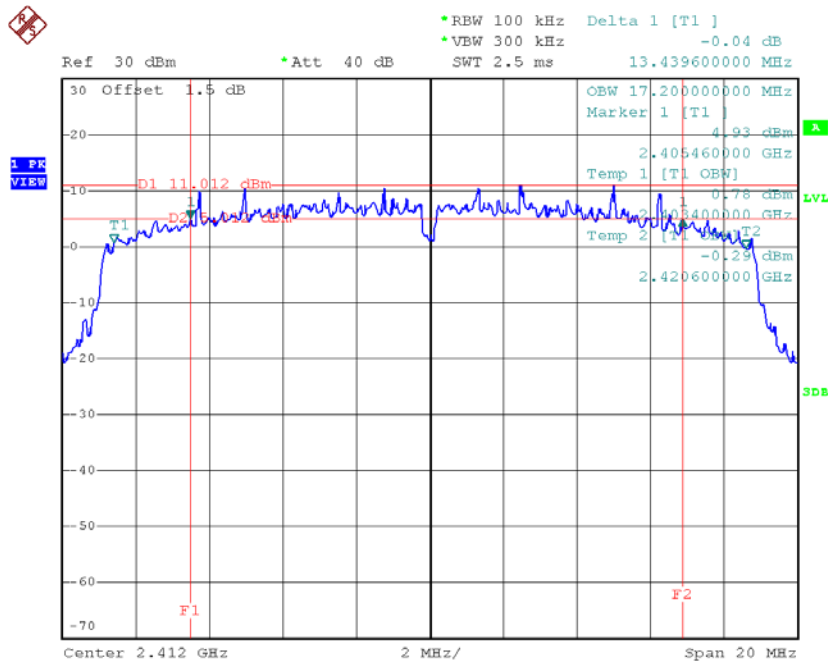


Date: 20.JUL.2018 16:40:47

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

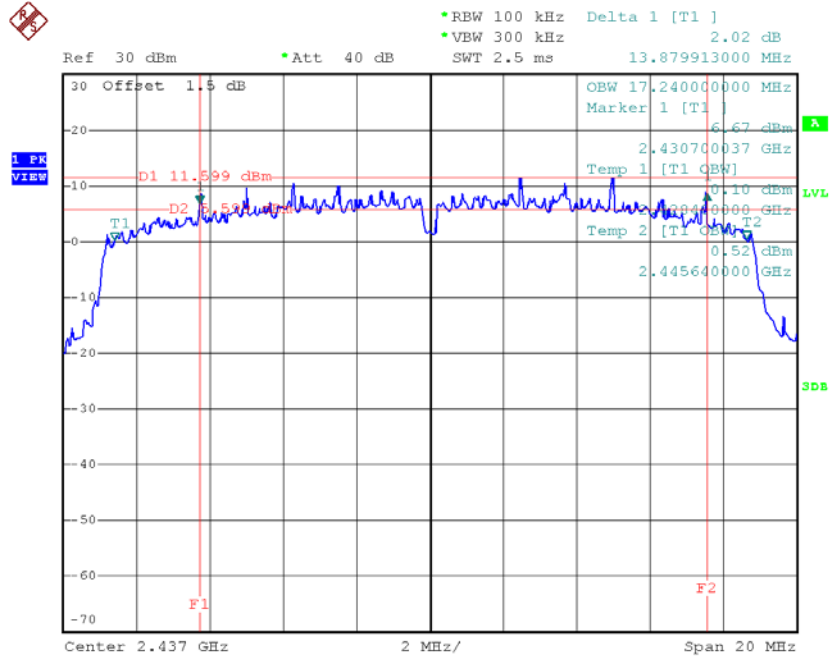
Frequency (MHz)	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	13.44	500	Complies
2437	13.88	500	Complies
2462	15.14	500	Complies

TX CH01



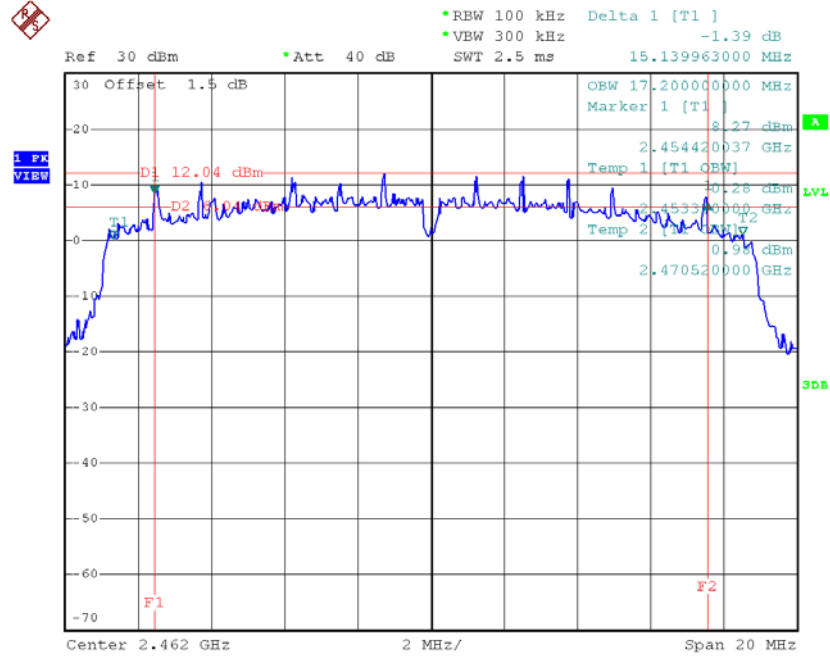
Date: 20.JUL.2018 10:49:13

TX CH06



Date: 20.JUL.2018 10:59:28

TX CH11

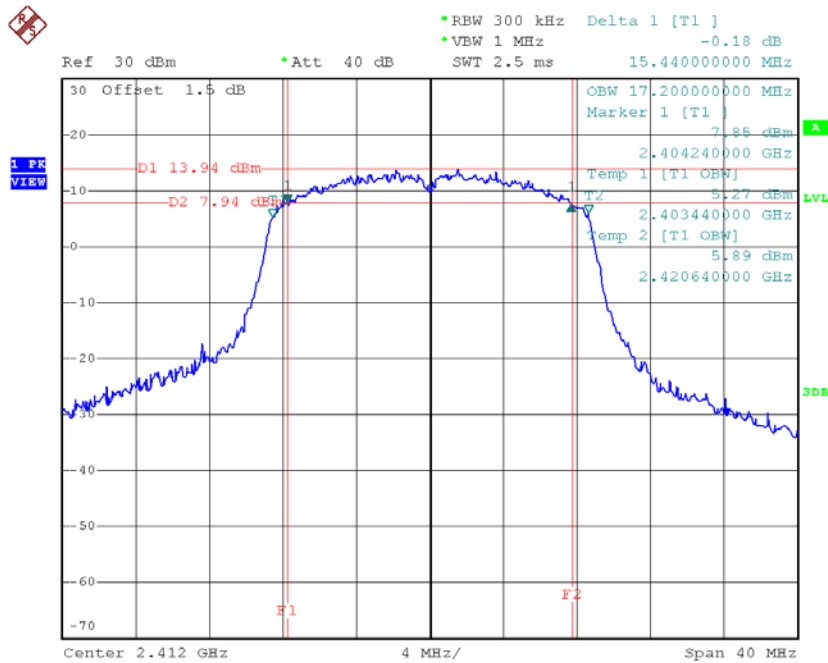


Date: 20.JUL.2018 10:57:54

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

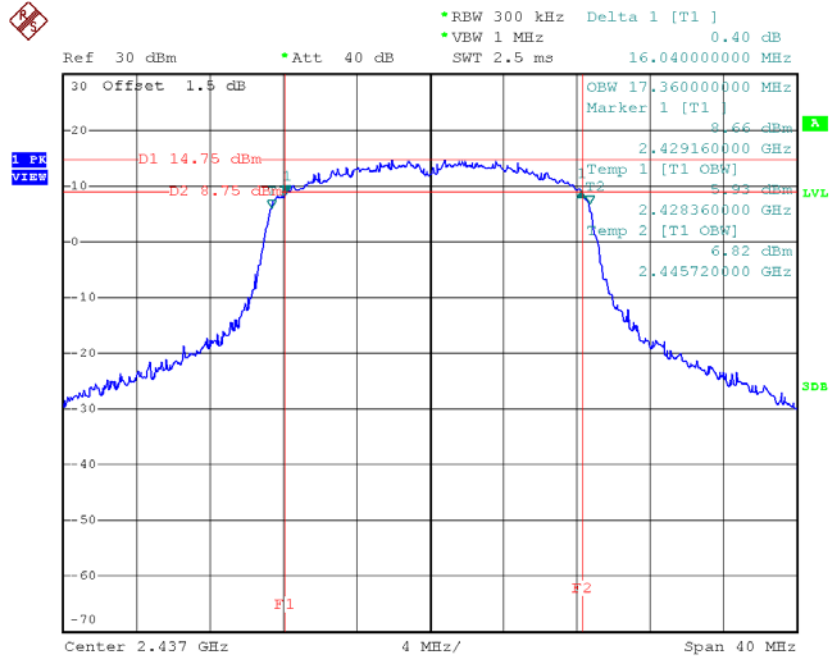
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.20	500	Complies
2437	17.36	500	Complies
2462	17.28	500	Complies

TX CH01



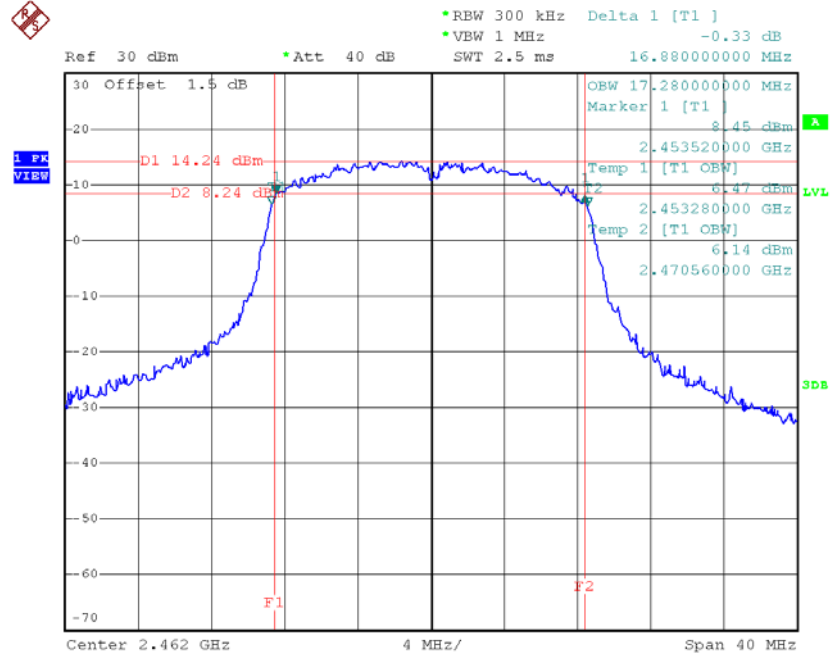
Date: 20.JUL.2018 16:44:04

TX CH06



Date: 20.JUL.2018 16:47:06

TX CH11

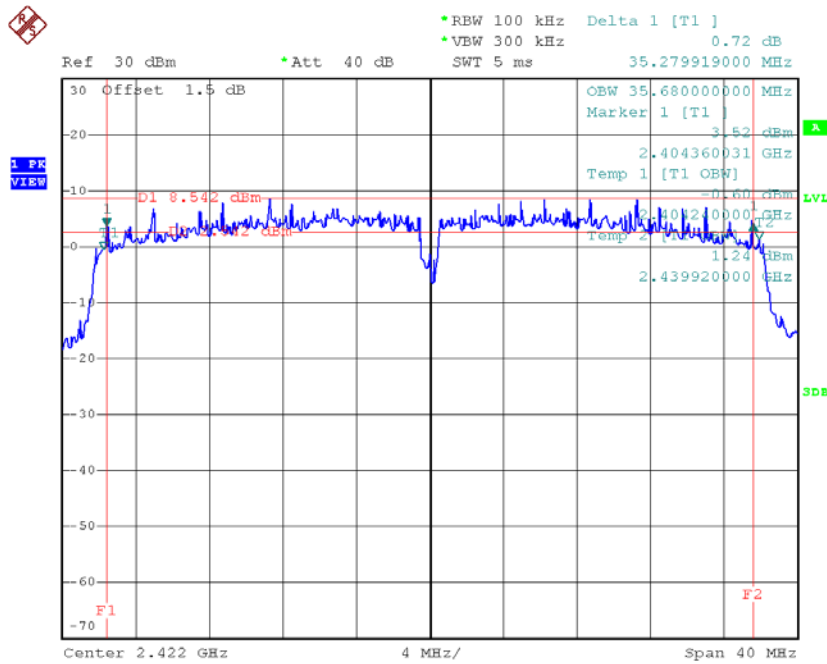


Date: 20.JUL.2018 16:49:35

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

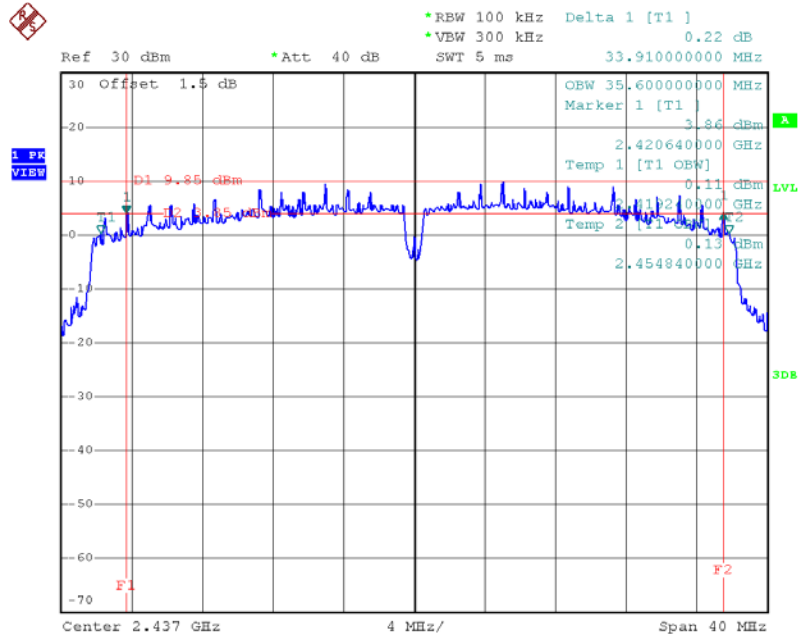
Frequency (MHz)	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2422	35.28	500	Complies
2437	33.91	500	Complies
2452	32.52	500	Complies

TX CH03



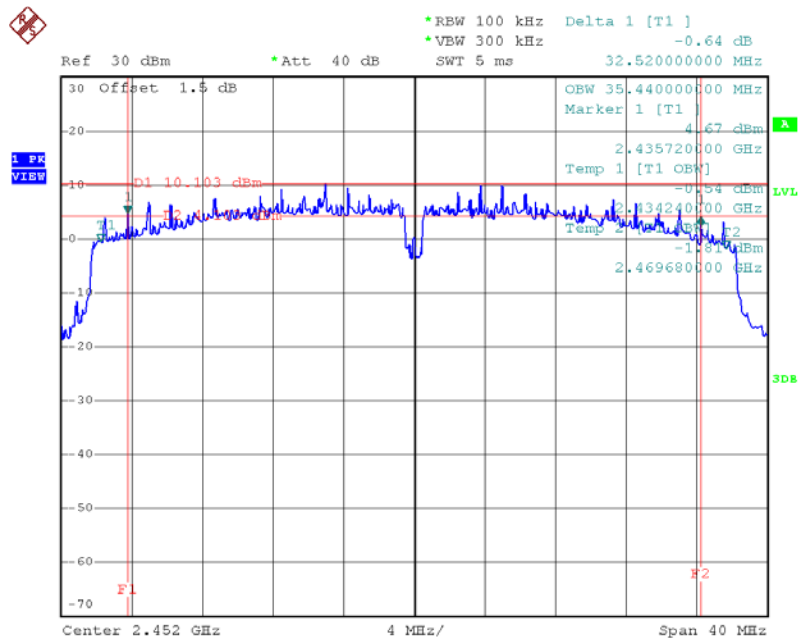
Date: 20.JUL.2018 11:00:39

TX CH06



Date: 20.JUL.2018 11:06:23

TX CH09

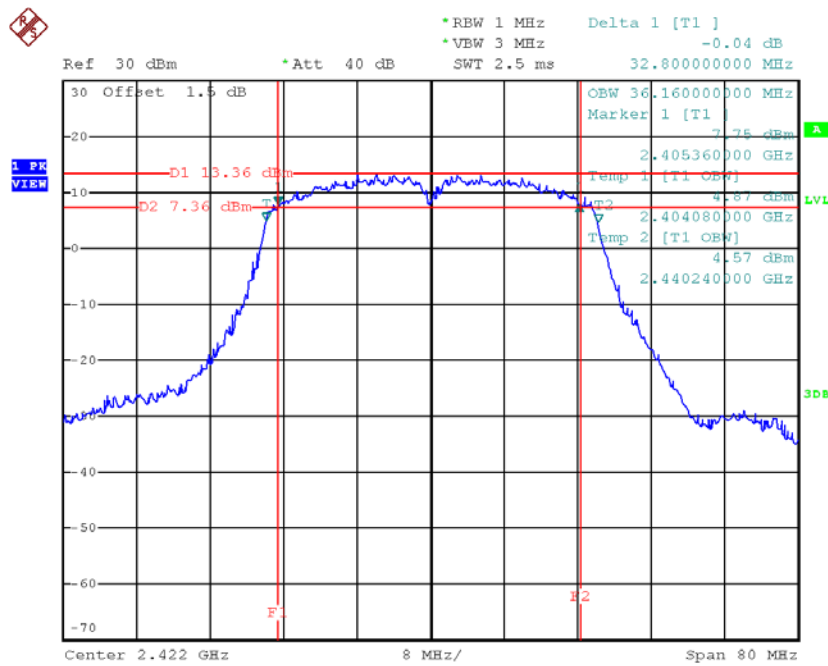


Date: 20.JUL.2018 11:08:07

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

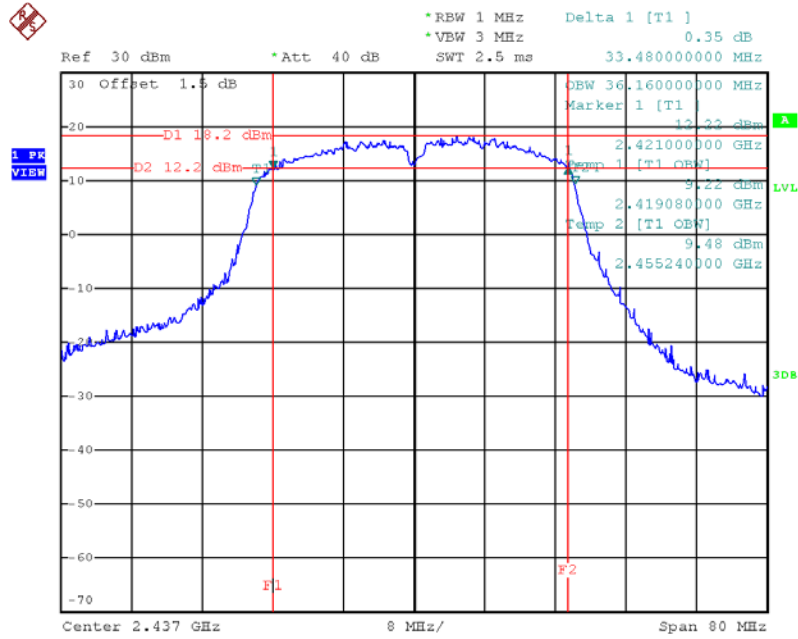
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.16	500	Complies
2437	36.16	500	Complies
2452	35.84	500	Complies

TX CH03



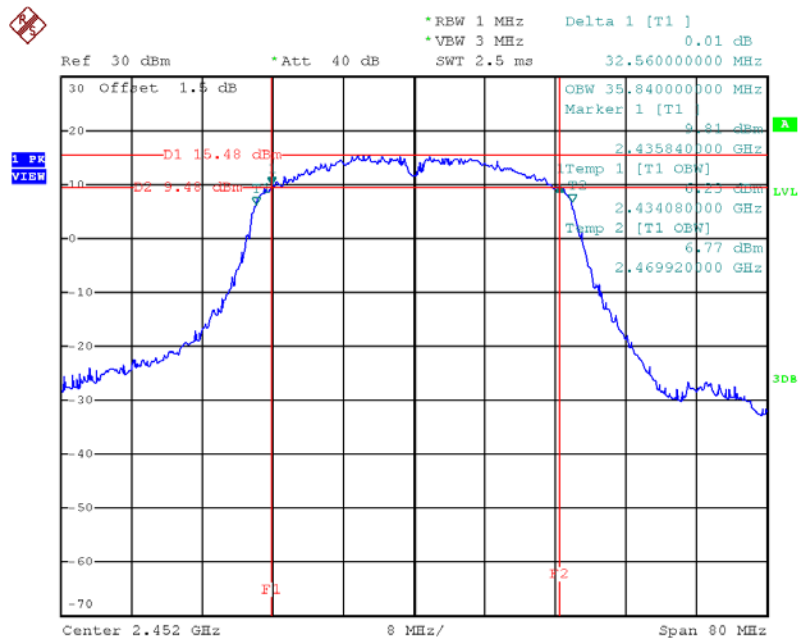
Date: 25.JUL.2018 15:35:16

TX CH06



Date: 25.JUL.2018 15:43:22

TX CH09



Date: 25.JUL.2018 15:47:00