FCC Radio Test Report

FCC ID：TE7KP200

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

Project No.	:	1808C015
Equipment	:	Smart Wi-Fi Power Outlet
Test Model	:	KP200
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	:	Aug. 02, 2018
Date of Test	:	Aug. 03, 2018 ~ Aug. 24, 2018
Issued Date	:	Nov. 14, 2018
Tested by	:	BTL Inc.

Testing Engineer : Welly Zhou
(Welly Zhou)

Technical Manager : David Mao
(David Mao)

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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 A2LA, 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.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Oct. 22, 2018
R01	Changed the product name.	Nov. 01, 2018
R02	Updated the description and the data of bandwidth.	Nov. 09, 2018
R03	Updated the description.	Nov. 13, 2018
R04	Updated the description.	Nov. 14, 2018

1. CERTIFICATION

Equipment	:	Smart Wi-Fi Power Outlet
Brand Name	:	tp-link
Test Model	:	KP200
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	:	Aug. 03, 2018 ~ Aug. 24, 2018
Test Sample	:	Engineering Sample No.: D180806505
Standard(s)	:	FCC Part15, Subpart C (15.247) / FCC KDB 558074 D01 v04

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-1-1808C015) 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)	Maximum 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=2xUc(y).

The BTL measurement uncertainty as below table:

A. Conducted Measurement:

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

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9 KHz~30 MHz	V	3.79
		9 KHz~30 MHz	H	3.57
		30 MHz~200 MHz	V	3.82
		30 MH~200 MHz	H	3.78
		200 MHz~1,000 MHz	V	4.10
		200 MHz~1,000 MHz	H	4.06
		1 GHz~18 GHz	V	3.12
		1 GHz~18 GHz	H	3.68
		18 GHz~40 GHz	V	4.15
		18 GHz~40 GHz	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 Wi-Fi Power Outlet	
Brand Name	tp-link	
Test Model	KP200	
Series Model	N/A	
Model Difference(s)	N/A	
Product Description	Operation Frequency	2412MHz ~ 2462MHz
	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: 19.26 dBm 802.11g: 20.83 dBm 802.11n(20 MHz): 20.87 dBm 802.11n(40 MHz): 18.43 dBm
Power Source	AC Mains.	
Power Rating	125V~ 60Hz 15A	

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(20 MHz)
CH03 - CH09 for 802.11n(40 MHz)

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	TP-LINK	N/A	PCB	I-PEX	2.71

3.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09
Mode 5	TX Mode
Mode 6	TX B Mode Channel 01/02/06/10/11
Mode 7	TX G Mode Channel 01/02/06/10/11
Mode 8	TX N-20 MHz Mode Channel 01/02/06/10/11
Mode 9	TX N-40 MHz Mode Channel 03/04/06/08/09

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 6	TX B Mode Channel 01/02/06/10/11
Mode 7	TX G Mode Channel 01/02/06/10/11
Mode 8	TX N-20 MHz Mode Channel 01/02/06/10/11
Mode 9	TX N-40 MHz Mode Channel 03/04/06/08/09

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-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz 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-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09

Maximum Average 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-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz 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-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09

Note:

(1) The measurements are performed at the high, middle, low available channels.

(2) 802.11b mode: DBPSK (1 Mbps)
802.11g mode: OFDM (6 Mbps)
802.11n HT20 mode : BPSK (6.5 Mbps)
802.11n HT40 mode : BPSK (13.5 Mbps)
For radiated emission tests, the highest output powers were set for final test.

(3) For radiated 30 MHz to 1000 MHz test, the 802.11b is found to be the worst case and recorded.

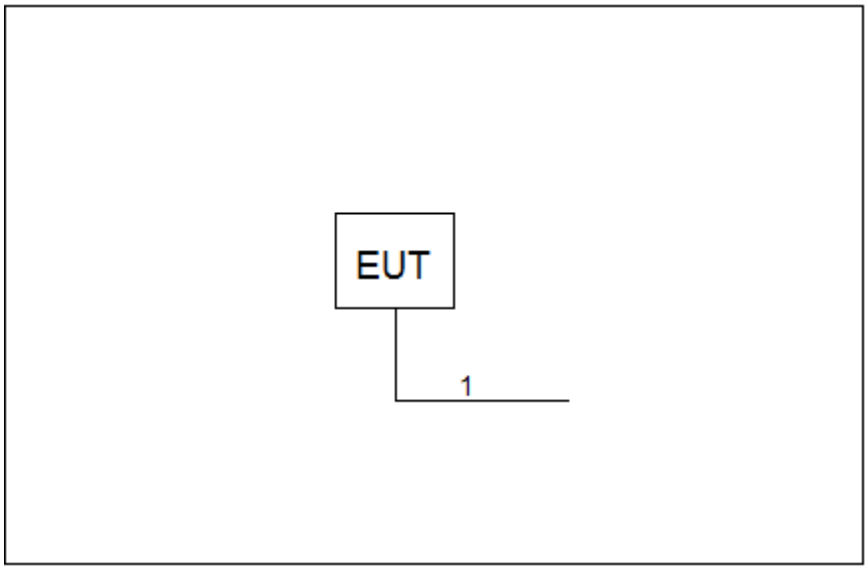
(4) The test items of RF are tested at fixed frequency and added the load to verify which does not affect the test result, so the test photo had not updated. The added load was evaluated in the EMC tests.

3.3 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	artgui		
Frequency (MHz)	2412	2437	2462
802.11b	19	18	18
802.11g	14	21	15.5
802.11n (20 MHz)	13.5	21.5	15.5
Frequency (MHz)	2422	2437	2452
802.11n (40 MHz)	11.5	17	14.5

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 DESCRIPTION OF SUPPORT UNITS

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

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

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

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

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

Note:

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

(2) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
Margin Level = Measurement Value - Limit Value

The following table is the setting of the receiver

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

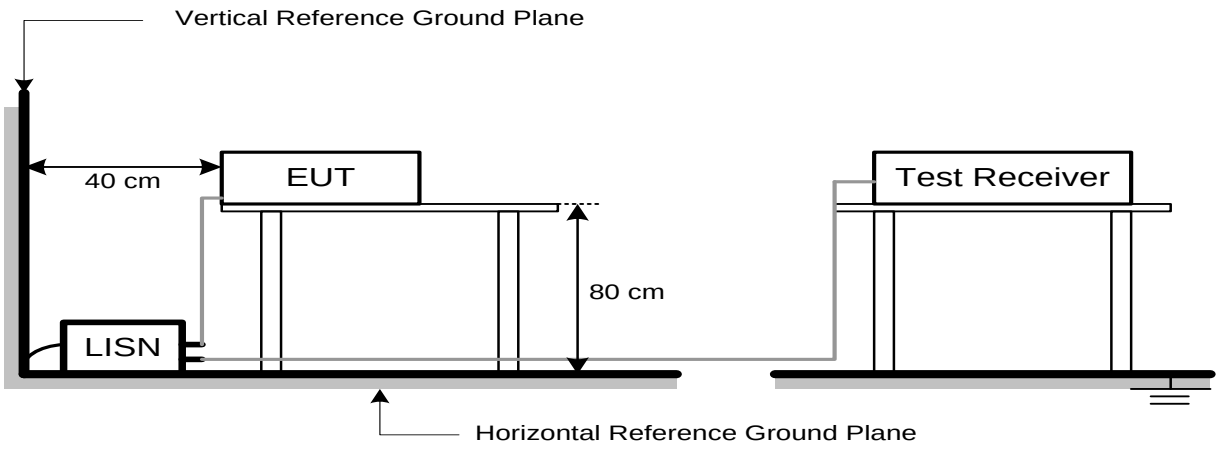
4.1.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support 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



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 (9 kHz-1000 MHz)

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 1000 MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

Note:

(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)	1 MHz / 3 MHz for Peak, 1 MHz / 1/T for Average

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

4.2.2 TEST PROCEDURE

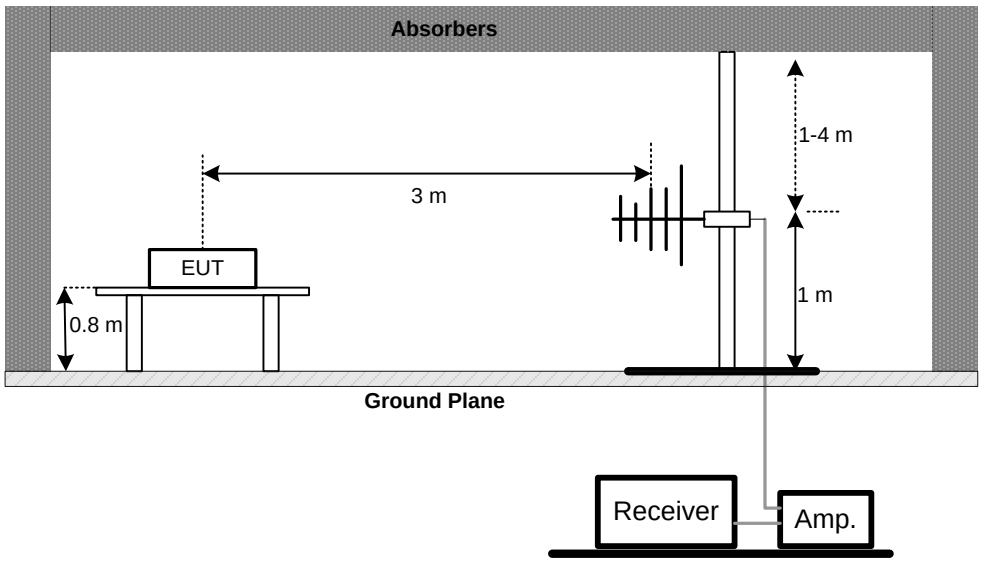
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
b. The measuring distance 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 1 GHz)
c. 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.
d. 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).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
f. 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.
g. 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 1 GHz)
h. 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 1 GHz)
i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

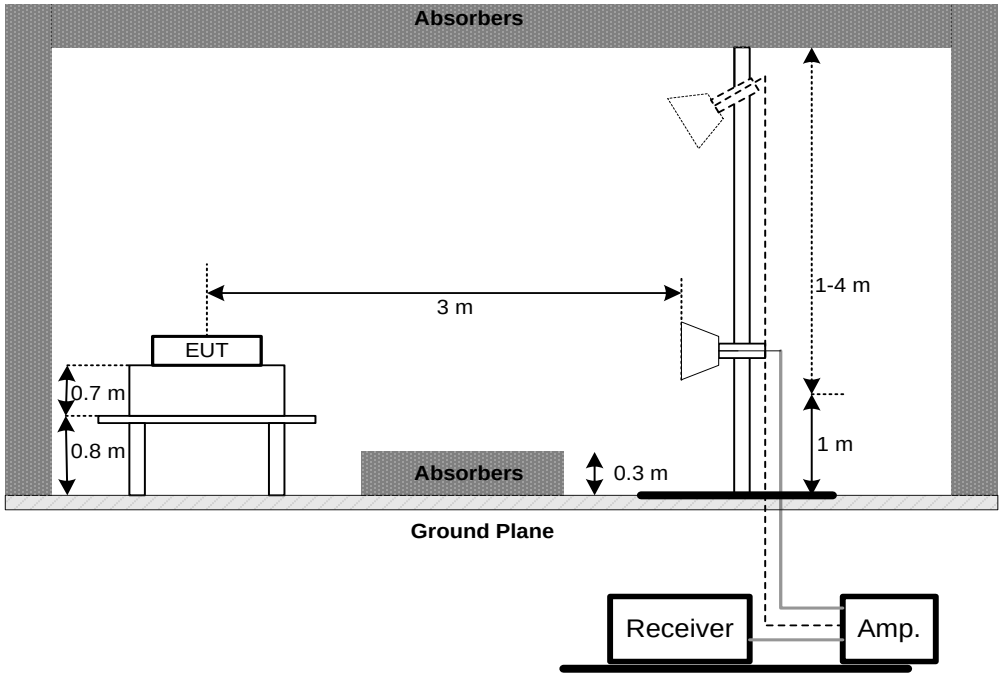
No deviation

4.2.4 TEST SETUP

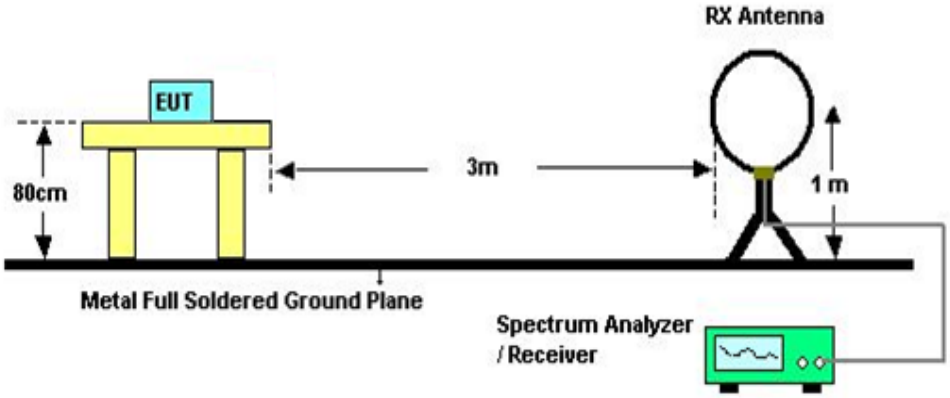
(A) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



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



(C) For Radiated Emissions 9 kHz-30 MHz



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 (9 kHz TO 30 MHz)

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 (specific distance / test distance) (dB).
(3) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.2.8 TEST RESULTS (30 MHz TO 1000 MHz)

Please refer to the Appendix C.

4.2.9 TEST RESULTS (ABOVE 1000 MHz)

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)	6dB Bandwidth	2400-2483.5	PASS
	99% OBW		

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. The bandwidth was performed in accordance with method 8.1 of FCC KDB 558074 D01 v04 DTS Meas Guidance.
c. 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)	Maximum Average Output Power	1 Watt or 30 dBm	2400-2483.5	PASS

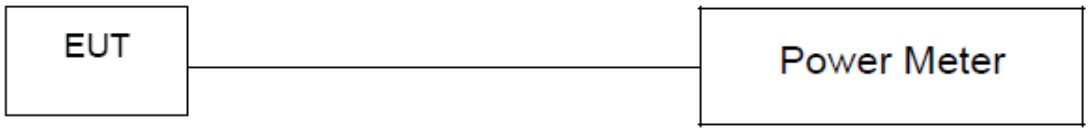
6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
b. The maximum average output power was performed in accordance with method 9.2.3.1 of FCC KDB 558074 D01 v04 DTS Meas Guidance.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5 EUT TEST CONDITIONS

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

6.1.6 TEST RESULTS

Please refer to the 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 intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

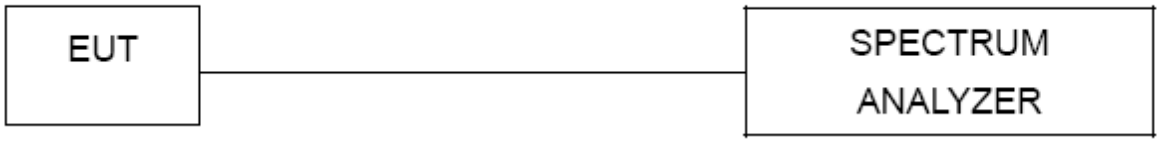
7.1.1 TEST PROCEDURE

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= 100 kHz, VBW=300 kHz, Sweep time = Auto.

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 3 kHz)	2400-2483.5	PASS

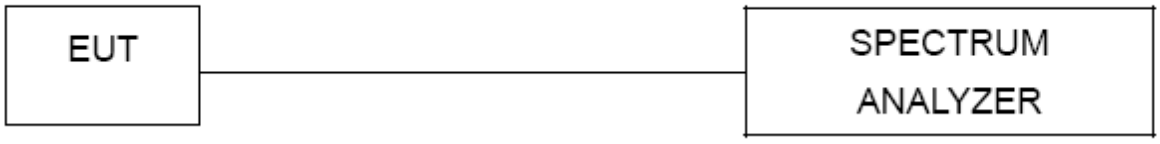
8.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The power spectral density was performed in accordance with method 10.2 of FCC KDB 558074 D01 v04 DTS Meas Guidance.
c. Spectrum Setting: RBW=3 kHz, VBW=10 kHz, 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	Mar. 23, 2019

Radiated Emission Measurement-9kHz TO 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EM	EM-6876-1	230	Feb. 07, 2019
2	Cable	N/A	RG 213/U	C-102	Jun. 01, 2019
3	EMI Test Receiver	R&S	ESCI	100382	Mar. 11, 2019
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emission Measurement-30 MHz TO 1000 MHz					
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	Aug. 11, 2019
3	Receiver	Agilent	N9038A	MY52130039	Aug. 11, 2019
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 25, 2019
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A

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. 11, 2019
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	mitron	B10-01-01-12M	18072744	Jul. 30, 2019
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 11, 2019

Maximum Average output power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	ANRITSU	ML2495A	1128009	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. 11, 2019

Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 11, 2019

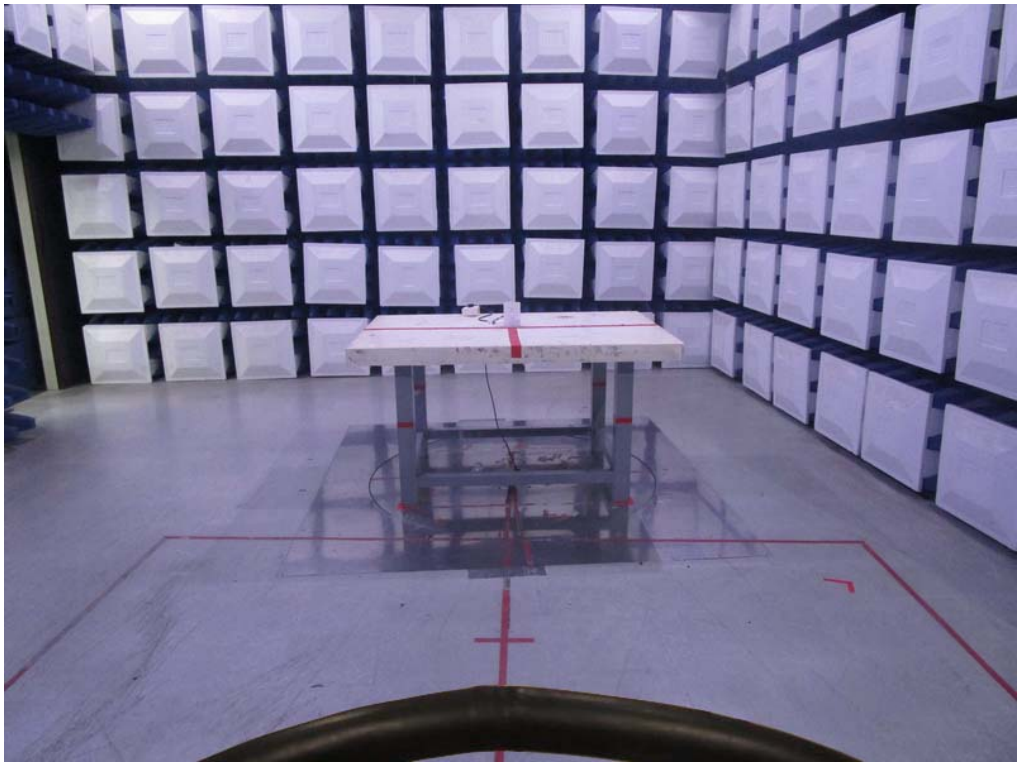
Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

10. EUT TEST PHOTO

Conducted Measurement Photos

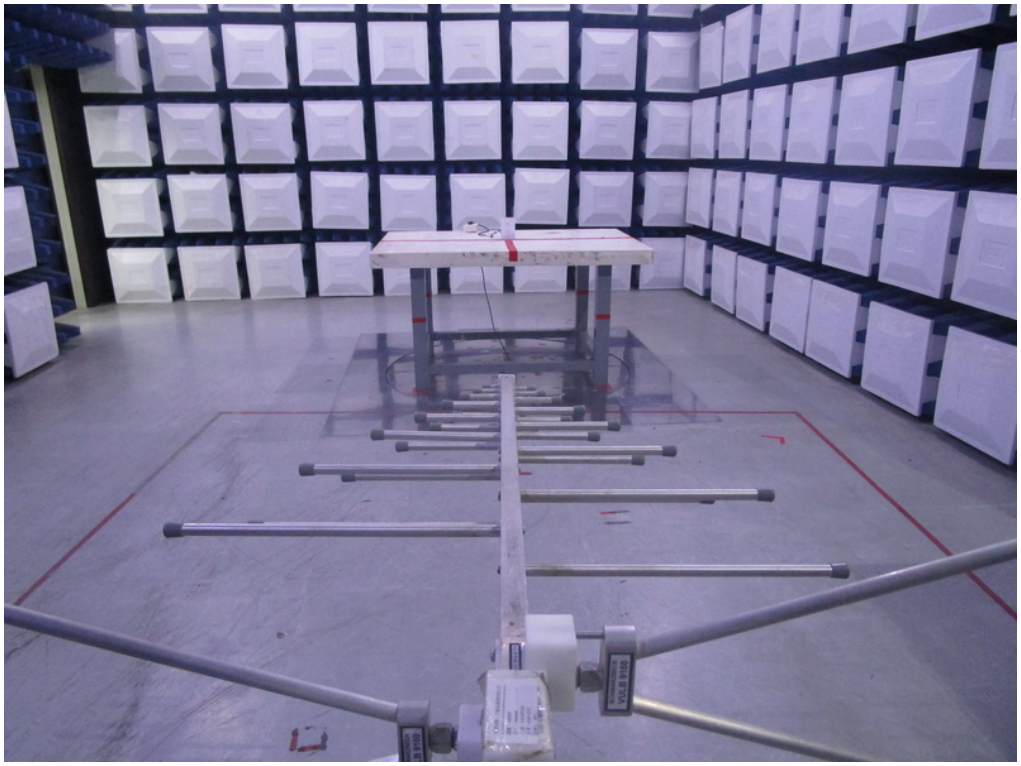
Radiated Measurement Photos

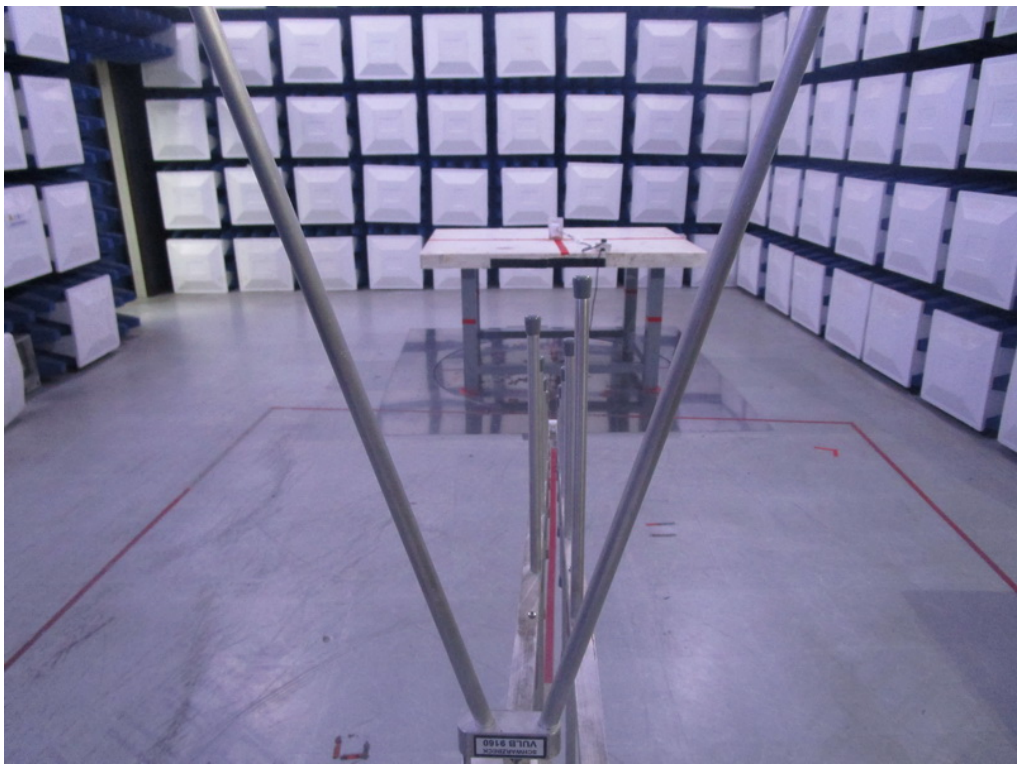
9 kHz to 30 MHz



Radiated Measurement Photos

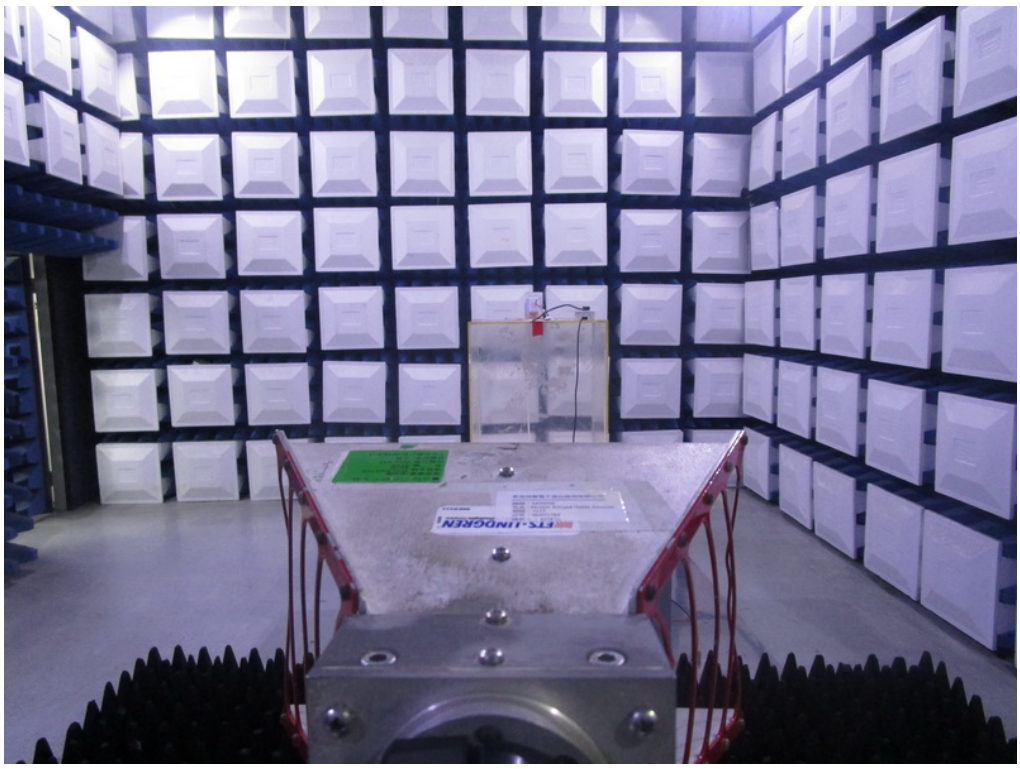
30 MHz to 1000 MHz





Radiated Measurement Photos

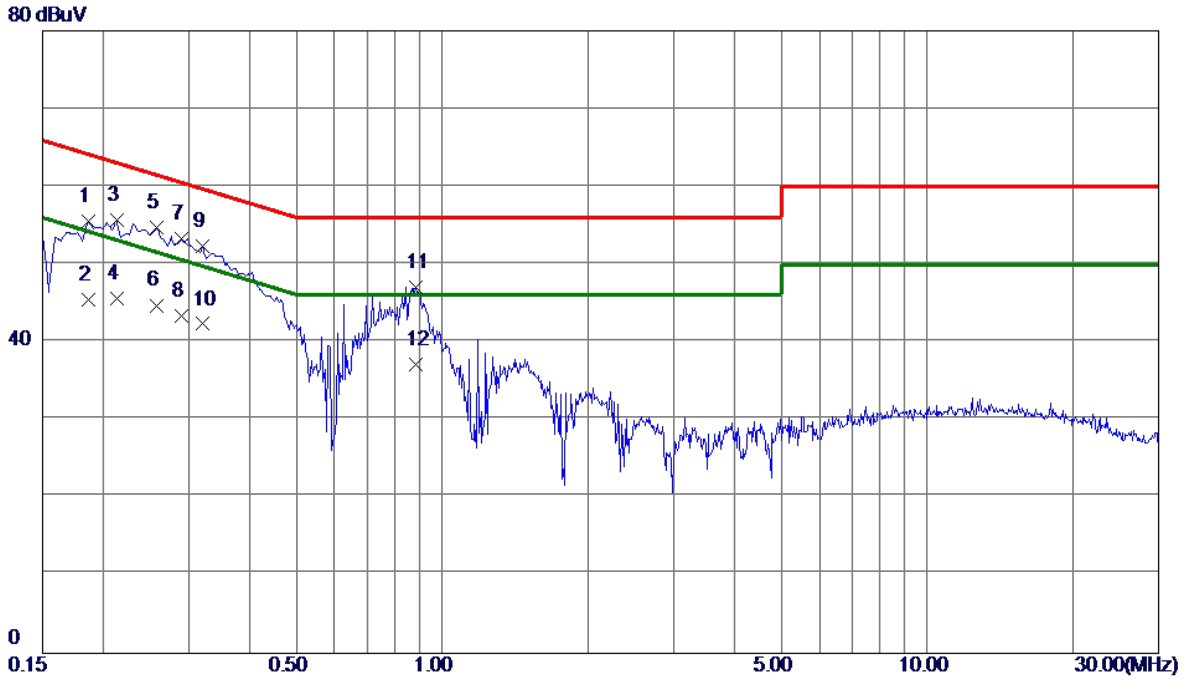
Above 1000 MHz



APPENDIX A - CONDUCTED EMISSION

Test Mode:	TX Mode

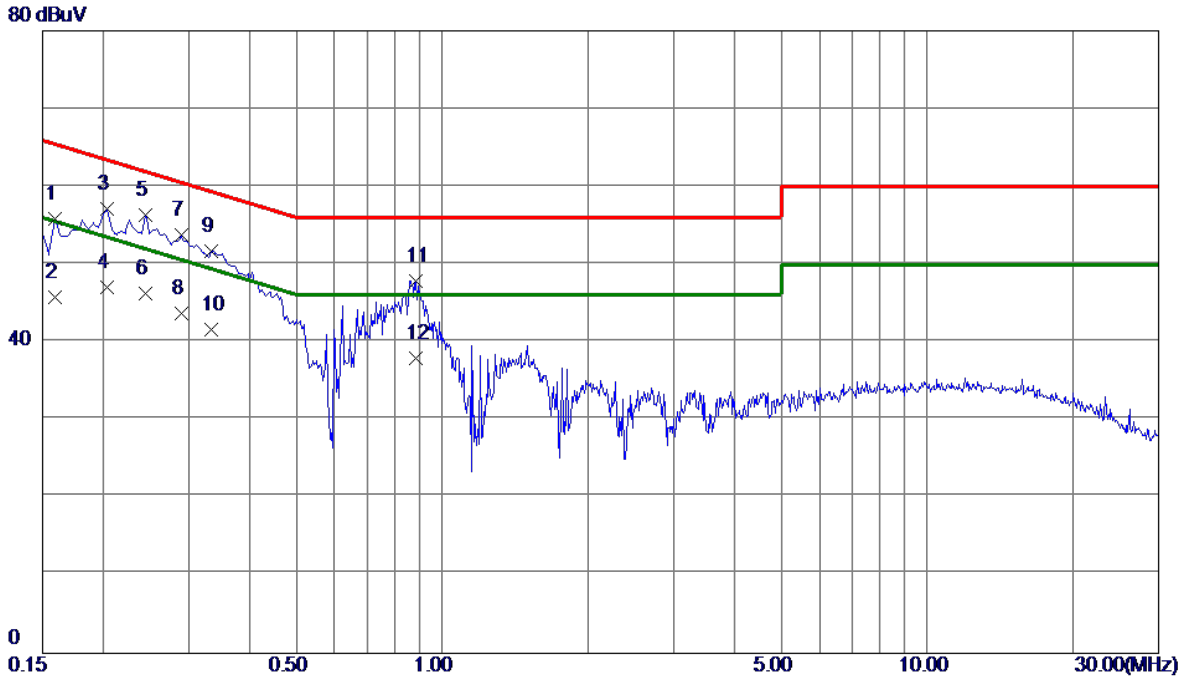
Line



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1860	45.73	9.82	55.55	64.21	-8.66	Peak	
2	0.1860	35.60	9.82	45.42	54.21	-8.79	AVG	
3	0.2130	45.91	9.82	55.73	63.09	-7.36	Peak	
4	0.2130	35.80	9.82	45.62	53.09	-7.47	AVG	
5 *	0.2580	44.96	9.82	54.78	61.50	-6.72	Peak	
6	0.2580	34.90	9.82	44.72	51.50	-6.78	AVG	
7	0.2895	43.51	9.82	53.33	60.54	-7.21	Peak	
8	0.2895	33.50	9.82	43.32	50.54	-7.22	AVG	
9	0.3209	42.56	9.82	52.38	59.68	-7.30	Peak	
10	0.3209	32.50	9.82	42.32	49.68	-7.36	AVG	
11	0.8835	37.15	9.91	47.06	56.00	-8.94	Peak	
12	0.8835	27.20	9.91	37.11	46.00	-8.89	AVG	

Test Mode:	TX Mode

Neutral

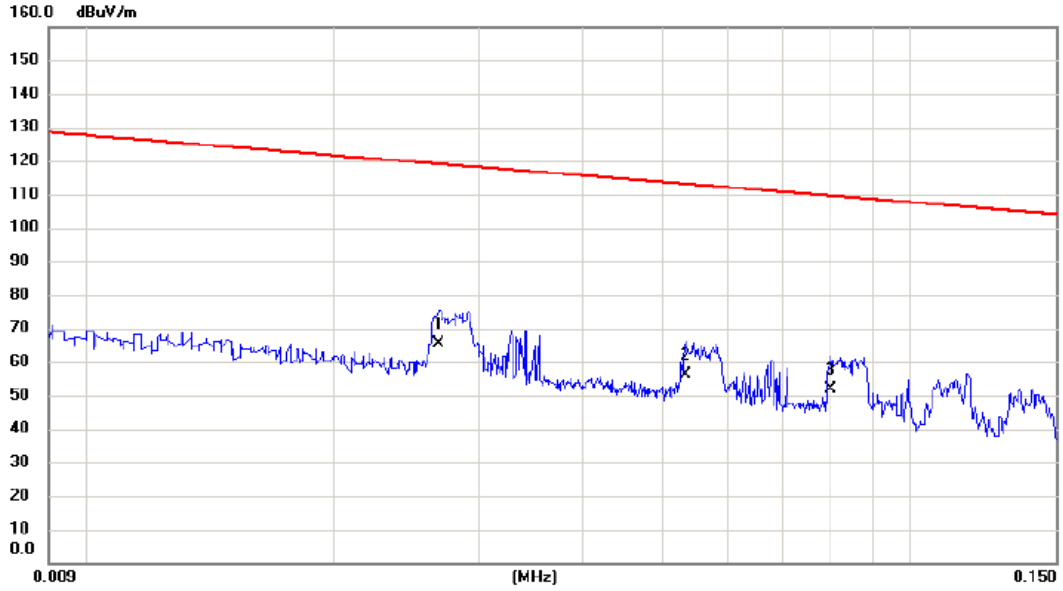


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1590	45.86	9.91	55.77	65.52	-9.75	Peak	
2	0.1590	35.80	9.91	45.71	55.52	-9.81	AVG	
3	0.2040	47.14	9.91	57.05	63.45	-6.40	Peak	
4	0.2040	37.20	9.91	47.11	53.45	-6.34	AVG	
5 *	0.2445	46.41	9.92	56.33	61.94	-5.61	Peak	
6	0.2445	36.30	9.92	46.22	51.94	-5.72	AVG	
7	0.2895	43.81	9.93	53.74	60.54	-6.80	Peak	
8	0.2895	33.80	9.93	43.73	50.54	-6.81	AVG	
9	0.3345	41.77	9.94	51.71	59.34	-7.63	Peak	
10	0.3345	31.70	9.94	41.64	49.34	-7.70	AVG	
11	0.8835	37.80	10.09	47.89	56.00	-8.11	Peak	
12	0.8835	27.80	10.09	37.89	46.00	-8.11	AVG	

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

Test Mode:	TX Mode

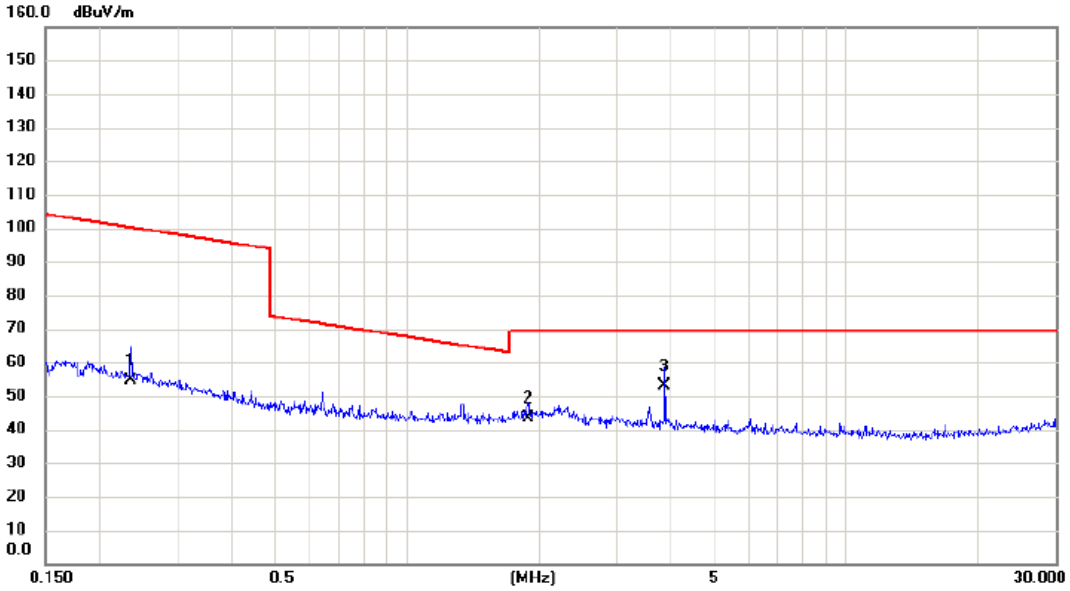
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0268	45.60	19.91	65.51	119.04	-53.53	AVG	
2		0.0534	36.80	19.45	56.25	113.05	-56.80	AVG	
3		0.0801	32.80	18.91	51.71	109.53	-57.82	AVG	

Test Mode:	TX Mode

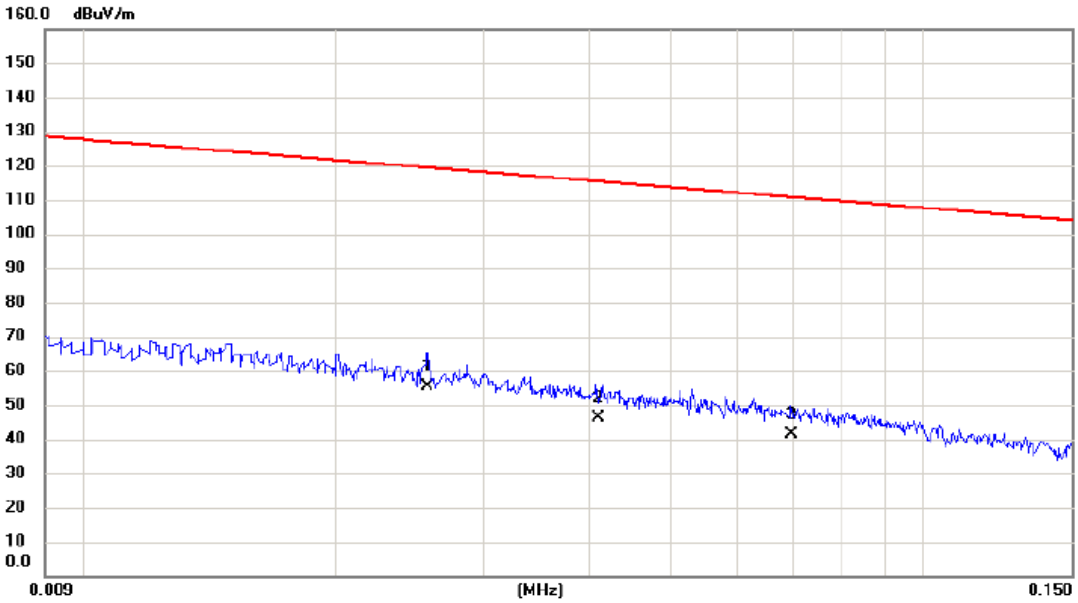
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.2341	37.50	17.08	54.58	100.22	-45.64	AVG	
2		1.8880	26.20	17.05	43.25	69.54	-26.29	QP	
3	*	3.8603	37.30	15.86	53.16	69.54	-16.38	QP	

Test Mode:	TX Mode

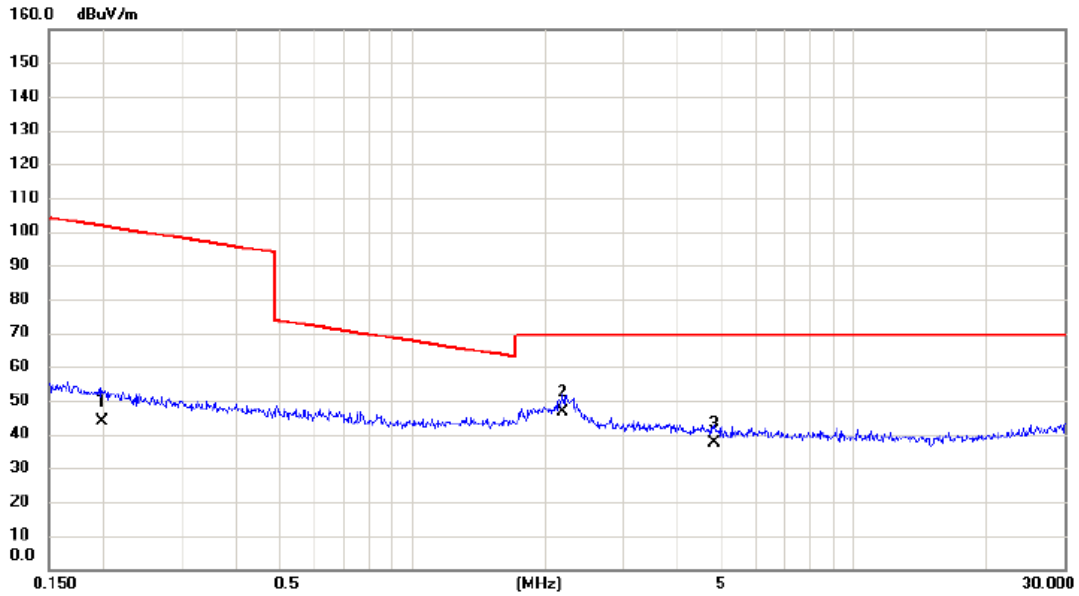
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0257	35.50	19.93	55.43	119.41	-63.98	AVG	
2		0.0410	26.40	19.67	46.07	115.35	-69.28	AVG	
3		0.0696	22.10	19.14	41.24	110.75	-69.51	AVG	

Test Mode:	TX Mode

Ant 90°

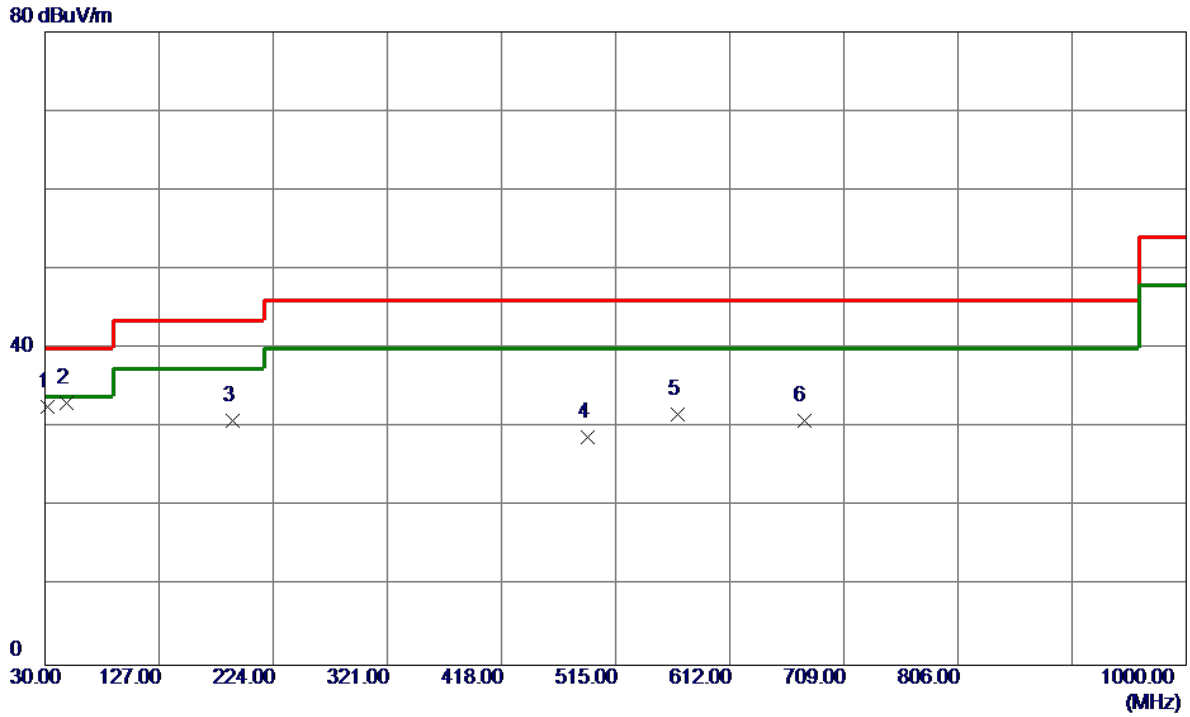


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1976	26.80	17.15	43.95	101.69	-57.74	AVG	
2	*	2.1898	29.70	17.00	46.70	69.54	-22.84	QP	
3		4.8480	22.30	15.26	37.56	69.54	-31.98	QP	

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

Test Mode:	TX B Mode Channel 01

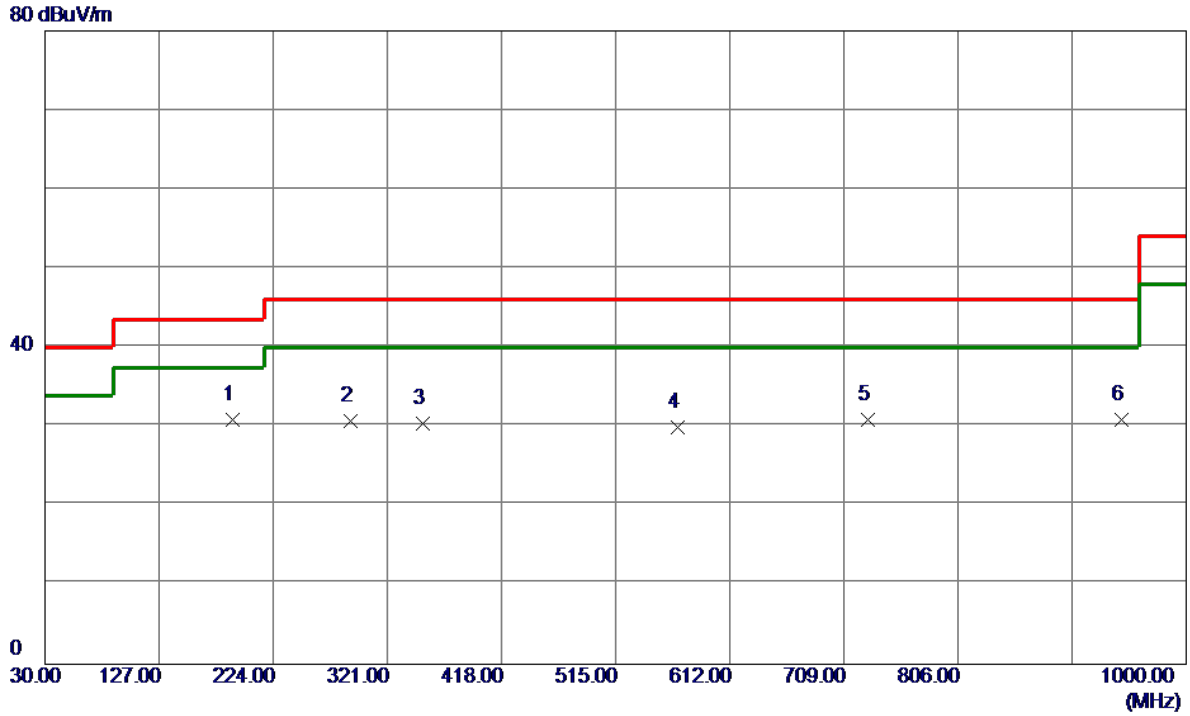
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	31.9400	47.74	-15.04	32.70	40.00	-7.30	Peak	
2 *	48.4300	47.96	-14.82	33.14	40.00	-6.86	Peak	
3	189.0800	45.03	-14.17	30.86	43.50	-12.64	Peak	
4	491.7200	37.11	-8.34	28.77	46.00	-17.23	Peak	
5	567.3800	37.49	-5.75	31.74	46.00	-14.26	Peak	
6	675.0500	34.79	-3.96	30.83	46.00	-15.17	Peak	

Test Mode:	TX B Mode Channel 01

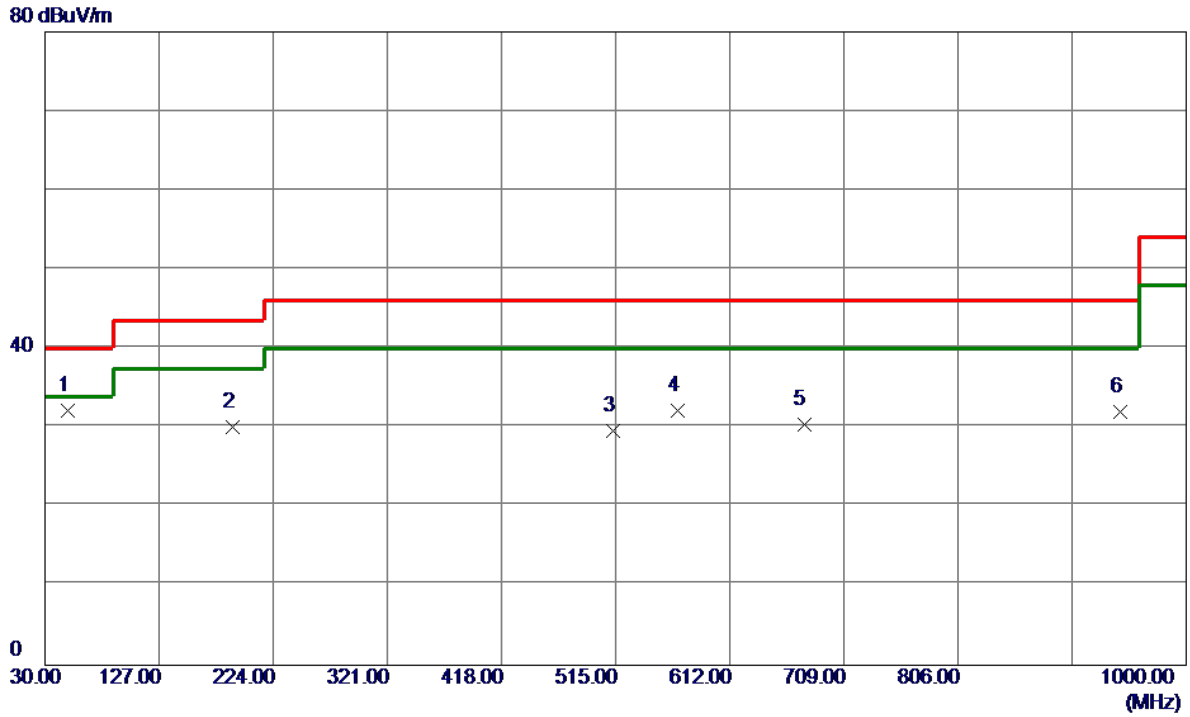
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	189.0800	44.98	-14.17	30.81	43.50	-12.69	Peak	
2	289.9600	41.68	-10.96	30.72	46.00	-15.28	Peak	
3	351.0700	41.38	-11.04	30.34	46.00	-15.66	Peak	
4	567.3800	35.61	-5.75	29.86	46.00	-16.14	Peak	
5	729.3700	34.39	-3.51	30.88	46.00	-15.12	Peak	
6	944.7100	29.65	1.20	30.85	46.00	-15.15	Peak	

Test Mode:	TX B Mode Channel 06

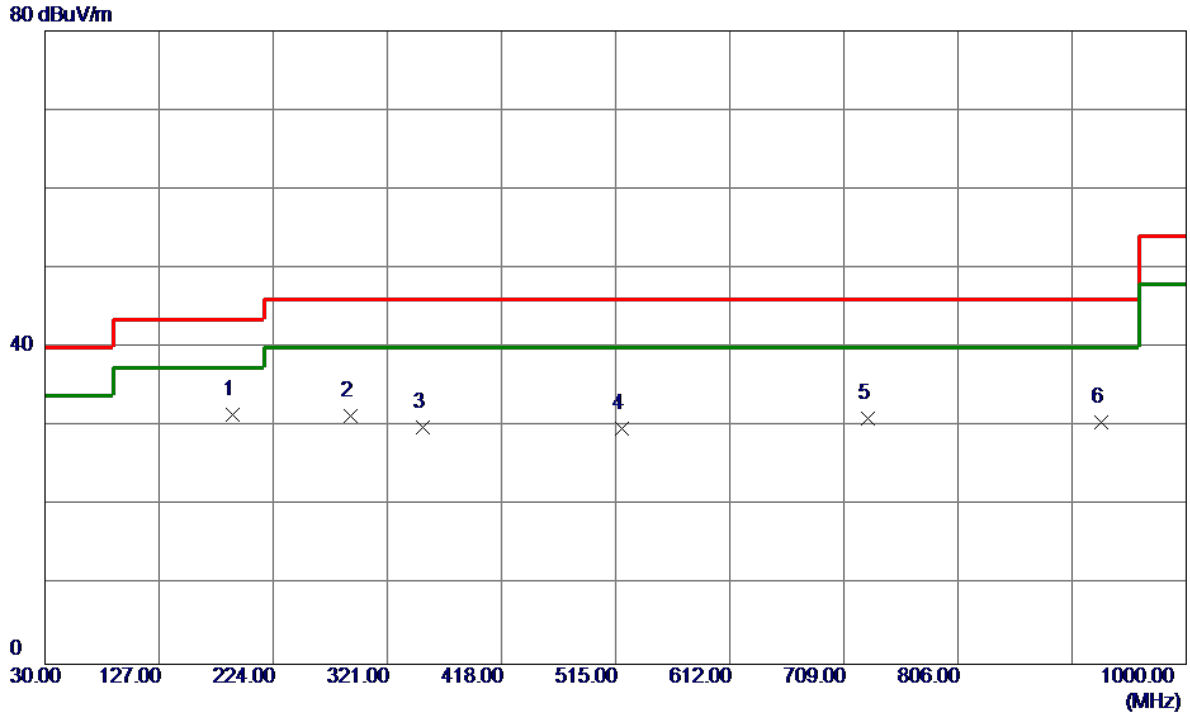
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	49.4000	46.94	-14.81	32.13	40.00	-7.87	Peak	
2	189.0800	44.29	-14.17	30.12	43.50	-13.38	Peak	
3	513.0600	37.40	-7.73	29.67	46.00	-16.33	Peak	
4	567.3800	37.90	-5.75	32.15	46.00	-13.85	Peak	
5	675.0500	34.29	-3.96	30.33	46.00	-15.67	Peak	
6	943.7400	30.83	1.16	31.99	46.00	-14.01	Peak	

Test Mode:	TX B Mode Channel 06

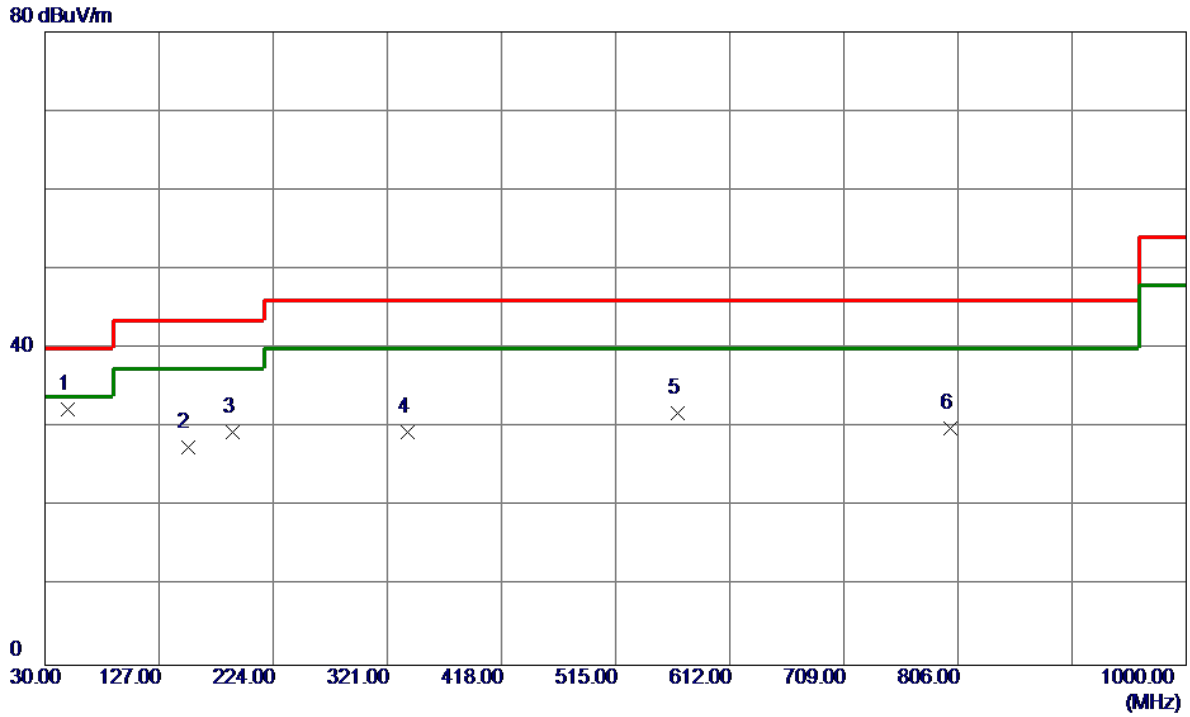
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	189.0800	45.71	-14.17	31.54	43.50	-11.96	Peak	
2	289.9600	42.36	-10.96	31.40	46.00	-14.60	Peak	
3	351.0700	41.02	-11.04	29.98	46.00	-16.02	Peak	
4	519.8500	37.13	-7.31	29.82	46.00	-16.18	Peak	
5	729.3700	34.57	-3.51	31.06	46.00	-14.94	Peak	
6	928.2200	30.09	0.53	30.62	46.00	-15.38	Peak	

Test Mode:	TX B Mode Channel 11

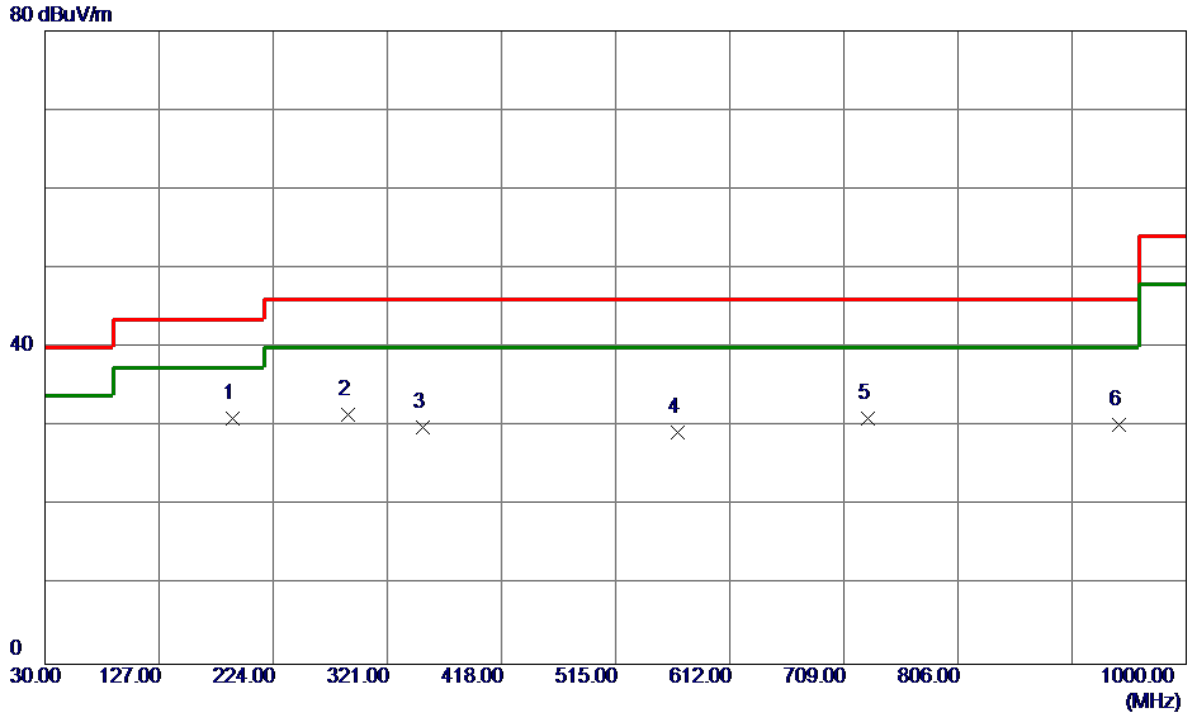
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	49.4000	47.12	-14.81	32.31	40.00	-7.69	Peak	
2	151.2500	38.93	-11.38	27.55	43.50	-15.95	Peak	
3	189.0800	43.55	-14.17	29.38	43.50	-14.12	Peak	
4	338.4600	40.37	-10.91	29.46	46.00	-16.54	Peak	
5	567.3800	37.58	-5.75	31.83	46.00	-14.17	Peak	
6	799.2100	30.95	-1.09	29.86	46.00	-16.14	Peak	

Test Mode:	TX B Mode Channel 11

Horizontal

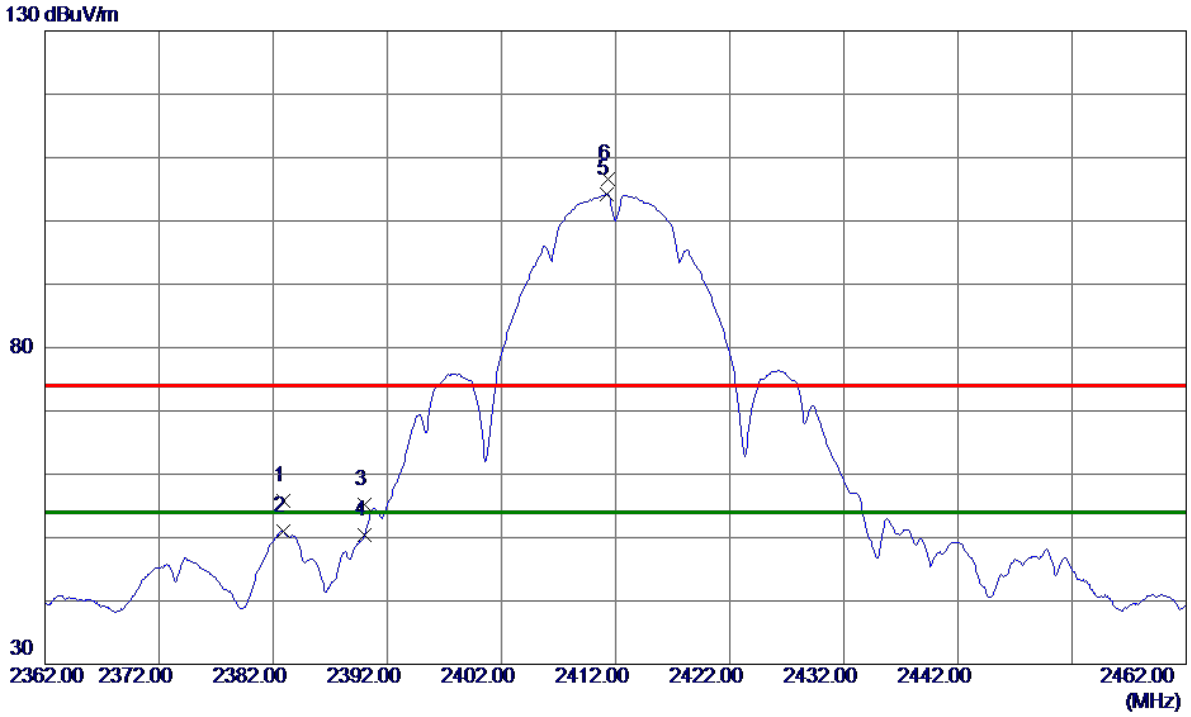


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	189.0800	45.27	-14.17	31.10	43.50	-12.40	Peak	
2	288.0200	42.50	-11.03	31.47	46.00	-14.53	Peak	
3	351.0700	40.98	-11.04	29.94	46.00	-16.06	Peak	
4	567.3800	35.04	-5.75	29.29	46.00	-16.71	Peak	
5	729.3700	34.60	-3.51	31.09	46.00	-14.91	Peak	
6	942.7700	29.17	1.12	30.29	46.00	-15.71	Peak	

APPENDIX D - RADIATED EMISSION (ABOVE 1000 MHZ)

Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2382.9000	48.32	7.39	55.71	74.00	-18.29	Peak	
2	2382.9000	43.66	7.39	51.05	54.00	-2.95	AVG	
3	2390.0000	47.79	7.39	55.18	74.00	-18.82	Peak	
4	2390.0000	43.08	7.39	50.47	54.00	-3.53	AVG	
5 *	2411.2000	96.85	7.37	104.22	54.00	50.22	AVG	No Limit
6	2411.3000	99.14	7.37	106.51	74.00	32.51	Peak	No Limit

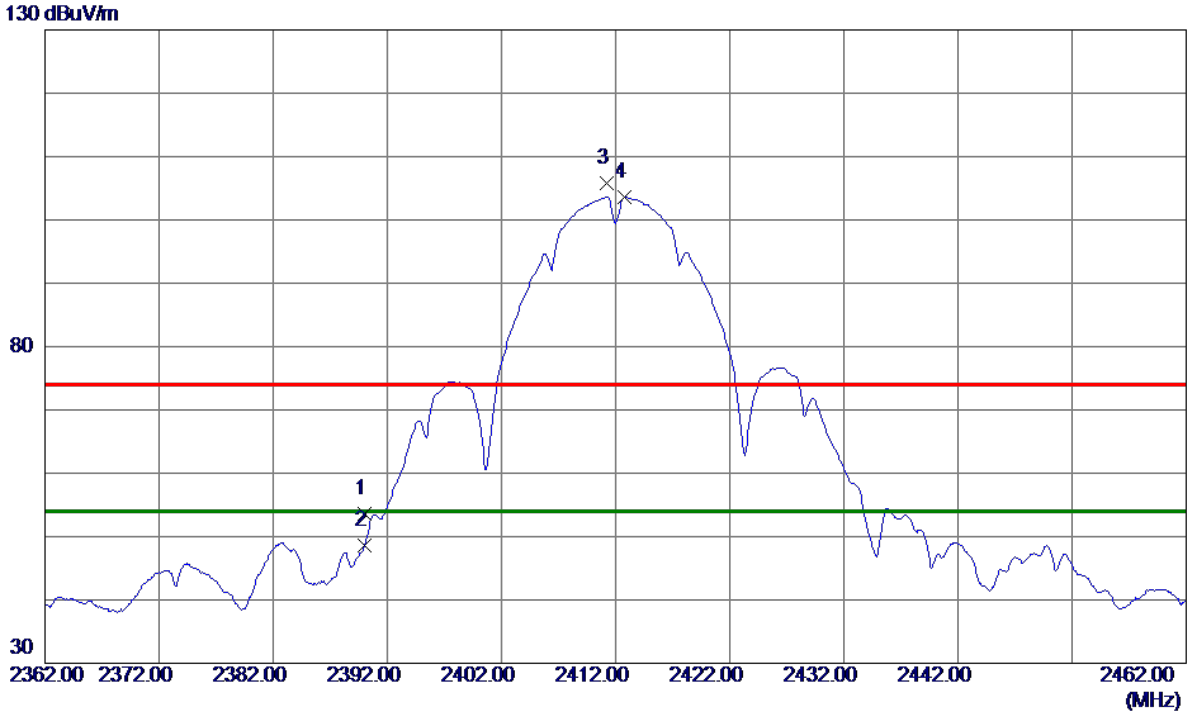
Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4823.9800	48.83	3.49	52.32	54.00	-1.68	AVG	
2	4824.0019	51.18	3.49	54.67	74.00	-19.33	Peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	46.19	7.39	53.58	74.00	-20.42	Peak	
2	2390.0000	41.22	7.39	48.61	54.00	-5.39	AVG	
3	2411.2000	98.40	7.37	105.77	74.00	31.77	Peak	No Limit
4 *	2412.8000	96.28	7.37	103.65	54.00	49.65	AVG	No Limit

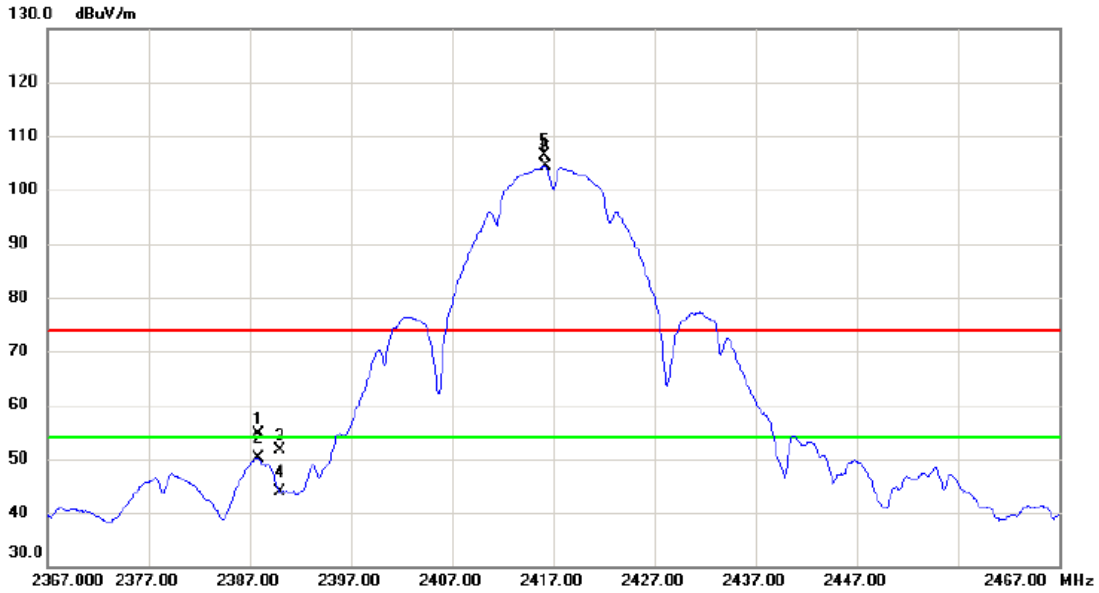
Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4823.9600	49.76	3.49	53.25	54.00	-0.75	AVG	
2	4823.9660	51.67	3.49	55.16	74.00	-18.84	Peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2417 MHz

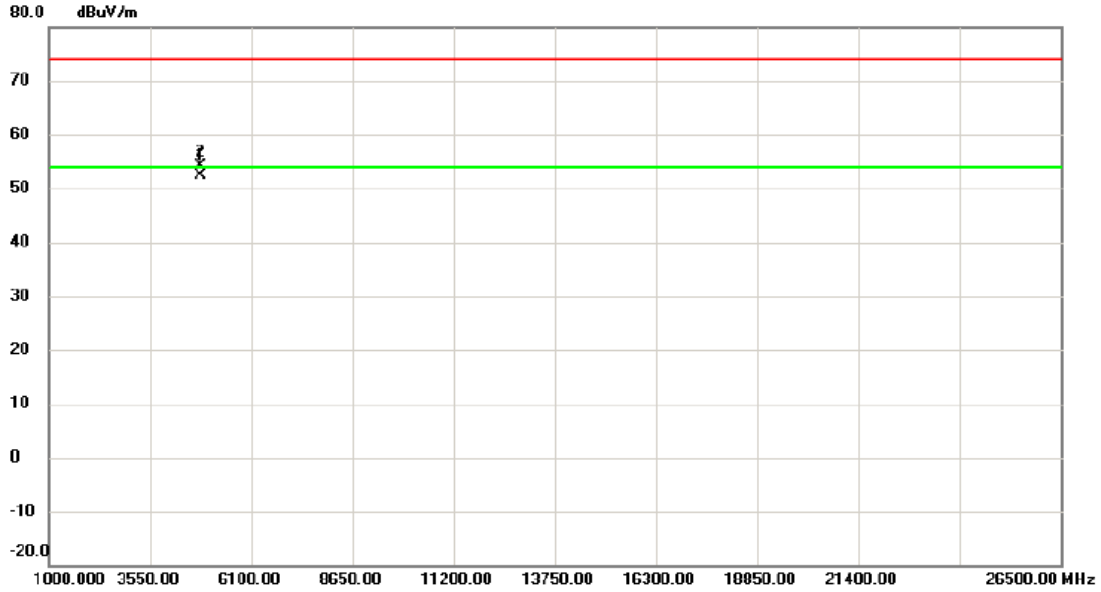
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2387.800	47.18	7.39	54.57	74.00	-19.43	peak	
2		2387.800	42.84	7.39	50.23	54.00	-3.77	AVG	
3		2390.000	44.21	7.38	51.59	74.00	-22.41	peak	
4		2390.000	36.54	7.38	43.92	54.00	-10.08	AVG	
5	X	2416.200	98.97	7.37	106.34	74.00	32.34	peak	No Limit
6	*	2416.300	96.98	7.37	104.35	54.00	50.35	AVG	No Limit

Orthogonal Axis	X
Test Mode:	TX B Mode 2417 MHz

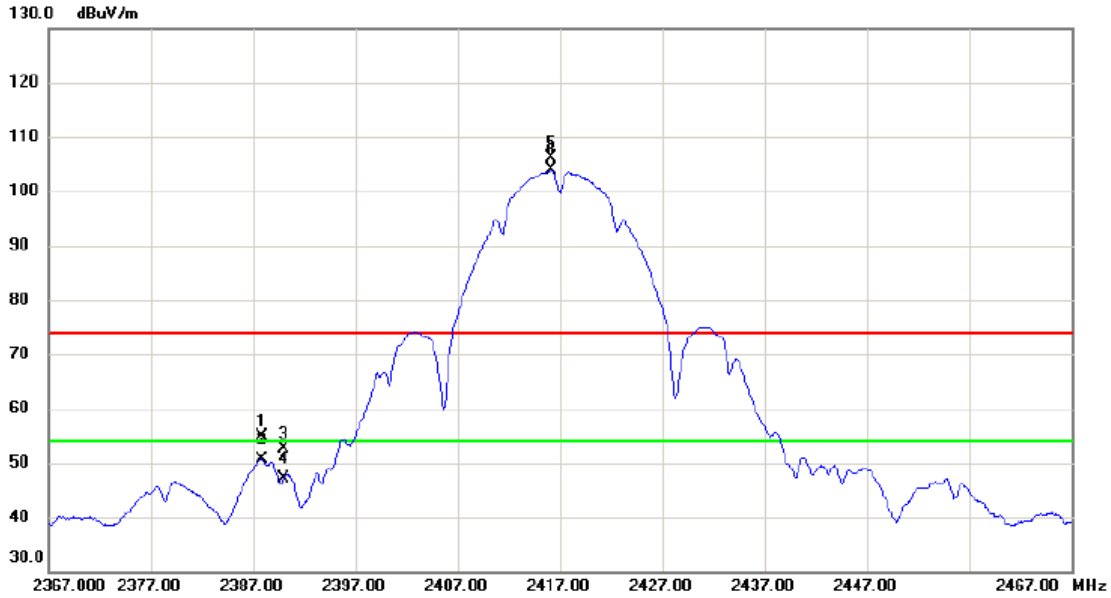
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4834.000	48.75	3.51	52.26	54.00	-1.74	AVG	
2		4834.012	50.64	3.51	54.15	74.00	-19.85	peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2417 MHz

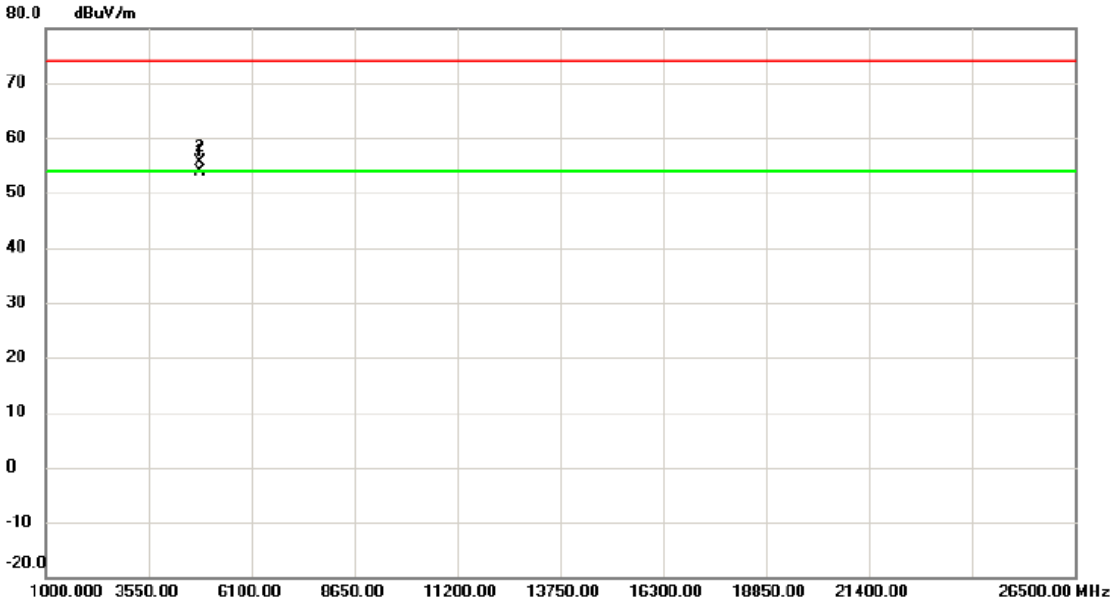
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2387.800	47.40	7.39	54.79	74.00	-19.21	peak	
2		2387.800	43.16	7.39	50.55	54.00	-3.45	AVG	
3		2390.000	45.33	7.38	52.71	74.00	-21.29	peak	
4		2390.000	39.82	7.38	47.20	54.00	-6.80	AVG	
5	X	2416.200	98.78	7.37	106.15	74.00	32.15	peak	No Limit
6	*	2416.200	96.51	7.37	103.88	54.00	49.88	AVG	No Limit

Orthogonal Axis	X
Test Mode:	TX B Mode 2417 MHz

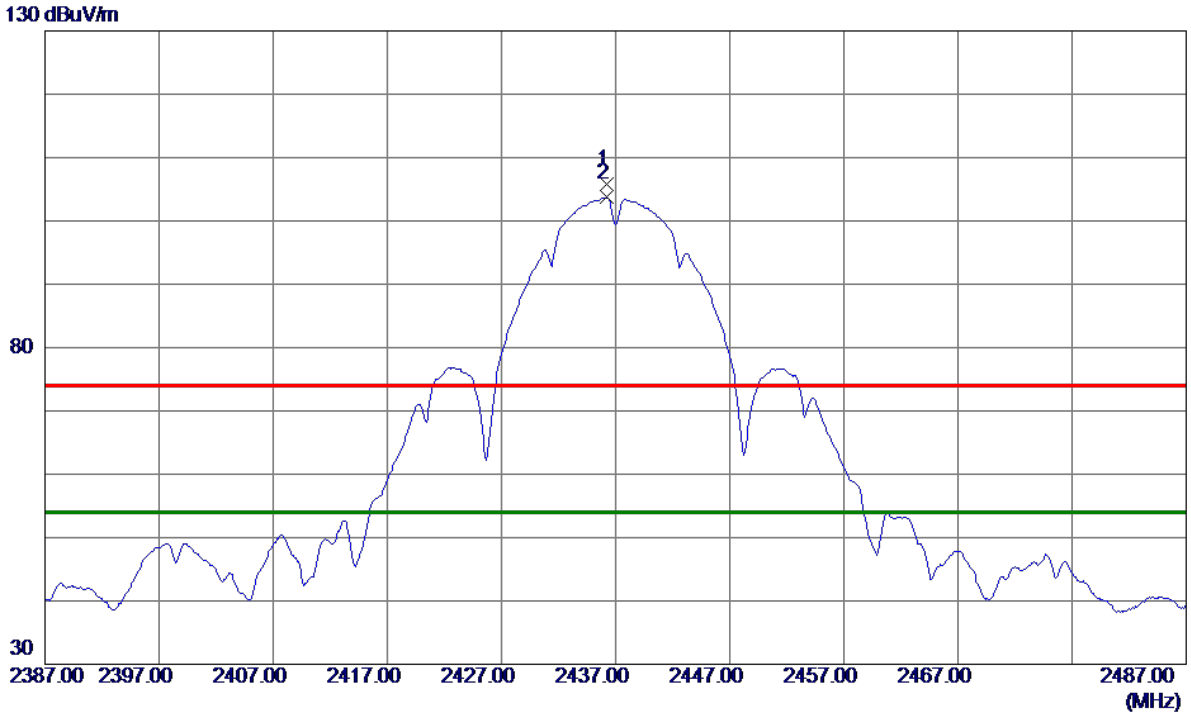
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4833.974	50.25	3.51	53.76	54.00	-0.24	AVG	
2		4833.976	52.16	3.51	55.67	74.00	-18.33	peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2436.2000	98.45	7.35	105.80	74.00	31.80	Peak	No Limit
2 *	2436.2000	96.35	7.35	103.70	54.00	49.70	AVG	No Limit

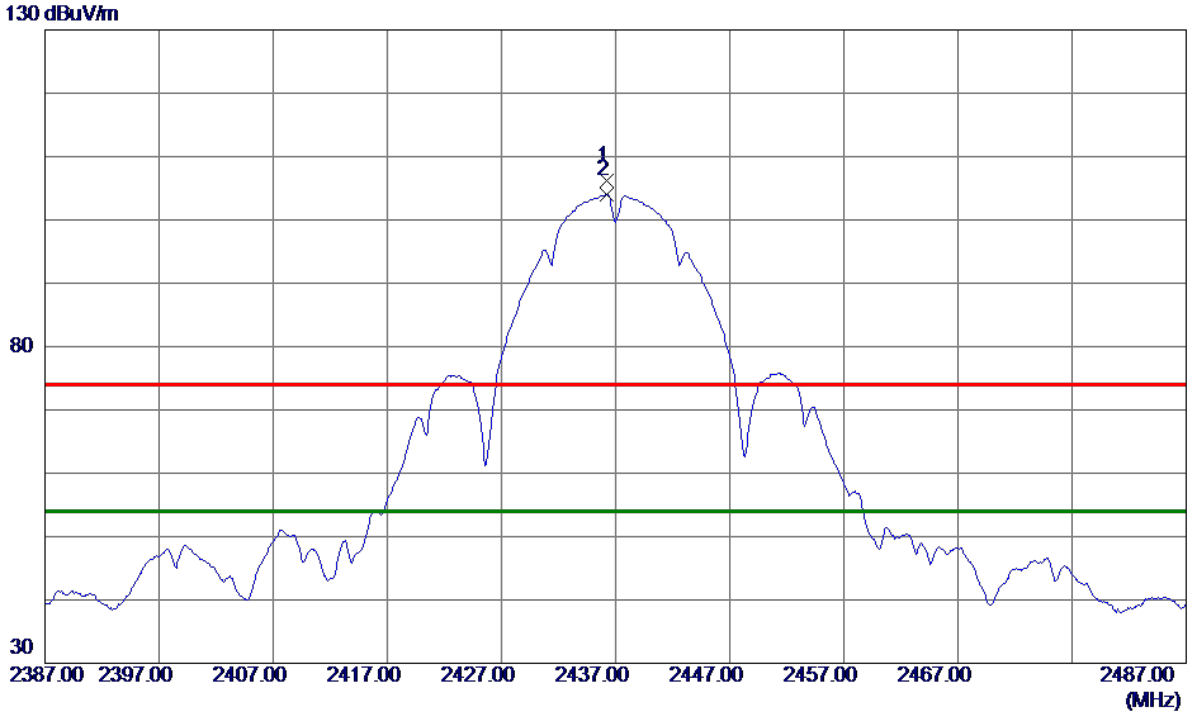
Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4873.9300	49.75	3.61	53.36	74.00	-20.64	Peak	
2 *	4873.9720	47.60	3.61	51.21	54.00	-2.79	AVG	

Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2436.2000	98.81	7.35	106.16	74.00	32.16	Peak	No Limit
2 *	2436.2000	96.65	7.35	104.00	54.00	50.00	AVG	No Limit

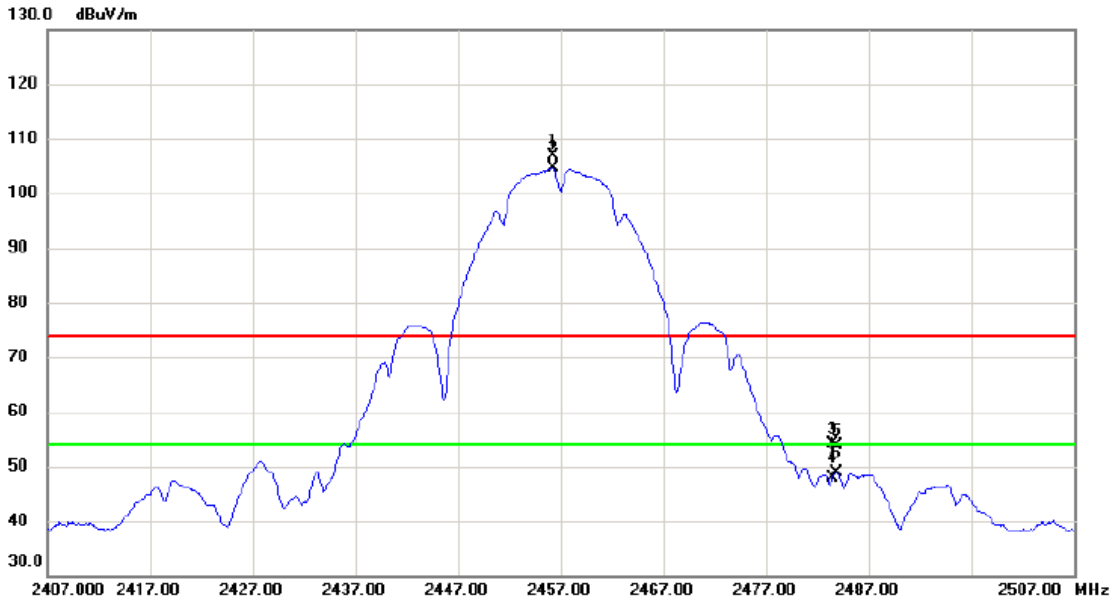
Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4873.9260	51.28	3.61	54.89	74.00	-19.11	Peak	
2 *	4874.0080	49.70	3.61	53.31	54.00	-0.69	AVG	

Orthogonal Axis	X
Test Mode:	TX B Mode 2457 MHz

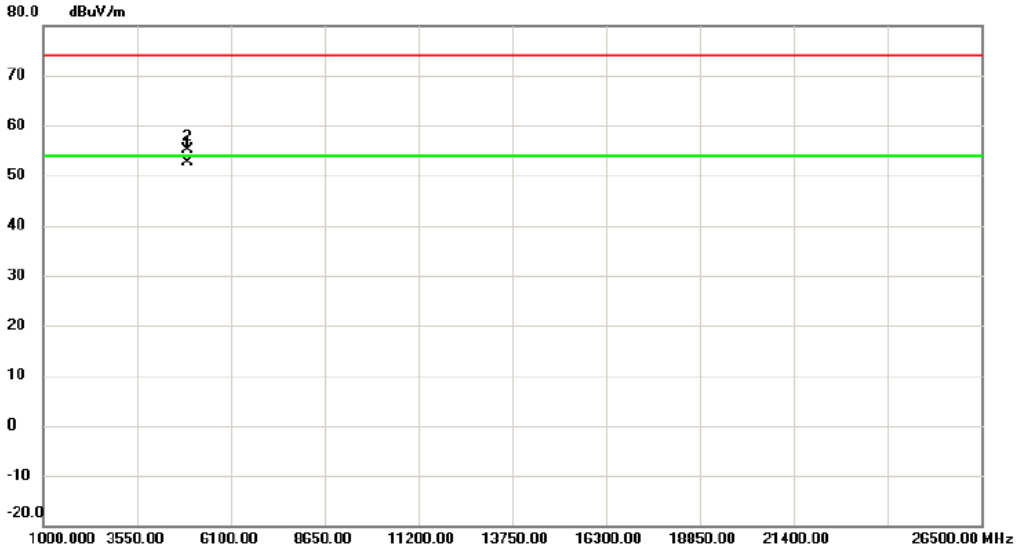
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2456.300	99.64	7.34	106.98	74.00	32.98	peak	No Limit
2	*	2456.300	97.26	7.34	104.60	54.00	50.60	AVG	No Limit
3		2483.500	46.78	7.32	54.10	74.00	-19.90	peak	
4		2483.500	40.62	7.32	47.94	54.00	-6.06	AVG	
5		2483.800	46.53	7.32	53.85	74.00	-20.15	peak	
6		2483.800	41.55	7.32	48.87	54.00	-5.13	AVG	

Orthogonal Axis	X
Test Mode:	TX B Mode 2457 MHz

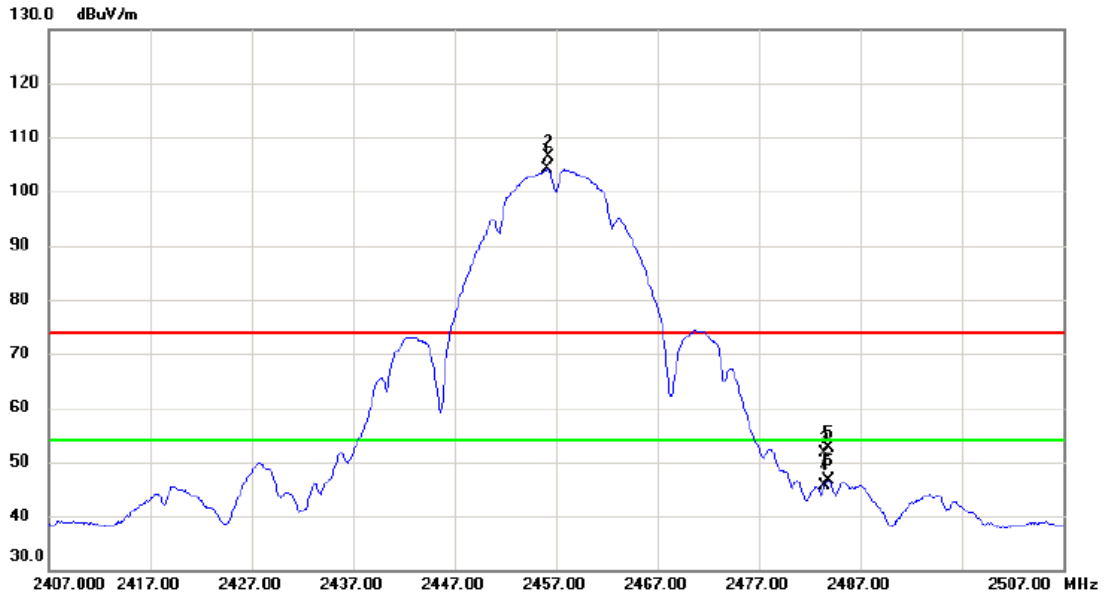
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4913.914	48.94	3.71	52.65	54.00	-1.35	AVG	
2		4913.998	51.31	3.71	55.02	74.00	-18.98	peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2457 MHz

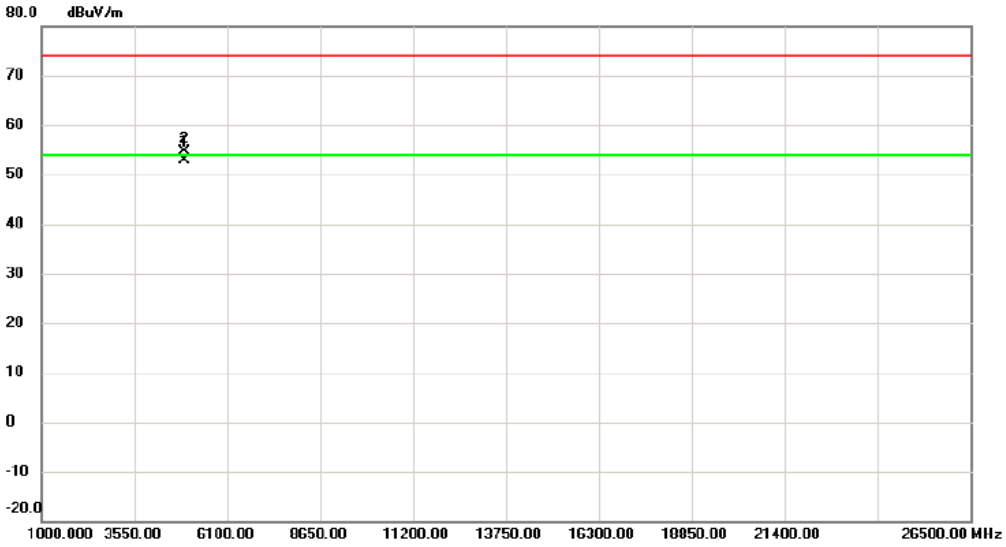
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2456.200	96.73	7.33	104.06	54.00	50.06	AVG	No Limit
2	X	2456.300	98.99	7.34	106.33	74.00	32.33	peak	No Limit
3		2483.500	44.36	7.32	51.68	74.00	-22.32	peak	
4		2483.500	38.40	7.32	45.72	54.00	-8.28	AVG	
5		2483.800	45.30	7.32	52.62	74.00	-21.38	peak	
6		2483.800	39.26	7.32	46.58	54.00	-7.42	AVG	

Orthogonal Axis	X
Test Mode:	TX B Mode 2457 MHz

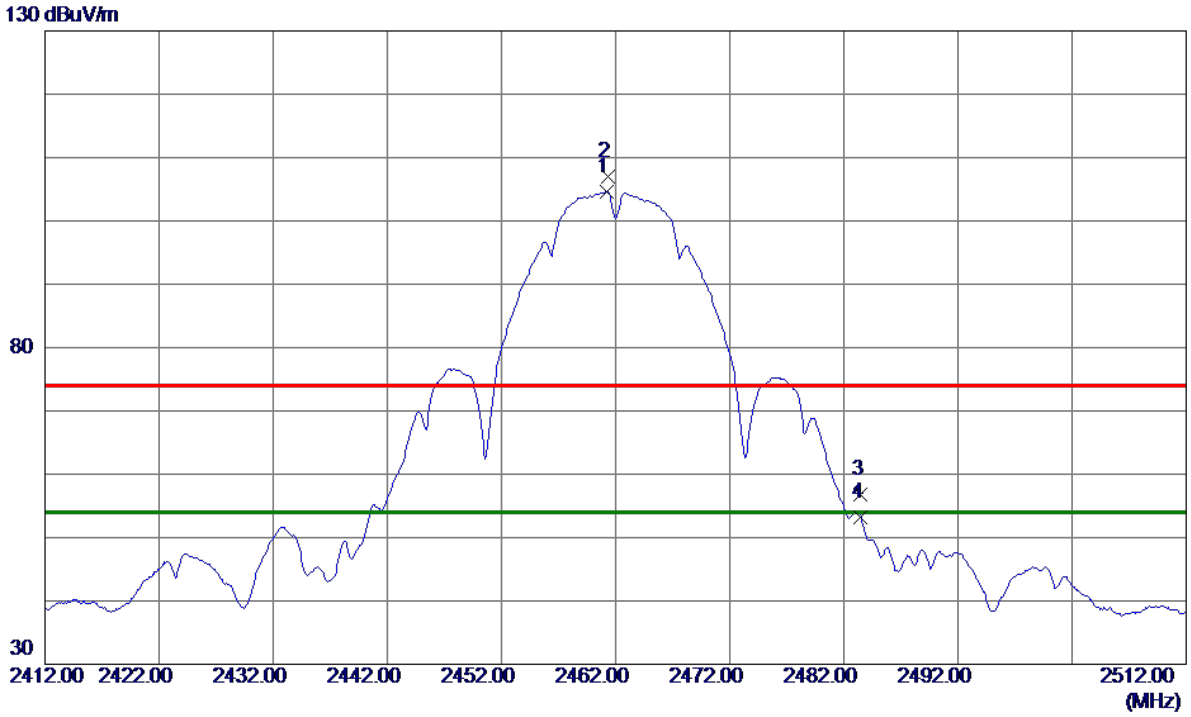
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4913.948	49.13	3.71	52.84	54.00	-1.16	AVG	
2		4913.982	50.96	3.71	54.67	74.00	-19.33	peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2462 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2461.2000	97.28	7.33	104.61	54.00	50.61	AVG	No Limit
2	2461.3000	99.69	7.33	107.02	74.00	33.02	Peak	No Limit
3	2483.5000	49.55	7.32	56.87	74.00	-17.13	Peak	
4	2483.5000	45.88	7.32	53.20	54.00	-0.80	AVG	

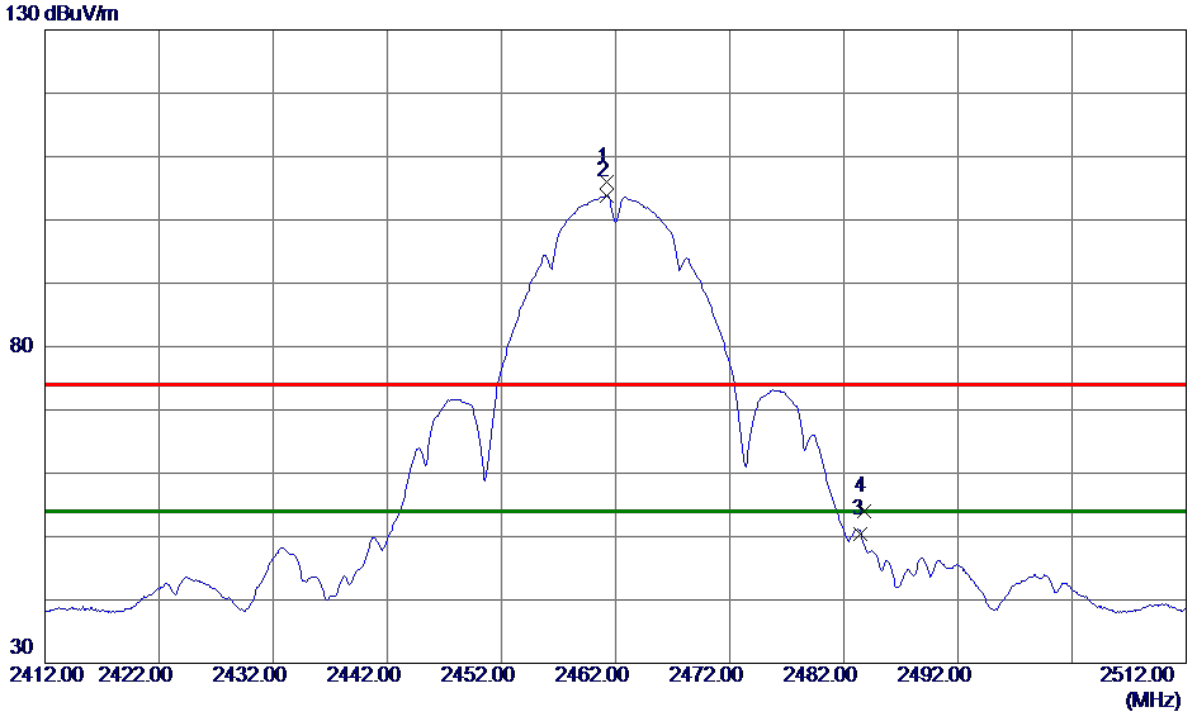
Orthogonal Axis	X
Test Mode:	TX B Mode 2462 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4923.9780	49.65	3.73	53.38	54.00	-0.62	AVG	
2	4924.0440	51.50	3.73	55.23	74.00	-18.77	Peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2462 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2461.2000	98.63	7.33	105.96	74.00	31.96	Peak	No Limit
2 *	2461.2000	96.48	7.33	103.81	54.00	49.81	AVG	No Limit
3	2483.5000	43.10	7.32	50.42	54.00	-3.58	AVG	
4	2483.8000	46.71	7.32	54.03	74.00	-19.97	Peak	

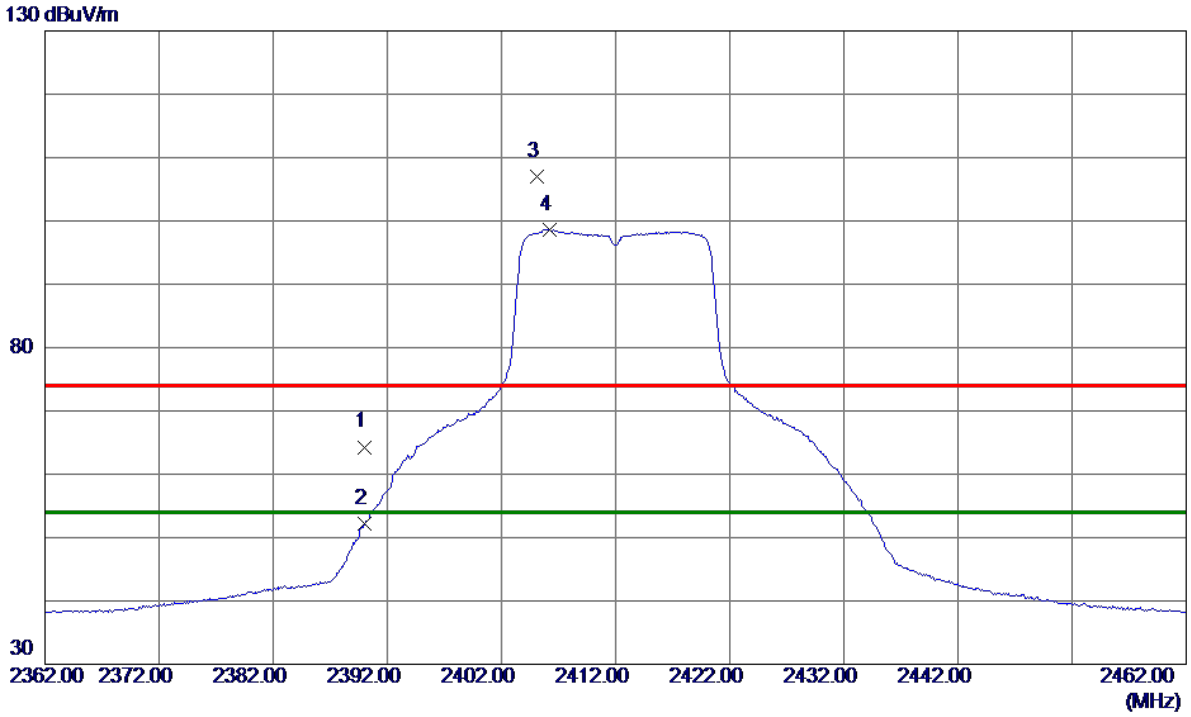
Orthogonal Axis	X
Test Mode:	TX B Mode 2462 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4923.9680	49.25	3.73	52.98	54.00	-1.02	AVG	
2	4924.0120	51.29	3.73	55.02	74.00	-18.98	Peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2412 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	56.91	7.39	64.30	74.00	-9.70	Peak	
2	2390.0000	44.78	7.39	52.17	54.00	-1.83	AVG	
3	2405.1000	99.53	7.38	106.91	74.00	32.91	Peak	No Limit
4 *	2406.2000	91.28	7.38	98.66	54.00	44.66	AVG	No Limit

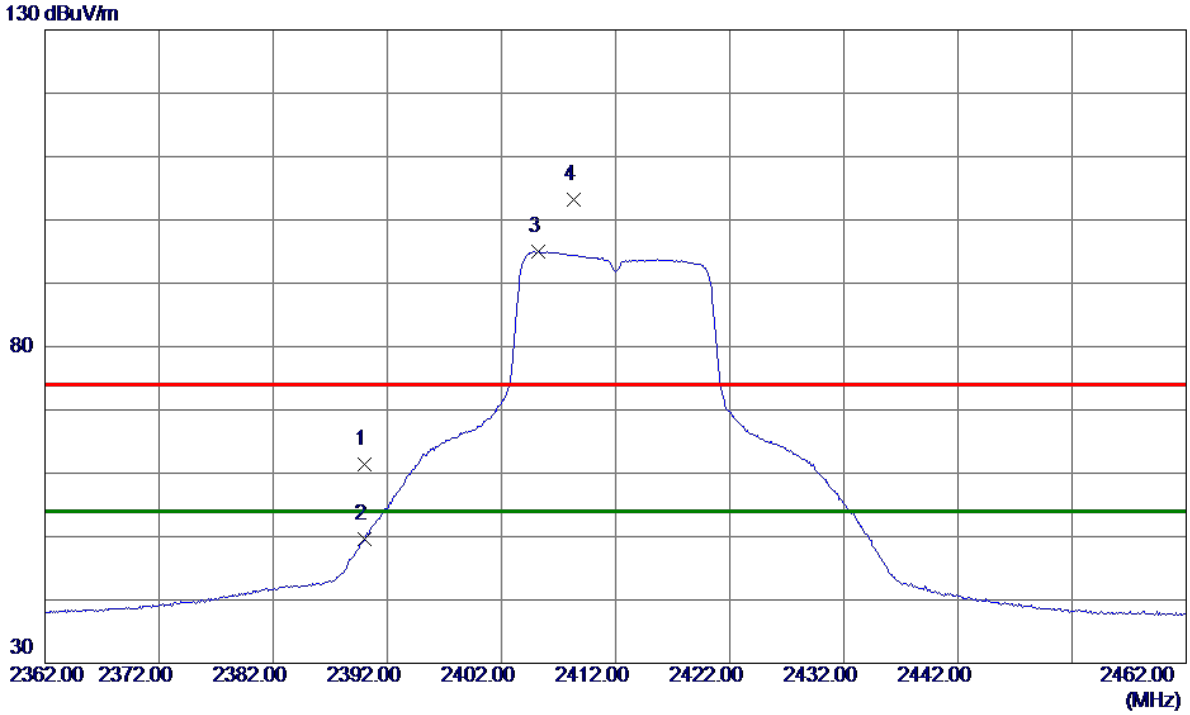
Orthogonal Axis	X
Test Mode:	TX G Mode 2412 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824.5000	31.43	3.50	34.93	54.00	-19.07	AVG	
2	4830.4000	41.90	3.51	45.41	74.00	-28.59	Peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2412 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	54.02	7.39	61.41	74.00	-12.59	Peak	
2	2390.0000	42.17	7.39	49.56	54.00	-4.44	AVG	
3 *	2405.2000	87.63	7.38	95.01	54.00	41.01	AVG	No Limit
4	2408.3000	95.89	7.37	103.26	74.00	29.26	Peak	No Limit

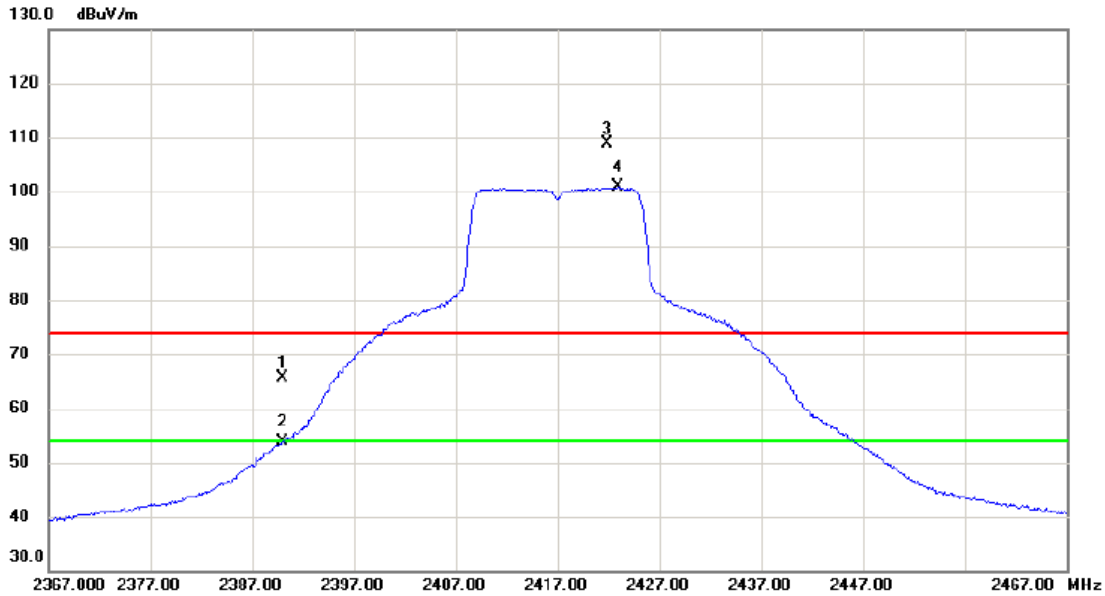
Orthogonal Axis	X
Test Mode:	TX G Mode 2412 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4819.5000	43.37	3.48	46.85	74.00	-27.15	Peak	
2 *	4823.5000	32.75	3.49	36.24	54.00	-17.76	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2417 MHz

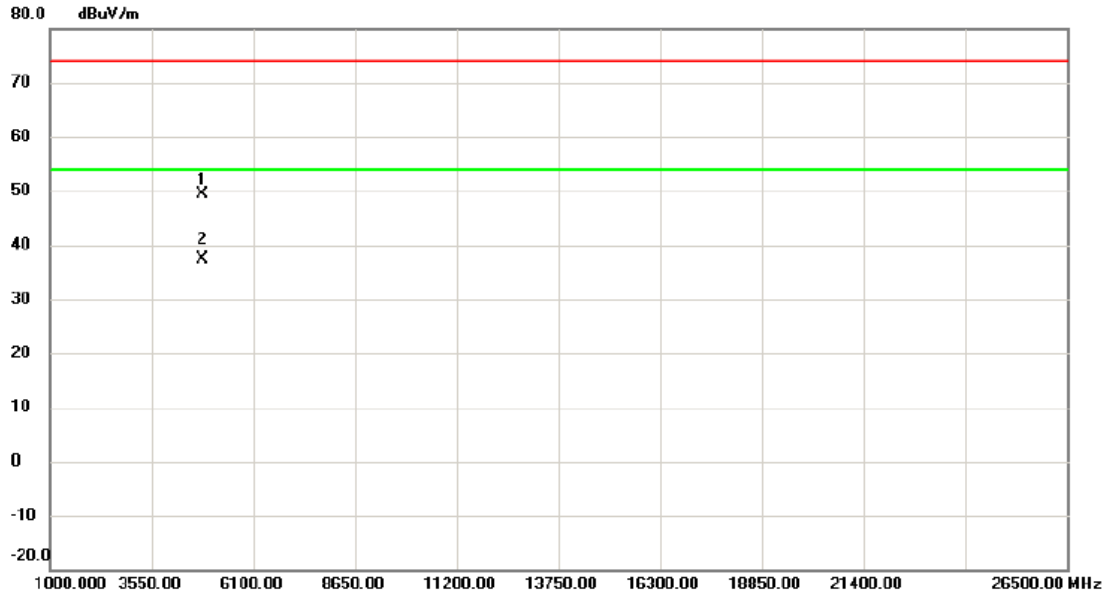
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	58.26	7.38	65.64	74.00	-8.36	peak	
2		2390.000	46.47	7.38	53.85	54.00	-0.15	AVG	
3	X	2421.800	101.47	7.37	108.84	74.00	34.84	peak	No Limit
4	*	2422.900	93.48	7.37	100.85	54.00	46.85	AVG	No Limit

Orthogonal Axis	X
Test Mode:	TX G Mode 2417 MHz

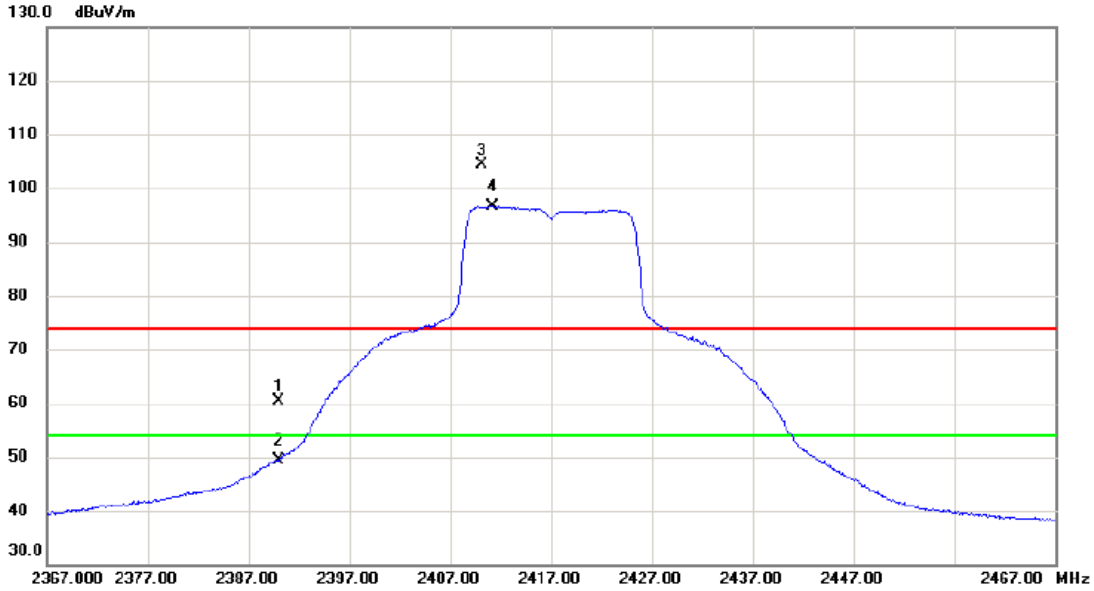
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4833.000	45.83	3.51	49.34	74.00	-24.66	peak	
2	*	4834.300	33.81	3.51	37.32	54.00	-16.68	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2417 MHz

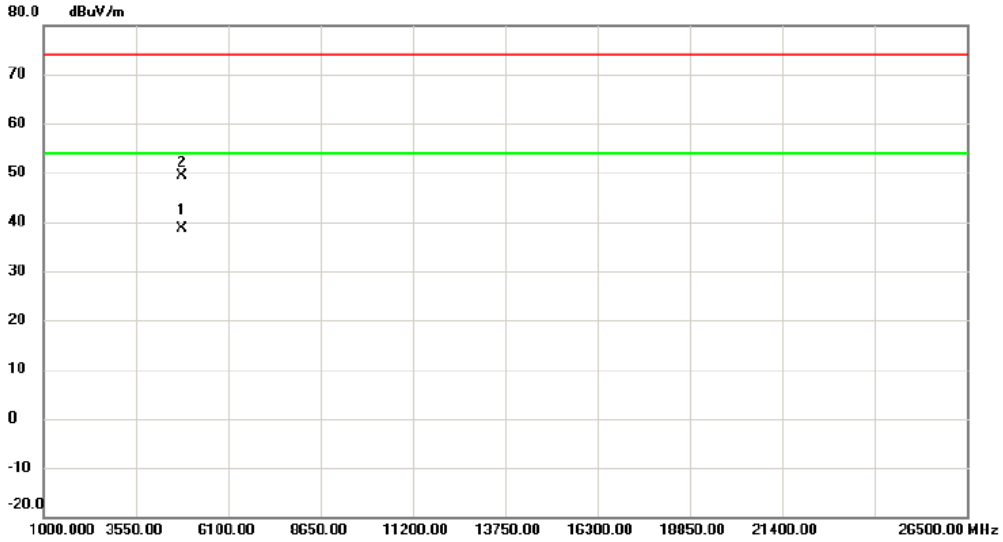
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	52.97	7.38	60.35	74.00	-13.65	peak	
2		2390.000	42.11	7.38	49.49	54.00	-4.51	AVG	
3	X	2410.100	97.02	7.38	104.40	74.00	30.40	peak	No Limit
4	*	2411.200	89.27	7.37	96.64	54.00	42.64	AVG	No Limit

Orthogonal Axis	X
Test Mode:	TX G Mode 2417 MHz

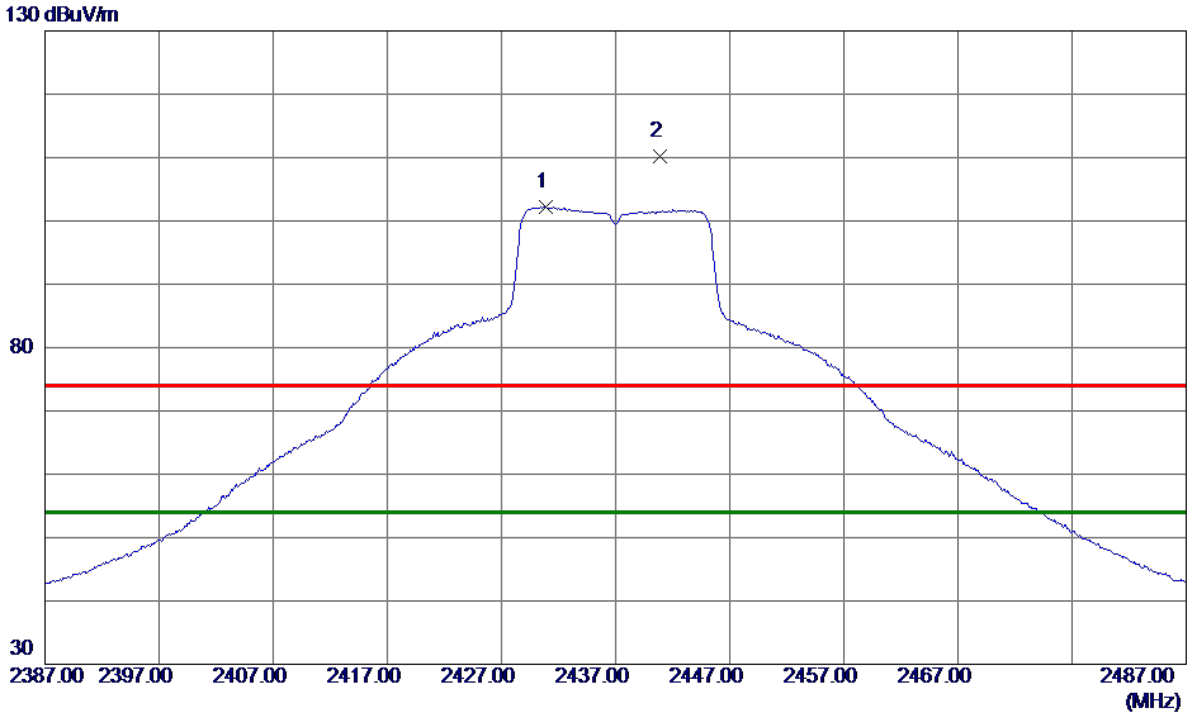
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4831.000	35.21	3.51	38.72	54.00	-15.28	AVG	
2		4834.200	45.81	3.51	49.32	74.00	-24.68	peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2430.9000	94.85	7.36	102.21	54.00	48.21	AVG	No Limit
2	2440.9000	102.81	7.35	110.16	74.00	36.16	Peak	No Limit

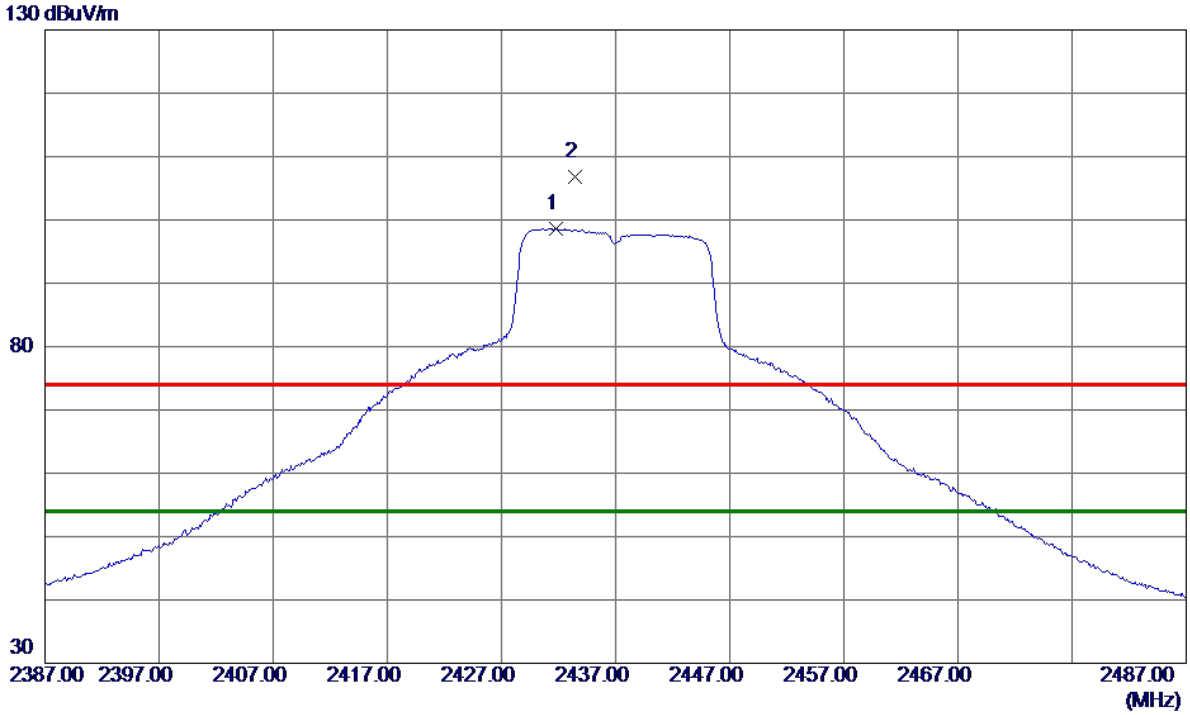
Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4870.5000	48.62	3.60	52.22	74.00	-21.78	Peak	
2 *	4874.3500	37.27	3.61	40.88	54.00	-13.12	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2431.8000	91.31	7.36	98.67	54.00	44.67	AVG	No Limit
2	2433.4000	99.47	7.35	106.82	74.00	32.82	Peak	No Limit

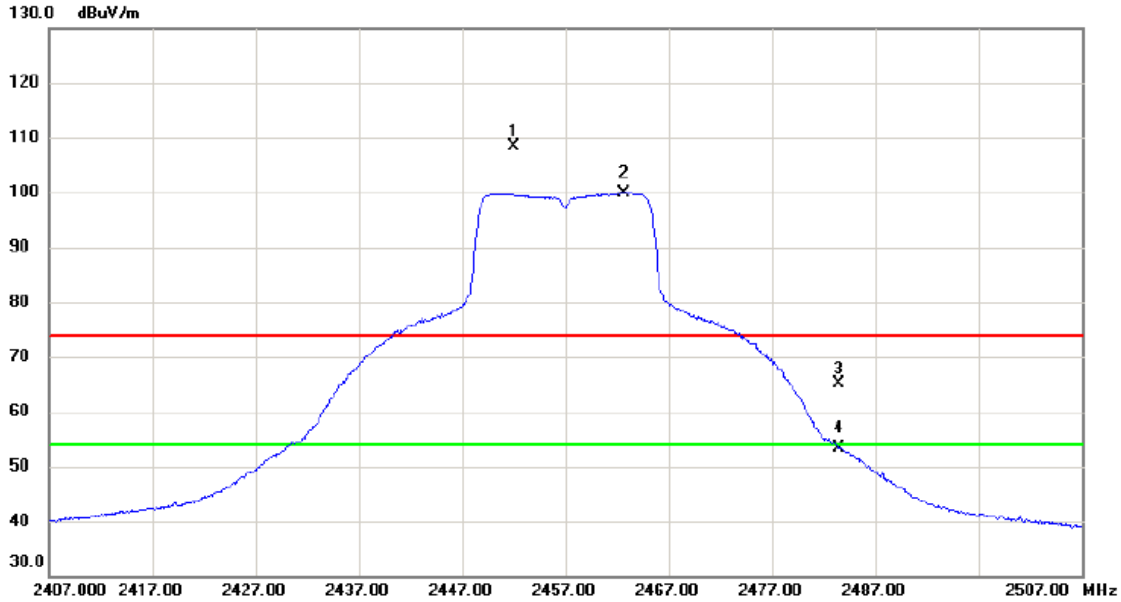
Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4873.0000	47.23	3.61	50.84	74.00	-23.16	Peak	
2 *	4874.3000	37.06	3.61	40.67	54.00	-13.33	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2457 MHz

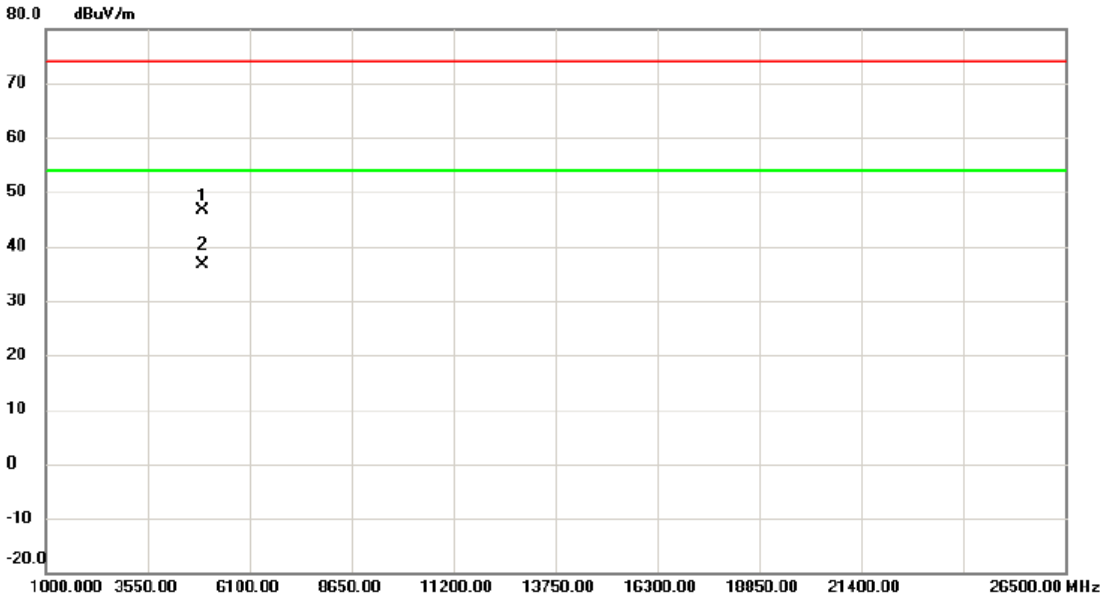
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2452.000	101.02	7.34	108.36	74.00	34.36	peak	No Limit
2	*	2462.700	92.62	7.33	99.95	54.00	45.95	AVG	No Limit
3		2483.500	57.76	7.32	65.08	74.00	-8.92	peak	
4		2483.500	46.04	7.32	53.36	54.00	-0.64	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2457 MHz

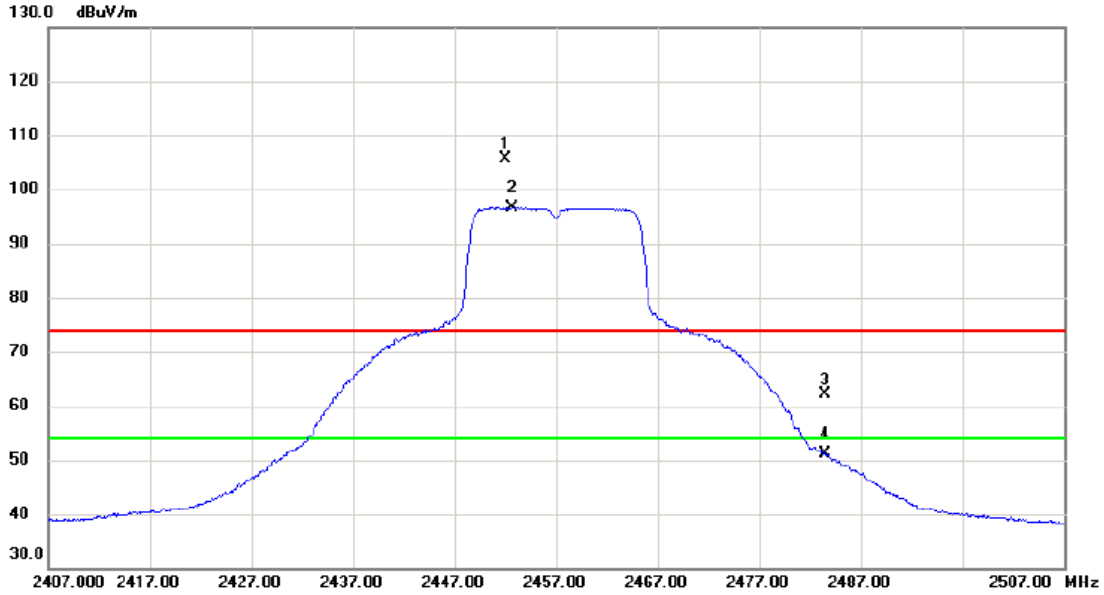
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4912.650	42.95	3.70	46.65	74.00	-27.35	peak	
2	*	4912.900	32.81	3.70	36.51	54.00	-17.49	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2457 MHz

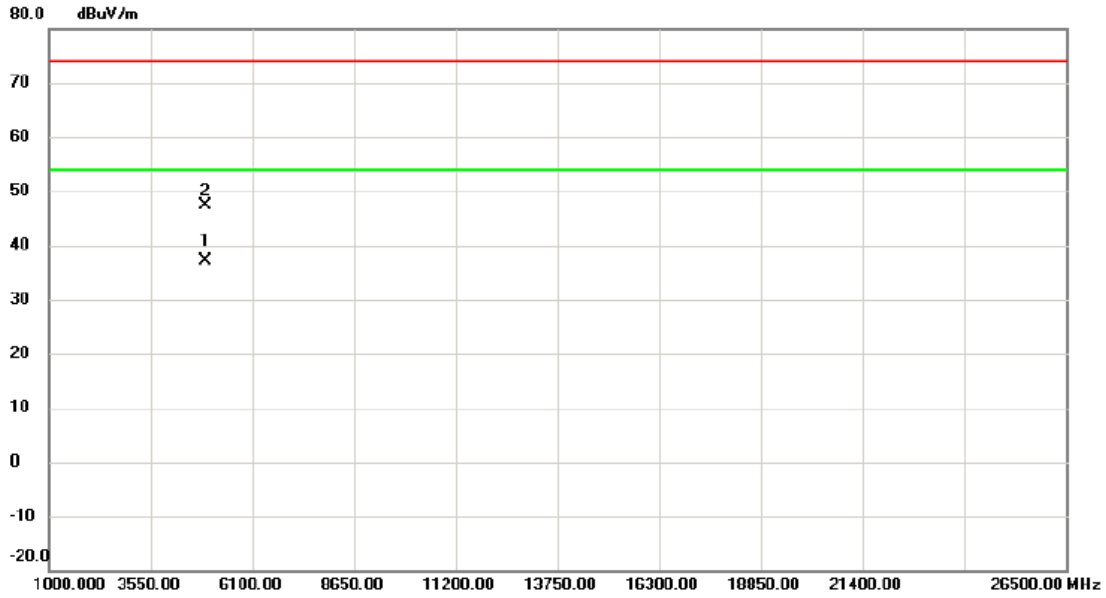
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2452.000	98.20	7.34	105.54	74.00	31.54	peak	No Limit
2	*	2452.700	89.28	7.34	96.62	54.00	42.62	AVG	No Limit
3		2483.500	54.70	7.32	62.02	74.00	-11.98	peak	
4		2483.500	43.80	7.32	51.12	54.00	-2.88	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2457 MHz

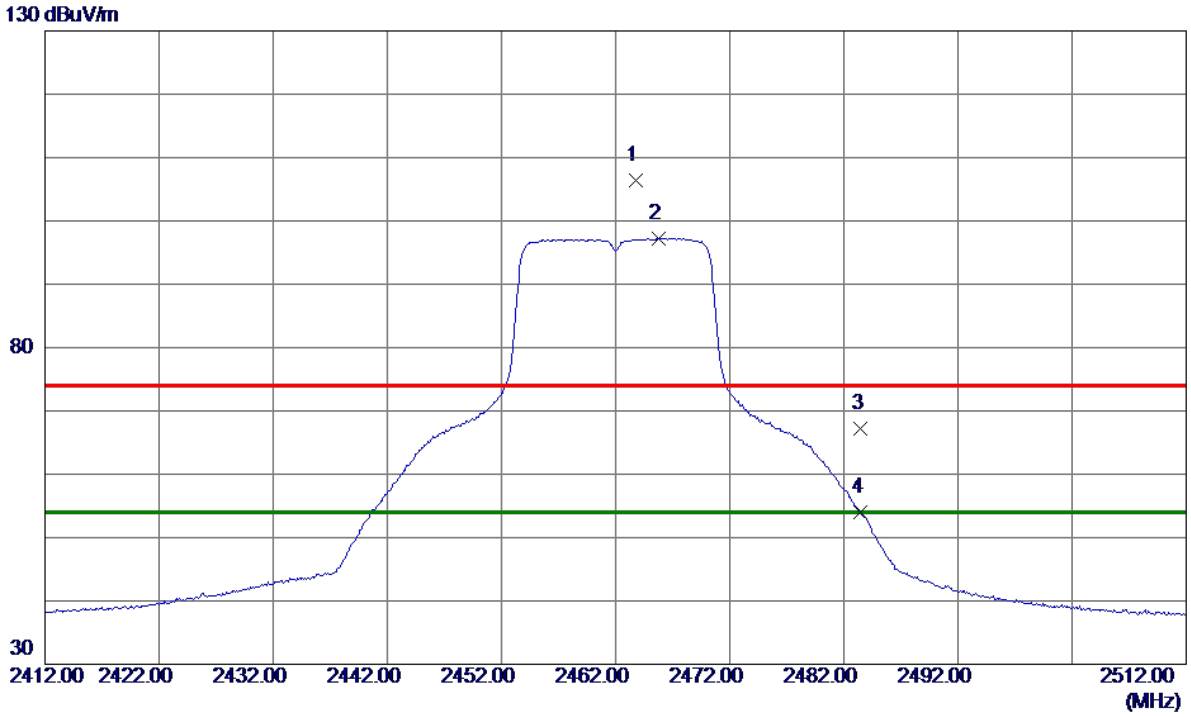
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4912.300	33.48	3.70	37.18	54.00	-16.82	AVG	
2		4919.700	43.72	3.72	47.44	74.00	-26.56	peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2463.8000	99.00	7.33	106.33	74.00	32.33	Peak	No Limit
2 *	2465.8000	89.95	7.33	97.28	54.00	43.28	AVG	No Limit
3	2483.5000	59.94	7.32	67.26	74.00	-6.74	Peak	
4	2483.5000	46.59	7.32	53.91	54.00	-0.09	AVG	

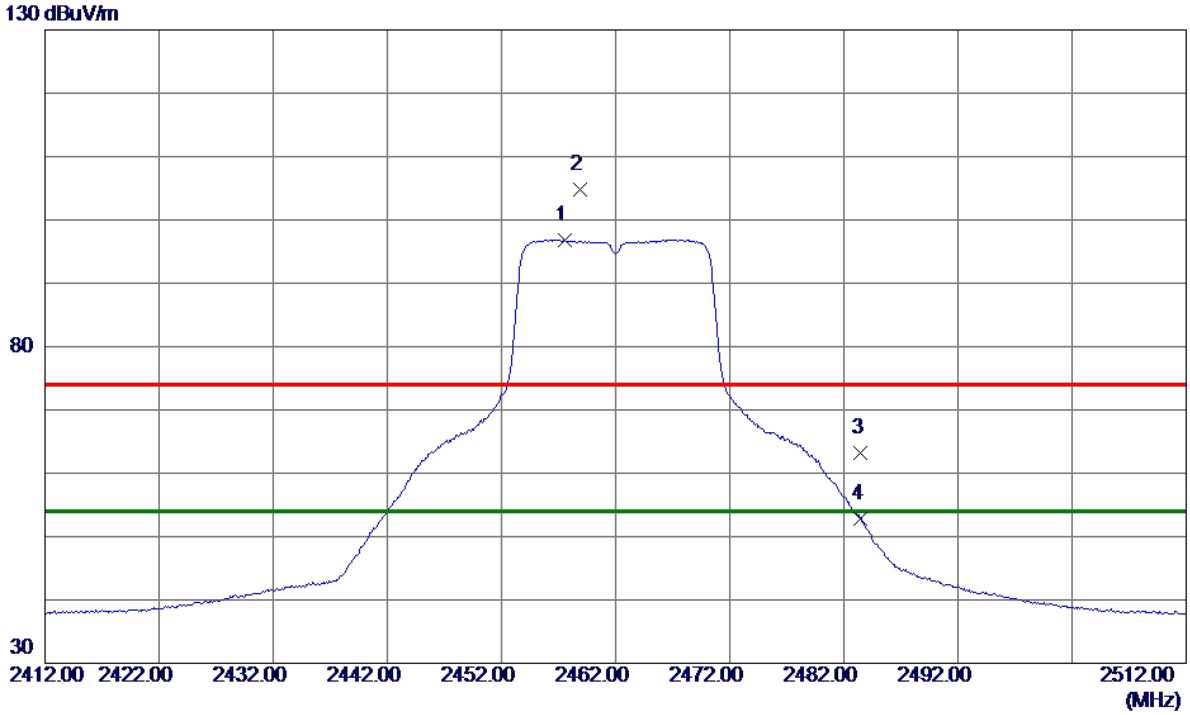
Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4924.1500	29.98	3.73	33.71	54.00	-20.29	AVG	
2	4929.5000	41.00	3.74	44.74	74.00	-29.26	Peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2457.6000	89.50	7.34	96.84	54.00	42.84	AVG	No Limit
2	2458.9000	97.50	7.34	104.84	74.00	30.84	Peak	No Limit
3	2483.5000	55.85	7.32	63.17	74.00	-10.83	Peak	
4	2483.5000	45.48	7.32	52.80	54.00	-1.20	AVG	

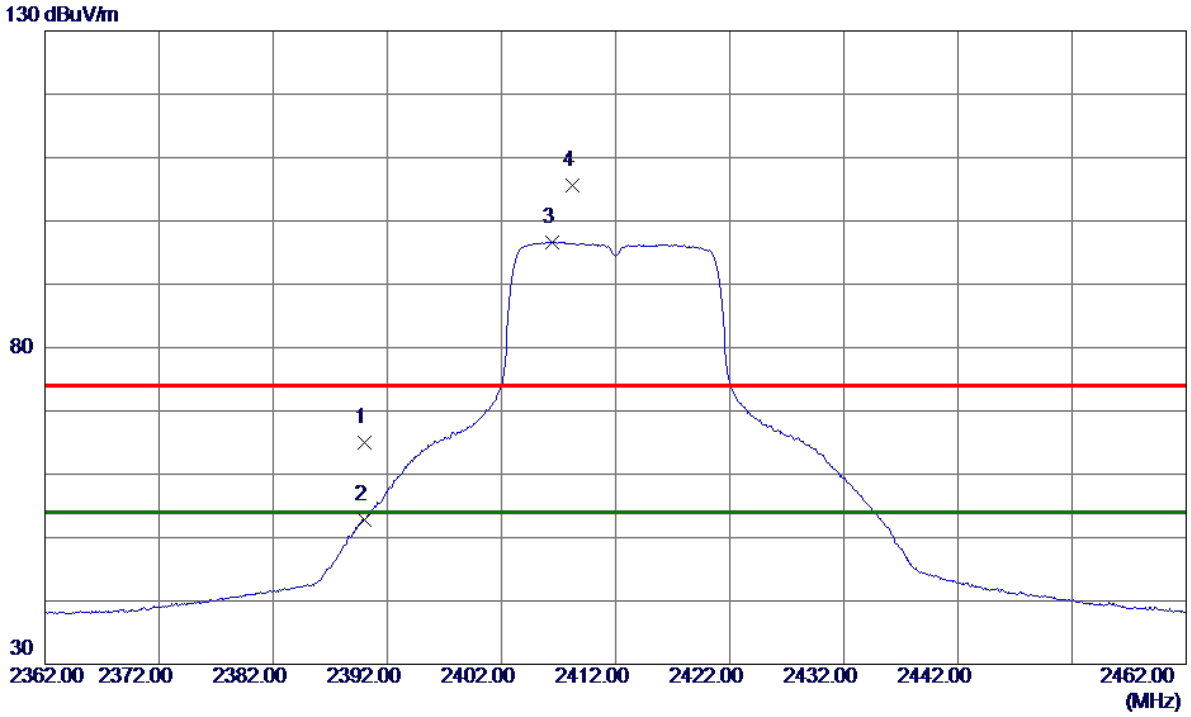
Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4920.6000	41.31	3.72	45.03	74.00	-28.97	Peak	
2 *	4922.0000	31.03	3.73	34.76	54.00	-19.24	AVG	

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

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	57.64	7.39	65.03	74.00	-8.97	Peak	
2	2390.0000	45.38	7.39	52.77	54.00	-1.23	AVG	
3 *	2406.4000	89.29	7.38	96.67	54.00	42.67	AVG	No Limit
4	2408.2000	98.28	7.37	105.65	74.00	31.65	Peak	No Limit

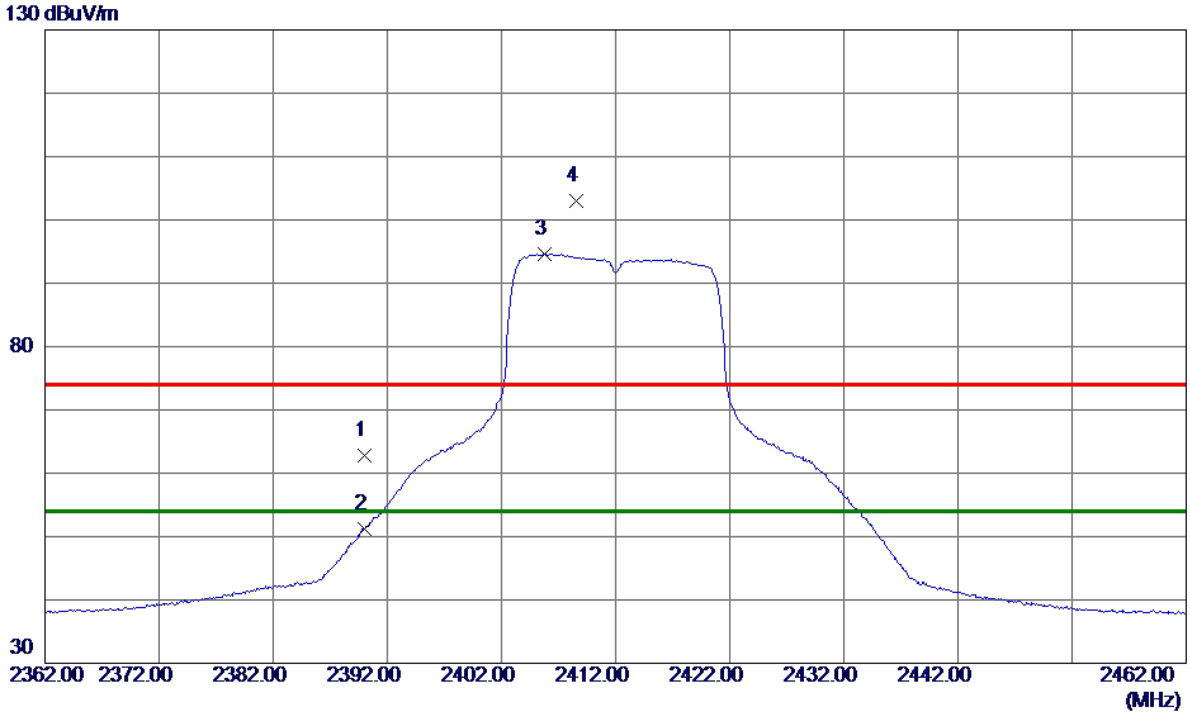
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2412 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4822.7000	41.60	3.49	45.09	74.00	-28.91	Peak	
2 *	4824.7500	30.81	3.50	34.31	54.00	-19.69	AVG	

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

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	55.47	7.39	62.86	74.00	-11.14	Peak	
2	2390.0000	43.82	7.39	51.21	54.00	-2.79	AVG	
3 *	2405.8000	87.20	7.38	94.58	54.00	40.58	AVG	No Limit
4	2408.6000	95.71	7.37	103.08	74.00	29.08	Peak	No Limit

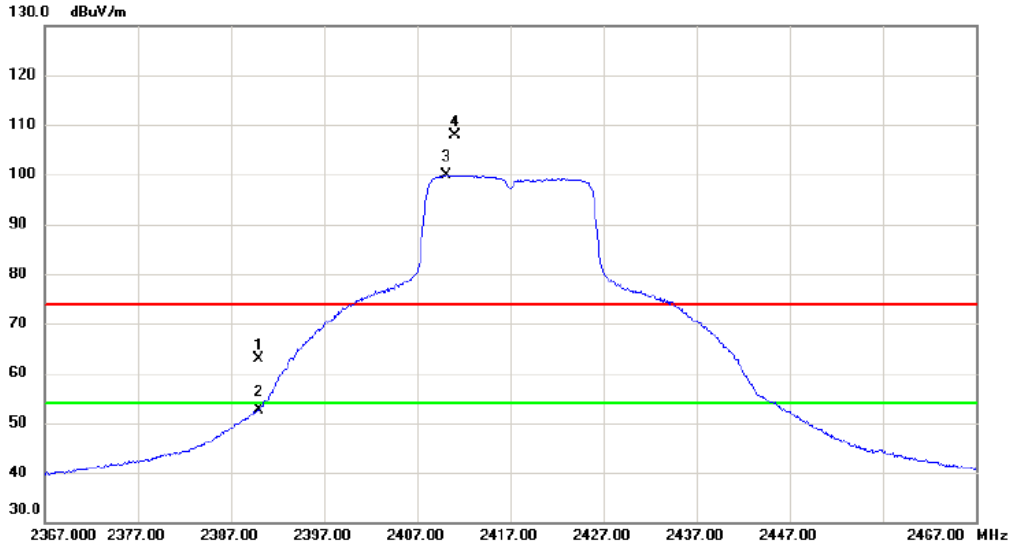
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2412 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4823.9000	32.37	3.49	35.86	54.00	-18.14	AVG	
2	4825.7000	43.55	3.50	47.05	74.00	-26.95	Peak	

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

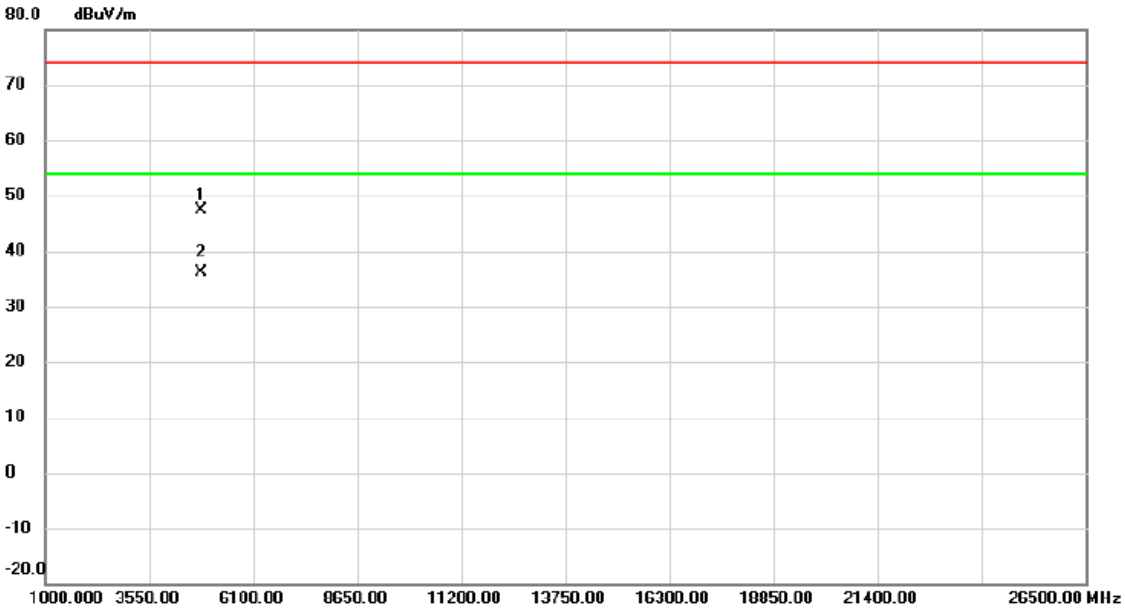
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	55.57	7.38	62.95	74.00	-11.05	peak	
2		2390.000	45.29	7.38	52.67	54.00	-1.33	AVG	
3	*	2410.100	92.50	7.38	99.88	54.00	45.88	AVG	No Limit
4	X	2411.000	100.62	7.37	107.99	74.00	33.99	peak	No Limit

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

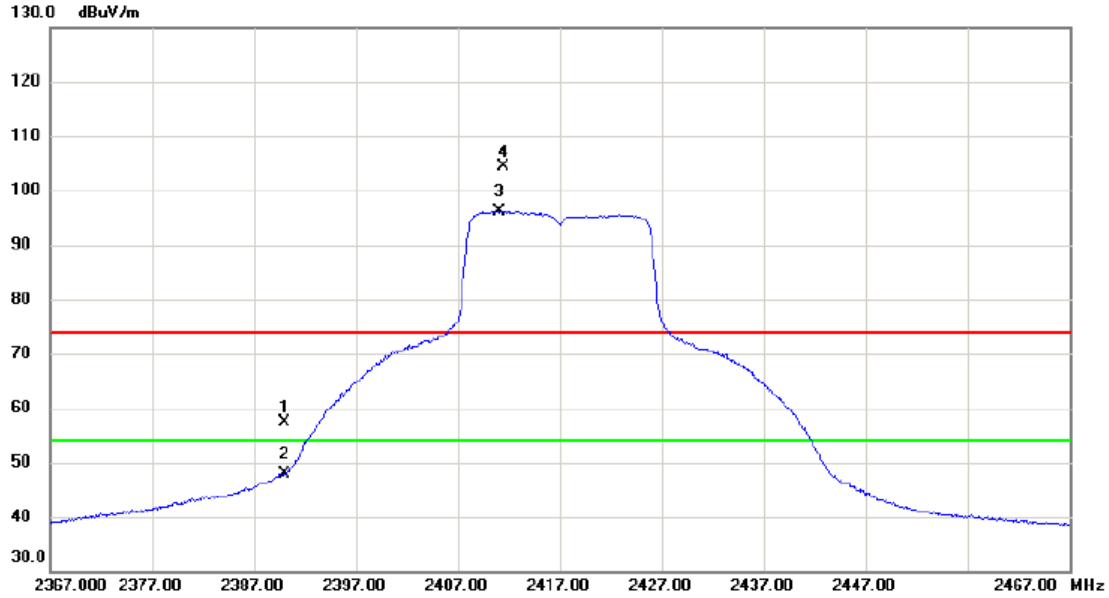
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4826.800	43.94	3.50	47.44	74.00	-26.56	peak	
2	*	4832.400	32.73	3.51	36.24	54.00	-17.76	AVG	

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

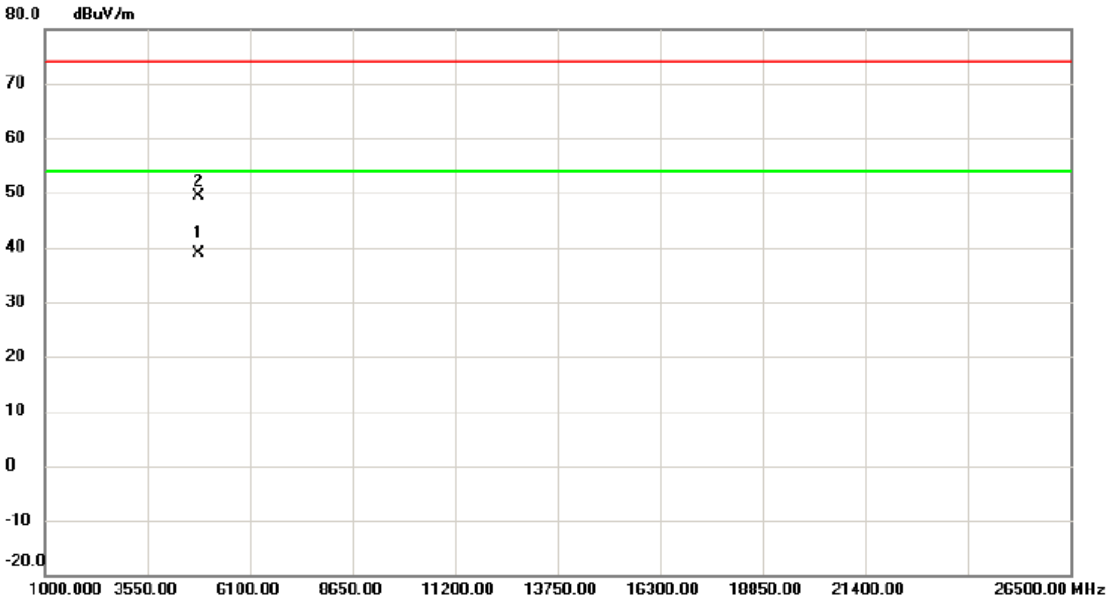
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	50.09	7.38	57.47	74.00	-16.53	peak	
2		2390.000	40.47	7.38	47.85	54.00	-6.15	AVG	
3	*	2411.000	88.75	7.37	96.12	54.00	42.12	AVG	No Limit
4	X	2411.400	96.97	7.37	104.34	74.00	30.34	peak	No Limit

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

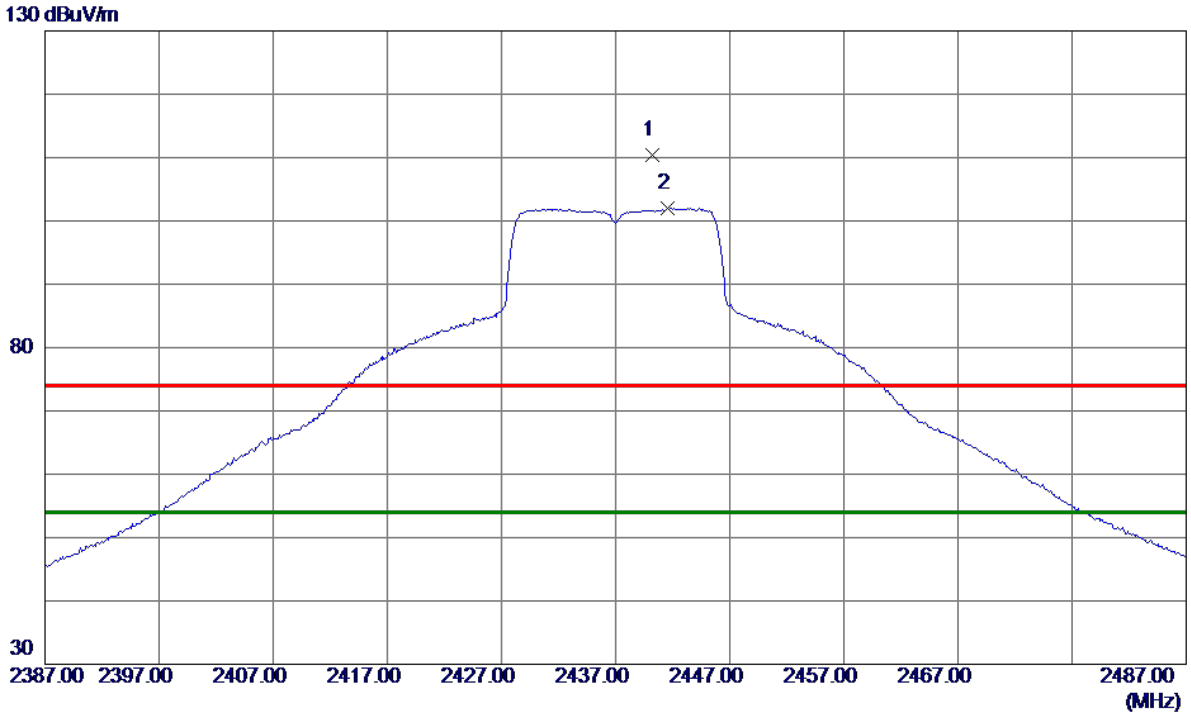
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4833.000	35.28	3.51	38.79	54.00	-15.21	AVG	
2		4836.600	45.95	3.52	49.47	74.00	-24.53	peak	

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

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2440.2000	103.12	7.35	110.47	74.00	36.47	Peak	No Limit
2 *	2441.6000	94.65	7.35	102.00	54.00	48.00	AVG	No Limit

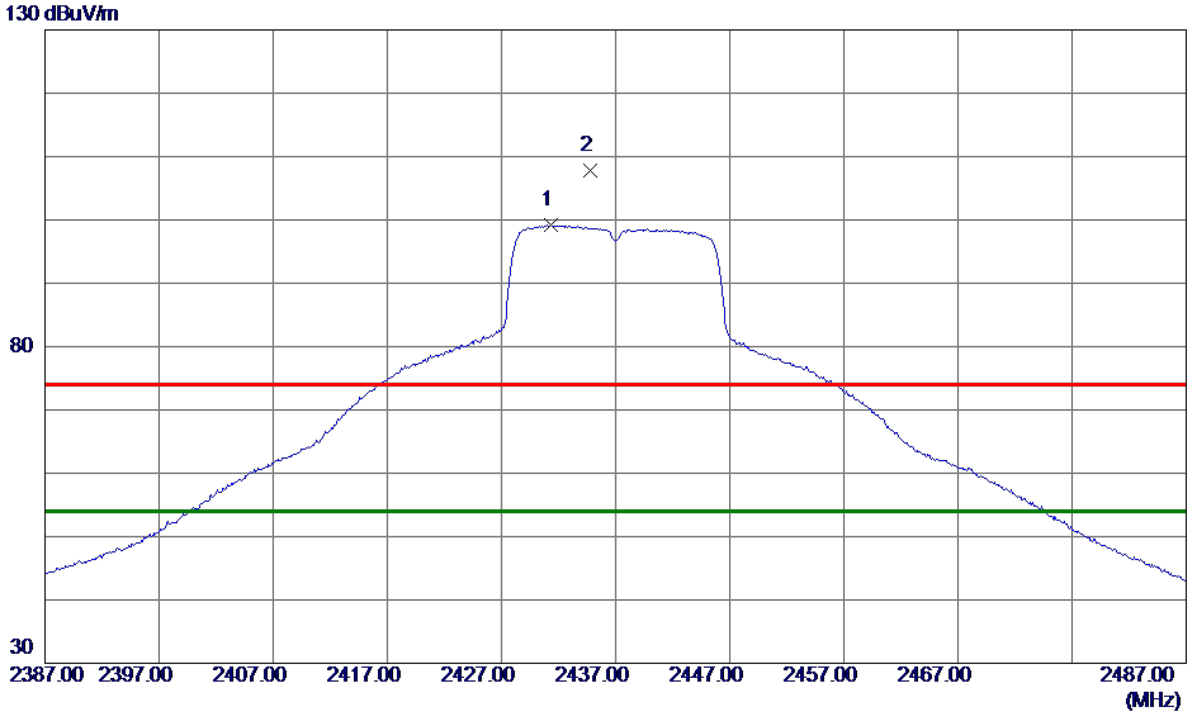
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4870.8500	46.98	3.61	50.59	74.00	-23.41	Peak	
2 *	4873.6000	36.23	3.61	39.84	54.00	-14.16	AVG	

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

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2431.3000	91.84	7.36	99.20	54.00	45.20	AVG	No Limit
2	2434.8000	100.43	7.35	107.78	74.00	33.78	Peak	No Limit

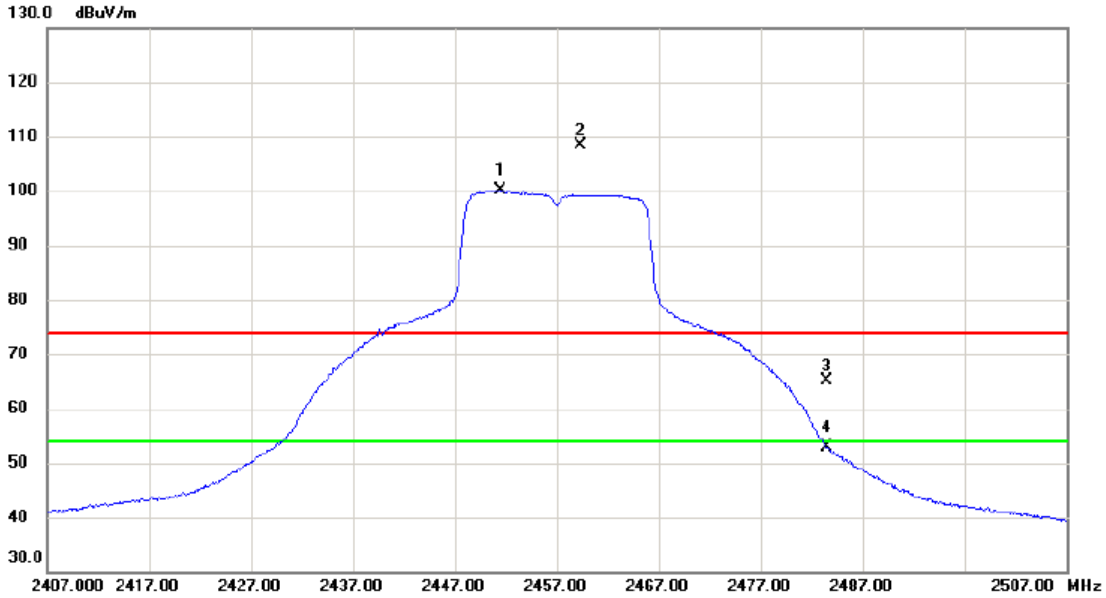
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4870.5000	48.88	3.60	52.48	74.00	-21.52	Peak	
2 *	4874.8000	38.32	3.61	41.93	54.00	-12.07	AVG	

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

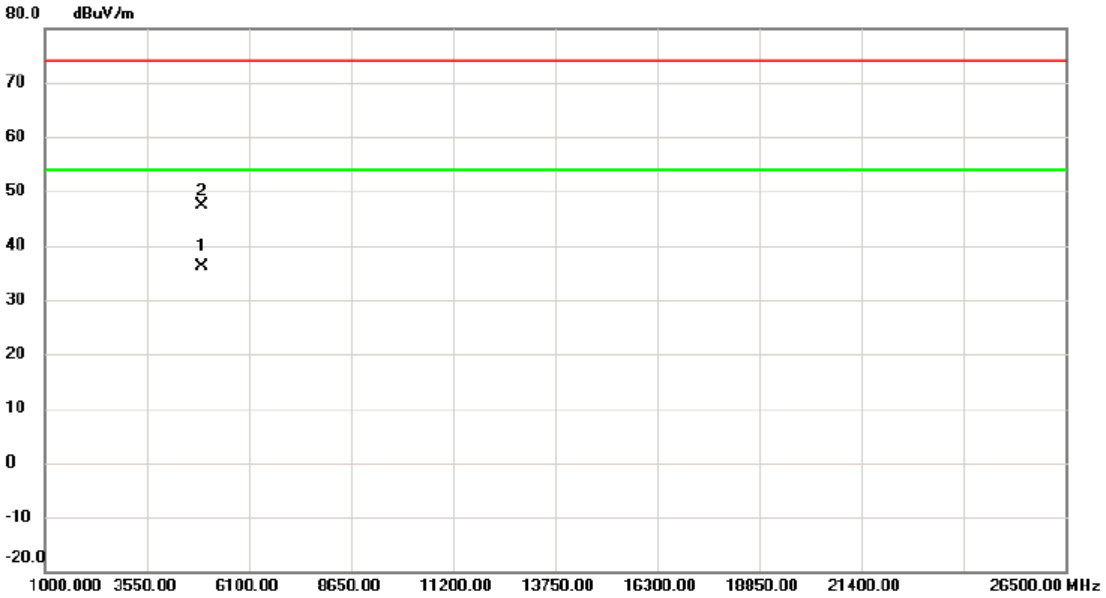
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2451.400	92.74	7.34	100.08	54.00	46.08	AVG	No Limit
2	X	2459.300	101.06	7.34	108.40	74.00	34.40	peak	No Limit
3		2483.500	57.88	7.32	65.20	74.00	-8.80	peak	
4		2483.500	45.46	7.32	52.78	54.00	-1.22	AVG	

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

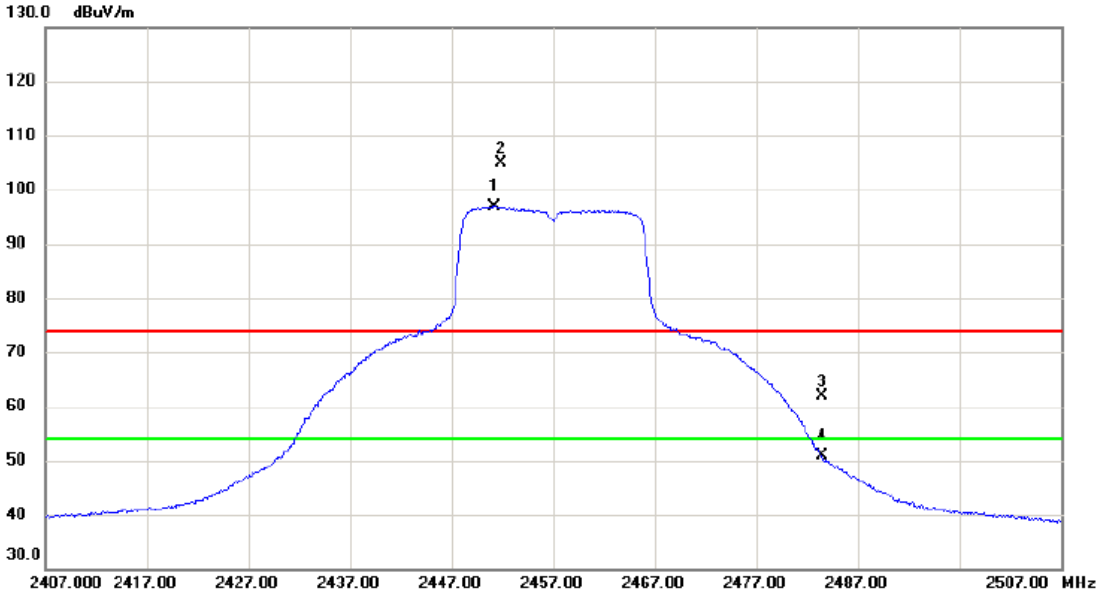
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4914.200	32.41	3.71	36.12	54.00	-17.88	AVG	
2		4914.650	43.61	3.71	47.32	74.00	-26.68	peak	

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

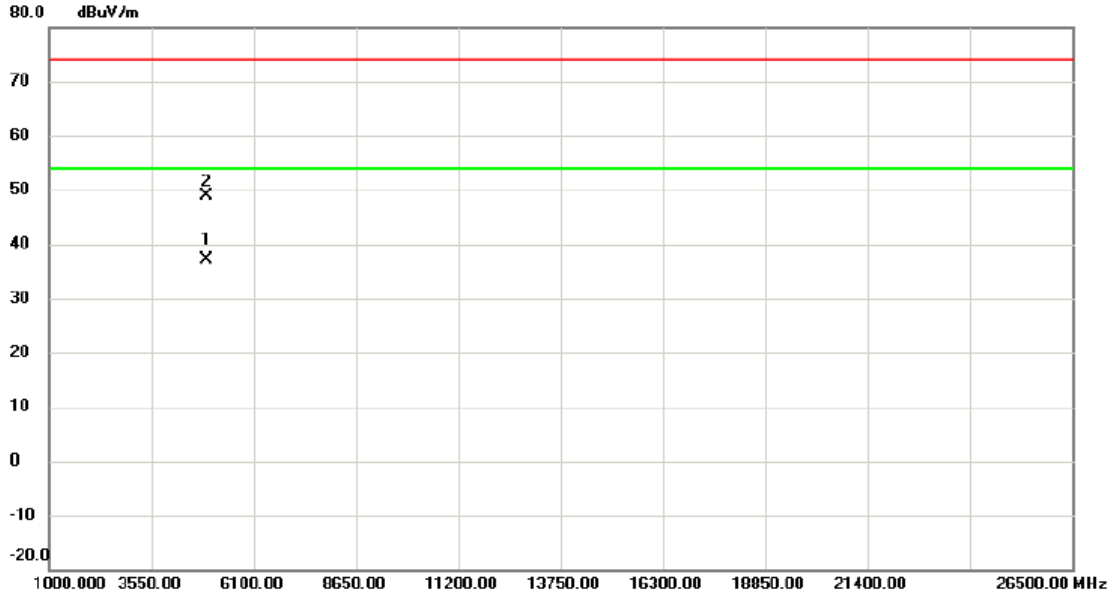
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2451.200	89.47	7.34	96.81	54.00	42.81	AVG	No Limit
2	X	2451.800	97.61	7.34	104.95	74.00	30.95	peak	No Limit
3		2483.500	54.52	7.32	61.84	74.00	-12.16	peak	
4		2483.500	43.50	7.32	50.82	54.00	-3.18	AVG	

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

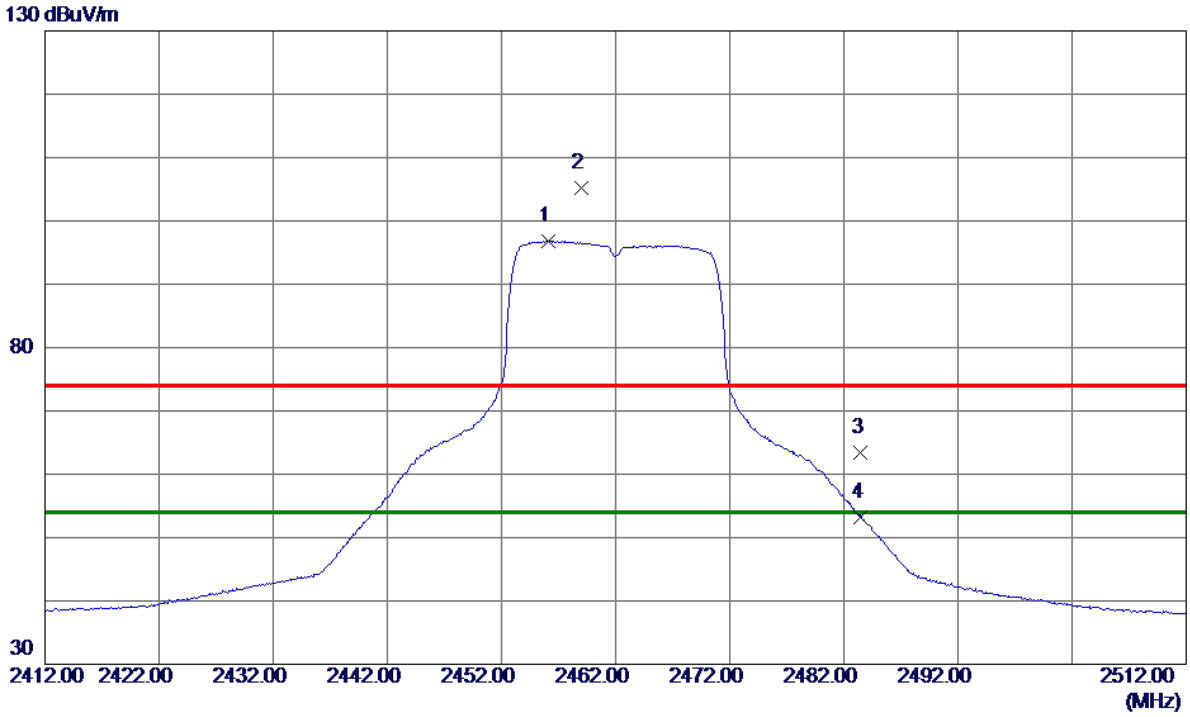
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4910.200	33.36	3.70	37.06	54.00	-16.94	AVG	
2		4911.300	45.08	3.70	48.78	74.00	-25.22	peak	

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

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2456.1000	89.50	7.34	96.84	54.00	42.84	AVG	No Limit
2	2459.0000	97.95	7.34	105.29	74.00	31.29	Peak	No Limit
3	2483.5000	56.09	7.32	63.41	74.00	-10.59	Peak	
4	2483.5000	45.95	7.32	53.27	54.00	-0.73	AVG	

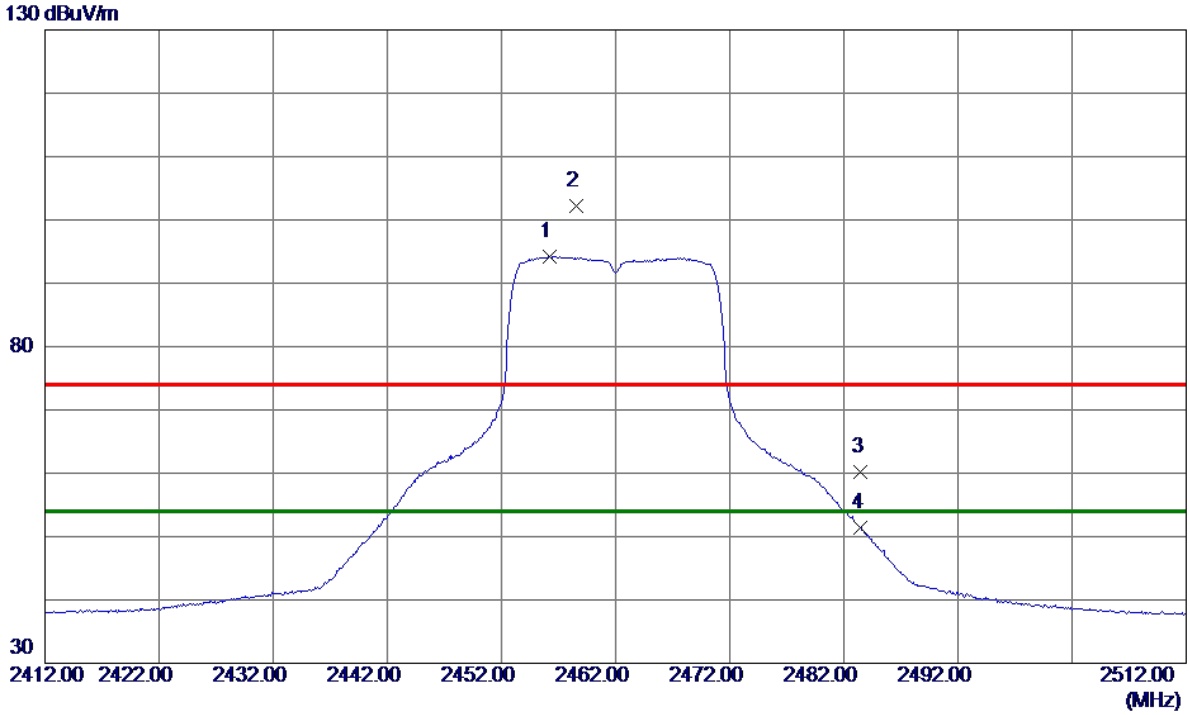
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2462 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4918.2000	40.30	3.72	44.02	74.00	-29.98	Peak	
2 *	4925.5000	29.45	3.73	33.18	54.00	-20.82	AVG	

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

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2456.2000	86.92	7.34	94.26	54.00	40.26	AVG	No Limit
2	2458.6000	94.77	7.34	102.11	74.00	28.11	Peak	No Limit
3	2483.5000	52.94	7.32	60.26	74.00	-13.74	Peak	
4	2483.5000	44.05	7.32	51.37	54.00	-2.63	AVG	

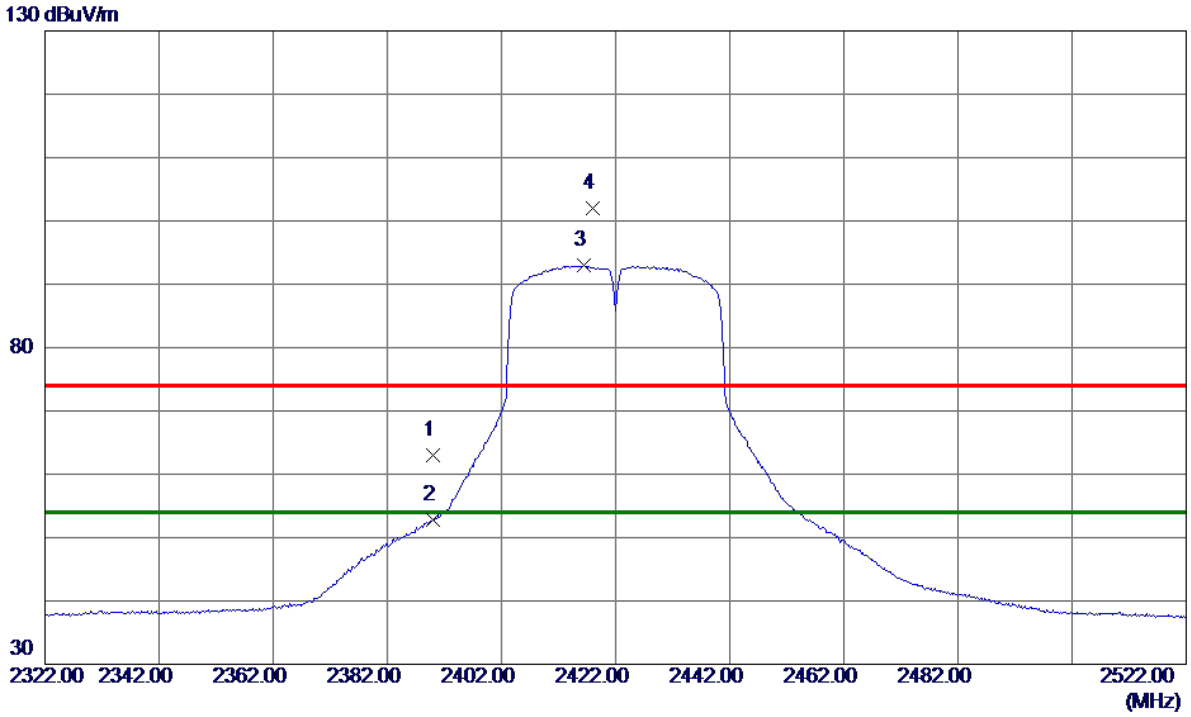
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2462 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924.9000	39.94	3.73	43.67	74.00	-30.33	Peak	
2 *	4925.0000	30.39	3.73	34.12	54.00	-19.88	AVG	

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

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	55.68	7.39	63.07	74.00	-10.93	Peak	
2	2390.0000	45.38	7.39	52.77	54.00	-1.23	AVG	
3 *	2416.4000	85.54	7.37	92.91	54.00	38.91	AVG	No Limit
4	2418.0000	94.57	7.37	101.94	74.00	27.94	Peak	No Limit

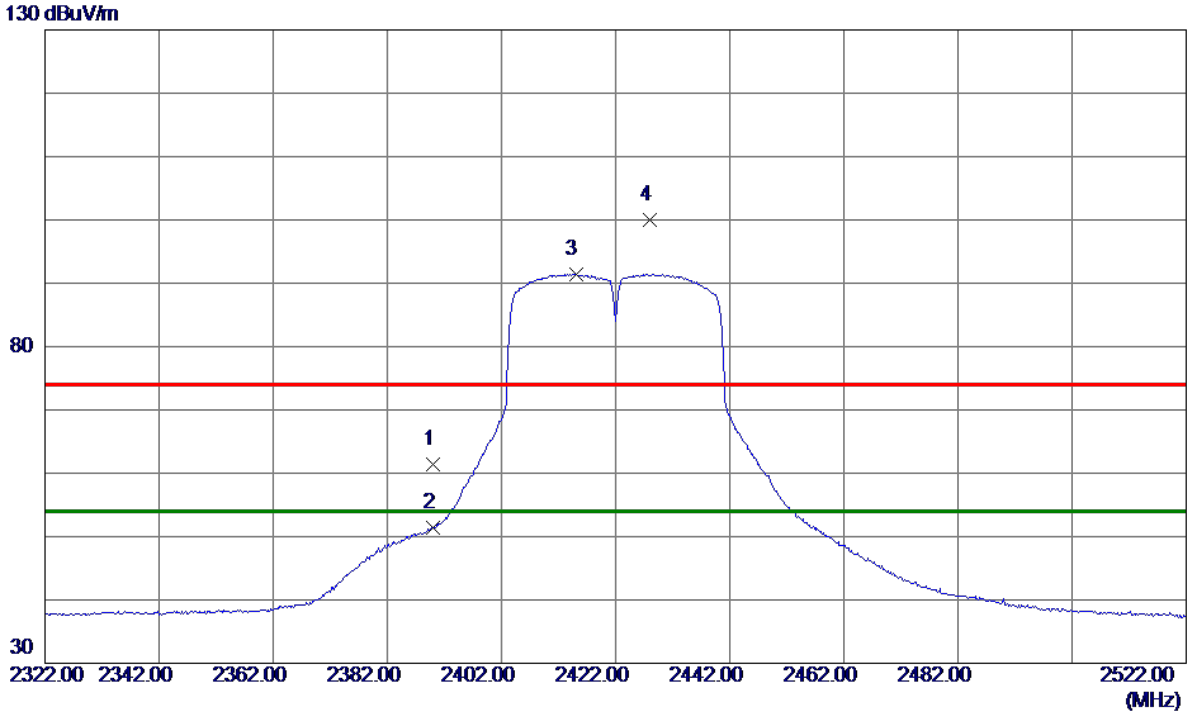
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2422MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4842.2000	39.60	3.54	43.14	74.00	-30.86	Peak	
2 *	4842.6000	29.30	3.54	32.84	54.00	-21.16	AVG	

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

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	53.97	7.39	61.36	74.00	-12.64	Peak	
2	2390.0000	44.06	7.39	51.45	54.00	-2.55	AVG	
3 *	2415.0000	84.10	7.37	91.47	54.00	37.47	AVG	No Limit
4	2428.0000	92.59	7.36	99.95	74.00	25.95	Peak	No Limit

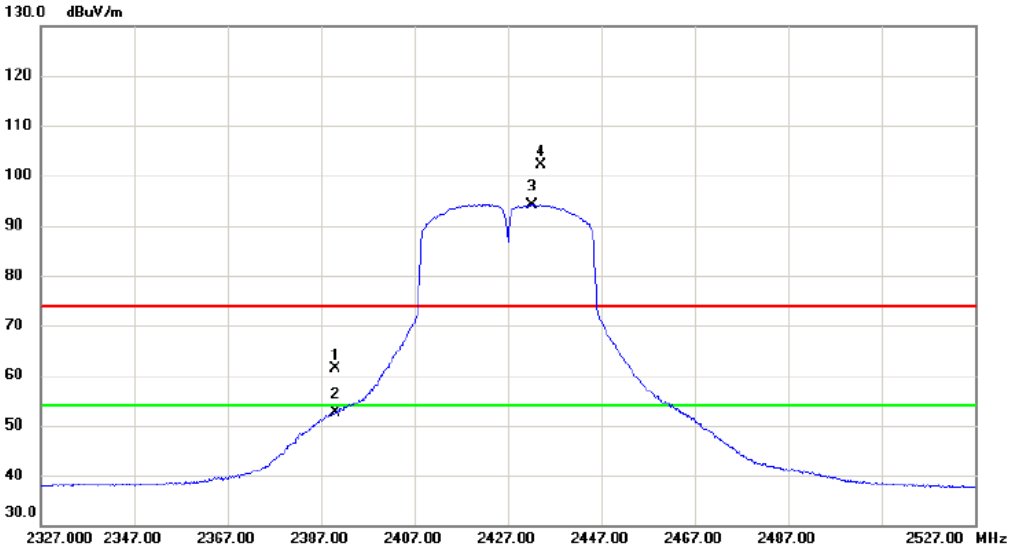
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2422MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4844.2000	38.92	3.54	42.46	74.00	-31.54	Peak	
2 *	4844.4000	30.21	3.54	33.75	54.00	-20.25	AVG	

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

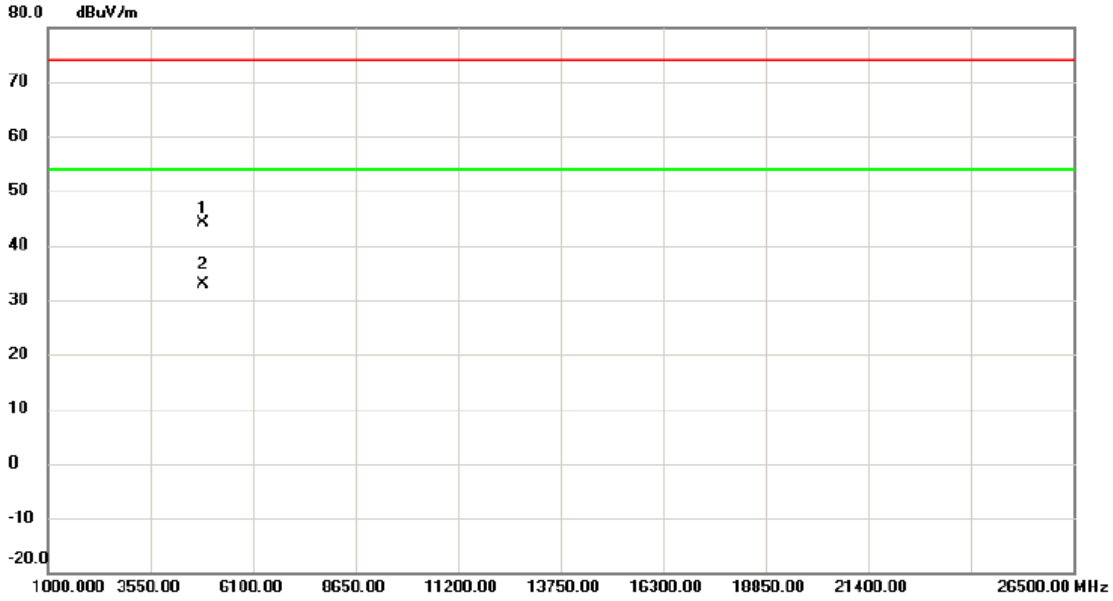
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	54.12	7.38	61.50	74.00	-12.50	peak	
2		2390.000	45.22	7.38	52.60	54.00	-1.40	AVG	
3	*	2432.200	86.82	7.36	94.18	54.00	40.18	AVG	No Limit
4	X	2434.200	94.89	7.35	102.24	74.00	28.24	peak	No Limit

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

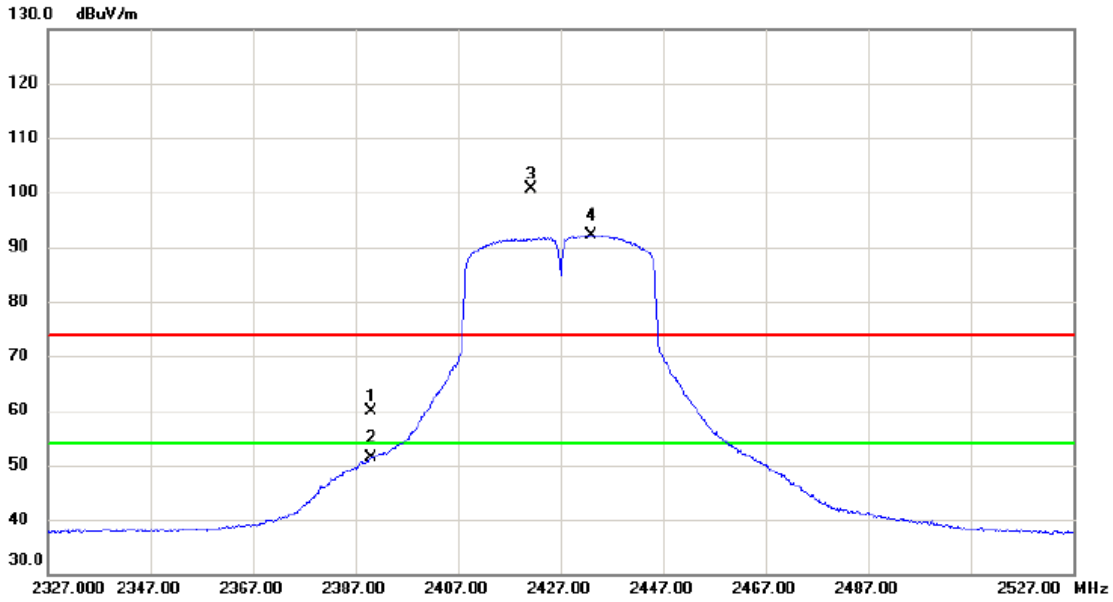
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4848.600	40.67	3.55	44.22	74.00	-29.78	peak	
2	*	4854.000	29.33	3.57	32.90	54.00	-21.10	AVG	

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

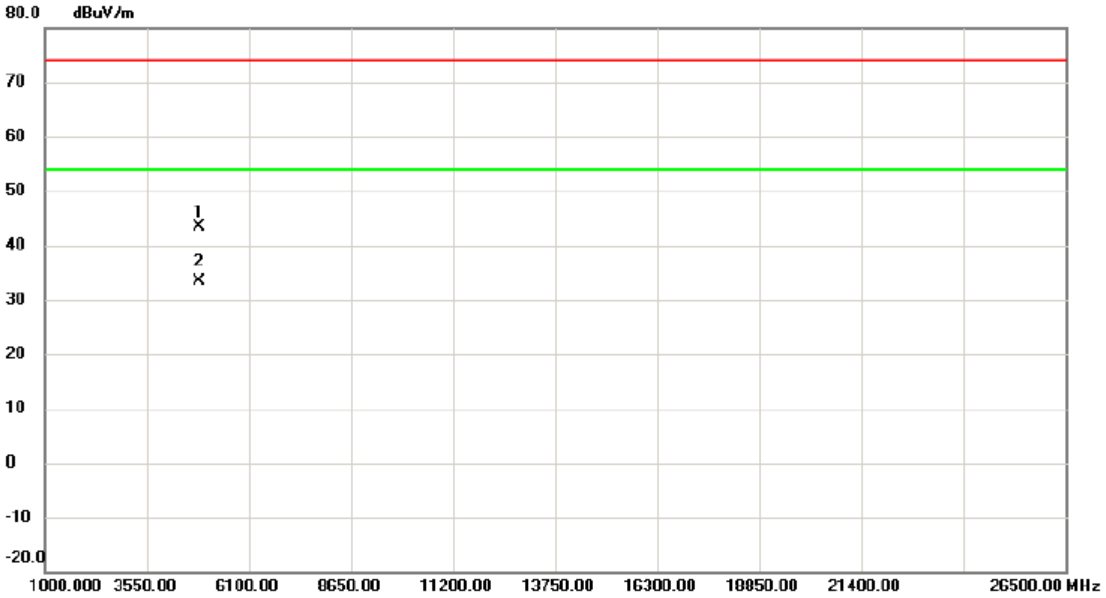
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	52.52	7.38	59.90	74.00	-14.10	peak	
2		2390.000	43.92	7.38	51.30	54.00	-2.70	AVG	
3	X	2421.200	93.17	7.37	100.54	74.00	26.54	peak	No Limit
4	*	2433.000	84.87	7.36	92.23	54.00	38.23	AVG	No Limit

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

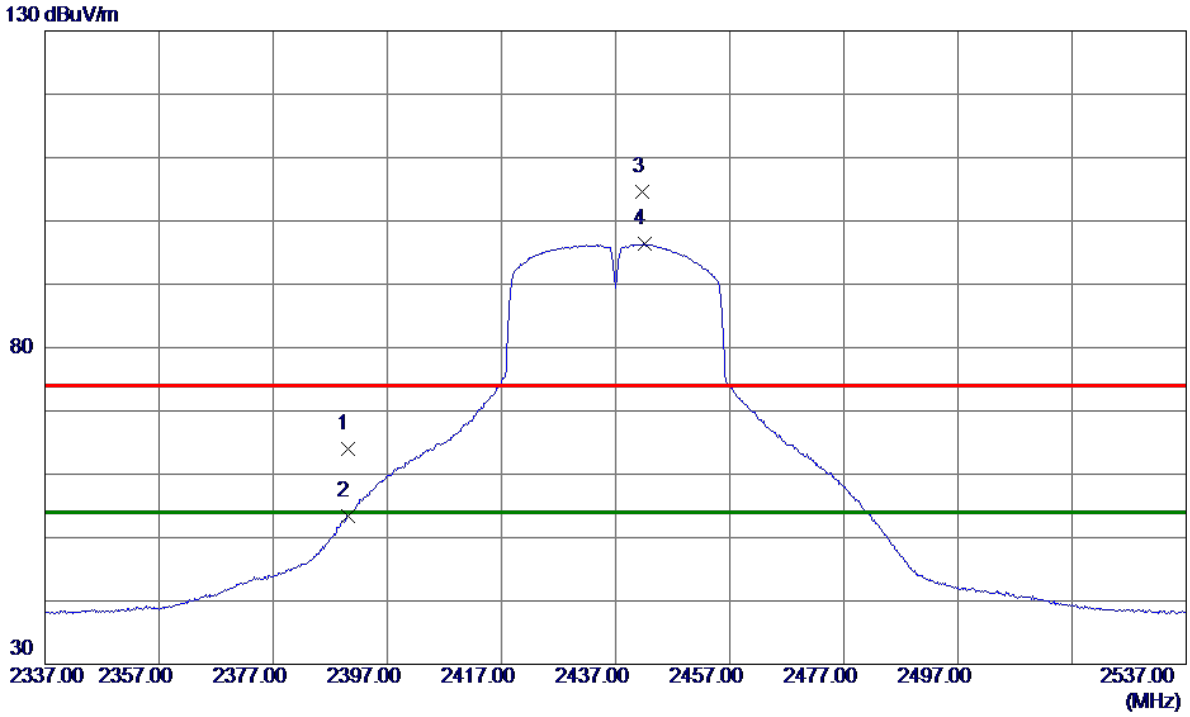
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4854.800	39.83	3.57	43.40	74.00	-30.60	peak	
2	*	4855.400	29.84	3.57	33.41	54.00	-20.59	AVG	

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

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	56.66	7.39	64.05	74.00	-9.95	Peak	
2	2390.0000	45.98	7.39	53.37	54.00	-0.63	AVG	
3	2441.6000	97.30	7.35	104.65	74.00	30.65	Peak	No Limit
4 *	2442.0000	89.00	7.35	96.35	54.00	42.35	AVG	No Limit

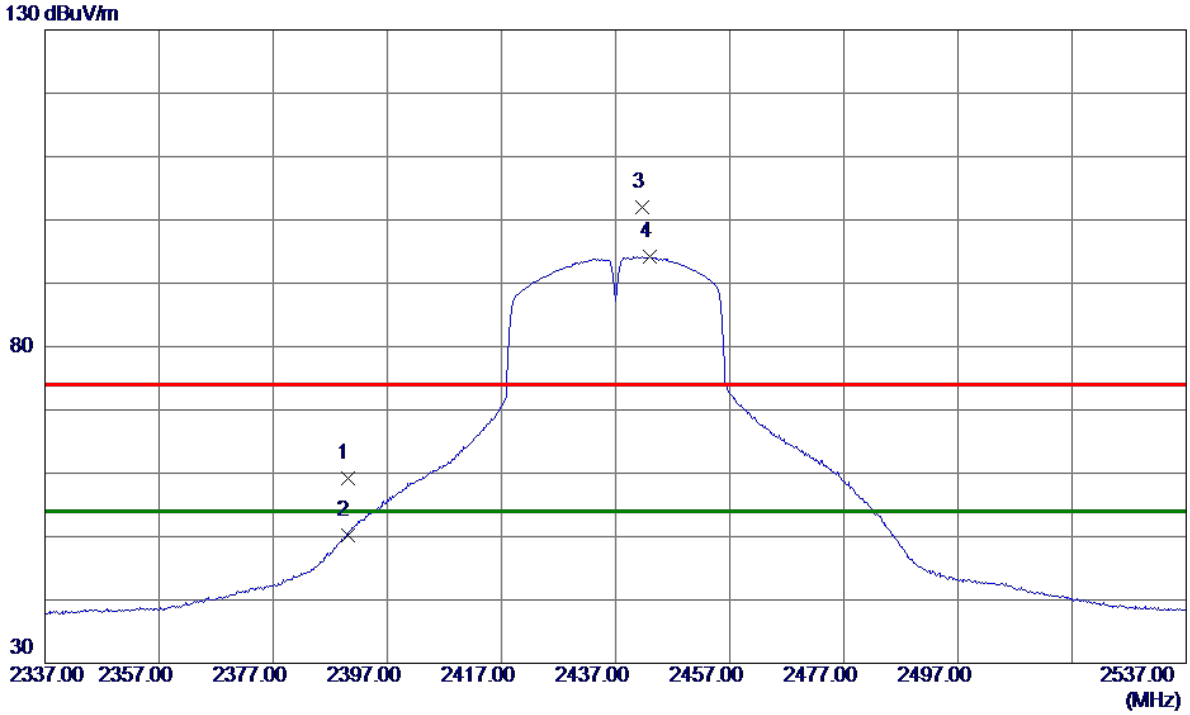
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4855.4000	40.69	3.57	44.26	74.00	-29.74	Peak	
2 *	4871.6000	30.68	3.61	34.29	54.00	-19.71	AVG	

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

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	51.77	7.39	59.16	74.00	-14.84	Peak	
2	2390.0000	42.72	7.39	50.11	54.00	-3.89	AVG	
3	2441.6000	94.68	7.35	102.03	74.00	28.03	Peak	No Limit
4 *	2443.0000	86.84	7.35	94.19	54.00	40.19	AVG	No Limit

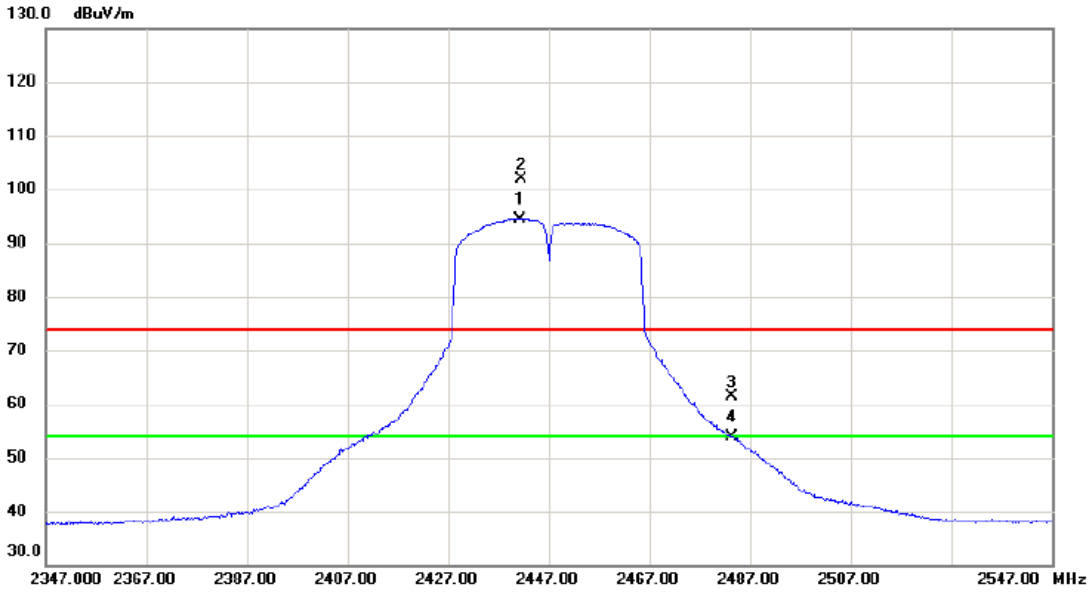
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4870.2000	31.00	3.60	34.60	54.00	-19.40	AVG	
2	4871.2000	42.27	3.61	45.88	74.00	-28.12	Peak	

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

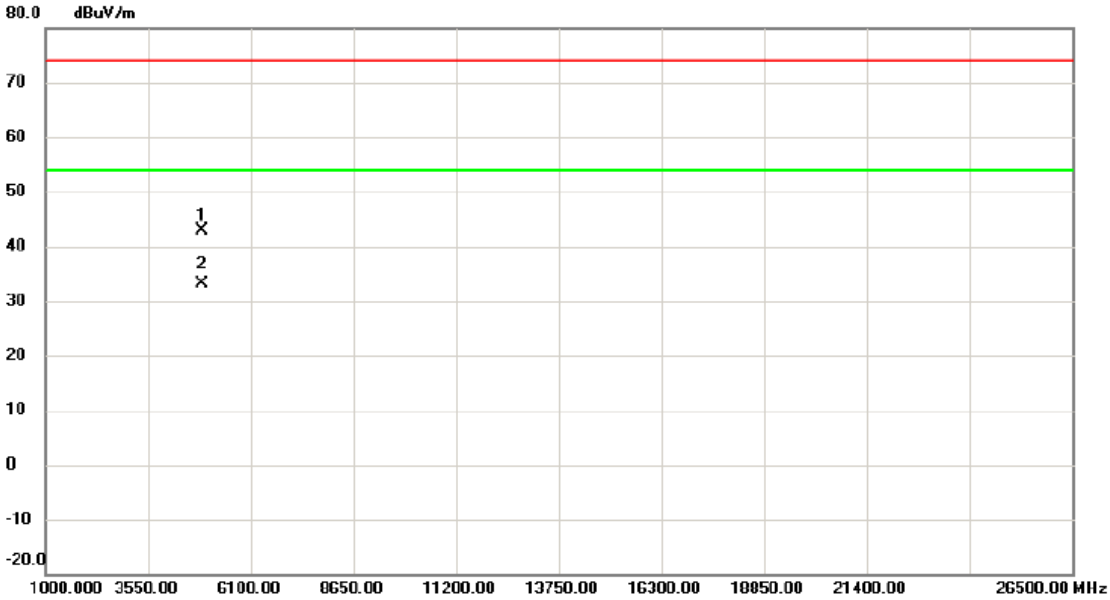
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2441.200	87.14	7.34	94.48	54.00	40.48	AVG	No Limit
2	X	2441.400	94.61	7.34	101.95	74.00	27.95	peak	No Limit
3		2483.500	54.08	7.32	61.40	74.00	-12.60	peak	
4		2483.500	46.58	7.32	53.90	54.00	-0.10	AVG	

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

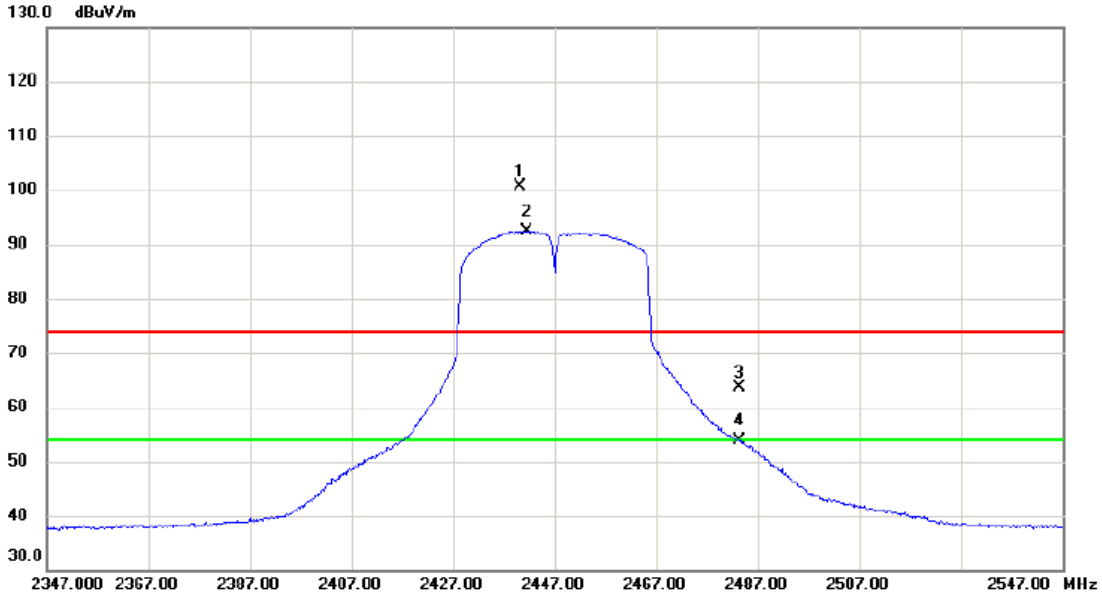
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4888.600	39.15	3.65	42.80	74.00	-31.20	peak	
2	*	4894.200	29.56	3.66	33.22	54.00	-20.78	AVG	

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

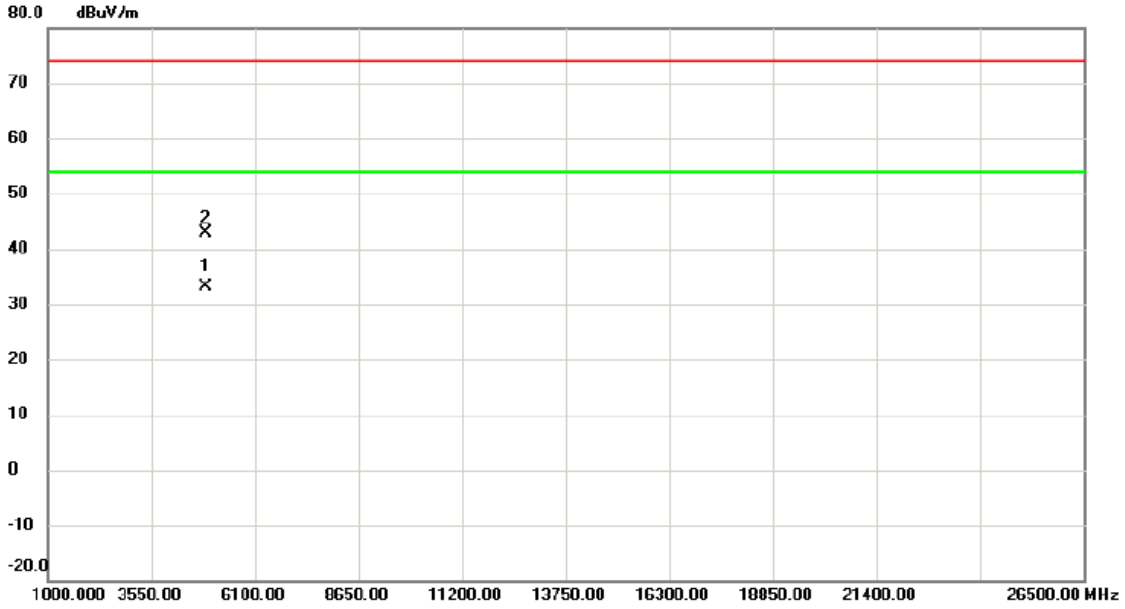
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2440.200	93.19	7.34	100.53	74.00	26.53	peak	No Limit
2	*	2441.400	85.11	7.34	92.45	54.00	38.45	AVG	No Limit
3		2483.500	56.21	7.32	63.53	74.00	-10.47	peak	
4		2483.500	46.45	7.32	53.77	54.00	-0.23	AVG	

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

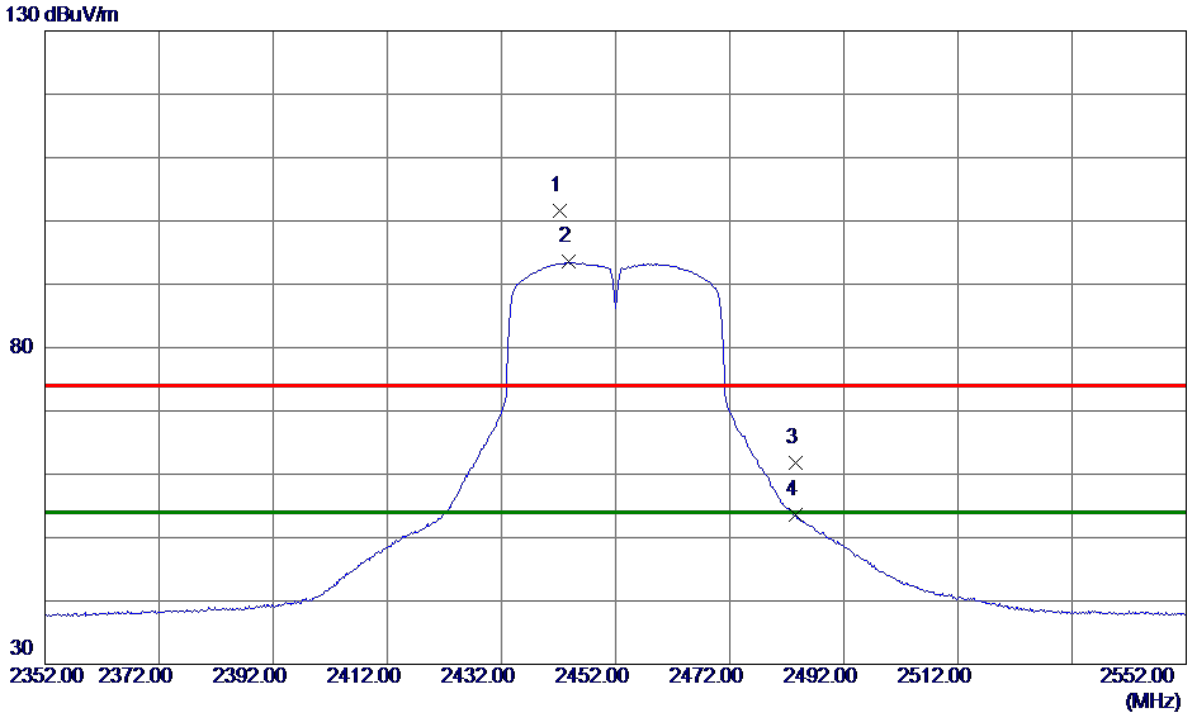
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4896.800	29.55	3.66	33.21	54.00	-20.79	AVG	
2		4908.400	39.19	3.70	42.89	74.00	-31.11	peak	

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

Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2442.2000	94.27	7.35	101.62	74.00	27.62	Peak	No Limit
2 *	2443.8000	86.16	7.35	93.51	54.00	39.51	AVG	No Limit
3	2483.5000	54.56	7.32	61.88	74.00	-12.12	Peak	
4	2483.5000	46.22	7.32	53.54	54.00	-0.46	AVG	

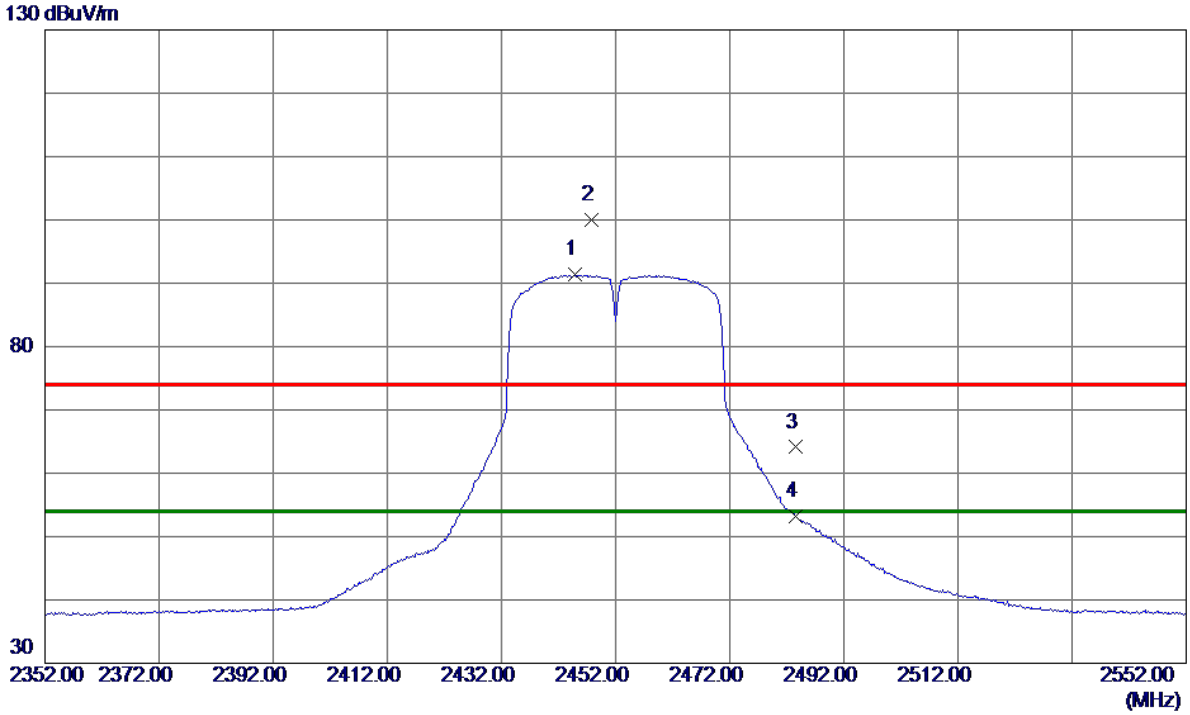
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2452MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4905.2000	39.39	3.69	43.08	74.00	-30.92	Peak	
2 *	4905.2000	29.00	3.69	32.69	54.00	-21.31	AVG	

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

Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2444.8000	83.97	7.35	91.32	54.00	37.32	AVG	No Limit
2	2447.8000	92.68	7.34	100.02	74.00	26.02	Peak	No Limit
3	2483.5000	56.78	7.32	64.10	74.00	-9.90	Peak	
4	2483.5000	45.92	7.32	53.24	54.00	-0.76	AVG	

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

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4903.4000	29.16	3.68	32.84	54.00	-21.16	AVG	
2	4909.4000	39.12	3.70	42.82	74.00	-31.18	Peak	

TX B Mode_DUTY CYCLE

Duty cycle: TX 2412 MHz

Duty cycle = T_{ON} / T_{Total}

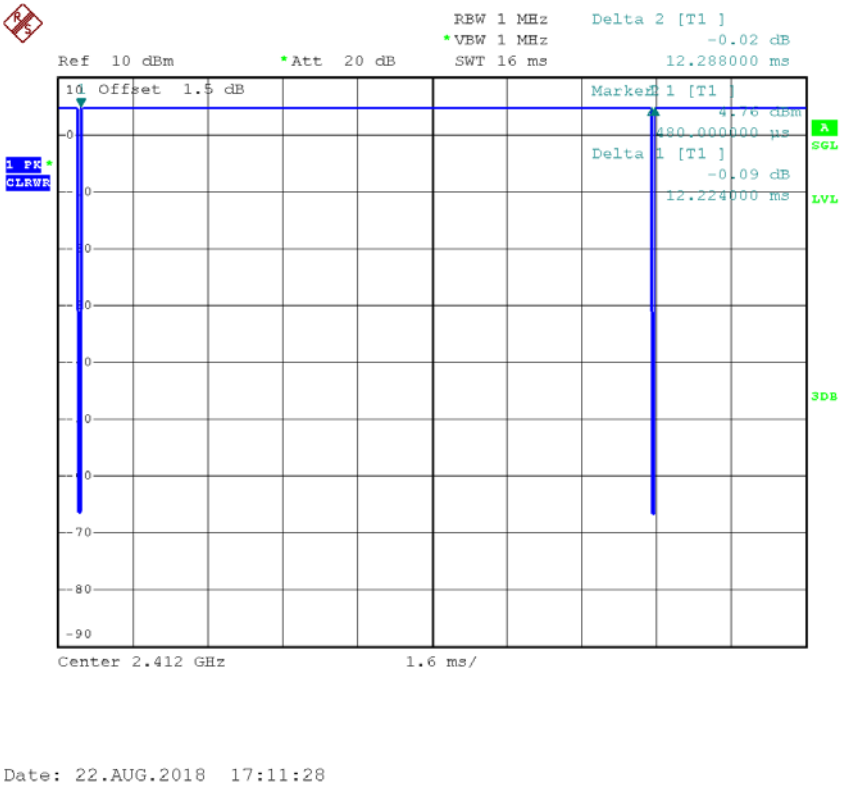
T_{ON}: 12.224 msec

T_{Total}: 12.288 msec

Duty cycle: 99.48%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.00



Note: The duty cycle is ≥ 98 % no need to cacluated as Duty Factor.

TX G Mode_DUTY CYCLE

Duty cycle: TX 2412 MHz

Duty cycle = T_{ON} / T_{Total}

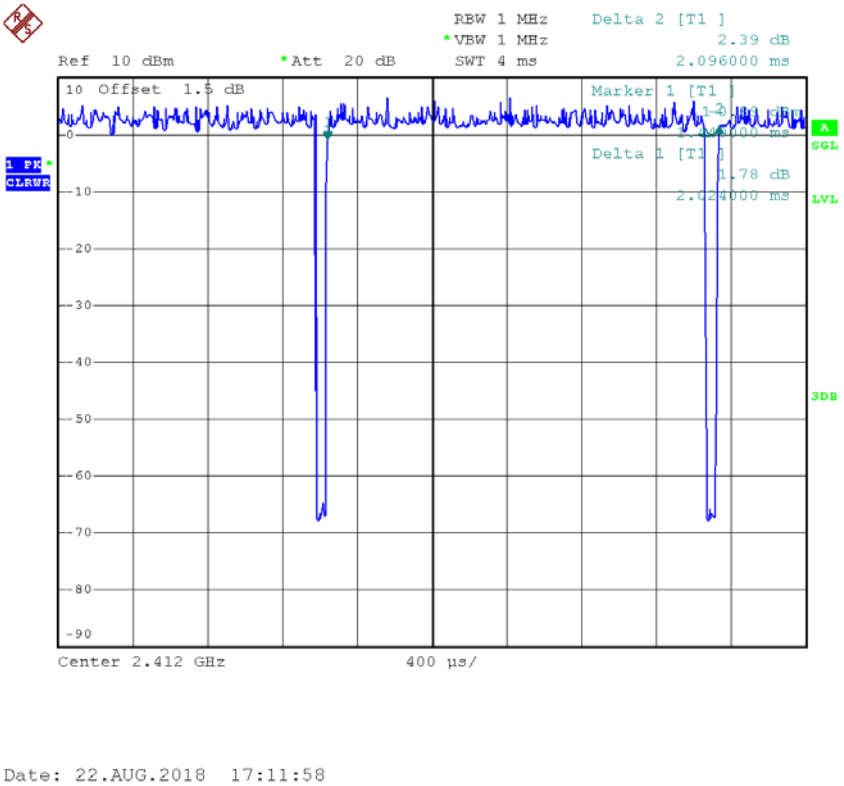
T_{ON}: 2.024msec

T_{Total}: 2.096 msec

Duty cycle: 96.56%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.15



Note: The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle < 98 %, so, the output power and power density should be cacluated as Output Power = Measured power + Ducy factor

TX N20 Mode_DUTY CYCLE

Duty cycle: TX 2412 MHz

Duty cycle = T_{ON} / T_{Total}

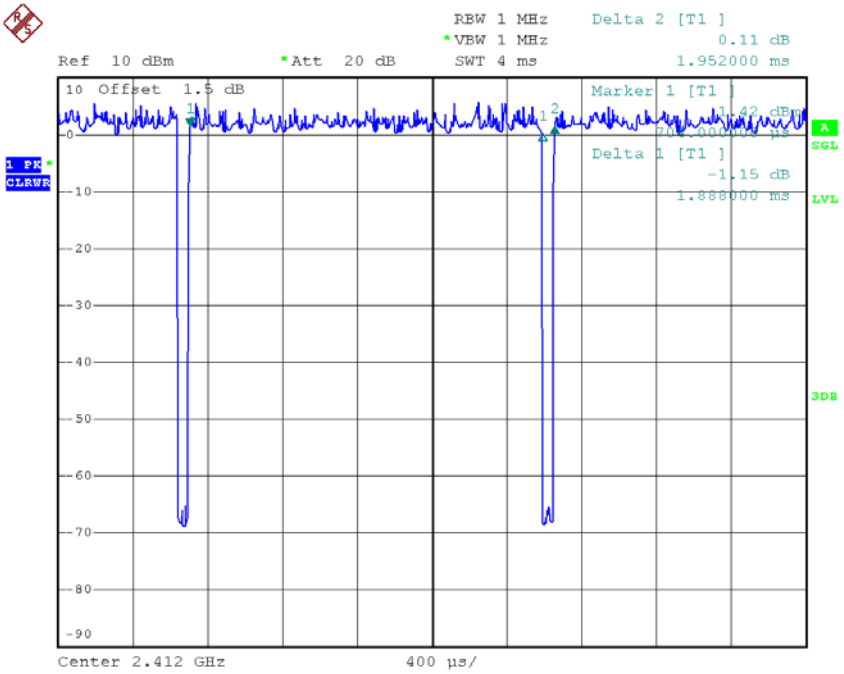
T_{ON}: 1.888 msec

T_{Total}: 1.952 msec

Duty cycle: 96.72%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.14



Date: 22.AUG.2018 17:12:21

Note: The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle < 98 %, so, the output power and power density should be cacluated as Output Power = Measured power + Ducy factor

TX N40 Mode_DUTY CYCLE

Duty cycle: TX 2422MHz

Duty cycle = T_{ON} / T_{Total}

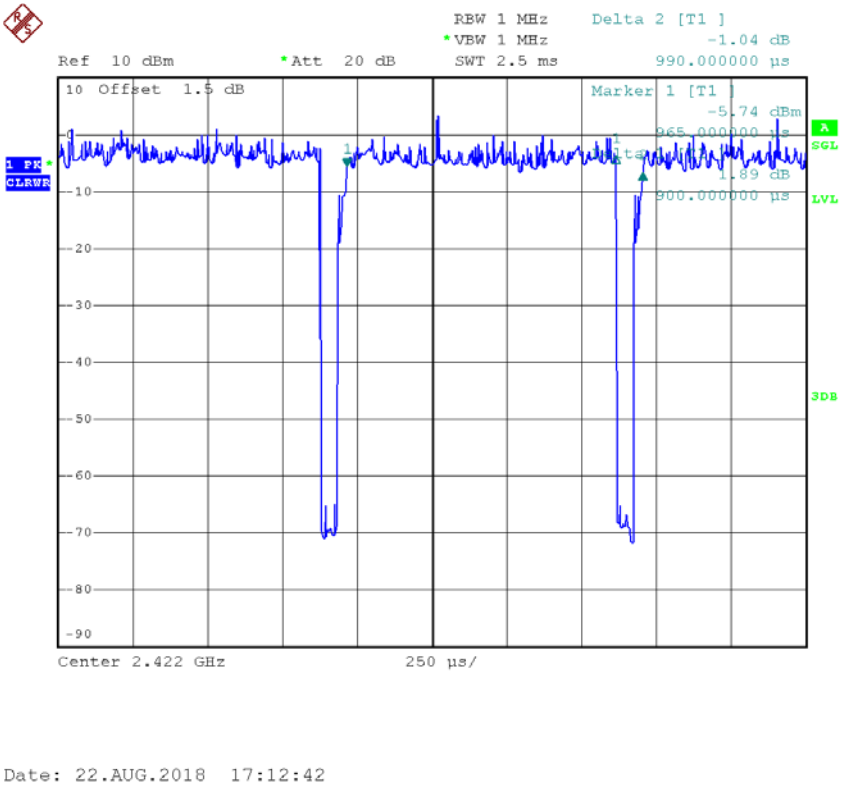
T_{ON}: 0.900 msec

T_{Total}: 0.990 msec

Duty cycle: 90.91%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.41



Date: 22.AUG.2018 17:12:42

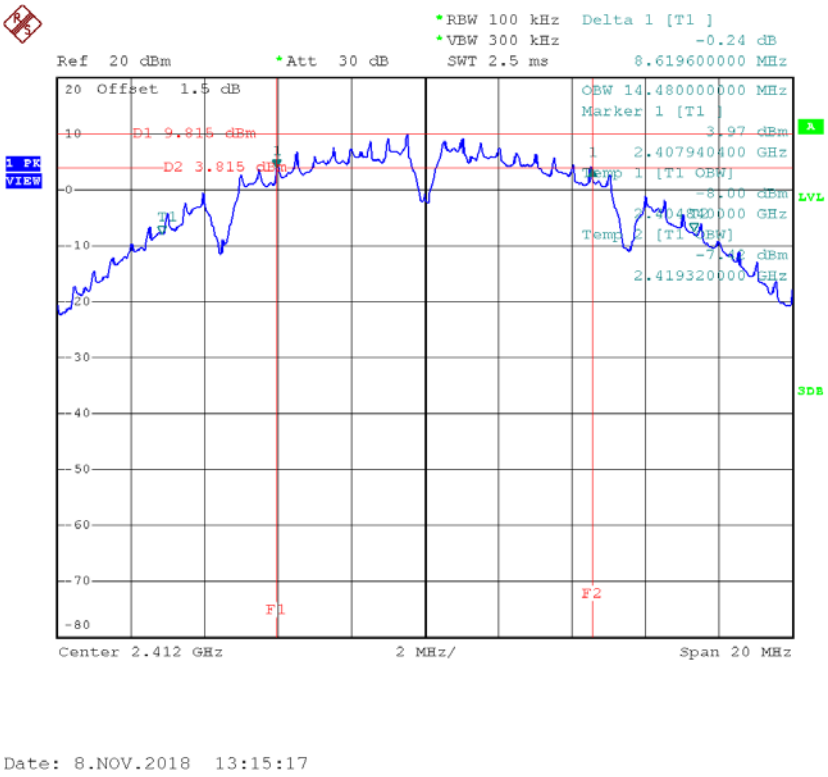
Note: The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle < 98 %, so, the output power and power density should be cacluated as Output Power = Measured power + Ducy factor

APPENDIX E - BANDWIDTH

Test Mode: TX B Mode_CH01/06/11			

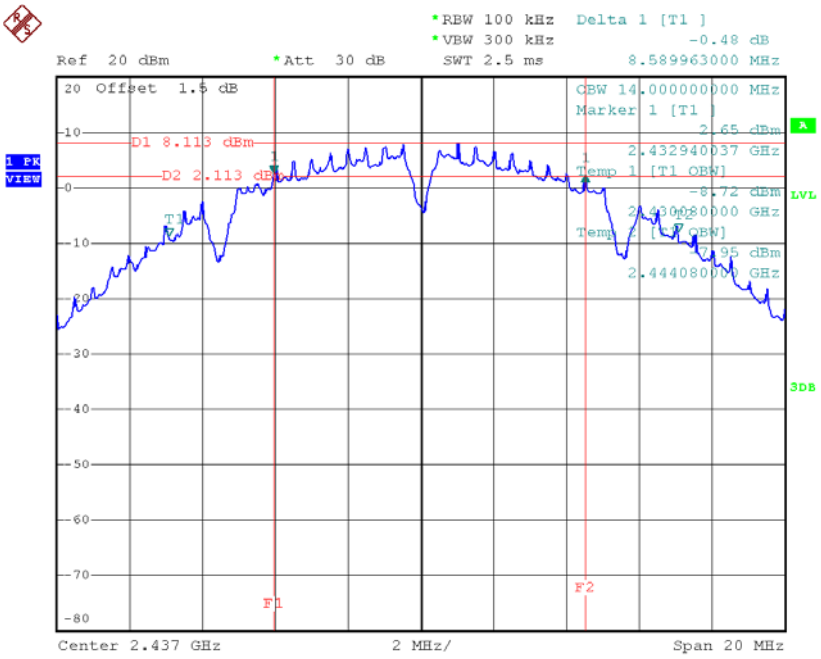
Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	8.62	500	Complies
2437	8.59	500	Complies
2462	8.50	500	Complies

TX CH01



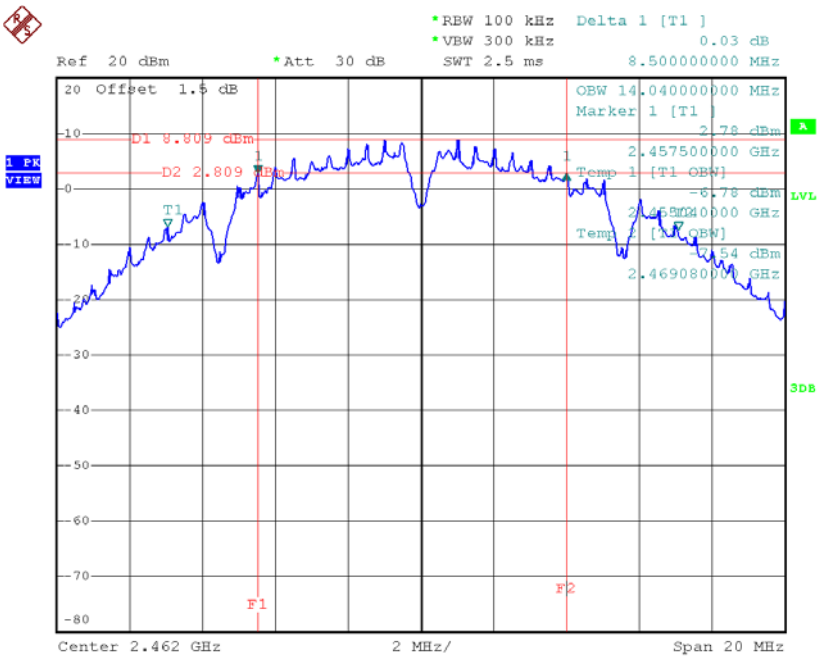
Date: 8.NOV.2018 13:15:17

TX CH06



Date: 8.NOV.2018 13:16:18

TX CH11

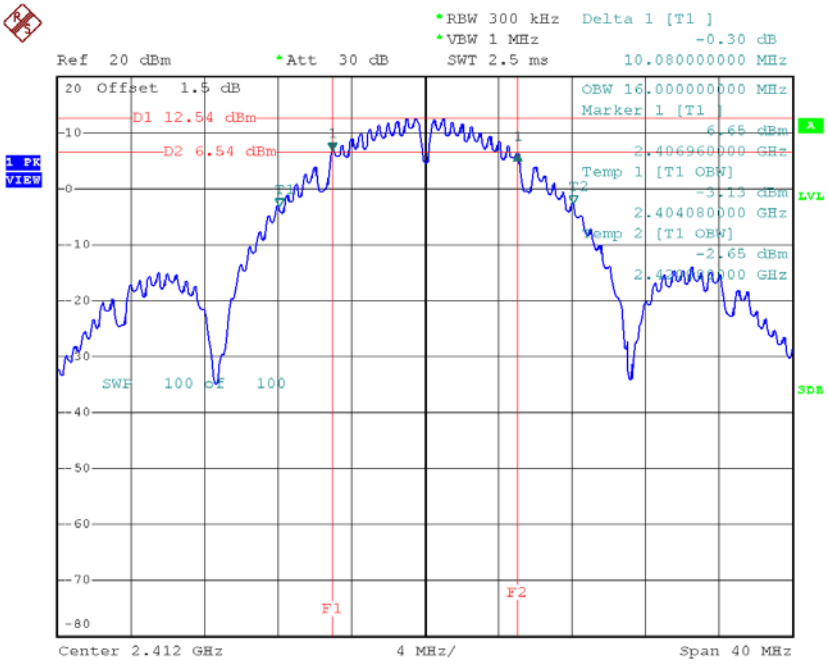


Date: 8.NOV.2018 13:17:11

Test Mode: TX B Mode_CH01/06/11			

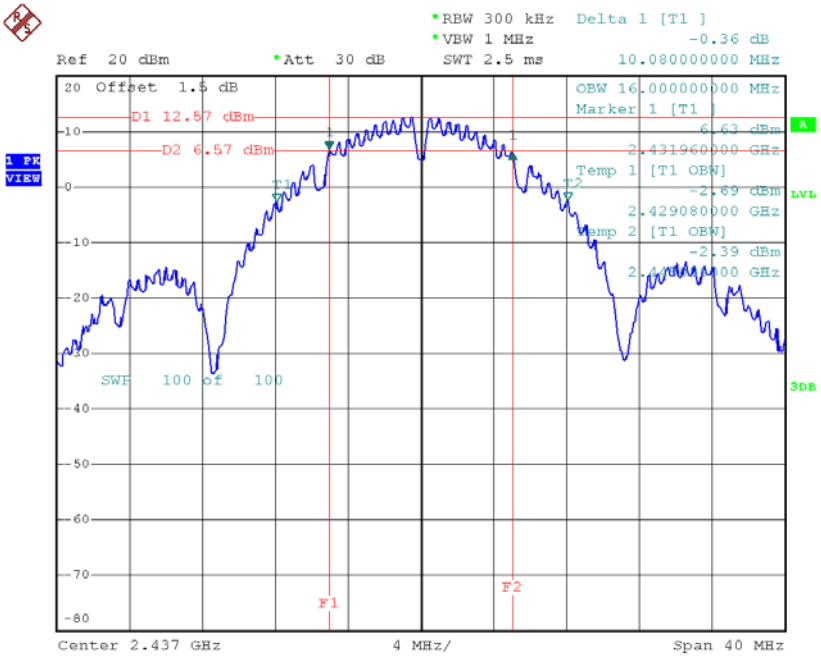
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.00	500	Complies
2437	16.00	500	Complies
2462	15.20	500	Complies

TX CH01



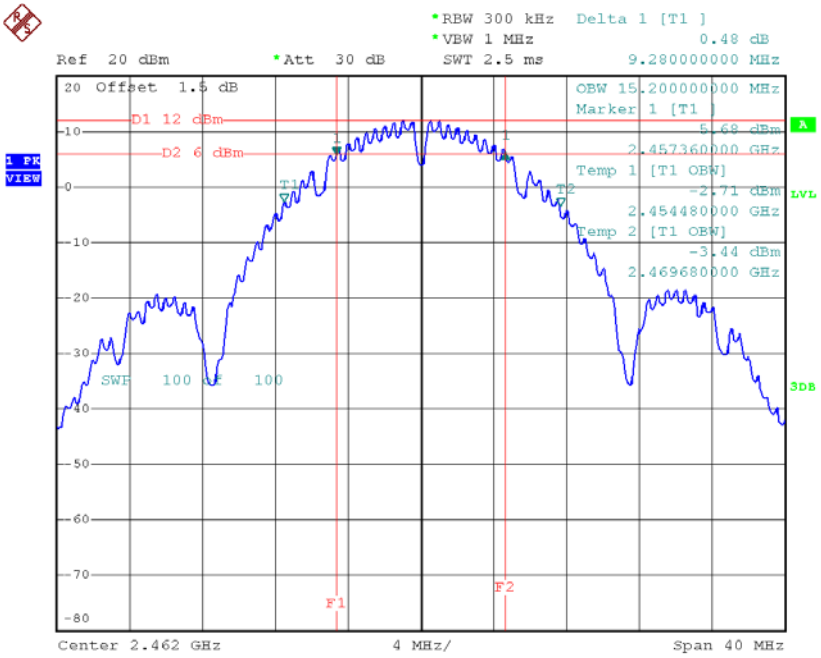
Date: 15.AUG.2018 15:49:05

TX CH06



Date: 15.AUG.2018 15:47:32

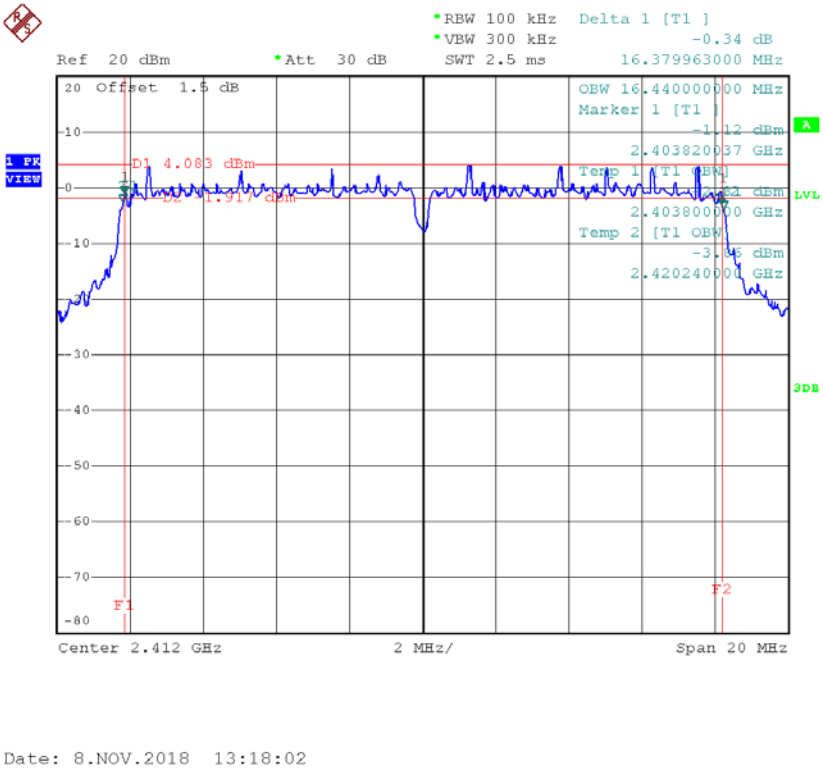
TX CH11



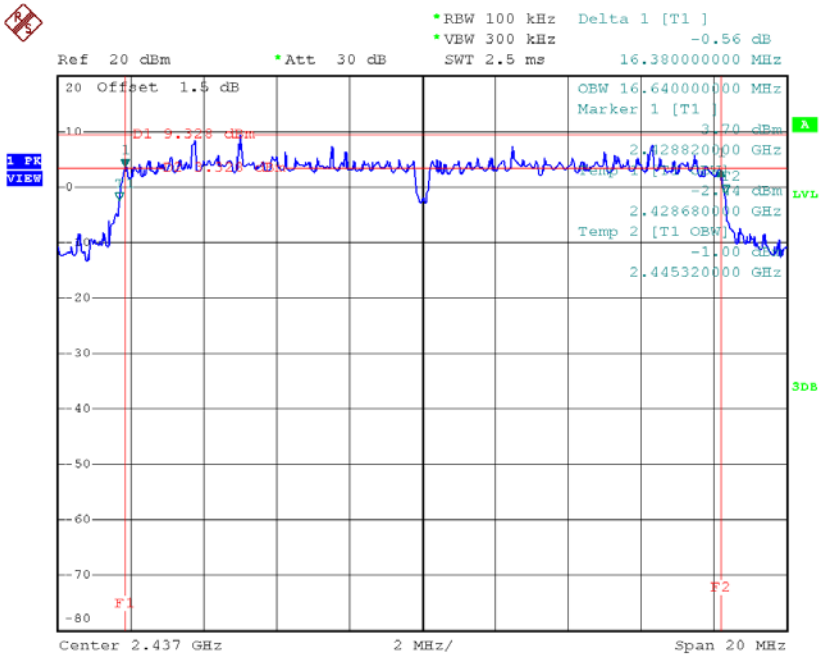
Date: 15.AUG.2018 15:45:50

Test Mode: TX G Mode_CH01/06/11			
Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	16.38	500	Complies
2437	16.38	500	Complies
2462	16.38	500	Complies

TX CH01

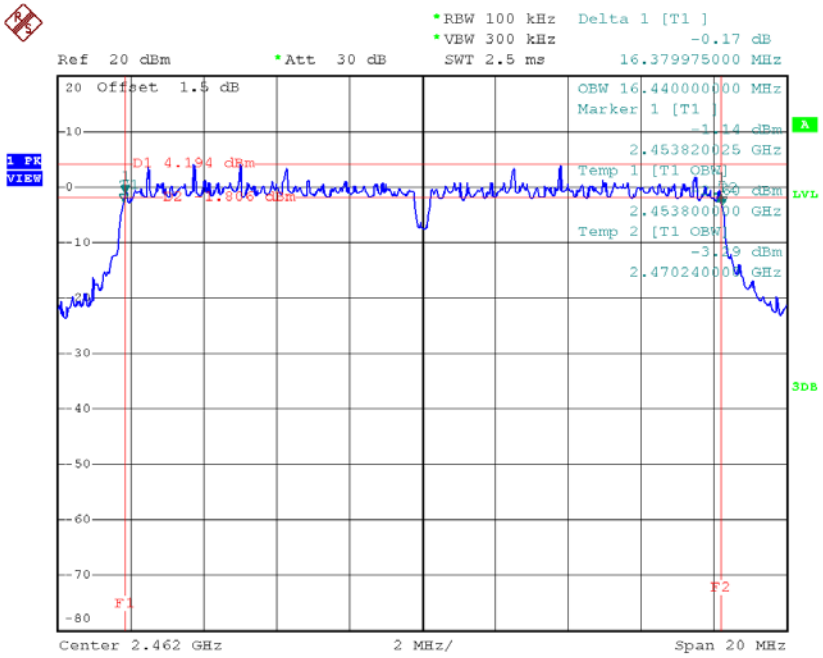


TX CH06



Date: 8.NOV.2018 13:18:49

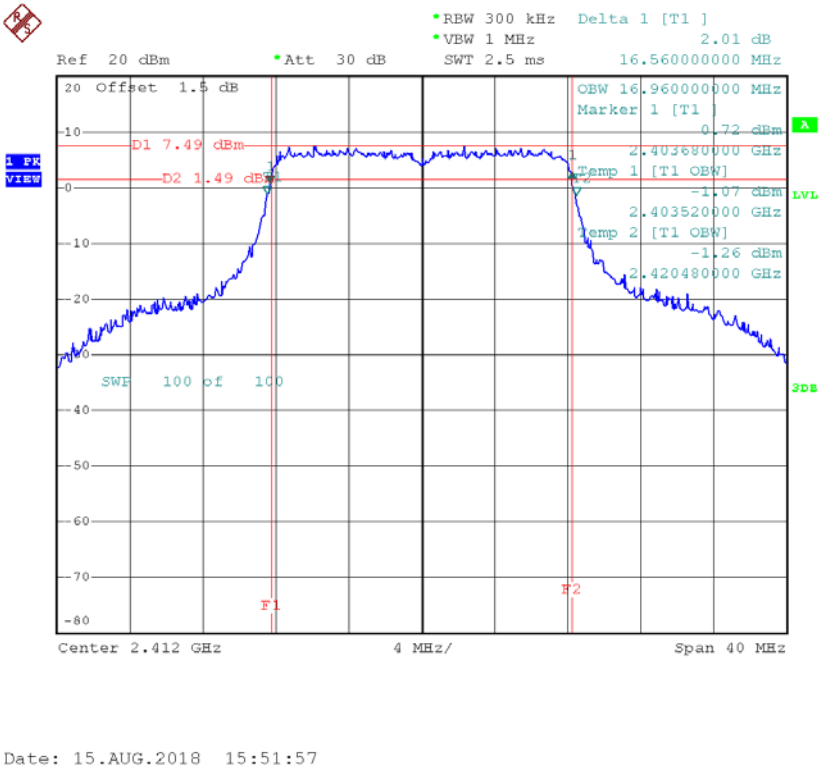
TX CH11



Date: 8.NOV.2018 13:19:28

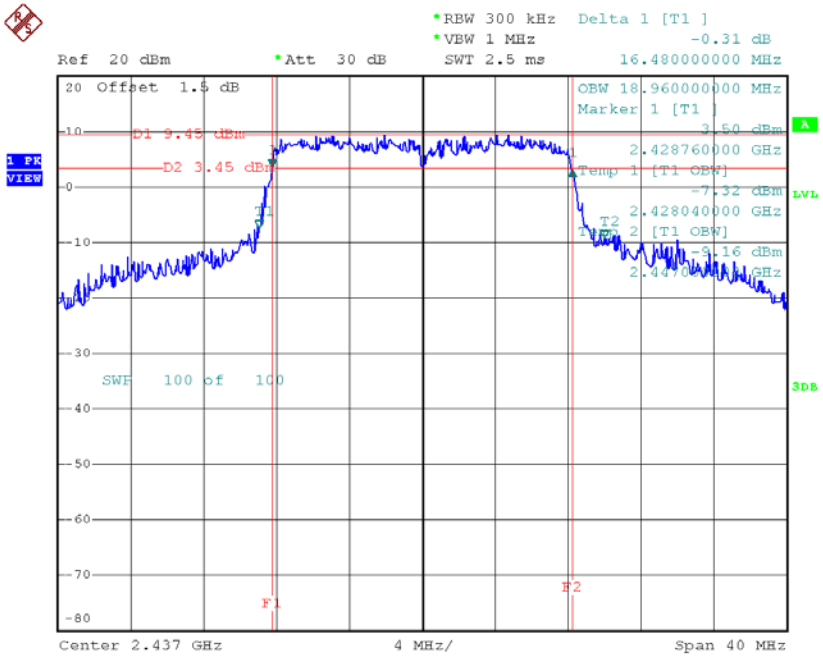
Test Mode: TX G Mode_CH01/06/11			
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.96	500	Complies
2437	18.96	500	Complies
2462	19.04	500	Complies

TX CH01



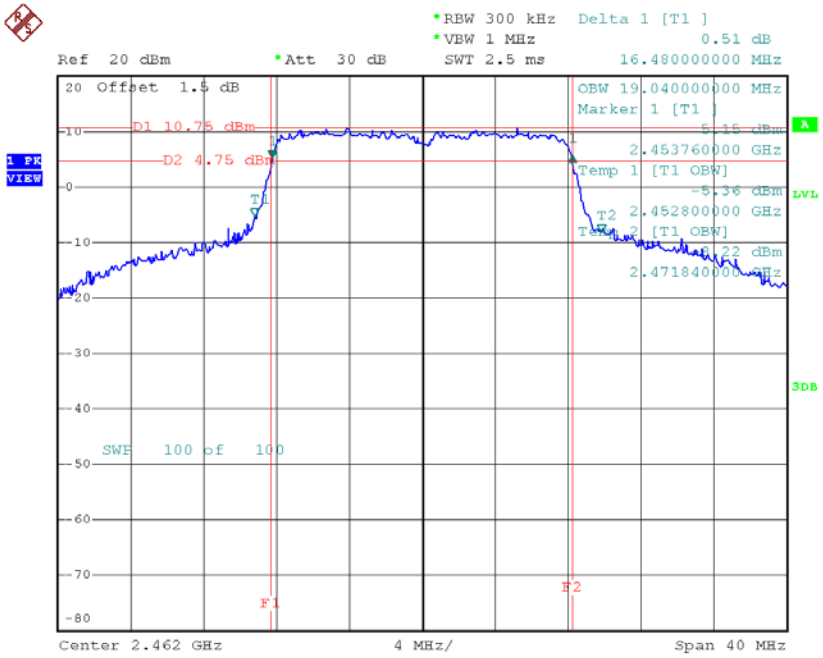
Date: 15.AUG.2018 15:51:57

TX CH06



Date: 17.AUG.2018 11:16:56

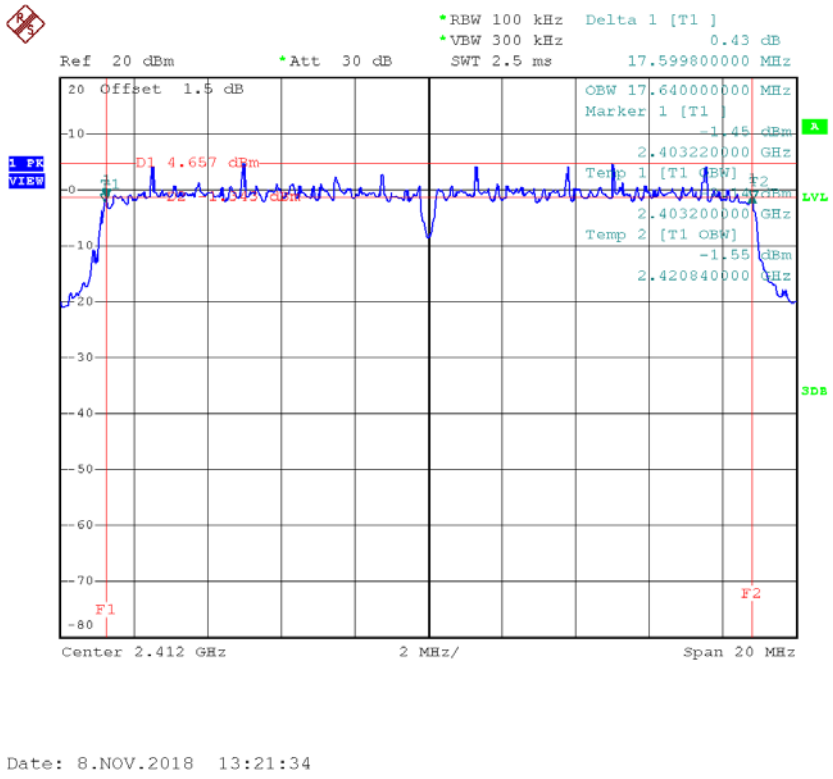
TX CH11



Date: 17.AUG.2018 11:09:45

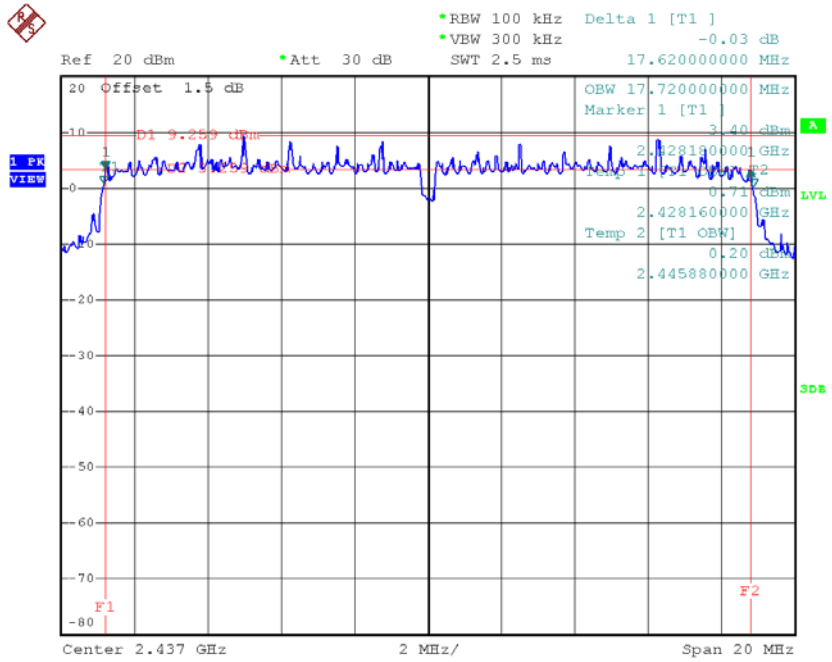
Test Mode: TX N-20MHz Mode_CH01/06/11			
Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	17.60	500	Complies
2437	17.62	500	Complies
2462	17.31	500	Complies

TX CH01



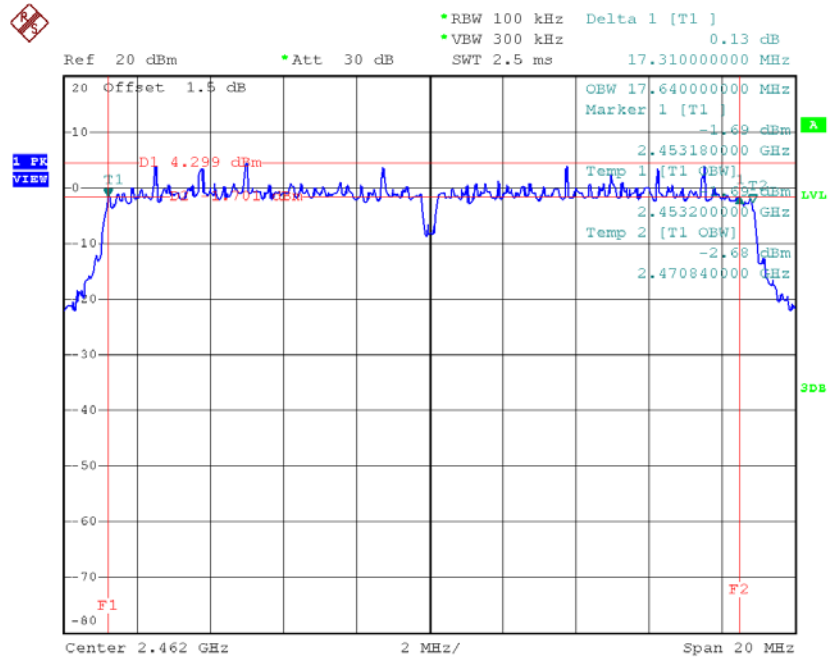
Date: 8.NOV.2018 13:21:34

TX CH06



Date: 8.NOV.2018 13:22:42

TX CH11



Date: 8.NOV.2018 13:23:26