FCC Radio Test Report

FCC ID: TE7EAP245V3

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

Project No.	:	1806C097
Equipment	:	AC1750 Wireless MU-MIMO Gigabit Ceiling Mount Access Point
Test Model	:	EAP245
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	:	Jun. 20, 2018
Date of Test	:	Jun. 21, 2018 ~ Oct. 19, 2018
Issued Date	:	Nov. 15, 2018
Tested by	:	BTL Inc.

Testing Engineer : Welly Zhou
(Welly Zhou)

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(Shawn Xiao)

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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.

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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.	Nov. 15, 2018

1. CERTIFICATION

Equipment	:	AC1750 Wireless MU-MIMO Gigabit Ceiling Mount Access Point
Brand Name	:	tp-link
Test Model	:	EAP245
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	:	Jun. 21, 2018 ~ Oct. 19, 2018
Test Sample	:	Engineering Sample No.: D180605110
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-1-1806C097) 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).

Test results included in this report is only for the WLAN 2.4GHz part.

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	AC1750 Wireless MU-MIMO Gigabit Ceiling Mount Access Point	
Brand Name	tp-link	
Test Model	EAP245	
Series Model	N/A	
Model Difference	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 450 Mbps
	Average Output Power (Max.)	802.11b: 26.18dBm 802.11g: 26.16 dBm 802.11n(20 MHz): 26.16 dBm 802.11n(40 MHz): 23.15 dBm
Power Source	EUT: 1# Supplied from POE adapter. 2# Supplied from POE switch. EUT (POE Adapter): AC Mains.	
Power Rating	EUT: 1# DC 48V/0.5A 2# 36~57V, 0.36A EUT(POE Adapter): 100-240V~	

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	PIFA	N/A	3.48
2	TP-LINK	N/A	PIFA	N/A	3.49
3	TP-LINK	N/A	PIFA	N/A	2.45

Note:
This EUT supports MIMO 3X3, any transmit signals are correlated with each other, so Directional gain =10log[($10^{G1/20}$+$10^{G2/20}$+...$10^{GN/20}$)^2/N]dBi, that is Directional gain=10log[($10^{3.48/20}$+$10^{3.49/20}$+$10^{2.45/20}$)^2/3]dBi =7.92. So, the average out power limit is 30-7.92+6=28.08, the power density limit is 8-7.92+6=6.08.

4. The worst case for 3TX as follow:

Operating Mode / TX Mode	3TX
802.11b	V (ANT 1+ANT 2+ANT 3)
802.11g	V (ANT 1+ANT 2+ANT 3)
802.11n(20 MHz)	V (ANT 1+ANT 2+ANT 3)
802.11n(40 MHz)	V (ANT 1+ANT 2+ANT 3)

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 (19.5 Mbps)
802.11n HT40 mode : BPSK (40.5 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.

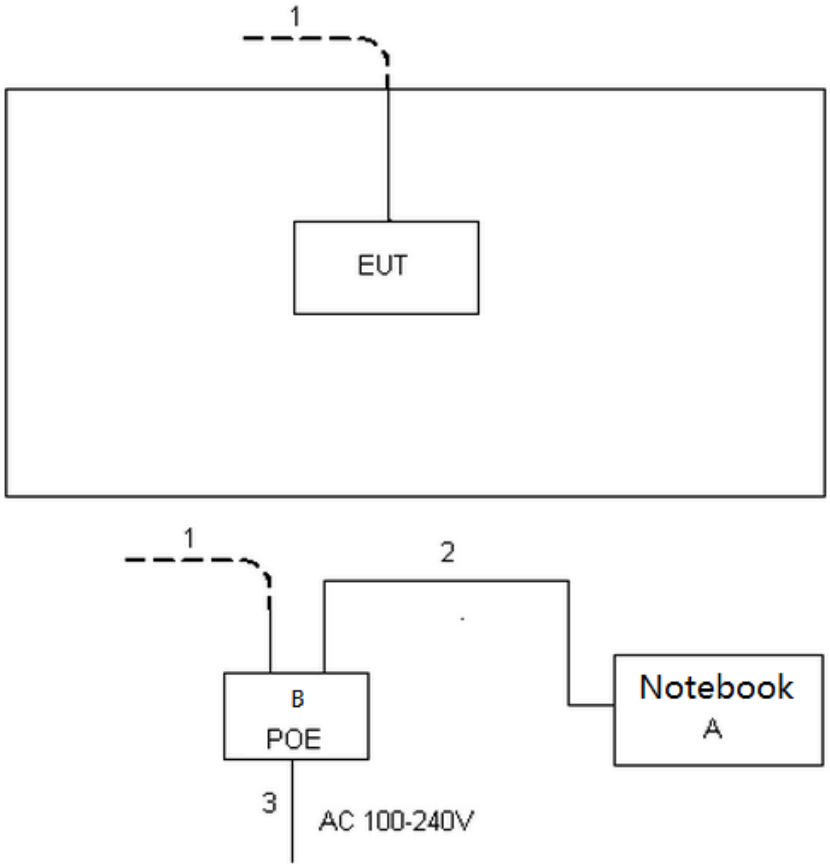
(4) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

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	cart		
Frequency (MHz)	2412	2437	2462
802.11b	21	21	21
802.11g	19	21	21
802.11n (20 MHz)	19	21	20
Frequency (MHz)	2422	2437	2452
802.11n (40 MHz)	18	19	18

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 DESCRIPTION OF SUPPORT UNITS

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
A	Notebook	Lenovo	G410	N/A	N/A
B	POE	TP-LINK	TL-SG1008P	DOC	N/A

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	10m	RJ45 Cable
2	NO	NO	1.5m	RJ45 Cable
3	NO	NO	1.8m	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

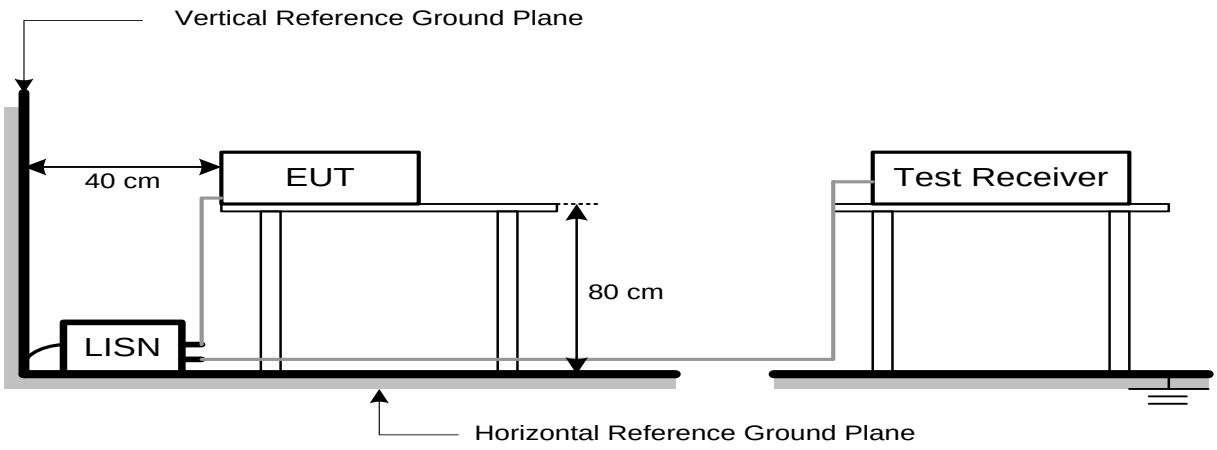
4.1.2 TEST PROCEDURE

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: 53% 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

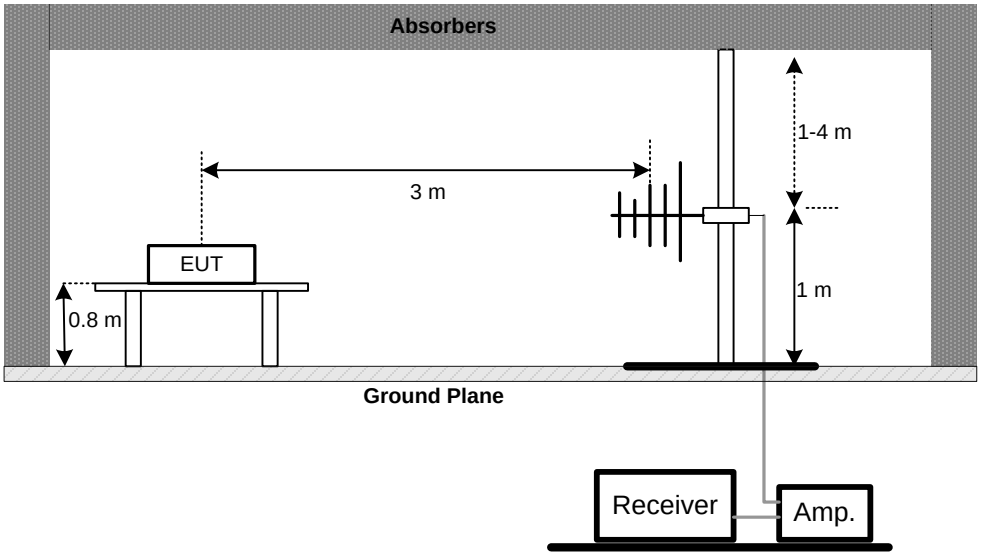
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
b. The measuring distance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

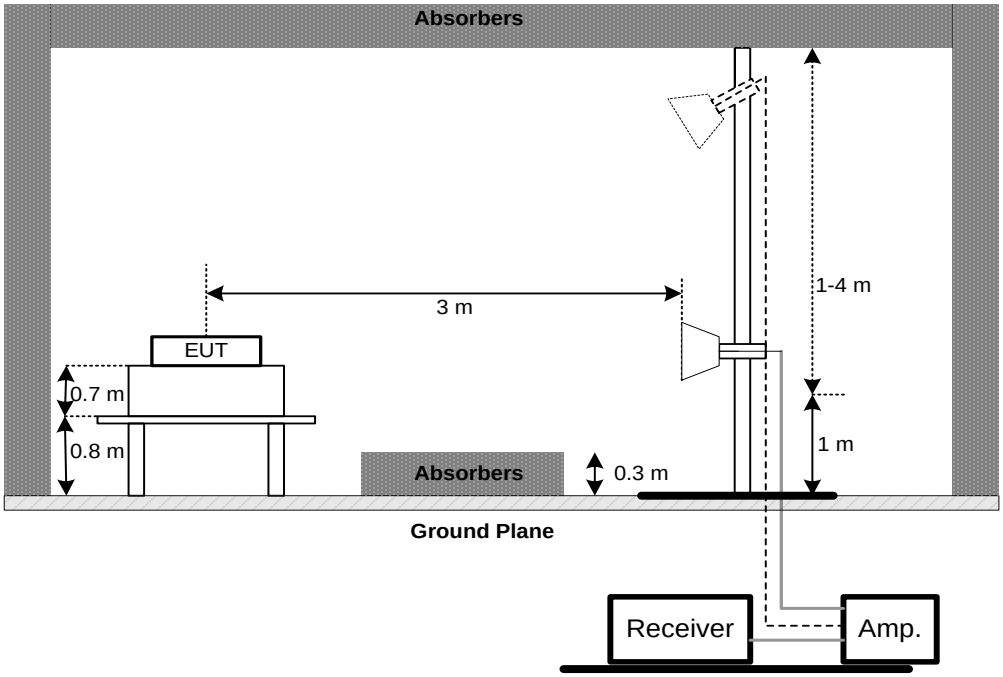
No deviation

4.2.4 TEST SETUP

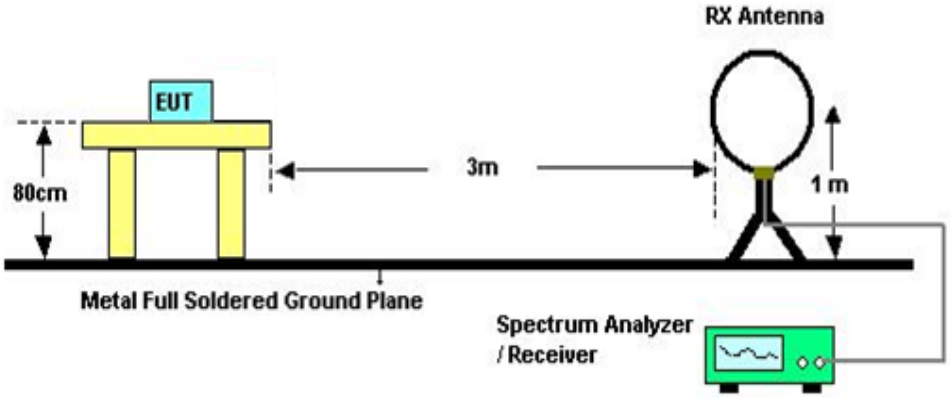
(A) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



(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: 60% 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		

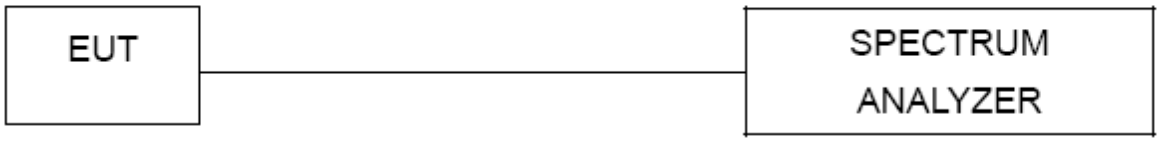
5.1.1 TEST PROCEDURE

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 11.8 of ANSI C63.10-2013.
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: 27°C Relative Humidity: 48% 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

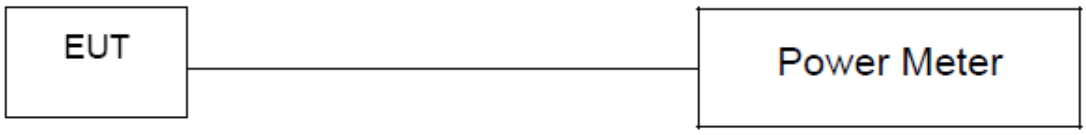
6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
b. The maximum conducted (average) output power was performed in accordance with method 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: 27°C Relative Humidity: 48% 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 conducted powerlimits. If the transmitter complies with the conducted 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: 27°C Relative Humidity: 48% 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

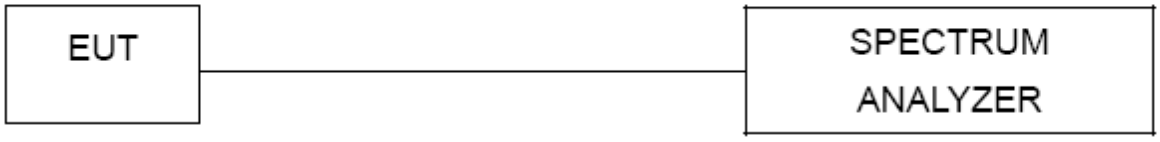
8.1.1 TEST PROCEDURE

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 11.10.2 of ANSI C63.10-2013.
c. 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: 27°C Relative Humidity: 48% 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-9 kHz 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
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	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
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. 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

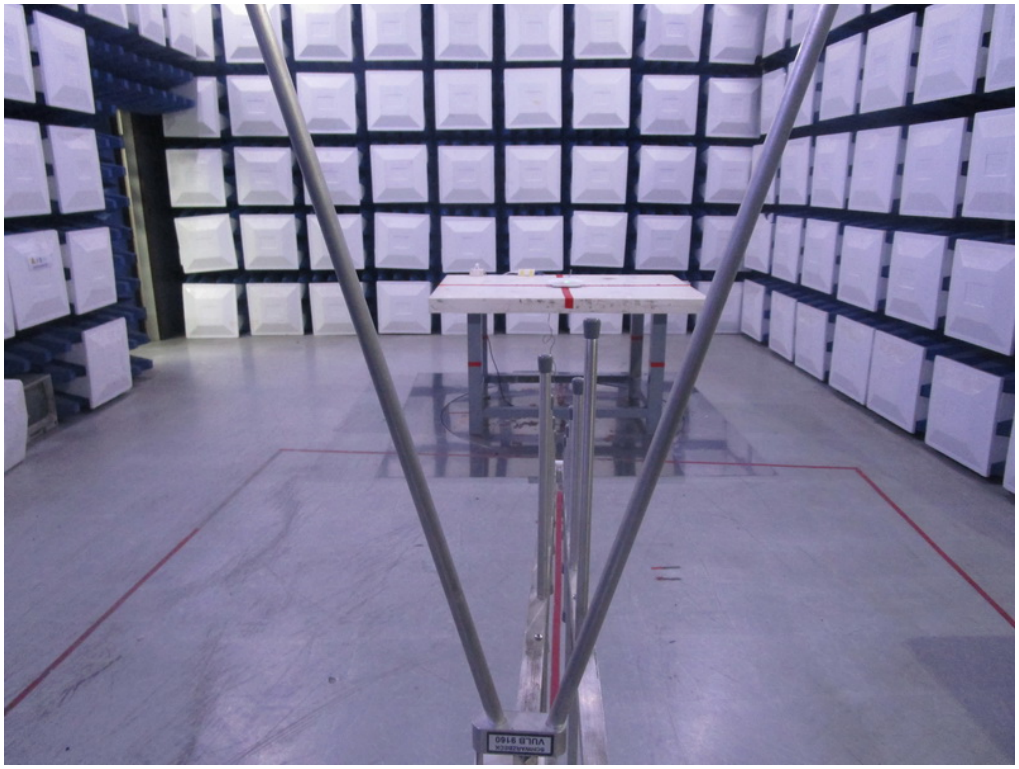
Conducted Measurement Photos

Radiated Measurement Photos

9 kHz to 30 MHz

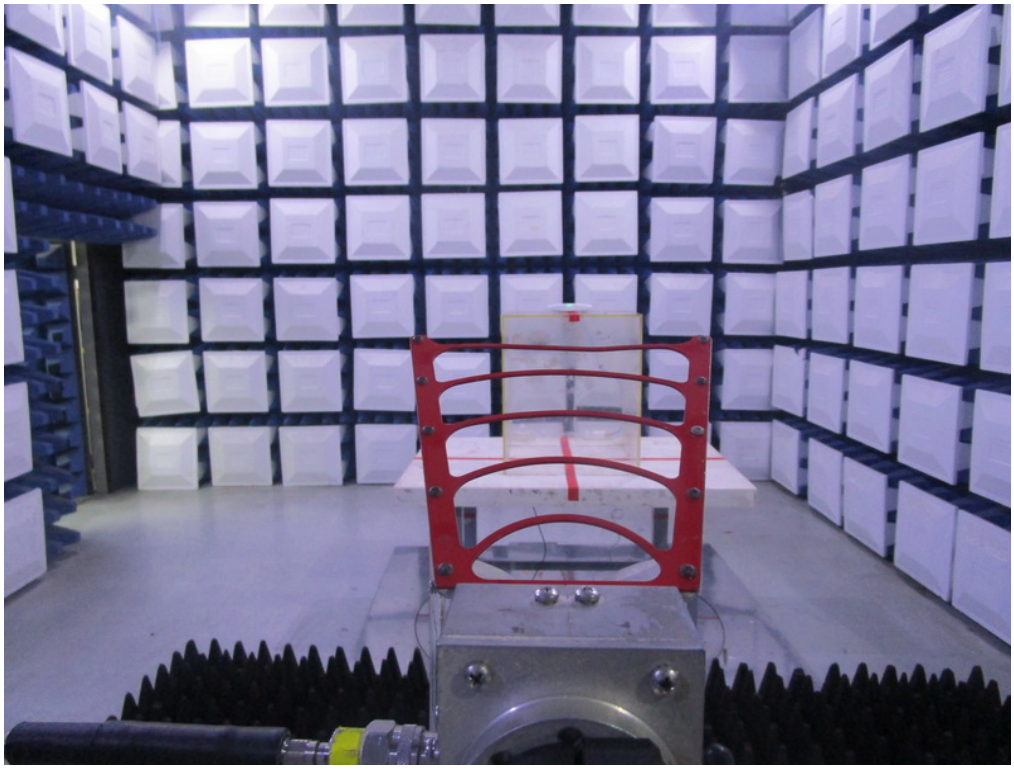
Radiated Measurement Photos

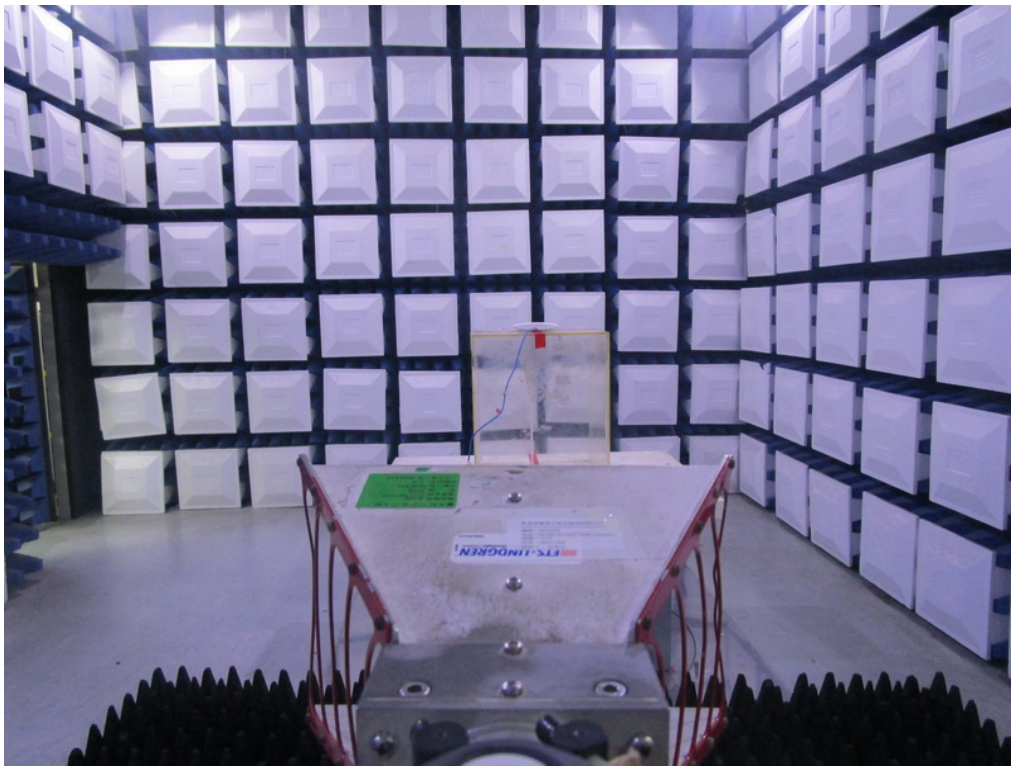
30 MHz to 1000 MHz



Radiated Measurement Photos

Above 1000 MHz

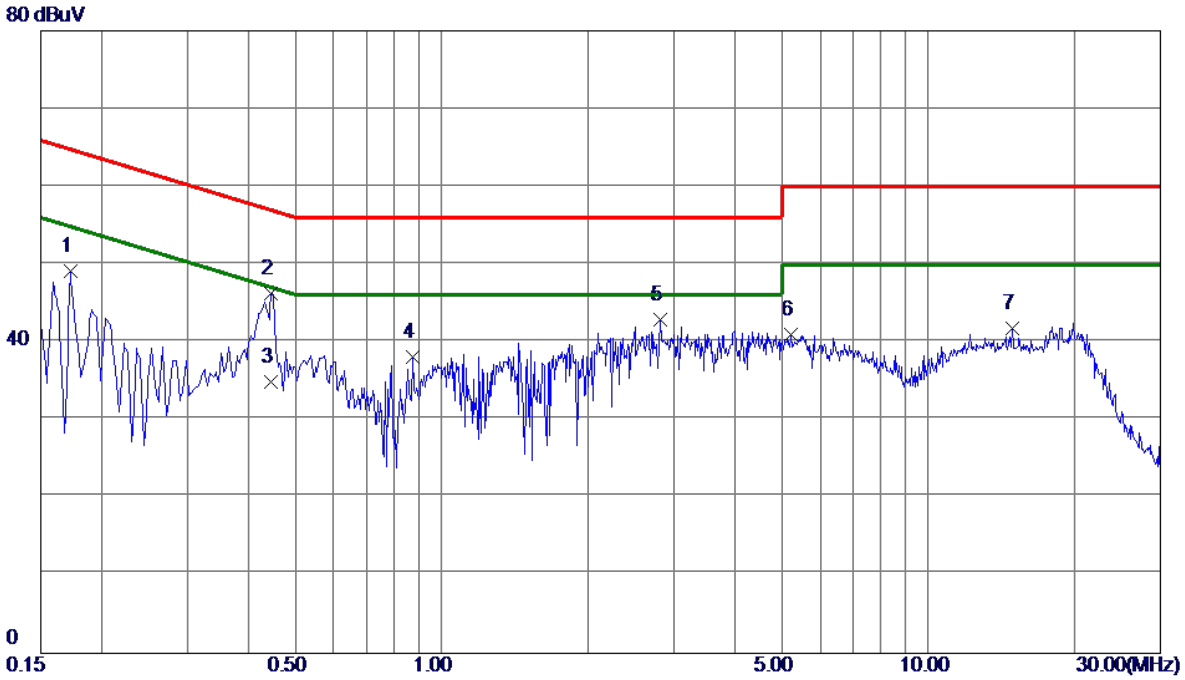




APPENDIX A - CONDUCTED EMISSION

Test Mode:	TX Mode

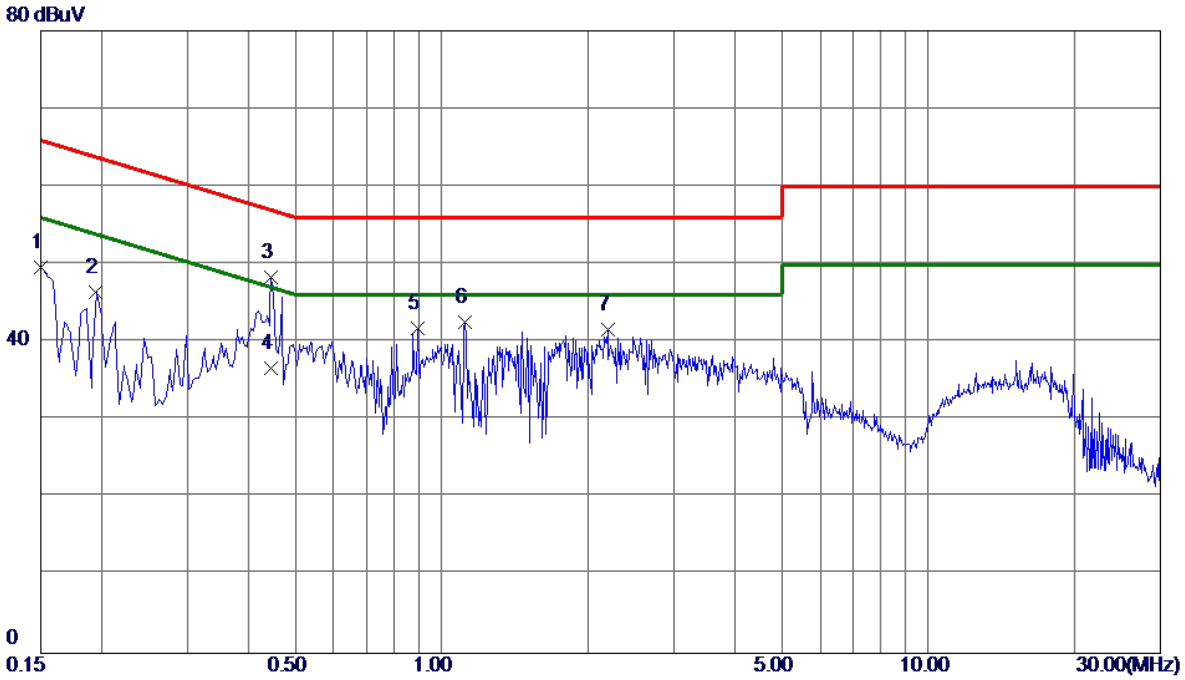
Line



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1725	39.28	9.82	49.10	64.84	-15.74	Peak	
2 *	0.4470	36.46	9.80	46.26	56.93	-10.67	Peak	
3	0.4470	25.10	9.80	34.90	46.93	-12.03	AVG	
4	0.8700	28.20	9.91	38.11	56.00	-17.89	Peak	
5	2.8095	32.89	10.04	42.93	56.00	-13.07	Peak	
6	5.2350	30.69	10.21	40.90	60.00	-19.10	Peak	
7	14.8785	31.09	10.74	41.83	60.00	-18.17	Peak	

Test Mode:	TX Mode

Neutral

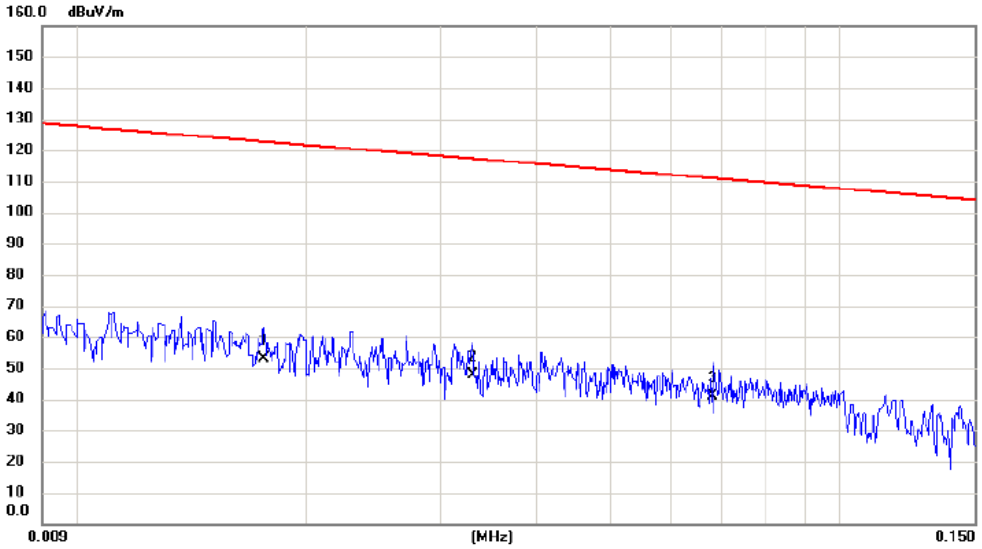


No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1500	39.66	9.91	49.57	66.00	-16.43	Peak	
2	0.1949	36.52	9.91	46.43	63.83	-17.40	Peak	
3 *	0.4470	38.39	9.95	48.34	56.93	-8.59	Peak	
4	0.4470	26.69	9.95	36.64	46.93	-10.29	AVG	
5	0.8925	31.68	10.09	41.77	56.00	-14.23	Peak	
6	1.1174	32.36	10.13	42.49	56.00	-13.51	Peak	
7	2.1929	31.40	10.20	41.60	56.00	-14.40	Peak	

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

Test Mode:	TX Mode

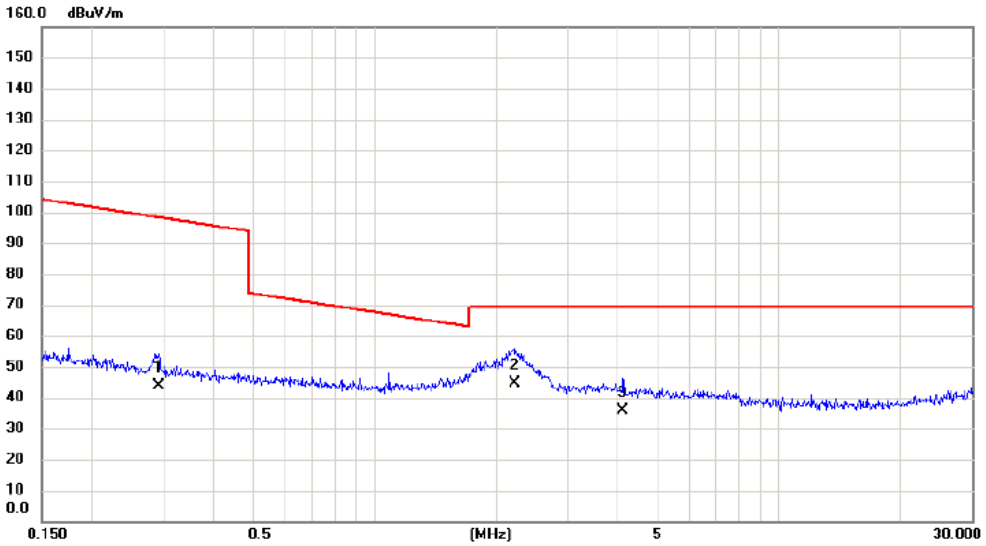
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0176	32.50	20.36	52.86	122.69	-69.83	AVG	
2	*	0.0330	28.11	19.80	47.91	117.23	-69.32	AVG	
3		0.0682	21.70	19.17	40.87	110.93	-70.06	AVG	

Test Mode:	TX Mode

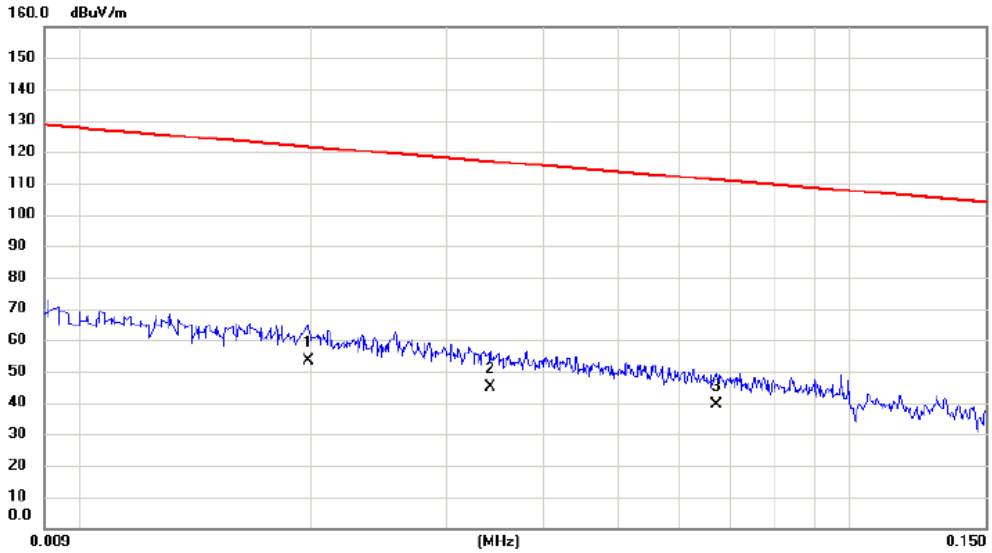
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.2924	26.80	17.04	43.84	98.29	-54.45	AVG	
2	*	2.2132	27.50	16.98	44.48	69.54	-25.06	QP	
3		4.1137	20.30	15.68	35.98	69.54	-33.56	QP	

Test Mode:	TX Mode

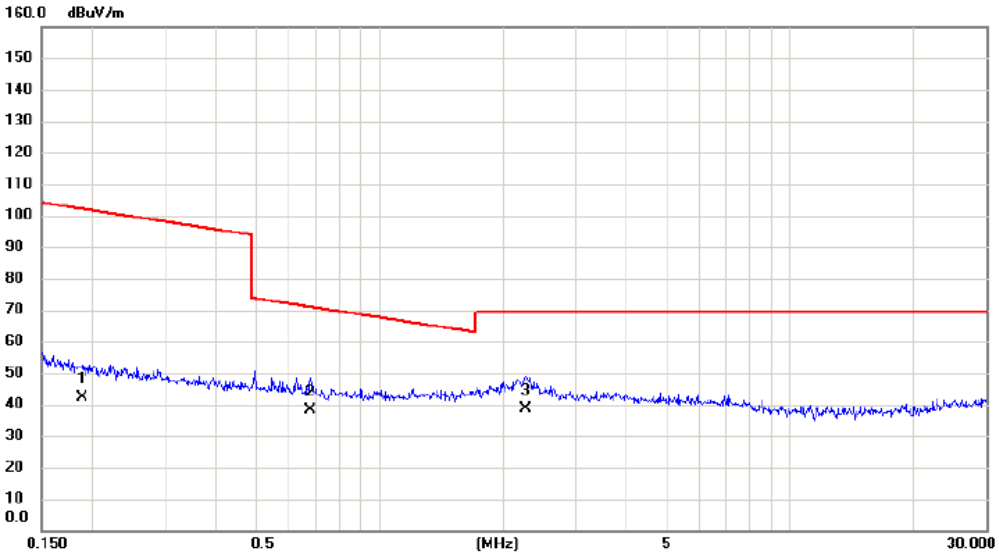
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0198	33.50	20.05	53.55	121.67	-68.12	AVG	
2		0.0342	25.20	19.78	44.98	116.92	-71.94	AVG	
3		0.0670	20.10	19.19	39.29	111.08	-71.79	AVG	

Test Mode:	TX Mode

Ant 90°

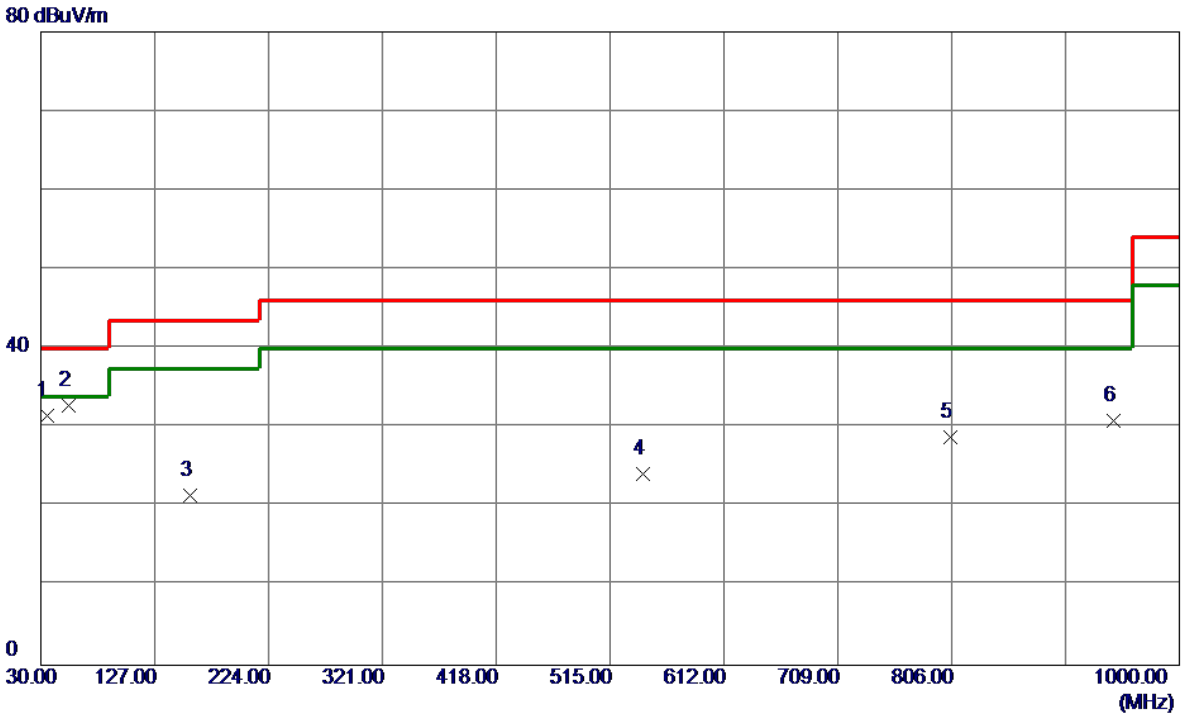


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1884	25.20	17.17	42.37	102.10	-59.73	AVG	
2		0.6790	21.30	16.91	38.21	70.97	-32.76	QP	
3	*	2.2726	21.50	16.96	38.46	69.54	-31.08	QP	

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

Test Mode:	TX B Mode Channel 01

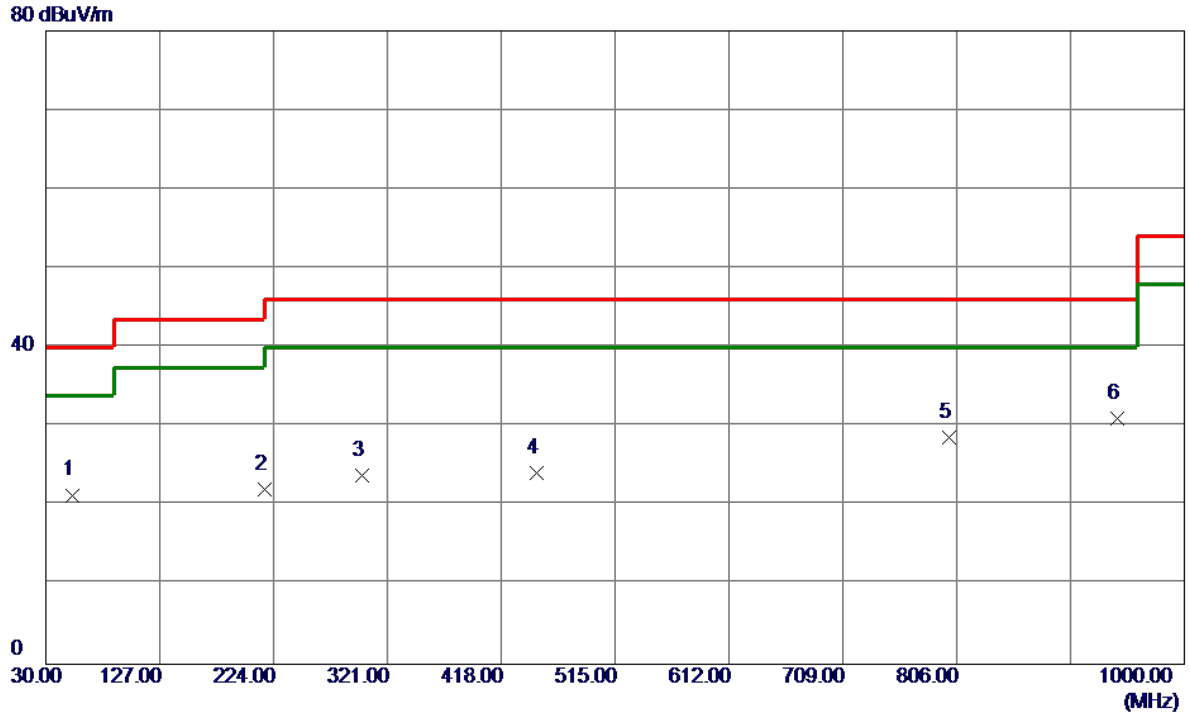
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	34.8500	46.40	-14.89	31.51	40.00	-8.49	Peak	
2 *	53.2800	47.77	-14.92	32.85	40.00	-7.15	Peak	
3	157.0700	32.23	-10.86	21.37	43.50	-22.13	Peak	
4	543.1300	30.04	-5.88	24.16	46.00	-21.84	Peak	
5	805.0300	29.98	-1.12	28.86	46.00	-17.14	Peak	
6	943.7400	29.72	1.16	30.88	46.00	-15.12	Peak	

Test Mode:	TX B Mode Channel 01

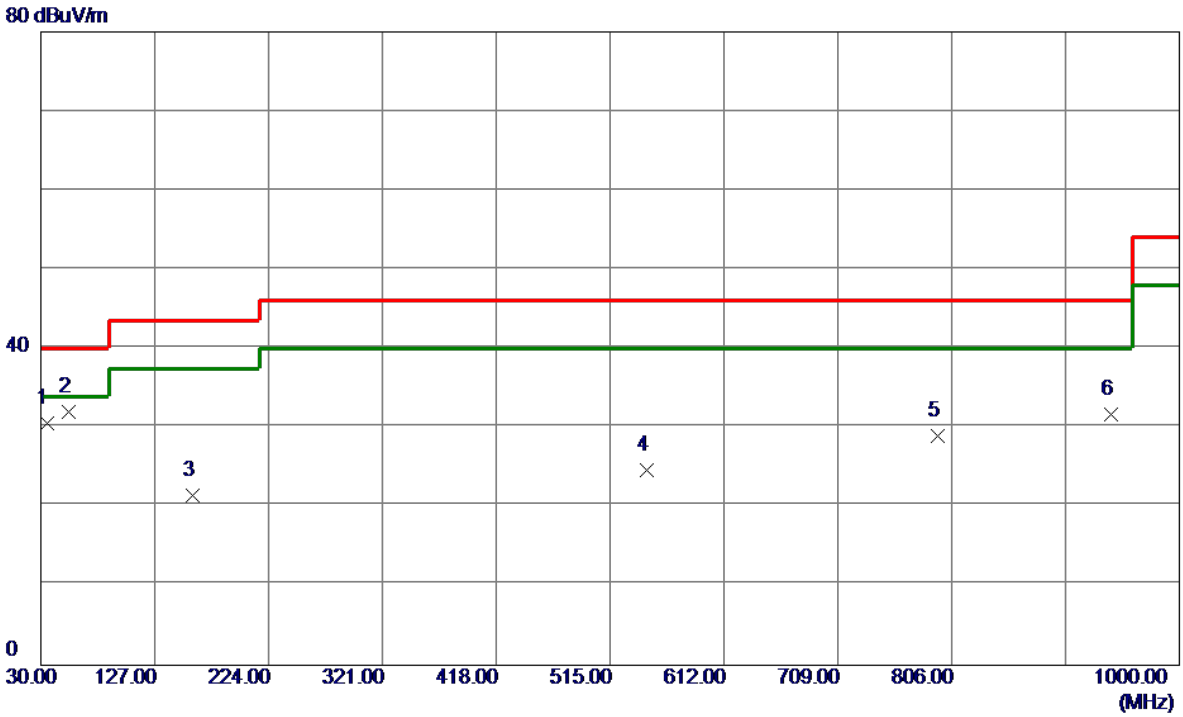
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	52.3100	36.25	-14.89	21.36	40.00	-18.64	Peak	
2	216.2400	37.09	-14.99	22.10	46.00	-23.90	Peak	
3	299.6600	34.18	-10.39	23.79	46.00	-22.21	Peak	
4	448.0700	31.69	-7.48	24.21	46.00	-21.79	Peak	
5	799.2100	29.77	-1.09	28.68	46.00	-17.32	Peak	
6 *	942.7700	29.99	1.12	31.11	46.00	-14.89	Peak	

Test Mode:	TX B Mode Channel 06

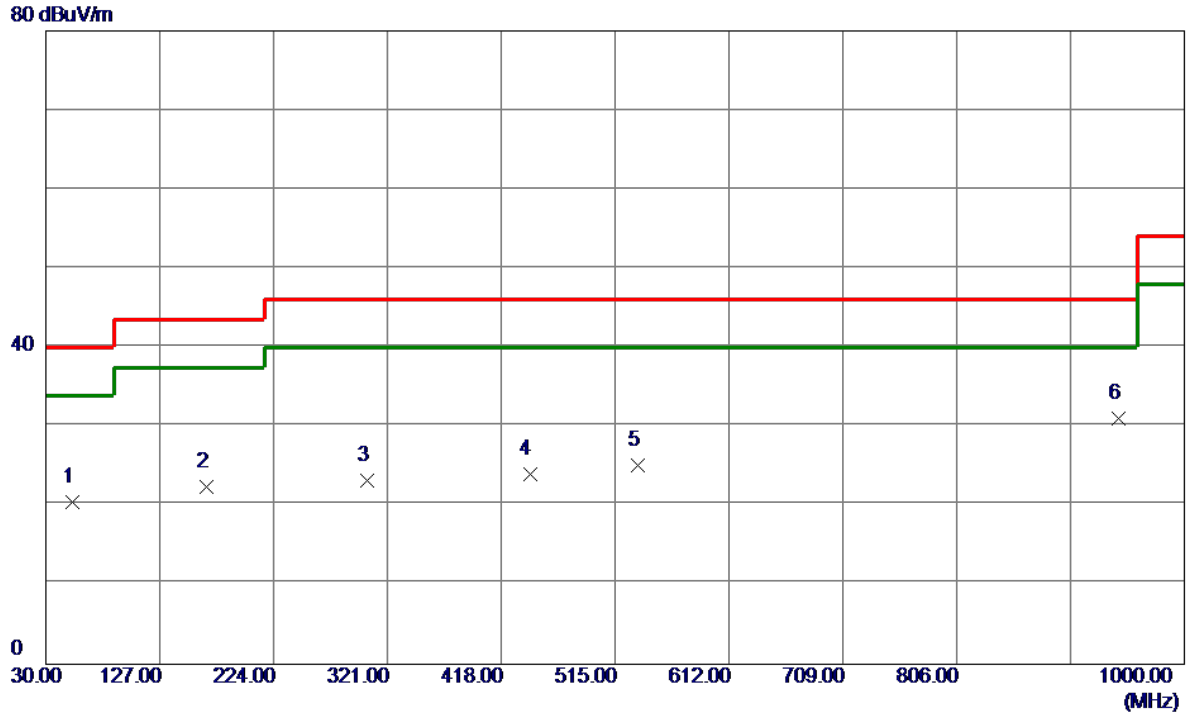
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	34.8500	45.51	-14.89	30.62	40.00	-9.38	Peak	
2 *	53.2800	46.99	-14.92	32.07	40.00	-7.93	Peak	
3	159.0100	32.14	-10.69	21.45	43.50	-22.05	Peak	
4	546.0400	30.39	-5.71	24.68	46.00	-21.32	Peak	
5	794.3600	30.34	-1.38	28.96	46.00	-17.04	Peak	
6	941.8000	30.55	1.08	31.63	46.00	-14.37	Peak	

Test Mode:	TX B Mode Channel 06

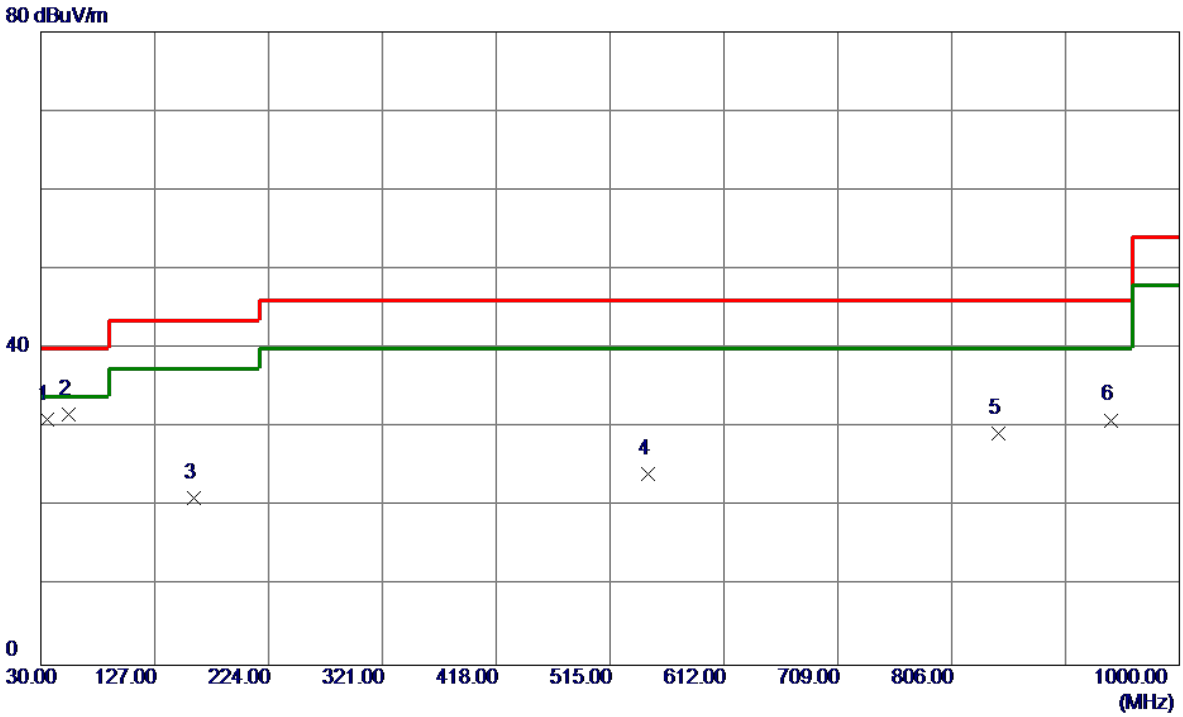
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	52.3100	35.44	-14.89	20.55	40.00	-19.45	Peak	
2	166.7700	33.44	-11.01	22.43	43.50	-21.07	Peak	
3	303.5400	33.69	-10.42	23.27	46.00	-22.73	Peak	
4	442.2500	31.76	-7.71	24.05	46.00	-21.95	Peak	
5	534.4000	31.58	-6.42	25.16	46.00	-20.84	Peak	
6 *	943.7400	29.84	1.16	31.00	46.00	-15.00	Peak	

Test Mode:	TX B Mode Channel 11

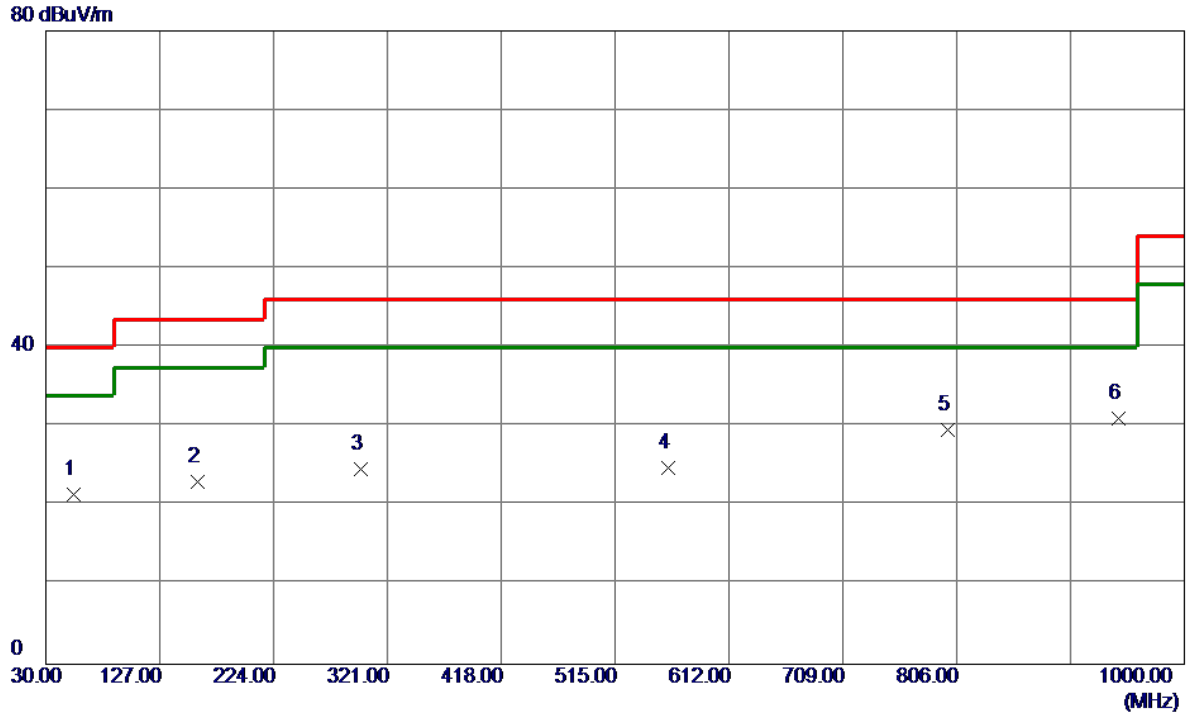
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	35.8200	46.08	-14.97	31.11	40.00	-8.89	Peak	
2 *	53.2800	46.61	-14.92	31.69	40.00	-8.31	Peak	
3	159.9800	31.75	-10.60	21.15	43.50	-22.35	Peak	
4	547.0100	29.85	-5.65	24.20	46.00	-21.80	Peak	
5	845.7700	30.97	-1.75	29.22	46.00	-16.78	Peak	
6	941.8000	29.88	1.08	30.96	46.00	-15.04	Peak	

Test Mode:	TX B Mode Channel 11

Horizontal

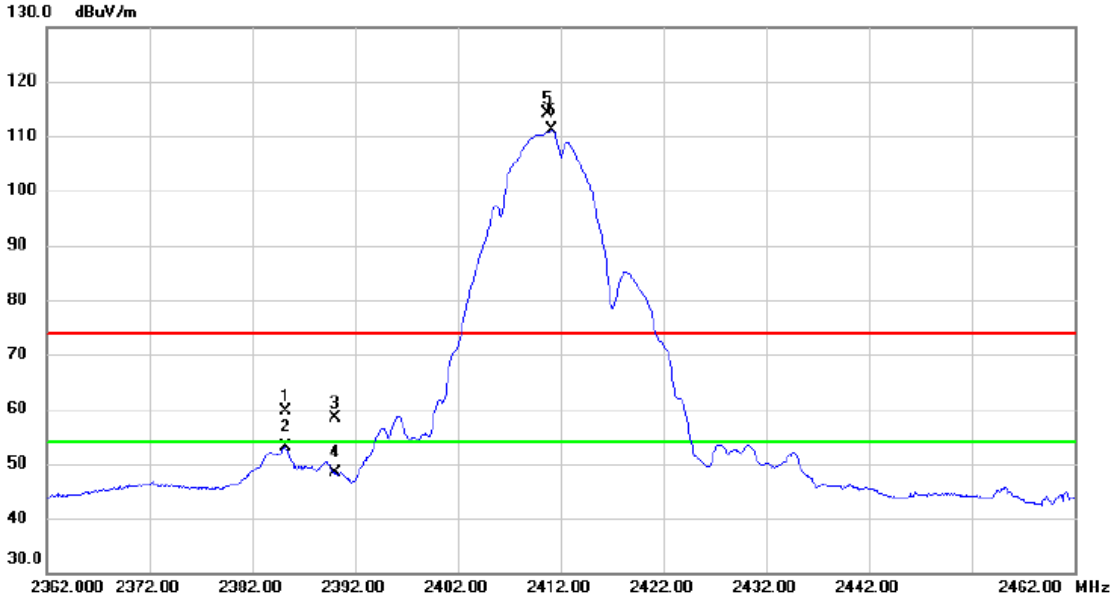


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	53.2800	36.37	-14.92	21.45	40.00	-18.55	Peak	
2	159.0100	33.76	-10.69	23.07	43.50	-20.43	Peak	
3	298.6900	35.09	-10.45	24.64	46.00	-21.36	Peak	
4	560.5900	30.42	-5.64	24.78	46.00	-21.22	Peak	
5	798.2400	30.77	-1.15	29.62	46.00	-16.38	Peak	
6 *	943.7400	29.89	1.16	31.05	46.00	-14.95	Peak	

APPENDIX D - RADIATED EMISSION (ABOVE 1000 MHZ)

Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2385.300	52.35	7.39	59.74	74.00	-14.26	peak	
2		2385.300	45.81	7.39	53.20	54.00	-0.80	AVG	
3		2390.000	50.93	7.38	58.31	74.00	-15.69	peak	
4		2390.000	40.91	7.38	48.29	54.00	-5.71	AVG	
5	X	2410.750	106.88	7.37	114.25	74.00	40.25	peak	No Limit
6	*	2411.200	103.75	7.37	111.12	54.00	57.12	AVG	No Limit

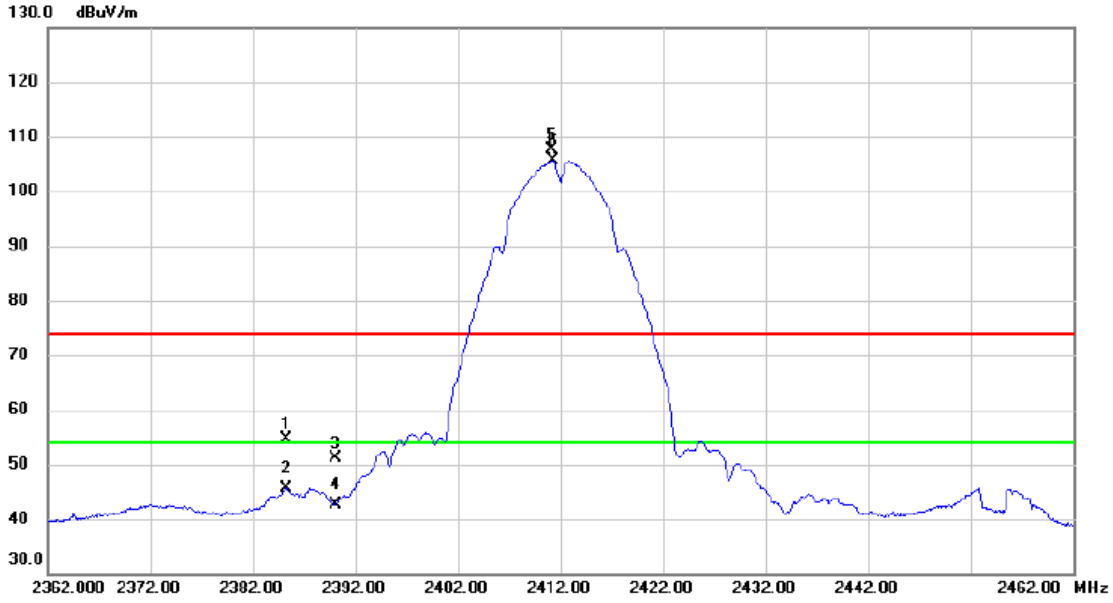
Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4823.9840	43.11	10.01	53.12	54.00	-0.88	AVG	
2	4824.0059	46.16	10.01	56.17	74.00	-17.83	Peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2385.300	48.03	6.62	54.65	74.00	-19.35	peak	
2		2385.300	38.97	6.62	45.59	54.00	-8.41	AVG	
3		2390.000	44.59	6.62	51.21	74.00	-22.79	peak	
4		2390.000	36.04	6.62	42.66	54.00	-11.34	AVG	
5	X	2411.200	101.02	6.62	107.64	74.00	33.64	peak	No Limit
6	*	2411.300	98.99	6.62	105.61	54.00	51.61	AVG	No Limit

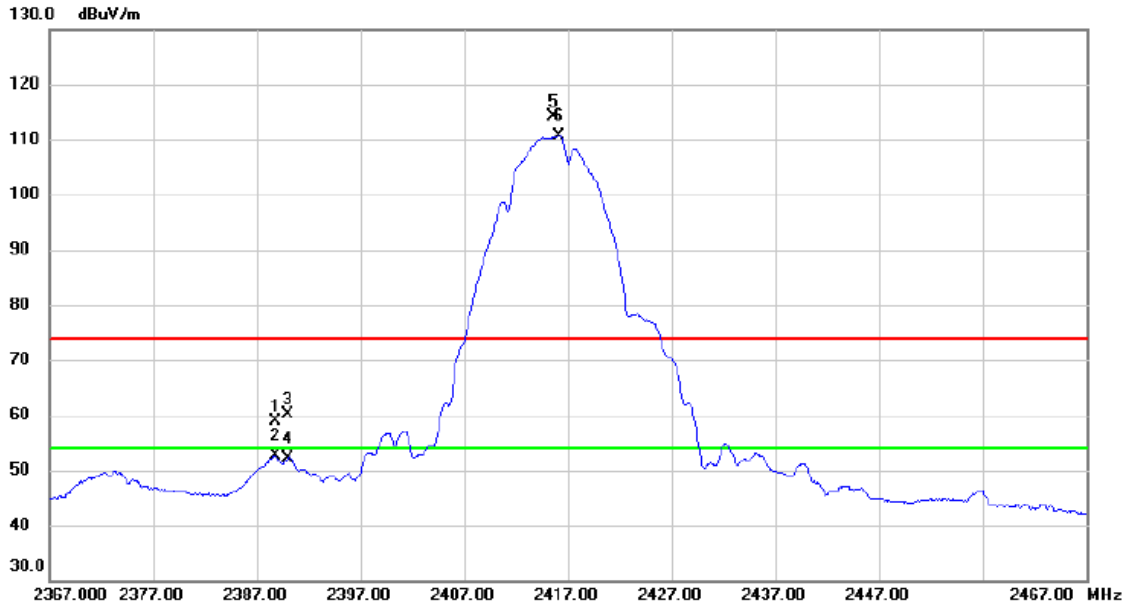
Orthogonal Axis	X
Test Mode:	TX B Mode 2412 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824.0090	41.06	10.01	51.07	54.00	-2.93	AVG	
2	4824.0330	44.65	10.01	54.66	74.00	-19.34	Peak	

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

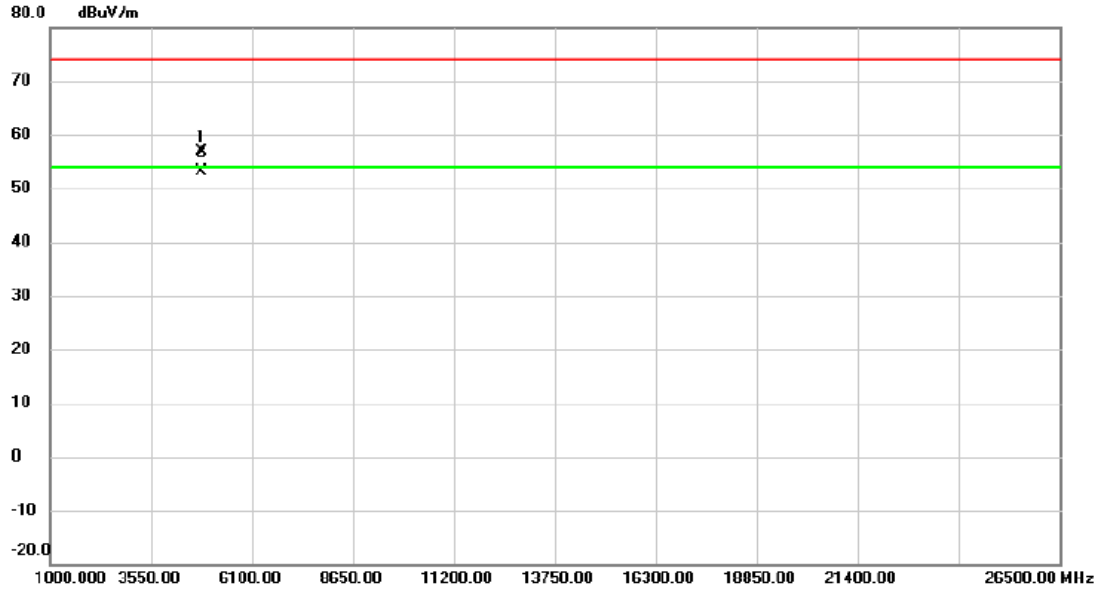
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2388.750	51.60	7.39	58.99	74.00	-15.01	peak	
2		2388.750	45.25	7.39	52.64	54.00	-1.36	AVG	
3		2390.000	52.63	7.38	60.01	74.00	-13.99	peak	
4		2390.000	44.77	7.38	52.15	54.00	-1.85	AVG	
5	X	2415.550	106.69	7.37	114.06	74.00	40.06	peak	No Limit
6	*	2416.200	103.33	7.37	110.70	54.00	56.70	AVG	No Limit

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

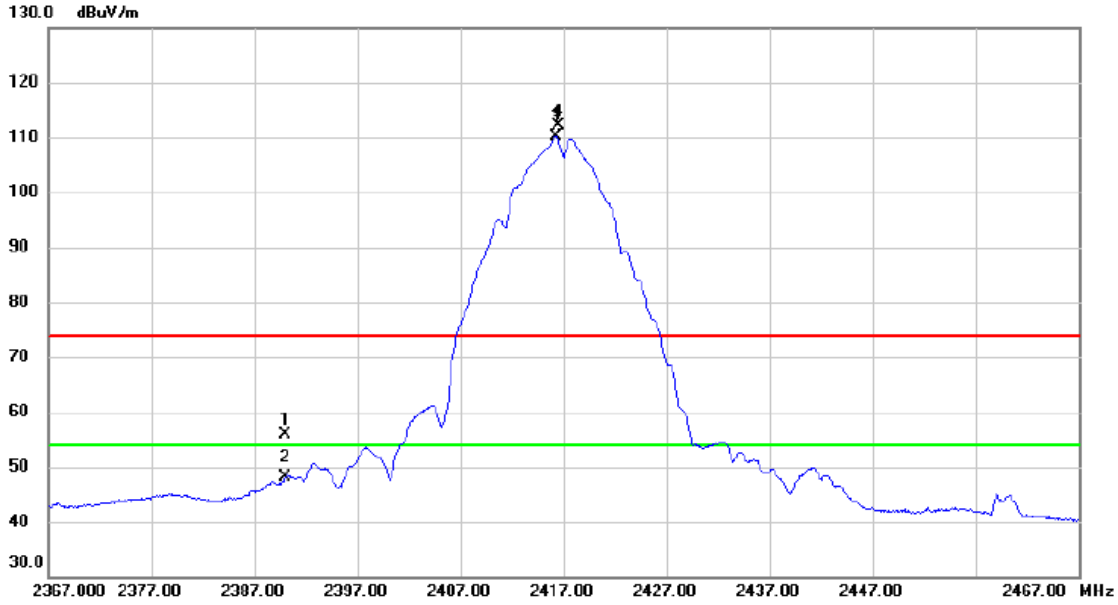
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4833.837	46.75	10.04	56.79	74.00	-17.21	peak	
2	*	4834.004	42.98	10.04	53.02	54.00	-0.98	AVG	

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

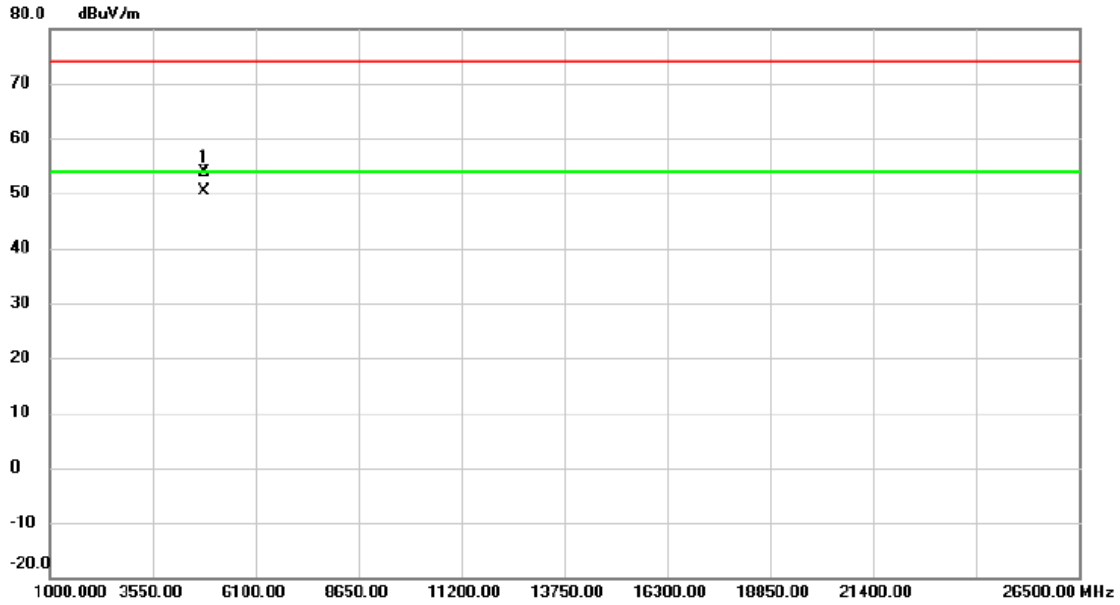
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	49.21	6.62	55.83	74.00	-18.17	peak	
2		2390.000	41.43	6.62	48.05	54.00	-5.95	AVG	
3	*	2416.300	103.52	6.62	110.14	54.00	56.14	AVG	No Limit
4	X	2416.600	105.52	6.62	112.14	74.00	38.14	peak	No Limit

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

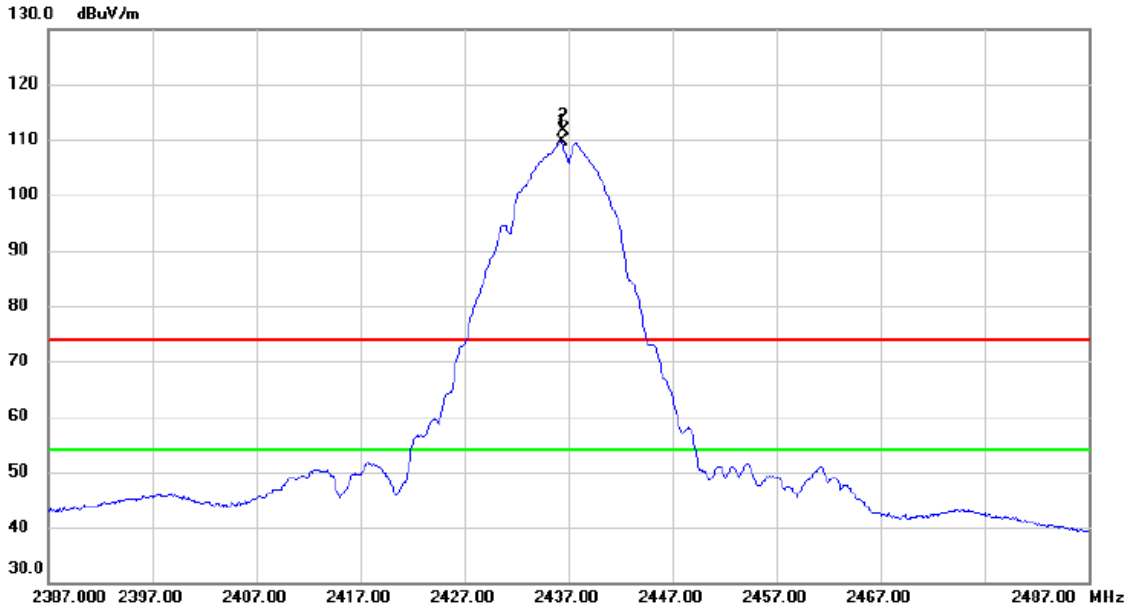
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4833.911	43.72	10.04	53.76	74.00	-20.24	peak	
2	*	4833.979	40.26	10.04	50.30	54.00	-3.70	AVG	

Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2436.400	103.04	6.62	109.66	54.00	55.66	AVG	No Limit
2	X	2436.500	105.13	6.62	111.75	74.00	37.75	peak	No Limit

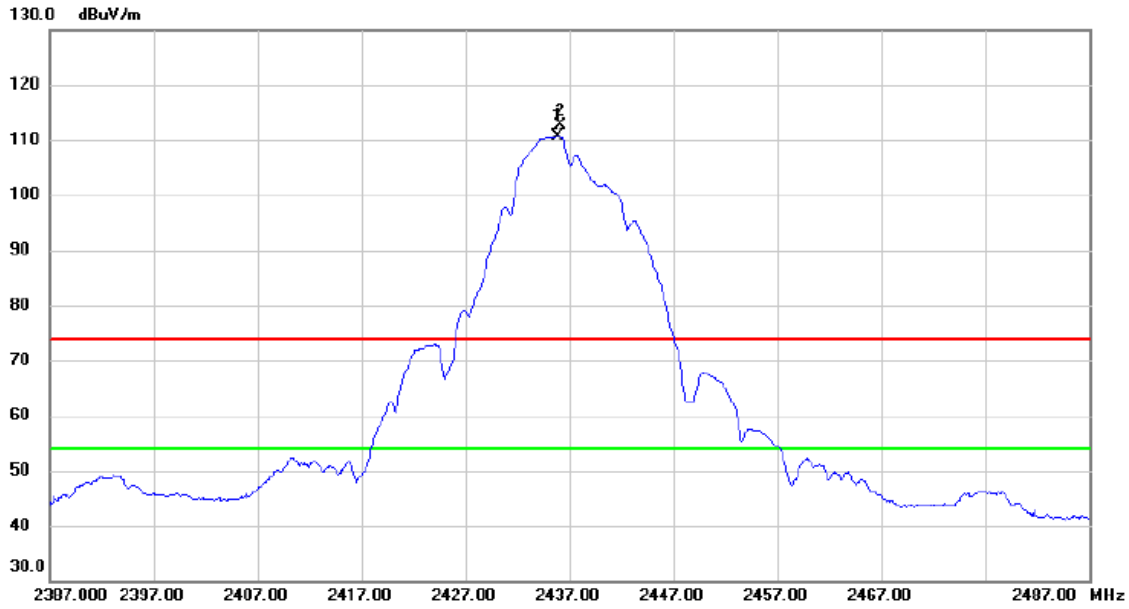
Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4873.9640	43.16	10.15	53.31	54.00	-0.69	AVG	
2	4873.9980	46.00	10.15	56.15	74.00	-17.85	Peak	

Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2435.900	104.06	6.62	110.68	54.00	56.68	AVG	No Limit
2	X	2436.200	106.07	6.62	112.69	74.00	38.69	peak	No Limit

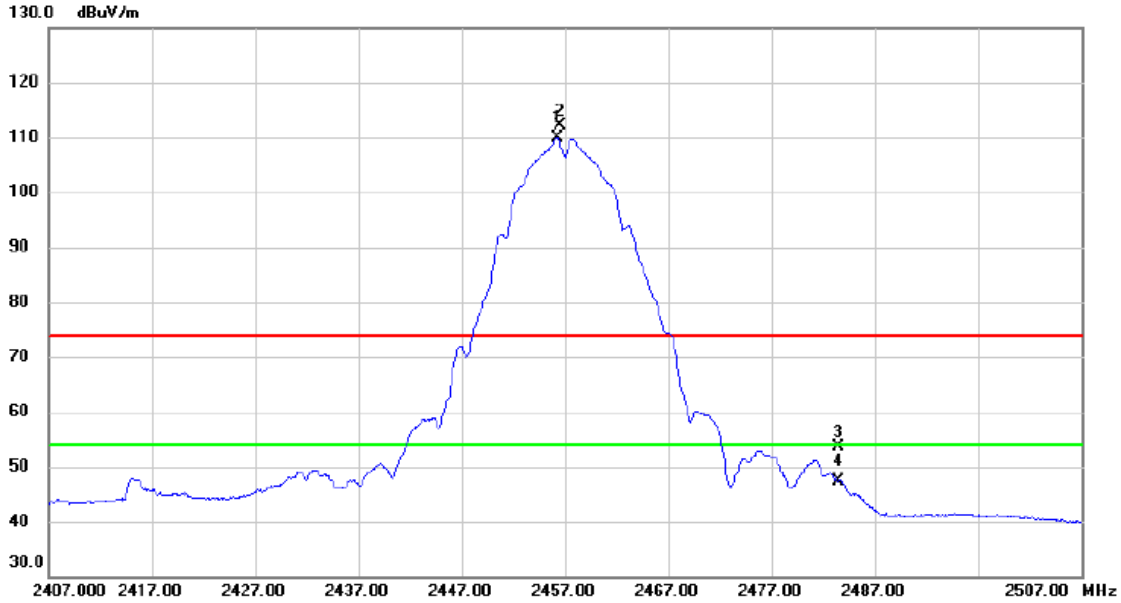
Orthogonal Axis	X
Test Mode:	TX B Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4873.5320	44.32	10.15	54.47	74.00	-19.53	Peak	
2 *	4874.4870	41.25	10.15	51.40	54.00	-2.60	AVG	

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

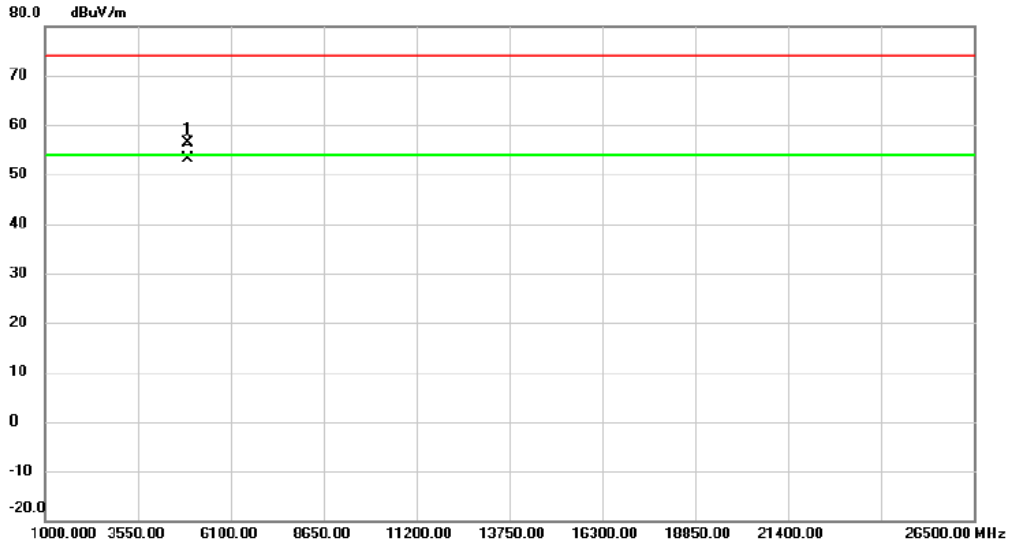
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2456.300	103.31	6.62	109.93	54.00	55.93	AVG	No Limit
2	X	2456.500	105.63	6.62	112.25	74.00	38.25	peak	No Limit
3		2483.500	46.92	6.61	53.53	74.00	-20.47	peak	
4		2483.500	40.83	6.61	47.44	54.00	-6.56	AVG	

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

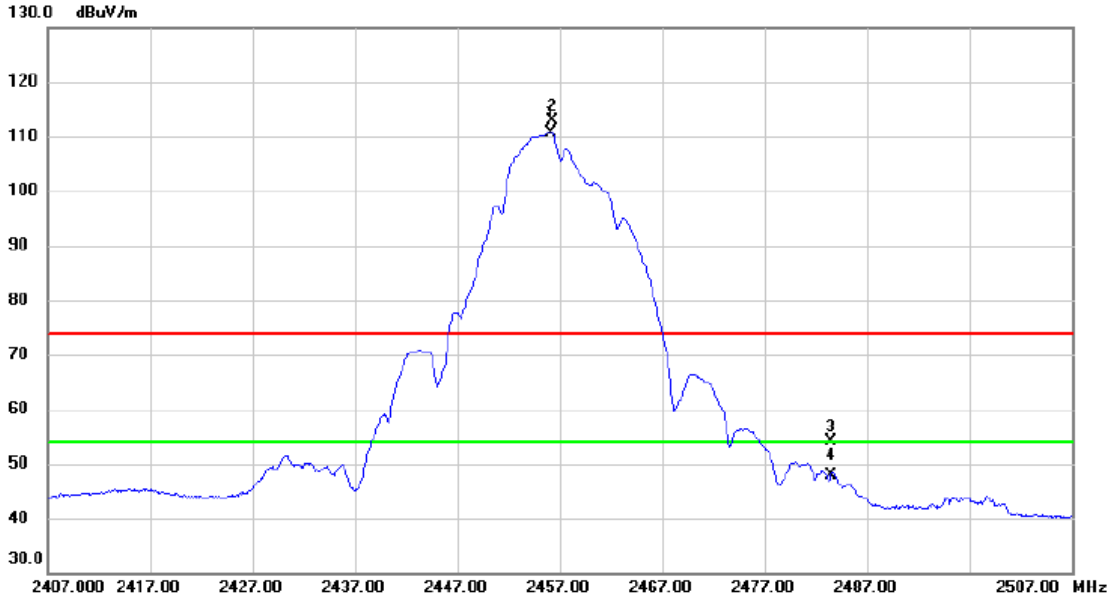
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4913.937	46.09	10.26	56.35	74.00	-17.65	peak	
2	*	4913.965	42.97	10.26	53.23	54.00	-0.77	AVG	

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

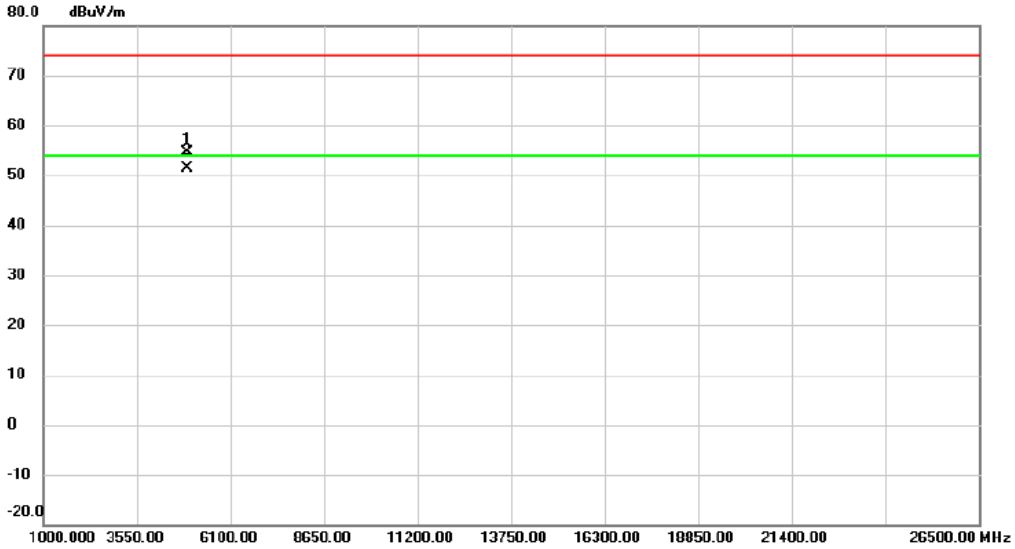
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2456.100	104.09	6.61	110.70	54.00	56.70	AVG	No Limit
2	X	2456.300	106.35	6.62	112.97	74.00	38.97	peak	No Limit
3		2483.500	47.47	6.61	54.08	74.00	-19.92	peak	
4		2483.500	41.16	6.61	47.77	54.00	-6.23	AVG	

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

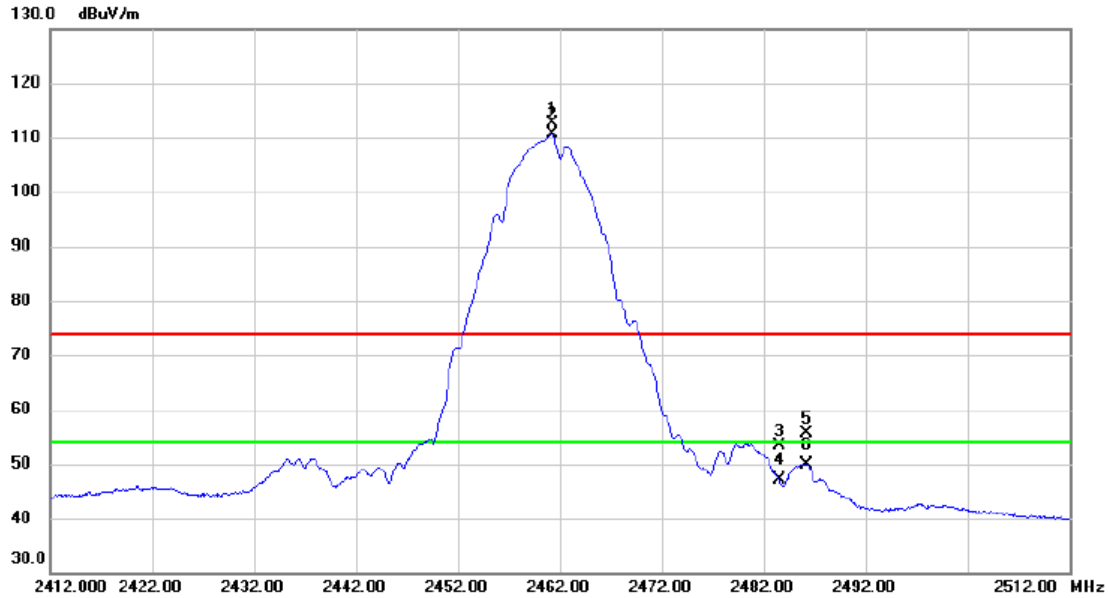
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4913.969	44.48	10.26	54.74	74.00	-19.26	peak	
2	*	4913.975	41.02	10.26	51.28	54.00	-2.72	AVG	

Orthogonal Axis	X
Test Mode:	TX B Mode 2462 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	2461.300	106.14	6.61	112.75	74.00	38.75	peak	No Limit
2	*	2461.300	103.95	6.61	110.56	54.00	56.56	AVG	No Limit
3		2483.500	46.81	6.61	53.42	74.00	-20.58	peak	
4		2483.500	40.60	6.61	47.21	54.00	-6.79	AVG	
5		2486.200	49.06	6.61	55.67	74.00	-18.33	peak	
6		2486.200	43.27	6.61	49.88	54.00	-4.12	AVG	

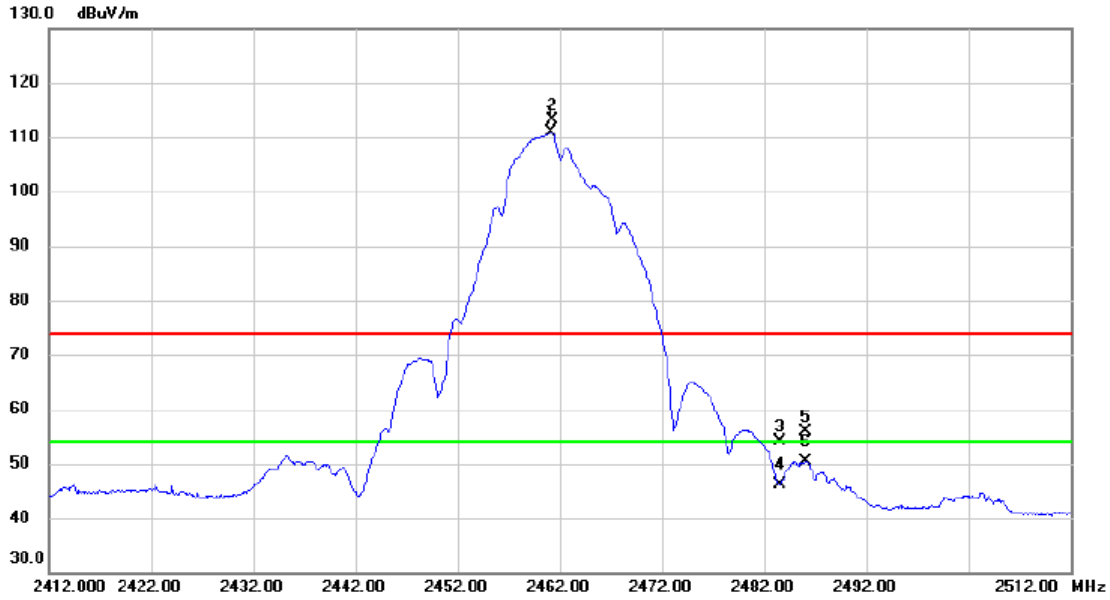
Orthogonal Axis	X
Test Mode:	TX B Mode 2462 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4923.8680	44.97	10.28	55.25	74.00	-18.75	Peak	
2 *	4923.9970	42.70	10.28	52.98	54.00	-1.02	AVG	

Orthogonal Axis	X
Test Mode:	TX B Mode 2462 MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2461.100	104.21	6.61	110.82	54.00	56.82	AVG	No Limit
2	X	2461.300	106.48	6.61	113.09	74.00	39.09	peak	No Limit
3		2483.500	47.51	6.61	54.12	74.00	-19.88	peak	
4		2483.500	39.46	6.61	46.07	54.00	-7.93	AVG	
5		2486.100	49.34	6.61	55.95	74.00	-18.05	peak	
6		2486.100	43.80	6.61	50.41	54.00	-3.59	AVG	

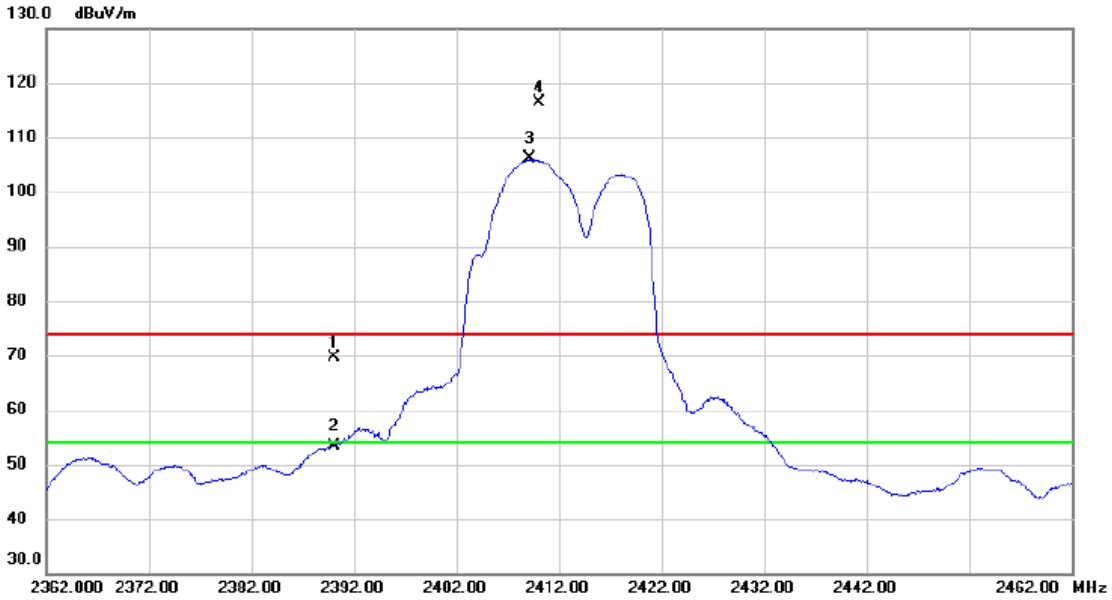
Orthogonal Axis	X
Test Mode:	TX B Mode 2462 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4923.9420	43.80	10.28	54.08	74.00	-19.92	Peak	
2 *	4924.0240	40.10	10.28	50.38	54.00	-3.62	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2412 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	62.14	7.38	69.52	74.00	-4.48	peak	
2		2390.000	46.00	7.38	53.38	54.00	-0.62	AVG	
3	*	2409.100	98.77	7.38	106.15	54.00	52.15	AVG	No Limit
4	X	2410.100	109.04	7.38	116.42	74.00	42.42	peak	No Limit

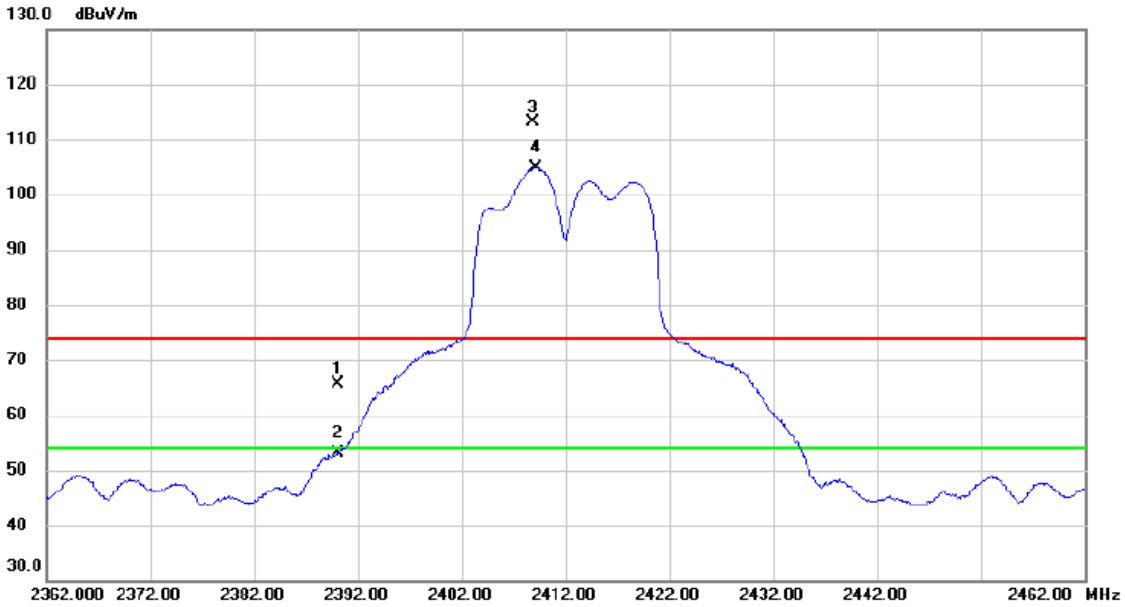
Orthogonal Axis	X
Test Mode:	TX G Mode 2412 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824.6200	34.21	10.02	44.23	54.00	-9.77	AVG	
2	4825.1000	44.64	10.02	54.66	74.00	-19.34	Peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2412 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	59.01	6.62	65.63	74.00	-8.37	peak	
2		2390.000	46.46	6.62	53.08	54.00	-0.92	AVG	
3	X	2408.900	106.47	6.62	113.09	74.00	39.09	peak	No Limit
4	*	2409.200	98.21	6.62	104.83	54.00	50.83	AVG	No Limit

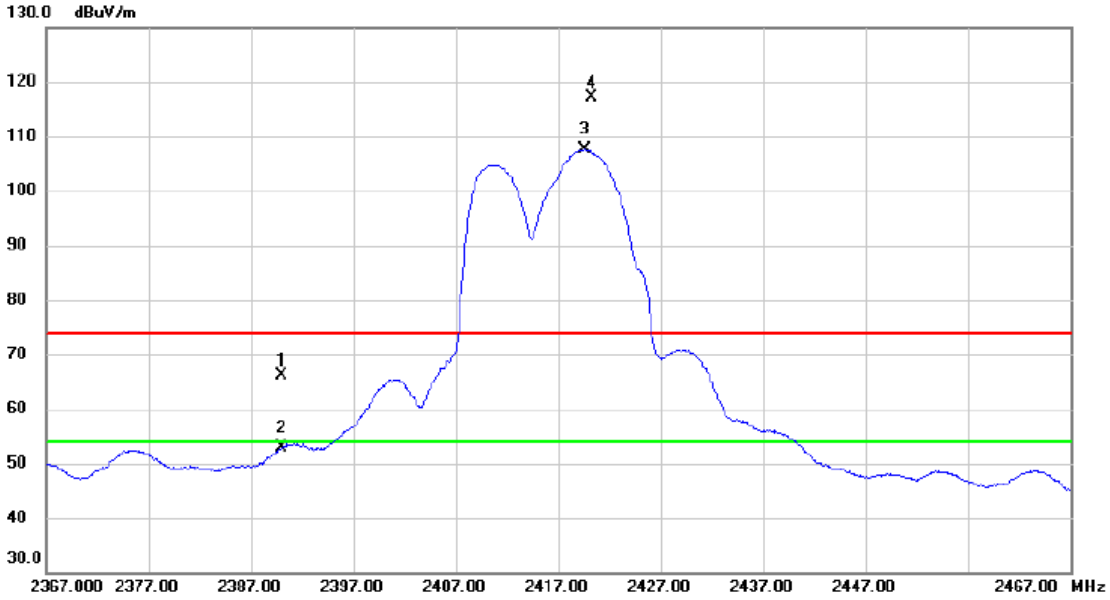
Orthogonal Axis	X
Test Mode:	TX G Mode 2412 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4828.1200	29.41	10.03	39.44	54.00	-14.56	AVG	
2	4828.6800	41.49	10.03	51.52	74.00	-22.48	Peak	

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

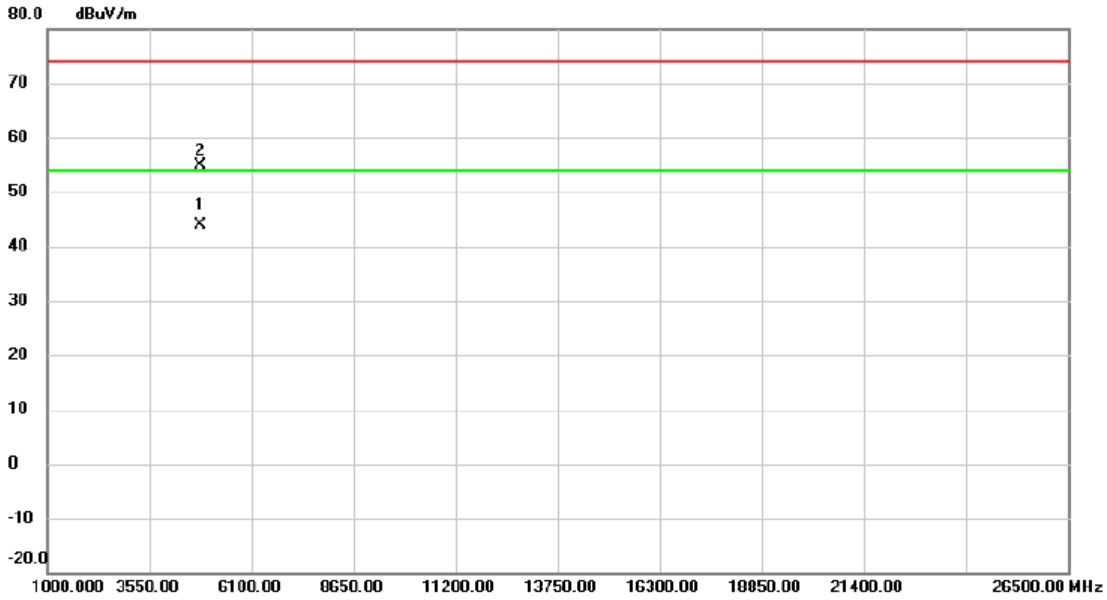
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	58.65	7.38	66.03	74.00	-7.97	peak	
2		2390.000	45.45	7.38	52.83	54.00	-1.17	AVG	
3	*	2419.650	100.14	7.37	107.51	54.00	53.51	AVG	No Limit
4	X	2420.250	109.76	7.37	117.13	74.00	43.13	peak	No Limit

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

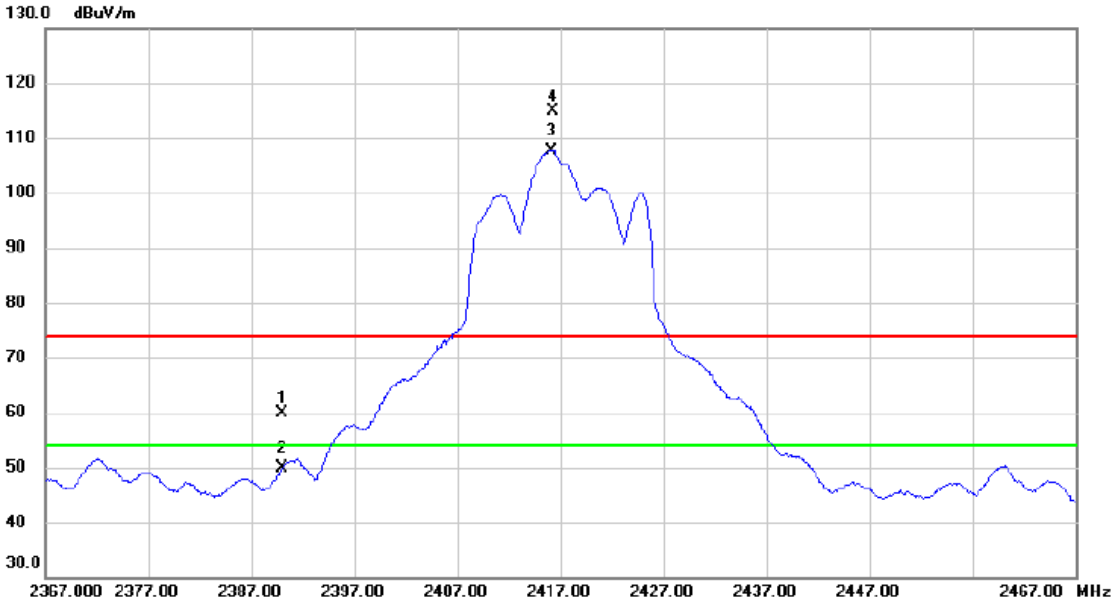
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4834.640	33.80	10.04	43.84	54.00	-10.16	AVG	
2		4834.820	44.87	10.04	54.91	74.00	-19.09	peak	

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

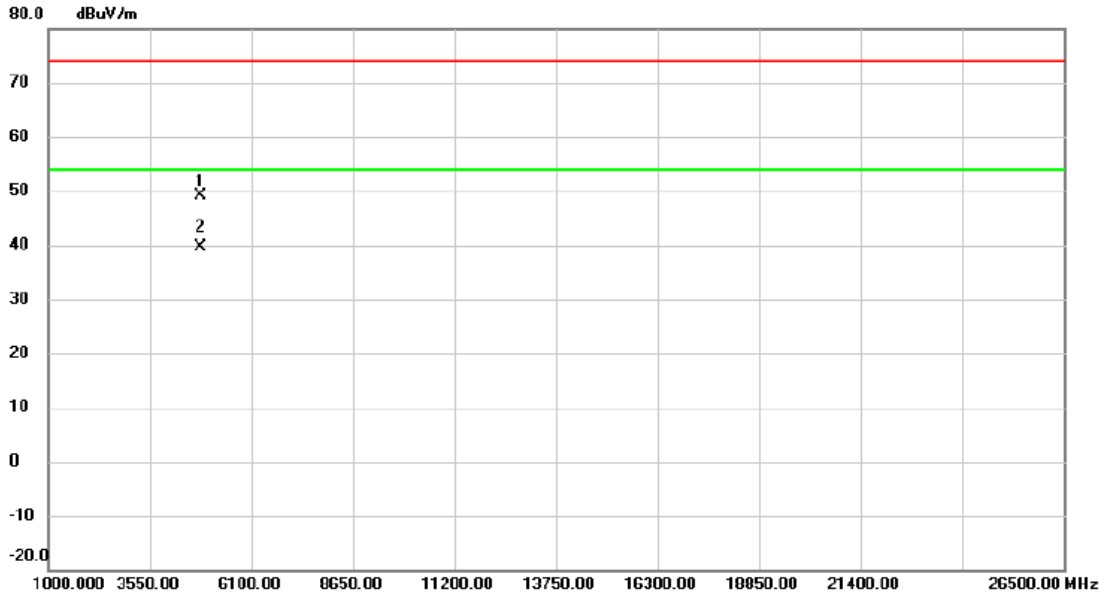
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	53.30	6.62	59.92	74.00	-14.08	peak	
2		2390.000	43.33	6.62	49.95	54.00	-4.05	AVG	
3	*	2416.200	101.03	6.62	107.65	54.00	53.65	AVG	No Limit
4	X	2416.300	108.18	6.62	114.80	74.00	40.80	peak	No Limit

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

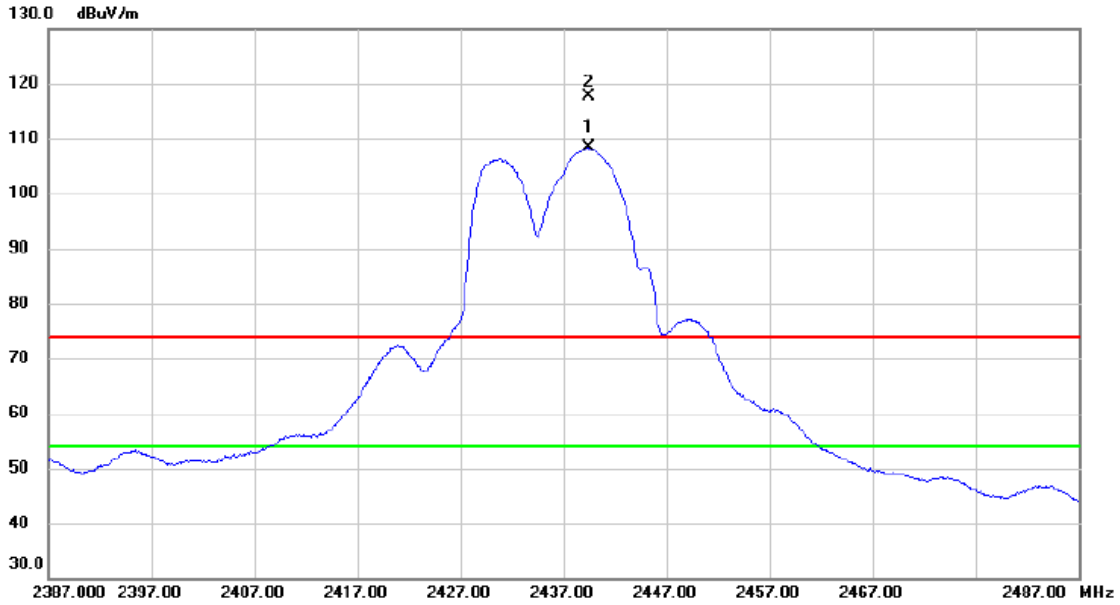
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4833.360	39.11	10.04	49.15	74.00	-24.85	peak	
2	*	4837.600	29.53	10.05	39.58	54.00	-14.42	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2439.400	100.98	7.34	108.32	54.00	54.32	AVG	No Limit
2	X	2439.500	110.21	7.34	117.55	74.00	43.55	peak	No Limit

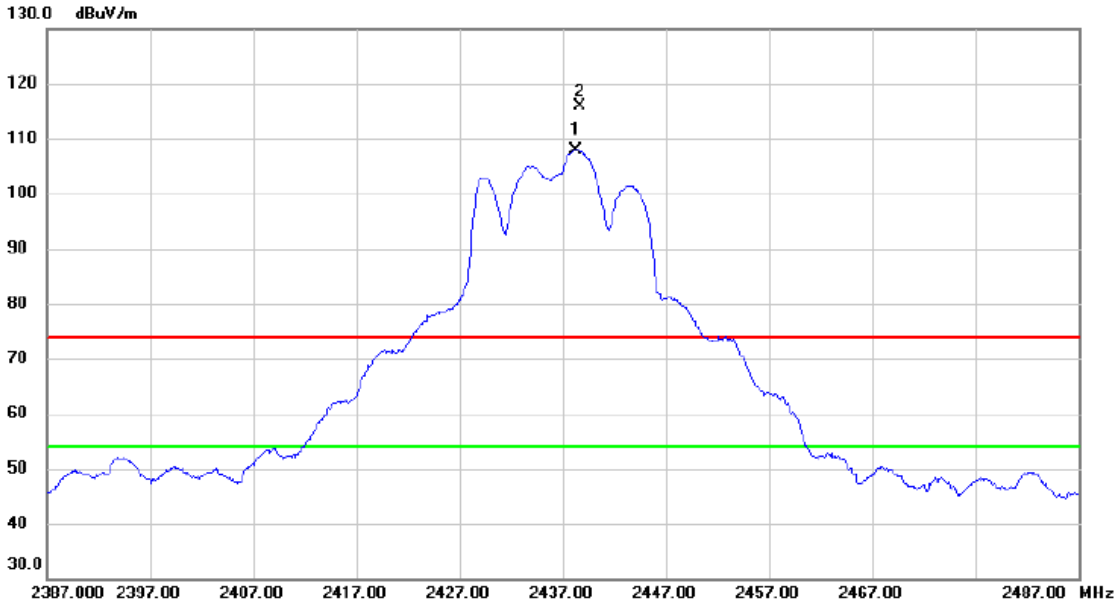
Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4873.7200	33.62	10.15	43.77	54.00	-10.23	AVG	
2	4874.2400	44.07	10.15	54.22	74.00	-19.78	Peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2438.300	101.28	6.62	107.90	54.00	53.90	AVG	No Limit
2	X	2438.700	109.17	6.62	115.79	74.00	41.79	peak	No Limit

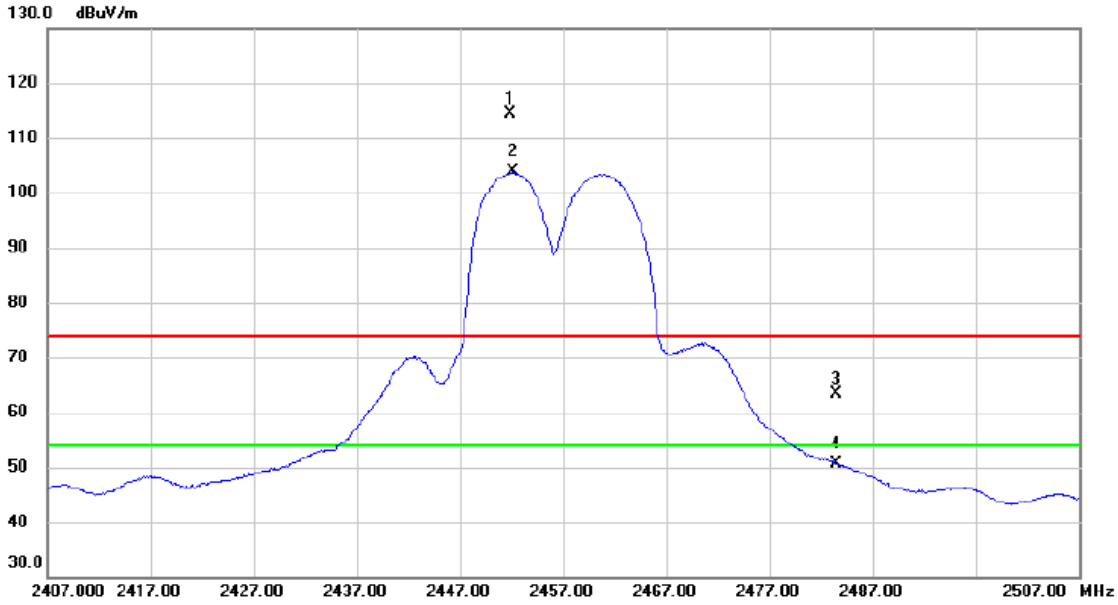
Orthogonal Axis	X
Test Mode:	TX G Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4876.5800	41.87	10.16	52.03	74.00	-21.97	Peak	
2 *	4877.1400	30.54	10.16	40.70	54.00	-13.30	AVG	

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

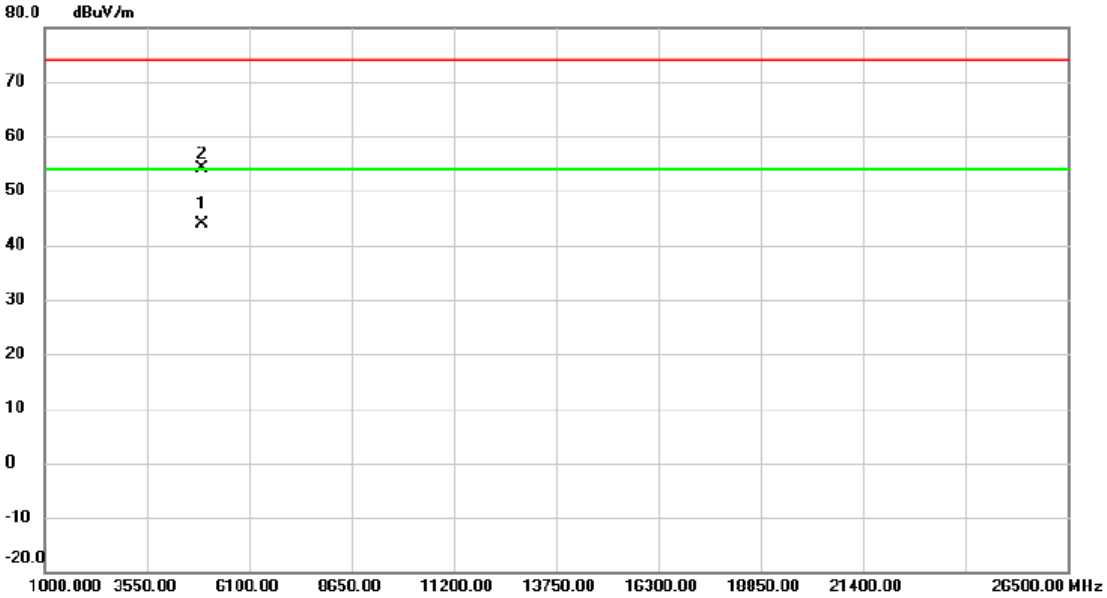
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2451.850	107.04	7.34	114.38	74.00	40.38	peak	No Limit
2	*	2452.150	96.43	7.34	103.77	54.00	49.77	AVG	No Limit
3		2483.500	56.05	7.32	63.37	74.00	-10.63	peak	
4		2483.500	43.28	7.32	50.60	54.00	-3.40	AVG	

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

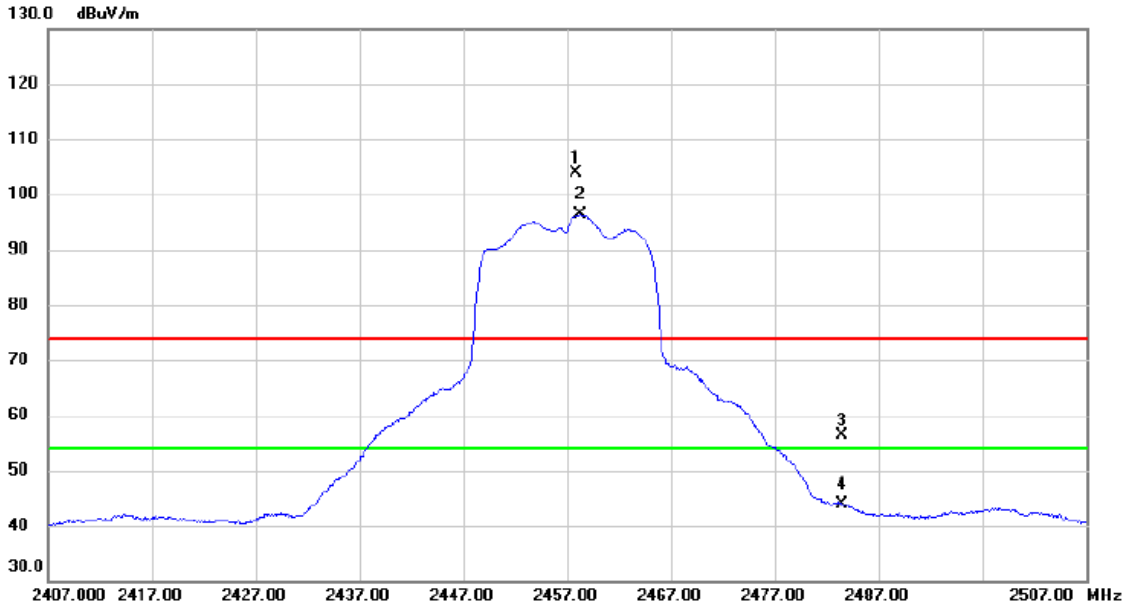
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4914.450	33.53	10.26	43.79	54.00	-10.21	AVG	
2		4914.690	43.77	10.26	54.03	74.00	-19.97	peak	

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

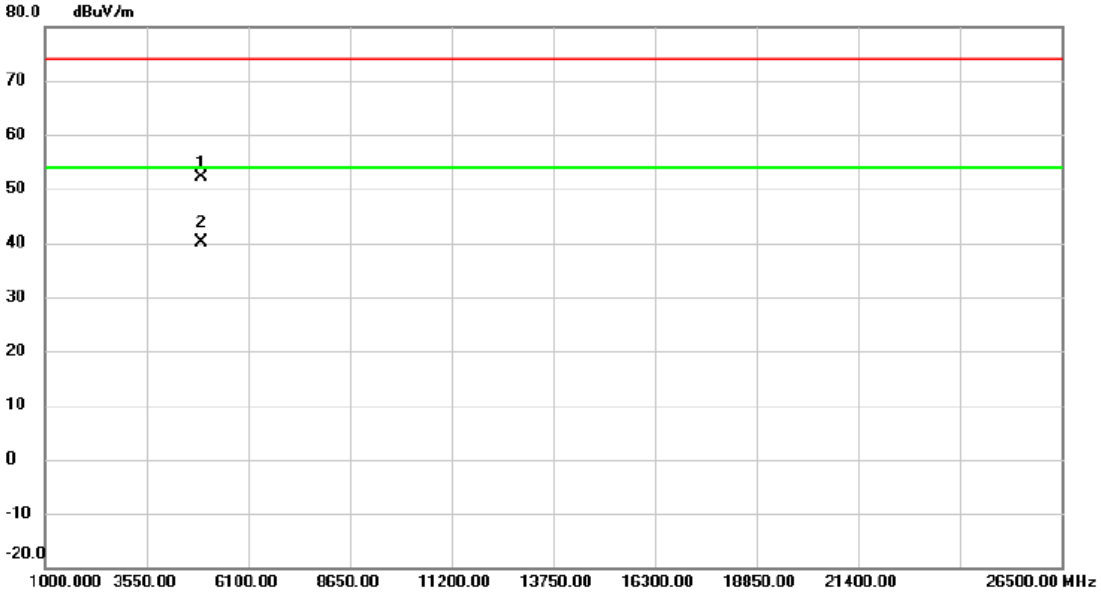
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2457.900	97.28	6.62	103.90	74.00	29.90	peak	No Limit
2	*	2458.300	89.64	6.62	96.26	54.00	42.26	AVG	No Limit
3		2483.500	49.69	6.61	56.30	74.00	-17.70	peak	
4		2483.500	37.29	6.61	43.90	54.00	-10.10	AVG	

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

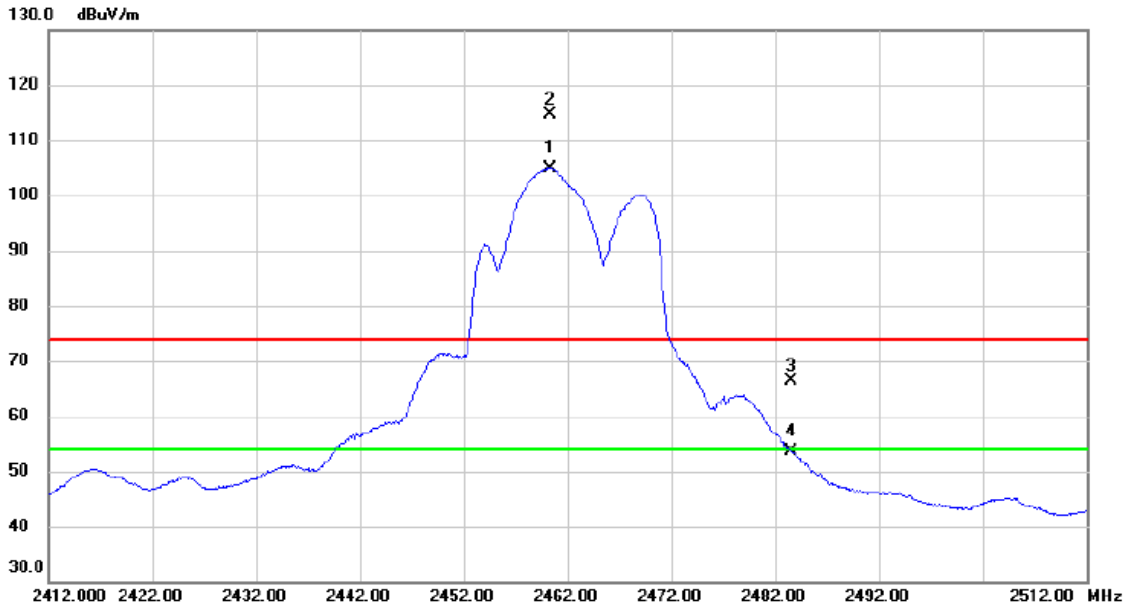
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4915.830	41.92	10.26	52.18	74.00	-21.82	peak	
2	*	4916.370	29.94	10.26	40.20	54.00	-13.80	AVG	

Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2460.300	97.50	7.34	104.84	54.00	50.84	AVG	No Limit
2	X	2460.350	107.22	7.34	114.56	74.00	40.56	peak	No Limit
3		2483.500	59.15	7.32	66.47	74.00	-7.53	peak	
4		2483.500	46.30	7.32	53.62	54.00	-0.38	AVG	

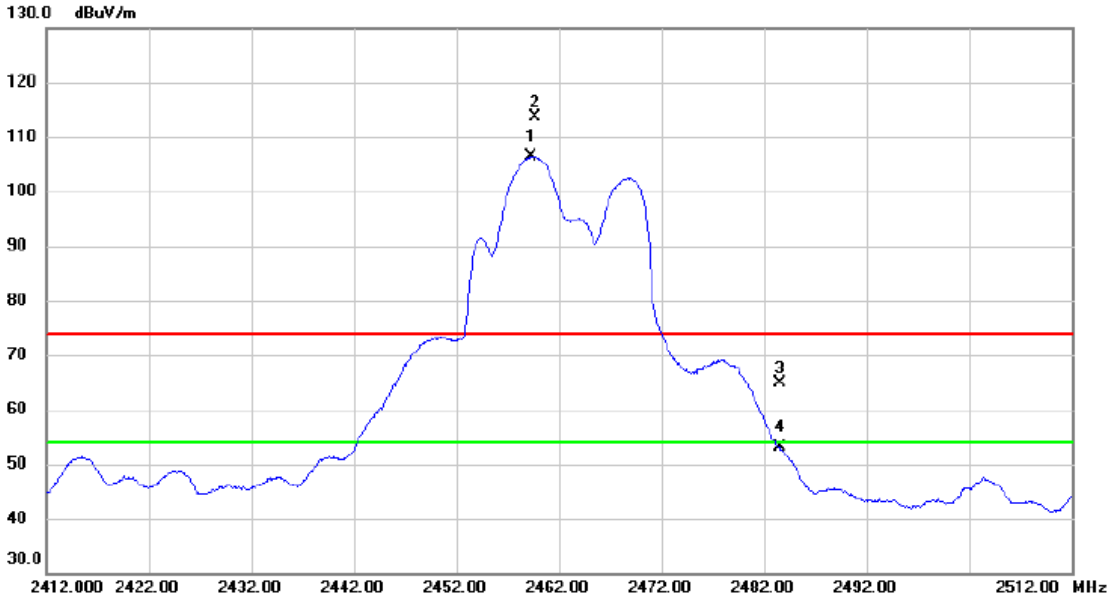
Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4924.2400	30.96	10.29	41.25	54.00	-12.75	AVG	
2	4924.6400	42.06	10.29	52.35	74.00	-21.65	Peak	

Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2459.300	99.86	6.62	106.48	54.00	52.48	AVG	No Limit
2	X	2459.700	107.05	6.62	113.67	74.00	39.67	peak	No Limit
3		2483.500	58.20	6.61	64.81	74.00	-9.19	peak	
4		2483.500	46.40	6.61	53.01	54.00	-0.99	AVG	

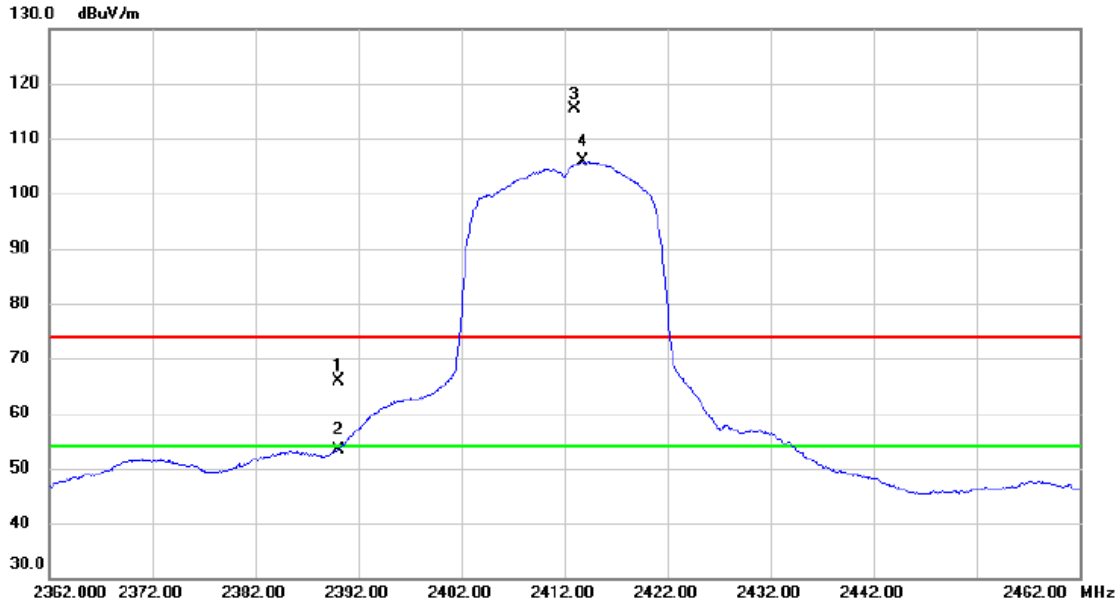
Orthogonal Axis	X
Test Mode:	TX G Mode 2462 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4923.2000	29.47	10.28	39.75	54.00	-14.25	AVG	
2	4923.7799	39.67	10.28	49.95	74.00	-24.05	Peak	

Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2412 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	58.58	7.38	65.96	74.00	-8.04	peak	
2		2390.000	46.10	7.38	53.48	54.00	-0.52	AVG	
3	X	2412.950	108.05	7.37	115.42	74.00	41.42	peak	No Limit
4	*	2413.750	98.44	7.37	105.81	54.00	51.81	AVG	No Limit

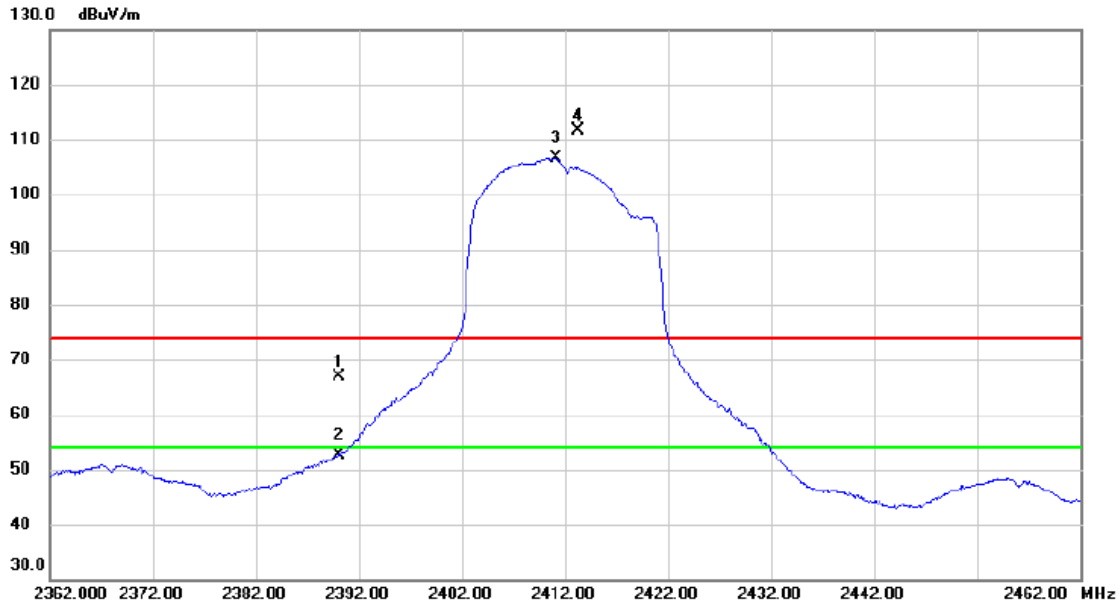
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2412 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4822.7200	33.76	10.01	43.77	54.00	-10.23	AVG	
2	4822.4000	43.77	10.01	53.78	74.00	-20.22	Peak	

Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2412 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	60.38	6.62	67.00	74.00	-7.00	peak	
2		2390.000	46.07	6.62	52.69	54.00	-1.31	AVG	
3	*	2411.100	100.08	6.61	106.69	54.00	52.69	AVG	No Limit
4	X	2413.300	105.11	6.62	111.73	74.00	37.73	peak	No Limit

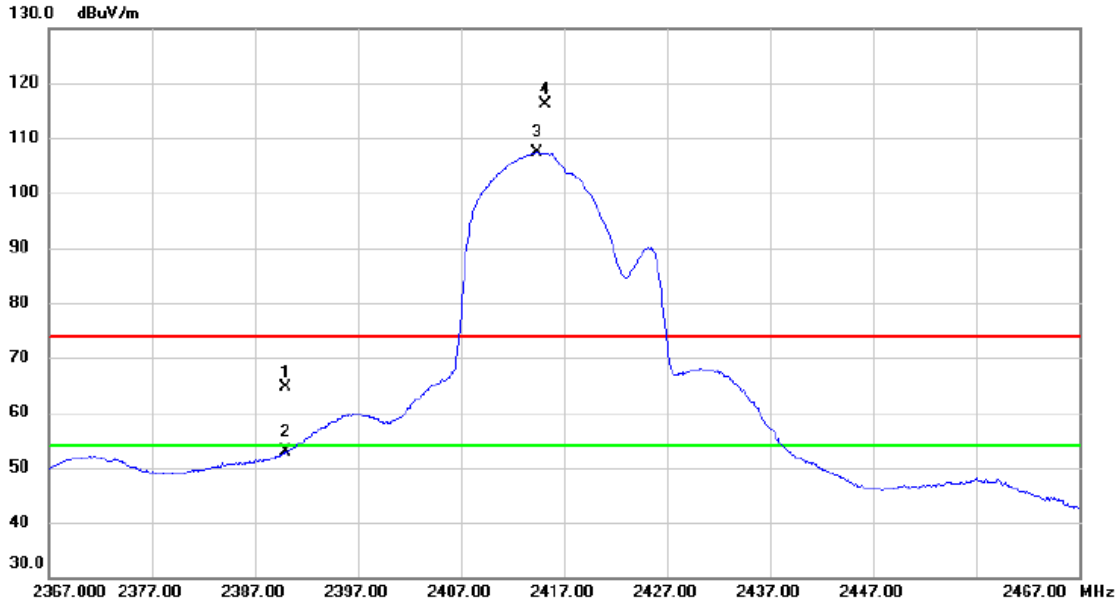
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2412 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4829.3200	28.08	10.03	38.11	54.00	-15.89	AVG	
2	4829.8000	37.93	10.03	47.96	74.00	-26.04	Peak	

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

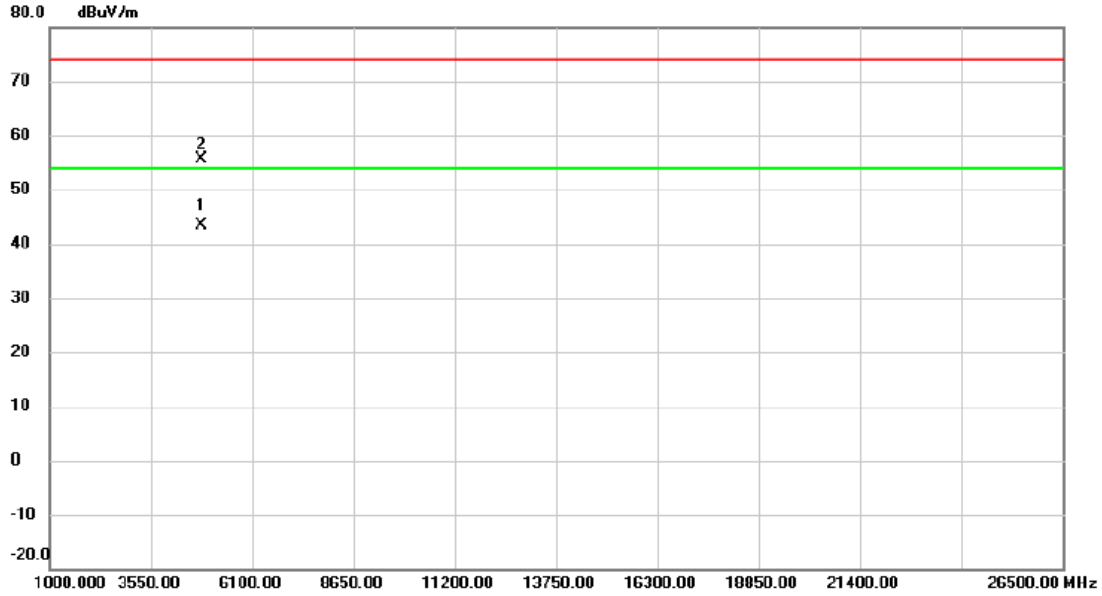
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	57.16	7.38	64.54	74.00	-9.46	peak	
2		2390.000	45.45	7.38	52.83	54.00	-1.17	AVG	
3	*	2414.450	99.93	7.37	107.30	54.00	53.30	AVG	No Limit
4	X	2415.250	108.64	7.37	116.01	74.00	42.01	peak	No Limit

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

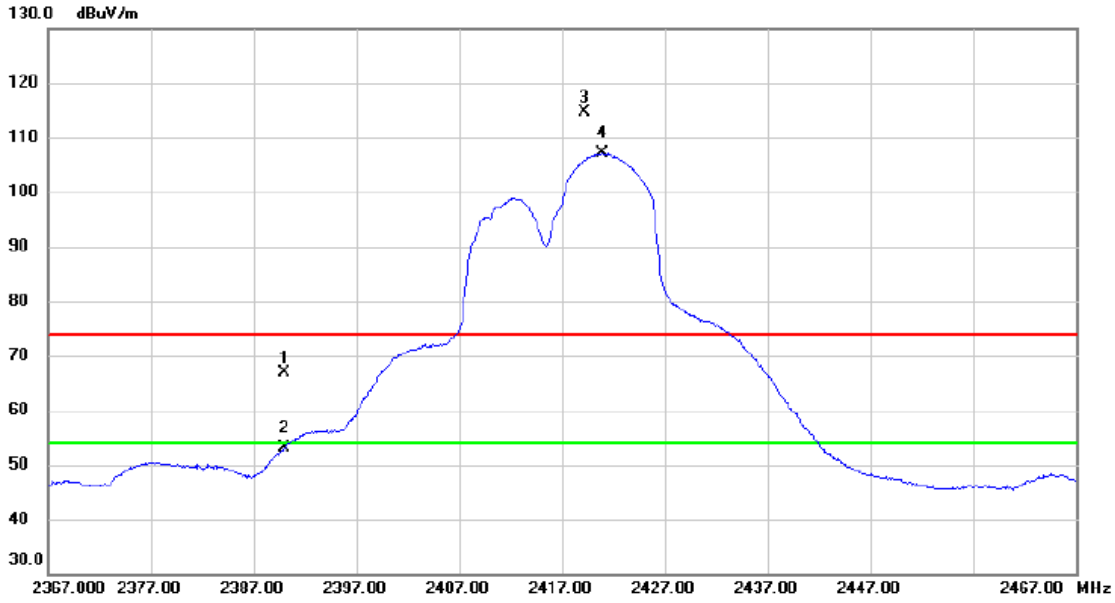
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4834.700	33.23	10.04	43.27	54.00	-10.73	AVG	
2		4834.880	45.65	10.04	55.69	74.00	-18.31	peak	

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

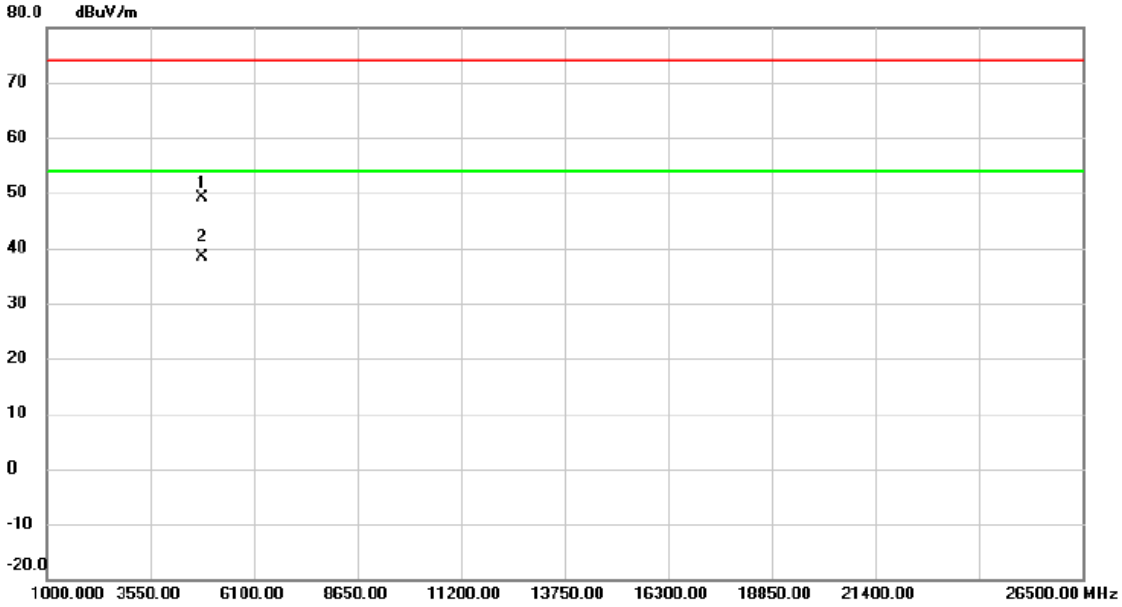
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	60.19	6.62	66.81	74.00	-7.19	peak	
2		2390.000	46.59	6.62	53.21	54.00	-0.79	AVG	
3	X	2419.200	108.04	6.62	114.66	74.00	40.66	peak	No Limit
4	*	2420.900	100.46	6.62	107.08	54.00	53.08	AVG	No Limit

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

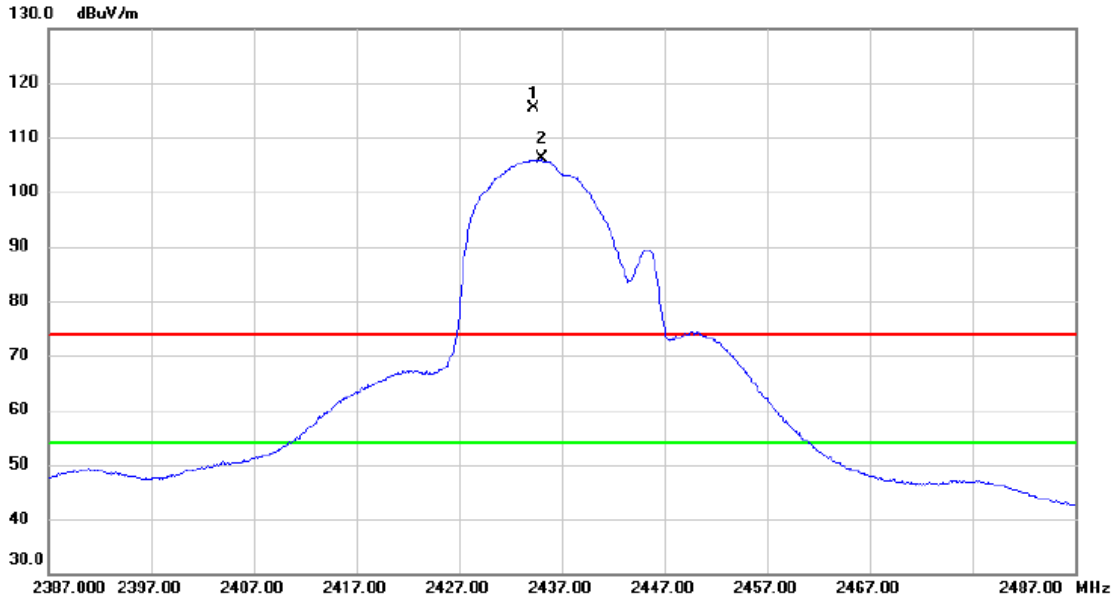
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4837.860	39.02	10.05	49.07	74.00	-24.93	peak	
2	*	4839.140	28.40	10.05	38.45	54.00	-15.55	AVG	

Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2437 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	2434.300	108.14	7.35	115.49	74.00	41.49	peak	No Limit
2	*	2435.050	98.69	7.35	106.04	54.00	52.04	AVG	No Limit

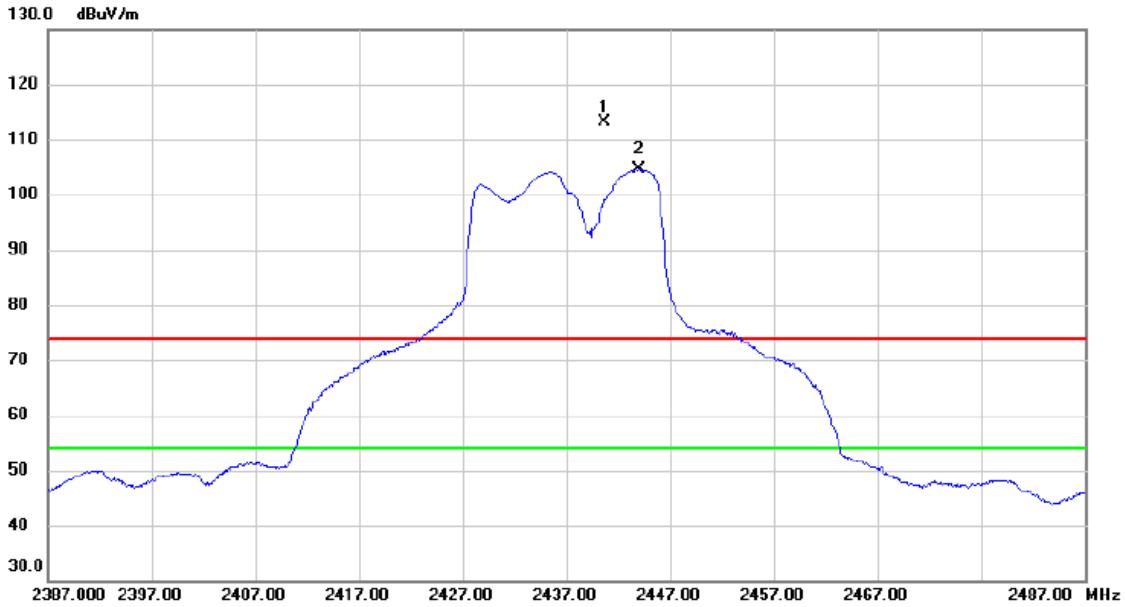
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4874.7599	33.42	10.15	43.57	54.00	-10.43	AVG	
2	4876.7000	44.02	10.16	54.18	74.00	-19.82	Peak	

Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2437 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	2440.700	106.62	6.61	113.23	74.00	39.23	peak	No Limit
2	*	2444.000	97.90	6.62	104.52	54.00	50.52	AVG	No Limit

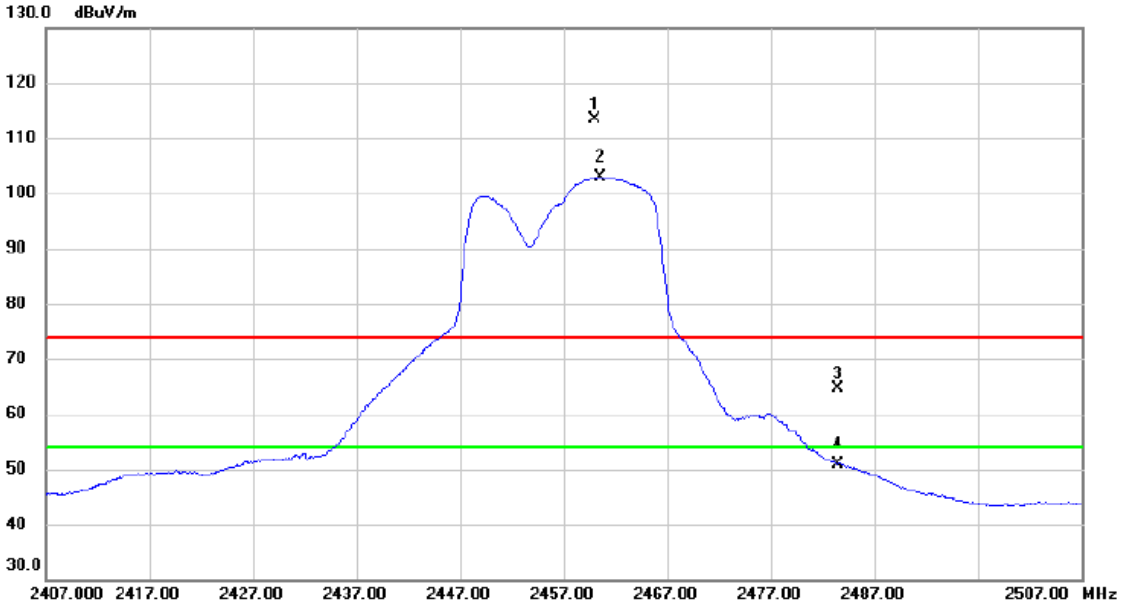
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4878.3400	30.46	10.16	40.62	54.00	-13.38	AVG	
2	4879.0200	41.82	10.16	51.98	74.00	-22.02	Peak	

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

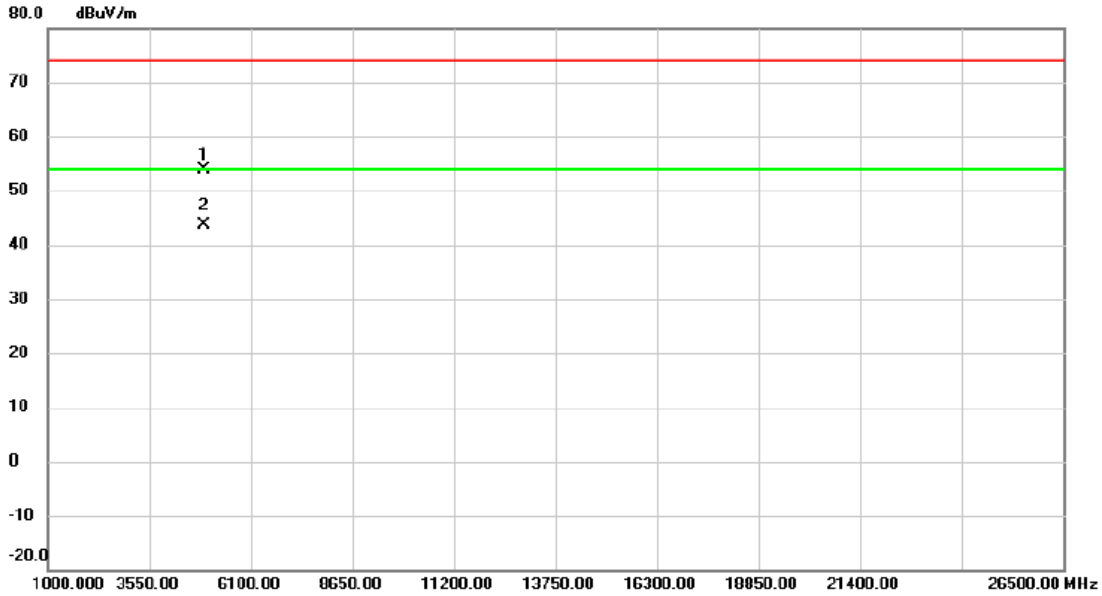
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2459.950	105.97	7.34	113.31	74.00	39.31	peak	No Limit
2	*	2460.600	95.51	7.34	102.85	54.00	48.85	AVG	No Limit
3		2483.500	57.40	7.32	64.72	74.00	-9.28	peak	
4		2483.500	43.62	7.32	50.94	54.00	-3.06	AVG	

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

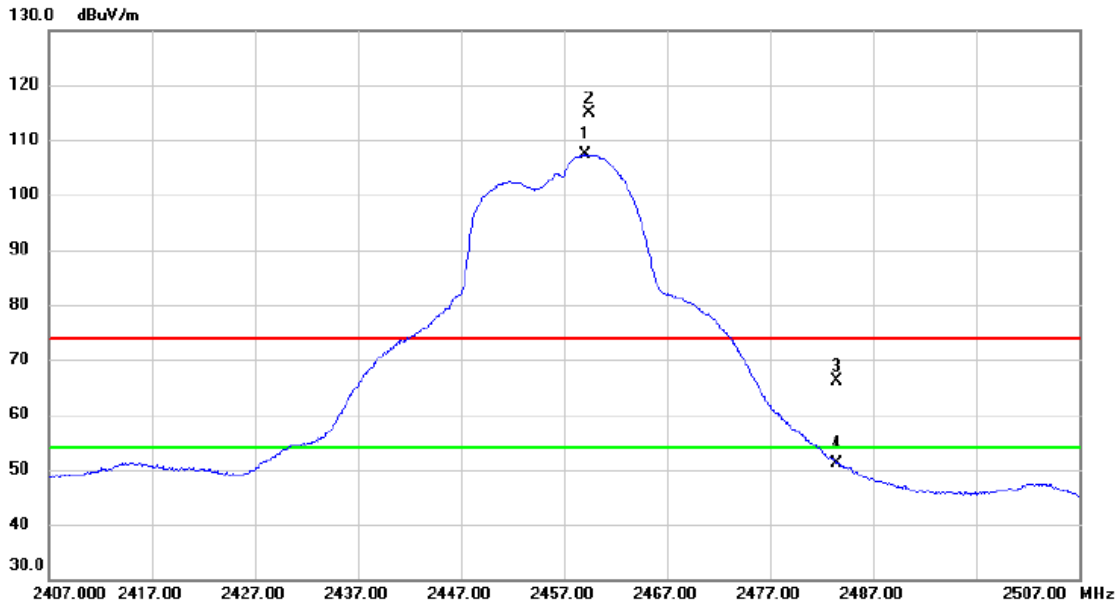
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4914.250	43.69	10.26	53.95	74.00	-20.05	peak	
2	*	4914.750	33.42	10.26	43.68	54.00	-10.32	AVG	

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

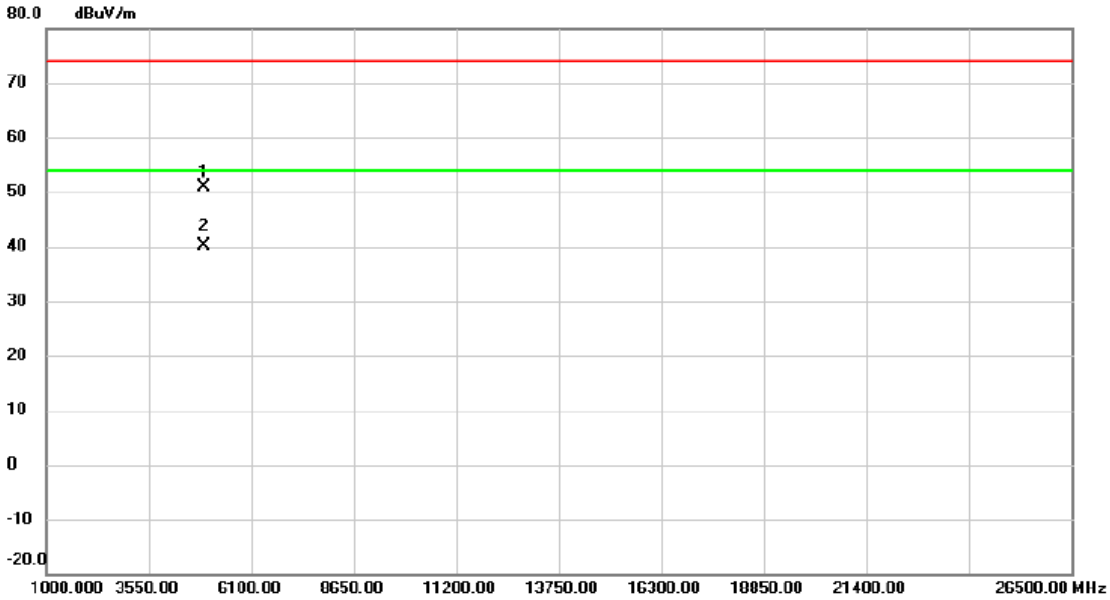
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2459.100	100.68	6.62	107.30	54.00	53.30	AVG	No Limit
2	X	2459.500	108.34	6.62	114.96	74.00	40.96	peak	No Limit
3		2483.500	59.64	6.61	66.25	74.00	-7.75	peak	
4		2483.500	44.52	6.61	51.13	54.00	-2.87	AVG	

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

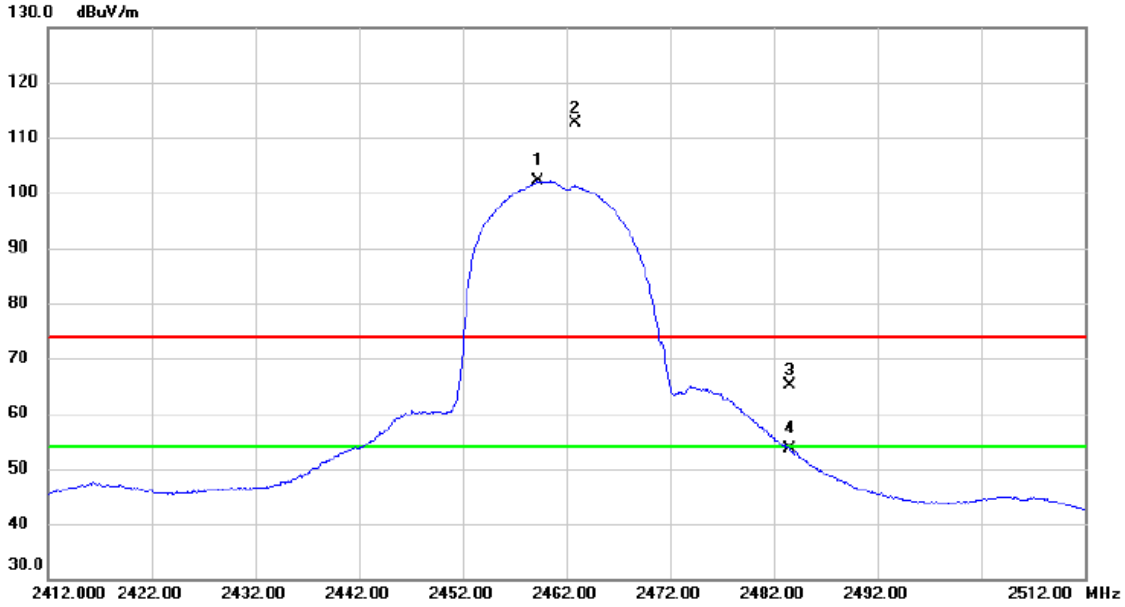
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4916.840	40.65	10.26	50.91	74.00	-23.09	peak	
2	*	4918.200	29.93	10.26	40.19	54.00	-13.81	AVG	

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

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2459.250	94.68	7.34	102.02	54.00	48.02	AVG	No Limit
2	X	2462.900	105.39	7.33	112.72	74.00	38.72	peak	No Limit
3		2483.500	57.87	7.32	65.19	74.00	-8.81	peak	
4		2483.500	46.21	7.32	53.53	54.00	-0.47	AVG	

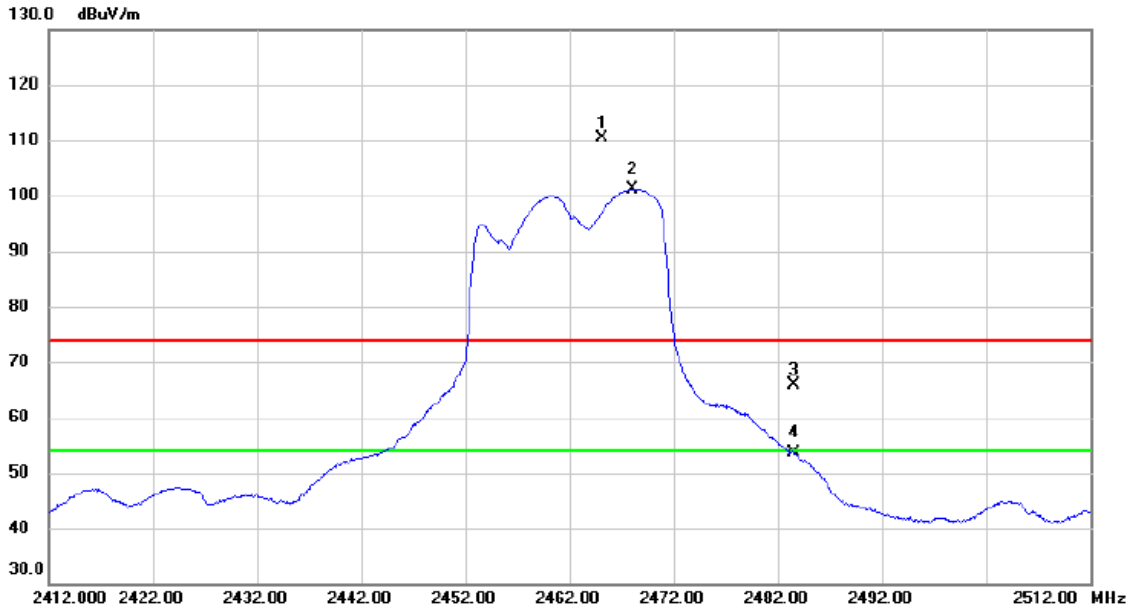
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2462 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4922.8500	43.74	10.28	54.02	74.00	-19.98	Peak	
2 *	4924.0500	33.46	10.28	43.74	54.00	-10.26	AVG	

Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2462 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	2465.200	103.76	6.61	110.37	74.00	36.37	peak	No Limit
2	*	2468.100	94.62	6.60	101.22	54.00	47.22	AVG	No Limit
3		2483.500	59.28	6.61	65.89	74.00	-8.11	peak	
4		2483.500	46.93	6.61	53.54	54.00	-0.46	AVG	

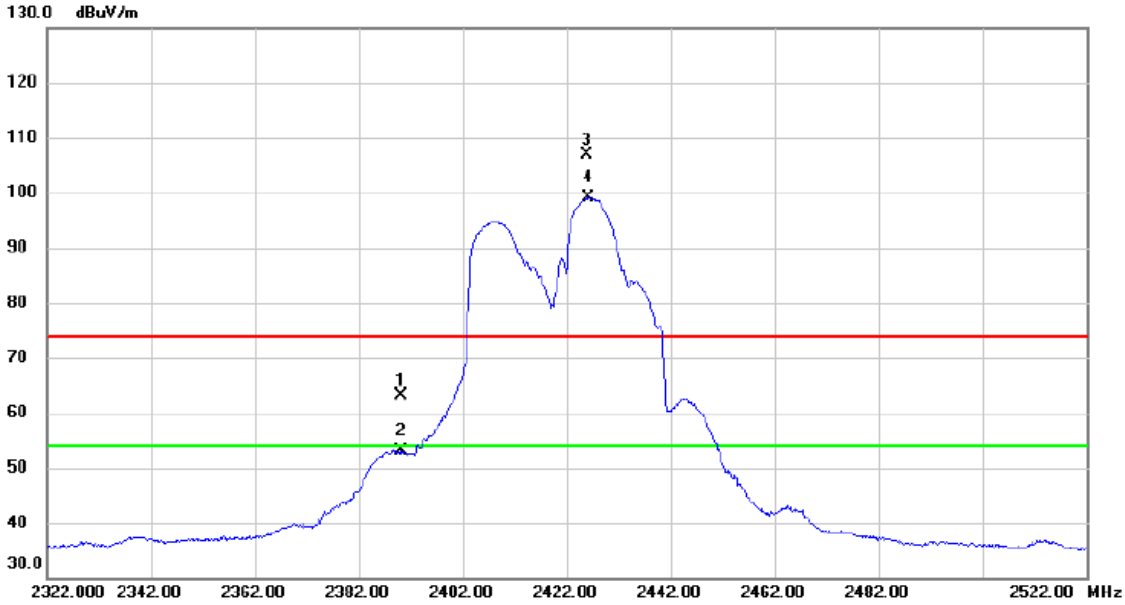
Orthogonal Axis	X
Test Mode:	TX N-20M Mode 2462 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4926.3000	29.96	10.29	40.25	54.00	-13.75	AVG	
2	4929.1500	40.00	10.30	50.30	74.00	-23.70	Peak	

Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2422 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	56.40	6.62	63.02	74.00	-10.98	peak	
2		2390.000	46.44	6.62	53.06	54.00	-0.94	AVG	
3	X	2425.800	100.35	6.61	106.96	74.00	32.96	peak	No Limit
4	*	2426.200	92.46	6.61	99.07	54.00	45.07	AVG	No Limit

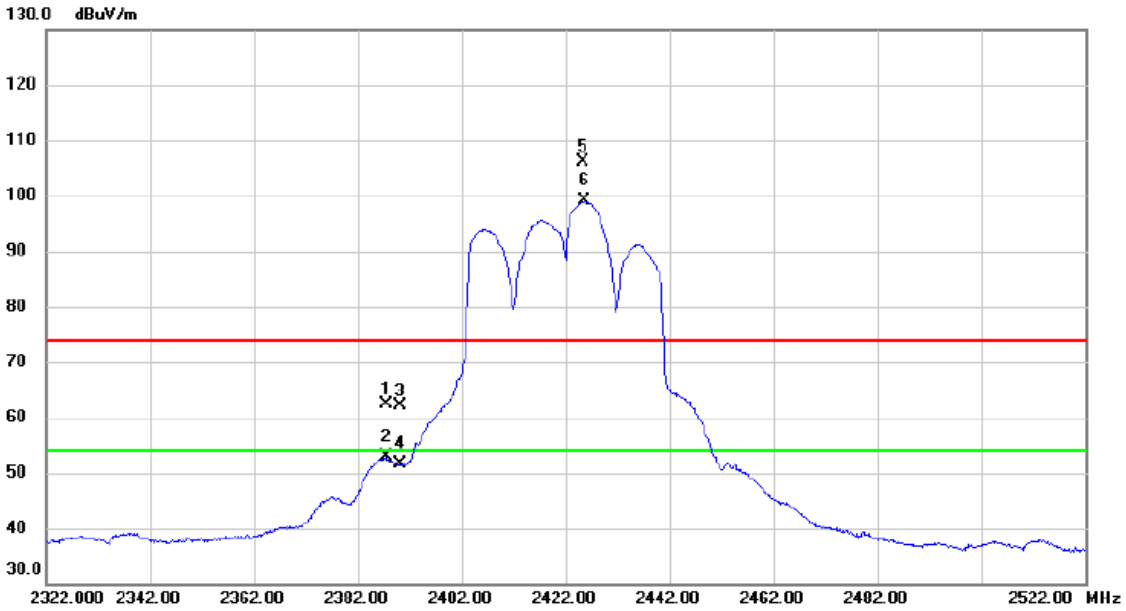
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2422 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4843.3000	37.85	10.07	47.92	74.00	-26.08	Peak	
2 *	4844.9500	27.22	10.07	37.29	54.00	-16.71	AVG	

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

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2387.400	55.88	6.62	62.50	74.00	-11.50	peak	
2		2387.400	46.33	6.62	52.95	54.00	-1.05	AVG	
3		2390.000	55.49	6.62	62.11	74.00	-11.89	peak	
4		2390.000	44.89	6.62	51.51	54.00	-2.49	AVG	
5	X	2425.400	99.45	6.61	106.06	74.00	32.06	peak	No Limit
6	*	2425.600	92.41	6.61	99.02	54.00	45.02	AVG	No Limit

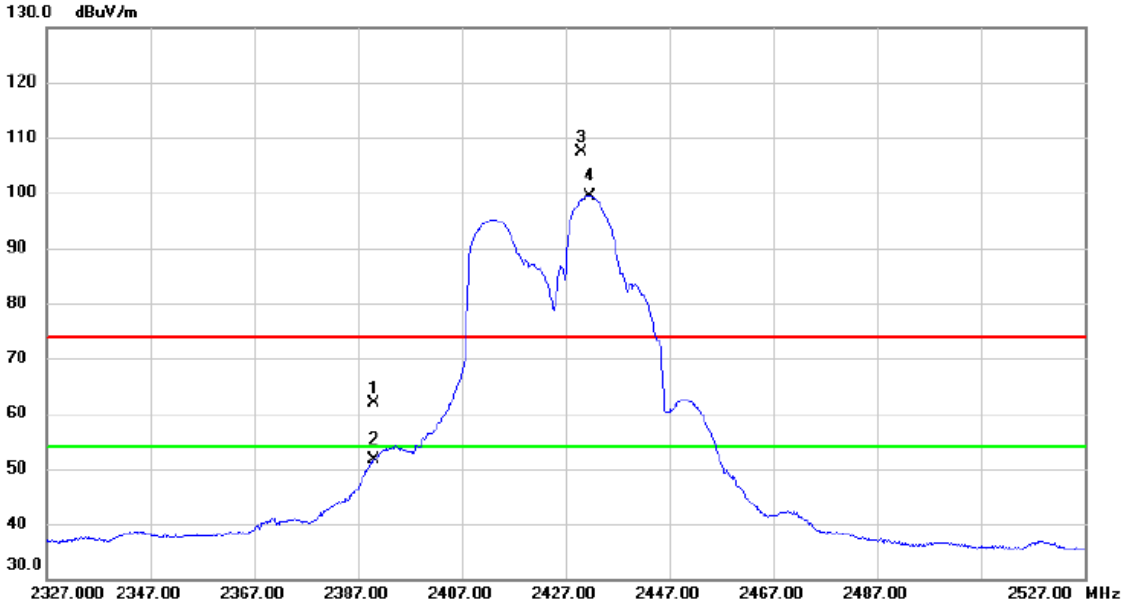
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2422 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4847.8500	25.77	10.08	35.85	54.00	-18.15	AVG	
2	4849.1000	36.59	10.08	46.67	74.00	-27.33	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2427 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	55.33	6.62	61.95	74.00	-12.05	peak	
2		2390.000	44.93	6.62	51.55	54.00	-2.45	AVG	
3	X	2430.200	100.86	6.61	107.47	74.00	33.47	peak	No Limit
4	*	2431.600	92.79	6.62	99.41	54.00	45.41	AVG	No Limit

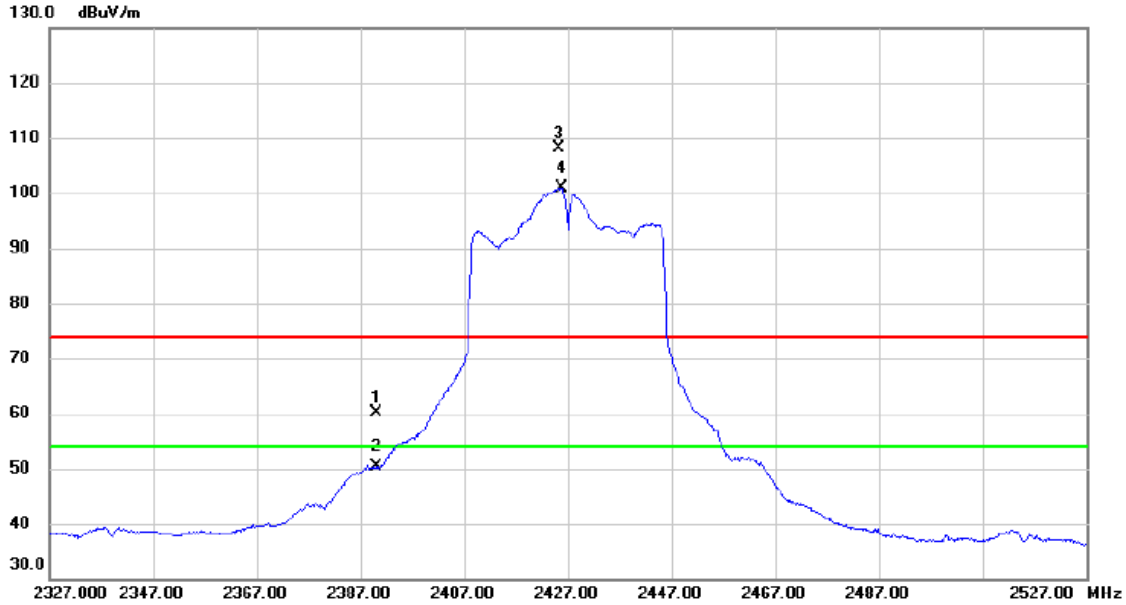
Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2427 MHz

Vertical

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4836.300	36.64	10.05	46.69	74.00	-27.31	peak	
2	*	4854.900	26.64	10.10	36.74	54.00	-17.26	AVG	

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

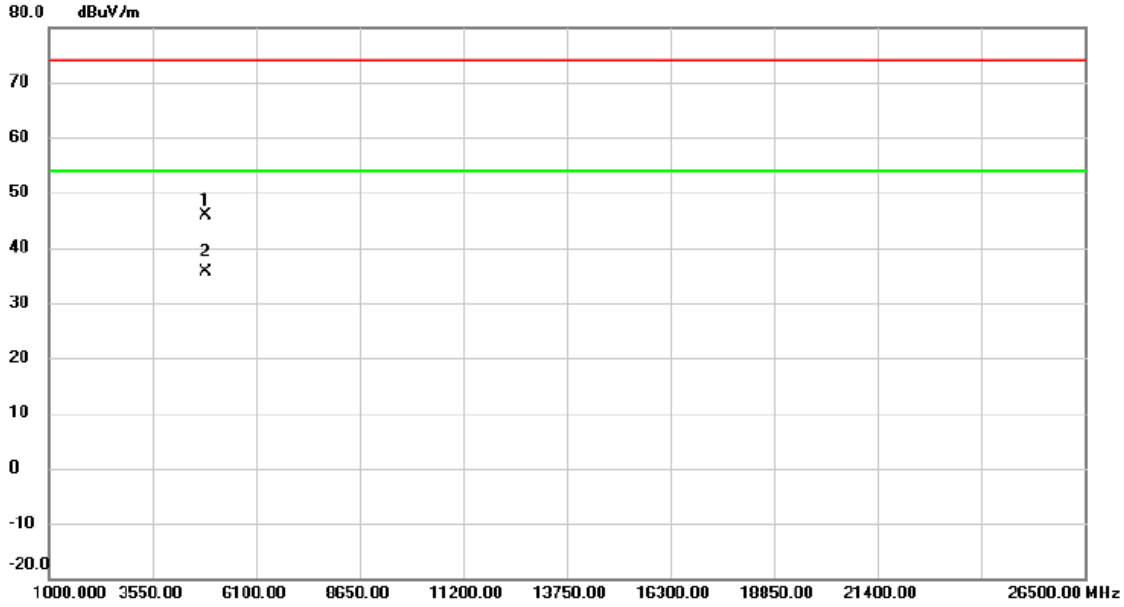
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	53.41	6.62	60.03	74.00	-13.97	peak	
2		2390.000	43.75	6.62	50.37	54.00	-3.63	AVG	
3	X	2425.200	101.46	6.61	108.07	74.00	34.07	peak	No Limit
4	*	2425.800	94.24	6.61	100.85	54.00	46.85	AVG	No Limit

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

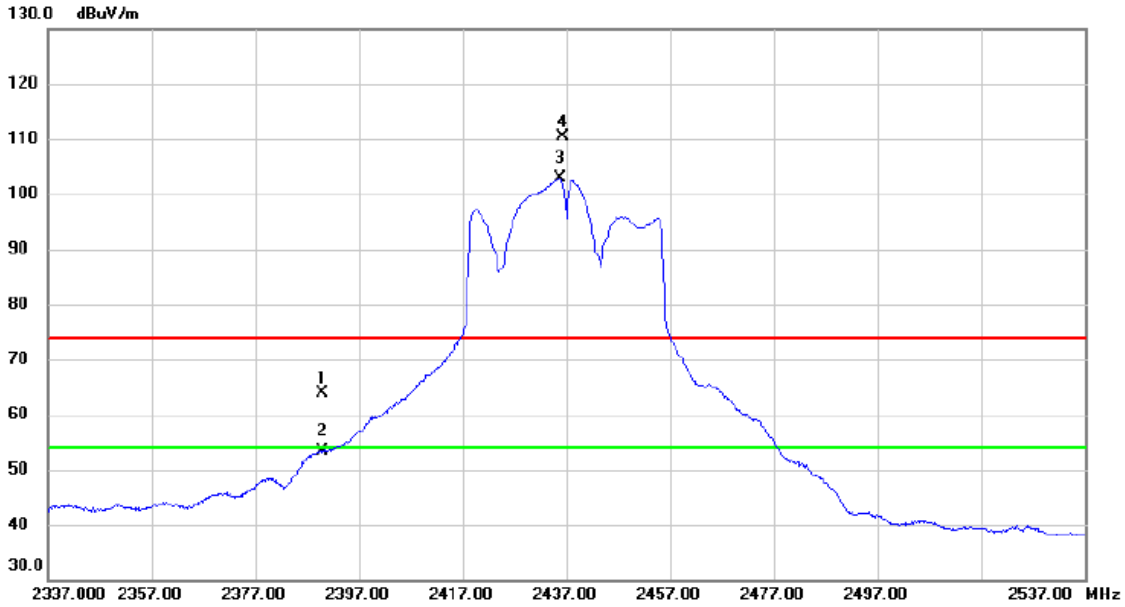
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4843.750	35.80	10.07	45.87	74.00	-28.13	peak	
2	*	4860.200	25.47	10.12	35.59	54.00	-18.41	AVG	

Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2437 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	57.34	6.62	63.96	74.00	-10.04	peak	
2		2390.000	46.73	6.62	53.35	54.00	-0.65	AVG	
3	*	2435.800	96.17	6.62	102.79	54.00	48.79	AVG	No Limit
4	X	2436.400	103.88	6.62	110.50	74.00	36.50	peak	No Limit

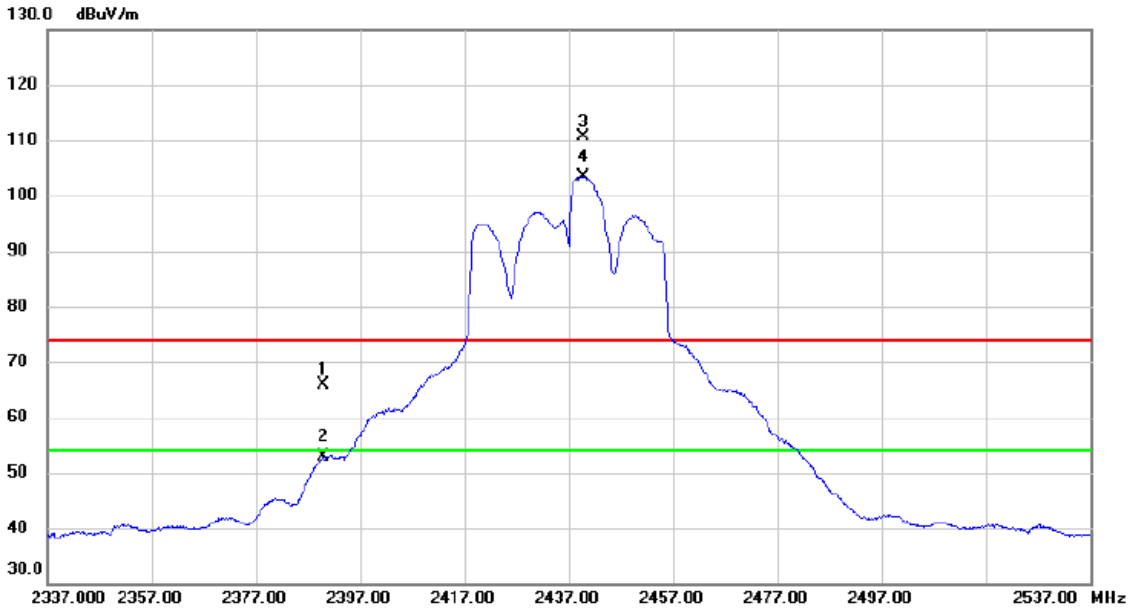
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2437 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4873.4500	37.83	10.15	47.98	74.00	-26.02	Peak	
2 *	4873.9500	27.42	10.15	37.57	54.00	-16.43	AVG	

Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2437 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	59.36	6.62	65.98	74.00	-8.02	peak	
2		2390.000	46.18	6.62	52.80	54.00	-1.20	AVG	
3	X	2439.800	104.03	6.61	110.64	74.00	36.64	peak	No Limit
4	*	2439.800	96.83	6.61	103.44	54.00	49.44	AVG	No Limit

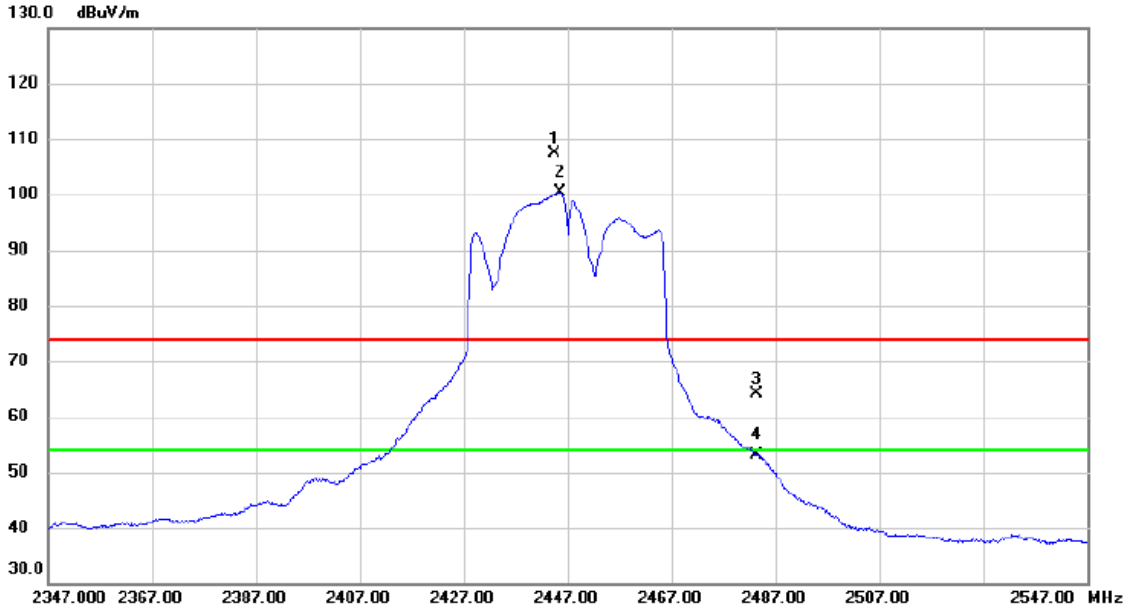
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2437 MHz

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4878.9500	25.57	10.16	35.73	54.00	-18.27	AVG	
2	4881.4500	36.01	10.17	46.18	74.00	-27.82	Peak	

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

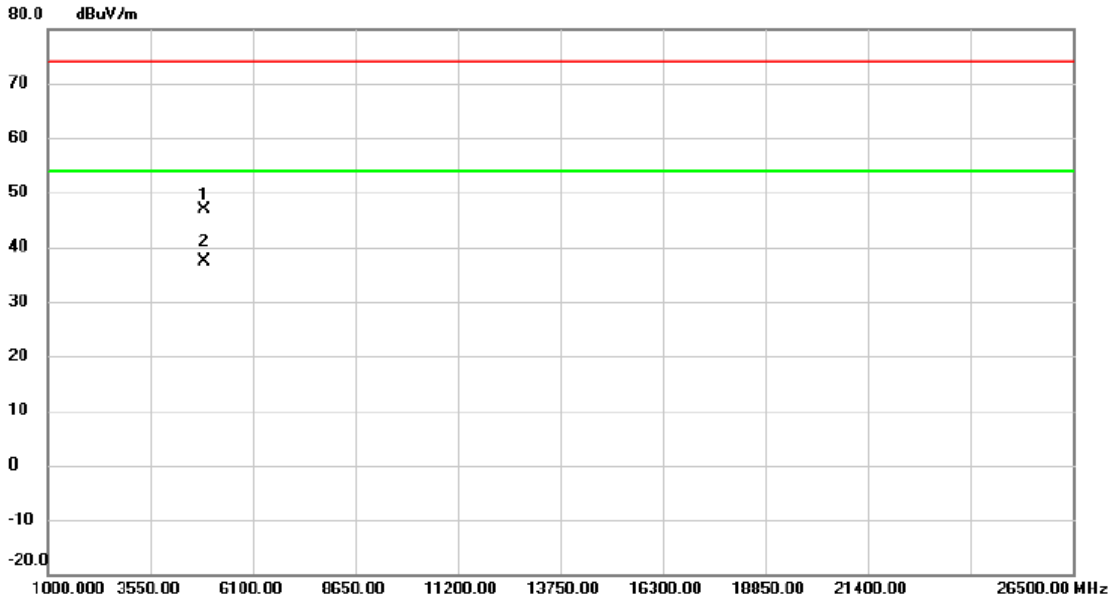
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2444.400	100.85	6.62	107.47	74.00	33.47	peak	No Limit
2	*	2445.600	93.78	6.62	100.40	54.00	46.40	AVG	No Limit
3		2483.500	57.57	6.61	64.18	74.00	-9.82	peak	
4		2483.500	46.50	6.61	53.11	54.00	-0.89	AVG	

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

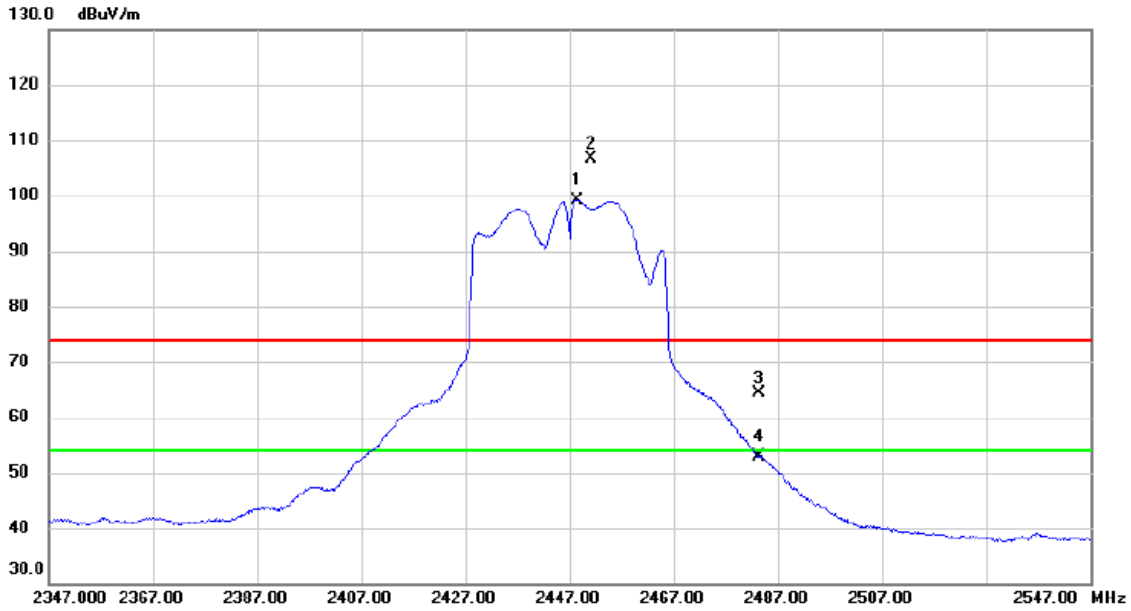
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4893.350	36.79	10.20	46.99	74.00	-27.01	peak	
2	*	4894.050	27.23	10.21	37.44	54.00	-16.56	AVG	

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

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2448.400	92.64	6.61	99.25	54.00	45.25	AVG	No Limit
2	X	2451.200	100.10	6.61	106.71	74.00	32.71	peak	No Limit
3		2483.500	57.71	6.61	64.32	74.00	-9.68	peak	
4		2483.500	46.27	6.61	52.88	54.00	-1.12	AVG	

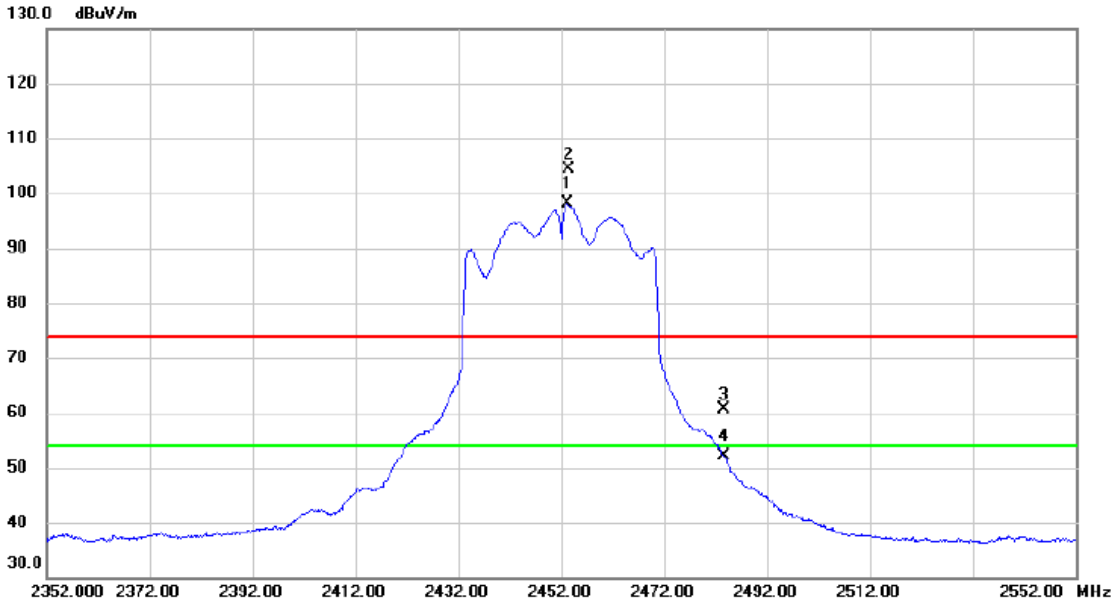
Orthogonal Axis :	X
Test Mode :	TX N-40M MODE 2447 MHz

Horizontal

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4895.600	26.26	10.21	36.47	54.00	-17.53	AVG	
2		4897.700	35.88	10.22	46.10	74.00	-27.90	peak	

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

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2453.200	91.53	6.61	98.14	54.00	44.14	AVG	No Limit
2	X	2453.400	97.77	6.61	104.38	74.00	30.38	peak	No Limit
3		2483.500	54.02	6.61	60.63	74.00	-13.37	peak	
4		2483.500	45.60	6.61	52.21	54.00	-1.79	AVG	

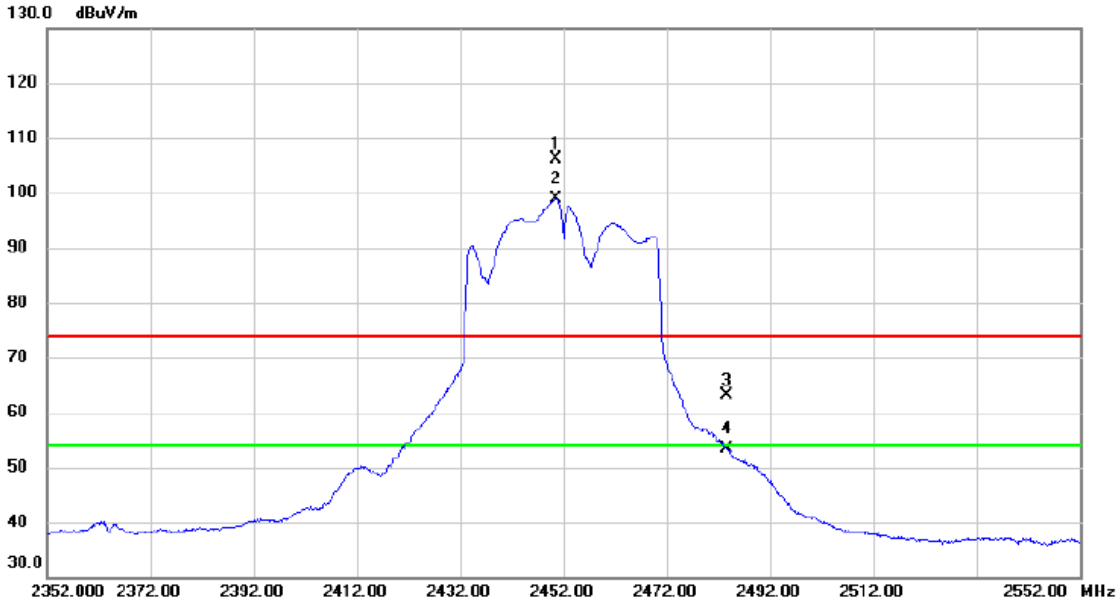
Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2452 MHz

Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4904.5000	27.00	10.23	37.23	54.00	-16.77	AVG	
2	4904.8000	37.27	10.23	47.50	74.00	-26.50	Peak	

Orthogonal Axis	X
Test Mode:	TX N-40M Mode 2452 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	2450.600	99.60	6.61	106.21	74.00	32.21	peak	No Limit
2	*	2450.600	92.22	6.61	98.83	54.00	44.83	AVG	No Limit
3		2483.500	56.45	6.61	63.06	74.00	-10.94	peak	
4		2483.500	46.71	6.61	53.32	54.00	-0.68	AVG	

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

Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4885.7000	37.59	10.18	47.77	74.00	-26.23	Peak	
2 *	4906.6500	26.30	10.24	36.54	54.00	-17.46	AVG	

TX B Mode_DUTY CYCLE

Duty cycle: TX 2412 MHz

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

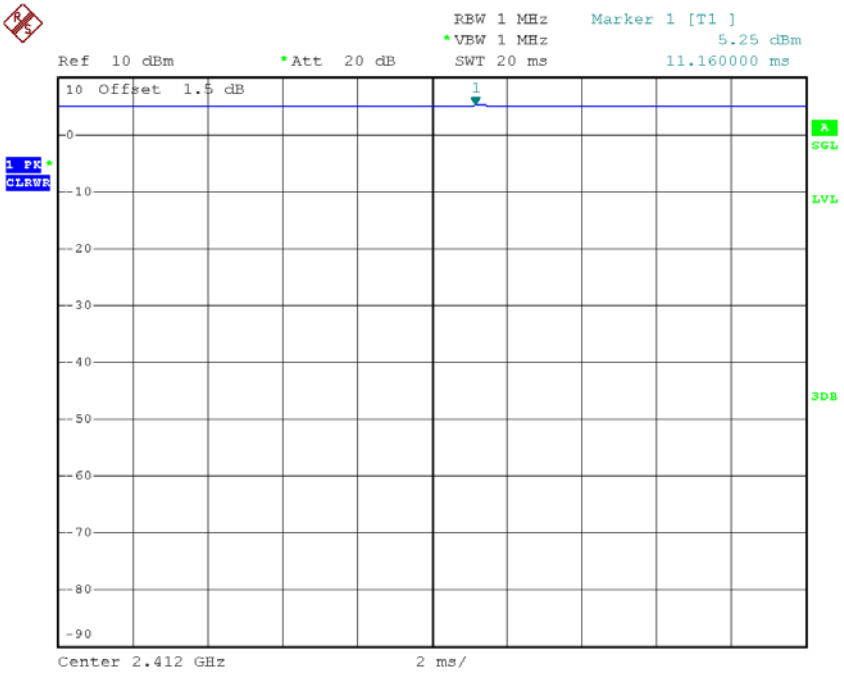
T_{ON}: 1.00 msec

T_{Total}: 1.00 msec

Duty cycle: 100.0%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.00



Date: 9.JUL.2018 16:44:22

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}

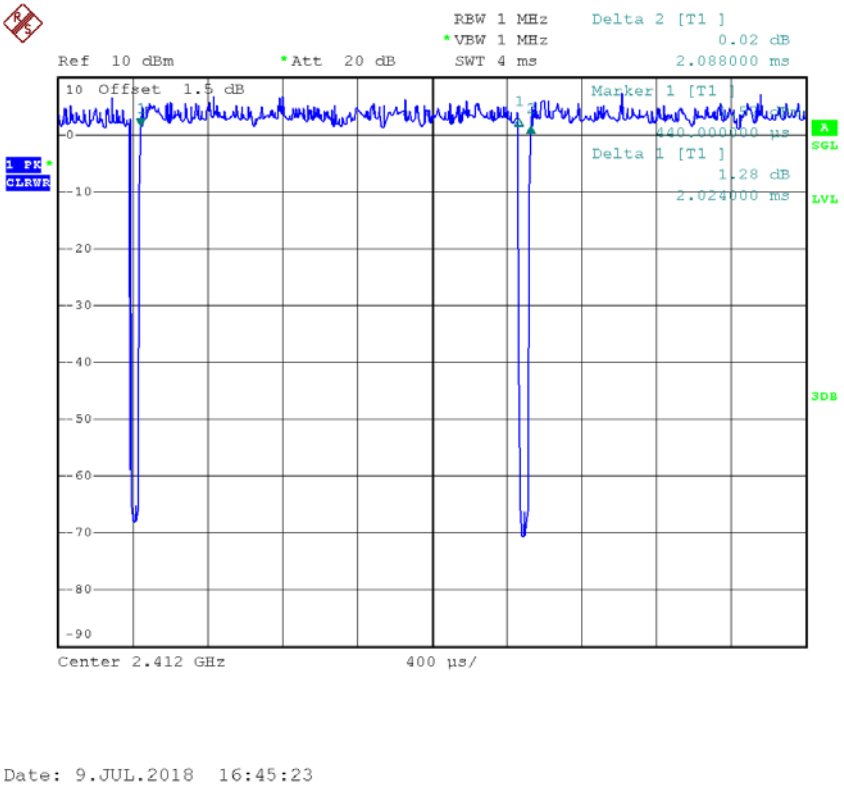
T_{ON}: 2.024msec

T_{Total}: 2.088 msec

Duty cycle: 96.93%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.14



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

Power Spectral Density = Measured density + Duty factor

TX N20 Mode_DUTY CYCLE

Duty cycle: TX 2412 MHz

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

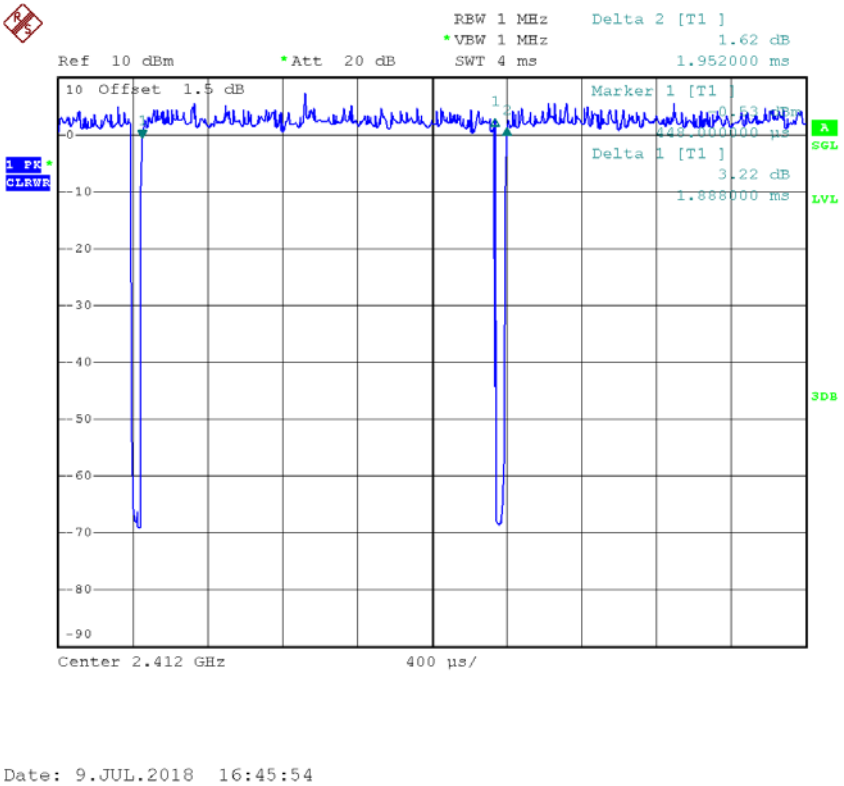
T_{ON}: 1.888 msec

T_{Total}: 1.952 msec

Duty cycle: 96.72%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.14



Date: 9.JUL.2018 16:45:54

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

Power Spectral Density = Measured density + Duty factor

TX N40 Mode_DUTY CYCLE

Duty cycle: TX 2422MHz

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

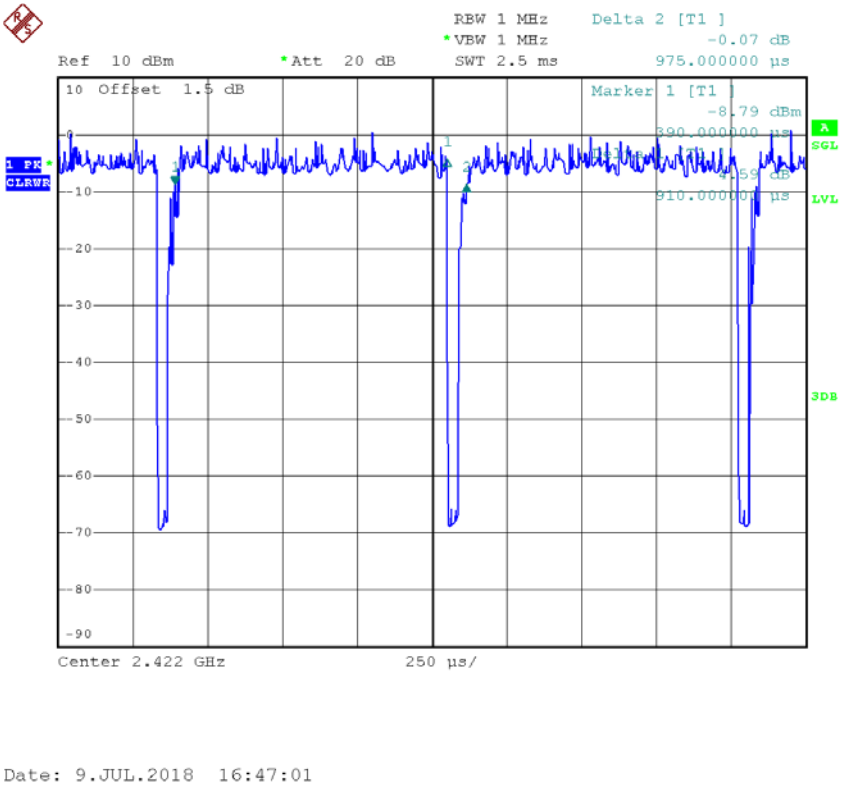
T_{ON}: 0.910 msec

T_{Total}: 0.975 msec

Duty cycle: 93.33%

Duty Factor = 10 log(1/Duty cycle)

Duty Factor = 0.30



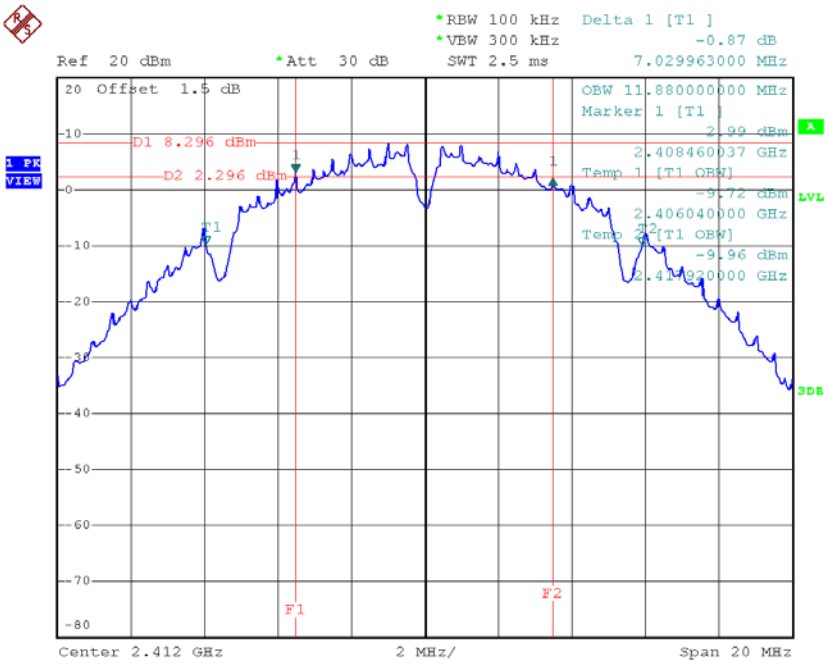
Note: The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle < 98 %, so, the output power and power density should be cacluated as Output Power = Measured power + Ducy factor
Power Spectral Density = Measured density + Duty factor

APPENDIX E - BANDWIDTH

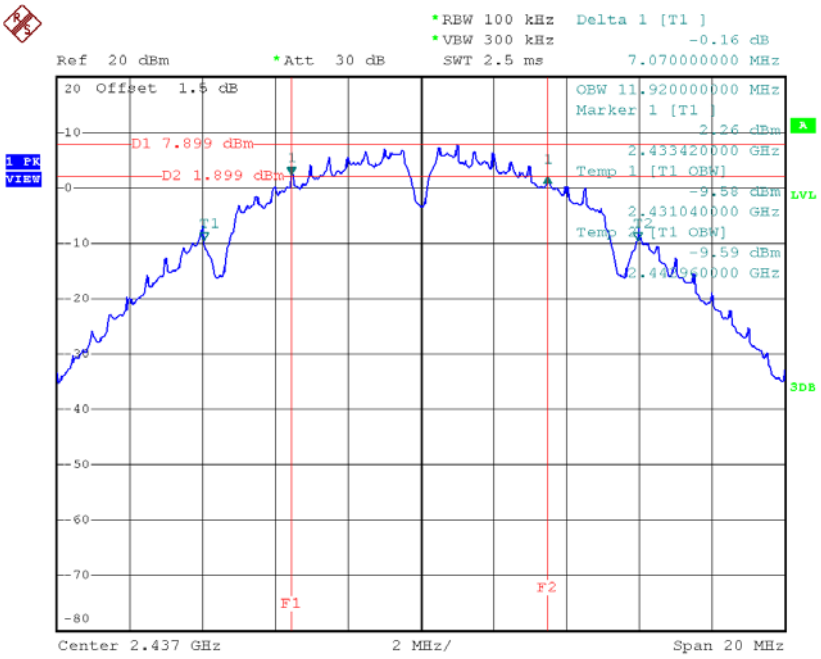
Test Mode: TX B Mode_CH01/06/11

Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	7.03	500	Complies
2437	7.07	500	Complies
2462	7.13	500	Complies

TX CH01

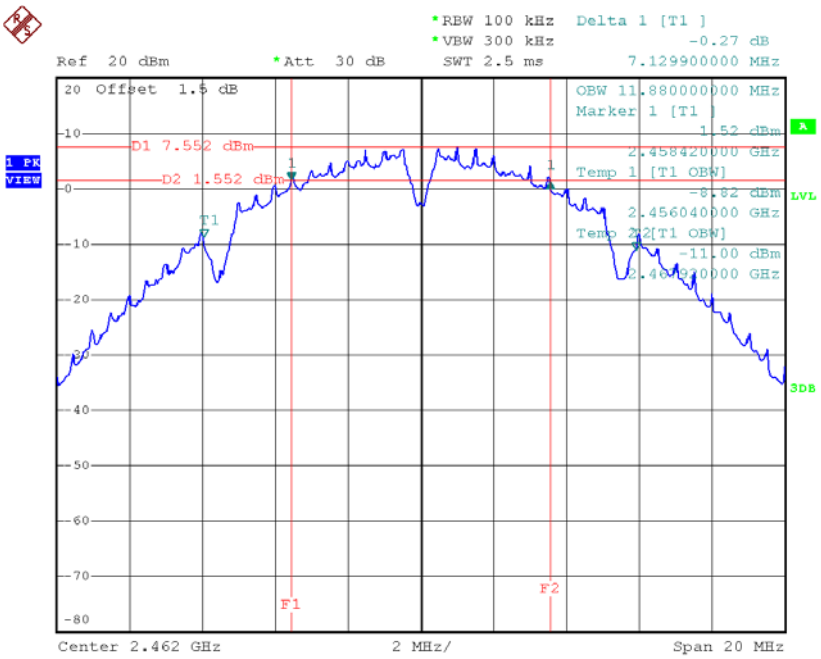


TX CH06



Date: 28.JUN.2018 09:44:57

TX CH11

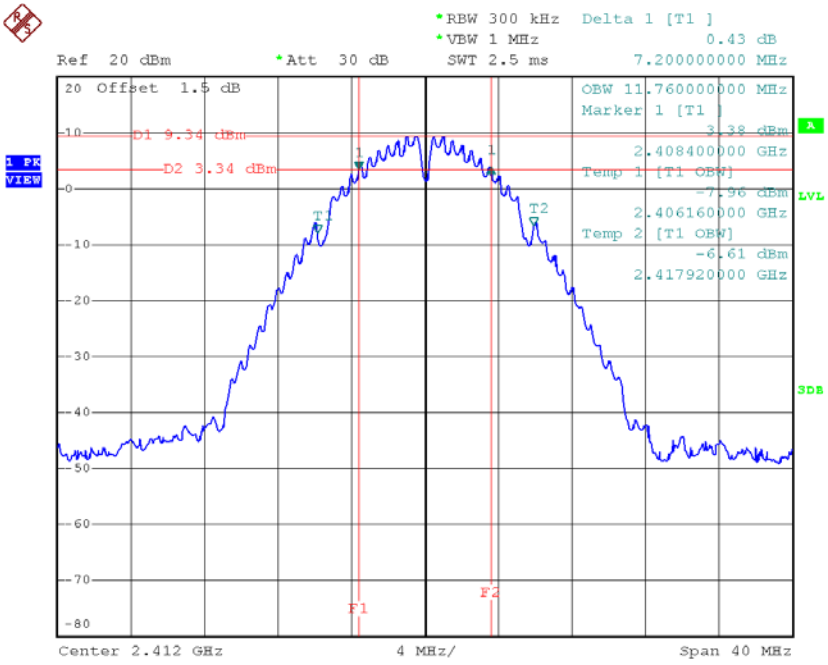


Date: 28.JUN.2018 09:49:53

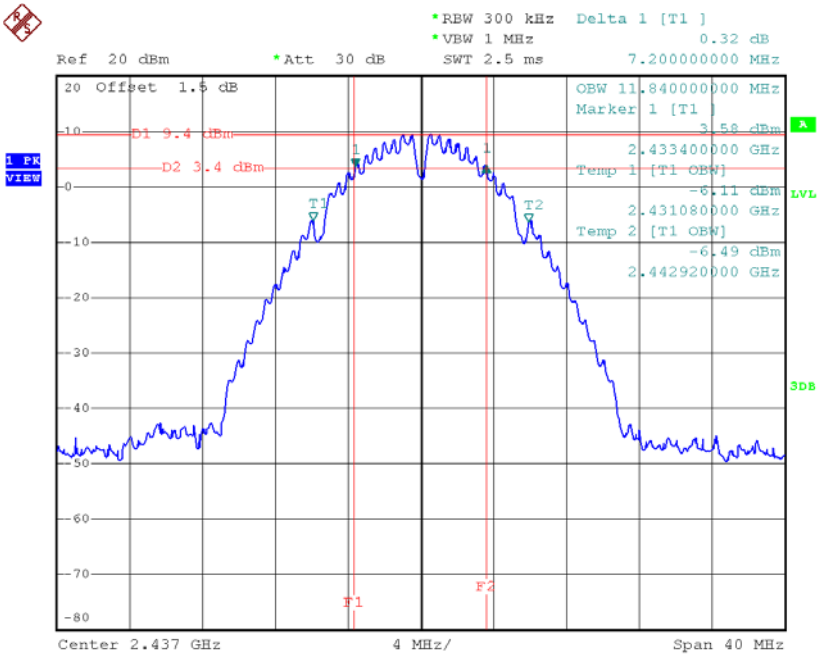
Test Mode: TX B Mode_CH01/06/11

Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	11.76	500	Complies
2437	11.84	500	Complies
2462	11.84	500	Complies

TX CH01

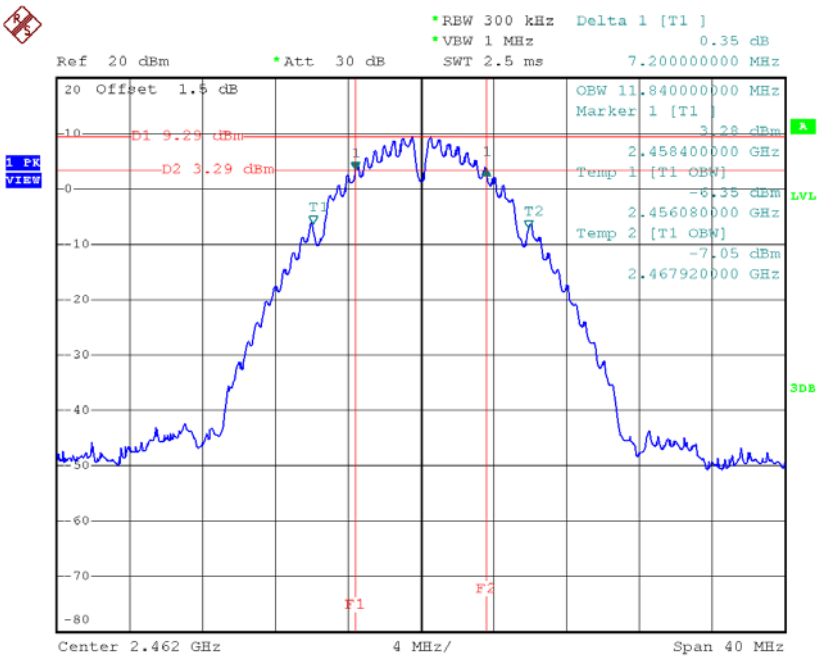


TX CH06



Date: 24.JUL.2018 11:10:33

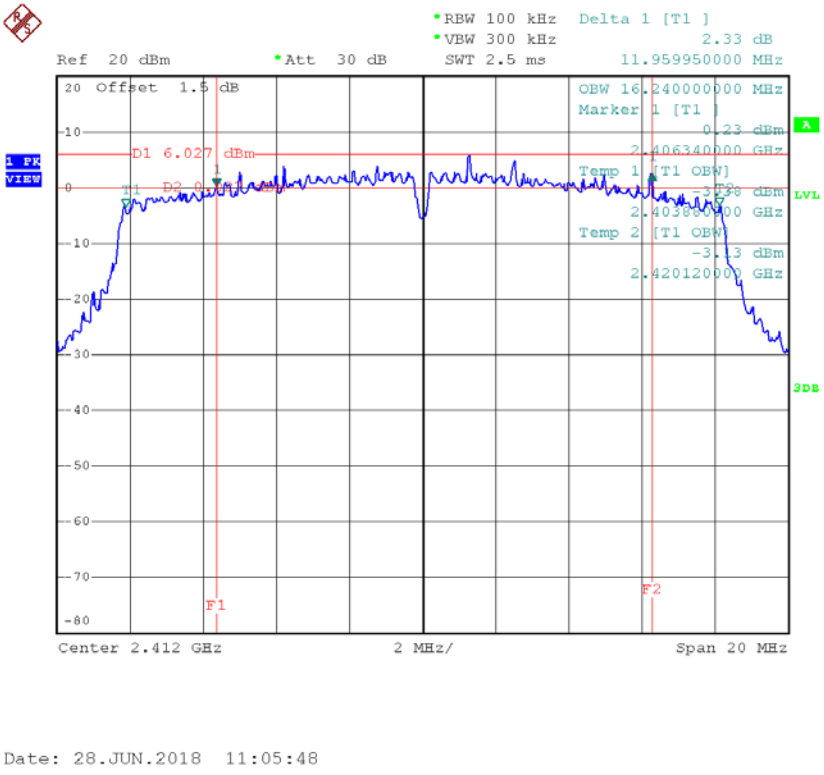
TX CH11



Date: 24.JUL.2018 11:11:45

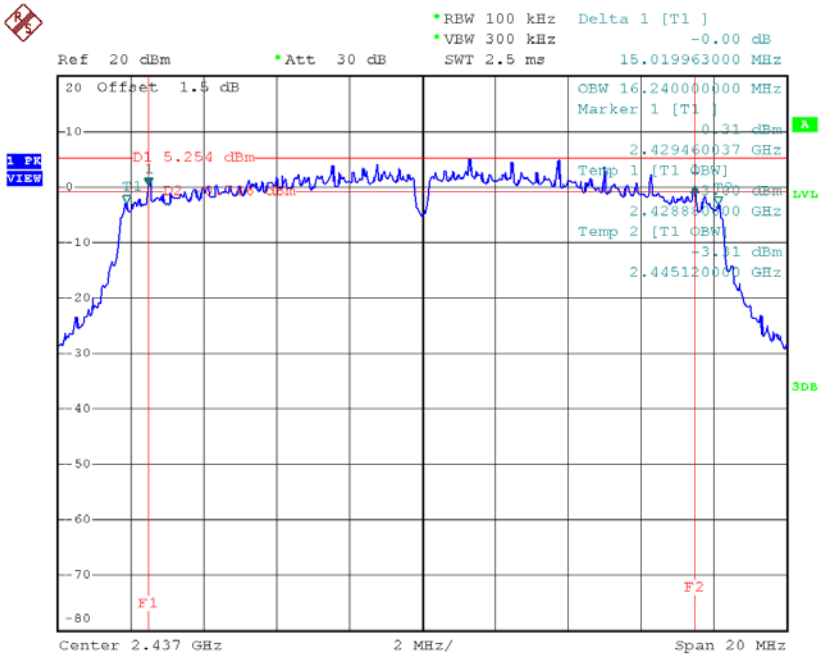
Test Mode: TX G Mode_CH01/06/11			
Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	11.96	500	Complies
2437	15.02	500	Complies
2462	15.10	500	Complies

TX CH01



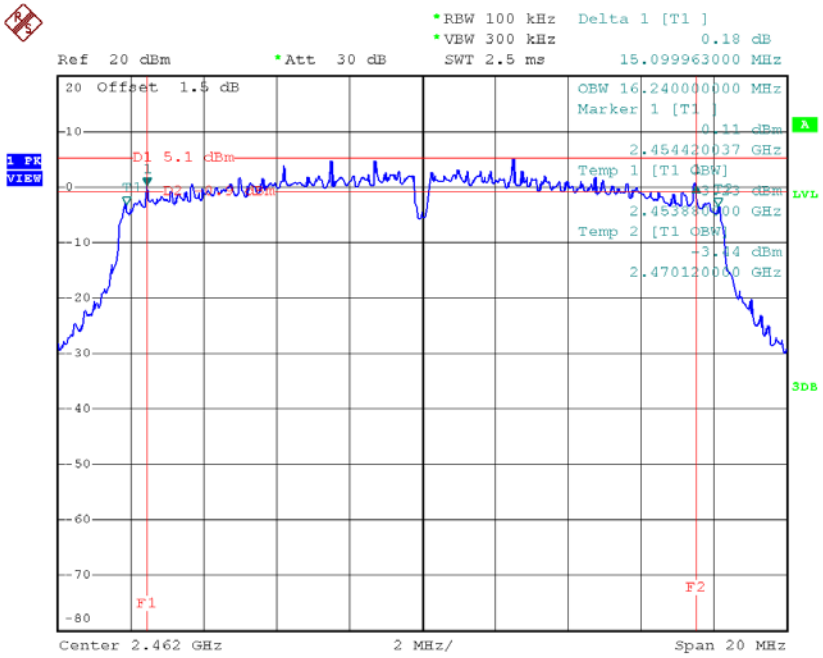
Date: 28.JUN.2018 11:05:48

TX CH06



Date: 28.JUN.2018 11:09:36

TX CH11

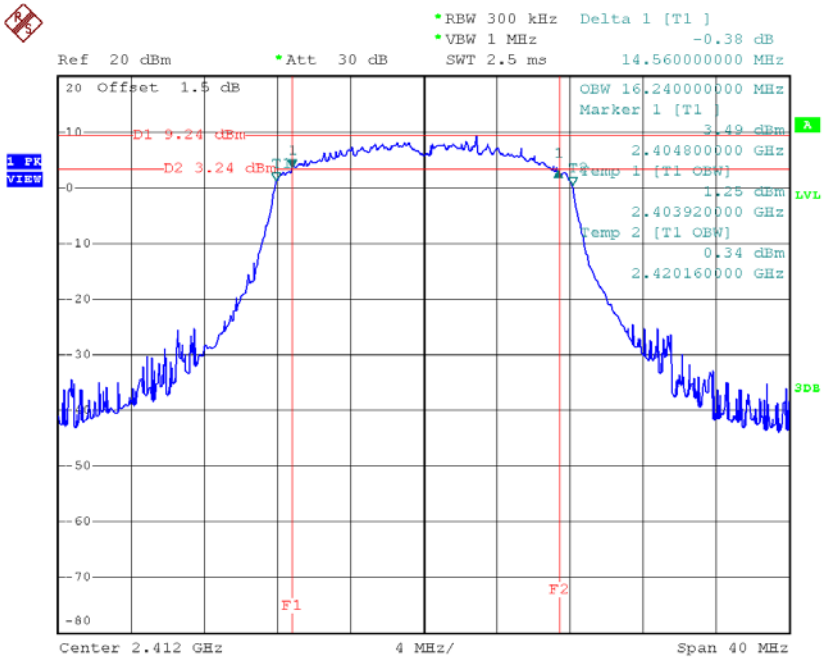


Date: 28.JUN.2018 11:12:39

Test Mode: TX G Mode_CH01/06/11			

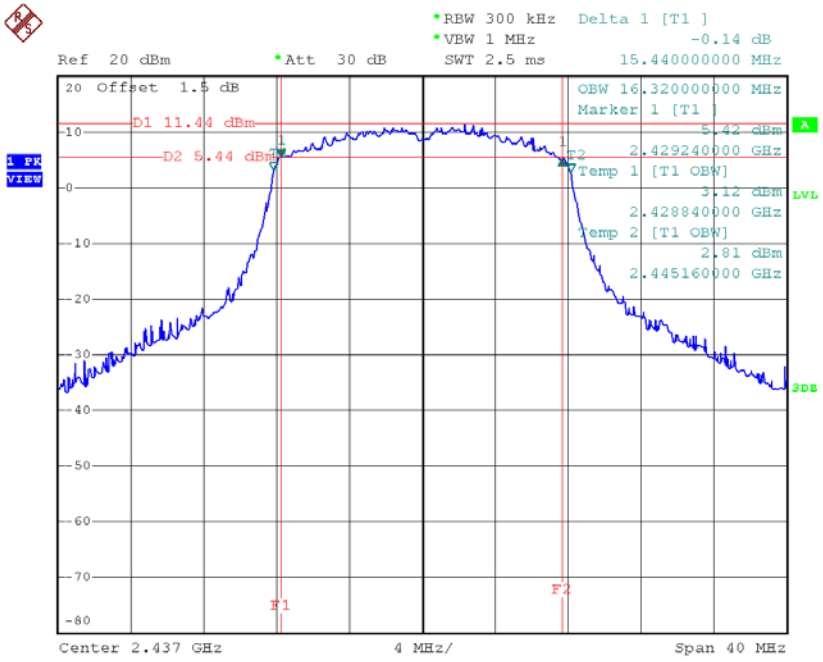
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.24	500	Complies
2437	16.32	500	Complies
2462	16.32	500	Complies

TX CH01



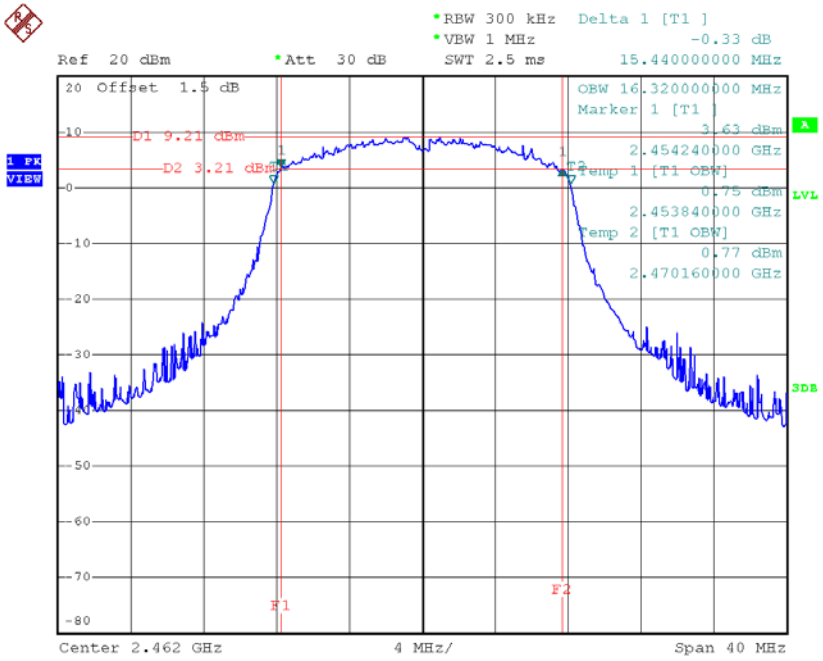
Date: 24.JUL.2018 11:13:38

TX CH06



Date: 24.JUL.2018 11:15:28

TX CH11

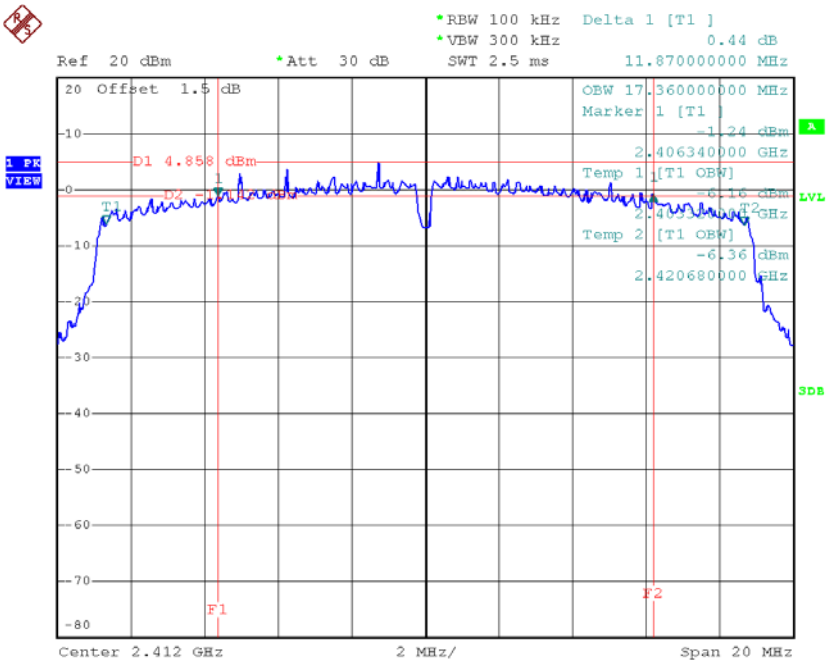


Date: 24.JUL.2018 11:17:10

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

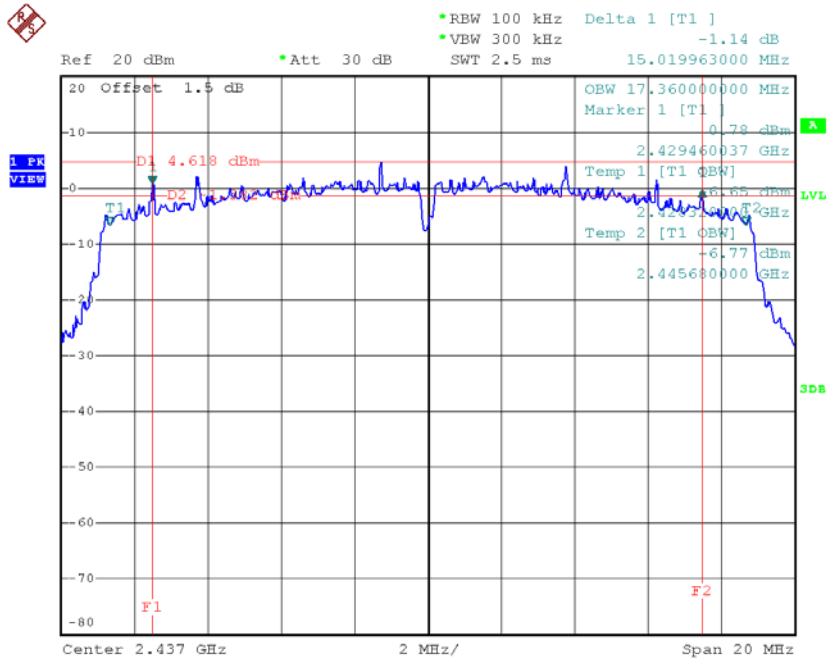
Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2412	11.87	500	Complies
2437	15.02	500	Complies
2462	15.10	500	Complies

TX CH01



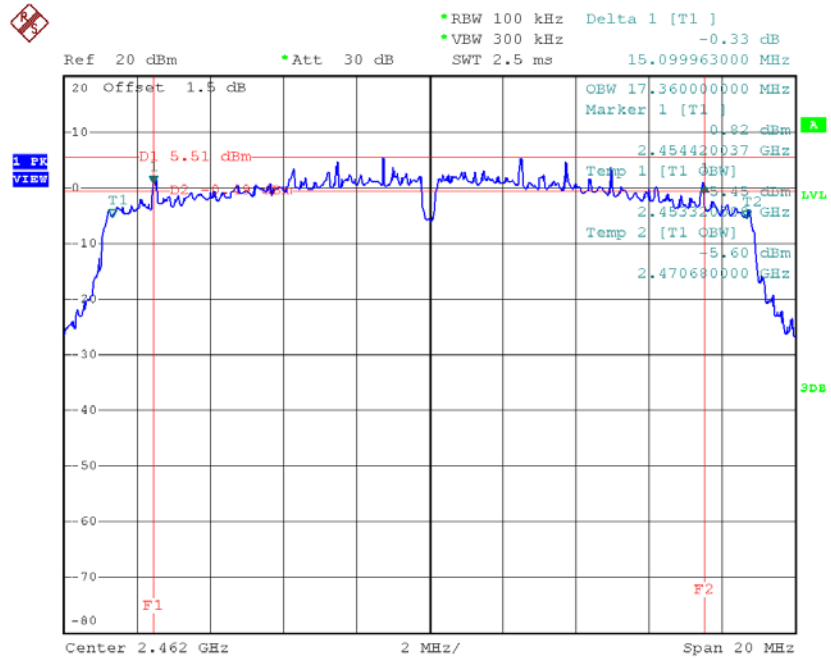
Date: 28.JUN.2018 11:17:45

TX CH06



Date: 28.JUN.2018 11:21:36

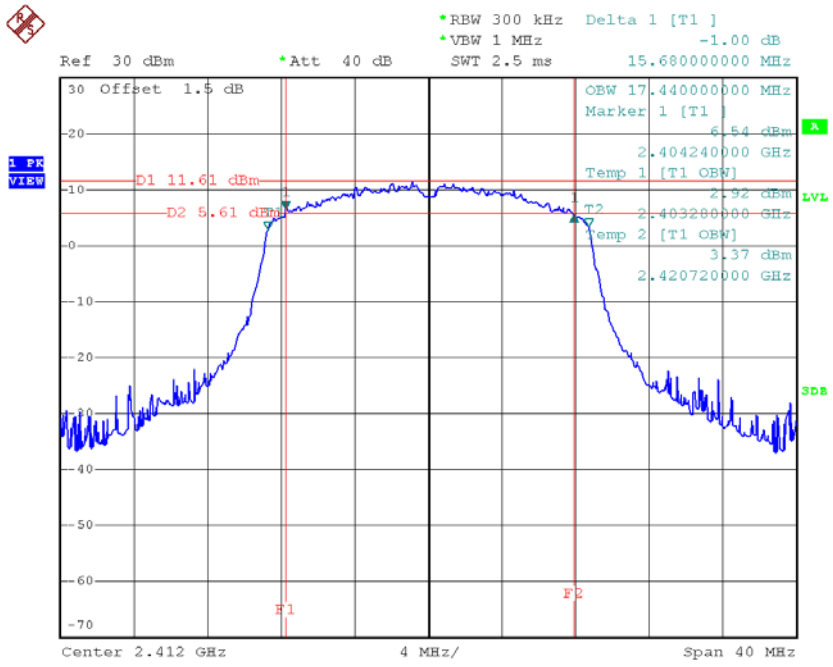
TX CH11



Date: 28.JUN.2018 11:28:26

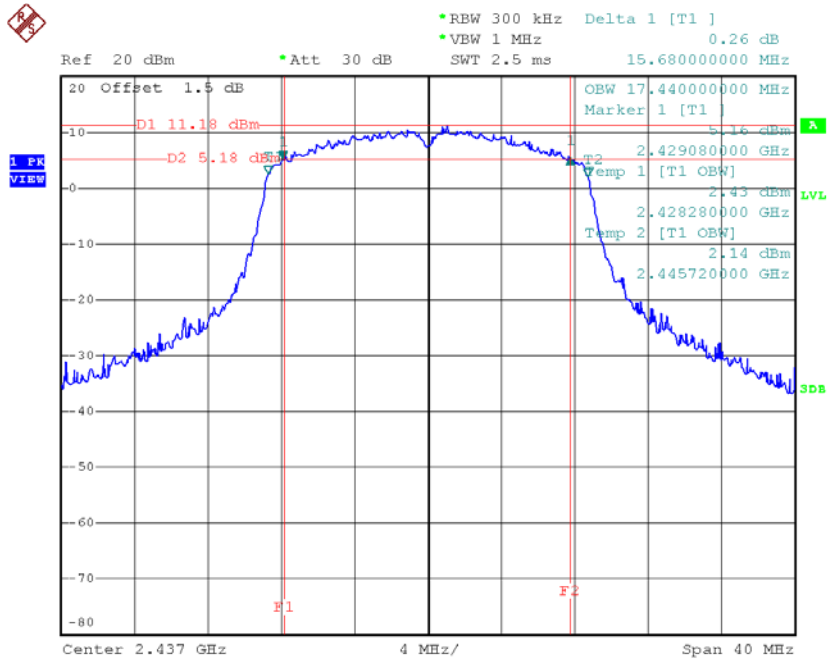
Test Mode: TX N-20MHz Mode_CH01/06/11			
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.44	500	Complies
2437	17.44	500	Complies
2462	17.44	500	Complies

TX CH01



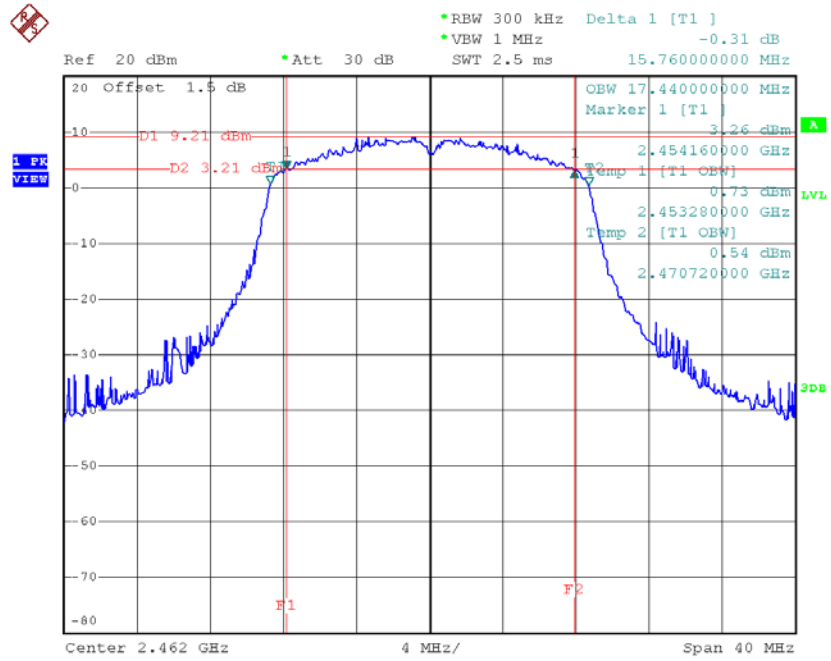
Date: 24.JUL.2018 09:57:29

TX CH06



Date: 24.JUL.2018 11:21:19

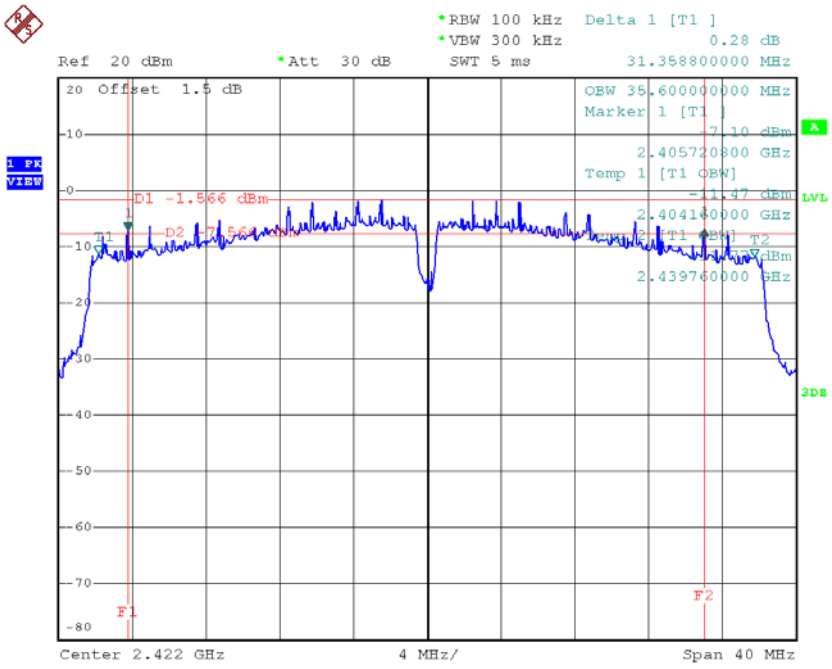
TX CH11



Date: 24.JUL.2018 11:22:54

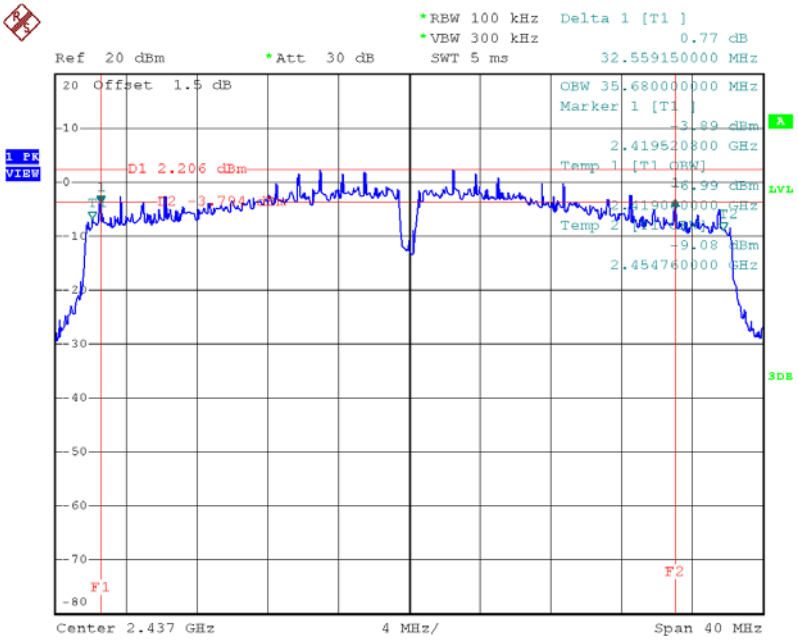
Test Mode: TX N-40MHz Mode_CH03/06/09			
Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
2422	31.36	500	Complies
2437	32.56	500	Complies
2452	31.40	500	Complies

TX CH03



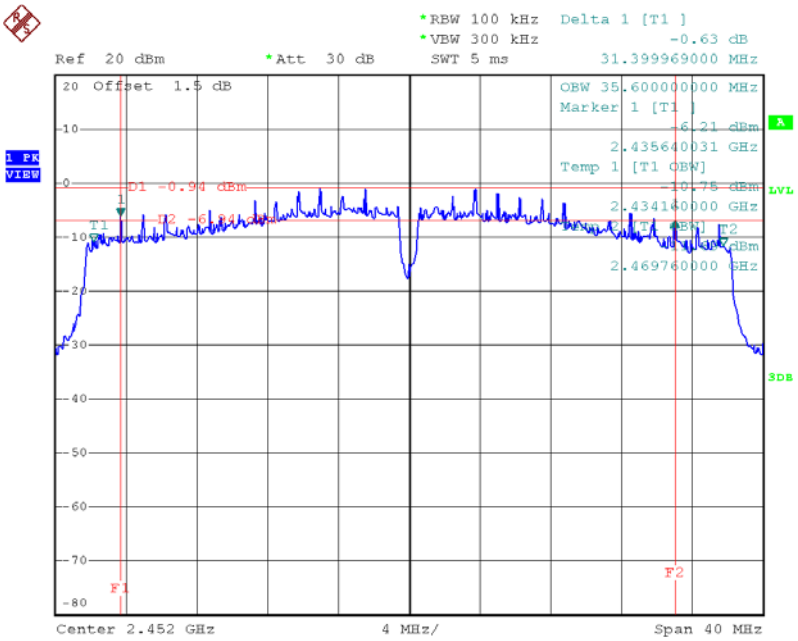
Date: 28.JUN.2018 14:25:55

TX CH06



Date: 28.JUN.2018 14:30:24

TX CH09

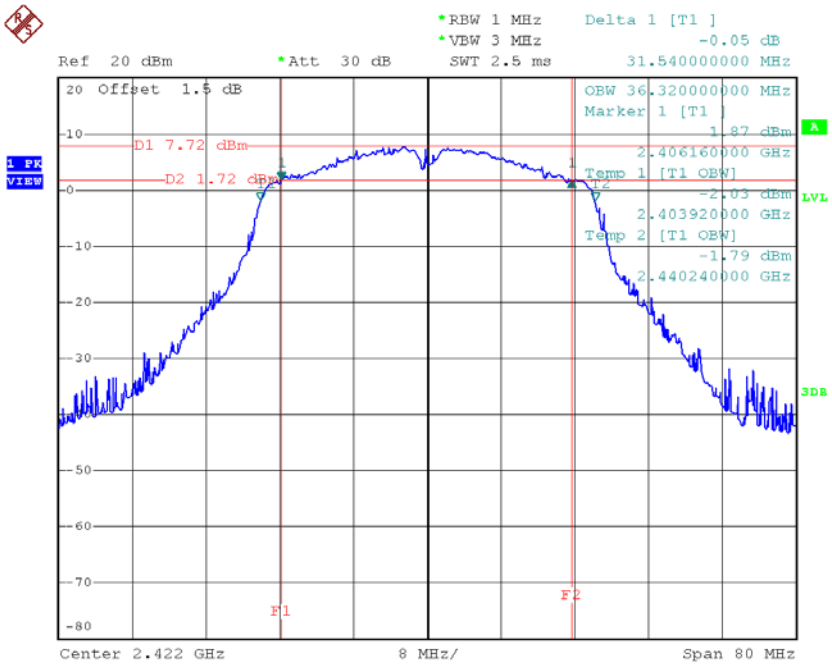


Date: 28.JUN.2018 14:33:33

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

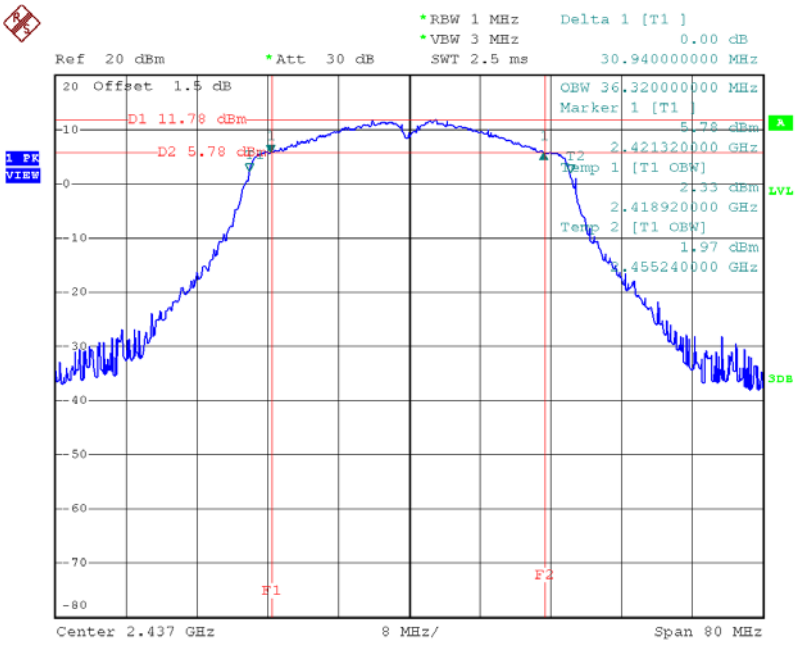
Frequency (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.32	500	Complies
2437	36.32	500	Complies
2452	36.32	500	Complies

TX CH03



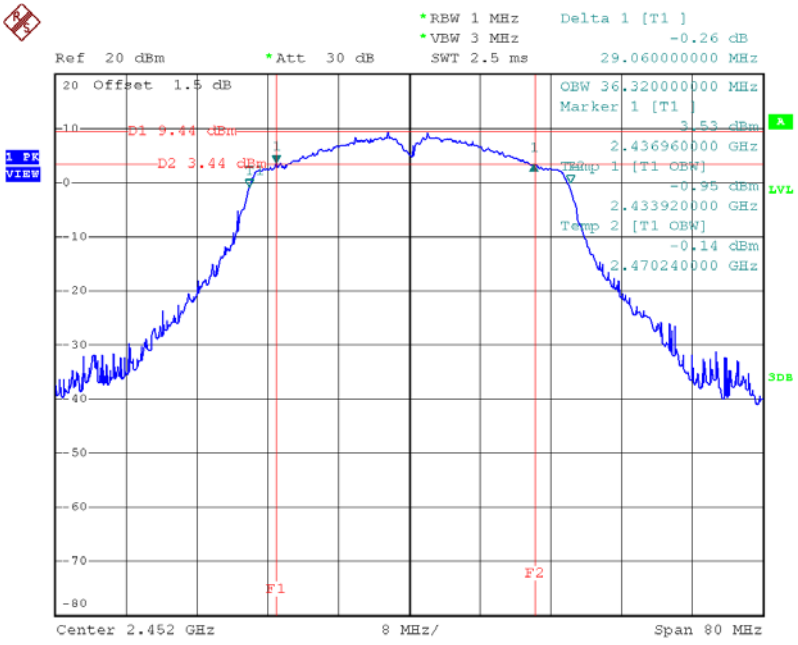
Date: 24.JUL.2018 11:28:59

TX CH06



Date: 24.JUL.2018 11:31:11

TX CH09



Date: 24.JUL.2018 11:32:45

APPENDIX F - MAXIMUM AVERAGE OUTPUT POWER

Test Mode: TX B Mode_CH01/06/11_ANT 1						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.24	0.00	21.24	28.08	0.64	Complies
2437	21.56	0.00	21.56	28.08	0.64	Complies
2462	21.56	0.00	21.56	28.08	0.64	Complies

Test Mode: TX B Mode_CH01/06/11_ANT 2						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.13	0.00	21.13	28.08	0.64	Complies
2437	21.38	0.00	21.38	28.08	0.64	Complies
2462	21.23	0.00	21.23	28.08	0.64	Complies

Test Mode: TX B Mode_CH01/06/11_ANT 3						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.11	0.00	21.11	28.08	0.64	Complies
2437	21.28	0.00	21.28	28.08	0.64	Complies
2462	21.28	0.00	21.28	28.08	0.64	Complies

Test Mode: TX B Mode_CH01/06/11_Total						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	25.93	0.00	25.93	28.08	0.64	Complies
2437	26.18	0.00	26.18	28.08	0.64	Complies
2462	26.13	0.00	26.13	28.08	0.64	Complies

Test Mode: TX G Mode_CH01/06/11_ANT 1						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.33	0.14	19.47	28.08	0.64	Complies
2437	21.25	0.14	21.39	28.08	0.64	Complies
2462	21.45	0.14	21.59	28.08	0.64	Complies

Test Mode: TX G Mode_CH01/06/11_ANT 2						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.89	0.14	19.03	28.08	0.64	Complies
2437	21.46	0.14	21.60	28.08	0.64	Complies
2462	20.33	0.14	20.47	28.08	0.64	Complies

Test Mode: TX G Mode_CH01/06/11_ANT 3						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.88	0.14	19.02	28.08	0.64	Complies
2437	21.03	0.14	21.17	28.08	0.64	Complies
2462	21.05	0.14	21.19	28.08	0.64	Complies

Test Mode: TX G Mode_CH01/06/11_Total						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	23.81	0.14	23.95	28.08	0.64	Complies
2437	26.02	0.14	26.16	28.08	0.64	Complies
2462	25.74	0.14	25.88	28.08	0.64	Complies

Test Mode: TX N20 Mode_CH01/06/11_ANT 1						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.43	0.14	19.57	28.08	0.64	Complies
2437	21.15	0.14	21.29	28.08	0.64	Complies
2462	20.26	0.14	20.40	28.08	0.64	Complies

Test Mode: TX N20 Mode_CH01/06/11_ANT 2						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.82	0.14	18.96	28.08	0.64	Complies
2437	21.34	0.14	21.48	28.08	0.64	Complies
2462	19.51	0.14	19.65	28.08	0.64	Complies

Test Mode: TX N20 Mode_CH01/06/11_ANT 3						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.86	0.14	19.00	28.08	0.64	Complies
2437	21.26	0.14	21.40	28.08	0.64	Complies
2462	19.63	0.14	19.77	28.08	0.64	Complies

Test Mode: TX N20 Mode_CH01/06/11_Total						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	23.82	0.14	23.96	28.08	0.64	Complies
2437	26.02	0.14	26.16	28.08	0.64	Complies
2462	24.58	0.14	24.72	28.08	0.64	Complies

Test Mode: TX N40 Mode_CH01/06/11_ANT 1						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	17.63	0.30	17.93	28.08	0.64	Complies
2437	18.51	0.30	18.81	28.08	0.64	Complies
2452	17.52	0.30	17.82	28.08	0.64	Complies

Test Mode: TX N40 Mode_CH03/06/09_ANT 2						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	16.62	0.30	16.92	28.08	0.64	Complies
2437	17.54	0.30	17.84	28.08	0.64	Complies
2452	16.63	0.30	16.93	28.08	0.64	Complies

Test Mode: TX N40 Mode_CH03/06/09_ANT 3						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	16.77	0.30	17.07	28.08	0.64	Complies
2437	18.13	0.30	18.43	28.08	0.64	Complies
2452	17.21	0.30	17.51	28.08	0.64	Complies

Test Mode: TX N40 Mode_CH03/06/09_Total						
Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	21.80	0.30	22.10	28.08	0.64	Complies
2437	22.85	0.30	23.15	28.08	0.64	Complies
2452	21.91	0.30	22.21	28.08	0.64	Complies

APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION