FCC Radio Test Report

FCC ID: V7TW311M2

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

Project No.	:	1507C100
Equipment	:	150Mbps Wireless N USB Adapter
Model Name	:	W311M
Applicant	:	SHENZHEN TENDA TECHNOLOGY CO.
Address	:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

Date of Receipt	:	Jul. 08, 2015
Date of Test	:	Jul. 08, 2015 ~ Jul. 28, 2015
Issued Date	:	Jul. 29, 2015
Tested by	:	BTL Inc.

Testing Engineer : David Mao
(David Mao)

Technical Manager : Leo Hung
(Leo Hung)

Authorized Signatory : Steven Lu
(Steven Lu)

BTL INC.

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.
TEL: +86-769-8318-3000 FAX: +86-769-8319-6000

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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

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

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

BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Table of Contents Page

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1507C100	Original Issue.	Jul. 29, 2015

1. CERTIFICATION

Equipment	:	150Mbps Wireless N USB Adapter
Brand Name	:	Tenda
Model Name	:	W311M
Applicant	:	SHENZHEN TENDA TECHNOLOGY CO.
Manufacturer	:	SHENZHEN TENDA TECHNOLOGY CO.
Address	:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052
Date of Test	:	Jul. 08, 2015 ~ Jul. 28, 2015
Test Sample	:	Engineering Sample
Standard(s)	:	FCC Part15, Subpart C: 2014 (15.247) / ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1507C100) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15 (15.247) , Subpart C: 2014			
Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(b)(3)	Peak Output Power	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
15.209/15.205	Transmitter Radiated Emissions	PASS	

NOTE:

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

(2) The test follows FCC KDB Publication No. 558074 D01 DTS Meas Guidance v03r03 (Measurement Guidelines of DTS)

2.1 TEST FACILITY

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

2.2 MEASUREMENT UNCERTAINTY

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

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

A. Conducted Measurement:

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

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant.	U,(dB)	Note
DG-CB03 (3m)	CISPR	9KHz ~ 30MHz	V	3.79	
		9KHz ~ 30MHz	H	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.78	
		200MHz ~ 1,000MHz	V	4.10	
		200MHz ~ 1,000MHz	H	4.06	

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	150Mbps Wireless N USB Adapter	
Brand Name	Tenda	
Model Name	W311M	
Model Difference	N/A	
Product Description	Operation Frequency	2412~2462 MHz
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 150Mbps
	Output Power (Max.)	802.11b: 9.86dBm 802.11g: 9.76dBm 802.11n(20MHz): 9.98dBm 802.11n(40MHz): 9.56dBm
Power Source	Supplied from PC USB Port.	
Power Rating	DC 5V	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

CH01 – CH11 for 802.11b, 802.11g, 802.11n(20MHz) CH03 – CH09 for 802.11n(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	Tenda	M311M	Printed	N/A	1	

3.2 DESCRIPTION OF TEST MODES

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

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

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

For Conducted Test	
Final Test Mode	Description
Mode 5	Normal Link

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

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

6dB Spectrum Bandwidth	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09

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

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

Note:

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

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

(3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.

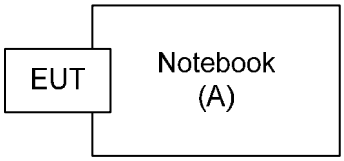
(4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

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	N/A		
Frequency (MHz)	2412	2437	2462
802.11b	22	22	22
802.11g	19	19	18
802.11n (20MHz)	18	18	17
Frequency	2422	2437	2452
802.11n (40MHz)	16	15	16

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.	Note
A	NOTEBOOK	DELL	INSPIRON 1420	N/A	JX193A01SDC2	

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency of Emission (MHz)	Conducted Limit (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

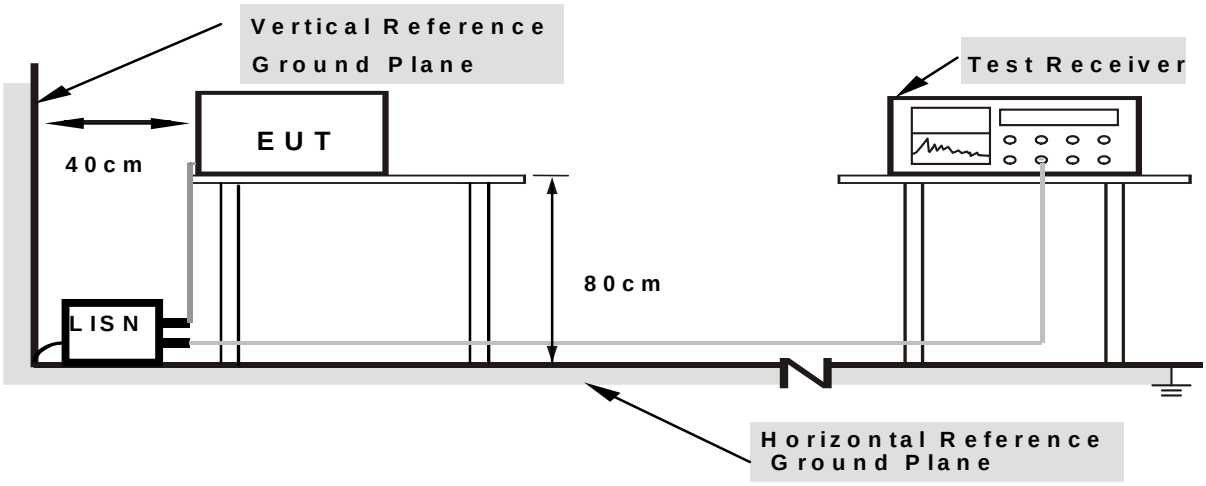
4.1.2 TEST PROCEDURE

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 equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80
from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

The EUT was placed on the test table and programmed in normal function.

4.1.6 EUT TEST CONDITIONS

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

4.1.7 TEST RESULTS

Please refer to the Attachment A.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

20dB in any 100 KHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9KHz-1000MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C47.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average

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

4.2.2 TEST PROCEDURE

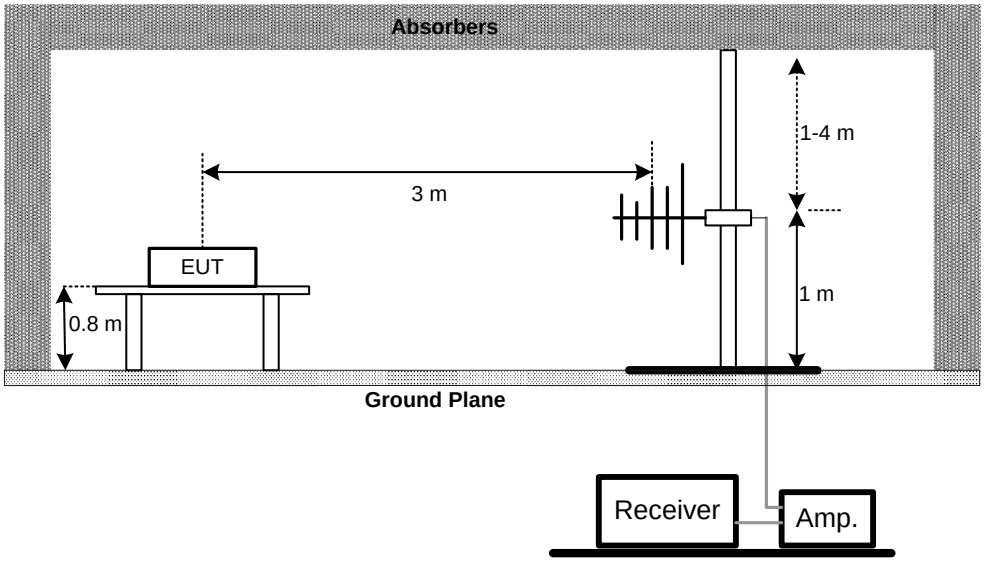
a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

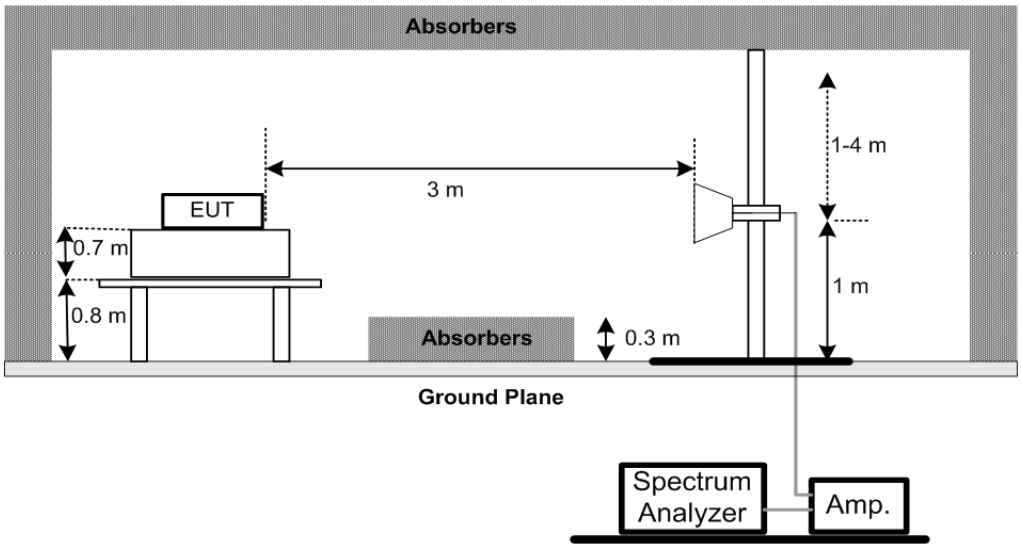
No deviation

4.2.4 TEST SETUP

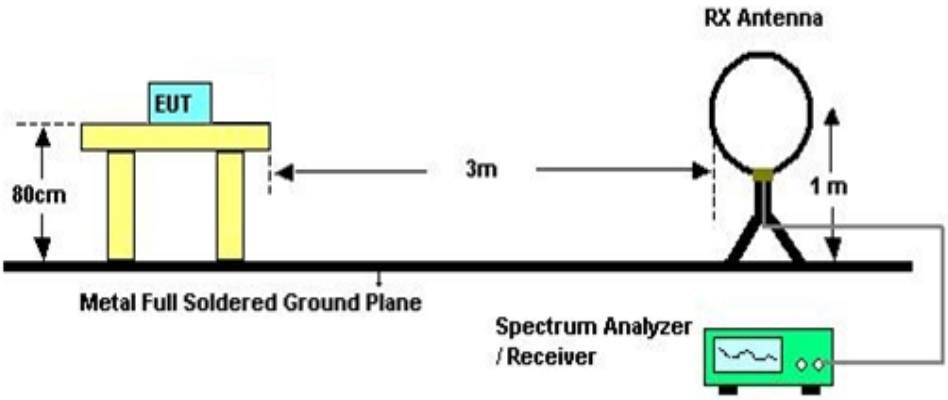
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

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

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

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

4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

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

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

FCC Part15 (15.247) , Subpart C47			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	2400-2483.5	PASS

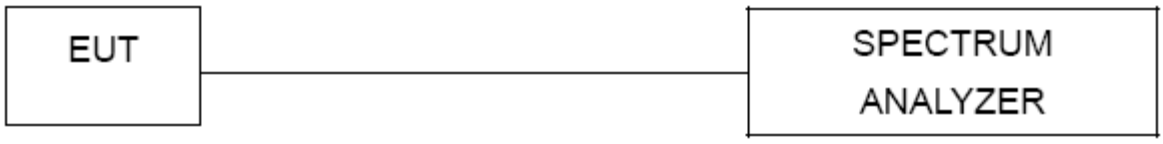
5.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.1.5 EUT TEST CONDITIONS

Temperature: 26°C Relative Humidity: 56% Test Voltage: AC 120V/60Hz

5.1.6 TEST RESULTS

Please refer to the Attachment E.

6. MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Maximum Output Power	1 Watt or 30dBm	2400-2483.5	PASS

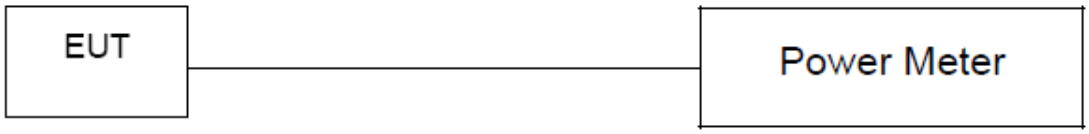
6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
b. The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance v03r03.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5 EUT TEST CONDITIONS

Temperature: 26°C Relative Humidity: 56% Test Voltage: AC 120V/60Hz

6.1.6 TEST RESULTS

Please refer to the Attachment F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

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

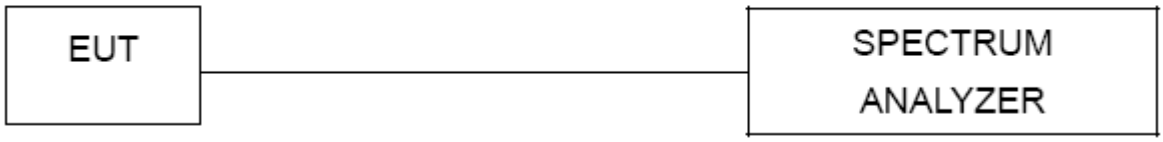
7.1.1 TEST PROCEDURE

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

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: 26°C Relative Humidity: 56% Test Voltage: AC 120V/60Hz

7.1.6 TEST RESULTS

Please refer to the Attachment G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

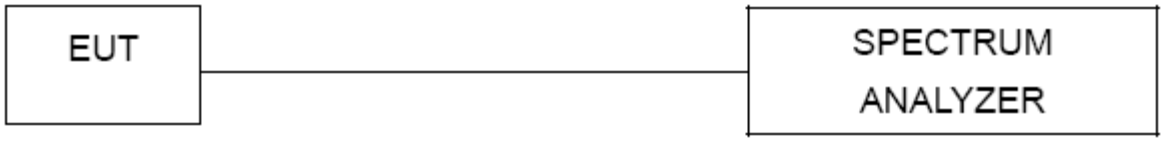
8.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting: RBW=3KHz, VBW=10KHz, Sweep time = Auto.

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.1.5 EUT TEST CONDITIONS

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

8.1.6 TEST RESULTS

Please refer to the Attachment H.

9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 28, 2016
2	LISN	R&S	ENV216	101447	Mar. 28, 2016
3	Test Cable	N/A	C_17	N/A	Mar.13, 2016
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 28, 2016
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 28, 2016
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1 -01	N/A	N/A

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 28, 2016
2	Amplifier	HP	8447D	2944A09673	Nov. 17, 2015
3	Receiver	AGILENT	N9038A	MY5213003 9	Sep. 30, 2015
4	Test Cable	emci	LMR-400(30MH z-1GHz)	C-01	Jun. 28, 2016
5	Controller	CT	SC100	N/A	N/A
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
7	Amplifier	Agilent	8449B	3008A02274	Nov. 02, 2015
8	Receiver	AGILENT	N9038A	MY5213003 9	Sep. 30, 2015
9	Test Cable	emci	EMC104-SM-S M-10000(1GHz －26.5GHz)	C-68	Jun. 28, 2016
10	Controller	CT	SC100	N/A	N/A
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Mar. 28, 2016
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 28, 2016
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Aug. 16, 2015
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

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

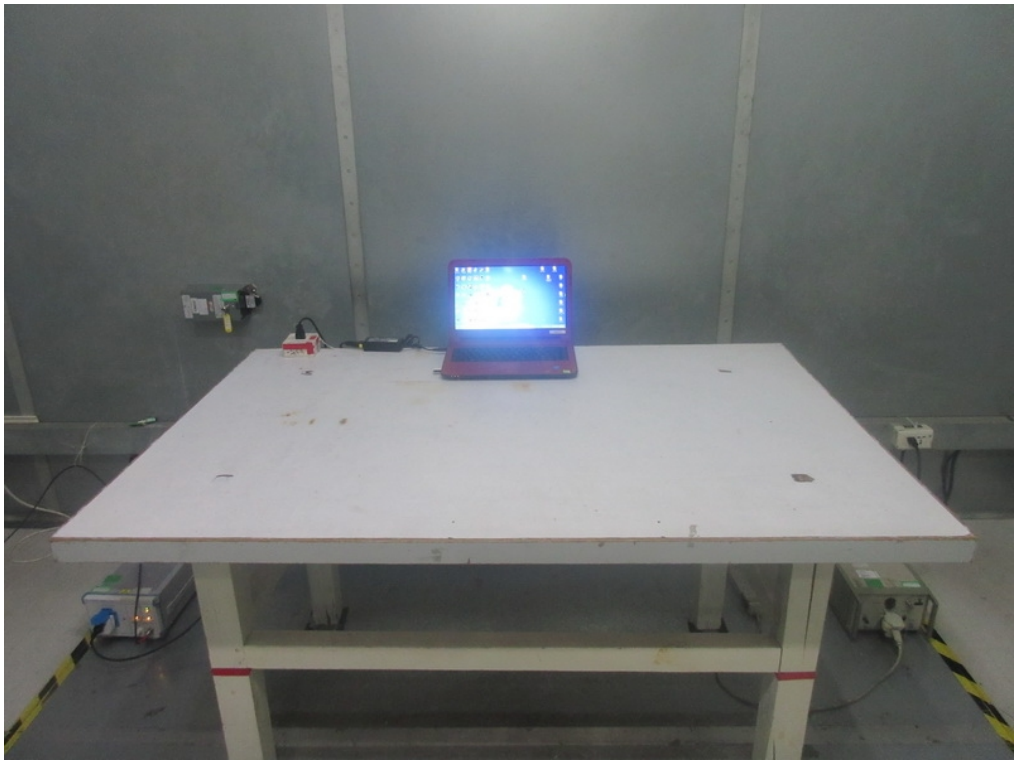
Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

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

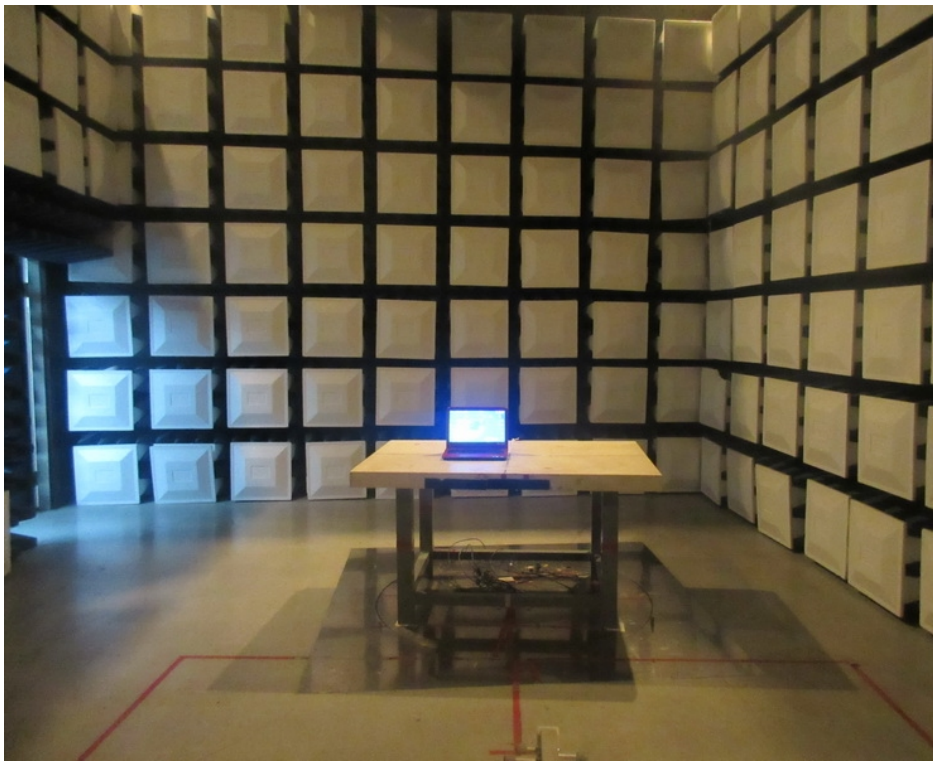
10. EUT TEST PHOTO

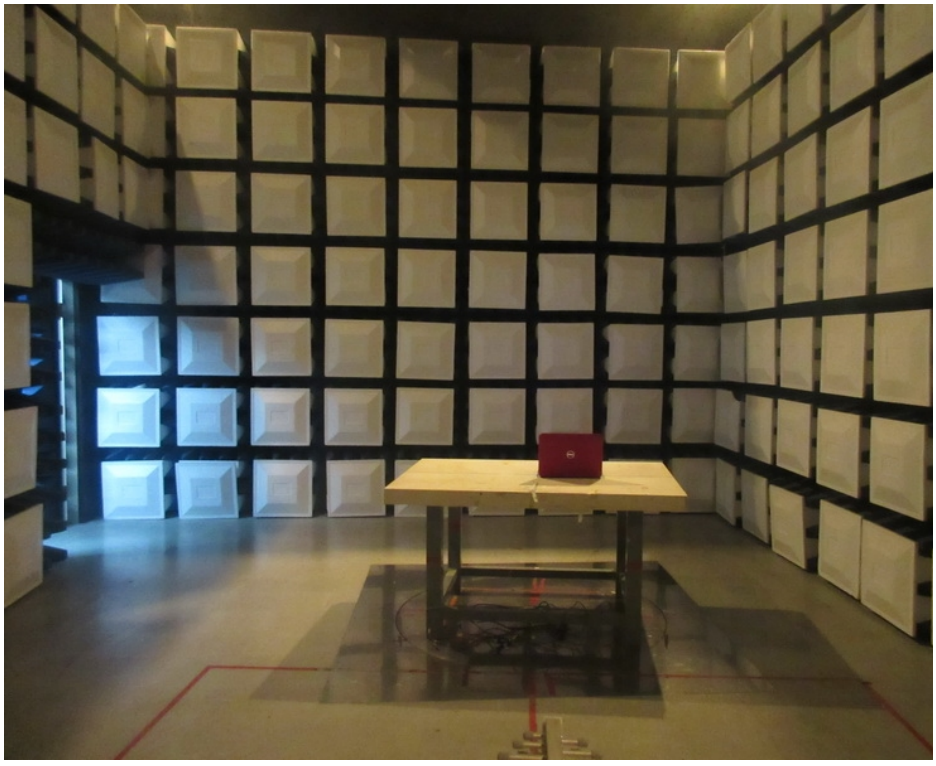
Conducted Measurement Photos



Radiated Measurement Photos

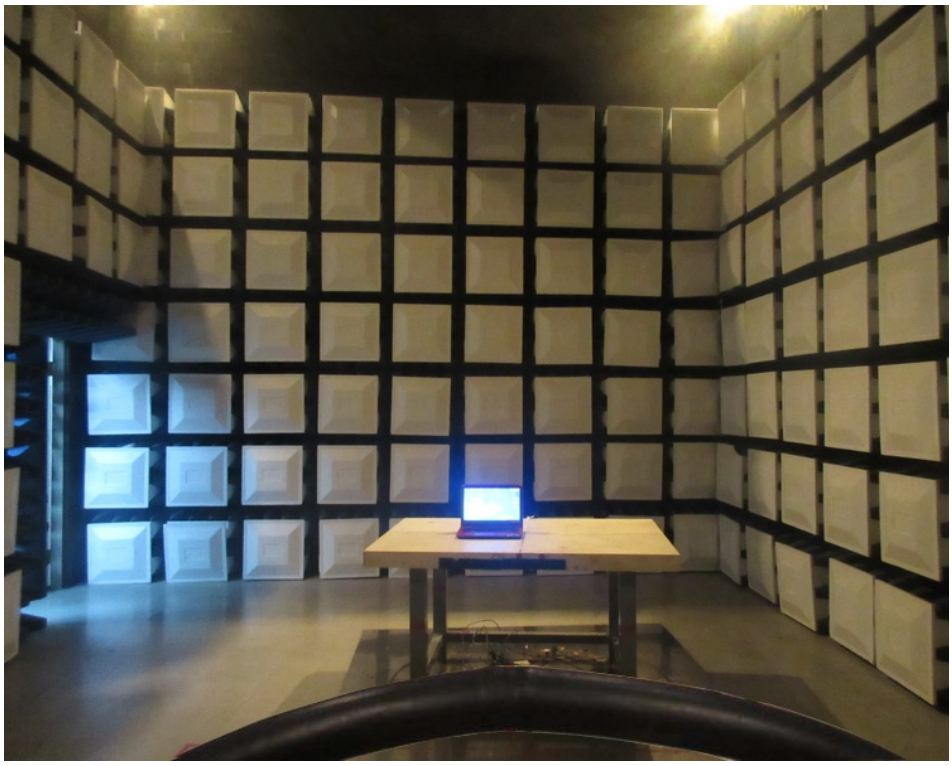
9KHz to 30MHz

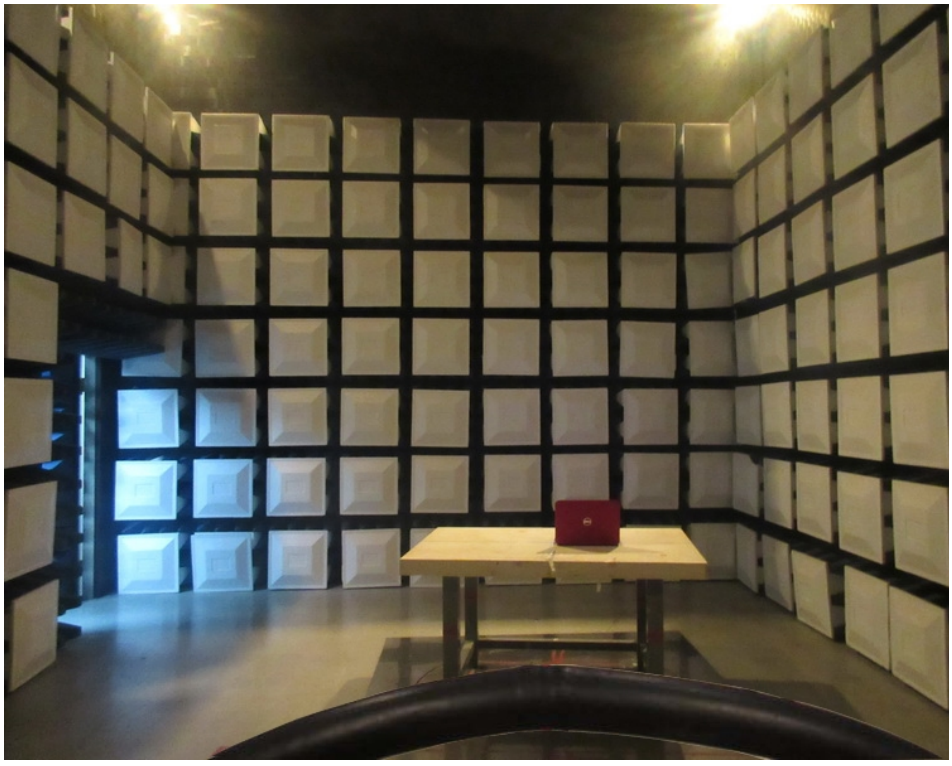




Radiated Measurement Photos

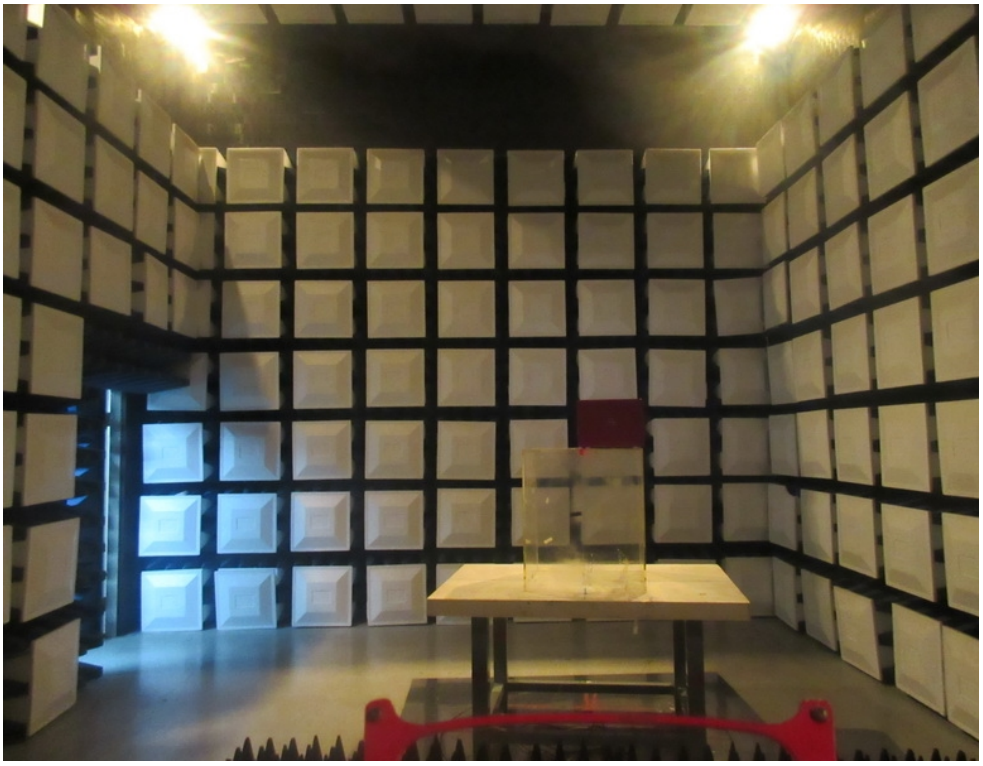
30MHz to 1000MHz

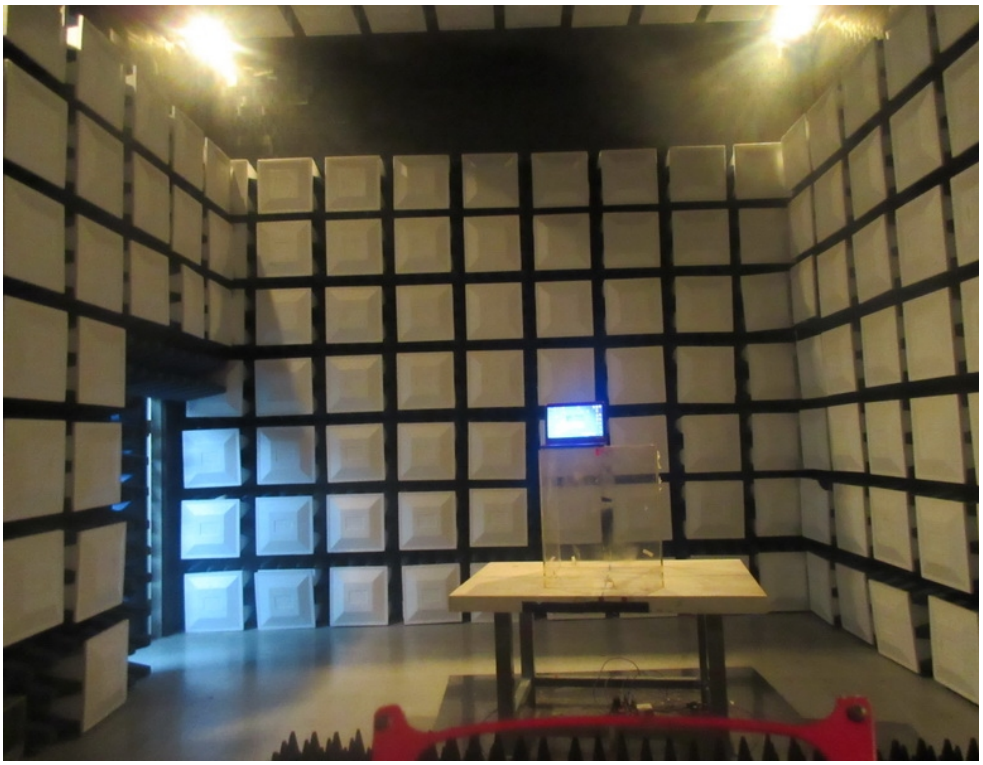




Radiated Measurement Photos

Above 1000MHz

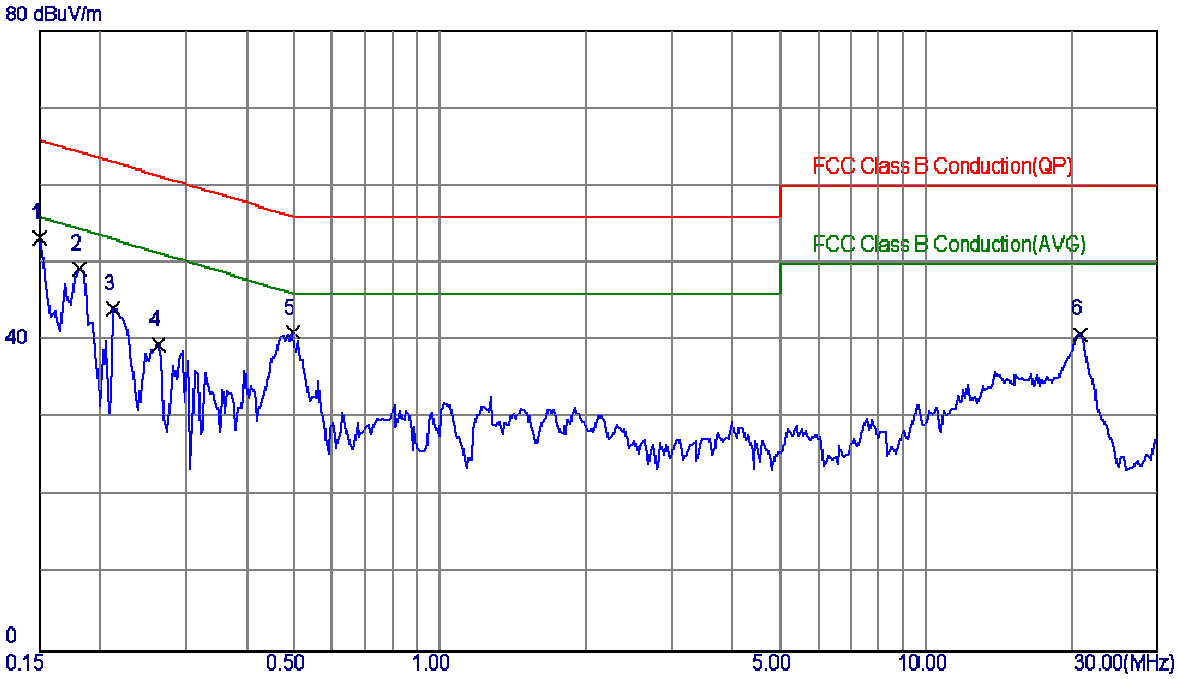




ATTACHMENT A - CONDUCTED EMISSION

Test Mode :	Normal Link

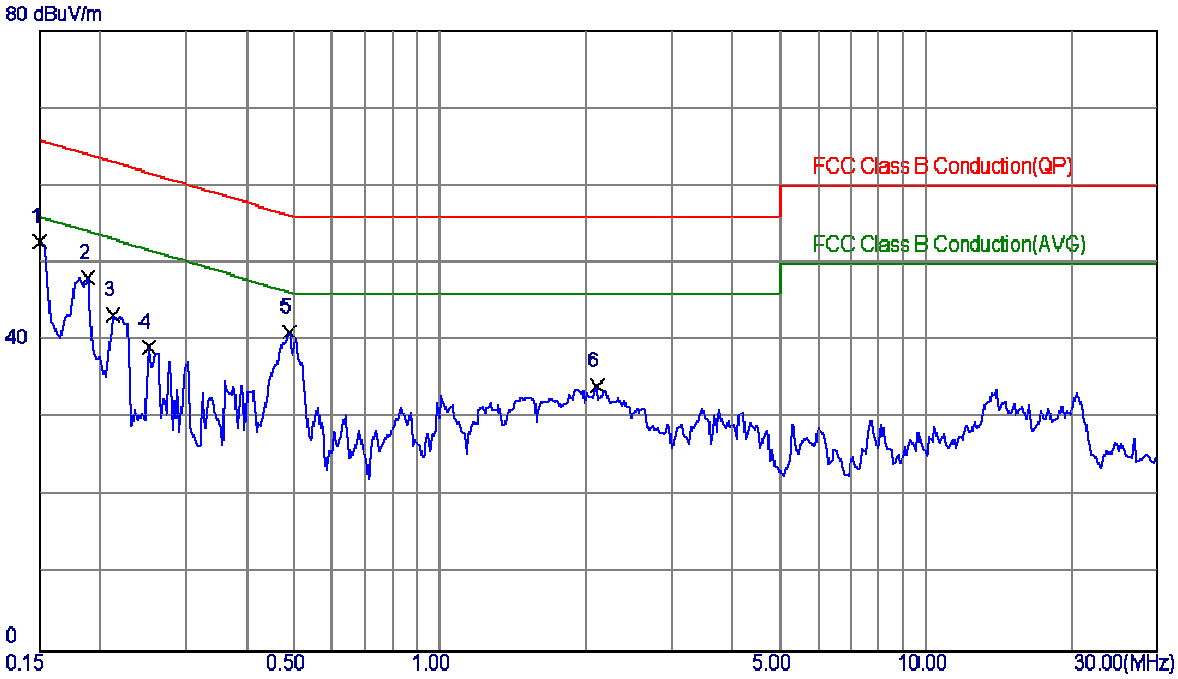
Line



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.1500	43.81	9.51	53.32	66.00	-12.68	Peak	
2	0.1812	39.75	9.53	49.28	64.43	-15.15	Peak	
3	0.2125	34.56	9.55	44.11	63.11	-19.00	Peak	
4	0.2633	30.02	9.57	39.59	61.33	-21.74	Peak	
5	0.4977	31.34	9.70	41.04	56.04	-15.00	Peak	
6	20.7930	30.40	10.48	40.88	60.00	-19.12	Peak	

Test Mode :	Normal Link

Neutral



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.1500	43.16	9.62	52.78	66.00	-13.22	Peak	
2	0.1891	38.61	9.61	48.22	64.08	-15.86	Peak	
3	0.2125	33.81	9.61	43.42	63.11	-19.69	Peak	
4	0.2516	29.58	9.62	39.20	61.70	-22.50	Peak	
5	0.4898	31.42	9.64	41.06	56.17	-15.11	Peak	
6	2.1031	24.43	9.74	34.17	56.00	-21.83	Peak	

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

Test Mode:	TX B MODE CHANNEL 01

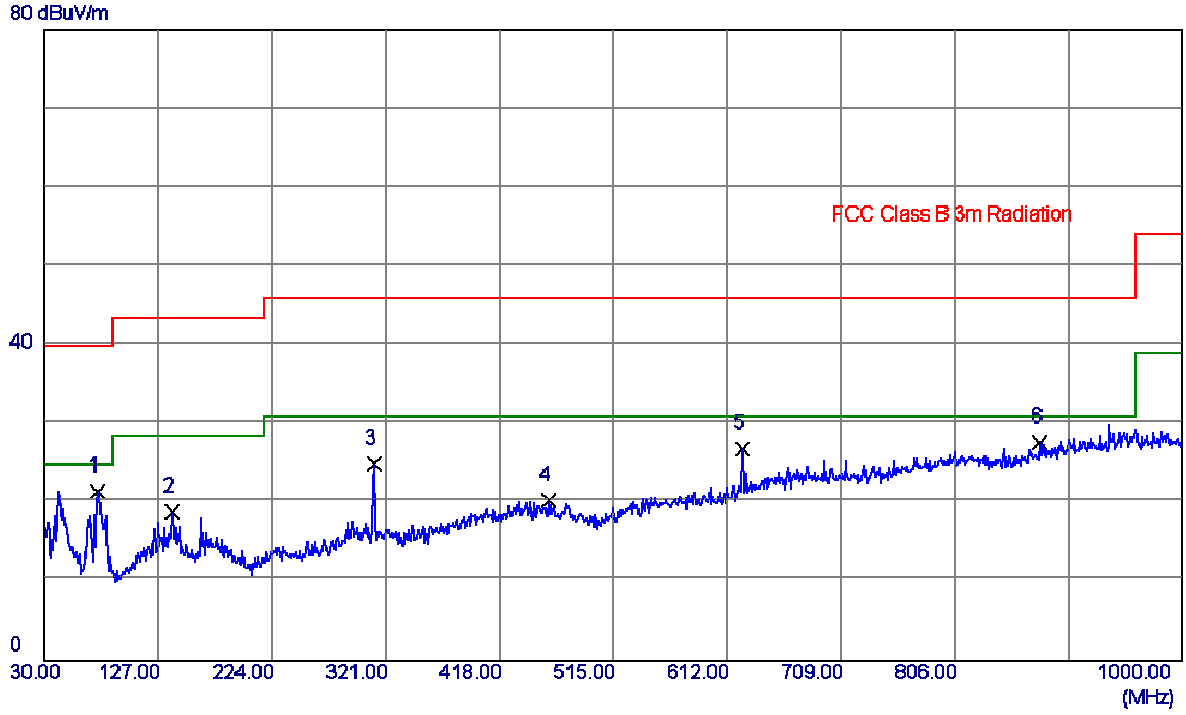
Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.00968	0°	13.41	24.9536	38.3636	127.8867	-89.5231	AVG
0.00968	0°	14.28	24.9536	39.2336	147.8867	-108.6531	PEAK
0.0233	0°	6.73	24.0910	30.8210	120.2571	-89.4361	AVG
0.0233	0°	8.12	24.0910	32.2110	140.2571	-108.0461	PEAK
0.0346	0°	3.17	23.3753	26.5453	116.8227	-90.2774	AVG
0.0346	0°	5.58	23.3753	28.9553	136.8227	-107.8674	PEAK
0.0429	0°	1.16	22.8497	24.0097	114.9551	-90.9454	AVG
0.0429	0°	2.53	22.8497	25.3797	134.9551	-109.5754	PEAK
0.4986	0°	19.36	19.8034	39.1634	73.6492	-34.4858	QP
1.7178	0°	23.71	19.5282	43.2382	69.5400	-26.3018	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.00948	90°	13.16	24.3000	37.4600	128.0681	-90.6081	AVG
0.00948	90°	14.89	24.3000	39.1900	148.0681	-108.8781	PEAK
0.0232	90°	7.28	24.0973	31.3773	120.2945	-88.9171	AVG
0.0232	90°	8.94	24.0973	33.0373	140.2945	-107.2571	PEAK
0.0317	90°	5.23	23.5590	28.7890	117.5830	-88.7940	AVG
0.0317	90°	6.19	23.5590	29.7490	137.5830	-107.8340	PEAK
0.0436	90°	1.54	22.8053	24.3453	114.8145	-90.4692	AVG
0.0436	90°	2.86	22.8053	25.6653	134.8145	-109.1492	PEAK
0.4952	90°	22.17	19.8115	41.9815	73.7086	-31.7271	QP
1.7179	90°	24.56	19.5282	44.0882	69.5400	-25.4518	QP

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

Test Mode:	TX B MODE CHANNEL 01

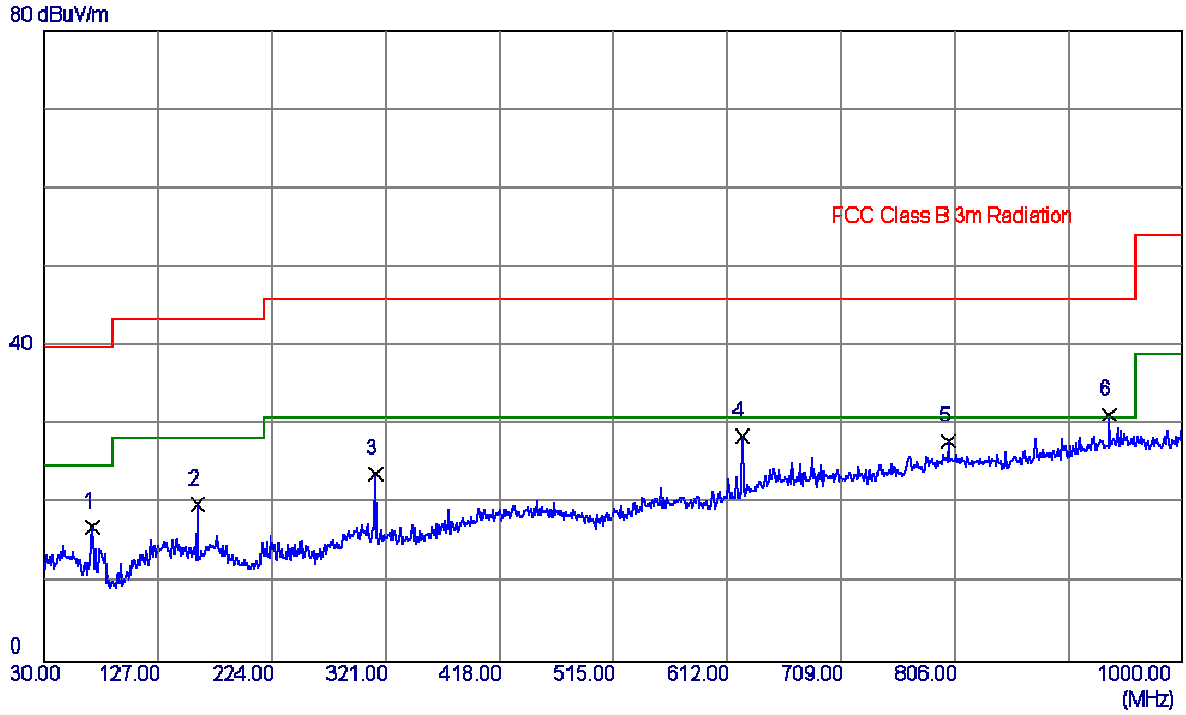
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	75.5899	38.14	-16.66	21.48	40.00	-18.52	Peak	
2	138.6400	31.99	-13.15	18.84	43.50	-24.66	Peak	
3	311.3000	36.10	-11.17	24.93	46.00	-21.07	Peak	
4	459.7100	29.27	-8.99	20.28	46.00	-25.72	Peak	
5	624.6100	33.37	-6.55	26.82	46.00	-19.18	Peak	
6	878.7500	29.94	-2.22	27.72	46.00	-18.28	Peak	

Test Mode:	TX B MODE CHANNEL 01

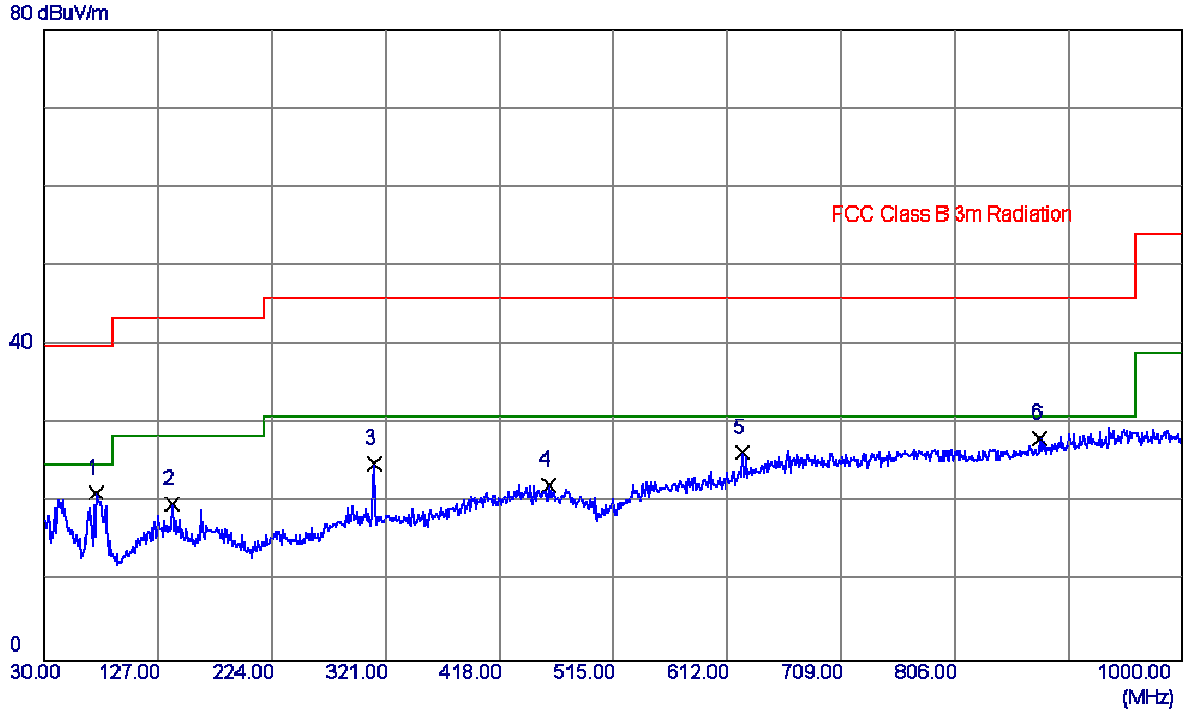
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	70.7400	33.38	-16.30	17.08	40.00	-22.92	Peak	
2	159.9800	33.89	-13.89	20.00	43.50	-23.50	Peak	
3	312.2700	35.07	-11.19	23.88	46.00	-22.12	Peak	
4	624.6100	35.22	-6.55	28.67	46.00	-17.33	Peak	
5	800.1800	30.85	-2.89	27.96	46.00	-18.04	Peak	
6	937.9200	31.90	-0.53	31.37	46.00	-14.63	Peak	

Test Mode:	TX B MODE CHANNEL 06

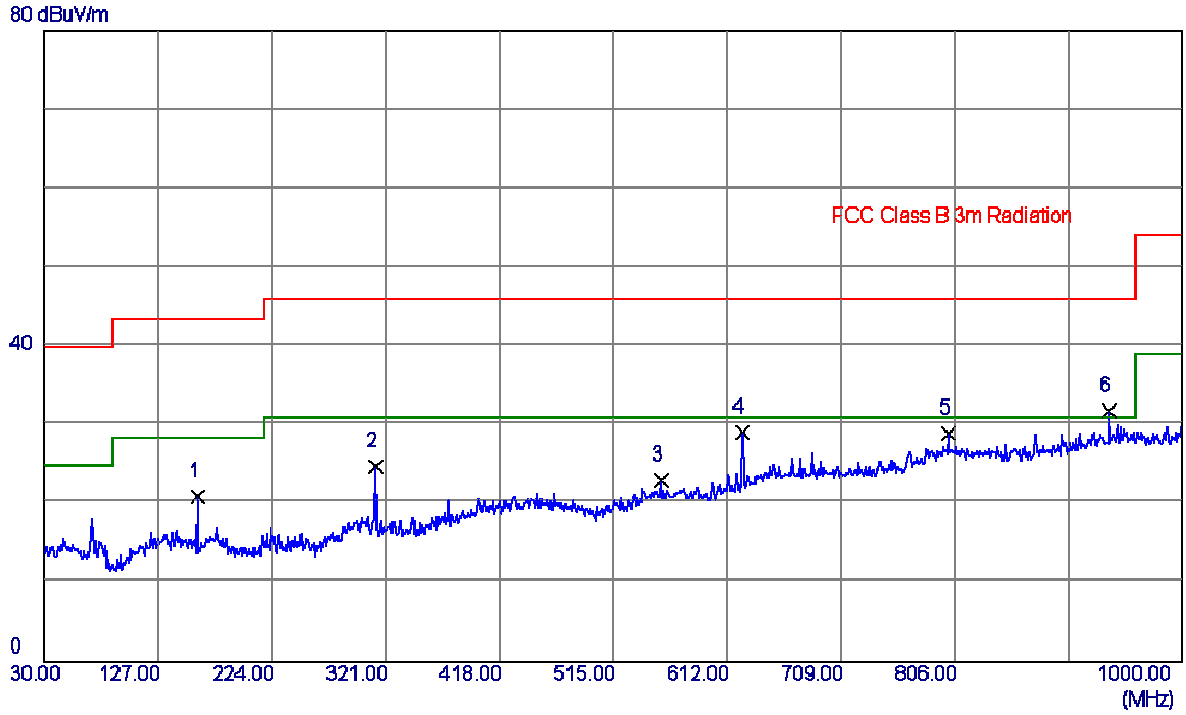
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	74.6200	37.77	-16.57	21.20	40.00	-18.80	Peak	
2	138.6400	32.99	-13.15	19.84	43.50	-23.66	Peak	
3	311.3000	36.10	-11.17	24.93	46.00	-21.07	Peak	
4	459.7100	31.27	-8.99	22.28	46.00	-23.72	Peak	
5	624.6100	32.87	-6.55	26.32	46.00	-19.68	Peak	
6	878.7500	30.44	-2.22	28.22	46.00	-17.78	Peak	

Test Mode:	TX B MODE CHANNEL 06

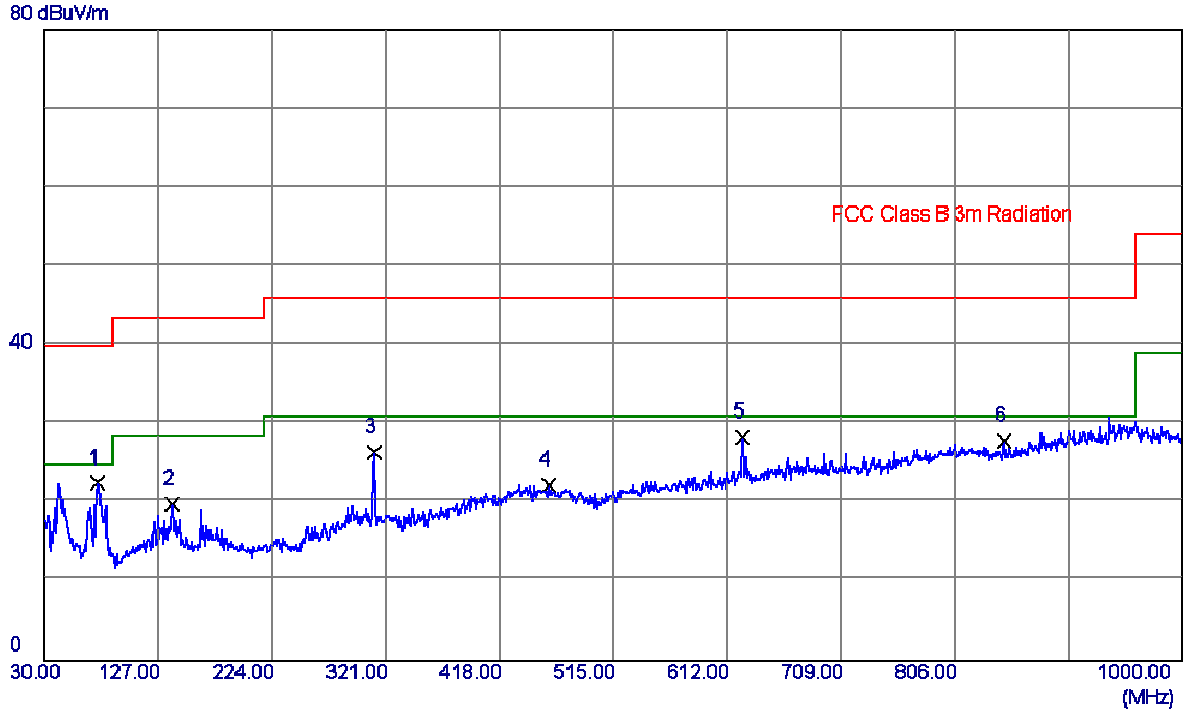
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	159.9800	34.89	-13.89	21.00	43.50	-22.50	Peak	
2	312.2700	36.07	-11.19	24.88	46.00	-21.12	Peak	
3	555.7400	30.98	-7.93	23.05	46.00	-22.95	Peak	
4	624.6100	35.72	-6.55	29.17	46.00	-16.83	Peak	
5	800.1800	31.85	-2.89	28.96	46.00	-17.04	Peak	
6	937.9200	32.40	-0.53	31.87	46.00	-14.13	Peak	

Test Mode:	TX B MODE CHANNEL 11

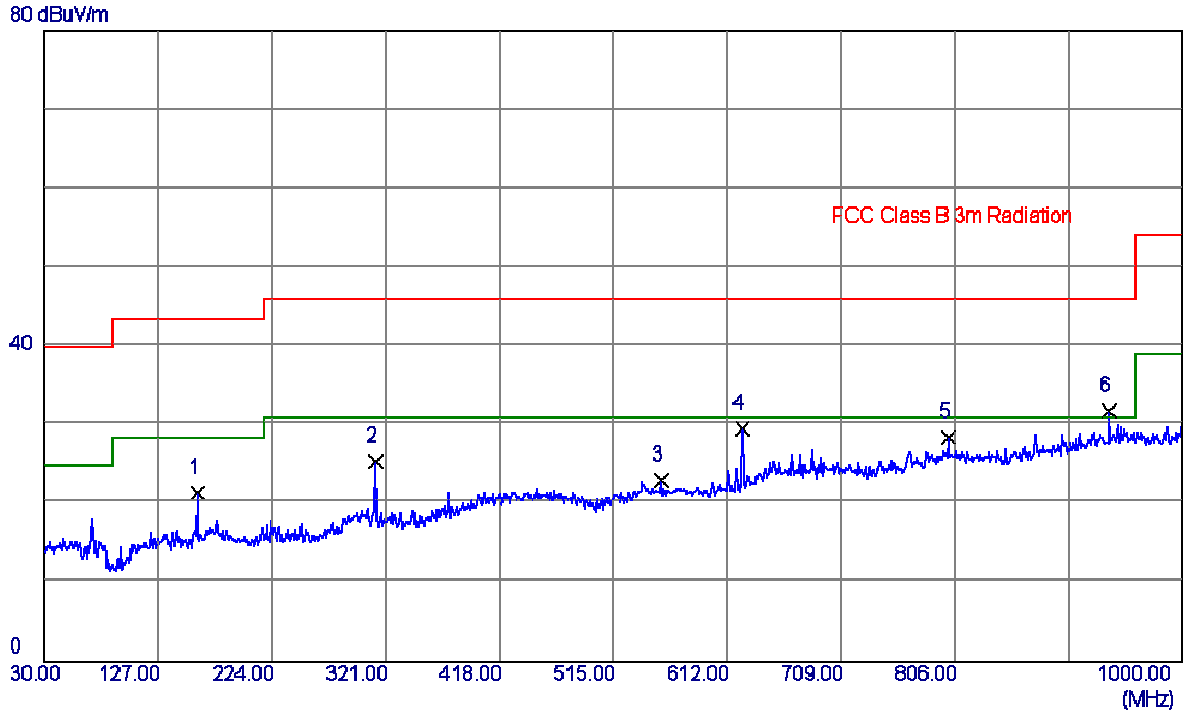
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	75.5899	39.14	-16.66	22.48	40.00	-17.52	Peak	
2	138.6400	32.99	-13.15	19.84	43.50	-23.66	Peak	
3	311.3000	37.60	-11.17	26.43	46.00	-19.57	Peak	
4	459.7100	31.27	-8.99	22.28	46.00	-23.72	Peak	
5	624.6100	34.87	-6.55	28.32	46.00	-17.68	Peak	
6	847.7100	31.00	-3.14	27.86	46.00	-18.14	Peak	

Test Mode:	TX B MODE CHANNEL 11

Horizontal

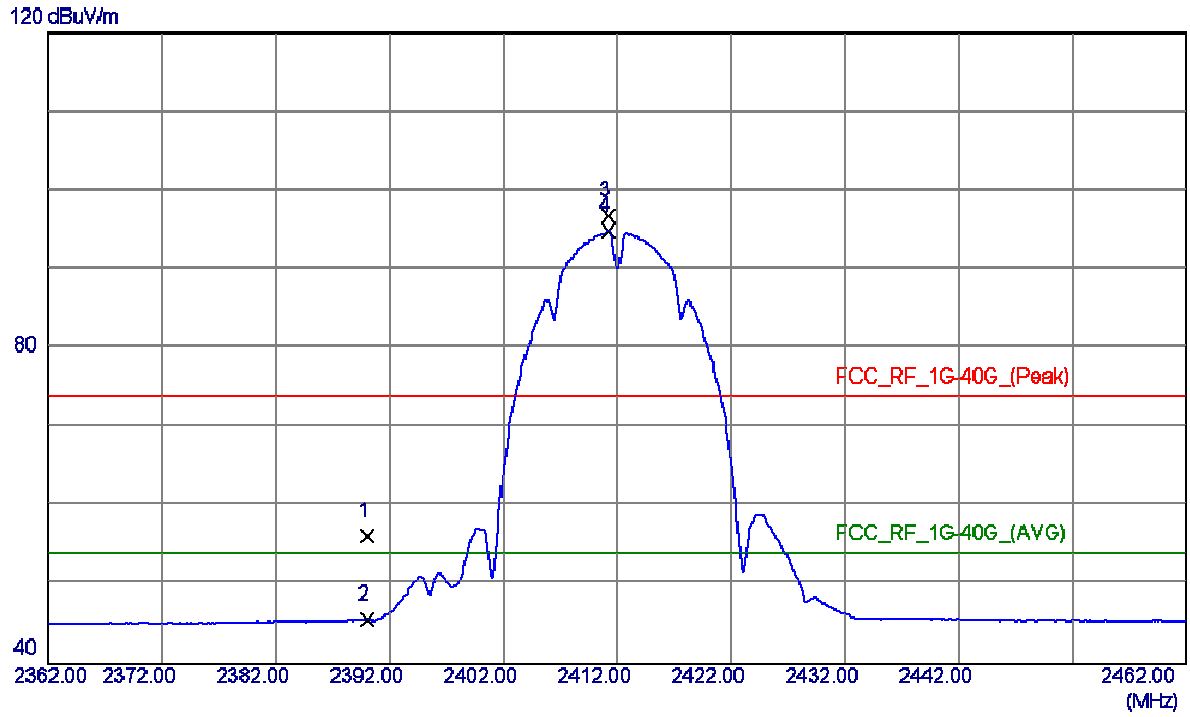


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	159.9800	35.39	-13.89	21.50	43.50	-22.00	Peak	
2	312.2700	36.57	-11.19	25.38	46.00	-20.62	Peak	
3	555.7400	30.98	-7.93	23.05	46.00	-22.95	Peak	
4	624.6100	36.22	-6.55	29.67	46.00	-16.33	Peak	
5	800.1800	31.35	-2.89	28.46	46.00	-17.54	Peak	
6	937.9200	32.40	-0.53	31.87	46.00	-14.13	Peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

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

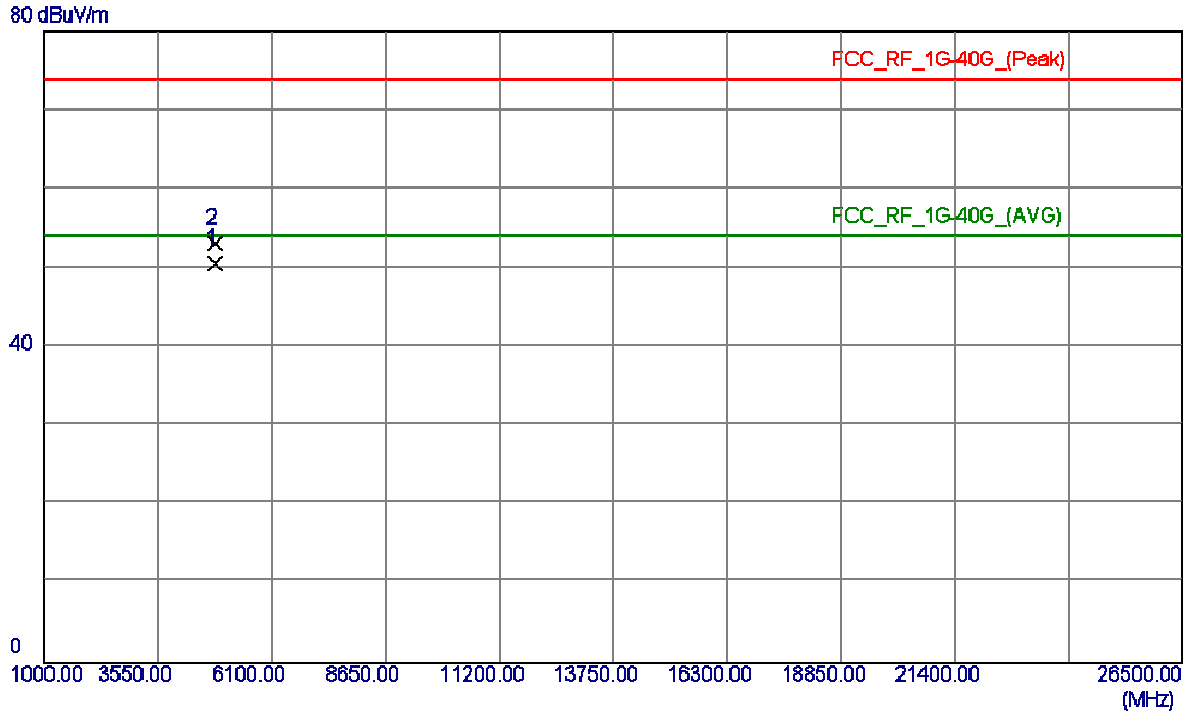
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	24.33	31.88	56.21	74.00	-17.79	Peak	
2	2390.0000	13.69	31.88	45.57	54.00	-8.43	AVG	
3	2411.2000	64.90	31.91	96.81	74.00	22.81	Peak	No Limit
4	2411.2000	62.97	31.91	94.88	54.00	40.88	AVG	No Limit

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

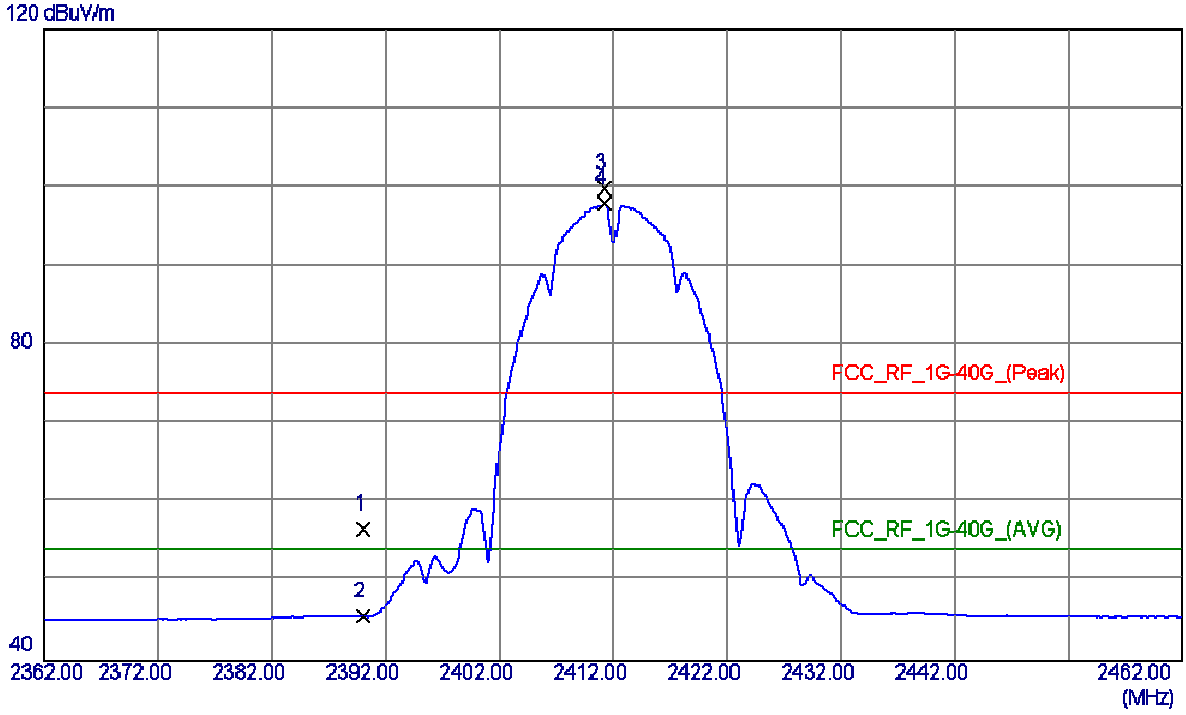
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0000	46.91	3.62	50.53	54.00	-3.47	AVG	
2	4824.0600	49.54	3.62	53.16	74.00	-20.84	Peak	

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

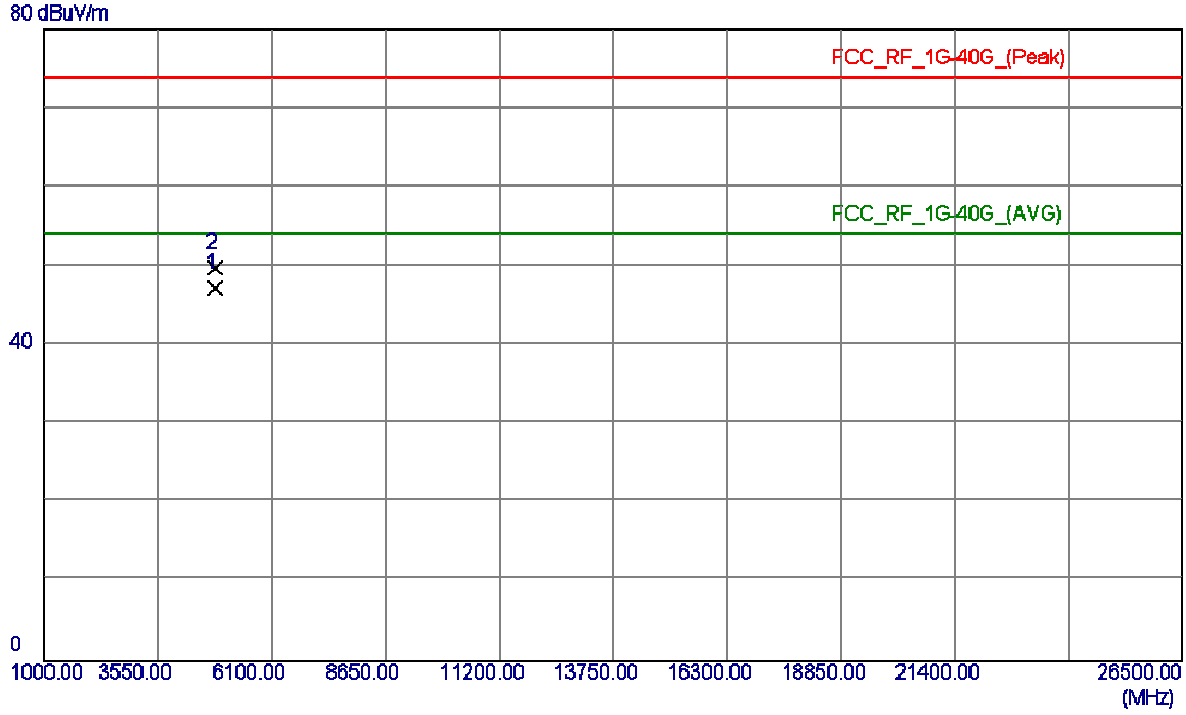
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	24.76	31.88	56.64	74.00	-17.36	Peak	
2	2390.0000	13.70	31.88	45.58	54.00	-8.42	AVG	
3	2411.2000	67.90	31.91	99.81	74.00	25.81	Peak	No Limit
4	2411.2000	65.94	31.91	97.85	54.00	43.85	AVG	No Limit

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

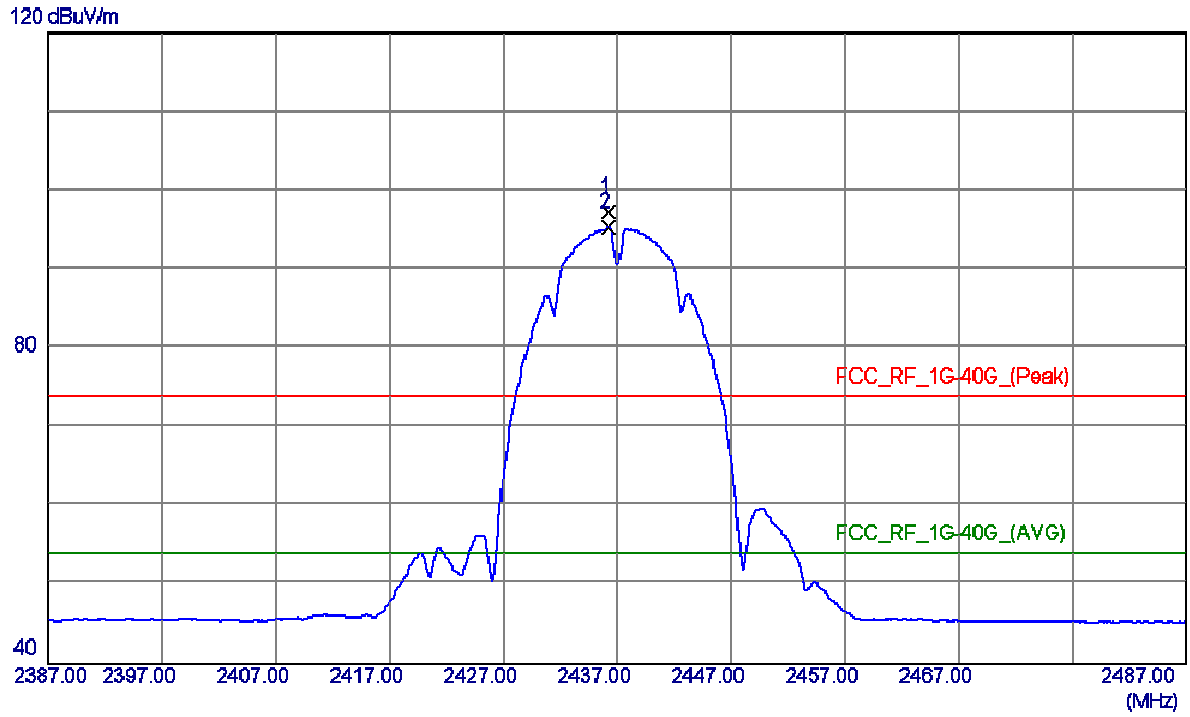
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0600	43.54	3.62	47.16	54.00	-6.84	AVG	
2	4824.0800	46.16	3.62	49.78	74.00	-24.22	Peak	

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

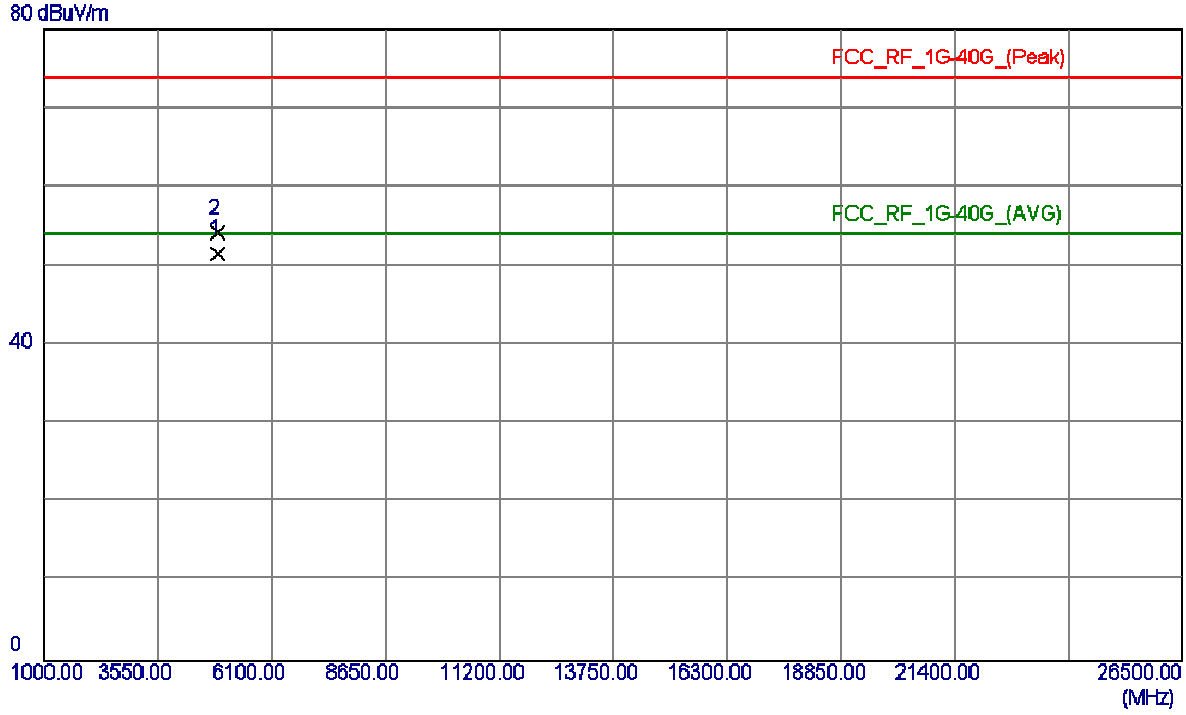
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2436.2000	65.37	31.94	97.31	74.00	23.31	Peak	No Limit
2	2436.2000	63.42	31.94	95.36	54.00	41.36	AVG	No Limit

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

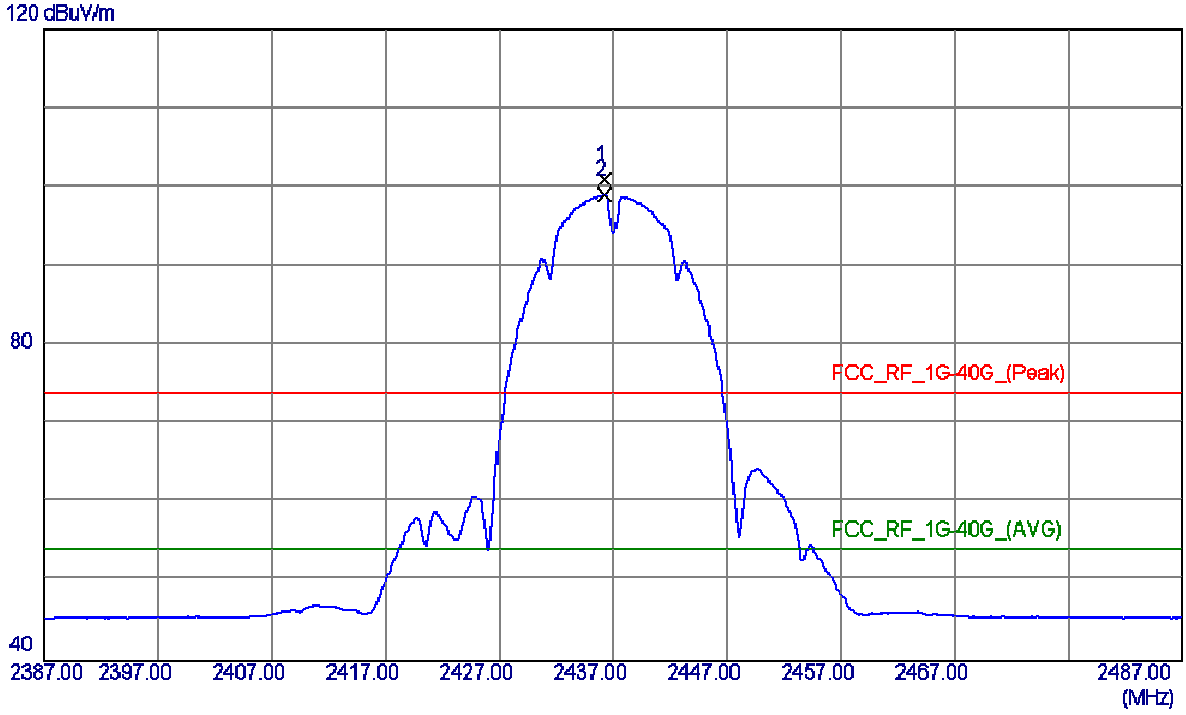
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4874.0200	47.82	3.71	51.53	54.00	-2.47	AVG	
2	4874.0400	50.45	3.71	54.16	74.00	-19.84	Peak	

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

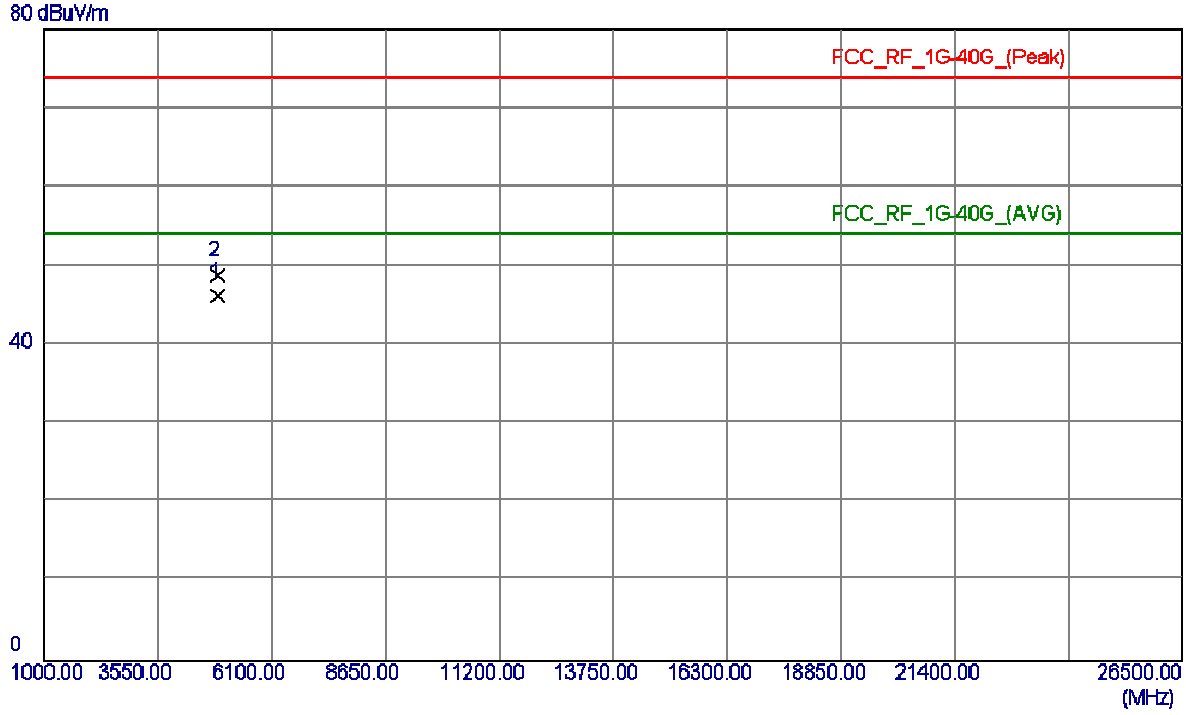
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2436.2000	68.95	31.94	100.89	74.00	26.89	Peak	No Limit
2	2436.2000	67.11	31.94	99.05	54.00	45.05	AVG	No Limit

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

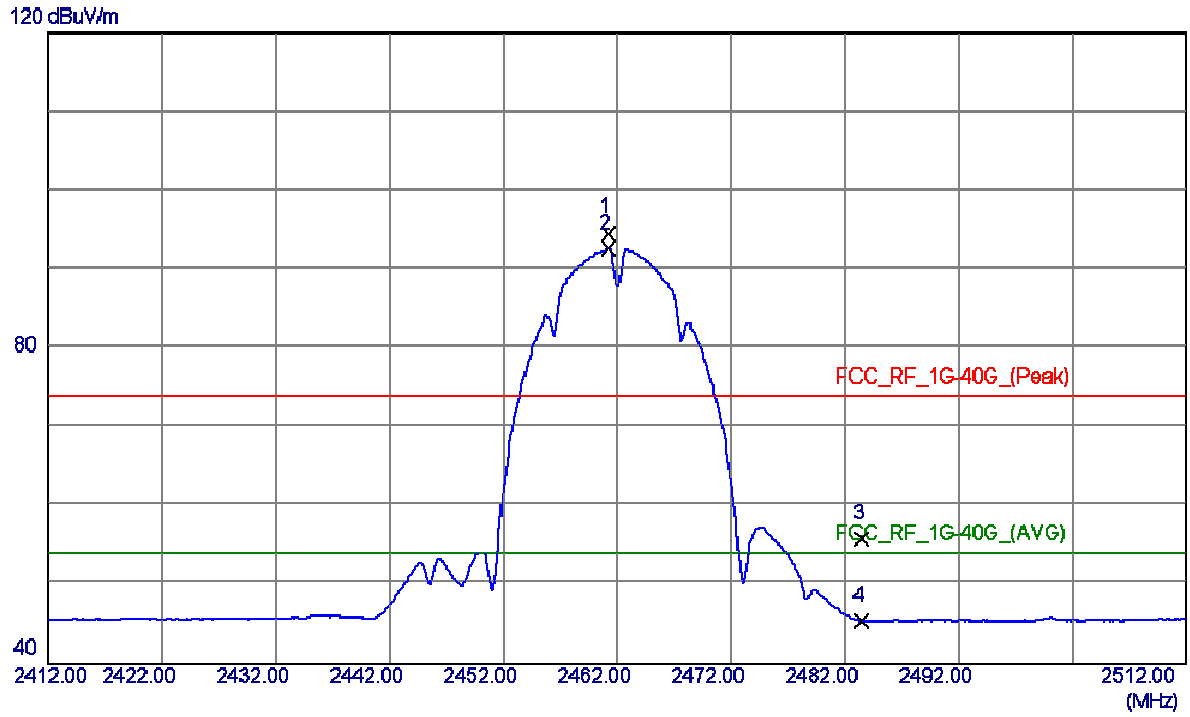
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4874.1500	42.45	3.71	46.16	54.00	-7.84	AVG	
2	4874.0900	45.13	3.71	48.84	74.00	-25.16	Peak	

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

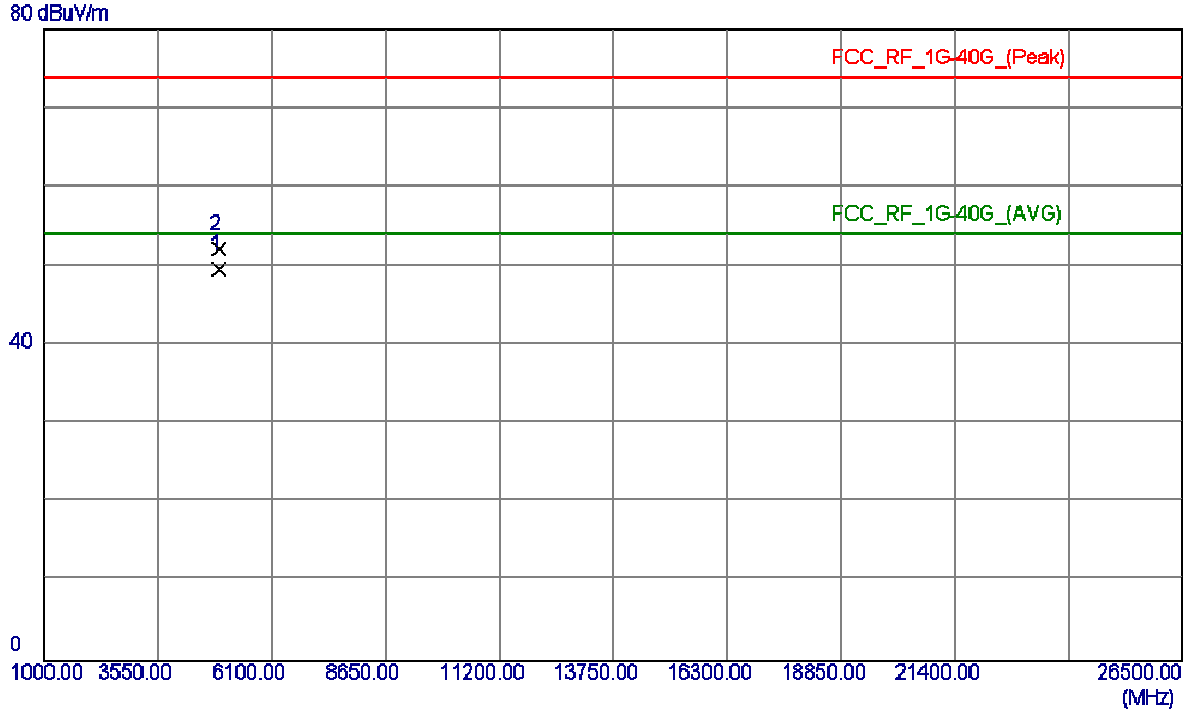
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2461.2000	62.66	31.98	94.64	74.00	20.64	Peak	No Limit
2	2461.2000	60.73	31.98	92.71	54.00	38.71	AVG	No Limit
3	2483.5000	23.83	32.01	55.84	74.00	-18.16	Peak	
4	2483.5000	13.46	32.01	45.47	54.00	-8.53	AVG	

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

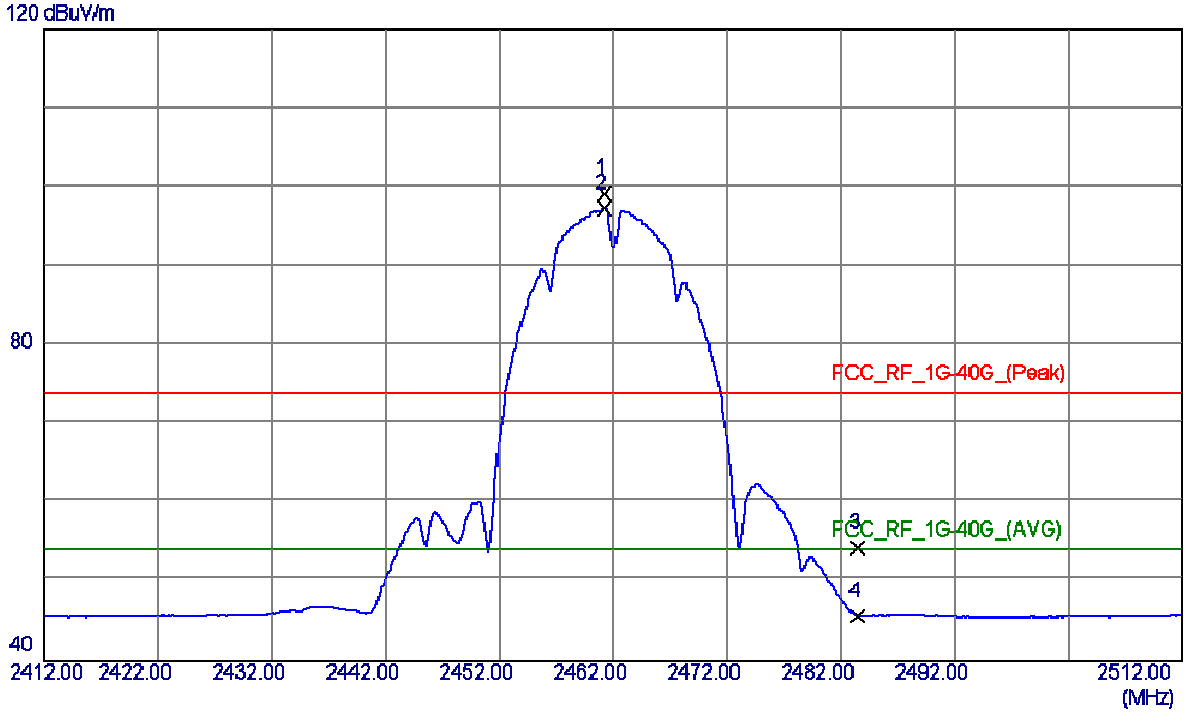
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924.0500	45.72	3.81	49.53	54.00	-4.47	AVG	
2	4924.0099	48.35	3.81	52.16	74.00	-21.84	Peak	

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

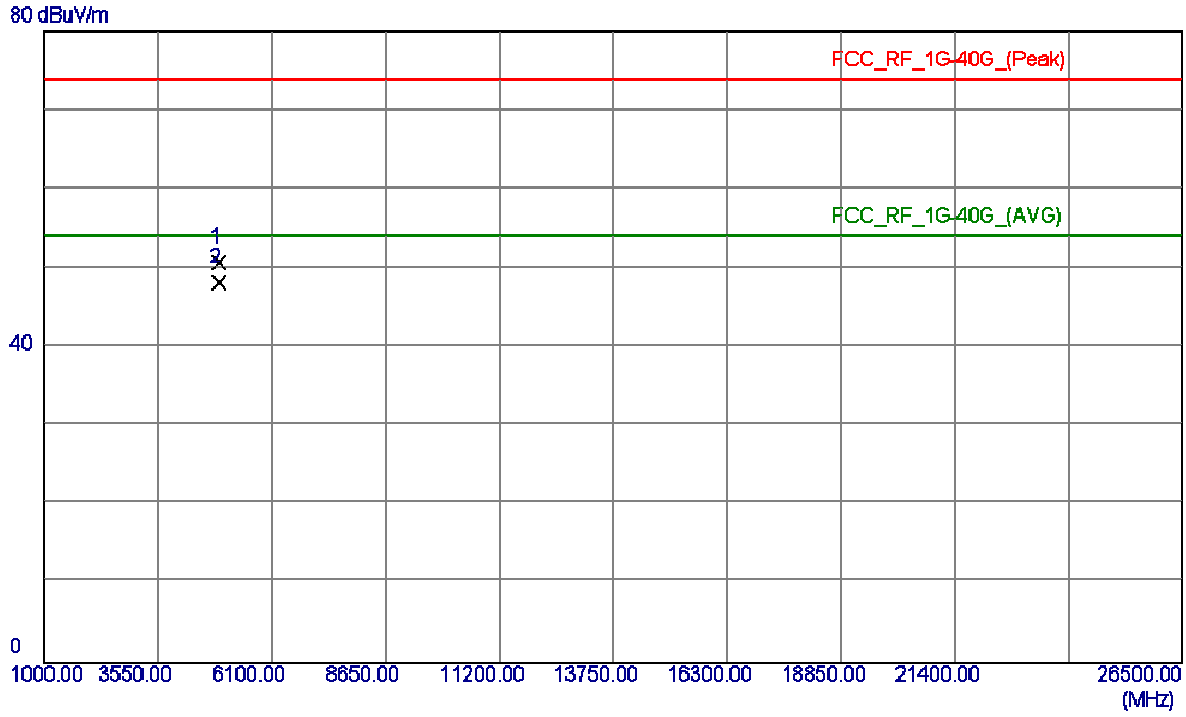
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2461.2000	67.15	31.98	99.13	74.00	25.13	Peak	No Limit
2	2461.2000	65.28	31.98	97.26	54.00	43.26	AVG	No Limit
3	2483.5000	22.24	32.01	54.25	74.00	-19.75	Peak	
4	2483.5000	13.57	32.01	45.58	54.00	-8.42	AVG	

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

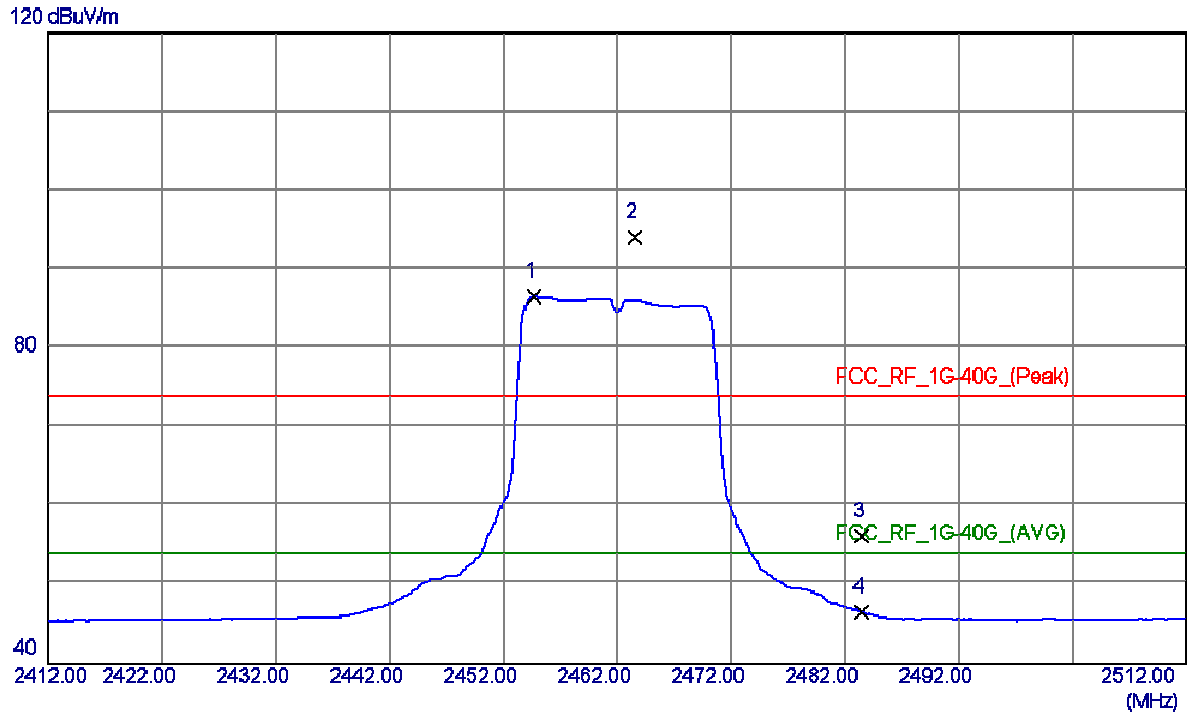
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924.0900	46.86	3.81	50.67	74.00	-23.33	Peak	
2	4924.1100	44.35	3.81	48.16	54.00	-5.84	AVG	

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

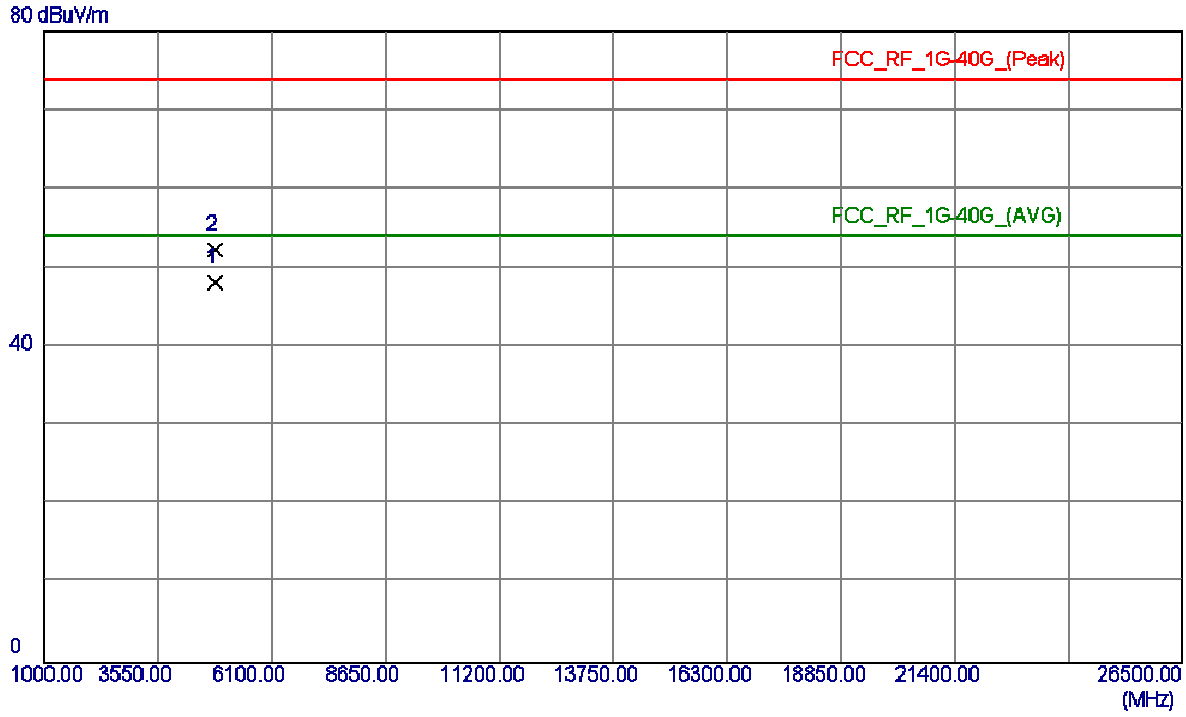
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2454.7000	54.53	31.97	86.50	54.00	32.50	AVG	No Limit
2	2463.6000	62.09	31.98	94.07	74.00	20.07	Peak	No Limit
3	2483.5000	24.08	32.01	56.09	74.00	-17.91	Peak	
4	2483.5000	14.58	32.01	46.59	54.00	-7.41	AVG	

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

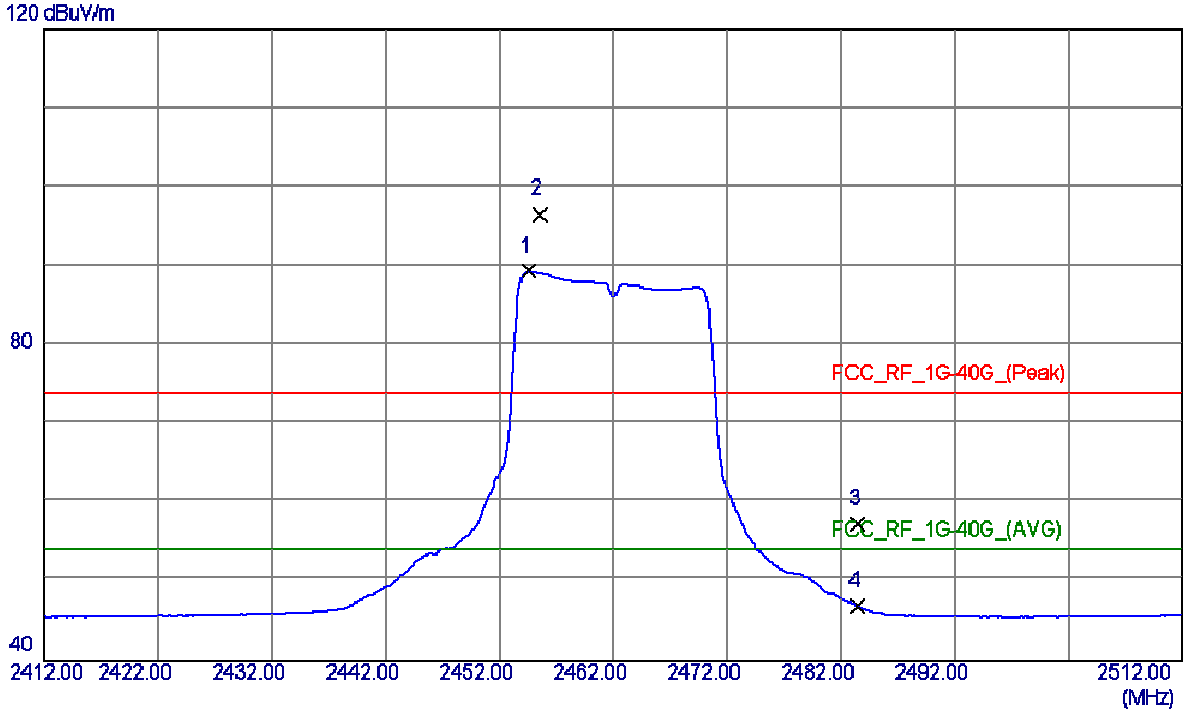
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0200	44.58	3.62	48.20	54.00	-5.80	AVG	
2	4824.0500	48.69	3.62	52.31	74.00	-21.69	Peak	

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

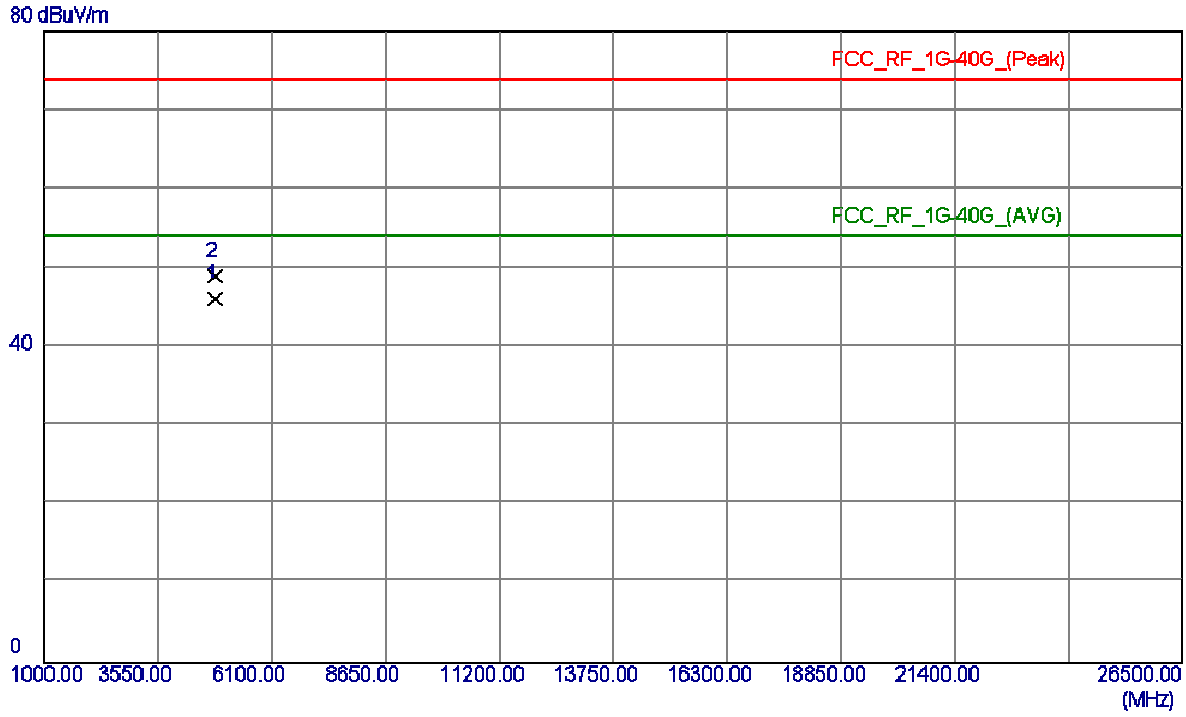
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2454.6000	57.39	31.97	89.36	54.00	35.36	AVG	No Limit
2	2455.6000	64.59	31.97	96.56	74.00	22.56	Peak	No Limit
3	2483.5000	25.22	32.01	57.23	74.00	-16.77	Peak	
4	2483.5000	14.85	32.01	46.86	54.00	-7.14	AVG	

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

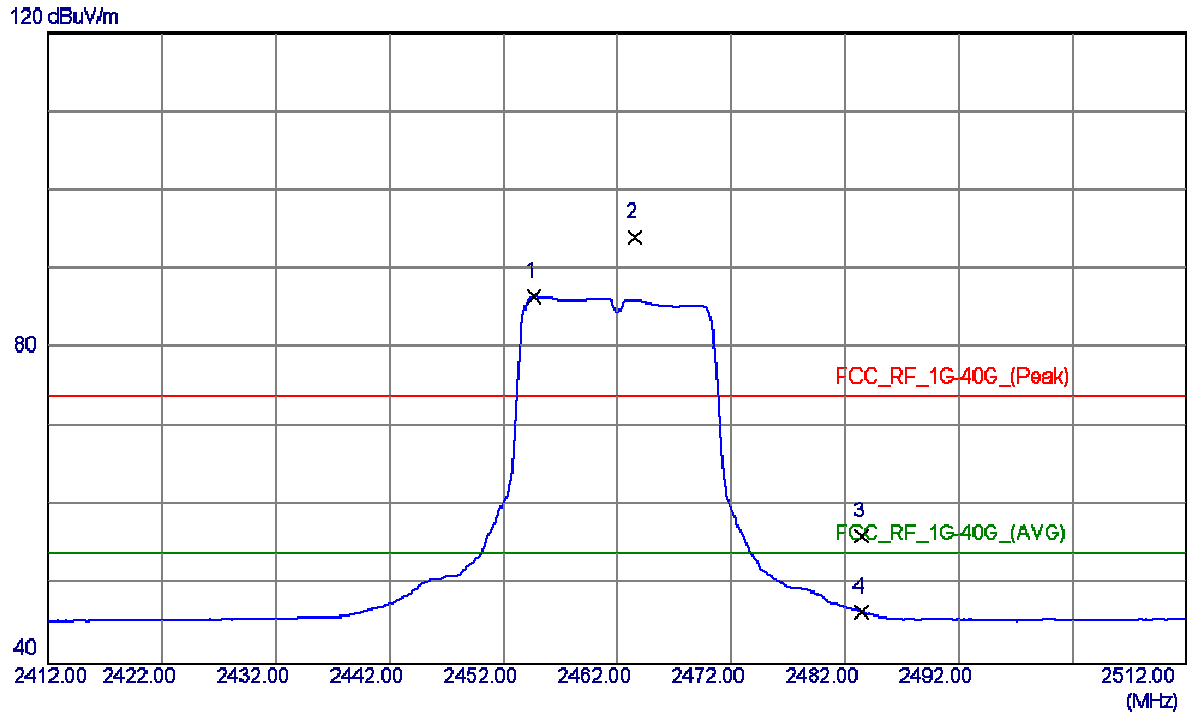
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0099	42.47	3.62	46.09	54.00	-7.91	AVG	
2	4824.0200	45.28	3.62	48.90	74.00	-25.10	Peak	

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

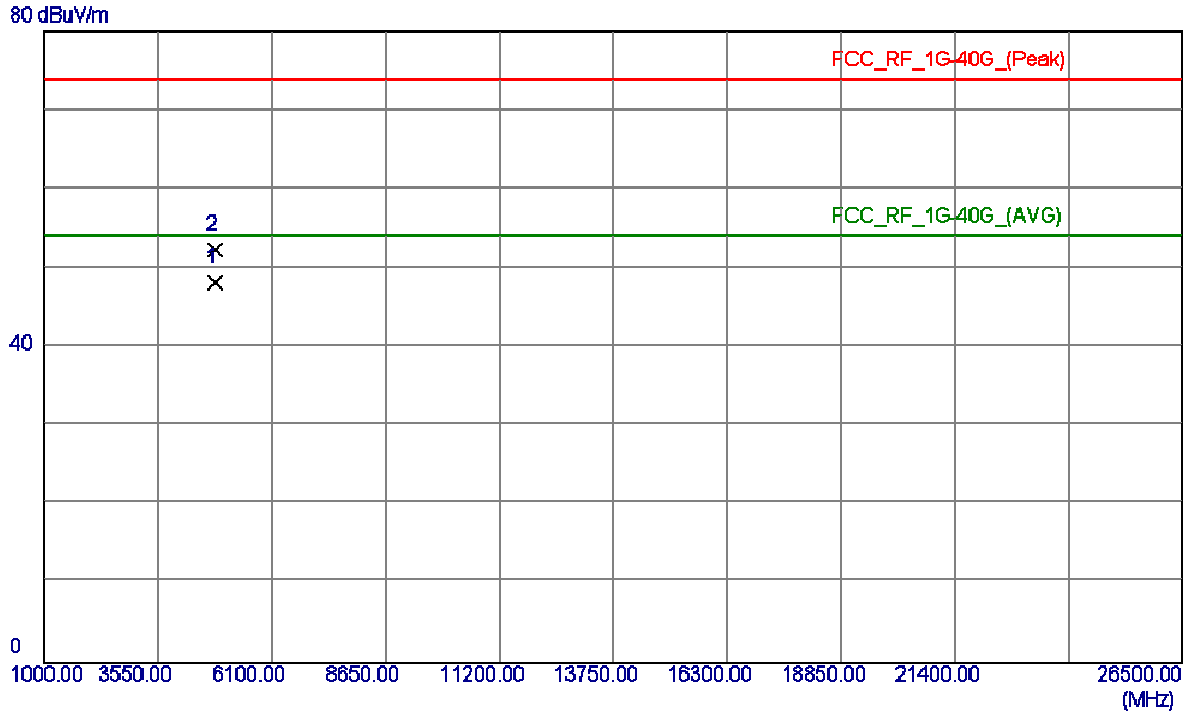
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2454.7000	54.53	31.97	86.50	54.00	32.50	AVG	No Limit
2	2463.6000	62.09	31.98	94.07	74.00	20.07	Peak	No Limit
3	2483.5000	24.08	32.01	56.09	74.00	-17.91	Peak	
4	2483.5000	14.58	32.01	46.59	54.00	-7.41	AVG	

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

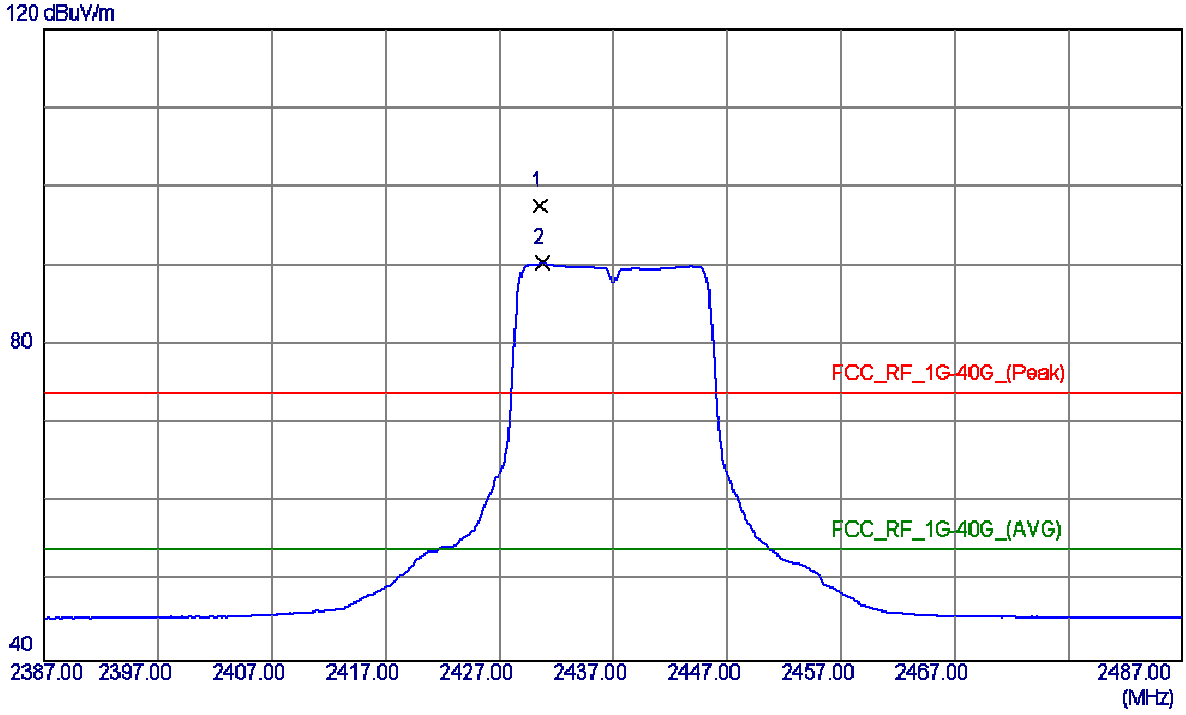
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0200	44.58	3.62	48.20	54.00	-5.80	AVG	
2	4824.0500	48.69	3.62	52.31	74.00	-21.69	Peak	

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

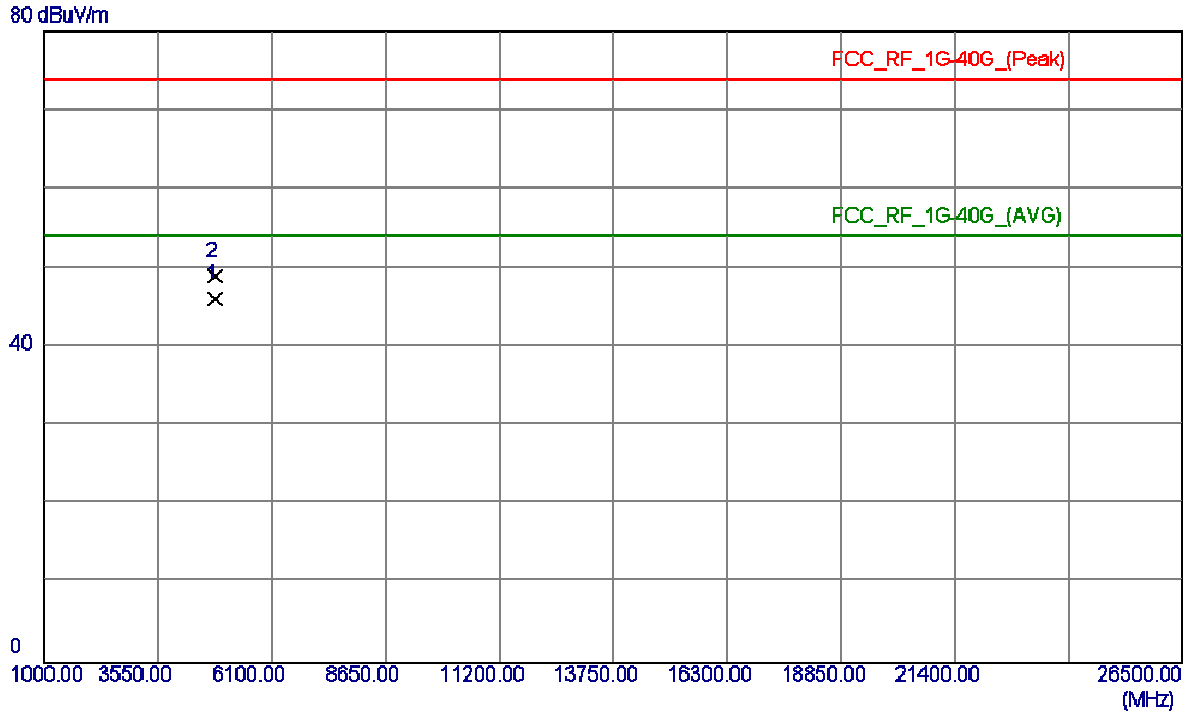
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2430.6000	65.72	31.93	97.65	74.00	23.65	Peak	No Limit
2	2430.8000	58.41	31.93	90.34	54.00	36.34	AVG	No Limit

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

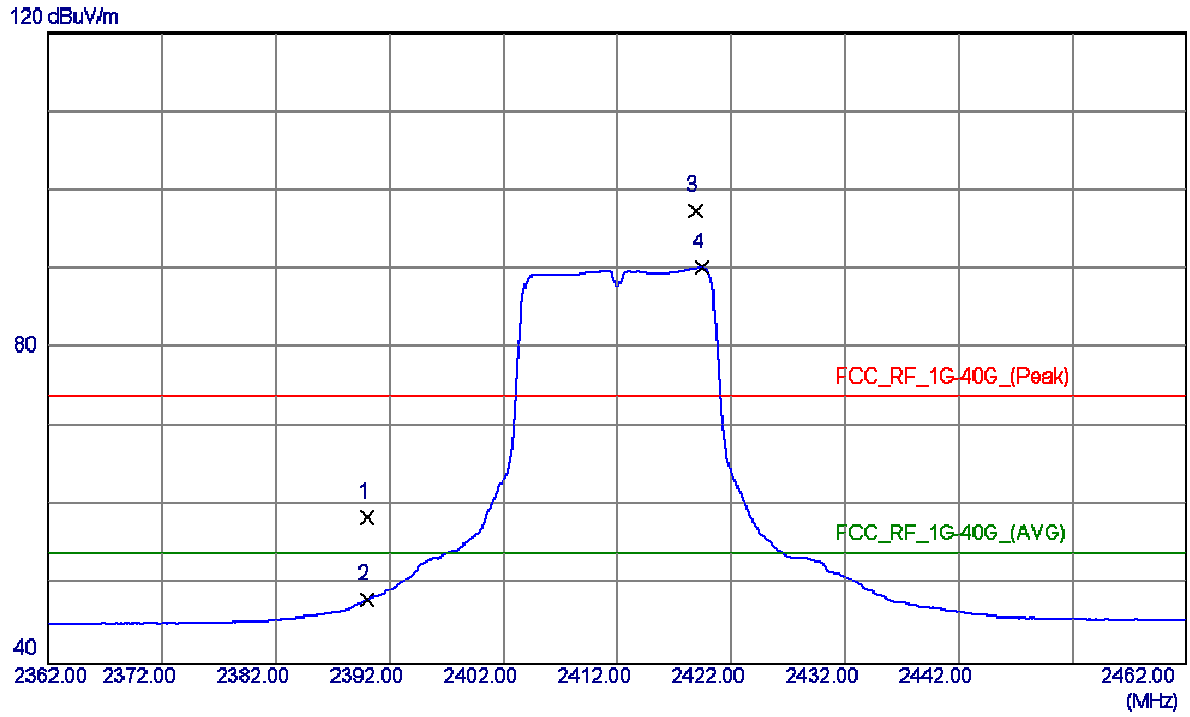
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0099	42.47	3.62	46.09	54.00	-7.91	AVG	
2	4824.0200	45.28	3.62	48.90	74.00	-25.10	Peak	

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

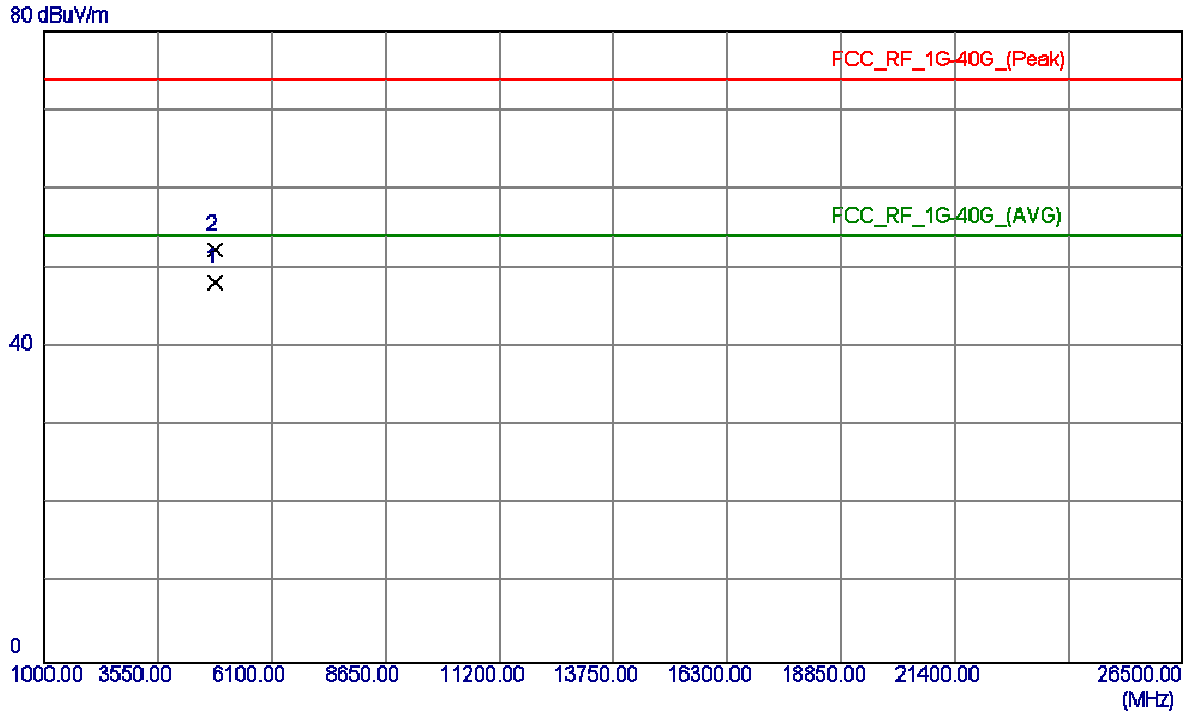
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	26.66	31.88	58.54	74.00	-15.46	Peak	
2	2390.0000	16.31	31.88	48.19	54.00	-5.81	AVG	
3	2418.9000	65.55	31.92	97.47	74.00	23.47	Peak	No Limit
4	2419.4000	58.30	31.92	90.22	54.00	36.22	AVG	No Limit

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

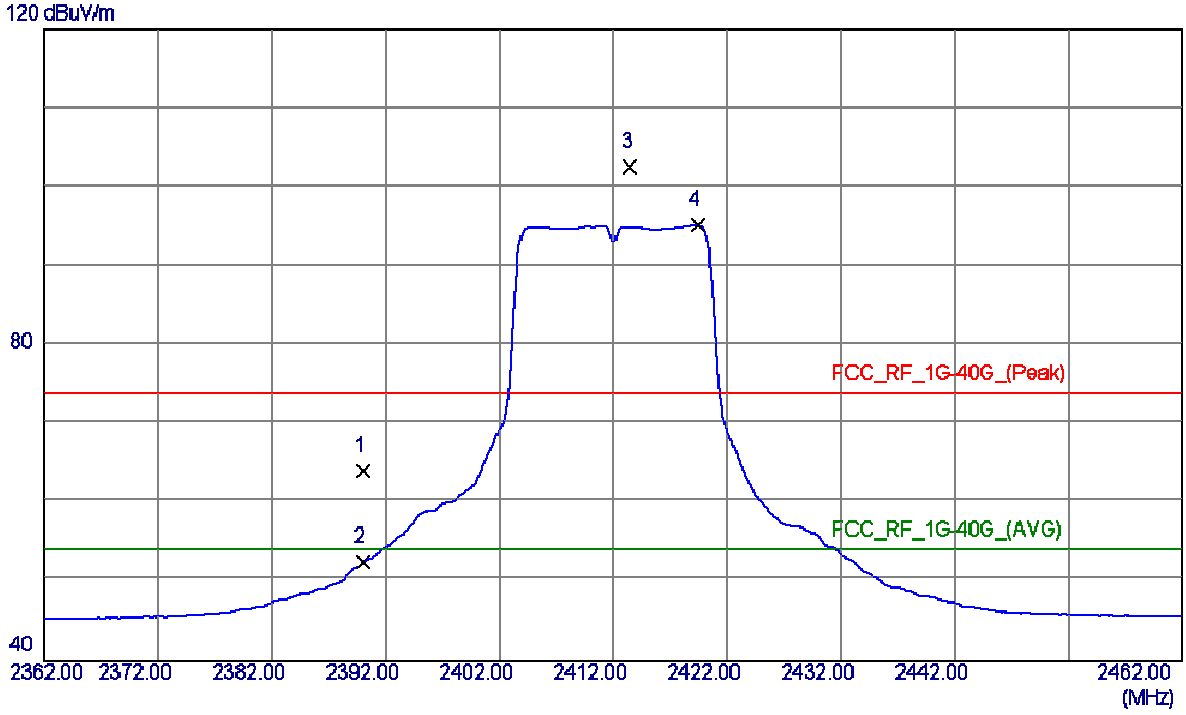
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0200	44.58	3.62	48.20	54.00	-5.80	AVG	
2	4824.0500	48.69	3.62	52.31	74.00	-21.69	Peak	

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

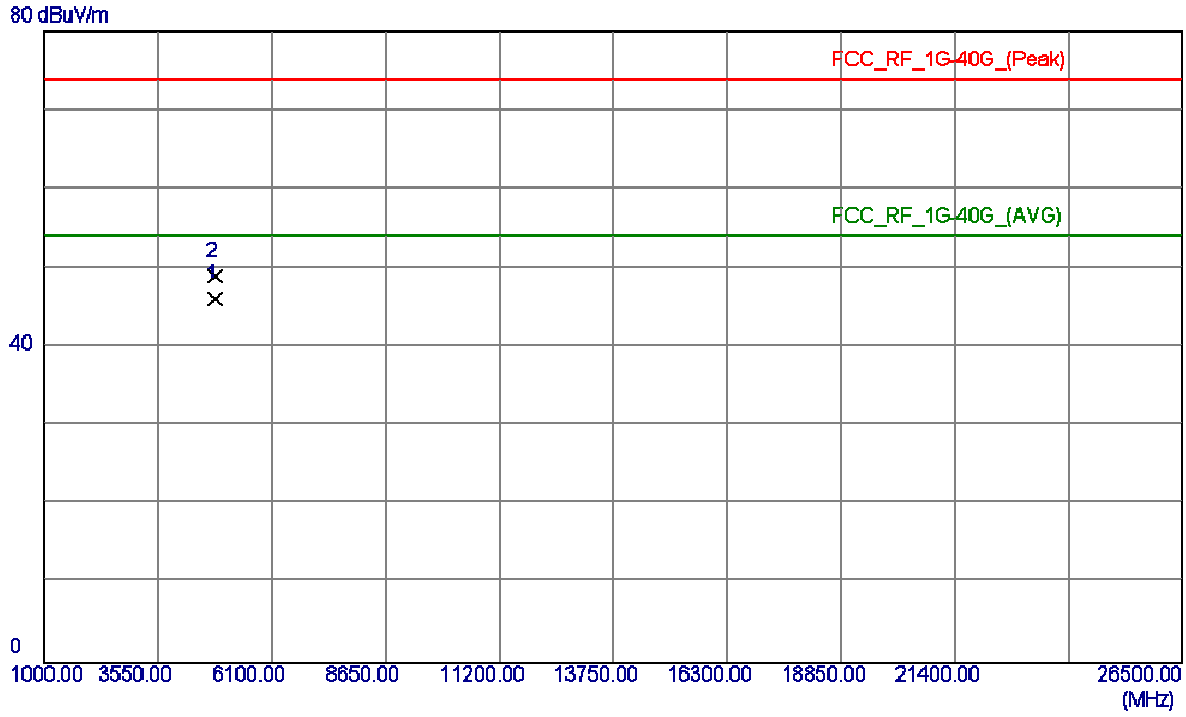
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	32.16	31.88	64.04	74.00	-9.96	Peak	
2	2390.0000	20.58	31.88	52.46	54.00	-1.54	AVG	
3	2413.5000	70.71	31.91	102.62	74.00	28.62	Peak	No Limit
4	2419.4000	63.24	31.92	95.16	54.00	41.16	AVG	No Limit

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

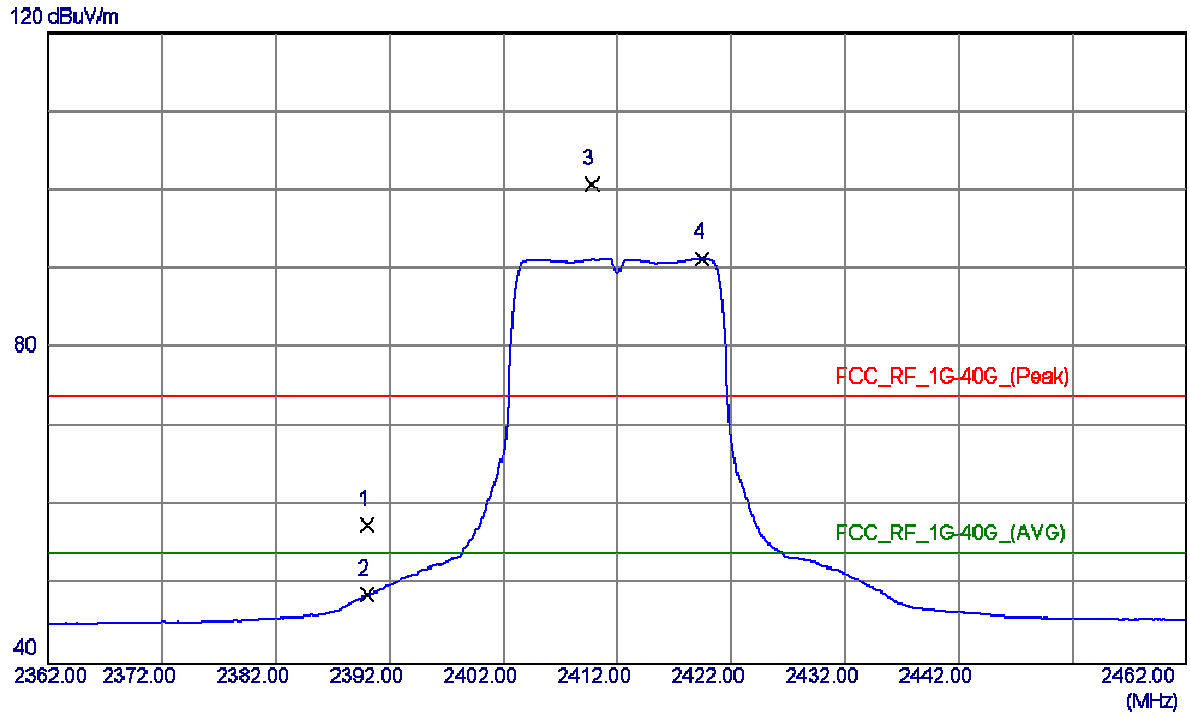
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0099	42.47	3.62	46.09	54.00	-7.91	AVG	
2	4824.0200	45.28	3.62	48.90	74.00	-25.10	Peak	

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

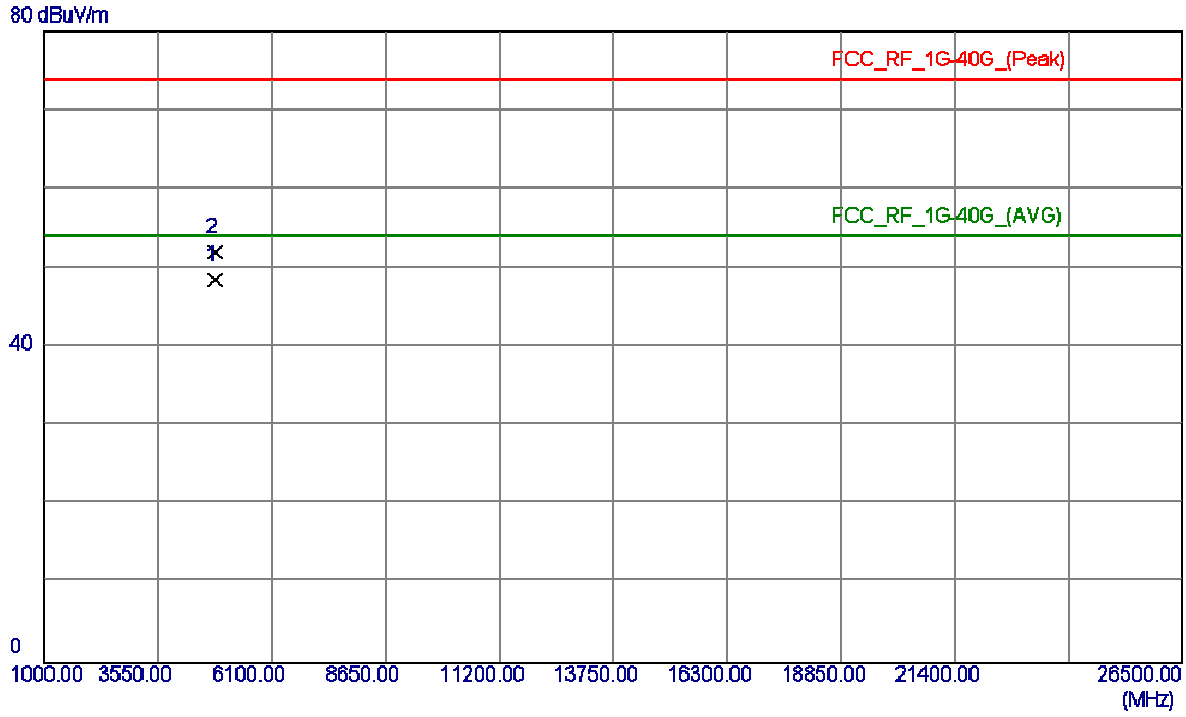
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	25.79	31.88	57.67	74.00	-16.33	Peak	
2	2390.0000	16.90	31.88	48.78	54.00	-5.22	AVG	
3	2409.8000	68.92	31.91	100.83	74.00	26.83	Peak	No Limit
4	2419.5000	59.52	31.92	91.44	54.00	37.44	AVG	No Limit

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

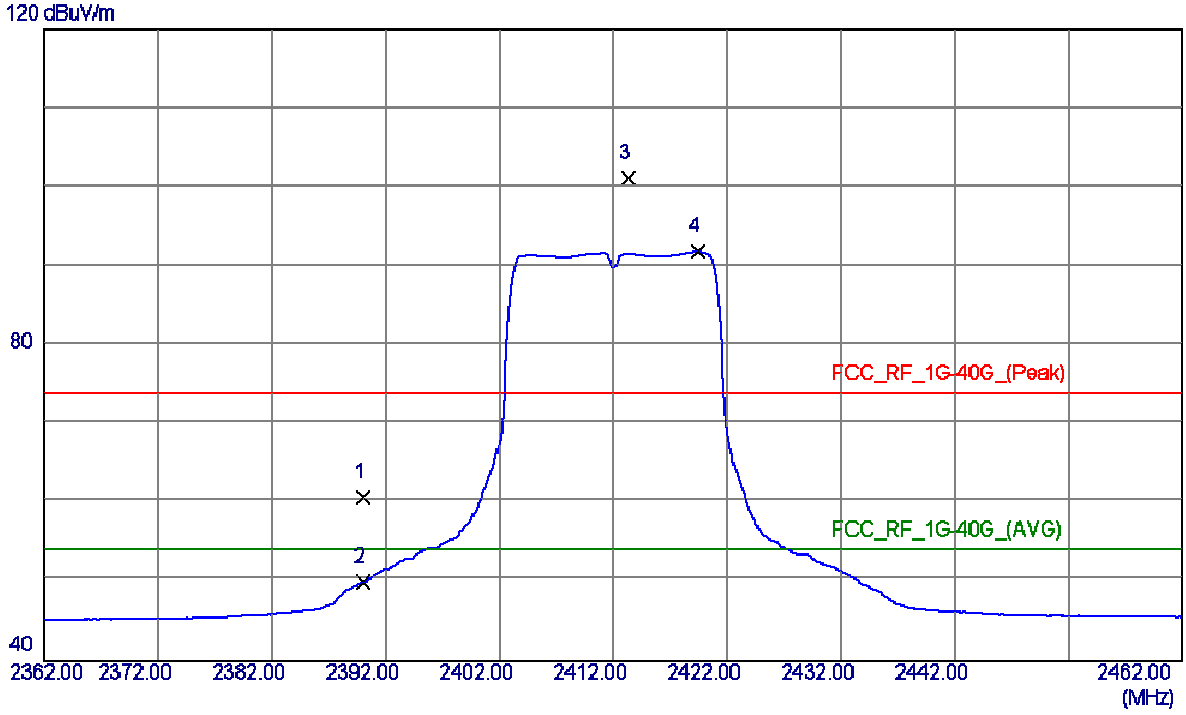
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4823.9500	44.91	3.62	48.53	54.00	-5.47	AVG	
2	4824.0200	48.32	3.62	51.94	74.00	-22.06	Peak	

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

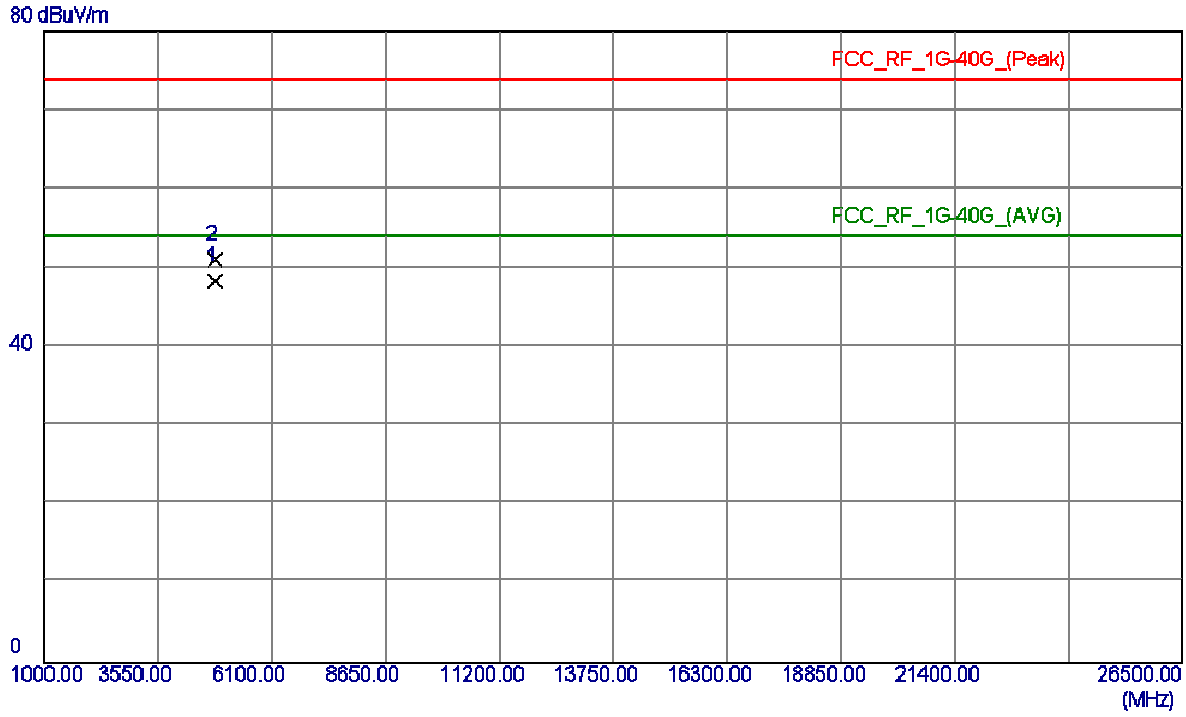
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	28.72	31.88	60.60	74.00	-13.40	Peak	
2	2390.0000	18.08	31.88	49.96	54.00	-4.04	AVG	
3	2413.3000	69.25	31.91	101.16	74.00	27.16	Peak	No Limit
4	2419.4000	59.88	31.92	91.80	54.00	37.80	AVG	No Limit

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

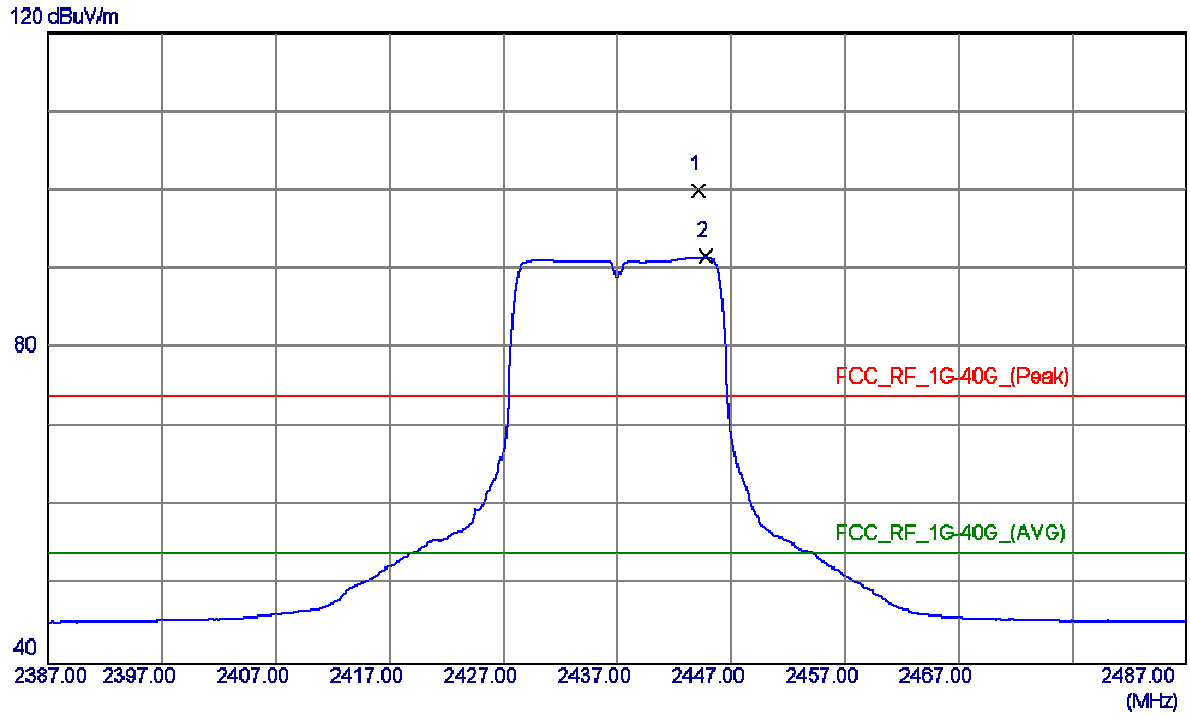
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.0099	44.64	3.62	48.26	54.00	-5.74	AVG	
2	4824.0600	47.35	3.62	50.97	74.00	-23.03	Peak	

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

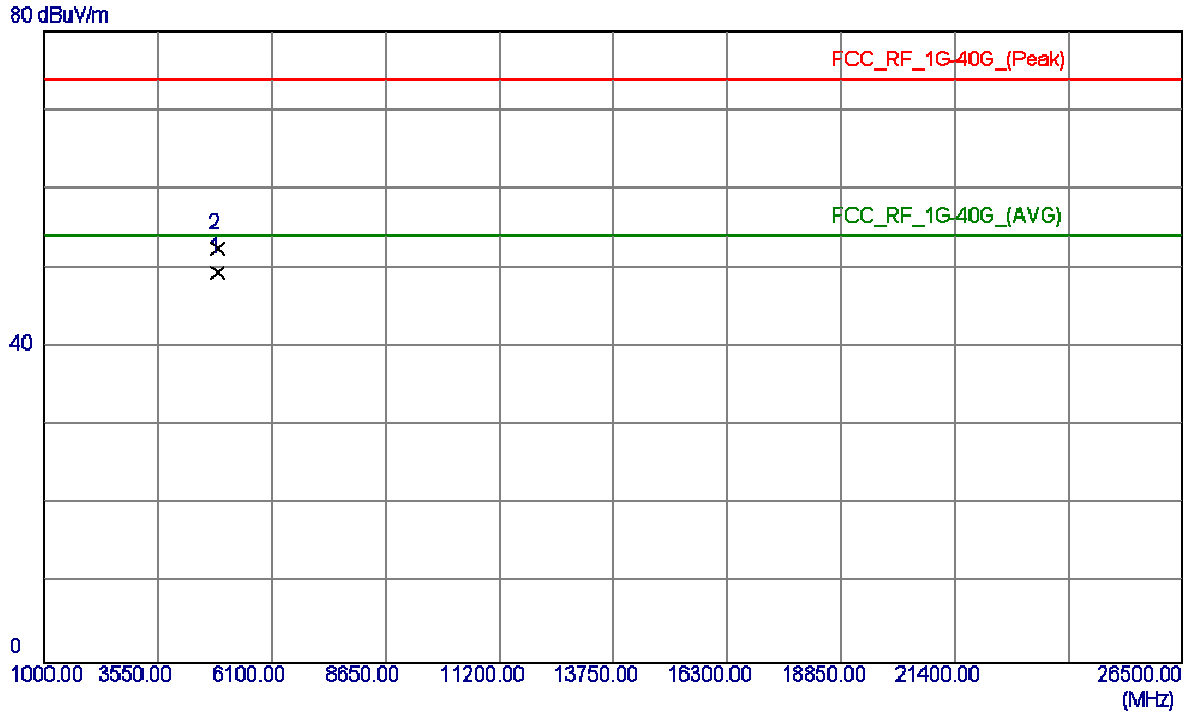
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2444.1000	68.13	31.95	100.08	74.00	26.08	Peak	No Limit
2	2444.8000	59.67	31.95	91.62	54.00	37.62	AVG	No Limit

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

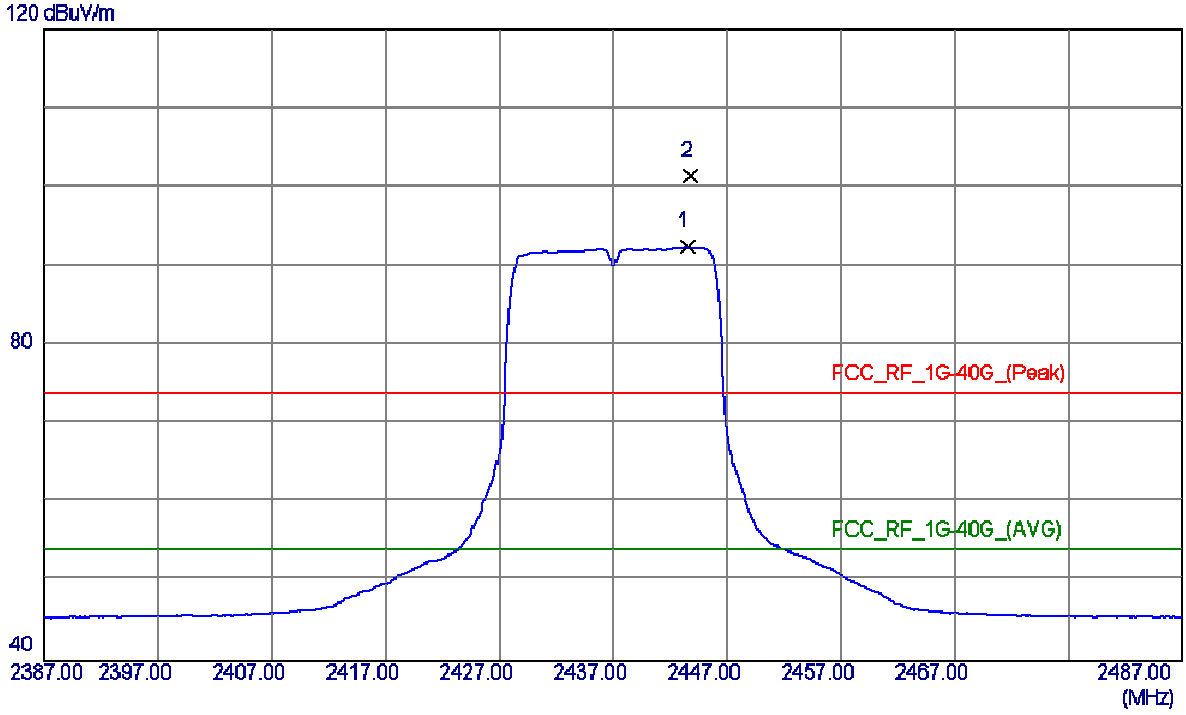
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4874.0000	45.78	3.71	49.49	54.00	-4.51	AVG	
2	4874.0600	48.82	3.71	52.53	74.00	-21.47	Peak	

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

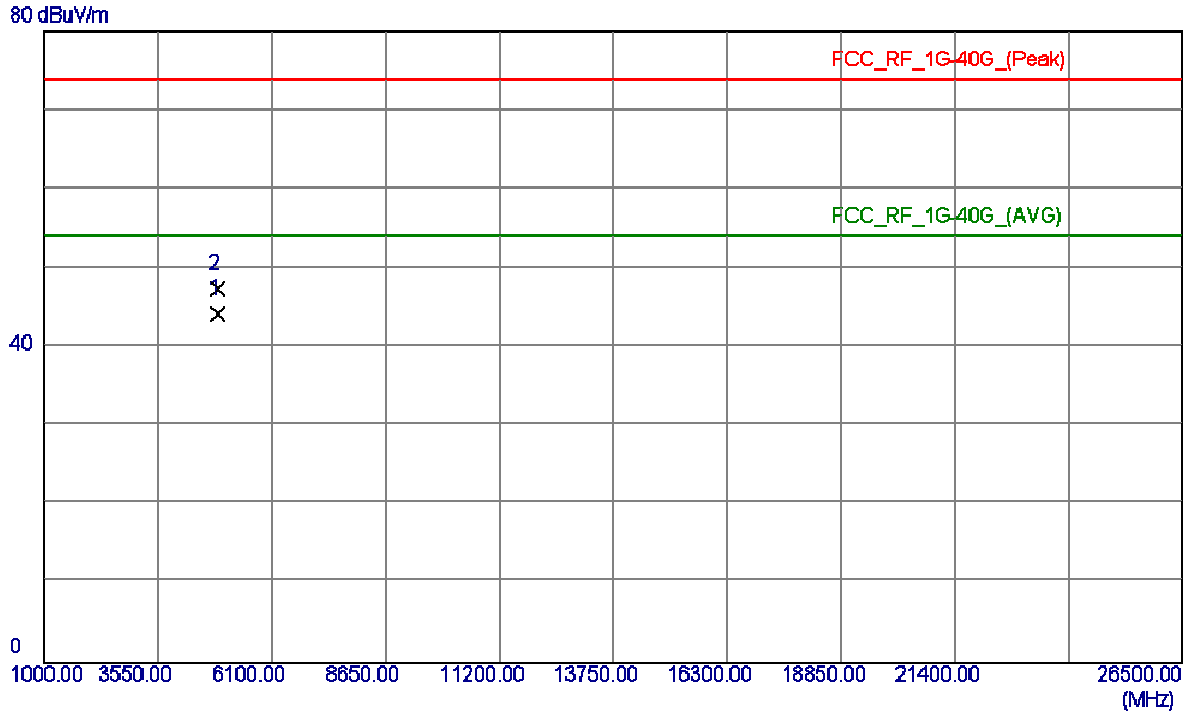
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2443.5000	60.46	31.95	92.41	54.00	38.41	AVG	No Limit
2	2443.8000	69.55	31.95	101.50	74.00	27.50	Peak	No Limit

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

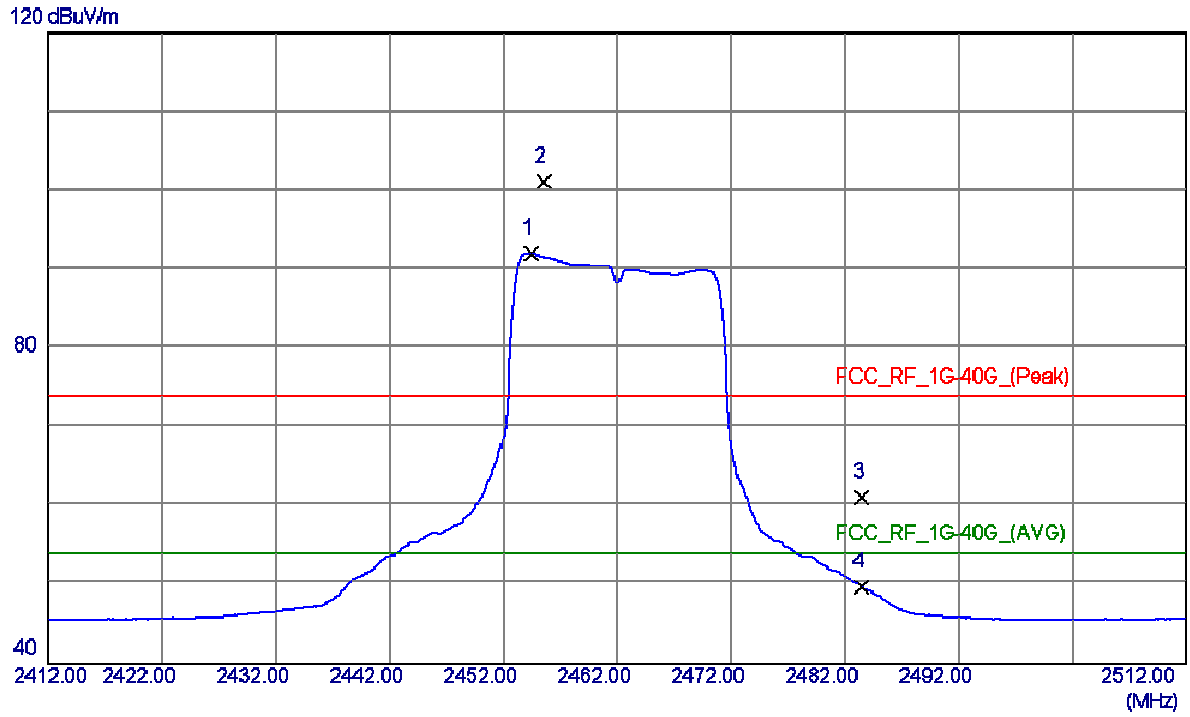
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4874.0600	40.39	3.71	44.10	54.00	-9.90	AVG	
2	4874.0800	43.63	3.71	47.34	74.00	-26.66	Peak	

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

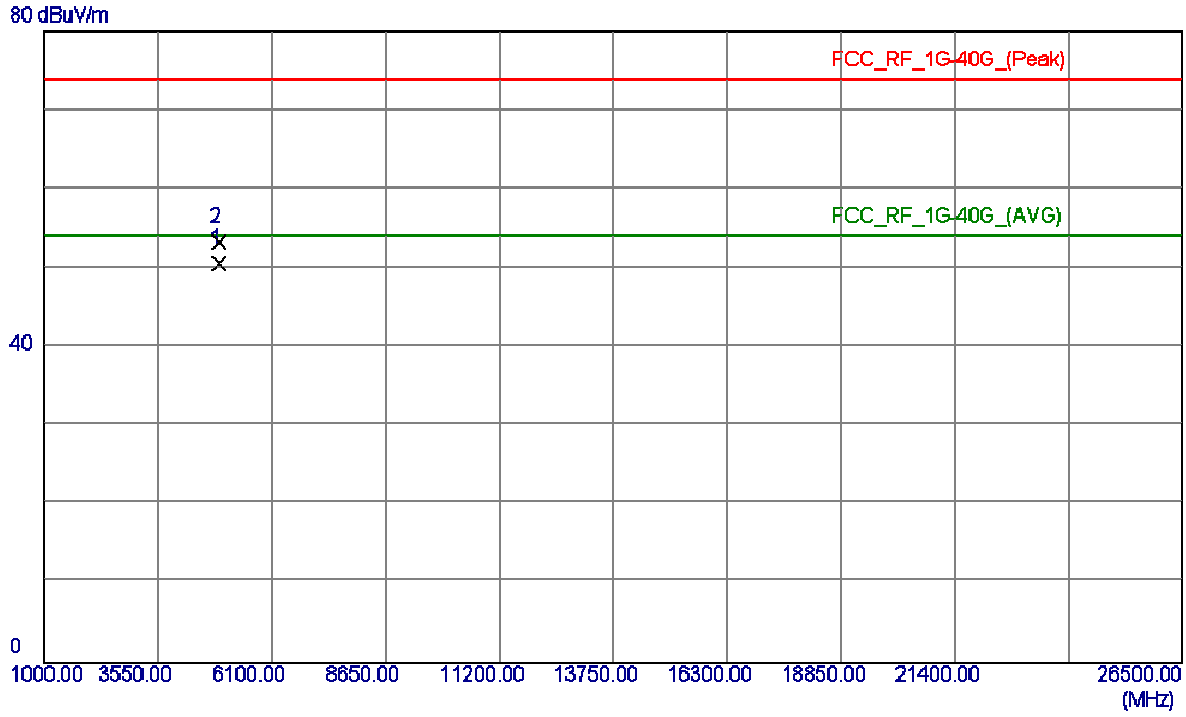
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2454.4000	60.01	31.97	91.98	54.00	37.98	AVG	No Limit
2	2455.6000	69.07	31.97	101.04	74.00	27.04	Peak	No Limit
3	2483.5000	29.16	32.01	61.17	74.00	-12.83	Peak	
4	2483.5000	17.70	32.01	49.71	54.00	-4.29	AVG	

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

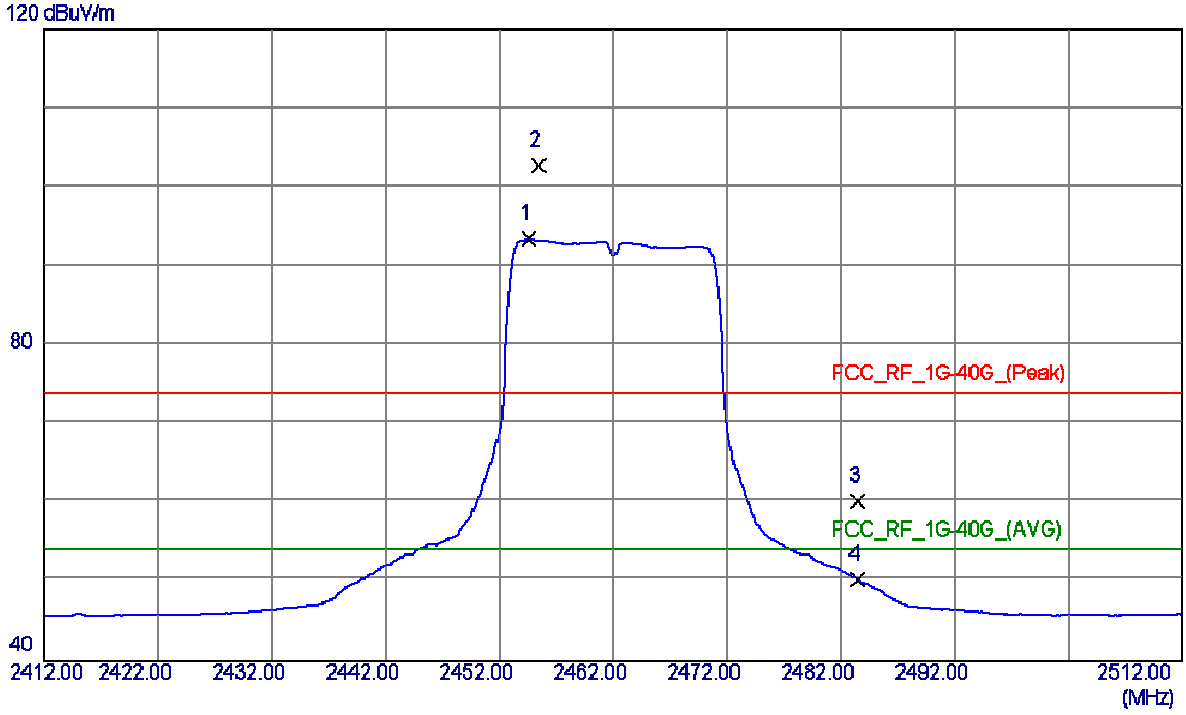
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924.0500	46.77	3.81	50.58	54.00	-3.42	AVG	
2	4924.0600	49.50	3.81	53.31	74.00	-20.69	Peak	

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

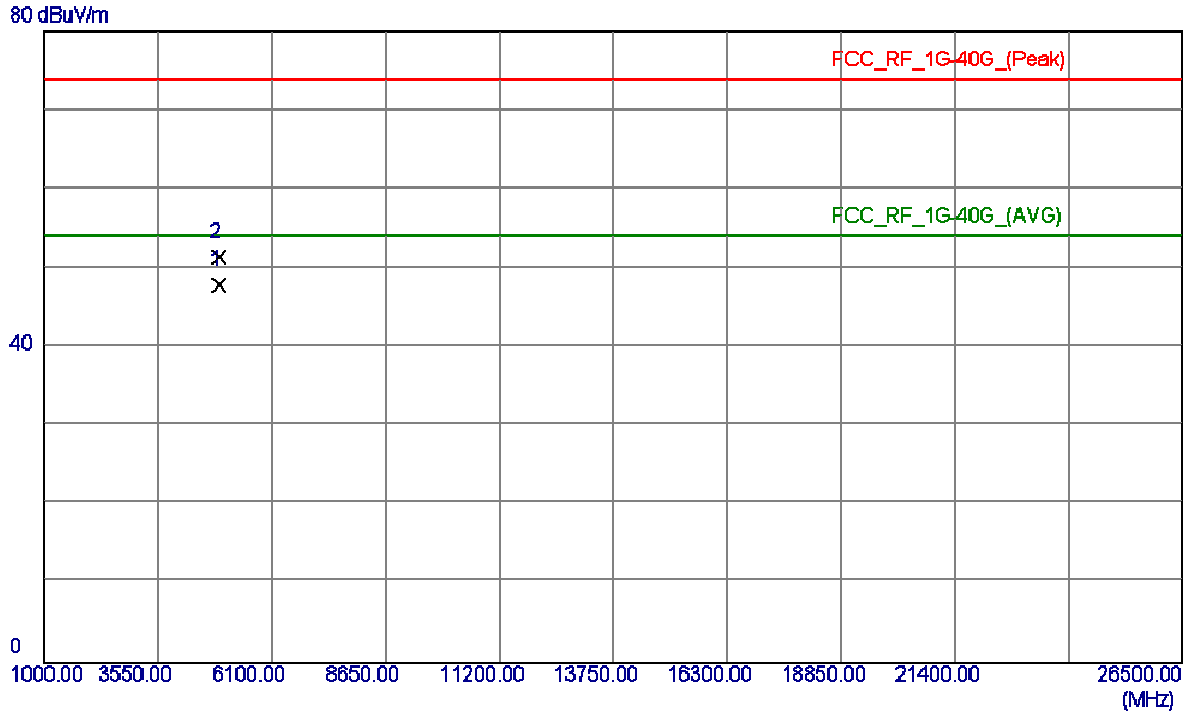
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2454.6000	61.48	31.97	93.45	54.00	39.45	AVG	No Limit
2	2455.4000	70.68	31.97	102.65	74.00	28.65	Peak	No Limit
3	2483.5000	28.09	32.01	60.10	74.00	-13.90	Peak	
4	2483.5000	18.26	32.01	50.27	54.00	-3.73	AVG	

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

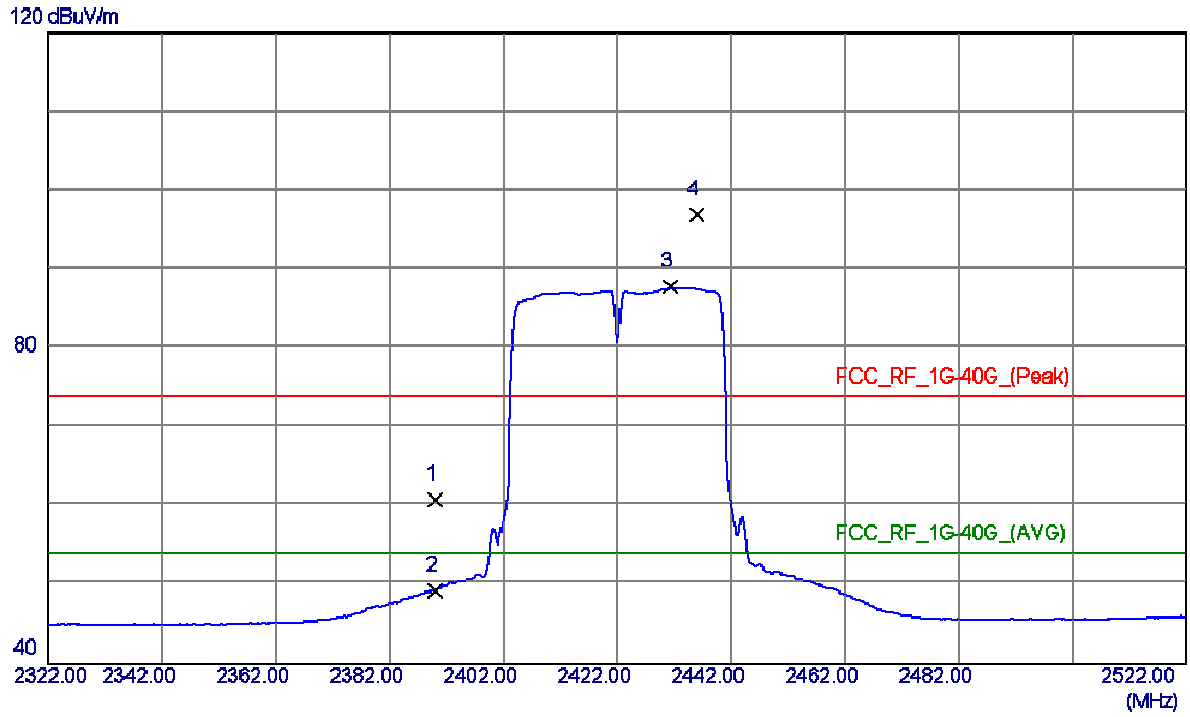
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924.0299	44.04	3.81	47.85	54.00	-6.15	AVG	
2	4924.0800	47.48	3.81	51.29	74.00	-22.71	Peak	

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

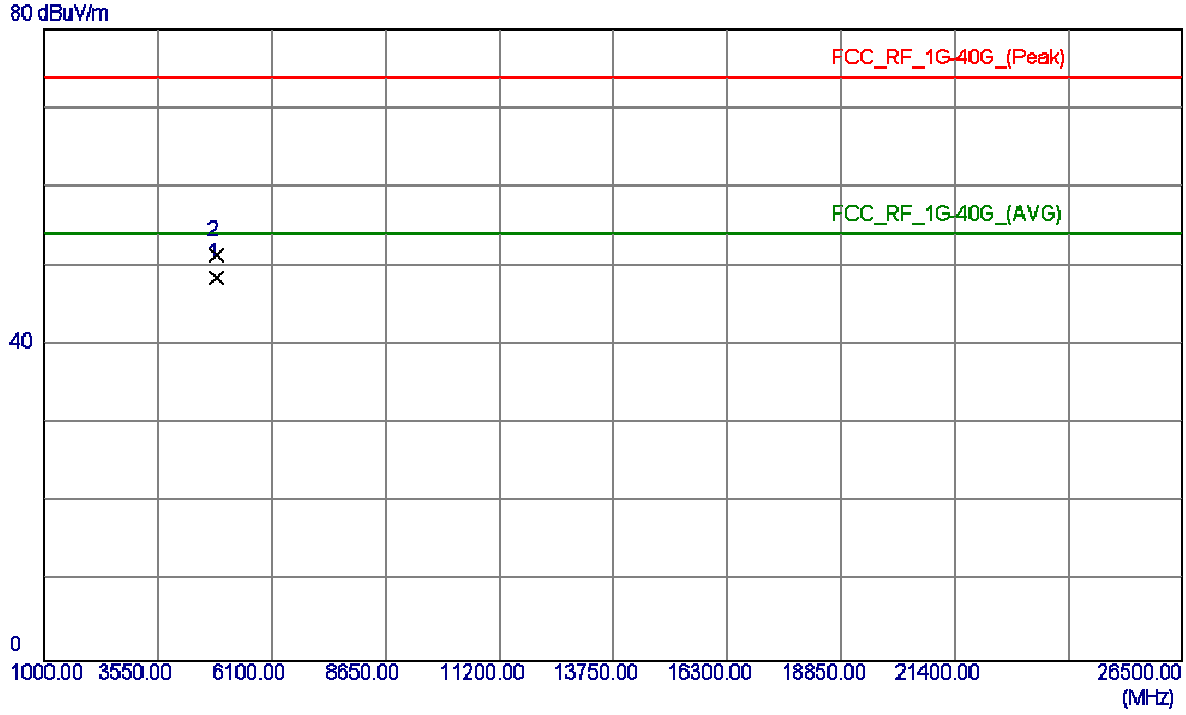
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	28.99	31.88	60.87	74.00	-13.13	Peak	
2	2390.0000	17.44	31.88	49.32	54.00	-4.68	AVG	
3	2431.4000	55.82	31.94	87.76	54.00	33.76	AVG	No Limit
4	2436.0000	64.97	31.94	96.91	74.00	22.91	Peak	No Limit

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

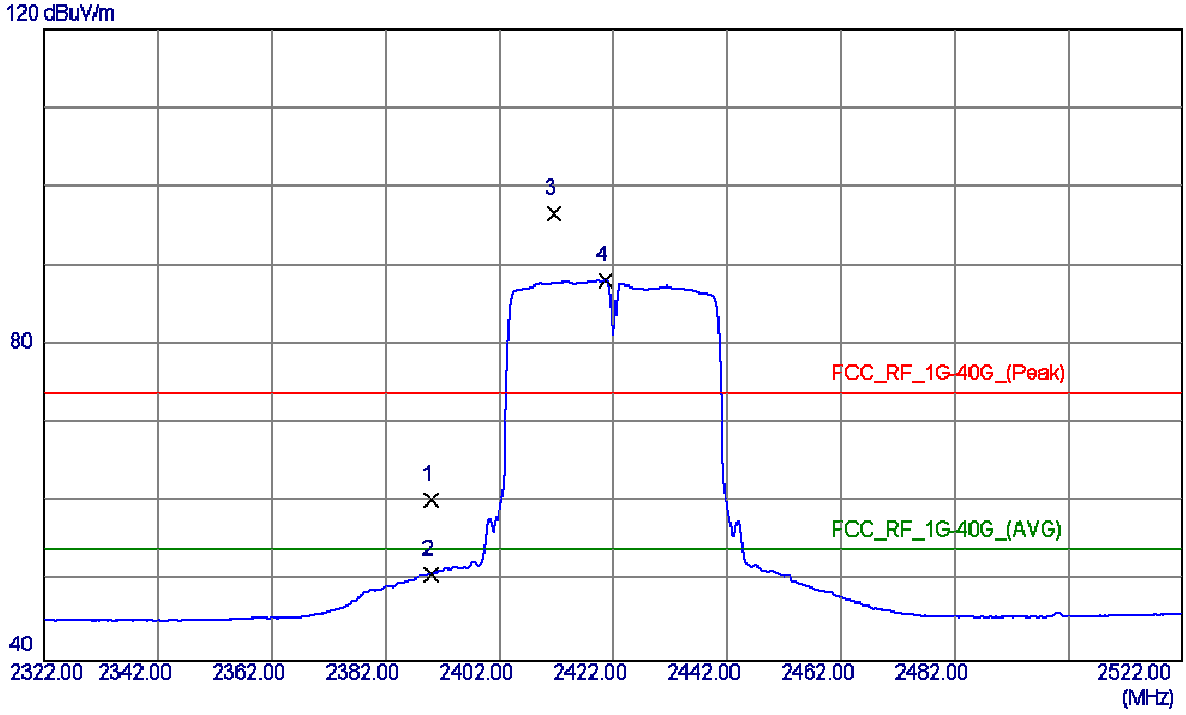
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4844.0000	44.86	3.66	48.52	54.00	-5.48	AVG	
2	4844.0099	47.69	3.66	51.35	74.00	-22.65	Peak	

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

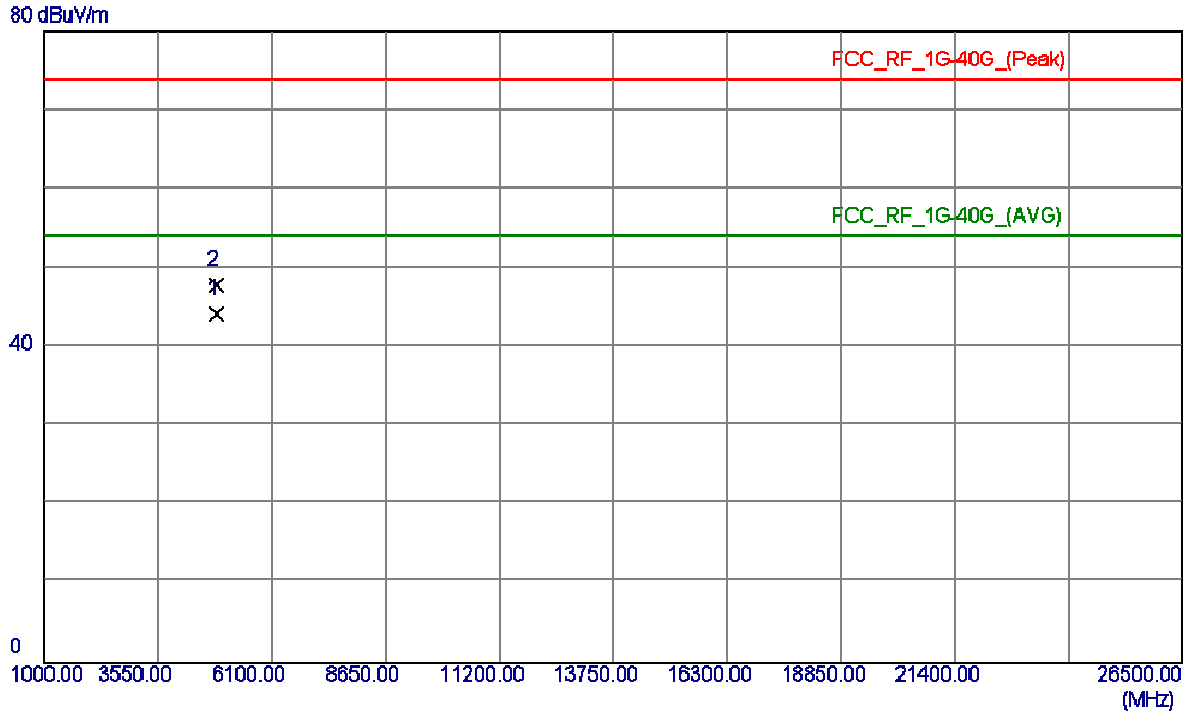
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	28.47	31.88	60.35	74.00	-13.65	Peak	
2	2390.0000	18.97	31.88	50.85	54.00	-3.15	AVG	
3	2411.6000	64.70	31.91	96.61	74.00	22.61	Peak	No Limit
4	2420.6000	56.22	31.92	88.14	54.00	34.14	AVG	No Limit

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

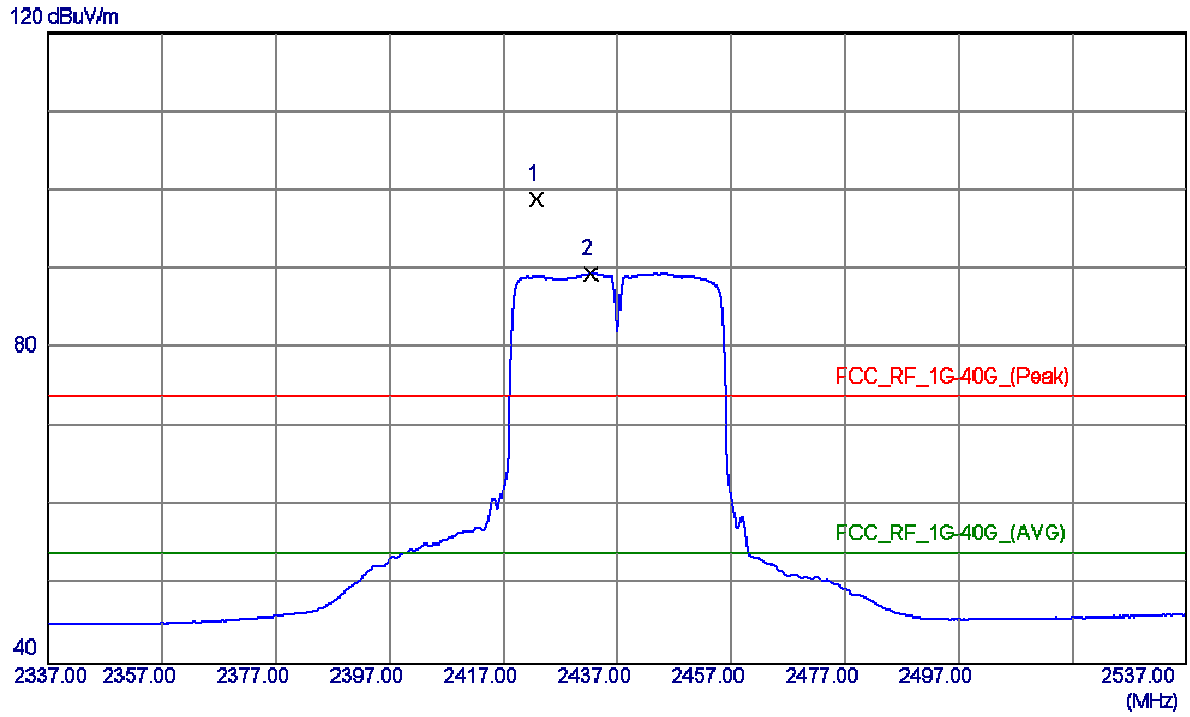
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4844.0299	40.56	3.66	44.22	54.00	-9.78	AVG	
2	4844.0200	44.19	3.66	47.85	74.00	-26.15	Peak	

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

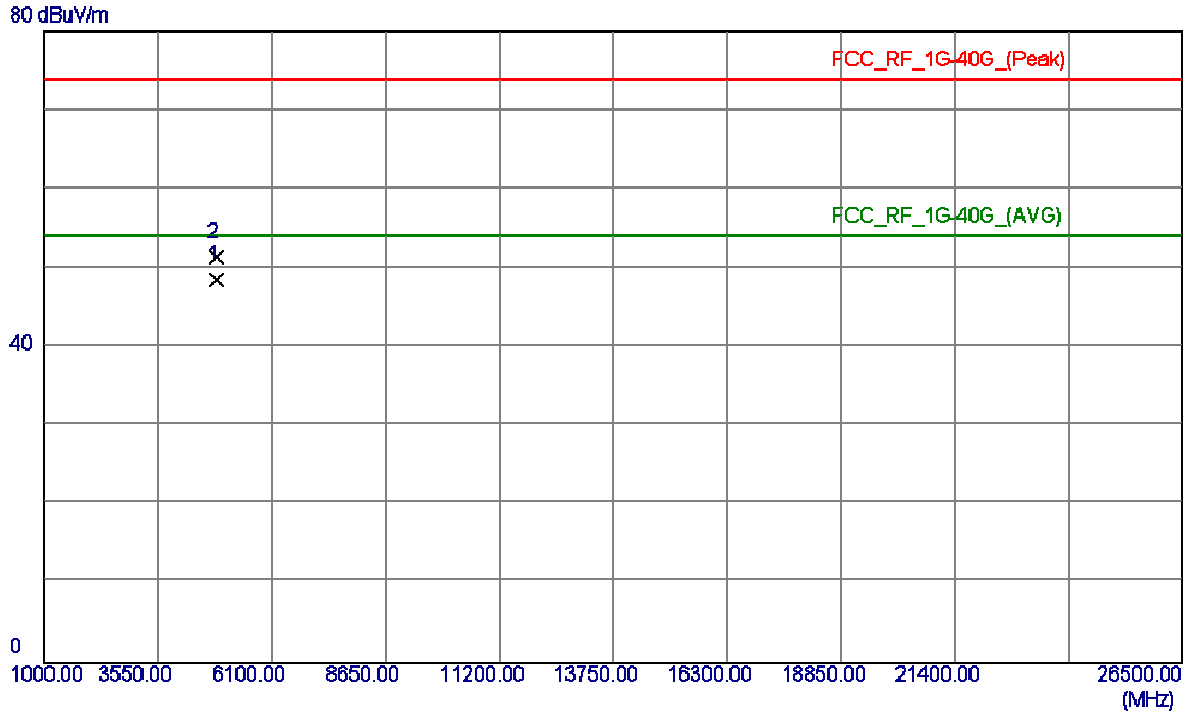
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2422.8000	66.93	31.92	98.85	74.00	24.85	Peak	No Limit
2	2432.4000	57.52	31.94	89.46	54.00	35.46	AVG	No Limit

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

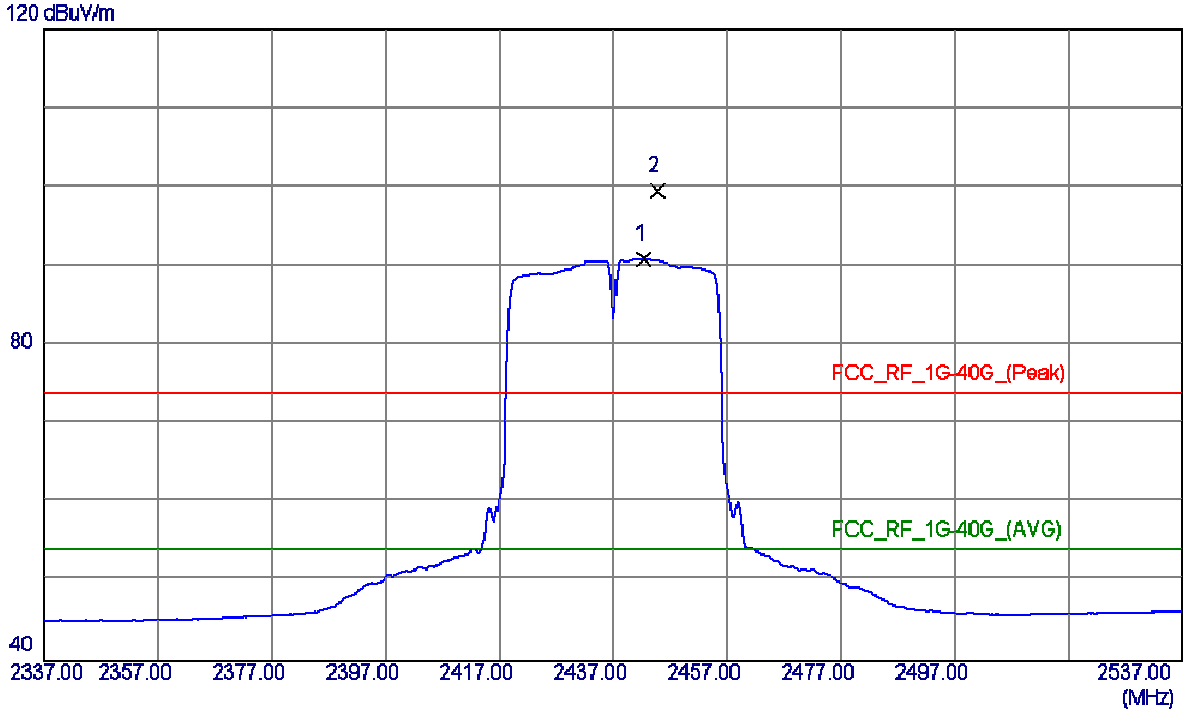
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4844.0000	44.86	3.66	48.52	54.00	-5.48	AVG	
2	4844.0099	47.69	3.66	51.35	74.00	-22.65	Peak	

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

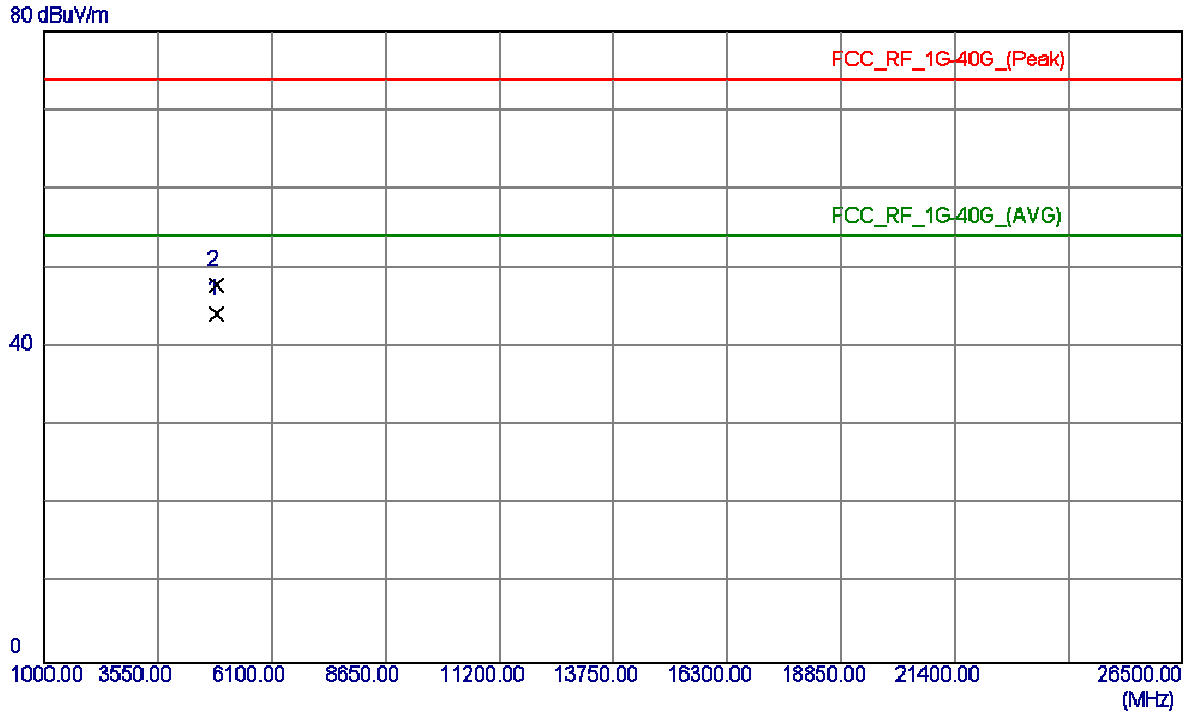
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2442.4000	58.93	31.95	90.88	54.00	36.88	AVG	No Limit
2	2444.8000	67.57	31.95	99.52	74.00	25.52	Peak	No Limit

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

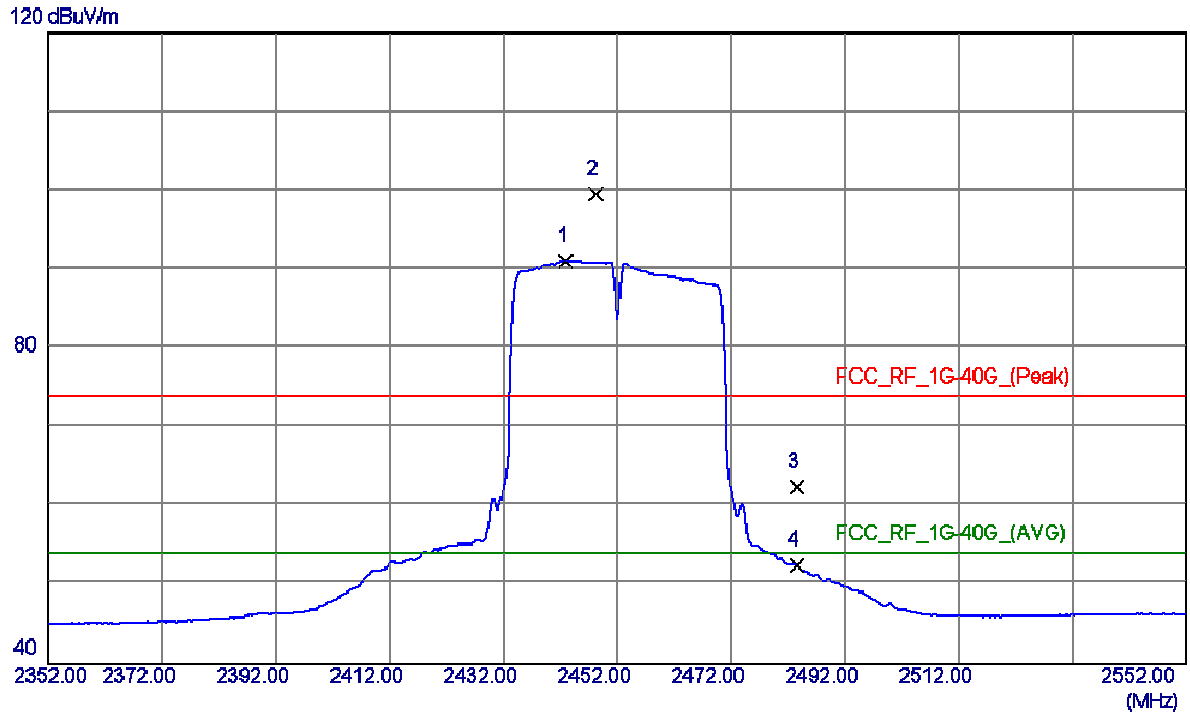
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4844.0299	40.56	3.66	44.22	54.00	-9.78	AVG	
2	4844.0200	44.19	3.66	47.85	74.00	-26.15	Peak	

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

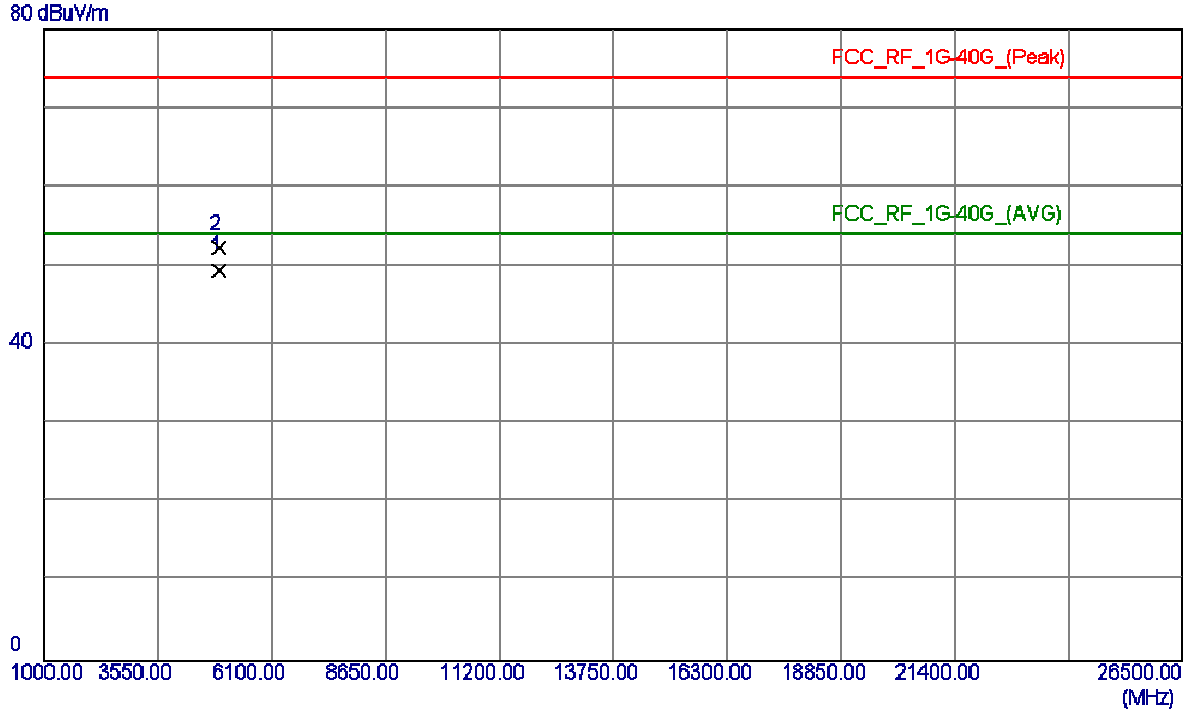
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2443.0000	59.12	31.95	91.07	54.00	37.07	AVG	No Limit
2	2448.2000	67.58	31.96	99.54	74.00	25.54	Peak	No Limit
3	2483.5000	30.36	32.01	62.37	74.00	-11.63	Peak	
4	2483.5000	20.54	32.01	52.55	54.00	-1.45	AVG	

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

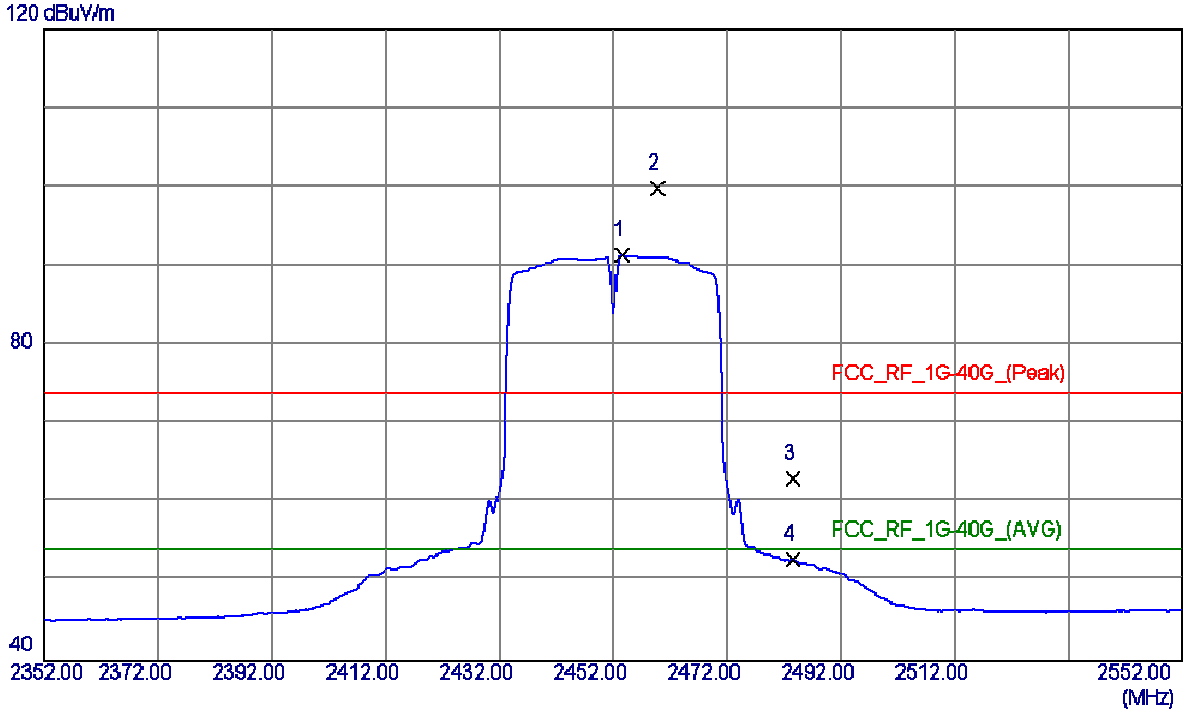
Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4904.0000	45.64	3.77	49.41	54.00	-4.59	AVG	
2	4904.0299	48.47	3.77	52.24	74.00	-21.76	Peak	

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

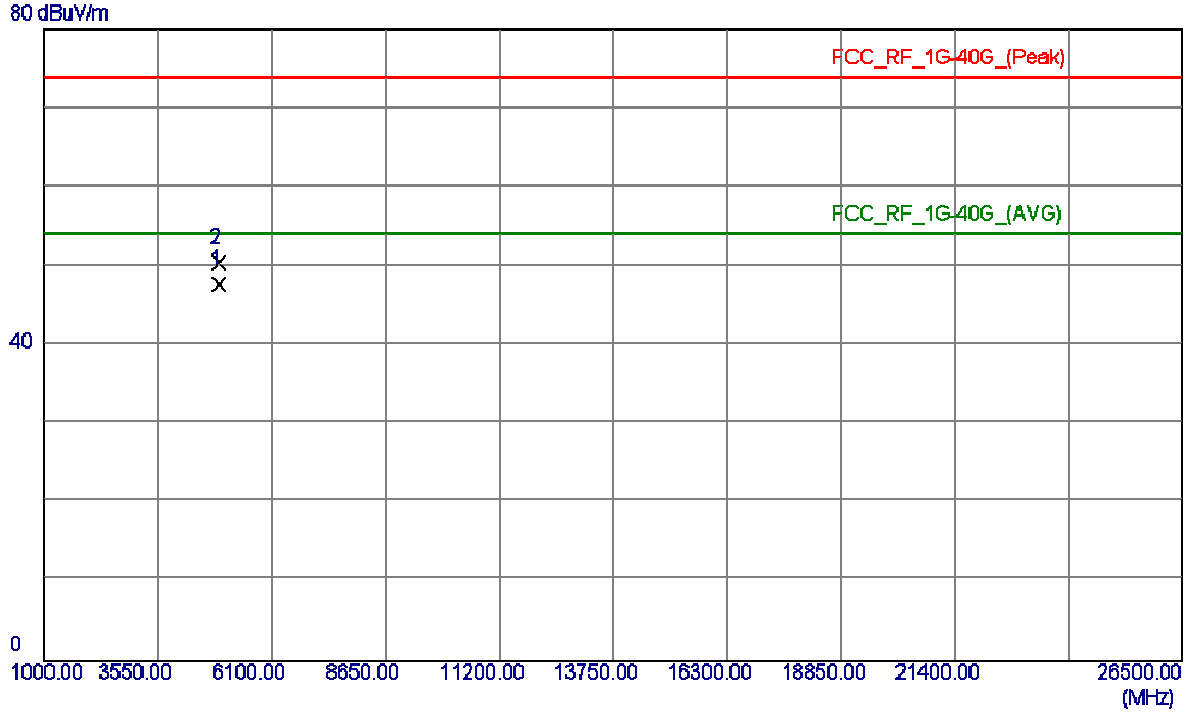
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2453.6000	59.35	31.97	91.32	54.00	37.32	AVG	No Limit
2	2459.8000	67.89	31.97	99.86	74.00	25.86	Peak	No Limit
3	2483.5000	31.04	32.01	63.05	74.00	-10.95	Peak	
4	2483.5000	20.86	32.01	52.87	54.00	-1.13	AVG	

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

Horizontal



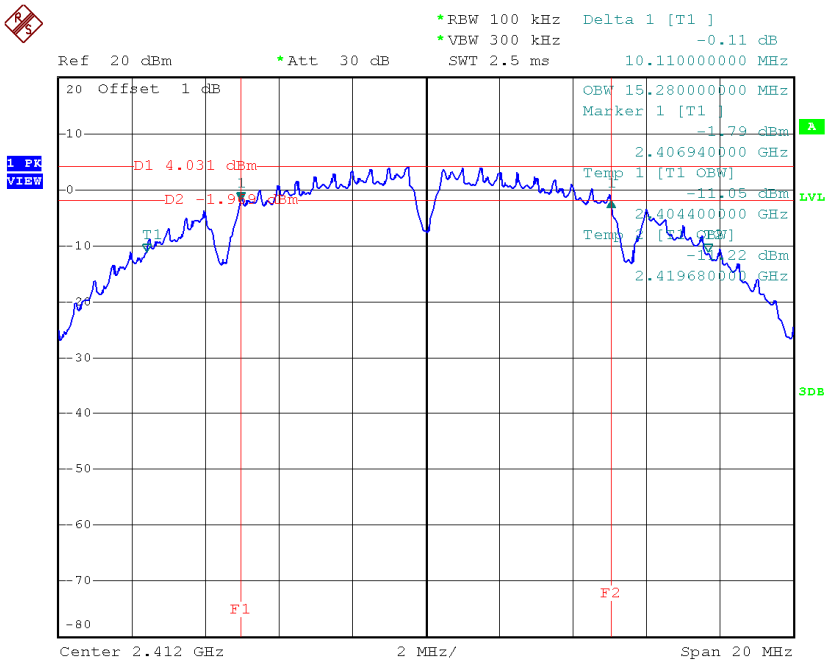
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4904.0099	43.87	3.77	47.64	54.00	-6.36	AVG	
2	4904.0299	46.56	3.77	50.33	74.00	-23.67	Peak	

ATTACHMENT E - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

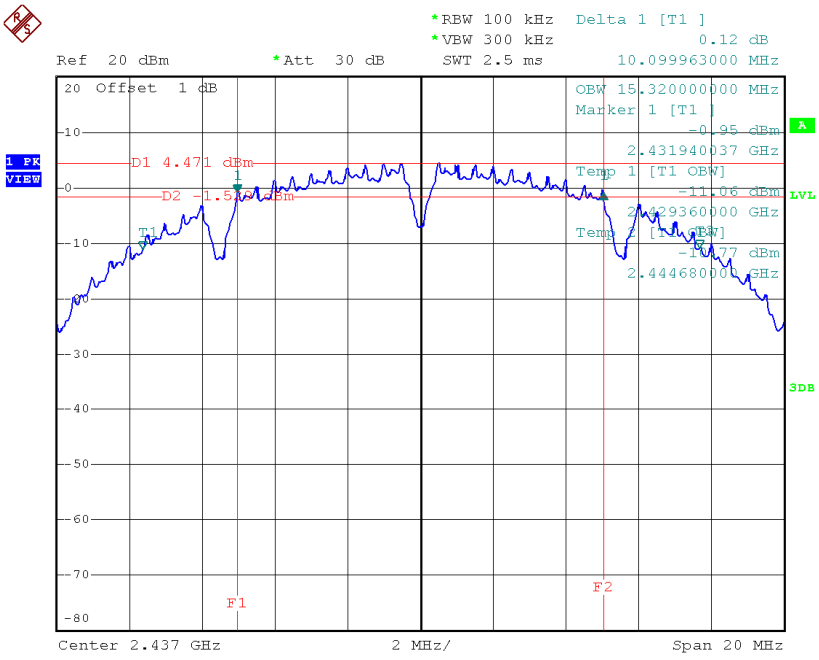
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.11	15.28	500	Complies
2437	10.10	15.32	500	Complies
2462	10.12	15.24	500	Complies

TX CH01



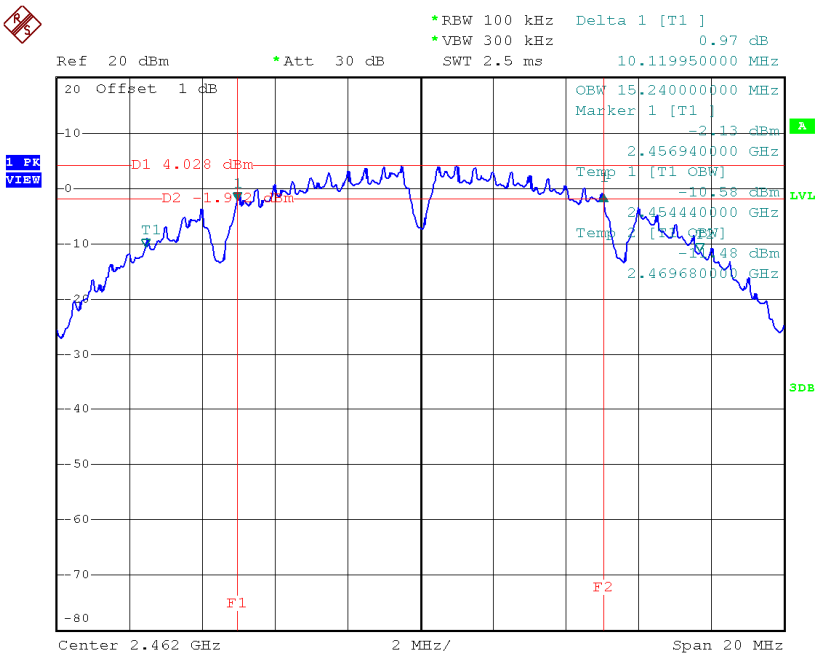
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

TX CH11

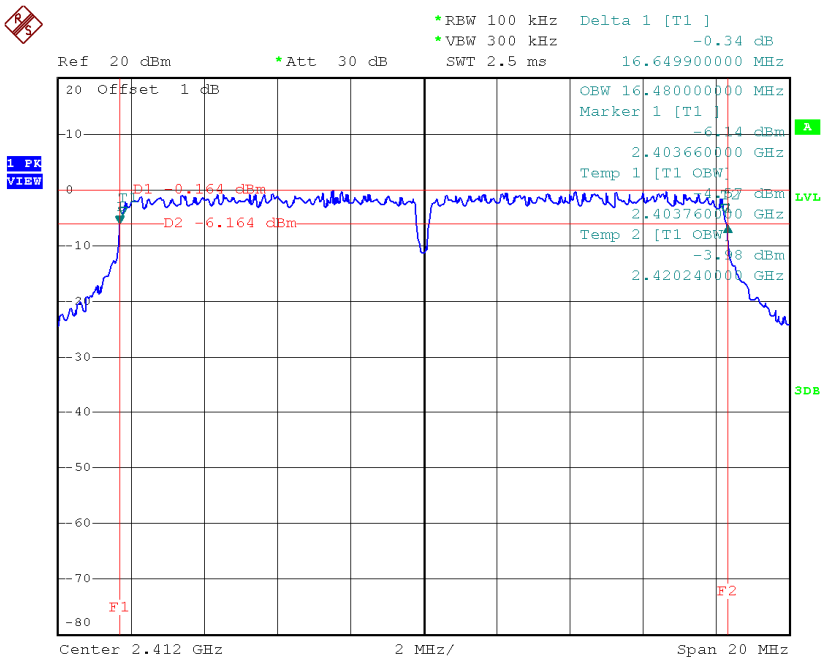


Date: 8.JUL.2015 21:45:41

Test Mode: TX G Mode_CH01/06/11

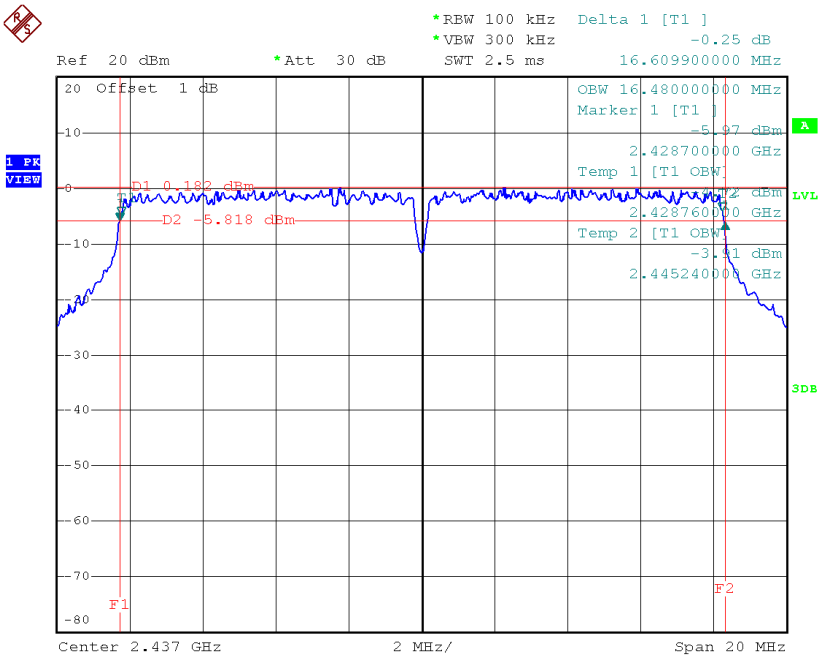
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.65	16.48	500	Complies
2437	16.61	16.48	500	Complies
2462	16.66	16.48	500	Complies

TX CH01



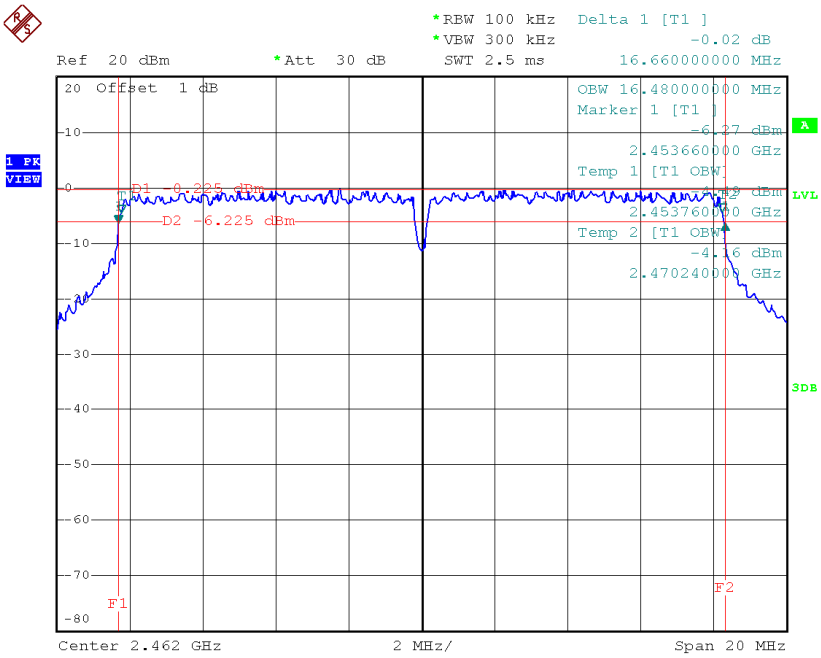
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

TX CH11

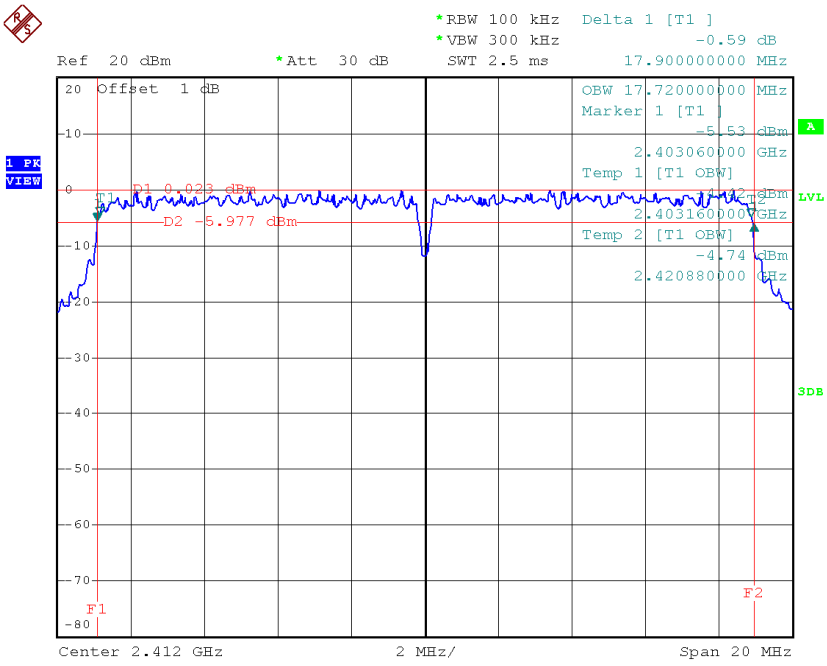


Date: 8.JUL.2015 21:45:41

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

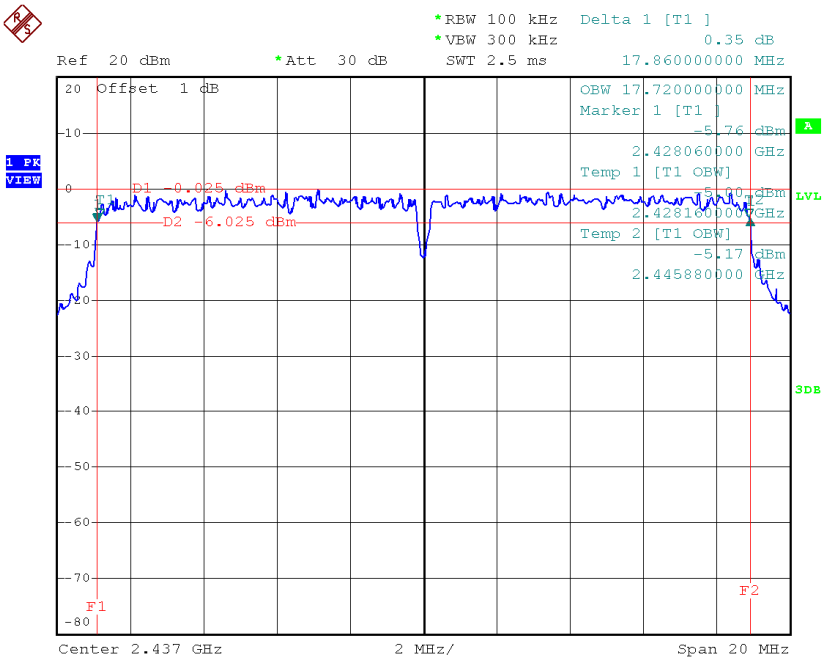
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.90	17.72	500	Complies
2437	17.86	17.72	500	Complies
2462	17.88	17.72	500	Complies

TX CH01



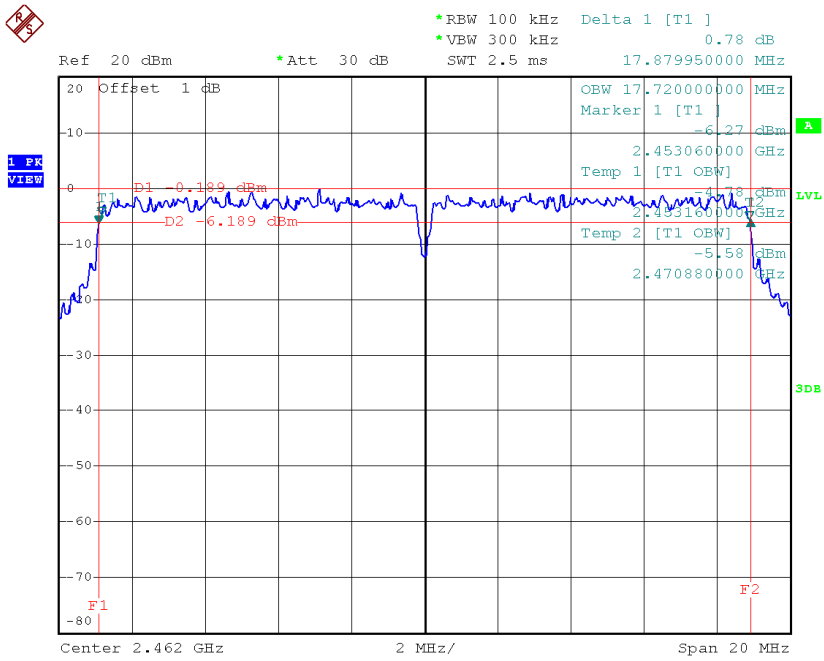
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

TX CH11

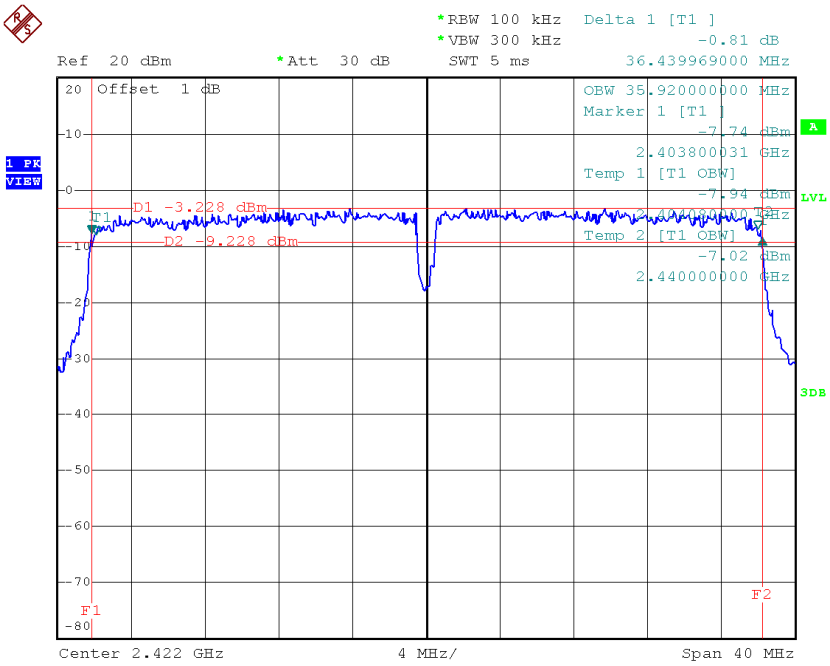


Date: 8.JUL.2015 21:45:41

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

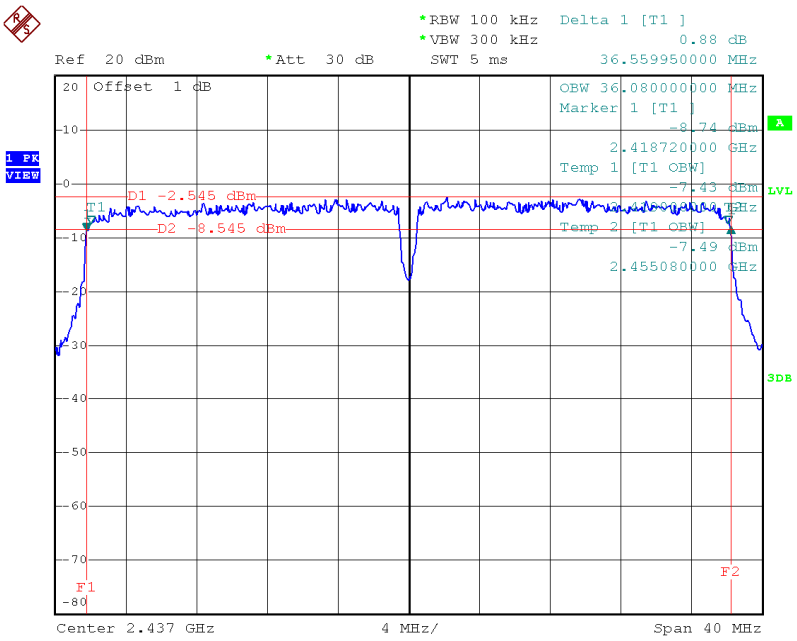
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.44	35.92	500	Complies
2437	36.56	36.08	500	Complies
2452	36.49	36.00	500	Complies

TX CH03



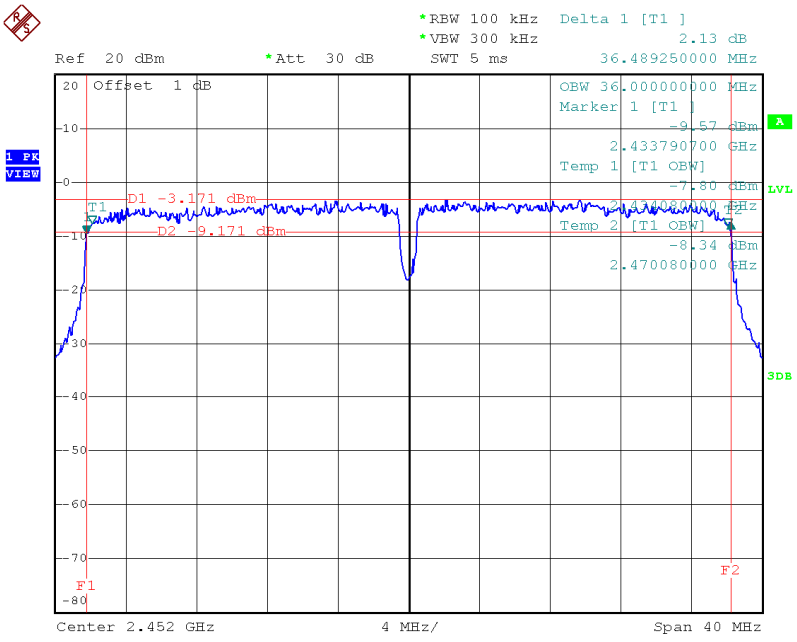
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

TX CH09



Date: 8.JUL.2015 21:45:41

ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

Test Mode :TX B Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	9.86	0.01	30.00	1.00	Complies
2437	9.54	0.01	30.00	1.00	Complies
2462	9.35	0.01	30.00	1.00	Complies

Test Mode :TX G Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	9.75	0.01	30.00	1.00	Complies
2437	9.76	0.01	30.00	1.00	Complies
2462	9.53	0.01	30.00	1.00	Complies

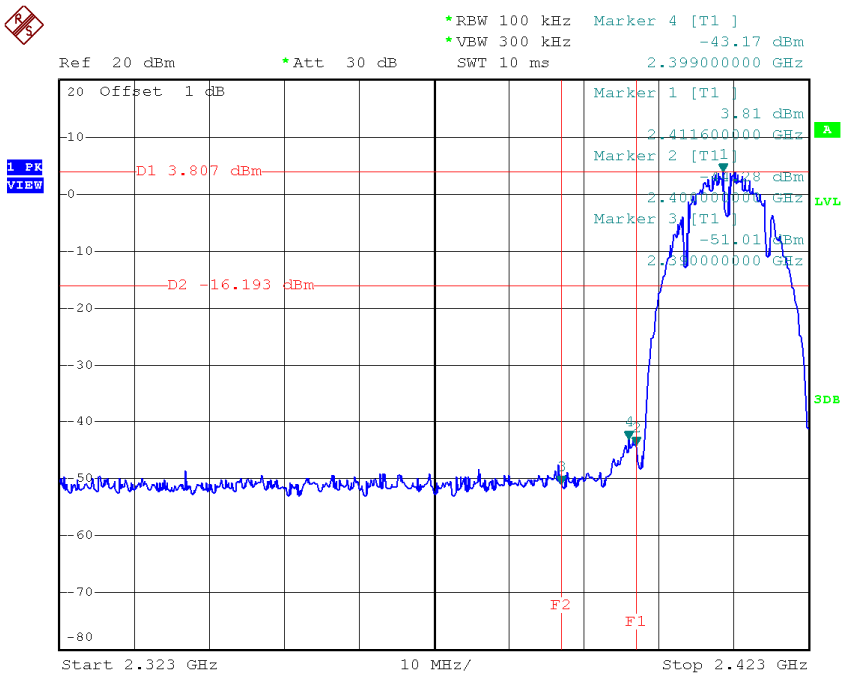
Test Mode :TX N20 Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	9.98	0.01	30.00	1.00	Complies
2437	9.52	0.01	30.00	1.00	Complies
2462	9.45	0.01	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	9.56	0.01	30.00	1.00	Complies
2437	9.41	0.01	30.00	1.00	Complies
2452	9.35	0.01	30.00	1.00	Complies

ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

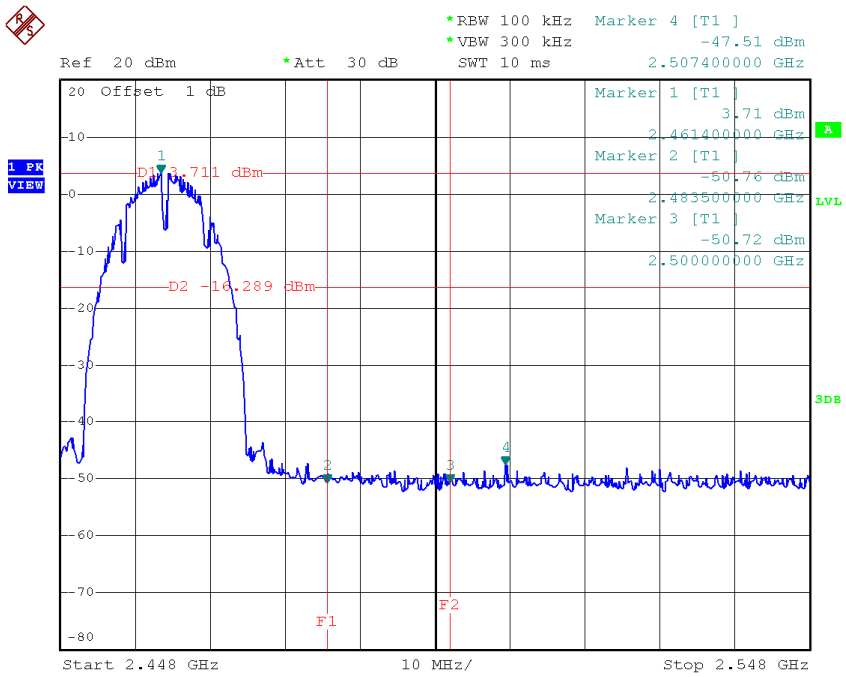
Test Mode :	TX B Mode

TX B mode CH01



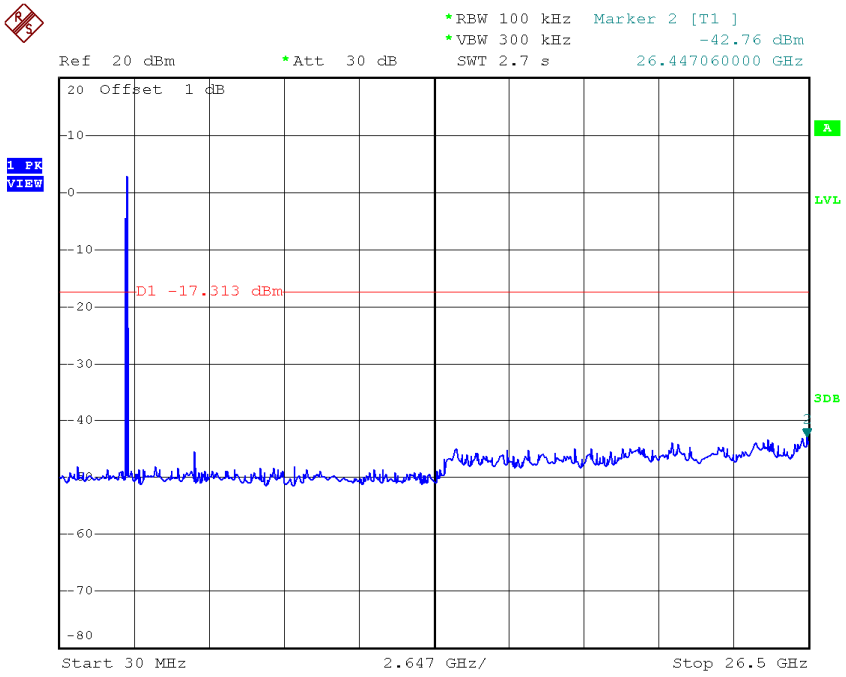
Date: 8.JUL.2015 21:45:41

TX B mode CH11



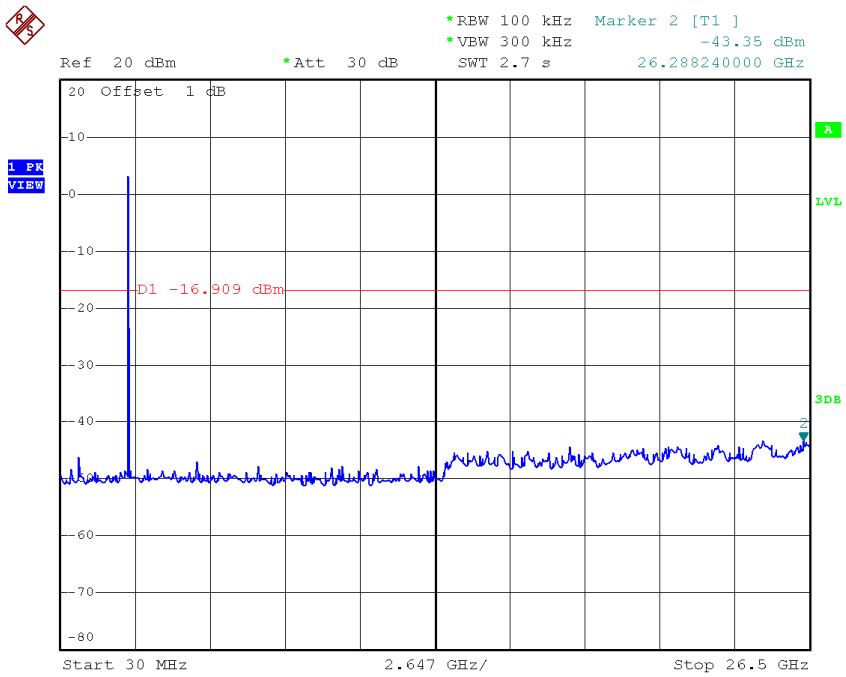
Date: 8.JUL.2015 21:45:41

TX B mode CH01 (10 Harmonic of the frequency)



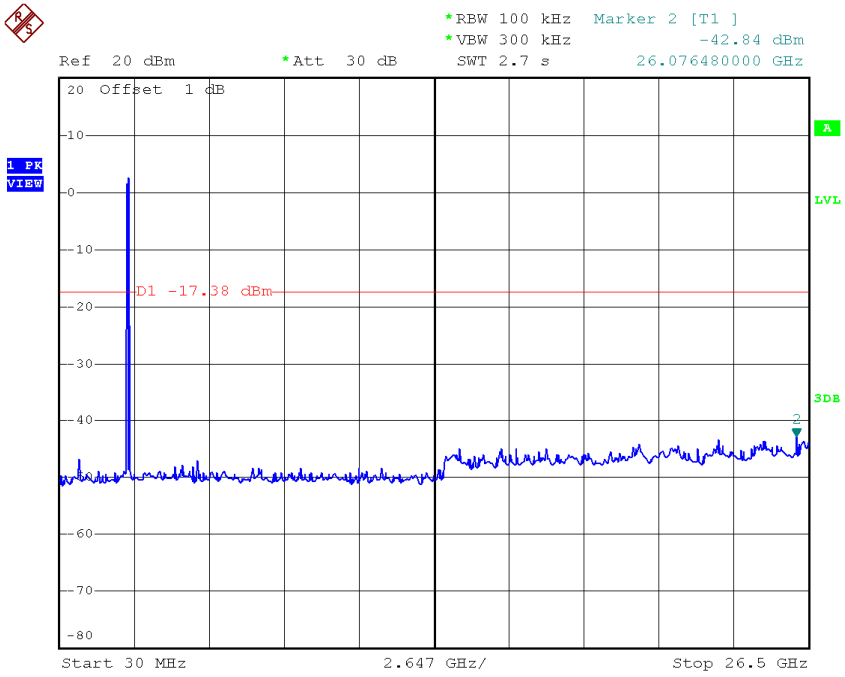
Date: 8.JUL.2015 21:45:41

TX B mode CH06 (10 Harmonic of the frequency)



Date: 8.JUL.2015 21:45:41

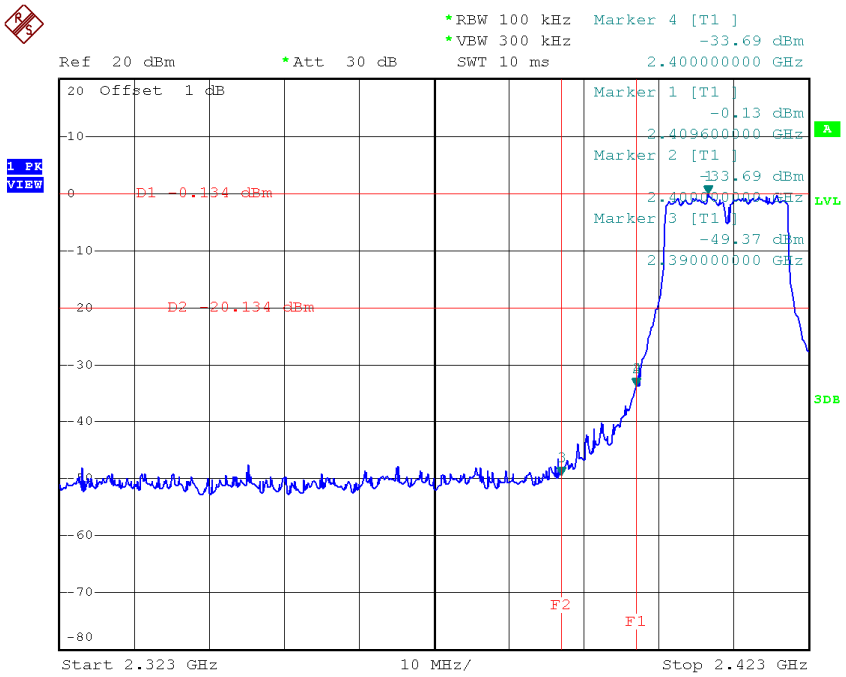
TX B mode CH11 (10 Harmonic of the frequency)



Date: 8.JUL.2015 21:45:41

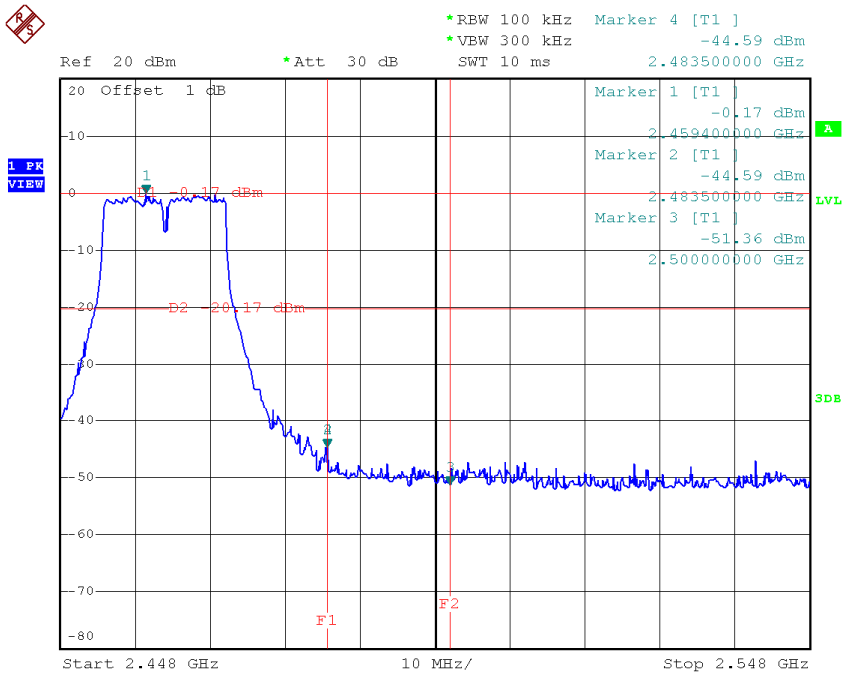
Test Mode :	TX G Mode

TX G mode CH01



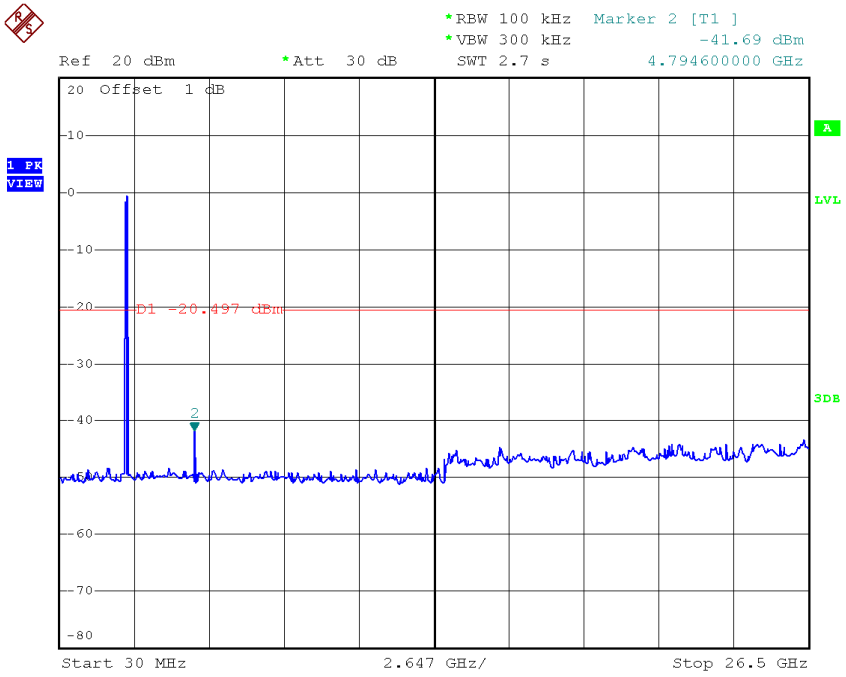
Date: 8.JUL.2015 21:45:41

TX G mode CH11



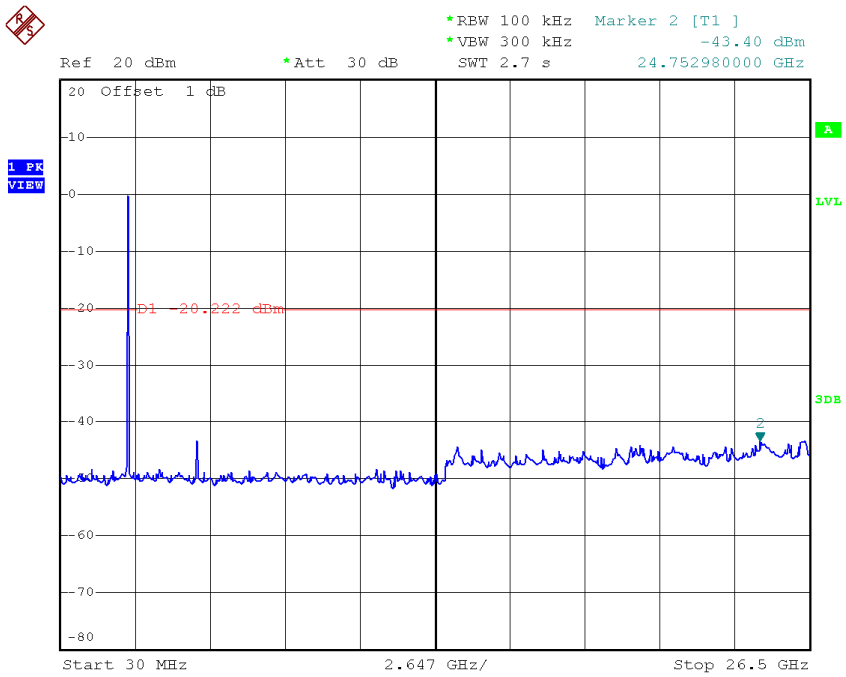
Date: 8.JUL.2015 21:45:41

TX G mode CH01 (10 Harmonic of the frequency)



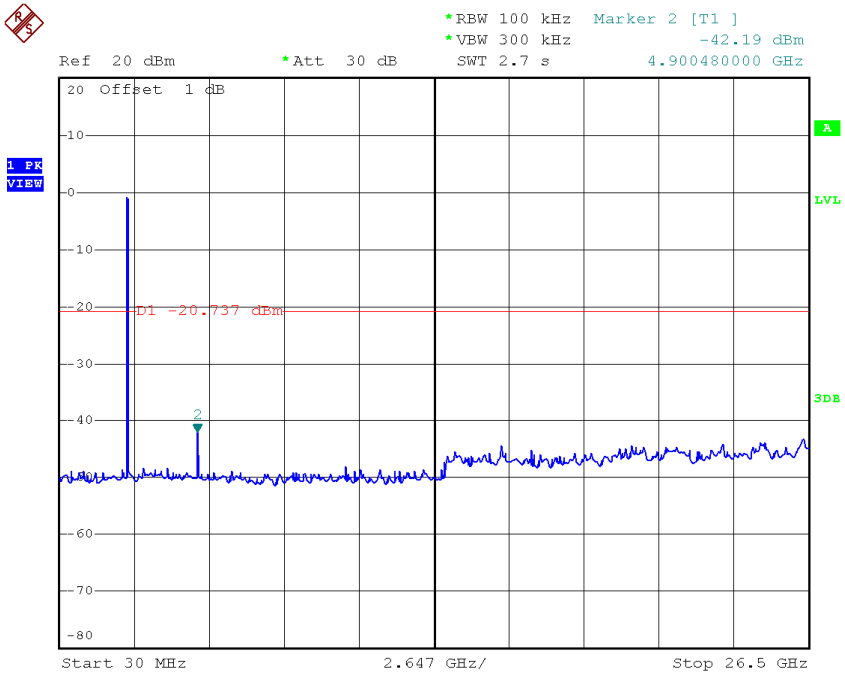
Date: 8.JUL.2015 21:45:41

TX G mode CH06 (10 Harmonic of the frequency)



Date: 8.JUL.2015 21:45:41

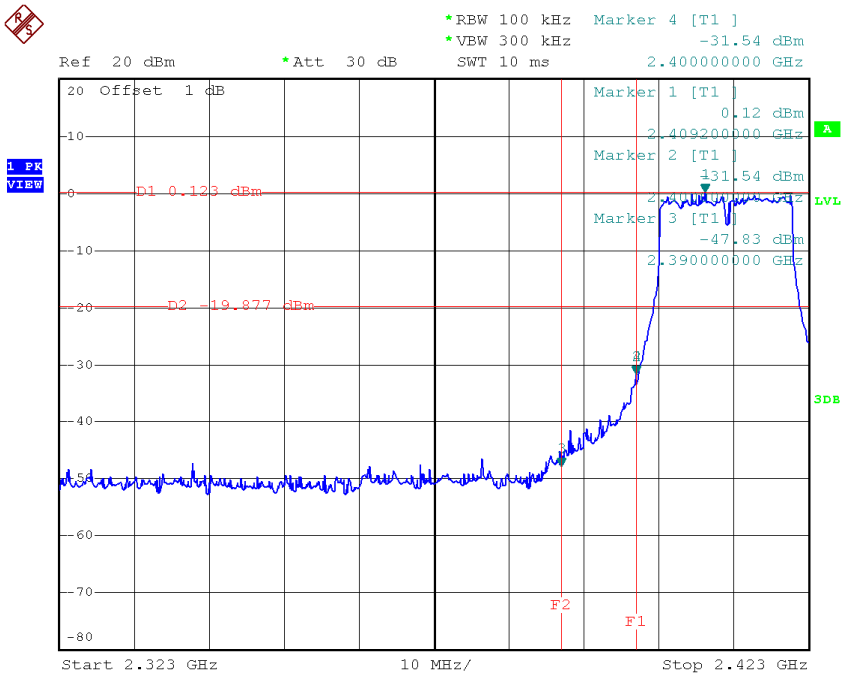
TX G mode CH11 (10 Harmonic of the frequency)



Date: 8.JUL.2015 21:45:41

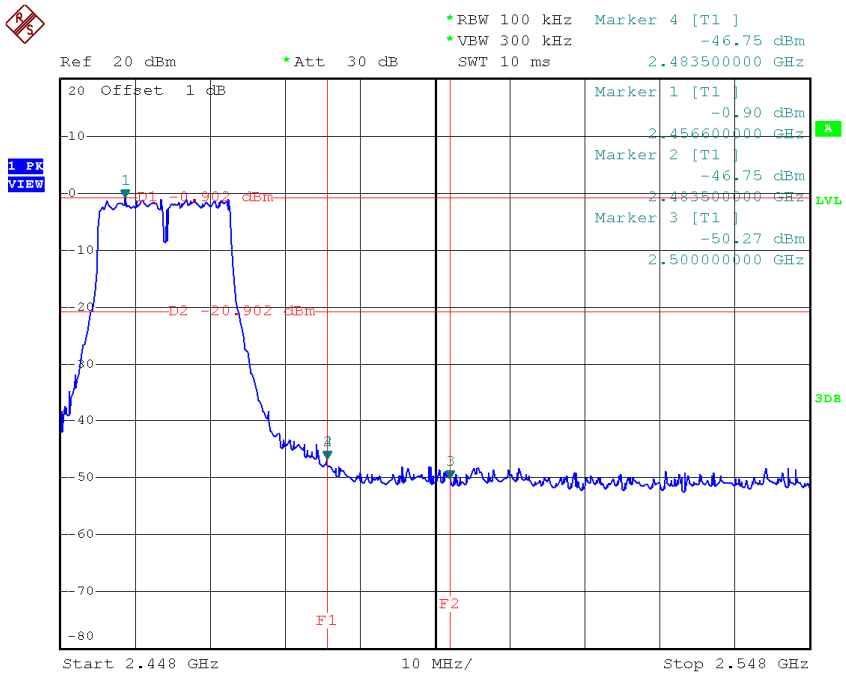
Test Mode :	TX N-20M Mode

TX HT20 mode CH01



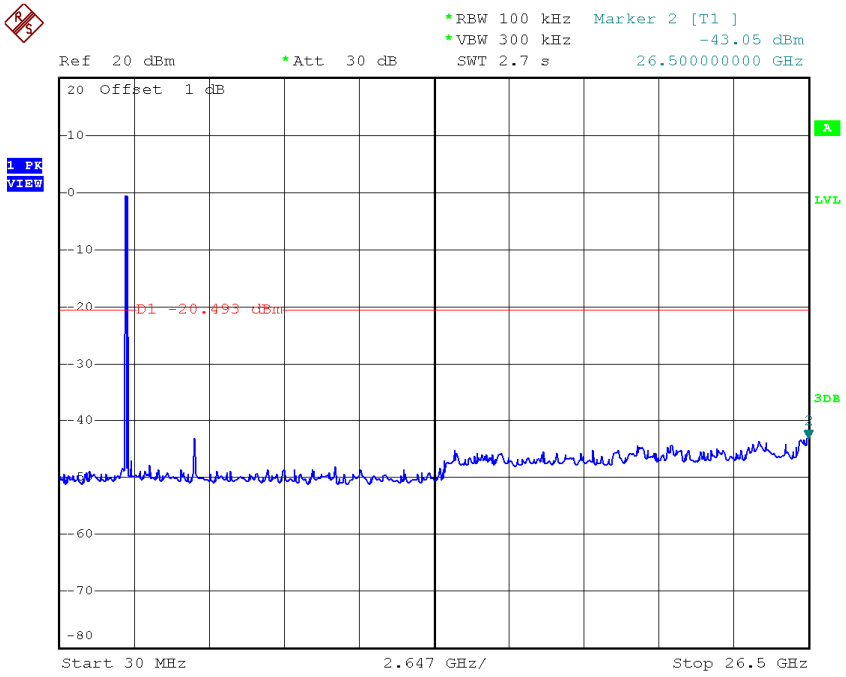
Date: 8.JUL.2015 21:45:41

TX HT20 mode CH11



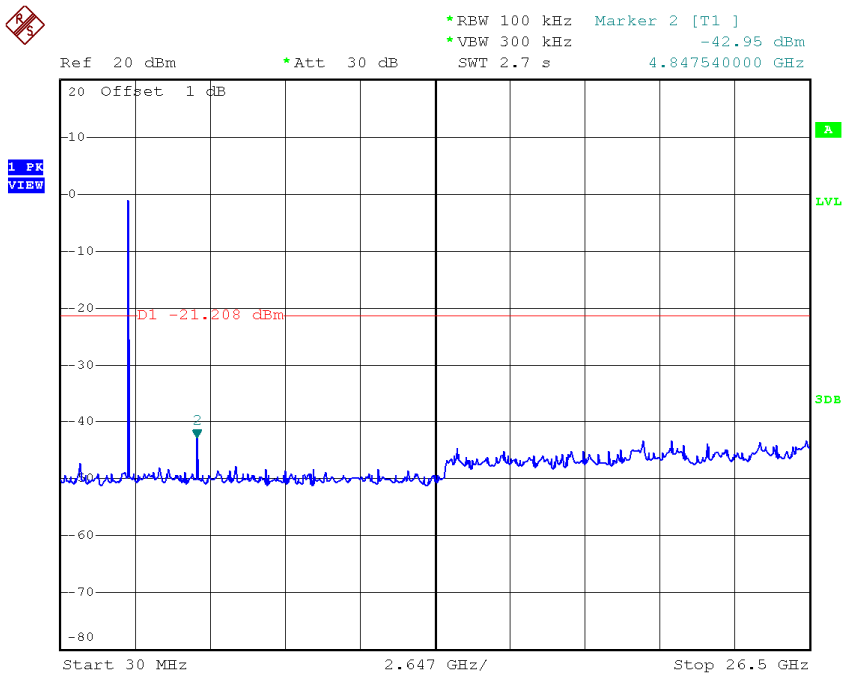
Date: 8.JUL.2015 21:45:41

TX HT20 mode CH01 (10 Harmonic of the frequency)



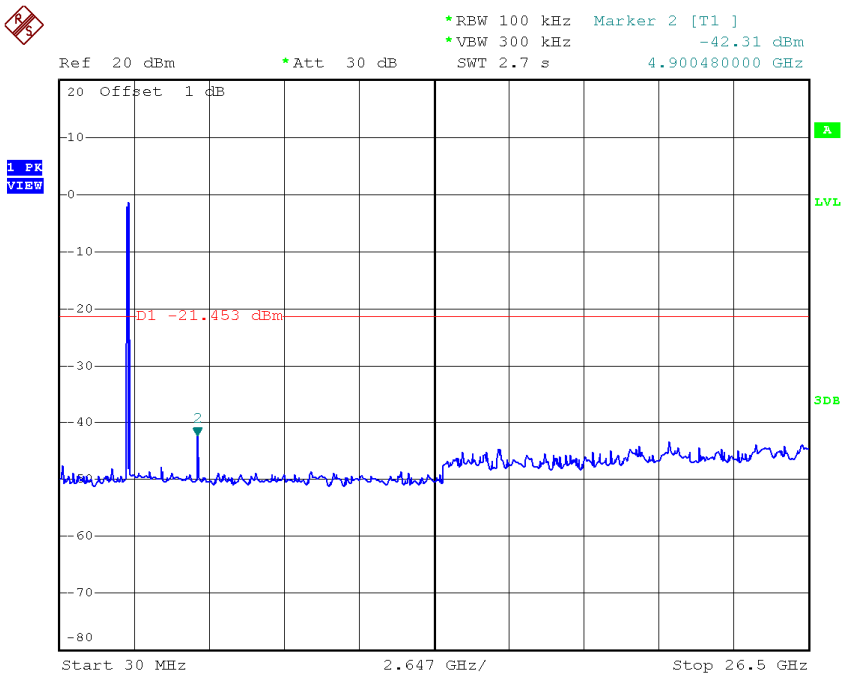
Date: 8.JUL.2015 21:45:41

TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 8.JUL.2015 21:45:41

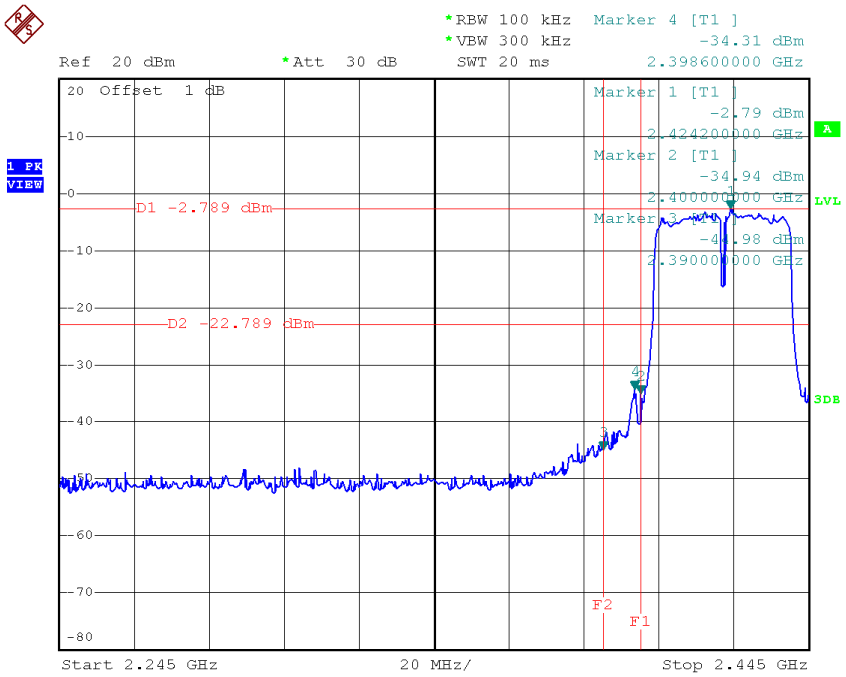
TX HT20 mode CH11 (10 Harmonic of the frequency)



Date: 8.JUL.2015 21:45:41

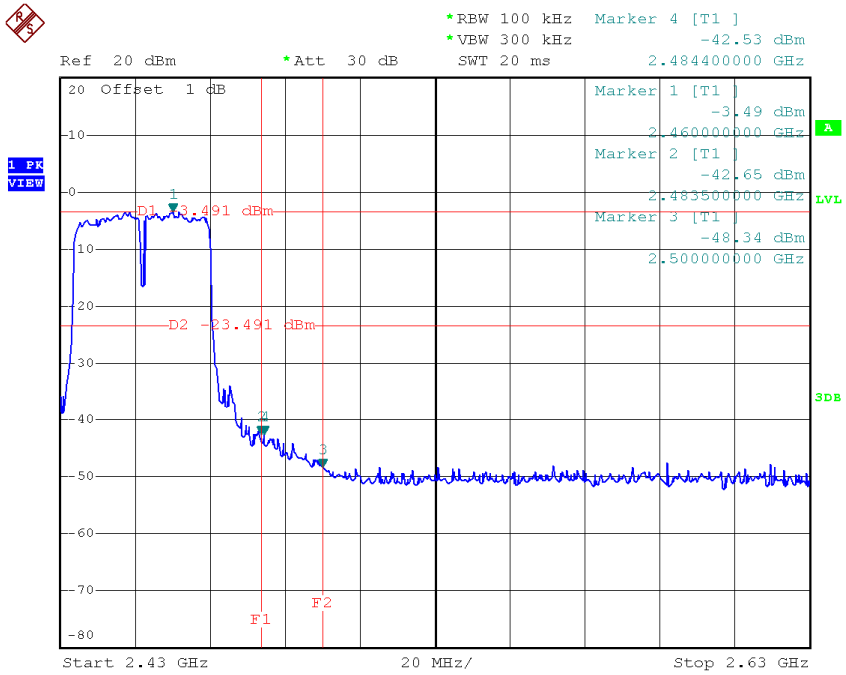
Test Mode :	TX N-40M Mode

TX HT40 mode CH03



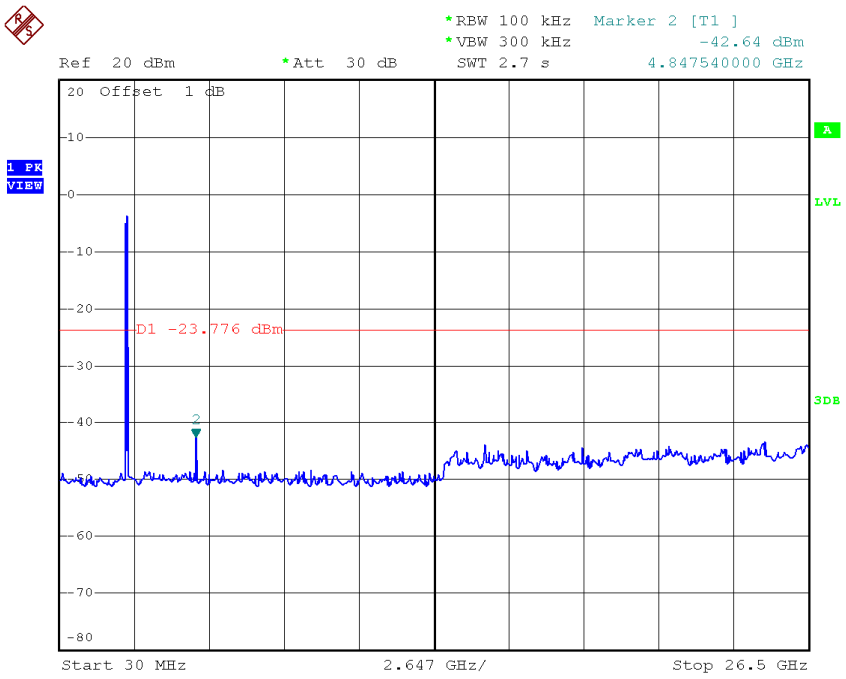
Date: 8.JUL.2015 21:45:41

TX HT40 mode CH09



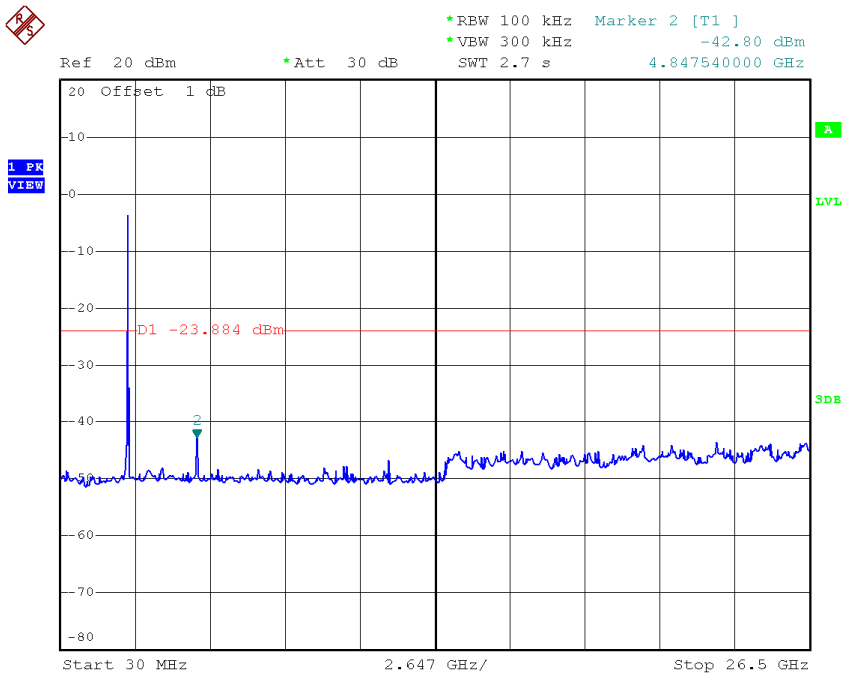
Date: 8.JUL.2015 21:45:41

TX HT40 mode CH03 (10 Harmonic of the frequency)



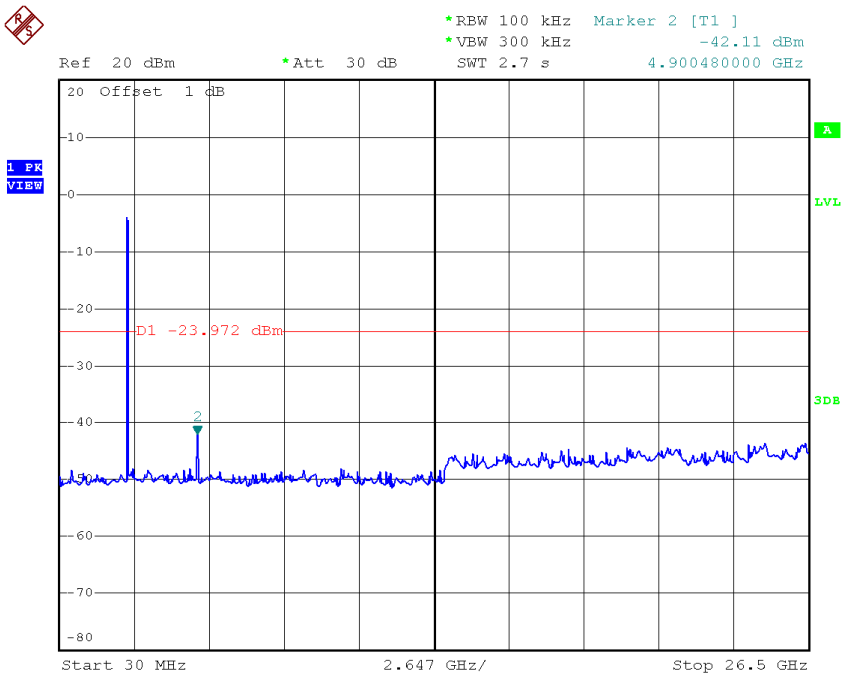
Date: 8.JUL.2015 21:45:41

TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 8.JUL.2015 21:45:41

TX HT40 mode CH09 (10 Harmonic of the frequency)



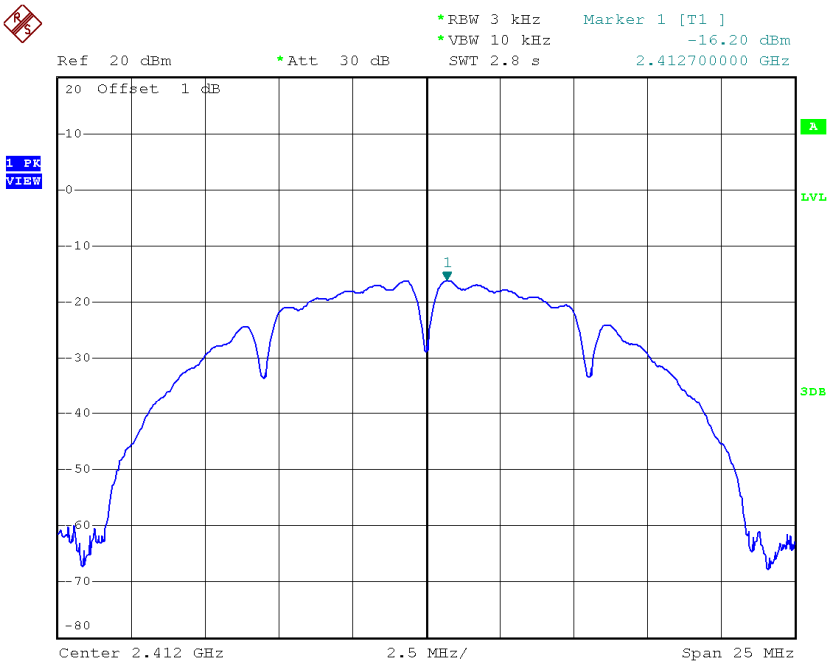
Date: 8.JUL.2015 21:45:41

ATTACHMENT H - POWER SPECTRAL DENSITY

Test Mode :TX B Mode_CH01/06/11				

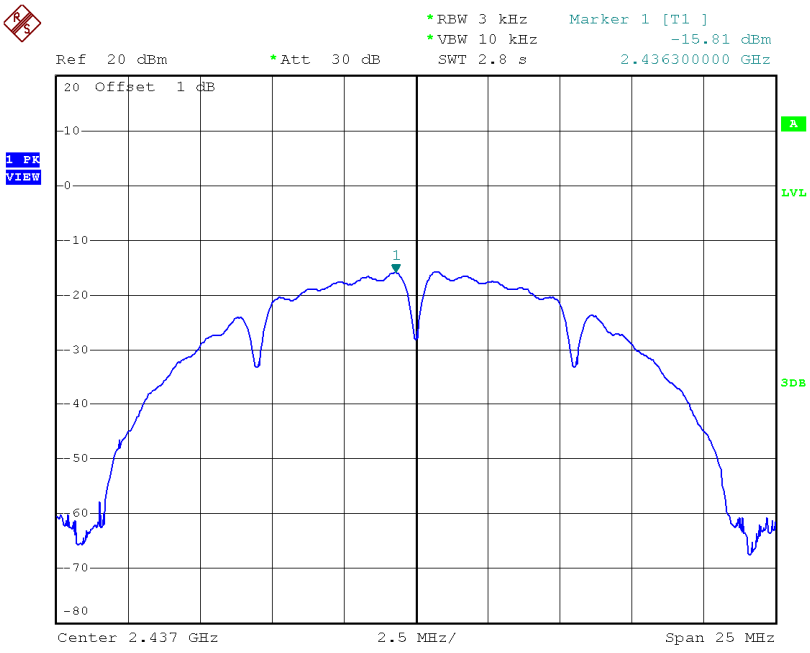
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-16.20	0.02	8.00	Complies
2437	-15.81	0.02	8.00	Complies
2462	-16.29	0.02	8.00	Complies

TX CH01



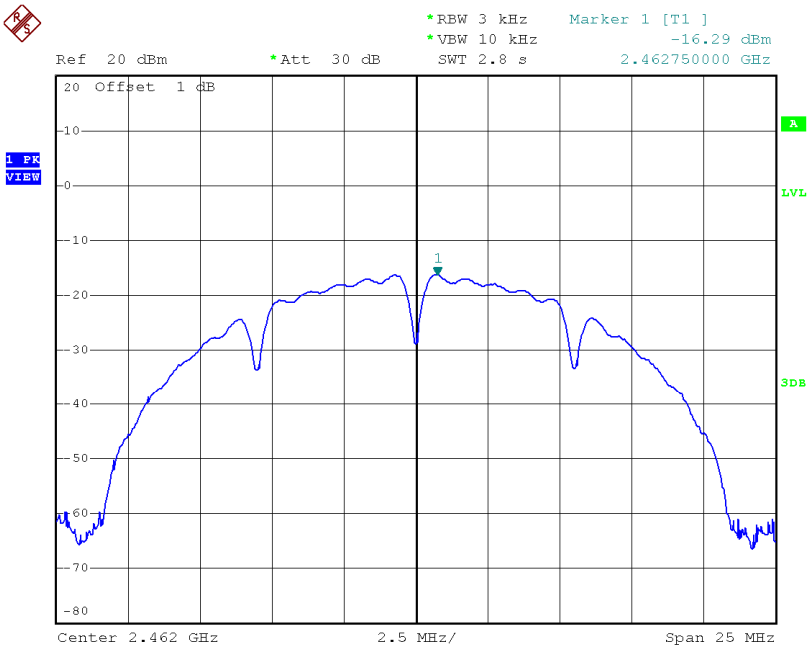
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

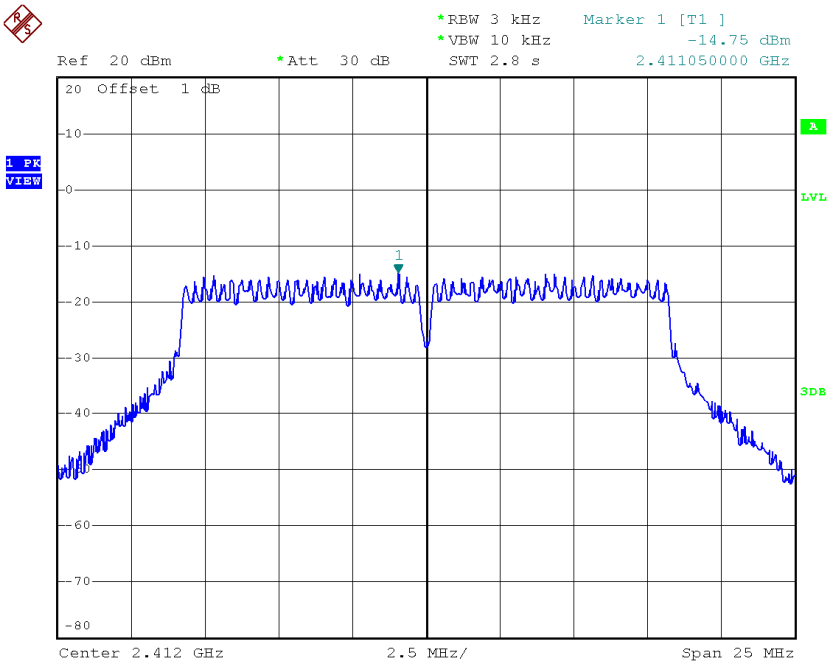
TX CH11



Date: 8.JUL.2015 21:45:41

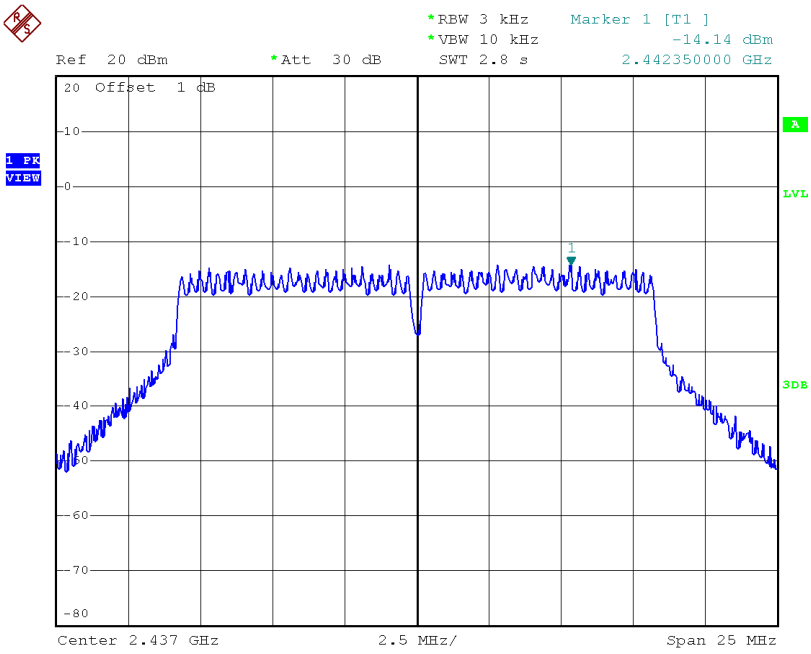
Test Mode :TX G Mode_CH01/06/11				
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-14.75	0.02	8.00	Complies
2437	-14.14	0.02	8.00	Complies
2462	-14.64	0.02	8.00	Complies

TX CH01



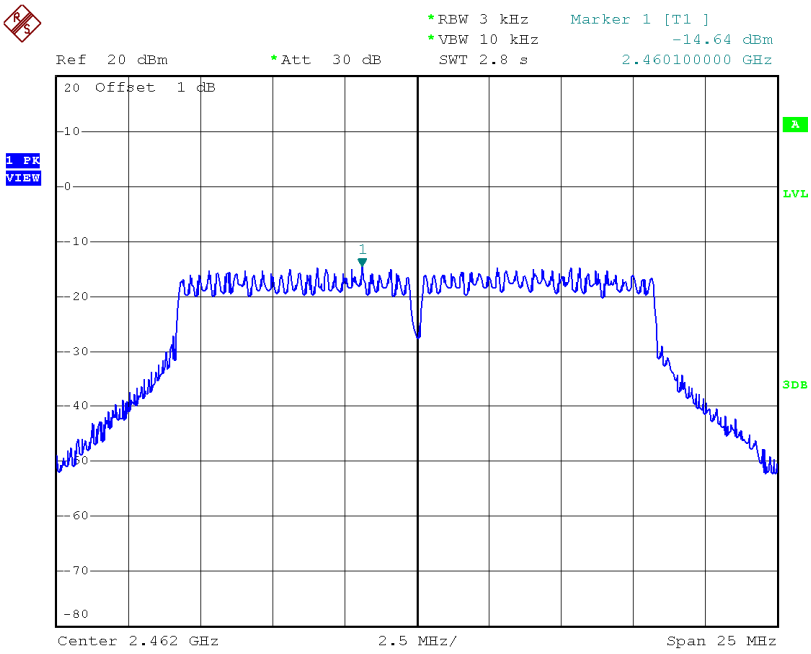
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

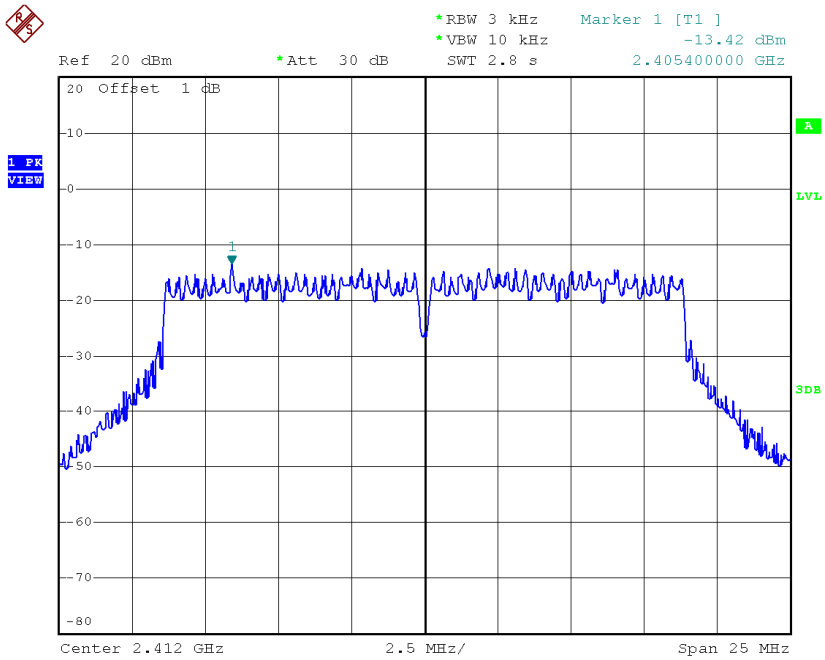
TX CH11



Date: 8.JUL.2015 21:45:41

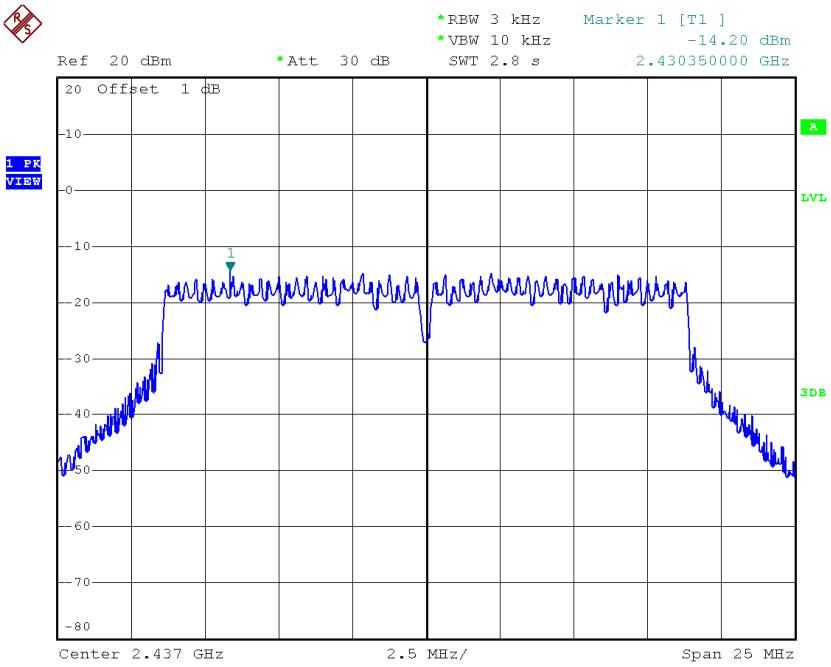
Test Mode : TX N-20M Mode_CH01/06/11				
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.42	0.02	8.00	Complies
2437	-14.20	0.03	8.00	Complies
2462	-14.72	0.03	8.00	Complies

TX CH01



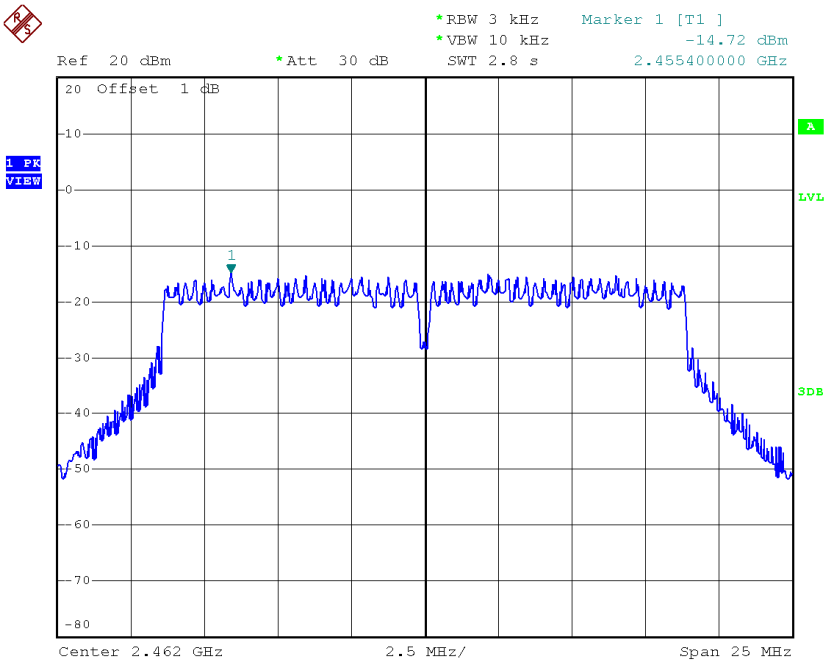
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

TX CH11

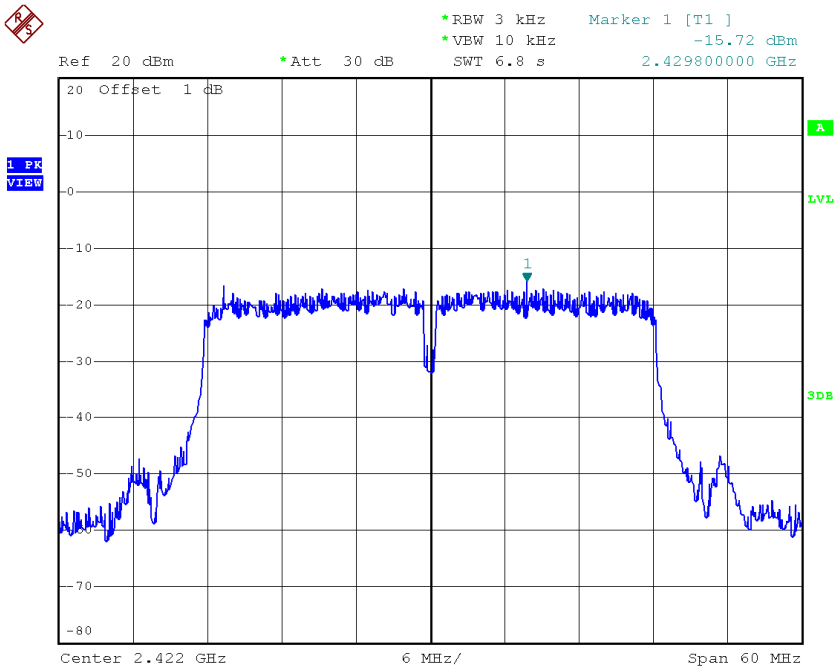


Date: 8.JUL.2015 21:45:41

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

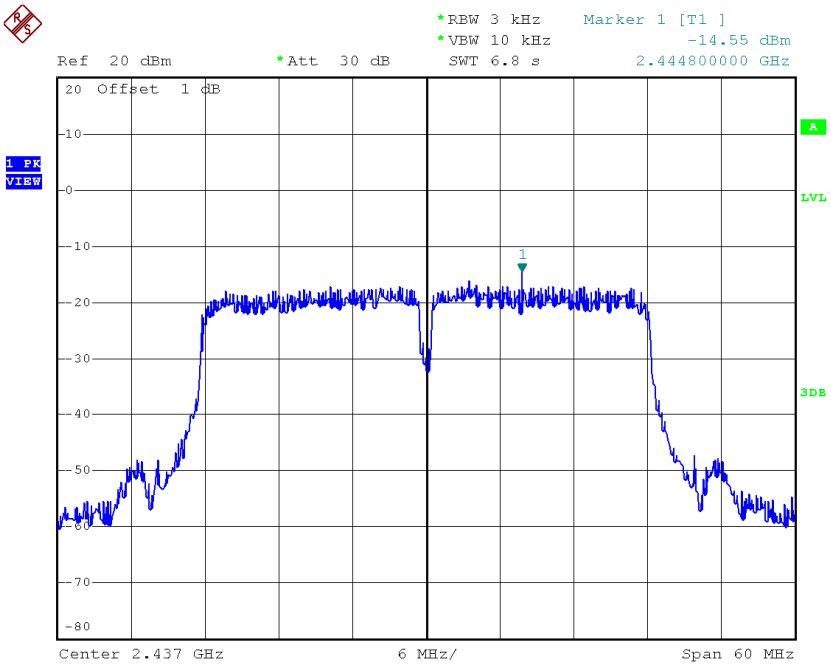
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-15.72	0.02	8.00	Complies
2437	-14.55	0.02	8.00	Complies
2452	-16.18	0.03	8.00	Complies

TX CH03



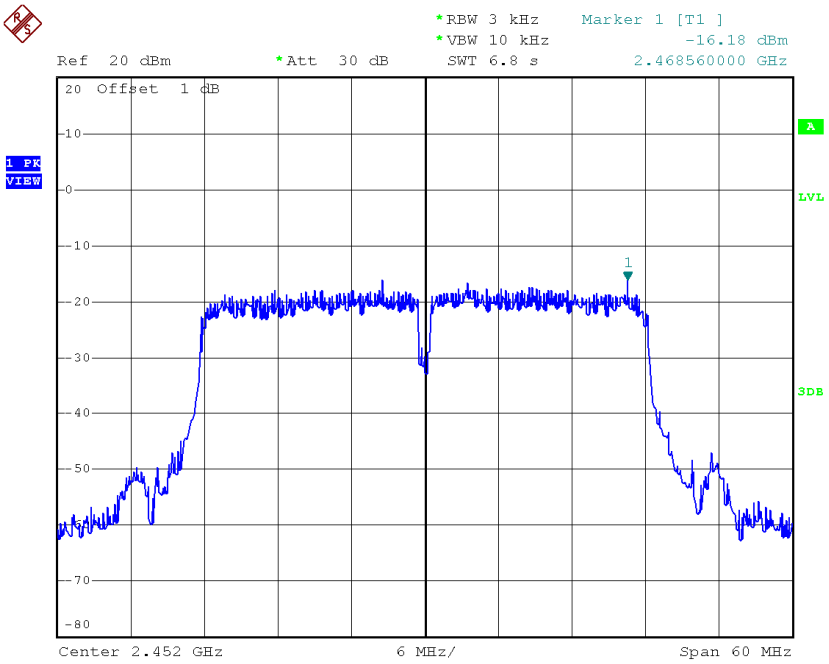
Date: 8.JUL.2015 21:45:41

TX CH06



Date: 8.JUL.2015 21:45:41

TX CH09



Date: 8.JUL.2015 21:45:41