

FCC Radio Test Report

FCC ID: V7TA18

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


Project No. : 1710C164
Equipment : AC1200 Dual Band WiFi Repeater, AC750 Dual Band WiFi Repeater
Test Model : A18
Series Model : A15
Applicant : SHENZHEN TENDA TECHNOLOGY CO.,LTD
Address : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

Date of Receipt : Oct. 18, 2017
Date of Test : Oct. 18, 2017 ~ Nov. 16, 2017
Issued Date : Nov. 17, 2017
Tested by : BTL Inc.


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Lab Code: 200788-01

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1710C164	Original Issue.	Nov. 17, 2017

1. CERTIFICATION

Equipment : AC1200 Dual Band WiFi Repeater, AC750 Dual Band WiFi Repeater
Brand Name : Tenda
Test Model : A18
Series Model : A15
Applicant : SHENZHEN TENDA TECHNOLOGY CO.,LTD
Manufacturer : SHENZHEN TENDA TECHNOLOGY CO.,LTD
Address : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District,
Shenzhen, China. 518052
Date of Test : Oct. 18, 2017 ~ Nov. 15, 2017
Test Sample : Engineering Sample
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-1-1710C164) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15 (15.247) , Subpart C			
Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(b)(3)	Peak 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

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

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

A. Conducted Measurement:

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

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9KHz~30MHz	V	3.79
		9KHz~30MHz	H	3.57
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	H	3.78
		200MHz ~ 1,000MHz	V	4.10
		200MHz ~ 1,000MHz	H	4.06
		1GHz~18GHz	V	3.12
		1GHz~18GHz	H	3.68
		18GHz~40GHz	V	4.15
		18GHz~40GHz	H	4.14

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	AC1200 Dual Band WiFi Repeater, AC750 Dual Band WiFi Repeater	
Brand Name	Tenda	
Test Model	A18	
Series Model	A15	
Model Difference	Only differ in product name and model name.	
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 300 Mbps
	Output Power (Max.)	802.11b: 18.32dBm 802.11g: 27.23dBm 802.11n(20MHz): 29.38dBm 802.11n(40MHz): 29.12dBm
Power Source	AC Mains.	
Power Rating	AC100-240V 50/60Hz 0.3A	

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- 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	N/A	Dipole	N/A	3	N/A
2	Tenda	N/A	Dipole	N/A	3	N/A

Note: The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R).

3.2 DESCRIPTION OF TEST MODES

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

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

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

For Conducted Test	
Final Test Mode	Description
Mode 5	Normal Link

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

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:

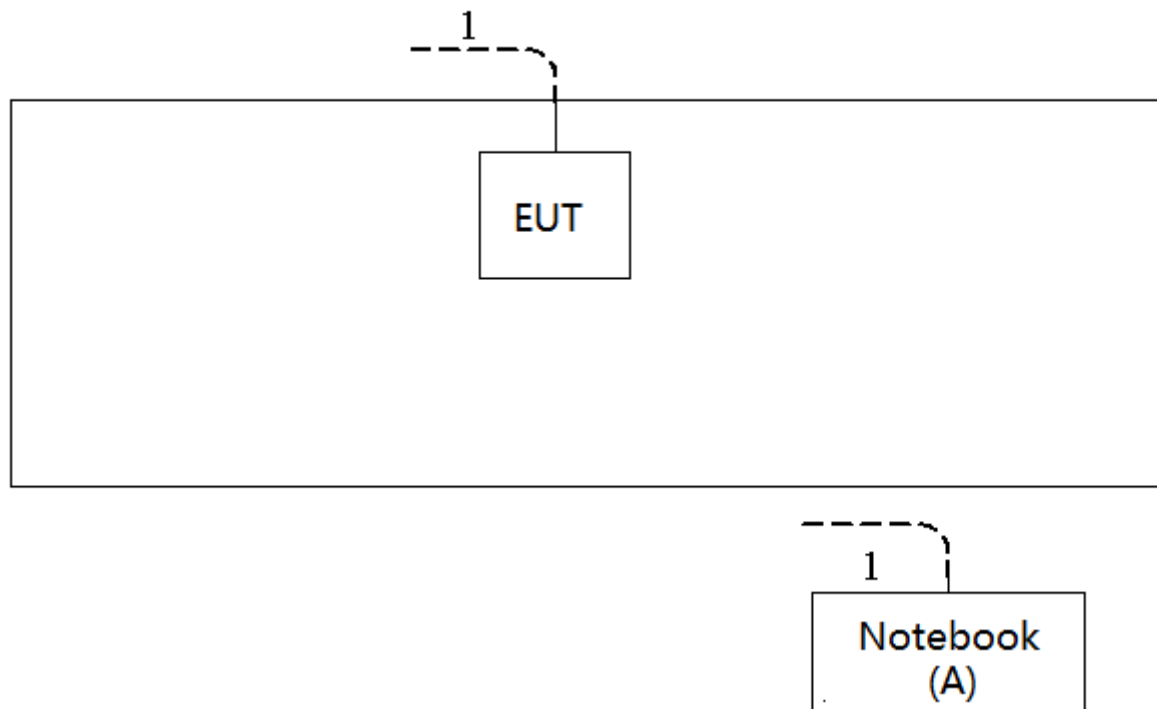
- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)
802.11g mode: OFDM (6Mbps)
802.11n HT20 mode : BPSK (13Mbps)
802.11n HT40 mode : BPSK (27Mbps)
For radiated emission tests, the highest output powers were set for final test.
- (3) For 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	MP_TEST		
Frequency (MHz)	2412	2437	2462
802.11b	41	43	46
802.11g	55	63	53
802.11n (20MHz)	55	62	53
Frequency (MHz)	2422	2437	2452
802.11n (40MHz)	53	63	52

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



4

3.5 DESCRIPTION OF SUPPORT UNITS

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
A	Notebook	Dell	DCSM	DOC	G7K832X

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	10m	RJ45 Cable

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

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

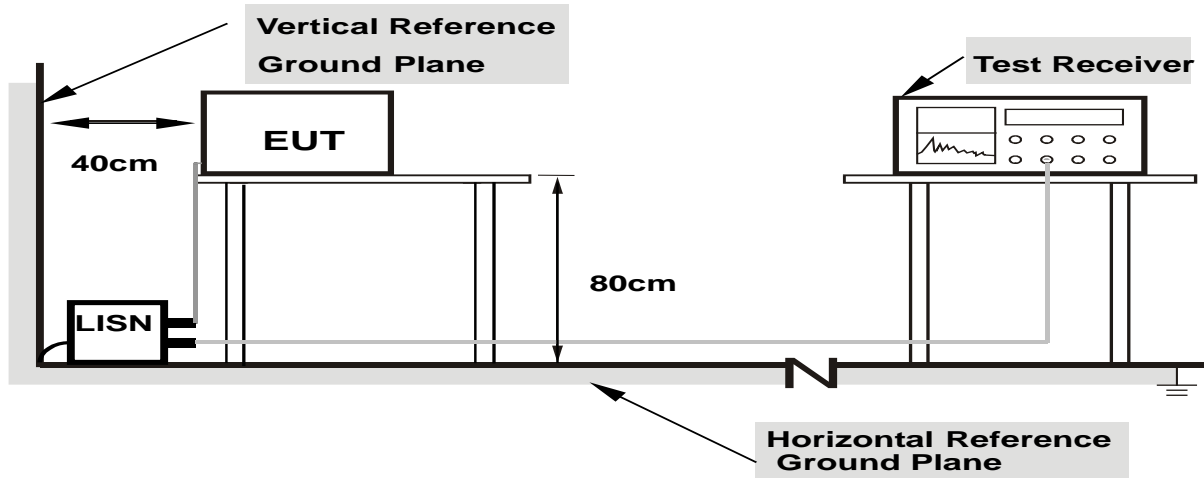
4.1.2 TEST PROCEDURE

- 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



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

4.1.5 EUT OPERATING CONDITIONS

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

4.1.6 EUT TEST CONDITIONS

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

4.1.7 TEST RESULTS

Please refer to the Appendix A.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
 Margin Level = Measurement Value - Limit Value

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

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

4.2.2 TEST PROCEDURE

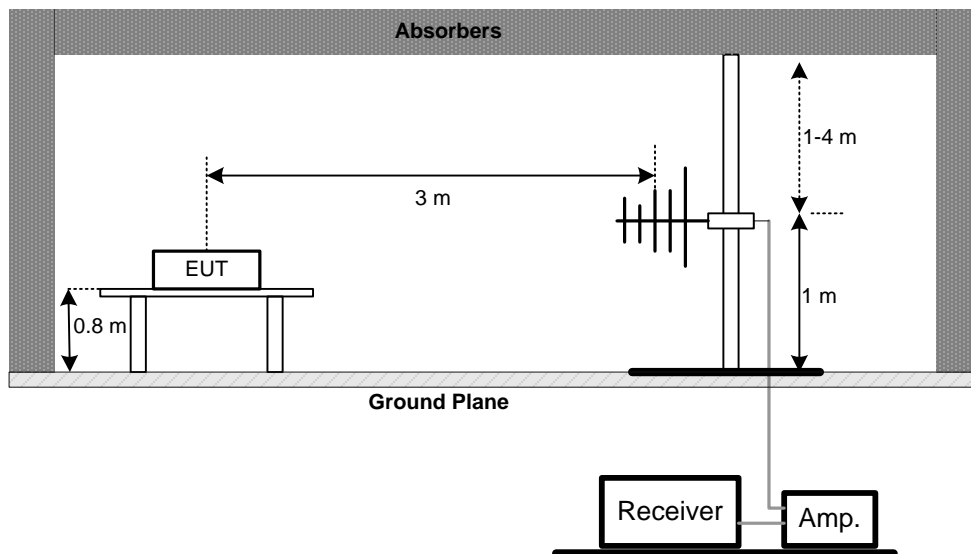
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of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

4.2.3 DEVIATION FROM TEST STANDARD

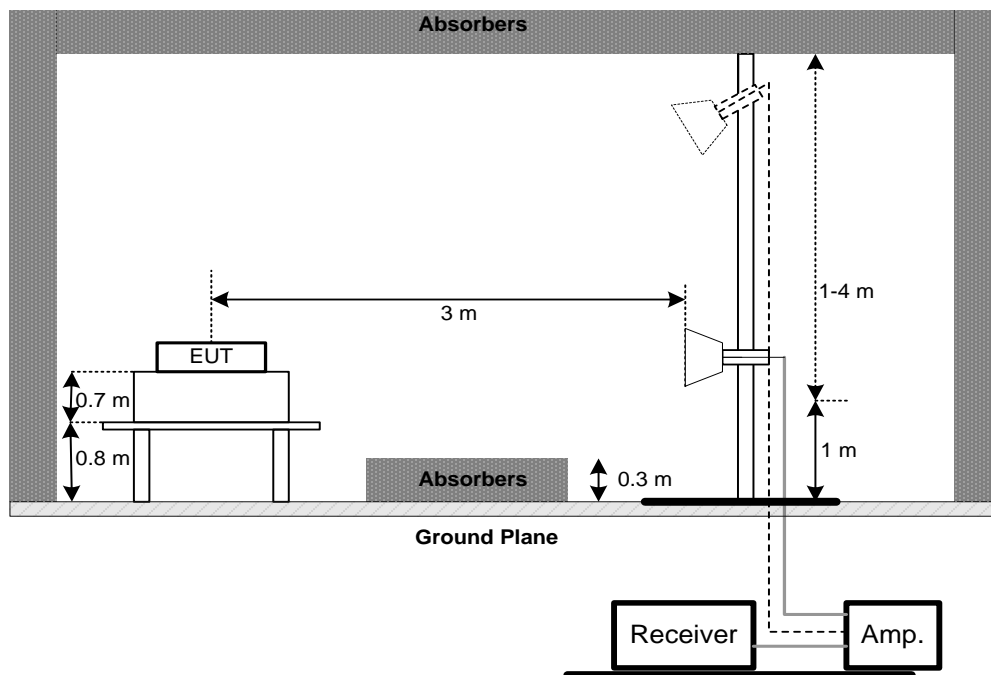
No deviation

4.2.4 TEST SETUP

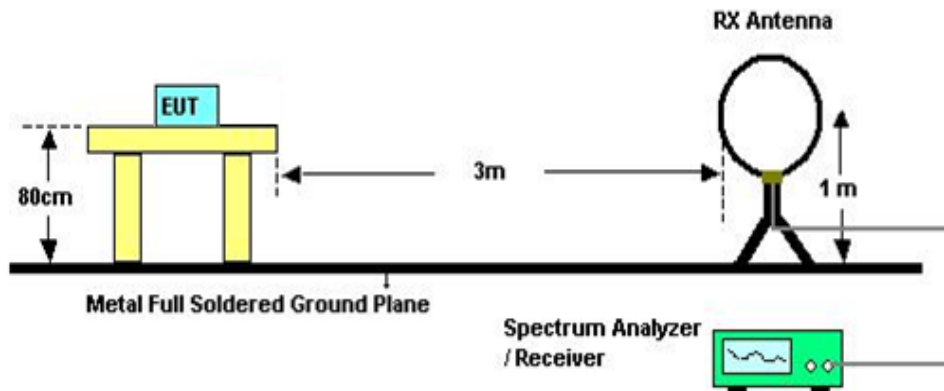
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

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

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Appendix B

Remark:

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

4.2.8 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the Appendix C.

4.2.9 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the Appendix D.

Remark:

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

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

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

5.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- 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: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

5.1.6 TEST RESULTS

Please refer to the Appendix 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

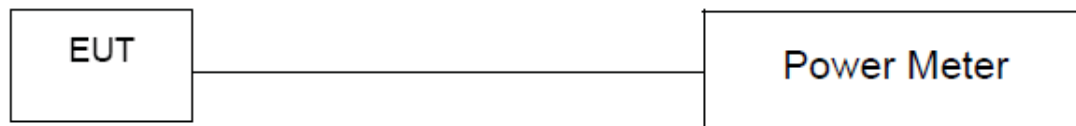
6.1.1 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance and FCC KDB 662911 D01 Multiple Transmitter Output.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5 EUT TEST CONDITIONS

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

6.1.6 TEST RESULTS

Please refer to the Appendix F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

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

7.1.1 TEST PROCEDURE

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

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.1.5 EUT TEST CONDITIONS

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

7.1.6 TEST RESULTS

Please refer to the Appendix G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

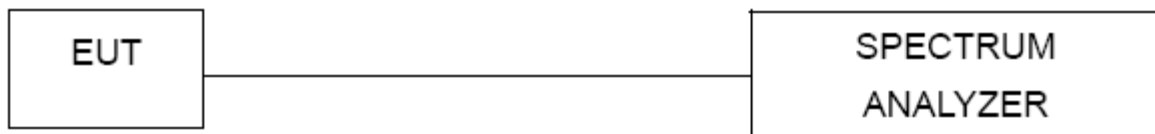
8.1.1 TEST PROCEDURE

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

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.1.5 EUT TEST CONDITIONS

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

8.1.6 TEST RESULTS

Please refer to the Appendix H.

9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 26, 2018
2	LISN	EMCO	3816/2	52765	Mar. 26, 2018
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 26, 2018
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 26, 2018
5	Cable	N/A	RG223	12m	Oct. 19, 2018
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emission Below 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 26, 2018
2	Amplifier	HP	8447D	2944A09673	Oct. 19, 2018
3	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	Jun. 26, 2018
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Sep. 05, 2018

Radiated Emission Above 1GHz

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 26, 2018
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 08, 2018
3	Amplifier	Agilent	8449B	3008A02274	May. 16, 2018
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 26, 2018
5	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018
6	Antenna	EM	EM-6876-1	230	Mar. 06, 2018
7	Controller	CT	SC100	N/A	N/A
8	Controller	MF	MF-7802	MF780208416	N/A
9	Cable	emci	EMC104-SM-SM-1 2000(12m)	N/A	Jun. 26, 2018
10	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

6dB Bandwidth

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 03, 2018

Peak Output Power

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	ANRITSU	ML2495A	1128009	Mar. 26, 2018
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 26, 2018

Antenna Conducted Spurious Emission

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 03, 2018

Power Spectral Density

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 03, 2018

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

10. EUT TEST PHOTO

Conducted Measurement Photos



Radiated Measurement Photos

9KHz to 30MHz



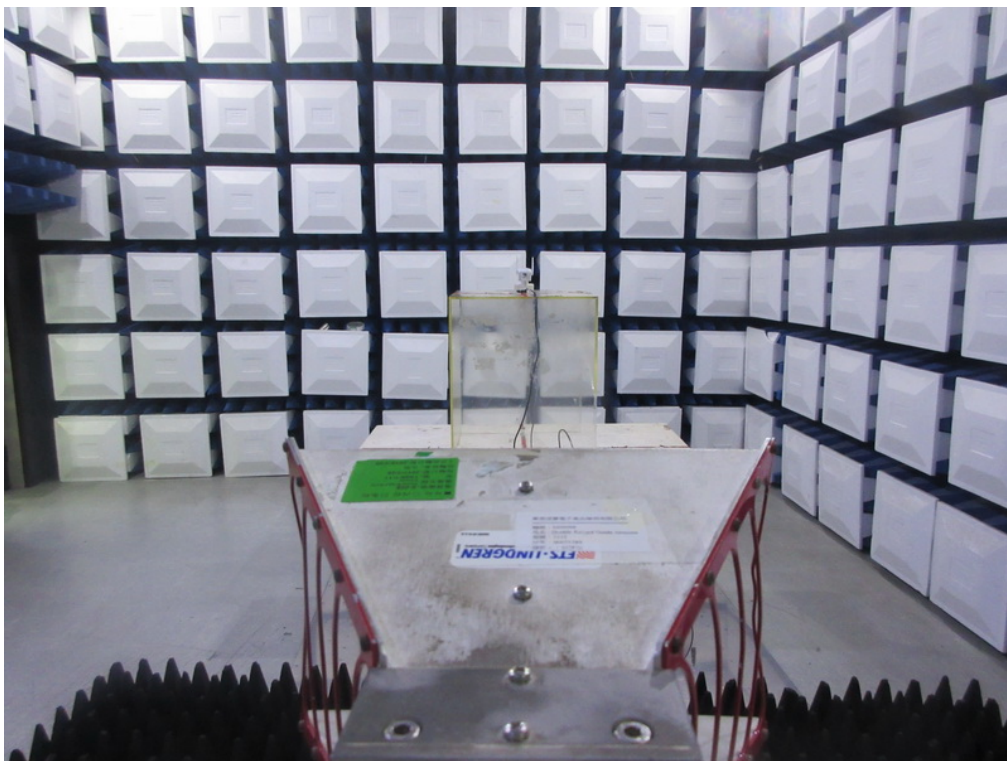
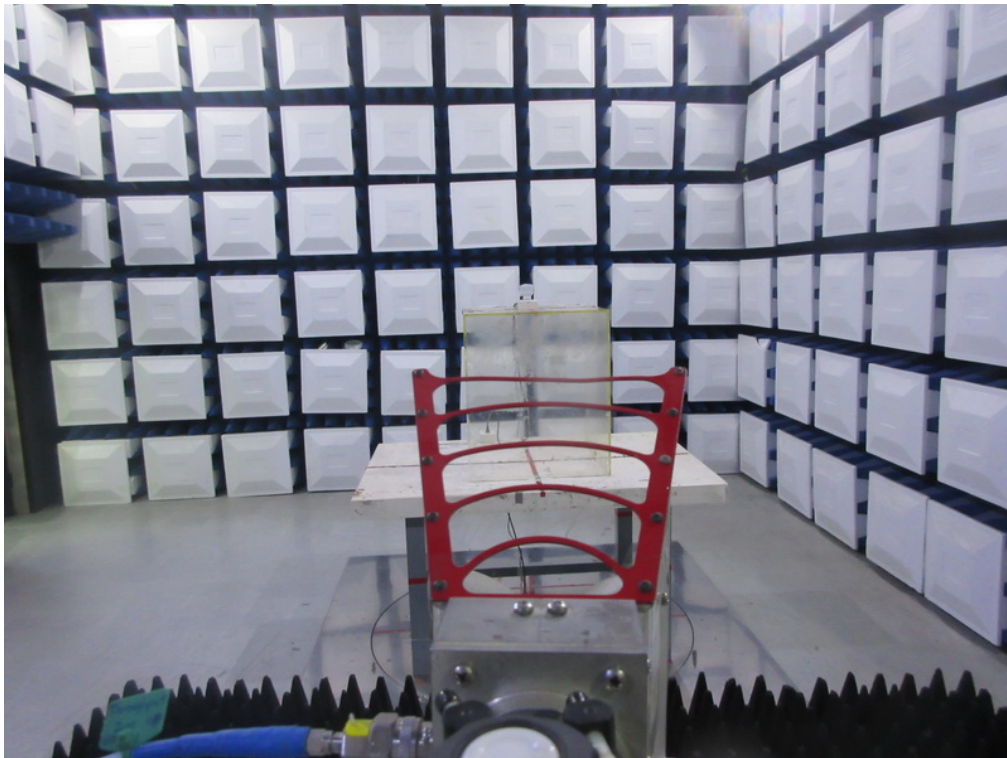
Radiated Measurement Photos

30MHz to 1000MHz



Radiated Measurement Photos

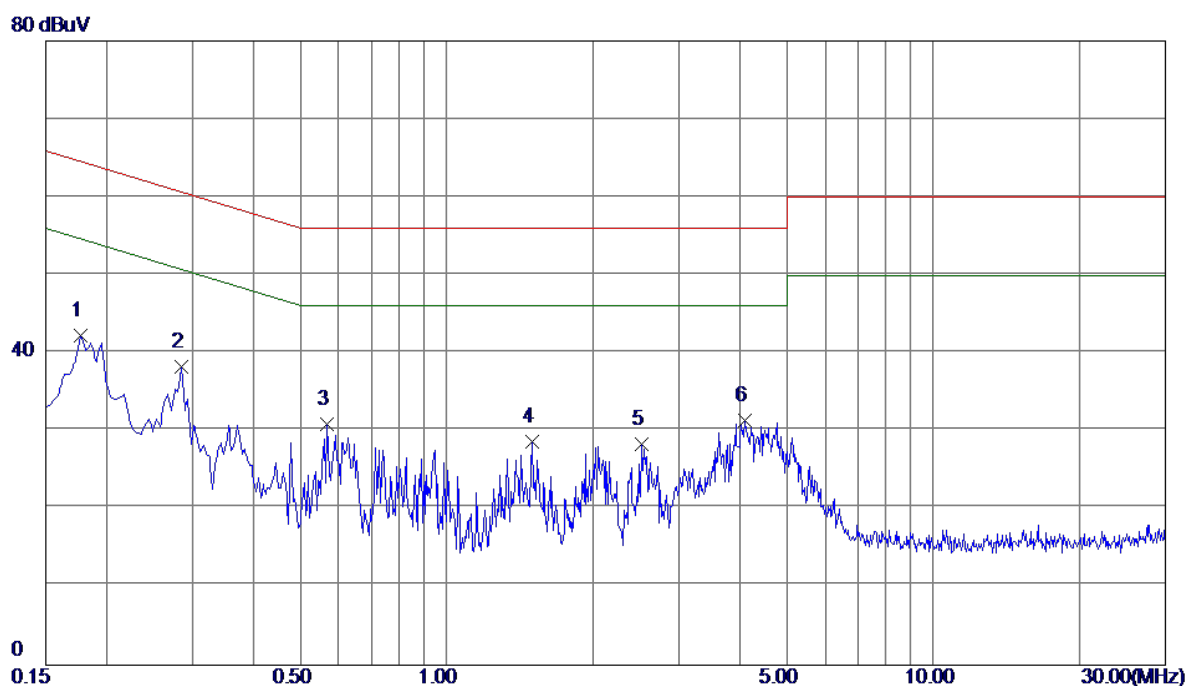
Above 1000MHz



APPENDIX A - CONDUCTED EMISSION

Test Mode : Normal Link

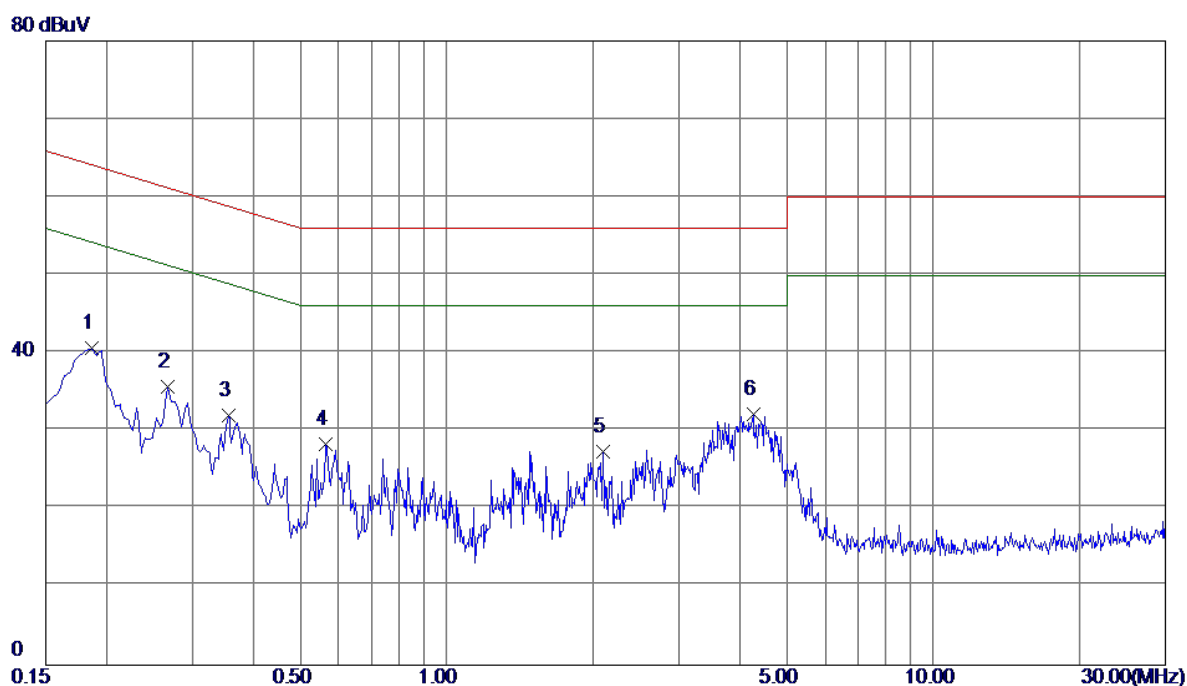
Line



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1 *	0.1770	32.48	9.74	42.22	64.63	-22.41	Peak	
2	0.2850	28.47	9.72	38.19	60.67	-22.48	Peak	
3	0.5684	21.05	9.76	30.81	56.00	-25.19	Peak	
4	1.4954	18.78	9.81	28.59	56.00	-27.41	Peak	
5	2.5215	18.54	9.84	28.38	56.00	-27.62	Peak	
6	4.1100	21.52	9.86	31.38	56.00	-24.62	Peak	

Test Mode : Normal Link

Neutral

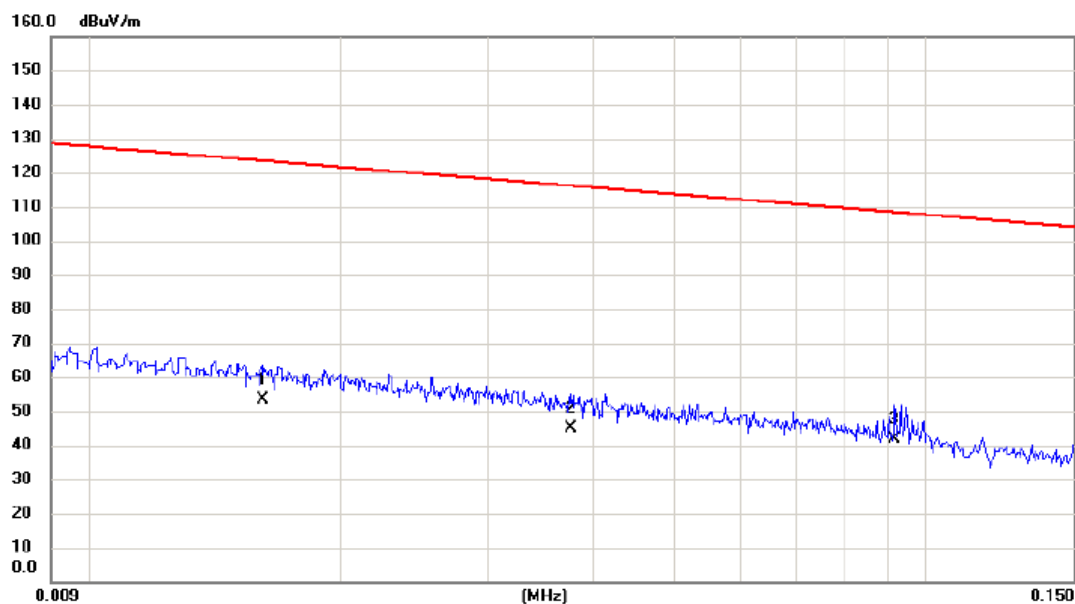


No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1 *	0.1860	30.93	9.65	40.58	64.21	-23.63	Peak	
2	0.2670	26.05	9.64	35.69	61.21	-25.52	Peak	
3	0.3570	22.35	9.66	32.01	58.80	-26.79	Peak	
4	0.5639	18.65	9.66	28.31	56.00	-27.69	Peak	
5	2.0940	17.66	9.73	27.39	56.00	-28.61	Peak	
6	4.2630	22.29	9.80	32.09	56.00	-23.91	Peak	

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

Test Mode: TX B MODE CHANNEL 01

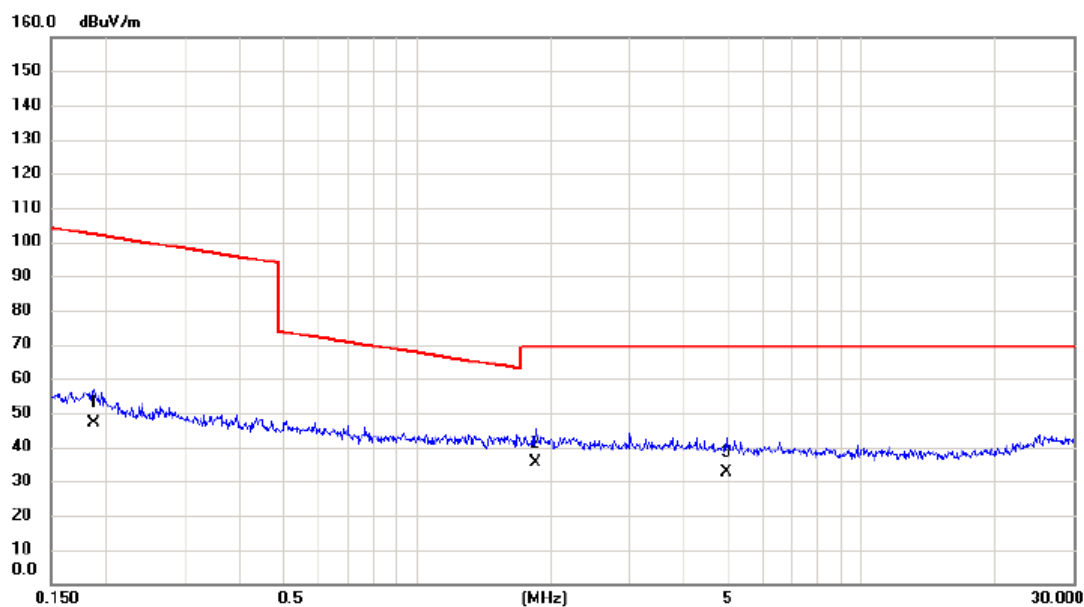
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0161	33.39	20.13	53.52	123.47	-69.95	AVG	
2		0.0377	26.06	19.09	45.15	116.08	-70.93	AVG	
3	*	0.0916	23.87	17.83	41.70	108.37	-66.67	AVG	

Test Mode: TX B MODE CHANNEL 01

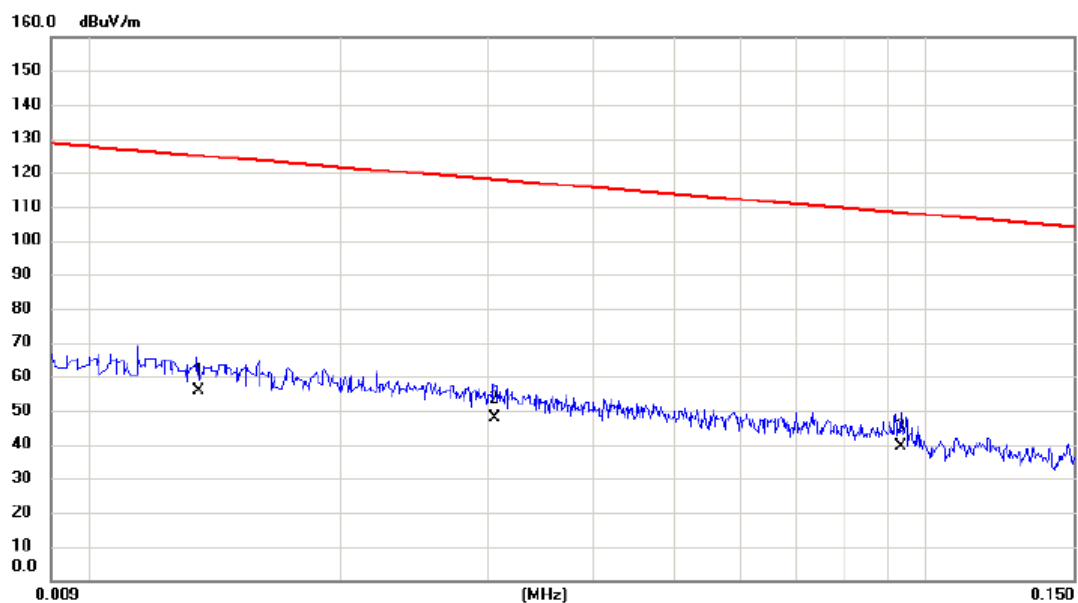
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.1874	30.02	16.84	46.86	102.15	-55.29	AVG	
2	*	1.8483	19.65	15.57	35.22	69.54	-34.32	QP	
3		4.9782	18.17	14.38	32.55	69.54	-36.99	QP	

Test Mode: TX B MODE CHANNEL 01

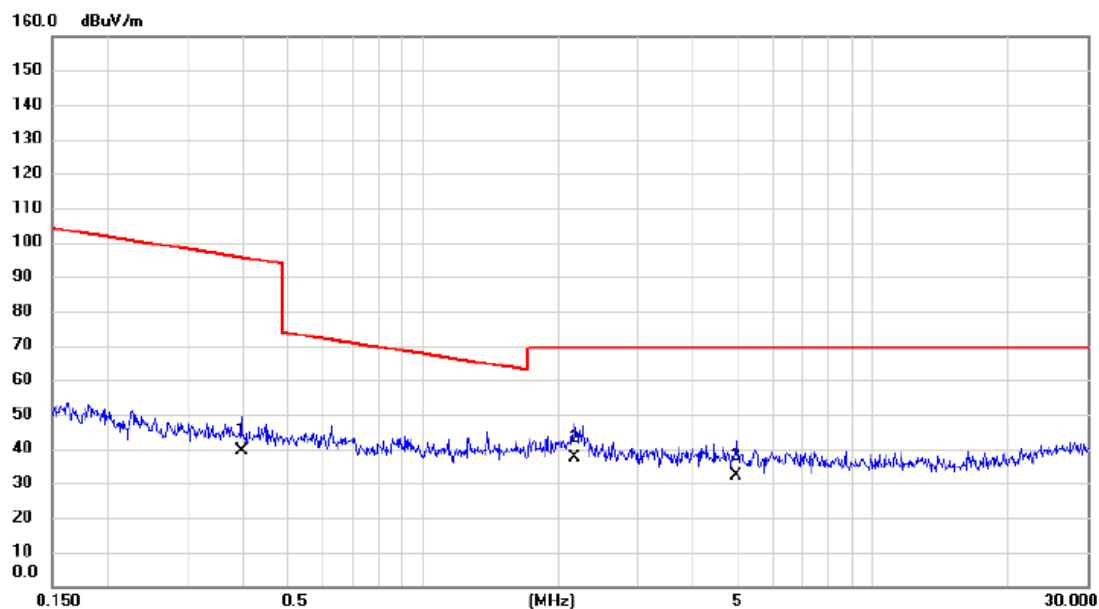
Ant 90°



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.0135	35.40	20.47	55.87	125.00	-69.13	AVG	
2	0.0305	28.58	19.31	47.89	117.92	-70.03	AVG	
3 *	0.0932	21.54	17.79	39.33	108.22	-68.89	AVG	

Test Mode: TX B MODE CHANNEL 01

Ant 90°



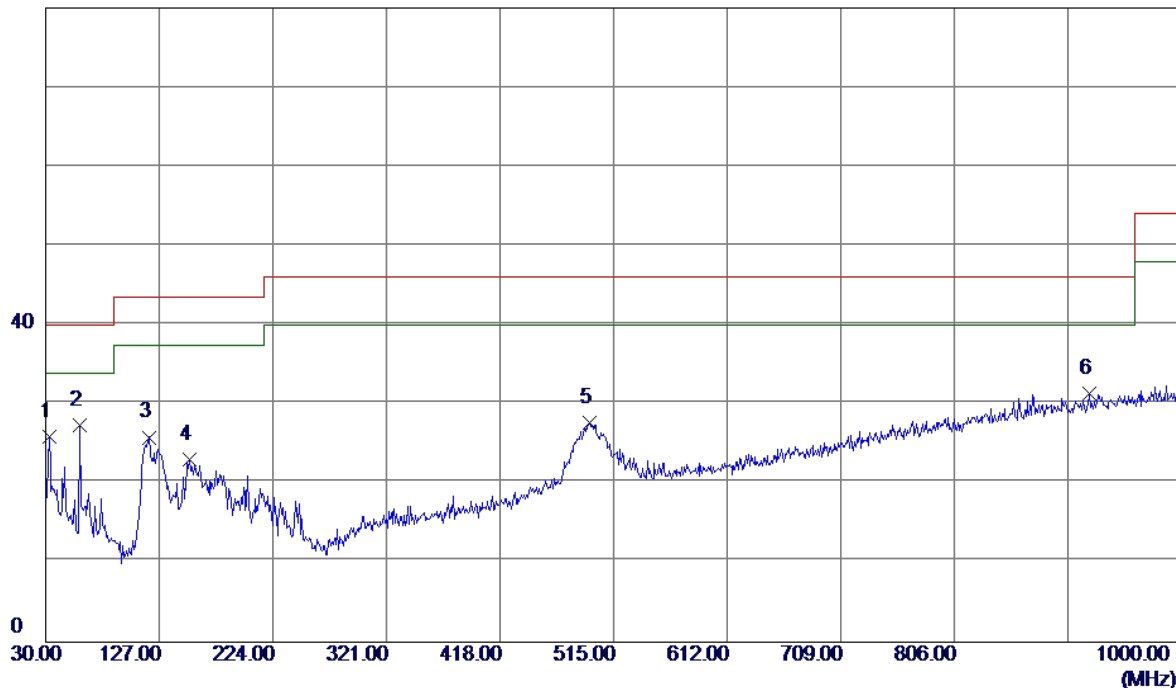
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3955	22.72	16.54	39.26	95.66	-56.40	AVG	
2	*	2.1783	21.75	15.46	37.21	69.54	-32.33	QP	
3		4.9782	18.00	14.38	32.38	69.54	-37.16	QP	

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

Test Mode: TX B MODE CHANNEL 01

Vertical

80 dBuV/m

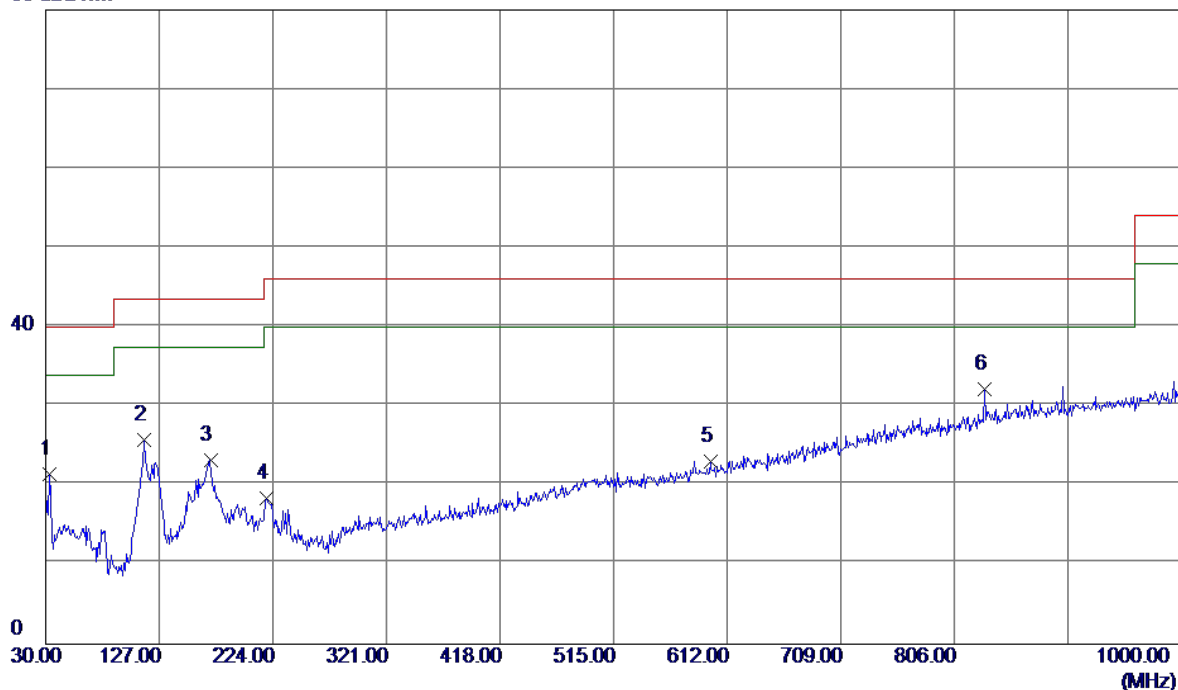


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.9100	40.74	-14.89	25.85	40.00	-14.15	Peak	
2 *	59.1000	41.61	-14.22	27.39	40.00	-12.61	Peak	
3	118.2700	41.37	-15.53	25.84	43.50	-17.66	Peak	
4	153.1900	36.40	-13.34	23.06	43.50	-20.44	Peak	
5	494.6300	36.59	-8.85	27.74	46.00	-18.26	Peak	
6	921.4300	29.98	1.44	31.42	46.00	-14.58	Peak	

Test Mode: TX B MODE CHANNEL 01

Horizontal

80 dBuV/m

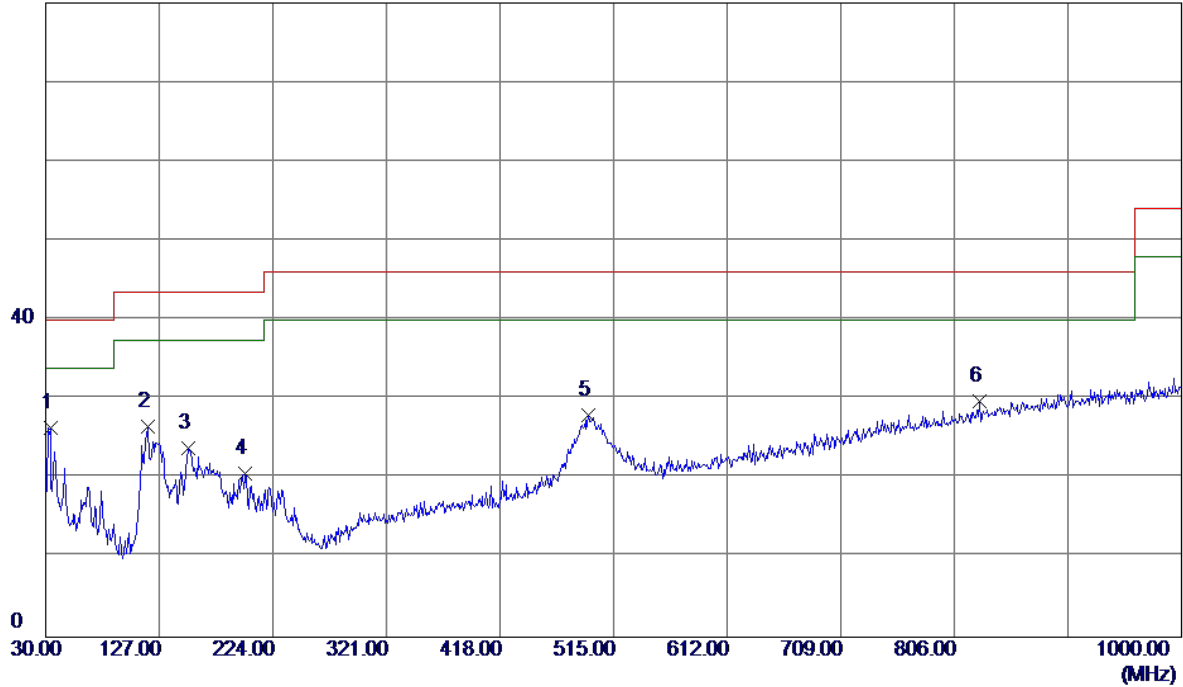


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.9100	36.29	-14.89	21.40	40.00	-18.60	Peak	
2	114.3900	41.55	-15.84	25.71	43.50	-17.79	Peak	
3	170.6500	35.50	-12.32	23.18	43.50	-20.32	Peak	
4	218.1800	32.26	-13.92	18.34	46.00	-27.66	Peak	
5	597.4500	29.59	-6.49	23.10	46.00	-22.90	Peak	
6 *	832.1900	32.62	-0.48	32.14	46.00	-13.86	Peak	

Test Mode: TX B MODE CHANNEL 06

Vertical

80 dBuV/m

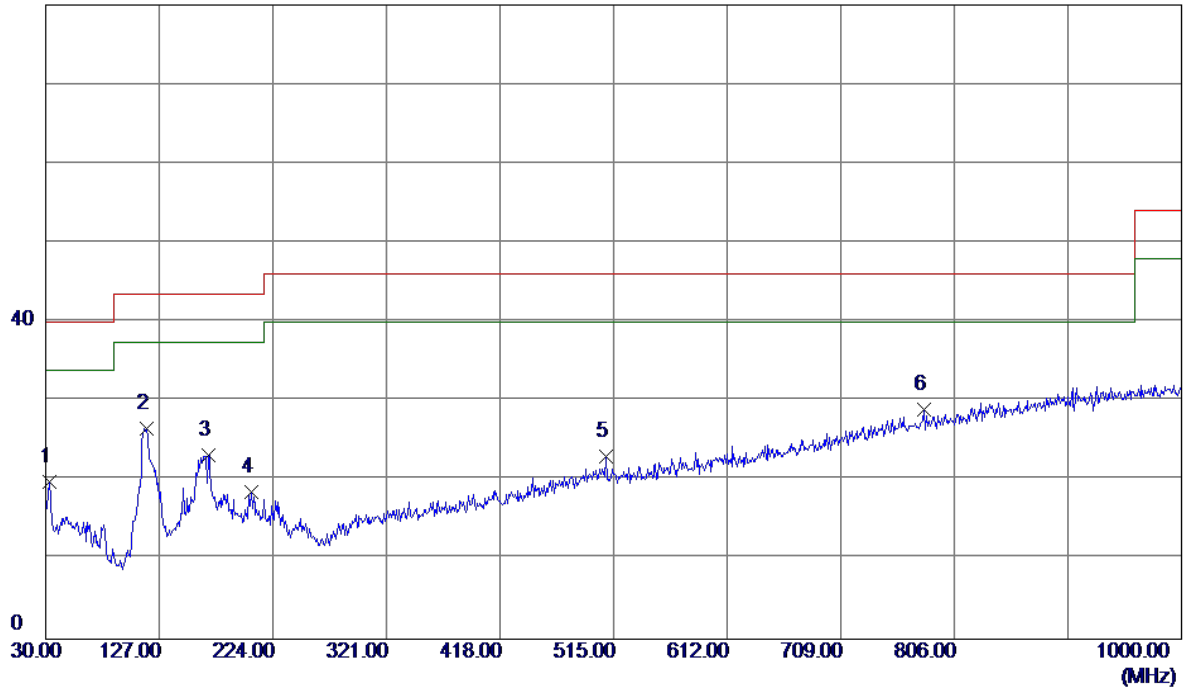


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	33.8800	41.20	-14.73	26.47	40.00	-13.53	Peak	
2	117.3000	42.16	-15.61	26.55	43.50	-16.95	Peak	
3	152.2200	37.22	-13.39	23.83	43.50	-19.67	Peak	
4	200.7200	34.36	-13.77	20.59	43.50	-22.91	Peak	
5	493.6600	36.83	-8.87	27.96	46.00	-18.04	Peak	
6	827.3400	30.34	-0.62	29.72	46.00	-16.28	Peak	

Test Mode: TX B MODE CHANNEL 06

Horizontal

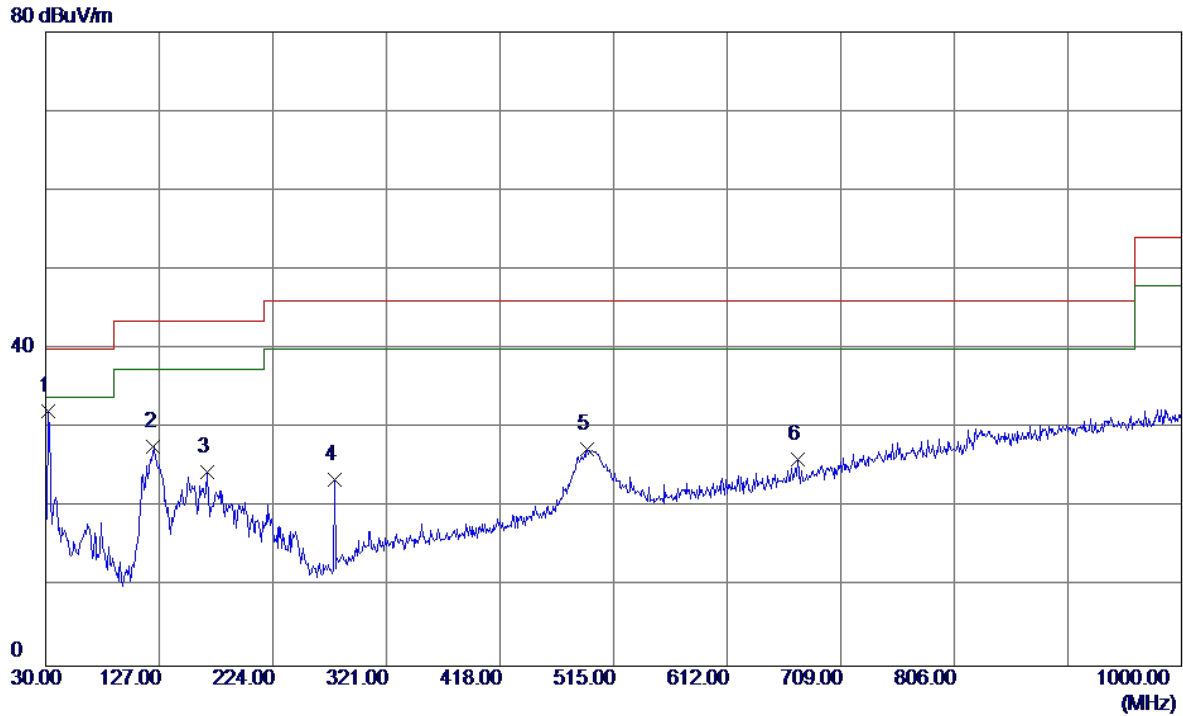
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.9100	34.76	-14.89	19.87	40.00	-20.13	Peak	
2 *	116.3300	42.27	-15.69	26.58	43.50	-16.92	Peak	
3	168.7100	35.68	-12.41	23.27	43.50	-20.23	Peak	
4	205.5700	32.39	-13.88	18.51	43.50	-24.99	Peak	
5	508.2100	31.57	-8.56	23.01	46.00	-22.99	Peak	
6	779.8100	30.83	-1.80	29.03	46.00	-16.97	Peak	

Test Mode: TX B MODE CHANNEL 11

Vertical

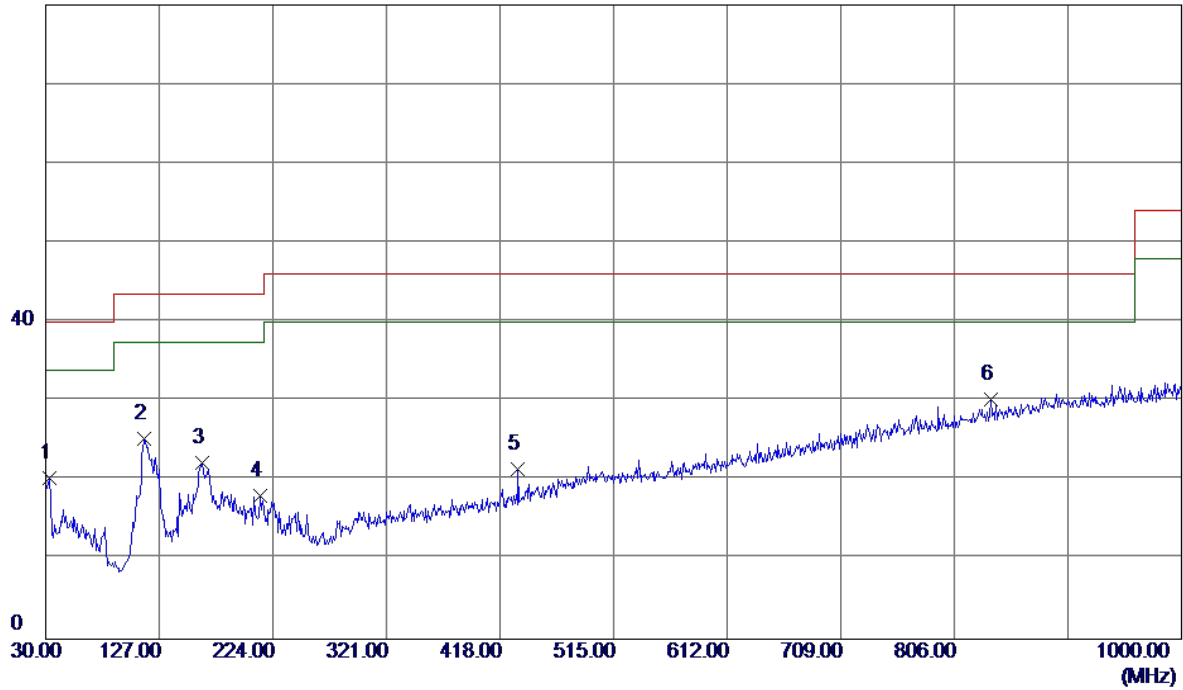


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	31.9400	47.22	-15.04	32.18	40.00	-7.82	Peak	
2	122.1500	42.93	-15.25	27.68	43.50	-15.82	Peak	
3	167.7400	36.93	-12.47	24.46	43.50	-19.04	Peak	
4	276.3800	38.74	-15.16	23.58	46.00	-22.42	Peak	
5	492.6900	36.21	-8.90	27.31	46.00	-18.69	Peak	
6	672.1400	30.84	-4.80	26.04	46.00	-19.96	Peak	

Test Mode: TX B MODE CHANNEL 11

Horizontal

80 dBuV/m



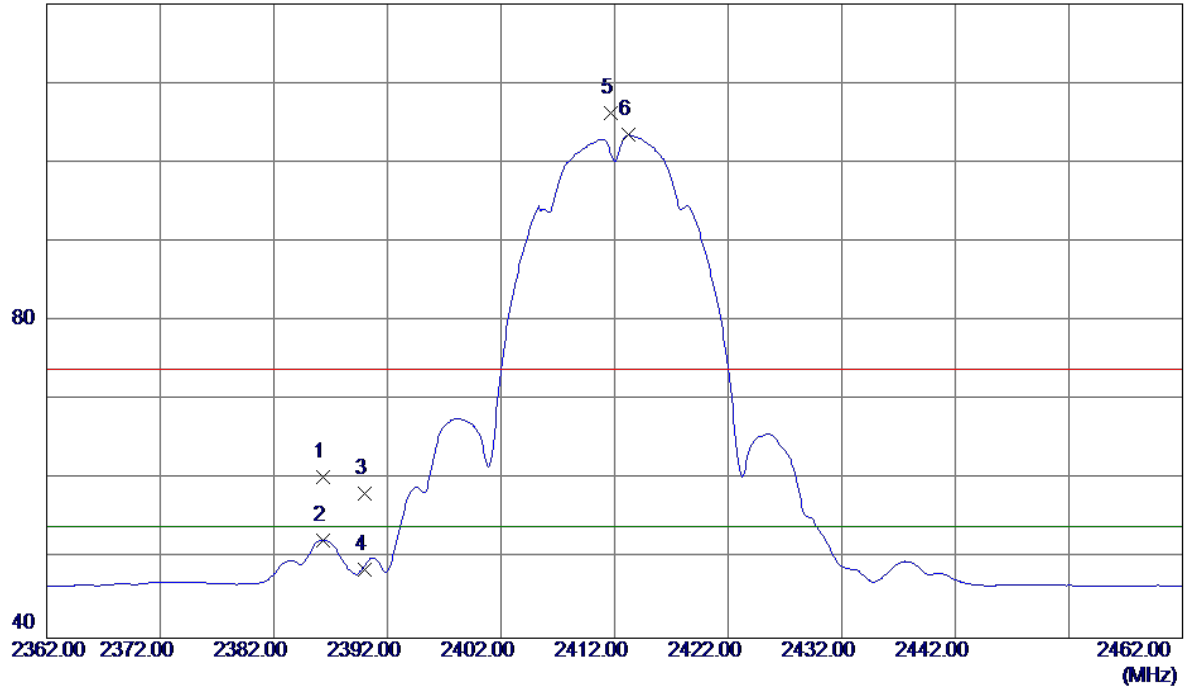
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	32.9100	35.16	-14.89	20.27	40.00	-19.73	Peak	
2	114.3900	41.15	-15.84	25.31	43.50	-18.19	Peak	
3	163.8600	34.92	-12.70	22.22	43.50	-21.28	Peak	
4	213.3300	31.97	-13.95	18.02	43.50	-25.48	Peak	
5	433.5200	31.86	-10.41	21.45	46.00	-24.55	Peak	
6 *	837.0400	30.63	-0.35	30.28	46.00	-15.72	Peak	

APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)

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

Vertical

120 dBuV/m

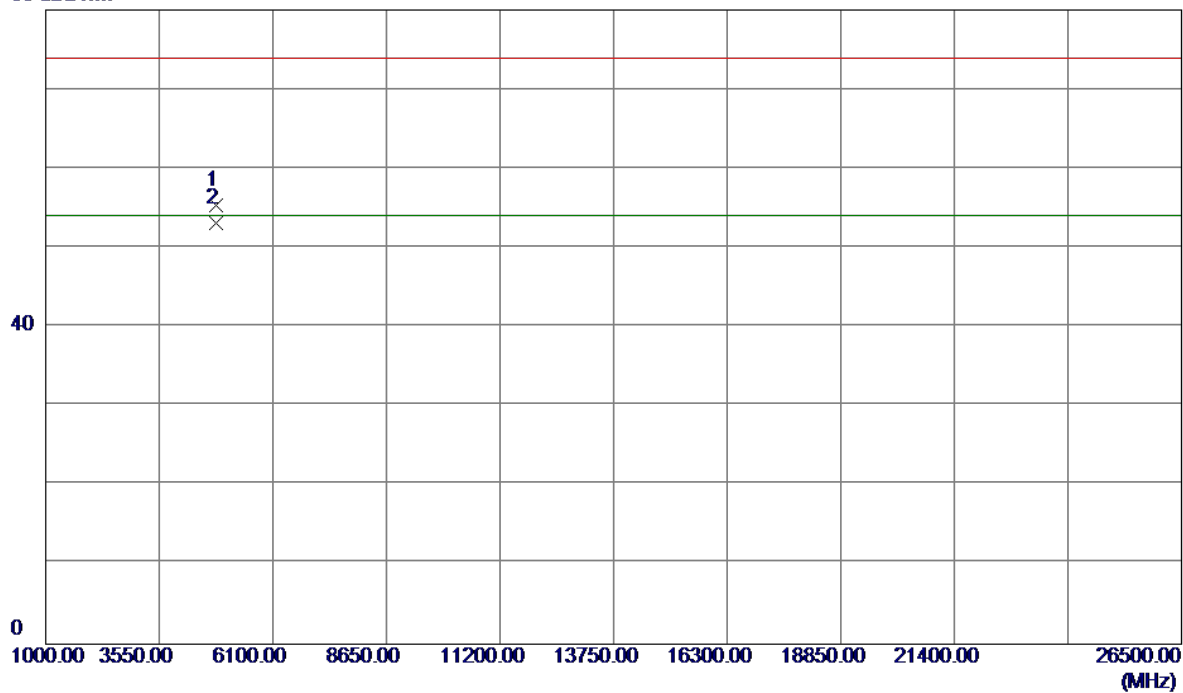


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2386.3000	27.25	33.04	60.29	74.00	-13.71	Peak	
2	2386.3000	19.31	33.04	52.35	54.00	-1.65	AVG	
3	2390.0000	25.20	33.06	58.26	74.00	-15.74	Peak	
4	2390.0000	15.63	33.06	48.69	54.00	-5.31	AVG	
5	2411.7000	73.17	33.14	106.31	74.00	32.31	Peak	No Limit
6 *	2413.2000	70.32	33.14	103.46	54.00	49.46	AVG	No Limit

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

Vertical

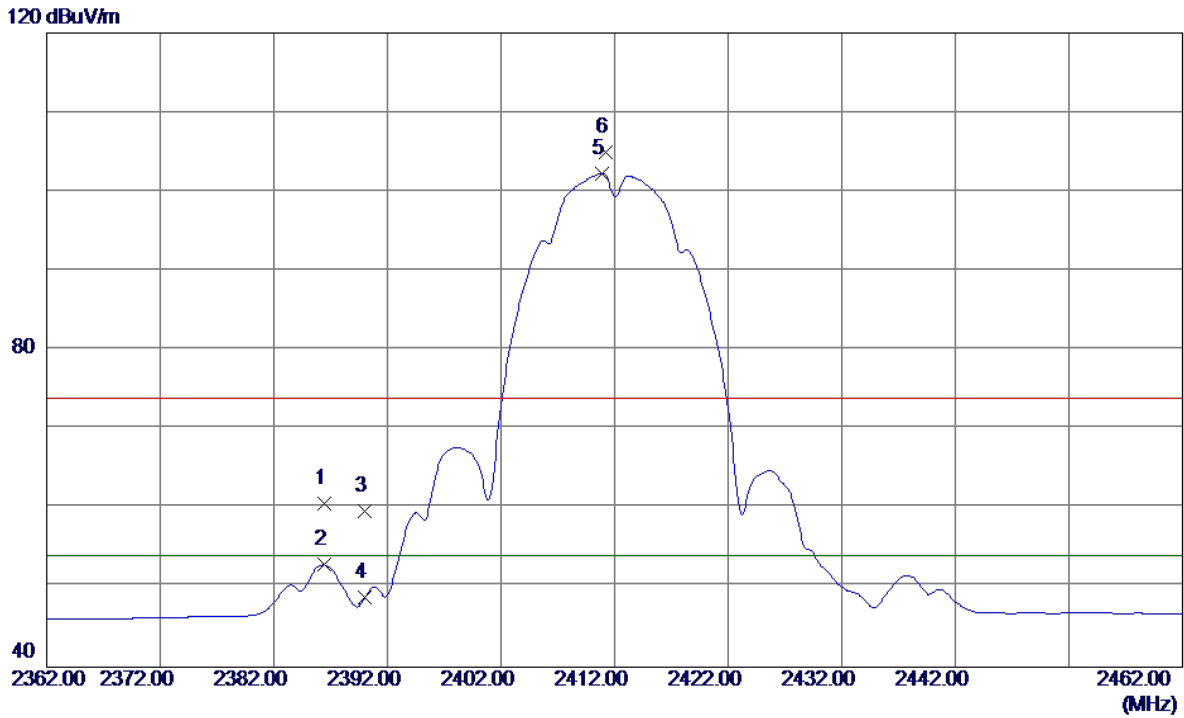
80 dBuV/m



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4823.9580	48.70	6.66	55.36	74.00	-18.64	Peak	
2 *	4823.9820	46.45	6.66	53.11	54.00	-0.89	AVG	

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

Horizontal

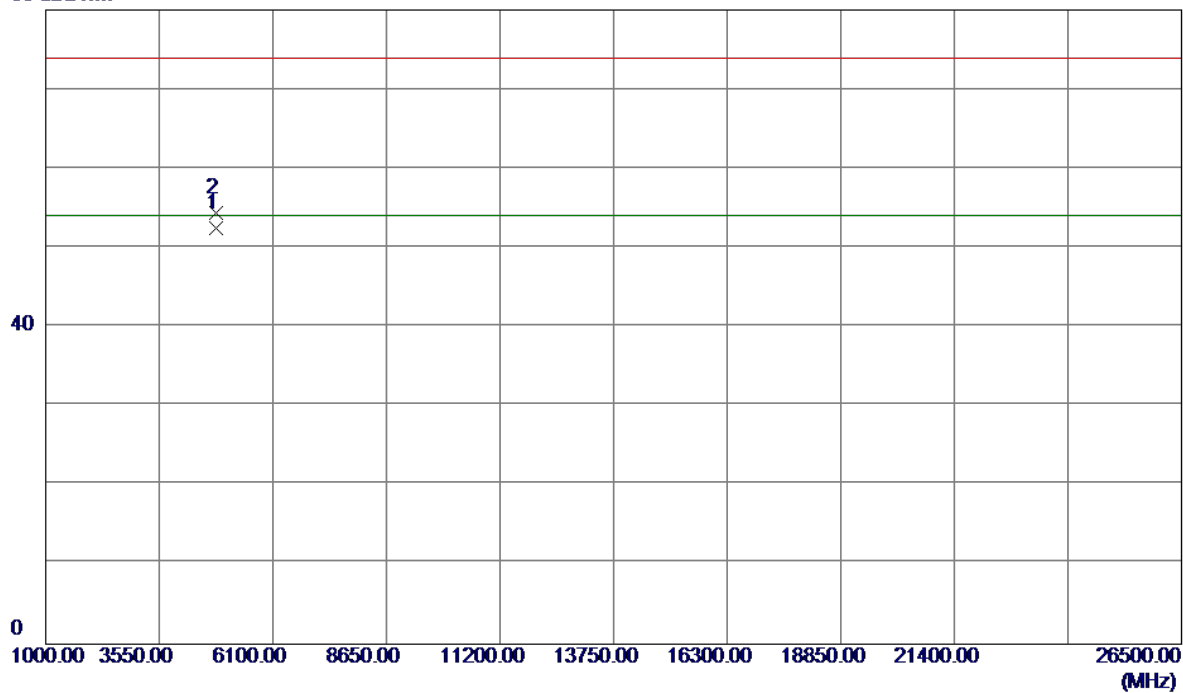


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2386.4000	27.63	33.04	60.67	74.00	-13.33	Peak	
2	2386.4000	19.86	33.04	52.90	54.00	-1.10	AVG	
3	2390.0000	26.68	33.06	59.74	74.00	-14.26	Peak	
4	2390.0000	15.72	33.06	48.78	54.00	-5.22	AVG	
5 *	2410.9000	69.14	33.13	102.27	54.00	48.27	AVG	No Limit
6	2411.2000	71.87	33.14	105.01	74.00	31.01	Peak	No Limit

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

Horizontal

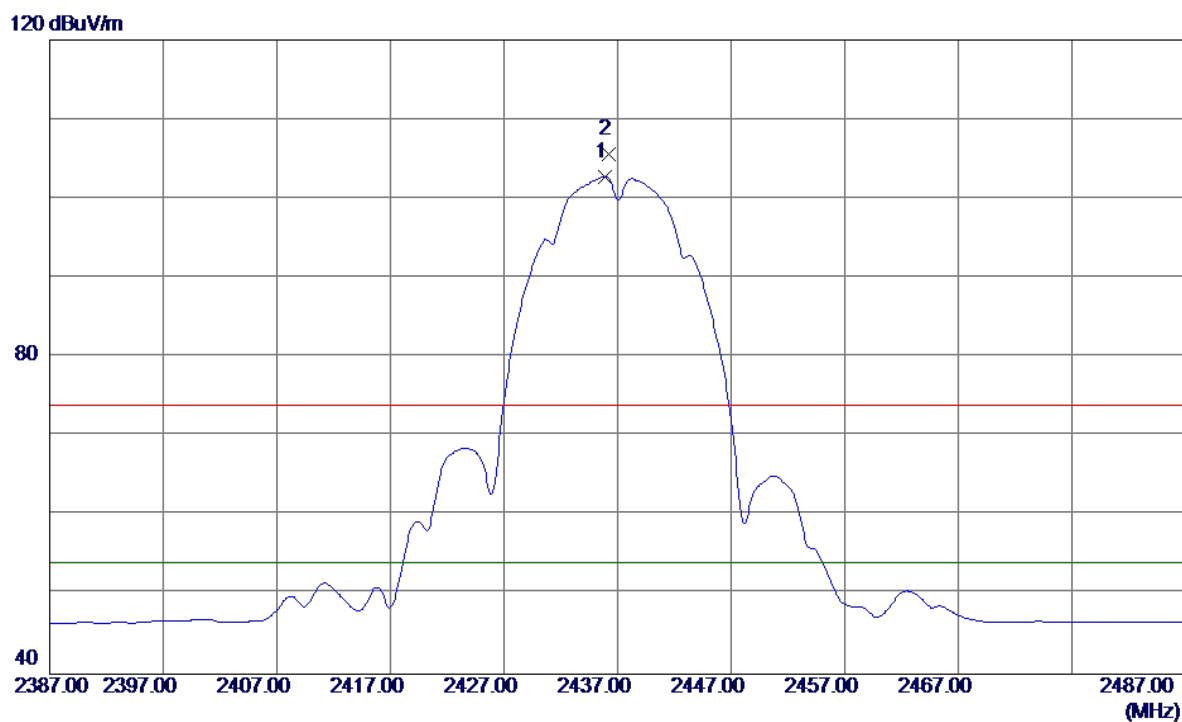
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4823.9880	45.83	6.66	52.49	54.00	-1.51	AVG	
2	4823.9900	47.75	6.66	54.41	74.00	-19.59	Peak	

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

Vertical

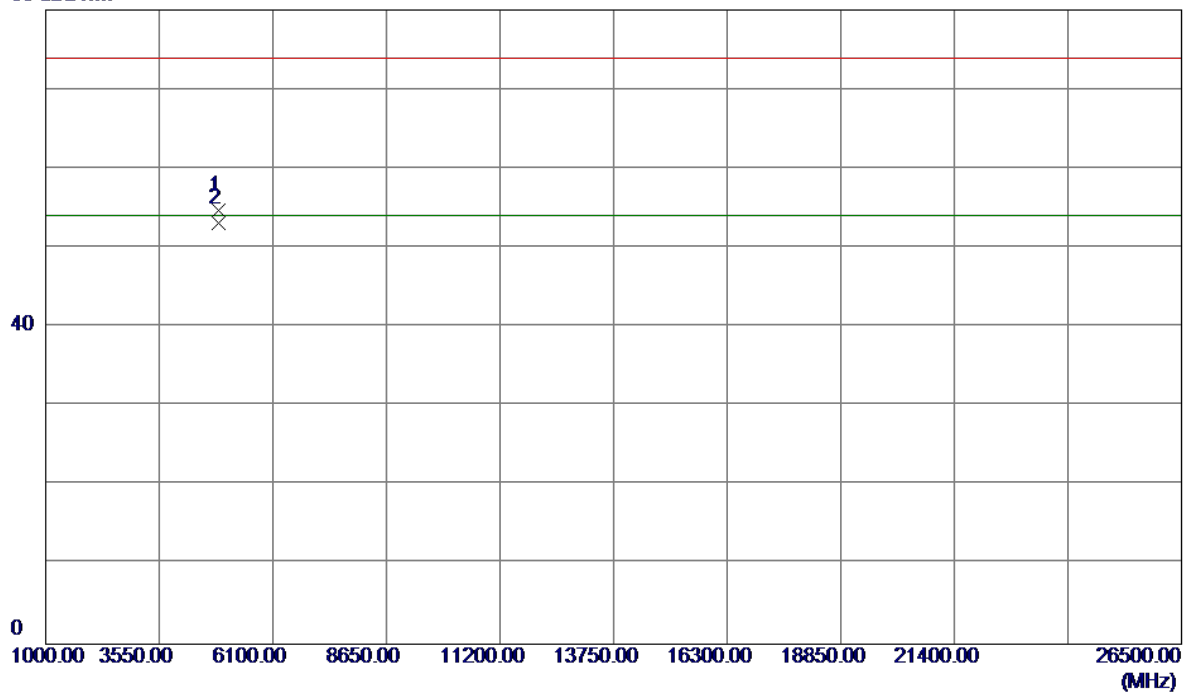


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.9000	69.55	33.23	102.78	54.00	48.78	AVG	No Limit
2	2436.2000	72.40	33.23	105.63	74.00	31.63	Peak	No Limit

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

Vertical

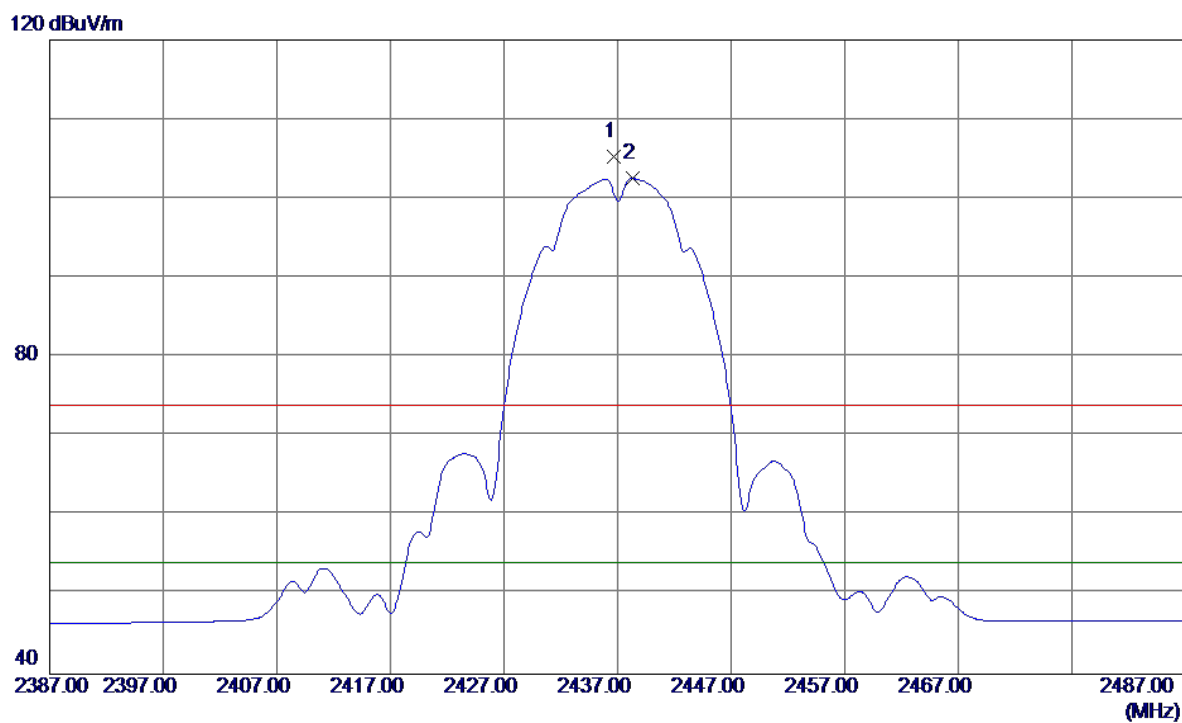
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9000	47.86	6.84	54.70	74.00	-19.30	Peak	
2 *	4873.9680	46.30	6.84	53.14	54.00	-0.86	AVG	

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

Horizontal

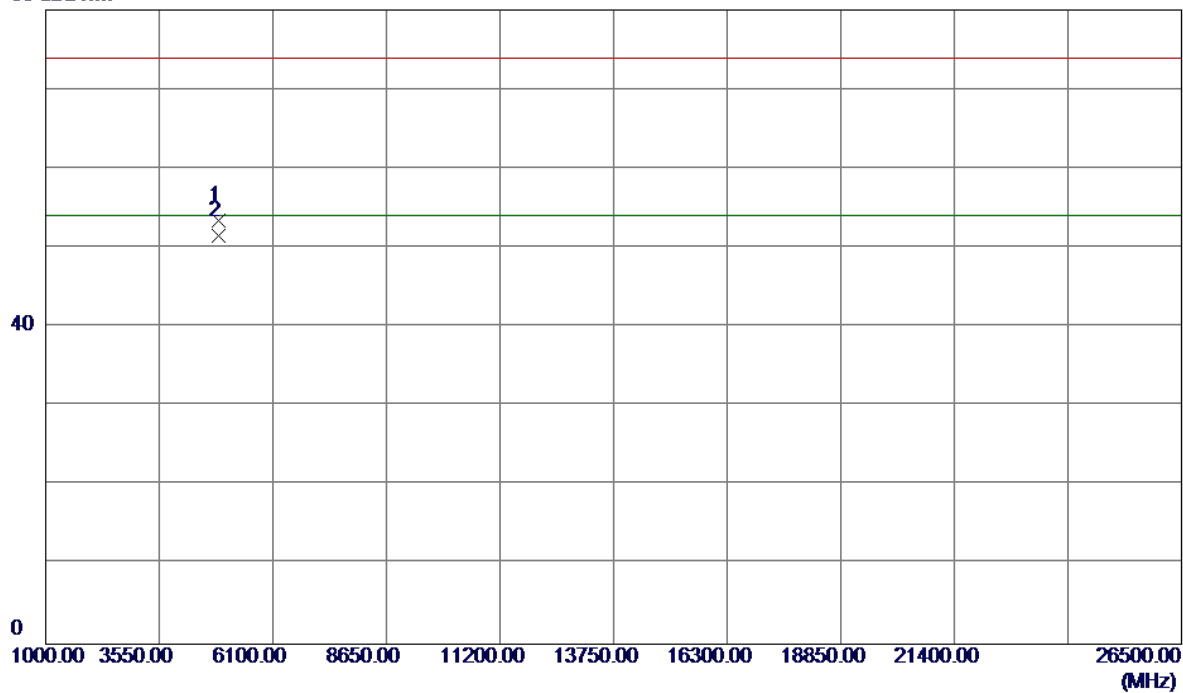


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2436.7000	72.08	33.23	105.31	74.00	31.31	Peak	No Limit
2 *	2438.3000	69.32	33.24	102.56	54.00	48.56	AVG	No Limit

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

Horizontal

80 dBuV/m

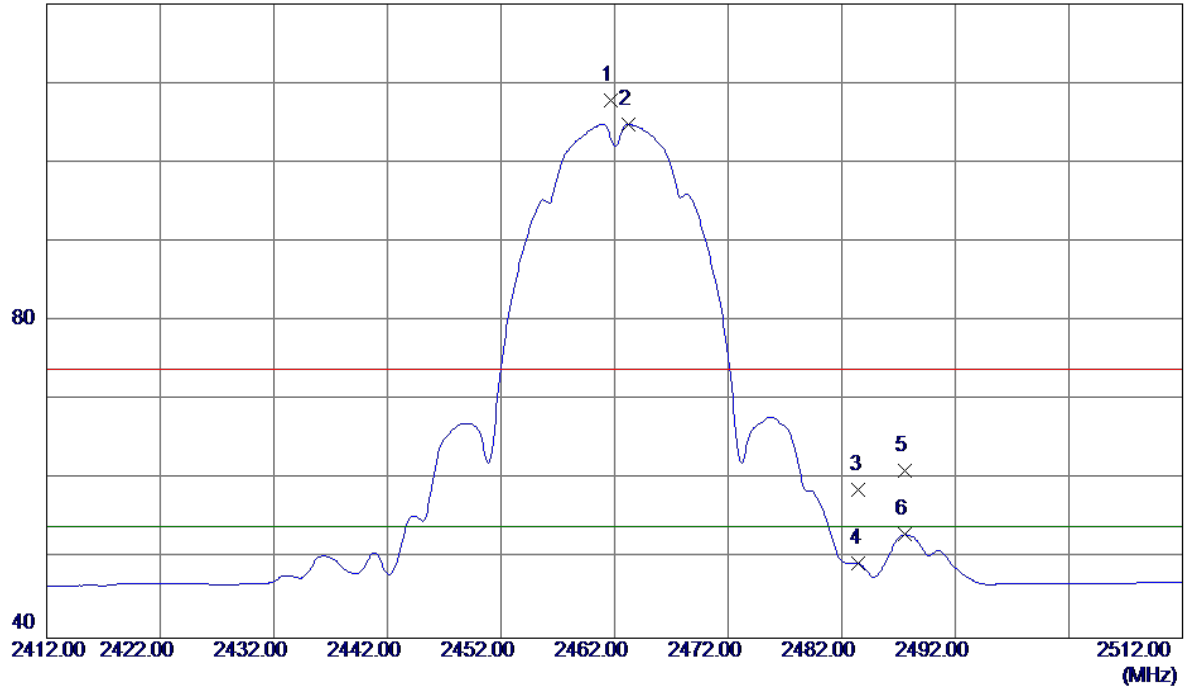


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9780	46.61	6.84	53.45	74.00	-20.55	Peak	
2 *	4873.9940	44.65	6.84	51.49	54.00	-2.51	AVG	

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

Vertical

120 dBuV/m

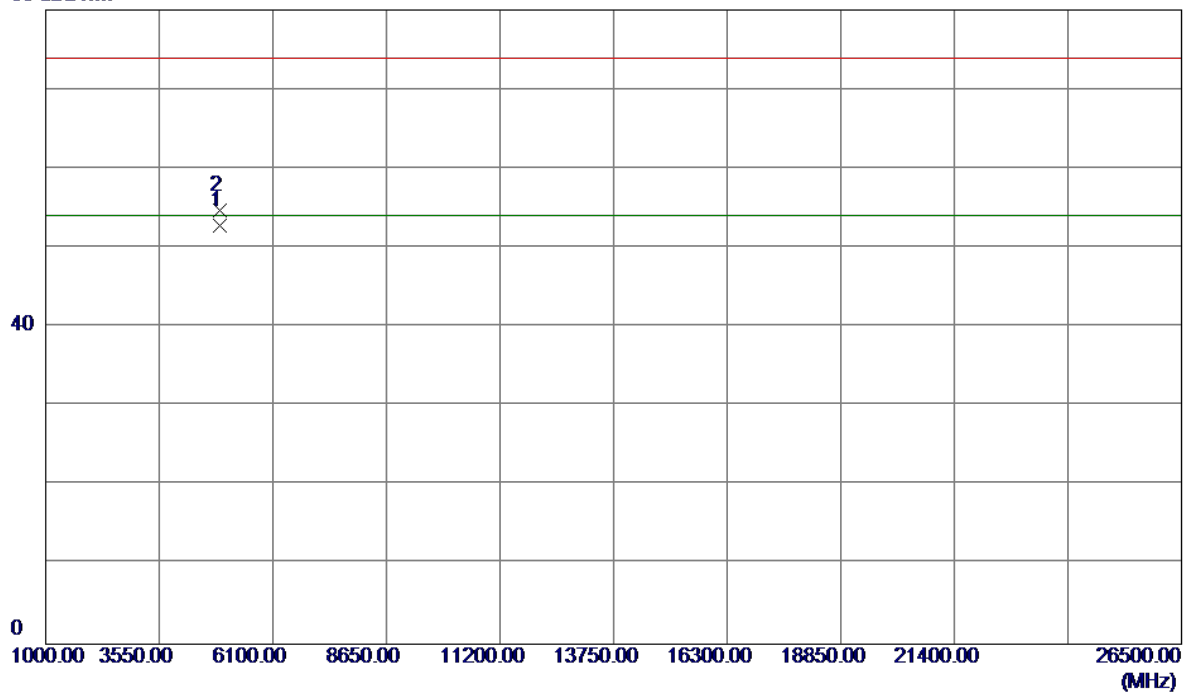


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2461.7000	74.43	33.33	107.76	74.00	33.76	Peak	No Limit
2 *	2463.2000	71.54	33.33	104.87	54.00	50.87	AVG	No Limit
3	2483.5000	25.24	33.41	58.65	74.00	-15.35	Peak	
4	2483.5000	16.05	33.41	49.46	54.00	-4.54	AVG	
5	2487.6000	27.77	33.42	61.19	74.00	-12.81	Peak	
6	2487.6000	19.63	33.42	53.05	54.00	-0.95	AVG	

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

Vertical

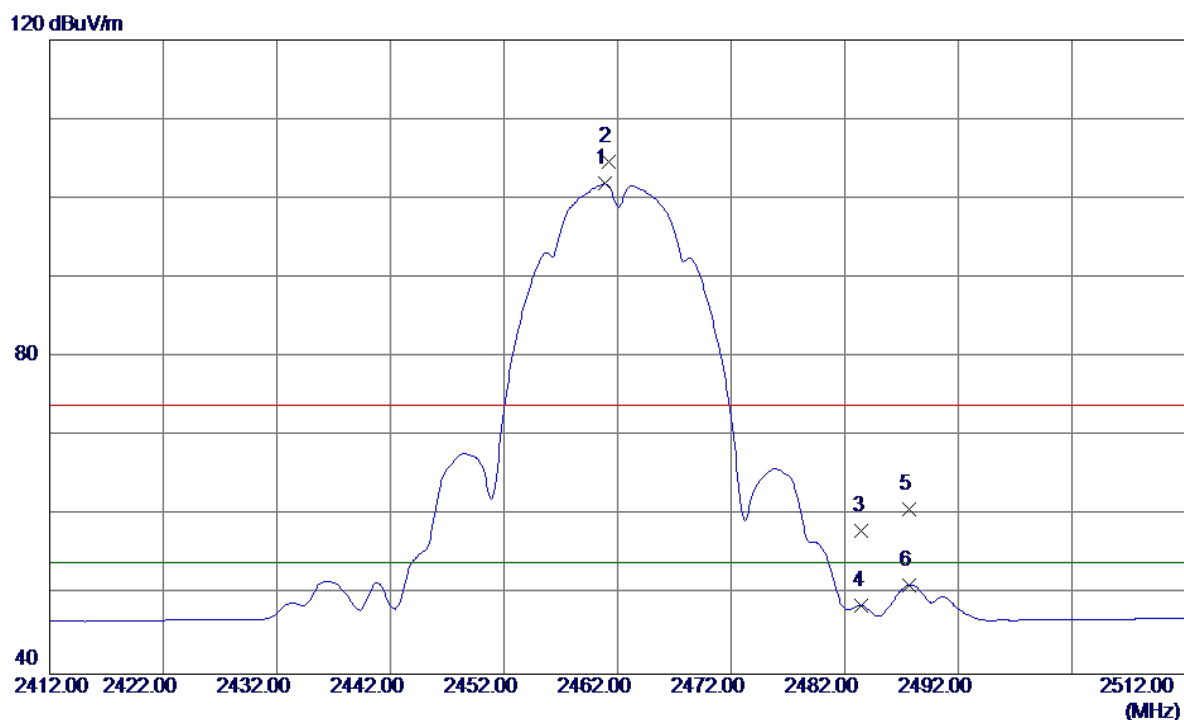
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4923.9800	45.72	7.02	52.74	54.00	-1.26	AVG	
2	4924.0520	47.75	7.02	54.77	74.00	-19.23	Peak	

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

Horizontal

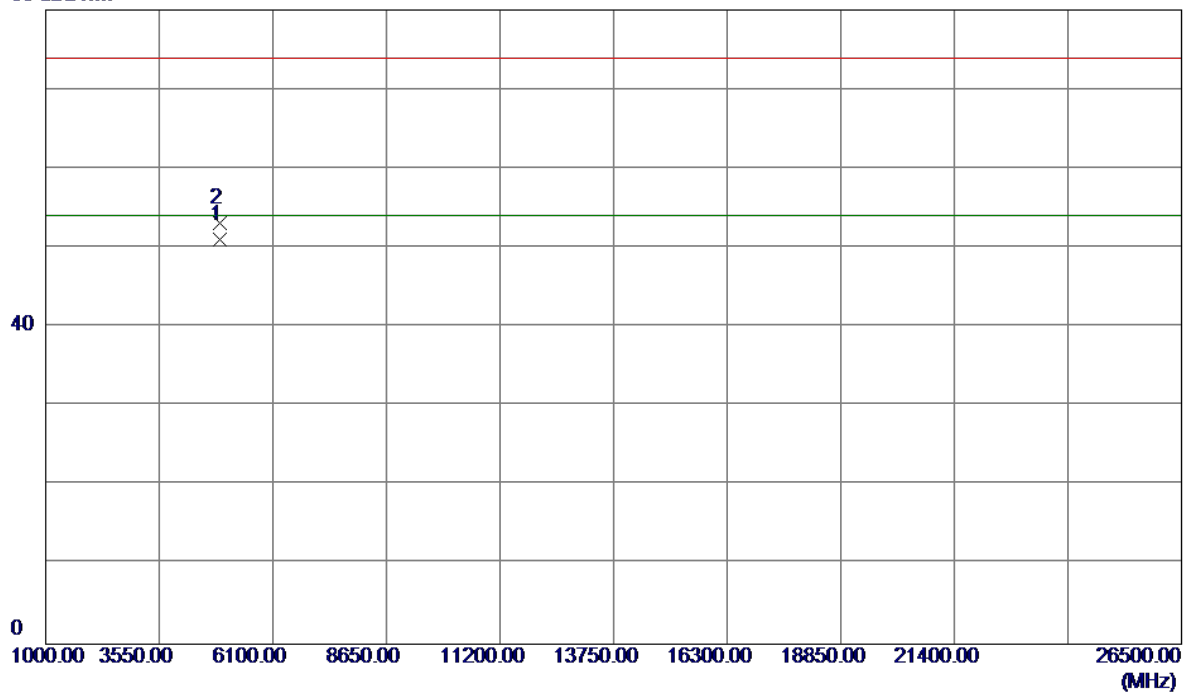


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2460.9000	68.53	33.32	101.85	54.00	47.85	AVG	No Limit
2	2461.2000	71.30	33.32	104.62	74.00	30.62	Peak	No Limit
3	2483.5000	24.61	33.41	58.02	74.00	-15.98	Peak	
4	2483.5000	15.24	33.41	48.65	54.00	-5.35	AVG	
5	2487.7000	27.34	33.42	60.76	74.00	-13.24	Peak	
6	2487.7000	17.82	33.42	51.24	54.00	-2.76	AVG	

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

Horizontal

80 dBuV/m

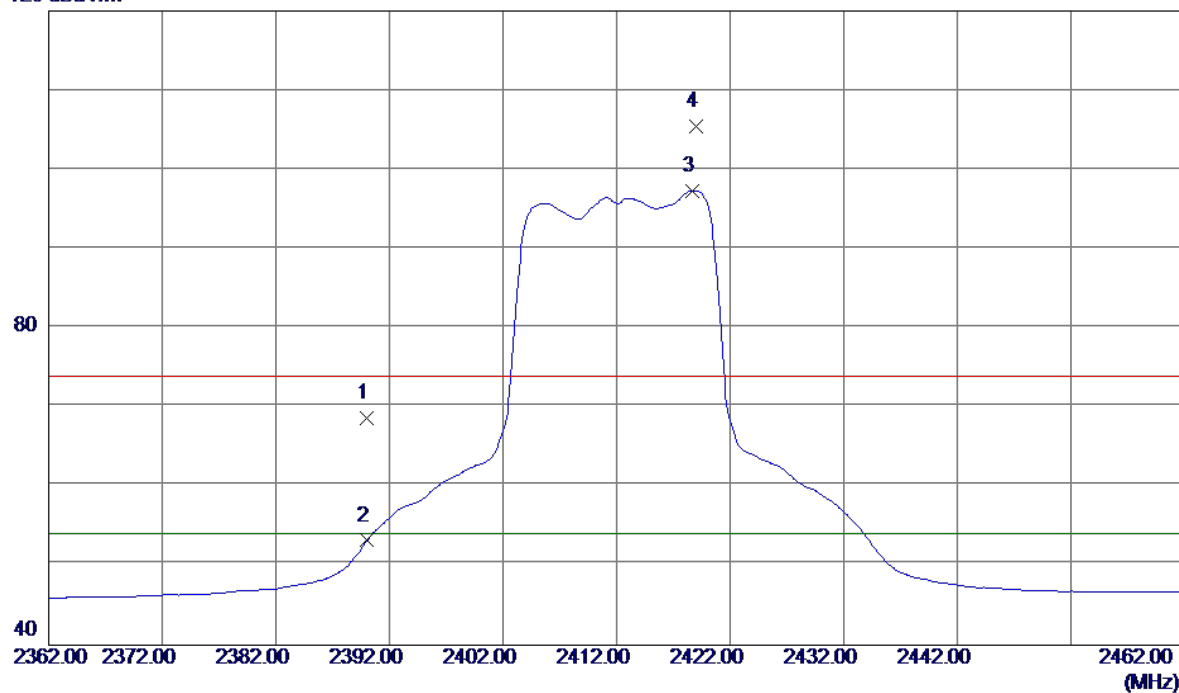


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4923.9820	44.01	7.02	51.03	54.00	-2.97	AVG	
2	4924.0780	46.04	7.02	53.06	74.00	-20.94	Peak	

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

Vertical

120 dBuV/m

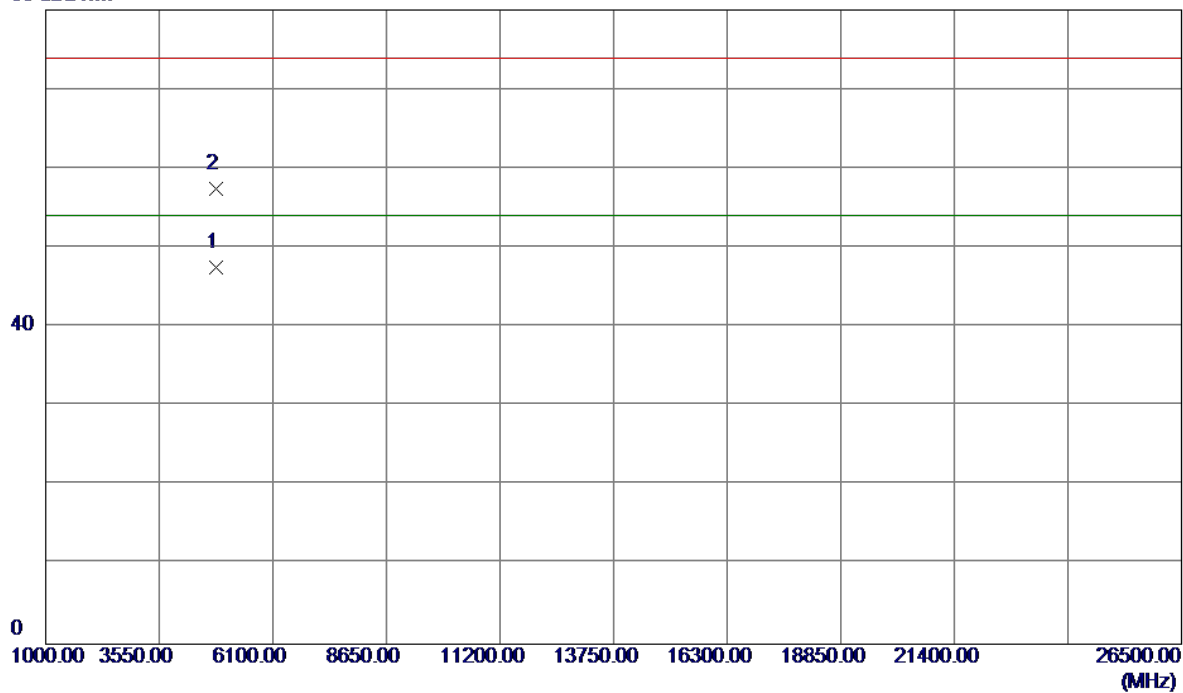


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	35.56	33.06	68.62	74.00	-5.38	Peak	
2	2390.0000	20.14	33.06	53.20	54.00	-0.80	AVG	
3 *	2418.7000	64.18	33.16	97.34	54.00	43.34	AVG	No Limit
4	2419.0000	72.21	33.17	105.38	74.00	31.38	Peak	No Limit

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

Vertical

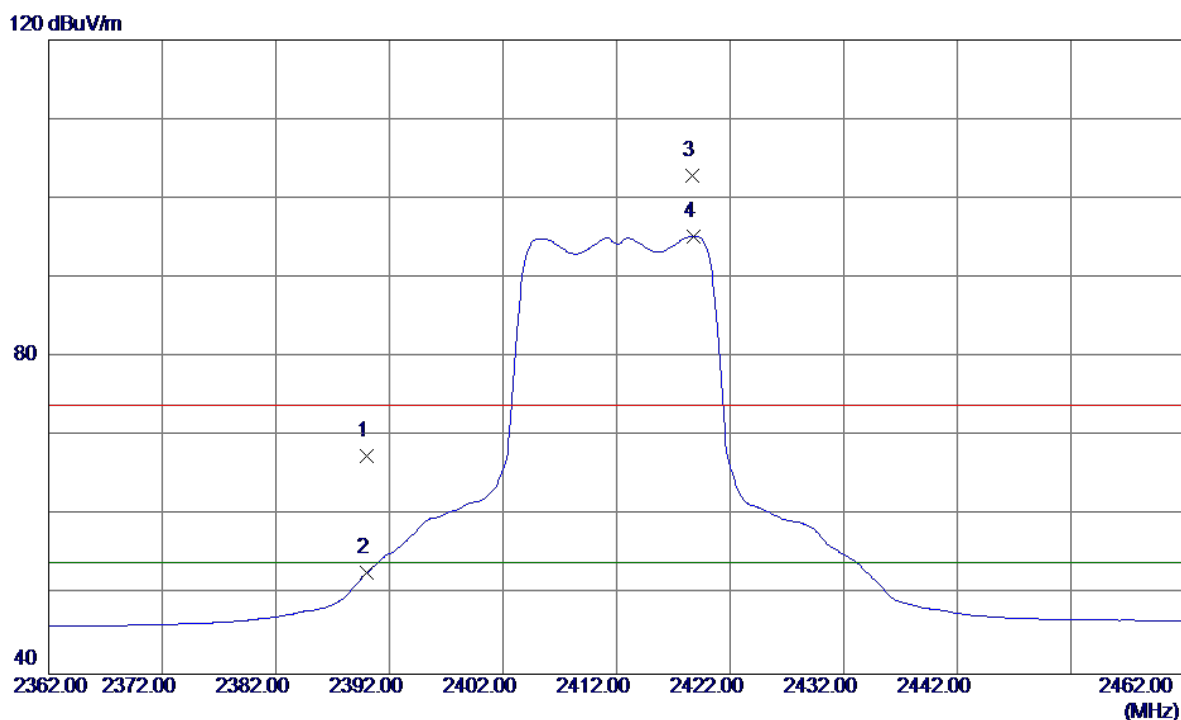
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4823.9400	40.79	6.66	47.45	54.00	-6.55	AVG	
2	4825.0000	50.82	6.66	57.48	74.00	-16.52	Peak	

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

Horizontal

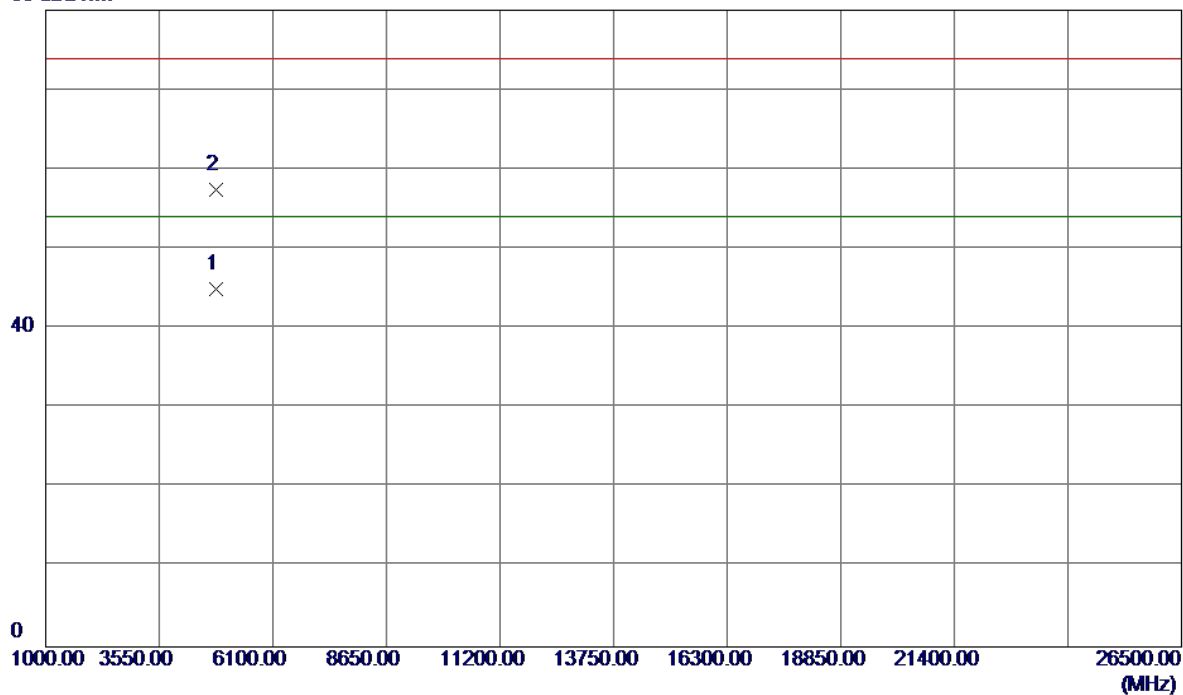


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	34.52	33.06	67.58	74.00	-6.42	Peak	
2	2390.0000	19.71	33.06	52.77	54.00	-1.23	AVG	
3	2418.7000	69.71	33.16	102.87	74.00	28.87	Peak	No Limit
4 *	2418.8000	62.08	33.16	95.24	54.00	41.24	AVG	No Limit

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

Horizontal

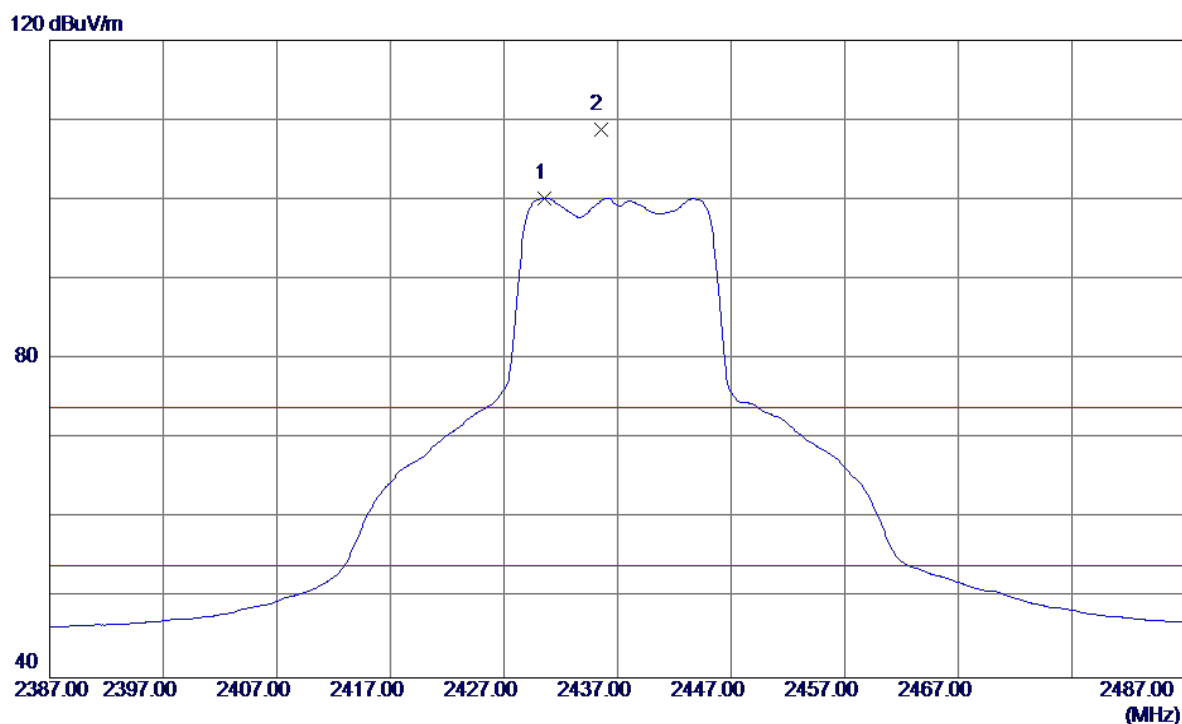
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4824.1150	38.29	6.66	44.95	54.00	-9.05	AVG	
2	4824.7050	50.81	6.66	57.47	74.00	-16.53	Peak	

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

Vertical

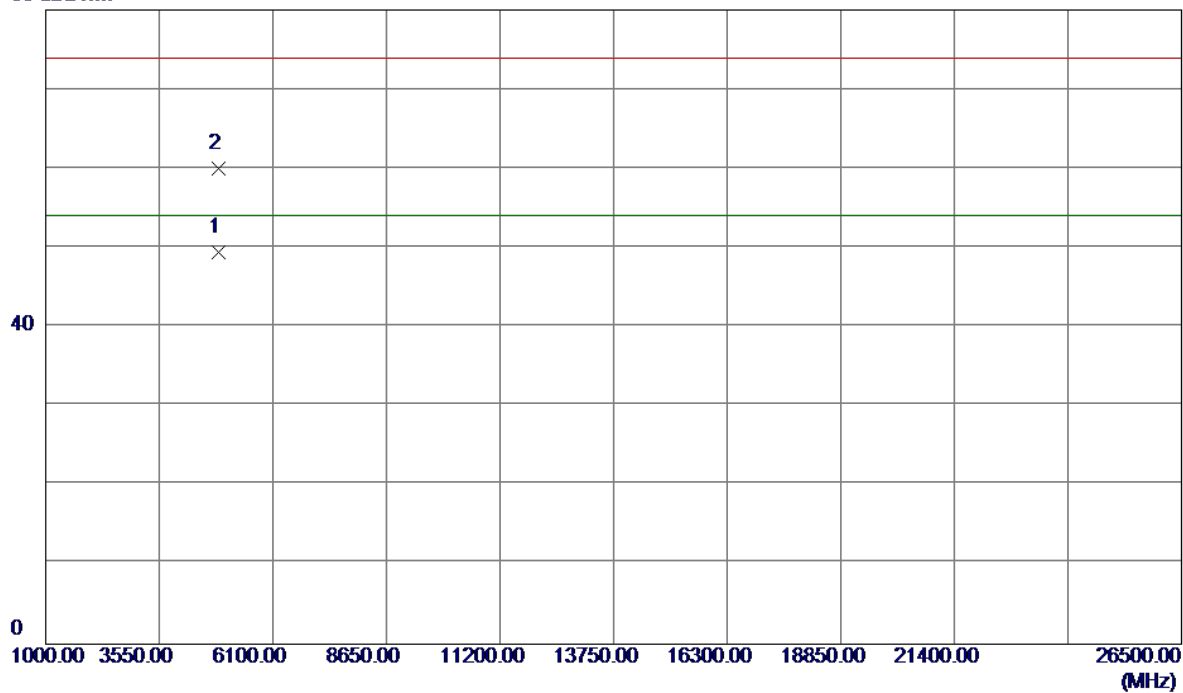


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2430.6000	67.01	33.21	100.22	54.00	46.22	AVG	No Limit
2	2435.5000	75.52	33.23	108.75	74.00	34.75	Peak	No Limit

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

Vertical

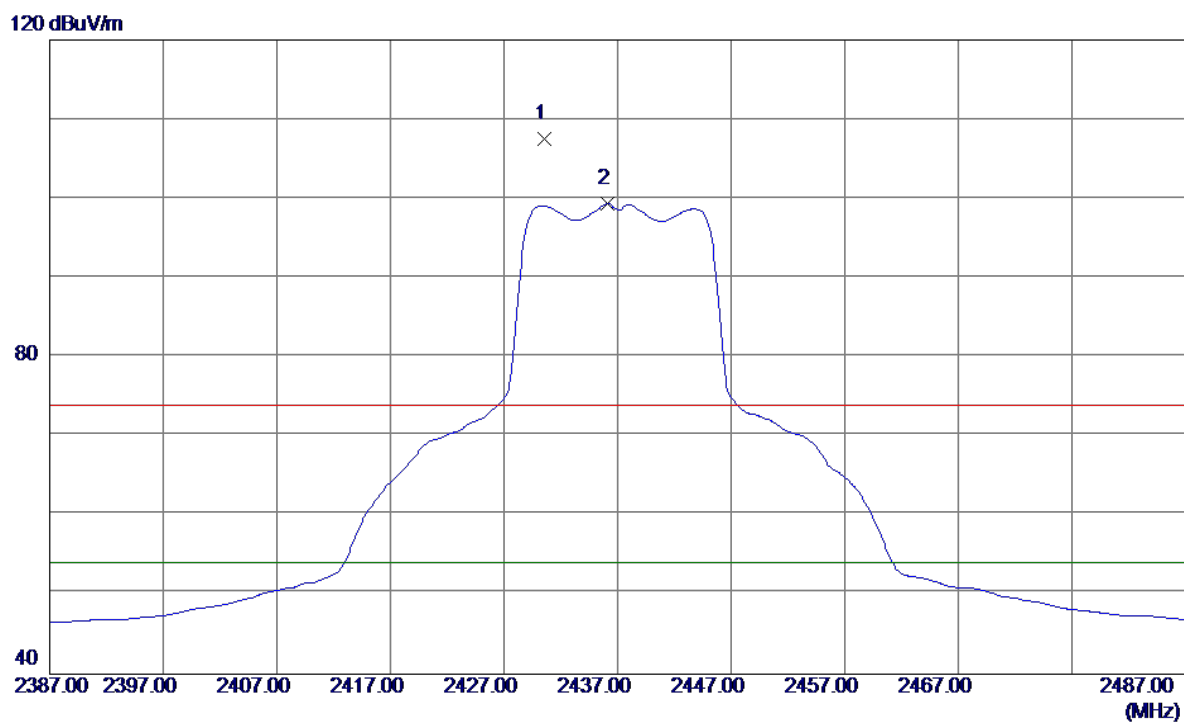
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.0800	42.67	6.84	49.51	54.00	-4.49	AVG	
2	4876.8600	53.16	6.85	60.01	74.00	-13.99	Peak	

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

Horizontal

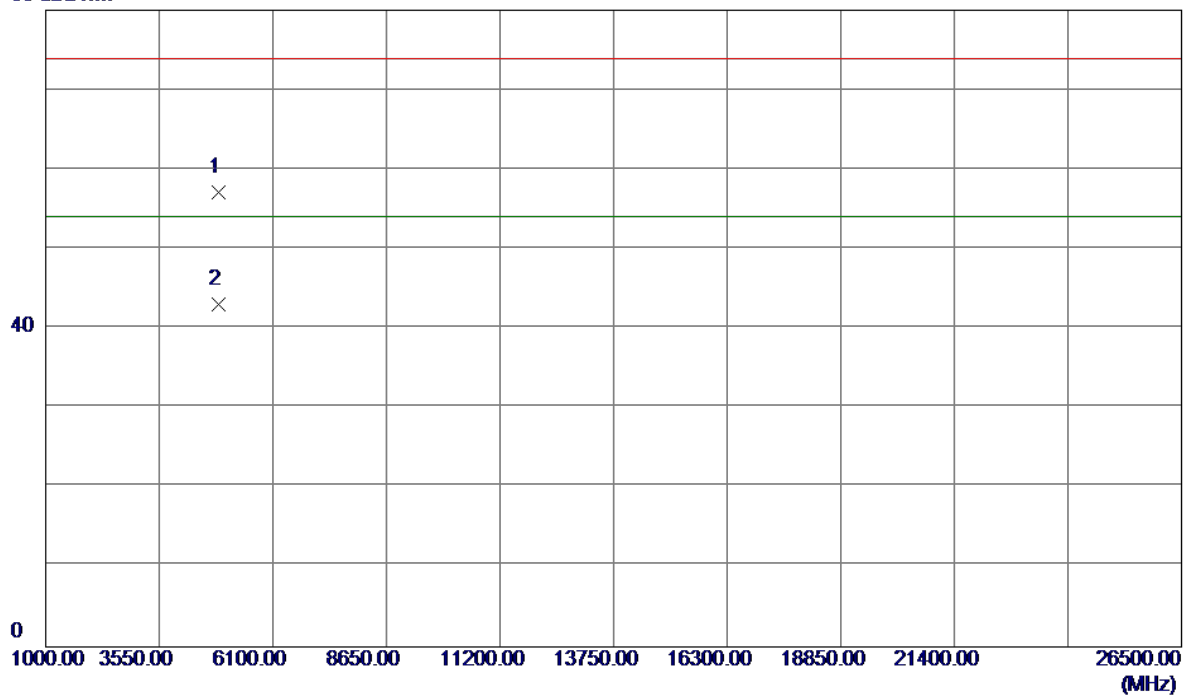


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2430.6000	74.33	33.21	107.54	74.00	33.54	Peak	No Limit
2 *	2436.1000	66.09	33.23	99.32	54.00	45.32	AVG	No Limit

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

Horizontal

80 dBuV/m

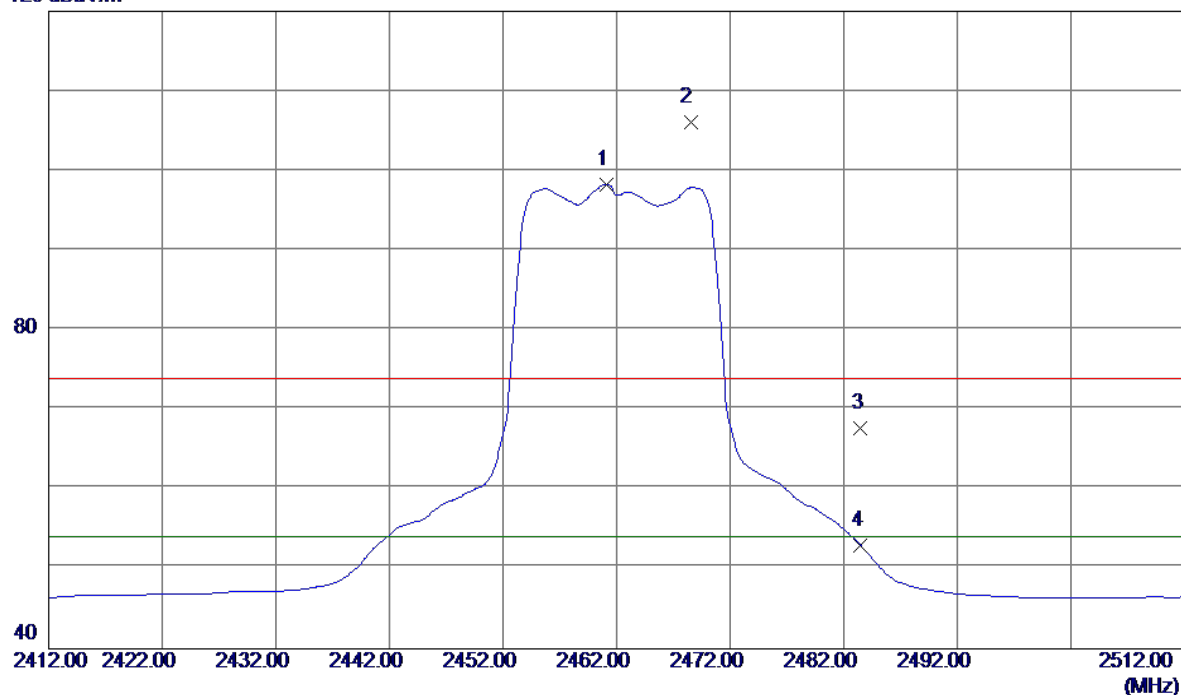


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4872.8849	50.22	6.83	57.05	74.00	-16.95	Peak	
2 *	4875.8900	36.14	6.84	42.98	54.00	-11.02	AVG	

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

Vertical

120 dBuV/m

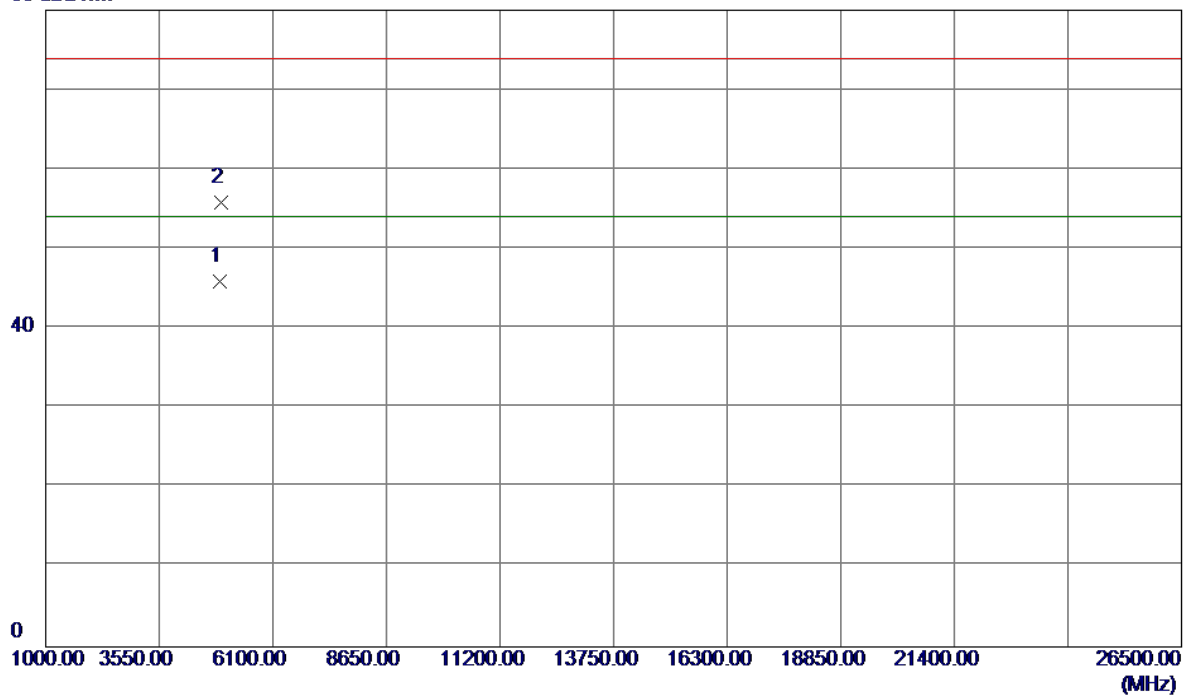


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2461.1000	64.94	33.32	98.26	54.00	44.26	AVG	No Limit
2	2468.5000	72.81	33.35	106.16	74.00	32.16	Peak	No Limit
3	2483.5000	34.24	33.41	67.65	74.00	-6.35	Peak	
4	2483.5000	19.60	33.41	53.01	54.00	-0.99	AVG	

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

Vertical

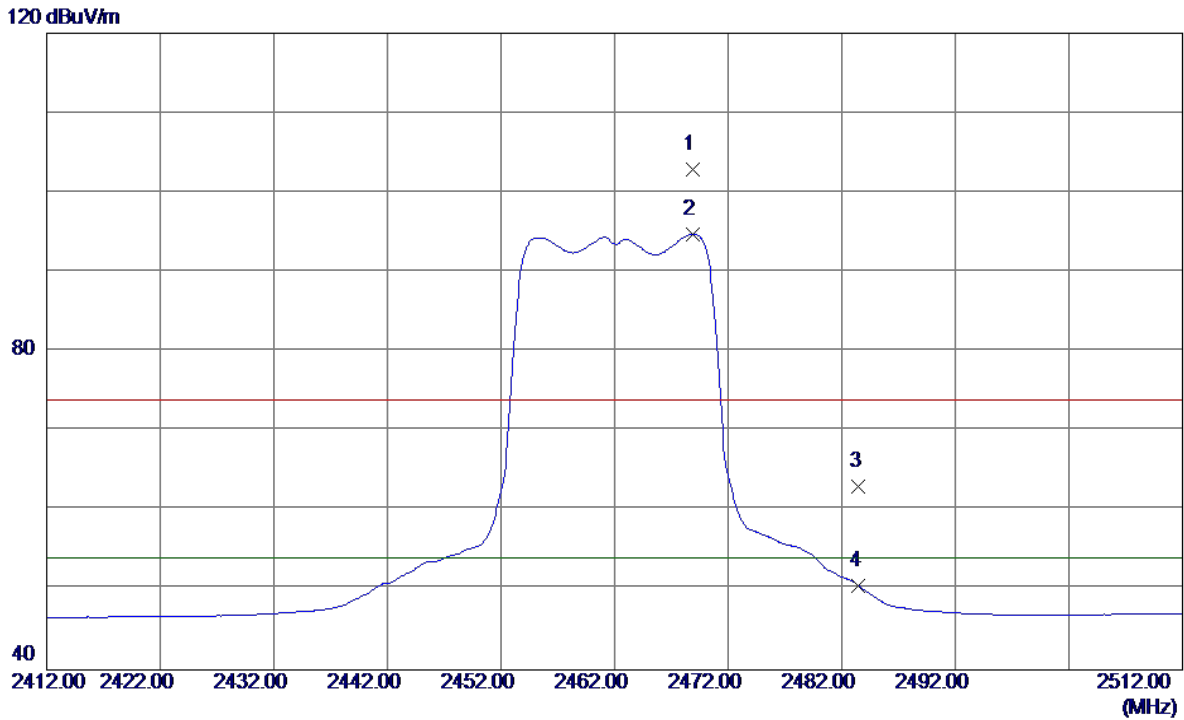
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4924.1200	38.83	7.02	45.85	54.00	-8.15	AVG	
2	4924.7799	48.87	7.02	55.89	74.00	-18.11	Peak	

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

Horizontal

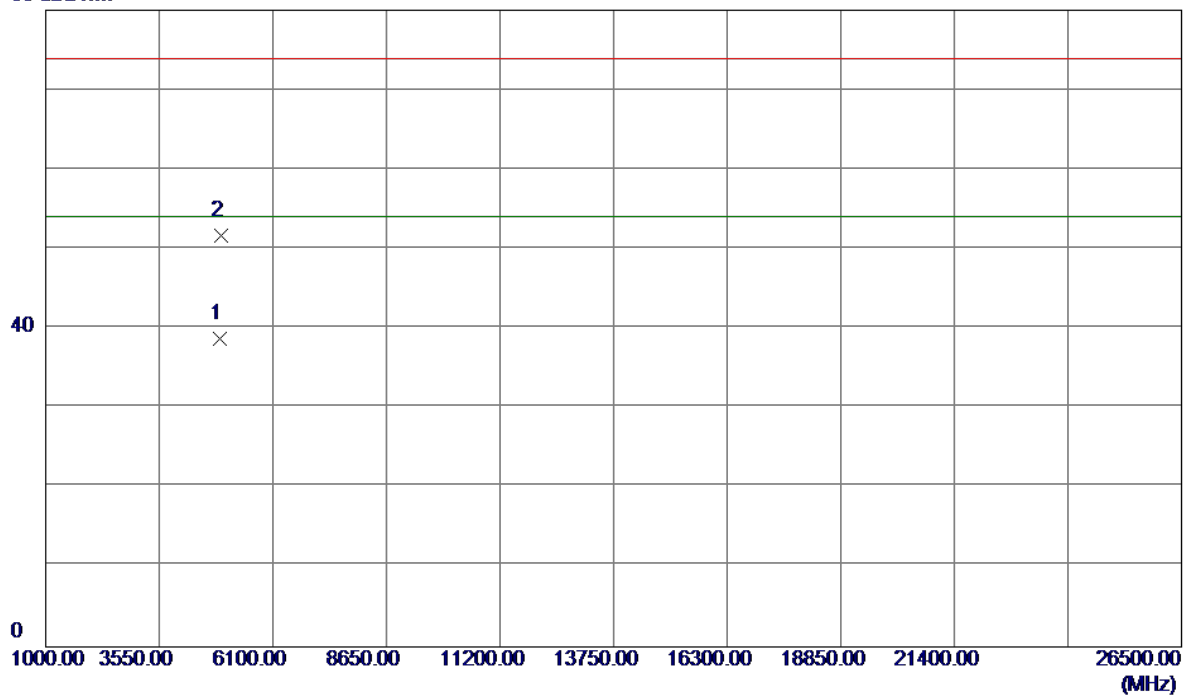


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2468.9000	69.49	33.35	102.84	74.00	28.84	Peak	No Limit
2 *	2468.9000	61.37	33.35	94.72	54.00	40.72	AVG	No Limit
3	2483.5000	29.59	33.41	63.00	74.00	-11.00	Peak	
4	2483.5000	17.14	33.41	50.55	54.00	-3.45	AVG	

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

Horizontal

80 dBuV/m

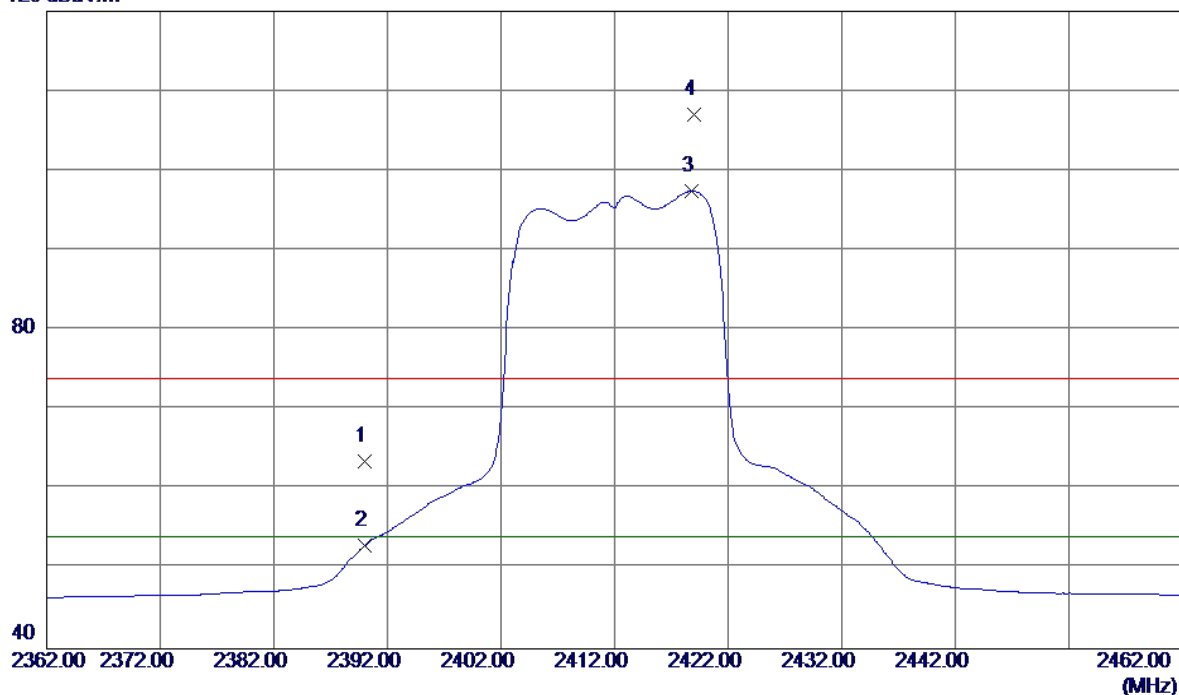


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4924.1150	31.73	7.02	38.75	54.00	-15.25	AVG	
2	4924.7200	44.64	7.02	51.66	74.00	-22.34	Peak	

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

Vertical

120 dBuV/m

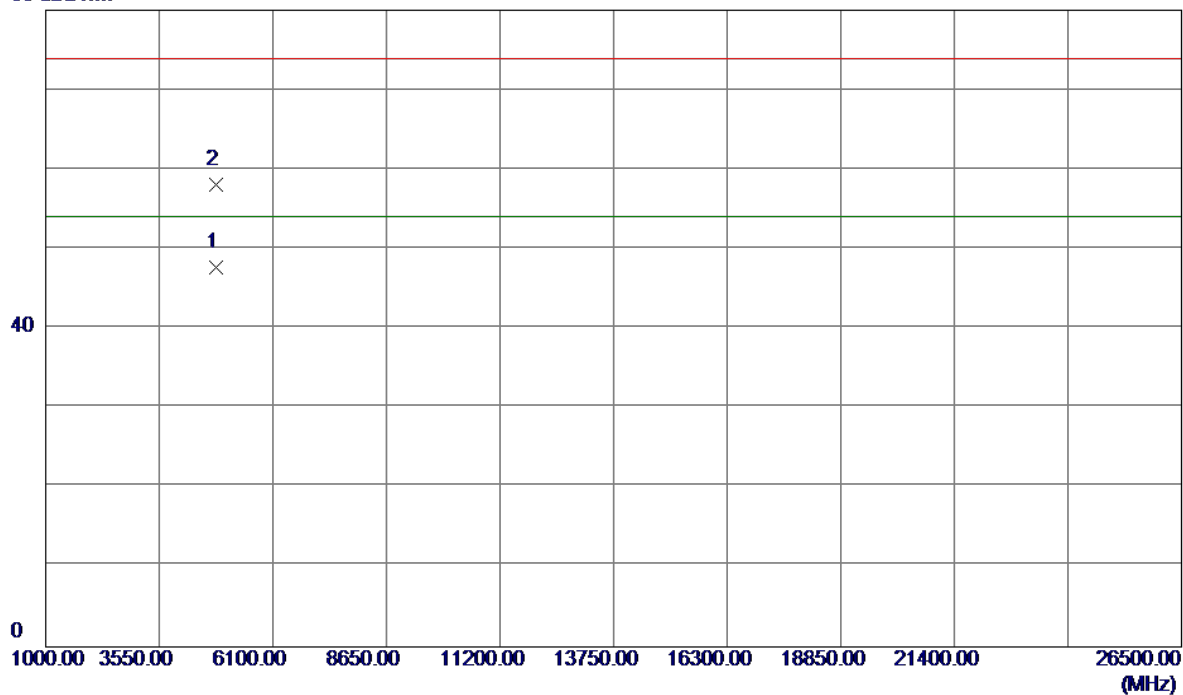


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	30.42	33.06	63.48	74.00	-10.52	Peak	
2	2390.0000	19.88	33.06	52.94	54.00	-1.06	AVG	
3 *	2418.8000	64.25	33.16	97.41	54.00	43.41	AVG	No Limit
4	2419.0000	73.80	33.17	106.97	74.00	32.97	Peak	No Limit

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

Vertical

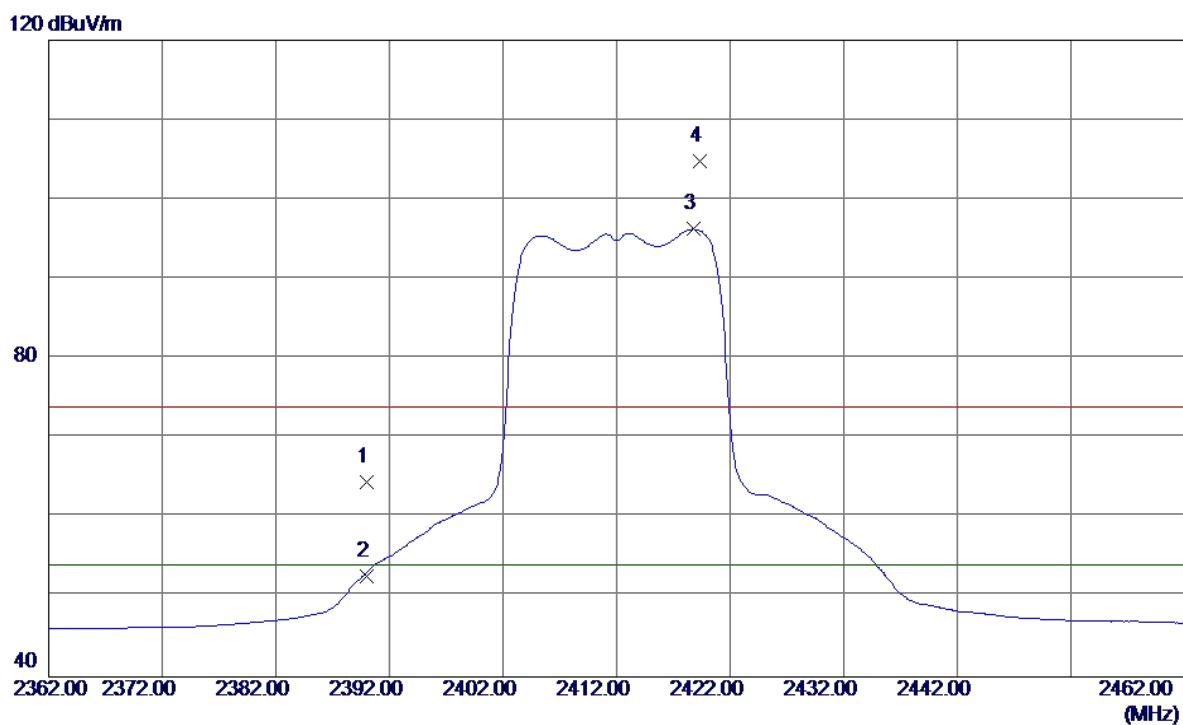
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4824.6800	41.04	6.66	47.70	54.00	-6.30	AVG	
2	4824.8000	51.47	6.66	58.13	74.00	-15.87	Peak	

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

Horizontal

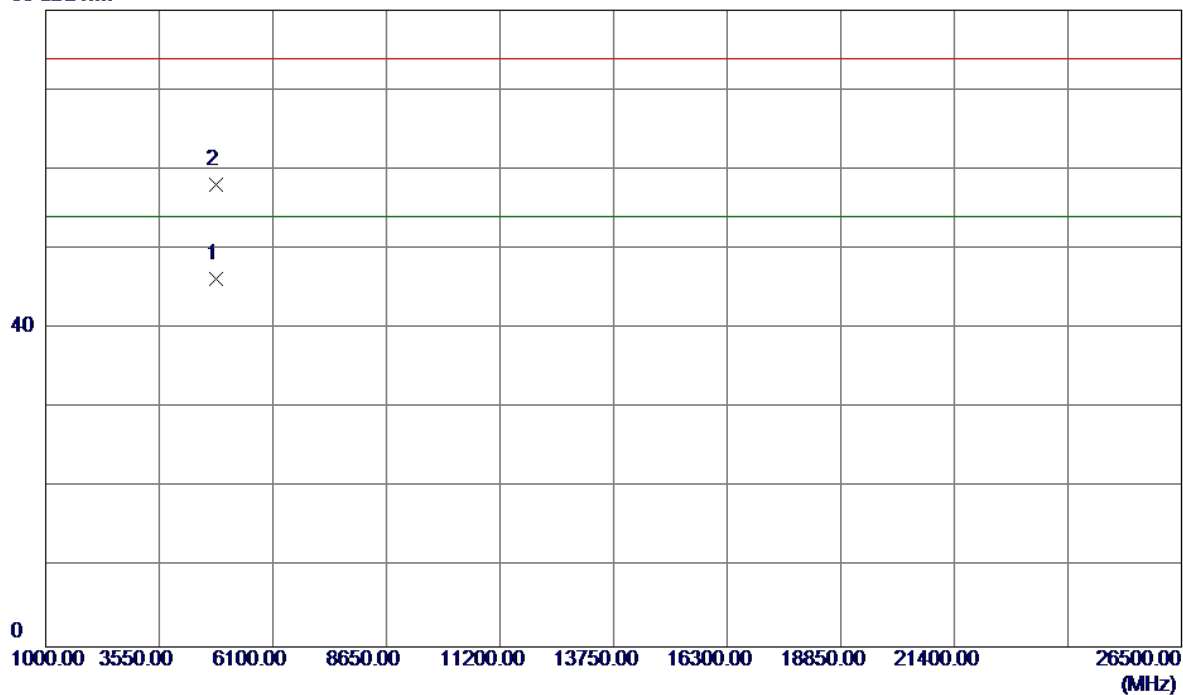


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	31.46	33.06	64.52	74.00	-9.48	Peak	
2	2390.0000	19.58	33.06	52.64	54.00	-1.36	AVG	
3 *	2418.8000	63.09	33.16	96.25	54.00	42.25	AVG	No Limit
4	2419.3000	71.61	33.17	104.78	74.00	30.78	Peak	No Limit

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

Horizontal

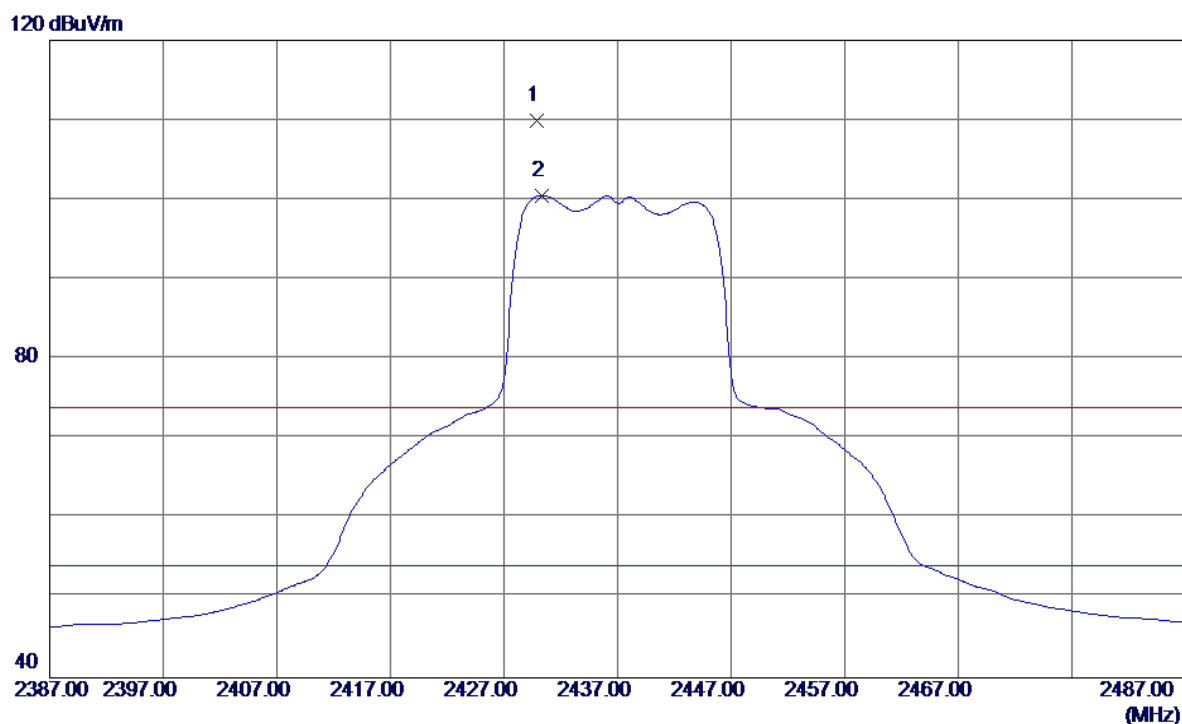
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4824.4350	39.56	6.66	46.22	54.00	-7.78	AVG	
2	4824.4650	51.35	6.66	58.01	74.00	-15.99	Peak	

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

Vertical

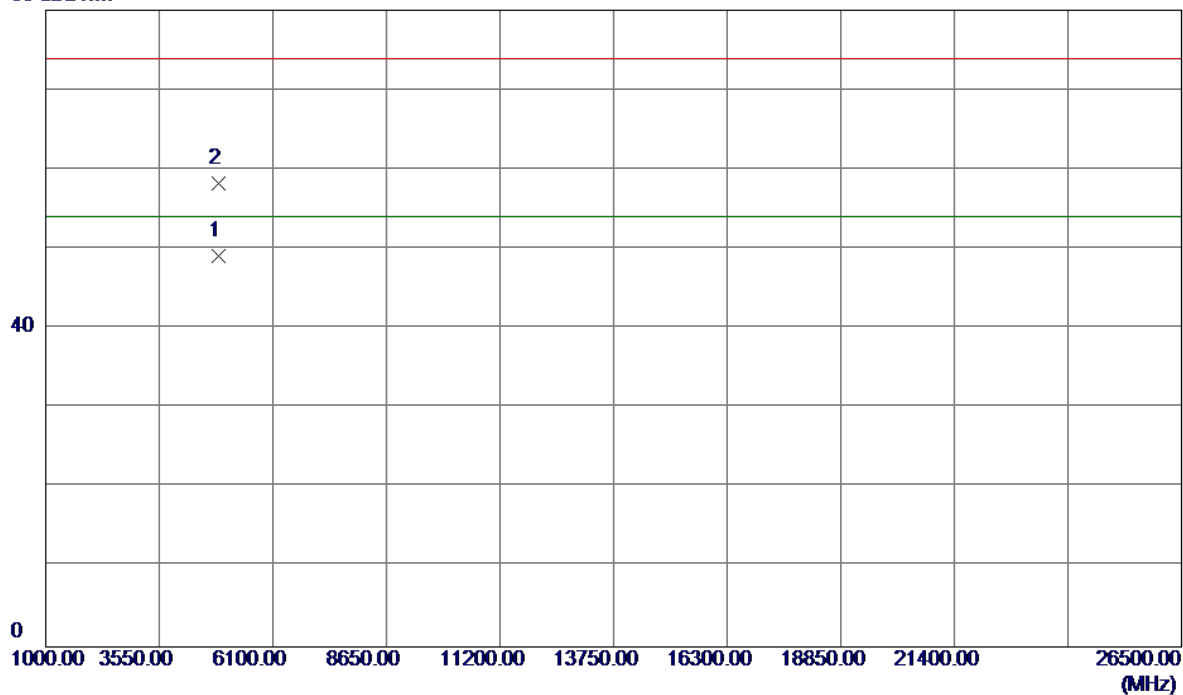


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2429.9000	76.68	33.21	109.89	74.00	35.89	Peak	No Limit
2 *	2430.3000	67.32	33.21	100.53	54.00	46.53	AVG	No Limit

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

Vertical

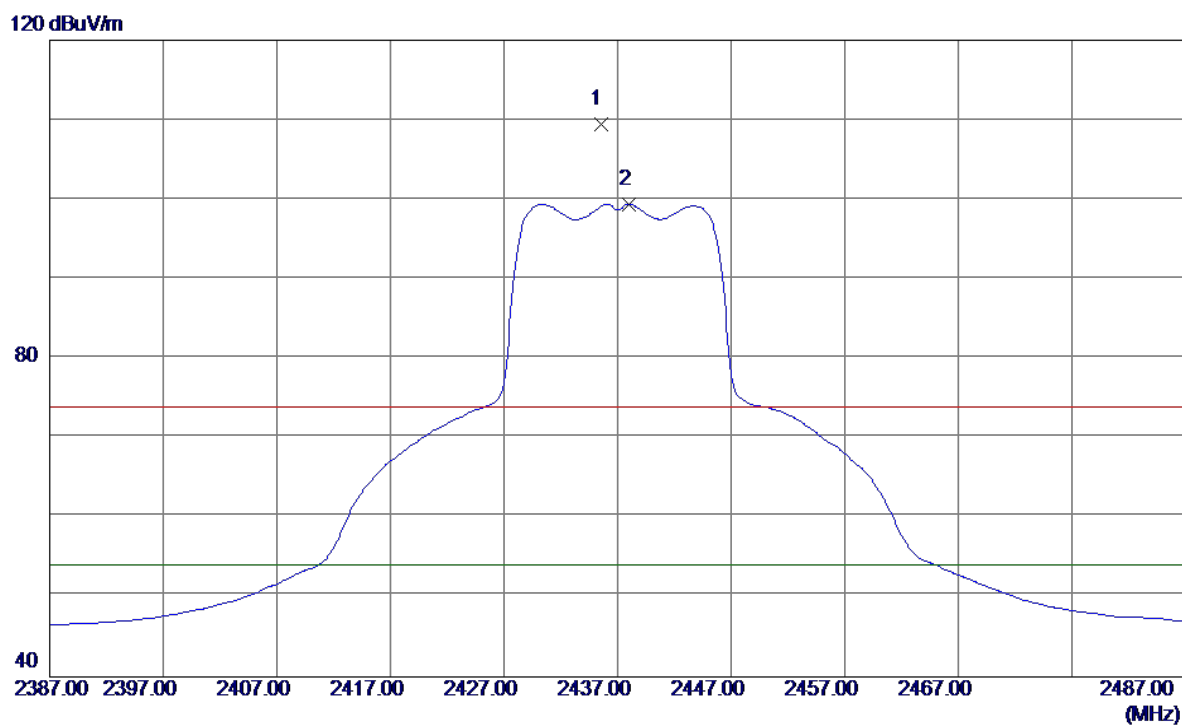
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.5600	42.33	6.84	49.17	54.00	-4.83	AVG	
2	4874.8800	51.45	6.84	58.29	74.00	-15.71	Peak	

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

Horizontal

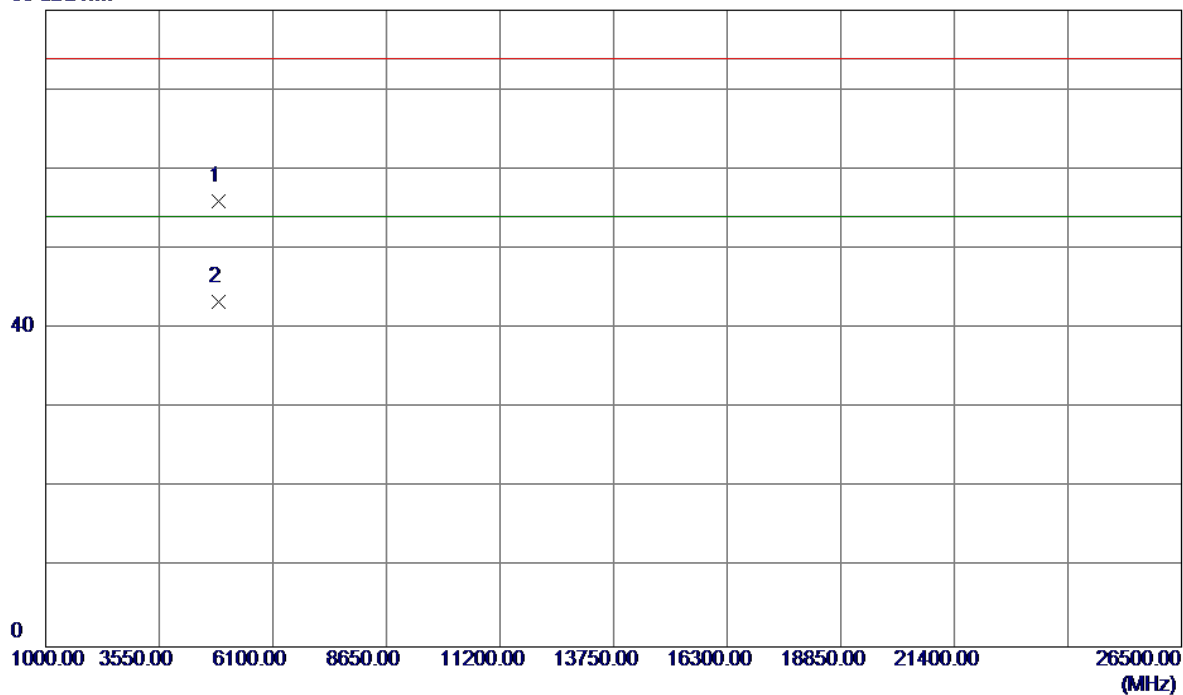


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.5000	76.20	33.23	109.43	74.00	35.43	Peak	No Limit
2 *	2438.0000	66.19	33.24	99.43	54.00	45.43	AVG	No Limit

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

Horizontal

80 dBuV/m

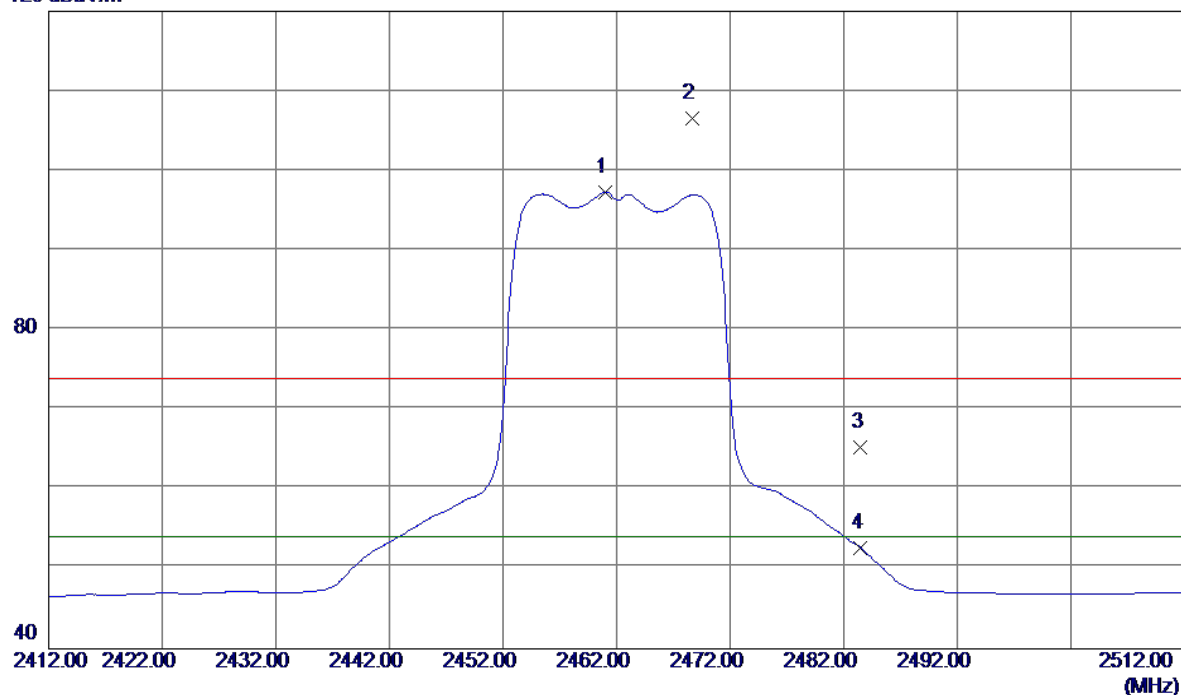


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4874.5600	49.14	6.84	55.98	74.00	-18.02	Peak	
2 *	4874.8000	36.45	6.84	43.29	54.00	-10.71	AVG	

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

Vertical

120 dBuV/m

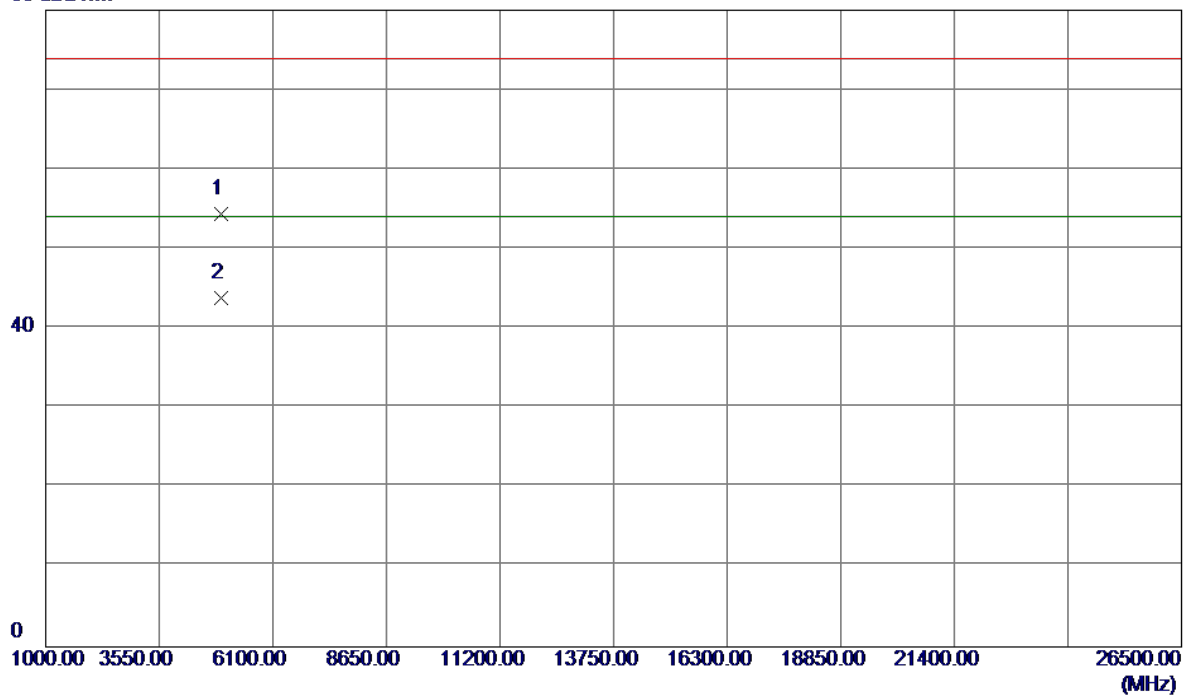


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2461.0000	63.95	33.32	97.27	54.00	43.27	AVG	No Limit
2	2468.7000	73.23	33.35	106.58	74.00	32.58	Peak	No Limit
3	2483.5000	31.84	33.41	65.25	74.00	-8.75	Peak	
4	2483.5000	19.28	33.41	52.69	54.00	-1.31	AVG	

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

Vertical

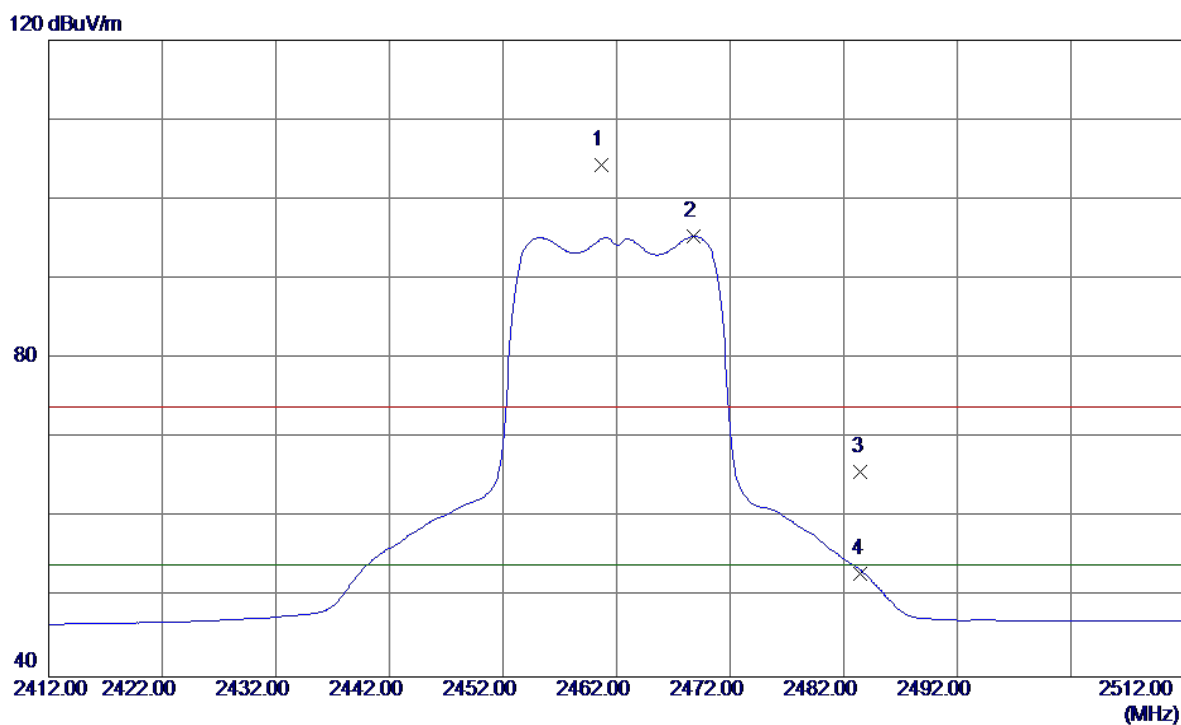
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4924. 2799	47. 39	7. 02	54. 41	74. 00	-19. 59	Peak	
2 *	4924. 4400	36. 81	7. 02	43. 83	54. 00	-10. 17	AVG	

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

Horizontal

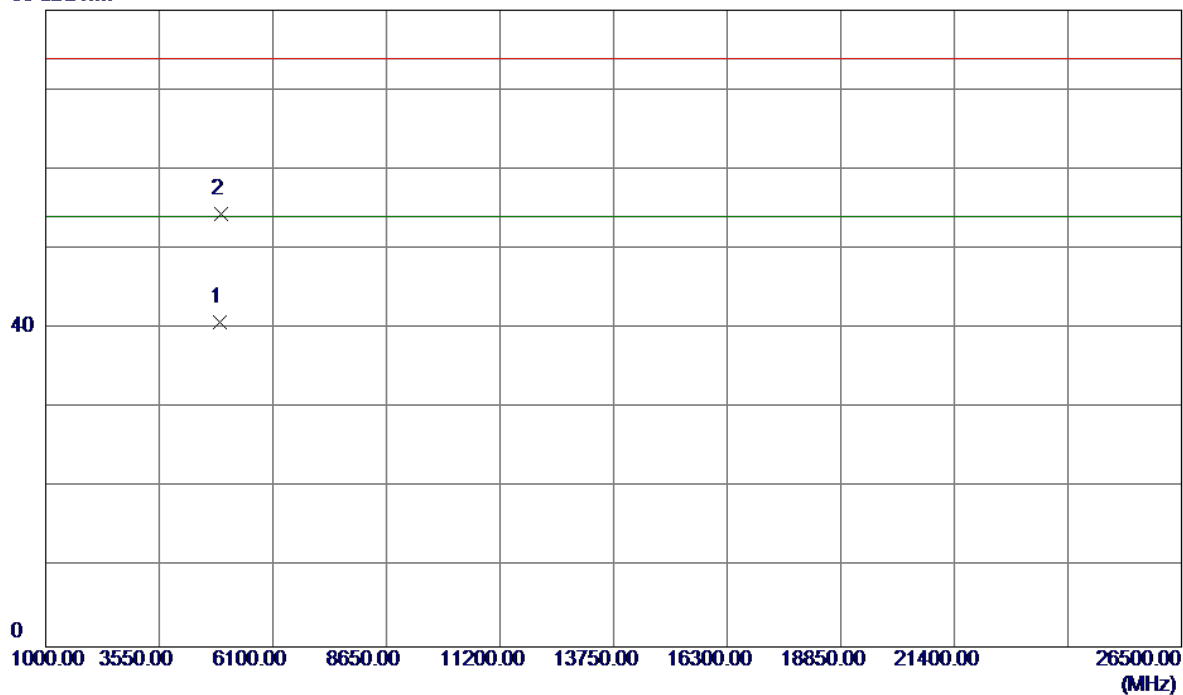


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.7000	70.96	33.32	104.28	74.00	30.28	Peak	No Limit
2 *	2468.8000	62.00	33.35	95.35	54.00	41.35	AVG	No Limit
3	2483.5000	32.30	33.41	65.71	74.00	-8.29	Peak	
4	2483.5000	19.56	33.41	52.97	54.00	-1.03	AVG	

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

Horizontal

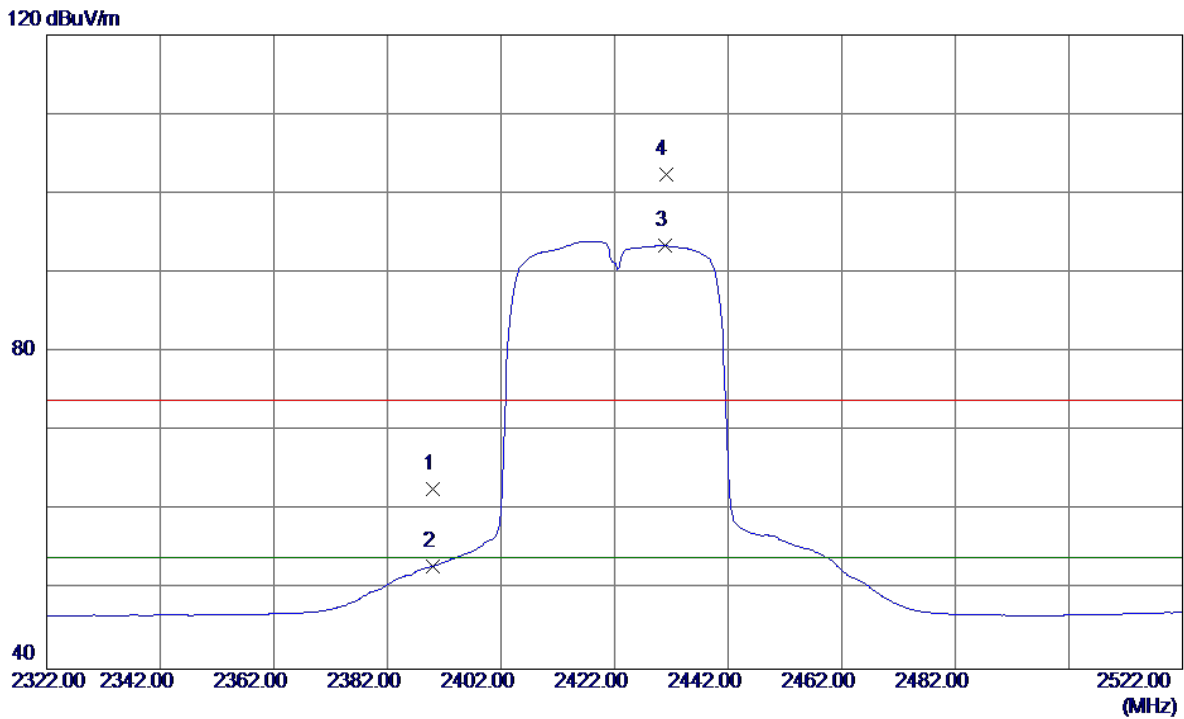
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4922.8450	33.75	7.01	40.76	54.00	-13.24	AVG	
2	4924.5650	47.44	7.02	54.46	74.00	-19.54	Peak	

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

Vertical

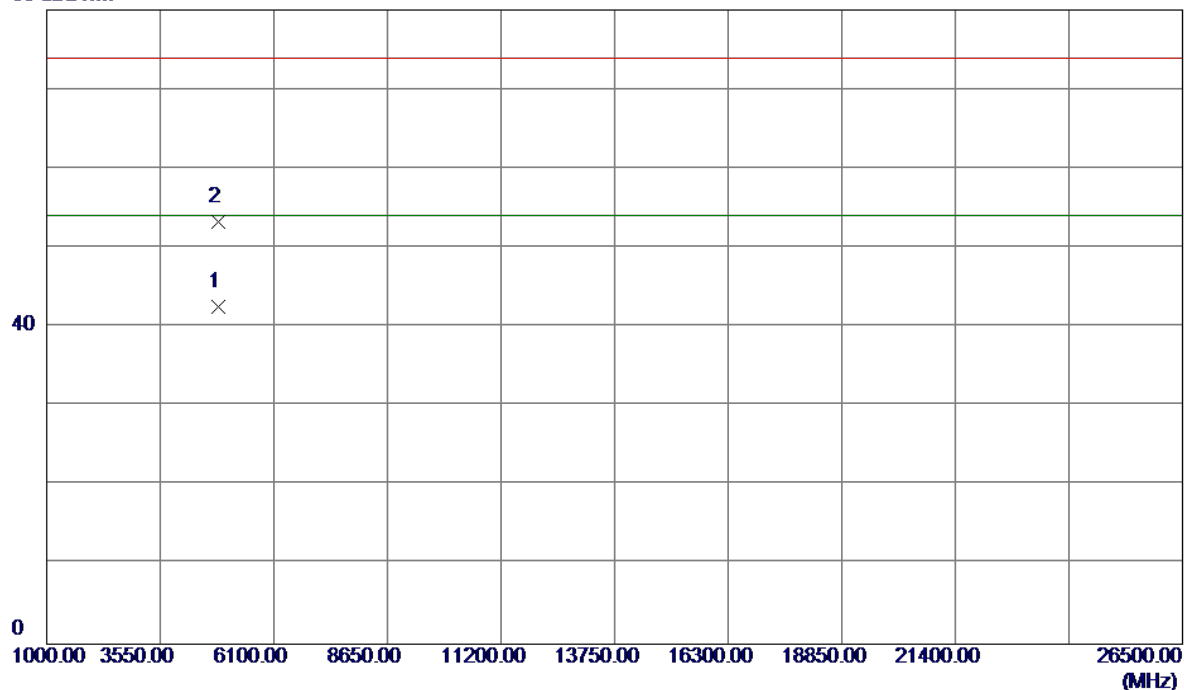


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	29.61	33.06	62.67	74.00	-11.33	Peak	
2	2390.0000	19.91	33.06	52.97	54.00	-1.03	AVG	
3 *	2430.8000	60.19	33.21	93.40	54.00	39.40	AVG	No Limit
4	2431.0000	69.13	33.21	102.34	74.00	28.34	Peak	No Limit

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

Vertical

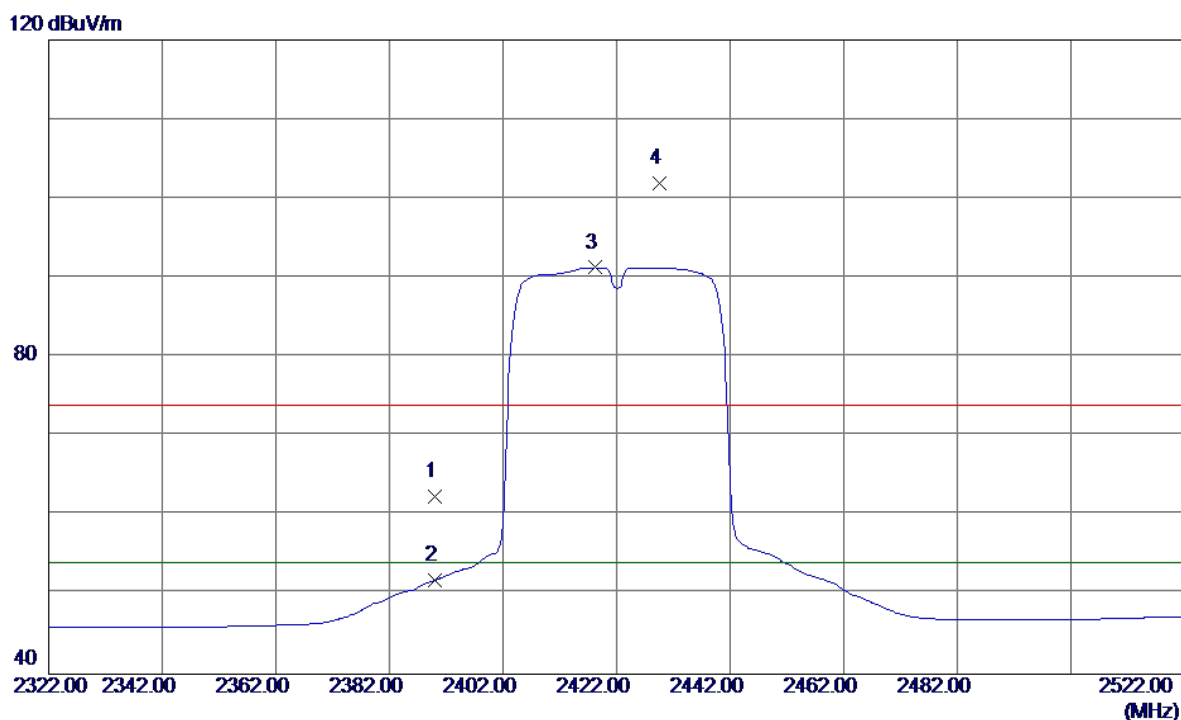
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4839.1800	35.82	6.71	42.53	54.00	-11.47	AVG	
2	4845.5400	46.49	6.74	53.23	74.00	-20.77	Peak	

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

Horizontal

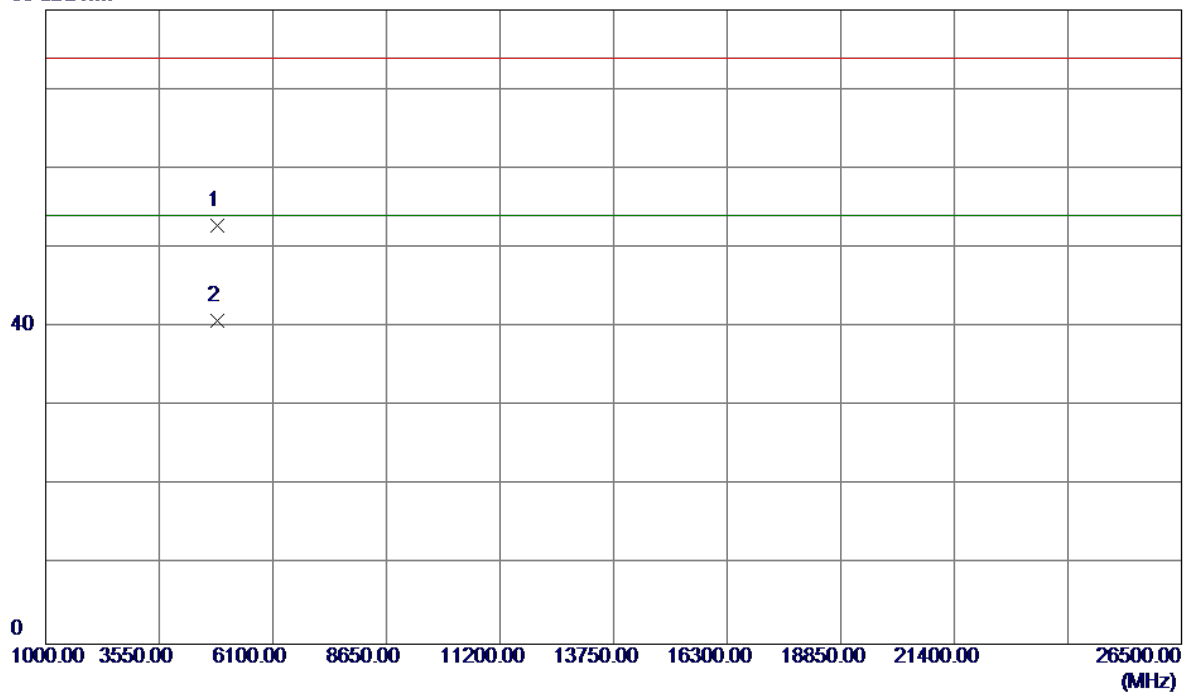


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	29.35	33.06	62.41	74.00	-11.59	Peak	
2	2390.0000	18.78	33.06	51.84	54.00	-2.16	AVG	
3 *	2418.2000	58.12	33.16	91.28	54.00	37.28	AVG	No Limit
4	2429.6000	68.68	33.21	101.89	74.00	27.89	Peak	No Limit

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

Horizontal

80 dBuV/m

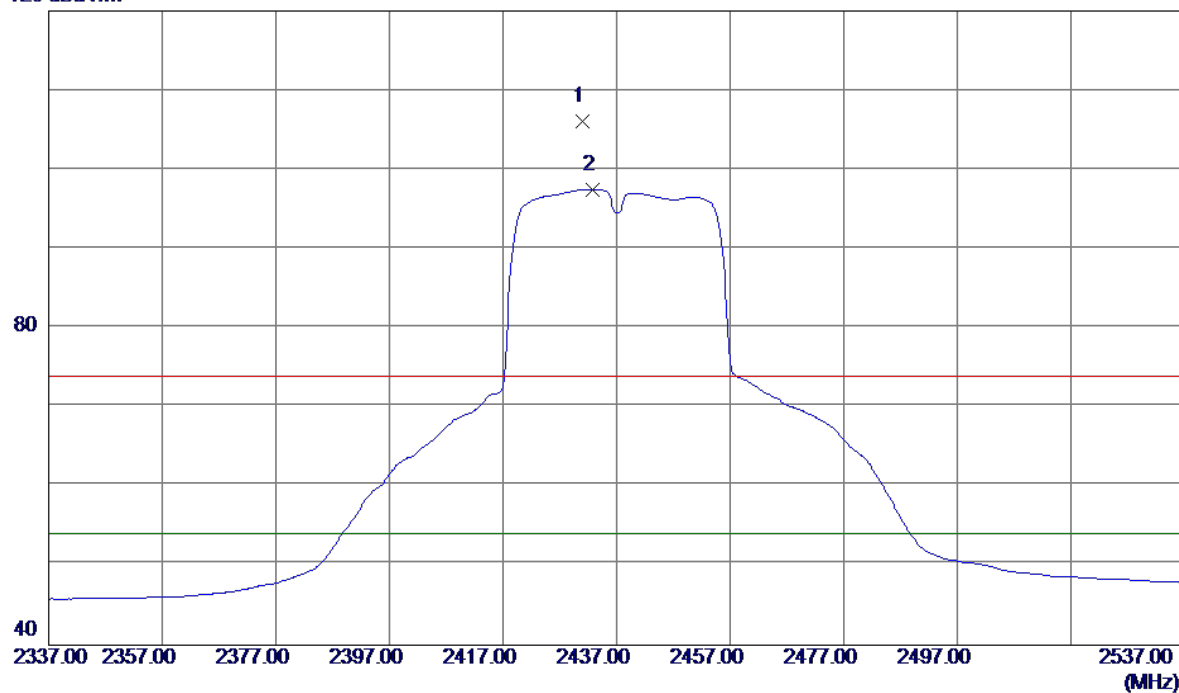


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4841.5400	46.09	6.72	52.81	74.00	-21.19	Peak	
2 *	4841.8900	34.13	6.72	40.85	54.00	-13.15	AVG	

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

Vertical

120 dBuV/m

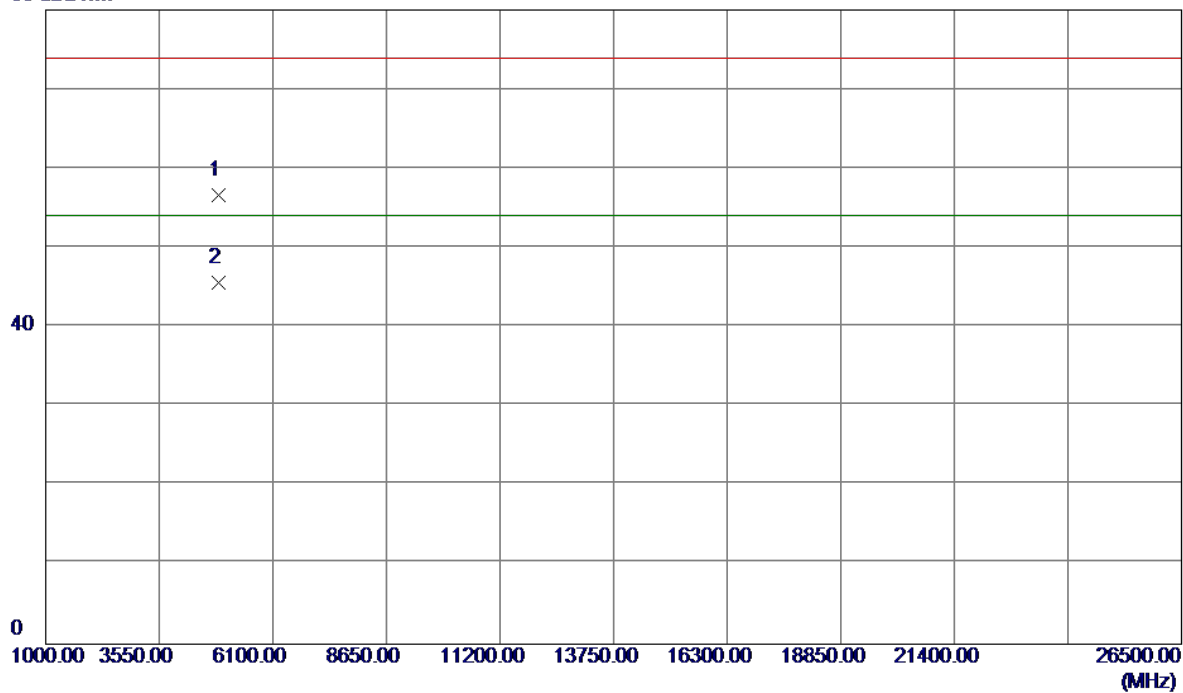


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2431.0000	72.86	33.21	106.07	74.00	32.07	Peak	No Limit
2 *	2432.8000	64.27	33.22	97.49	54.00	43.49	AVG	No Limit

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

Vertical

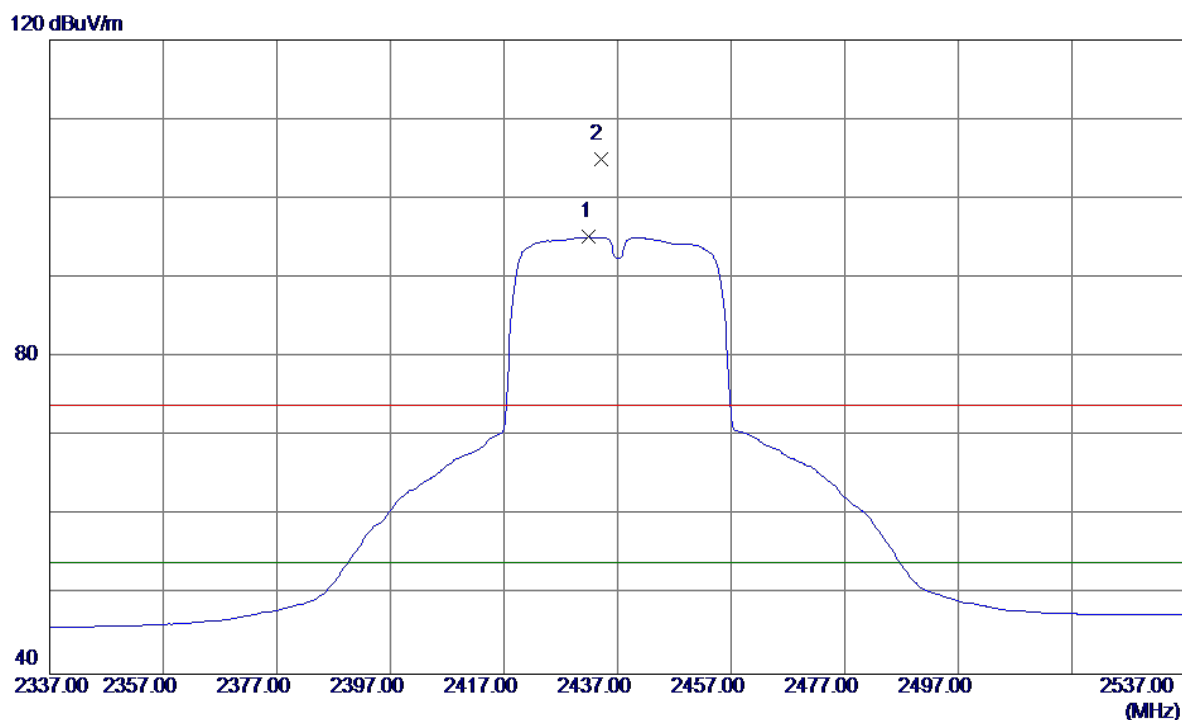
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4872.7400	49.85	6.83	56.68	74.00	-17.32	Peak	
2 *	4874.6200	38.68	6.84	45.52	54.00	-8.48	AVG	

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

Horizontal

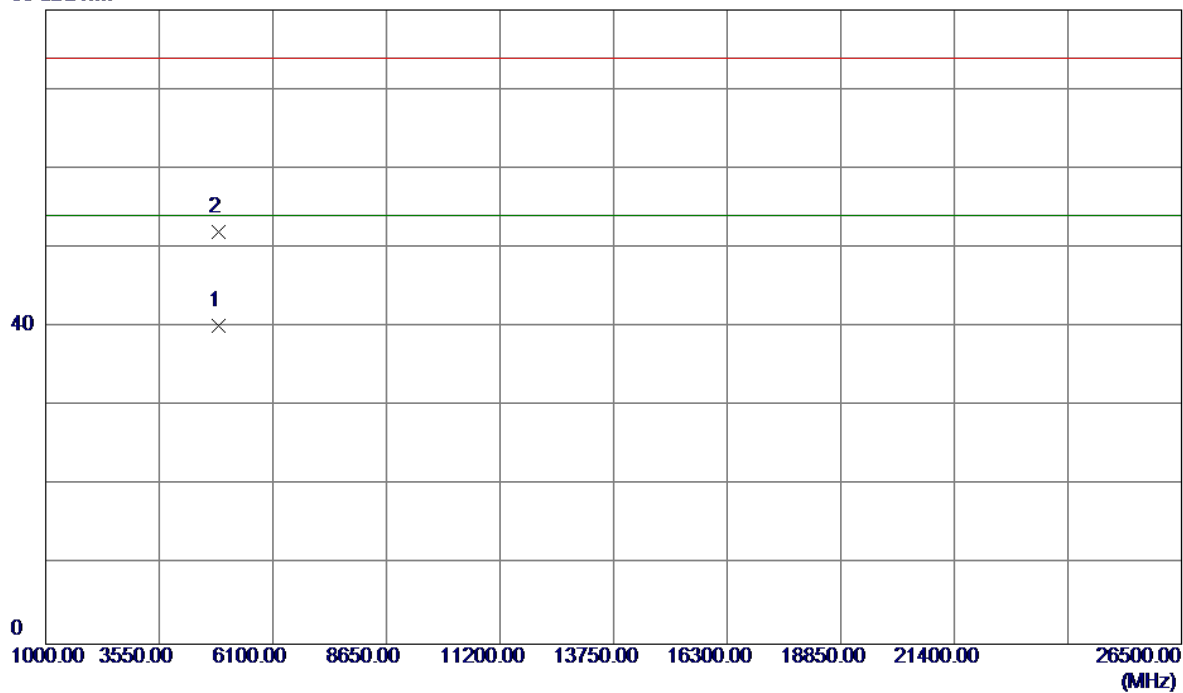


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2432.0000	61.92	33.21	95.13	54.00	41.13	AVG	No Limit
2	2434.0000	71.79	33.22	105.01	74.00	31.01	Peak	No Limit

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

Horizontal

80 dBuV/m

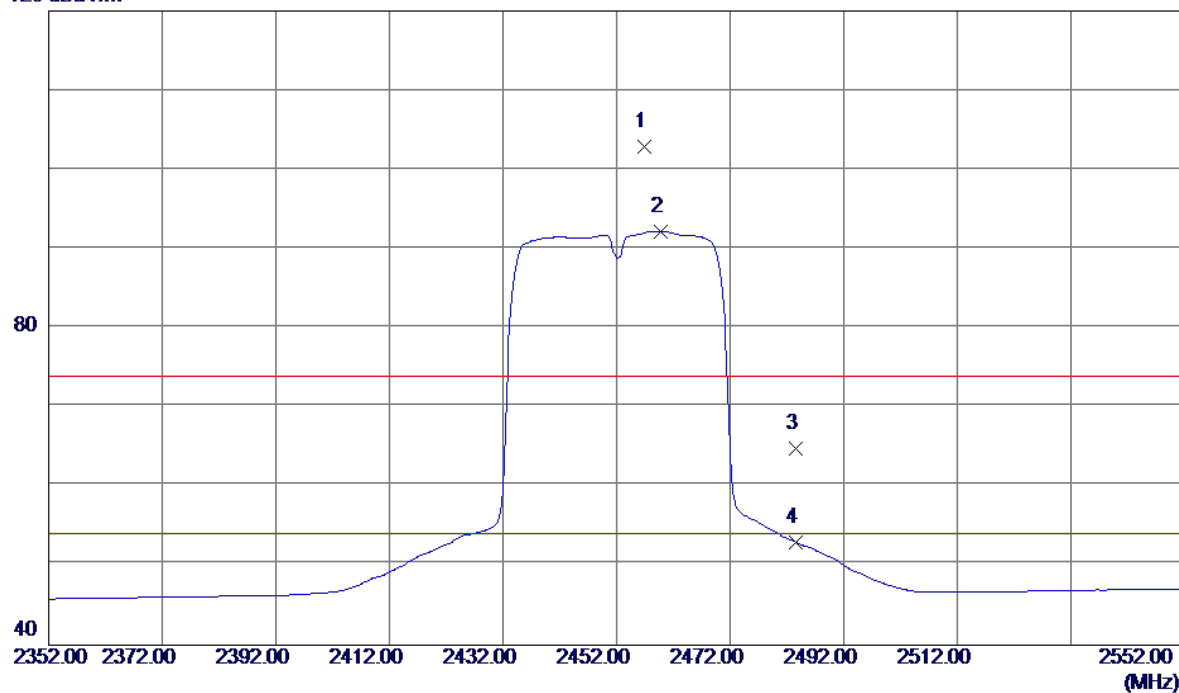


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4872.9950	33.40	6.83	40.23	54.00	-13.77	AVG	
2	4873.3100	45.15	6.84	51.99	74.00	-22.01	Peak	

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

Vertical

120 dBuV/m

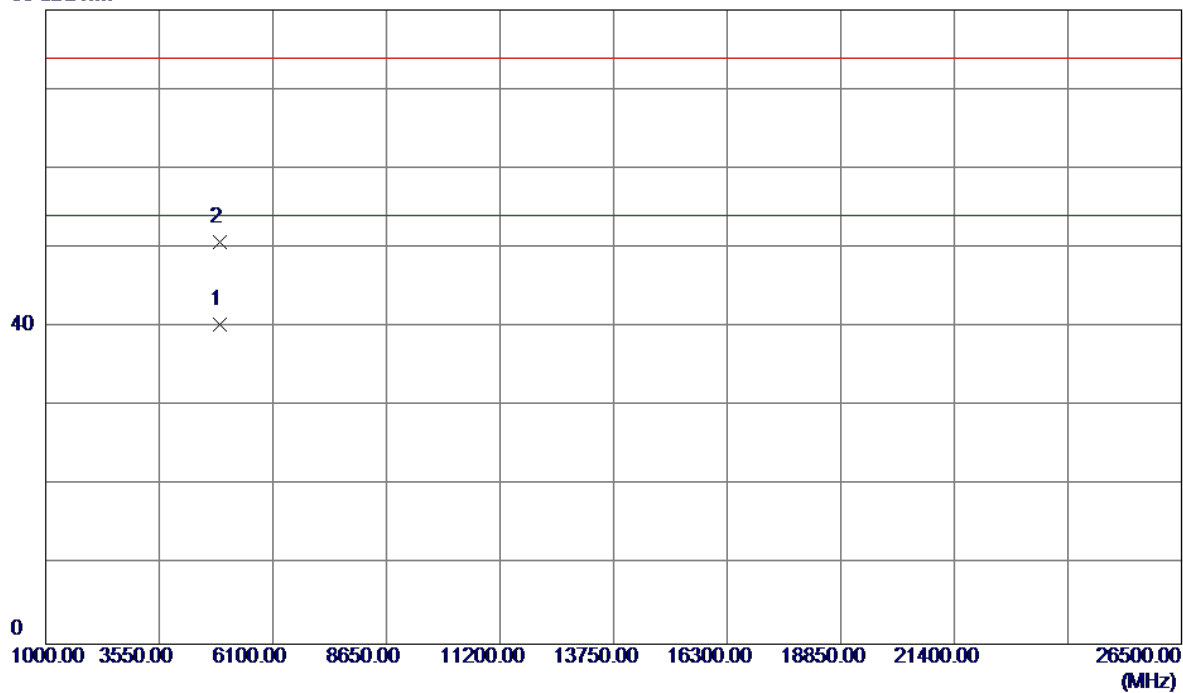


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2456.8000	69.54	33.31	102.85	74.00	28.85	Peak	No Limit
2 *	2459.8000	58.92	33.32	92.24	54.00	38.24	AVG	No Limit
3	2483.5000	31.38	33.41	64.79	74.00	-9.21	Peak	
4	2483.5000	19.57	33.41	52.98	54.00	-1.02	AVG	

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

Vertical

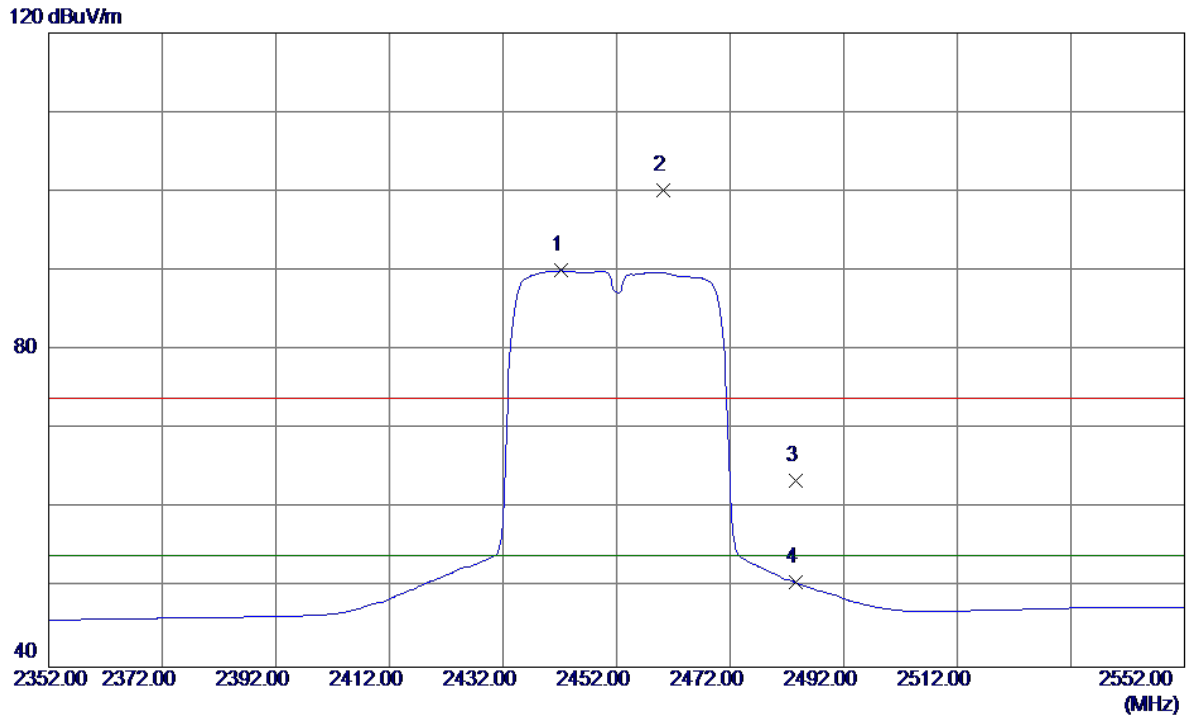
80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4899.2200	33.46	6.93	40.39	54.00	-13.61	AVG	
2	4906.3600	43.73	6.95	50.68	74.00	-23.32	Peak	

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

Horizontal

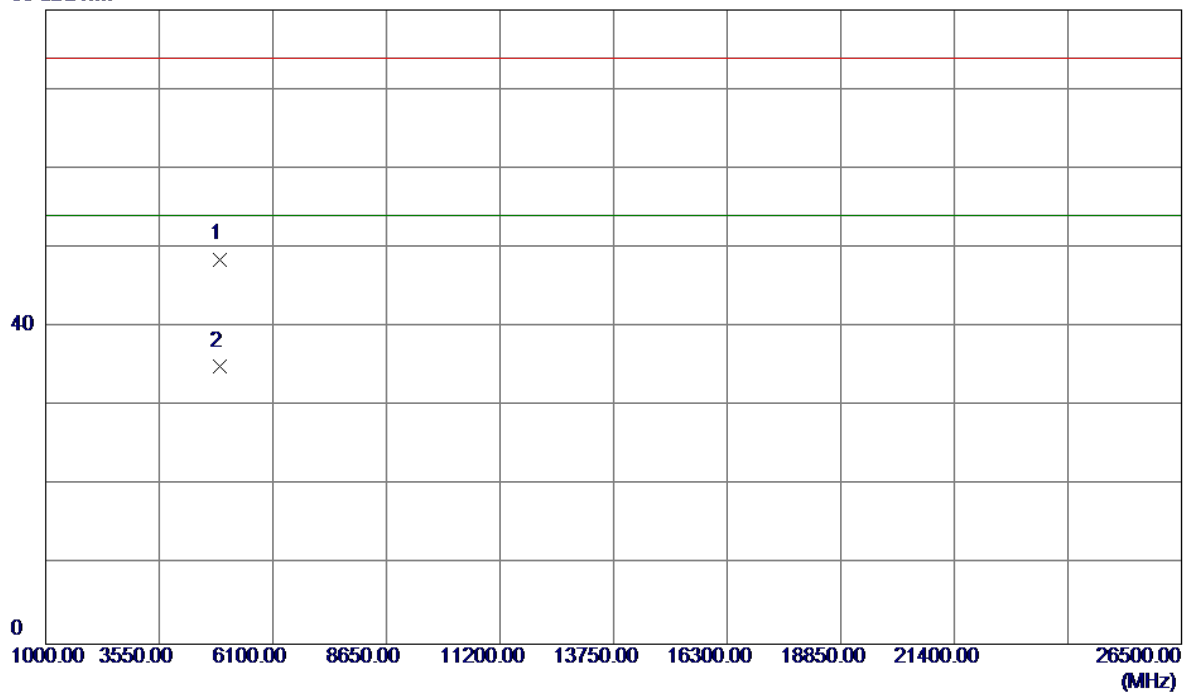


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2442.2000	56.76	33.25	90.01	54.00	36.01	AVG	No Limit
2	2460.2000	66.79	33.32	100.11	74.00	26.11	Peak	No Limit
3	2483.5000	30.08	33.41	63.49	74.00	-10.51	Peak	
4	2483.5000	17.25	33.41	50.66	54.00	-3.34	AVG	

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

Horizontal

80 dBuV/m



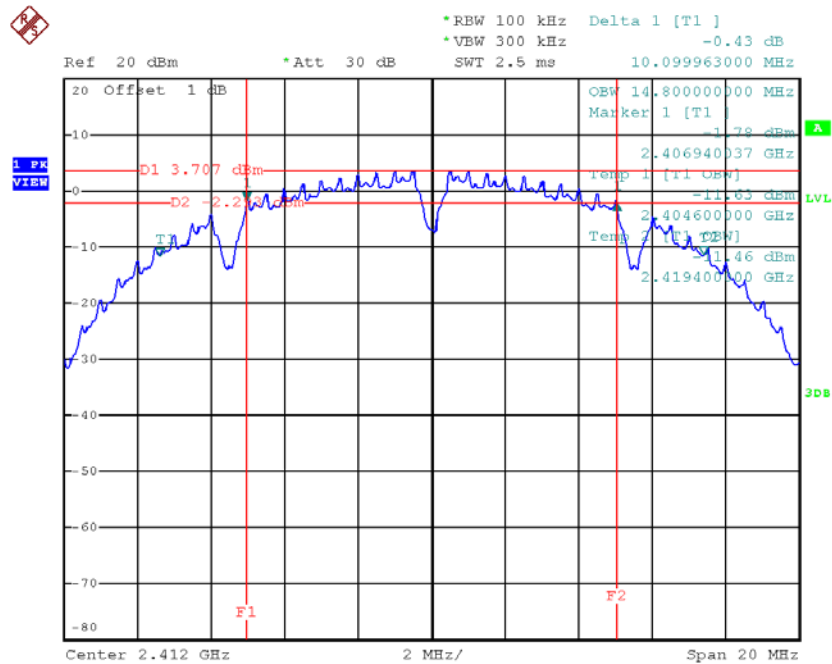
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4903.2200	41.62	6.94	48.56	74.00	-25.44	Peak	
2 *	4904.0099	28.13	6.95	35.08	54.00	-18.92	AVG	

APPENDIX E - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

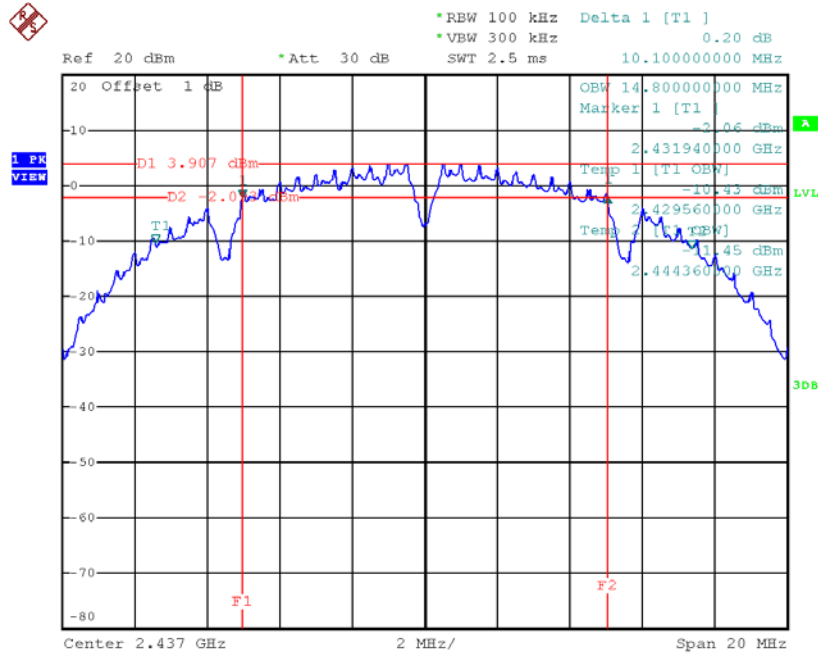
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.10	14.80	500	Complies
2437	10.10	14.80	500	Complies
2462	10.10	14.76	500	Complies

TX CH01



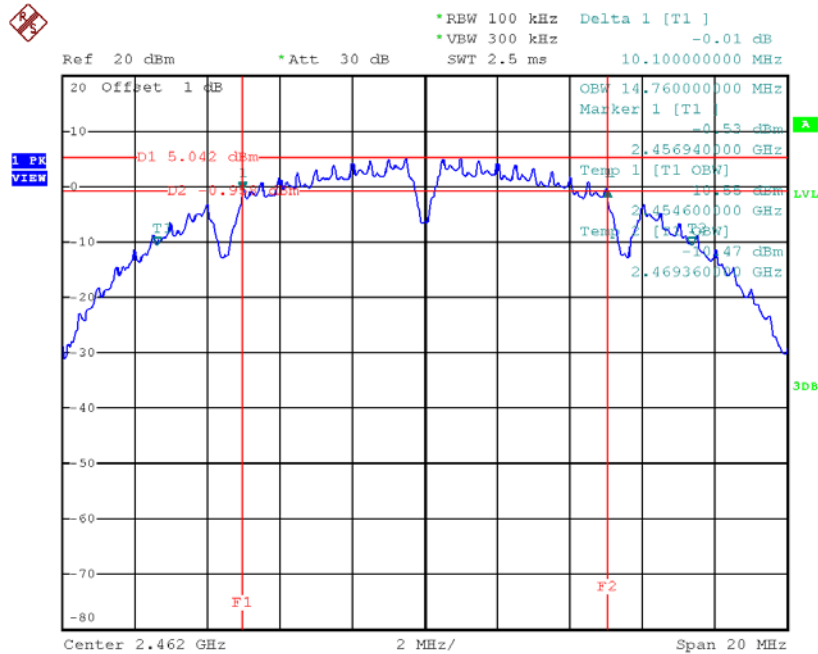
Date: 10.NOV.2017 18:56:33

TX CH06



Date: 10.NOV.2017 18:58:03

TX CH11

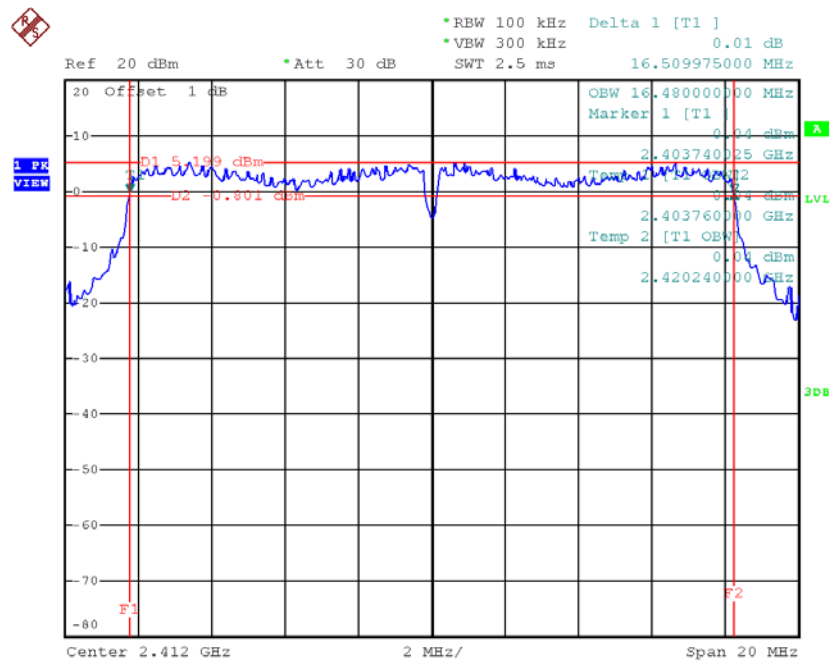


Date: 10.NOV.2017 18:59:27

Test Mode: TX G Mode_CH01/06/11

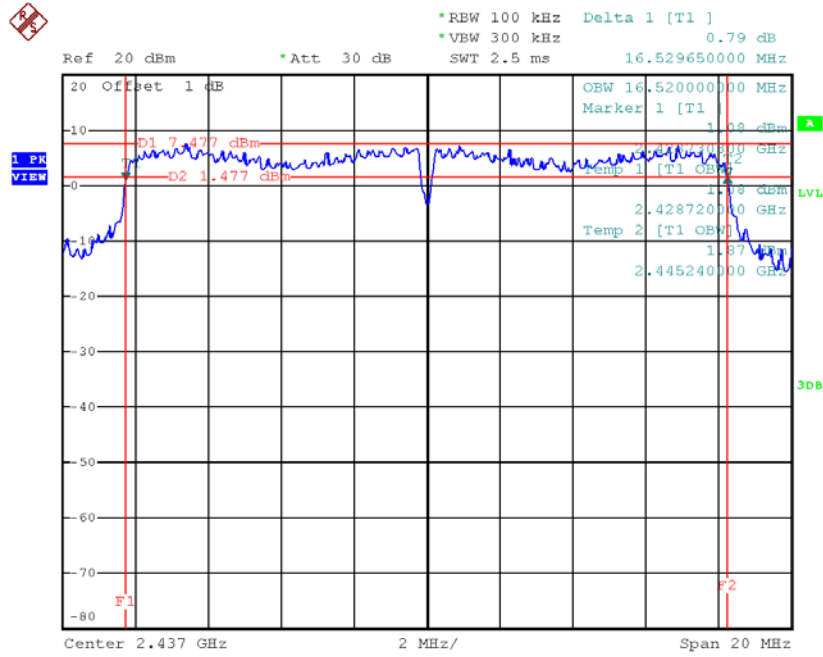
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.51	16.48	500	Complies
2437	16.53	16.52	500	Complies
2462	16.55	16.44	500	Complies

TX CH01



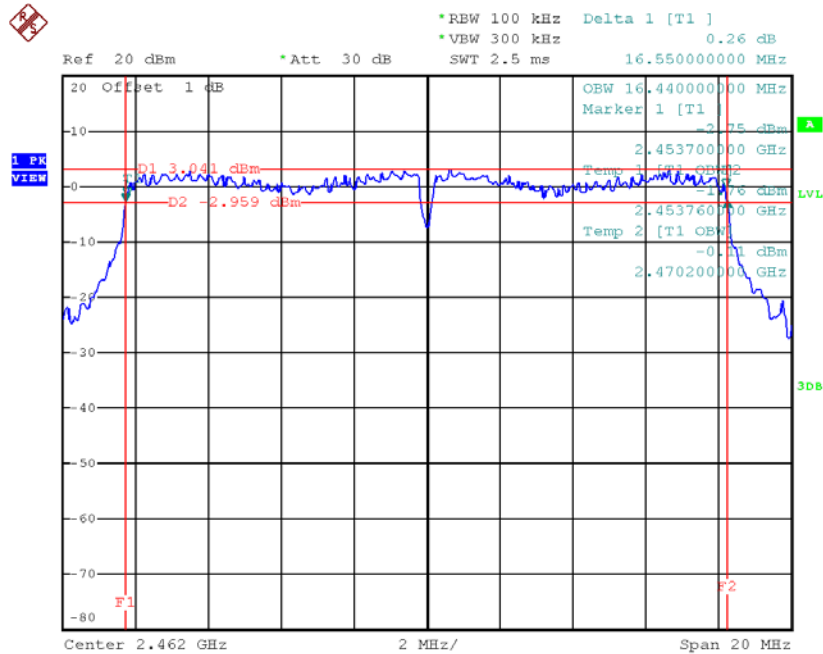
Date: 15.NOV.2017 19:36:29

TX CH06



Date: 10.NOV.2017 19:02:39

TX CH11

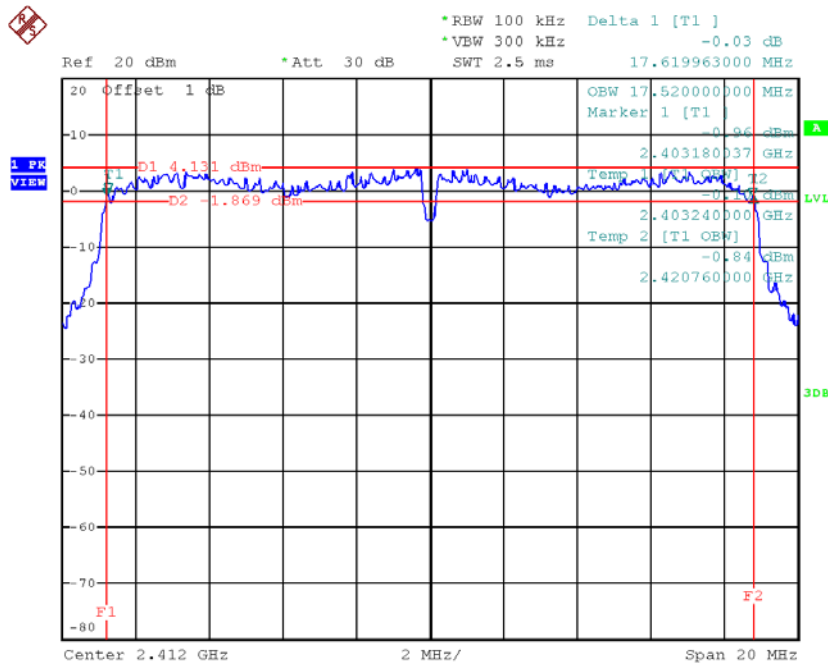


Date: 10.NOV.2017 19:03:48

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

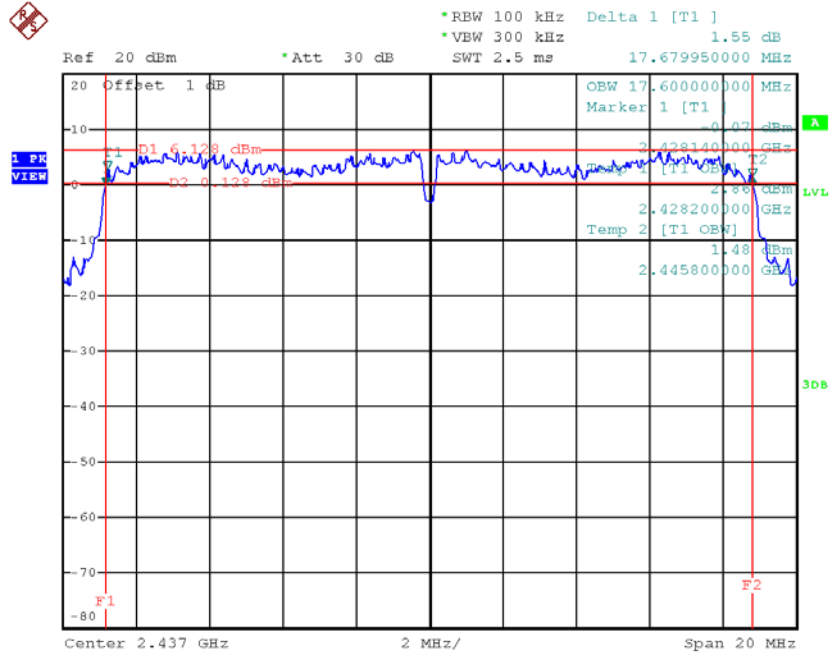
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.62	17.52	500	Complies
2437	17.68	17.60	500	Complies
2462	17.68	17.56	500	Complies

TX CH01



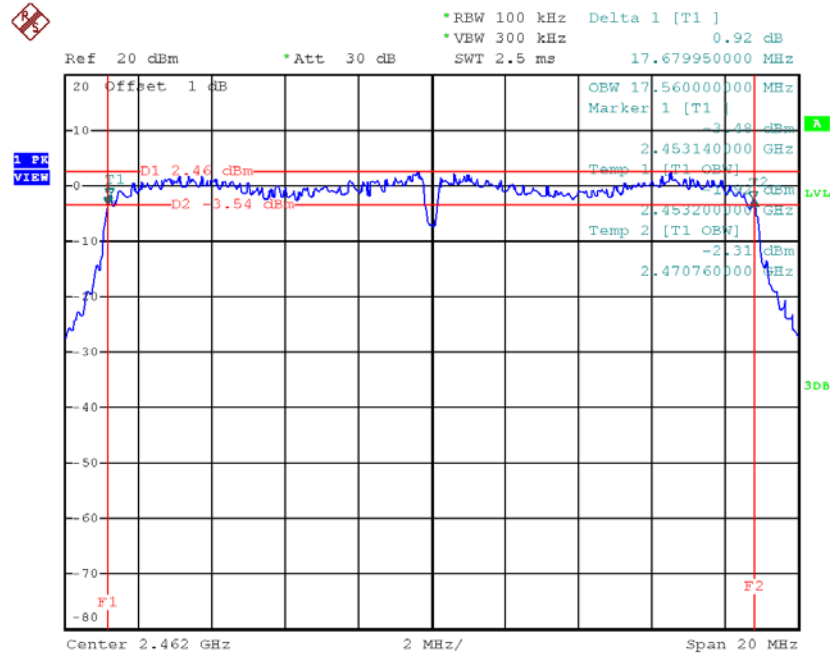
Date: 9.NOV.2017 15:52:24

TX CH06



Date: 9.NOV.2017 15:55:56

TX CH11

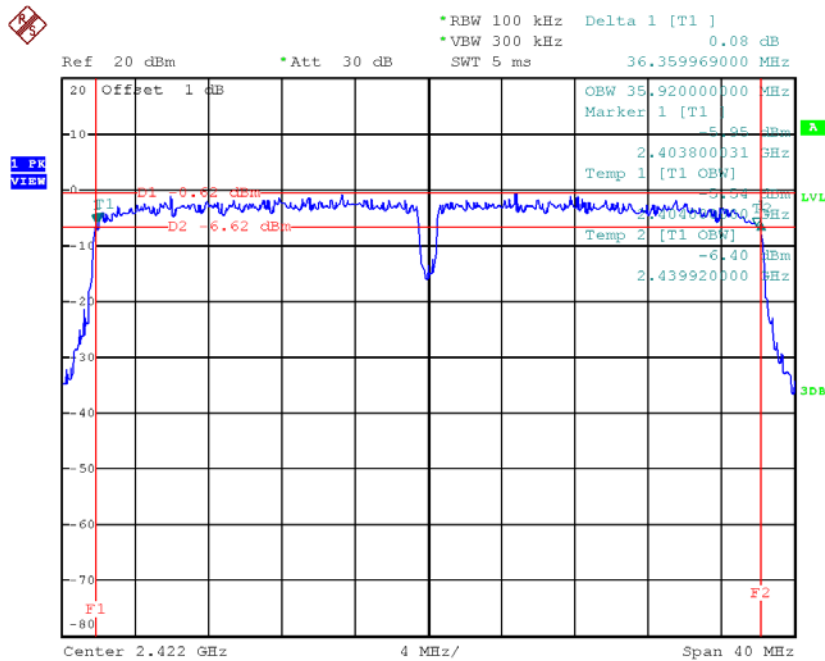


Date: 9.NOV.2017 15:57:08

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

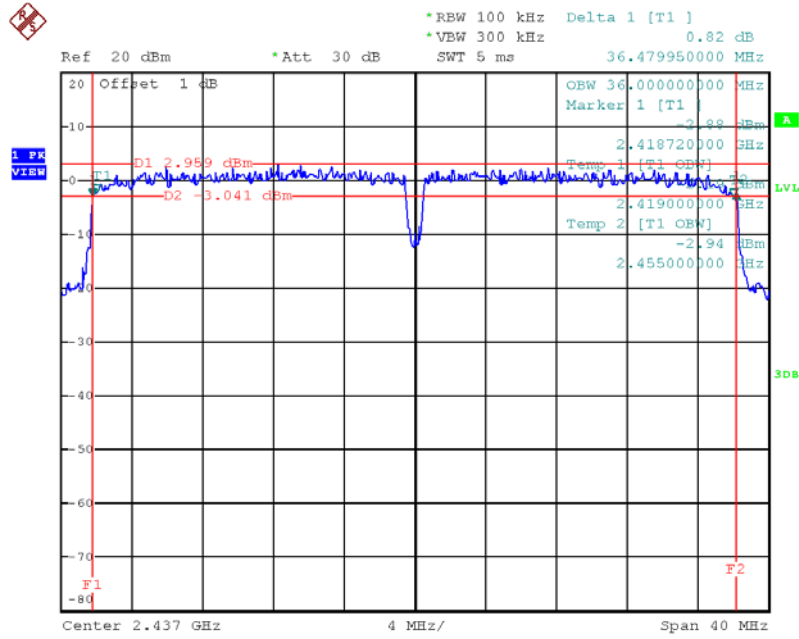
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.36	35.92	500	Complies
2437	36.48	36.00	500	Complies
2452	36.52	36.00	500	Complies

TX CH03



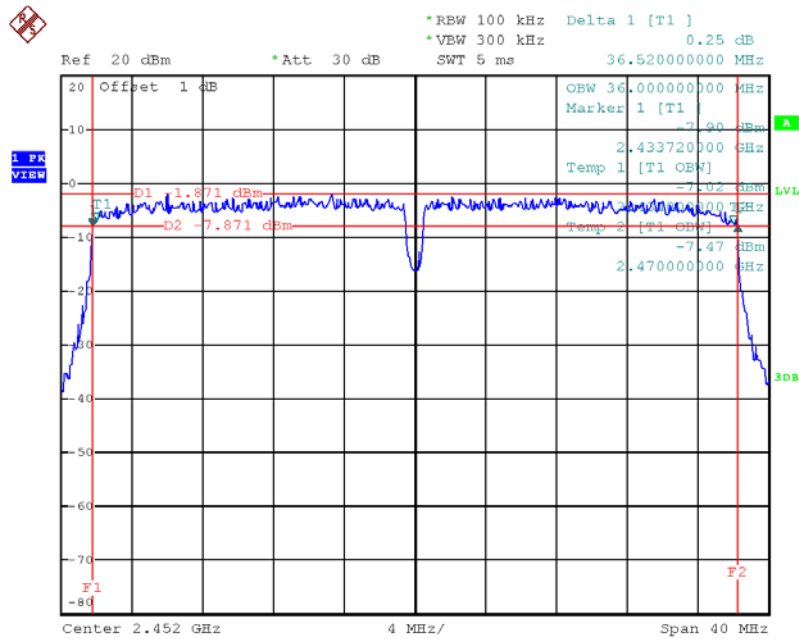
Date: 9.NOV.2017 15:58:51

TX CH06



Date: 9.NOV.2017 16:00:03

TX CH09



Date: 9.NOV.2017 16:01:33

APPENDIX 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	16.71	0.05	30.00	1.00	Complies
2437	17.21	0.05	30.00	1.00	Complies
2462	18.32	0.07	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	26.72	0.47	30.00	1.00	Complies
2437	27.23	0.53	30.00	1.00	Complies
2462	25.88	0.39	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11_ANT 1					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	26.23	0.42	30.00	1.00	Complies
2437	26.44	0.44	30.00	1.00	Complies
2462	24.98	0.31	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11_ANT 2					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	25.56	0.36	30.00	1.00	Complies
2437	26.30	0.43	30.00	1.00	Complies
2462	24.66	0.29	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11_Total					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	28.92	0.78	30.00	1.00	Complies
2437	29.38	0.87	30.00	1.00	Complies
2462	27.83	0.61	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09_ANT 1					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	24.50	0.28	30.00	1.00	Complies
2437	26.03	0.40	30.00	1.00	Complies
2452	23.73	0.24	30.00	1.00	Complies

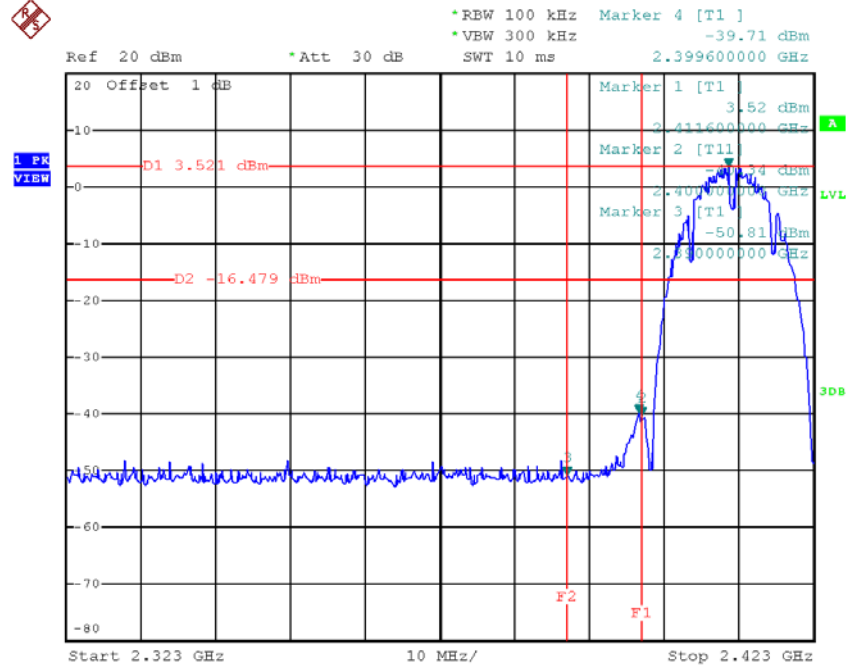
Test Mode :TX N40 Mode_CH03/06/09_ANT 2					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	24.61	0.29	30.00	1.00	Complies
2437	26.18	0.41	30.00	1.00	Complies
2452	24.14	0.26	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09_Total					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	27.57	0.57	30.00	1.00	Complies
2437	29.12	0.82	30.00	1.00	Complies
2452	26.95	0.50	30.00	1.00	Complies

APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION

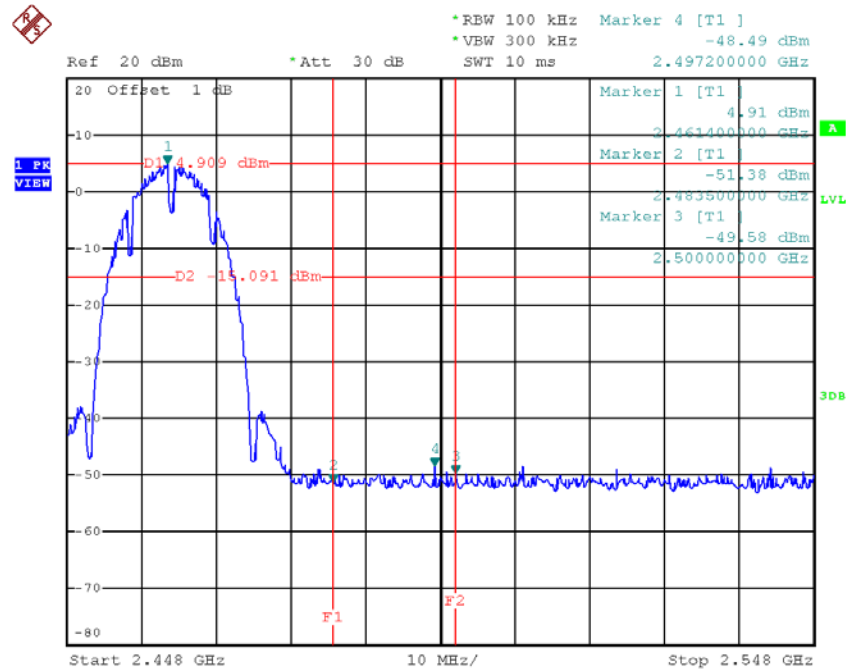
Test Mode : TX B Mode

TX B mode CH01



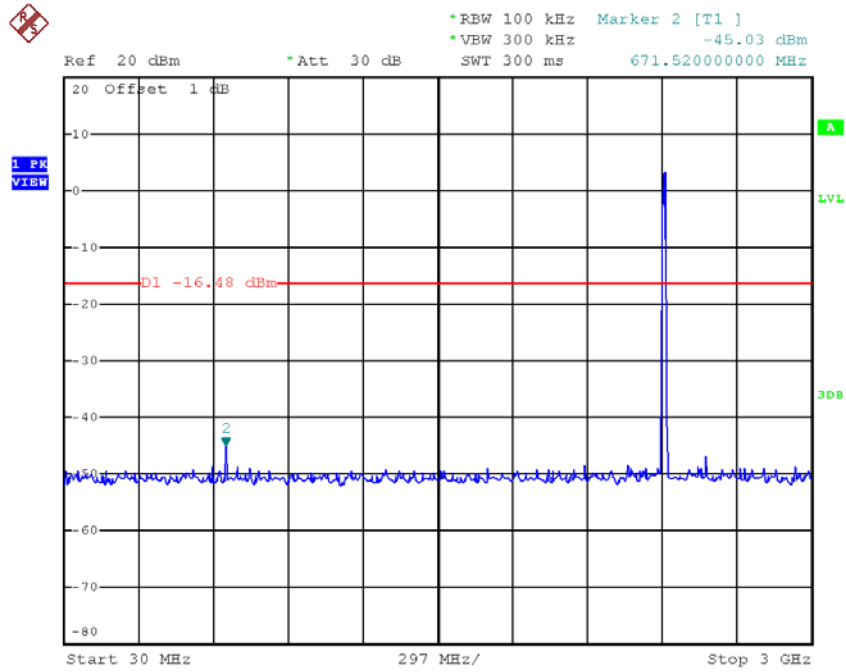
Date: 10.NOV.2017 18:56:40

TX B mode CH11

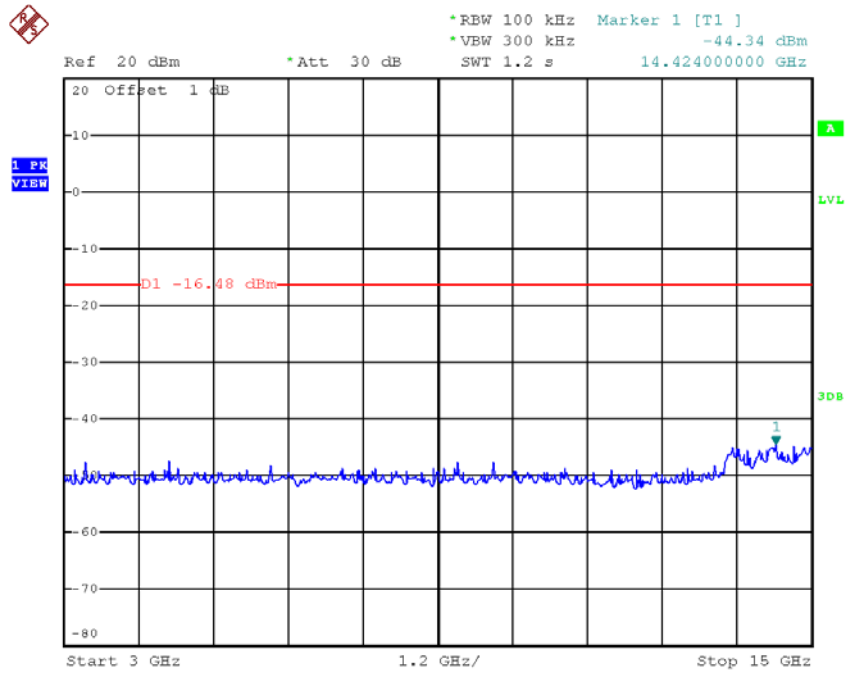


Date: 10.NOV.2017 18:59:34

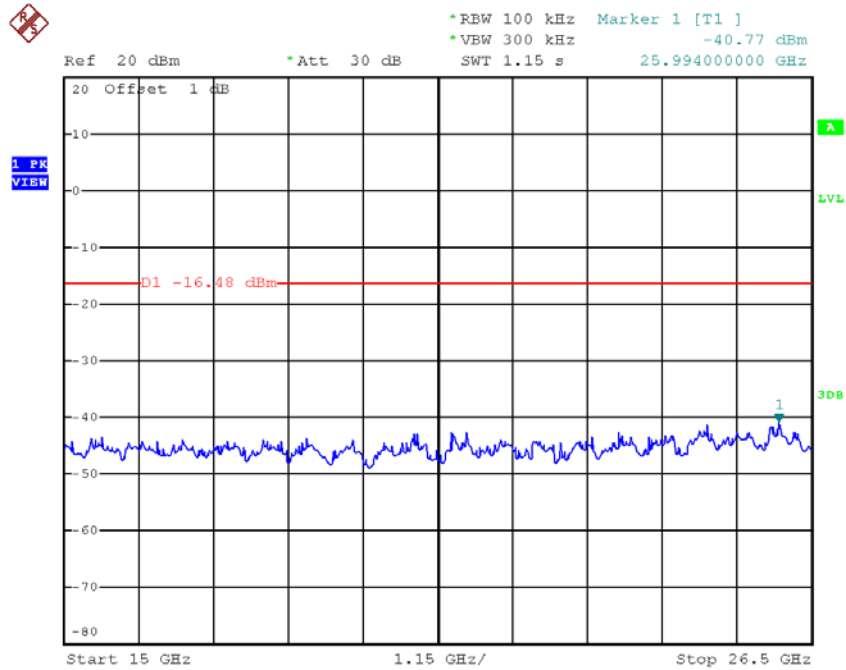
TX B mode CH01 (10 Harmonic of the frequency)



Date: 10.NOV.2017 18:56:53

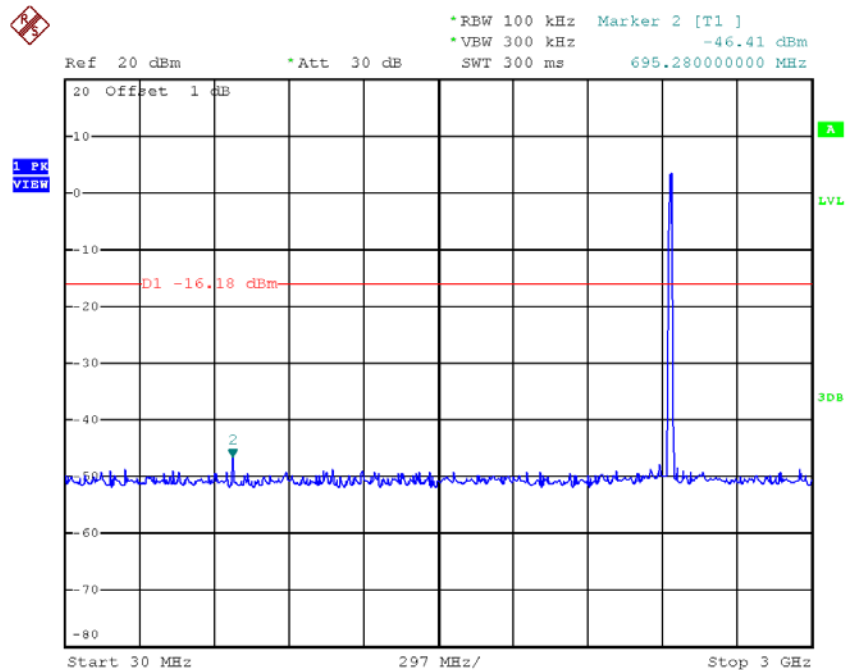


Date: 10.NOV.2017 18:57:00

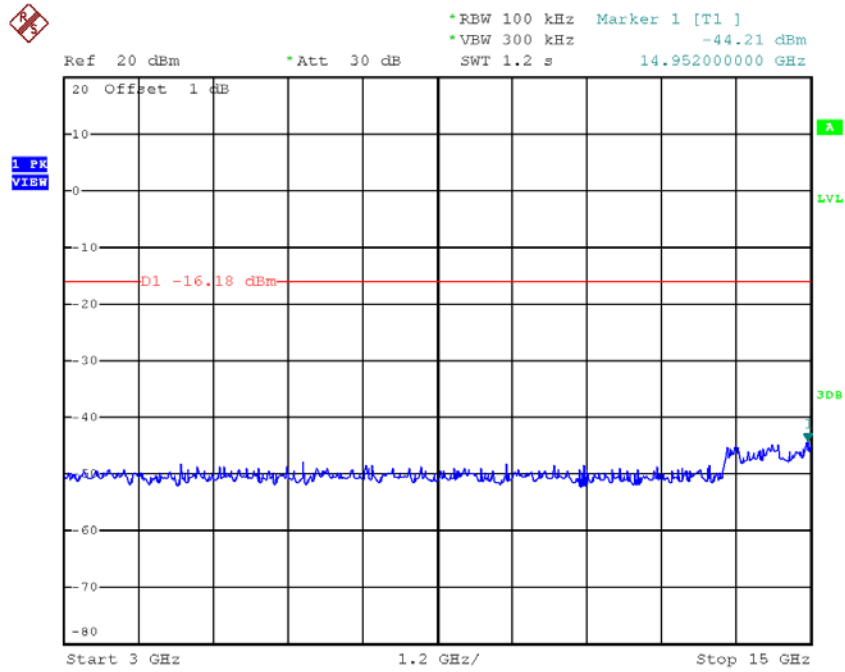


Date: 10.NOV.2017 18:57:07

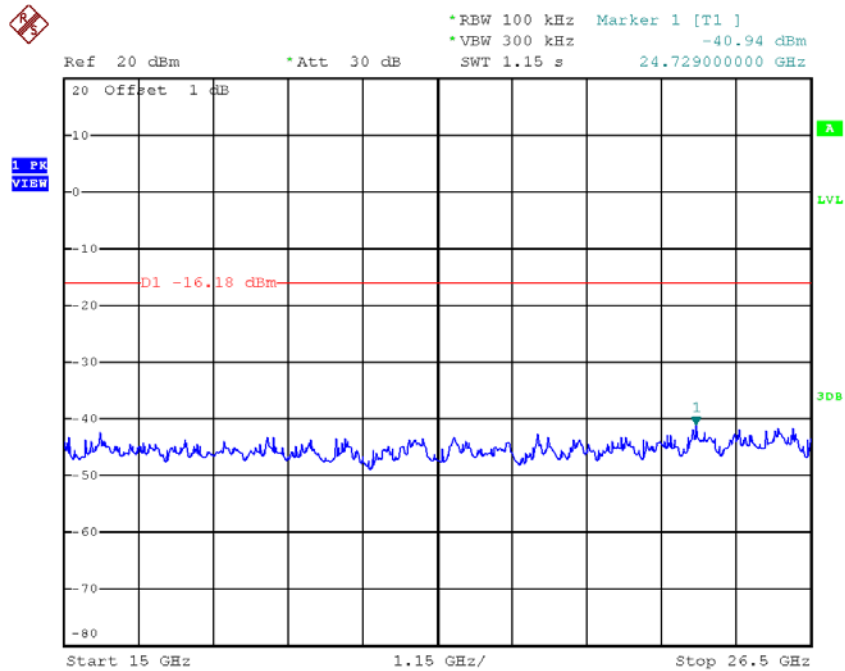
TX B mode CH06 (10 Harmonic of the frequency)



Date: 10.NOV.2017 18:58:23



Date: 10.NOV.2017 18:58:30



Date: 10.NOV.2017 18:58:37