

FCC Radio Test Report

FCC ID: 2ALQW-INTELLIPLUG

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

Project No. : 1704C010
Equipment : Smart plug
Test Model : intelliPLUG
Series Model : HME080021N, KK-MINI-US
Applicant : Inspiring Corporation Limited
Address : Room 327, Building I, Zhihuigu, Chezhan Avenue,
Lucheng District, Wenzhou, Zhejiang

Date of Receipt : Apr. 10, 2017
Date of Test : Apr. 10, 2017 ~ Apr. 19, 2017
Issued Date : Apr. 20, 2017
Tested by : BTL Inc.

Testing Engineer : Rush Kao
(Rush Kao)

Technical Manager : Jeff Yang
(Jeff Yang)

Authorized Signatory : Andy Chiu
(Andy Chiu)

B T L I N C .

B1, No.37, Lane 365, Yang Guang St.,
Nei-Hu District, Taipei City 114, Taiwan.
TEL:+886-2-2657-3299 FAX: +886-2-2657-3331

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

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

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
1 . CERTIFICATION	6
2 . SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3 . GENERAL INFORMATION	10
3.1 GENERAL DESCRIPTION OF EUT	10
3.2 DESCRIPTION OF TEST MODES	11
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	13
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	14
3.5 DESCRIPTION OF SUPPORT UNITS	14
4 . EMC EMISSION TEST	15
4.1 CONDUCTED EMISSION MEASUREMENT	15
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	15
4.1.2 TEST PROCEDURE	15
4.1.3 DEVIATION FROM TEST STANDARD	15
4.1.4 TEST SETUP	16
4.1.5 EUT OPERATING CONDITIONS	16
4.1.6 EUT TEST CONDITIONS	16
4.1.7 TEST RESULTS	16
4.2 RADIATED EMISSION MEASUREMENT	17
4.2.1 RADIATED EMISSION LIMITS	17
4.2.2 TEST PROCEDURE	18
4.2.3 DEVIATION FROM TEST STANDARD	18
4.2.4 TEST SETUP	19
4.2.5 EUT OPERATING CONDITIONS	20
4.2.6 EUT TEST CONDITIONS	20
4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	20
4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)	20
4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	20
5 . BANDWIDTH TEST	21
5.1 APPLIED PROCEDURES	21
5.1.1 TEST PROCEDURE	21
5.1.2 DEVIATION FROM STANDARD	21
5.1.3 TEST SETUP	21
5.1.4 EUT OPERATION CONDITIONS	21
5.1.5 EUT TEST CONDITIONS	21
5.1.6 TEST RESULTS	21
6 . MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST	22

Table of Contents	Page
6.1 APPLIED PROCEDURES / LIMIT	22
6.1.1 TEST PROCEDURE	22
6.1.2 DEVIATION FROM STANDARD	22
6.1.3 TEST SETUP	22
6.1.4 EUT OPERATION CONDITIONS	22
6.1.5 EUT TEST CONDITIONS	22
6.1.6 TEST RESULTS	22
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	23
7.1 APPLIED PROCEDURES / LIMIT	23
7.1.1 TEST PROCEDURE	23
7.1.2 DEVIATION FROM STANDARD	23
7.1.3 TEST SETUP	23
7.1.4 EUT OPERATION CONDITIONS	23
7.1.5 EUT TEST CONDITIONS	23
7.1.6 TEST RESULTS	23
8 . POWER SPECTRAL DENSITY TEST	24
8.1 APPLIED PROCEDURES / LIMIT	24
8.1.1 TEST PROCEDURE	24
8.1.2 DEVIATION FROM STANDARD	24
8.1.3 TEST SETUP	24
8.1.4 EUT OPERATION CONDITIONS	24
8.1.5 EUT TEST CONDITIONS	24
8.1.6 TEST RESULTS	24
9 . MEASUREMENT INSTRUMENTS LIST	25
10 . EUT TEST PHOTO	27
ATTACHMENT A - CONDUCTED EMISSION	31
ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)	34
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)	39
ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)	46
ATTACHMENT E - BANDWIDTH	83
ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER	90
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION	92
ATTACHMENT H - POWER SPECTRAL DENSITY	111

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1704C010	Original Issue.	Apr. 20, 2017

1. CERTIFICATION

Equipment : Smart plug
Brand Name : CNCT, hOme
Test Model : intelliPLUG
Series Model : HME080021N, KK-MINI-US
Applicant : Inspiring Corporation Limited
Manufacturer : Hangzhou Konke Information Technology Co.,Ltd.
Address : Room 2201, Huafeng international mansion,Jianggan District, Hangzhou
Factory : Shinwa Industries(Hangzhou) LTD
Address : Block B,Eastern Factory No.5,No.19 Road,Hangzhou Economic & Technological
Date of Test : Apr. 10, 2017 ~ Apr. 19, 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-1-1704C010) 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			
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:

Conducted emission Test:

C05: (VCCI RN: C-4742; FCC RN:965108; FCC DN:TW1082)

No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test (Below 1 GHz):

CB15: (FCC RN:674415; FCC DN:TW0659)

No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test (Above 1 GHz):

CB15: (FCC RN:674415; FCC DN:TW0659)

No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

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 emission test:

Test Site	Method	Measurement Frequency Range	U , (dB)
C05	CISPR	150 kHz~30MHz	3.06

B. Radiated emission test:

Test Site	Method	Measurement Frequency Range	U , (dB)
CB15 (3m)	CISPR	9kHz ~ 150kHz	2.96
		150kHz ~ 30MHz	2.74

Test Site	Method	Measurement Frequency Range	Ant.	U , (dB)
CB15 (3m)	CISPR	30MHz~200MHz	V	4.76
		30MHz~200MHz	H	4.28
		200MHz~ 1,000MHz	V	5.08
		200MHz~ 1,000MHz	H	4.50

Test Site	Method	Measurement Frequency Range	Ant.	U , (dB)
CB15 (3m)	CISPR	1GHz~6GHz	V	4.48
		1GHz~6GHz	H	4.50
		6GHz~18GHz	V	4.30
		6GHz~18GHz	H	4.14

Test Site	Method	Measurement Frequency Range	U , (dB)
CB15 (1m)	CISPR	18~26.5 GHz	4.72
		26.5~40 GHz	5.20

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR} , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR} .

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Smart plug	
Brand Name	CNCT, hOme	
Test Model	intelliPLUG	
Series Model	HME080021N, KK-MINI-US	
Model Difference	Only differ in the 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 150 Mbps
	Output Power (Max.)	802.11b: 10.28dBm 802.11g: 21.74dBm 802.11n(20MHz): 17.65dBm
Power Source	AC Mains.	
Power Rating	AC 110-240V~50/60Hz, 1800W	

Note:

- 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)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PCB	N/A	3

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_CH01/06/11
Mode 2	TX G MODE_CH01/06/11
Mode 3	TX N-20MHZ MODE_CH01/06/11
Mode 4	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 4	Normal Link

For Radiated Test	
Final Test Mode	Description
Mode 1	TX B MODE_CH01/06/11
Mode 2	TX G MODE_CH01/06/11
Mode 3	TX N-20MHZ MODE_CH01/06/11

For Band Edge Test	
Final Test Mode	Description
Mode 1	TX B MODE_CH01/06/11
Mode 2	TX G MODE_CH01/06/11
Mode 3	TX N-20MHZ MODE_CH01/06/11

6dB Spectrum Bandwidth	
Final Test Mode	Description
Mode 1	TX B MODE_CH01/06/11
Mode 2	TX G MODE_CH01/06/11
Mode 3	TX N-20MHZ MODE_CH01/06/11

Maximum Conducted Output Power	
Final Test Mode	Description
Mode 1	TX B MODE_CH01/06/11
Mode 2	TX G MODE_CH01/06/11
Mode 3	TX N-20MHZ MODE_CH01/06/11

Power Spectral Density	
Final Test Mode	Description
Mode 1	TX B MODE_CH01/06/11
Mode 2	TX G MODE_CH01/06/11
Mode 3	TX N-20MHZ MODE_CH01/06/11

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)
 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	NA		
Frequency (MHz)	2412	2437	2462
802.11b	28	32	36
802.11g	0	0	0
802.11n (20MHz)	0	0	0

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 DESCRIPTION OF SUPPORT UNITS

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

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

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Note:

- (1) For detachable type I/O cable should be specified the length in m in 『Length』 column.

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

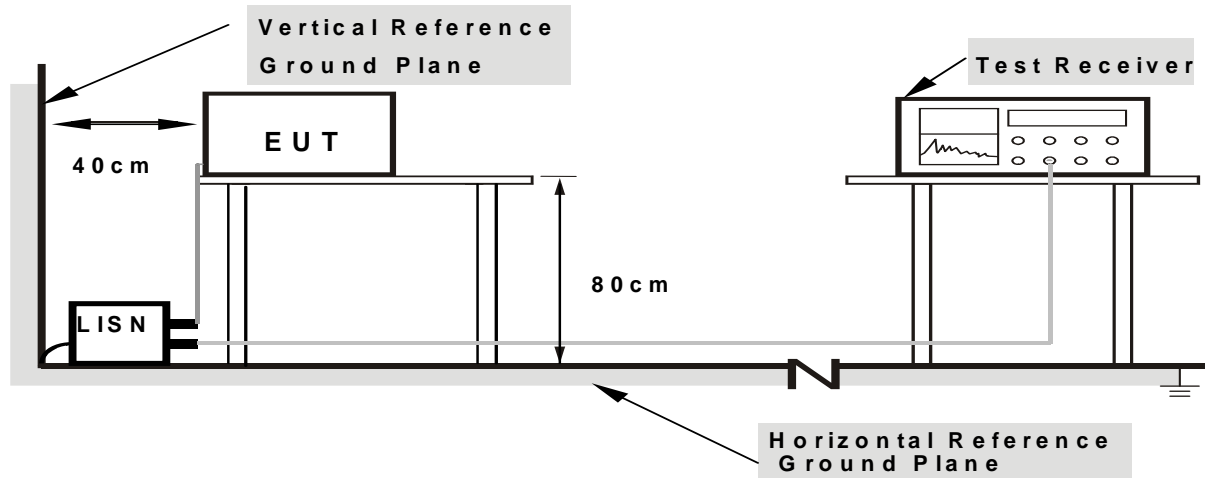
4.1.2 TEST PROCEDURE

- 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 cm 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

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

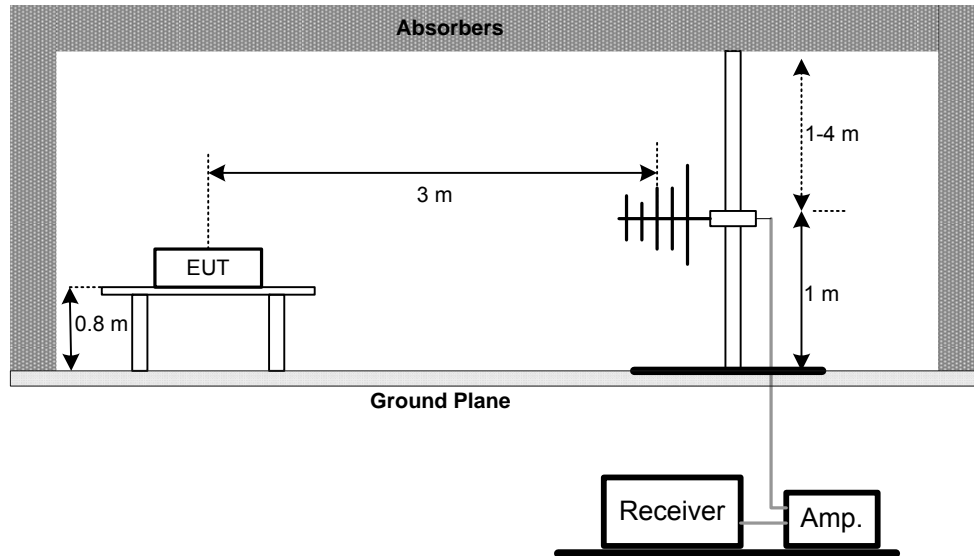
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of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

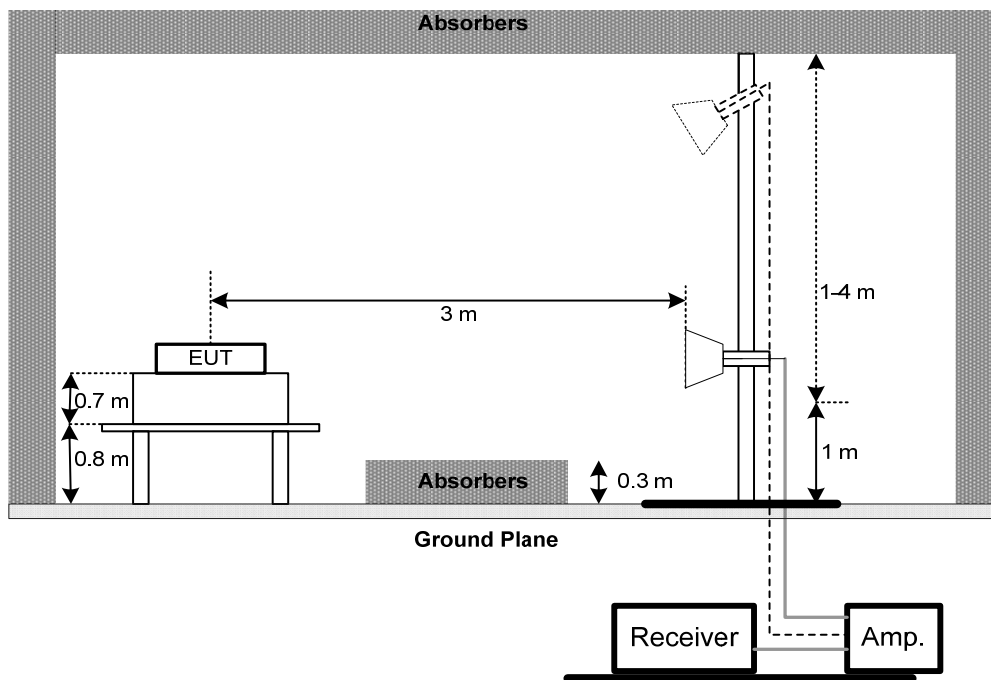
No deviation

4.2.4 TEST SETUP

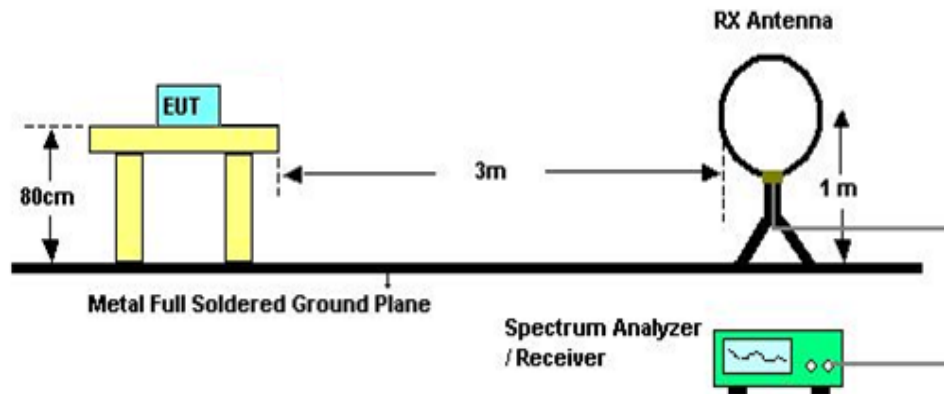
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(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 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 = $40 \log (\text{specific distance} / \text{test distance})$ (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 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 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

- 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.

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 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.

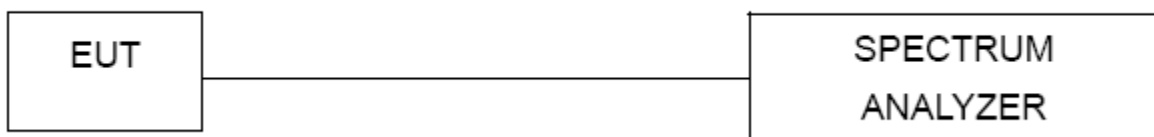
7.1.1 TEST PROCEDURE

- 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 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

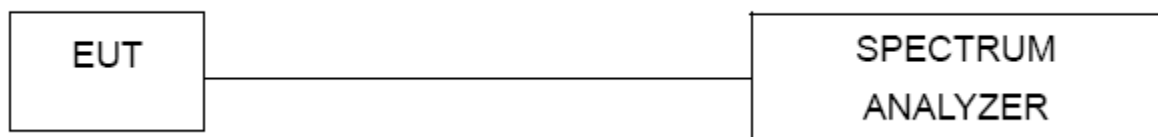
8.1.1 TEST PROCEDURE

- 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 Attachment H.

9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Jan. 25, 2018
2	Test Cable	TIMES	CFD300-NL	C02	Jun. 15, 2017
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 09, 2017
4	Measurement Software	EZ	EZ EMC (Version NB-03A)	N/A	N/A

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	Feb. 28, 2018
2	Preamplifier	EMCI	EMC02325	980217	Dec. 29, 2017
3	Test Cable	EMCI	EMC104-SM-S M-8000	8m	Jan. 04, 2018
4	Test Cable	EMCI	EMC104-SM-S M-800	150207	Jan. 04, 2018
5	Test Cable	EMCI	EEMC104-SM-S M-3000	151205	Jan. 04, 2018
6	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 09, 2018
7	Signal Analyzer	Agilent	N9010A	MY52220990	Feb. 22, 2018
8	Loop Ant	EMCO	6502	42960	Nov. 24, 2017
9	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	Feb. 28, 2018
10	Horn Ant	SCHWARZBECK	BBHA 9170	187	May 12, 2017
11	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	Jan. 16, 2018
12	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0623	Jan. 16, 2018

6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 30	100854	May 26, 2017

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 30	100854	May 26, 2017
2	Power Meter	Anritsu	ML2495A	1128008	Aug. 17, 2017
3	Power sensor	Anritsu	MA2411B	1126001	Aug. 17, 2017

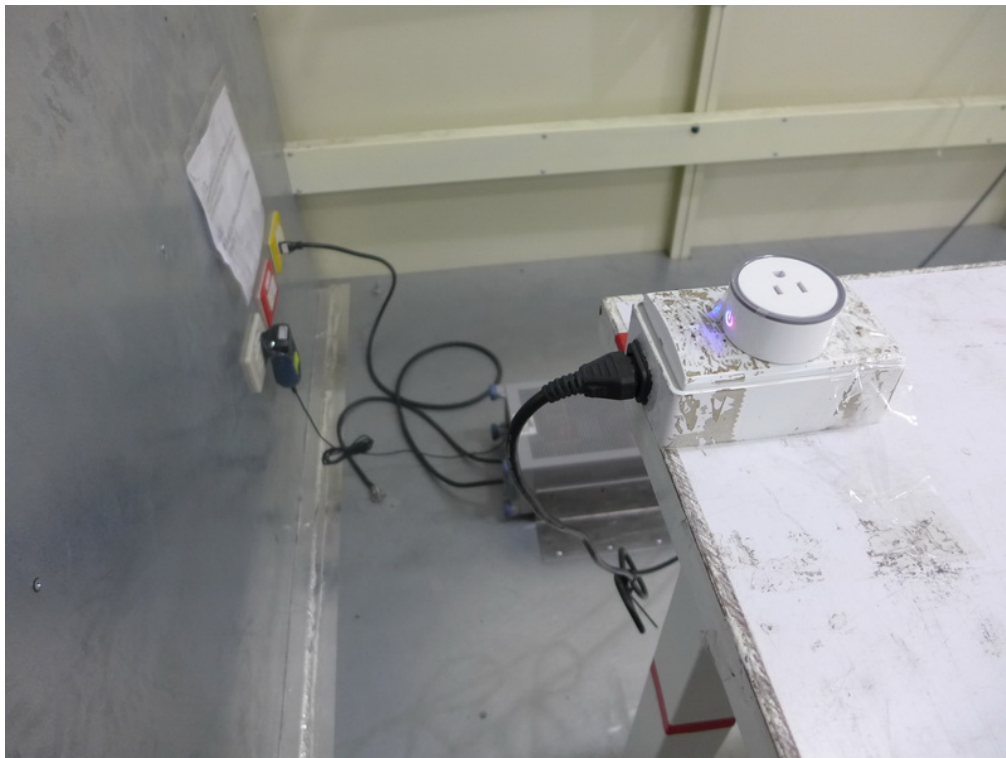
Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 30	100854	May 26, 2017

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 30	100854	May 26, 2017

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

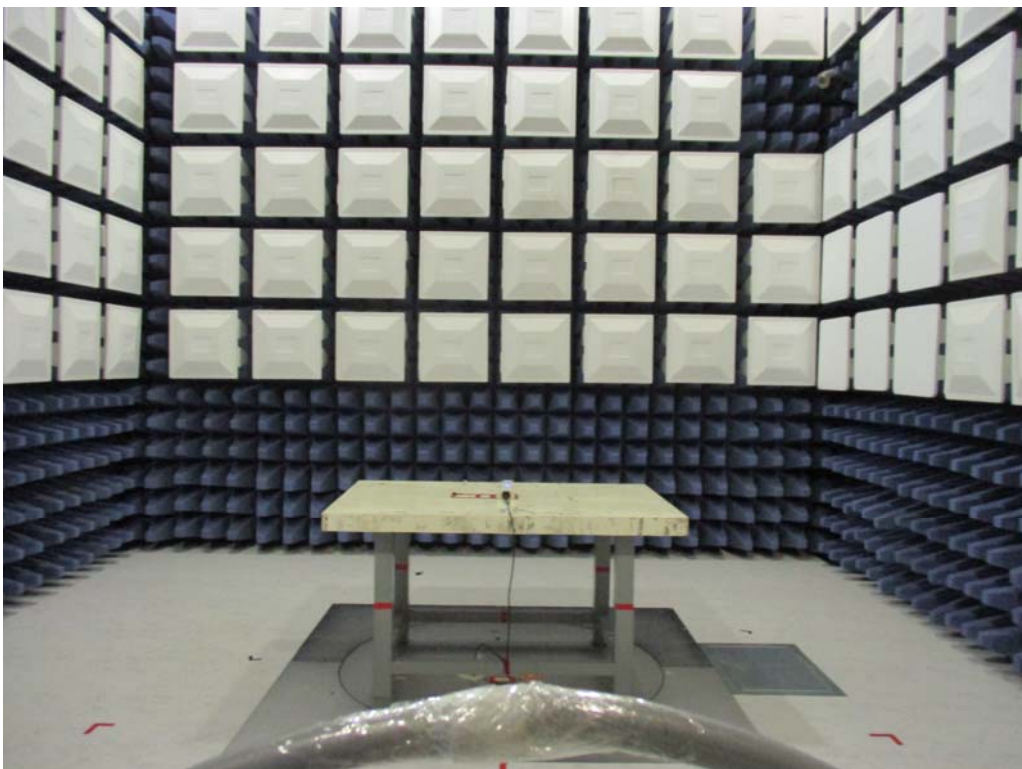
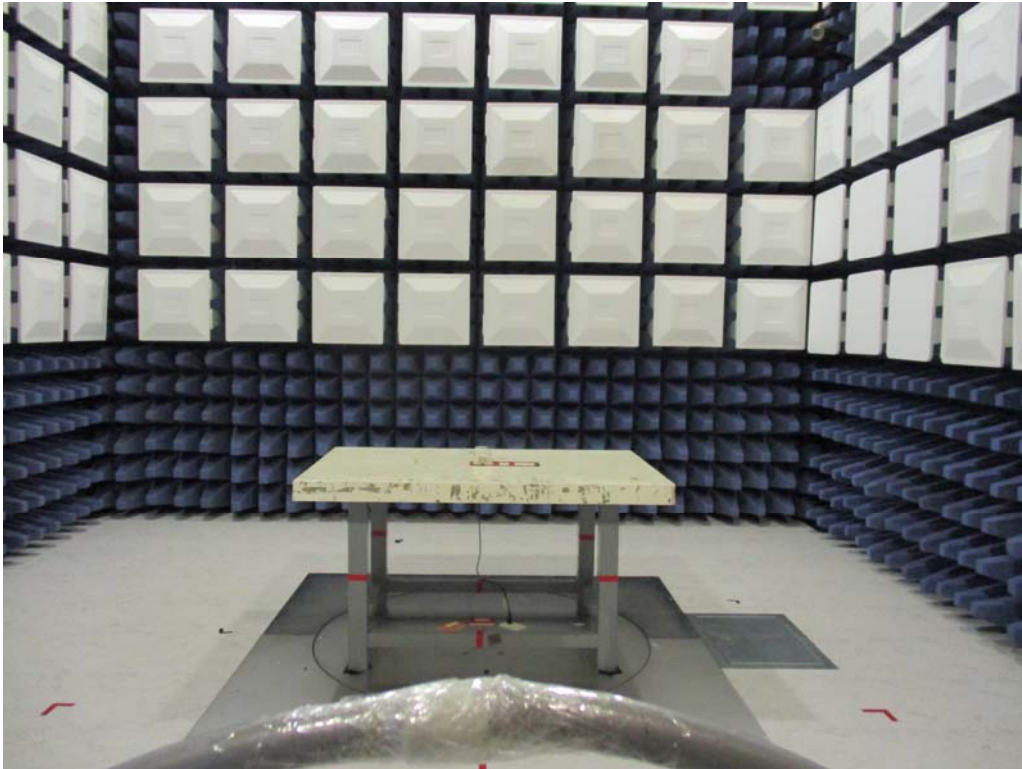
10. EUT TEST PHOTO

Conducted Measurement Photos



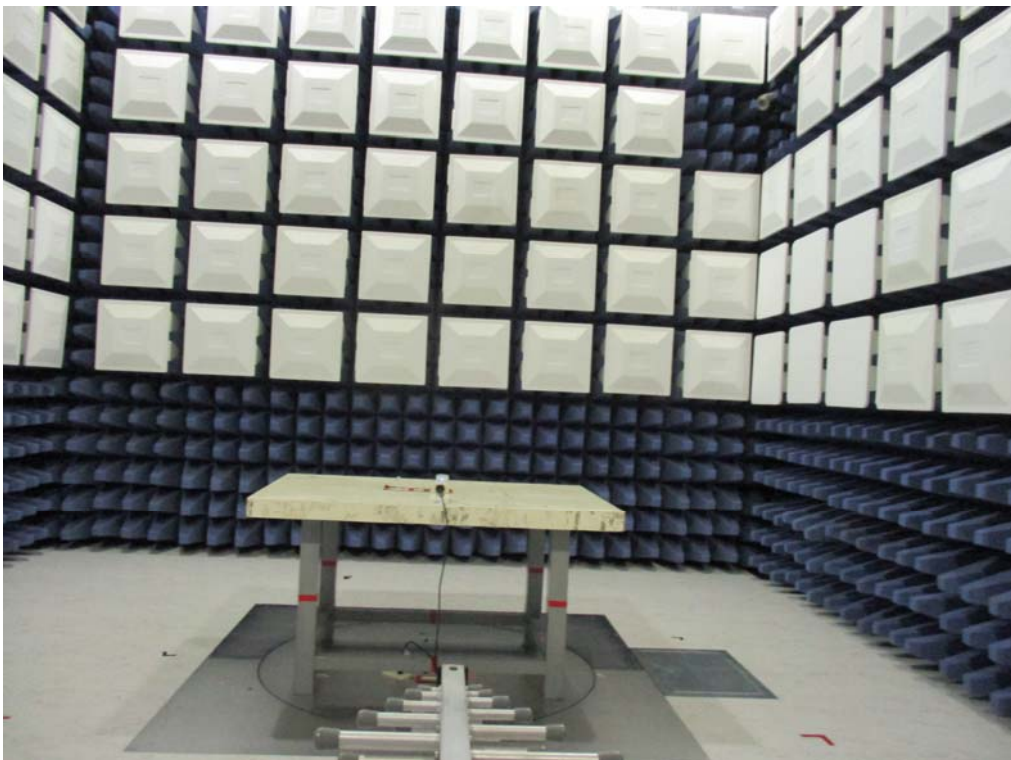
Radiated Measurement Photos

9KHz to 30MHz



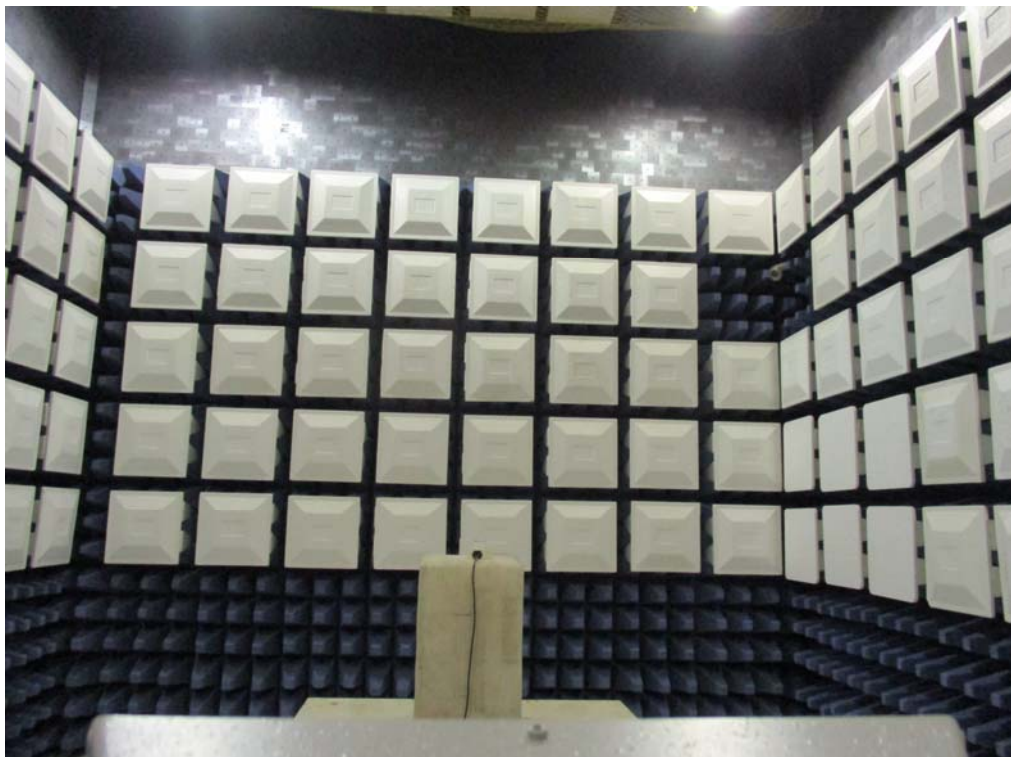
Radiated Measurement Photos

30MHz to 1000MHz



Radiated Measurement Photos

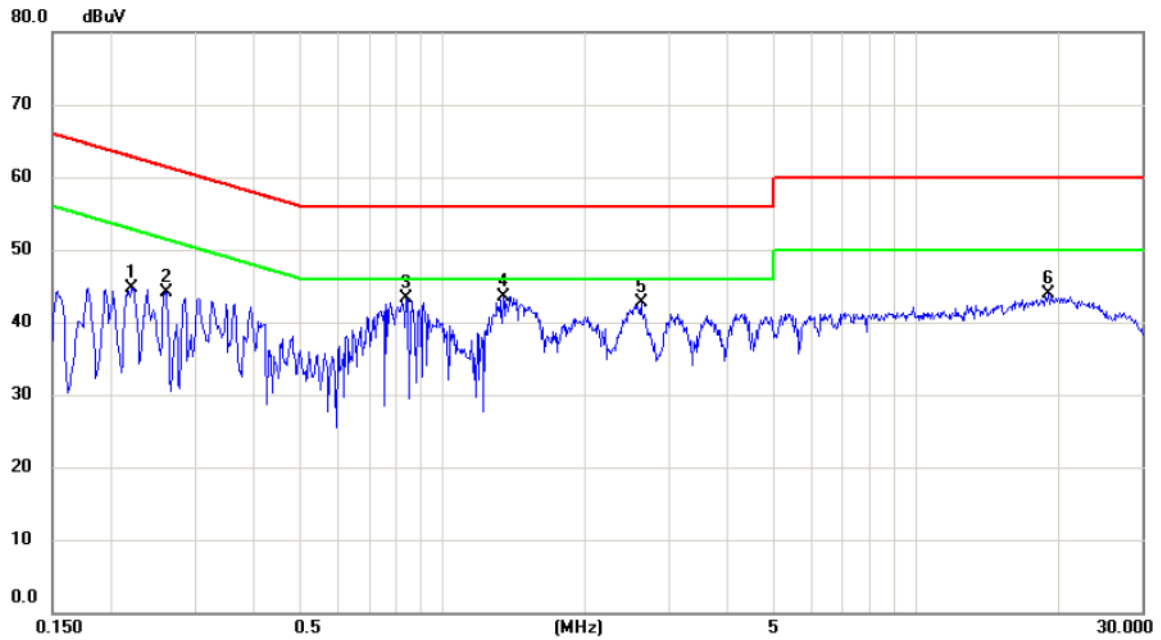
Above 1000MHz



ATTACHMENT A - CONDUCTED EMISSION

Test Mode : Normal Link

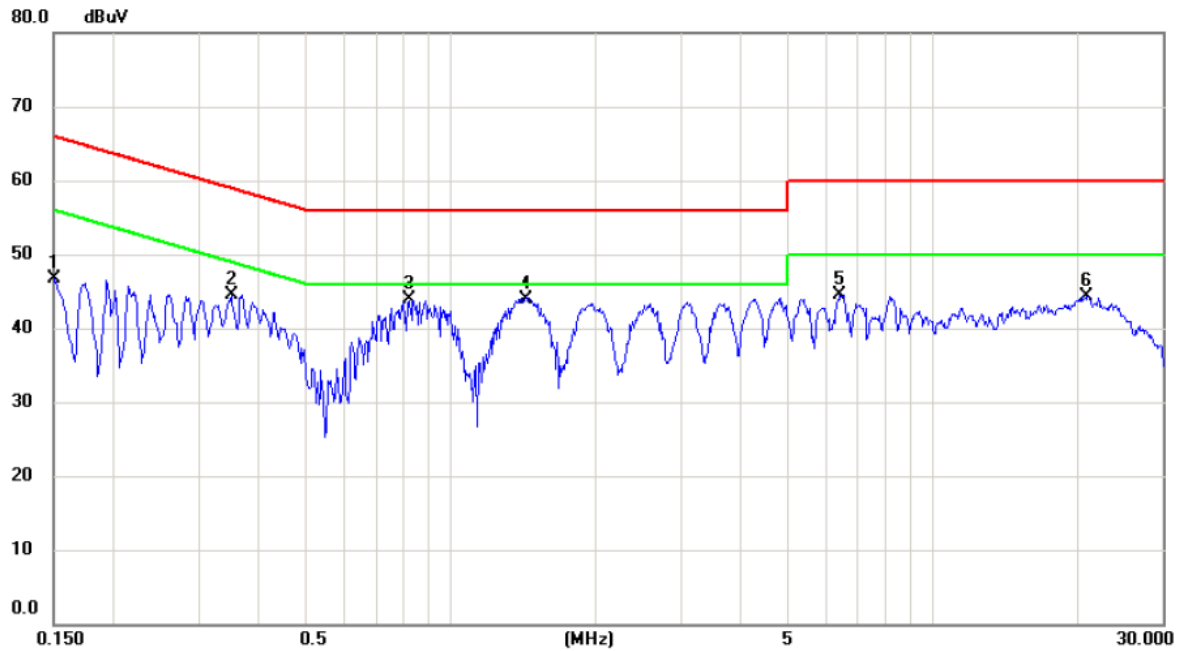
Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2207	35.10	9.68	44.78	62.79	-18.01	peak	
2		0.2615	34.48	9.68	44.16	61.38	-17.22	peak	
3		0.8393	33.60	9.70	43.30	56.00	-12.70	peak	
4	*	1.3450	33.79	9.73	43.52	56.00	-12.48	peak	
5		2.6221	32.86	9.80	42.66	56.00	-13.34	peak	
6		19.0210	33.90	9.91	43.81	60.00	-16.19	peak	

Test Mode : Normal Link

Neutral

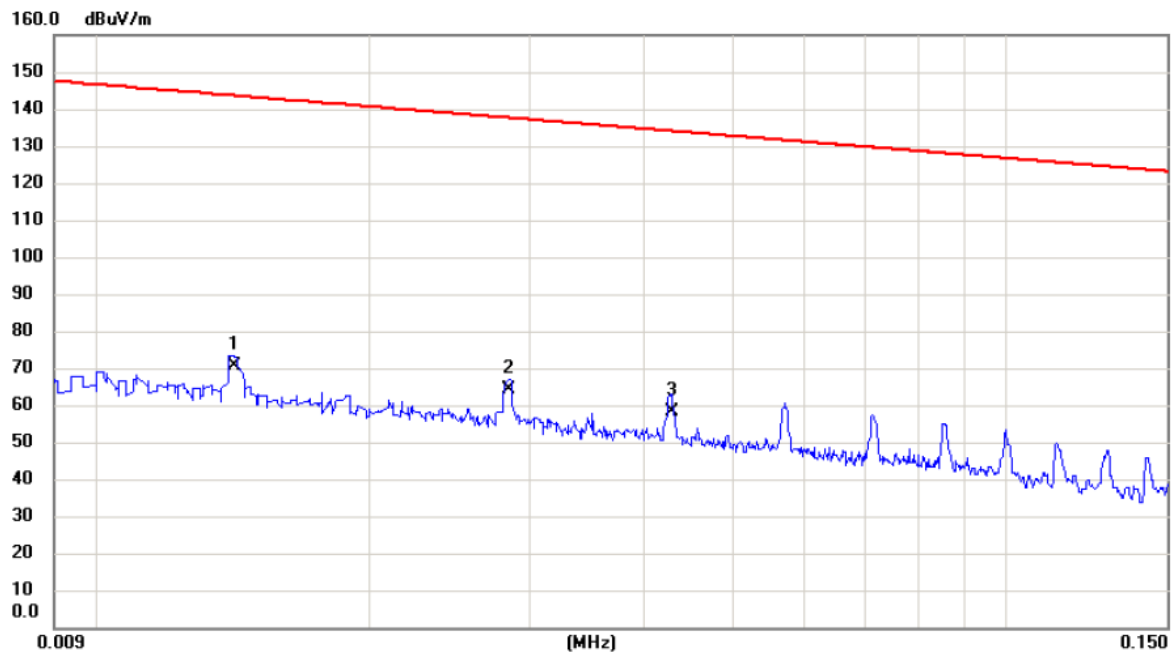


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1500	36.93	9.68	46.61	66.00	-19.39	peak	
2		0.3502	34.90	9.68	44.58	58.96	-14.38	peak	
3	*	0.8174	34.29	9.70	43.99	56.00	-12.01	peak	
4		1.4333	34.21	9.73	43.94	56.00	-12.06	peak	
5		6.4198	34.64	9.92	44.56	60.00	-15.44	peak	
6		20.8137	34.36	9.93	44.29	60.00	-15.71	peak	

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

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

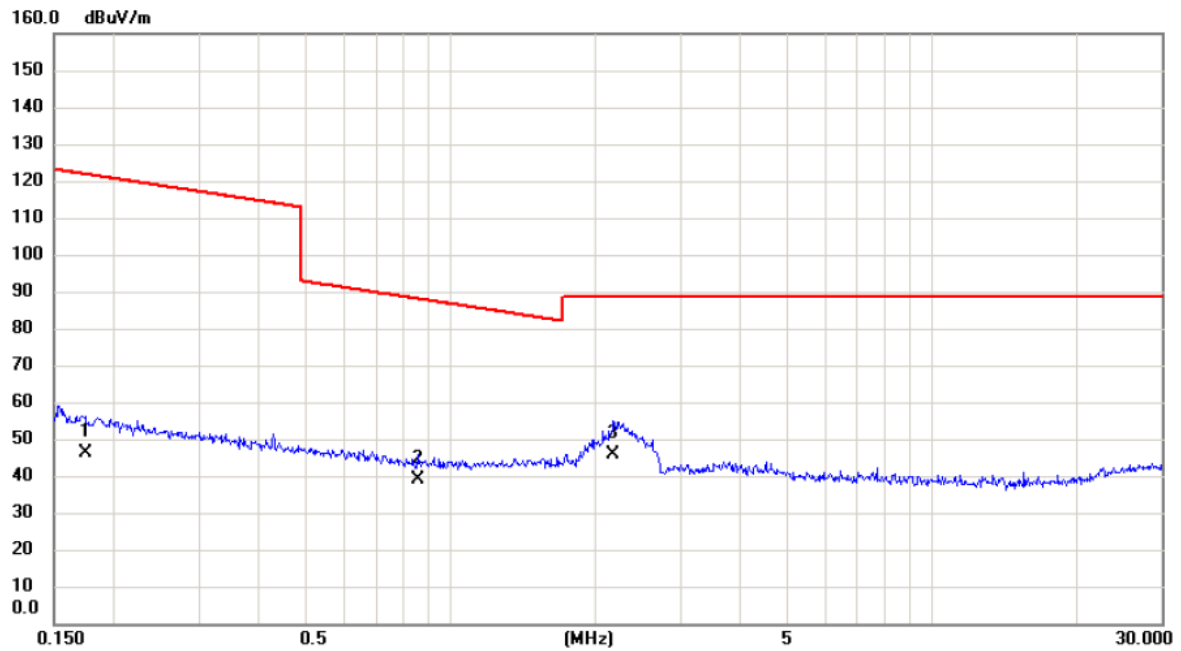
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0142	50.26	20.37	70.63	143.64	-73.01	AVG	
2		0.0284	44.80	19.37	64.17	137.62	-73.45	AVG	
3		0.0430	39.27	18.93	58.20	134.02	-75.82	AVG	

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

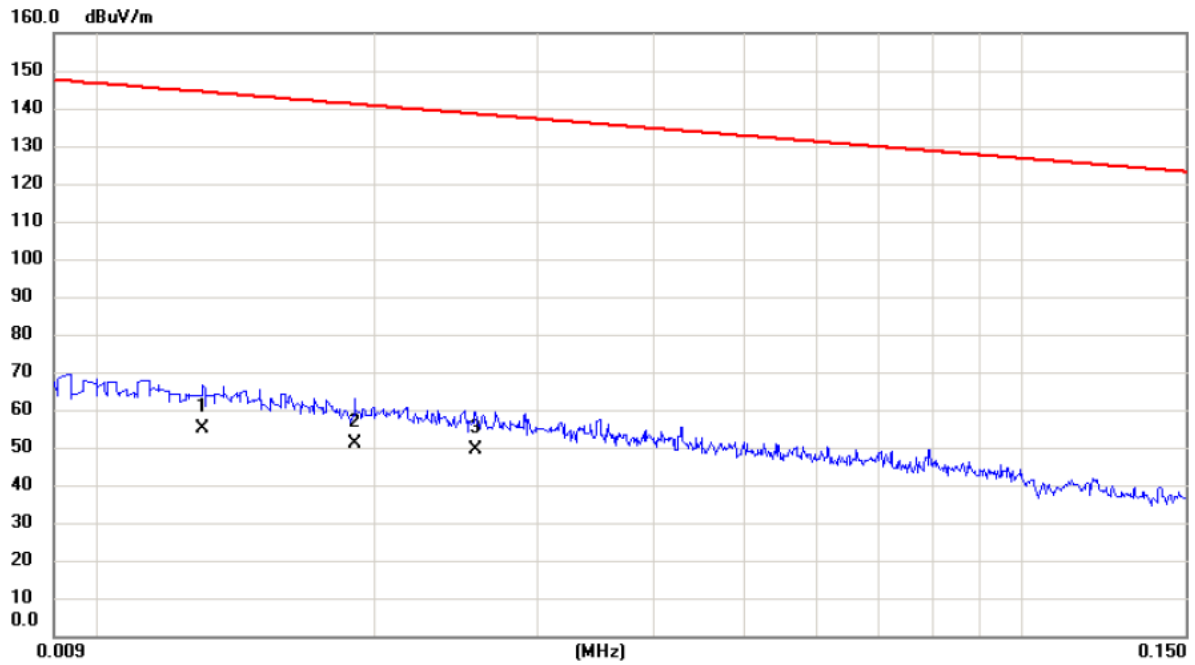
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.1740	29.38	16.87	46.25	121.88	-75.63	AVG	
2		0.8573	22.89	16.05	38.94	88.03	-49.09	QP	
3	*	2.1783	30.49	15.46	45.95	88.63	-42.68	QP	

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

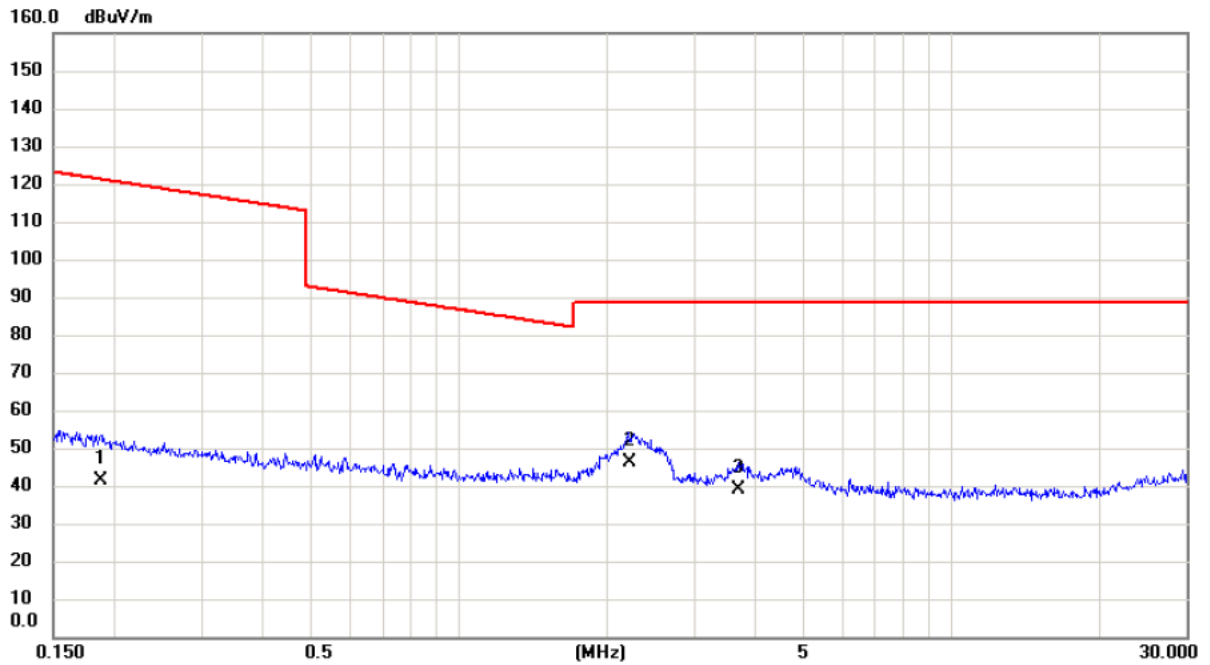
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0130	34.50	20.53	55.03	144.41	-89.38	AVG	
2		0.0190	31.10	19.75	50.85	141.11	-90.26	AVG	
3	*	0.0257	30.11	19.45	49.56	138.49	-88.93	AVG	

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

Ant 90°

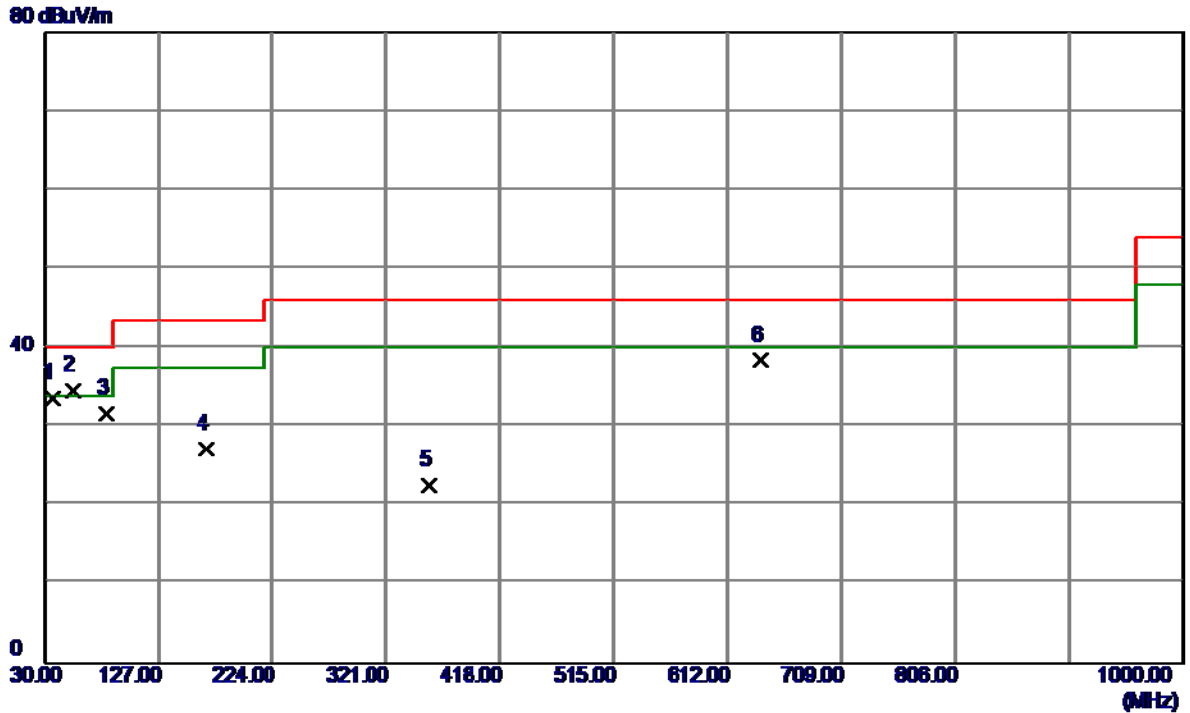


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.1874	24.62	16.83	41.45	121.23	-79.78	AVG	
2	*	2.2132	30.63	15.45	46.08	88.63	-42.55	QP	
3		3.6806	24.07	15.05	39.12	88.63	-49.51	QP	

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

Test Mode: TX B MODE_CH01

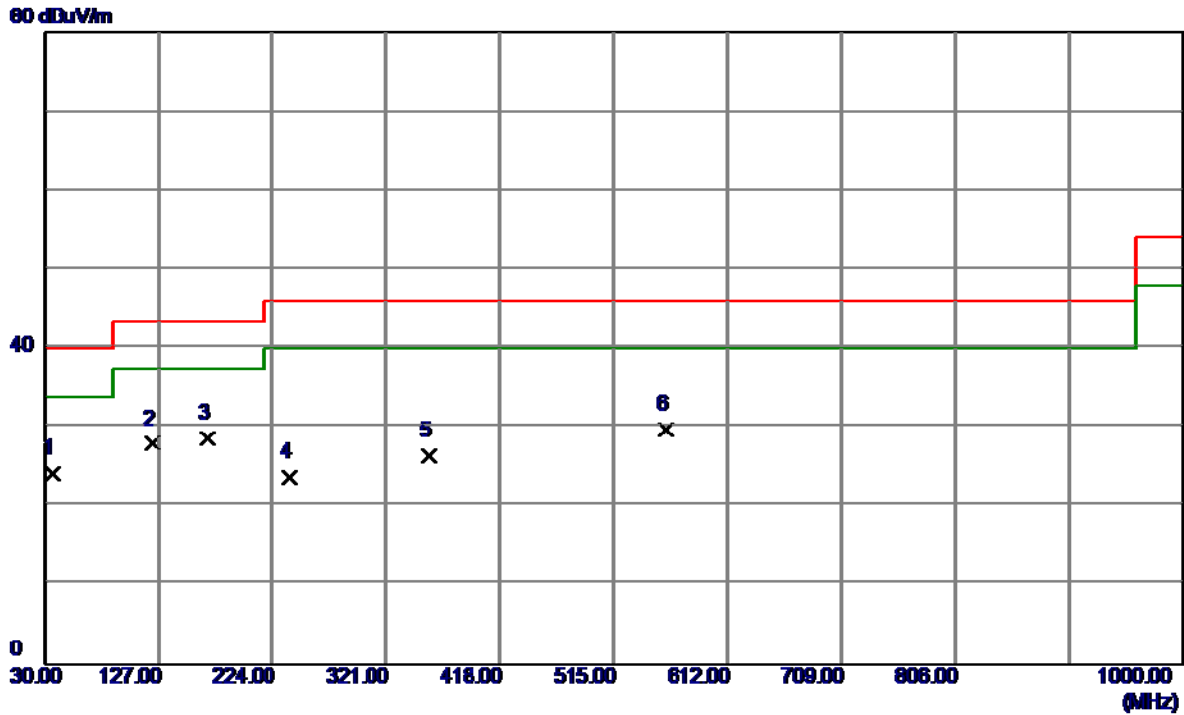
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	36.7900	49.29	-15.65	33.64	40.00	-6.36	QP	
2 *	54.2500	48.27	-13.68	34.59	40.00	-5.41	QP	
3	82.3800	49.69	-17.95	31.74	40.00	-8.26	Peak	
4	167.7400	41.69	-14.51	27.18	43.50	-16.32	Peak	
5	357.8599	33.00	-10.39	22.61	46.00	-23.39	Peak	
6	640.1300	44.01	-5.65	38.36	46.00	-7.64	Peak	

Test Mode: TX B MODE_CH01

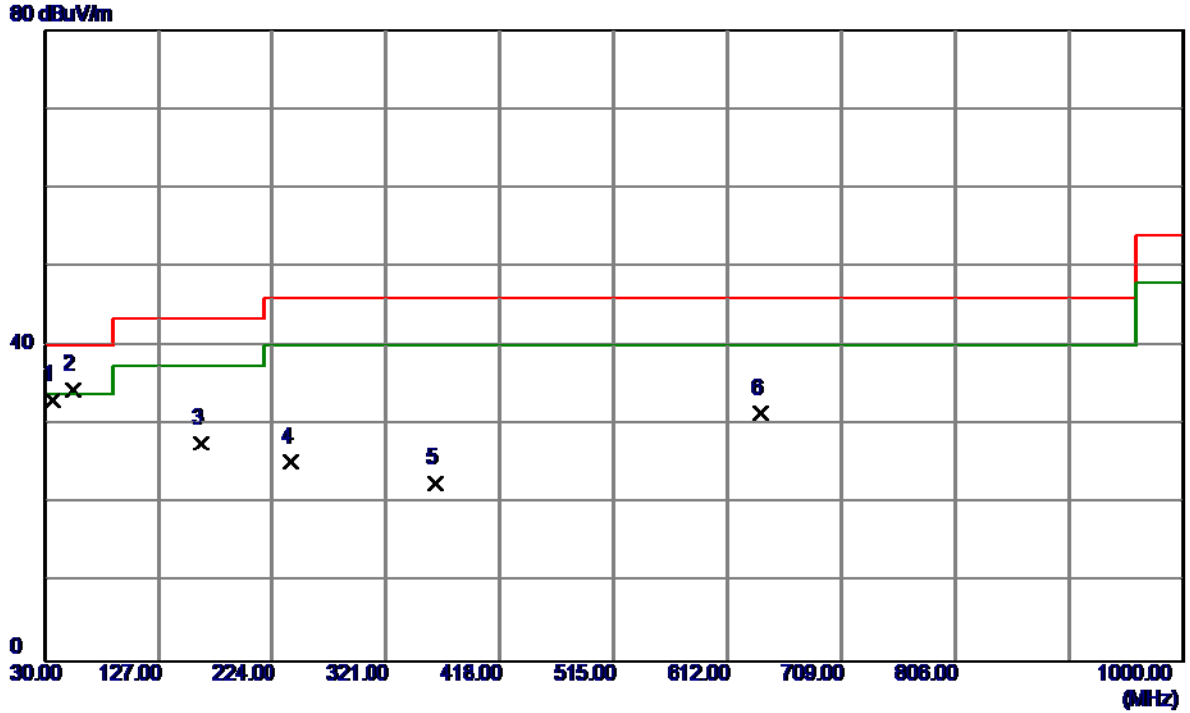
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	36.7900	39.82	-15.65	24.17	40.00	-15.83	Peak	
2	121.1800	42.15	-14.23	27.92	43.50	-15.58	Peak	
3 *	168.7100	43.17	-14.54	28.63	43.50	-14.87	Peak	
4	239.5200	37.16	-13.41	23.75	46.00	-22.25	Peak	
5	357.8599	36.77	-10.39	26.38	46.00	-19.62	Peak	
6	559.6200	37.11	-7.37	29.74	46.00	-16.26	Peak	

Test Mode: TX B MODE_CH06

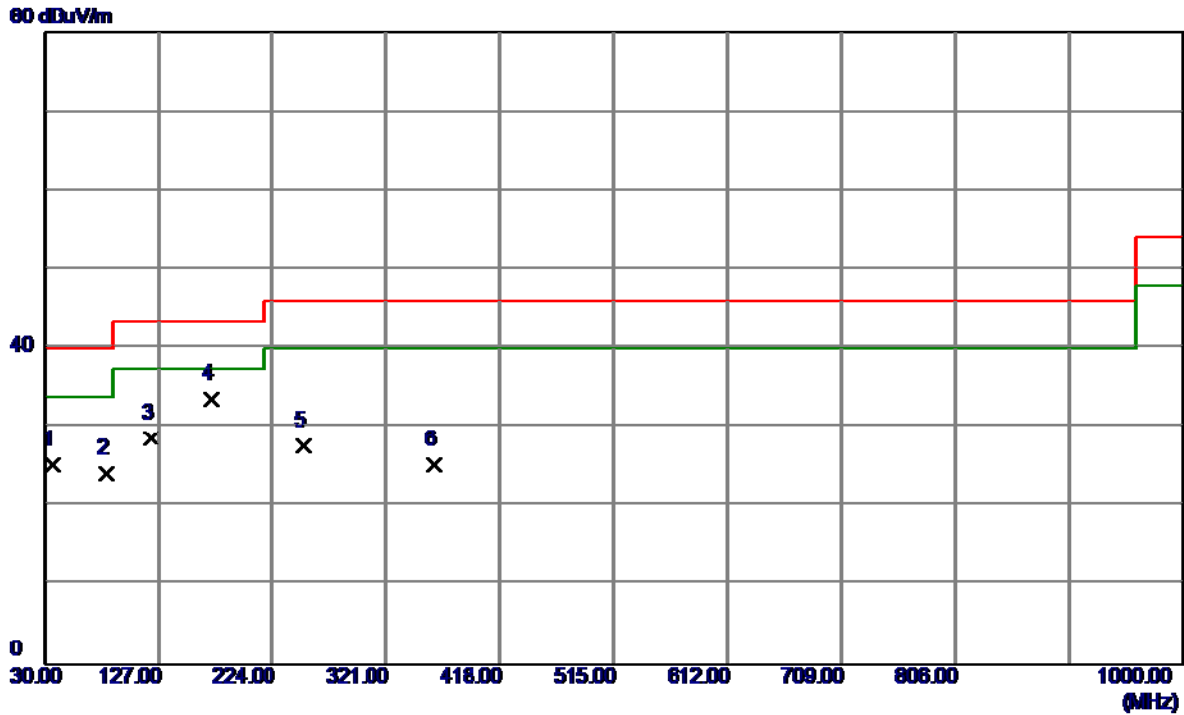
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	36.7900	48.83	-15.65	33.18	40.00	-6.82	QP	
2 *	54.2500	48.11	-13.68	34.43	40.00	-5.57	QP	
3	163.8600	42.16	-14.42	27.74	43.50	-15.76	Peak	
4	240.4900	38.57	-13.36	25.21	46.00	-20.79	Peak	
5	362.7100	32.84	-10.31	22.53	46.00	-23.47	Peak	
6	640.1300	37.09	-5.65	31.44	46.00	-14.56	Peak	

Test Mode: TX B MODE_CH06

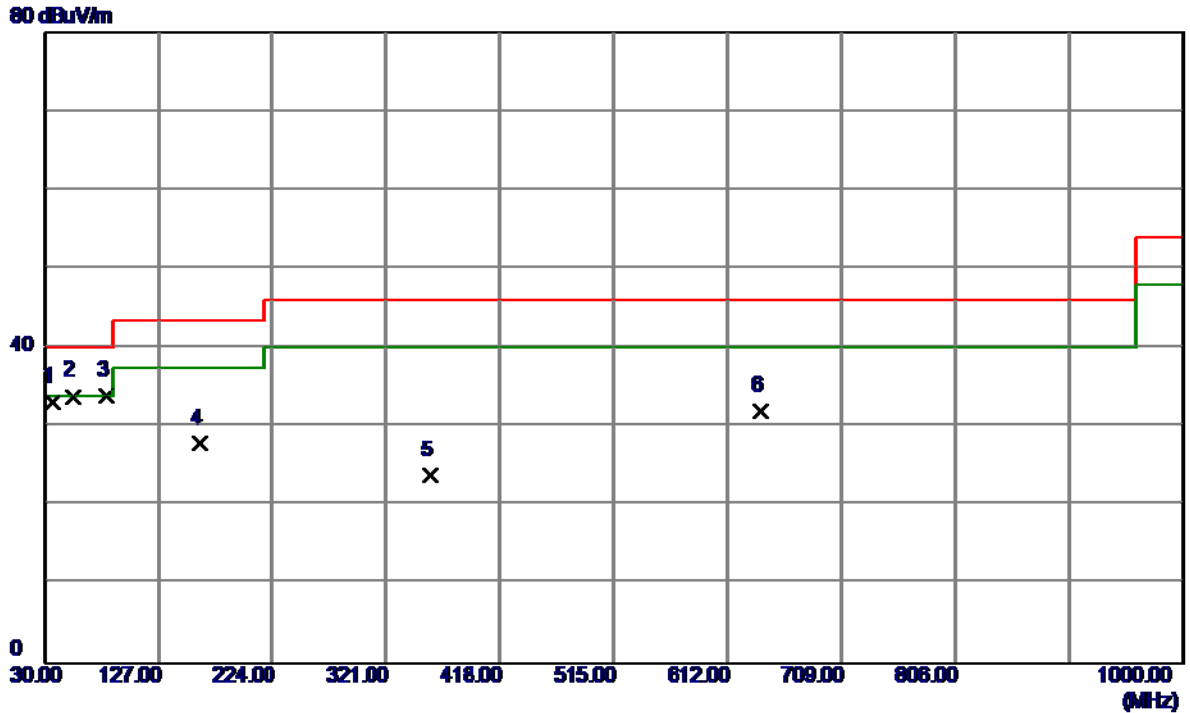
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	36.7900	40.87	-15.65	25.22	40.00	-14.78	Peak	
2	82.3800	42.05	-17.95	24.10	40.00	-15.90	Peak	
3	120.2100	42.83	-14.23	28.60	43.50	-14.90	Peak	
4 *	172.5900	48.27	-14.62	33.65	43.50	-9.85	Peak	
5	251.1600	40.54	-12.89	27.65	46.00	-18.35	Peak	
6	361.7400	35.63	-10.32	25.31	46.00	-20.69	Peak	

Test Mode: TX B MODE_CH11

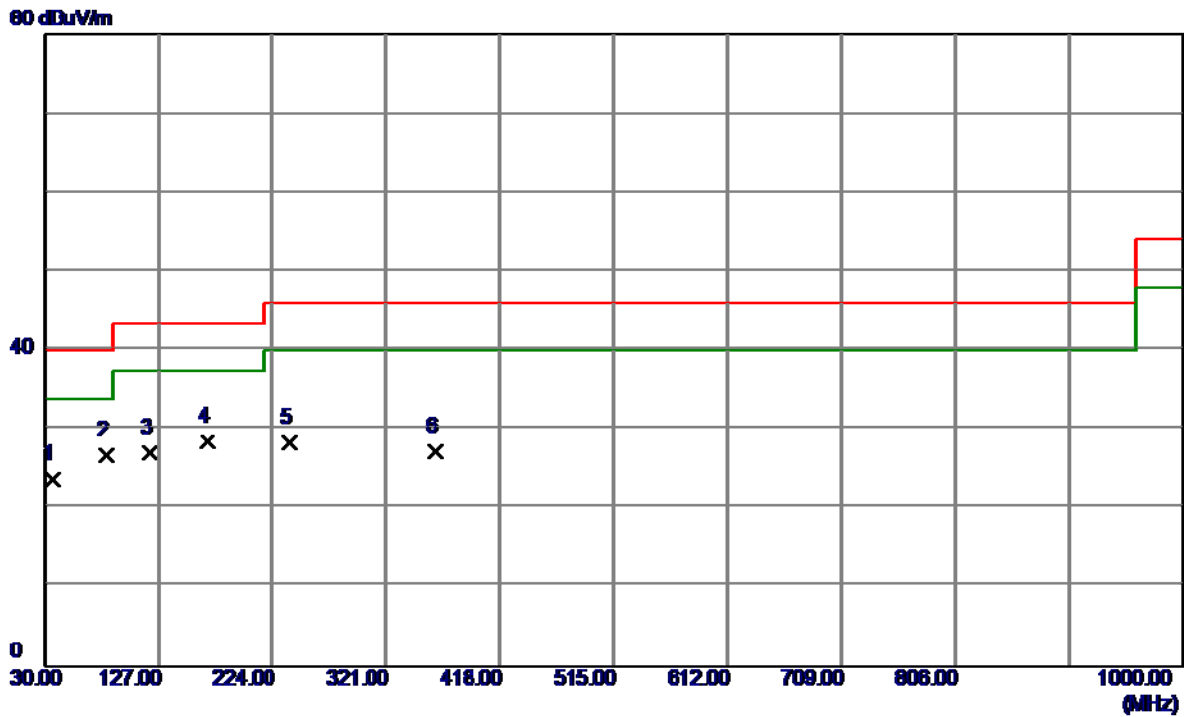
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	36.7900	48.75	-15.65	33.10	40.00	-6.90	QP	
2	54.2500	47.52	-13.68	33.84	40.00	-6.16	QP	
3 *	82.3800	51.86	-17.95	33.91	40.00	-6.09	Peak	
4	162.8900	42.31	-14.39	27.92	43.50	-15.58	Peak	
5	358.8299	34.14	-10.37	23.77	46.00	-22.23	Peak	
6	640.1300	37.58	-5.65	31.93	46.00	-14.07	Peak	

Test Mode: TX B MODE_CH11

Horizontal

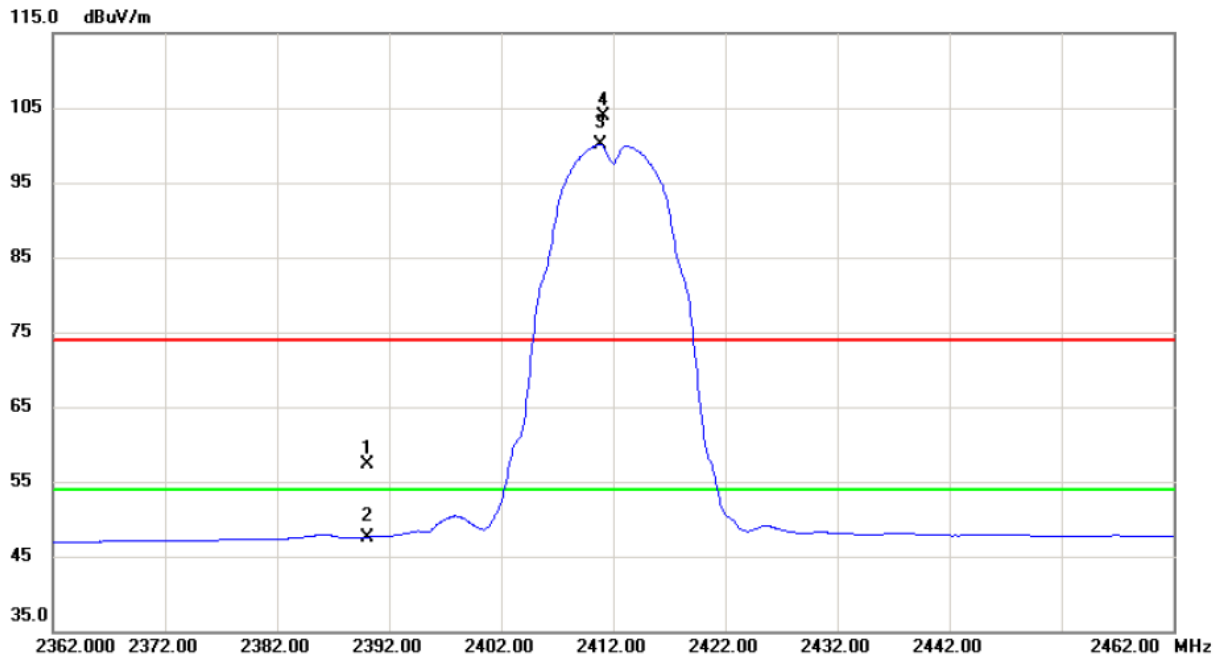


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	36.7900	39.29	-15.65	23.64	40.00	-16.36	Peak	
2 *	82.3800	44.71	-17.95	26.76	40.00	-13.24	Peak	
3	119.2400	41.34	-14.26	27.08	43.50	-16.42	Peak	
4	168.7100	43.07	-14.54	28.53	43.50	-14.97	Peak	
5	239.5200	41.68	-13.41	28.27	46.00	-17.73	Peak	
6	362.7100	37.54	-10.31	27.23	46.00	-18.77	Peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH01

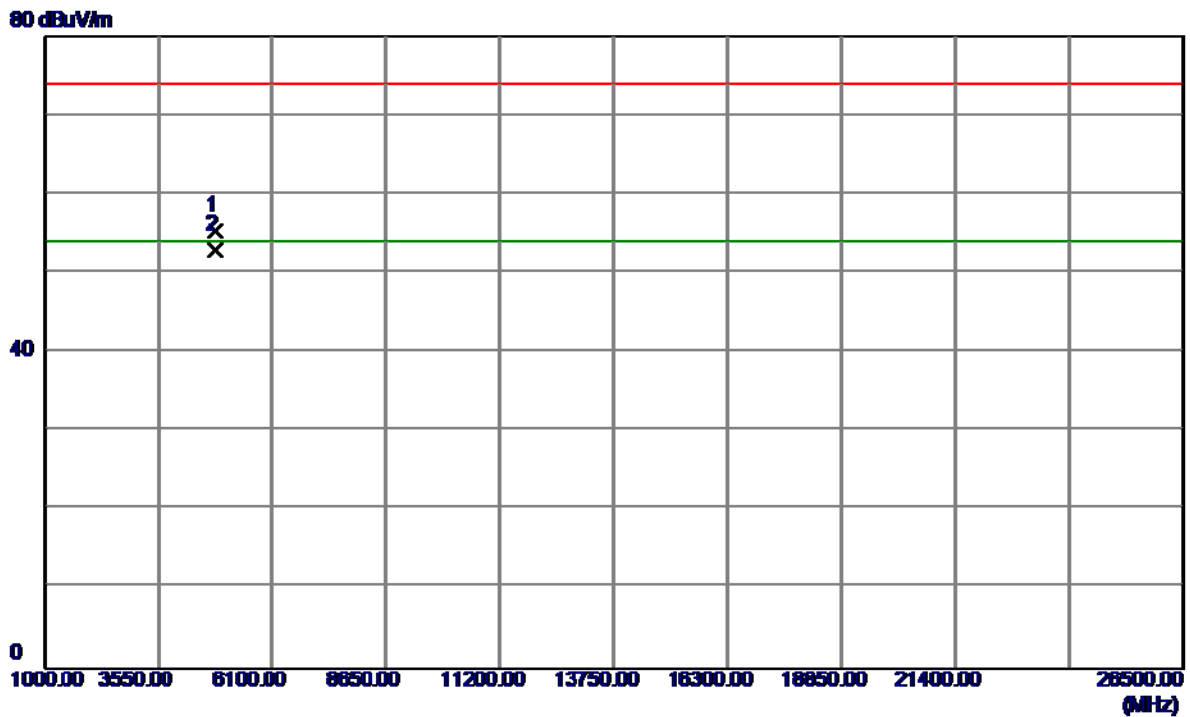
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	23.63	33.75	57.38	74.00	-16.62	peak	
2		2390.000	13.76	33.75	47.51	54.00	-6.49	AVG	
3	*	2410.800	66.25	33.87	100.12	54.00	46.12	AVG	NO LIMIT
4	X	2411.150	70.04	33.87	103.91	74.00	29.91	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH01

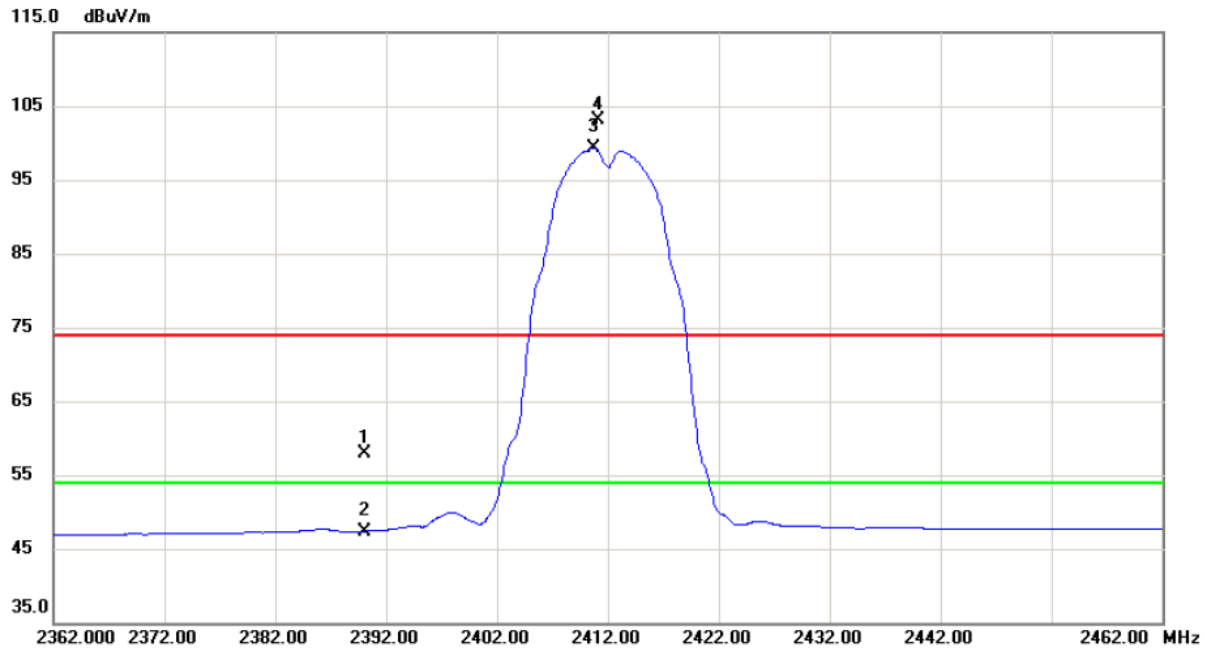
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.9300	51.85	3.45	55.30	74.00	-18.70	Peak	
2 *	4823.9650	49.53	3.45	52.98	54.00	-1.02	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH01

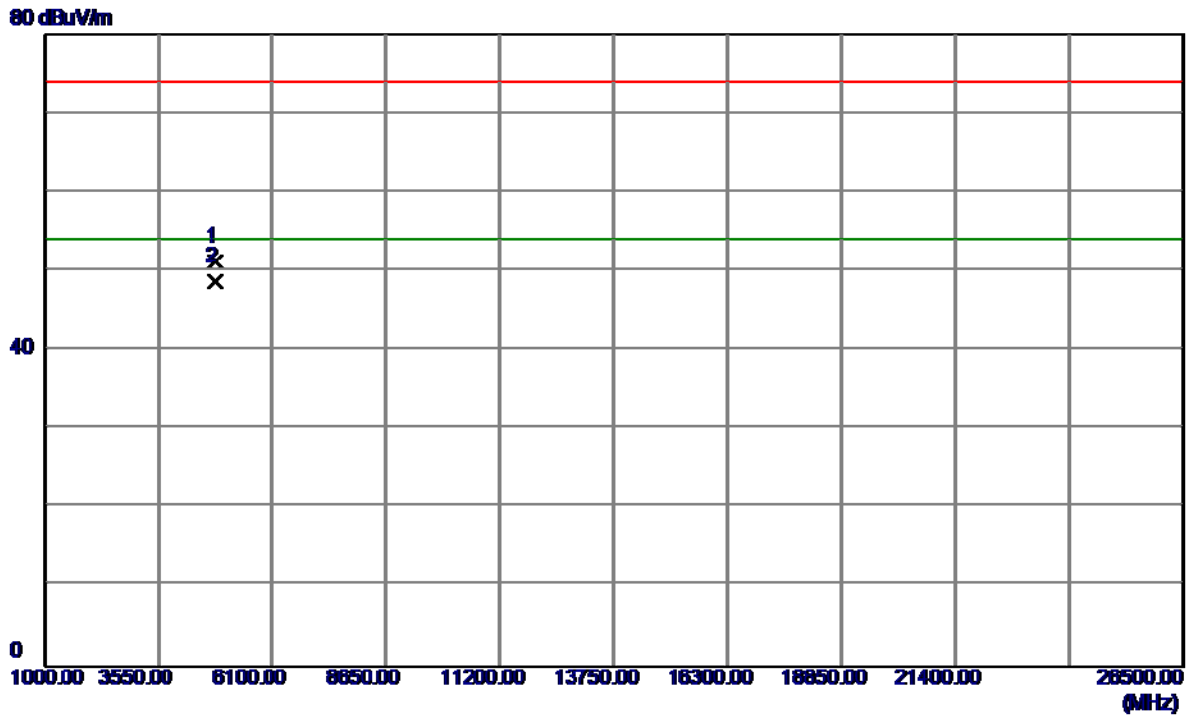
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	24.22	33.75	57.97	74.00	-16.03	peak	
2		2390.000	13.64	33.75	47.39	54.00	-6.61	AVG	
3	*	2410.750	65.50	33.87	99.37	54.00	45.37	AVG	NO LIMIT
4	X	2411.150	69.28	33.87	103.15	74.00	29.15	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH01

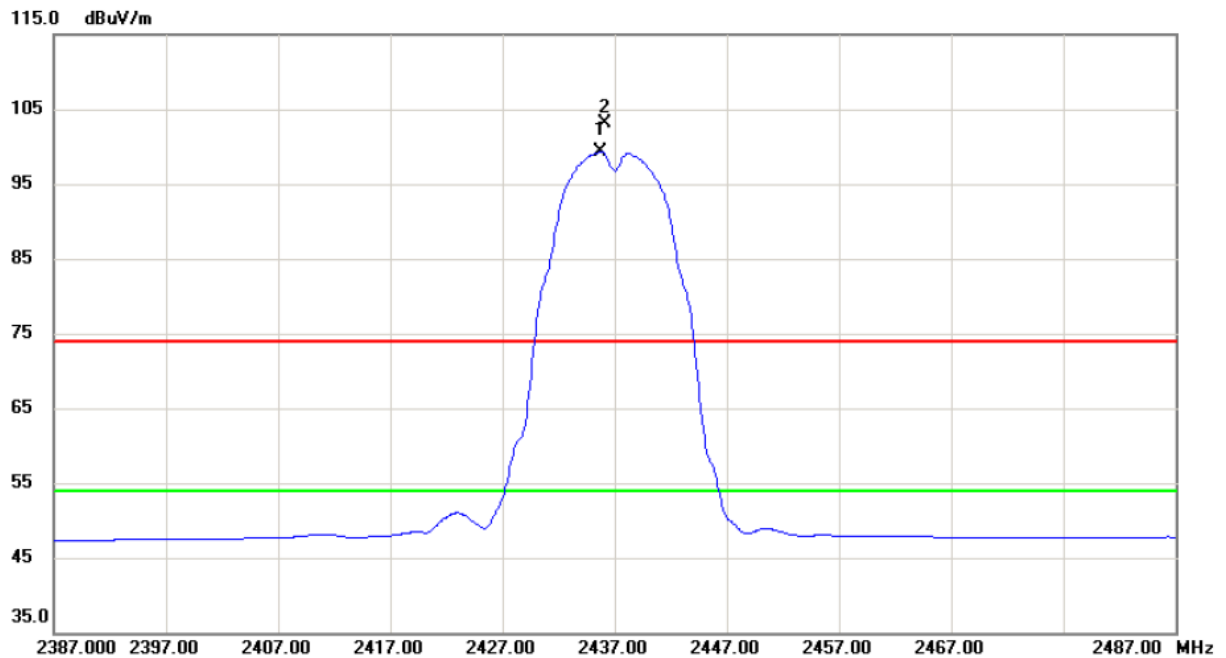
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.9250	47.76	3.45	51.21	74.00	-22.79	Peak	
2 *	4823.9720	45.18	3.45	48.63	54.00	-5.37	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH06

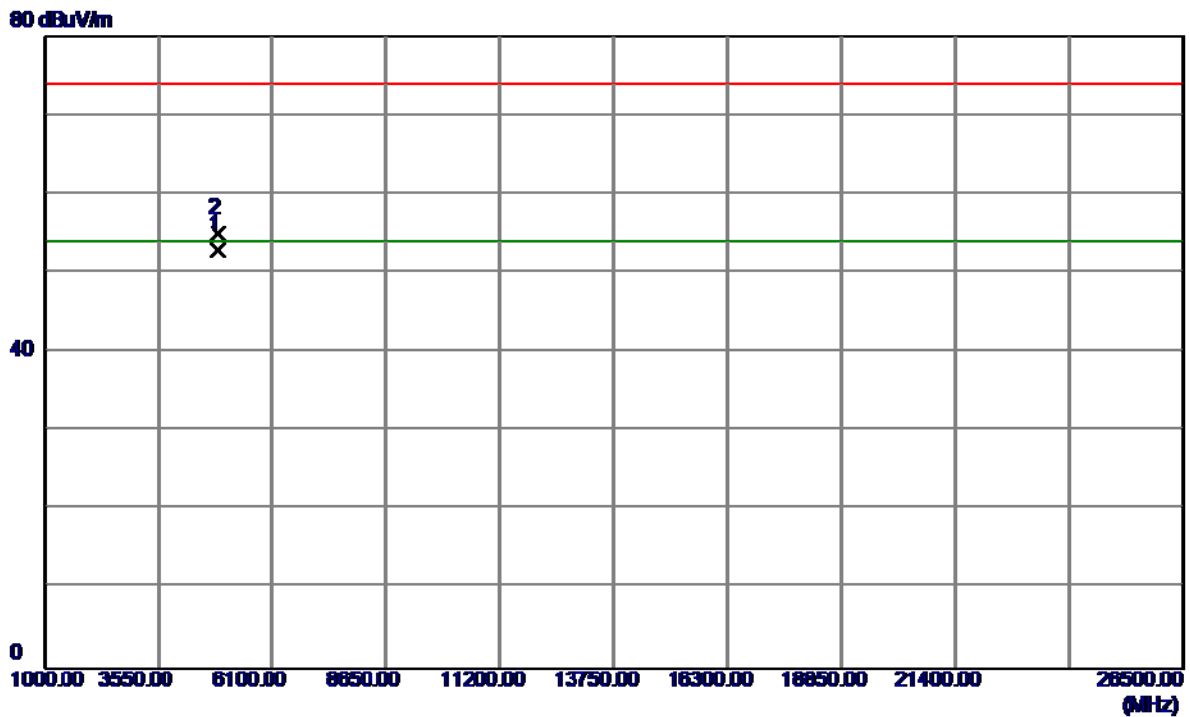
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2435.750	65.32	34.01	99.33	54.00	45.33	AVG	NO LIMIT
2	X	2436.200	69.08	34.02	103.10	74.00	29.10	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH06

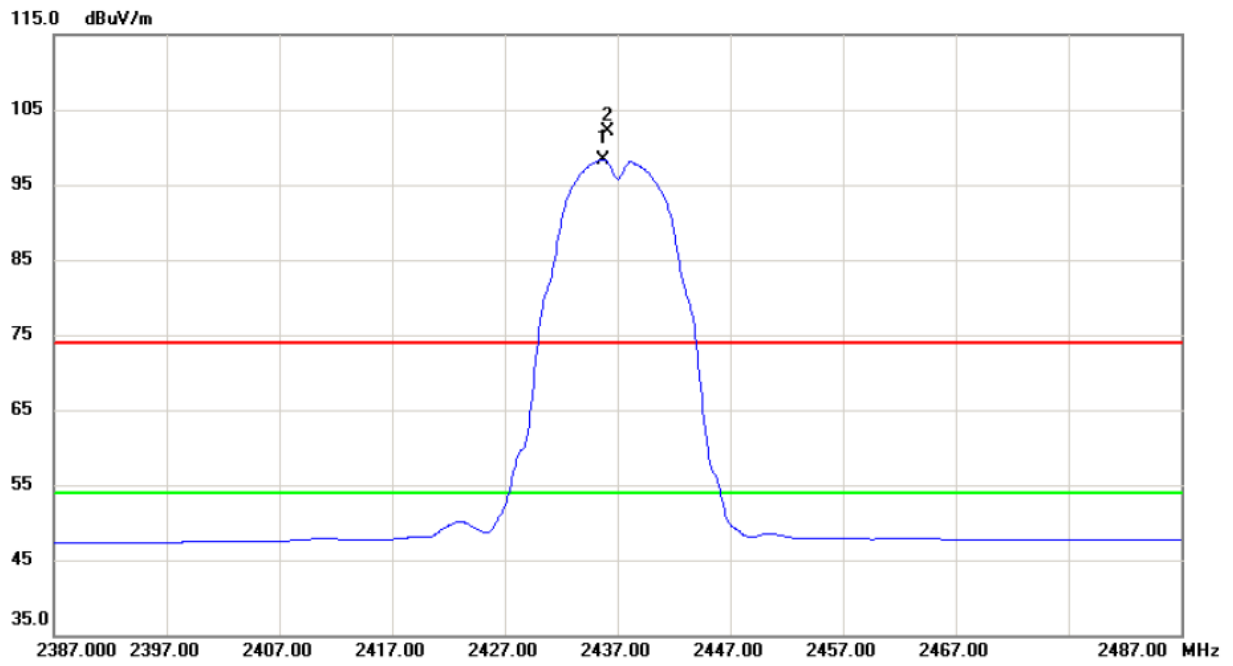
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4873.9700	49.37	3.63	53.00	54.00	-1.00	AVG	
2	4874.0099	51.49	3.63	55.12	74.00	-18.88	Peak	

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH06

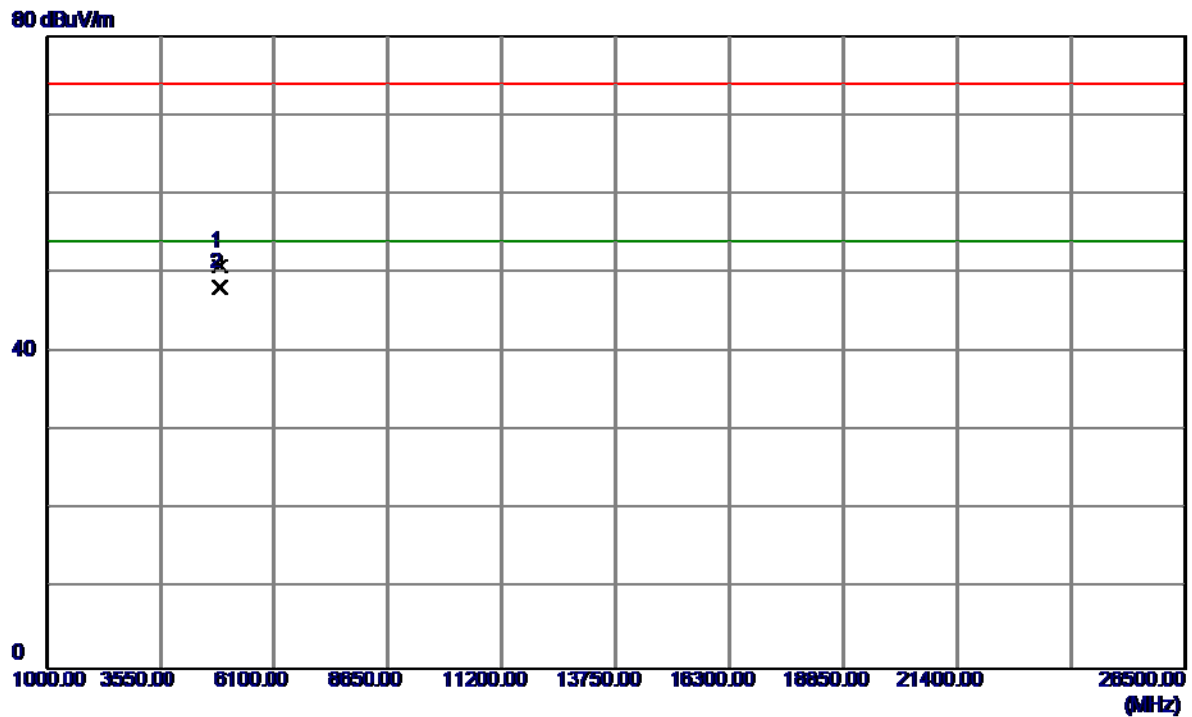
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2435.750	64.38	34.01	98.39	54.00	44.39	AVG	NO LIMIT
2	X	2436.100	68.16	34.02	102.18	74.00	28.18	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH06

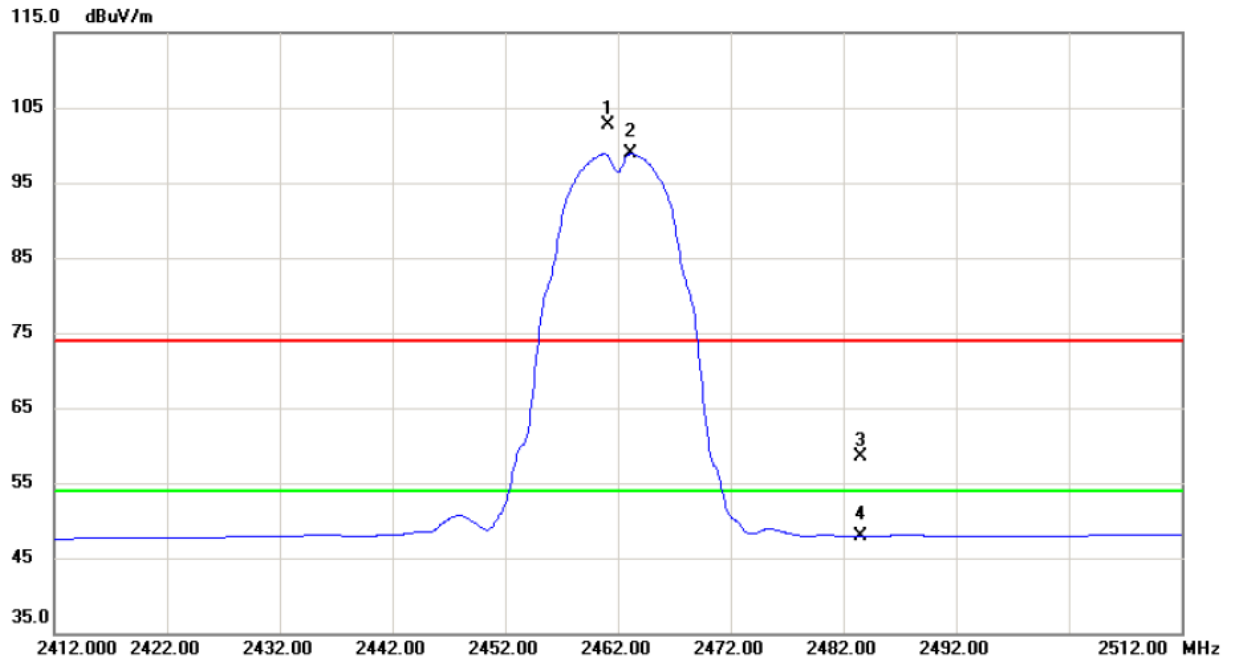
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9140	47.24	3.63	50.87	74.00	-23.13	Peak	
2 *	4873.9420	44.52	3.63	48.15	54.00	-5.85	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH11

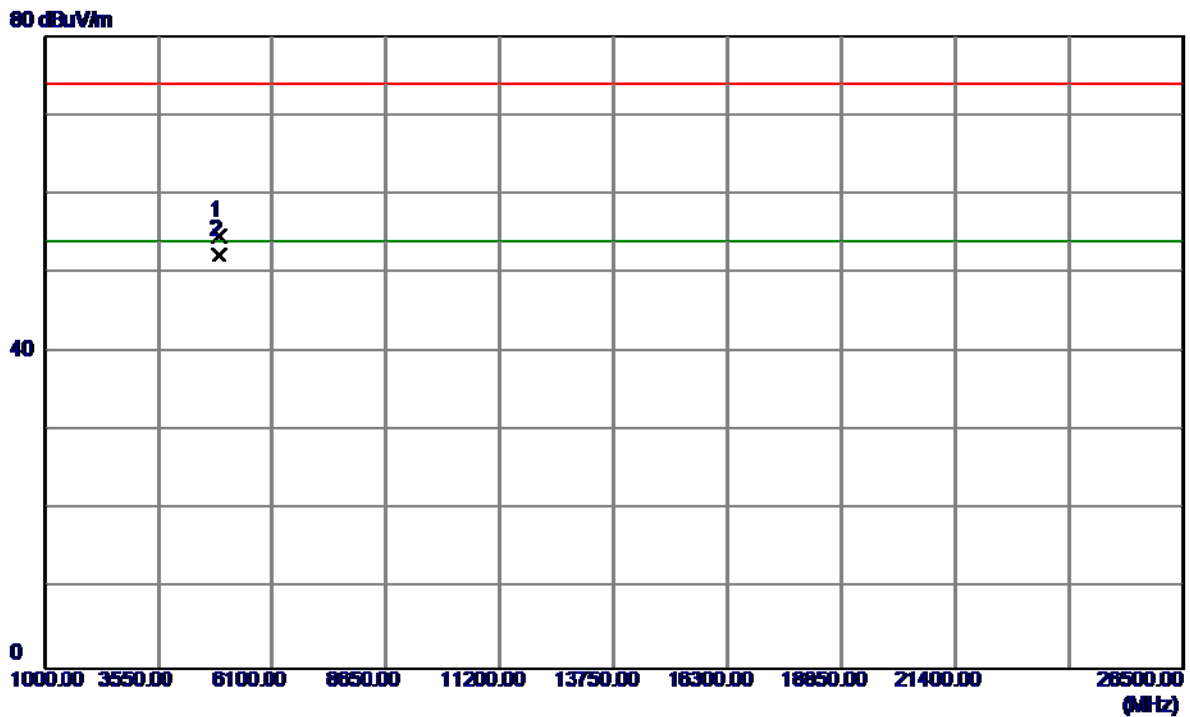
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2461.150	68.58	34.15	102.73	74.00	28.73	peak	NO LIMIT
2	*	2463.200	64.75	34.16	98.91	54.00	44.91	AVG	NO LIMIT
3		2483.500	24.30	34.27	58.57	74.00	-15.43	peak	
4		2483.500	13.62	34.27	47.89	54.00	-6.11	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH11

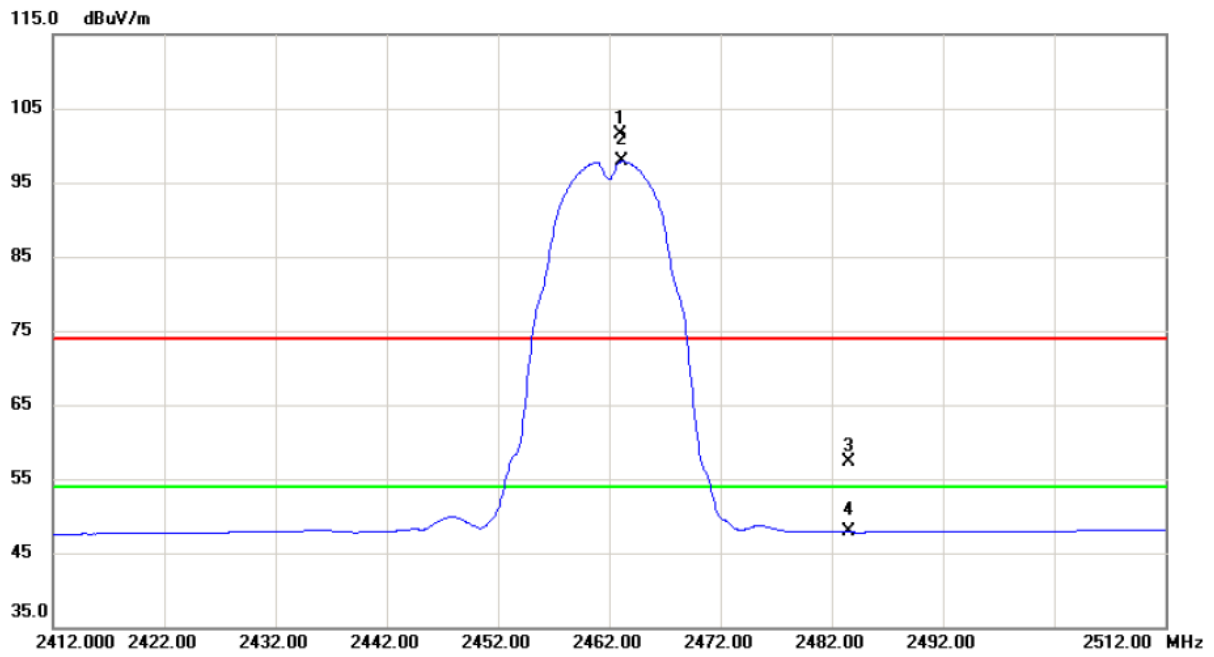
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.9049	50.98	3.81	54.79	74.00	-19.21	Peak	
2 *	4923.9650	48.49	3.81	52.30	54.00	-1.70	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH11

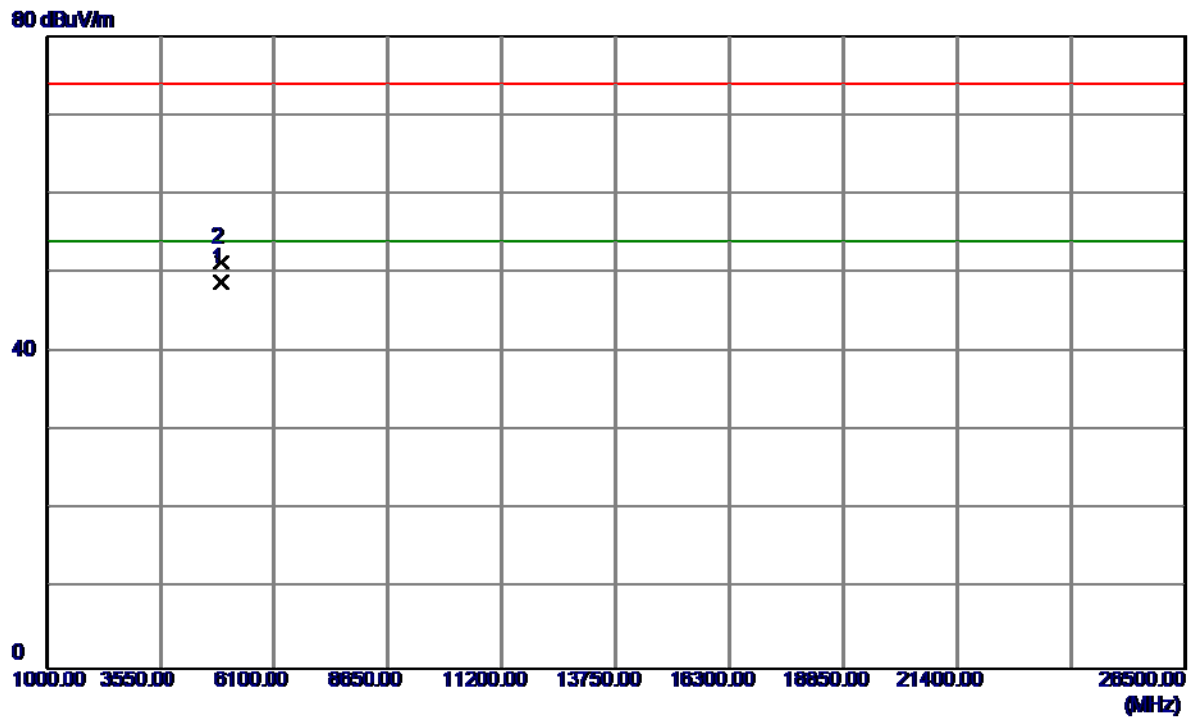
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.950	67.28	34.16	101.44	74.00	27.44	peak	NO LIMIT
2	*	2463.200	63.79	34.16	97.95	54.00	43.95	AVG	NO LIMIT
3		2483.500	23.10	34.27	57.37	74.00	-16.63	peak	
4		2483.500	13.56	34.27	47.83	54.00	-6.17	AVG	

Orthogonal Axis :	X
Test Mode :	TX B MODE_CH11

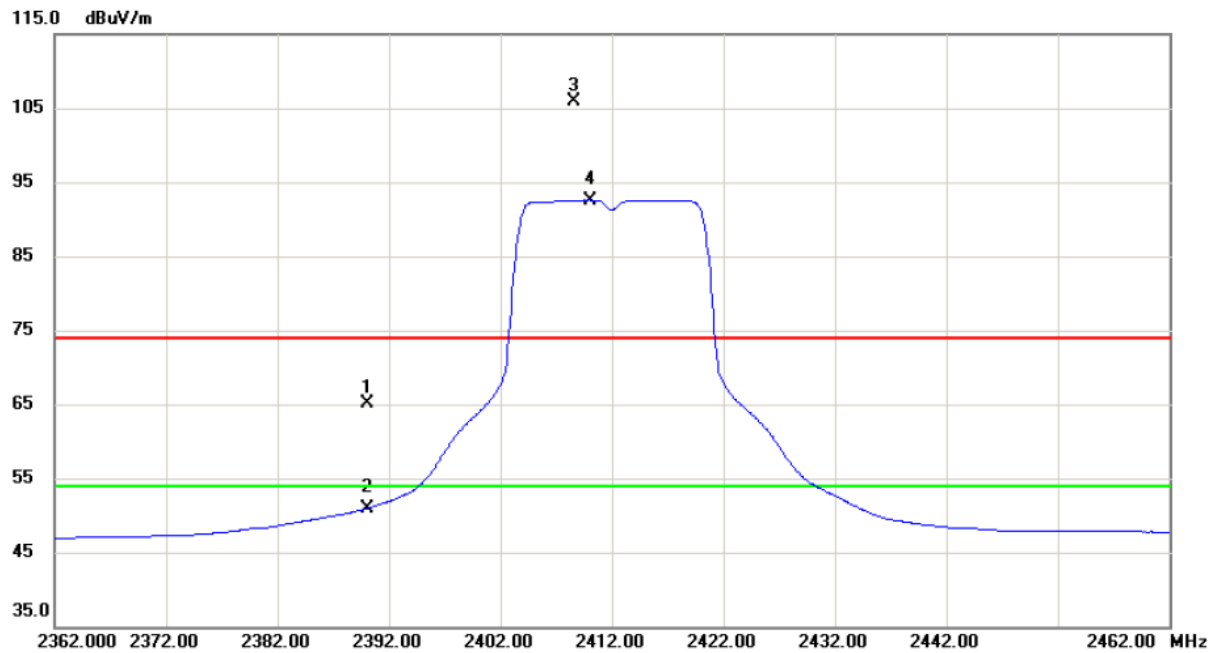
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4923.9590	44.93	3.81	48.74	54.00	-5.26	AVG	
2	4924.0120	47.53	3.81	51.34	74.00	-22.66	Peak	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH01

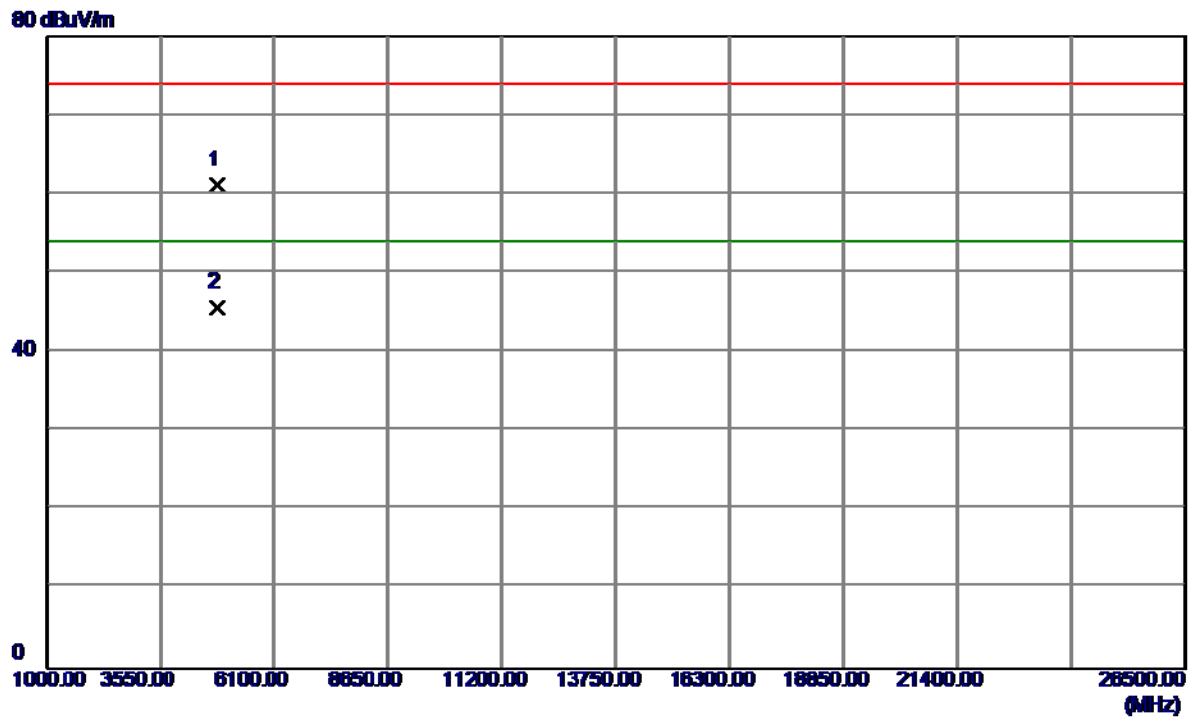
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	31.29	33.75	65.04	74.00	-8.96	peak	
2		2390.000	17.23	33.75	50.98	54.00	-3.02	AVG	
3	X	2408.600	72.11	33.86	105.97	74.00	31.97	peak	NO LIMIT
4	*	2410.000	58.73	33.87	92.60	54.00	38.60	AVG	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH01

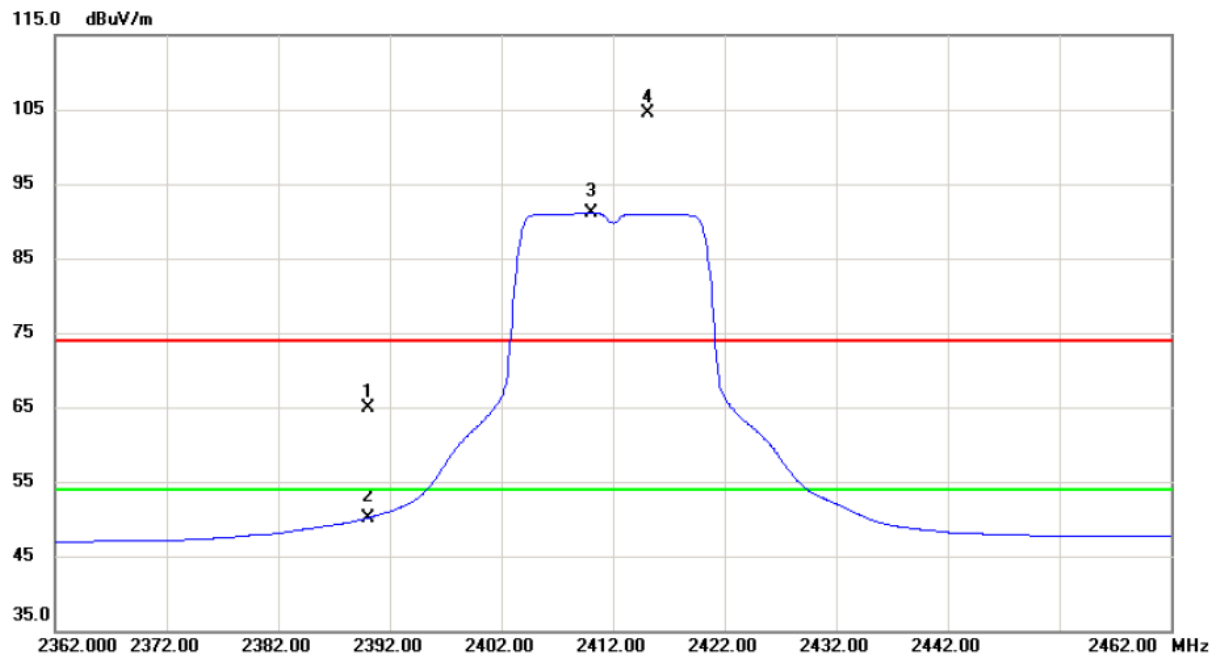
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.3500	57.74	3.45	61.19	74.00	-12.81	Peak	
2 *	4824.9500	42.14	3.45	45.59	54.00	-8.41	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH01

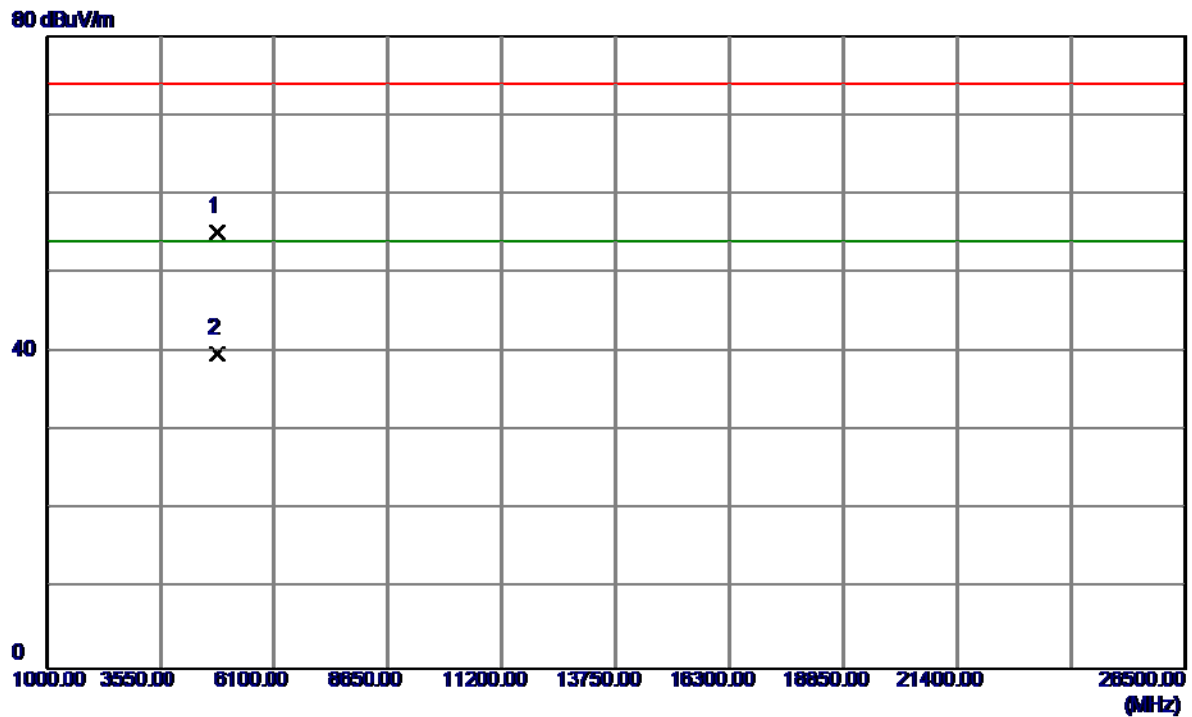
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	31.18	33.75	64.93	74.00	-9.07	peak	
2		2390.000	16.41	33.75	50.16	54.00	-3.84	AVG	
3	*	2410.050	57.19	33.87	91.06	54.00	37.06	AVG	NO LIMIT
4	X	2415.100	70.62	33.90	104.52	74.00	30.52	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH01

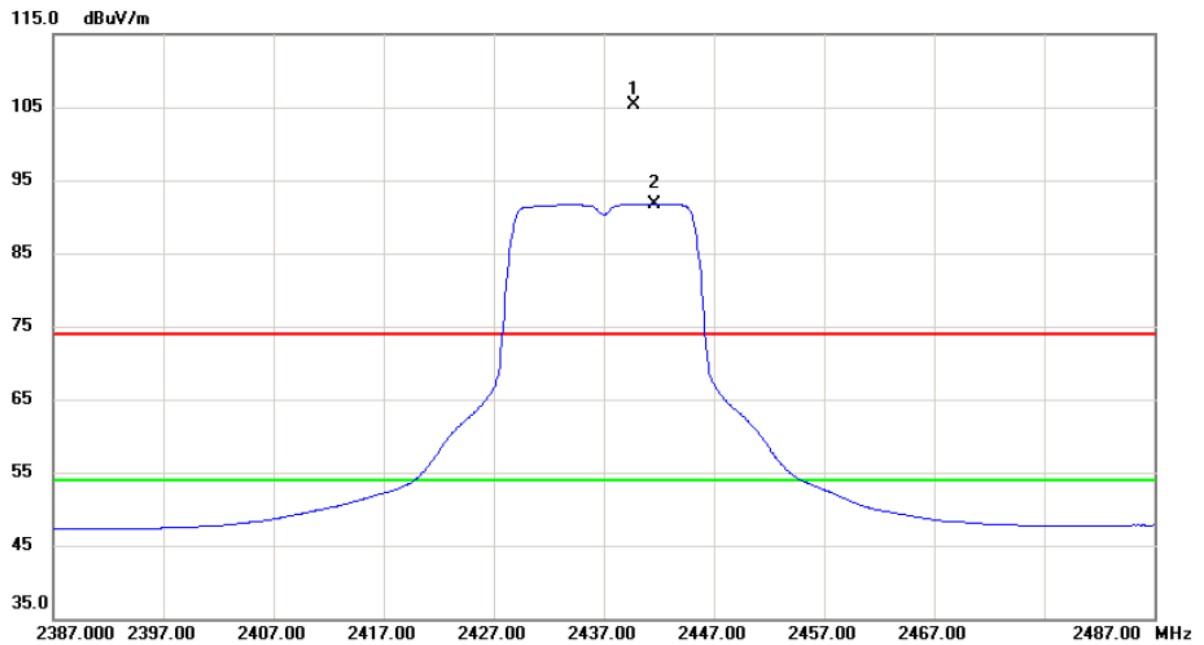
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824.5000	51.76	3.45	55.21	74.00	-18.79	Peak	
2 *	4824.9750	36.34	3.45	39.79	54.00	-14.21	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH06

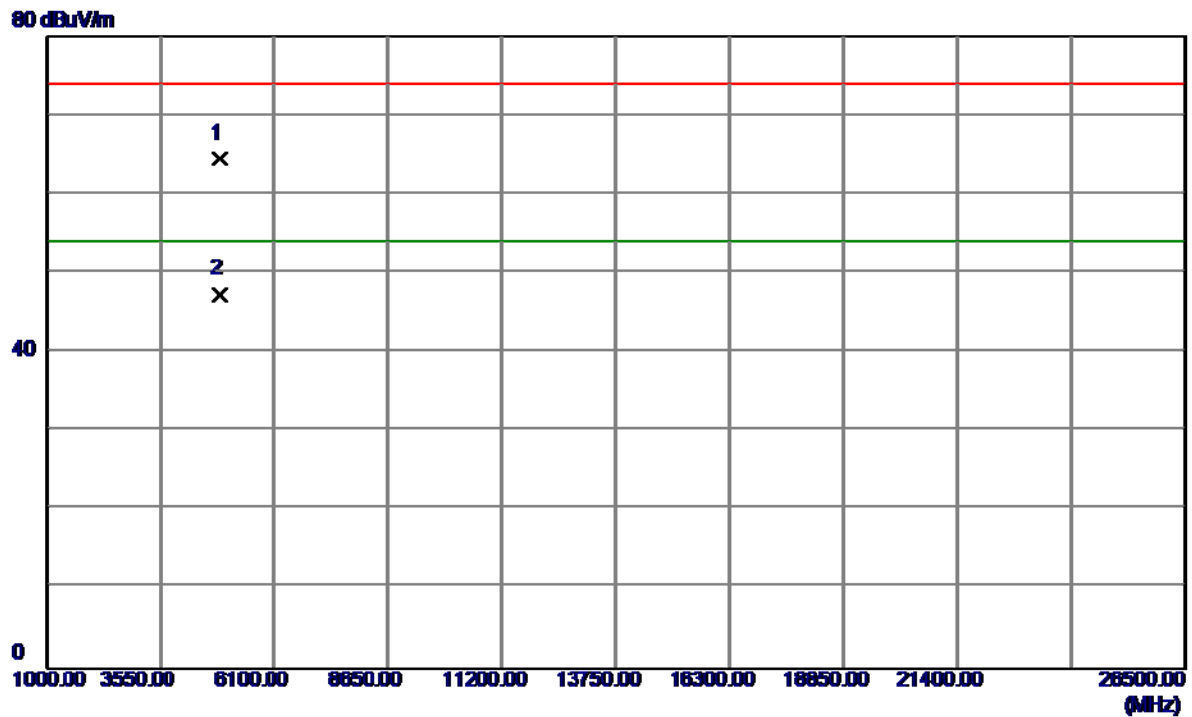
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2439.700	71.33	34.03	105.36	74.00	31.36	peak	NO LIMIT
2	*	2441.650	57.76	34.04	91.80	54.00	37.80	AVG	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH06

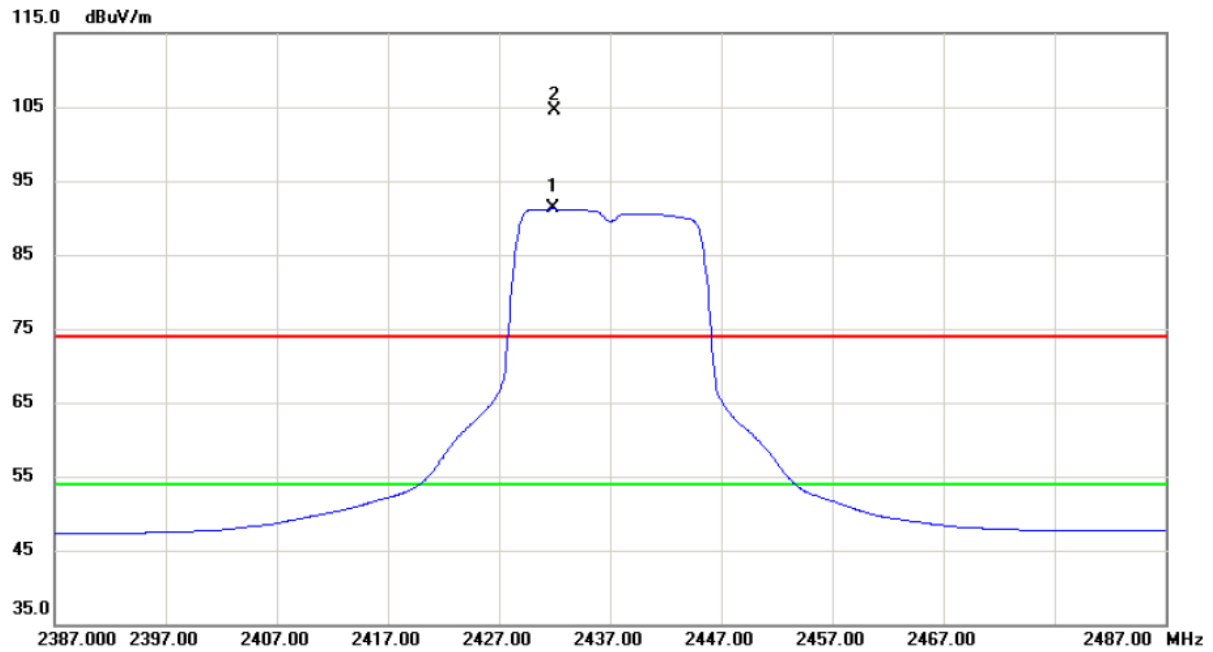
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4871.7750	60.84	3.62	64.46	74.00	-9.54	Peak	
2 *	4872.7250	43.66	3.62	47.28	54.00	-6.72	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH06

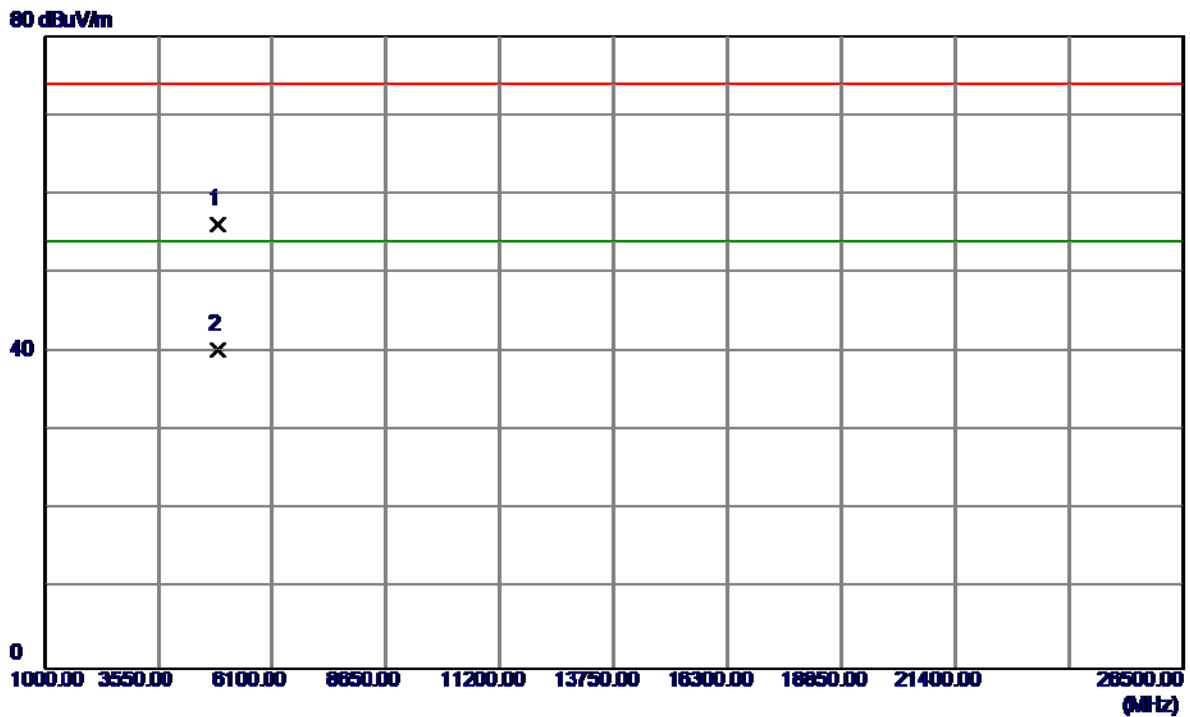
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2431.900	57.22	33.99	91.21	54.00	37.21	AVG	NO LIMIT
2	X	2431.950	70.45	33.99	104.44	74.00	30.44	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH06

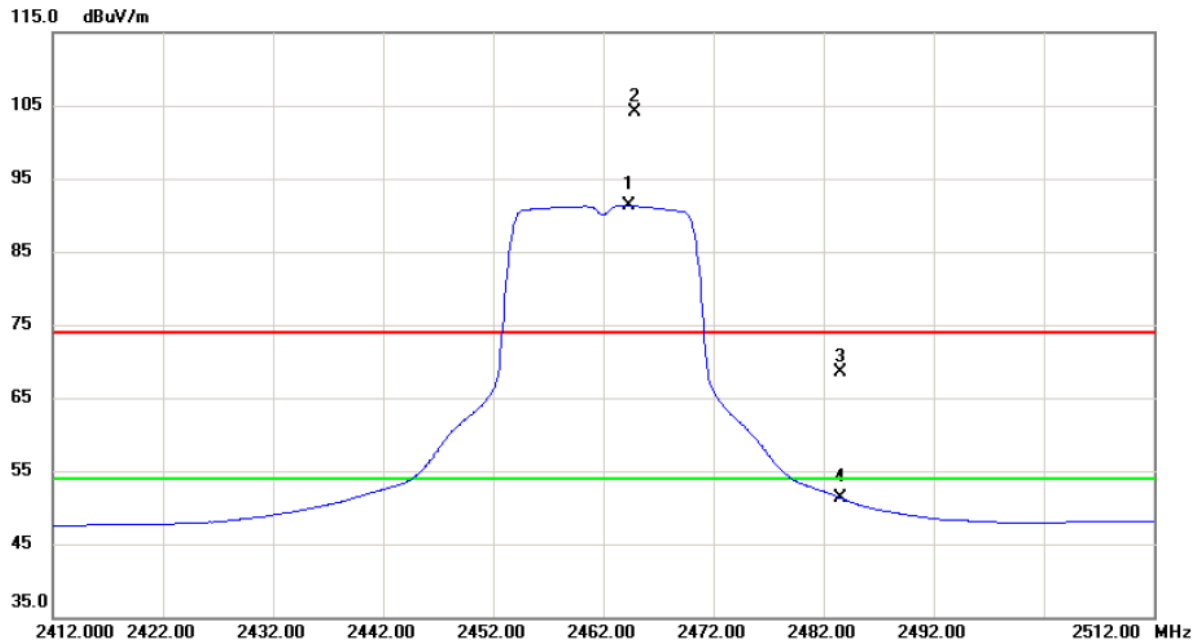
Horizontal



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4870.8500	52.52	3.62	56.14	74.00	-17.86	Peak	
2 *	4872.9000	36.63	3.62	40.25	54.00	-13.75	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH11

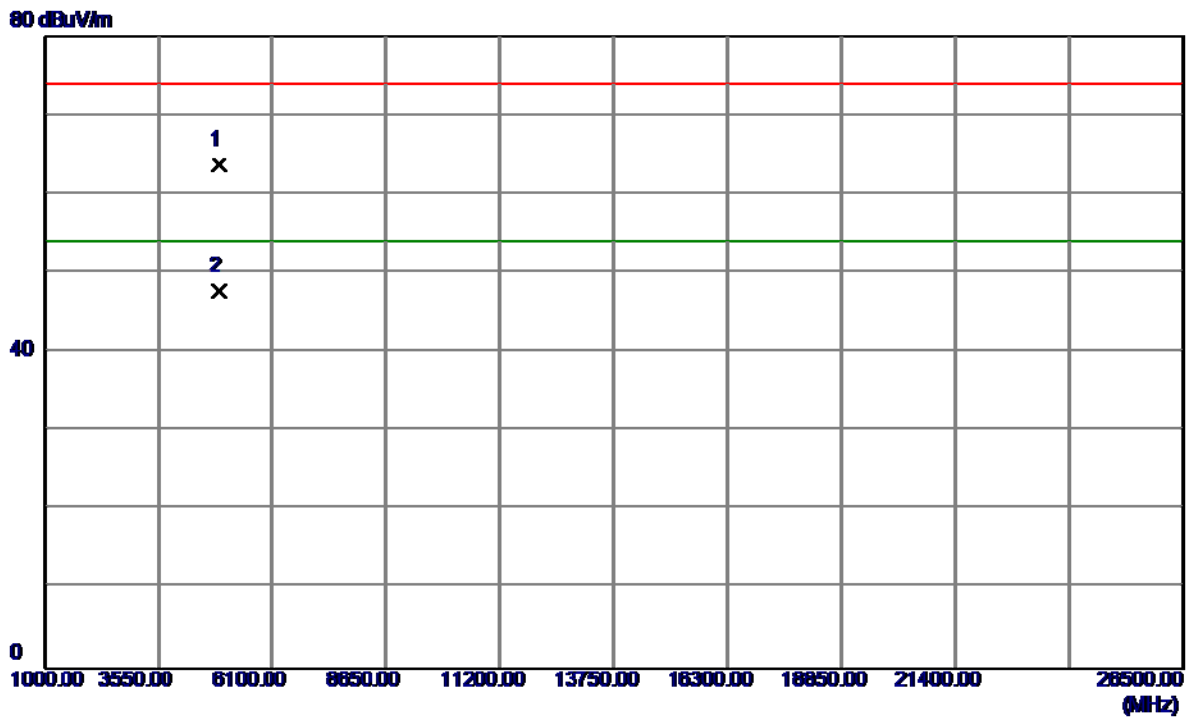
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2464.300	57.09	34.18	91.27	54.00	37.27	AVG	NO LIMIT
2	X	2464.800	69.93	34.18	104.11	74.00	30.11	peak	NO LIMIT
3		2483.500	34.22	34.27	68.49	74.00	-5.51	peak	
4		2483.500	17.05	34.27	51.32	54.00	-2.68	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH11

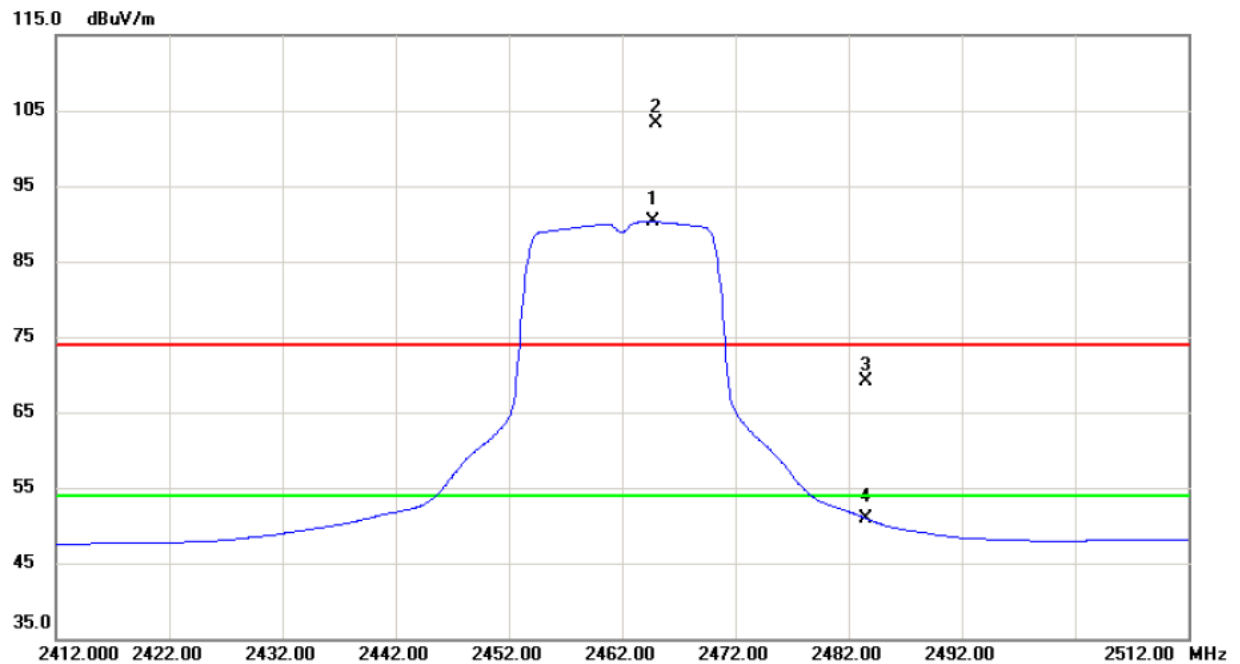
Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4922. 2250	59. 82	3. 81	63. 63	74. 00	-10. 37	Peak	
2 *	4922. 7750	43. 90	3. 81	47. 71	54. 00	-6. 29	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH11

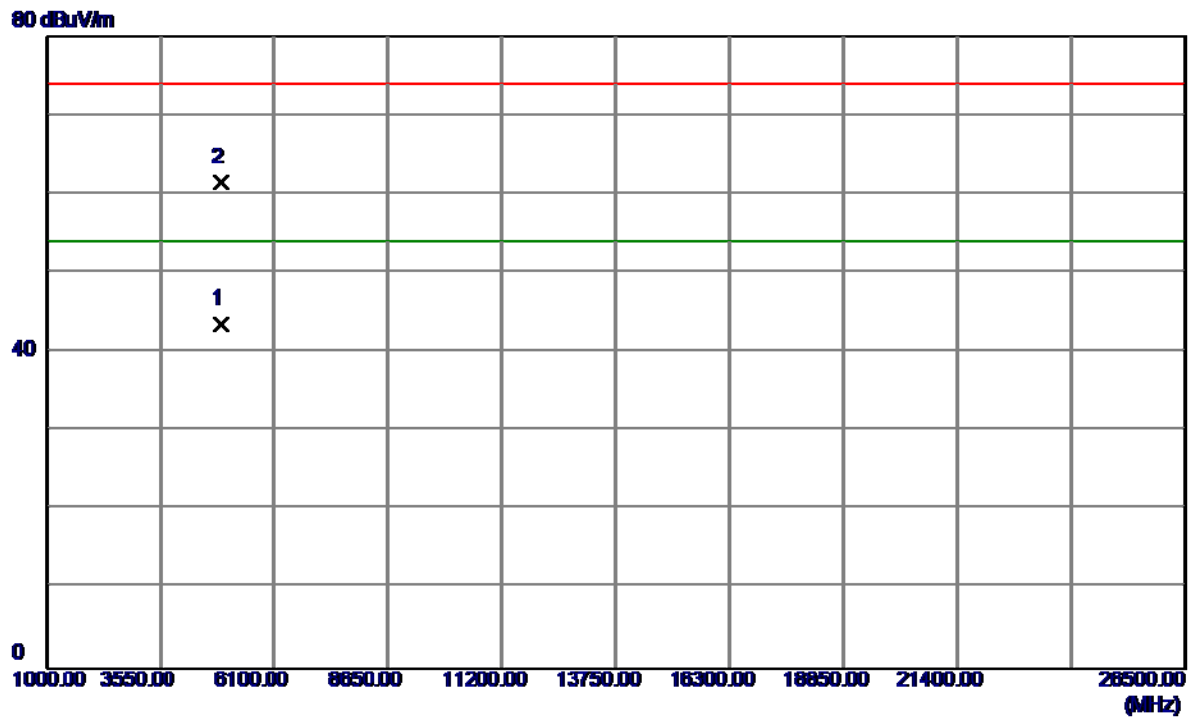
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2464.750	56.08	34.18	90.26	54.00	36.26	AVG	NO LIMIT
2	X	2464.950	69.20	34.18	103.38	74.00	29.38	peak	NO LIMIT
3		2483.500	34.85	34.27	69.12	74.00	-4.88	peak	
4		2483.500	16.69	34.27	50.96	54.00	-3.04	AVG	

Orthogonal Axis :	X
Test Mode :	TX G MODE_CH11

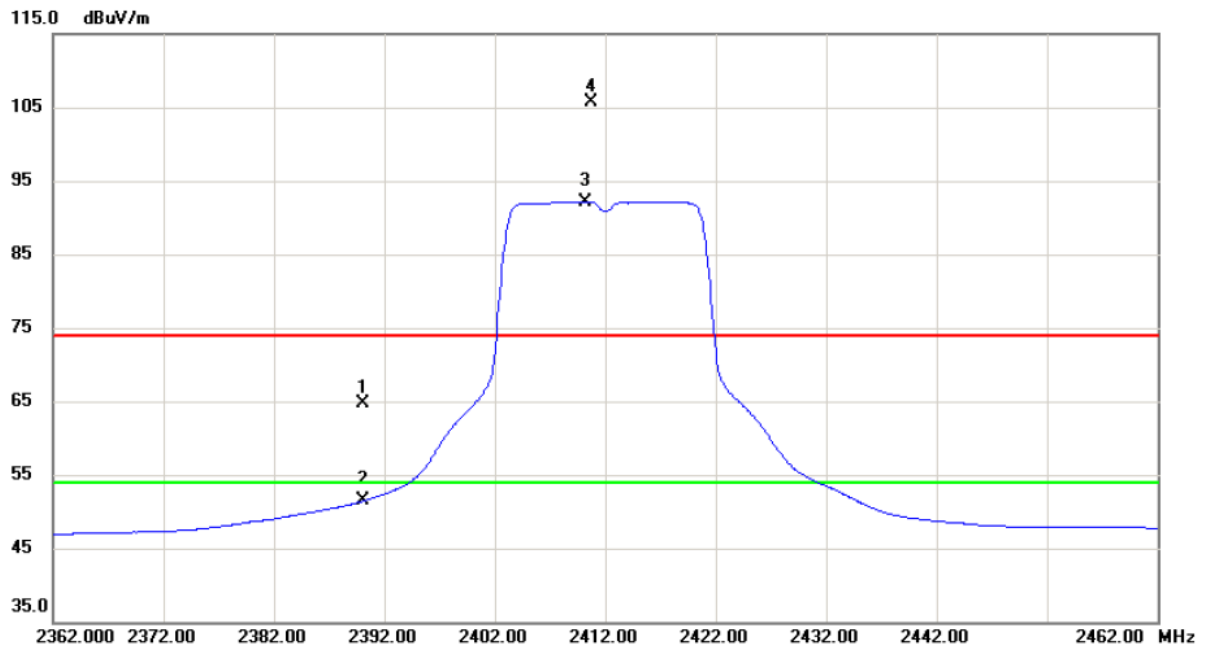
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4922.9000	39.78	3.81	43.59	54.00	-10.41	AVG	
2	4923.6000	57.63	3.81	61.44	74.00	-12.56	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH01

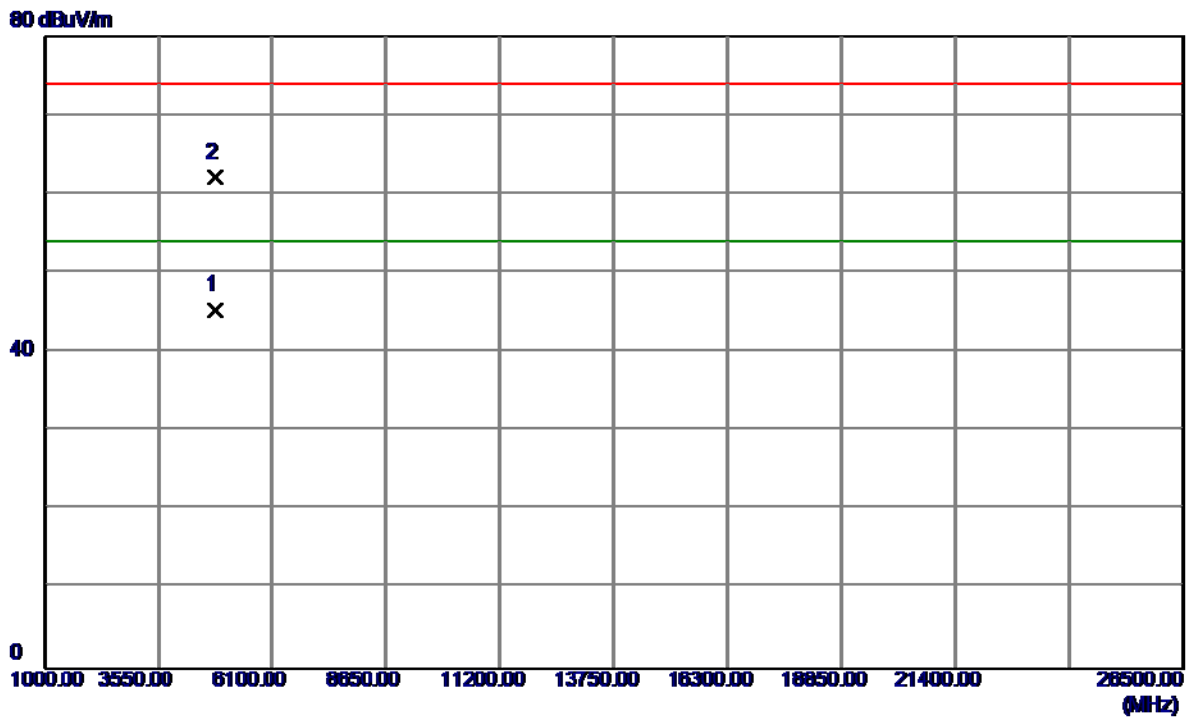
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	30.89	33.75	64.64	74.00	-9.36	peak	
2		2390.000	17.69	33.75	51.44	54.00	-2.56	AVG	
3	*	2410.200	58.31	33.87	92.18	54.00	38.18	AVG	NO LIMIT
4	X	2410.750	71.79	33.87	105.66	74.00	31.66	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH01

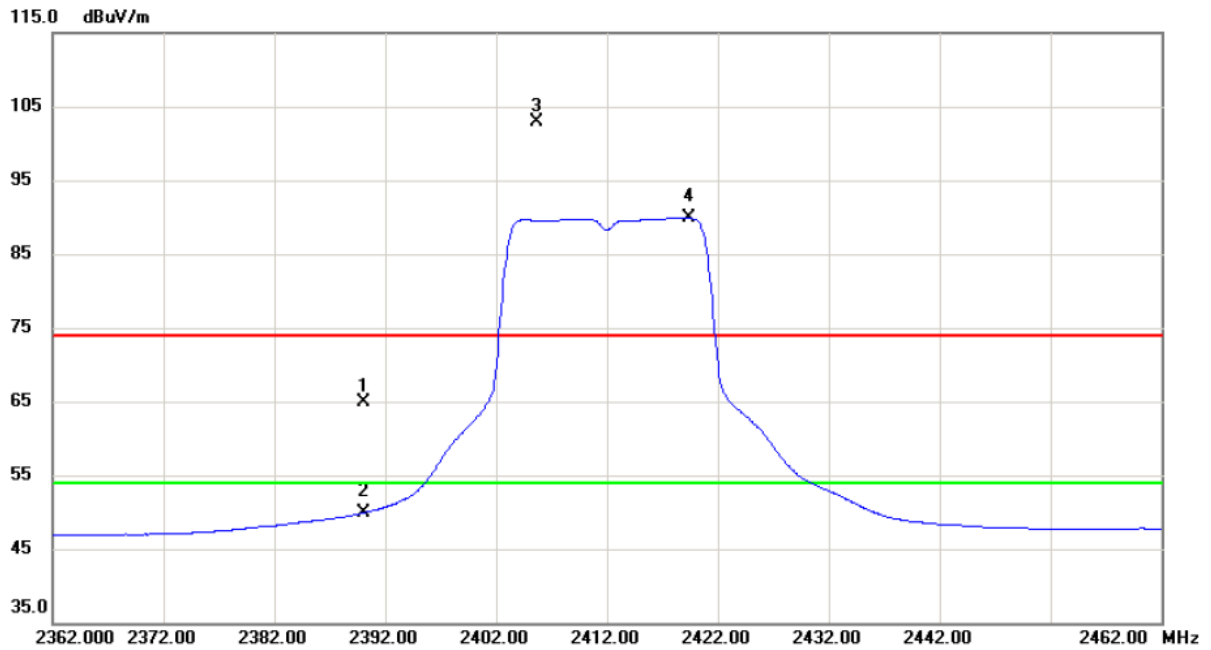
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4825.1000	41.88	3.45	45.33	54.00	-8.67	AVG	
2	4826.5750	58.56	3.46	62.02	74.00	-11.98	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH01

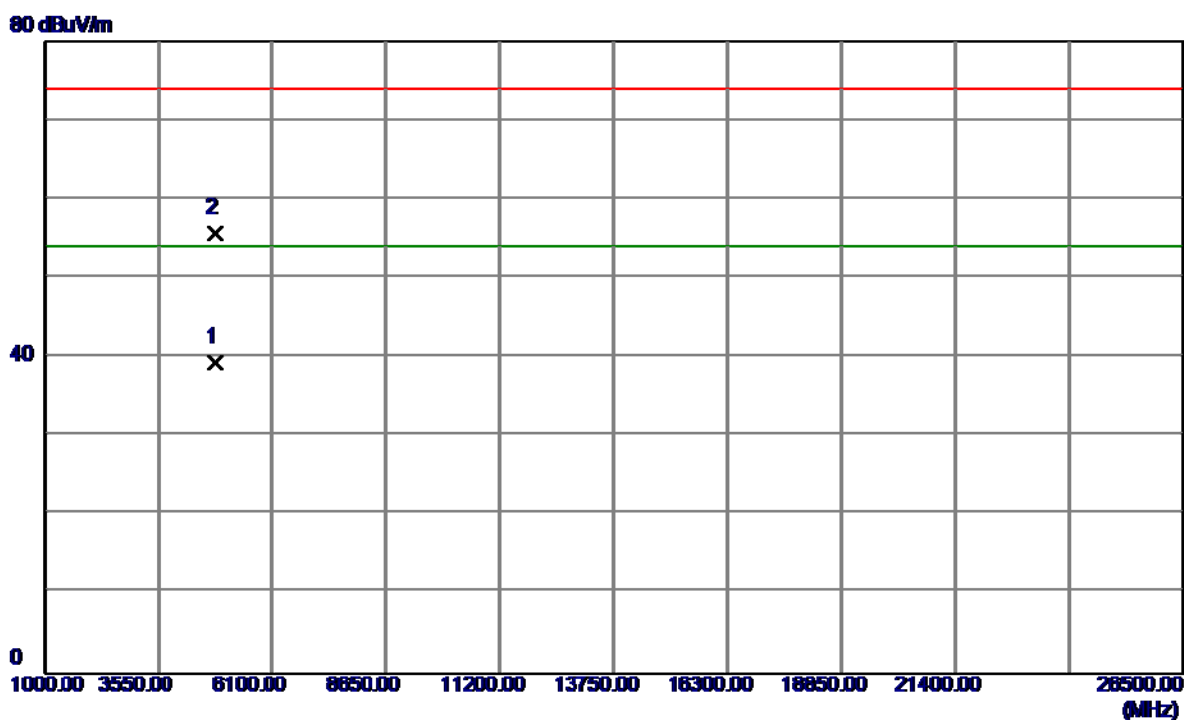
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	31.21	33.75	64.96	74.00	-9.04	peak	
2		2390.000	16.15	33.75	49.90	54.00	-4.10	AVG	
3	X	2405.700	69.14	33.85	102.99	74.00	28.99	peak	NO LIMIT
4	*	2419.450	55.91	33.92	89.83	54.00	35.83	AVG	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH01

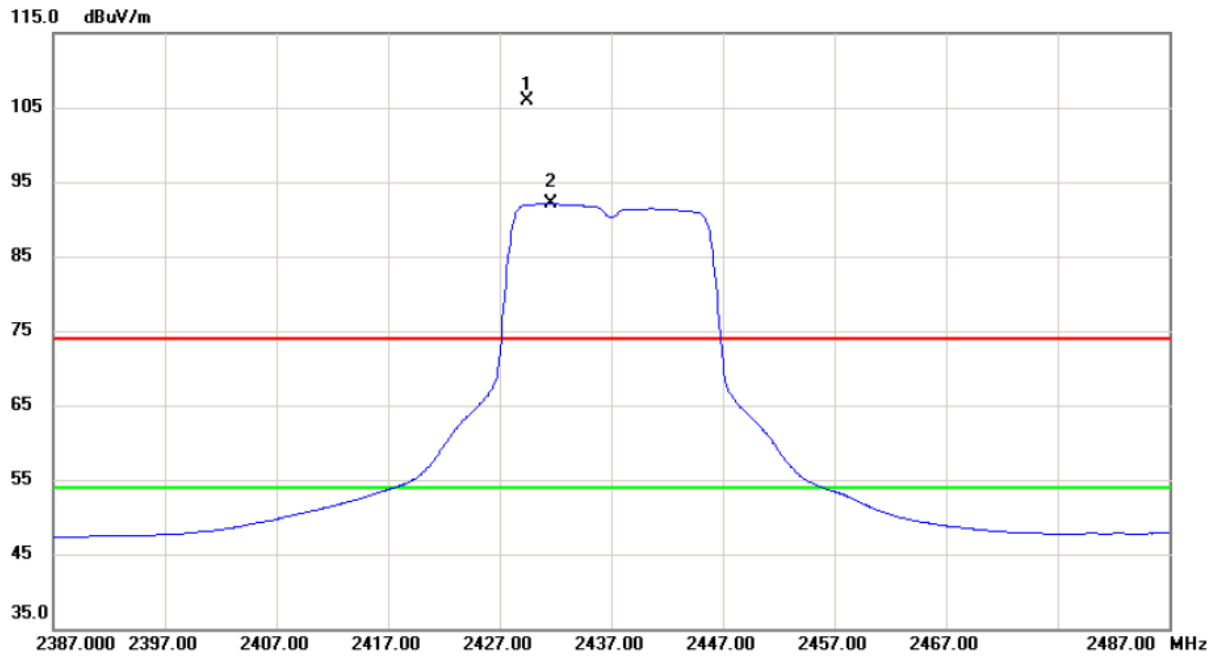
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4825.1500	35.93	3.45	39.38	54.00	-14.62	AVG	
2	4826.3000	52.16	3.45	55.61	74.00	-18.39	Peak	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH06

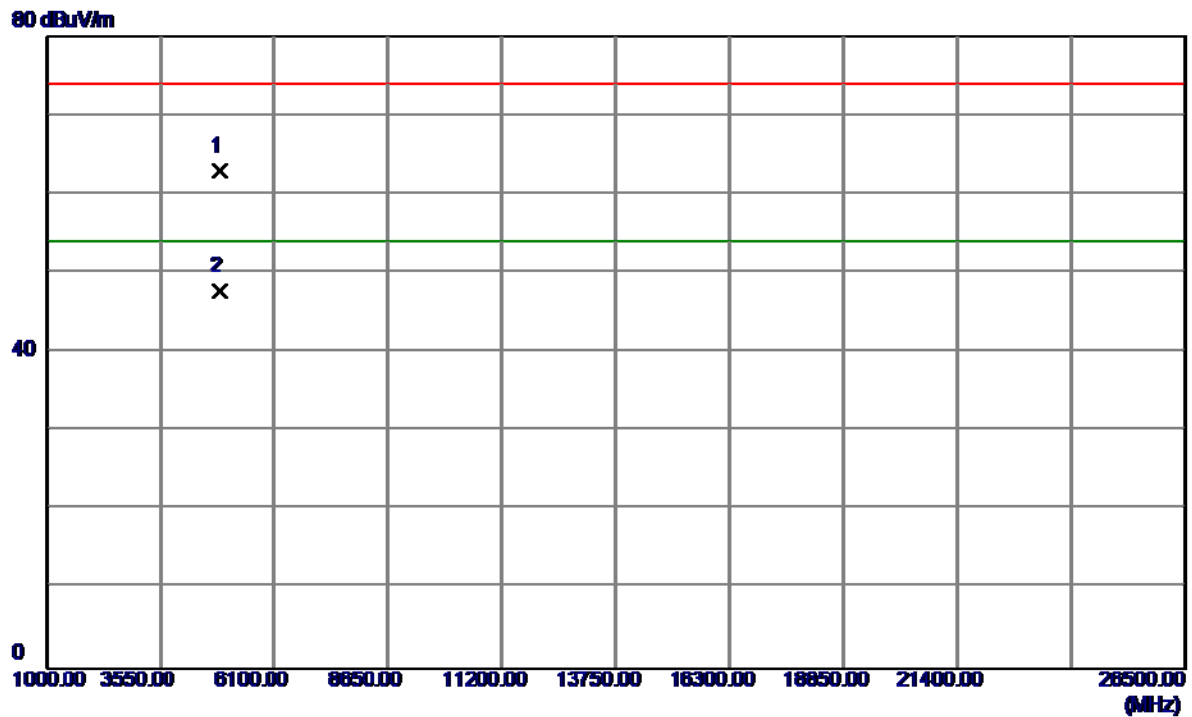
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2429.400	71.91	33.98	105.89	74.00	31.89	peak	NO LIMIT
2	*	2431.600	58.03	33.99	92.02	54.00	38.02	AVG	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH06

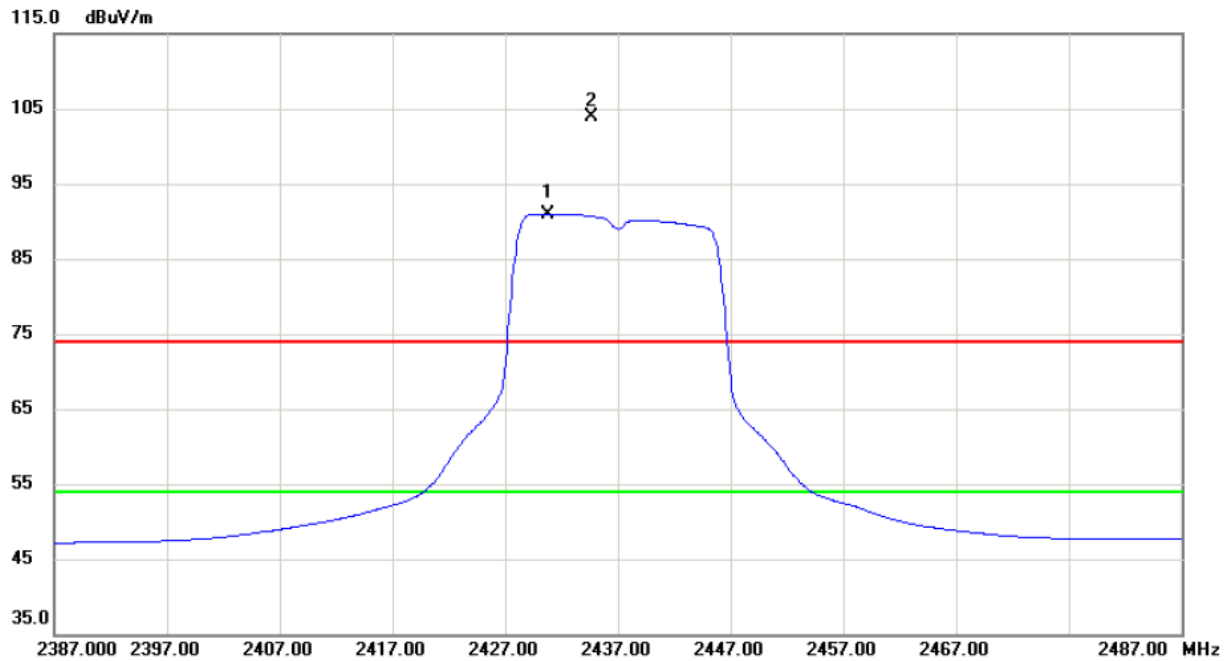
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4871.3000	59.24	3.62	62.86	74.00	-11.14	Peak	
2 *	4872.8500	43.99	3.62	47.61	54.00	-6.39	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH06

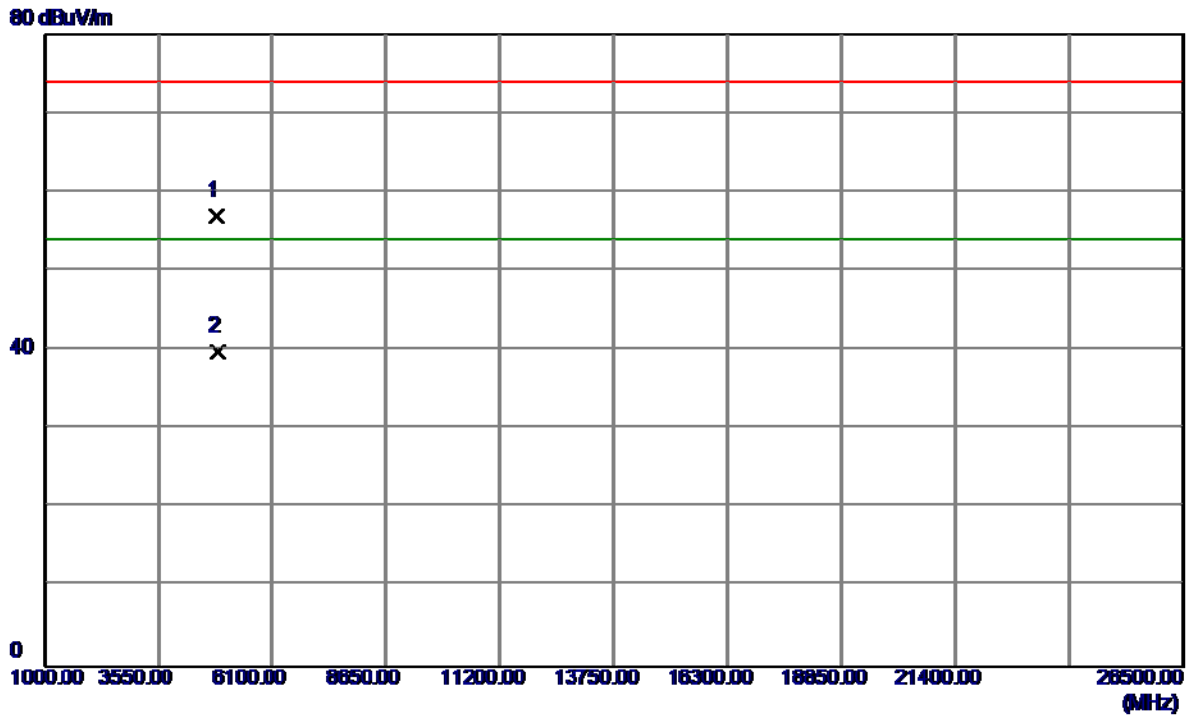
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2430.750	57.02	33.98	91.00	54.00	37.00	AVG	NO LIMIT
2	X	2434.650	69.89	34.01	103.90	74.00	29.90	peak	NO LIMIT

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH06

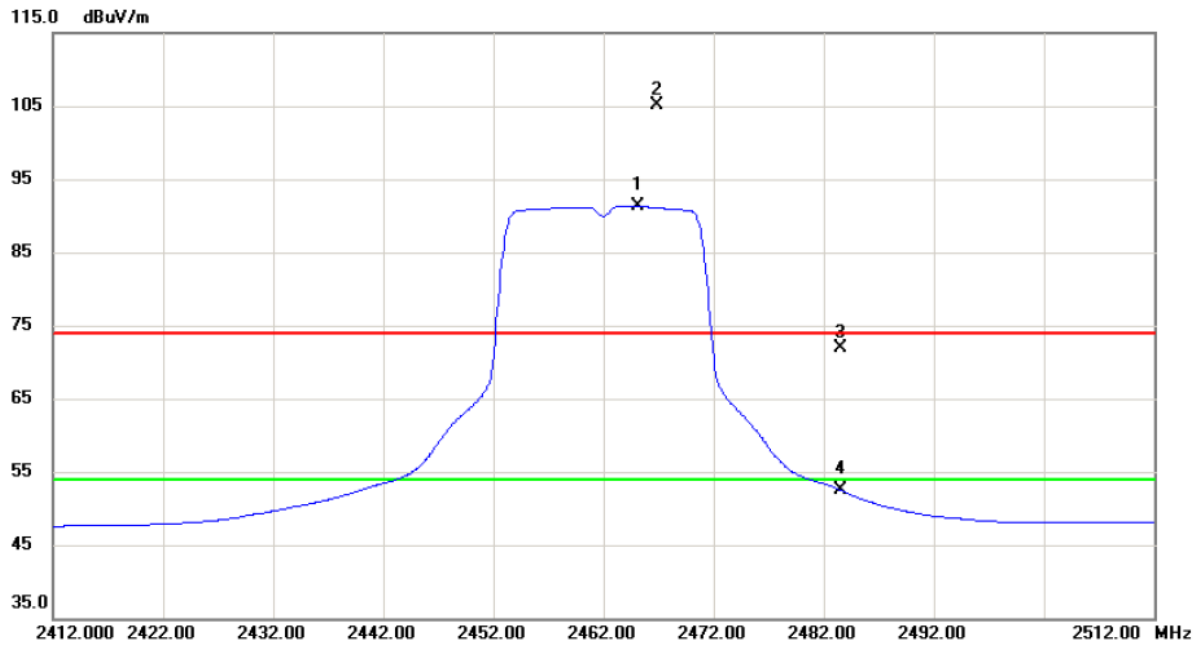
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4866.8250	53.28	3.60	56.88	74.00	-17.12	Peak	
2 *	4872.9000	36.22	3.62	39.84	54.00	-14.16	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH11

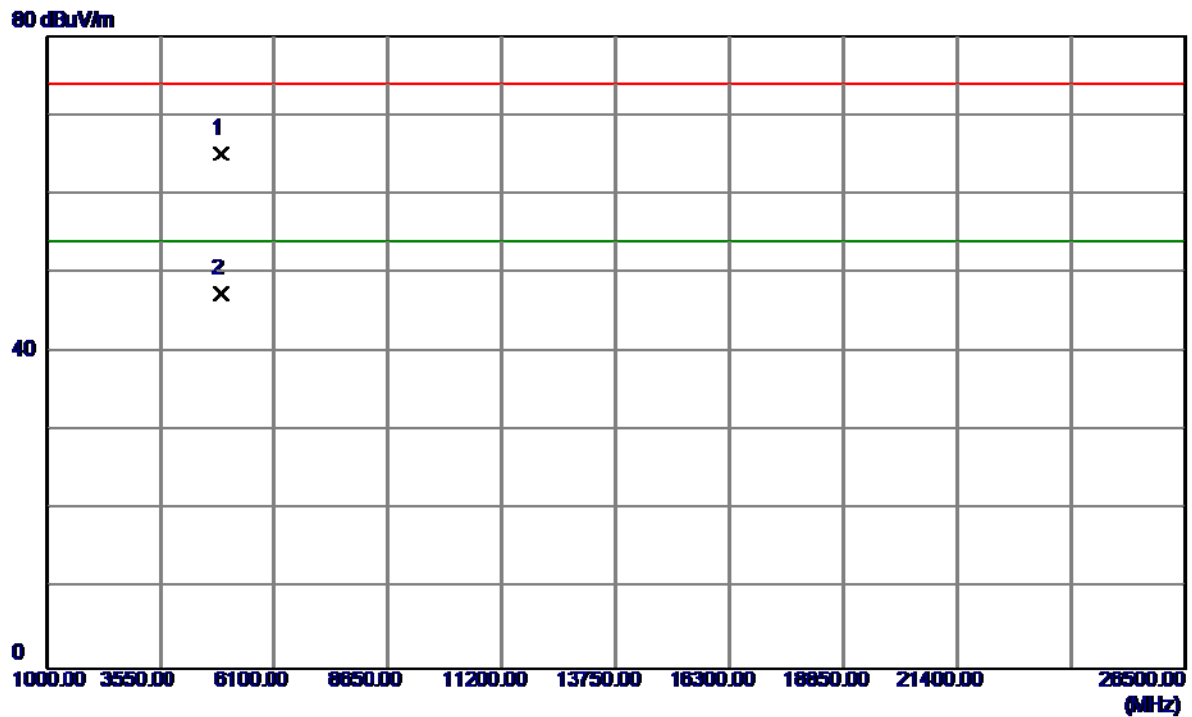
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2465.100	57.10	34.18	91.28	54.00	37.28	AVG	NO LIMIT
2	X	2466.900	70.88	34.19	105.07	74.00	31.07	peak	NO LIMIT
3		2483.500	37.55	34.27	71.82	74.00	-2.18	peak	
4		2483.500	18.24	34.27	52.51	54.00	-1.49	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH11

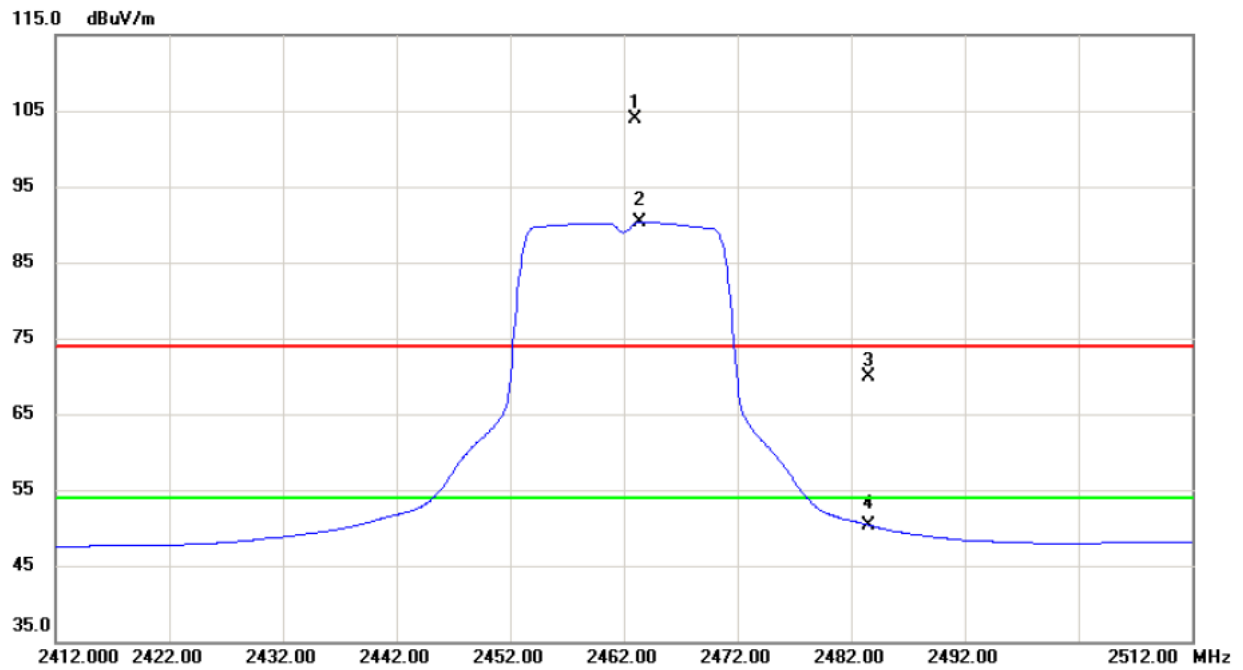
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4917.7000	61.34	3.79	65.13	74.00	-8.87	Peak	
2 *	4922.8500	43.58	3.81	47.39	54.00	-6.61	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH11

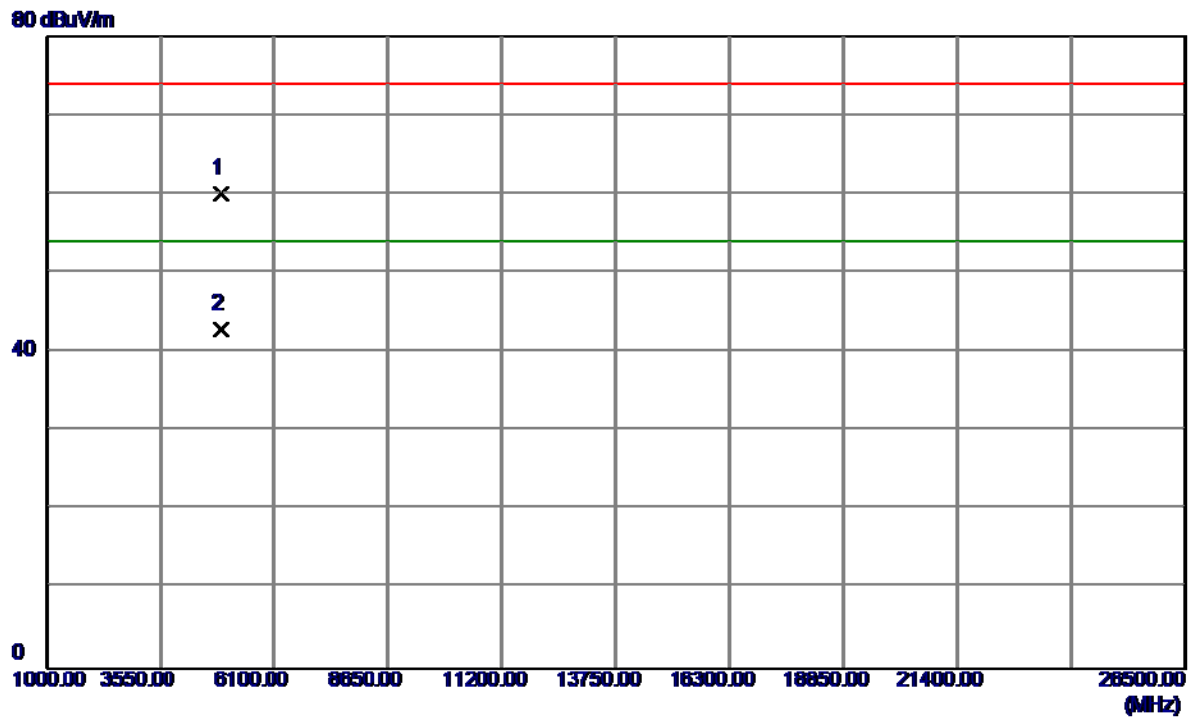
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.950	69.69	34.16	103.85	74.00	29.85	peak	NO LIMIT
2	*	2463.450	56.08	34.16	90.24	54.00	36.24	AVG	NO LIMIT
3		2483.500	35.67	34.27	69.94	74.00	-4.06	peak	
4		2483.500	16.11	34.27	50.38	54.00	-3.62	AVG	

Orthogonal Axis :	X
Test Mode :	TX N-20M MODE_CH11

Horizontal



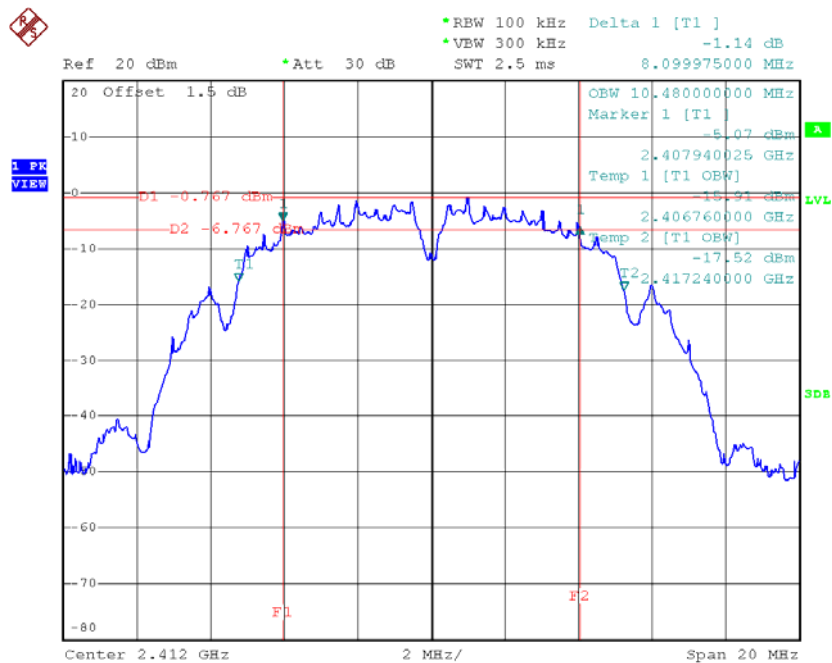
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4916.9000	56.15	3.79	59.94	74.00	-14.06	Peak	
2 *	4922.9500	39.12	3.81	42.93	54.00	-11.07	AVG	

ATTACHMENT E - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

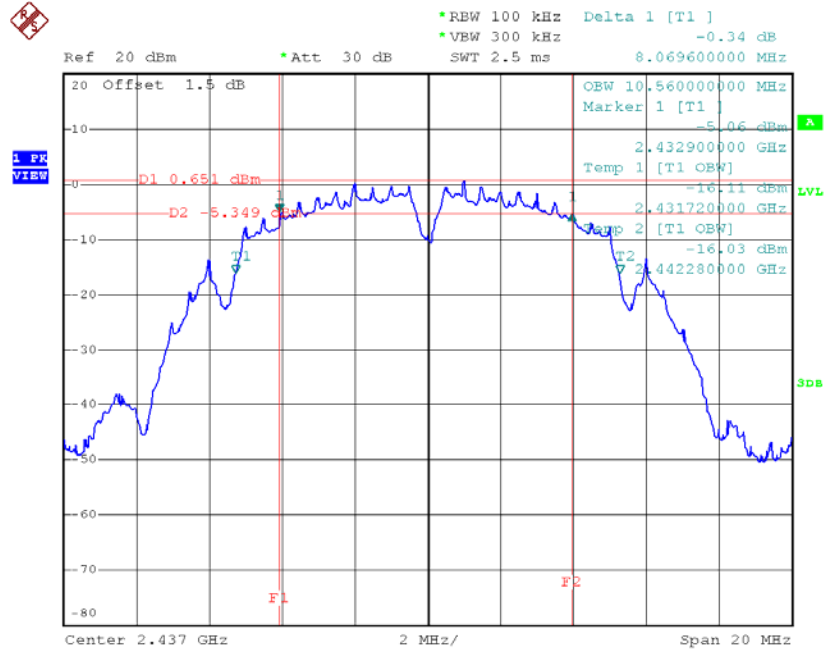
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	8.10	10.48	500	Complies
2437	8.07	10.56	500	Complies
2462	8.14	11.20	500	Complies

TX CH01



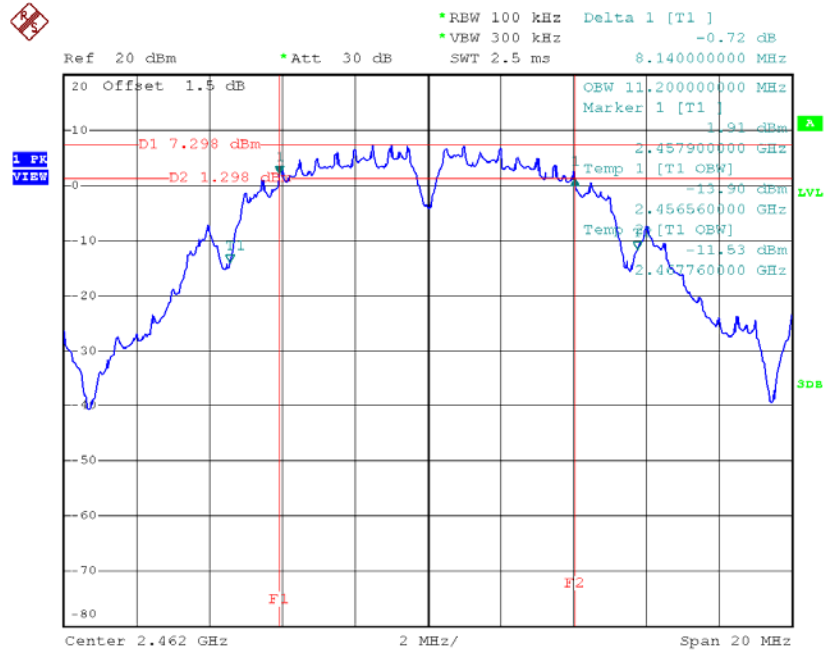
Date: 11.APR.2017 19:23:57

TX CH06



Date: 11.APR.2017 19:26:02

TX CH11

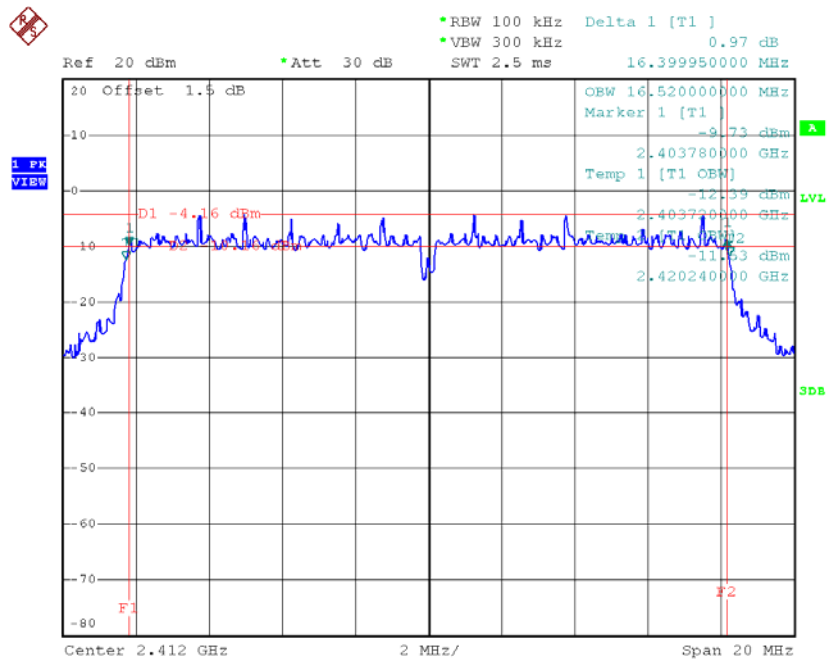


Date: 11.APR.2017 19:27:28

Test Mode: TX G Mode_CH01/06/11

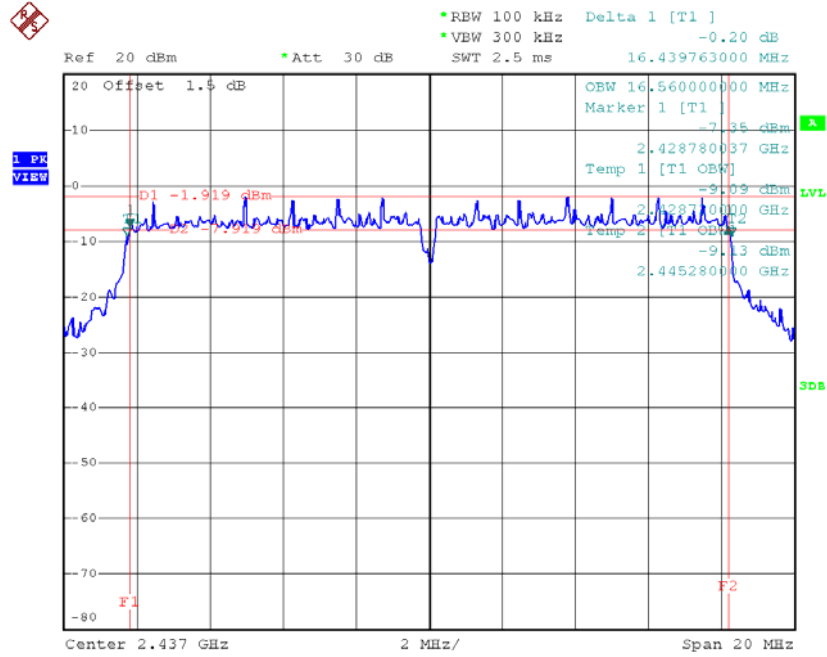
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.40	16.52	500	Complies
2437	16.44	16.56	500	Complies
2462	16.10	16.72	500	Complies

TX CH01



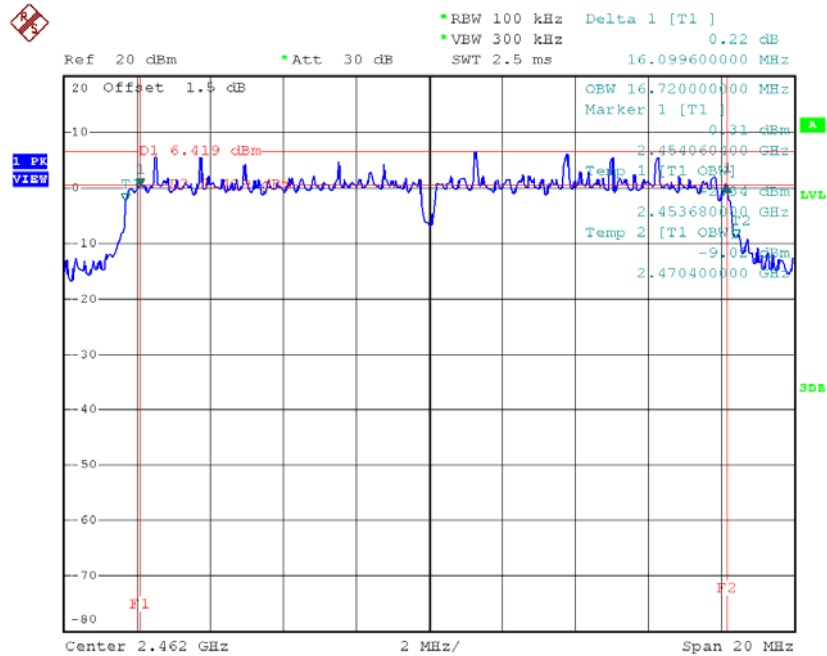
Date: 11.APR.2017 19:28:52

TX CH06



Date: 11.APR.2017 19:30:10

TX CH11

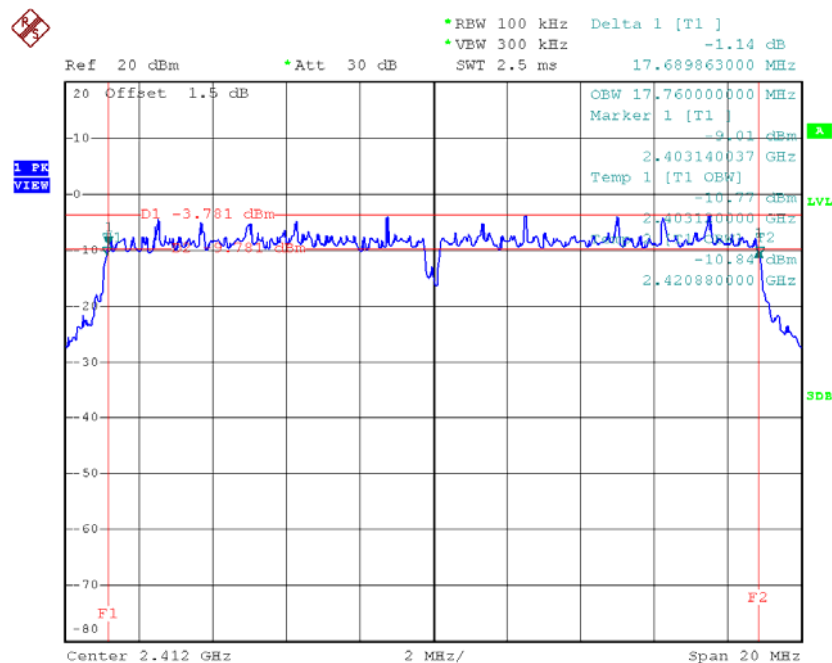


Date: 11.APR.2017 19:31:19

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

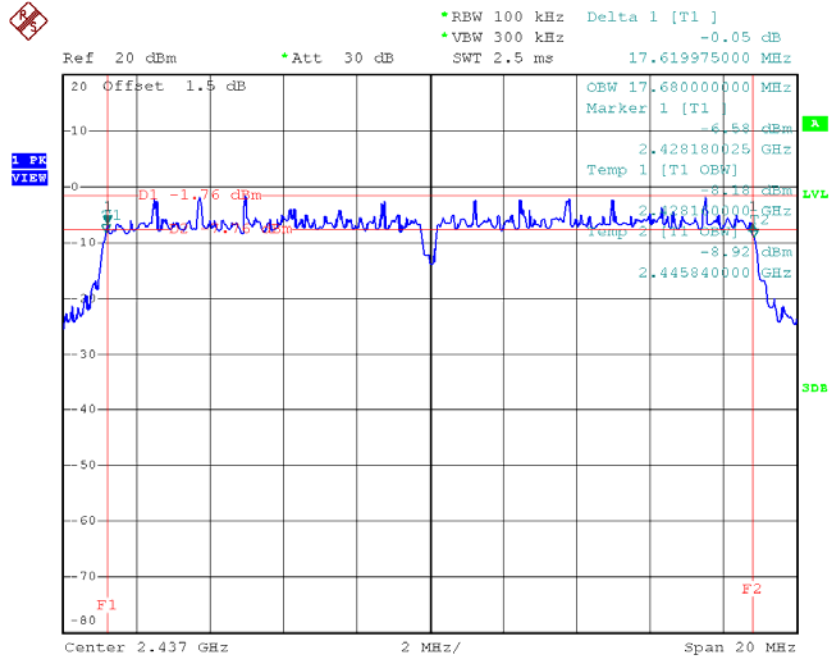
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.69	17.76	500	Complies
2437	17.62	17.68	500	Complies
2462	17.62	17.80	500	Complies

TX CH01



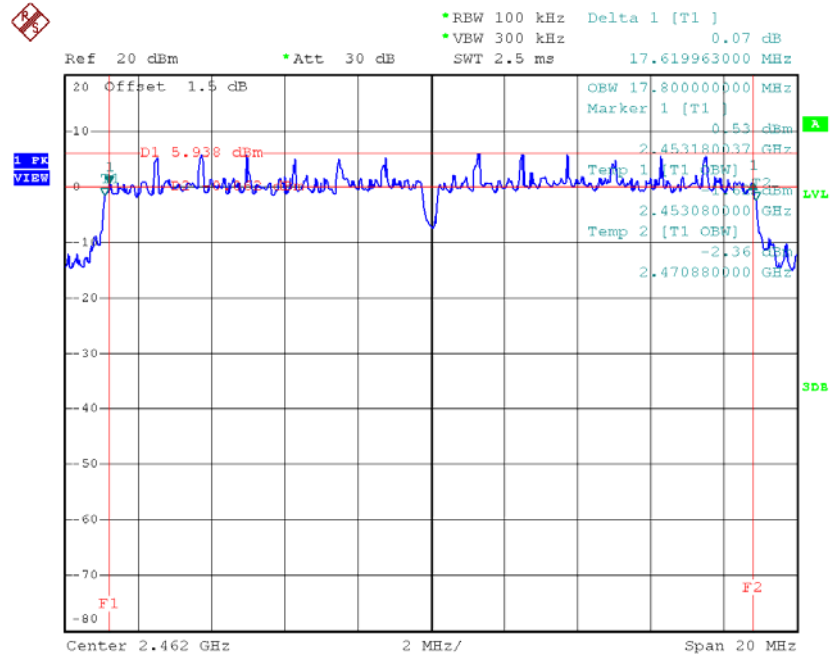
Date: 11.APR.2017 19:35:21

TX CH06



Date: 11.APR.2017 19:36:29

TX CH11



Date: 11.APR.2017 19:37:40

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	10.28	0.01	30.00	1.00	Complies
2437	9.35	0.01	30.00	1.00	Complies
2462	8.16	0.01	30.00	1.00	Complies

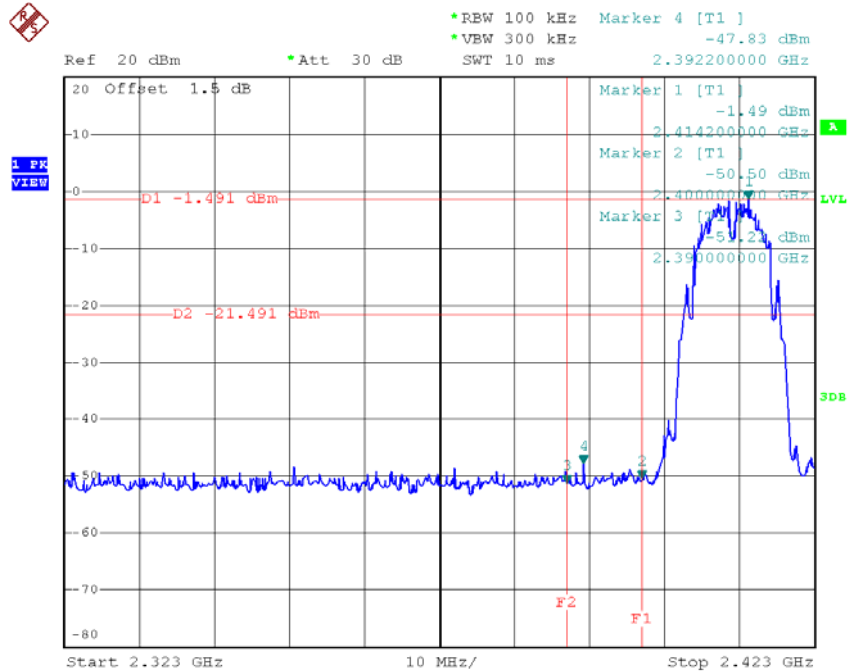
Test Mode :TX G Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.70	0.15	30.00	1.00	Complies
2437	21.64	0.15	30.00	1.00	Complies
2462	21.74	0.15	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	17.65	0.06	30.00	1.00	Complies
2437	16.86	0.05	30.00	1.00	Complies
2462	16.99	0.05	30.00	1.00	Complies

ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

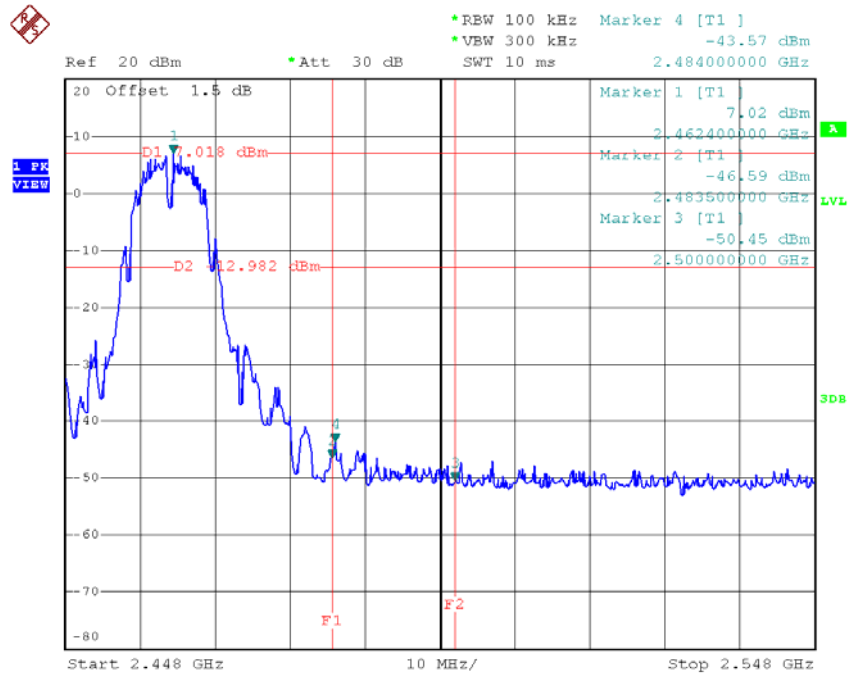
Test Mode : TX B Mode

TX B mode CH01



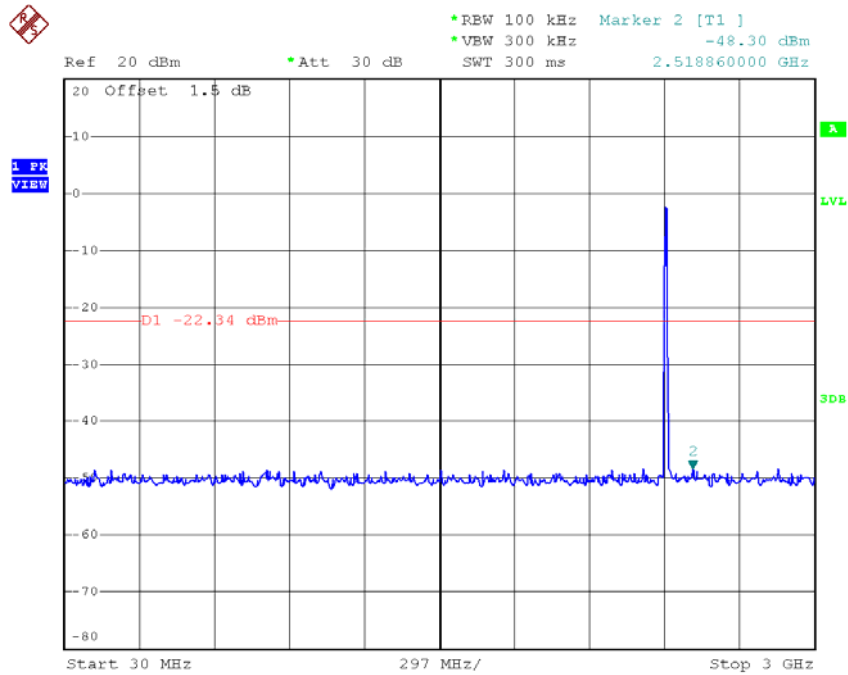
Date: 11.APR.2017 19:24:36

TX B MODE_CH11

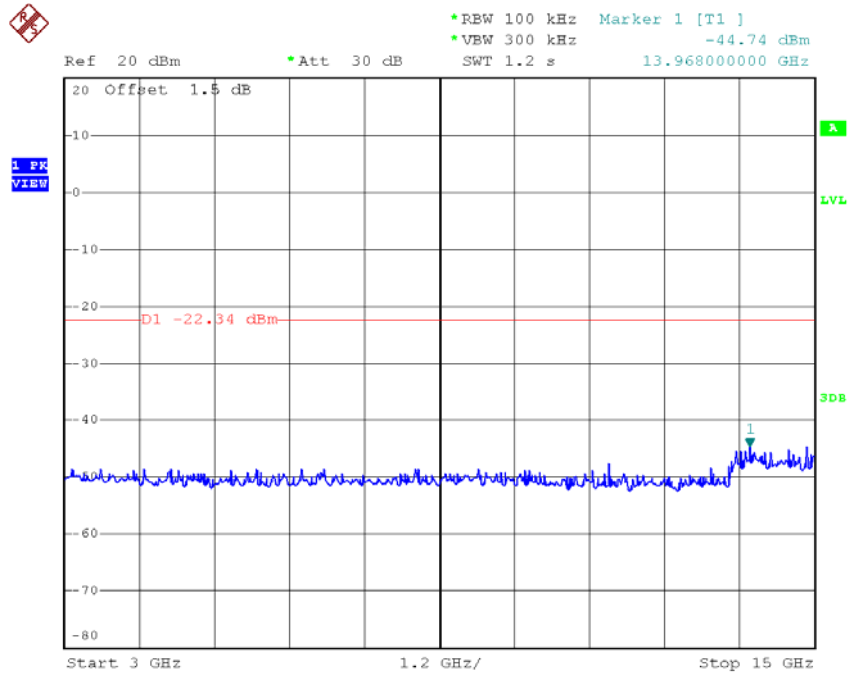


Date: 11.APR.2017 19:28:07

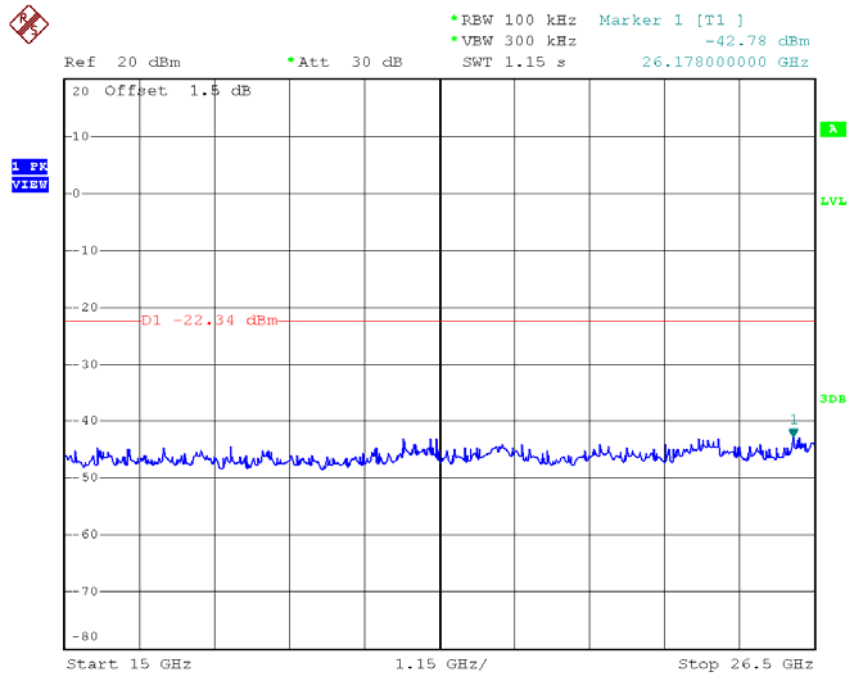
TX B mode CH01 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:24:11

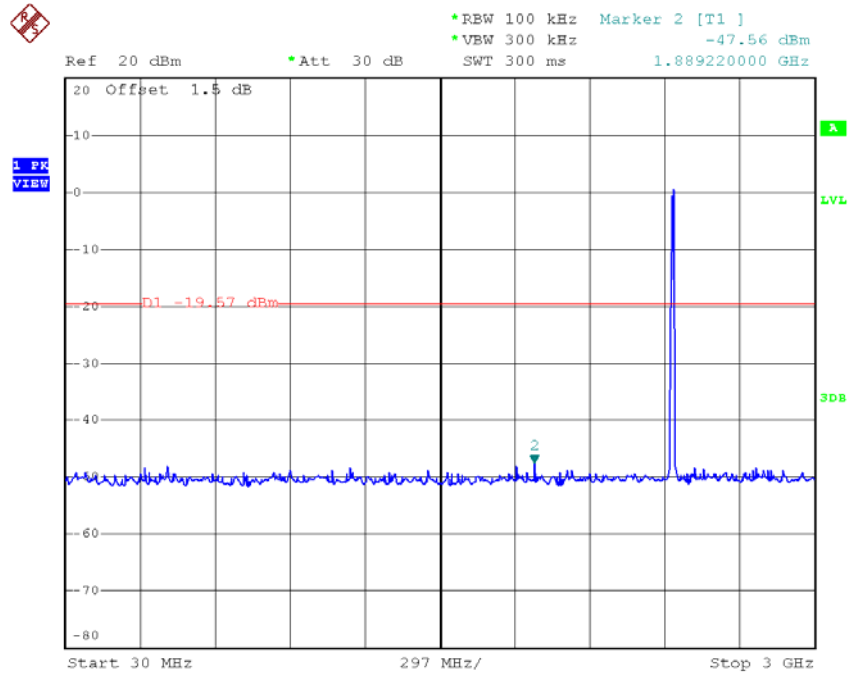


Date: 11.APR.2017 19:24:20

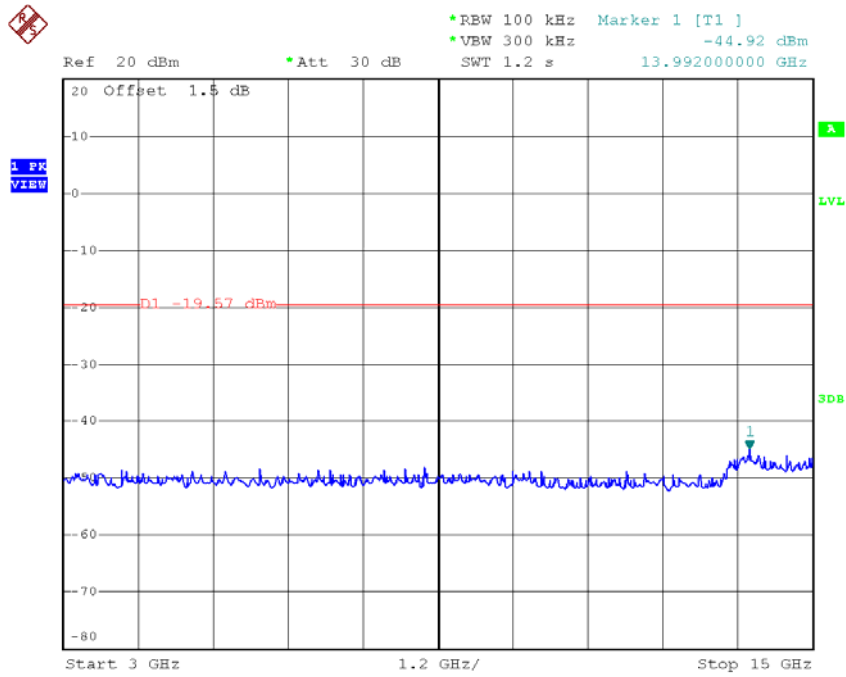


Date: 11.APR.2017 19:24:28

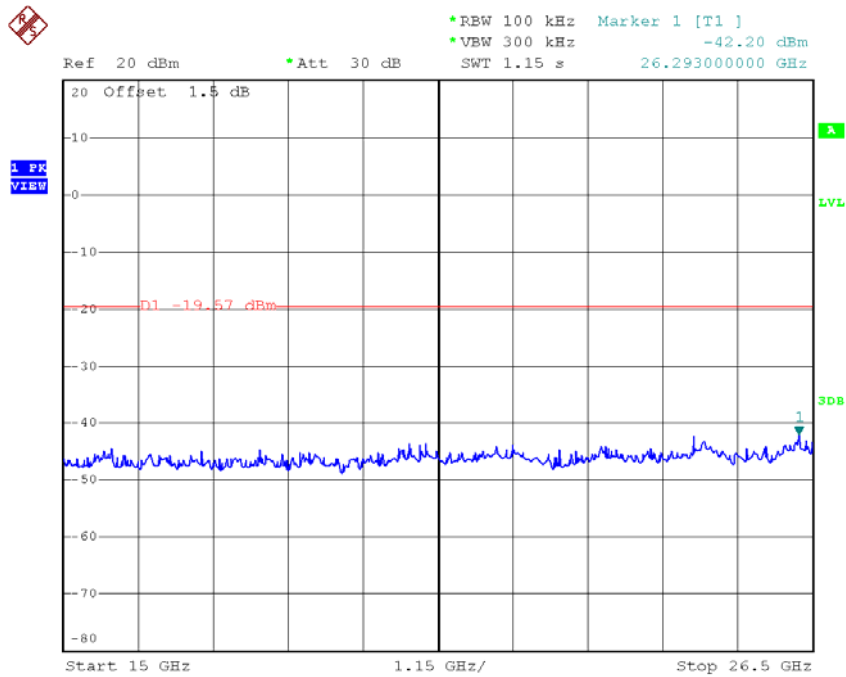
TX B mode CH06 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:26:16

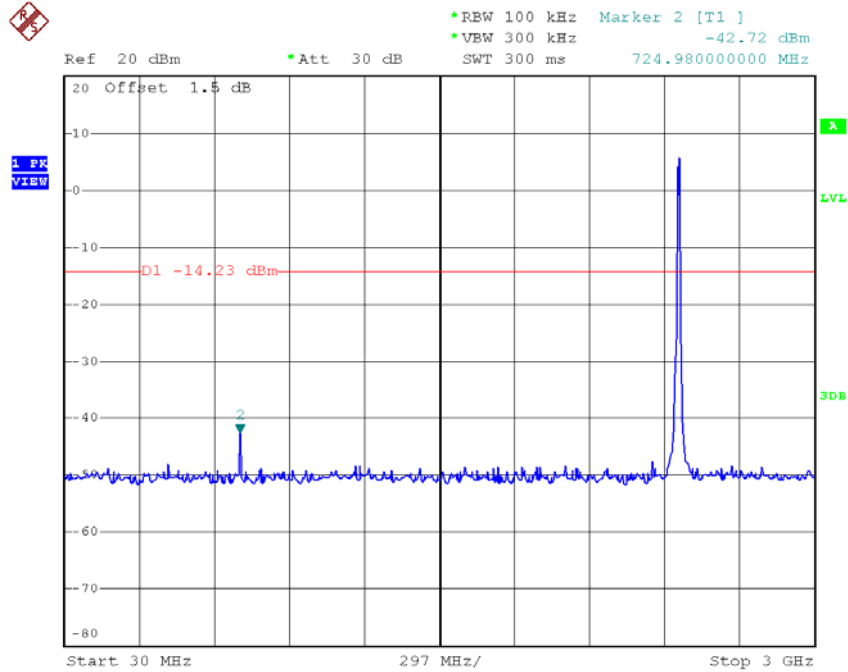


Date: 11.APR.2017 19:26:25

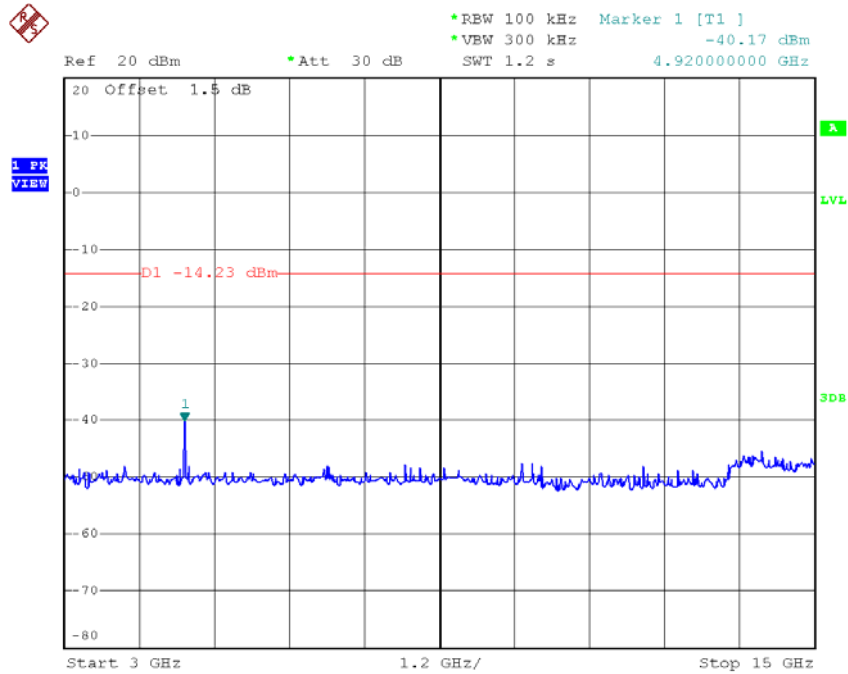


Date: 11.APR.2017 19:26:33

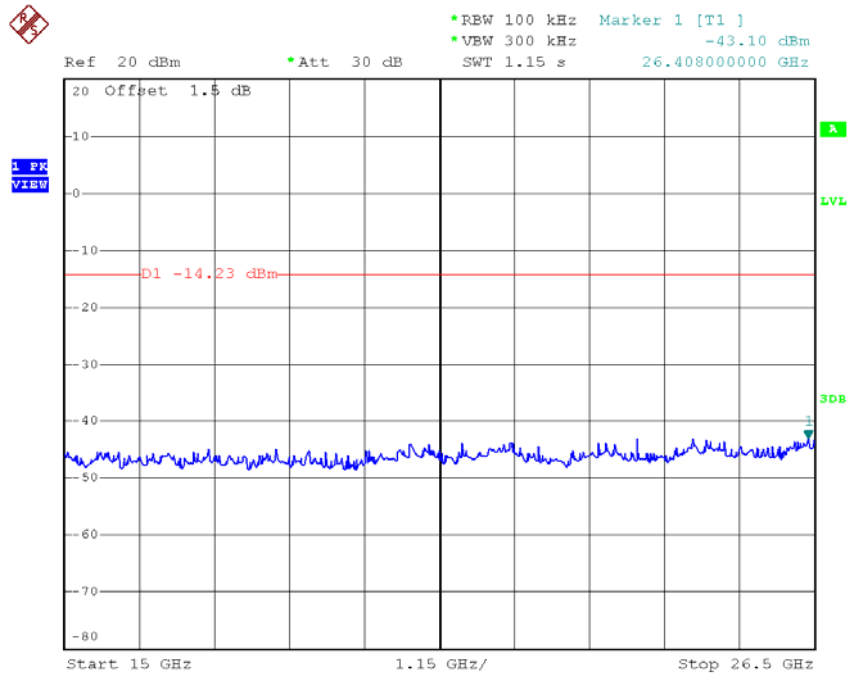
TX B MODE_CH11 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:27:42



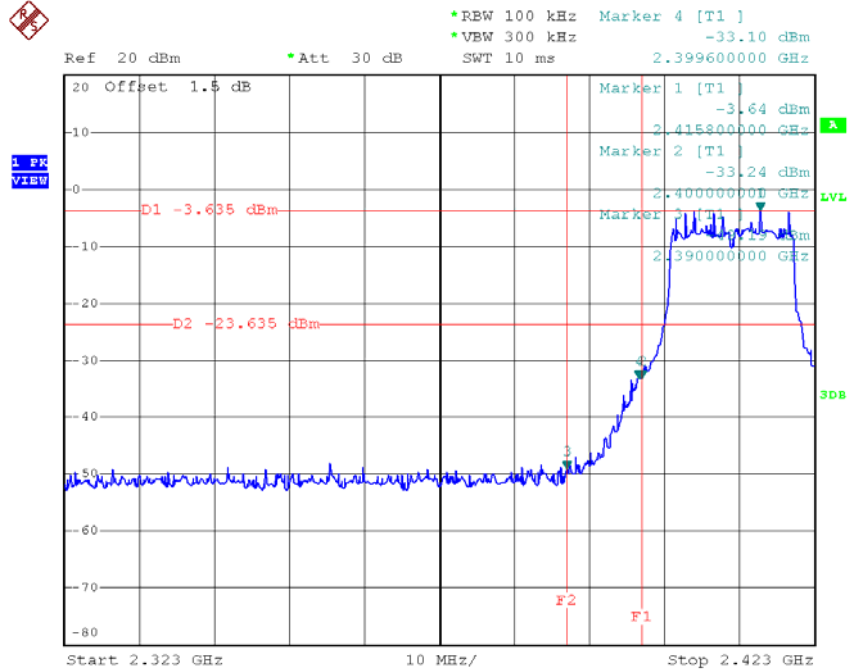
Date: 11.APR.2017 19:27:51



Date: 11.APR.2017 19:27:59

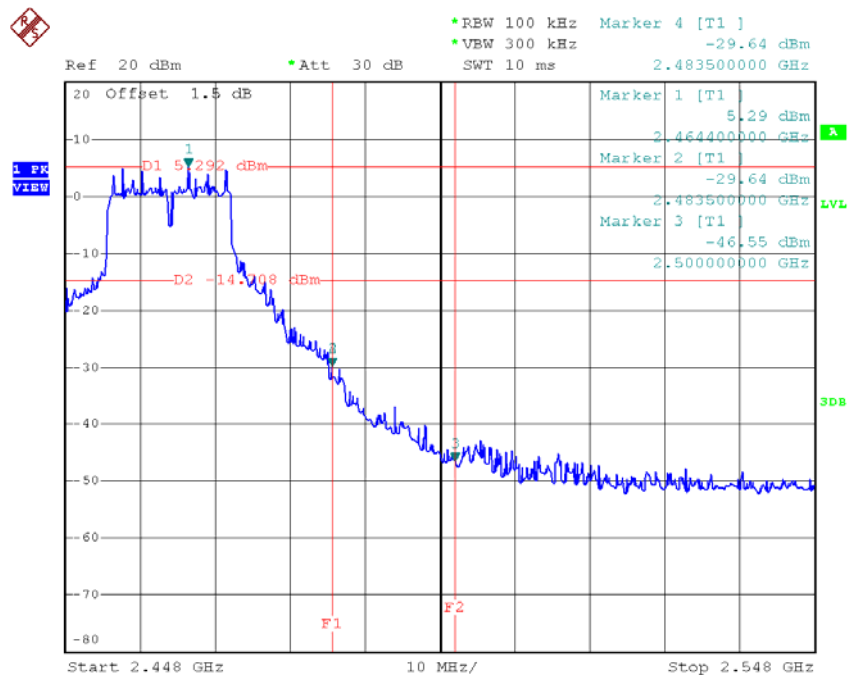
Test Mode : TX G Mode

TX G mode CH01



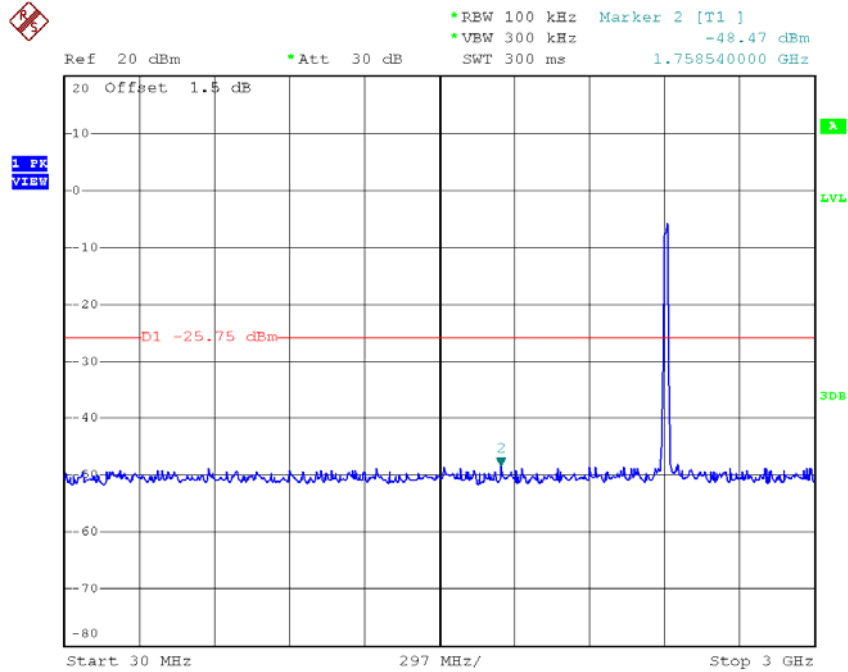
Date: 11.APR.2017 19:29:30

TX G MODE_CH11

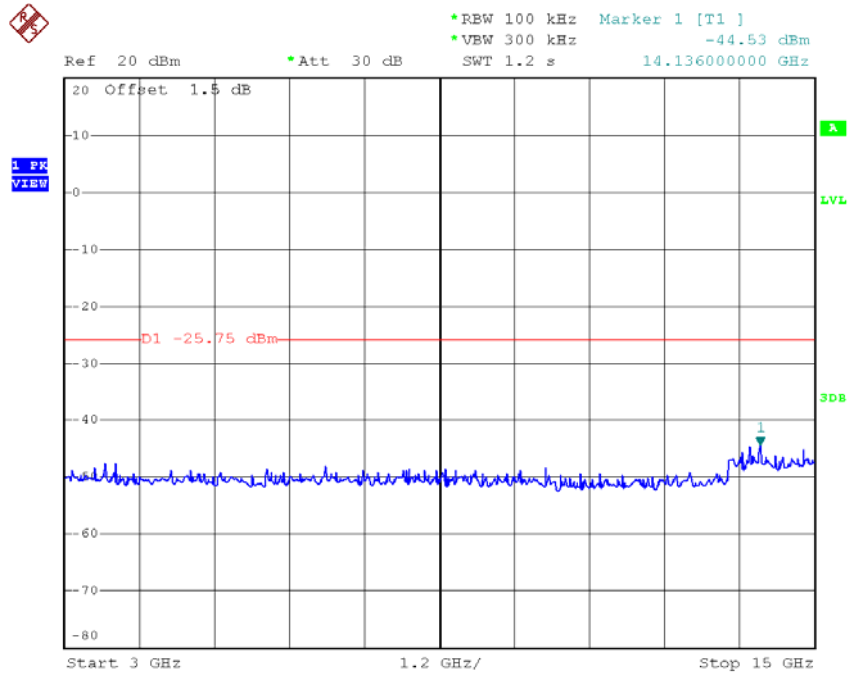


Date: 11.APR.2017 19:31:58

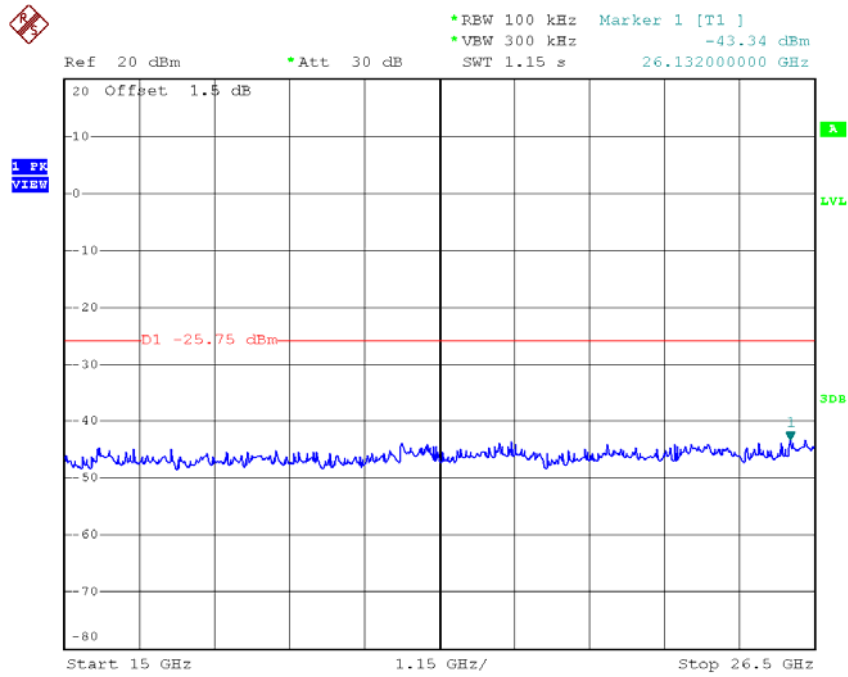
TX G mode CH01 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:29:06

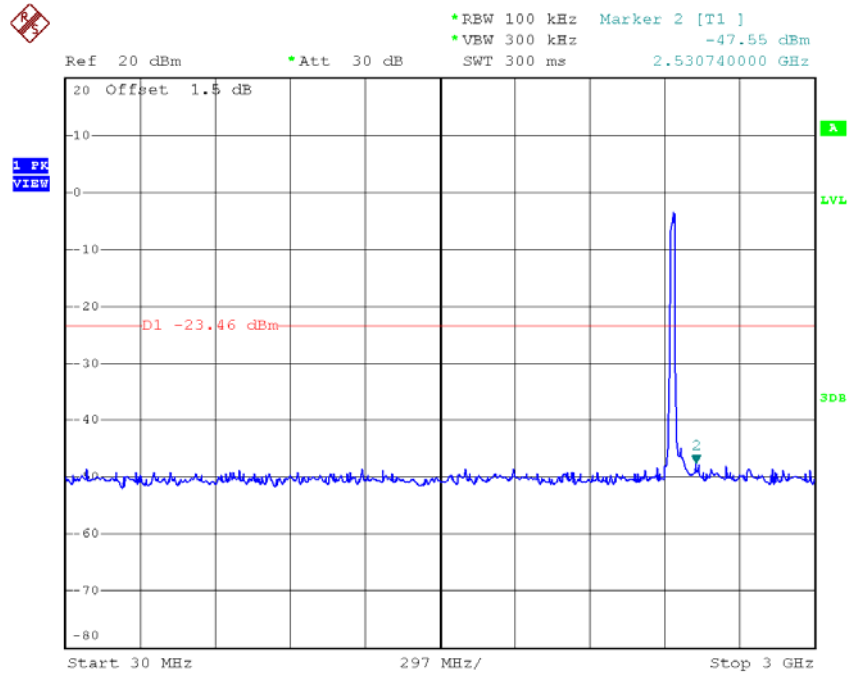


Date: 11.APR.2017 19:29:14

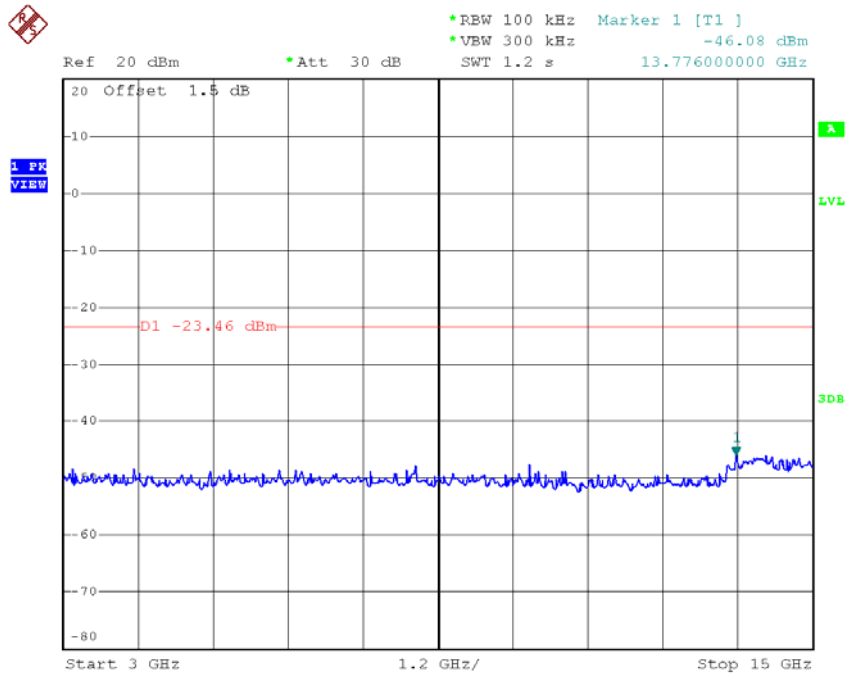


Date: 11.APR.2017 19:29:23

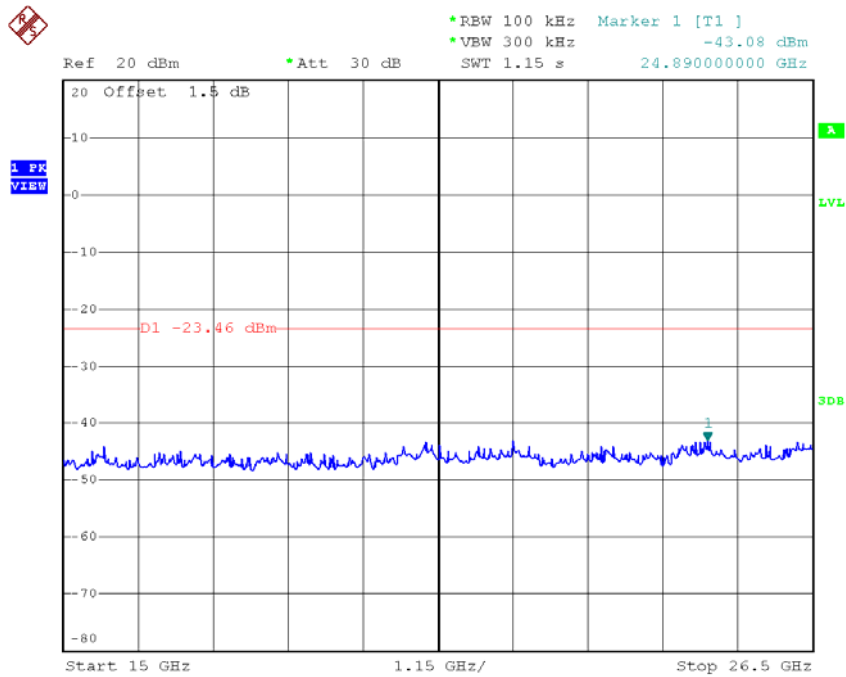
TX G mode CH06 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:30:23

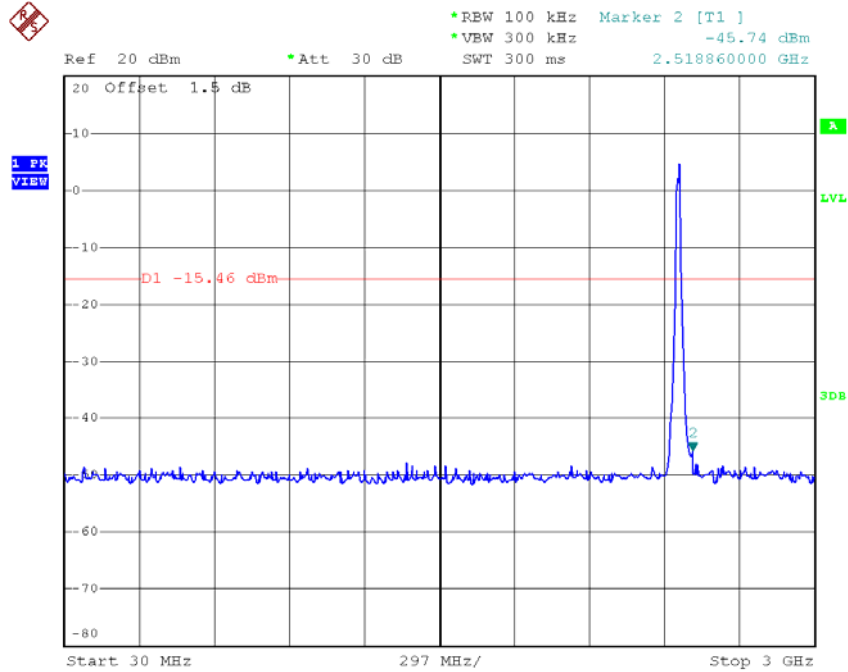


Date: 11.APR.2017 19:30:32

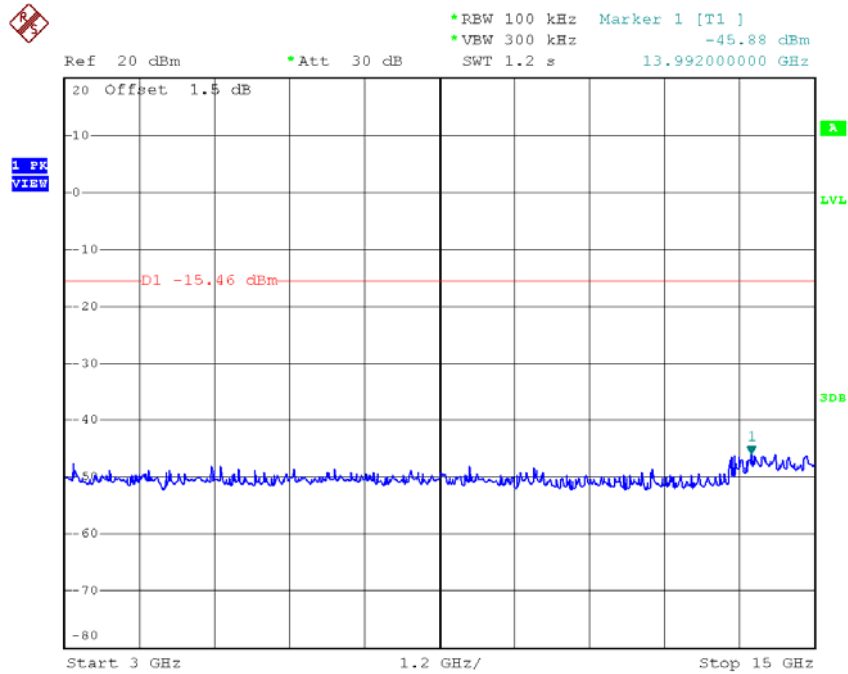


Date: 11.APR.2017 19:30:40

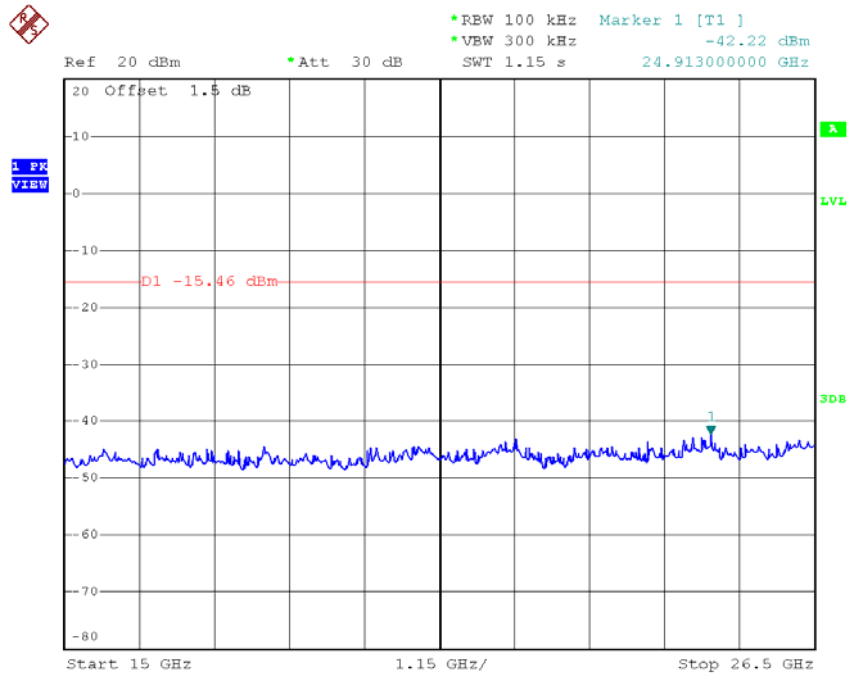
TX G MODE_CH11 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:31:33



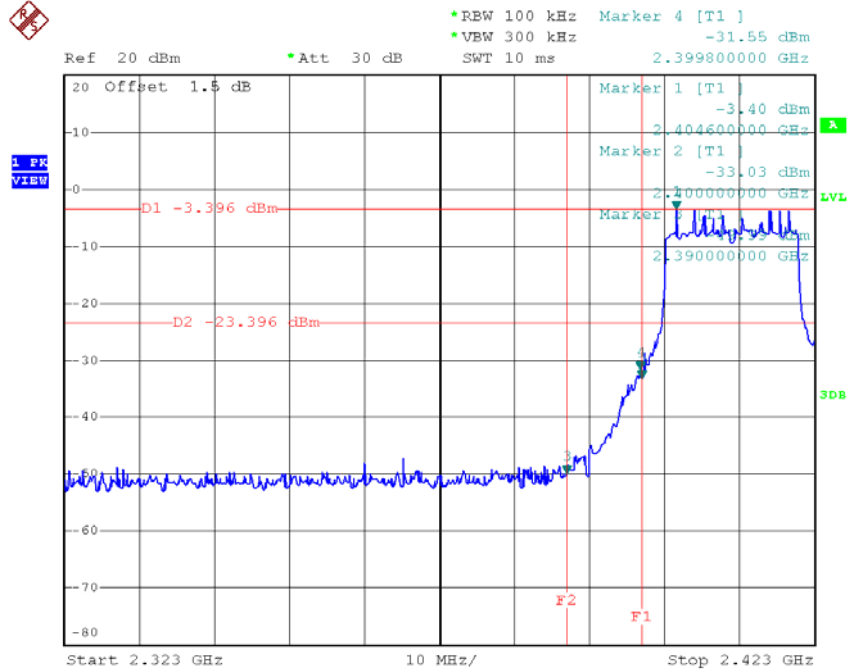
Date: 11.APR.2017 19:31:41



Date: 11.APR.2017 19:31:50

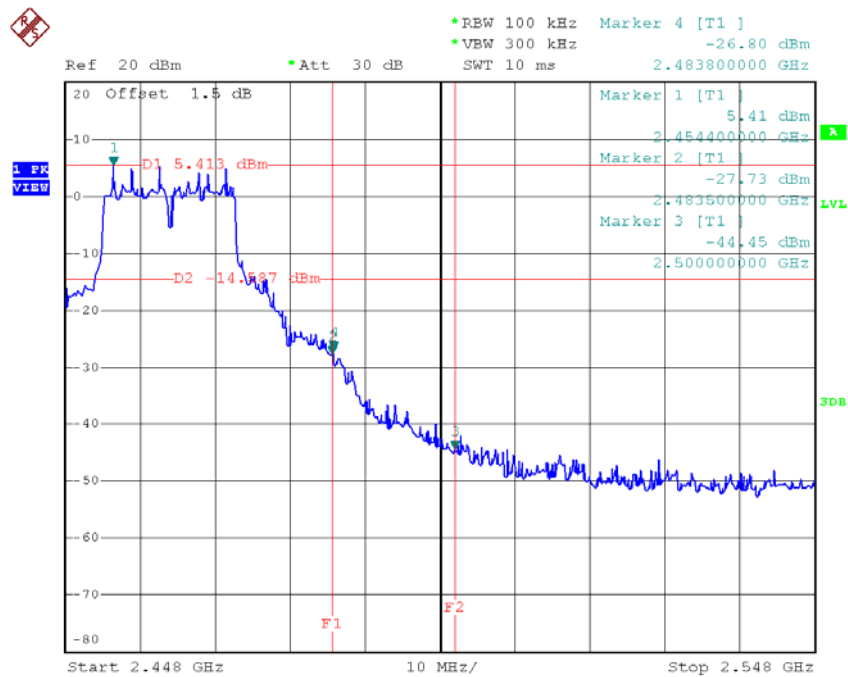
Test Mode : TX N-20M Mode

TX HT20 mode CH01



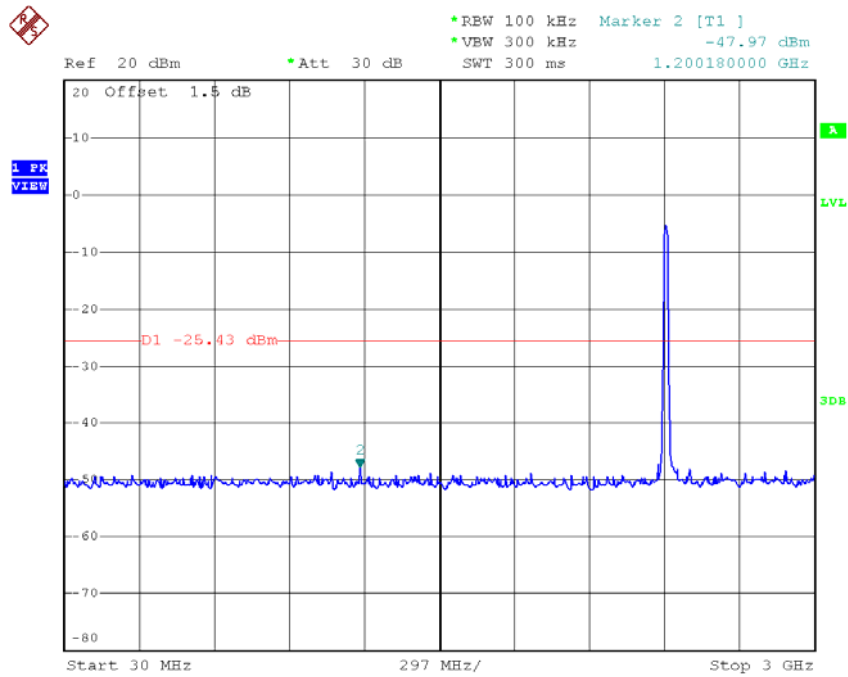
Date: 11.APR.2017 19:36:00

TX HT20 MODE_CH11

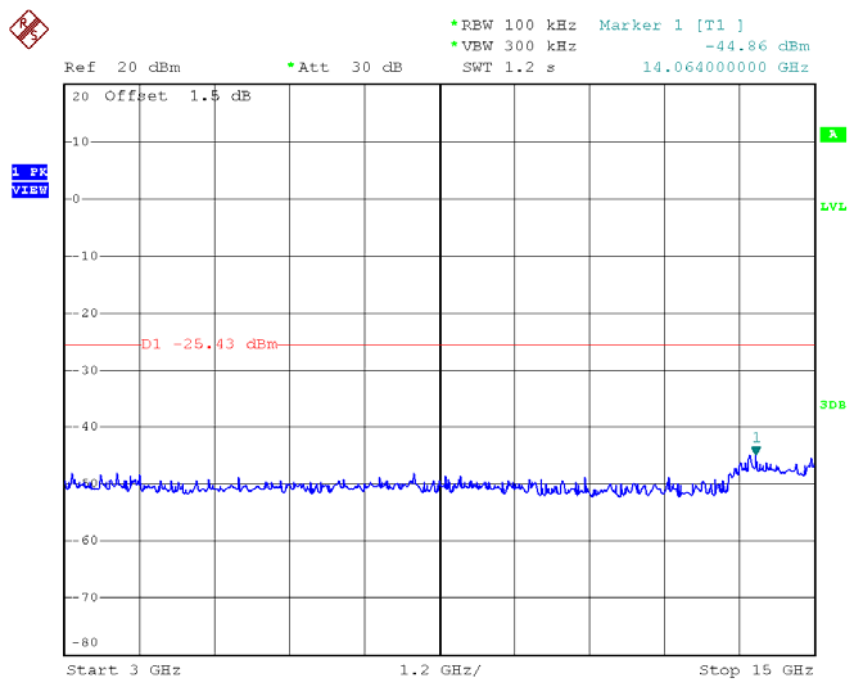


Date: 11.APR.2017 19:38:18

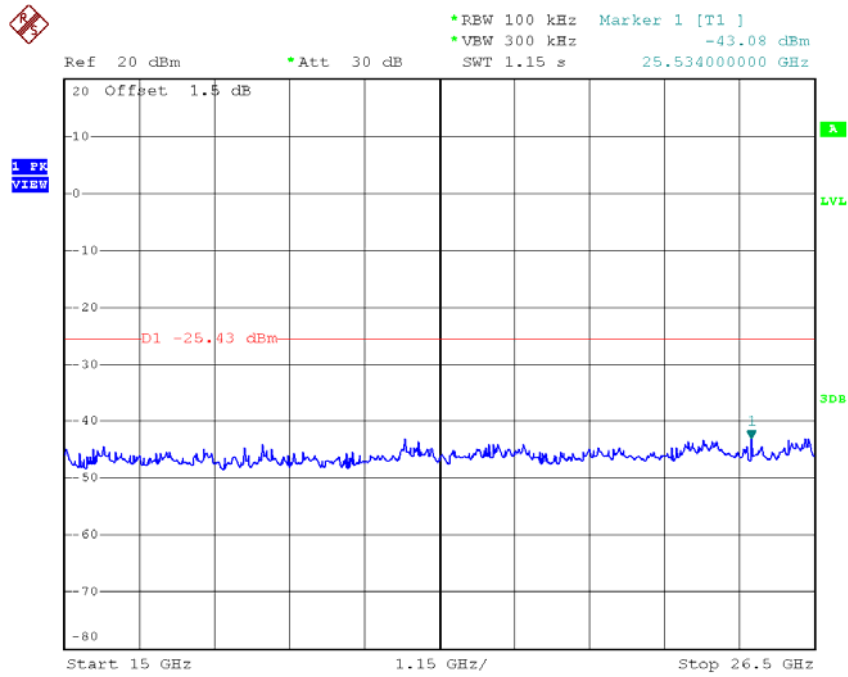
TX HT20 mode CH01 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:35:35

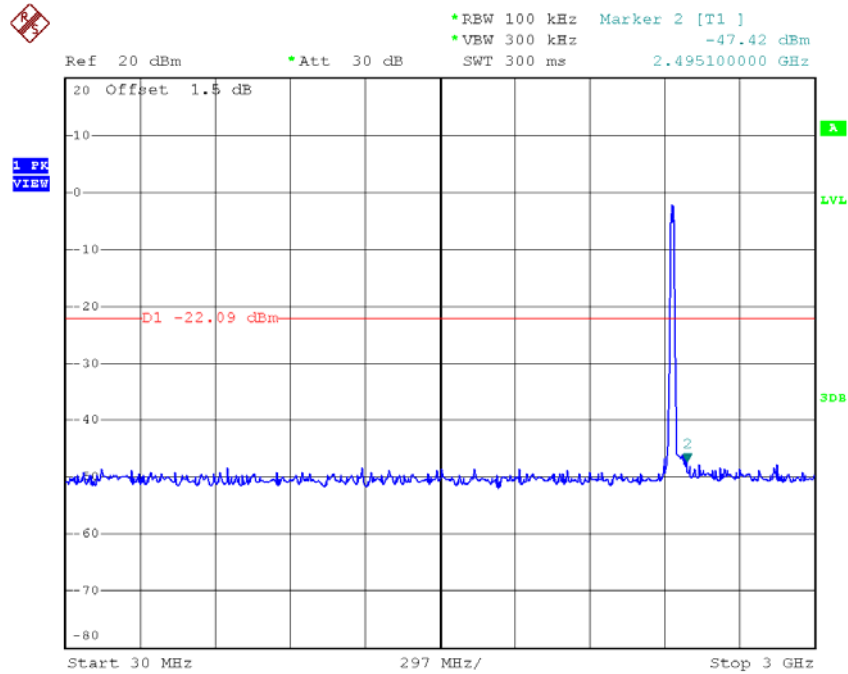


Date: 11.APR.2017 19:35:43

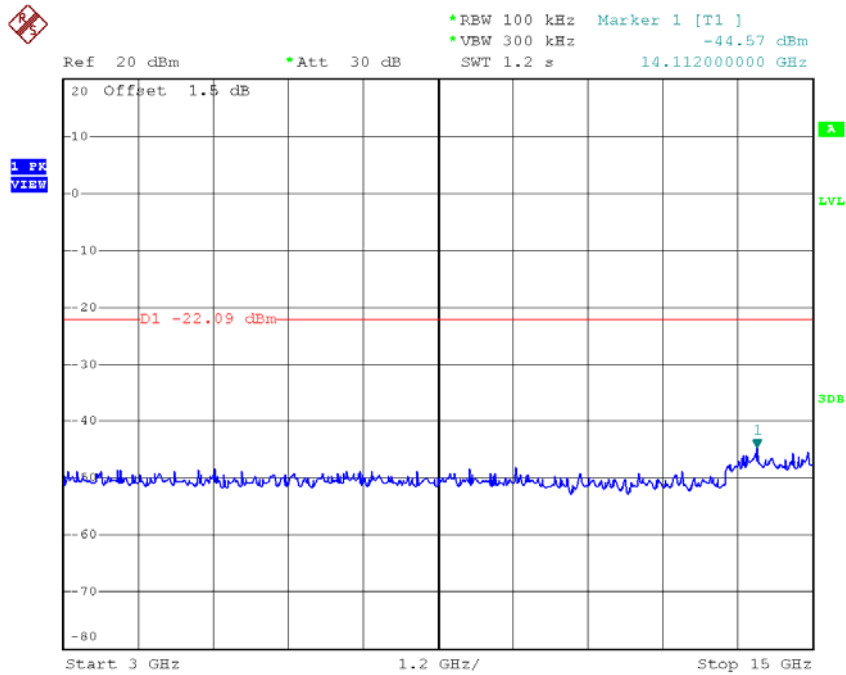


Date: 11.APR.2017 19:35:52

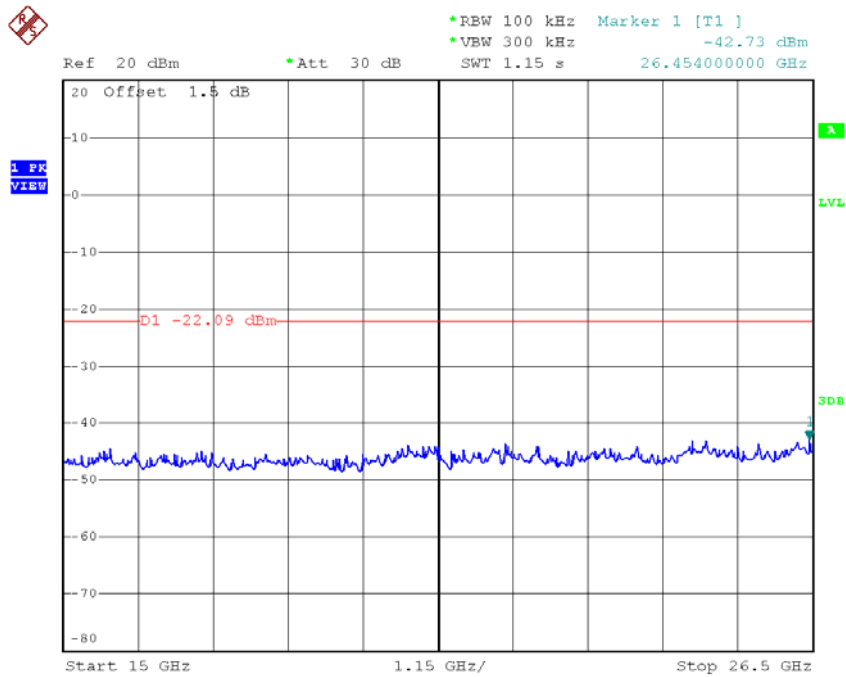
TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:36:43

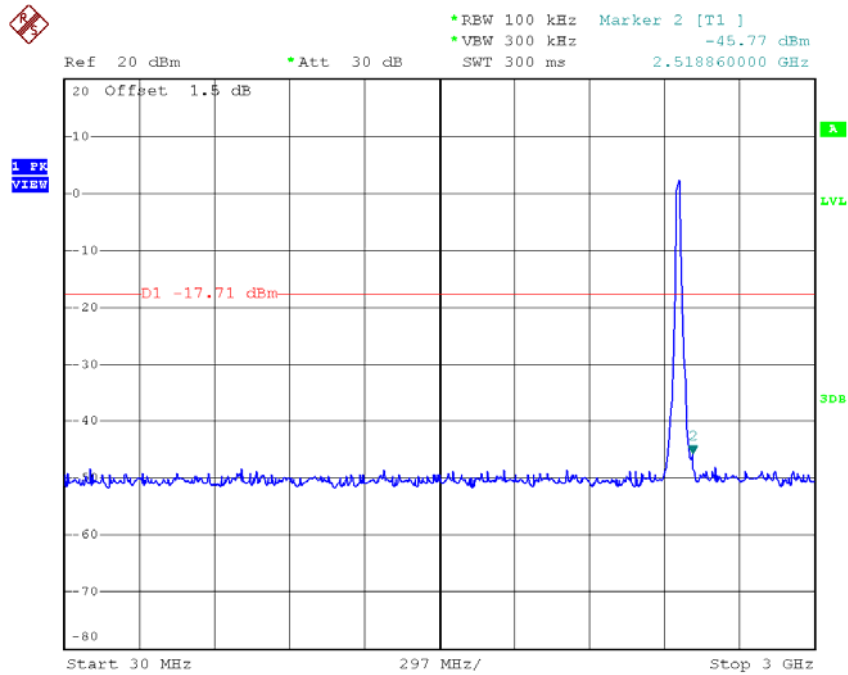


Date: 11.APR.2017 19:36:51

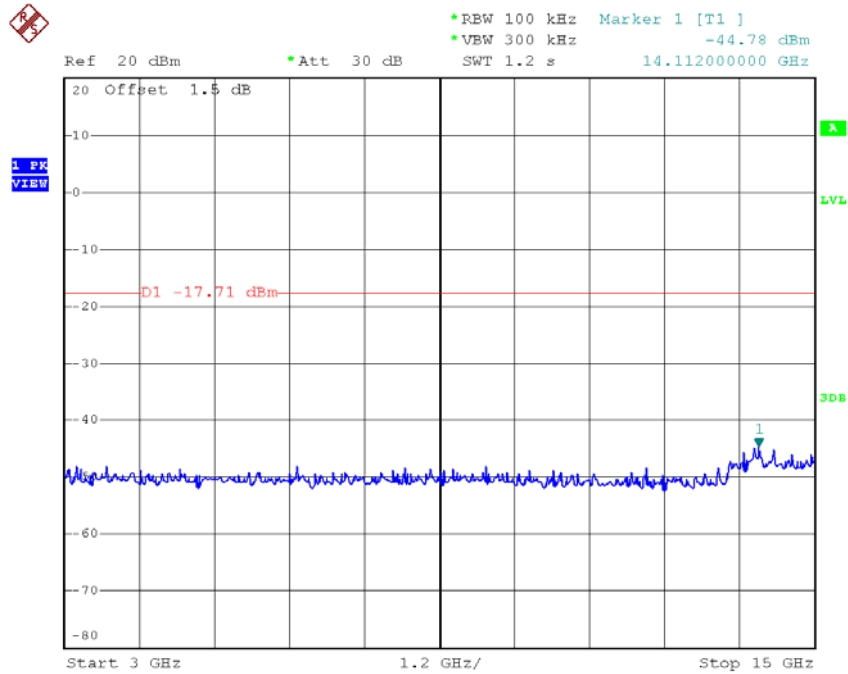


Date: 11.APR.2017 19:36:59

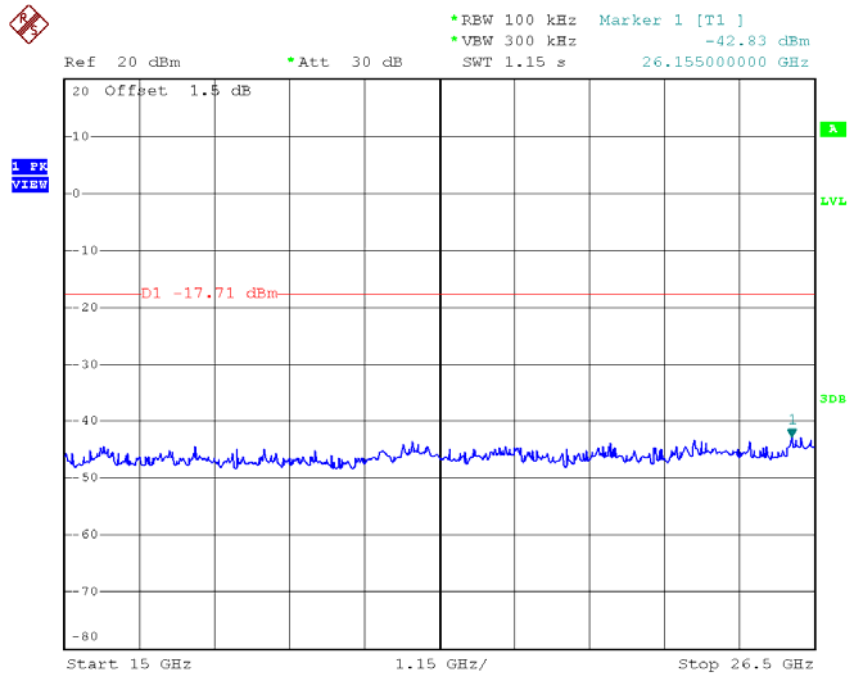
TX HT20 MODE_CH11 (10 Harmonic of the frequency)



Date: 11.APR.2017 19:37:54



Date: 11.APR.2017 19:38:02



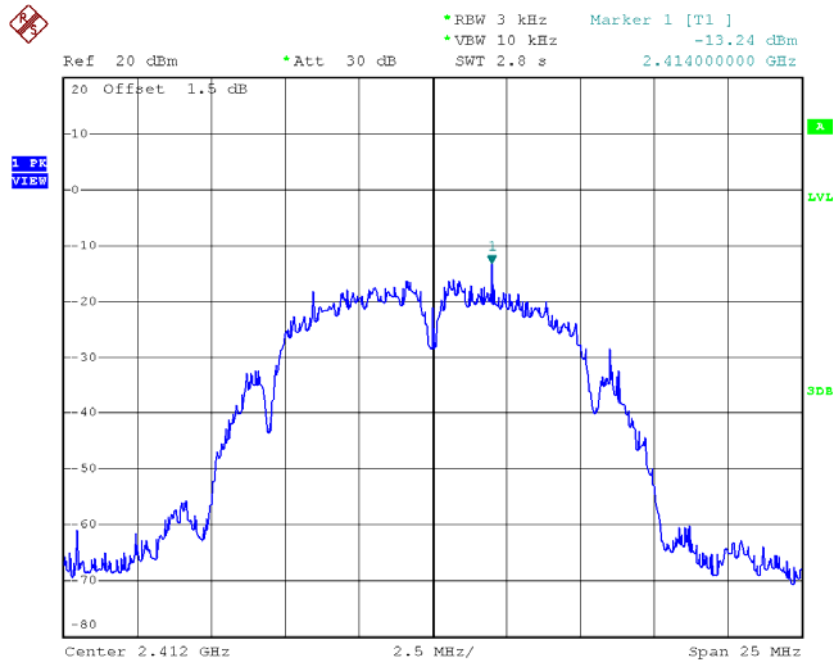
Date: 11.APR.2017 19:38:11

ATTACHMENT H - POWER SPECTRAL DENSITY

Test Mode :TX B Mode_CH01/06/11

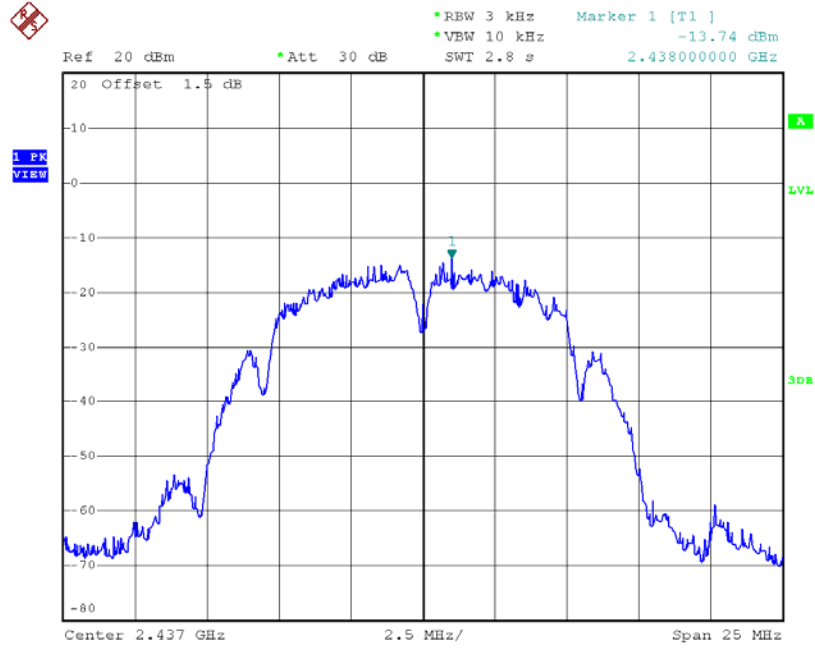
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.24	0.0474	8.00	Complies
2437	-13.74	0.0423	8.00	Complies
2462	-7.06	0.1968	8.00	Complies

TX CH01



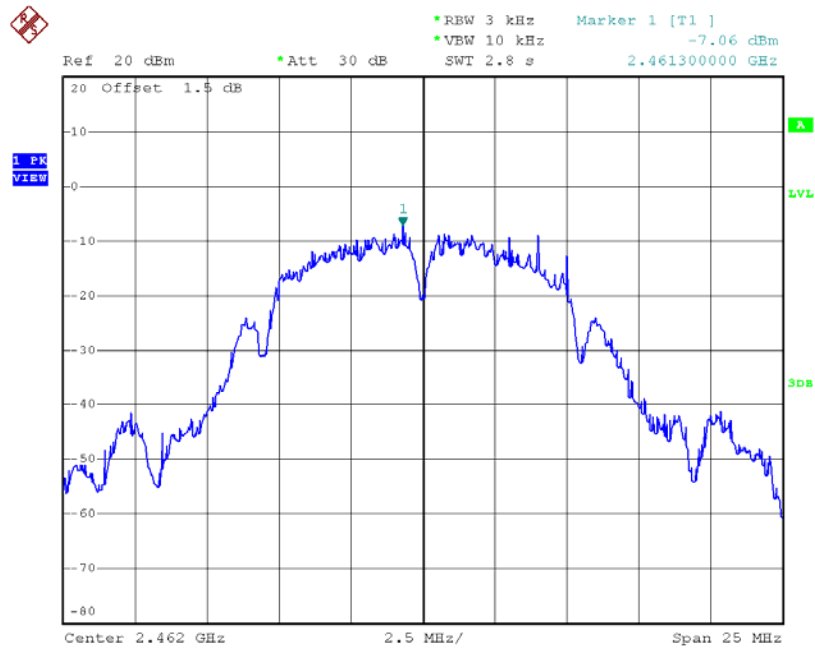
Date: 11.APR.2017 19:24:45

TX CH06



Date: 11.APR.2017 19:26:42

TX CH11

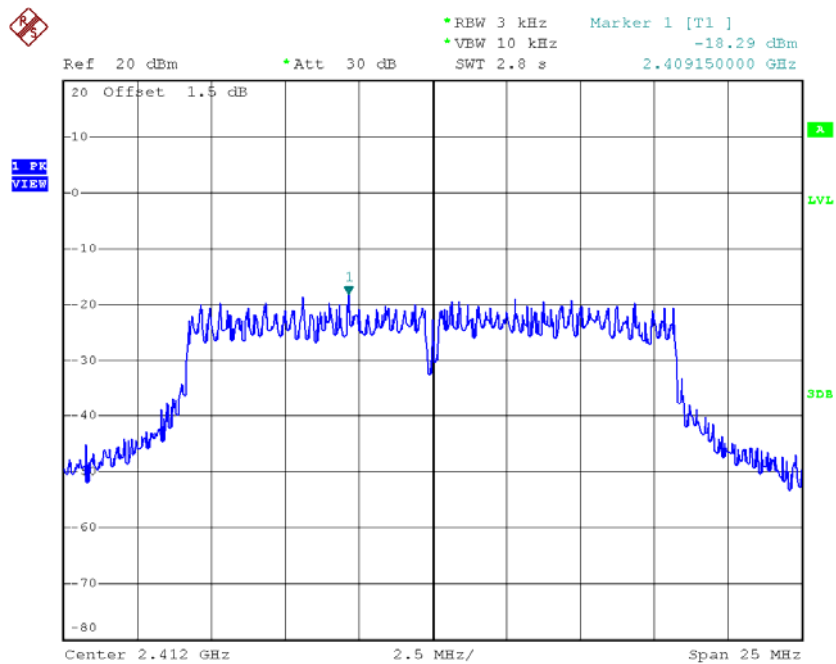


Date: 11.APR.2017 19:28:16

Test Mode :TX G Mode_CH01/06/11

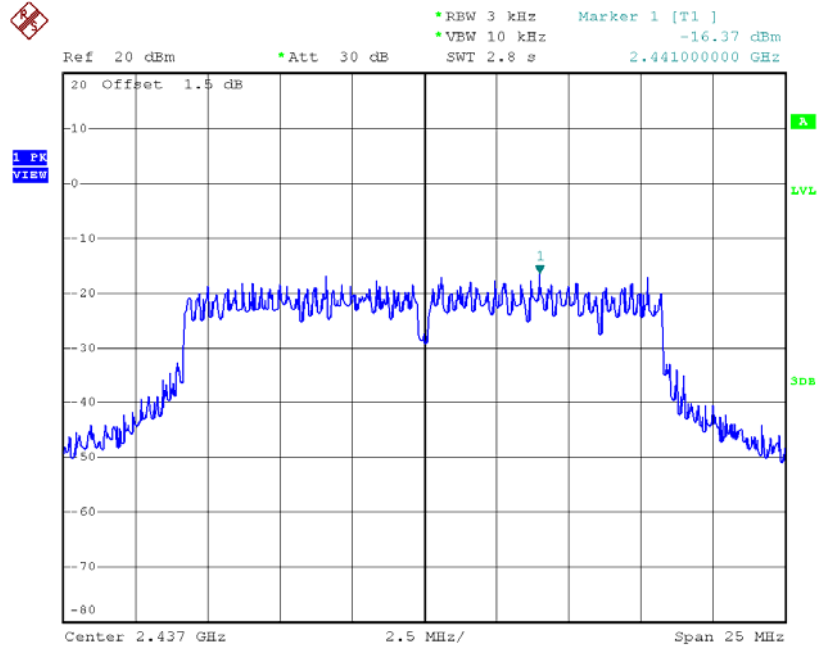
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-18.29	0.0148	8.00	Complies
2437	-16.37	0.0231	8.00	Complies
2462	-10.15	0.0966	8.00	Complies

TX CH01



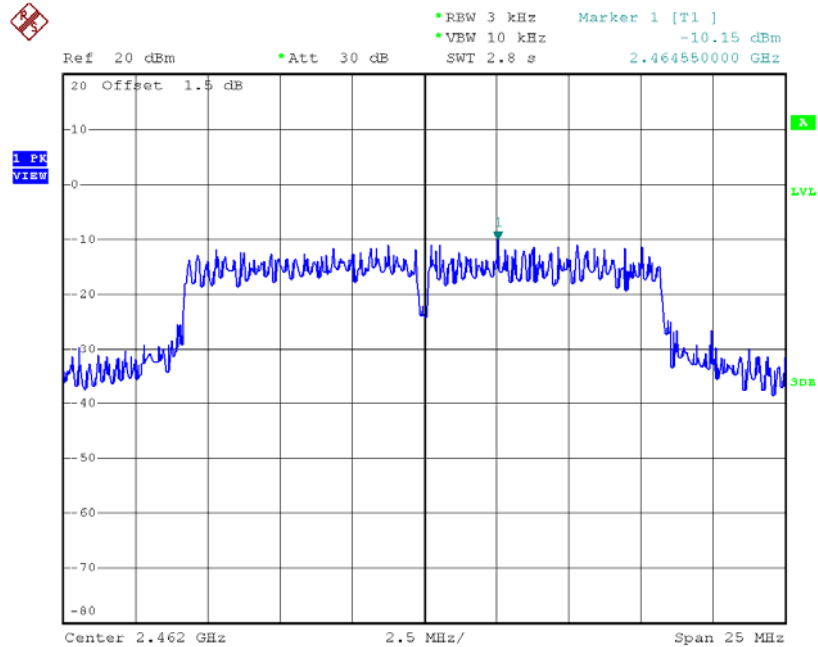
Date: 11.APR.2017 19:29:40

TX CH06



Date: 11.APR.2017 19:30:49

TX CH11

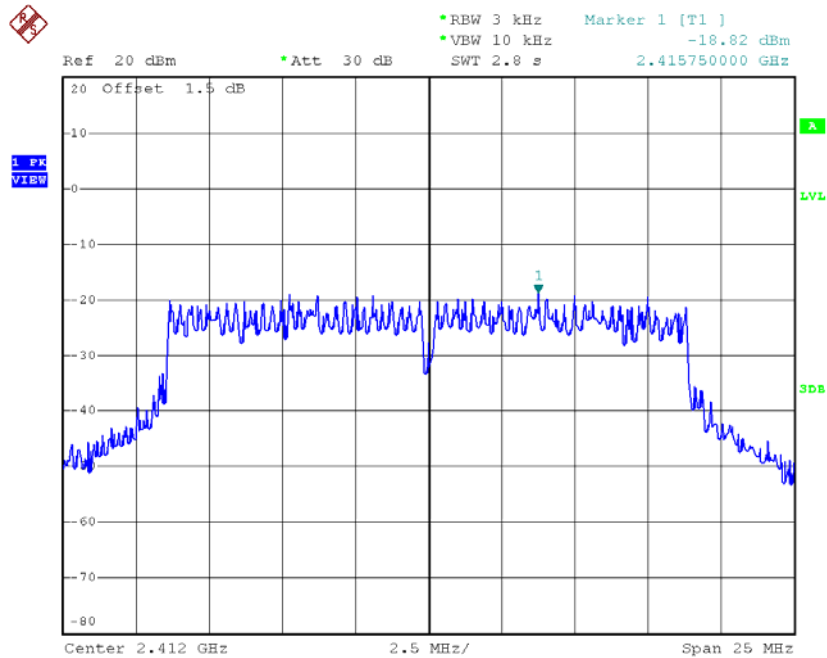


Date: 11.APR.2017 19:32:07

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

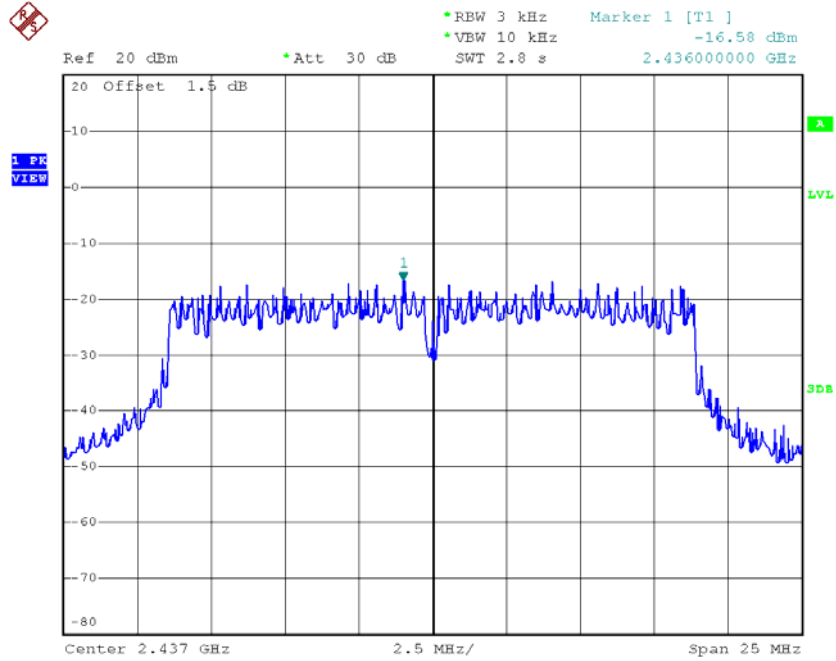
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-18.82	0.0131	8.00	Complies
2437	-16.58	0.0220	8.00	Complies
2462	-9.86	0.1033	8.00	Complies

TX CH01



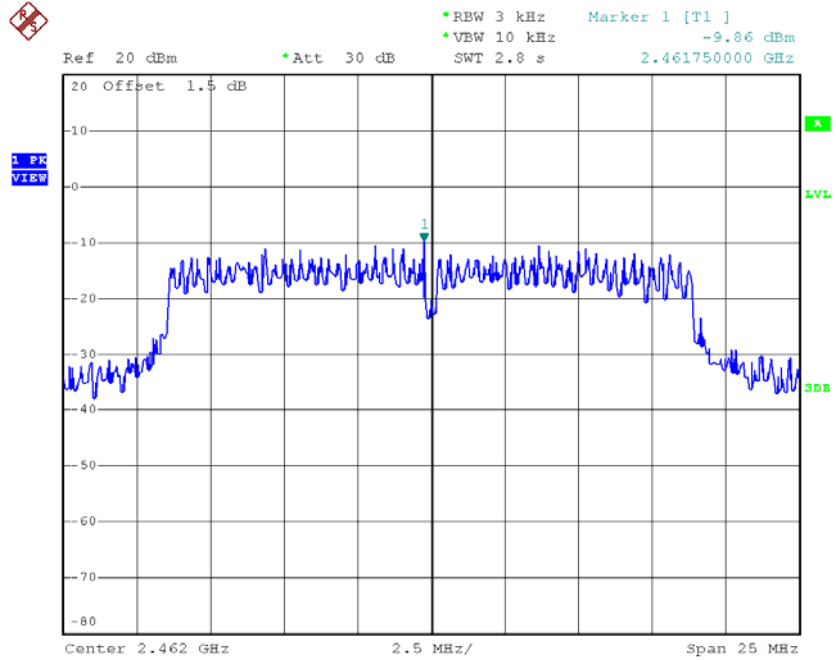
Date: 11.APR.2017 19:36:09

TX CH06



Date: 11.APR.2017 19:37:09

TX CH11



Date: 11.APR.2017 19:38:28