

FCC Radio Test Report

FCC ID: 2AVUGAP4220

This report concerns: **Original Grant**

Project No. : 1903C114A
Equipment : Wireless LAN Access Point
Brand Name : Alibaba Cloud
Test Model : AP4220
Series Model : N/A
Applicant : Alibaba Cloud Computing Co.,Ltd
Address : Building 8, No.16, Zhuan Tang Jing Ji Qu Kuai, Xihu District, Hangzhou, Zhejiang, China
Manufacturer : Alibaba Cloud Computing Co.,Ltd
Address : Building 8, No.16, Zhuan Tang Jing Ji Qu Kuai, Xihu District, Hangzhou, Zhejiang, China
Factory : Joy Technology (ShenZhen) Corporation
Address : HengKeng Ind., Shangpai, Shangwu, Aiqun Rd., Shiyan Town, Shenzhen 518108 China
Date of Receipt : Jan. 08, 2020
Date of Test : Jan. 08, 2020 ~ Apr. 13, 2020
Issued Date : Apr. 14, 2020
Report Version : R01
Test Sample : Engineering Sample No.: D190302460
Standard(s) : FCC Part15, Subpart C (15.247)
 ANSI C63.10-2013
 FCC KDB 558074 D01 15.247 Meas Guidance v05r02

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Chay Cai
 Prepared by : Chay Cai

Ethan Ma
 Approved by : Ethan Ma



Certificate #5123.02

Add: No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

Tel: +86-769-8318-3000

Web: www.newbtl.com

Declaration

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

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

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

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

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

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

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Table of Contents	Page
REPORT ISSUED HISTORY	5
1 . SUMMARY OF TEST RESULTS	6
1.1 TEST FACILITY	7
1.2 MEASUREMENT UNCERTAINTY	7
1.3 TEST ENVIRONMENT CONDITIONS	7
2 . GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF EUT	8
2.2 DESCRIPTION OF TEST MODES	10
2.3 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING	12
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	13
2.5 DESCRIPTION OF SUPPORT UNITS	13
3 . EMC EMISSION TEST	14
3.1 AC POWER LINE CONDUCTED EMISSIONS TEST	14
3.1.1 LIMITS	14
3.1.2 TEST PROCEDURE	14
3.1.3 DEVIATION FROM TEST STANDARD	14
3.1.4 TEST SETUP	15
3.1.5 EUT OPERATING CONDITIONS	15
3.1.6 TEST RESULTS	15
3.2 RADIATED EMISSION TEST	16
3.2.1 LIMITS	16
3.2.2 TEST PROCEDURE	17
3.2.3 DEVIATION FROM TEST STANDARD	17
3.2.4 TEST SETUP	18
3.2.5 EUT OPERATING CONDITIONS	19
3.2.6 TEST RESULTS (9KHZ TO 30MHZ)	19
3.2.7 TEST RESULTS (30MHZ TO 1000 MHZ)	19
3.2.8 TEST RESULTS (ABOVE 1000 MHZ)	19
4 . BANDWIDTH TEST	20
4.1 LIMIT	20
4.1.1 TEST PROCEDURE	20
4.1.2 DEVIATION FROM STANDARD	20
4.1.3 TEST SETUP	20
4.1.4 EUT OPERATION CONDITIONS	20
4.1.5 EUT TEST CONDITIONS	20
4.1.6 TEST RESULTS	20
5 . MAXIMUM PEAK OUTPUT POWER TEST	21

Table of Contents	Page
5.1 LIMIT	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 TEST RESULTS	21
6 . ANTENNA CONDUCTED SPURIOUS EMISSION	22
6.1 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 TEST RESULTS	22
7 . POWER SPECTRAL DENSITY TEST	23
7.1 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 TEST RESULTS	23
8 . MEASUREMENT INSTRUMENTS LIST	24
9 . EUT TEST PHOTO	26
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	30
APPENDIX B - RADIATED EMISSION (9KHZ TO 30MHZ)	35
APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)	40
APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)	47
APPENDIX E - BANDWIDTH	98
APPENDIX F - MAXIMUM PEAK OUTPUT POWER	107
APPENDIX G - CONDUCTED SPURIOUS EMISSION	115
APPENDIX H - POWER SPECTRAL DENSITY	212

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Apr. 07, 2020
R01	Modified the comments of TCB.	Apr. 14, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart C (15.247)				
Standard(s) Section	Test Item	Test Result	Judgment	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	-----
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	-----
15.247(a)(2)	Bandwidth	APPENDIX E	PASS	-----
15.247(b)(3)	Maximum Output Power	APPENDIX F	PASS	-----
15.247(d)	Conducted Spurious Emissions	APPENDIX G	PASS	-----
15.247(e)	Power Spectral Density	APPENDIX H	PASS	-----
15.203	Antenna Requirement	-----	PASS	Note(2)

Note:

- (1)" N/A" denotes test is not applicable in this test report.
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

1.1 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 Registration Number for FCC: 357015
BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))
The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.60

B. Radiated emissions test:

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	4.88
		30MHz ~ 200MHz	H	4.14
		200MHz ~ 1,000MHz	V	4.62
		200MHz ~ 1,000MHz	H	4.80
		1GHz ~ 6GHz	-	4.58
		6GHz ~ 18GHz	-	5.18
		18GHz ~ 26.5GHz	-	3.62
		26.5GHz ~ 40GHz	-	4.00

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

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage
AC Power Line Conducted Emissions	25°C	60%	AC 120V/60Hz AC 240V/60Hz
Radiated Emissions-9K-30MHz	25°C	60%	AC 120V/60Hz
Radiated Emissions-30 MHz to 1GHz	25°C	60%	AC 120V/60Hz
Radiated Emissions-Above 1000 MHz	25°C	60%	AC 120V/60Hz
Bandwidth	25°C	60%	DC 48V
Maximum output power	25°C	60%	DC 48V
Conducted Spurious Emissions	25°C	60%	DC 48V
Power Spectral Density	25°C	60%	DC 48V

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless LAN Access Point
Brand Name	Alibaba Cloud
Test Model	AP4220
Series Model	N/A
Model Difference(s)	N/A
Power Source	Supplied from PoE adapter.
Power Rating	DC 48V, 0.35A
Operation Frequency	2412 MHz ~ 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.) -1TX	802.11b: 19.68dBm 802.11g: 17.96dBm 802.11n(20MHz): 17.75dBm 802.11n(40MHz): 16.91dBm
Output Power (Max.) -2TX	802.11b: 22.71dBm 802.11g: 20.63dBm 802.11n(20MHz): 20.66dBm 802.11n(40MHz): 18.73dBm
Output Power (Max.) -2TX Beamforming	802.11n(20MHz): 20.63dBm 802.11n(40MHz): 18.72dBm

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 IEEE 802.11b, IEEE 802.11g, IEEE 802.11n (HT20)							
CH03 - CH09 for IEEE 802.11n (HT40)							
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	Internal	N/A	5.8
2	N/A	N/A	Internal	N/A	5.8

Note:

- This EUT supports MIMO 2X2, any transmit signals are correlate with each other, so Directional gain = $G_{ANT} + 10\log(N)$ dBi, that is Directional gain = $5.8 + 10\log(2)$ dBi = 8.8; So, the output power limit is $30 - 8.8 + 6 = 27.20$, the power density limit is $8 - 8.8 + 6 = 5.2$.
- Beamformign gain = 3dBi. So Directional gain = $5.8 + 3 = 8.8$ dBi. So, the output power limit is $30 - 8.8 + 6 = 27.20$, the power density limit is $8 - 8.8 + 6 = 5.2$.

4. Table for Antenna Configuration:

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

2.2 DESCRIPTION OF TEST MODES

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

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

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

For Conducted Test	
Final Test Mode	Description
Mode 5	TX Mode

For Radiated Test	
Final Test Mode	Description
Mode 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%.
- (5) For radiated emissions, the TX LE 1Mbps 2402 + WLAN 2.4G B Mode 2412 + WLAN 5G A Mode 5825MHz was found the worst case of simultaneous transmission and recorded.

2.3 TABLE OF PARAMETERS OF TEST 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

1TX

Test software version	QSPR		
Frequency (MHz)	2412	2437	2462
802.11b	20	20	20
802.11g	18	18	18
802.11n (20MHz)	18	18	18
Frequency	2422	2437	2452
802.11n (40MHz)	17	17	17

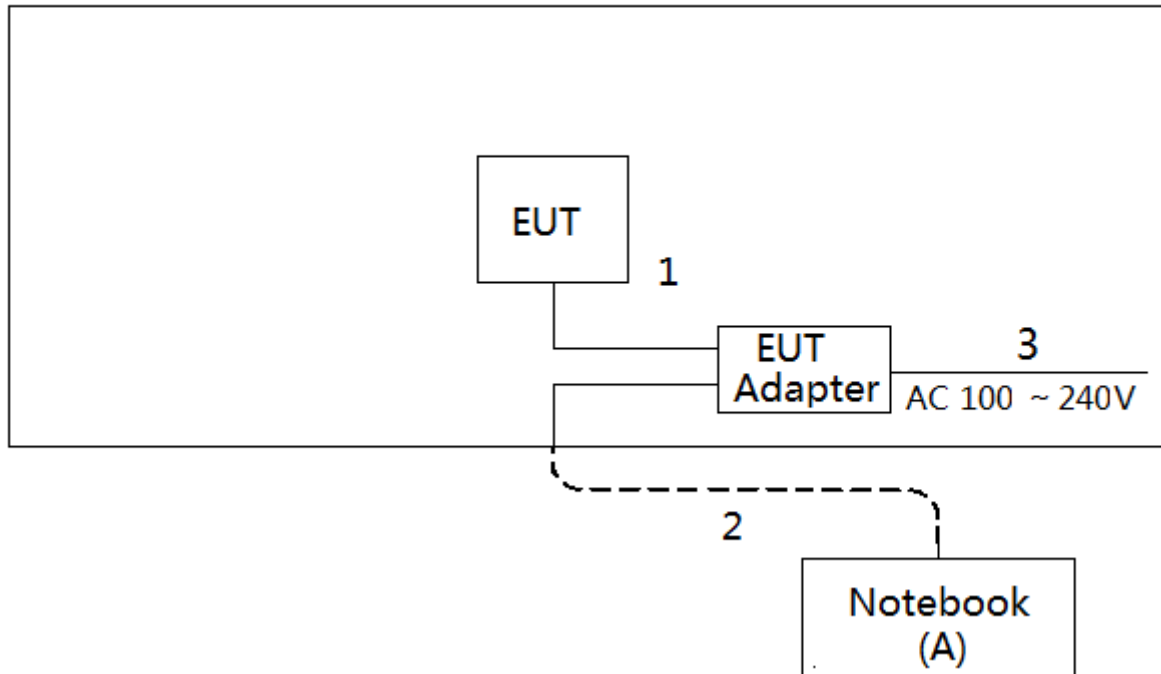
2TX

Test software version	QSPR		
Frequency (MHz)	2412	2437	2462
802.11b	20	20	20
802.11g	16	18	15
802.11n (20MHz)	15	18	15
Frequency	2422	2437	2452
802.11n (40MHz)	13	16	14

2TX Beamforming

Test software version	QSPR		
Frequency (MHz)	2412	2437	2462
802.11n (20MHz)	15	18	15
Frequency	2422	2437	2452
802.11n (40MHz)	13	16	14

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.5 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.	Series No.
A	Notebook	Dell	DCSM	G7K832X

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

3. EMC EMISSION TEST

3.1 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1.1 LIMITS

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

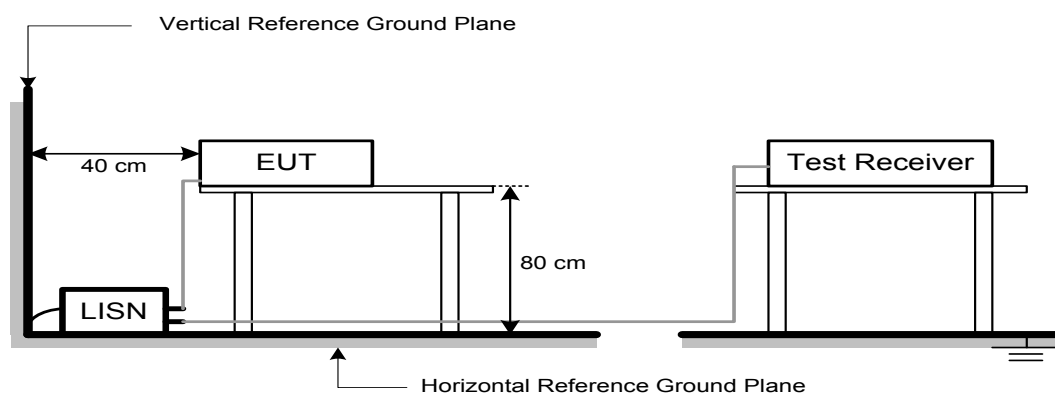
3.1.2 TEST PROCEDURE

- 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.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



3.1.5 EUT OPERATING CONDITIONS

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

3.1.6 TEST RESULTS

Please refer to the Appendix A.

3.2 RADIATED EMISSION TEST

3.2.1 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).

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

3.2.2 TEST PROCEDURE

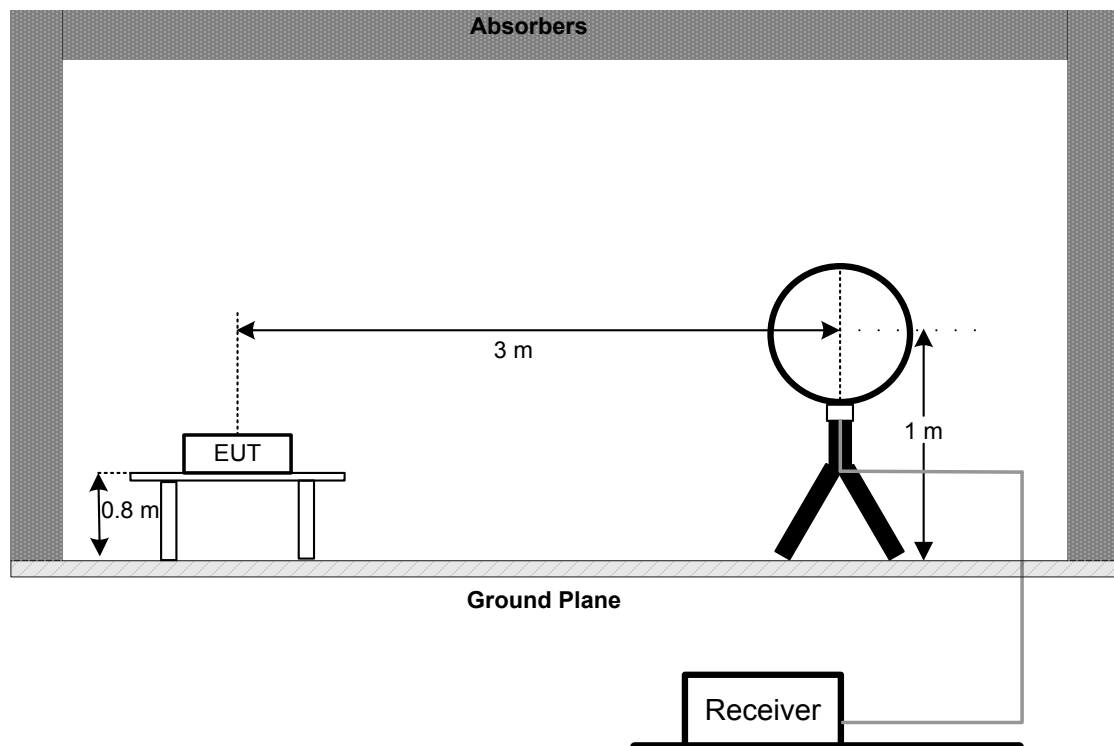
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of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

3.2.3 DEVIATION FROM TEST STANDARD

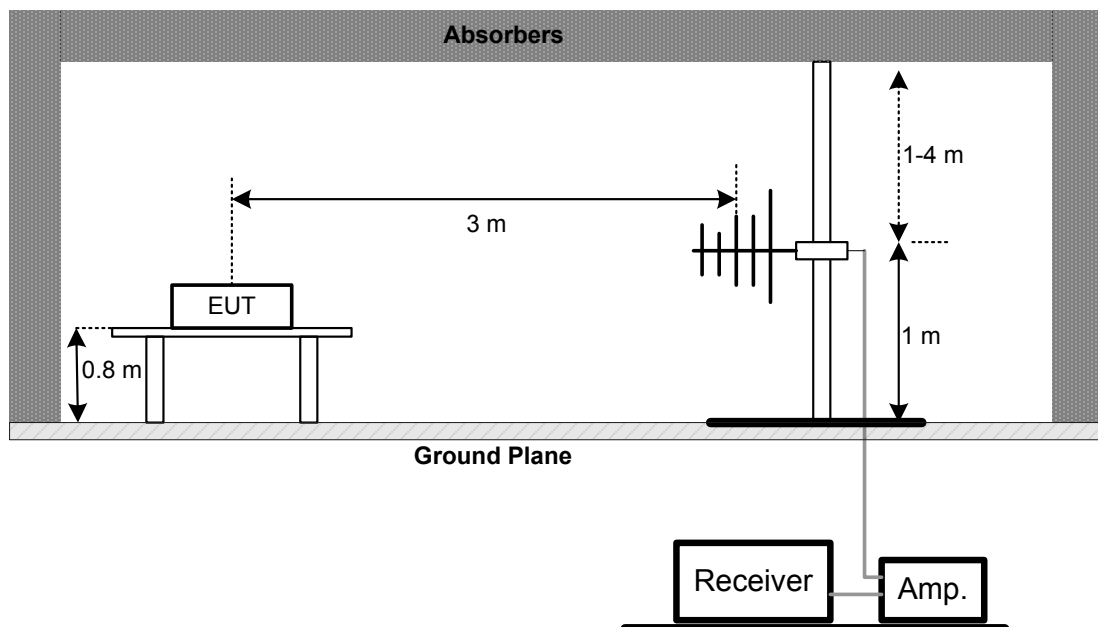
No deviation

3.2.4 TEST SETUP

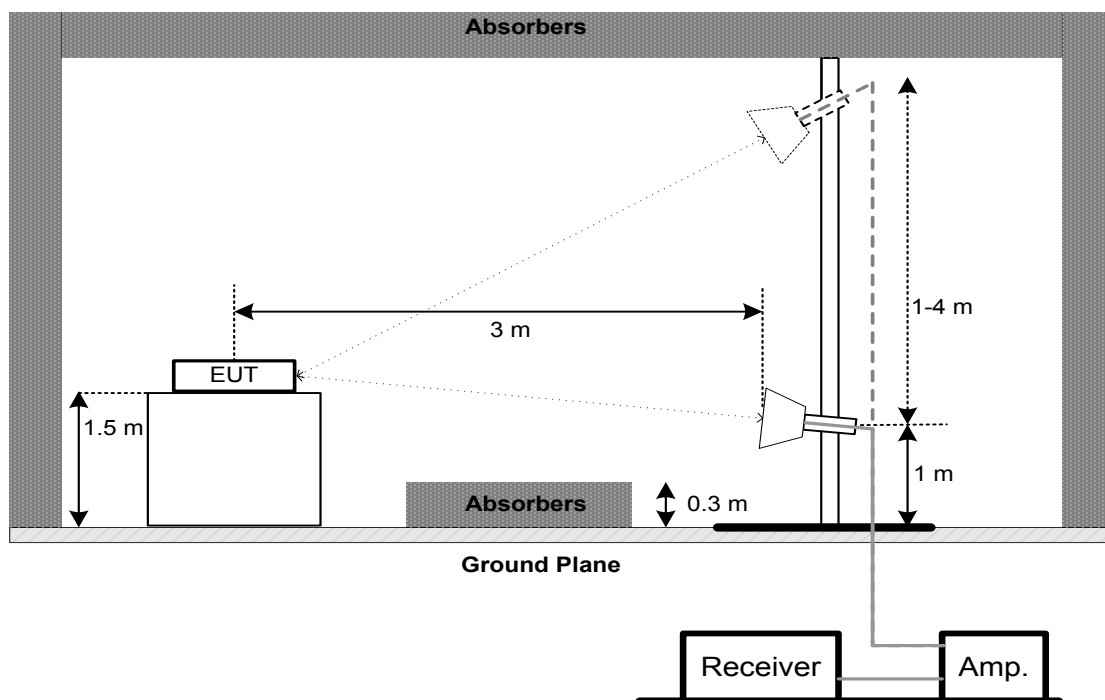
(a) For Radiated Emissions Below 30MHz



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



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



3.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.2.6 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.

3.2.7 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Appendix C.

3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Appendix D.

Remark:

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

4. BANDWIDTH TEST

4.1 LIMIT

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

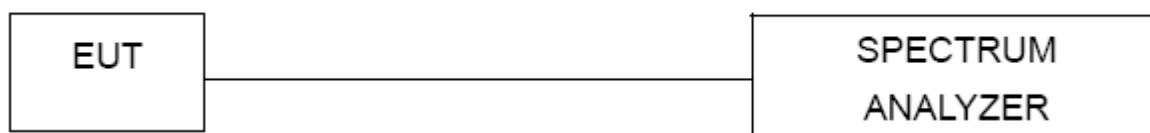
4.1.1 TEST PROCEDURE

- 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.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.1.5 EUT TEST CONDITIONS

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

4.1.6 TEST RESULTS

Please refer to the Appendix E.

5. MAXIMUM PEAK OUTPUT POWER TEST

5.1 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

5.1.1 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- The maximum conducted output power was performed in accordance with method 11.9.1.3 of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

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 TEST RESULTS

Please refer to the Appendix F.

6. ANTENNA CONDUCTED SPURIOUS EMISSION

6.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

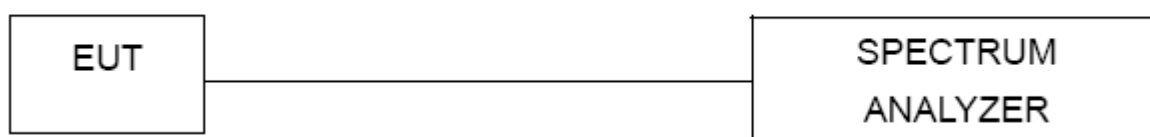
6.1.1 TEST PROCEDURE

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

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 TEST RESULTS

Please refer to the Appendix G.

7. POWER SPECTRAL DENSITY TEST

7.1 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

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=3KHz, VBW=10KHz, Sweep time = Auto.

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.1.5 TEST RESULTS

Please refer to the Appendix H.

8. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Feb. 28, 2021
2	LISN	EMCO	3816/2	52765	Mar. 01, 2021
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	May 19, 2020
4	50Ω Terminator	SHX	TF5-3	15041305	Mar. 01, 2021
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 10, 2021

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1*	Antenna	EM	EM-6876-1	230	Jan. 15, 2022
2	Cable	N/A	RG400 (C-101(3m)+C-70(6m))	N/A	May 31, 2020
3	EMI Test Receiver	R&S	ESCI	100895	Feb. 28, 2021
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2021
2*	Amplifier	HP	8447D	2944A08742	Mar. 01, 2021
3	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
4	Cable	emci	LMR-400(30MHz-1GHz)(8m+5m)	N/A	May 25, 2020
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75846	Mar. 19, 2021
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 23, 2020
3	Amplifier	Agilent	8449B	3008A02584	Aug. 03, 2020
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 07, 2021
5	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	mitron	RWLP50-4.0A-KJ-SMS M-12M	N/A	Nov. 25, 2020
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Bandwidth & Antenna Conducted Spurious Emissions & Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 03, 2020

Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Peak Power Analyzer	Keysight	8990B	MY51000506	Aug. 03, 2020
2	Wideband power sensor	Keysight	N1923A	MY58310004	Aug. 03, 2020

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

"*" calibration period of equipment list is three year.

Except * item, all calibration period of equipment list is one year.

9. EUT TEST PHOTO

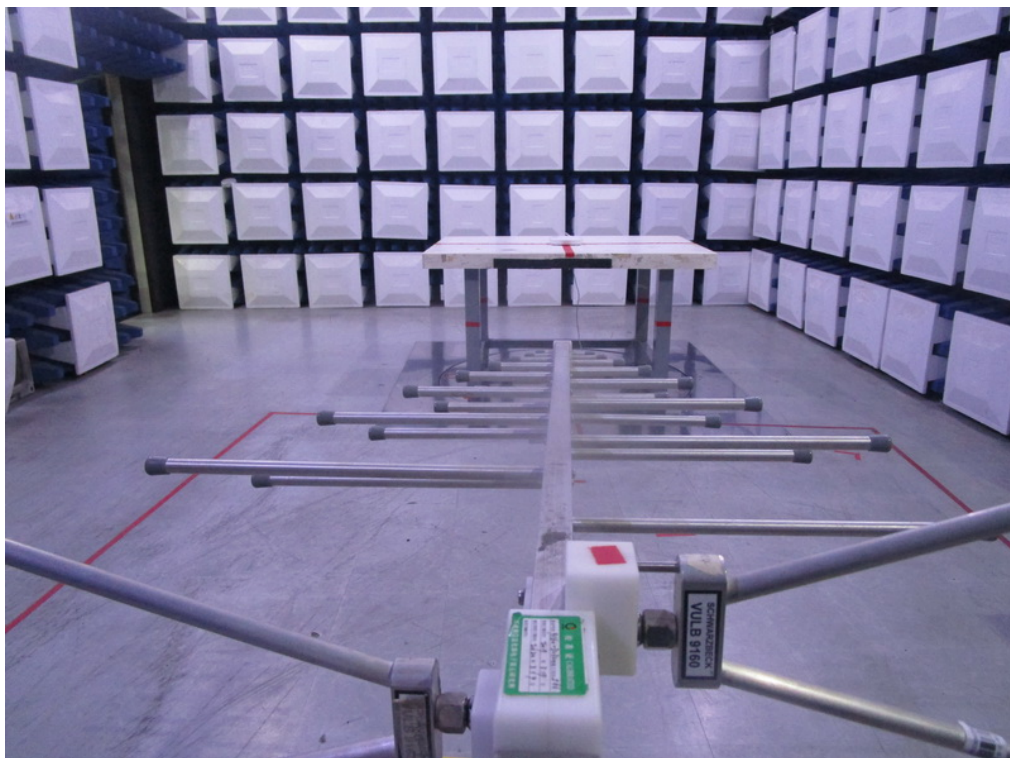
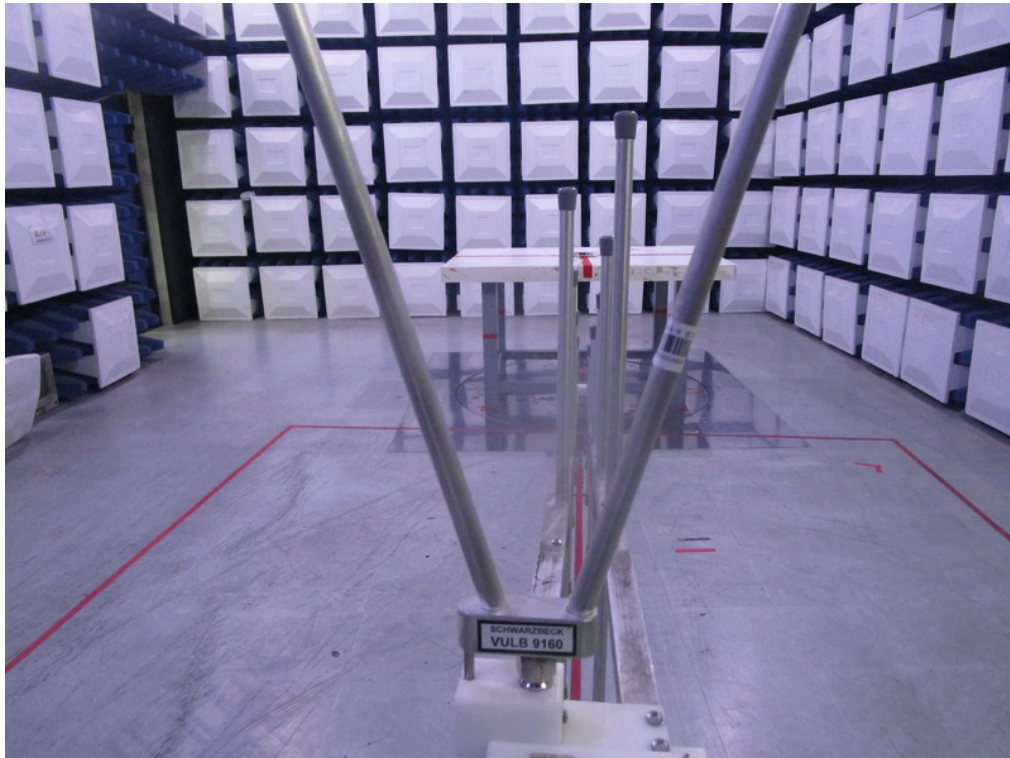
AC Power Line Conducted Emissions Test Photos



Radiated Emissions Test Photos**9 kHz to 30 MHz**

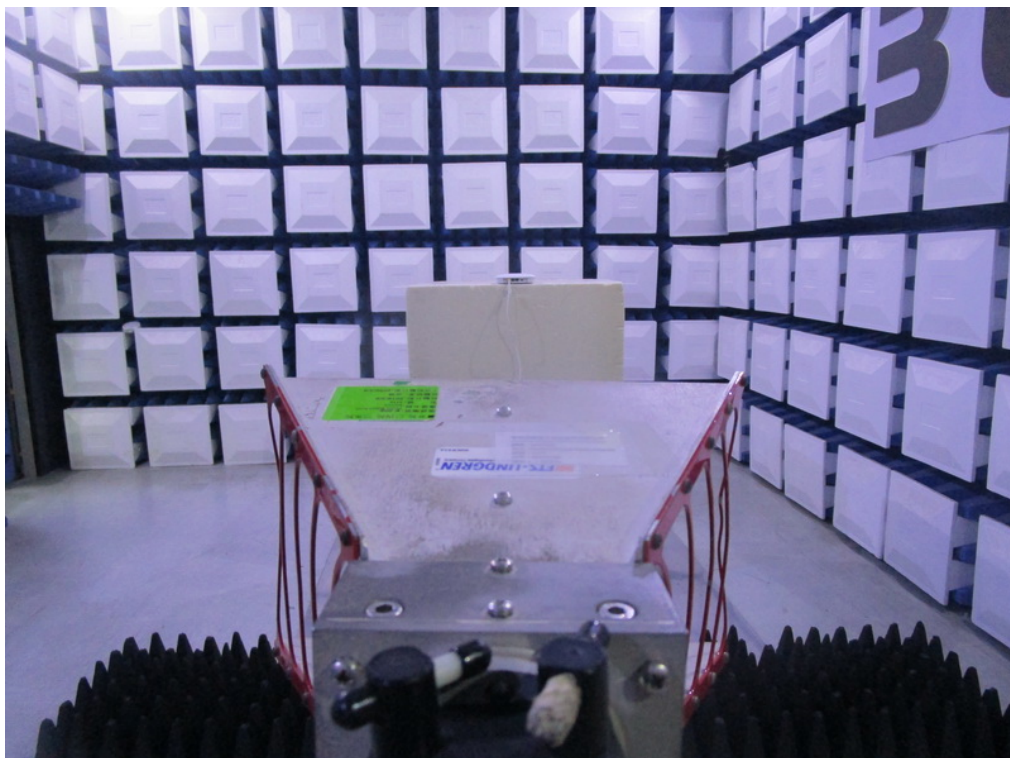
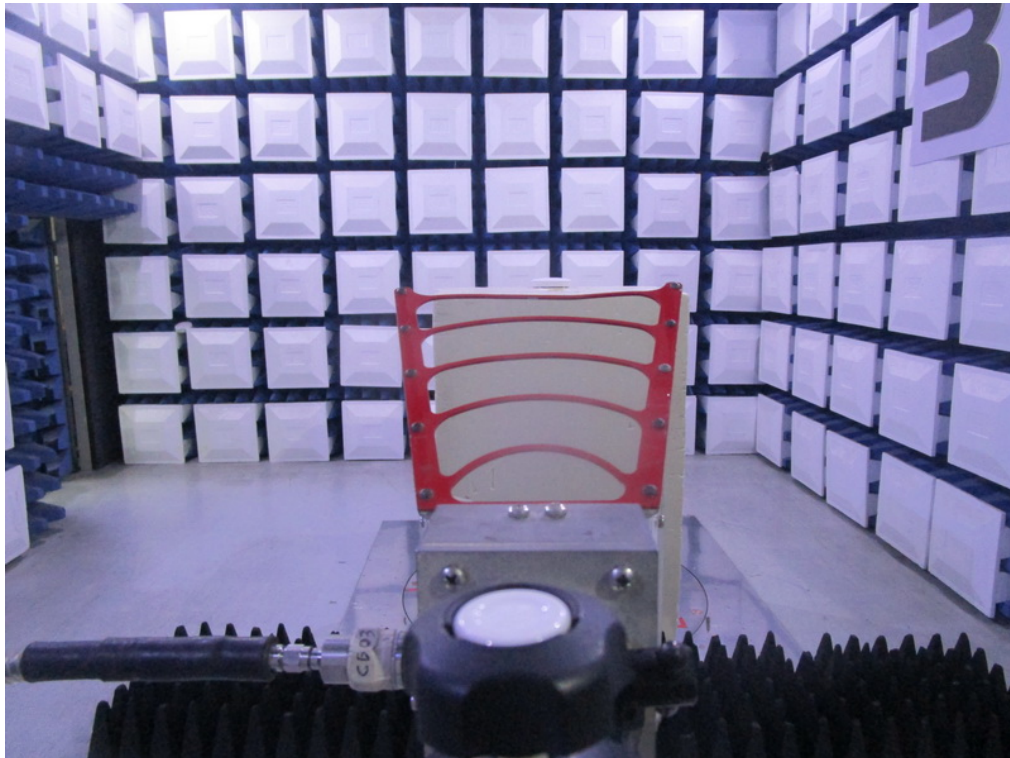
Radiated Emissions Test Photos

30 MHz to 1000 MHz



Radiated Emissions Test Photos

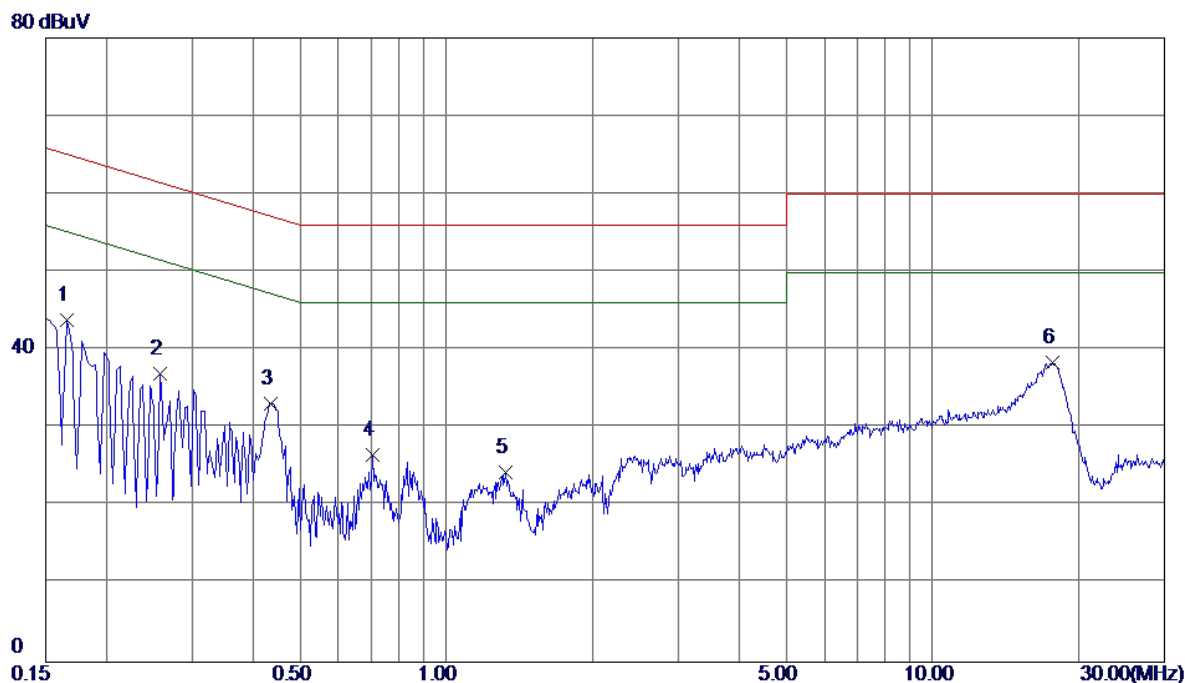
Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode :	TX Mode
Test Voltage:	AC 120V/60Hz

Line



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1 *	0.1660	34.30	9.57	43.87	65.16	-21.29	Peak	
2	0.2580	27.45	9.57	37.02	61.50	-24.48	Peak	
3	0.4351	23.51	9.62	33.13	57.15	-24.02	Peak	
4	0.7060	16.87	9.72	26.59	56.00	-29.41	Peak	
5	1.3260	14.35	9.90	24.25	56.00	-31.75	Peak	
6	17.6660	27.64	10.75	38.39	60.00	-21.61	Peak	

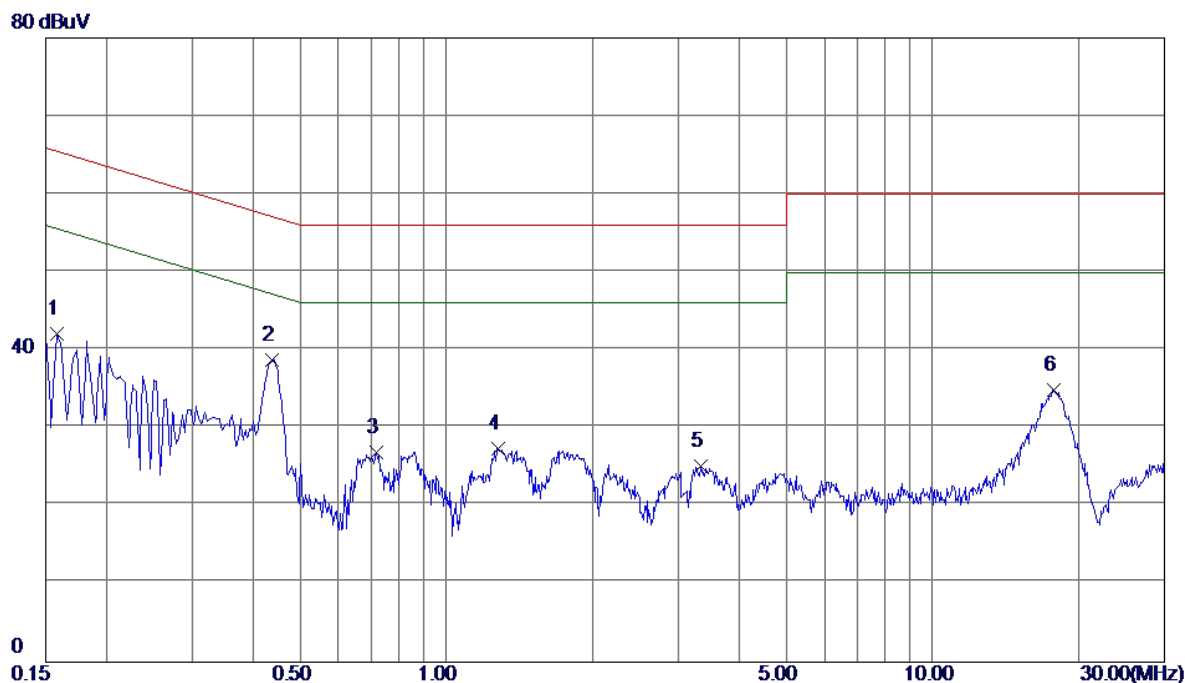
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode :	TX Mode
Test Voltage:	AC 120V/60Hz

Neutral



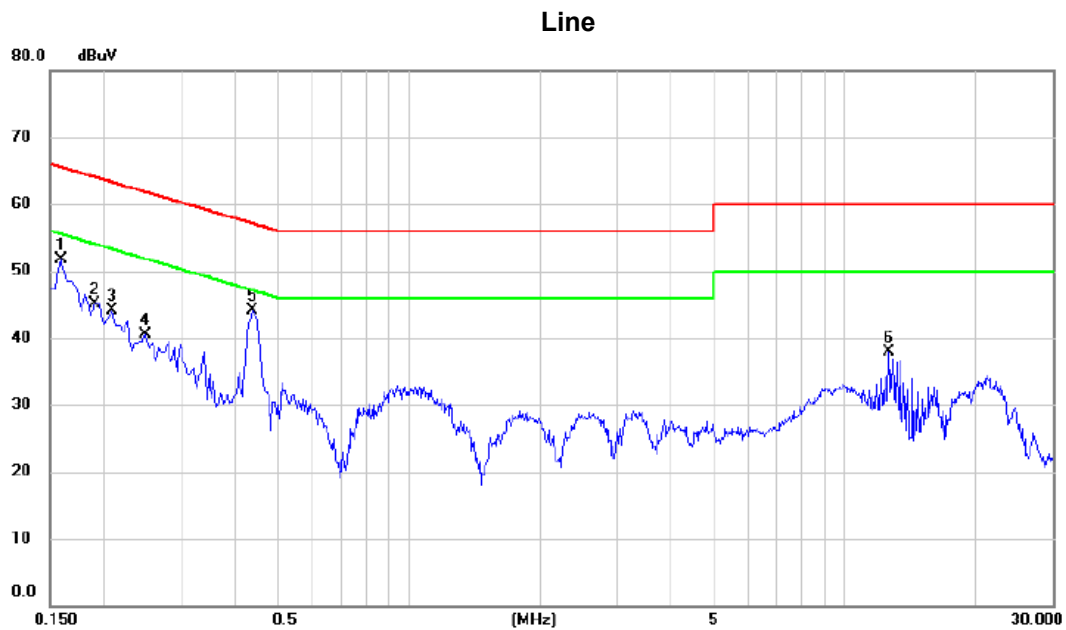
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1580	32.58	9.53	42.11	65.57	-23.46	Peak	
2 *	0.4380	29.28	9.49	38.77	57.10	-18.33	Peak	
3	0.7180	17.41	9.53	26.94	56.00	-29.06	Peak	
4	1.2780	17.62	9.76	27.38	56.00	-28.62	Peak	
5	3.3340	15.16	10.00	25.16	56.00	-30.84	Peak	
6	17.8060	24.14	10.81	34.95	60.00	-25.05	Peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode :	TX Mode
Test Voltage:	AC 240V/60Hz



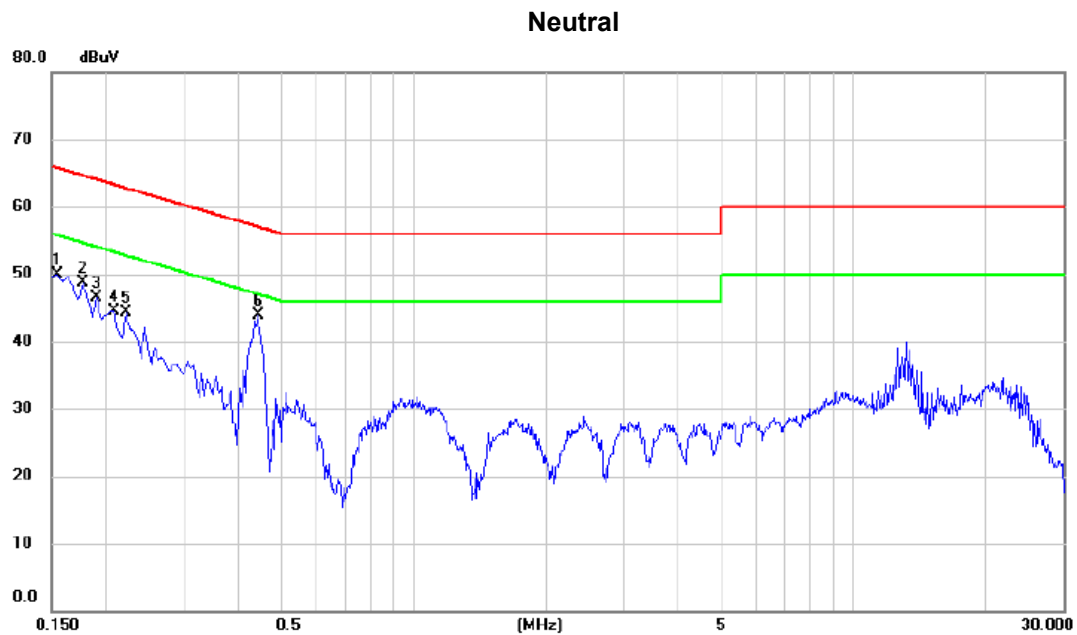
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1590	41.95	9.73	51.68	65.52	-13.84	peak	
2		0.1905	35.22	9.88	45.10	64.01	-18.91	peak	
3		0.2085	34.20	9.90	44.10	63.26	-19.16	peak	
4		0.2490	30.68	9.87	40.55	61.79	-21.24	peak	
5	*	0.4380	34.08	9.93	44.01	57.10	-13.09	peak	
6		12.6420	27.12	10.81	37.93	60.00	-22.07	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode :	TX Mode
Test Voltage:	AC 240V/60Hz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1545	40.20	9.77	49.97	65.75	-15.78	peak	
2		0.1770	38.79	9.92	48.71	64.63	-15.92	peak	
3		0.1905	36.49	9.98	46.47	64.01	-17.54	peak	
4		0.2085	34.59	10.00	44.59	63.26	-18.67	peak	
5		0.2220	34.22	9.99	44.21	62.74	-18.53	peak	
6	*	0.4425	33.73	10.11	43.84	57.01	-13.17	peak	

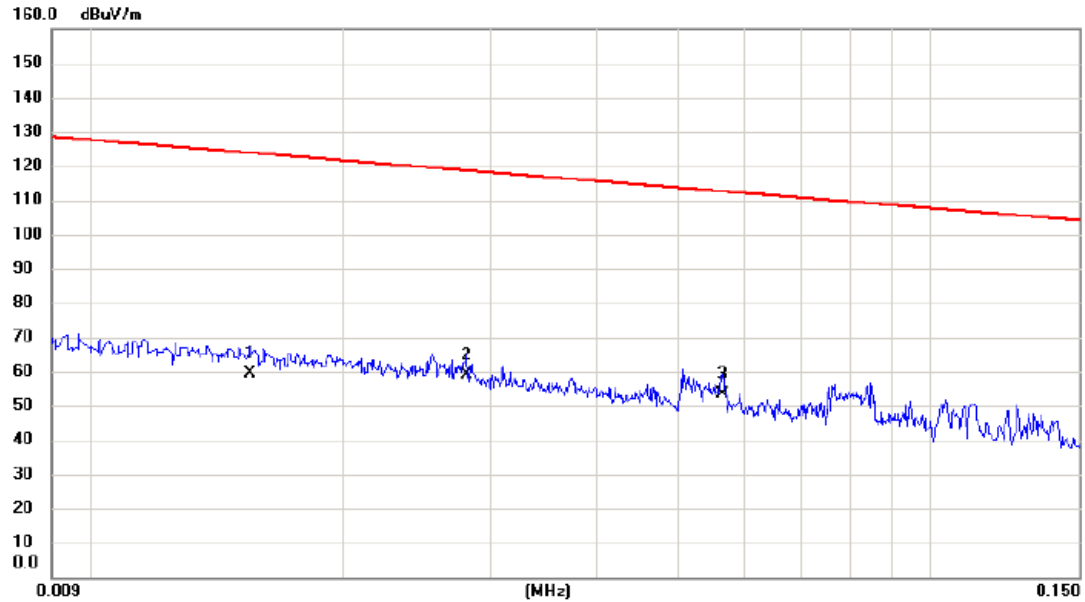
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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

Test Mode: TX Mode

Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0155	35.49	23.79	59.28	123.80	-64.52	AVG	
2		0.0280	36.51	22.53	59.04	118.66	-59.62	AVG	
3	*	0.0565	33.67	19.75	53.42	112.56	-59.14	AVG	

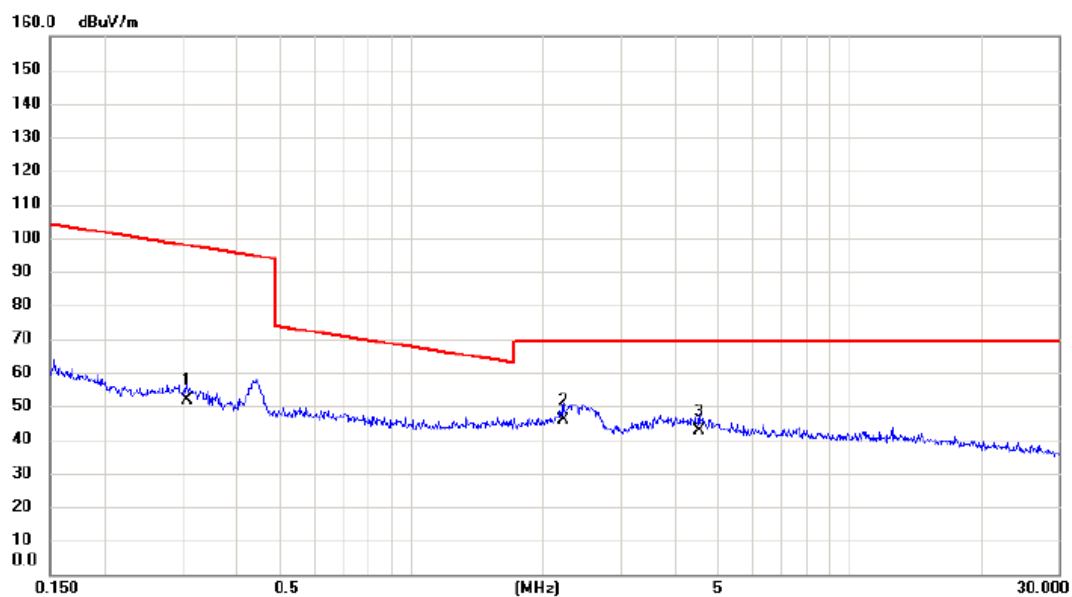
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX Mode

Ant 0°



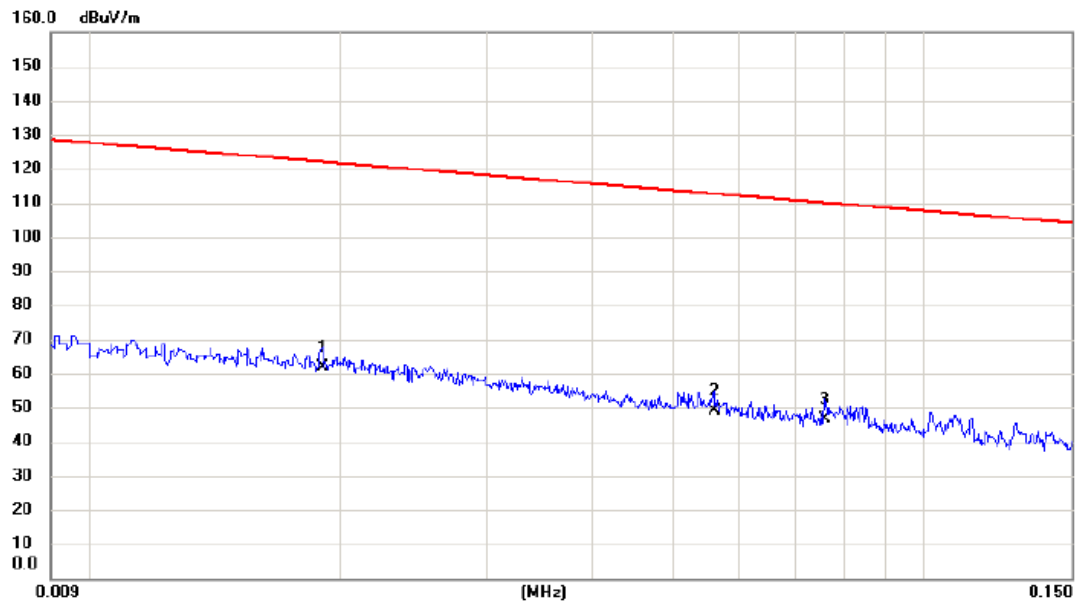
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3067	33.06	18.58	51.64	97.87	-46.23	AVG	
2	*	2.2132	28.29	17.63	45.92	69.54	-23.62	QP	
3		4.5254	25.13	17.67	42.80	69.54	-26.74	QP	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX Mode

Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0190	38.36	23.58	61.94	122.03	-60.09	AVG	
2		0.0560	29.22	19.76	48.98	112.64	-63.66	AVG	
3		0.0760	27.12	19.49	46.61	109.99	-63.38	AVG	

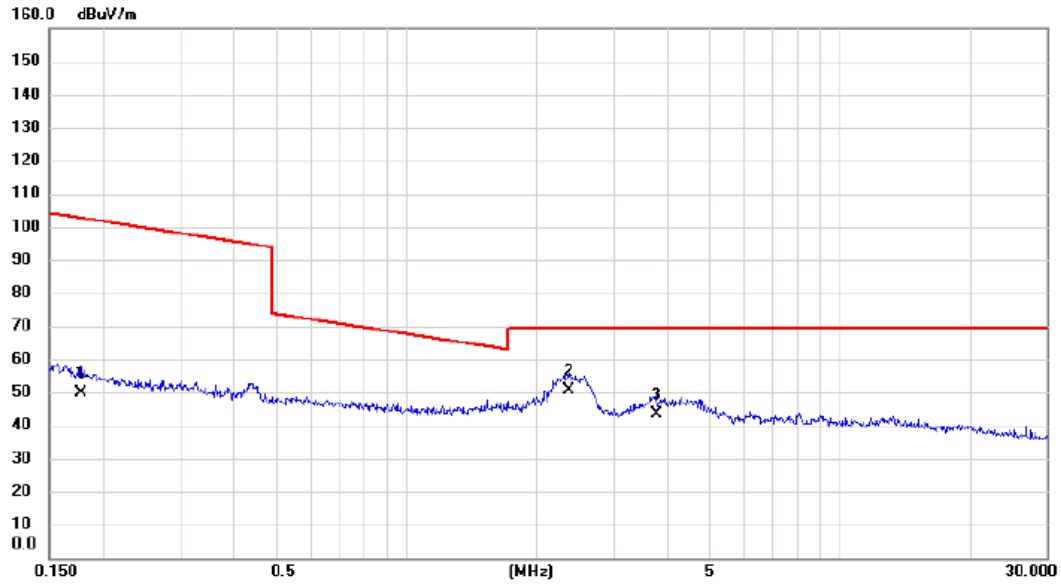
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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		0.1777	31.24	18.71	49.95	102.61	-52.66	AVG	
2	*	2.3710	33.20	17.43	50.63	69.54	-18.91	QP	
3		3.7794	25.21	18.29	43.50	69.54	-26.04	QP	

REMARKS:

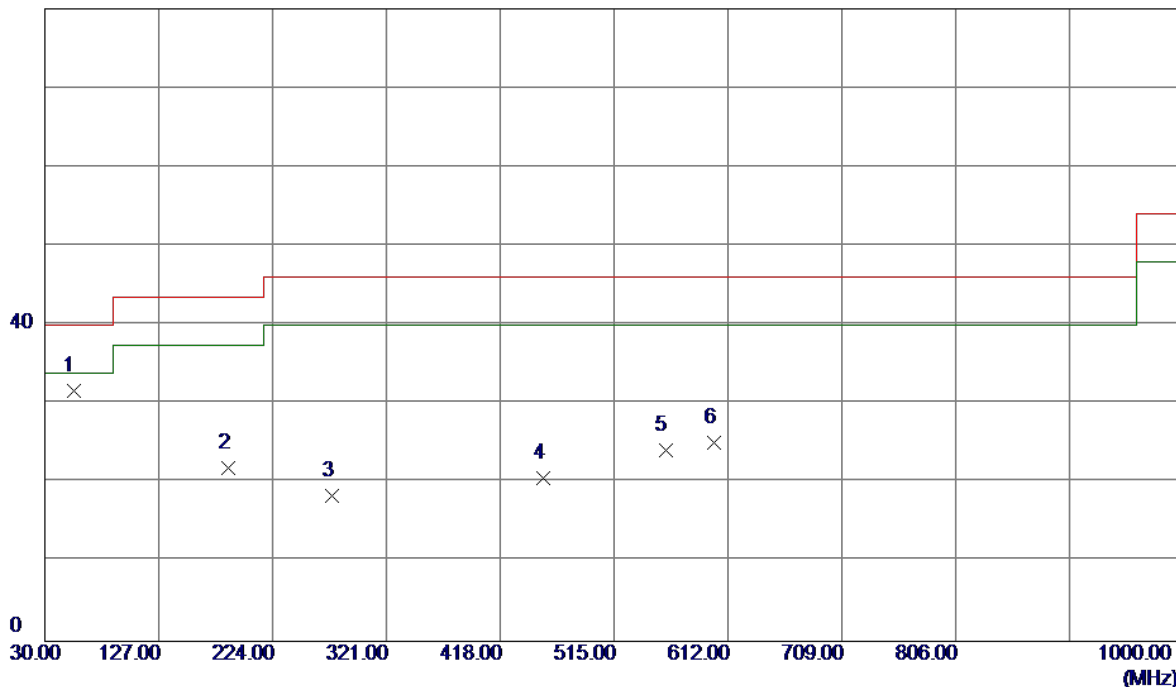
- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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 *	54.2500	45.19	-13.53	31.66	40.00	-8.34	Peak	
2	186.1700	35.36	-13.51	21.85	43.50	-21.65	Peak	
3	274.4400	31.15	-12.81	18.34	46.00	-27.66	Peak	
4	454.8600	28.85	-8.17	20.68	46.00	-25.32	Peak	
5	558.6500	29.19	-4.98	24.21	46.00	-21.79	Peak	
6	600.3600	32.20	-7.04	25.16	46.00	-20.84	Peak	

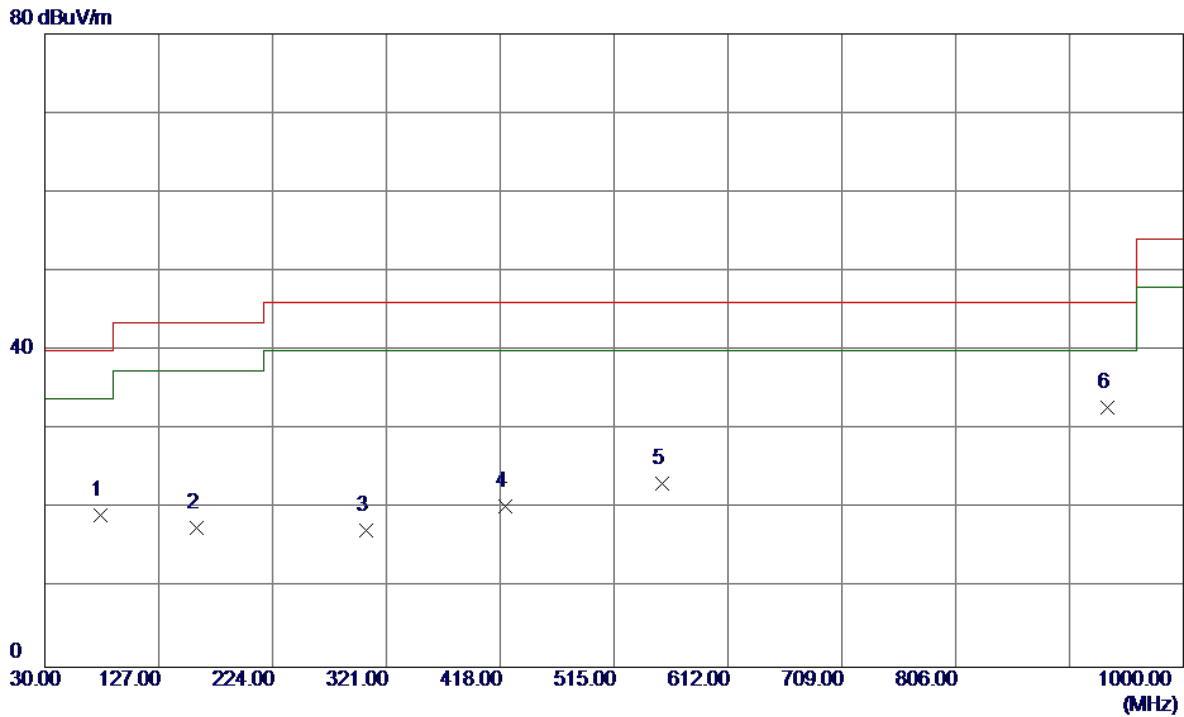
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode:	TX B MODE CHANNEL 01
------------	----------------------

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	77.5300	35.51	-16.31	19.20	40.00	-20.80	Peak	
2	159.0100	29.83	-12.23	17.60	43.50	-25.90	Peak	
3	303.5400	27.58	-10.24	17.34	46.00	-28.66	Peak	
4	421.8800	28.21	-7.88	20.33	46.00	-25.67	Peak	
5	555.7400	27.96	-4.83	23.13	46.00	-22.87	Peak	
6 *	935.0100	30.23	2.50	32.73	46.00	-13.27	Peak	

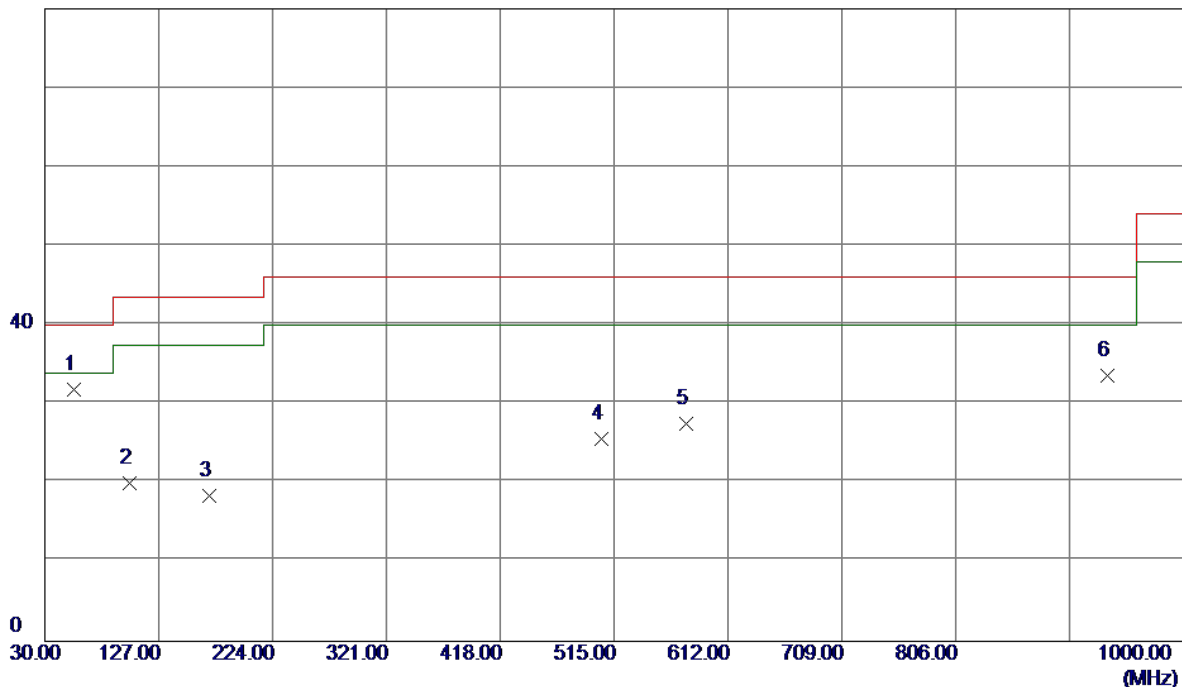
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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 *	55.2200	45.27	-13.38	31.89	40.00	-8.11	Peak	
2	101.7800	35.36	-15.32	20.04	43.50	-23.46	Peak	
3	169.6799	30.61	-12.24	18.37	43.50	-25.13	Peak	
4	504.3300	34.93	-9.27	25.66	46.00	-20.34	Peak	
5	576.1100	33.39	-5.86	27.53	46.00	-18.47	Peak	
6	935.0100	31.07	2.50	33.57	46.00	-12.43	Peak	

REMARKS:

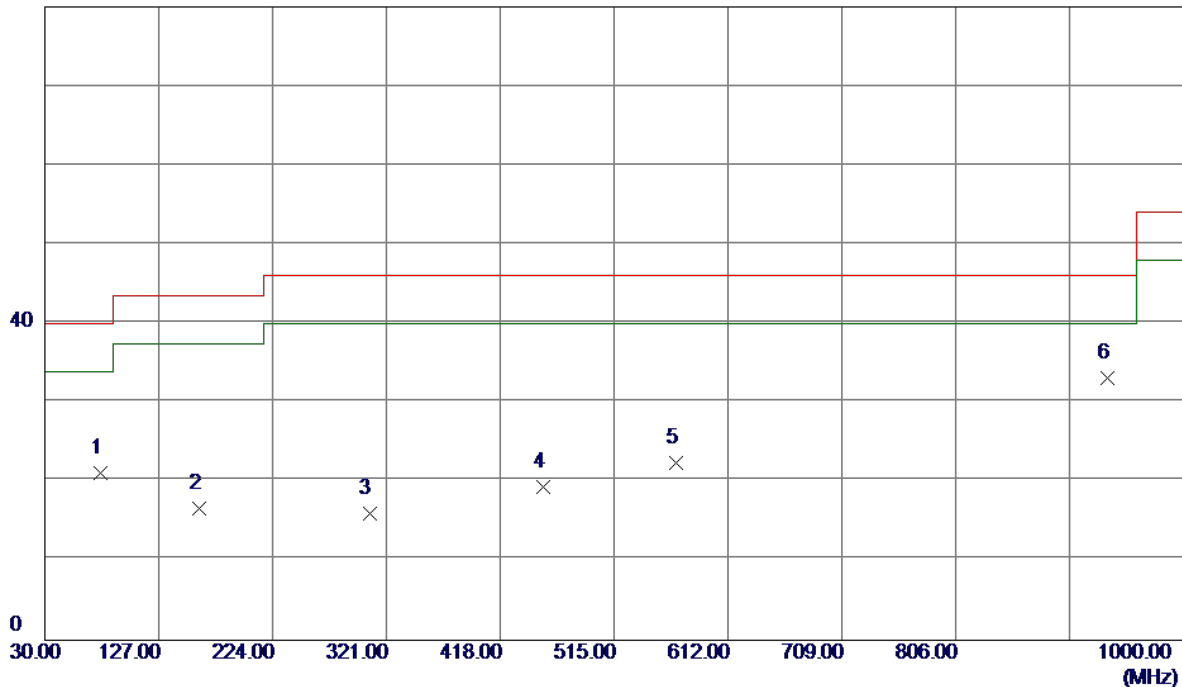
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	77.5300	37.39	-16.31	21.08	40.00	-18.92	Peak	
2	161.9200	28.75	-12.16	16.59	43.50	-26.91	Peak	
3	306.4500	26.25	-10.30	15.95	46.00	-30.05	Peak	
4	454.8600	27.50	-8.17	19.33	46.00	-26.67	Peak	
5	567.3800	27.77	-5.42	22.35	46.00	-23.65	Peak	
6 *	935.0100	30.60	2.50	33.10	46.00	-12.90	Peak	

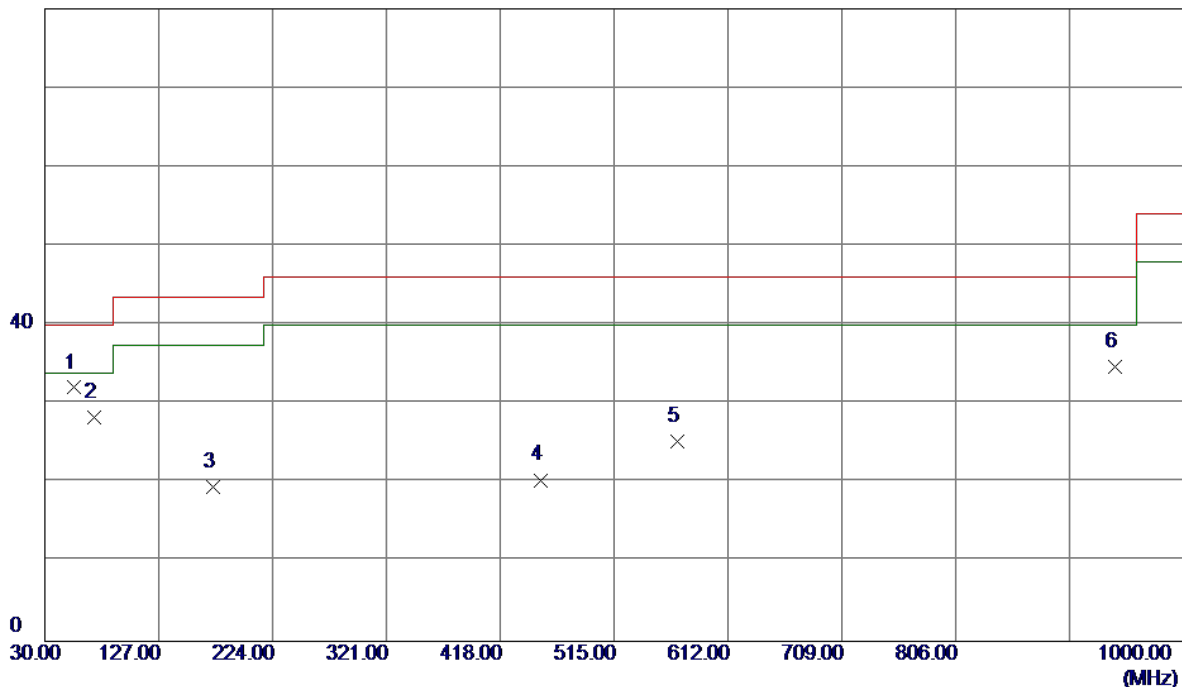
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode: TX B MODE CHANNEL 11

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 *	55.2200	45.46	-13.38	32.08	40.00	-7.92	Peak	
2	71.7100	44.85	-16.55	28.30	40.00	-11.70	Peak	
3	173.5600	31.99	-12.45	19.54	43.50	-23.96	Peak	
4	452.9200	28.50	-8.10	20.40	46.00	-25.60	Peak	
5	569.3200	30.80	-5.51	25.29	46.00	-20.71	Peak	
6	941.8000	32.27	2.47	34.74	46.00	-11.26	Peak	

REMARKS:

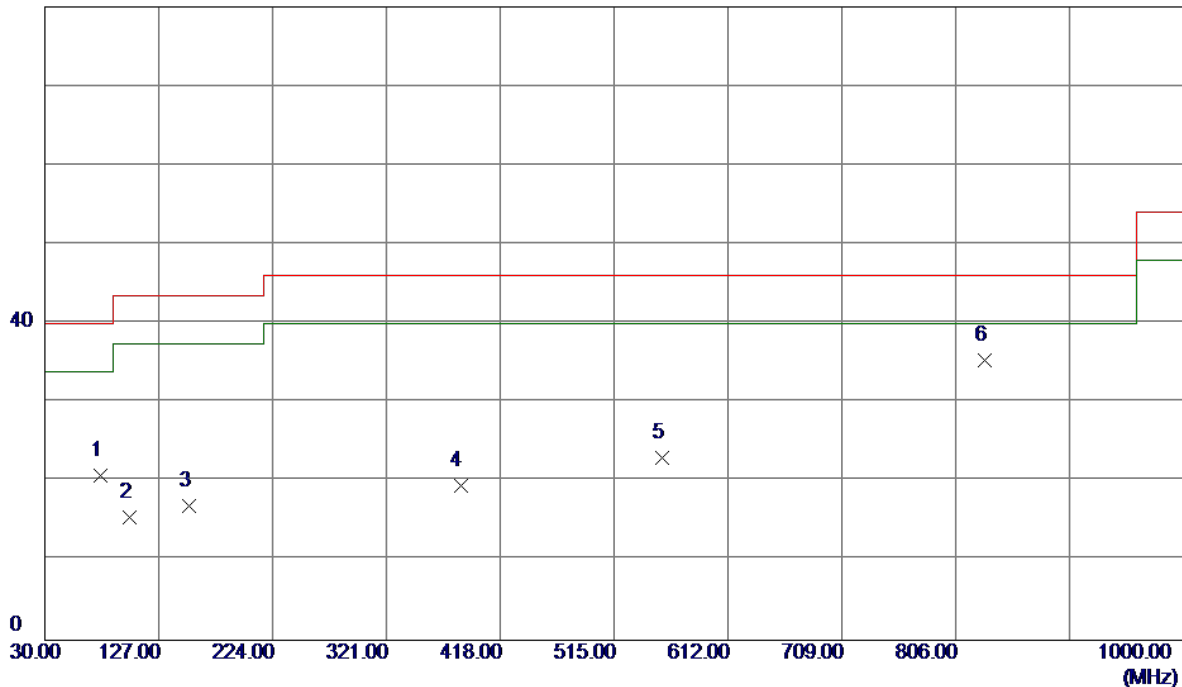
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	77.5300	37.07	-16.31	20.76	40.00	-19.24	Peak	
2	101.7800	30.87	-15.32	15.55	43.50	-27.95	Peak	
3	153.1900	29.61	-12.69	16.92	43.50	-26.58	Peak	
4	384.0500	28.42	-8.88	19.54	46.00	-26.46	Peak	
5	555.7400	27.90	-4.83	23.07	46.00	-22.93	Peak	
6 *	831.2199	35.97	-0.68	35.29	46.00	-10.71	Peak	

REMARKS:

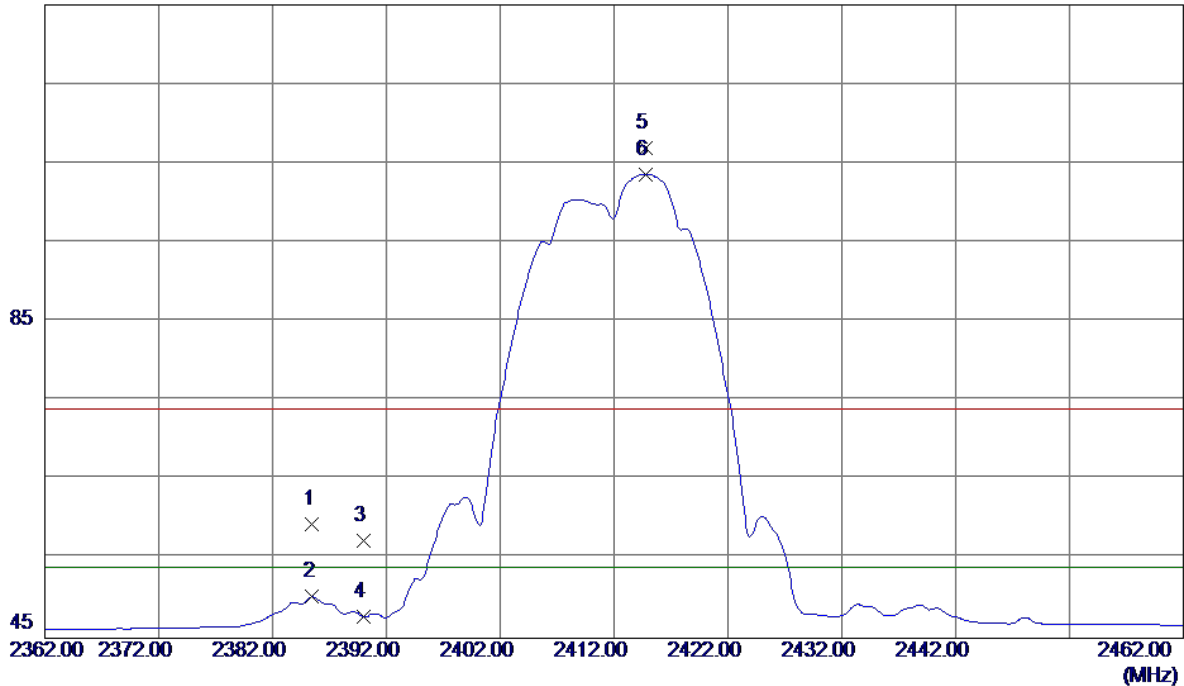
- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2385.5000	26.35	32.99	59.34	74.00	-14.66	Peak	
2	2385.5000	17.26	32.99	50.25	54.00	-3.75	AVG	
3	2390.0000	24.29	33.01	57.30	74.00	-16.70	Peak	
4	2390.0000	14.69	33.01	47.70	54.00	-6.30	AVG	
5	2414.8000	73.77	33.11	106.88	74.00	32.88	Peak	No Limit
6 *	2414.8000	70.47	33.11	103.58	54.00	49.58	AVG	No Limit

REMARKS:

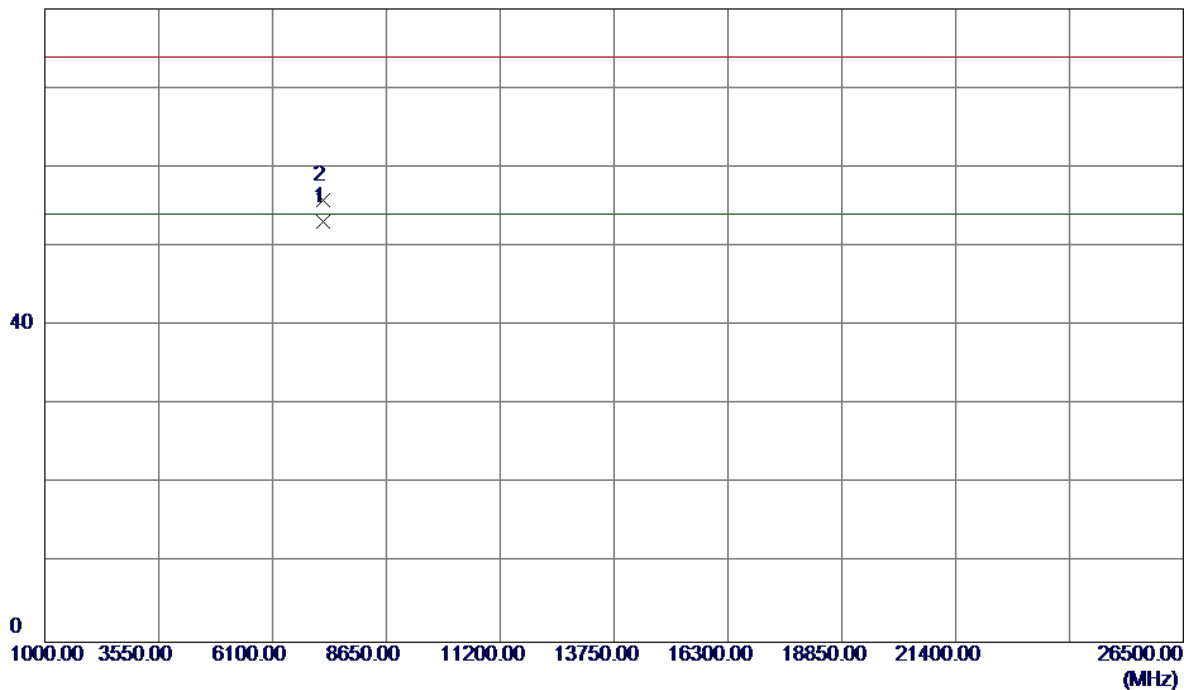
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Orthogonal Axis :	X
Test Mode :	TX B 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 *	7236.7500	41.92	11.22	53.14	54.00	-0.86	AVG	
2	7237.0250	44.61	11.22	55.83	74.00	-18.17	Peak	

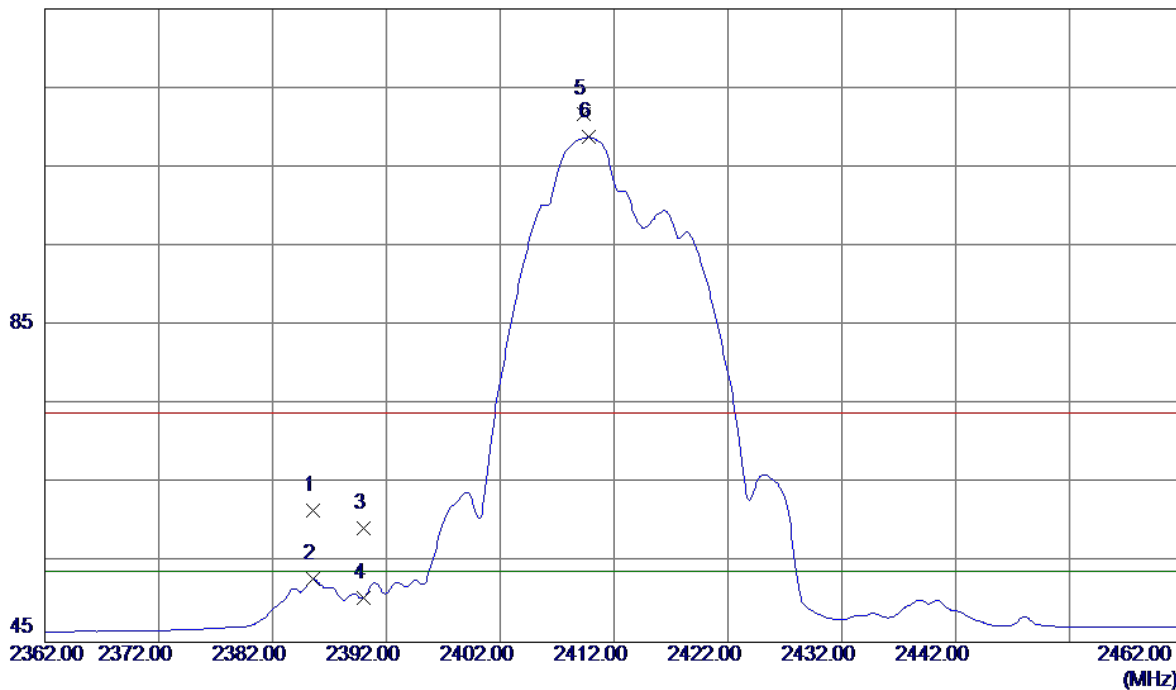
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2385.6000	28.69	32.99	61.68	74.00	-12.32	Peak	
2	2385.6000	19.97	32.99	52.96	54.00	-1.04	AVG	
3	2390.0000	26.35	33.01	59.36	74.00	-14.64	Peak	
4	2390.0000	17.63	33.01	50.64	54.00	-3.36	AVG	
5	2409.3000	78.68	33.09	111.77	74.00	37.77	Peak	No Limit
6 *	2409.8000	75.68	33.09	108.77	54.00	54.77	AVG	No Limit

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7235.1000	42.44	11.22	53.66	74.00	-20.34	Peak	
2 *	7235.2250	39.02	11.22	50.24	54.00	-3.76	AVG	

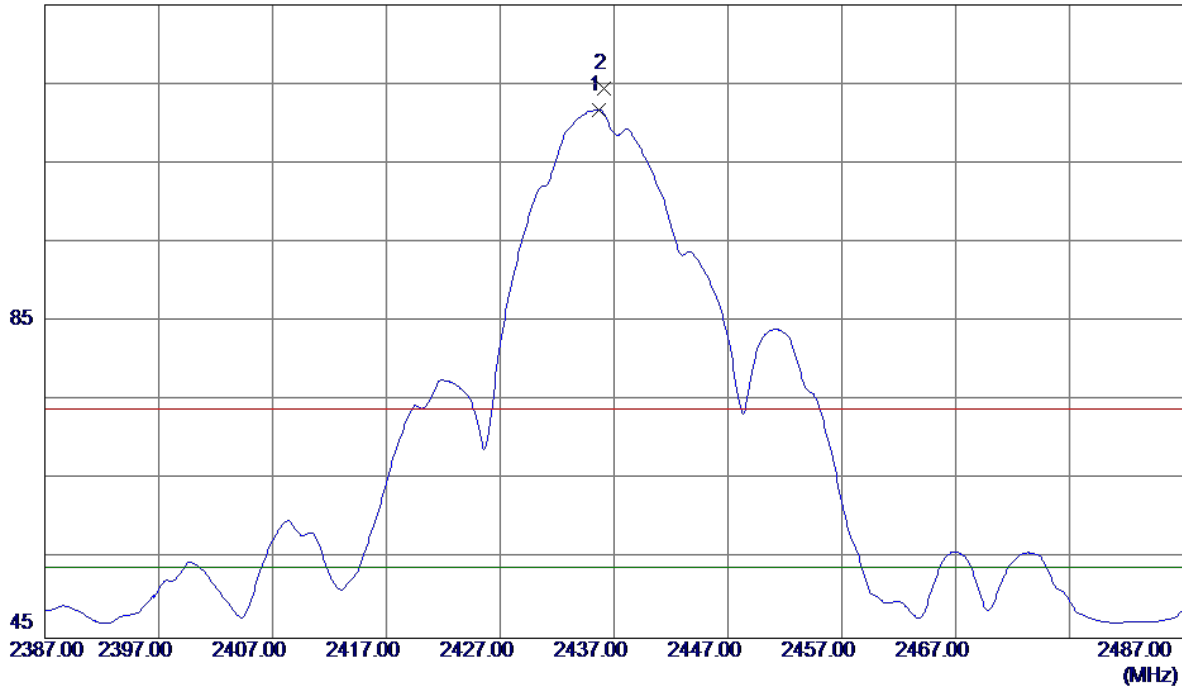
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.7000	78.54	33.20	111.74	54.00	57.74	AVG	No Limit
2	2436.1000	81.24	33.20	114.44	74.00	40.44	Peak	No Limit

REMARKS:

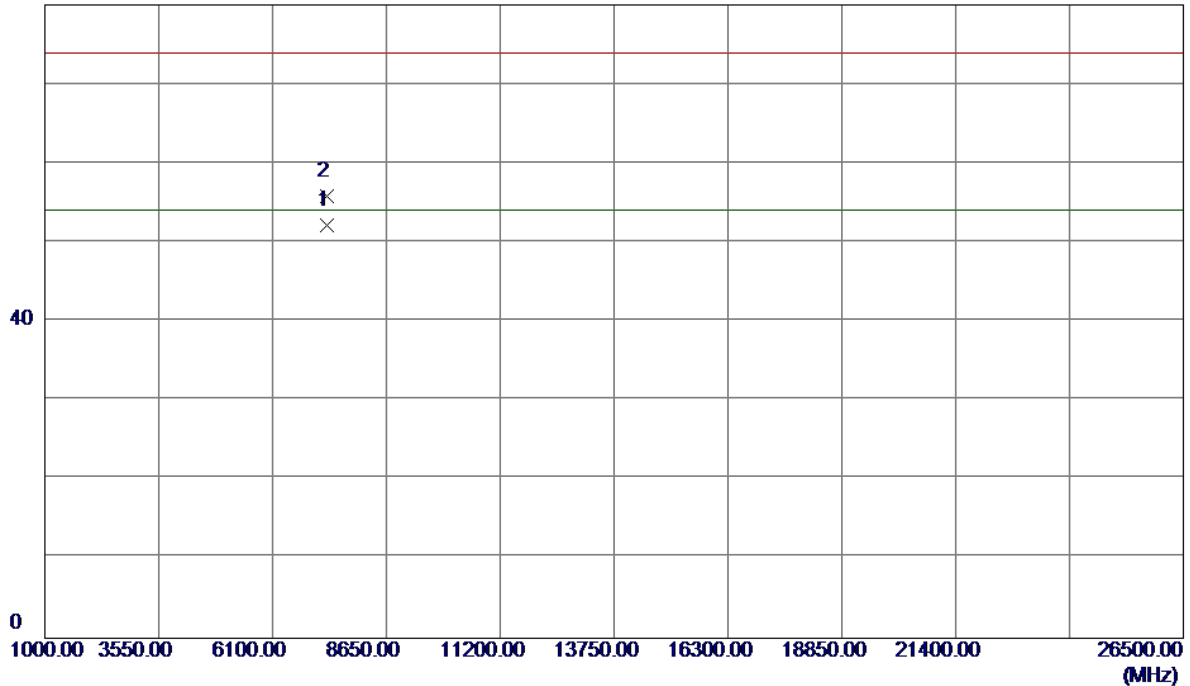
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7311.7750	40.85	11.37	52.22	54.00	-1.78	AVG	
2	7311.9500	44.53	11.37	55.90	74.00	-18.10	Peak	

REMARKS:

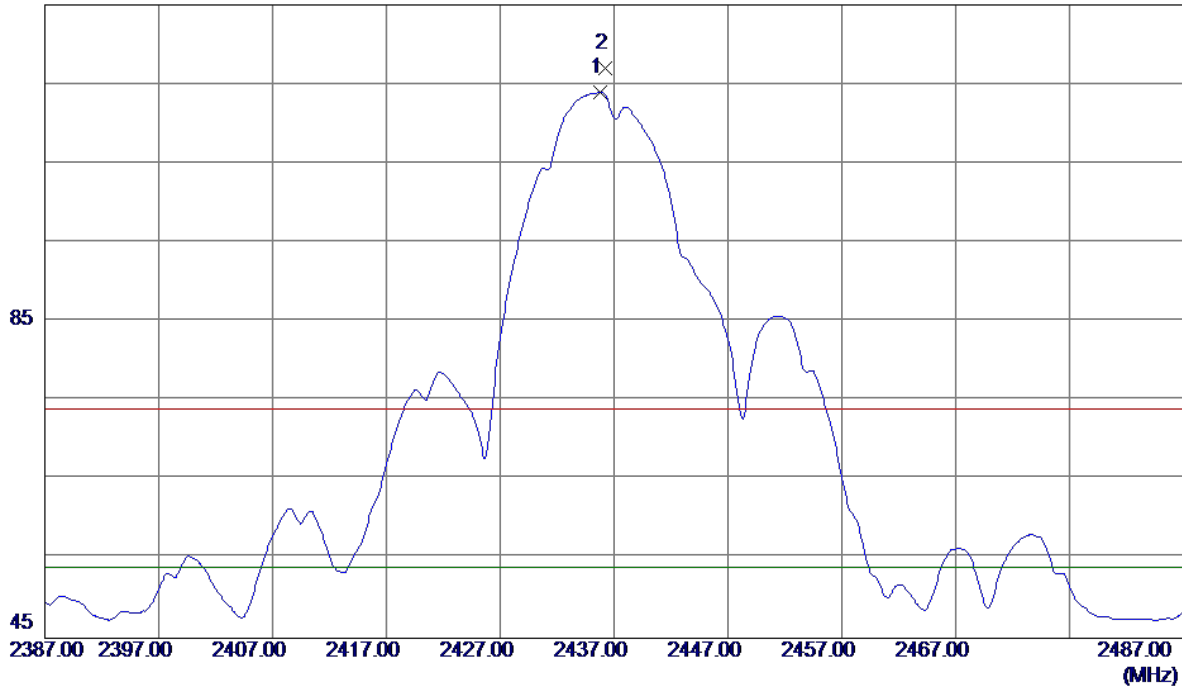
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.8000	80.77	33.20	113.97	54.00	59.97	AVG	No Limit
2	2436.2000	83.80	33.20	117.00	74.00	43.00	Peak	No Limit

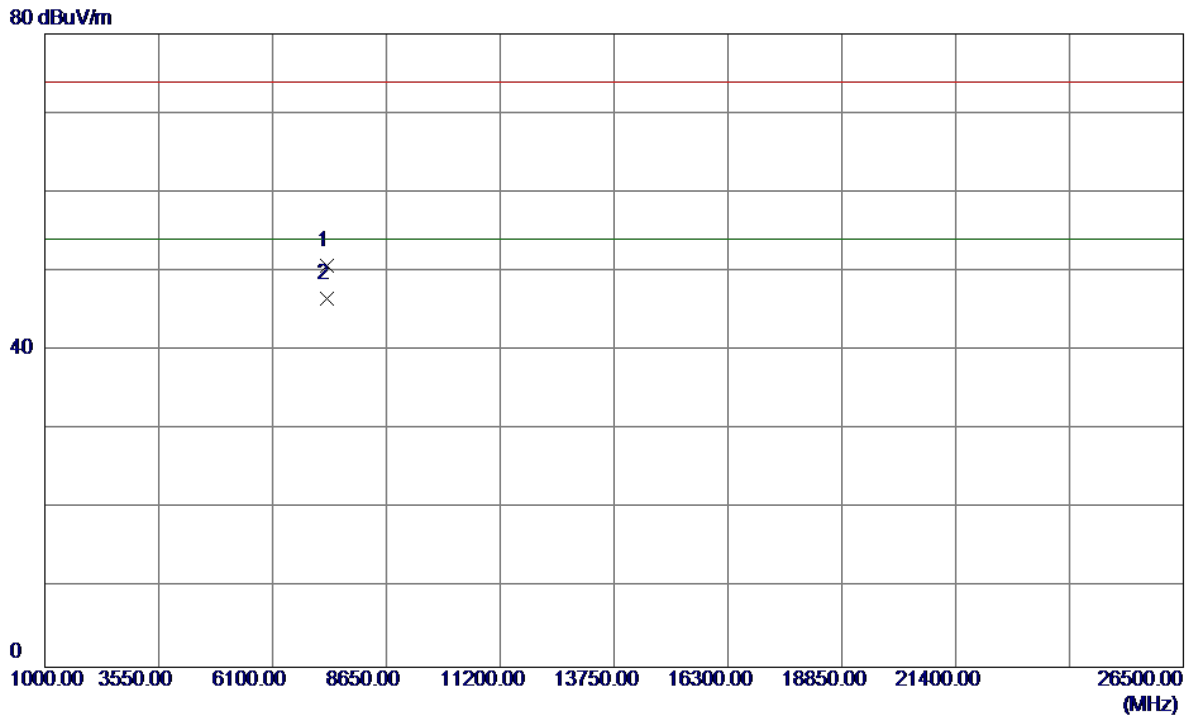
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7311.6500	39.36	11.37	50.73	74.00	-23.27	Peak	
2 *	7311.8500	35.21	11.37	46.58	54.00	-7.42	AVG	

REMARKS:

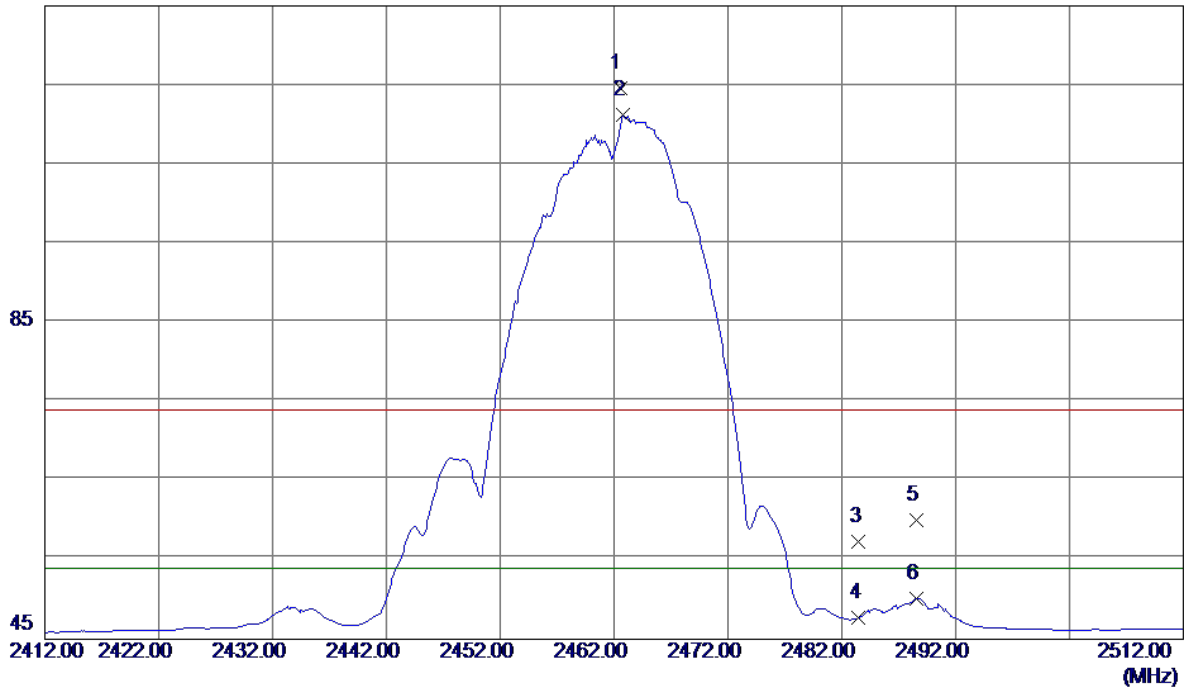
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2462.5000	81.23	33.31	114.54	74.00	40.54	Peak	No Limit
2 *	2462.8000	77.91	33.31	111.22	54.00	57.22	AVG	No Limit
3	2483.5000	23.96	33.40	57.36	74.00	-16.64	Peak	
4	2483.5000	14.33	33.40	47.73	54.00	-6.27	AVG	
5	2488.6000	26.56	33.42	59.98	74.00	-14.02	Peak	
6	2488.6000	16.75	33.42	50.17	54.00	-3.83	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7386. 7750	40. 29	11. 52	51. 81	54. 00	-2. 19	AVG	
2	7387. 4500	42. 87	11. 52	54. 39	74. 00	-19. 61	Peak	

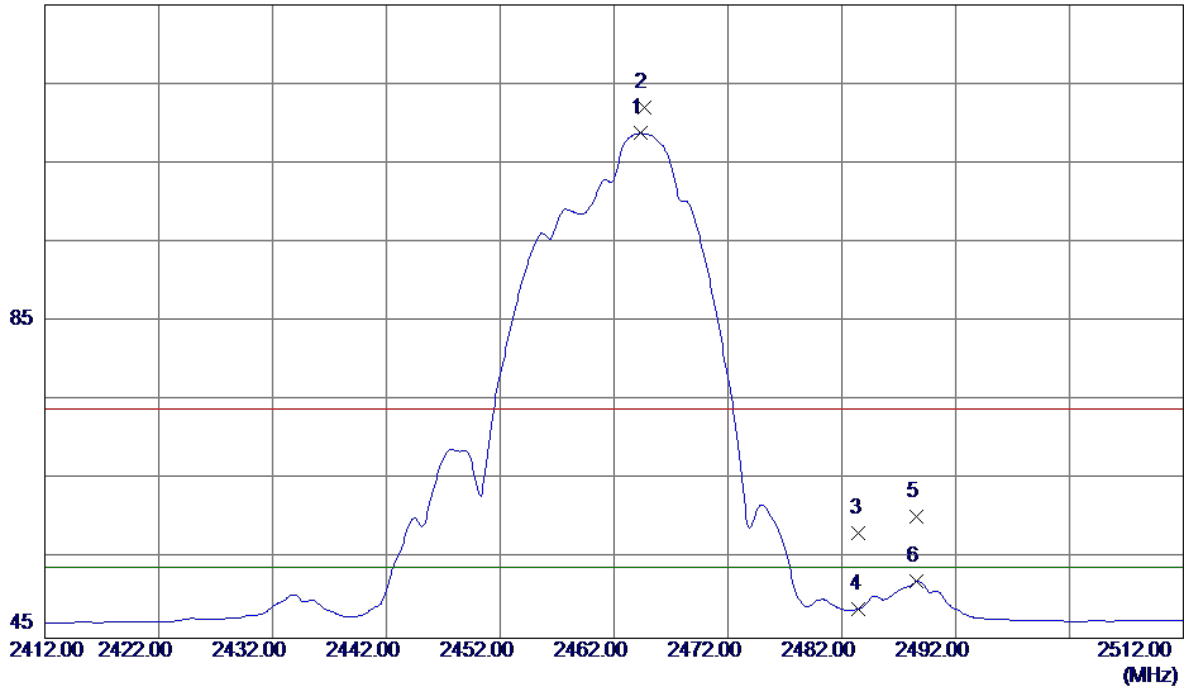
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2464.3000	75.49	33.32	108.81	54.00	54.81	AVG	No Limit
2	2464.7000	78.65	33.32	111.97	74.00	37.97	Peak	No Limit
3	2483.5000	24.91	33.40	58.31	74.00	-15.69	Peak	
4	2483.5000	15.32	33.40	48.72	54.00	-5.28	AVG	
5	2488.6000	26.95	33.42	60.37	74.00	-13.63	Peak	
6	2488.6000	18.75	33.42	52.17	54.00	-1.83	AVG	

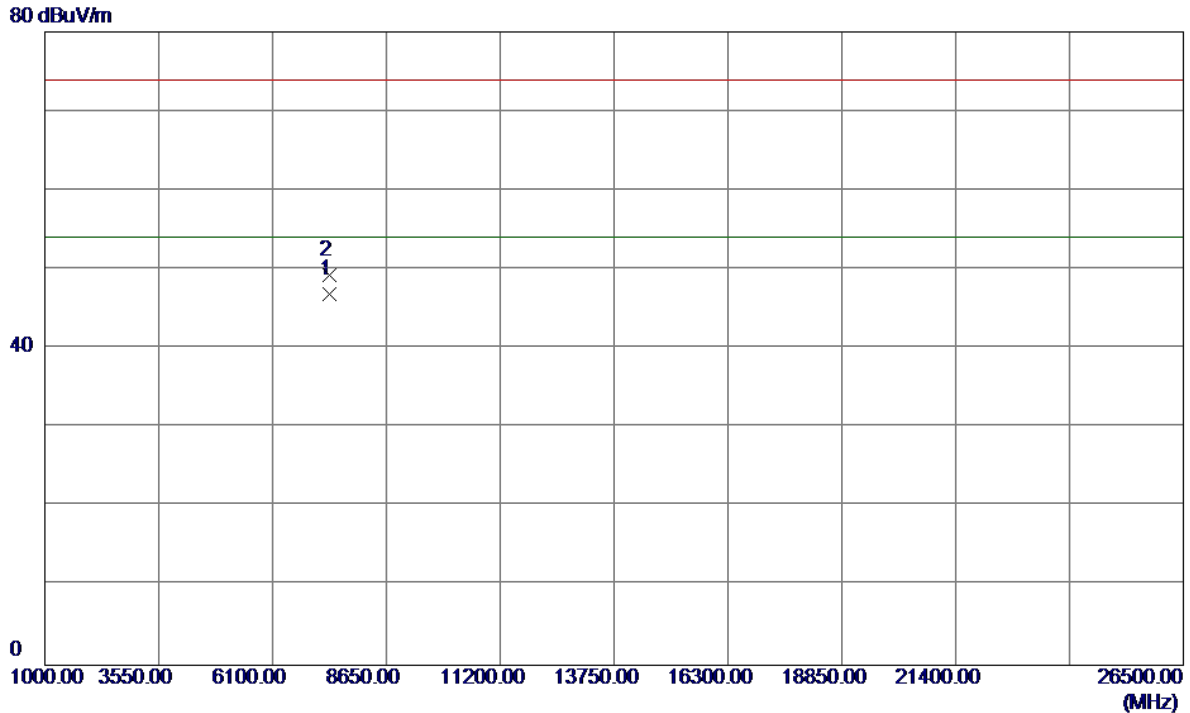
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7386.8750	35.33	11.52	46.85	54.00	-7.15	AVG	
2	7387.2250	37.78	11.52	49.30	74.00	-24.70	Peak	

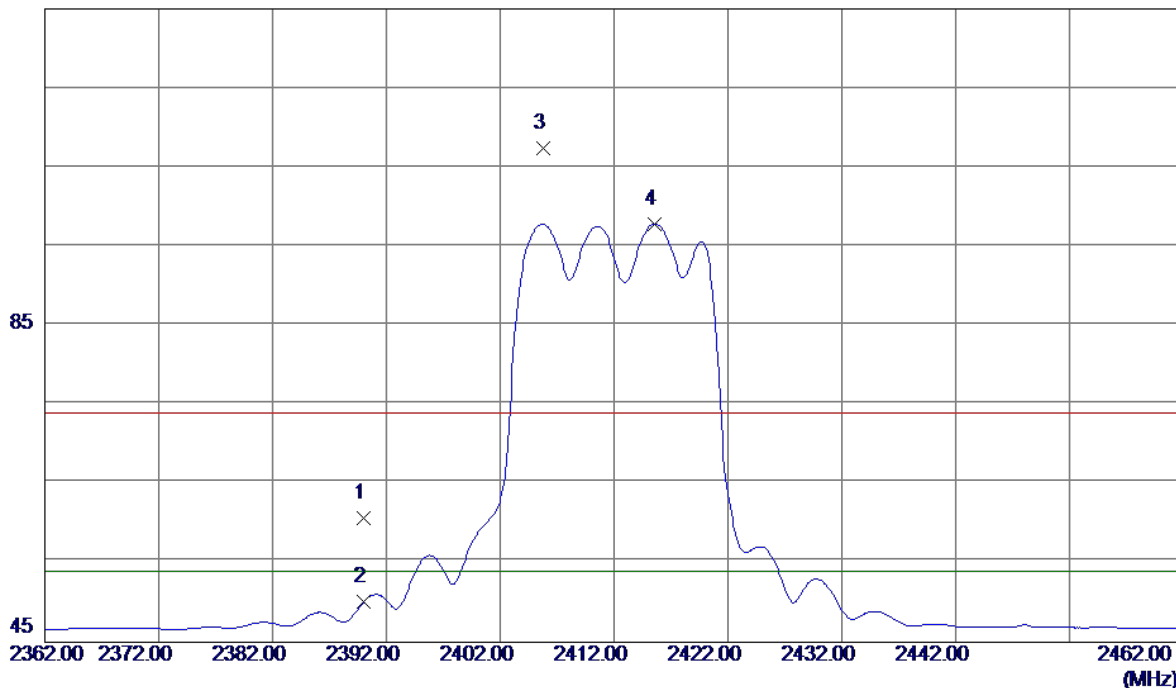
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 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	27.71	33.01	60.72	74.00	-13.28	Peak	
2	2390.0000	17.18	33.01	50.19	54.00	-3.81	AVG	
3	2405.7500	74.36	33.08	107.44	74.00	33.44	Peak	No Limit
4 *	2415.6000	64.72	33.12	97.84	54.00	43.84	AVG	No Limit

REMARKS:

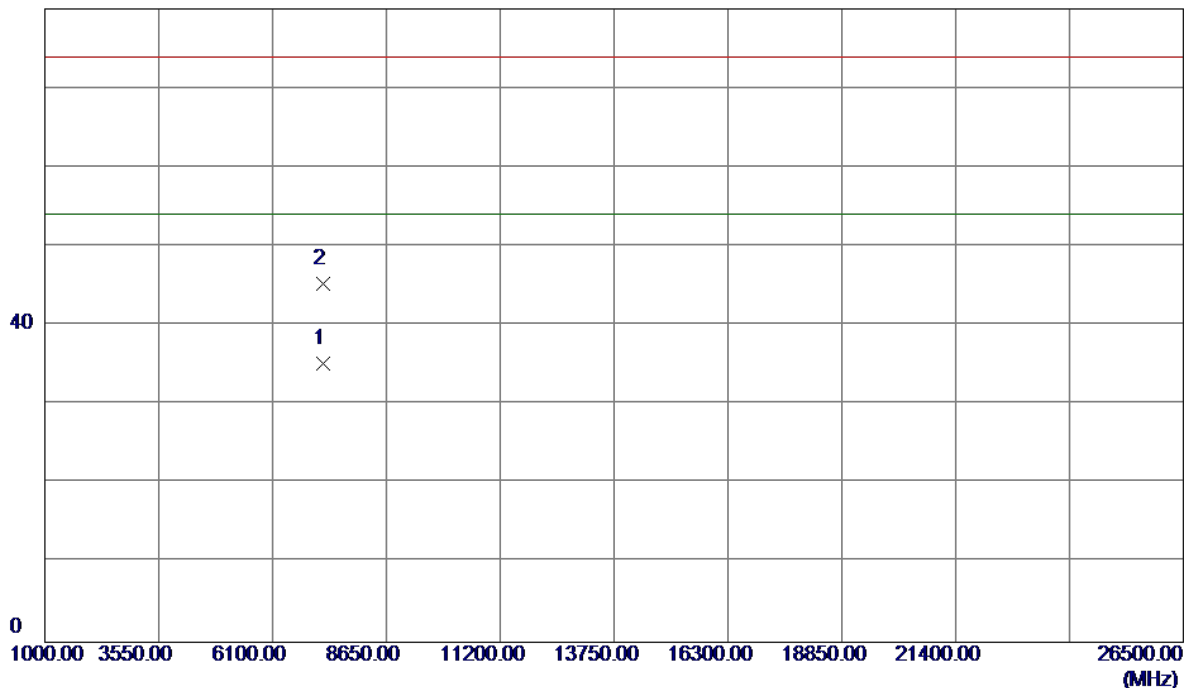
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7236.1750	23.94	11.22	35.16	54.00	-18.84	AVG	
2	7236.3750	34.06	11.22	45.28	74.00	-28.72	Peak	

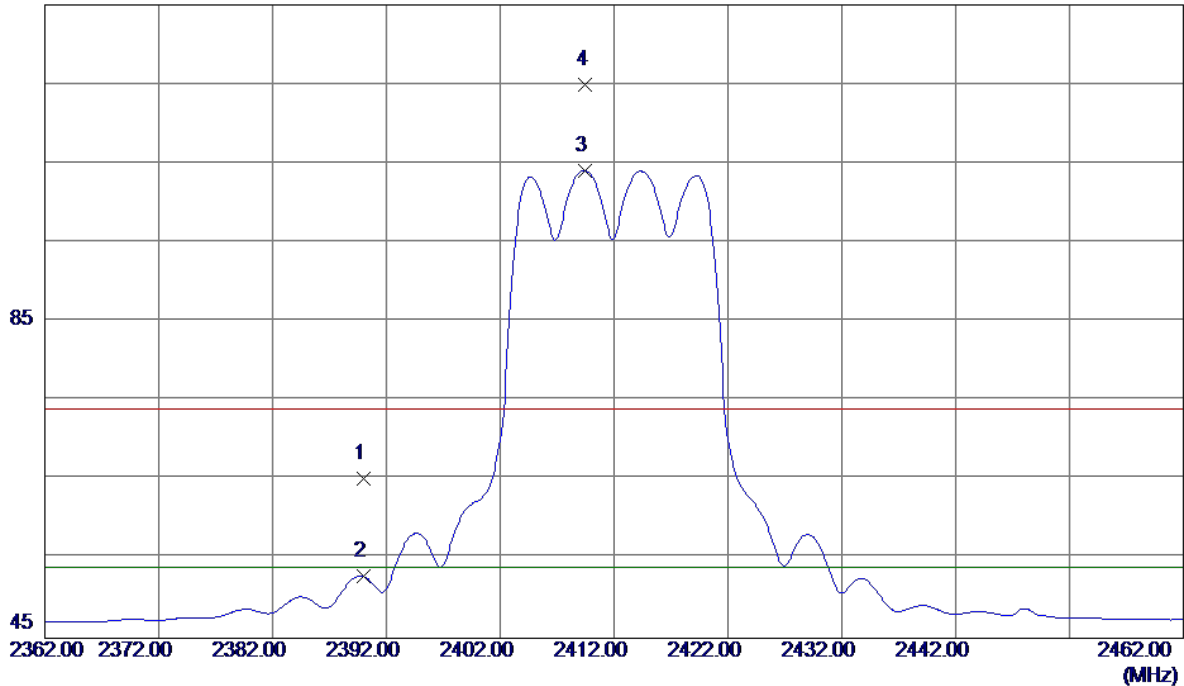
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 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	32.08	33.01	65.09	74.00	-8.91	Peak	
2	2390.0000	19.79	33.01	52.80	54.00	-1.20	AVG	
3 *	2409.4000	71.01	33.09	104.10	54.00	50.10	AVG	No Limit
4	2409.5000	81.78	33.09	114.87	74.00	40.87	Peak	No Limit

REMARKS:

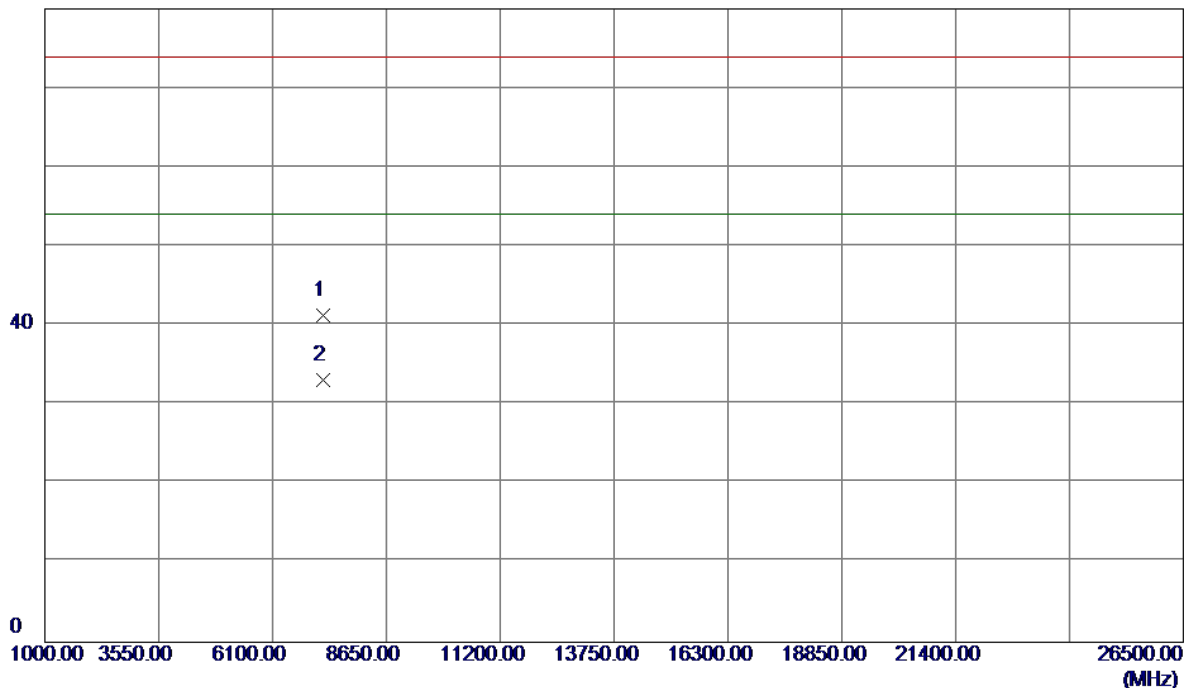
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7236.1500	30.06	11.22	41.28	74.00	-32.72	Peak	
2 *	7236.3250	21.94	11.22	33.16	54.00	-20.84	AVG	

REMARKS:

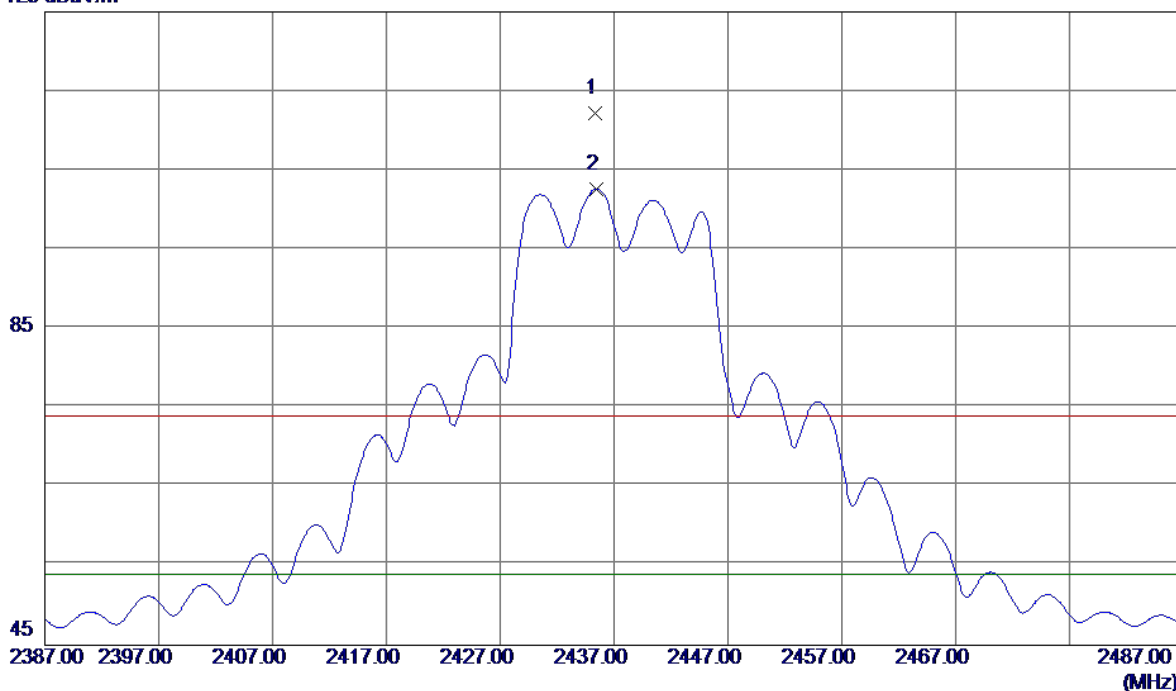
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.3000	79.07	33.20	112.27	74.00	38.27	Peak	No Limit
2 *	2435.4500	69.39	33.20	102.59	54.00	48.59	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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	7307.0000	49.03	11.36	60.39	74.00	-13.61	Peak	
2 *	7311.7500	39.27	11.37	50.64	54.00	-3.36	AVG	

REMARKS:

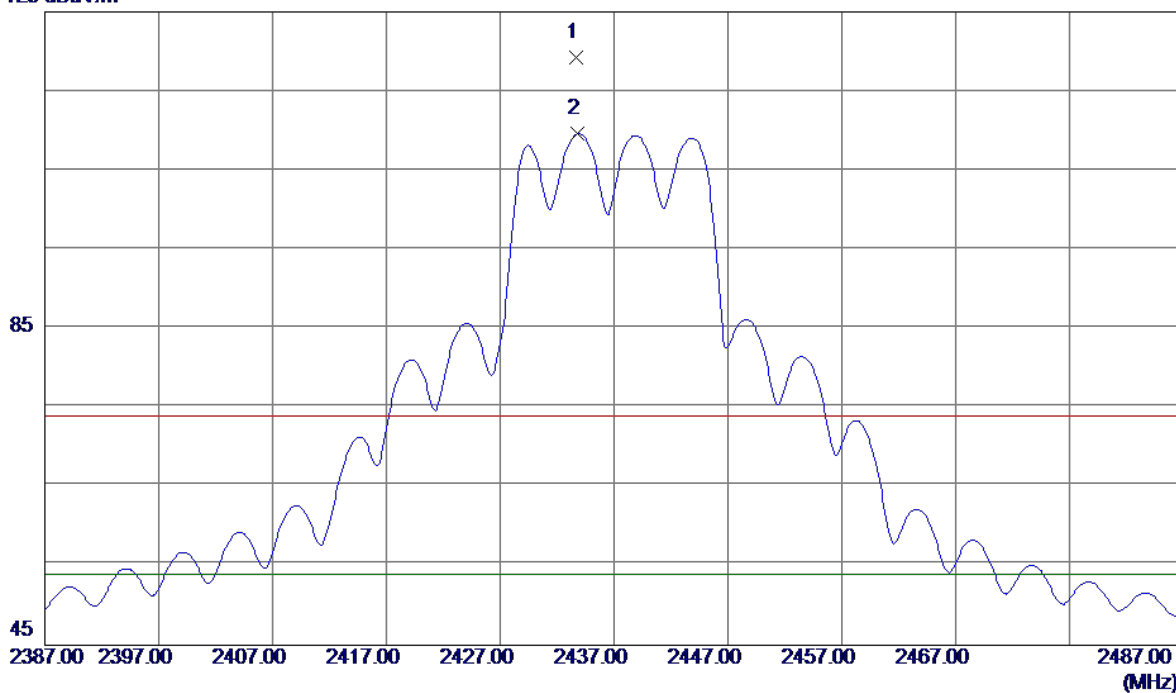
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2433.7000	86.01	33.19	119.20	74.00	45.20	Peak	No Limit
2 *	2433.8000	76.38	33.19	109.57	54.00	55.57	AVG	No Limit

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7307.1000	44.21	11.36	55.57	74.00	-18.43	Peak	
2 *	7311.2500	35.33	11.37	46.70	54.00	-7.30	AVG	

REMARKS:

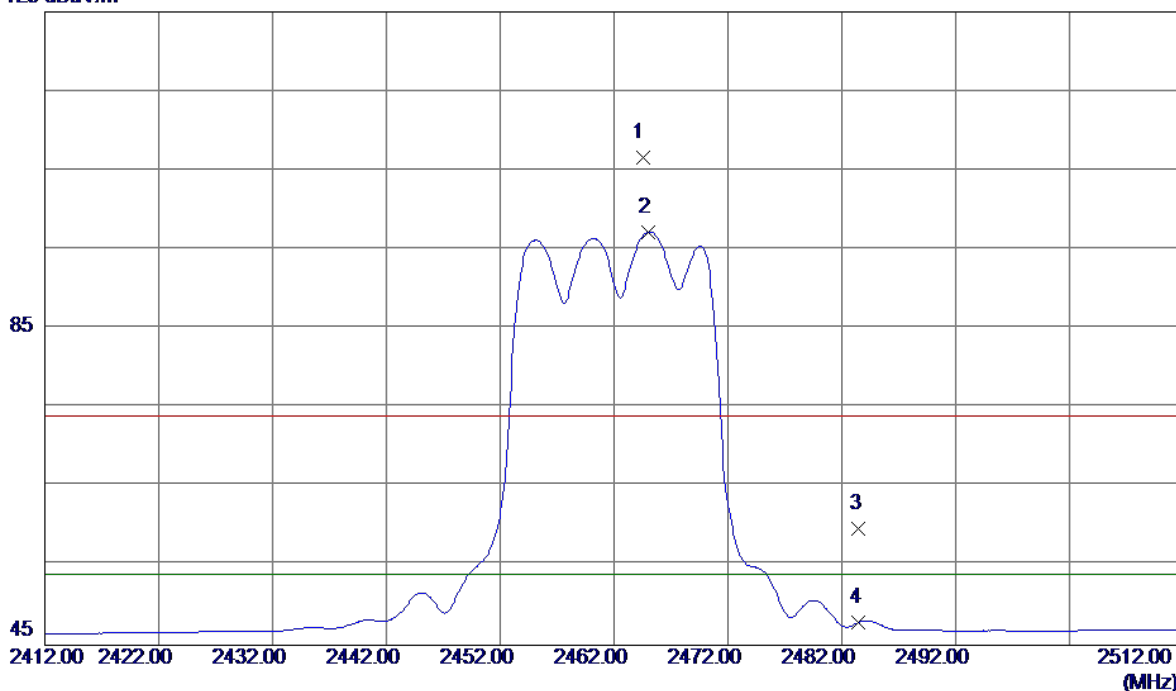
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2464.5000	73.33	33.32	106.65	74.00	32.65	Peak	No Limit
2 *	2465.0500	63.91	33.32	97.23	54.00	43.23	AVG	No Limit
3	2483.5000	26.25	33.40	59.65	74.00	-14.35	Peak	
4	2483.5000	14.52	33.40	47.92	54.00	-6.08	AVG	

REMARKS:

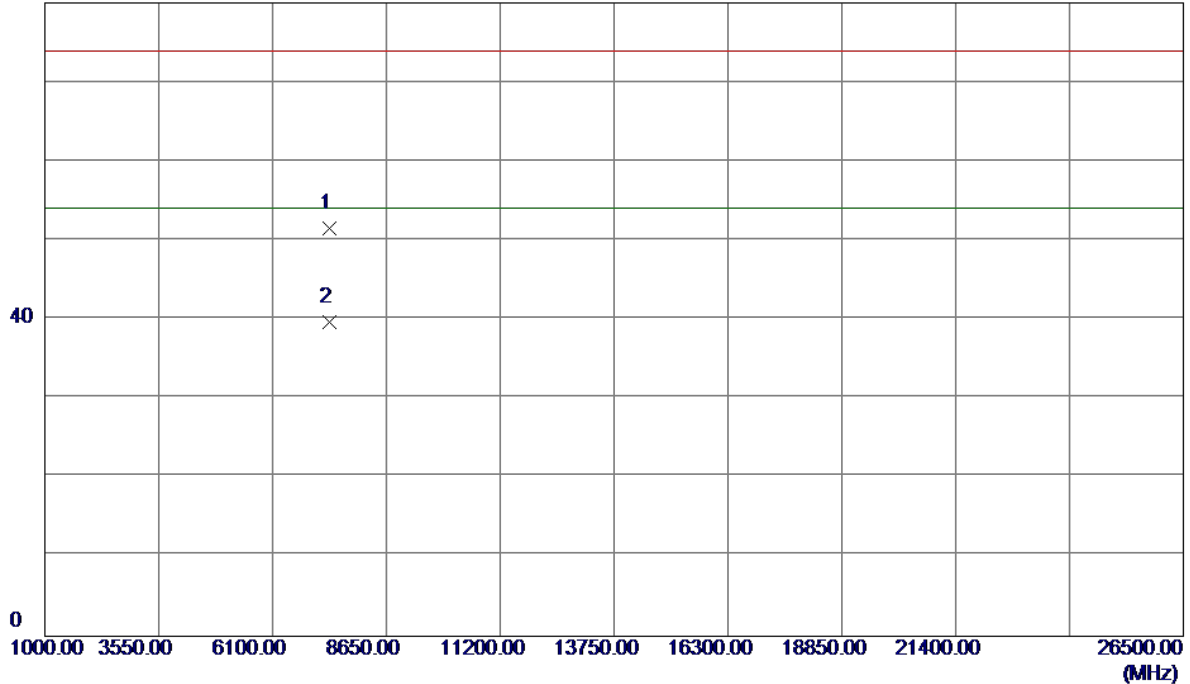
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7384.8000	40.00	11.52	51.52	74.00	-22.48	Peak	
2 *	7385.2250	28.13	11.52	39.65	54.00	-14.35	AVG	

REMARKS:

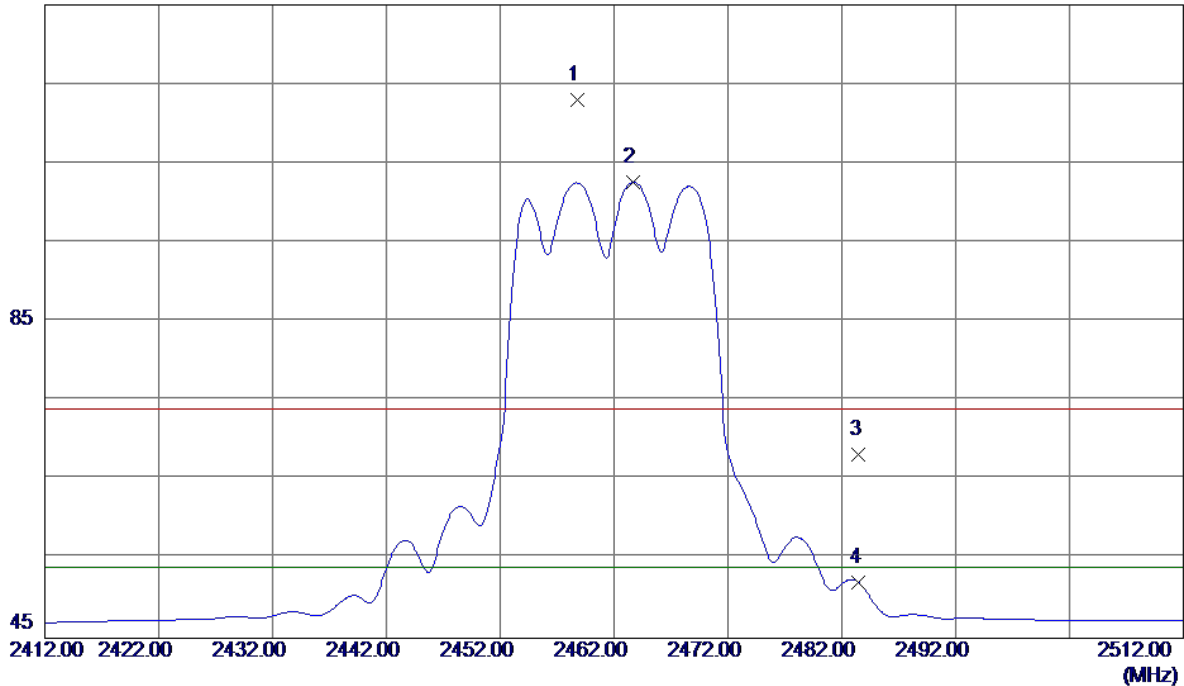
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2458.8000	79.68	33.30	112.98	74.00	38.98	Peak	No Limit
2 *	2463.7000	69.28	33.32	102.60	54.00	48.60	AVG	No Limit
3	2483.5000	34.80	33.40	68.20	74.00	-5.80	Peak	
4	2483.5000	18.59	33.40	51.99	54.00	-2.01	AVG	

REMARKS:

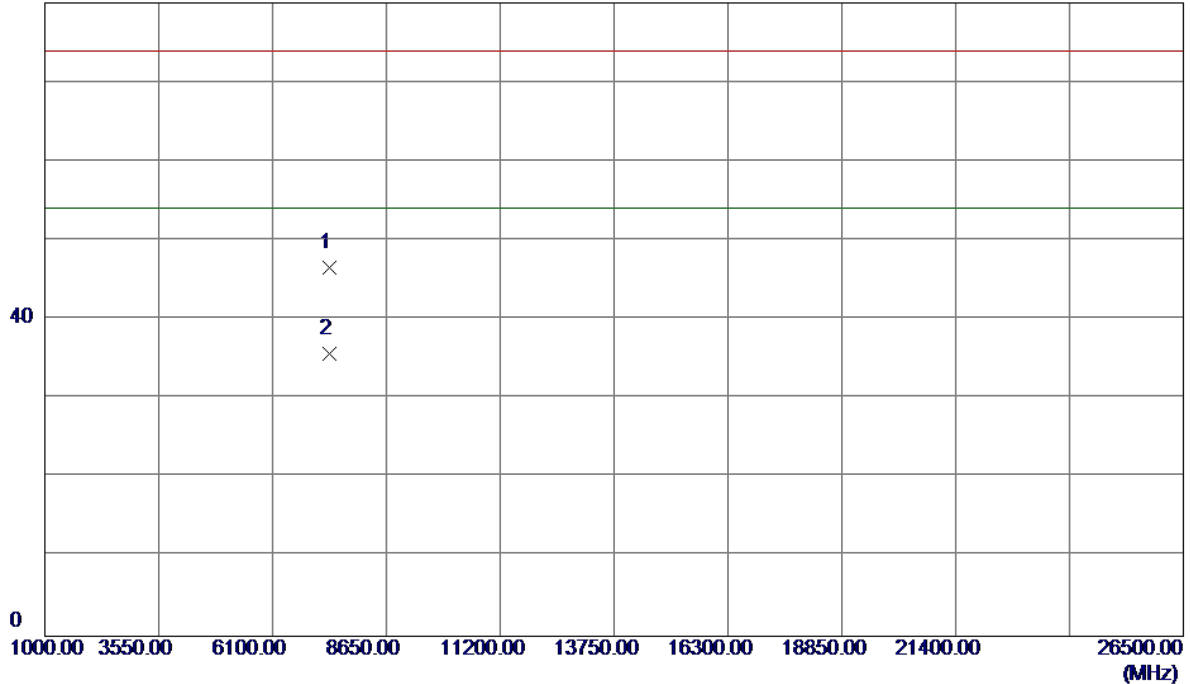
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7384.7000	35.00	11.52	46.52	74.00	-27.48	Peak	
2 *	7385.1250	24.13	11.52	35.65	54.00	-18.35	AVG	

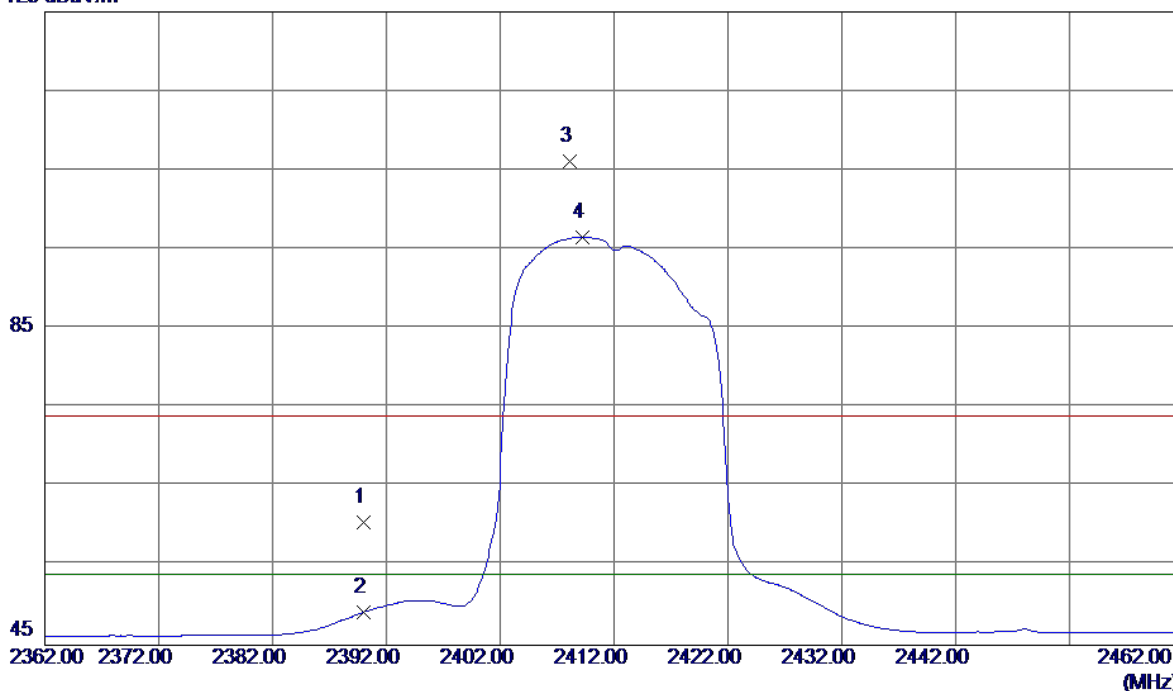
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 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	27.56	33.01	60.57	74.00	-13.43	Peak	
2	2390.0000	16.19	33.01	49.20	54.00	-4.80	AVG	
3	2408.1500	73.04	33.09	106.13	74.00	32.13	Peak	No Limit
4 *	2409.2500	63.44	33.09	96.53	54.00	42.53	AVG	No Limit

REMARKS:

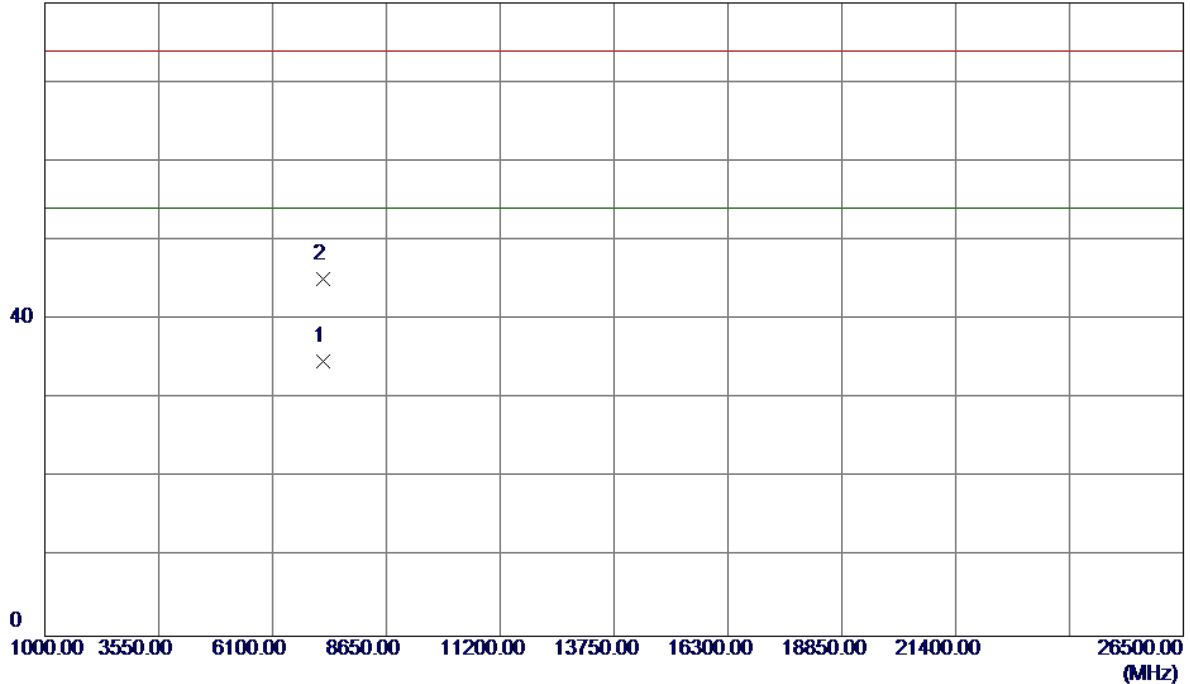
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Vertical

80 dBuV/m



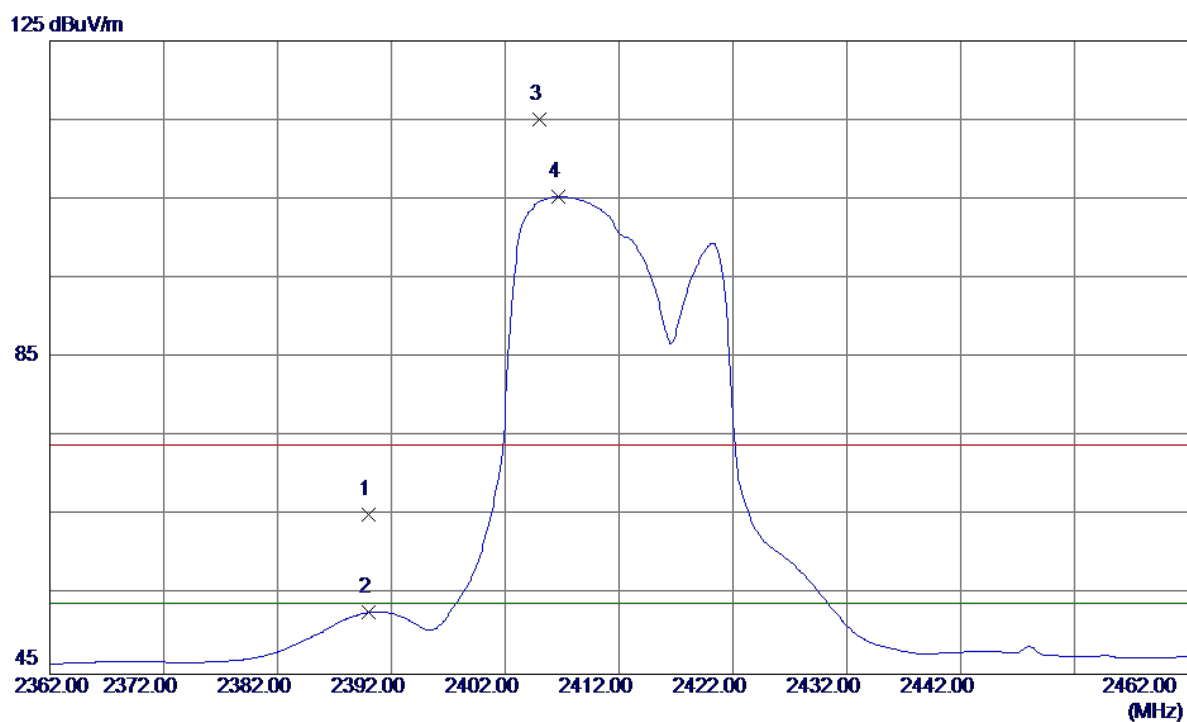
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7239.0000	23.51	11.23	34.74	54.00	-19.26	AVG	
2	7236.7500	33.96	11.22	45.18	74.00	-28.82	Peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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	32.08	33.01	65.09	74.00	-8.91	Peak	
2	2390.0000	19.79	33.01	52.80	54.00	-1.20	AVG	
3	2405.0500	81.99	33.07	115.06	74.00	41.06	Peak	No Limit
4 *	2406.7000	72.26	33.08	105.34	54.00	51.34	AVG	No Limit

REMARKS:

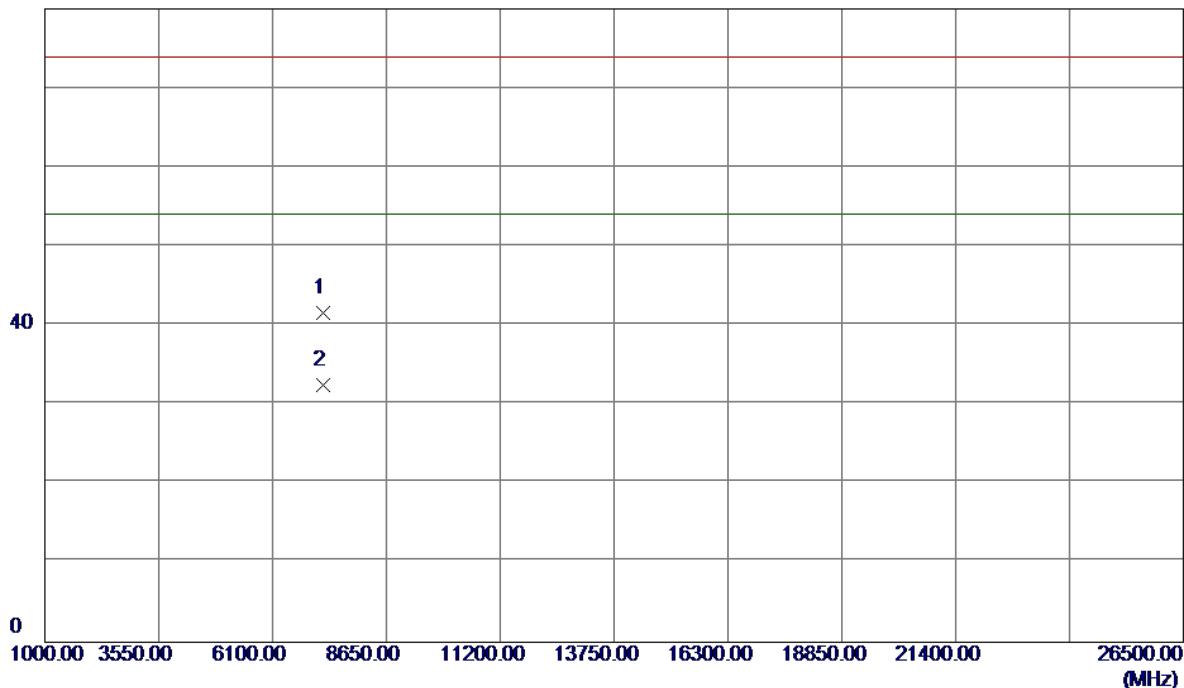
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7236.6500	30.33	11.22	41.55	74.00	-32.45	Peak	
2 *	7239.2500	21.21	11.23	32.44	54.00	-21.56	AVG	

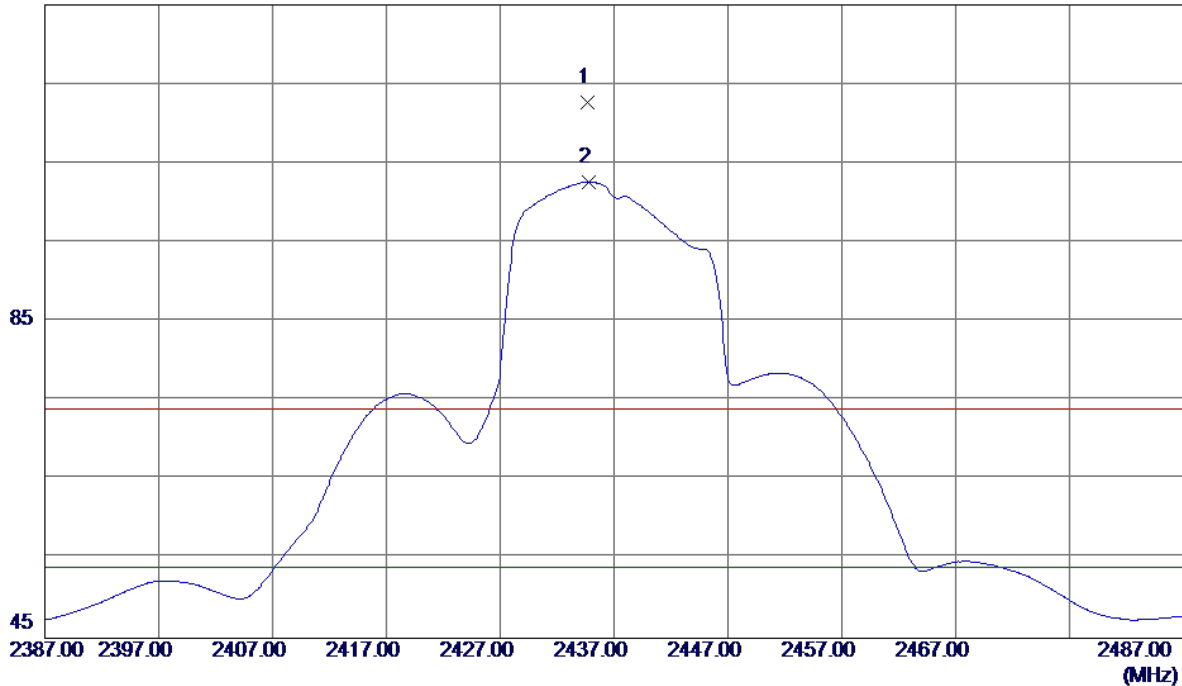
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2434.6500	79.46	33.20	112.66	74.00	38.66	Peak	No Limit
2 *	2434.7500	69.41	33.20	102.61	54.00	48.61	AVG	No Limit

REMARKS:

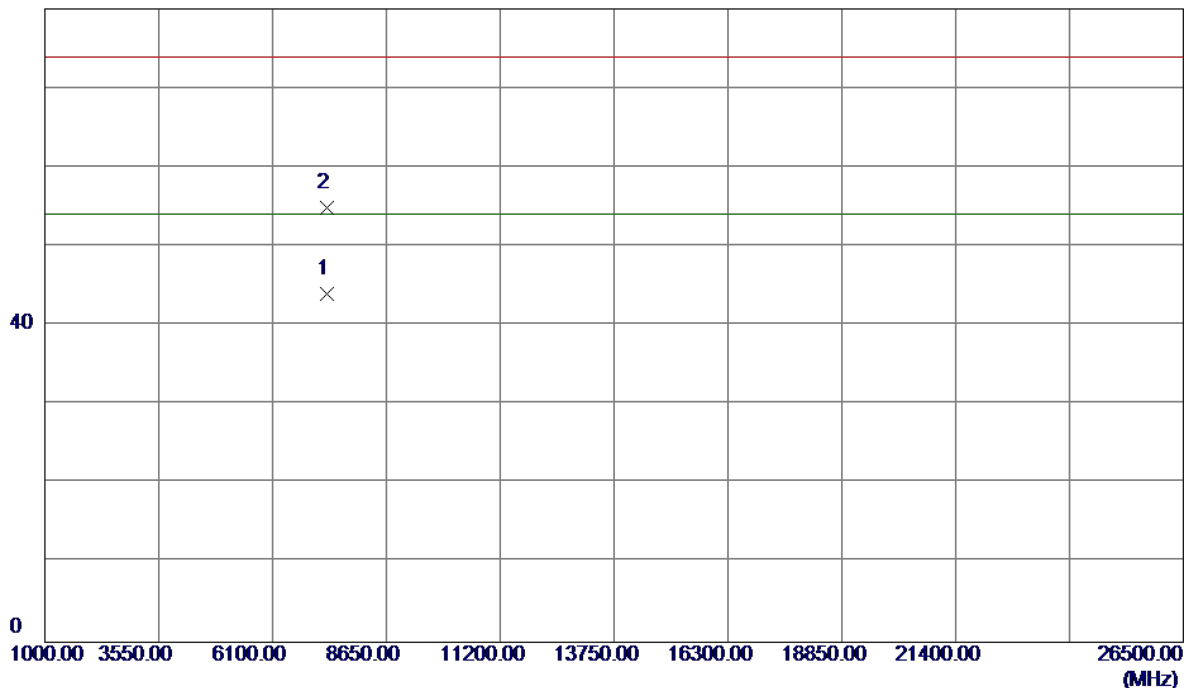
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7311.8500	32.59	11.37	43.96	54.00	-10.04	AVG	
2	7314.9000	43.49	11.38	54.87	74.00	-19.13	Peak	

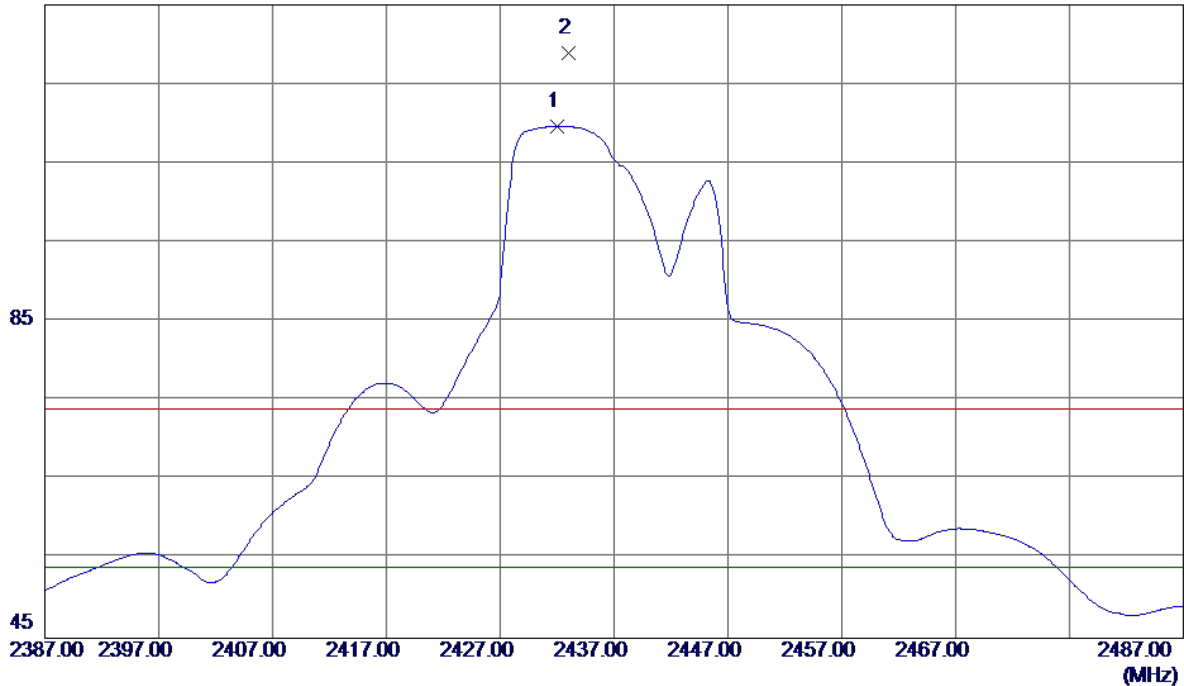
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2432.0000	76.46	33.19	109.65	54.00	55.65	AVG	No Limit
2	2433.0000	85.69	33.19	118.88	74.00	44.88	Peak	No Limit

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7311.9550	28.50	11.37	39.87	54.00	-14.13	AVG	
2	7314.8000	38.54	11.38	49.92	74.00	-24.08	Peak	

REMARKS:

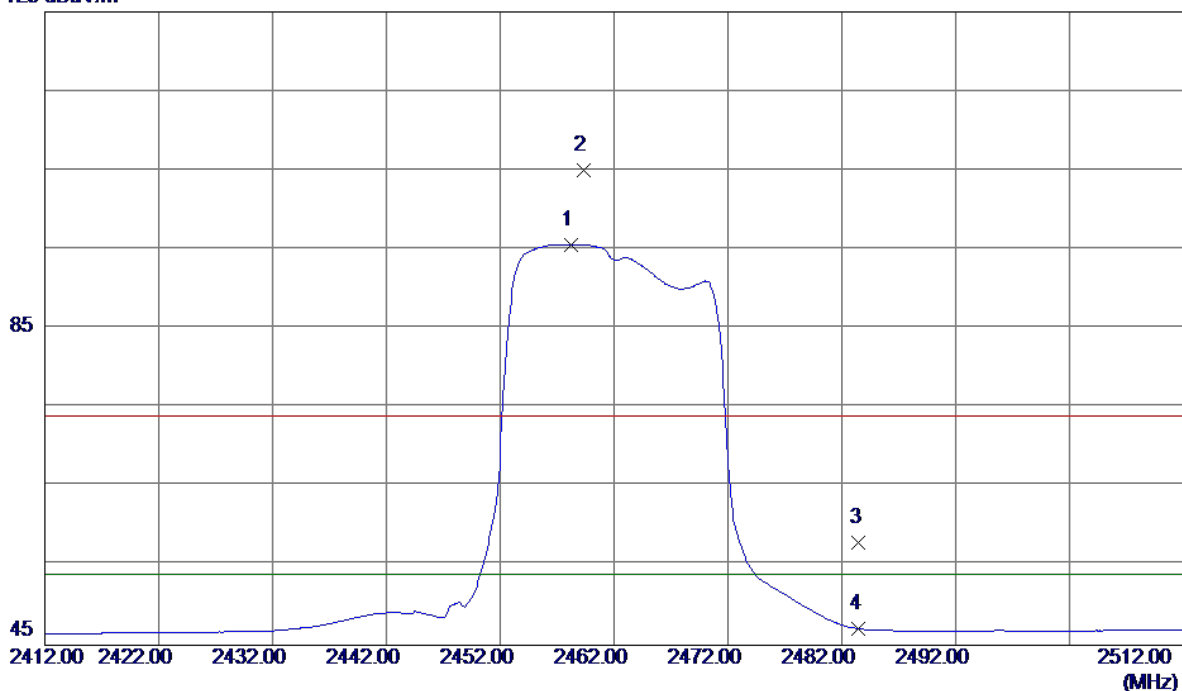
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2458.2500	62.33	33.30	95.63	54.00	41.63	AVG	No Limit
2	2459.3500	71.76	33.30	105.06	74.00	31.06	Peak	No Limit
3	2483.5000	24.56	33.40	57.96	74.00	-16.04	Peak	
4	2483.5000	13.68	33.40	47.08	54.00	-6.92	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7384.7250	38.78	11.52	50.30	74.00	-23.70	Peak	
2 *	7384.9750	28.23	11.52	39.75	54.00	-14.25	AVG	

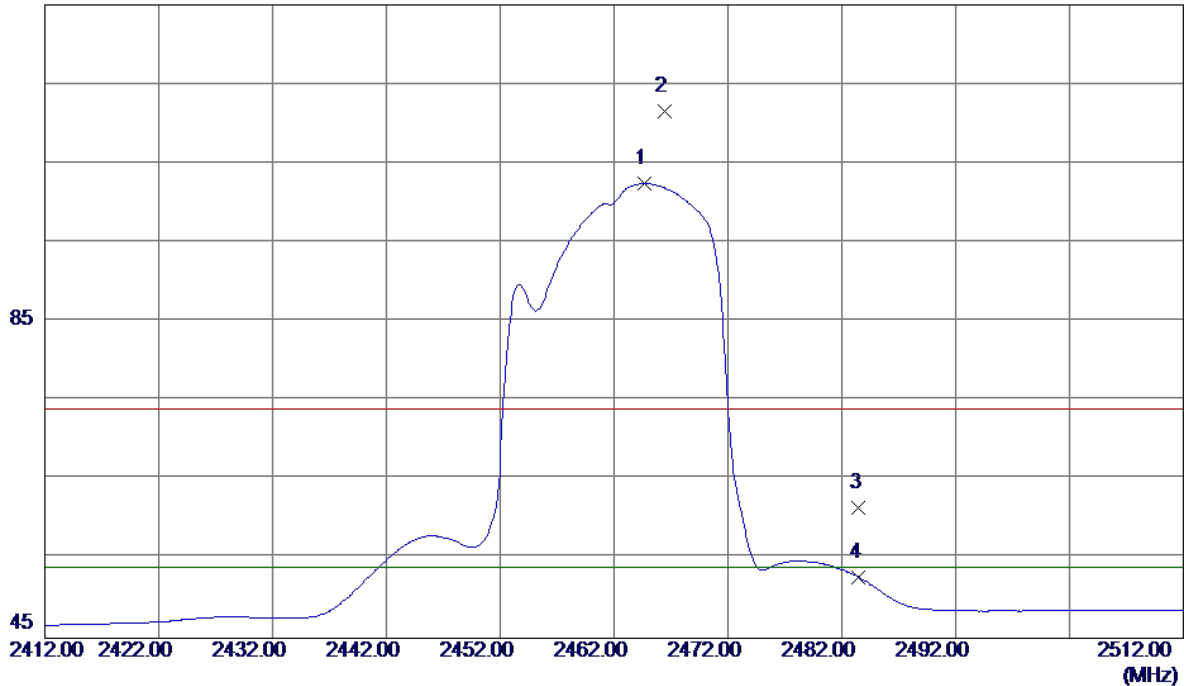
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2464.6500	69.11	33.32	102.43	54.00	48.43	AVG	No Limit
2	2466.4500	78.23	33.33	111.56	74.00	37.56	Peak	No Limit
3	2483.5000	28.03	33.40	61.43	74.00	-12.57	Peak	
4	2483.5000	19.28	33.40	52.68	54.00	-1.32	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7384.6500	34.32	11.52	45.84	74.00	-28.16	Peak	
2 *	7384.9800	24.21	11.52	35.73	54.00	-18.27	AVG	

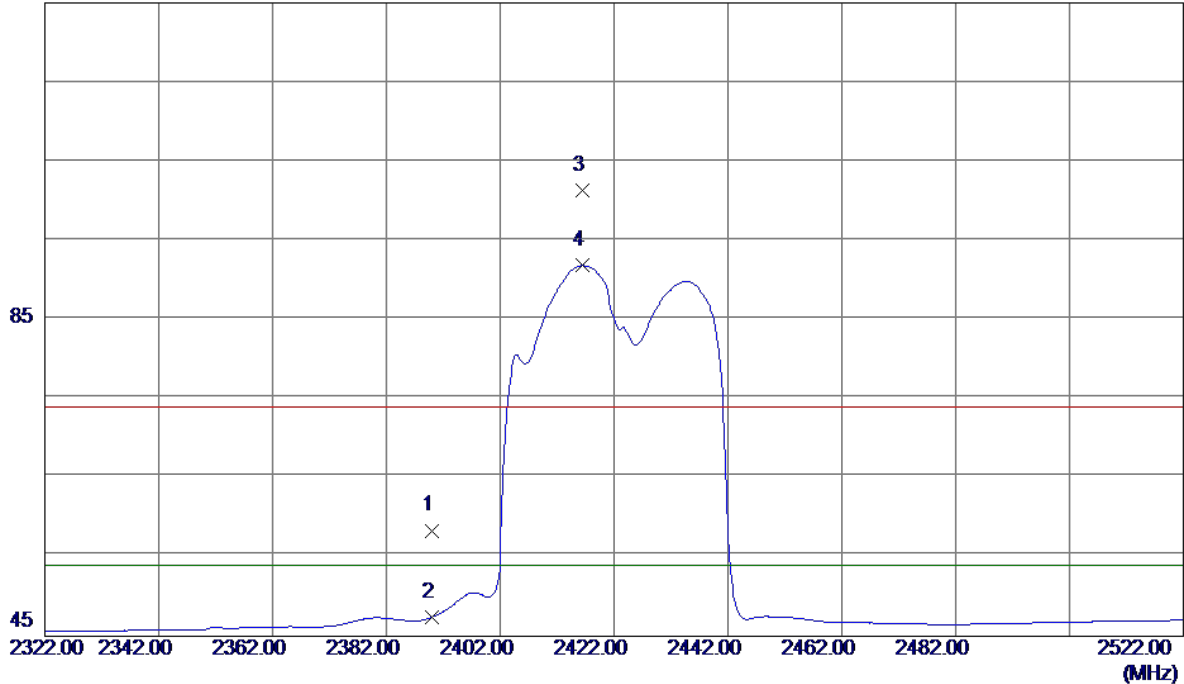
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 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	25.35	33.01	58.36	74.00	-15.64	Peak	
2	2390.0000	14.44	33.01	47.45	54.00	-6.55	AVG	
3	2416.5000	68.14	33.12	101.26	74.00	27.26	Peak	No Limit
4 *	2416.5000	58.69	33.12	91.81	54.00	37.81	AVG	No Limit

REMARKS:

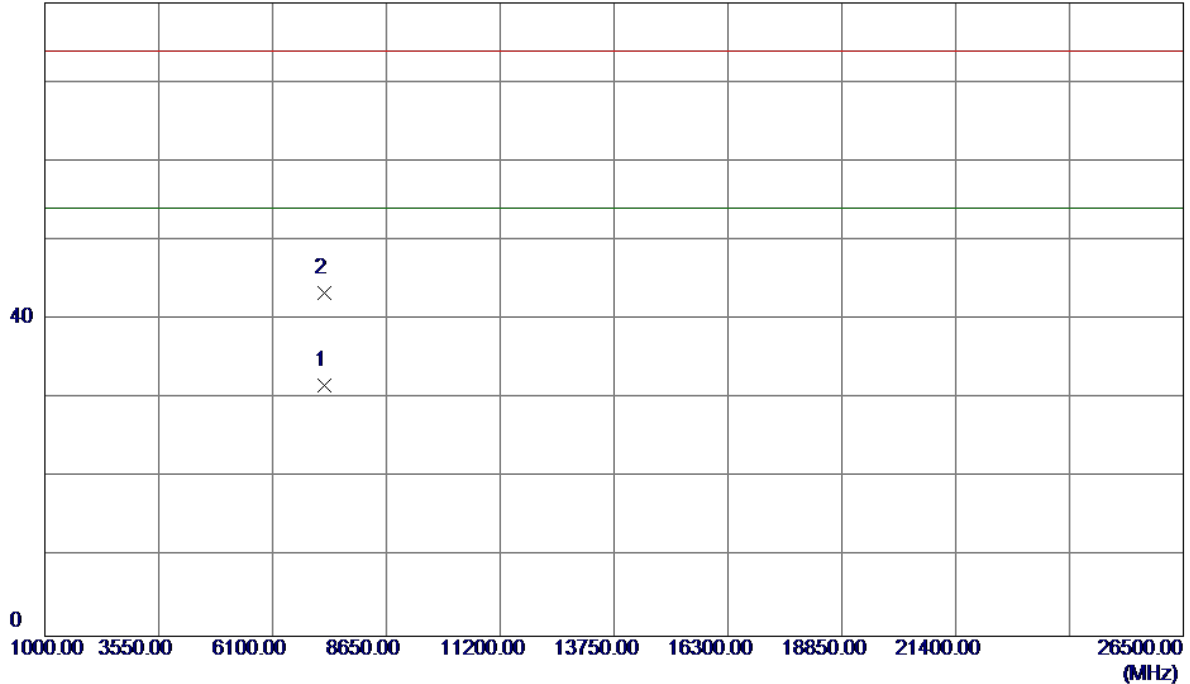
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7266.7330	20.36	11.28	31.64	54.00	-22.36	AVG	
2	7268.1700	32.09	11.29	43.38	74.00	-30.62	Peak	

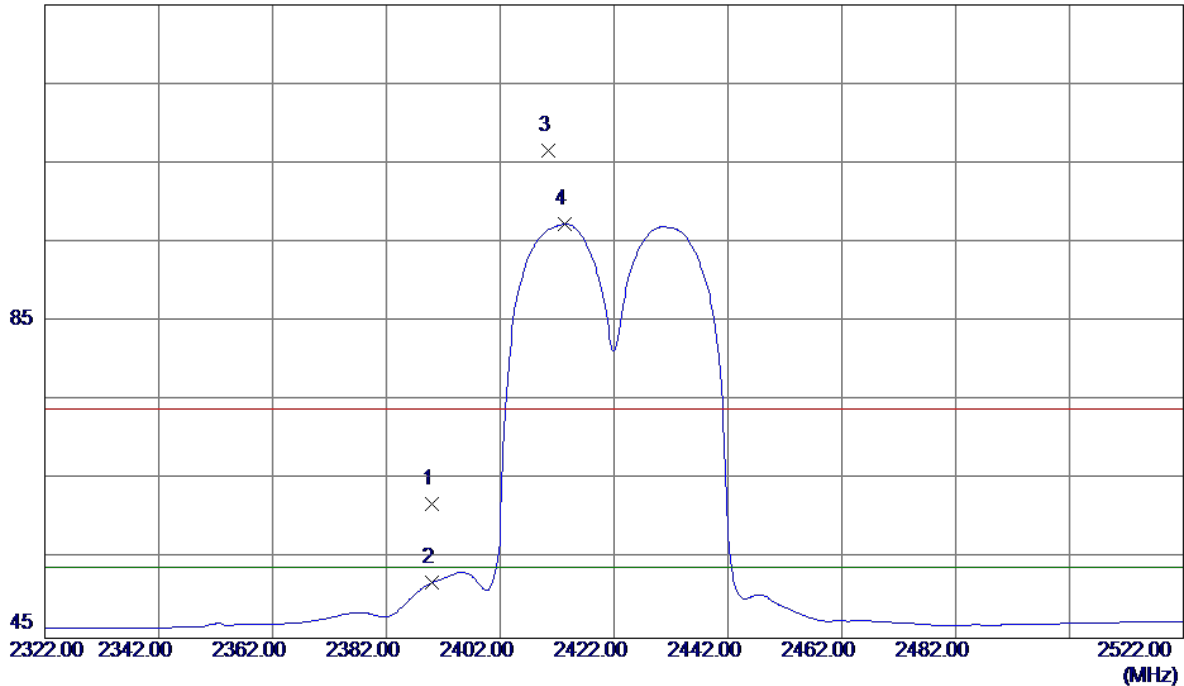
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 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	28.88	33.01	61.89	74.00	-12.11	Peak	
2	2390.0000	19.03	33.01	52.04	54.00	-1.96	AVG	
3	2410.4000	73.44	33.10	106.54	74.00	32.54	Peak	No Limit
4 *	2413.4000	64.19	33.11	97.30	54.00	43.30	AVG	No Limit

REMARKS:

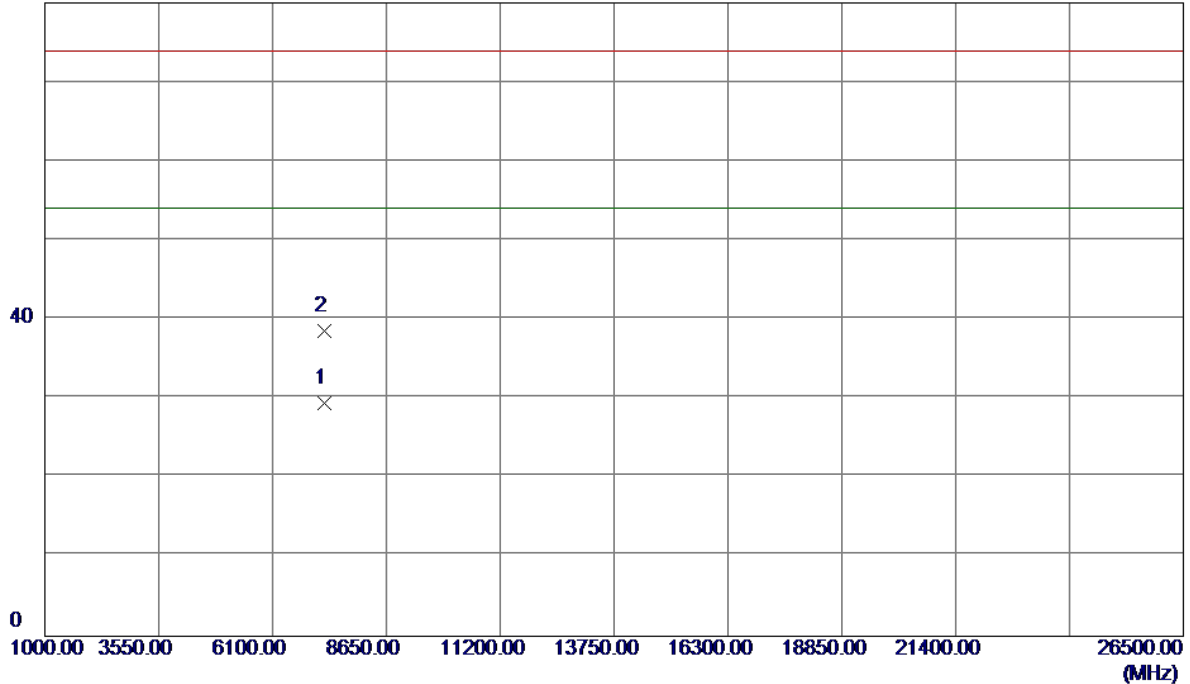
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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 *	7266.6500	18.23	11.28	29.51	54.00	-24.49	AVG	
2	7268.2500	27.31	11.29	38.60	74.00	-35.40	Peak	

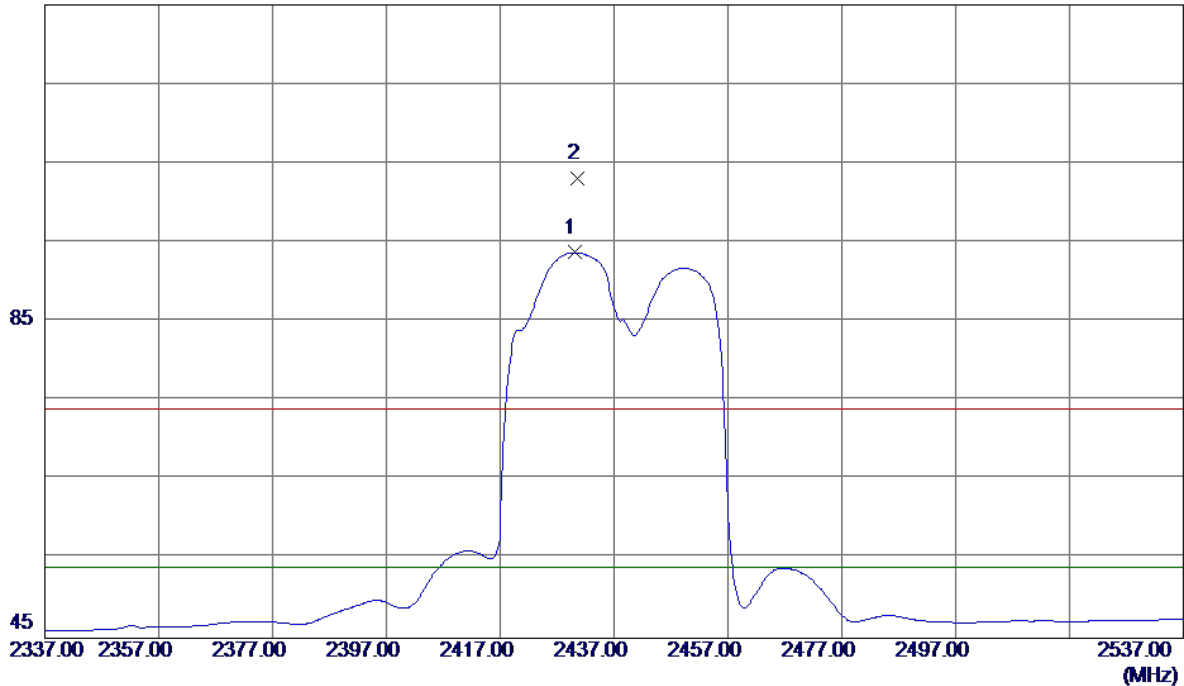
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2430.0000	60.54	33.18	93.72	54.00	39.72	AVG	No Limit
2	2430.6000	69.83	33.18	103.01	74.00	29.01	Peak	No Limit

REMARKS:

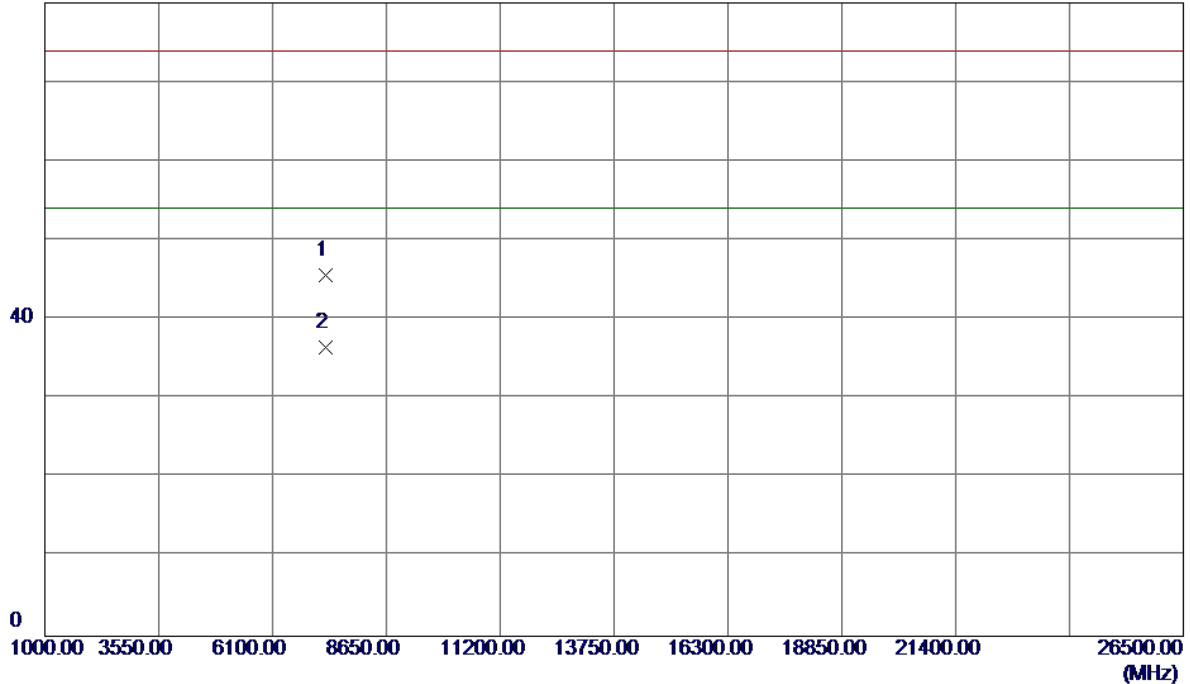
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7294.4000	34.19	11.34	45.53	74.00	-28.47	Peak	
2 *	7295.5000	25.14	11.34	36.48	54.00	-17.52	AVG	

REMARKS:

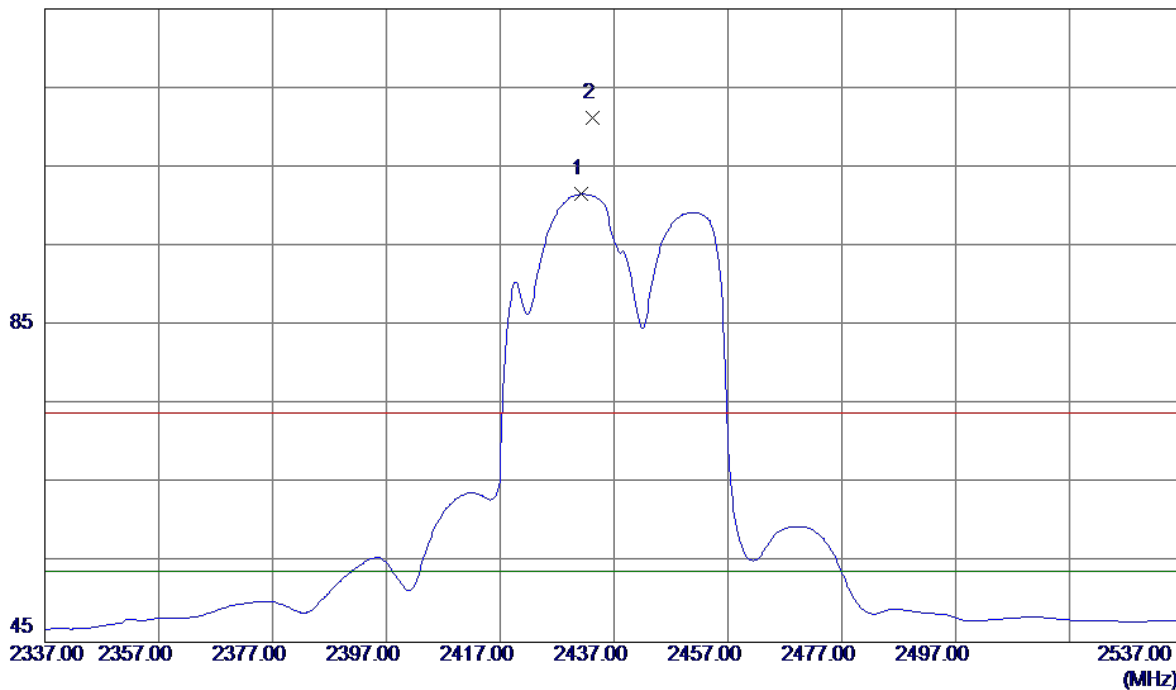
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2431.3000	68.41	33.18	101.59	54.00	47.59	AVG	No Limit
2	2433.3000	78.04	33.19	111.23	74.00	37.23	Peak	No Limit

REMARKS:

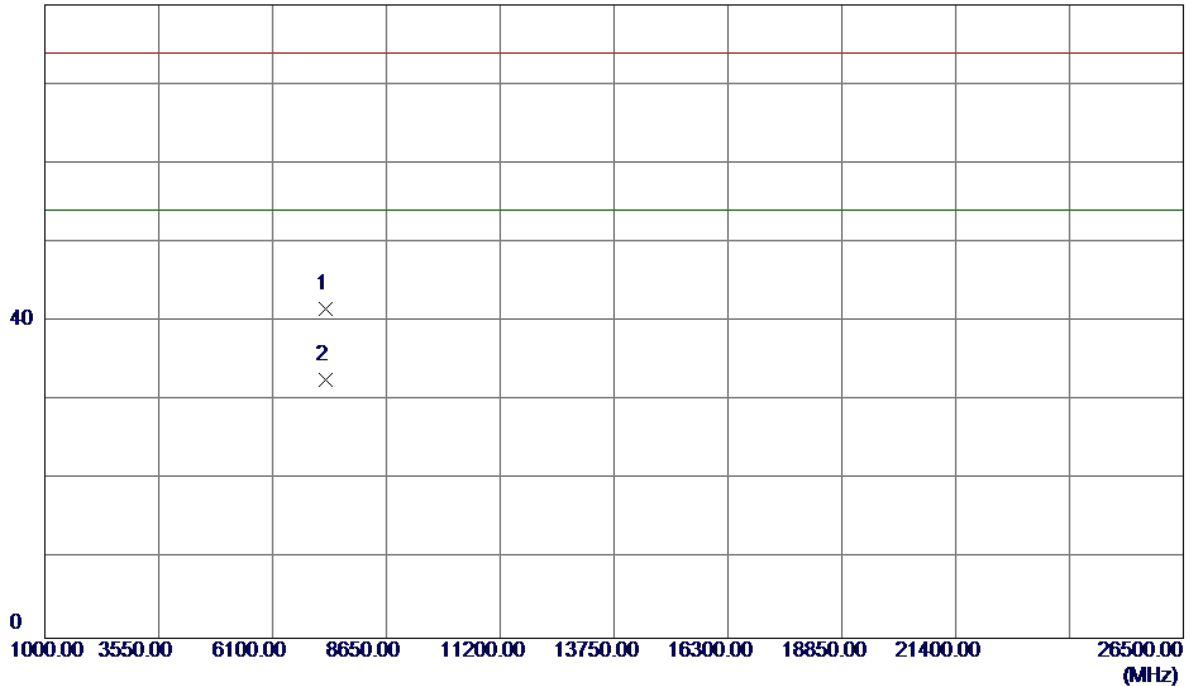
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7294.6000	30.25	11.34	41.59	74.00	-32.41	Peak	
2 *	7295.5750	21.34	11.34	32.68	54.00	-21.32	AVG	

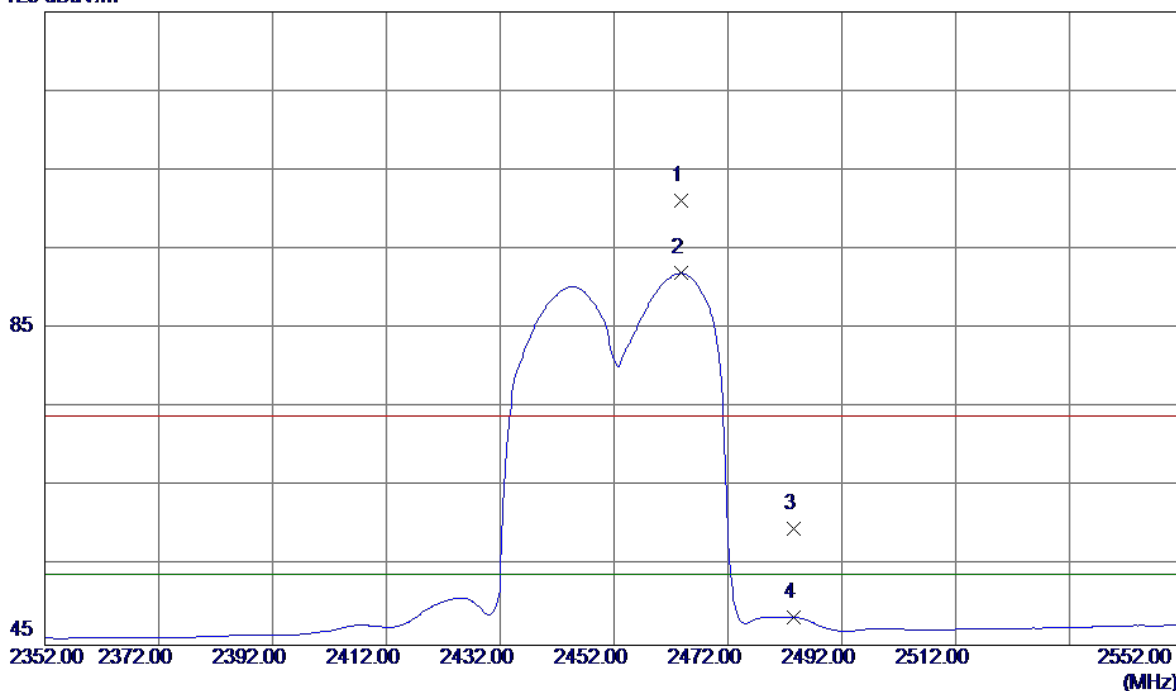
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

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

Vertical

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2463.7000	67.77	33.32	101.09	74.00	27.09	Peak	No Limit
2 *	2463.7000	58.65	33.32	91.97	54.00	37.97	AVG	No Limit
3	2483.5000	26.39	33.40	59.79	74.00	-14.21	Peak	
4	2483.5000	15.13	33.40	48.53	54.00	-5.47	AVG	

REMARKS:

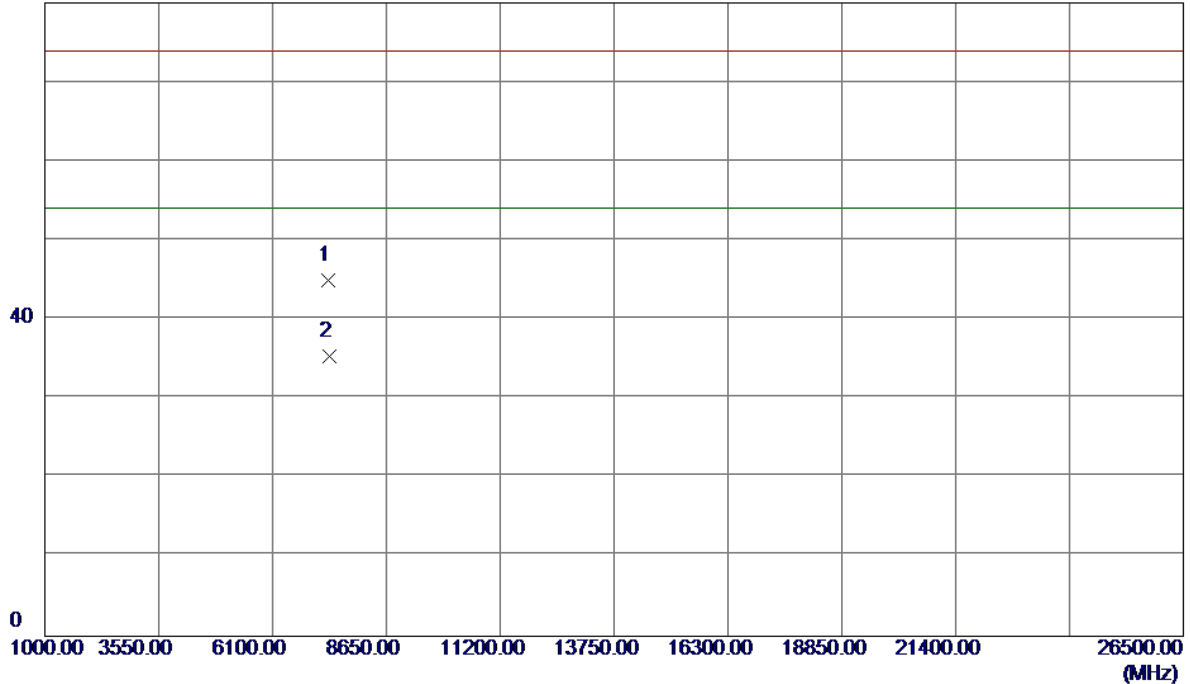
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7358.5000	33.42	11.47	44.89	74.00	-29.11	Peak	
2 *	7373.1000	23.87	11.50	35.37	54.00	-18.63	AVG	

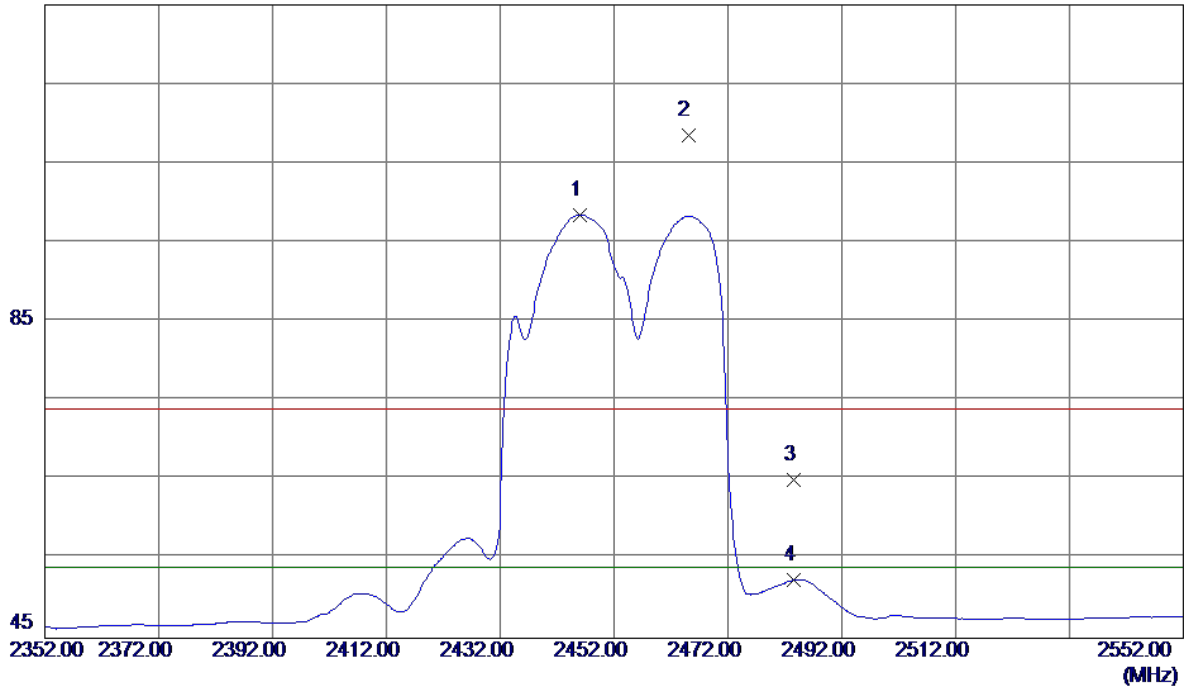
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

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

Horizontal

125 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2446.0000	65.24	33.24	98.48	54.00	44.48	AVG	No Limit
2	2465.0000	75.23	33.32	108.55	74.00	34.55	Peak	No Limit
3	2483.5000	31.61	33.40	65.01	74.00	-8.99	Peak	
4	2483.5000	18.95	33.40	52.35	54.00	-1.65	AVG	

REMARKS:

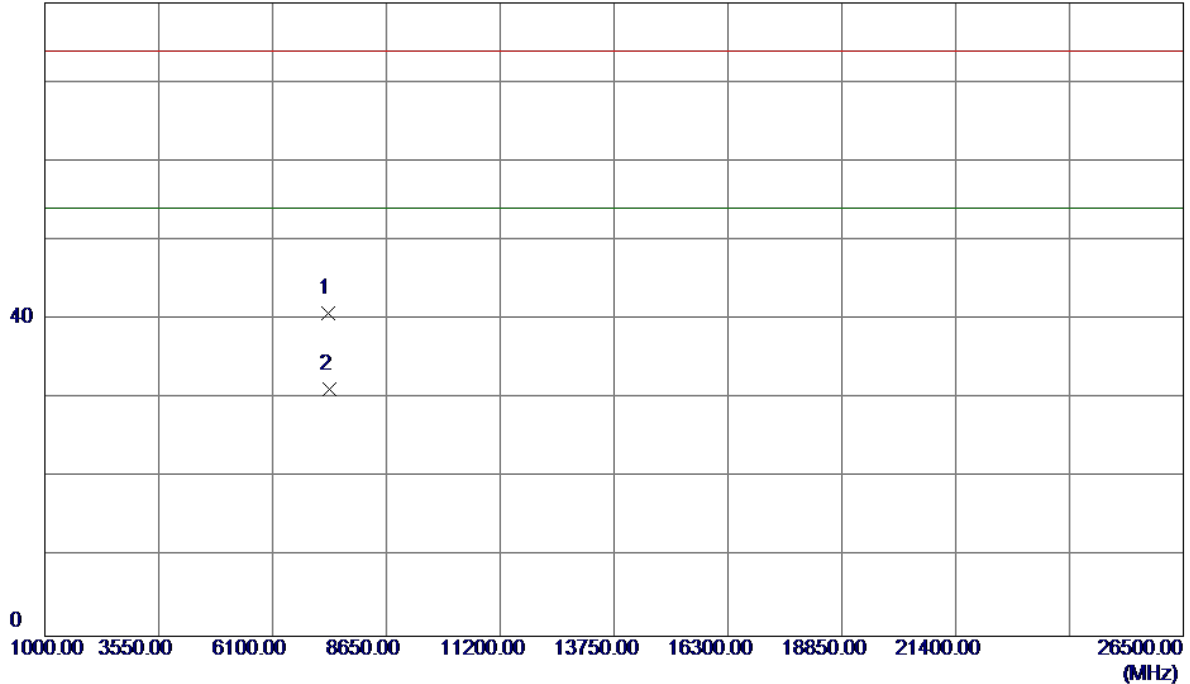
(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

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	7358.5750	29.31	11.47	40.78	74.00	-33.22	Peak	
2 *	7373.1250	19.75	11.50	31.25	54.00	-22.75	AVG	

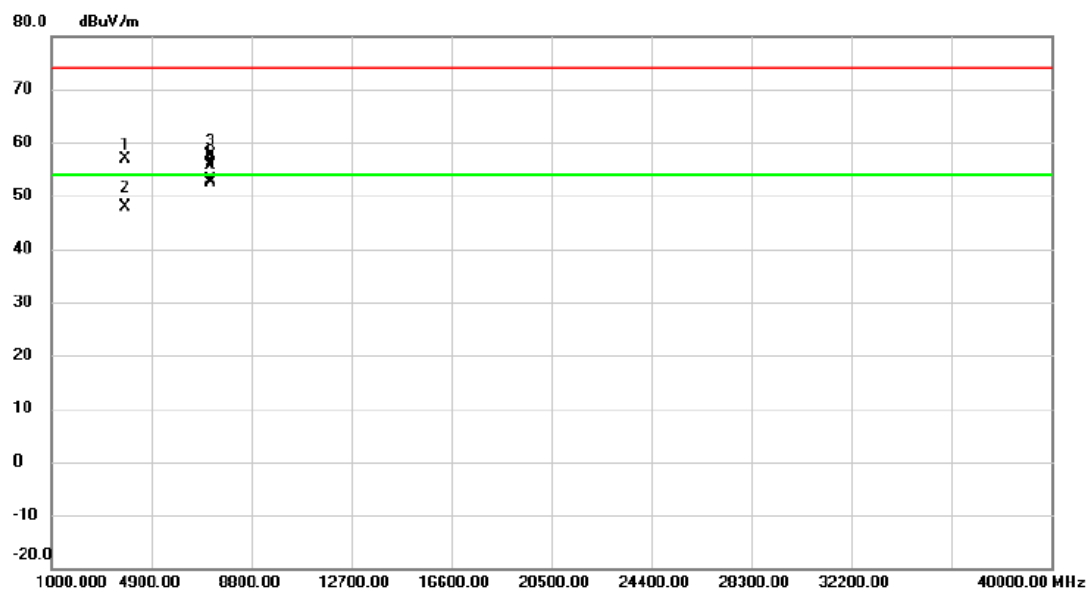
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

The worst case of simultaneous transmission:

Test Mode: TX LE 1Mbps 2402 + WLAN 2.4G B Mode 2412 + WLAN 5G A Mode 5825MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3882.854	54.47	2.32	56.79	74.00	-17.21	peak	
2		3883.413	45.57	2.32	47.89	54.00	-6.11	AVG	
3		7205.475	48.52	9.16	57.68	74.00	-16.32	peak	
4		7206.123	43.25	9.16	52.41	54.00	-1.59	AVG	
5	*	7236.417	43.62	9.20	52.82	54.00	-1.18	AVG	
6		7236.610	46.54	9.20	55.74	74.00	-18.26	peak	

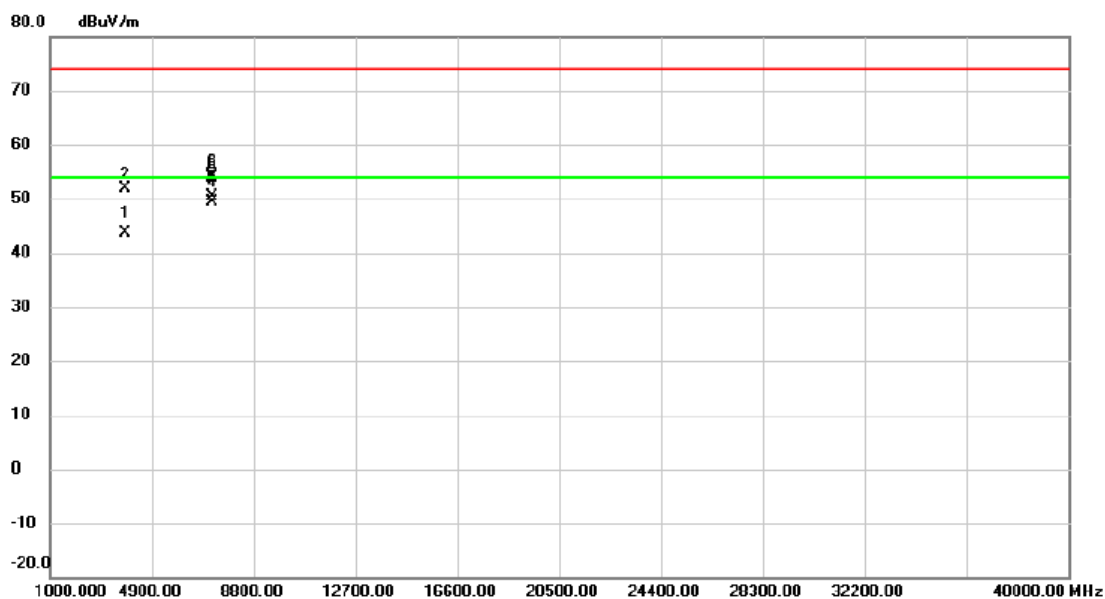
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode:	TX LE 1Mbps 2402 + WLAN 2.4G B Mode 2412 + WLAN 5G A Mode 5825MHz
------------	---

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		3883.144	41.24	2.32	43.56	54.00	-10.44	AVG	
2		3883.415	49.54	2.32	51.86	74.00	-22.14	peak	
3		7205.251	45.25	9.16	54.41	74.00	-19.59	peak	
4		7205.356	40.24	9.16	49.40	54.00	-4.60	AVG	
5 *		7236.140	41.24	9.20	50.44	54.00	-3.56	AVG	
6		7236.478	44.64	9.20	53.84	74.00	-20.16	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

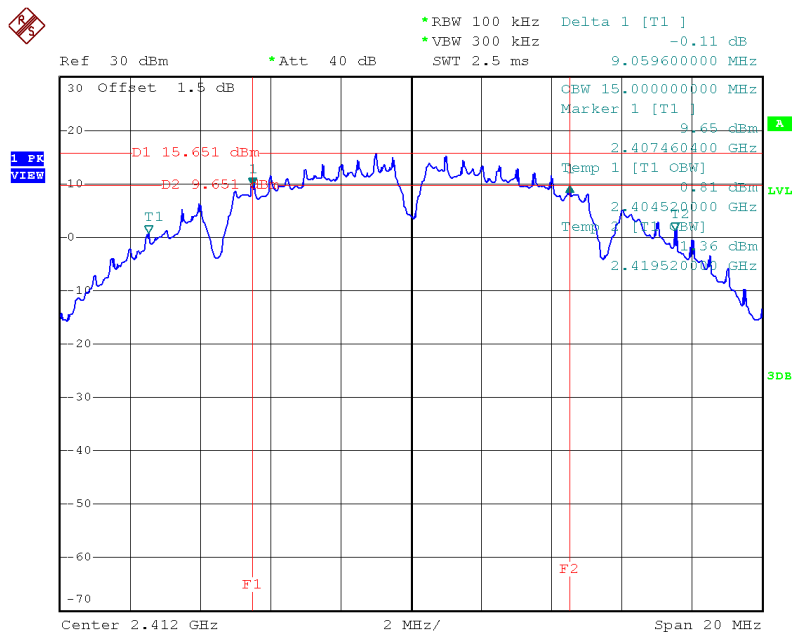
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX E - BANDWIDTH

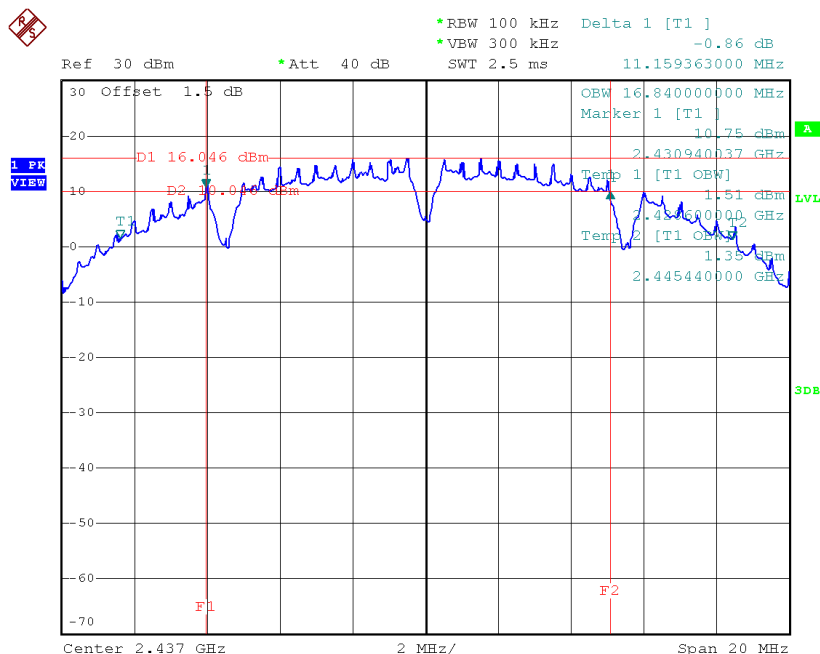
Test Mode : TX B Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	9.06	15.00	500	Complies
2437	11.16	16.84	500	Complies
2462	10.10	15.76	500	Complies

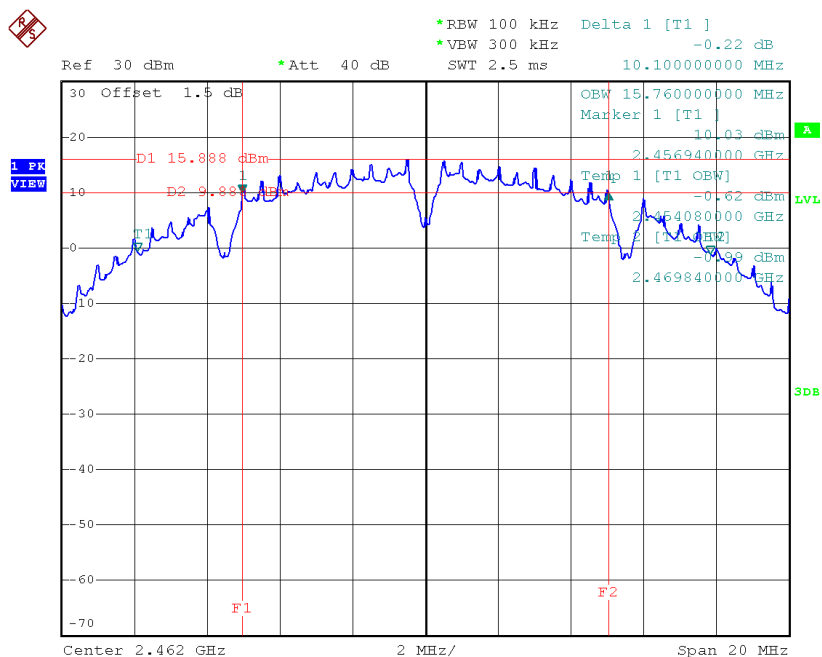
TX CH01



TX CH06



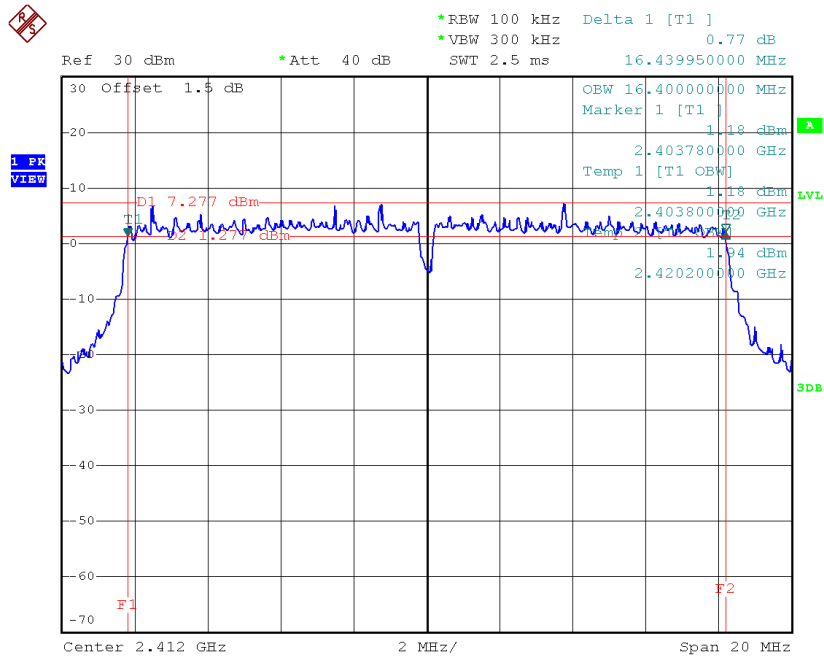
TX CH11



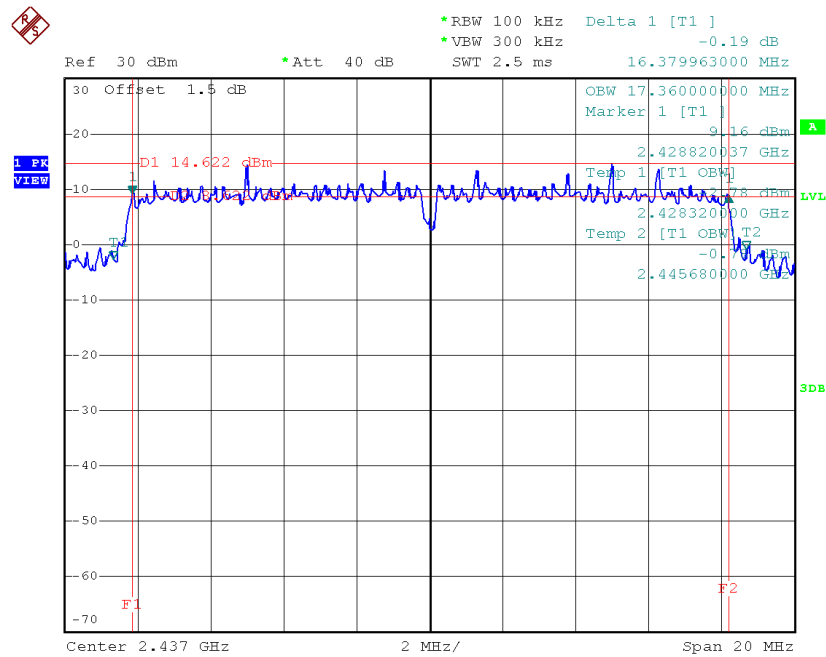
Test Mode: TX G Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.44	16.40	500	Complies
2437	16.38	17.36	500	Complies
2462	16.42	16.56	500	Complies

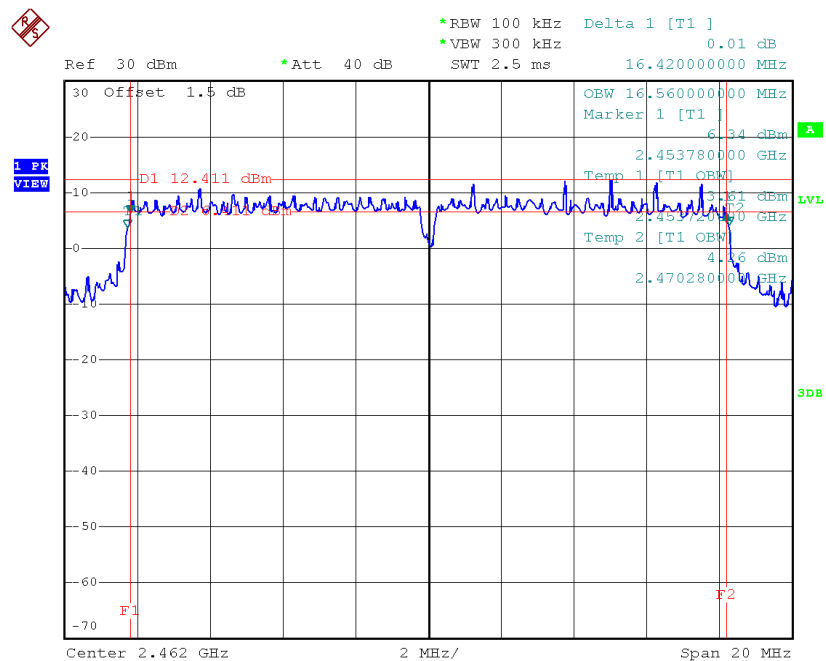
TX CH01



TX CH06



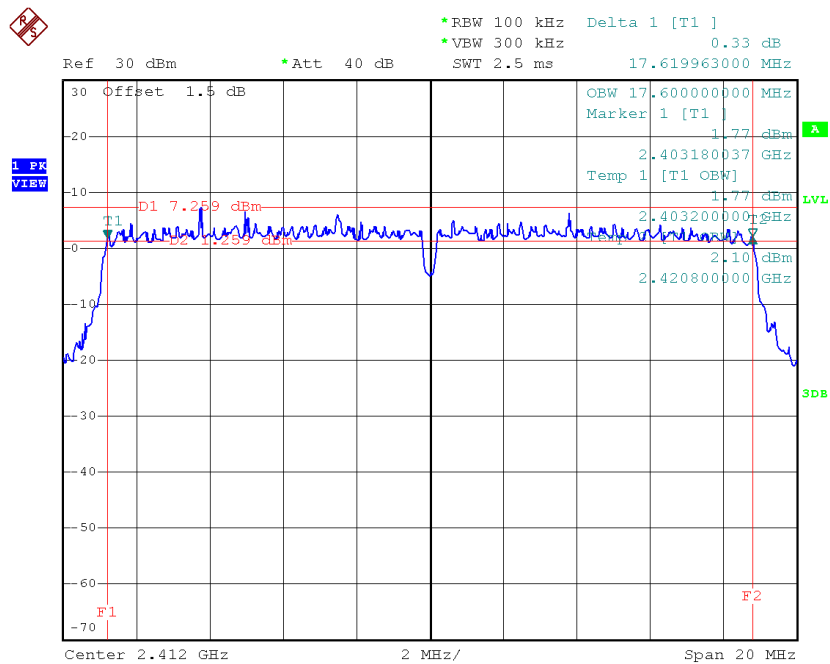
TX CH11



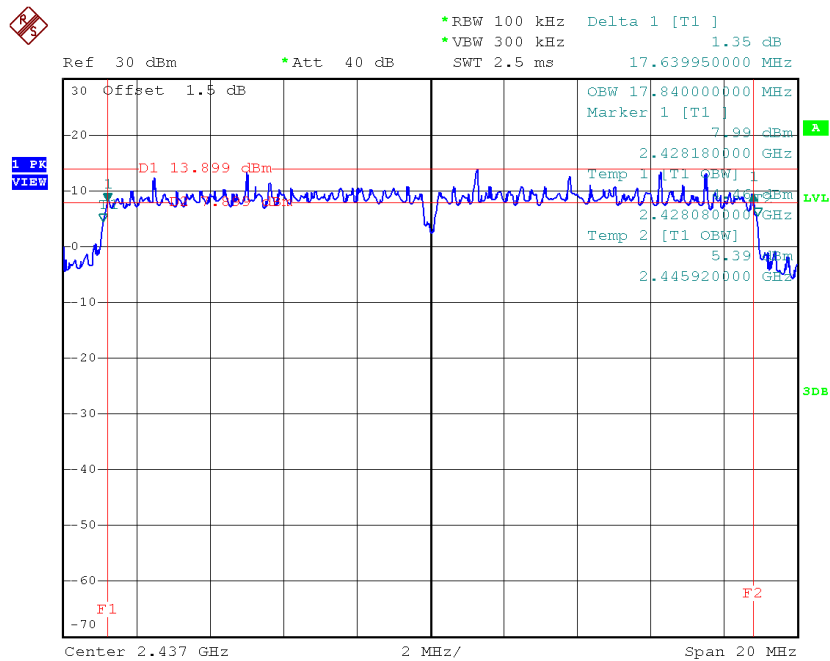
Test Mode : TX N-20MHz Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.62	17.60	500	Complies
2437	17.64	17.84	500	Complies
2462	17.62	17.68	500	Complies

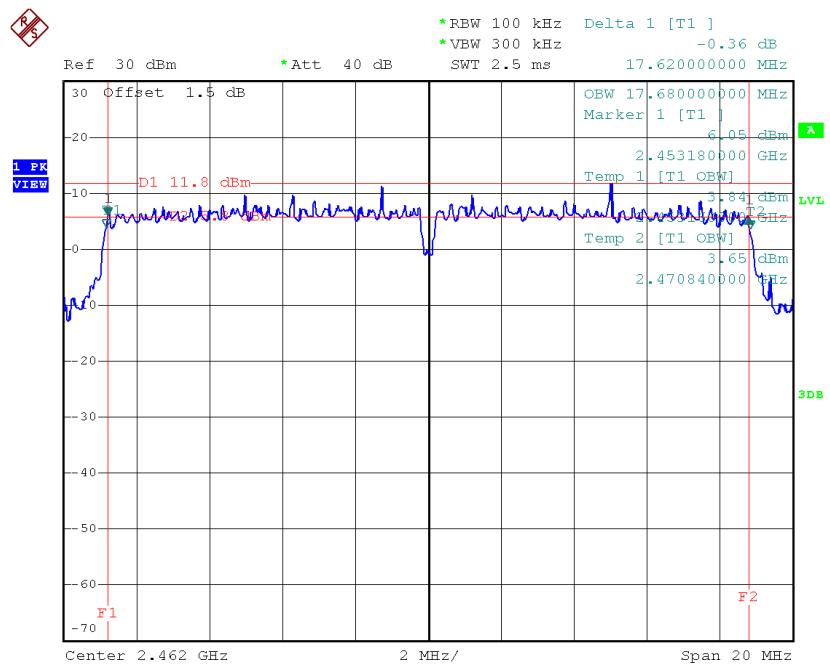
TX CH01



TX CH06



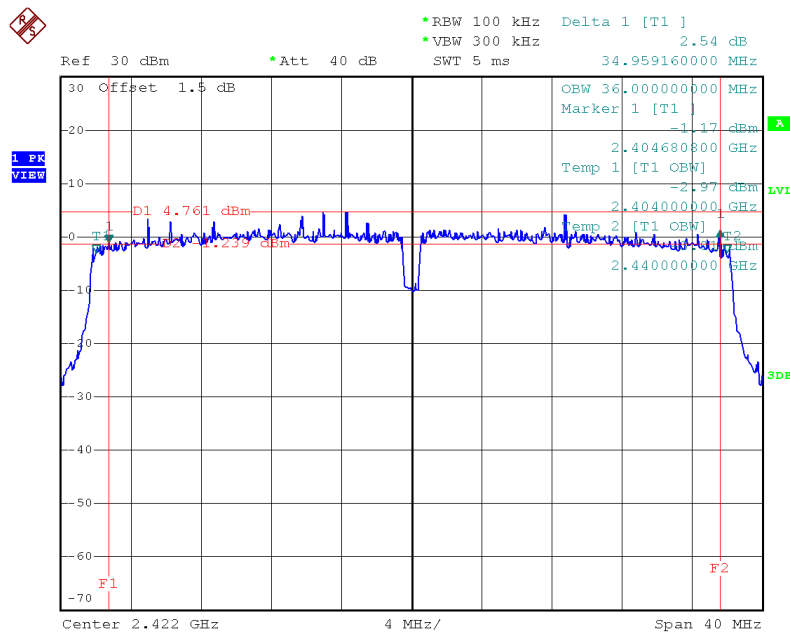
TX CH11



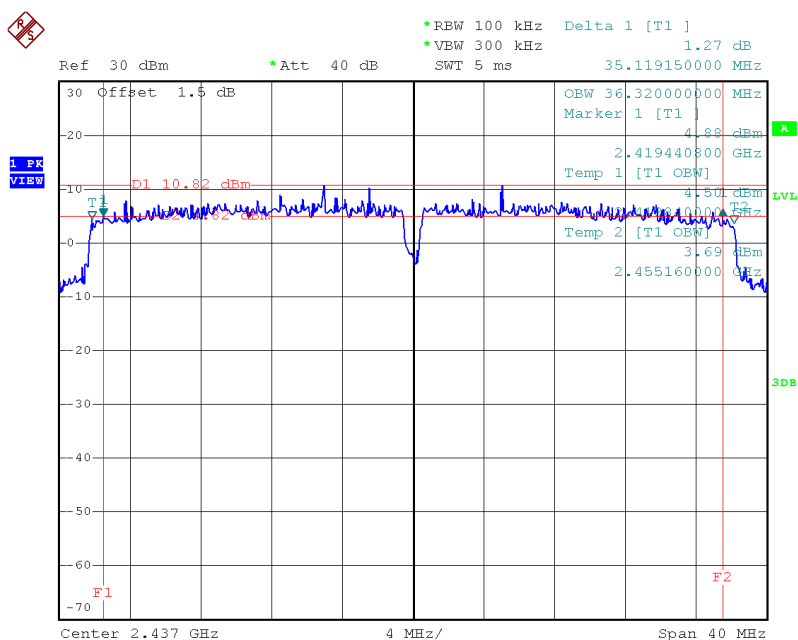
Test Mode : TX N-40MHz Mode_CH03/06/09

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	34.96	36.00	500	Complies
2437	35.12	36.32	500	Complies
2452	35.44	36.00	500	Complies

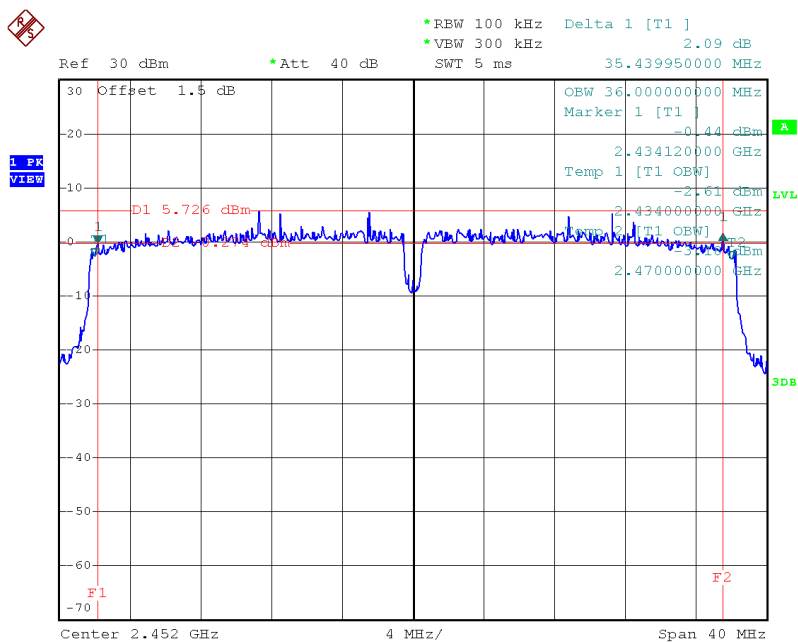
TX CH03



TX CH06



TX CH09



APPENDIX F - MAXIMUM PEAK OUTPUT POWER

For 1TX

Test Mode :TX B Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.68	0.09	30.00	1.00	Complies
2437	19.49	0.09	30.00	1.00	Complies
2462	19.66	0.09	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	17.96	0.06	30.00	1.00	Complies
2437	17.52	0.06	30.00	1.00	Complies
2462	17.67	0.06	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	17.63	0.06	30.00	1.00	Complies
2437	17.75	0.06	30.00	1.00	Complies
2462	17.64	0.06	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	16.82	0.05	30.00	1.00	Complies
2437	16.91	0.05	30.00	1.00	Complies
2452	16.79	0.05	30.00	1.00	Complies

For 2TX

Test Mode :TX B Mode_CH01/06/11_ANT 1					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.61	0.09	27.20	0.52	Complies
2437	18.78	0.08	27.20	0.52	Complies
2462	19.75	0.09	27.20	0.52	Complies

Test Mode :TX B Mode_CH01/06/11_ANT 2					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.38	0.09	27.20	0.52	Complies
2437	18.53	0.07	27.20	0.52	Complies
2462	19.64	0.09	27.20	0.52	Complies

Test Mode :TX B Mode_CH01/06/11_Total					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.51	0.18	27.20	0.52	Complies
2437	21.67	0.15	27.20	0.52	Complies
2462	22.71	0.19	27.20	0.52	Complies

Test Mode :TX G Mode_CH01/06/11_ANT 1					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	15.77	0.04	27.20	0.52	Complies
2437	17.69	0.06	27.20	0.52	Complies
2462	14.72	0.03	27.20	0.52	Complies

Test Mode :TX G Mode_CH01/06/11_ANT 2					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	15.64	0.04	27.20	0.52	Complies
2437	17.55	0.06	27.20	0.52	Complies
2462	14.83	0.03	27.20	0.52	Complies

Test Mode :TX G Mode_CH01/06/11_Total					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.72	0.07	27.20	0.52	Complies
2437	20.63	0.12	27.20	0.52	Complies
2462	17.79	0.06	27.20	0.52	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	14.62	0.03	27.20	0.52	Complies
2437	17.58	0.06	27.20	0.52	Complies
2462	14.96	0.03	27.20	0.52	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	14.83	0.03	27.20	0.52	Complies
2437	17.71	0.06	27.20	0.52	Complies
2462	14.64	0.03	27.20	0.52	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	17.74	0.06	27.20	0.52	Complies
2437	20.66	0.12	27.20	0.52	Complies
2462	17.81	0.06	27.20	0.52	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	12.88	0.02	27.20	0.52	Complies
2437	15.76	0.04	27.20	0.52	Complies
2452	13.49	0.02	27.20	0.52	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	12.74	0.02	27.20	0.52	Complies
2437	15.68	0.04	27.20	0.52	Complies
2452	13.42	0.02	27.20	0.52	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	15.82	0.04	27.20	0.52	Complies
2437	18.73	0.07	27.20	0.52	Complies
2452	16.47	0.04	27.20	0.52	Complies

For 2TX Beamforming

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	14.65	0.03	27.20	0.52	Complies
2437	17.61	0.06	27.20	0.52	Complies
2462	14.88	0.03	27.20	0.52	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	14.73	0.03	27.20	0.52	Complies
2437	17.62	0.06	27.20	0.52	Complies
2462	14.77	0.03	27.20	0.52	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	17.70	0.06	27.20	0.52	Complies
2437	20.63	0.12	27.20	0.52	Complies
2462	17.84	0.06	27.20	0.52	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	12.85	0.02	27.20	0.52	Complies
2437	15.78	0.04	27.20	0.52	Complies
2452	13.56	0.02	27.20	0.52	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	12.79	0.02	27.20	0.52	Complies
2437	15.64	0.04	27.20	0.52	Complies
2452	13.53	0.02	27.20	0.52	Complies

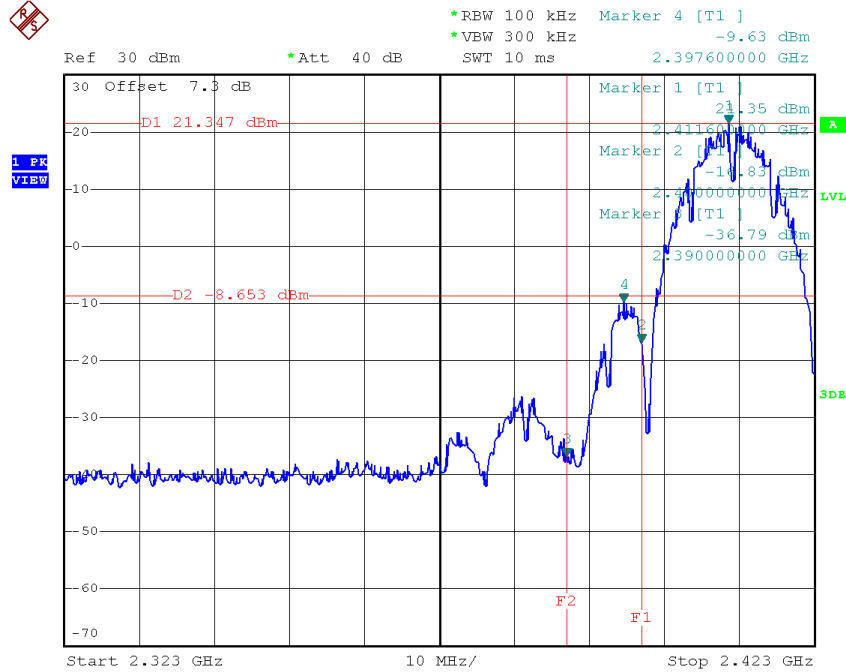
Test Mode :TX N40 Mode_CH03/06/09_Total					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	15.83	0.04	27.20	0.52	Complies
2437	18.72	0.07	27.20	0.52	Complies
2452	16.56	0.05	27.20	0.52	Complies

APPENDIX G - CONDUCTED SPURIOUS EMISSION

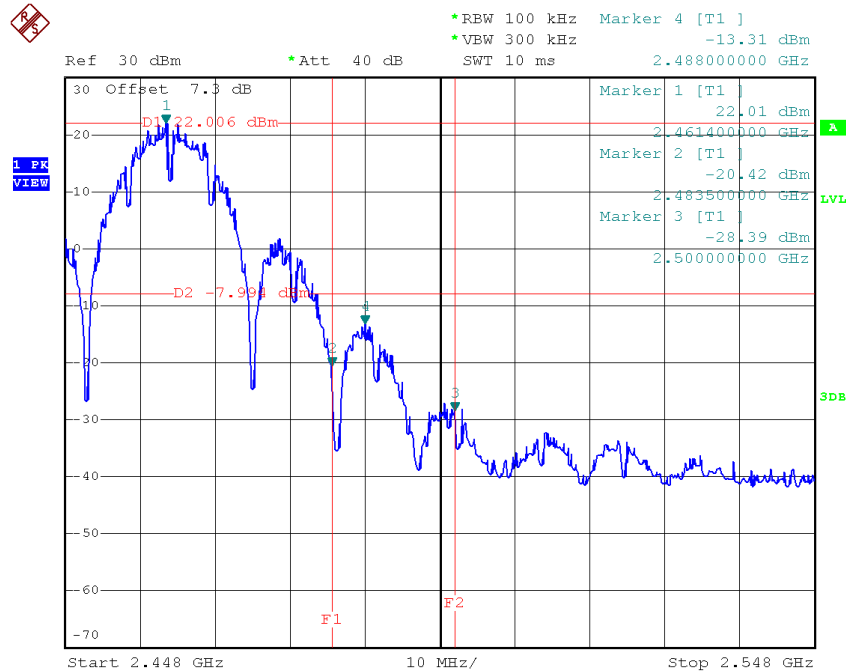
For 1TX

Test Mode : TX B Mode

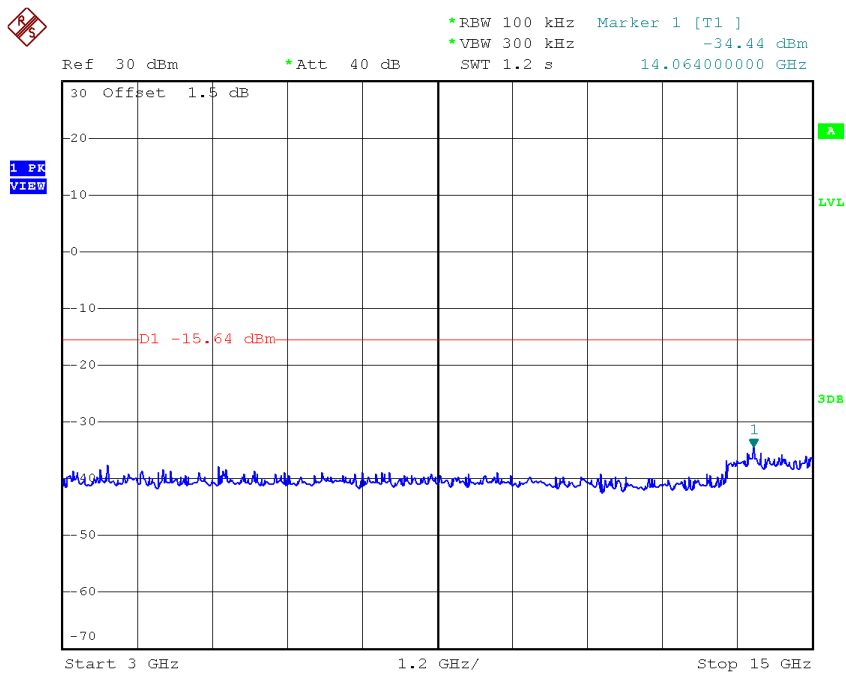
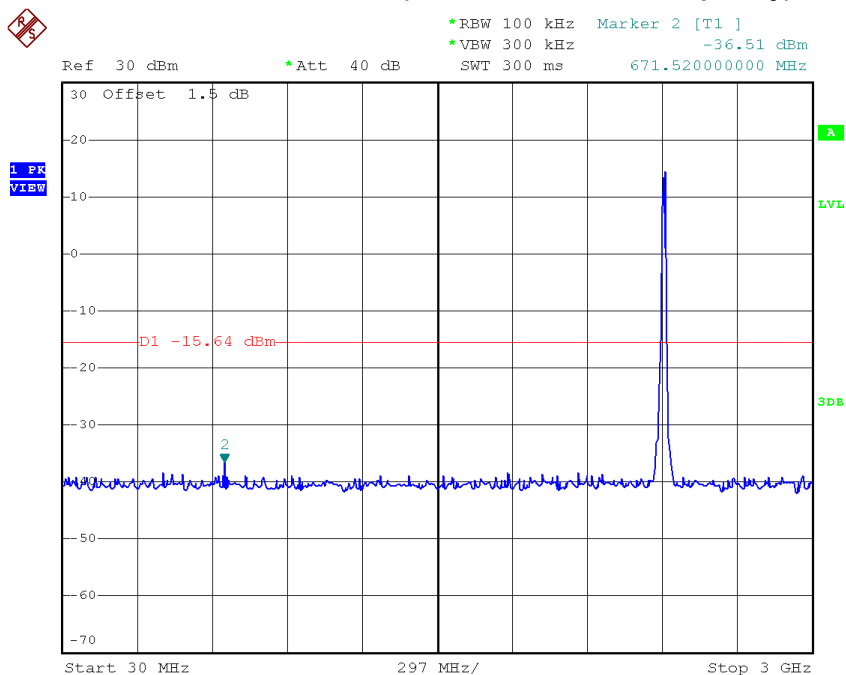
TX B mode CH01

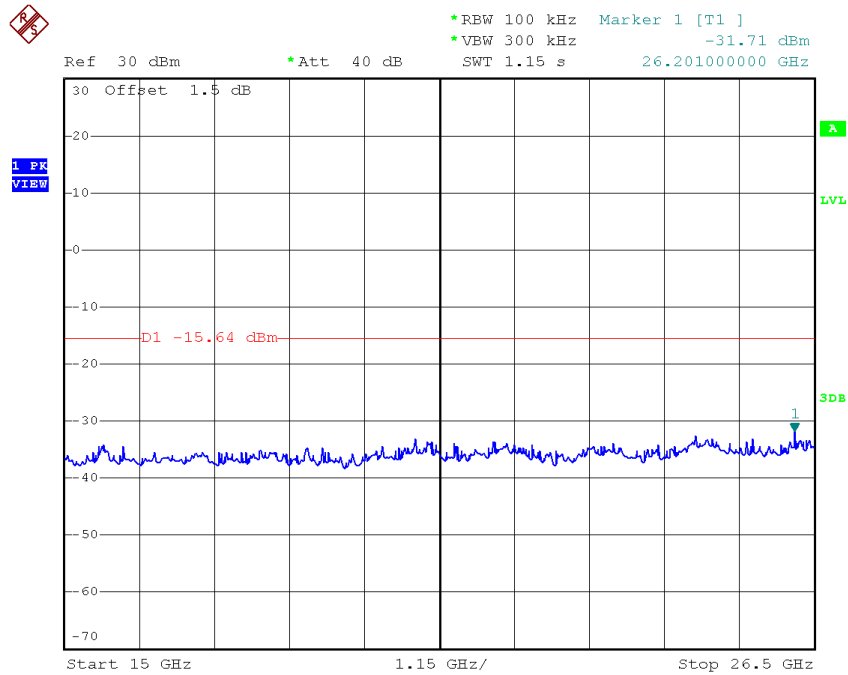


TX B mode CH11

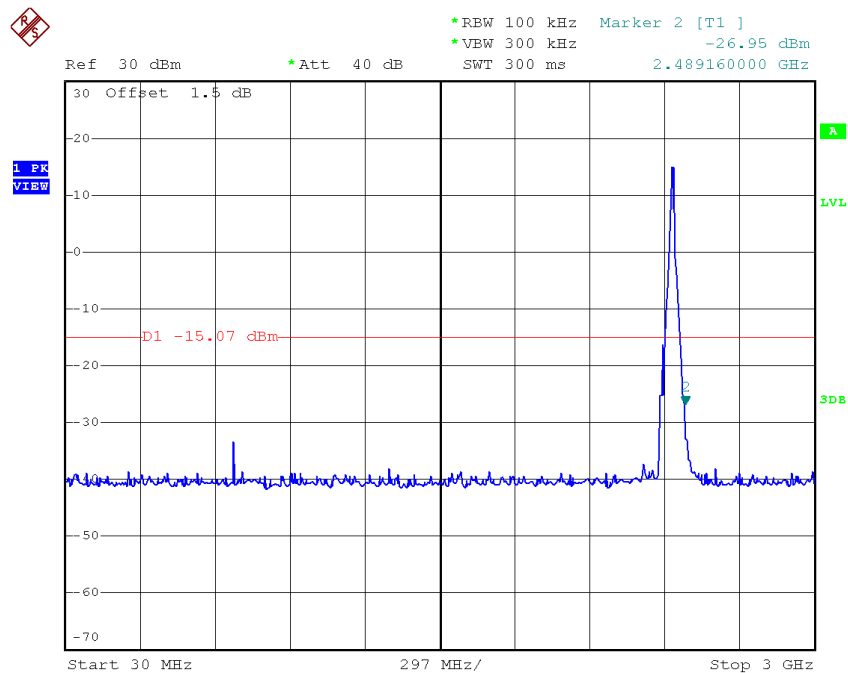


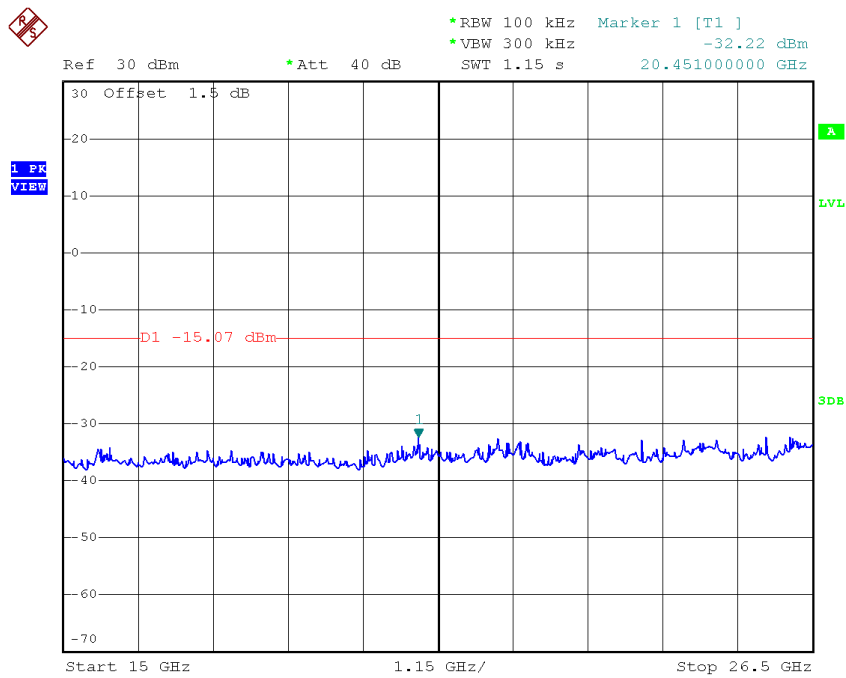
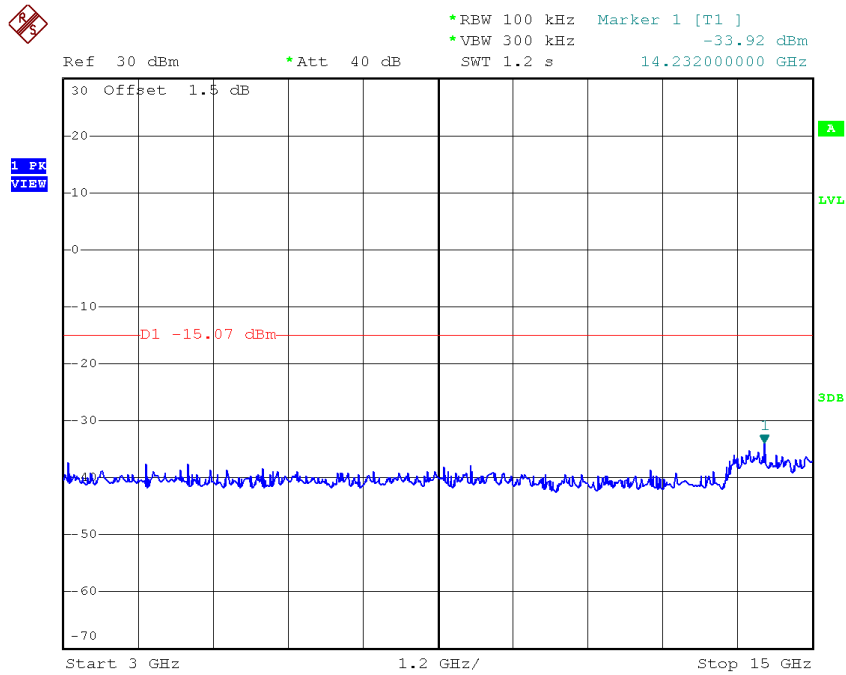
TX B mode CH01 (10 Harmonic of the frequency)

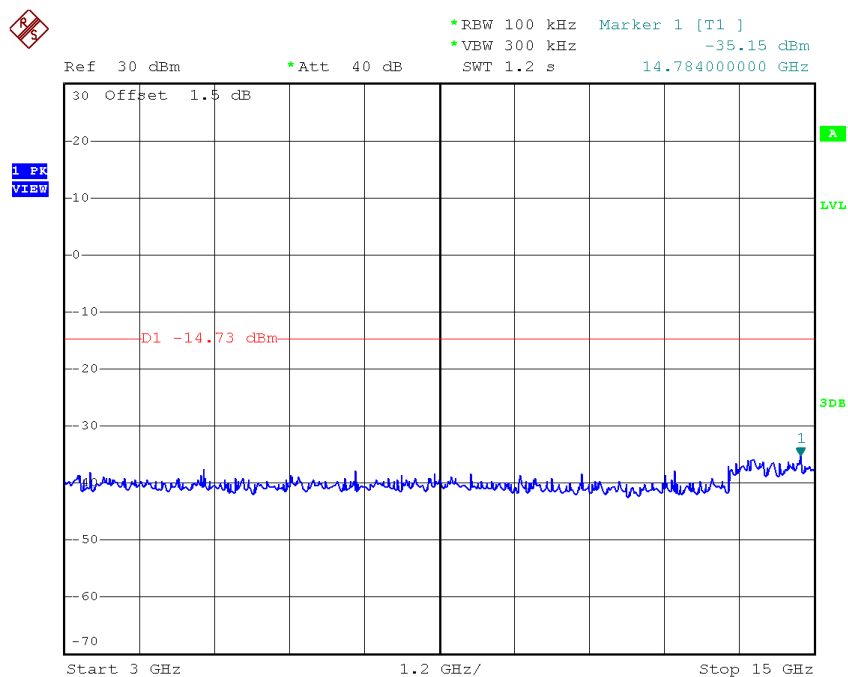


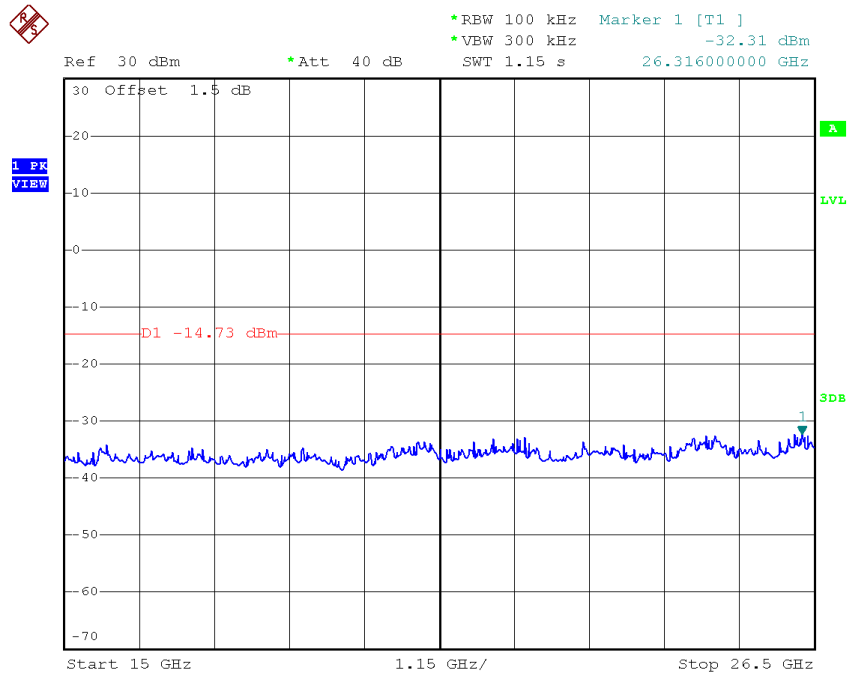


TX B mode CH06 (10 Harmonic of the frequency)



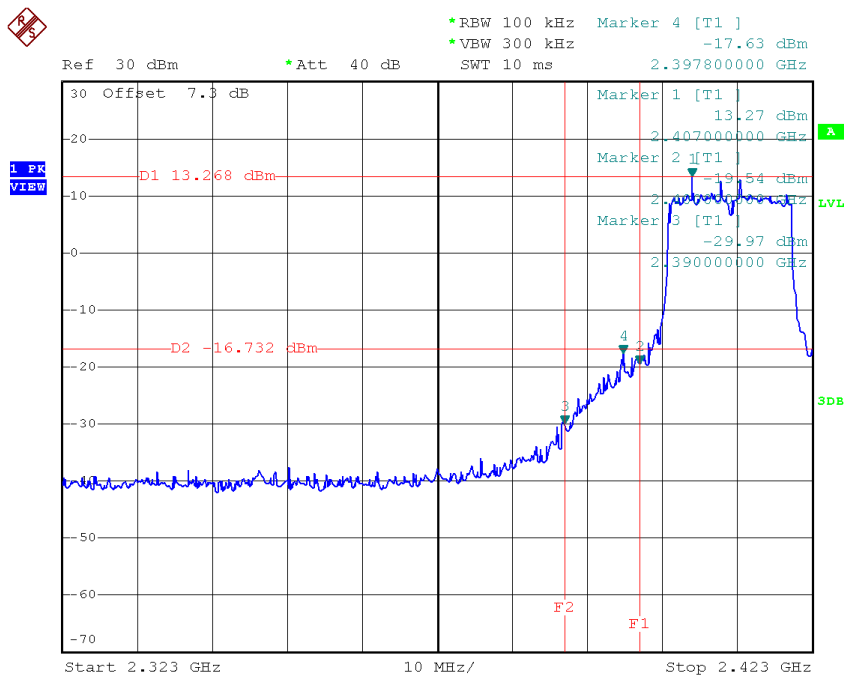




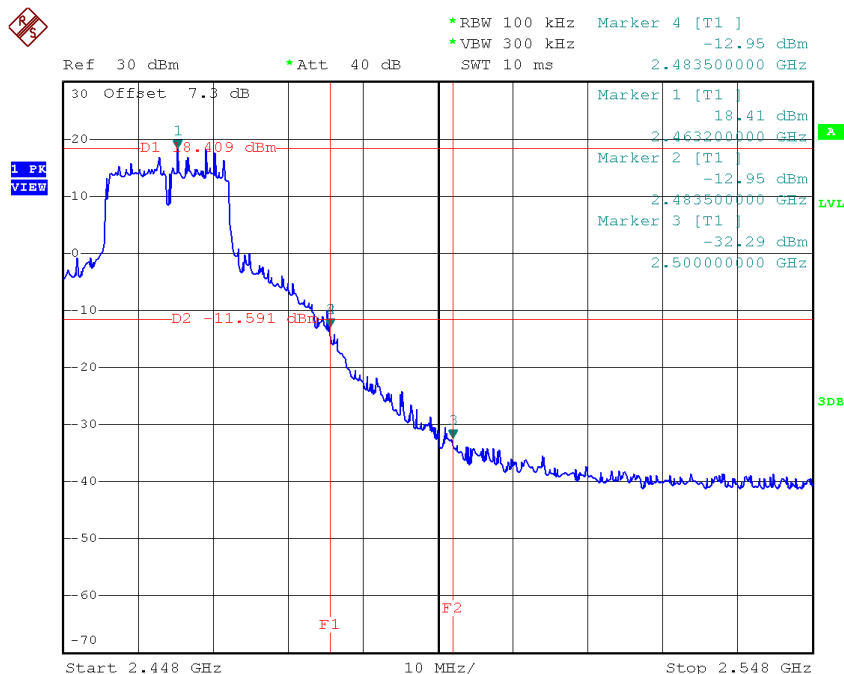


Test Mode : TX G Mode

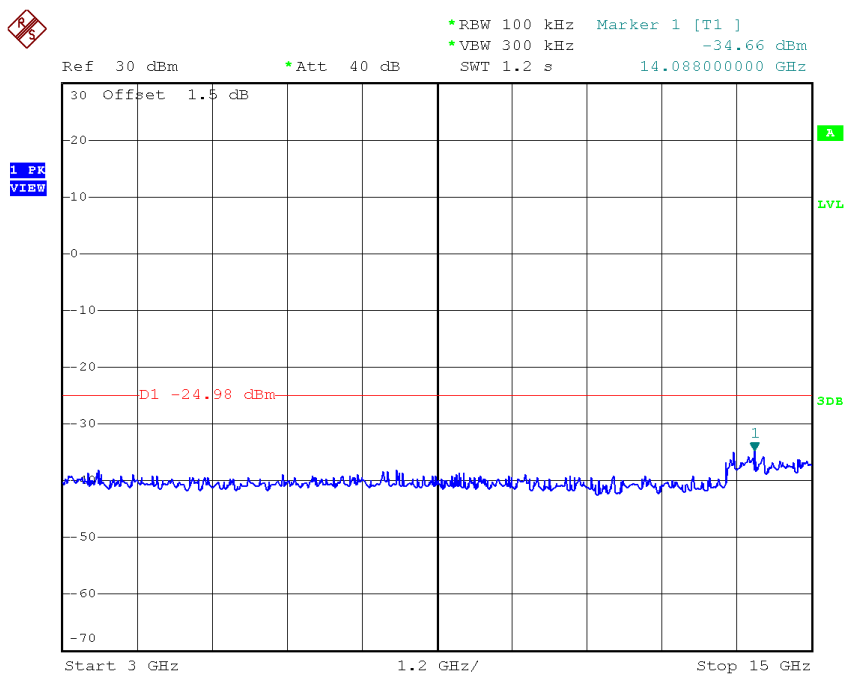
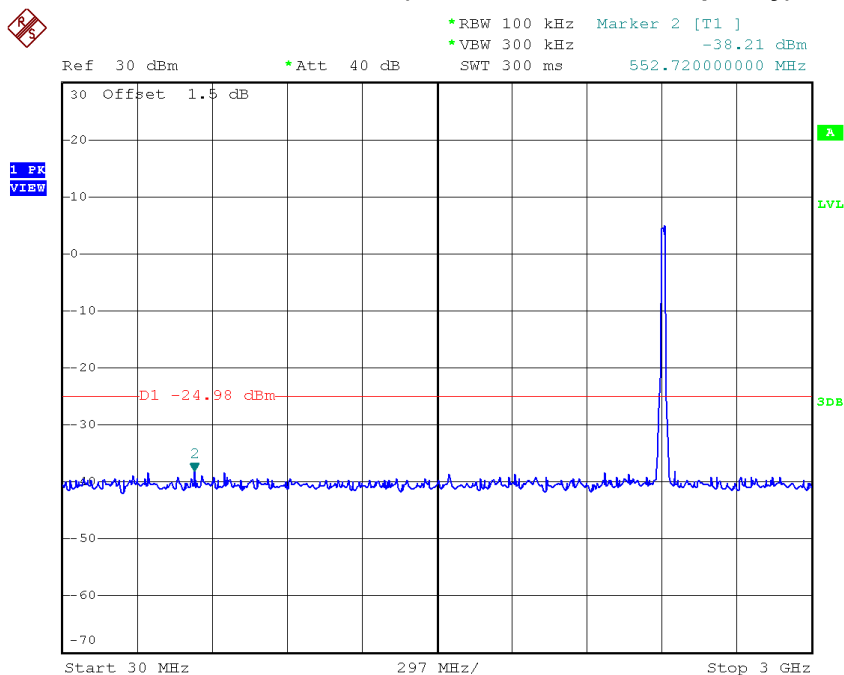
TX G mode CH01

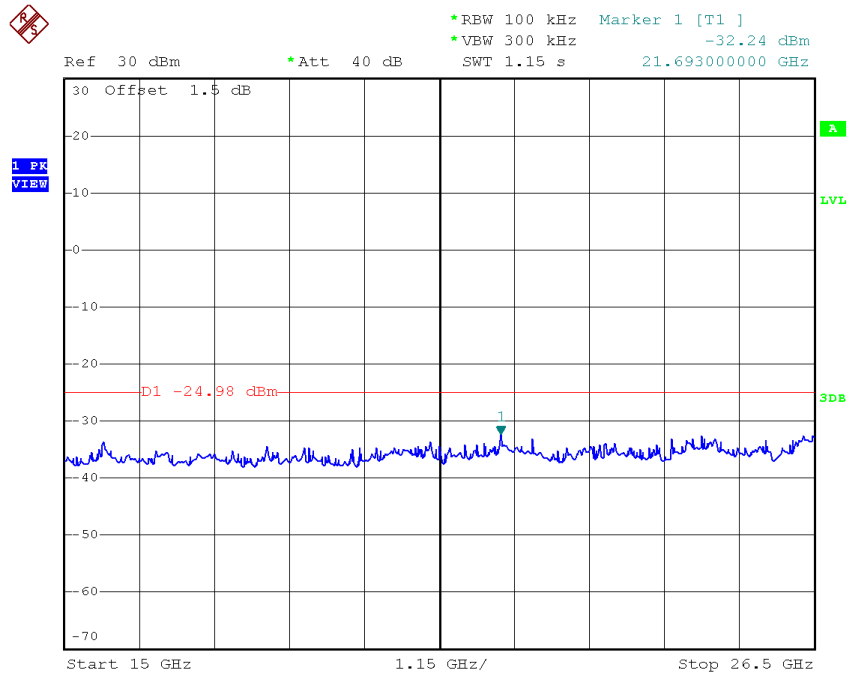


TX G mode CH11

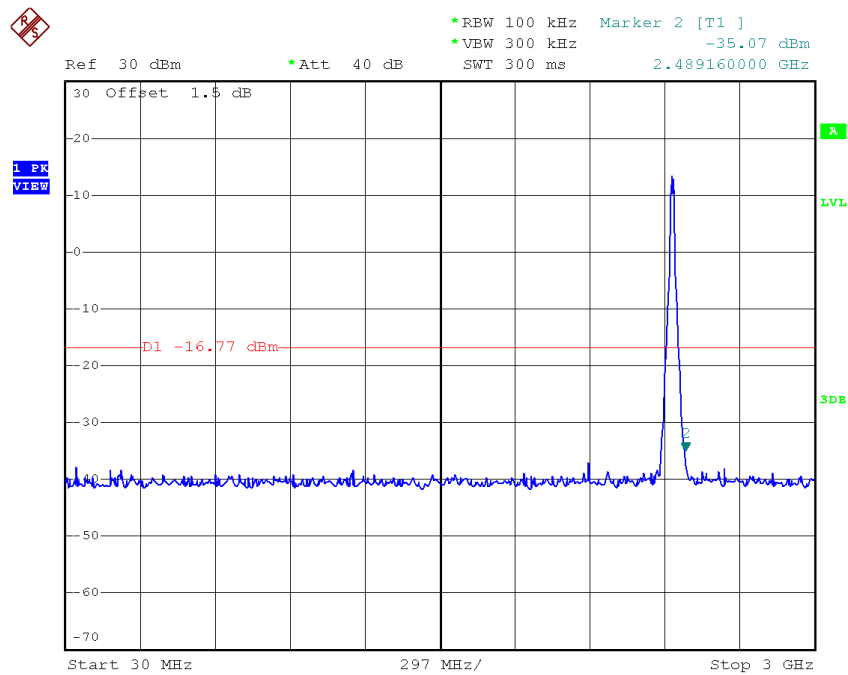


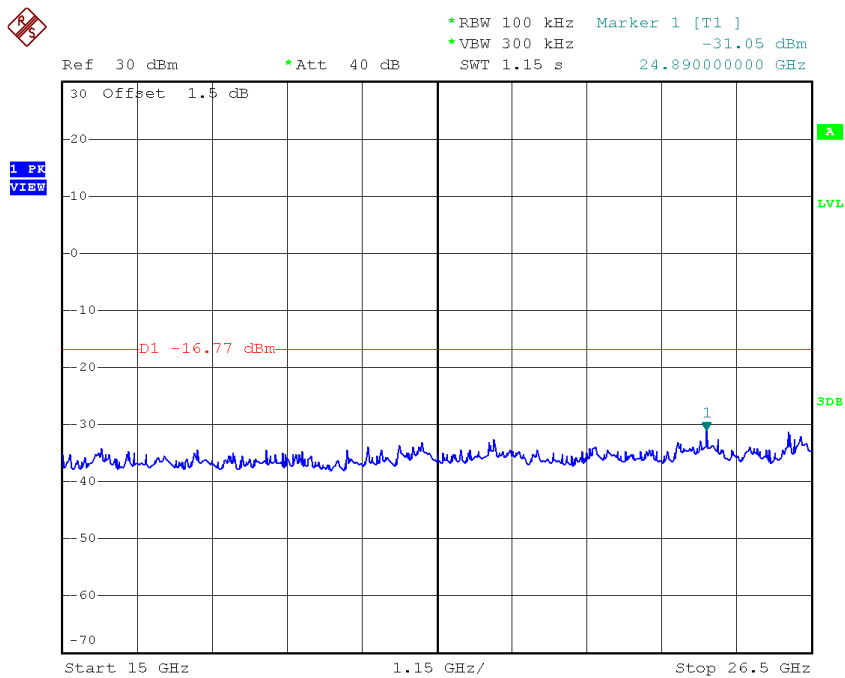
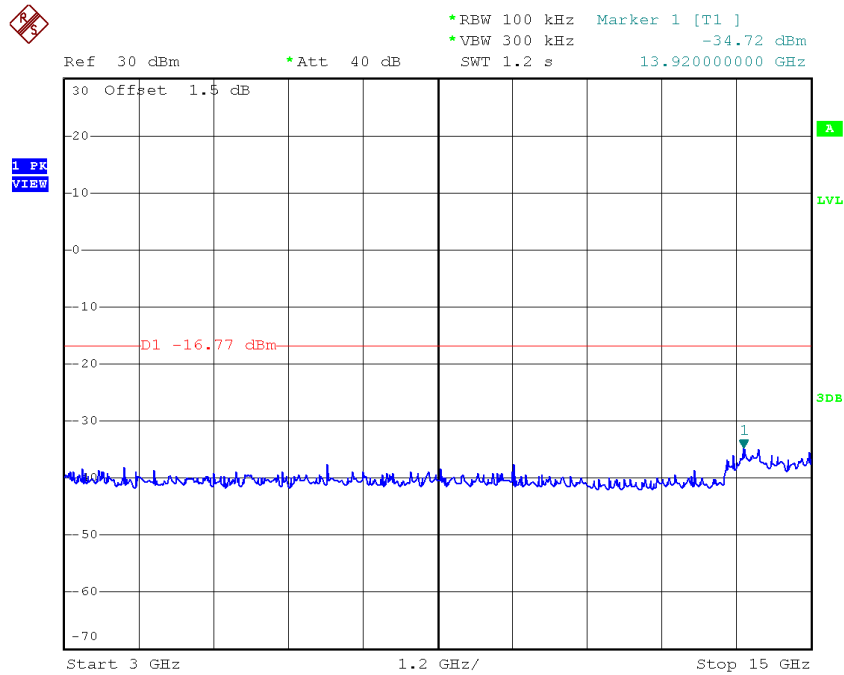
TX G mode CH01 (10 Harmonic of the frequency)



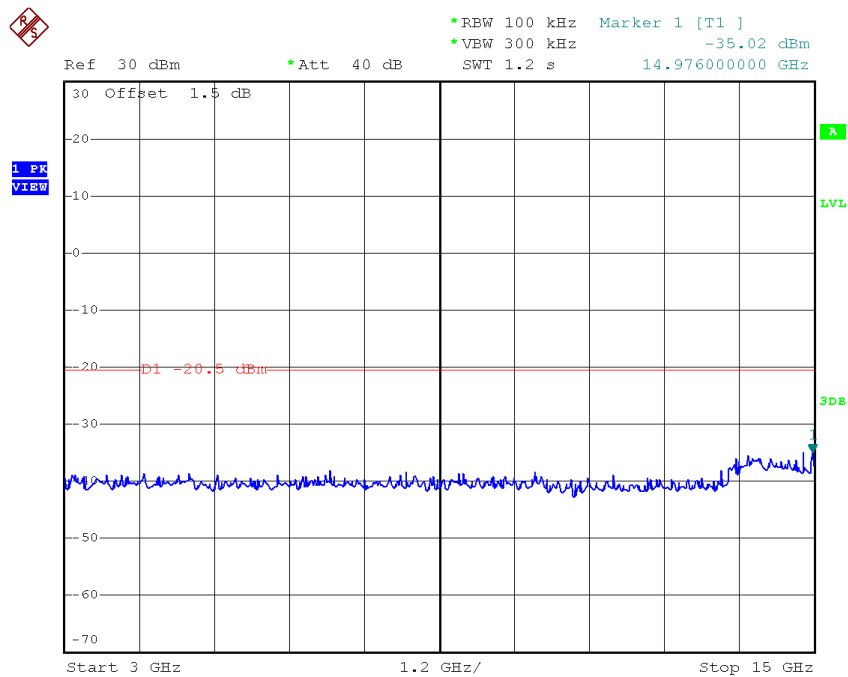
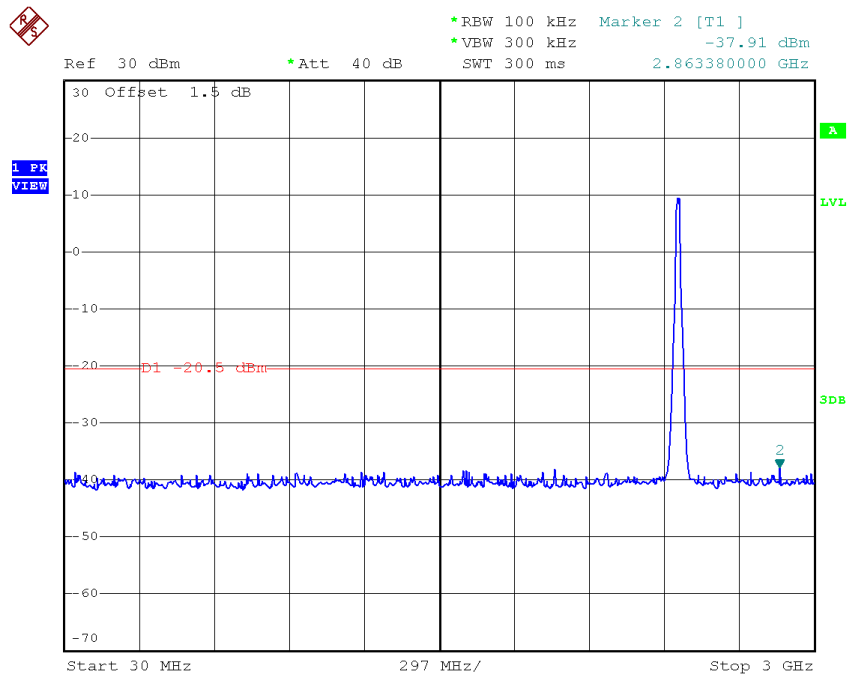


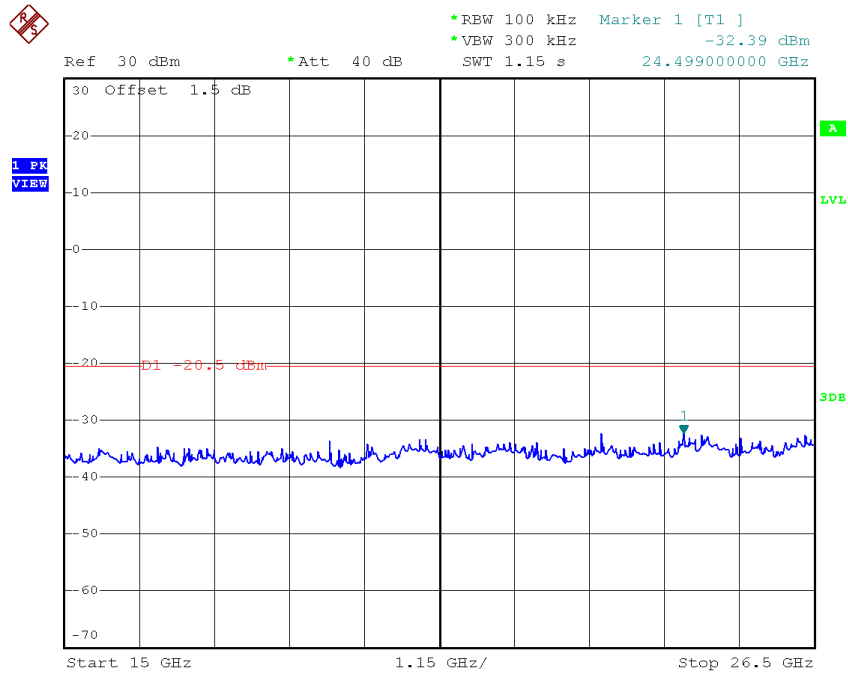
TX G mode CH06 (10 Harmonic of the frequency)





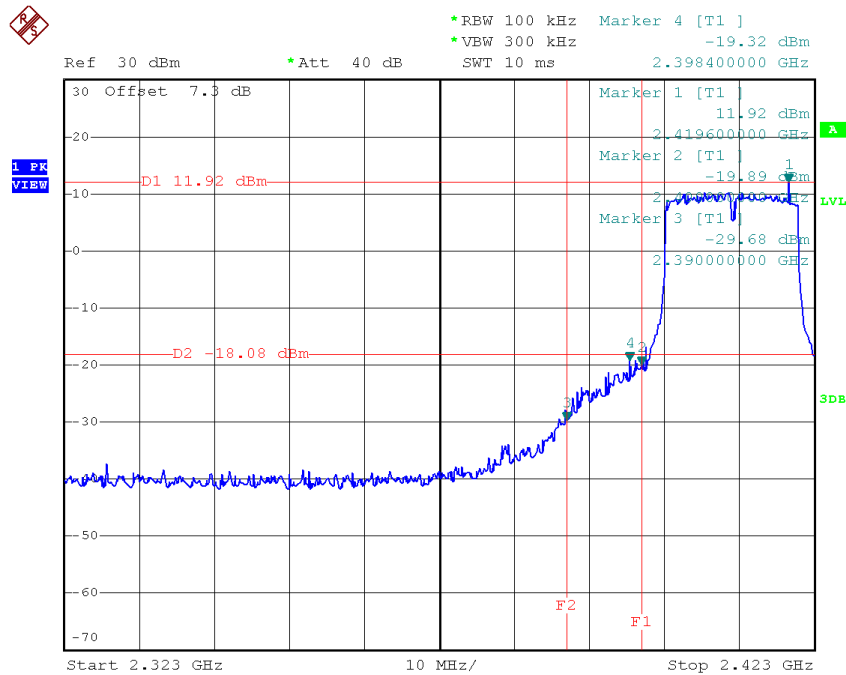
TX G mode CH11 (10 Harmonic of the frequency)



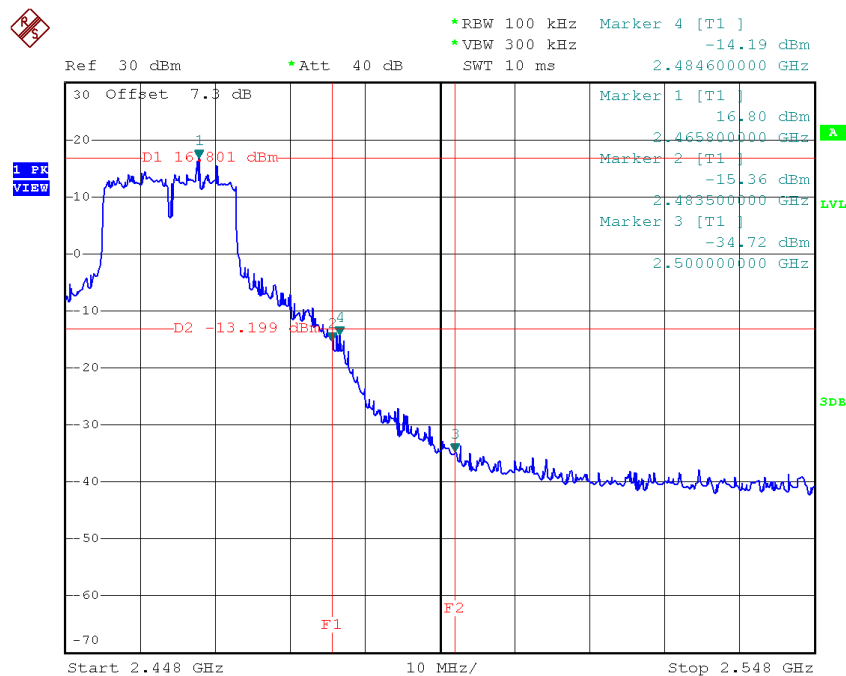


Test Mode : TX N-20M Mode

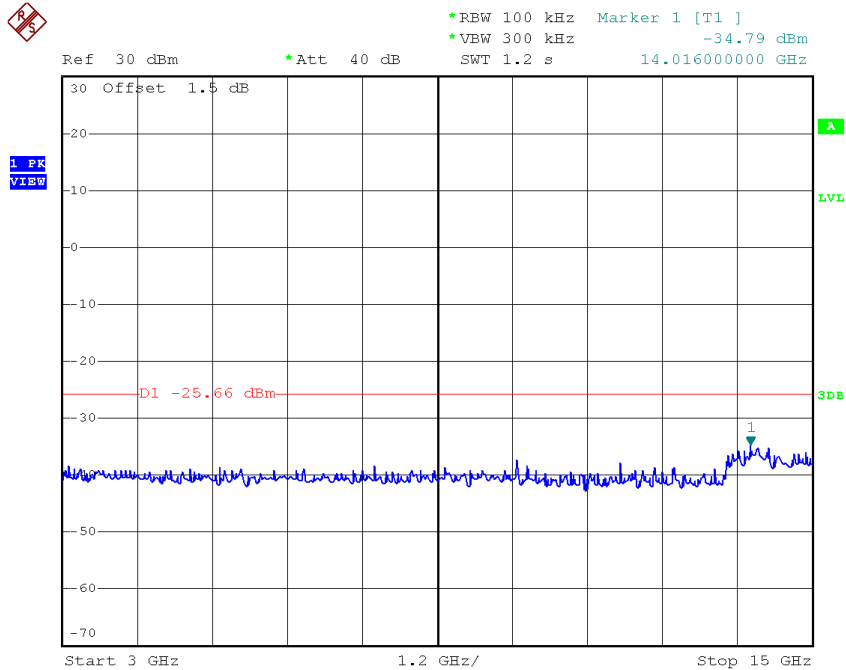
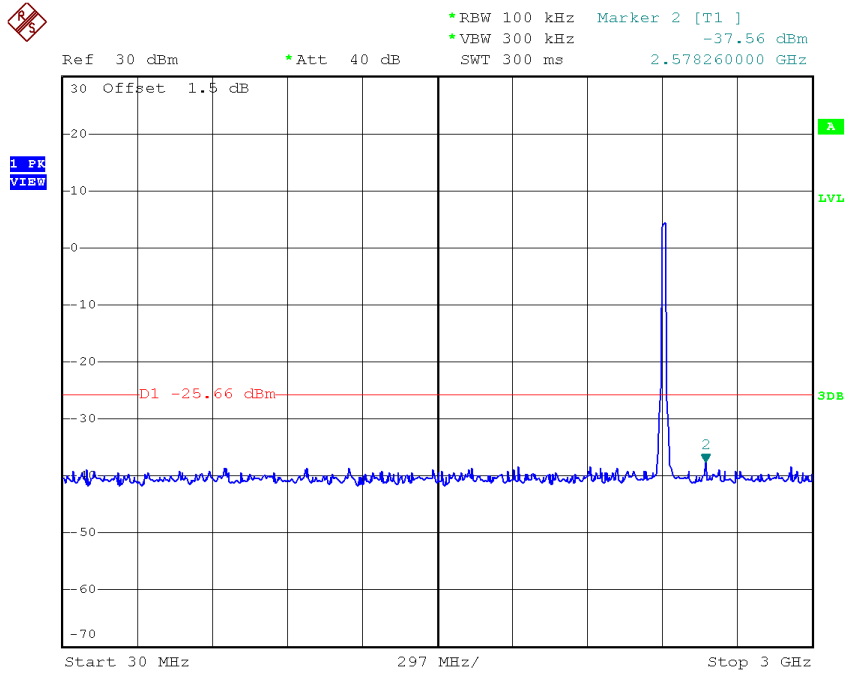
TX HT20 mode CH01

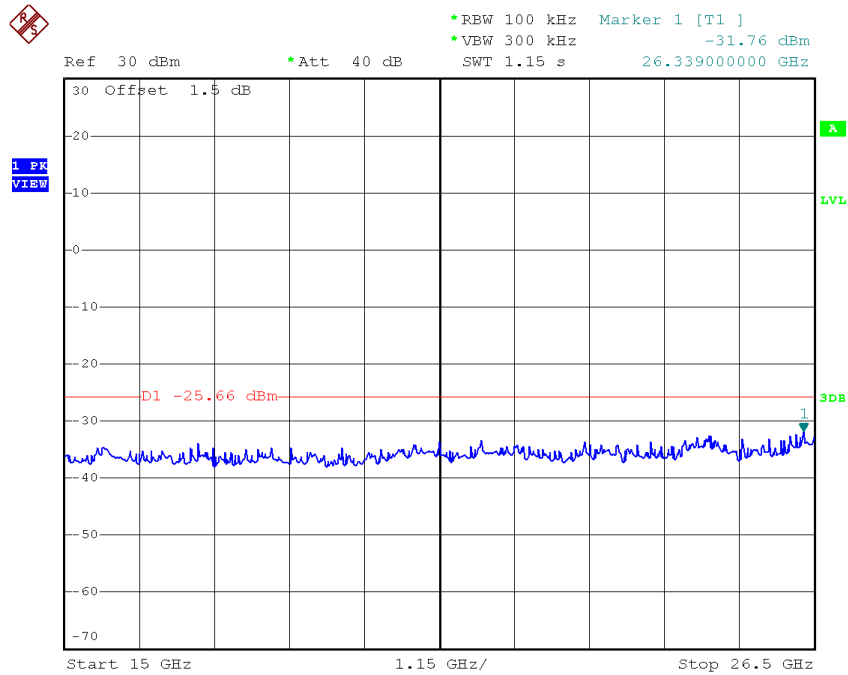


TX HT20 mode CH11

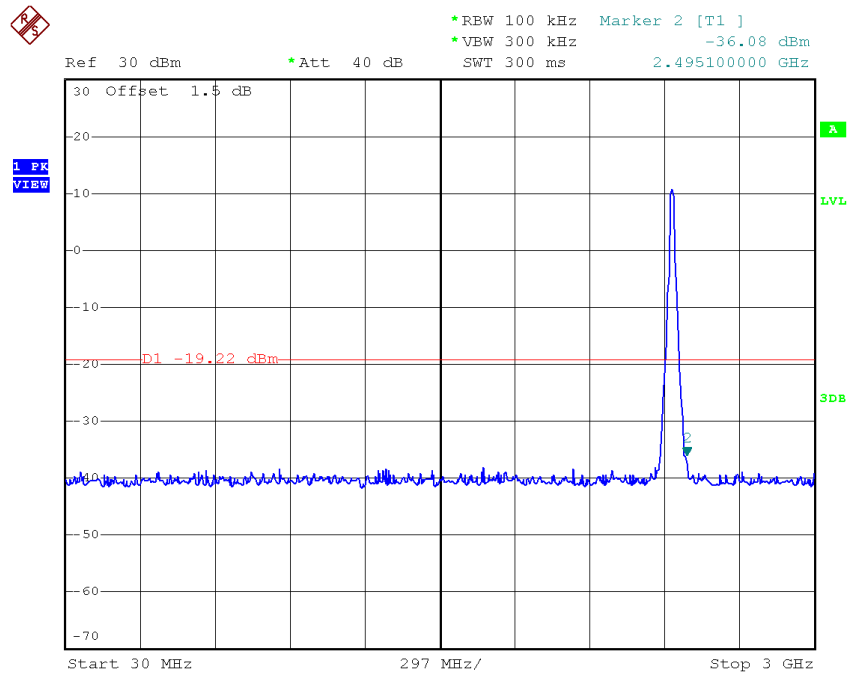


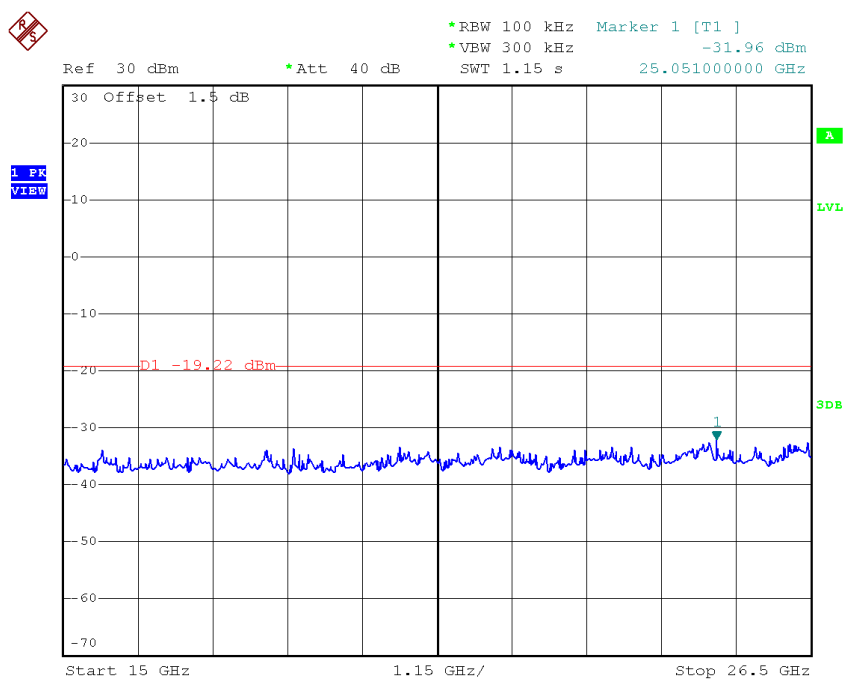
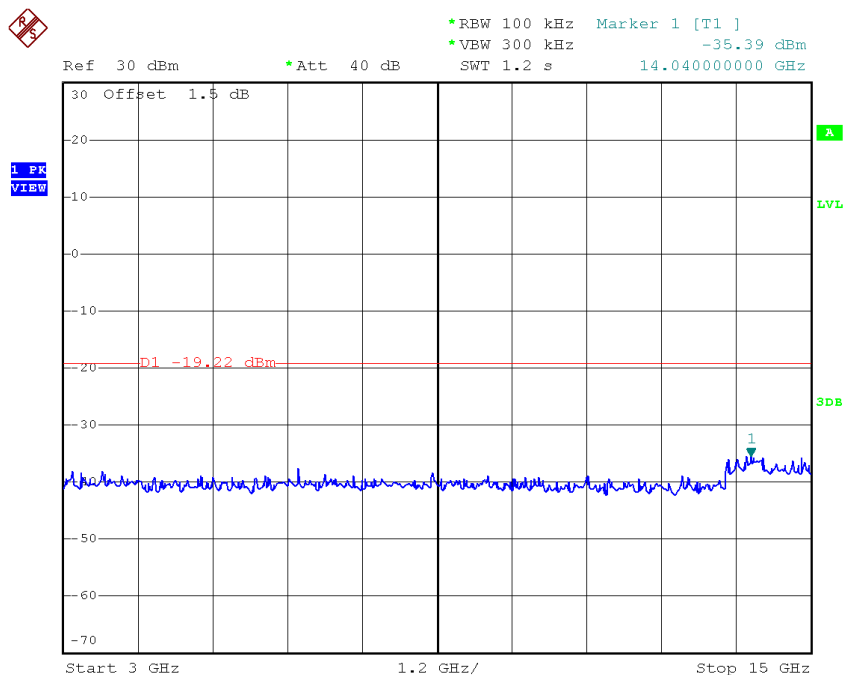
TX HT20 mode CH01 (10 Harmonic of the frequency)



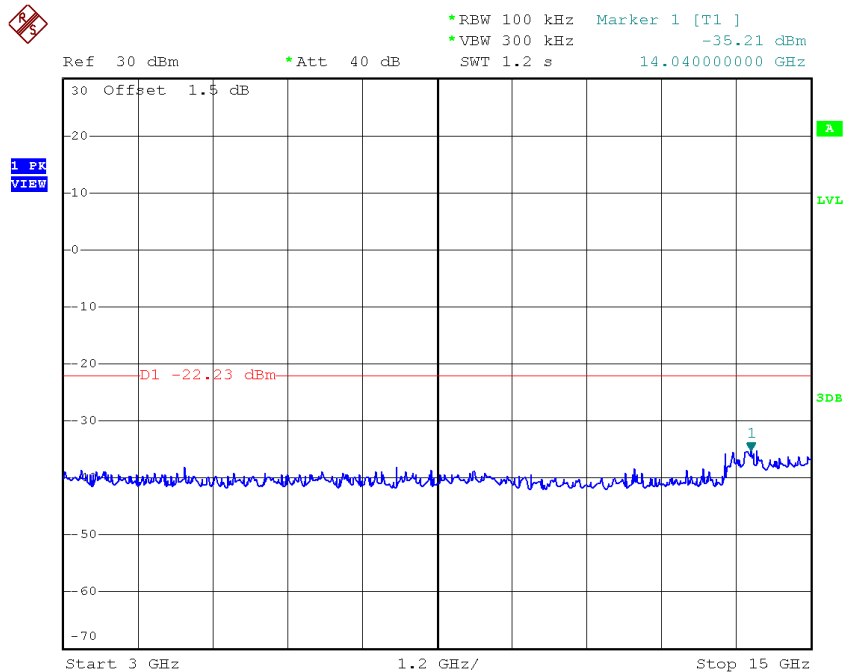
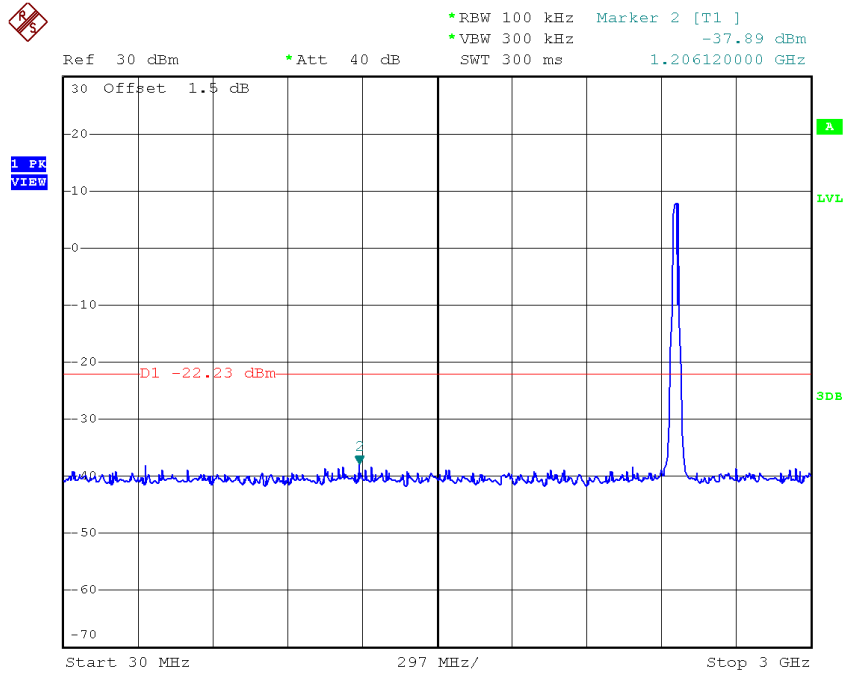


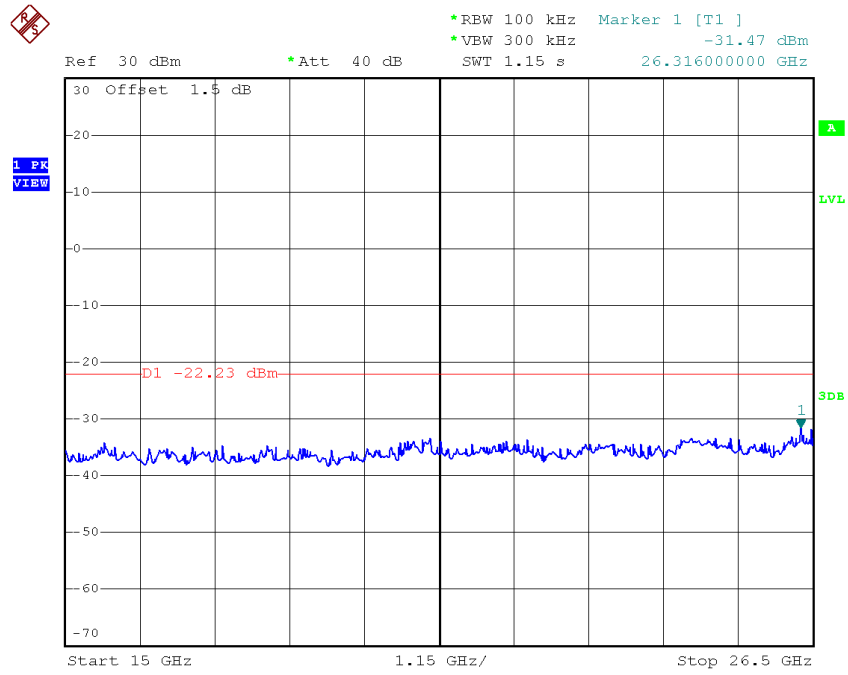
TX HT20 mode CH06 (10 Harmonic of the frequency)





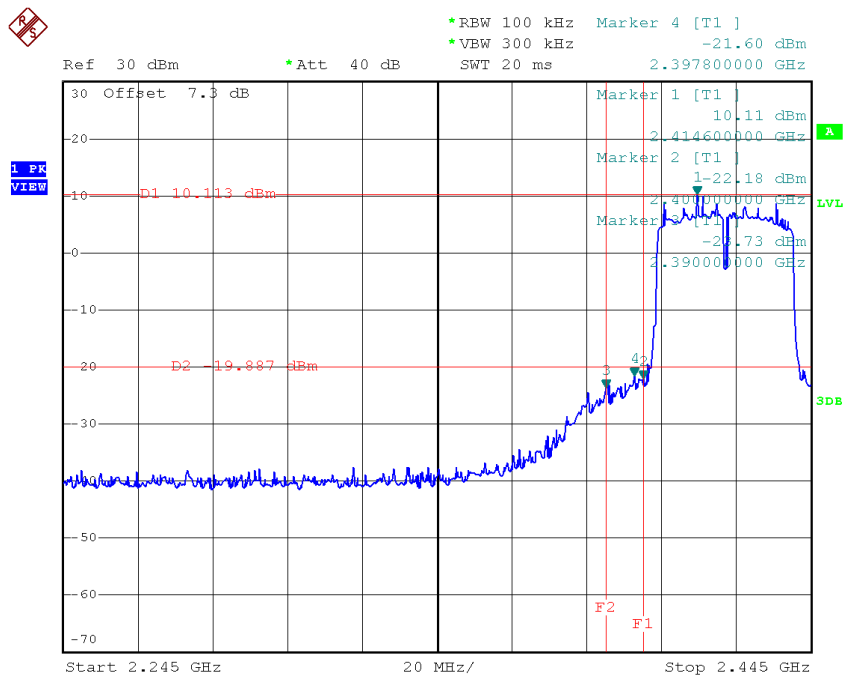
TX HT20 mode CH11 (10 Harmonic of the frequency)



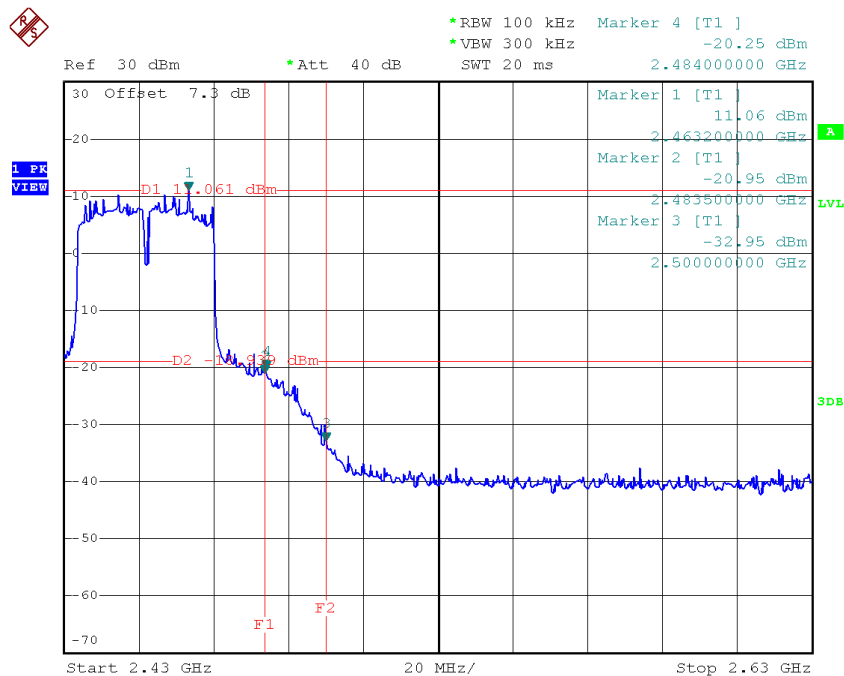


Test Mode : TX N-40M Mode

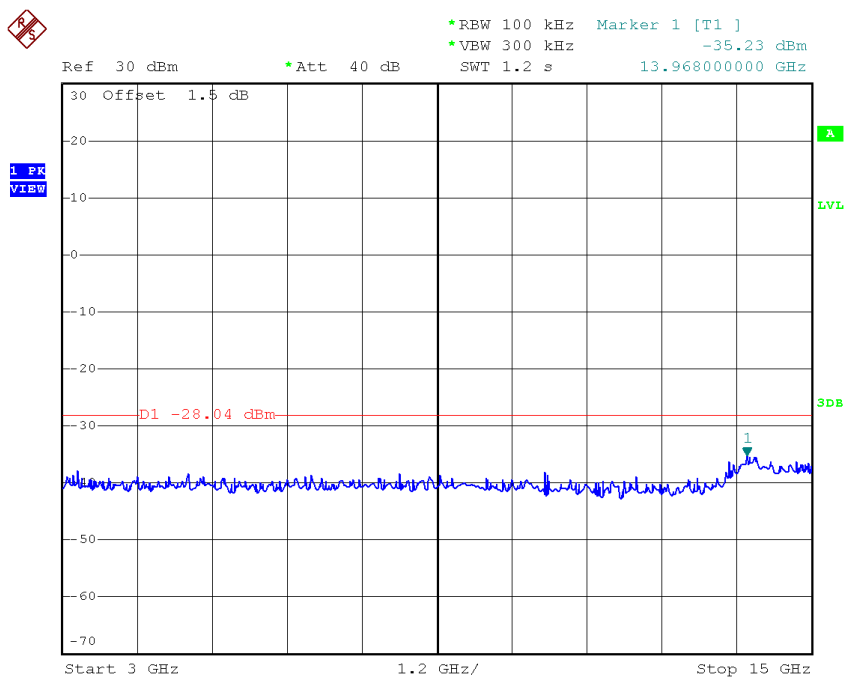
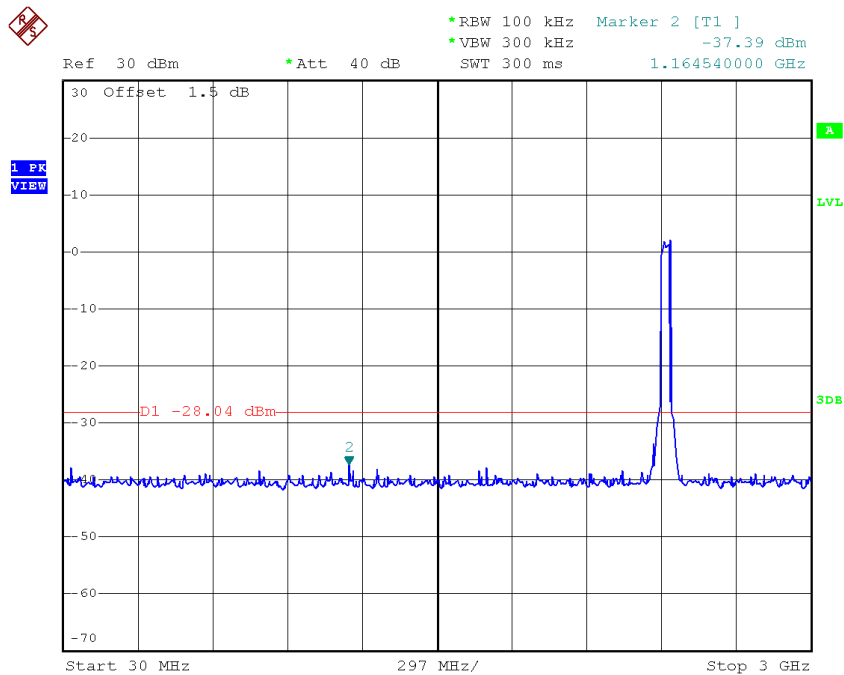
TX HT40 mode CH03

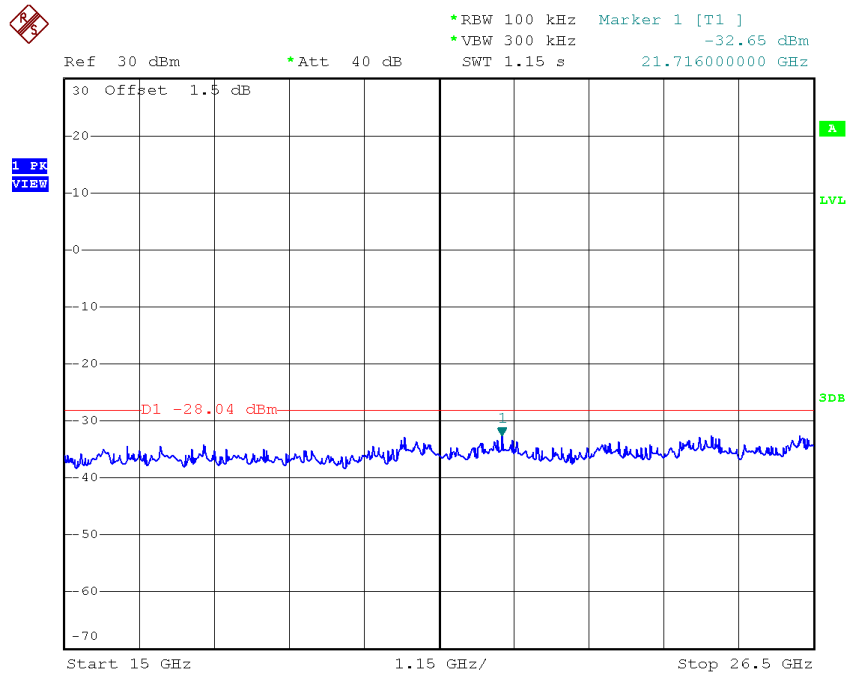


TX HT40 mode CH09

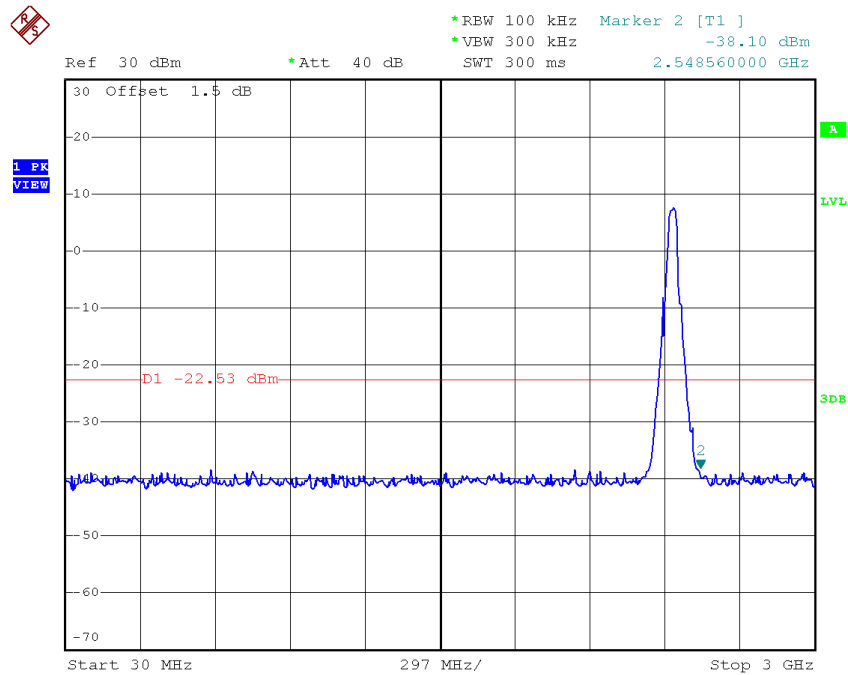


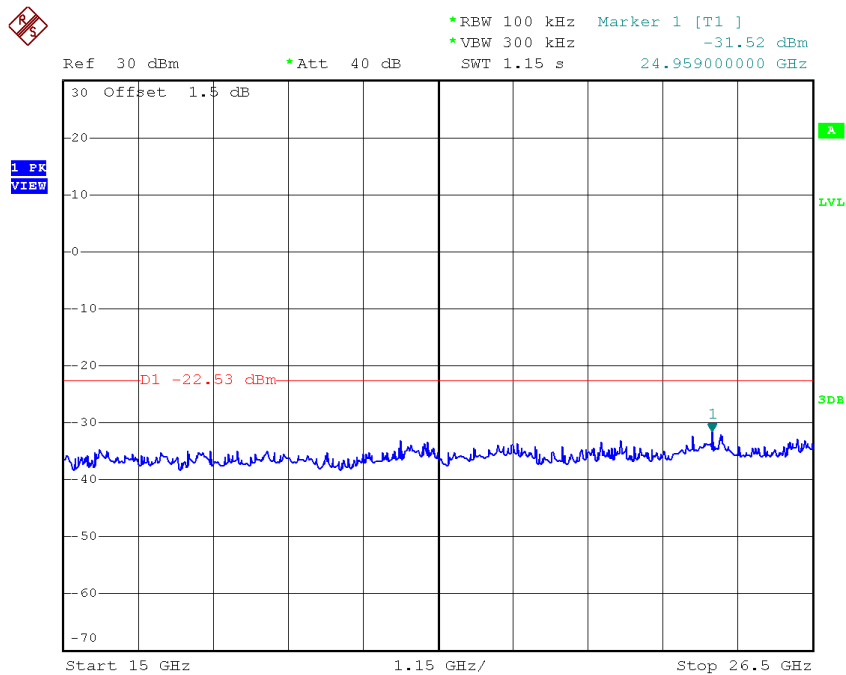
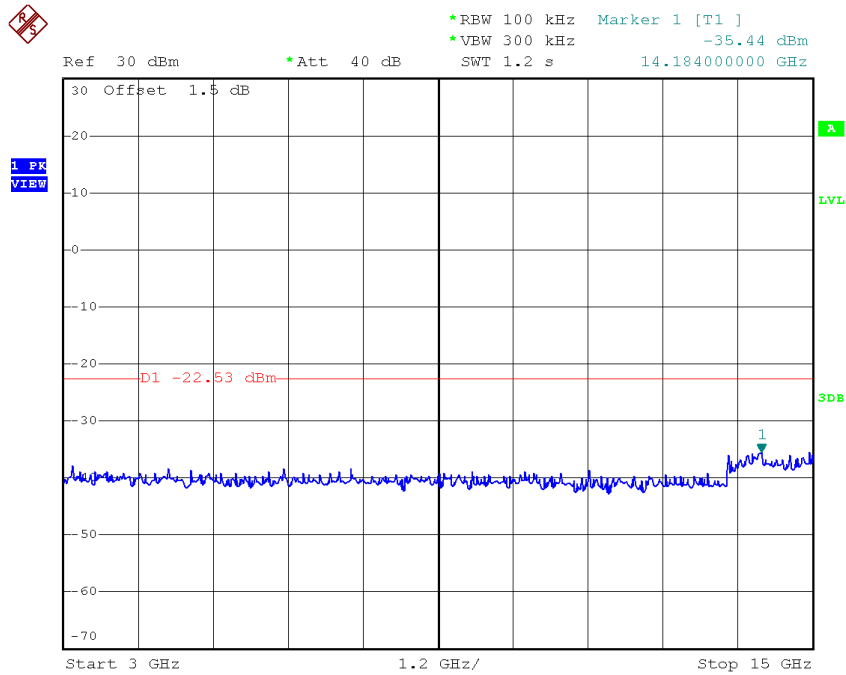
TX HT40 mode CH03 (10 Harmonic of the frequency)



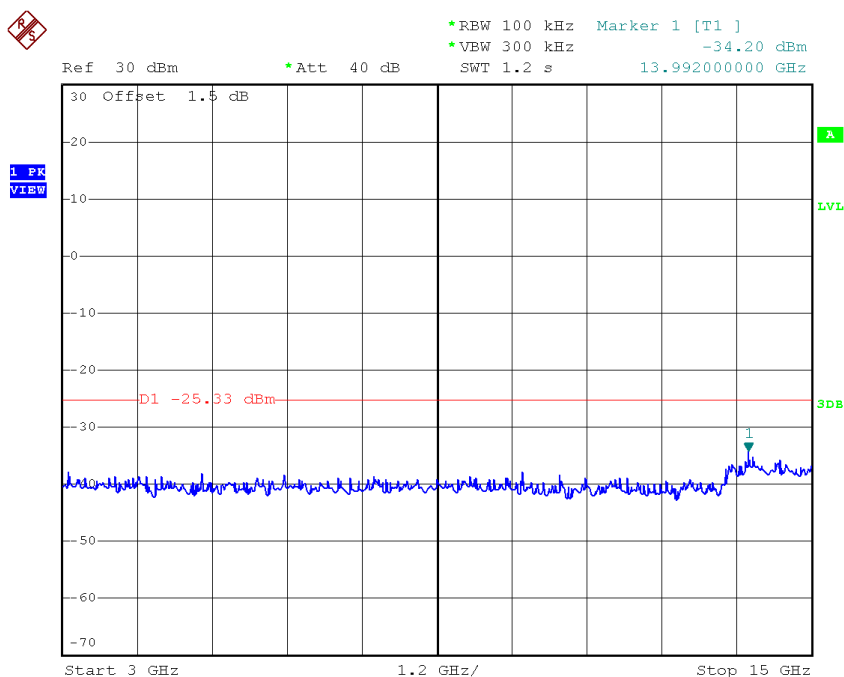
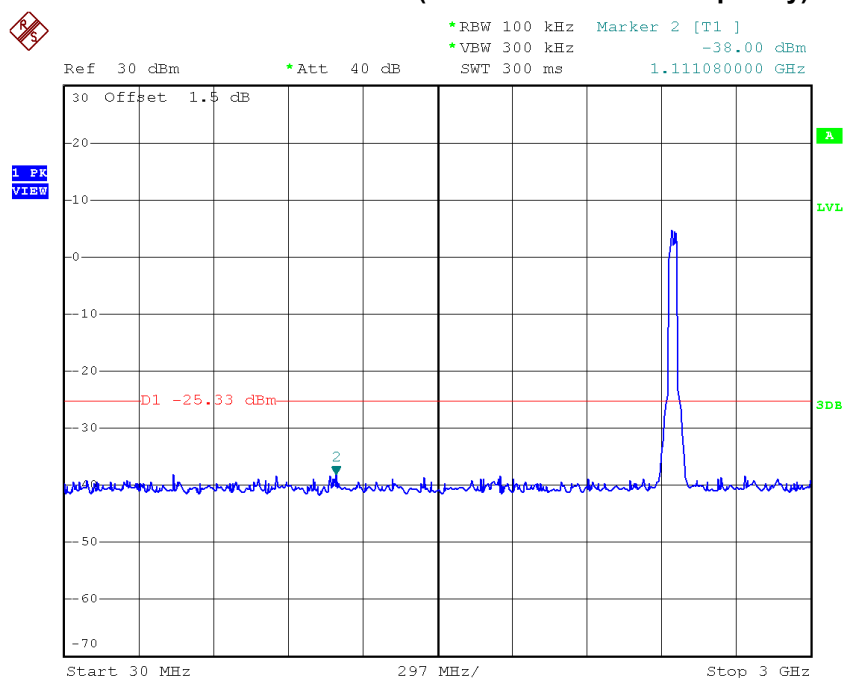


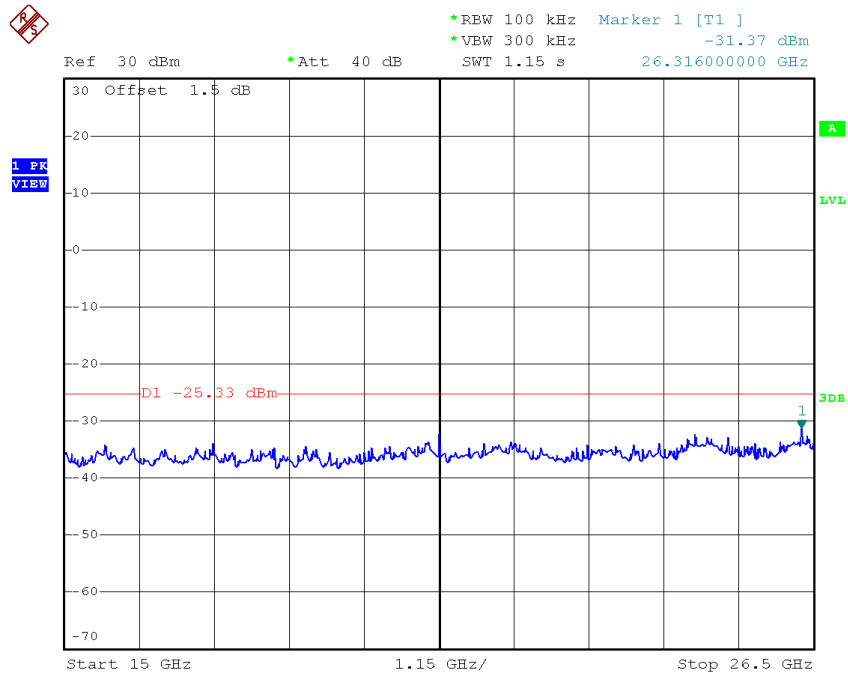
TX HT40 mode CH06 (10 Harmonic of the frequency)





TX HT40 mode CH09 (10 Harmonic of the frequency)

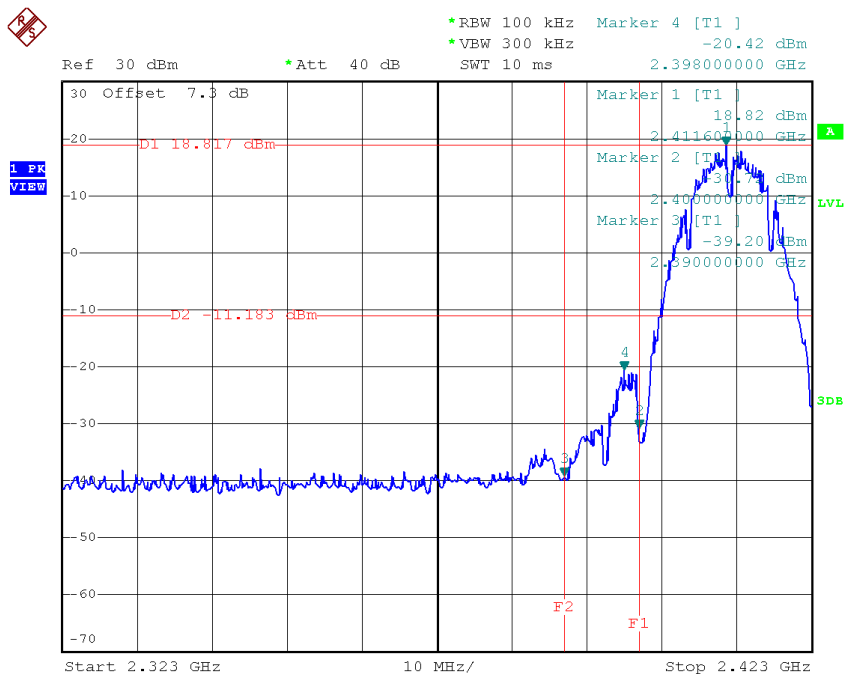




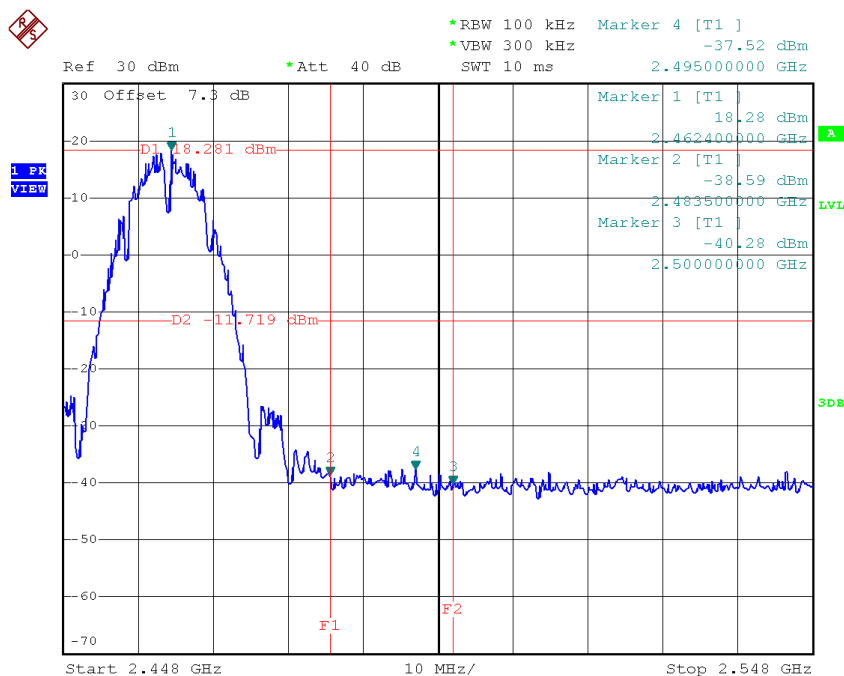
For 2TX

Test Mode : TX B Mode_ANT 1

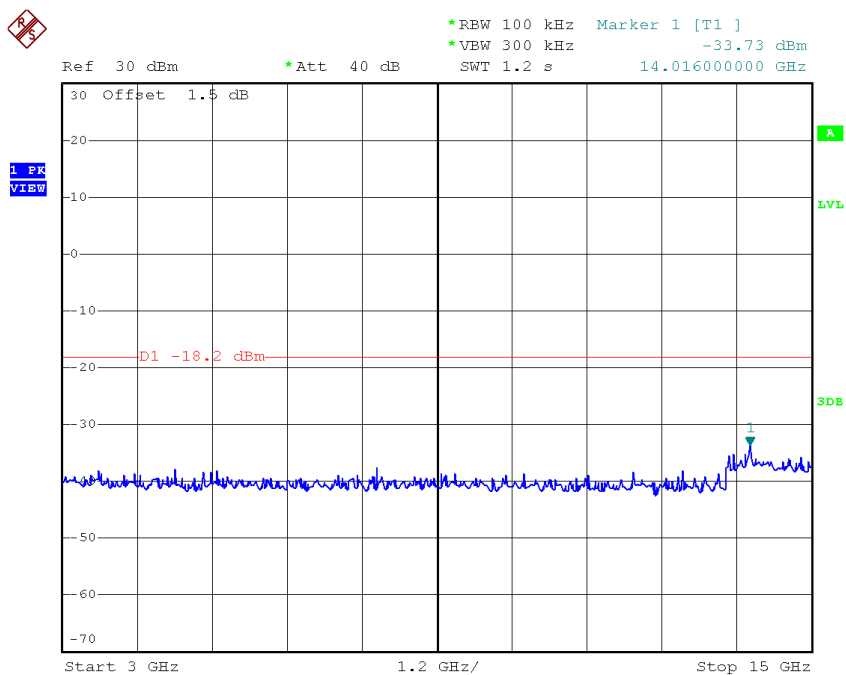
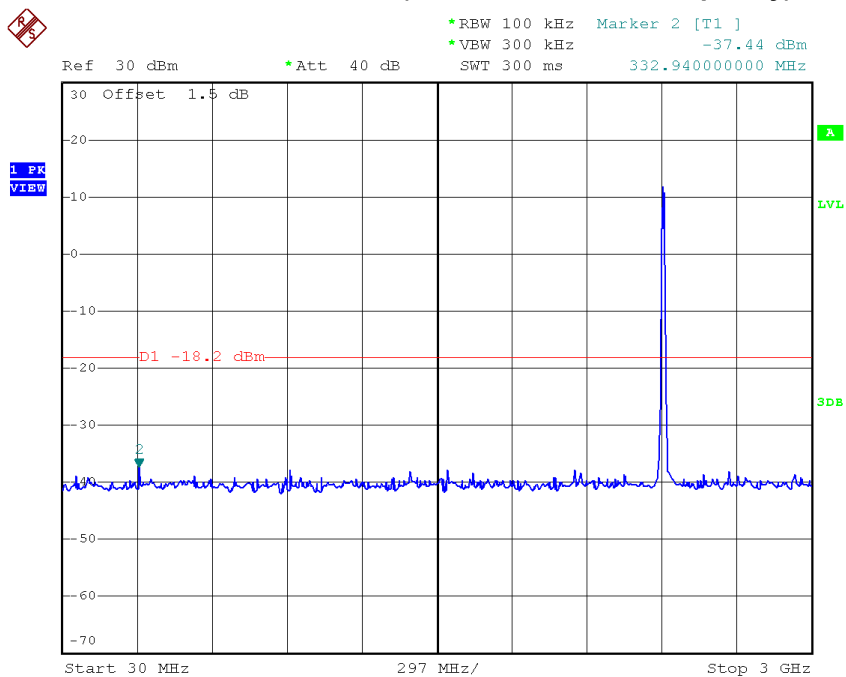
TX B mode CH01

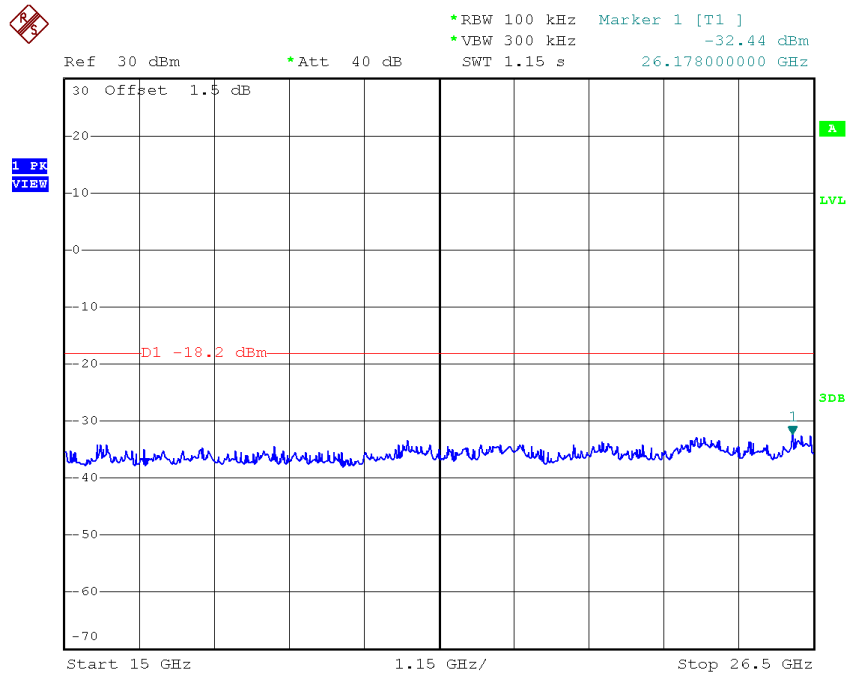


TX B mode CH11

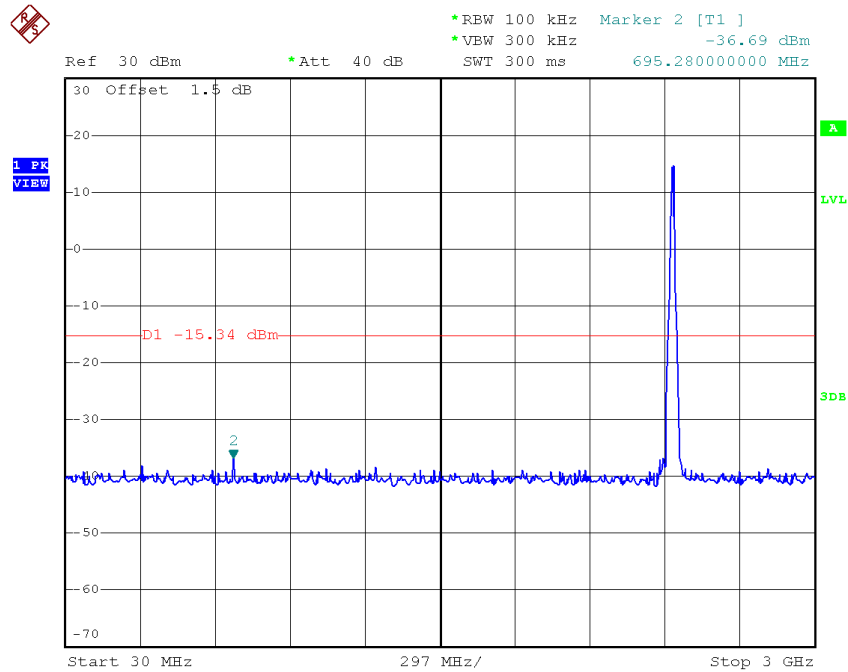


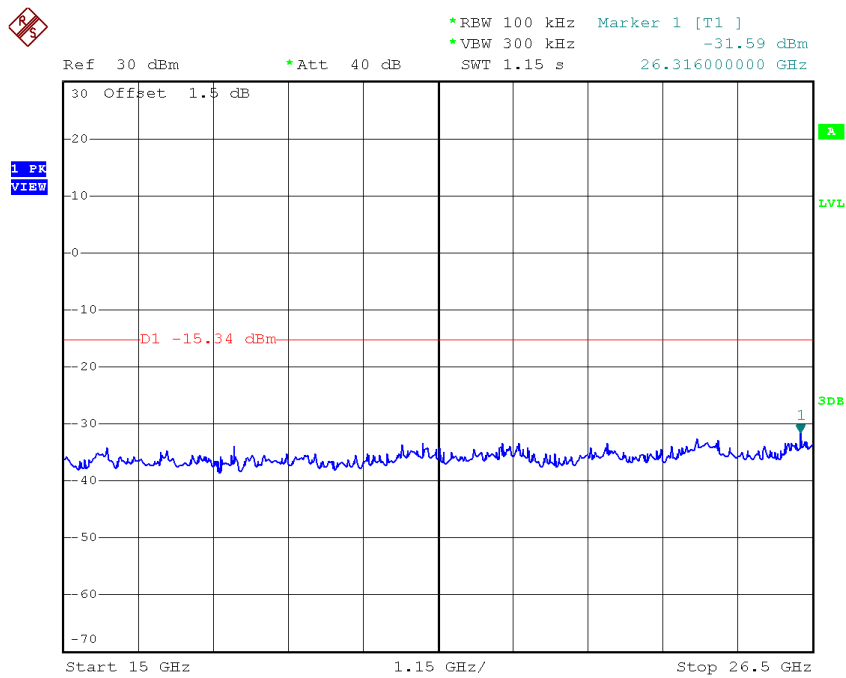
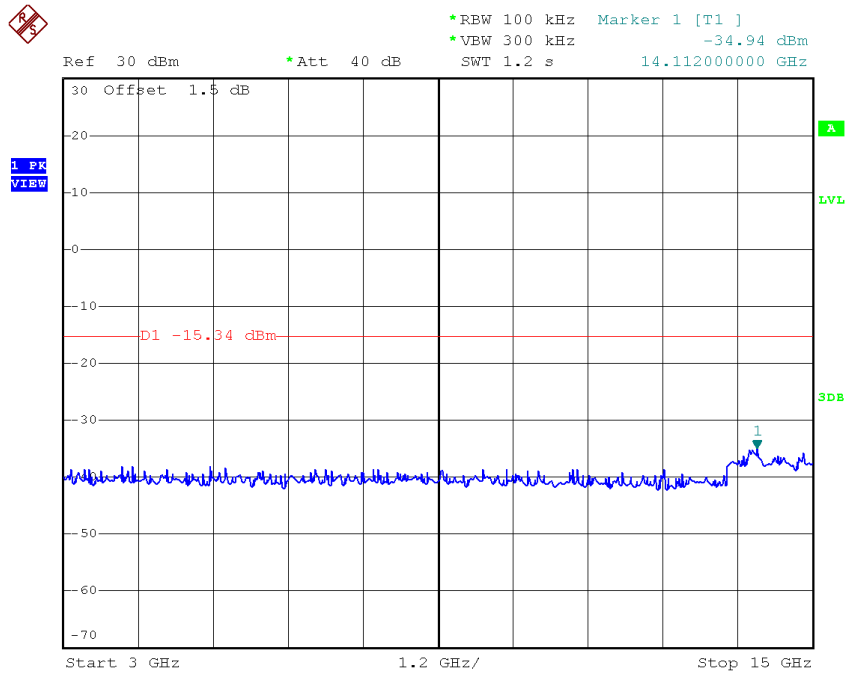
TX B mode CH01 (10 Harmonic of the frequency)



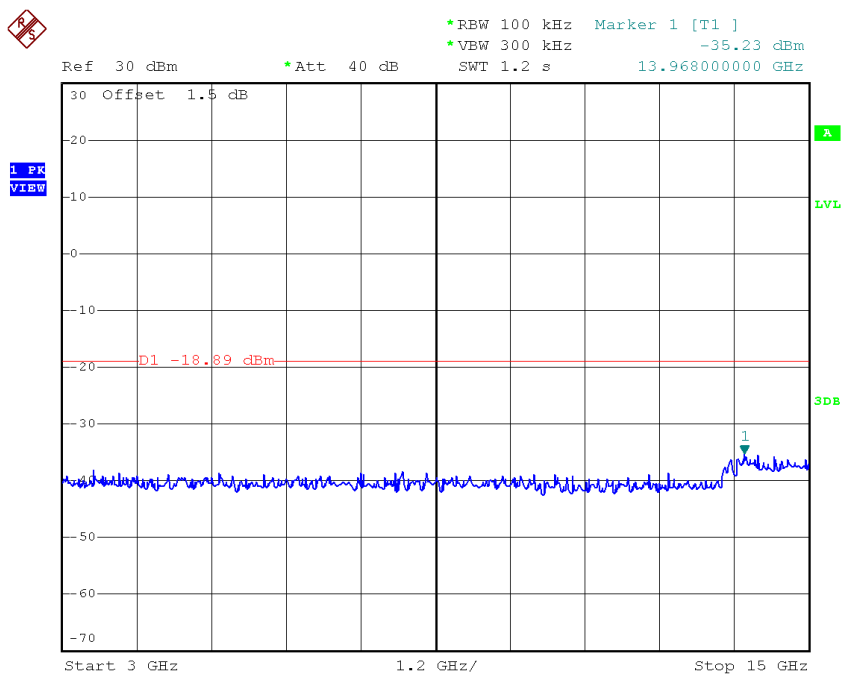
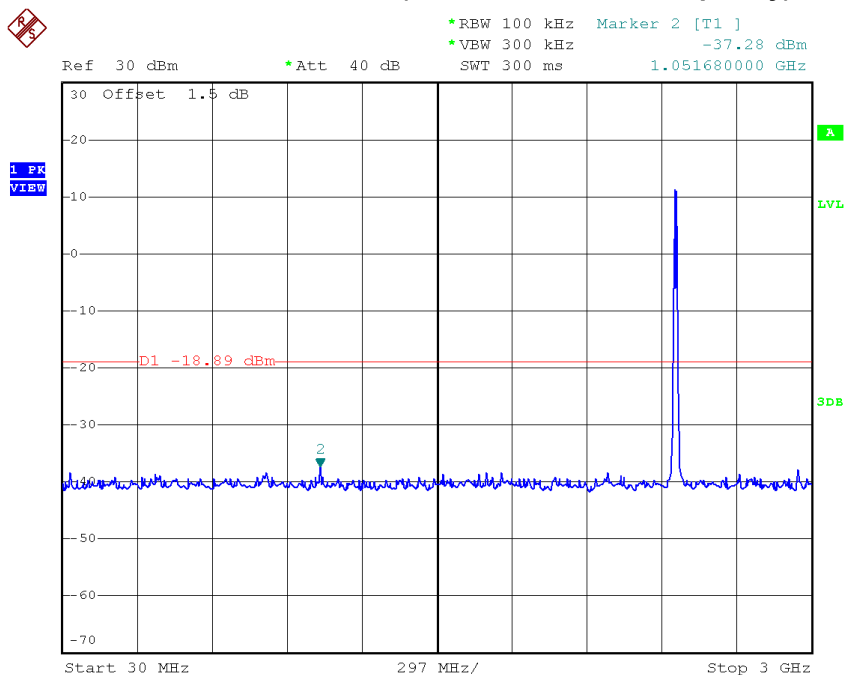


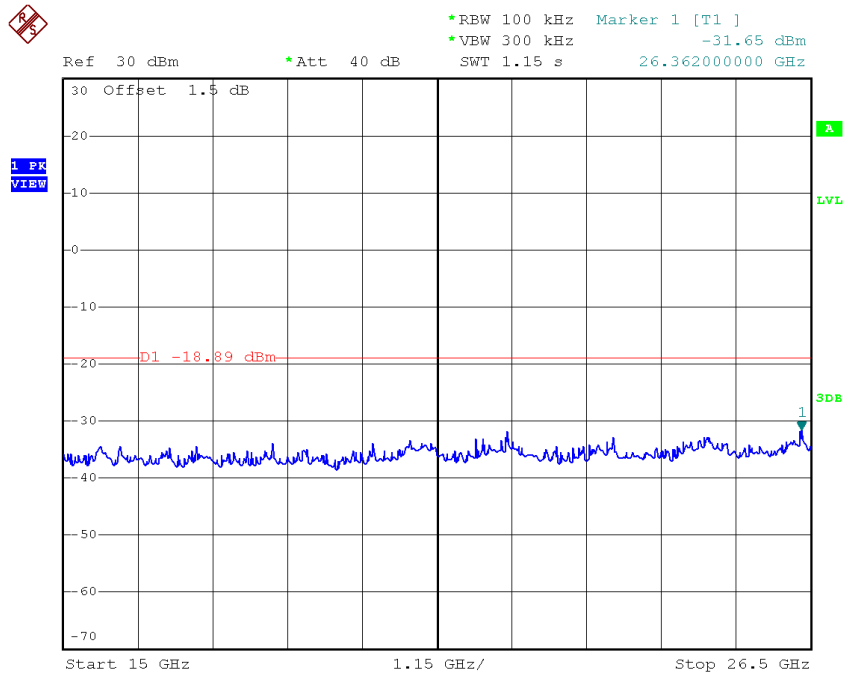
TX B mode CH06 (10 Harmonic of the frequency)





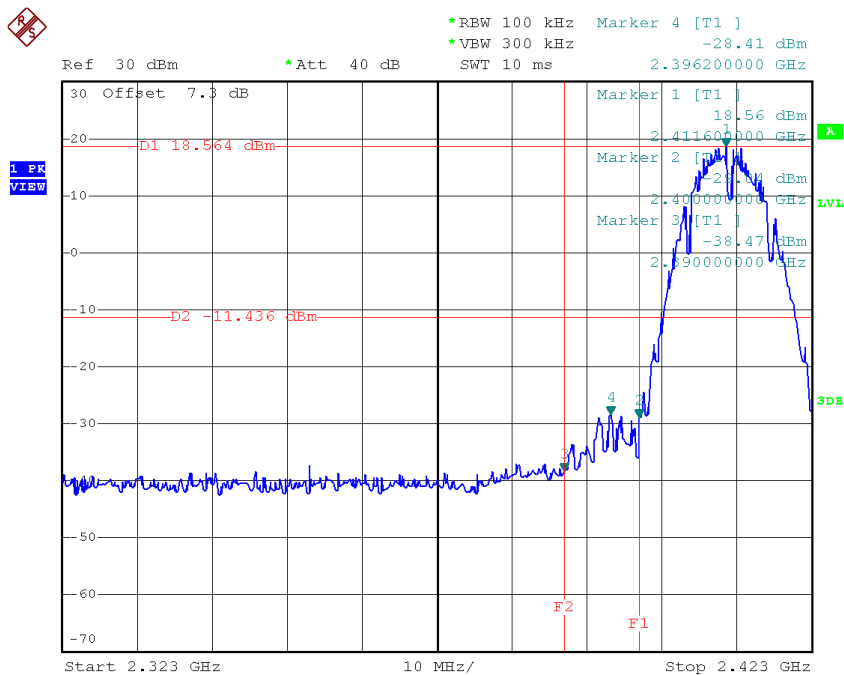
TX B mode CH11 (10 Harmonic of the frequency)



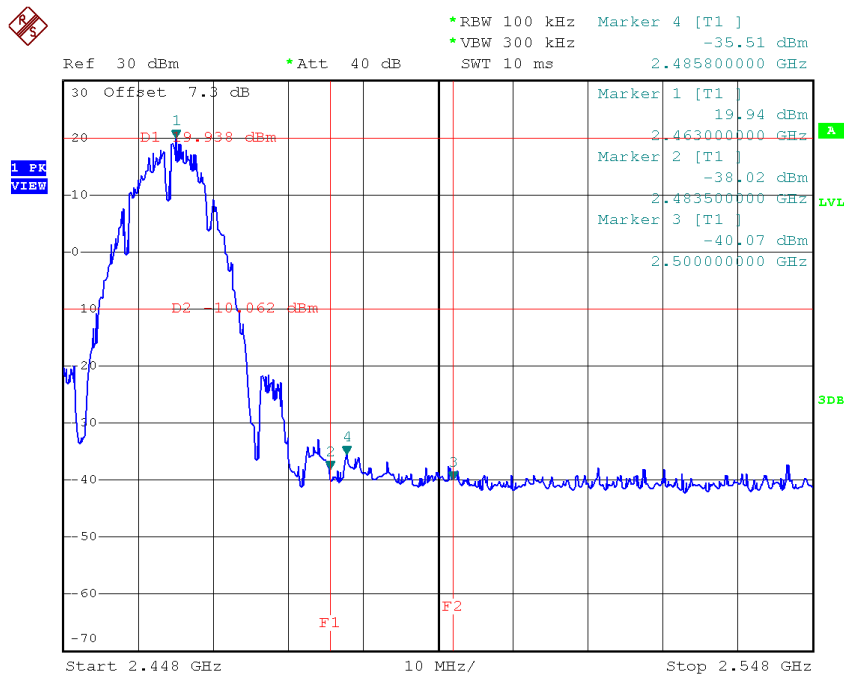


Test Mode : TX B Mode_ANT 2

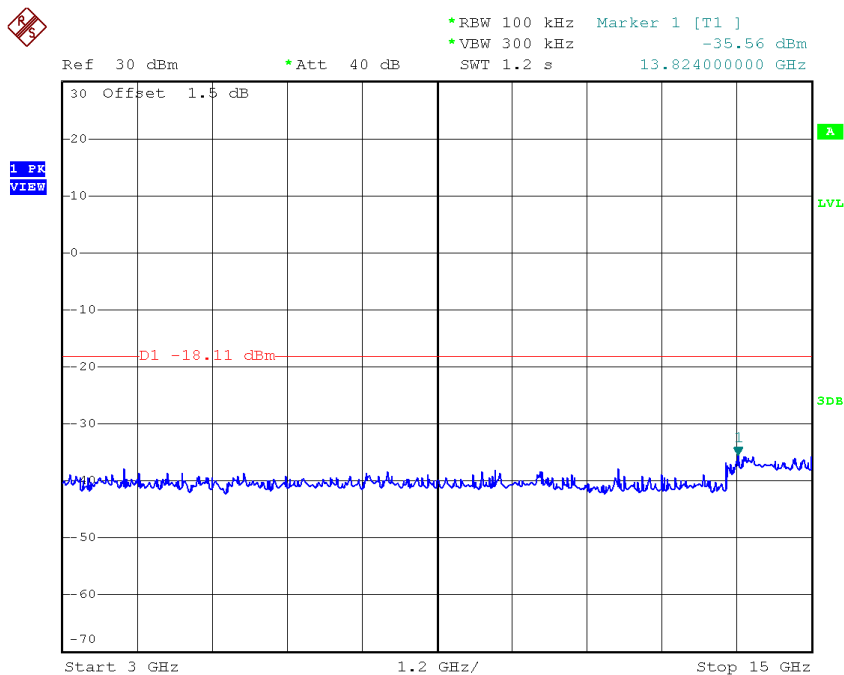
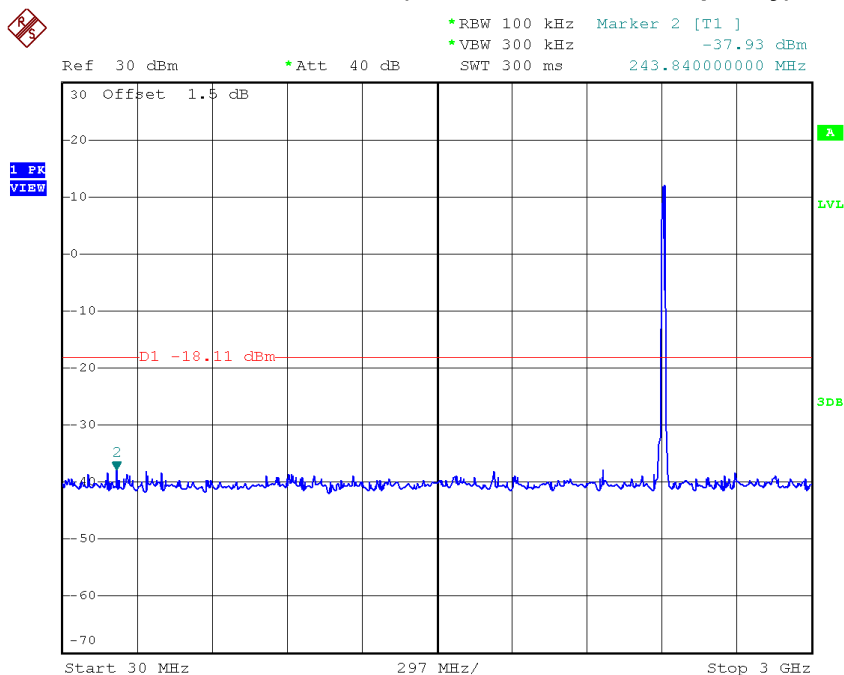
TX B mode CH01

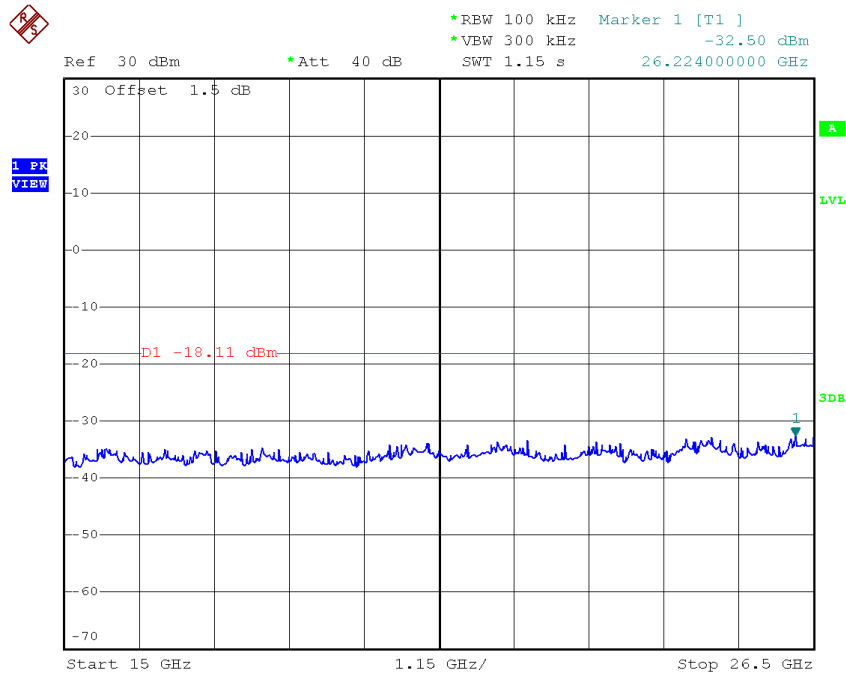


TX B mode CH11

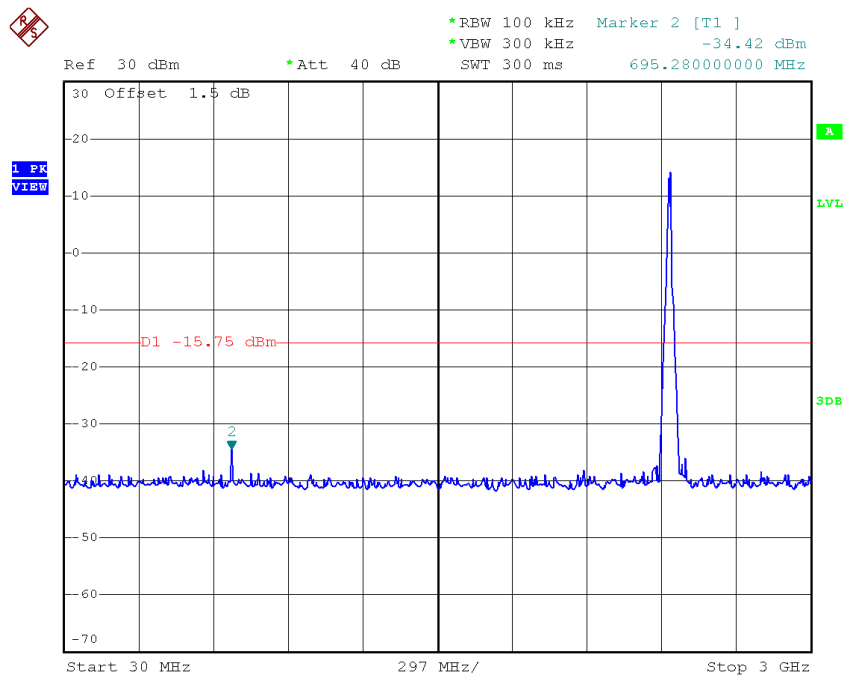


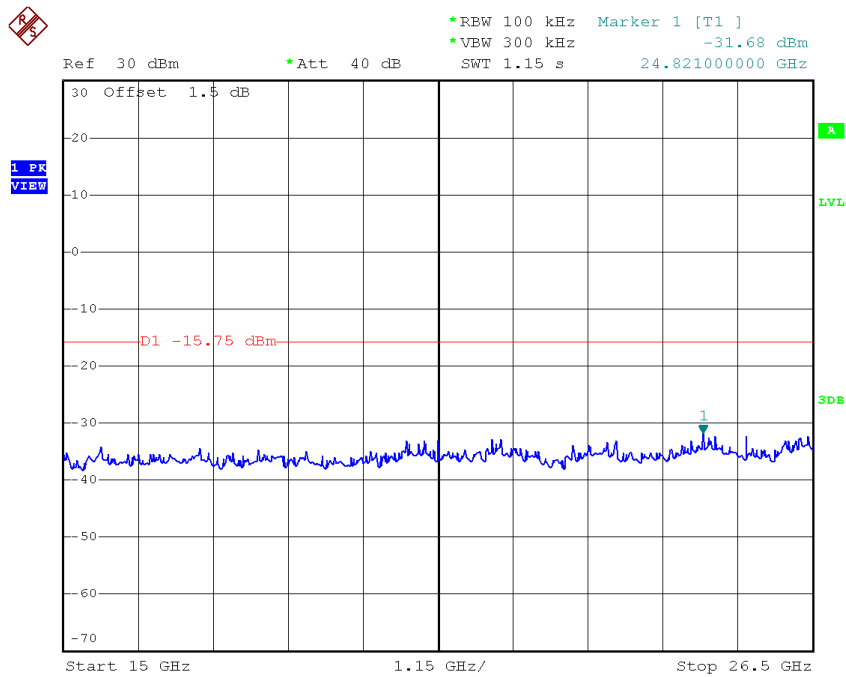
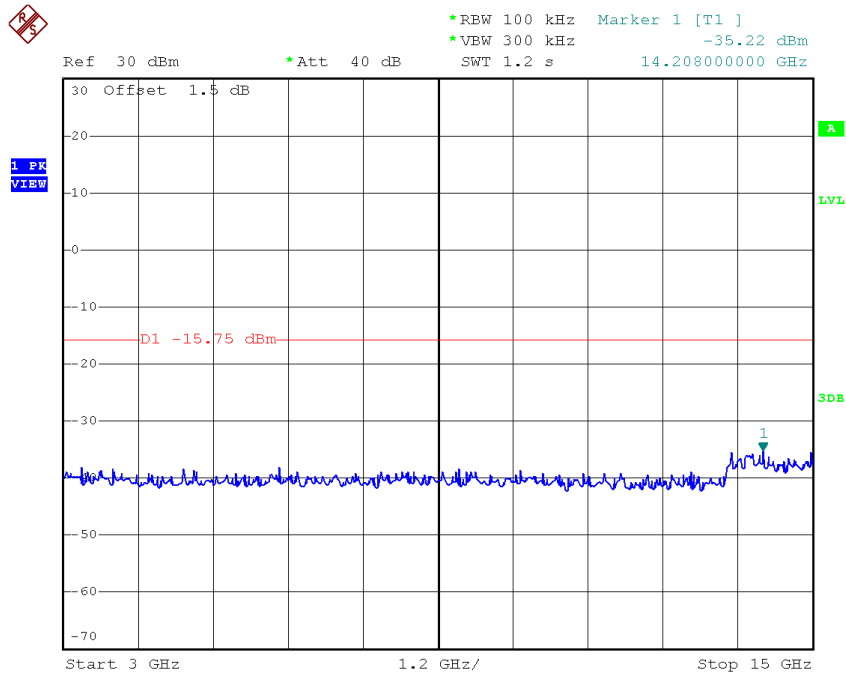
TX B mode CH01 (10 Harmonic of the frequency)



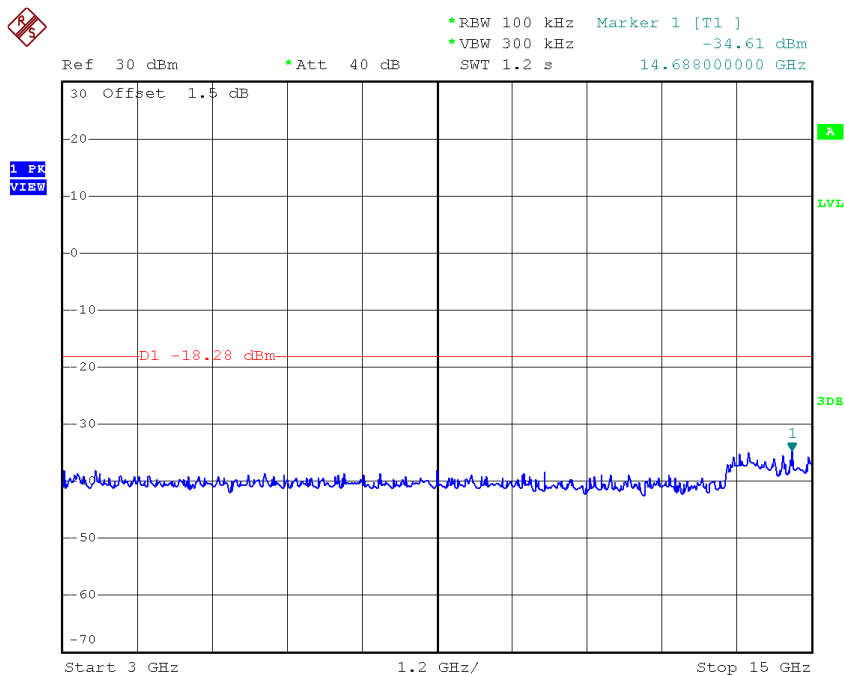
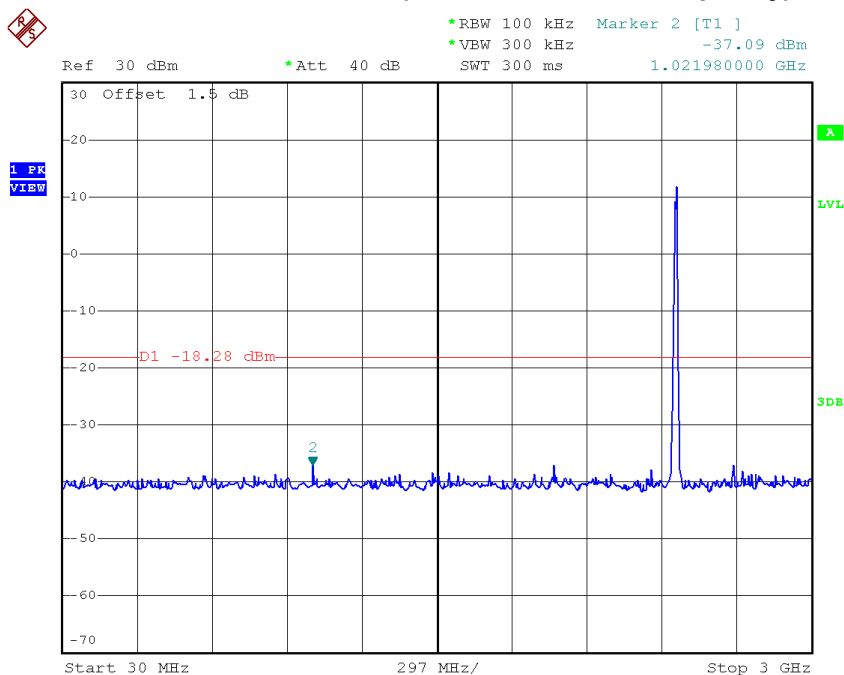


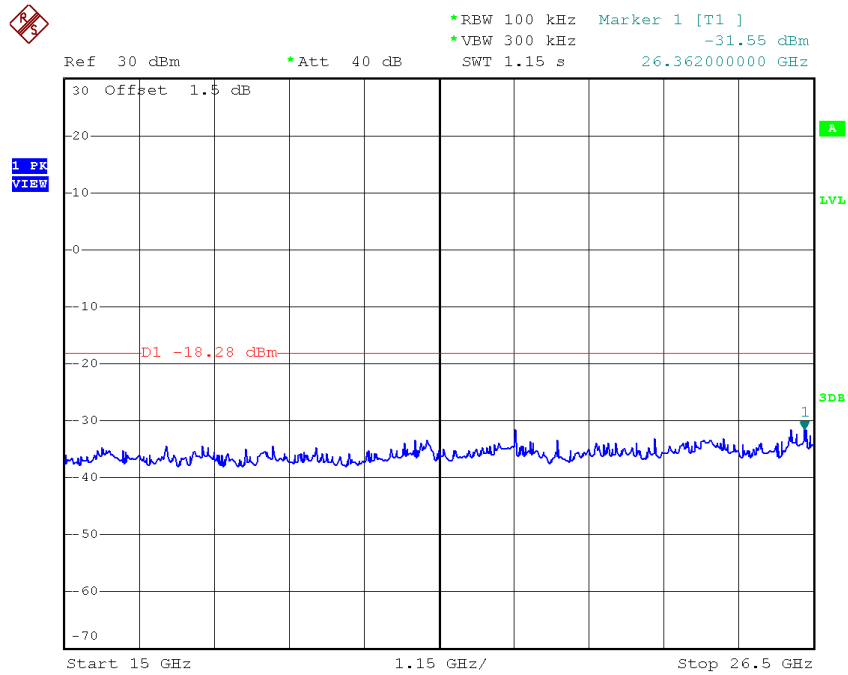
TX B mode CH06 (10 Harmonic of the frequency)





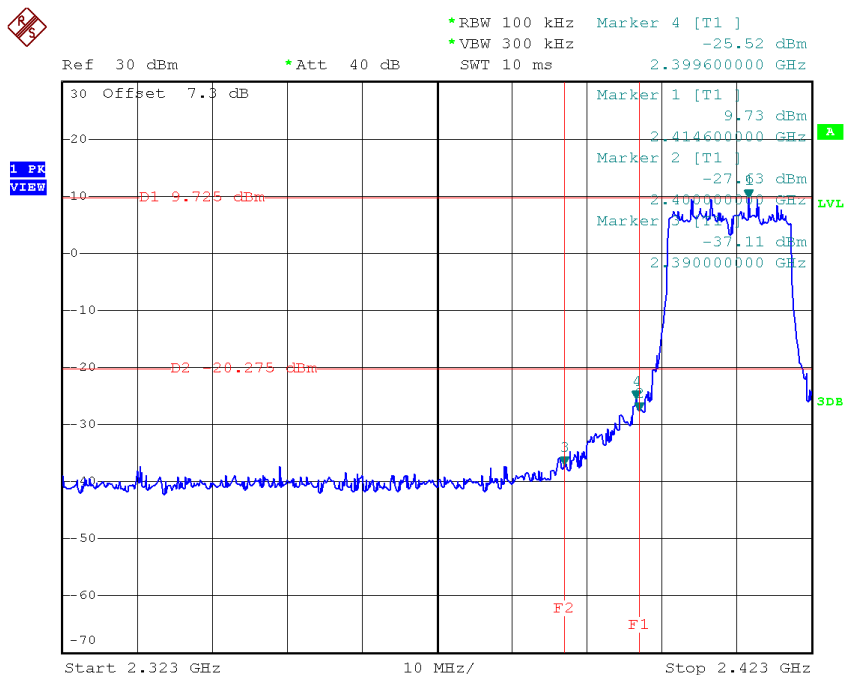
TX B mode CH11 (10 Harmonic of the frequency)



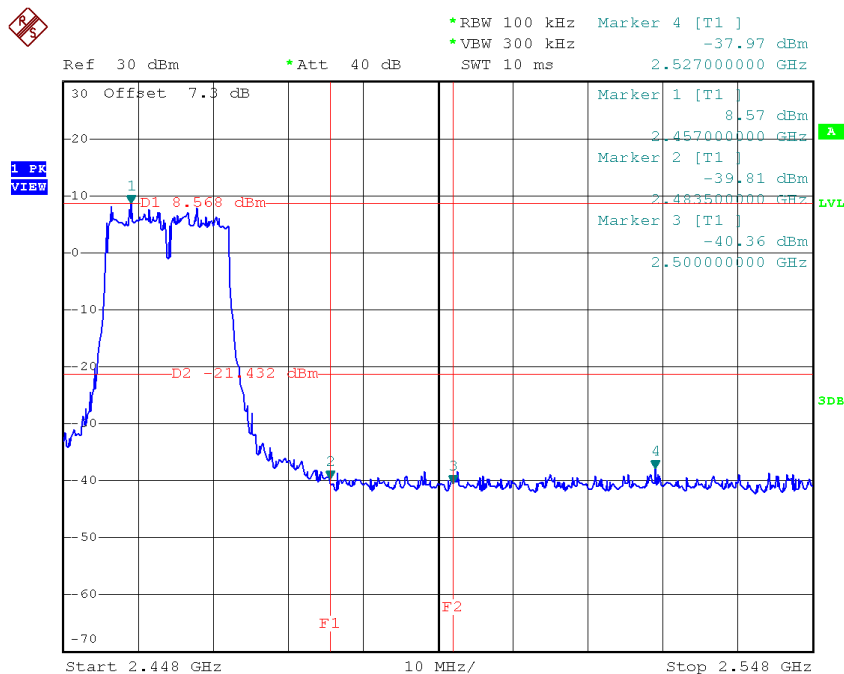


Test Mode : TX G Mode_ANT 1

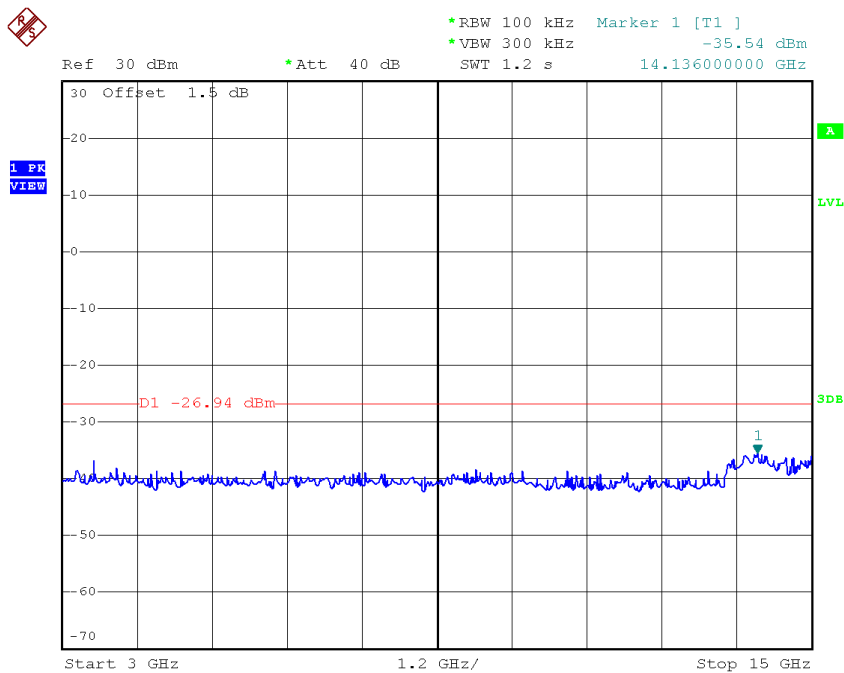
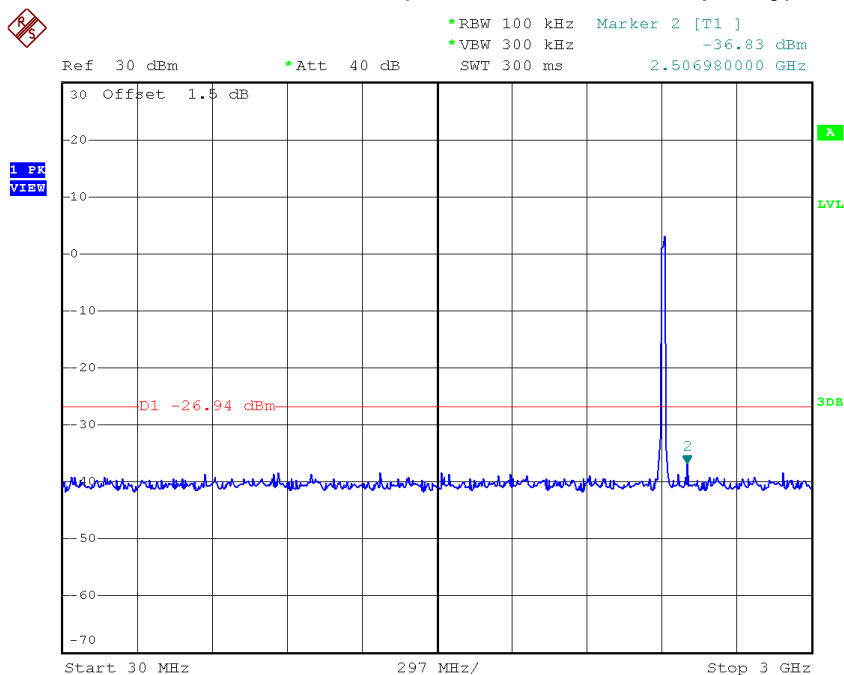
TX G mode CH01

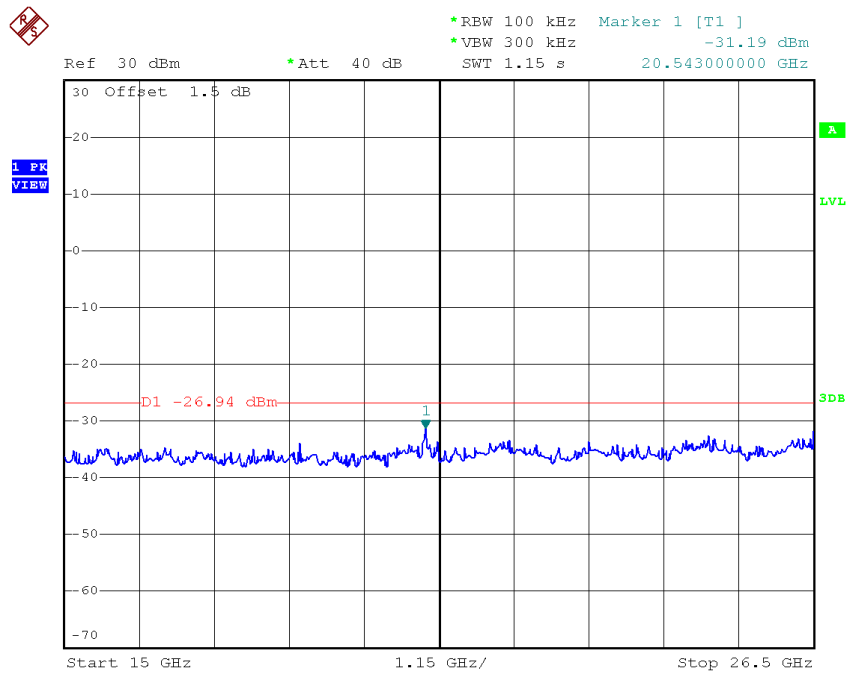


TX G mode CH11

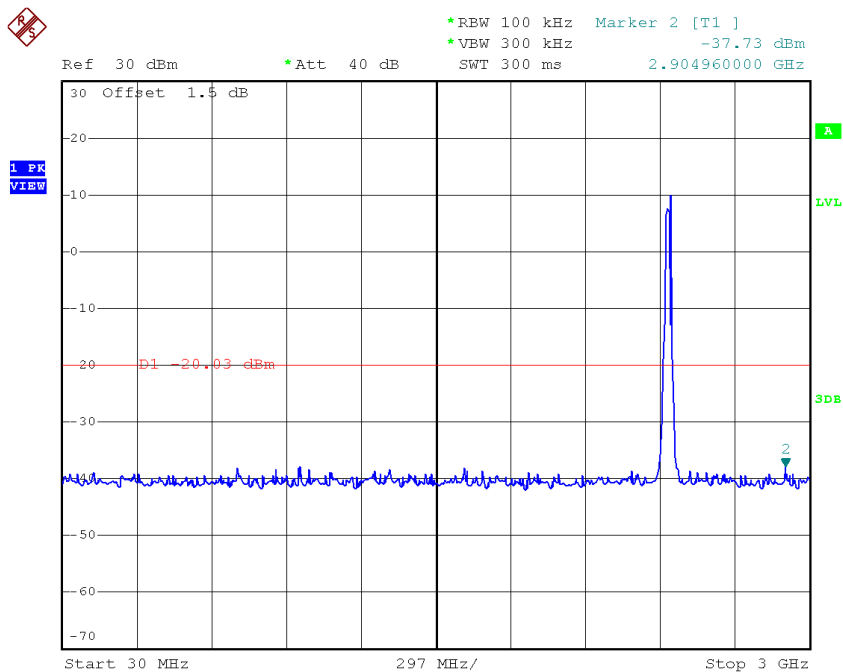


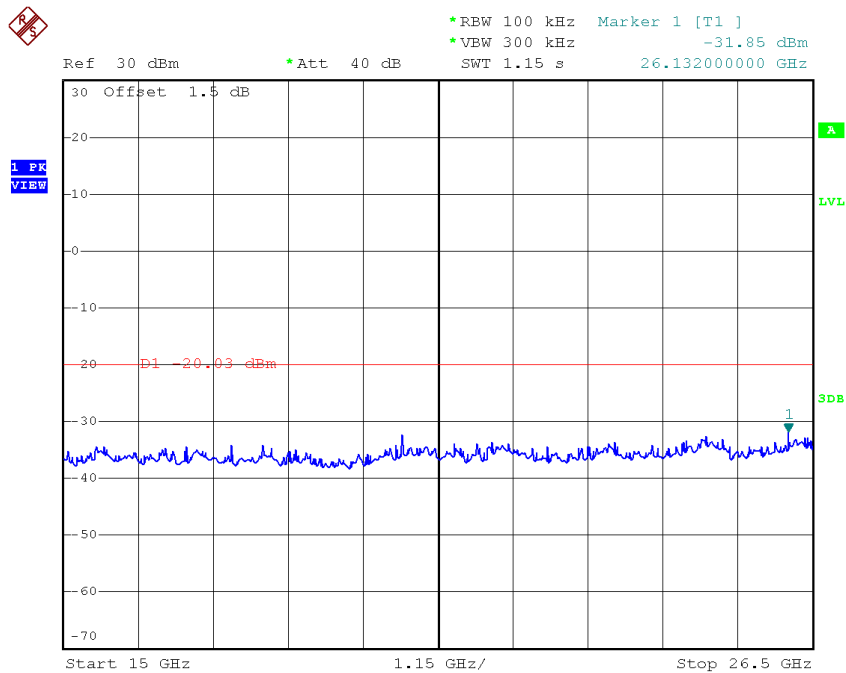
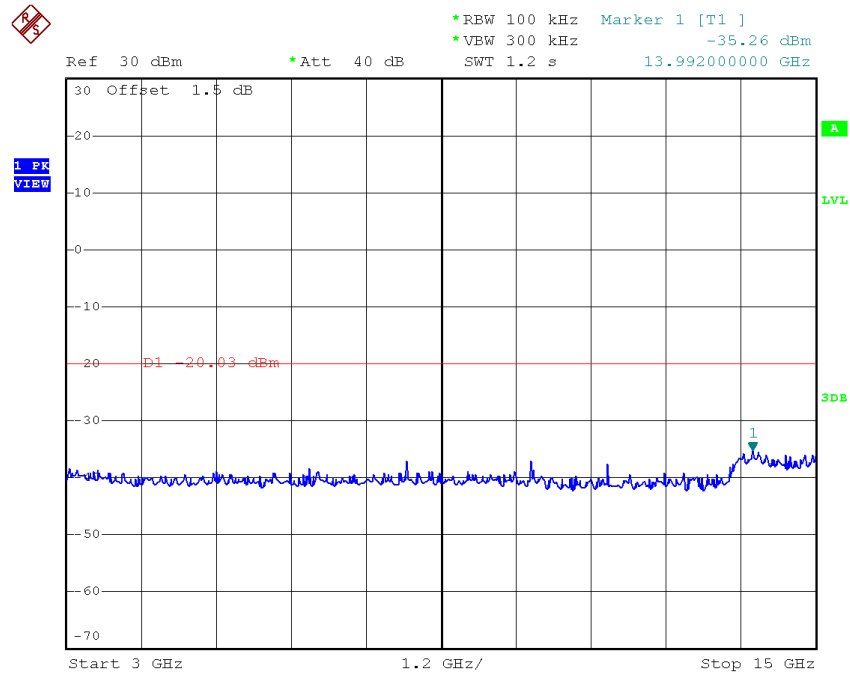
TX G mode CH01 (10 Harmonic of the frequency)



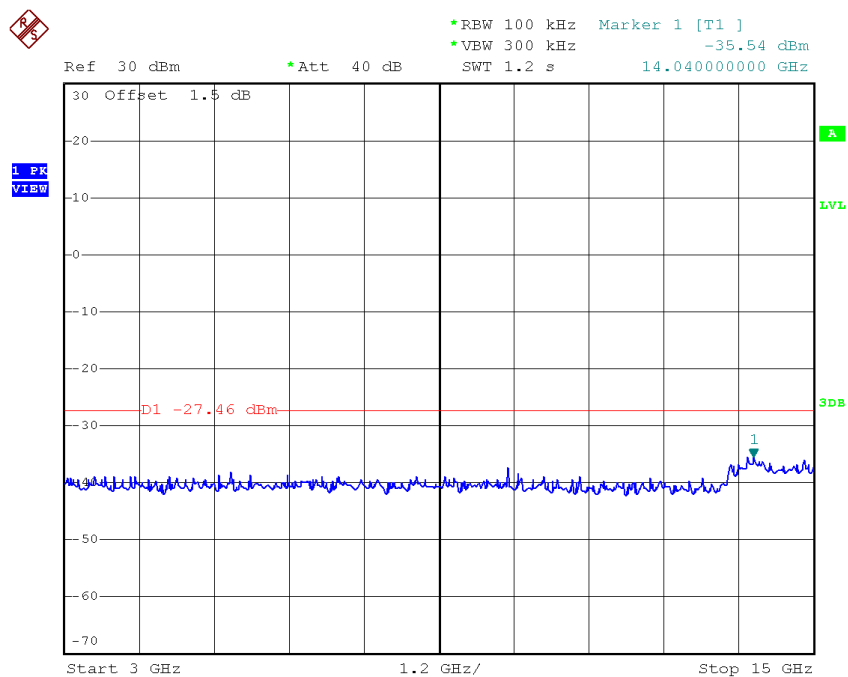
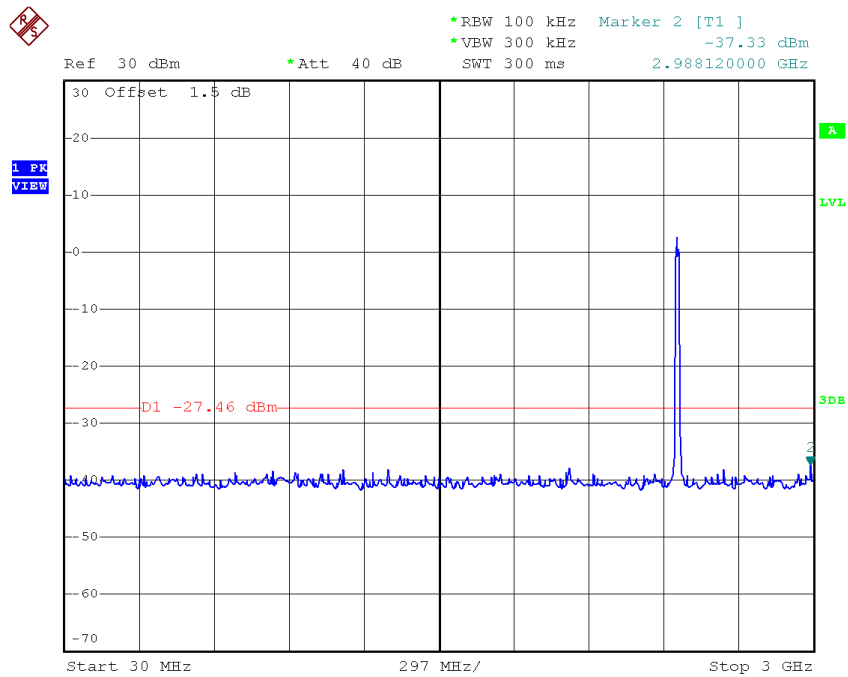


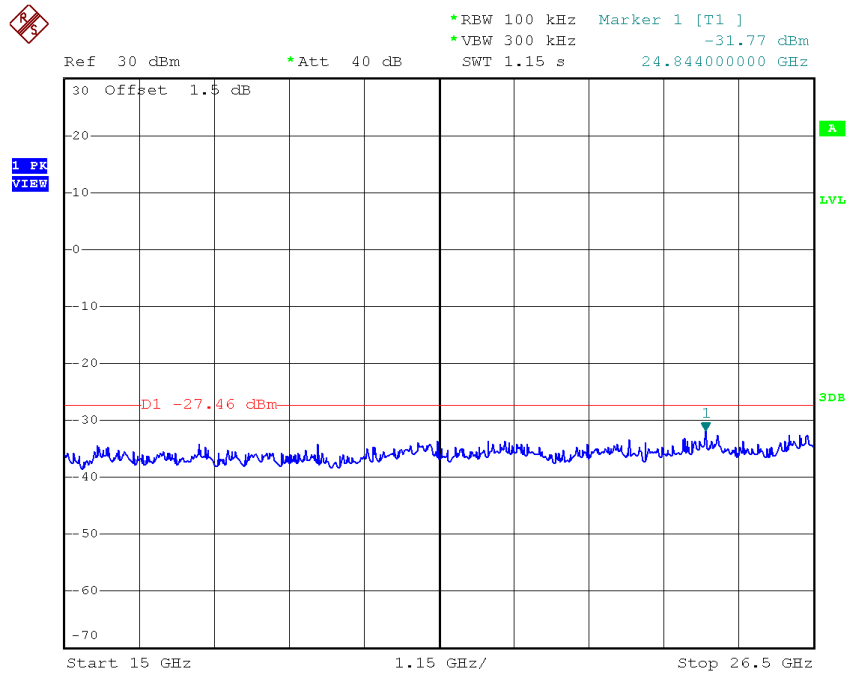
TX G mode CH06 (10 Harmonic of the frequency)





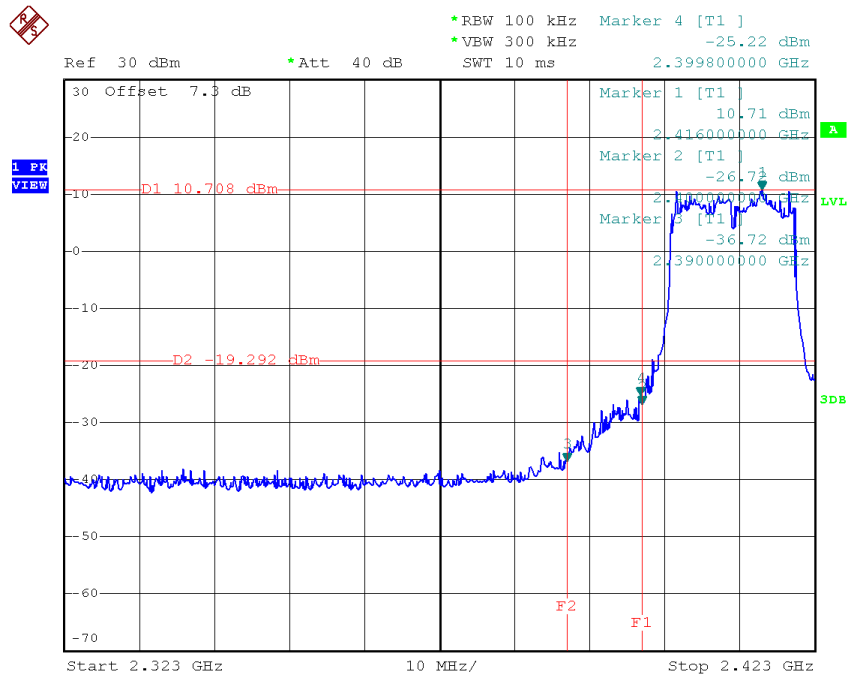
TX G mode CH11 (10 Harmonic of the frequency)



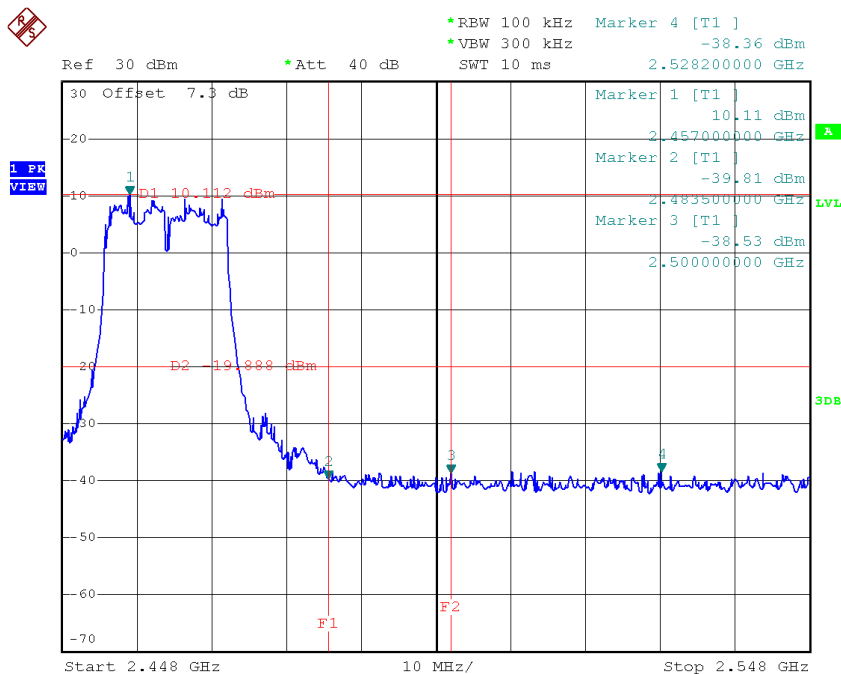


Test Mode : TX G Mode_ANT 2

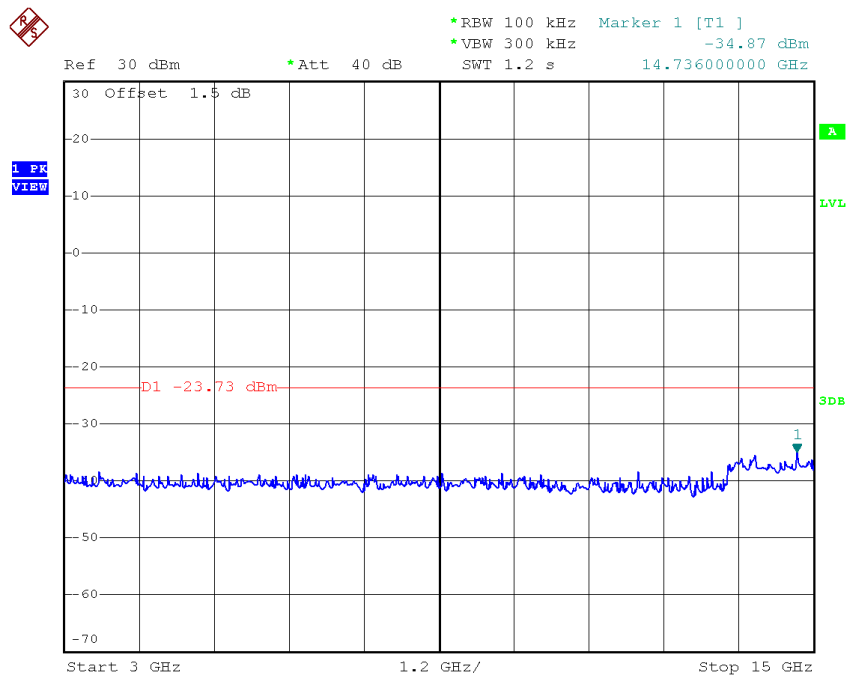
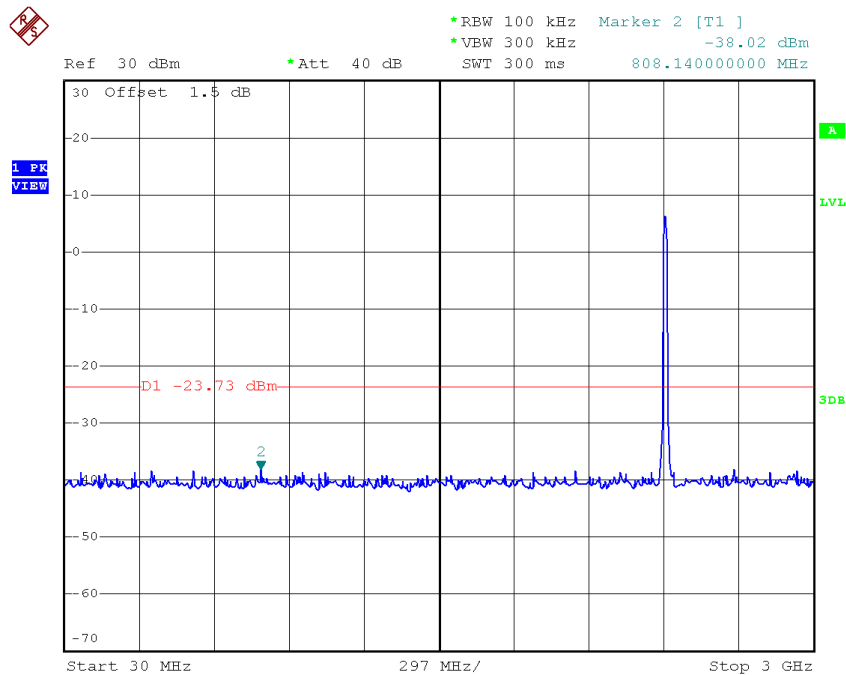
TX G mode CH01

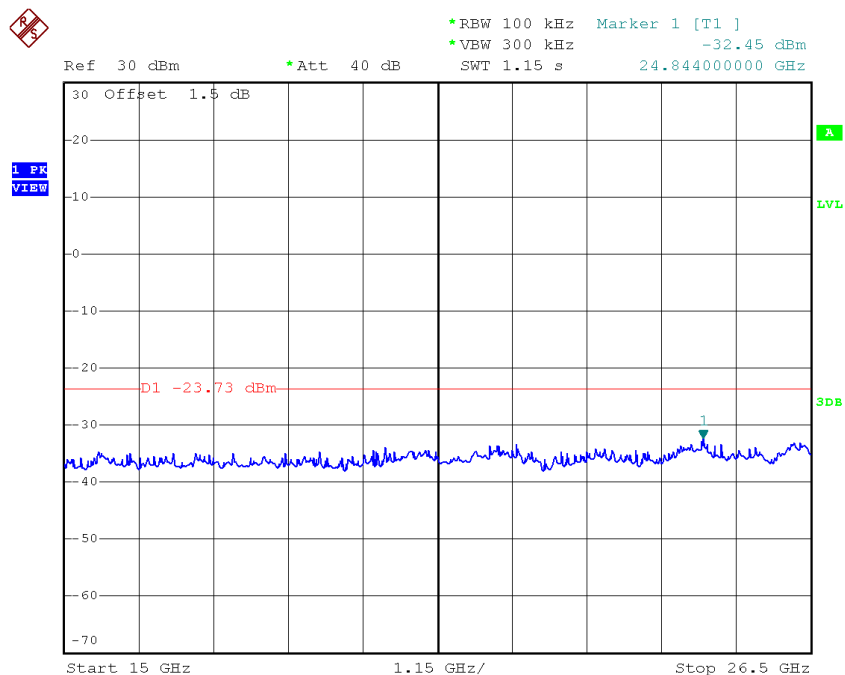


TX G mode CH11

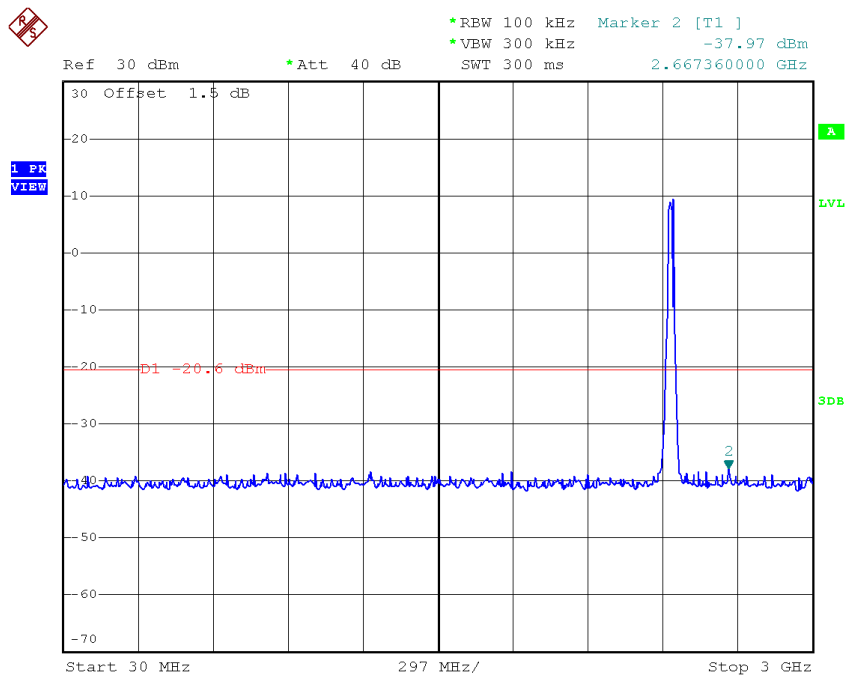


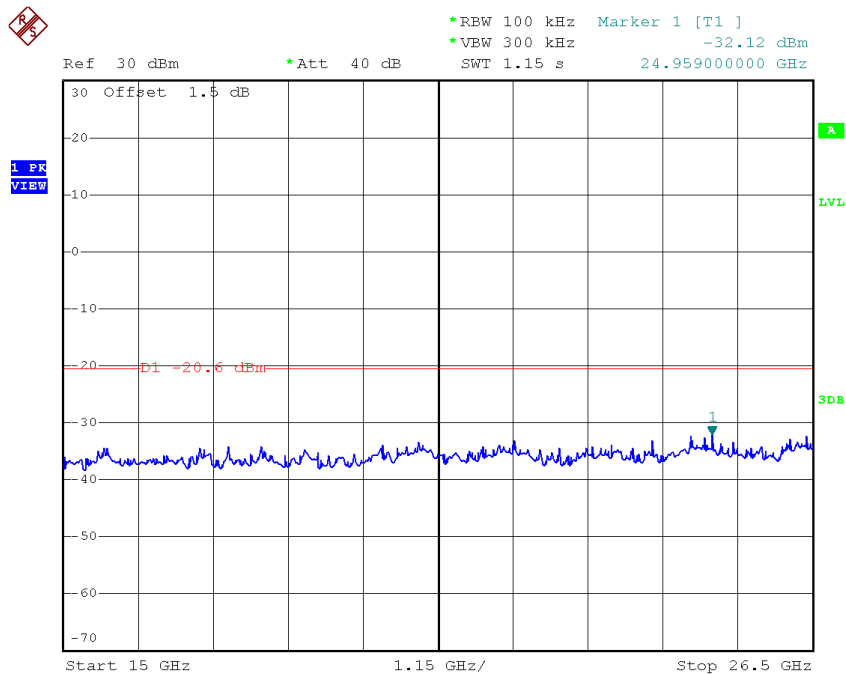
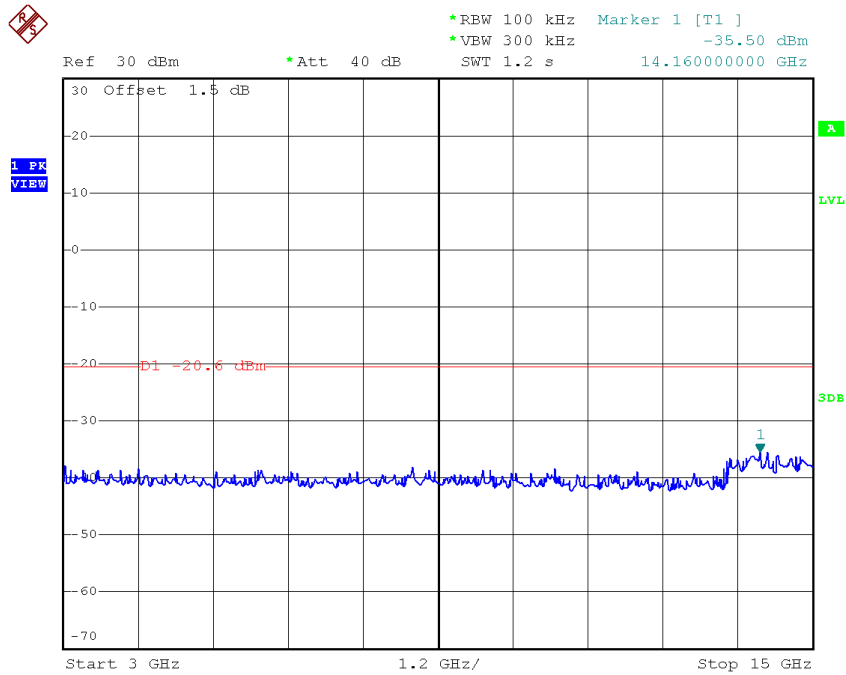
TX G mode CH01 (10 Harmonic of the frequency)



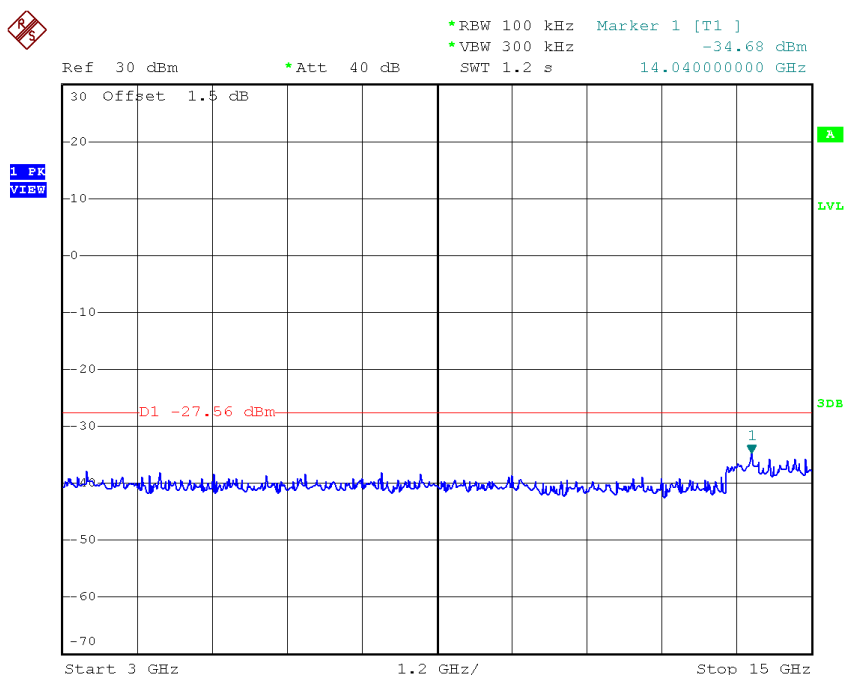
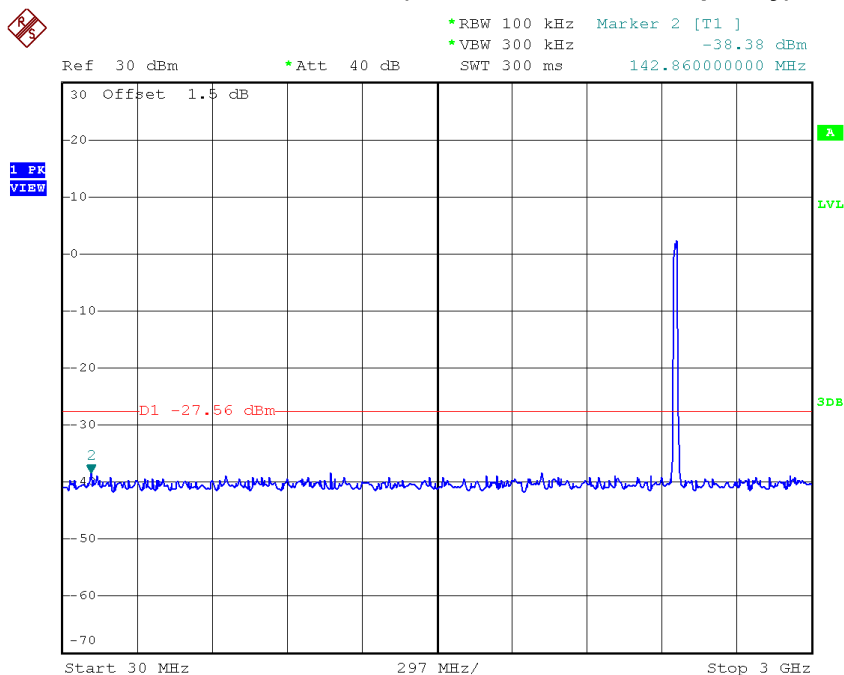


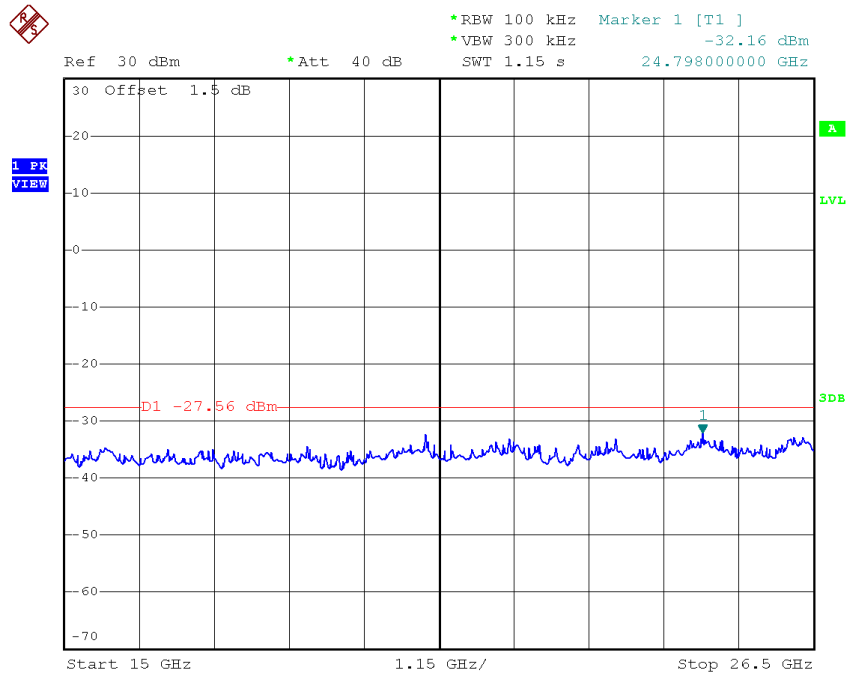
TX G mode CH06 (10 Harmonic of the frequency)





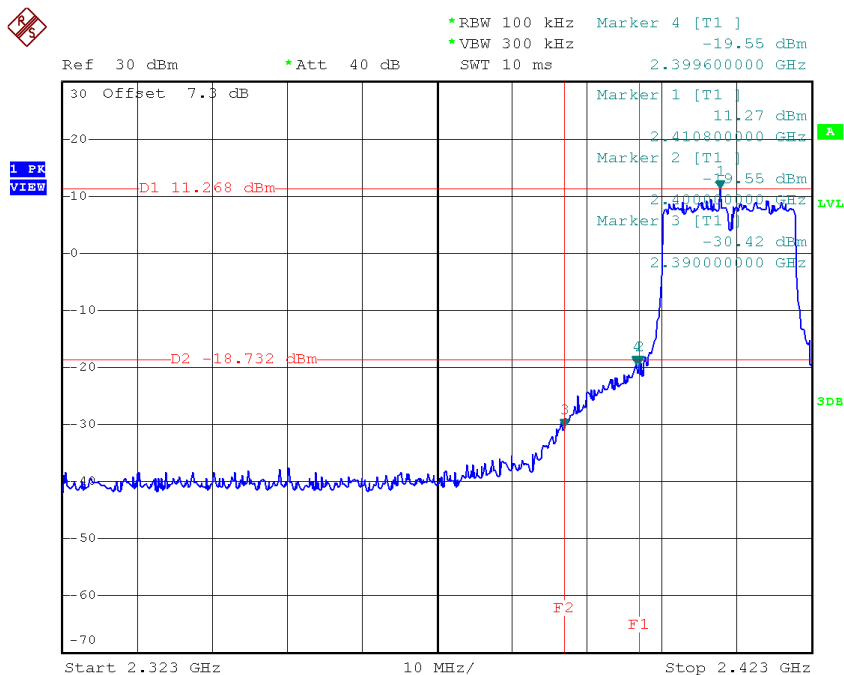
TX G mode CH11 (10 Harmonic of the frequency)



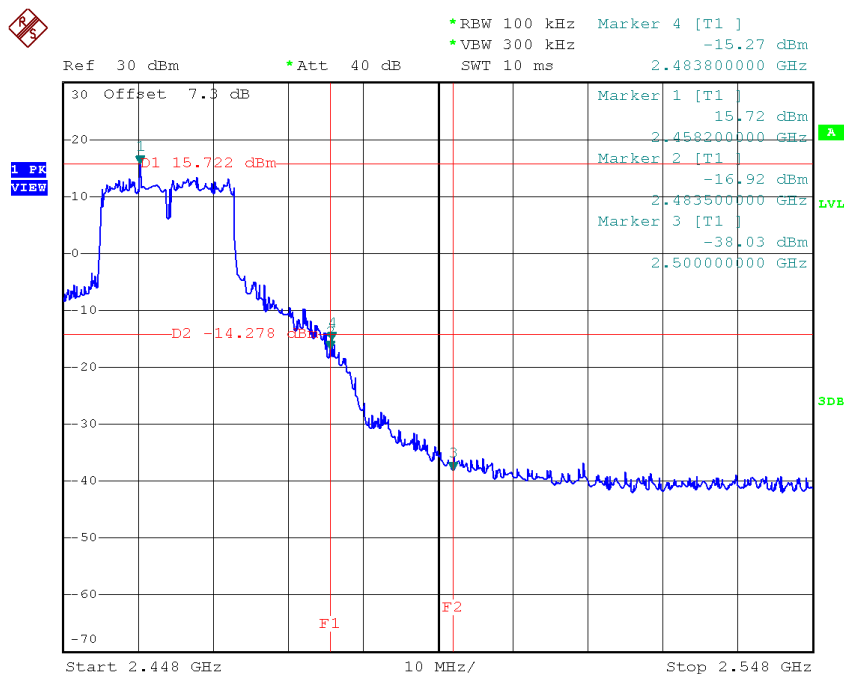


Test Mode : TX N-20M Mode_ANT 1

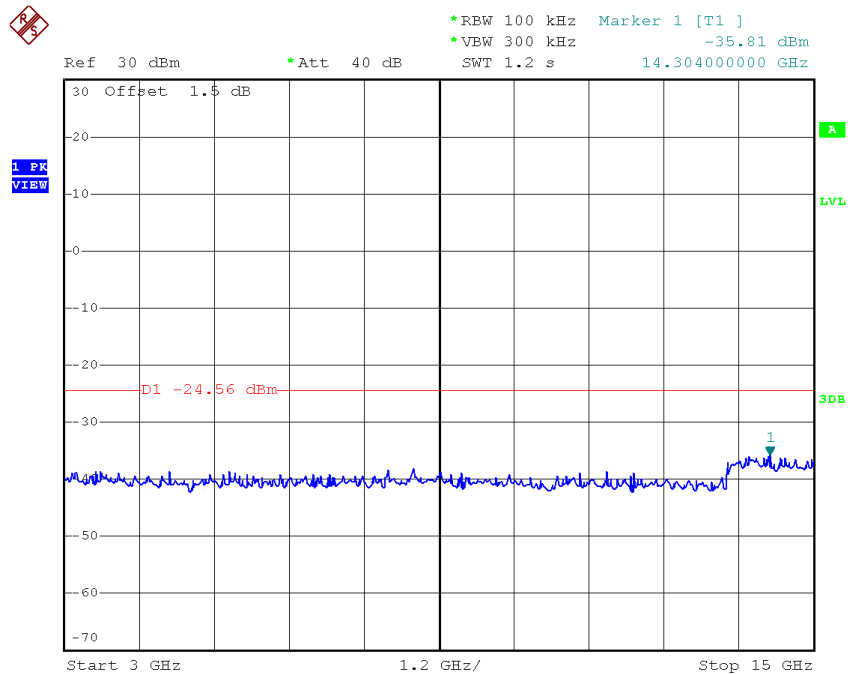
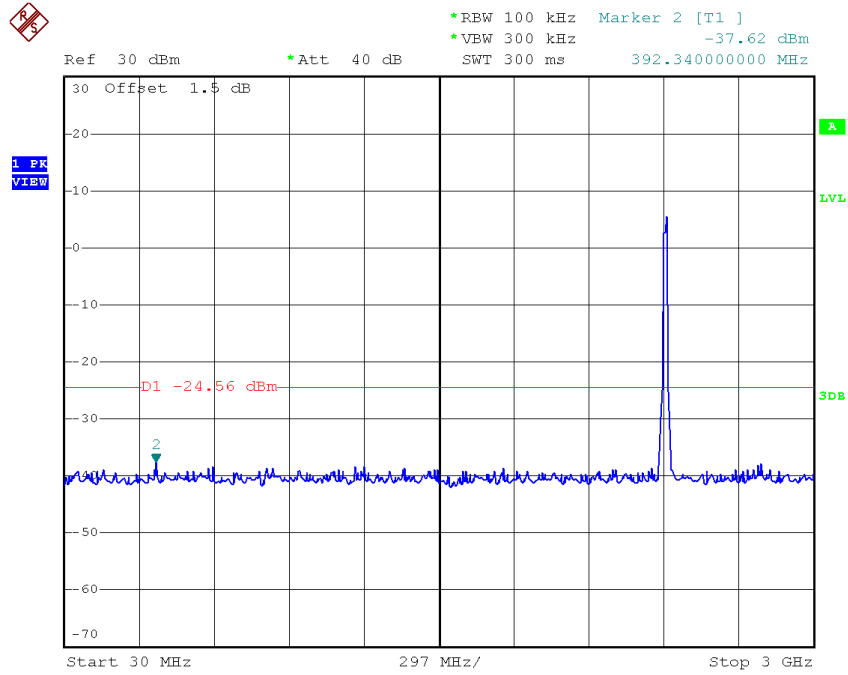
TX HT20 mode CH01

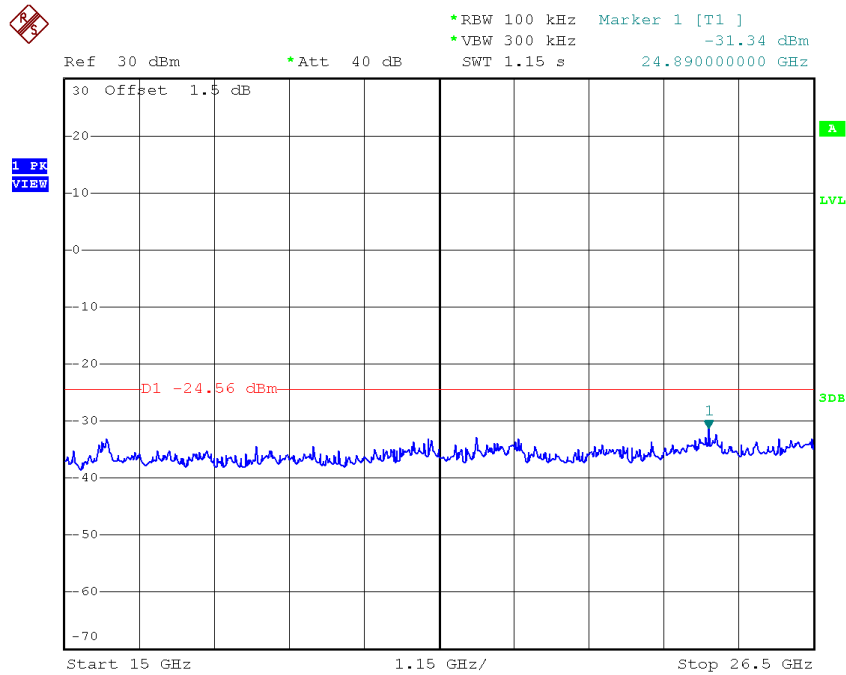


TX HT20 mode CH11

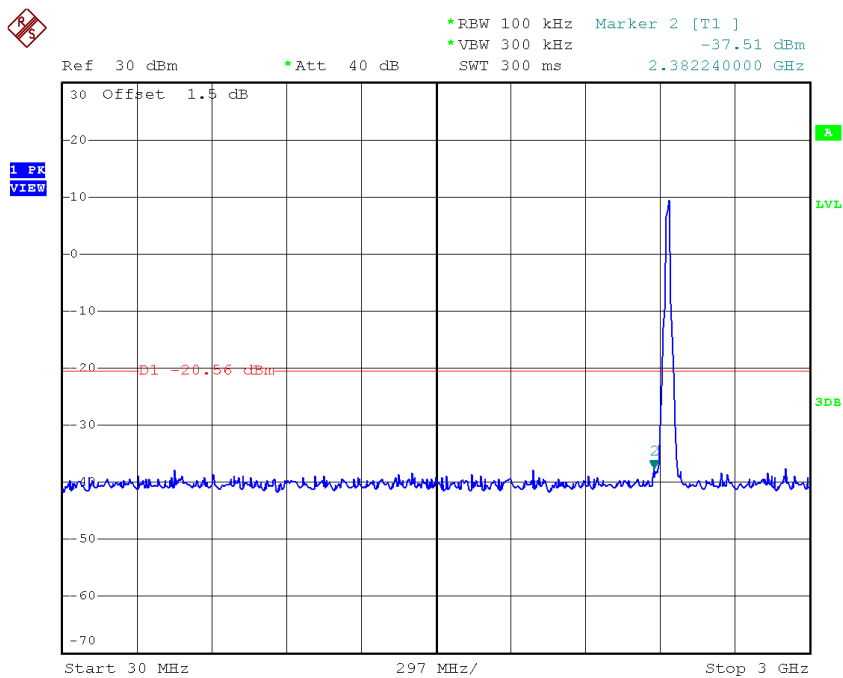


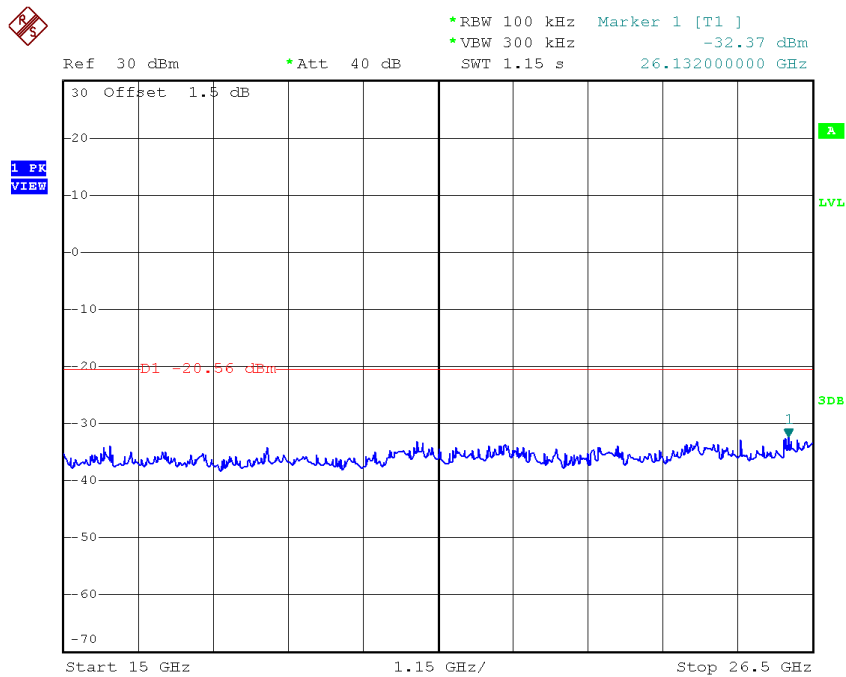
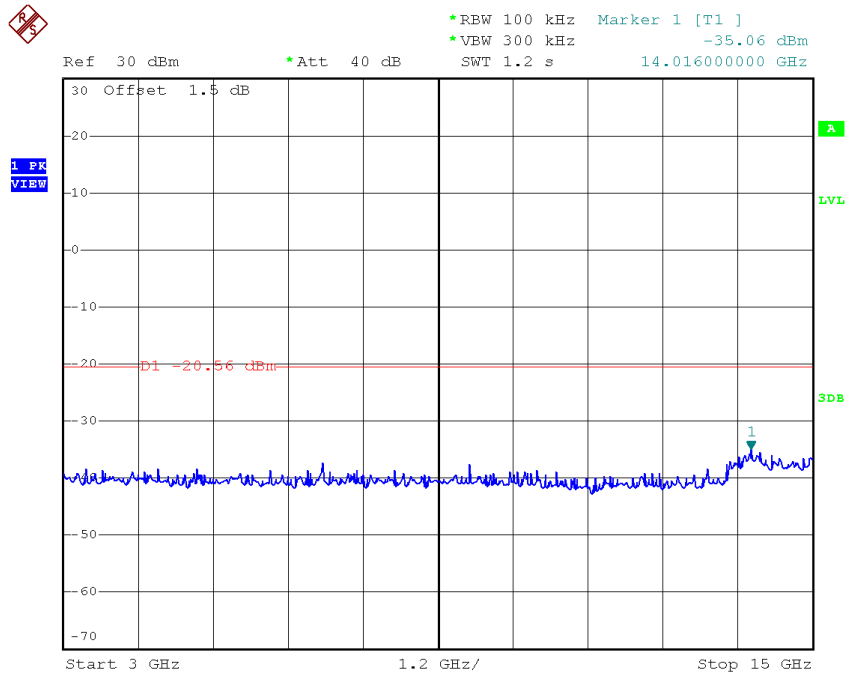
TX HT20 mode CH01 (10 Harmonic of the frequency)



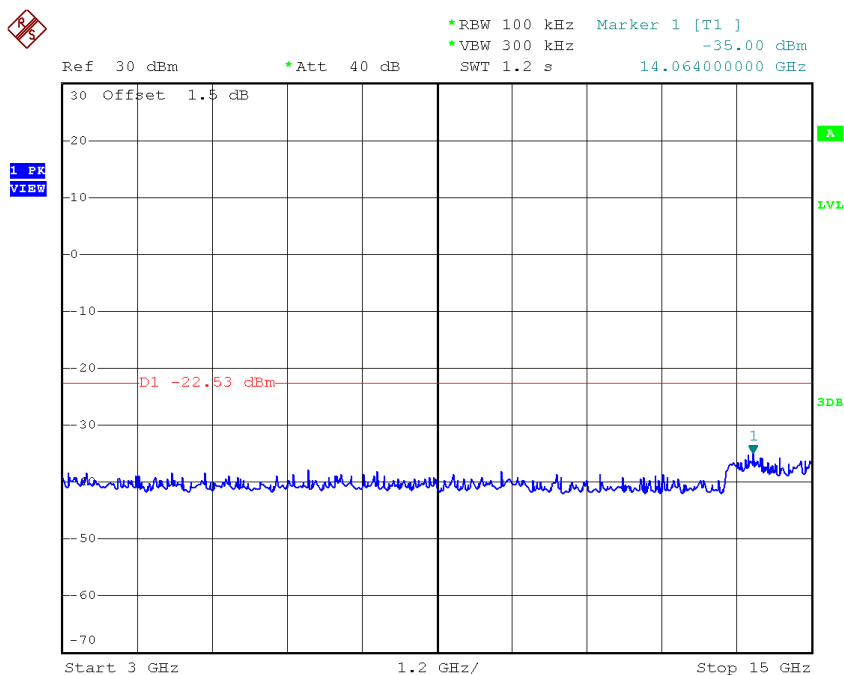
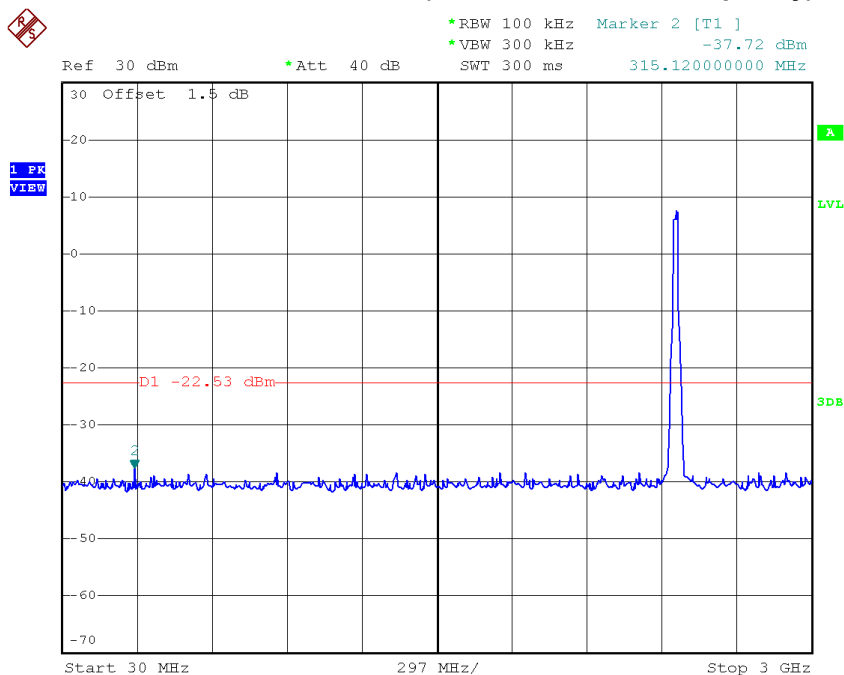


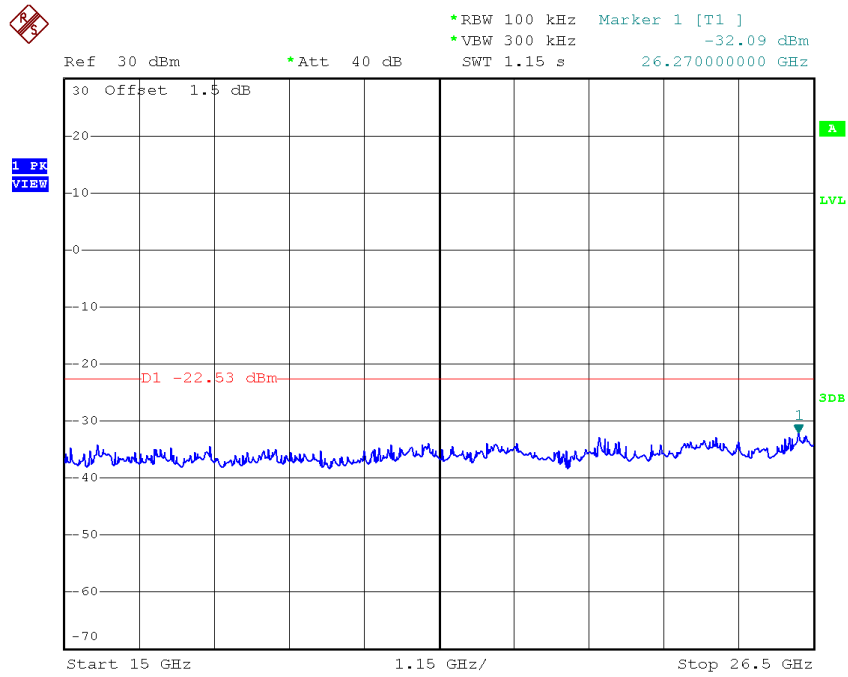
TX HT20 mode CH06 (10 Harmonic of the frequency)





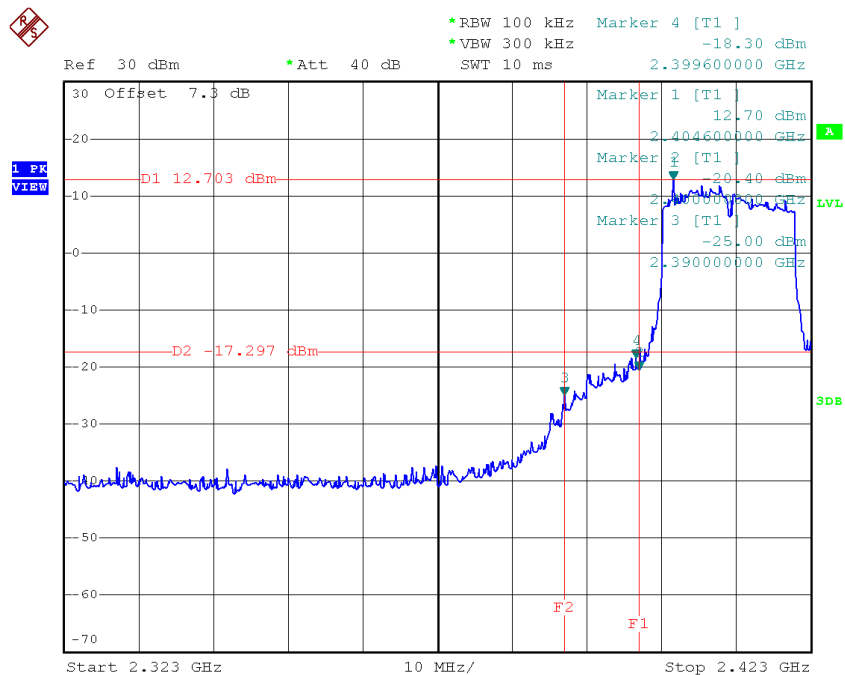
TX HT20 mode CH11 (10 Harmonic of the frequency)



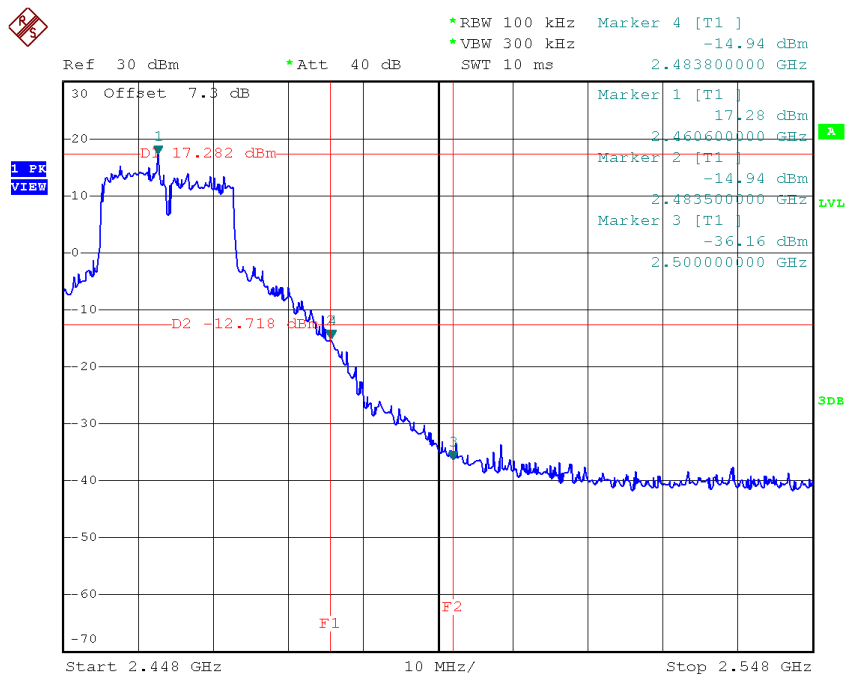


Test Mode : TX N-20M Mode_ANT 2

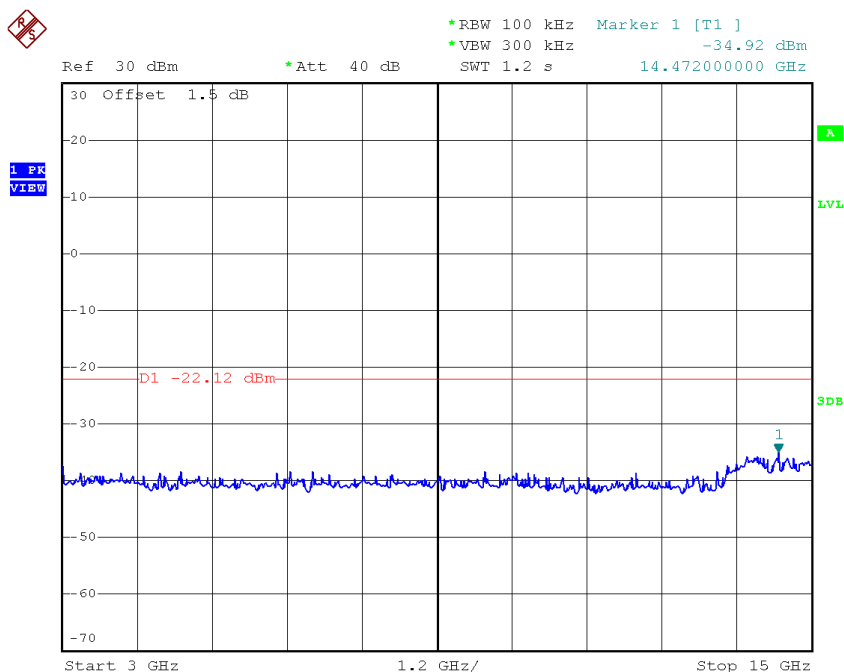
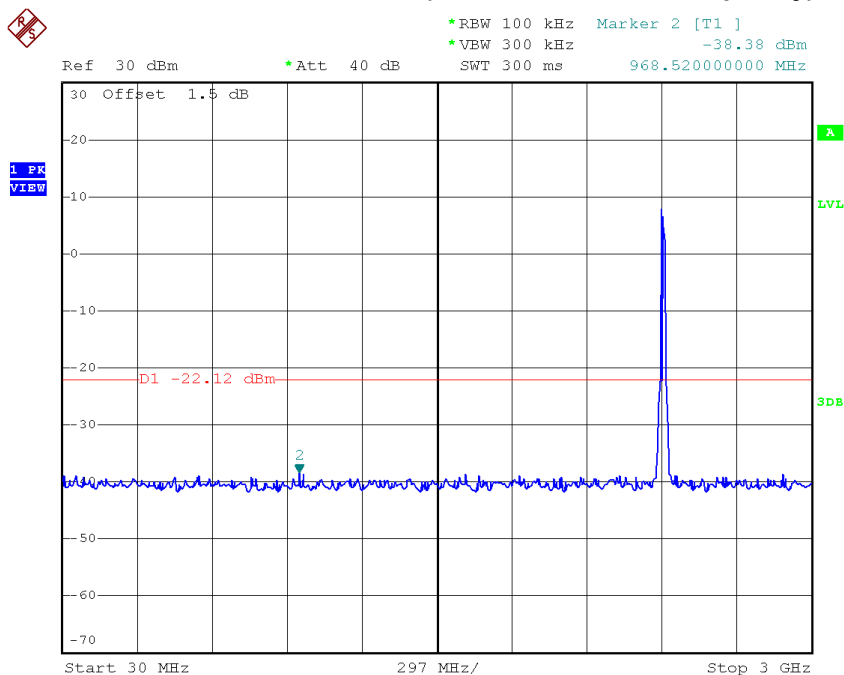
TX HT20 mode CH01

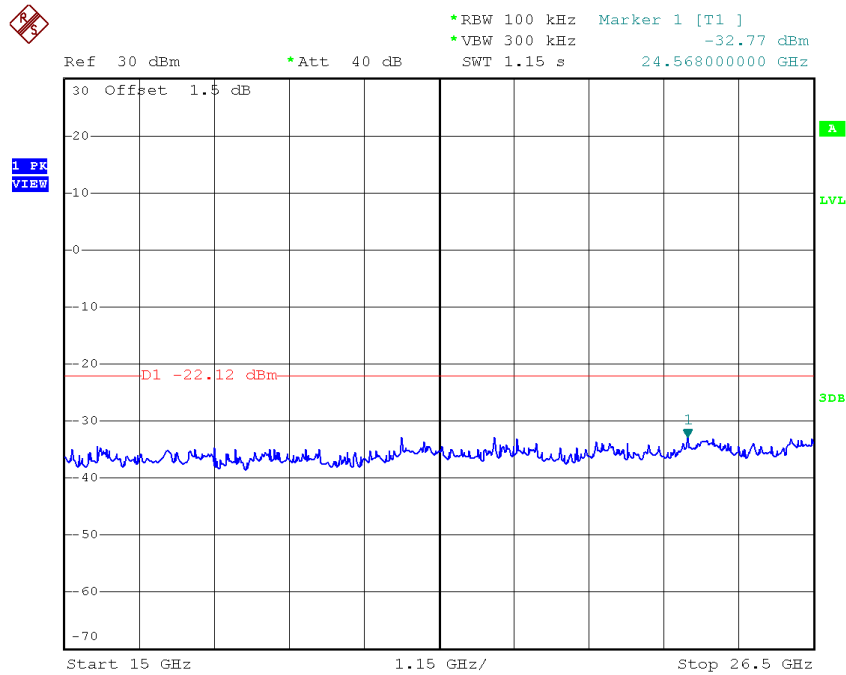


TX HT20 mode CH11

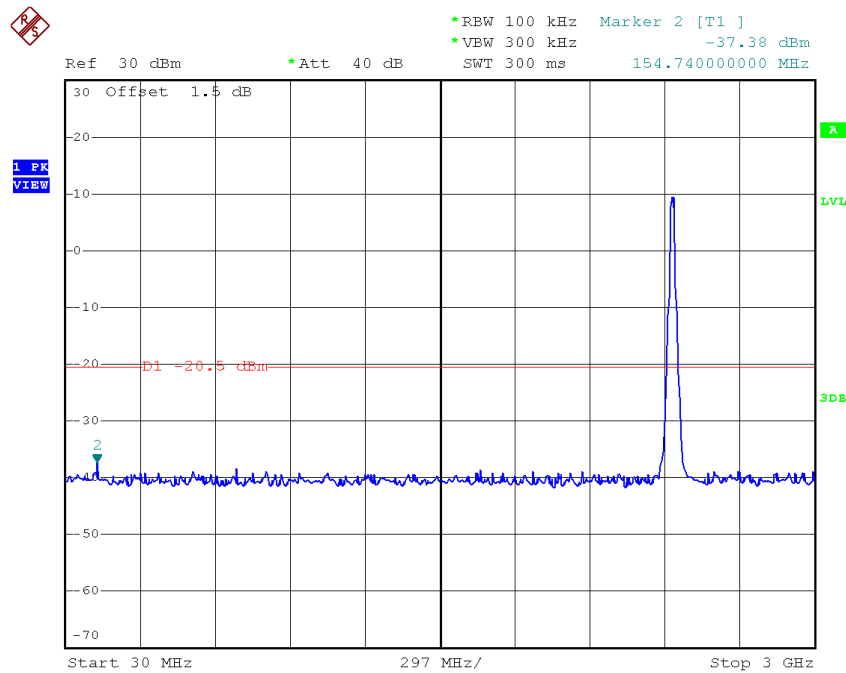


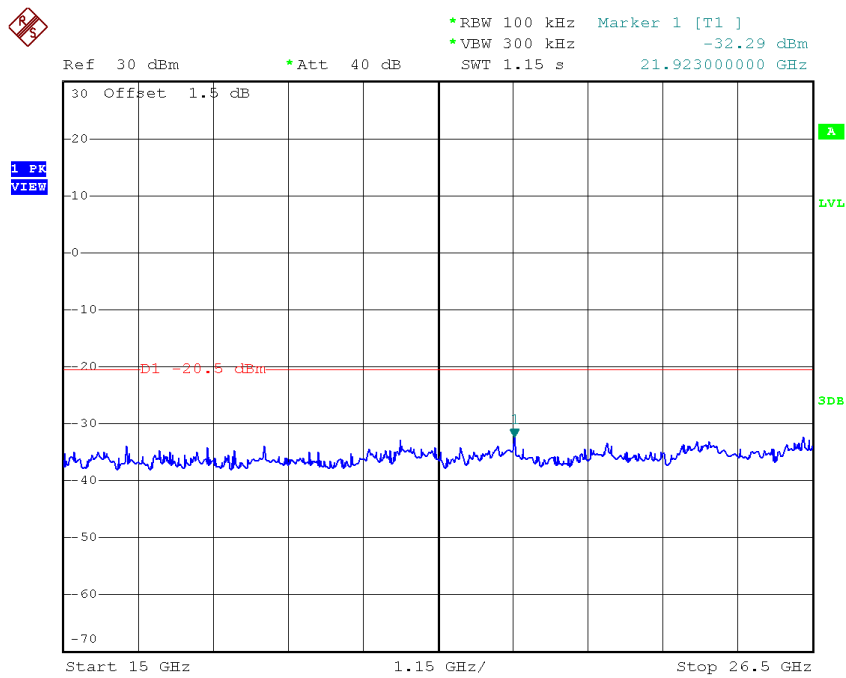
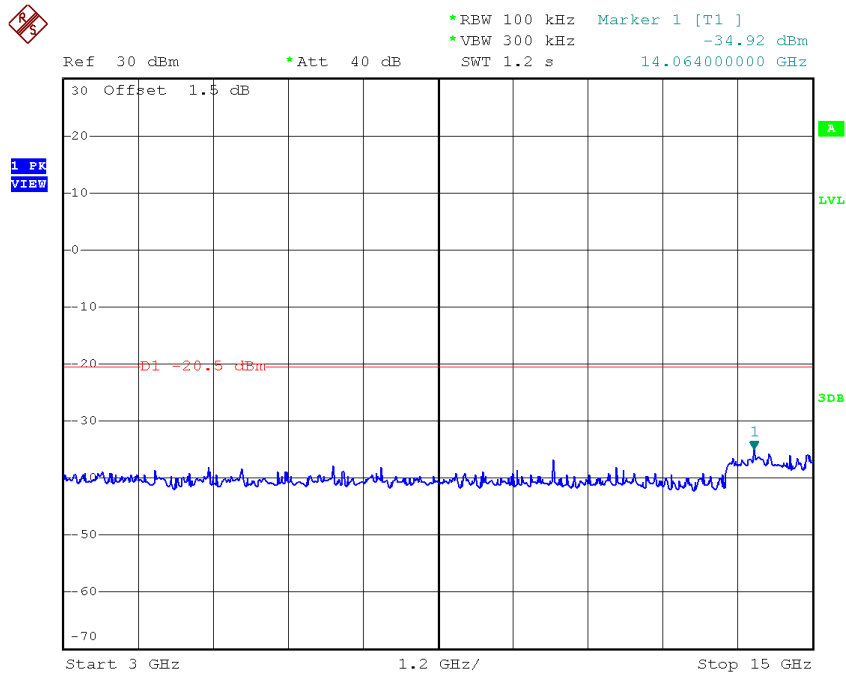
TX HT20 mode CH01 (10 Harmonic of the frequency)

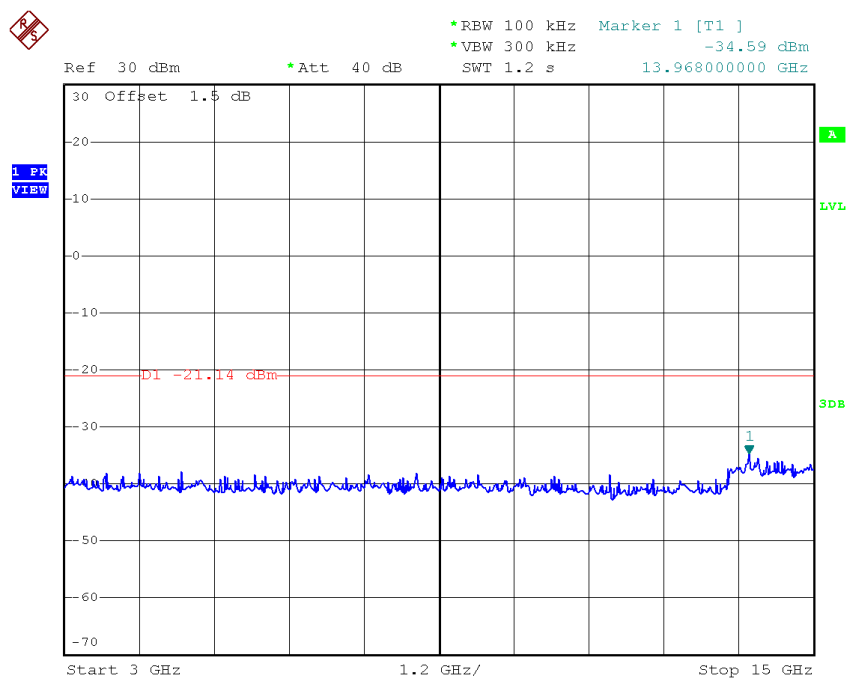


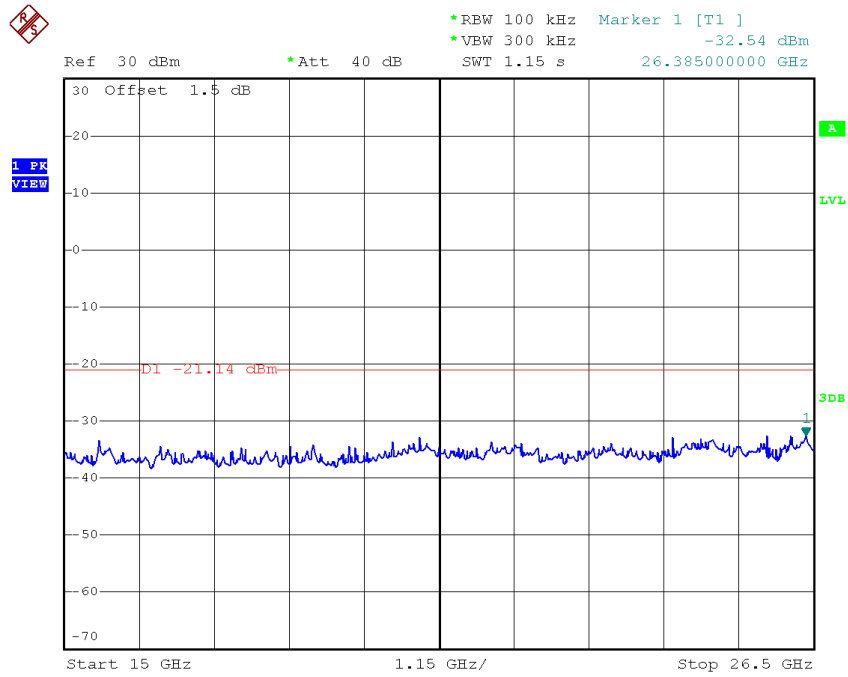


TX HT20 mode CH06 (10 Harmonic of the frequency)



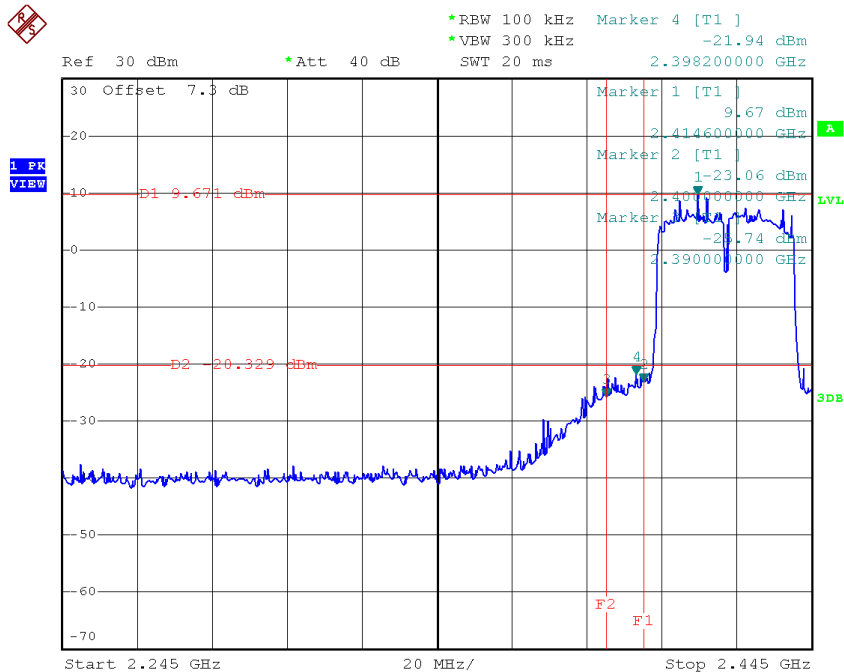




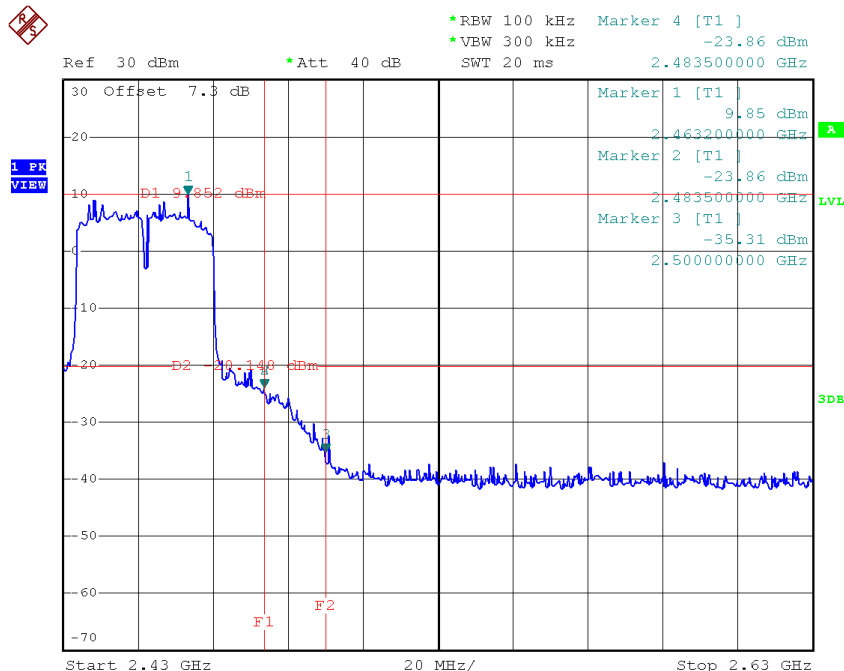


Test Mode : TX N-40M Mode_ANT 1

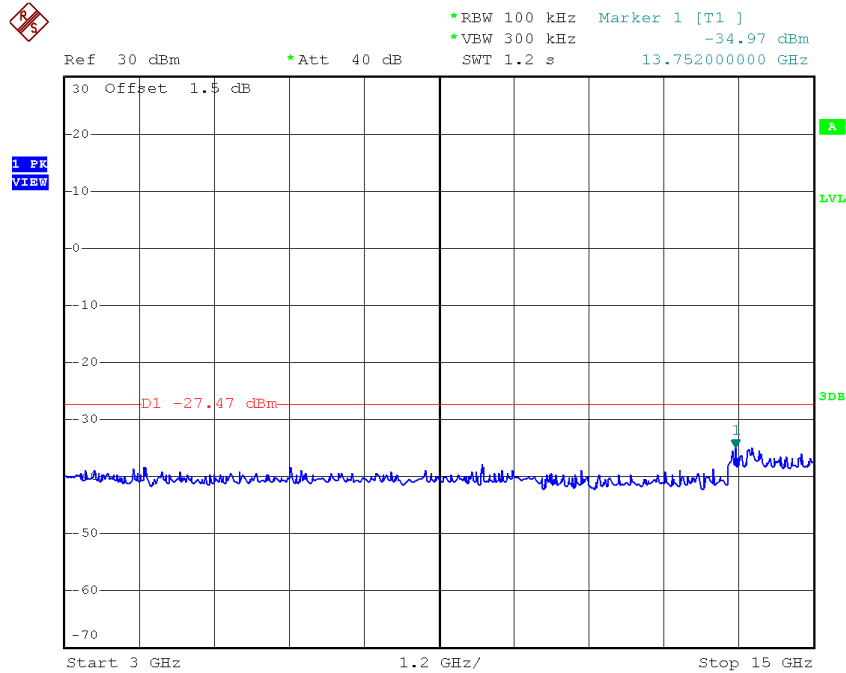
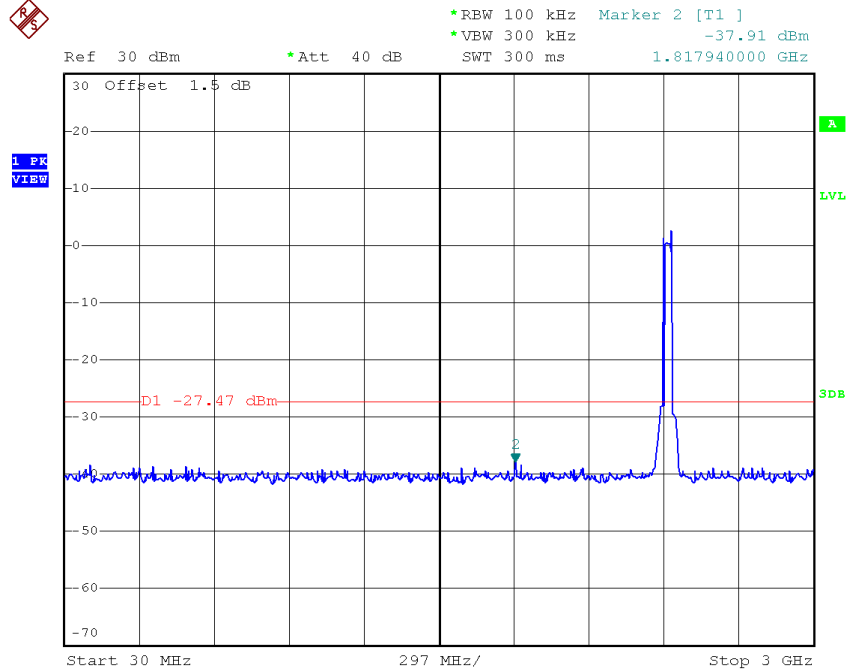
TX HT40 mode CH03

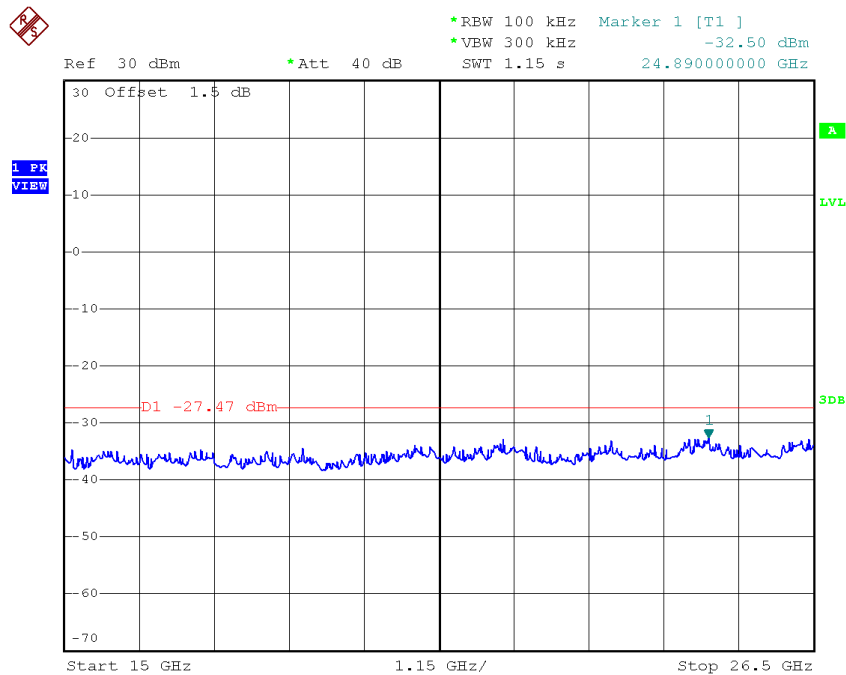


TX HT40 mode CH09

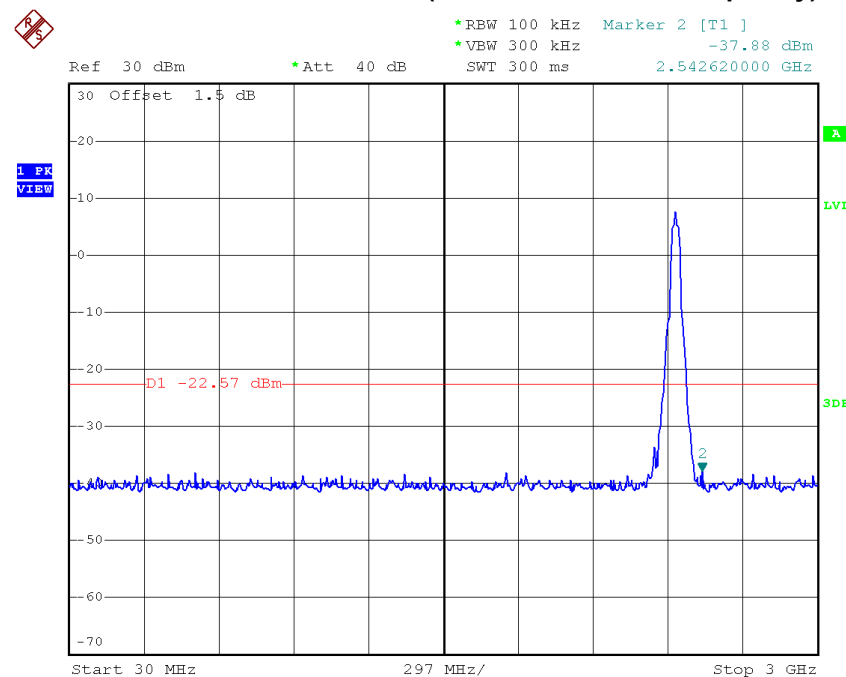


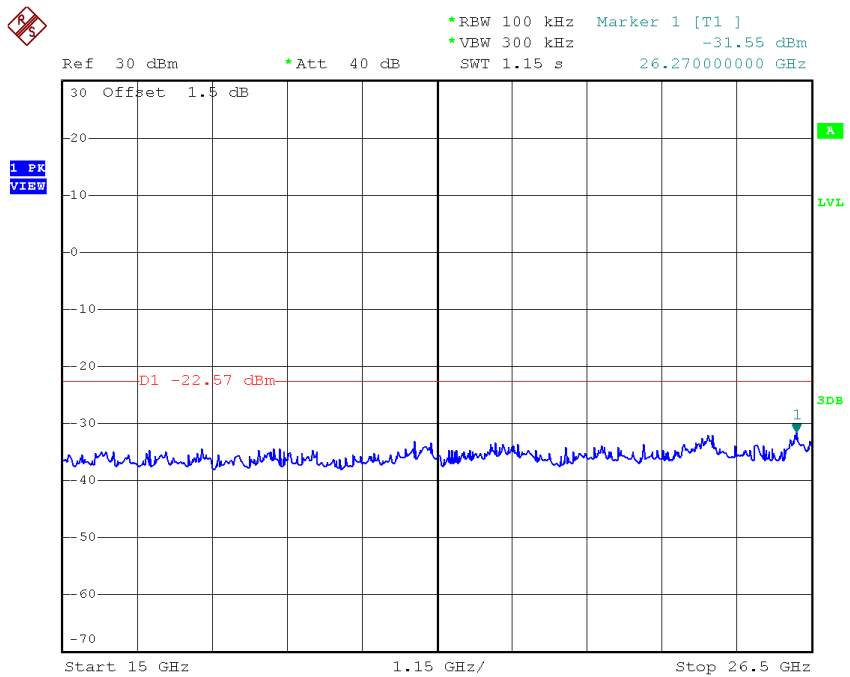
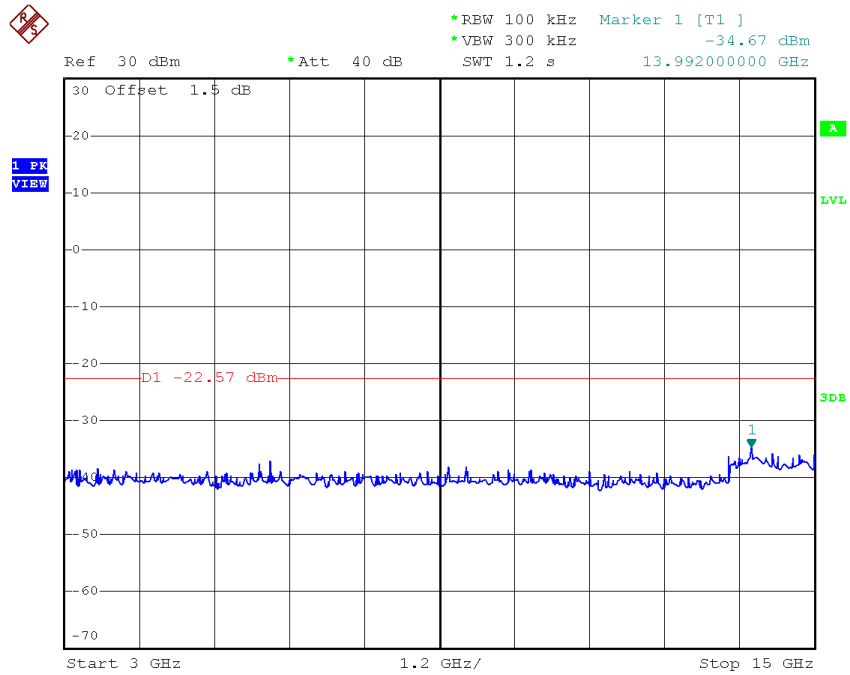
TX HT40 mode CH03 (10 Harmonic of the frequency)



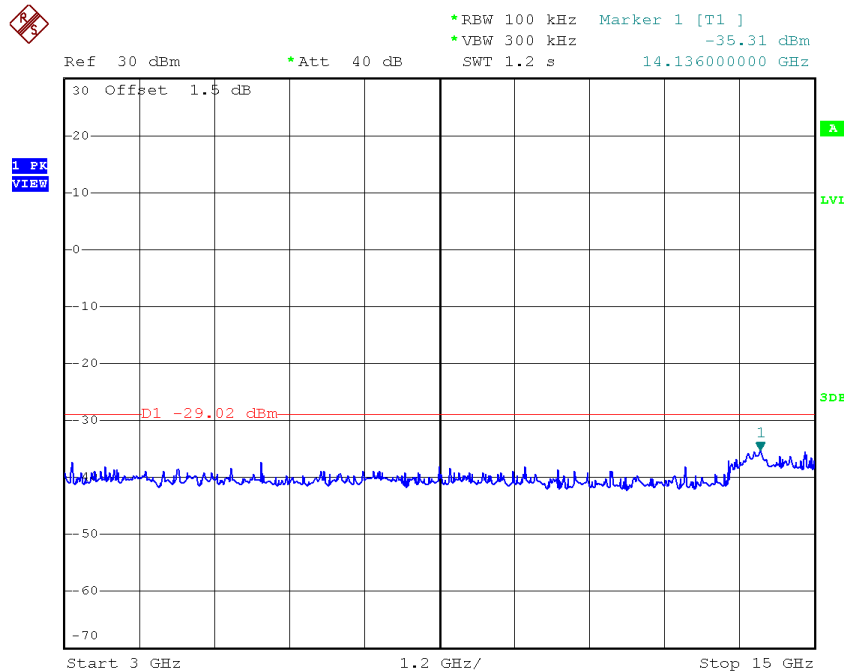
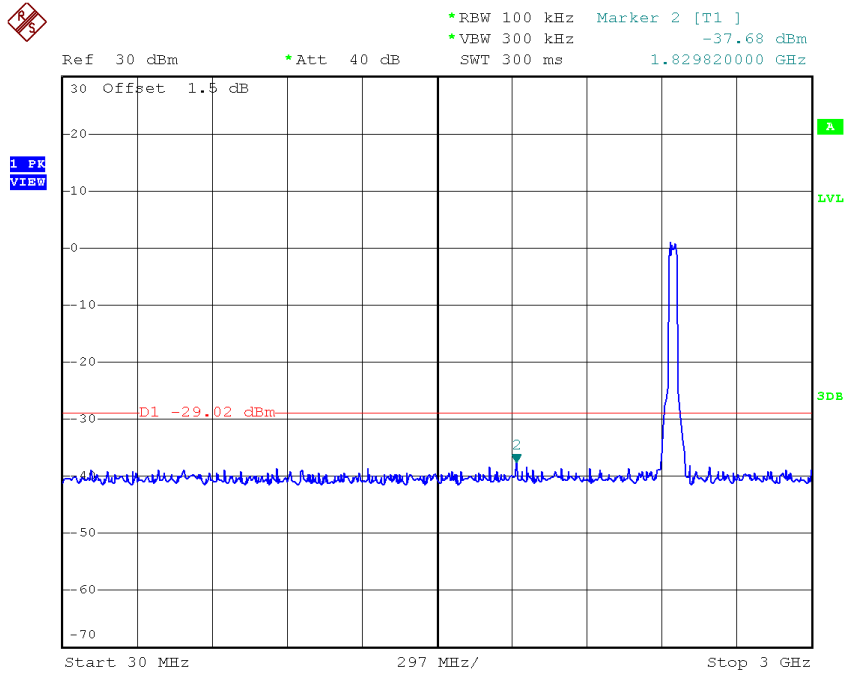


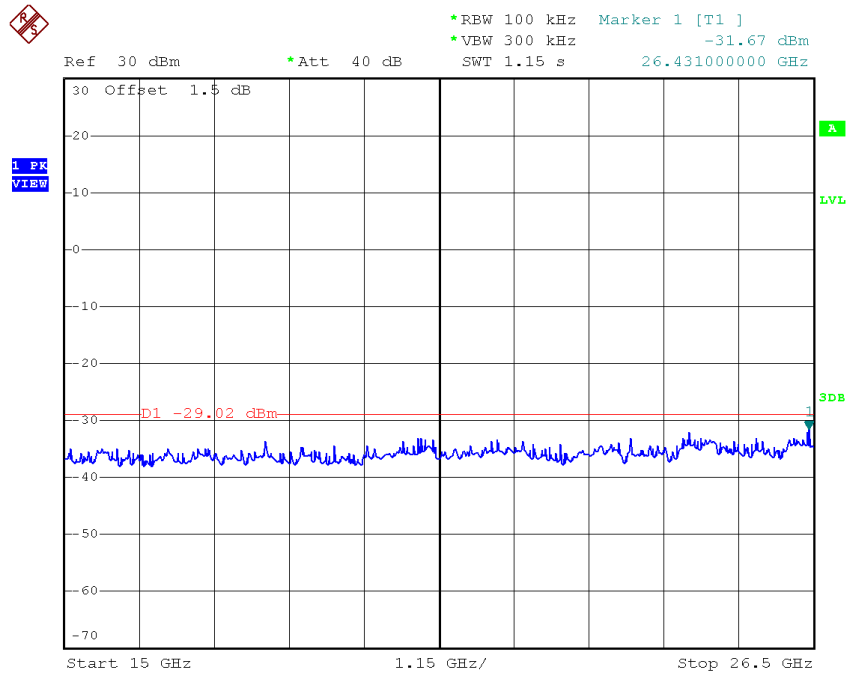
TX HT40 mode CH06 (10 Harmonic of the frequency)





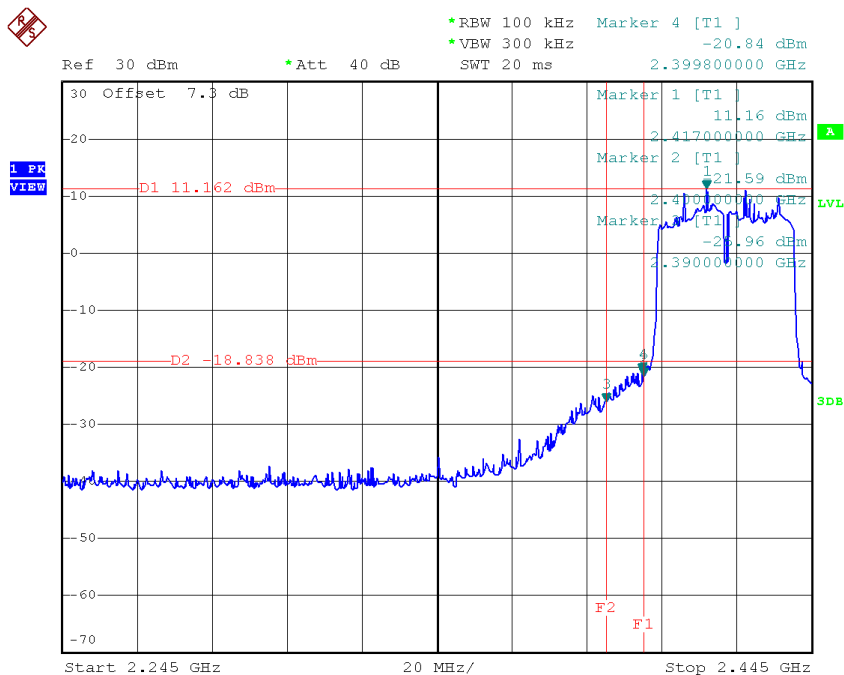
TX HT40 mode CH09 (10 Harmonic of the frequency)



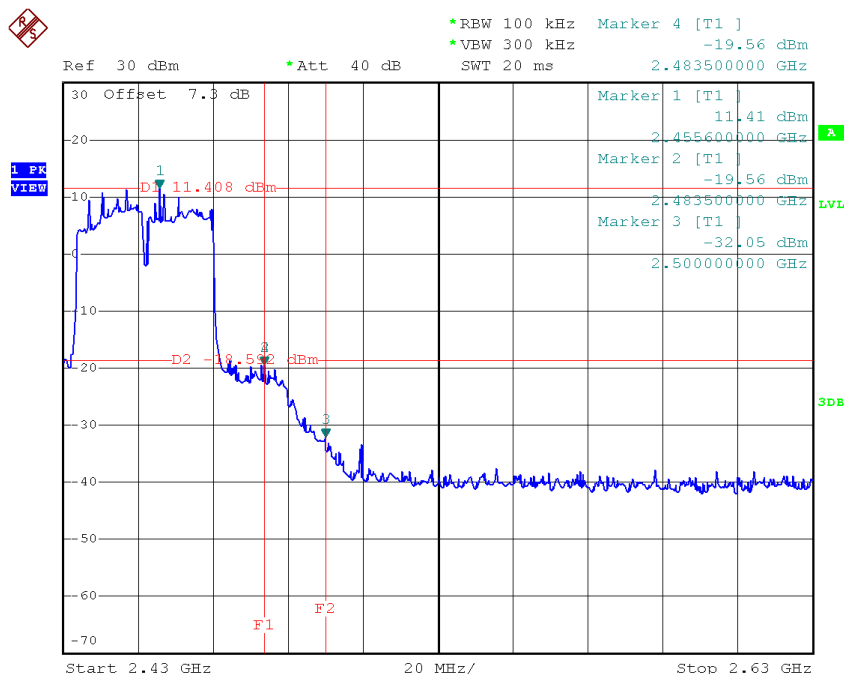


Test Mode : TX N-40M Mode_ANT 2

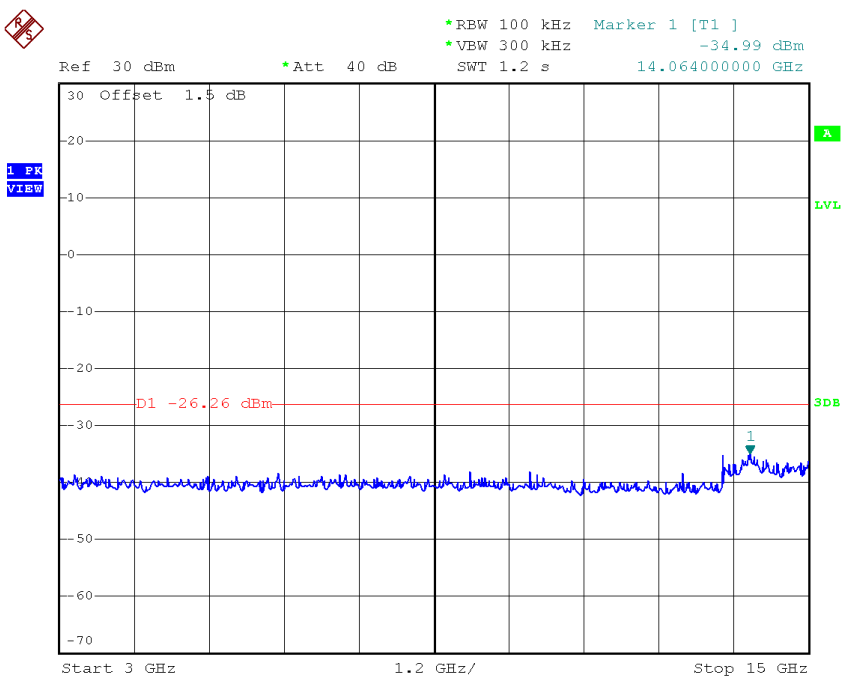
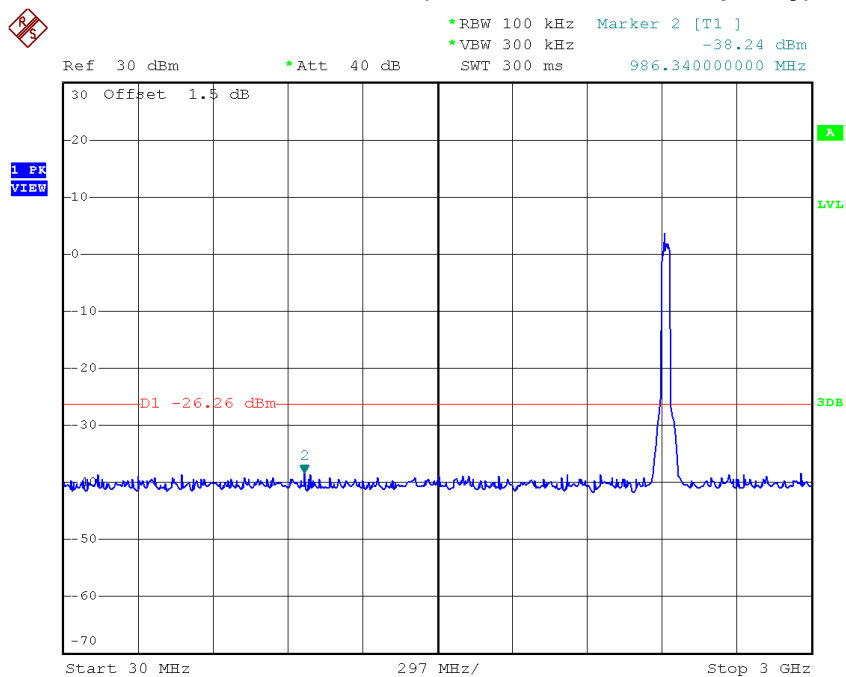
TX HT40 mode CH03

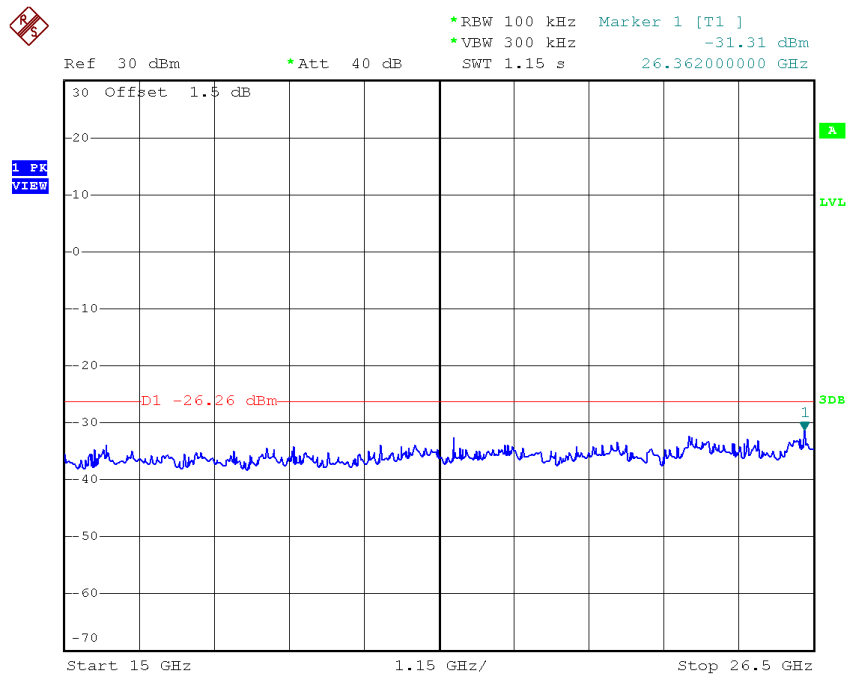


TX HT40 mode CH09

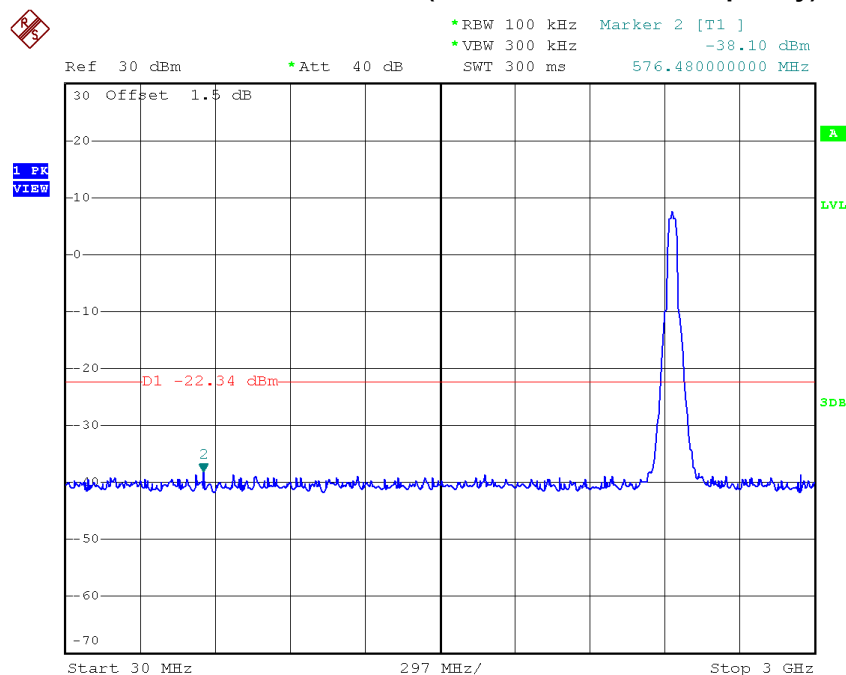


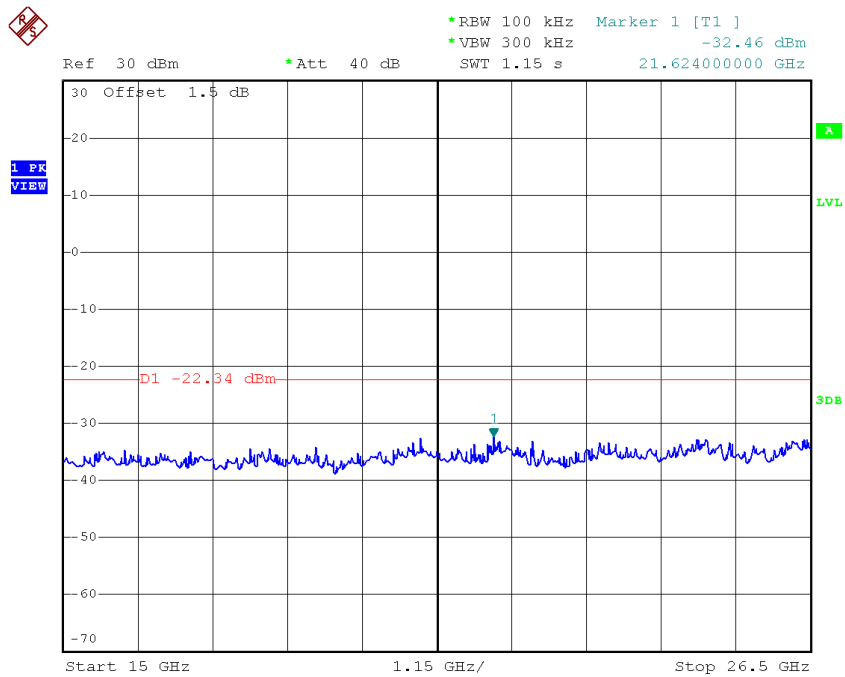
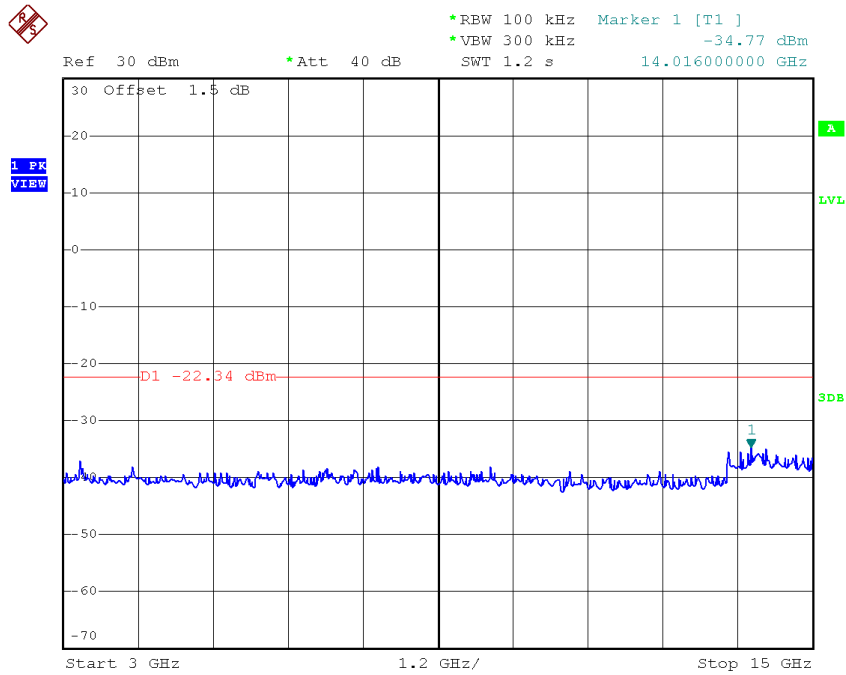
TX HT40 mode CH03 (10 Harmonic of the frequency)



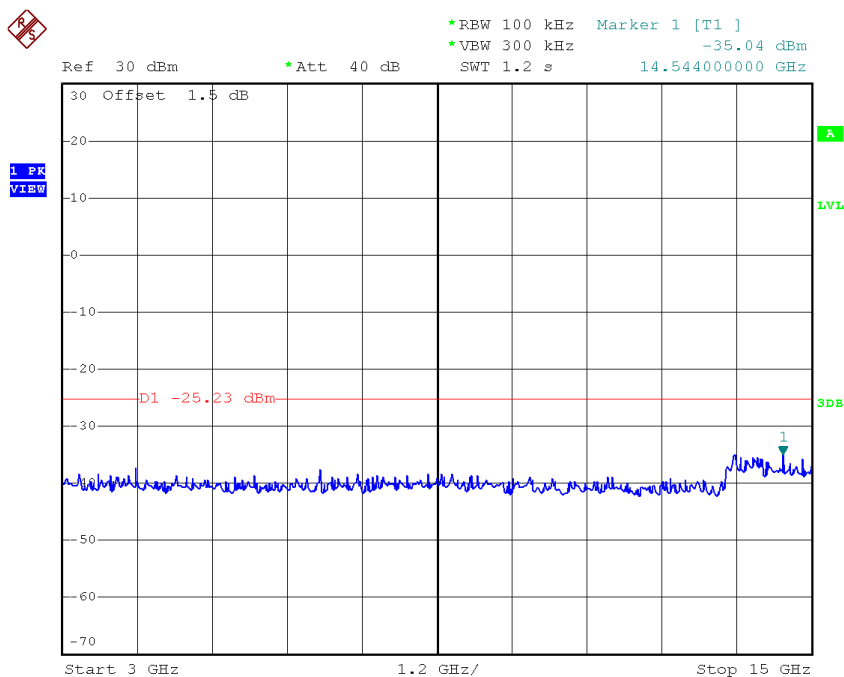
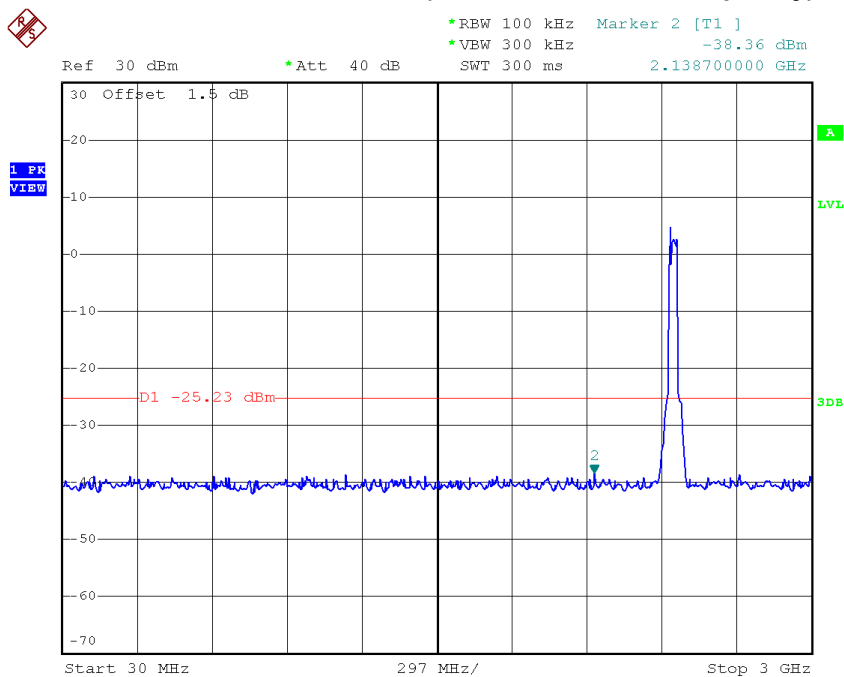


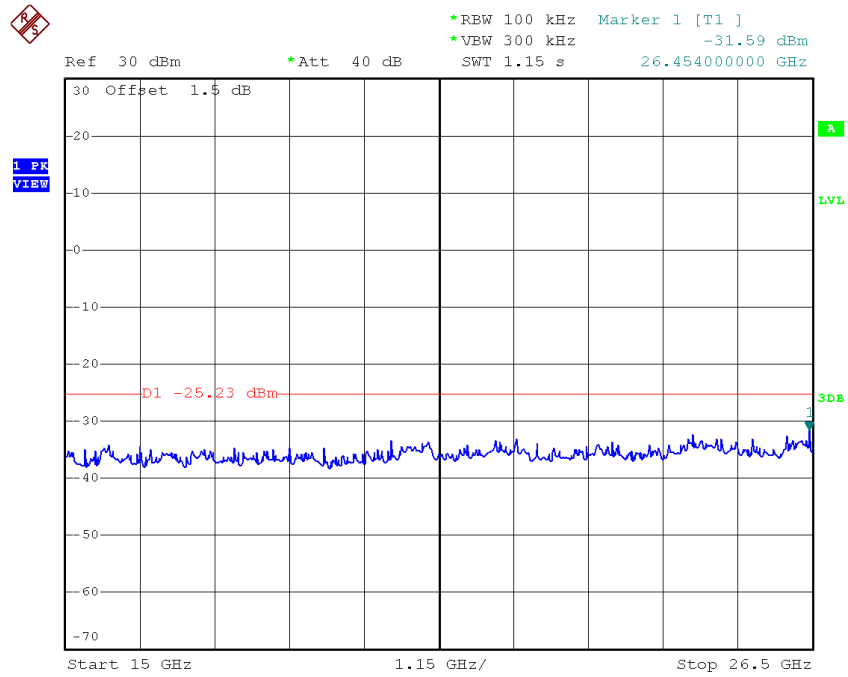
TX HT40 mode CH06 (10 Harmonic of the frequency)





TX HT40 mode CH09 (10 Harmonic of the frequency)

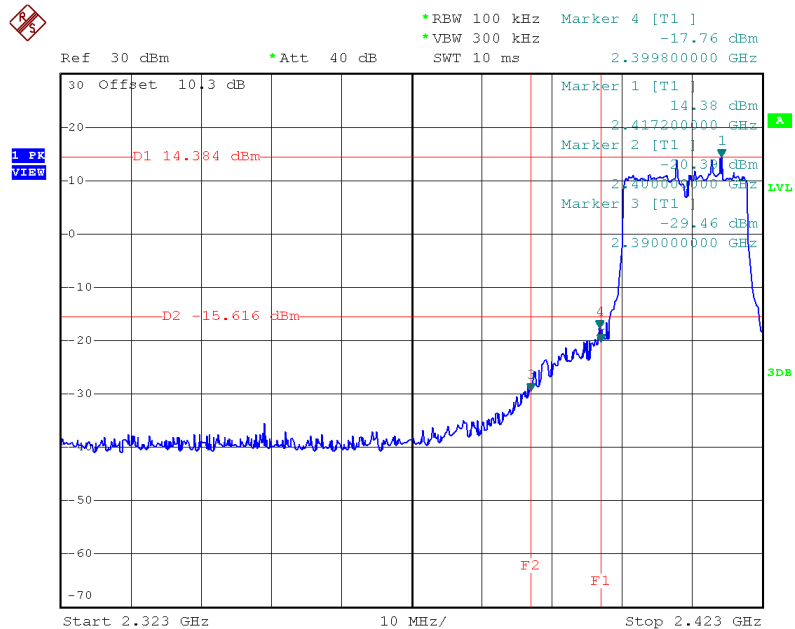




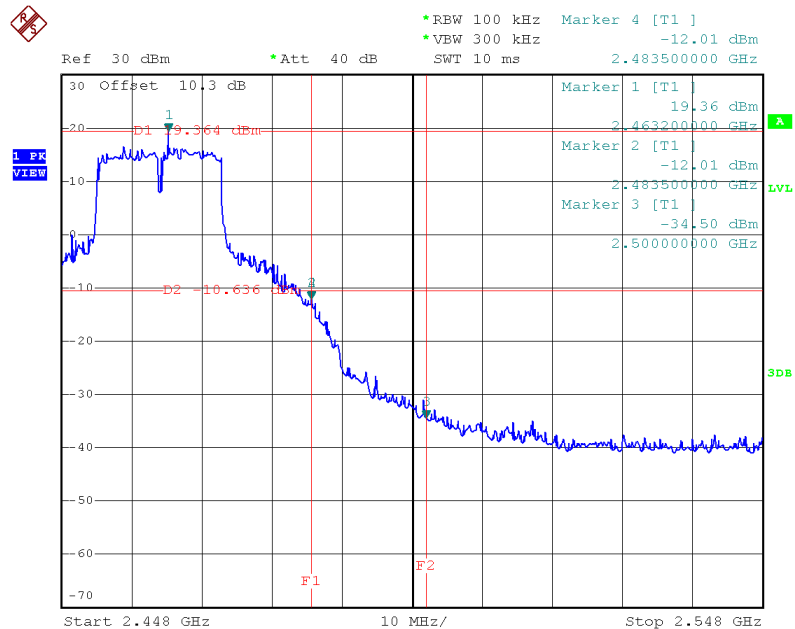
For 2TX Beamforming

Test Mode : TX N-20M Mode_ANT 1

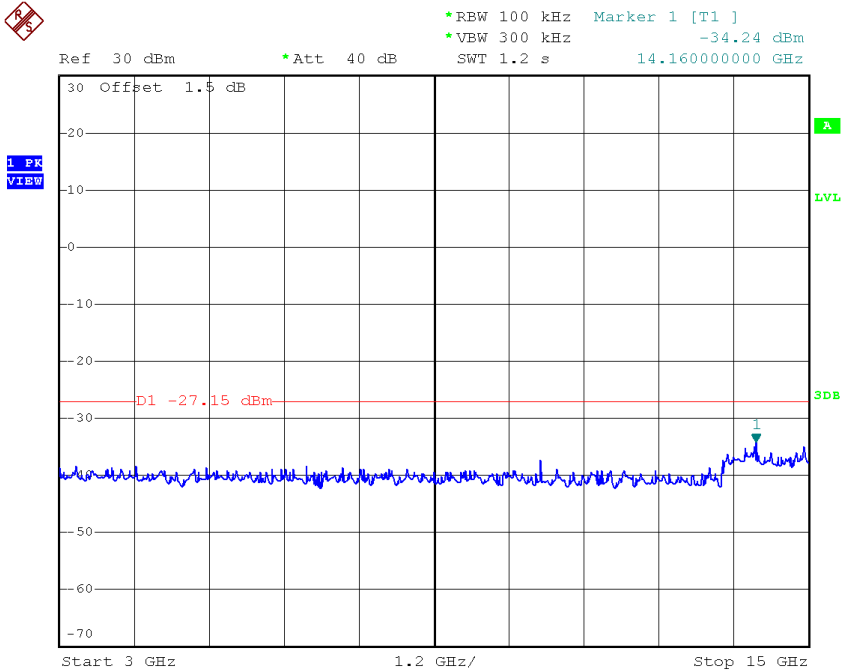
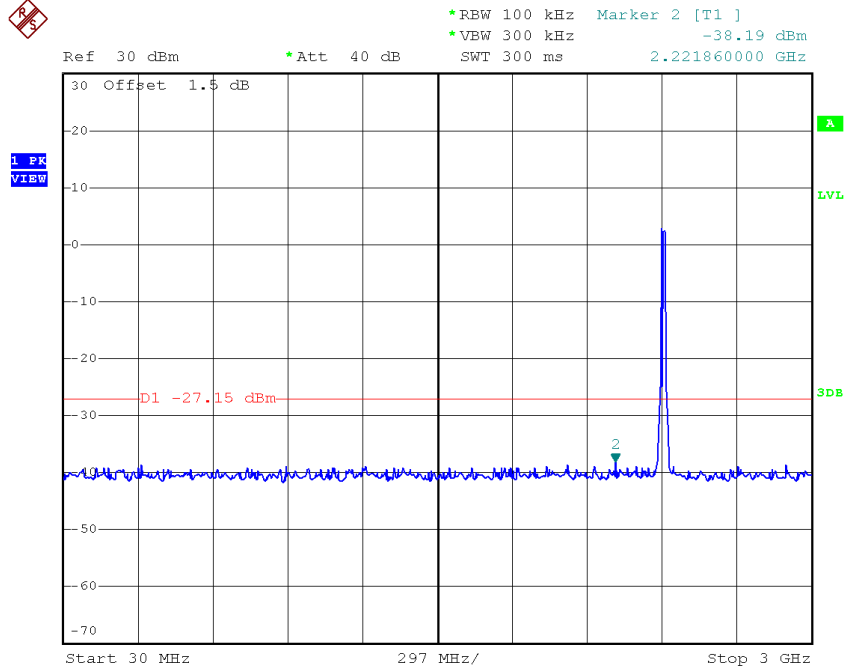
TX HT20 mode CH01

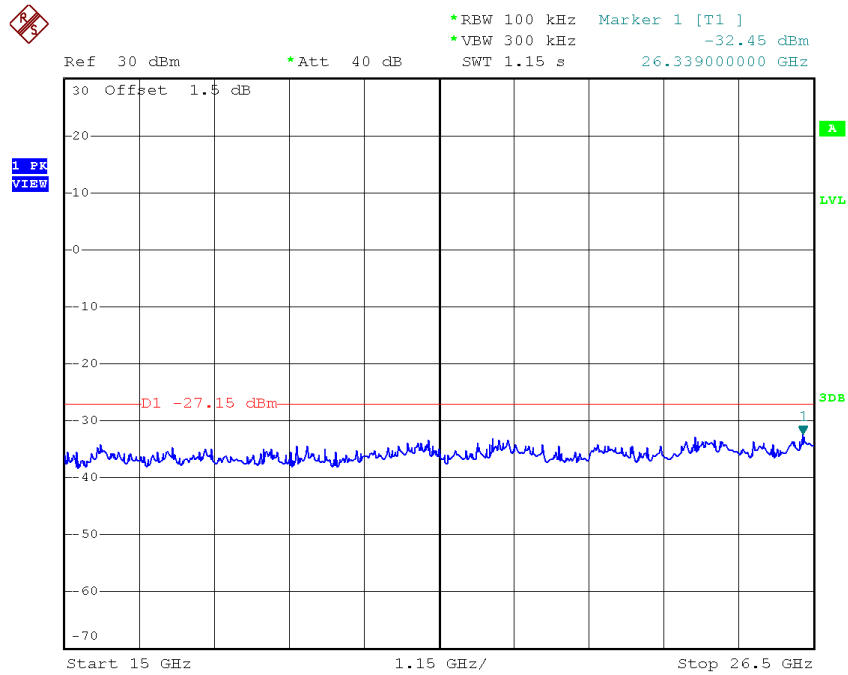


TX HT20 mode CH11



TX HT20 mode CH01 (10 Harmonic of the frequency)





TX HT20 mode CH06 (10 Harmonic of the frequency)

