FCC Radio Test Report

FCC ID: 2ADEN-INTRALOT-GNN2

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

Project No.	:	1712054
Equipment	:	Genion II
Test Model	:	PN223
Series Model	:	PN323, PN224, PN324, PN223XXXXXXXXXXXXXXX, PN323XXXXXXXXXXXXXXX, PN224XXXXXXXXXXXXXXX, PN324XXXXXXXXXXXXXXX(where X may be any alphanumeric character , blank or "-".)
Applicant	:	INTRALOT S.A.
Address	:	64, Kifissias Ave. & 3, Premetis Str. 15125 Athens, Greece

Date of Receipt	:	Jan. 03, 2018
Date of Test	:	Jan. 03, 2018 ~ Jan. 19, 2018
Issued Date	:	Jan. 22, 2018
Tested by	:	BTL Inc.

Testing Engineer : Kenji Lin
(Kenji Lin)

Technical Manager : James Chiu
(James Chiu)

Authorized Signatory : Andy Chiu
(Andy Chiu)

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Testing Laboratory
0659

Declaration

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Limitation

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

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-2-1712054	Original Issue.	Jan. 22, 2018

1. CERTIFICATION

Equipment	:	Genion II
Brand Name	:	INTRALOT
Test Model	:	PN223
Series Model	:	PN323, PN224, PN324, PN223XXXXXXXXXXXXXXX, PN323XXXXXXXXXXXXXXXX, PN224XXXXXXXXXXXXXXXX, PN324XXXXXXXXXXXXXXXX(where X may be any alphanumeric character , blank or “-”.)
Applicant	:	INTRALOT S.A.
Manufacturer	:	Advantech Co., Ltd.
Address	:	No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei, Taiwan 11491, R.O.C.
Date of Test	:	Jan. 03, 2018 ~ Jan. 19, 2018
Test Sample	:	Production Unit
Standard(s)	:	FCC Part15, Subpart C:(15.247) / ANSI C63.10-2013

The above equipment has been tested and found in compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-2-1712054) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

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

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

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

NOTE:

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

2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

Conducted emission Test:

C05: (VCCI RN: C-4742; FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test (Below 1 GHz):

CB15: (FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test (Above 1 GHz):

CB15: (FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

2.2 MEASUREMENT UNCERTAINTY

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

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

A. Conducted emission test:

Test Site	Method	Measurement Frequency Range	U,(dB)
C05	CISPR	150 kHz ~ 30MHz	2.68

B. Radiated emission test:

Test Site	Method	Measurement Frequency Range	U,(dB)
CB15 (3m)	CISPR	9kHz ~ 150kHz	2.82
		150kHz ~ 30MHz	2.58

Test Site	Method	Measurement Frequency Range	Ant.	U,(dB)
CB15 (3m)	CISPR	30MHz ~ 200MHz	V	4.20
		30MHz ~ 200MHz	H	3.64
		200MHz ~ 1,000MHz	V	4.56
		200MHz ~ 1,000MHz	H	3.90

Test Site	Method	Measurement Frequency Range	Ant.	U,(dB)
CB15 (3m)	CISPR	1GHz ~ 6GHz	V	4.46
		1GHz ~ 6GHz	H	4.40
		6GHz ~ 18GHz	V	3.88
		6GHz ~ 18GHz	H	4.00

Test Site	Method	Measurement Frequency Range	U,(dB)
CB15 (1m)	CISPR	18 ~ 26.5 GHz	4.62
		26.5 ~ 40 GHz	5.12

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above.
These are our U_{lab} values in CISPR 16-4-2 terminology.
Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR}, as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB
Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR}.
Note: unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Genion II	
Brand Name	INTRALOT	
Test Model	PN223	
Series Model	PN323, PN224, PN324, PN223XXXXXXXXXXXXXXX, PN323XXXXXXXXXXXXXXX, PN224XXXXXXXXXXXXXXX, PN324XXXXXXXXXXXXXXX(where X may be any alphanumeric character , blank or "-".)	
Model Difference	The market distribution is different only.	
Output Power (Max.)	Operation Frequency	2412~2462 MHz
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 150 Mbps
	Output Power (Max.)	802.11b: 15.63dBm 802.11g: 20.69dBm 802.11n(20MHz): 19.36dBm 802.11n(40MHz): 19.23dBm
Power Source	DC Voltage supplied from AC/DC adapter.	
Power Rating	I/P: AC 100-240V~, 0.8A, 50-60Hz O/P: DC 12.0V⎓2.08A MAX	
Products Covered	1* Mother board: Advantech /A101-1 1* Power Supply(adapter): FSP / FSP025-DHAN2 1* Smart IC card reader: SYSKING / DIC202-11U 1* RFID module: GIGA-TMS / MP30U-00 1* Touch panel: Acute Touch / AT4-17070-003 1* 2D scanner: Honeywell / 5180SF-1213A0R 1* 4G SD card: Transcend / TS4GSDHC10 1* 16G SD card: Apacer / AP-ISD016GCA-1HTM 1* 2.4GHz wifi: QCOM / LR802UKN3 1* 5GHz wifi: FANGTEC / F-5M02-50-2.0-4-CT	

Note:

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

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

3. Table for Filed Antenna

Ant.	Brand	Test Model	Antenna Type	Connector	Gain (dBi)
1	An jie	AJDP1J-C0022	PIFA	I-PEX_I	5.5

3.2 DESCRIPTION OF TEST MODES

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

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

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_WIFI

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

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.

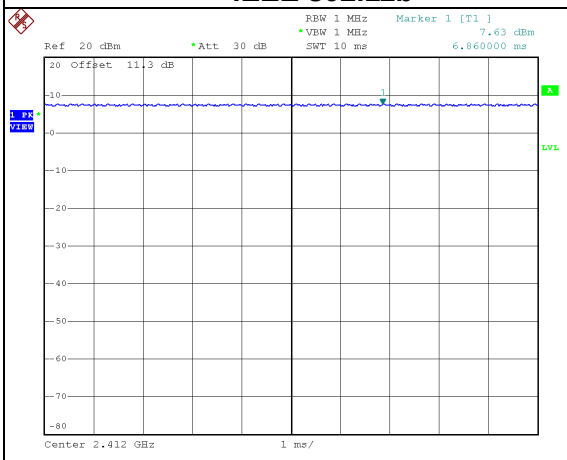
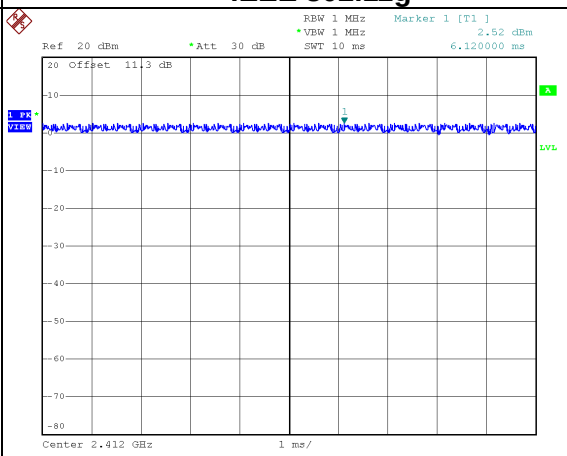
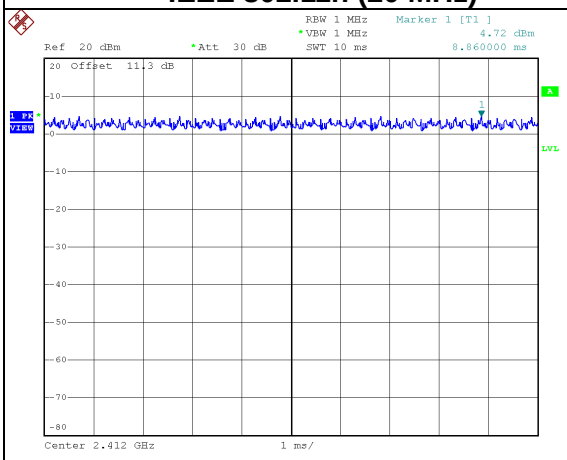
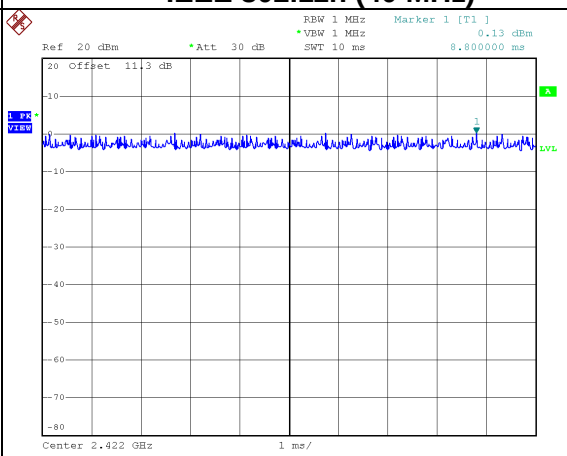
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN

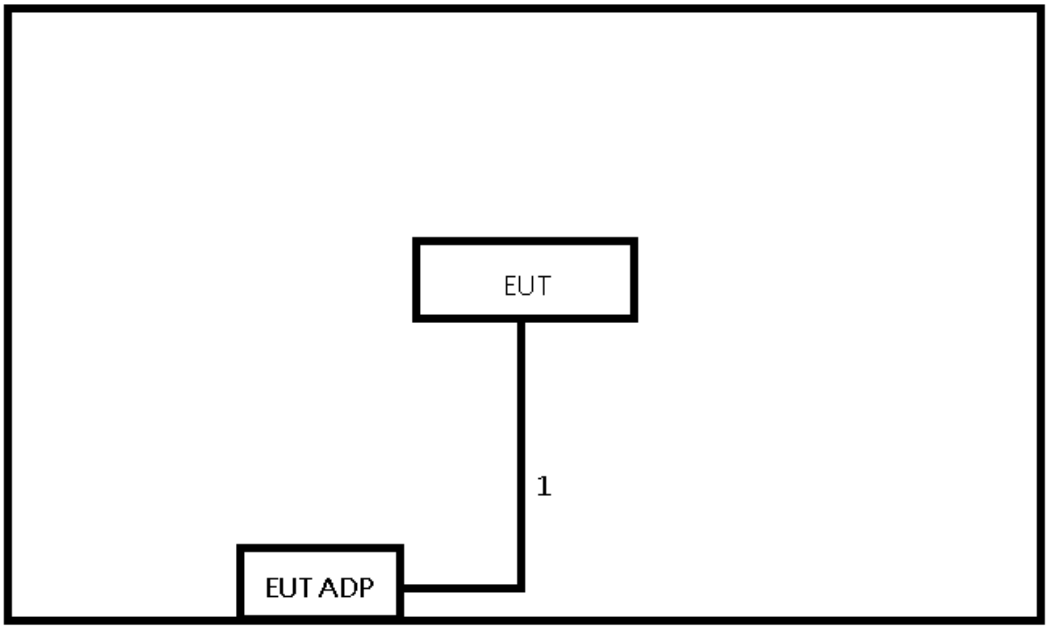
Test software version	PUTTY		
Frequency (MHz)	2412	2437	2462
802.11b	41	36	30
802.11g	53	53	53
802.11n (20MHz)	49	49	49
Frequency	2422	2437	2452
802.11n (40MHz)	51	51	50

3.2 DUTY CYCLE

If duty cycle is ≥ 98 %, duty factor is not required.
If duty cycle is < 98 %, duty factor shall be considered.

IEEE 802.11b	IEEE 802.11g
	
Duty cycle = 100 % Duty Factor = 10 * log(1 / 1) = 0	Duty cycle = 100 % Duty Factor = 10 * log(1 / 1) = 0
IEEE 802.11n (20 MHz)	**IEEE 802.11n (40 MHz)**
	
Duty cycle = 100 % Duty Factor = 10 * log(1 / 1) = 0	Duty cycle = 100 % Duty Factor = 10 * log(1 / 1) = 0

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 DESCRIPTION OF SUPPORT UNITS

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

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

Item	Shielded Type	Ferrite Core	Length	Note
1	YES	NO	1.5m	Power Cable

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 -0.50	66 to 56*	56 to 46*
0.50 -5.0	56	46
5.0 -30.0	60	50

Note:

(1) The limit of " * " decreases with the logarithm of the frequency

(2) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
Margin Level = Measurement Value - Limit Value

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

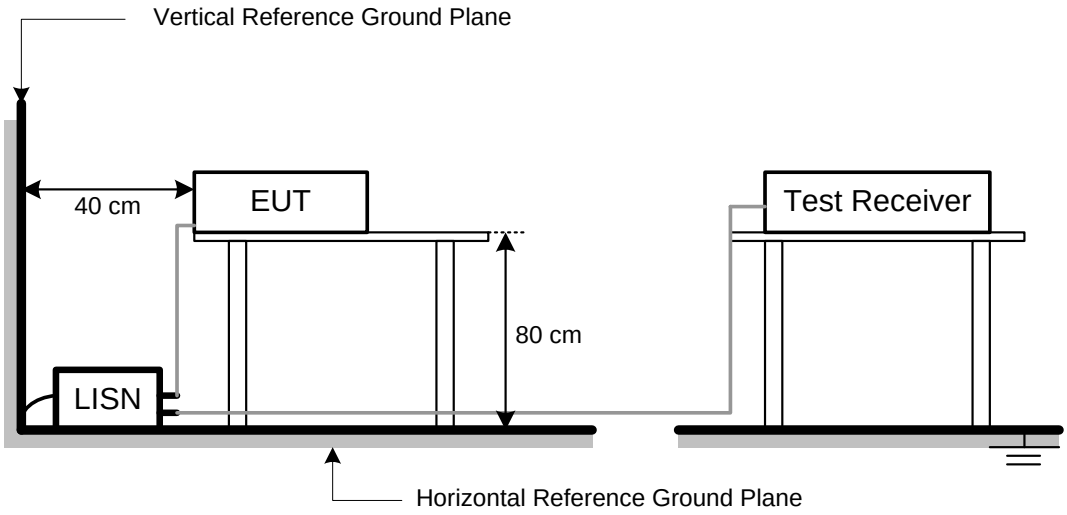
4.1.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



4.1.5 EUT OPERATING CONDITIONS

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

4.1.6 EUT TEST CONDITIONS

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

4.1.7 TEST RESULTS

Please refer to the Appendix A.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

Notes:

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

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

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

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

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

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

4.2.2 TEST PROCEDURE

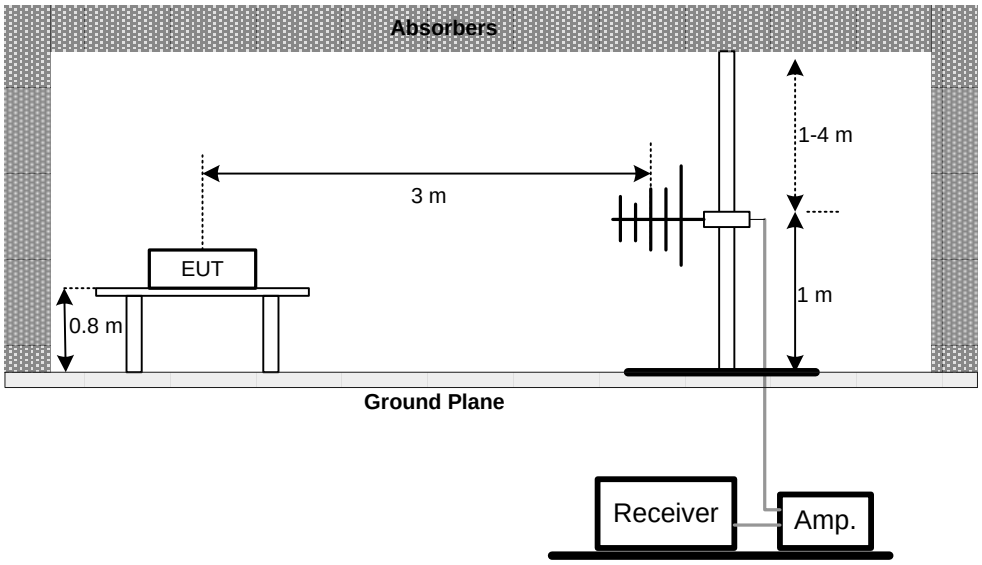
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1GHz)
i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

No deviation

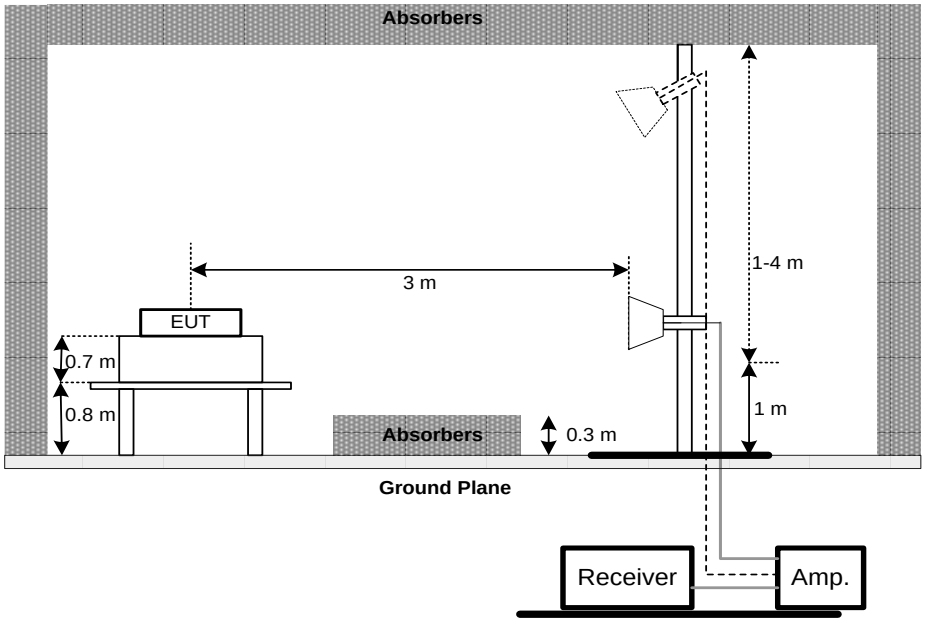
4.2.4 TEST SETUP

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

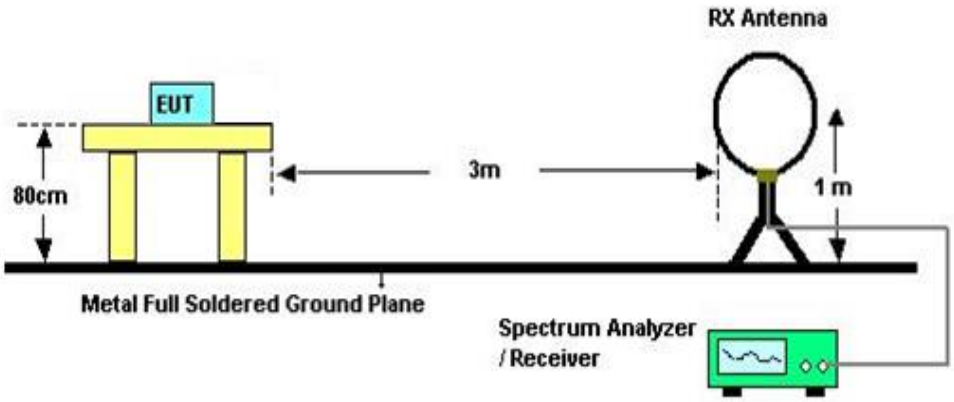


(B) Radiated Emission Test Set-Up Frequency Above 1 GHz

Band edge



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

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

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Appendix B

Remark:

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

4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Appendix C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Appendix D.

Remark:

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

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

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

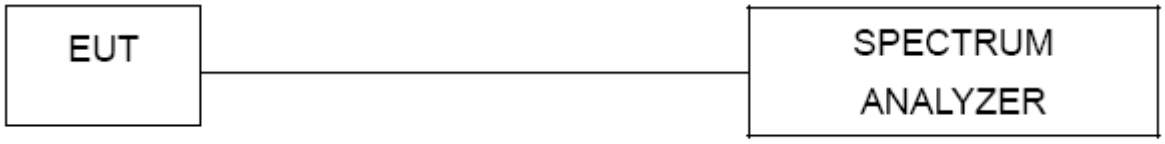
5.1.1 TEST PROCEDURE

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

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.1.5 EUT TEST CONDITIONS

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

5.1.6 TEST RESULTS

Please refer to the Appendix E.

6. MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

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

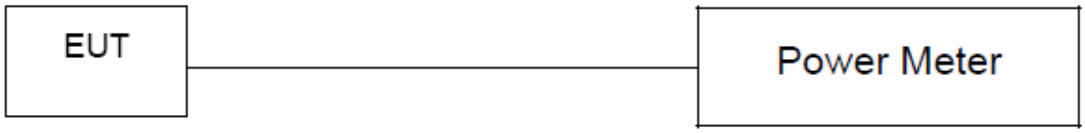
6.1.1 TEST PROCEDURE

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

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5 EUT TEST CONDITIONS

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

6.1.6 TEST RESULTS

Please refer to the Appendix F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

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

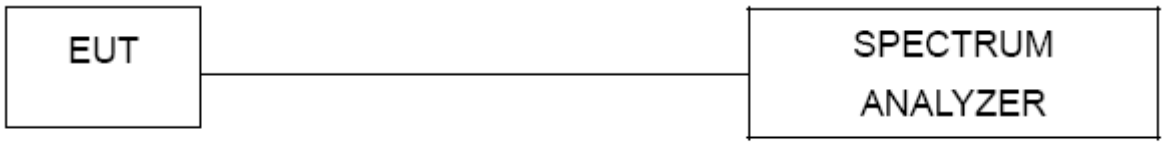
7.1.1 TEST PROCEDURE

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.
c. Offset=antenna gain+cable loss

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.1.5 EUT TEST CONDITIONS

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

7.1.6 TEST RESULTS

Please refer to the Appendix G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

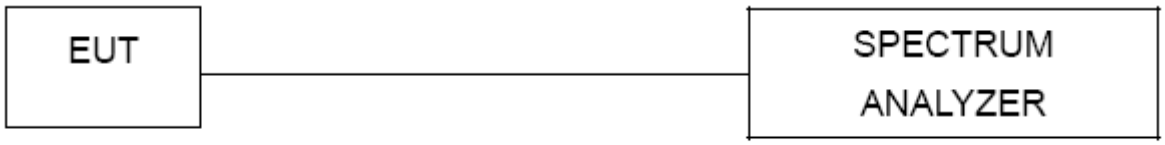
8.1.1 TEST PROCEDURE

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

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.1.5 EUT TEST CONDITIONS

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

8.1.6 TEST RESULTS

Please refer to the Appendix H.

9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Jan. 25, 2018
2	Test Cable	TIMES	CFD300-NL	C02	Jun. 14, 2018
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 08, 2018
4	Measurement Software	EZ	EZ_EMC (Version NB-03A)	N/A	N/A

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	Feb. 28, 2018
2	Preamplifier	EMCI	EMC02325	980217	Dec. 28, 2018
3	Preamplifier	EMCI	EMC2654045	980030	Feb. 14, 2018
4	Test Cable	EMCI	EMC104-SM-SM-8000	8m	Jan. 03, 2019
5	Test Cable	EMCI	EMC104-SM-SM-800	150207	Jan. 03, 2019
6	Test Cable	EMCI	EEMC104-SM-SM-3000	151205	Jan. 03, 2019
7	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 08, 2019
8	Signal Analyzer	Agilent	N9010A	MY52220990	Feb. 22, 2018
9	Loop Ant	EMCO	6502	42960	Nov. 23, 2018
10	Loop Ant	EMCI	LPA600	274	May 04, 2018
11	Horm Ant	Schwarzbeck	BBHA 9170	187	Dec. 06, 2018
12	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	Jan. 16, 2018
13	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0623	Jan. 16, 2018

6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854	May 25, 2018

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854	May 25, 2018
2	Power Meter	Anritsu	ML2495A	1128008	Aug. 16, 2018
3	Power Sensor	Anritsu	MA2411B	1126001	Aug. 16, 2018

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854	May 25, 2018

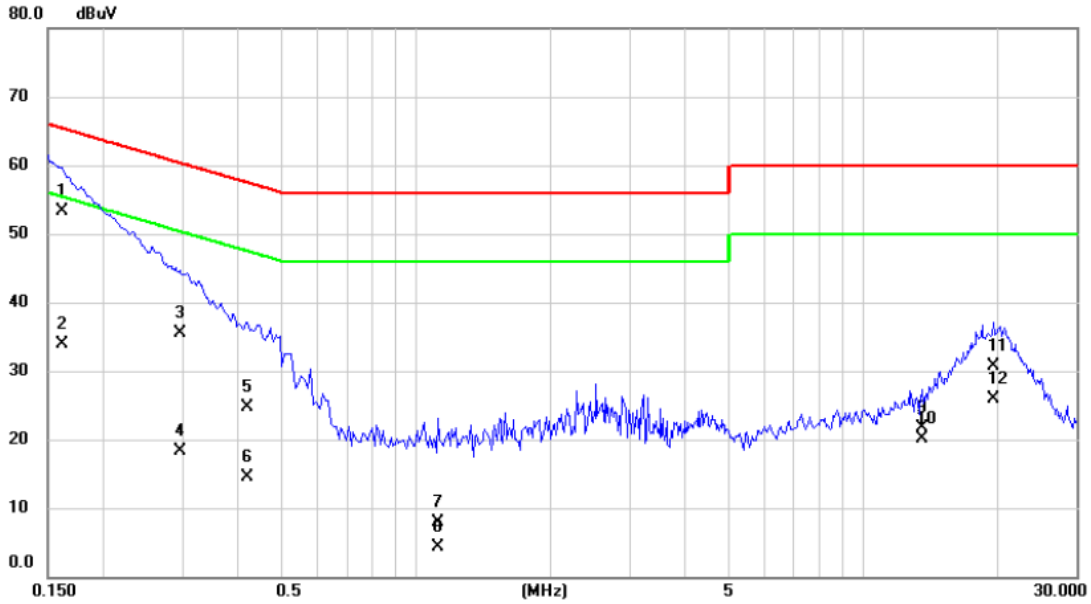
Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854	May 25, 2018

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

APPENDIX A - CONDUCTED EMISSION

Test Mode :	TX_WIFI

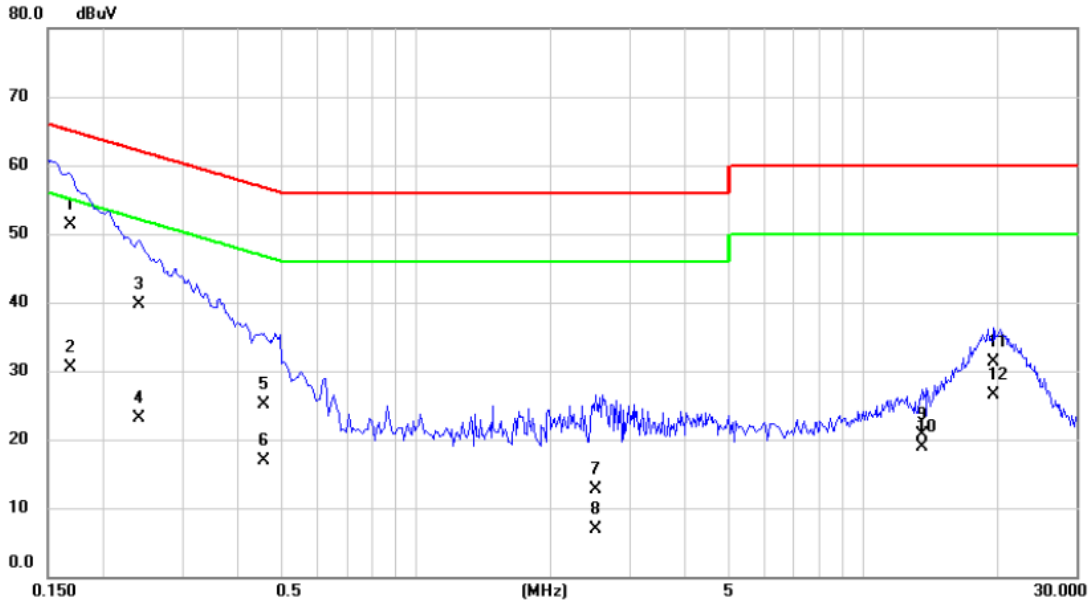
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1620	43.60	9.73	53.33	65.36	-12.03	QP	
2		0.1620	24.20	9.73	33.93	55.36	-21.43	AVG	
3		0.2963	25.70	9.74	35.44	60.35	-24.91	QP	
4		0.2963	8.50	9.74	18.24	50.35	-32.11	AVG	
5		0.4188	14.90	9.74	24.64	57.47	-32.83	QP	
6		0.4188	4.70	9.74	14.44	47.47	-33.03	AVG	
7		1.1210	-1.90	9.74	7.84	56.00	-48.16	QP	
8		1.1210	-5.50	9.74	4.24	46.00	-41.76	AVG	
9		13.5500	11.70	9.98	21.68	60.00	-38.32	QP	
10		13.5500	10.10	9.98	20.08	50.00	-29.92	AVG	
11		19.6000	20.80	9.98	30.78	60.00	-29.22	QP	
12		19.6000	15.90	9.98	25.88	50.00	-24.12	AVG	

Test Mode :	TX_WIFI

Neutral

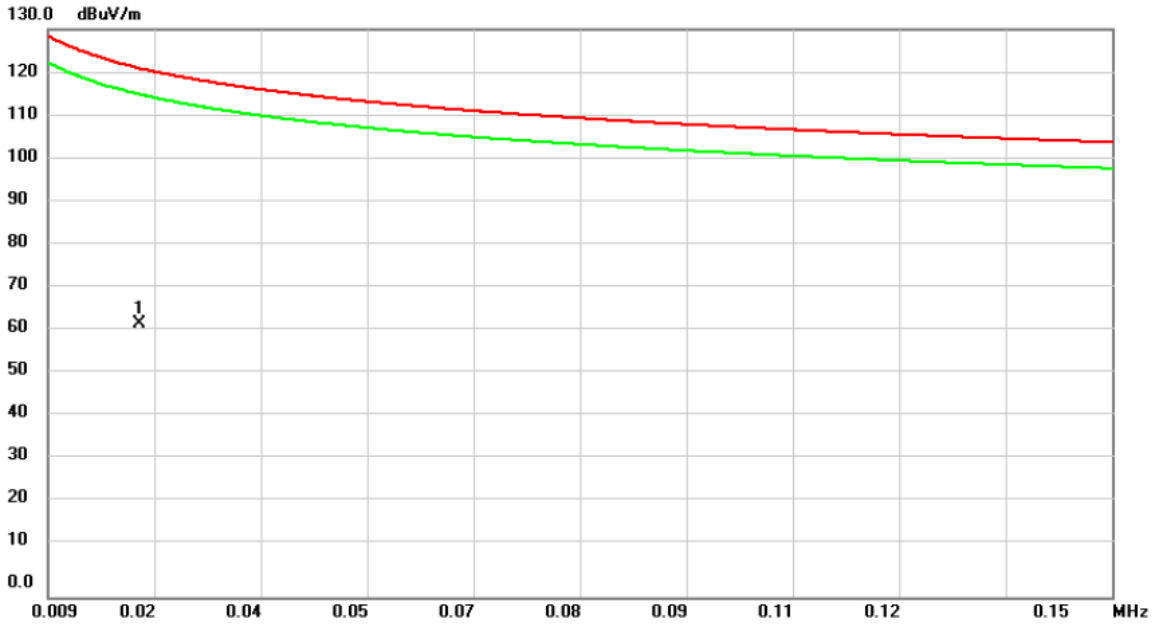


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1682	41.60	9.65	51.25	65.05	-13.80	QP	
2		0.1682	20.90	9.65	30.55	55.05	-24.50	AVG	
3		0.2403	30.10	9.66	39.76	62.09	-22.33	QP	
4		0.2403	13.50	9.66	23.16	52.09	-28.93	AVG	
5		0.4566	15.40	9.68	25.08	56.75	-31.67	QP	
6		0.4566	7.20	9.68	16.88	46.75	-29.87	AVG	
7		2.5250	3.00	9.73	12.73	56.00	-43.27	QP	
8		2.5250	-2.90	9.73	6.83	46.00	-39.17	AVG	
9		13.5500	10.80	9.98	20.78	60.00	-39.22	QP	
10		13.5500	9.00	9.98	18.98	50.00	-31.02	AVG	
11		19.6000	21.20	10.02	31.22	60.00	-28.78	QP	
12		19.6000	16.40	10.02	26.42	50.00	-23.58	AVG	

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

Test Mode:	TX B MODE 2462MHz

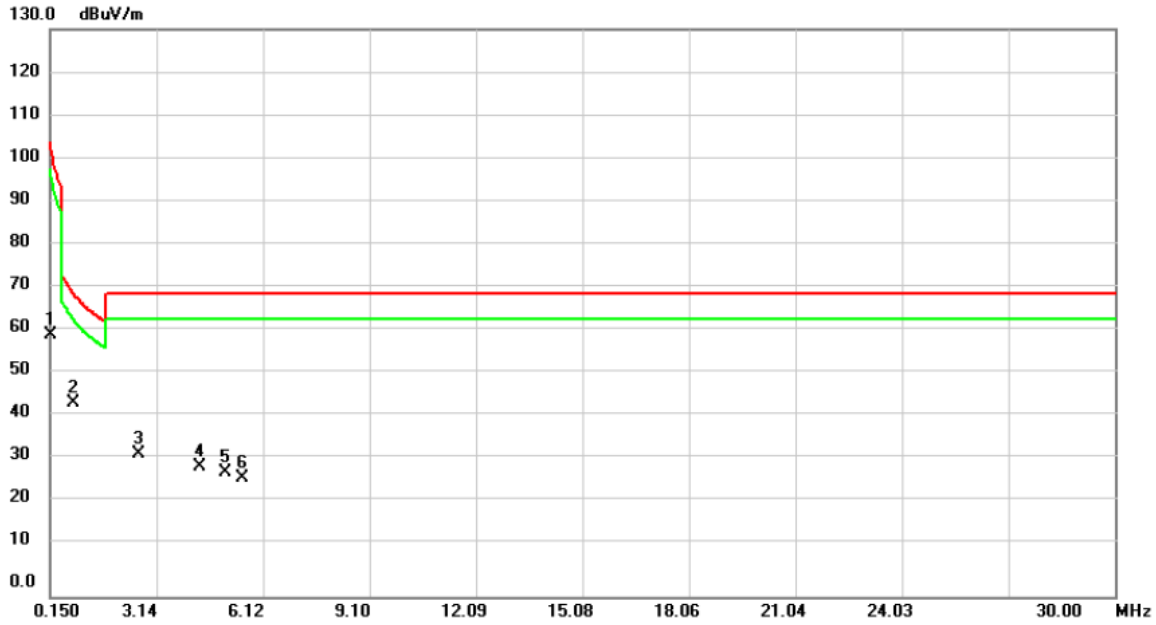
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0212	45.16	17.42	62.58	121.08	-58.50	peak	

Test Mode:	TX B MODE 2462MHz

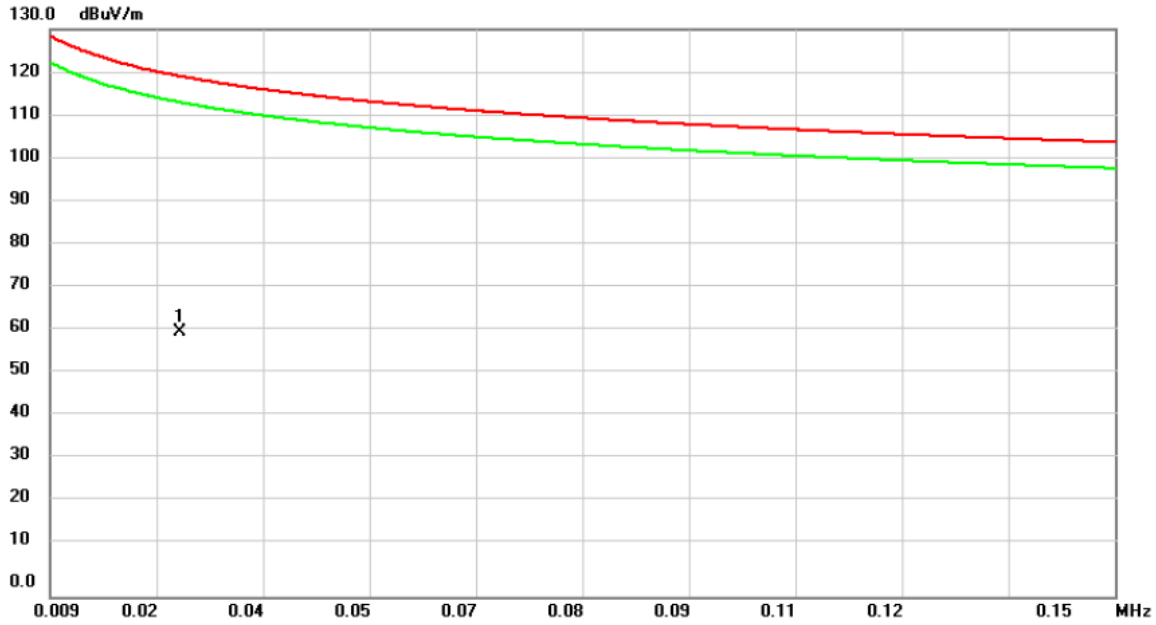
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	47.93	12.03	59.96	104.08	-44.12	peak	
2	*	0.8064	32.31	11.92	44.23	69.47	-25.24	peak	
3		2.6274	21.29	11.27	32.56	69.54	-36.98	peak	
4		4.3290	18.38	11.30	29.68	69.54	-39.86	peak	
5		5.0750	16.98	11.40	28.38	69.54	-41.16	peak	
6		5.5230	15.90	11.39	27.29	69.54	-42.25	peak	

Test Mode:	TX B MODE 2462MHz

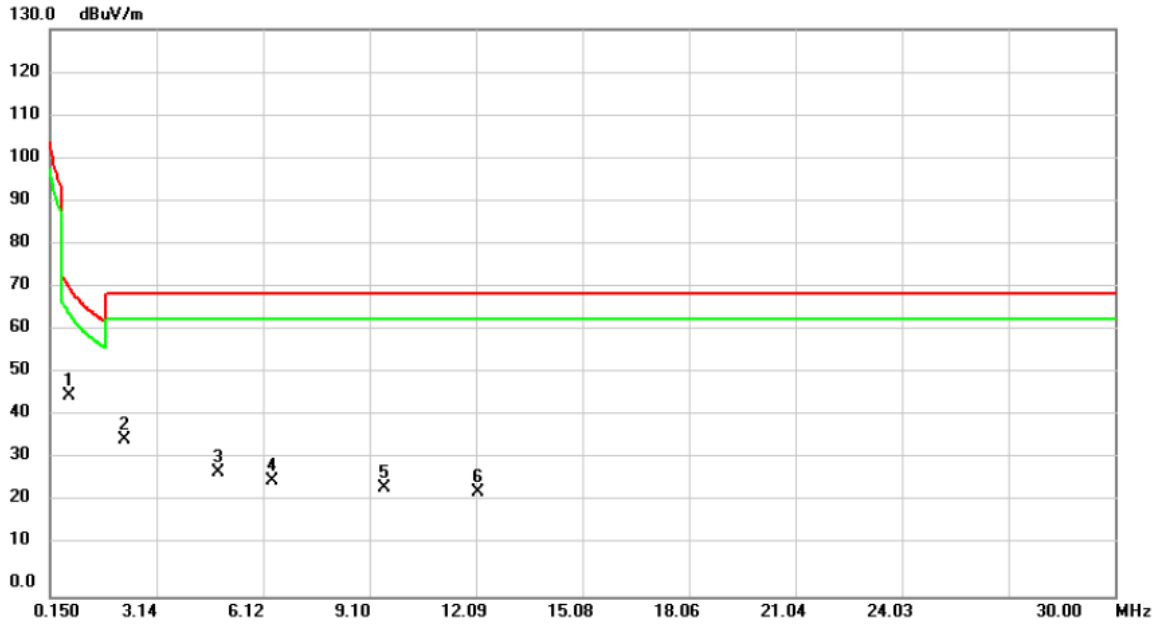
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0262	44.44	16.04	60.48	119.24	-58.76	peak	

Test Mode:	TX B MODE 2462MHz

Ant 90°

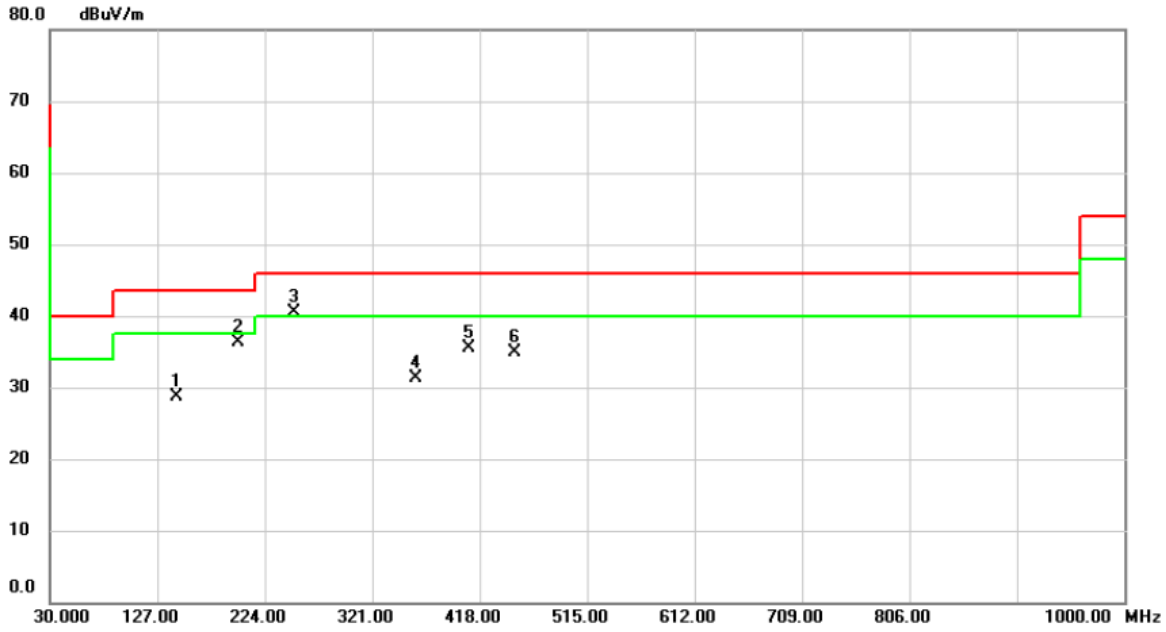


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.6873	34.17	11.87	46.04	70.86	-24.82	peak	
2		2.2395	24.62	11.44	36.06	69.54	-33.48	peak	
3		4.8662	16.94	11.38	28.32	69.54	-41.22	peak	
4		6.3887	15.28	11.37	26.65	69.54	-42.89	peak	
5		9.5228	13.44	11.31	24.75	69.54	-44.79	peak	
6		12.1493	12.61	11.24	23.85	69.54	-45.69	peak	

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

Test Mode:	TX B MODE 2462MHz

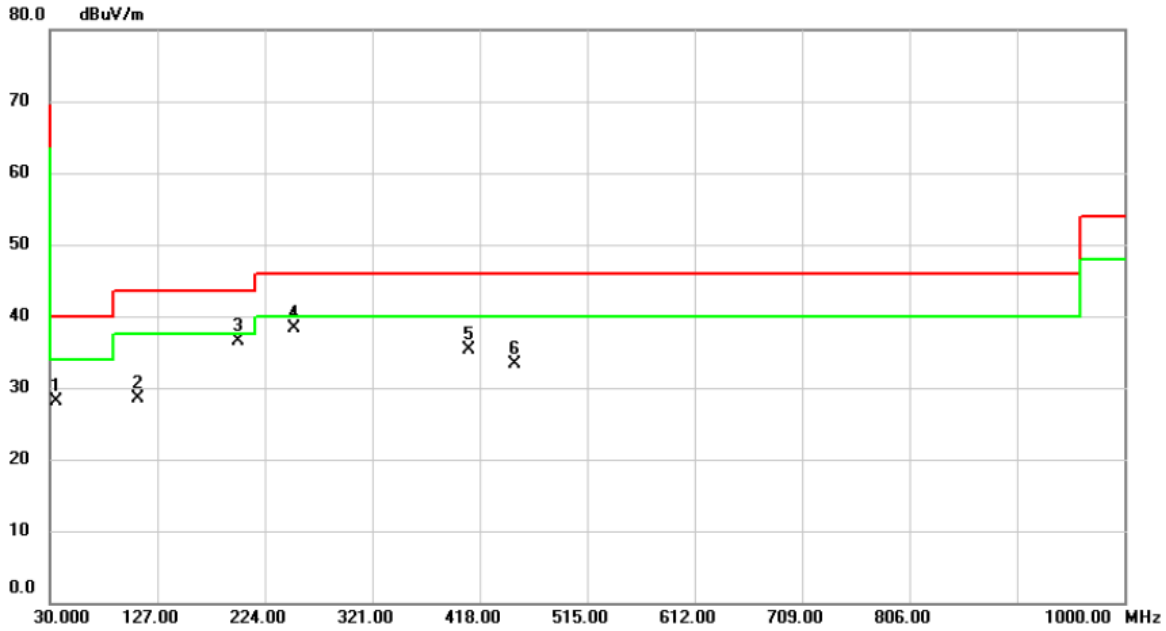
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		144.4600	37.79	-9.07	28.72	43.50	-14.78	peak	
2		199.7500	46.94	-10.64	36.30	43.50	-7.20	peak	
3	*	250.1900	49.61	-9.07	40.54	46.00	-5.46	peak	
4		359.8000	37.35	-5.98	31.37	46.00	-14.63	peak	
5		408.3000	40.12	-4.71	35.41	46.00	-10.59	peak	
6		450.0100	38.41	-3.56	34.85	46.00	-11.15	peak	

Test Mode:	TX N-20M MODE 2462MHz

Horizontal

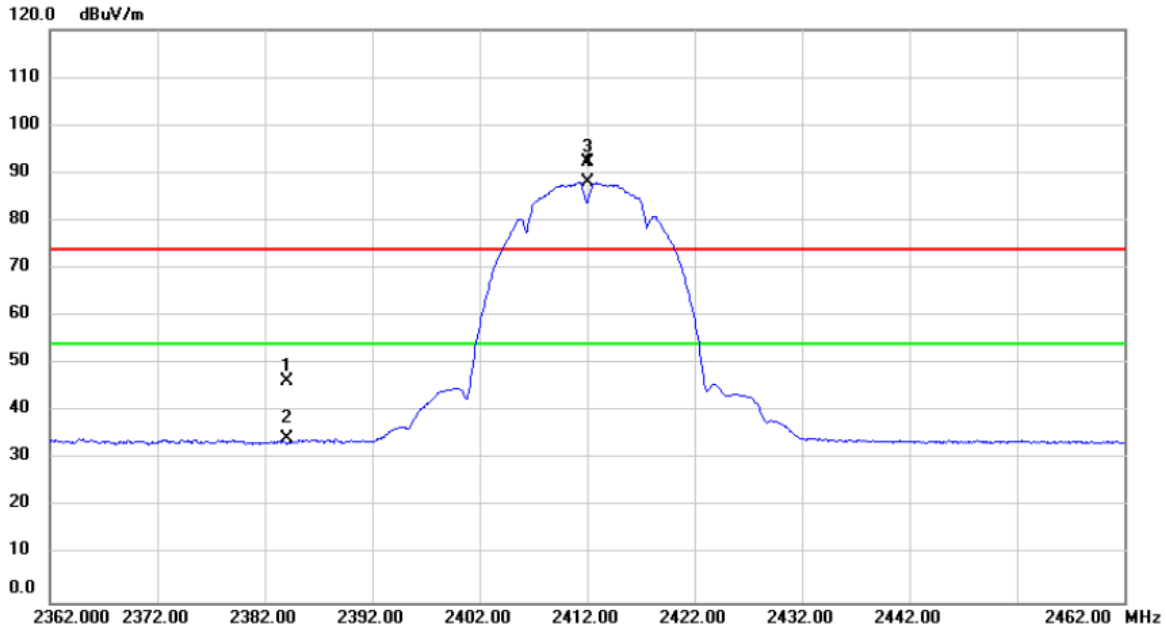


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		35.8200	36.94	-8.75	28.19	40.00	-11.81	peak	
2		109.5400	39.45	-10.85	28.60	43.50	-14.90	peak	
3	*	199.7500	47.16	-10.64	36.52	43.50	-6.98	peak	
4		250.1900	47.28	-9.07	38.21	46.00	-7.79	peak	
5		408.3000	40.10	-4.71	35.39	46.00	-10.61	peak	
6		450.0100	36.91	-3.56	33.35	46.00	-12.65	peak	

APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)

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

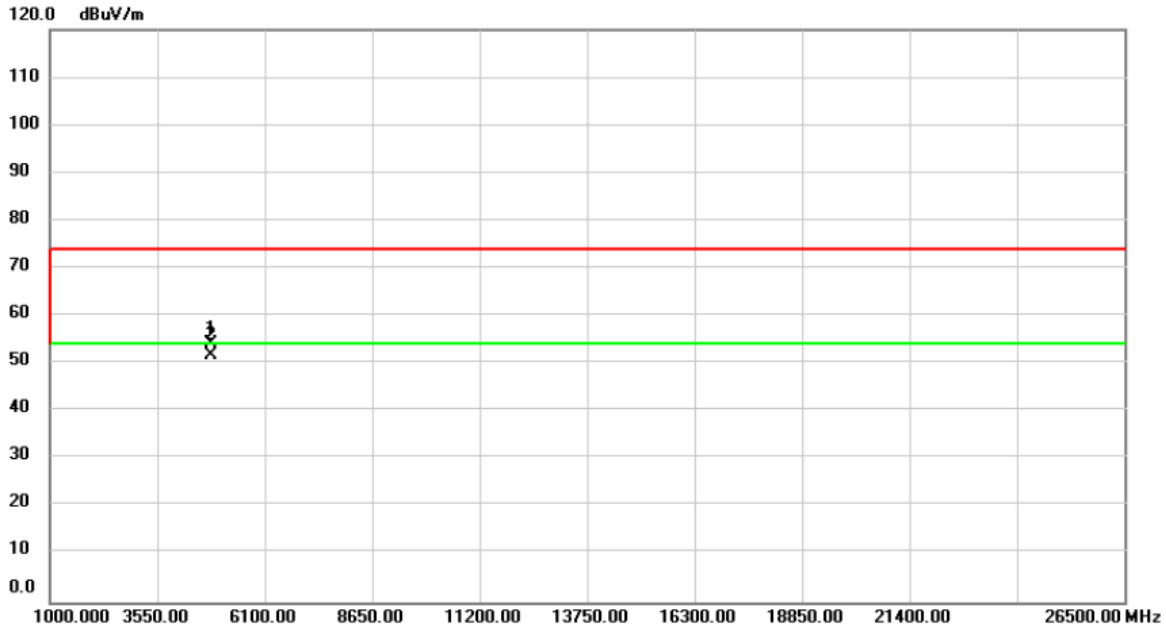
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2384.064	15.24	31.05	46.29	74.00	-27.71	peak	
2		2384.064	3.21	31.05	34.26	54.00	-19.74	AVG	
3	X	2412.000	61.10	31.14	92.24	74.00	18.24	peak	No Limit
4	*	2412.000	56.93	31.14	88.07	54.00	34.07	AVG	No Limit

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

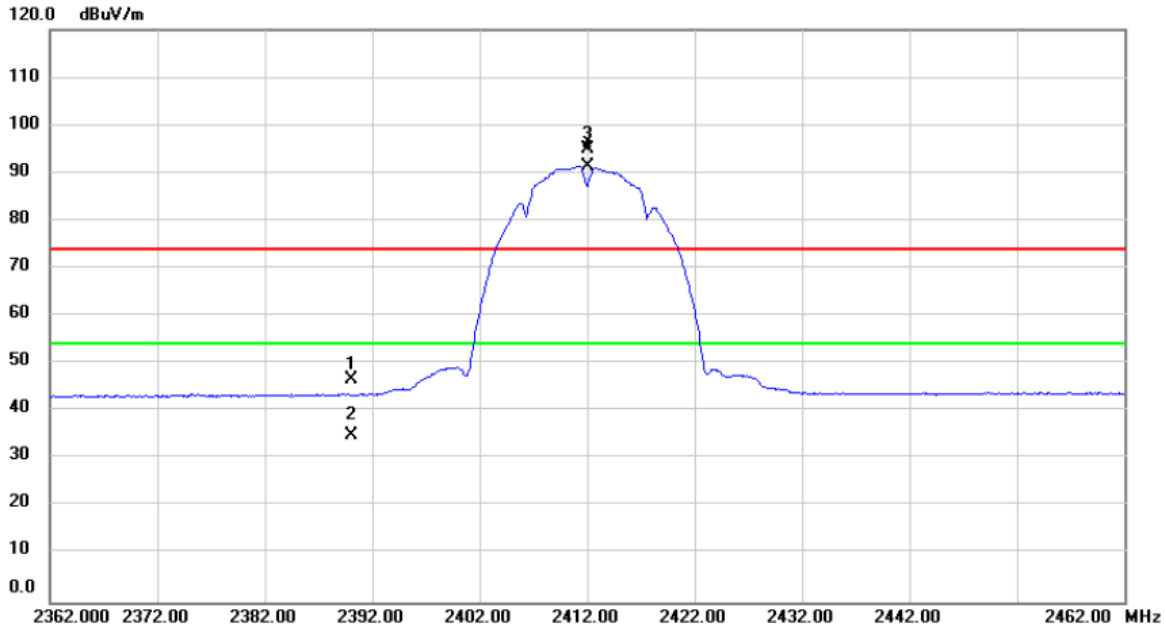
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	64.53	-10.38	54.15	74.00	-19.85	peak	
2	*	4824.000	62.03	-10.38	51.65	54.00	-2.35	AVG	

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

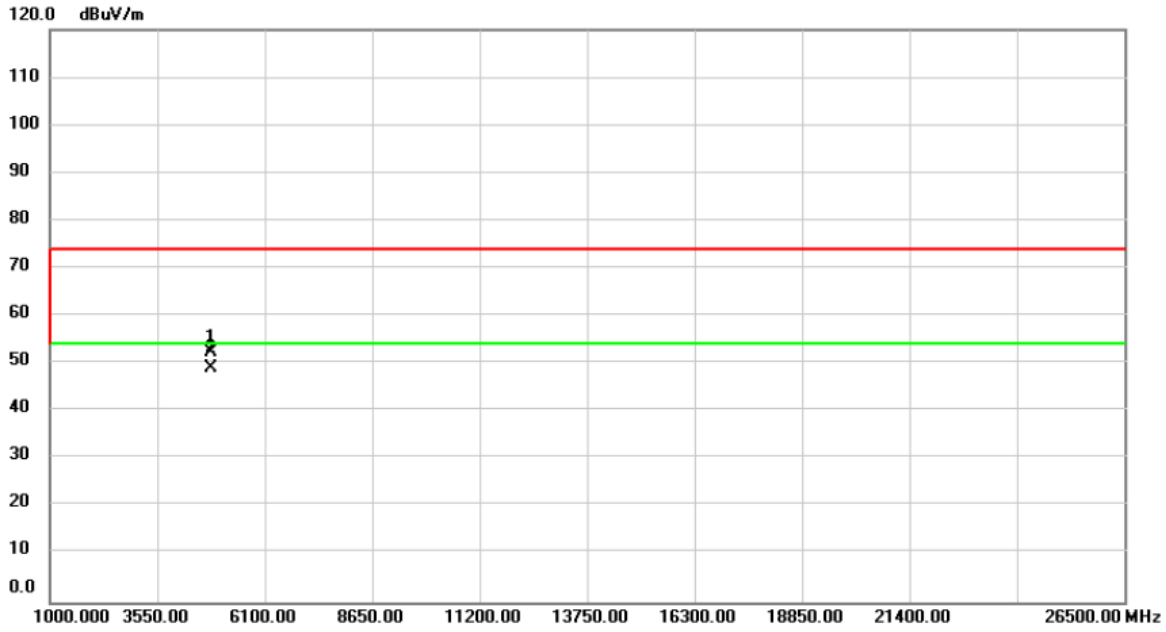
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	15.73	31.06	46.79	74.00	-27.21	peak	
2		2390.000	3.78	31.06	34.84	54.00	-19.16	AVG	
3	X	2412.000	63.86	31.14	95.00	74.00	21.00	peak	No Limit
4	*	2412.000	60.33	31.14	91.47	54.00	37.47	AVG	No Limit

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

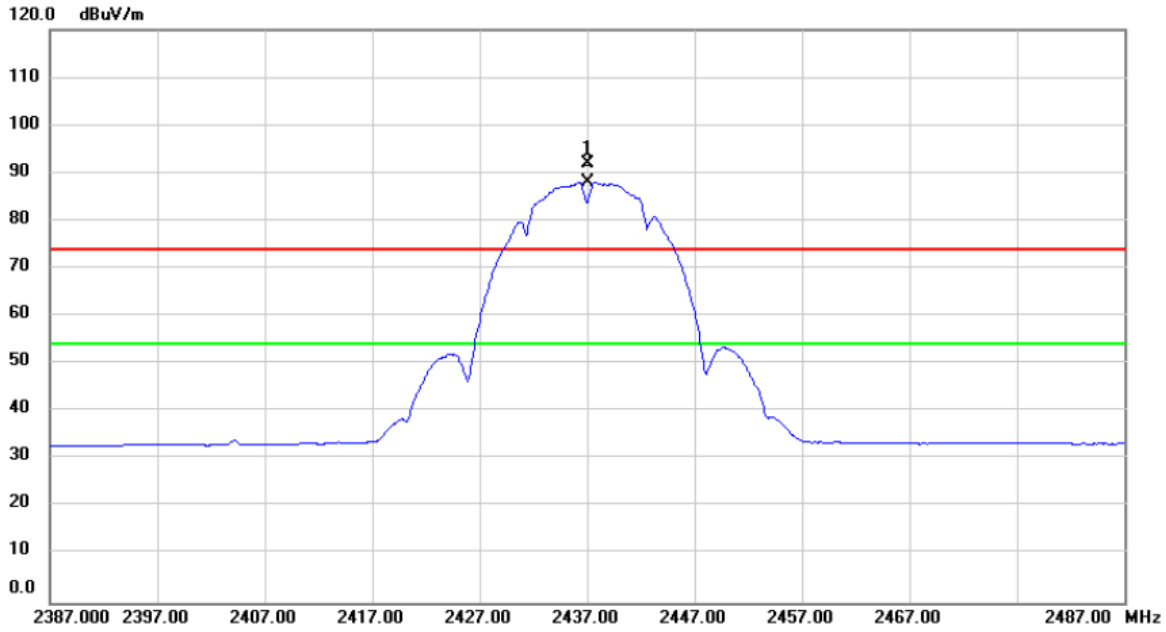
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	62.87	-10.38	52.49	74.00	-21.51	peak	
2	*	4824.000	59.52	-10.38	49.14	54.00	-4.86	AVG	

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

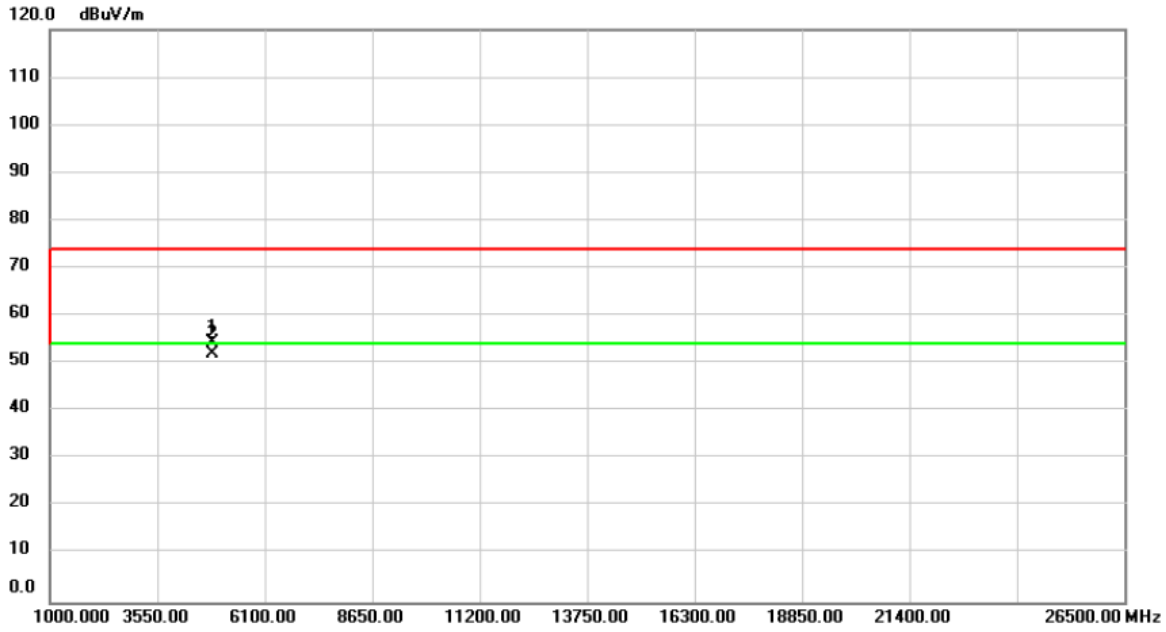
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	60.72	31.23	91.95	74.00	17.95	peak	No Limit
2	*	2437.000	56.88	31.23	88.11	54.00	34.11	AVG	No Limit

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

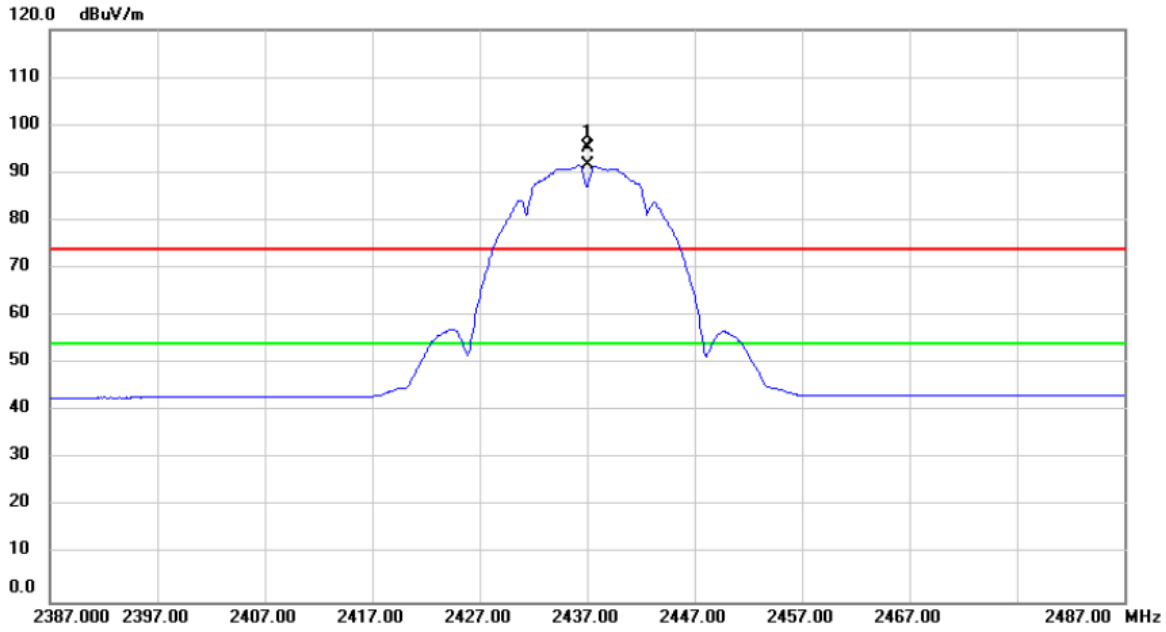
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	64.61	-10.30	54.31	74.00	-19.69	peak	
2	*	4874.000	62.37	-10.30	52.07	54.00	-1.93	AVG	

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

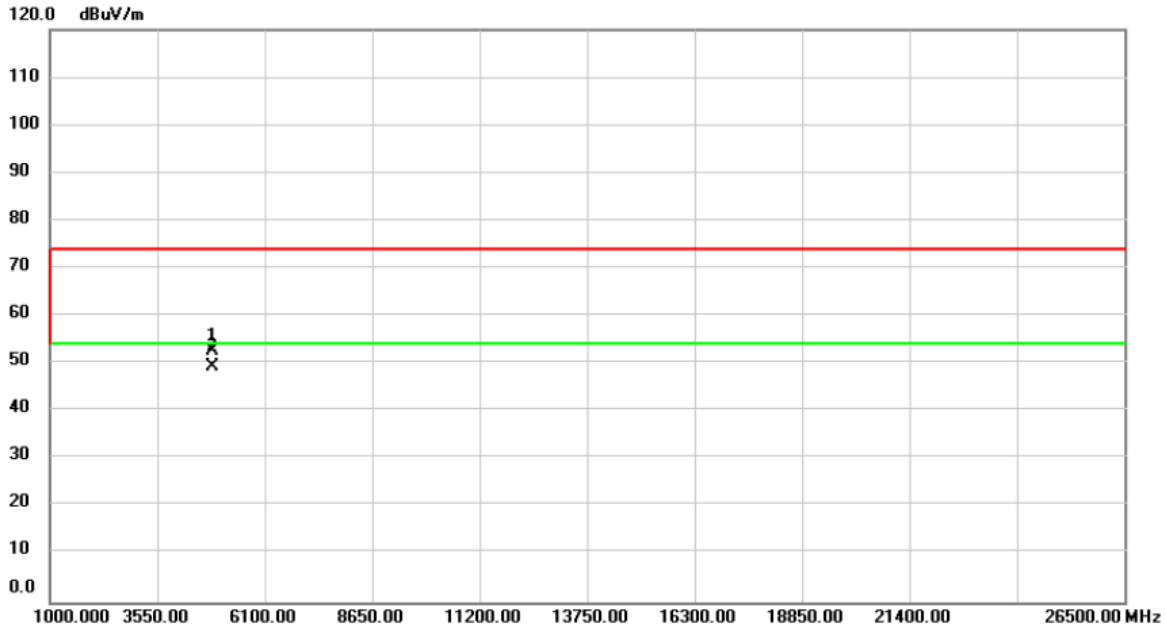
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	64.09	31.23	95.32	74.00	21.32	peak	No Limit
2	*	2437.000	60.32	31.23	91.55	54.00	37.55	AVG	No Limit

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

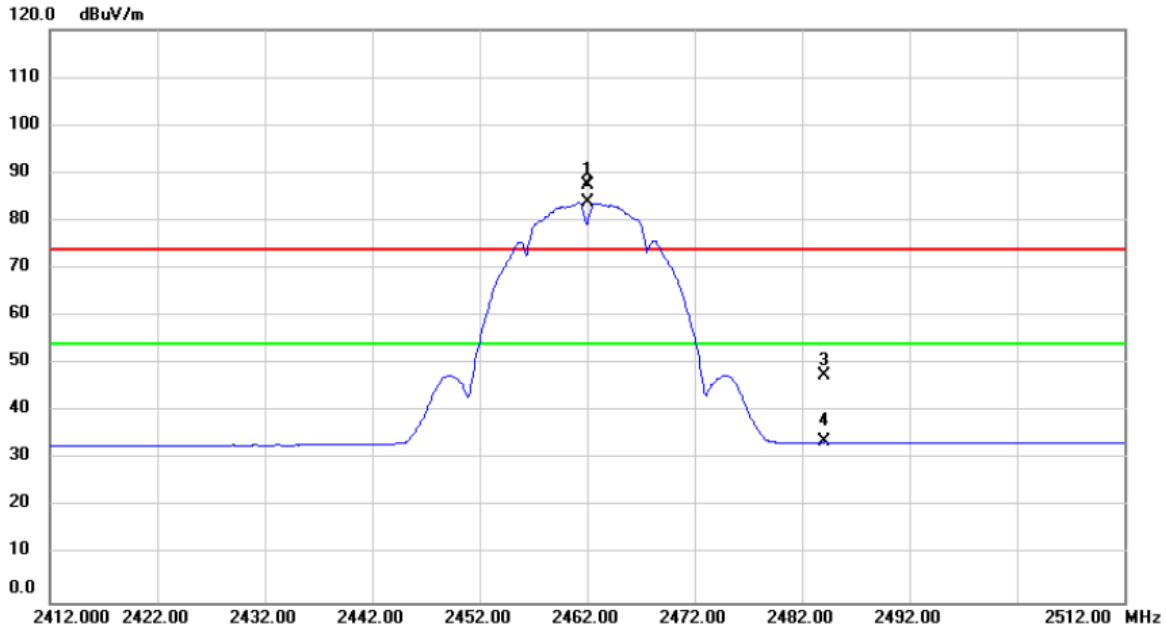
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	63.00	-10.30	52.70	74.00	-21.30	peak	
2	*	4874.000	59.80	-10.30	49.50	54.00	-4.50	AVG	

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

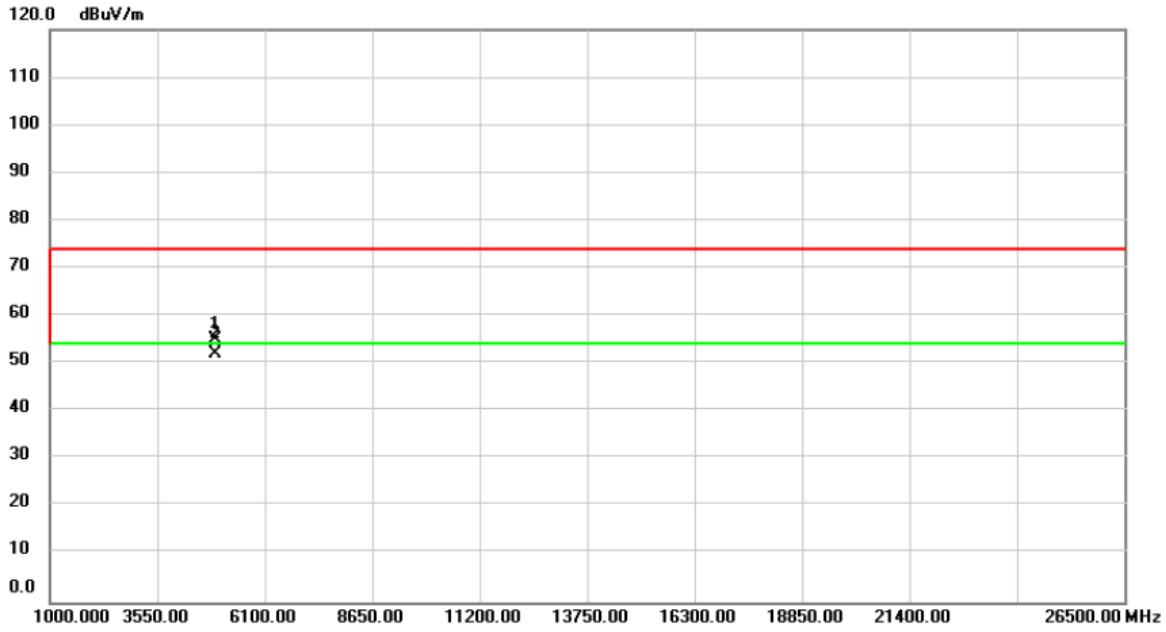
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	56.21	31.33	87.54	74.00	13.54	peak	No Limit
2	*	2462.000	52.48	31.33	83.81	54.00	29.81	AVG	No Limit
3		2484.070	15.99	31.42	47.41	74.00	-26.59	peak	
4		2484.070	2.18	31.42	33.60	54.00	-20.40	AVG	

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

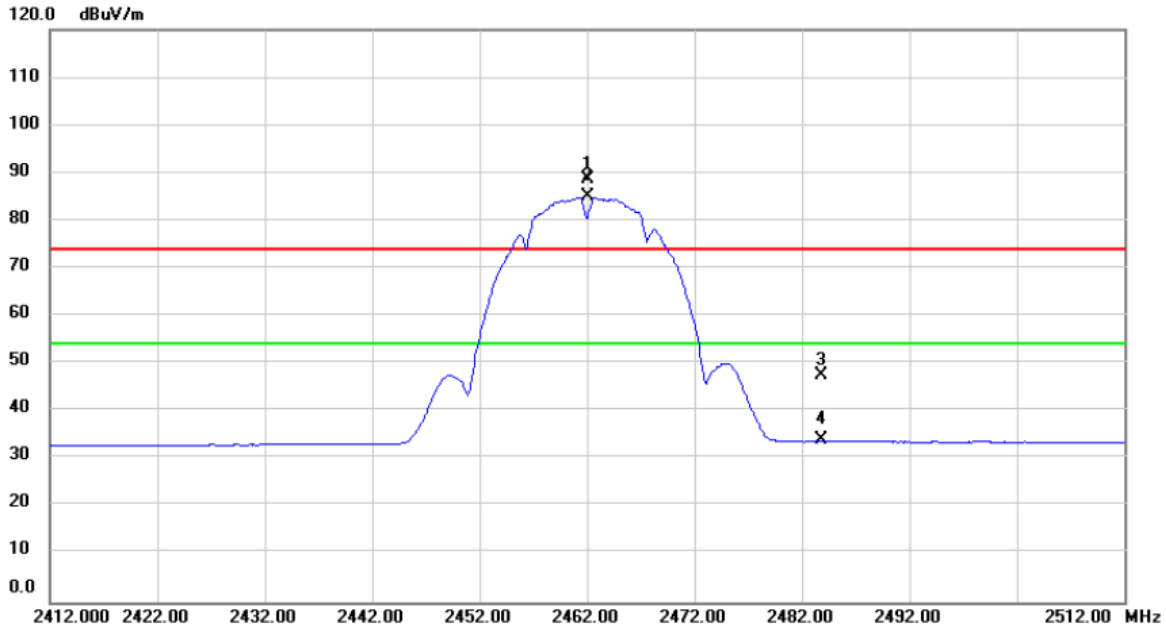
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	65.19	-10.22	54.97	74.00	-19.03	peak	
2	*	4924.000	62.36	-10.22	52.14	54.00	-1.86	AVG	

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

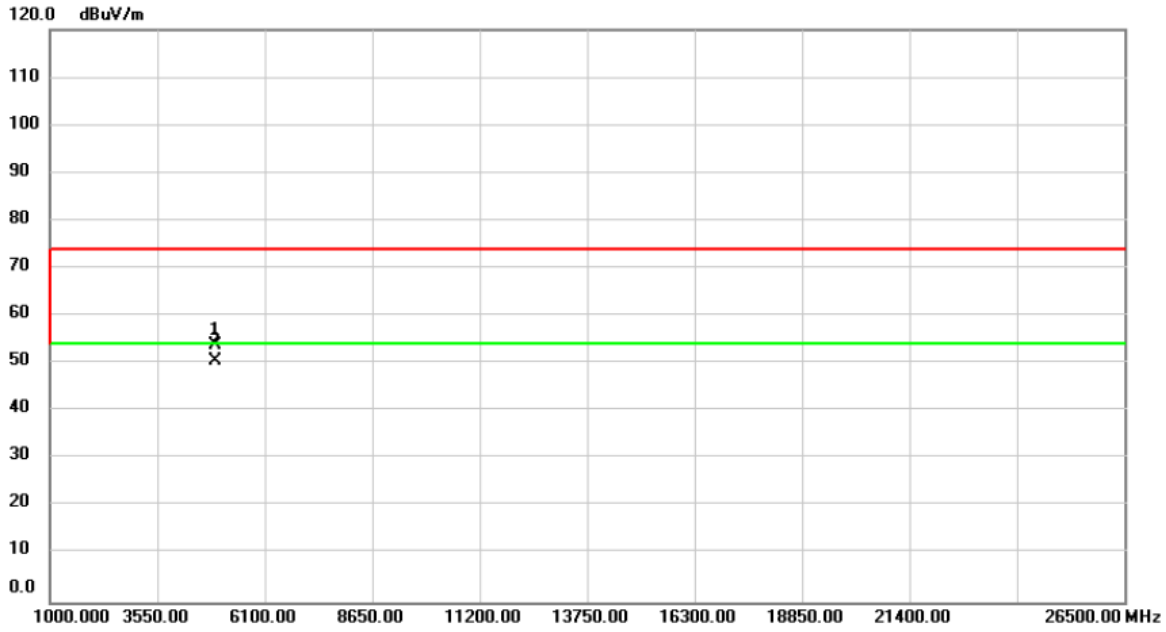
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	57.30	31.33	88.63	74.00	14.63	peak	No Limit
2	*	2462.000	53.57	31.33	84.90	54.00	30.90	AVG	No Limit
3		2483.842	16.00	31.41	47.41	74.00	-26.59	peak	
4		2483.842	2.50	31.41	33.91	54.00	-20.09	AVG	

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

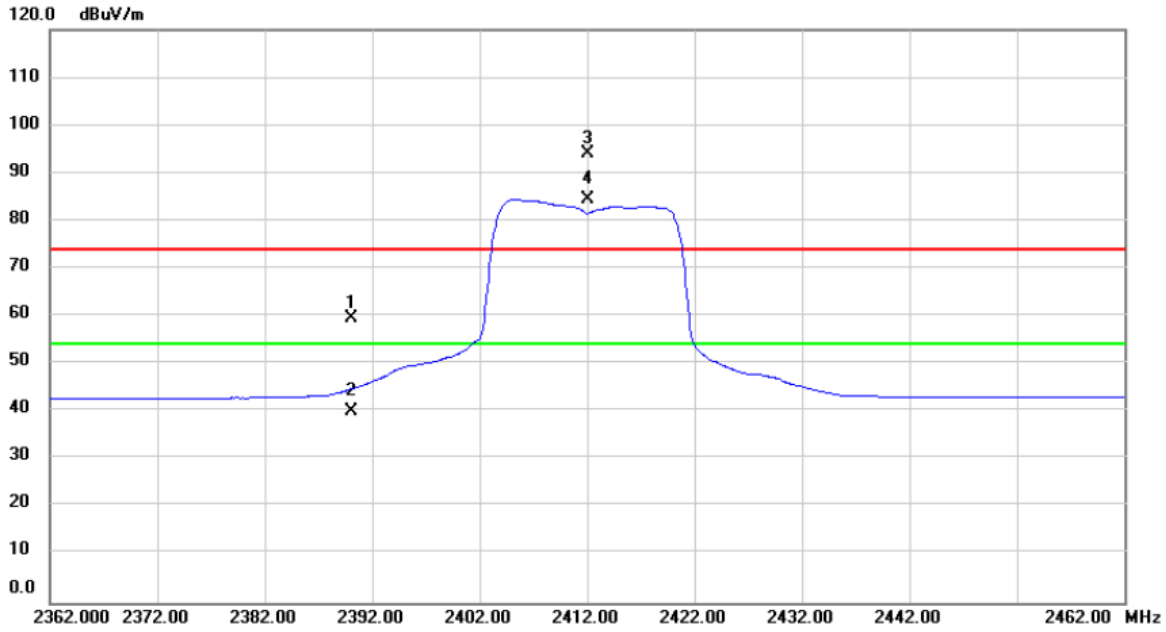
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	64.19	-10.22	53.97	74.00	-20.03	peak	
2	*	4924.000	60.83	-10.22	50.61	54.00	-3.39	AVG	

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

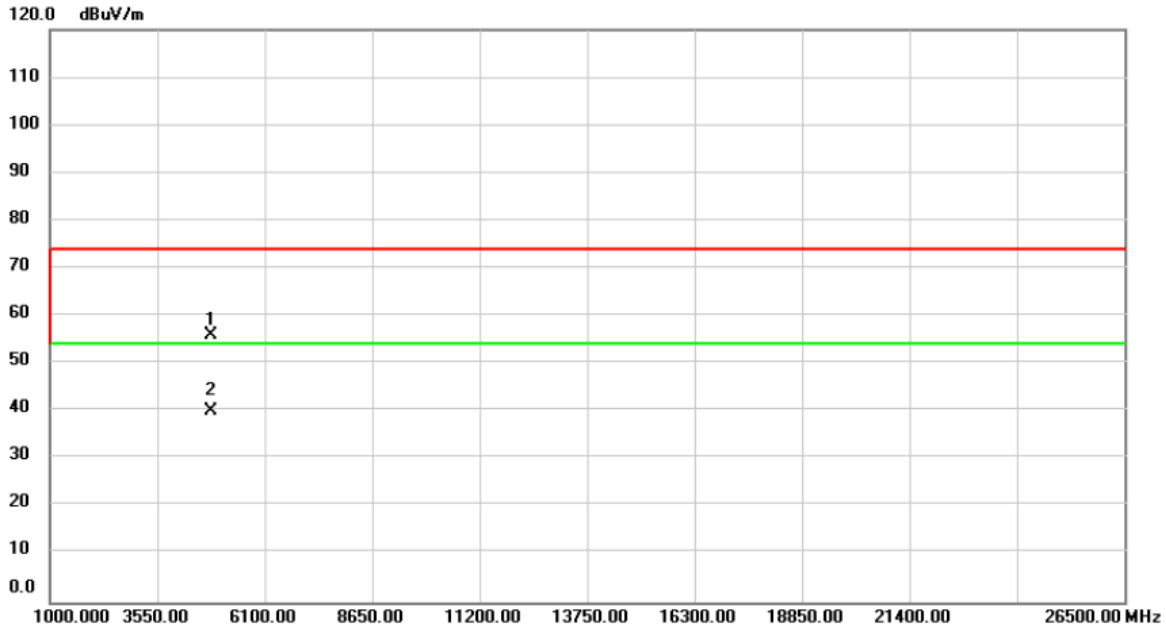
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	28.43	31.06	59.49	74.00	-14.51	peak	
2		2390.000	9.00	31.06	40.06	54.00	-13.94	AVG	
3	X	2412.000	62.99	31.14	94.13	74.00	20.13	peak	No Limit
4	*	2412.000	53.32	31.14	84.46	54.00	30.46	AVG	No Limit

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

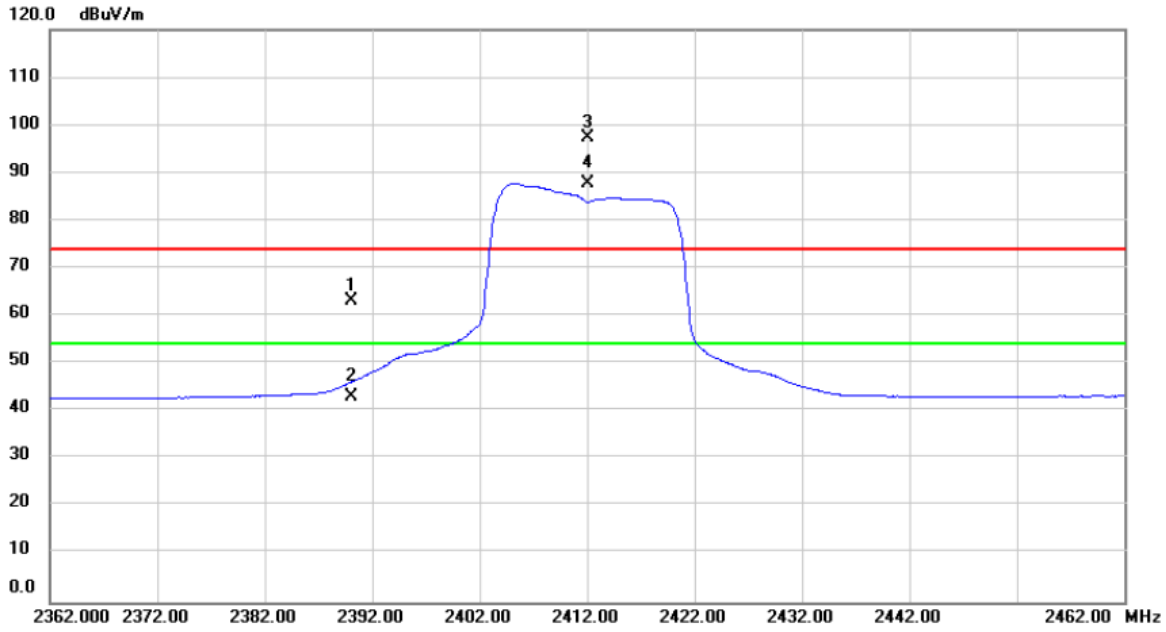
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	66.21	-10.38	55.83	74.00	-18.17	peak	
2	*	4824.000	50.41	-10.38	40.03	54.00	-13.97	AVG	

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

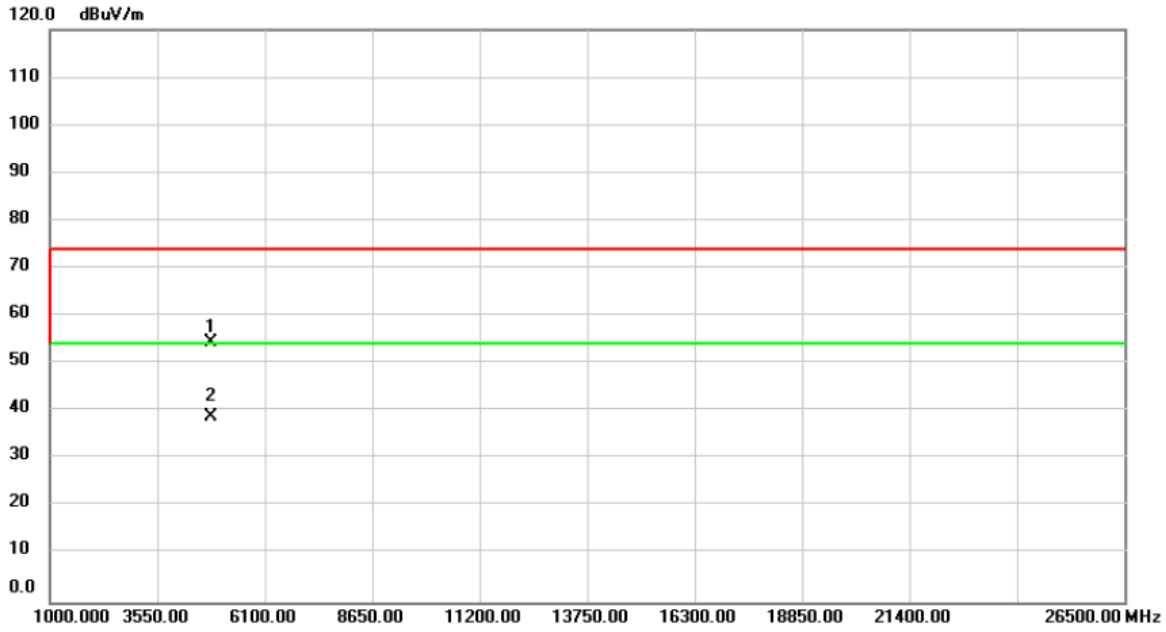
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	32.12	31.06	63.18	74.00	-10.82	peak	
2		2390.000	11.92	31.06	42.98	54.00	-11.02	AVG	
3	X	2412.000	66.23	31.14	97.37	74.00	23.37	peak	No Limit
4	*	2412.000	56.60	31.14	87.74	54.00	33.74	AVG	No Limit

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

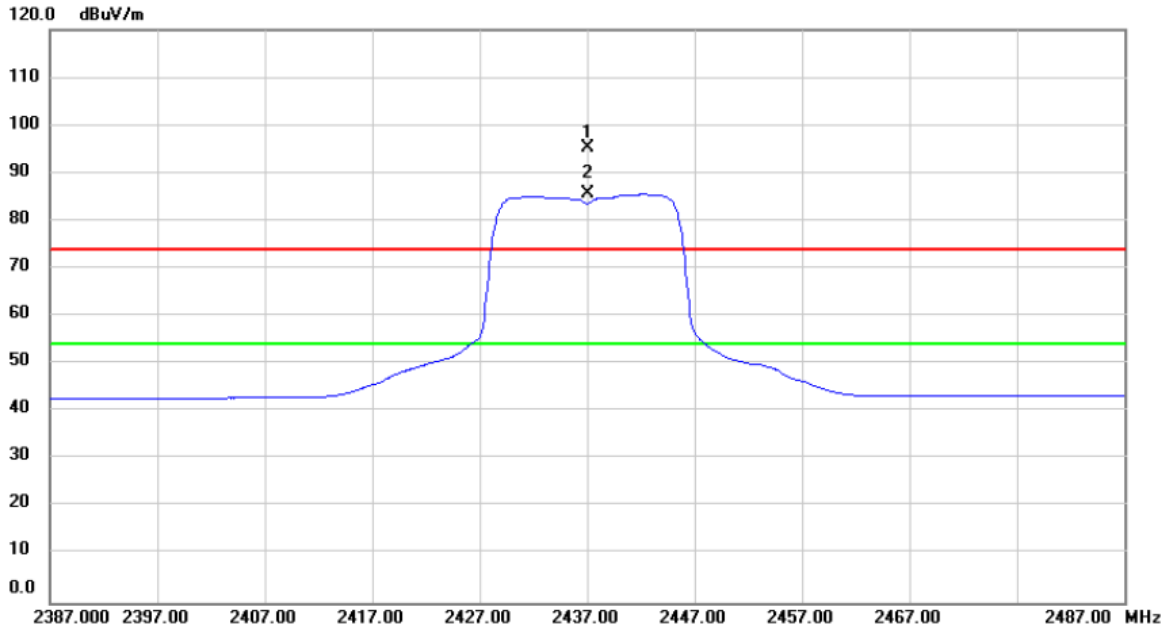
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	64.91	-10.38	54.53	74.00	-19.47	peak	
2	*	4824.000	49.27	-10.38	38.89	54.00	-15.11	AVG	

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

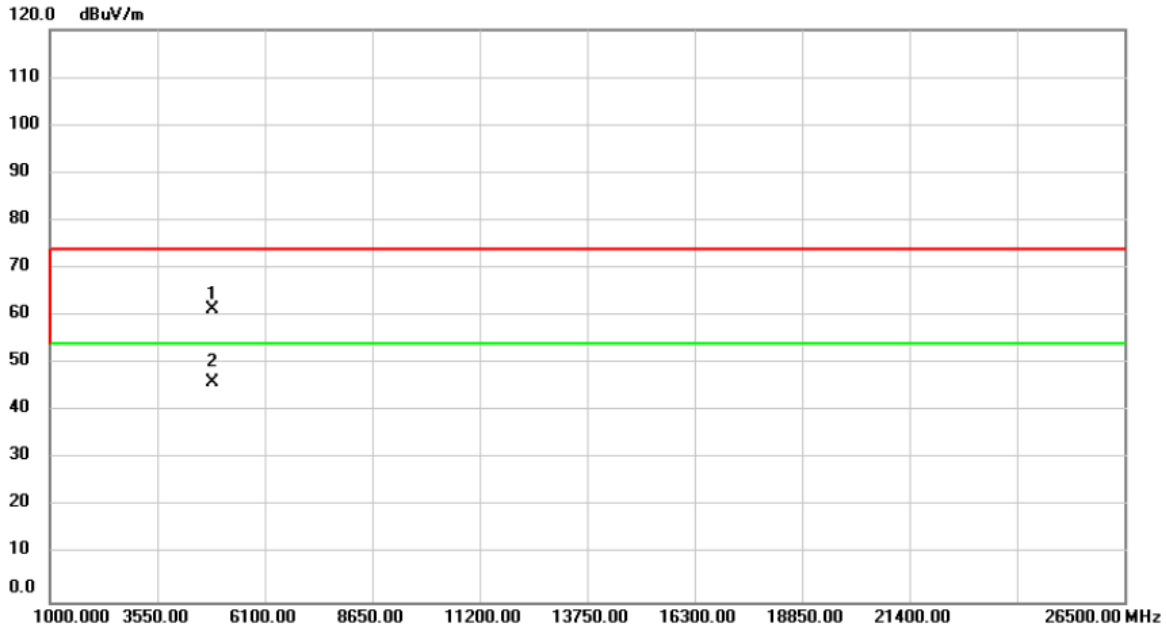
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	64.15	31.23	95.38	74.00	21.38	peak	No Limit
2	*	2437.000	54.36	31.23	85.59	54.00	31.59	AVG	No Limit

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

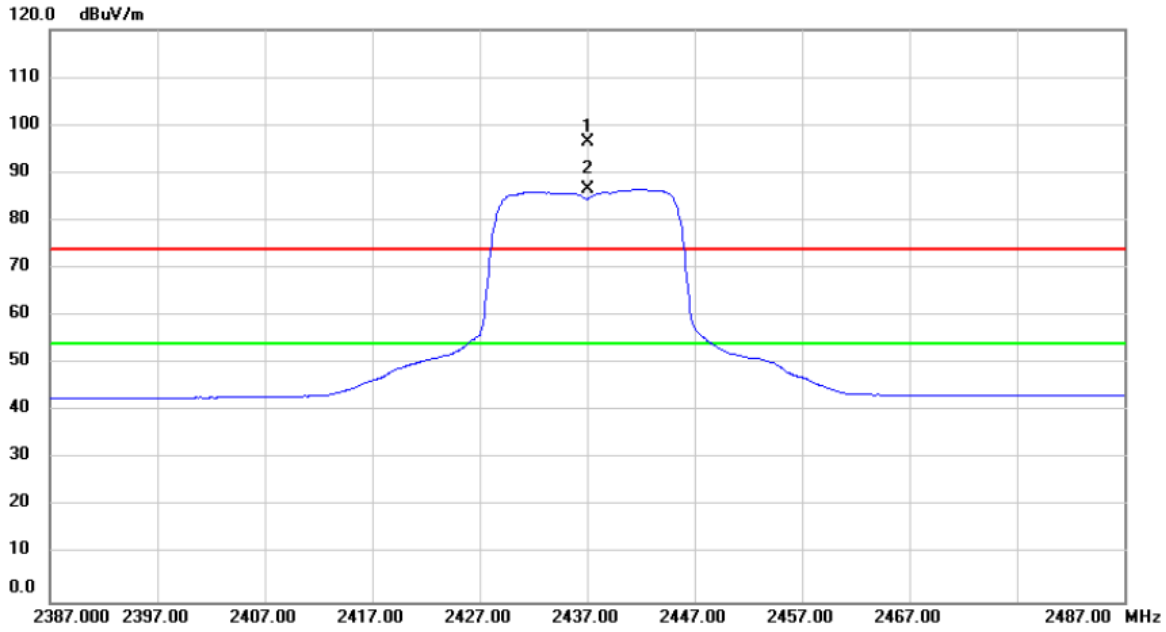
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	71.54	-10.30	61.24	74.00	-12.76	peak	
2	*	4874.000	56.21	-10.30	45.91	54.00	-8.09	AVG	

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

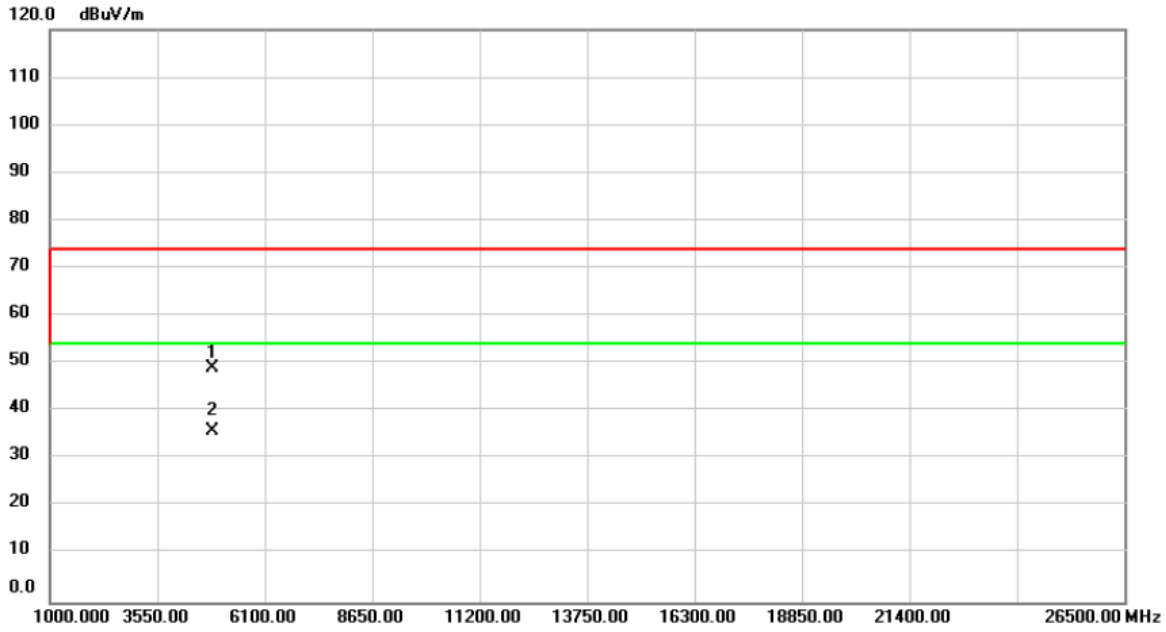
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	65.08	31.23	96.31	74.00	22.31	peak	No Limit
2	*	2437.000	55.30	31.23	86.53	54.00	32.53	AVG	No Limit

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

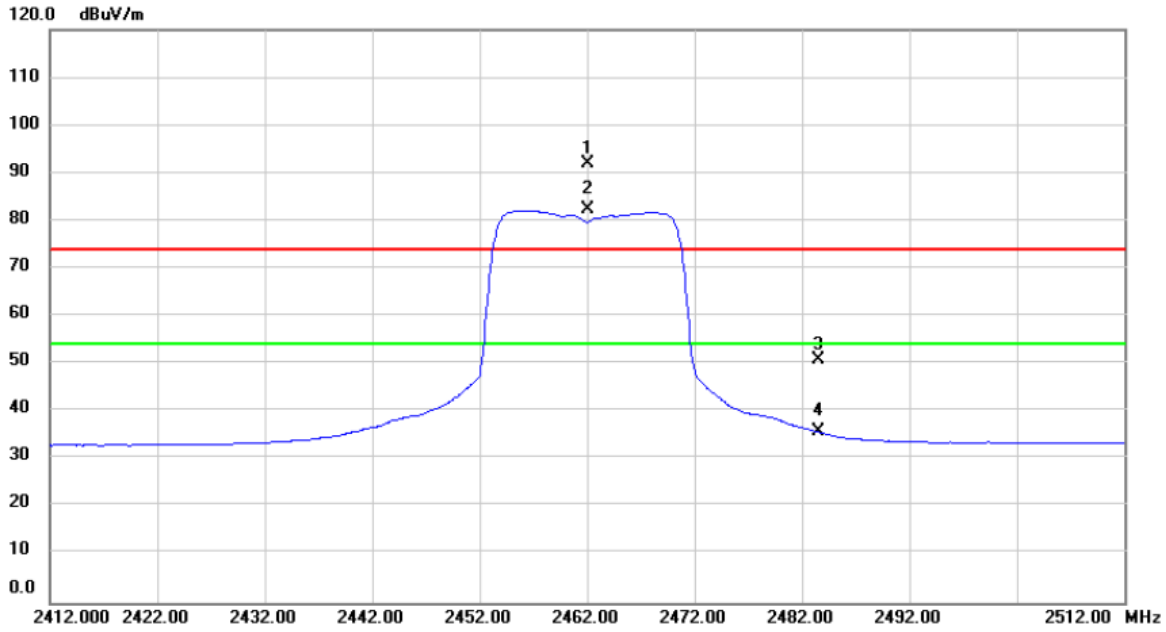
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	59.49	-10.30	49.19	74.00	-24.81	peak	
2	*	4874.000	46.09	-10.30	35.79	54.00	-18.21	AVG	

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

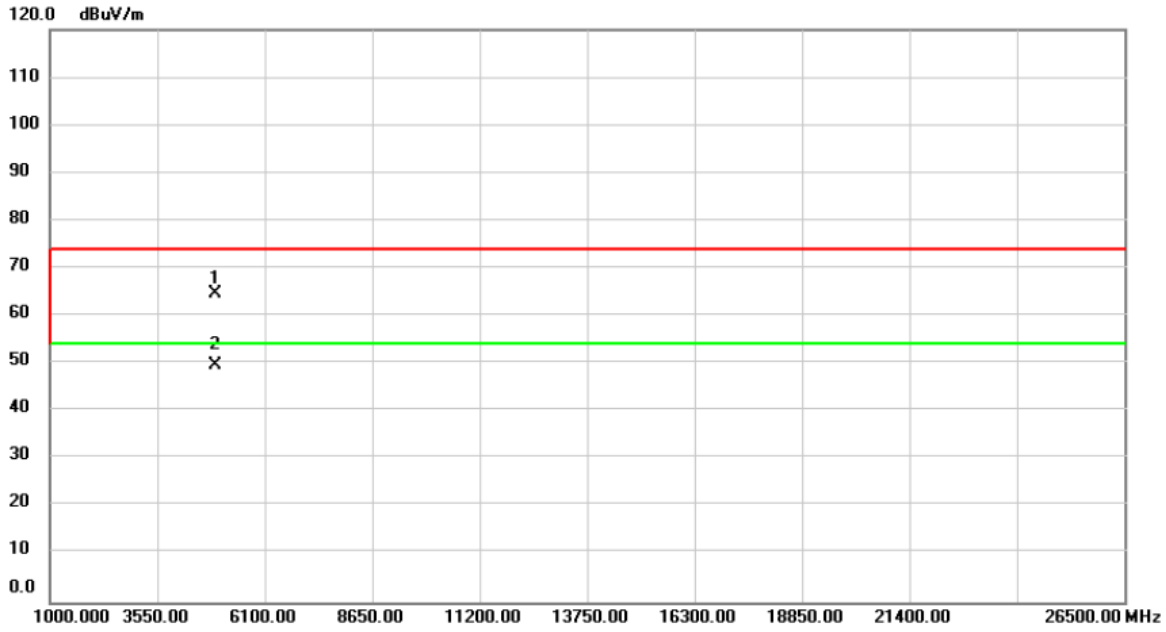
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	60.53	31.33	91.86	74.00	17.86	peak	No Limit
2	*	2462.000	50.97	31.33	82.30	54.00	28.30	AVG	No Limit
3		2483.500	19.50	31.41	50.91	74.00	-23.09	peak	
4		2483.500	4.34	31.41	35.75	54.00	-18.25	AVG	

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

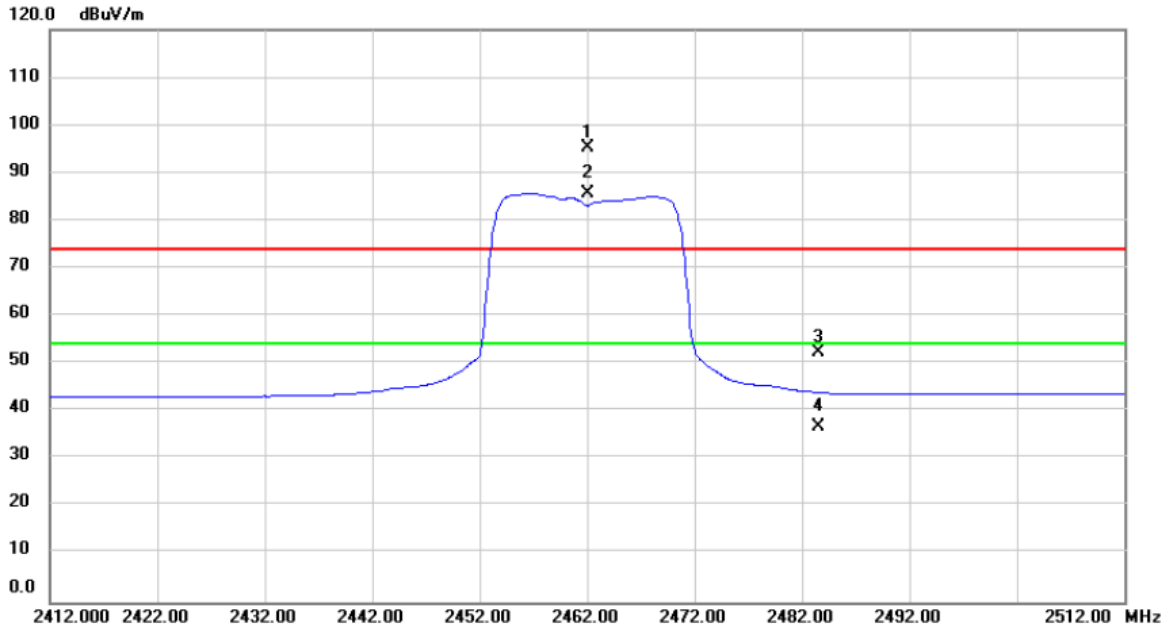
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	74.91	-10.22	64.69	74.00	-9.31	peak	
2	*	4924.000	59.78	-10.22	49.56	54.00	-4.44	AVG	

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

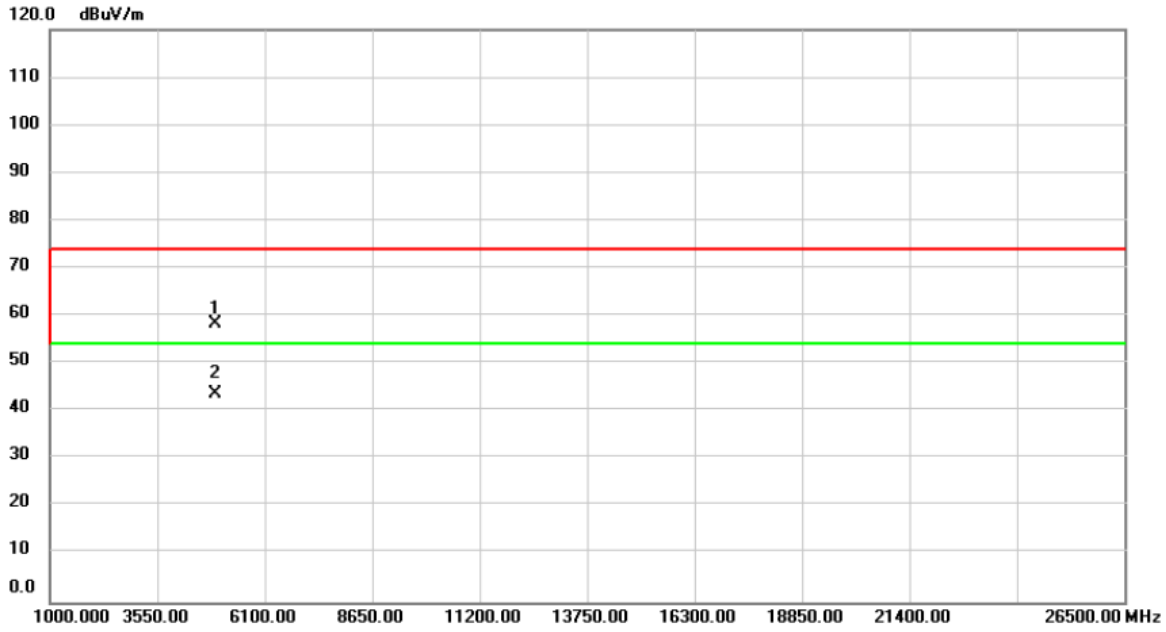
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	63.92	31.33	95.25	74.00	21.25	peak	No Limit
2	*	2462.000	54.30	31.33	85.63	54.00	31.63	AVG	No Limit
3		2483.500	21.02	31.41	52.43	74.00	-21.57	peak	
4		2483.500	5.19	31.41	36.60	54.00	-17.40	AVG	

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

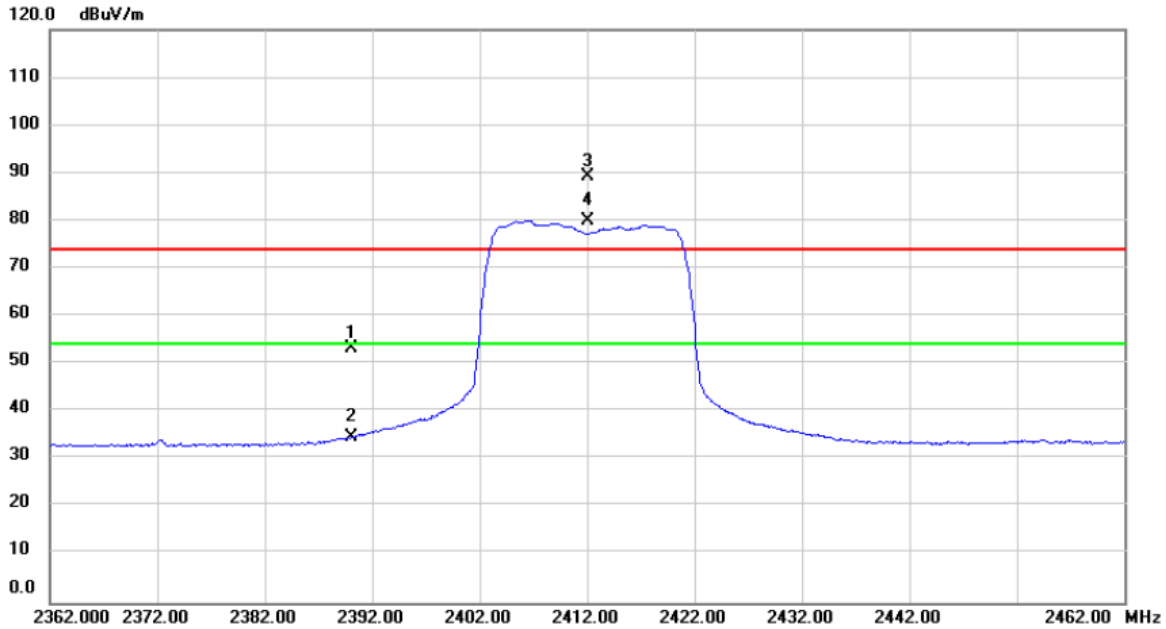
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	68.61	-10.22	58.39	74.00	-15.61	peak	
2	*	4924.000	53.88	-10.22	43.66	54.00	-10.34	AVG	

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

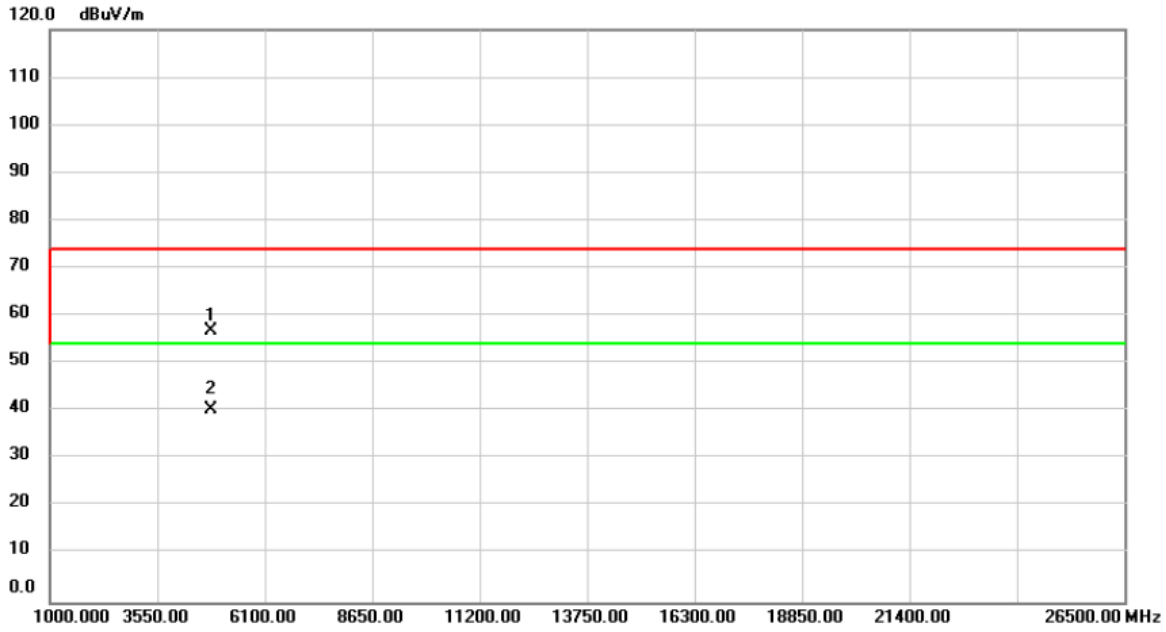
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	22.32	31.06	53.38	74.00	-20.62	peak	
2		2390.000	3.58	31.06	34.64	54.00	-19.36	AVG	
3	X	2412.000	58.08	31.14	89.22	74.00	15.22	peak	No Limit
4	*	2412.000	48.90	31.14	80.04	54.00	26.04	AVG	No Limit

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

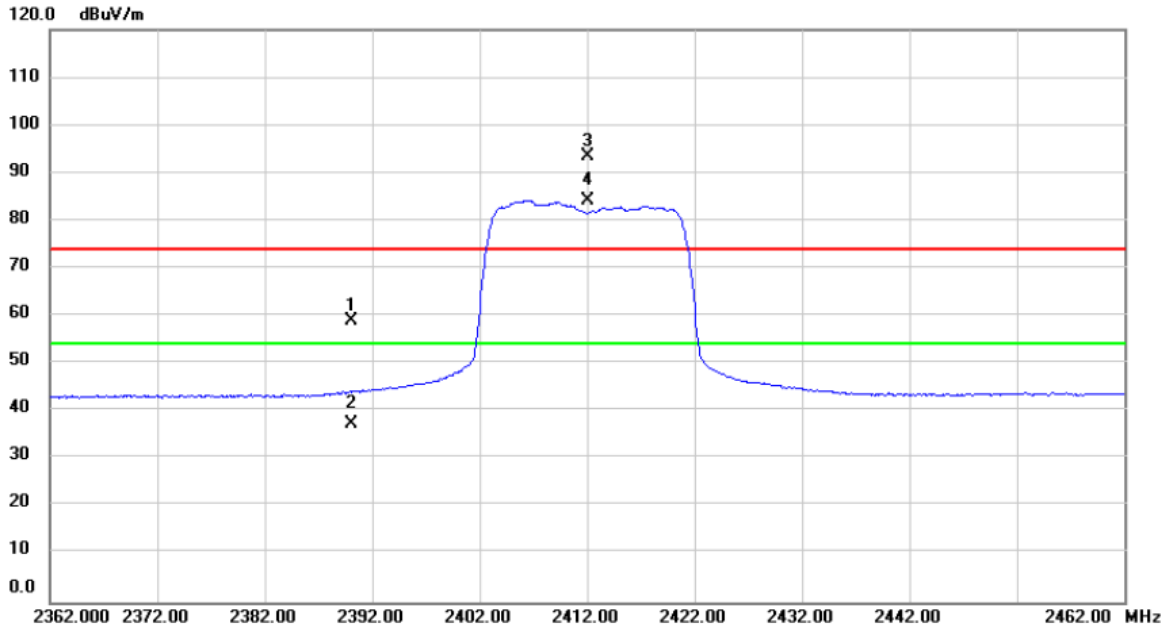
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	67.13	-10.38	56.75	74.00	-17.25	peak	
2	*	4824.000	50.85	-10.38	40.47	54.00	-13.53	AVG	

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

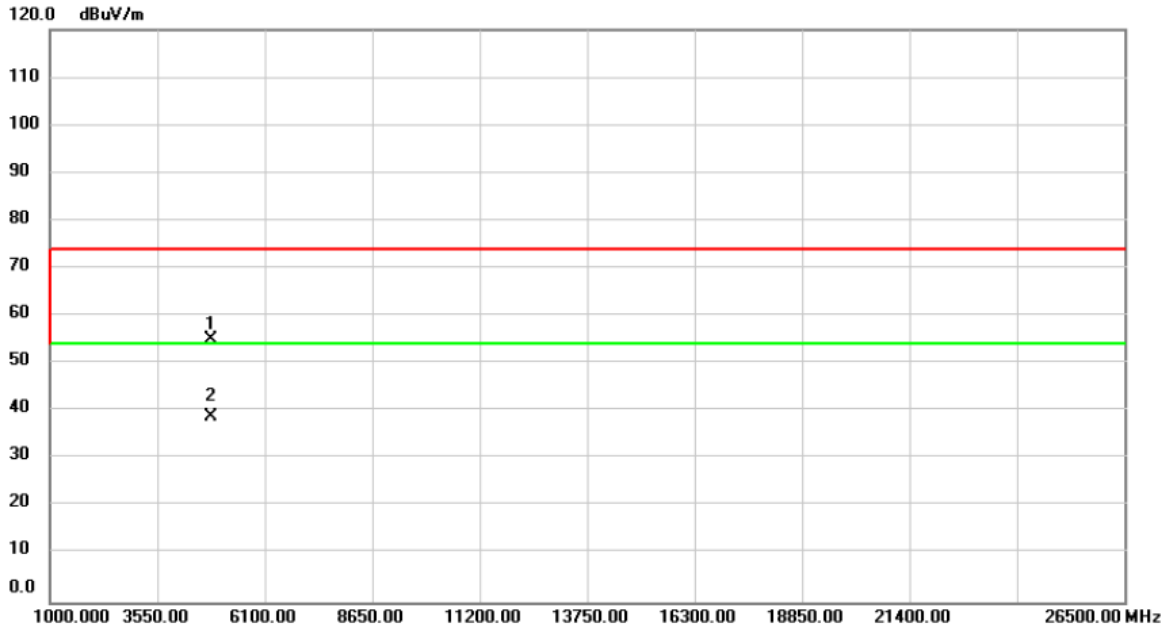
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	27.97	31.06	59.03	74.00	-14.97	peak	
2		2390.000	6.42	31.06	37.48	54.00	-16.52	AVG	
3	X	2412.000	62.44	31.14	93.58	74.00	19.58	peak	No Limit
4	*	2412.000	53.08	31.14	84.22	54.00	30.22	AVG	No Limit

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

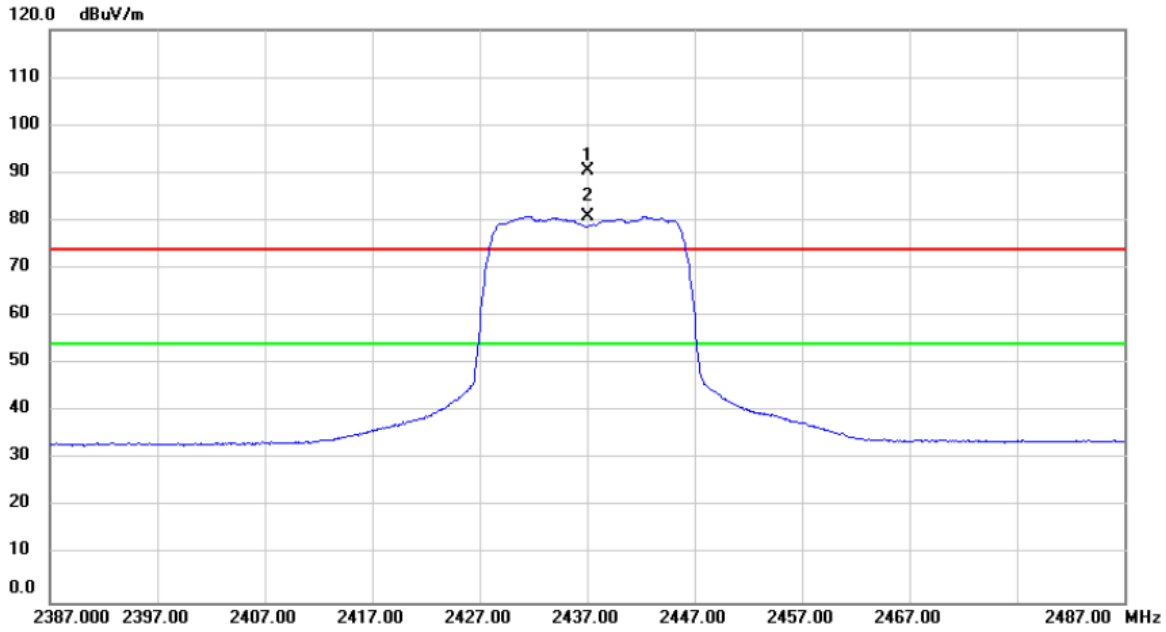
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	65.40	-10.38	55.02	74.00	-18.98	peak	
2	*	4824.000	49.33	-10.38	38.95	54.00	-15.05	AVG	

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

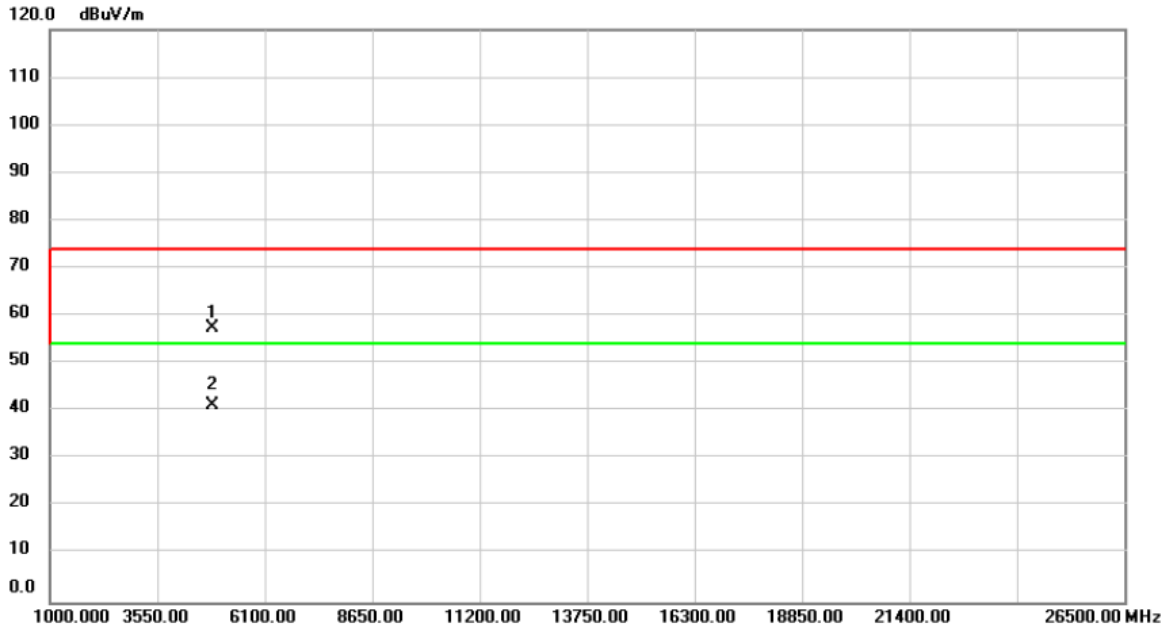
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	59.37	31.23	90.60	74.00	16.60	peak	No Limit
2	*	2437.000	49.64	31.23	80.87	54.00	26.87	AVG	No Limit

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

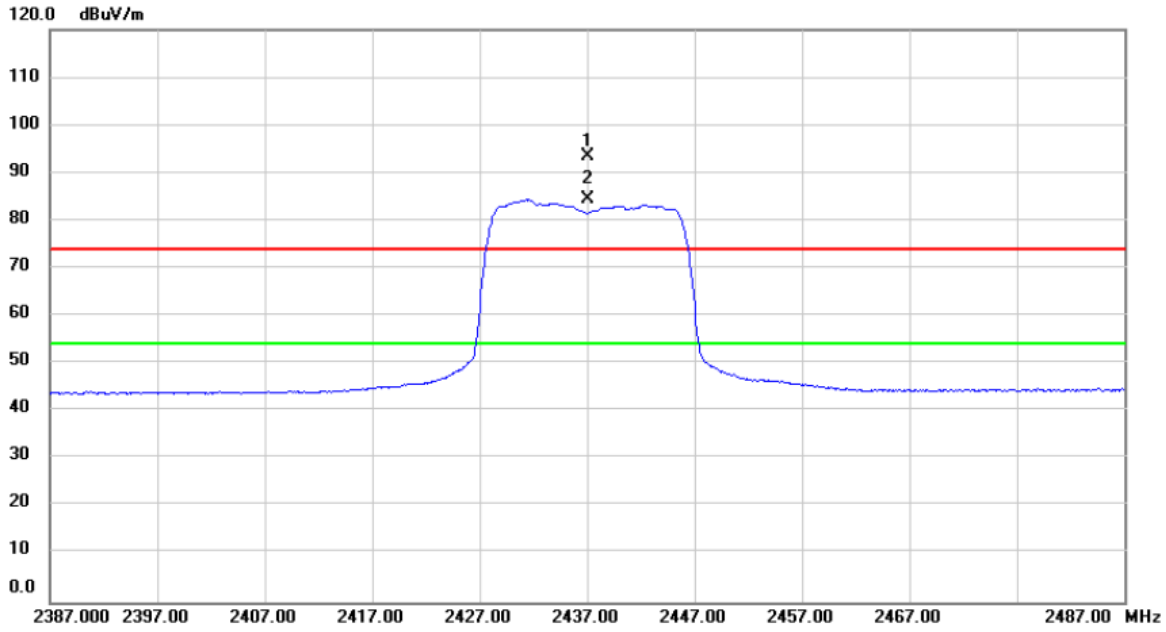
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	67.86	-10.30	57.56	74.00	-16.44	peak	
2	*	4874.000	51.42	-10.30	41.12	54.00	-12.88	AVG	

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

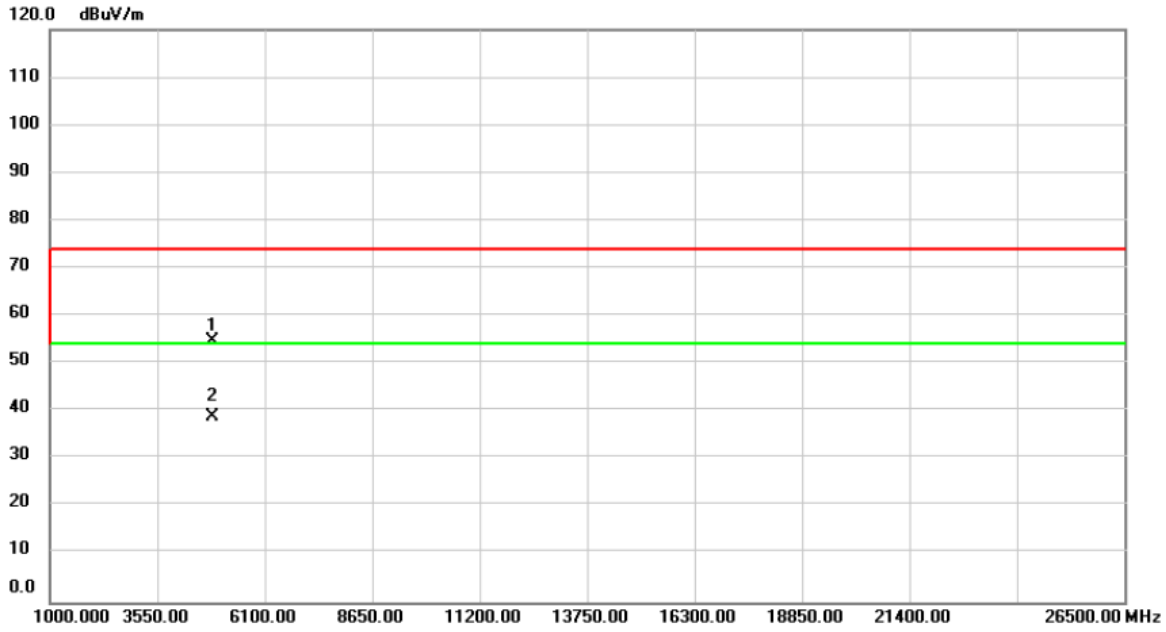
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	62.30	31.23	93.53	74.00	19.53	peak	No Limit
2	*	2437.000	53.12	31.23	84.35	54.00	30.35	AVG	No Limit

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

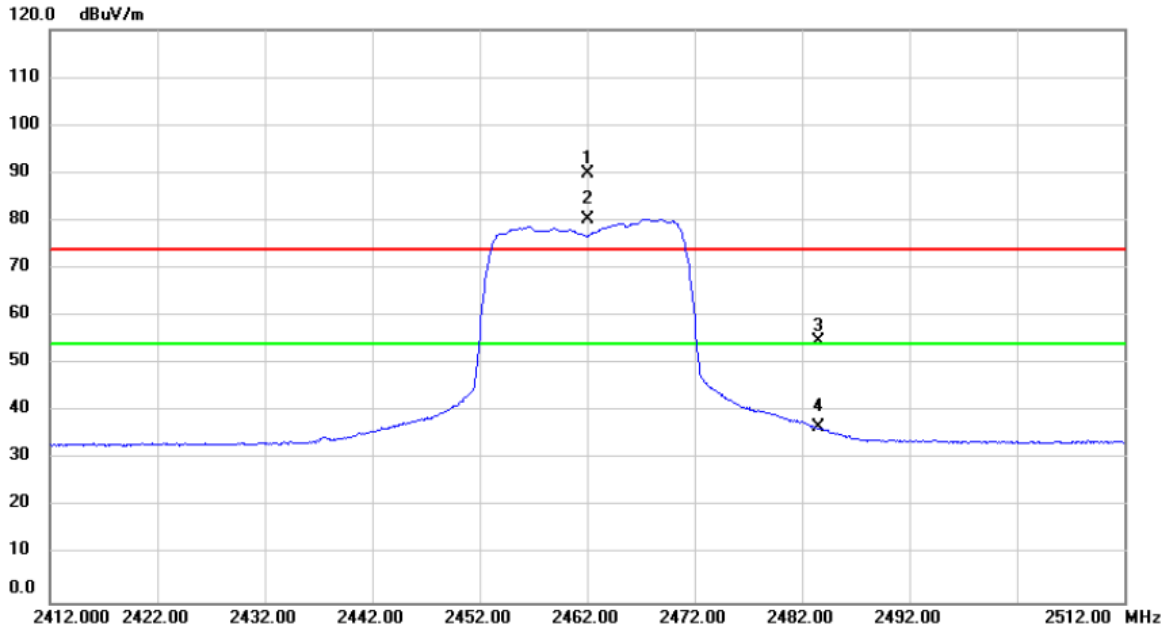
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	65.02	-10.30	54.72	74.00	-19.28	peak	
2	*	4874.000	49.29	-10.30	38.99	54.00	-15.01	AVG	

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

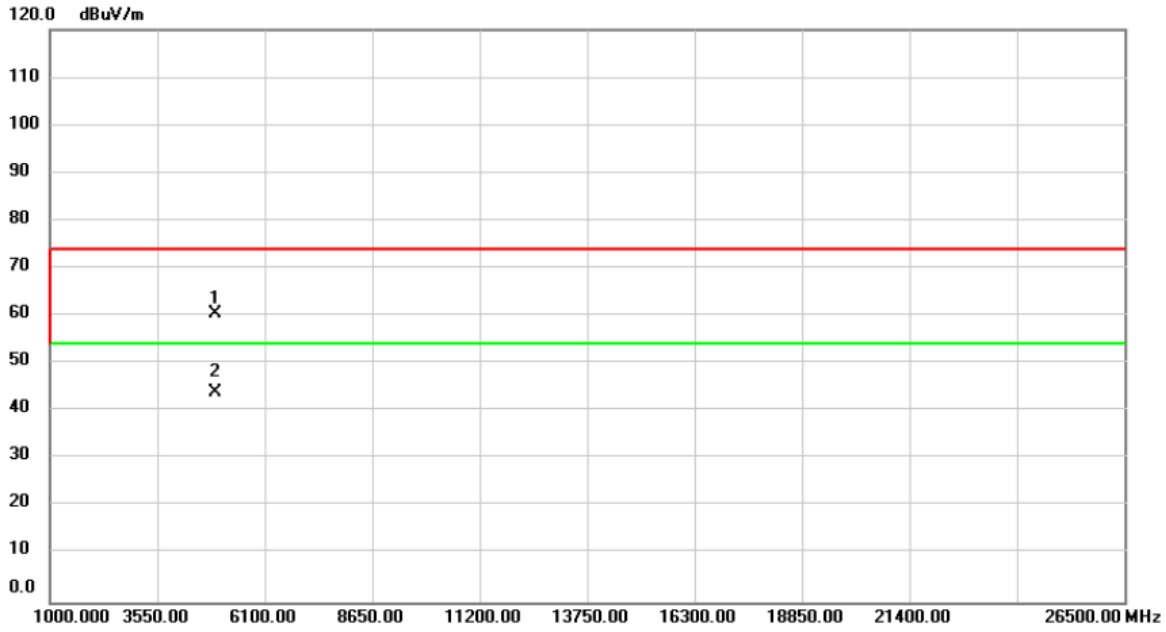
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	58.56	31.33	89.89	74.00	15.89	peak	No Limit
2	*	2462.000	48.99	31.33	80.32	54.00	26.32	AVG	No Limit
3		2483.582	23.35	31.41	54.76	74.00	-19.24	peak	
4		2483.582	5.37	31.41	36.78	54.00	-17.22	AVG	

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

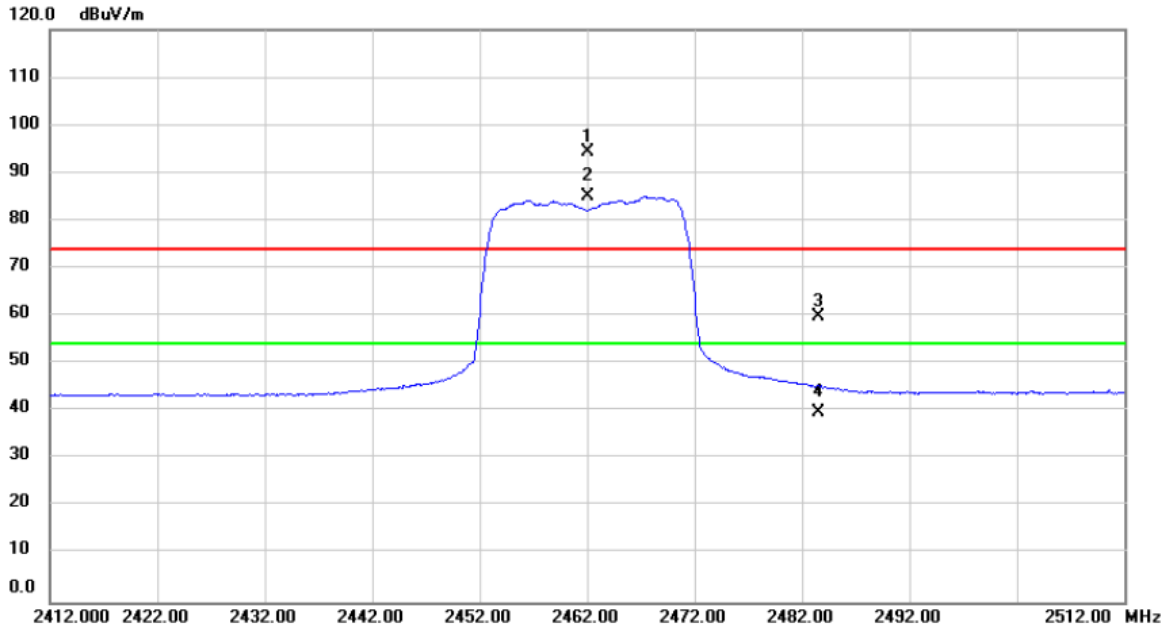
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	70.67	-10.22	60.45	74.00	-13.55	peak	
2	*	4924.000	54.11	-10.22	43.89	54.00	-10.11	AVG	

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

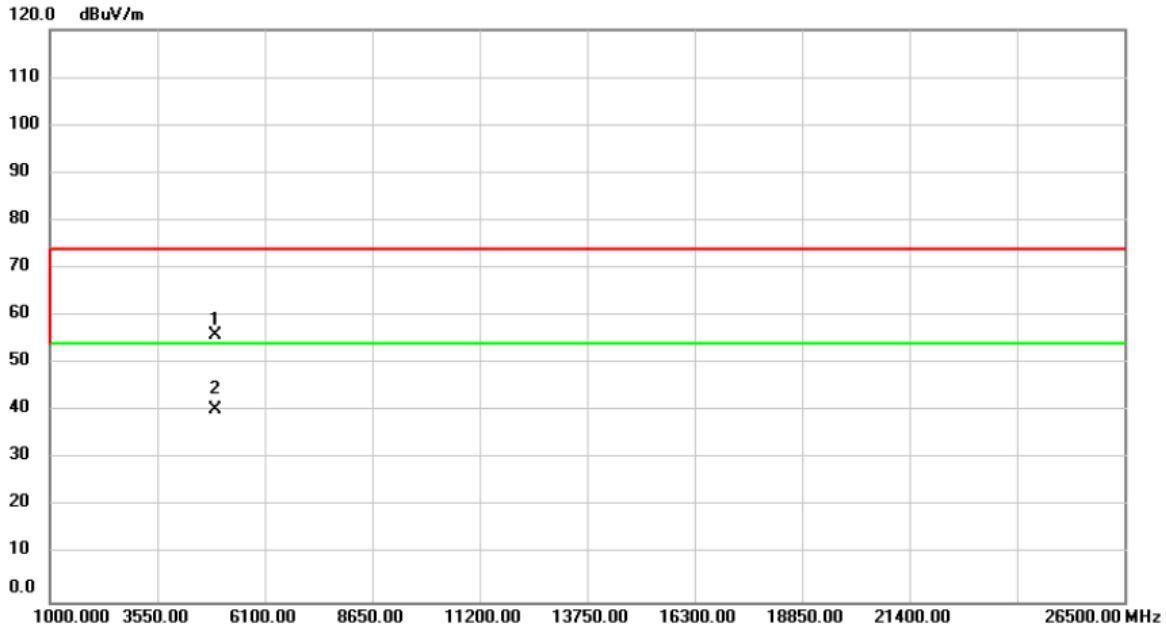
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	62.92	31.33	94.25	74.00	20.25	peak	No Limit
2	*	2462.000	53.66	31.33	84.99	54.00	30.99	AVG	No Limit
3		2483.557	28.34	31.41	59.75	74.00	-14.25	peak	
4		2483.557	8.28	31.41	39.69	54.00	-14.31	AVG	

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

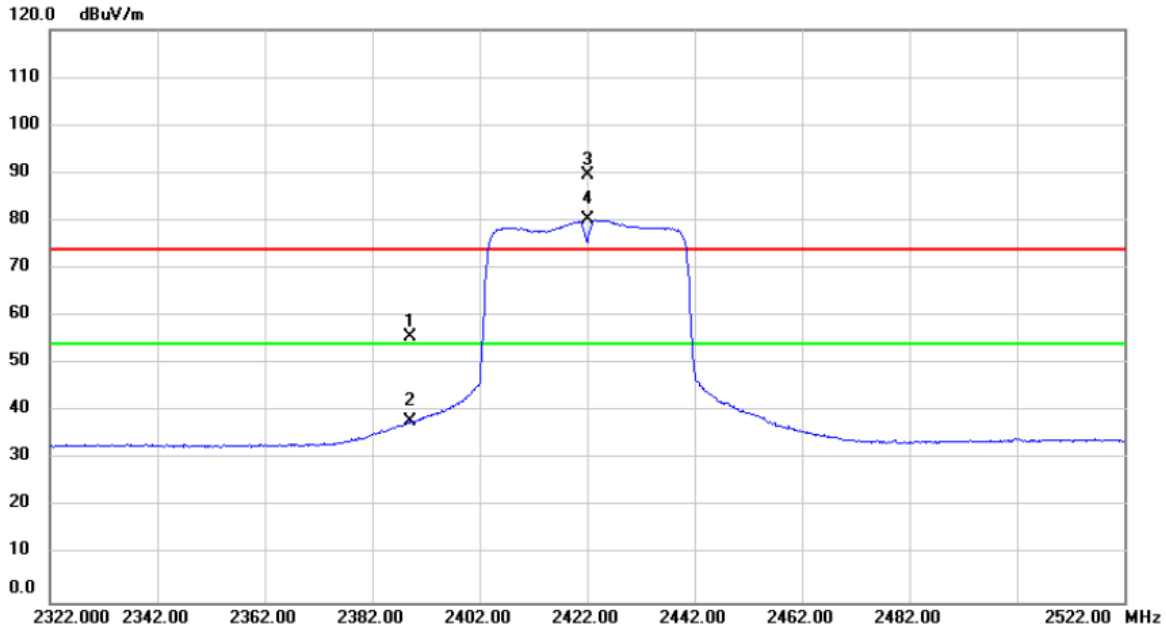
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	66.15	-10.22	55.93	74.00	-18.07	peak	
2	*	4924.000	50.44	-10.22	40.22	54.00	-13.78	AVG	

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

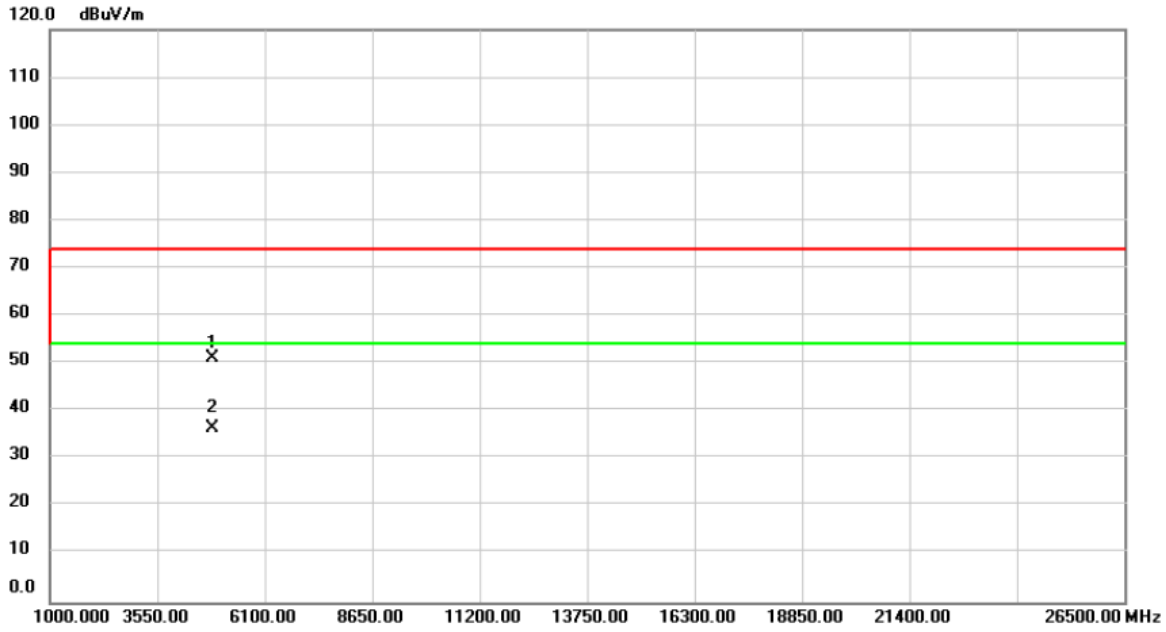
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2389.000	24.64	31.06	55.70	74.00	-18.30	peak	
2		2389.000	6.99	31.06	38.05	54.00	-15.95	AVG	
3	X	2422.000	58.45	31.18	89.63	74.00	15.63	peak	No Limit
4	*	2422.000	48.95	31.18	80.13	54.00	26.13	AVG	No Limit

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

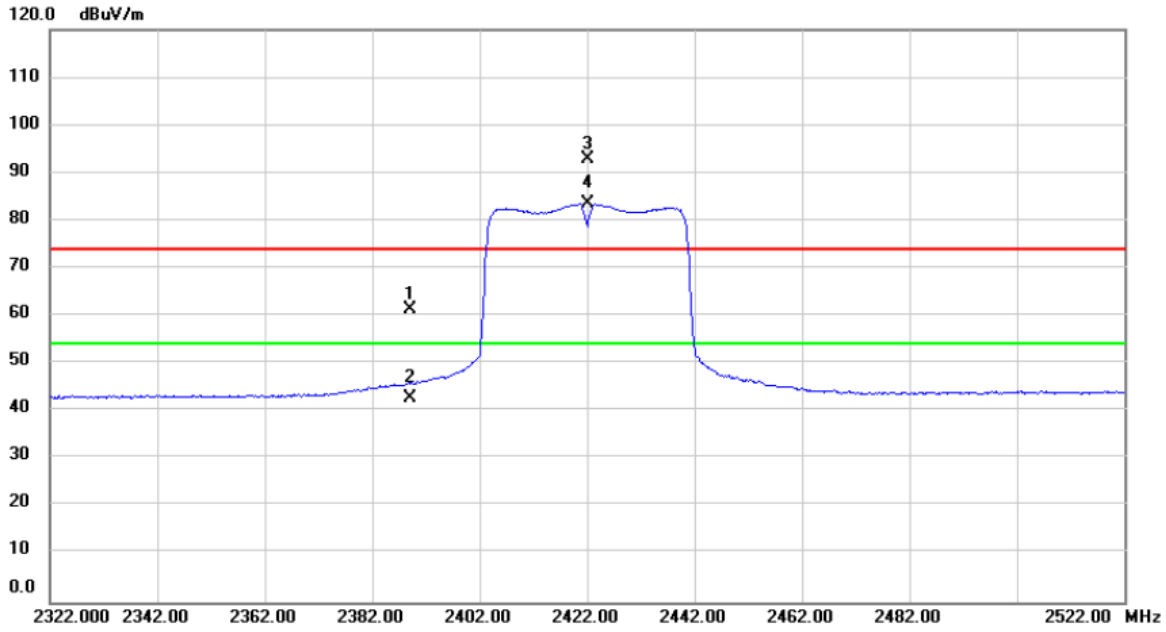
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4844.000	61.55	-10.35	51.20	74.00	-22.80	peak	
2	*	4844.000	46.78	-10.35	36.43	54.00	-17.57	AVG	

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

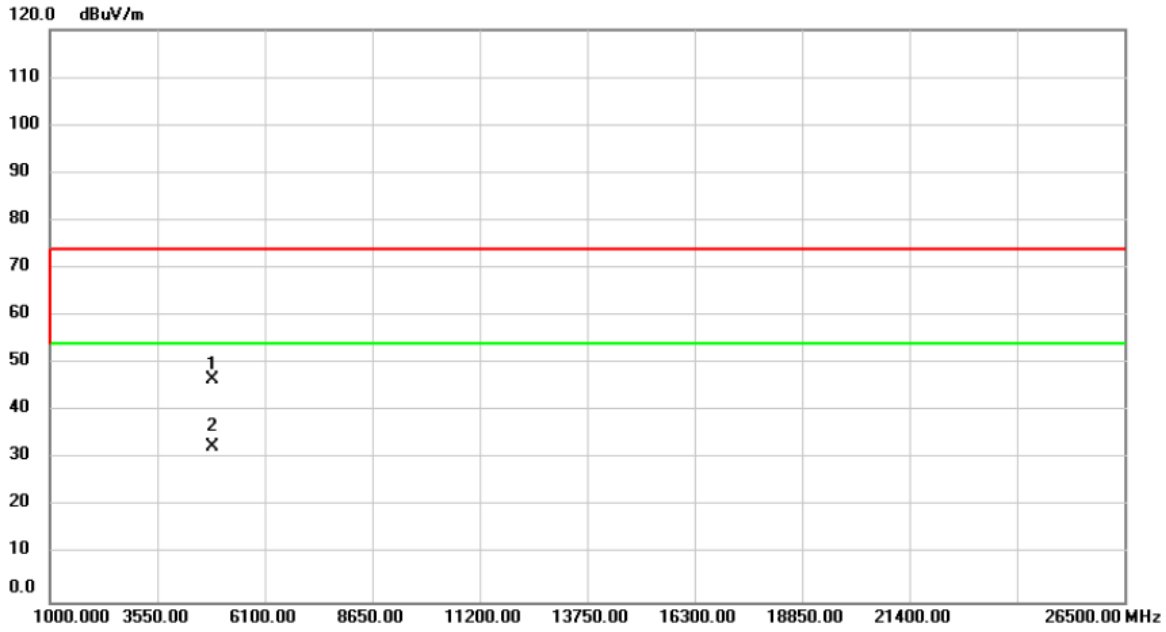
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2388.980	30.21	31.06	61.27	74.00	-12.73	peak	
2		2388.980	11.66	31.06	42.72	54.00	-11.28	AVG	
3	X	2422.000	61.59	31.18	92.77	74.00	18.77	peak	No Limit
4	*	2422.000	52.28	31.18	83.46	54.00	29.46	AVG	No Limit

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

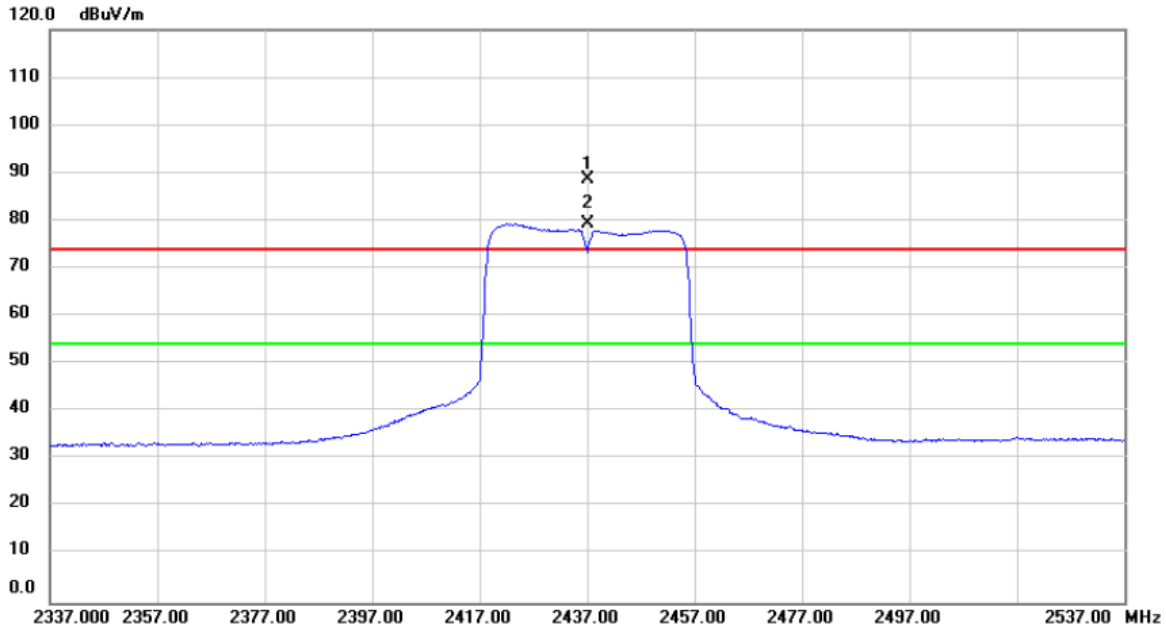
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4844.000	57.03	-10.35	46.68	74.00	-27.32	peak	
2	*	4844.000	42.78	-10.35	32.43	54.00	-21.57	AVG	

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

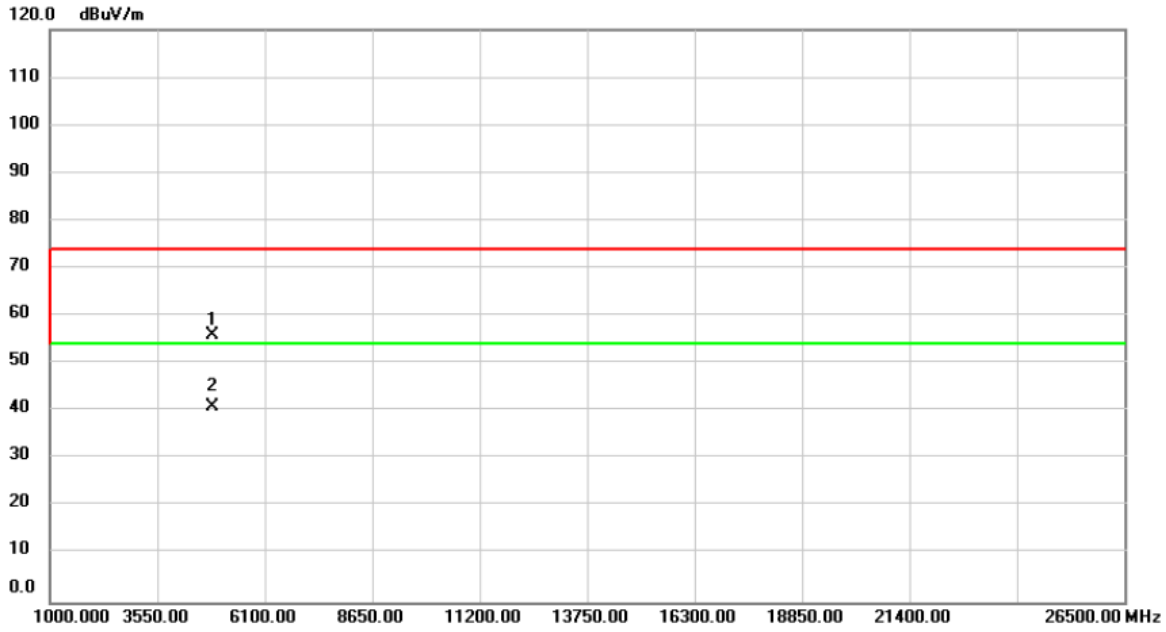
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	57.55	31.23	88.78	74.00	14.78	peak	No Limit
2	*	2437.000	48.07	31.23	79.30	54.00	25.30	AVG	No Limit

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

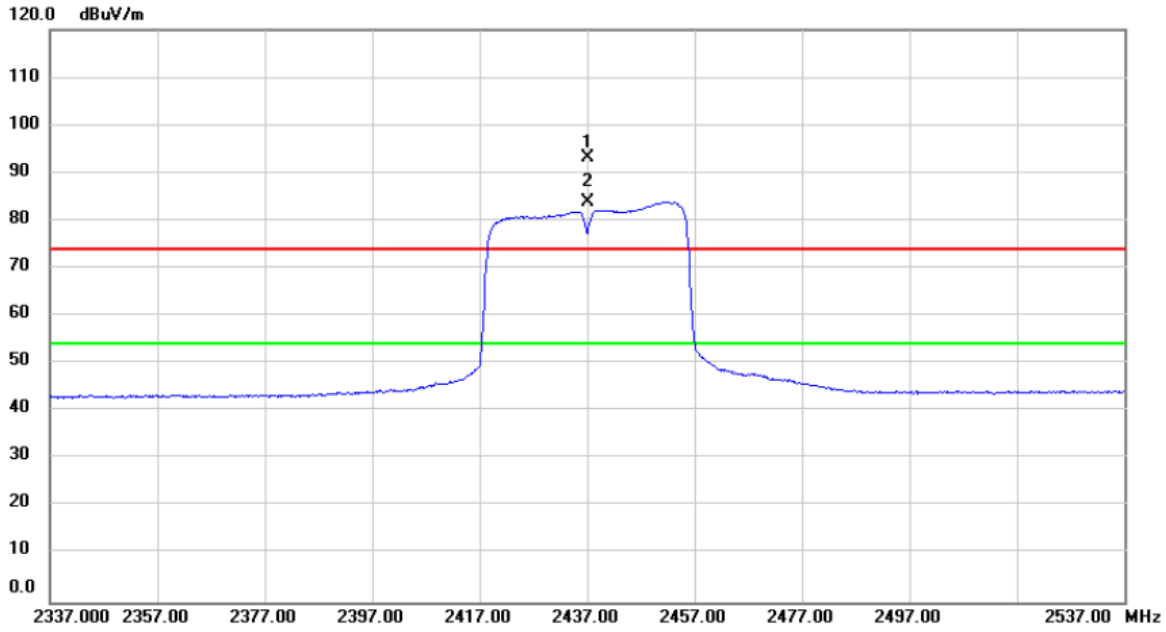
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	66.25	-10.30	55.95	74.00	-18.05	peak	
2	*	4874.000	51.25	-10.30	40.95	54.00	-13.05	AVG	

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

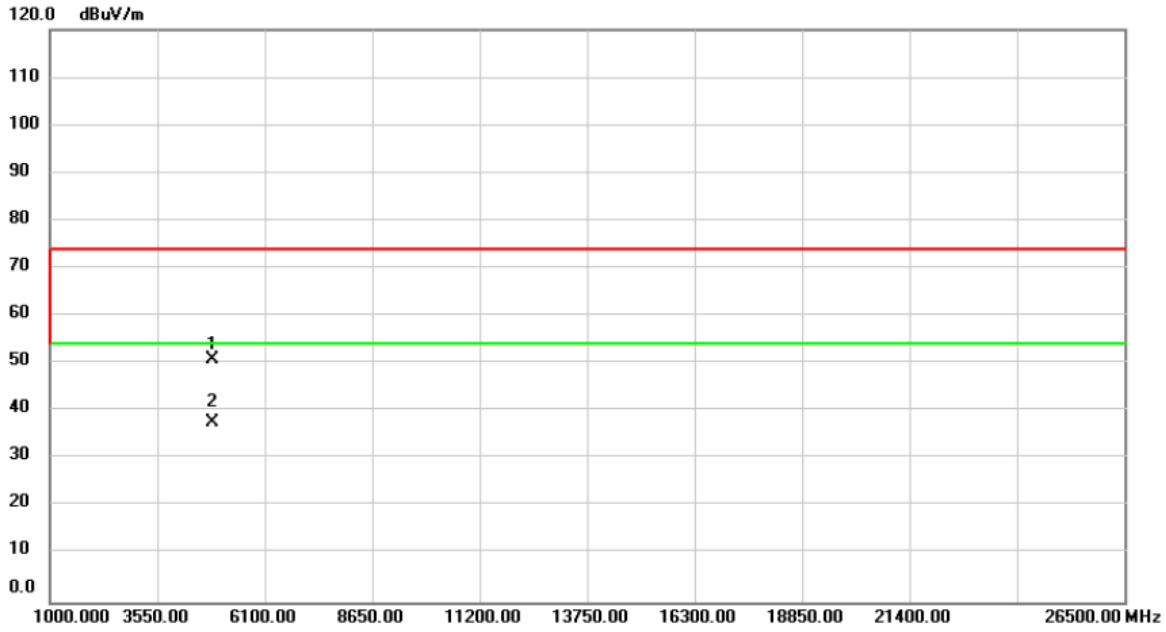
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	61.98	31.23	93.21	74.00	19.21	peak	No Limit
2	*	2437.000	52.66	31.23	83.89	54.00	29.89	AVG	No Limit

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

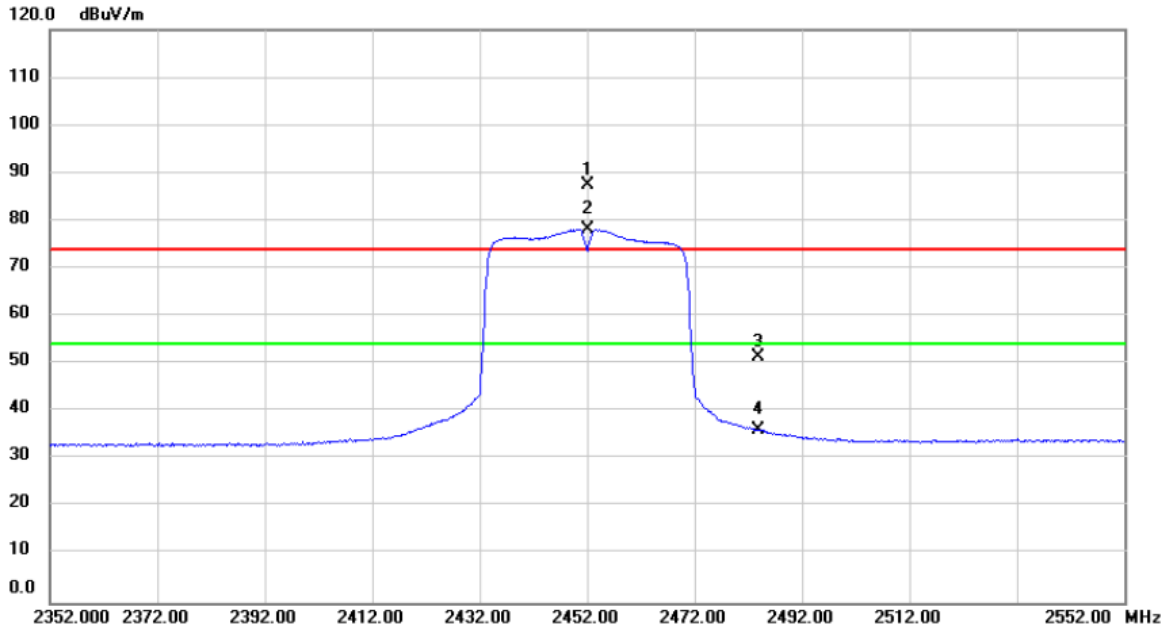
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	61.17	-10.30	50.87	74.00	-23.13	peak	
2	*	4874.000	47.82	-10.30	37.52	54.00	-16.48	AVG	

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

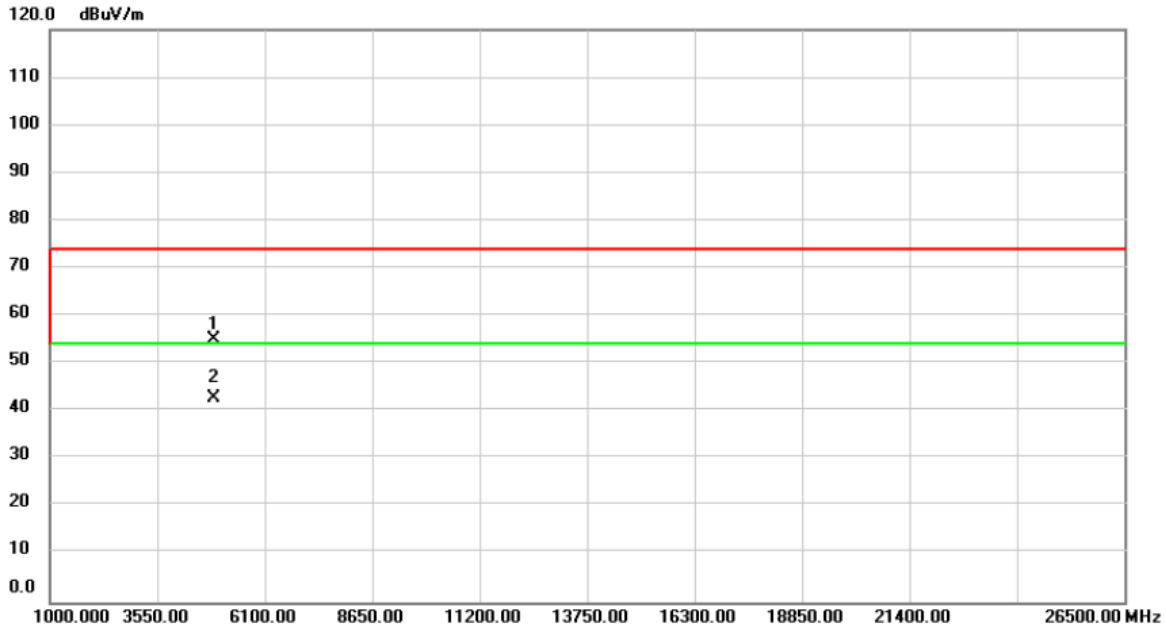
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2452.000	56.29	31.30	87.59	74.00	13.59	peak	No Limit
2	*	2452.000	46.84	31.30	78.14	54.00	24.14	AVG	No Limit
3		2483.774	19.99	31.41	51.40	74.00	-22.60	peak	
4		2483.774	4.84	31.41	36.25	54.00	-17.75	AVG	

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

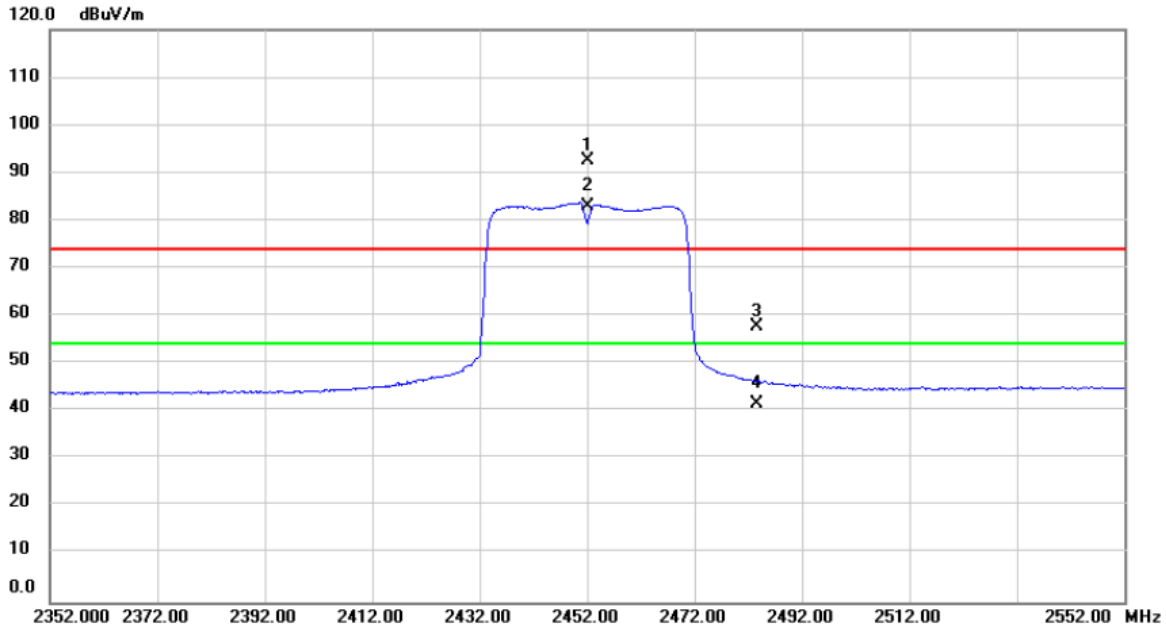
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4904.000	65.19	-10.25	54.94	74.00	-19.06	peak	
2	*	4904.000	52.99	-10.25	42.74	54.00	-11.26	AVG	

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

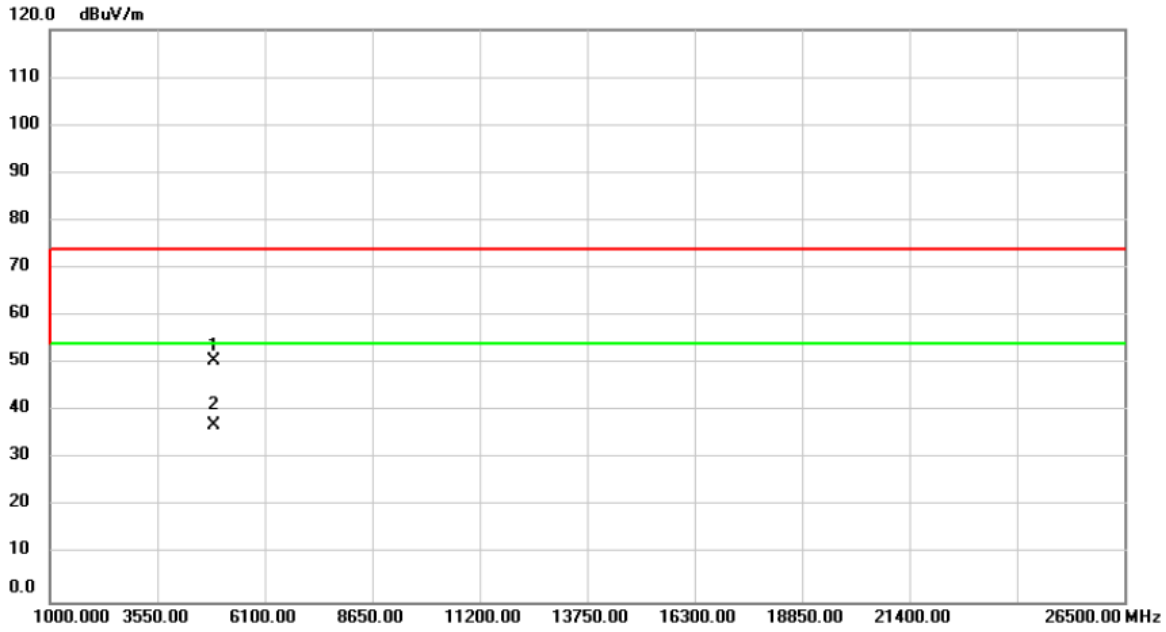
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2452.000	61.24	31.30	92.54	74.00	18.54	peak	No Limit
2	*	2452.000	51.71	31.30	83.01	54.00	29.01	AVG	No Limit
3		2483.637	26.20	31.41	57.61	74.00	-16.39	peak	
4		2483.637	10.09	31.41	41.50	54.00	-12.50	AVG	

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

Horizontal

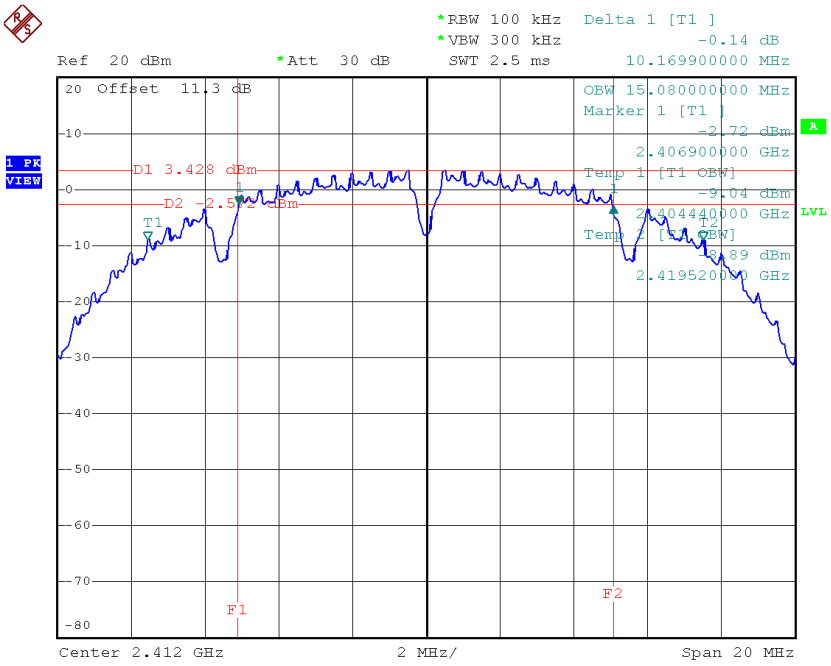


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4904.000	60.80	-10.25	50.55	74.00	-23.45	peak	
2	*	4904.000	47.34	-10.25	37.09	54.00	-16.91	AVG	

APPENDIX E - BANDWIDTH

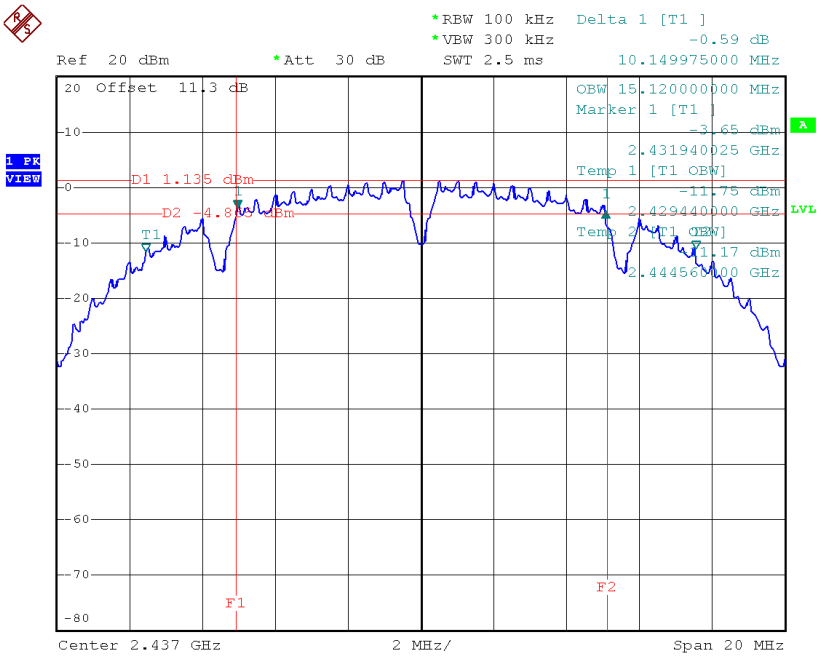
Test Mode : TX B Mode_CH01/06/11				
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.17	15.08	500	Complies
2437	10.15	15.12	500	Complies
2462	10.19	15.12	500	Complies

TX CH01



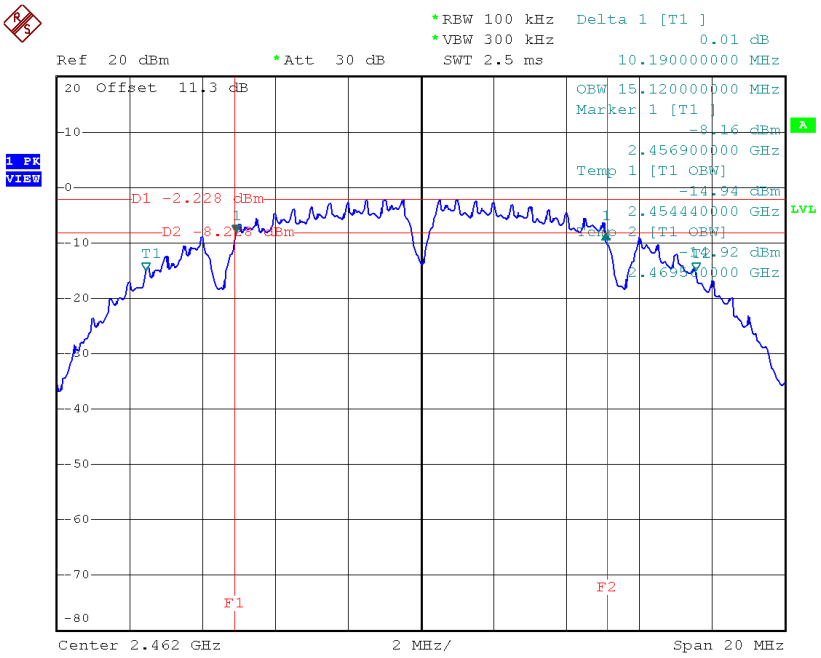
Date: 16.JAN.2018 15:13:40

TX CH06



Date: 16.JAN.2018 15:16:24

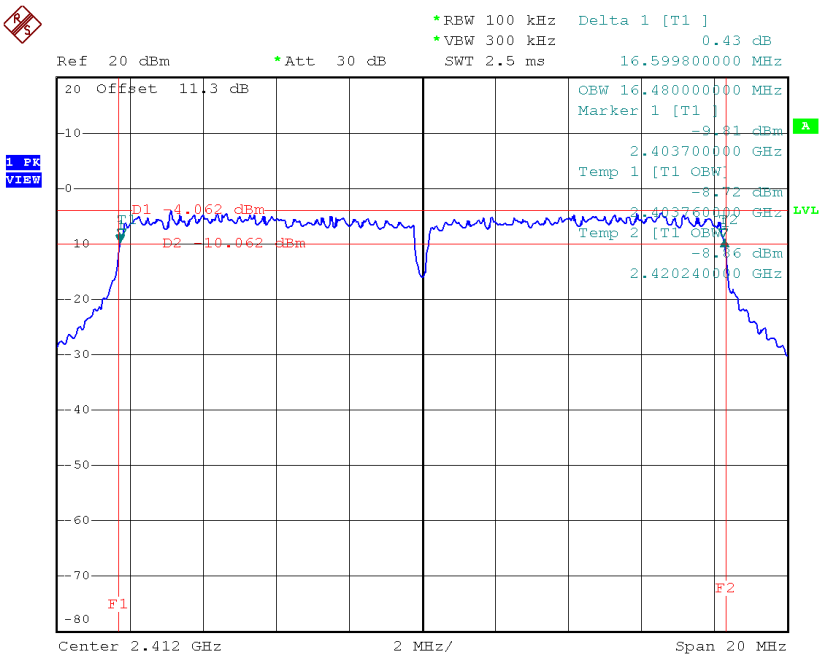
TX CH11



Date: 16.JAN.2018 15:18:49

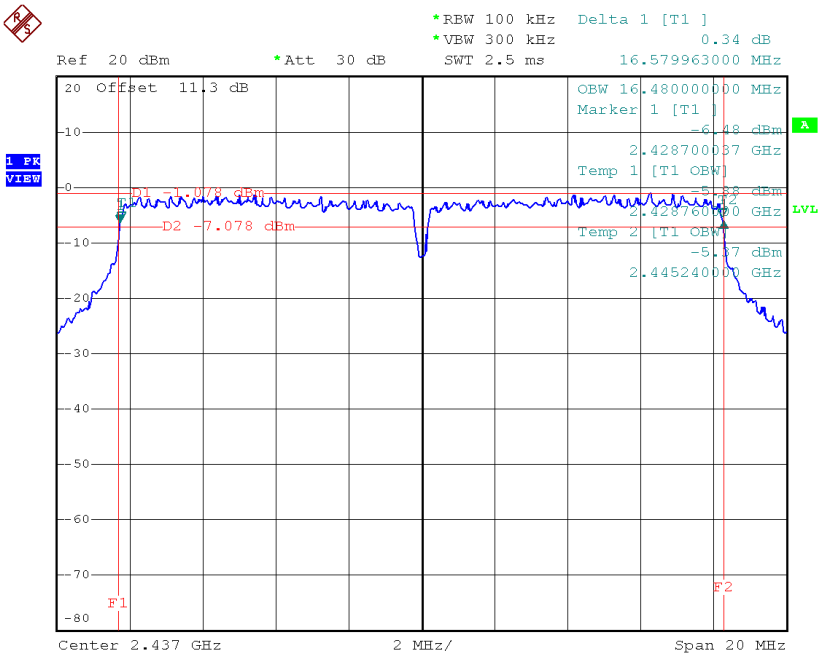
Test Mode: TX G Mode_CH01/06/11				
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.60	16.48	500	Complies
2437	16.58	16.48	500	Complies
2462	16.62	16.48	500	Complies

TX CH01



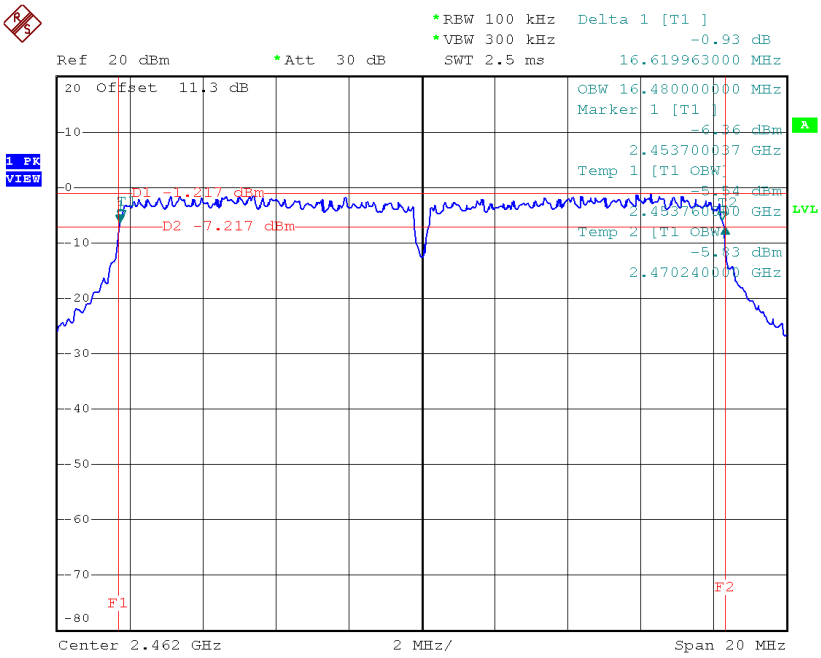
Date: 16.JAN.2018 15:24:13

TX CH06



Date: 16.JAN.2018 15:26:29

TX CH11

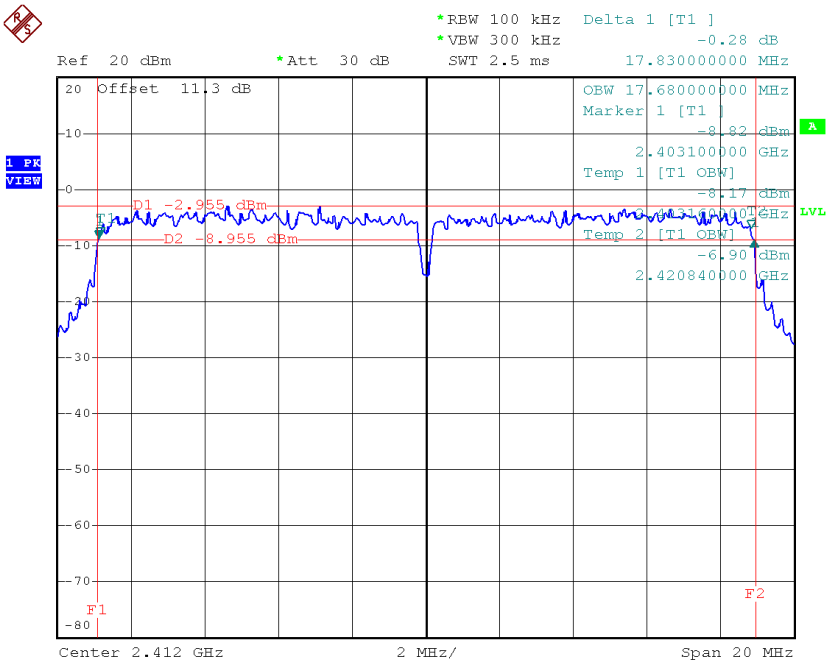


Date: 16.JAN.2018 15:28:19

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

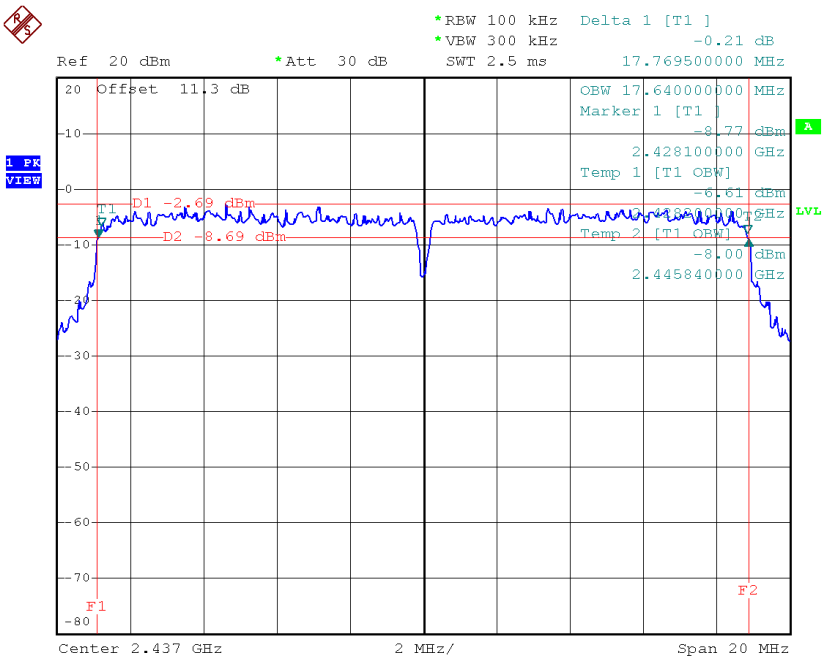
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.83	17.68	500	Complies
2437	17.77	17.64	500	Complies
2462	17.77	17.68	500	Complies

TX CH01



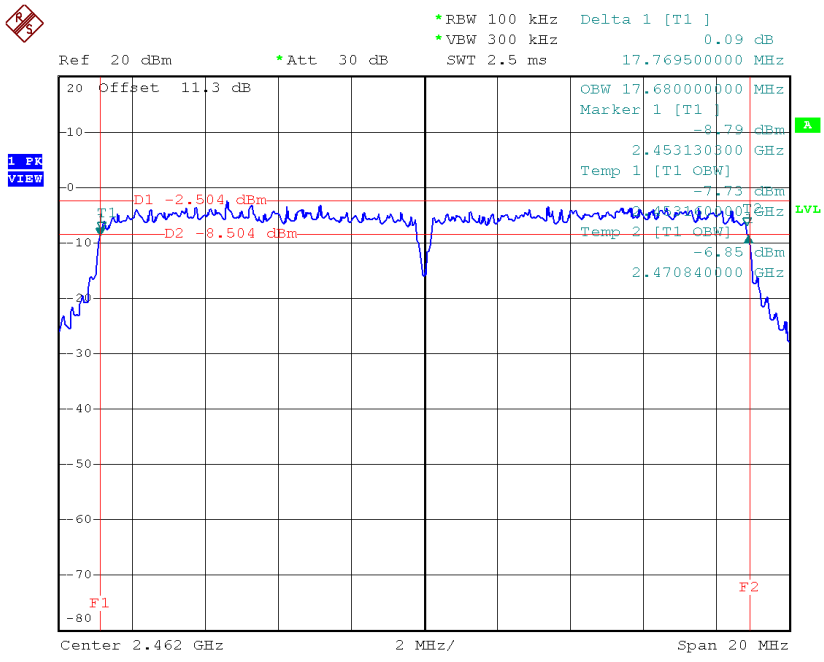
Date: 16.JAN.2018 15:42:21

TX CH06



Date: 16.JAN.2018 15:44:10

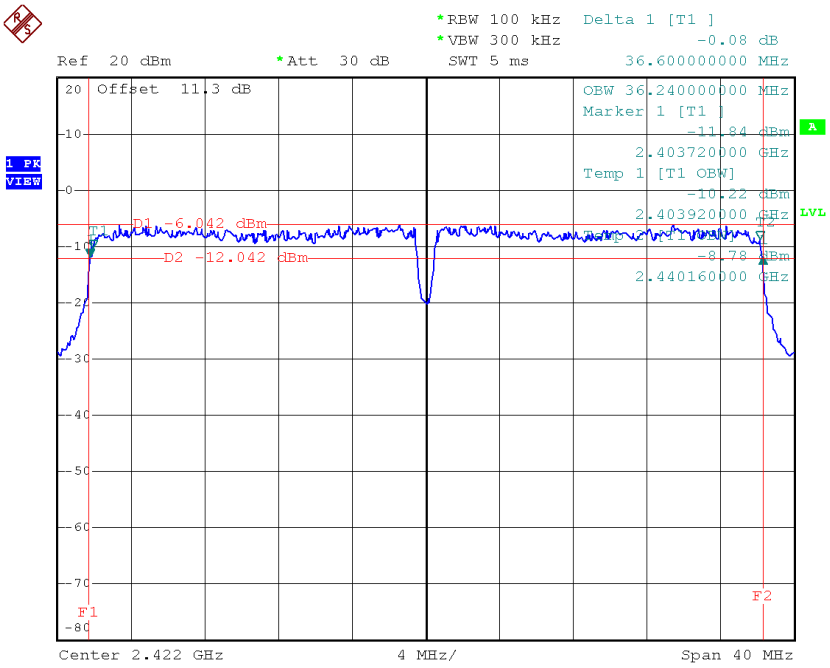
TX CH11



Date: 16.JAN.2018 15:46:00

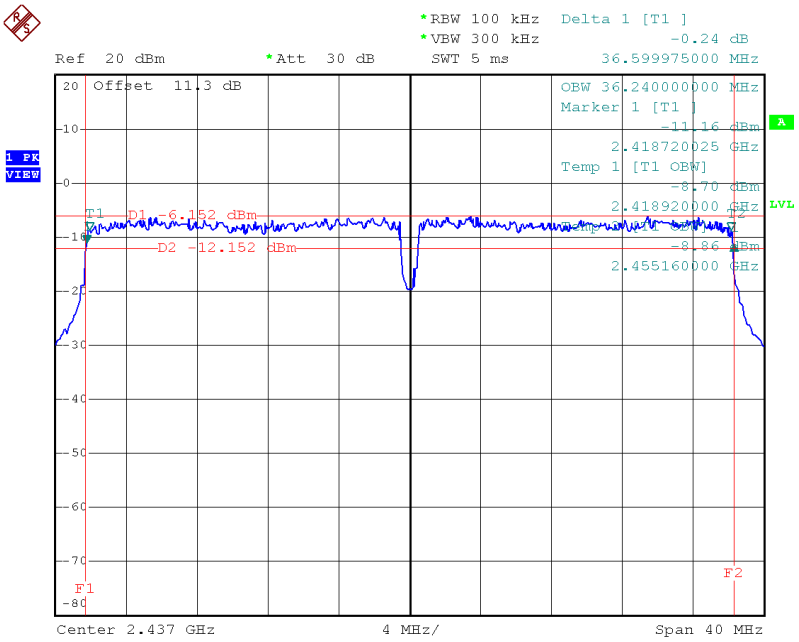
Test Mode : TX N-40MHz Mode_CH03/06/09				
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.60	36.24	500	Complies
2437	36.60	36.24	500	Complies
2452	36.60	36.24	500	Complies

TX CH03



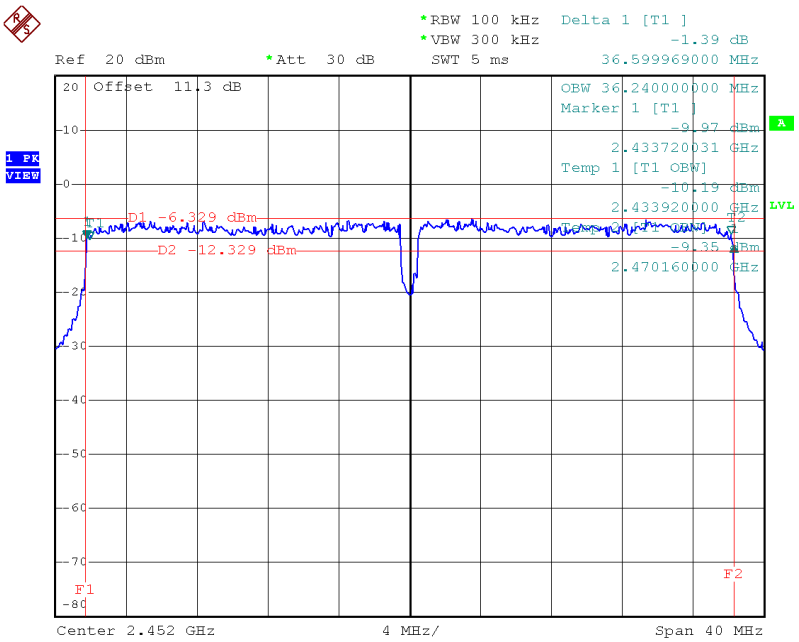
Date: 16.JAN.2018 15:49:10

TX CH06



Date: 16.JAN.2018 15:51:19

TX CH09



Date: 16.JAN.2018 15:53:10

APPENDIX F - MAXIMUM PEAK CONDUCTED OUTPUT POWER

Test Mode :TX B Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	15.63	0.04	30.00	1.00	Complies
2437	13.66	0.02	30.00	1.00	Complies
2462	10.54	0.01	30.00	1.00	Complies

Test Mode :TX G Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	20.69	0.12	30.00	1.00	Complies
2437	20.46	0.11	30.00	1.00	Complies
2462	20.24	0.11	30.00	1.00	Complies

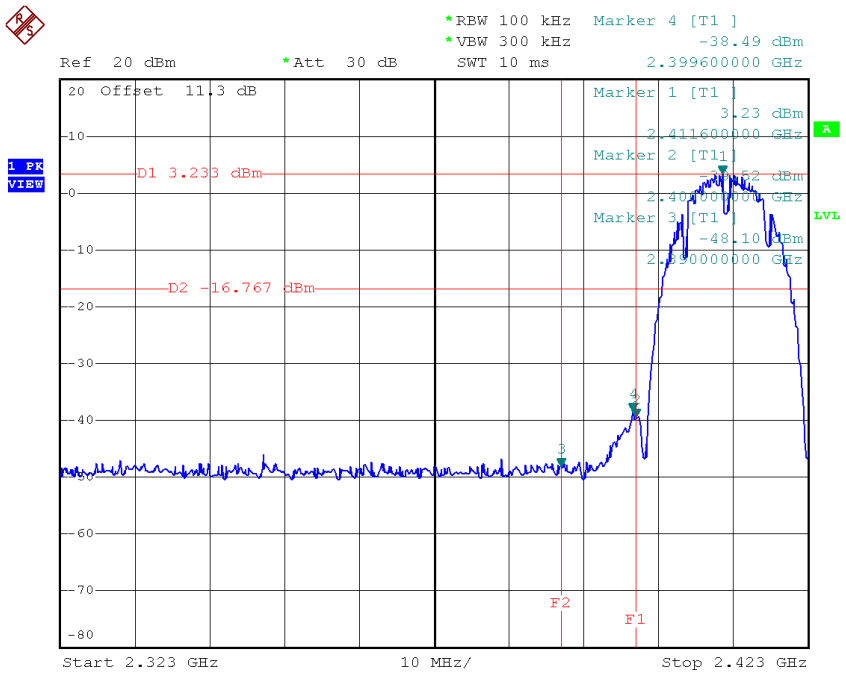
Test Mode :TX N20 Mode_CH01/06/11					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.07	0.08	30.00	1.00	Complies
2437	19.36	0.09	30.00	1.00	Complies
2462	19.08	0.08	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	19.23	0.08	30.00	1.00	Complies
2437	19.17	0.08	30.00	1.00	Complies
2452	18.74	0.07	30.00	1.00	Complies

APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION

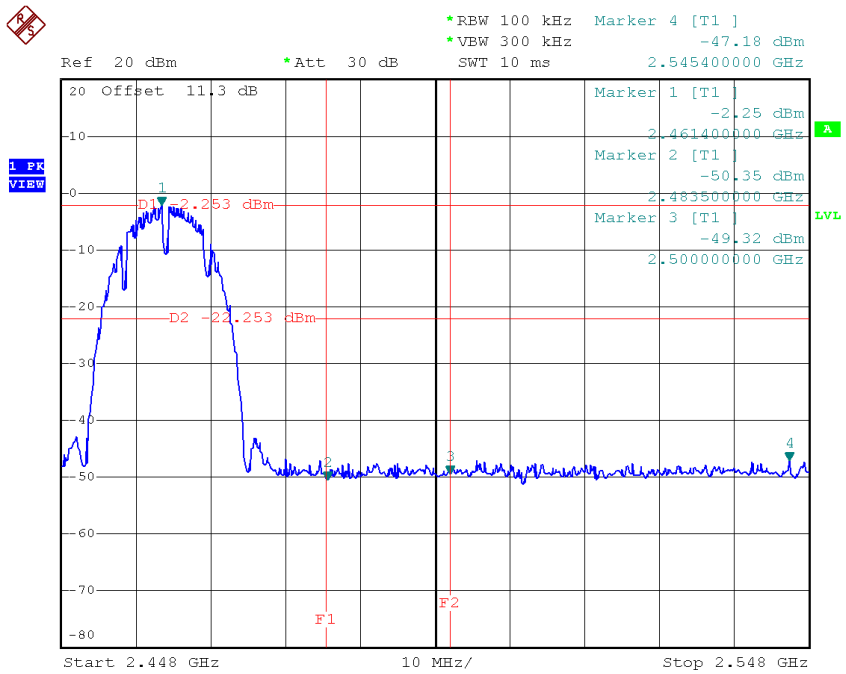
Test Mode :	TX B Mode

TX B mode CH01



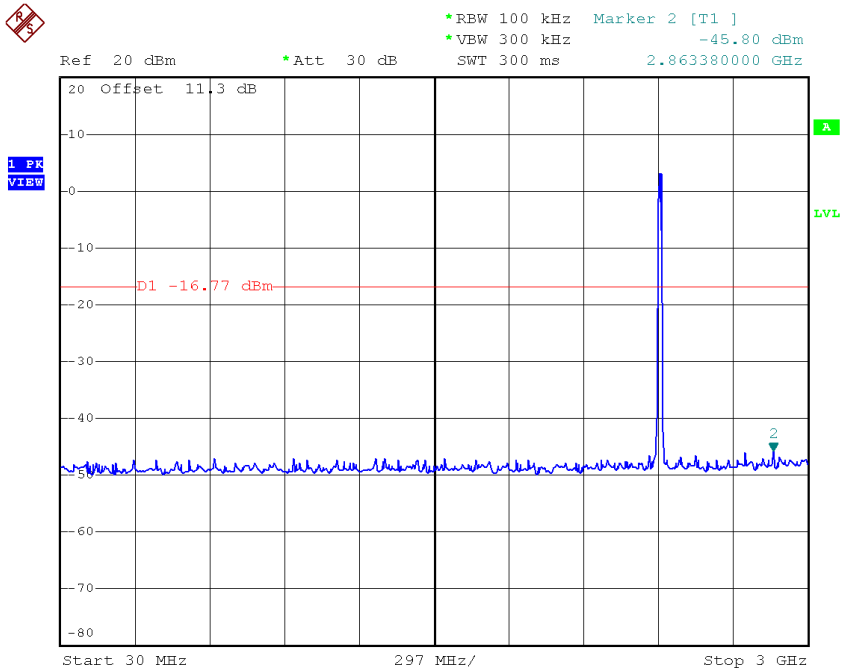
Date: 16.JAN.2018 15:14:09

TX B mode CH11

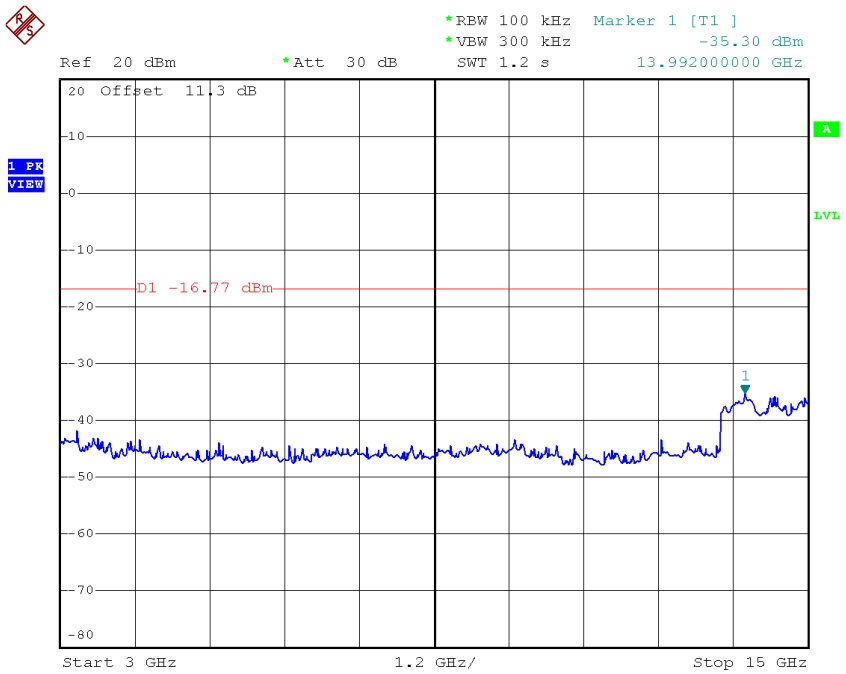


Date: 16.JAN.2018 15:19:01

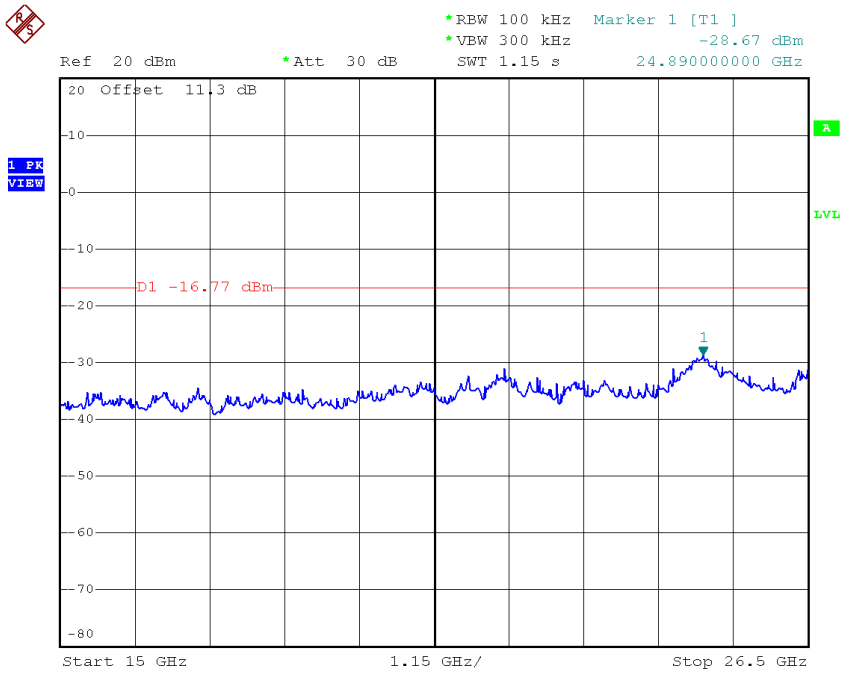
TX B mode CH01 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:14:27

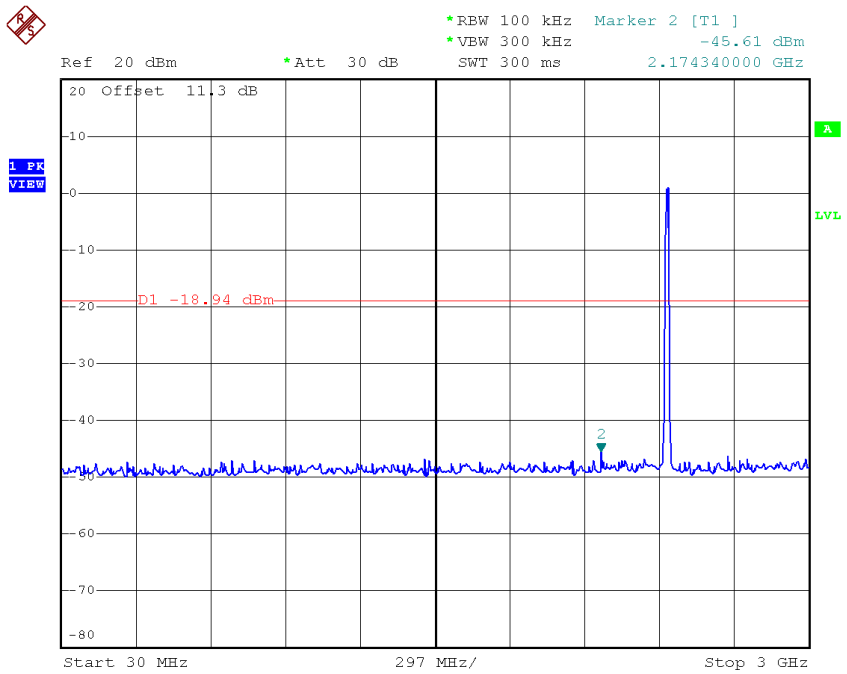


Date: 16.JAN.2018 15:14:38

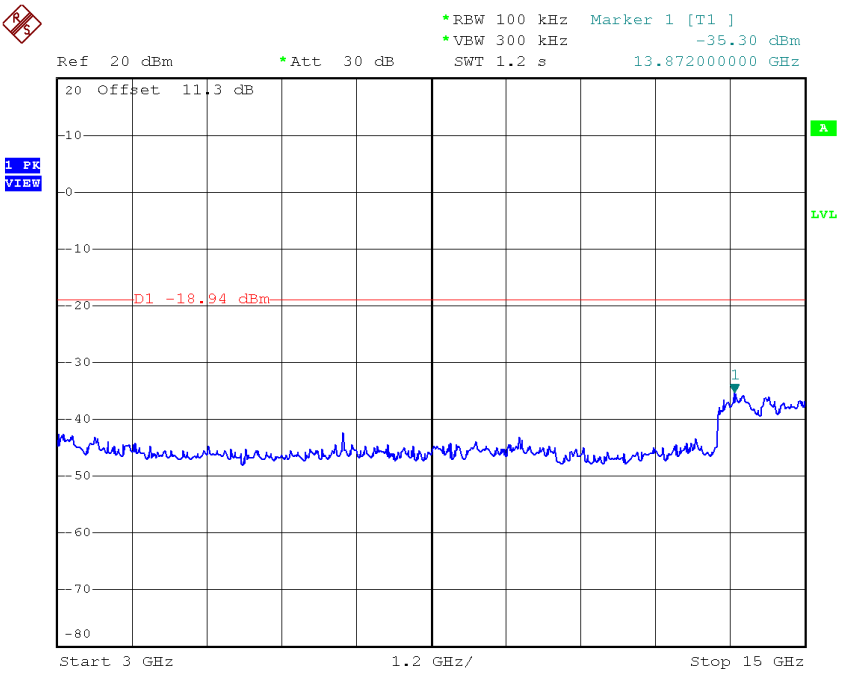


Date: 16.JAN.2018 15:14:50

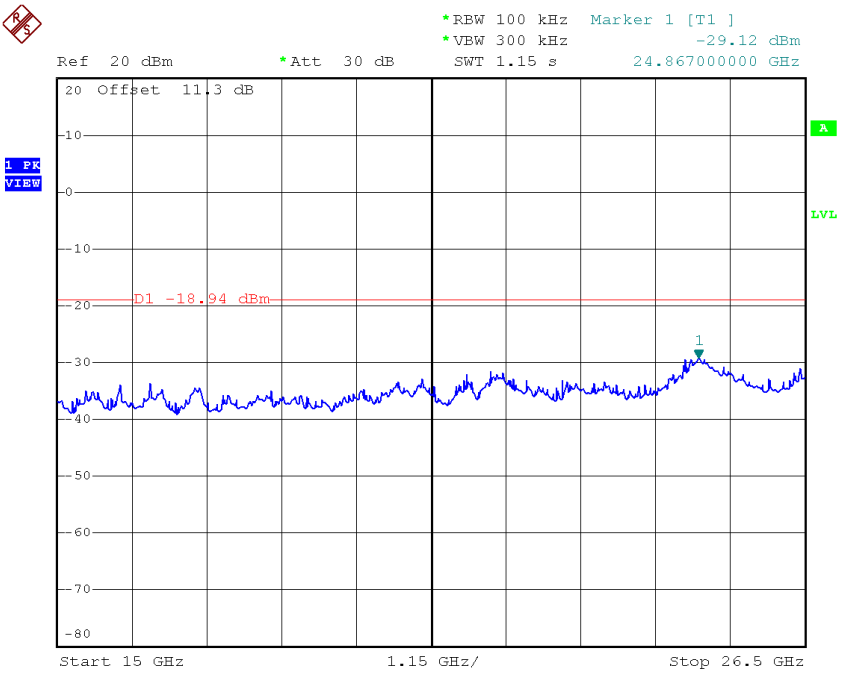
TX B mode CH06 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:17:11

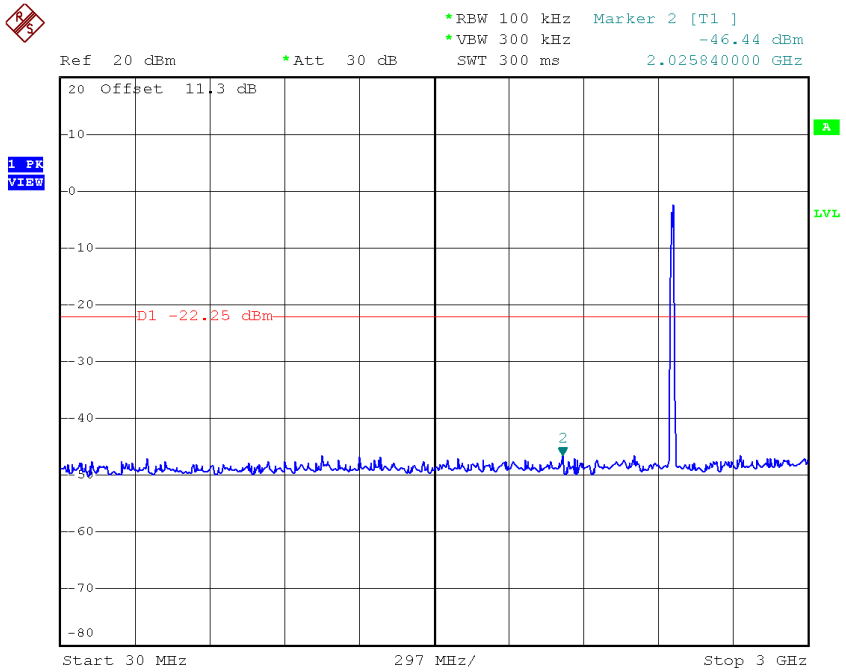


Date: 16.JAN.2018 15:17:22

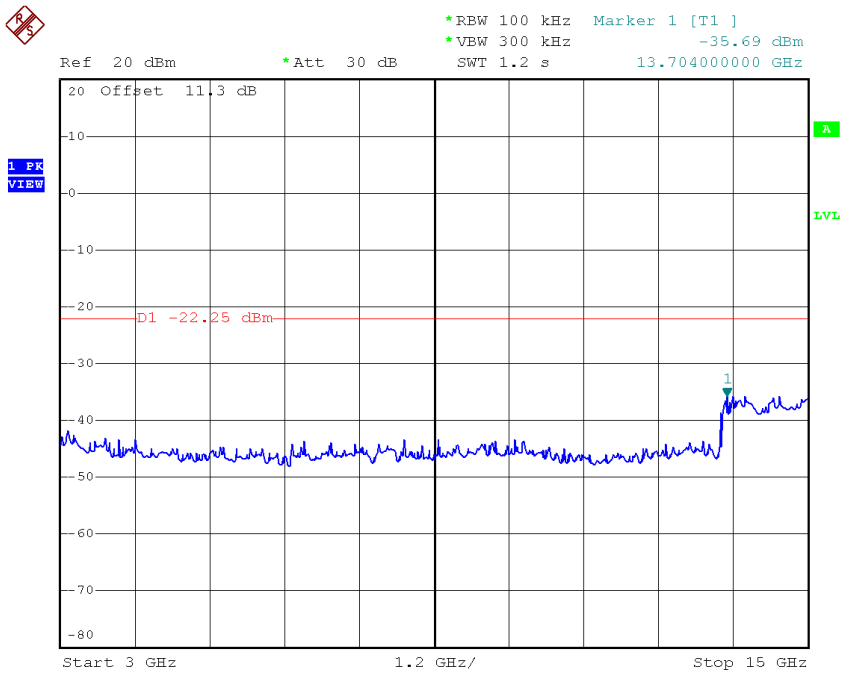


Date: 16.JAN.2018 15:17:34

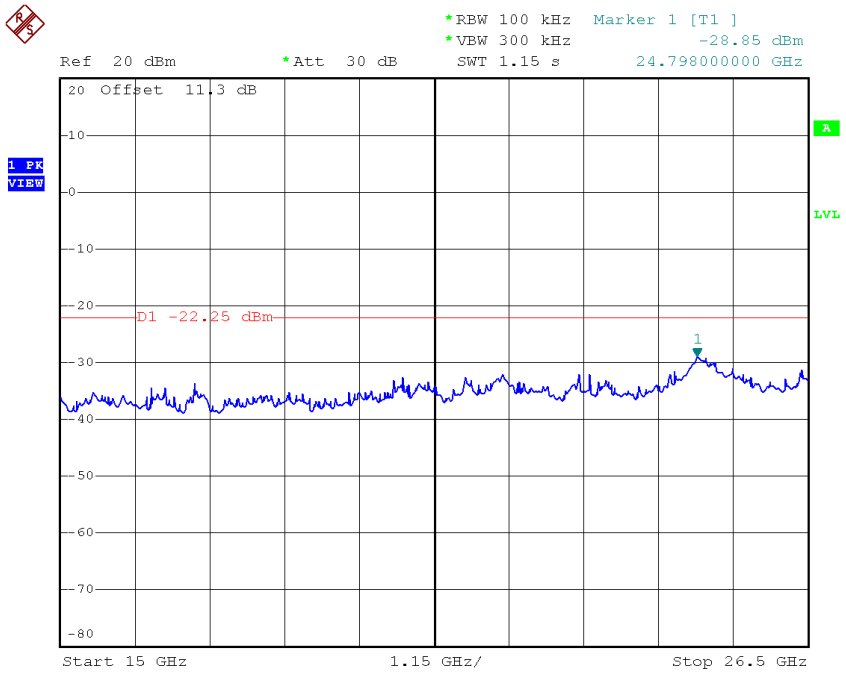
TX B mode CH11 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:19:18



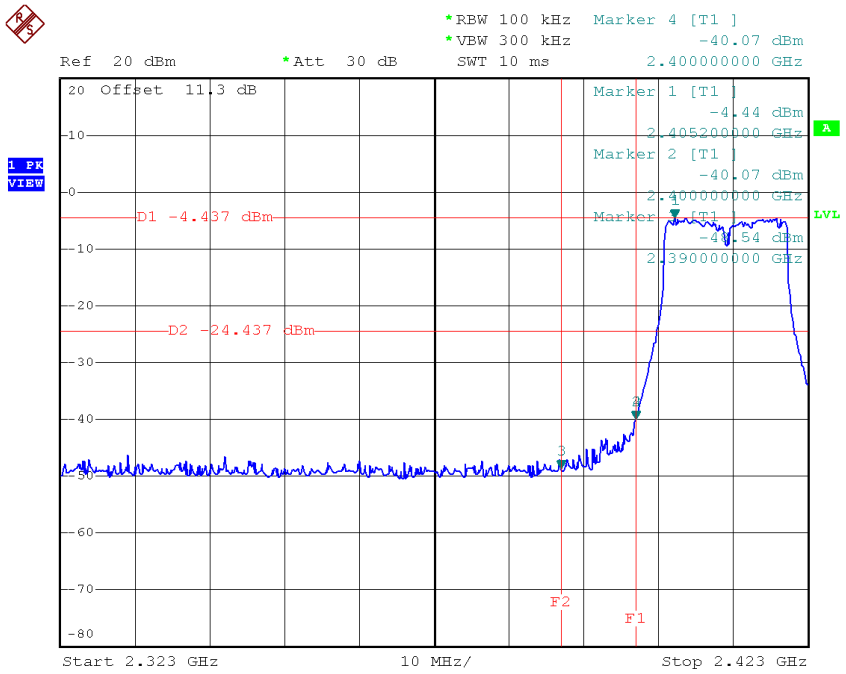
Date: 16.JAN.2018 15:19:30



Date: 16.JAN.2018 15:19:41

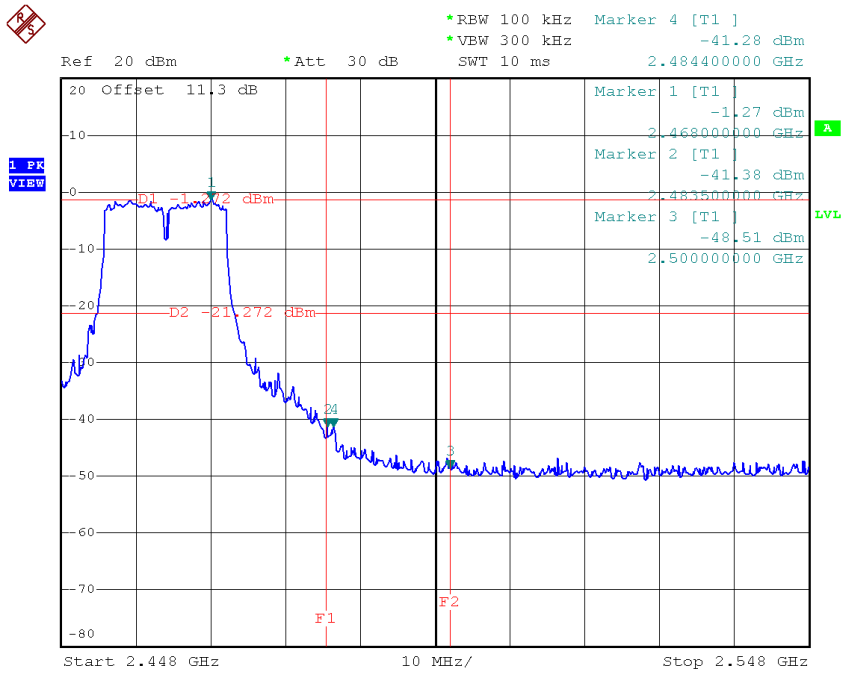
Test Mode :	TX G Mode

TX G mode CH01



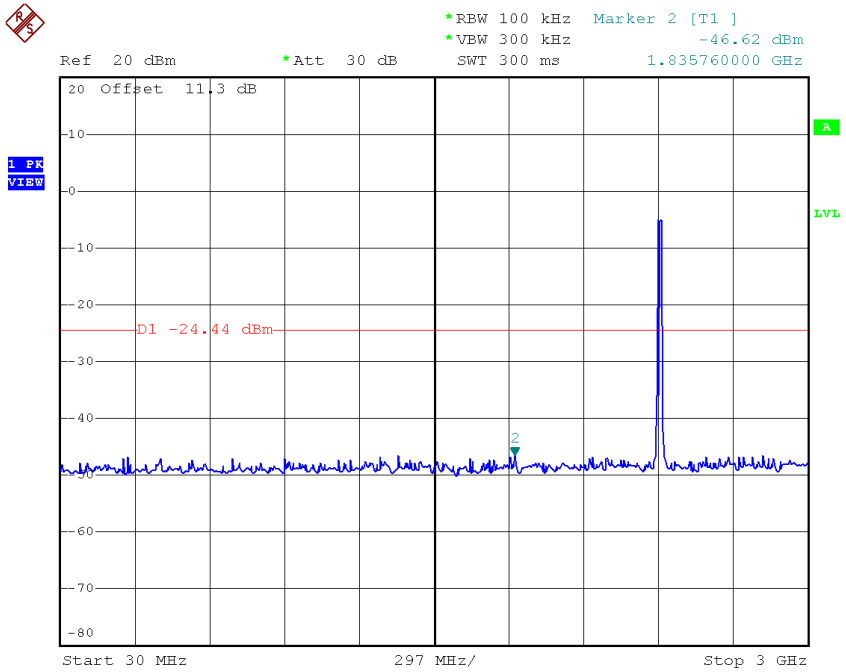
Date: 16.JAN.2018 15:24:25

TX G mode CH11

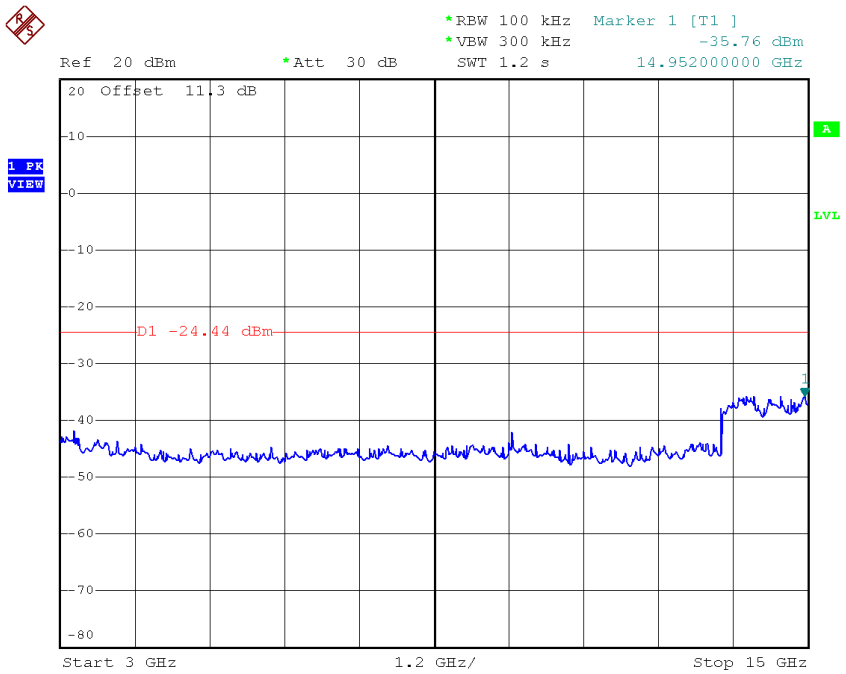


Date: 16.JAN.2018 15:28:29

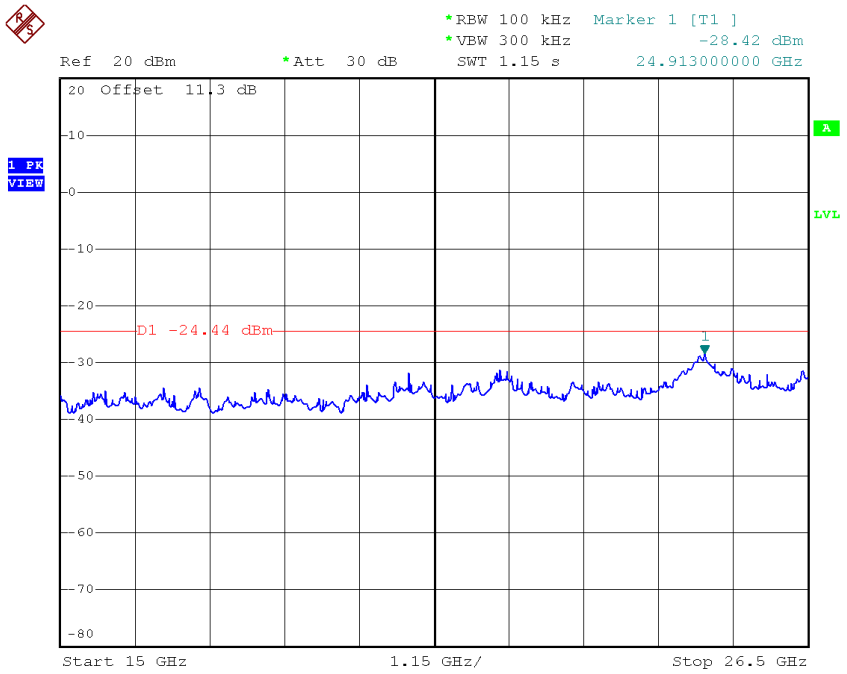
TX G mode CH01 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:24:42

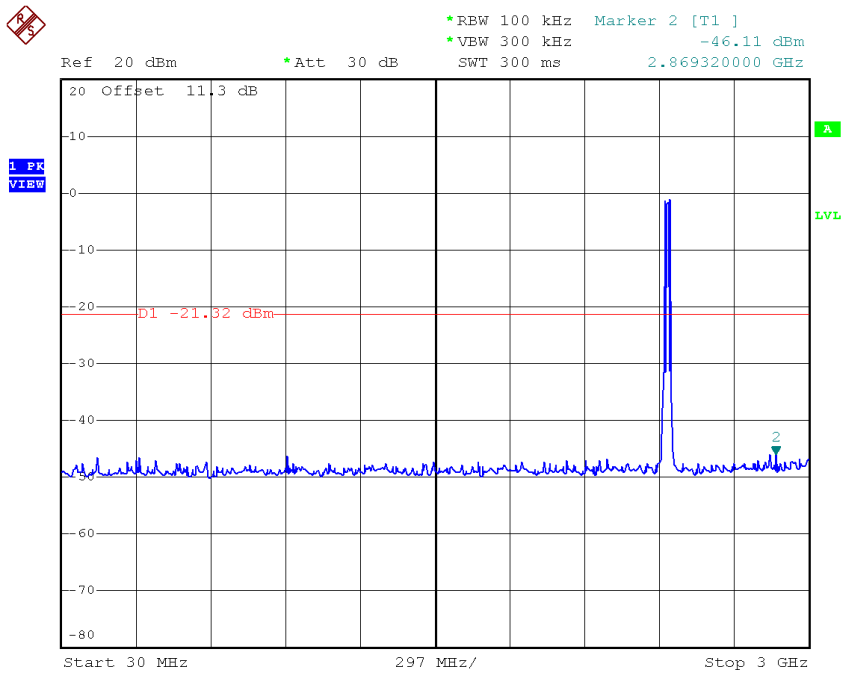


Date: 16.JAN.2018 15:24:54

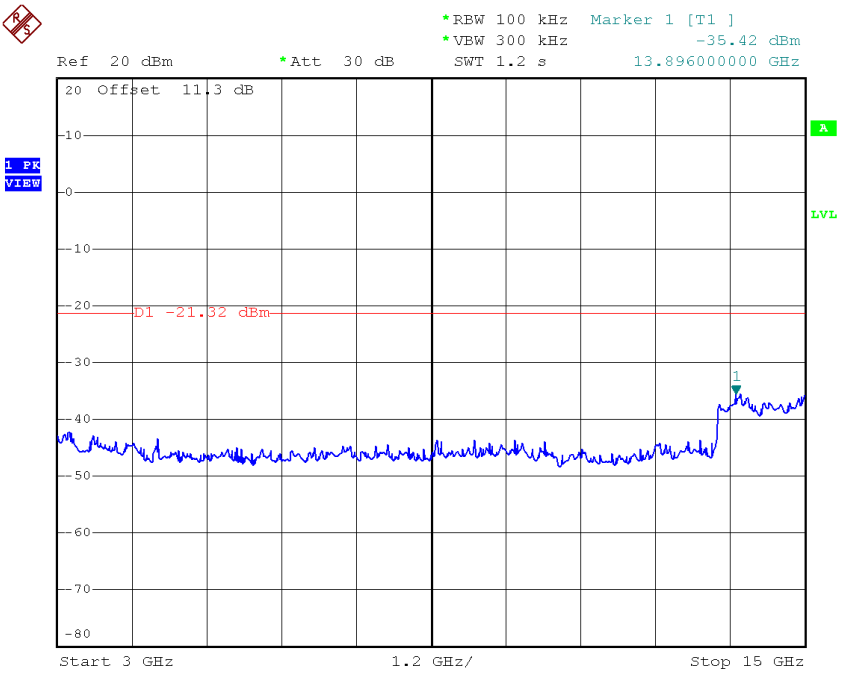


Date: 16.JAN.2018 15:25:06

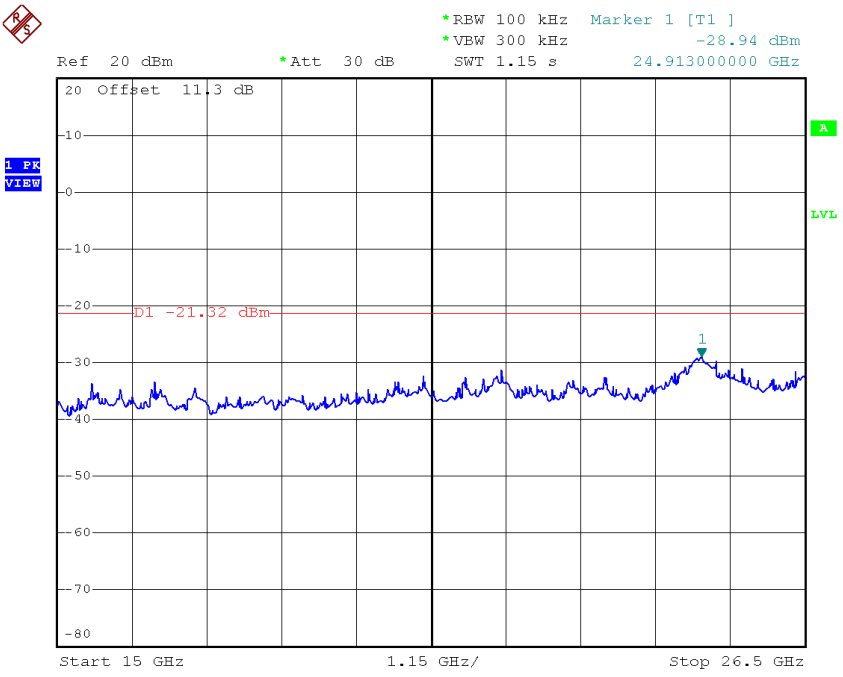
TX G mode CH06 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:27:12

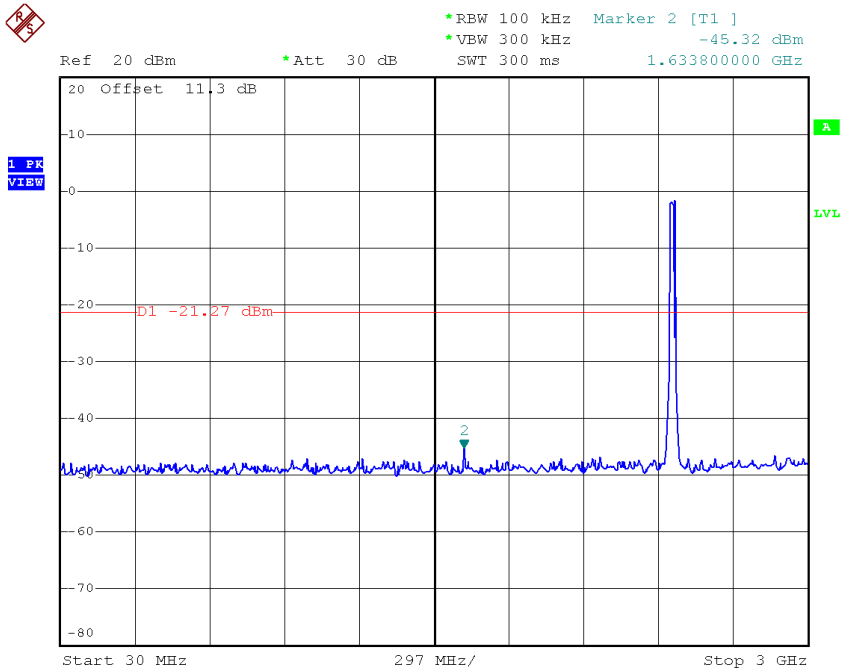


Date: 16.JAN.2018 15:27:22

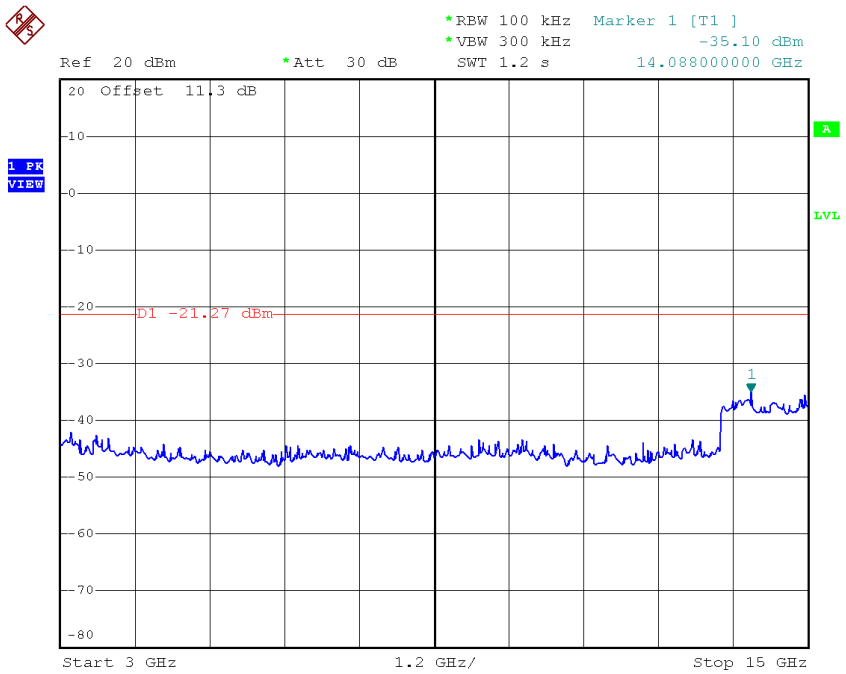


Date: 16.JAN.2018 15:27:31

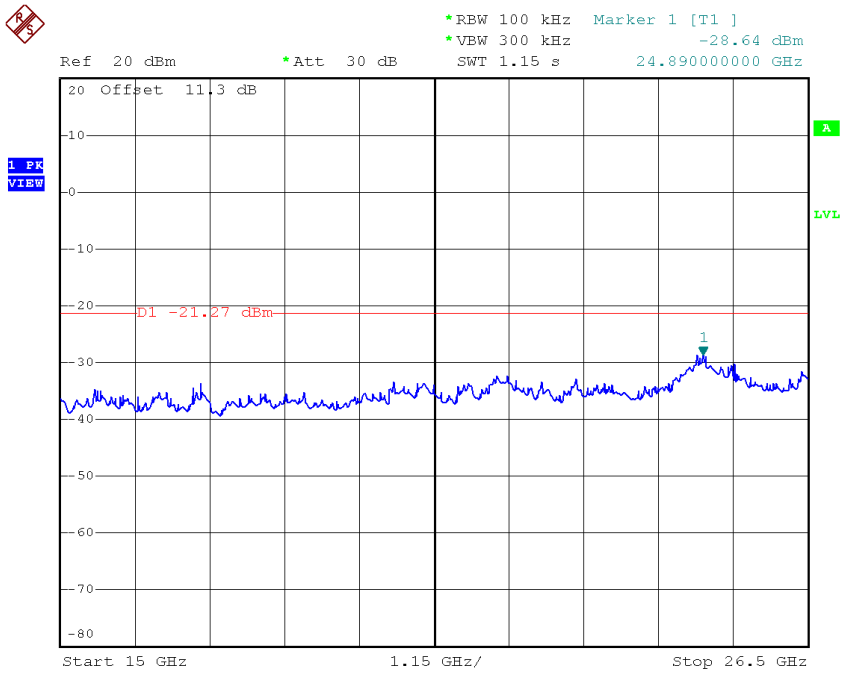
TX G mode CH11 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:28:44



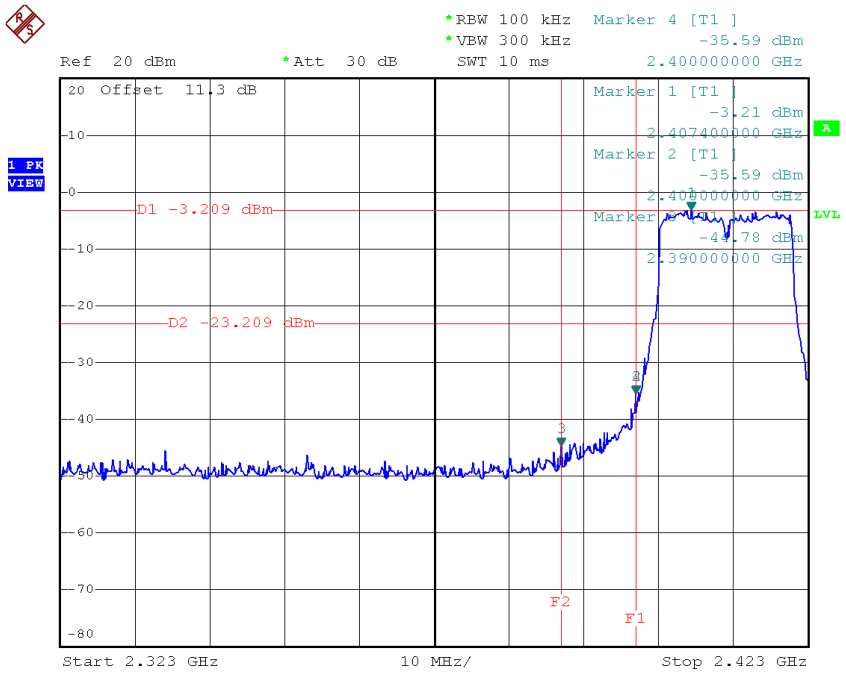
Date: 16.JAN.2018 15:28:54



Date: 16.JAN.2018 15:29:03

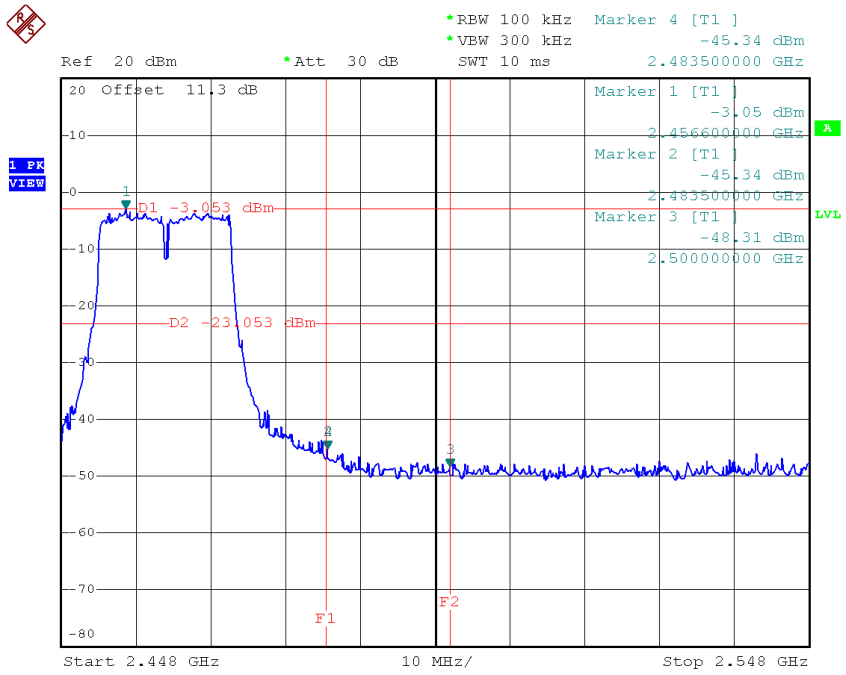
Test Mode :	TX N-20M Mode

TX HT20 mode CH01



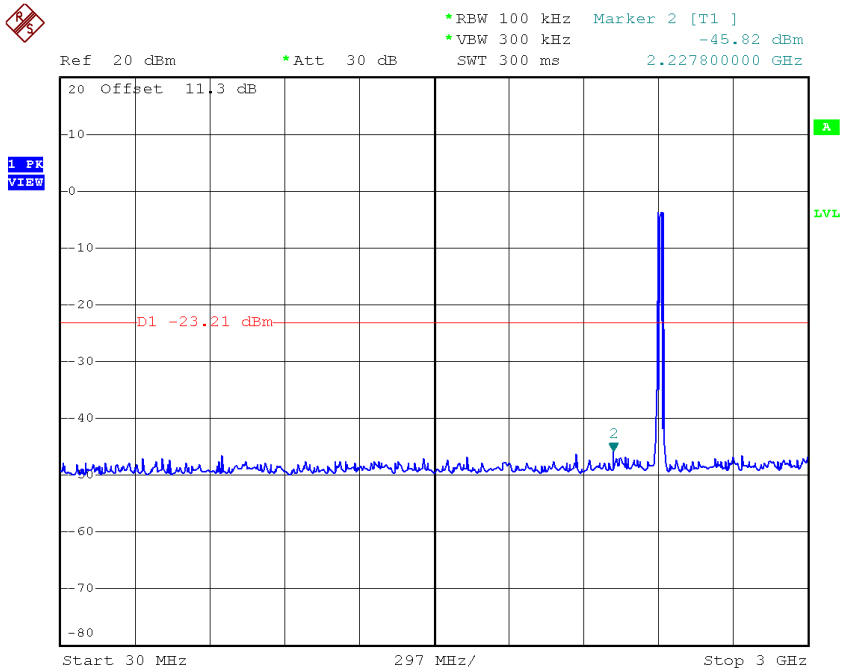
Date: 16.JAN.2018 15:42:48

TX HT20 mode CH11

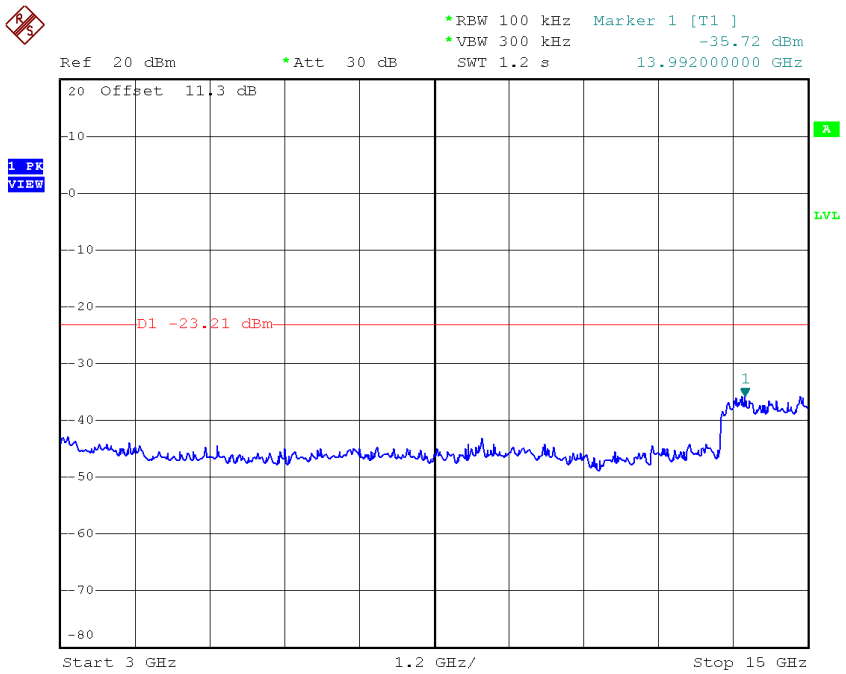


Date: 16.JAN.2018 15:46:27

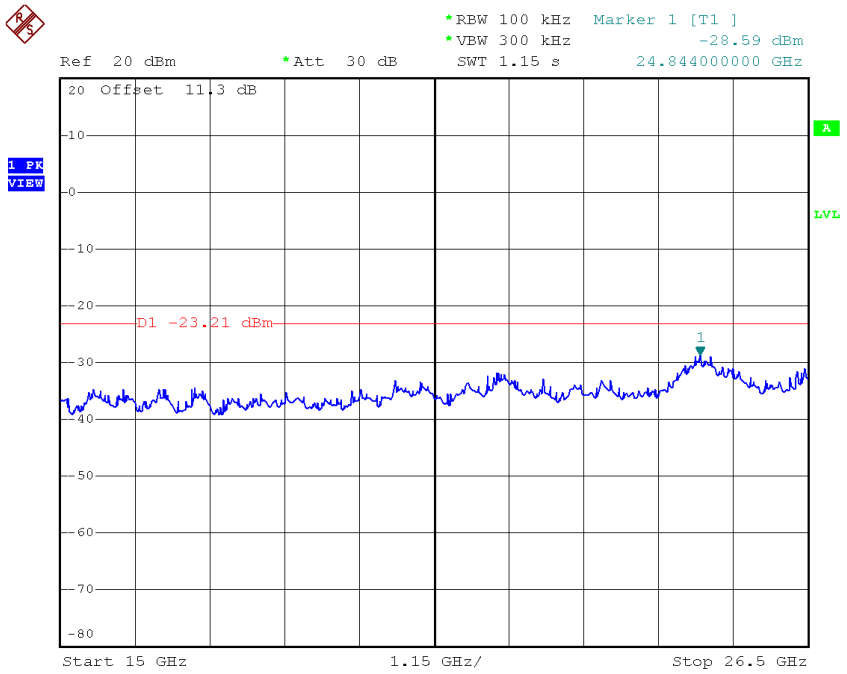
TX HT20 mode CH01 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:43:03

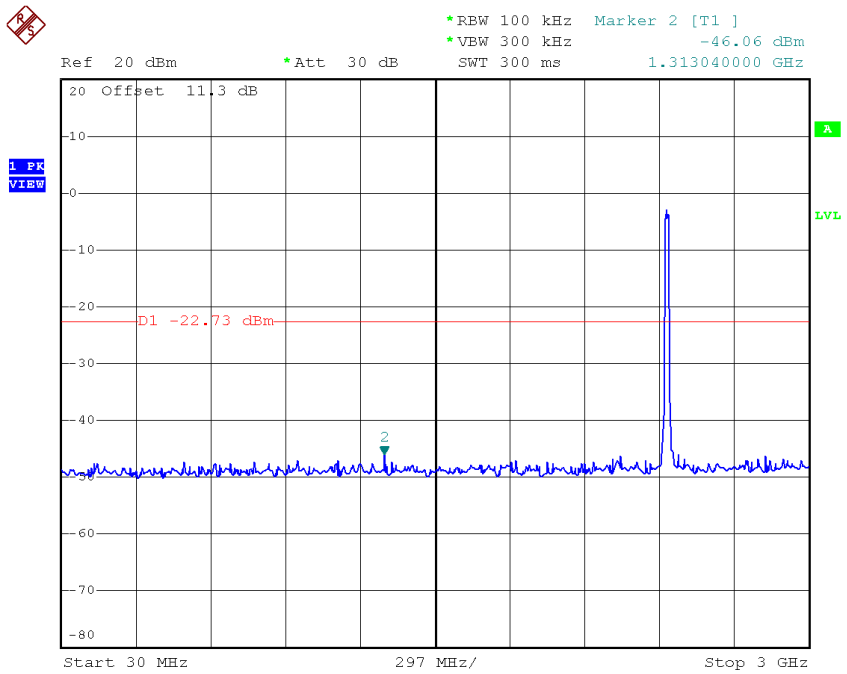


Date: 16.JAN.2018 15:43:13

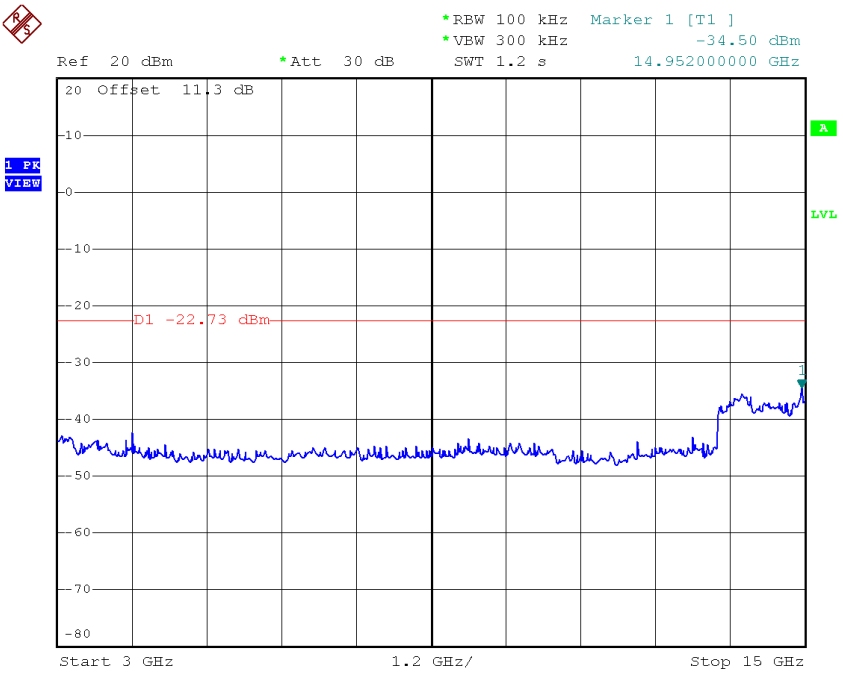


Date: 16.JAN.2018 15:43:22

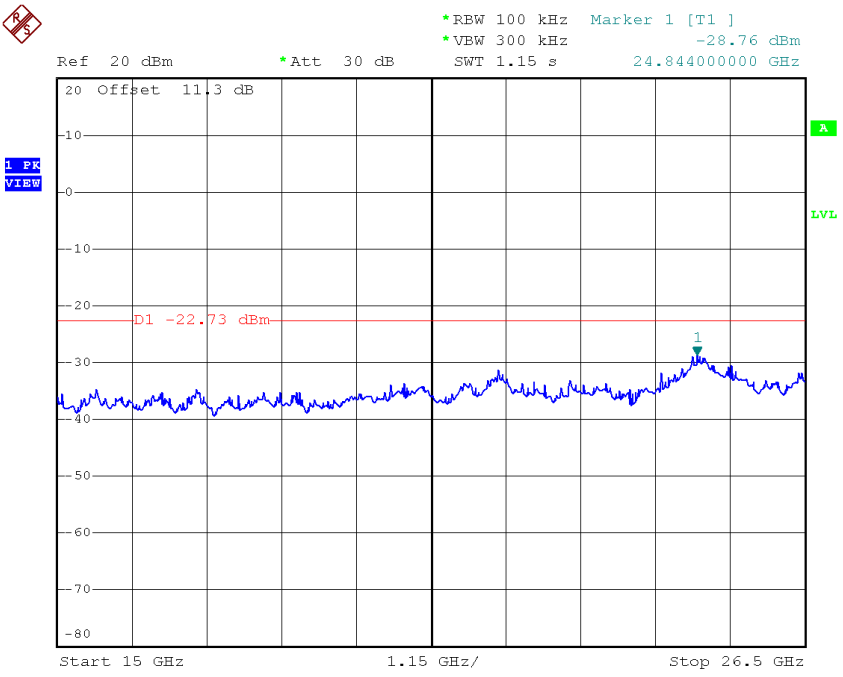
TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:44:52

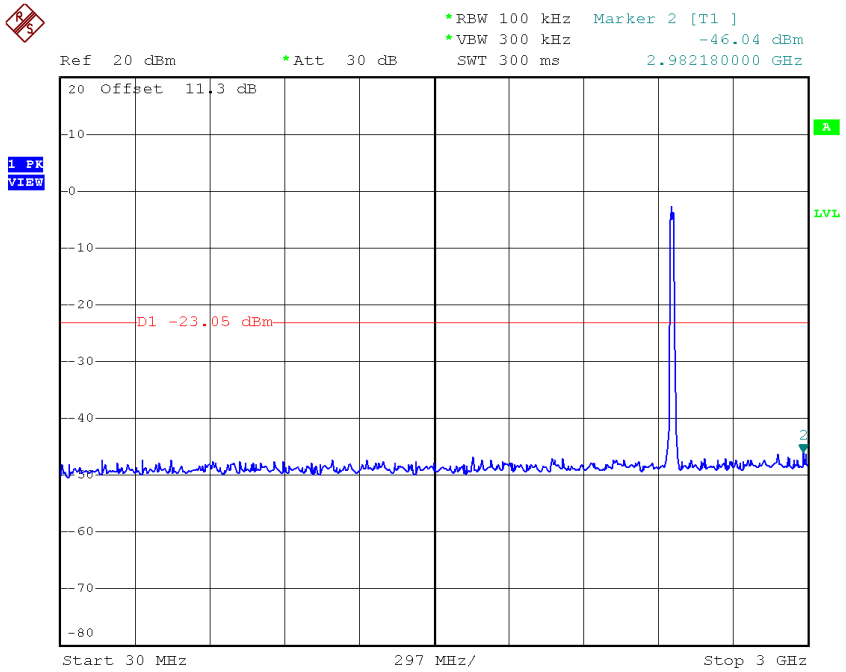


Date: 16.JAN.2018 15:45:01

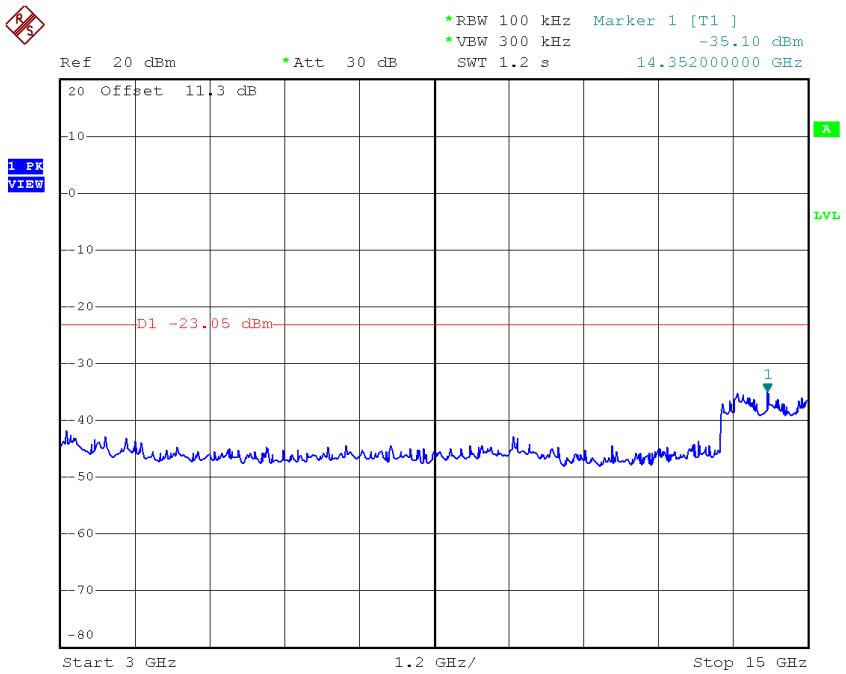


Date: 16.JAN.2018 15:45:11

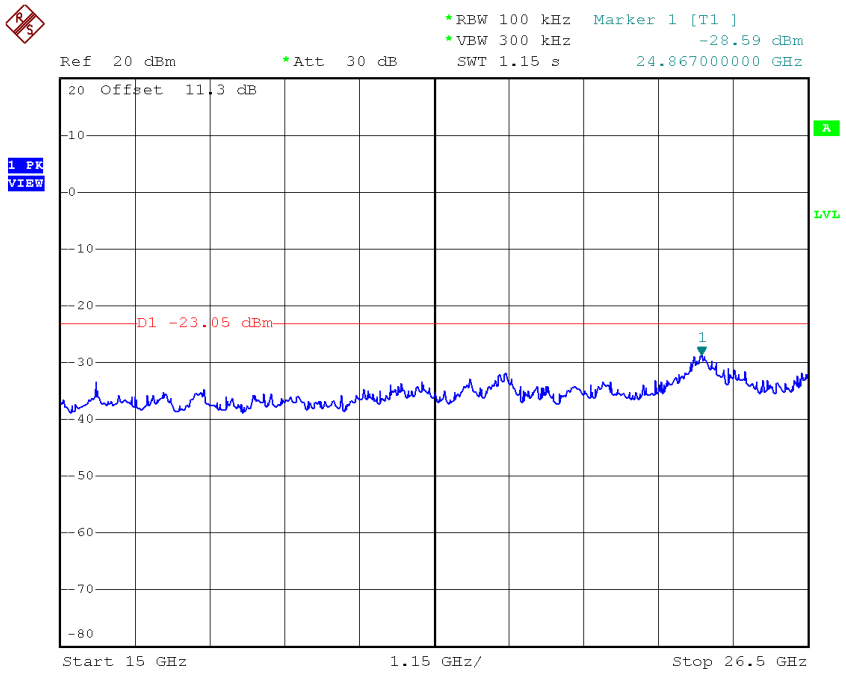
TX HT20 mode CH11 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:46:43



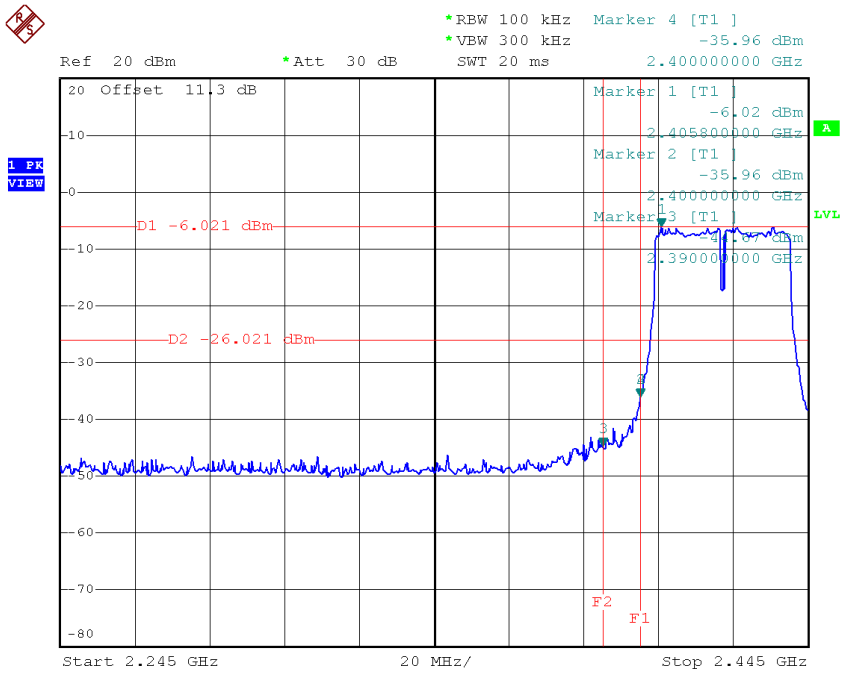
Date: 16.JAN.2018 15:46:52



Date: 16.JAN.2018 15:47:02

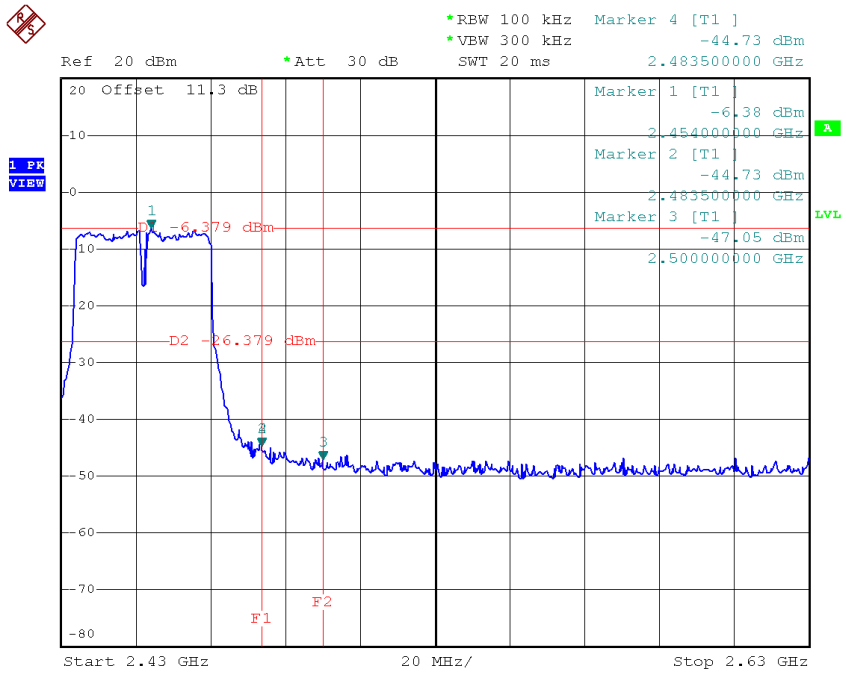
Test Mode :	TX N-40M Mode

TX HT40 mode CH03



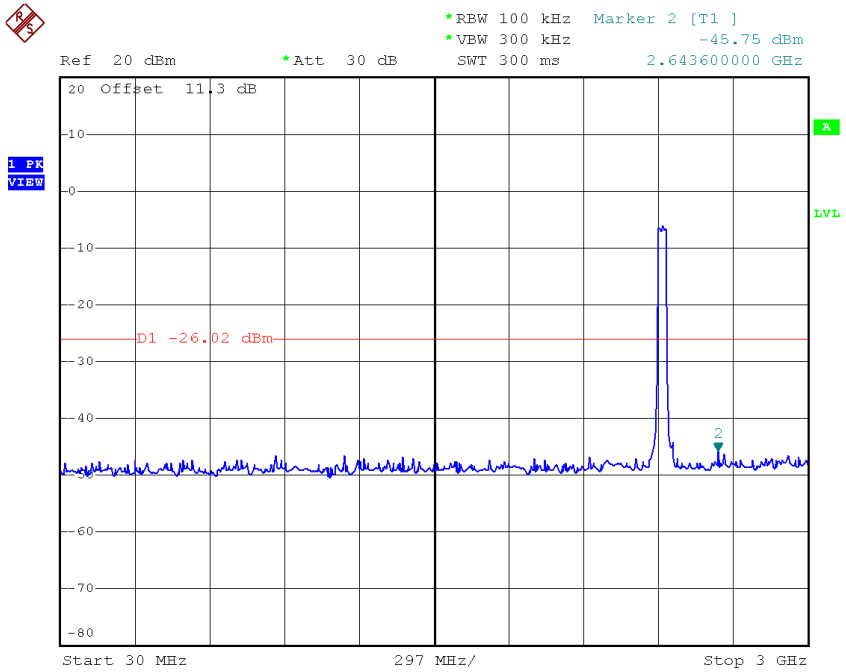
Date: 16.JAN.2018 15:49:37

TX HT40 mode CH09

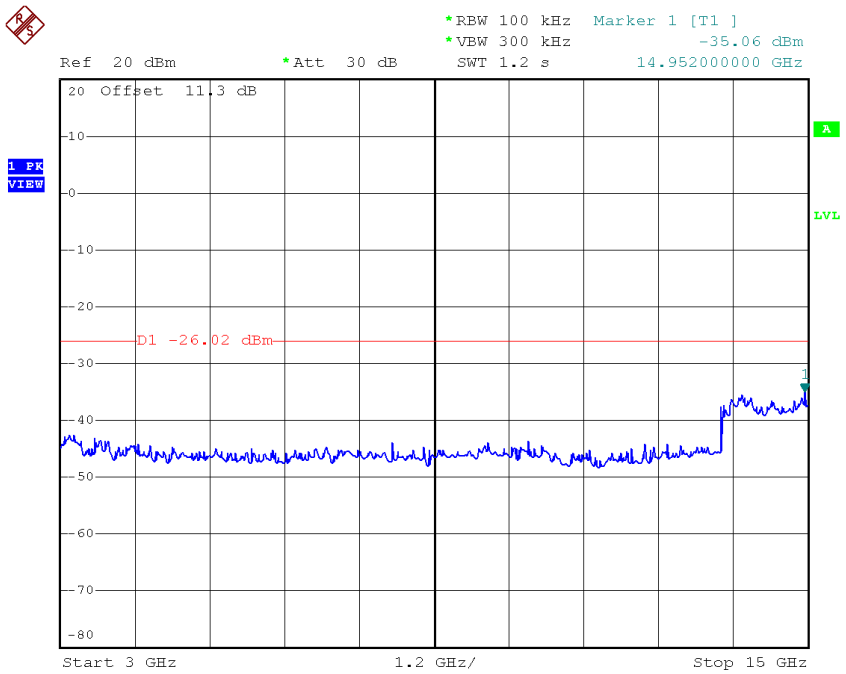


Date: 16.JAN.2018 15:53:37

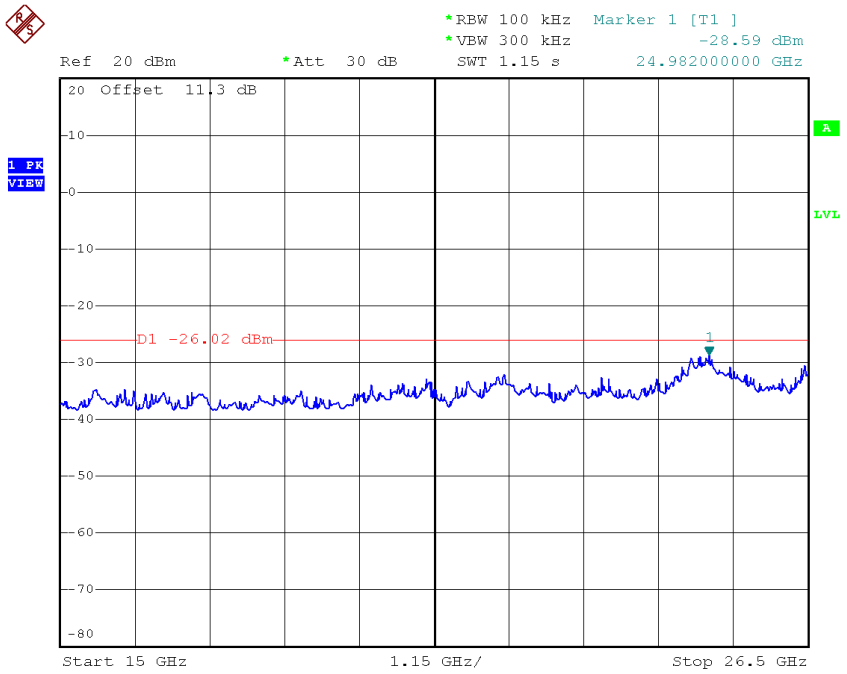
TX HT40 mode CH03 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:49:52

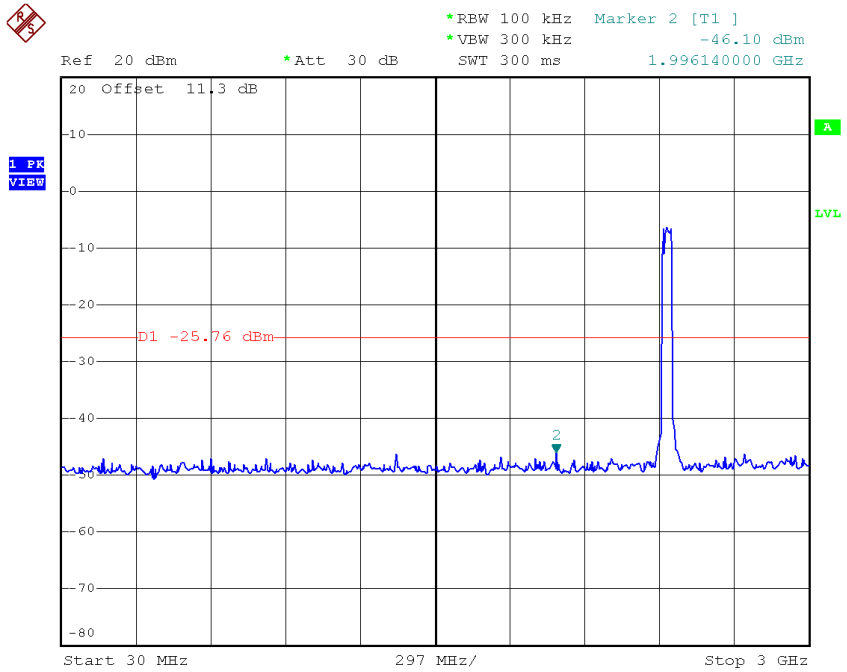


Date: 16.JAN.2018 15:50:02

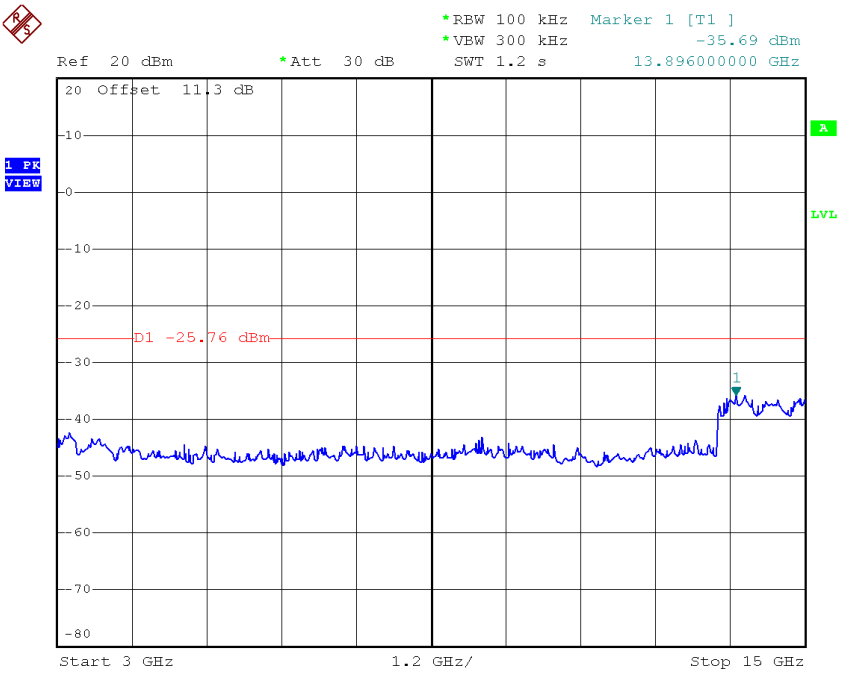


Date: 16.JAN.2018 15:50:11

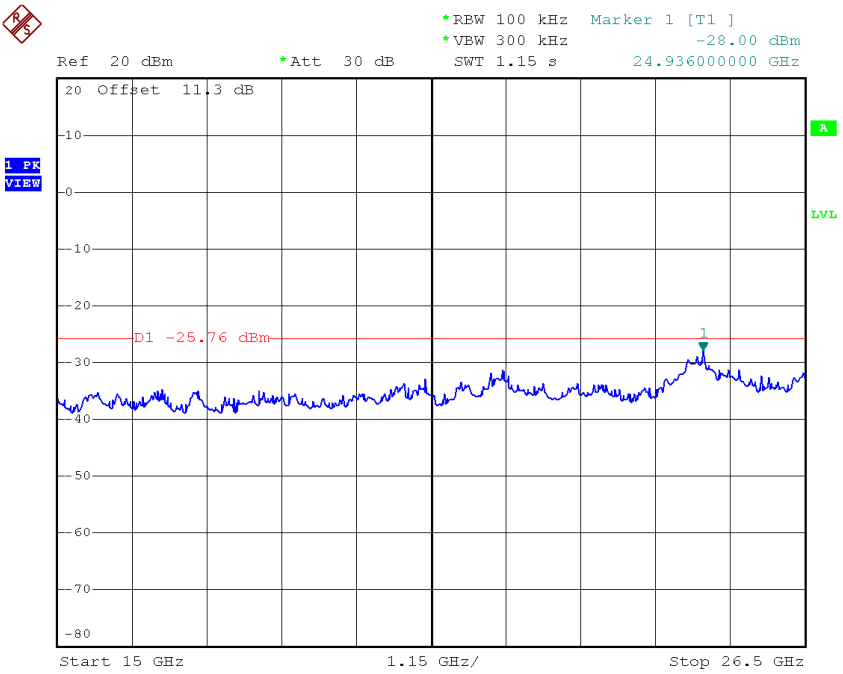
TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:52:01

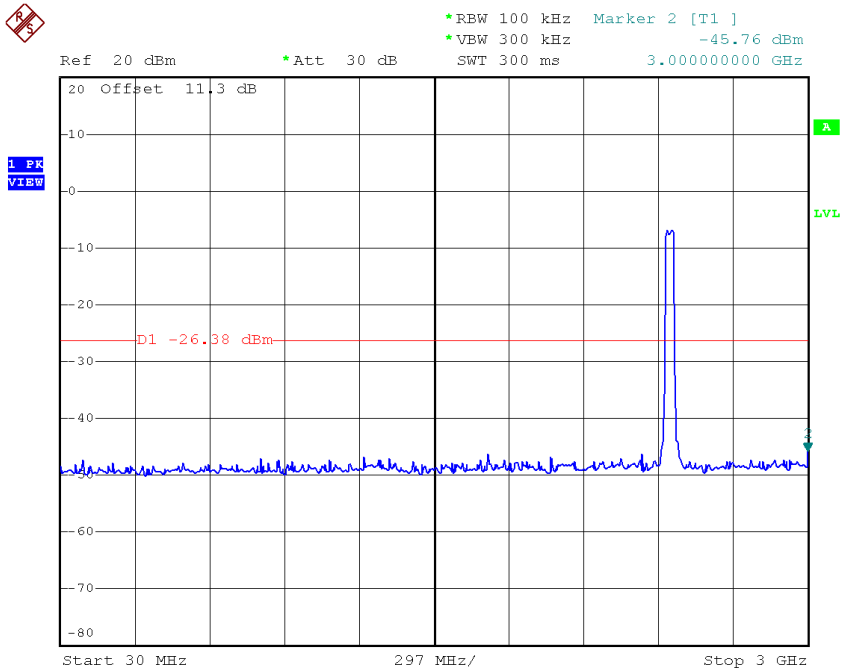


Date: 16.JAN.2018 15:52:11

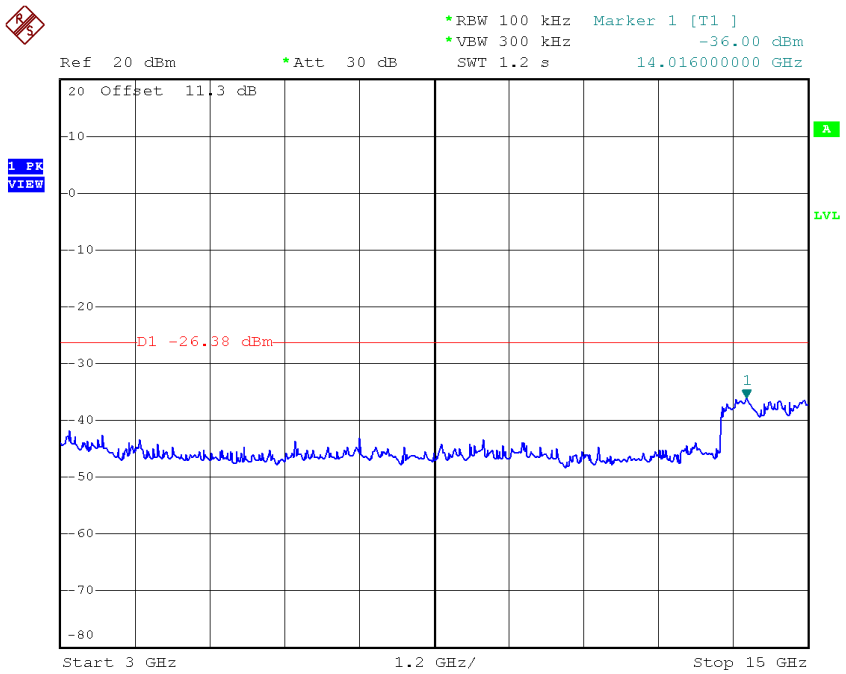


Date: 16.JAN.2018 15:52:20

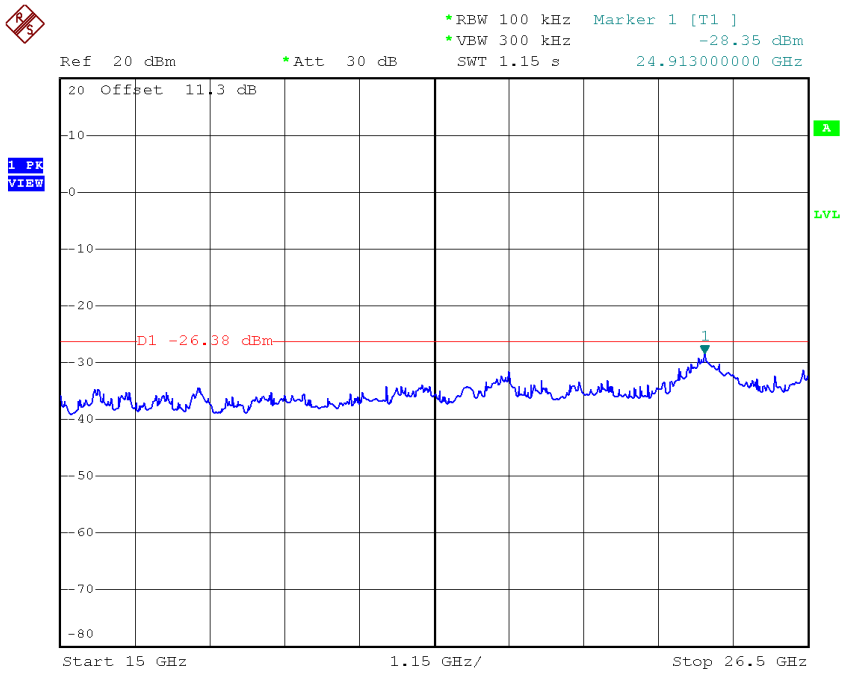
TX HT40 mode CH09 (10 Harmonic of the frequency)



Date: 16.JAN.2018 15:53:52



Date: 16.JAN.2018 15:54:02



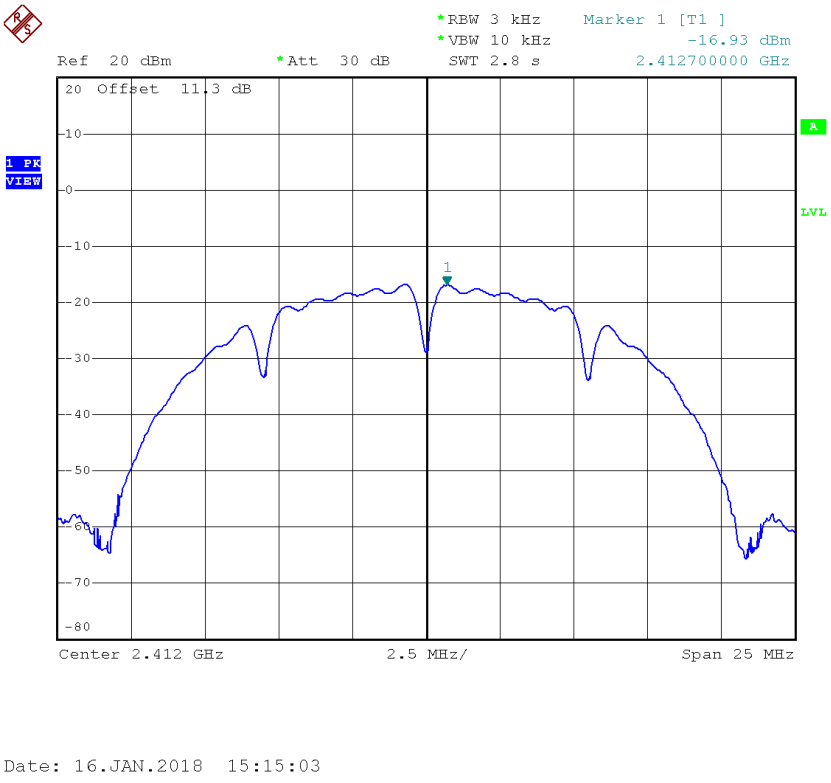
Date: 16.JAN.2018 15:54:12

APPENDIX H - POWER SPECTRAL DENSITY

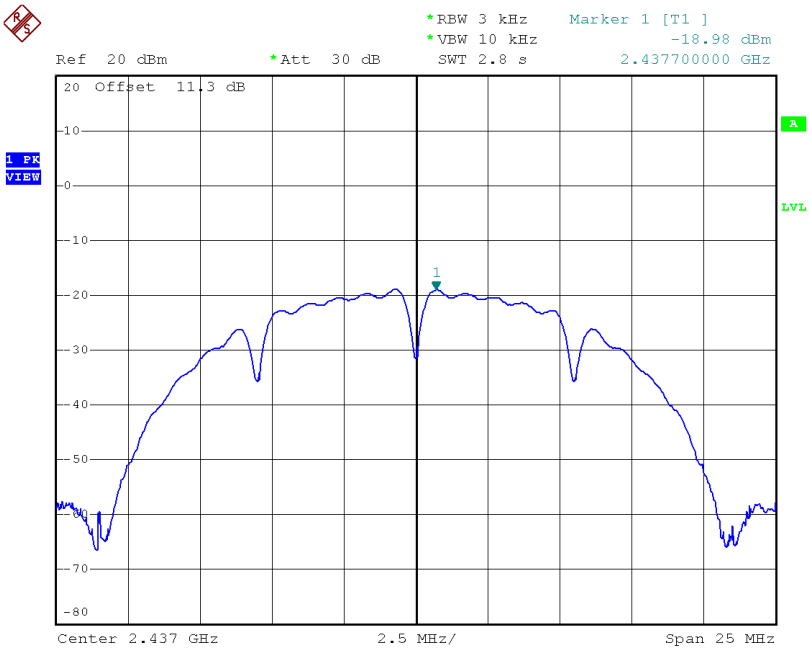
Test Mode :TX B Mode_CH01/06/11				

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-16.93	0.0203	8.00	Complies
2437	-18.98	0.0126	8.00	Complies
2462	-22.26	0.0059	8.00	Complies

TX CH01

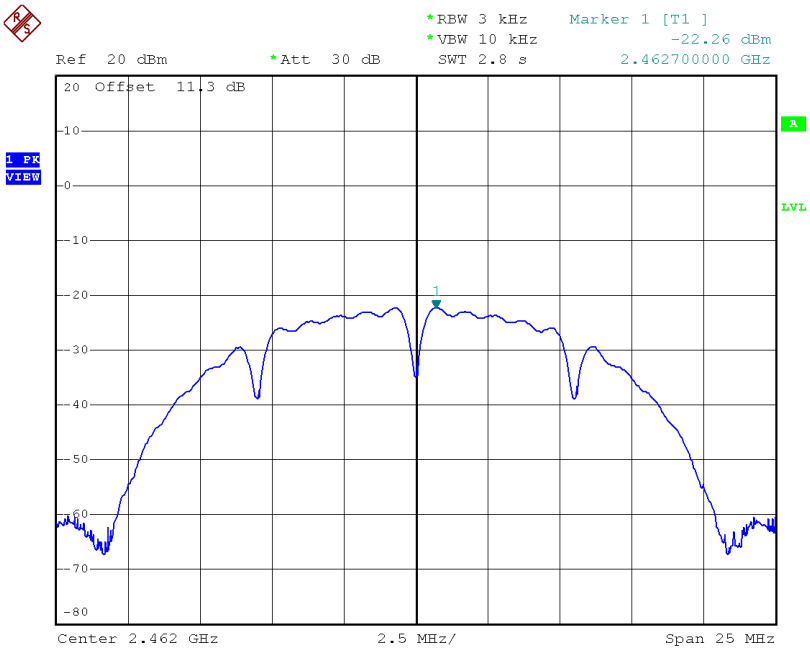


TX CH06



Date: 16.JAN.2018 15:17:47

TX CH11

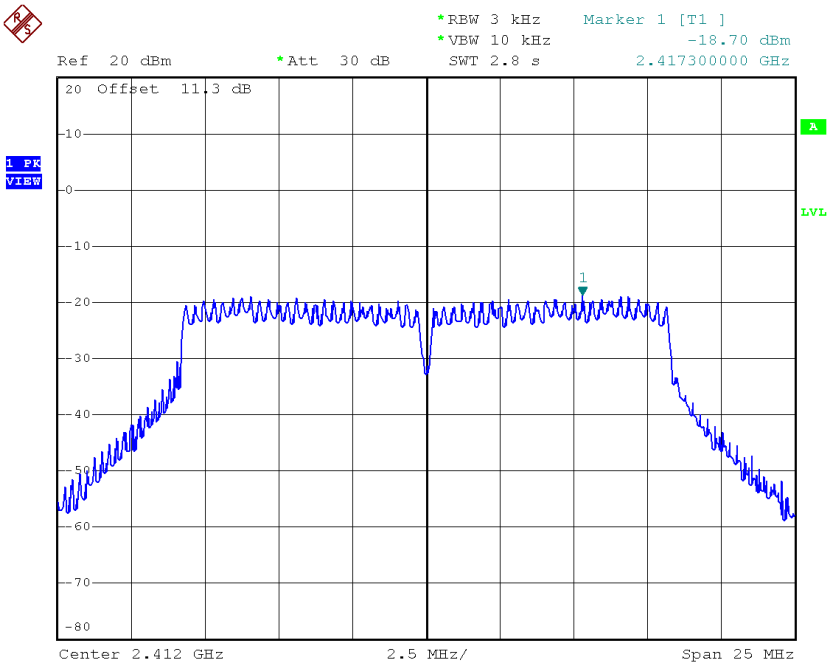


Date: 16.JAN.2018 15:19:55

Test Mode :TX G Mode_CH01/06/11

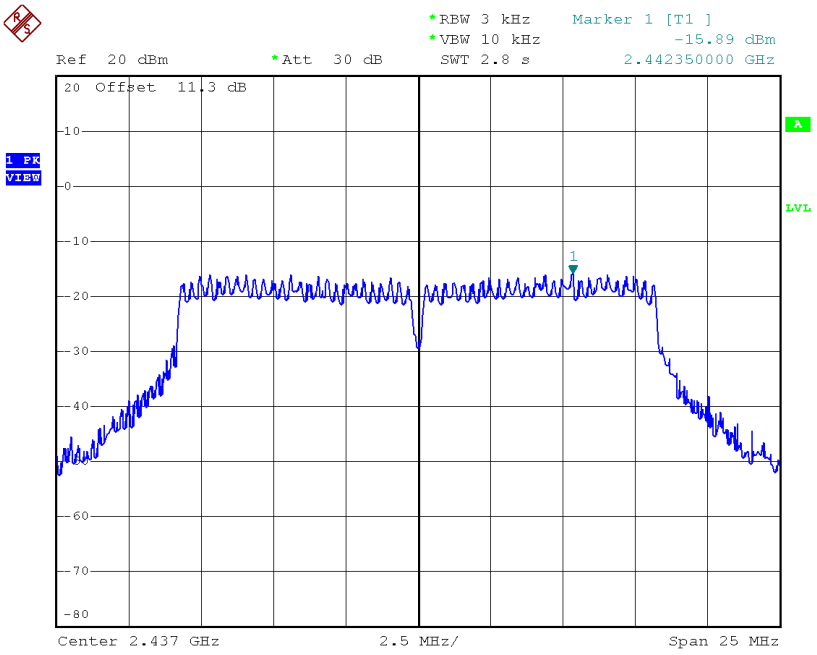
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-18.70	0.0135	8.00	Complies
2437	-15.89	0.0258	8.00	Complies
2462	-15.62	0.0274	8.00	Complies

TX CH01



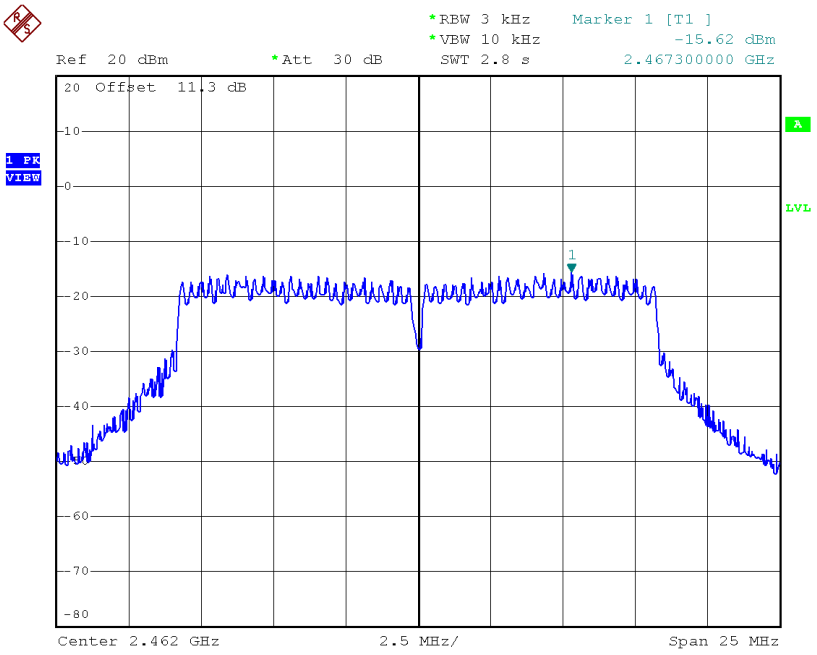
Date: 16.JAN.2018 15:25:19

TX CH06



Date: 16.JAN.2018 15:27:43

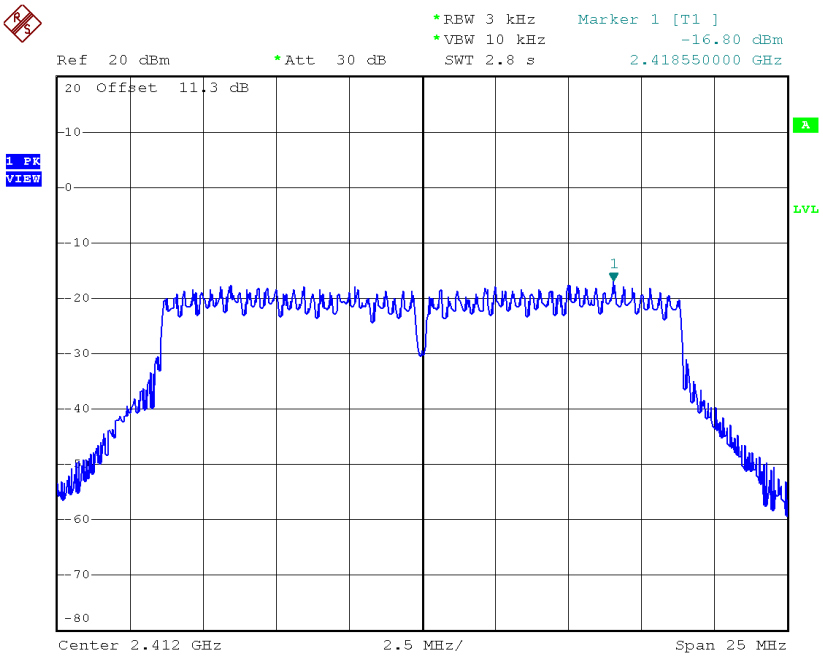
TX CH11



Date: 16.JAN.2018 15:29:15

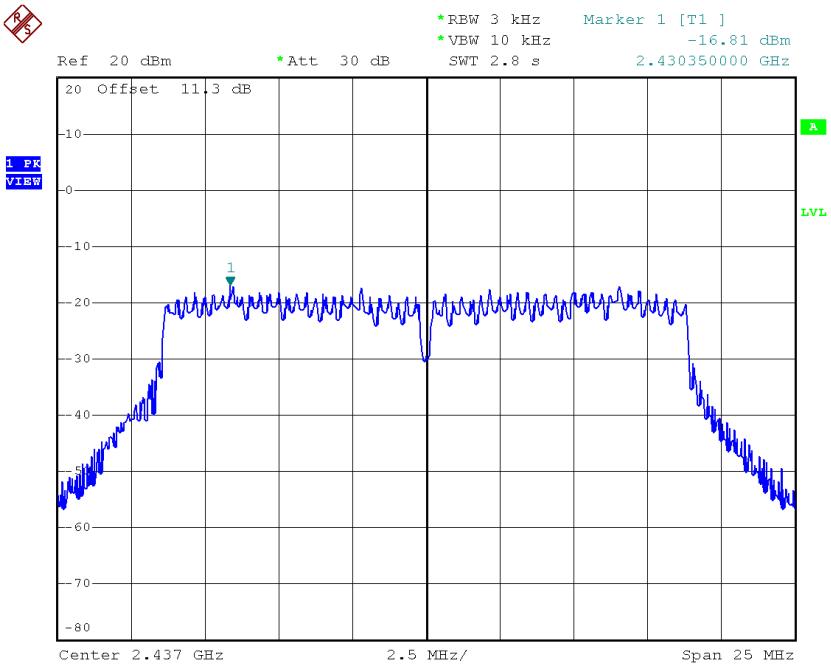
Test Mode : TX N-20M Mode_CH01/06/11				
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-16.80	0.0209	8.00	Complies
2437	-16.81	0.0208	8.00	Complies
2462	-16.90	0.0204	8.00	Complies

TX CH01



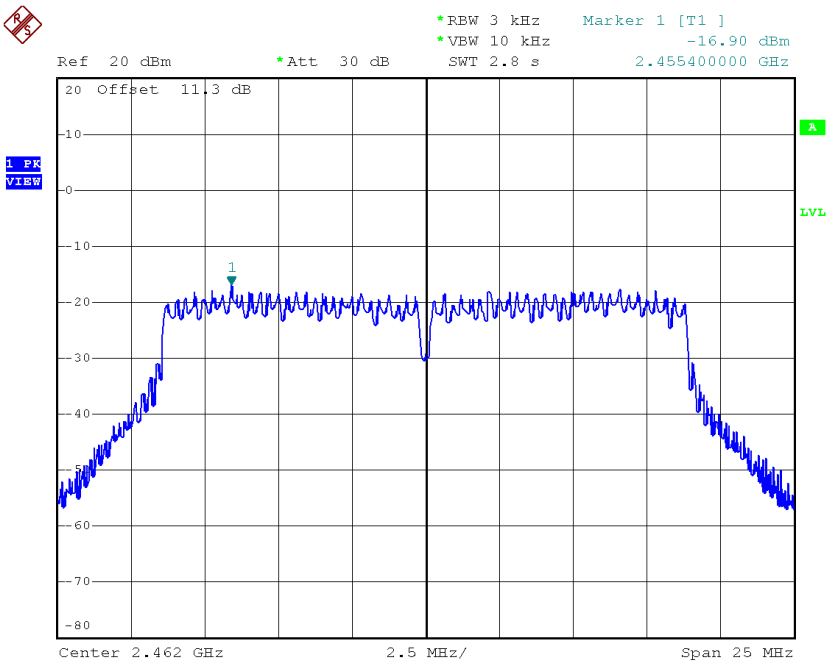
Date: 16.JAN.2018 15:43:34

TX CH06



Date: 16.JAN.2018 15:45:22

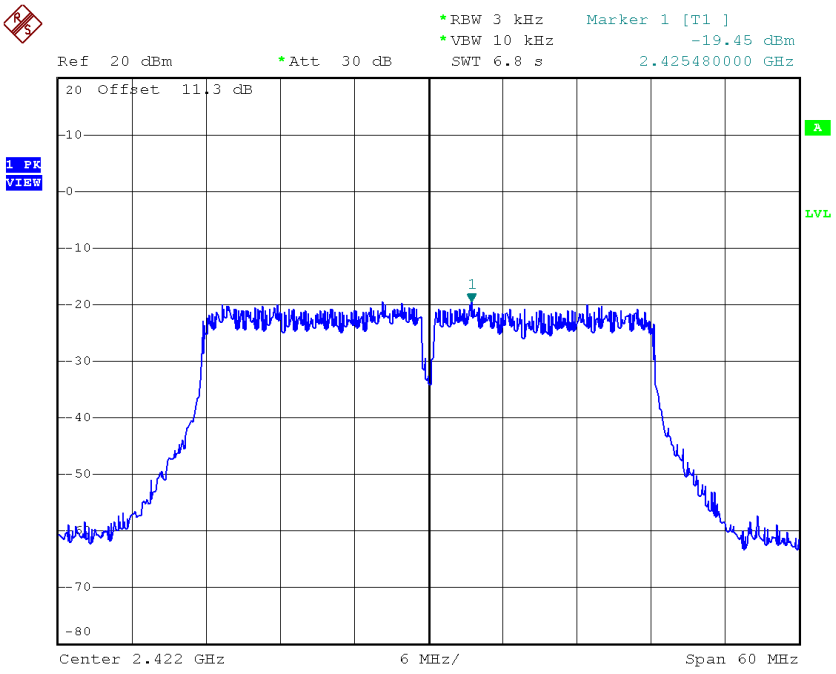
TX CH11



Date: 16.JAN.2018 15:47:13

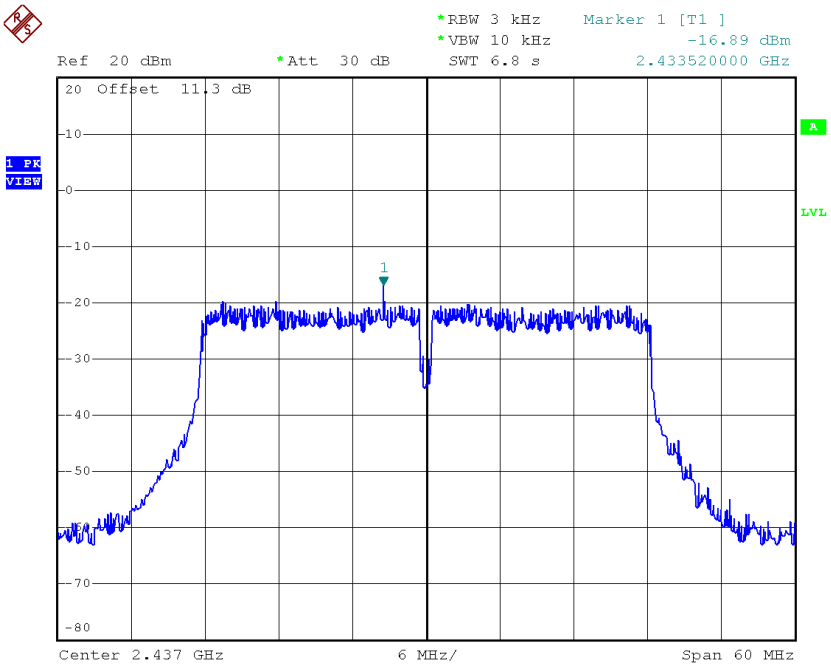
Test Mode : TX N-40M Mode_CH03/06/09				
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-19.45	0.0114	8.00	Complies
2437	-16.89	0.0205	8.00	Complies
2452	-19.03	0.0125	8.00	Complies

TX CH03



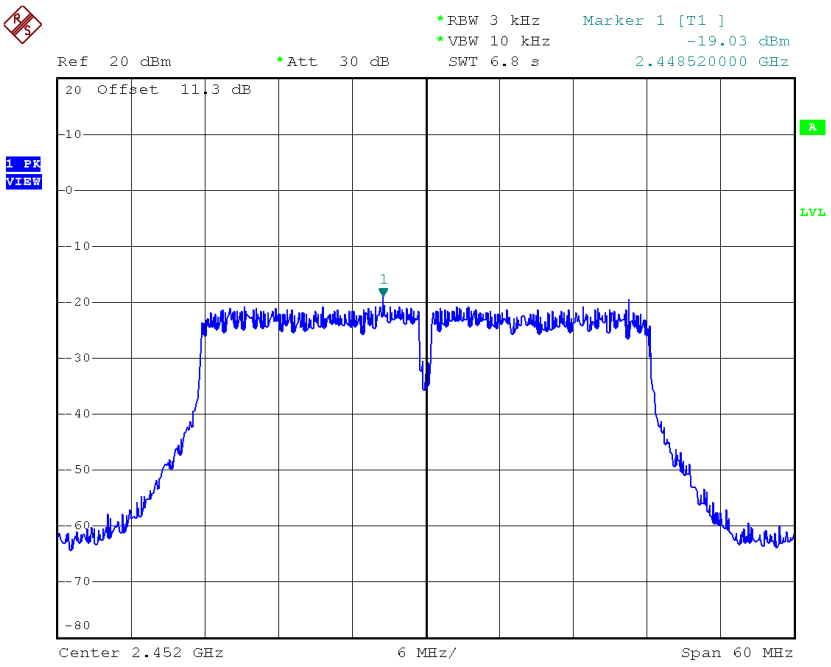
Date: 16.JAN.2018 15:50:25

TX CH06



Date: 16.JAN.2018 15:52:34

TX CH09



Date: 16.JAN.2018 15:54:26