

FCC Radio Test Report


FCC ID: YOPGS2100MIE

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


Project No. : 1412211B
Equipment : Wifi Module
Model Name : GS2100MIE
Applicant : Gainspan Corporation.
Address : 3590 N. First Street Suite 300 San Jose California
United States 95134.

Date of Receipt : Jan. 21, 2015, Apr. 05, 2017
Date of Test : Jan. 21, 2015~Feb. 05, 2015
Apr. 05, 2017~ Apr. 10, 2017
Issued Date : May 03, 2017
Tested by : BTL Inc.

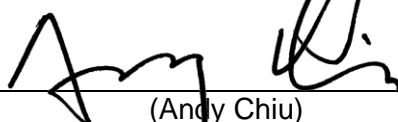
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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

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

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
R1404031-247	Original Report.	Jun.17, 2014
BTL-FCCP-1-1412211	Compared with the previous report (R1404031-247), Added a new PCB antenna, the gain value (3.56 dBi) is higher than the original PCB antenna (1 dBi). All tests are performed and test results are recorded in this report.	Feb.06, 2015
BTL-FCCP-1-1412211B	Compared with the previous report (BTL-FCCP-1-1412211), A. Added two new different type (Dipole) antennas, antenna 1 gain value (3.29 dBi) and antenna 2 gain value (3.02 dBi) are Lower than the original PCB antenna (3.56 dBi). B. Updated standard version. Conducted Emission and Radiated Emissions test results has been re-evaluated and recorded in the test report. Others test results are kept the same.	May 03, 2017

1. CERTIFICATION

Equipment : Wifi Module
Brand Name : XYZprinting
Model Name : GS2100MIE
Applicant : Gainspan Corporation.
Manufacturer : Cal-Comp Electronics (Thailand) Public Company Limited
Address : 138, Moo 4, Phechkasem Road, Sapang, Koawyoi, Petchaburi 76140, Thailand.
Factory : Cal-Comp Electronics (Thailand) Public Company Limited
Address : 138, Moo 4, Phechkasem Road, Sapang, Koawyoi, Petchaburi 76140, Thailand.
Date of Test : Jan. 21, 2015~Feb. 05, 2015
Apr. 05, 2017~ Apr. 10, 2017
Test Sample : Engineering Sample
Standard(s) : FCC Part15, Subpart C (15.247) / ANSI C63.10-2013

The above equipment has been tested and found 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-1-1412211B) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

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

NOTE:

- (1) "N/A" denotes test is not applicable in this test report.
- (2) The test follows FCC KDB Publication No. 558074 D01 DTS Meas Guidance v03r02 (Measurement Guidelines of DTS)

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

The measurement uncertainty is not specified by Canada Industry for reference only.

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

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

A. Conducted emission test:

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

B. Radiated emission test:

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

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

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

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

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

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

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

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

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

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wifi Module	
Brand Name	XYZprinting	
Model Name	GS2100MIE	
Model Difference	N/A	
Product Description	Operation Frequency	2412~2462 MHz
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 72.2 Mbps
	Output Power (Max.)	802.11b: 14.94dBm 802.11g: 19.48dBm 802.11n(20MHz): 19.45dBm
Power Source	System supplied.	
Power Rating	DC 3.3V/355mA	

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)							
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
Group I:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	WIESON	GY196HT0131C-002	PCB	U.F.L	3.56

Group II:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Liteconn	503030-0023-0BR	Dipole	U.F.L	3.29

Group III:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	WIESON	GY112HT0131-003	Dipole	U.F.L	3.02

3.2 DESCRIPTION OF TEST MODES

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

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

Note:

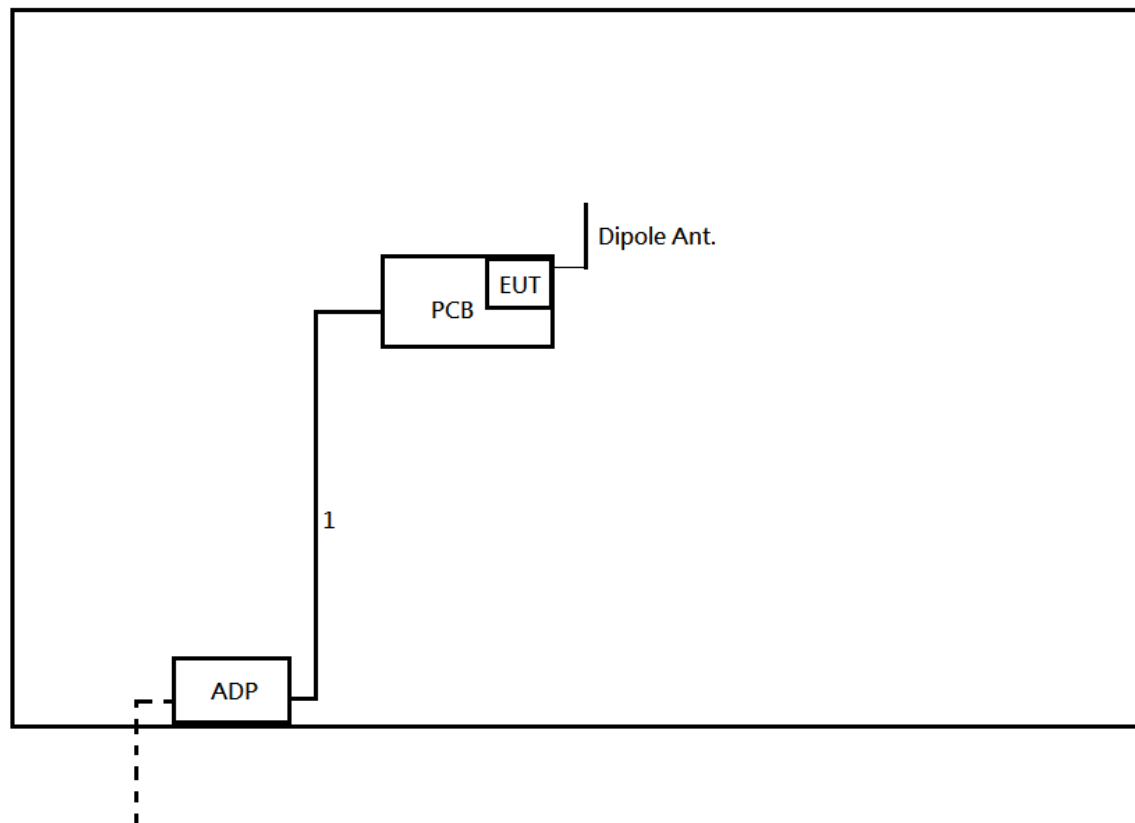
- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)
802.11g mode: OFDM (6Mbps)
802.11n HT20 mode : BPSK (6.5Mbps)
For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.
- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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

Test software version	teraterm-4.84		
Frequency (MHz)	2412	2437	2462
802.11b	18	18	18
802.11g	27	27	27
802.11n (20MHz)	27	27	27

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/IC	Series No.	Note
-	PCB(Fixture)	N/A	N/A	N/A	N/A	
-	Adapter	FSP	FSP060-DIBAN2	N/A	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	Yes	1.2M	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 -0.5	66 to 56*	56 to 46*
0.50 -5.0	56	46
5.0 -30.0	60	50

Note:

- (1) The limit of " * " decreases with the logarithm of the frequency
- (2) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
 Margin Level = Measurement Value - Limit Value

The following table is the setting of the receiver

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

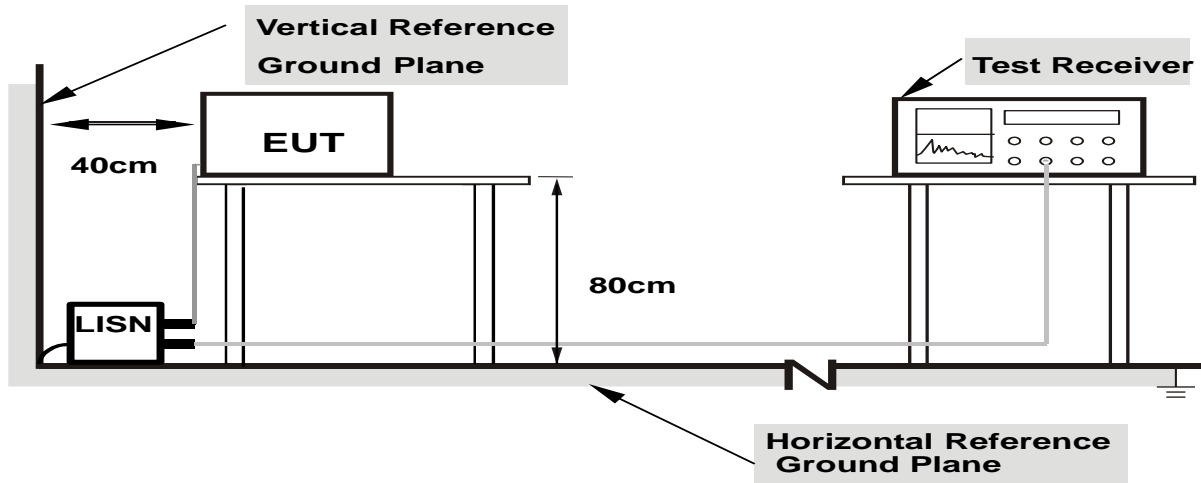
4.1.2 TEST PROCEDURE

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

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



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

4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.1.6 EUT TEST CONDITIONS

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

4.1.7 TEST RESULTS

Please refer to the Attachment A.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

Notes:

- (1) The limit for radiated test was performed according to FCC PART 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)	RBW 1MHz VBW 3MHz peak detector for Pk value RMS detector for AV value

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

4.2.2 TEST PROCEDURE

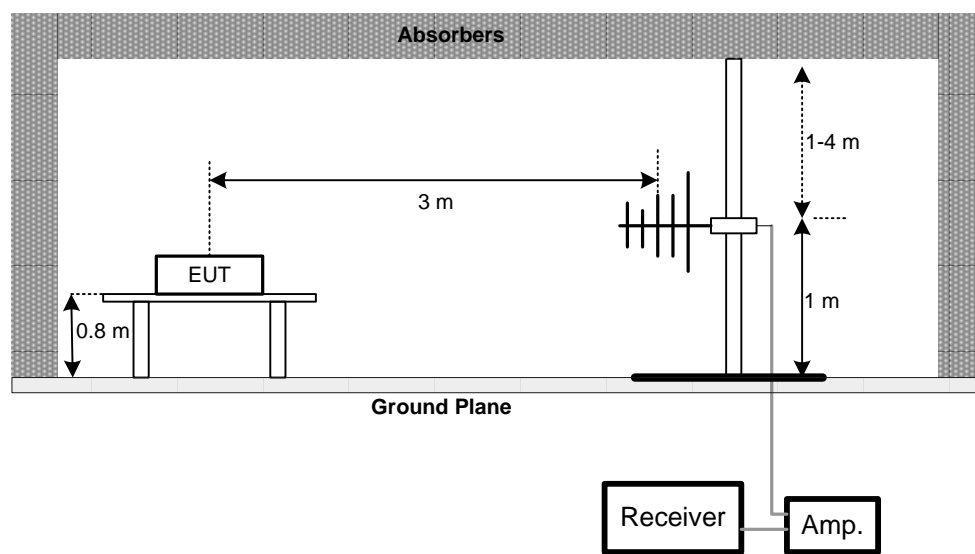
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3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

4.2.3 DEVIATION FROM TEST STANDARD

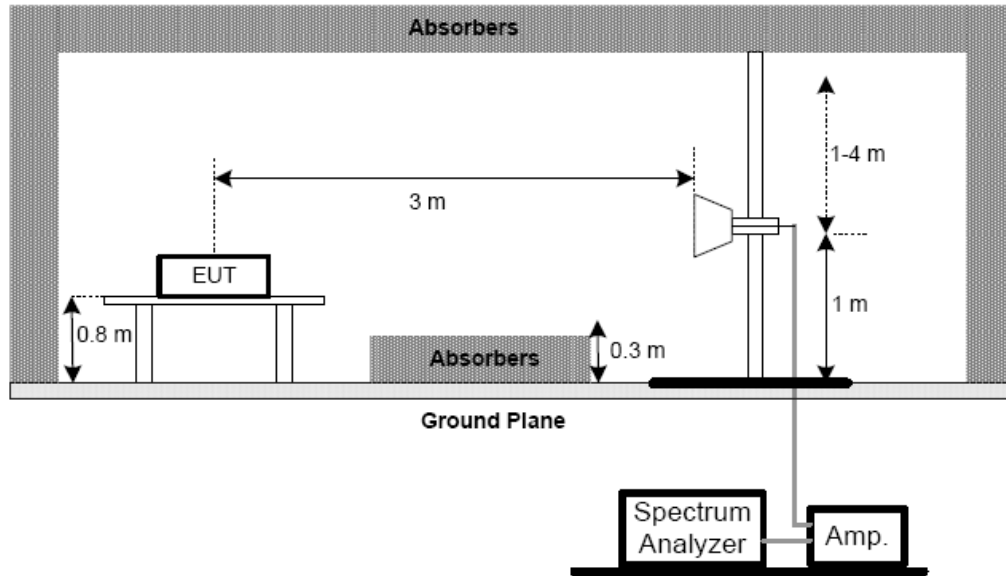
No deviation

4.2.4 TEST SETUP

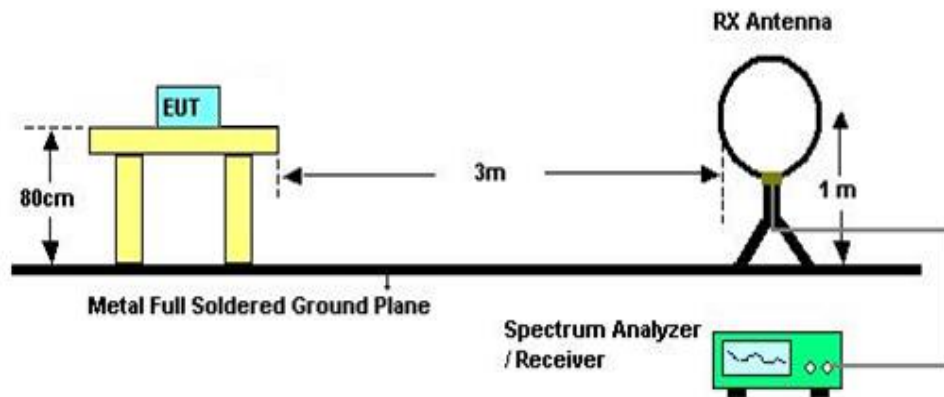
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For radiated emissions below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.5 Unless** otherwise a special operating condition is specified in the follows during the testing.

4.2.6 EUT TEST CONDITIONS

Temperature: 23°C Relative Humidity: 70% Test Voltage: AC 120V/60Hz

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

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

4.2.7 TEST RESULTS (BETWEEN 30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

4.2.7 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

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

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

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

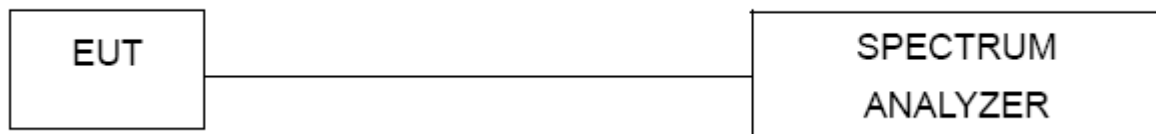
5.1.1 TEST PROCEDURE

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

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 EUT TEST CONDITIONS

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

5.1.6 TEST RESULTS

Please refer to the Attachment E.

6. MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

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

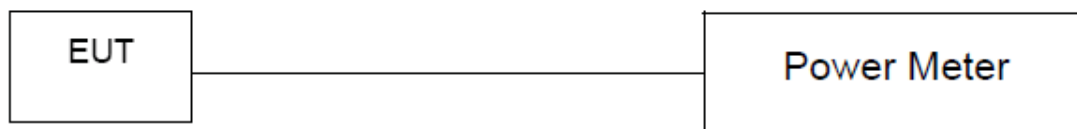
6.1.1 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance v03r02.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing. Transmit output power was measured while the host equipment supply voltage was varied from 85 % to 115 % of the nominal rated supply voltage. No change in transmit output power was observed.

6.1.5 EUT TEST CONDITIONS

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

6.1.6 TEST RESULTS

Please refer to the Attachment F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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 measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

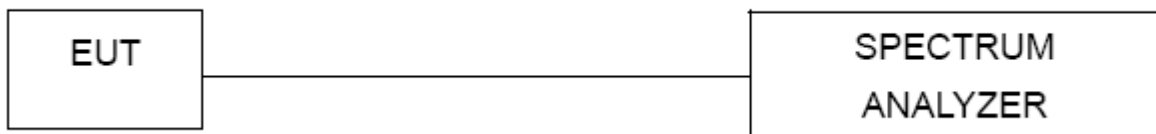
7.1.1 TEST PROCEDURE

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

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5 EUT TEST CONDITIONS

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

7.1.6 TEST RESULTS

Please refer to the Attachment G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

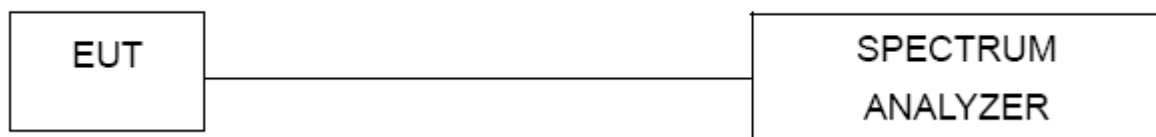
8.1.1 TEST PROCEDURE

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

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.5 EUT TEST CONDITIONS

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

8.1.6 TEST RESULTS

Please refer to the Attachment H.

9. MEASUREMENT INSTRUMENTS LIST

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

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	Feb. 28, 2018
2	Preamplifier	EMCI	EMC02325	980217	Dec. 29, 2017
3	Test Cable	EMCI	EMC104-SM-S M-8000	8m	Jan. 04, 2018
4	Test Cable	EMCI	EMC104-SM-S M-800	150207	Jan. 04, 2018
5	Test Cable	EMCI	EEMC104-SM-S M-3000	151205	Jan. 04, 2018
6	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 09, 2018
7	Signal Analyzer	Agilent	N9010A	MY52220990	Feb. 22, 2018
8	Loop Ant	EMCO	6502	42960	Nov. 24, 2017
9	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	Feb. 28, 2018
10	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	Jan. 16, 2018
11	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	FSP30	100854	Oct. 26, 2015

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP30	100854	Oct. 26, 2015

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP30	100854	Oct. 26, 2015

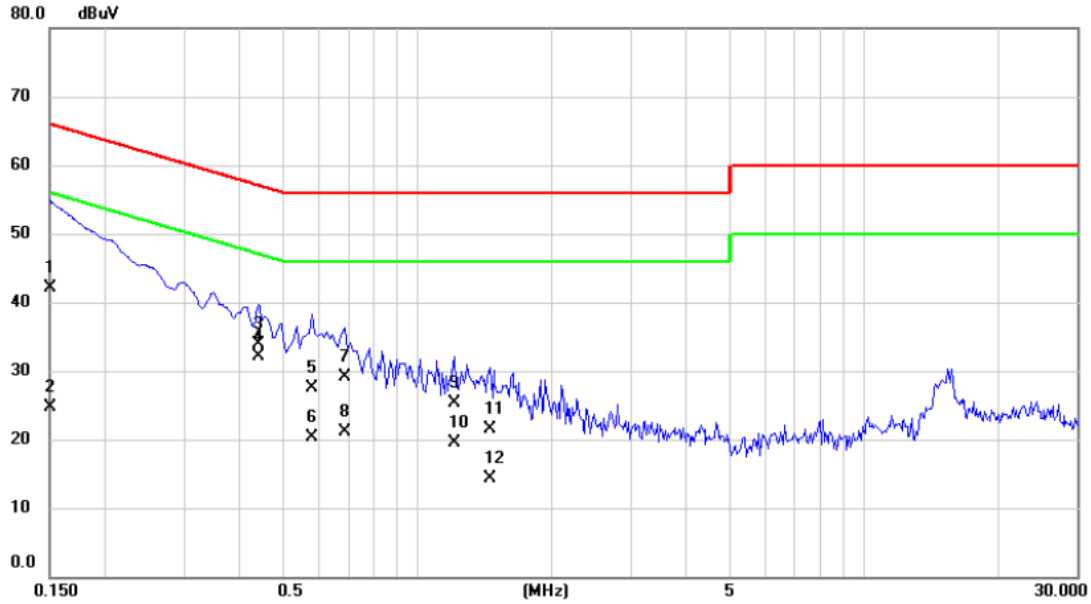
Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP30	100854	Oct. 26, 2015

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

ATTACHMENT A - CONDUCTED EMISSION

Test Mode : TX MODE

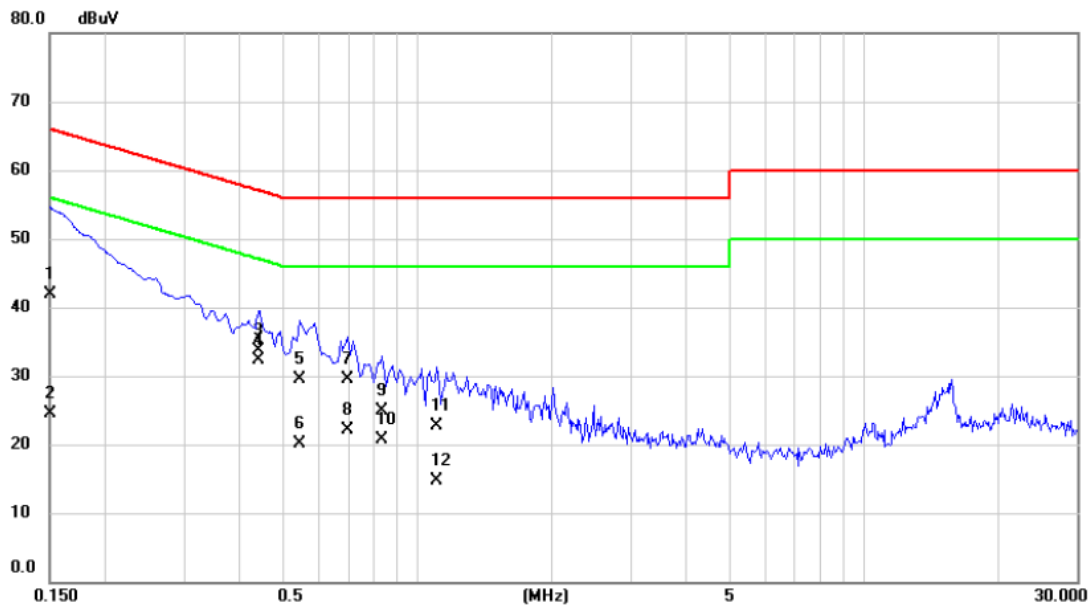
Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1500	32.30	9.76	42.06	66.00	-23.94	QP	
2		0.1500	15.00	9.76	24.76	56.00	-31.24	AVG	
3		0.4405	24.10	9.75	33.85	57.05	-23.20	QP	
4	*	0.4405	22.40	9.75	32.15	47.05	-14.90	AVG	
5		0.5810	17.80	9.77	27.57	56.00	-28.43	QP	
6		0.5810	10.60	9.77	20.37	46.00	-25.63	AVG	
7		0.6890	19.30	9.78	29.08	56.00	-26.92	QP	
8		0.6890	11.30	9.78	21.08	46.00	-24.92	AVG	
9		1.2110	15.50	9.80	25.30	56.00	-30.70	QP	
10		1.2110	9.80	9.80	19.60	46.00	-26.40	AVG	
11		1.4540	11.60	9.81	21.41	56.00	-34.59	QP	
12		1.4540	4.50	9.81	14.31	46.00	-31.69	AVG	

Test Mode : TX MODE

Neutral

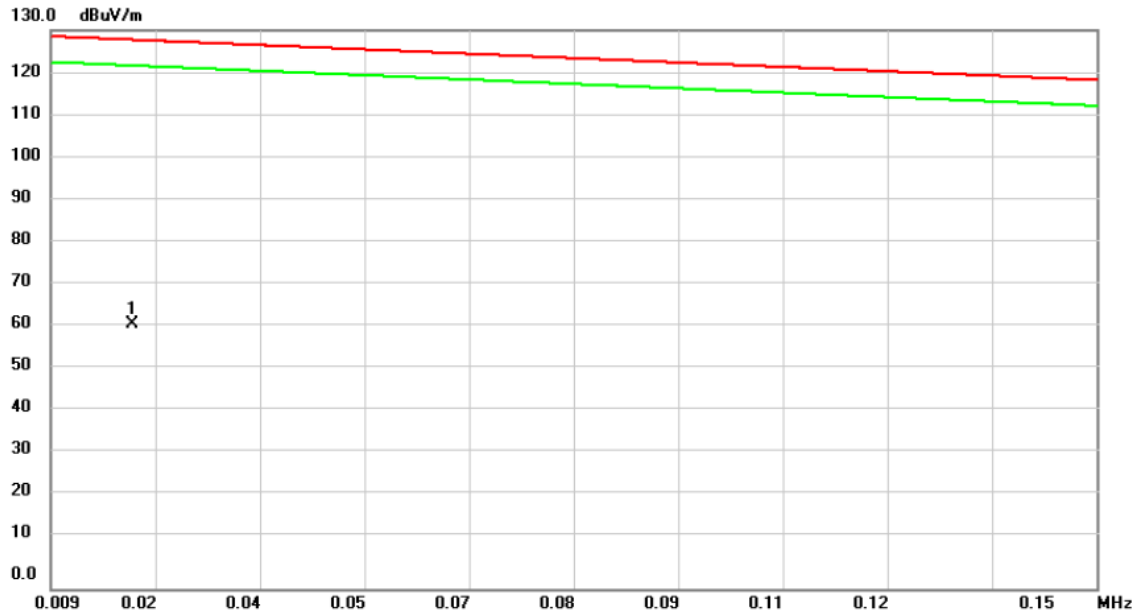


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV	dBuV	dB		
1		0.1500	32.20	9.68	41.88	66.00	-24.12	QP	
2		0.1500	14.90	9.68	24.58	56.00	-31.42	AVG	
3		0.4420	24.10	9.69	33.79	57.02	-23.23	QP	
4	*	0.4420	22.60	9.69	32.29	47.02	-14.73	AVG	
5		0.5450	19.90	9.70	29.60	56.00	-26.40	QP	
6		0.5450	10.50	9.70	20.20	46.00	-25.80	AVG	
7		0.6980	19.80	9.72	29.52	56.00	-26.48	QP	
8		0.6980	12.30	9.72	22.02	46.00	-23.98	AVG	
9		0.8330	15.10	9.74	24.84	56.00	-31.16	QP	
10		0.8330	10.90	9.74	20.64	46.00	-25.36	AVG	
11		1.1030	12.90	9.75	22.65	56.00	-33.35	QP	
12		1.1030	4.90	9.75	14.65	46.00	-31.35	AVG	

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

Test Mode: TX

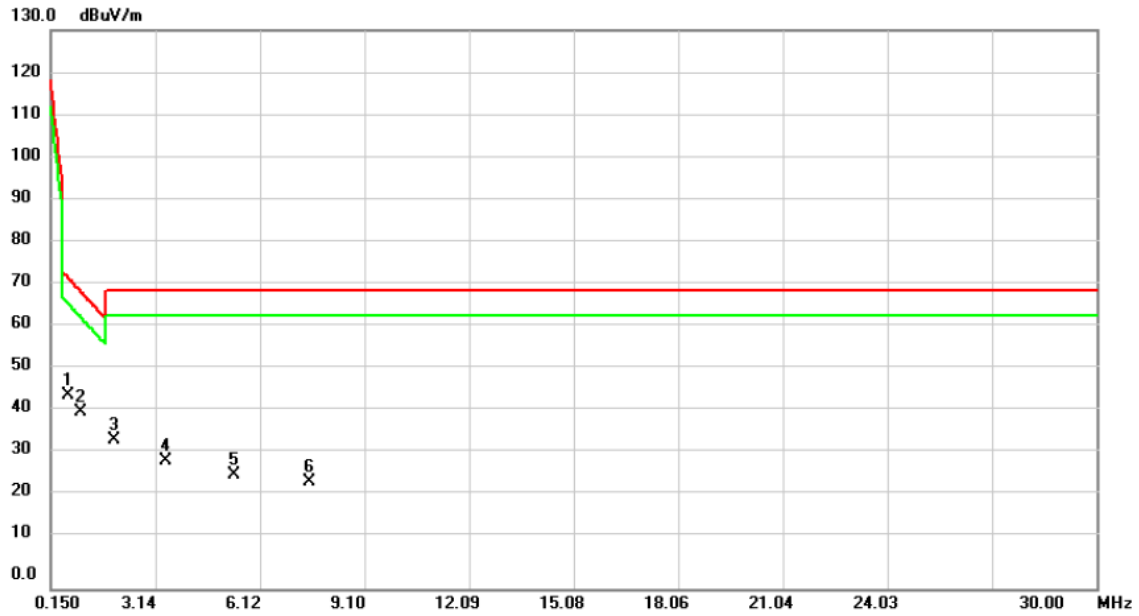
OPEN



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0200	43.97	17.75	61.72	127.73	-66.01	peak	

Test Mode: TX

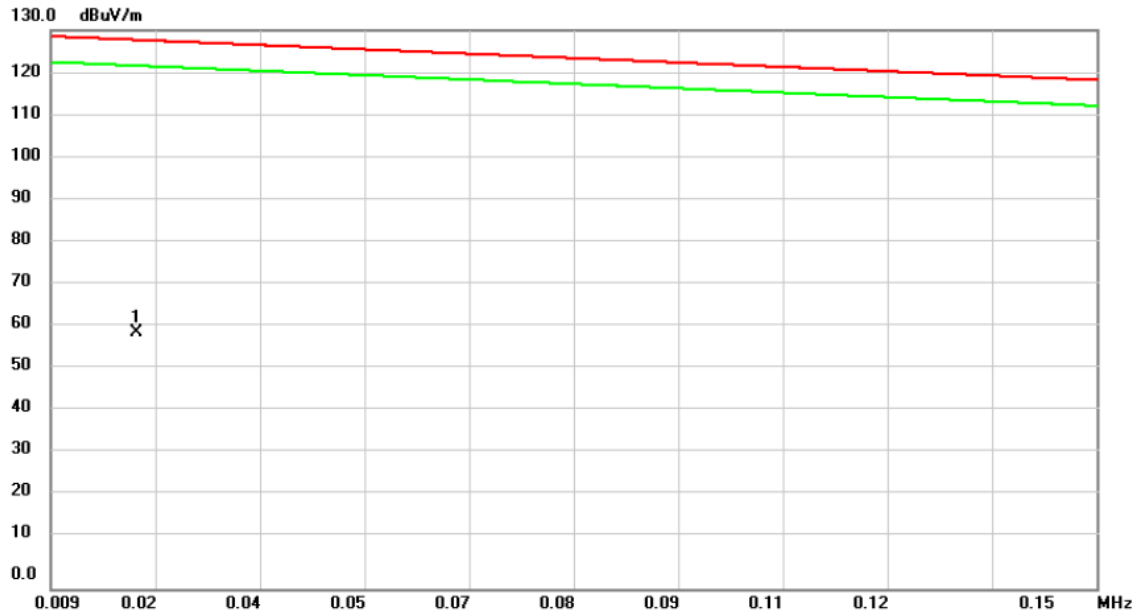
OPEN



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.6572	33.27	11.86	45.13	72.31	-27.18	peak	
2		1.0156	29.20	11.99	41.19	69.11	-27.92	peak	
3		1.9410	23.10	11.58	34.68	69.54	-34.86	peak	
4		3.4333	18.63	11.16	29.79	69.54	-39.75	peak	
5		5.3738	15.01	11.39	26.40	69.54	-43.14	peak	
6		7.5228	13.59	11.35	24.94	69.54	-44.60	peak	

Test Mode: TX

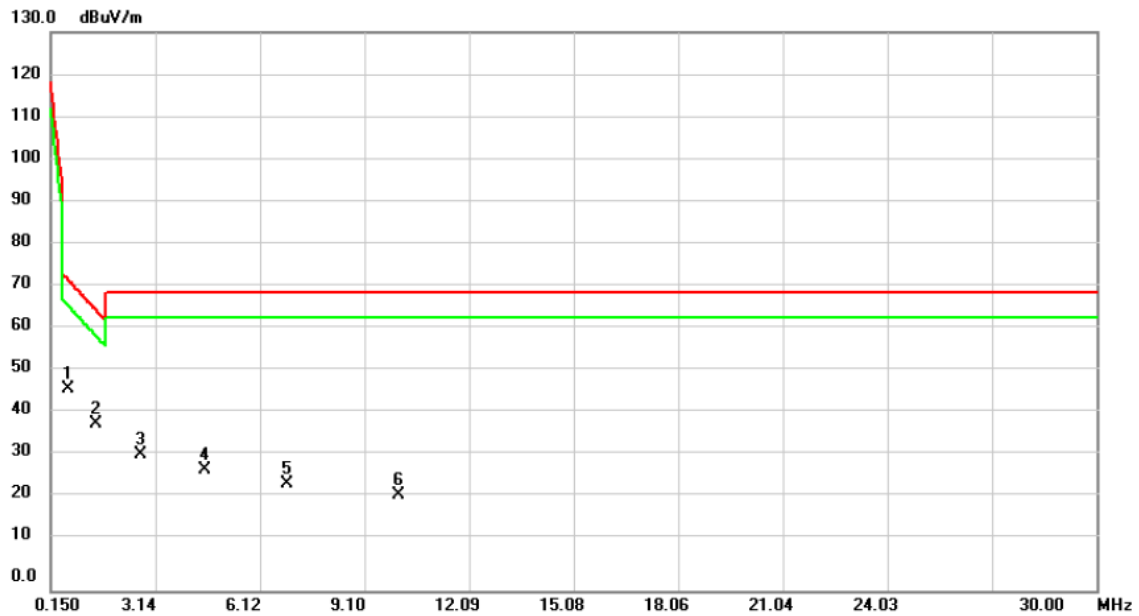
CLOSE



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0206	41.92	17.59	59.51	127.68	-68.17	peak	

Test Mode: TX

CLOSE

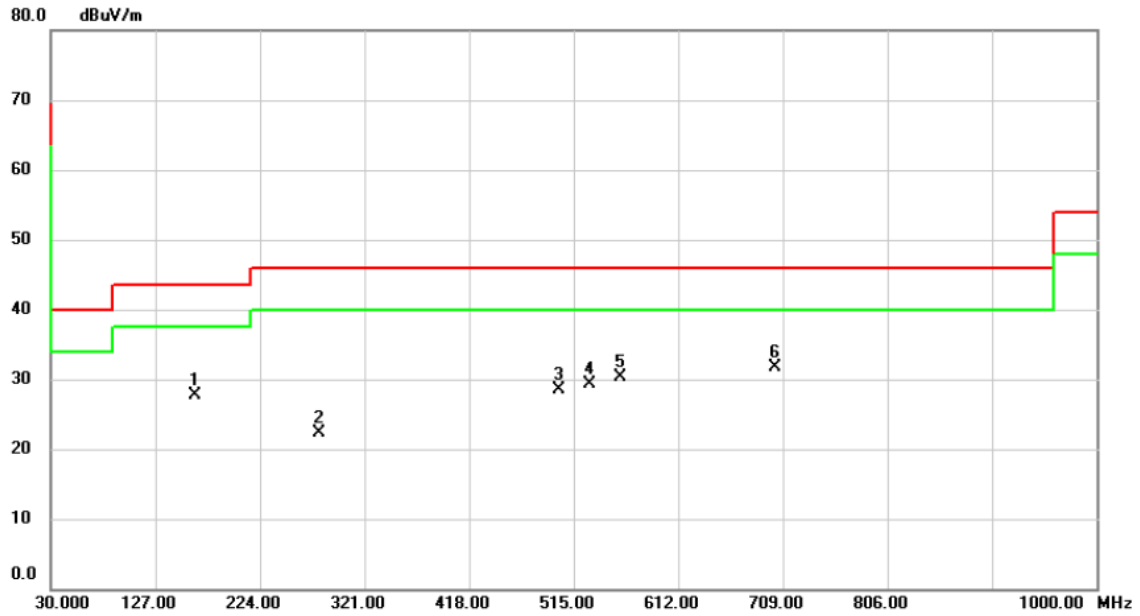


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.6572	35.09	11.86	46.95	72.31	-25.36	peak	
2		1.4633	26.95	11.79	38.74	65.12	-26.38	peak	
3		2.7170	20.48	11.23	31.71	69.54	-37.83	peak	
4		4.5380	16.65	11.33	27.98	69.54	-41.56	peak	
5		6.8960	13.41	11.36	24.77	69.54	-44.77	peak	
6		10.0900	10.86	11.30	22.16	69.54	-47.38	peak	

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

Test Mode: TX N-20M MODE 2462MHz

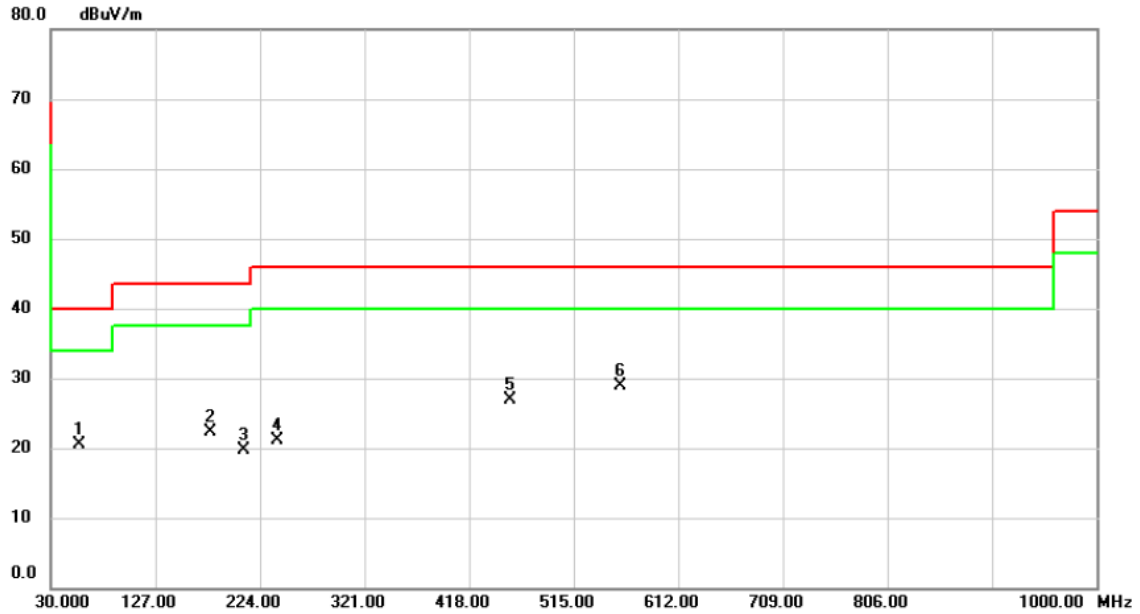
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		163.8600	36.19	-8.58	27.61	43.50	-15.89	peak	
2		279.2900	30.28	-8.06	22.22	46.00	-23.78	peak	
3		501.4200	31.17	-2.70	28.47	46.00	-17.53	peak	
4		529.5500	31.53	-2.14	29.39	46.00	-16.61	peak	
5		558.6500	31.85	-1.49	30.36	46.00	-15.64	peak	
6	*	701.2400	30.88	0.88	31.76	46.00	-14.24	peak	

Test Mode: TX N-20M MODE 2462MHz

Horizontal

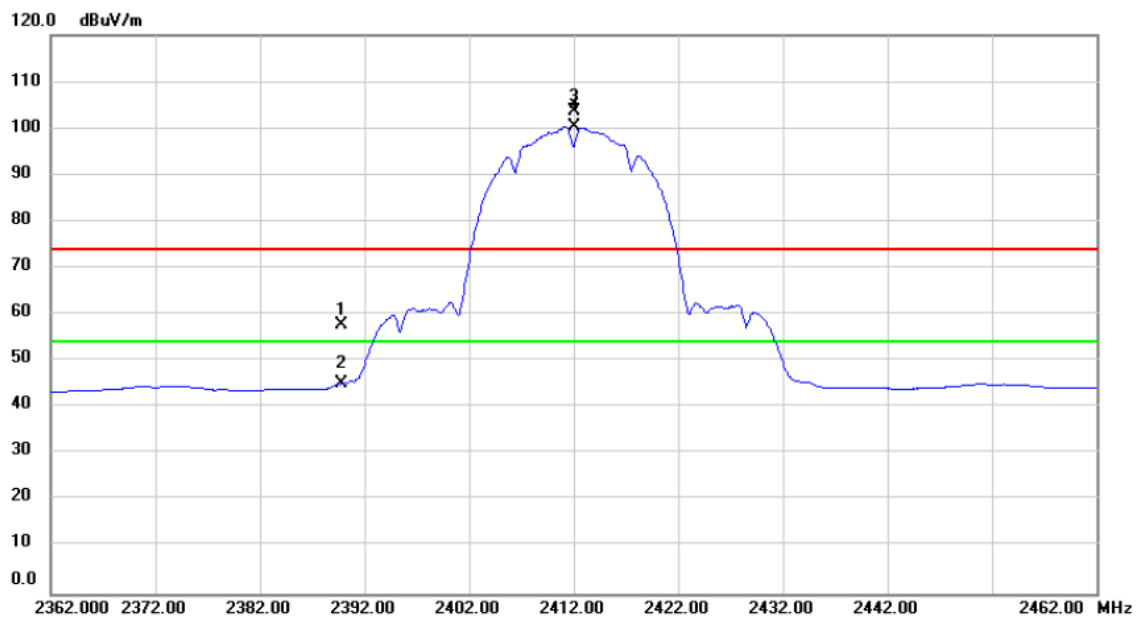


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		56.1900	28.90	-8.49	20.41	40.00	-19.59	peak	
2		177.4400	31.67	-9.36	22.31	43.50	-21.19	peak	
3		209.4500	30.71	-10.92	19.79	43.50	-23.71	peak	
4		240.4900	30.51	-9.38	21.13	46.00	-24.87	peak	
5		455.8300	30.43	-3.46	26.97	46.00	-19.03	peak	
6	*	558.6500	30.49	-1.49	29.00	46.00	-17.00	peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

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

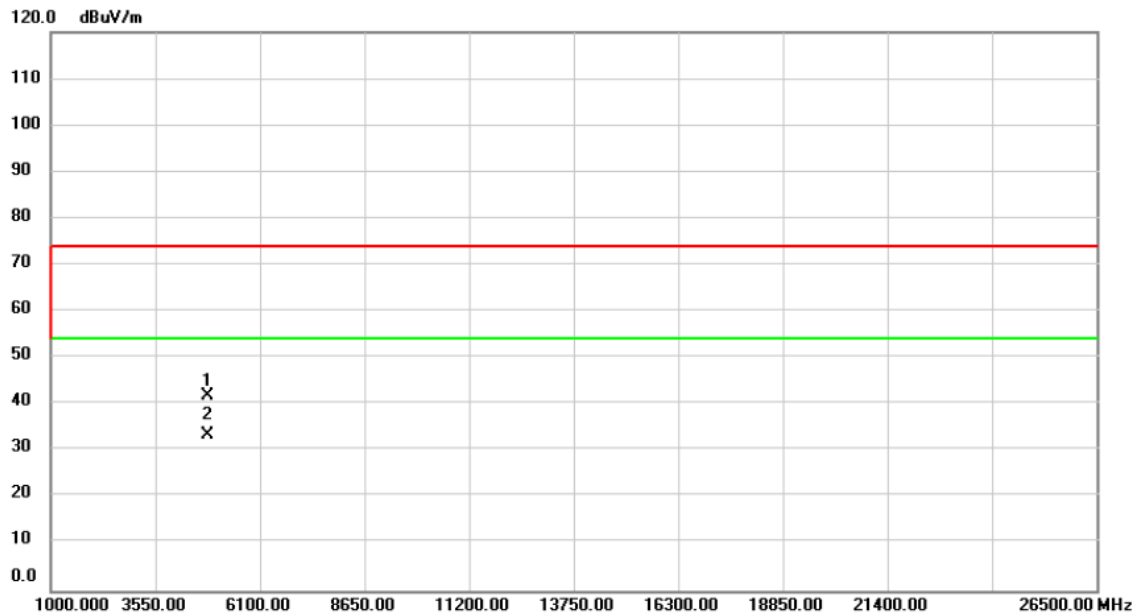
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.776	26.82	31.06	57.88	74.00	-16.12	peak	
2		2389.776	14.03	31.06	45.09	54.00	-8.91	AVG	
3	X	2412.000	72.64	31.14	103.78	74.00	29.78	peak	No Limit
4	*	2412.000	69.30	31.14	100.44	54.00	46.44	AVG	No Limit

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

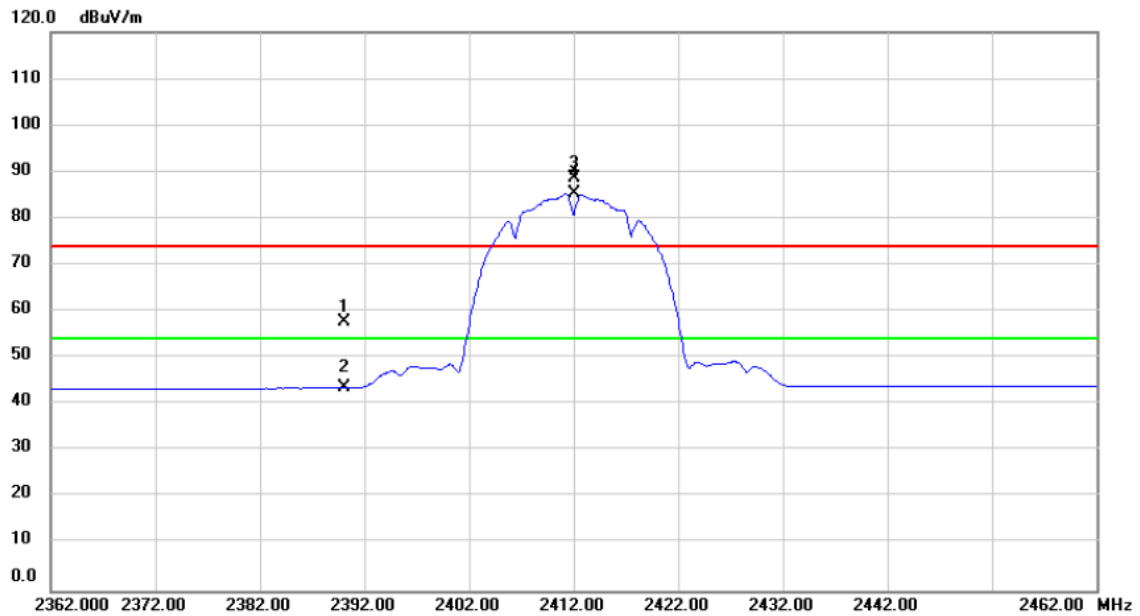
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4824.000	53.36	-11.37	41.99	74.00	-32.01	peak	
2	*	4824.000	44.89	-11.37	33.52	54.00	-20.48	AVG	

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

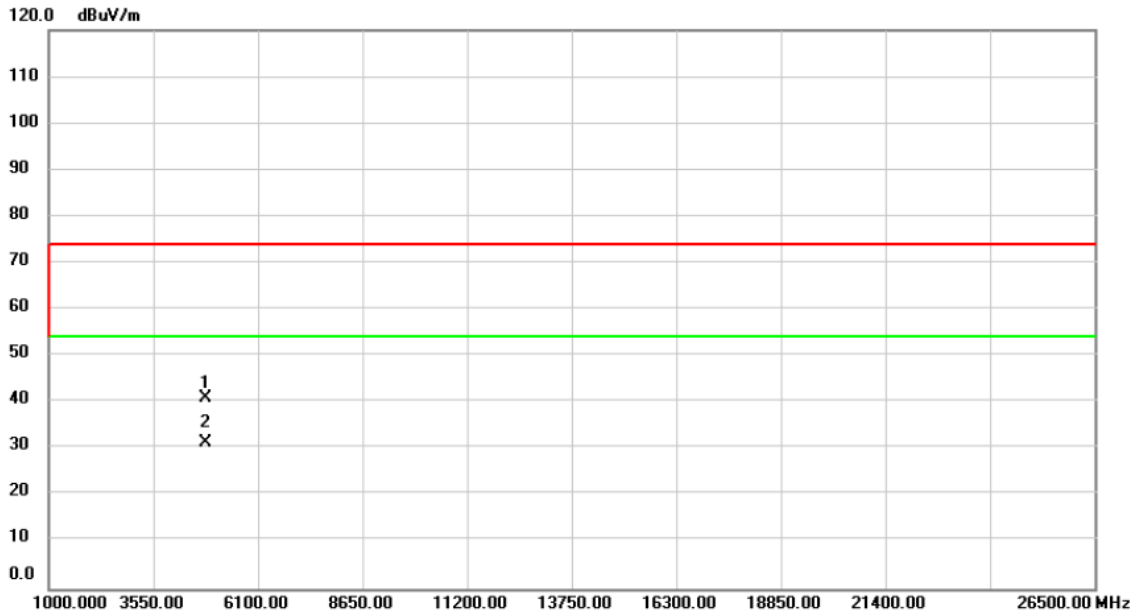
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	26.83	31.06	57.89	74.00	-16.11	peak	
2		2390.000	12.54	31.06	43.60	54.00	-10.40	AVG	
3	X	2412.000	57.55	31.14	88.69	74.00	14.69	peak	No Limit
4	*	2412.000	54.20	31.14	85.34	54.00	31.34	AVG	No Limit

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

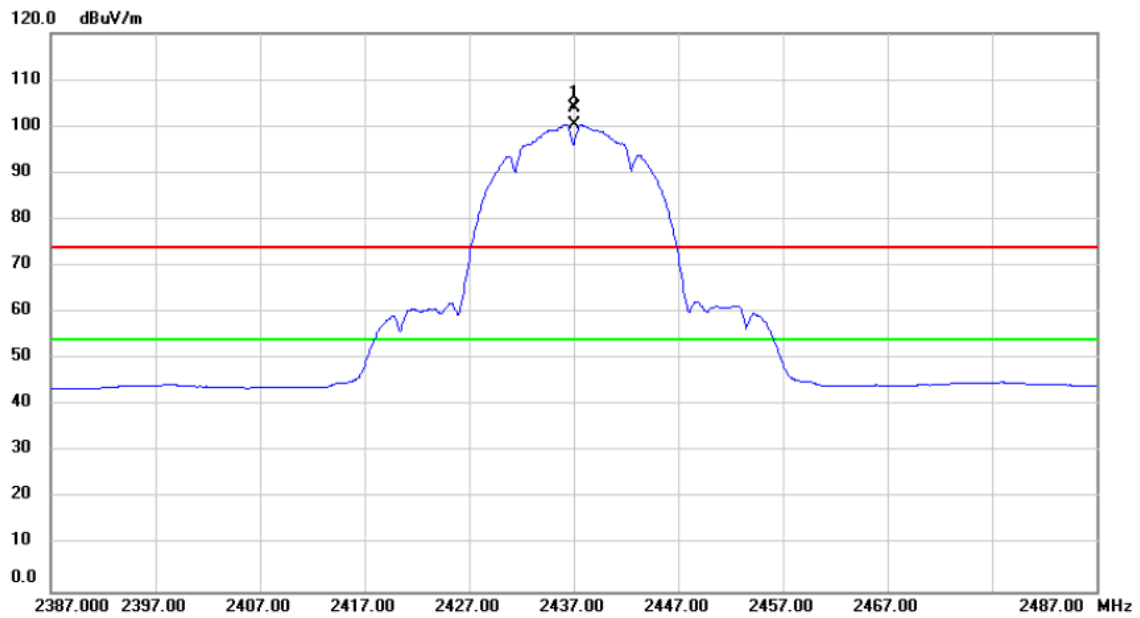
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4824.000	52.44	-11.37	41.07	74.00	-32.93	peak	
2	*	4824.000	42.87	-11.37	31.50	54.00	-22.50	AVG	

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

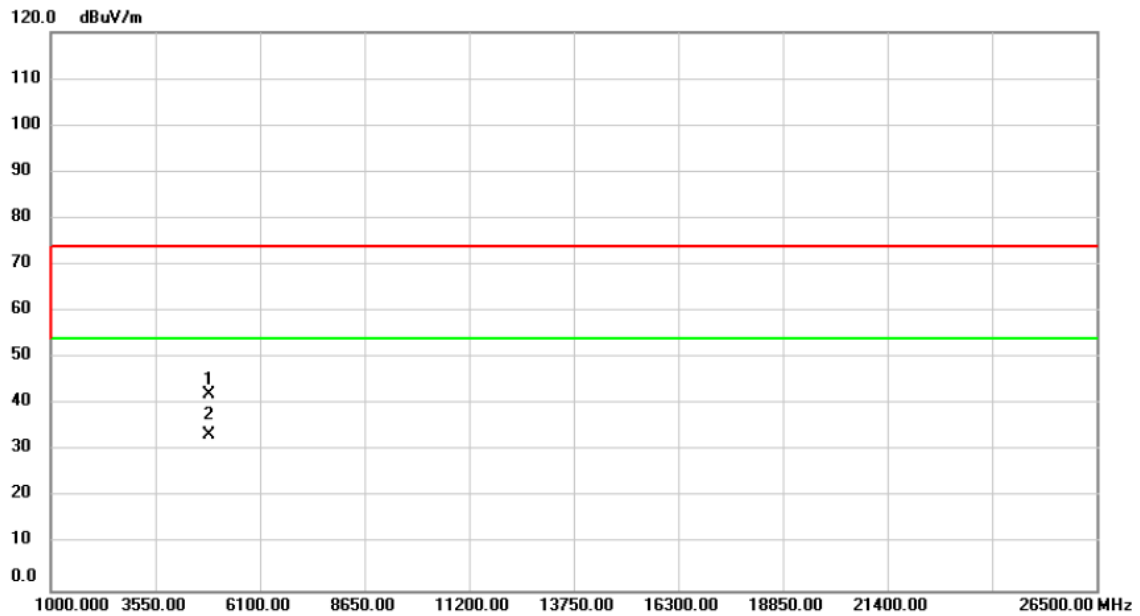
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	72.73	31.23	103.96	74.00	29.96	peak	No Limit
2	*	2437.000	69.27	31.23	100.50	54.00	46.50	AVG	No Limit

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

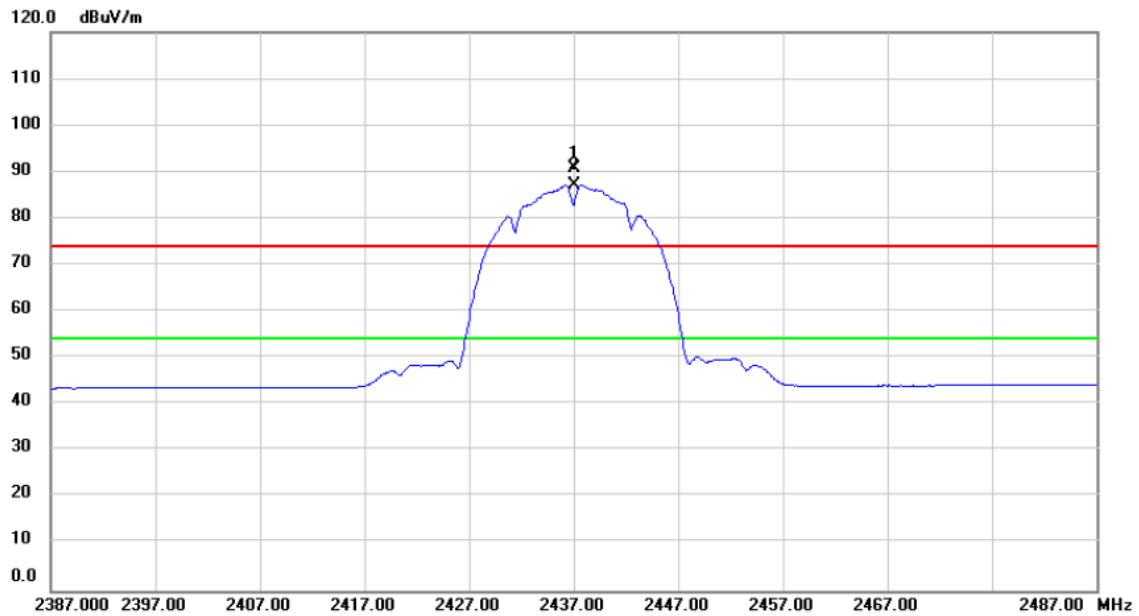
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4874.000	53.30	-11.29	42.01	74.00	-31.99	peak	
2	*	4874.000	44.84	-11.29	33.55	54.00	-20.45	AVG	

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

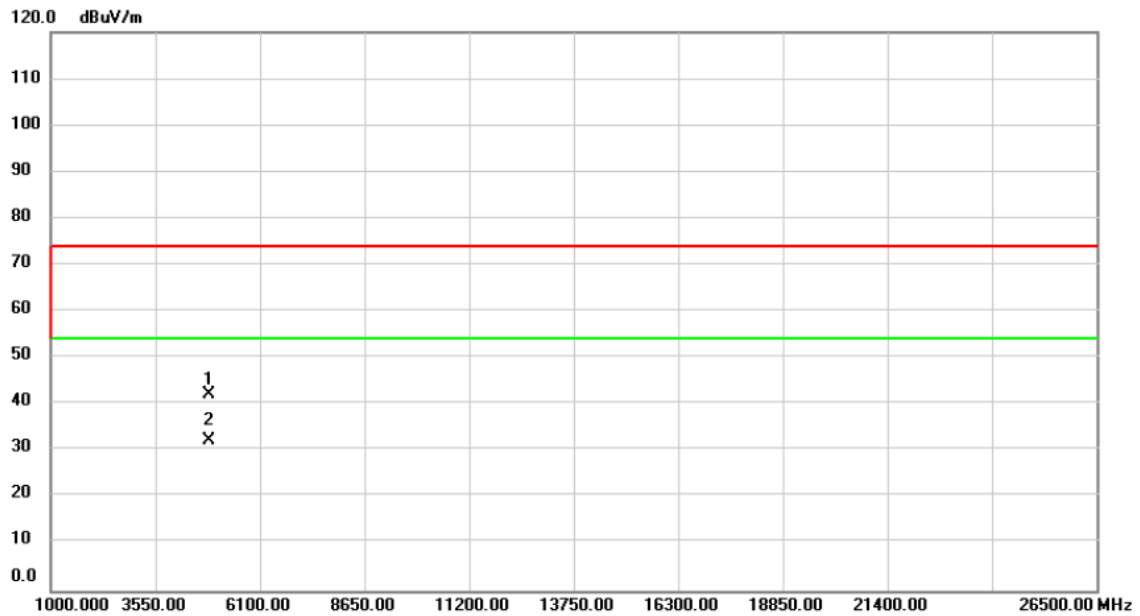
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2437.000	59.46	31.23	90.69	74.00	16.69	peak	No Limit
2	*	2437.000	55.99	31.23	87.22	54.00	33.22	AVG	No Limit

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

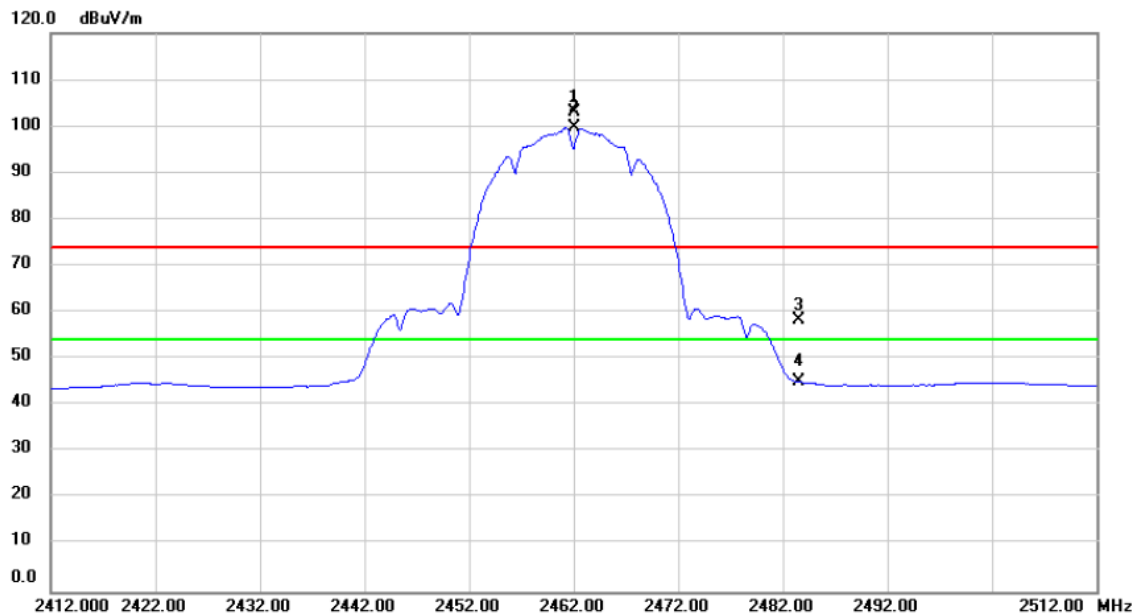
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4874.000	53.31	-11.29	42.02	74.00	-31.98	peak	
2	*	4874.000	43.53	-11.29	32.24	54.00	-21.76	AVG	

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

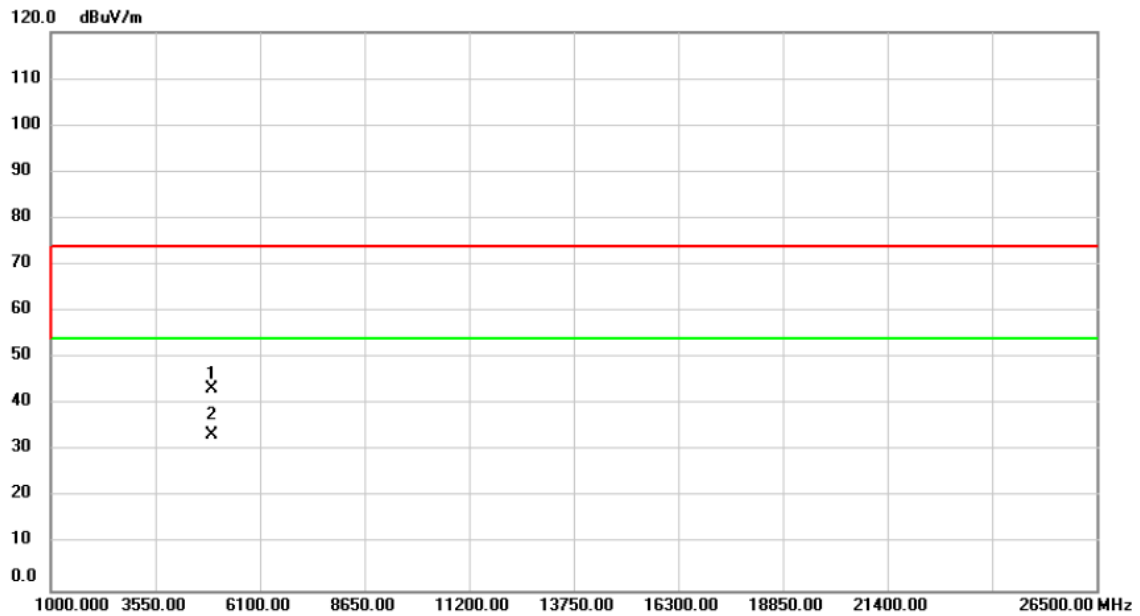
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.000	71.74	31.33	103.07	74.00	29.07	peak	No Limit
2	*	2462.000	68.33	31.33	99.66	54.00	45.66	AVG	No Limit
3		2483.550	26.95	31.41	58.36	74.00	-15.64	peak	
4		2483.550	13.66	31.41	45.07	54.00	-8.93	AVG	

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

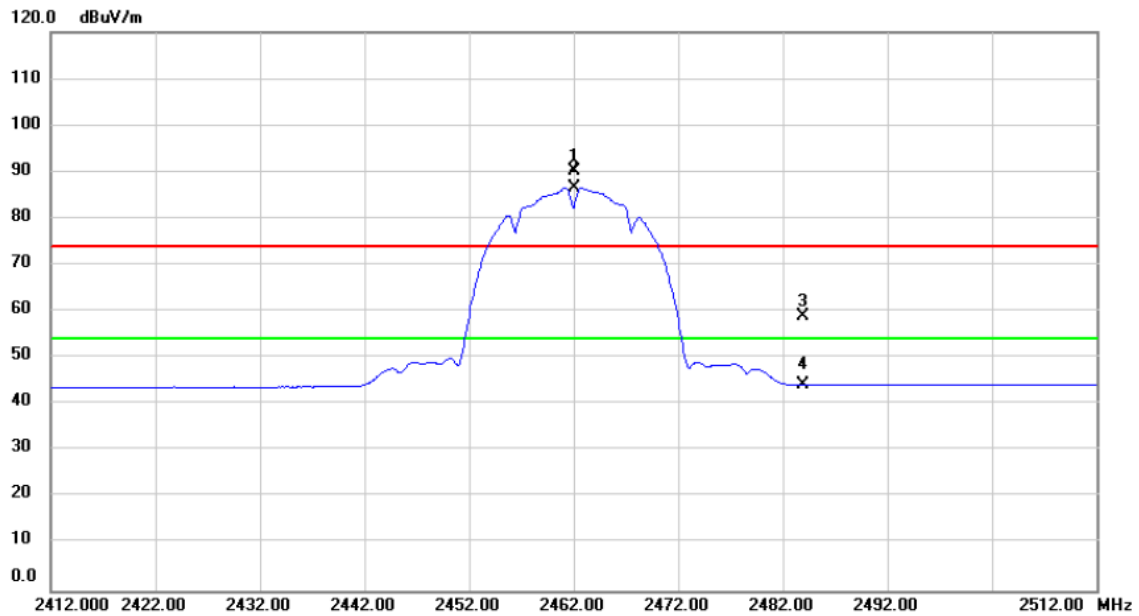
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4924.000	54.70	-11.22	43.48	74.00	-30.52	peak	
2	*	4924.000	44.78	-11.22	33.56	54.00	-20.44	AVG	

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

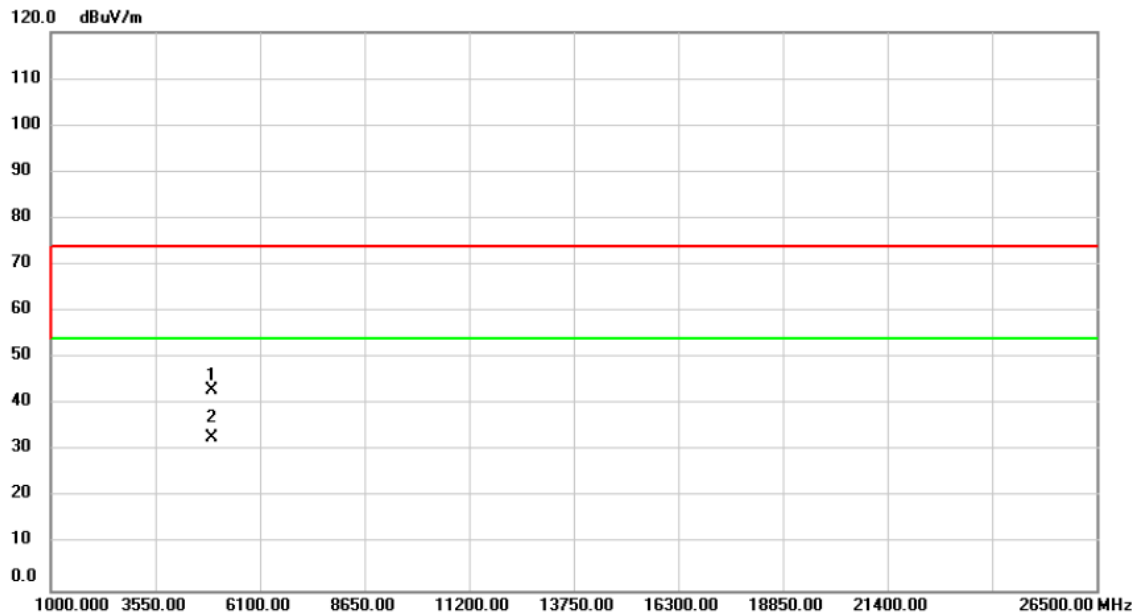
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.000	58.92	31.33	90.25	74.00	16.25	peak	No Limit
2	*	2462.000	55.30	31.33	86.63	54.00	32.63	AVG	No Limit
3		2483.979	27.44	31.42	58.86	74.00	-15.14	peak	
4		2483.979	12.85	31.42	44.27	54.00	-9.73	AVG	

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

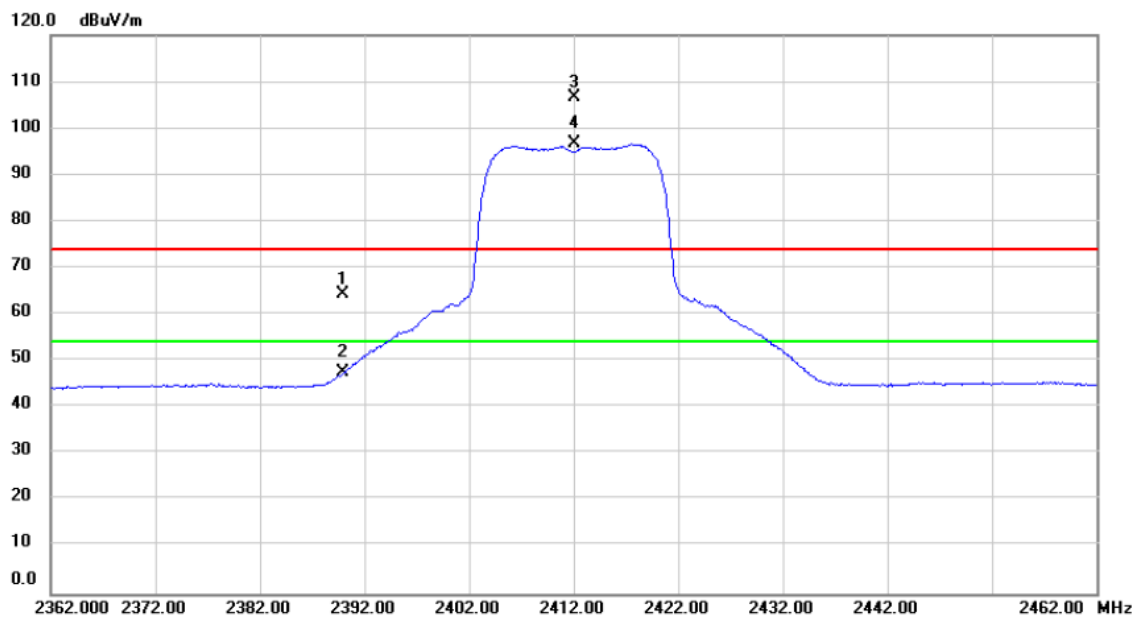
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4924.000	54.14	-11.22	42.92	74.00	-31.08	peak	
2	*	4924.000	44.11	-11.22	32.89	54.00	-21.11	AVG	

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

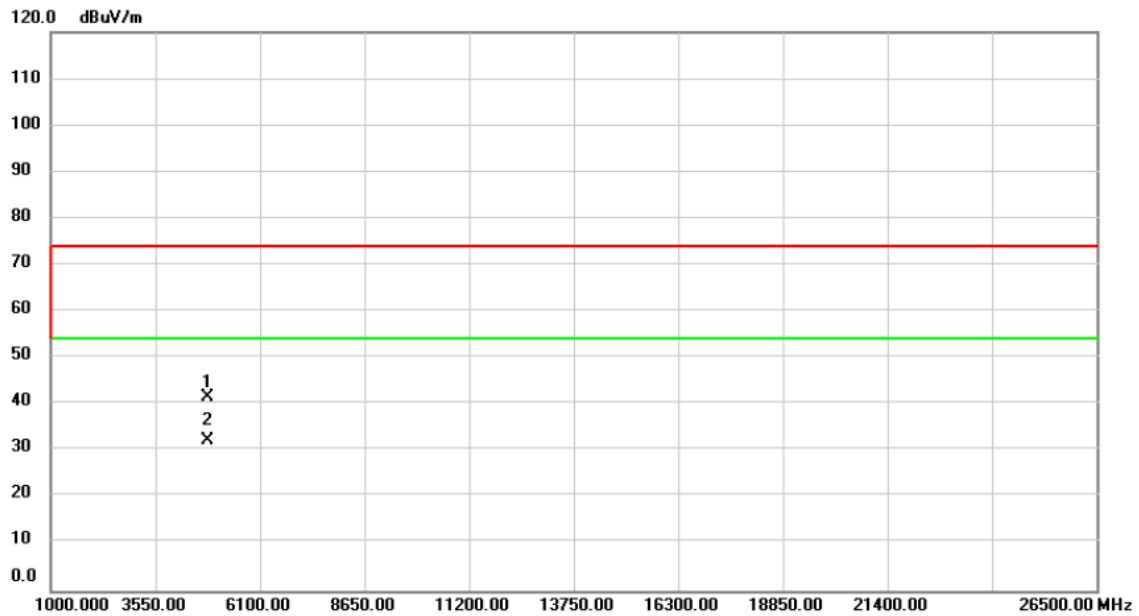
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.972	33.37	31.06	64.43	74.00	-9.57	peak	
2		2389.972	16.52	31.06	47.58	54.00	-6.42	AVG	
3	X	2412.000	75.40	31.14	106.54	74.00	32.54	peak	No Limit
4	*	2412.000	65.63	31.14	96.77	54.00	42.77	AVG	No Limit

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

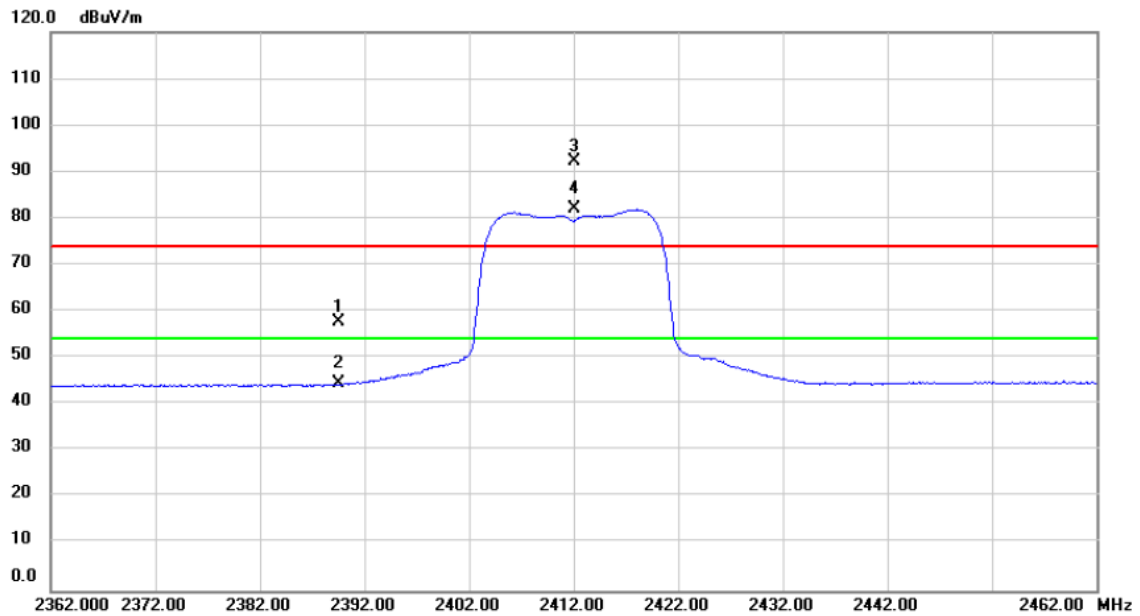
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4824.000	52.82	-11.37	41.45	74.00	-32.55	peak	
2	*	4824.000	43.55	-11.37	32.18	54.00	-21.82	AVG	

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

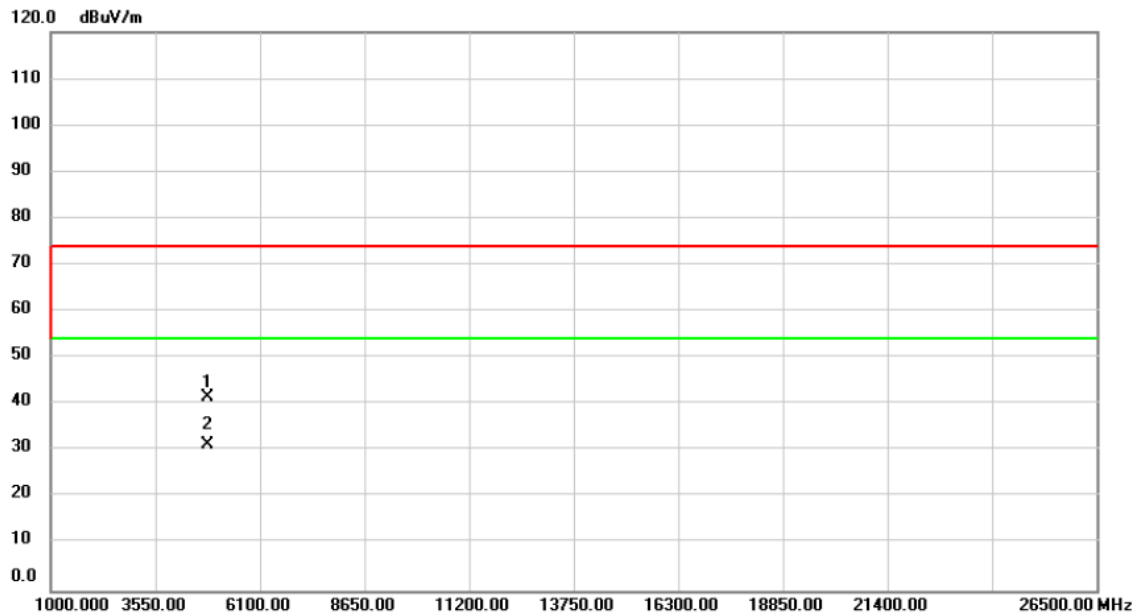
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.580	26.73	31.06	57.79	74.00	-16.21	peak	
2		2389.580	13.45	31.06	44.51	54.00	-9.49	AVG	
3	X	2412.000	61.05	31.14	92.19	74.00	18.19	peak	No Limit
4	*	2412.000	50.77	31.14	81.91	54.00	27.91	AVG	No Limit

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

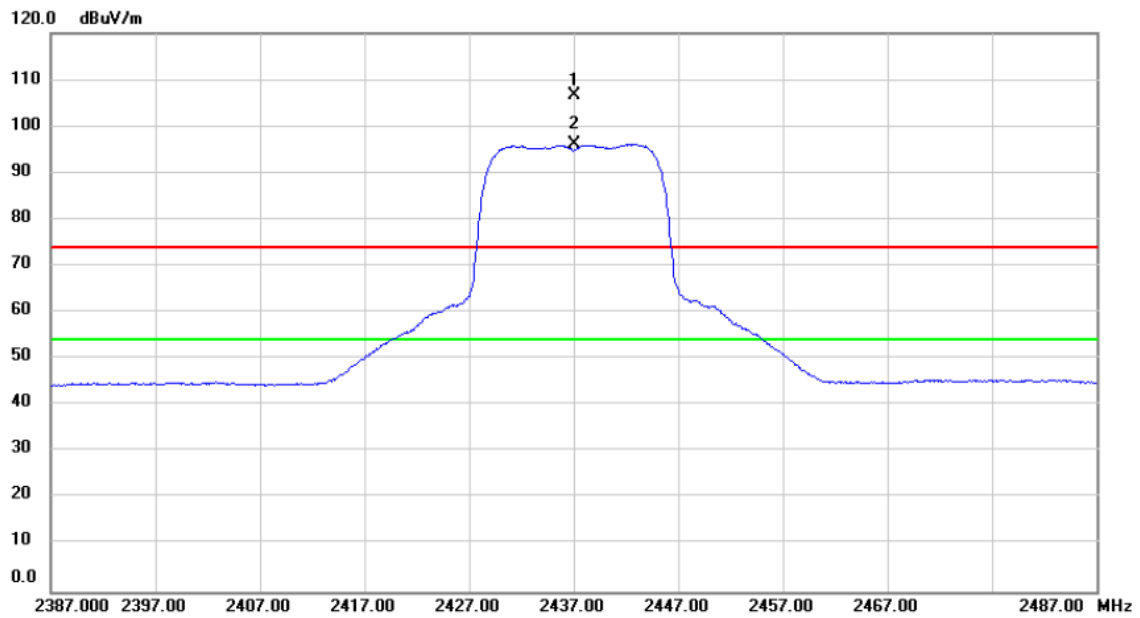
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4824.000	52.98	-11.37	41.61	74.00	-32.39	peak	
2	*	4824.000	42.66	-11.37	31.29	54.00	-22.71	AVG	

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

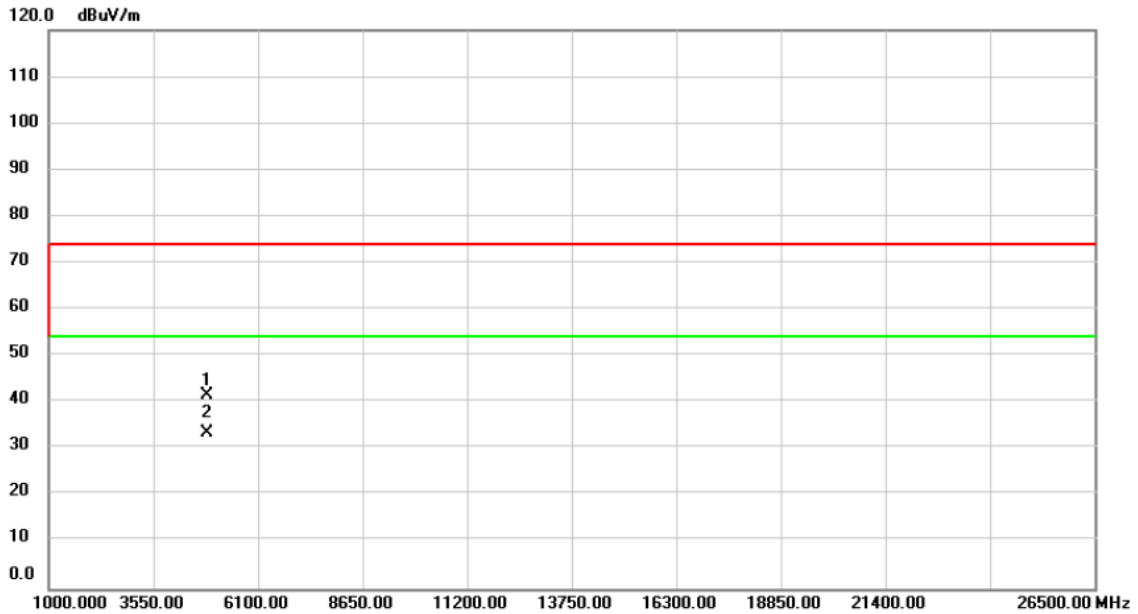
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2437.000	75.51	31.23	106.74	74.00	32.74	peak	No Limit
2	*	2437.000	64.97	31.23	96.20	54.00	42.20	AVG	No Limit

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

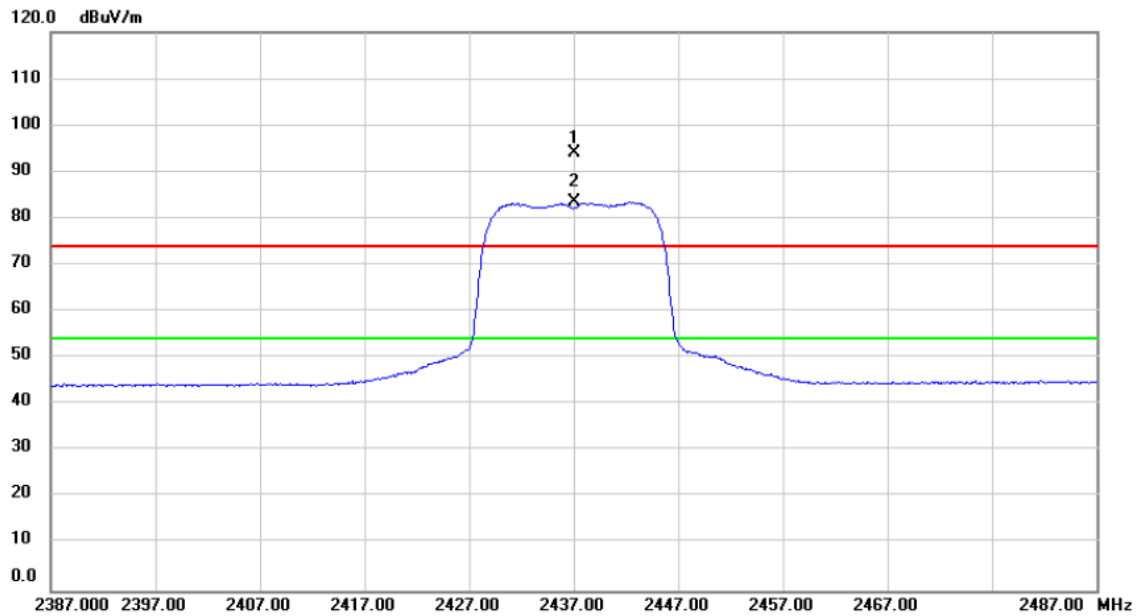
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4874.000	52.94	-11.29	41.65	74.00	-32.35	peak	
2	*	4874.000	44.80	-11.29	33.51	54.00	-20.49	AVG	

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

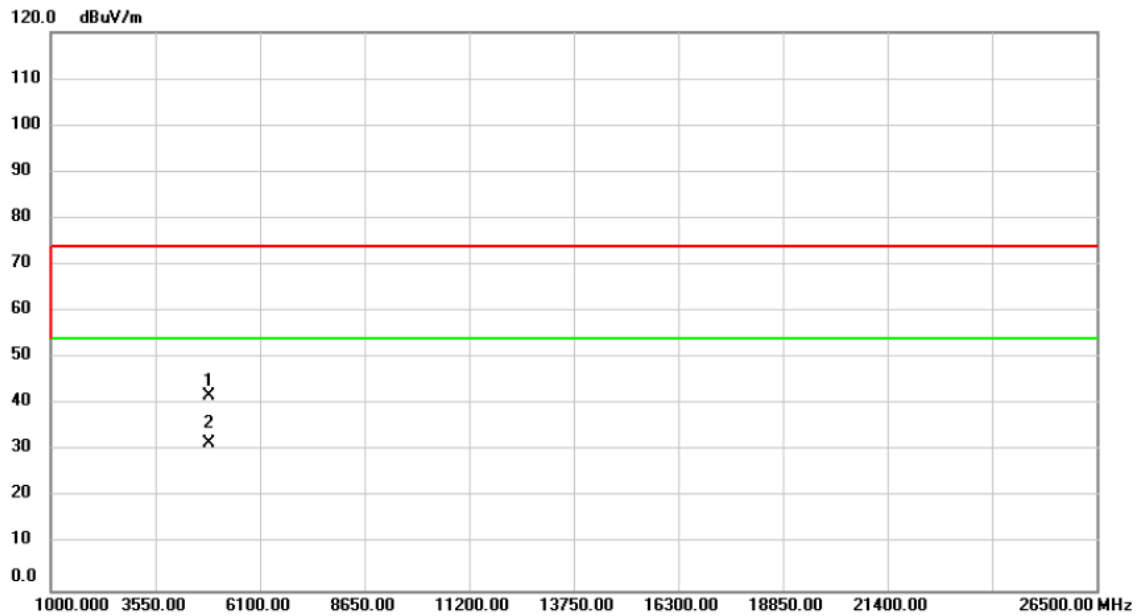
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2437.000	62.78	31.23	94.01	74.00	20.01	peak	No Limit
2	*	2437.000	52.38	31.23	83.61	54.00	29.61	AVG	No Limit

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

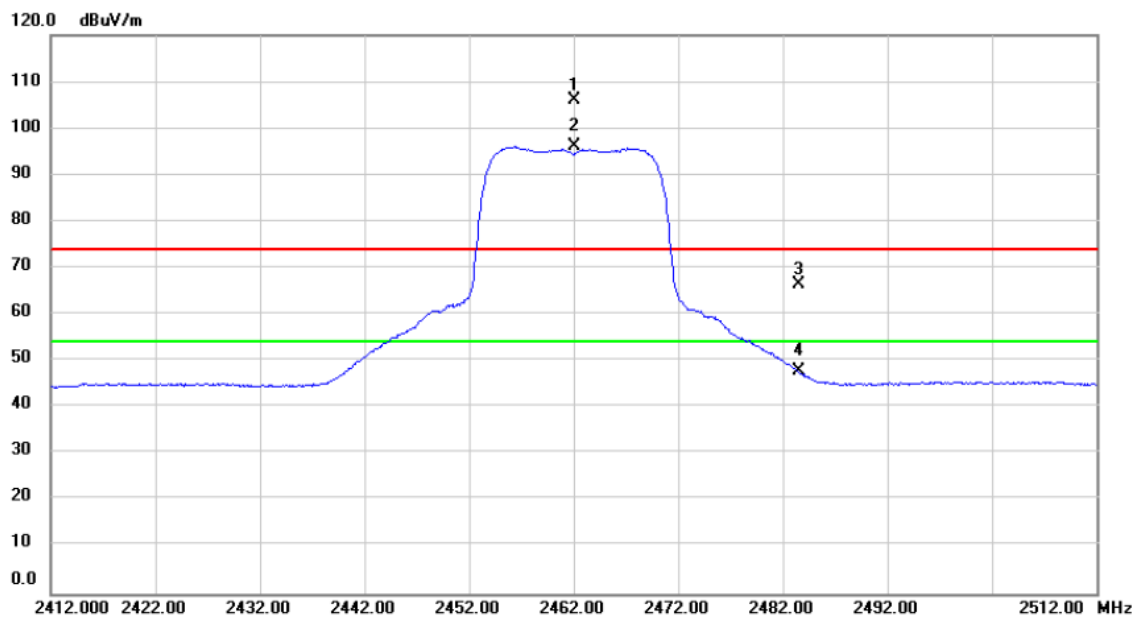
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4874.000	53.29	-11.29	42.00	74.00	-32.00	peak	
2	*	4874.000	43.08	-11.29	31.79	54.00	-22.21	AVG	

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

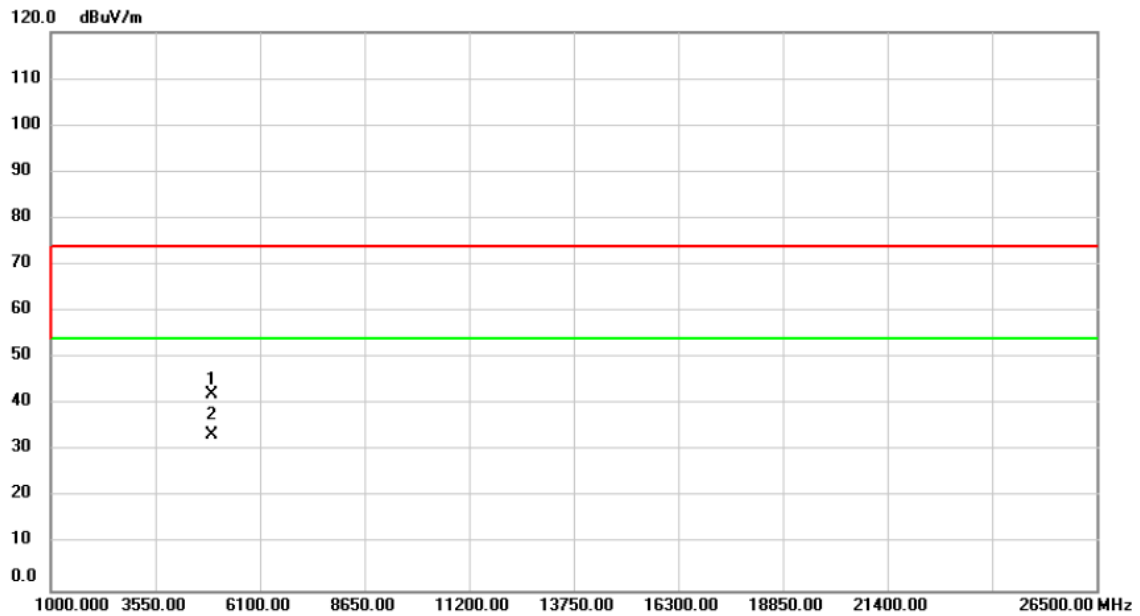
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.000	74.70	31.33	106.03	74.00	32.03	peak	No Limit
2	*	2462.000	64.70	31.33	96.03	54.00	42.03	AVG	No Limit
3		2483.500	35.07	31.41	66.48	74.00	-7.52	peak	
4		2483.500	16.45	31.41	47.86	54.00	-6.14	AVG	

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

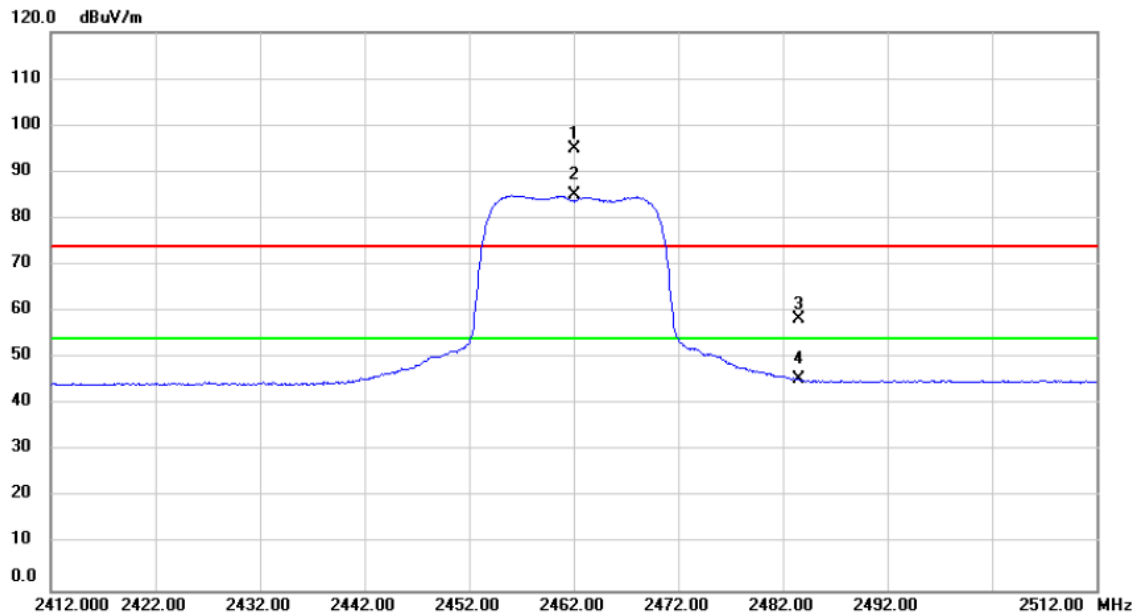
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4924.000	53.51	-11.22	42.29	74.00	-31.71	peak	
2	*	4924.000	44.68	-11.22	33.46	54.00	-20.54	AVG	

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

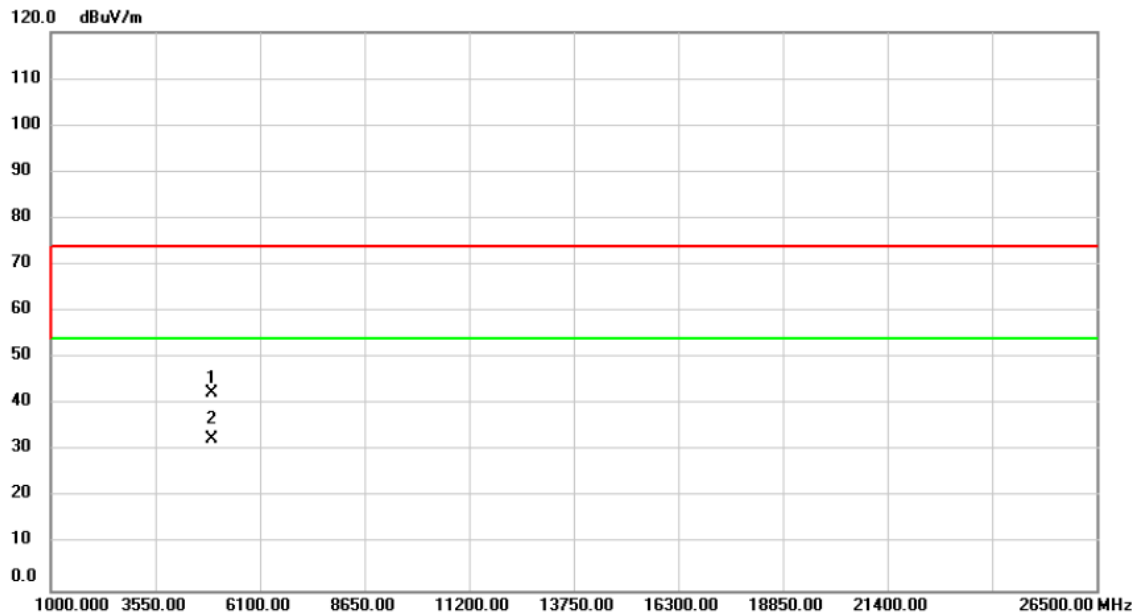
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.000	63.66	31.33	94.99	74.00	20.99	peak	No Limit
2	*	2462.000	53.62	31.33	84.95	54.00	30.95	AVG	No Limit
3		2483.517	26.84	31.41	58.25	74.00	-15.75	peak	
4		2483.517	13.99	31.41	45.40	54.00	-8.60	AVG	

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

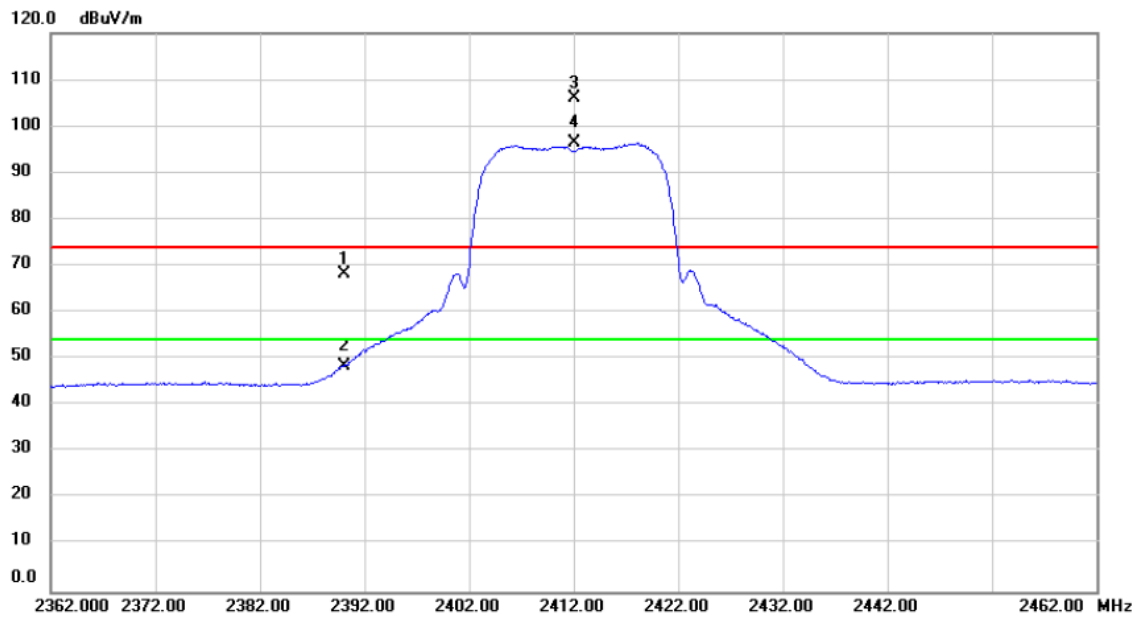
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4924.000	53.75	-11.22	42.53	74.00	-31.47	peak	
2	*	4924.000	43.66	-11.22	32.44	54.00	-21.56	AVG	

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

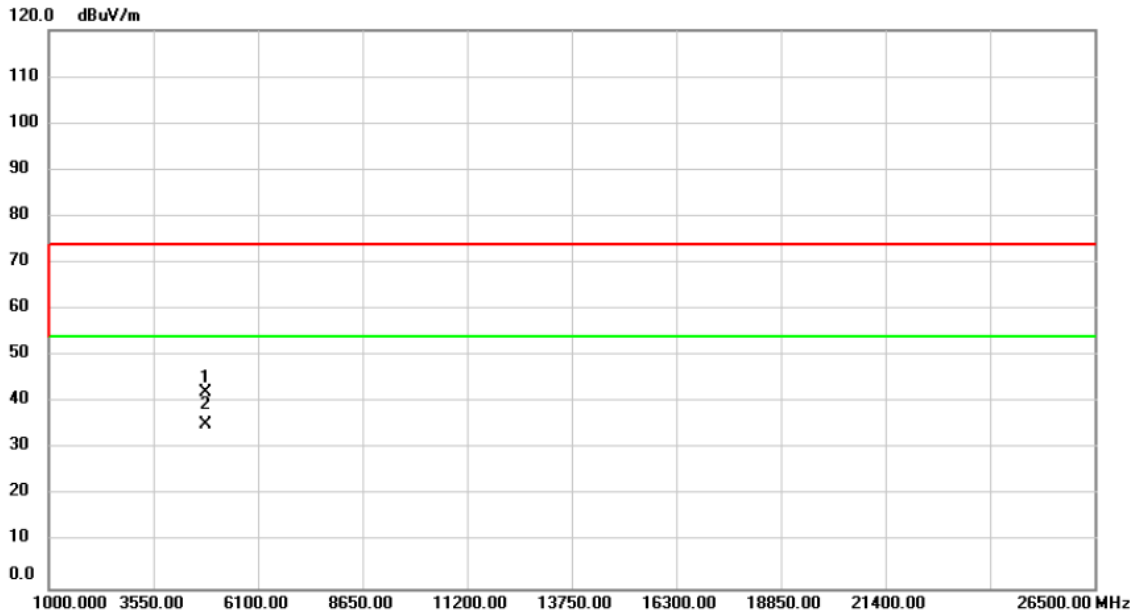
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	37.17	31.06	68.23	74.00	-5.77	peak	
2		2390.000	17.53	31.06	48.59	54.00	-5.41	AVG	
3	X	2412.000	75.03	31.14	106.17	74.00	32.17	peak	No Limit
4	*	2412.000	65.21	31.14	96.35	54.00	42.35	AVG	No Limit

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

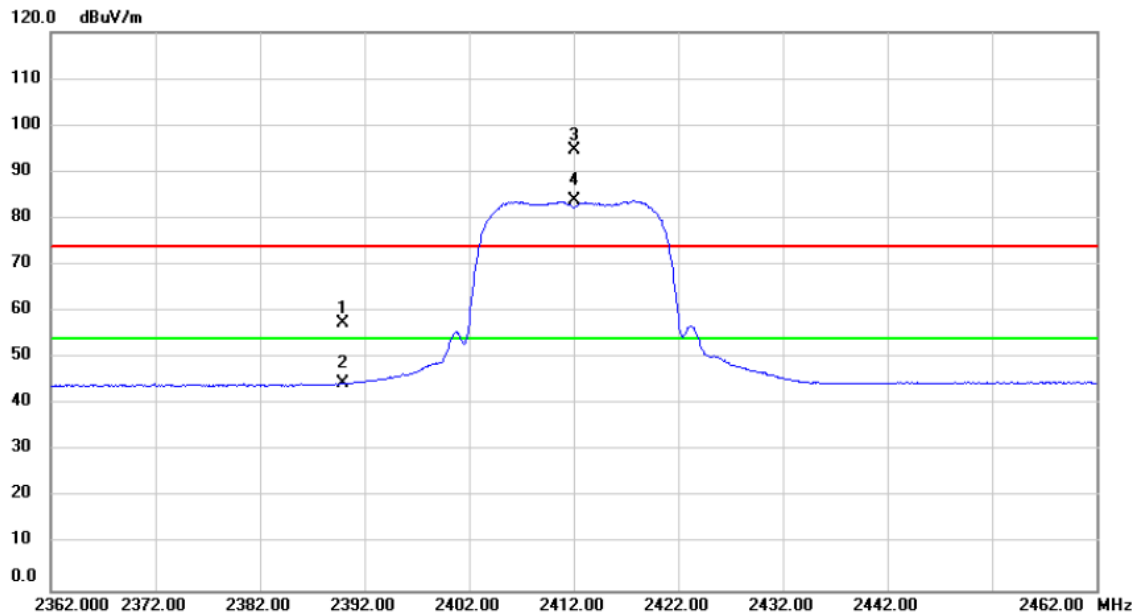
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	53.60	-11.37	42.23	74.00	-31.77	peak	
2	*	4824.000	46.51	-11.37	35.14	54.00	-18.86	AVG	

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

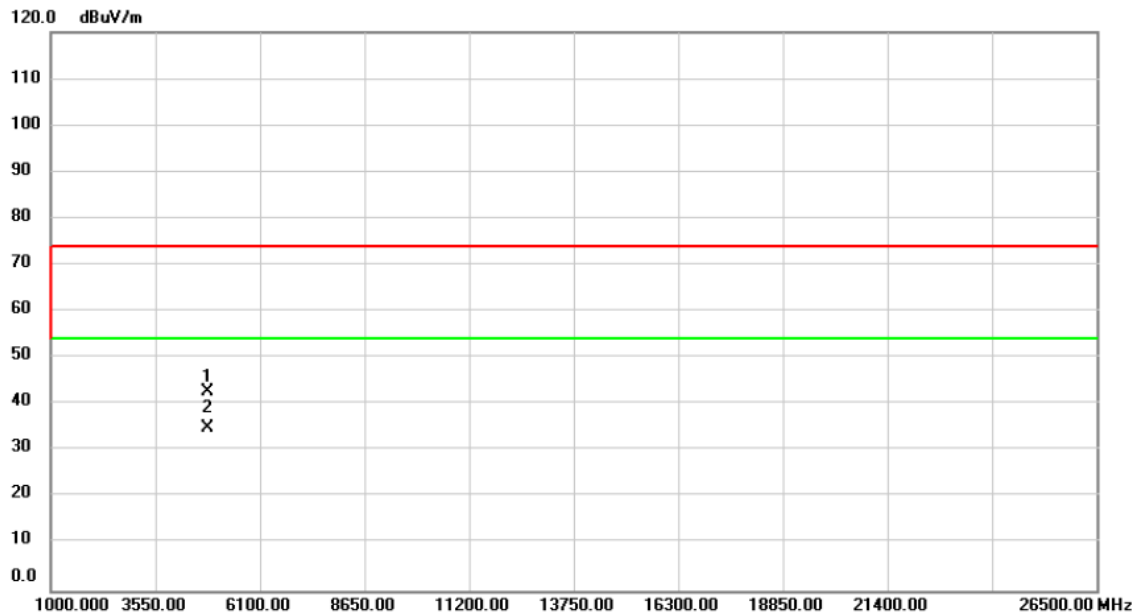
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.944	26.34	31.06	57.40	74.00	-16.60	peak	
2		2389.944	13.58	31.06	44.64	54.00	-9.36	AVG	
3	X	2412.000	63.47	31.14	94.61	74.00	20.61	peak	No Limit
4	*	2412.000	52.62	31.14	83.76	54.00	29.76	AVG	No Limit

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

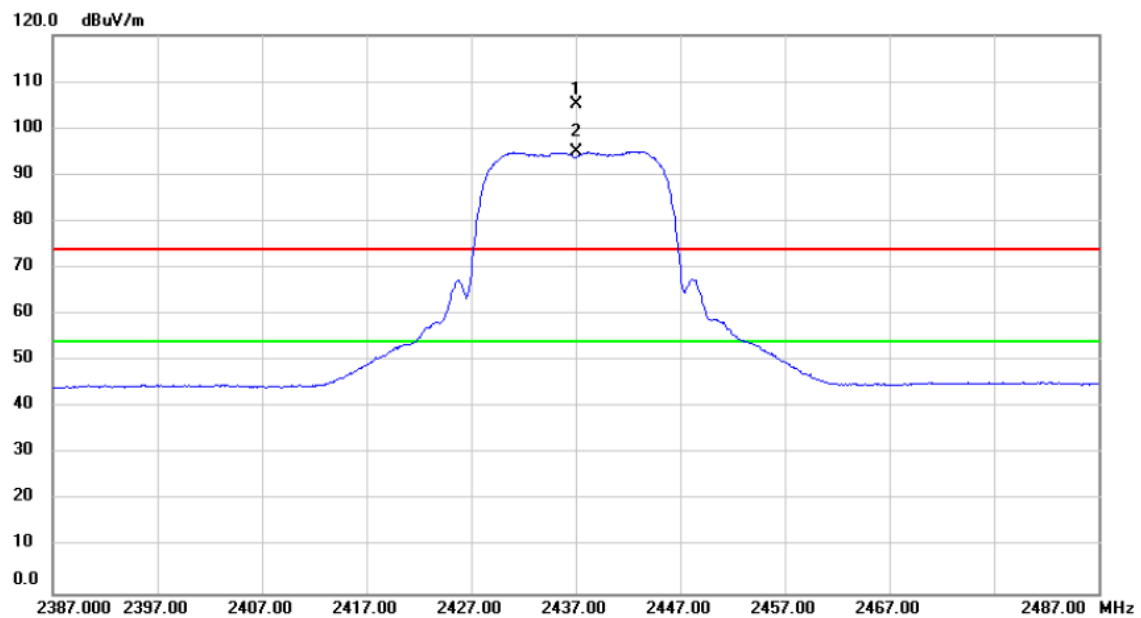
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4824.000	54.02	-11.37	42.65	74.00	-31.35	peak	
2	*	4824.000	46.20	-11.37	34.83	54.00	-19.17	AVG	

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

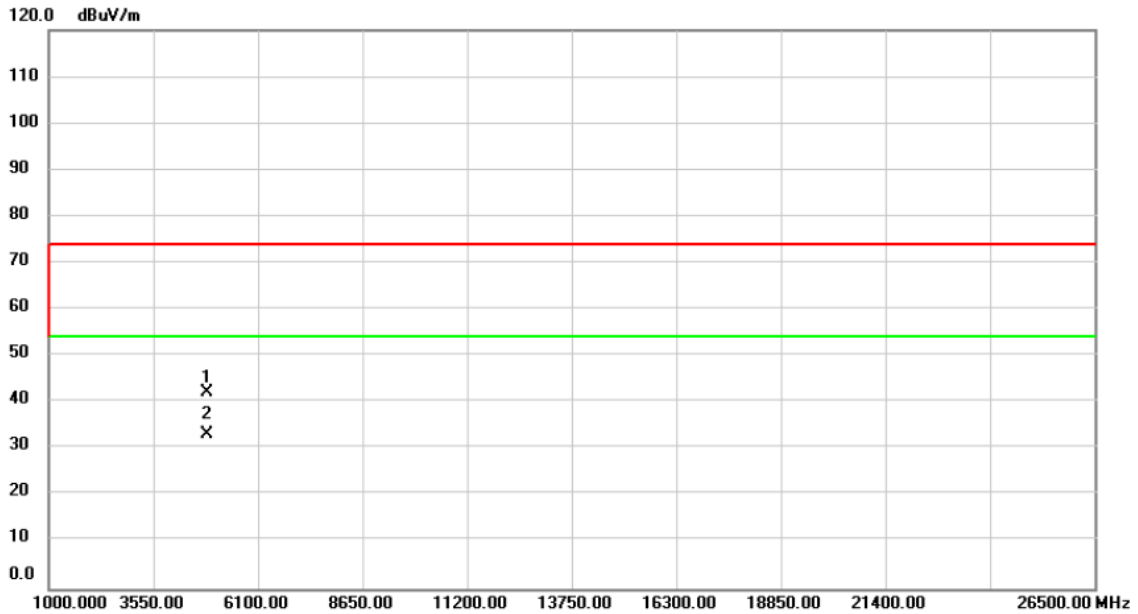
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.000	73.79	31.23	105.02	74.00	31.02	peak	No Limit
2	*	2437.000	63.74	31.23	94.97	54.00	40.97	AVG	No Limit

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

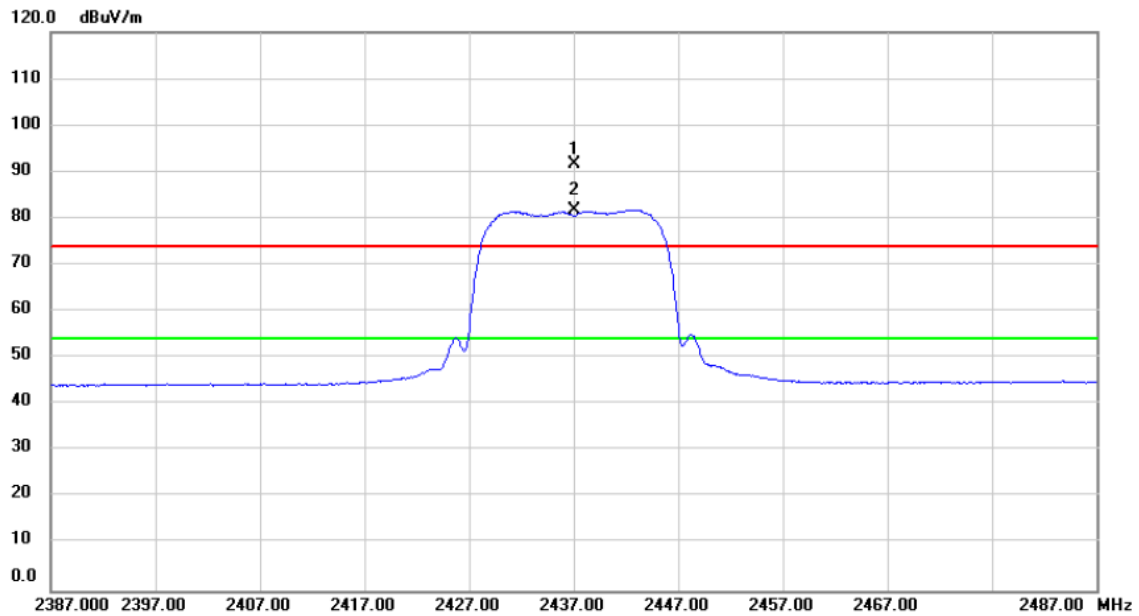
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4874.000	53.33	-11.29	42.04	74.00	-31.96	peak	
2	*	4874.000	44.51	-11.29	33.22	54.00	-20.78	AVG	

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

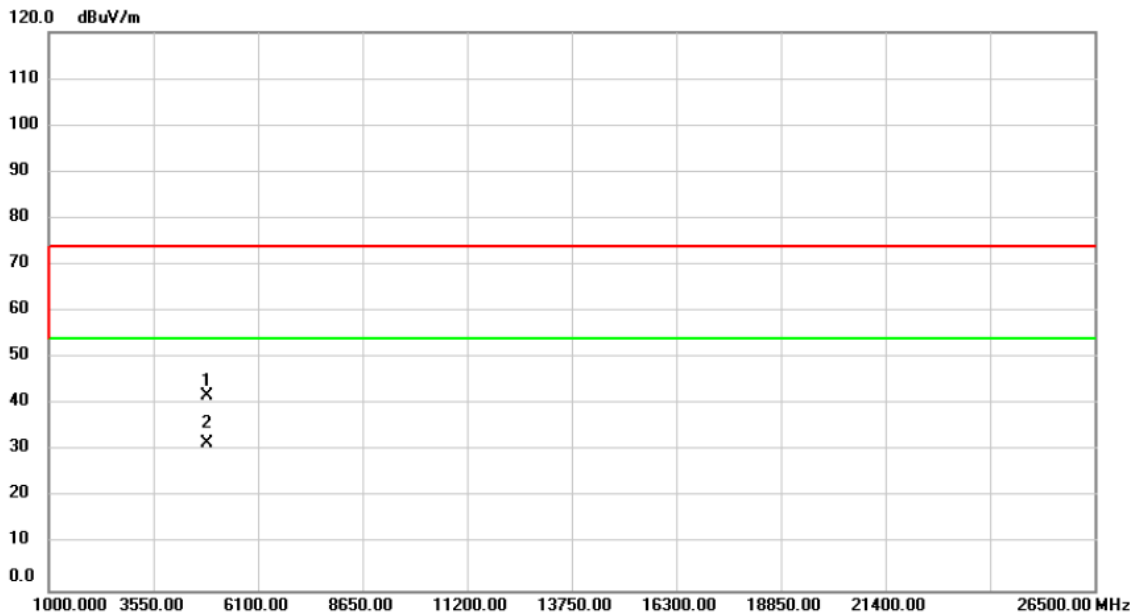
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2437.000	60.40	31.23	91.63	74.00	17.63	peak	No Limit
2	*	2437.000	50.60	31.23	81.83	54.00	27.83	AVG	No Limit

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

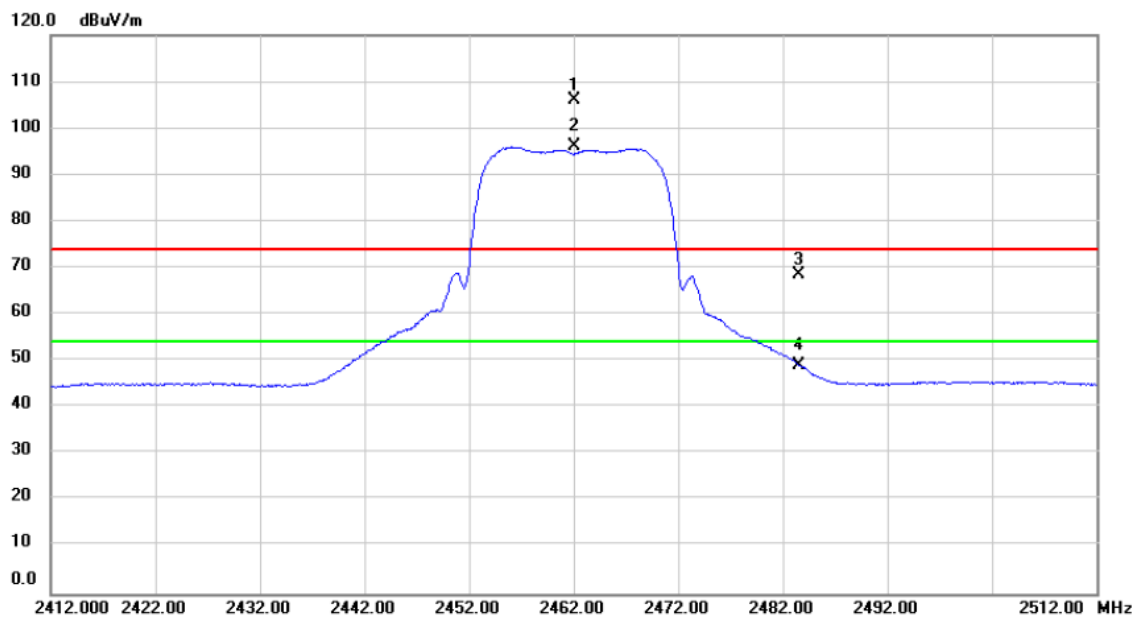
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4874.000	53.20	-11.29	41.91	74.00	-32.09	peak	
2	*	4874.000	42.91	-11.29	31.62	54.00	-22.38	AVG	

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

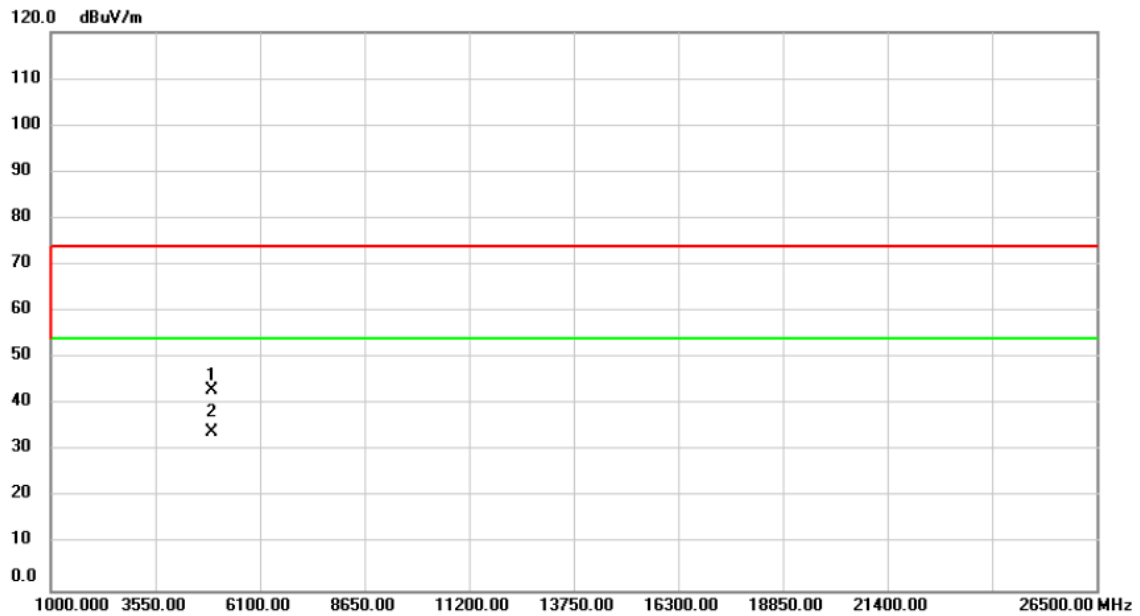
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.000	74.67	31.33	106.00	74.00	32.00	peak	No Limit
2	*	2462.000	64.73	31.33	96.06	54.00	42.06	AVG	No Limit
3		2483.550	37.14	31.41	68.55	74.00	-5.45	peak	
4		2483.550	17.70	31.41	49.11	54.00	-4.89	AVG	

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

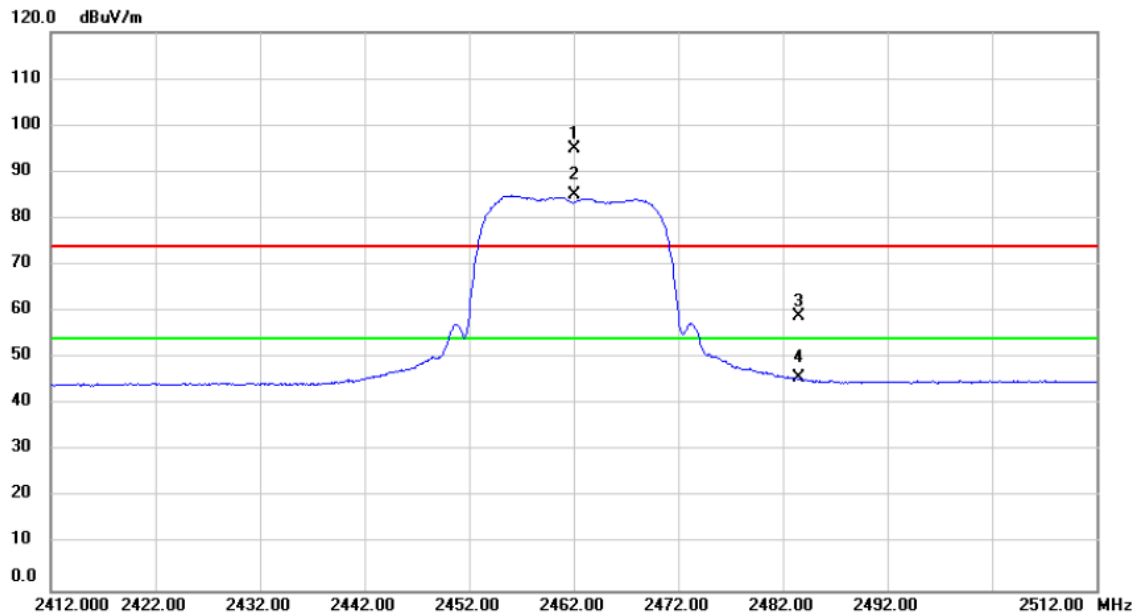
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4924.000	54.18	-11.22	42.96	74.00	-31.04	peak	
2	*	4924.000	45.27	-11.22	34.05	54.00	-19.95	AVG	

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

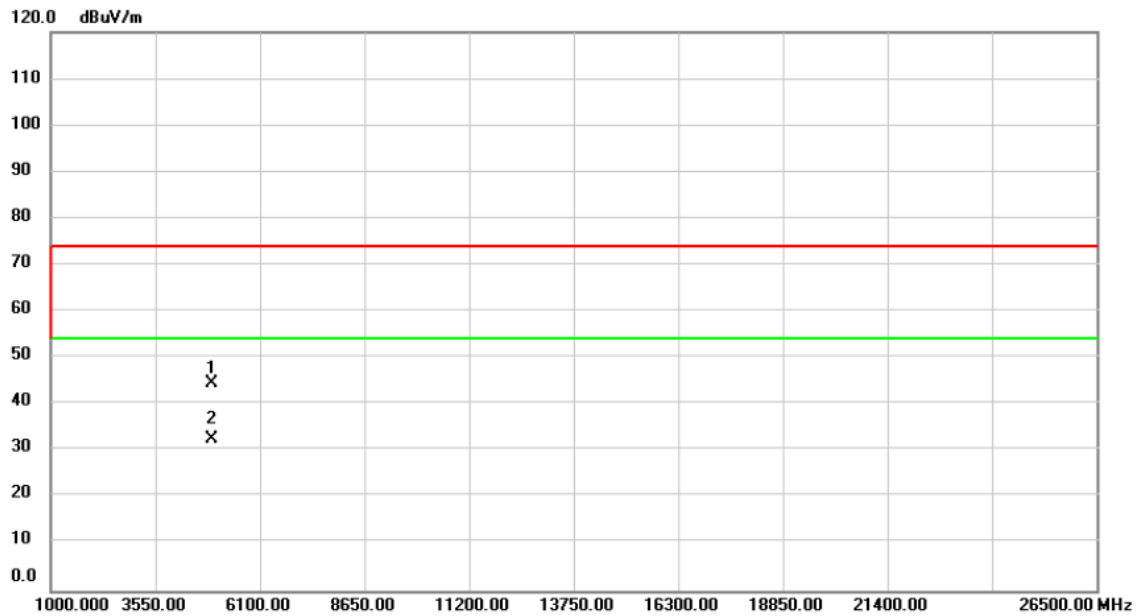
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2462.000	63.61	31.33	94.94	74.00	20.94	peak	No Limit
2	*	2462.000	53.60	31.33	84.93	54.00	30.93	AVG	No Limit
3		2483.533	27.67	31.41	59.08	74.00	-14.92	peak	
4		2483.533	14.23	31.41	45.64	54.00	-8.36	AVG	

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

Horizontal



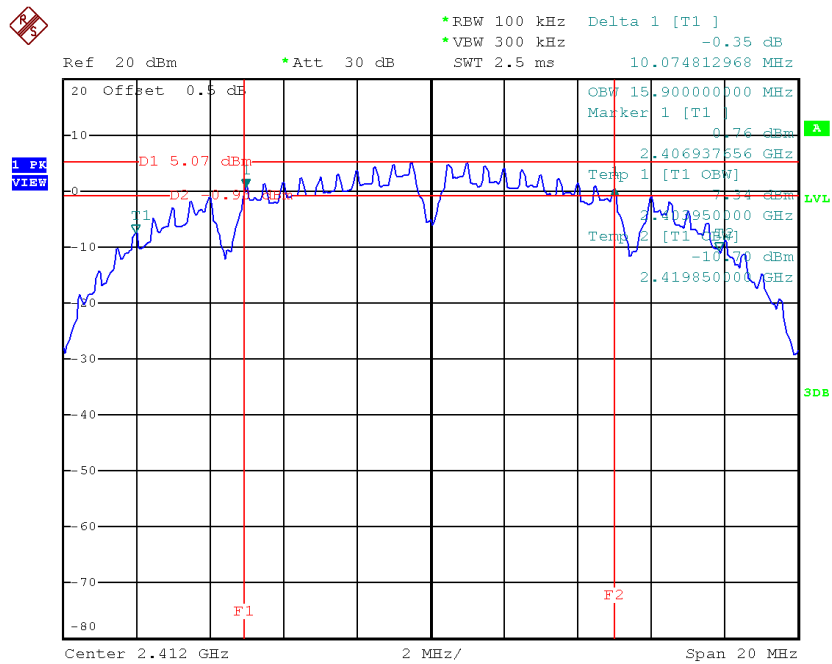
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4924.000	55.82	-11.22	44.60	74.00	-29.40	peak	
2	*	4924.000	43.72	-11.22	32.50	54.00	-21.50	AVG	

ATTACHMENT E - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

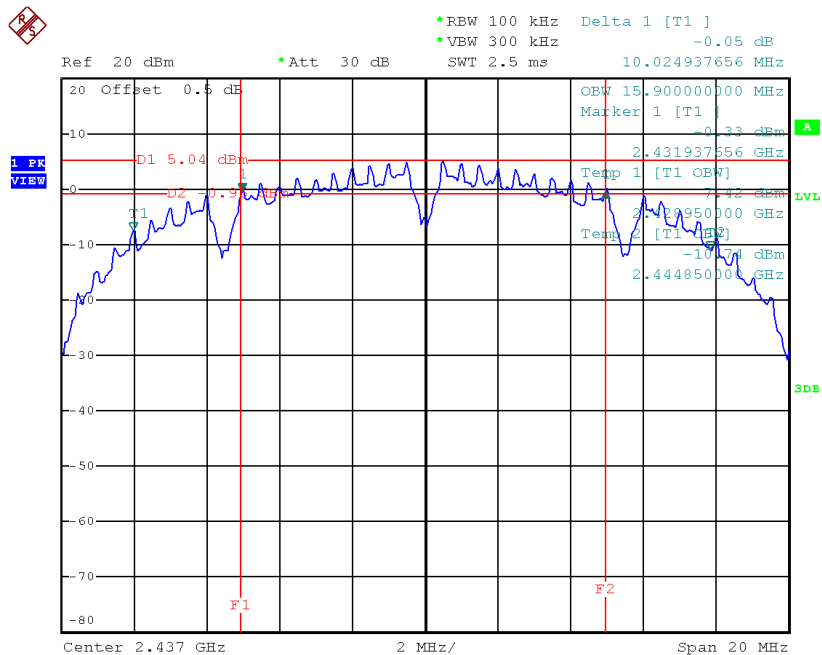
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.07	15.90	500	Complies
2437	10.02	15.90	500	Complies
2462	10.12	15.90	500	Complies

TX CH01



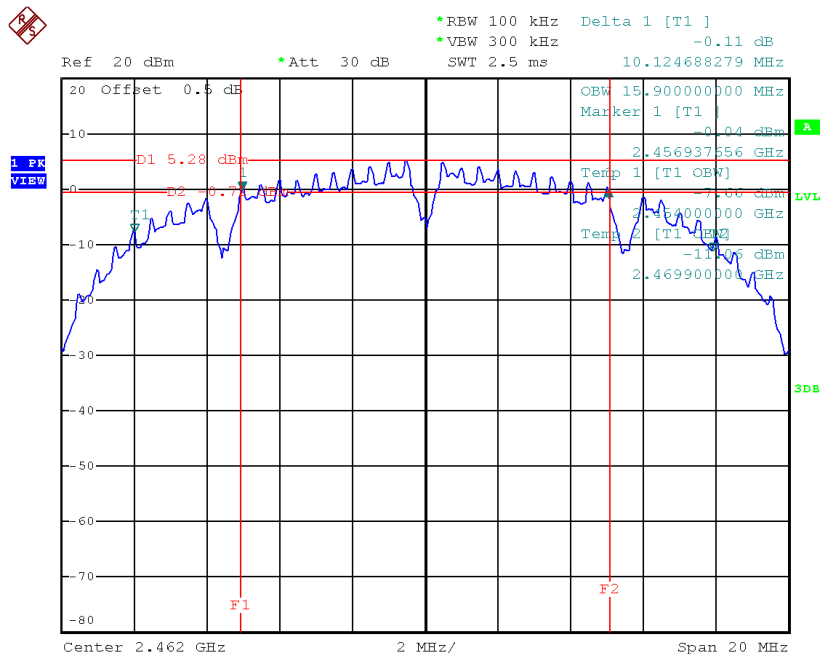
Date: 8.JAN.2015 19:17:19

TX CH06



Date: 8.JAN.2015 19:22:21

TX CH11

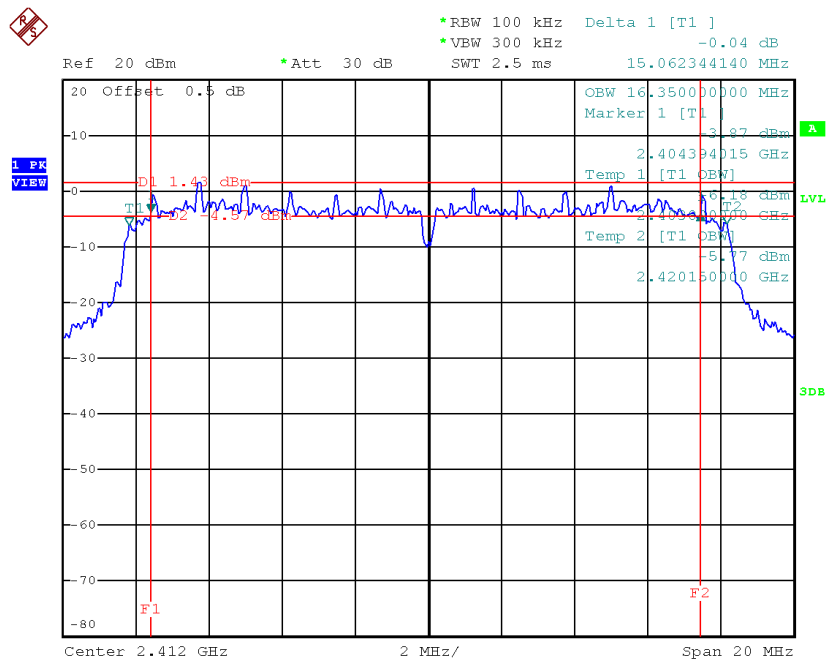


Date: 8.JAN.2015 19:25:35

Test Mode: TX G Mode_CH01/06/11

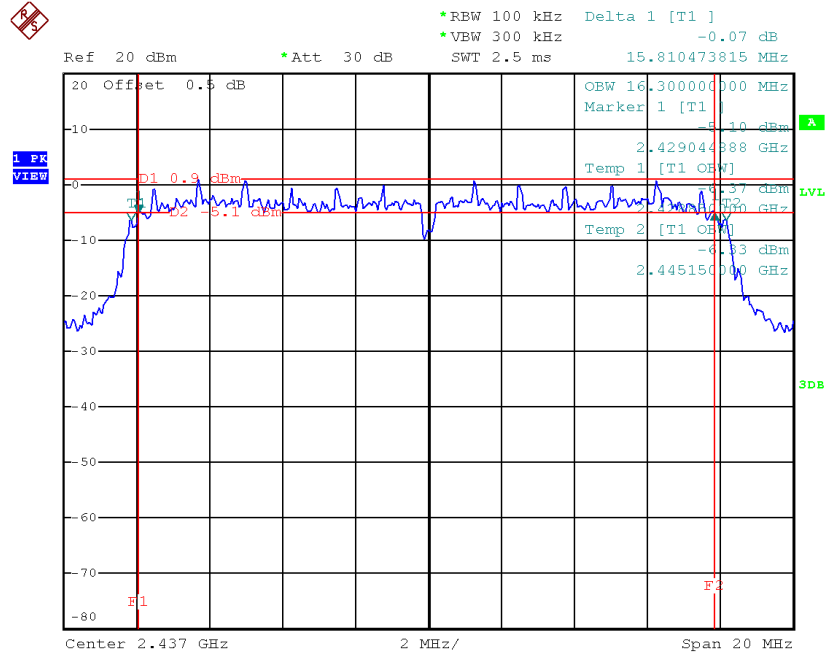
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	15.06	16.35	500	Complies
2437	15.81	16.30	500	Complies
2462	15.66	16.35	500	Complies

TX CH01



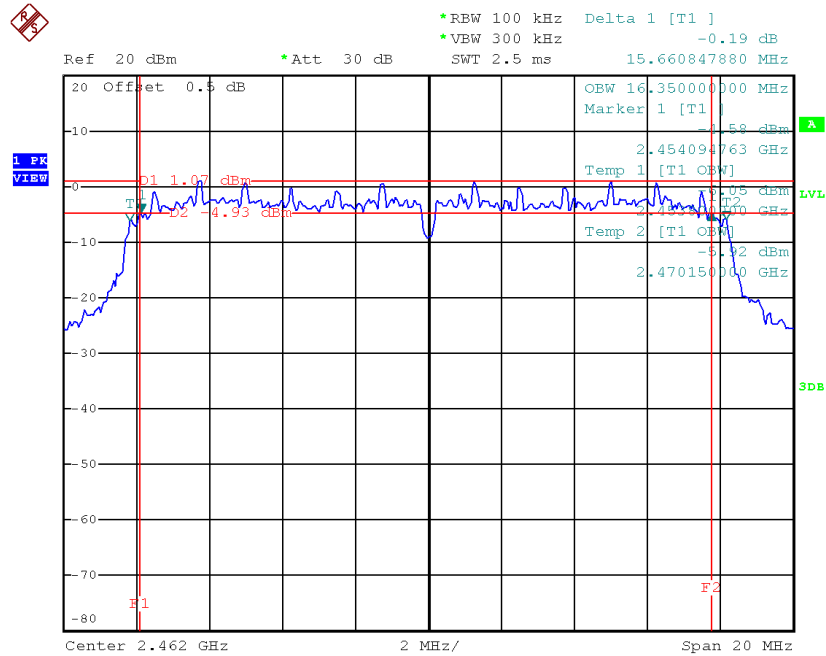
Date: 8.JAN.2015 19:29:34

TX CH06



Date: 8.JAN.2015 19:32:22

TX CH11

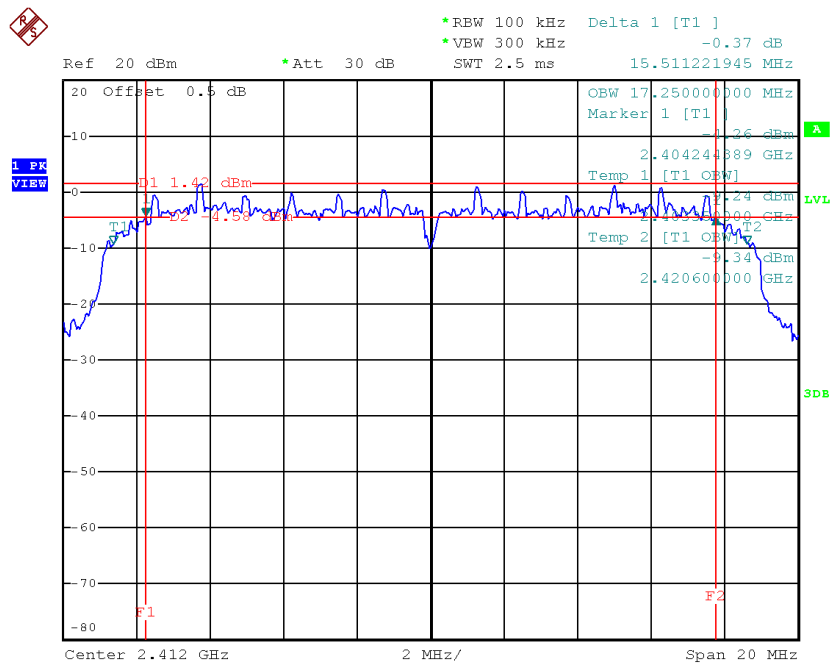


Date: 8.JAN.2015 19:37:52

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

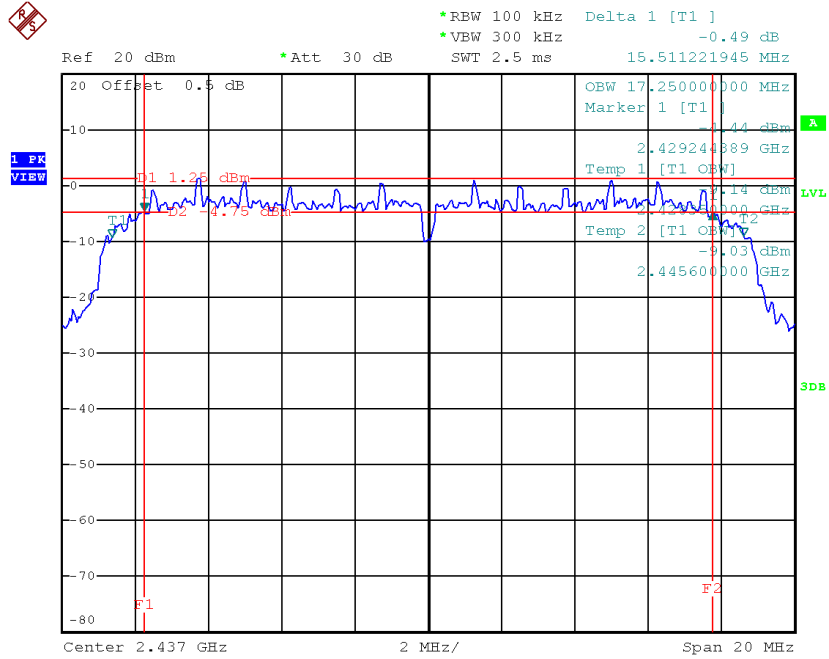
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	15.51	17.25	500	Complies
2437	15.51	17.25	500	Complies
2462	15.16	17.25	500	Complies

TX CH01



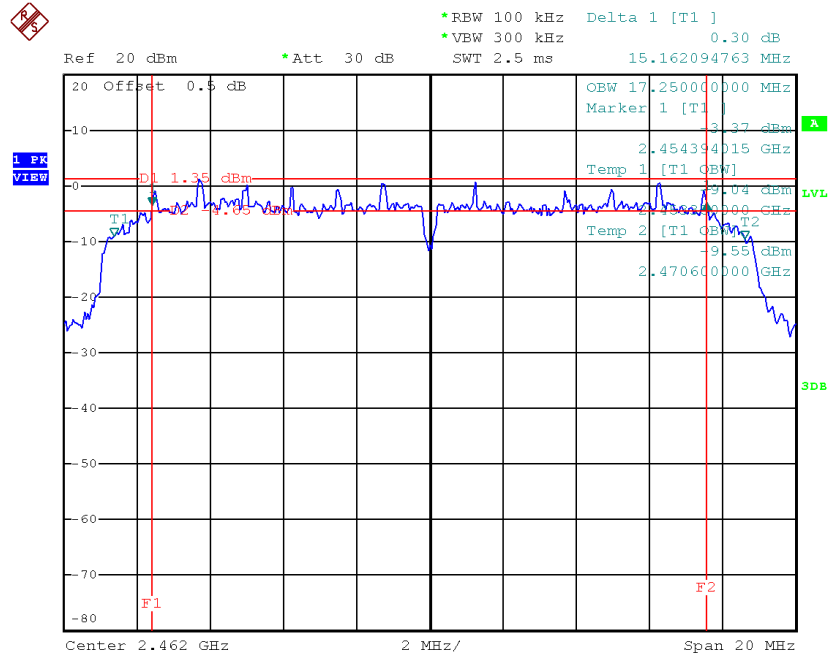
Date: 8.JAN.2015 19:41:31

TX CH06



Date: 8.JAN.2015 19:44:37

TX CH11



Date: 8.JAN.2015 20:04:35

ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

Test Mode :TX B Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	14.94	0.03	30.00	1.00	Complies
2437	14.89	0.03	30.00	1.00	Complies
2462	14.74	0.03	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	19.47	0.09	30.00	1.00	Complies
2437	19.33	0.09	30.00	1.00	Complies
2462	19.48	0.09	30.00	1.00	Complies

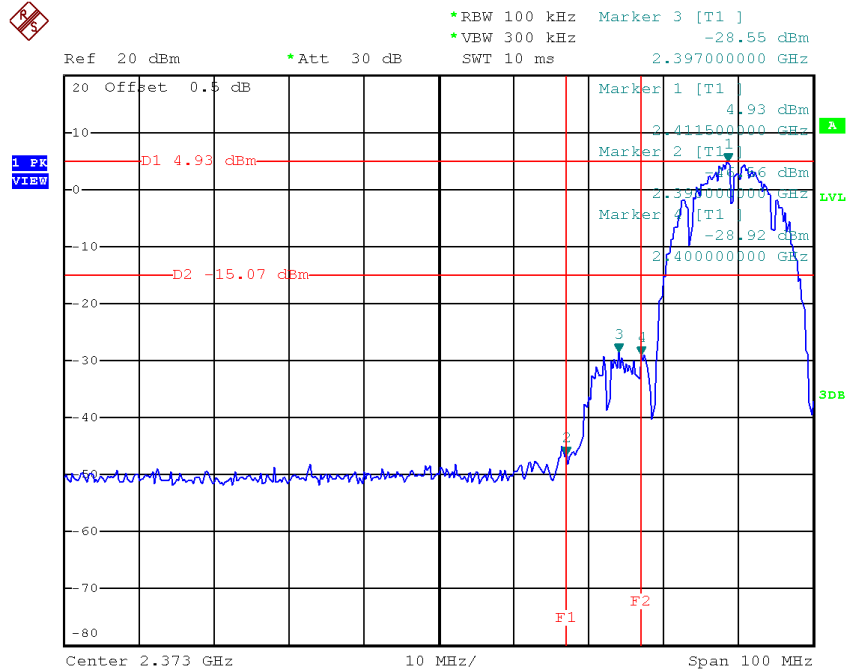
Test Mode :TX N20 Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.45	0.09	30.00	1.00	Complies
2437	19.24	0.08	30.00	1.00	Complies
2462	19.03	0.08	30.00	1.00	Complies

ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

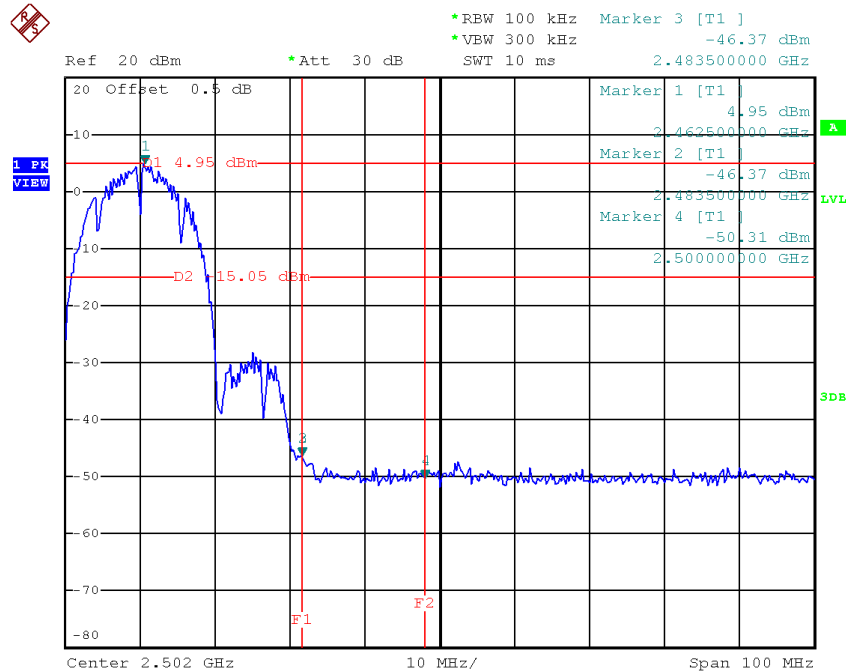
Test Mode :	TX B Mode
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TX B mode CH01



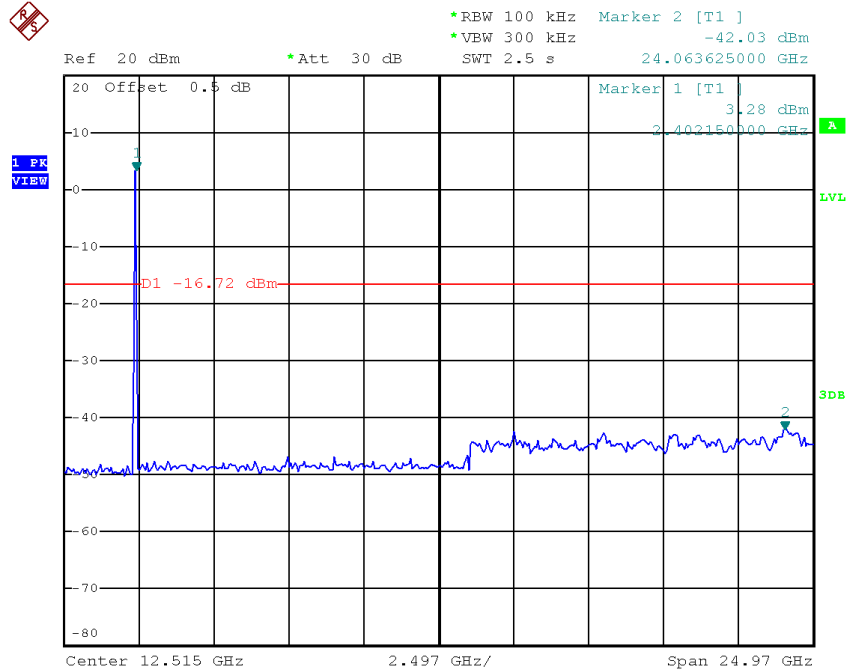
Date: 8.JAN.2015 19:17:32

TX B mode CH11



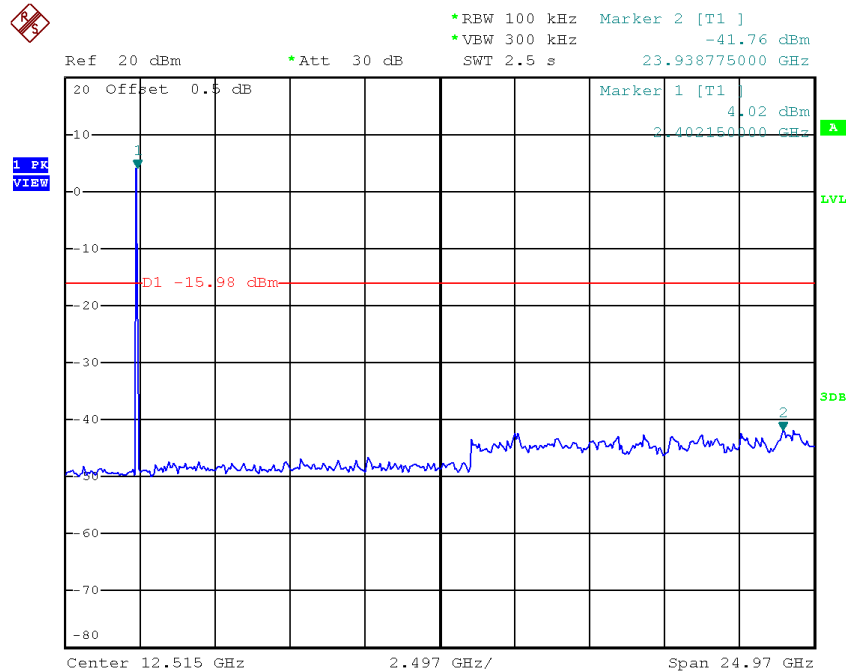
Date: 8.JAN.2015 19:25:51

TX B mode CH01 (10 Harmonic of the frequency)



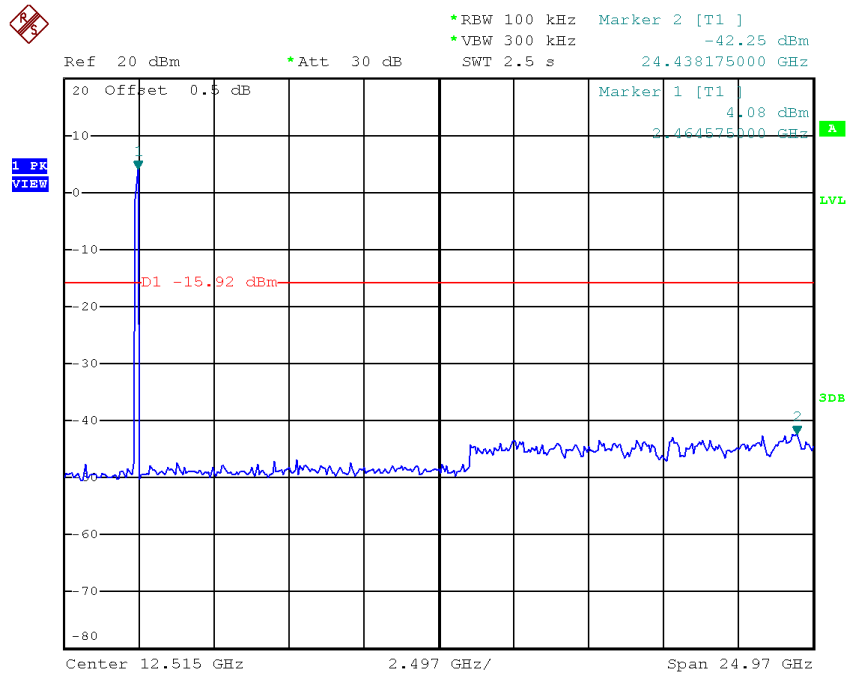
Date: 8.JAN.2015 19:19:18

TX B mode CH06 (10 Harmonic of the frequency)



Date: 8.JAN.2015 19:21:41

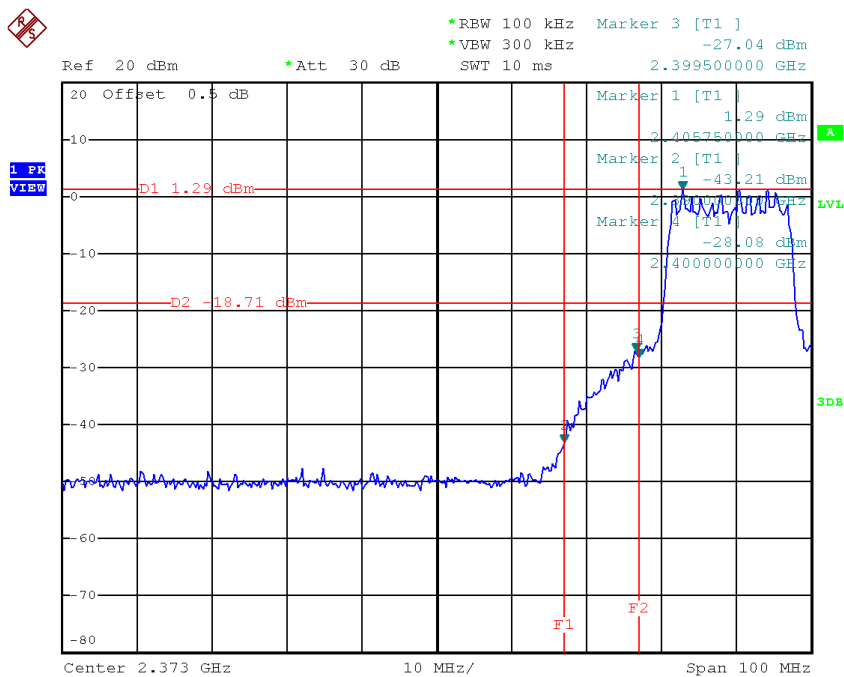
TX B mode CH11 (10 Harmonic of the frequency)



Date: 8.JAN.2015 19:25:14

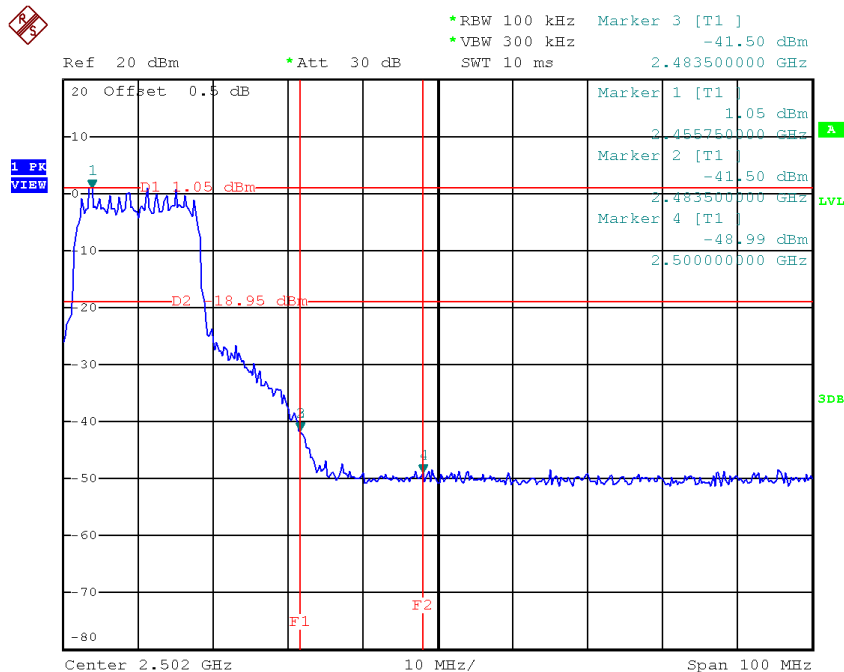
Test Mode :	TX G Mode
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TX G mode CH01



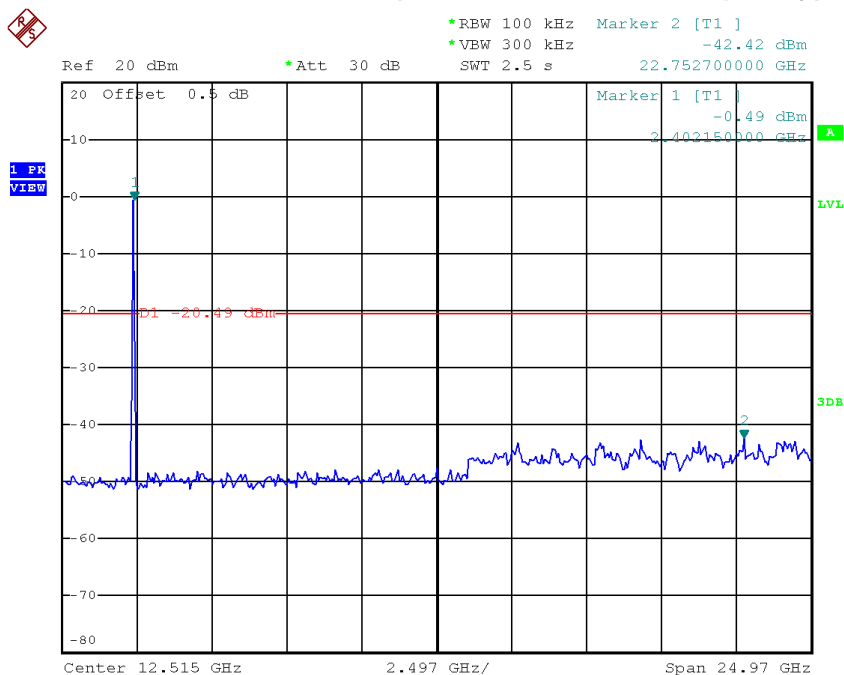
Date: 8.JAN.2015 19:29:50

TX G mode CH11



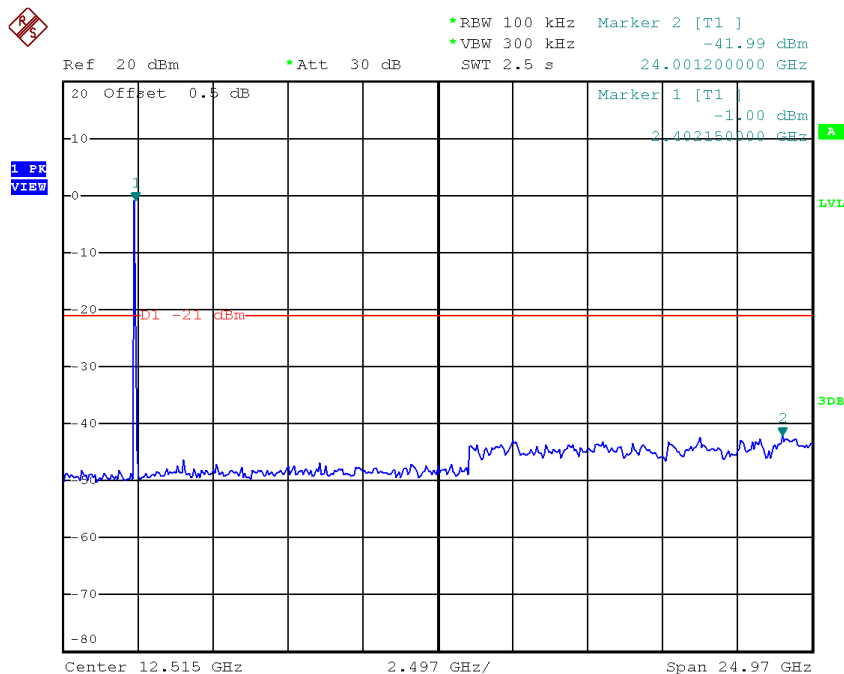
Date: 8.JAN.2015 19:38:11

TX G mode CH01 (10 Harmonic of the frequency)



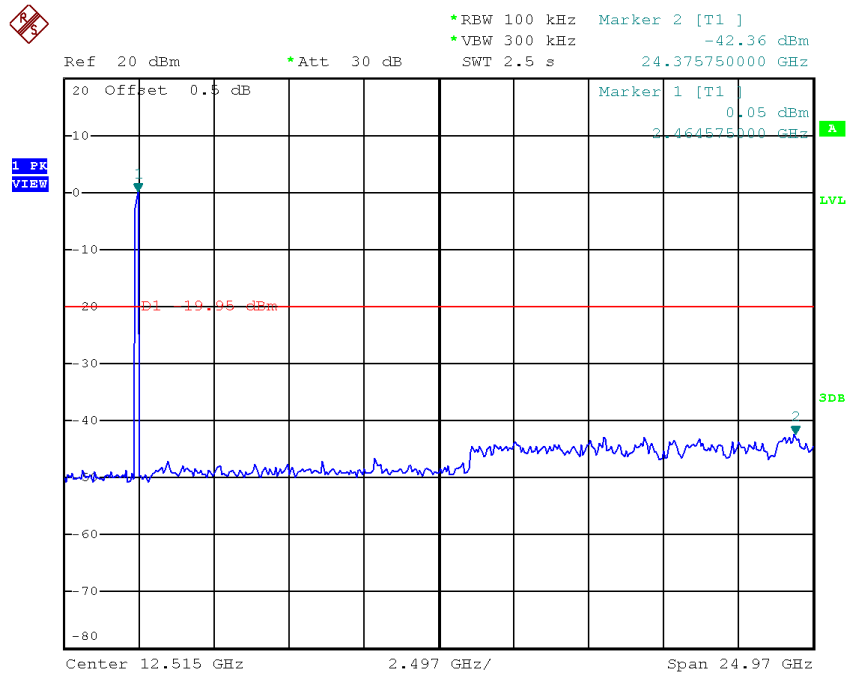
Date: 8.JAN.2015 19:29:15

TX G mode CH06 (10 Harmonic of the frequency)



Date: 8.JAN.2015 19:32:06

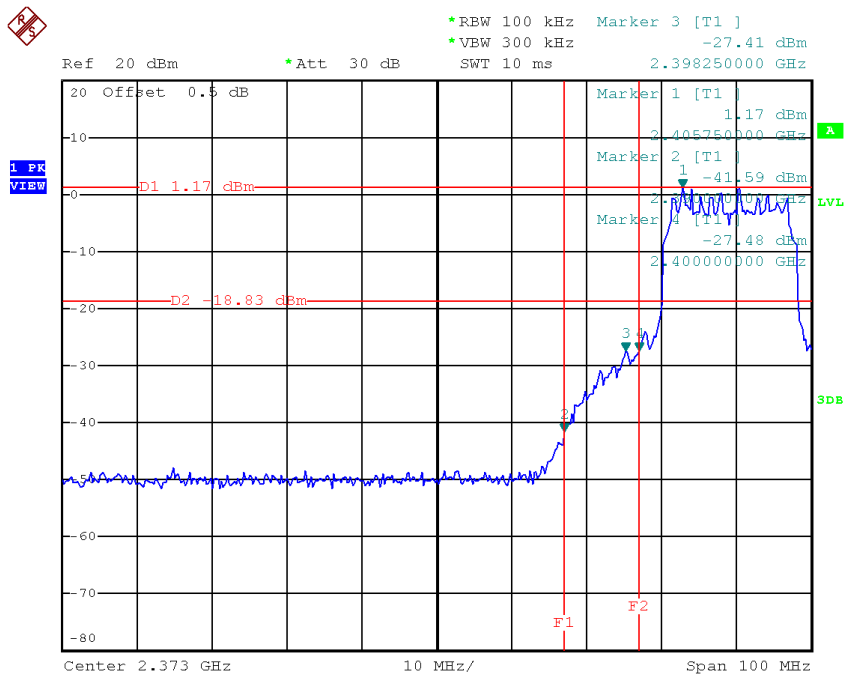
TX G mode CH11 (10 Harmonic of the frequency)



Date: 8.JAN.2015 19:37:25

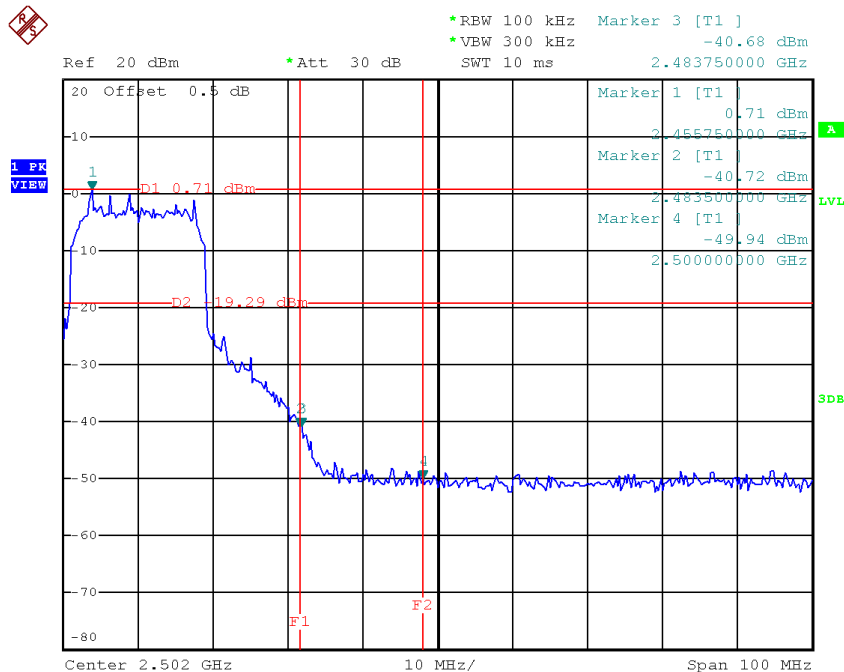
Test Mode :	TX N-20M Mode
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TX HT20 mode CH01



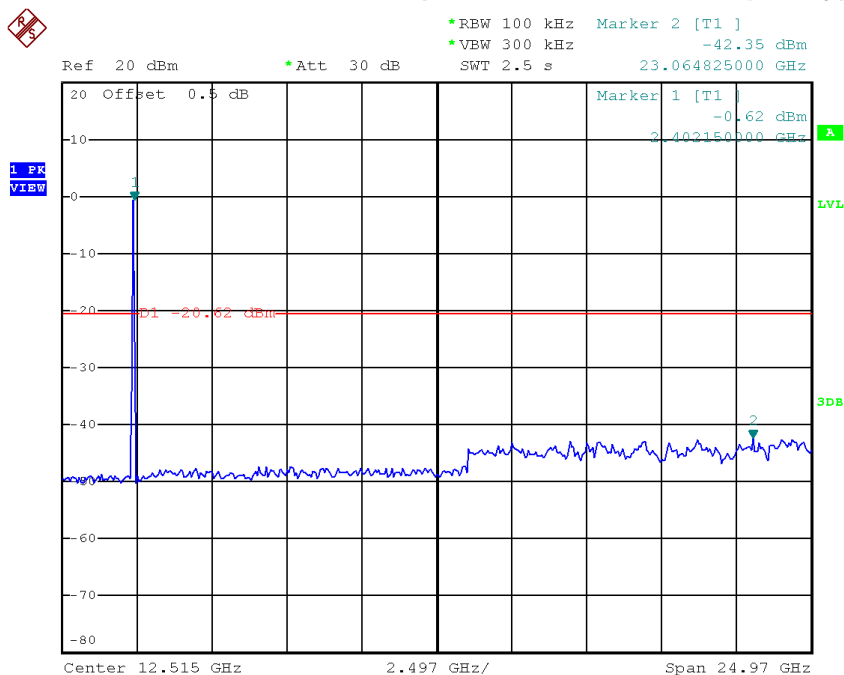
Date: 8.JAN.2015 19:41:49

TX HT20 mode CH11



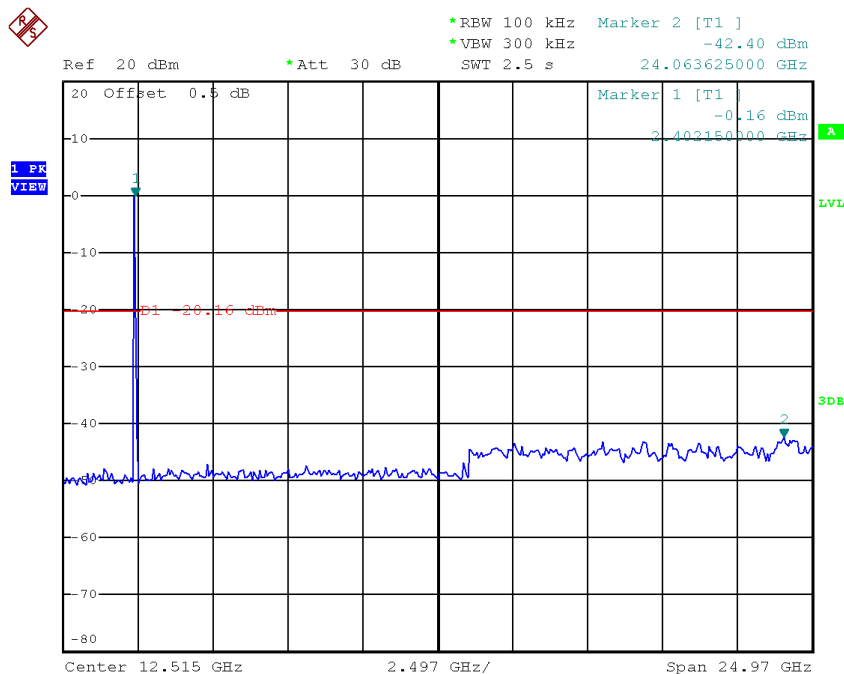
Date: 8.JAN.2015 20:04:47

TX HT20 mode CH01 (10 Harmonic of the frequency)



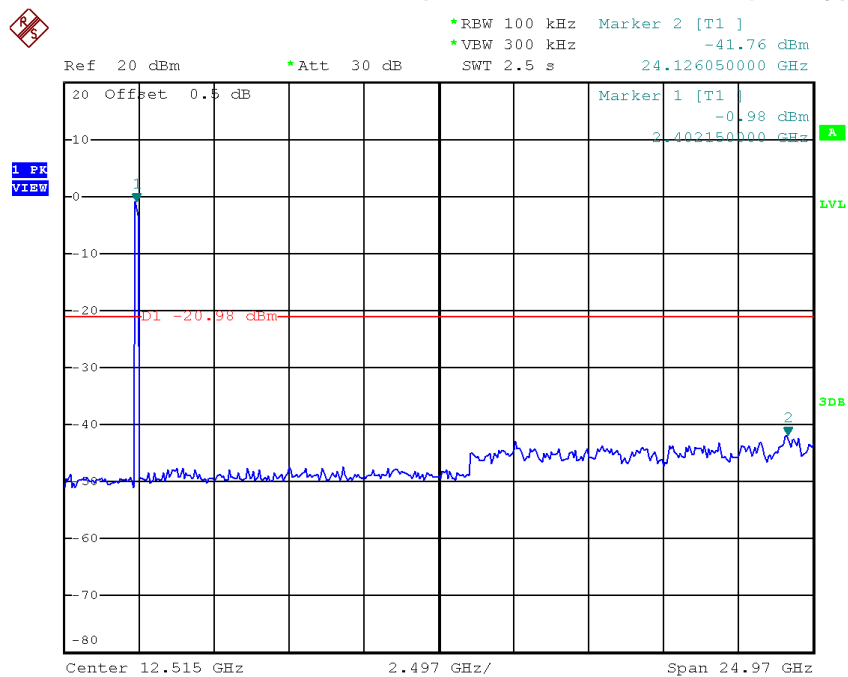
Date: 8.JAN.2015 19:41:11

TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 8.JAN.2015 19:43:57

TX HT20 mode CH11 (10 Harmonic of the frequency)



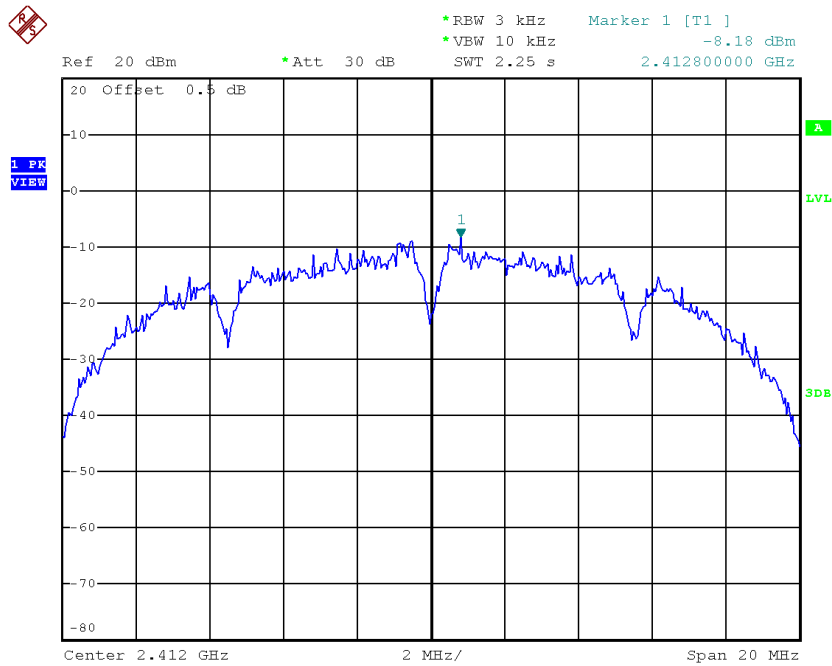
Date: 8.JAN.2015 20:05:32

ATTACHMENT H - POWER SPECTRAL DENSITY

Test Mode :TX B Mode_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-8.18	0.15	8.00	Complies
2437	-9.33	0.12	8.00	Complies
2462	-8.60	0.14	8.00	Complies

TX CH01

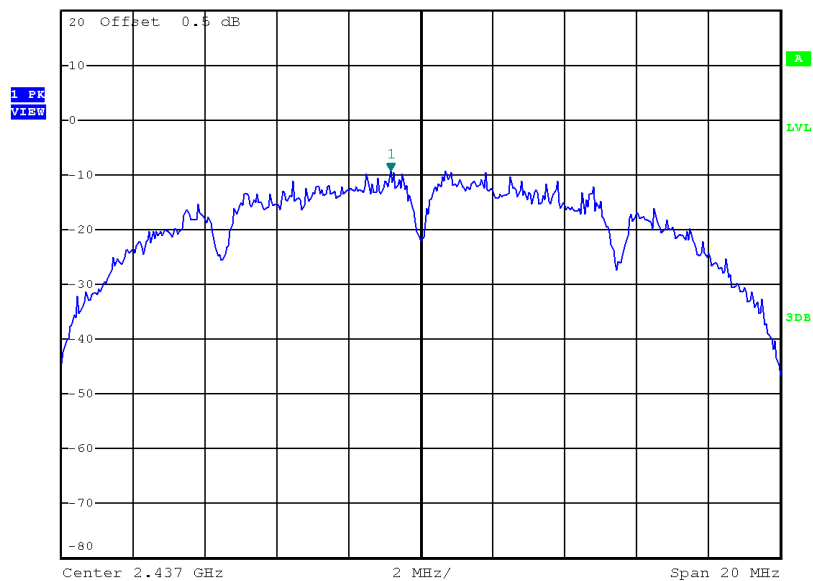


Date: 8.JAN.2015 19:17:52

TX CH06



Ref 20 dBm *Att 30 dB *RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -9.33 dBm
SWT 2.25 s 2.436150000 GHz

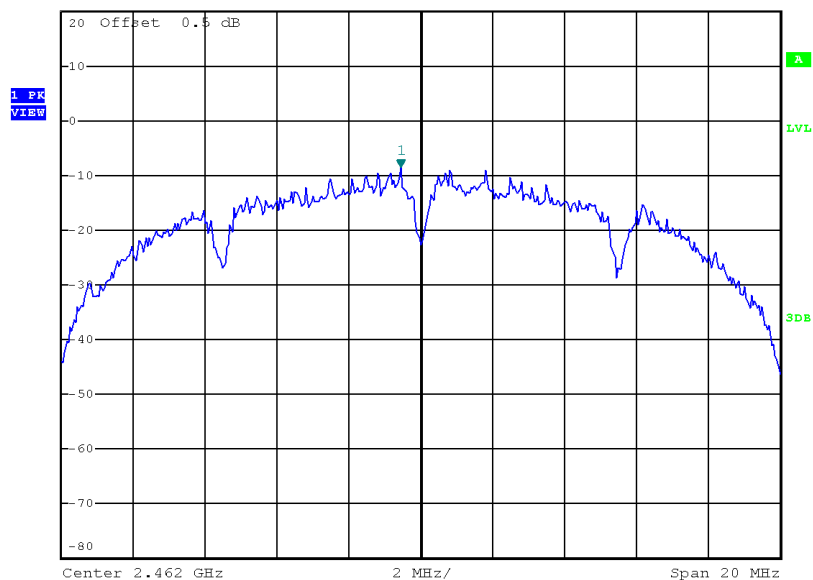


Date: 8.JAN.2015 19:22:46

TX CH11



Ref 20 dBm *Att 30 dB *RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -8.60 dBm
SWT 2.25 s 2.461450000 GHz

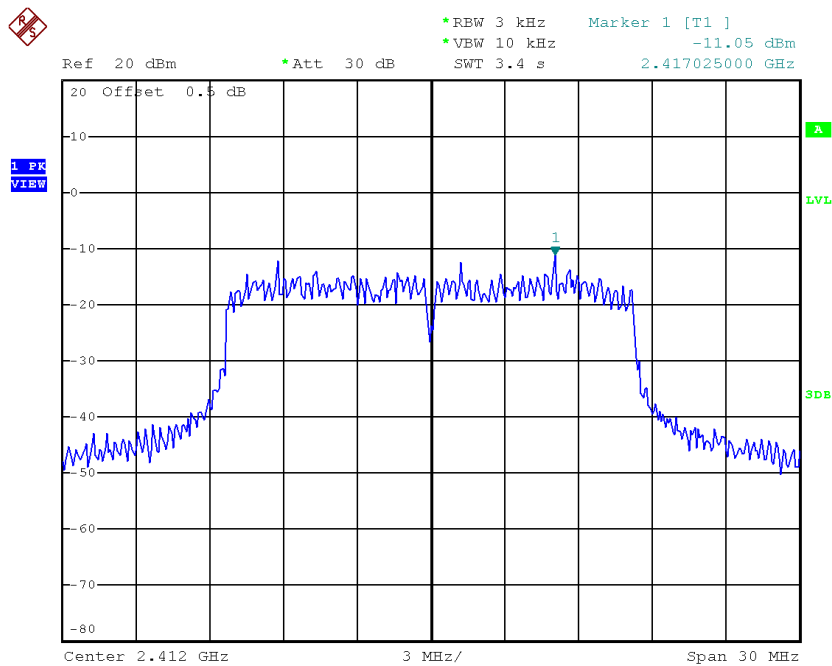


Date: 8.JAN.2015 19:26:11

Test Mode :TX G Mode_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-11.05	0.08	8.00	Complies
2437	-14.05	0.04	8.00	Complies
2462	-12.45	0.06	8.00	Complies

TX CH01



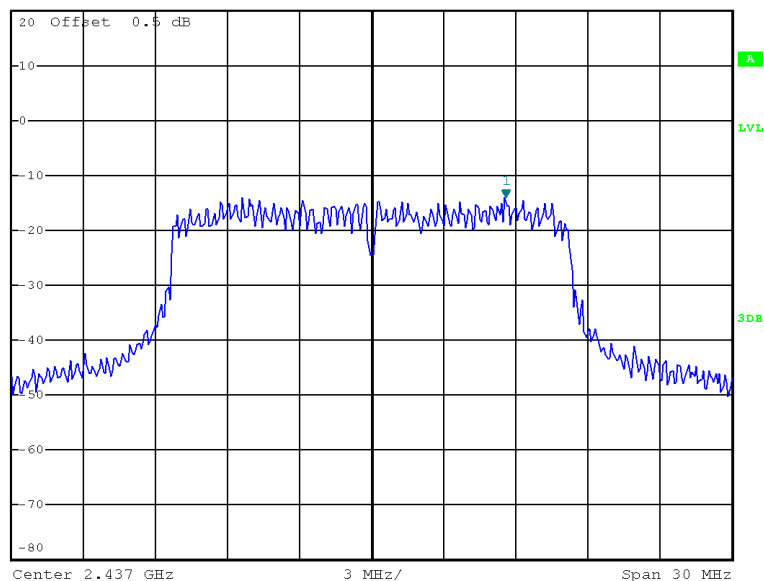
Date: 8.JAN.2015 19:30:15

TX CH06



Ref 20 dBm *Att 30 dB SWT 3.4 s
*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -14.05 dBm
2.442550000 GHz

1 PK
VIEW



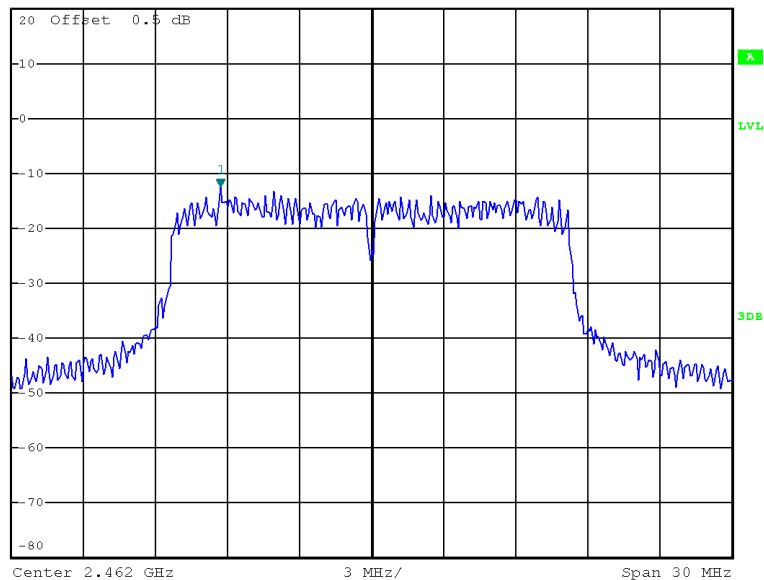
Date: 8.JAN.2015 19:32:47

TX CH11



Ref 20 dBm *Att 30 dB SWT 3.4 s
*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -12.45 dBm
2.455700000 GHz

1 PK
VIEW

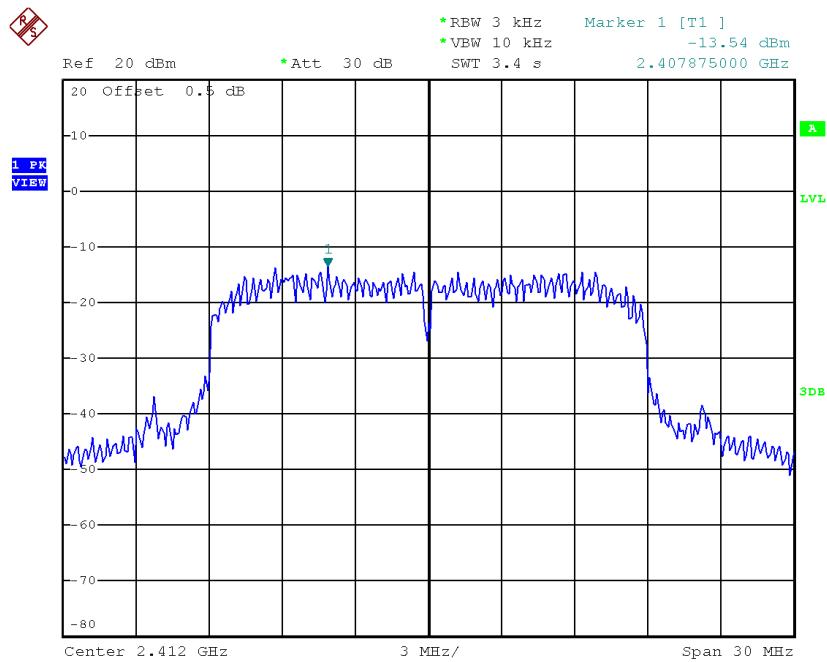


Date: 8.JAN.2015 19:38:57

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

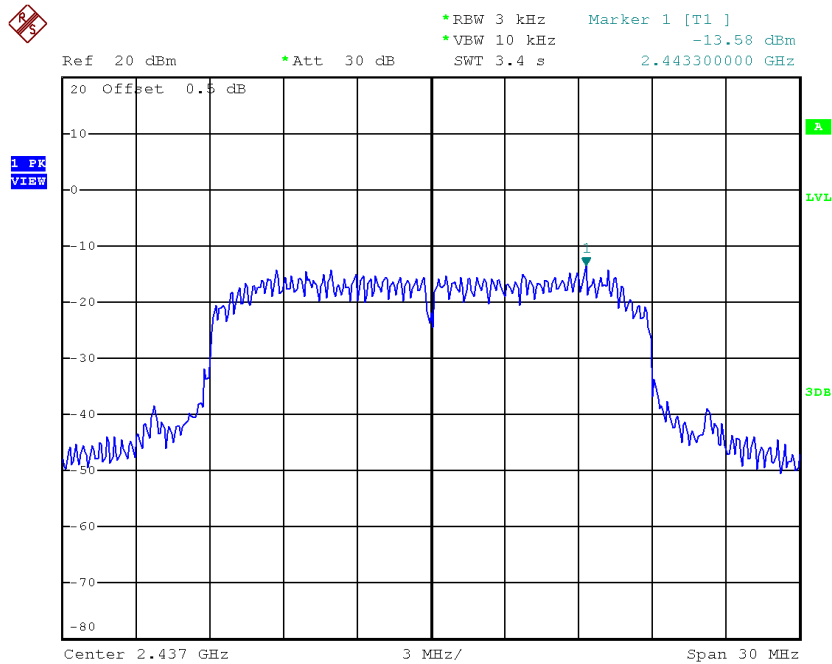
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.54	0.04	8.00	Complies
2437	-13.58	0.04	8.00	Complies
2462	-13.92	0.04	8.00	Complies

TX CH01



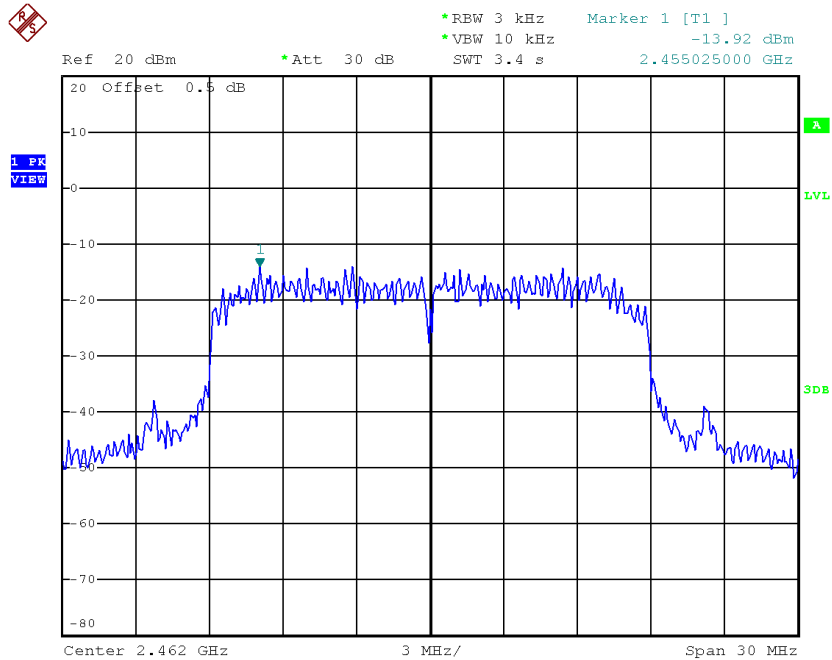
Date: 8.JAN.2015 19:42:17

TX CH06



Date: 8.JAN.2015 19:45:07

TX CH11



Date: 8.JAN.2015 20:05:03