

FCC Radio Test Report

FCC ID: Q3N-8231

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

Project No. : 1411165A
Equipment : Terminal
Model Name : 8231
Applicant : CIPHERLAB CO., LTD.
Address : 12F, 333, Dunhua S. Rd., Sec. 2, Taipei, Taiwan

Date of Receipt : May 26, 2015
Date of Test : May 26, 2015 ~ Jun. 10, 2015
Issued Date : Jun. 15, 2015
Tested by : BTL Inc.

Testing Engineer : Rush Kao
(Rush Kao)

Technical Manager : Jeff Yang
(Jeff Yang)

Authorized Signatory : Andy Chiu
(Andy Chiu)

B T L I N C .

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

Declaration

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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-3-1411165A	Original Issue.	Jun. 15, 2015

1. CERTIFICATION

Equipment : Terminal
Brand Name : CIPHERLAB
Model Name : 8231
Applicant : CIPHERLAB CO., LTD.
Manufacturer : CIPHERLAB CO., LTD.
Address : 12F, 333, Dunhua S. Rd., Sec. 2, Taipei, Taiwan
Factory : CIPHERLAB CO., LTD.
Address : 12F, 333, Dunhua S. Rd., Sec. 2, Taipei, Taiwan
Date of Test : May 26, 2015 ~ Jun. 10, 2015
Test Sample : ENGINEERING SAMPLE
Standard(s) : FCC Part15, Subpart C: 2014 (15.247) / ANSI C63.4-2009

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-3-1411165A) 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):

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	
15.209/15.205		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: (FCC RN:965108; FCC DN:TW1082)

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

Radiated emission Test (Below 1 GHz):

CB08: (FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428A-1)

1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

Radiated emission Test (Above 1 GHz):

CB08: (FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428A-1)

1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty is not specified by FCC rules 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	Measurement Frequency Range	U,(dB)	NOTE
C05	150 kHz ~ 30 MHz	1.94	

B. Radiated emission test:

Test Site	Item	Measurement Frequency Range	Uncertainty	NOTE
CB08	Radiated emission at 3m	Horizontal Polarization	30 - 200MHz	3.35 dB
			200 - 1000MHz	3.11 dB
			1 - 18GHz	3.97 dB
			18 - 40GHz	4.01 dB
	Vertical Polarization		30 - 200MHz	3.22 dB
			200 - 1000MHz	3.24 dB
			1 - 18GHz	4.05 dB
			18 - 40GHz	4.04 dB

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} .

If U_{lab} is less than or equal to U_{CISPR} , then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{CISPR} , then:

- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{CISPR})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{CISPR})$, exceeds the disturbance limit.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Terminal	
Brand Name	CIPHERLAB	
Model Name	8231	
Model Difference	Only differ in model name.	
Product Description	Operation Frequency	2412~2462 MHz
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n: 802.11n up to 150 Mbps
	Output Power (Max.)	802.11b: 14.74dBm 802.11g: 22.77dBm 802.11n(20MHz): 21.21dBm
Power Source	#1 DC Voltage supplied from AC adapter. Brand/Model: ADAPTER TECH./STD-05030V #2 DC Voltage supplied from USB host. #3 Supplied from Li-ion Battery. Model:BA-80S1A2	
Power Rating	#1 I/P:AC 100-240V~47-63Hz 0.48A MAX O/P:5V/3A 15W MAX #2 I/P: DC 5V 500mA #3 DC 3.7V 1200mAh,4.44Wh	

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

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	CIPHERLAB	8231 WIFI Antenna	PIFA	N/A	2.41

4.

Operating Mode	
TX Mode	1TX
802.11b	V
802.11g	V
802.11n(20MHz)	V

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:

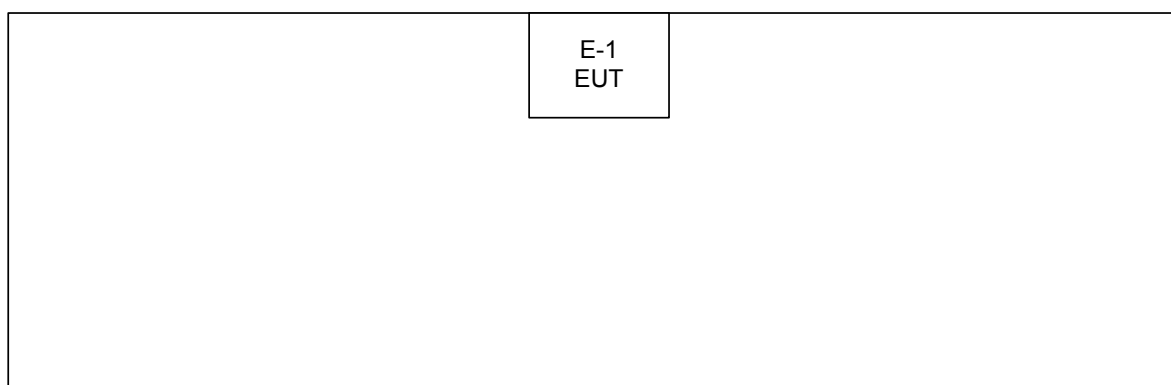
- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)
802.11g mode: OFDM (6Mbps)
802.11n HT20 mode : BPSK (13Mbps)
For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated below 1G test, the 802.11b 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	0		
Frequency (MHz)	2412	2437	2462
802.11b	14	14	14
802.11g	13	13	13
802.11n (20MHz)	11	11	11

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
-	-	-	-	-	-	-

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

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

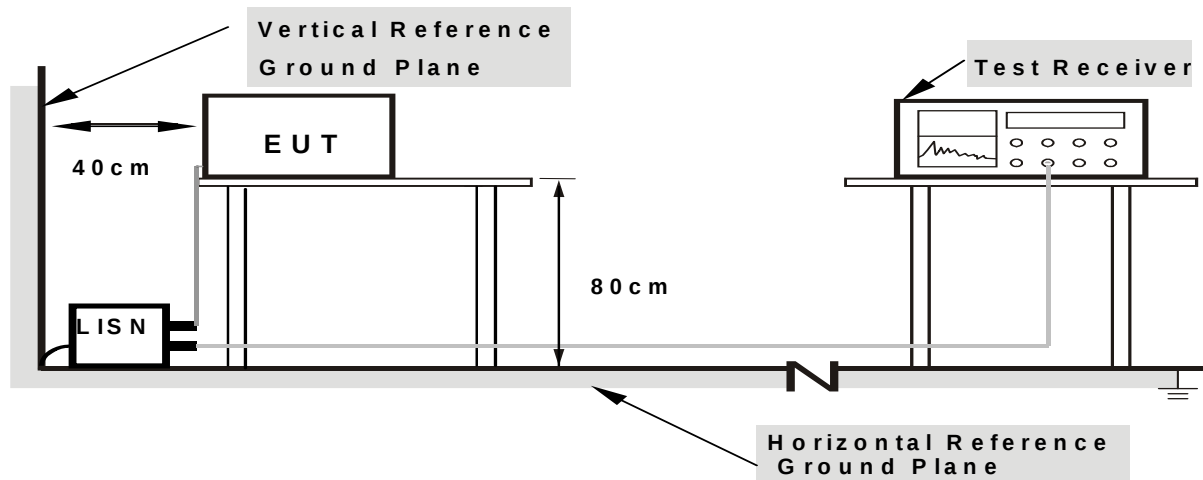
4.1.2 TEST PROCEDURE

- 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) & RSS-210 section 2.2& Annex 8 (A8.5), then the 15.209(a)& RSS-Gen 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 or PK detector

4.2.2 TEST PROCEDURE

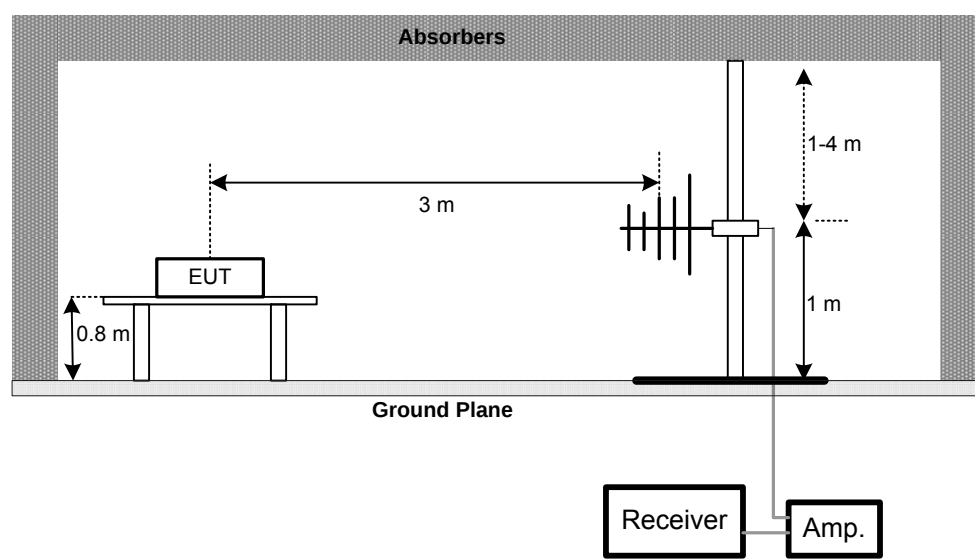
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 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

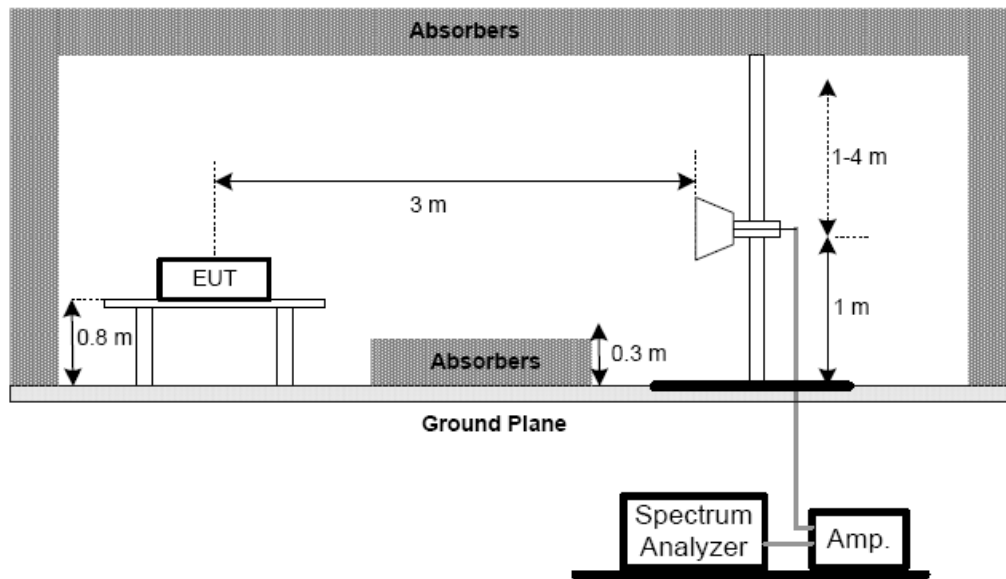
No deviation

4.2.4 TEST SETUP

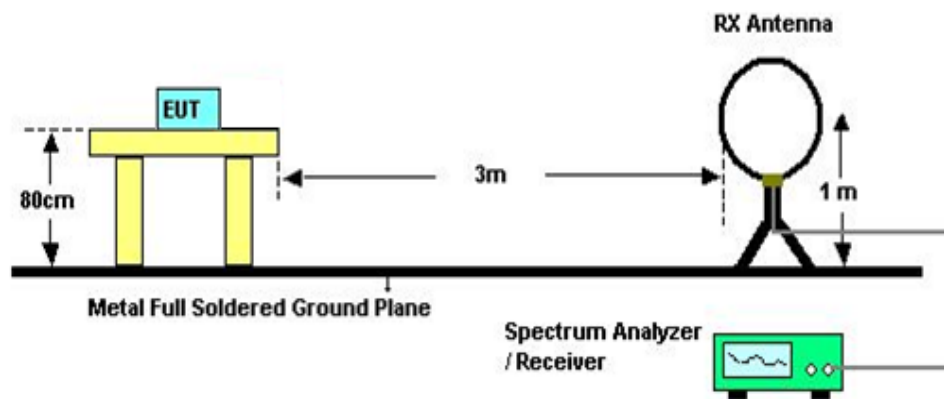
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

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

4.2.8 TEST RESULTS (BETWEEN 30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

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

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

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

5.1.1 TEST PROCEDURE

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

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT 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.

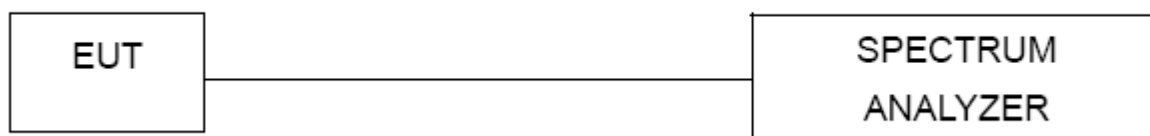
7.1.1 TEST PROCEDURE

- 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.

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	Feb. 01, 2016
2	Test Cable	TIMES	CFD300-NL	C05	Jun. 11, 2015
3	EMI Test Receiver	R&S	ESR3	101854	Dec. 09, 2015

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan.07, 2016
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Jun. 15, 2016
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 16, 2016
4	Microflex Cable	Harbour industries	27478LL142	1m	May. 13, 2016
5	Microflex Cable	EMC	S104-SMA	8m	May. 15, 2016
6	Microflex Cable	Harbour industries	27478LL142	3m	May. 13, 2016
7	Test Cable	LMR	LMR-400	12m	May. 14, 2016
8	Test Cable	LMR	LMR-400	3m	May. 14, 2016
9	Pre-Amplifier	Anritsu	MH648A	M92649	Jun. 20, 2015
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 20, 2015
11	Loop Antenna	EMCO	6502	00042960	Nov. 08, 2015

6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 07, 2016

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	1128008	Aug. 08, 2015
2	Power Meter Sensor	Anritsu	MA2411B	1126001	Aug. 08, 2015

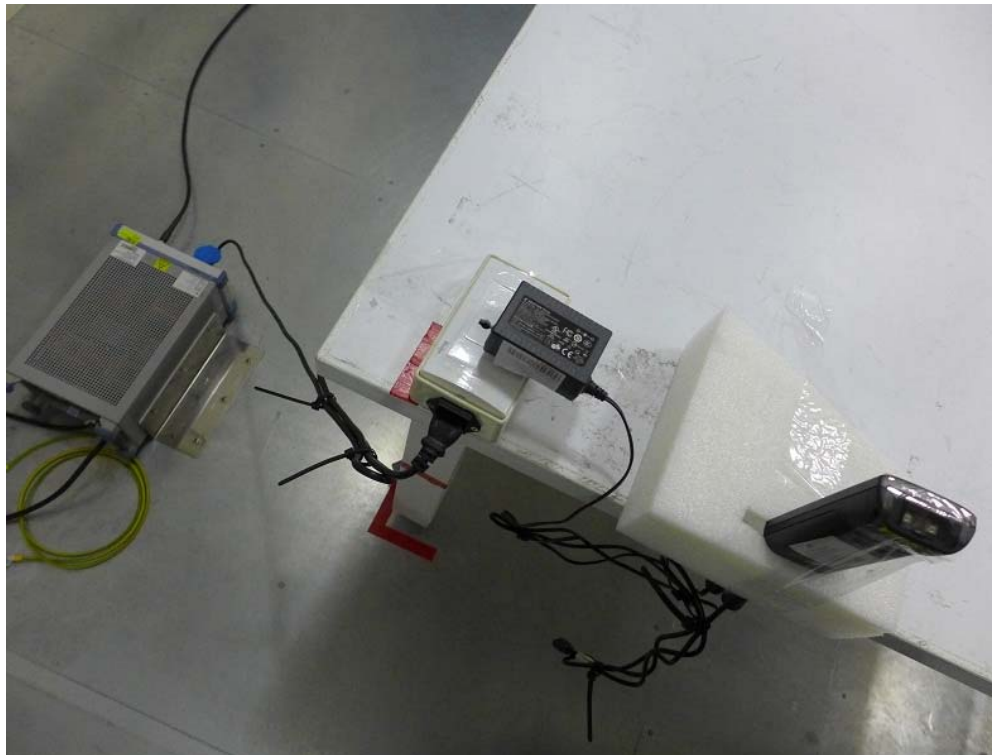
Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 07, 2016

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 07, 2016

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

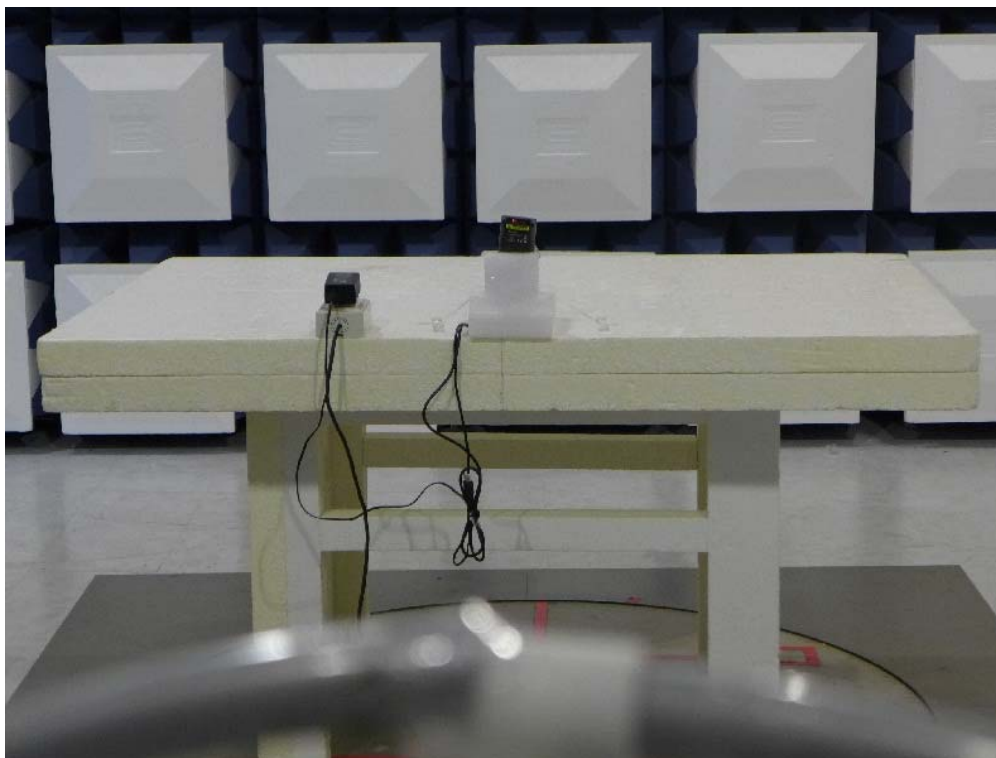
10. EUT TEST PHOTO

Conducted Measurement Photos



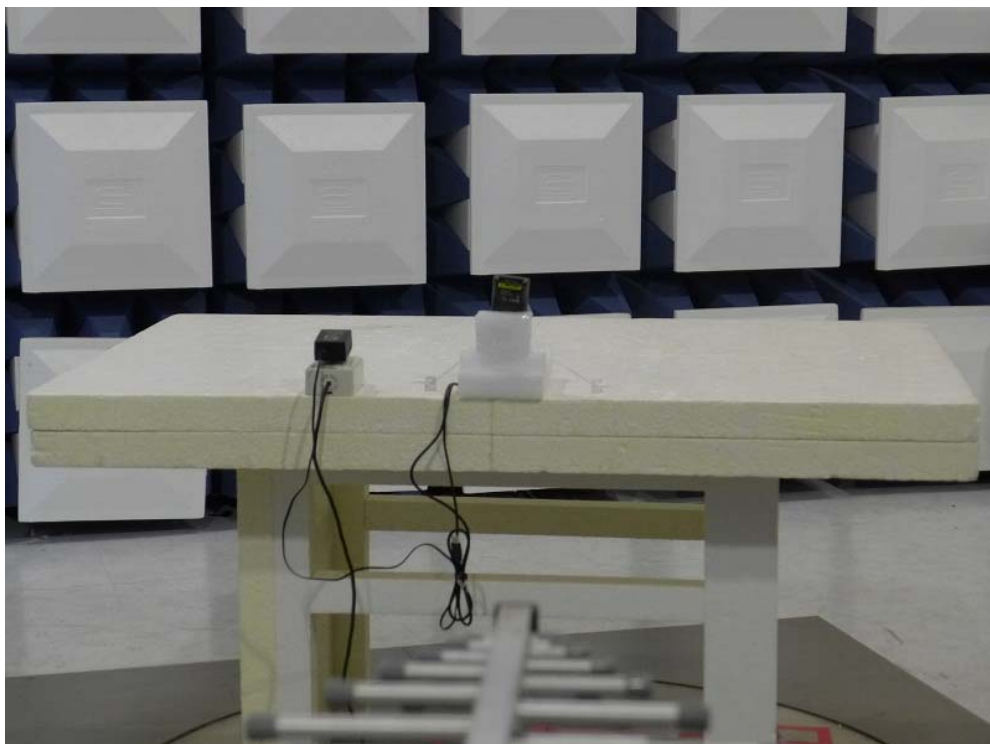
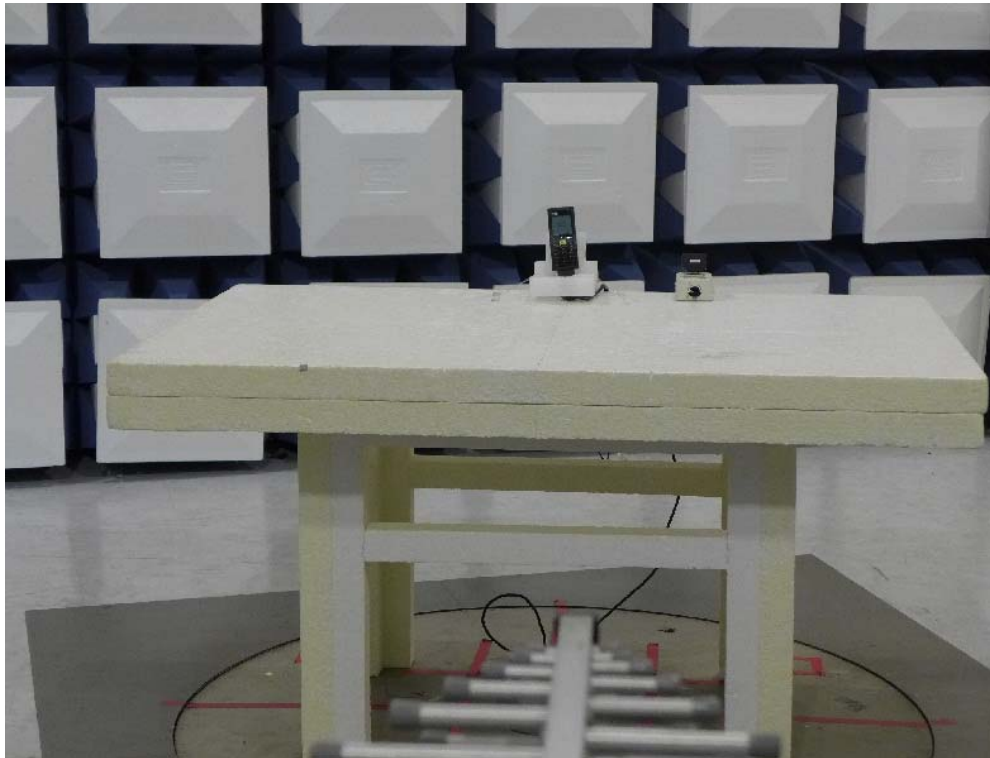
Radiated Measurement Photos

9K-30MHz



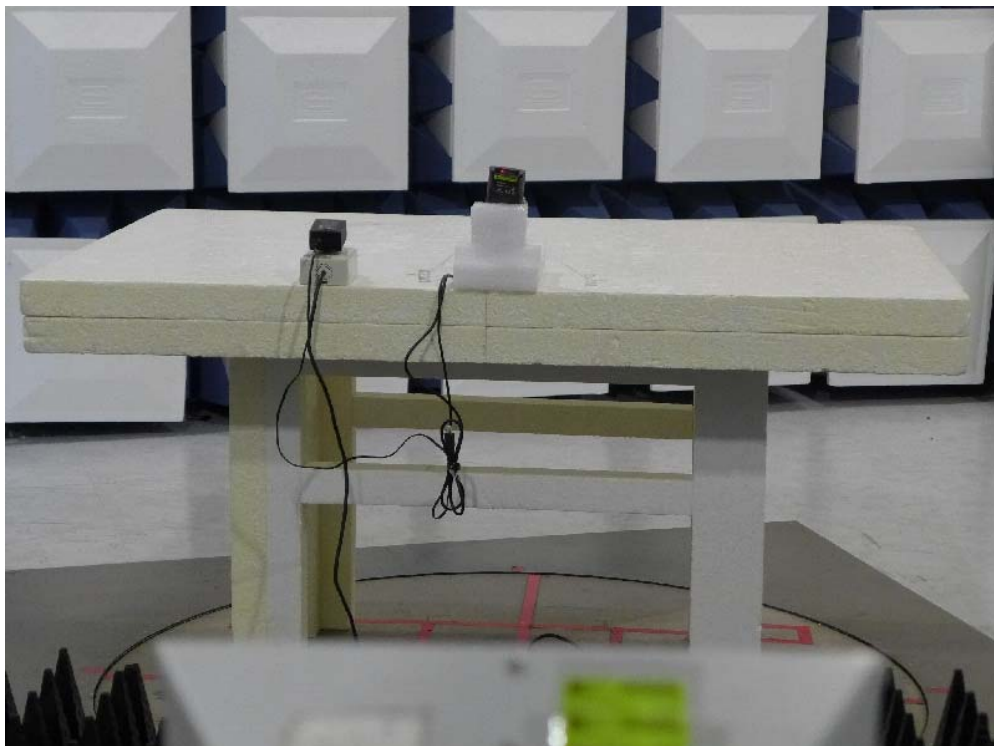
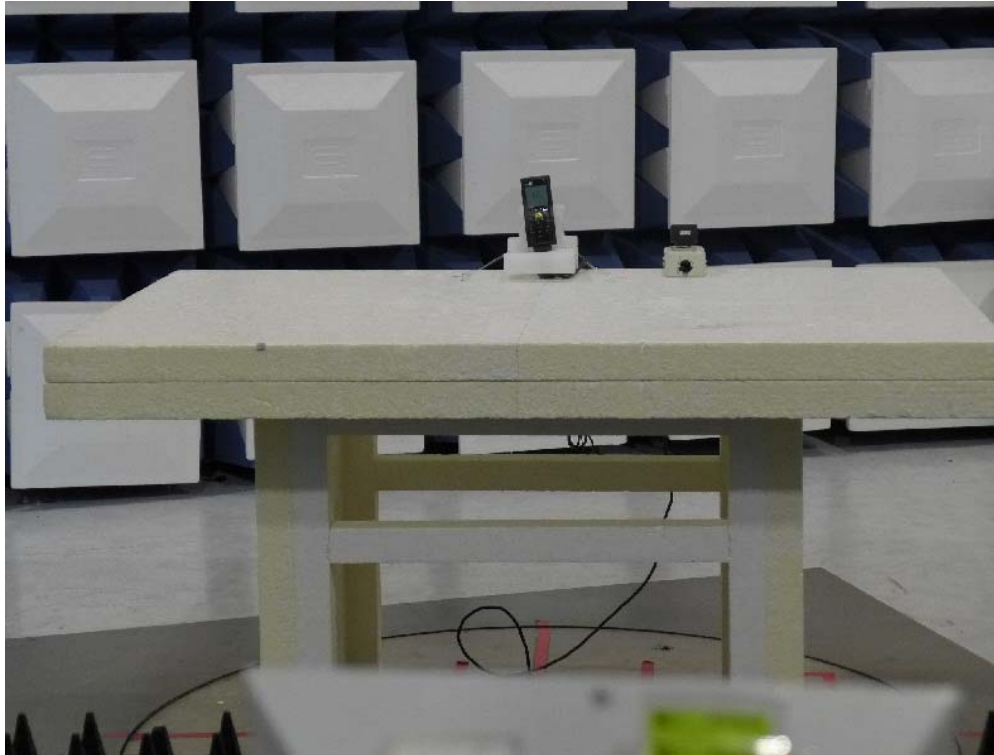
Radiated Measurement Photos

30MHz-1G



Radiated Measurement Photos

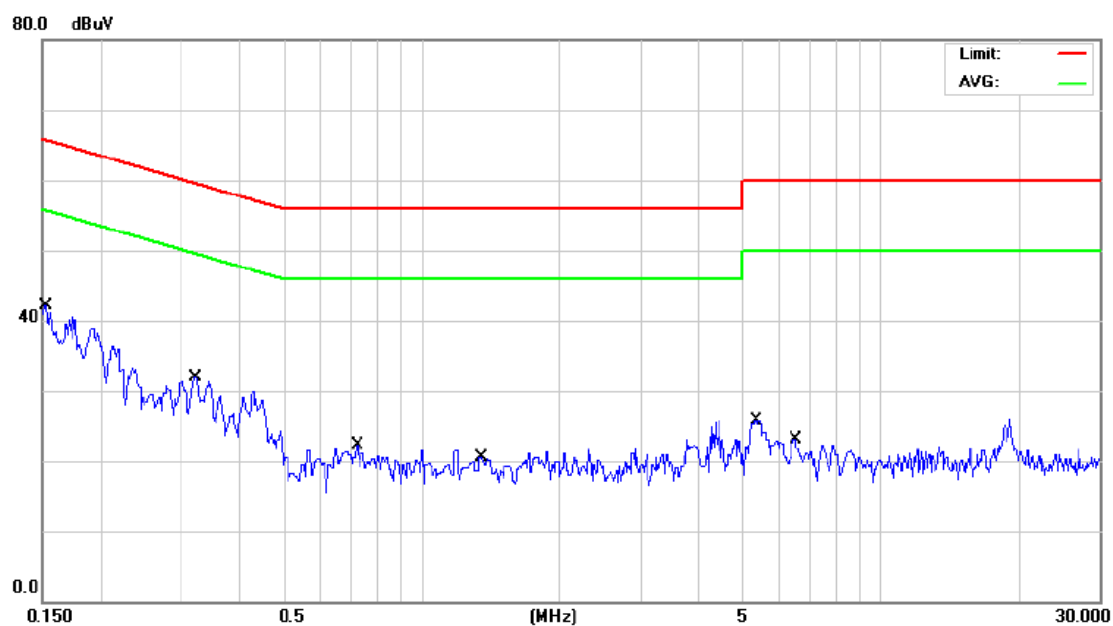
Above 1G



ATTACHMENT A - CONDUCTED EMISSION

Test Mode : TX MODE

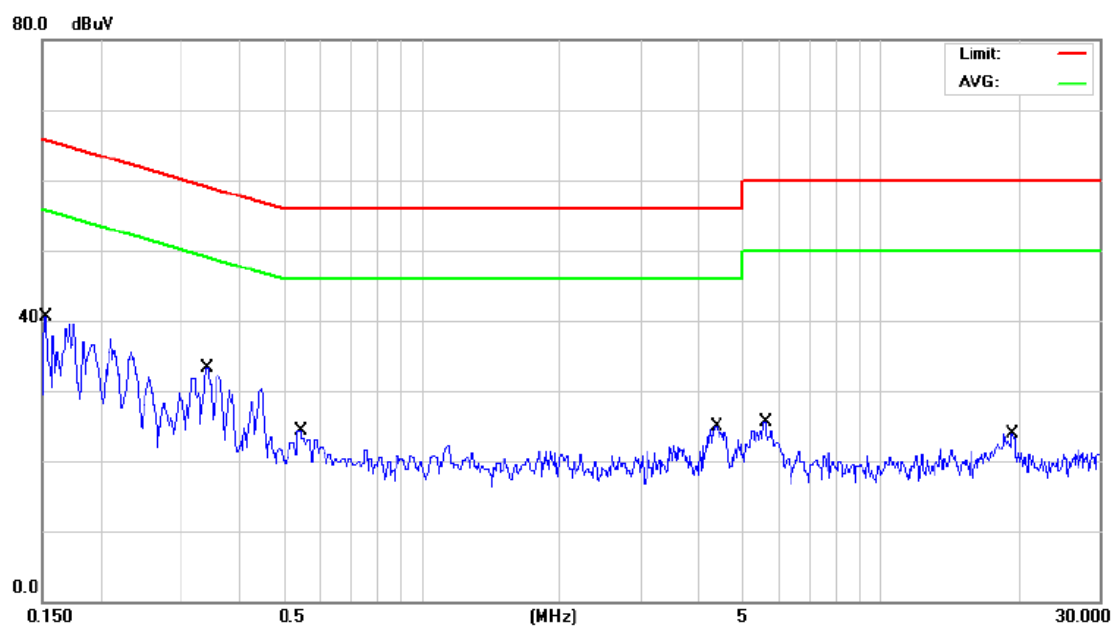
Line



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV	dBuV	dB		
1		0.1521	25.70	9.64	35.34	65.88	-30.54	QP	
2		0.1521	12.90	9.64	22.54	55.88	-33.34	AVG	
3		0.3221	17.90	9.63	27.53	59.65	-32.12	QP	
4	*	0.3221	15.10	9.63	24.73	49.65	-24.92	AVG	
5		0.7250	5.90	9.66	15.56	56.00	-40.44	QP	
6		0.7250	4.30	9.66	13.96	46.00	-32.04	AVG	
7		1.3459	3.40	9.69	13.09	56.00	-42.91	QP	
8		1.3459	1.00	9.69	10.69	46.00	-35.31	AVG	
9		5.3499	9.30	9.86	19.16	60.00	-40.84	QP	
10		5.3499	6.60	9.86	16.46	50.00	-33.54	AVG	
11		6.4999	4.10	9.88	13.98	60.00	-46.02	QP	
12		6.4999	2.50	9.88	12.38	50.00	-37.62	AVG	

Test Mode : TX MODE

Neutral



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV	dBuV	dB		
1		0.1521	22.60	9.63	32.23	65.88	-33.65	QP	
2		0.1521	10.00	9.63	19.63	55.88	-36.25	AVG	
3		0.3410	21.10	9.64	30.74	59.18	-28.44	QP	
4	*	0.3410	19.30	9.64	28.94	49.18	-20.24	AVG	
5		0.5450	8.80	9.65	18.45	56.00	-37.55	QP	
6		0.5450	7.90	9.65	17.55	46.00	-28.45	AVG	
7		4.3880	11.90	9.82	21.72	56.00	-34.28	QP	
8		4.3880	3.60	9.82	13.42	46.00	-32.58	AVG	
9		5.6000	9.80	9.85	19.65	60.00	-40.35	QP	
10		5.6000	8.60	9.85	18.45	50.00	-31.55	AVG	
11		19.3500	6.90	9.87	16.77	60.00	-43.23	QP	
12		19.3500	2.60	9.87	12.47	50.00	-37.53	AVG	

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

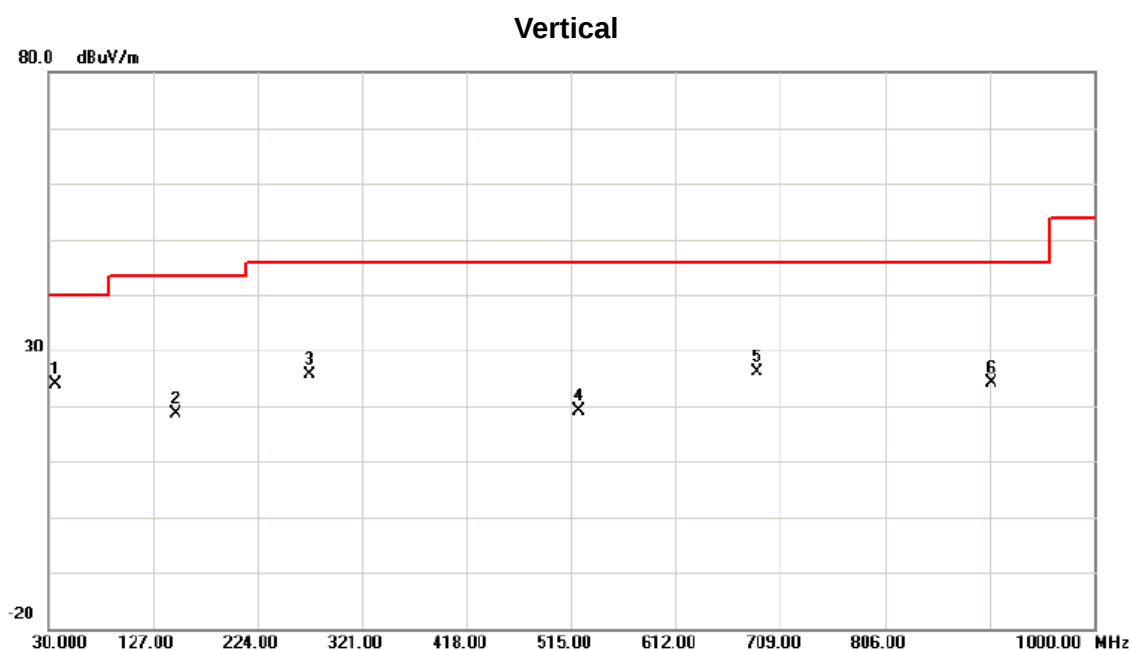
Test Mode: TX Mode 2412MHz

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
0.0150	0°	33.45	22.28	55.73	104.08	-48.36	AVG
0.0150	0°	44.21	22.28	66.49	124.08	-57.60	PK
0.0255	0°	28.54	22.01	50.55	99.47	-48.92	AVG
0.0255	0°	33.65	22.01	55.66	119.47	-63.81	PK
0.0366	0°	24.84	21.74	46.58	96.33	-49.76	AVG
0.0366	0°	32.65	21.74	54.39	116.33	-61.95	PK
0.0600	0°	24.72	21.24	45.96	92.04	-46.08	AVG
0.0600	0°	34.65	21.24	55.89	112.04	-56.15	PK
1.2650	0°	34.82	20.34	55.16	65.56	-10.41	QP
1.1353	0°	37.52	20.46	57.98	66.50	-8.52	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
0.0132	90°	34.12	22.32	56.44	105.19	-48.75	AVG
0.0132	90°	48.24	22.32	70.56	125.19	-54.63	PK
0.0257	90°	27.31	22.01	49.32	99.41	-50.09	AVG
0.0257	90°	42.15	22.01	64.16	119.41	-55.25	PK
0.0345	90°	26.31	21.79	48.10	96.85	-48.75	AVG
0.0345	90°	35.47	21.79	57.26	116.85	-59.59	PK
0.0632	90°	22.34	21.19	43.53	91.59	-48.06	AVG
0.0632	90°	38.16	21.19	59.35	111.59	-52.24	PK
1.2510	90°	34.62	20.35	54.97	65.66	-10.69	QP
1.6500	90°	36.51	19.95	56.46	63.25	-6.79	QP

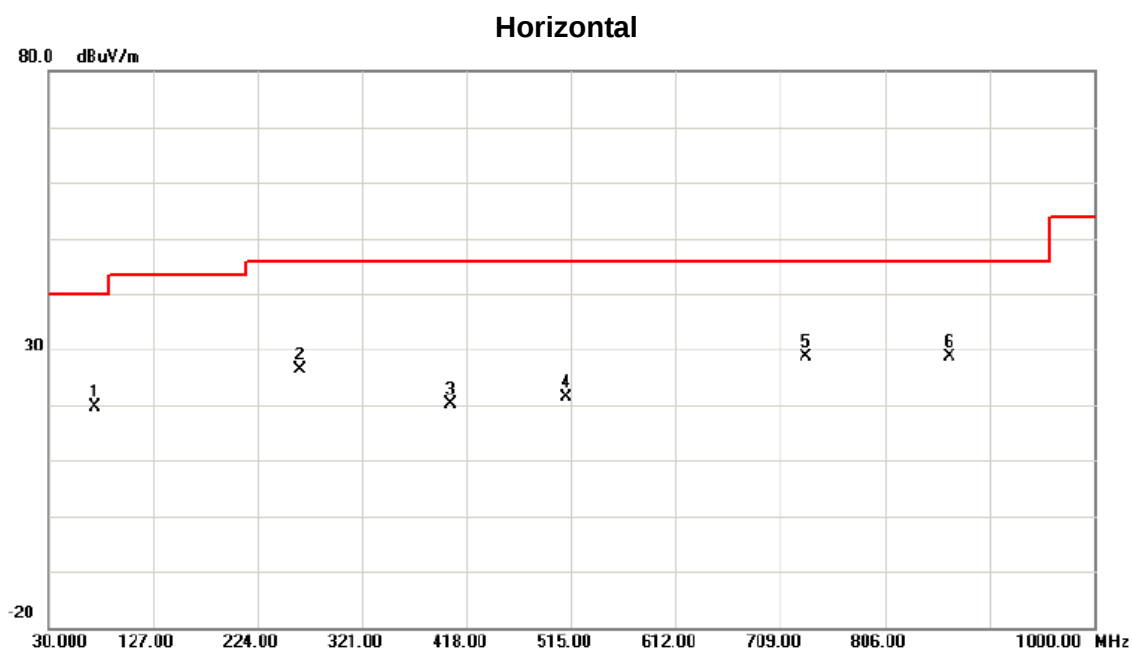
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode:	TX B MODE CHANNEL 06
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	37.2750	38.77	-14.78	23.99	40.00	-16.01	peak		
2		148.8250	33.10	-14.38	18.72	43.50	-24.78	peak		
3		272.5000	39.97	-14.25	25.72	46.00	-20.28	peak		
4		522.2750	27.96	-8.90	19.06	46.00	-26.94	peak		
5		687.1750	32.36	-6.14	26.22	46.00	-19.78	peak		
6		905.4250	27.17	-2.96	24.21	46.00	-21.79	peak		

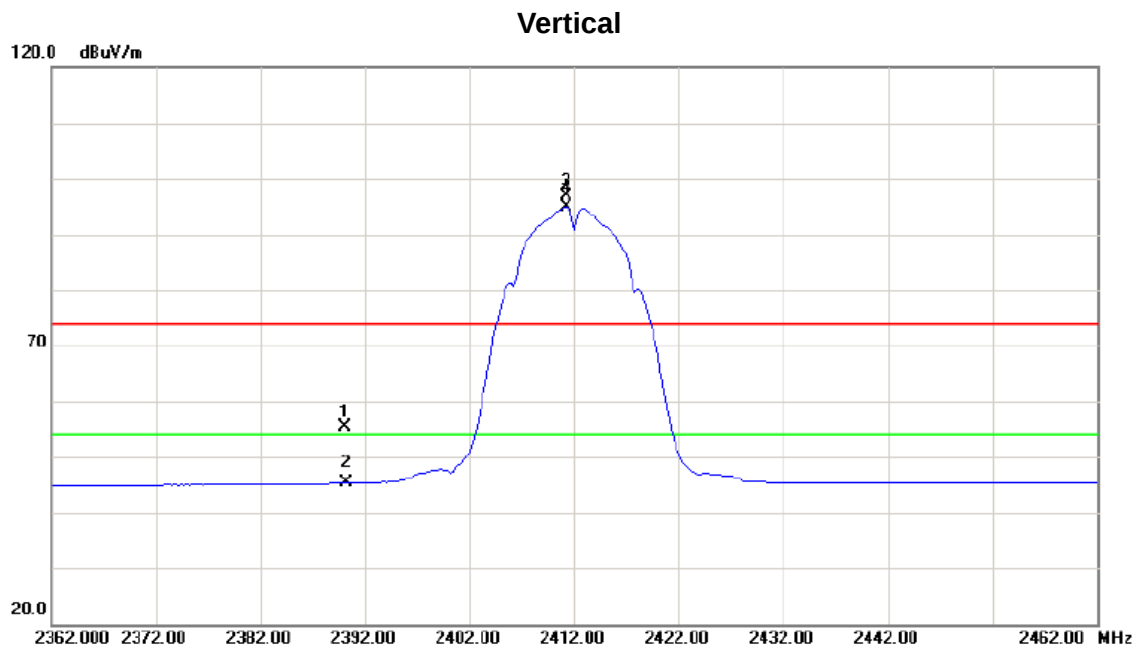
Test Mode:	TX B MODE CHANNEL 06
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Table		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Height	Degree	Comment
1		73.6500	36.81	-17.14	19.67	40.00	-20.33	peak		
2		262.8000	40.99	-14.60	26.39	46.00	-19.61	peak		
3		403.4500	31.34	-11.21	20.13	46.00	-25.87	peak		
4		510.1500	30.53	-9.25	21.28	46.00	-24.72	peak		
5		733.2500	33.95	-5.43	28.52	46.00	-17.48	peak		
6	*	866.6250	32.53	-3.86	28.67	46.00	-17.33	peak		

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

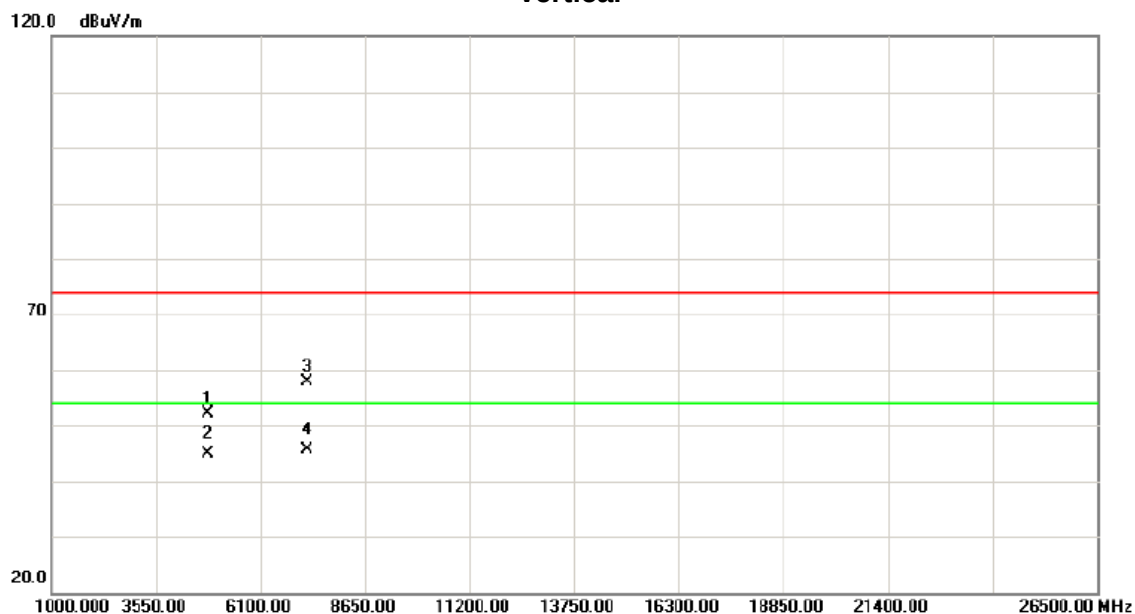
Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2390.000	23.96	31.30	55.26	74.00	-18.74	peak		
2		2390.000	13.96	31.30	45.26	54.00	-8.74	AVG		
3	X	2411.250	65.57	31.39	96.96	74.00	22.96	peak		NO LIMIT
4	*	2411.250	63.53	31.39	94.92	54.00	40.92	AVG		NO LIMIT

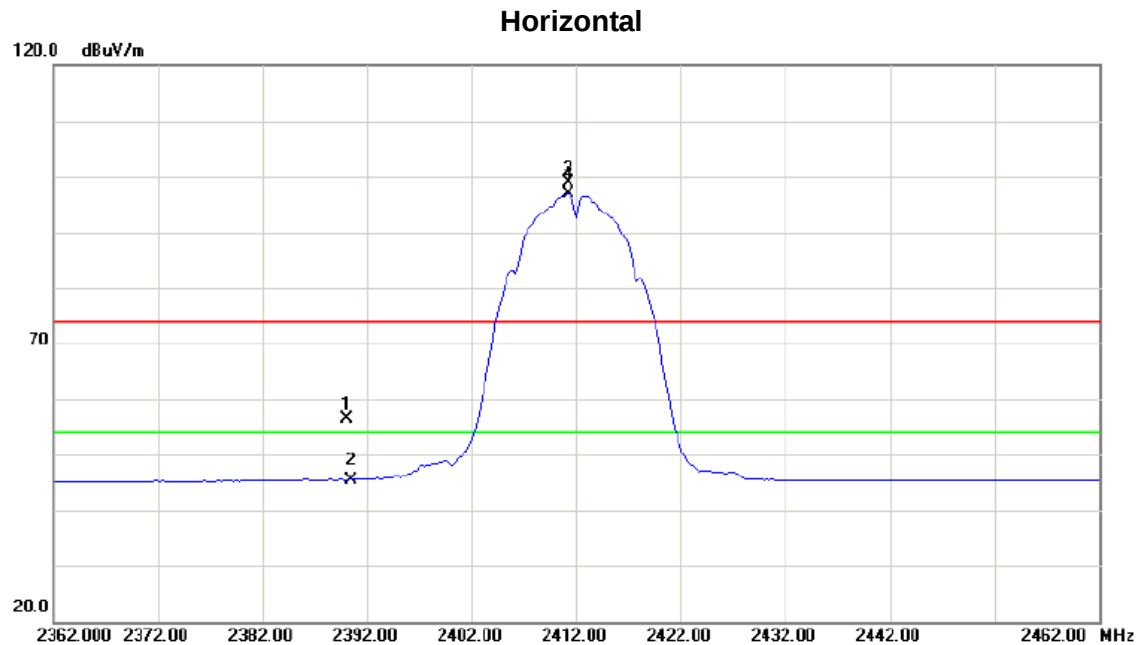
Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4824.050	44.86	7.30	52.16	74.00	-21.84	peak		
2	4824.050	37.70	7.30	45.00	54.00	-9.00	AVG		
3	7232.225	42.61	15.19	57.80	74.00	-16.20	peak		
4 *	7232.225	30.37	15.19	45.56	54.00	-8.44	AVG		

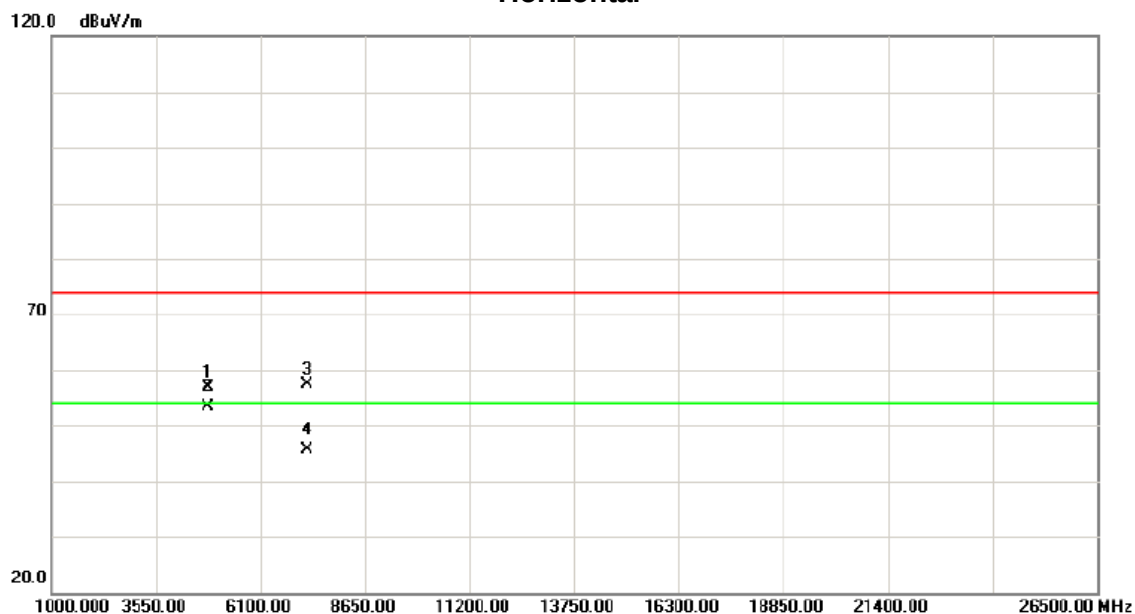
Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		2390.000	25.07	31.30	56.37	74.00	-17.63	peak		
2		2390.000	14.18	31.30	45.48	54.00	-8.52	AVG		
3	X	2411.250	67.50	31.39	98.89	74.00	24.89	peak		NO LIMIT
4	*	2411.250	65.45	31.39	96.84	54.00	42.84	AVG		NO LIMIT

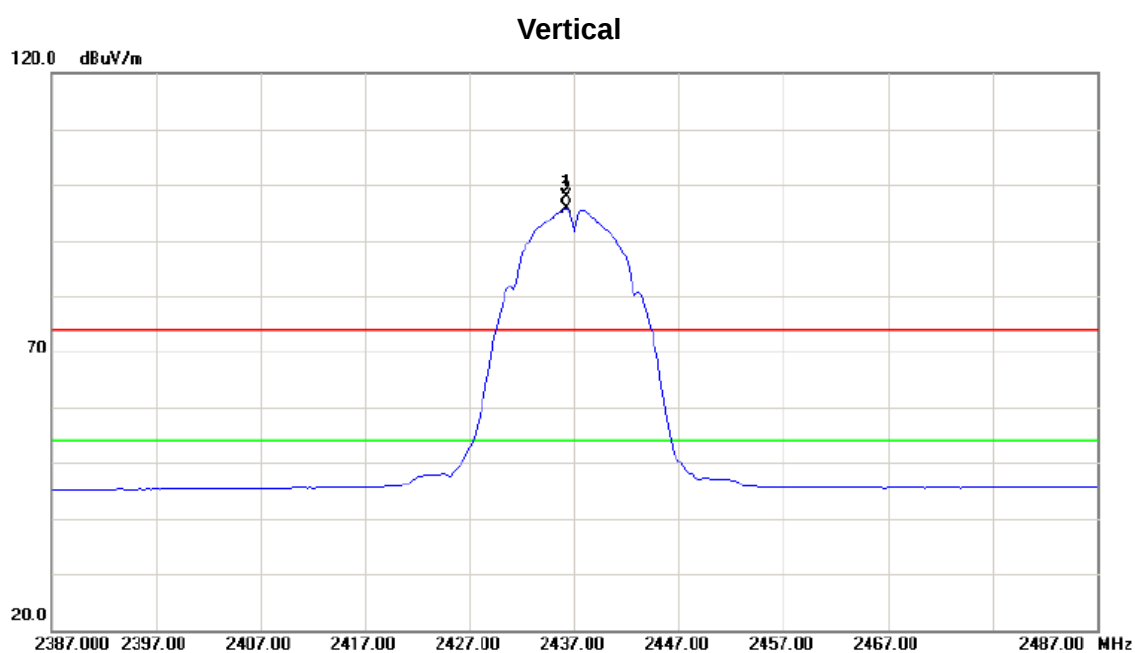
Orthogonal Axis :	X
Test Mode :	TX B MODE 2412MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		4824.225	49.70	7.30	57.00	74.00	-17.00	peak		
2	*	4824.225	46.16	7.30	53.46	54.00	-0.54	AVG		
3		7231.375	42.12	15.19	57.31	74.00	-16.69	peak		
4		7231.375	30.41	15.19	45.60	54.00	-8.40	AVG		

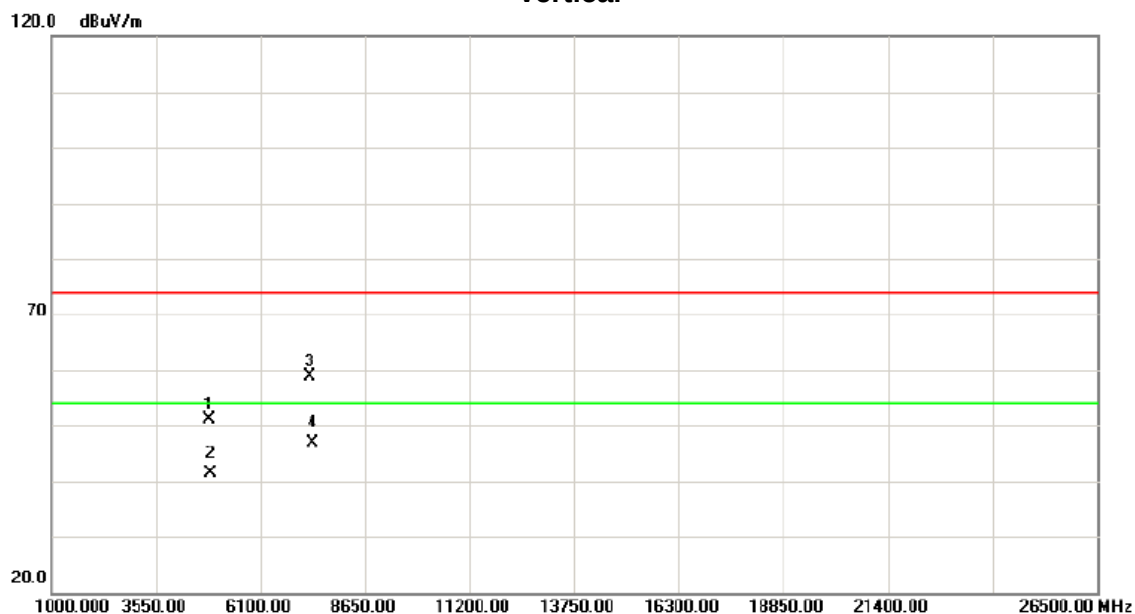
Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	X	2436.250	66.38	31.49	97.87	74.00	23.87	peak		NO LIMIT
2	*	2436.250	64.20	31.49	95.69	54.00	41.69	AVG		NO LIMIT

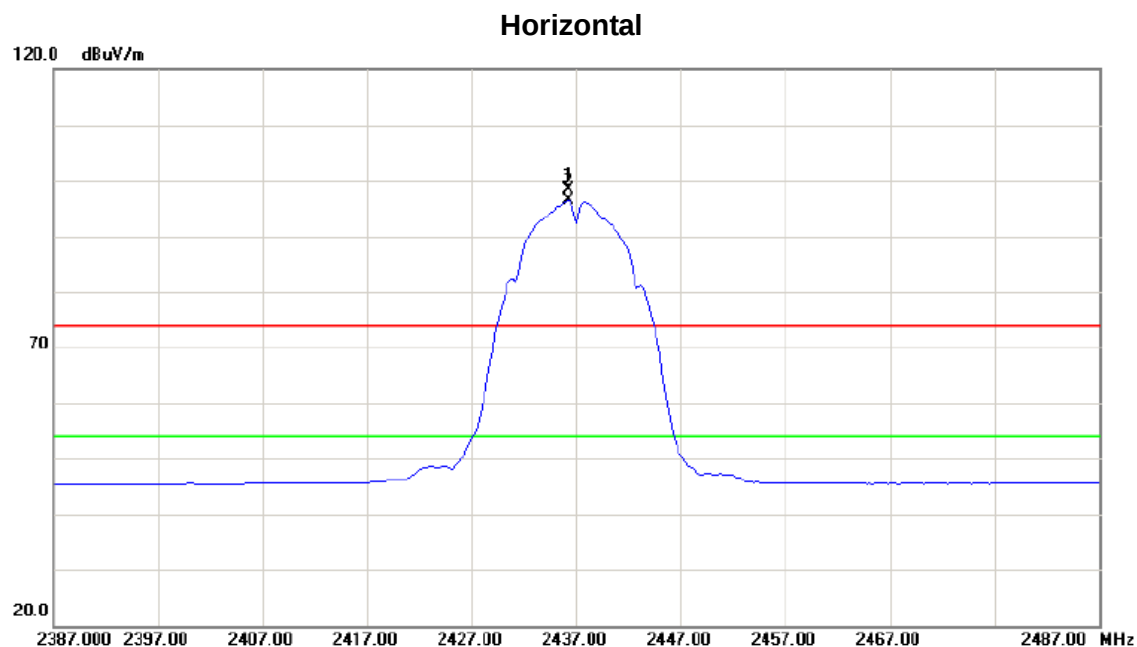
Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz

Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4872.200	43.68	7.35	51.03	74.00	-22.97	peak		
2	4872.200	34.07	7.35	41.42	54.00	-12.58	AVG		
3	7313.350	43.21	15.68	58.89	74.00	-15.11	peak		
4 *	7313.350	31.20	15.68	46.88	54.00	-7.12	AVG		

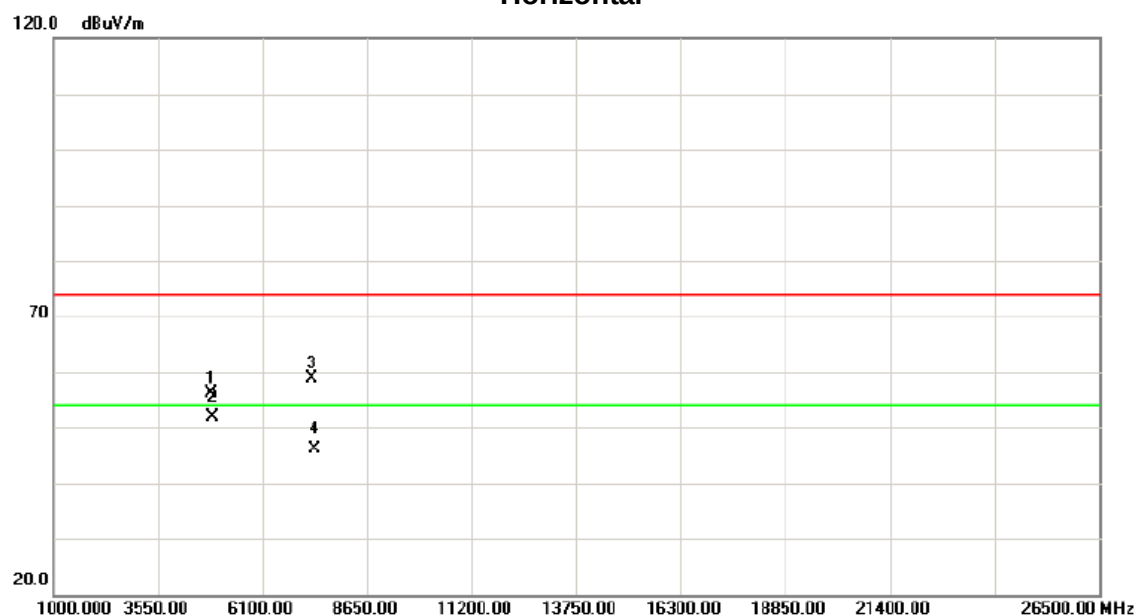
Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	X	2436.250	66.97	31.49	98.46	74.00	24.46	peak		
2	*	2436.250	64.83	31.49	96.32	54.00	42.32	AVG		

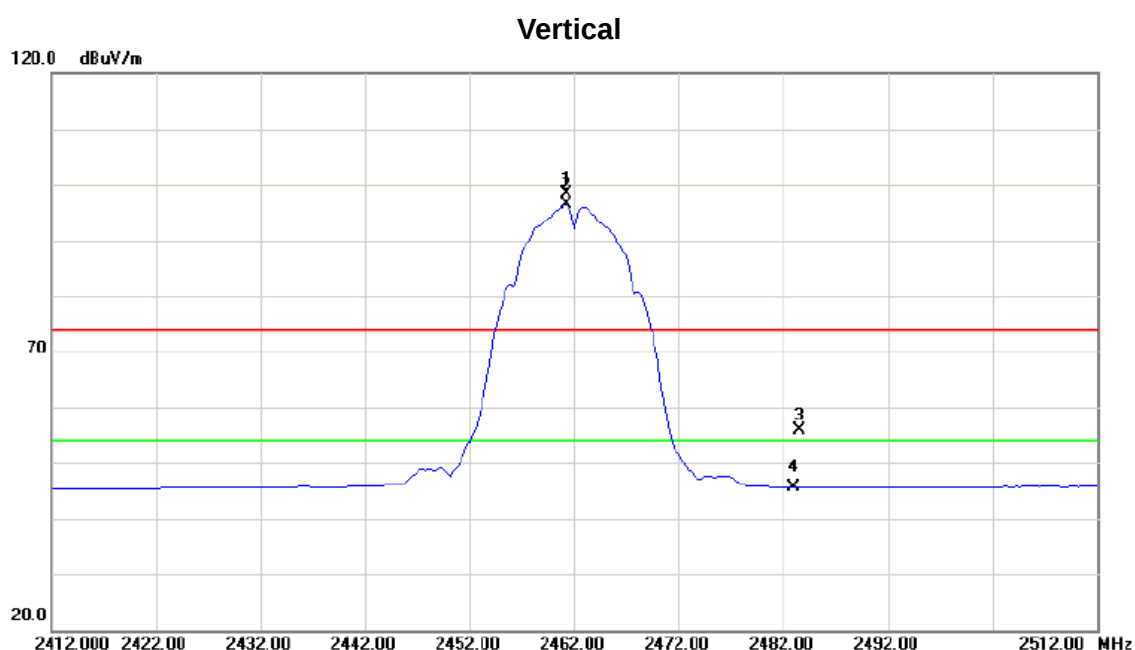
Orthogonal Axis :	X
Test Mode :	TX B MODE 2437MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		4874.200	48.76	7.35	56.11	74.00	-17.89	peak		
2	*	4874.200	44.43	7.35	51.78	54.00	-2.22	AVG		
3		7314.900	43.12	15.68	58.80	74.00	-15.20	peak		
4		7314.900	30.49	15.68	46.17	54.00	-7.83	AVG		

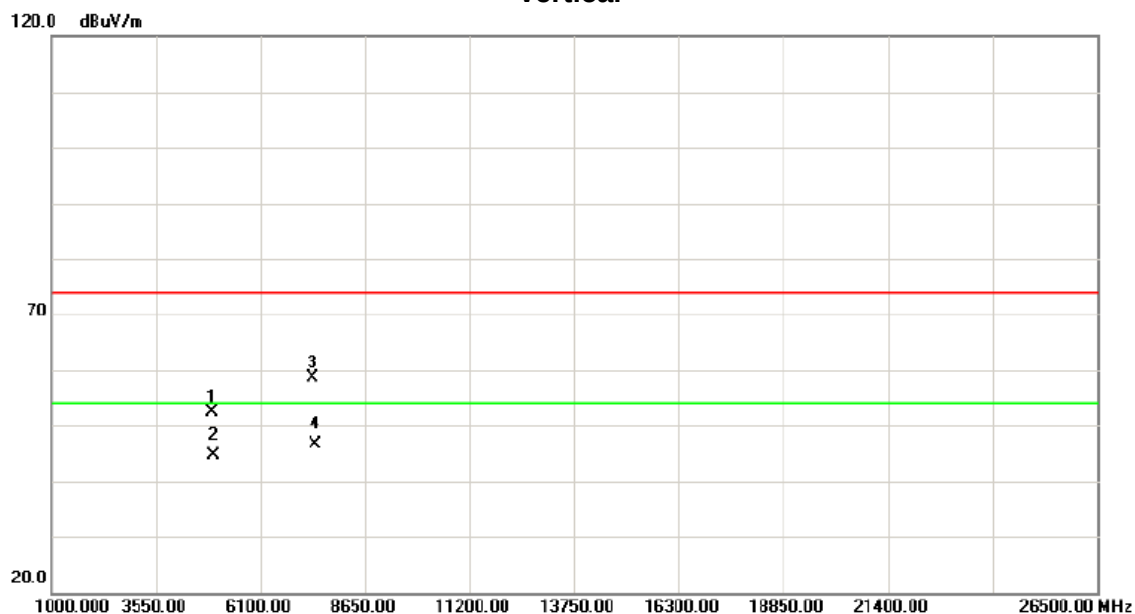
Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	X	2461.250	66.89	31.59	98.48	74.00	24.48	peak		NO LIMIT
2	*	2461.250	64.73	31.59	96.32	54.00	42.32	AVG		NO LIMIT
3		2483.500	24.10	31.68	55.78	74.00	-18.22	peak		
4		2483.500	13.94	31.68	45.62	54.00	-8.38	AVG		

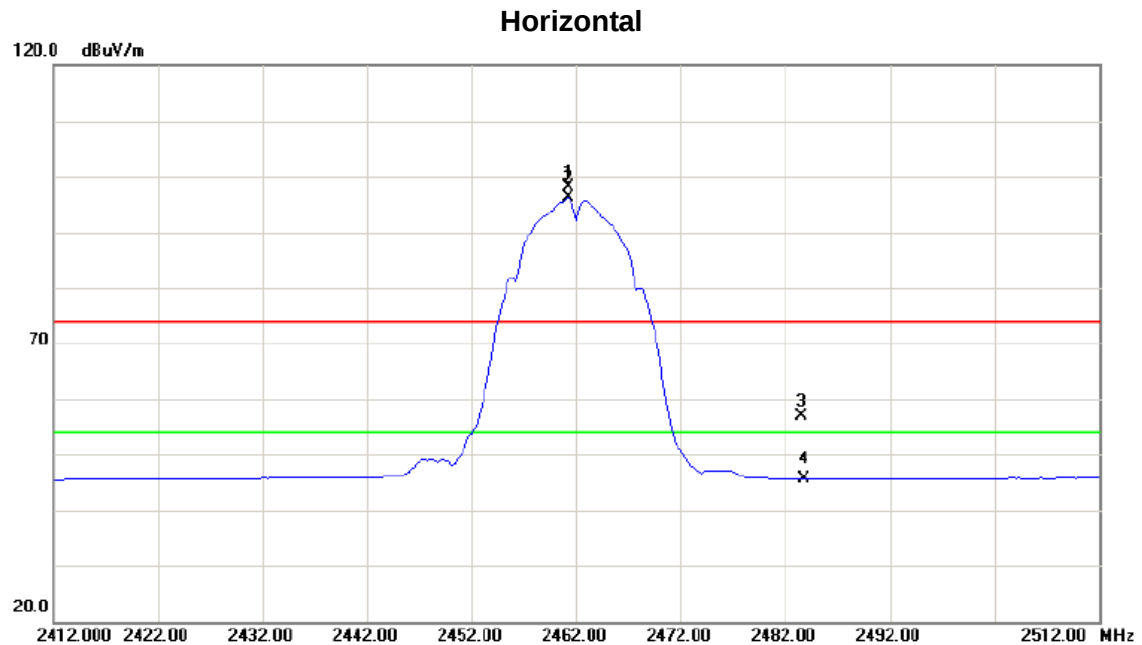
Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4923.900	45.06	7.39	52.45	74.00	-21.55	peak		
2	4923.900	37.15	7.39	44.54	54.00	-9.46	AVG		
3	7386.100	42.42	16.11	58.53	74.00	-15.47	peak		
4 *	7386.100	30.44	16.11	46.55	54.00	-7.45	AVG		

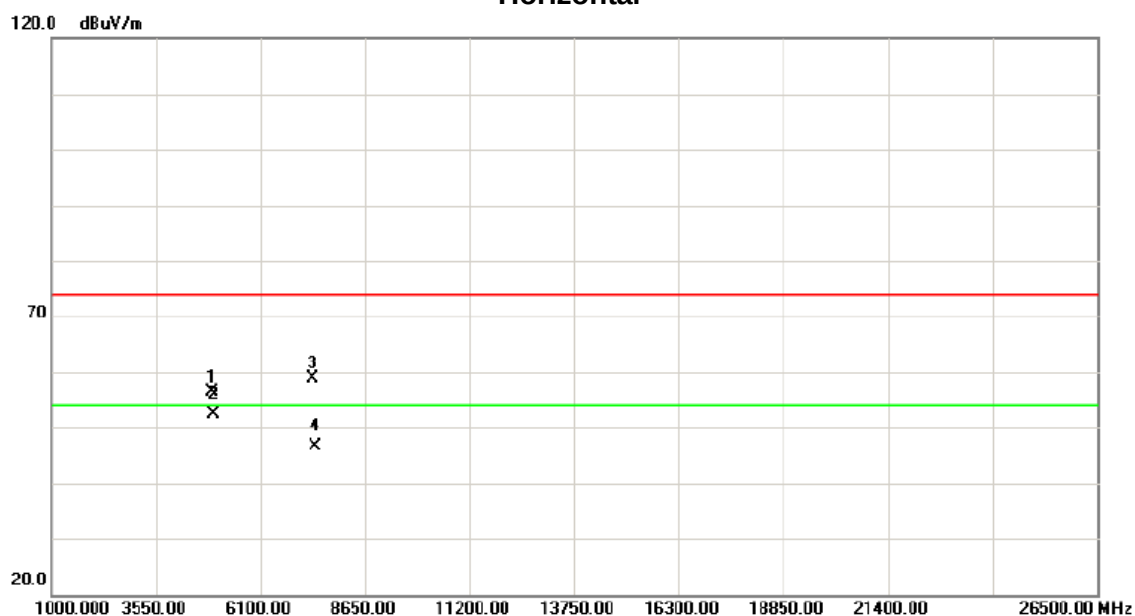
Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	X	2461.250	66.57	31.59	98.16	74.00	24.16	peak		NO LIMIT
2	*	2461.250	64.54	31.59	96.13	54.00	42.13	AVG		NO LIMIT
3		2483.500	25.14	31.68	56.82	74.00	-17.18	peak		
4		2483.500	13.97	31.68	45.65	54.00	-8.35	AVG		

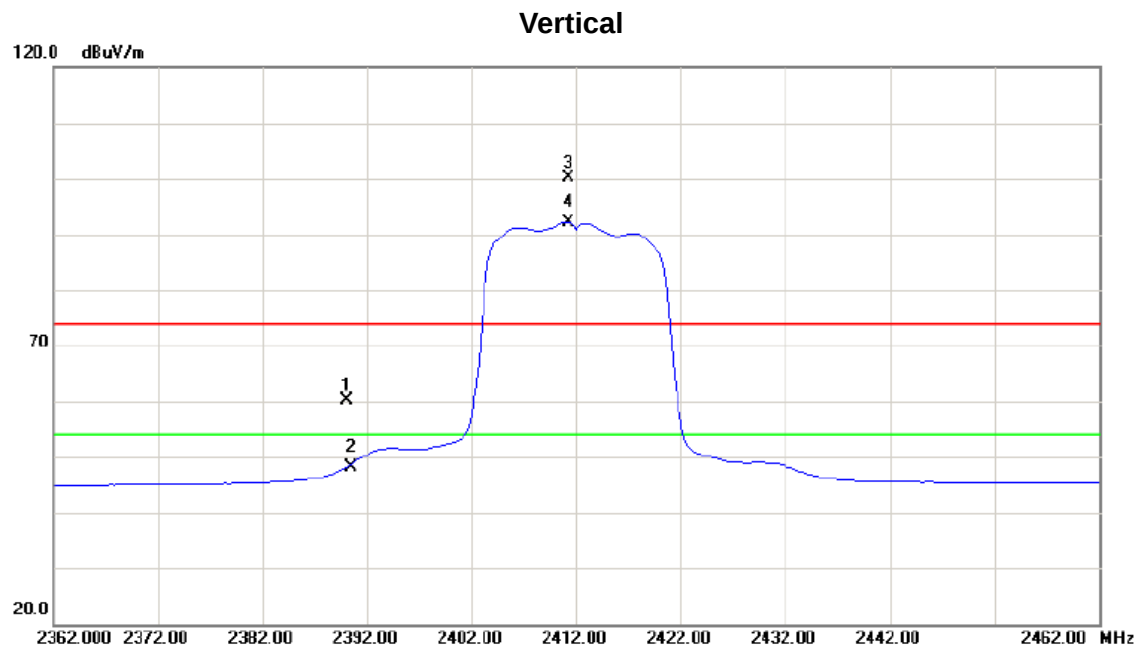
Orthogonal Axis :	X
Test Mode :	TX B MODE 2462MHz

Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4924.050	49.03	7.39	56.42	74.00	-17.58	peak		
2 *	4924.050	45.06	7.39	52.45	54.00	-1.55	AVG		
3	7383.400	42.87	16.09	58.96	74.00	-15.04	peak		
4	7383.400	30.54	16.09	46.63	54.00	-7.37	AVG		

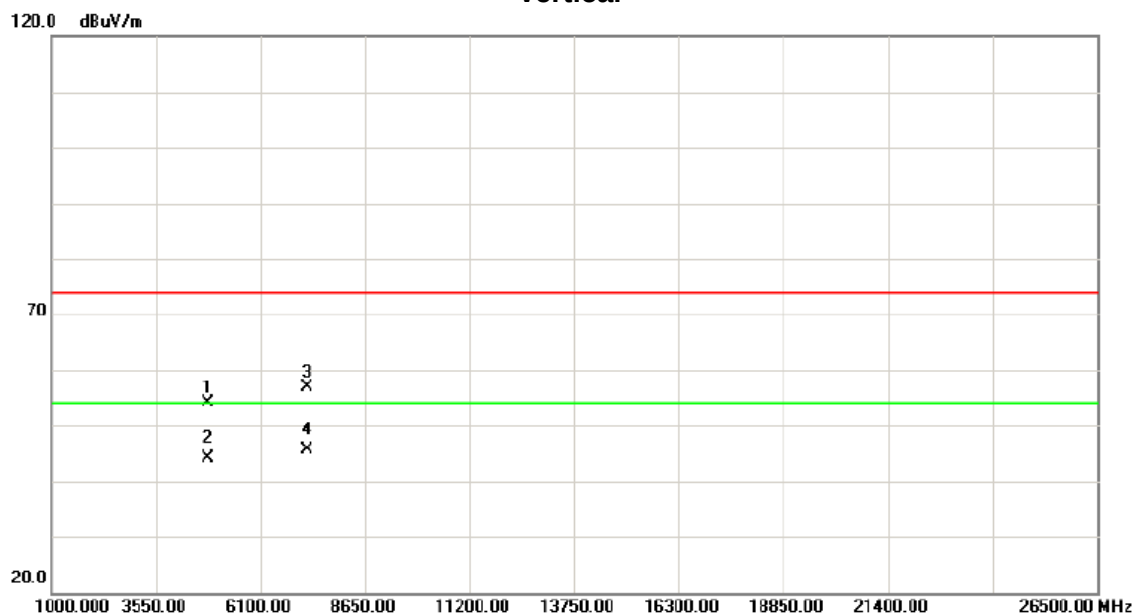
Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		2390.000	28.77	31.30	60.07	74.00	-13.93	peak		
2		2390.000	16.86	31.30	48.16	54.00	-5.84	AVG		
3	X	2411.250	68.62	31.39	100.01	74.00	26.01	peak		NO LIMIT
4	*	2411.250	60.77	31.39	92.16	54.00	38.16	AVG		NO LIMIT

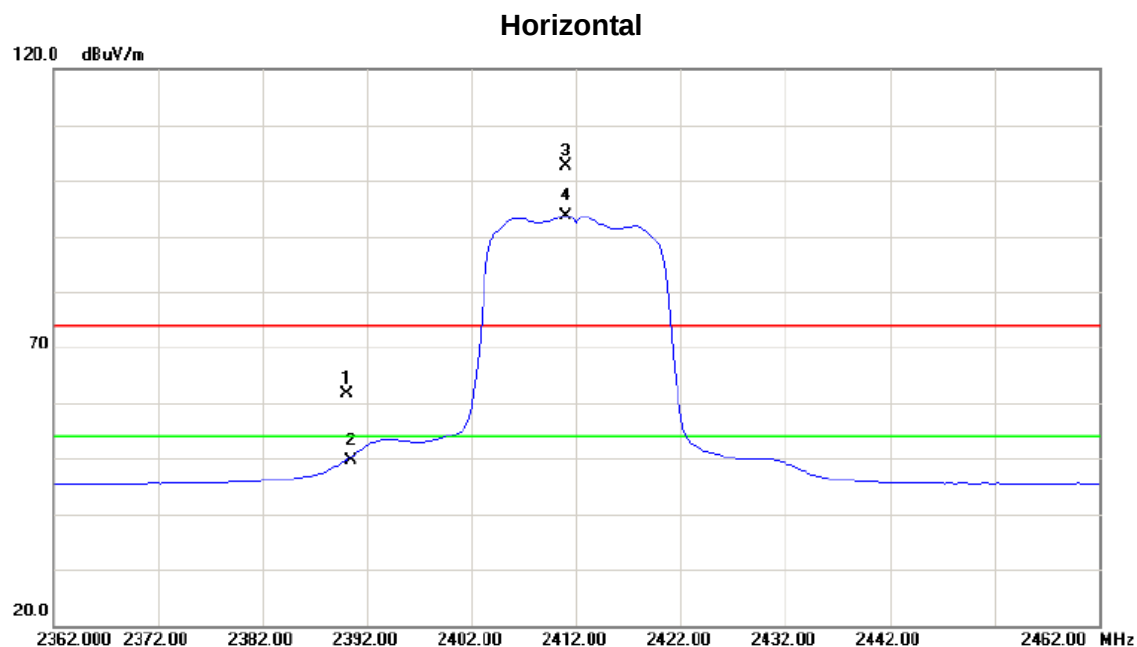
Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		4824.500	46.71	7.30	54.01	74.00	-19.99	peak		
2		4824.500	36.87	7.30	44.17	54.00	-9.83	AVG		
3		7231.125	41.58	15.19	56.77	74.00	-17.23	peak		
4	*	7231.125	30.39	15.19	45.58	54.00	-8.42	AVG		

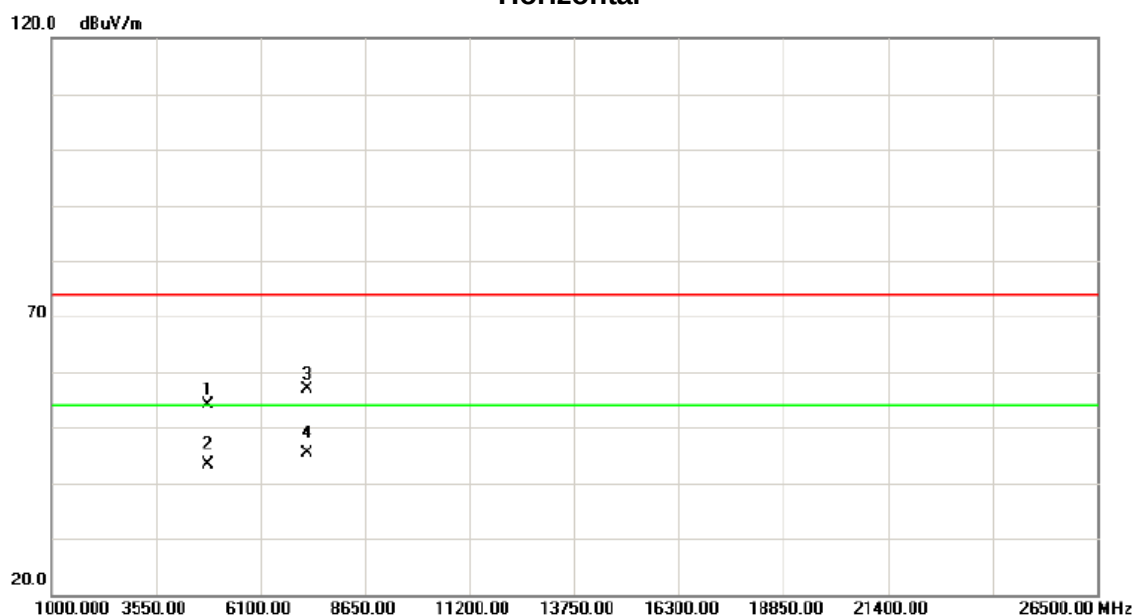
Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2390.000	30.35	31.30	61.65	74.00	-12.35	peak		
2		2390.000	18.35	31.30	49.65	54.00	-4.35	AVG		
3	X	2411.000	71.29	31.39	102.68	74.00	28.68	peak		NO LIMIT
4	*	2411.000	62.27	31.39	93.66	54.00	39.66	AVG		NO LIMIT

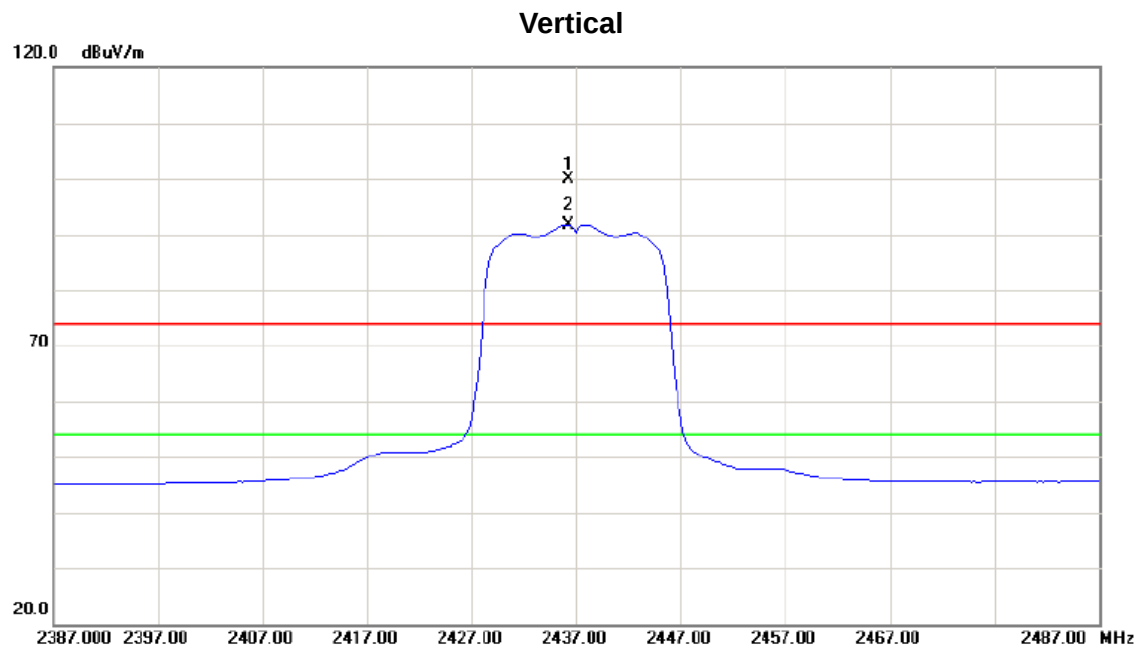
Orthogonal Axis :	X
Test Mode :	TX G MODE 2412MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		4824.625	46.82	7.30	54.12	74.00	-19.88	peak		
2		4824.625	35.96	7.30	43.26	54.00	-10.74	AVG		
3		7233.250	41.71	15.19	56.90	74.00	-17.10	peak		
4	*	7233.250	30.26	15.19	45.45	54.00	-8.55	AVG		

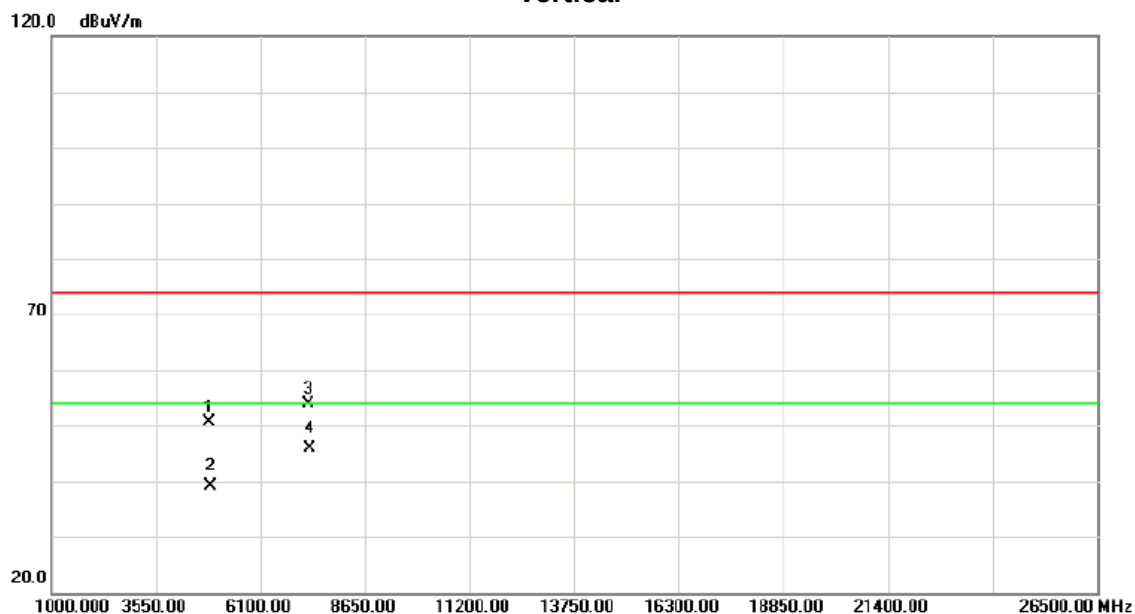
Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	X	2436.250	68.35	31.49	99.84	74.00	25.84	peak		NO LIMIT
2	*	2436.250	60.20	31.49	91.69	54.00	37.69	AVG		NO LIMIT

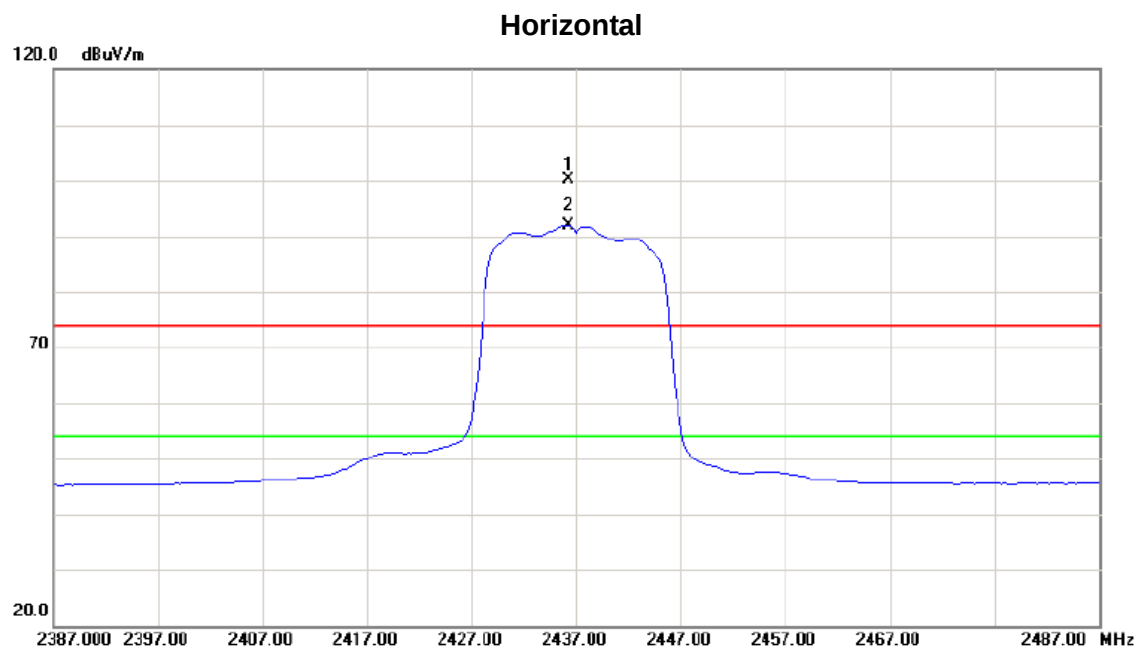
Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4867.625	43.32	7.35	50.67	74.00	-23.33	peak		
2	4867.625	31.80	7.35	39.15	54.00	-14.85	AVG		
3	7286.125	38.35	15.52	53.87	74.00	-20.13	peak		
4 *	7286.125	30.40	15.52	45.92	54.00	-8.08	AVG		

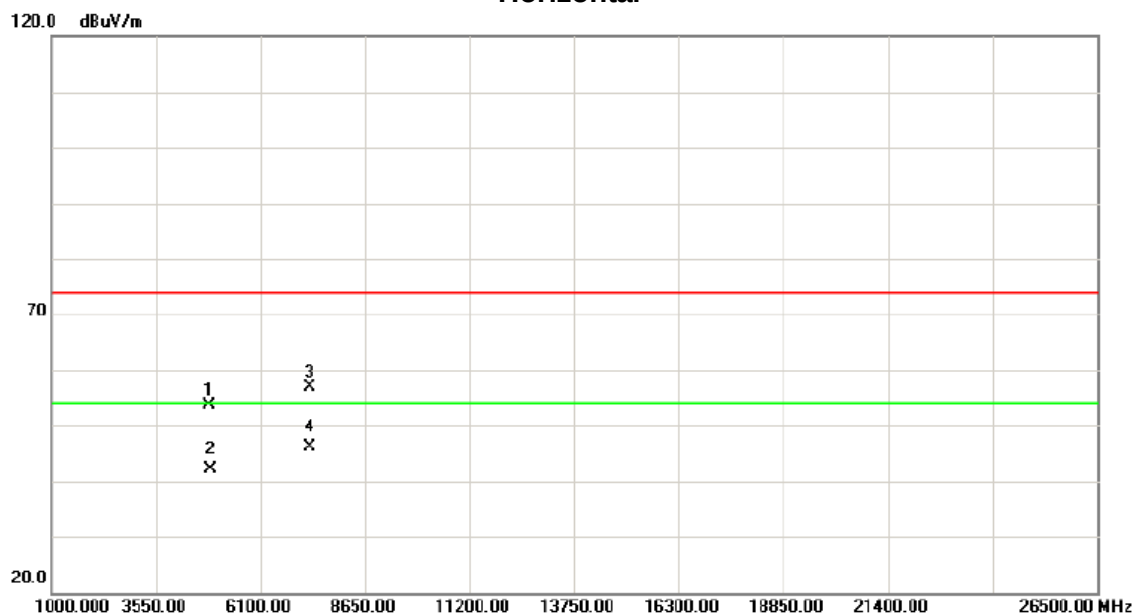
Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	X	2436.250	68.58	31.49	100.07	74.00	26.07	peak		NO LIMIT
2	*	2436.250	60.45	31.49	91.94	54.00	37.94	AVG		NO LIMIT

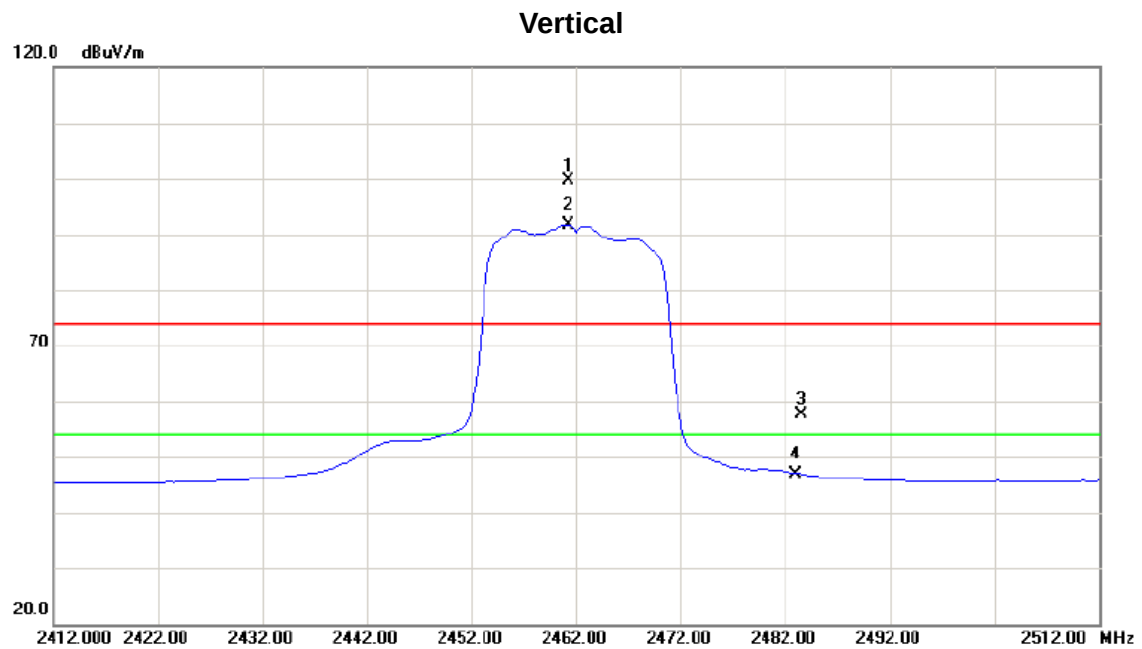
Orthogonal Axis :	X
Test Mode :	TX G MODE 2437MHz

Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4872.250	46.36	7.35	53.71	74.00	-20.29	peak		
2	4872.250	34.75	7.35	42.10	54.00	-11.90	AVG		
3	7305.500	41.36	15.63	56.99	74.00	-17.01	peak		
4 *	7305.500	30.55	15.63	46.18	54.00	-7.82	AVG		

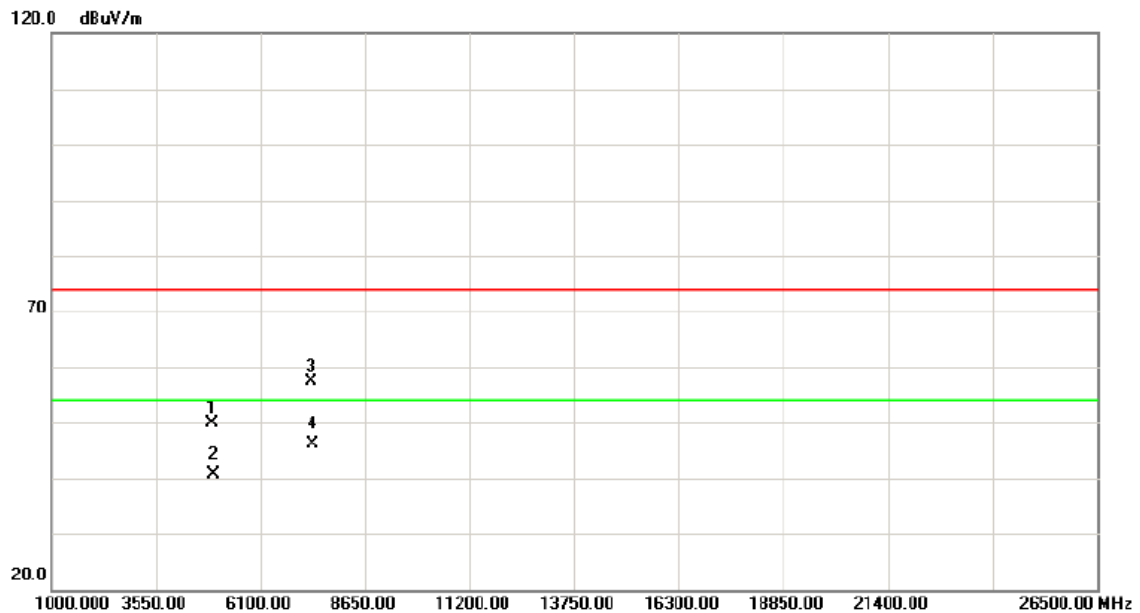
Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	X	2461.250	67.92	31.59	99.51	74.00	25.51	peak		NO LIMIT
2	*	2461.250	60.13	31.59	91.72	54.00	37.72	AVG		NO LIMIT
3		2483.500	26.07	31.68	57.75	74.00	-16.25	peak		
4		2483.500	15.26	31.68	46.94	54.00	-7.06	AVG		

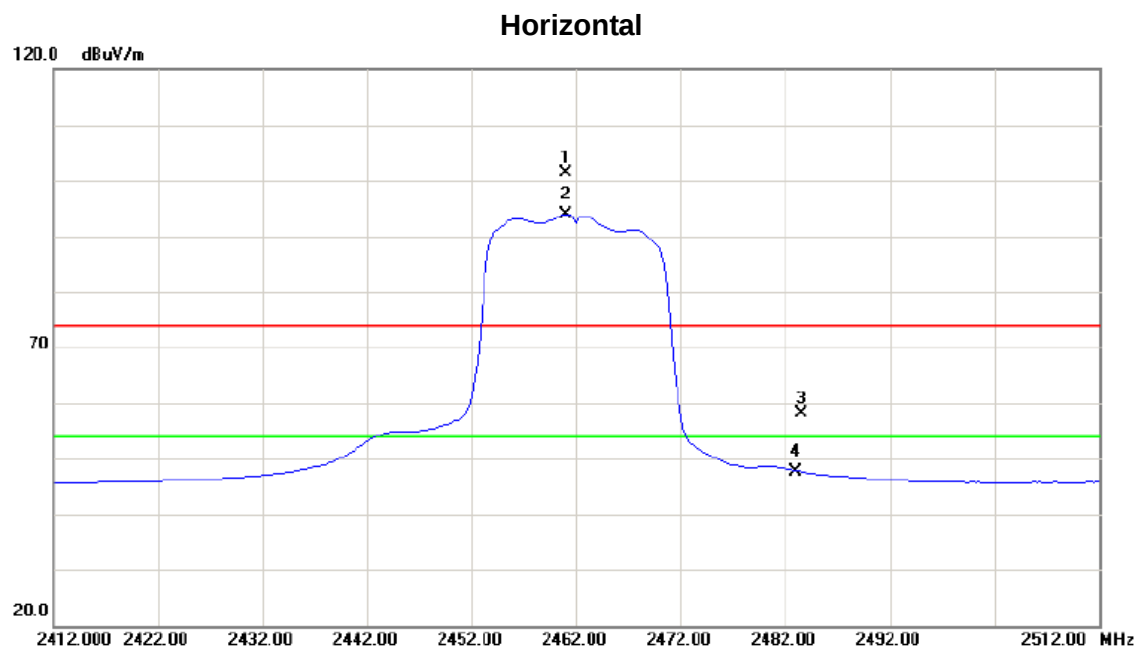
Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz

Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4923.250	42.48	7.39	49.87	74.00	-24.13	peak		
2	4923.250	33.32	7.39	40.71	54.00	-13.29	AVG		
3	7348.250	41.49	15.90	57.39	74.00	-16.61	peak		
4 *	7348.250	30.29	15.90	46.19	54.00	-7.81	AVG		

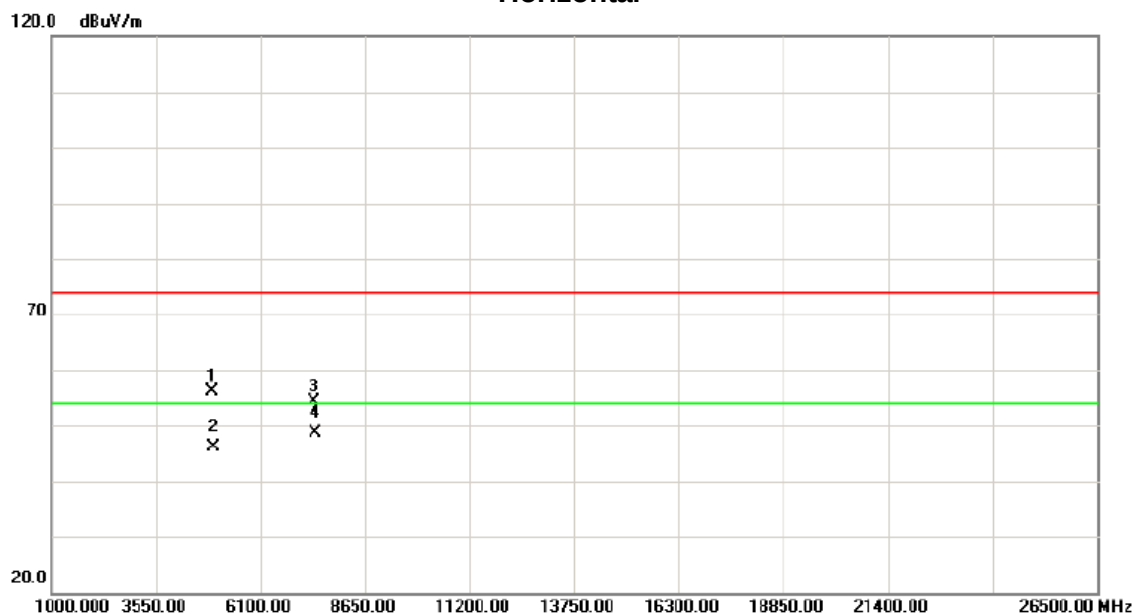
Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	X	2461.000	69.78	31.59	101.37	74.00	27.37	peak		NO LIMIT
2	*	2461.000	62.30	31.59	93.89	54.00	39.89	AVG		NO LIMIT
3		2483.500	26.46	31.68	58.14	74.00	-15.86	peak		
4		2483.500	15.97	31.68	47.65	54.00	-6.35	AVG		

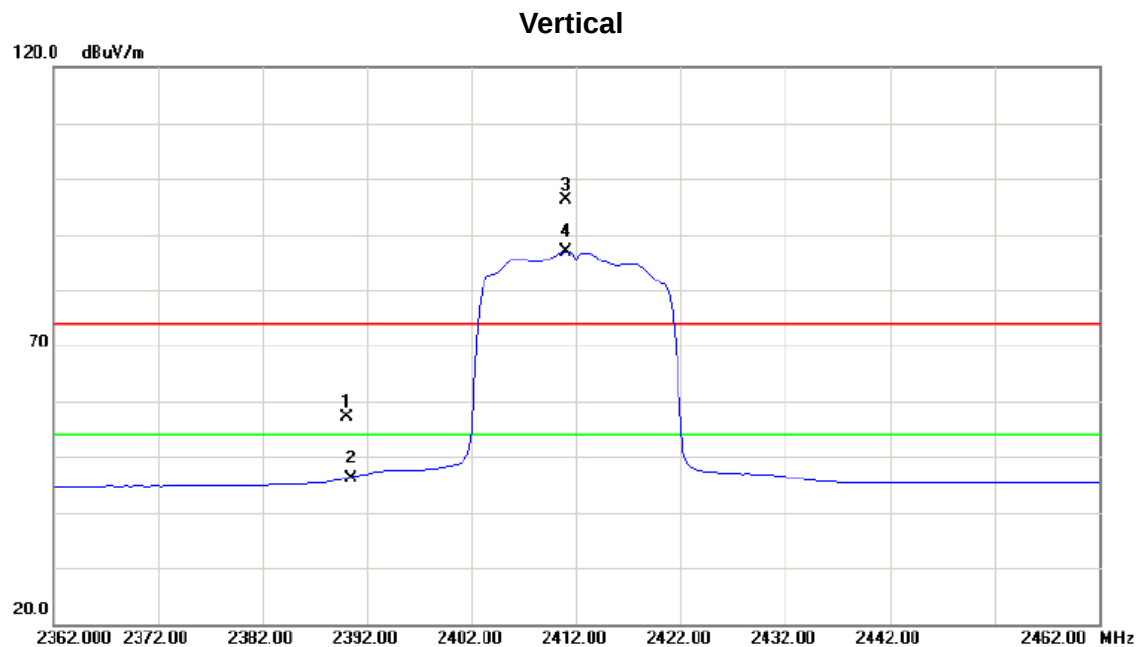
Orthogonal Axis :	X
Test Mode :	TX G MODE 2462MHz

Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4921.500	48.82	7.40	56.22	74.00	-17.78	peak		
2	4921.500	38.72	7.40	46.12	54.00	-7.88	AVG		
3	7407.750	38.09	16.25	54.34	74.00	-19.66	peak		
4 *	7407.750	32.28	16.25	48.53	54.00	-5.47	AVG		

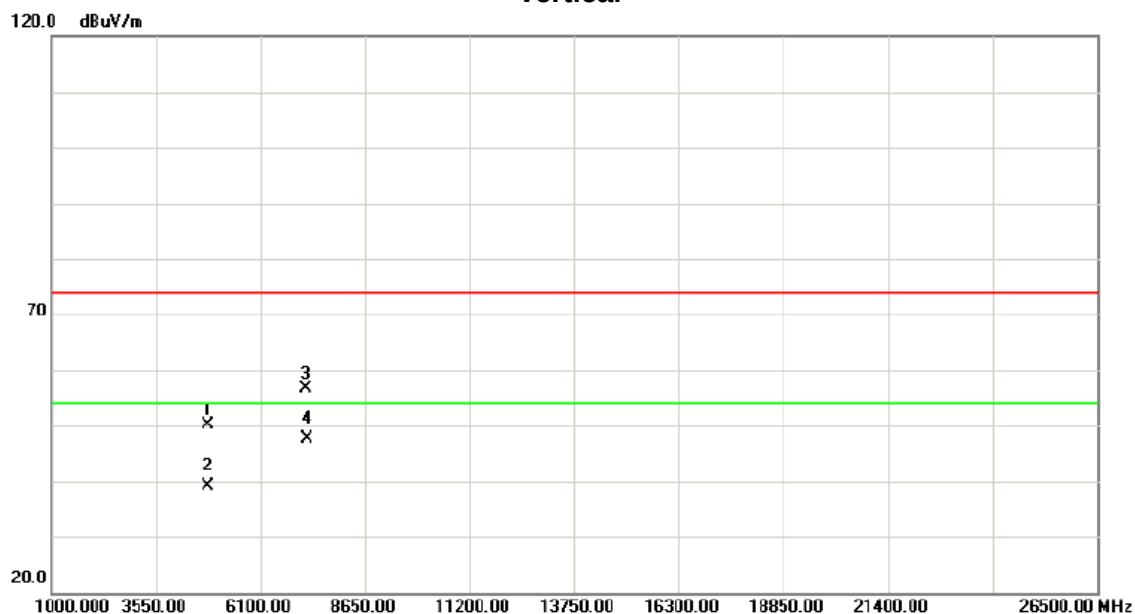
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2390.000	25.80	31.30	57.10	74.00	-16.90	peak		
2		2390.000	14.85	31.30	46.15	54.00	-7.85	AVG		
3	X	2411.000	64.79	31.39	96.18	74.00	22.18	peak		NO LIMIT
4	*	2411.000	55.46	31.39	86.85	54.00	32.85	AVG		NO LIMIT

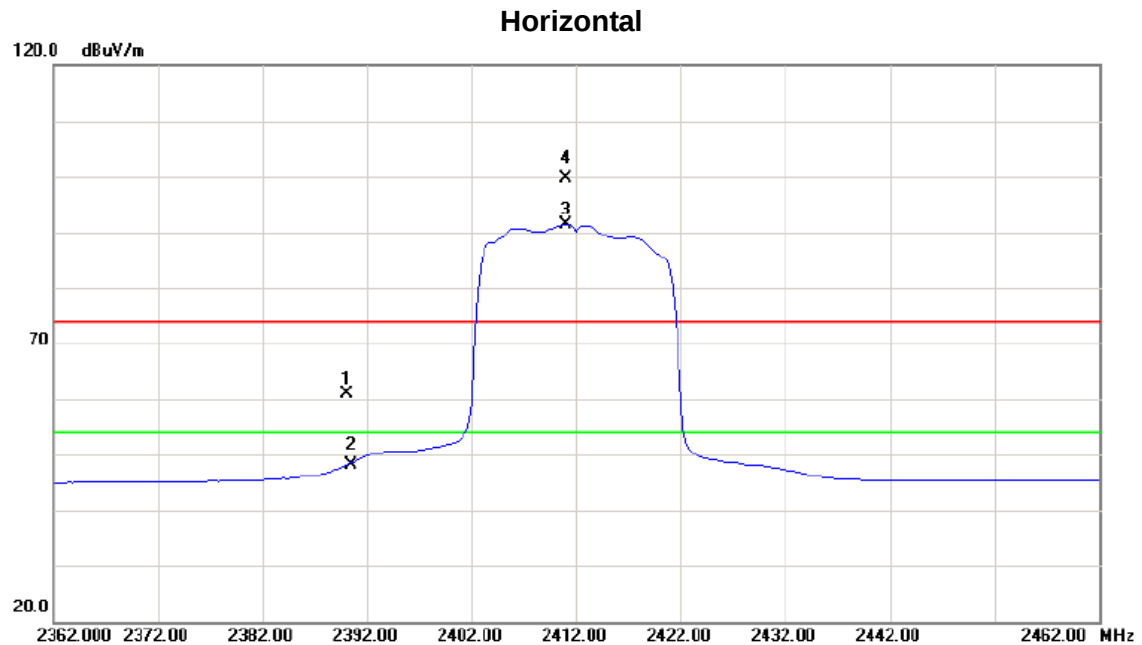
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz

Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4822.600	42.75	7.30	50.05	74.00	-23.95	peak		
2	4822.600	31.86	7.30	39.16	54.00	-14.84	AVG		
3	7217.000	41.63	15.10	56.73	74.00	-17.27	peak		
4 *	7217.000	32.42	15.10	47.52	54.00	-6.48	AVG		

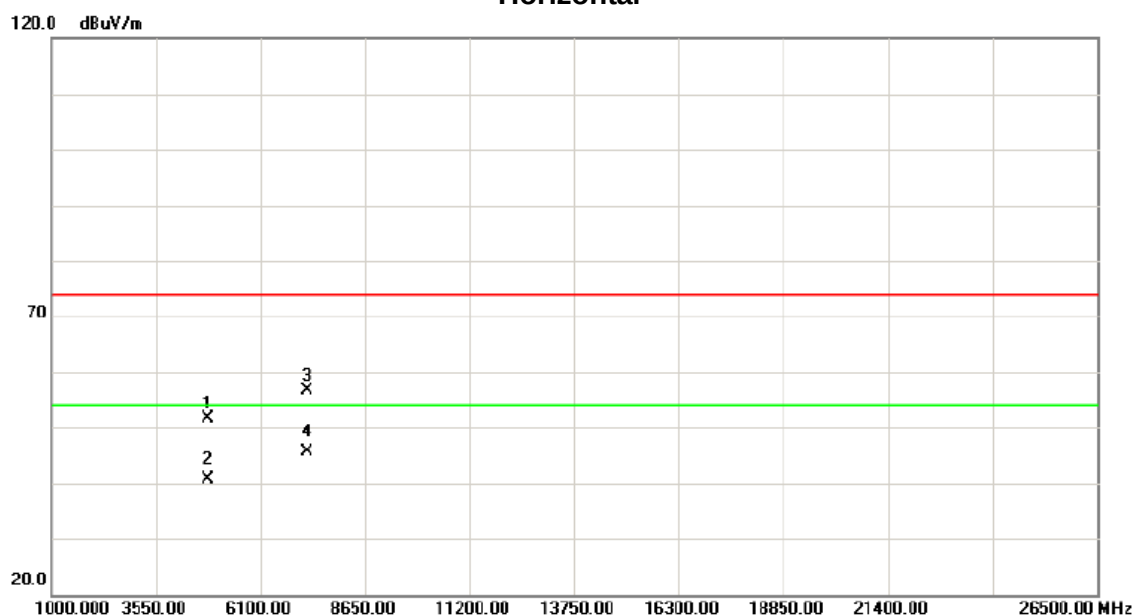
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2390.000	29.65	31.30	60.95	74.00	-13.05	peak		
2		2390.000	16.83	31.30	48.13	54.00	-5.87	AVG		
3	X	2411.000	60.11	31.39	91.50	74.00	17.50	peak		NO LIMIT
4	*	2411.000	68.36	31.39	99.75	54.00	45.75	AVG		NO LIMIT

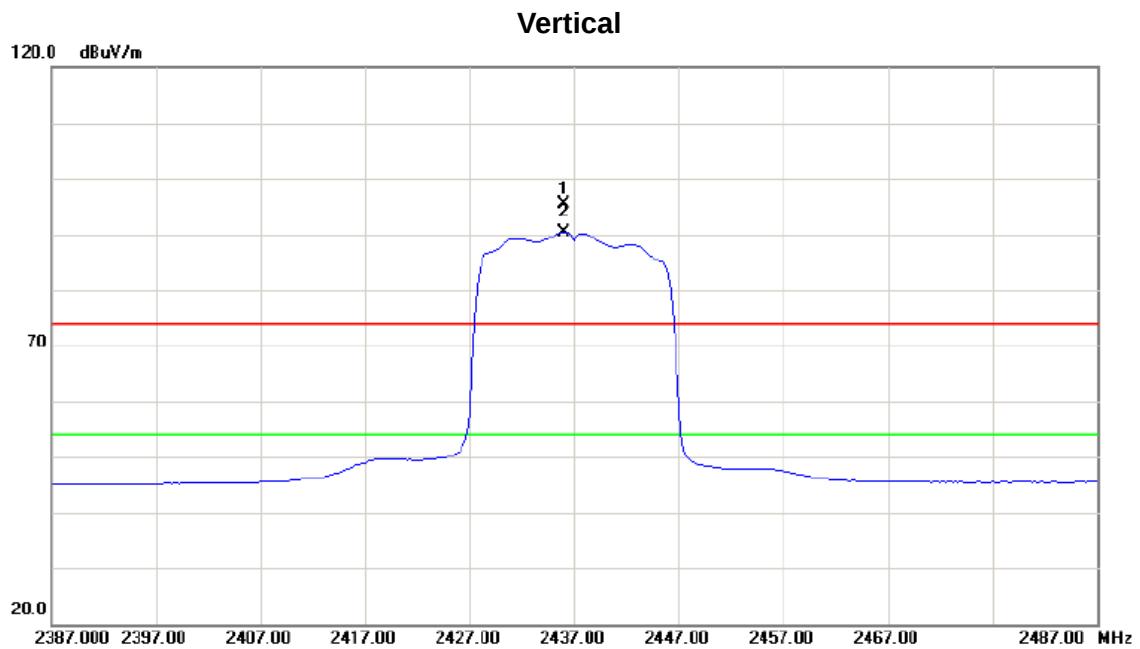
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2412MHz

Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4823.500	44.29	7.30	51.59	74.00	-22.41	peak		
2	4823.500	33.22	7.30	40.52	54.00	-13.48	AVG		
3	7225.500	41.60	15.15	56.75	74.00	-17.25	peak		
4 *	7225.500	30.41	15.15	45.56	54.00	-8.44	AVG		

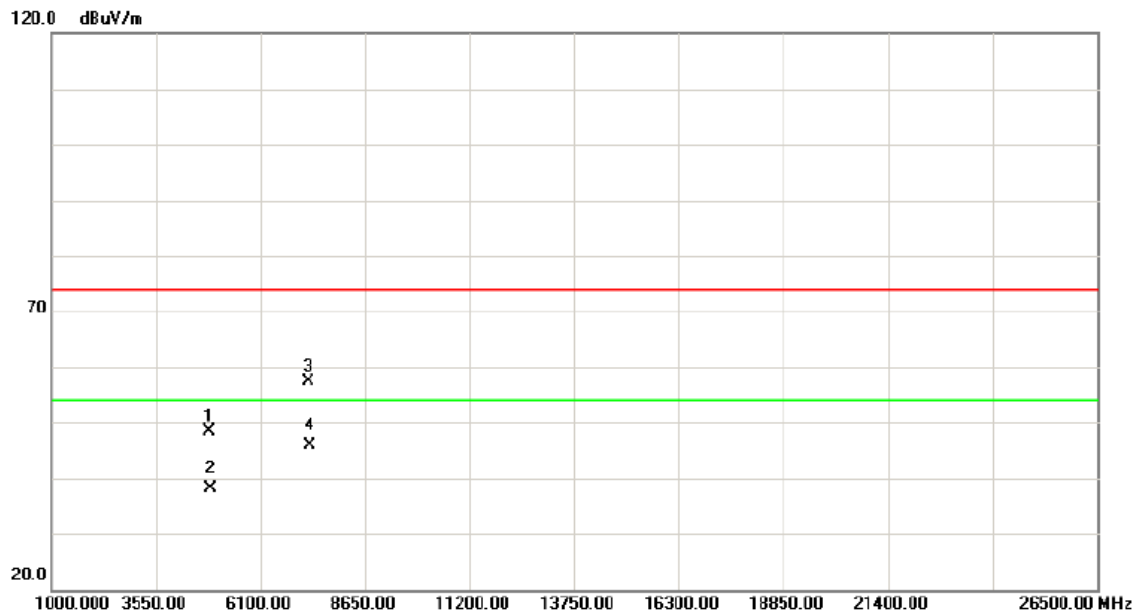
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	X	2436.000	63.92	31.49	95.41	74.00	21.41	peak		NO LIMIT
2	*	2436.000	58.98	31.49	90.47	54.00	36.47	AVG		NO LIMIT

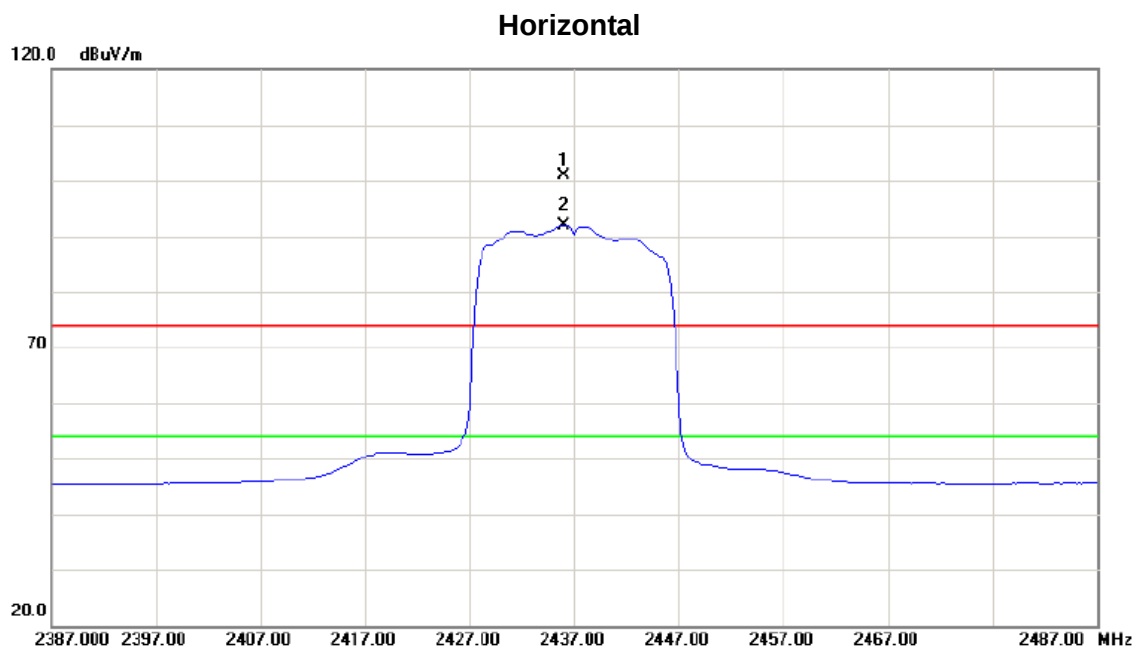
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		4865.250	41.08	7.35	48.43	74.00	-25.57	peak		
2		4865.250	30.85	7.35	38.20	54.00	-15.80	AVG		
3		7287.625	41.95	15.53	57.48	74.00	-16.52	peak		
4	*	7287.625	30.46	15.53	45.99	54.00	-8.01	AVG		

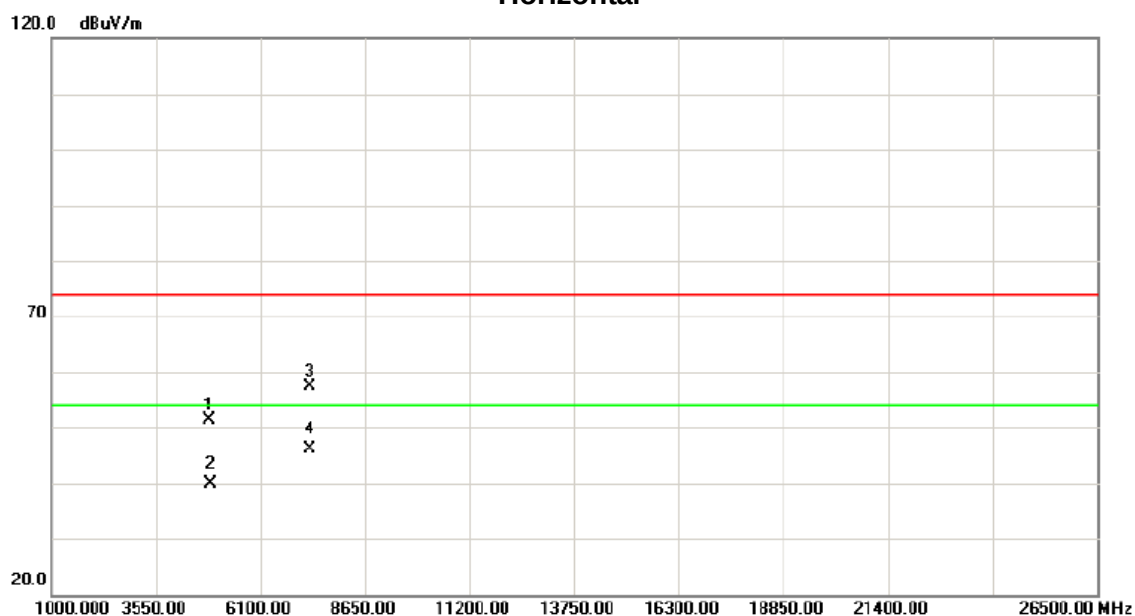
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	X	2436.000	69.45	31.49	100.94	74.00	26.94	peak		NO LIMIT
2	*	2436.000	60.44	31.49	91.93	54.00	37.93	AVG		NO LIMIT

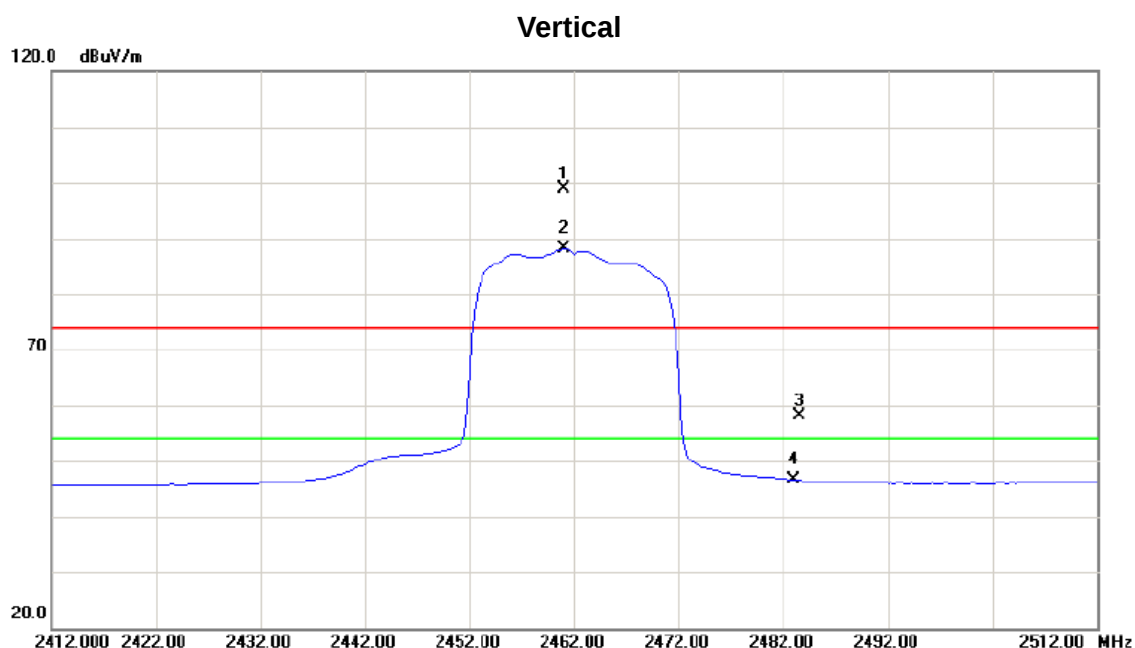
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2437MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		4874.875	44.12	7.35	51.47	74.00	-22.53	peak		
2		4874.875	32.54	7.35	39.89	54.00	-14.11	AVG		
3		7301.125	41.81	15.60	57.41	74.00	-16.59	peak		
4	*	7301.125	30.53	15.60	46.13	54.00	-7.87	AVG		

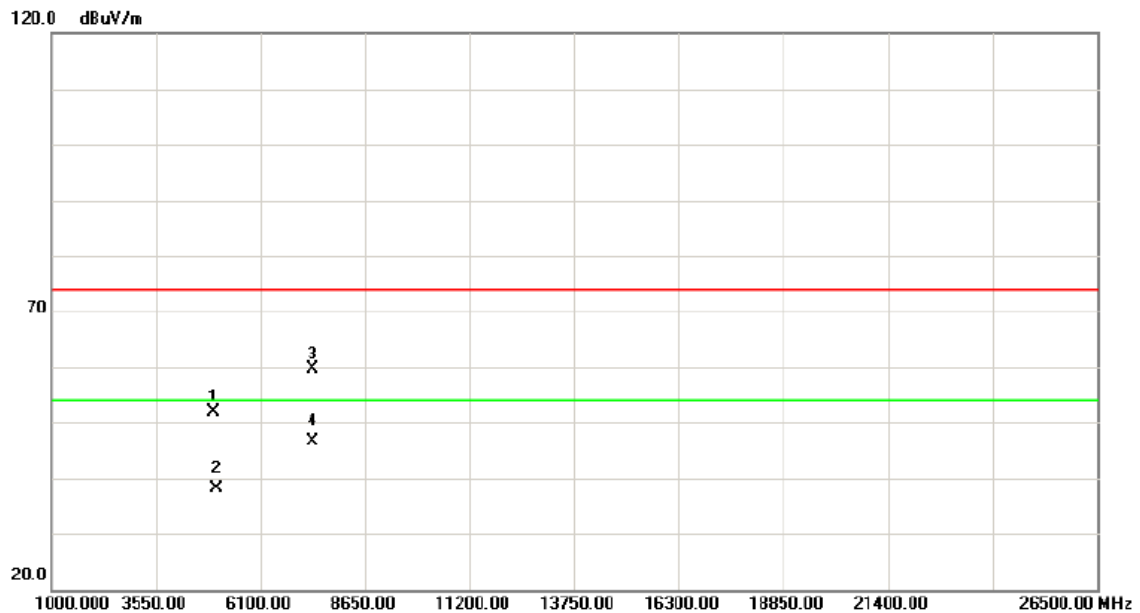
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2462MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	X	2461.000	67.19	31.59	98.78	74.00	24.78	peak		NO LIMIT
2	*	2461.000	56.47	31.59	88.06	54.00	34.06	AVG		NO LIMIT
3		2483.500	26.51	31.68	58.19	74.00	-15.81	peak		
4		2483.500	14.89	31.68	46.57	54.00	-7.43	AVG		

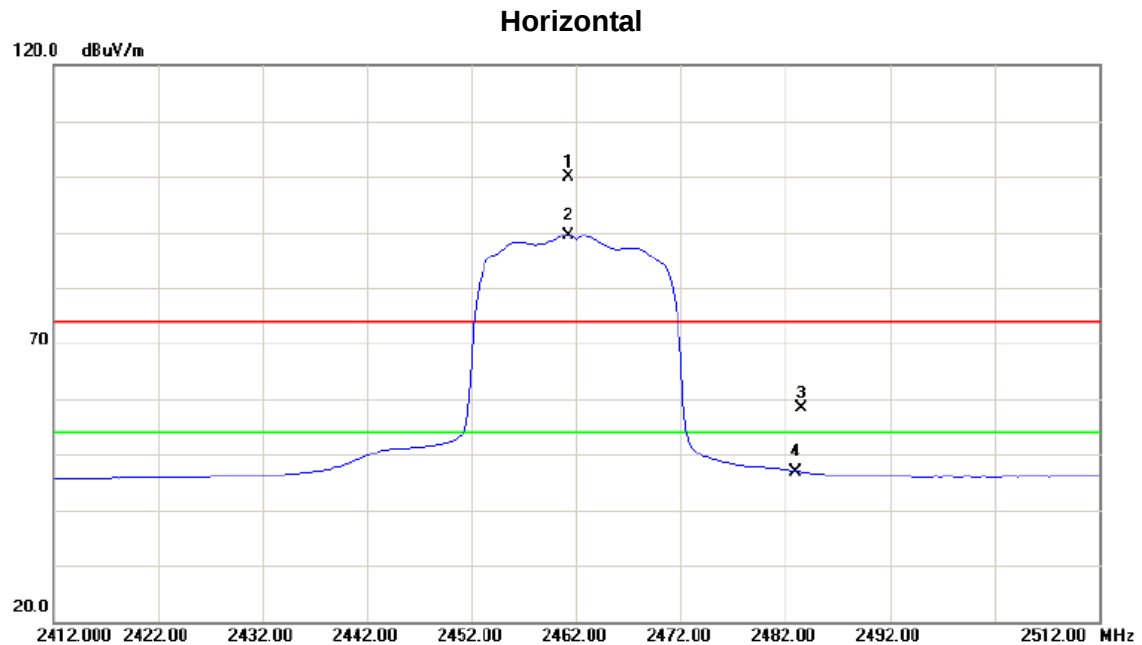
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2462MHz

Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	4958.000	44.37	7.43	51.80	74.00	-22.20	peak		
2	4958.000	30.58	7.43	38.01	54.00	-15.99	AVG		
3	7367.000	43.67	16.00	59.67	74.00	-14.33	peak		
4 *	7367.000	30.70	16.00	46.70	54.00	-7.30	AVG		

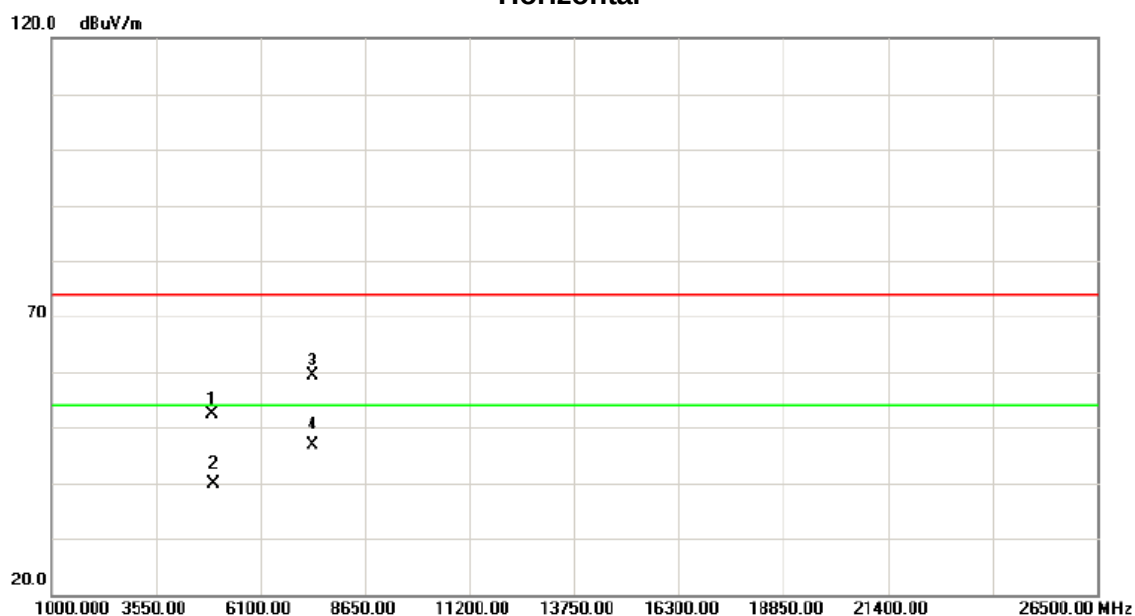
Orthogonal Axis :	X
Test Mode :	TX N-20M MODE 2462MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1	X	2461.250	68.22	31.59	99.81	74.00	25.81	peak		NO LIMIT
2	*	2461.250	57.88	31.59	89.47	54.00	35.47	AVG		NO LIMIT
3		2483.500	26.62	31.68	58.30	74.00	-15.70	peak		
4		2483.500	15.28	31.68	46.96	54.00	-7.04	AVG		

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

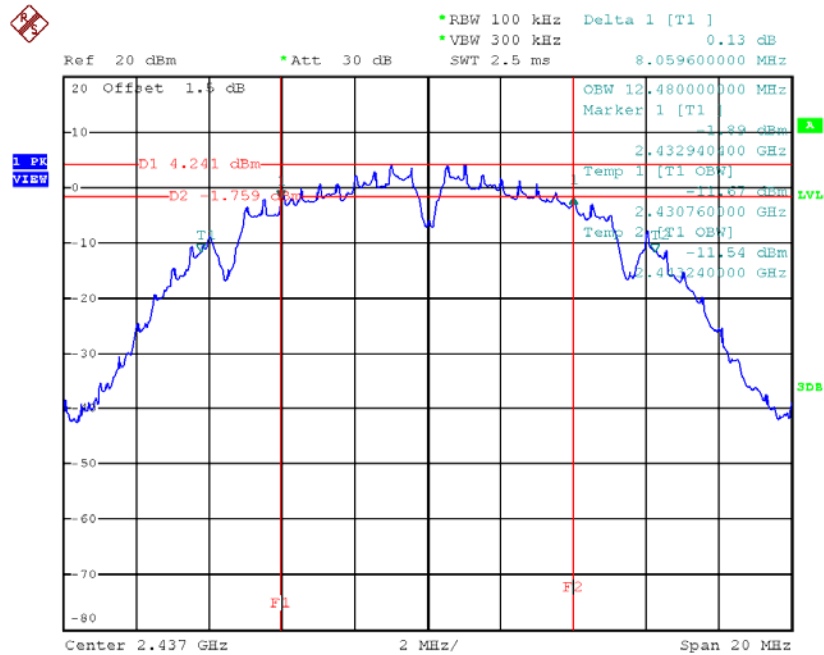
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		4926.500	45.10	7.40	52.50	74.00	-21.50	peak		
2		4926.500	32.44	7.40	39.84	54.00	-14.16	AVG		
3		7372.625	43.33	16.03	59.36	74.00	-14.64	peak		
4	*	7372.625	30.97	16.03	47.00	54.00	-7.00	AVG		

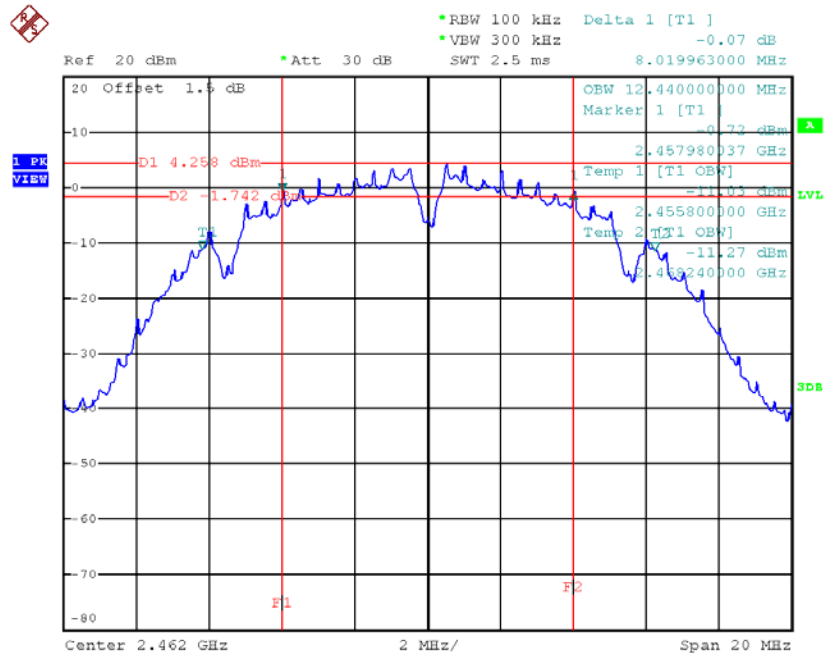
ATTACHMENT E - BANDWIDTH

TX CH06



Date: 5.JUN.2015 17:59:18

TX CH11

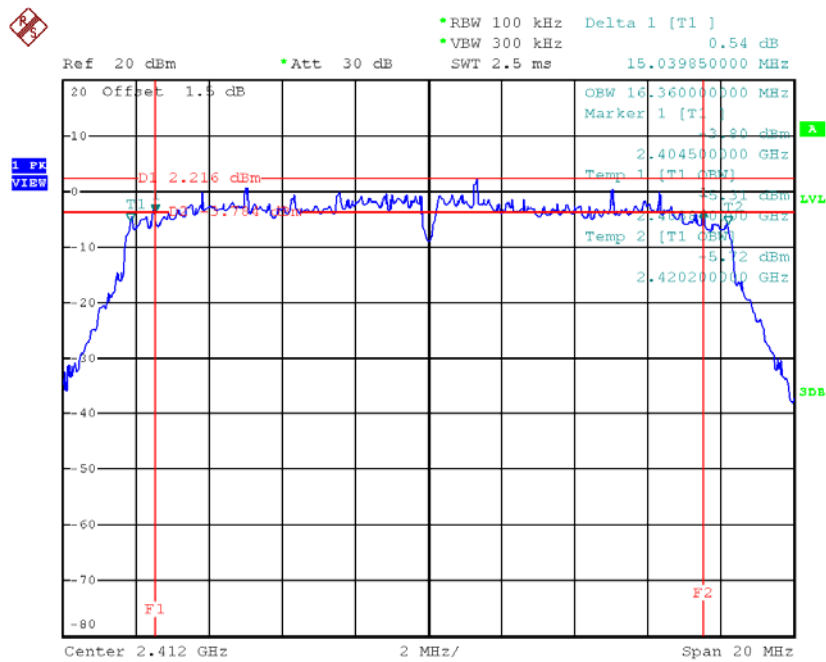


Date: 5.JUN.2015 18:00:28

Test Mode: TX G Mode_CH01/06/11

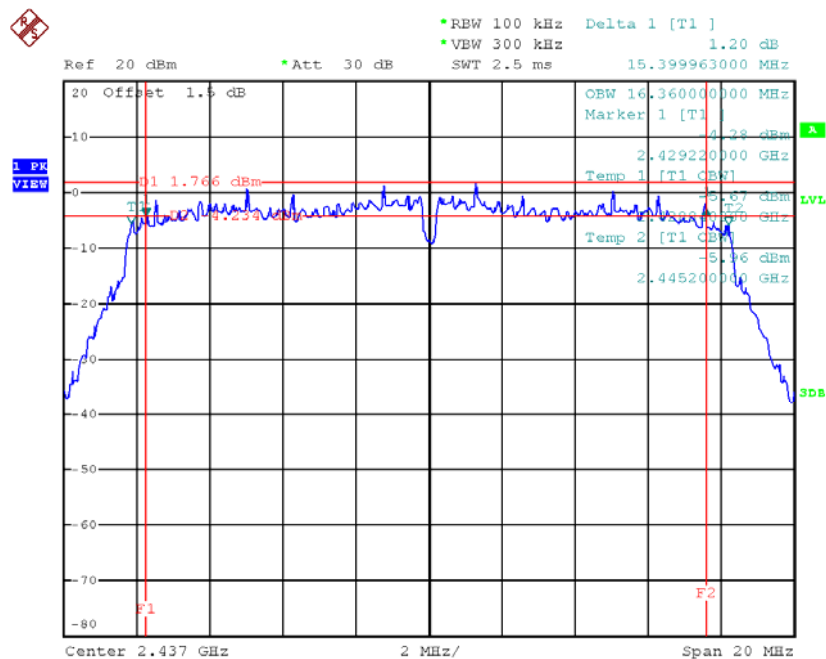
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	15.04	16.36	500	Complies
2437	15.40	16.36	500	Complies
2462	15.67	16.36	500	Complies

TX CH01



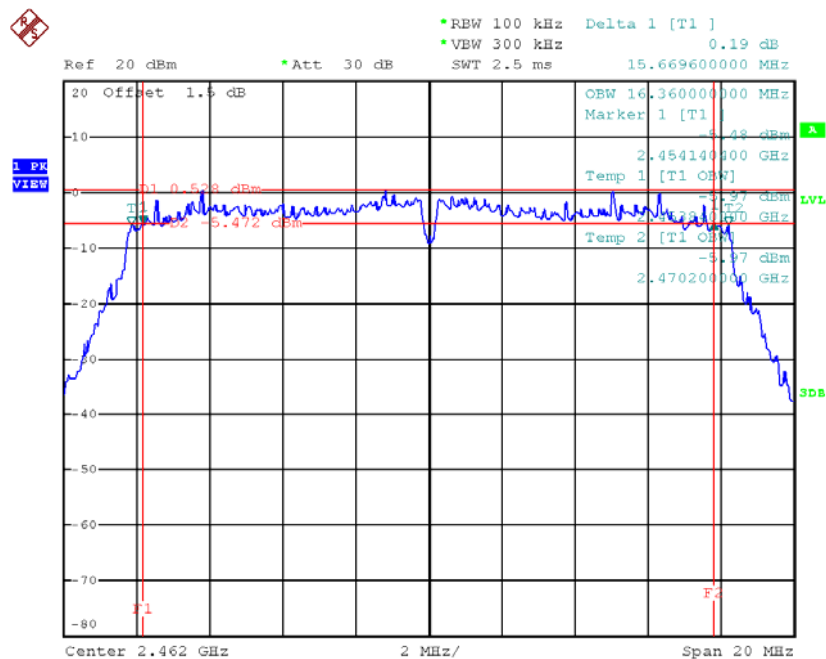
Date: 5.JUN.2015 18:04:04

TX CH06



Date: 5.JUN.2015 18:05:10

TX CH11

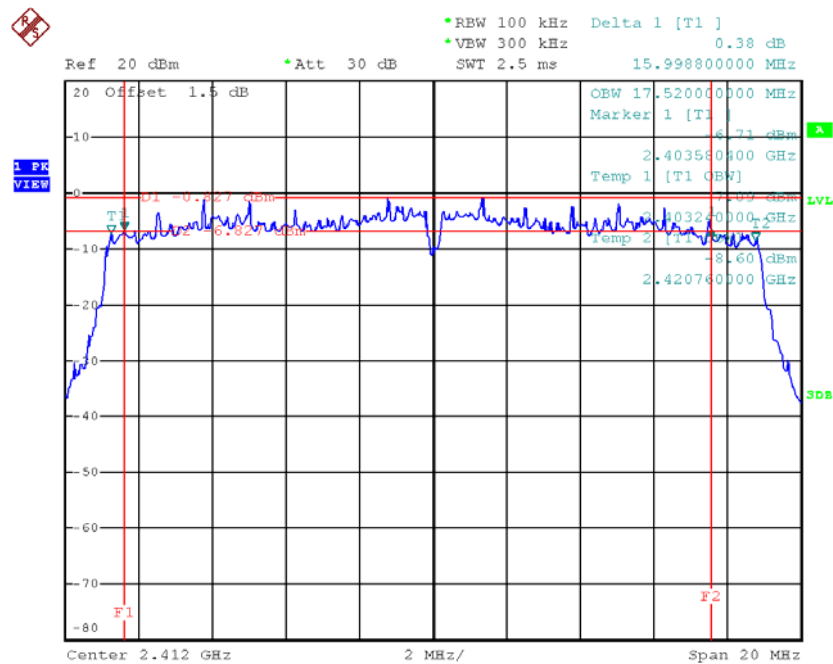


Date: 5.JUN.2015 18:06:24

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

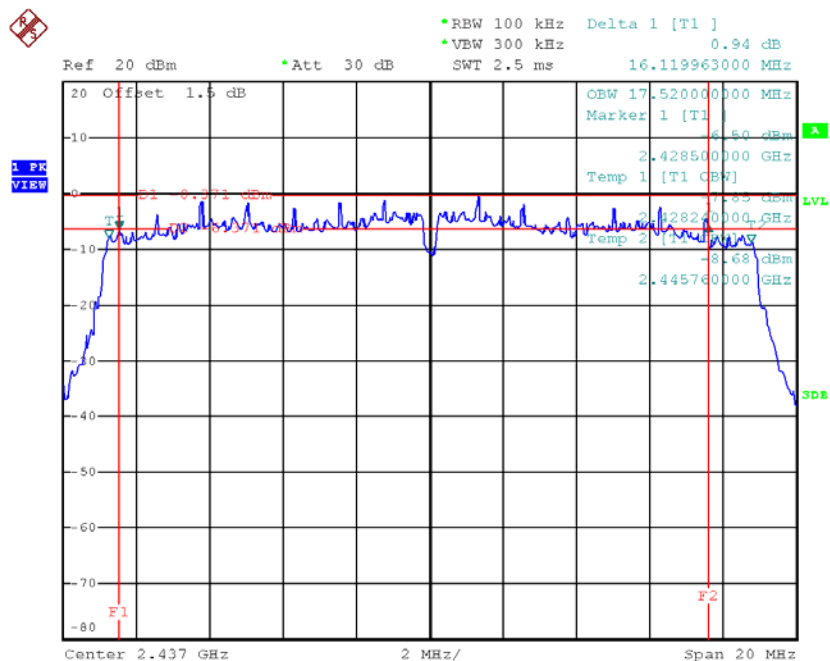
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.00	17.52	500	Complies
2437	16.12	17.52	500	Complies
2462	15.12	17.56	500	Complies

TX CH01



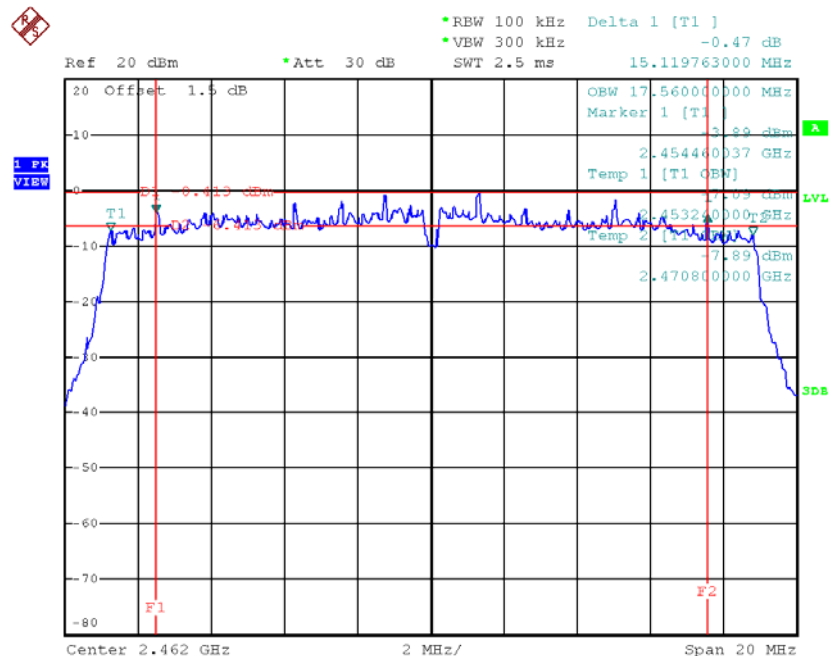
Date: 5.JUN.2015 18:08:39

TX CH06



Date: 5.JUN.2015 18:09:38

TX CH11



Date: 5.JUN.2015 18:10:57

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	14.55	0.03	30.00	1.00	Complies
2437	14.65	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	22.05	0.16	30.00	1.00	Complies
2437	22.77	0.19	30.00	1.00	Complies
2462	22.74	0.19	30.00	1.00	Complies

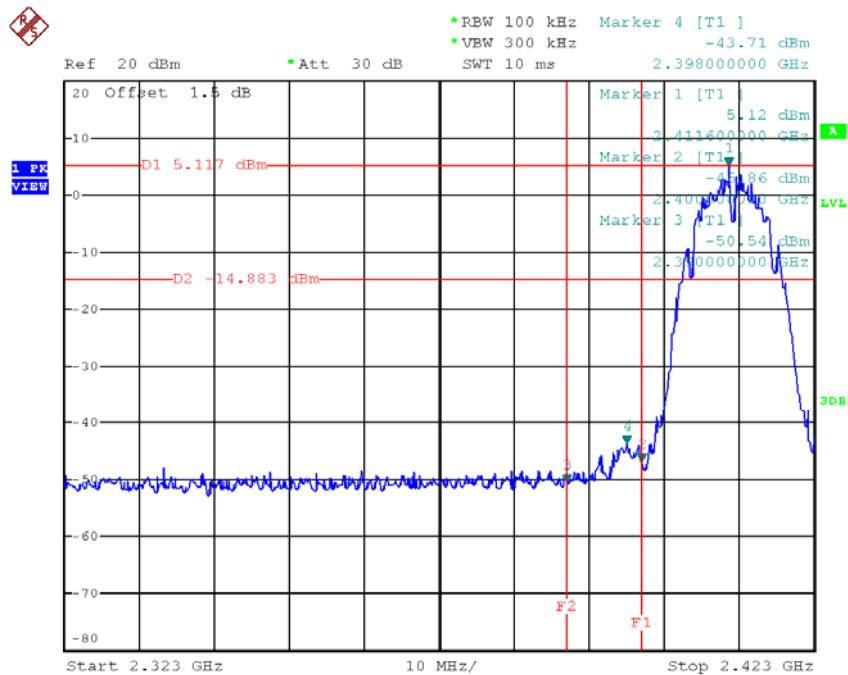
Test Mode :TX N20 Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.21	0.13	30.00	1.00	Complies
2437	20.49	0.11	30.00	1.00	Complies
2462	20.32	0.11	30.00	1.00	Complies

ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

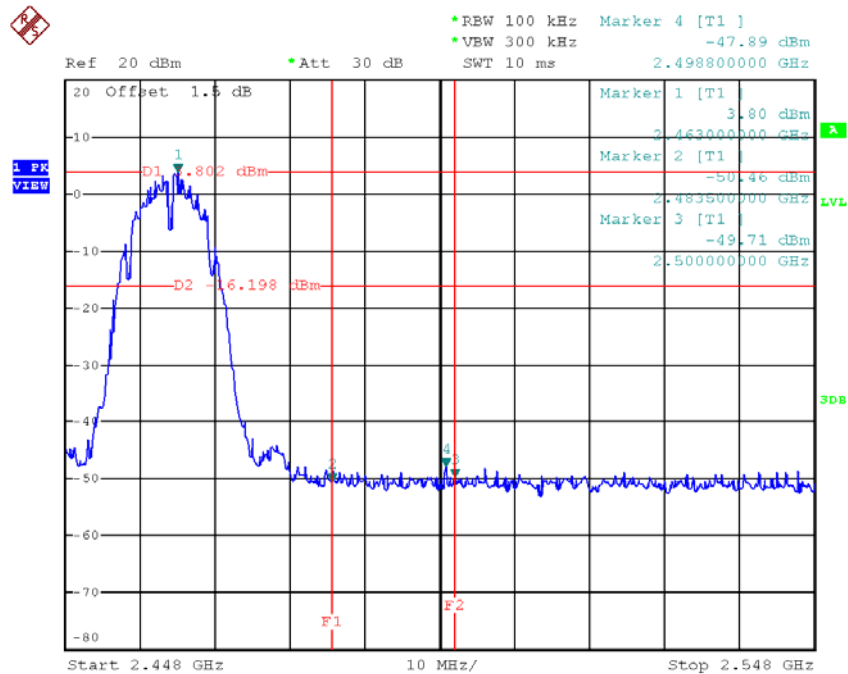
Test Mode :	TX B Mode
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TX B mode CH01



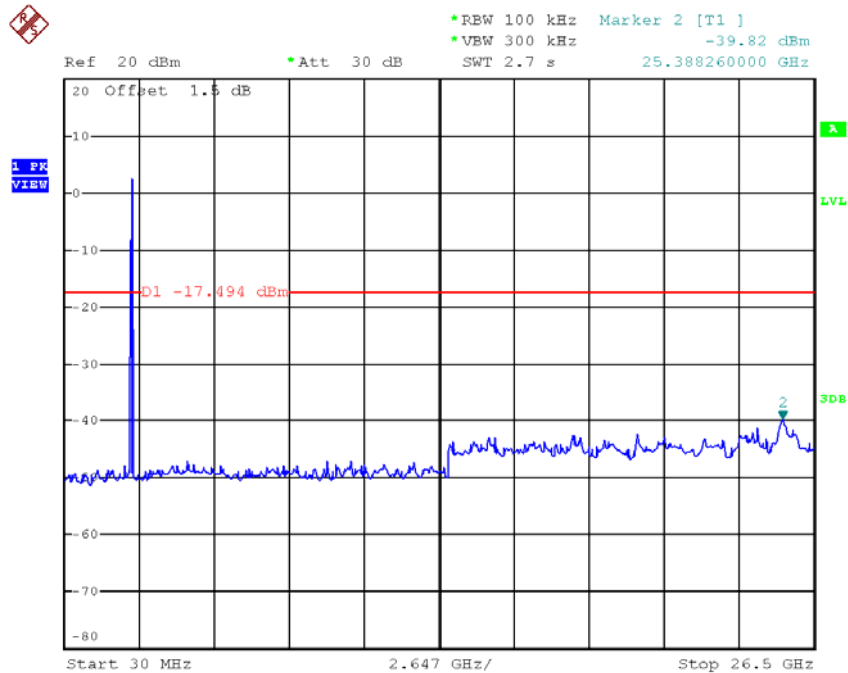
Date: 5.JUN.2015 17:57:35

TX B mode CH11



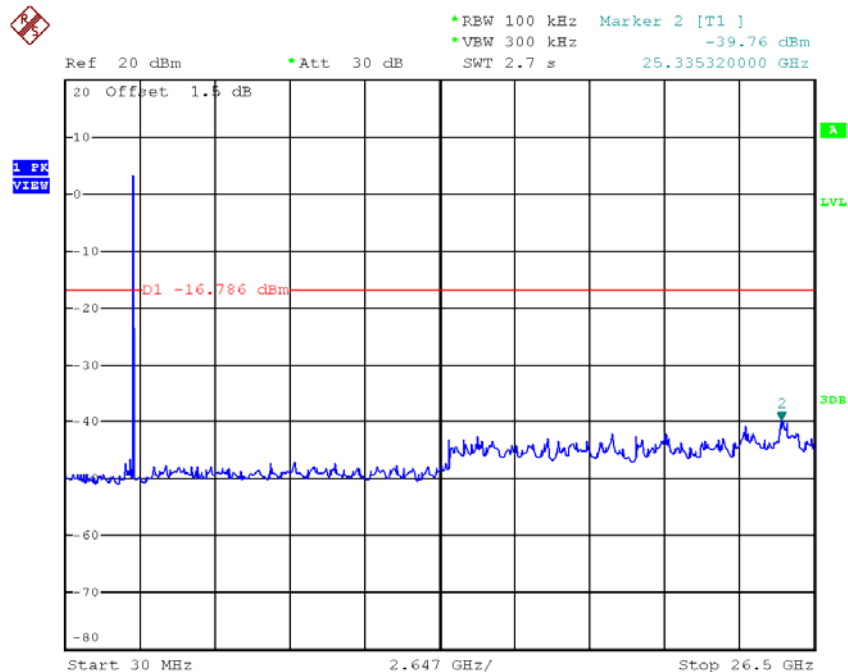
Date: 5.JUN.2015 18:01:05

TX B mode CH01 (10 Harmonic of the frequency)



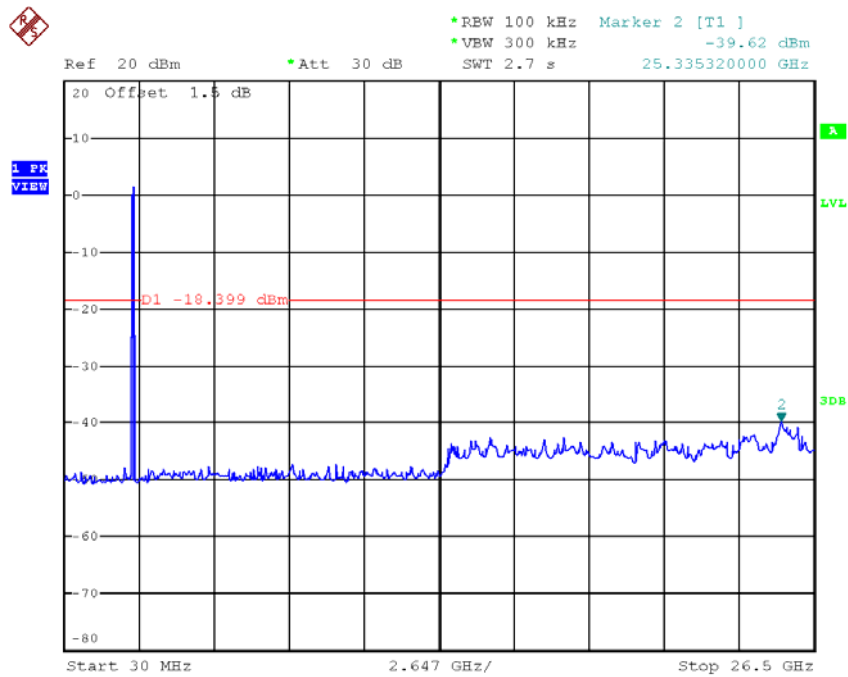
Date: 5.JUN.2015 17:57:28

TX B mode CH06 (10 Harmonic of the frequency)



Date: 5.JUN.2015 17:59:31

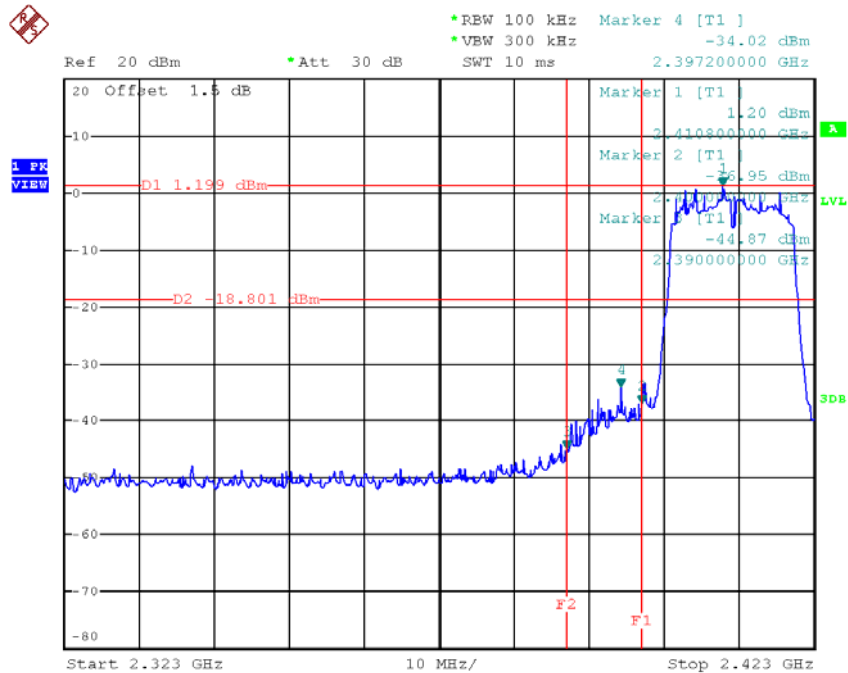
TX B mode CH11 (10 Harmonic of the frequency)



Date: 5.JUN.2015 18:00:41

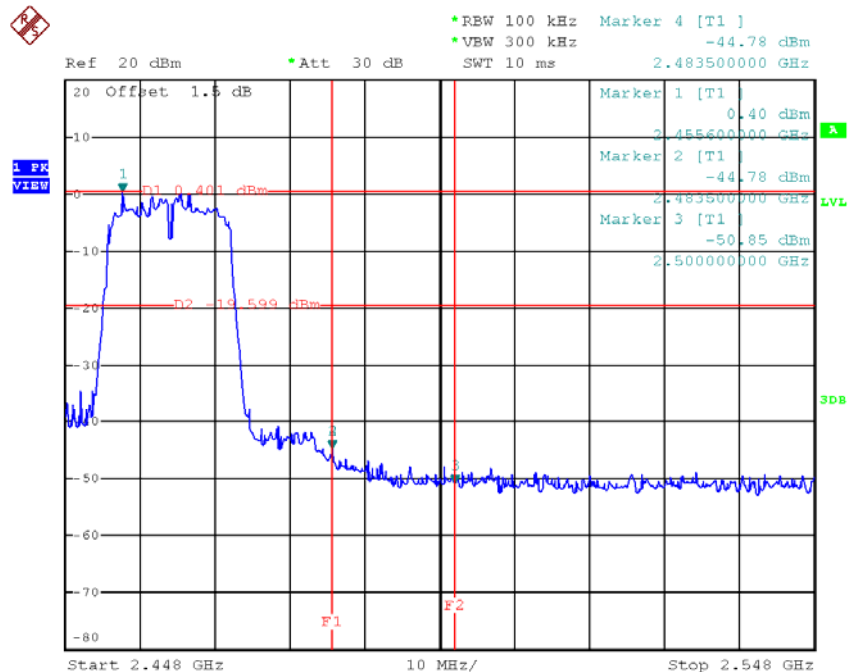
Test Mode :	TX G Mode
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TX G mode CH01



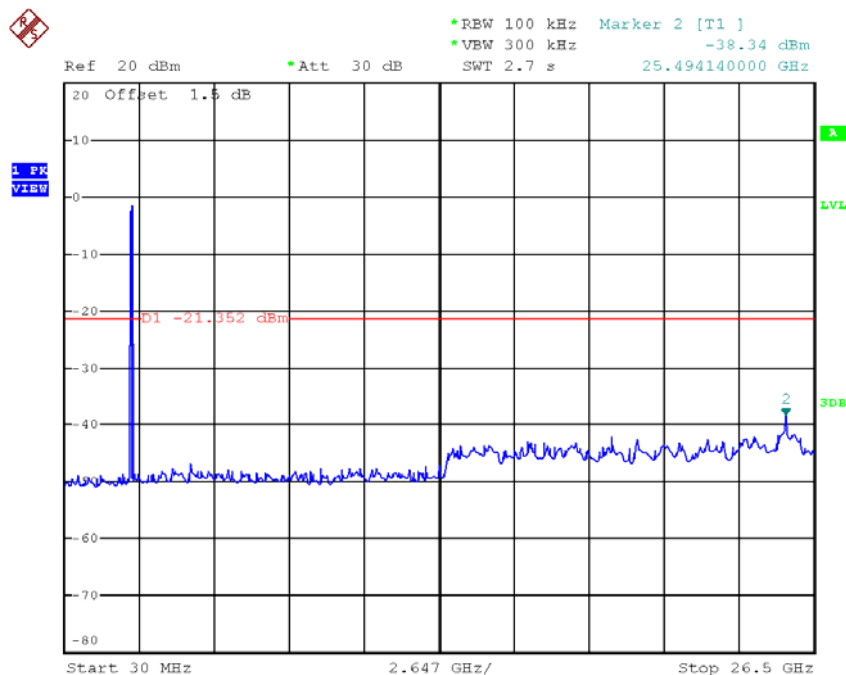
Date: 5.JUN.2015 18:04:25

TX G mode CH11



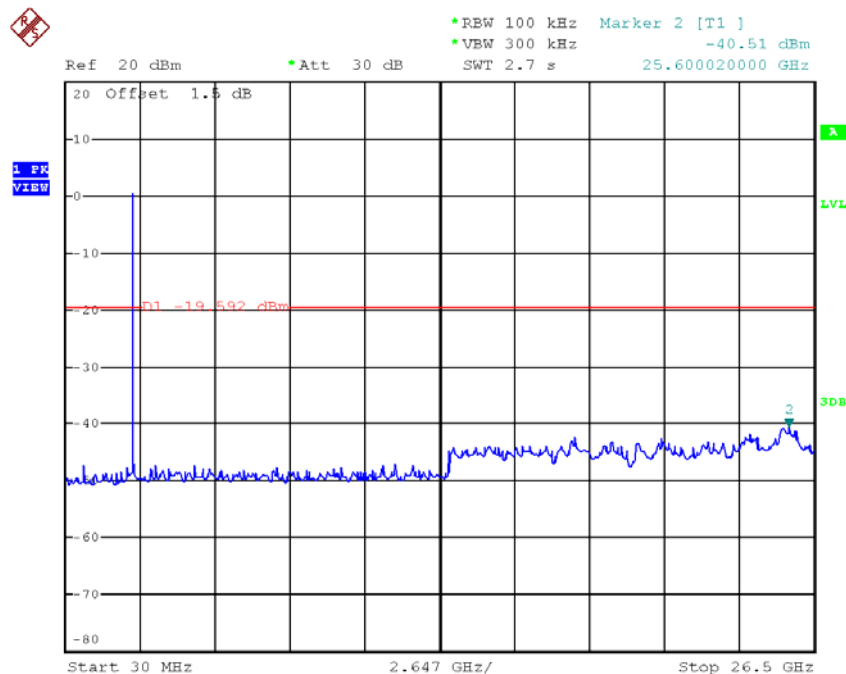
Date: 5.JUN.2015 18:06:43

TX G mode CH01 (10 Harmonic of the frequency)



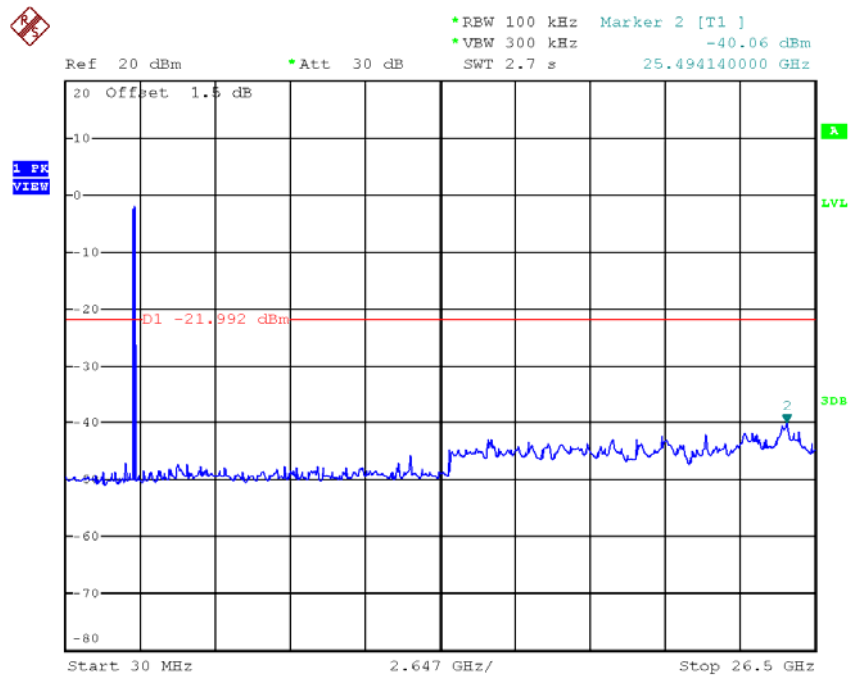
Date: 5.JUN.2015 18:04:18

TX G mode CH06 (10 Harmonic of the frequency)



Date: 5.JUN.2015 18:05:23

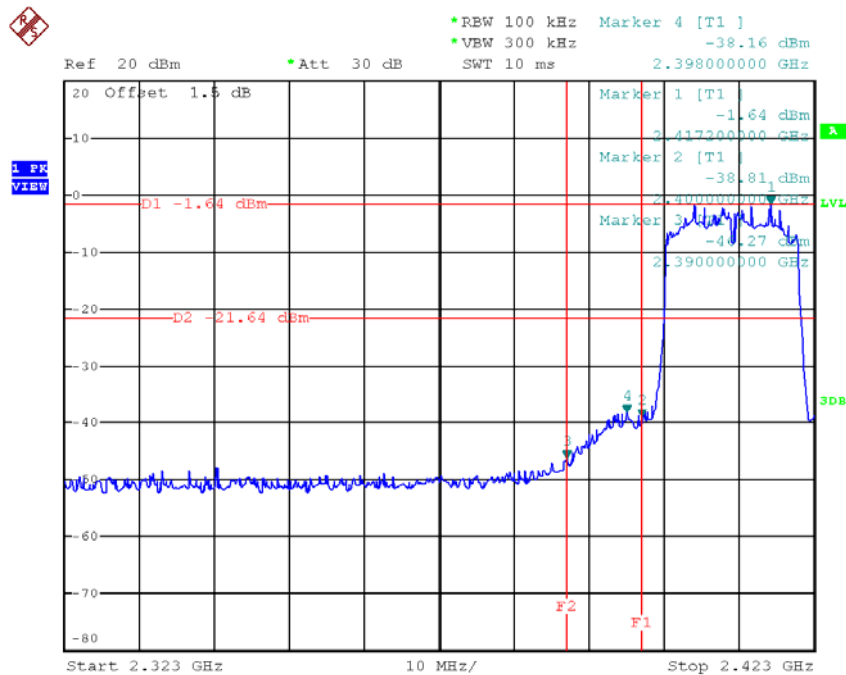
TX G mode CH11 (10 Harmonic of the frequency)



Date: 5.JUN.2015 18:06:36

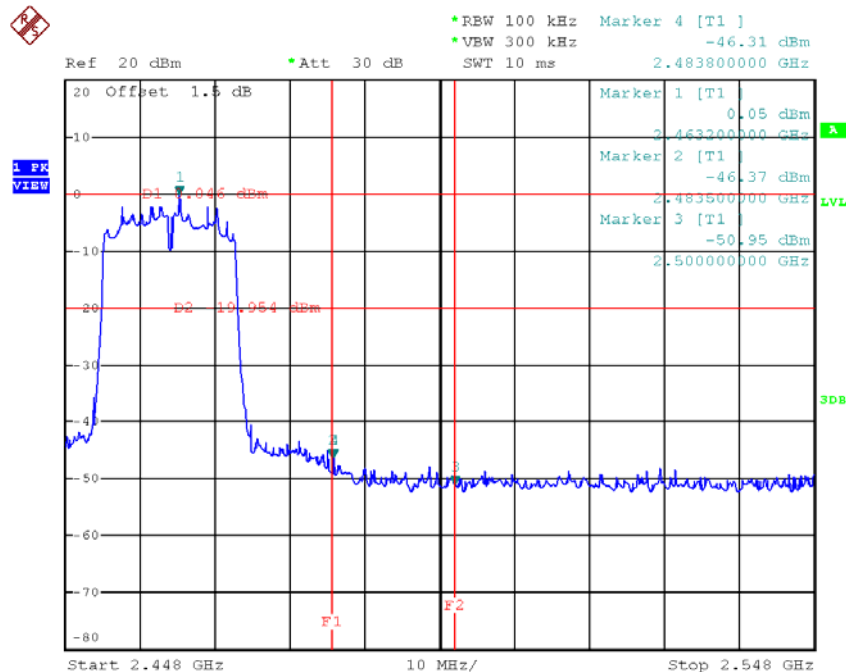
Test Mode :	TX N-20M Mode
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TX HT20 mode CH01



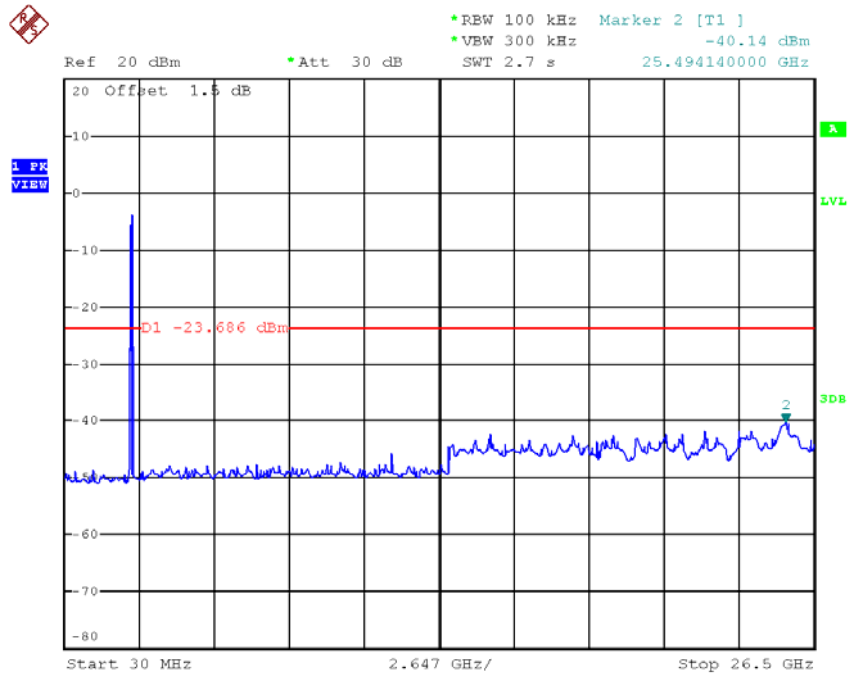
Date: 5.JUN.2015 18:08:59

TX HT20 mode CH11



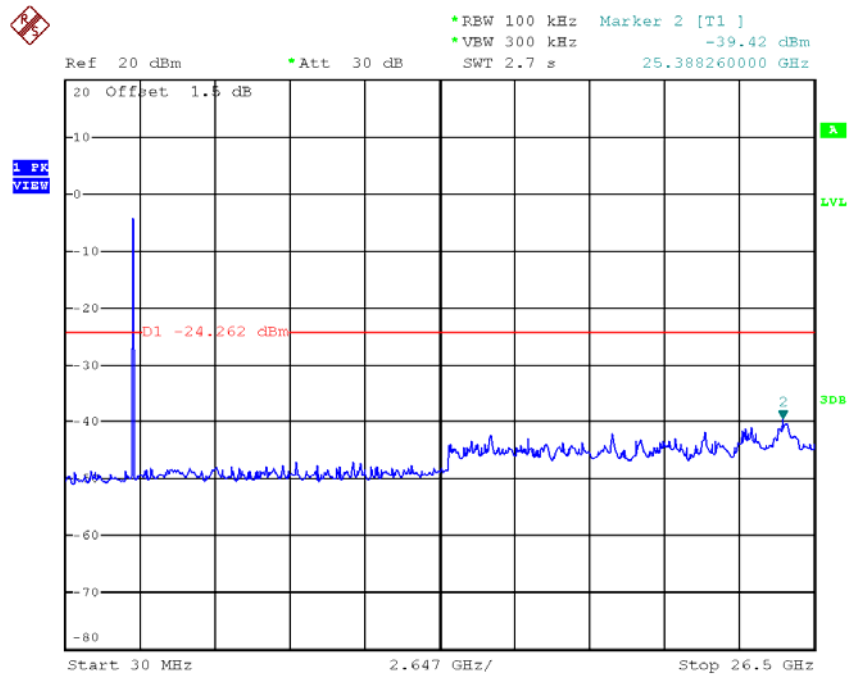
Date: 5.JUN.2015 18:11:34

TX HT20 mode CH01 (10 Harmonic of the frequency)



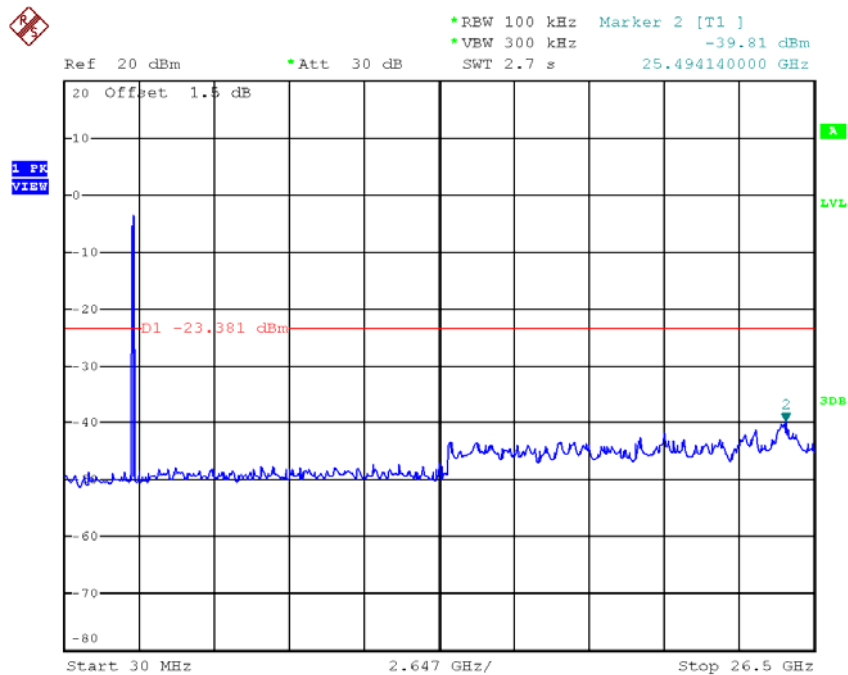
Date: 5.JUN.2015 18:08:52

TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 5.JUN.2015 18:09:50

TX HT20 mode CH11 (10 Harmonic of the frequency)



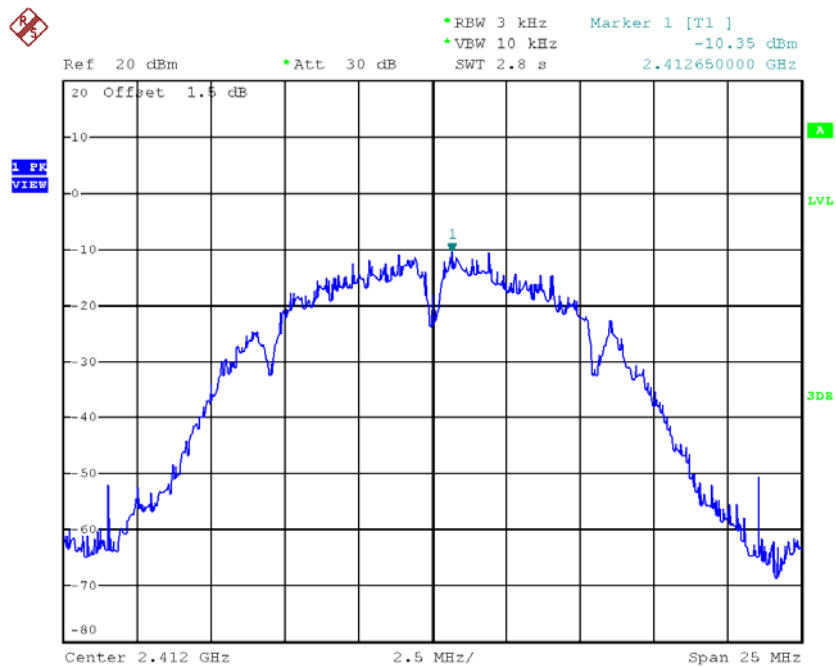
Date: 5.JUN.2015 18:11:10

ATTACHMENT H - POWER SPECTRAL DENSITY

Test Mode :TX B Mode_CH01/06/11

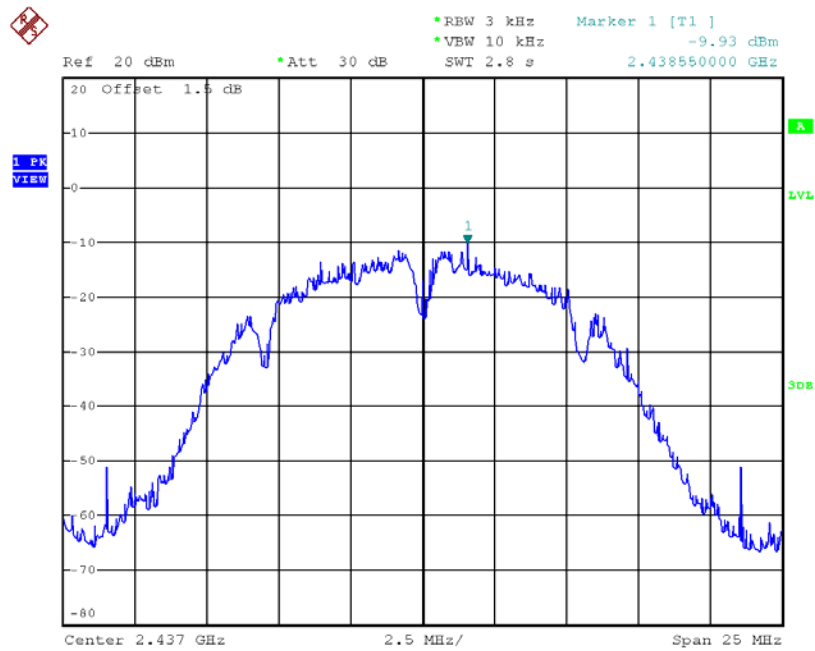
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.35	0.09	8.00	Complies
2437	-9.93	0.10	8.00	Complies
2462	-10.09	0.10	8.00	Complies

TX CH01



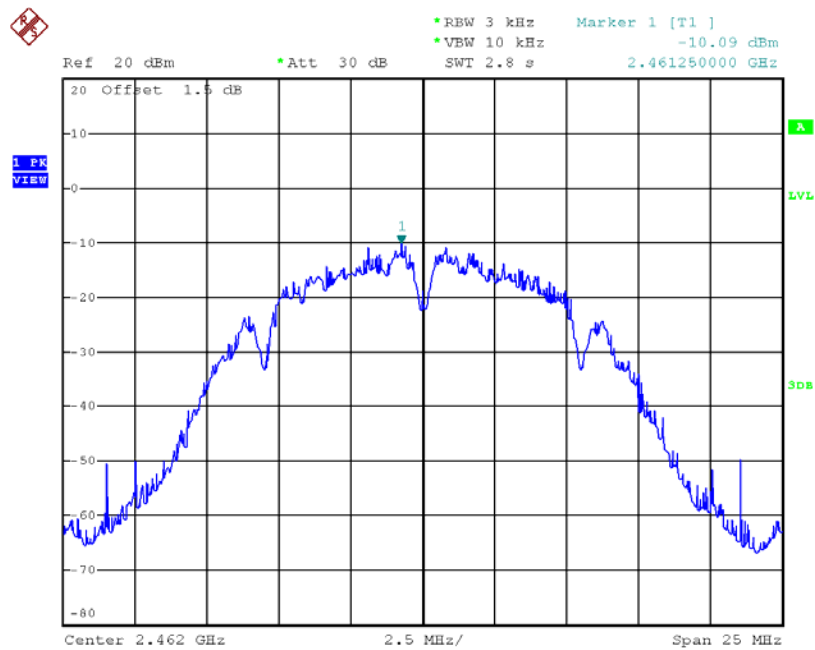
Date: 5.JUN.2015 17:57:43

TX CH06



Date: 5.JUN.2015 17:59:40

TX CH11

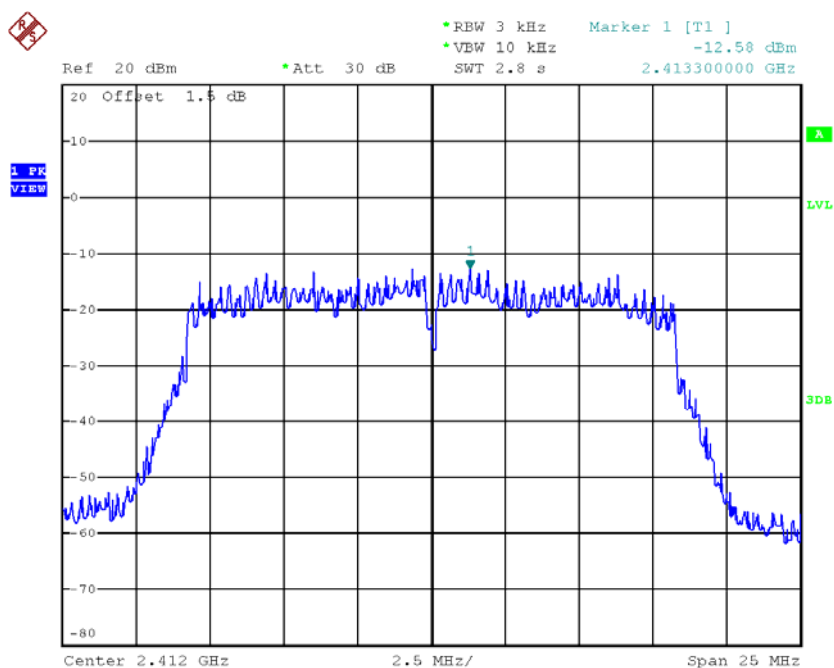


Date: 5.JUN.2015 18:01:14

Test Mode :TX G Mode_CH01/06/11

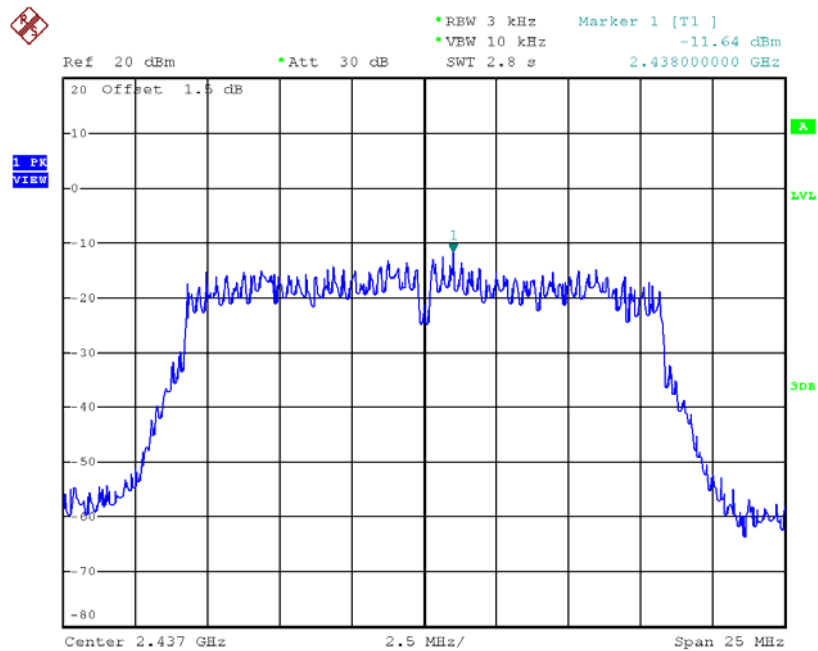
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.58	0.06	8.00	Complies
2437	-11.64	0.07	8.00	Complies
2462	-12.82	0.05	8.00	Complies

TX CH01



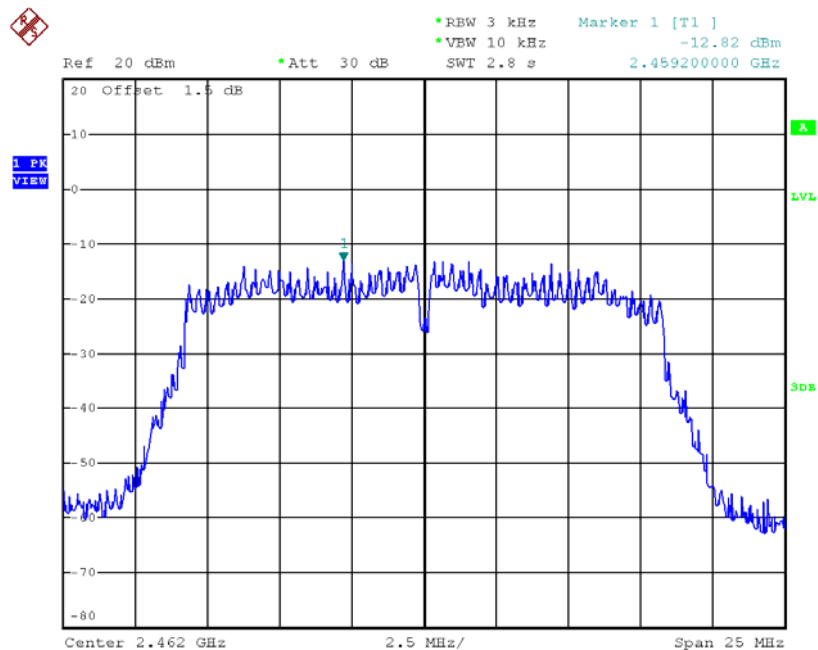
Date: 5.JUN.2015 18:04:33

TX CH06



Date: 5.JUN.2015 18:05:31

TX CH11

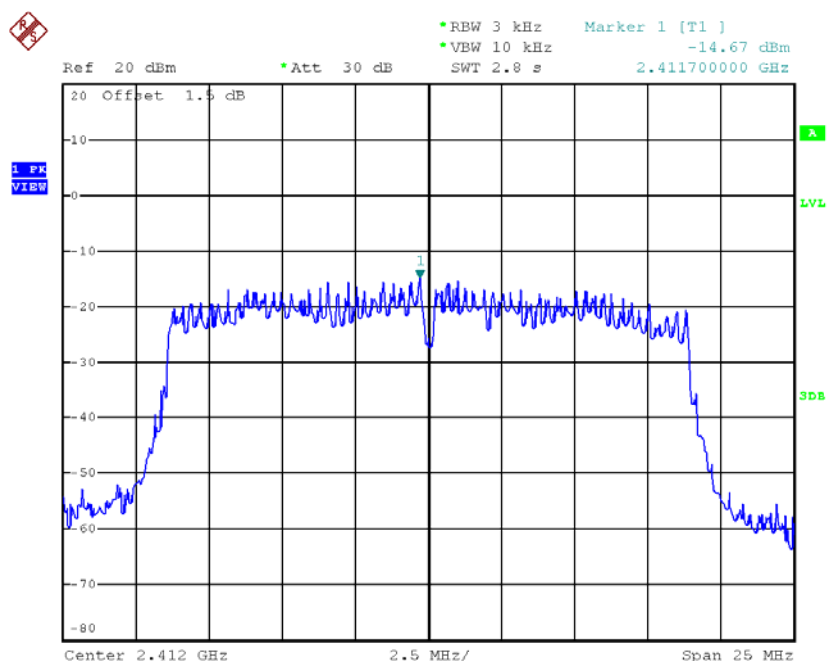


Date: 5.JUN.2015 18:06:52

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

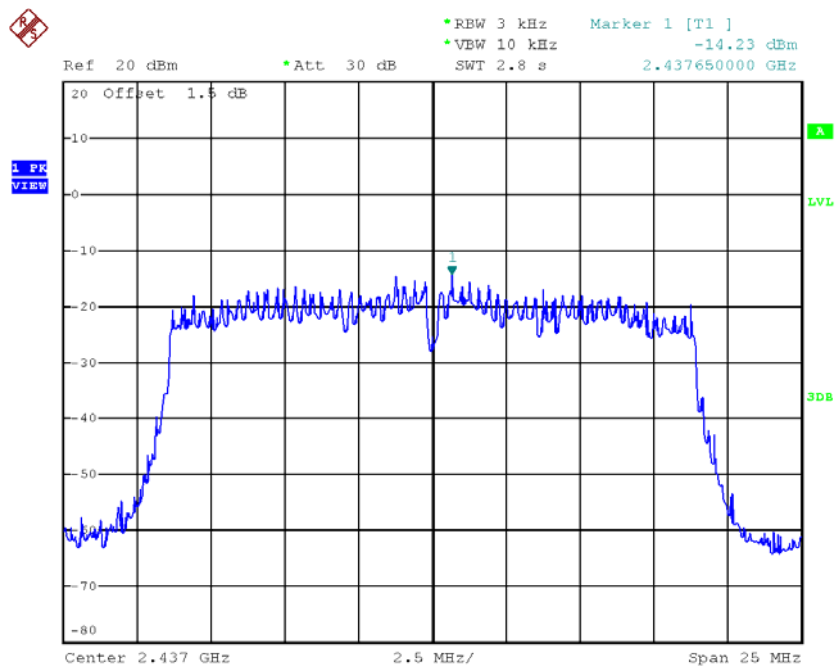
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-14.67	0.03	8.00	Complies
2437	-14.23	0.04	8.00	Complies
2462	-14.97	0.03	8.00	Complies

TX CH01



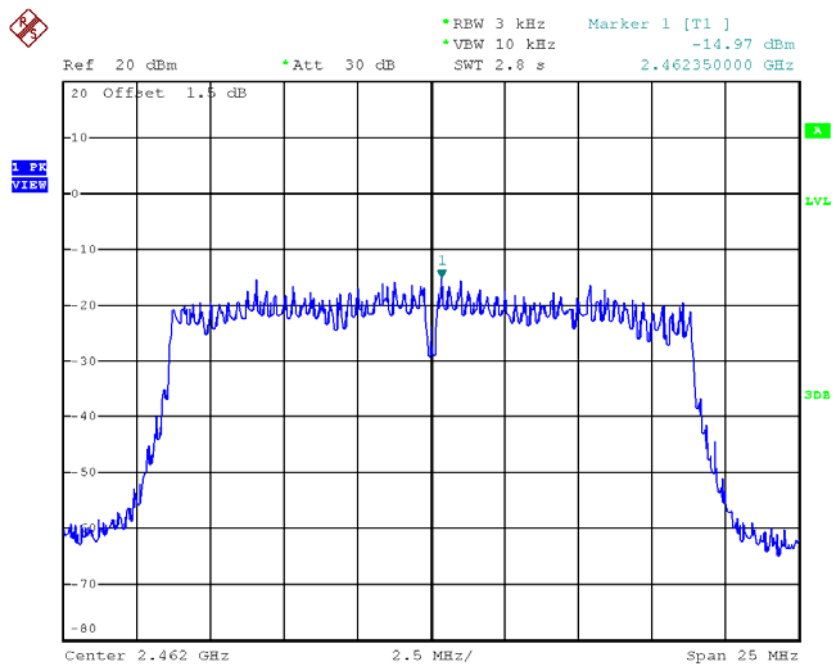
Date: 5.JUN.2015 18:09:08

TX CH06



Date: 5.JUN.2015 18:09:59

TX CH11



Date: 5.JUN.2015 18:11:43