

FCC Radio Test Report

FCC ID: M82-FWA1012VC

This report concerns: Original Grant

Project No. : 1807T071
Equipment : Network Security Platform
Test Model : FWA-1012VC
Series Model : FWA-1012VCXXXXXXXXXXXXXXXXXXXX (where X may be any alphanumeric character, blank or "-".)
Applicant : Advantech Co., Ltd.
Address : No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491, Taiwan, R.O.C.

Date of Receipt : Aug. 02, 2018
Date of Test : Aug. 02, 2018 ~ Sep. 04, 2018
Issued Date : Sep. 05, 2018
Tested by : BTL Inc.

Testing Engineer : Kay Wu
(Kay Wu)

Technical Manager : James Chiu
(James Chiu)

Authorized Signatory : Andy Chiu
(Andy Chiu)

B T L I N C .

No.18, Ln. 171, Sec. 2, Jiuzong Rd.,
Neihu Dist., Taipei City 114, Taiwan (R.O.C.)
TEL: +886-2-2657-3299 FAX: +886-2-2657-3331



Declaration

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

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

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

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

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

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

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

Limitation

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

CONTENTS

REPORT ISSUED HISTORY	5
1 CERTIFICATION	6
2 SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3 GENERAL INFORMATION	10
3.1 DESCRIPTION OF EUT	10
3.2 TEST MODES	12
3.3 PARAMETERS OF TEST SOFTWARE	13
3.4 DUTY CYCLE	14
3.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	15
3.6 SUPPORT UNITS	15
4 AC POWER LINE CONDUCTED EMISSIONS TEST	16
4.1 LIMIT	16
4.2 TEST PROCEDURE	16
4.3 DEVIATION FROM TEST STANDARD	16
4.4 TEST SETUP	17
4.5 EUT OPERATING CONDITIONS	17
4.6 TEST RESULT	17
5 RADIATED EMISSIONS TEST	18
5.1 LIMIT	18
5.2 TEST PROCEDURE	19
5.3 DEVIATION FROM TEST STANDARD	19
5.4 TEST SETUP	20
5.5 EUT OPERATING CONDITIONS	21
5.6 TEST RESULT – 9 KHZ TO 30 MHZ	21
5.7 TEST RESULT – 30MHZ TO 1000 MHZ	21
5.8 TEST RESULT – ABOVE 1000 MHZ	22
6 BANDWIDTH TEST	23
6.1 LIMIT	23
6.2 TEST PROCEDURE	23
6.3 DEVIATION FROM TEST STANDARD	23
6.4 TEST SETUP	23
6.5 EUT OPERATING CONDITIONS	23
6.6 TEST RESULT	23
7 PEAK OUTPUT POWER TEST	24
7.1 LIMIT	24
7.2 TEST PROCEDURE	24
7.3 DEVIATION FROM TEST STANDARD	24
7.4 TEST SETUP	24
7.5 EUT OPERATING CONDITIONS	24

7.6	TEST RESULT	24
8	ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST	25
8.1	LIMIT	25
8.2	TEST PROCEDURE	25
8.3	DEVIATION FROM TEST STANDARD	25
8.4	TEST SETUP	25
8.5	EUT OPERATING CONDITIONS	25
8.6	TEST RESULT	25
9	POWER SPECTRAL DENSITY	26
9.1	LIMIT	26
9.2	TEST PROCEDURE	26
9.3	DEVIATION FROM TEST STANDARD	26
9.4	TEST SETUP	26
9.5	EUT OPERATING CONDITIONS	26
9.6	TEST RESULT	26
10	LIST OF MEASURING EQUIPMENTS	27
11	EUT TEST PHOTO	29
APPENDIX A	AC POWER LINE CONDUCTED EMISSIONS	33
APPENDIX B	RADIATED EMISSIONS - 9 KHZ TO 30 MHZ	36
APPENDIX C	RADIATED EMISSIONS - 30 MHZ TO 1000 MHZ	41
APPENDIX D	RADIATED EMISSIONS - ABOVE 1000 MHZ	44
APPENDIX E	BANDWIDTH	93
APPENDIX F	PEAK OUTPUT POWER	98
APPENDIX G	ANTENNA CONDUCTED SPURIOUS EMISSIONS	107
APPENDIX H	POWER SPECTRAL DENSITY	116

REPORT ISSUED HISTORY

Issue No.	Description	Issued Date
BTL-FCCP-1-1807T071	Original Issue.	Sep. 05, 2018

1 CERTIFICATION

Equipment : Network Security Platform
Brand Name : ADVANTECH
Test Model : FWA-1012VC
Series Model : FWA-1012VCXXXXXXXXXXXXXXXXXX (where X may be any alphanumeric character , blank or "-".)
Applicant : Advantech Co., Ltd.
Manufacturer : Advantech Co., Ltd.
Address : No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491, Taiwan, R.O.C.
Date of Test : Aug. 02, 2018 ~ Sep. 04, 2018
Test Sample : Production Unit
Standard(s) : FCC Part15, Subpart C (§15.247)
ANSI C63.10-2013

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1807T071) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

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

2 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC Part15, Subpart C (§15.247)				
FCC Clause No	Description	Test Result	Judgement	Remark
§15.207	AC Power Line Conducted Emissions	APPENDIX A	Pass	-----
§15.205 §15.209 §15.247(d)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	Pass	-----
§15.247(a)	Bandwidth	APPENDIX E	Pass	-----
§15.247(b)	Peak Output Power	APPENDIX F	Pass	-----
§15.247(d)	Antenna Conducted Spurious Emissions	APPENDIX G	Pass	-----
§15.247(e)	Power Spectral Density	APPENDIX H	Pass	-----
§15.203	Antenna Requirement	-----	Pass	-----

NOTE:

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

2.1 TEST FACILITY

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

CB05: (FCC RN:674415; FCC DN:TW0659)

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

CB15: (VCCI RN: R-20020; FCC RN:674415; FCC DN:TW0659; ISED Assigned Code:20088-5)

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

2.2 MEASUREMENT UNCERTAINTY

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

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

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U (dB)
C05	CISPR	150 kHz ~ 30MHz	2.68	C05

B. Radiated emissions below 1 GHz test:

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

C. Radiated emissions above 1 GHz test:

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

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

D. Conducted tests:

Item	Method	U
Bandwidth	ANSI	3.8 %
Output Power	ANSI	0.95 dB
Power Spectral Density	ANSI	0.86 dB
Conducted Spurious Emissions	ANSI	2.71 dB

NOTE:

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

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

3 GENERAL INFORMATION

3.1 DESCRIPTION OF EUT

Equipment	Network Security Platform
Brand Name	ADVANTECH
Test Model	FWA-1012VC
Series Model	FWA-1012VCXXXXXXXXXXXXXXXXXX (where X may be any alphanumeric character , blank or "-".)
Model Difference	Different model distribute to different area.
Power Source	DC Voltage supplied from AC/DC adapter.
Power Rating	I/P: 100-240V~, 1.5A, 50-60Hz O/P: 12.0V 5.0A MAX
Operation Frequency	2412 MHz to 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps
Maximum Output Power (Conducted)	IEEE 802.11b: 25.50 dBm (0.3550 W) IEEE 802.11g: 24.63 dBm (0.2901 W) IEEE 802.11n (HT20): 23.61 dBm (0.2295 W) IEEE 802.11n (HT40): 23.62 dBm (0.2302 W)
Maximum Output Power (Average)	IEEE 802.11b: 22.83 dBm (0.1920 W) IEEE 802.11g: 18.60 dBm (0.0724 W) IEEE 802.11n (HT20): 17.42 dBm (0.0552 W) IEEE 802.11n (HT40): 17.42 dBm (0.0552 W)
Product Covered	1 * CPU: Intel/C3858 2.00GHz 1 * MB: NAMB-1012VCMB 2 * Memory: DDR4 2400 16GB 1 * HDD: SEAGATE/ST1000LM035 (1TB) 1 * SSD: LITE-ON/CV1-8B64 (64GB) 1 * Adapter: FSP/FSP060-DIBAN2 1 * Wifi module: Senao/PCE4302AN 1 * LTE module: Sierra/EM7455

NOTE:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

(2) Channel List:

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

(3) Table for Filed Antenna:

Ant.	Brand	Model	Type	Connector	Gain (dBi)
1	Walsin	RFDPA131000SBLB808	Dipole	SMA	2.93
2	Invax	AN2450-92K02BRS	Dipole	SMA	2.86

NOTE:

- (a) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R). 2.4 GHz and 5GHz can't transmit simultaneously.
- (b) For Power Spectral Density (CDD mode)
 $\text{Directional Gain} = 10\log [(10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20})^2 / N_{\text{ANT}}] = 5.91 \text{ dBi}$.
 The Direction gain is less than 6 dBi, so conducted power limits will not be reduced.
- (c) For Conducted Output Power (CDD mode)
 For $N_{\text{ANT}} = 2 < 5$,
 $\text{Direction gain} = G_{\text{ANT}} + 0 = 2.93 + 0 = 2.93 \text{ dBi}$.
 The Direction gain is less than 6 dBi, so conducted power limits will not be reduced.

Operating Mode / TX Mode	2TX
802.11b	V (ANT 1+ANT 2)
802.11g	V (ANT 1+ANT 2)
802.11n (HT20)	V (ANT 1+ANT 2)
802.11n (HT40)	V (ANT 1+ANT 2)

3.2 TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
1	TX B MODE CHANNEL 01/06/11
2	TX G MODE CHANNEL 01/06/11
3	TX N (HT20) MODE CHANNEL 01/06/11
4	TX N (HT40) MODE CHANNEL 03/06/09

Following mode(s) as (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test	
Test Mode	Description
2	TX G MODE CHANNEL 01

Radiated emissions test	
Test Mode	Description
1	TX B MODE CHANNEL 01/06/11
2	TX G MODE CHANNEL 01/06/11
3	TX N (HT20) MODE CHANNEL 01/06/11
4	TX N (HT40) MODE CHANNEL 03/06/09

Conducted test	
Test Mode	Description
1	TX B MODE CHANNEL 01/06/11
2	TX G MODE CHANNEL 01/06/11
3	TX N (HT20) MODE CHANNEL 01/06/11
4	TX N (HT40) MODE CHANNEL 03/06/09

NOTE:

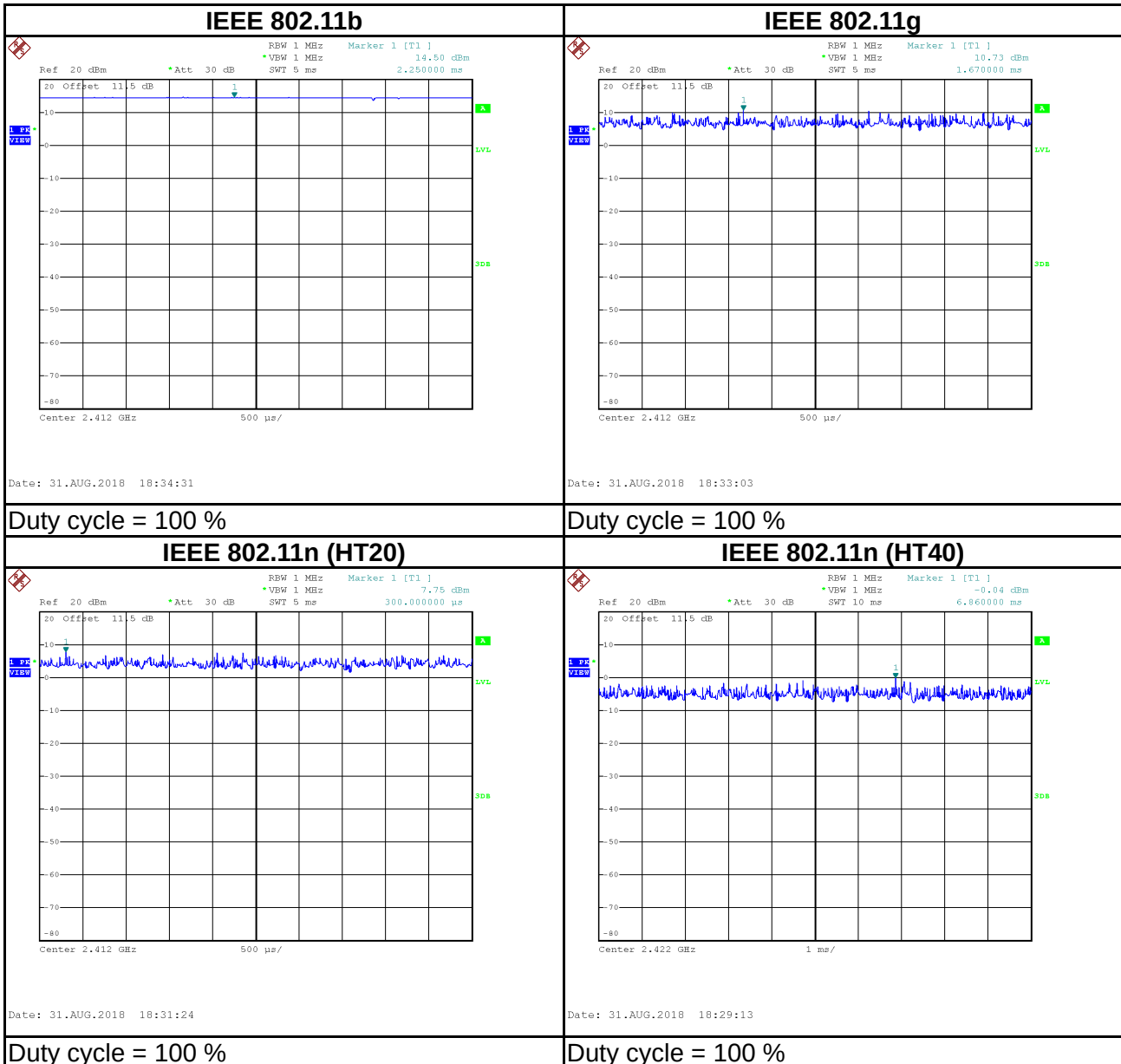
- (1) The measurements are performed at the low, middle and high available channels.
- (2) For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11g was found to be the worst case and recorded.

3.3 PARAMETERS OF TEST SOFTWARE

Test Software	ART2-GUI(2.3)			
Mode	2412 MHz	2437 MHz	2462 MHz	Data Rate
IEEE 802.11b	21	20	18	1 Mbps
IEEE 802.11g	16.5	16	14	6 Mbps
IEEE 802.11n (HT20)	14.5	15	12.5	MCS 0
Mode	2422 MHz	2437 MHz	2452 MHz	Data Rate
IEEE 802.11n (HT40)	15	8.5	15	MCS 0

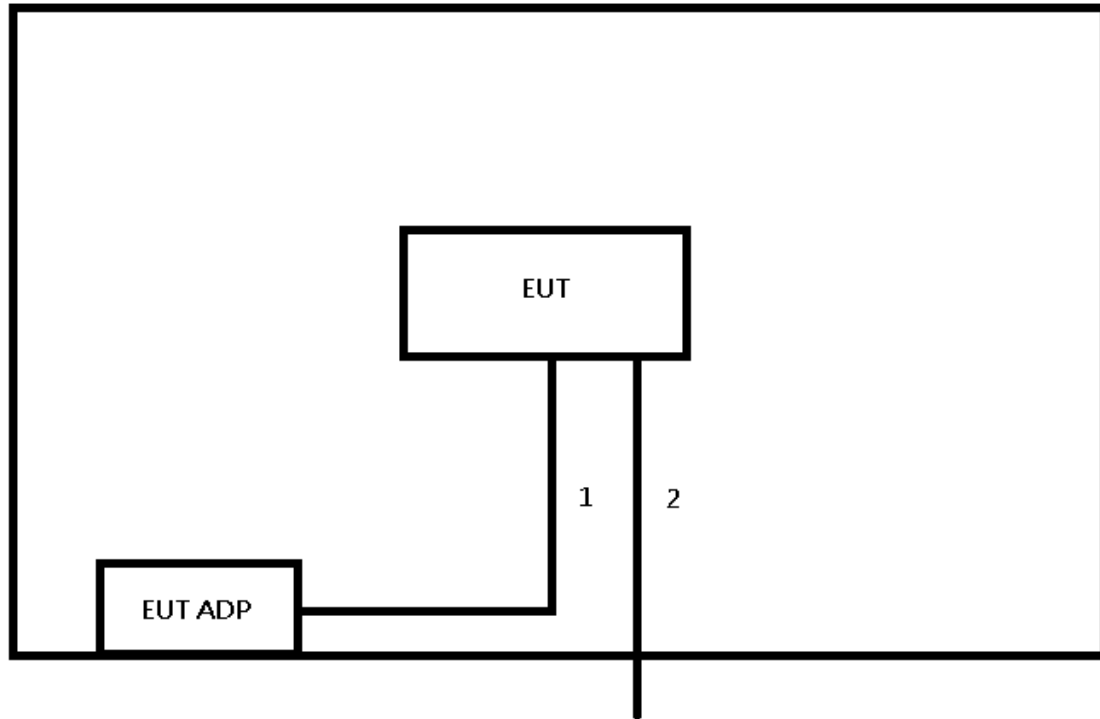
3.4 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.
If duty cycle is $< 98\%$, duty factor shall be considered.



3.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 3.6.



3.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
-	-	-	-	-	-

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	YES	NO	1.5 m	Power Cable	Furnished at test lab
2	NO	NO	3.0 m	LAN Cable	Furnished at test lab

4 AC POWER LINE CONDUCTED EMISSIONS TEST

4.1 LIMIT

Frequency (MHz)	Class A (dBμV)		Class B (dBμV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56 *	56 - 46 *
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) 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 Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

4.2 TEST PROCEDURE

- a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).
 All other support equipment were powered from an additional LISN(s).
 The LISN provides 50 Ohm/50uH of 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 to keep the cable above 40 cm.
- c. Excess I/O cables that are not connected to a peripheral shall be bundled in the center.
 The end of the cable will be terminated, using the correct terminating impedance.
 The overall length shall not exceed 1 m.
- d. The LISN is spaced at least 80 cm from the nearest part of the EUT chassis.
- e. For the actual test configuration, please refer to the related Item - EUT Test Photos.

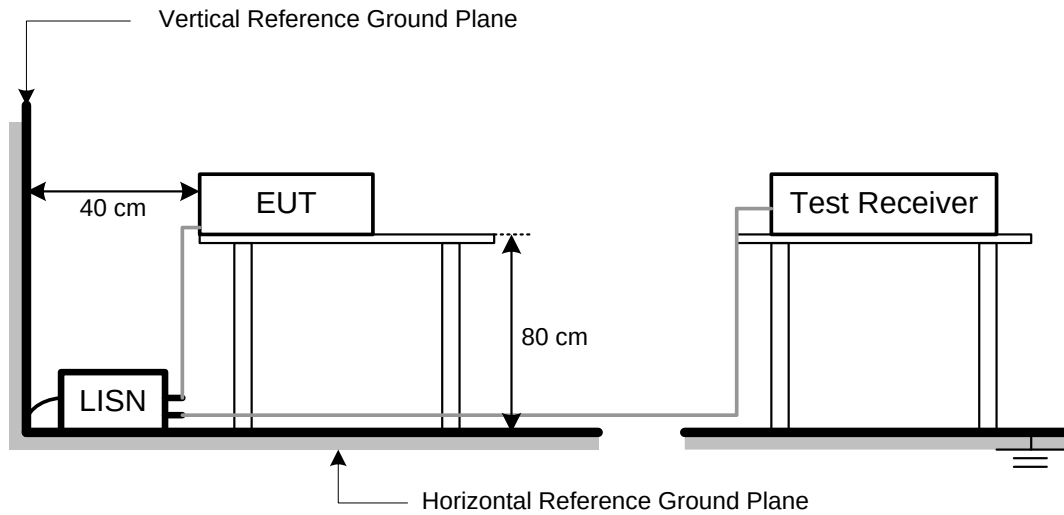
NOTE:

- (1) In the results, each reading is marked as Peak, QP or AVG per the detector used.
 BW=9 kHz (6 dB Bandwidth)
- (2) All readings are Peak unless otherwise stated QP or AVG in column of Note. Both the QP and the AVG readings must be less than the limit for compliance.

4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in normal link mode.

4.6 TEST RESULT

Temperature: 25 °C Relative Humidity: 45 % Test Voltage: AC 120V/50Hz

Please refer to the APPENDIX A.

5 RADIATED EMISSIONS TEST

5.1 LIMIT

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

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

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 EMISSIONS MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Radiated Emissions (dBuV/m)		Measurement Distance (meters)
	Peak	Average	
Above 1000	74	54	3

NOTE:

- (1) The limit for radiated test was performed according to FCC Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
 Margin Level = Measurement Value - Limit Value

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

Spectrum 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

5.2 TEST PROCEDURE

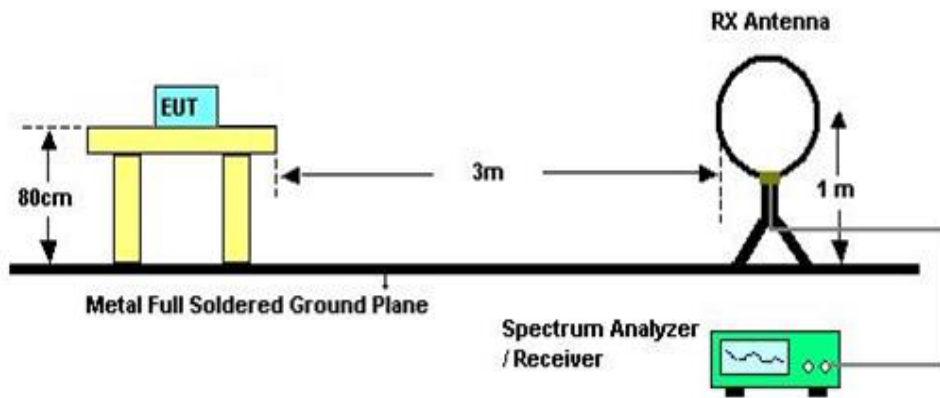
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 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.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.3 DEVIATION FROM TEST STANDARD

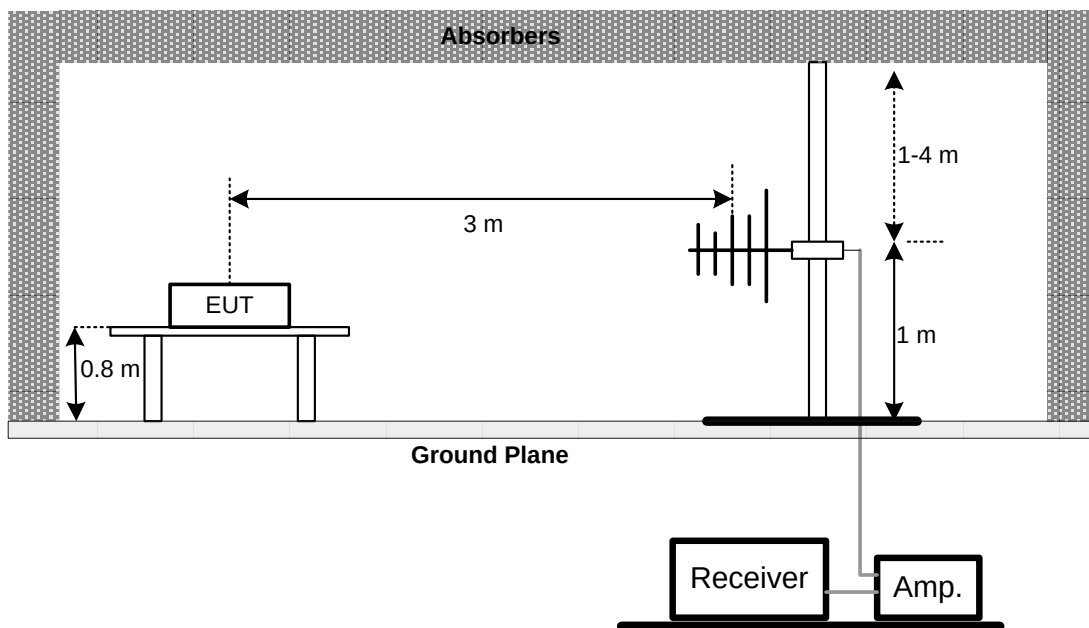
No deviation.

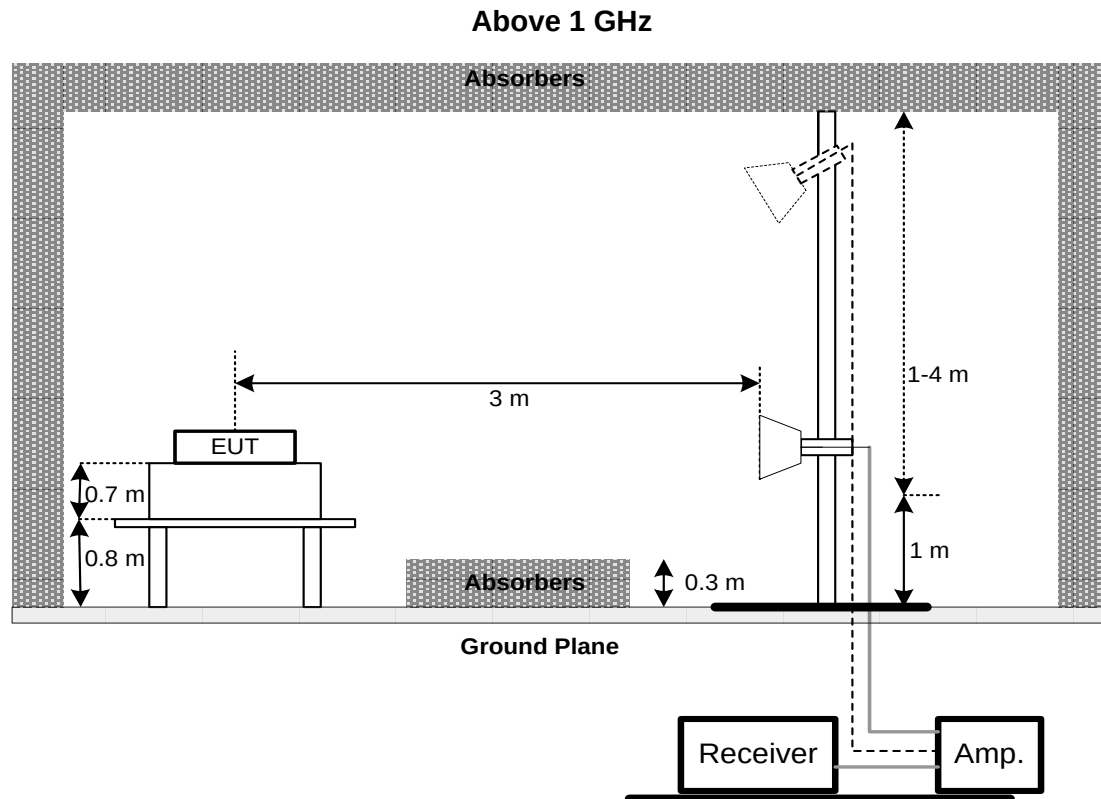
5.4 TEST SETUP

Below 30 MHz



30 MHz to 1 GHz





5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULT – 9 KHZ TO 30 MHZ

Temperature: 23 °C Relative Humidity: 70 % Test Voltage: AC 120V/50Hz

Please refer to the APPENDIX B.

NOTE:

- (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.

5.7 TEST RESULT – 30MHZ TO 1000 MHZ

Temperature: 23 °C Relative Humidity: 70 % Test Voltage: AC 120V/50Hz

Please refer to the APPENDIX C.

5.8 TEST RESULT – ABOVE 1000 MHZ

Temperature: 23 °C Relative Humidity: 70 % Test Voltage: AC 120V/50Hz

Please refer to the APPENDIX D.

NOTE:

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

6 BANDWIDTH TEST

6.1 LIMIT

FCC Part15, Subpart C (§15.247)		
Section	Test Item	Limit
§15.247(a)	6 dB Bandwidth	500 kHz

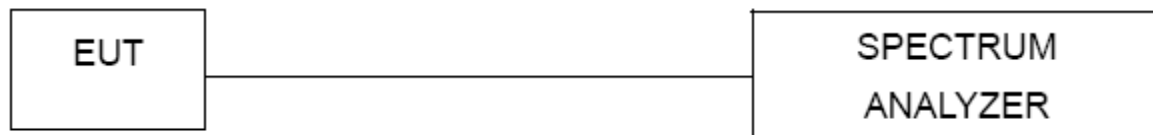
6.2 TEST PROCEDURE

- 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.

6.3 DEVIATION FROM TEST STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULT

Please refer to the APPENDIX E.

7 PEAK OUTPUT POWER TEST

7.1 LIMIT

FCC Part15, Subpart C (§15.247)		
Section	Test Item	Limit
§15.247(b)	Maximum Output Power	1 Watt or 30dBm

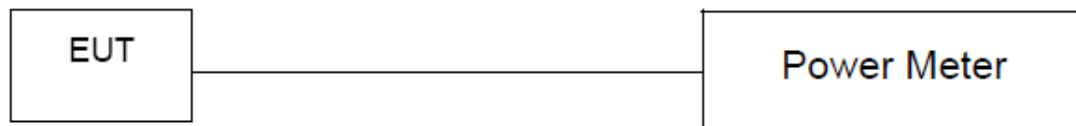
7.2 TEST PROCEDURE

- 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.

7.3 DEVIATION FROM TEST STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULT

Please refer to the APPENDIX F.

8 ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST

8.1 LIMIT

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

8.2 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 = 100 kHz, VBW=300 kHz, Sweep time = Auto.
- Offset = antenna gain + cable loss.

8.3 DEVIATION FROM TEST STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULT

Please refer to the APPENDIX G.

9 POWER SPECTRAL DENSITY

9.1 LIMIT

FCC Part15, Subpart C (§15.247)		
Section	Test Item	Limit
§15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)

9.2 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 = 3 kHz, VBW = 10 kHz, Sweep time = Auto.

9.3 DEVIATION FROM TEST STANDARD

No deviation.

9.4 TEST SETUP



9.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

9.6 TEST RESULT

Please refer to the APPENDIX H.

10 LIST OF MEASURING EQUIPMENTS

AC Power Line Conducted Emissions

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Mar. 08, 2019
2	Test Cable	EMCI	EMCCFD300-BM-BMR-6000	170715	Aug. 07, 2019
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 10, 2018
4	Measurement Software	EZ	EZ_EMC (Version NB-03A)	N/A	N/A

Radiated Emissions

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	Feb. 27, 2019
2	Preamplifier	EMCI	EMC02325	980217	Dec. 27, 2018
3	Preamplifier	EMCI	EMC2654045	980030	Feb. 13, 2019
4	Test Cable	EMCI	EMC104-SM-SM-8000	8m	Jan. 03, 2019
5	Test Cable	EMCI	EMC104-SM-SM-800	150207	Jan. 03, 2019
6	Test Cable	EMCI	EEMC104-SM-SM-3000	151205	Jan. 03, 2019
7	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 08, 2019
8	Signal Analyzer	Agilent	N9010A	MY52220990	Feb. 21, 2019
9	Loop Ant	EMCI	LPA600	274	May 03, 2019
10	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	Feb. 27, 2019
11	Horn Ant	Schwarzbeck	BBHA 9170	187	Dec. 05, 2018
12	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	Jan. 15, 2019
13	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0623	Jan. 15, 2019

Bandwidth

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854(E-208)	May 25, 2019

Peak Output Power

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	6K00004714	Sep.09, 2019
2	Power Sensor	Anritsu	MA2411B	1126001	Aug. 15, 2019

Antenna Conducted Spurious Emissions

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854(E-208)	May 25, 2019

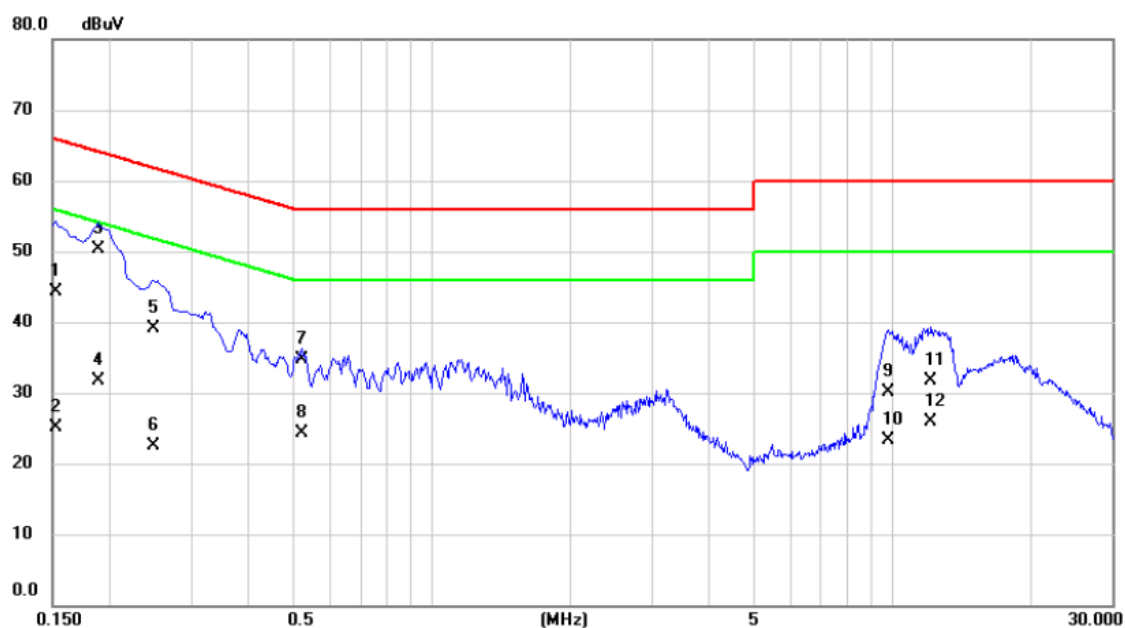
Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	R&S/FSP30	100854(E-208)	May 25, 2019

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

APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

CONTINUE ON NEXT PAGE

Test Mode	TX G MODE 2412MHz	Phase	Line
-----------	-------------------	-------	------

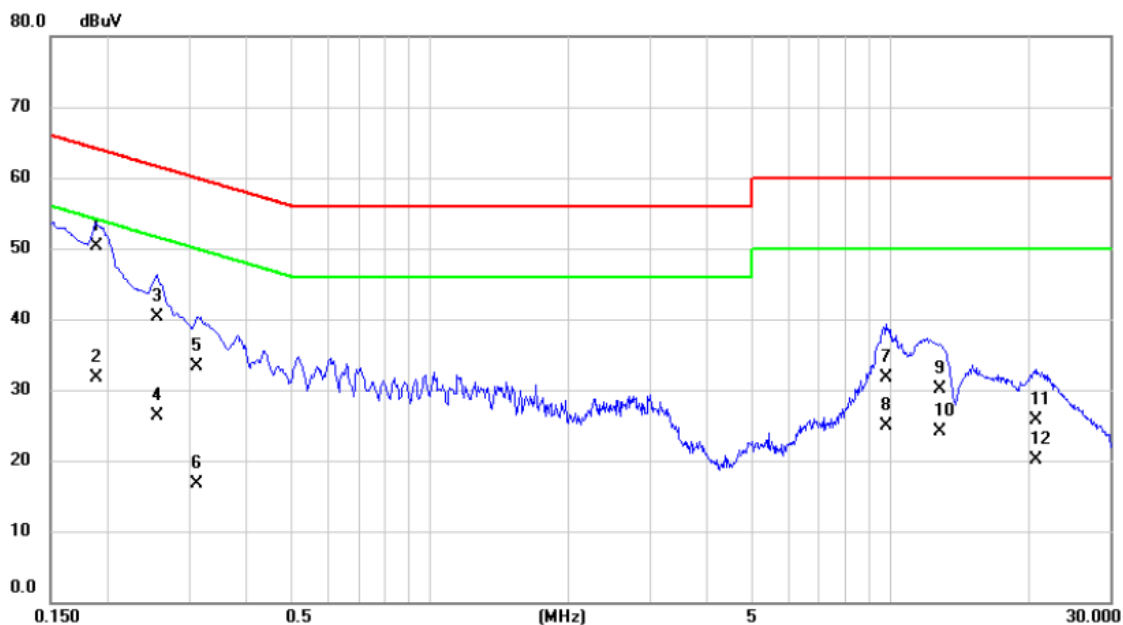


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1522	34.60	9.63	44.23	65.88	-21.65	QP	
2		0.1522	15.50	9.63	25.13	55.88	-30.75	AVG	
3	*	0.1883	40.70	9.63	50.33	64.11	-13.78	QP	
4		0.1883	22.16	9.63	31.79	54.11	-22.32	AVG	
5		0.2490	29.50	9.64	39.14	61.79	-22.65	QP	
6		0.2490	12.80	9.64	22.44	51.79	-29.35	AVG	
7		0.5235	25.00	9.66	34.66	56.00	-21.34	QP	
8		0.5235	14.70	9.66	24.36	46.00	-21.64	AVG	
9		9.7913	20.20	9.91	30.11	60.00	-29.89	QP	
10		9.7913	13.40	9.91	23.31	50.00	-26.69	AVG	
11		12.1245	21.70	9.93	31.63	60.00	-28.37	QP	
12		12.1245	15.90	9.93	25.83	50.00	-24.17	AVG	

Test Mode TX G MODE 2412MHz

Phase

Neutral

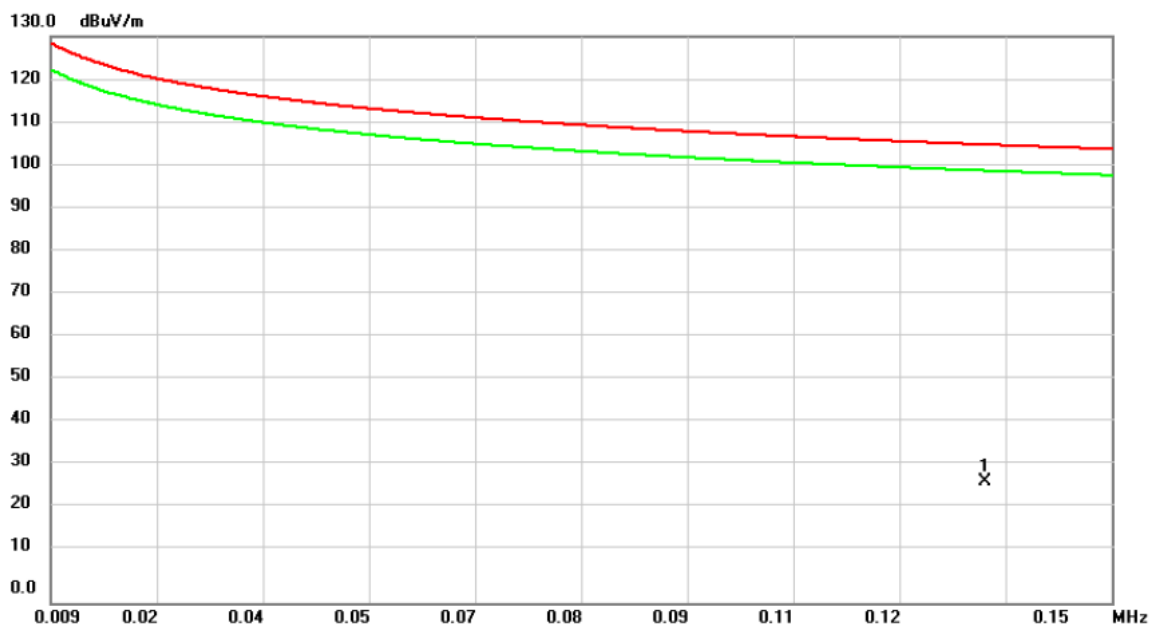


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1883	40.60	9.61	50.21	64.11	-13.90	QP	
2		0.1883	22.10	9.61	31.71	54.11	-22.40	AVG	
3		0.2558	30.70	9.63	40.33	61.57	-21.24	QP	
4		0.2558	16.60	9.63	26.23	51.57	-25.34	AVG	
5		0.3120	23.70	9.64	33.34	59.92	-26.58	QP	
6		0.3120	7.00	9.64	16.64	49.92	-33.28	AVG	
7		9.8182	21.70	9.92	31.62	60.00	-28.38	QP	
8		9.8182	14.90	9.92	24.82	50.00	-25.18	AVG	
9		12.7613	20.10	9.94	30.04	60.00	-29.96	QP	
10		12.7613	14.20	9.94	24.14	50.00	-25.86	AVG	
11		20.7623	15.80	9.98	25.78	60.00	-34.22	QP	
12		20.7623	10.20	9.98	20.18	50.00	-29.82	AVG	

APPENDIX B RADIATED EMISSIONS - 9 KHZ TO 30 MHZ

CONTINUE ON NEXT PAGE

Test Mode	TX G MODE 2412MHz	Azimuth Angle	90°
-----------	-------------------	---------------	-----



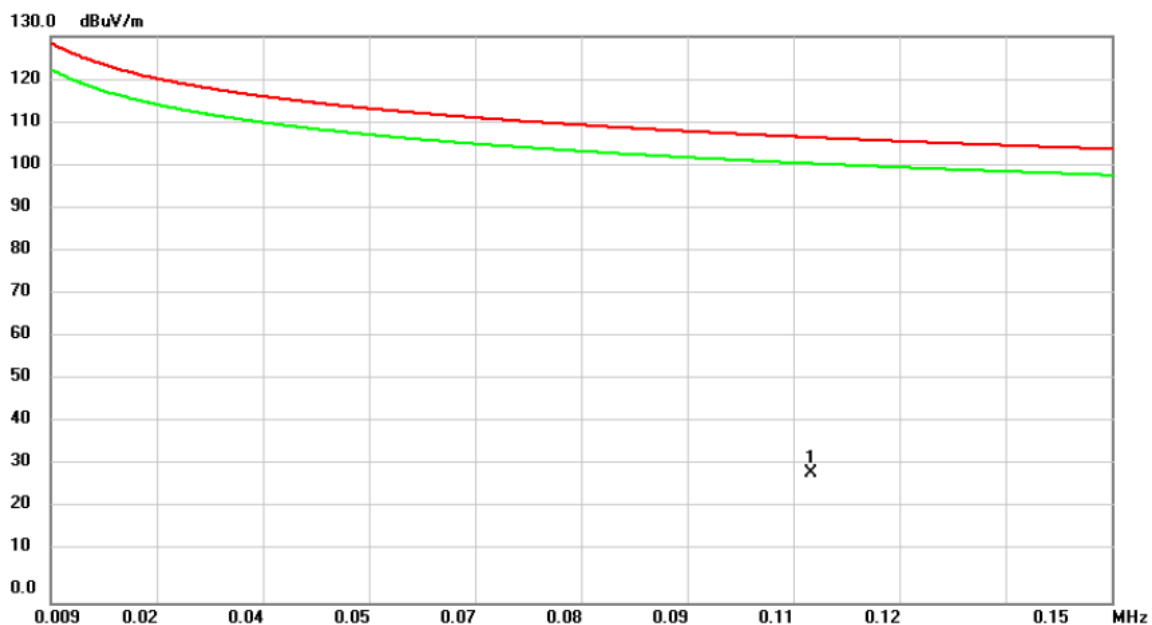
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.1332	13.67	14.14	27.81	105.11	-77.30	peak	

Test Mode	TX G MODE 2412MHz	Azimuth Angle	90°
-----------	-------------------	---------------	-----



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.4286	29.89	4.47	34.36	94.96	-60.60	peak	
2	*	2.2594	29.55	-3.13	26.42	69.54	-43.12	peak	
3		4.2096	28.31	-3.82	24.49	69.54	-45.05	peak	
4		8.8264	29.32	-4.65	24.67	69.54	-44.87	peak	
5		13.0054	28.21	-4.82	23.39	69.54	-46.15	peak	
6		15.9506	29.12	-5.32	23.80	69.54	-45.74	peak	

Test Mode	TX G MODE 2412MHz	Azimuth Angle	0°
-----------	-------------------	---------------	----



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.1101	14.44	15.45	29.89	106.77	-76.88	peak	

Test Mode	TX G MODE 2412MHz	Azimuth Angle	0°
-----------	-------------------	---------------	----

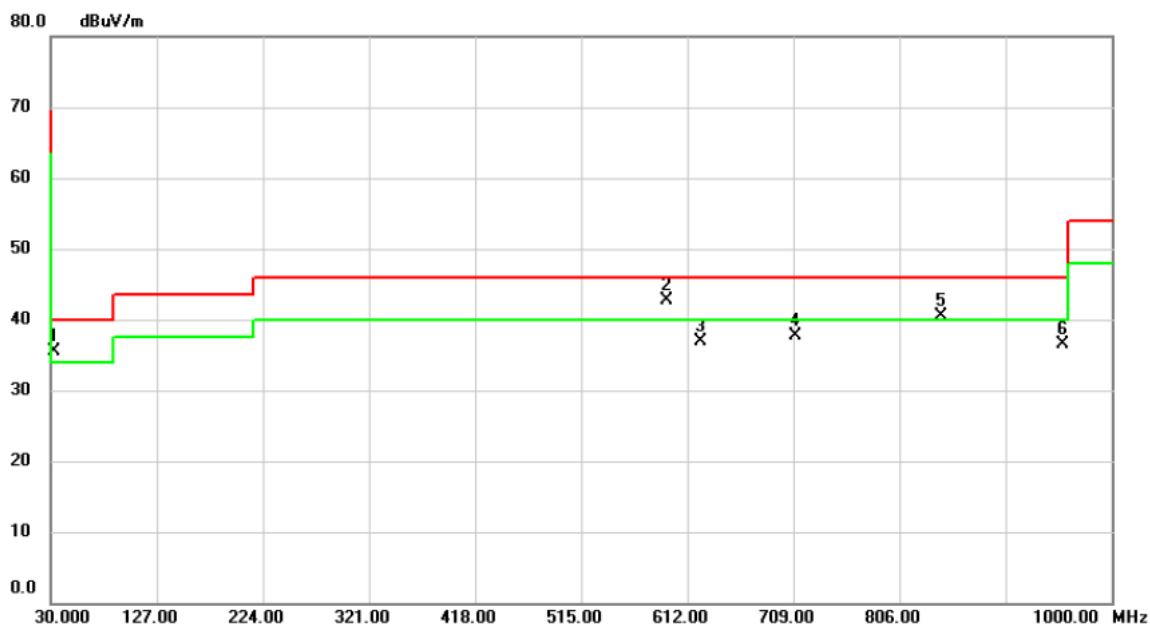


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.3490	29.69	5.95	35.64	96.75	-61.11	peak	
2	*	1.4236	28.44	-1.45	26.99	64.54	-37.55	peak	
3		5.2046	29.65	-3.95	25.70	69.54	-43.84	peak	
4		8.3886	29.66	-4.48	25.18	69.54	-44.36	peak	
5		11.7716	29.04	-4.82	24.22	69.54	-45.32	peak	
6		13.7616	30.59	-4.82	25.77	69.54	-43.77	peak	

APPENDIX C RADIATED EMISSIONS - 30 MHZ TO 1000 MHZ

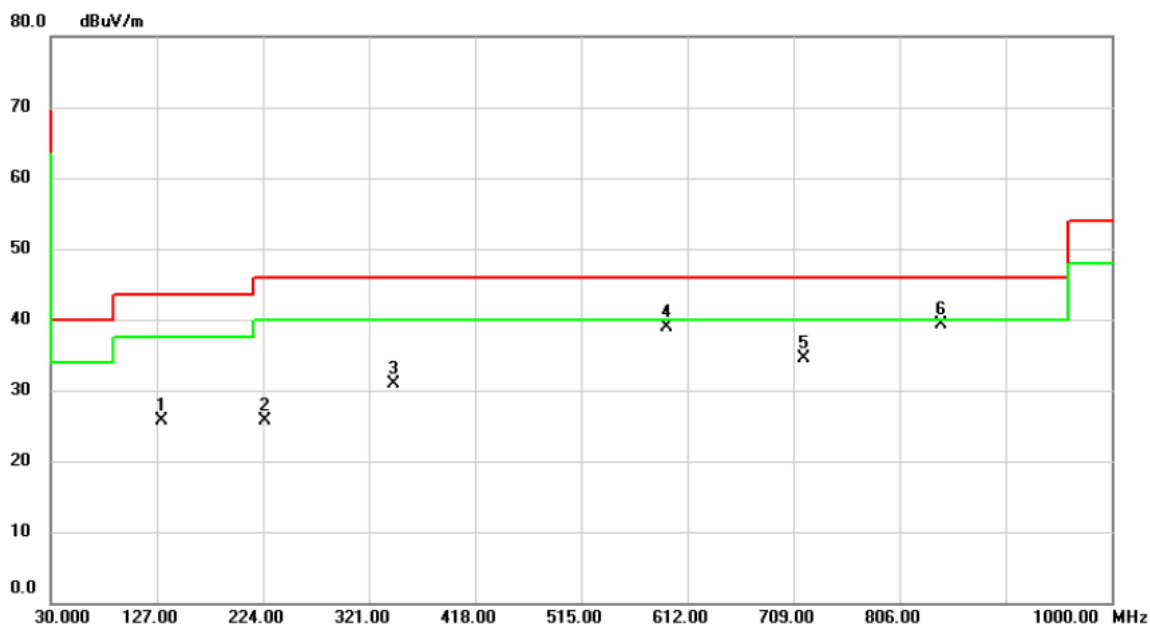
CONTINUE ON NEXT PAGE

Test Mode	TX G MODE 2412MHz	Polarization	Vertical
-----------	-------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	!	32.9100	44.52	-9.04	35.48	40.00	-4.52	peak	
2	*	593.5700	43.32	-0.61	42.71	46.00	-3.29	peak	
3		624.6100	36.96	-0.11	36.85	46.00	-9.15	peak	
4		710.9400	36.11	1.51	37.62	46.00	-8.38	peak	
5	!	843.8300	36.63	3.85	40.48	46.00	-5.52	peak	
6		955.3800	30.68	5.83	36.51	46.00	-9.49	peak	

Test Mode	TX G MODE 2412MHz	Polarization	Horizontal
-----------	-------------------	--------------	------------

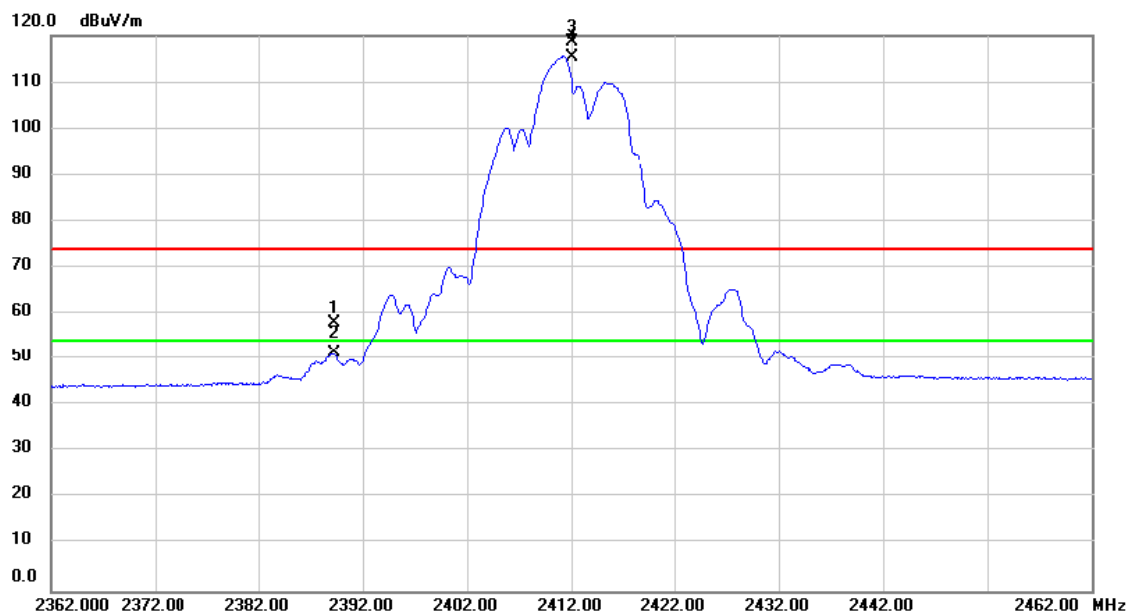


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		131.8500	35.38	-9.72	25.66	43.50	-17.84	peak	
2		225.9400	35.62	-9.97	25.65	46.00	-20.35	peak	
3		343.3100	37.34	-6.37	30.97	46.00	-15.03	peak	
4		593.5700	39.51	-0.61	38.90	46.00	-7.10	peak	
5		718.7000	32.86	1.67	34.53	46.00	-11.47	peak	
6	*	843.8300	35.49	3.85	39.34	46.00	-6.66	peak	

APPENDIX D RADIATED EMISSIONS - ABOVE 1000 MHZ

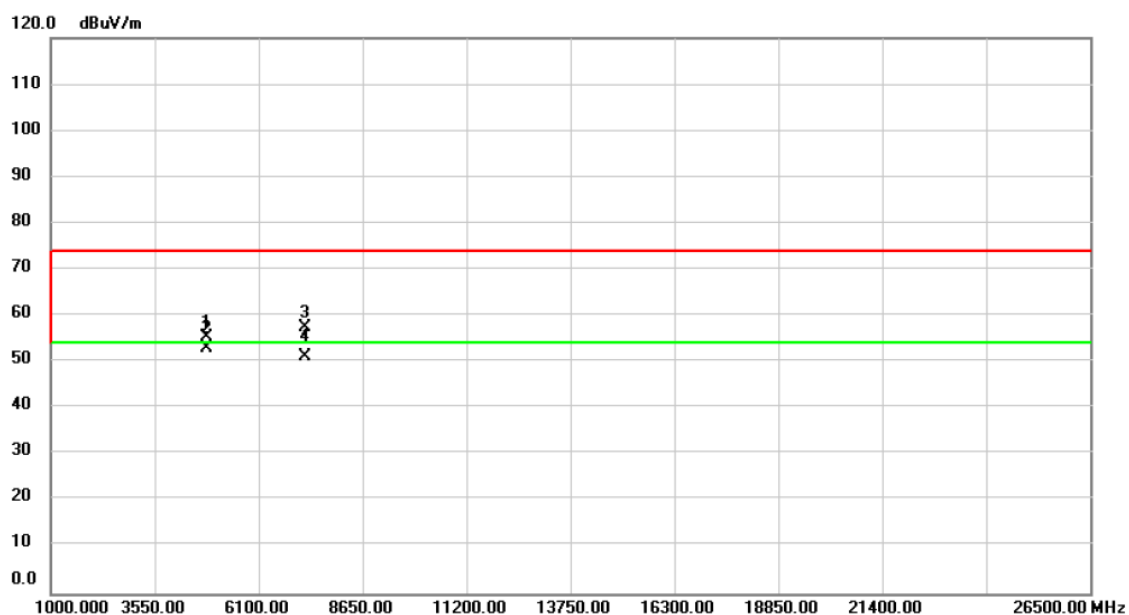
CONTINUE ON NEXT PAGE

Test Mode	TX B MODE _2412 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2389.216	27.26	30.84	58.10	74.00	-15.90	peak	
2		2389.216	20.47	30.84	51.31	54.00	-2.69	AVG	
3	X	2412.000	87.62	30.92	118.54	74.00	44.54	peak	No Limit
4	*	2412.000	84.56	30.92	115.48	54.00	61.48	AVG	No Limit

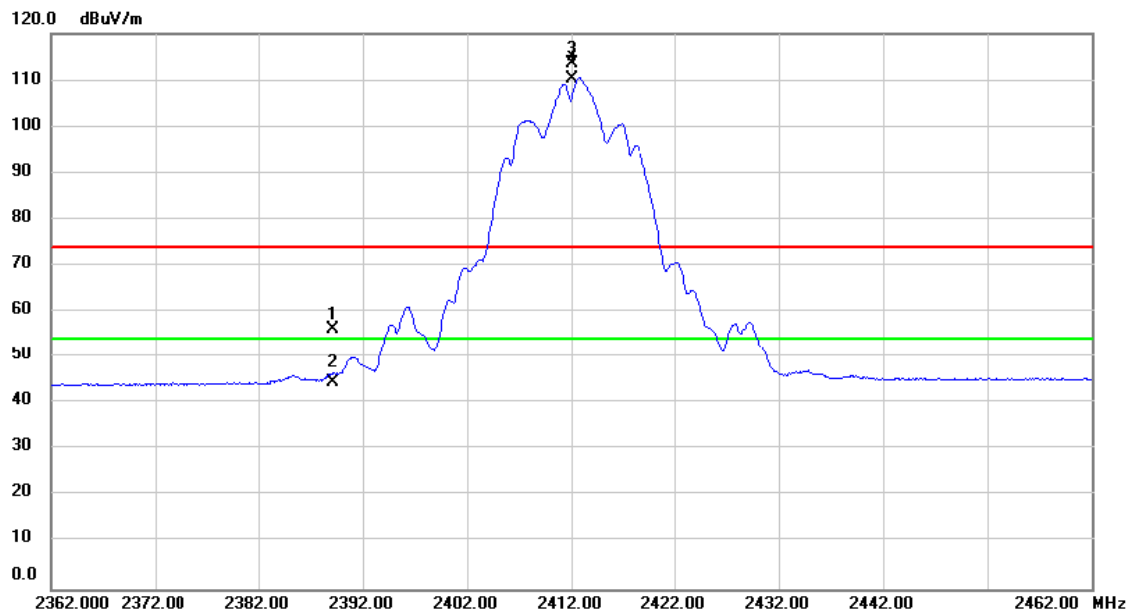
Test Mode	TX B MODE _2412 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	66.75	-11.48	55.27	74.00	-18.73	peak	
2	*	4824.000	64.32	-11.48	52.84	54.00	-1.16	AVG	
3		7236.000	62.76	-5.26	57.50	74.00	-16.50	peak	
4		7236.000	56.33	-5.26	51.07	54.00	-2.93	AVG	

Test Mode	TX B MODE _2412 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

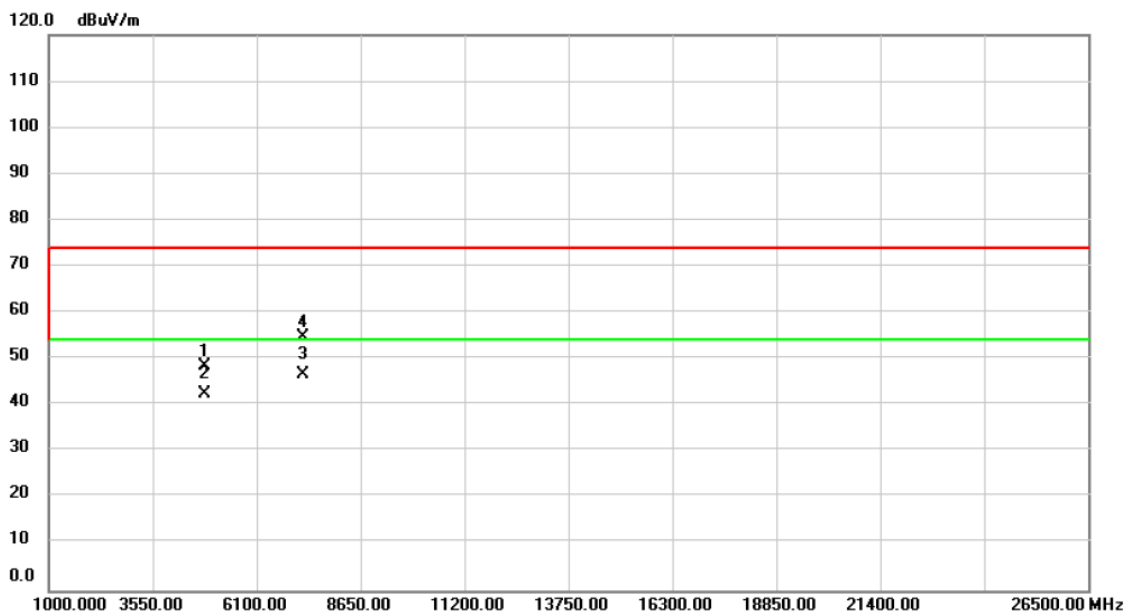
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2389.188	25.27	30.84	56.11	74.00	-17.89	peak	
2		2389.188	13.77	30.84	44.61	54.00	-9.39	AVG	
3	X	2412.000	82.74	30.92	113.66	74.00	39.66	peak	No Limit
4	*	2412.000	79.35	30.92	110.27	54.00	56.27	AVG	No Limit

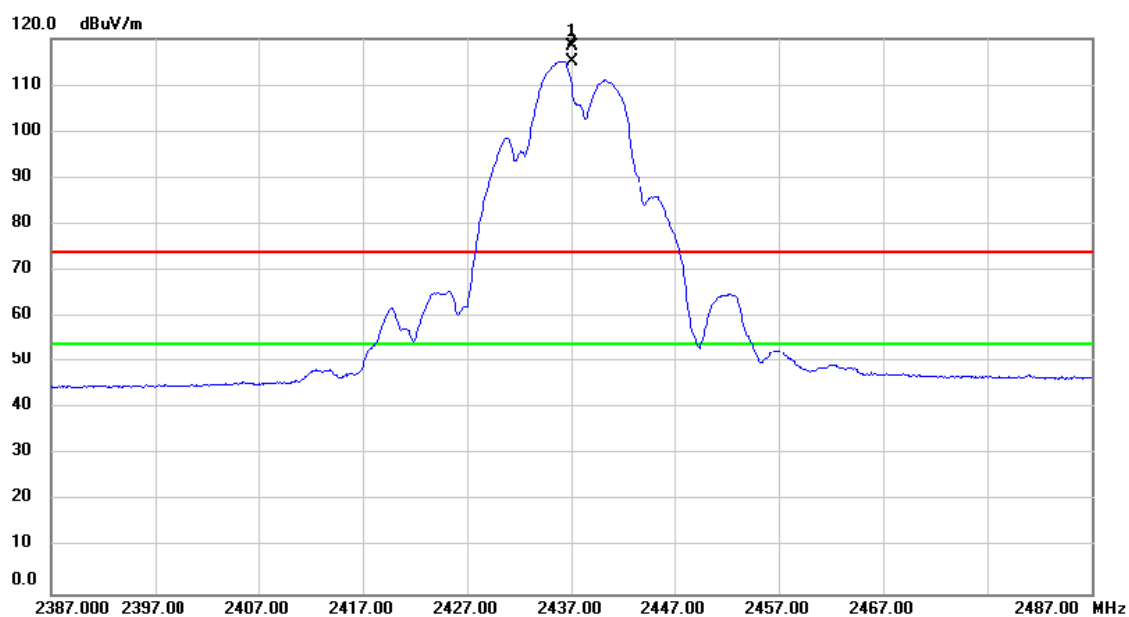
Test Mode	TX B MODE _2412 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

Orthogonal Axis: X



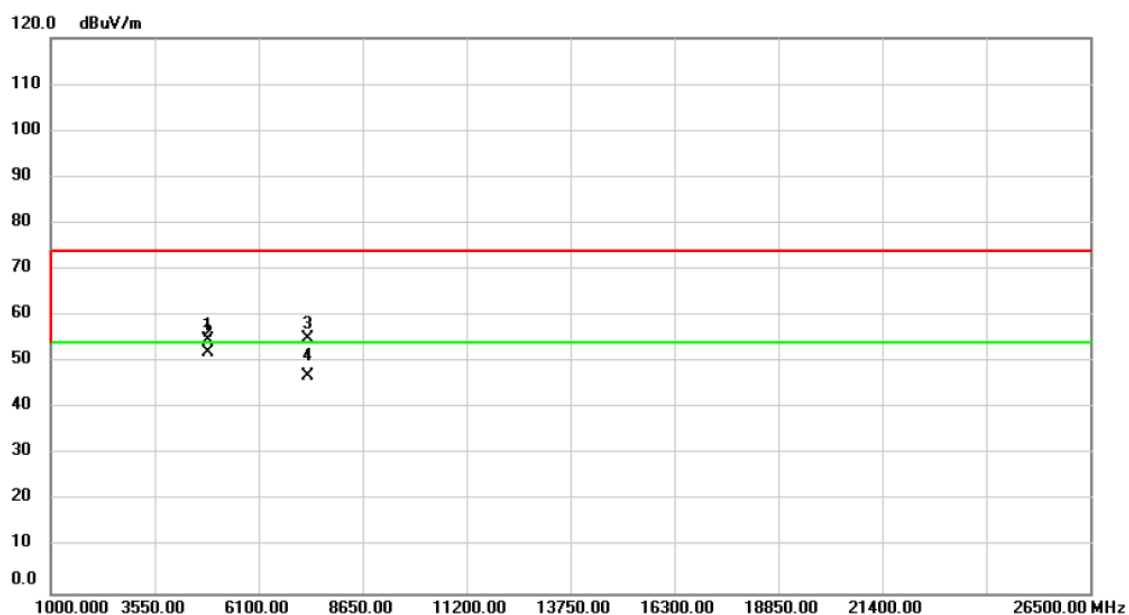
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	59.96	-11.48	48.48	74.00	-25.52	peak	
2		4824.000	53.85	-11.48	42.37	54.00	-11.63	AVG	
3	*	7236.000	52.02	-5.26	46.76	54.00	-7.24	AVG	
4		7236.000	59.89	-5.26	54.63	74.00	-19.37	peak	

Test Mode	TX B MODE _2437 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	87.45	31.01	118.46	74.00	44.46	peak	No Limit
2	*	2437.000	84.14	31.01	115.15	54.00	61.15	AVG	No Limit

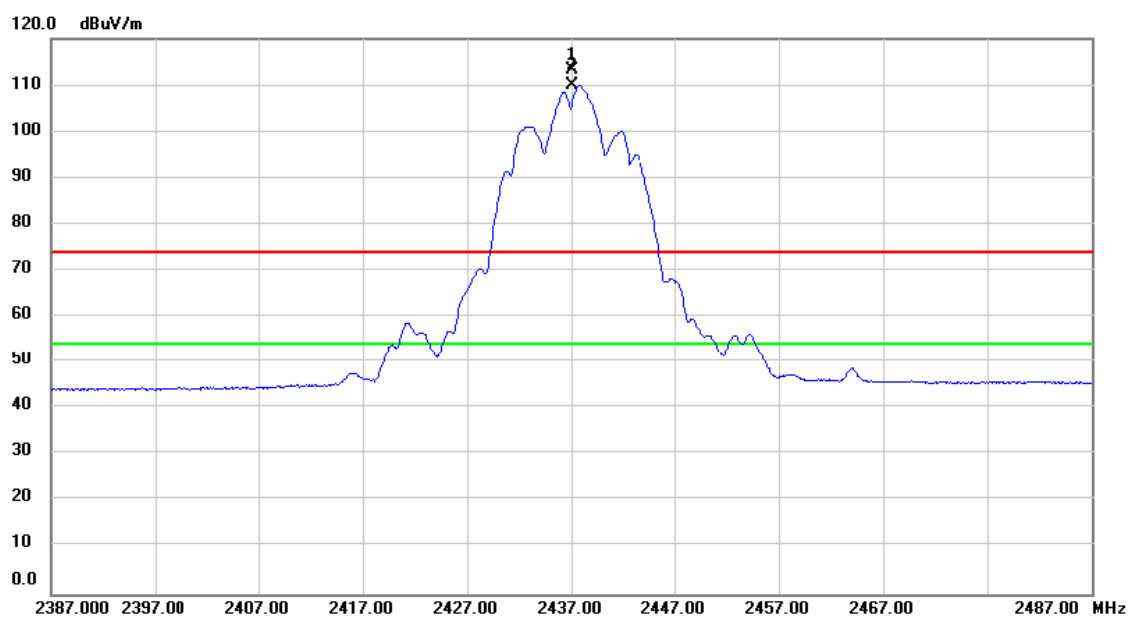
Test Mode	TX B MODE _2437 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	66.19	-11.42	54.77	74.00	-19.23	peak	
2	*	4874.000	63.57	-11.42	52.15	54.00	-1.85	AVG	
3		7311.000	60.17	-4.99	55.18	74.00	-18.82	peak	
4		7311.000	52.06	-4.99	47.07	54.00	-6.93	AVG	

Test Mode	TX B MODE _2437 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

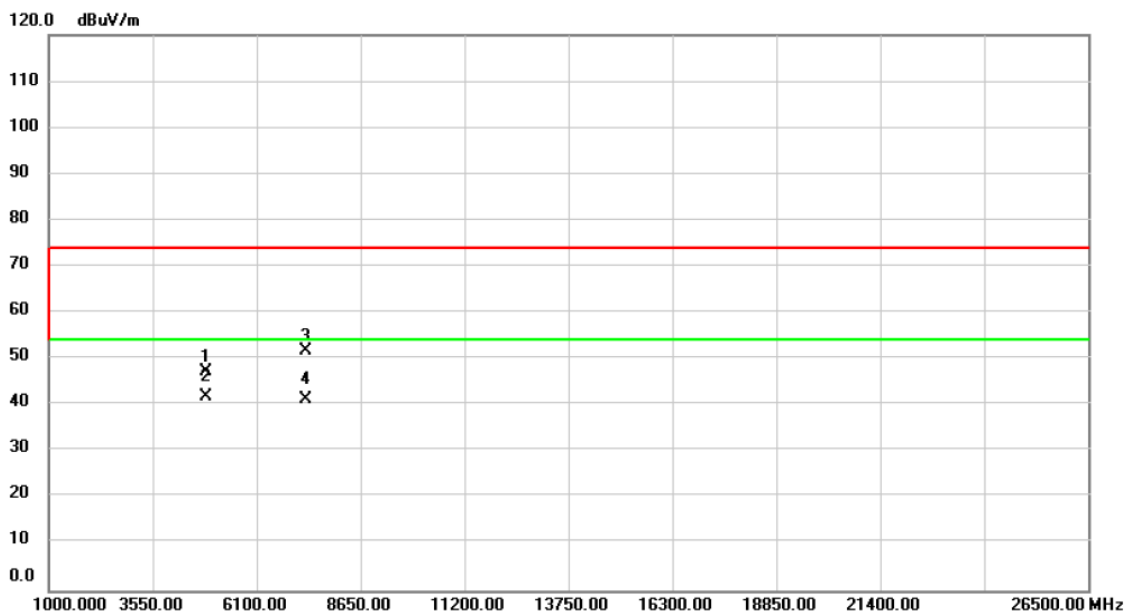
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	82.17	31.01	113.18	74.00	39.18	peak	No Limit
2	*	2437.000	78.87	31.01	109.88	54.00	55.88	AVG	No Limit

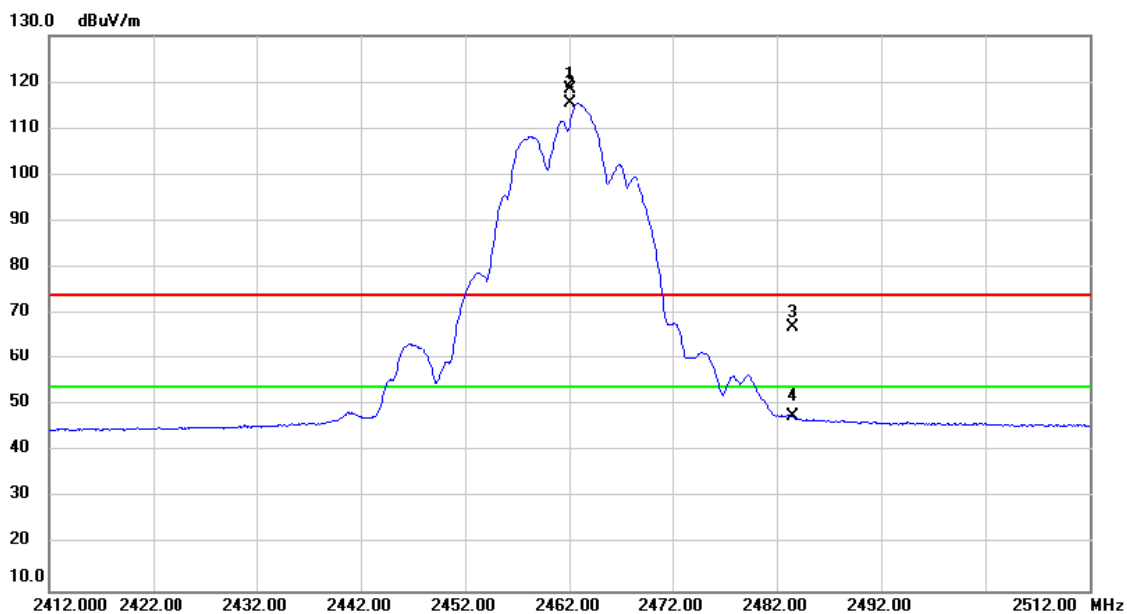
Test Mode	TX B MODE _2437 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

Orthogonal Axis: X



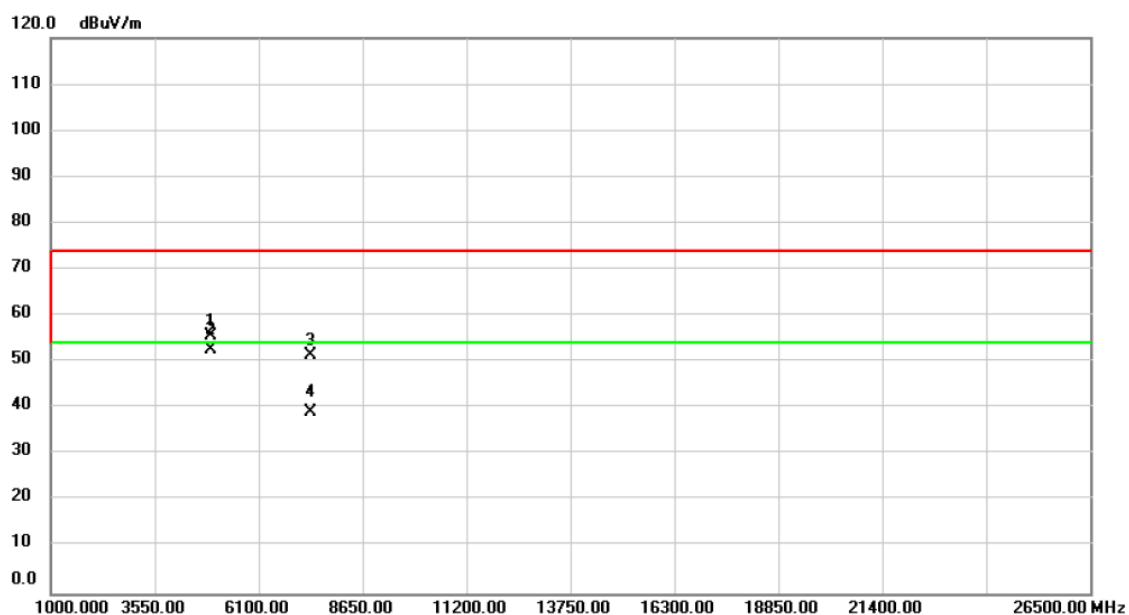
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	58.66	-11.42	47.24	74.00	-26.76	peak	
2	*	4874.000	53.31	-11.42	41.89	54.00	-12.11	AVG	
3		7311.000	56.71	-4.99	51.72	74.00	-22.28	peak	
4		7311.000	46.18	-4.99	41.19	54.00	-12.81	AVG	

Test Mode	TX B MODE _2462 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2462.000	87.24	31.09	118.33	74.00	44.33	peak	No Limit
2	*	2462.000	84.39	31.09	115.48	54.00	61.48	AVG	No Limit
3		2483.533	36.10	31.17	67.27	74.00	-6.73	peak	
4		2483.533	16.53	31.17	47.70	54.00	-6.30	AVG	

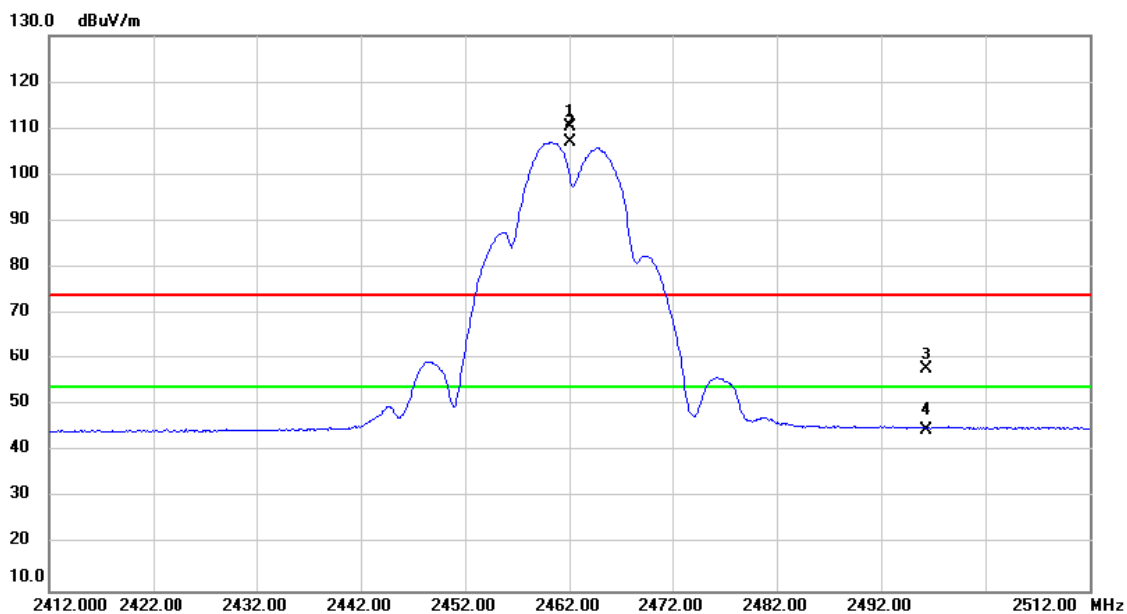
Test Mode	TX B MODE _2462 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	66.90	-11.37	55.53	74.00	-18.47	peak	
2	*	4924.000	64.08	-11.37	52.71	54.00	-1.29	AVG	
3		7386.000	56.31	-4.72	51.59	74.00	-22.41	peak	
4		7386.000	43.86	-4.72	39.14	54.00	-14.86	AVG	

Test Mode	TX B MODE _2462 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

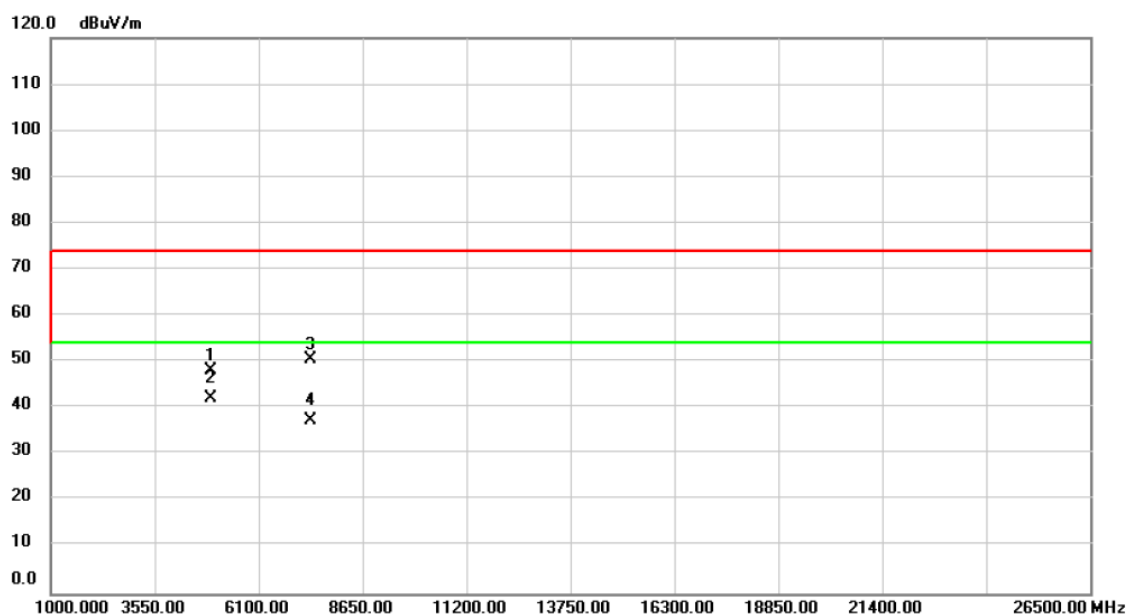
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2462.000	79.19	31.09	110.28	74.00	36.28	peak	No Limit
2	*	2462.000	75.86	31.09	106.95	54.00	52.95	AVG	No Limit
3		2496.304	26.68	31.22	57.90	74.00	-16.10	peak	
4		2496.304	13.46	31.22	44.68	54.00	-9.32	AVG	

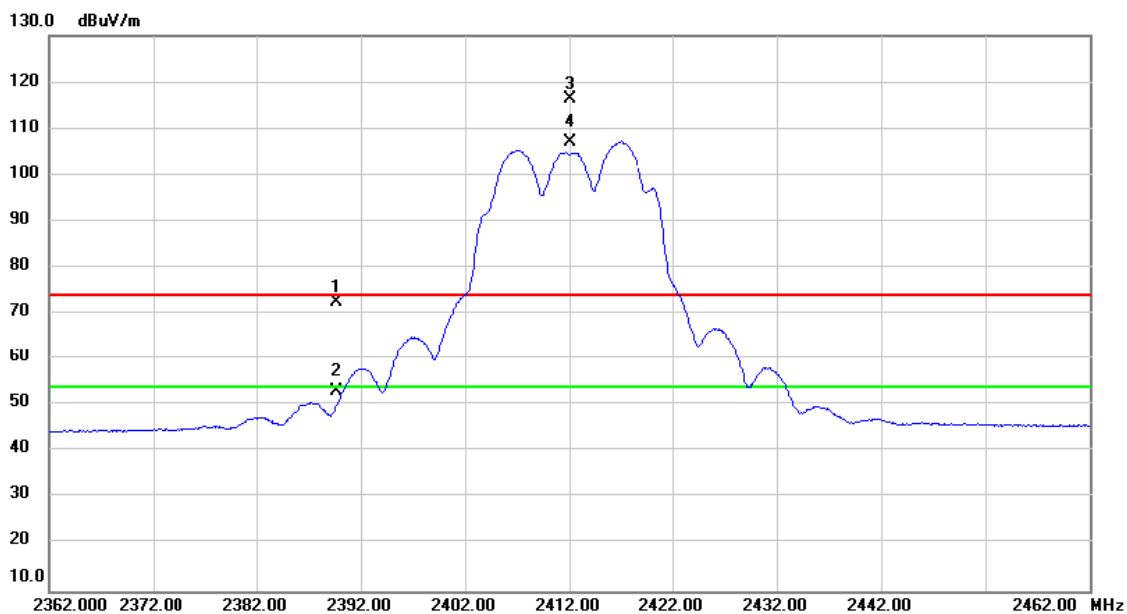
Test Mode	TX B MODE _2462 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

Orthogonal Axis: X



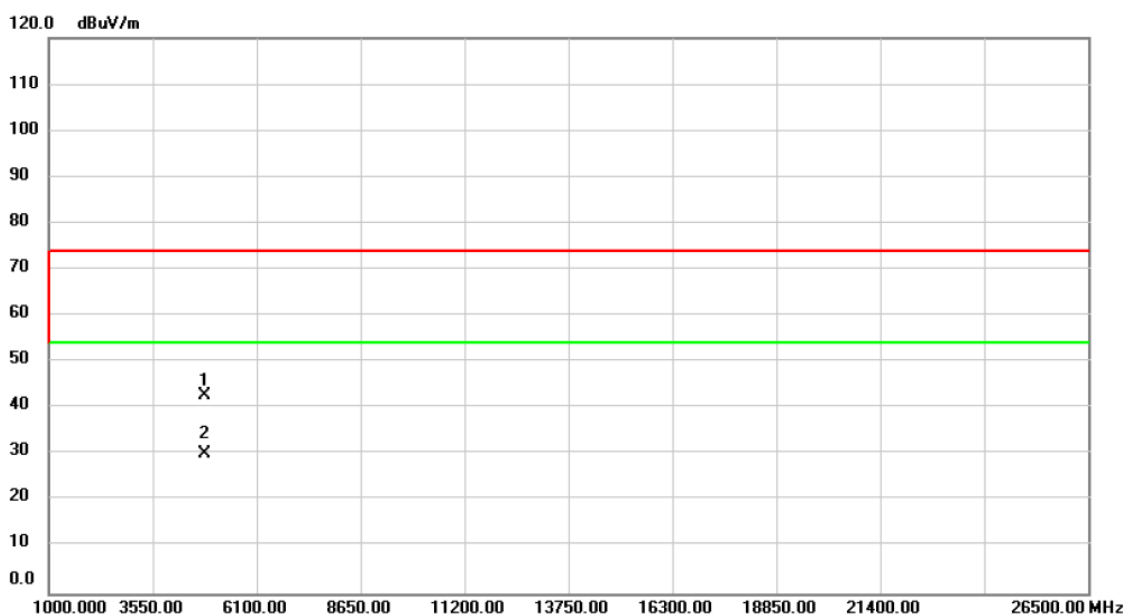
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	4924.000	59.61	-11.37	48.24	74.00	-25.76	peak	
2 *	4924.000	53.46	-11.37	42.09	54.00	-11.91	AVG	
3	7386.000	55.22	-4.72	50.50	74.00	-23.50	peak	
4	7386.000	41.96	-4.72	37.24	54.00	-16.76	AVG	

Test Mode	TX G MODE _2412 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2389.664	41.70	30.84	72.54	74.00	-1.46	peak	
2		2389.664	22.14	30.84	52.98	54.00	-1.02	AVG	
3	X	2412.000	85.55	30.92	116.47	74.00	42.47	peak	No Limit
4	*	2412.000	76.04	30.92	106.96	54.00	52.96	AVG	No Limit

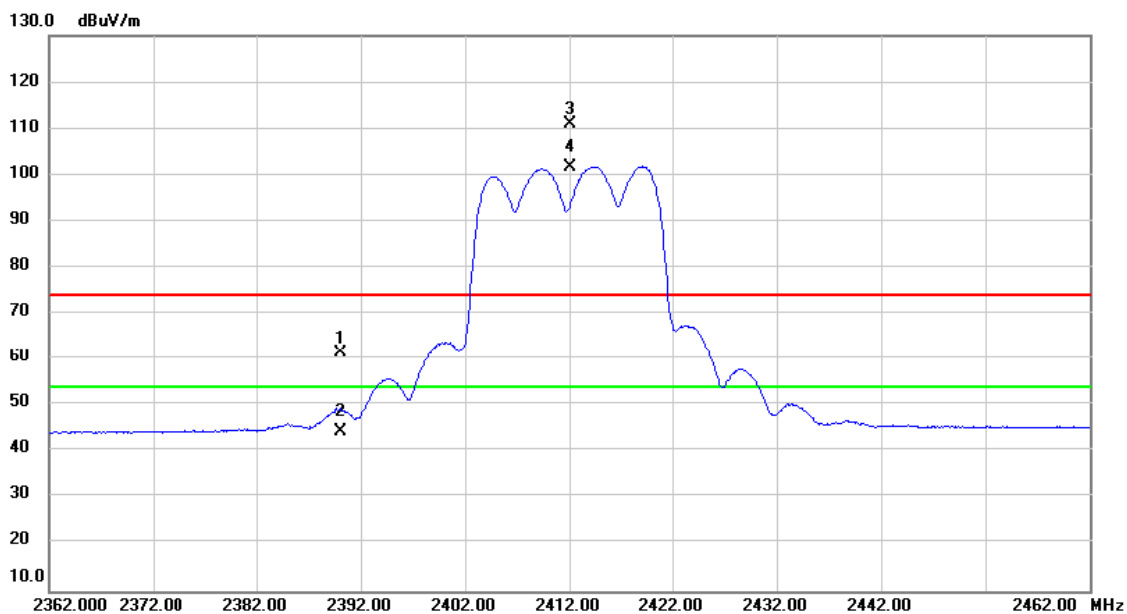
Test Mode	TX G MODE _2412 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	54.23	-11.48	42.75	74.00	-31.25	peak	
2	*	4824.000	41.78	-11.48	30.30	54.00	-23.70	AVG	

Test Mode	TX G MODE _2412 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

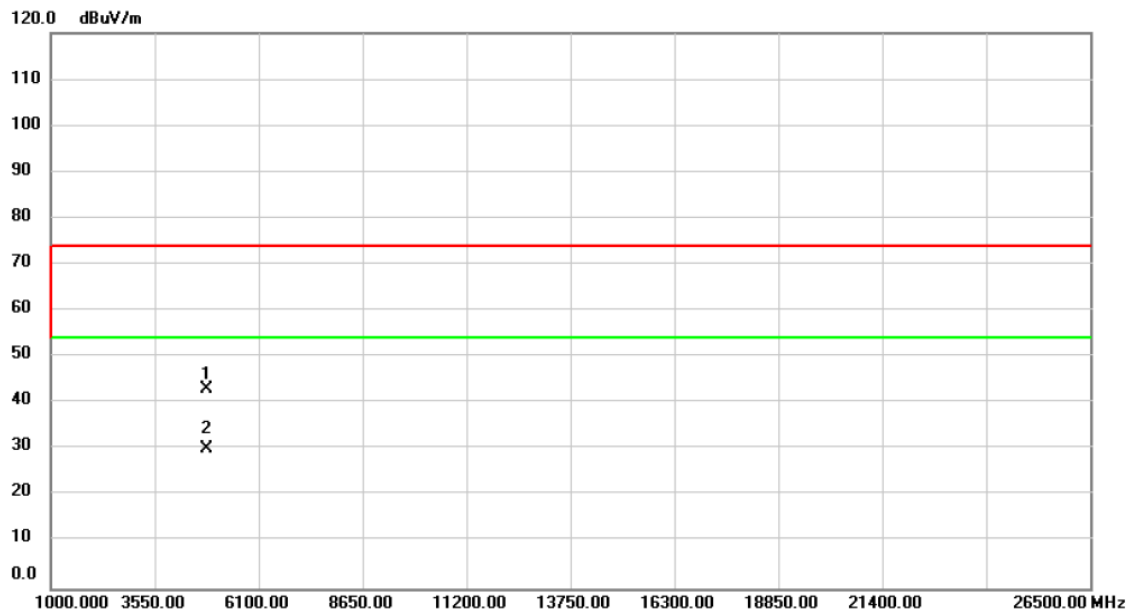
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	30.56	30.84	61.40	74.00	-12.60	peak	
2		2390.000	13.64	30.84	44.48	54.00	-9.52	AVG	
3	X	2412.000	80.13	30.92	111.05	74.00	37.05	peak	No Limit
4	*	2412.000	70.78	30.92	101.70	54.00	47.70	AVG	No Limit

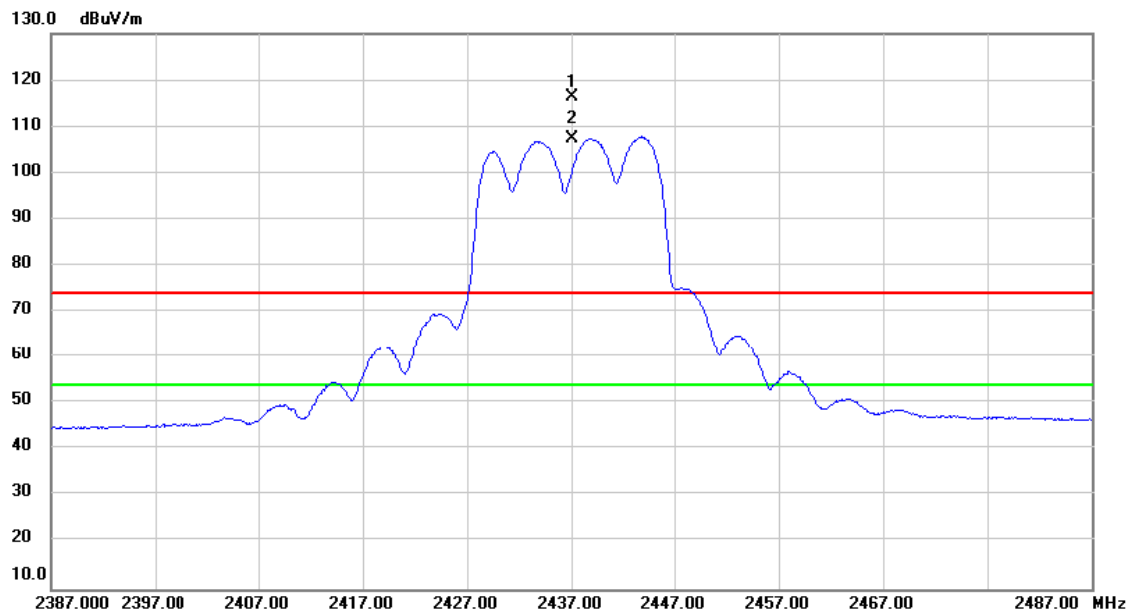
Test Mode	TX G MODE _2412 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

Orthogonal Axis: X



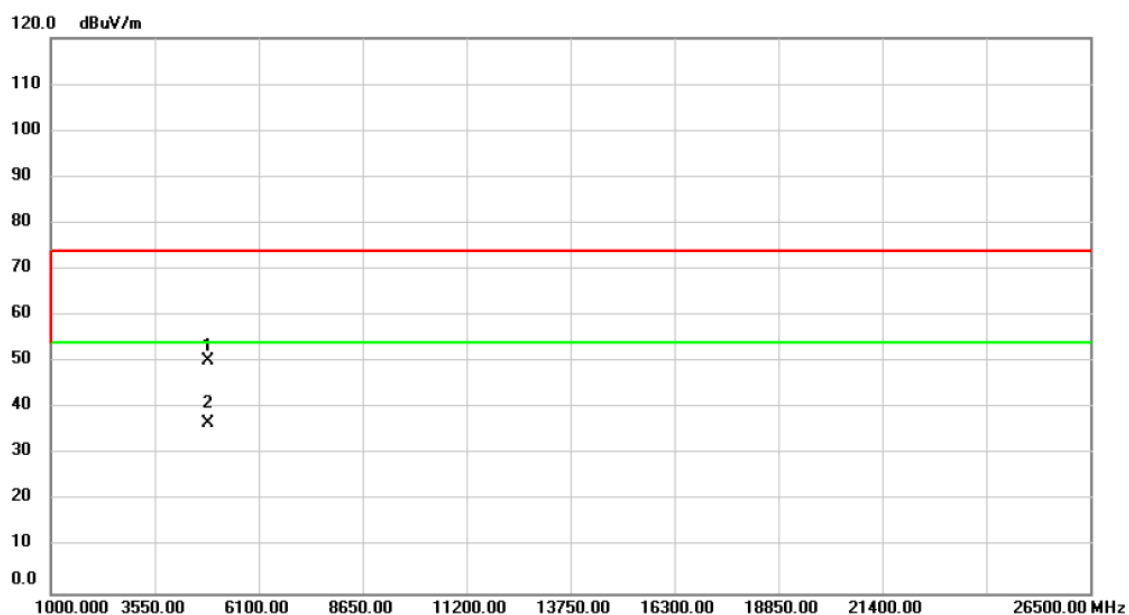
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	54.48	-11.48	43.00	74.00	-31.00	peak	
2	*	4824.000	41.71	-11.48	30.23	54.00	-23.77	AVG	

Test Mode	TX G MODE _2437 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	85.43	31.01	116.44	74.00	42.44	peak	No Limit
2	*	2437.000	76.30	31.01	107.31	54.00	53.31	AVG	No Limit

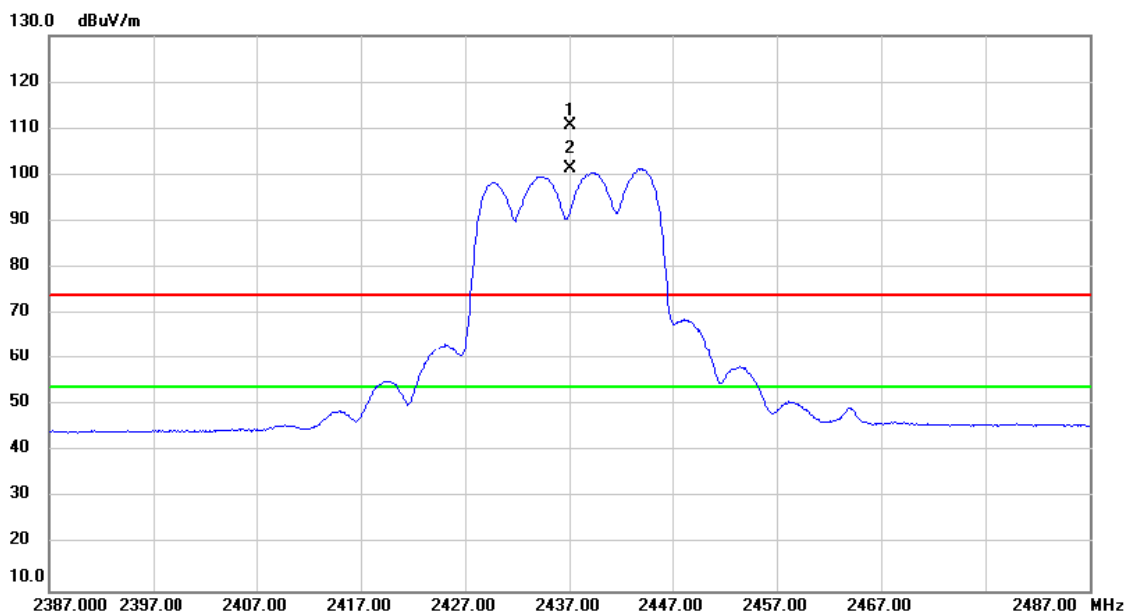
Test Mode	TX G MODE _2437 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	61.66	-11.42	50.24	74.00	-23.76	peak	
2	*	4874.000	48.11	-11.42	36.69	54.00	-17.31	AVG	

Test Mode	TX G MODE _2437 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

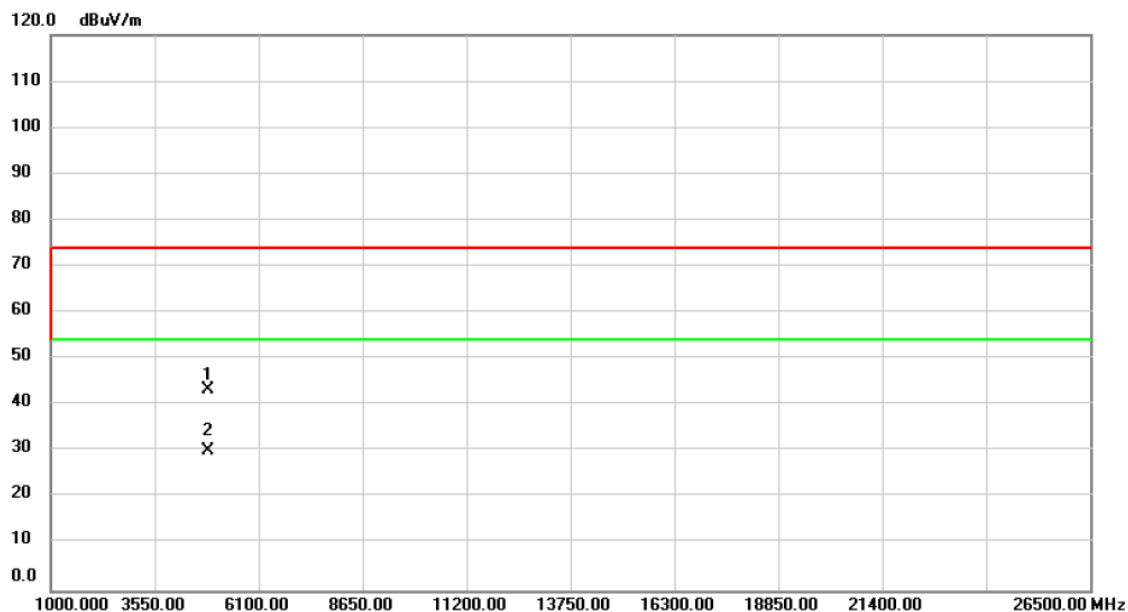
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	79.60	31.01	110.61	74.00	36.61	peak	No Limit
2	*	2437.000	70.21	31.01	101.22	54.00	47.22	AVG	No Limit

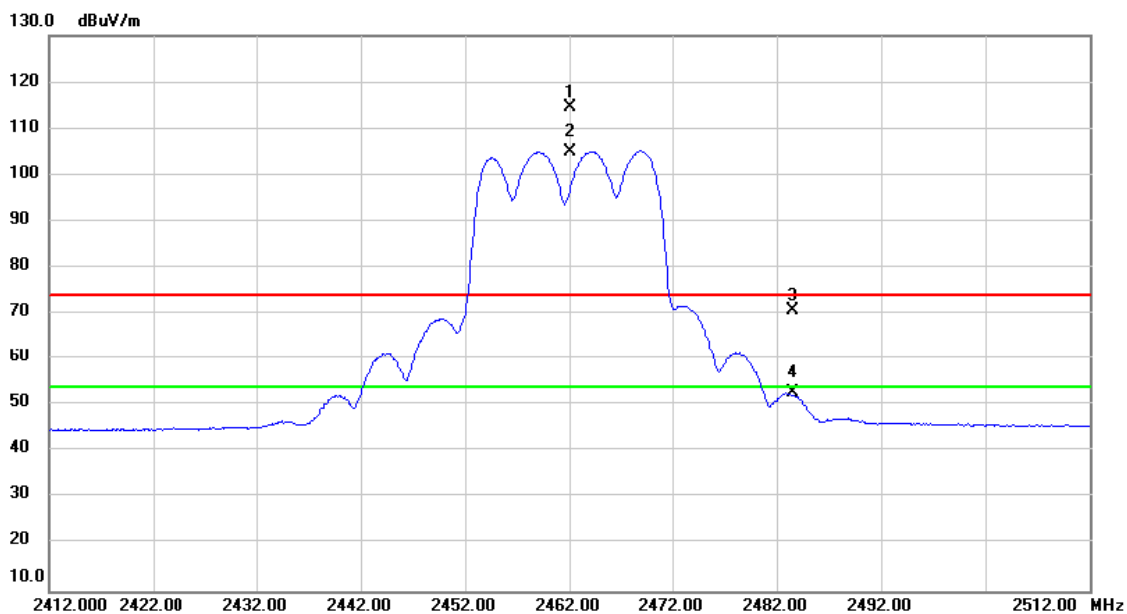
Test Mode	TX G MODE _2437 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

Orthogonal Axis: X



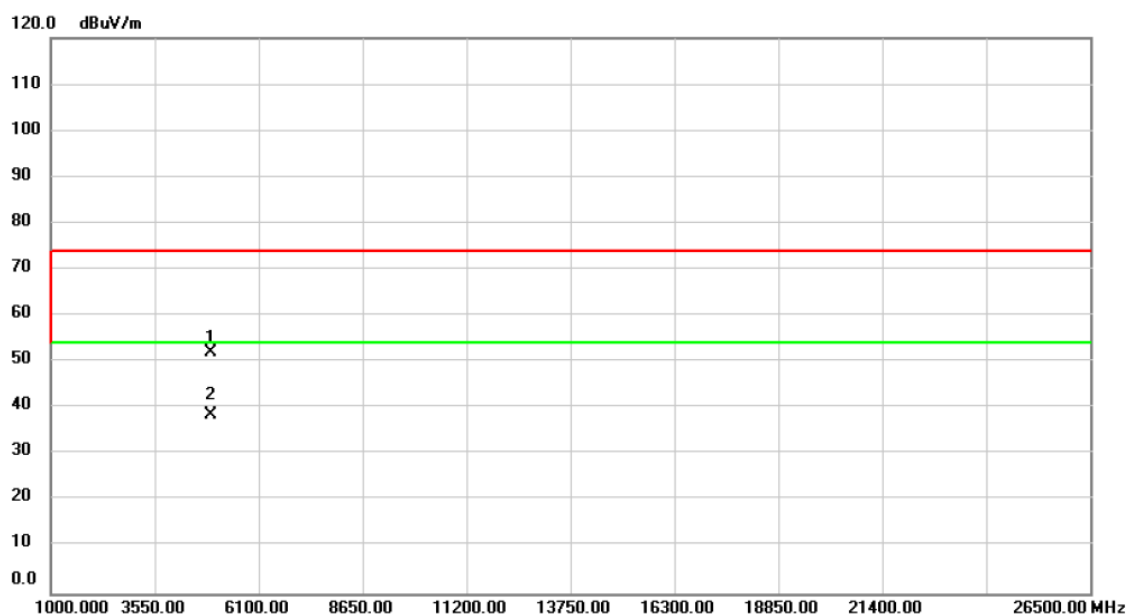
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	54.67	-11.42	43.25	74.00	-30.75	peak	
2	*	4874.000	41.59	-11.42	30.17	54.00	-23.83	AVG	

Test Mode	TX G MODE _2462 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2462.000	83.33	31.09	114.42	74.00	40.42	peak	No Limit
2	*	2462.000	73.97	31.09	105.06	54.00	51.06	AVG	No Limit
3		2483.500	39.72	31.17	70.89	74.00	-3.11	peak	
4		2483.500	21.70	31.17	52.87	54.00	-1.13	AVG	

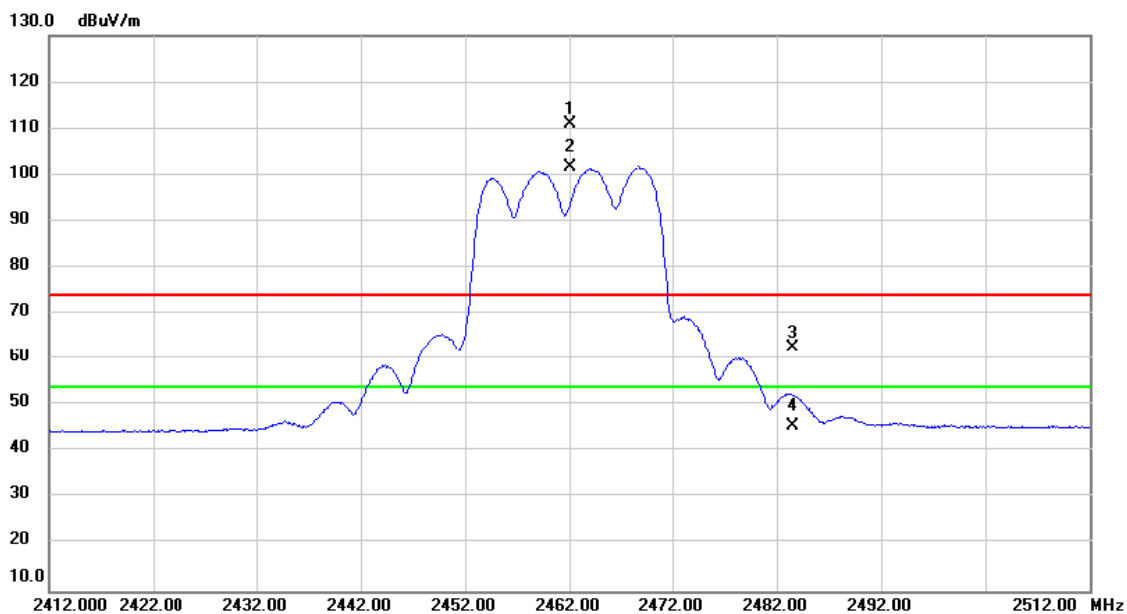
Test Mode	TX G MODE _2462 MHz	Polarization	Vertical
-----------	---------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	63.54	-11.37	52.17	74.00	-21.83	peak	
2	*	4924.000	49.79	-11.37	38.42	54.00	-15.58	AVG	

Test Mode	TX G MODE _2462 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

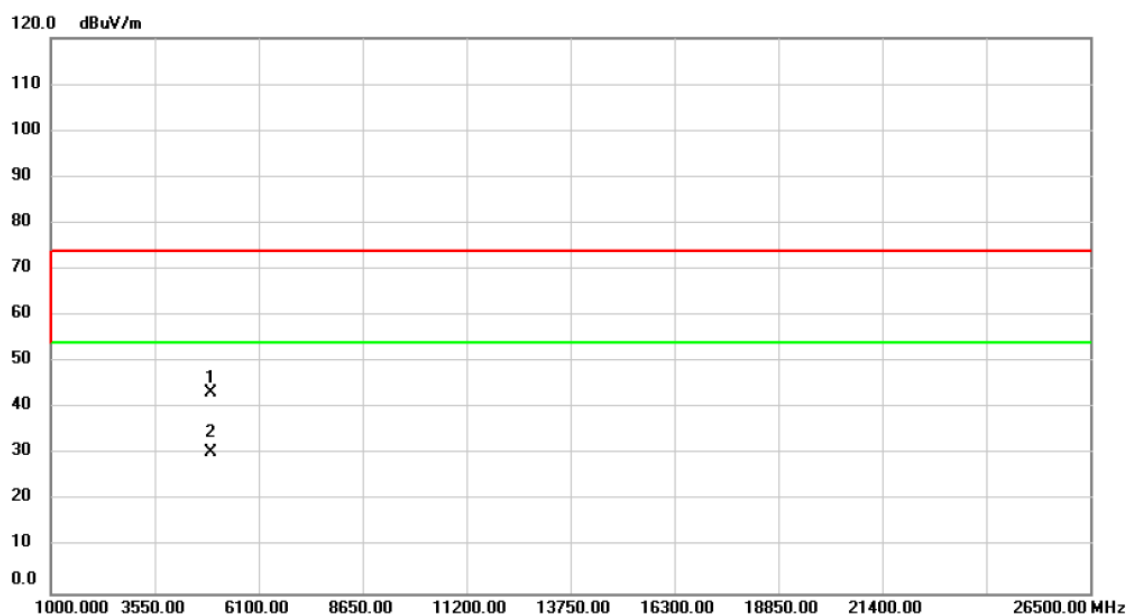
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2462.000	79.83	31.09	110.92	74.00	36.92	peak	No Limit
2	*	2462.000	70.44	31.09	101.53	54.00	47.53	AVG	No Limit
3		2483.500	31.63	31.17	62.80	74.00	-11.20	peak	
4		2483.500	14.48	31.17	45.65	54.00	-8.35	AVG	

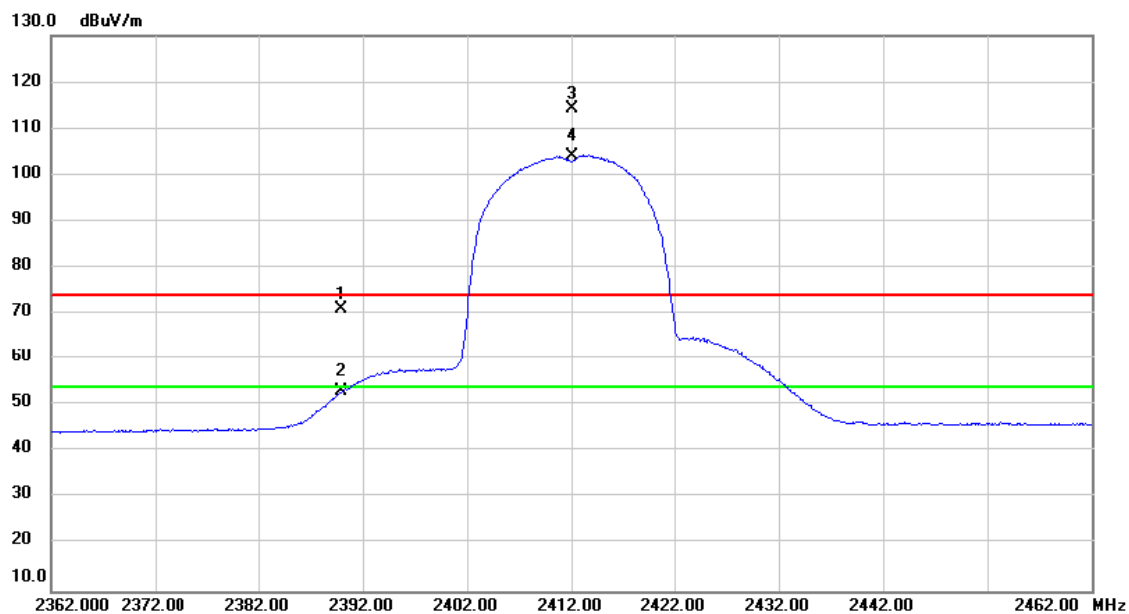
Test Mode	TX G MODE _2462 MHz	Polarization	Horizontal
-----------	---------------------	--------------	------------

Orthogonal Axis: X



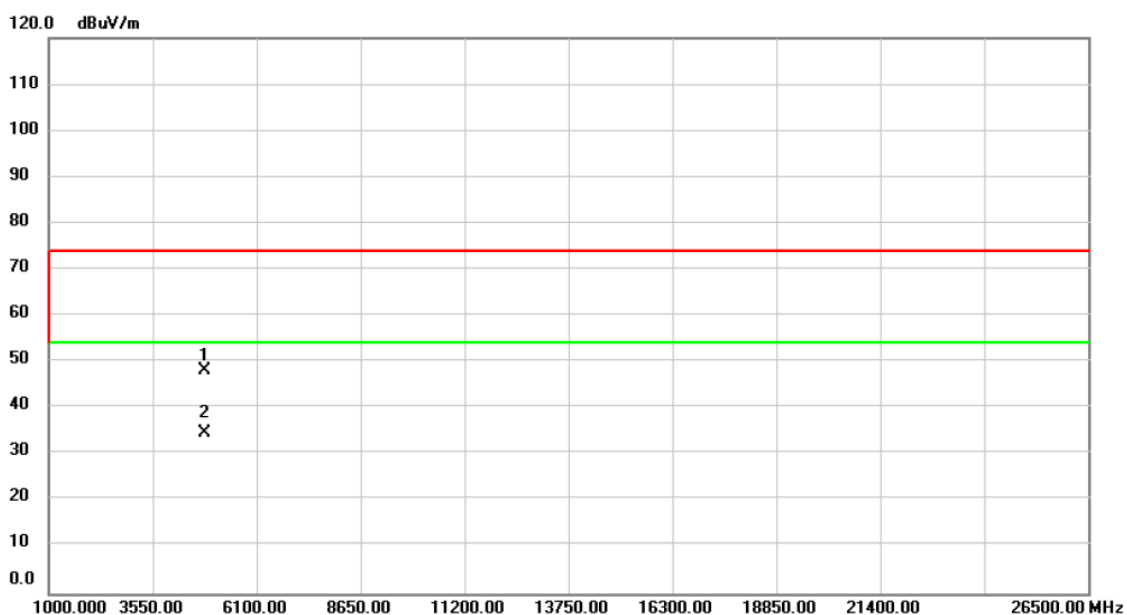
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	54.63	-11.37	43.26	74.00	-30.74	peak	
2	*	4924.000	41.90	-11.37	30.53	54.00	-23.47	AVG	

Test Mode	TX N (HT20) MODE 2412MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2389.944	40.08	30.84	70.92	74.00	-3.08	peak	
2		2389.944	22.10	30.84	52.94	54.00	-1.06	AVG	
3	X	2412.000	83.44	30.92	114.36	74.00	40.36	peak	No Limit
4	*	2412.000	73.24	30.92	104.16	54.00	50.16	AVG	No Limit

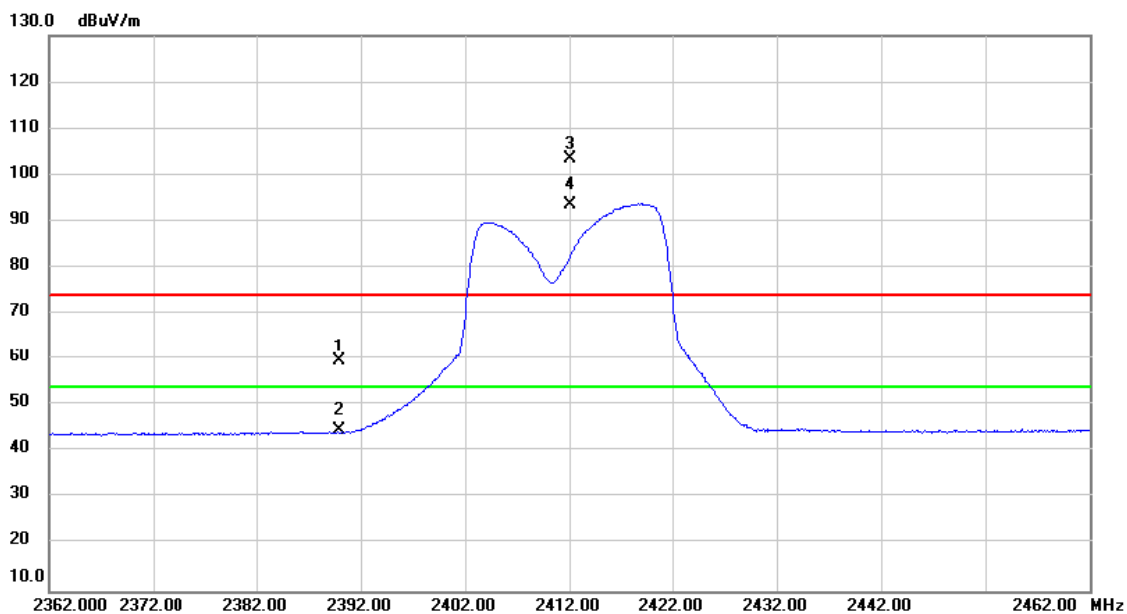
Test Mode	TX N (HT20) MODE 2412MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	59.58	-11.48	48.10	74.00	-25.90	peak	
2	*	4824.000	46.17	-11.48	34.69	54.00	-19.31	AVG	

Test Mode	TX N (HT20) MODE 2412MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

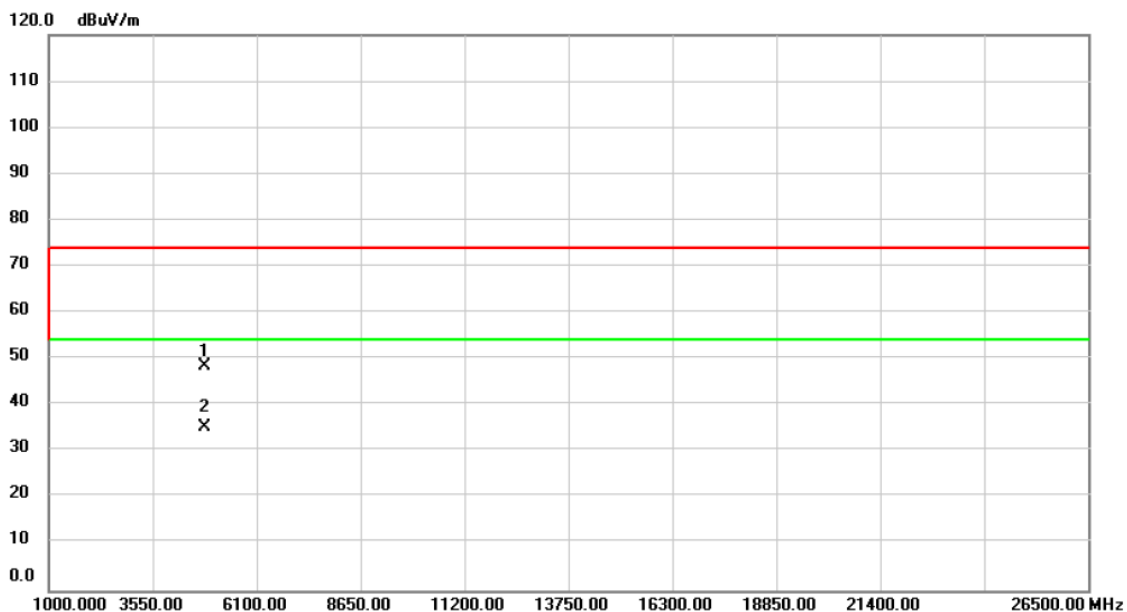
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2389.888	28.71	30.84	59.55	74.00	-14.45	peak	
2		2389.888	13.94	30.84	44.78	54.00	-9.22	AVG	
3	X	2412.000	72.46	30.92	103.38	74.00	29.38	peak	No Limit
4	*	2412.000	62.77	30.92	93.69	54.00	39.69	AVG	No Limit

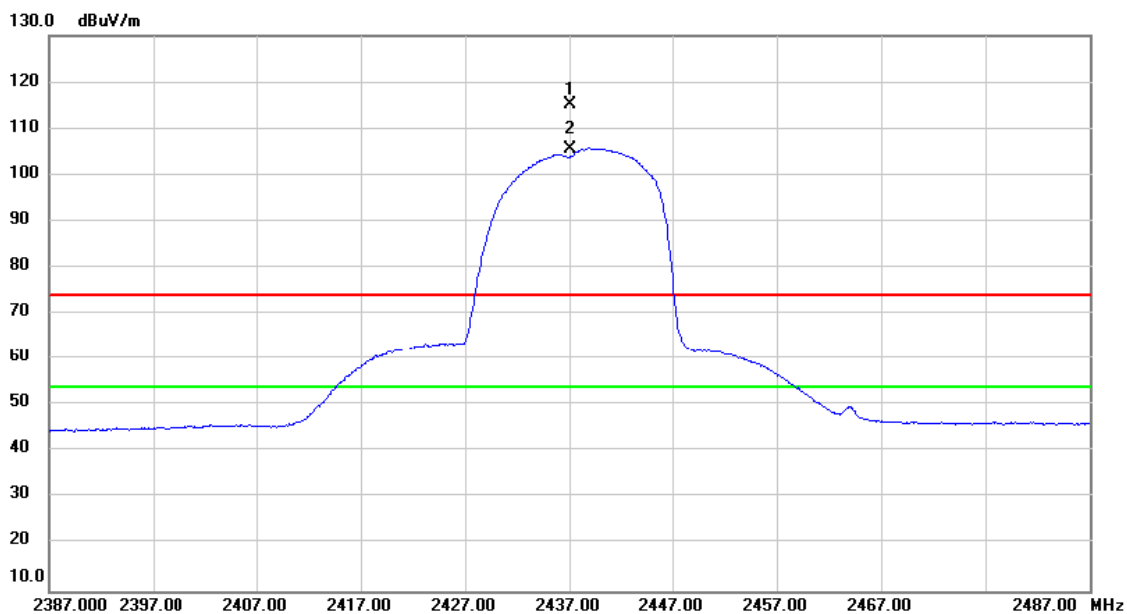
Test Mode	TX N (HT20) MODE 2412MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Orthogonal Axis: X



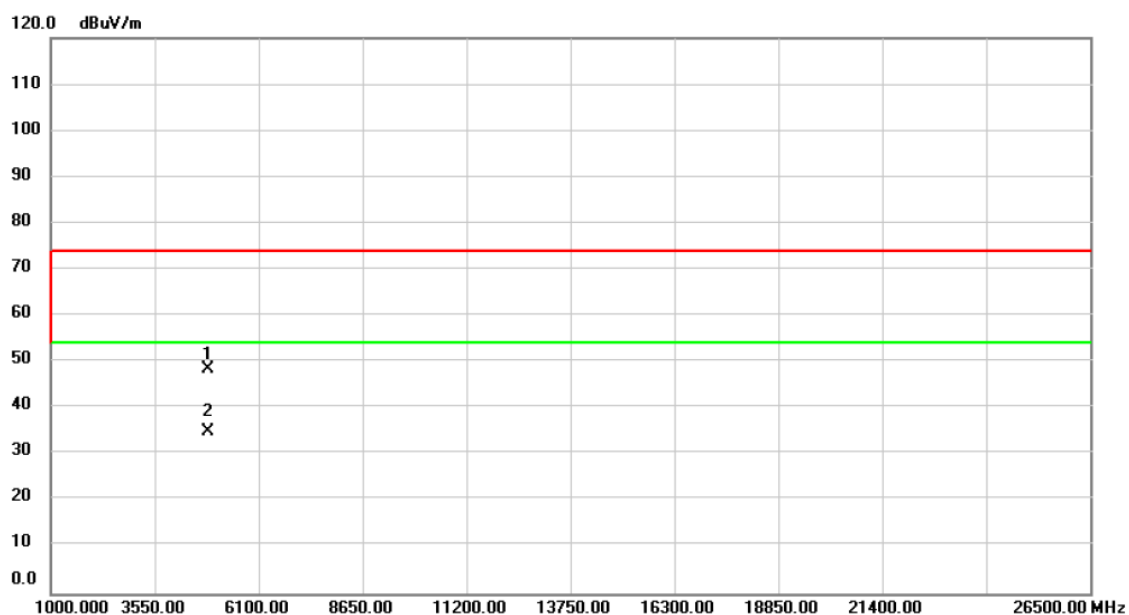
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	59.90	-11.48	48.42	74.00	-25.58	peak	
2	*	4824.000	46.62	-11.48	35.14	54.00	-18.86	AVG	

Test Mode	TX N (HT20) MODE 2437MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	84.25	31.01	115.26	74.00	41.26	peak	No Limit
2	*	2437.000	74.66	31.01	105.67	54.00	51.67	AVG	No Limit

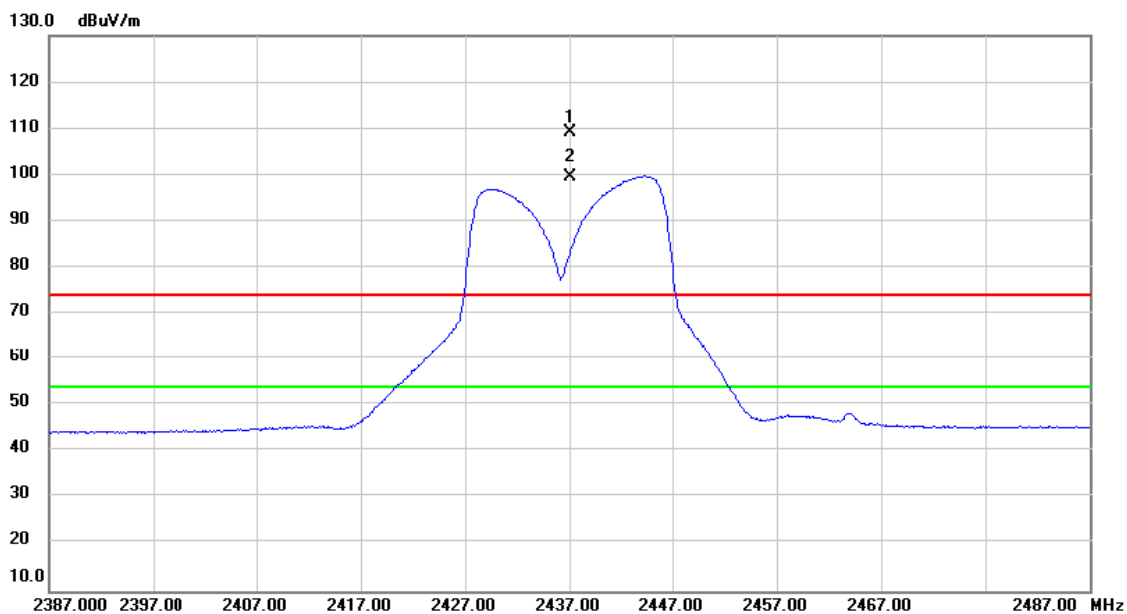
Test Mode	TX N (HT20) MODE 2437MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	59.92	-11.42	48.50	74.00	-25.50	peak	
2	*	4874.000	46.37	-11.42	34.95	54.00	-19.05	AVG	

Test Mode	TX N (HT20) MODE 2437MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

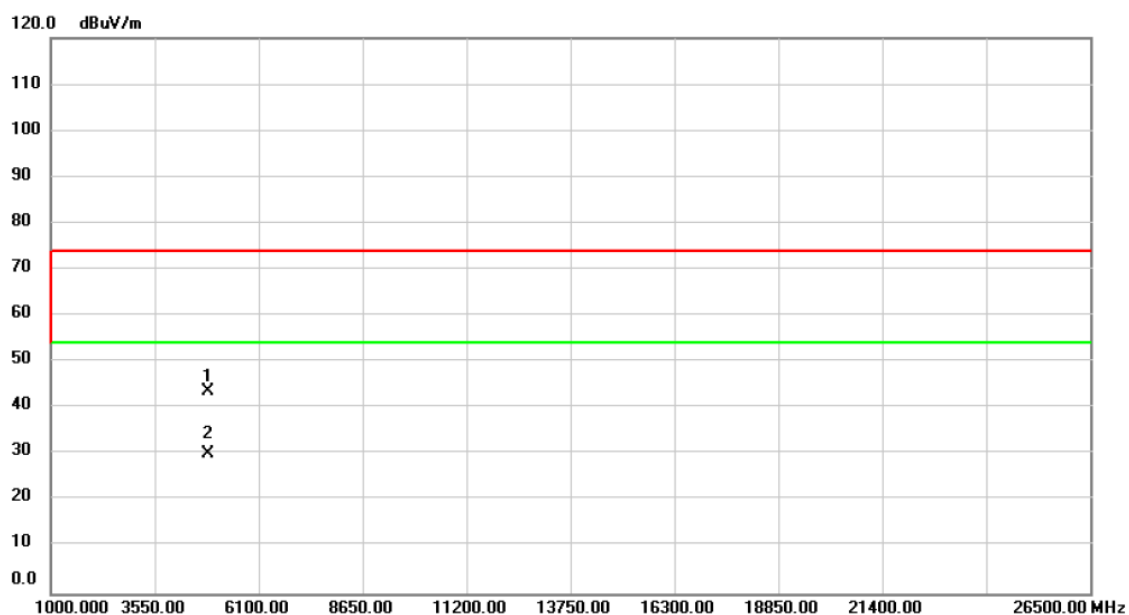
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	78.11	31.01	109.12	74.00	35.12	peak	No Limit
2	*	2437.000	68.65	31.01	99.66	54.00	45.66	AVG	No Limit

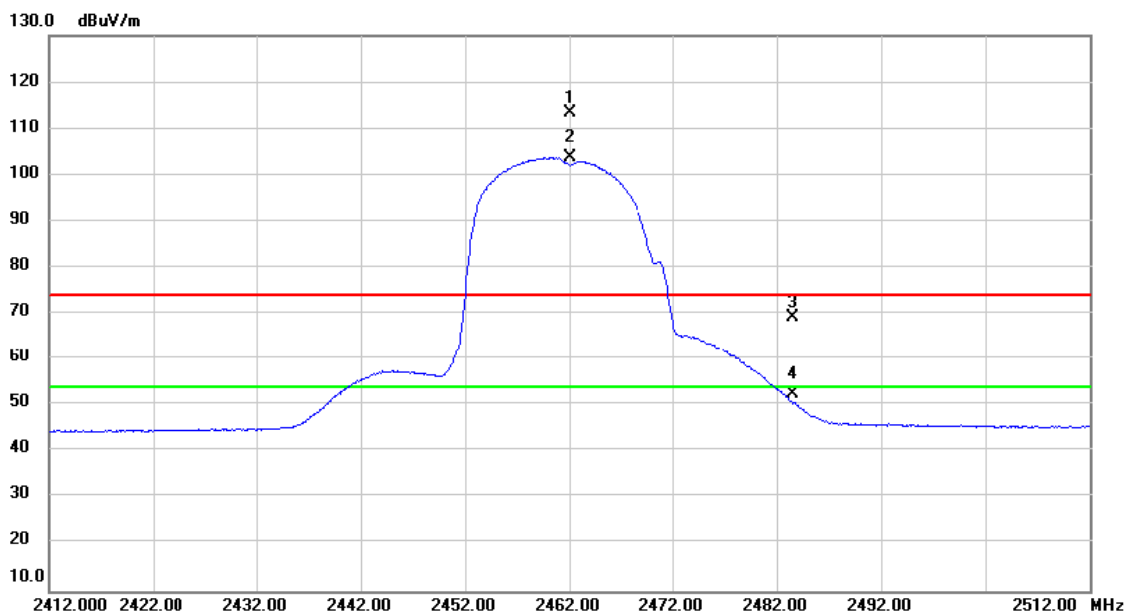
Test Mode	TX N (HT20) MODE 2437MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Orthogonal Axis: X



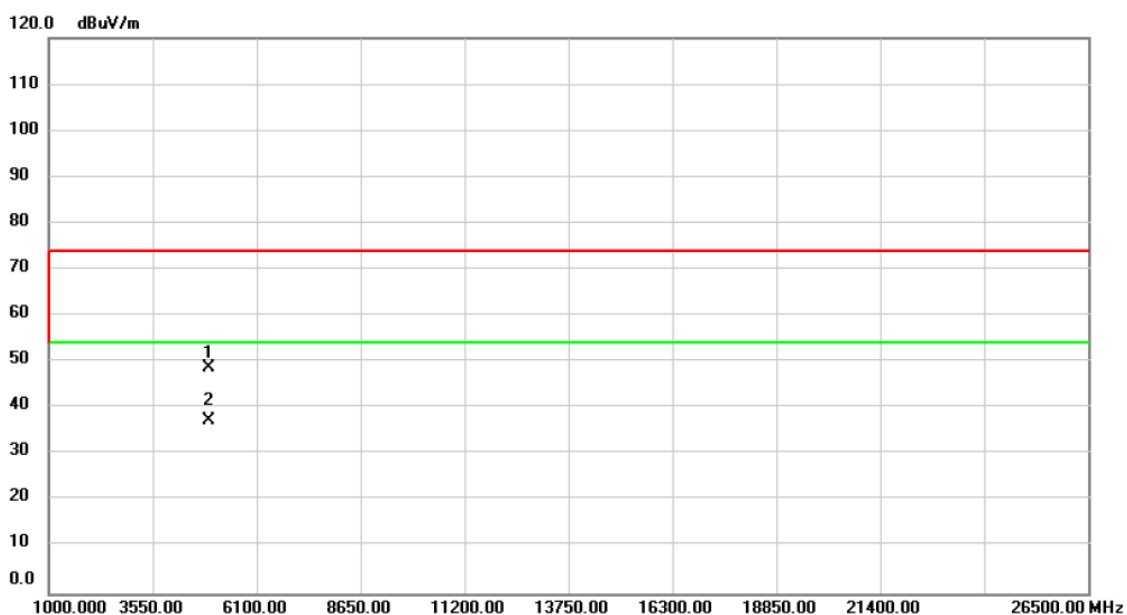
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	54.96	-11.42	43.54	74.00	-30.46	peak	
2	*	4874.000	41.65	-11.42	30.23	54.00	-23.77	AVG	

Test Mode	TX N (HT20) MODE 2462MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2462.000	82.24	31.09	113.33	74.00	39.33	peak	No Limit
2	*	2462.000	72.53	31.09	103.62	54.00	49.62	AVG	No Limit
3		2483.533	38.11	31.17	69.28	74.00	-4.72	peak	
4		2483.533	21.19	31.17	52.36	54.00	-1.64	AVG	

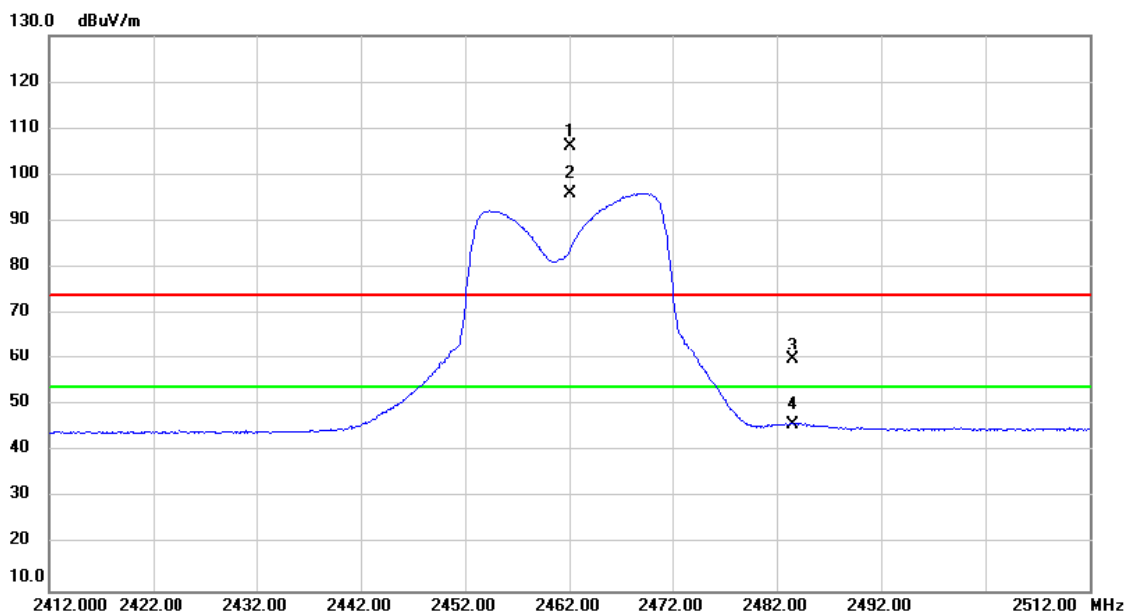
Test Mode	TX N (HT20) MODE 2462MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	59.99	-11.37	48.62	74.00	-25.38	peak	
2	*	4924.000	48.74	-11.37	37.37	54.00	-16.63	AVG	

Test Mode	TX N (HT20) MODE 2462MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

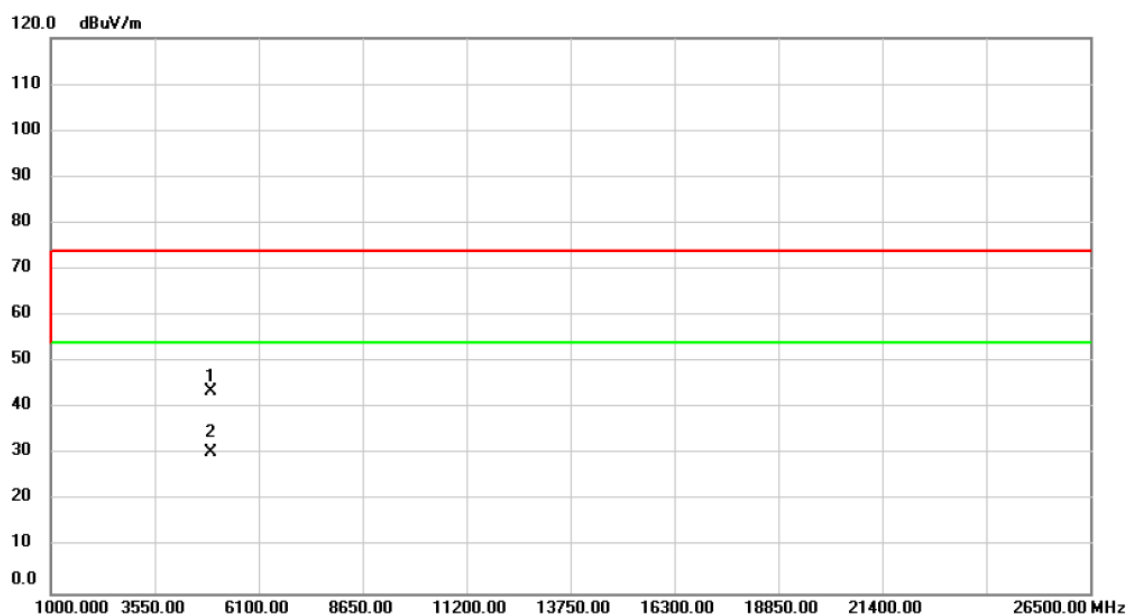
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2462.000	74.93	31.09	106.02	74.00	32.02	peak	No Limit
2	*	2462.000	64.78	31.09	95.87	54.00	41.87	AVG	No Limit
3		2483.517	28.76	31.17	59.93	74.00	-14.07	peak	
4		2483.517	14.76	31.17	45.93	54.00	-8.07	AVG	

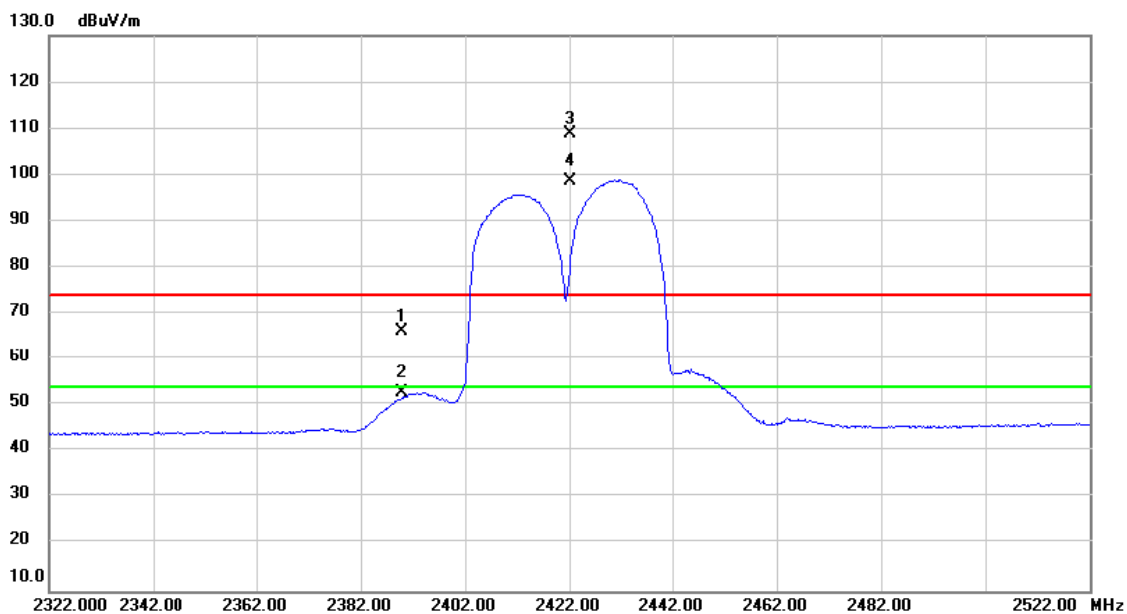
Test Mode	TX N (HT20) MODE 2462MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Orthogonal Axis: X



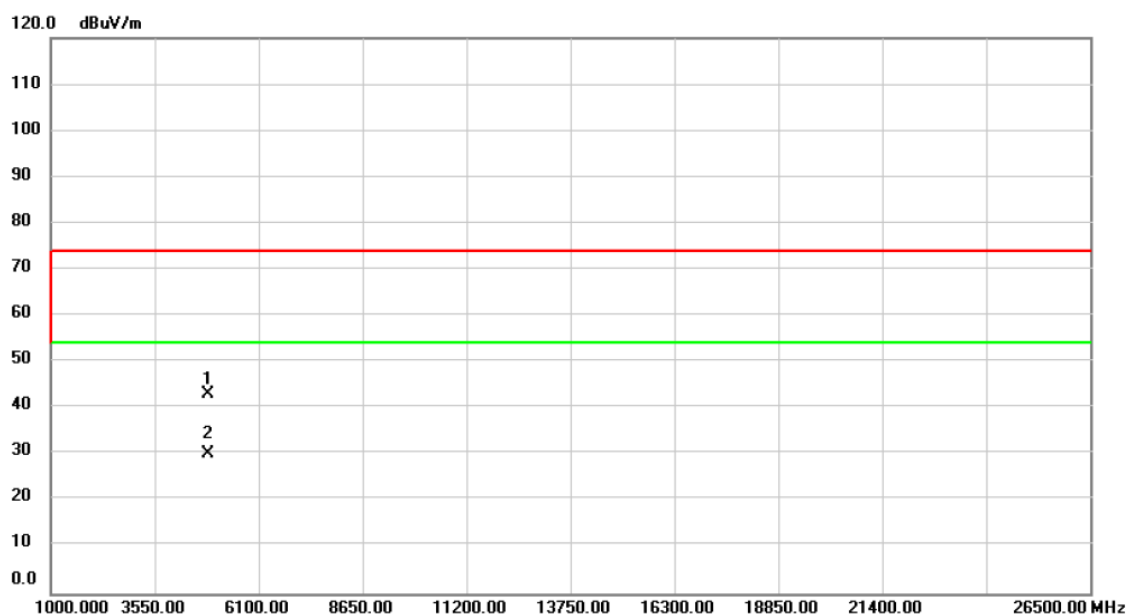
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	55.16	-11.37	43.79	74.00	-30.21	peak	
2	*	4924.000	41.90	-11.37	30.53	54.00	-23.47	AVG	

Test Mode	TX N (HT40) MODE 2422MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2389.932	35.29	30.84	66.13	74.00	-7.87	peak	
2		2389.932	21.88	30.84	52.72	54.00	-1.28	AVG	
3	X	2422.000	77.86	30.96	108.82	74.00	34.82	peak	No Limit
4	*	2422.000	67.79	30.96	98.75	54.00	44.75	AVG	No Limit

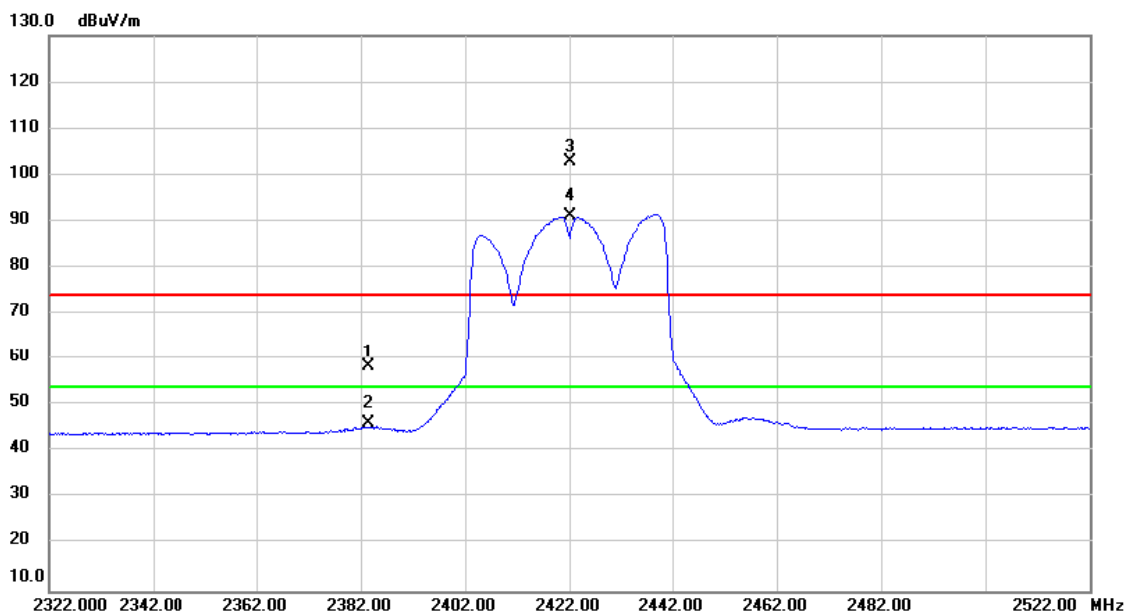
Test Mode	TX N (HT40) MODE 2422MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4844.000	54.61	-11.46	43.15	74.00	-30.85	peak	
2	*	4844.000	41.66	-11.46	30.20	54.00	-23.80	AVG	

Test Mode	TX N (HT40) MODE 2422MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

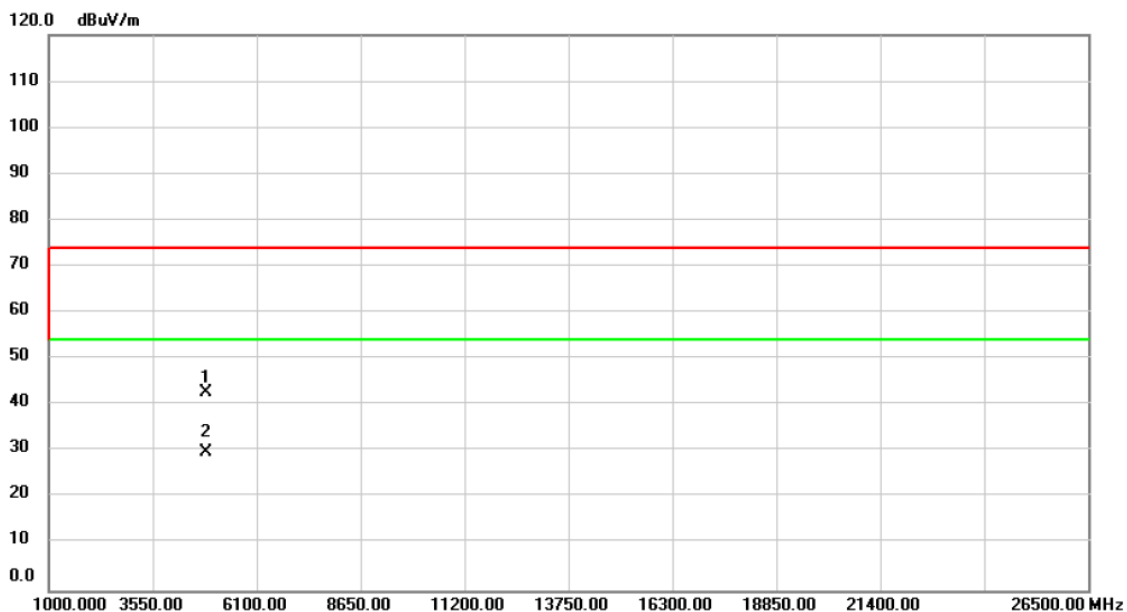
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2383.404	27.64	30.82	58.46	74.00	-15.54	peak	
2		2383.404	15.35	30.82	46.17	54.00	-7.83	AVG	
3	X	2422.000	71.86	30.96	102.82	74.00	28.82	peak	No Limit
4	*	2422.000	60.23	30.96	91.19	54.00	37.19	AVG	No Limit

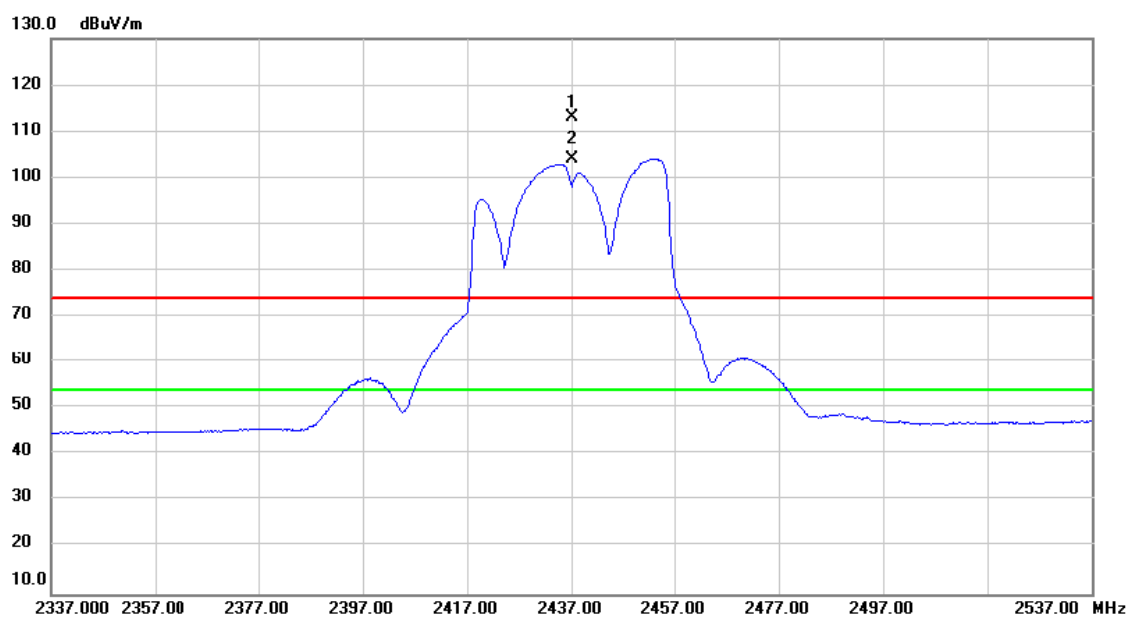
Test Mode	TX N (HT40) MODE 2422MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Orthogonal Axis: X



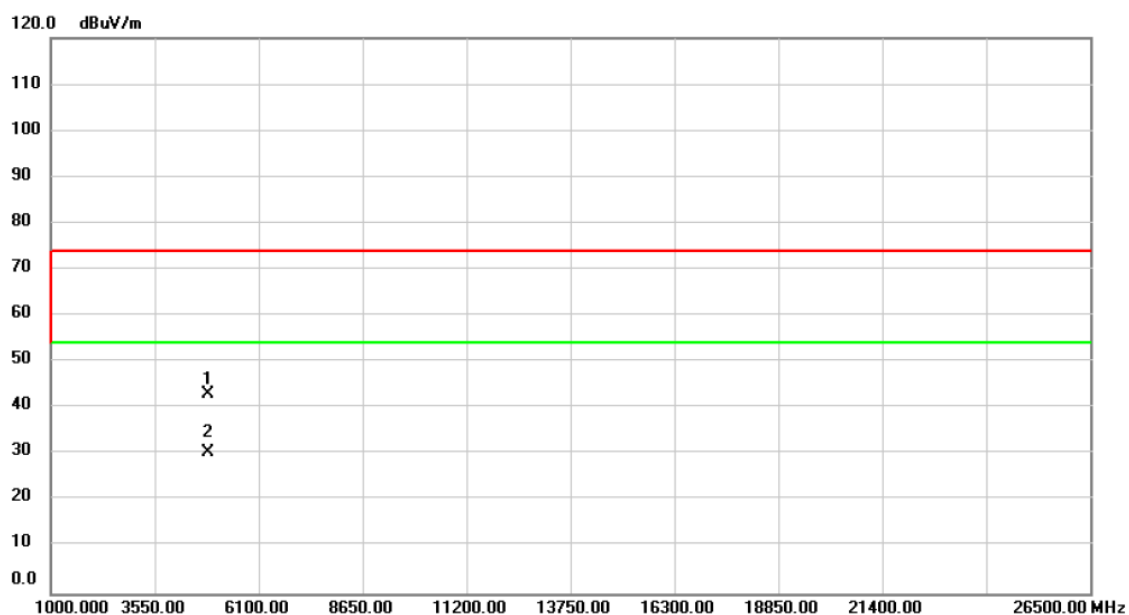
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4844.000	54.30	-11.46	42.84	74.00	-31.16	peak	
2	*	4844.000	41.44	-11.46	29.98	54.00	-24.02	AVG	

Test Mode	TX N (HT40) MODE 2437MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	81.98	31.01	112.99	74.00	38.99	peak	No Limit
2	*	2437.000	72.95	31.01	103.96	54.00	49.96	AVG	No Limit

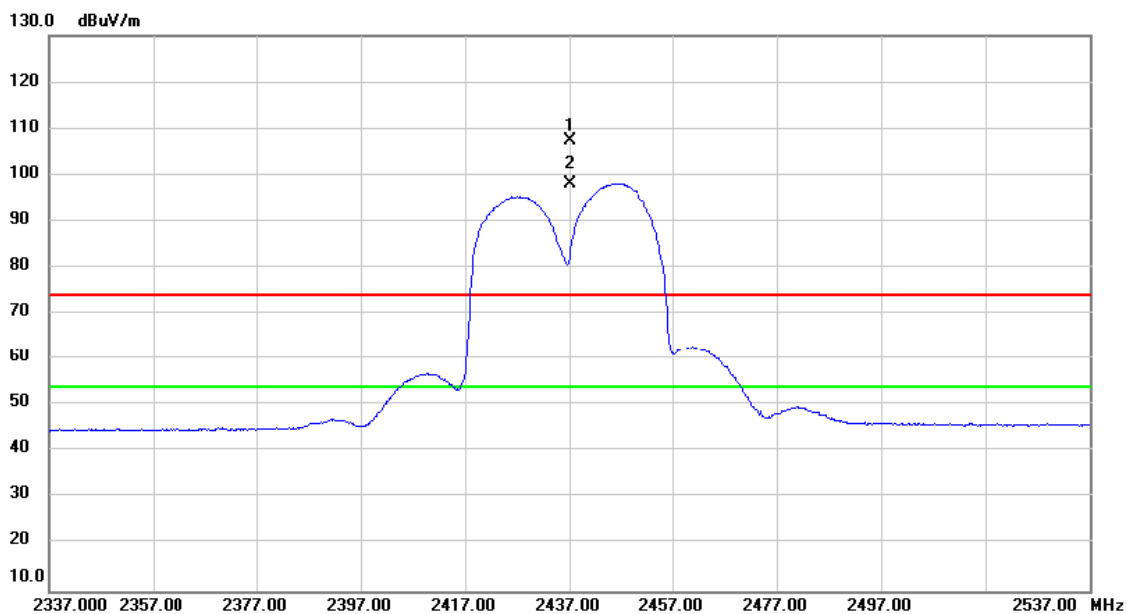
Test Mode	TX N (HT40) MODE 2437MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	54.59	-11.42	43.17	74.00	-30.83	peak	
2	*	4874.000	41.73	-11.42	30.31	54.00	-23.69	AVG	

Test Mode	TX N (HT40) MODE 2437MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

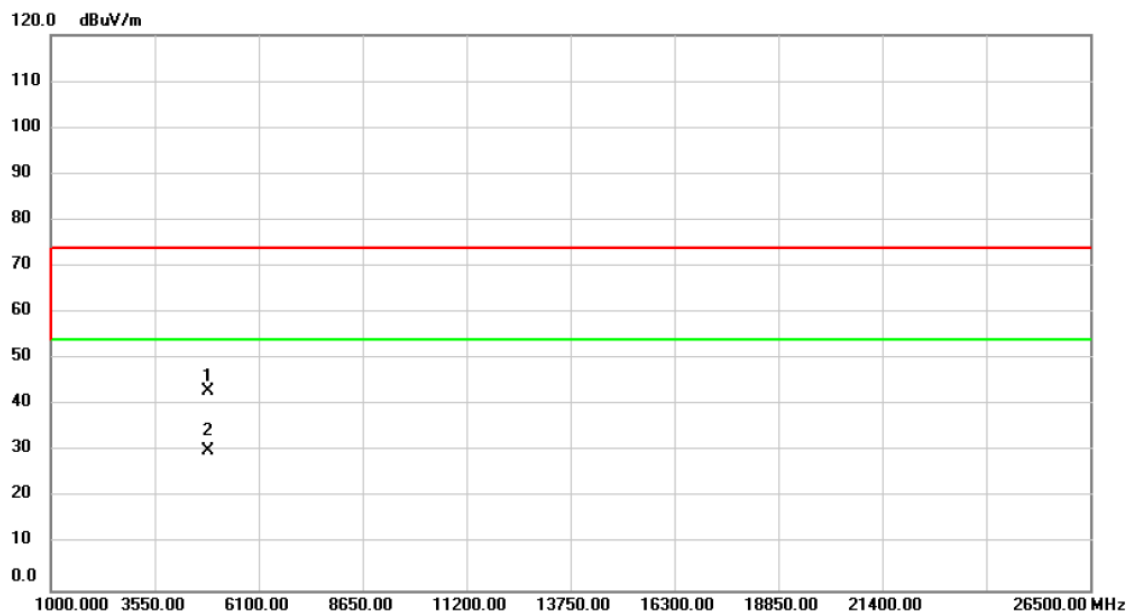
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2437.000	76.47	31.01	107.48	74.00	33.48	peak	No Limit
2	*	2437.000	67.18	31.01	98.19	54.00	44.19	AVG	No Limit

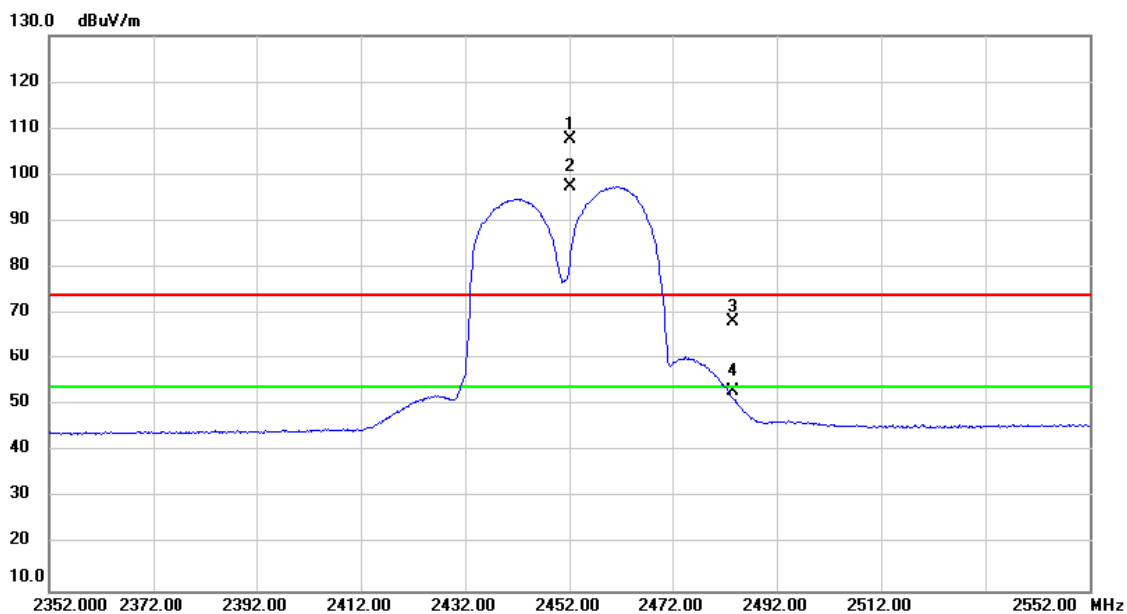
Test Mode	TX N (HT40) MODE 2437MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Orthogonal Axis: X



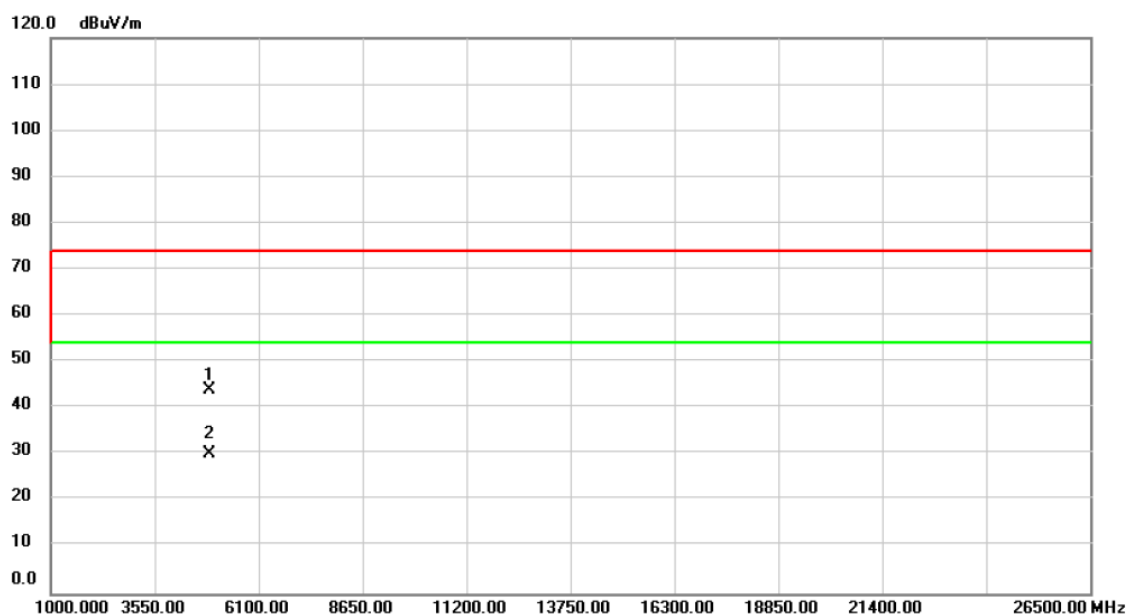
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	54.36	-11.42	42.94	74.00	-31.06	peak	
2	*	4874.000	41.58	-11.42	30.16	54.00	-23.84	AVG	

Test Mode	TX N (HT40) MODE 2452MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2452.000	76.63	31.07	107.70	74.00	33.70	peak	No Limit
2	*	2452.000	66.30	31.07	97.37	54.00	43.37	AVG	No Limit
3		2483.533	37.04	31.17	68.21	74.00	-5.79	peak	
4		2483.533	21.79	31.17	52.96	54.00	-1.04	AVG	

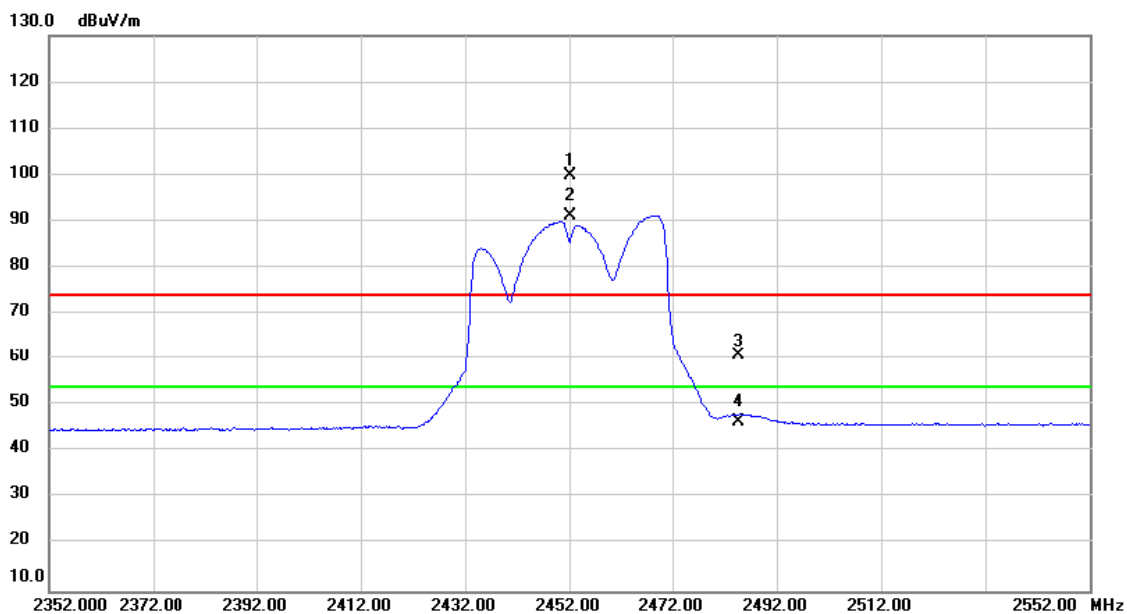
Test Mode	TX N (HT40) MODE 2452MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4904.000	55.20	-11.39	43.81	74.00	-30.19	peak	
2	*	4904.000	41.49	-11.39	30.10	54.00	-23.90	AVG	

Test Mode	TX N (HT40) MODE 2452MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

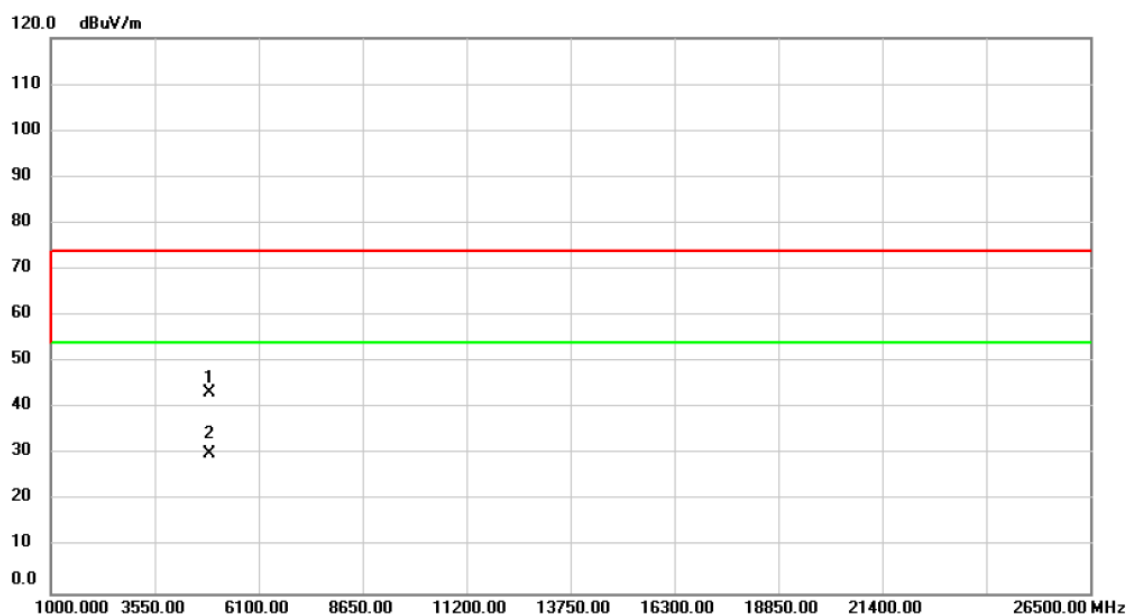
Orthogonal Axis: X



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2452.000	68.80	31.07	99.87	74.00	25.87	peak	No Limit
2	*	2452.000	60.07	31.07	91.14	54.00	37.14	AVG	No Limit
3		2484.556	29.65	31.18	60.83	74.00	-13.17	peak	
4		2484.556	15.37	31.18	46.55	54.00	-7.45	AVG	

Test Mode	TX N (HT40) MODE 2452MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Orthogonal Axis: X



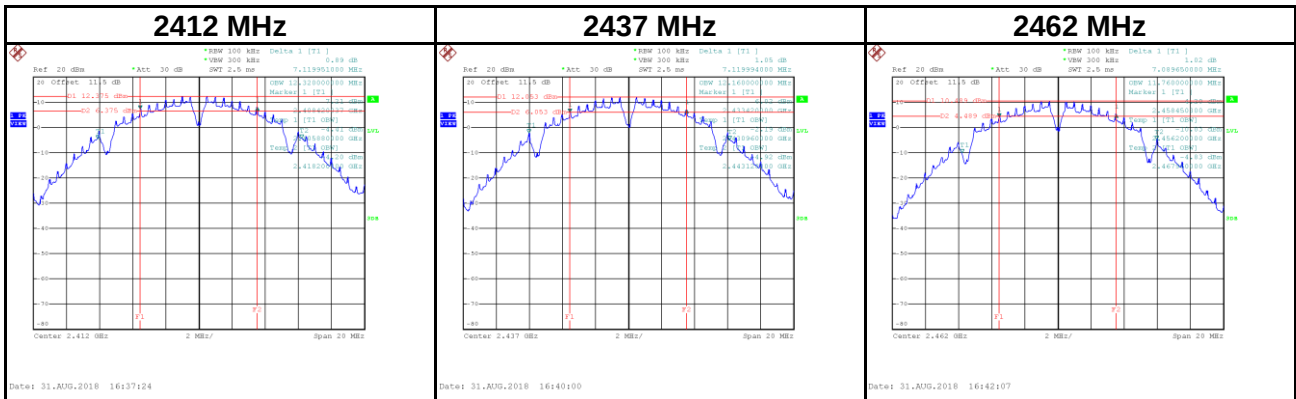
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4904.000	54.60	-11.39	43.21	74.00	-30.79	peak	
2	*	4904.000	41.58	-11.39	30.19	54.00	-23.81	AVG	

APPENDIX E BANDWIDTH

CONTINUE ON NEXT PAGE

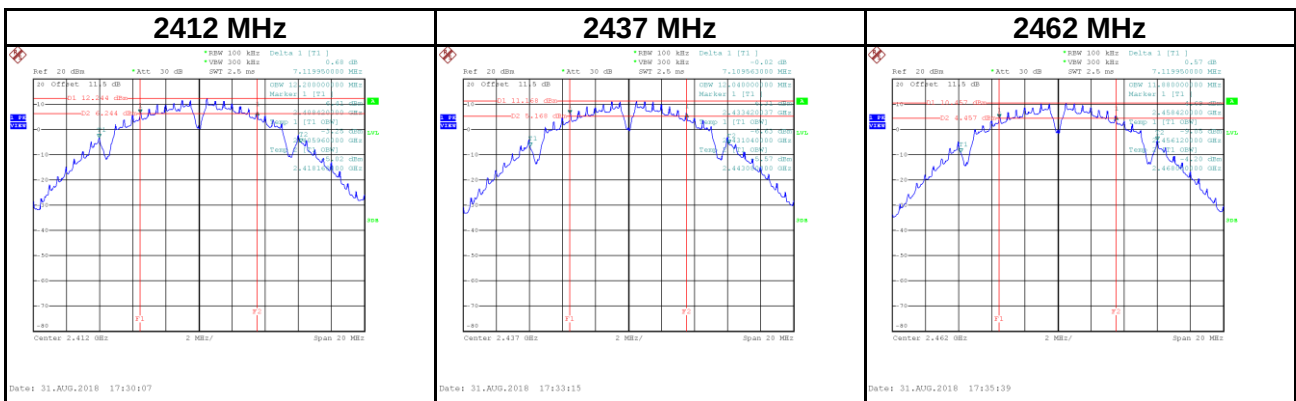
Test Mode	IEEE 802.11b_ANT 1
-----------	--------------------

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2412	7.12	12.32	500	Complies
2437	7.12	12.16	500	Complies
2462	7.09	11.76	500	Complies



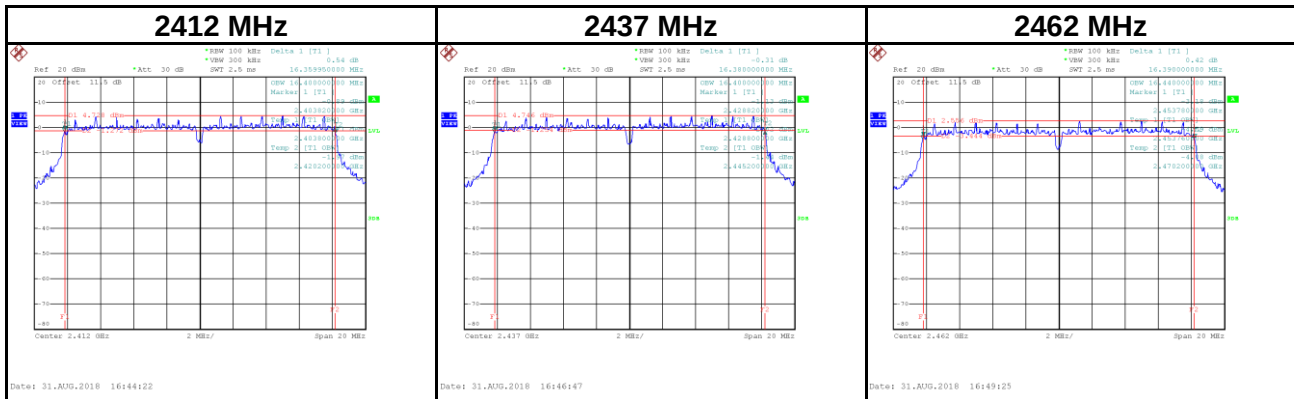
Test Mode	IEEE 802.11b_ANT 2
-----------	--------------------

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2412	7.12	12.20	500	Complies
2437	7.11	12.04	500	Complies
2462	7.12	11.88	500	Complies



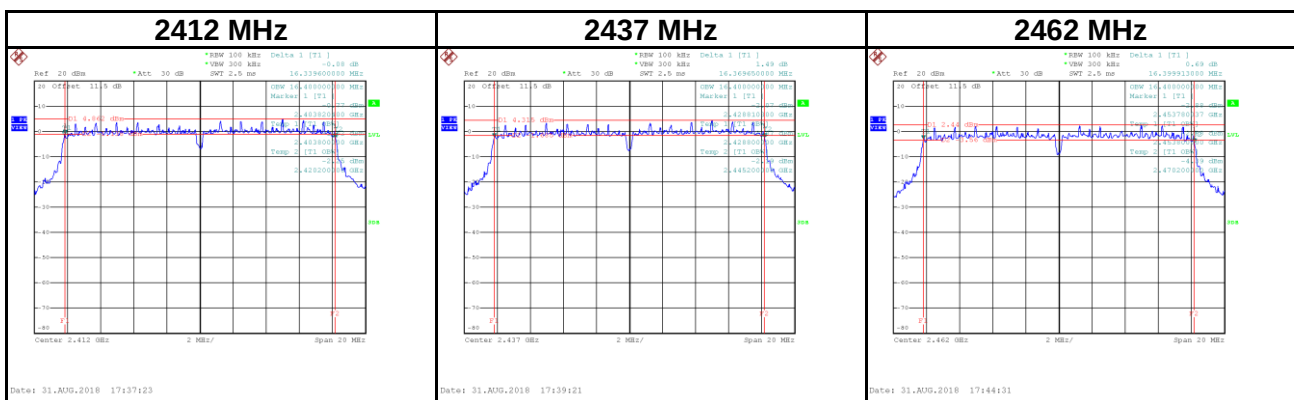
Test Mode	IEEE 802.11g_ANT 1
-----------	--------------------

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2412	16.36	16.40	500	Complies
2437	16.38	16.40	500	Complies
2462	16.39	16.44	500	Complies



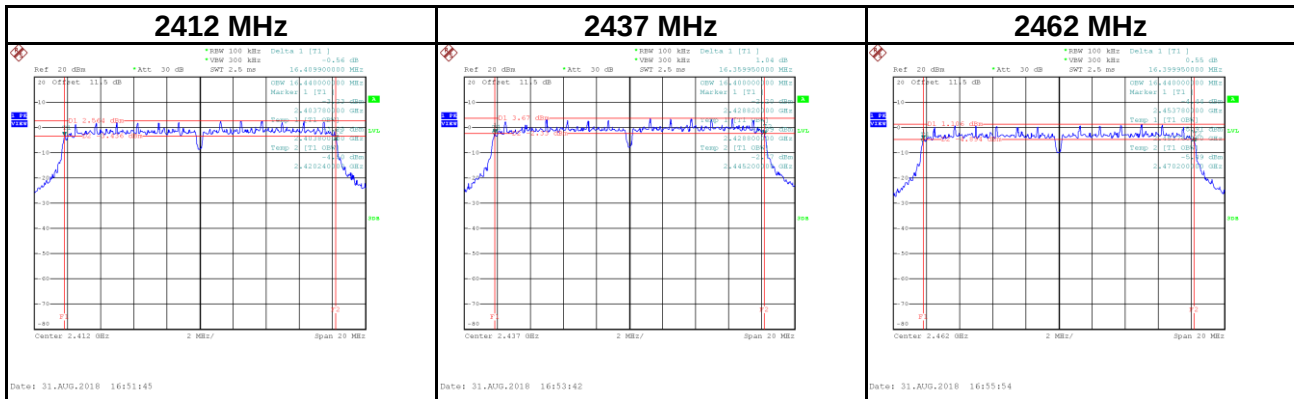
Test Mode	IEEE 802.11g_ANT 2
-----------	--------------------

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2412	16.34	16.40	500	Complies
2437	16.37	16.40	500	Complies
2462	16.40	16.40	500	Complies



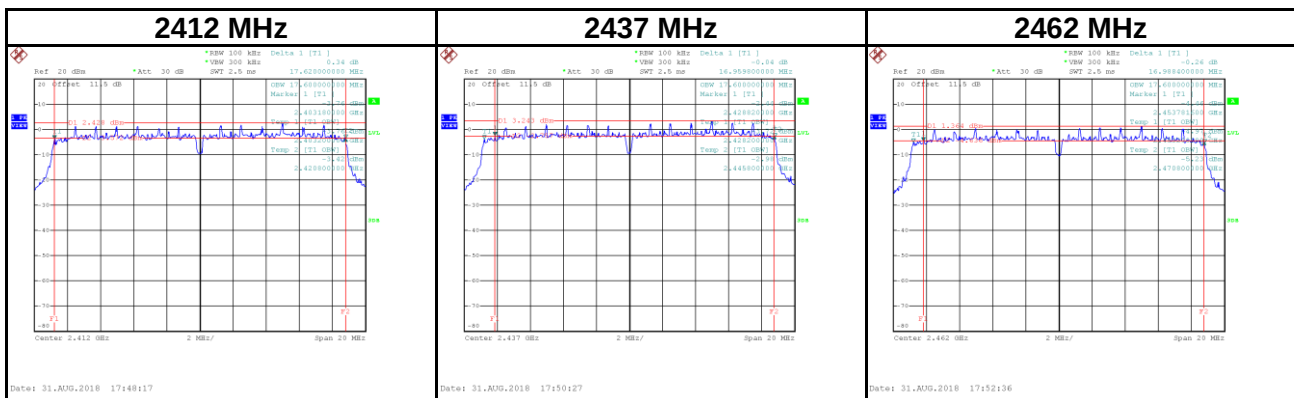
Test Mode	IEEE 802.11n (HT20)_ANT 1
-----------	---------------------------

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2412	16.41	16.44	500	Complies
2437	16.36	16.40	500	Complies
2462	16.40	16.44	500	Complies



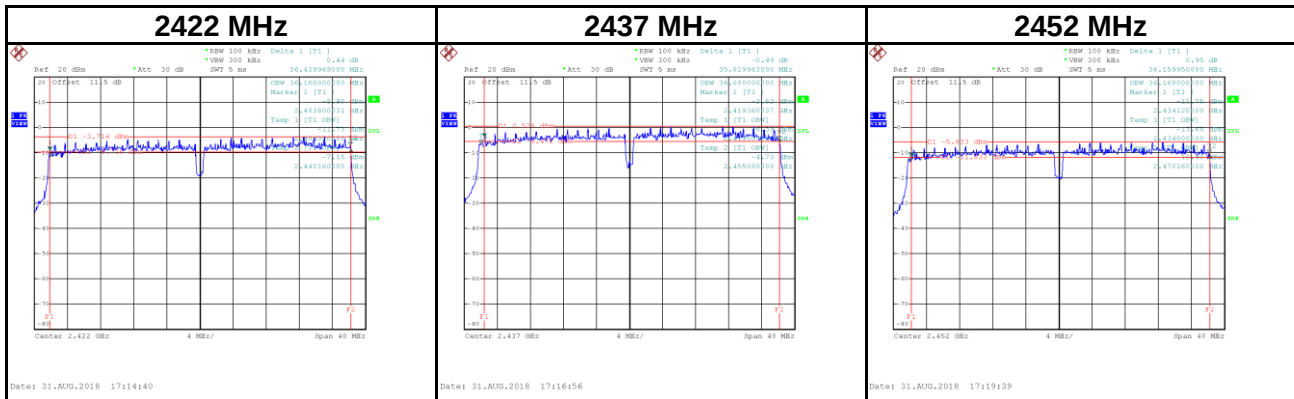
Test Mode	IEEE 802.11n (HT20)_ANT 2
-----------	---------------------------

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2412	17.62	17.60	500	Complies
2437	17.96	17.60	500	Complies
2462	16.99	17.60	500	Complies



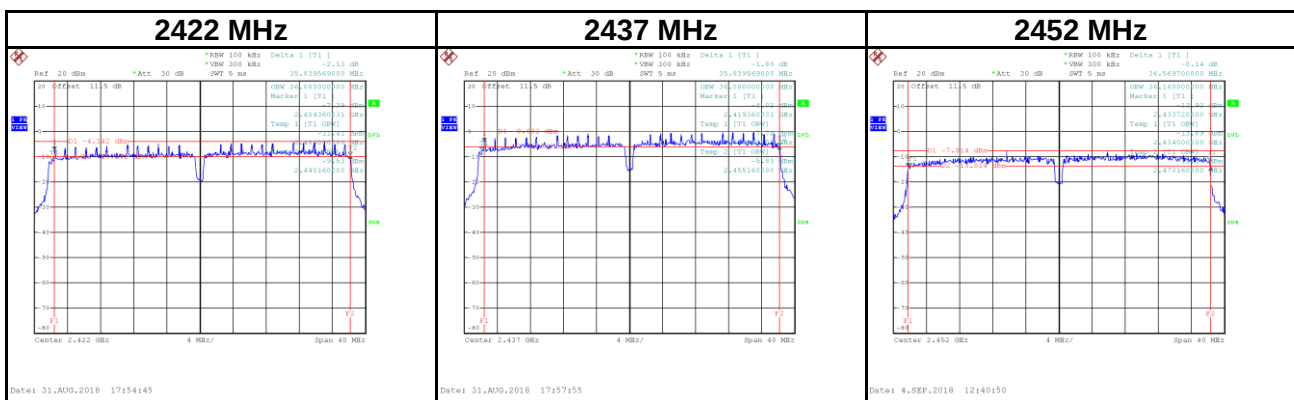
Test Mode IEEE 802.11n (HT40)_ANT 1

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2422	36.44	36.16	500	Complies
2437	35.83	36.08	500	Complies
2452	36.16	36.16	500	Complies



Test Mode IEEE 802.11n (HT40)_ANT 2

Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied BW (MHz)	6 dB BW Min. Limit (kHz)	Result
2422	35.84	36.08	500	Complies
2437	35.84	36.08	500	Complies
2452	36.57	36.16	500	Complies



APPENDIX F PEAK OUTPUT POWER

CONTINUE ON NEXT PAGE

Test Mode	IEEE 802.11b_ANT 1
-----------	--------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.60	0.1820	30.00	1.0000	Complies
2437	22.68	0.1854	30.00	1.0000	Complies
2462	20.78	0.1197	30.00	1.0000	Complies

Test Mode	IEEE 802.11b_ANT 2
-----------	--------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.38	0.1730	30.00	1.0000	Complies
2437	22.05	0.1603	30.00	1.0000	Complies
2462	20.76	0.1191	30.00	1.0000	Complies

Test Mode	IEEE 802.11b_Total
-----------	--------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	25.50	0.3550	30.00	1.0000	Complies
2437	25.39	0.3457	30.00	1.0000	Complies
2462	23.78	0.2388	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_ANT 1
-----------	--------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.83	0.1524	30.00	1.0000	Complies
2437	22.01	0.1589	30.00	1.0000	Complies
2462	19.76	0.0946	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_ANT 2
-----------	--------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.38	0.1374	30.00	1.0000	Complies
2437	21.18	0.1312	30.00	1.0000	Complies
2462	19.66	0.0925	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_Total
-----------	--------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	24.62	0.2898	30.00	1.0000	Complies
2437	24.63	0.2901	30.00	1.0000	Complies
2462	22.72	0.1871	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)_ANT 1
-----------	---------------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	20.03	0.1007	30.00	1.0000	Complies
2437	21.02	0.1265	30.00	1.0000	Complies
2462	18.41	0.0693	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)_ANT 2
-----------	---------------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.50	0.0891	30.00	1.0000	Complies
2437	20.13	0.1030	30.00	1.0000	Complies
2462	18.29	0.0675	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)_Total
-----------	---------------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.78	0.1898	30.00	1.0000	Complies
2437	23.61	0.2295	30.00	1.0000	Complies
2462	21.36	0.1368	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT40)_ANT 1
-----------	---------------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	20.52	0.1127	30.00	1.0000	Complies
2437	21.02	0.1265	30.00	1.0000	Complies
2452	18.49	0.0706	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT40)_ANT 2
-----------	---------------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	19.74	0.0942	30.00	1.0000	Complies
2437	20.16	0.1038	30.00	1.0000	Complies
2452	18.01	0.0632	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT40)_Total
-----------	---------------------------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	23.16	0.2069	30.00	1.0000	Complies
2437	23.62	0.2302	30.00	1.0000	Complies
2452	21.27	0.1339	30.00	1.0000	Complies

Test Mode	IEEE 802.11b_ANT 1
-----------	--------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.97	0.0993	30.00	1.0000	Complies
2437	19.95	0.0989	30.00	1.0000	Complies
2462	17.83	0.0607	30.00	1.0000	Complies

Test Mode	IEEE 802.11b_ANT 2
-----------	--------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.67	0.0927	30.00	1.0000	Complies
2437	19.21	0.0834	30.00	1.0000	Complies
2462	17.80	0.0603	30.00	1.0000	Complies

Test Mode	IEEE 802.11b_Total
-----------	--------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.83	0.1920	30.00	1.0000	Complies
2437	22.61	0.1822	30.00	1.0000	Complies
2462	20.83	0.1209	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_ANT 1
-----------	--------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	15.64	0.0366	30.00	1.0000	Complies
2437	15.97	0.0395	30.00	1.0000	Complies
2462	13.52	0.0225	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_ANT 2
-----------	--------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	15.31	0.0340	30.00	1.0000	Complies
2437	15.17	0.0329	30.00	1.0000	Complies
2462	13.48	0.0223	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_Total
-----------	--------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.49	0.0706	30.00	1.0000	Complies
2437	18.60	0.0724	30.00	1.0000	Complies
2462	16.51	0.0448	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)_ANT 1
-----------	---------------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	13.67	0.0233	30.00	1.0000	Complies
2437	14.85	0.0305	30.00	1.0000	Complies
2462	12.11	0.0163	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)_ANT 2
-----------	---------------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	13.25	0.0211	30.00	1.0000	Complies
2437	13.91	0.0246	30.00	1.0000	Complies
2462	11.90	0.0155	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)_Total
-----------	---------------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	16.48	0.0444	30.00	1.0000	Complies
2437	17.42	0.0552	30.00	1.0000	Complies
2462	15.02	0.0317	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT40)_ANT 1
-----------	---------------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	10.34	0.0108	30.00	1.0000	Complies
2437	14.85	0.0305	30.00	1.0000	Complies
2452	8.06	0.0064	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT40)_ANT 2
-----------	---------------------------

Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	9.80	0.0095	30.00	1.0000	Complies
2437	13.92	0.0247	30.00	1.0000	Complies
2452	7.71	0.0059	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT40)_Total
-----------	---------------------------

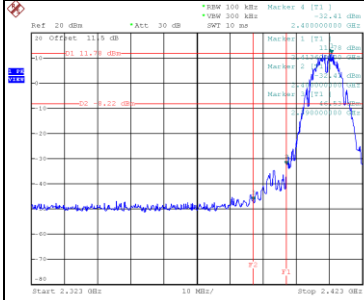
Frequency (MHz)	Average Power (dBm)	Average Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	13.09	0.0204	30.00	1.0000	Complies
2437	17.42	0.0552	30.00	1.0000	Complies
2452	10.90	0.0123	30.00	1.0000	Complies

APPENDIX G ANTENNA CONDUCTED SPURIOUS EMISSIONS

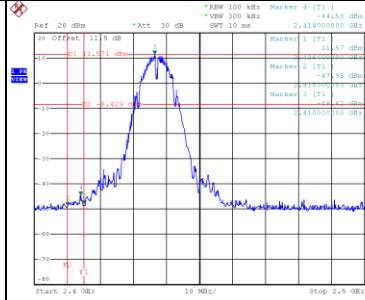
CONTINUE ON NEXT PAGE

Test Mode IEEE 802.11b_ANT 1

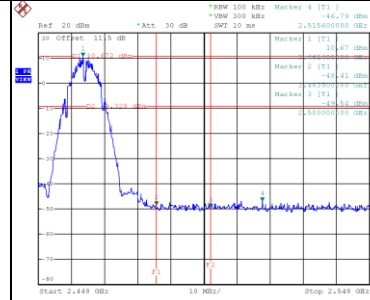
Bandedge-2412 MHz



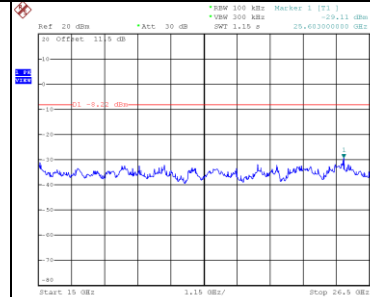
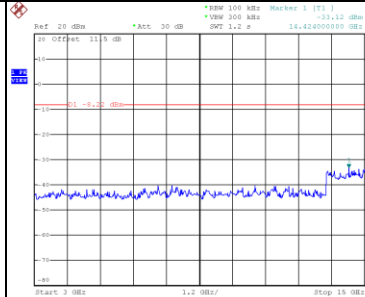
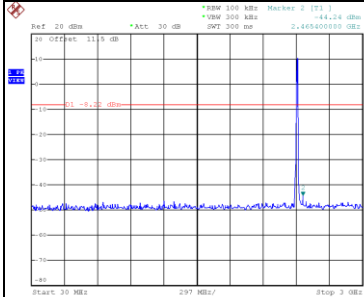
Bandedge-2437 MHz



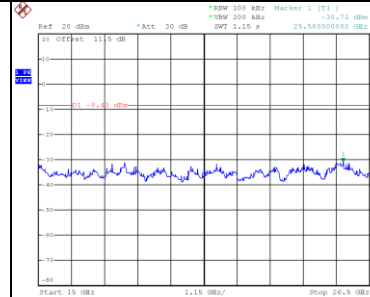
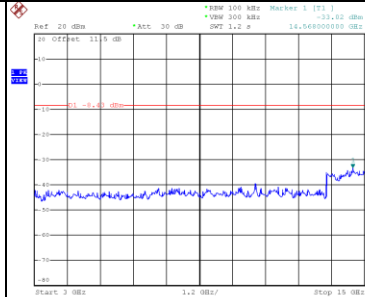
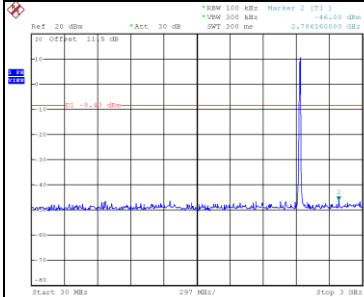
Bandedge-2462 MHz



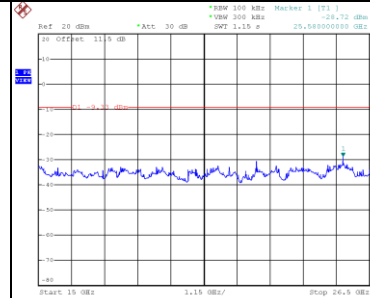
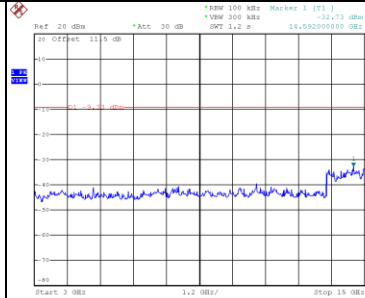
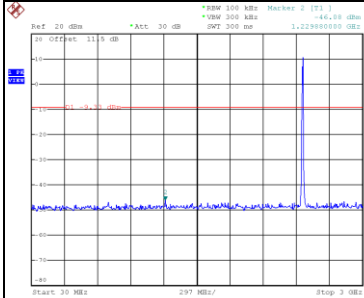
2412 MHz – 10 Harmonics



2437 MHz – 10 Harmonics

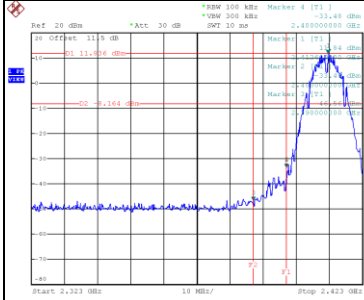


2462 MHz – 10 Harmonics

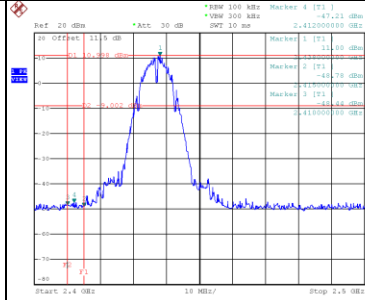


Test Mode IEEE 802.11b_ANT 2

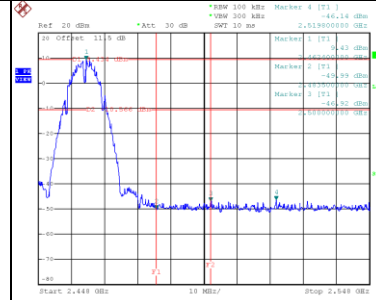
Bandedge-2412 MHz



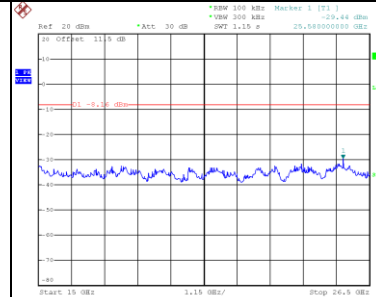
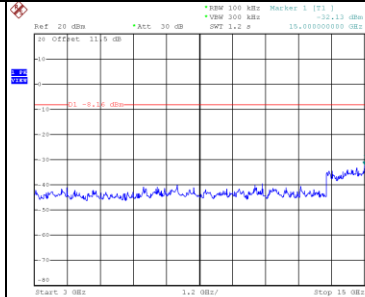
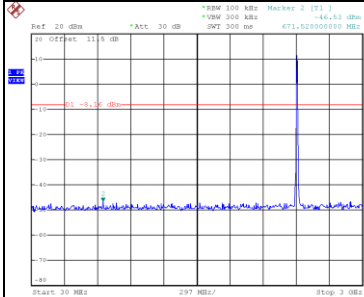
Bandedge-2437 MHz



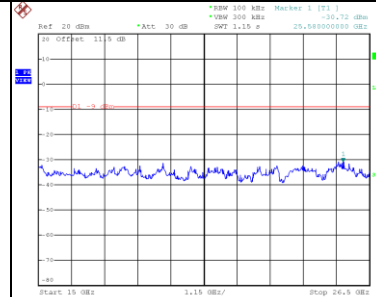
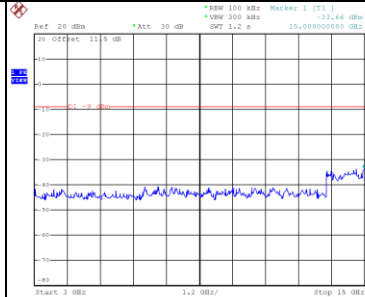
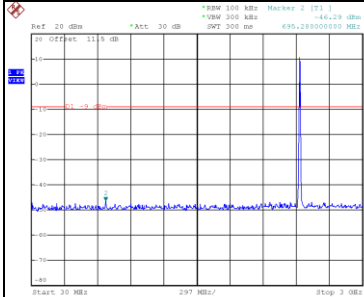
Bandedge-2462 MHz



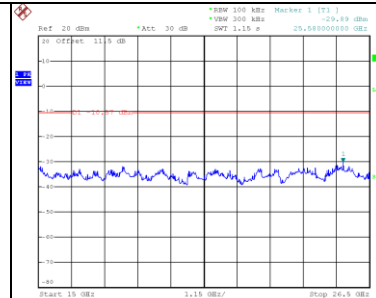
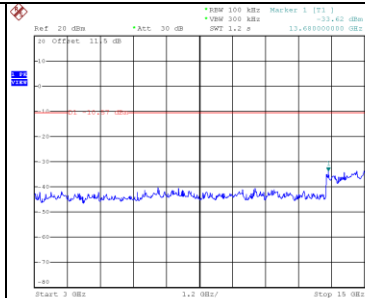
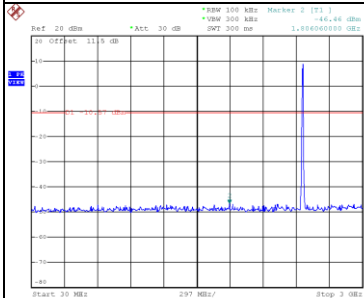
2412 MHz – 10 Harmonics



2437 MHz – 10 Harmonics

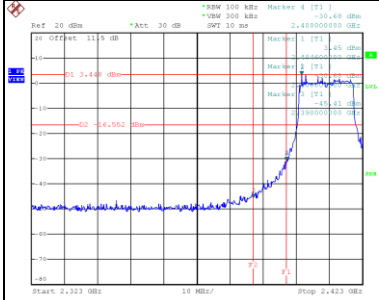


2462 MHz – 10 Harmonics

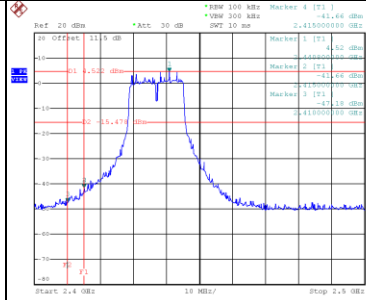


Test Mode IEEE 802.11g_ANT 1

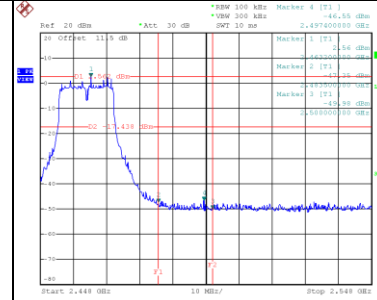
Bandedge-2412 MHz



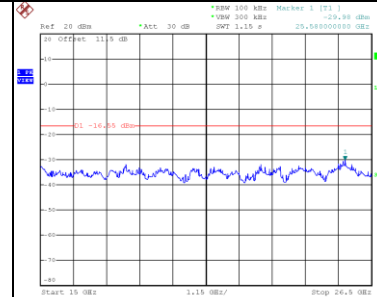
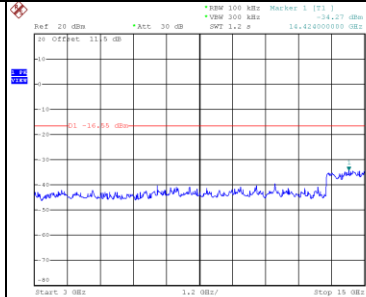
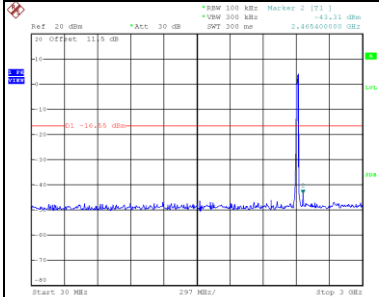
Bandedge-2437 MHz



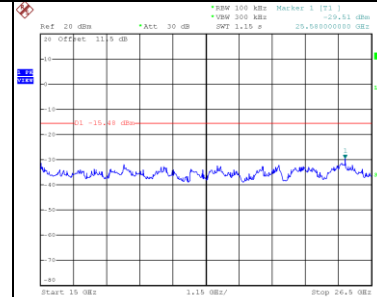
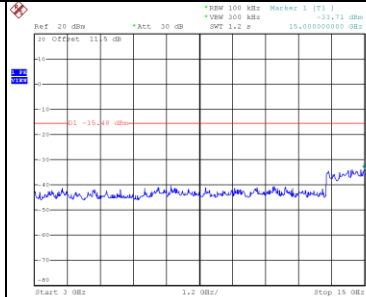
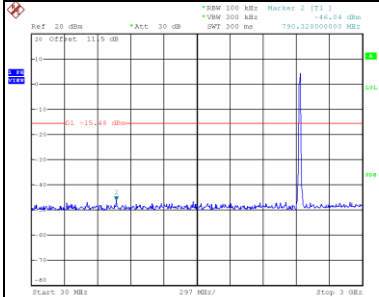
Bandedge-2462 MHz



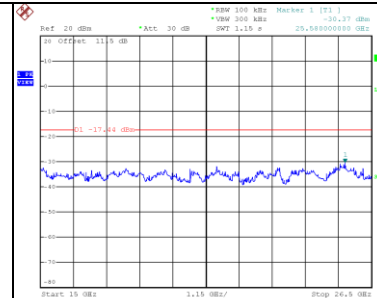
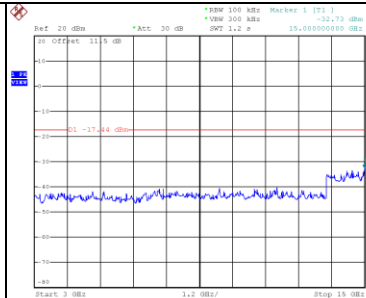
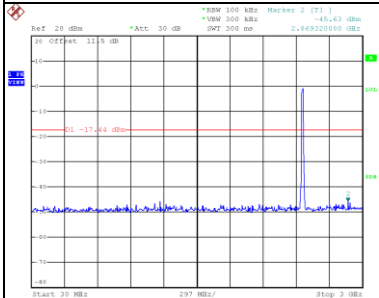
2412 MHz – 10 Harmonics



2437 MHz – 10 Harmonics

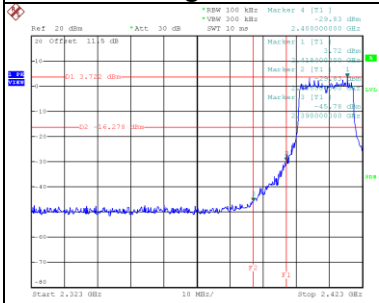


2462 MHz – 10 Harmonics

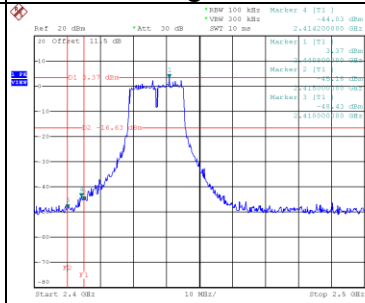


Test Mode IEEE 802.11g_ANT 2

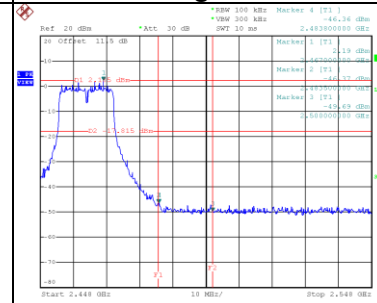
Bandedge-2412 MHz



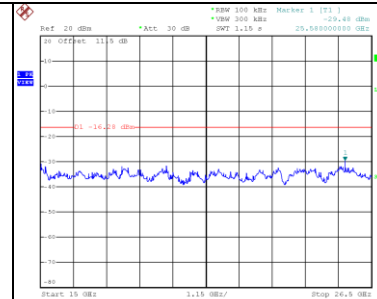
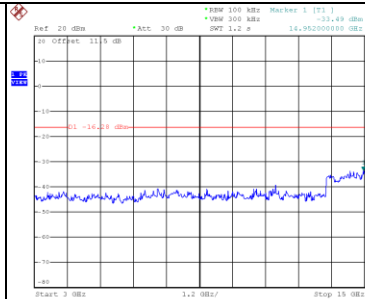
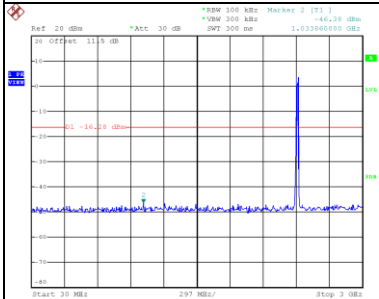
Bandedge-2437 MHz



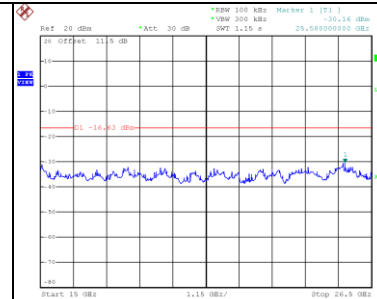
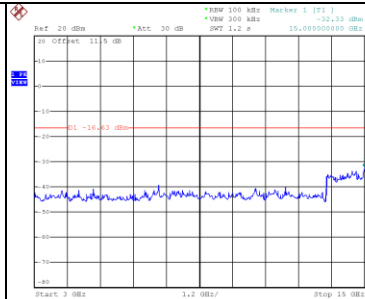
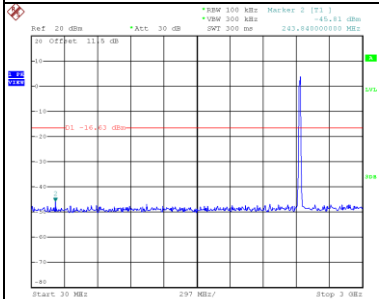
Bandedge-2462 MHz



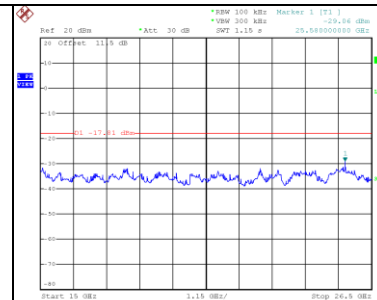
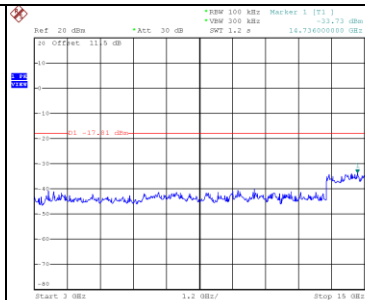
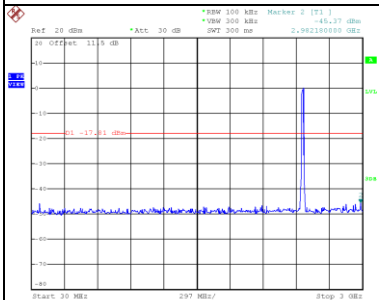
2412 MHz – 10 Harmonics



2437 MHz – 10 Harmonics

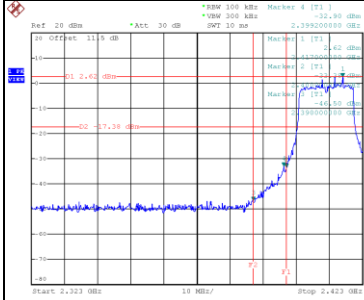


2462 MHz – 10 Harmonics

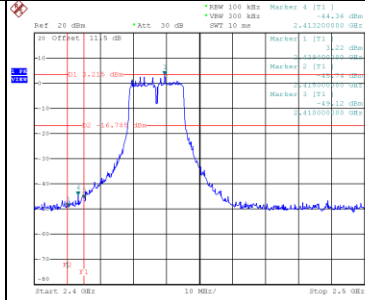


Test Mode IEEE 802.11n (HT20)_ANT 1

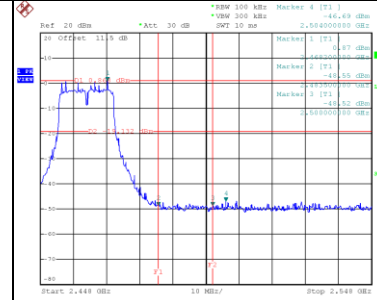
Bandedge-2412 MHz



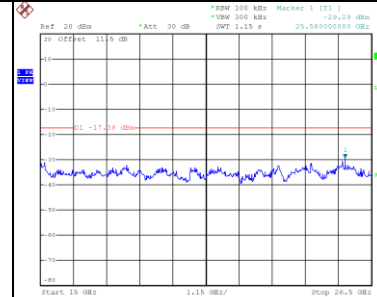
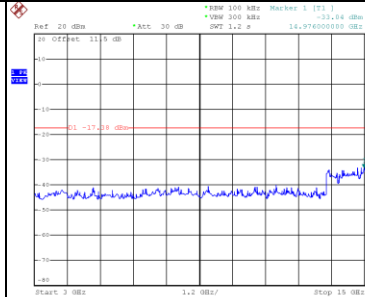
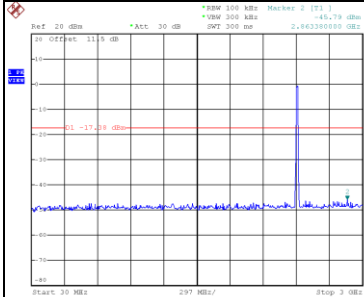
Bandedge-2437 MHz



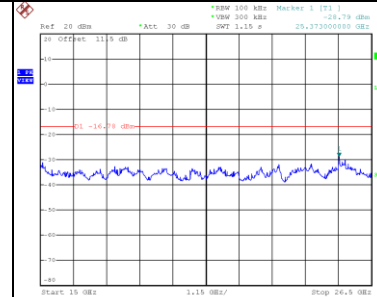
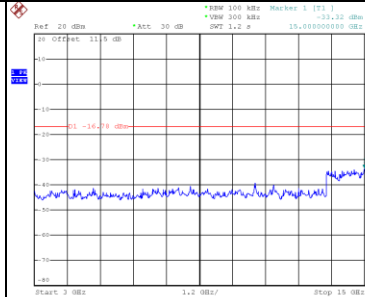
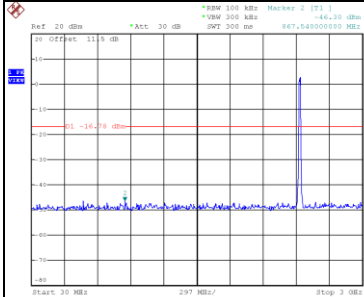
Bandedge-2462 MHz



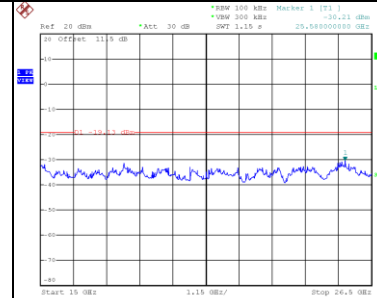
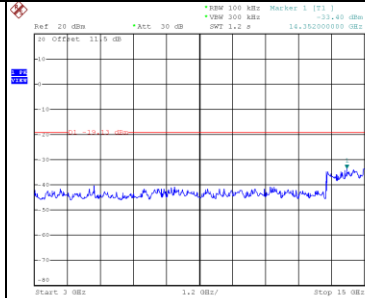
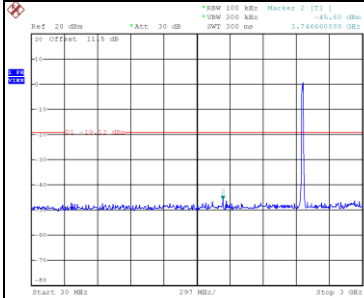
2412 MHz – 10 Harmonics



2437 MHz – 10 Harmonics

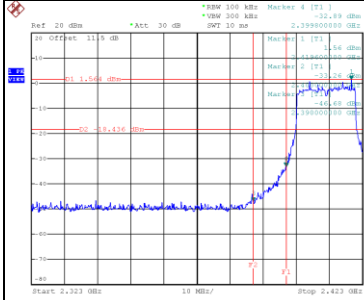


2462 MHz – 10 Harmonics

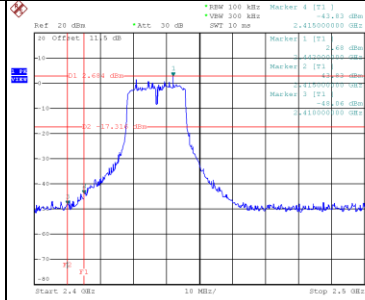


Test Mode IEEE 802.11n (HT20)_ANT 2

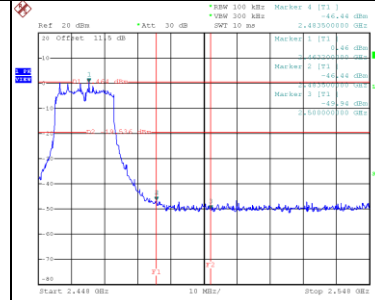
Bandedge-2412 MHz



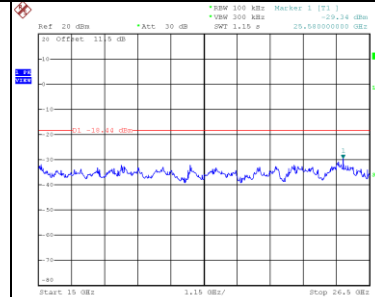
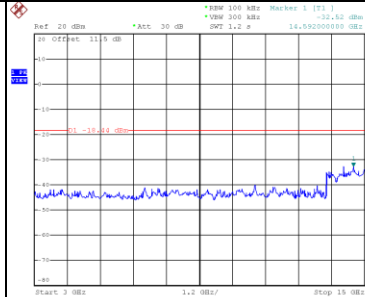
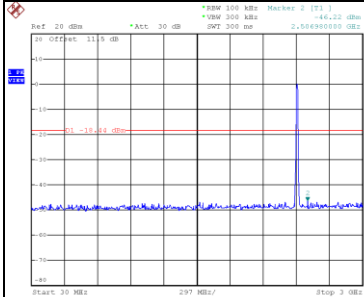
Bandedge-2437 MHz



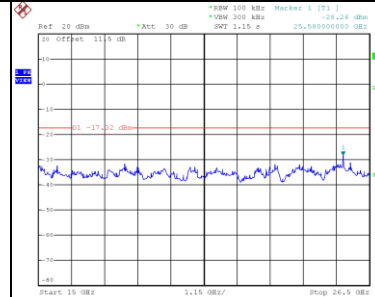
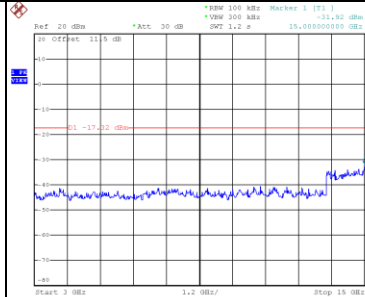
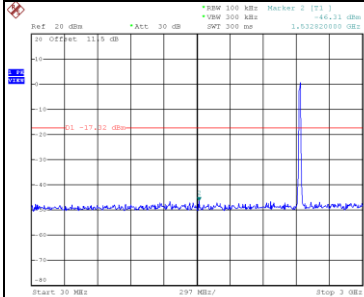
Bandedge-2462 MHz



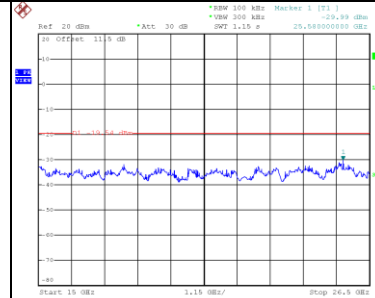
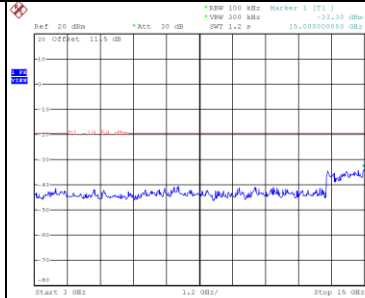
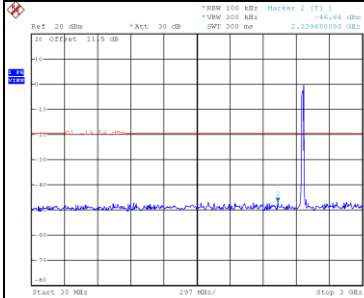
2412 MHz – 10 Harmonics



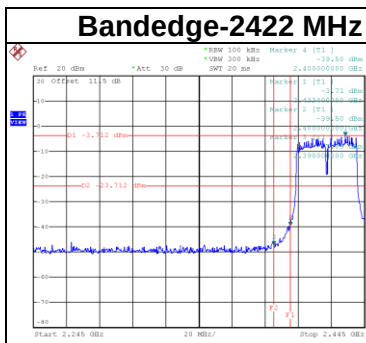
2437 MHz – 10 Harmonics



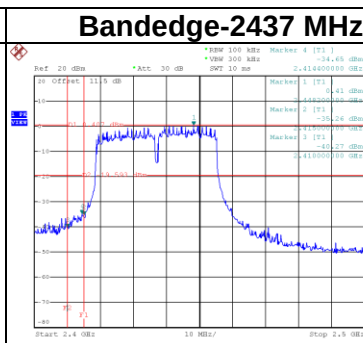
2462 MHz – 10 Harmonics



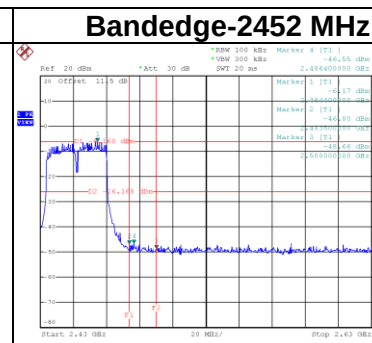
Test Mode	IEEE 802.11n (HT40)_ANT 1
-----------	---------------------------



Date: 31.AUG.2018 17:15:05

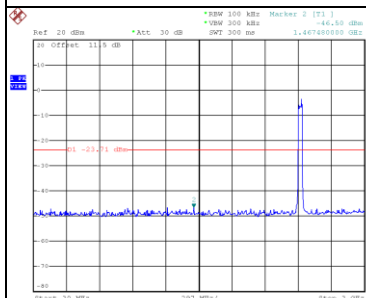


Date: 31.AUG.2018 17:17:04

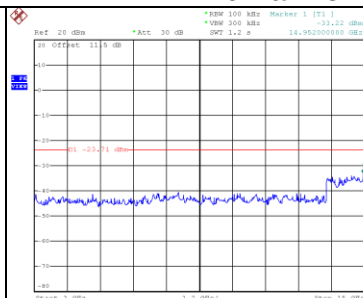


Date: 31.AUG.2018 17:19:47

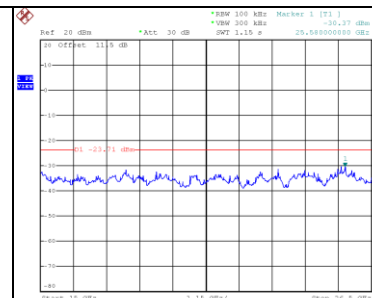
2422 MHz – 10 Harmonics



Date: 31.AUG.2018 17:15:18

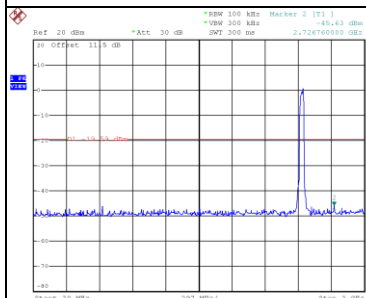


Date: 31.AUG.2018 17:15:25

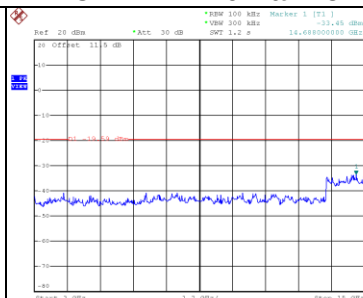


Date: 31.AUG.2018 17:15:32

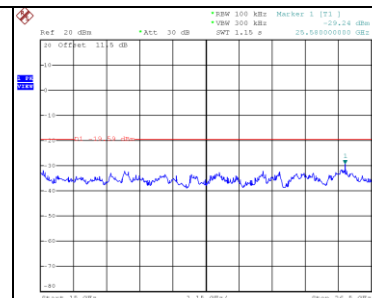
2437 MHz – 10 Harmonics



Date: 31.AUG.2018 17:17:17

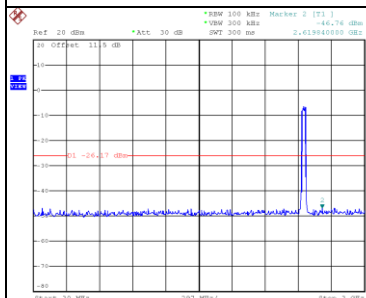


Date: 31.AUG.2018 17:17:24

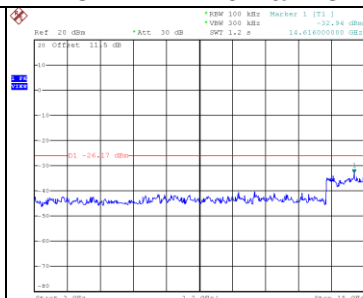


Date: 31.AUG.2018 17:17:31

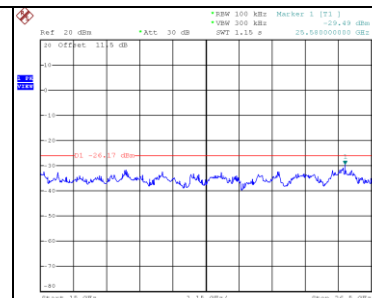
2452 MHz – 10 Harmonics



Date: 31.AUG.2018 17:20:00



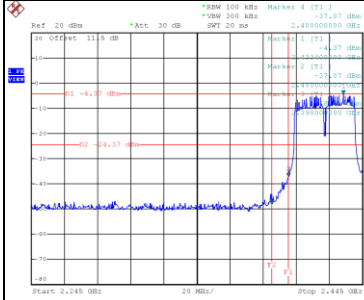
Date: 31.AUG.2018 17:20:07



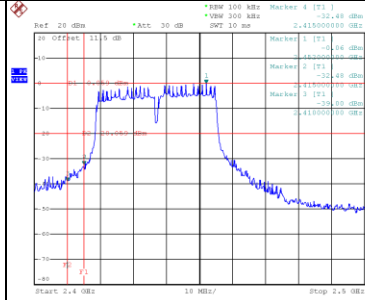
Date: 31.AUG.2018 17:20:14

Test Mode IEEE 802.11n (HT40)_ANT 2

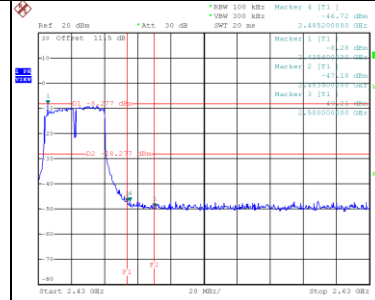
Bandedge-2422 MHz



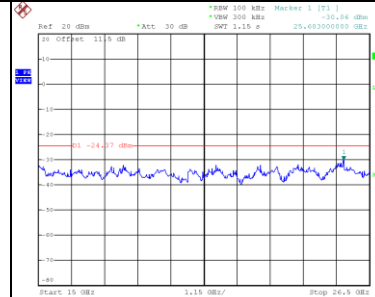
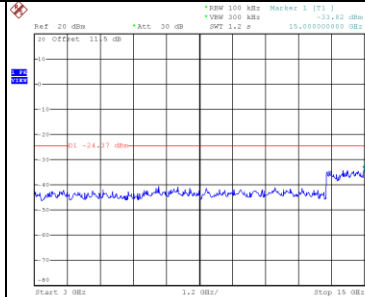
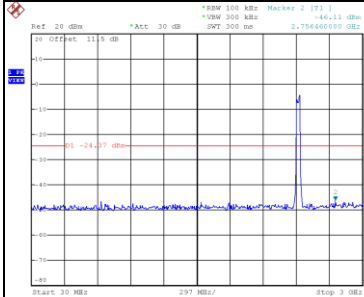
Bandedge-2437 MHz



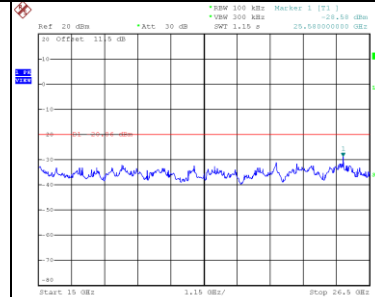
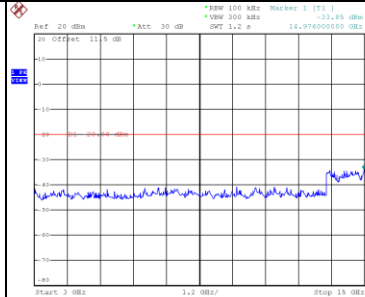
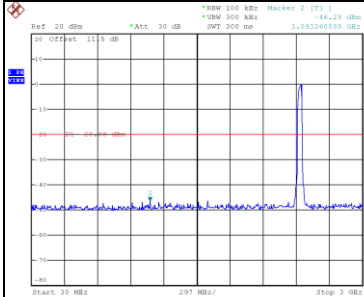
Bandedge-2452 MHz



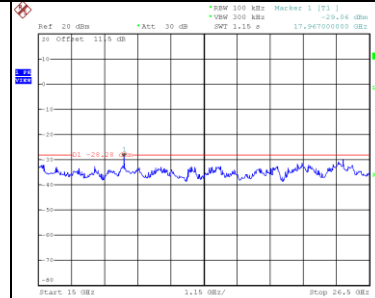
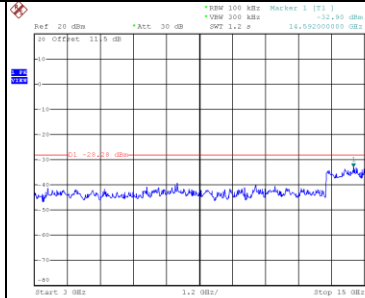
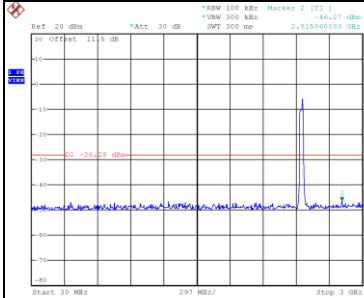
2422 MHz – 10 Harmonics



2437 MHz – 10 Harmonics



2452 MHz – 10 Harmonics

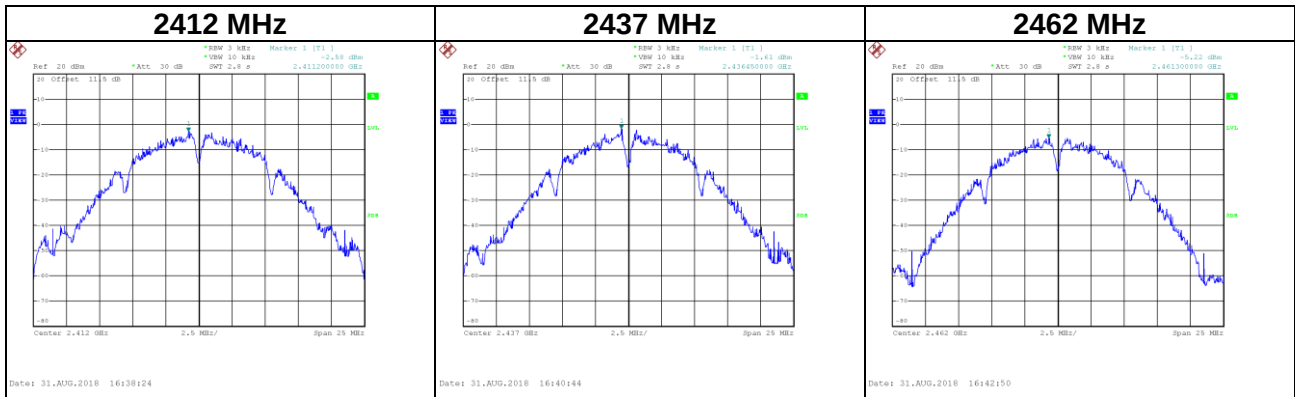


APPENDIX H POWER SPECTRAL DENSITY

CONTINUE ON NEXT PAGE

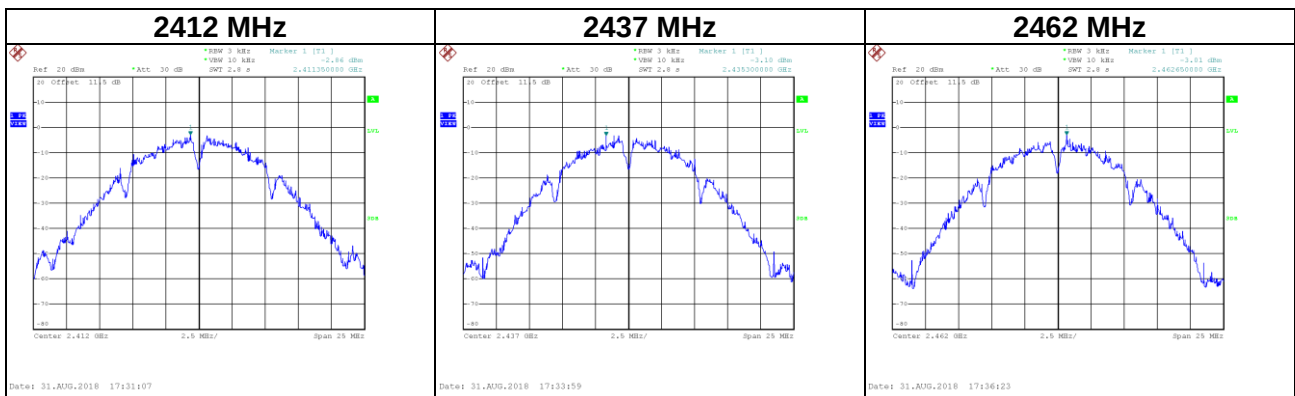
Test Mode	IEEE 802.11b_ANT 1
-----------	--------------------

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-2.58	8	Complies
2437	-1.61	8	Complies
2462	-5.22	8	Complies



Test Mode	IEEE 802.11b_ANT 2
-----------	--------------------

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-2.86	8	Complies
2437	-3.10	8	Complies
2462	-3.01	8	Complies

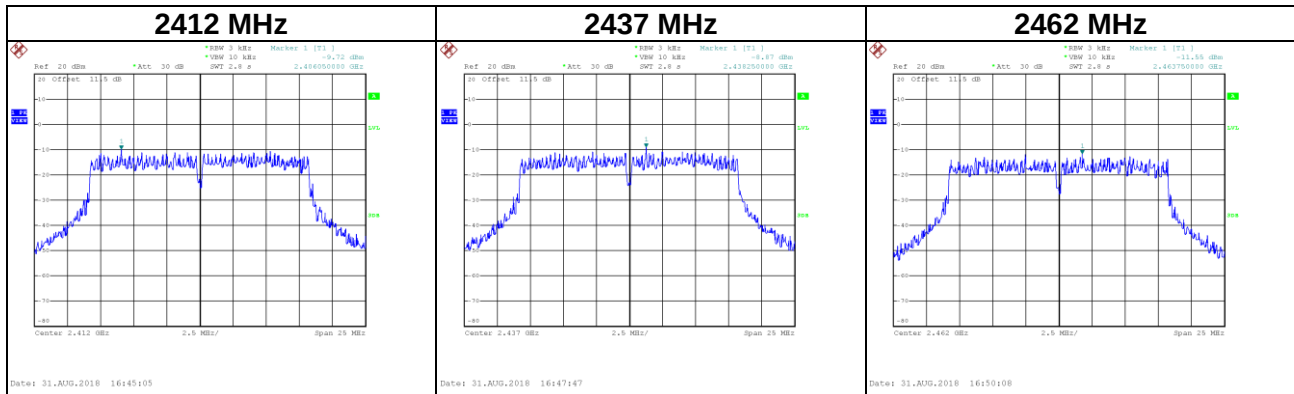


Test Mode	IEEE 802.11b_Total
-----------	--------------------

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	0.29	8	Complies
2437	0.72	8	Complies
2462	-0.97	8	Complies

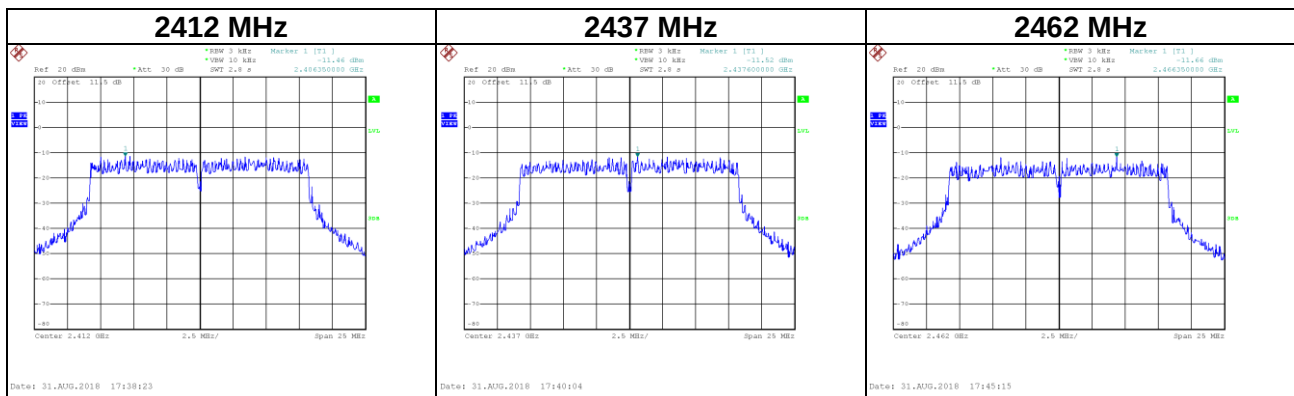
Test Mode IEEE 802.11g_ANT 1

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-9.72	8	Complies
2437	-6.87	8	Complies
2462	-11.55	8	Complies



Test Mode IEEE 802.11g_ANT 2

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-11.46	8	Complies
2437	-11.52	8	Complies
2462	-11.66	8	Complies

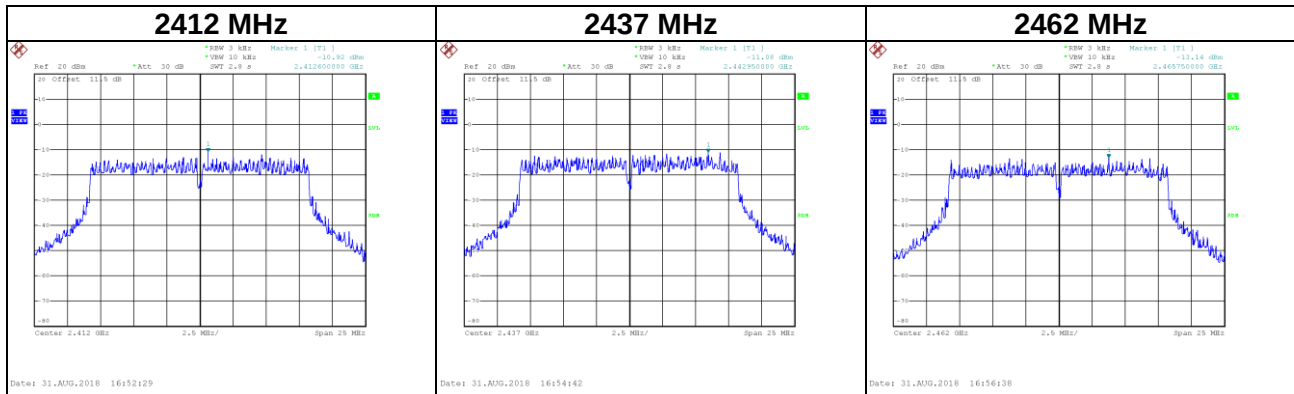


Test Mode IEEE 802.11g_Total

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-7.49	8	Complies
2437	-5.59	8	Complies
2462	-8.59	8	Complies

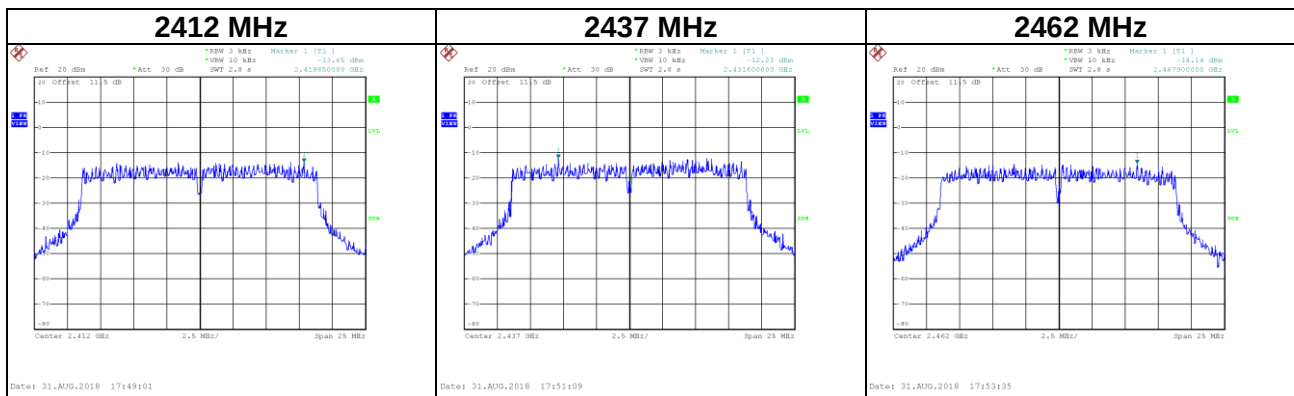
Test Mode IEEE 802.11n (HT20)_ANT 1

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.92	8	Complies
2437	-11.08	8	Complies
2462	-13.14	8	Complies



Test Mode IEEE 802.11n (HT20)_ANT 2

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.65	8	Complies
2437	-12.23	8	Complies
2462	-14.14	8	Complies

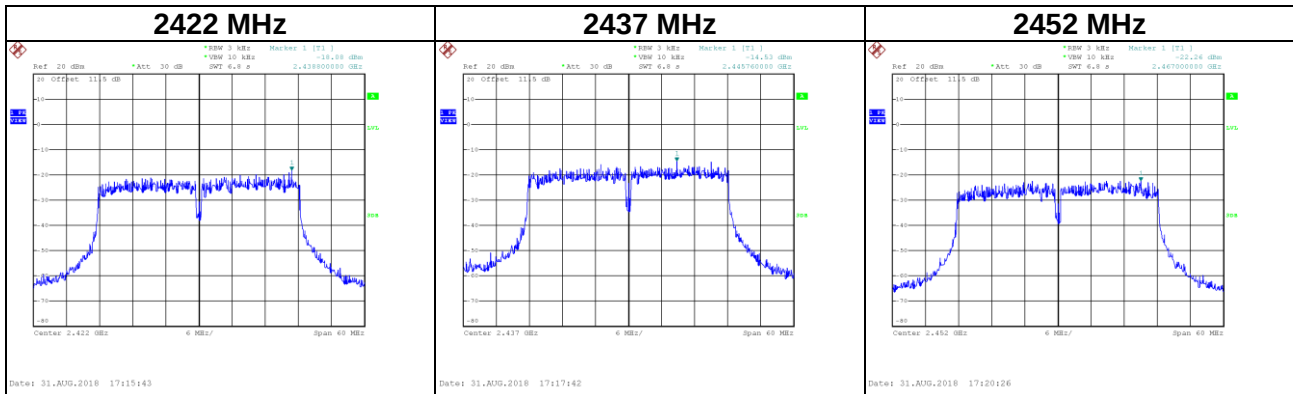


Test Mode IEEE 802.11n (HT20)_Total

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-9.06	8	Complies
2437	-8.61	8	Complies
2462	-10.60	8	Complies

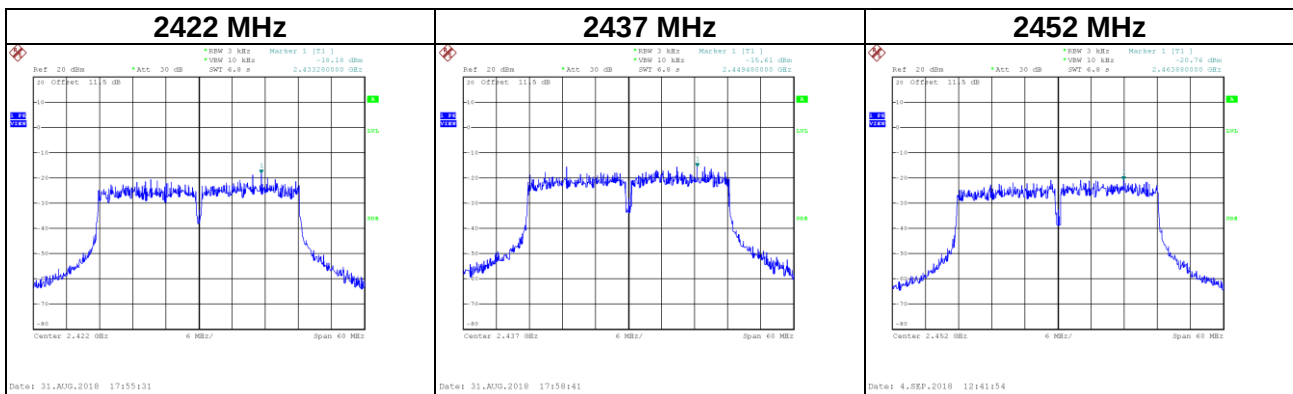
Test Mode IEEE 802.11n (HT40)_ANT 1

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-18.08	8	Complies
2437	-14.53	8	Complies
2452	-22.26	8	Complies



Test Mode IEEE 802.11n (HT40)_ANT 2

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-18.18	8	Complies
2437	-15.61	8	Complies
2452	-20.76	8	Complies



Test Mode IEEE 802.11n (HT40)_Total

Frequency	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-15.12	8	Complies
2437	-12.03	8	Complies
2452	-18.44	8	Complies

End of Test Report