

# FCC Radio Test Report

## FCC ID: 2AYW8WL21C01

This report concerns: Original Grant

**Project No.** : 2101C159  
**Equipment** : LTE Wireless Router  
**Brand Name** : WiLINQ  
**Test Model** : D010U  
**Series Model** : N/A  
**Applicant** : Acentury Inc.  
**Address** : 120 West Beaver Creek Road, Unit 13, Richmond Hill, ON Canada, L4B 1L2  
**Manufacturer** : Acentury Inc.  
**Address** : 120 West Beaver Creek Road, Unit 13, Richmond Hill, ON Canada, L4B 1L2  
**Factory** : Acentury Inc.  
**Address** : 120 West Beaver Creek Road, Unit 13, Richmond Hill, ON Canada, L4B 1L2  
**Date of Receipt** : Jan. 19, 2021  
**Date of Test** : Jan. 19, 2021 ~ Feb. 08, 2021  
**Issued Date** : Mar. 12, 2021  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG2021011920 for conducted, DG2021011917 for radiated.  
**Standard(s)** : FCC Part15, Subpart C (15.247)  
ANSI C63.10-2013  
FCC KDB 558074 D01 15.247 Meas Guidance v05r02  
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

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

Treey Chen

Prepared by : Treey Chen

Steven Lu

Approved by : Steven Lu



Certificate #5123.02

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

Tel: +86-769-8318-3000

Web: www.newbtl.com

**Declaration**

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

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

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

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

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

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

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

**Limitation**

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

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

<b>Table of Contents</b>	<b>Page</b>
<b>REPORT ISSUED HISTORY</b>	<b>6</b>
<b>1 . SUMMARY OF TEST RESULTS</b>	<b>7</b>
1.1 TEST FACILITY	8
1.2 MEASUREMENT UNCERTAINTY	8
1.3 TEST ENVIRONMENT CONDITIONS	9
<b>2 . GENERAL INFORMATION</b>	<b>10</b>
2.1 GENERAL DESCRIPTION OF EUT	10
2.2 DESCRIPTION OF TEST MODES	12
2.3 PARAMETERS OF TEST SOFTWARE	13
2.4 DUTY CYCLE	14
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	15
2.6 SUPPORT UNITS	15
<b>3 . AC POWER LINE CONDUCTED EMISSIONS TEST</b>	<b>16</b>
3.1 LIMIT	16
3.2 TEST PROCEDURE	16
3.3 DEVIATION FROM TEST STANDARD	16
3.4 TEST SETUP	17
3.5 EUT OPERATION CONDITIONS	17
3.6 TEST RESULTS	17
<b>4 . RADIATED EMISSIONS TEST</b>	<b>18</b>
4.1 LIMIT	18
4.2 TEST PROCEDURE	19
4.3 DEVIATION FROM TEST STANDARD	19
4.4 TEST SETUP	20
4.5 EUT OPERATION CONDITIONS	21
4.6 TEST RESULTS - 9 KHZ TO 30 MHZ	21
4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	21
4.8 TEST RESULTS - ABOVE 1000 MHZ	21
<b>5 . BANDWIDTH TEST</b>	<b>22</b>
5.1 LIMIT	22
5.2 TEST PROCEDURE	22
5.3 DEVIATION FROM STANDARD	22
5.4 TEST SETUP	22

<b>Table of Contents</b>	<b>Page</b>
5.5 EUT OPERATION CONDITIONS	22
5.6 TEST RESULTS	22
<b>6 . MAXIMUM OUTPUT POWER TEST</b>	<b>23</b>
6.1 LIMIT	23
6.2 TEST PROCEDURE	23
6.3 DEVIATION FROM STANDARD	23
6.4 TEST SETUP	23
6.5 EUT OPERATION CONDITIONS	23
6.6 TEST RESULTS	23
<b>7 . CONDUCTED SPURIOUS EMISSIONS</b>	<b>24</b>
7.1 LIMIT	24
7.2 TEST PROCEDURE	24
7.3 DEVIATION FROM STANDARD	24
7.4 TEST SETUP	24
7.5 EUT OPERATION CONDITIONS	24
7.6 TEST RESULTS	24
<b>8 . POWER SPECTRAL DENSITY TEST</b>	<b>25</b>
8.1 LIMIT	25
8.2 TEST PROCEDURE	25
8.3 DEVIATION FROM STANDARD	25
8.4 TEST SETUP	25
8.5 EUT OPERATION CONDITIONS	25
8.6 TEST RESULTS	25
<b>9 . MEASUREMENT INSTRUMENTS LIST</b>	<b>26</b>
<b>10 . EUT TEST PHOTO</b>	<b>28</b>
<b>APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS</b>	<b>32</b>
<b>APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ</b>	<b>35</b>
<b>APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ</b>	<b>40</b>
<b>APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ</b>	<b>43</b>
<b>APPENDIX E - BANDWIDTH</b>	<b>91</b>
<b>APPENDIX F - MAXIMUM OUTPUT POWER</b>	<b>96</b>
<b>APPENDIX G - CONDUCTED SPURIOUS EMISSIONS</b>	<b>101</b>

**Table of Contents****Page****APPENDIX H - POWER SPECTRAL DENSITY****110**

**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	Mar. 12, 2021

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

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

Note:

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

## 1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

## 1.2 MEASUREMENT UNCERTAINTY

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

The BTL measurement uncertainty as below table:

### A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.68

### B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9kHz ~ 30MHz	-	3.02
		30MHz ~ 200MHz	V	4.26
		30MHz ~ 200MHz	H	3.38
		200MHz ~ 1,000MHz	V	3.98
		200MHz ~ 1,000MHz	H	3.94
		1GHz ~ 6GHz	-	3.96
		6GHz ~ 18GHz	-	5.24
		18GHz ~ 26.5GHz	-	3.62
		26.5GHz ~ 40GHz	-	4.00

### C. Other Measurement:

Test Item	Uncertainty
Bandwidth	$\pm 3.8\%$
Maximum Output Power	$\pm 0.95\text{ dB}$
Conducted Spurious Emission	$\pm 2.71\text{ dB}$
Power Spectral Density	$\pm 0.86\text{ dB}$
Temperature	$\pm 0.08\text{ }^{\circ}\text{C}$
Humidity	$\pm 1.5\%$

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




### 1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	53%	AC 120V/60Hz	Luca Jiang
Radiated Emissions-9K-30MHz	25°C	60%	AC 120V/60Hz	Grani Zhou
Radiated Emissions-30 MHz to 1GHz	26°C	52%	AC 120V/60Hz	Grani Zhou
Radiated Emissions-Above 1000 MHz	26°C	52%	AC 120V/60Hz	Grani Zhou
Bandwidth	23.8°C	49%	AC 120V/60Hz	Rick Kuang
Maximum output power	23.8°C	49%	AC 120V/60Hz	Silly Zheng
Conducted Spurious Emissions	23.8°C	49%	AC 120V/60Hz	Rick Kuang
Power Spectral Density	23.8°C	49%	AC 120V/60Hz	Rick Kuang

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	LTE Wireless Router
Brand Name	WiLINQ
Test Model	D010U
Series Model	N/A
Model Difference(s)	N/A
Hardware Version	TZ7.821.181
Software Version	V1.0
Power Source	1# DC Voltage supplied from AC adapter. Model: DCT24W120200US-A0 2# Supplied from battery. Model: Z2000
Power Rating	1# I/P: 100-240V~ 50/60Hz 0.7A max O/P: 12V  2.0A 2# 7.4V/ 2000mAh 14.8Wh
Operation Frequency	2412 MHz ~ 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	IEEE 802.11b: 14.46 dBm (0.0279 W) IEEE 802.11g: 17.66 dBm (0.0583 W) IEEE 802.11n (HT20): 17.92 dBm (0.0619 W) IEEE 802.11n (HT40): 17.43 dBm (0.0553 W)

Note:

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

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n (HT20)							
CH03 - CH09 for IEEE 802.11n (HT40)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

### 3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PCB	IPEX	3
2	N/A	N/A	PCB	IPEX	3

Note:

- (1) This EUT supports MIMO, any transmit signals are correlated with each other, so Directional gain= $G_{ANT}+10\log(N)$ dBi, that is Directional gain= $3+10\log(2)$ dBi=6.01. So, the output power limit is  $30-(6.01-6)=29.99$ , the power spectral density limit is  $8-(6.01-6)=7.99$ .
- (2) The antenna gain is provided by the manufacturer.

### 4. Table for Antenna Configuration:

Operating Mode	TX Mode
IEEE 802.11b	V (Ant. 1 + Ant. 2)
IEEE 802.11g	V (Ant. 1 + Ant. 2)
IEEE 802.11n(HT20)	V (Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1 + Ant. 2)

## 2.2 DESCRIPTION OF TEST MODES

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

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-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09
Mode 5	TX N-20 Mode Channel 06

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

AC power line conducted emissions test	
Final Test Mode	Description
Mode 5	TX N-20 Mode Channel 06

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 5	TX N-20 Mode Channel 06

Radiated emissions test- Above 1GHz	
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-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09

Conducted 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-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09

**NOTE:**

- (1) The measurements are performed at the high, middle, low available channels.
- (2) For radiated emission below 1 GHz test, the IEEE 802.11N-20 Channel 06 is found to be the worst case and recorded.
- (3) For radiated emission above 1 GHz test, 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.

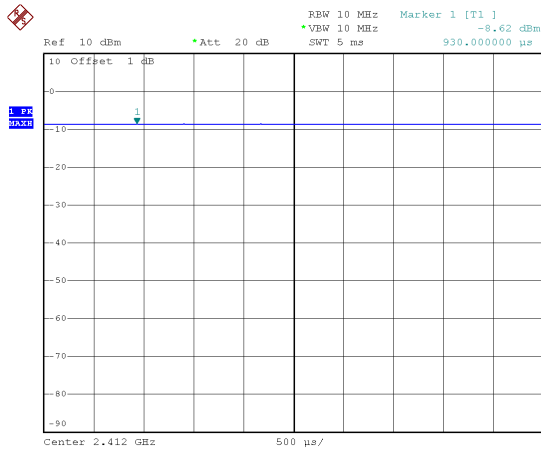
### 2.3 PARAMETERS OF TEST SOFTWARE

Test Software	CMD		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	22	22	23
IEEE 802.11g	27	27	28
IEEE 802.11n (HT20)	28	28	28
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	25	25	25

## 2.4 DUTY CYCLE

If duty cycle is  $\geq 98\%$ , duty factor is not required.  
 If duty cycle is  $< 98\%$ , duty factor shall be considered.  
 The output power = measured power + duty factor.

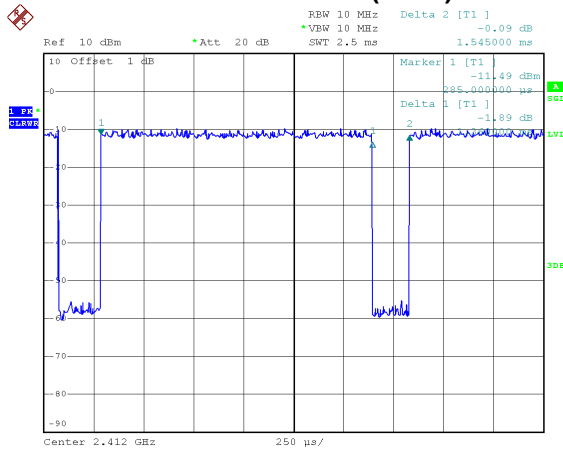
**IEEE 802.11b**



Date: 22.JAN.2021 14:40:03

Duty cycle =  $0.930\text{ ms} / 0.930\text{ ms} = 100\%$   
 Duty Factor =  $10\log(1/\text{Duty cycle}) = 0.00$

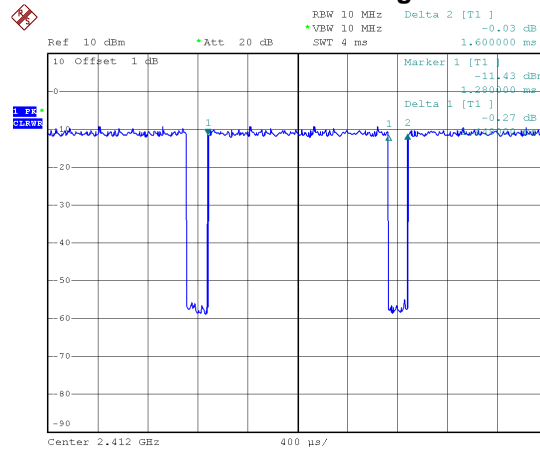
**IEEE 802.11n (HT20)**



Date: 22.JAN.2021 14:44:31

Duty cycle =  $1.360\text{ ms} / 1.545\text{ ms} = 88.03\%$   
 Duty Factor =  $10\log(1/\text{Duty cycle}) = 0.55$

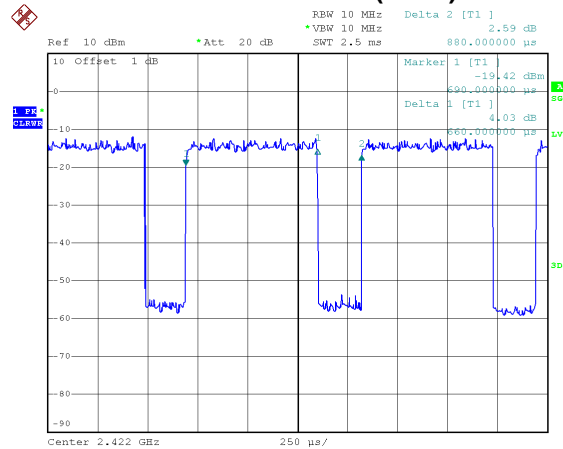
**IEEE 802.11g**



Date: 22.JAN.2021 14:43:40

Duty cycle =  $1.448\text{ ms} / 1.600\text{ ms} = 90.50\%$   
 Duty Factor =  $10\log(1/\text{Duty cycle}) = 0.43$

**IEEE 802.11n (HT40)**



Date: 22.JAN.2021 14:45:37

Duty cycle =  $0.660\text{ ms} / 0.880\text{ ms} = 75.00\%$   
 Duty Factor =  $10\log(1/\text{Duty cycle}) = 1.25$

### NOTE:

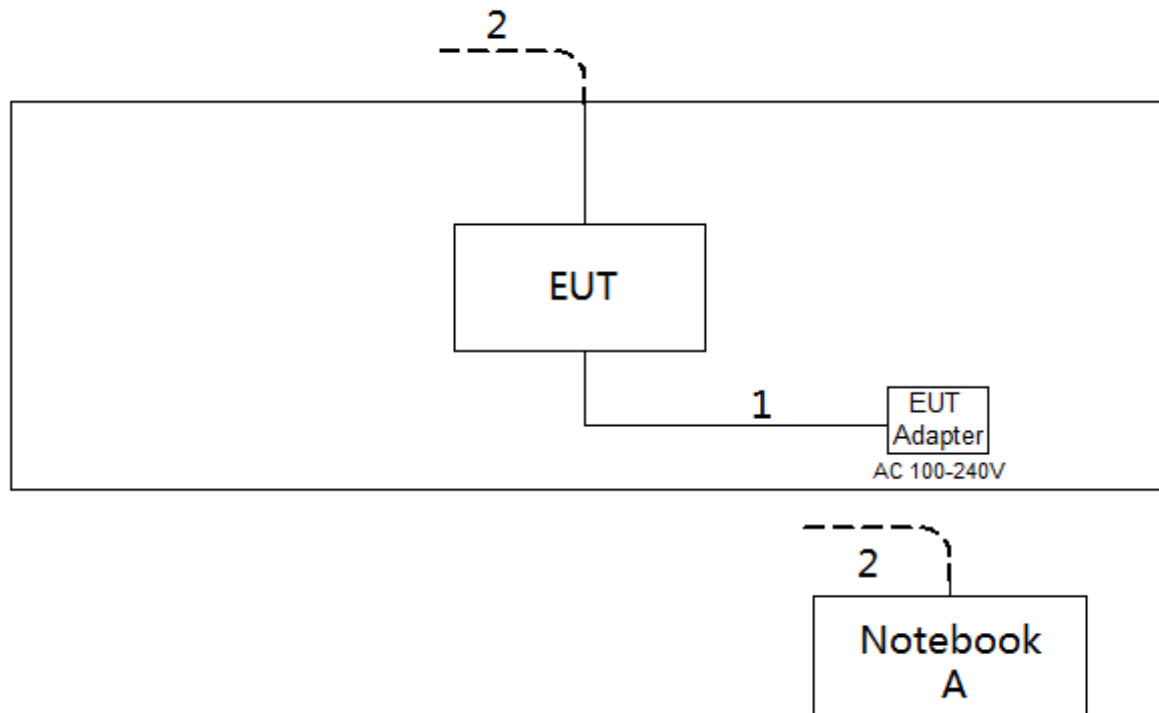
For IEEE 802.11g and IEEE 802.11n (HT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle  $< 98\%$ ).

For IEEE 802.11n (HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2 kHz (Duty cycle  $< 98\%$ ).

## 2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



## 2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	Dell	Inspiron 15-7559	N/A

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

### 3. AC POWER LINE CONDUCTED EMISSIONS TEST

#### 3.1 LIMIT

Frequency of Emission (MHz)	Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	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.

The following table is the setting of the receiver

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

#### 3.2 TEST PROCEDURE

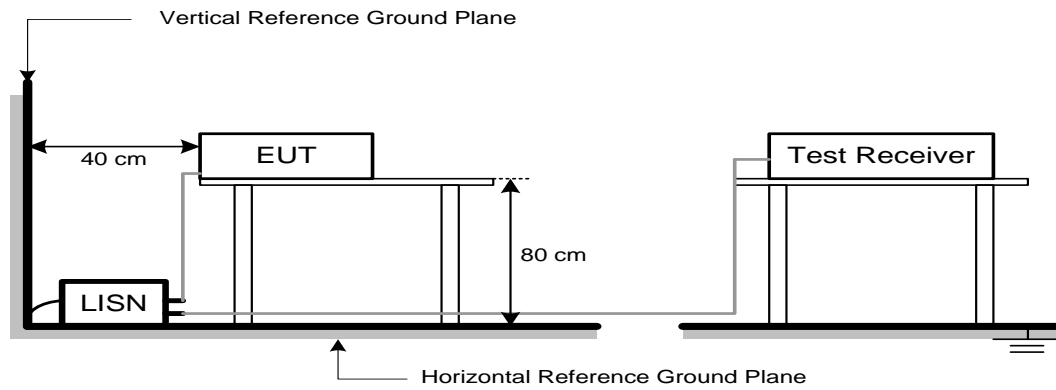
- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.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

#### 3.3 DEVIATION FROM TEST STANDARD

No deviation



### 3.4 TEST SETUP



### 3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

### 3.6 TEST RESULTS

Please refer to the APPENDIX A.

## 4. RADIATED EMISSIONS TEST

### 4.1 LIMIT

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

#### LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-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
Above 960	500	3

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	(dBuV/m at 3 m)	
	Peak	Average
Above 1000	74	54

#### NOTE:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

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

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

## 4.2 TEST PROCEDURE

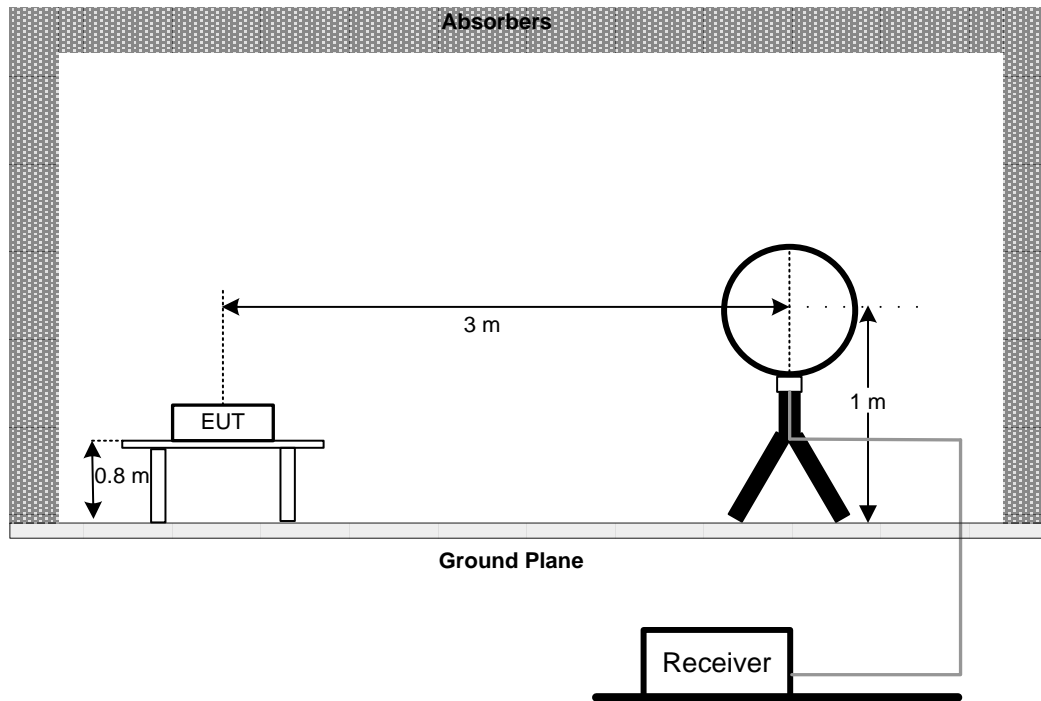
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.  
(below 1 GHz)
- 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 1 GHz)
- For the actual test configuration, please refer to the related Item -EUT Test Photos.

## 4.3 DEVIATION FROM TEST STANDARD

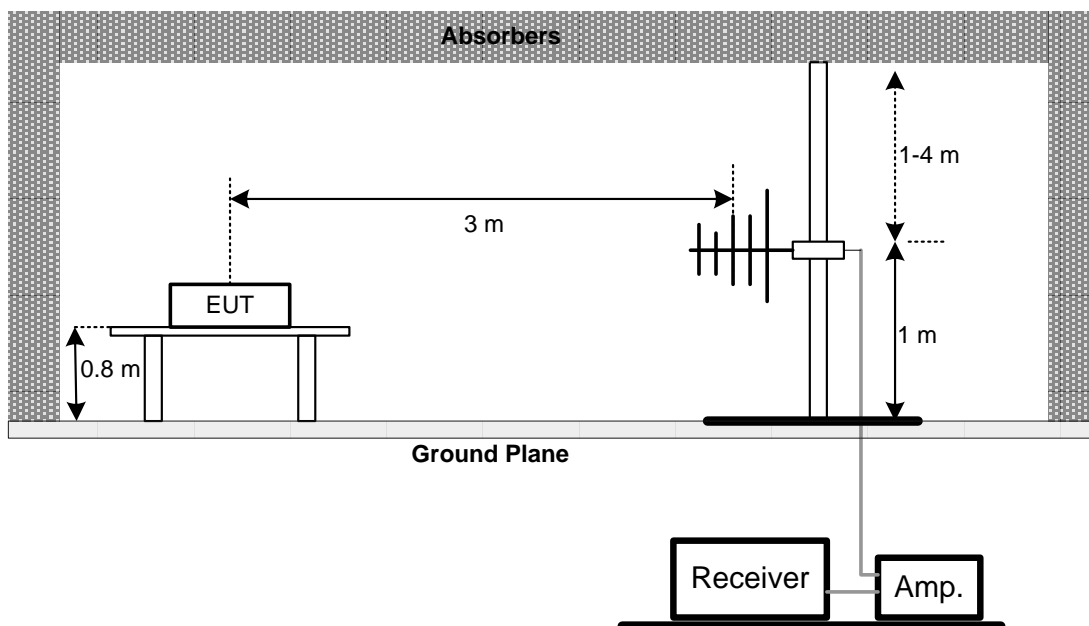
No deviation

## 4.4 TEST SETUP

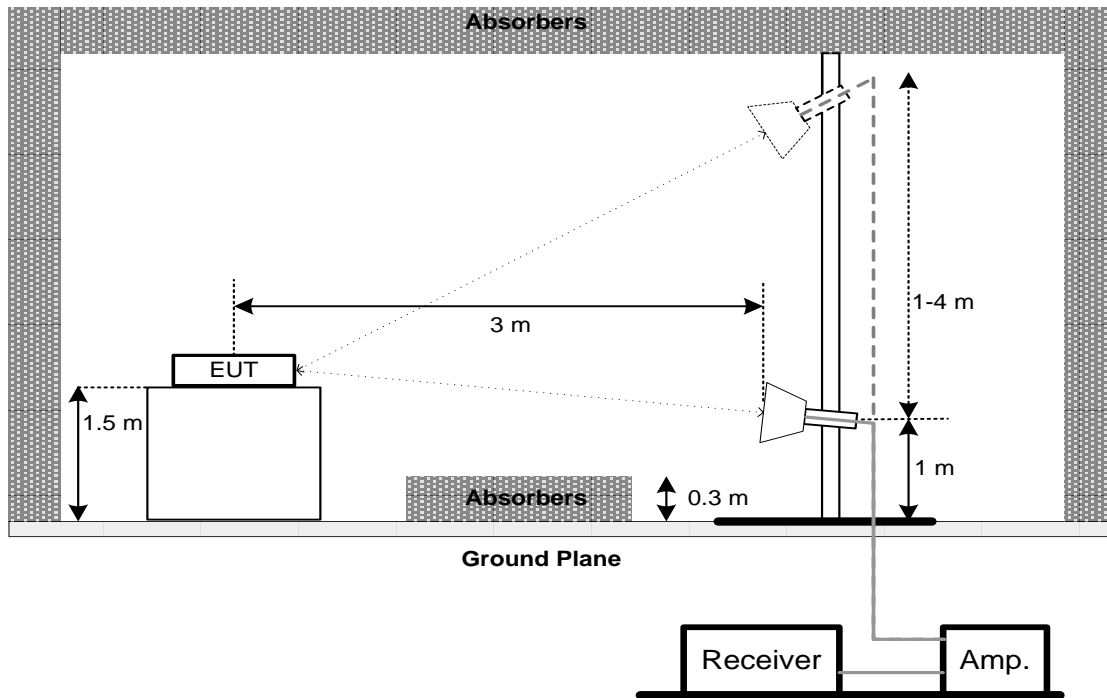
9 kHz-30 MHz



30 MHz to 1 GHz



## Above 1 GHz



### 4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B

Remark:

- (1) Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

### 4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

### 4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

Remark:

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

## 5. BANDWIDTH TEST

### 5.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(a)(2)	6 dB Bandwidth	Minimum 500 kHz
	99% Emission Bandwidth	-

### 5.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting:  
 For 6 dB Bandwidth : RBW= 100 kHz, VBW=300 kHz, Sweep time = auto.  
 For 99% Emission Bandwidth B/G/N-20 Mode: RBW= 300 KHz, VBW=1 MHz, Sweep time = 2.5 ms.  
 For 99% Emission Bandwidth N-40 Mode: RBW= 1 MHz, VBW=3 MHz, Sweep time = 2.5 ms.
- The bandwidth was performed in accordance with method 11.8.1 of ANSI C63.10-2013.

### 5.3 DEVIATION FROM STANDARD

No deviation.

### 5.4 TEST SETUP



### 5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 5.6 TEST RESULTS

Please refer to the APPENDIX E.

## 6. MAXIMUM OUTPUT POWER TEST

### 6.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(b)(3)	Maximum Output Power	1 Watt or 30dBm

### 6.2 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- The maximum conducted output power was performed in accordance with method 11.9.2.3.1 of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

### 6.3 DEVIATION FROM STANDARD

No deviation.

### 6.4 TEST SETUP



### 6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 6.6 TEST RESULTS

Please refer to the APPENDIX F.

## 7. CONDUCTED SPURIOUS EMISSIONS

### 7.1 LIMIT

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

### 7.2 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.

### 7.3 DEVIATION FROM STANDARD

No deviation.

### 7.4 TEST SETUP



### 7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 7.6 TEST RESULTS

Please refer to the APPENDIX G.



## 8. POWER SPECTRAL DENSITY TEST

### 8.1 LIMIT

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

### 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=3 kHz, VBW=10 kHz, Sweep time = Auto.
- The Power Spectral Density was performed in accordance with method 11.10.2 of ANSI C63.10-2013.

### 8.3 DEVIATION FROM STANDARD

No deviation.

### 8.4 TEST SETUP



### 8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 8.6 TEST RESULTS

Please refer to the APPENDIX H.

## 9. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Feb. 28, 2022
2	LISN	EMCO	3816/2	52765	Feb. 27, 2022
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	Feb. 27, 2022
4	50Ω Terminator	SHX	TF5-3	15041305	Feb. 27, 2022
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 09, 2022
7	643 Shield Room	ETS	6*4*3m	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EM	EM-6876-1	230	Apr. 16, 2021
2	Cable	N/A	RG 213/U	C-102	May 29, 2021
3	EMI Test Receiver	R&S	ESCI	100895	Feb. 27, 2022
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
5	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9168	586	Nov. 27, 2021
2*	Amplifier*	HP	8447D	2944A09673	Aug. 11, 2021
3	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 22, 2021
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	May 12, 2021
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jul. 07, 2021
3	Amplifier	Agilent	8449B	3008A02333	Feb. 28, 2022
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Feb. 28, 2022
5	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	N/A	EMC104-SM-SM-6000	N/A	Oct. 16, 2021
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	Filter	STI	STI15-9912	N/A	Jul. 25, 2021
11	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021

Bandwidth & Conducted Spurious Emissions & Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Jul. 25, 2021
2	RF Cable	Tongkaichuan	N/A	N/A	N/A
3	DC Block	Mini	N/A	N/A	N/A
4	Attenuator	WOKEN	6SM3502	VAS1214NL	Feb. 07, 2022

Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Peak Power Analyzer	Keysight	8990B	MY51000506	Aug. 07, 2021
2	Wideband power sensor	Keysight	N1923A	MY58310004	Jul. 25, 2021
3	Attenuator	WOKEN	6SM3502	VAS1214NL	Feb. 07, 2022
4	RF Cable	Tongkaichuan	N/A	N/A	N/A

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

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

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

**10. EUT TEST PHOTO****AC Power Line Conducted Emissions Test Photos**

# Radiated Emissions Test Photos

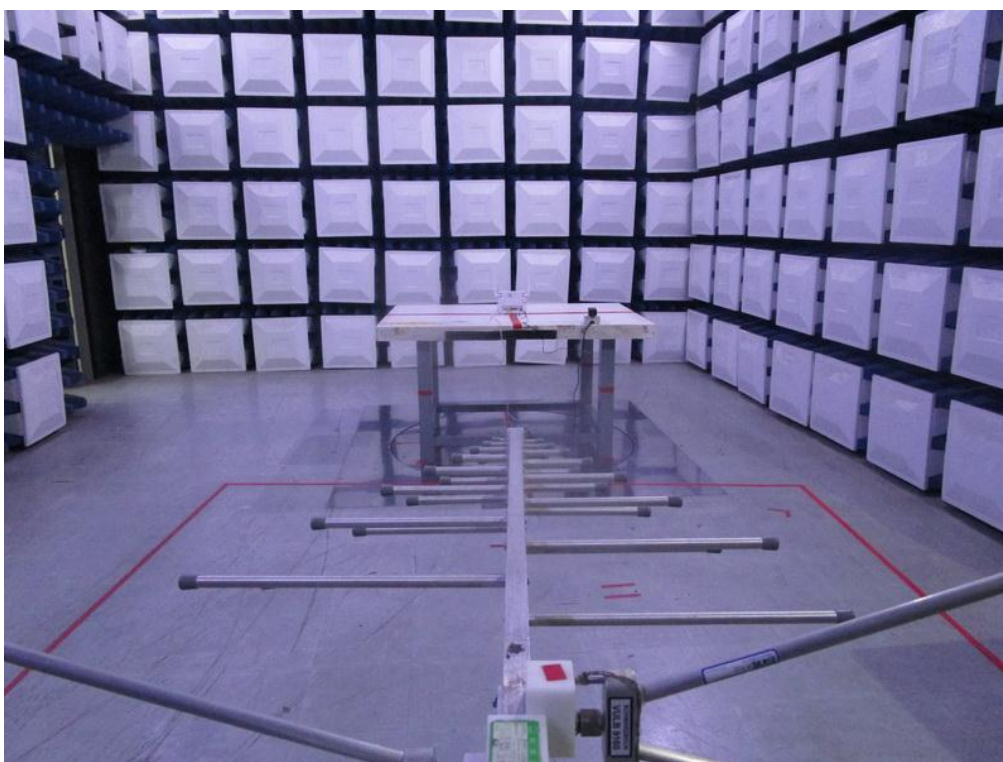
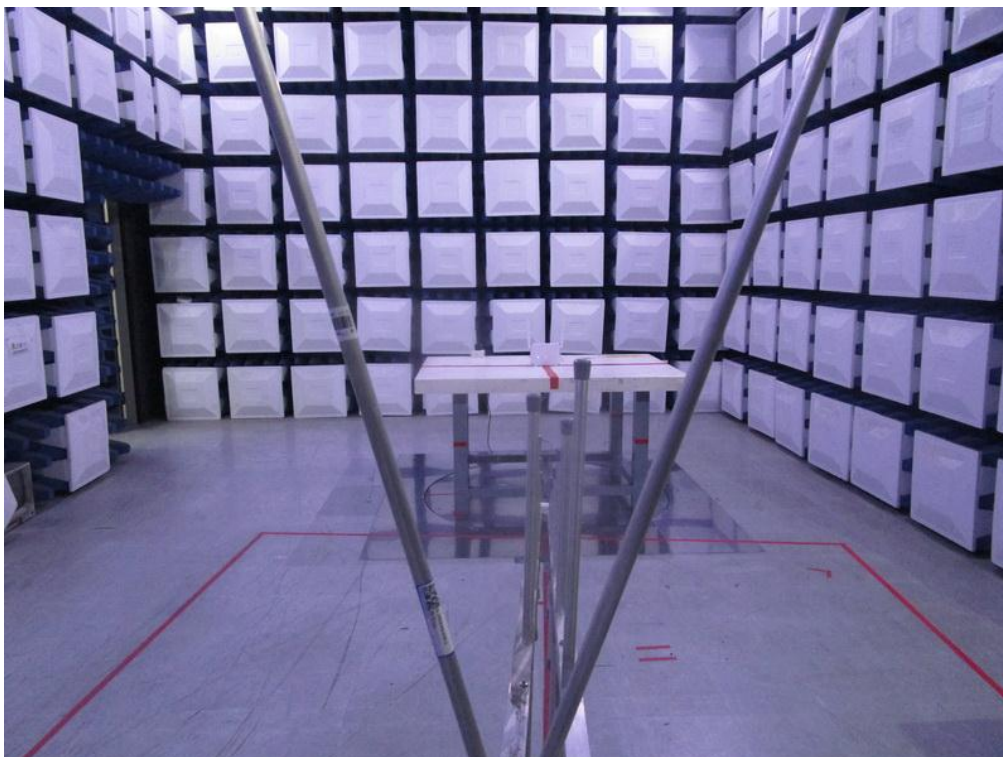
9 kHz to 30 MHz





## Radiated Emissions Test Photos

30 MHz to 1 GHz



## Radiated Emissions Test Photos

### Above 1 GHz

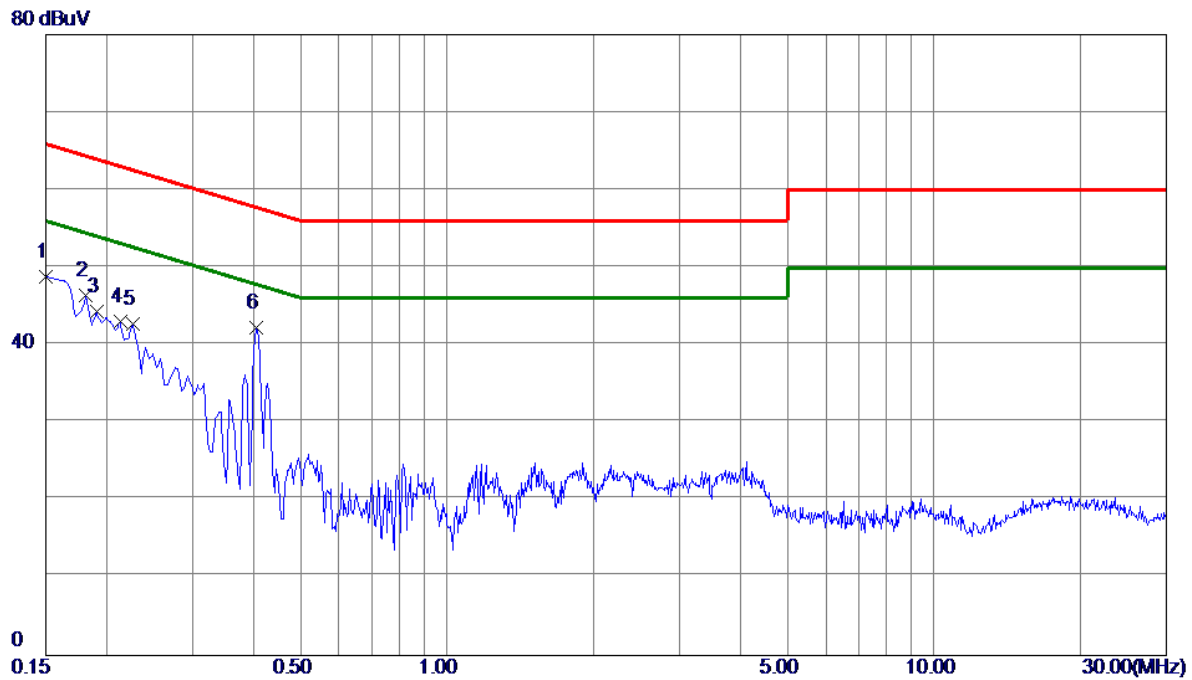


## **APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS**



Test Mode: TX N-20 Mode Channel 06

## Line



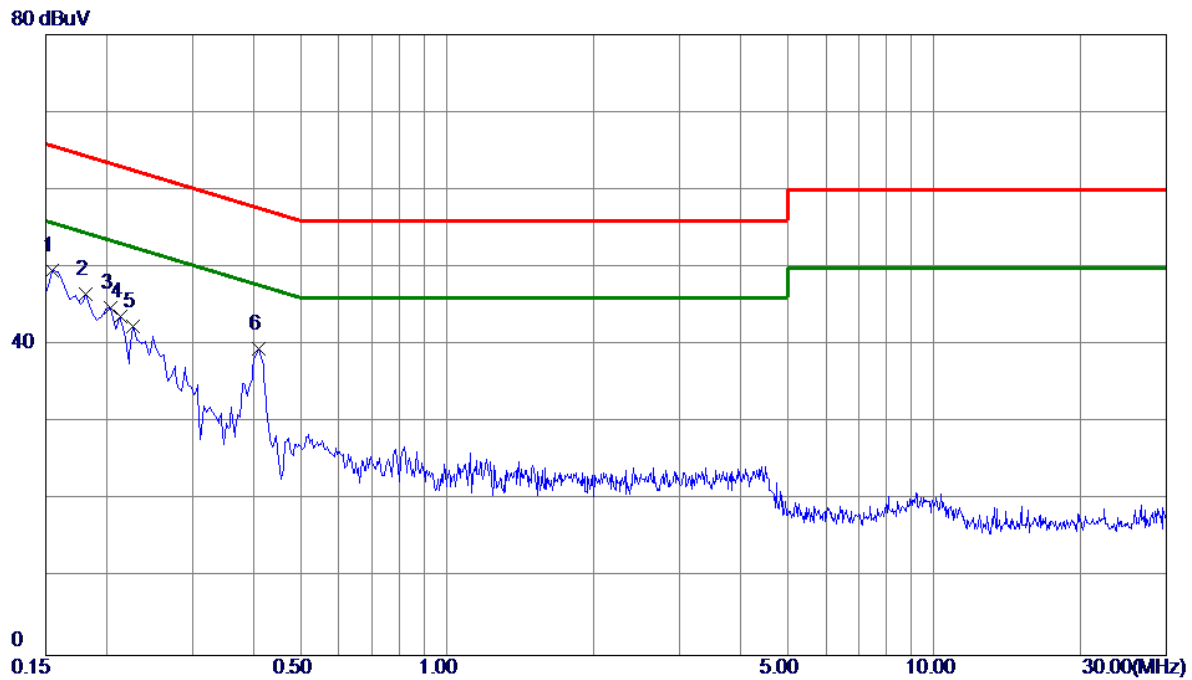
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1500	39.10	9.67	48.77	66.00	-17.23	Peak	
2	0.1815	36.55	9.85	46.40	64.42	-18.02	Peak	
3	0.1905	34.46	9.88	44.34	64.01	-19.67	Peak	
4	0.2130	33.17	9.90	43.07	63.09	-20.02	Peak	
5	0.2265	32.79	9.89	42.68	62.58	-19.90	Peak	
6 *	0.4065	32.38	9.90	42.28	57.72	-15.44	Peak	

### REMARKS:

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

Test Mode: TX N-20 Mode Channel 06

## Neutral



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1 *	0.1545	39.89	9.78	49.67	65.75	-16.08	Peak	
2	0.1815	36.62	9.94	46.56	64.42	-17.86	Peak	
3	0.2040	34.81	10.01	44.82	63.45	-18.63	Peak	
4	0.2130	33.69	10.00	43.69	63.09	-19.40	Peak	
5	0.2265	32.48	9.99	42.47	62.58	-20.11	Peak	
6	0.4110	29.44	10.08	39.52	57.63	-18.11	Peak	

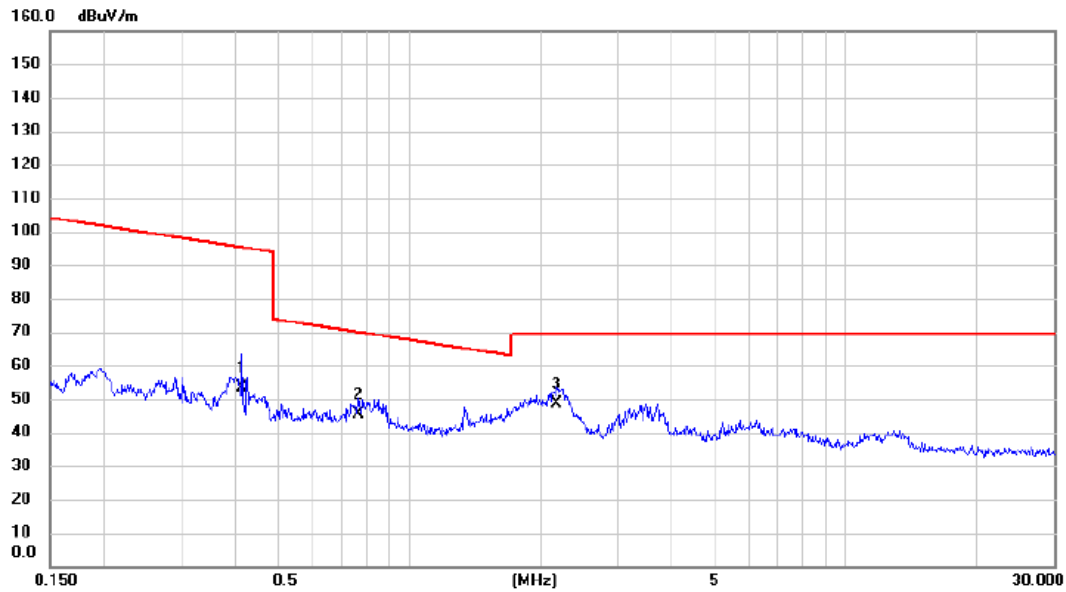
### REMARKS:

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

## **APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ**

Test Mode: TX N-20 Mode Channel 06

Ant 0°



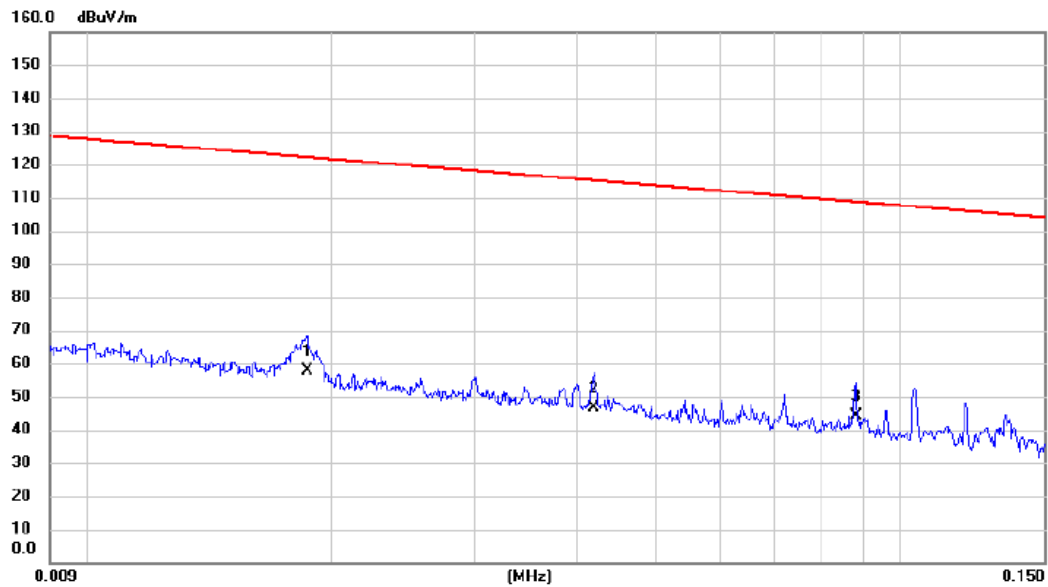
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.415	41.20	12.23	53.43	95.25	-41.82	AVG	
2		0.763	33.69	11.89	45.58	69.95	-24.37	QP	
3	*	2.178	37.58	11.21	48.79	69.54	-20.75	QP	

## REMARKS:

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

Test Mode: TX N-20 Mode Channel 06

Ant 0°



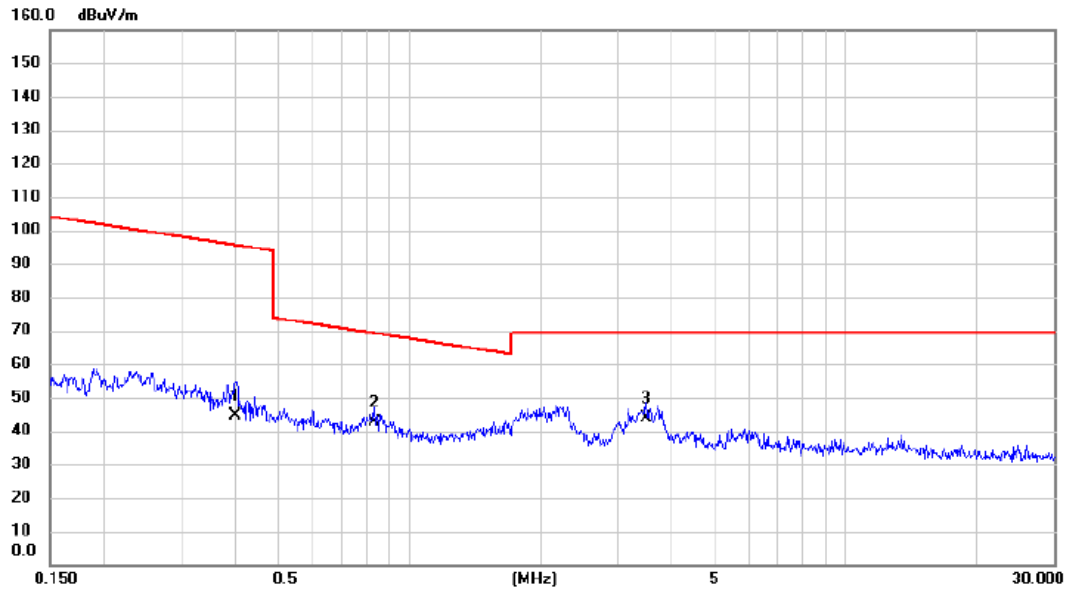
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.019	44.15	13.62	57.77	122.17	-64.40	AVG	
2		0.042	34.17	12.63	46.80	115.14	-68.34	AVG	
3		0.088	31.58	12.65	44.23	108.71	-64.48	AVG	

## REMARKS:

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

Test Mode: TX N-20 Mode Channel 06

Ant 90°



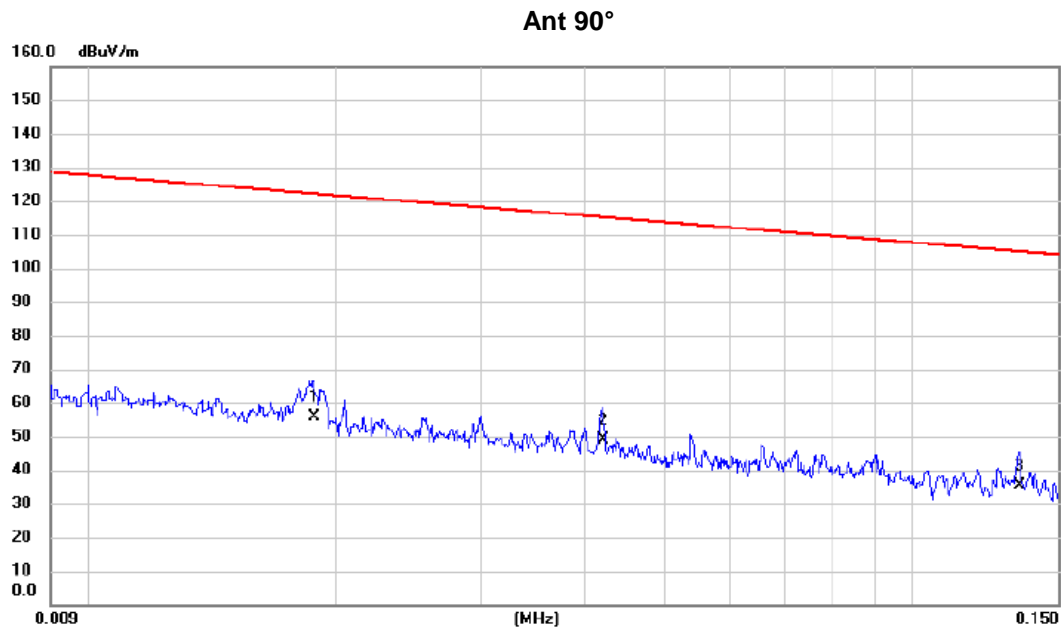
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.400	32.37	12.26	44.63	95.57	-50.94	AVG	
2		0.831	30.87	11.87	42.74	69.22	-26.48	QP	
3	*	3.491	32.94	10.88	43.82	69.54	-25.72	QP	

## REMARKS:

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

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

Test Mode: TX N-20 Mode Channel 06



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.019	42.36	13.59	55.95	122.12	-66.17	AVG	
2		0.042	36.18	12.63	48.81	115.12	-66.31	AVG	
3		0.135	22.58	12.73	35.31	105.01	-69.70	AVG	

## REMARKS:

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

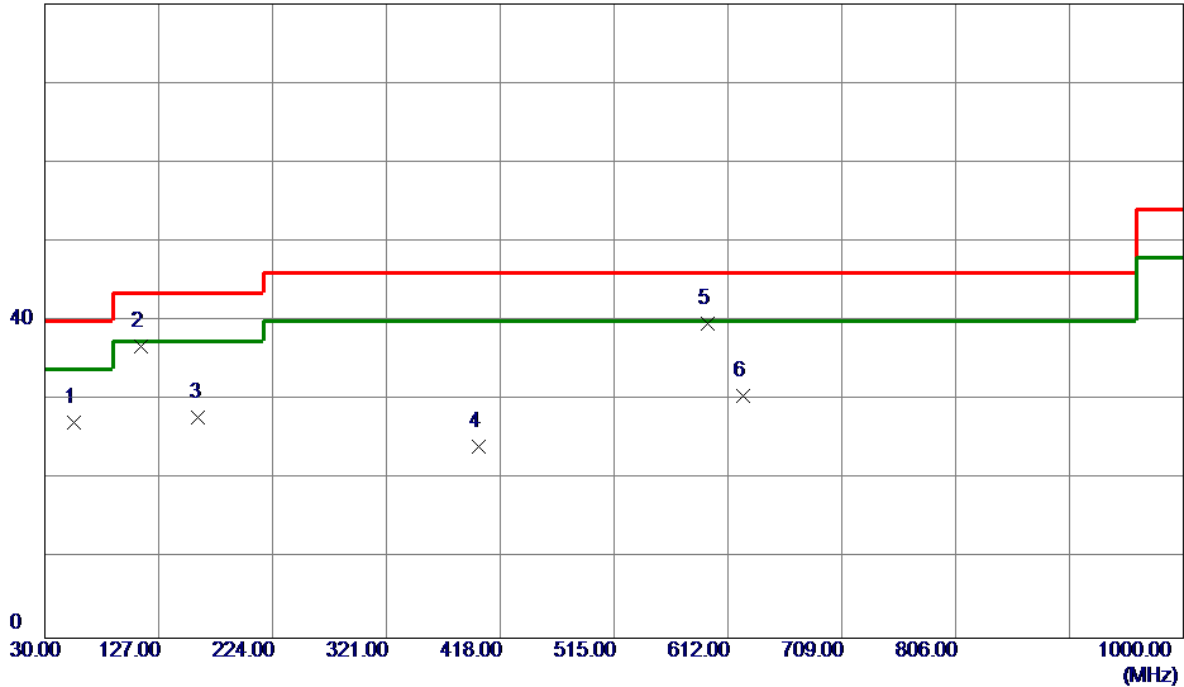
## **APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ**



Test Mode: TX N-20 Mode Channel 06

## Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	55.2200	40.87	-13.69	27.18	40.00	-12.82	Peak	
2	111.4800	50.77	-14.01	36.76	43.50	-6.74	Peak	
3	160.9500	38.64	-10.80	27.84	43.50	-15.66	Peak	
4	400.0550	33.19	-9.01	24.18	46.00	-21.82	Peak	
5 *	594.5400	45.15	-5.51	39.64	46.00	-6.36	Peak	
6	625.0949	35.36	-4.81	30.55	46.00	-15.45	Peak	

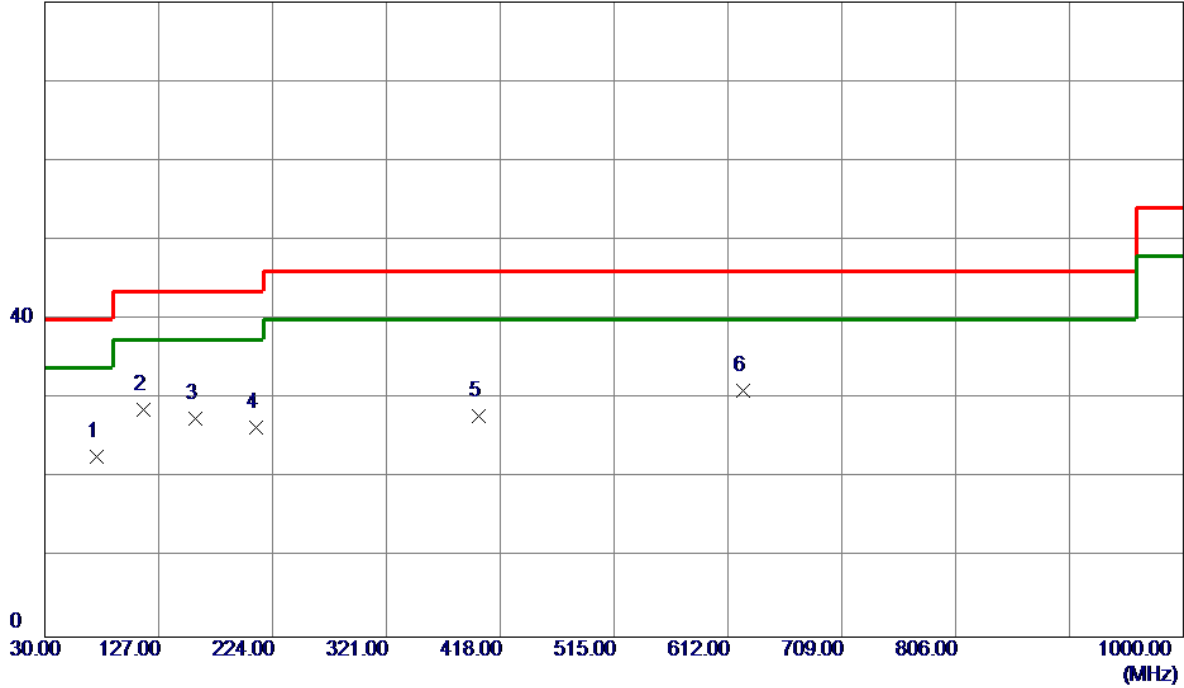
### REMARKS:

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

Test Mode: TX N-20 Mode Channel 06

## Horizontal

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	74.6200	39.44	-16.78	22.66	40.00	-17.34	Peak	
2 *	114.3900	42.22	-13.57	28.65	43.50	-14.85	Peak	
3	158.5250	38.43	-10.86	27.57	43.50	-15.93	Peak	
4	209.9350	41.67	-15.22	26.45	43.50	-17.05	Peak	
5	400.0550	36.87	-9.01	27.86	46.00	-18.14	Peak	
6	625.0949	35.82	-4.81	31.01	46.00	-14.99	Peak	

### REMARKS:

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

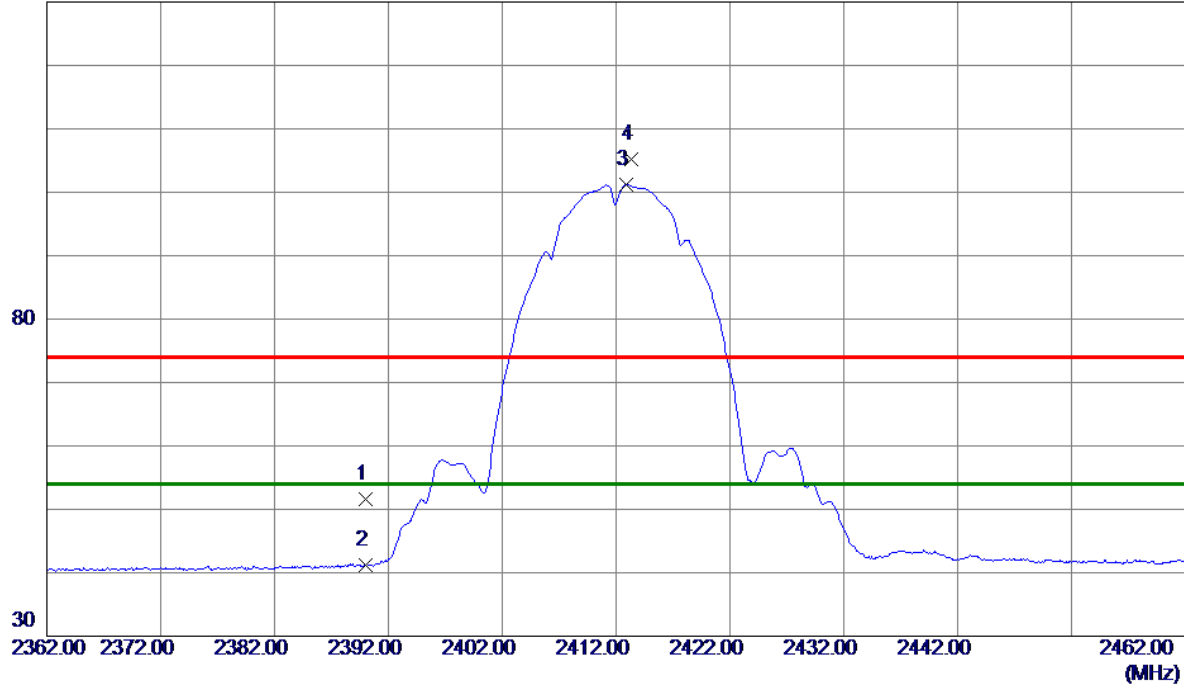
(2) Margin Level = Measurement Value - Limit Value.

## **APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ**

Test Mode: TX B Mode 2412 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	40.82	10.69	51.51	74.00	-22.49	Peak	
2	2390.0000	30.47	10.69	41.16	54.00	-12.84	AVG	
3 *	2412.9000	90.47	10.76	101.23	54.00	47.23	AVG	No Limit
4	2413.3500	94.35	10.76	105.11	74.00	31.11	Peak	No Limit

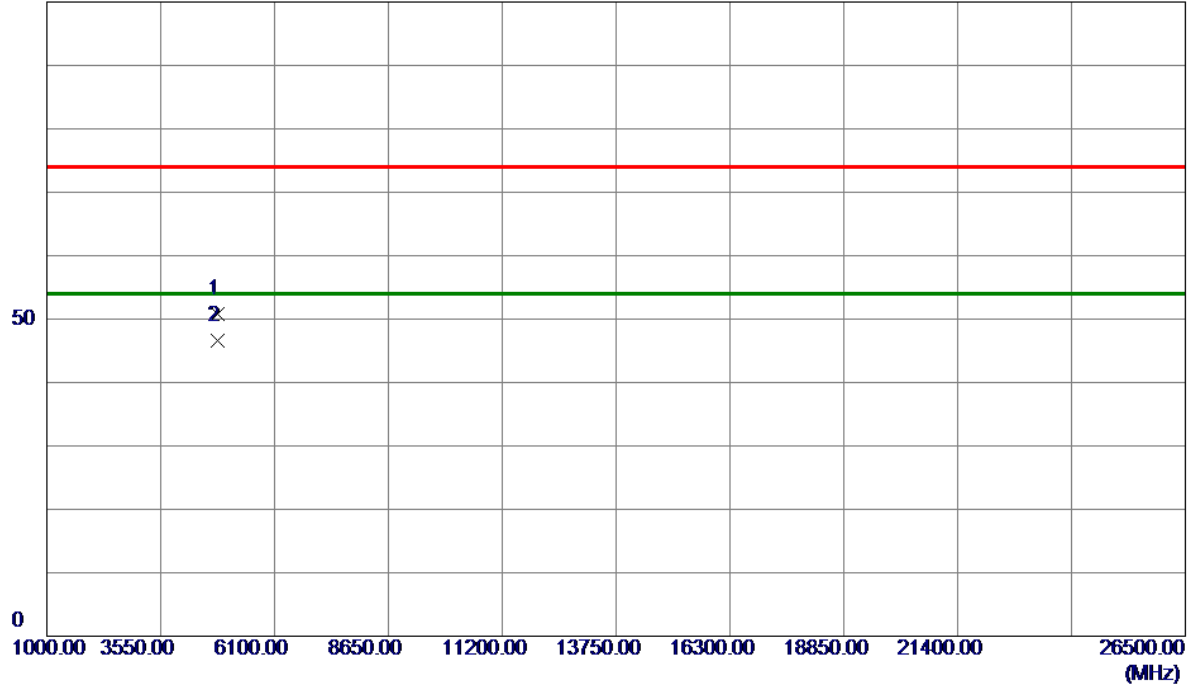
### REMARKS:

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

Test Mode:	TX B Mode 2412 MHz
------------	--------------------

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.0240	43.94	6.84	50.78	74.00	-23.22	Peak	
2 *	4824.2719	39.79	6.84	46.63	54.00	-7.37	AVG	

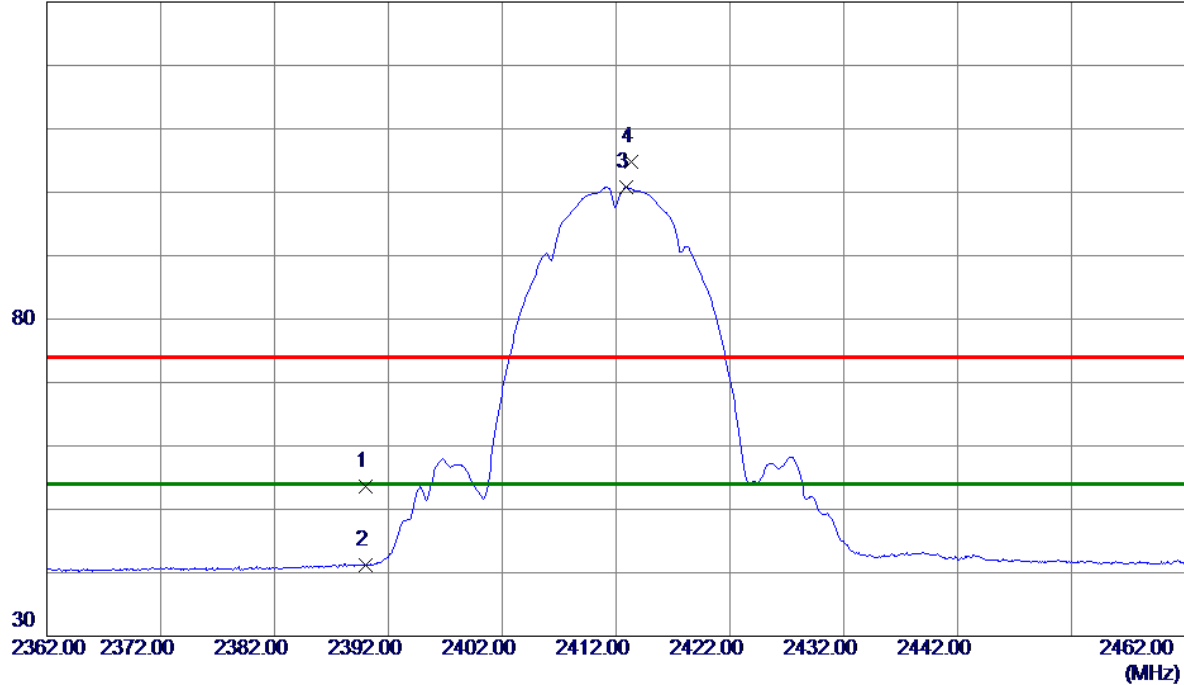
### REMARKS:

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

Test Mode: TX B Mode 2412 MHz

## Horizontal

130 dBuV/m



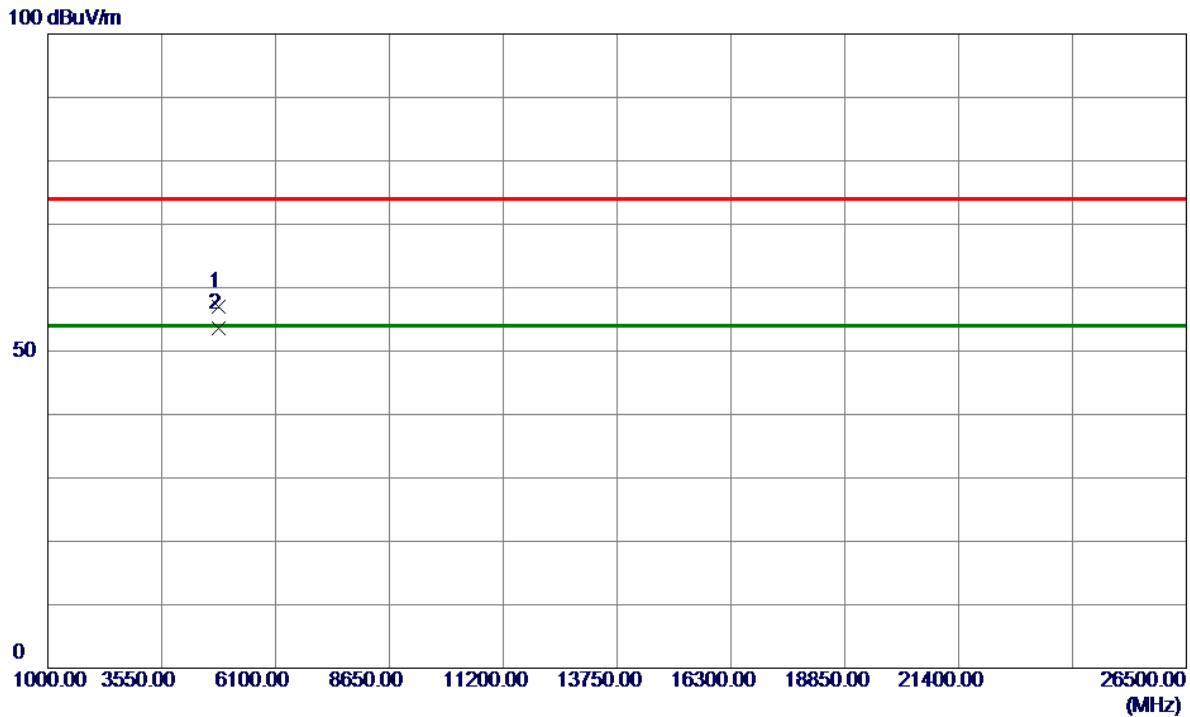
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	42.82	10.69	53.51	74.00	-20.49	Peak	
2	2390.0000	30.52	10.69	41.21	54.00	-12.79	AVG	
3 *	2412.8500	90.02	10.76	100.78	54.00	46.78	AVG	No Limit
4	2413.3000	93.97	10.76	104.73	74.00	30.73	Peak	No Limit

### REMARKS:

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

Test Mode:	TX B Mode 2412 MHz
------------	--------------------

## Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.8920	50.15	6.84	56.99	74.00	-17.01	Peak	
2 *	4824.1400	46.70	6.84	53.54	54.00	-0.46	AVG	

### REMARKS:

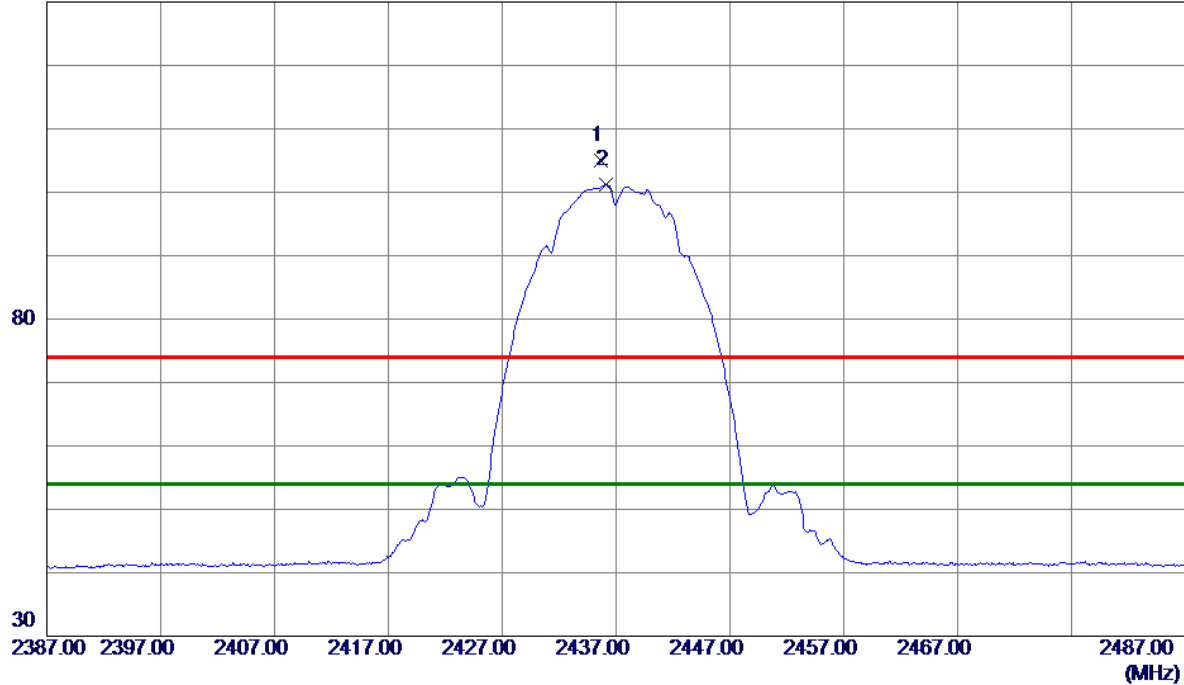
(1) Measurement Value = Reading Level + Correct Factor.

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

Test Mode: TX B Mode 2437 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.7000	94.26	10.83	105.09	74.00	31.09	Peak	No Limit
2 *	2436.1000	90.42	10.83	101.25	54.00	47.25	AVG	No Limit

### REMARKS:

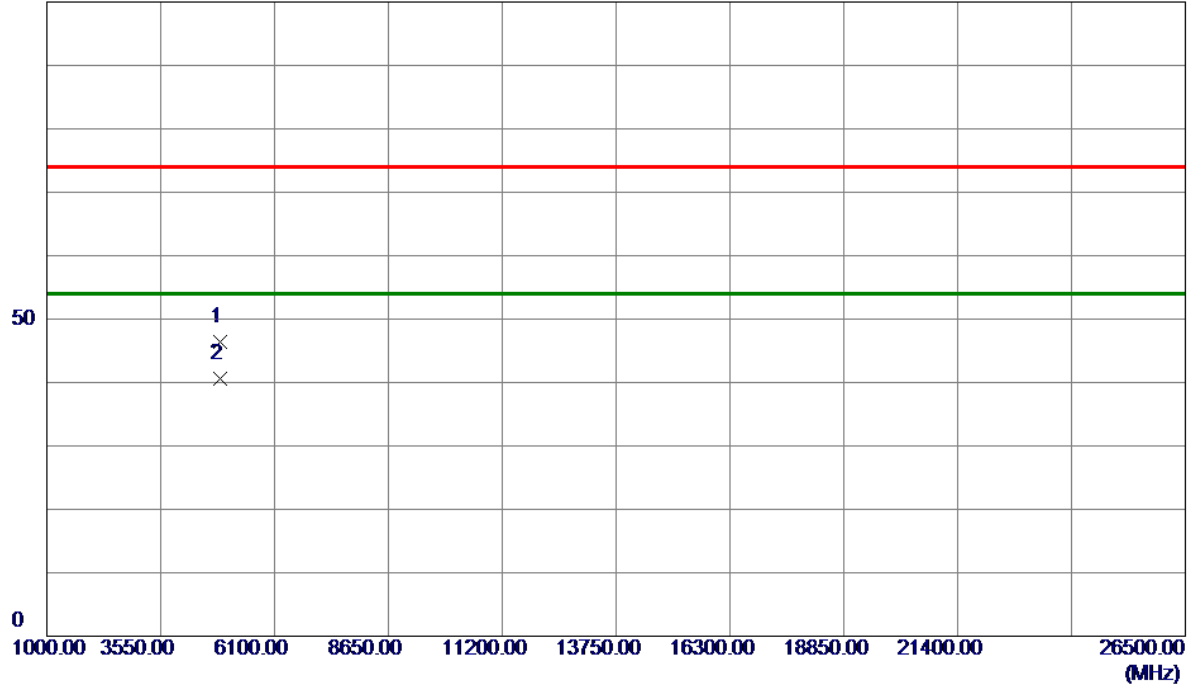
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.



Test Mode: TX B Mode 2437 MHz

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.8600	39.52	6.96	46.48	74.00	-27.52	Peak	
2 *	4874.0280	33.66	6.96	40.62	54.00	-13.38	AVG	

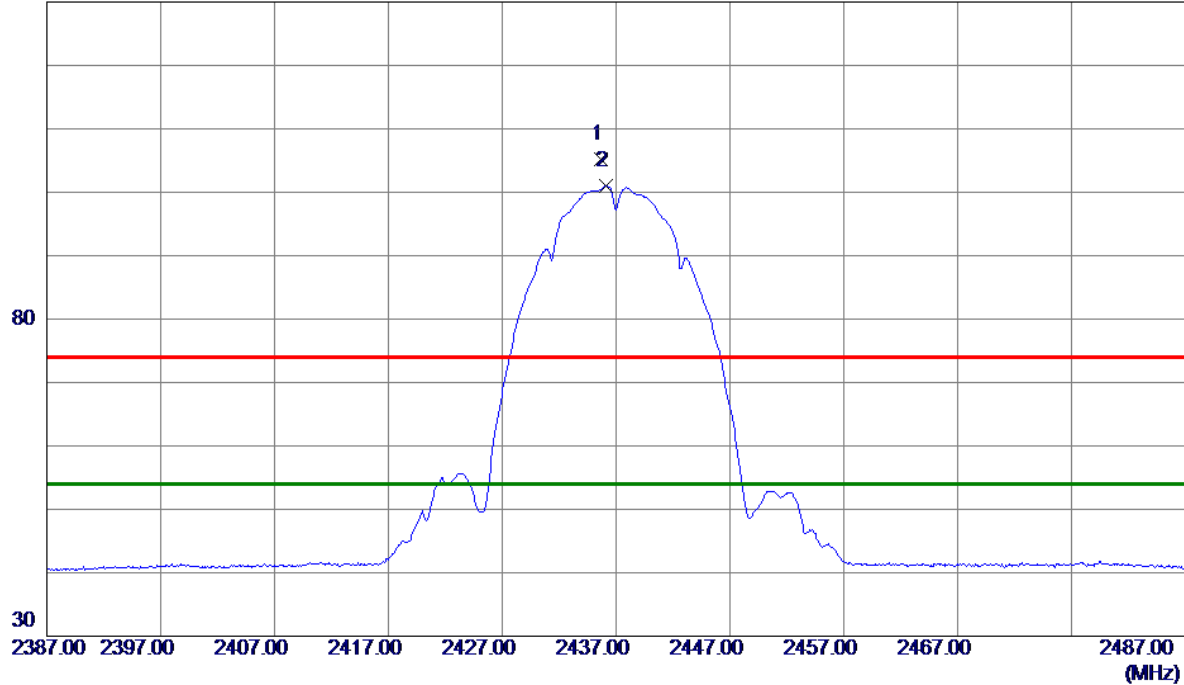
### REMARKS:

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

Test Mode: TX B Mode 2437 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.7000	94.43	10.83	105.26	74.00	31.26	Peak	No Limit
2 *	2436.1000	90.25	10.83	101.08	54.00	47.08	AVG	No Limit

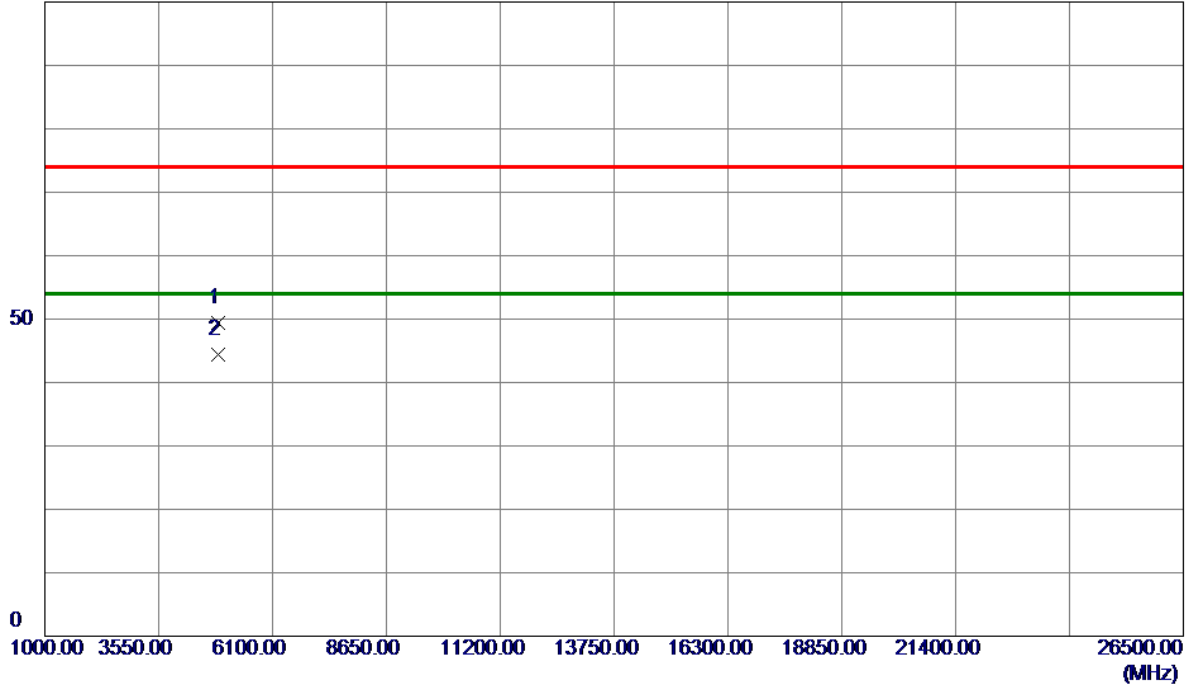
### REMARKS:

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

Test Mode: TX B Mode 2437 MHz

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9400	42.37	6.96	49.33	74.00	-24.67	Peak	
2 *	4874.2160	37.49	6.96	44.45	54.00	-9.55	AVG	

### REMARKS:

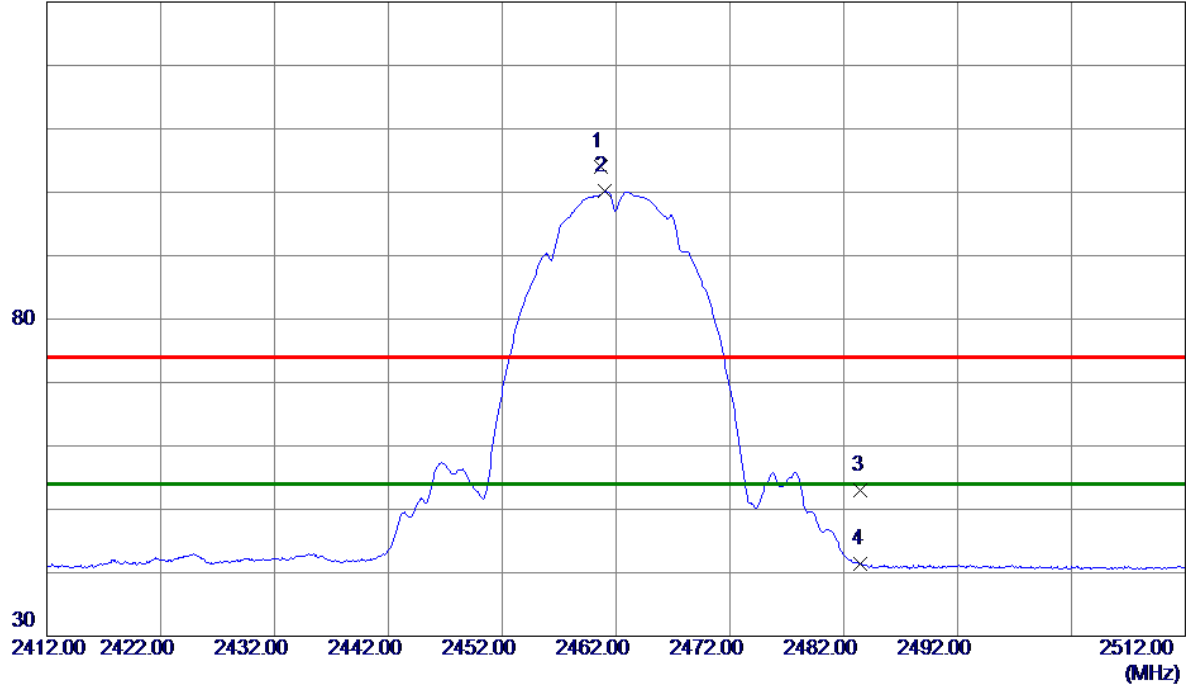
(1) Measurement Value = Reading Level + Correct Factor.

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

Test Mode: TX B Mode 2462 MHz

## Vertical

130 dBuV/m



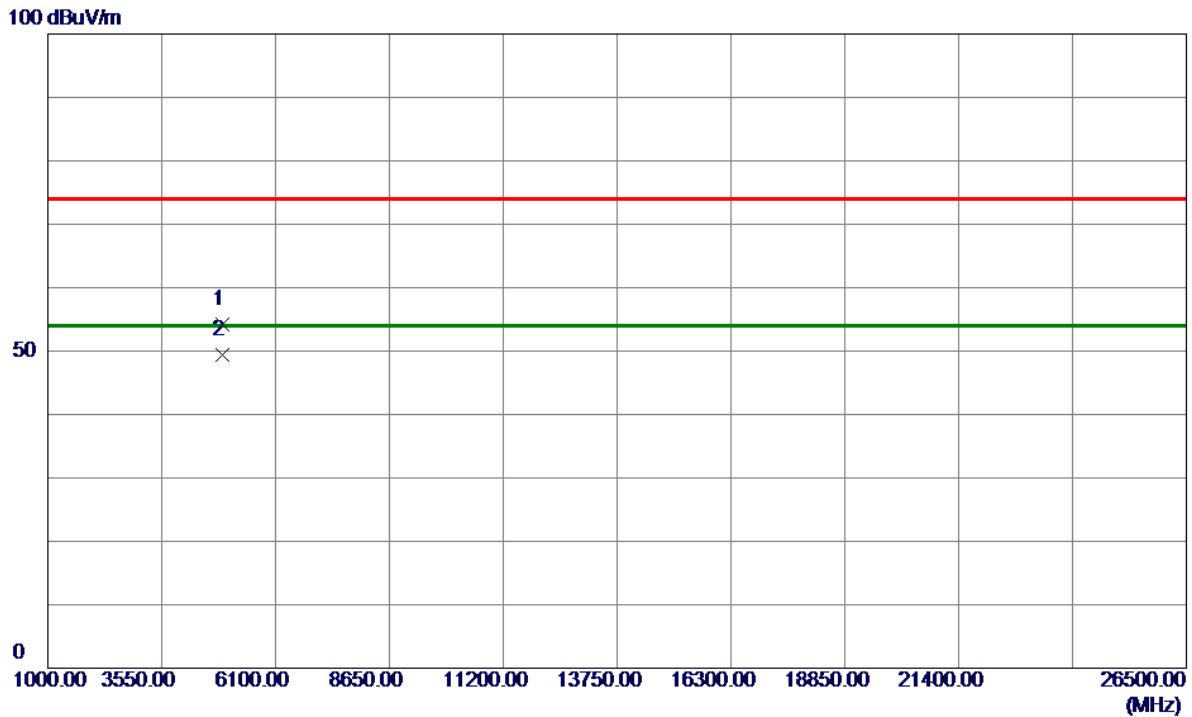
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.6500	93.02	10.90	103.92	74.00	29.92	Peak	No Limit
2 *	2461.0500	89.21	10.90	100.11	54.00	46.11	AVG	No Limit
3	2483.5000	42.01	10.97	52.98	74.00	-21.02	Peak	
4	2483.5000	30.51	10.97	41.48	54.00	-12.52	AVG	

### REMARKS:

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

Test Mode:	TX B Mode 2462 MHz
------------	--------------------

## Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.9400	47.05	7.08	54.13	74.00	-19.87	Peak	
2 *	4924.1480	42.23	7.08	49.31	54.00	-4.69	AVG	

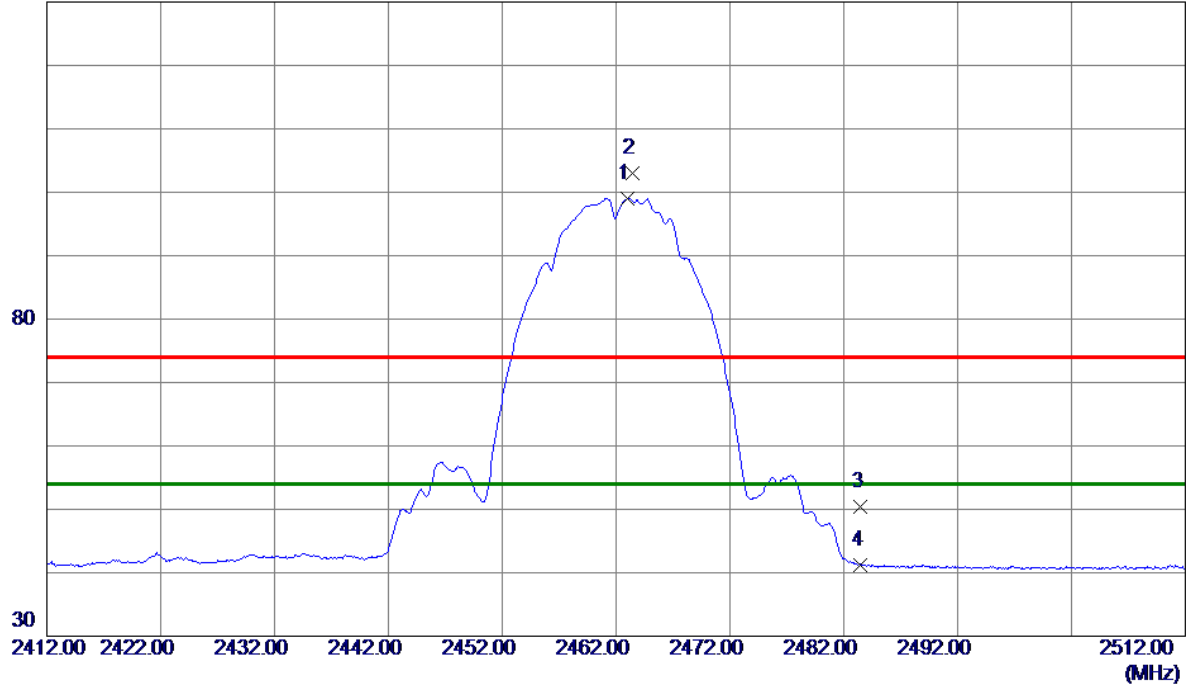
### REMARKS:

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

Test Mode: TX B Mode 2462 MHz

## Horizontal

130 dBuV/m



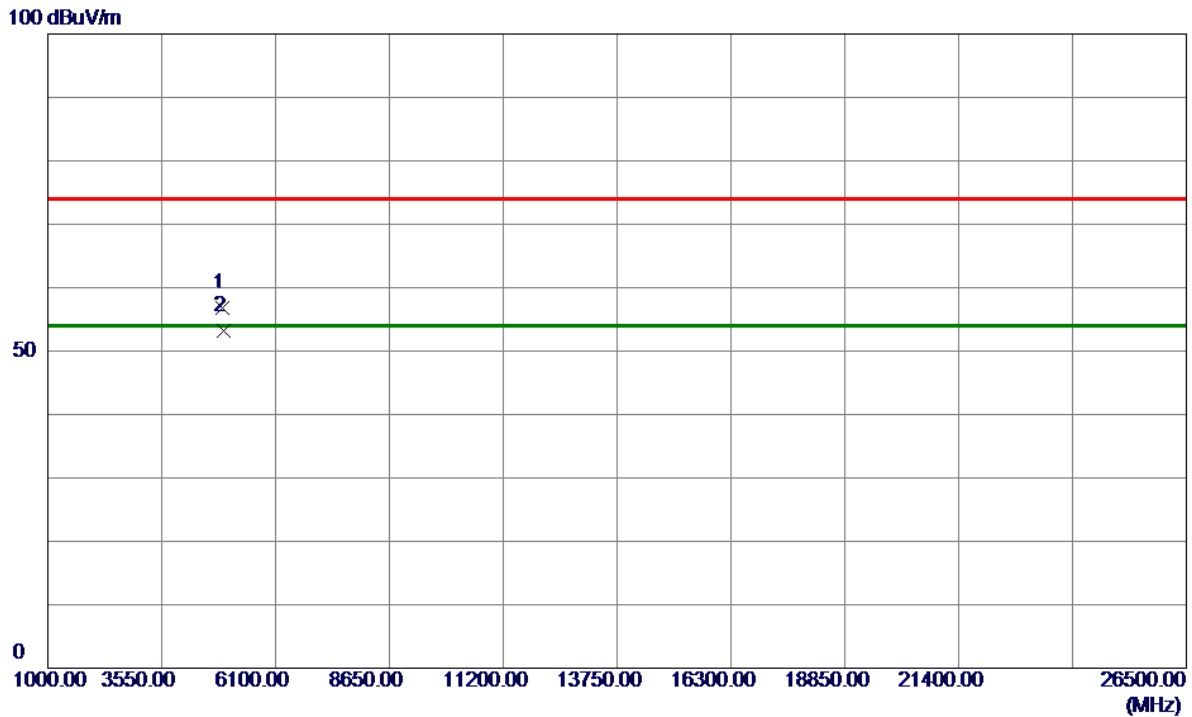
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2462.9500	88.09	10.91	99.00	54.00	45.00	AVG	No Limit
2	2463.4000	92.08	10.91	102.99	74.00	28.99	Peak	No Limit
3	2483.5000	39.43	10.97	50.40	74.00	-23.60	Peak	
4	2483.5000	30.25	10.97	41.22	54.00	-12.78	AVG	

### REMARKS:

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

Test Mode:	TX B Mode 2462 MHz
------------	--------------------

## Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.9560	49.78	7.08	56.86	74.00	-17.14	Peak	
2 *	4924.1680	46.19	7.08	53.27	54.00	-0.73	AVG	

### REMARKS:

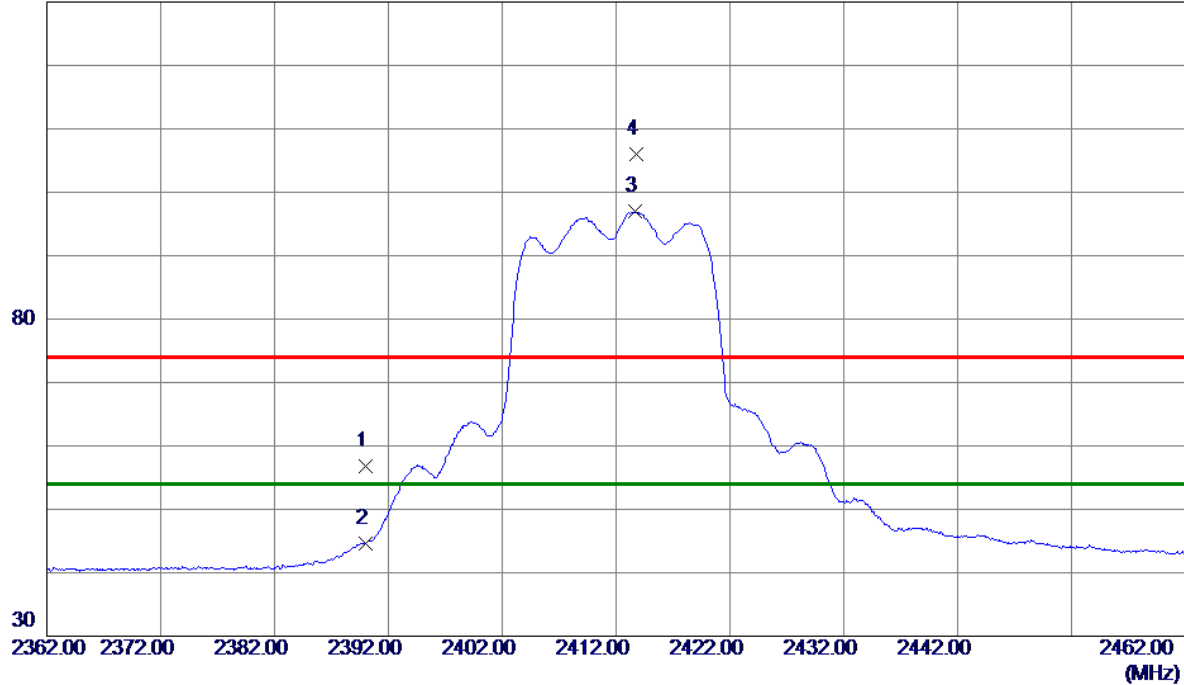
(1) Measurement Value = Reading Level + Correct Factor.

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

Test Mode: TX G Mode 2412 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	46.07	10.69	56.76	74.00	-17.24	Peak	
2	2390.0000	33.95	10.69	44.64	54.00	-9.36	AVG	
3 *	2413.7000	86.14	10.76	96.90	54.00	42.90	AVG	No Limit
4	2413.7500	95.27	10.76	106.03	74.00	32.03	Peak	No Limit

### REMARKS:

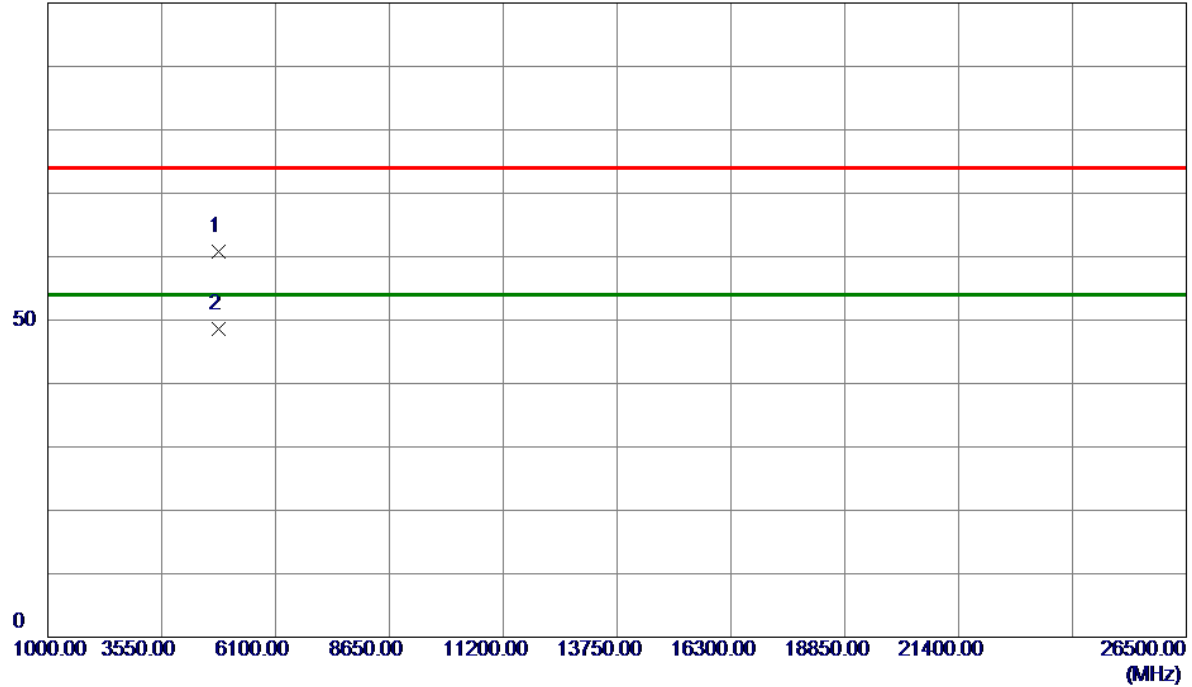
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.



Test Mode: TX G Mode 2412 MHz

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4821.1750	54.02	6.83	60.85	74.00	-13.15	Peak	
2 *	4825.6250	41.71	6.84	48.55	54.00	-5.45	AVG	

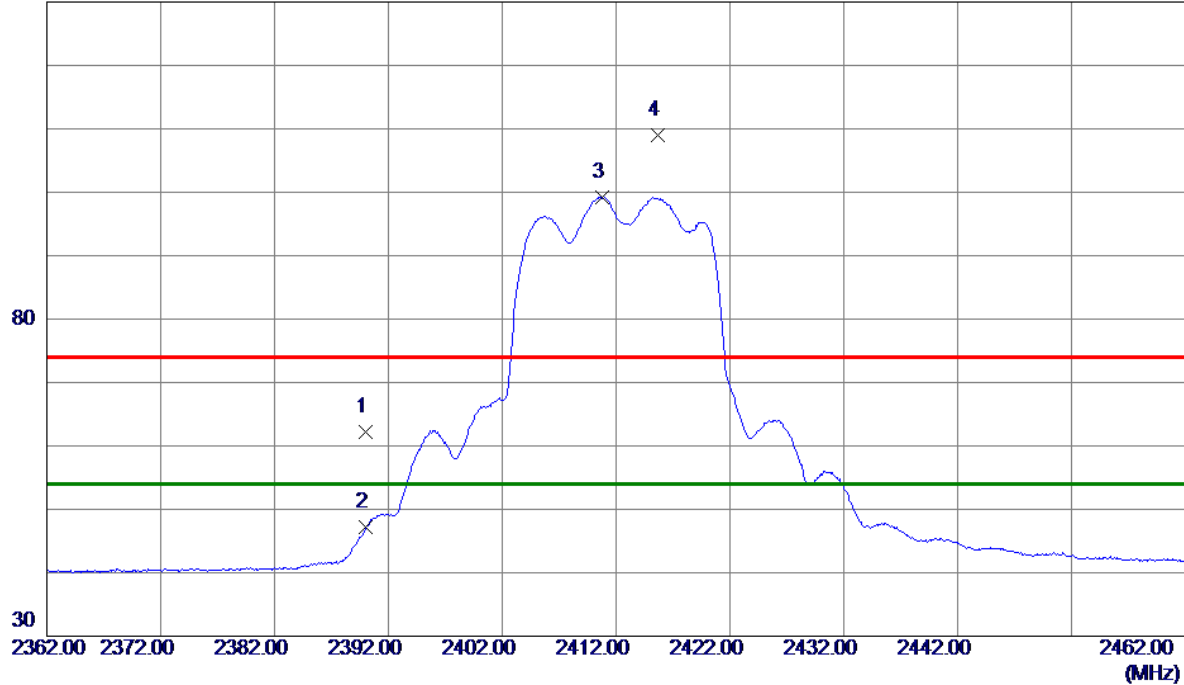
### REMARKS:

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

Test Mode: TX G Mode 2412 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	51.59	10.69	62.28	74.00	-11.72	Peak	
2	2390.0000	36.49	10.69	47.18	54.00	-6.82	AVG	
3 *	2410.8000	88.49	10.75	99.24	54.00	45.24	AVG	No Limit
4	2415.6500	98.27	10.77	109.04	74.00	35.04	Peak	No Limit

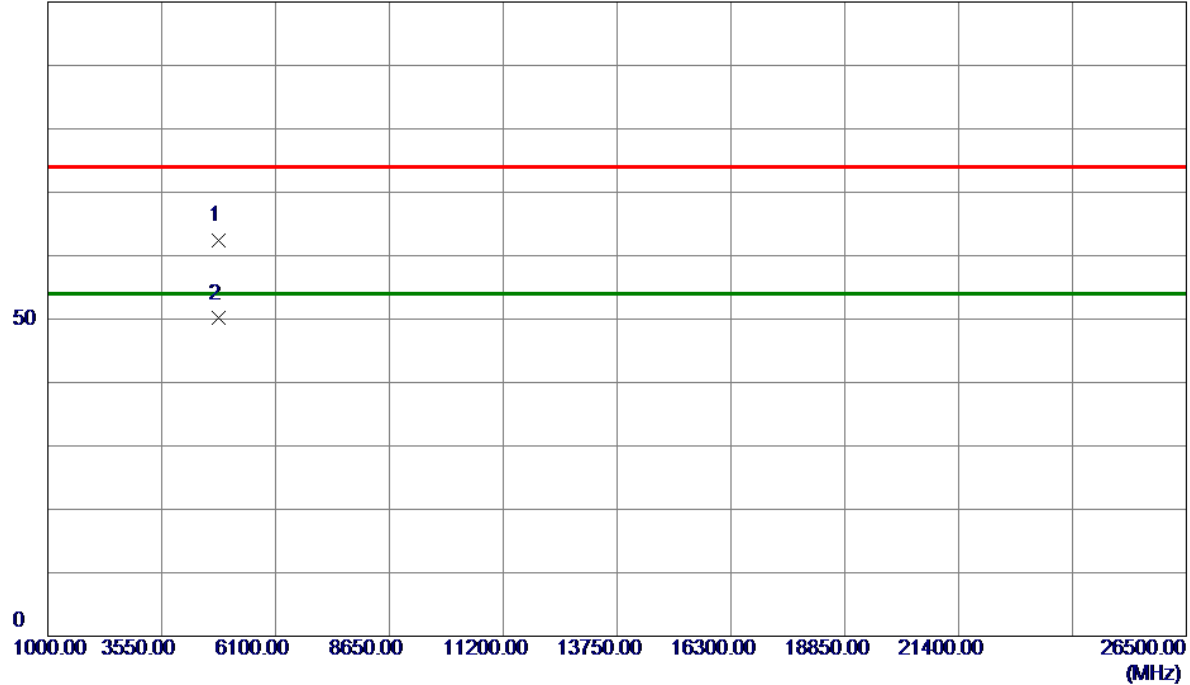
### REMARKS:

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

Test Mode:	TX G Mode 2412 MHz
------------	--------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4821.3000	55.60	6.83	62.43	74.00	-11.57	Peak	
2 *	4825.6000	43.26	6.84	50.10	54.00	-3.90	AVG	

### REMARKS:

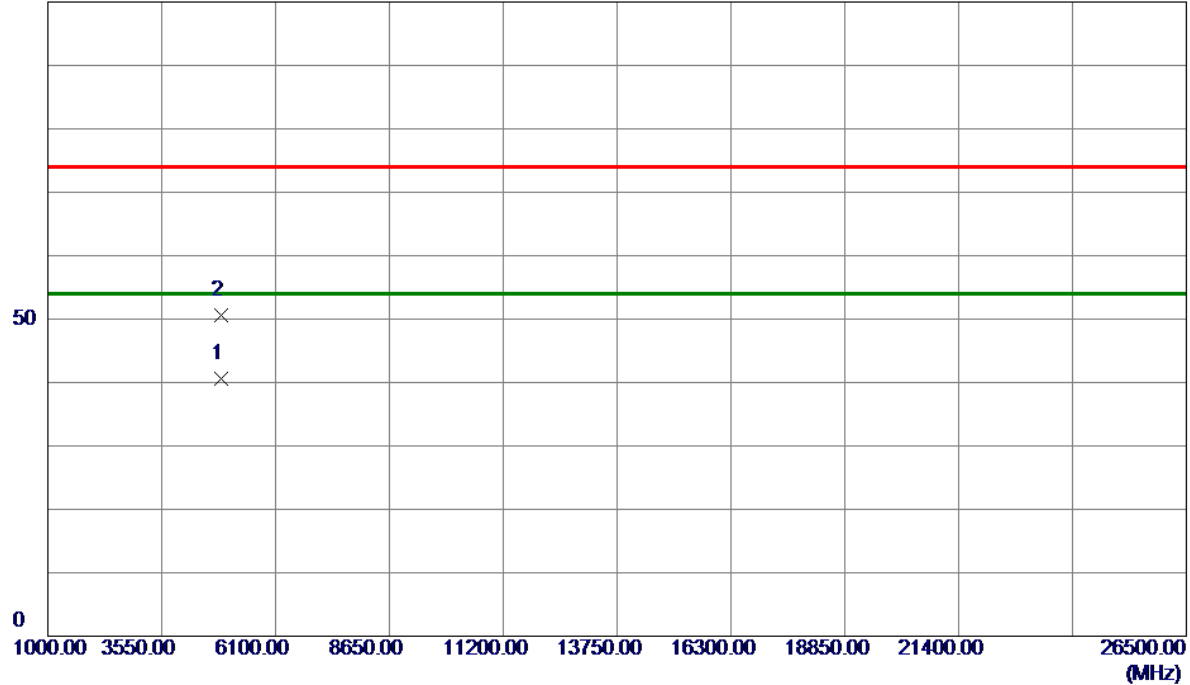
(1) Measurement Value = Reading Level + Correct Factor.

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

Test Mode:	TX G Mode 2437 MHz
------------	--------------------

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4871.2250	33.60	6.95	40.55	54.00	-13.45	AVG	
2	4875.3250	43.72	6.96	50.68	74.00	-23.32	Peak	

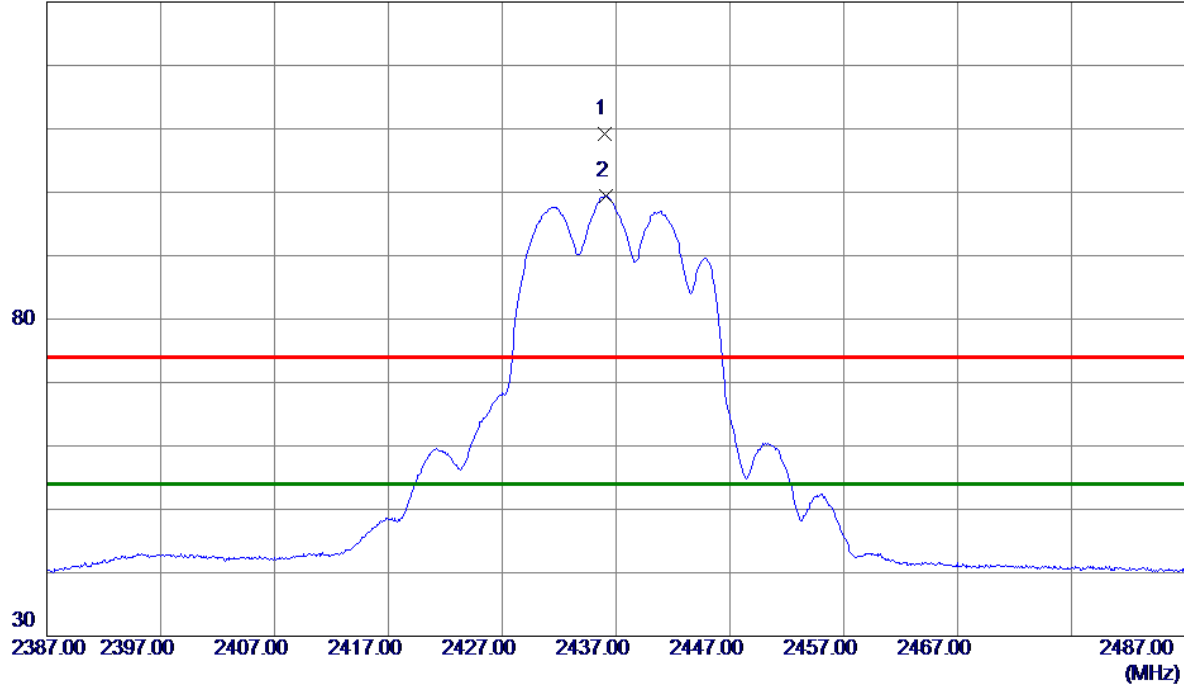
### REMARKS:

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

Test Mode: TX G Mode 2437 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2436.0000	98.30	10.83	109.13	74.00	35.13	Peak	No Limit
2 *	2436.1000	88.59	10.83	99.42	54.00	45.42	AVG	No Limit

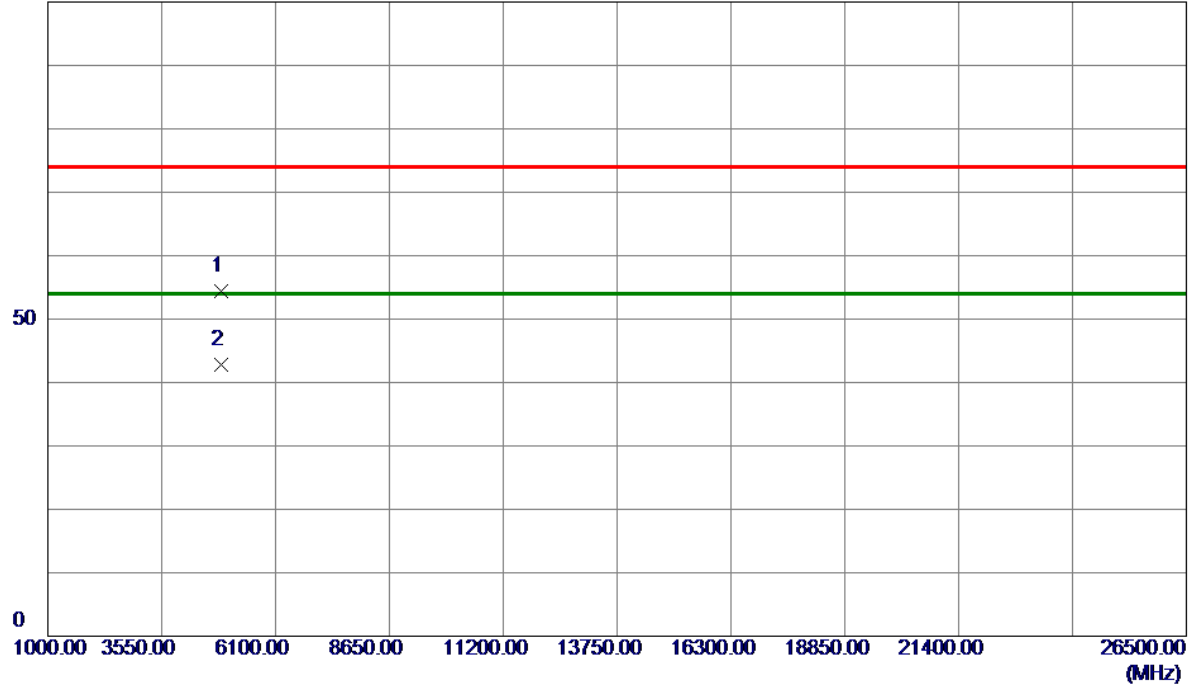
### REMARKS:

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

Test Mode: TX G Mode 2437 MHz

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4875.4000	47.49	6.96	54.45	74.00	-19.55	Peak	
2 *	4875.7500	35.79	6.96	42.75	54.00	-11.25	AVG	

### REMARKS:

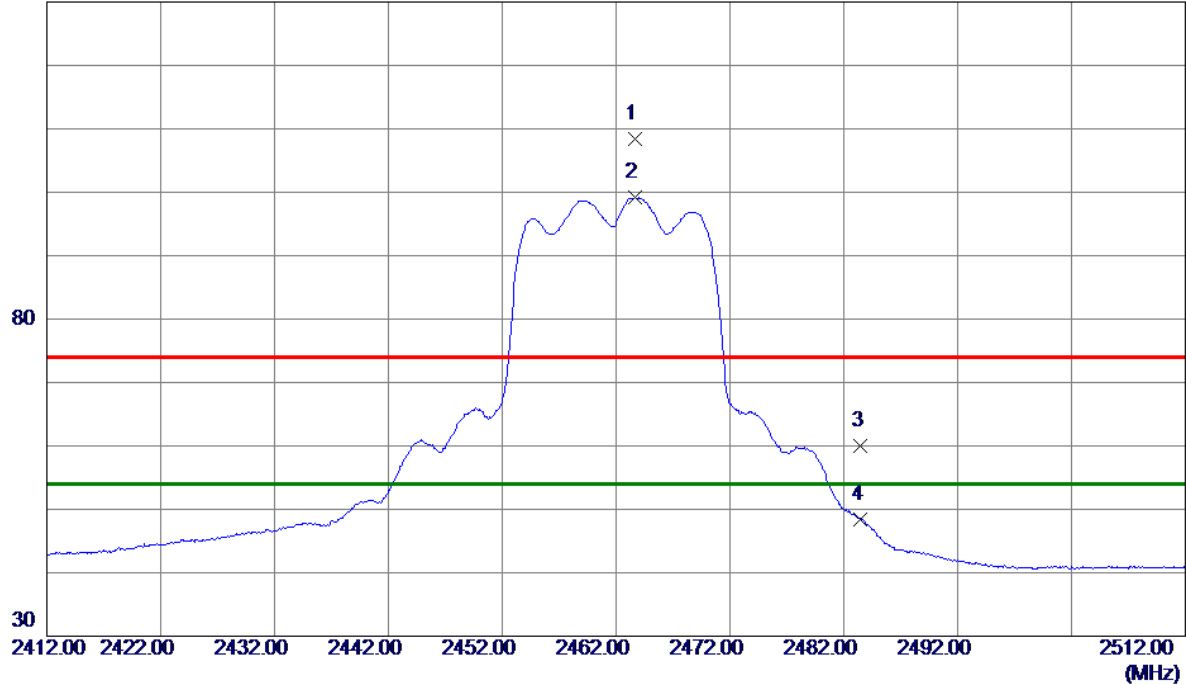
(1) Measurement Value = Reading Level + Correct Factor.

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

Test Mode: TX G Mode 2462 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2463.6500	97.53	10.91	108.44	74.00	34.44	Peak	No Limit
2 *	2463.6500	88.37	10.91	99.28	54.00	45.28	AVG	No Limit
3	2483.5000	48.98	10.97	59.95	74.00	-14.05	Peak	
4	2483.5000	37.45	10.97	48.42	54.00	-5.58	AVG	

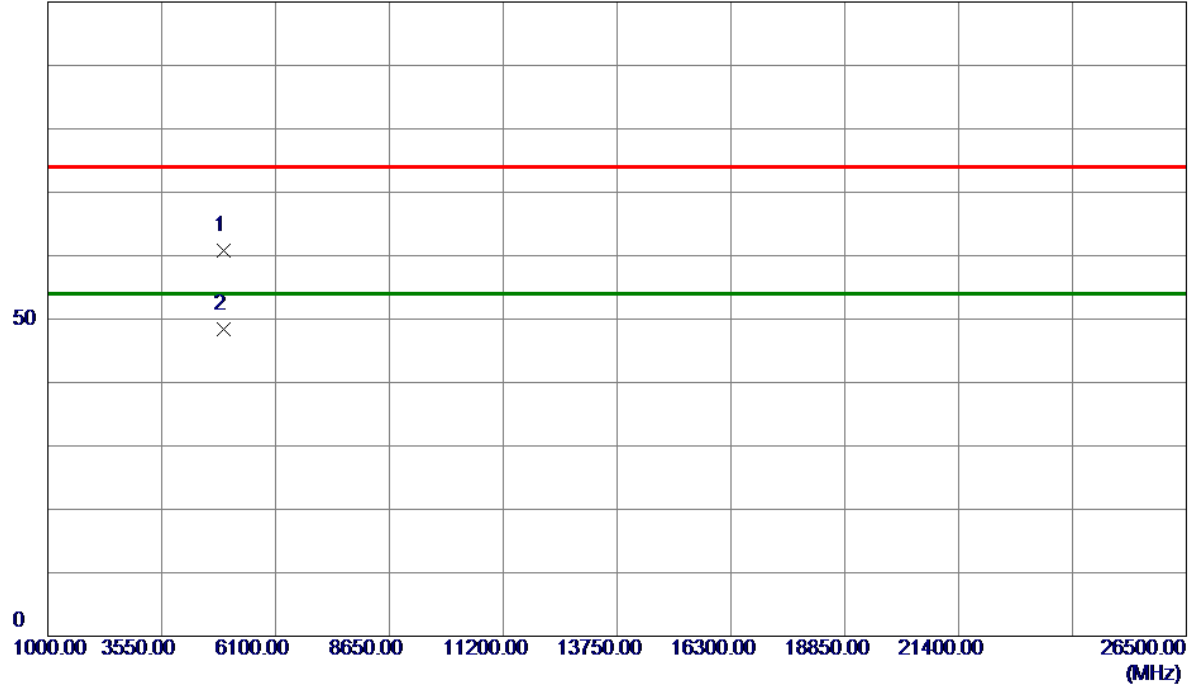
### REMARKS:

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

Test Mode:	TX G Mode 2462 MHz
------------	--------------------

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4925.5000	53.65	7.08	60.73	74.00	-13.27	Peak	
2 *	4925.9000	41.37	7.08	48.45	54.00	-5.55	AVG	

### REMARKS:

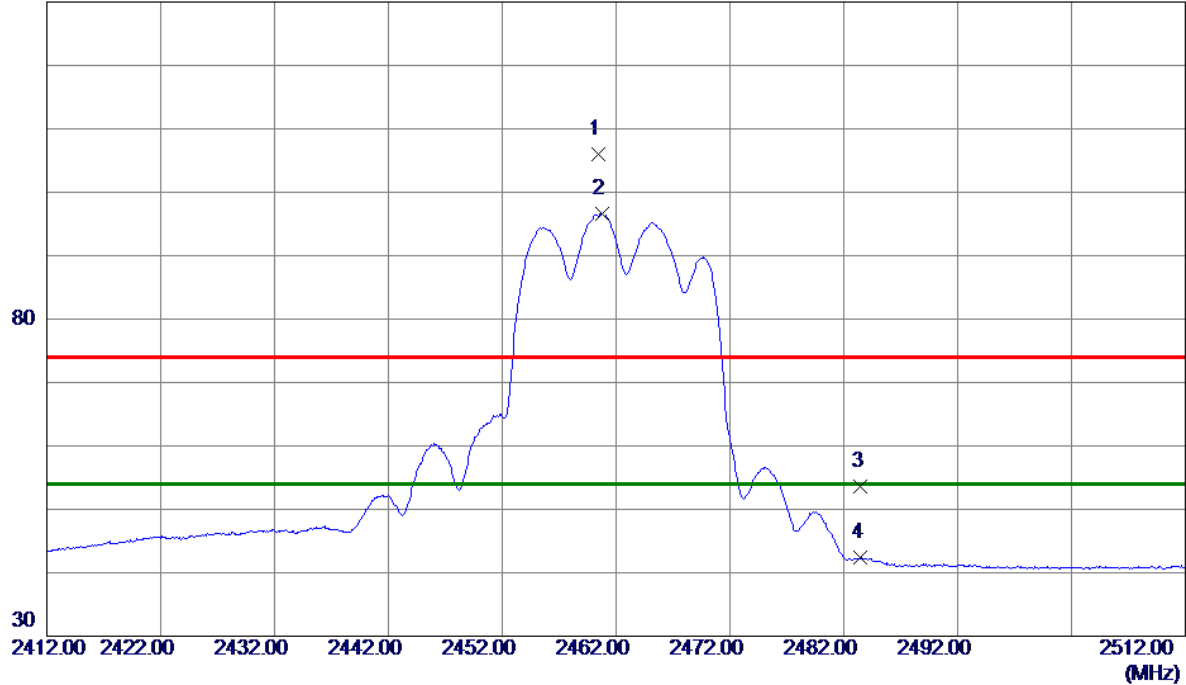
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.



Test Mode: TX G Mode 2462 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.4500	95.11	10.90	106.01	74.00	32.01	Peak	No Limit
2 *	2460.7500	85.79	10.90	96.69	54.00	42.69	AVG	No Limit
3	2483.5000	42.57	10.97	53.54	74.00	-20.46	Peak	
4	2483.5000	31.37	10.97	42.34	54.00	-11.66	AVG	

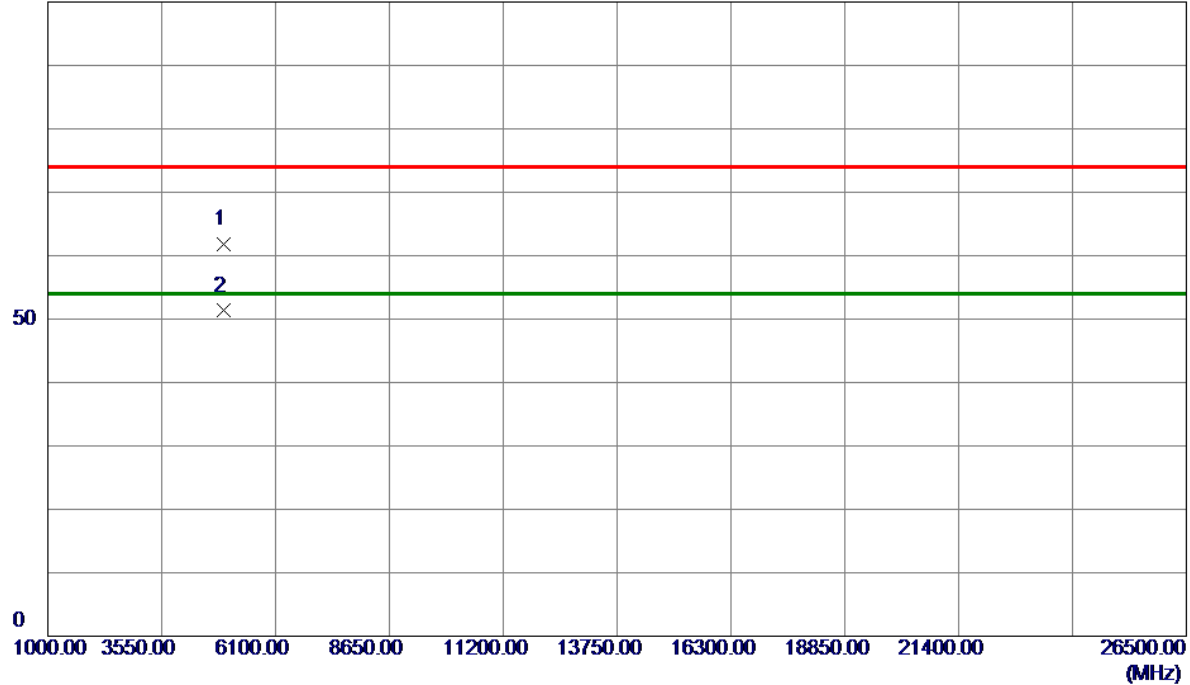
### REMARKS:

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

Test Mode:	TX G Mode 2462 MHz
------------	--------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4925.3500	54.78	7.08	61.86	74.00	-12.14	Peak	
2 *	4925.7750	44.22	7.08	51.30	54.00	-2.70	AVG	

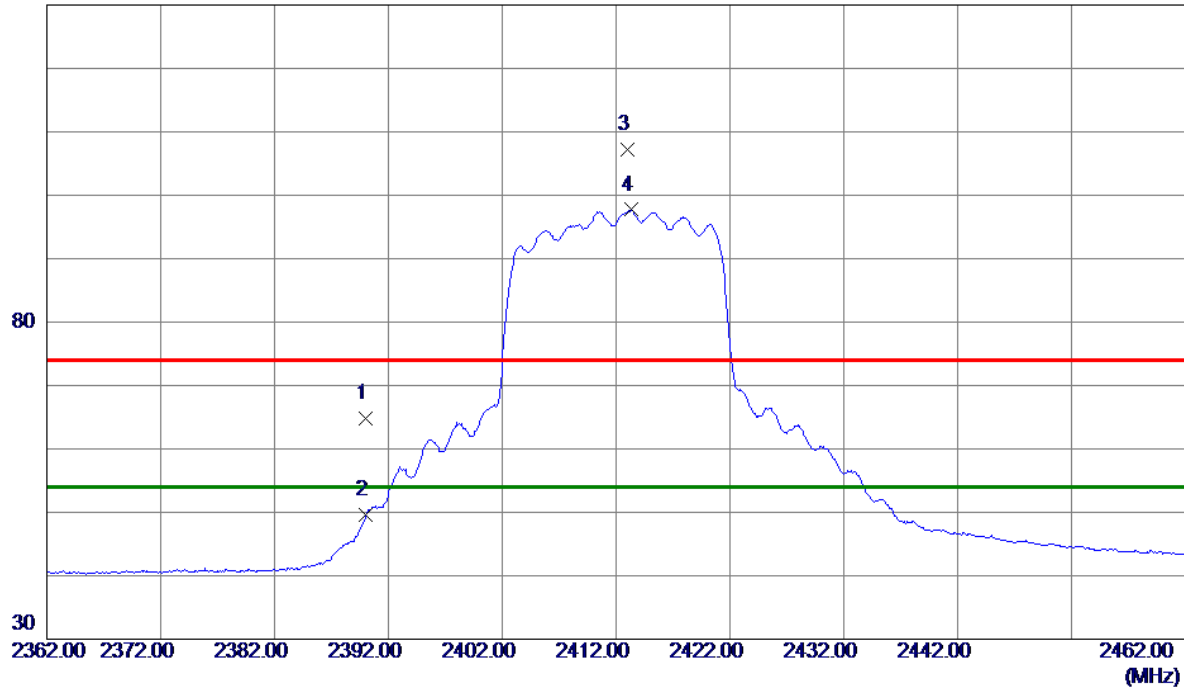
### REMARKS:

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

Test Mode: TX N-20M Mode 2412 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	54.19	10.69	64.88	74.00	-9.12	Peak	
2	2390.0000	38.93	10.69	49.62	54.00	-4.38	AVG	
3	2413.0000	96.39	10.76	107.15	74.00	33.15	Peak	No Limit
4 *	2413.3000	86.94	10.76	97.70	54.00	43.70	AVG	No Limit

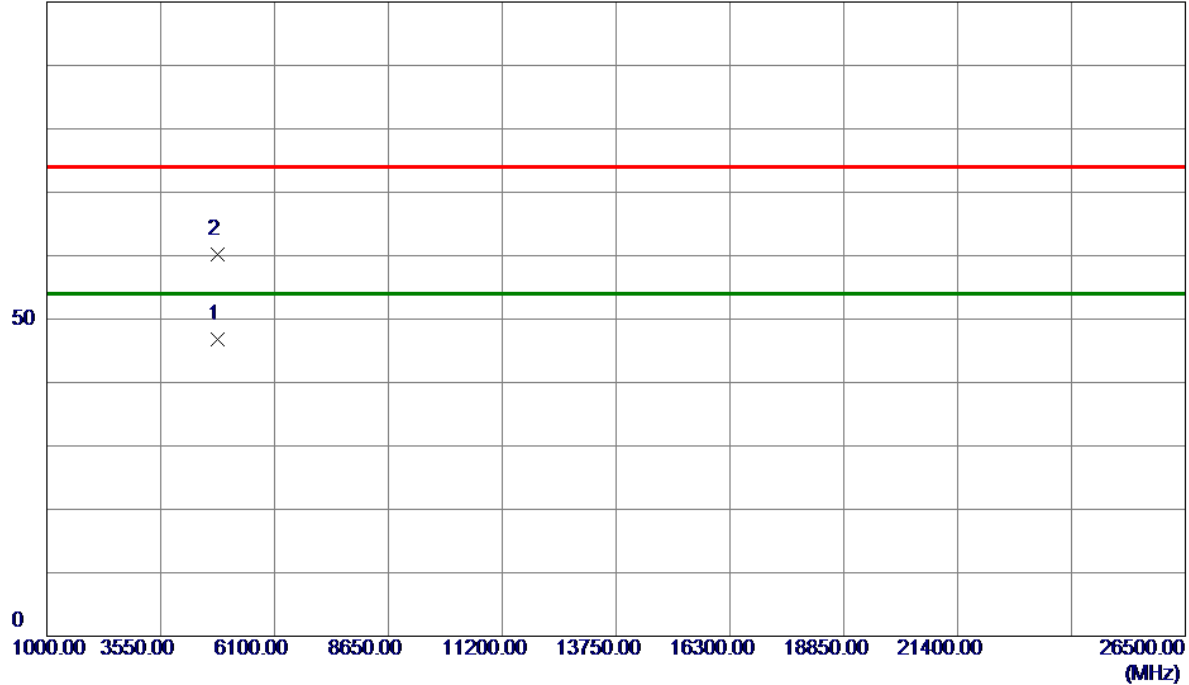
### REMARKS:

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

Test Mode:	TX N-20M Mode 2412 MHz
------------	------------------------

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4822. 2250	39. 96	6. 84	46. 80	54. 00	-7. 20	AVG	
2	4825. 0750	53. 35	6. 84	60. 19	74. 00	-13. 81	Peak	

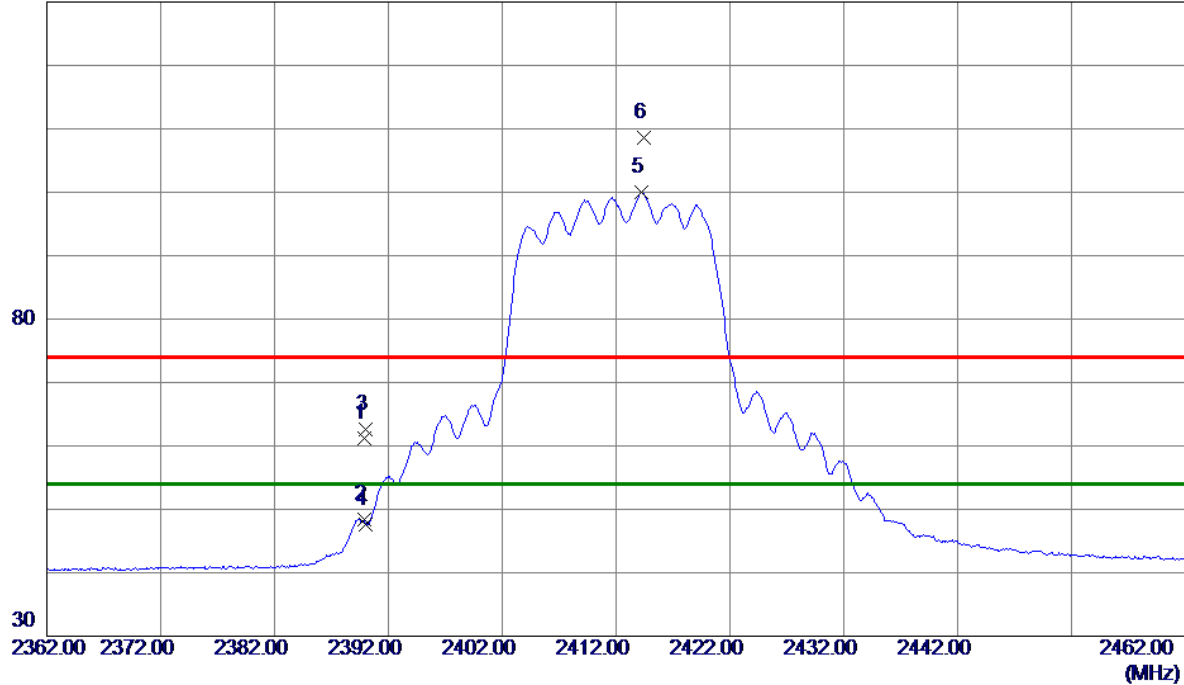
### REMARKS:

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

Test Mode: TX N-20M Mode 2412 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2389.8500	50.42	10.69	61.11	74.00	-12.89	Peak	
2	2389.8500	37.66	10.69	48.35	54.00	-5.65	AVG	
3	2390.0000	51.93	10.69	62.62	74.00	-11.38	Peak	
4	2390.0000	36.99	10.69	47.68	54.00	-6.32	AVG	
5 *	2414.2500	89.24	10.76	100.00	54.00	46.00	AVG	No Limit
6	2414.4500	97.92	10.76	108.68	74.00	34.68	Peak	No Limit

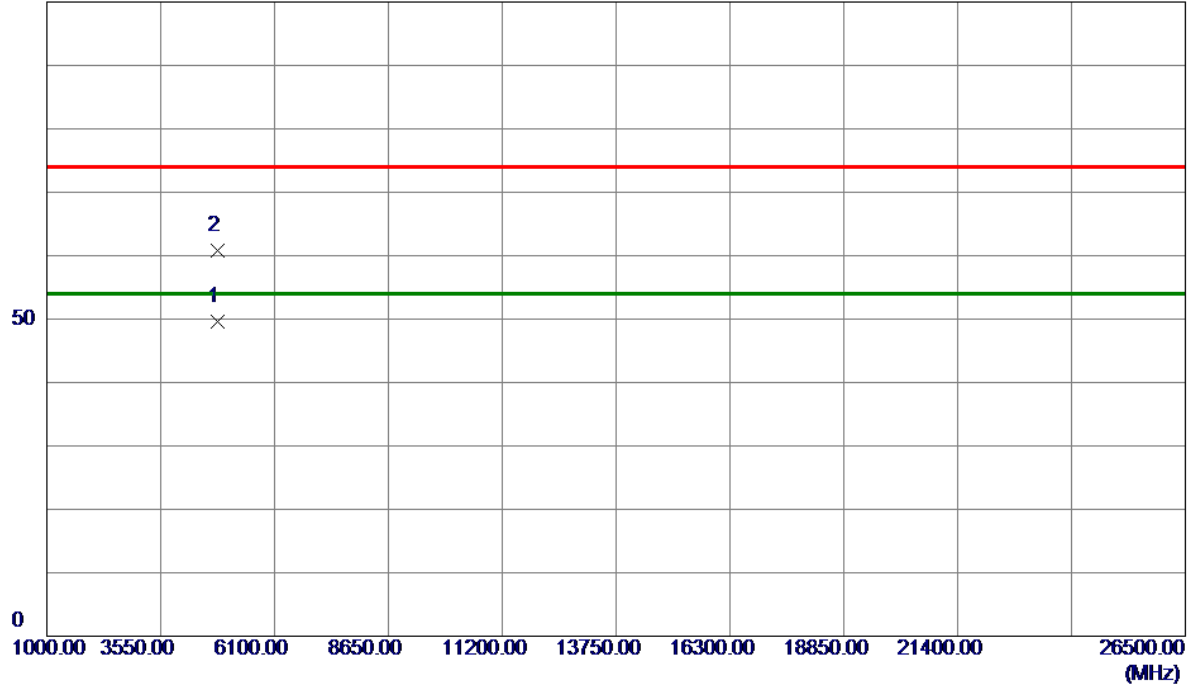
### REMARKS:

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

Test Mode:	TX N-20M Mode 2412 MHz
------------	------------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4822.2750	42.85	6.84	49.69	54.00	-4.31	AVG	
2	4822.5250	54.04	6.84	60.88	74.00	-13.12	Peak	

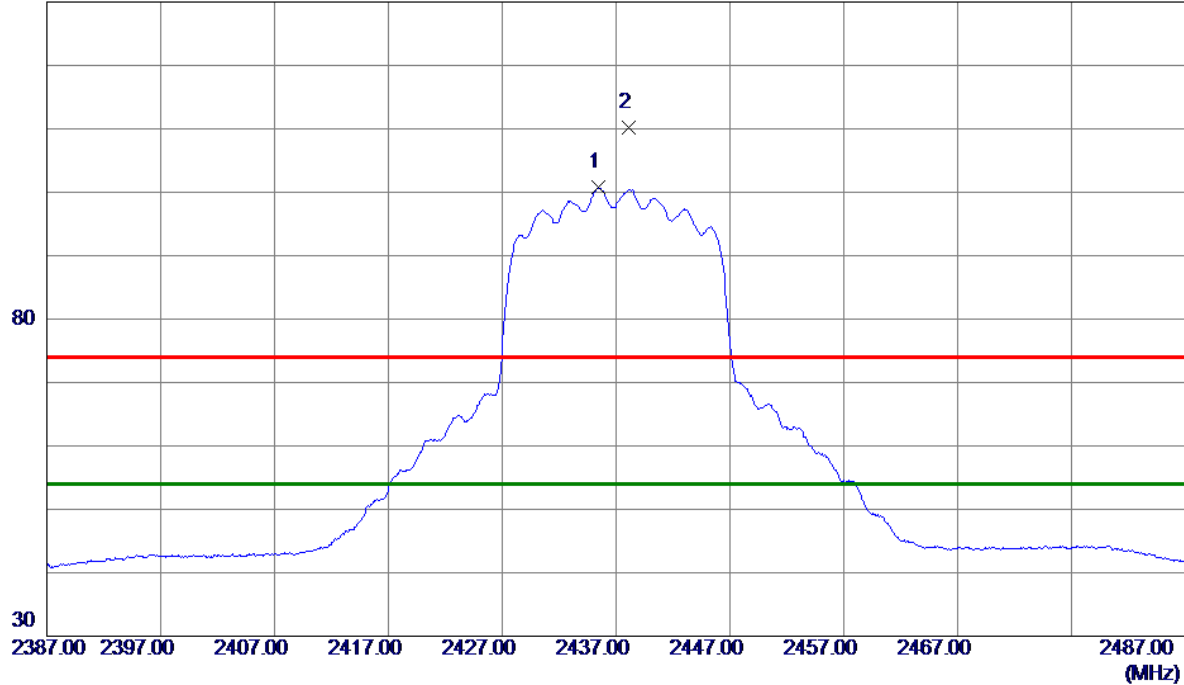
### REMARKS:

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

Test Mode: TX N-20M Mode 2437 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.4000	89.97	10.83	100.80	54.00	46.80	AVG	No Limit
2	2438.1500	99.35	10.83	110.18	74.00	36.18	Peak	No Limit

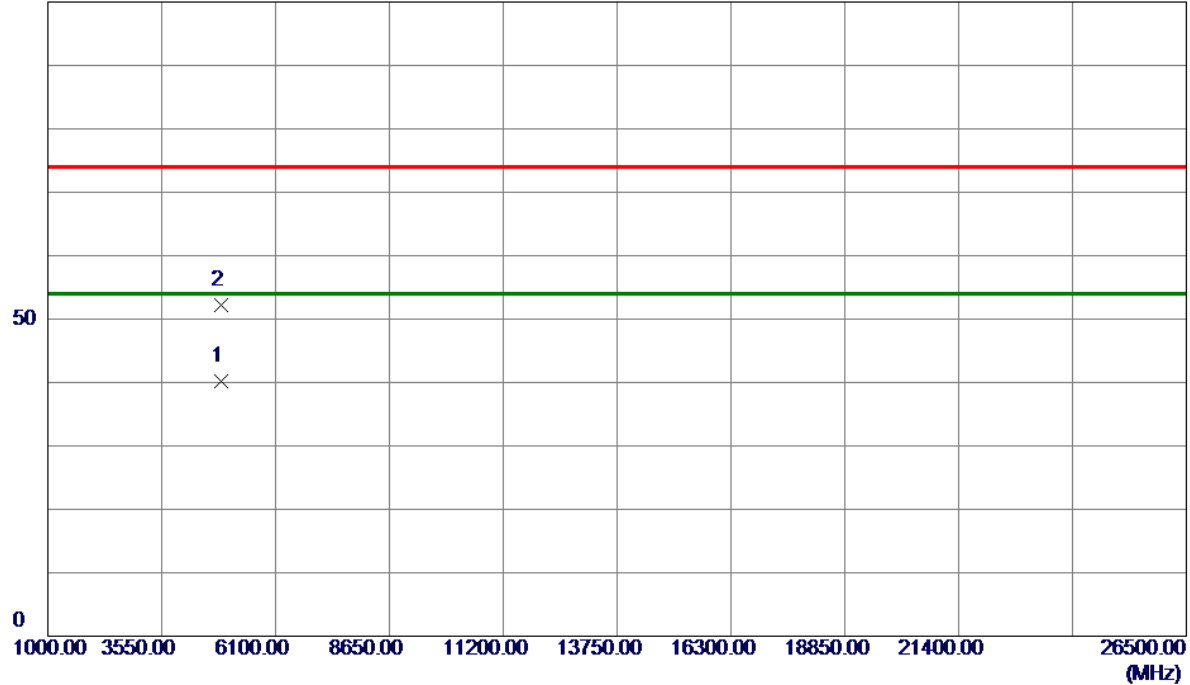
### REMARKS:

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

Test Mode:	TX N-20M Mode 2437 MHz
------------	------------------------

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4877.6250	33.26	6.97	40.23	54.00	-13.77	AVG	
2	4880.1000	45.20	6.97	52.17	74.00	-21.83	Peak	

### REMARKS:

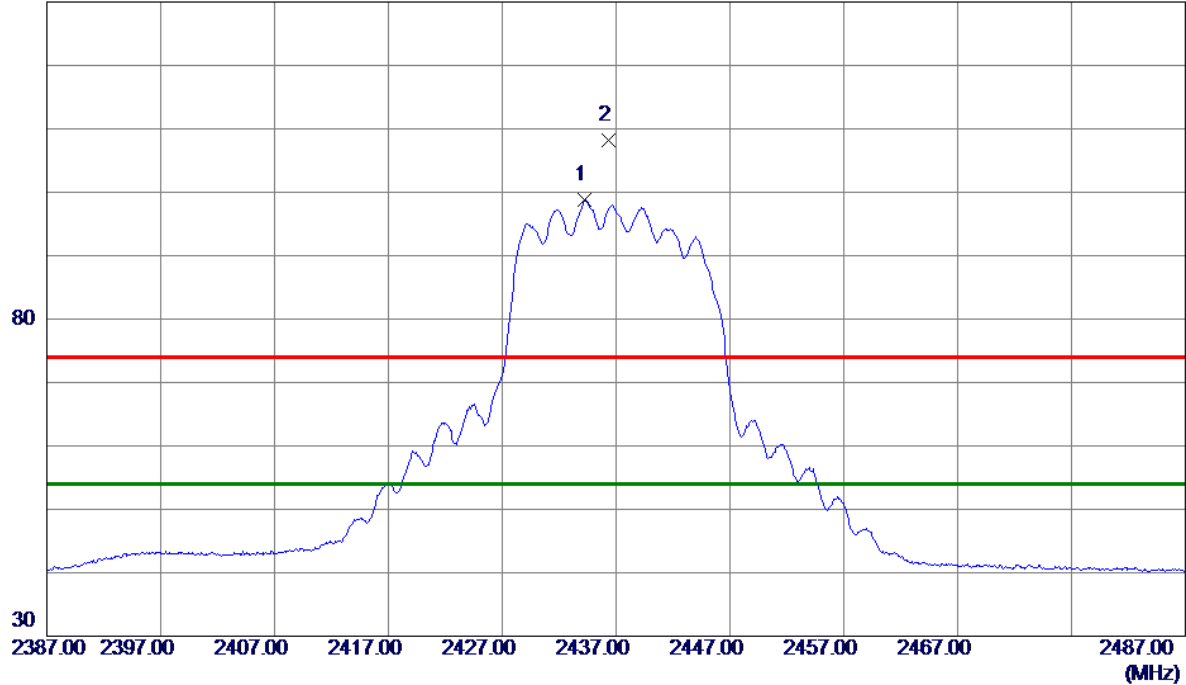
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.



Test Mode: TX N-20M Mode 2437 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2434.2500	87.99	10.82	98.81	54.00	44.81	AVG	No Limit
2	2436.3500	97.38	10.83	108.21	74.00	34.21	Peak	No Limit

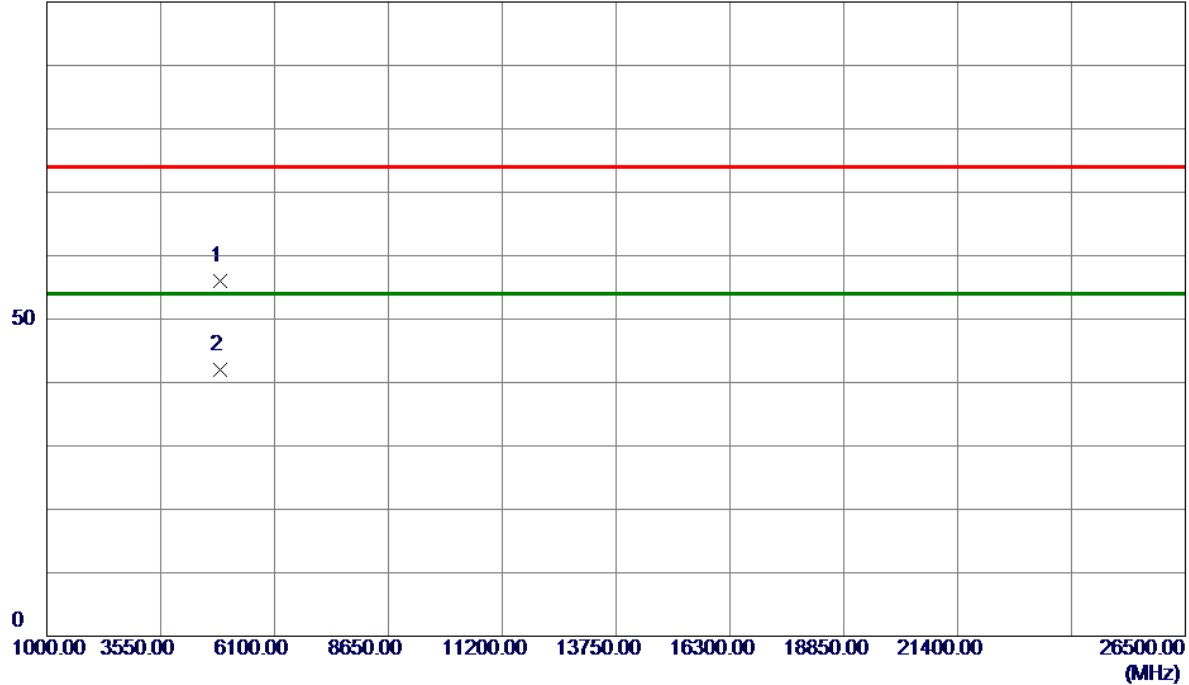
### REMARKS:

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

Test Mode:	TX N-20M Mode 2437 MHz
------------	------------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4874.7000	49.09	6.96	56.05	74.00	-17.95	Peak	
2 *	4877.4750	34.95	6.97	41.92	54.00	-12.08	AVG	

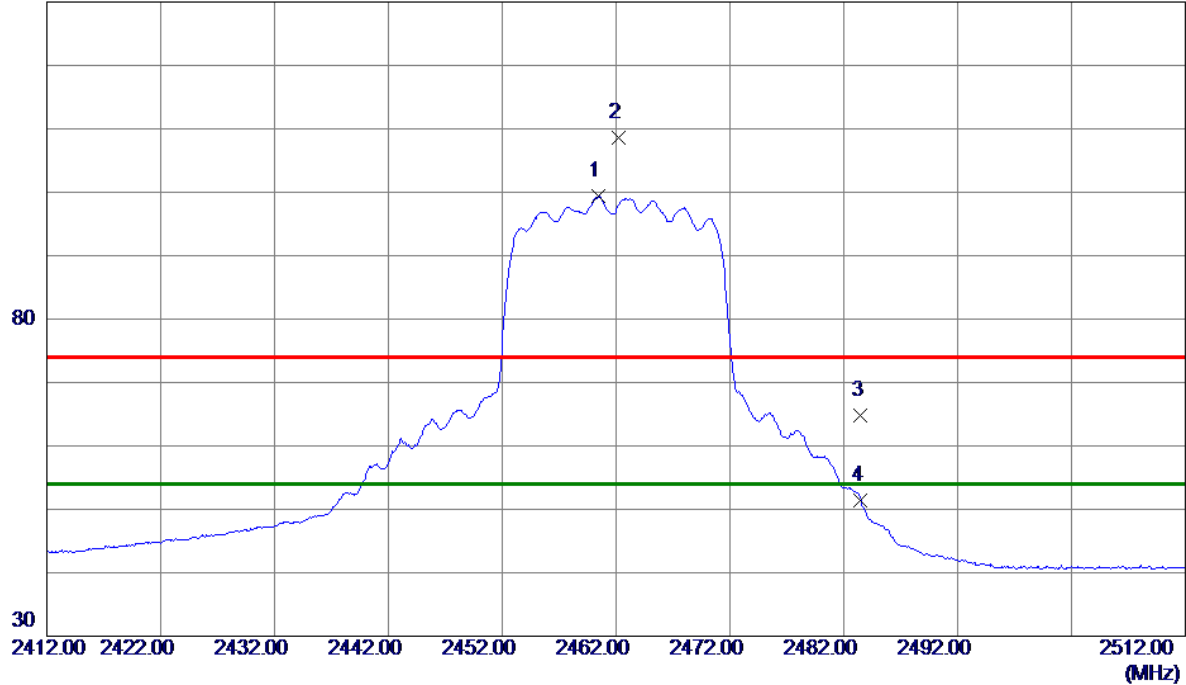
### REMARKS:

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

Test Mode: TX N-20M Mode 2462 MHz

## Vertical

130 dBuV/m



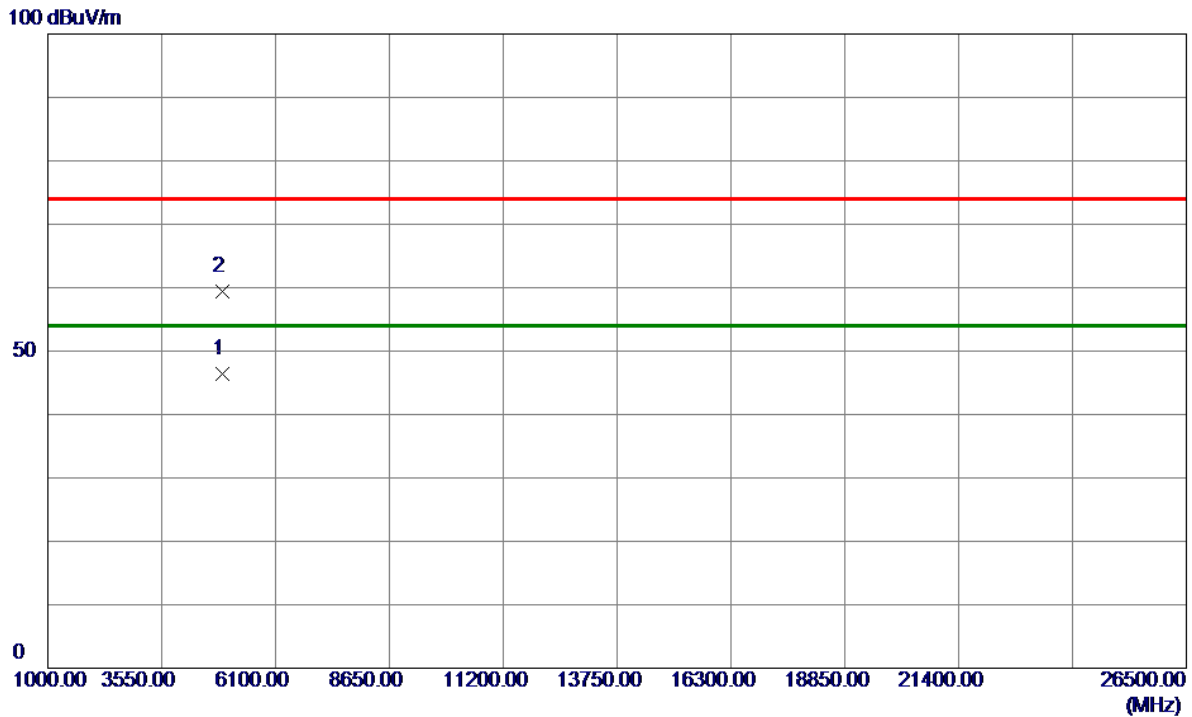
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2460.4500	88.49	10.90	99.39	54.00	45.39	AVG	No Limit
2	2462.2500	97.78	10.91	108.69	74.00	34.69	Peak	No Limit
3	2483.5000	53.80	10.97	64.77	74.00	-9.23	Peak	
4	2483.5000	40.50	10.97	51.47	54.00	-2.53	AVG	

### REMARKS:

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

Test Mode:	TX N-20M Mode 2462 MHz
------------	------------------------

## Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4922.4000	39.26	7.07	46.33	54.00	-7.67	AVG	
2	4923.0250	52.26	7.08	59.34	74.00	-14.66	Peak	

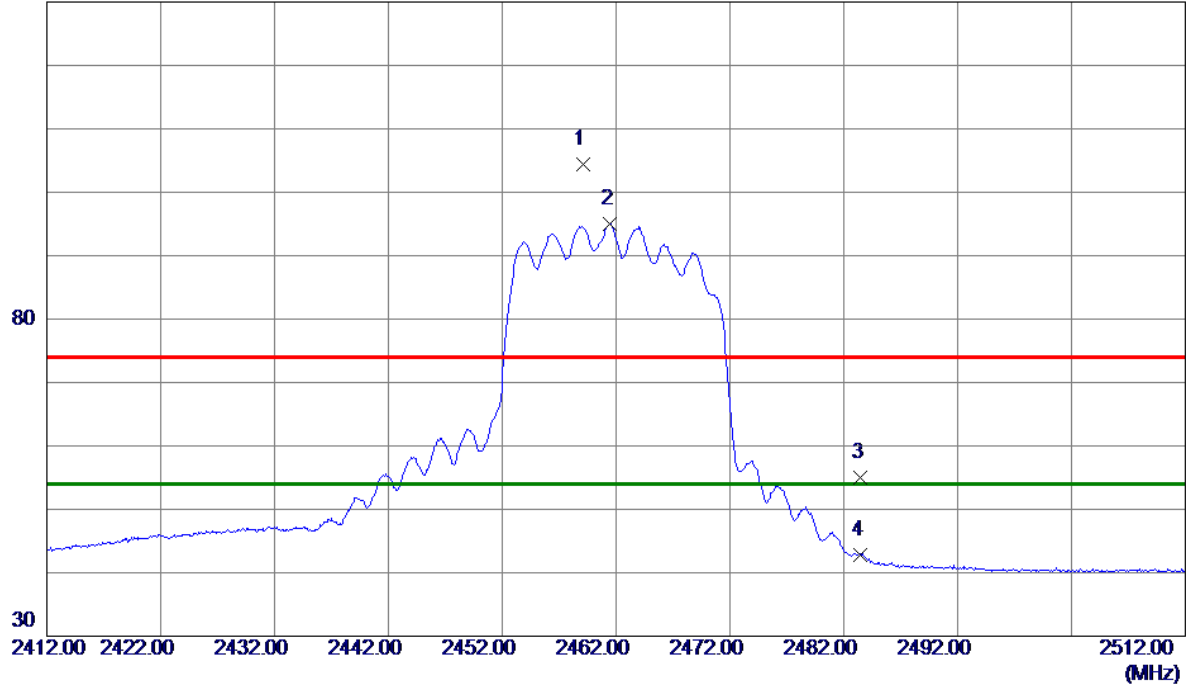
### REMARKS:

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

Test Mode: TX N-20M Mode 2462 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2459.1500	93.43	10.90	104.33	74.00	30.33	Peak	No Limit
2 *	2461.5000	84.16	10.90	95.06	54.00	41.06	AVG	No Limit
3	2483.5000	44.01	10.97	54.98	74.00	-19.02	Peak	
4	2483.5000	31.84	10.97	42.81	54.00	-11.19	AVG	

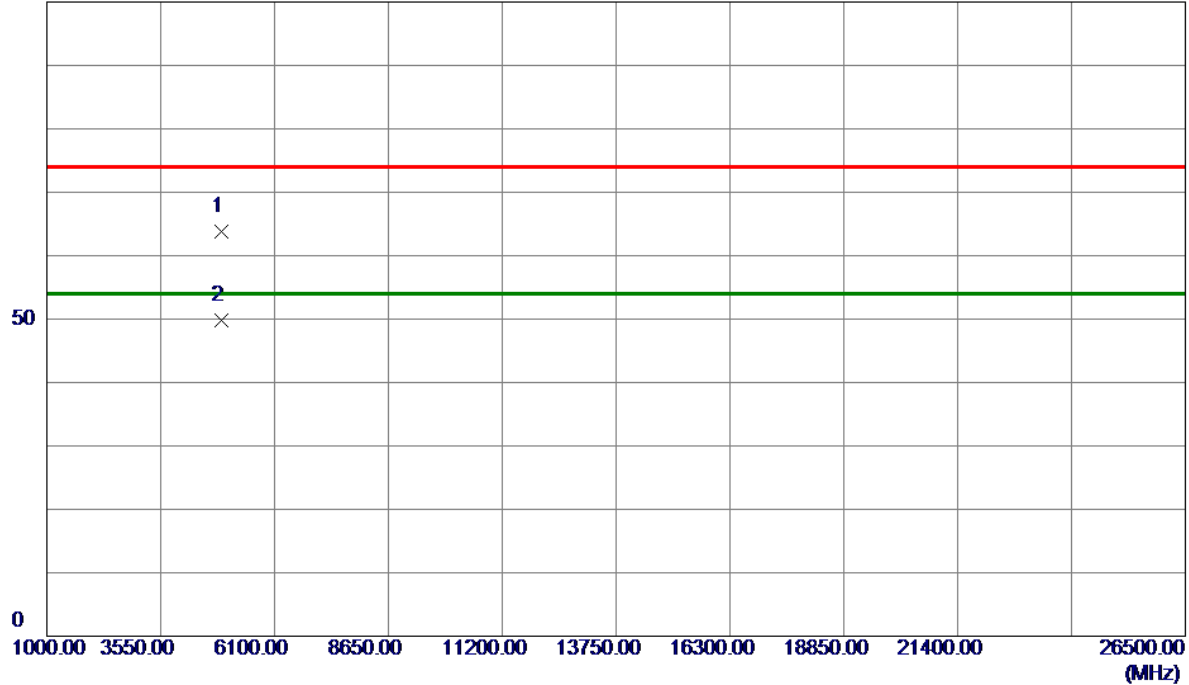
### REMARKS:

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

Test Mode:	TX N-20M Mode 2462 MHz
------------	------------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4921.9750	56.77	7.07	63.84	74.00	-10.16	Peak	
2 *	4922.0000	42.68	7.07	49.75	54.00	-4.25	AVG	

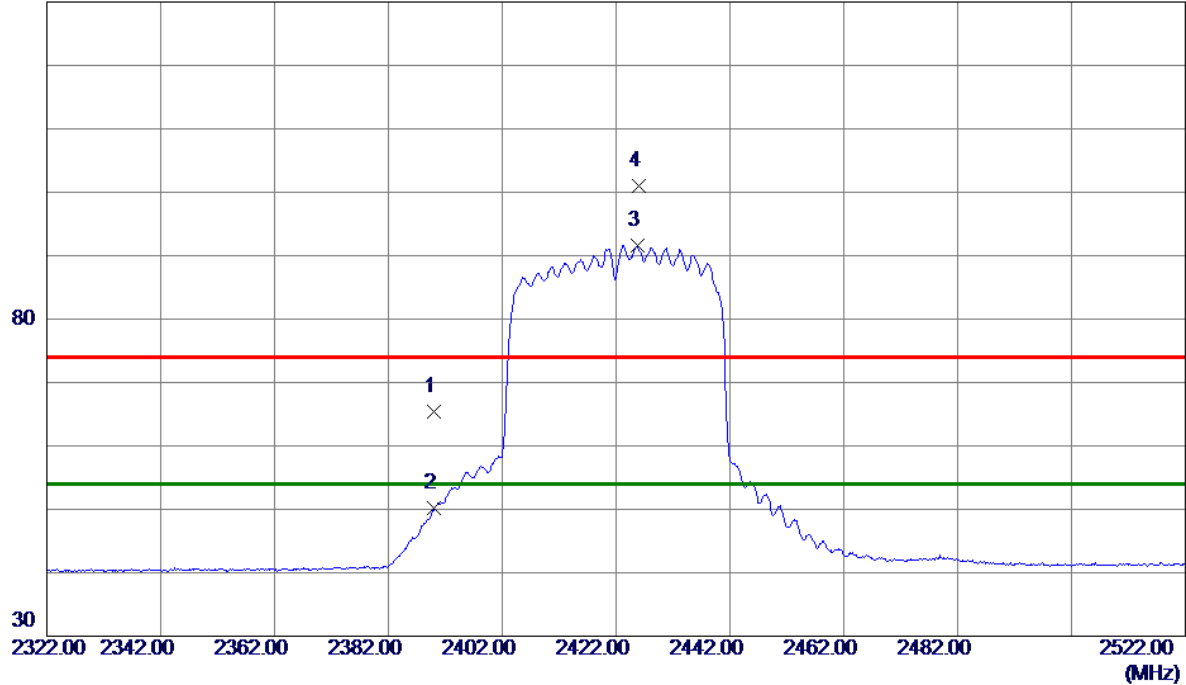
### REMARKS:

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

Test Mode: TX N-40M Mode 2422MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	54.63	10.69	65.32	74.00	-8.68	Peak	
2	2390.0000	39.50	10.69	50.19	54.00	-3.81	AVG	
3 *	2425.7000	80.89	10.80	91.69	54.00	37.69	AVG	No Limit
4	2425.9000	90.25	10.80	101.05	74.00	27.05	Peak	No Limit

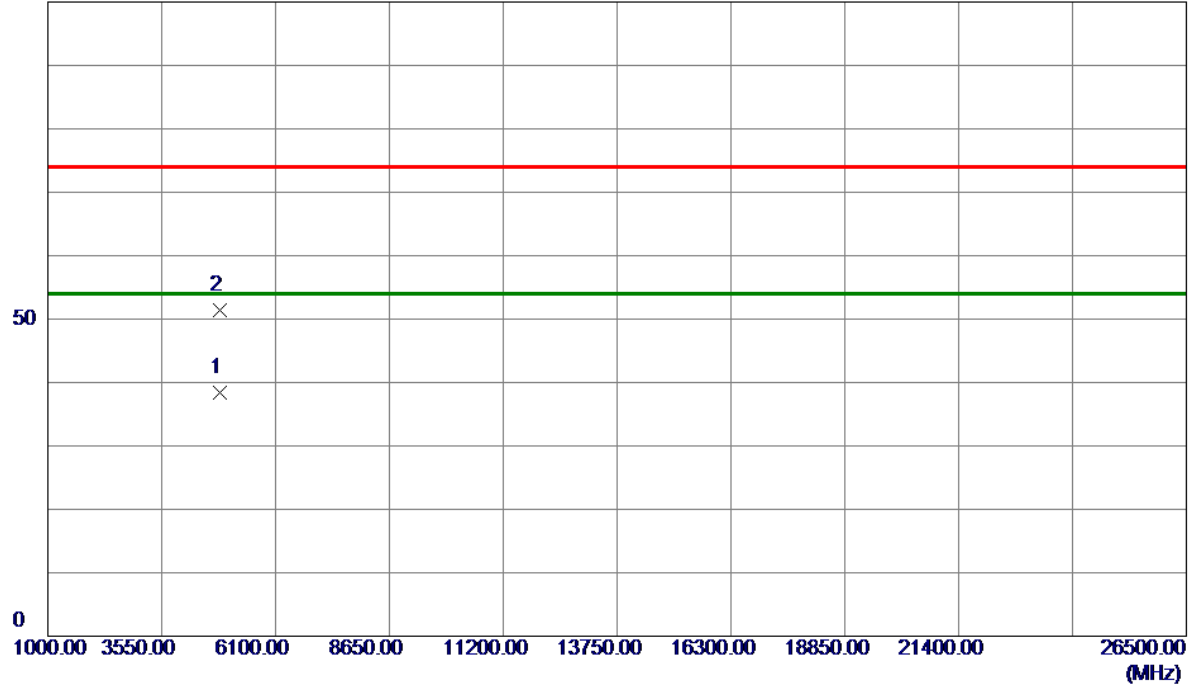
### REMARKS:

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

Test Mode:	TX N-40M Mode 2422MHz
------------	-----------------------

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4844.4500	31.56	6.89	38.45	54.00	-15.55	AVG	
2	4845.0000	44.48	6.89	51.37	74.00	-22.63	Peak	

### REMARKS:

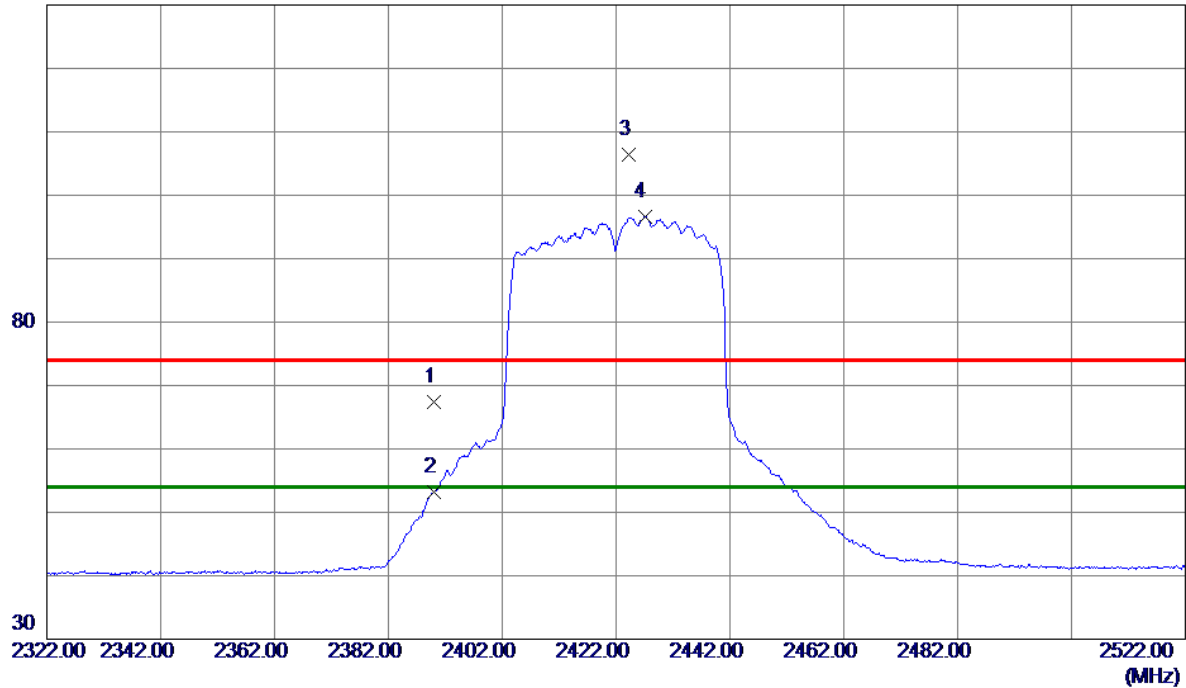
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.



Test Mode: TX N-40M Mode 2422MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	56.78	10.69	67.47	74.00	-6.53	Peak	
2	2390.0000	42.53	10.69	53.22	54.00	-0.78	AVG	
3	2424.3000	95.55	10.79	106.34	74.00	32.34	Peak	No Limit
4 *	2427.0000	85.86	10.80	96.66	54.00	42.66	AVG	No Limit

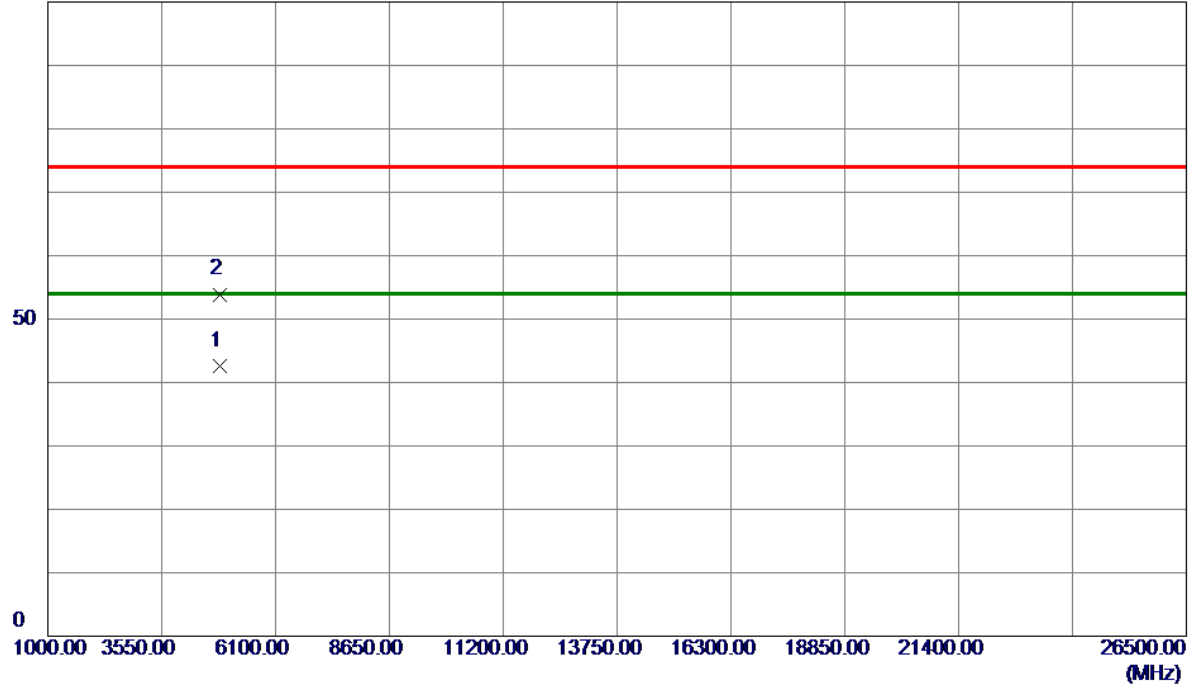
### REMARKS:

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

Test Mode:	TX N-40M Mode 2422MHz
------------	-----------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4844.8500	35.68	6.89	42.57	54.00	-11.43	AVG	
2	4844.9500	47.01	6.89	53.90	74.00	-20.10	Peak	

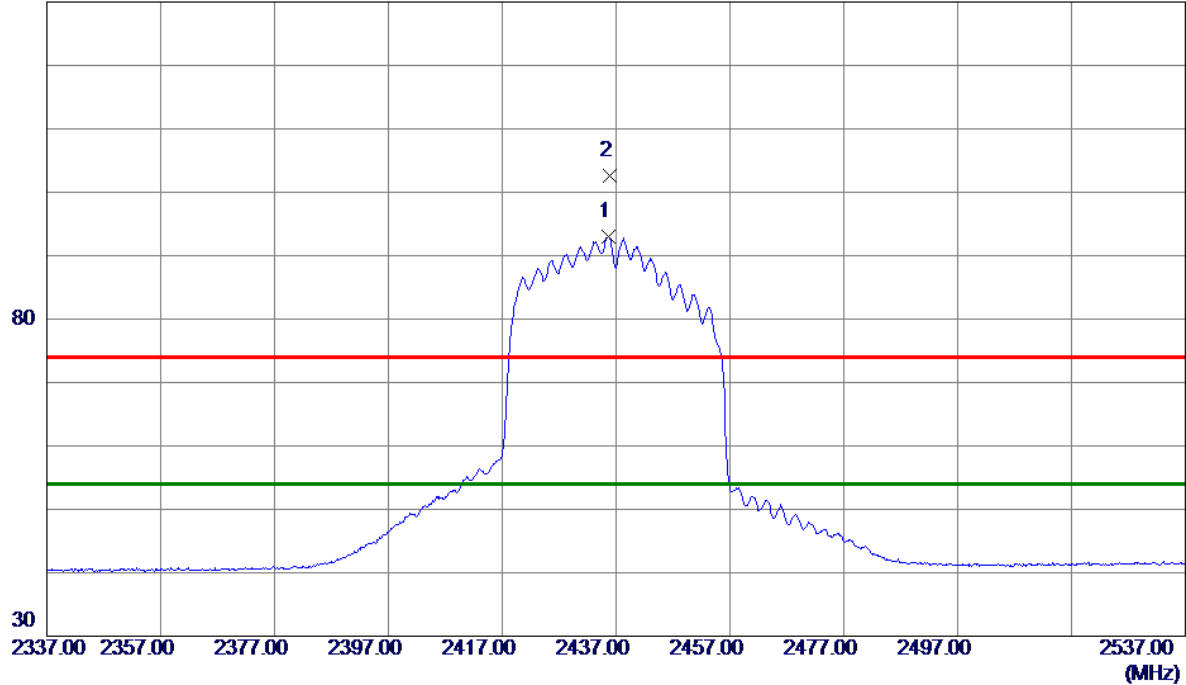
### REMARKS:

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

Test Mode: TX N-40M Mode 2437 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.6000	82.27	10.83	93.10	54.00	39.10	AVG	No Limit
2	2435.8000	91.77	10.83	102.60	74.00	28.60	Peak	No Limit

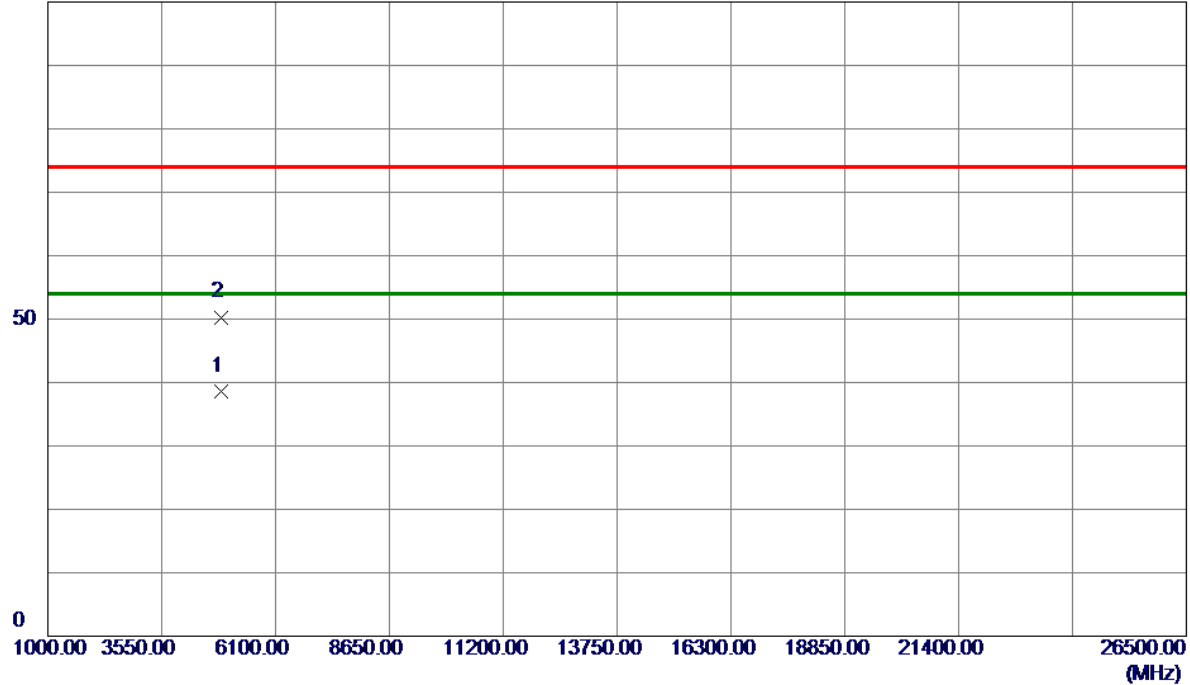
### REMARKS:

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

Test Mode:	TX N-40M Mode 2437 MHz
------------	------------------------

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.7250	31.66	6.96	38.62	54.00	-15.38	AVG	
2	4874.8250	43.34	6.96	50.30	74.00	-23.70	Peak	

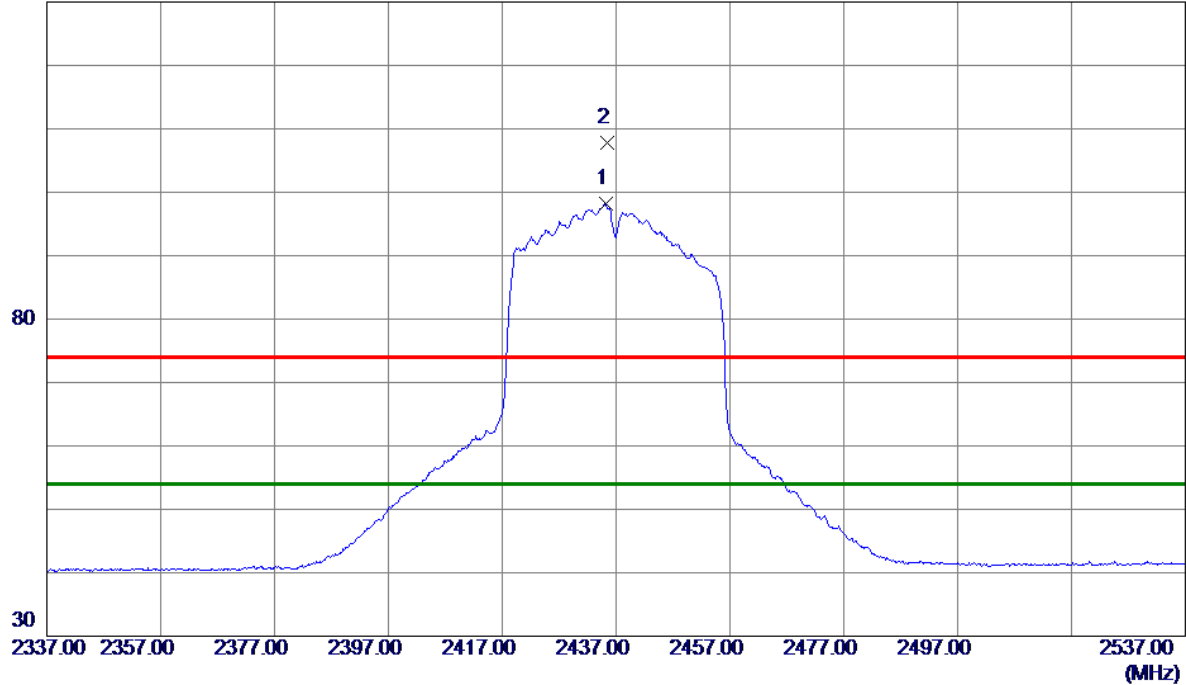
### REMARKS:

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

Test Mode: TX N-40M Mode 2437 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.2000	87.36	10.83	98.19	54.00	44.19	AVG	No Limit
2	2435.4000	96.88	10.83	107.71	74.00	33.71	Peak	No Limit

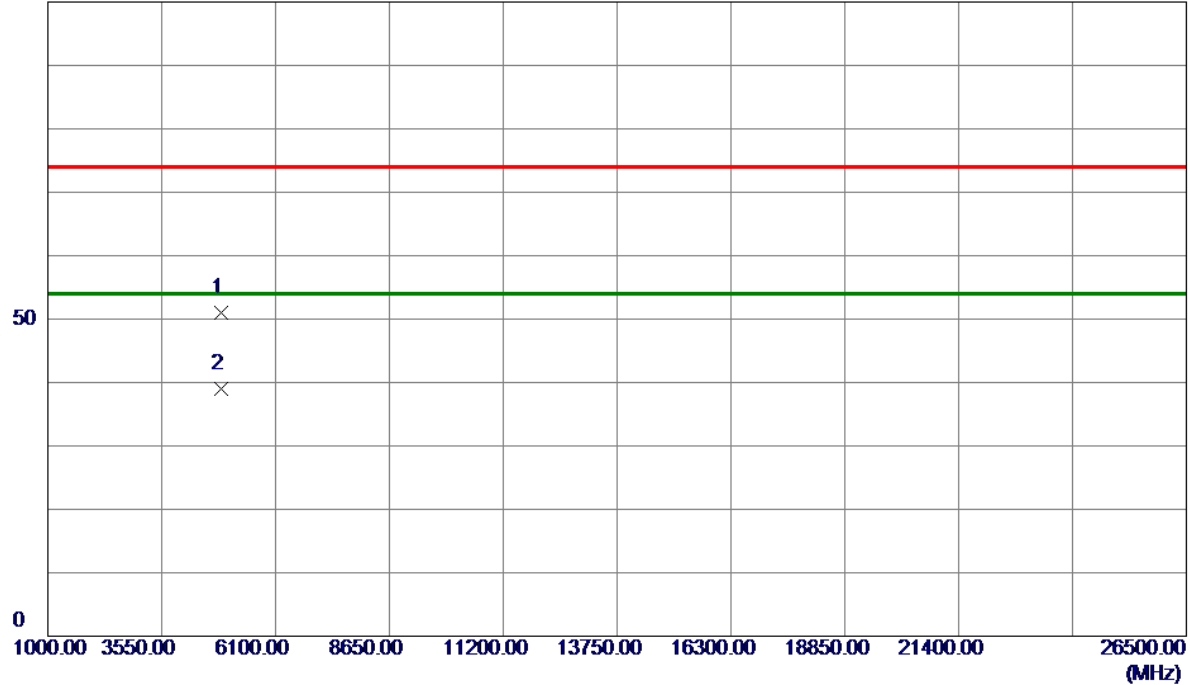
### REMARKS:

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

Test Mode:	TX N-40M Mode 2437 MHz
------------	------------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4874.5250	44.08	6.96	51.04	74.00	-22.96	Peak	
2 *	4874.6250	32.09	6.96	39.05	54.00	-14.95	AVG	

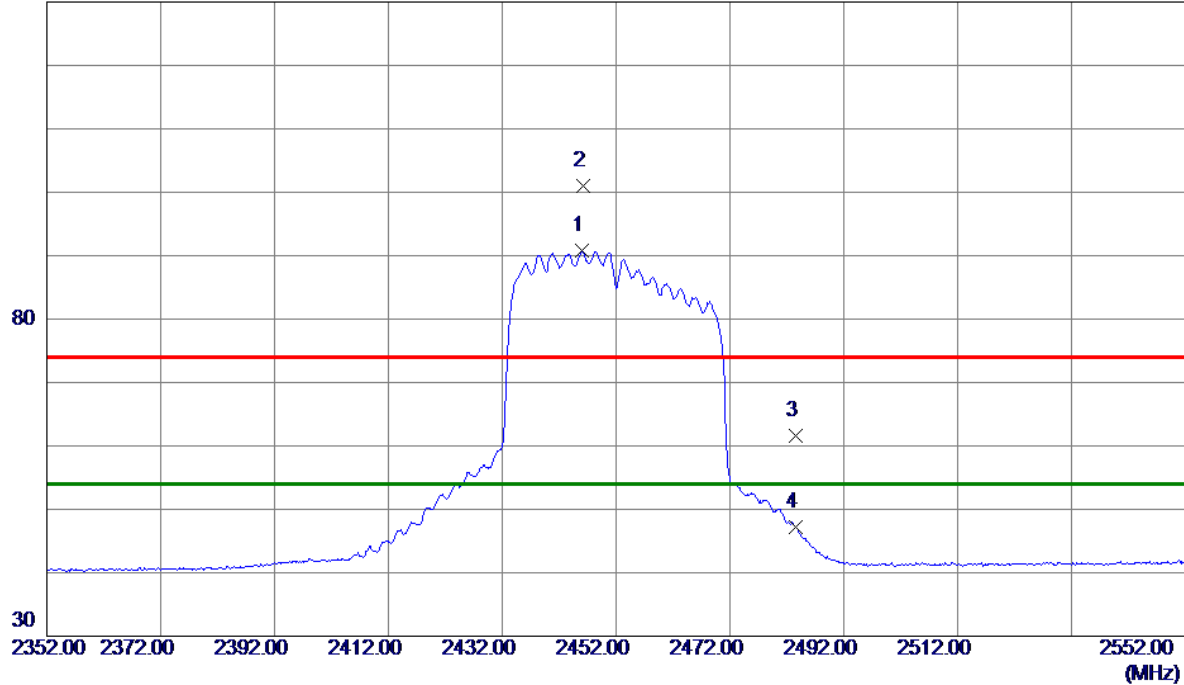
### REMARKS:

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

Test Mode: TX N-40M Mode 2452 MHz

## Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2445.9000	79.90	10.86	90.76	54.00	36.76	AVG	No Limit
2	2446.2000	90.20	10.86	101.06	74.00	27.06	Peak	No Limit
3	2483.5000	50.57	10.97	61.54	74.00	-12.46	Peak	
4	2483.5000	36.20	10.97	47.17	54.00	-6.83	AVG	

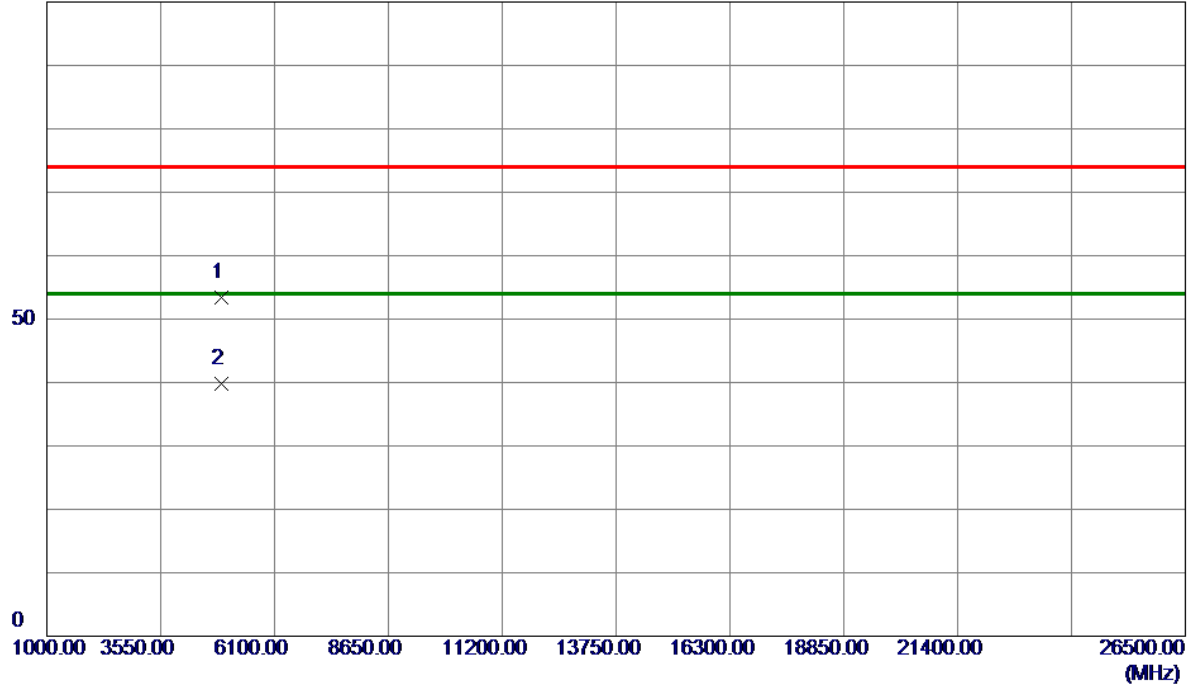
### REMARKS:

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

Test Mode: TX N-40M Mode 2452 MHz

## Vertical

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4914.9750	46.33	7.06	53.39	74.00	-20.61	Peak	
2 *	4914.9750	32.69	7.06	39.75	54.00	-14.25	AVG	

### REMARKS:

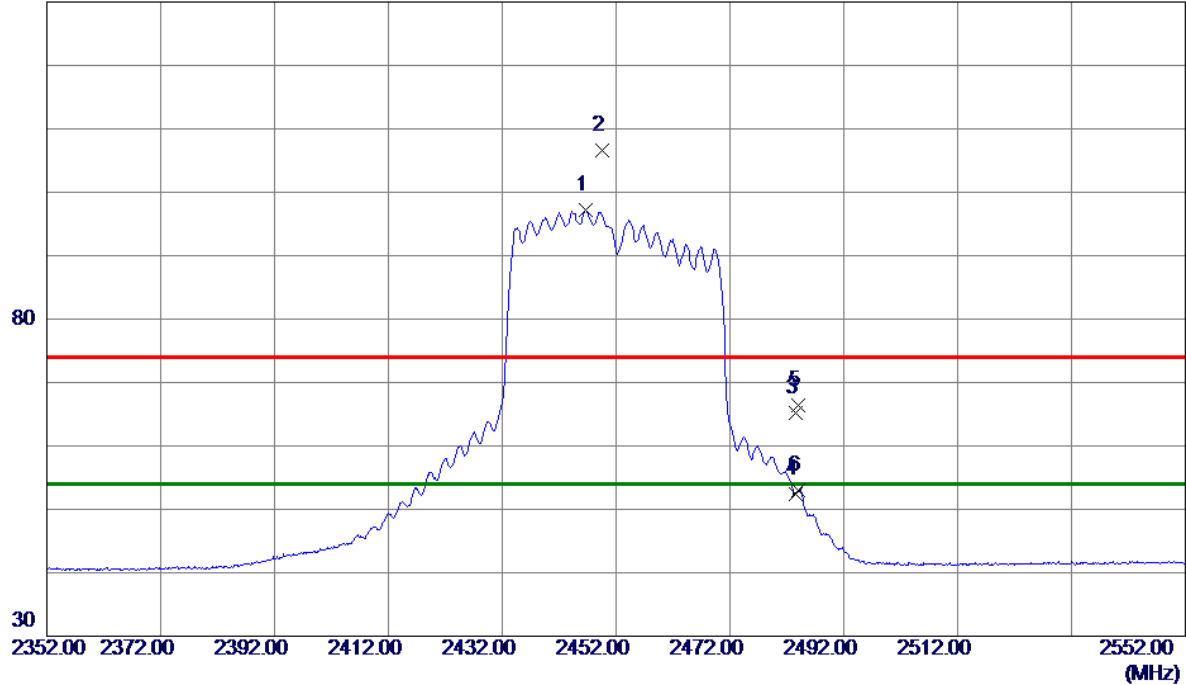
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.



Test Mode: TX N-40M Mode 2452 MHz

## Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2446.6000	86.28	10.86	97.14	54.00	43.14	AVG	No Limit
2	2449.5000	95.75	10.87	106.62	74.00	32.62	Peak	No Limit
3	2483.5000	54.17	10.97	65.14	74.00	-8.86	Peak	
4	2483.5000	41.40	10.97	52.37	54.00	-1.63	AVG	
5	2483.9000	55.36	10.97	66.33	74.00	-7.67	Peak	
6	2483.9000	42.10	10.97	53.07	54.00	-0.93	AVG	

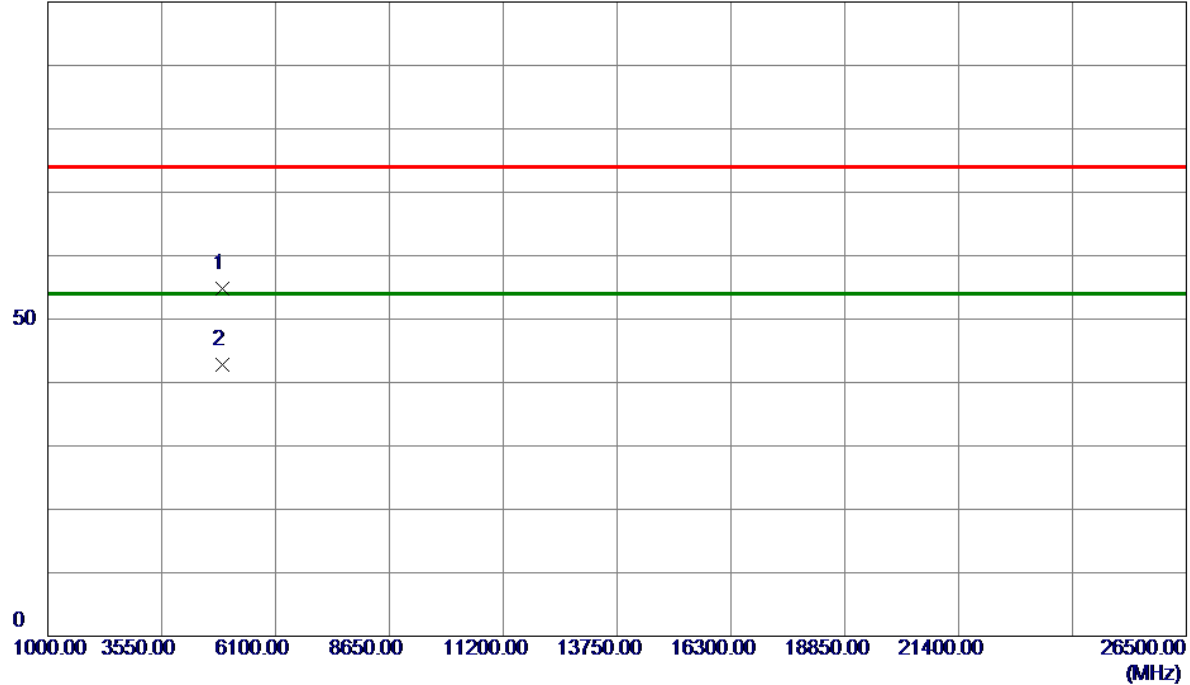
### REMARKS:

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

Test Mode:	TX N-40M Mode 2452 MHz
------------	------------------------

## Horizontal

100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4909.8250	47.84	7.04	54.88	74.00	-19.12	Peak	
2 *	4914.7250	35.68	7.06	42.74	54.00	-11.26	AVG	

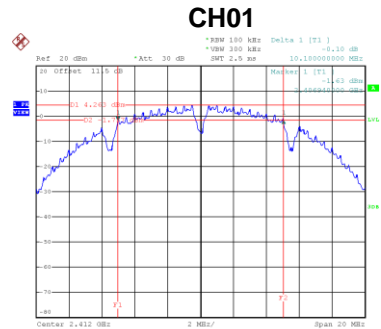
### REMARKS:

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

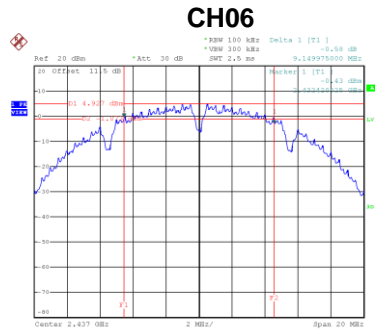
## APPENDIX E - BANDWIDTH

Test Mode	TX B Mode
-----------	-----------

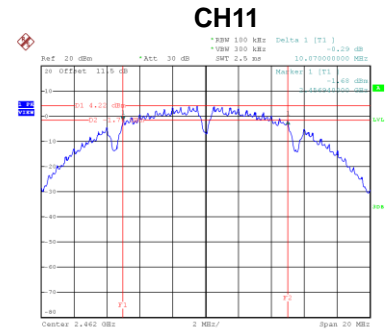
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	10.10	500	Complies
06	2437	9.15	500	Complies
11	2462	10.07	500	Complies



Date: 30.JAN.2021 10:10:14

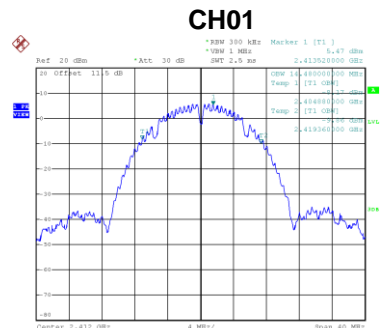


Date: 30.JAN.2021 10:10:47

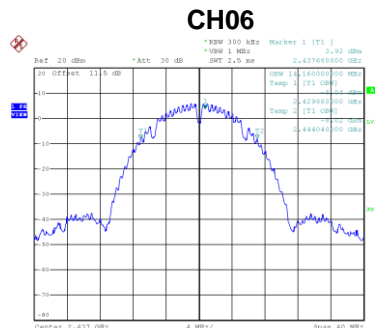


Date: 30.JAN.2021 10:11:09

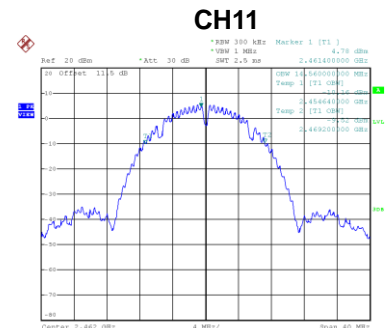
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	14.48	Complies
06	2437	14.16	Complies
11	2462	14.56	Complies



Date: 30.JAN.2021 10:10:22

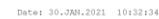


Date: 30.JAN.2021 10:10:54



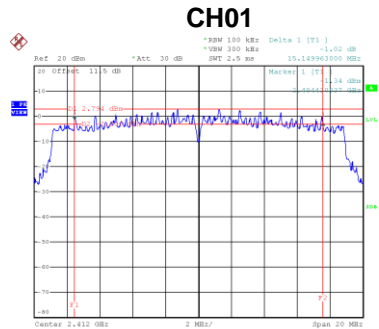
Date: 30.JAN.2021 10:11:16

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	15.74	500	Complies
06	2437	15.14	500	Complies
11	2462	16.36	500	Complies

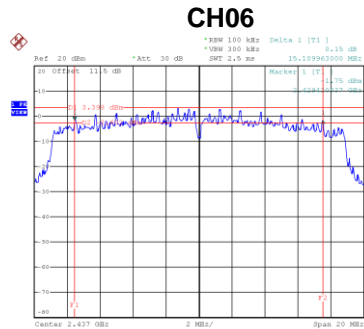
Date: 30.JAN.2021 10:25:37

Test Mode	TX N-20M Mode
-----------	---------------

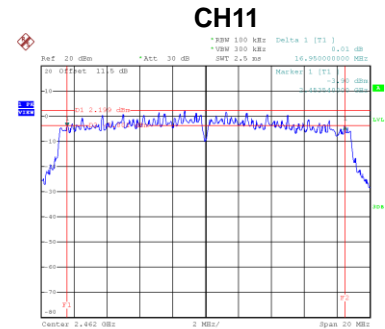
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	15.15	500	Complies
06	2437	15.11	500	Complies
11	2462	16.95	500	Complies



Date: 30.JAN.2021 10:35:11

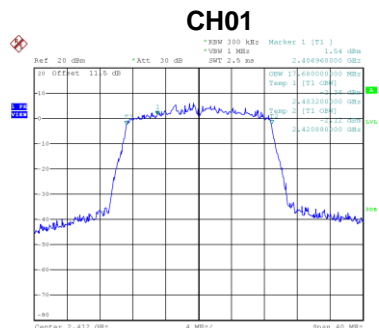


Date: 30.JAN.2021 10:41:11

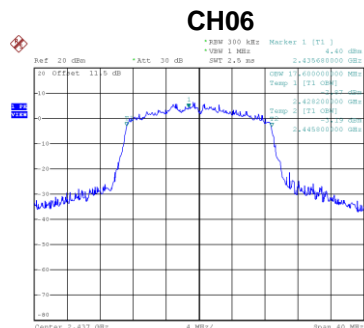


Date: 30.JAN.2021 10:43:10

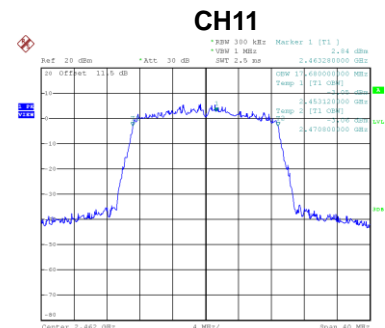
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	17.68	Complies
06	2437	17.60	Complies
11	2462	17.68	Complies



Date: 30.JAN.2021 10:35:18

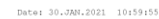


Date: 30.JAN.2021 10:41:17



Date: 30.JAN.2021 10:43:17

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
03	2422	34.00	500	Complies
06	2437	28.87	500	Complies
09	2452	33.27	500	Complies



Date: 30.JAN.2021 10:50:22



## **APPENDIX F - MAXIMUM OUTPUT POWER**



Test Mode	TX B Mode_Ant. 1
-----------	------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	11.15	0.00	11.15	30.00	1.0000	Complies
06	2437	11.21	0.00	11.21	30.00	1.0000	Complies
11	2462	11.59	0.00	11.59	30.00	1.0000	Complies

Test Mode	TX B Mode_Ant. 2
-----------	------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	11.23	0.00	11.23	30.00	1.0000	Complies
06	2437	11.03	0.00	11.03	30.00	1.0000	Complies
11	2462	11.31	0.00	11.31	30.00	1.0000	Complies

Test Mode	TX B Mode_Total
-----------	-----------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.20	29.99	0.9977	Complies
06	2437	14.13	29.99	0.9977	Complies
11	2462	14.46	29.99	0.9977	Complies

Test Mode	TX G Mode_Ant. 1
-----------	------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.27	0.43	14.70	30.00	1.0000	Complies
06	2437	14.22	0.43	14.65	30.00	1.0000	Complies
11	2462	14.32	0.43	14.75	30.00	1.0000	Complies

Test Mode	TX G Mode_Ant. 2
-----------	------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.09	0.43	14.52	30.00	1.0000	Complies
06	2437	13.63	0.43	14.06	30.00	1.0000	Complies
11	2462	14.12	0.43	14.55	30.00	1.0000	Complies

Test Mode	TX G Mode_Total
-----------	-----------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.62	29.99	0.9977	Complies
06	2437	17.38	29.99	0.9977	Complies
11	2462	17.66	29.99	0.9977	Complies

Test Mode	TX N-20M Mode_Ant. 1
-----------	----------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.42	0.55	14.97	30.00	1.0000	Complies
06	2437	14.58	0.55	15.13	30.00	1.0000	Complies
11	2462	13.93	0.55	14.48	30.00	1.0000	Complies

Test Mode	TX N-20M Mode_Ant. 2
-----------	----------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.22	0.55	14.77	30.00	1.0000	Complies
06	2437	14.12	0.55	14.67	30.00	1.0000	Complies
11	2462	14.18	0.55	14.73	30.00	1.0000	Complies

Test Mode	TX N-20M Mode_Total
-----------	---------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.89	29.99	0.9977	Complies
06	2437	17.92	29.99	0.9977	Complies
11	2462	17.62	29.99	0.9977	Complies

Test Mode	TX N-40M Mode_Ant. 1
-----------	----------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	13.06	1.25	14.31	30.00	1.0000	Complies
06	2437	13.23	1.25	14.48	30.00	1.0000	Complies
09	2452	13.45	1.25	14.70	30.00	1.0000	Complies

Test Mode	TX N-40M Mode_Ant. 2
-----------	----------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	12.96	1.25	14.21	30.00	1.0000	Complies
06	2437	13.11	1.25	14.36	30.00	1.0000	Complies
09	2452	12.86	1.25	14.11	30.00	1.0000	Complies

Test Mode	TX N-40M Mode_Total
-----------	---------------------

Channel	Frequency (MHz)	Avg Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	17.27	29.99	0.9977	Complies
06	2437	17.43	29.99	0.9977	Complies
09	2452	17.42	29.99	0.9977	Complies

## **APPENDIX G - CONDUCTED SPURIOUS EMISSIONS**

TX B Mode\_Ant. 1



Date: 30.JAN.2021 10:01:42



Date: 30.JAN.2021 10:11:15

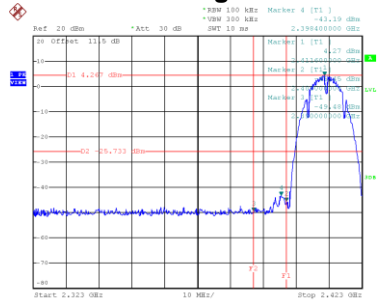


Date: 30.JAN.2021 10:13:37



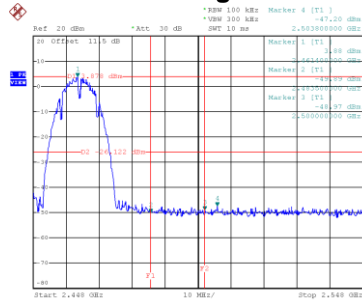
Test Mode TX B Mode\_Ant. 2

## Bandedge-CH01



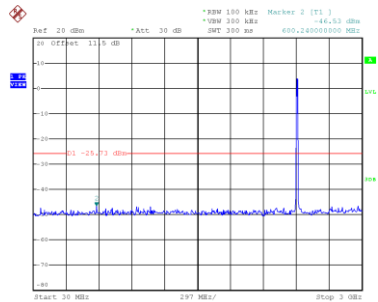
Date: 30.JAN.2021 10:04:11

## Bandedge-CH11

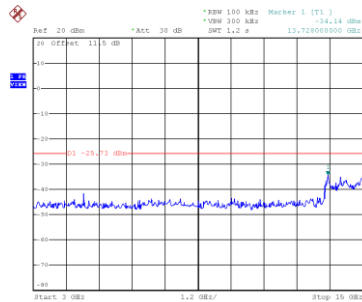


Date: 30.JAN.2021 10:15:56

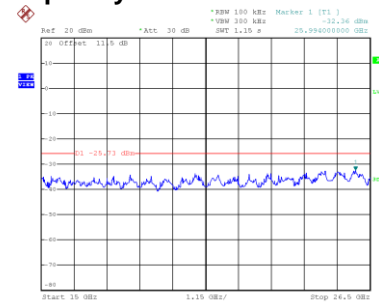
## CH01 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:04:24

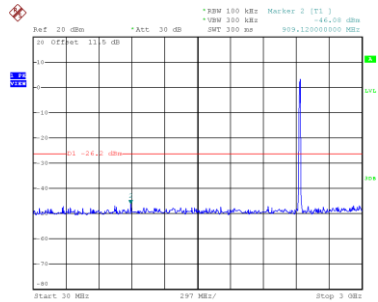


Date: 30.JAN.2021 10:04:31

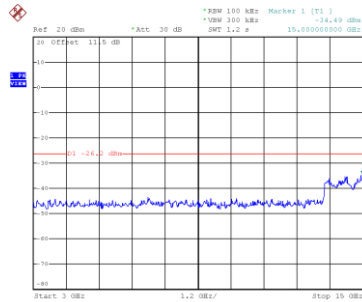


Date: 30.JAN.2021 10:04:38

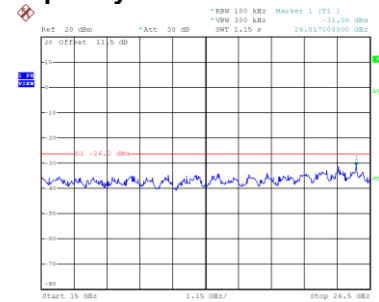
## CH06 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:08:22

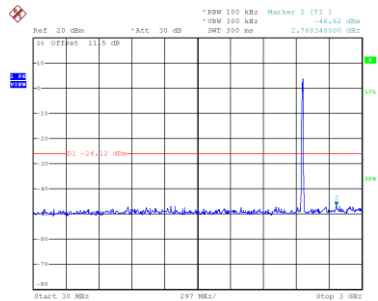


Date: 30.JAN.2021 10:08:29

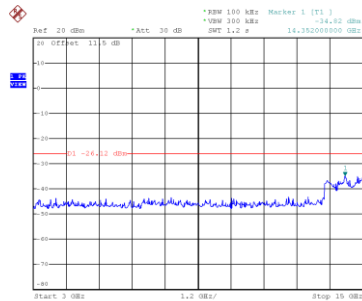


Date: 30.JAN.2021 10:08:36

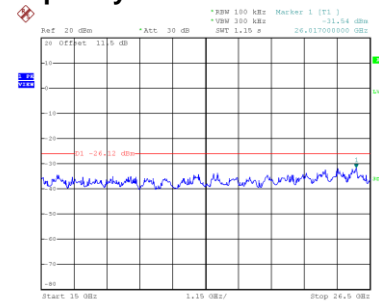
## CH11 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:16:09



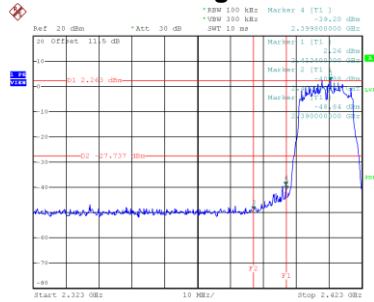
Date: 30.JAN.2021 10:16:16



Date: 30.JAN.2021 10:16:24

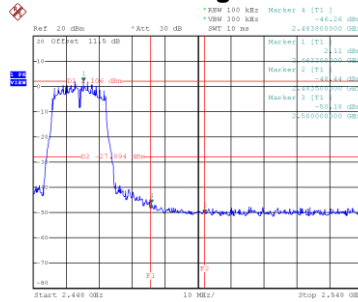
Test Mode TX G Mode\_Ant. 1

## Bandedge-CH01



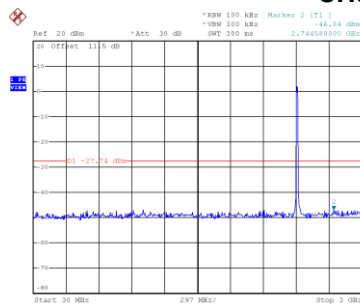
Date: 30.JAN.2021 10:25:45

## Bandedge-CH11

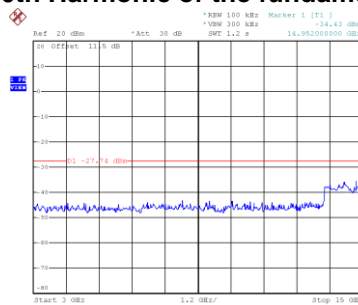


Date: 30.JAN.2021 10:32:49

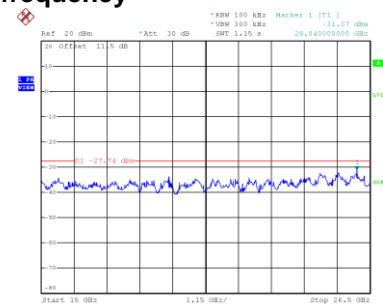
## CH01 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:25:58

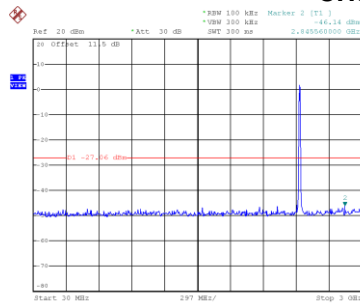


Date: 30.JAN.2021 10:26:05

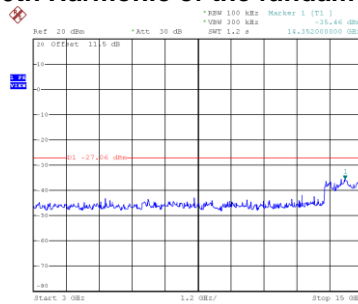


Date: 30.JAN.2021 10:26:12

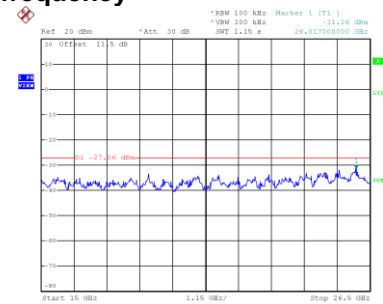
## CH06 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:27:52

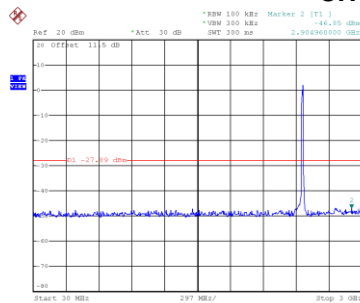


Date: 30.JAN.2021 10:27:59

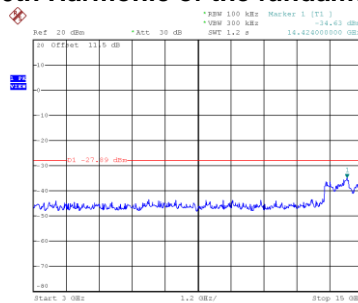


Date: 30.JAN.2021 10:28:06

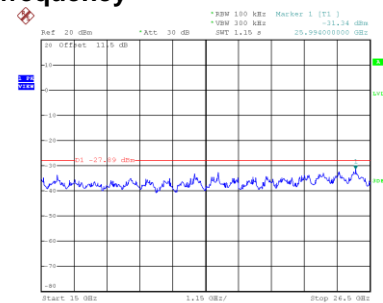
## CH11 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:33:02



Date: 30.JAN.2021 10:33:09

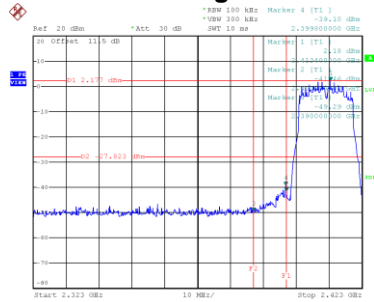


Date: 30.JAN.2021 10:33:16



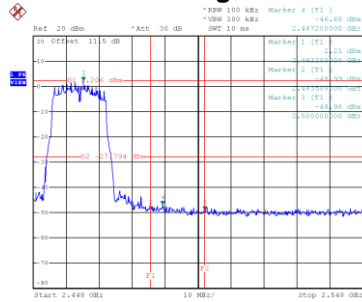
Test Mode TX G Mode\_Ant. 2

## Bandedge-CH01



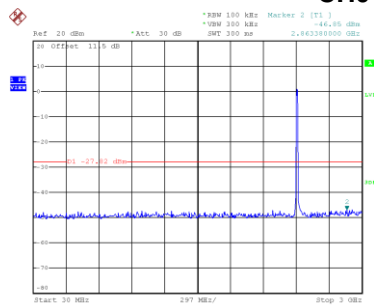
Date: 30.JAN.2021 10:23:50

## Bandedge-CH11

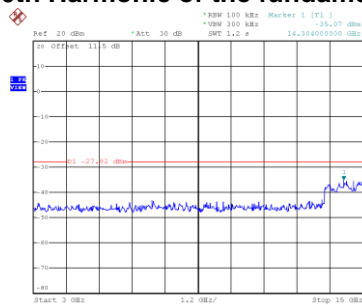


Date: 30.JAN.2021 10:31:17

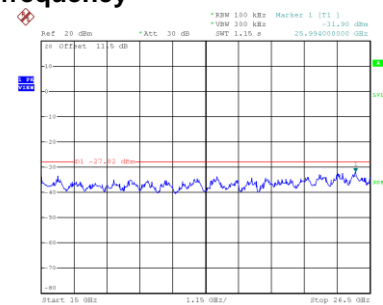
## CH01 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:24:03

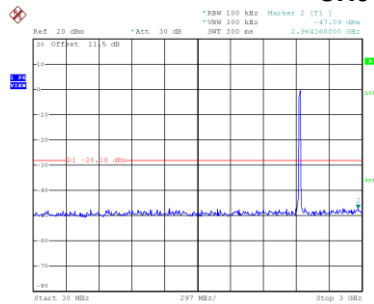


Date: 30.JAN.2021 10:24:10

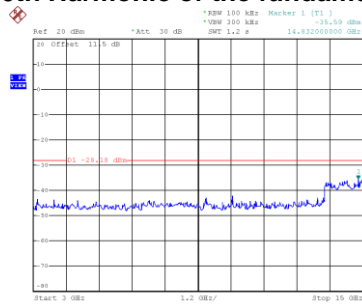


Date: 30.JAN.2021 10:24:18

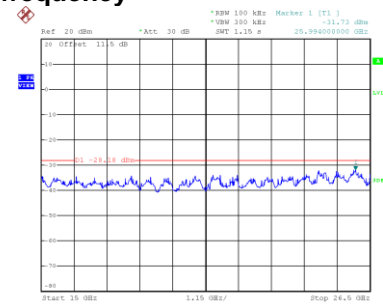
## CH06 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:29:29

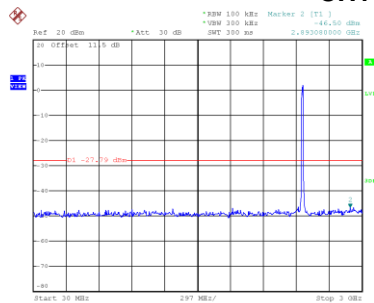


Date: 30.JAN.2021 10:29:36

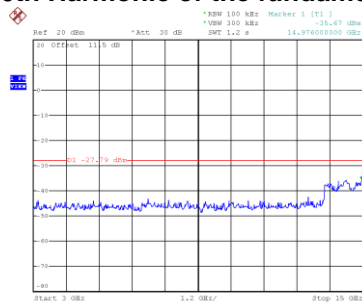


Date: 30.JAN.2021 10:29:43

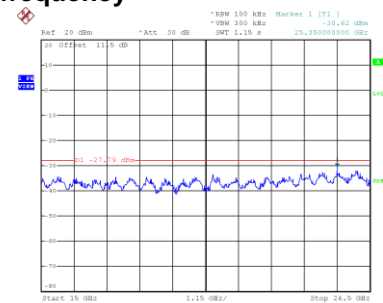
## CH11 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:31:30



Date: 30.JAN.2021 10:31:38

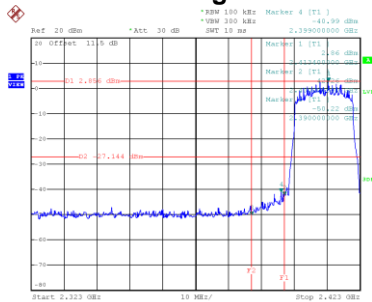


Date: 30.JAN.2021 10:31:45

Test Mode

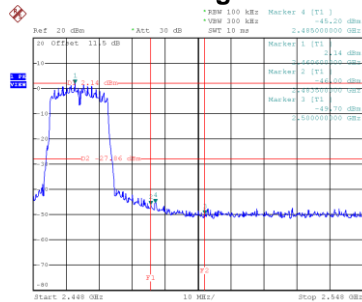
TX N-20M Mode\_Ant. 1

## Bandedge-CH01



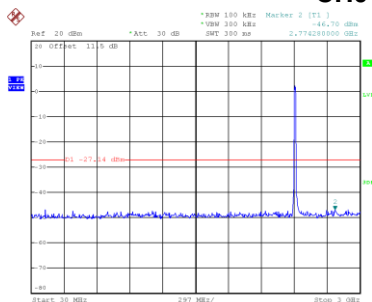
Date: 30.JAN.2021 10:35:42

## Bandedge-CH11

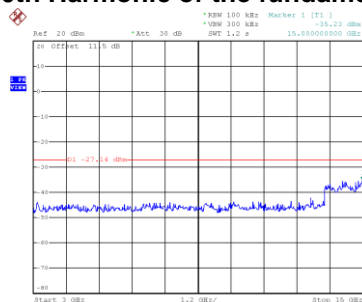


Date: 30.JAN.2021 10:43:24

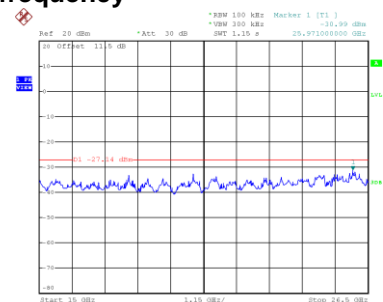
**CH01 – 10th Harmonic of the fundamental frequency**



Date: 30.JAN.2021 10:35:55

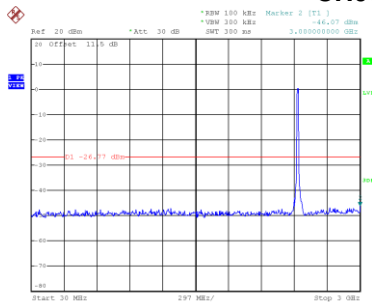


Date: 30.JAN.2021 10:36:03

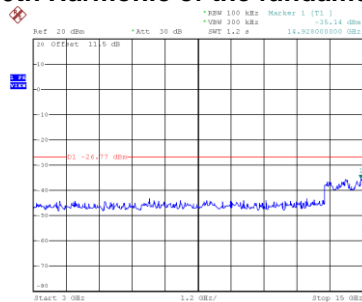


Date: 30.JAN.2021 10:36:10

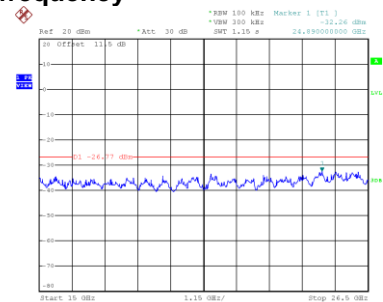
### CH06 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:41:55

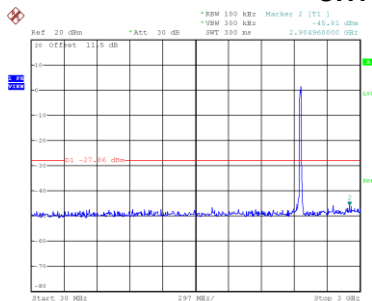


Date: 30.JAN.2021 10:42:02

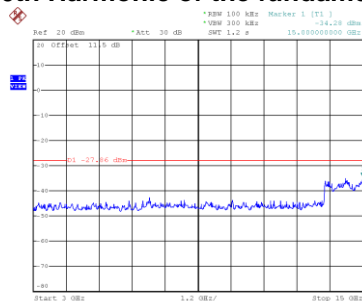


Date: 30.JAN.2021 10:42:09

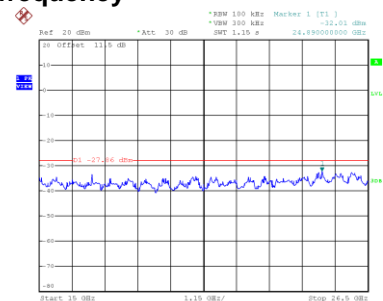
### CH11 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:43:38



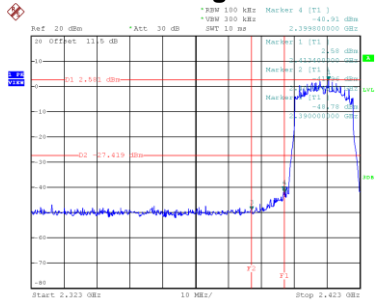
Date: 30.JAN.2021 10:43:45



Date: 30.JAN.2021 10:43:52

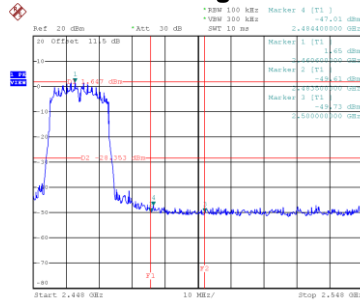
Test Mode TX N-20M Mode\_Ant. 2

## Bandedge-CH01



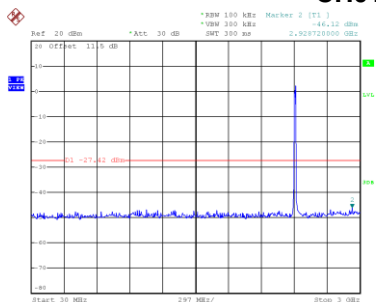
Date: 30.JAN.2021 10:38:21

## Bandedge-CH11

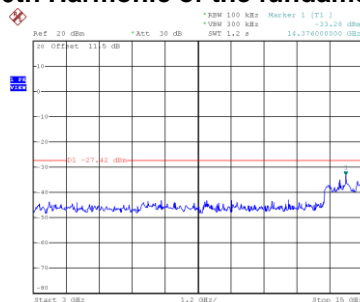


Date: 30.JAN.2021 10:45:09

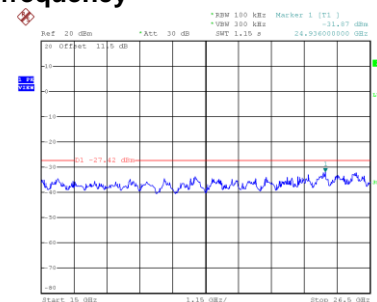
## CH01 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:38:34

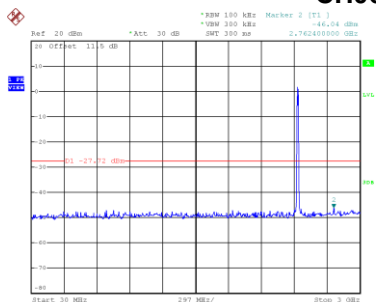


Date: 30.JAN.2021 10:38:41

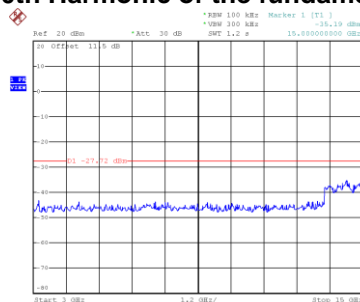


Date: 30.JAN.2021 10:38:48

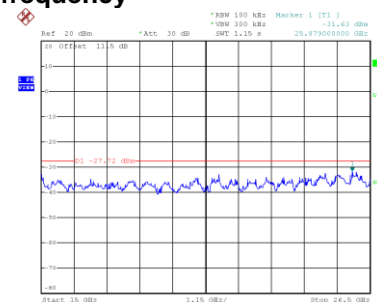
## CH06 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:40:08

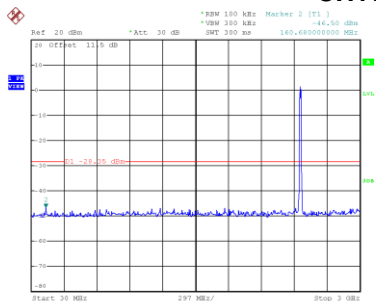


Date: 30.JAN.2021 10:40:15

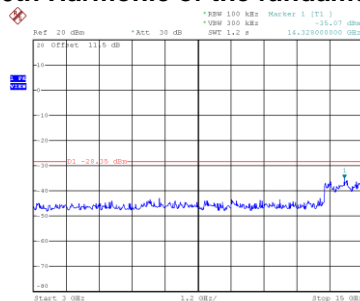


Date: 30.JAN.2021 10:40:22

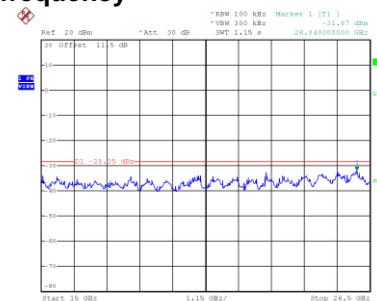
## CH11 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:45:22



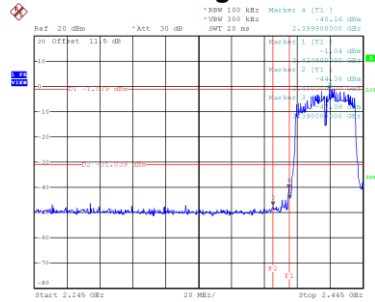
Date: 30.JAN.2021 10:45:29



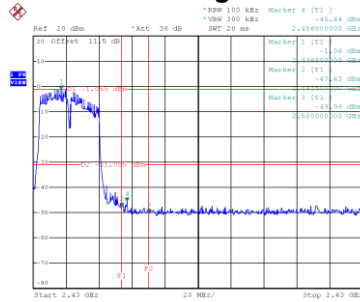
Date: 30.JAN.2021 10:45:36

Test Mode TX N-40M Mode\_Ant. 1

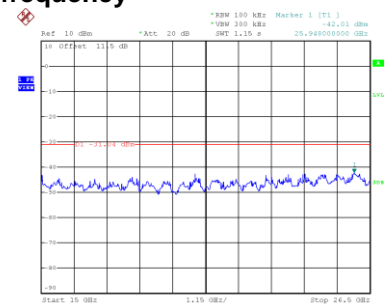
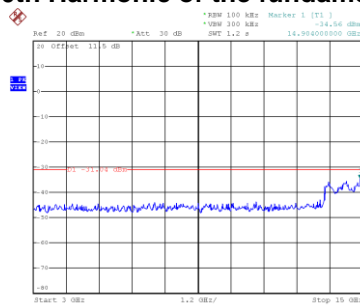
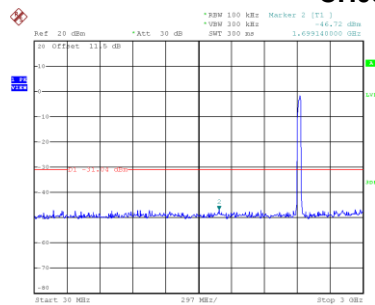
## Bandedge-CH03



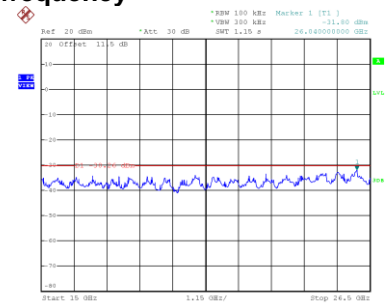
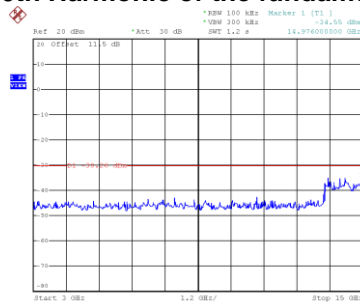
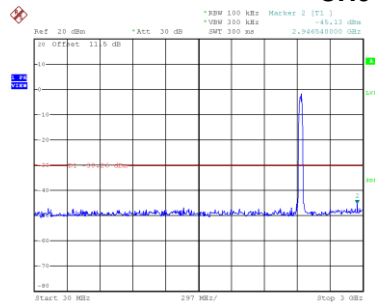
## Bandedge-CH09



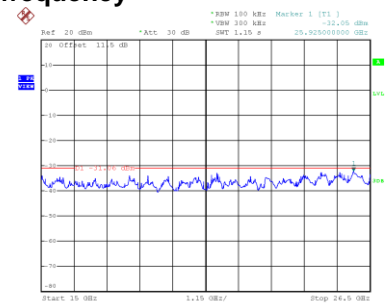
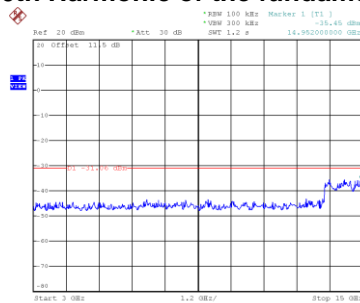
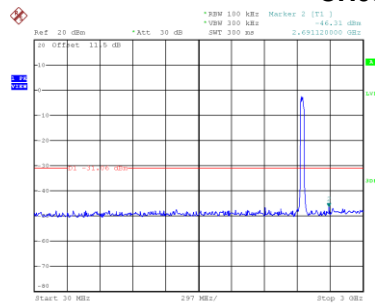
## CH03 – 10th Harmonic of the fundamental frequency



## CH06 – 10th Harmonic of the fundamental frequency

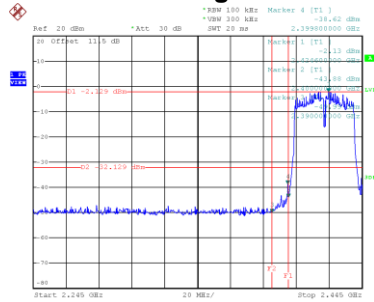


## CH09 – 10th Harmonic of the fundamental frequency



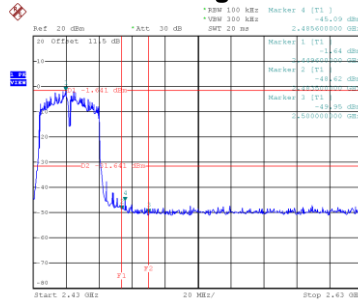
Test Mode TX N-40M Mode\_Ant. 2

## Bandedge-CH03



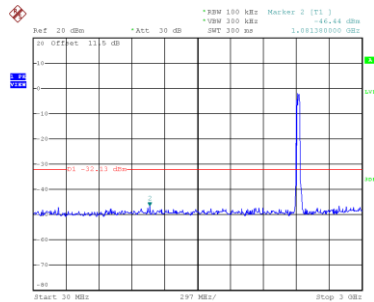
Date: 30.JAN.2021 10:48:11

## Bandedge-CH09

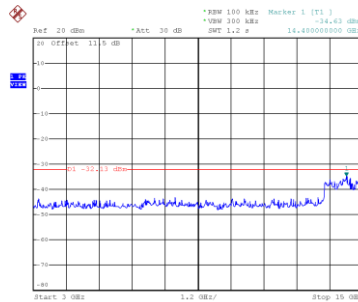


Date: 30.JAN.2021 10:56:41

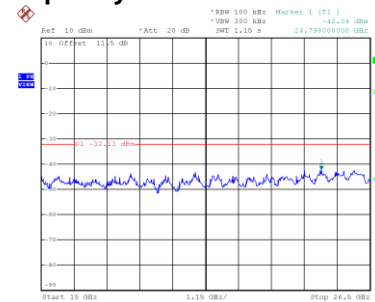
## CH03 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:48:12

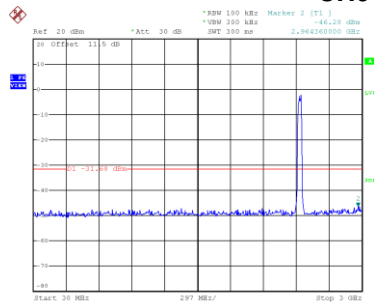


Date: 30.JAN.2021 10:48:31

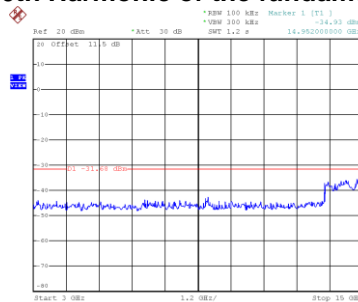


Date: 30.JAN.2021 10:49:31

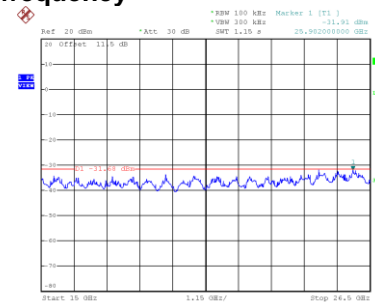
## CH06 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:54:56

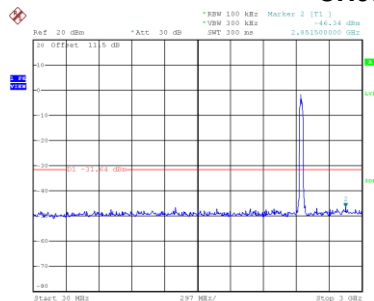


Date: 30.JAN.2021 10:55:03

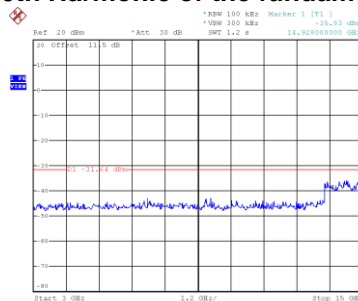


Date: 30.JAN.2021 10:55:11

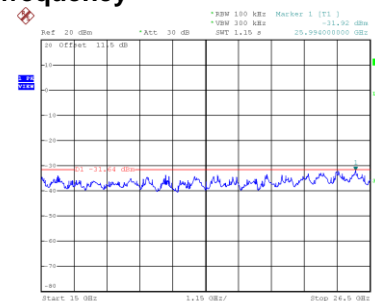
## CH09 – 10th Harmonic of the fundamental frequency



Date: 30.JAN.2021 10:56:54



Date: 30.JAN.2021 10:57:01

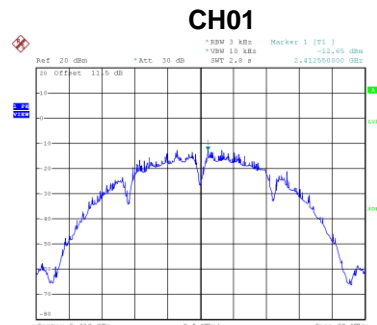


Date: 30.JAN.2021 10:57:43

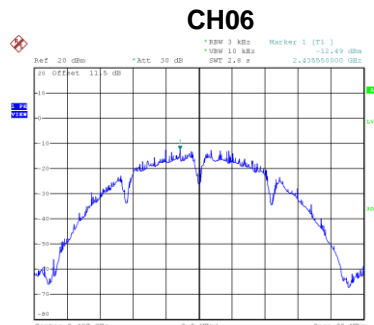
## **APPENDIX H - POWER SPECTRAL DENSITY**

Test Mode	TX B Mode_Ant. 1
-----------	------------------

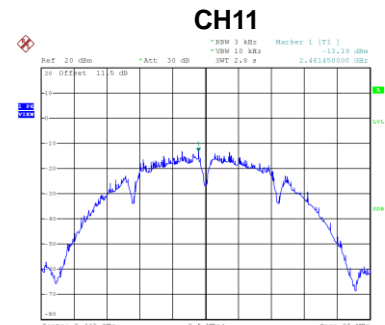
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-12.65	8	Complies
06	2437	-12.49	8	Complies
11	2462	-13.19	8	Complies



Date: 30.JAN.2021 10:02:25



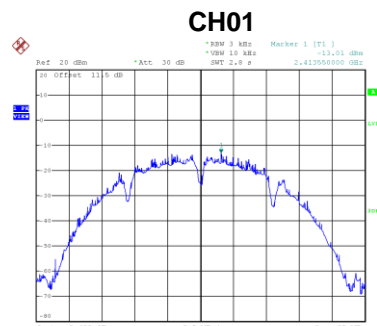
Date: 30.JAN.2021 10:11:52



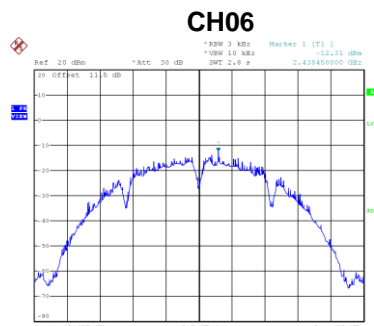
Date: 30.JAN.2021 10:11:24

Test Mode	TX B Mode_Ant. 2
-----------	------------------

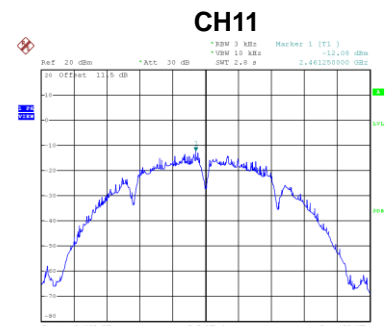
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-13.01	8	Complies
06	2437	-12.31	8	Complies
11	2462	-12.08	8	Complies



Date: 30.JAN.2021 10:05:01



Date: 30.JAN.2021 10:09:22



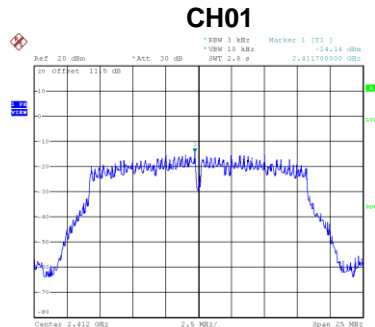
Date: 30.JAN.2021 10:16:33

Test Mode	TX B Mode_Total
-----------	-----------------

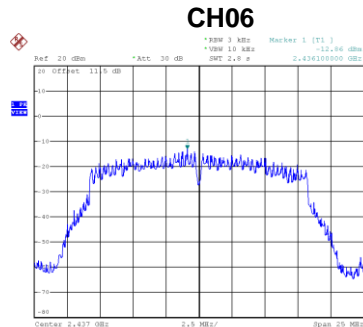
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-9.82	7.99	Complies
06	2437	-9.39	7.99	Complies
11	2462	-9.59	7.99	Complies

Test Mode	TX G Mode_Ant. 1
-----------	------------------

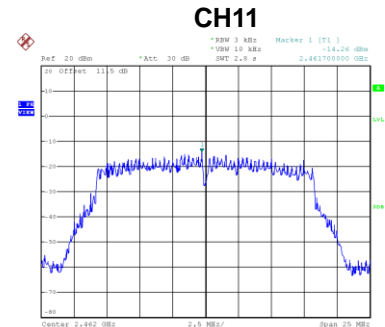
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-14.14	8	Complies
06	2437	-12.86	8	Complies
11	2462	-14.26	8	Complies



Date: 30.JAN.2021 10:12:22



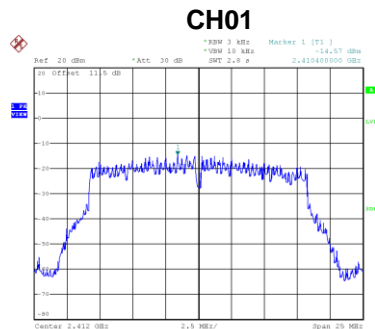
Date: 30.JAN.2021 10:12:15



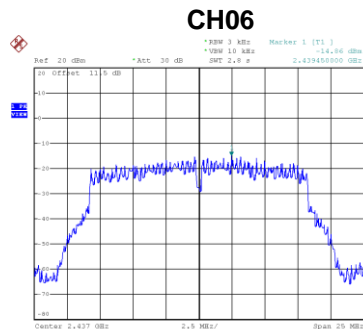
Date: 30.JAN.2021 10:13:25

Test Mode	TX G Mode_Ant. 2
-----------	------------------

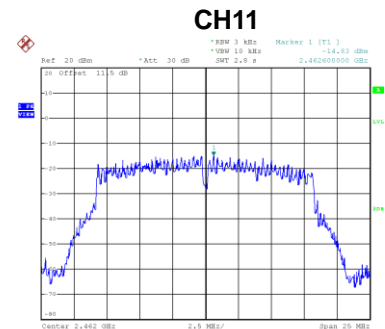
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-14.57	8	Complies
06	2437	-14.86	8	Complies
11	2462	-14.83	8	Complies



Date: 30.JAN.2021 10:12:27



Date: 30.JAN.2021 10:12:52



Date: 30.JAN.2021 10:13:54

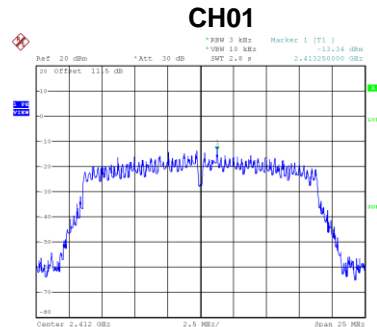
Test Mode	TX G Mode_Total
-----------	-----------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-11.34	7.99	Complies
06	2437	-10.74	7.99	Complies
11	2462	-11.53	7.99	Complies

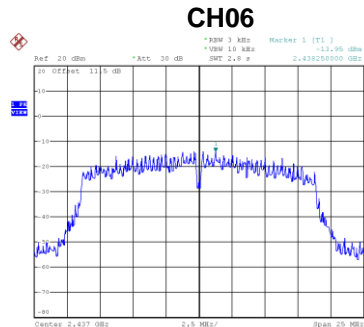


Test Mode	TX N-20M Mode_Ant. 1
-----------	----------------------

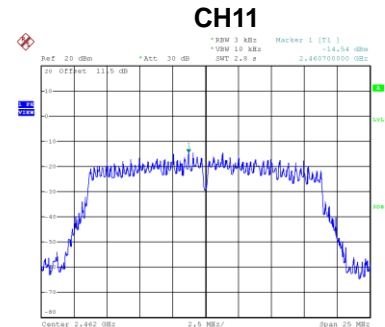
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-13.34	8	Complies
06	2437	-13.95	8	Complies
11	2462	-14.54	8	Complies



Date: 30.JAN.2021 10:13:619



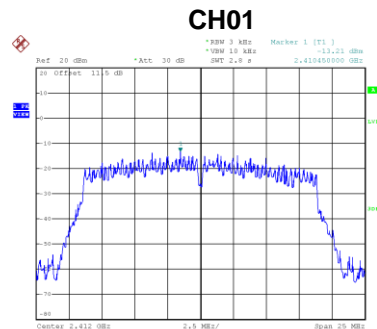
Date: 30.JAN.2021 10:14:218



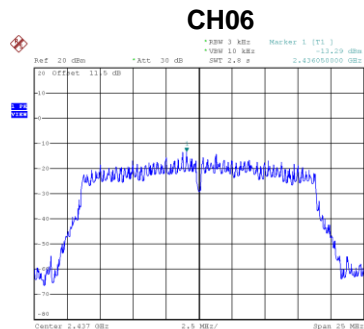
Date: 30.JAN.2021 10:14:401

Test Mode	TX N-20M Mode_Ant. 2
-----------	----------------------

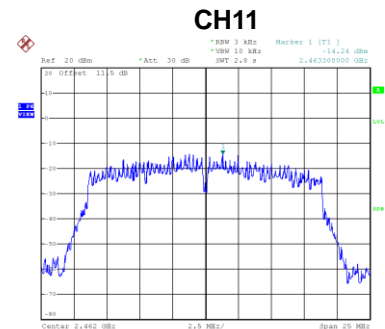
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-13.21	8	Complies
06	2437	-13.29	8	Complies
11	2462	-14.24	8	Complies



Date: 30.JAN.2021 10:13:157



Date: 30.JAN.2021 10:14:131



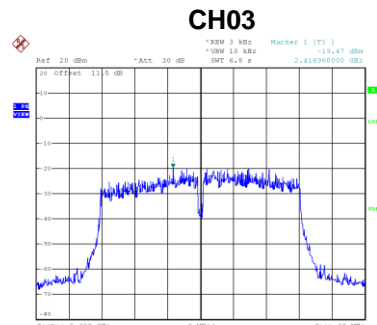
Date: 30.JAN.2021 10:14:145

Test Mode	TX N-20M Mode_Total
-----------	---------------------

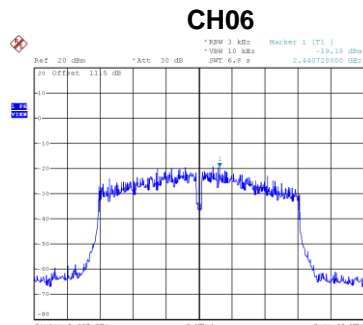
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-10.26	7.99	Complies
06	2437	-10.60	7.99	Complies
11	2462	-11.38	7.99	Complies

Test Mode	TX N-40M Mode_Ant. 1
-----------	----------------------

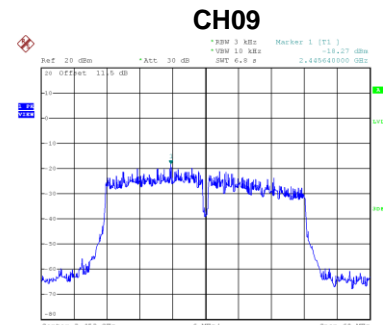
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-19.47	8	Complies
06	2437	-19.18	8	Complies
09	2452	-18.27	8	Complies



Date: 30.JAN.2021 10:15:118



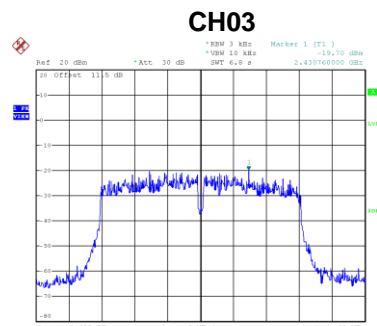
Date: 30.JAN.2021 10:15:153



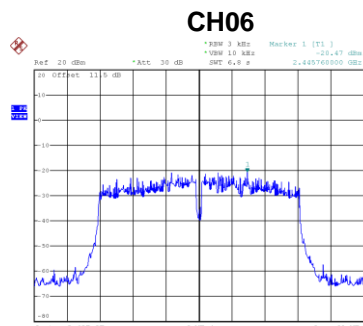
Date: 30.JAN.2021 11:01:105

Test Mode	TX N-40M Mode_Ant. 2
-----------	----------------------

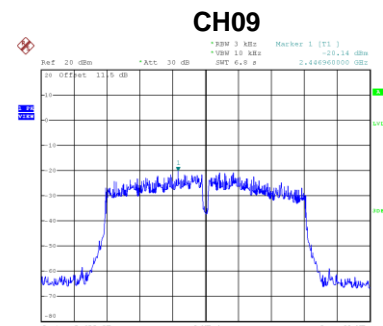
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-19.70	8	Complies
06	2437	-20.47	8	Complies
09	2452	-20.14	8	Complies



Date: 30.JAN.2021 10:14:105



Date: 30.JAN.2021 10:15:123



Date: 30.JAN.2021 10:15:119

Test Mode	TX N-40M Mode_Total
-----------	---------------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-16.57	7.99	Complies
06	2437	-16.77	7.99	Complies
09	2452	-16.09	7.99	Complies

End of Test Report