

# FCC Radio Test Report

## FCC ID: TE7C100

**This report concerns: Original Grant**

**Project No.** : 1910C114  
**Equipment** : Home Security Wi-Fi Camera  
**Brand Name** : tapo, tp-link  
**Test Model** : Tapo C100  
**Series Model** : N/A  
**Applicant** : TP-Link Technologies Co., Ltd.  
**Address** : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China  
**Manufacturer** : TP-Link Technologies Co., Ltd.  
**Address** : Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China  
**Date of Receipt** : Oct. 24, 2019  
**Date of Test** : Oct. 28, 2019 ~ Nov. 05, 2019  
**Issued Date** : Nov. 22, 2019  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG2019102547 for conducted, DG2019102545 for radiated.  
**Standard(s)** : FCC Part15, Subpart C (15.247)  
 ANSI C63.10-2013  
 KDB 558074 D01 15.247 Meas Guidance v05r02

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



Prepared by : Rose Liu



Approved by : Ethan Ma



Certificate #5123.02

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

Tel: +86-769-8318-3000

Web: [www.newbtl.com](http://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	8
<b>2 . GENERAL INFORMATION</b>	<b>9</b>
2.1 GENERAL DESCRIPTION OF EUT	9
2.2 DESCRIPTION OF TEST MODES	10
2.3 PARAMETERS OF TEST SOFTWARE	11
2.4 DUTY CYCLE	12
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	13
2.6 SUPPORT UNITS	13
<b>3 . AC POWER LINE CONDUCTED EMISSIONS TEST</b>	<b>14</b>
3.1 LIMIT	14
3.2 TEST PROCEDURE	14
3.3 DEVIATION FROM TEST STANDARD	14
3.4 TEST SETUP	15
3.5 EUT OPERATION CONDITIONS	15
3.6 TEST RESULTS	15
<b>4 . RADIATED EMISSIONS TEST</b>	<b>16</b>
4.1 LIMIT	16
4.2 TEST PROCEDURE	17
4.3 DEVIATION FROM TEST STANDARD	17
4.4 TEST SETUP	18
4.5 EUT OPERATION CONDITIONS	19
4.6 TEST RESULTS - 9 KHZ TO 30 MHZ	19
4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	19
4.8 TEST RESULTS - ABOVE 1000 MHZ	19
<b>5 . BANDWIDTH TEST</b>	<b>20</b>
5.1 LIMIT	20
5.2 TEST PROCEDURE	20
5.3 DEVIATION FROM STANDARD	20

<b>Table of Contents</b>	<b>Page</b>
5.4 TEST SETUP	20
5.5 EUT OPERATION CONDITIONS	20
5.6 TEST RESULTS	20
<b>6 . MAXIMUM AVERAGE OUTPUT POWER TEST</b>	<b>21</b>
6.1 LIMIT	21
6.2 TEST PROCEDURE	21
6.3 DEVIATION FROM STANDARD	21
6.4 TEST SETUP	21
6.5 EUT OPERATION CONDITIONS	21
6.6 TEST RESULTS	21
<b>7 . CONDUCTED SPURIOUS EMISSIONS</b>	<b>22</b>
7.1 LIMIT	22
7.2 TEST PROCEDURE	22
7.3 DEVIATION FROM STANDARD	22
7.4 TEST SETUP	22
7.5 EUT OPERATION CONDITIONS	22
7.6 TEST RESULTS	22
<b>8 . POWER SPECTRAL DENSITY TEST</b>	<b>23</b>
8.1 LIMIT	23
8.2 TEST PROCEDURE	23
8.3 DEVIATION FROM STANDARD	23
8.4 TEST SETUP	23
8.5 EUT OPERATION CONDITIONS	23
8.6 TEST RESULTS	23
<b>9 . MEASUREMENT INSTRUMENTS LIST</b>	<b>24</b>
<b>10 . EUT TEST PHOTO</b>	<b>26</b>
<b>APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS</b>	<b>30</b>
<b>APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ</b>	<b>33</b>
<b>APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ</b>	<b>38</b>
<b>APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ</b>	<b>41</b>
<b>APPENDIX E - BANDWIDTH</b>	<b>122</b>
<b>APPENDIX F - MAXIMUM AVERAGE OUTPUT POWER</b>	<b>127</b>

**Table of Contents****Page****APPENDIX G - CONDUCTED SPURIOUS EMISSIONS****129****APPENDIX H - POWER SPECTRAL DENSITY****134**

**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	Nov. 22, 2019

## 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 Average 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	2.60

#### B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9kHz ~ 30MHz	V	3.79
		9kHz ~ 30MHz	H	3.57
		30MHz ~ 200MHz	V	4.88
		30MHz ~ 200MHz	H	4.14
		200MHz ~ 1,000MHz	V	4.62
		200MHz ~ 1,000MHz	H	4.80
		1GHz ~ 6GHz	-	4.58
		6GHz ~ 18GHz	-	5.18
		18GHz ~ 26.5GHz	-	3.62
		26.5GHz ~ 40GHz	-	4.00

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	Laughing Zhang
Radiated Emissions-9K-30MHz	25°C	60%	AC 120V/60Hz	Laughing Zhang
Radiated Emissions-30 MHz to 1GHz	24°C	68%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-Above 1000 MHz	26°C	65%	AC 120V/60Hz	Sheldon Ou
Bandwidth	25.2°C	55%	AC 120V/60Hz	Jonas Chen
Maximum Average Output Power	25.2°C	55%	AC 120V/60Hz	Jonas Chen
Conducted Spurious Emissions	25.2°C	55%	AC 120V/60Hz	Jonas Chen
Power Spectral Density	25.2°C	55%	AC 120V/60Hz	Jonas Chen



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Home Security Wi-Fi Camera
Brand Name	tapo, tp-link
Test Model	Tapo C100
Series Model	N/A
Model Difference(s)	N/A
Power Source	DC Voltage supplied from AC/DC adapter. Model: T090060-2B1
Power Rating	I/P: 100-240V~ 50/60Hz 0.3A O/P: 9V  0.6A
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 150 Mbps
Maximum Average Output Power	IEEE 802.11b: 16.73 dBm (0.0471 W) IEEE 802.11g: 17.02 dBm (0.0504 W) IEEE 802.11n (HT20): 16.99 dBm (0.0500 W) IEEE 802.11n (HT40): 17.16 dBm (0.0520 W)


Note:

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

#### 2. 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	IFA	N/A	1.93

## 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 N40 Mode Channel 06
Mode 6	TX B Mode Channel 01/02/06/10/11
Mode 7	TX G Mode Channel 01/02/06/10/11
Mode 8	TX N-20 MHz Mode Channel 01/02/06/10/11
Mode 9	TX N-40 MHz Mode Channel 03/04/06/08/09

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

AC power line conducted emissions test	
Final Test Mode	Description
Mode 5	TX N40 Mode Channel 06

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 5	TX N40 Mode Channel 06

Radiated emissions test - Above 1GHz	
Final Test Mode	Description
Mode 6	TX B Mode Channel 01/02/06/10/11
Mode 7	TX G Mode Channel 01/02/06/10/11
Mode 8	TX N-20 MHz Mode Channel 01/02/06/10/11
Mode 9	TX N-40 MHz Mode Channel 03/04/06/08/09

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) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11n40 Channel 06 is found to be the worst case and recorded.
- (4) 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.

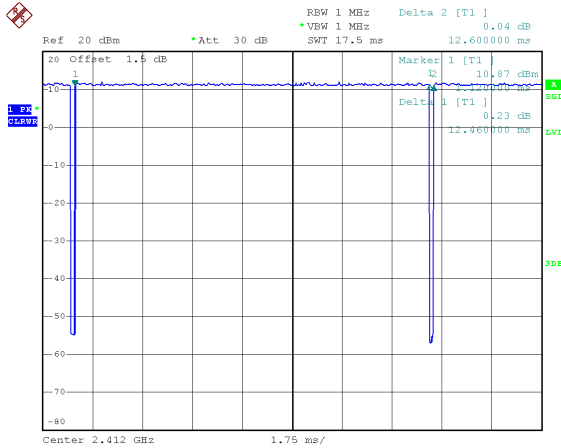
### 2.3 PARAMETERS OF TEST SOFTWARE

Test Software	N/A		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	39	39	40
IEEE 802.11g	51	53	55
IEEE 802.11n (HT20)	51	53	54
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	50	53	51

## 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.

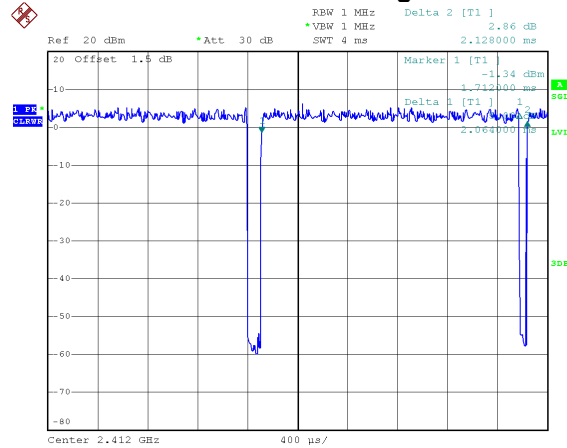
IEEE 802.11b



Date: 1.NOV.2019 13:07:48

Duty cycle = 12.460 ms / 12.600 ms = 98.89%  
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.00$

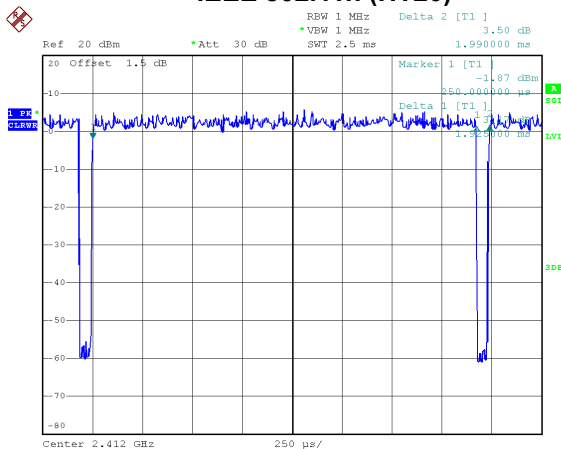
IEEE 802.11g



Date: 1.NOV.2019 13:08:34

Duty cycle = 2.064 ms / 2.128 ms = 96.99%  
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.13$

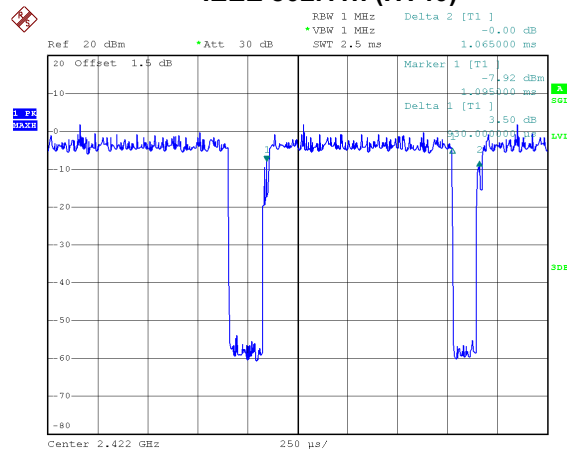
IEEE 802.11n (HT20)



Date: 1.NOV.2019 13:09:50

Duty cycle = 1.925 ms / 1.990 ms = 96.73%  
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.14$

IEEE 802.11n (HT40)



Date: 1.NOV.2019 13:10:18

Duty cycle = 0.930 ms / 1.065 ms = 87.32%  
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.59$

### NOTE:

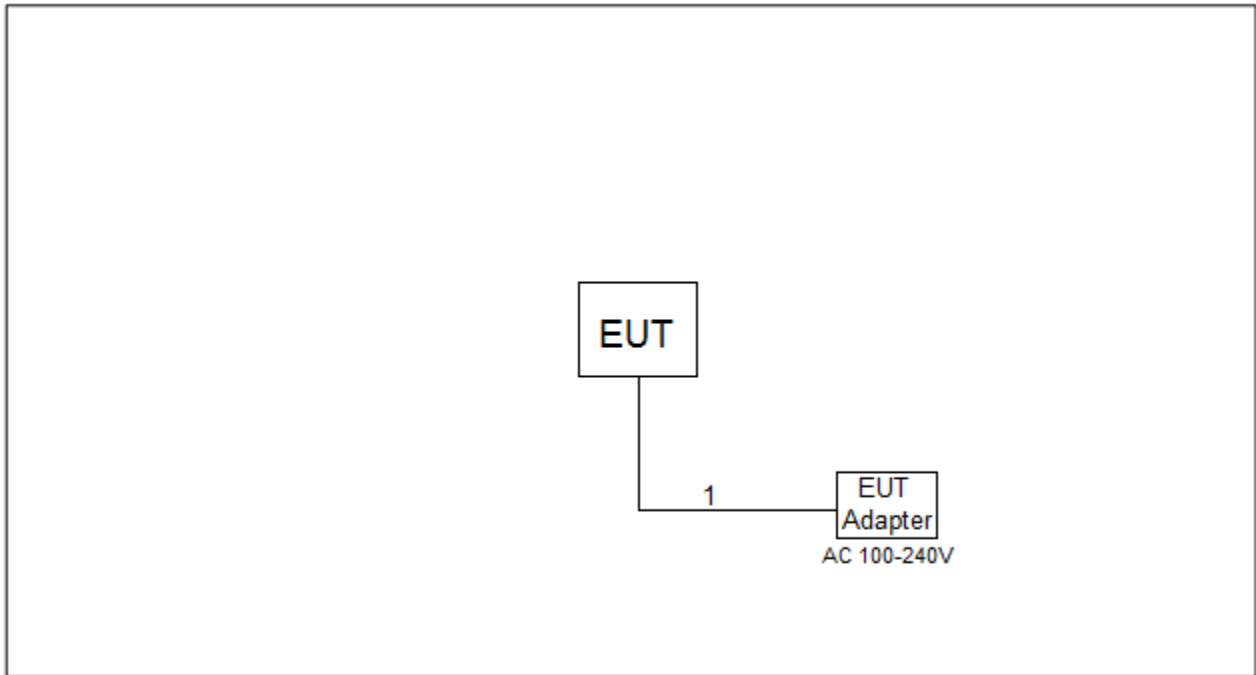
For IEEE 802.11g and IEEE 802.11n (HT20):

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.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	3m

### 3. AC POWER LINE CONDUCTED EMISSIONS TEST

#### 3.1 LIMIT

Frequency of Emission (MHz)	Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56*	56 to 46*
0.50 - 5.0	56	46
5.0 - 30.0	60	50

**NOTE:**

- (1) The 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

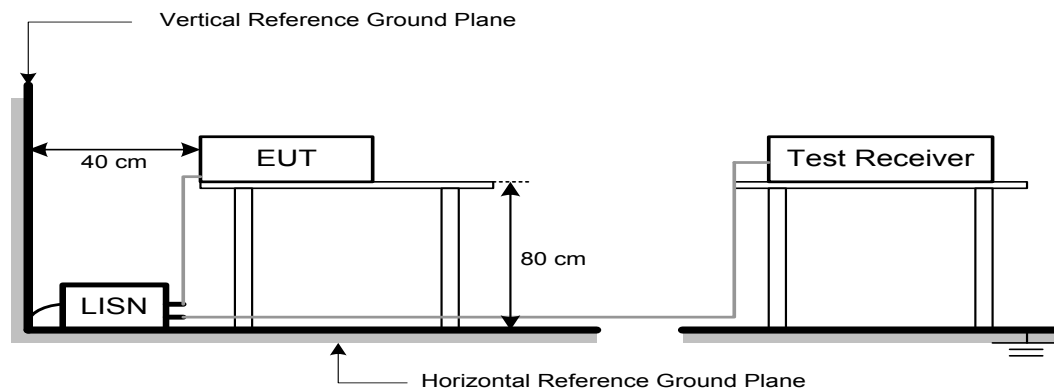
#### 3.2 TEST PROCEDURE

- 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

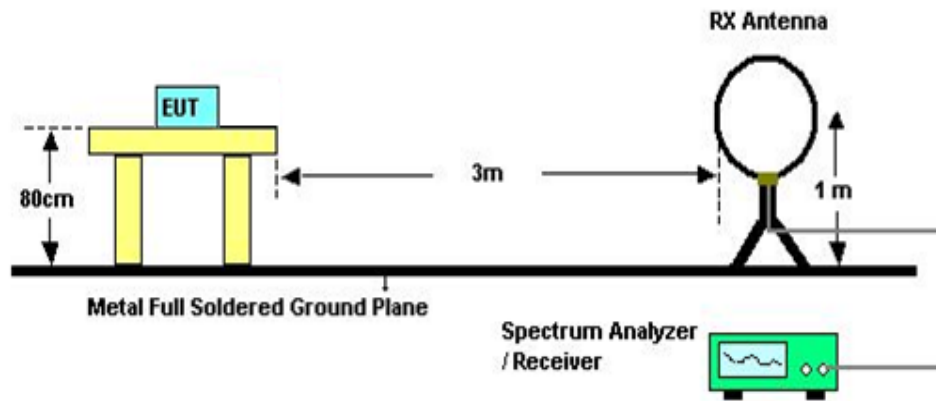
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance of 3 m 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 1 GHz)
- 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

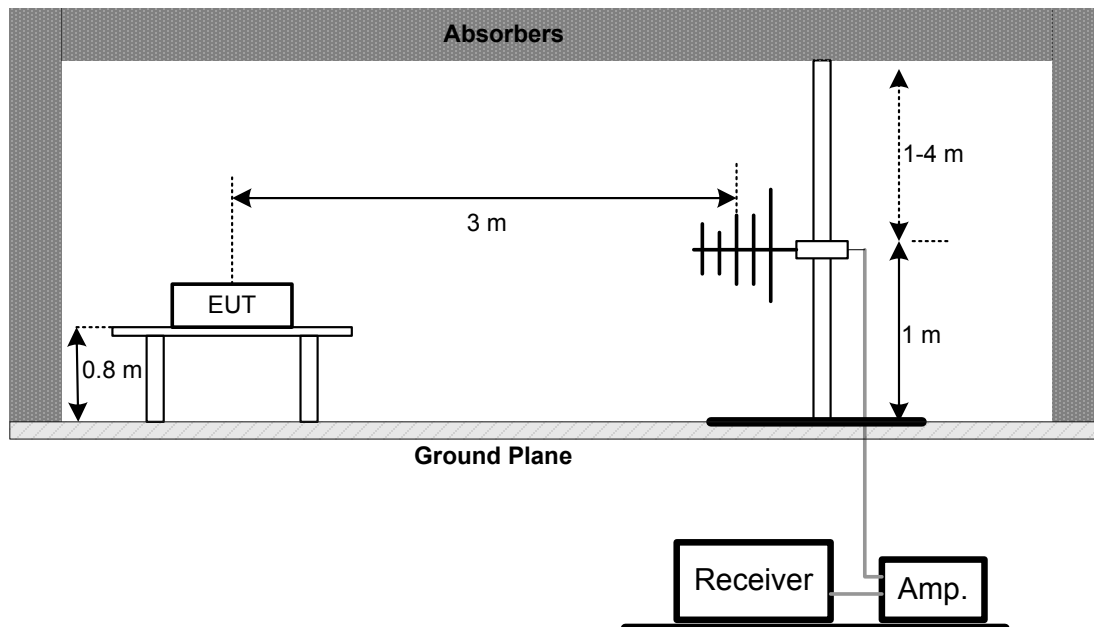
No deviation

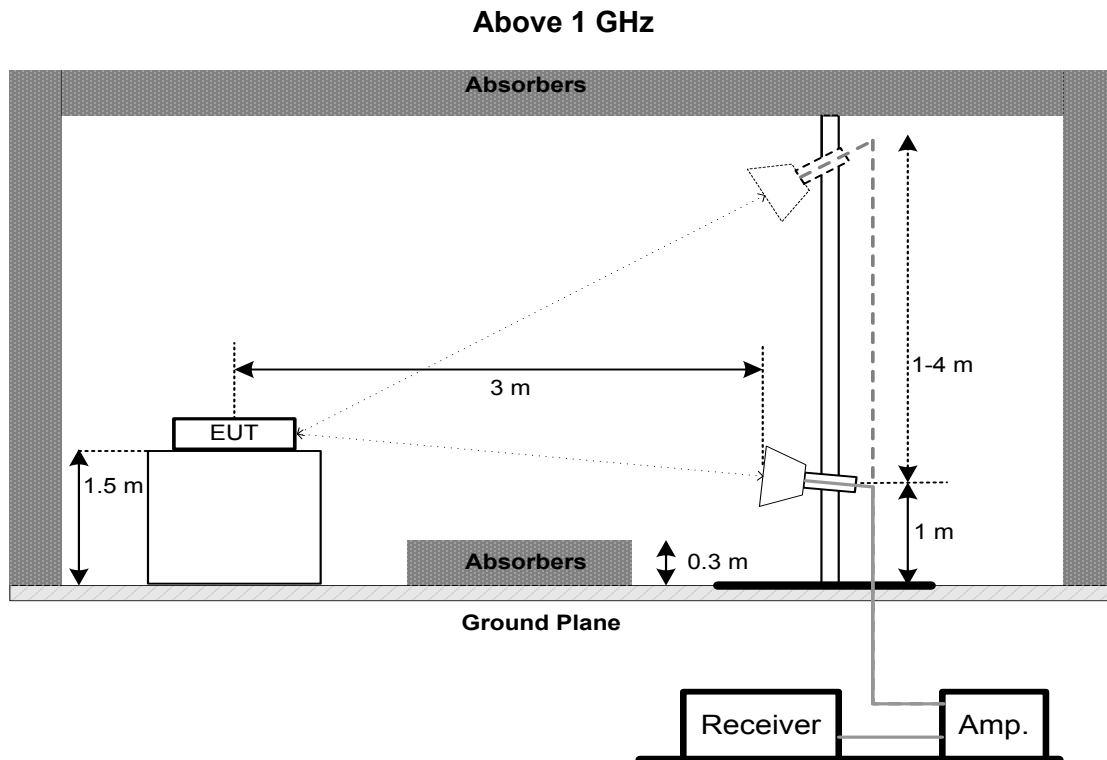
## 4.4 TEST SETUP

9 kHz-30 MHz



30 MHz to 1 GHz





#### 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	-

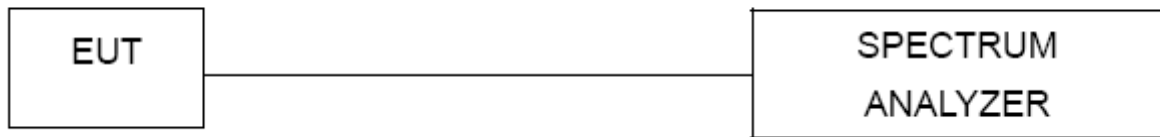
### 5.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- For 6dB Bandwidth Spectrum setting: RBW= 100kHz, VBW=300kHz, Sweep time=2.5 ms.  
For 99% OBW Spectrum Setting: For B,G,N20 mode: RBW= 300kHz, VBW=1MHz, For N40 mode: RBW=1MHz, VBW=3MHz, 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 AVERAGE OUTPUT POWER TEST

### 6.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(b)(3)	Maximum Average 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.

### 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

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW= 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	Mar. 10, 2020
2	LISN	EMCO	3816/2	52765	Mar. 10, 2020
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	May. 19, 2020
4	50Ω Terminator	SHX	TF5-3	15041305	Mar. 10, 2020
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 12, 2020

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	Jan. 15, 2020
2	Cable	N/A	RG 213/U	C-102	May 31, 2020
3	EMI Test Receiver	R&S	ESCI	100895	Mar. 10, 2020
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2020
2*	Amplifier	HP	8447D	2944A09673	Aug. 11, 2021
3	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 24, 2020
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

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 09, 2020
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 23, 2020
3	Amplifier	Agilent	8449B	3008A02333	Mar. 10, 2020
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 10, 2020
5	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	mitron	B10-01-01-12M	18072744	Jun. 29, 2020
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A



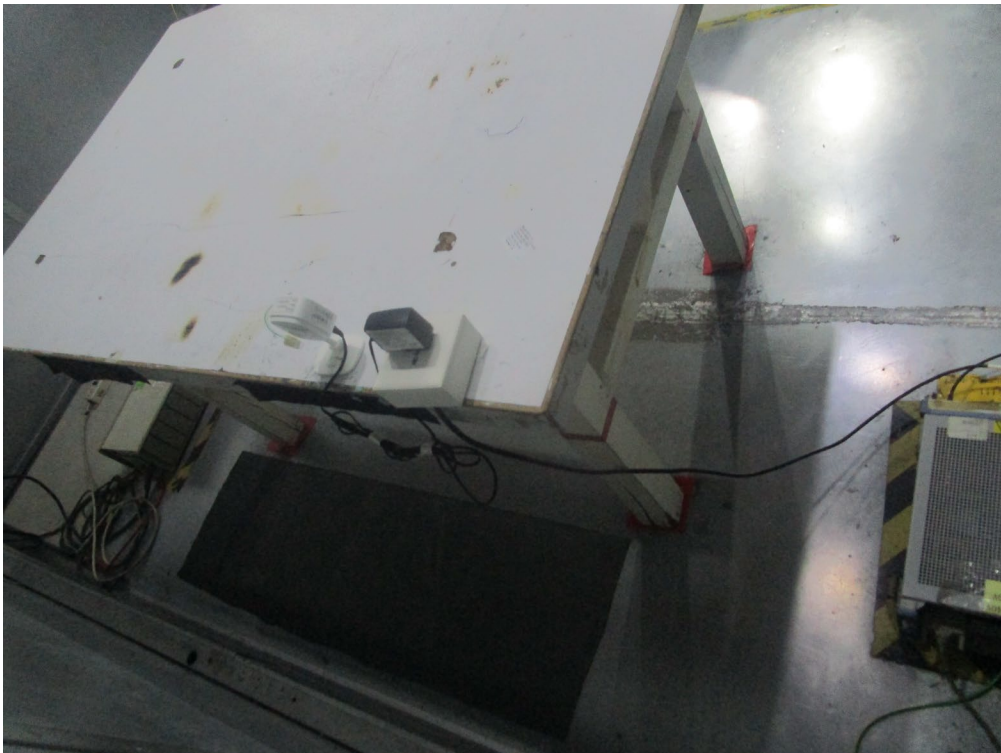
Bandwidth & Antenna Conducted Spurious Emissions & Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 03, 2020

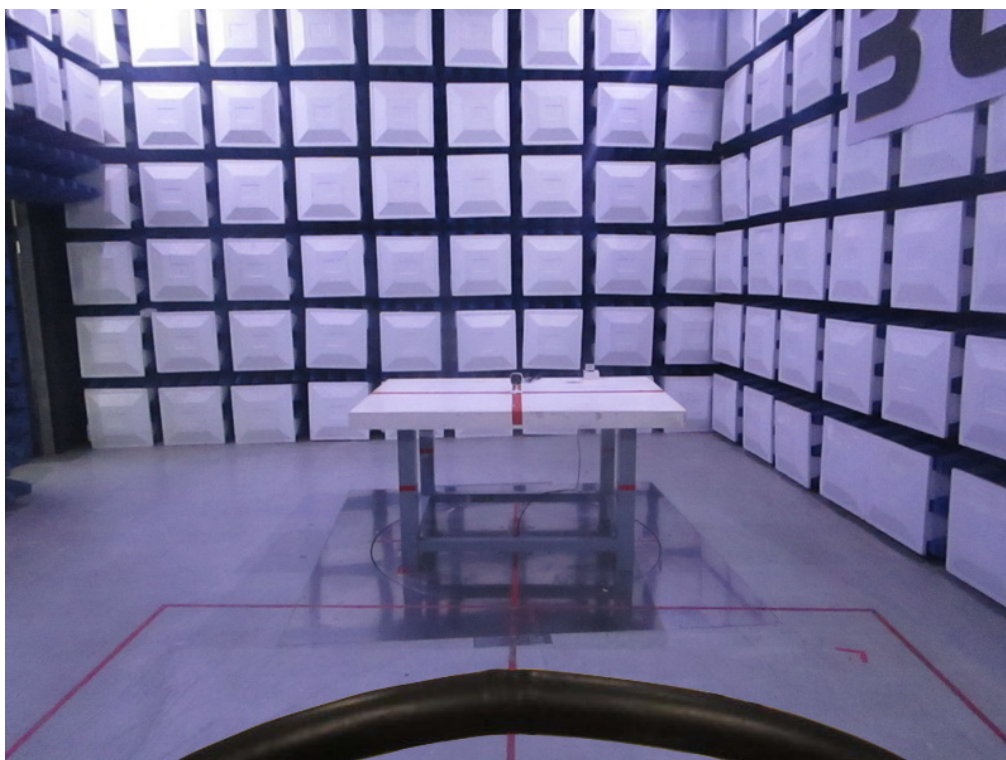
Maximum Average Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Peak Power Analyzer	Keysight	8990B	MY51000506	Aug. 03, 2020
2	Wideband power sensor	Keysight	N1923A	MY58310004	Aug. 03, 2020

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**



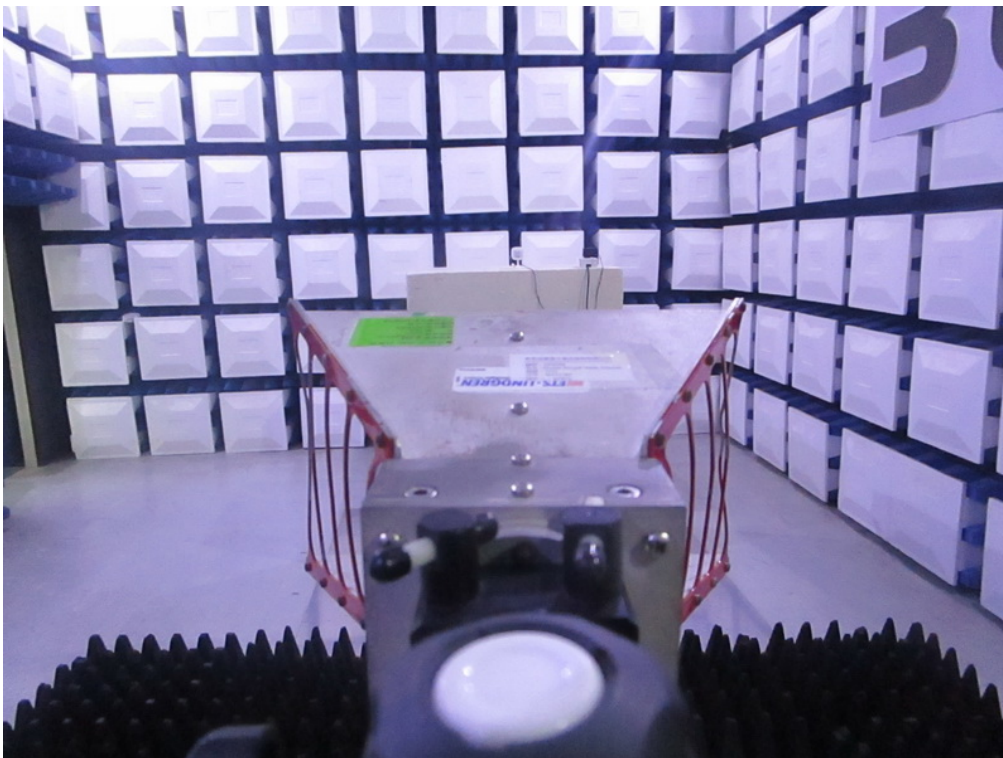
## Radiated Emissions Test Photos

30 MHz to 1 GHz



## Radiated Emissions Test Photos

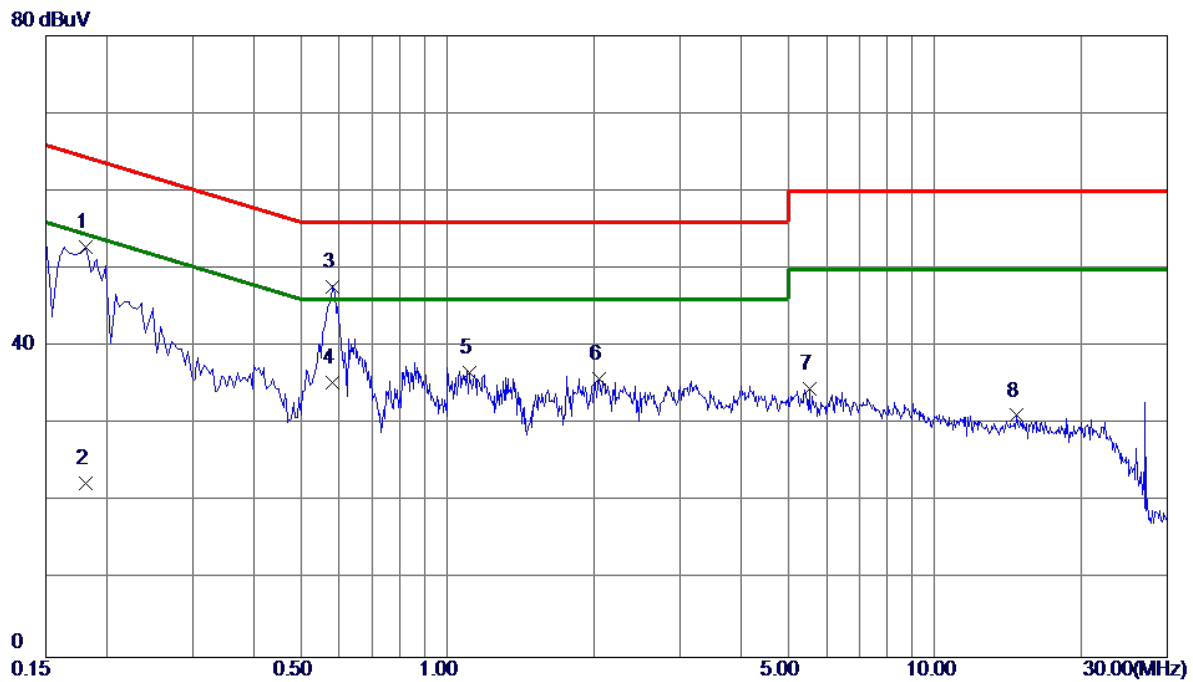
Above 1 GHz



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

Test Mode: TX N40 Mode Channel 06

## Line



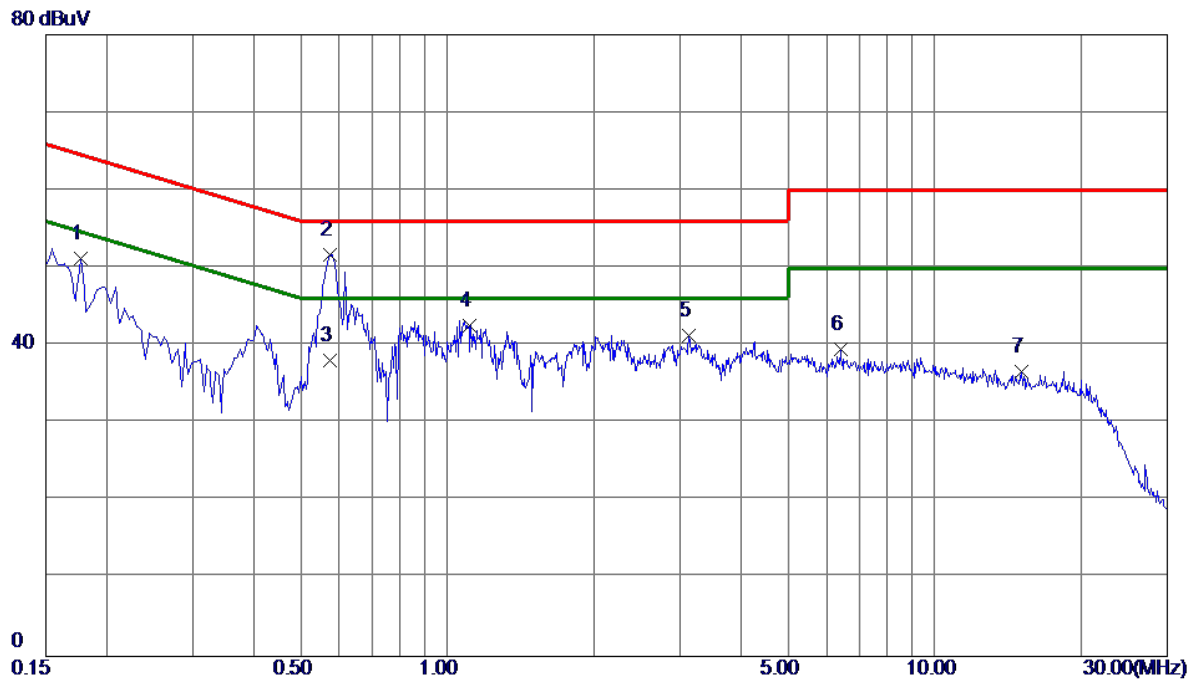
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1815	43.04	9.82	52.86	64.42	-11.56	Peak	
2	0.1815	12.61	9.82	22.43	54.42	-31.99	AVG	
3 *	0.5820	37.87	9.89	47.76	56.00	-8.24	Peak	
4	0.5820	25.52	9.89	35.41	46.00	-10.59	AVG	
5	1.1085	26.77	9.93	36.70	56.00	-19.30	Peak	
6	2.0445	25.77	10.00	35.77	56.00	-20.23	Peak	
7	5.5319	24.35	10.23	34.58	60.00	-25.42	Peak	
8	14.7165	20.39	10.73	31.12	60.00	-28.88	Peak	

### REMARKS:

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

Test Mode: TX N40 Mode Channel 06

## Neutral



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1770	41.23	9.91	51.14	64.63	-13.49	Peak	
2 *	0.5730	41.70	10.04	51.74	56.00	-4.26	Peak	
3	0.5730	28.04	10.04	38.08	46.00	-7.92	AVG	
4	1.1085	32.46	10.13	42.59	56.00	-13.41	Peak	
5	3.1290	31.01	10.26	41.27	56.00	-14.73	Peak	
6	6.4185	28.98	10.53	39.51	60.00	-20.49	Peak	
7	15.0495	25.57	11.08	36.65	60.00	-23.35	Peak	

### REMARKS:

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

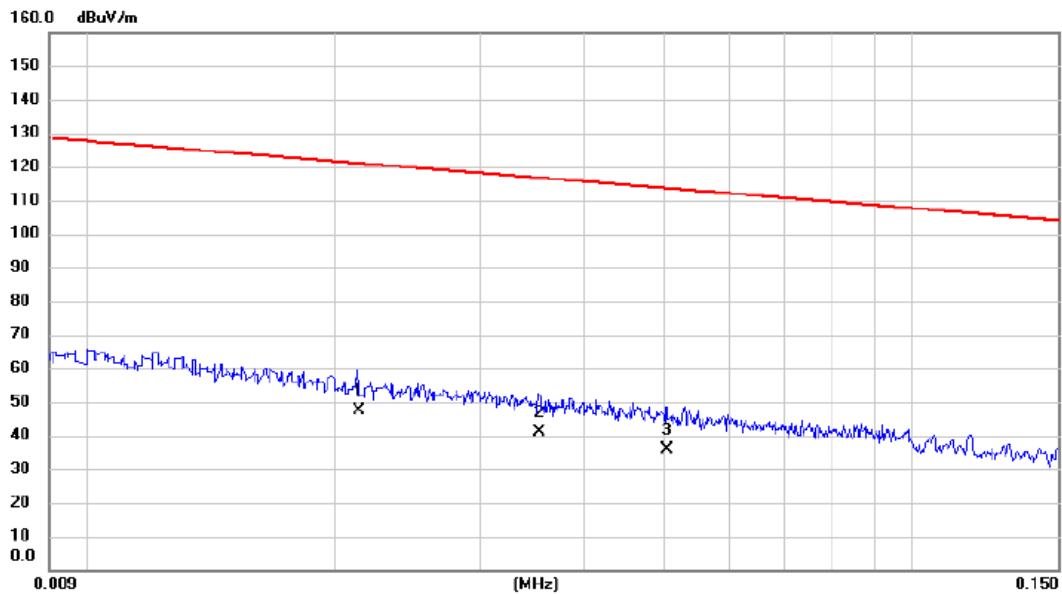
(2) Margin Level = Measurement Value - Limit Value.



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

Test Mode: TX N40 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	*	0.0214	33.50	13.82	47.32	121.00	-73.68	AVG	
2		0.0353	27.20	13.88	41.08	116.65	-75.57	AVG	
3		0.0504	21.90	13.92	35.82	113.56	-77.74	AVG	

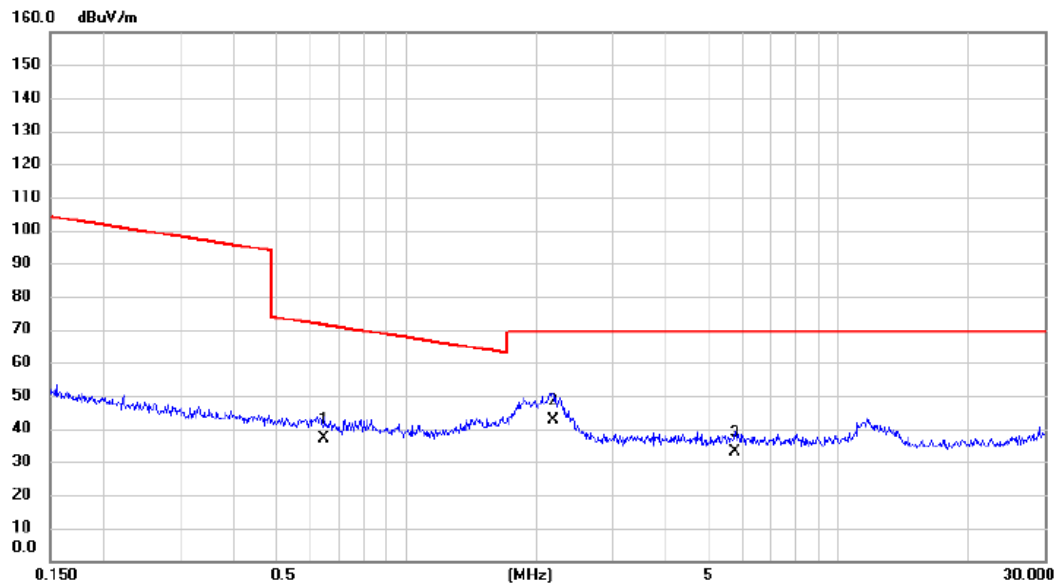
## REMARKS:

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

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

Test Mode: TX N40 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		0.6474	24.30	12.78	37.08	71.38	-34.30	QP	
2	*	2.1898	30.90	11.71	42.61	69.54	-26.93	QP	
3		5.7743	22.10	10.98	33.08	69.54	-36.46	QP	

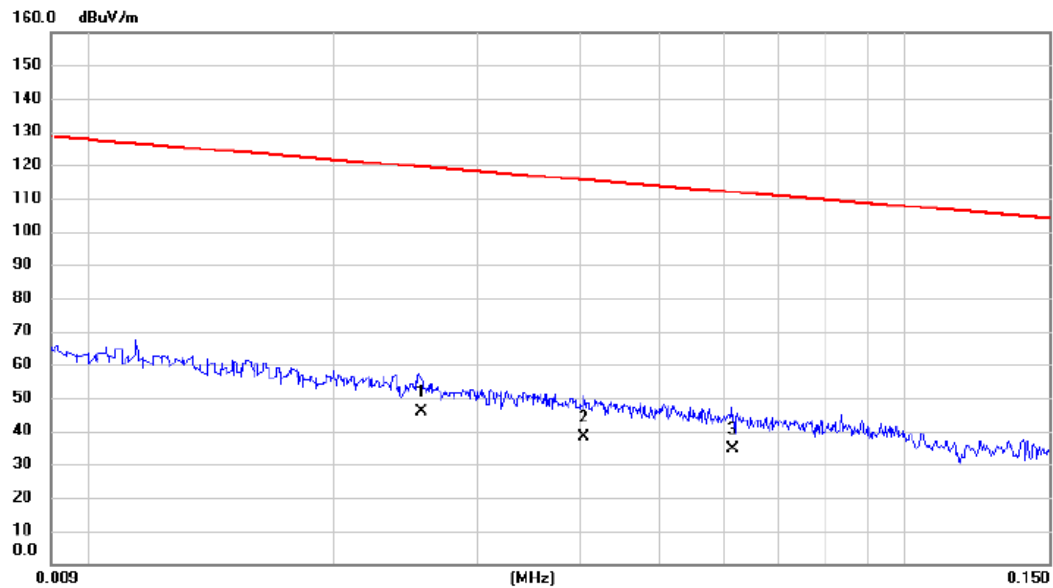
## REMARKS:

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

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

Test Mode: TX N40 Mode Channel 06

Ant 90°

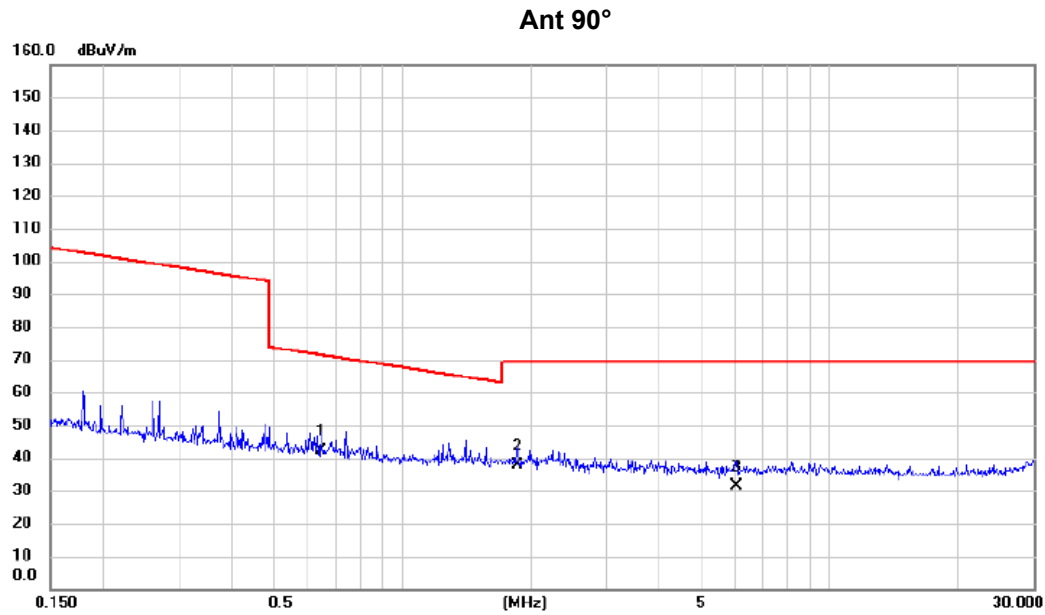


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0256	31.90	13.84	45.74	119.44	-73.70	AVG	
2		0.0405	24.30	13.90	38.20	115.46	-77.26	AVG	
3		0.0615	20.70	13.75	34.45	111.83	-77.38	AVG	

## REMARKS:

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

Test Mode: TX N40 Mode Channel 06



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.6440	29.30	12.78	42.08	71.43	-29.35	QP	
2		1.8680	25.80	11.90	37.70	69.54	-31.84	QP	
3		6.0562	20.40	11.02	31.42	69.54	-38.12	QP	

**REMARKS:**

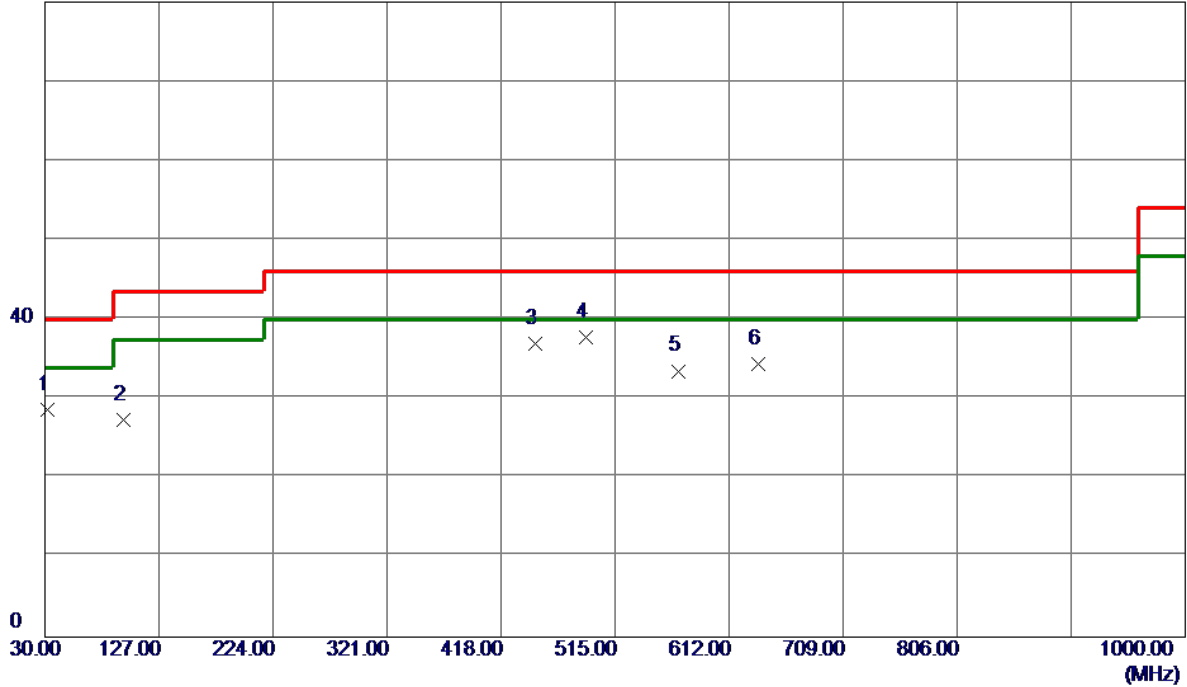
- (1) Measurement Value = Reading Level + Correct Factor.  
 (2) Margin Level = Measurement Value - Limit Value.

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

Test Mode: TX N40 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	32.4250	43.54	-14.87	28.67	40.00	-11.33	Peak	
2	96.9300	42.86	-15.47	27.39	43.50	-16.11	Peak	
3	447.5850	45.13	-8.21	36.92	46.00	-9.08	Peak	
4 *	489.7800	45.59	-7.83	37.76	46.00	-8.24	Peak	
5	569.3200	40.23	-6.71	33.52	46.00	-12.48	Peak	
6	637.2199	39.35	-4.99	34.36	46.00	-11.64	Peak	

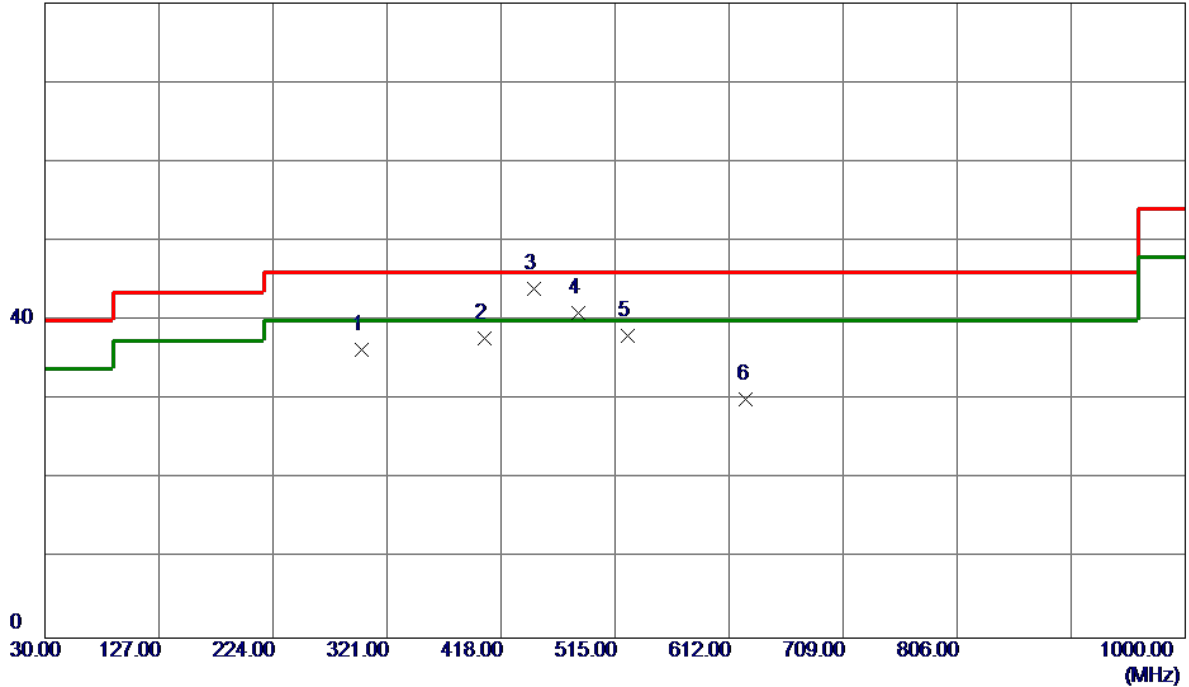
### REMARKS:

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

Test Mode: TX N40 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	299.6600	47.82	-11.57	36.25	46.00	-9.75	Peak	
2	403.9350	47.21	-9.43	37.78	46.00	-8.22	Peak	
3 *	446.1300	52.20	-8.25	43.95	46.00	-2.05	Peak	
4	483.4750	48.89	-7.88	41.01	46.00	-4.99	Peak	
5	526.1550	45.52	-7.50	38.02	46.00	-7.98	Peak	
6	626.5500	35.32	-5.22	30.10	46.00	-15.90	Peak	

### REMARKS:

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

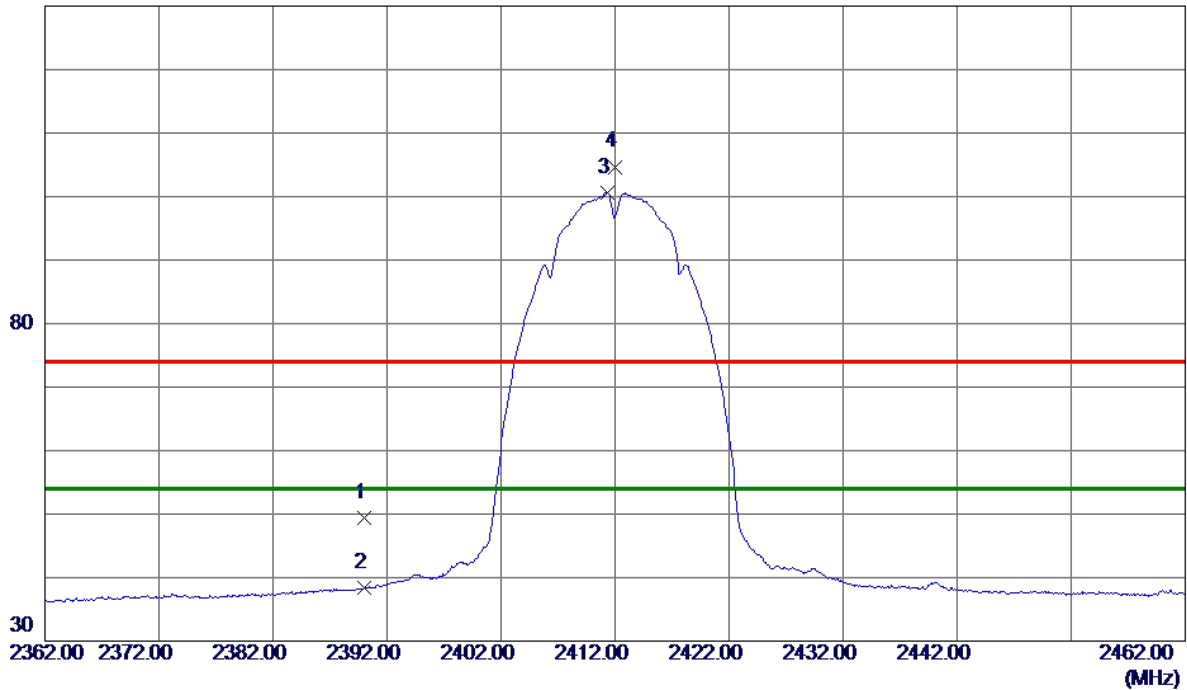


## **APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ**

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	41.77	7.56	49.33	74.00	-24.67	Peak	
2	2390.0000	30.79	7.56	38.35	54.00	-15.65	AVG	
3 *	2411.3000	93.00	7.64	100.64	54.00	46.64	AVG	No Limit
4	2412.0500	97.06	7.64	104.70	74.00	30.70	Peak	No Limit

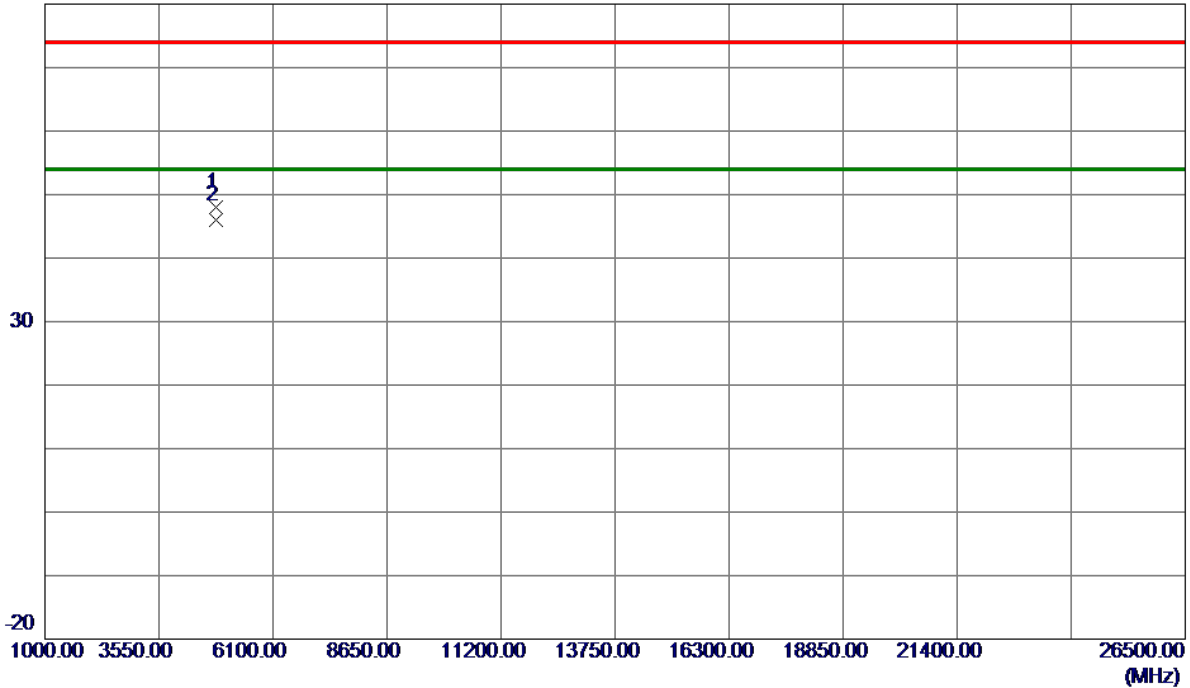
### REMARKS:

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

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

## Vertical

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	4823.7650	43.72	4.25	47.97	74.00	-26.03	Peak	
2 *	4824.0099	41.83	4.26	46.09	54.00	-7.91	AVG	

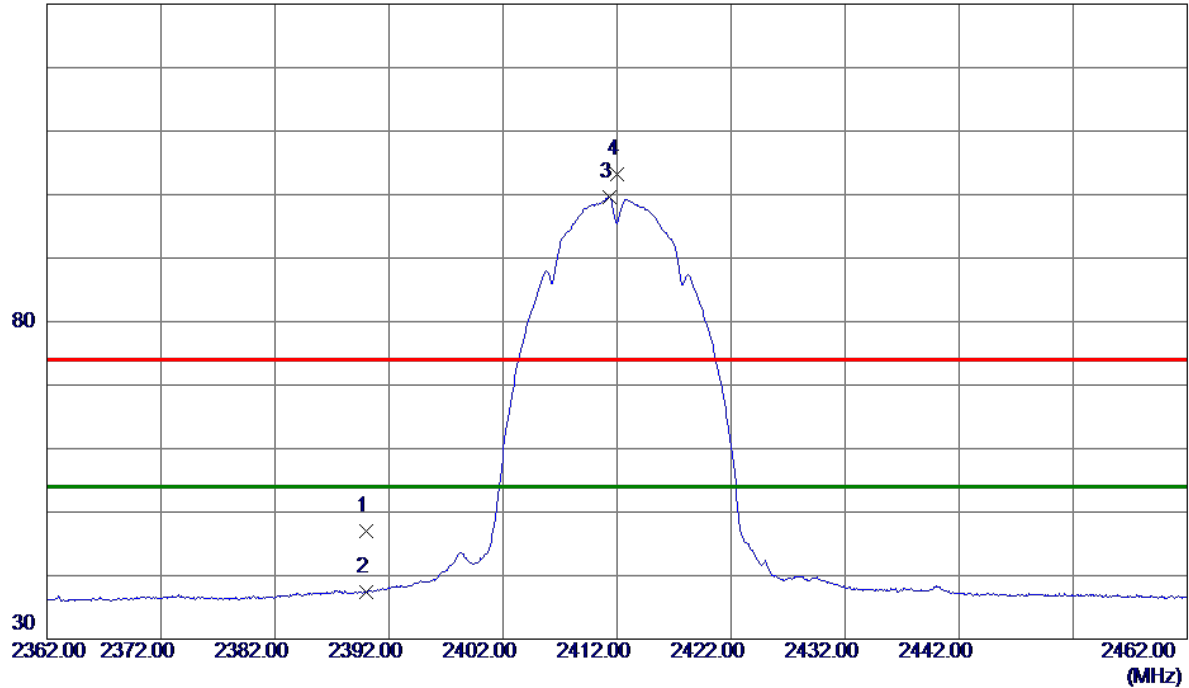
### REMARKS:

- (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	39.48	7.56	47.04	74.00	-26.96	Peak	
2	2390.0000	29.89	7.56	37.45	54.00	-16.55	AVG	
3 *	2411.3000	91.97	7.64	99.61	54.00	45.61	AVG	No Limit
4	2412.0500	95.55	7.64	103.19	74.00	29.19	Peak	No Limit

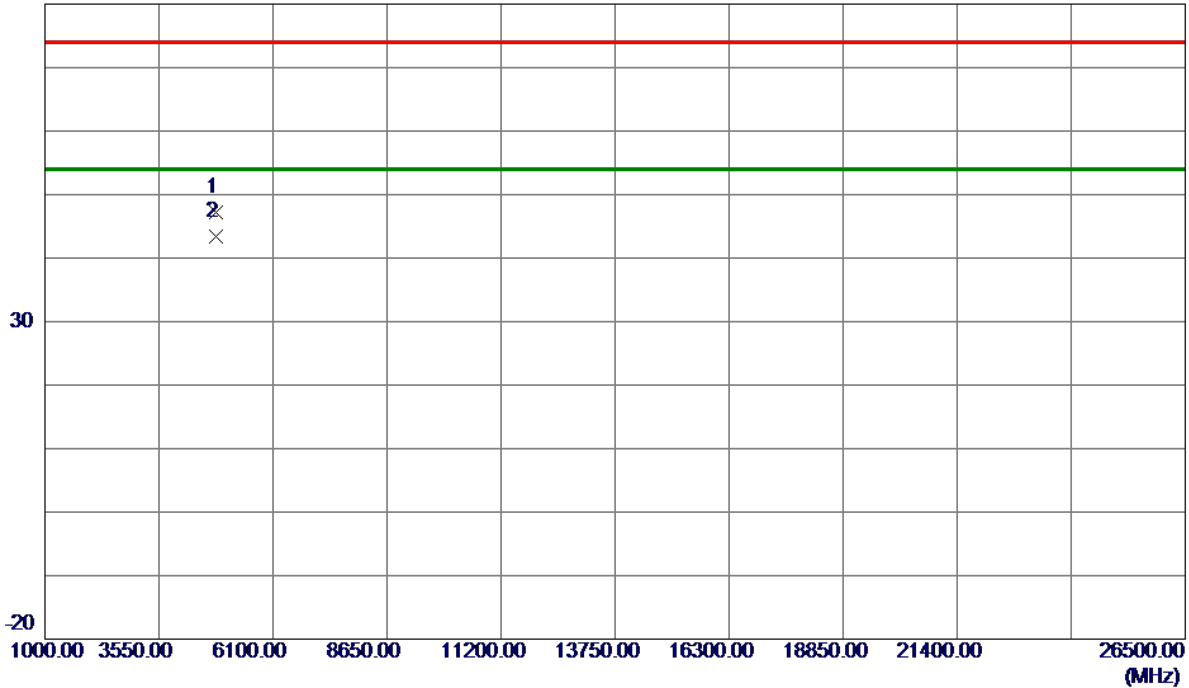
### REMARKS:

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

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

## Horizontal

80 dBuV/m



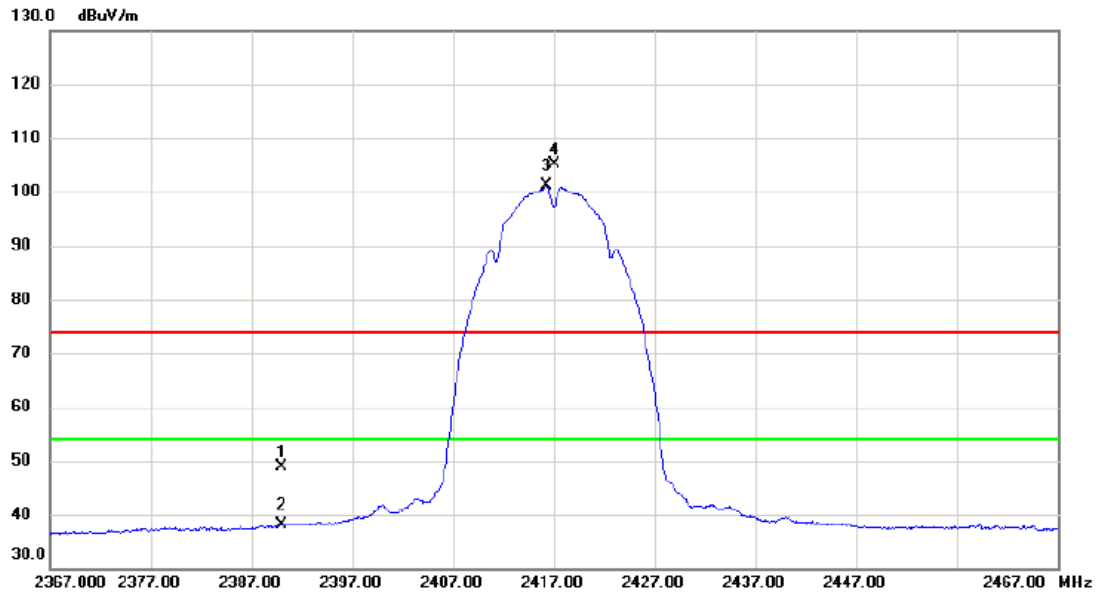
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.8250	42.90	4.25	47.15	74.00	-26.85	Peak	
2 *	4824.0450	39.16	4.26	43.42	54.00	-10.58	AVG	

### REMARKS:

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

Test Mode: TX B Mode 2417 MHz

## Vertical



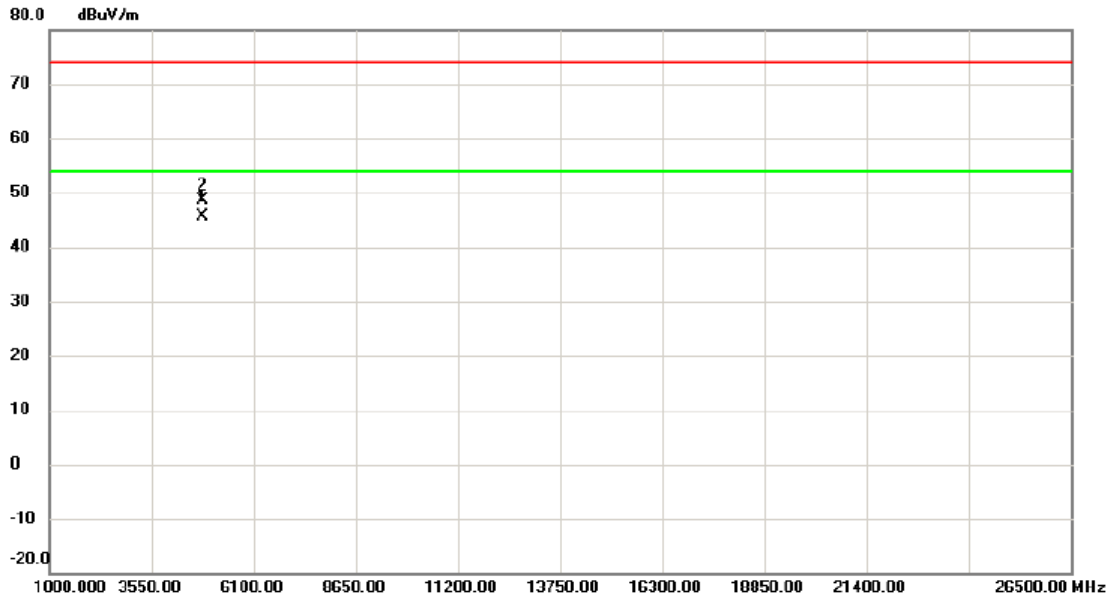
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	41.42	7.57	48.99	74.00	-25.01	peak	
2		2390.000	30.51	7.57	38.08	54.00	-15.92	AVG	
3	*	2416.250	93.37	7.66	101.03	54.00	47.03	AVG	No Limit
4	X	2417.100	97.40	7.66	105.06	74.00	31.06	peak	No Limit

### REMARKS:

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

Test Mode:	TX B Mode 2417 MHz
------------	--------------------

## Vertical



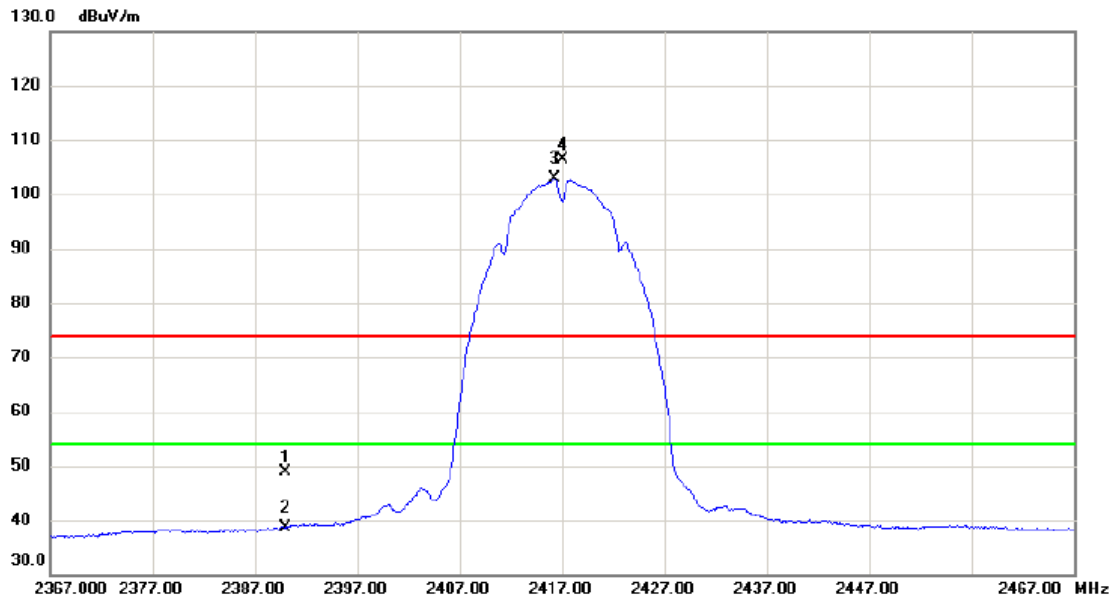
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4834.000	41.46	4.29	45.75	54.00	-8.25	AVG	
2		4834.170	44.39	4.29	48.68	74.00	-25.32	peak	

### REMARKS:

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

Test Mode: TX B Mode 2417 MHz

## Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	41.21	7.57	48.78	74.00	-25.22	peak	
2		2390.000	31.13	7.57	38.70	54.00	-15.30	AVG	
3	*	2416.300	95.13	7.66	102.79	54.00	48.79	AVG	No Limit
4	X	2417.000	98.78	7.66	106.44	74.00	32.44	peak	No Limit

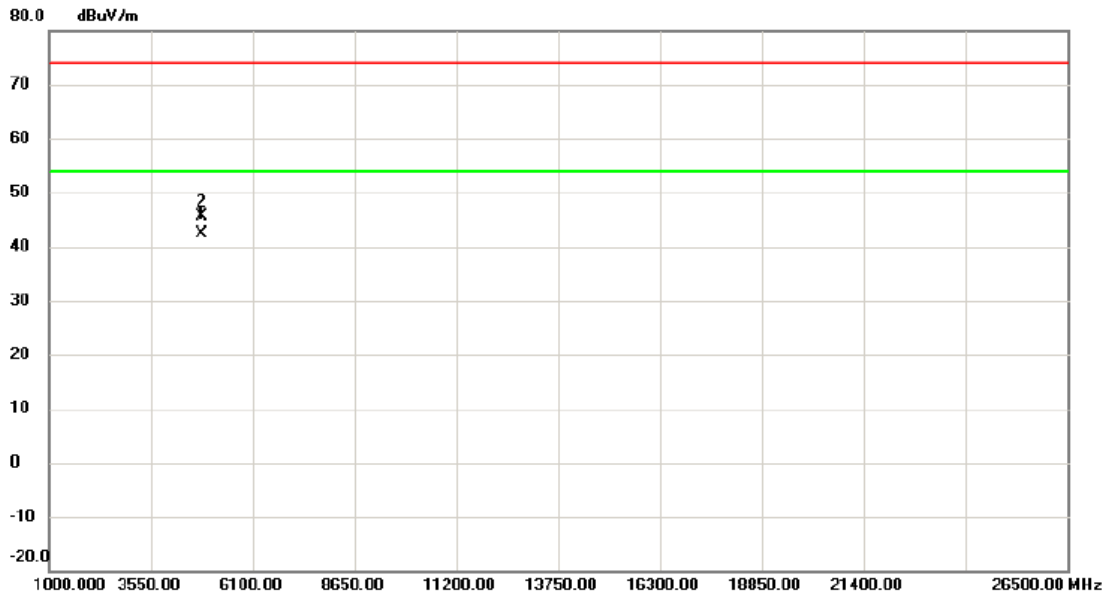
### REMARKS:

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



Test Mode:	TX B Mode 2417 MHz
------------	--------------------

## Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4833.133	38.12	4.29	42.41	54.00	-11.59	AVG	
2		4833.371	41.24	4.29	45.53	74.00	-28.47	peak	

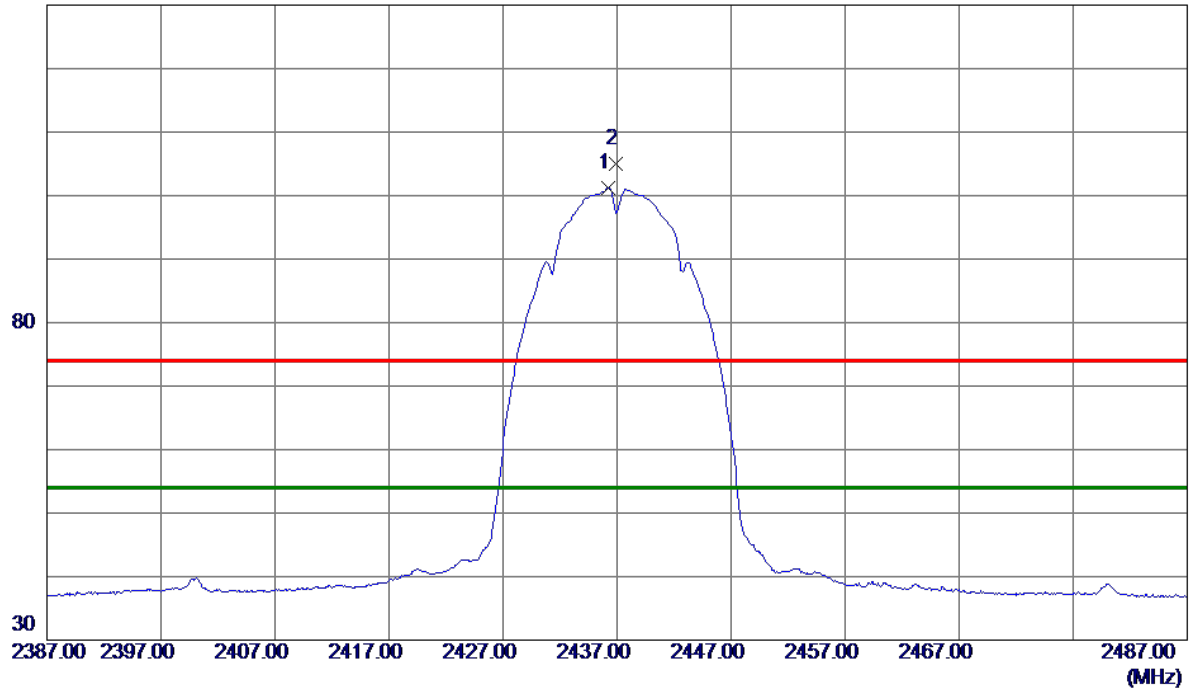
### REMARKS:

- (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 *	2436.2500	93.49	7.72	101.21	54.00	47.21	AVG	No Limit
2	2436.8500	97.21	7.72	104.93	74.00	30.93	Peak	No Limit

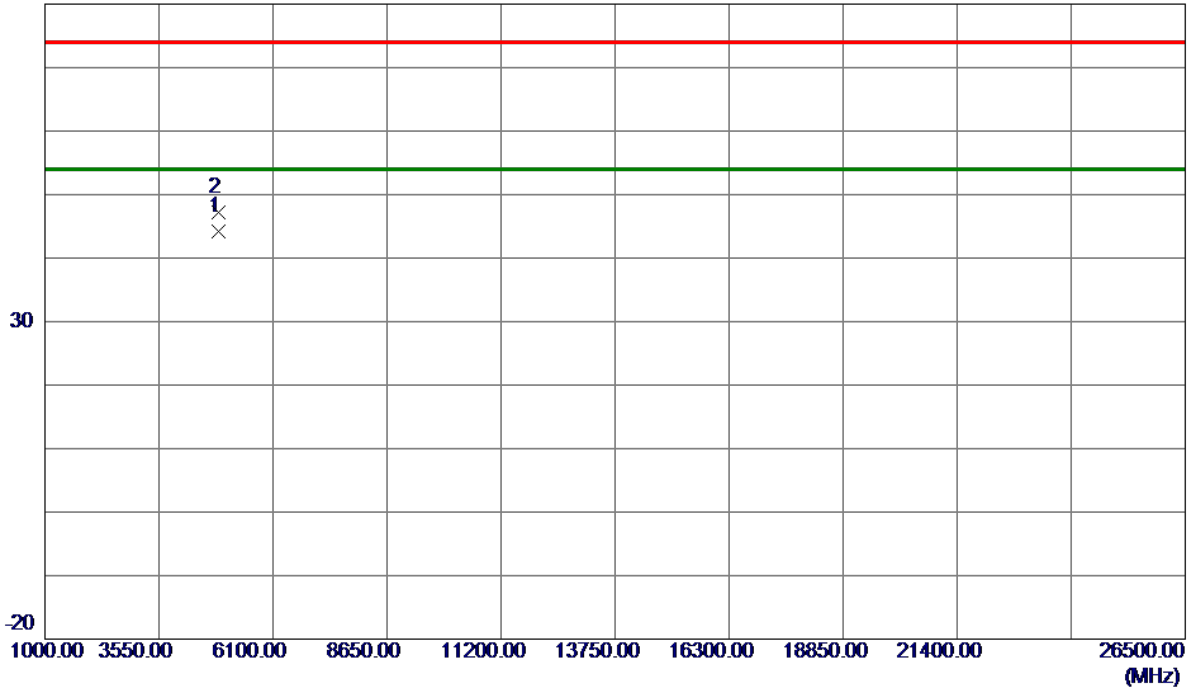
### REMARKS:

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

Test Mode:	TX B Mode 2437 MHz
------------	--------------------

## Vertical

80 dBuV/m



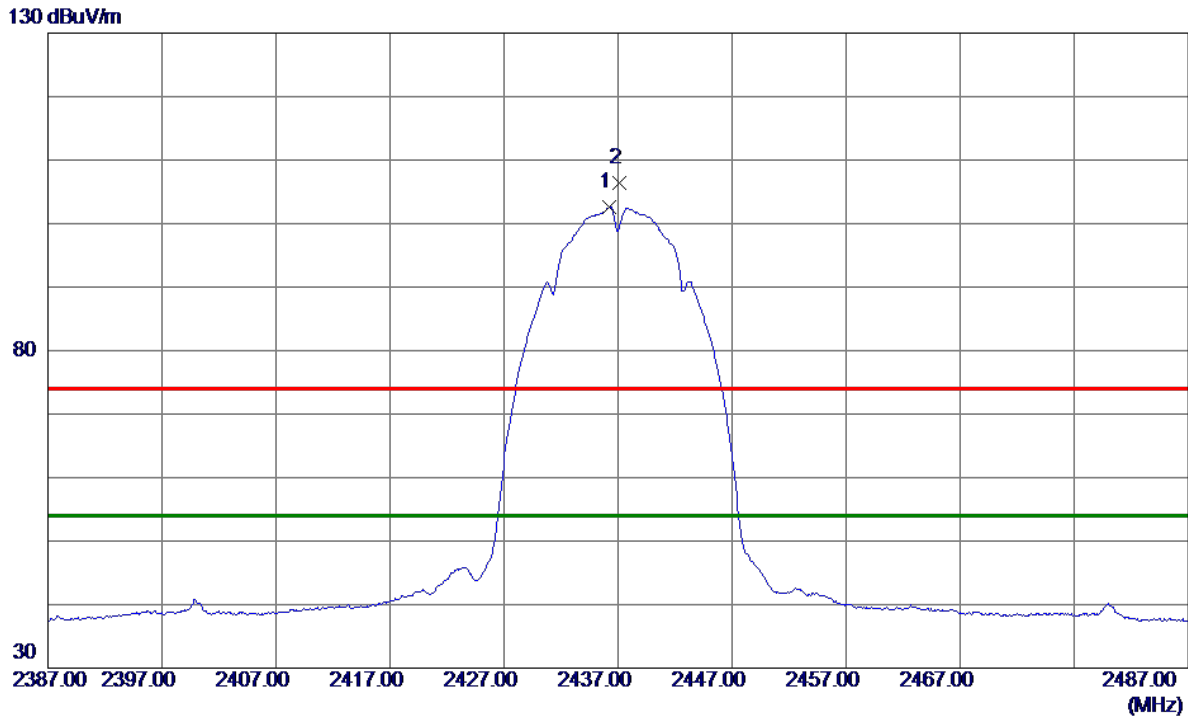
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.0350	39.84	4.44	44.28	54.00	-9.72	AVG	
2	4874.1000	42.70	4.44	47.14	74.00	-26.86	Peak	

### REMARKS:

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

Test Mode: TX B Mode 2437 MHz

## Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2436.2500	94.89	7.72	102.61	54.00	48.61	AVG	No Limit
2	2437.1000	98.76	7.72	106.48	74.00	32.48	Peak	No Limit

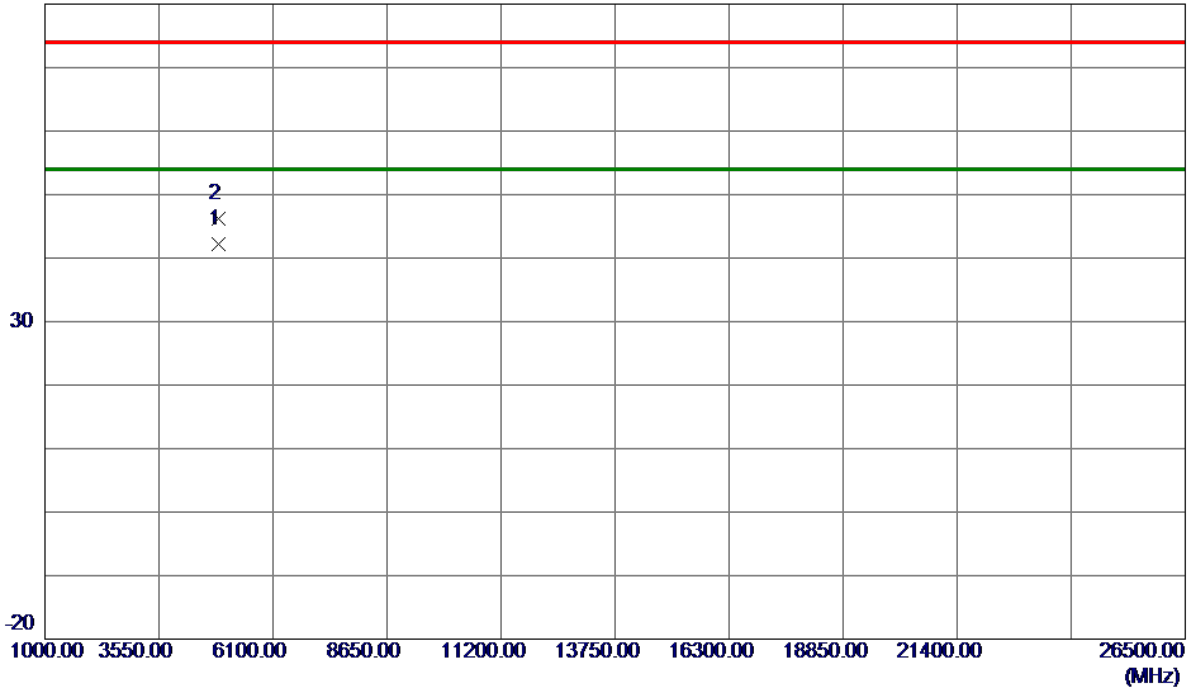
### REMARKS:

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

Test Mode:	TX B Mode 2437 MHz
------------	--------------------

## Horizontal

80 dBuV/m



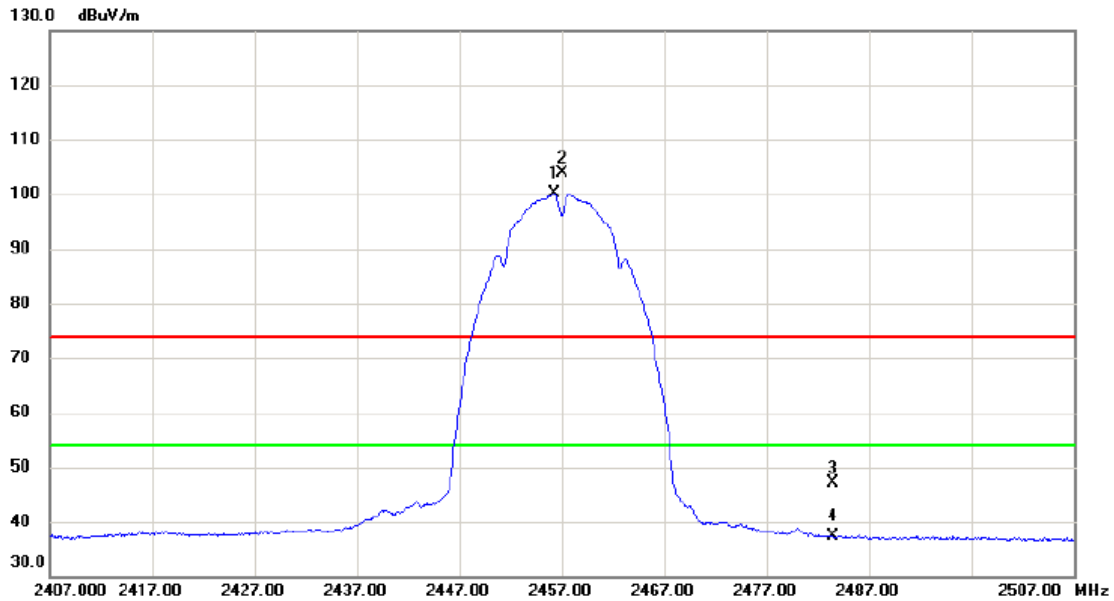
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.0350	37.84	4.44	42.28	54.00	-11.72	AVG	
2	4874.1000	41.70	4.44	46.14	74.00	-27.86	Peak	

### REMARKS:

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

Test Mode: TX B Mode 2457 MHz

## Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2456.250	92.38	7.78	100.16	54.00	46.16	AVG	No Limit
2	X	2457.100	96.20	7.79	103.99	74.00	29.99	peak	No Limit
3		2483.500	39.26	7.87	47.13	74.00	-26.87	peak	
4		2483.500	29.39	7.87	37.26	54.00	-16.74	AVG	

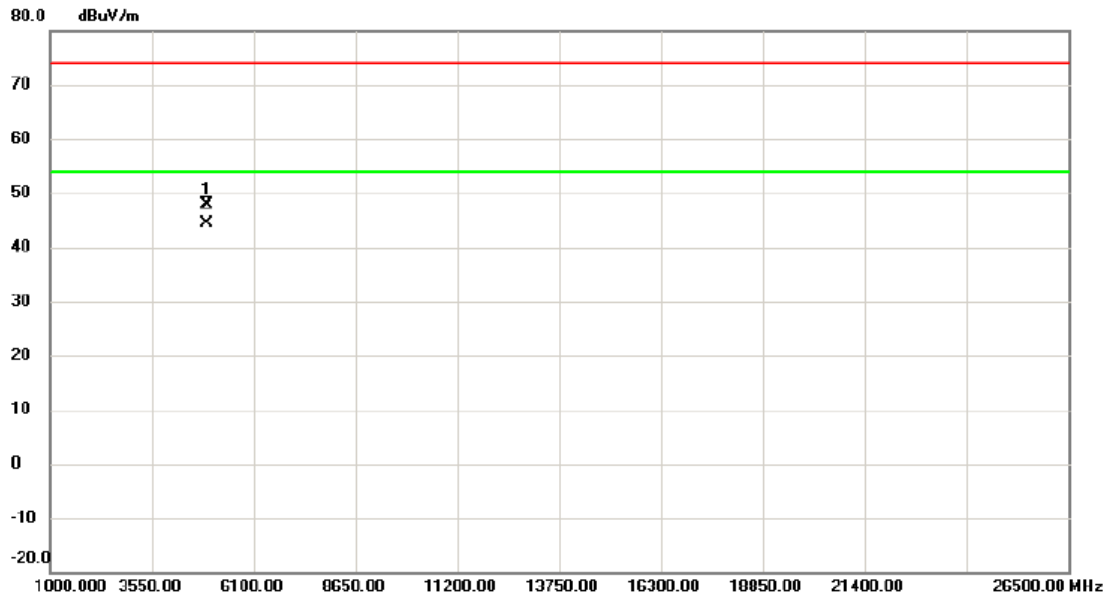
### REMARKS:

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

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

Test Mode:	TX B Mode 2457 MHz
------------	--------------------

## Vertical



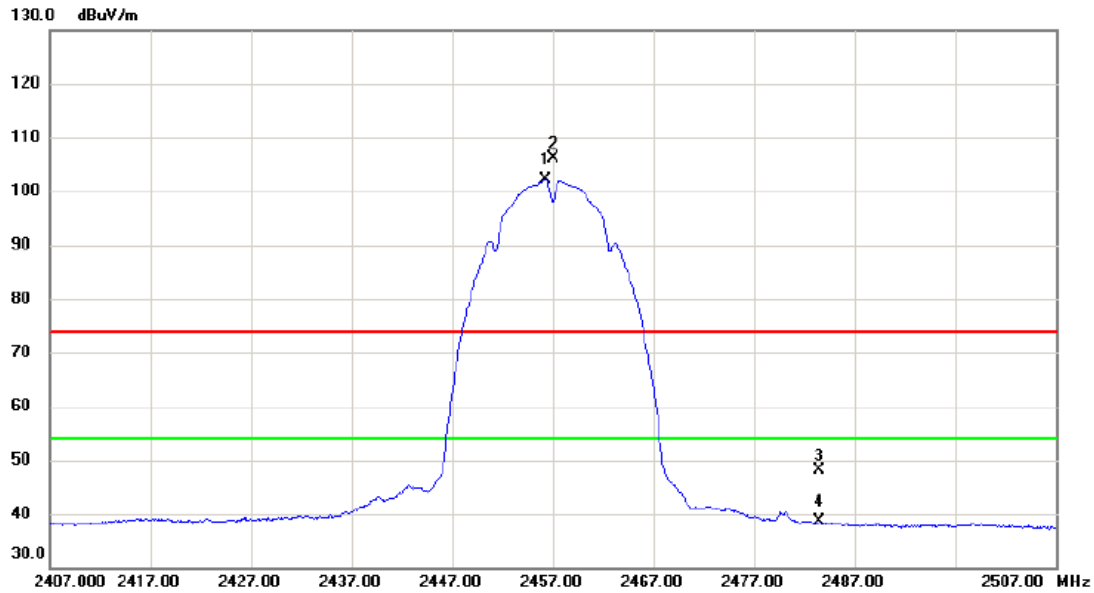
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4913.915	43.24	4.58	47.82	74.00	-26.18	peak	
2	*	4914.005	39.83	4.58	44.41	54.00	-9.59	AVG	

### REMARKS:

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

Test Mode: TX B Mode 2457 MHz

## Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2456.250	94.42	7.78	102.20	54.00	48.20	AVG	No Limit
2	X	2457.050	98.22	7.79	106.01	74.00	32.01	peak	No Limit
3		2483.500	40.26	7.87	48.13	74.00	-25.87	peak	
4		2483.500	30.66	7.87	38.53	54.00	-15.47	AVG	

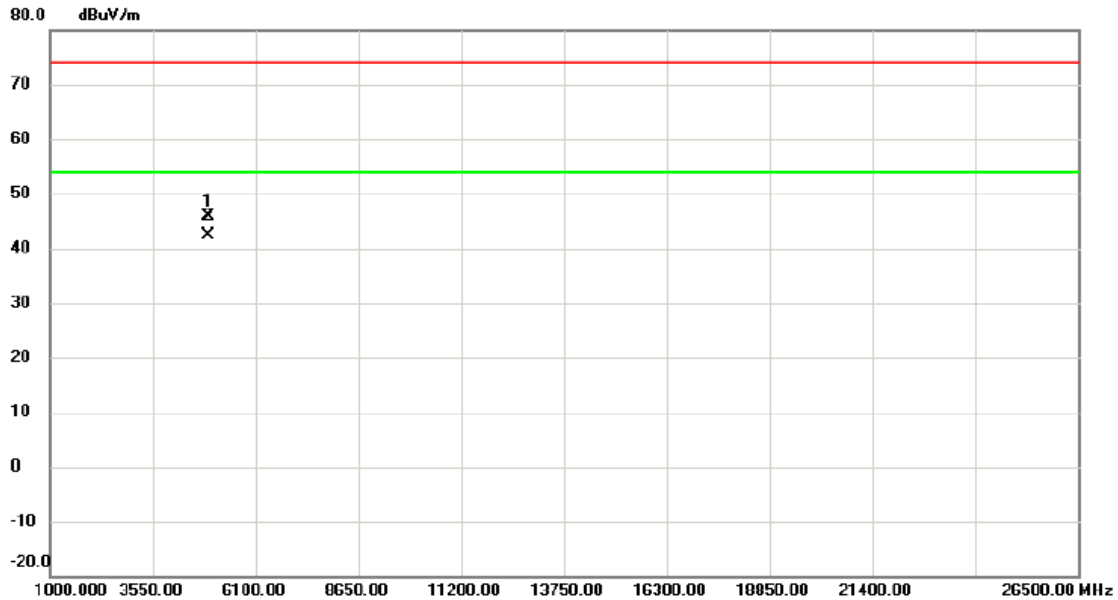
### REMARKS:

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



Test Mode: TX B Mode 2457 MHz

## Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4913.915	41.24	4.58	45.82	74.00	-28.18	peak	
2	*	4914.005	37.83	4.58	42.41	54.00	-11.59	AVG	

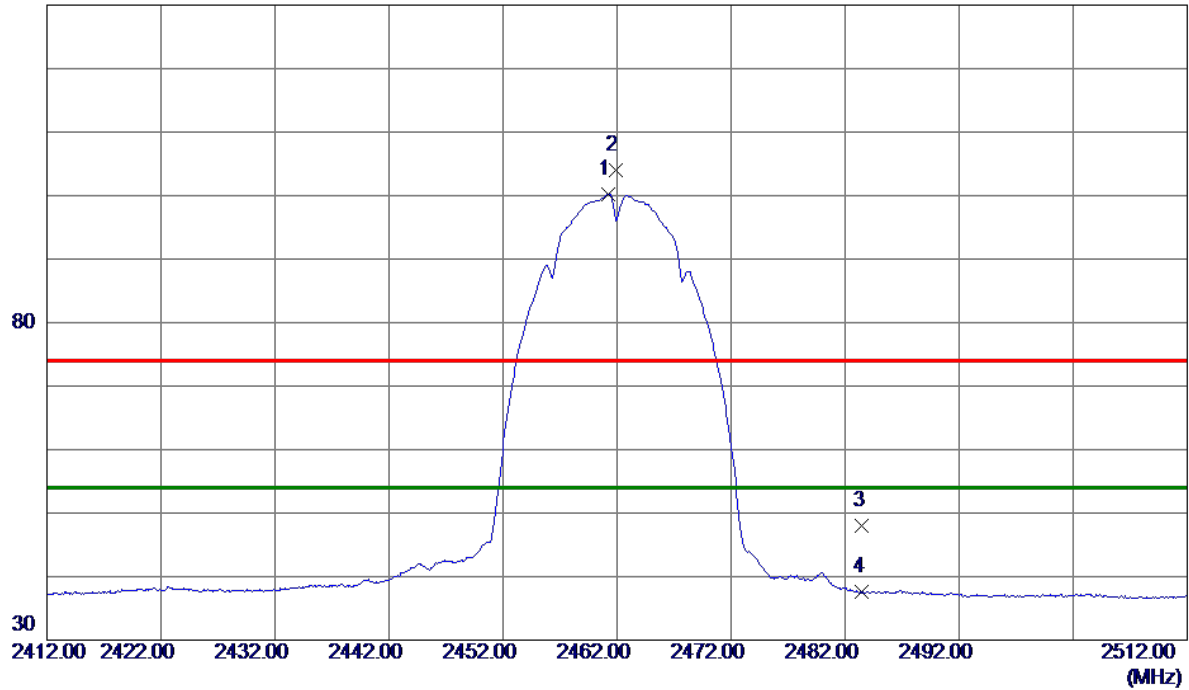
### REMARKS:

- (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 *	2461.2500	92.46	7.80	100.26	54.00	46.26	AVG	No Limit
2	2461.9000	96.14	7.80	103.94	74.00	29.94	Peak	No Limit
3	2483.5000	40.05	7.88	47.93	74.00	-26.07	Peak	
4	2483.5000	29.67	7.88	37.55	54.00	-16.45	AVG	

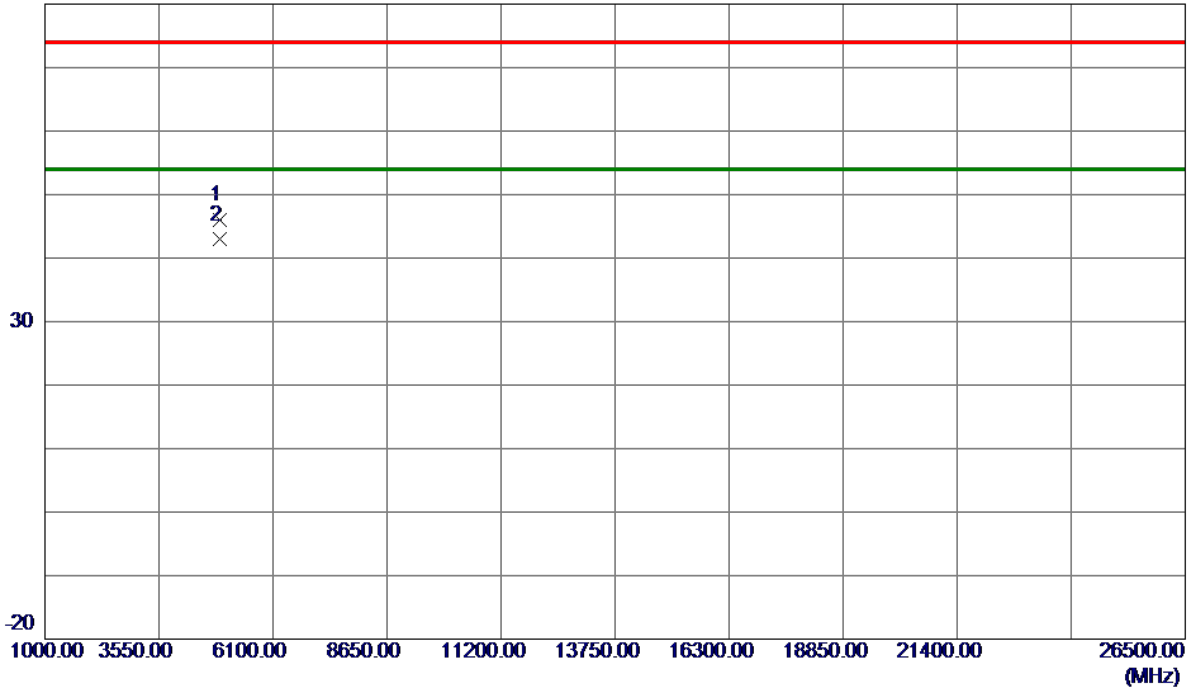
### REMARKS:

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

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

## 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	4924.0750	41.30	4.63	45.93	74.00	-28.07	Peak	
2 *	4924.0850	38.27	4.63	42.90	54.00	-11.10	AVG	

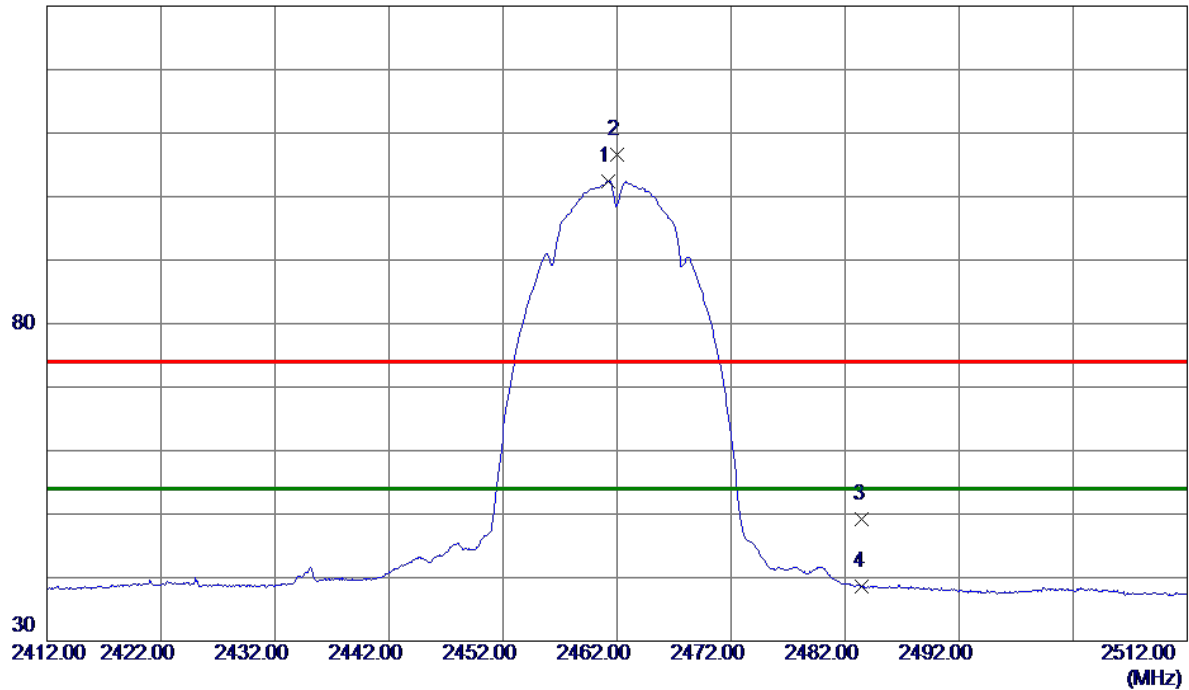
### REMARKS:

- (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 *	2461.2500	94.69	7.80	102.49	54.00	48.49	AVG	No Limit
2	2462.0000	98.77	7.80	106.57	74.00	32.57	Peak	No Limit
3	2483.5000	41.37	7.88	49.25	74.00	-24.75	Peak	
4	2483.5000	30.75	7.88	38.63	54.00	-15.37	AVG	

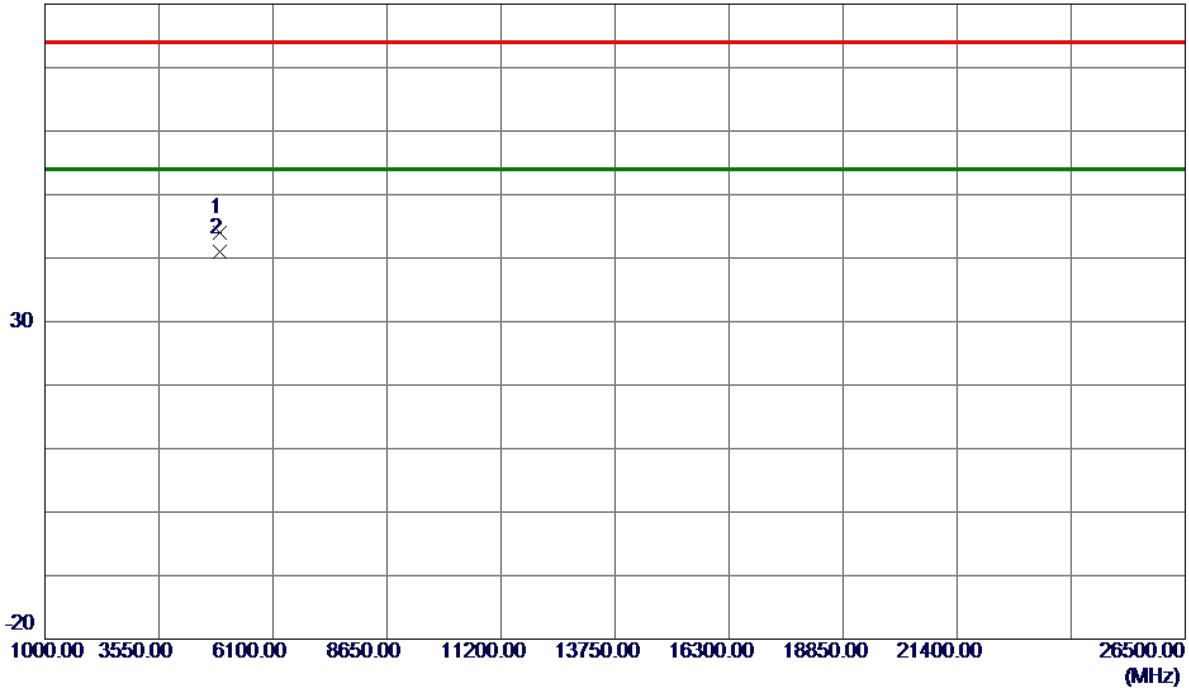
### REMARKS:

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

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

## 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	4924.0750	39.30	4.63	43.93	74.00	-30.07	Peak	
2 *	4924.0850	36.27	4.63	40.90	54.00	-13.10	AVG	

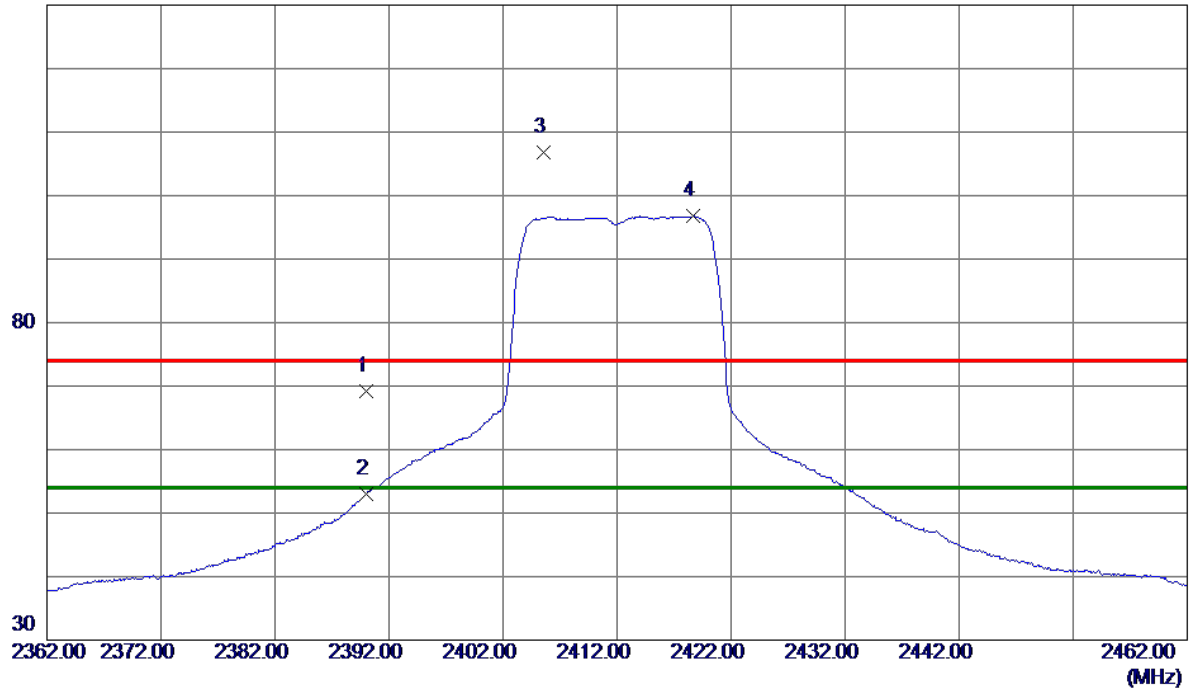
### REMARKS:

- (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	61.60	7.56	69.16	74.00	-4.84	Peak	
2	2390.0000	45.49	7.56	53.05	54.00	-0.95	AVG	
3	2405.5500	99.21	7.62	106.83	74.00	32.83	Peak	No Limit
4 *	2418.6500	89.08	7.66	96.74	54.00	42.74	AVG	No Limit

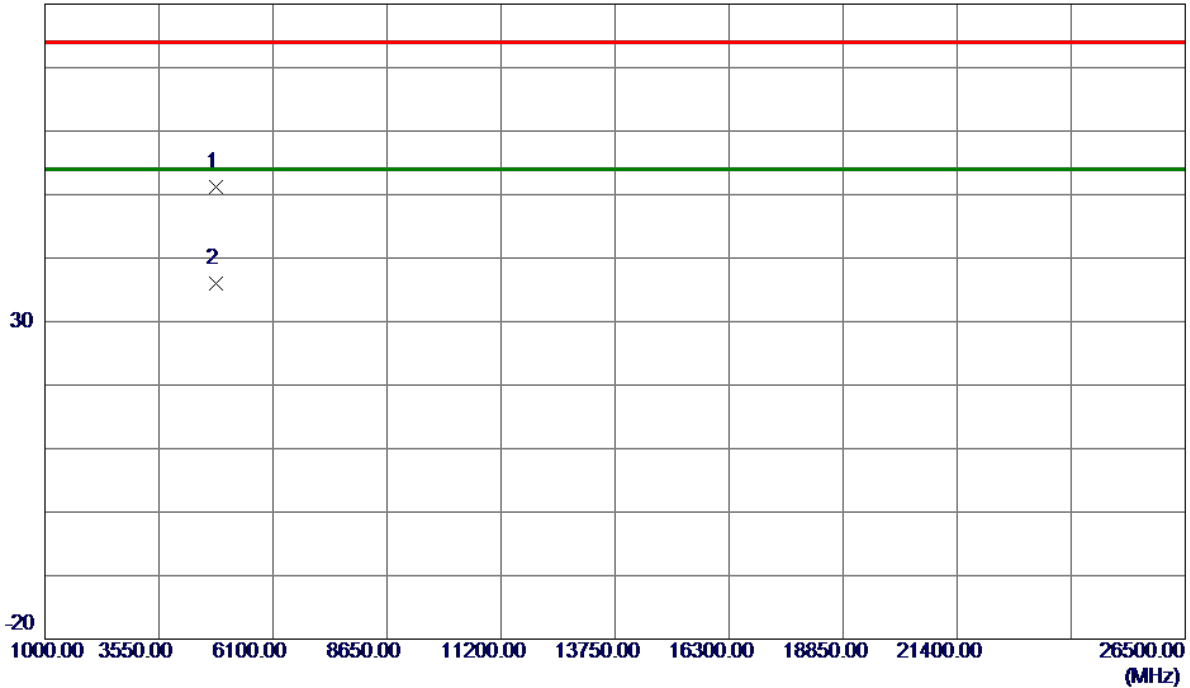
### REMARKS:

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

Test Mode: TX G Mode 2412 MHz

## Vertical

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	4821.2950	46.93	4.25	51.18	74.00	-22.82	Peak	
2 *	4823.9700	31.77	4.26	36.03	54.00	-17.97	AVG	

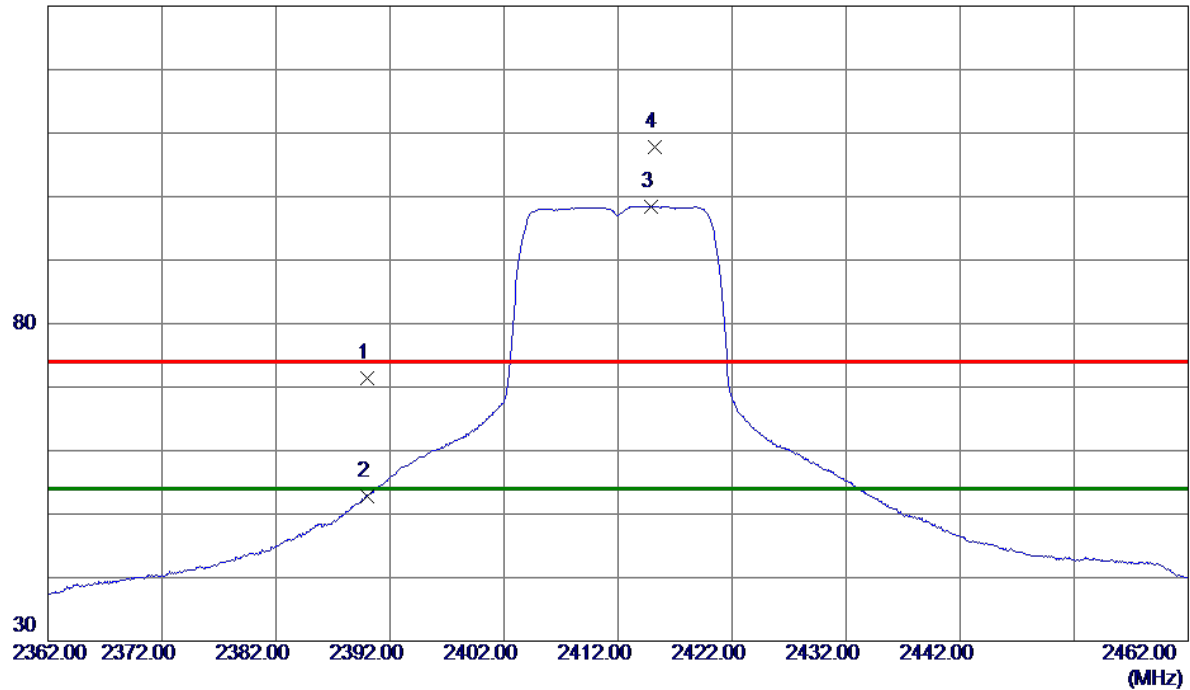
### REMARKS:

- (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	63.76	7.56	71.32	74.00	-2.68	Peak	
2	2390.0000	45.27	7.56	52.83	54.00	-1.17	AVG	
3 *	2414.9000	90.83	7.65	98.48	54.00	44.48	AVG	No Limit
4	2415.2500	100.22	7.65	107.87	74.00	33.87	Peak	No Limit

### REMARKS:

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

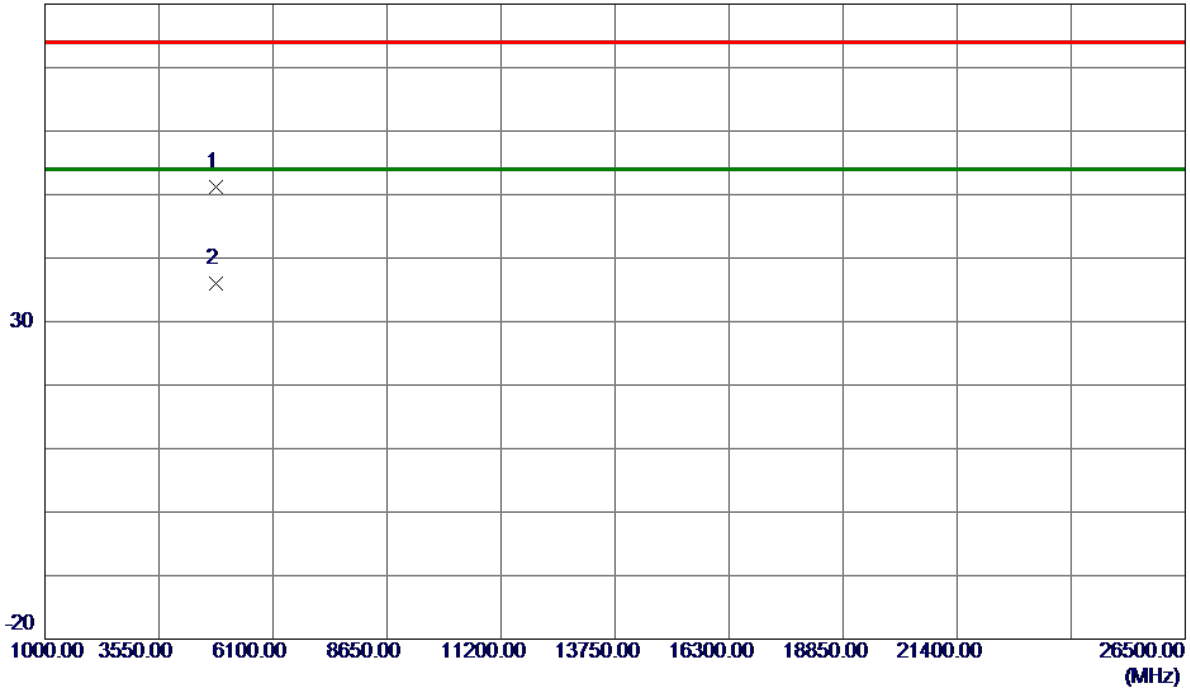
(2) Margin Level = Measurement Value - Limit Value.



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

## Horizontal

80 dBuV/m



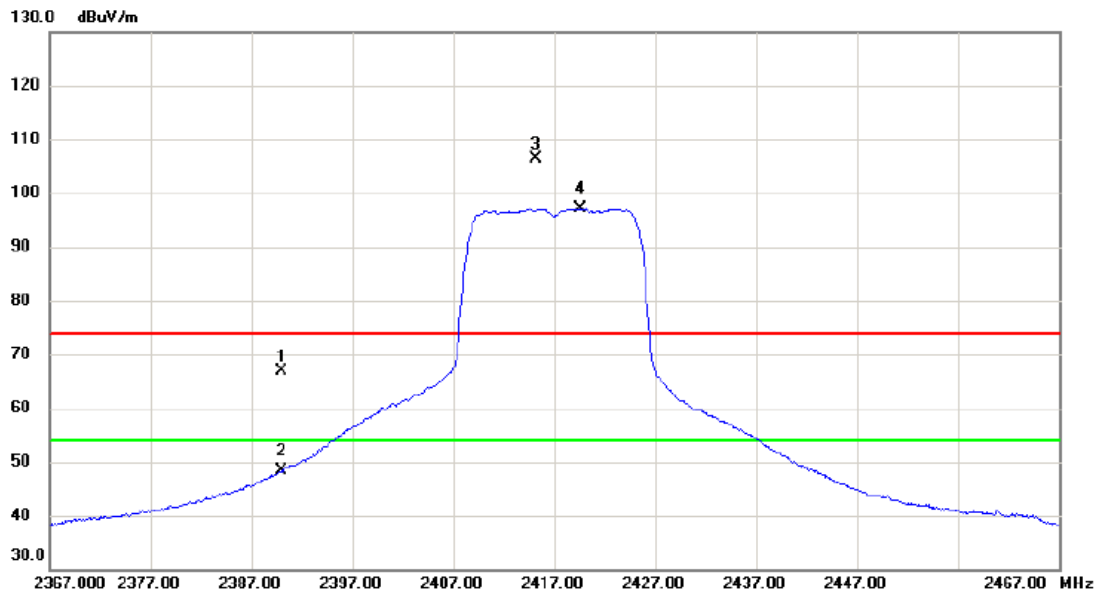
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4821.2950	46.93	4.25	51.18	74.00	-22.82	Peak	
2 *	4823.9700	31.77	4.26	36.03	54.00	-17.97	AVG	

### REMARKS:

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

Test Mode: TX G Mode 2417 MHz

## Vertical



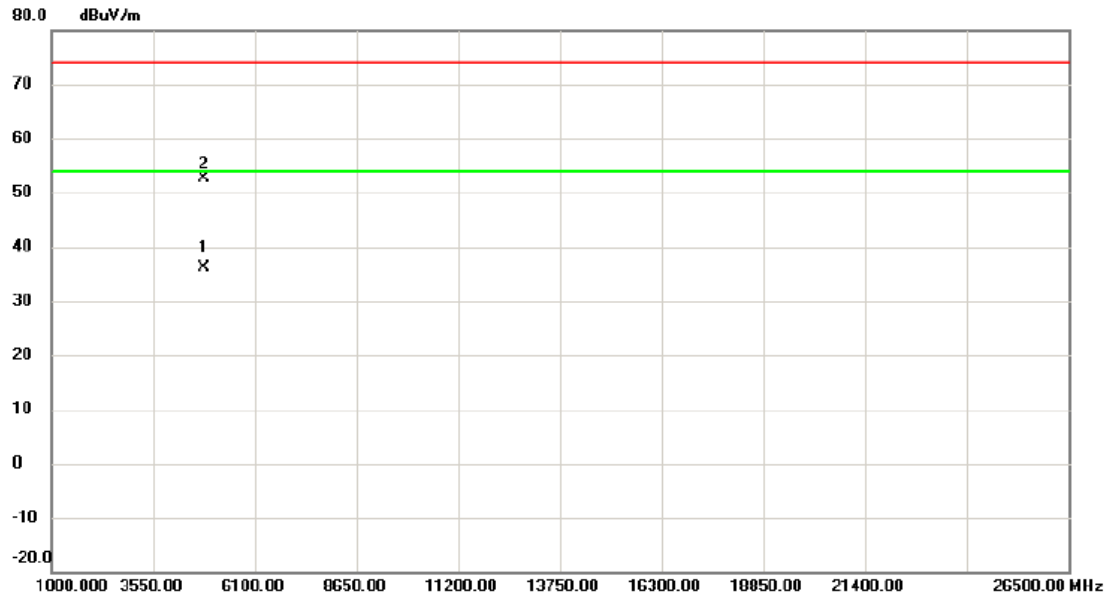
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	59.41	7.57	66.98	74.00	-7.02	peak	
2		2390.000	40.91	7.57	48.48	54.00	-5.52	AVG	
3	X	2415.150	98.66	7.65	106.31	74.00	32.31	peak	No Limit
4	*	2419.650	89.42	7.66	97.08	54.00	43.08	AVG	No Limit

### REMARKS:

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

Test Mode:	TX G Mode 2417 MHz
------------	--------------------

## Vertical



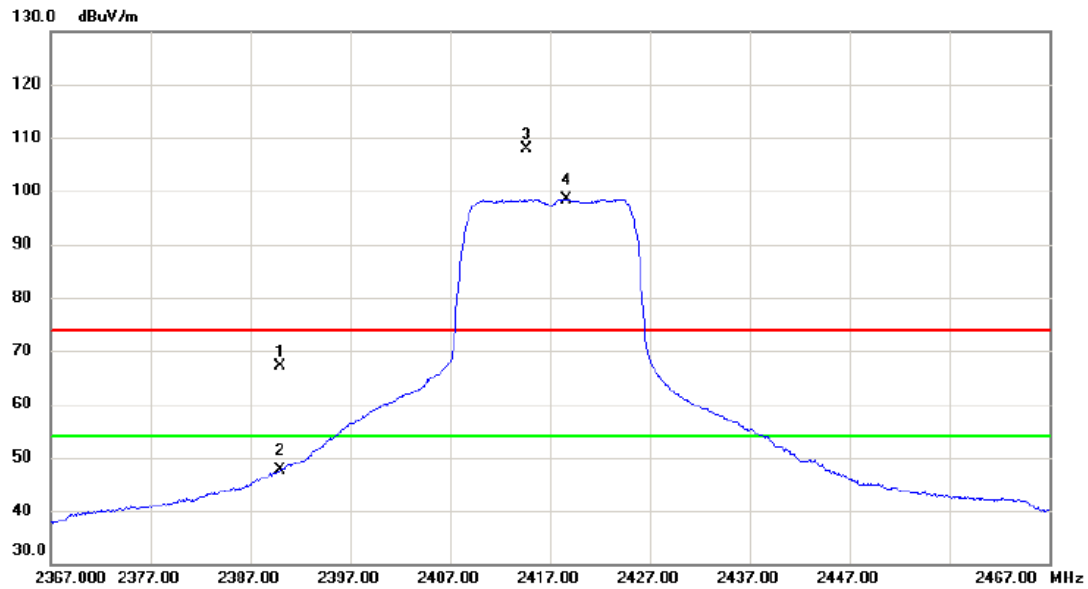
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4833.535	31.93	4.29	36.22	54.00	-17.78	AVG	
2		4835.205	48.44	4.30	52.74	74.00	-21.26	peak	

### REMARKS:

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

Test Mode: TX G Mode 2417 MHz

## Horizontal



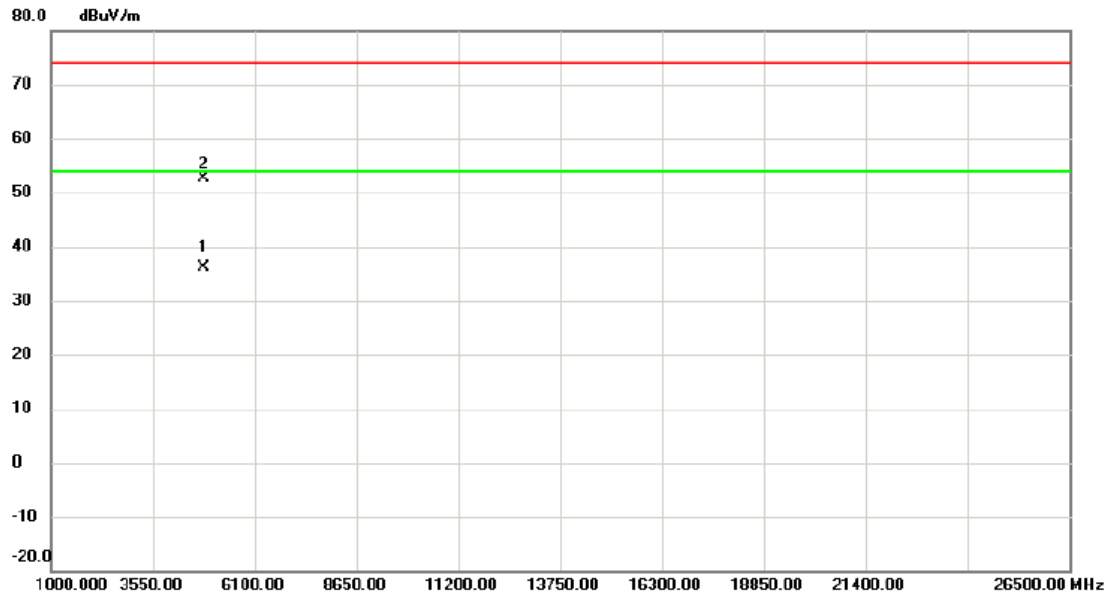
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	59.68	7.57	67.25	74.00	-6.75	peak	
2		2390.000	40.13	7.57	47.70	54.00	-6.30	AVG	
3	X	2414.650	100.33	7.65	107.98	74.00	33.98	peak	No Limit
4	*	2418.650	90.83	7.66	98.49	54.00	44.49	AVG	No Limit

### REMARKS:

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

Test Mode:	TX G Mode 2417 MHz
------------	--------------------

## Horizontal



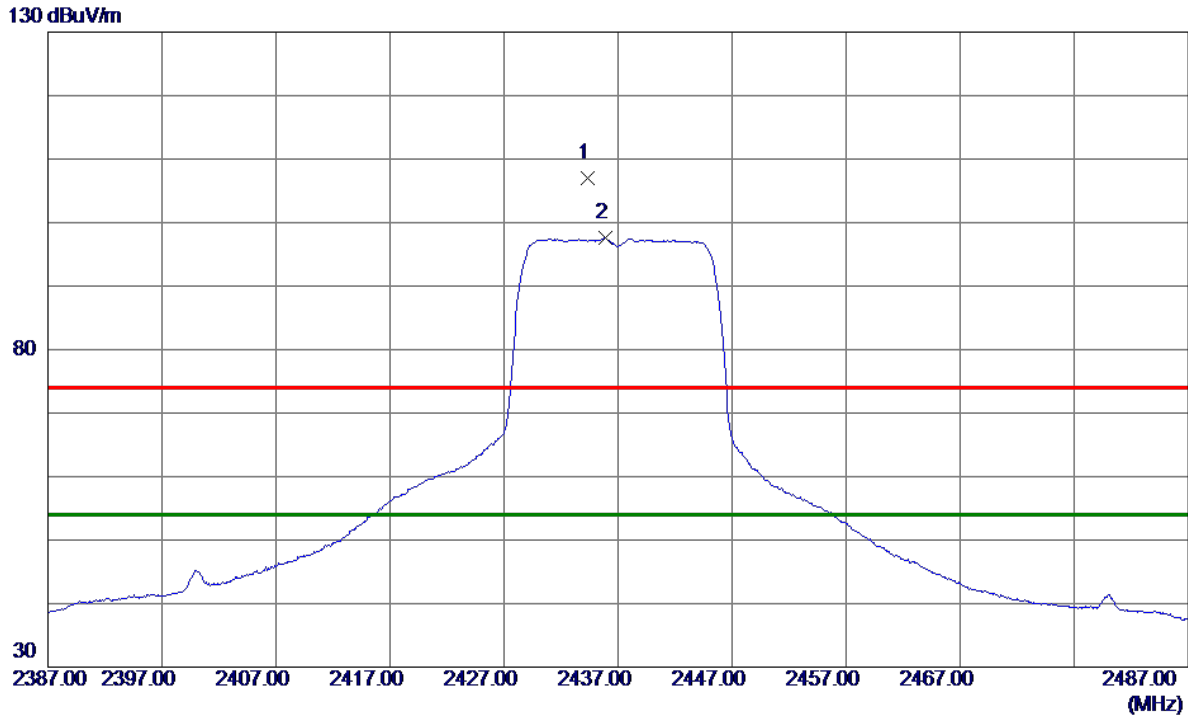
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1	*	4833.535	31.93	4.29	36.22	54.00	-17.78	AVG
2		4835.205	48.44	4.30	52.74	74.00	-21.26	peak

### REMARKS:

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

Test Mode: TX G Mode 2437 MHz

## Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2434.3500	99.27	7.71	106.98	74.00	32.98	Peak	No Limit
2 *	2435.8500	89.86	7.72	97.58	54.00	43.58	AVG	No Limit

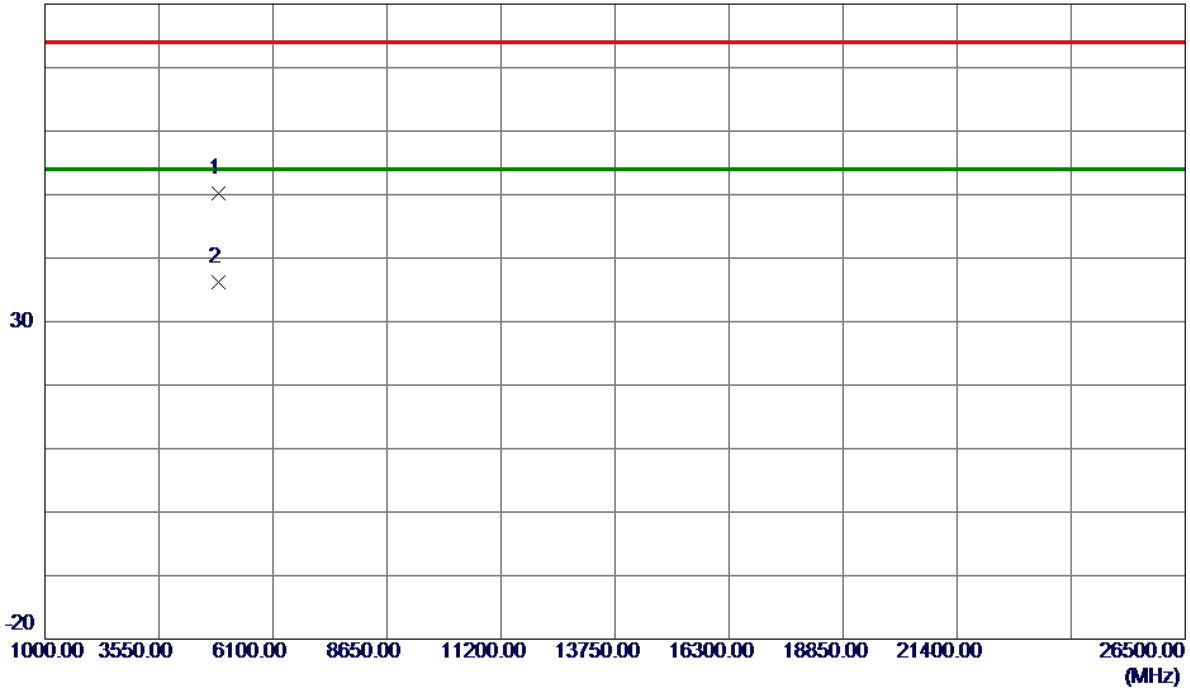
### REMARKS:

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

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

## Vertical

80 dBuV/m



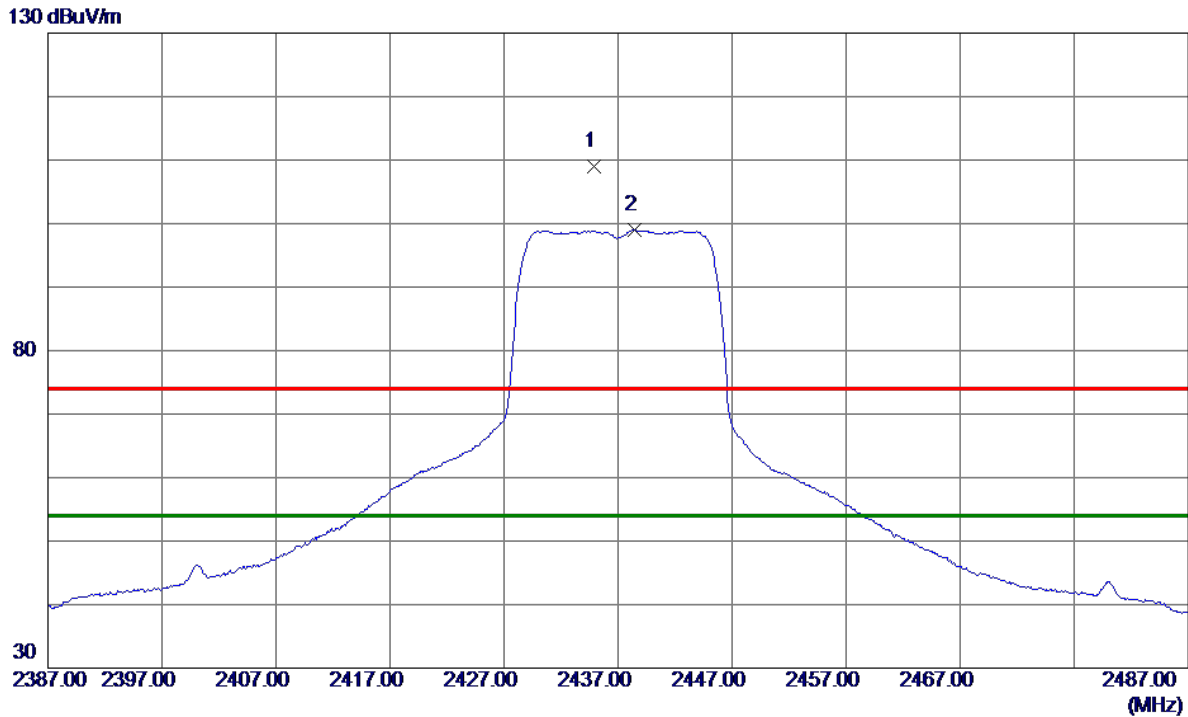
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4870.7750	45.83	4.43	50.26	74.00	-23.74	Peak	
2 *	4874.3100	31.76	4.44	36.20	54.00	-17.80	AVG	

### REMARKS:

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

Test Mode: TX G Mode 2437 MHz

## Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2434.8500	101.23	7.71	108.94	74.00	34.94	Peak	No Limit
2 *	2438.4000	91.32	7.73	99.05	54.00	45.05	AVG	No Limit

### REMARKS:

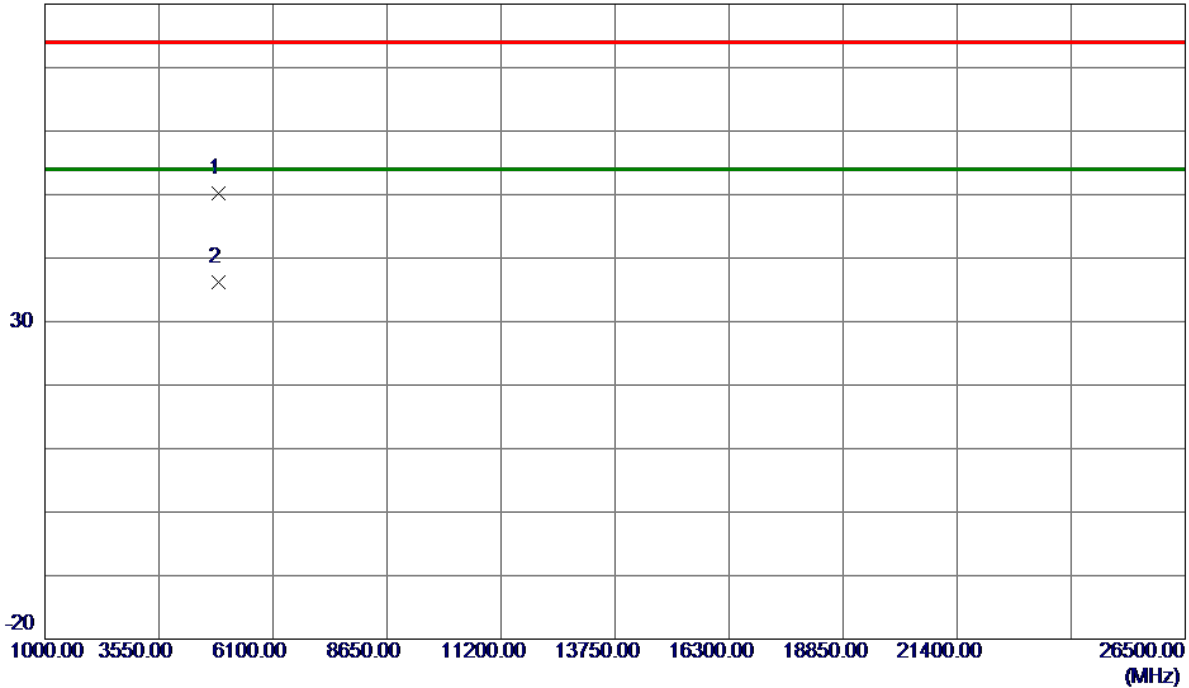
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.



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

## Horizontal

80 dBuV/m



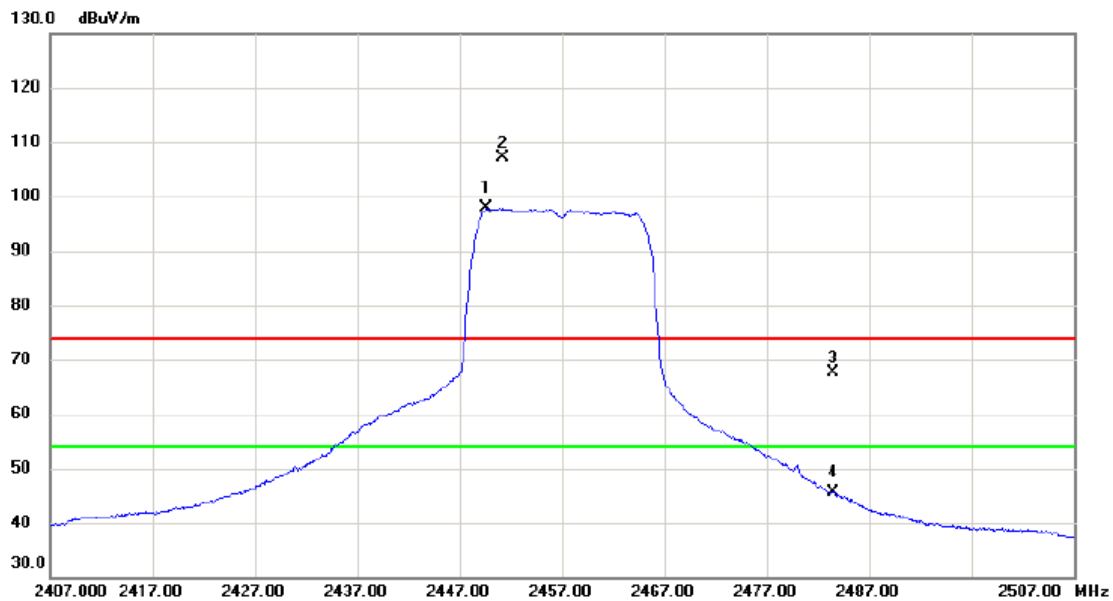
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4870.7750	45.83	4.43	50.26	74.00	-23.74	Peak	
2 *	4874.3100	31.76	4.44	36.20	54.00	-17.80	AVG	

### REMARKS:

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

Test Mode: TX G Mode 2457 MHz

## Vertical



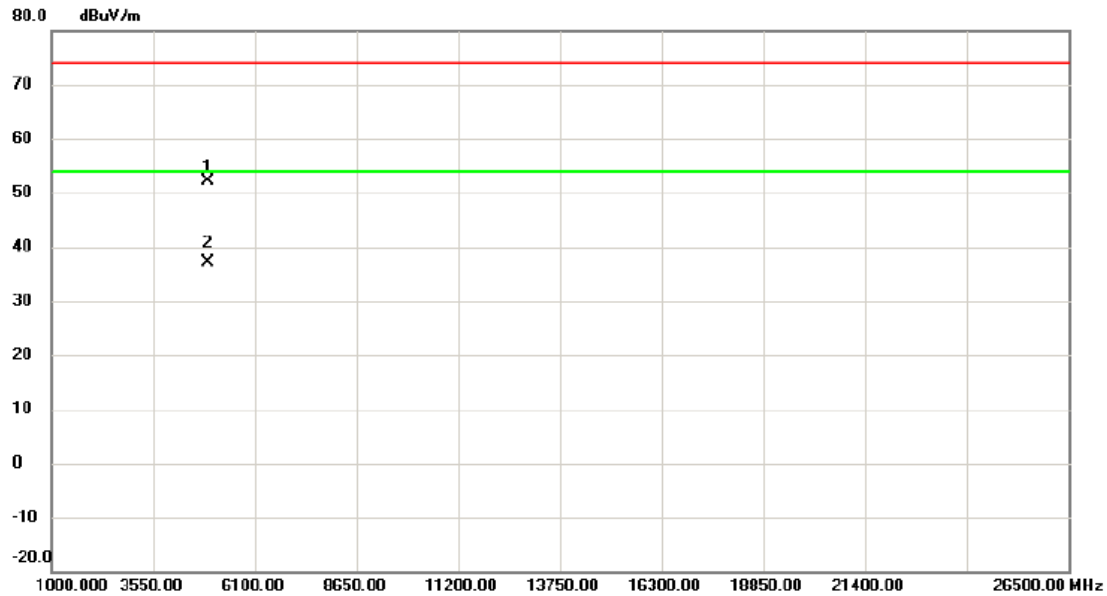
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2449.600	90.03	7.76	97.79	54.00	43.79	AVG	No Limit
2	X	2451.250	99.25	7.76	107.01	74.00	33.01	peak	No Limit
3		2483.500	59.84	7.87	67.71	74.00	-6.29	peak	
4		2483.500	37.76	7.87	45.63	54.00	-8.37	AVG	

### REMARKS:

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

Test Mode:	TX G Mode 2457 MHz
------------	--------------------

## Vertical



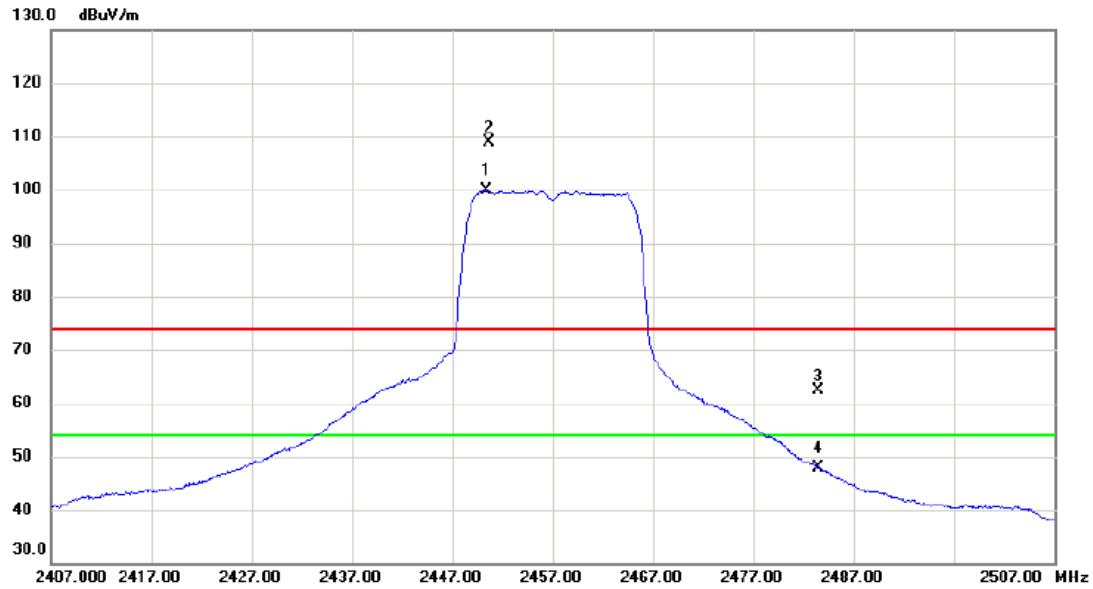
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4912.900	47.62	4.58	52.20	74.00	-21.80	peak	
2	*	4913.490	32.57	4.58	37.15	54.00	-16.85	AVG	

### REMARKS:

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

Test Mode: TX G Mode 2457 MHz

## Horizontal



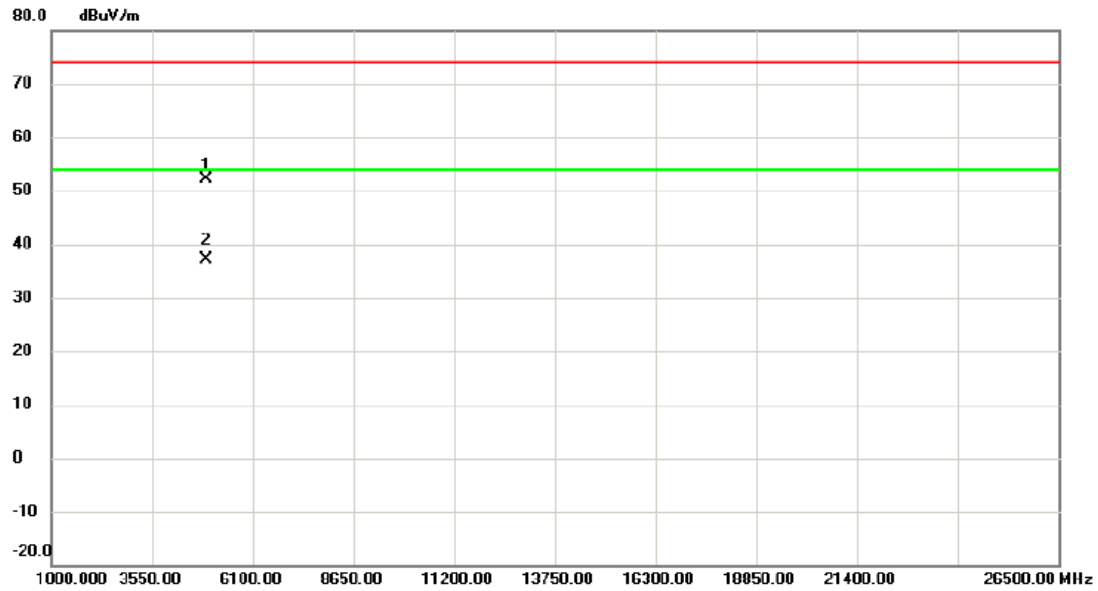
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2450.400	92.04	7.76	99.80	54.00	45.80	AVG	No Limit
2	X	2450.650	101.21	7.76	108.97	74.00	34.97	peak	No Limit
3		2483.500	54.39	7.87	62.26	74.00	-11.74	peak	
4		2483.500	39.99	7.87	47.86	54.00	-6.14	AVG	

### REMARKS:

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

Test Mode:	TX G Mode 2457 MHz
------------	--------------------

## Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4912.900	47.62	4.58	52.20	74.00	-21.80	peak	
2	*	4913.490	32.57	4.58	37.15	54.00	-16.85	AVG	

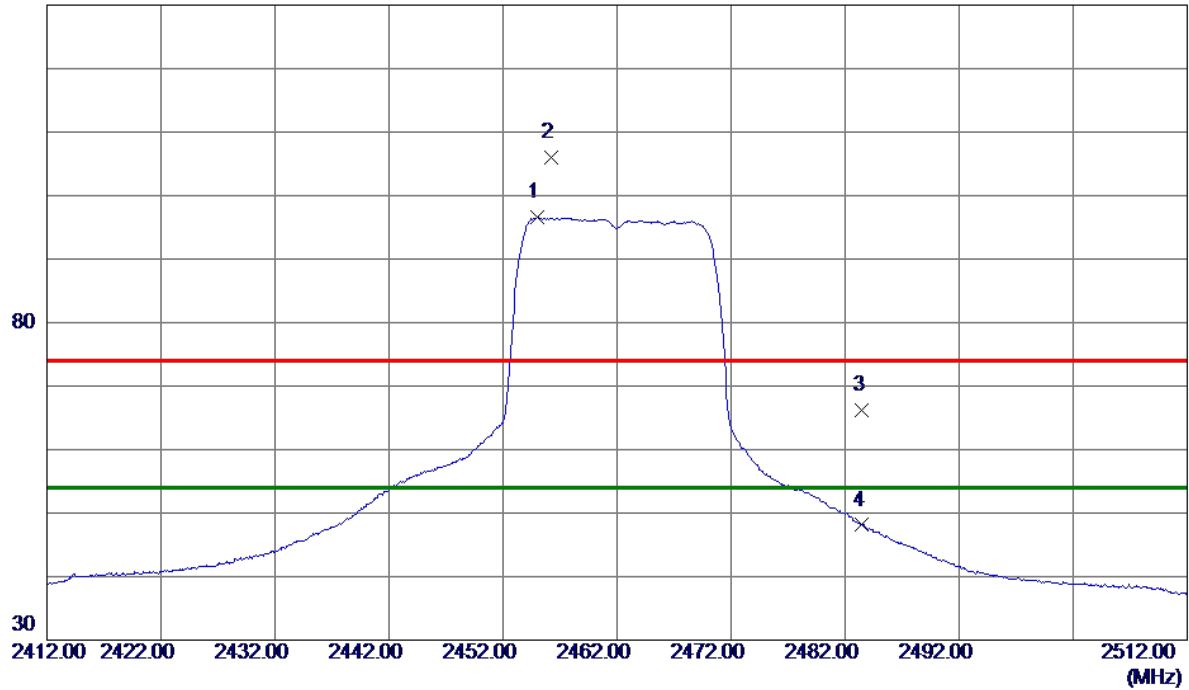
### REMARKS:

- (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 *	2455.0000	88.79	7.78	96.57	54.00	42.57	AVG	No Limit
2	2456.2000	98.28	7.78	106.06	74.00	32.06	Peak	No Limit
3	2483.5000	58.23	7.88	66.11	74.00	-7.89	Peak	
4	2483.5000	40.22	7.88	48.10	54.00	-5.90	AVG	

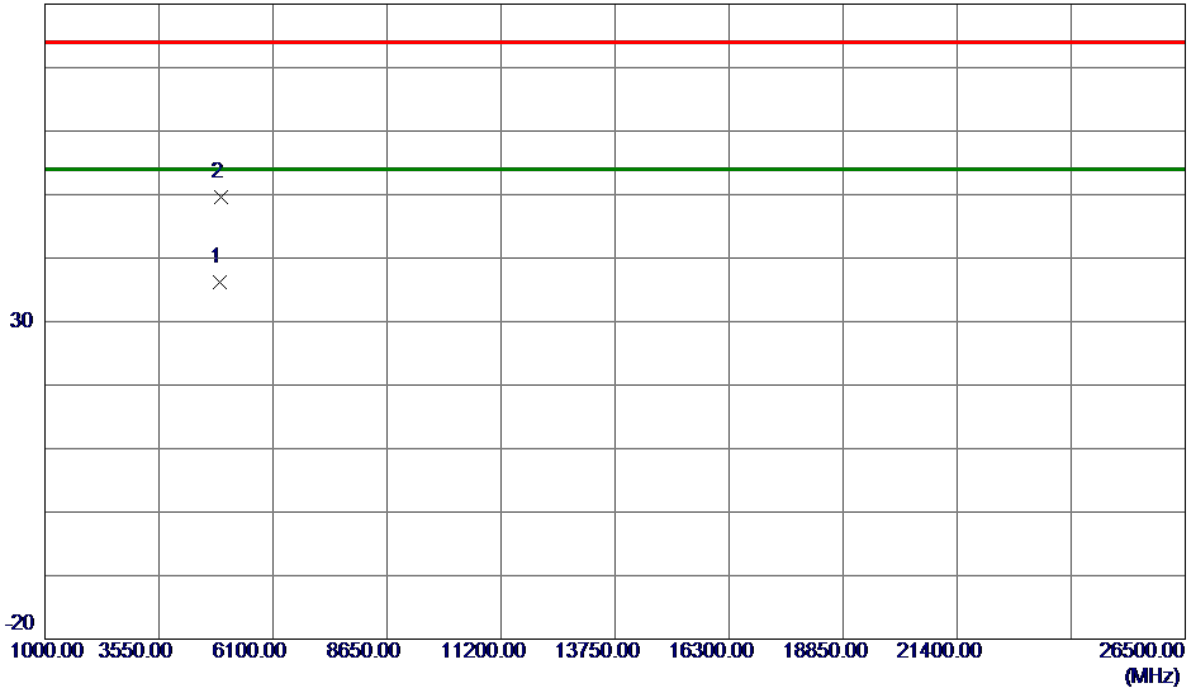
### REMARKS:

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

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

### 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 *	4921.5850	31.55	4.62	36.17	54.00	-17.83	AVG	
2	4926.2350	44.87	4.64	49.51	74.00	-24.49	Peak	

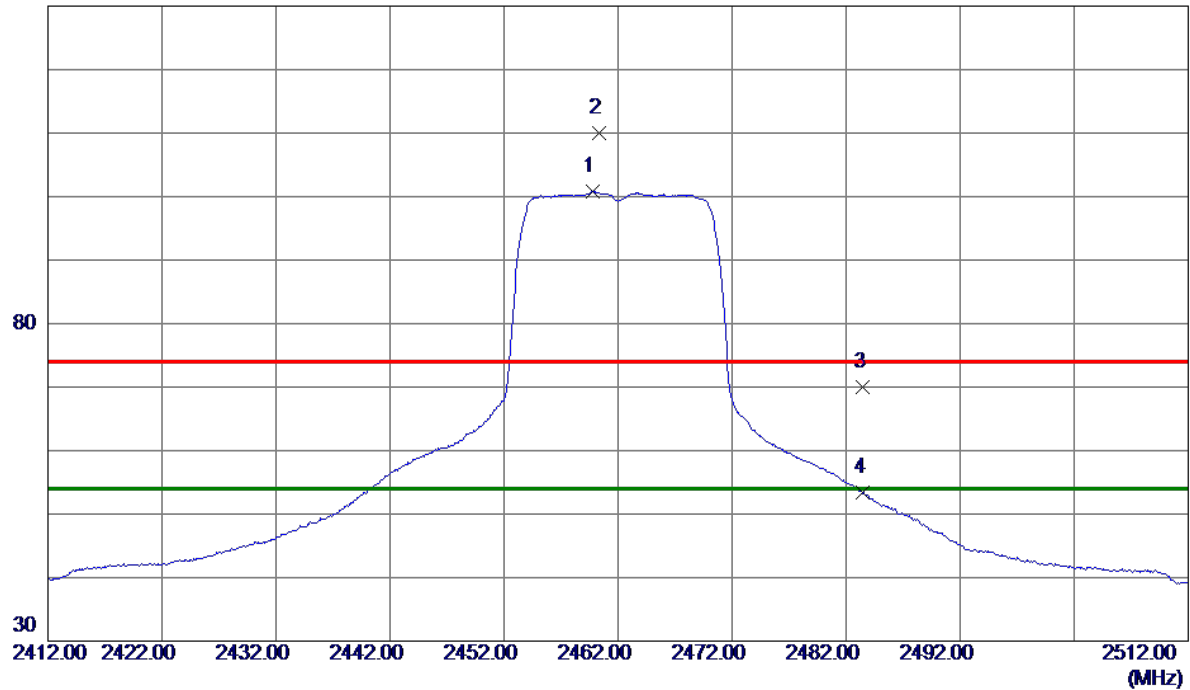
#### REMARKS:

- (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 *	2459.7500	92.96	7.80	100.76	54.00	46.76	AVG	No Limit
2	2460.3000	102.21	7.80	110.01	74.00	36.01	Peak	No Limit
3	2483.5000	62.07	7.88	69.95	74.00	-4.05	Peak	
4	2483.5000	45.44	7.88	53.32	54.00	-0.68	AVG	

### REMARKS:

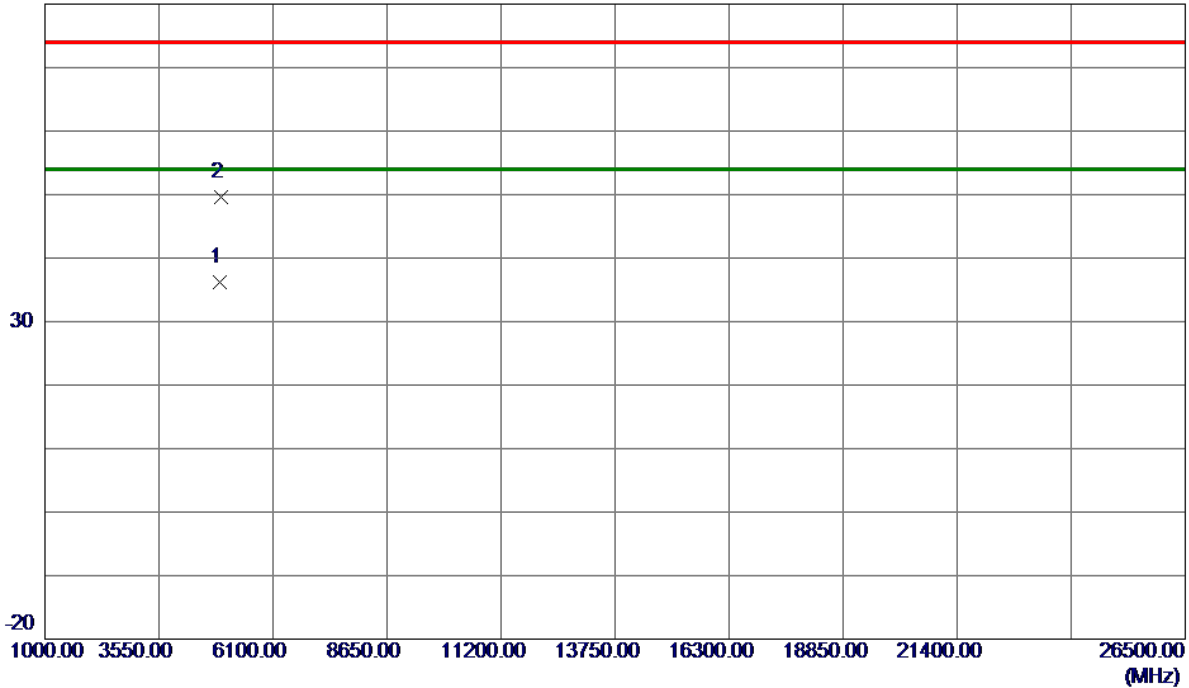
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.



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

## 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 *	4921.5850	31.55	4.62	36.17	54.00	-17.83	AVG	
2	4926.2350	44.87	4.64	49.51	74.00	-24.49	Peak	

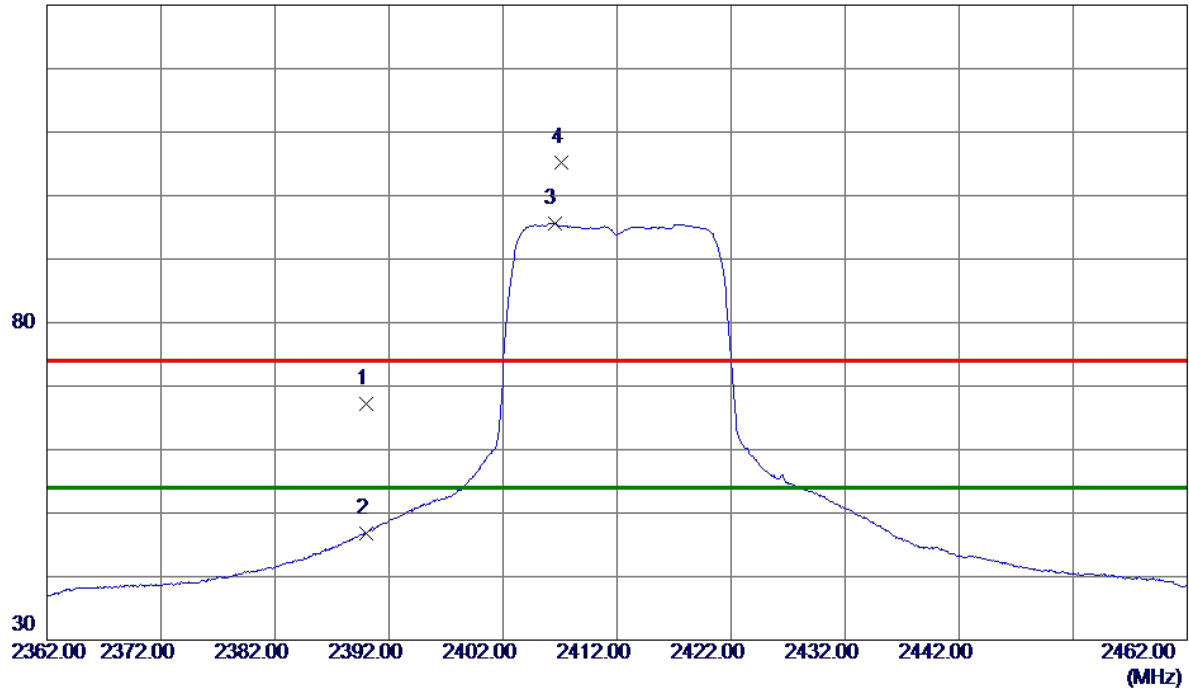
### REMARKS:

- (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	59.68	7.56	67.24	74.00	-6.76	Peak	
2	2390.0000	39.24	7.56	46.80	54.00	-7.20	AVG	
3 *	2406.5000	87.93	7.62	95.55	54.00	41.55	AVG	No Limit
4	2407.1500	97.67	7.62	105.29	74.00	31.29	Peak	No Limit

### REMARKS:

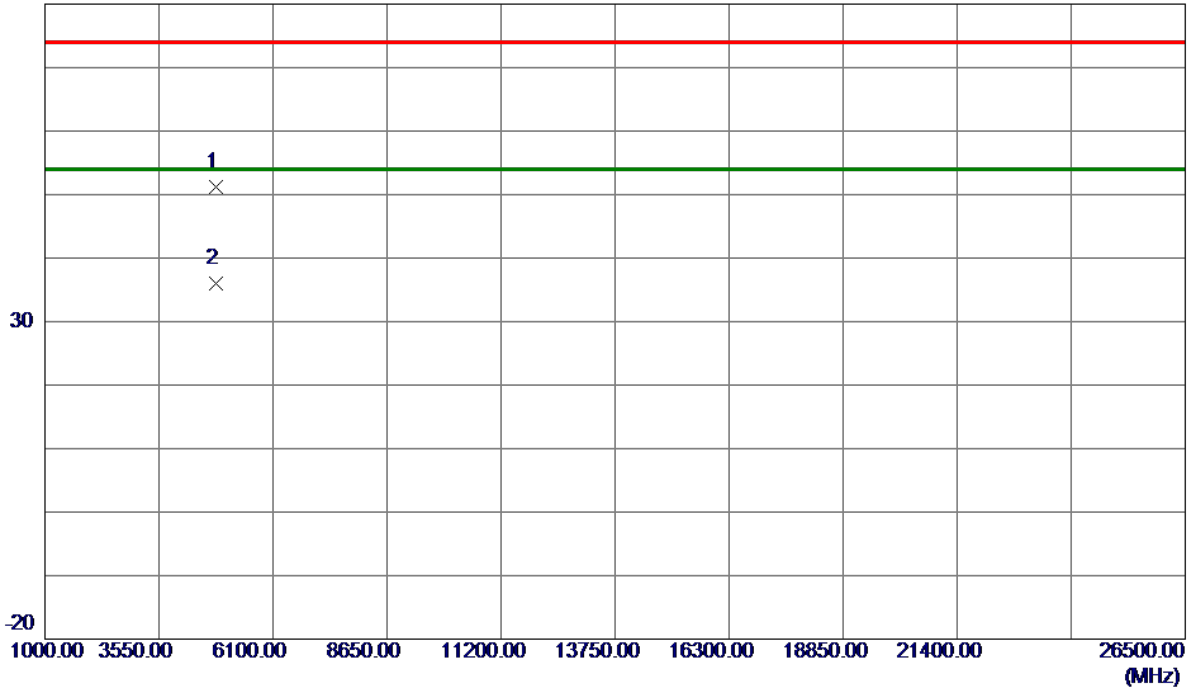
(1) Measurement Value = Reading Level + Correct Factor.

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

Test Mode: TX N-20M Mode 2412 MHz

## 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	4821.2950	46.93	4.25	51.18	74.00	-22.82	Peak	
2 *	4823.9700	31.77	4.26	36.03	54.00	-17.97	AVG	

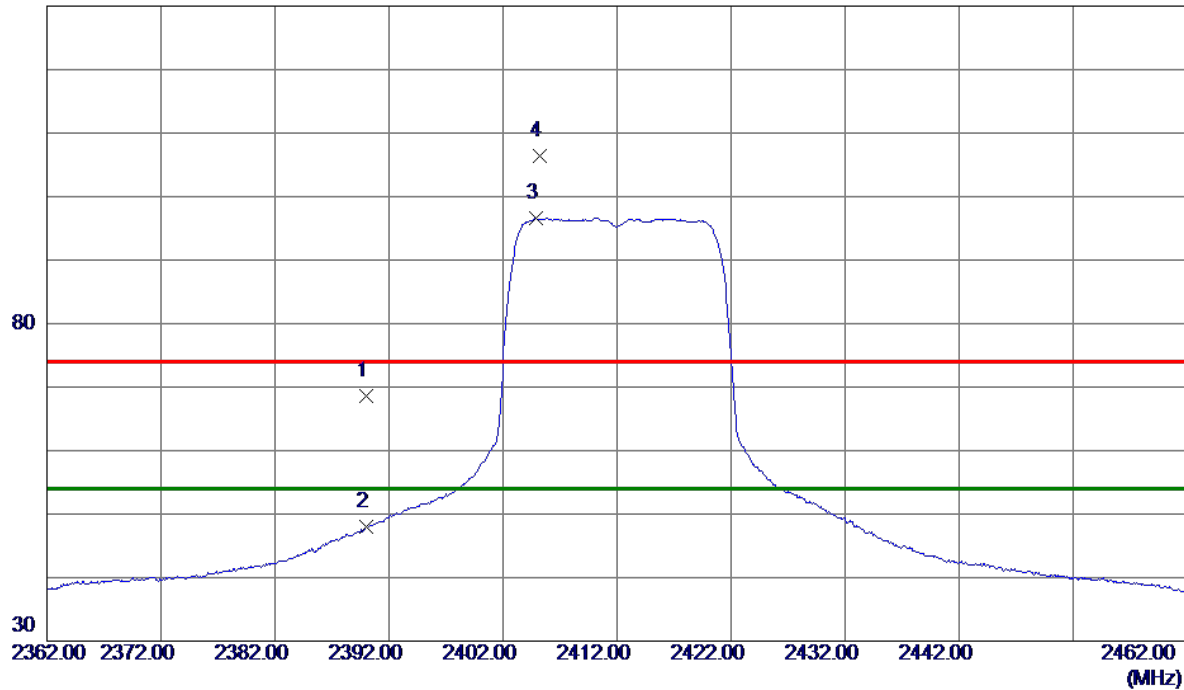
### REMARKS:

- (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	2390.0000	60.97	7.56	68.53	74.00	-5.47	Peak	
2	2390.0000	40.38	7.56	47.94	54.00	-6.06	AVG	
3 *	2404.9000	88.97	7.61	96.58	54.00	42.58	AVG	No Limit
4	2405.2000	98.82	7.62	106.44	74.00	32.44	Peak	No Limit

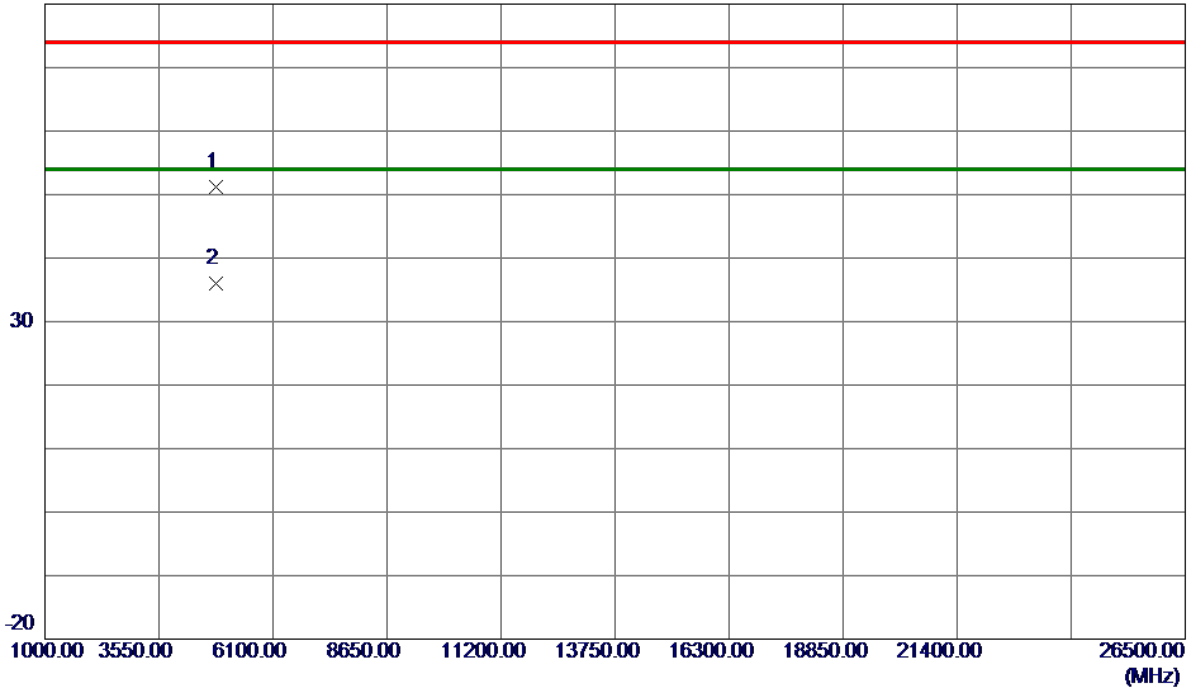
### REMARKS:

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

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

## Horizontal

80 dBuV/m



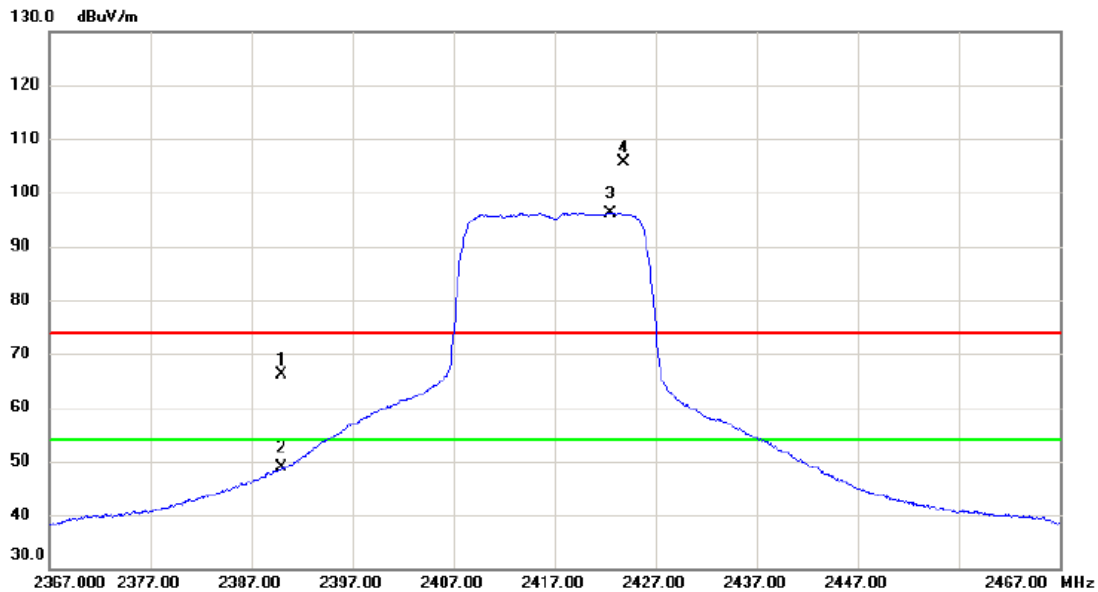
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4821.2950	46.93	4.25	51.18	74.00	-22.82	Peak	
2 *	4823.9700	31.77	4.26	36.03	54.00	-17.97	AVG	

### REMARKS:

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

Test Mode: TX N-20M Mode 2417 MHz

## Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	58.50	7.57	66.07	74.00	-7.93	peak	
2		2390.000	41.37	7.57	48.94	54.00	-5.06	AVG	
3	*	2422.500	88.50	7.67	96.17	54.00	42.17	AVG	No Limit
4	X	2423.900	97.96	7.68	105.64	74.00	31.64	peak	No Limit

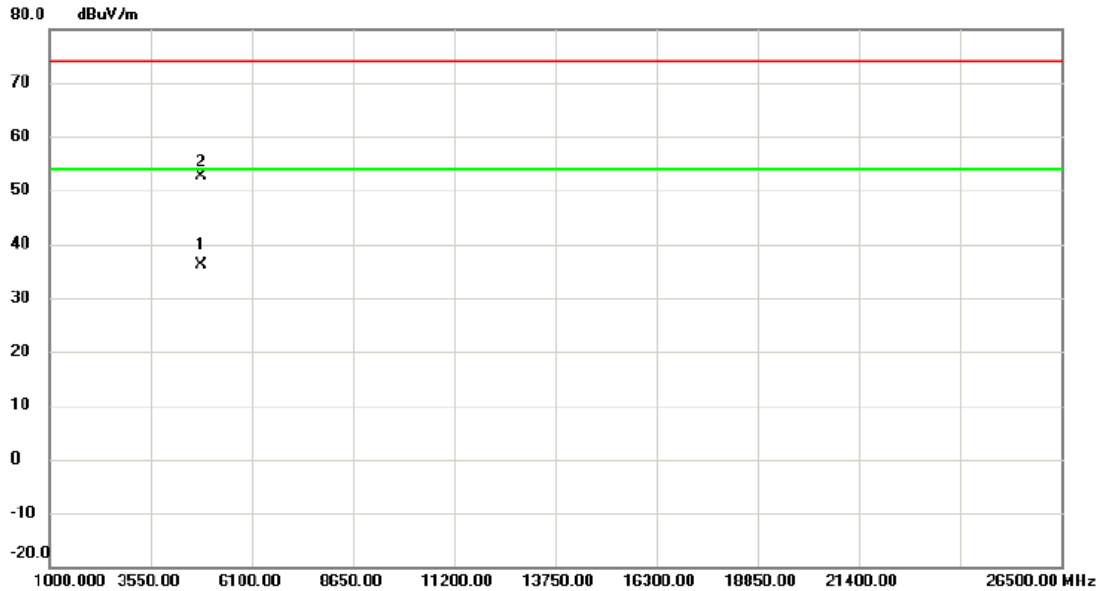
### REMARKS:

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

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

Test Mode:	TX N-20M Mode 2417 MHz
------------	------------------------

## Vertical



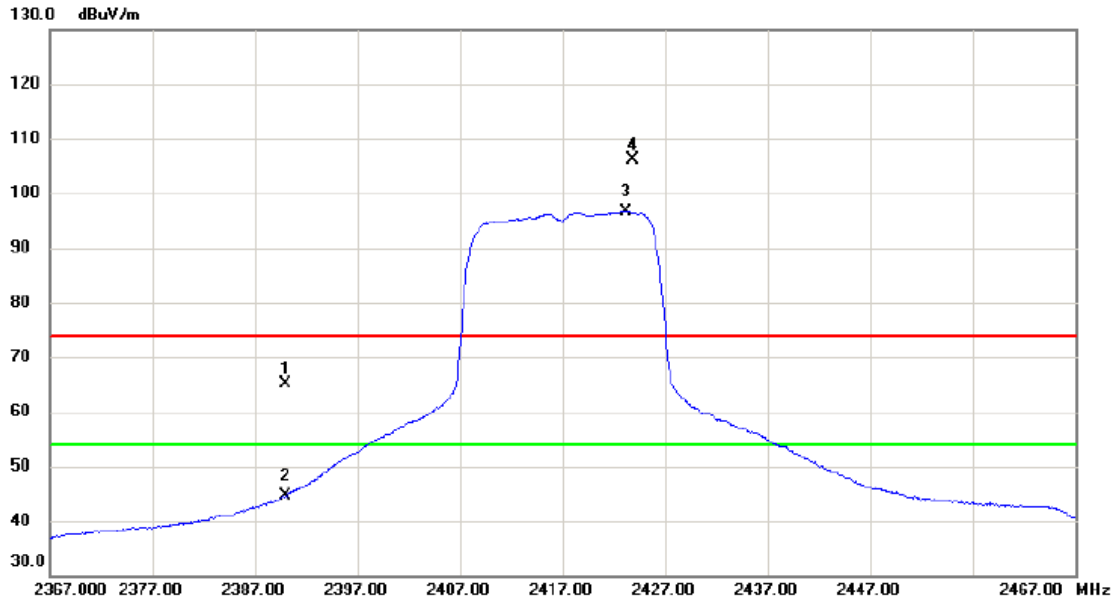
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4833.535	31.93	4.29	36.22	54.00	-17.78	AVG	
2		4835.205	48.44	4.30	52.74	74.00	-21.26	peak	

### REMARKS:

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

Test Mode: TX N-20M Mode 2417 MHz

## Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	57.49	7.57	65.06	74.00	-8.94	peak	
2		2390.000	37.04	7.57	44.61	54.00	-9.39	AVG	
3	*	2423.150	88.99	7.67	96.66	54.00	42.66	AVG	No Limit
4	X	2423.800	98.52	7.68	106.20	74.00	32.20	peak	No Limit

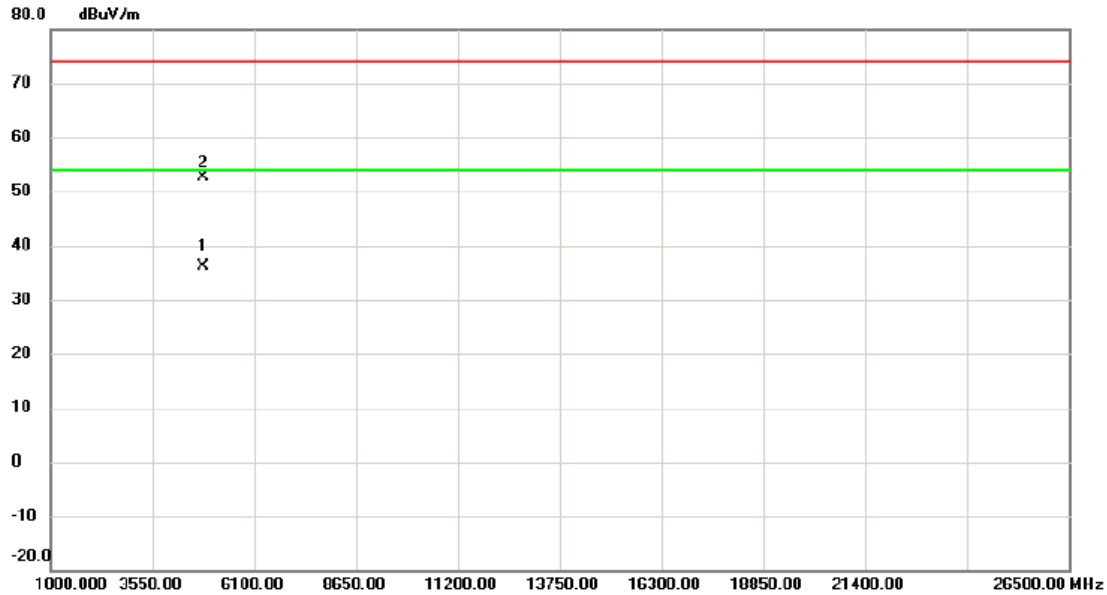
### REMARKS:

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



Test Mode:	TX N-20M Mode 2417 MHz
------------	------------------------

## Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4833.535	31.93	4.29	36.22	54.00	-17.78	AVG	
2		4835.205	48.44	4.30	52.74	74.00	-21.26	peak	

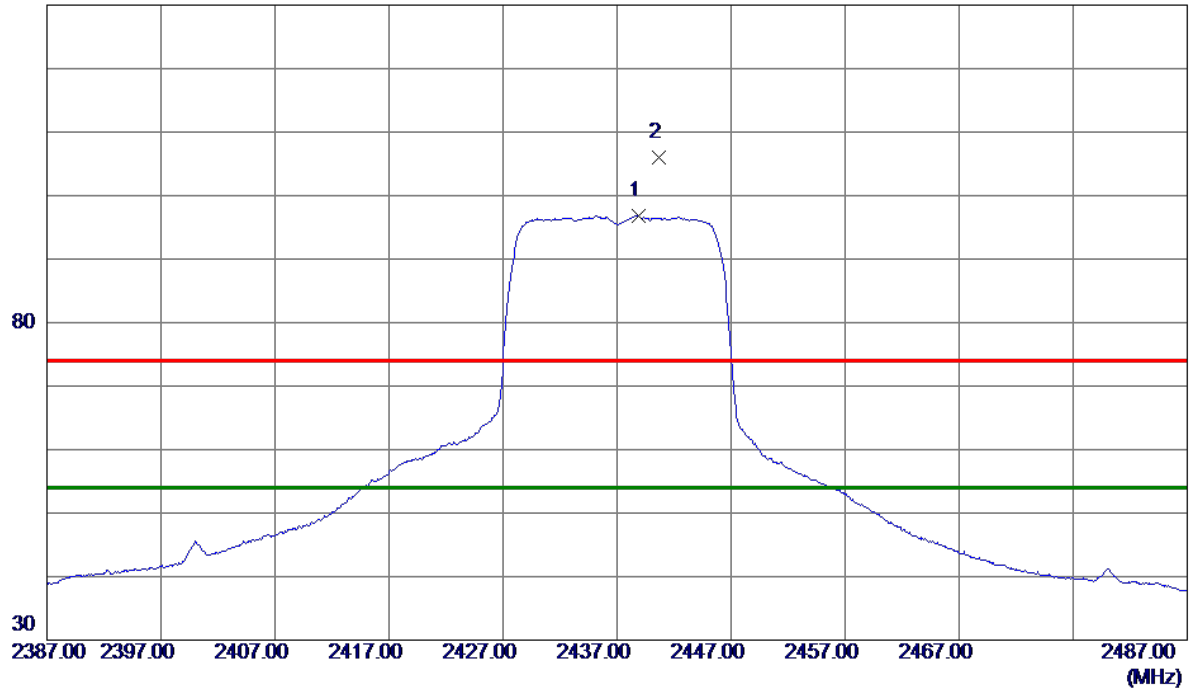
### REMARKS:

- (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 *	2438.8500	89.11	7.73	96.84	54.00	42.84	AVG	No Limit
2	2440.6500	98.37	7.73	106.10	74.00	32.10	Peak	No Limit

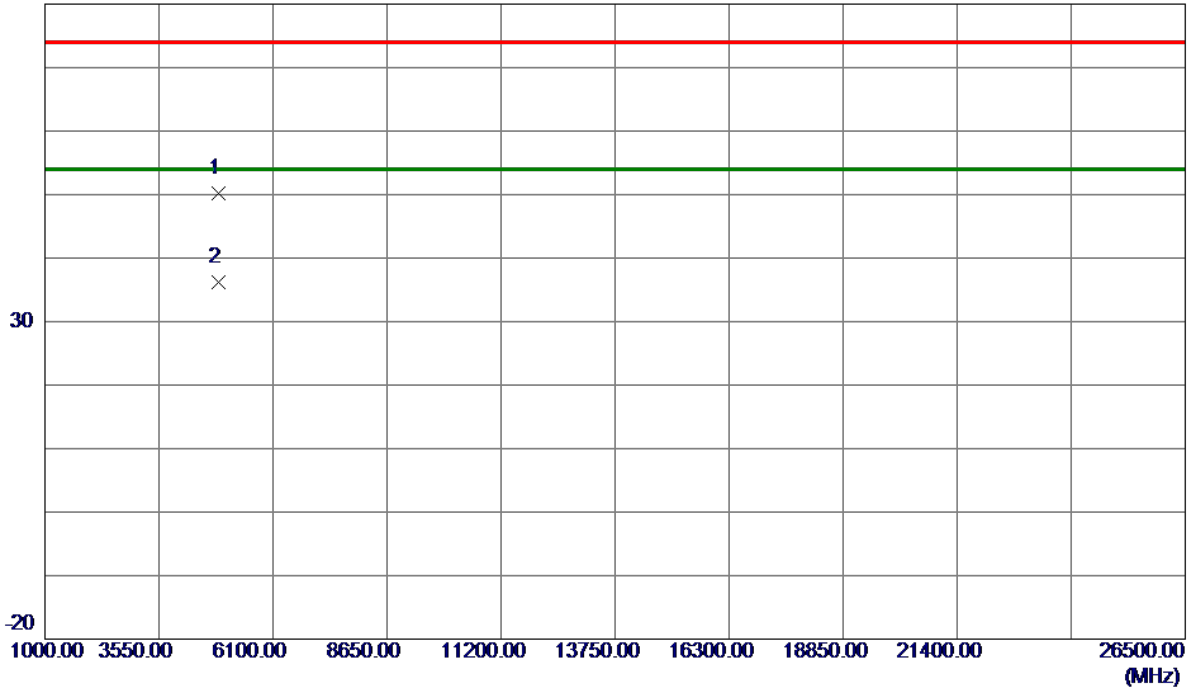
### REMARKS:

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

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

## Vertical

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	4870.7750	45.83	4.43	50.26	74.00	-23.74	Peak	
2 *	4874.3100	31.76	4.44	36.20	54.00	-17.80	AVG	

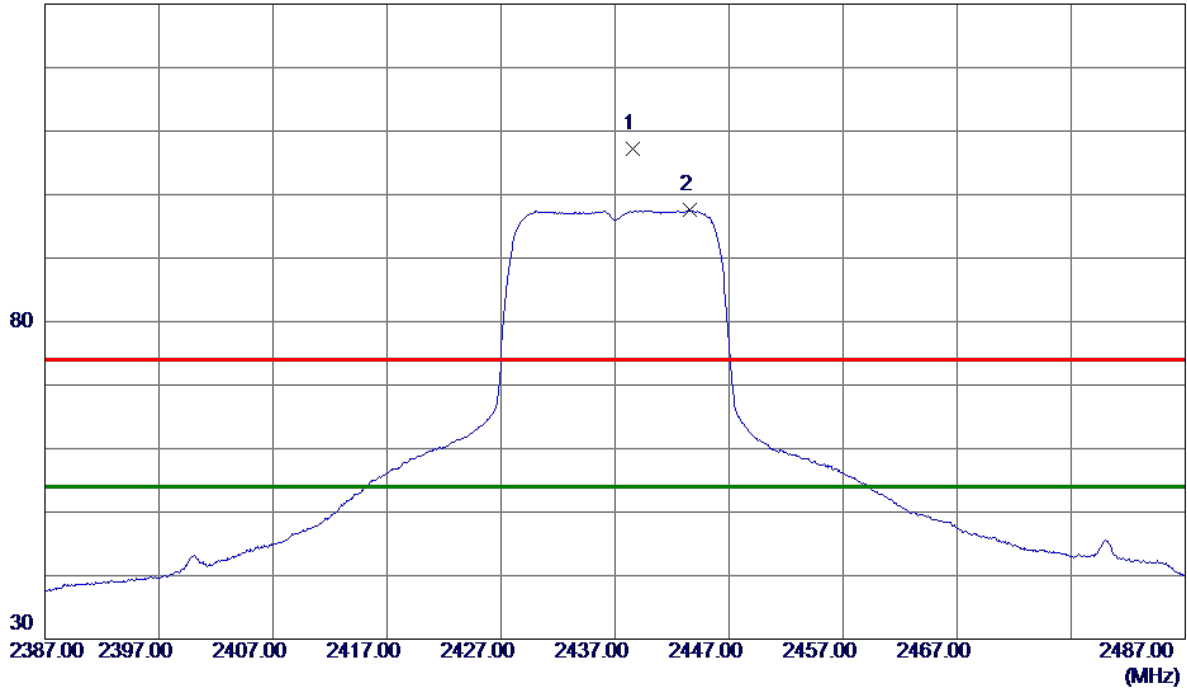
### REMARKS:

- (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	2438.5500	99.38	7.73	107.11	74.00	33.11	Peak	No Limit
2 *	2443.5500	89.79	7.74	97.53	54.00	43.53	AVG	No Limit

### REMARKS:

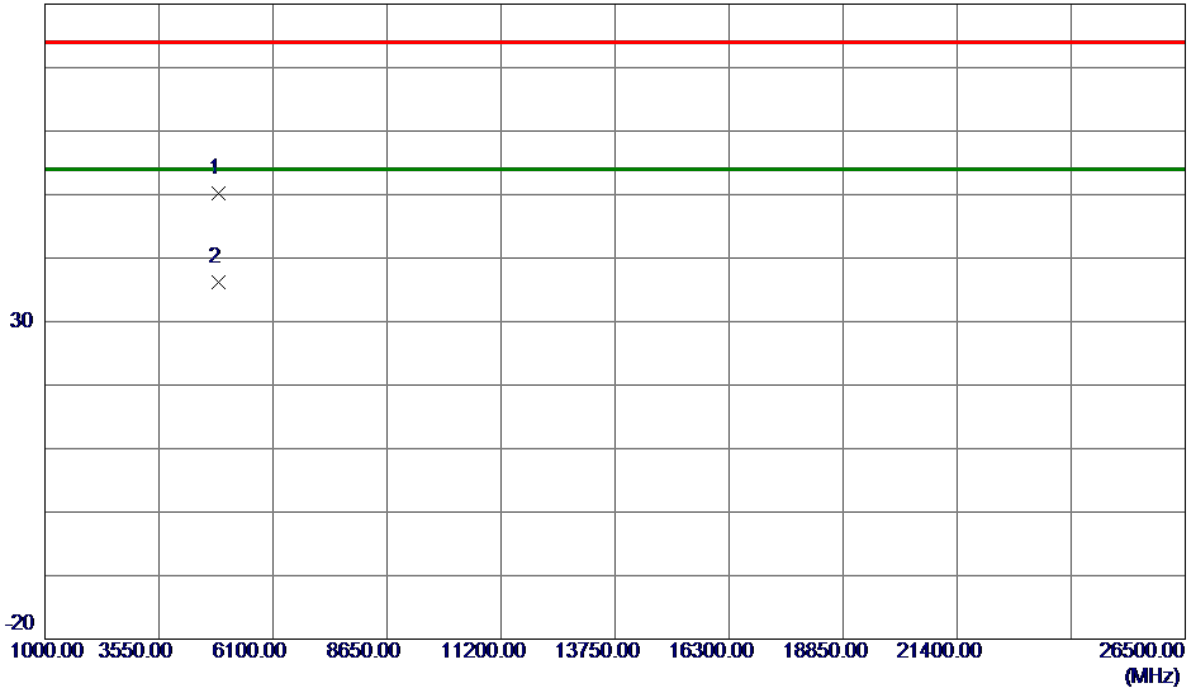
(1) Measurement Value = Reading Level + Correct Factor.

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

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

## Horizontal

80 dBuV/m



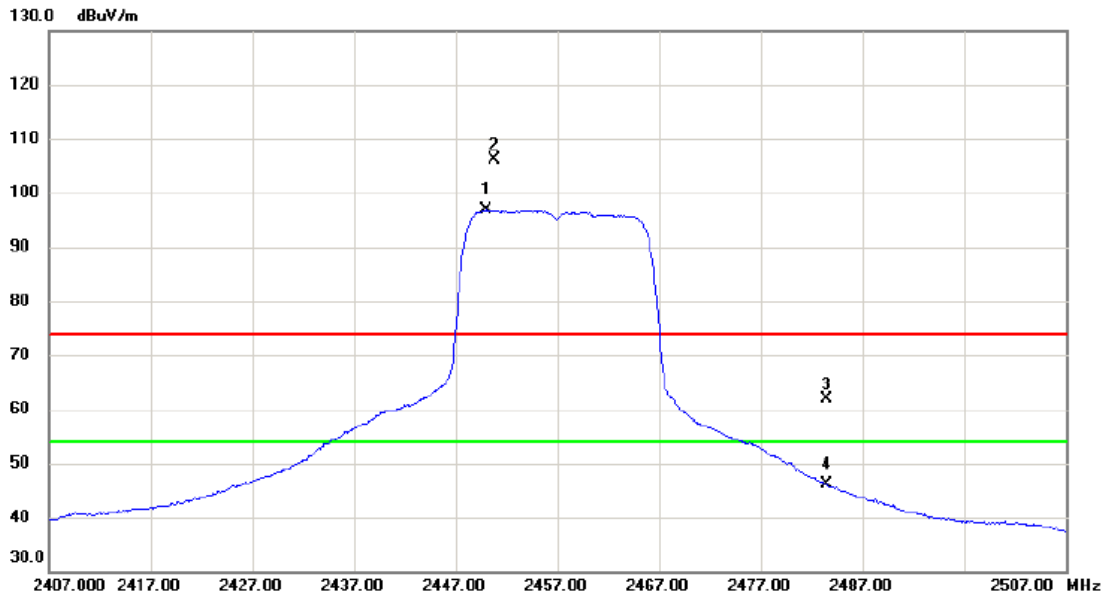
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4870.7750	45.83	4.43	50.26	74.00	-23.74	Peak	
2 *	4874.3100	31.76	4.44	36.20	54.00	-17.80	AVG	

### REMARKS:

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

Test Mode: TX N-20M Mode 2457 MHz

## Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2449.950	89.00	7.76	96.76	54.00	42.76	AVG	No Limit
2	X	2450.750	98.33	7.76	106.09	74.00	32.09	peak	No Limit
3		2483.500	54.06	7.87	61.93	74.00	-12.07	peak	
4		2483.500	38.30	7.87	46.17	54.00	-7.83	AVG	

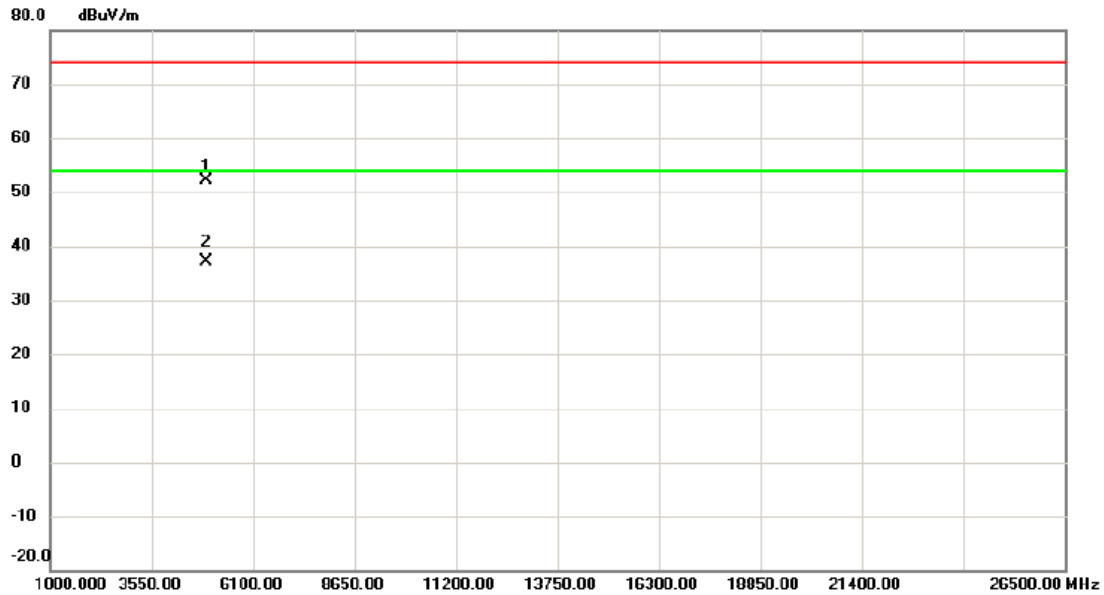
### REMARKS:

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

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

Test Mode: TX N-20M Mode 2457 MHz

## Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4912.900	47.62	4.58	52.20	74.00	-21.80	peak	
2	*	4913.490	32.57	4.58	37.15	54.00	-16.85	AVG	

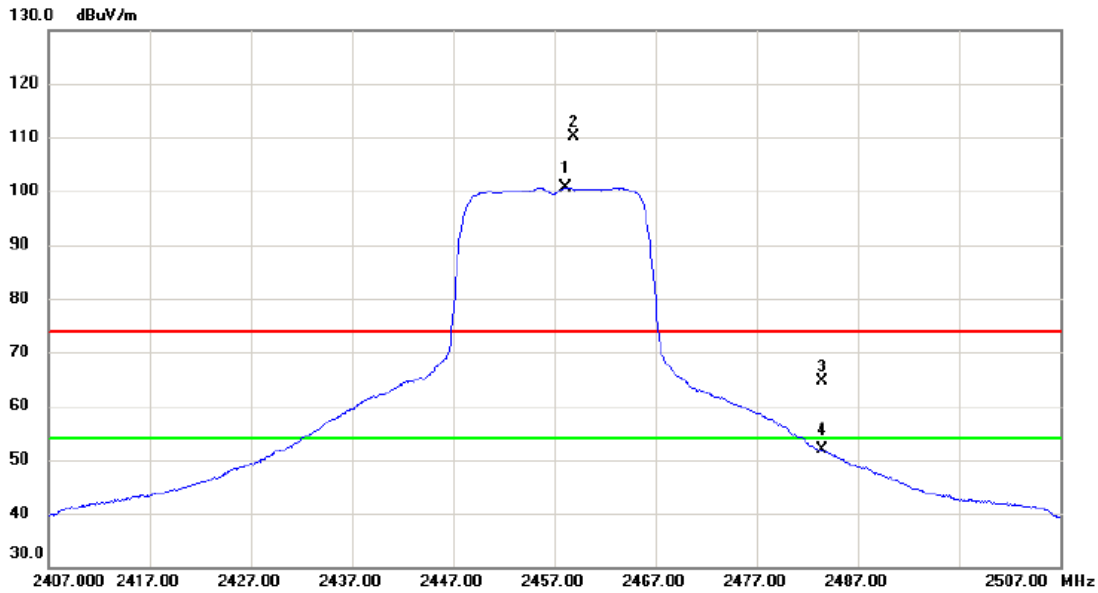
### REMARKS:

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

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

Test Mode: TX N-20M Mode 2457 MHz

## Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2458.200	92.95	7.79	100.74	54.00	46.74	AVG	No Limit
2	X	2458.950	102.32	7.79	110.11	74.00	36.11	peak	No Limit
3		2483.500	56.75	7.87	64.62	74.00	-9.38	peak	
4		2483.500	43.96	7.87	51.83	54.00	-2.17	AVG	

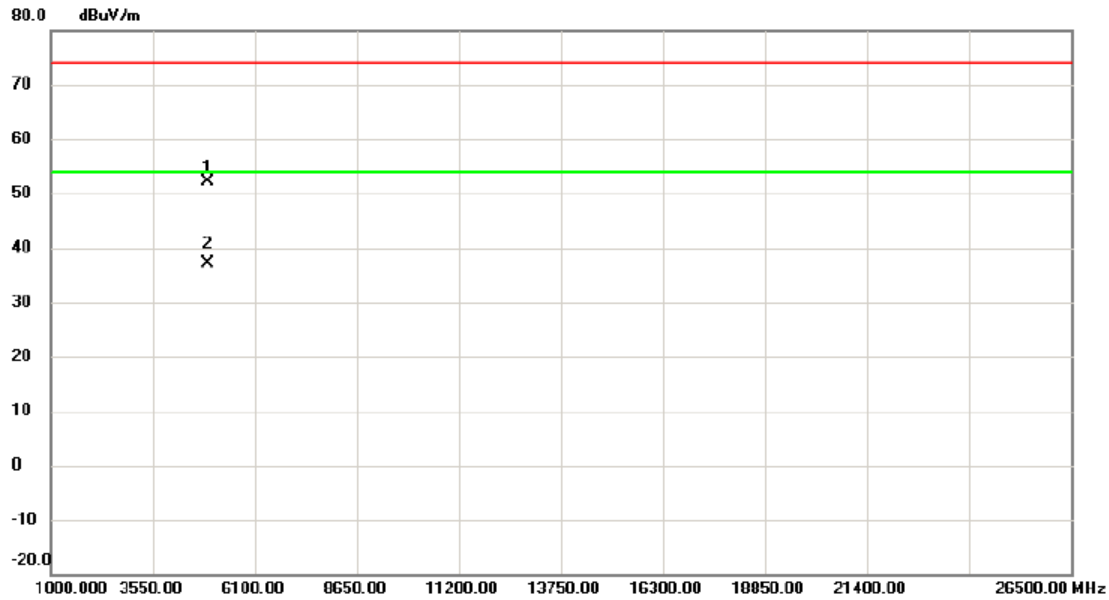
### REMARKS:

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



Test Mode: TX N-20M Mode 2457 MHz

## Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4912.900	47.62	4.58	52.20	74.00	-21.80	peak	
2	*	4913.490	32.57	4.58	37.15	54.00	-16.85	AVG	

### REMARKS:

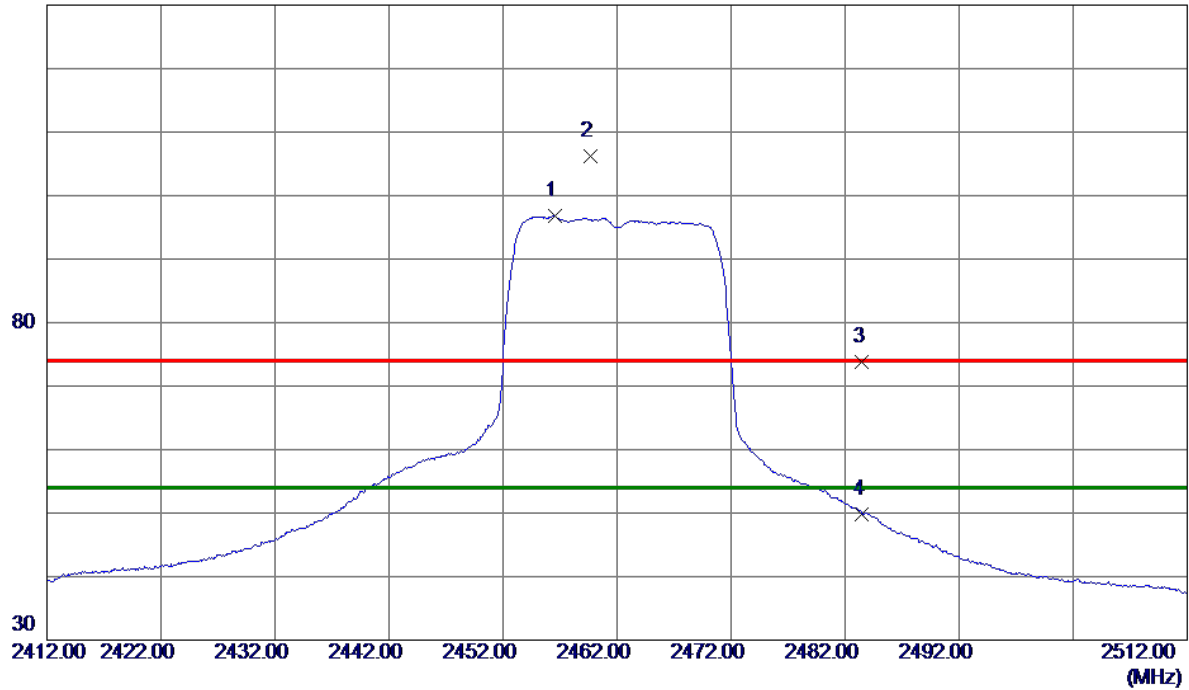
(1) Measurement Value = Reading Level + Correct Factor.

(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 *	2456.6000	88.97	7.79	96.76	54.00	42.76	AVG	No Limit
2	2459.6500	98.36	7.80	106.16	74.00	32.16	Peak	No Limit
3	2483.5000	65.97	7.88	73.85	74.00	-0.15	Peak	
4	2483.5000	41.93	7.88	49.81	54.00	-4.19	AVG	

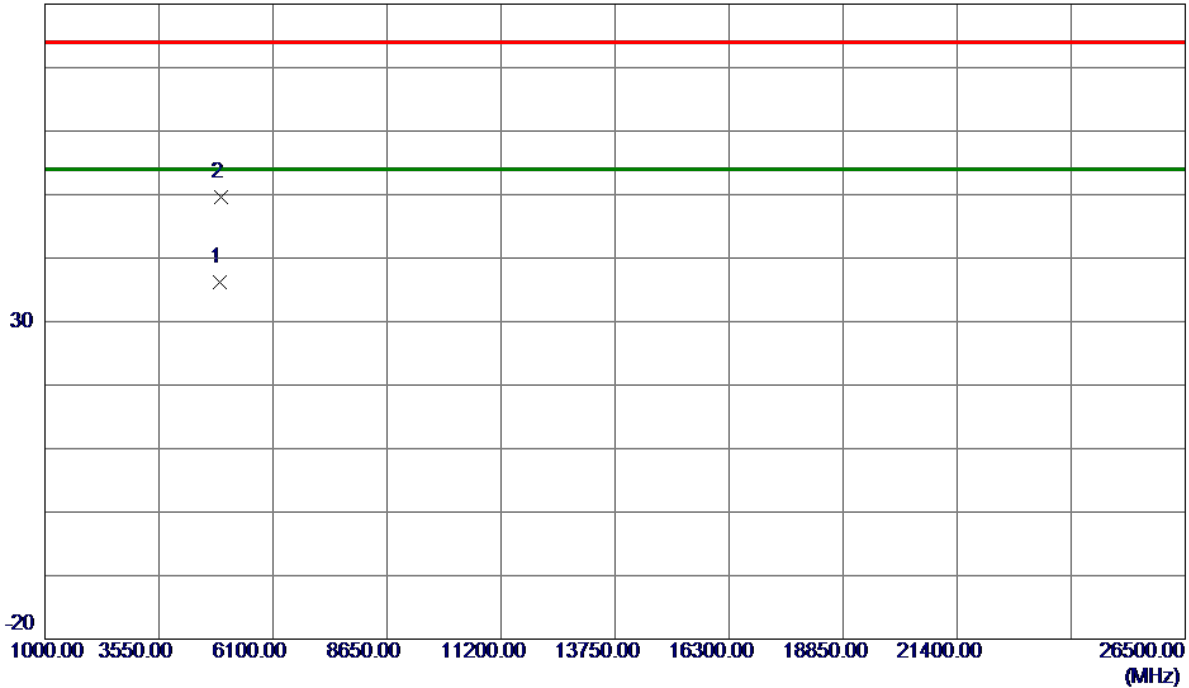
### REMARKS:

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

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

## 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 *	4921.5850	31.55	4.62	36.17	54.00	-17.83	AVG	
2	4926.2350	44.87	4.64	49.51	74.00	-24.49	Peak	

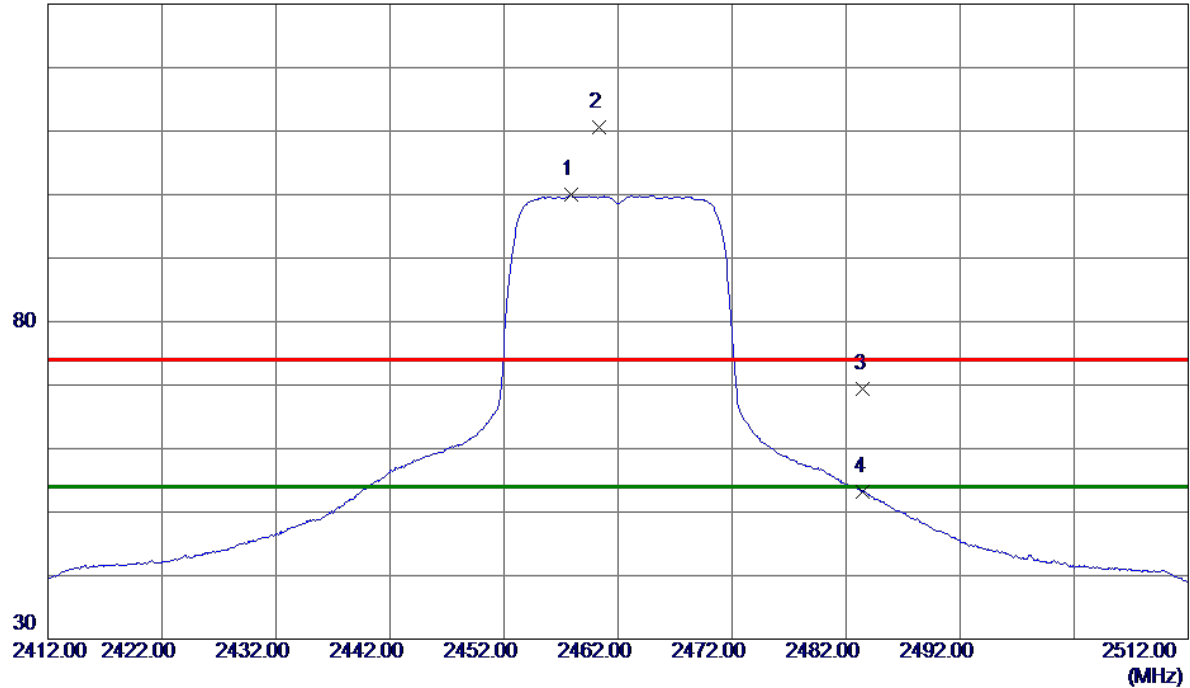
### REMARKS:

- (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 *	2457.8500	92.15	7.79	99.94	54.00	45.94	AVG	No Limit
2	2460.3000	102.72	7.80	110.52	74.00	36.52	Peak	No Limit
3	2483.5000	61.55	7.88	69.43	74.00	-4.57	Peak	
4	2483.5000	45.37	7.88	53.25	54.00	-0.75	AVG	

### REMARKS:

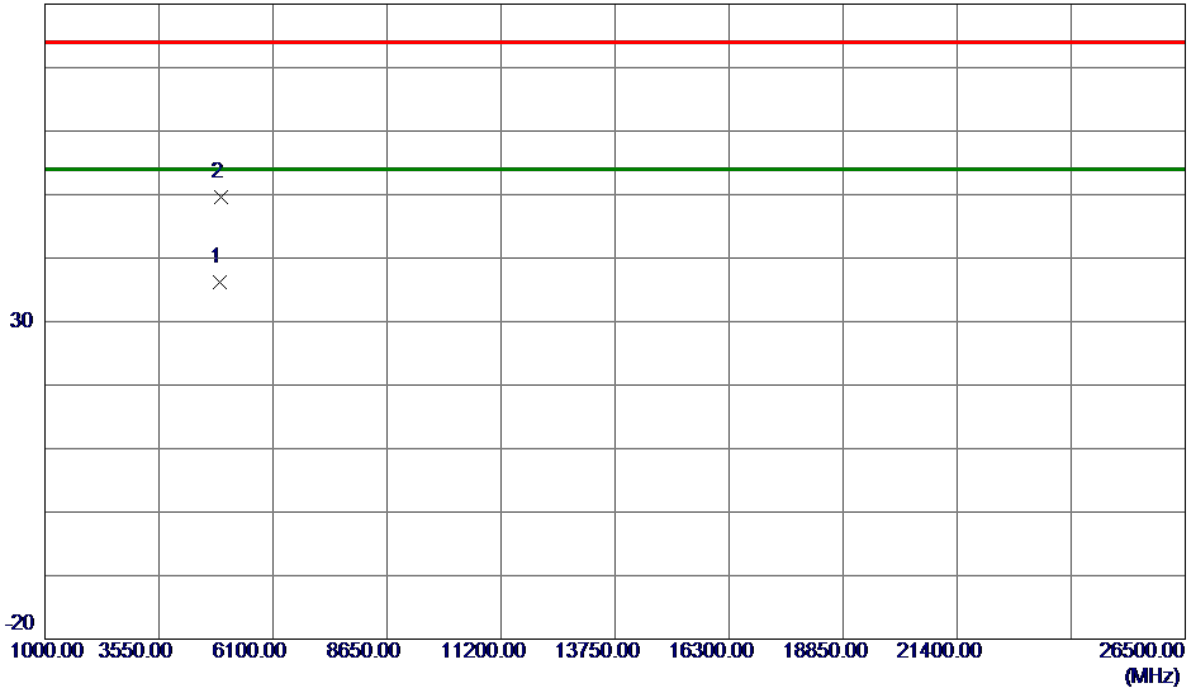
(1) Measurement Value = Reading Level + Correct Factor.

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

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

## Horizontal

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 *	4921.5850	31.55	4.62	36.17	54.00	-17.83	AVG	
2	4926.2350	44.87	4.64	49.51	74.00	-24.49	Peak	

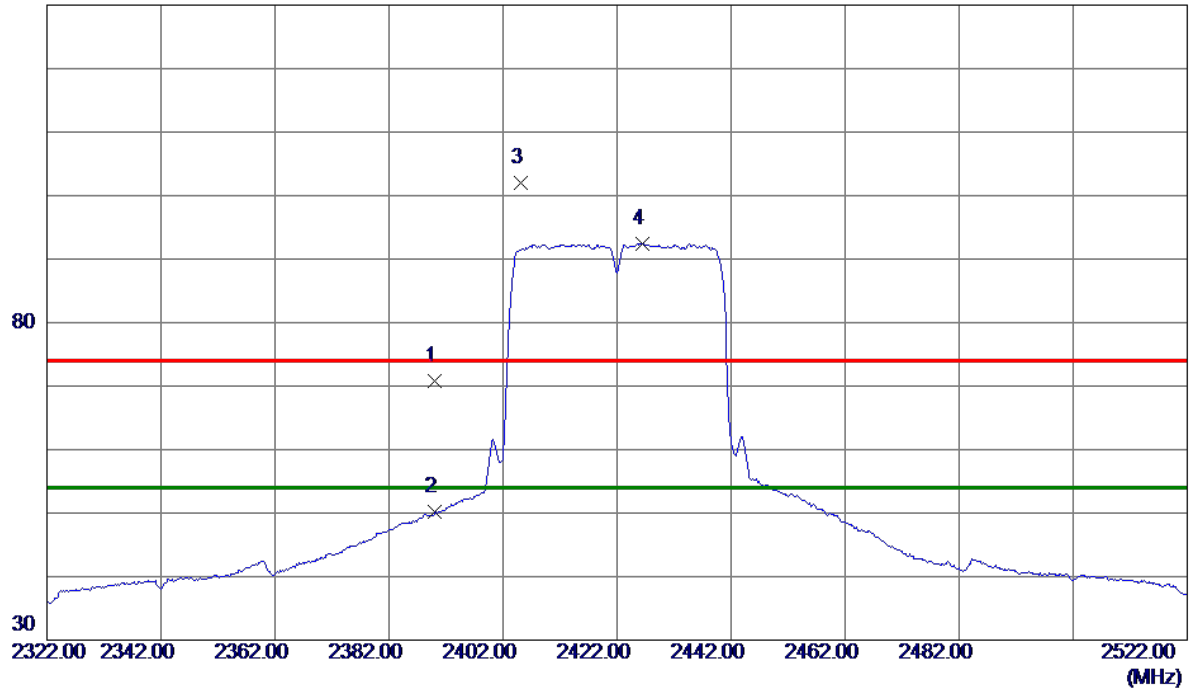
### REMARKS:

- (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	63.23	7.56	70.79	74.00	-3.21	Peak	
2	2390.0000	42.71	7.56	50.27	54.00	-3.73	AVG	
3	2405.1000	94.39	7.61	102.00	74.00	28.00	Peak	No Limit
4 *	2426.4000	84.80	7.69	92.49	54.00	38.49	AVG	No Limit

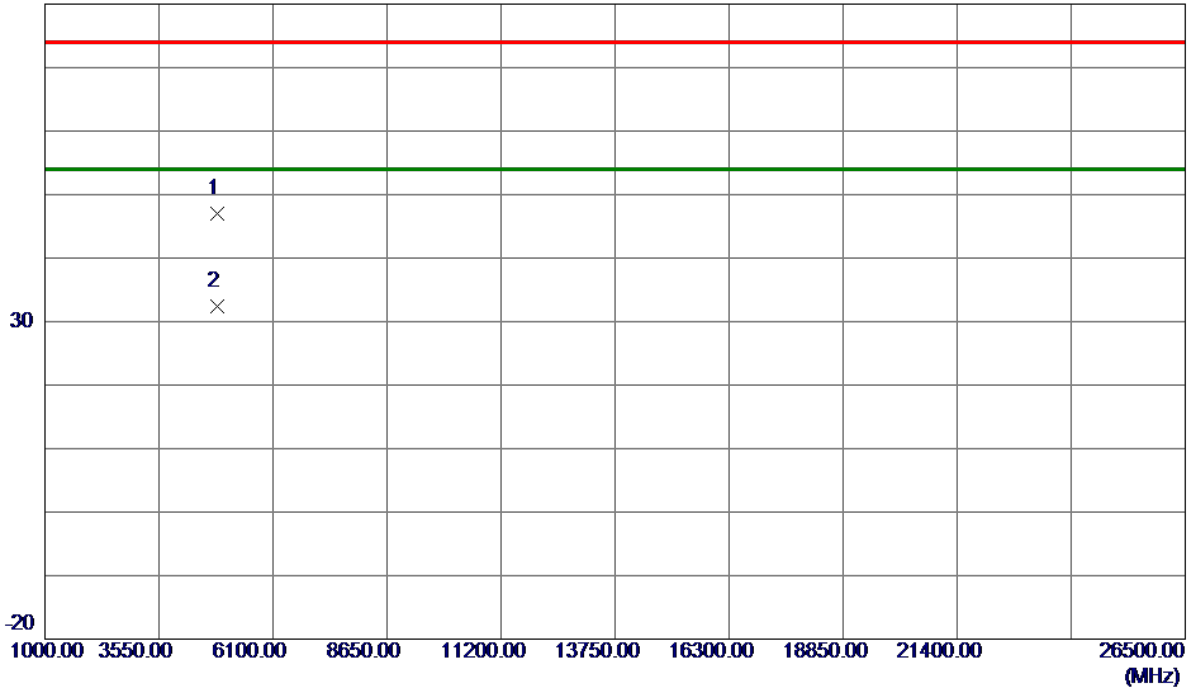
### REMARKS:

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

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

## 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	4840.5150	42.69	4.32	47.01	74.00	-26.99	Peak	
2 *	4840.8400	28.13	4.32	32.45	54.00	-21.55	AVG	

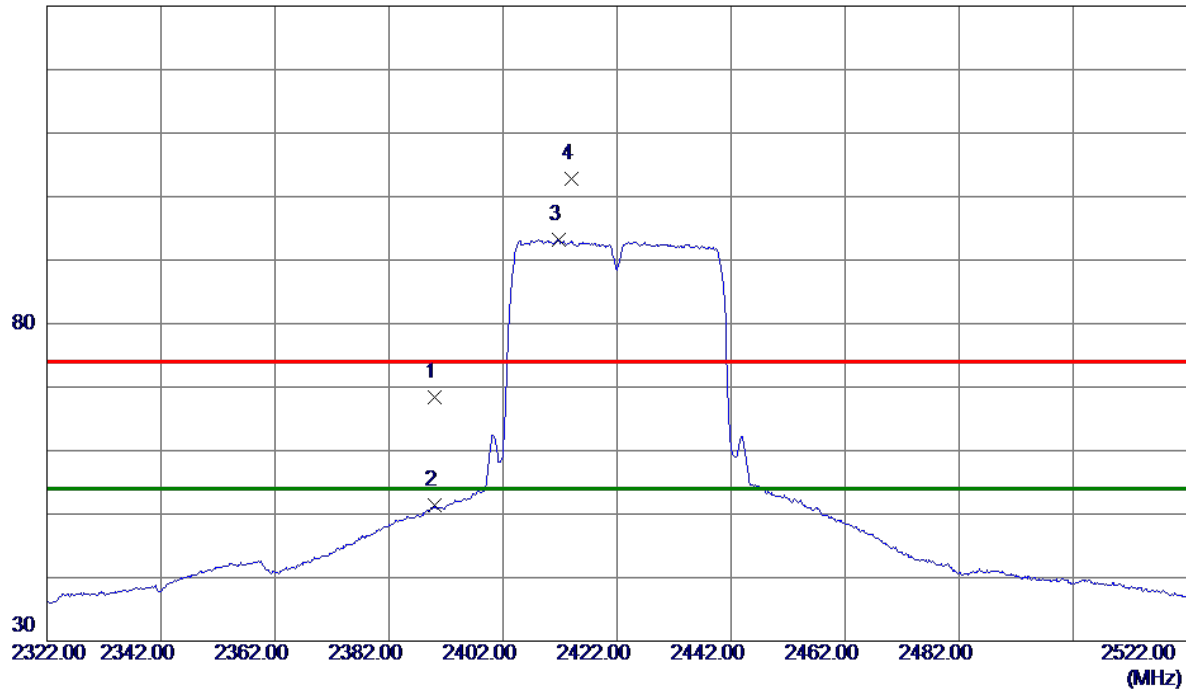
### REMARKS:

- (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	60.83	7.56	68.39	74.00	-5.61	Peak	
2	2390.0000	43.77	7.56	51.33	54.00	-2.67	AVG	
3 *	2411.7000	85.62	7.64	93.26	54.00	39.26	AVG	No Limit
4	2414.1000	95.16	7.64	102.80	74.00	28.80	Peak	No Limit

### REMARKS:

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

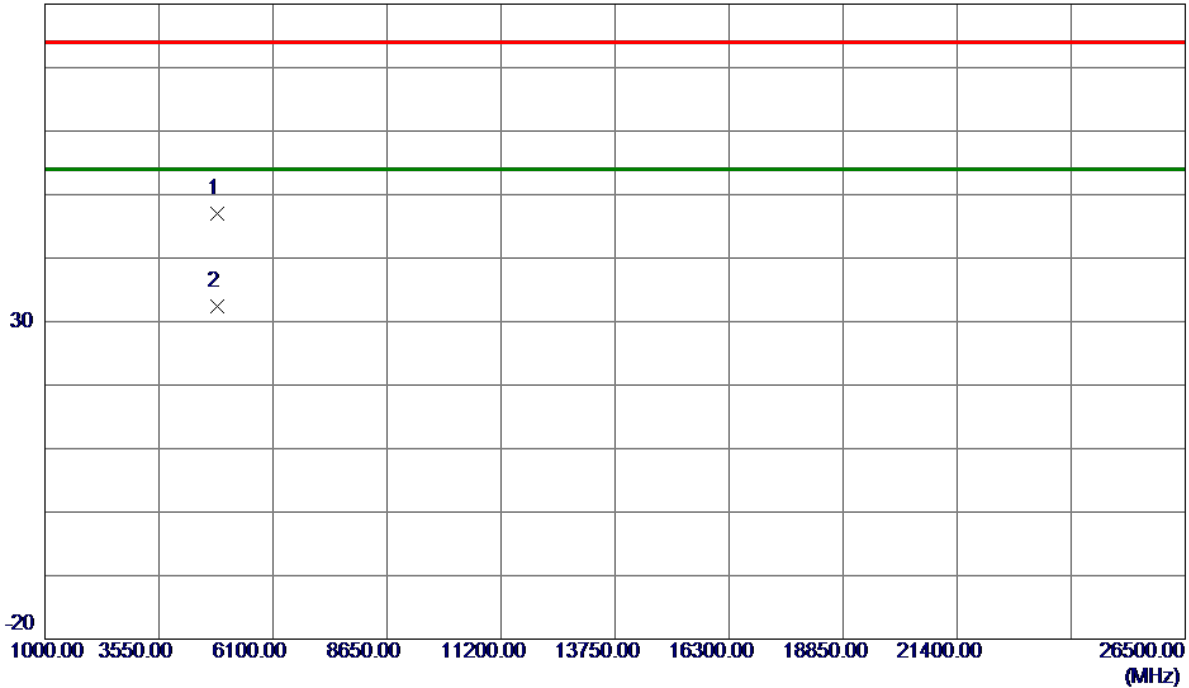
(2) Margin Level = Measurement Value - Limit Value.



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

## Horizontal

80 dBuV/m



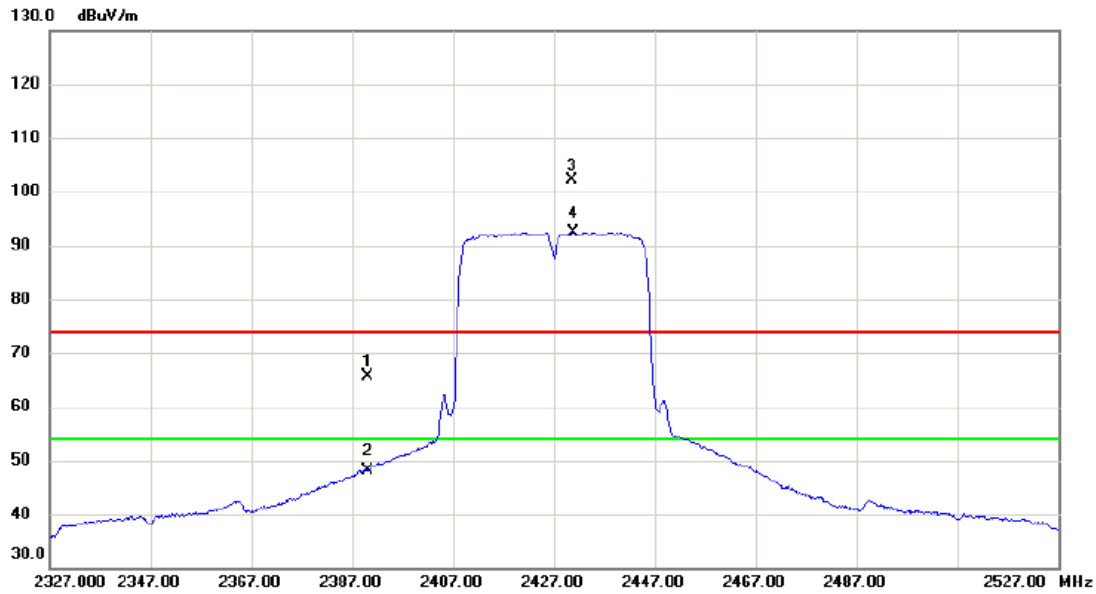
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4840.5150	42.69	4.32	47.01	74.00	-26.99	Peak	
2 *	4840.8400	28.13	4.32	32.45	54.00	-21.55	AVG	

### REMARKS:

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

Test Mode: TX N-40M Mode 2427MHz

## Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	58.17	7.57	65.74	74.00	-8.26	peak	
2		2390.000	40.65	7.57	48.22	54.00	-5.78	AVG	
3	X	2430.600	94.35	7.70	102.05	74.00	28.05	peak	No Limit
4	*	2430.800	84.73	7.70	92.43	54.00	38.43	AVG	No Limit

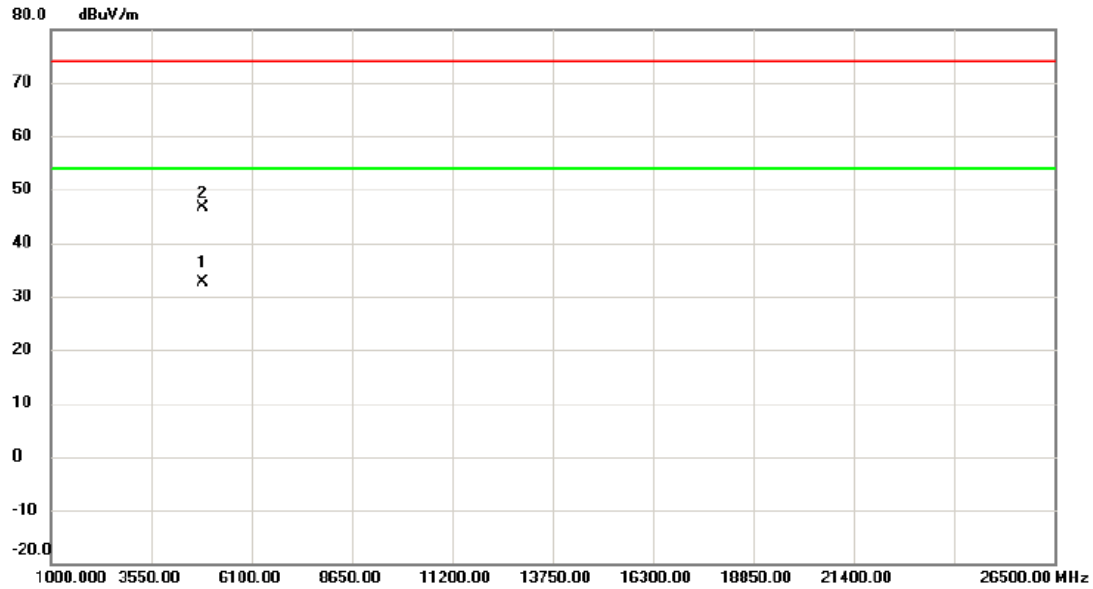
### REMARKS:

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

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

Test Mode: TX N-40M Mode 2427MHz

## Vertical



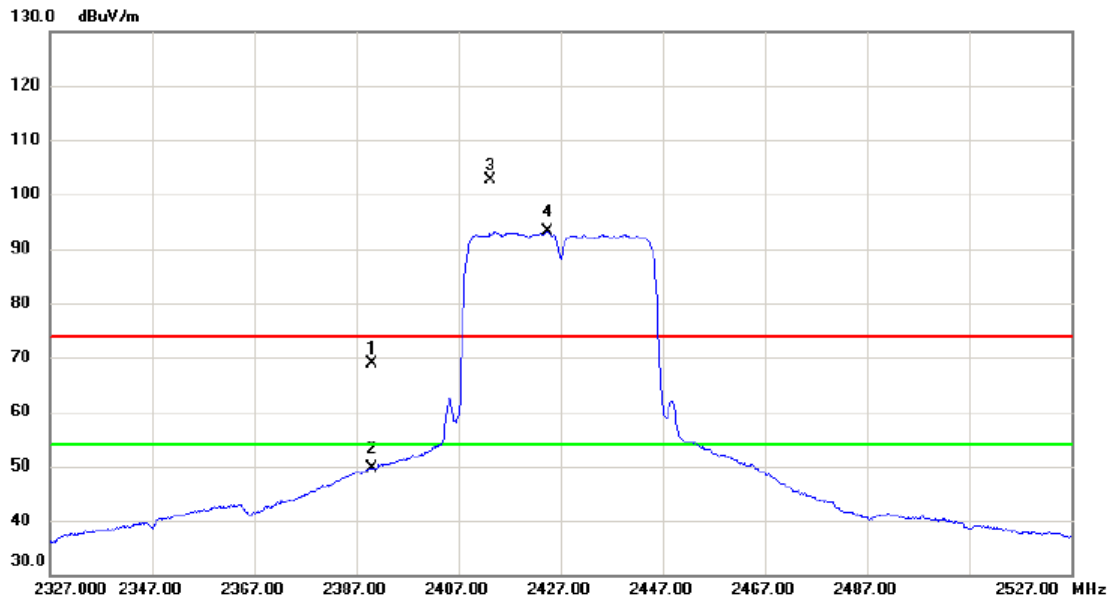
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4850.490	28.21	4.36	32.57	54.00	-21.43	AVG	
2		4851.435	42.16	4.36	46.52	74.00	-27.48	peak	

### REMARKS:

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

Test Mode: TX N-40M Mode 2427MHz

## Horizontal



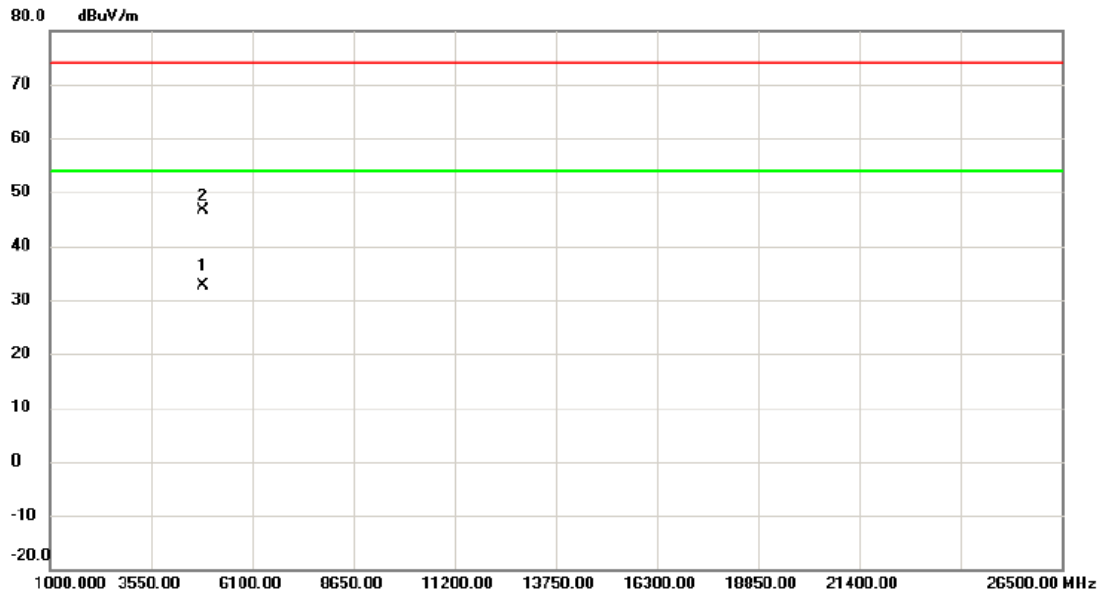
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	61.19	7.57	68.76	74.00	-5.24	peak	
2		2390.000	41.96	7.57	49.53	54.00	-4.47	AVG	
3	X	2413.300	94.91	7.65	102.56	74.00	28.56	peak	No Limit
4	*	2424.500	85.48	7.68	93.16	54.00	39.16	AVG	No Limit

### REMARKS:

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

Test Mode:	TX N-40M Mode 2427MHz
------------	-----------------------

## Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4850.490	28.21	4.36	32.57	54.00	-21.43	AVG	
2		4851.435	42.16	4.36	46.52	74.00	-27.48	peak	

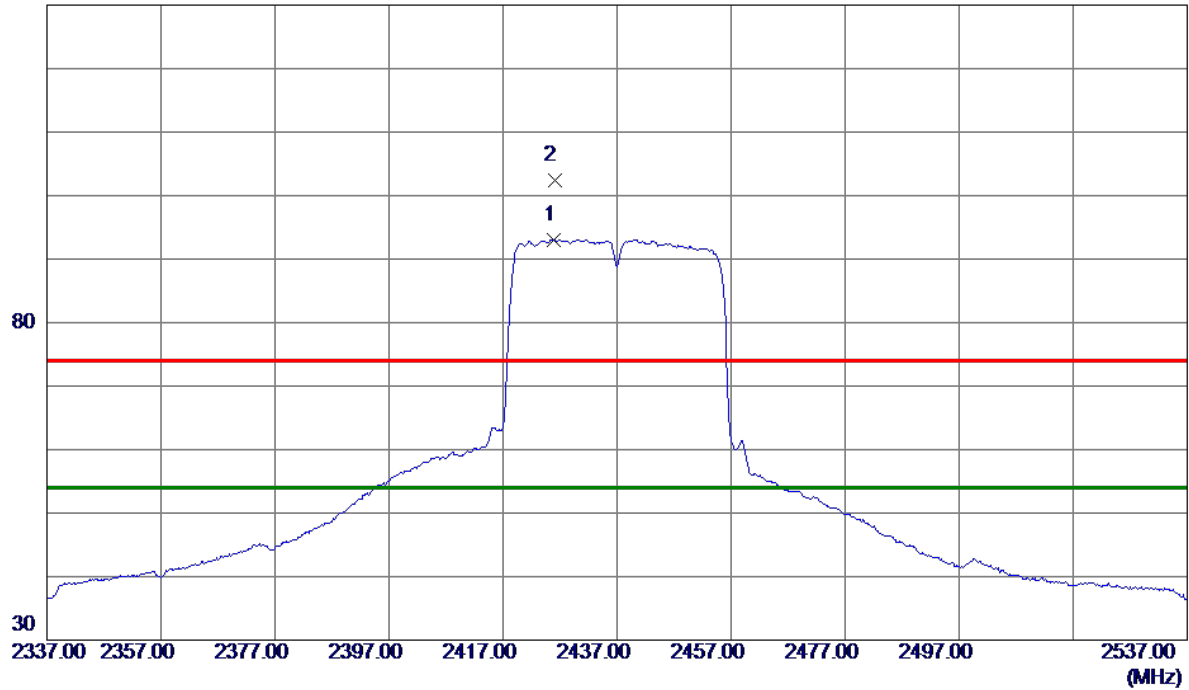
### REMARKS:

- (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 *	2425.9000	85.39	7.68	93.07	54.00	39.07	AVG	No Limit
2	2426.0000	94.65	7.68	102.33	74.00	28.33	Peak	No Limit

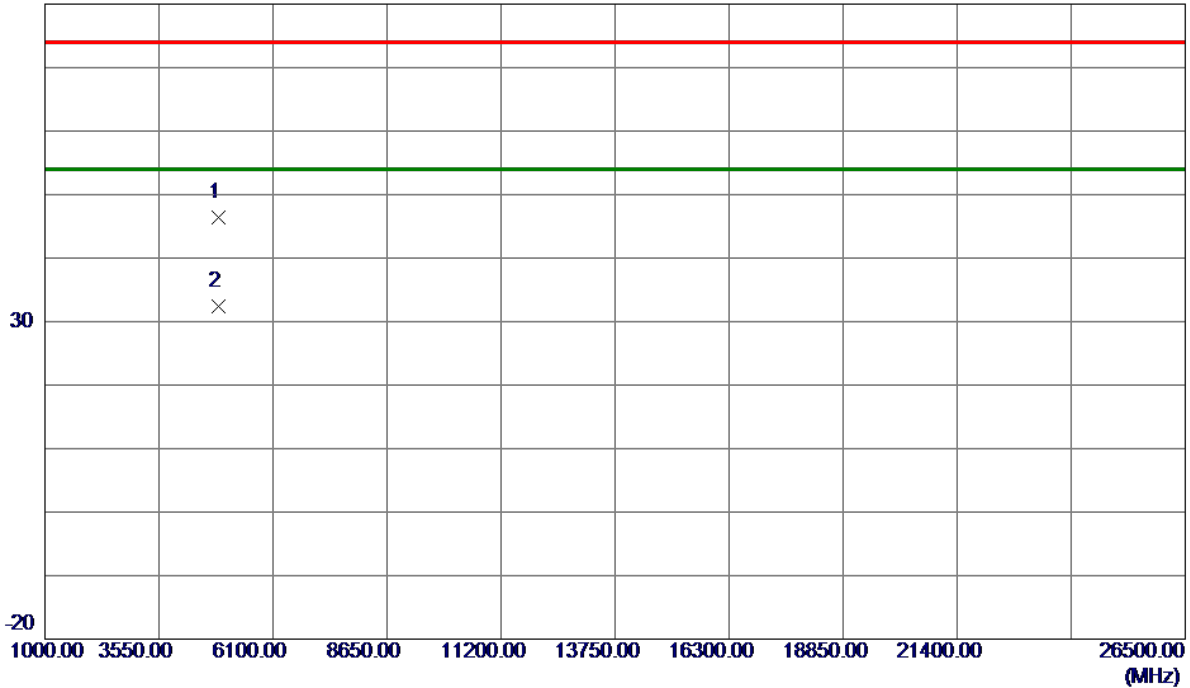
### REMARKS:

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

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

## Vertical

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	4871.5419	41.99	4.43	46.42	74.00	-27.58	Peak	
2 *	4874.9950	27.98	4.44	32.42	54.00	-21.58	AVG	

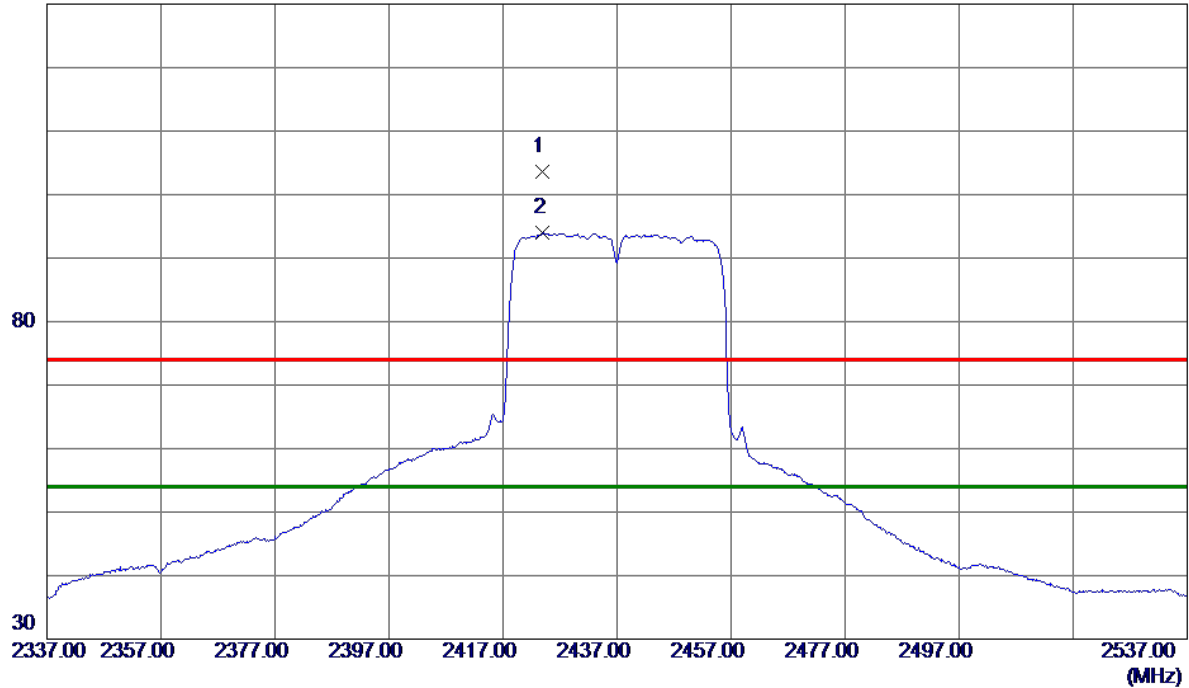
### REMARKS:

- (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	2423.9000	96.00	7.68	103.68	74.00	29.68	Peak	No Limit
2 *	2424.0000	86.28	7.68	93.96	54.00	39.96	AVG	No Limit

### REMARKS:

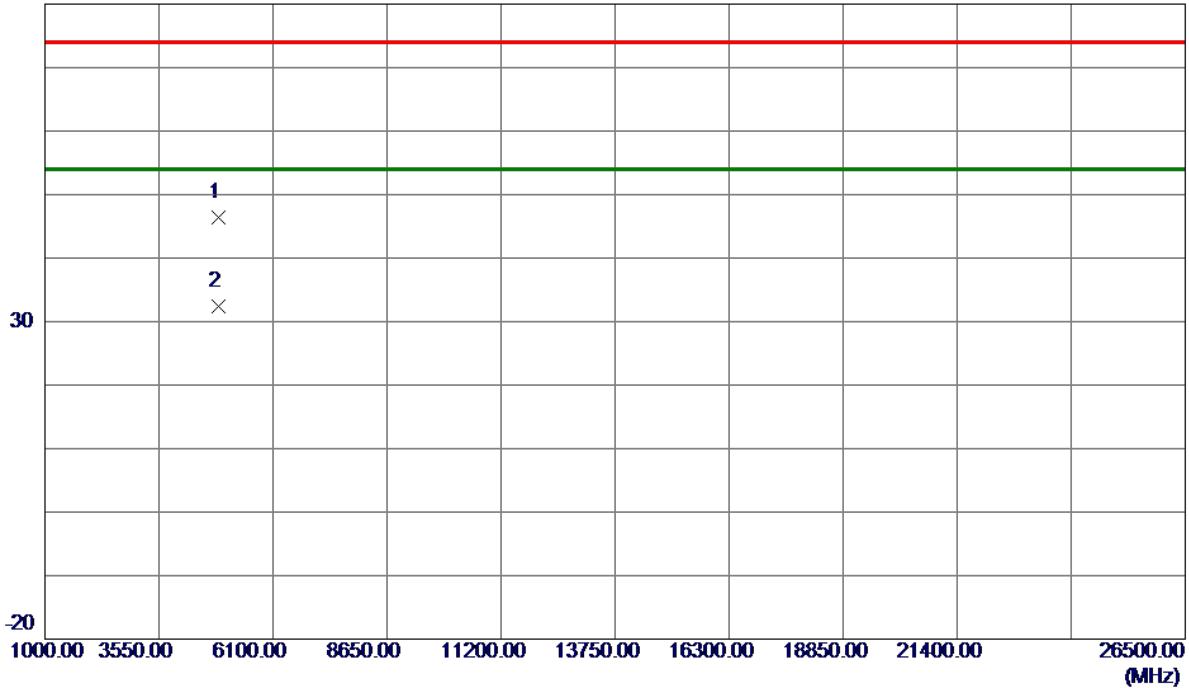
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.



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

### Horizontal

80 dBuV/m



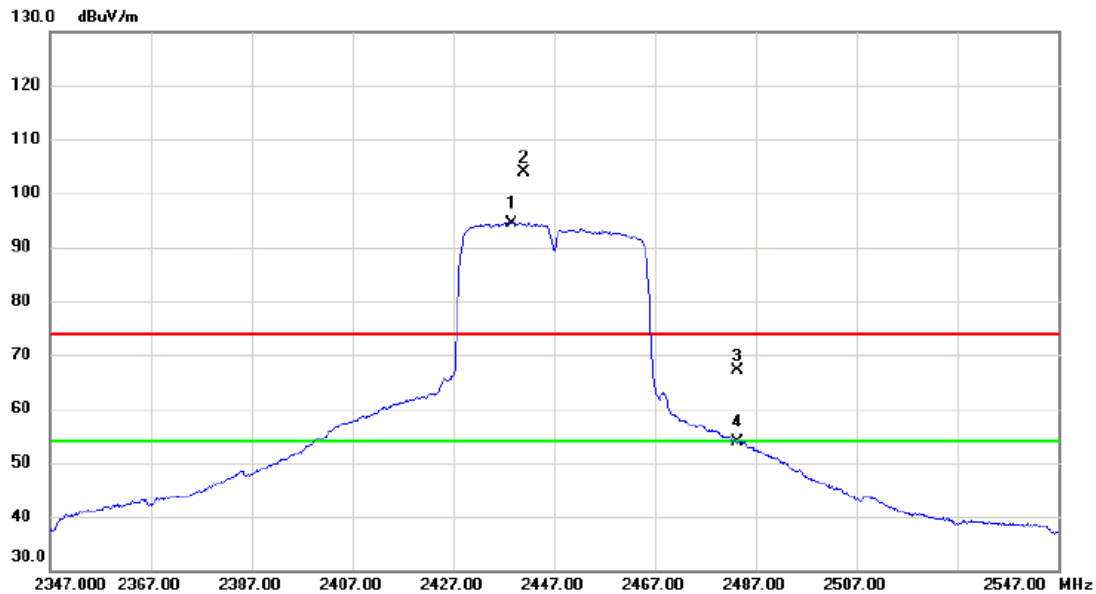
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4871.5419	41.99	4.43	46.42	74.00	-27.58	Peak	
2 *	4874.9950	27.98	4.44	32.42	54.00	-21.58	AVG	

#### REMARKS:

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

Test Mode: TX N-40M Mode 2447 MHz

## Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2438.500	86.68	7.73	94.41	54.00	40.41	AVG	No Limit
2	X	2440.900	96.07	7.74	103.81	74.00	29.81	peak	No Limit
3		2483.500	59.24	7.87	67.11	74.00	-6.89	peak	
4		2483.500	45.89	7.87	53.76	54.00	-0.24	AVG	

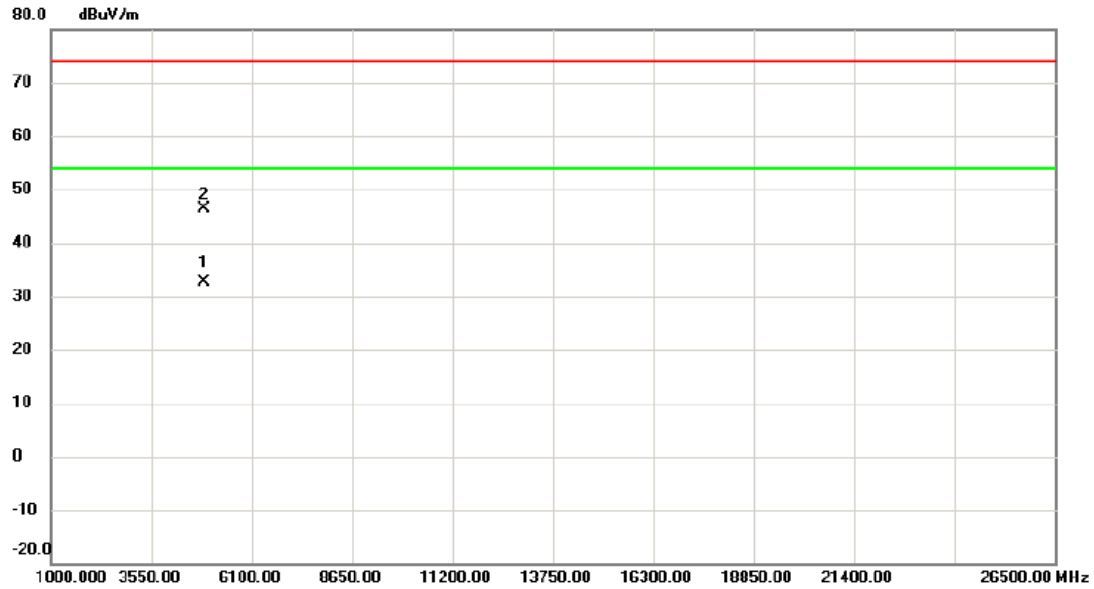
### REMARKS:

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

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

Test Mode:	TX N-40M Mode 2447 MHz
------------	------------------------

## Vertical



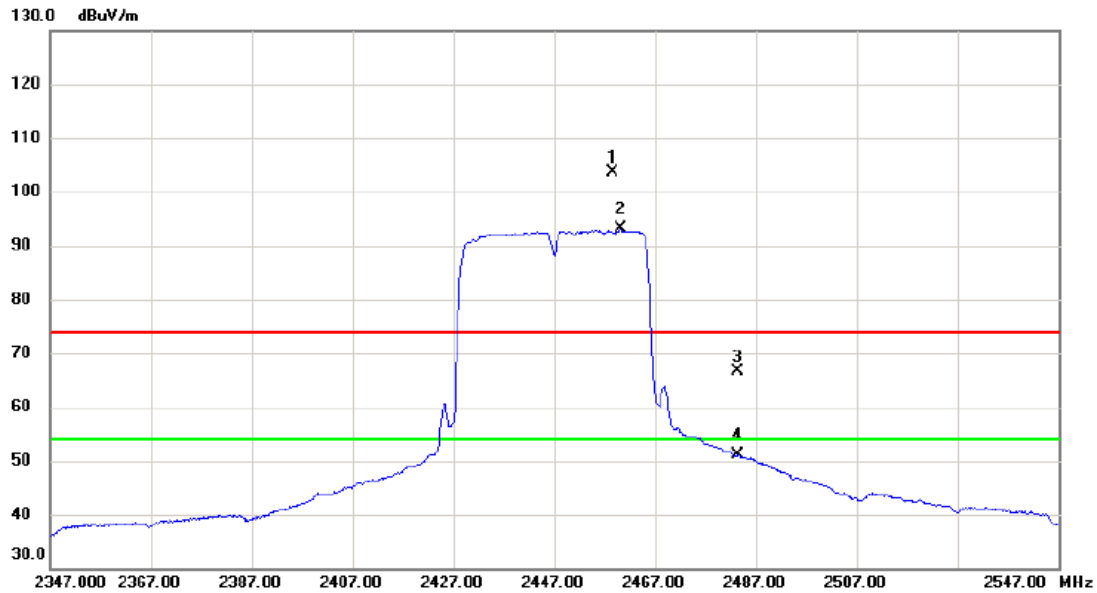
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4891.523	28.02	4.51	32.53	54.00	-21.47	AVG	
2		4895.023	41.93	4.52	46.45	74.00	-27.55	peak	

## REMARKS:

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

Test Mode: TX N-40M Mode 2447 MHz

## Horizontal



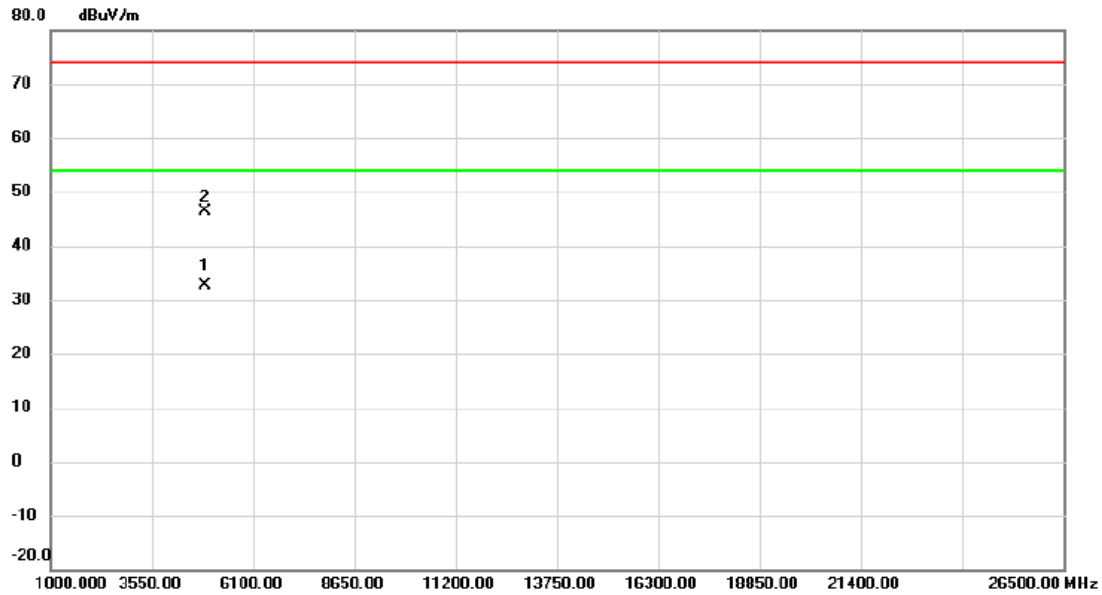
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2458.600	95.76	7.79	103.55	74.00	29.55	peak	No Limit
2	*	2460.200	85.28	7.79	93.07	54.00	39.07	AVG	No Limit
3		2483.500	58.79	7.87	66.66	74.00	-7.34	peak	
4		2483.500	43.15	7.87	51.02	54.00	-2.98	AVG	

### REMARKS:

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

Test Mode:	TX N-40M Mode 2447 MHz
------------	------------------------

## Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4891.523	28.02	4.51	32.53	54.00	-21.47	AVG	
2		4895.023	41.93	4.52	46.45	74.00	-27.55	peak	

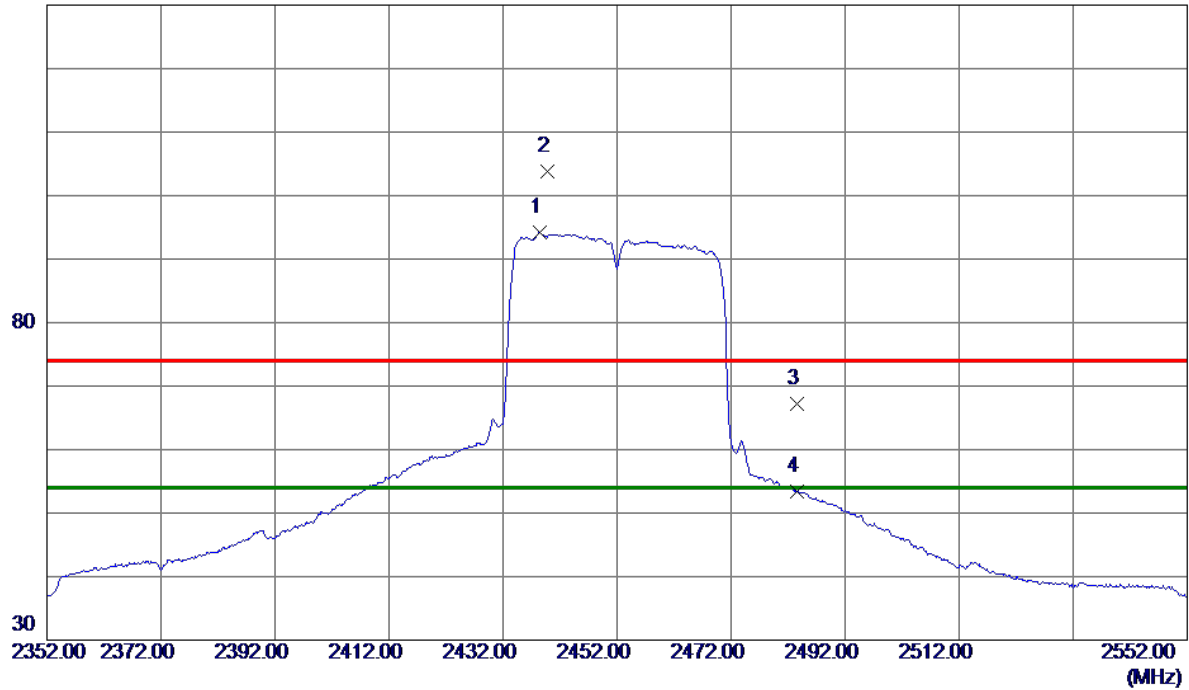
### REMARKS:

- (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 *	2438.4000	86.55	7.73	94.28	54.00	40.28	AVG	No Limit
2	2439.7000	96.11	7.73	103.84	74.00	29.84	Peak	No Limit
3	2483.5000	59.35	7.88	67.23	74.00	-6.77	Peak	
4	2483.5000	45.45	7.88	53.33	54.00	-0.67	AVG	

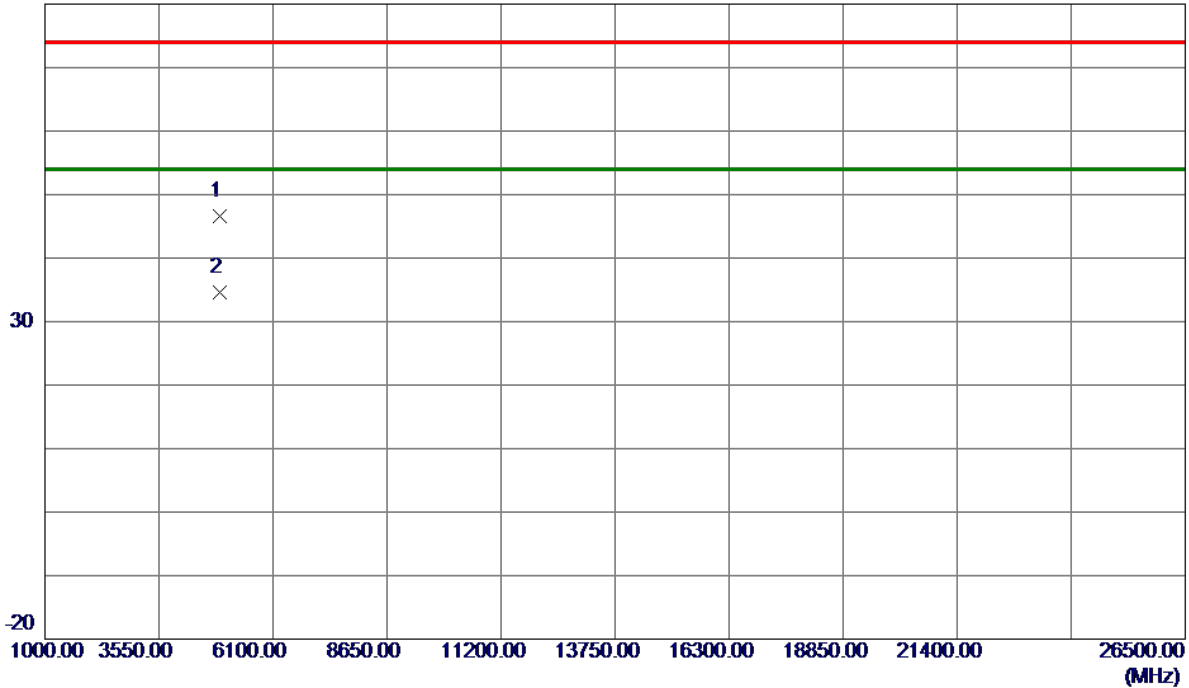
### REMARKS:

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

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

## Vertical

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	4901.8769	41.99	4.54	46.53	74.00	-27.47	Peak	
2 *	4903.0099	29.96	4.55	34.51	54.00	-19.49	AVG	

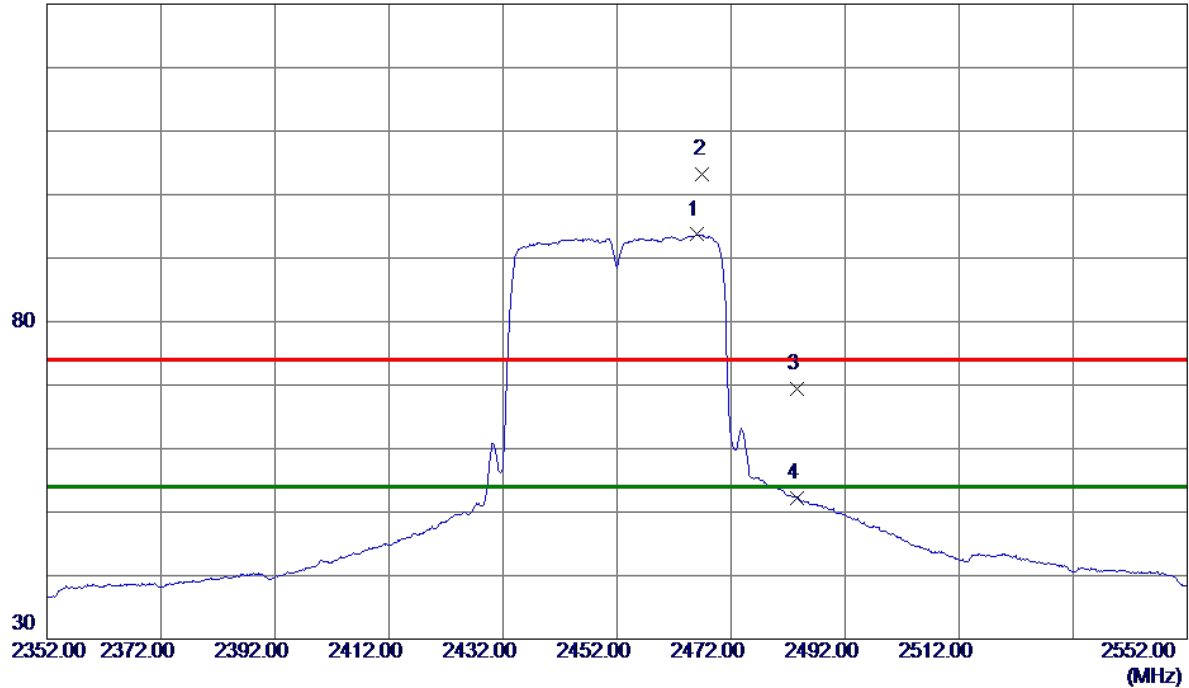
### REMARKS:

- (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 *	2466.0000	85.88	7.82	93.70	54.00	39.70	AVG	No Limit
2	2467.0000	95.37	7.82	103.19	74.00	29.19	Peak	No Limit
3	2483.5000	61.52	7.88	69.40	74.00	-4.60	Peak	
4	2483.5000	44.34	7.88	52.22	54.00	-1.78	AVG	

### REMARKS:

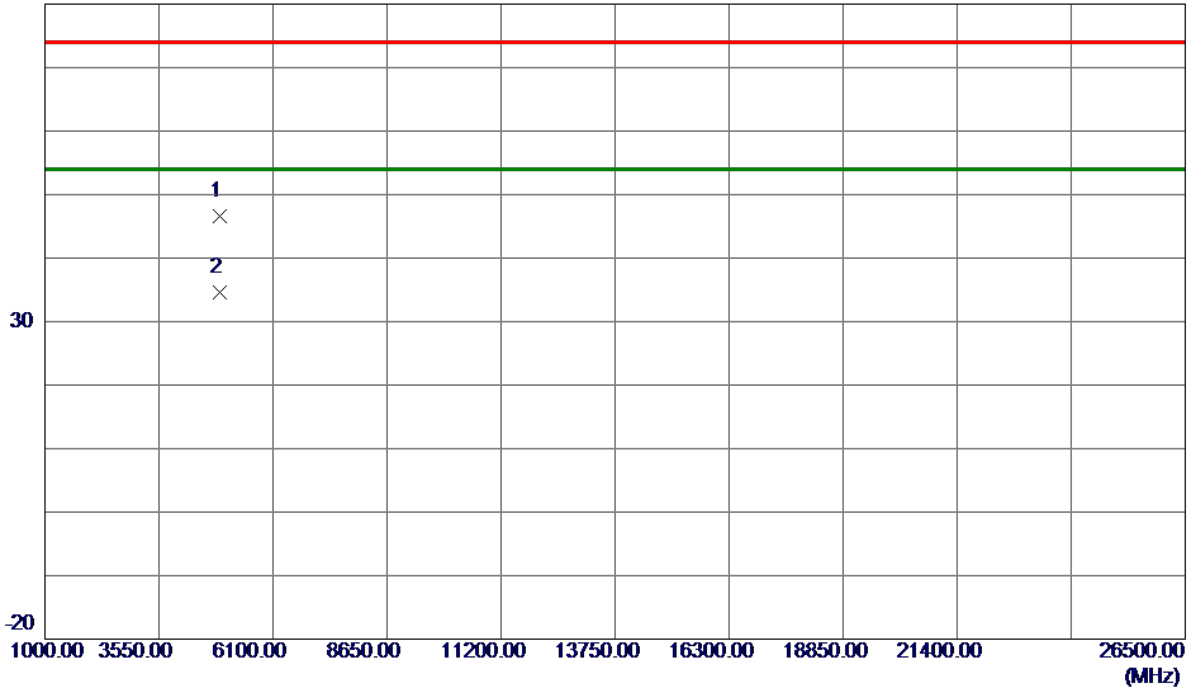
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.



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

## Horizontal

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	4901.8769	41.99	4.54	46.53	74.00	-27.47	Peak	
2 *	4903.0099	29.96	4.55	34.51	54.00	-19.49	AVG	

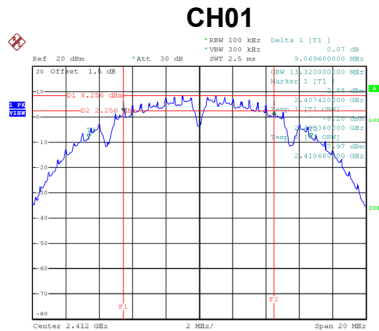
### REMARKS:

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

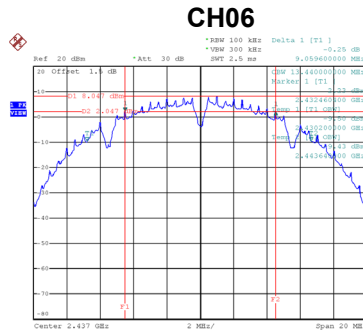
## **APPENDIX E - BANDWIDTH**

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

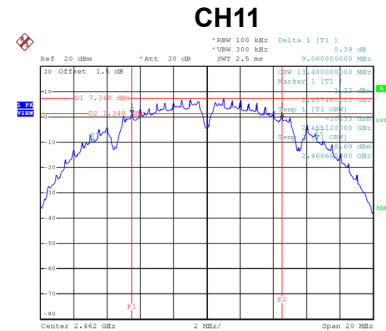
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	9.07	500	Complies
06	2437	9.06	500	Complies
11	2462	9.06	500	Complies



Date: 30.OCT.2019 10:51:54

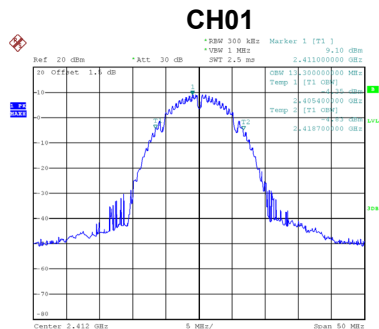


Date: 30.OCT.2019 10:54:48

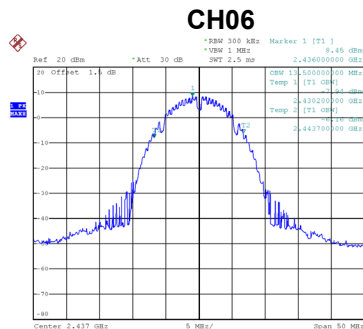


Date: 30.OCT.2019 10:57:19

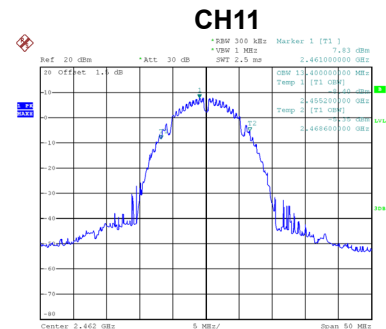
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	13.30	Complies
06	2437	13.50	Complies
11	2462	13.40	Complies



Date: 30.OCT.2019 10:53:19



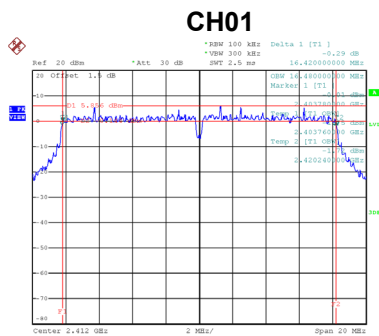
Date: 30.OCT.2019 10:56:11



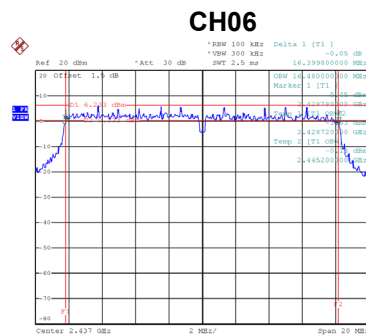
Date: 30.OCT.2019 10:58:10

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

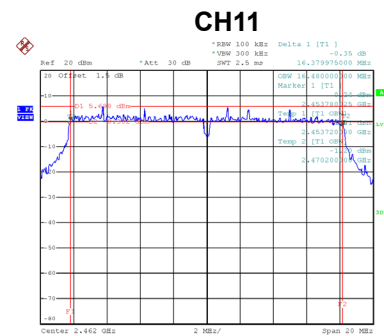
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	16.42	500	Complies
06	2437	16.40	500	Complies
11	2462	16.38	500	Complies



Date: 30.OCT.2019 11:03:13

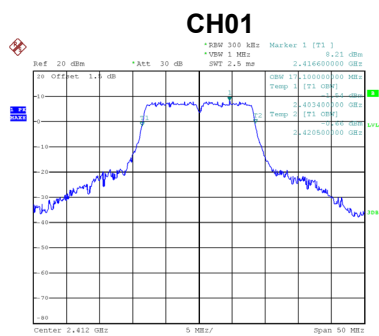


Date: 30.OCT.2019 11:05:46

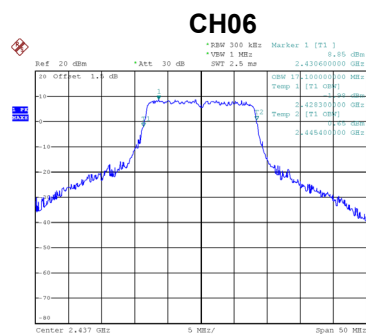


Date: 30.OCT.2019 11:07:58

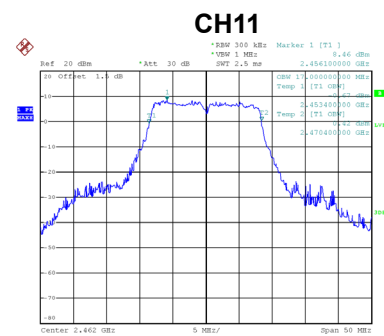
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	17.10	Complies
06	2437	17.10	Complies
11	2462	17.00	Complies



Date: 30.OCT.2019 11:04:49



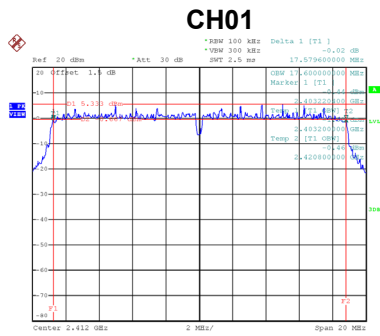
Date: 30.OCT.2019 11:06:43



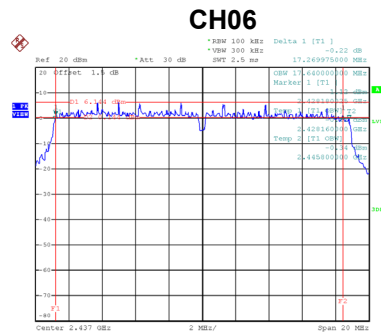
Date: 30.OCT.2019 11:08:54

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

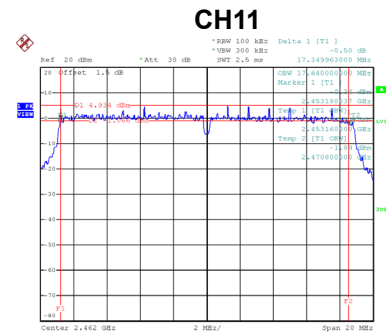
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	17.58	500	Complies
06	2437	17.27	500	Complies
11	2462	17.35	500	Complies



Date: 30.OCT.2019 11:11:05

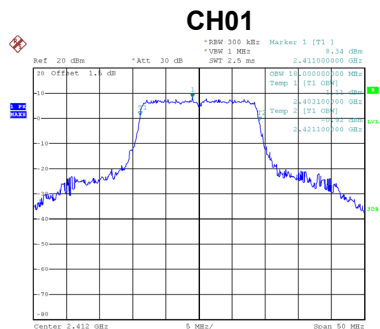


Date: 30.OCT.2019 11:13:07

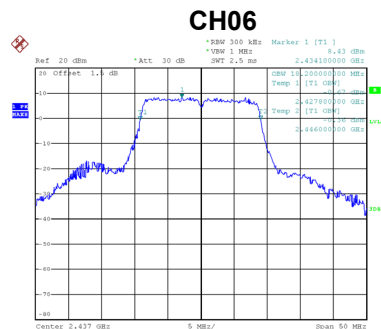


Date: 30.OCT.2019 11:15:10

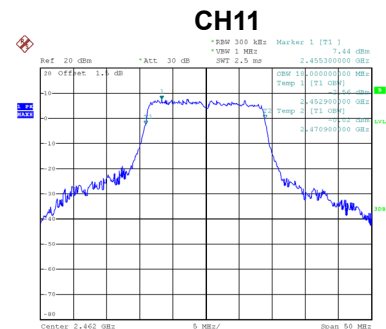
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	18.00	Complies
06	2437	18.20	Complies
11	2462	18.00	Complies



Date: 30.OCT.2019 11:11:56



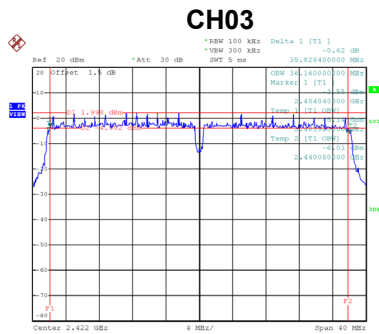
Date: 30.OCT.2019 11:14:21



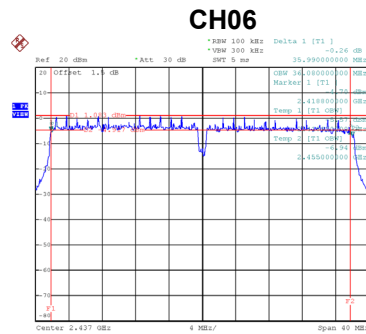
Date: 30.OCT.2019 11:16:19

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

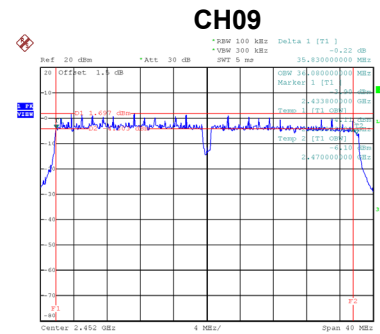
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
03	2422	35.83	500	Complies
06	2437	35.99	500	Complies
09	2452	35.83	500	Complies



Date: 30.OCT.2019 11:51:32

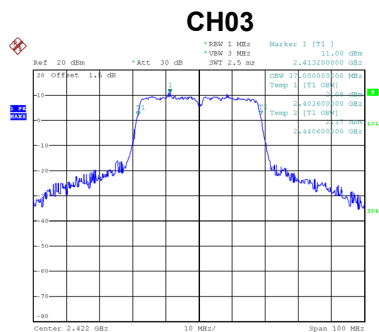


Date: 30.OCT.2019 11:27:00

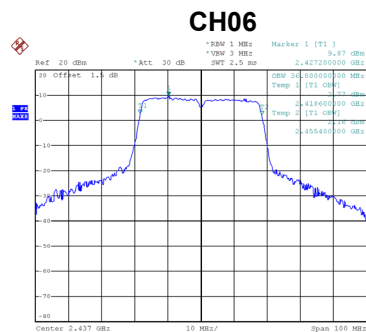


Date: 30.OCT.2019 11:28:46

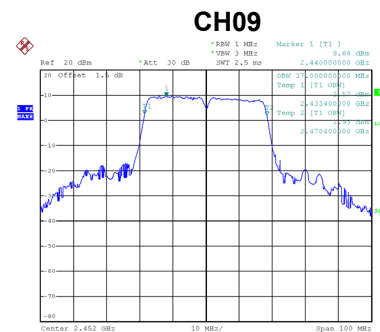
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
03	2422	37.00	Complies
06	2437	36.80	Complies
09	2452	37.00	Complies



Date: 30.OCT.2019 11:53:04



Date: 30.OCT.2019 11:27:56



Date: 30.OCT.2019 11:42:17

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

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

Channel	Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.73	0.00	16.73	30.00	1.0000	Complies
06	2437	16.68	0.00	16.68	30.00	1.0000	Complies
11	2462	16.70	0.00	16.70	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.64	0.13	16.77	30.00	1.0000	Complies
06	2437	16.89	0.13	17.02	30.00	1.0000	Complies
11	2462	16.71	0.13	16.84	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.61	0.14	16.75	30.00	1.0000	Complies
06	2437	16.85	0.14	16.99	30.00	1.0000	Complies
11	2462	16.43	0.14	16.57	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Average Output Power (dBm)	Duty Factor	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	15.67	0.59	16.26	30.00	1.0000	Complies
06	2437	16.57	0.59	17.16	30.00	1.0000	Complies
09	2452	15.49	0.59	16.08	30.00	1.0000	Complies



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