

FCC Radio Test Report

FCC ID: TE7HS220V2

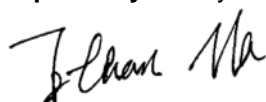
This report concerns: Original Grant

Project No. : 1911C107
Equipment : Kasa Smart Wi-Fi Light Switch, Dimmer
Brand Name : tp-link
Test Model : HS220
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 : Nov. 19, 2019
Date of Test : Nov. 20, 2019 ~ Dec. 06, 2019
Issued Date : Jan. 03, 2020
Report Version : R00
Test Sample : Engineering Sample No.: DG2019111913 for conducted, DG2019111914 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 : Chay Cai



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

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.

Table of Contents	Page
REPORT ISSUED HISTORY	6
1 . SUMMARY OF TEST RESULTS	7
1.1 TEST FACILITY	8
1.2 MEASUREMENT UNCERTAINTY	8
1.3 TEST ENVIRONMENT CONDITIONS	8
2 . GENERAL INFORMATION	9
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
3 . AC POWER LINE CONDUCTED EMISSIONS TEST	14
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
4 . RADIATED EMISSIONS TEST	16
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
5 . BANDWIDTH TEST	20
5.1 LIMIT	20
5.2 TEST PROCEDURE	20
5.3 DEVIATION FROM STANDARD	20
5.4 TEST SETUP	20

Table of Contents	Page
5.5 EUT OPERATION CONDITIONS	20
5.6 TEST RESULTS	20
6 . MAXIMUM OUTPUT POWER TEST	21
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
7 . CONDUCTED SPURIOUS EMISSIONS	22
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
8 . POWER SPECTRAL DENSITY TEST	23
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
9 . MEASUREMENT INSTRUMENTS LIST	24
10 . EUT TEST PHOTO	26
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	30
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	33
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	38
APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ	41
APPENDIX E - BANDWIDTH	102
APPENDIX F - MAXIMUM OUTPUT POWER	106
APPENDIX G - CONDUCTED SPURIOUS EMISSIONS	108

Table of Contents	Page
APPENDIX H - POWER SPECTRAL DENSITY	112

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Jan. 03, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

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

Note:

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

1.1 TEST FACILITY

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

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

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

The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.60

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	23°C	51%	AC 120V/60Hz	Jonas Chen
Maximum output power	23°C	51%	AC 120V/60Hz	Damon Deng
Conducted Spurious Emissions	23°C	51%	AC 120V/60Hz	Jonas Chen
Power Spectral Density	23°C	51%	AC 120V/60Hz	Jonas Chen

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT


Equipment	Kasa Smart Wi-Fi Light Switch, Dimmer
Brand Name	tp-link
Test Model	HS220
Series Model	N/A
Model Difference(s)	N/A
Software Version	1.0.0 Build 190709 Rel.161635
Hardware Version	1910102220-CA-2.0 Rev1.0sp1, 2084500234 Rev1.0
Power Source	AC Mains.
Power Rating	AC 120V
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 72.2 Mbps
Maximum Output Power	IEEE 802.11b: 23.27 dBm (0.2123 W) IEEE 802.11g: 26.09 dBm (0.4064 W) IEEE 802.11n (HT20): 25.31 dBm (0.3396 W)

Note:

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

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n (HT20)							
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		

- Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1		6035500079	PIFA	N/A	2.98

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 G Mode Channel 06
Mode 5	TX B Mode Channel 01/02/06/10/11
Mode 6	TX G Mode Channel 01/02/06/10/11
Mode 7	TX N-20 MHz Mode Channel 01/02/06/10/11

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 4	TX G Mode Channel 06

Radiated emissions test - Below 1GHz	
Final Test Mode:	Description
Mode 4	TX G Mode Channel 06

Radiated emissions test- Above 1GHz	
Final Test Mode:	Description
Mode 5	TX B Mode Channel 01/02/06/10/11
Mode 6	TX G Mode Channel 01/02/06/10/11
Mode 7	TX N-20 MHz Mode Channel 01/02/06/10/11

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

NOTE:

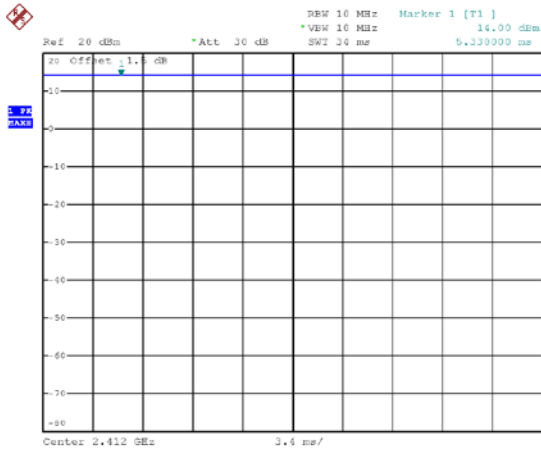
- (1) The measurements are performed at the high, middle, low available channels.
- (2) For radiated emission below 1 GHz test, the IEEE 802.11g Channel 06 is found to be the worst case and recorded.
- (3) For radiated emission above 1 GHz test, 1GHz~26.5GHz have been pre-tested and in this report only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

2.3 PARAMETERS OF TEST SOFTWARE

Test Software	QATool_Dbg V0.3.0.8		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	23	26	24
IEEE 802.11g	21	3F	1E
IEEE 802.11n (HT20)	21	23	1E

2.4 DUTY CYCLE

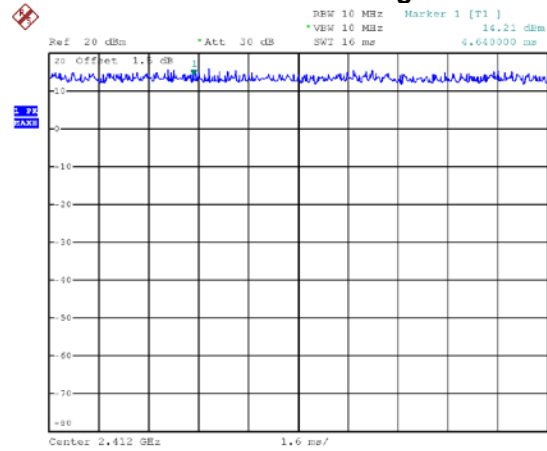
IEEE 802.11b



Date: 22.NOV.2019 16:39:18

Duty cycle = 34.000 ms / 34.000 ms = 100%
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$

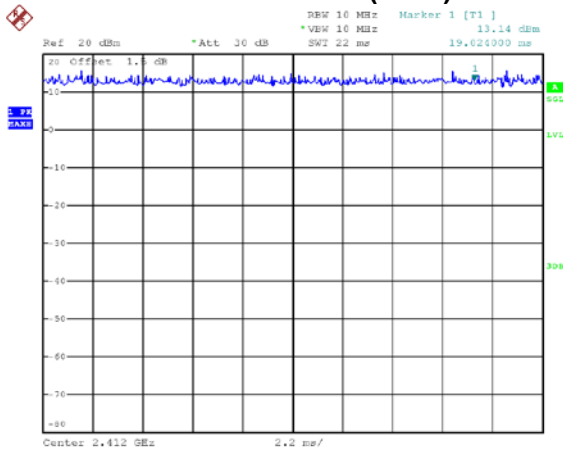
IEEE 802.11g



Date: 22.NOV.2019 16:40:04

Duty cycle = 16.000 ms / 16.000 ms = 100%
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$

IEEE 802.11n (HT20)



Date: 22.NOV.2019 16:40:47

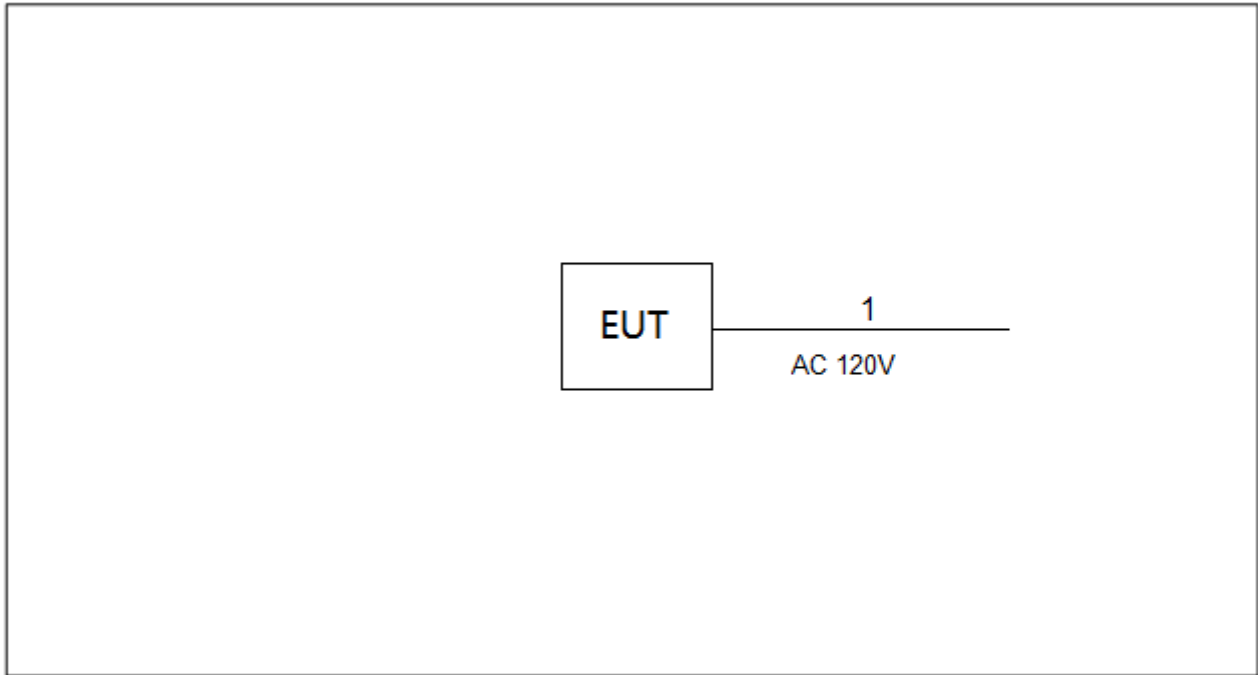
Duty cycle = 22.000 ms / 22.000 ms = 100%
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$

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%).

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	AC Cable	NO	NO	1.5m

3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency of Emission (MHz)	Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

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

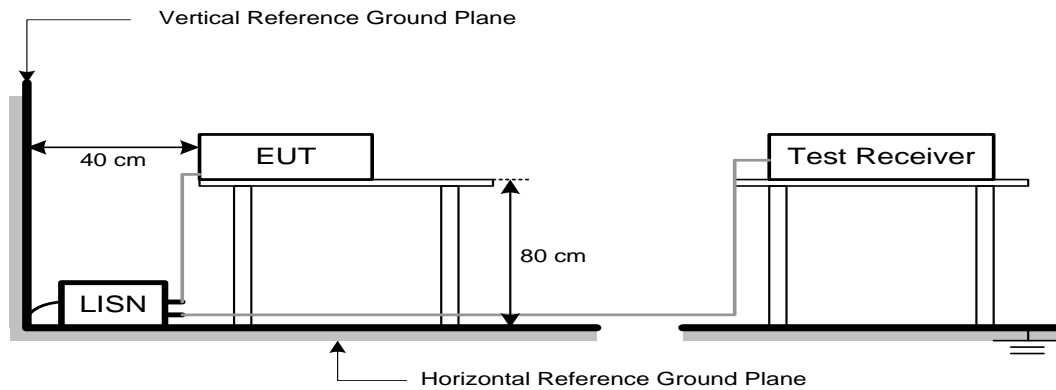
3.2 TEST PROCEDURE

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

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS TEST

4.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

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

NOTE:

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

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

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

4.2 TEST PROCEDURE

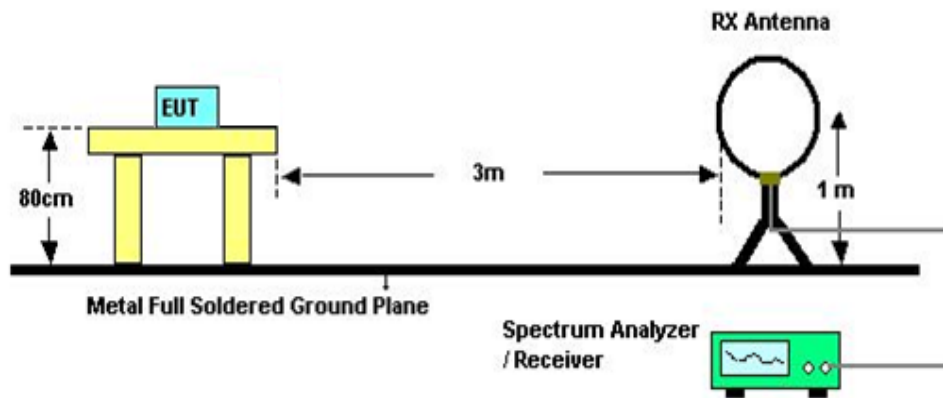
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance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

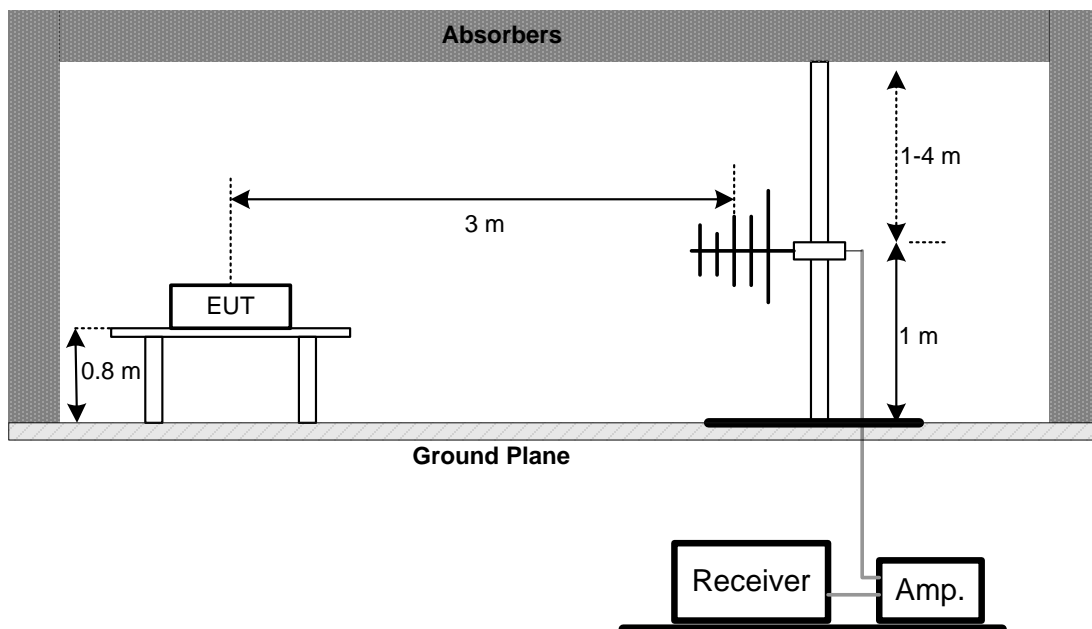
No deviation

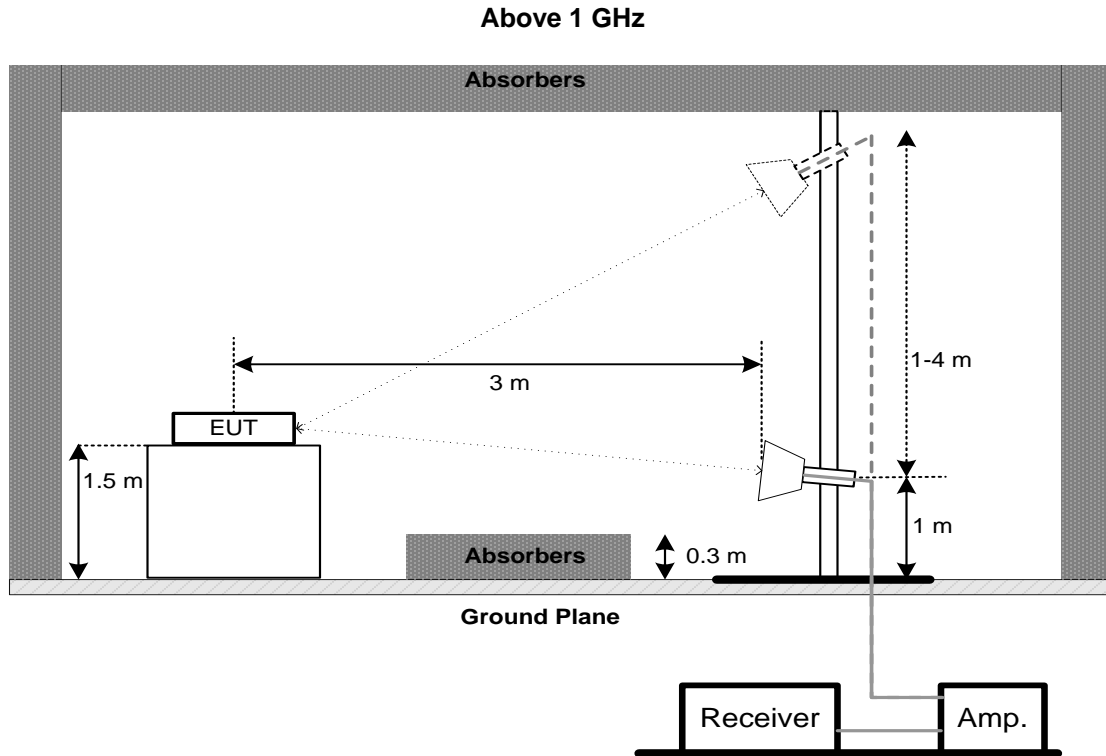
4.4 TEST SETUP

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.
- Spectrum Setting:
For 6 dB Bandwidth : RBW= 100 kHz, VBW=300 kHz, Sweep time = 2.5 ms.
For 99% Emission Bandwidth B/G/N-20 Mode: RBW= 300 KHz, VBW=1 MHz, Sweep time = 2.5 ms.
- The bandwidth was performed in accordance with method 11.8.1 of ANSI C63.10-2013.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. MAXIMUM OUTPUT POWER TEST

6.1 LIMIT

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

6.2 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- The maximum conducted output power was performed in accordance with method 11.9.1.3 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)

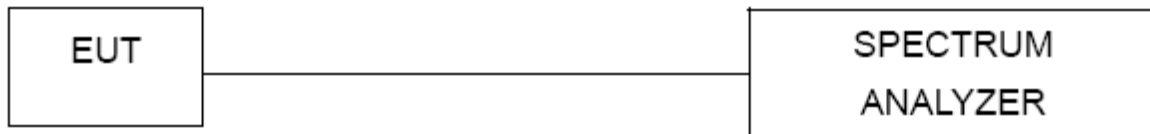
8.2 TEST PROCEDURE

- 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 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.

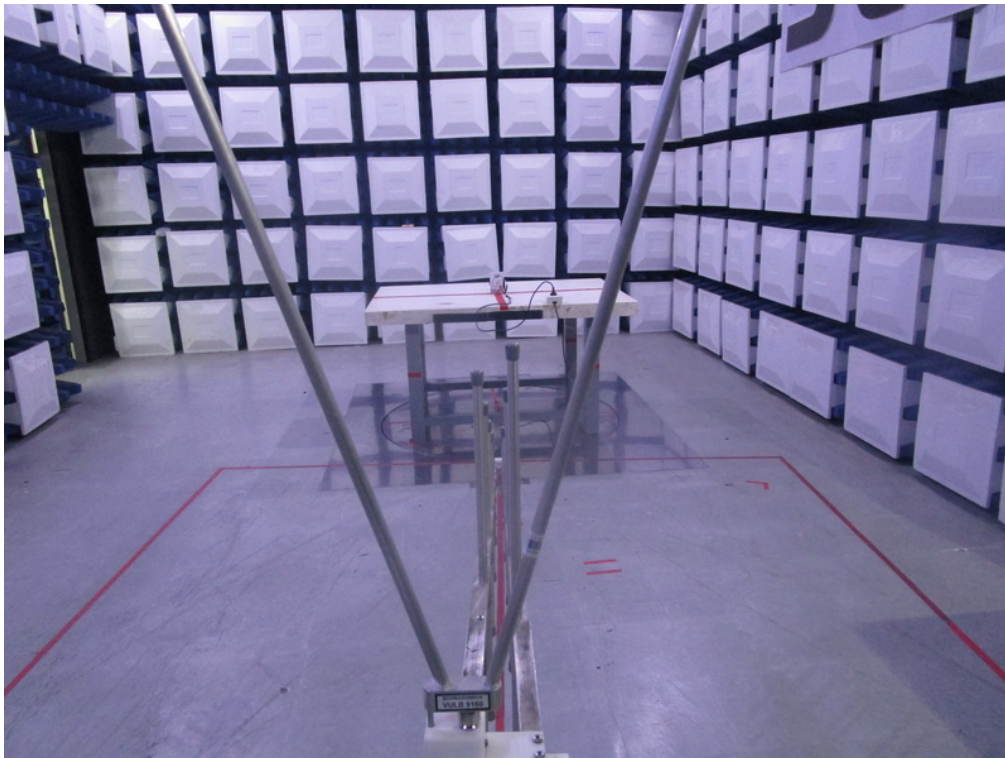
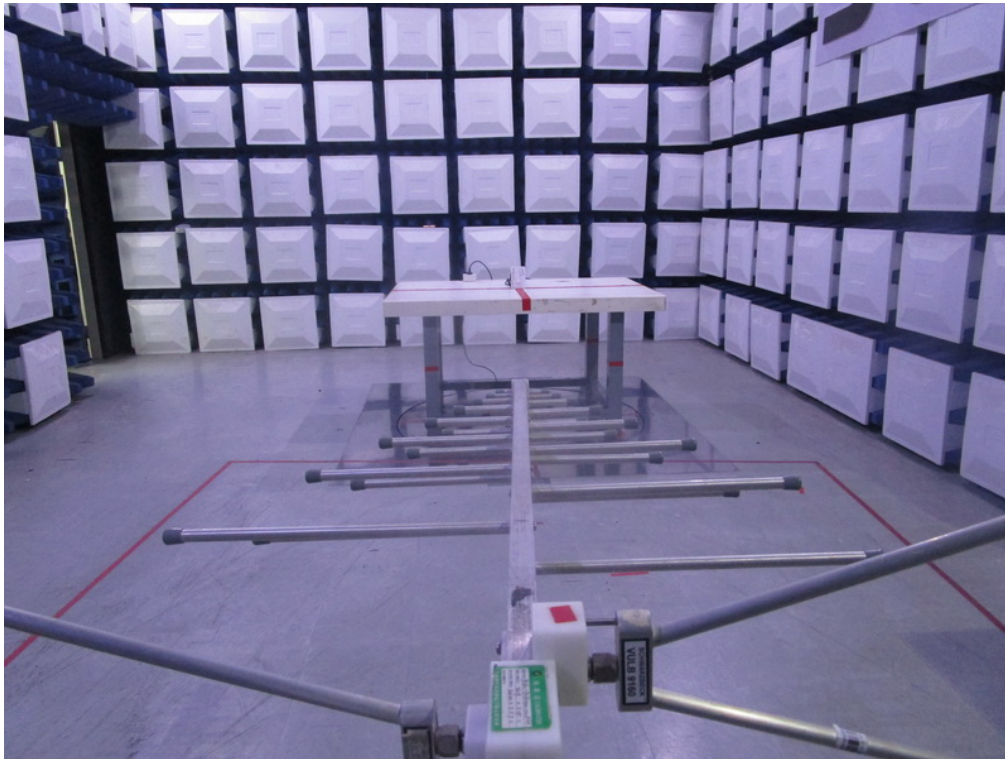
Except * item, all calibration period of equipment list is one year.

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

Radiated Emissions Test Photos**9 kHz to 30 MHz**

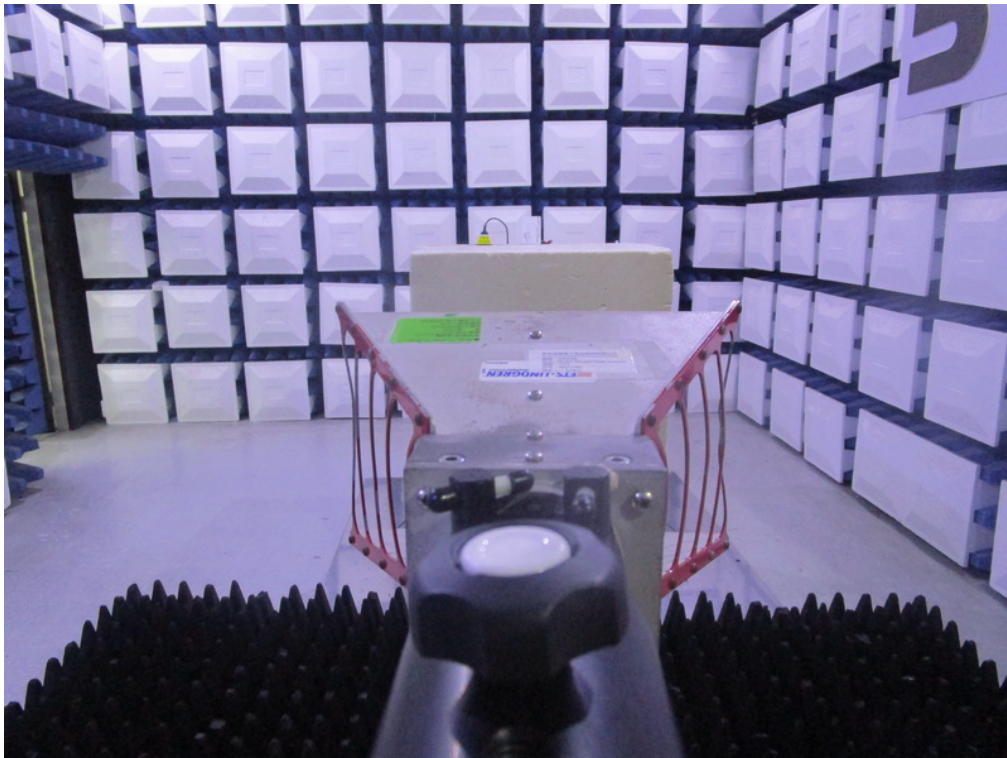
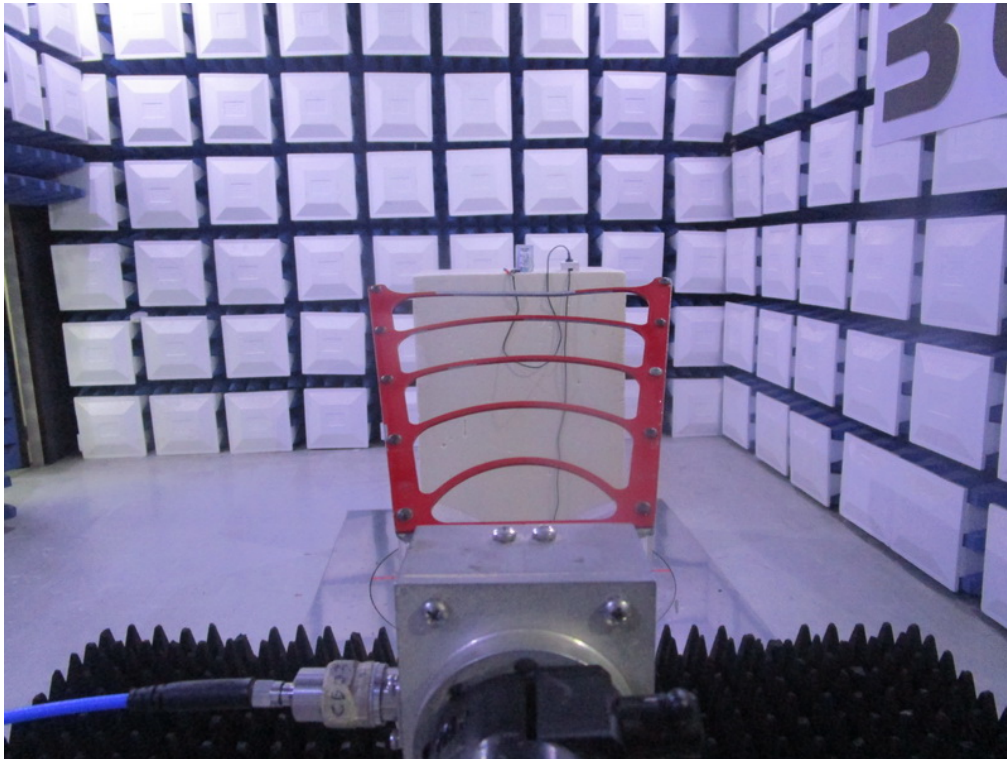
Radiated Emissions Test Photos

30 MHz to 1 GHz



Radiated Emissions Test Photos

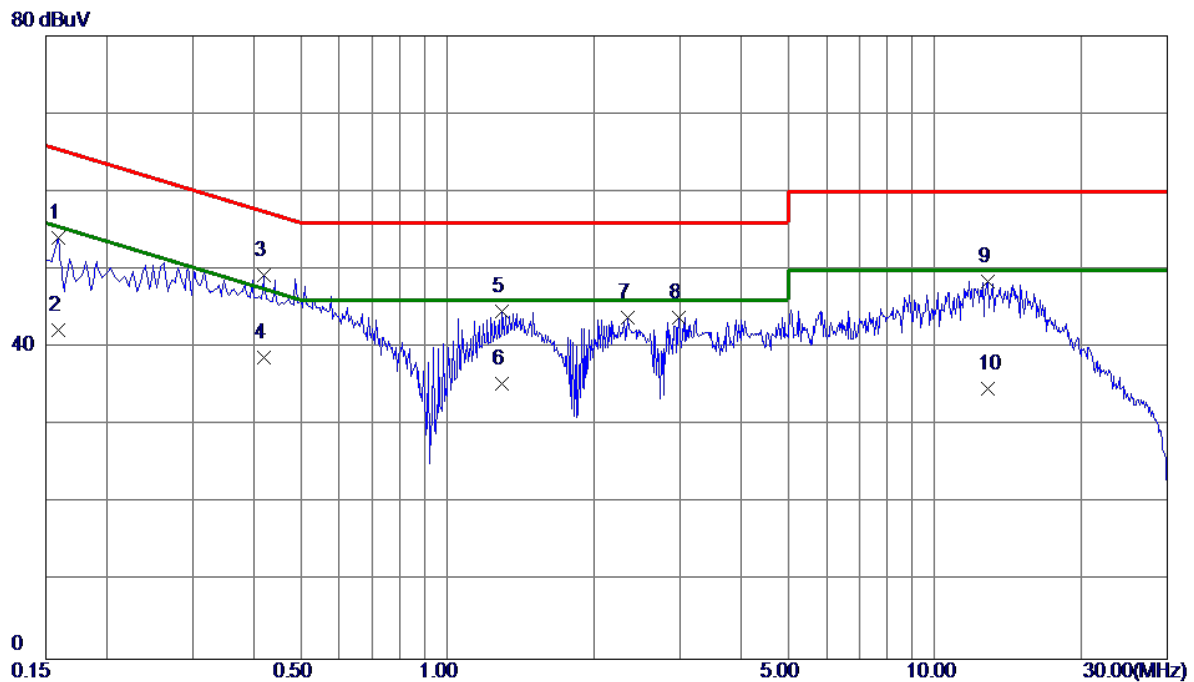
Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode: TX G Mode Channel 06

Line



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1590	44.24	9.82	54.06	65.52	-11.46	Peak	
2	0.1590	32.44	9.82	42.26	55.52	-13.26	AVG	
3 *	0.4200	39.38	9.87	49.25	57.45	-8.20	Peak	
4	0.4200	28.83	9.87	38.70	47.45	-8.75	AVG	
5	1.2975	34.63	9.94	44.57	56.00	-11.43	Peak	
6	1.2975	25.46	9.94	35.40	46.00	-10.60	AVG	
7	2.3460	33.86	10.02	43.88	56.00	-12.12	Peak	
8	2.9760	33.73	10.06	43.79	56.00	-12.21	Peak	
9	12.8310	37.88	10.64	48.52	60.00	-11.48	Peak	
10	12.8310	24.13	10.64	34.77	50.00	-15.23	AVG	

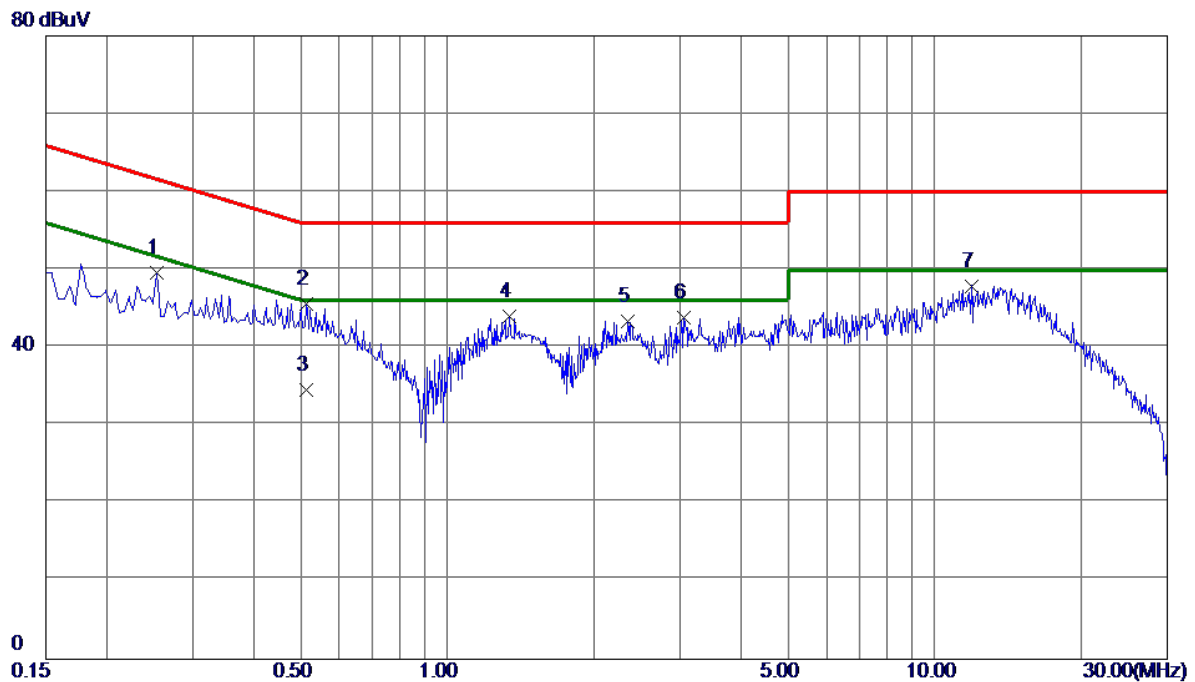
REMARKS:

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

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

Test Mode: TX G Mode Channel 06

Neutral



No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.2535	39.66	9.93	49.59	61.64	-12.05	Peak	
2 *	0.5144	35.61	10.03	45.64	56.00	-10.36	Peak	
3	0.5144	24.54	10.03	34.57	46.00	-11.43	AVG	
4	1.3380	33.83	10.14	43.97	56.00	-12.03	Peak	
5	2.3505	33.20	10.21	43.41	56.00	-12.59	Peak	
6	3.0615	33.53	10.25	43.78	56.00	-12.22	Peak	
7	11.8905	37.05	10.87	47.92	60.00	-12.08	Peak	

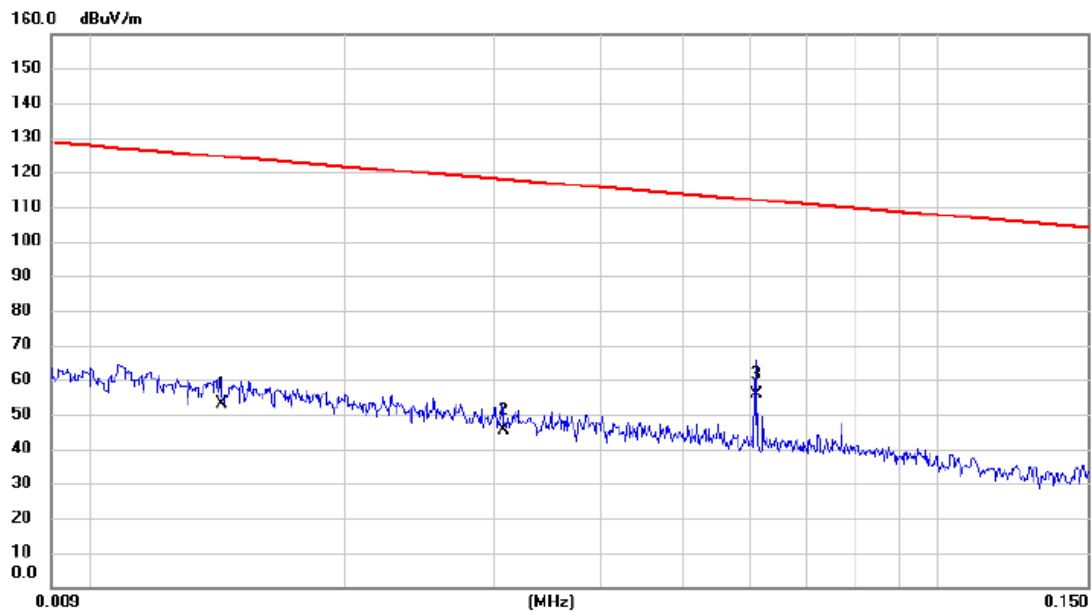
REMARKS:

- (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 G Mode Channel 06

Ant 0°



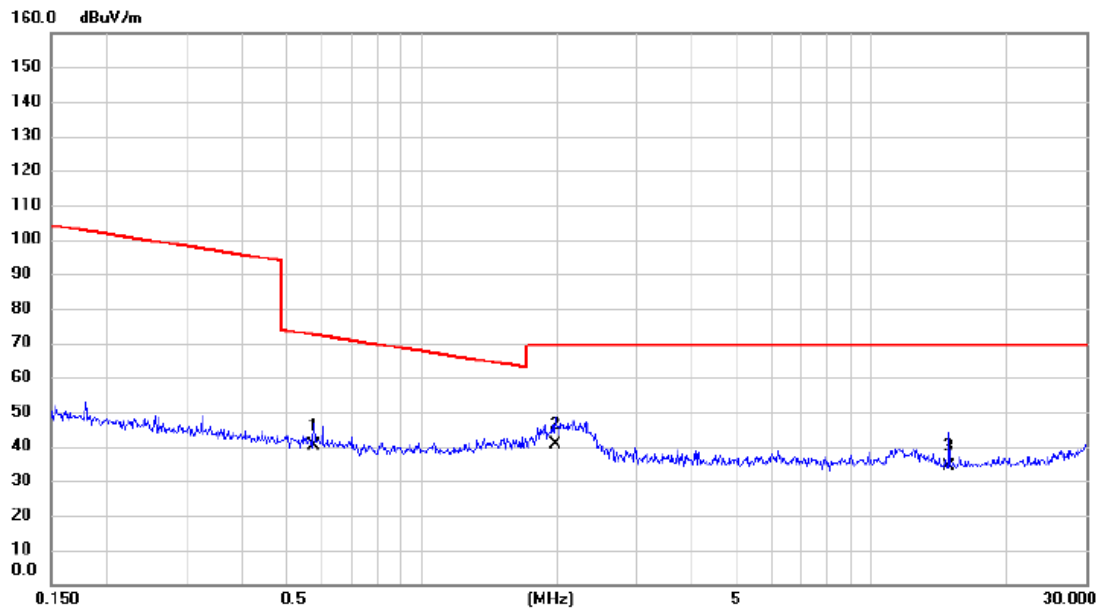
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.014	37.50	15.53	53.03	124.50	-71.47	AVG	
2		0.031	31.67	13.86	45.53	117.86	-72.33	AVG	
3	*	0.061	42.15	13.75	55.90	111.90	-56.00	AVG	

REMARKS:

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

Test Mode: TX G Mode Channel 06

Ant 0°



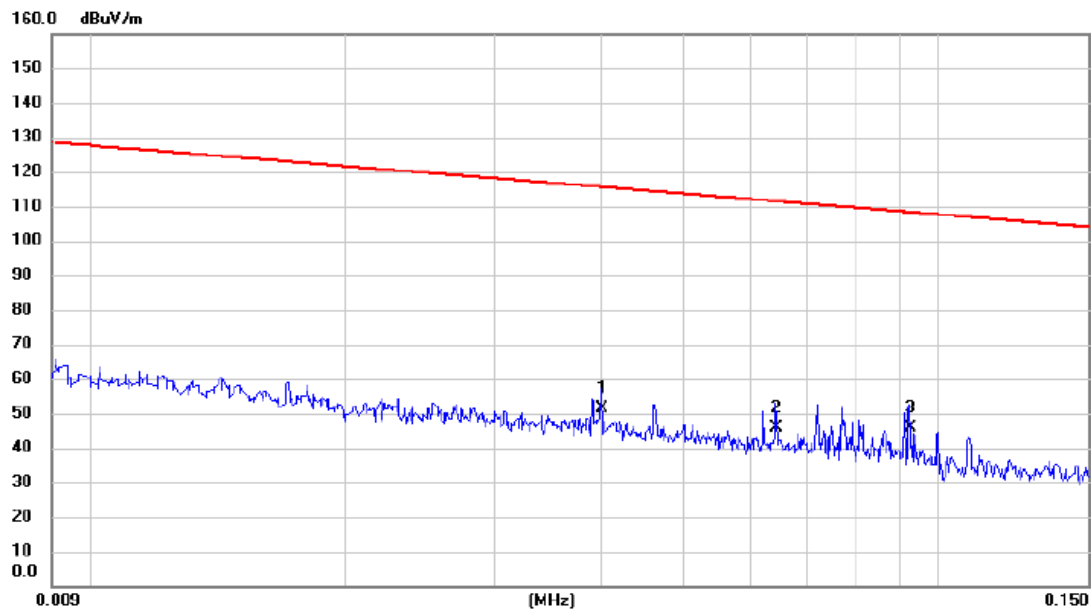
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.576	27.46	12.92	40.38	72.39	-32.01	QP	
2 *	1.980	28.64	11.82	40.46	69.54	-29.08	QP	
3	14.907	22.65	11.57	34.22	69.54	-35.32	QP	

REMARKS:

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

Test Mode: TX G Mode Channel 06

Ant 90°



No. Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.040	37.45	13.90	51.35	115.54	-64.19	AVG	
2	0.064	32.15	13.70	45.85	111.44	-65.59	AVG	
3 *	0.092	32.15	13.54	45.69	108.28	-62.59	QP	

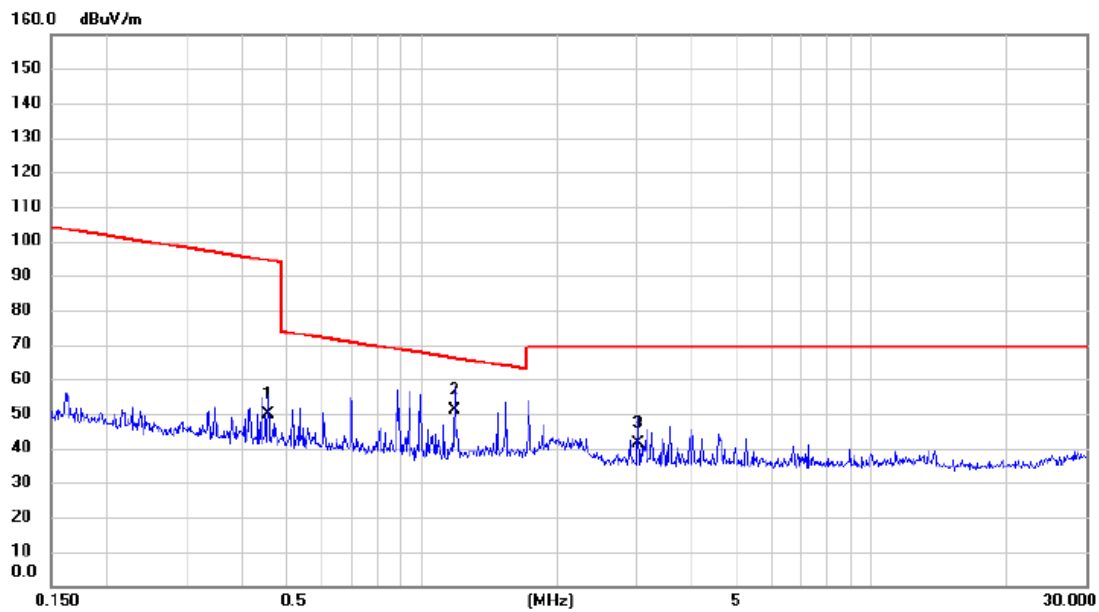
REMARKS:

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

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

Test Mode: TX G Mode Channel 06

Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.456	36.51	13.16	49.67	94.42	-44.75	AVG	
2	*	1.184	38.74	12.37	51.11	66.13	-15.02	QP	
3		3.025	30.25	11.22	41.47	69.54	-28.07	QP	

REMARKS:

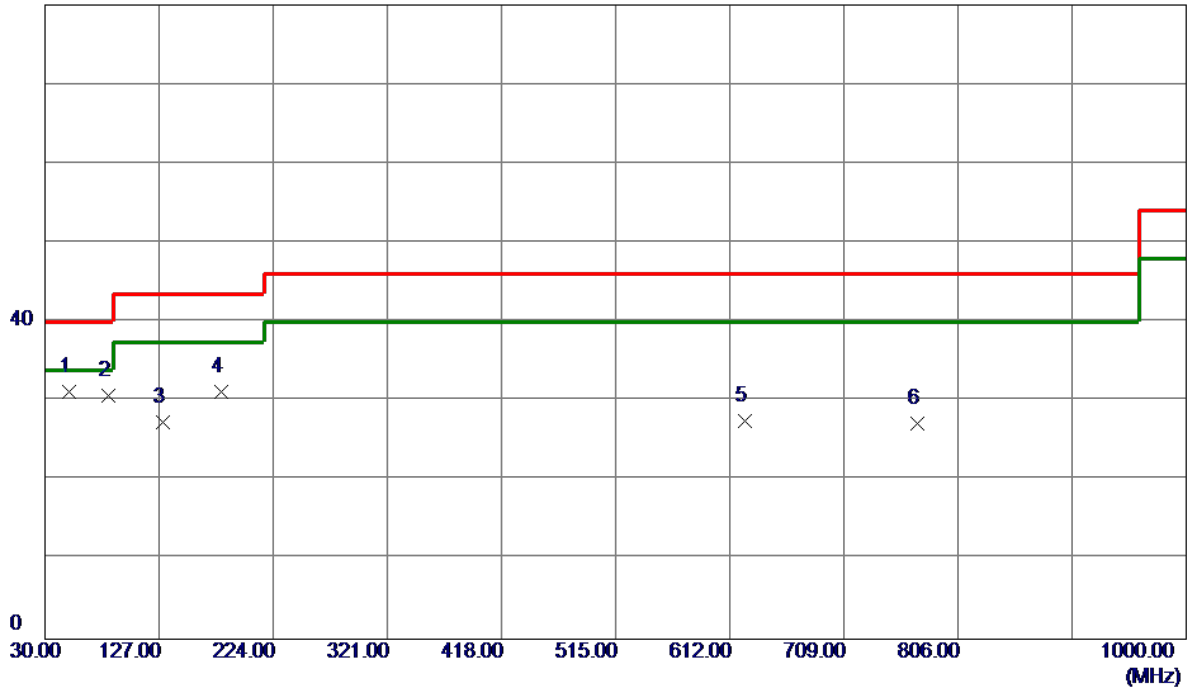
- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode: TX G 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 *	50.3700	45.14	-13.89	31.25	40.00	-8.75	Peak	
2	84.3200	47.89	-17.23	30.66	40.00	-9.34	Peak	
3	129.9100	40.54	-13.11	27.43	43.50	-16.07	Peak	
4	179.3800	44.37	-13.16	31.21	43.50	-12.29	Peak	
5	624.6100	32.84	-5.27	27.57	46.00	-18.43	Peak	
6	771.0800	30.66	-3.39	27.27	46.00	-18.73	Peak	

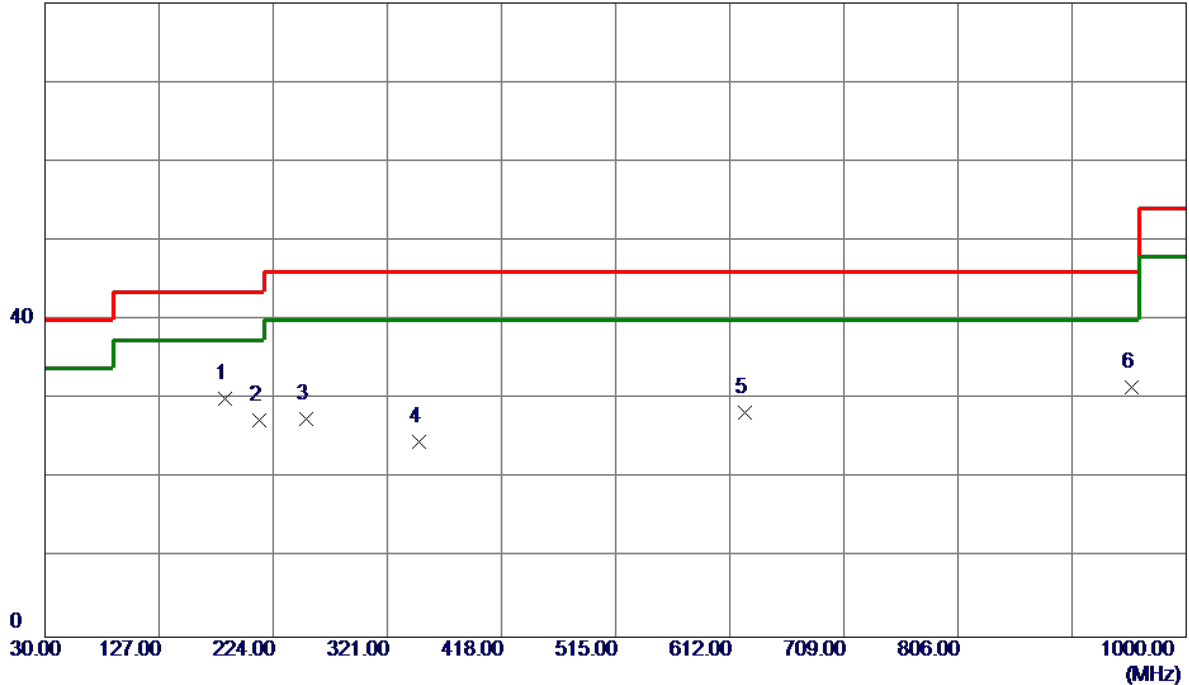
REMARKS:

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

Test Mode: TX G 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 *	183.2600	43.74	-13.63	30.11	43.50	-13.39	Peak	
2	212.3600	42.86	-15.44	27.42	43.50	-16.08	Peak	
3	252.1300	41.05	-13.57	27.48	46.00	-18.52	Peak	
4	348.1600	35.46	-10.77	24.69	46.00	-21.31	Peak	
5	624.6100	33.63	-5.27	28.36	46.00	-17.64	Peak	
6	953.4400	32.23	-0.65	31.58	46.00	-14.42	Peak	

REMARKS:

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

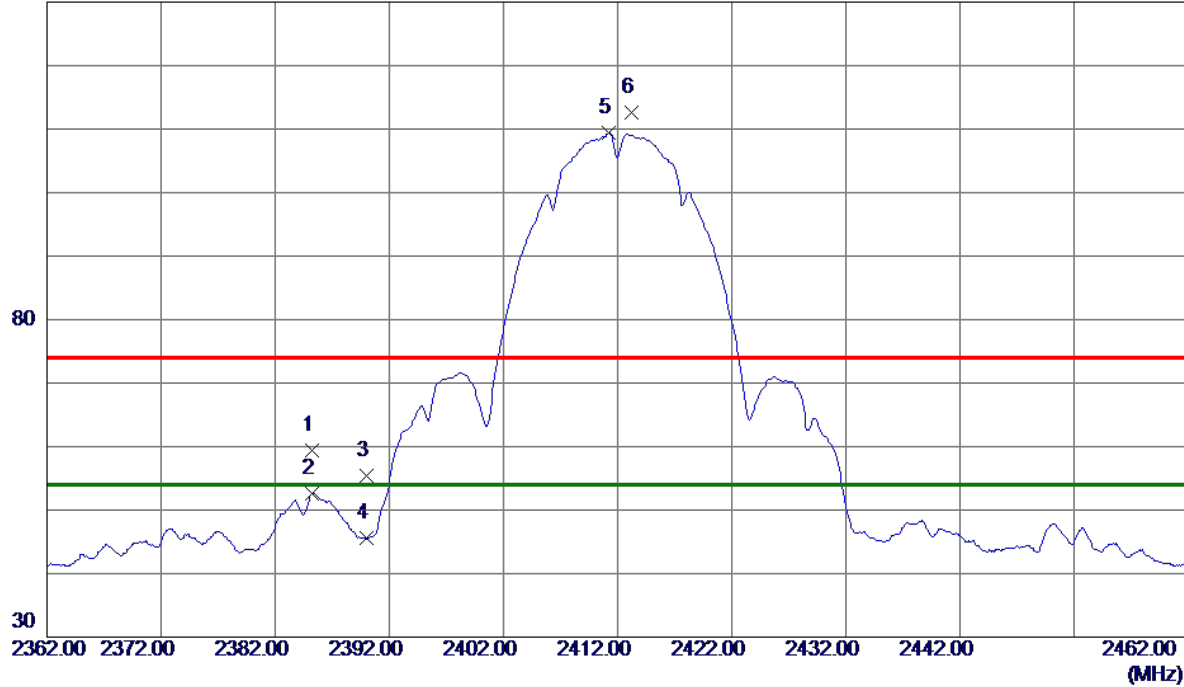
(2) Margin Level = Measurement Value - Limit Value.

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	2385.2500	49.54	9.93	59.47	74.00	-14.53	Peak	
2	2385.2500	42.68	9.93	52.61	54.00	-1.39	AVG	
3	2390.0000	45.36	9.95	55.31	74.00	-18.69	Peak	
4	2390.0000	35.66	9.95	45.61	54.00	-8.39	AVG	
5 *	2411.2500	99.37	10.03	109.40	54.00	55.40	AVG	No Limit
6	2413.2500	102.59	10.03	112.62	74.00	38.62	Peak	No Limit

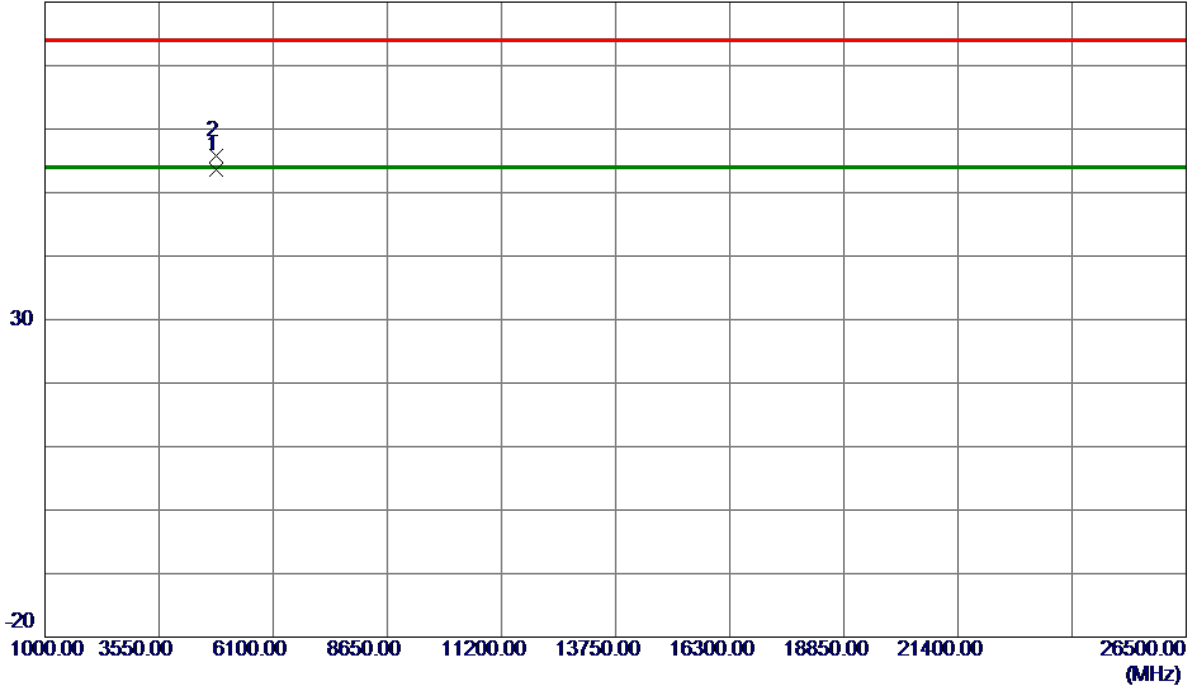
REMARKS:

- (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 *	4824.0419	45.90	7.69	53.59	54.00	-0.41	AVG	
2	4824.2220	48.09	7.69	55.78	74.00	-18.22	Peak	

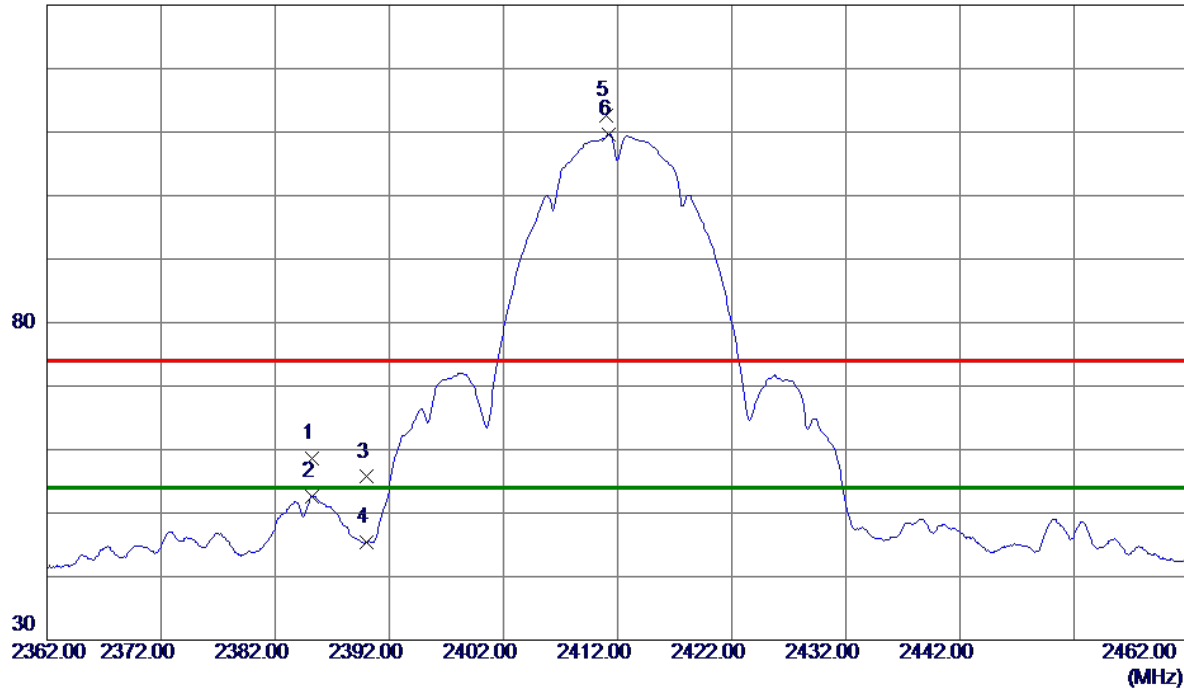
REMARKS:

- (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	2385.2000	48.76	9.93	58.69	74.00	-15.31	Peak	
2	2385.2000	42.74	9.93	52.67	54.00	-1.33	AVG	
3	2390.0000	45.75	9.95	55.70	74.00	-18.30	Peak	
4	2390.0000	35.39	9.95	45.34	54.00	-8.66	AVG	
5	2410.9500	102.61	10.03	112.64	74.00	38.64	Peak	No Limit
6 *	2411.2000	99.56	10.03	109.59	54.00	55.59	AVG	No Limit

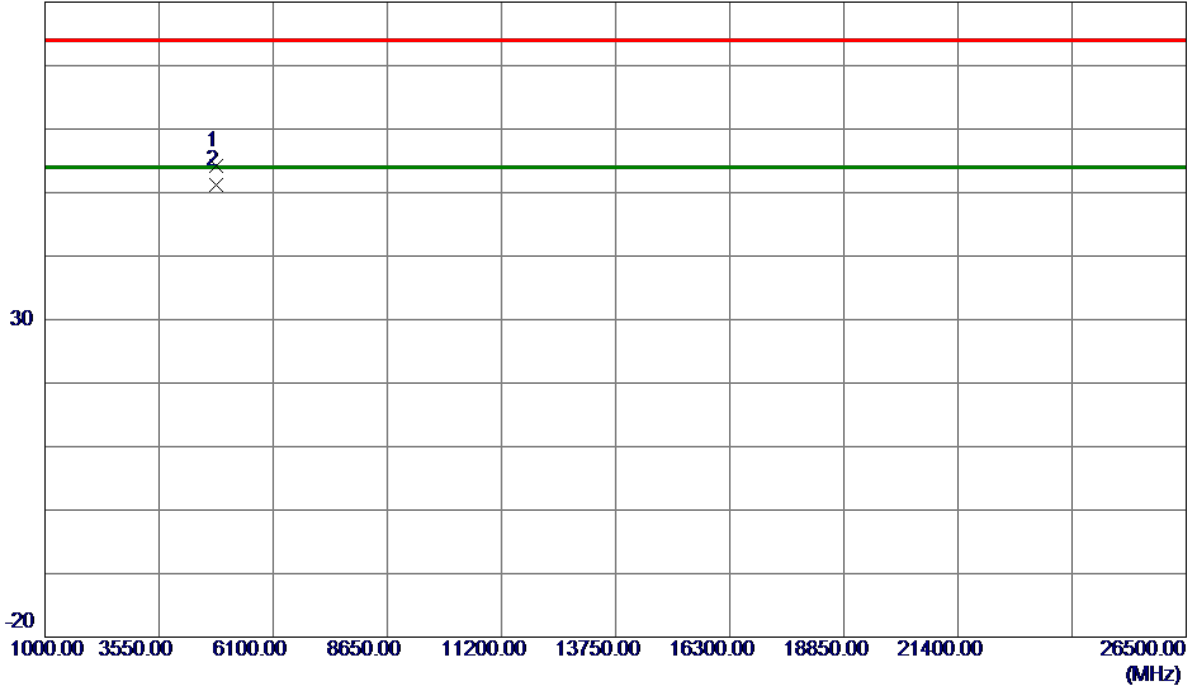
REMARKS:

- (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



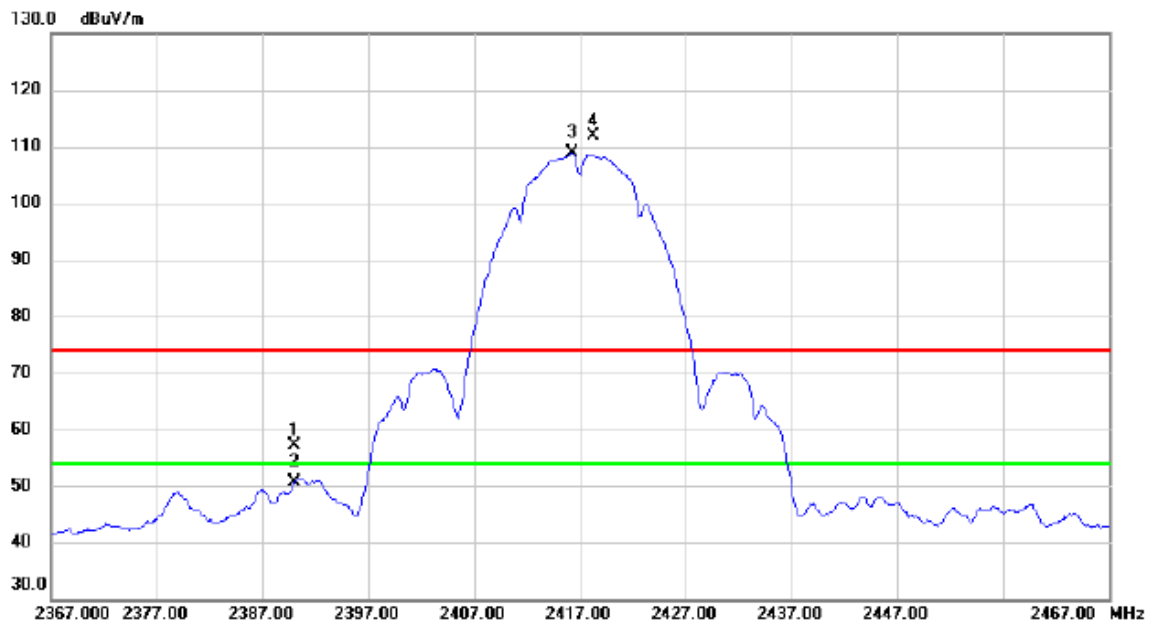
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4824.0550	46.60	7.69	54.29	74.00	-19.71	Peak	
2 *	4824.0570	43.59	7.69	51.28	54.00	-2.72	AVG	

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	47.22	9.95	57.17	74.00	-16.83	peak	
2		2390.000	40.65	9.95	50.60	54.00	-3.40	AVG	
3	*	2416.300	98.82	10.05	108.87	54.00	54.87	AVG	No Limit
4	X	2418.250	101.76	10.06	111.82	74.00	37.82	peak	No Limit

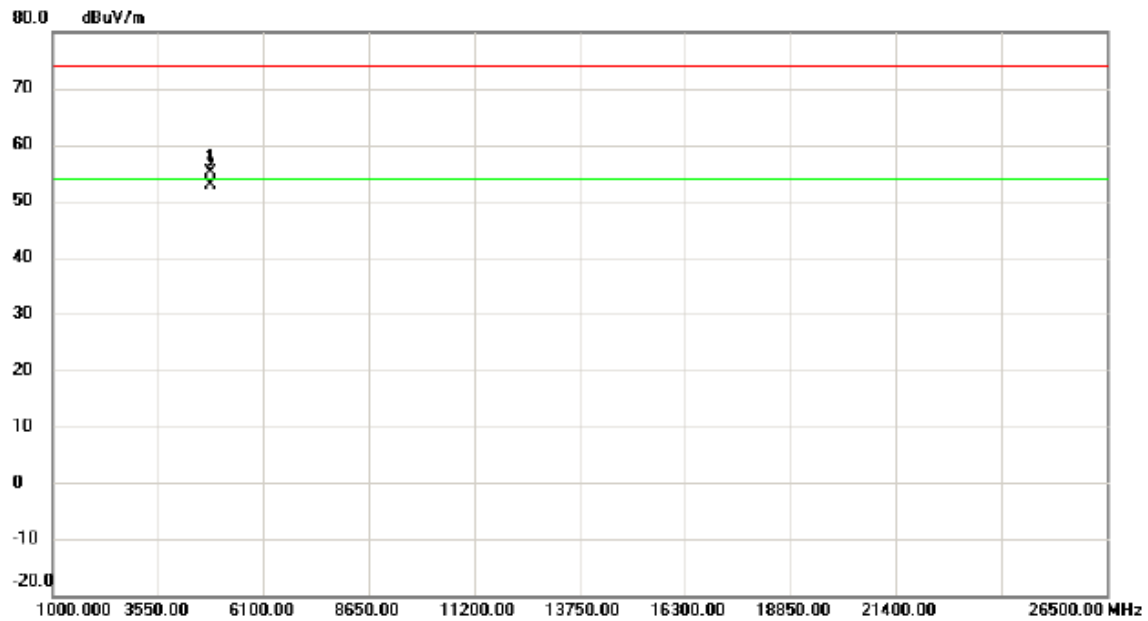
REMARKS:

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

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

Test Mode: TX B Mode 2417 MHz

Vertical



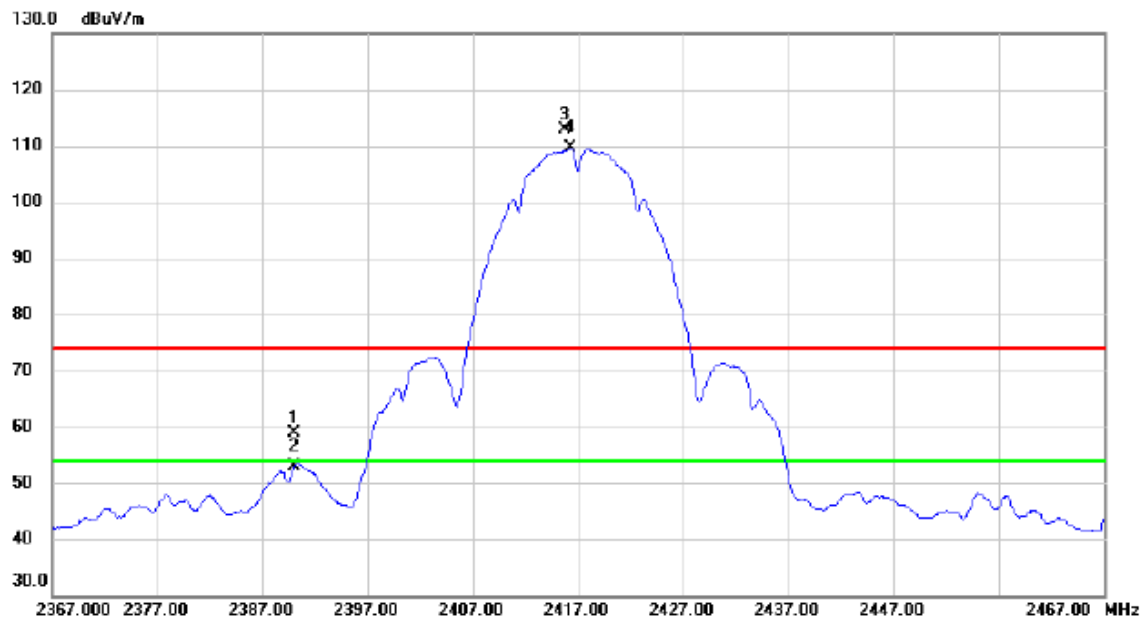
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4834.020	47.48	7.72	55.20	74.00	-18.80	peak	
2 *		4834.045	45.10	7.72	52.82	54.00	-1.18	AVG	

REMARKS:

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

Test Mode: TX B Mode 2417 MHz

Horizontal



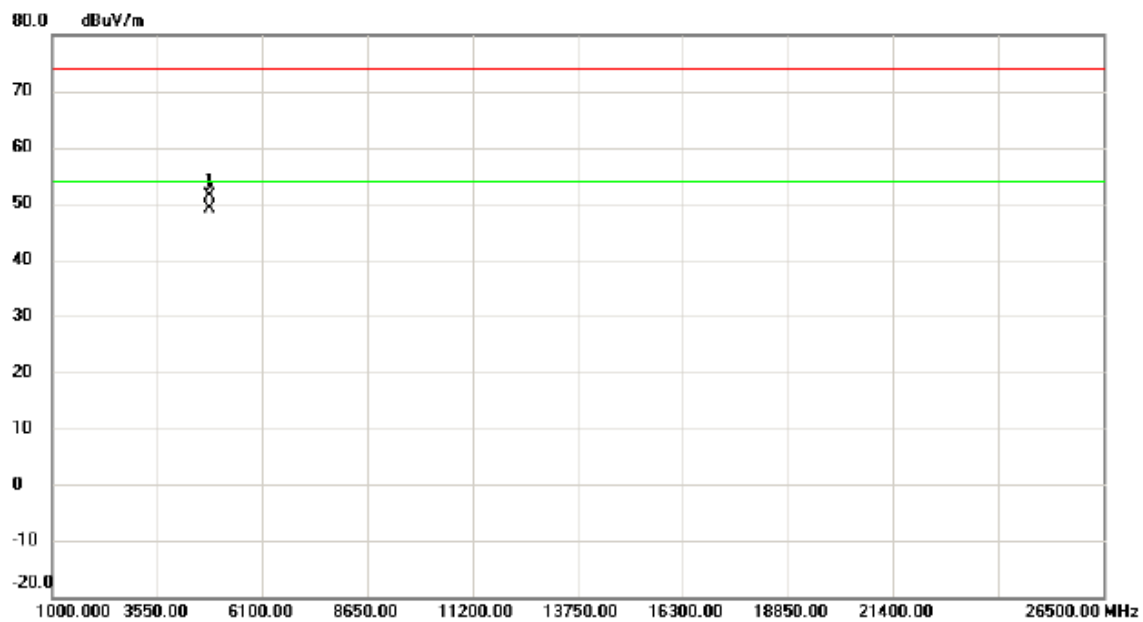
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	48.88	9.95	58.83	74.00	-15.17	peak	
2		2390.000	42.93	9.95	52.88	54.00	-1.12	AVG	
3	X	2415.750	102.77	10.04	112.81	74.00	38.81	peak	No Limit
4	*	2416.300	99.65	10.05	109.70	54.00	55.70	AVG	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		4834.030	43.56	7.72	51.28	74.00	-22.72	peak	
2	*	4834.040	41.37	7.72	49.09	54.00	-4.91	AVG	

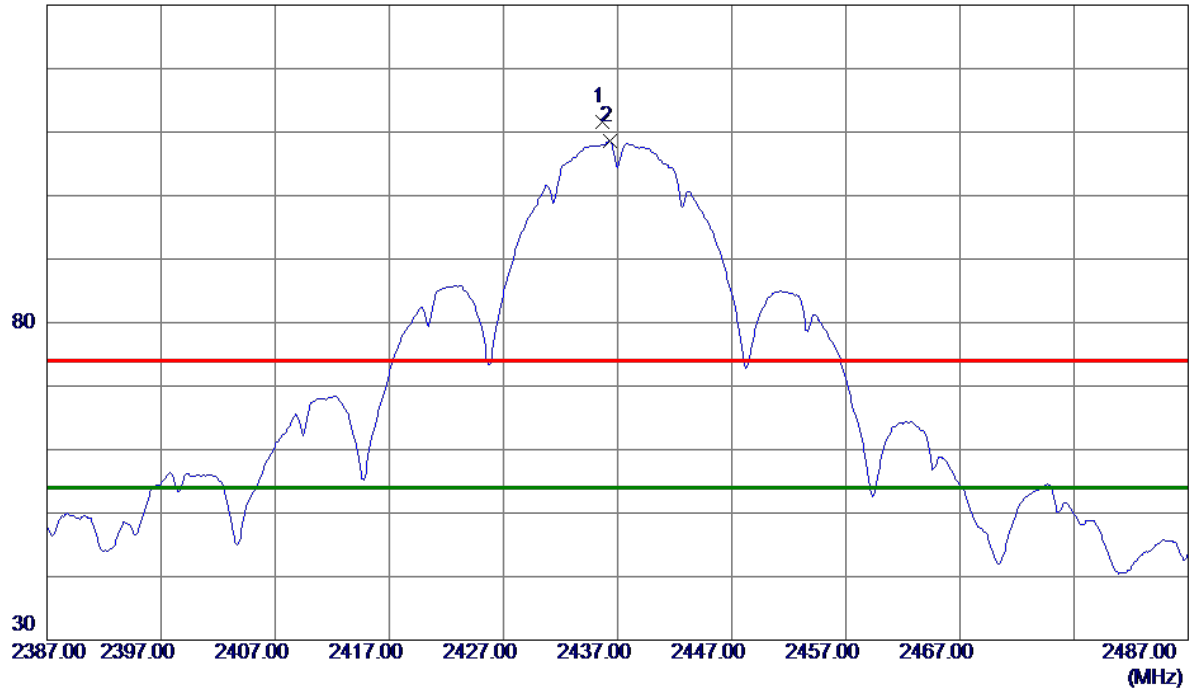
REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.7000	101.53	10.12	111.65	74.00	37.65	Peak	No Limit
2 *	2436.3000	98.44	10.12	108.56	54.00	54.56	AVG	No Limit

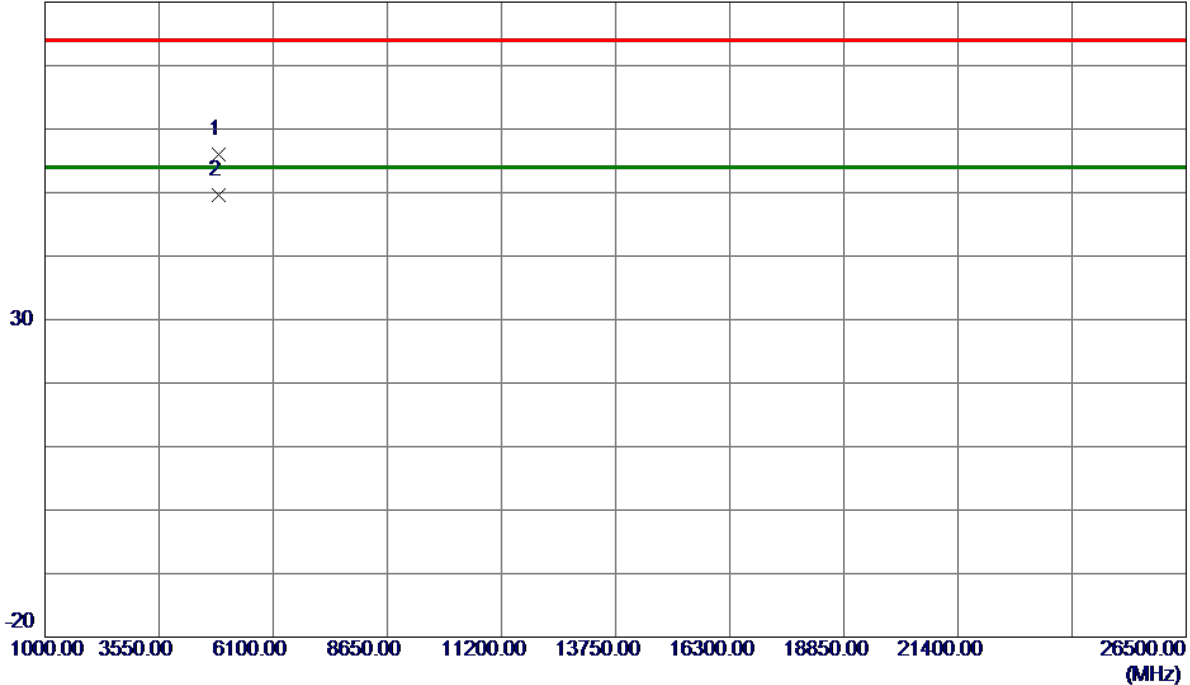
REMARKS:

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

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

Vertical

80 dBuV/m



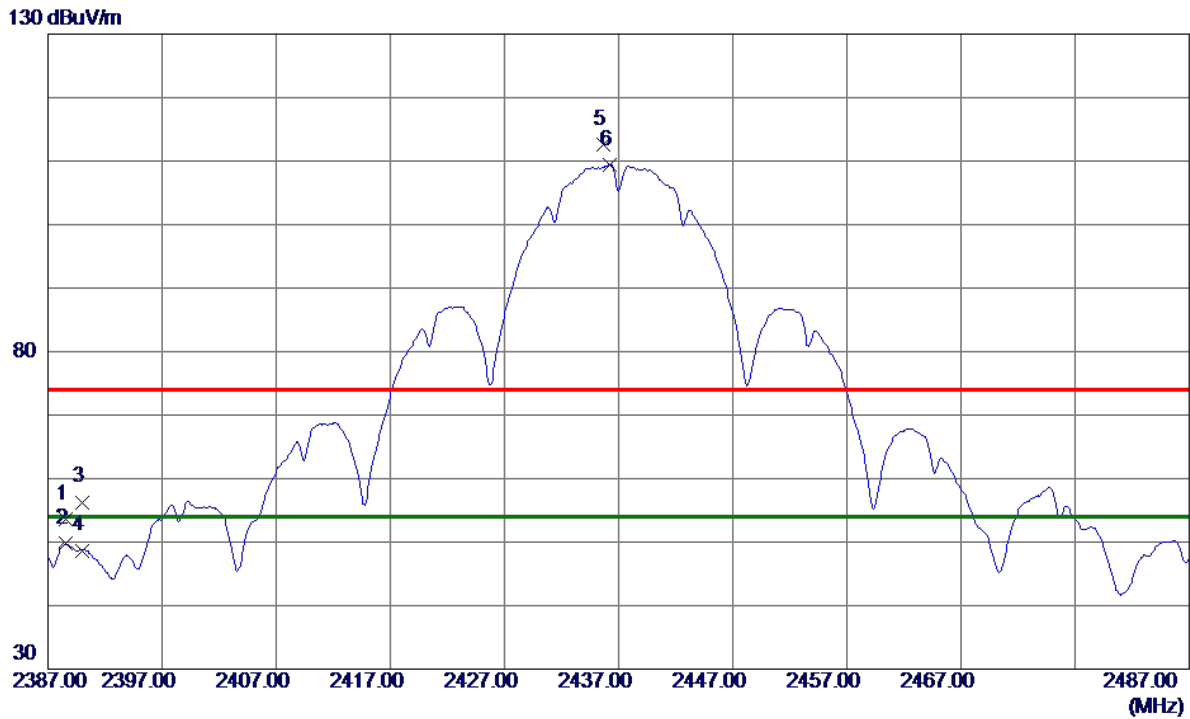
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4874.0200	48.02	7.89	55.91	74.00	-18.09	Peak	
2 *	4874.0650	41.64	7.89	49.53	54.00	-4.47	AVG	

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	2388.5500	43.65	9.94	53.59	74.00	-20.41	Peak	
2	2388.5500	39.80	9.94	49.74	54.00	-4.26	AVG	
3	2390.0000	46.35	9.95	56.30	74.00	-17.70	Peak	
4	2390.0000	38.75	9.95	48.70	54.00	-5.30	AVG	
5	2435.7000	102.57	10.12	112.69	74.00	38.69	Peak	No Limit
6 *	2436.2500	99.33	10.12	109.45	54.00	55.45	AVG	No Limit

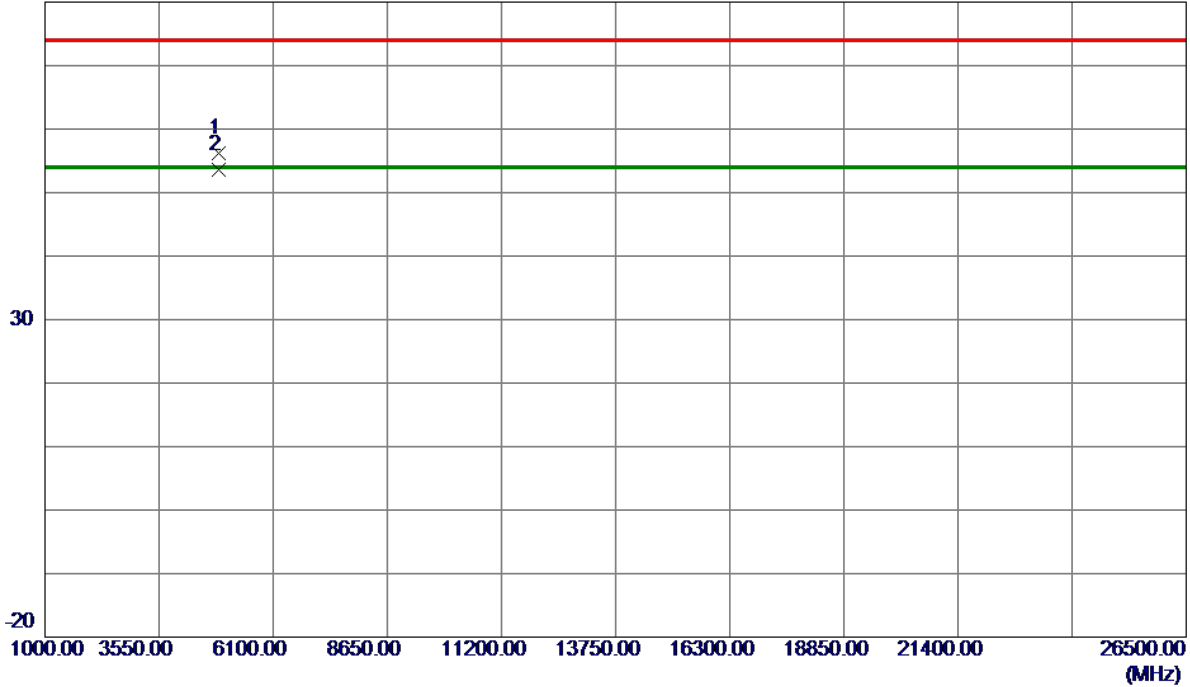
REMARKS:

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

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

Horizontal

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	4873.9430	48.37	7.89	56.26	74.00	-17.74	Peak	
2 *	4874.0650	45.62	7.89	53.51	54.00	-0.49	AVG	

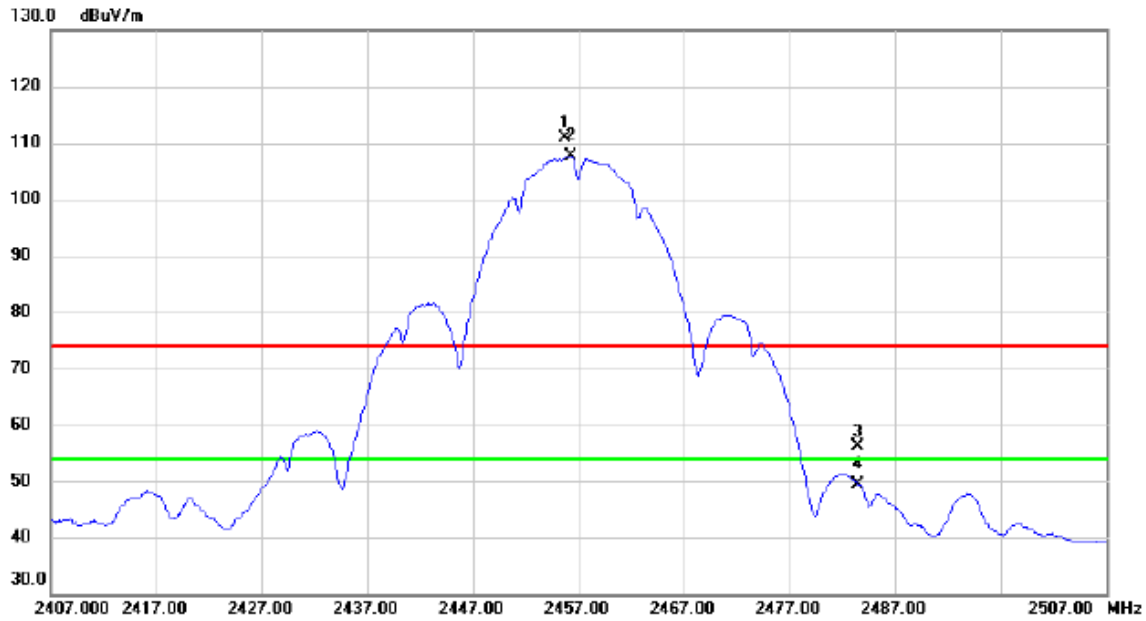
REMARKS:

(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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2455.700	100.64	10.19	110.83	74.00	36.83	peak	No Limit
2	*	2456.250	97.49	10.19	107.68	54.00	53.68	AVG	No Limit
3		2483.500	45.84	10.29	56.13	74.00	-17.87	peak	
4		2483.500	39.18	10.29	49.47	54.00	-4.53	AVG	

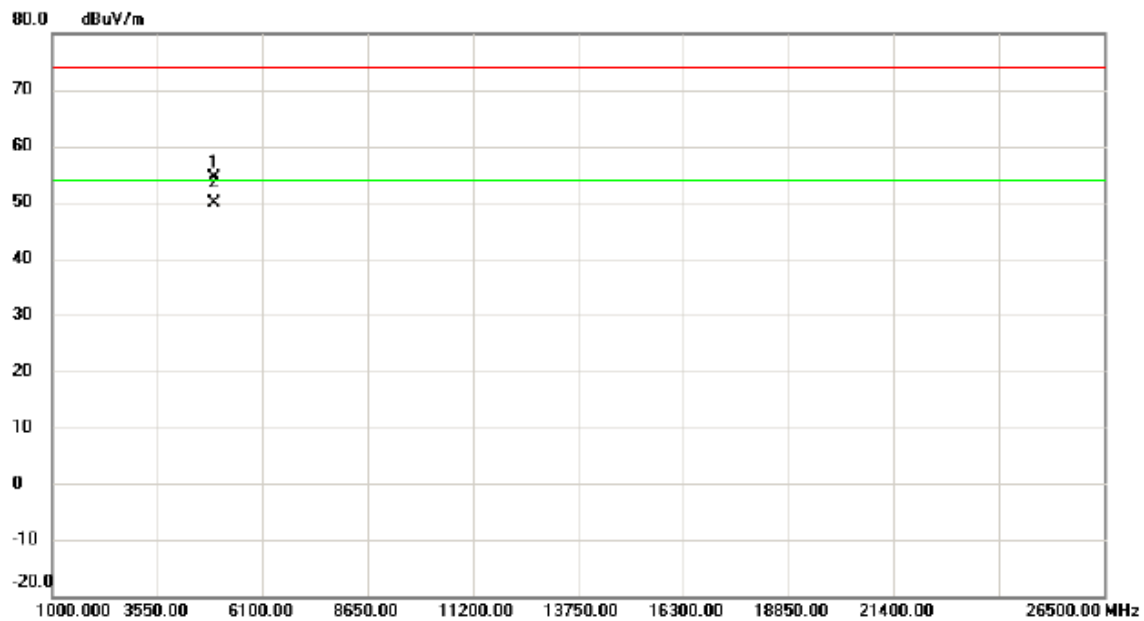
REMARKS:

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

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

Test Mode: TX B Mode 2457 MHz

Vertical



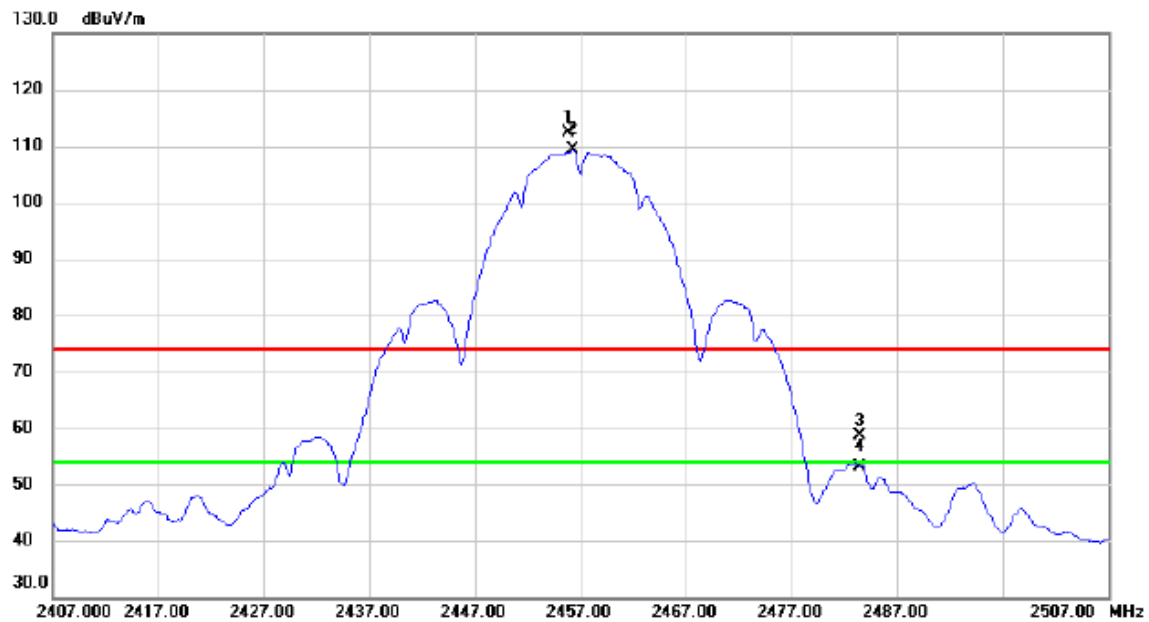
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4914.015	46.30	8.05	54.35	74.00	-19.65	peak	
2	*	4914.105	41.91	8.05	49.96	54.00	-4.04	AVG	

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	X	2455.800	102.25	10.19	112.44	74.00	38.44	peak	No Limit
2	*	2456.250	99.12	10.19	109.31	54.00	55.31	AVG	No Limit
3		2483.500	48.30	10.29	58.59	74.00	-15.41	peak	
4		2483.500	42.88	10.29	53.17	54.00	-0.83	AVG	

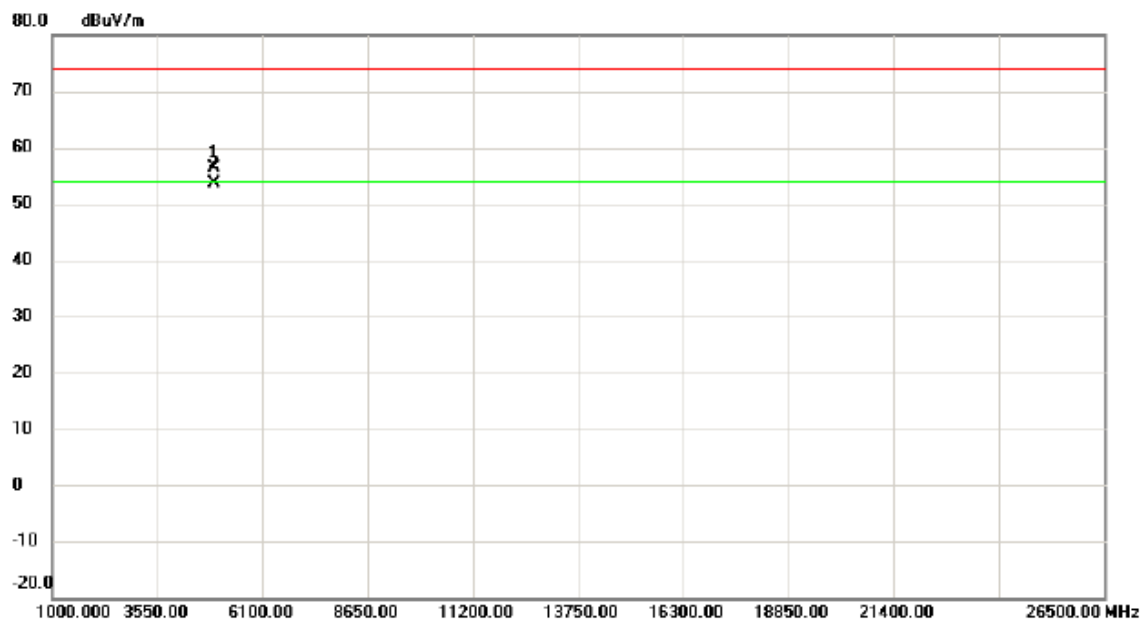
REMARKS:

(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		4914.060	48.35	8.05	56.40	74.00	-17.60	peak	
2	*	4914.070	45.53	8.05	53.58	54.00	-0.42	AVG	

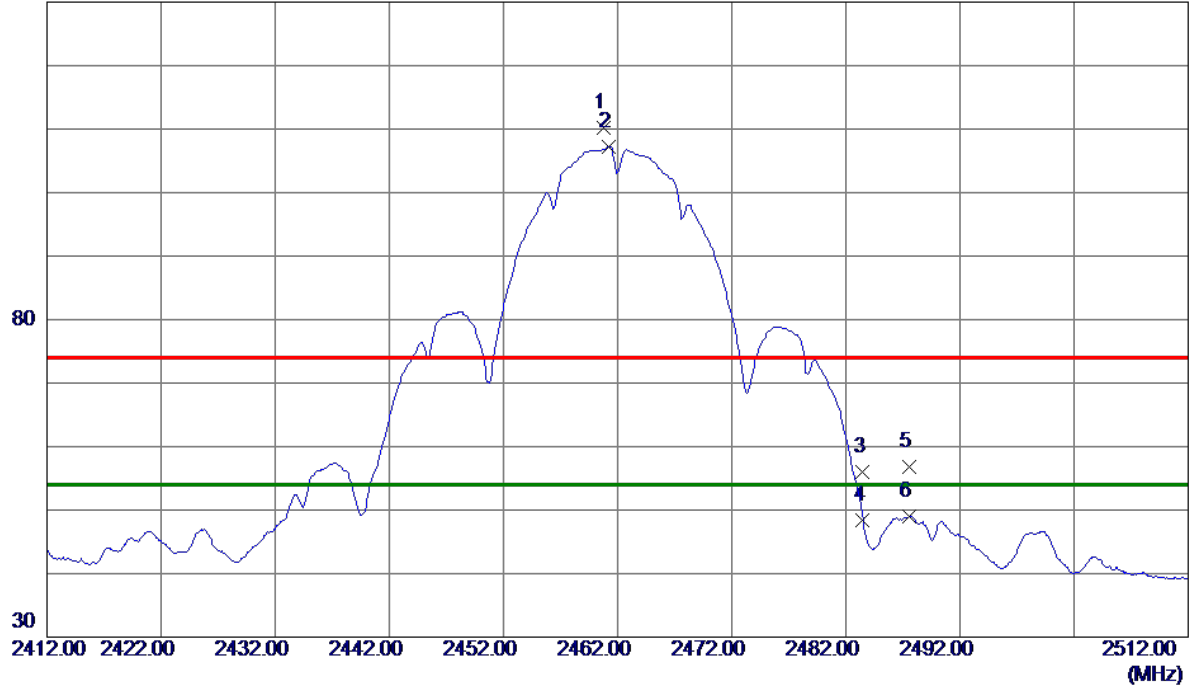
REMARKS:

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

Test Mode: TX B Mode 2462 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.7500	100.08	10.21	110.29	74.00	36.29	Peak	No Limit
2 *	2461.2500	97.02	10.21	107.23	54.00	53.23	AVG	No Limit
3	2483.5000	45.66	10.30	55.96	74.00	-18.04	Peak	
4	2483.5000	38.11	10.30	48.41	54.00	-5.59	AVG	
5	2487.6000	46.40	10.31	56.71	74.00	-17.29	Peak	
6	2487.6000	38.72	10.31	49.03	54.00	-4.97	AVG	

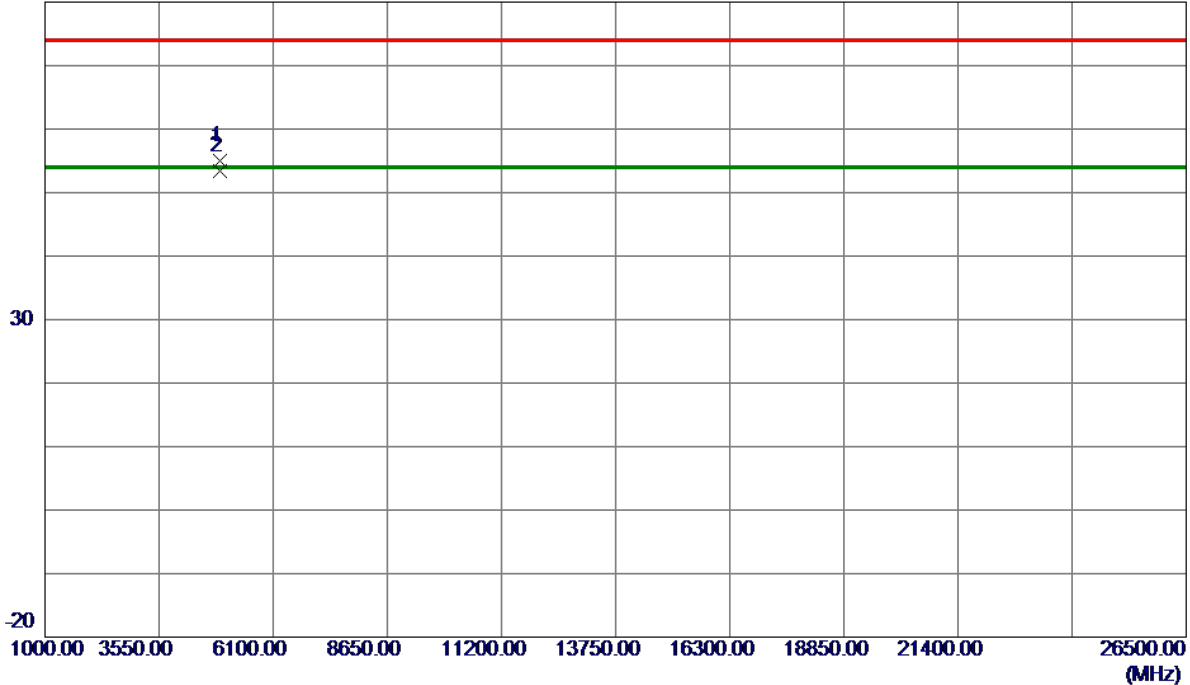
REMARKS:

- (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	4923.9950	46.93	8.10	55.03	74.00	-18.97	Peak	
2 *	4923.9950	45.21	8.10	53.31	54.00	-0.69	AVG	

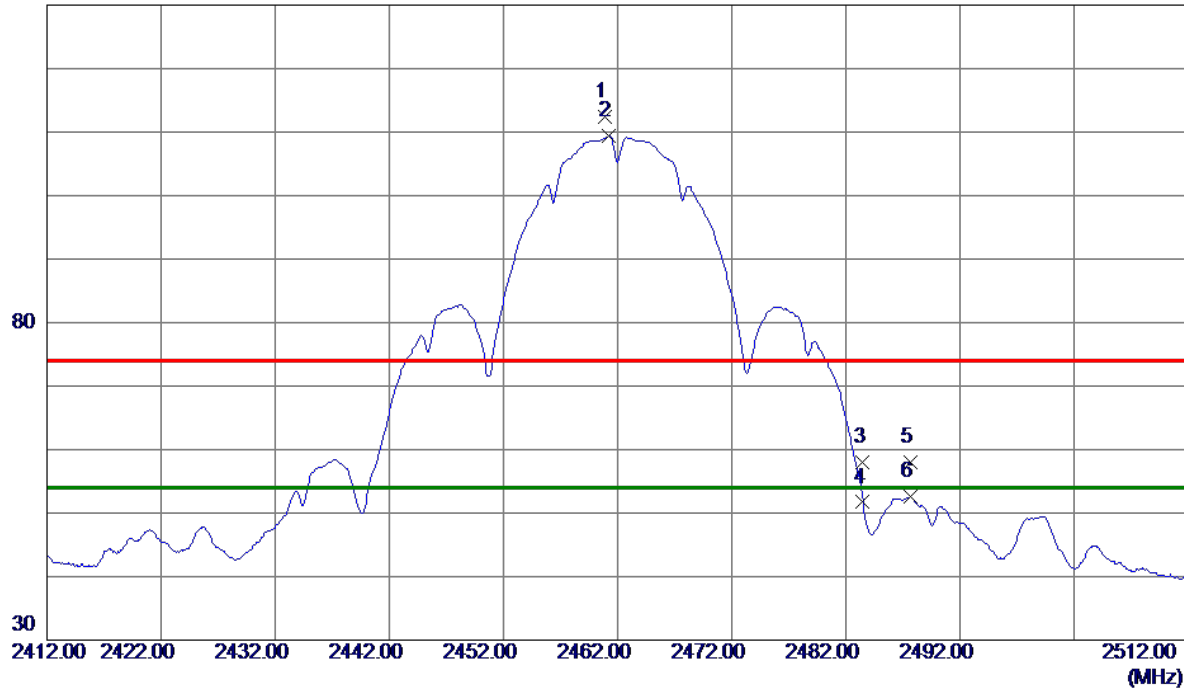
REMARKS:

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

Test Mode: TX B Mode 2462 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.8500	102.22	10.21	112.43	74.00	38.43	Peak	No Limit
2 *	2461.2500	99.17	10.21	109.38	54.00	55.38	AVG	No Limit
3	2483.5000	47.61	10.30	57.91	74.00	-16.09	Peak	
4	2483.5000	41.40	10.30	51.70	54.00	-2.30	AVG	
5	2487.7000	47.64	10.31	57.95	74.00	-16.05	Peak	
6	2487.7000	42.27	10.31	52.58	54.00	-1.42	AVG	

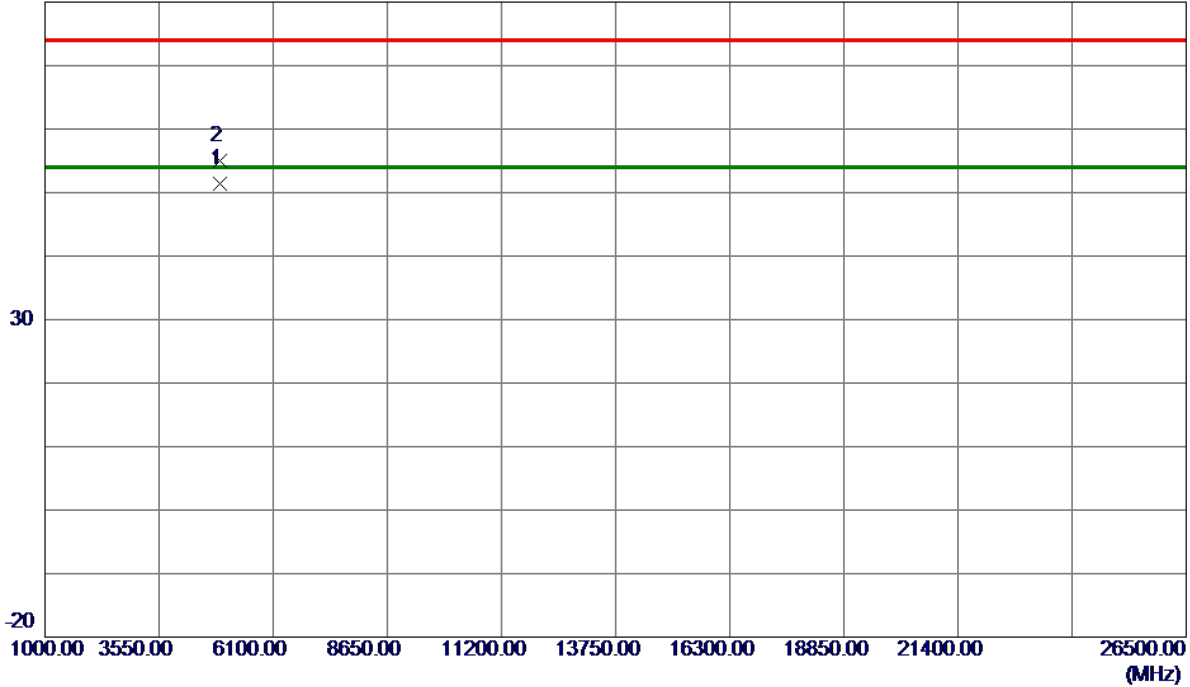
REMARKS:

- (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 *	4924.0700	43.39	8.10	51.49	54.00	-2.51	AVG	
2	4924.0800	46.81	8.10	54.91	74.00	-19.09	Peak	

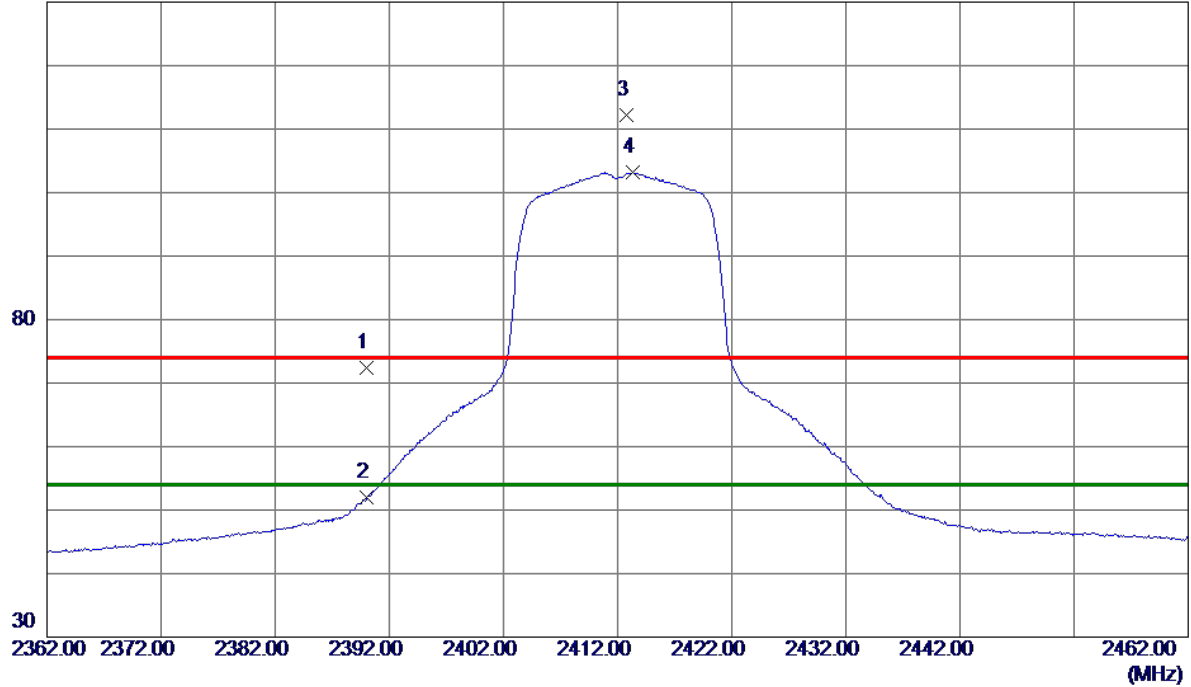
REMARKS:

- (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	62.49	9.95	72.44	74.00	-1.56	Peak	
2	2390.0000	42.05	9.95	52.00	54.00	-2.00	AVG	
3	2412.8000	102.20	10.03	112.23	74.00	38.23	Peak	No Limit
4 *	2413.3500	93.13	10.03	103.16	54.00	49.16	AVG	No Limit

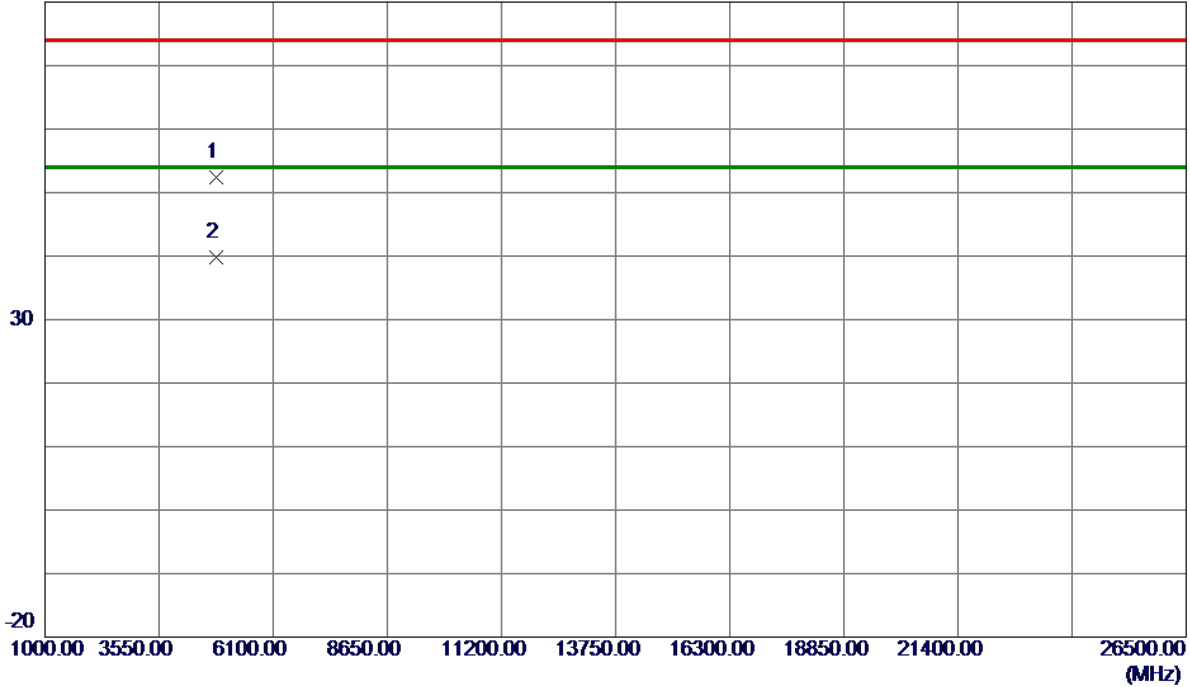
REMARKS:

- (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	4823.7919	44.80	7.68	52.48	74.00	-21.52	Peak	
2 *	4826.3100	32.19	7.69	39.88	54.00	-14.12	AVG	

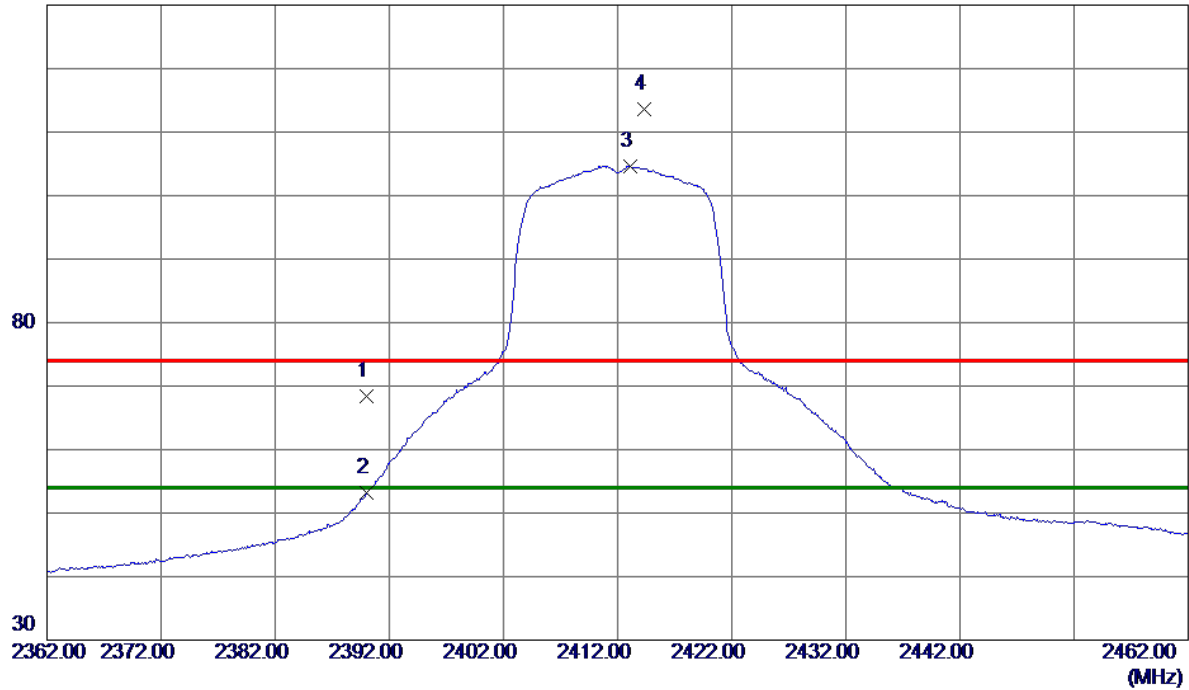
REMARKS:

- (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	58.50	9.95	68.45	74.00	-5.55	Peak	
2	2390.0000	43.26	9.95	53.21	54.00	-0.79	AVG	
3 *	2413.1500	94.66	10.03	104.69	54.00	50.69	AVG	No Limit
4	2413.3500	103.62	10.04	113.66	74.00	39.66	Peak	No Limit

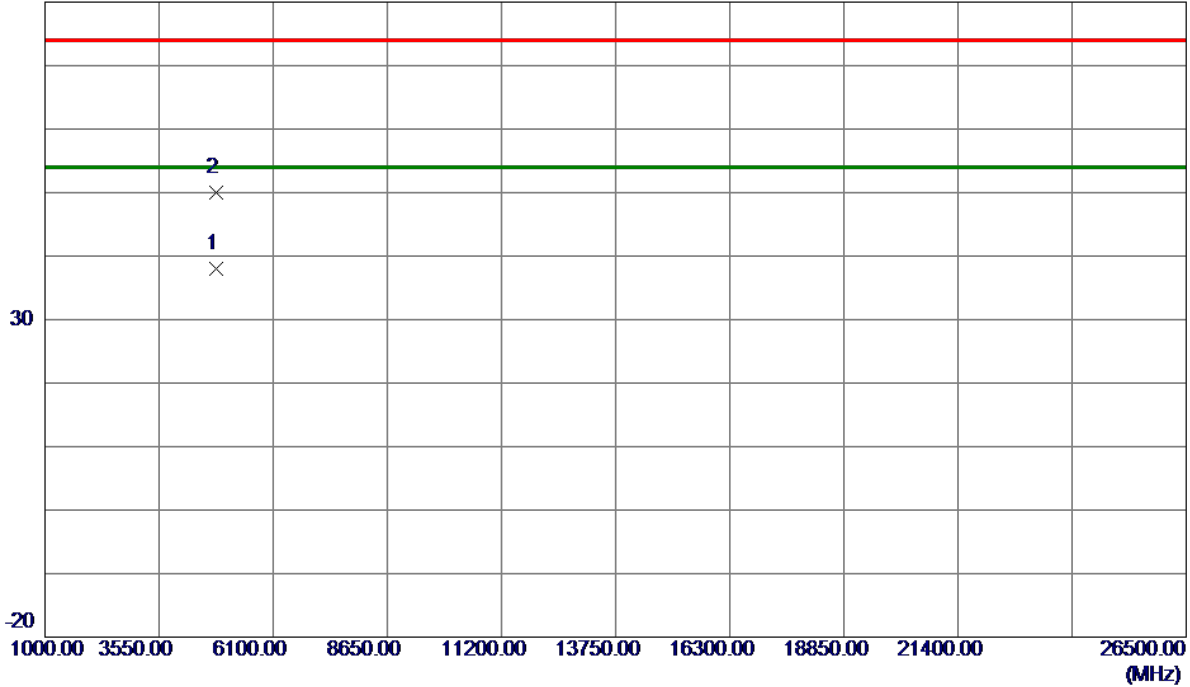
REMARKS:

- (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



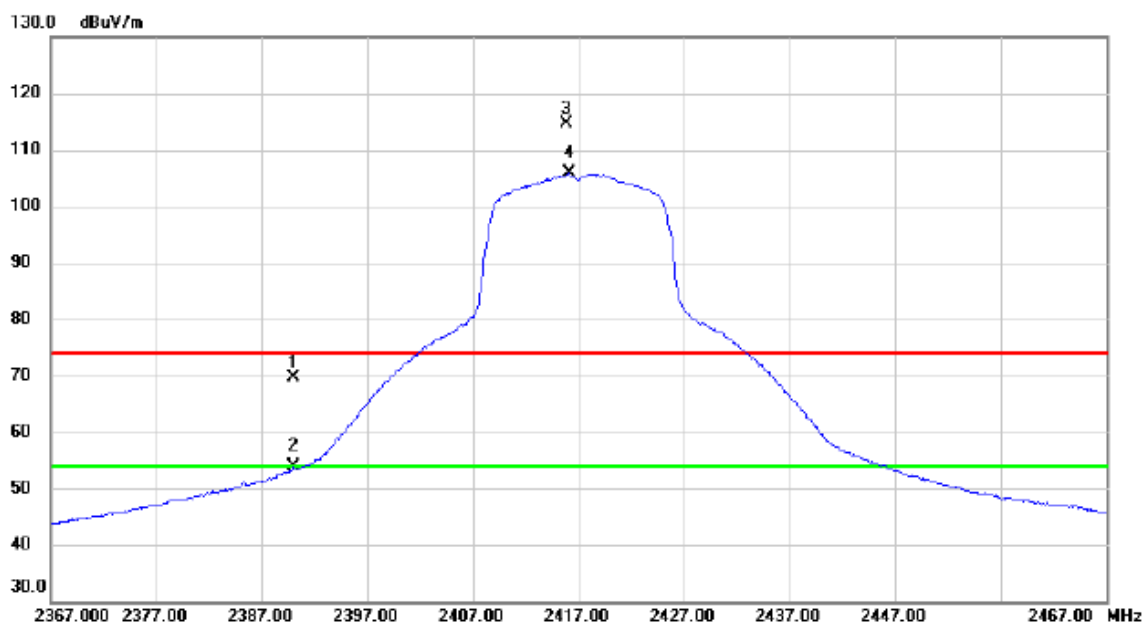
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4824.7900	30.37	7.69	38.06	54.00	-15.94	AVG	
2	4824.9700	42.31	7.69	50.00	74.00	-24.00	Peak	

REMARKS:

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

Test Mode: TX G Mode 2417 MHz

Vertical



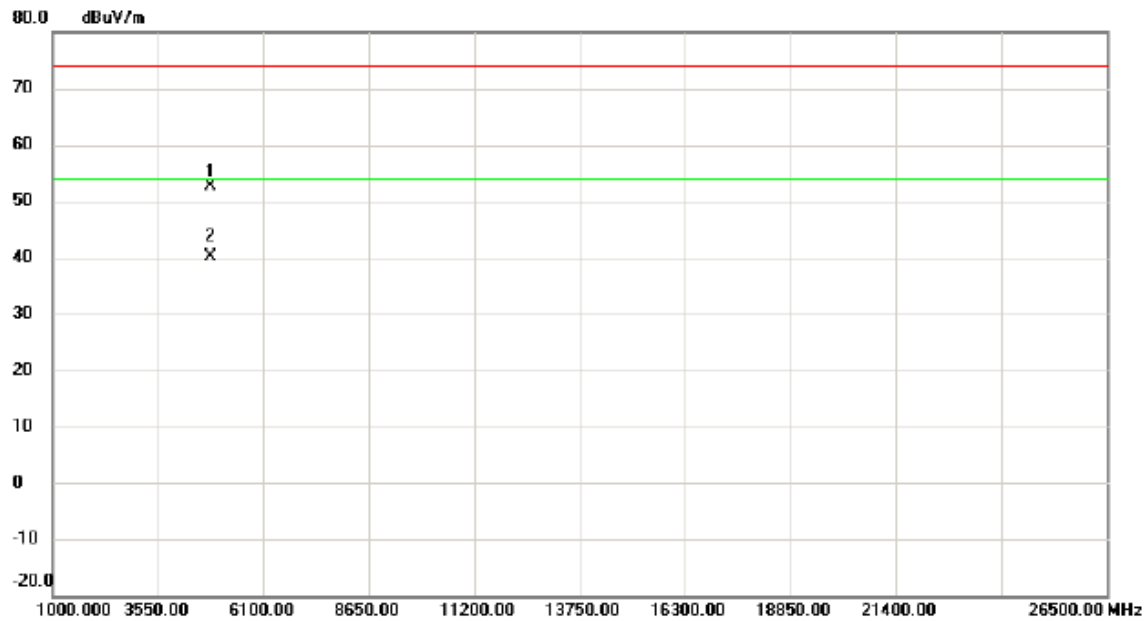
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	59.80	9.95	69.75	74.00	-4.25	peak	
2		2390.000	43.91	9.95	53.86	54.00	-0.14	AVG	
3	X	2415.800	104.64	10.04	114.68	74.00	40.68	peak	No Limit
4	*	2416.100	95.78	10.05	105.83	54.00	51.83	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



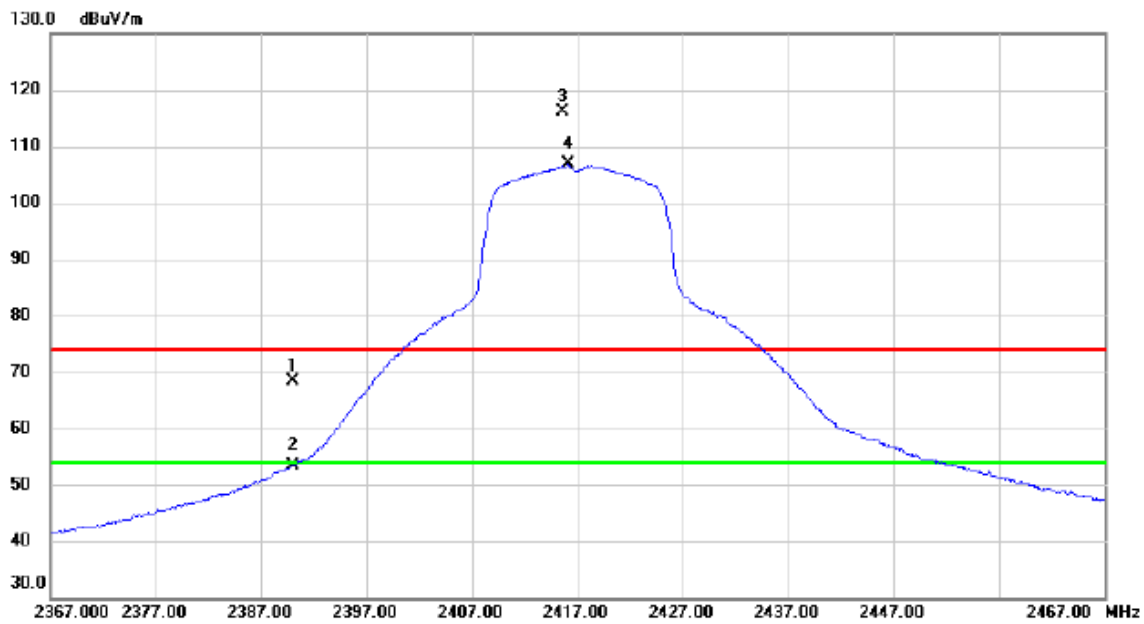
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4834.207	44.85	7.72	52.57	74.00	-21.43	peak	
2	*	4836.387	32.29	7.74	40.03	54.00	-13.97	AVG	

REMARKS:

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

Test Mode: TX G Mode 2417 MHz

Horizontal



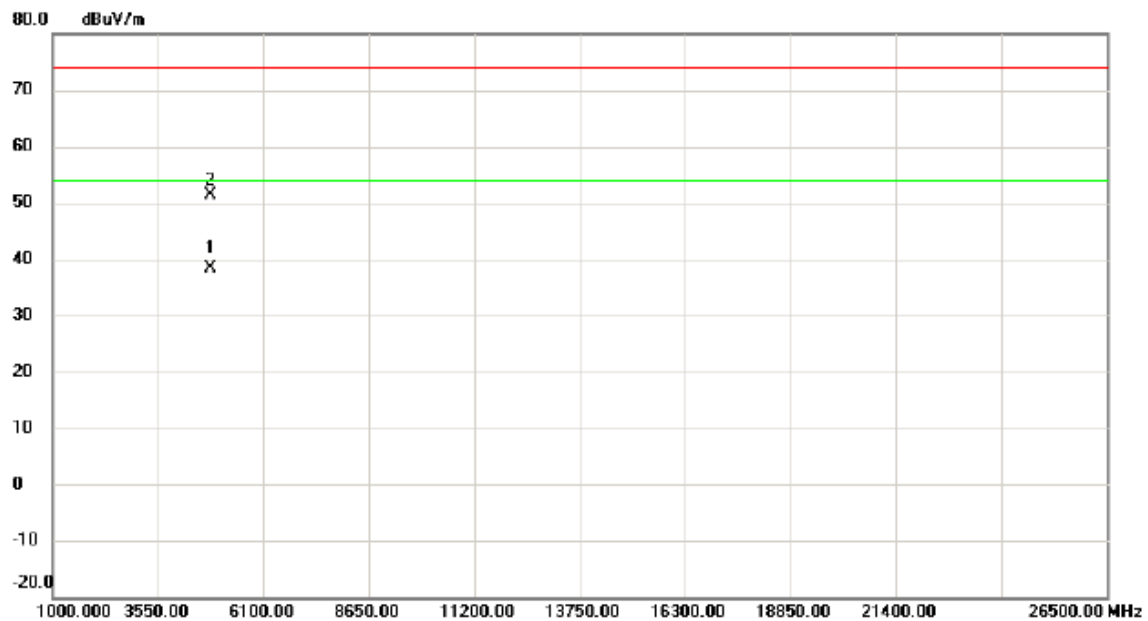
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	58.49	9.95	68.44	74.00	-5.56	peak	
2		2390.000	43.45	9.95	53.40	54.00	-0.60	AVG	
3	X	2415.600	106.03	10.04	116.07	74.00	42.07	peak	No Limit
4	*	2416.100	96.79	10.05	106.84	54.00	52.84	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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4833.640	30.76	7.72	38.48	54.00	-15.52	AVG	
2		4834.920	43.63	7.73	51.36	74.00	-22.64	peak	

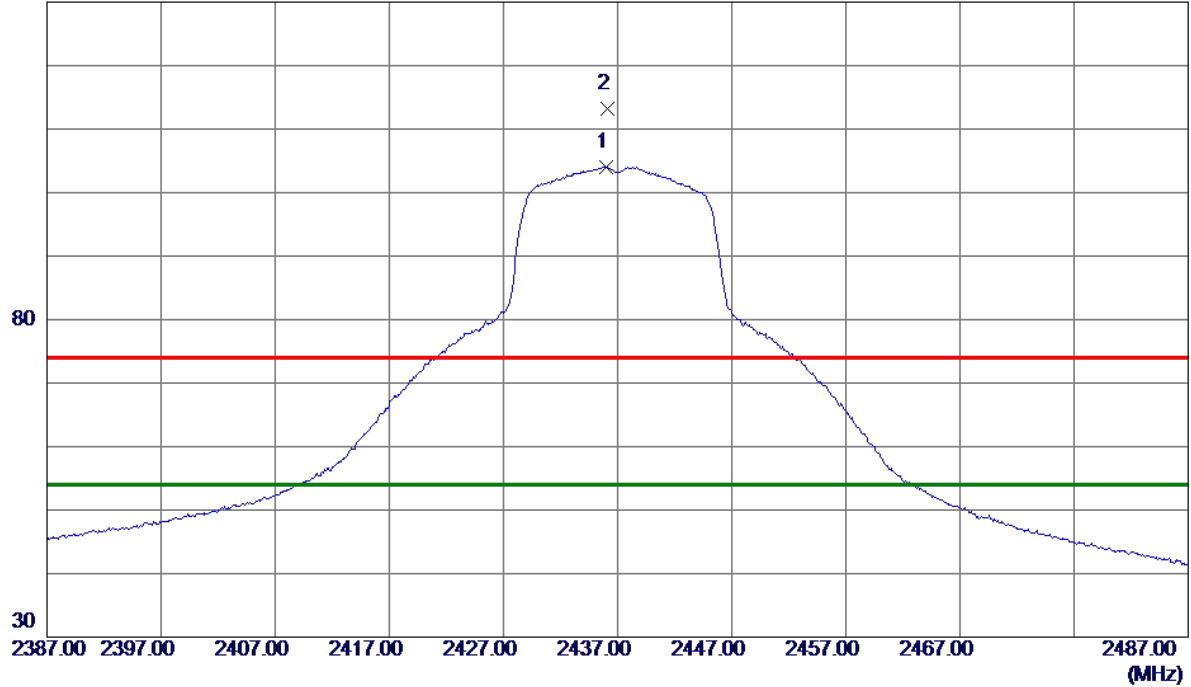
REMARKS:

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

Test Mode: TX G 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 *	2436.0000	93.97	10.12	104.09	54.00	50.09	AVG	No Limit
2	2436.1000	103.09	10.12	113.21	74.00	39.21	Peak	No Limit

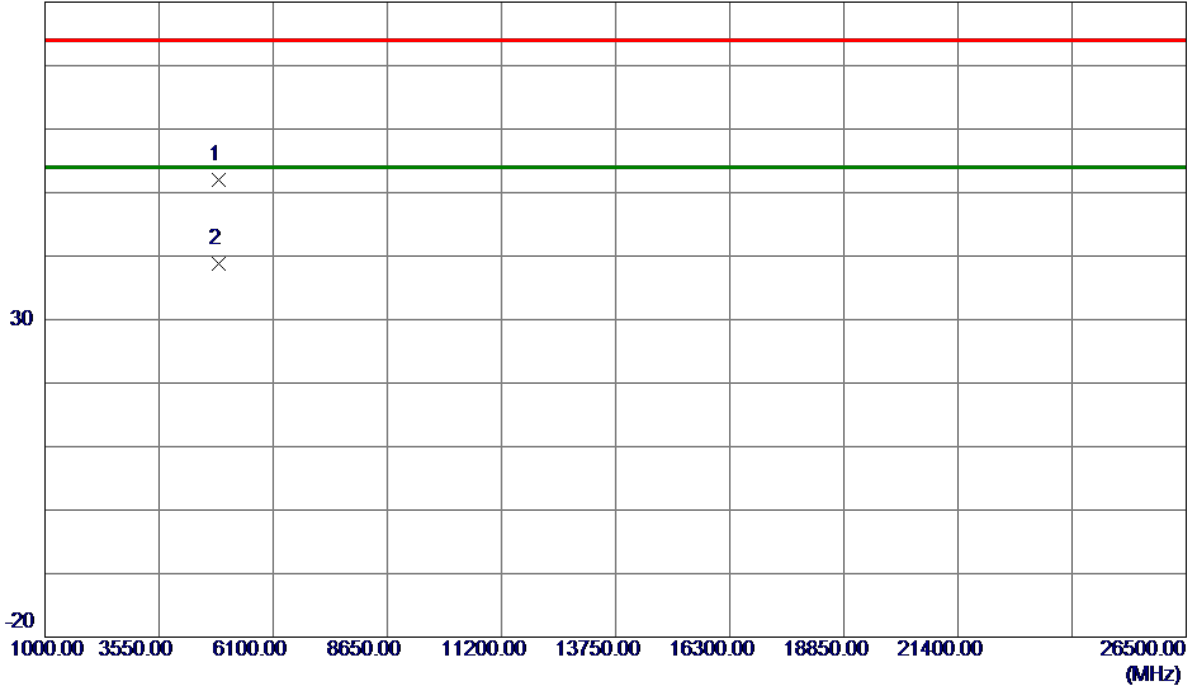
REMARKS:

- (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	4870.6750	44.21	7.88	52.09	74.00	-21.91	Peak	
2 *	4876.7500	30.96	7.90	38.86	54.00	-15.14	AVG	

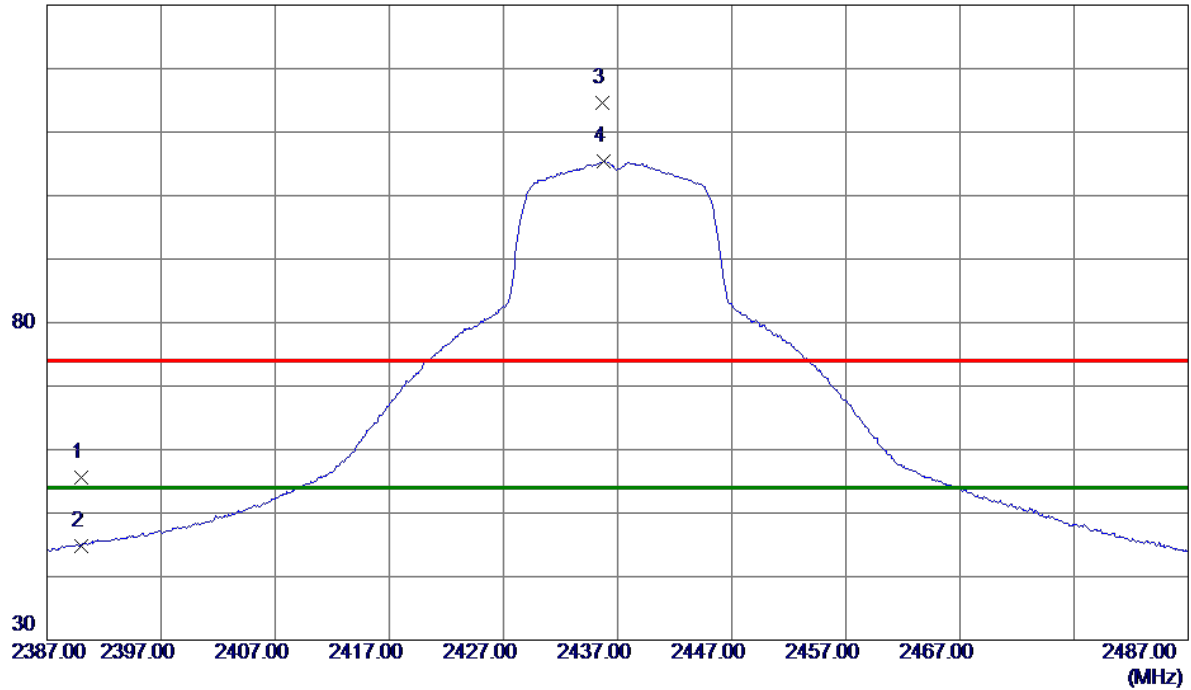
REMARKS:

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

Test Mode: TX G Mode 2437 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	45.62	9.95	55.57	74.00	-18.43	Peak	
2	2390.0000	34.91	9.95	44.86	54.00	-9.14	AVG	
3	2435.6500	104.40	10.12	114.52	74.00	40.52	Peak	No Limit
4 *	2435.7500	95.21	10.12	105.33	54.00	51.33	AVG	No Limit

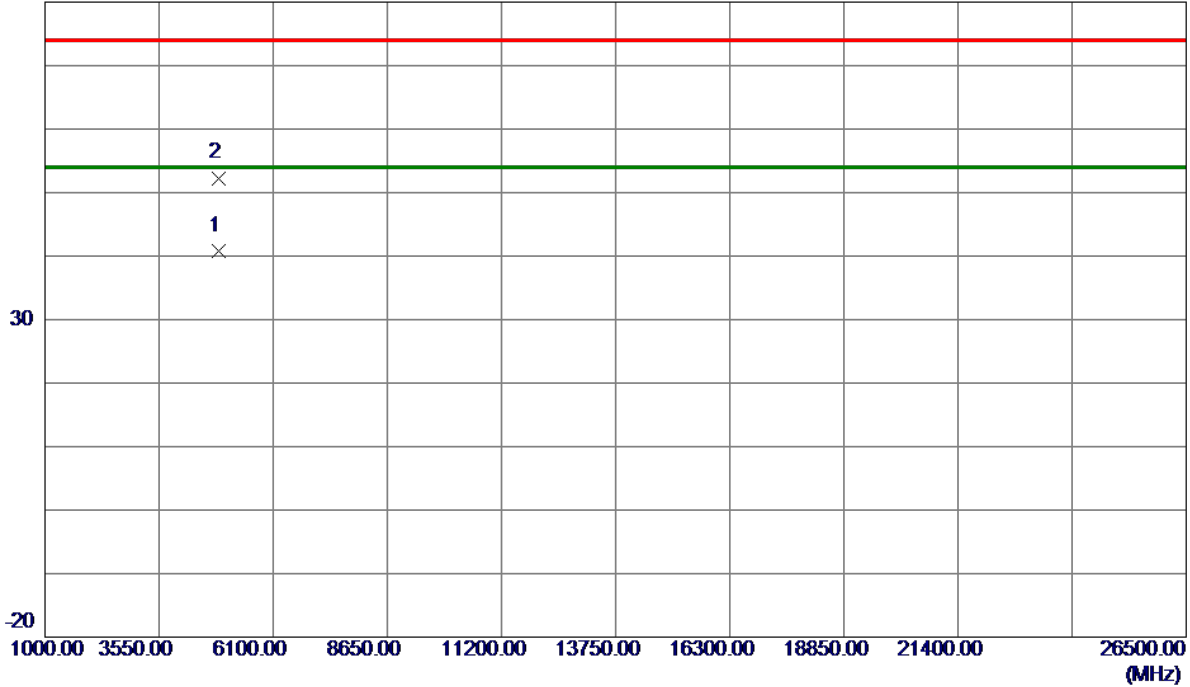
REMARKS:

- (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



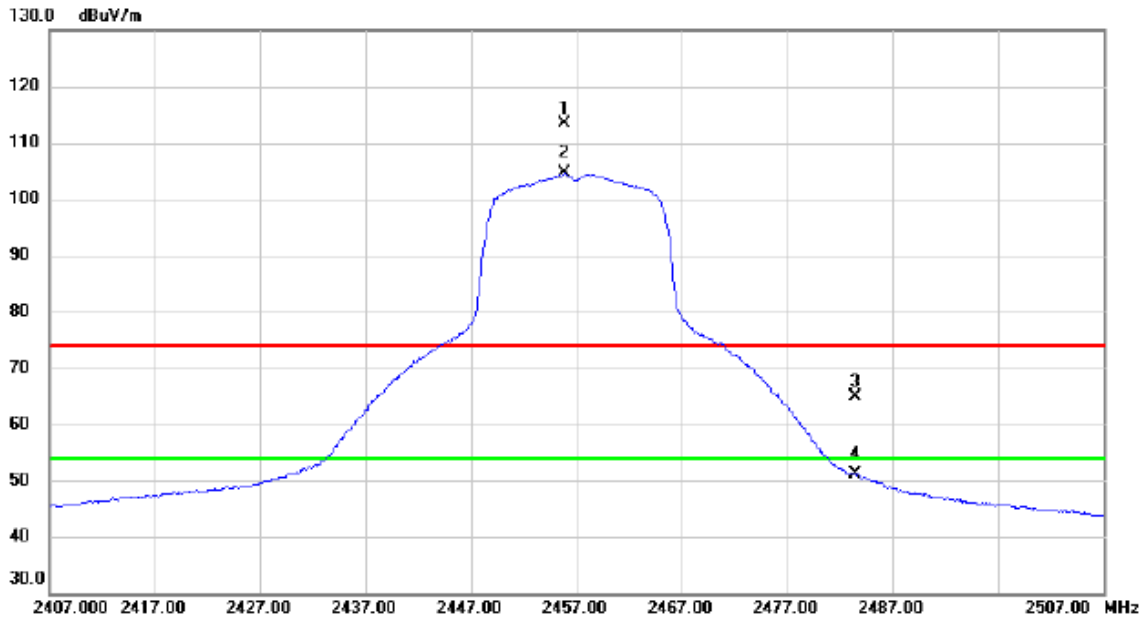
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4872. 3250	32. 84	7. 88	40. 72	54. 00	-13. 28	AVG	
2	4872. 5250	44. 42	7. 88	52. 30	74. 00	-21. 70	Peak	

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	X	2455.900	103.28	10.19	113.47	74.00	39.47	peak	No Limit
2	*	2455.900	94.39	10.19	104.58	54.00	50.58	AVG	No Limit
3		2483.500	54.62	10.29	64.91	74.00	-9.09	peak	
4		2483.500	40.73	10.29	51.02	54.00	-2.98	AVG	

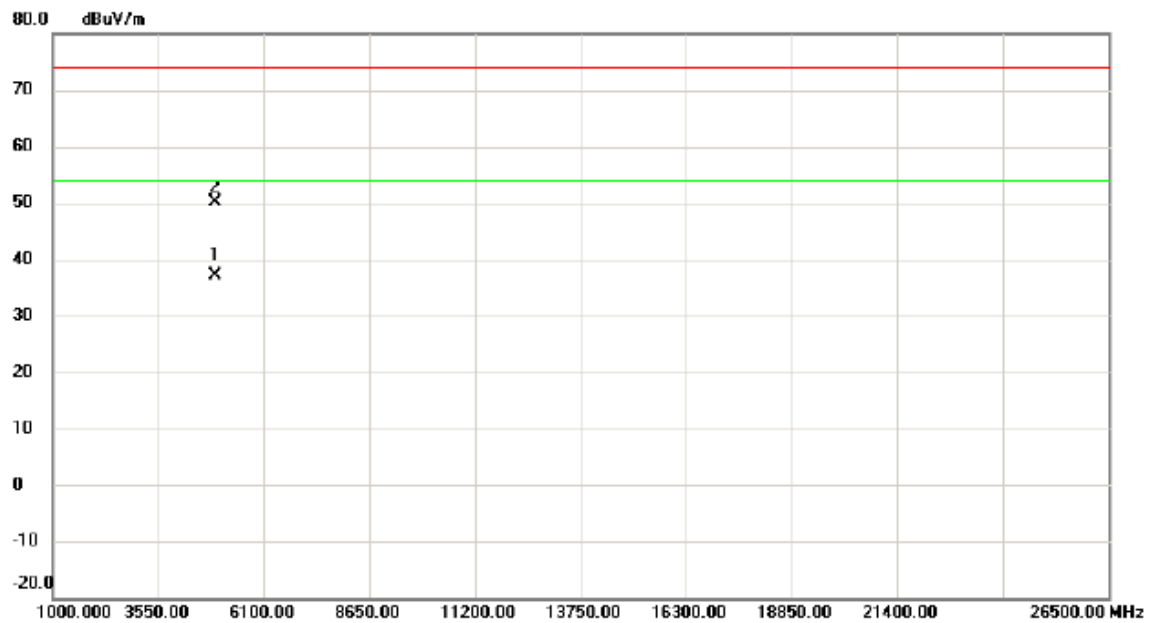
REMARKS:

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

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

Test Mode: TX G Mode 2457 MHz

Vertical



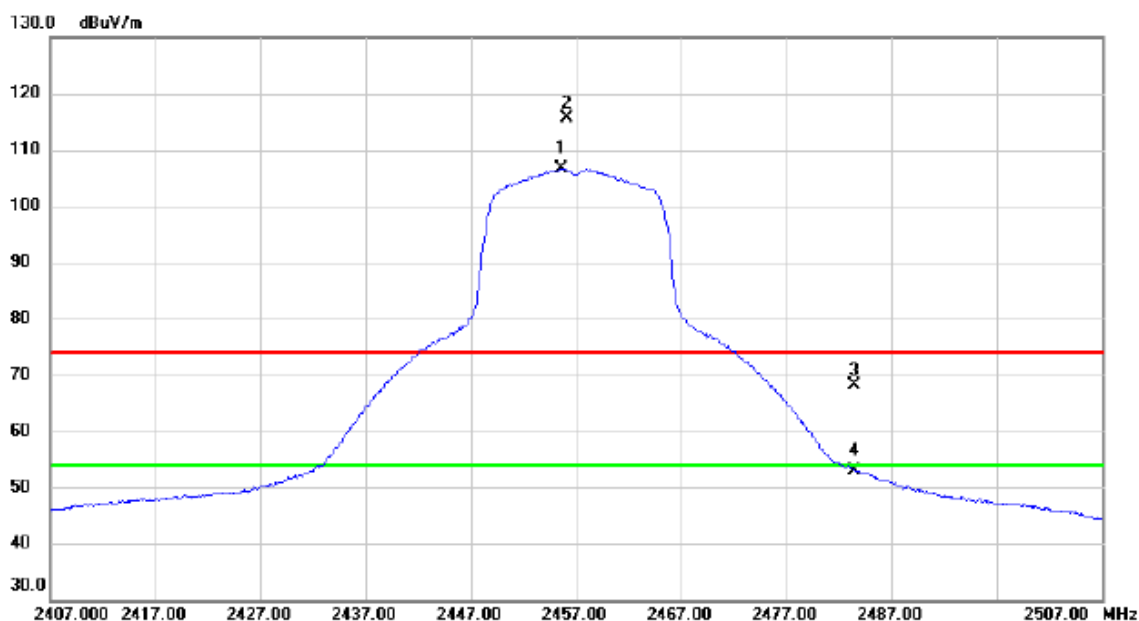
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4911.958	29.05	8.05	37.10	54.00	-16.90	AVG	
2		4912.398	42.19	8.05	50.24	74.00	-23.76	peak	

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	*	2455.600	96.48	10.19	106.67	54.00	52.67	AVG	No Limit
2	X	2456.100	105.36	10.19	115.55	74.00	41.55	peak	No Limit
3		2483.500	57.92	10.29	68.21	74.00	-5.79	peak	
4		2483.500	42.70	10.29	52.99	54.00	-1.01	AVG	

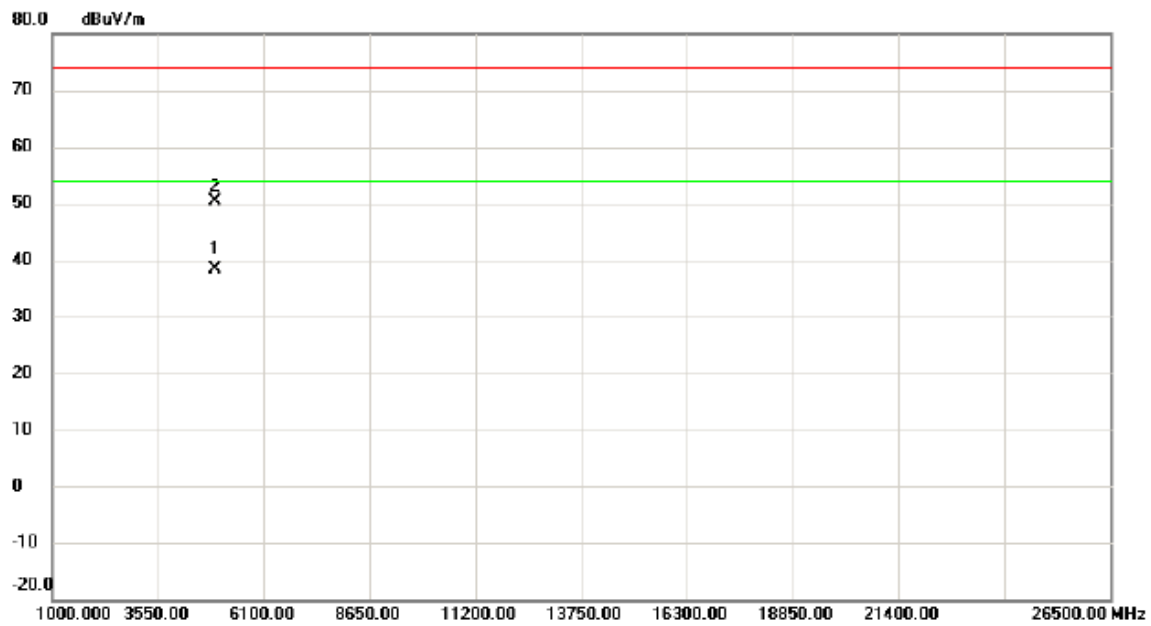
REMARKS:

(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	*	4915.940	30.23	8.07	38.30	54.00	-15.70	AVG	
2		4916.800	42.37	8.07	50.44	74.00	-23.56	peak	

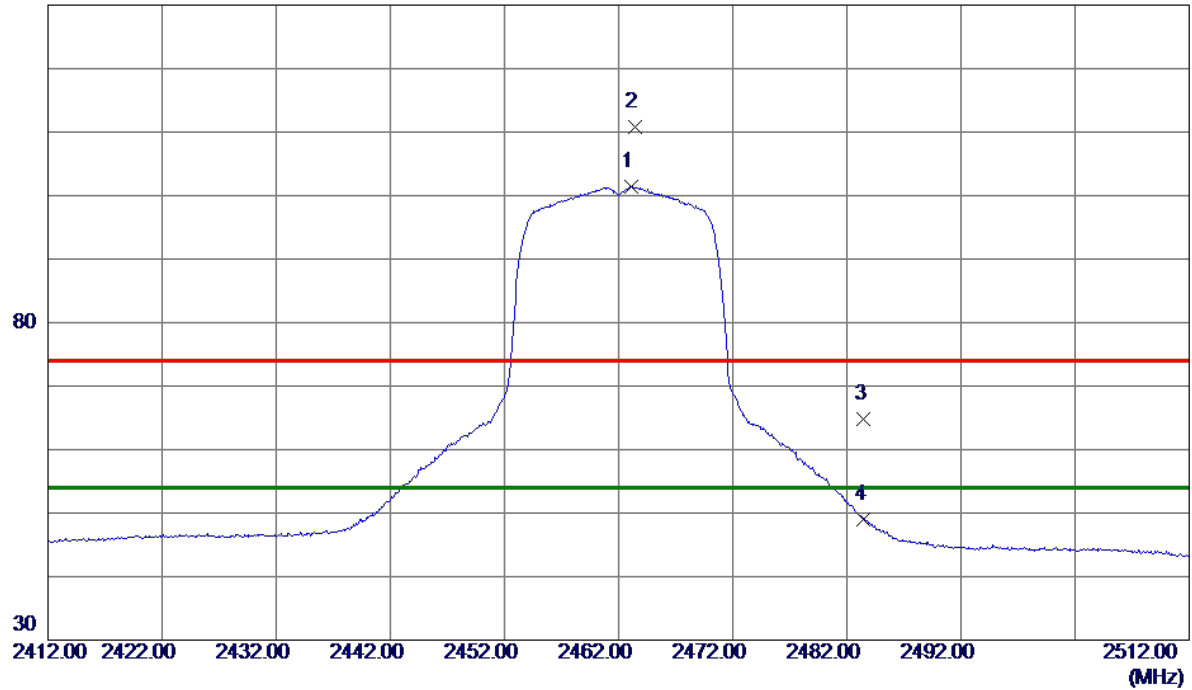
REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2463.1500	91.22	10.22	101.44	54.00	47.44	AVG	No Limit
2	2463.4000	100.52	10.22	110.74	74.00	36.74	Peak	No Limit
3	2483.5000	54.59	10.30	64.89	74.00	-9.11	Peak	
4	2483.5000	38.68	10.30	48.98	54.00	-5.02	AVG	

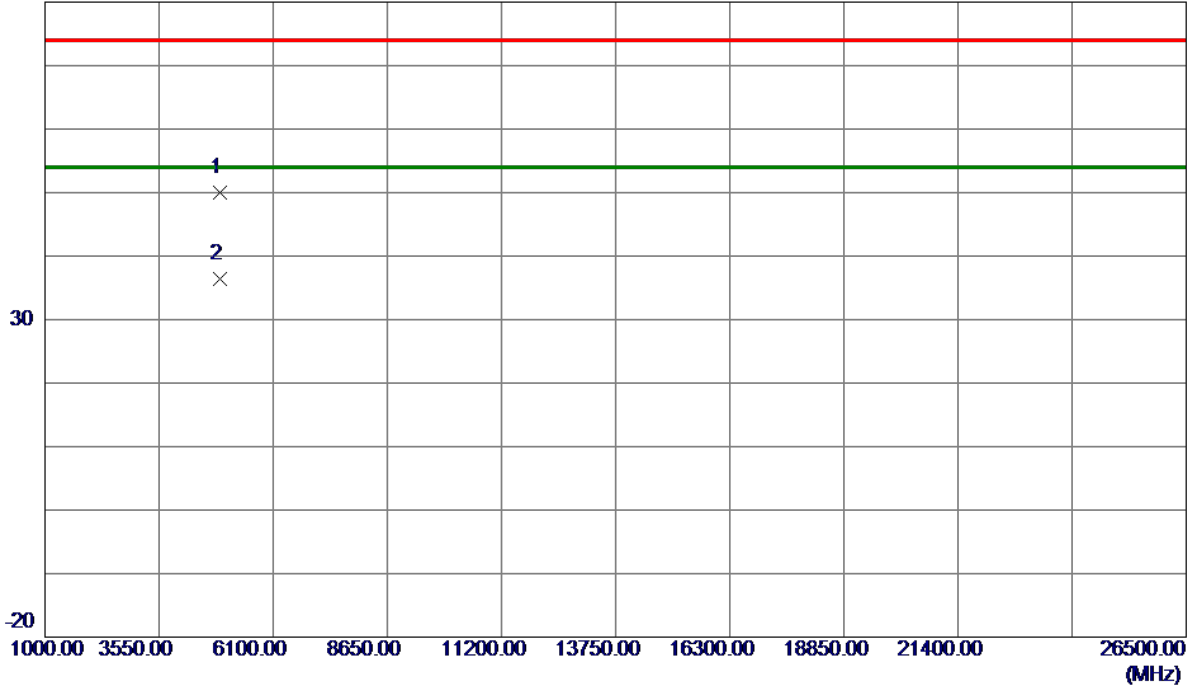
REMARKS:

- (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	4922.1080	41.89	8.09	49.98	74.00	-24.02	Peak	
2 *	4922.6880	28.32	8.09	36.41	54.00	-17.59	AVG	

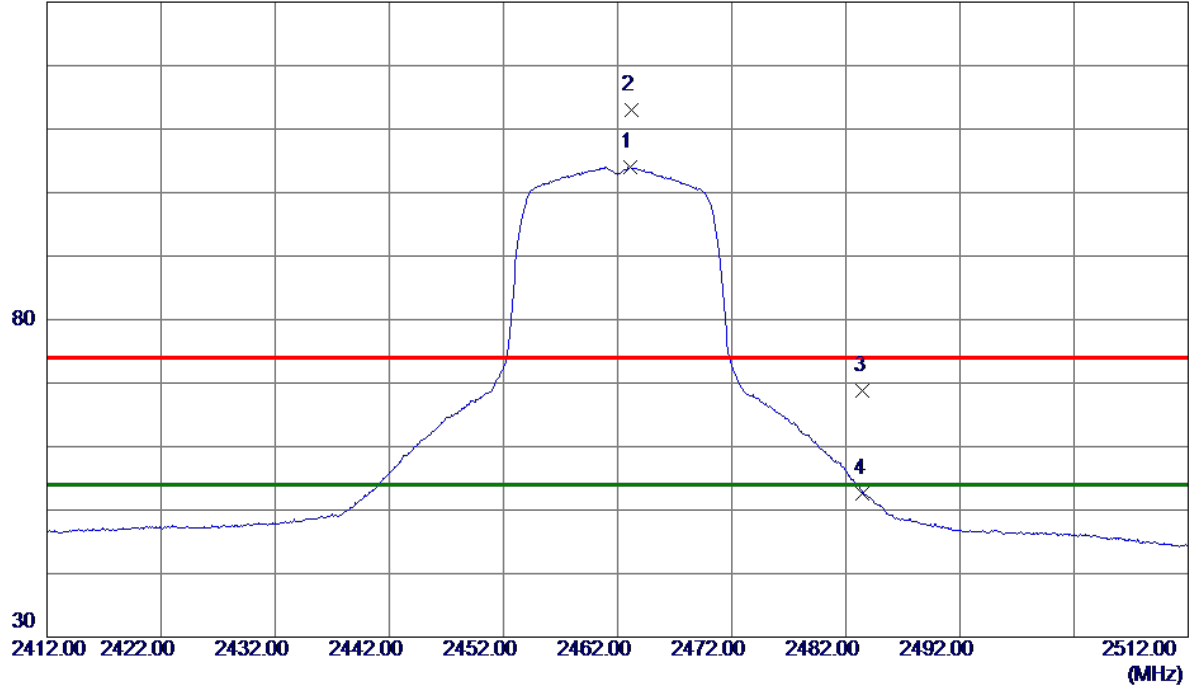
REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2463.1500	93.75	10.22	103.97	54.00	49.97	AVG	No Limit
2	2463.2500	102.70	10.22	112.92	74.00	38.92	Peak	No Limit
3	2483.5000	58.51	10.30	68.81	74.00	-5.19	Peak	
4	2483.5000	42.33	10.30	52.63	54.00	-1.37	AVG	

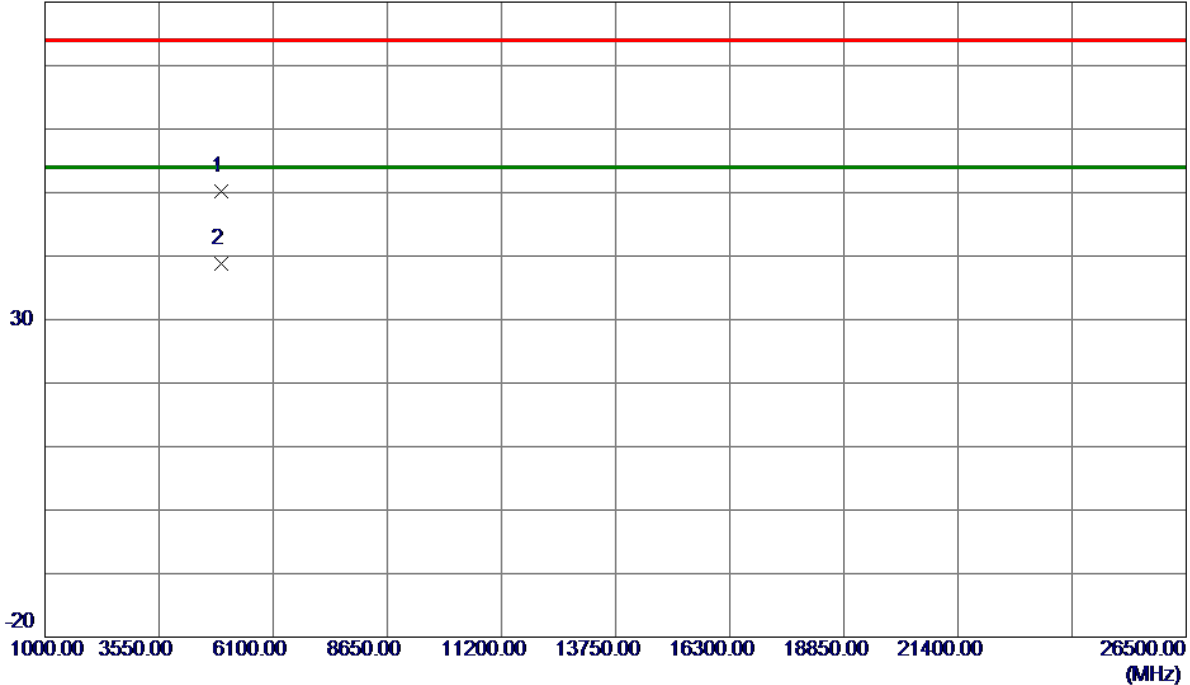
REMARKS:

- (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	4924.2300	42.11	8.10	50.21	74.00	-23.79	Peak	
2 *	4925.0700	30.68	8.10	38.78	54.00	-15.22	AVG	

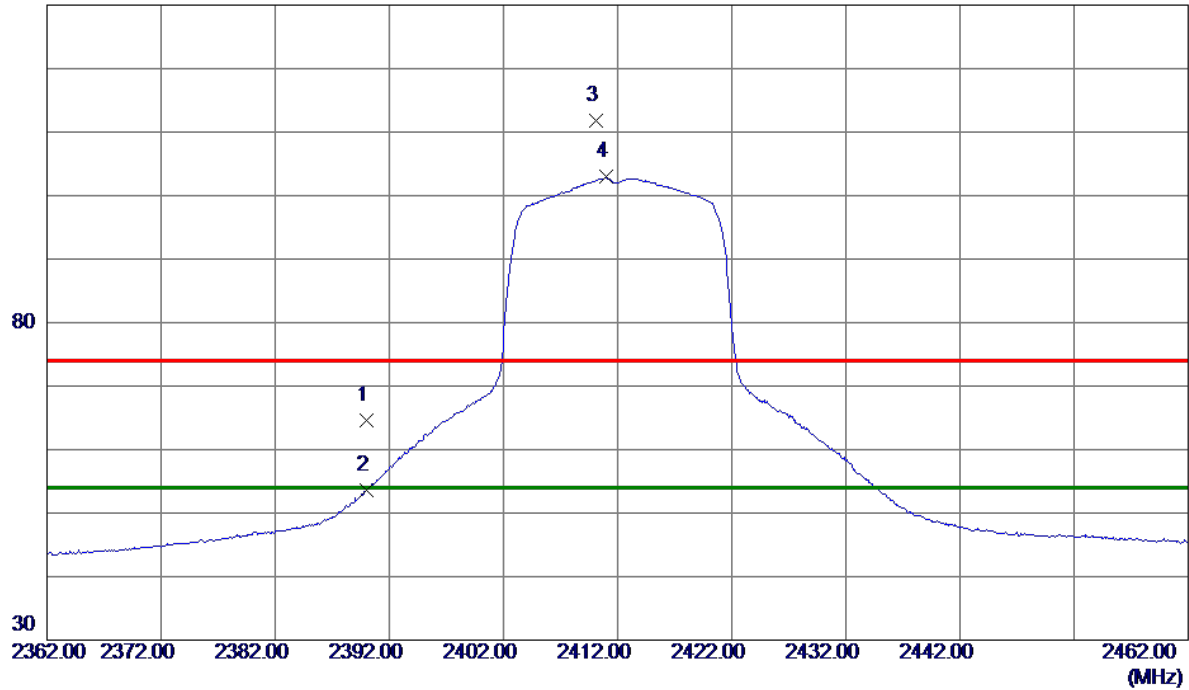
REMARKS:

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

Test Mode: TX N-20M Mode 2412 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	54.70	9.95	64.65	74.00	-9.35	Peak	
2	2390.0000	43.68	9.95	53.63	54.00	-0.37	AVG	
3	2410.1000	101.86	10.02	111.88	74.00	37.88	Peak	No Limit
4 *	2410.9500	92.94	10.03	102.97	54.00	48.97	AVG	No Limit

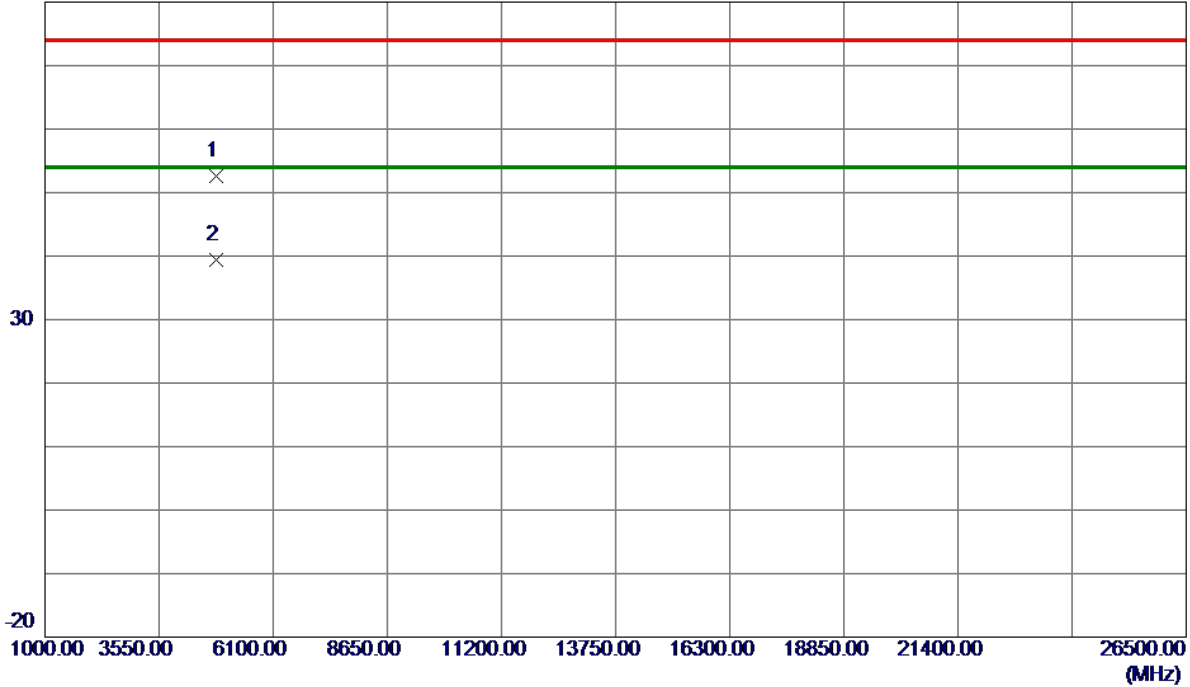
REMARKS:

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

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

Vertical

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	4822.2400	44.89	7.68	52.57	74.00	-21.43	Peak	
2 *	4826.2200	31.77	7.69	39.46	54.00	-14.54	AVG	

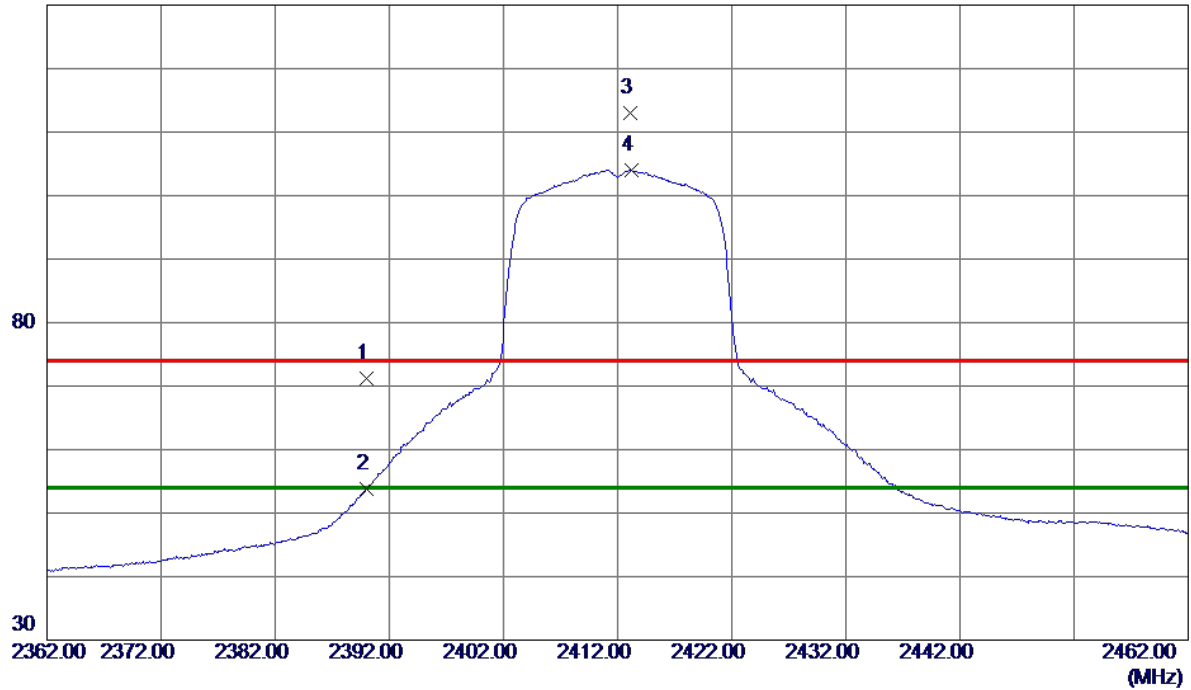
REMARKS:

- (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	61.20	9.95	71.15	74.00	-2.85	Peak	
2	2390.0000	43.88	9.95	53.83	54.00	-0.17	AVG	
3	2413.1500	103.07	10.03	113.10	74.00	39.10	Peak	No Limit
4 *	2413.2000	93.98	10.03	104.01	54.00	50.01	AVG	No Limit

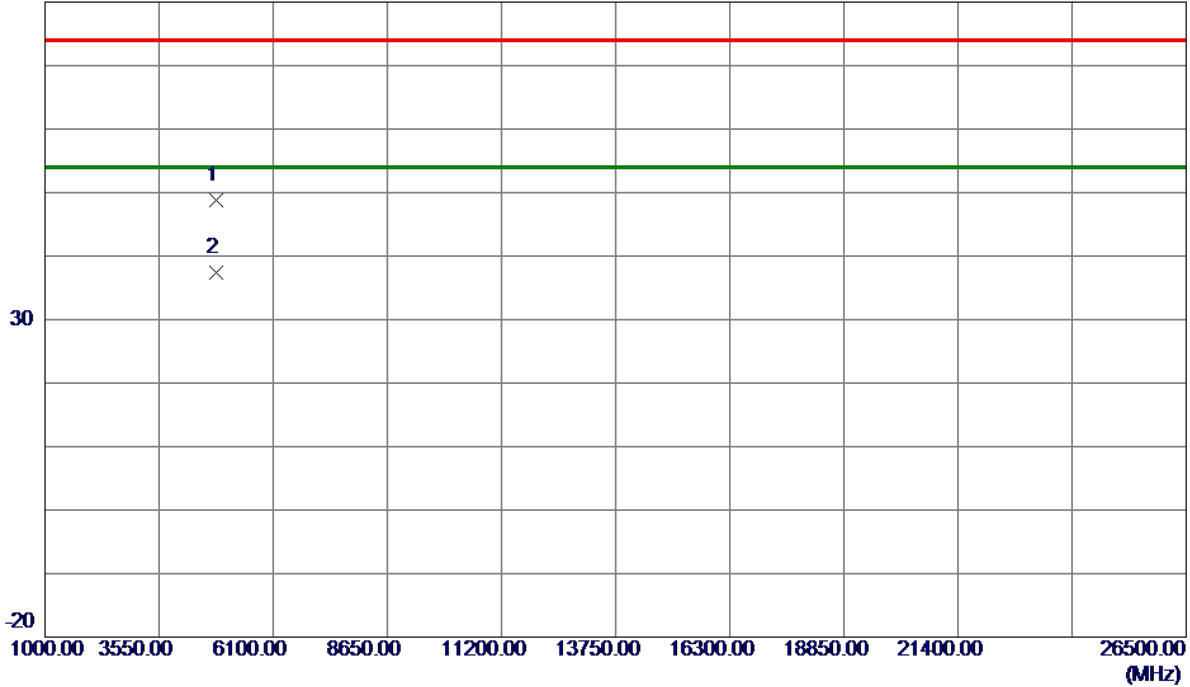
REMARKS:

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

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

Horizontal

80 dBuV/m



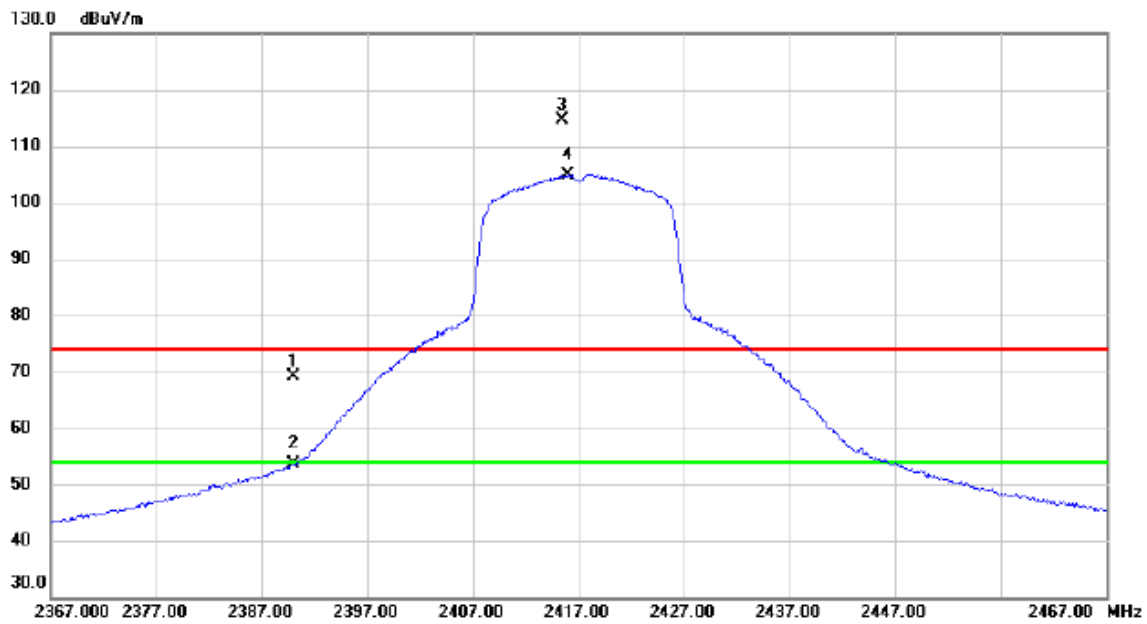
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4820.0200	41.16	7.67	48.83	74.00	-25.17	Peak	
2 *	4825.4400	29.79	7.69	37.48	54.00	-16.52	AVG	

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	59.09	9.95	69.04	74.00	-4.96	peak	
2		2390.000	43.61	9.95	53.56	54.00	-0.44	AVG	
3	X	2415.500	104.52	10.04	114.56	74.00	40.56	peak	No Limit
4	*	2416.000	94.93	10.05	104.98	54.00	50.98	AVG	No Limit

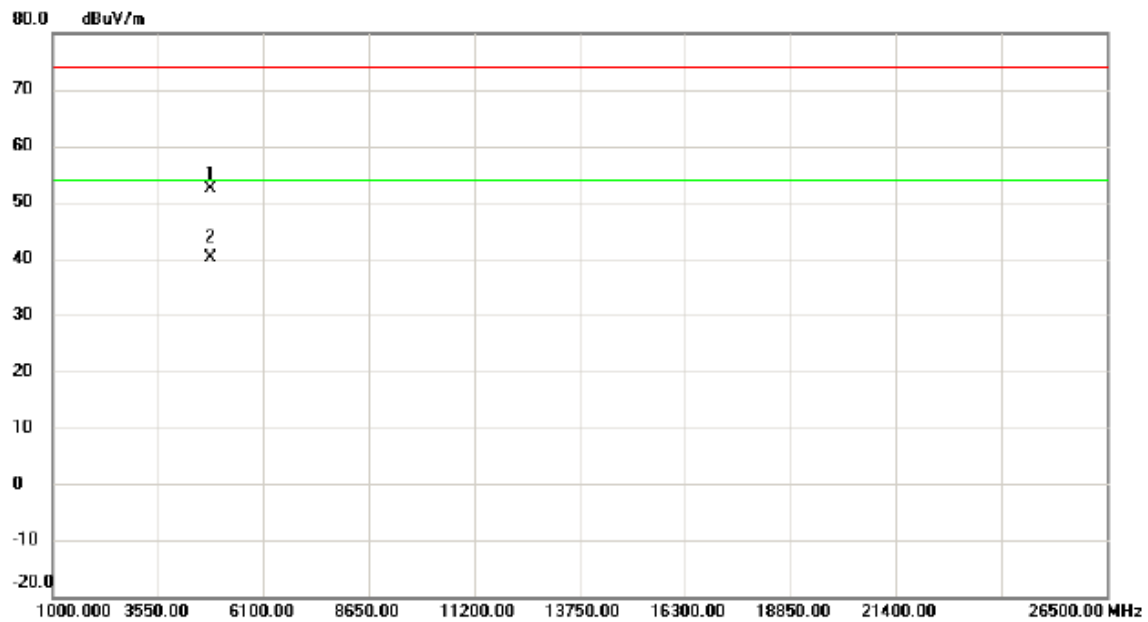
REMARKS:

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

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

Test Mode: TX N-20M Mode 2417 MHz

Vertical



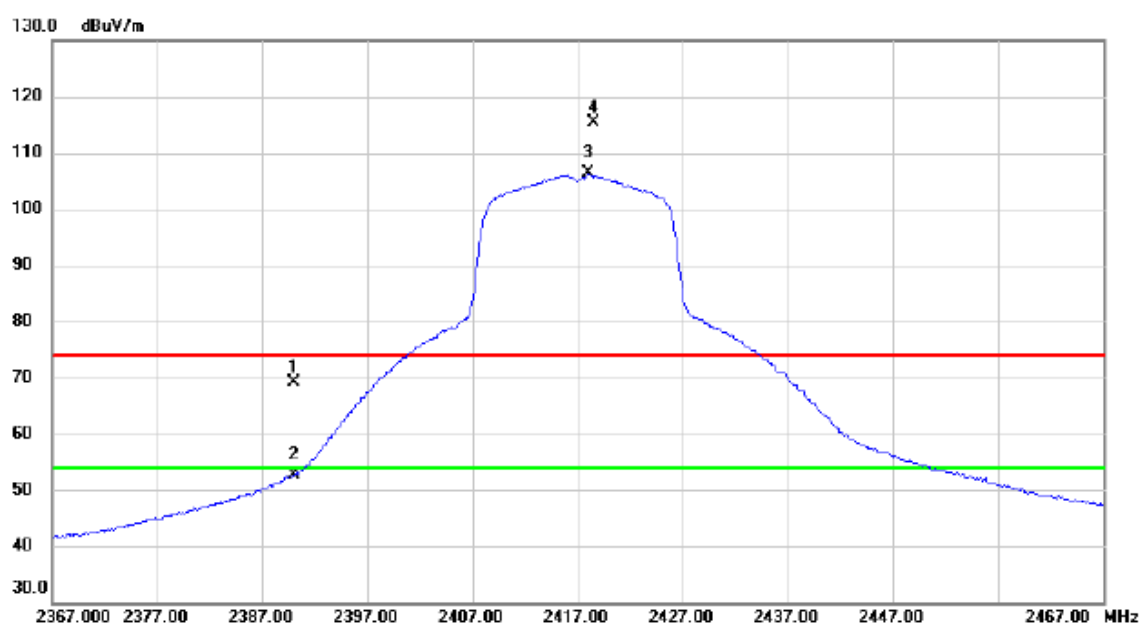
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4833.165	44.78	7.72	52.50	74.00	-21.50	peak	
2	*	4836.208	32.36	7.74	40.10	54.00	-13.90	AVG	

REMARKS:

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

Test Mode: TX N-20M Mode 2417 MHz

Horizontal



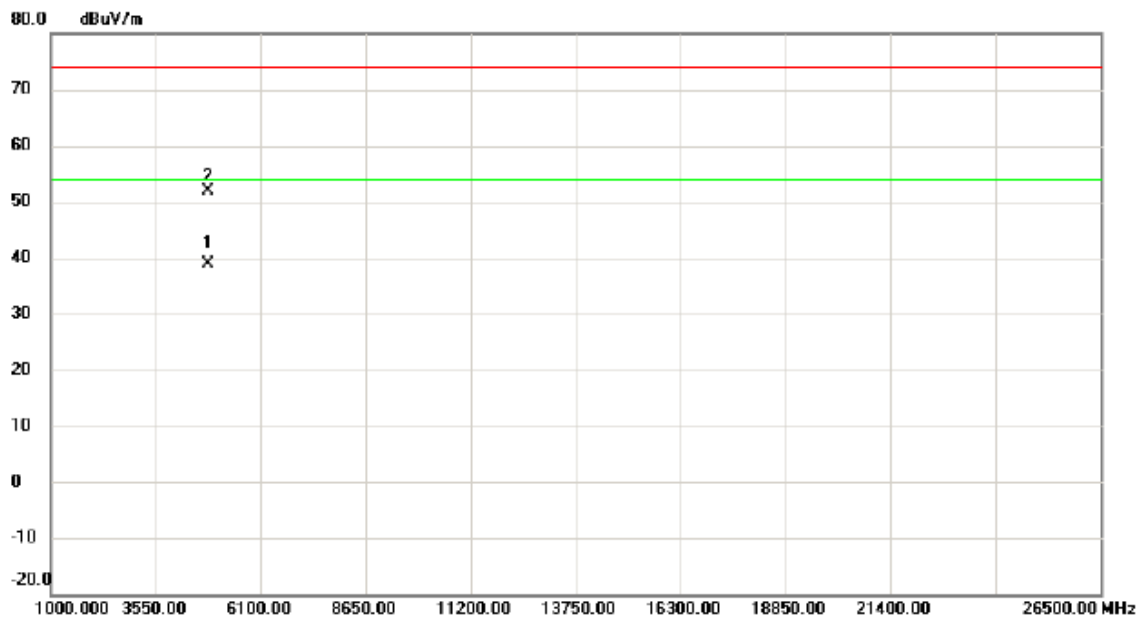
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	59.27	9.95	69.22	74.00	-4.78	peak	
2		2390.000	42.61	9.95	52.56	54.00	-1.44	AVG	
3	*	2418.000	96.23	10.05	106.28	54.00	52.28	AVG	No Limit
4	X	2418.500	105.37	10.06	115.43	74.00	41.43	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



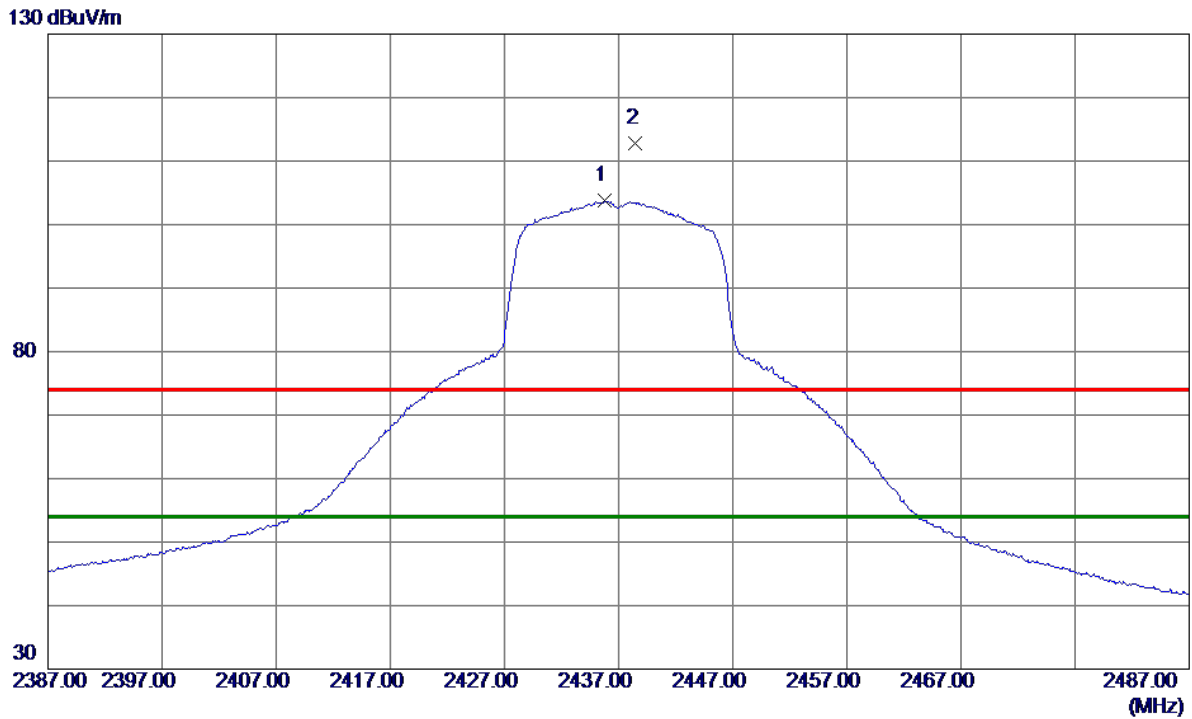
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4833.250	31.14	7.72	38.86	54.00	-15.14	AVG	
2		4834.400	44.21	7.73	51.94	74.00	-22.06	peak	

REMARKS:

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

Test Mode: TX N-20M Mode 2437 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.7500	93.65	10.12	103.77	54.00	49.77	AVG	No Limit
2	2438.5000	102.62	10.13	112.75	74.00	38.75	Peak	No Limit

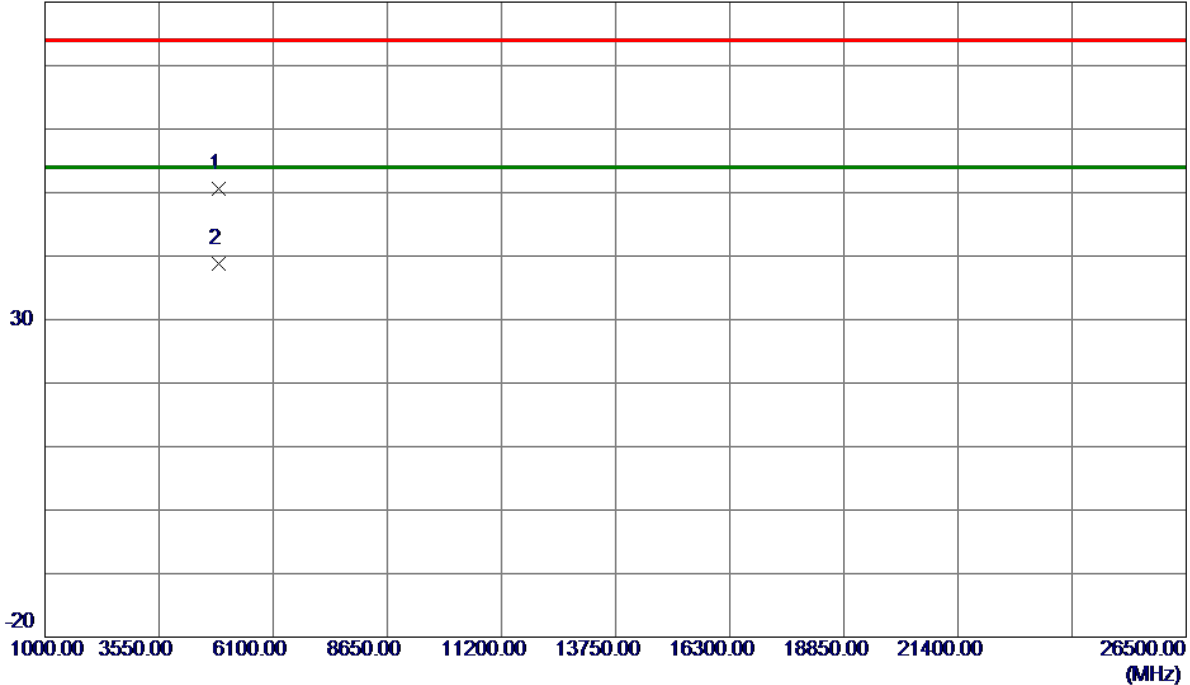
REMARKS:

- (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	4872.7500	42.66	7.89	50.55	74.00	-23.45	Peak	
2 *	4878.0750	30.81	7.91	38.72	54.00	-15.28	AVG	

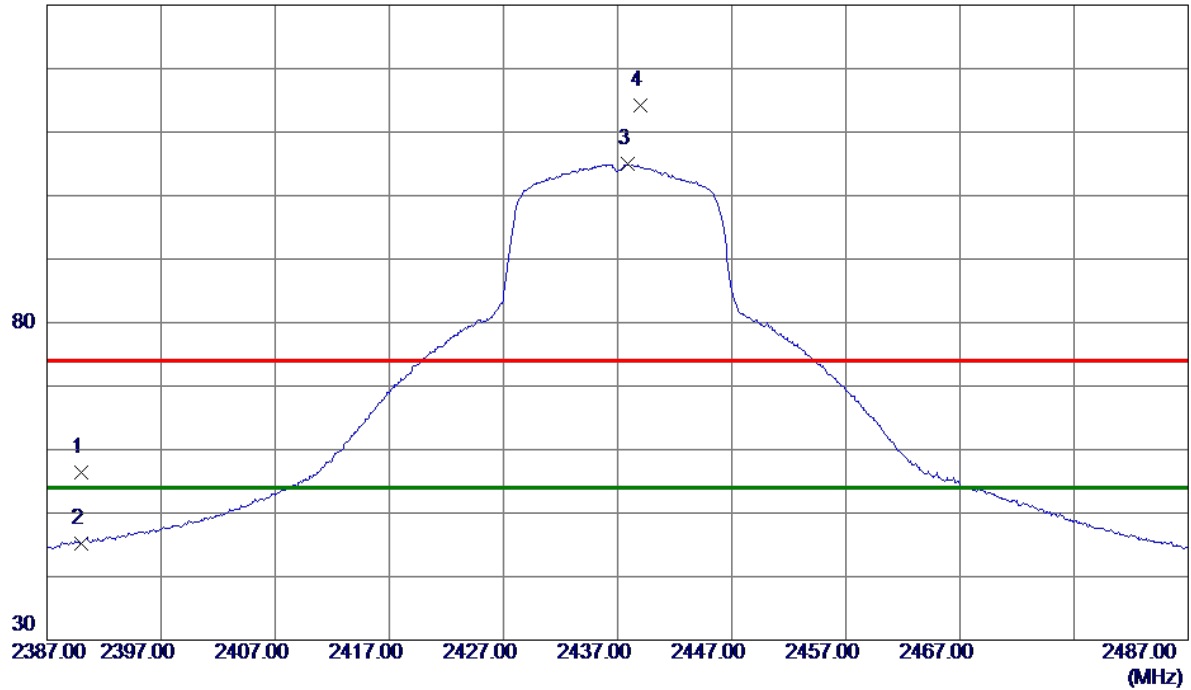
REMARKS:

- (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	2390.0000	46.38	9.95	56.33	74.00	-17.67	Peak	
2	2390.0000	35.30	9.95	45.25	54.00	-8.75	AVG	
3 *	2437.8500	94.82	10.13	104.95	54.00	50.95	AVG	No Limit
4	2439.0000	104.11	10.13	114.24	74.00	40.24	Peak	No Limit

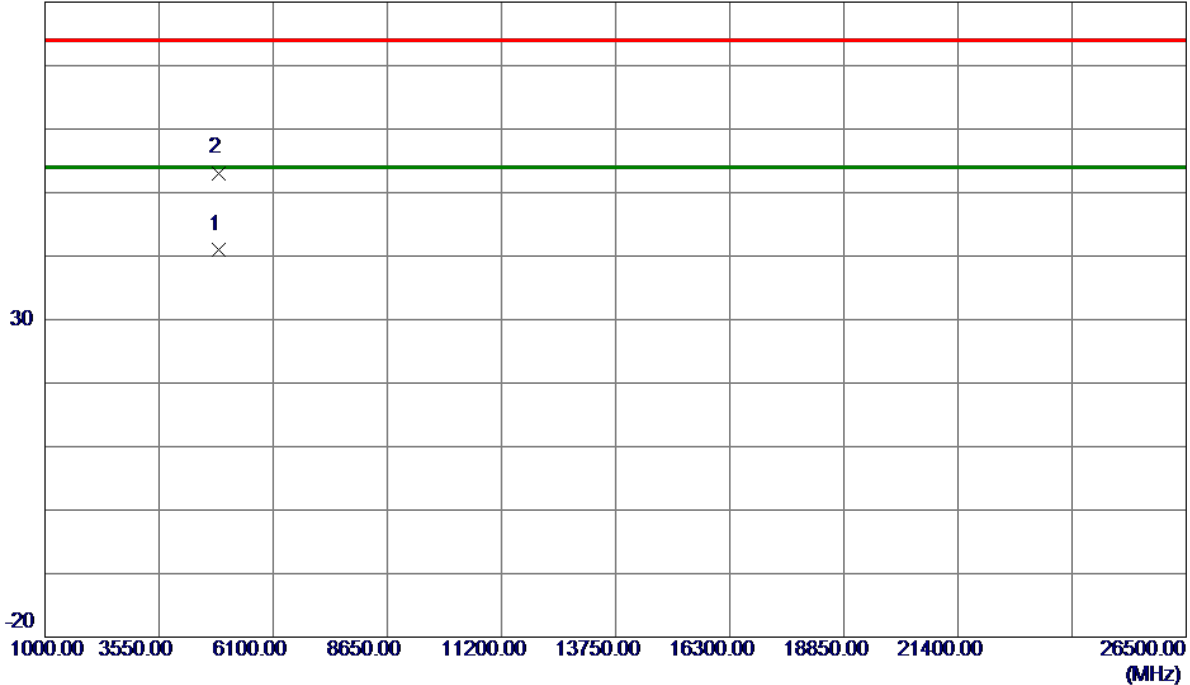
REMARKS:

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

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

Horizontal

80 dBuV/m



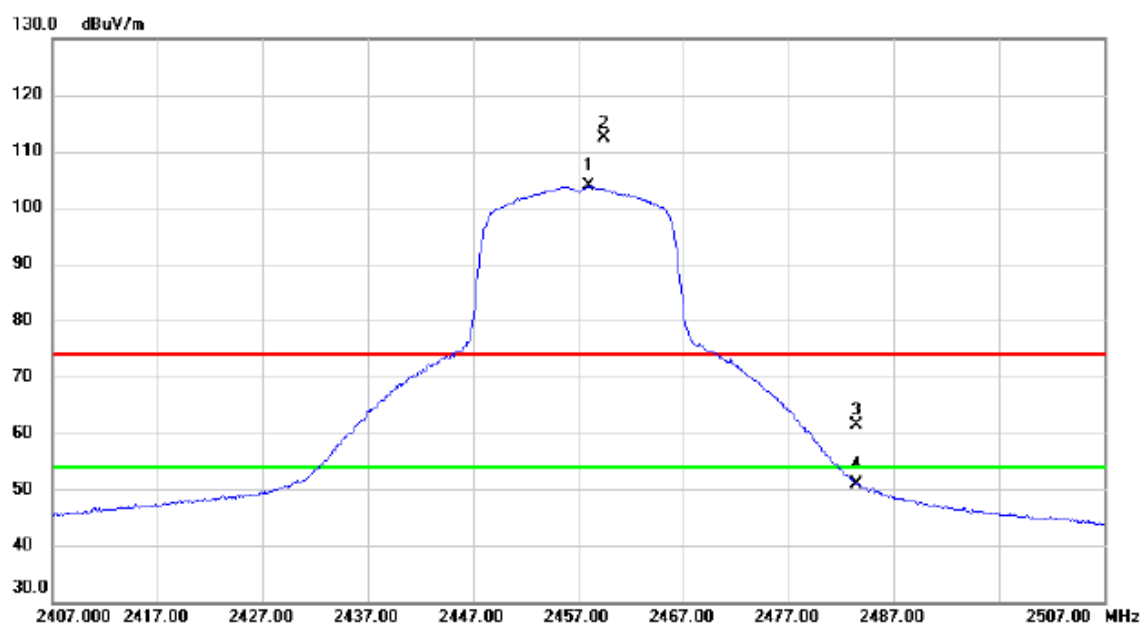
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4872.4750	33.04	7.88	40.92	54.00	-13.08	AVG	
2	4875.7250	45.20	7.90	53.10	74.00	-20.90	Peak	

REMARKS:

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

Test Mode: TX N-20M Mode 2457 MHz

Vertical



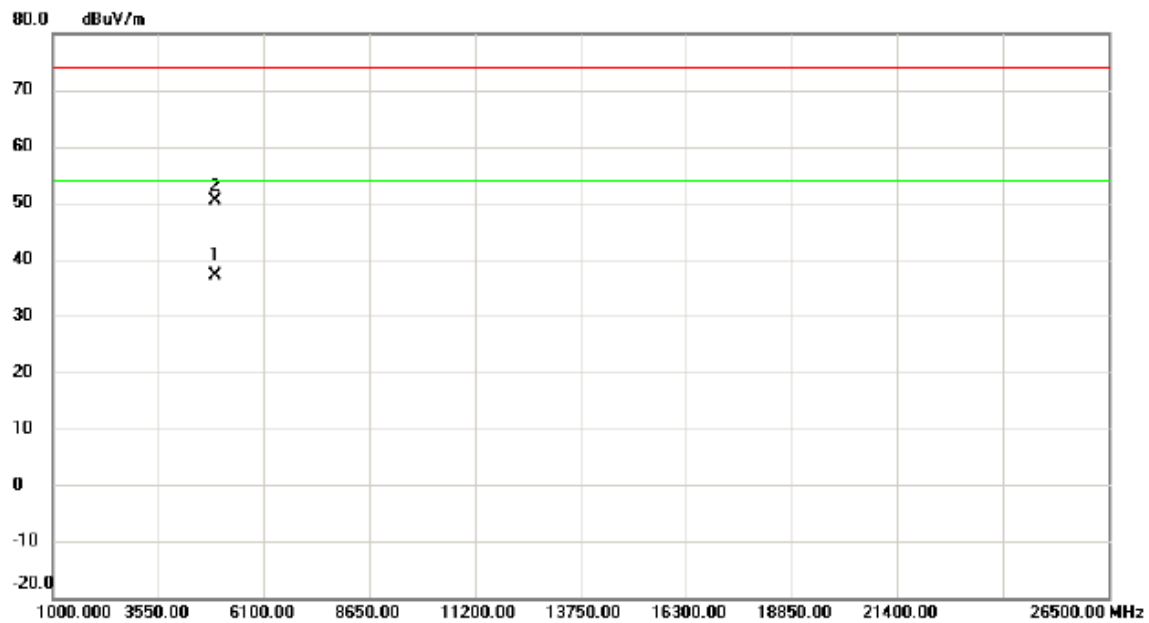
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2458.050	93.66	10.20	103.86	54.00	49.86	AVG	No Limit
2	X	2459.400	102.17	10.20	112.37	74.00	38.37	peak	No Limit
3		2483.500	51.07	10.29	61.36	74.00	-12.64	peak	
4		2483.500	40.49	10.29	50.78	54.00	-3.22	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



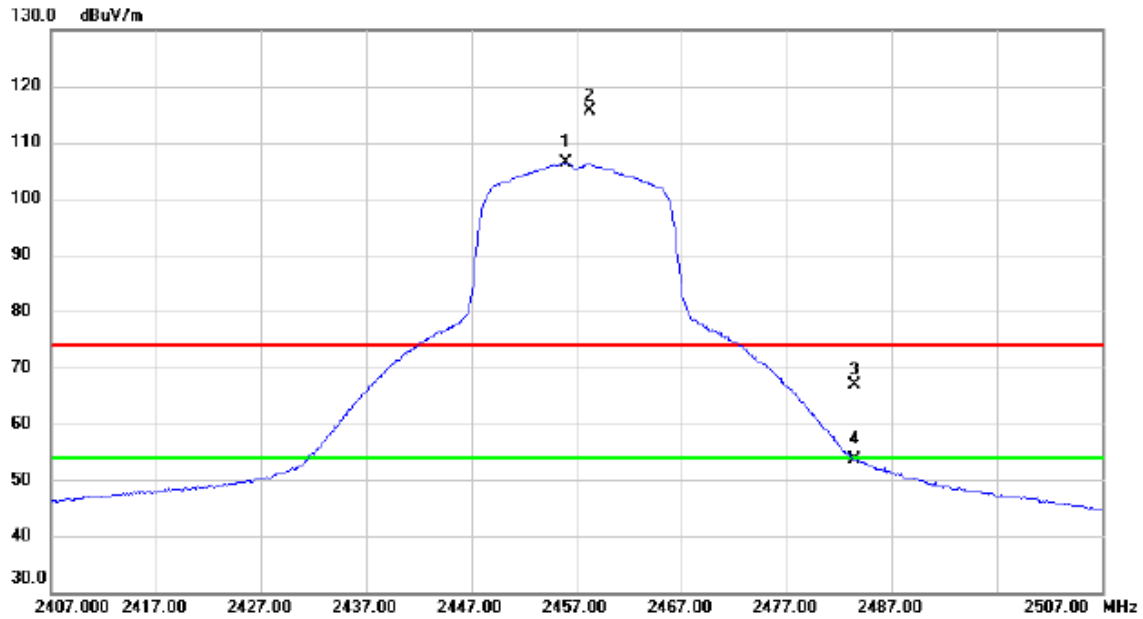
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4911.765	29.09	8.05	37.14	54.00	-16.86	AVG	
2		4913.920	42.28	8.05	50.33	74.00	-23.67	peak	

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	*	2456.000	96.19	10.19	106.38	54.00	52.38	AVG	No Limit
2	X	2458.250	105.53	10.20	115.73	74.00	41.73	peak	No Limit
3		2483.500	56.62	10.29	66.91	74.00	-7.09	peak	
4		2483.500	43.35	10.29	53.64	54.00	-0.36	AVG	

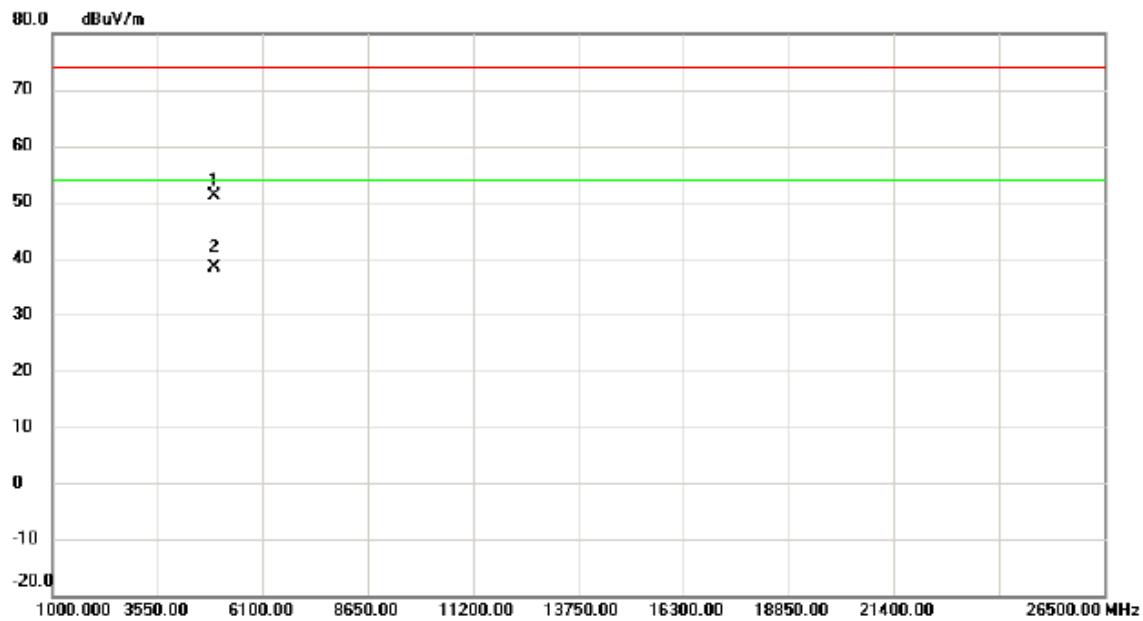
REMARKS:

(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	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4914.060	42.99	8.05	51.04	74.00	-22.96	peak	
2	*	4917.450	30.31	8.07	38.38	54.00	-15.62	AVG	

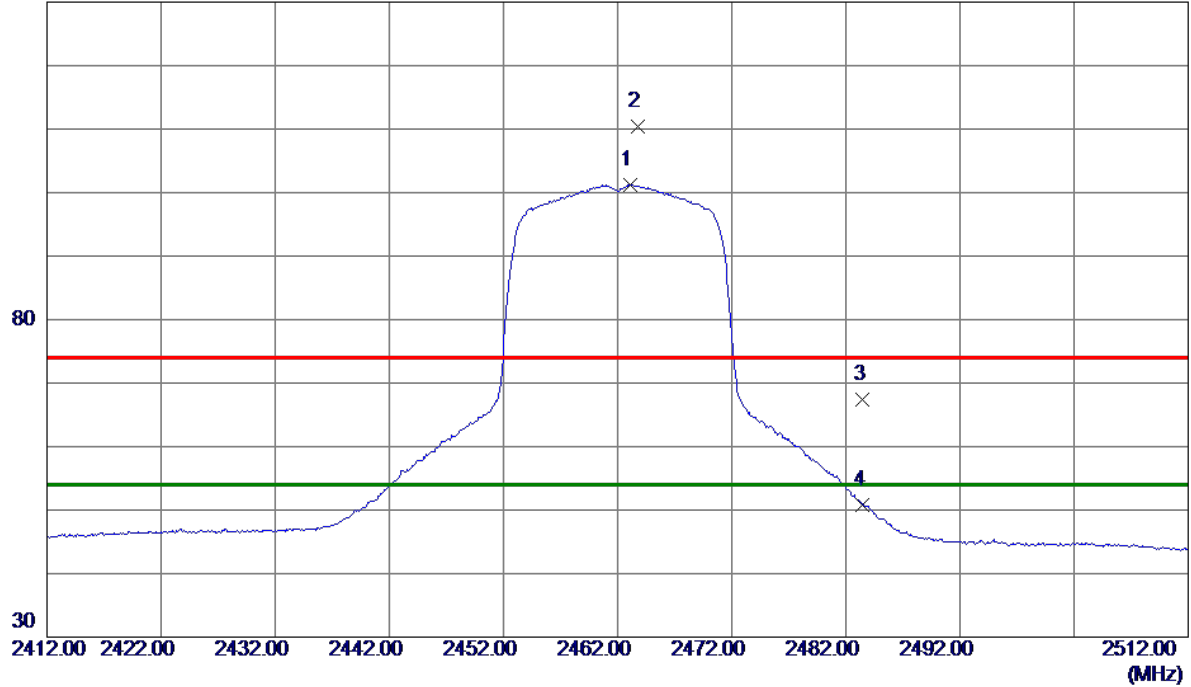
REMARKS:

- (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 *	2463.1000	91.02	10.22	101.24	54.00	47.24	AVG	No Limit
2	2463.8000	100.19	10.22	110.41	74.00	36.41	Peak	No Limit
3	2483.5000	57.05	10.30	67.35	74.00	-6.65	Peak	
4	2483.5000	40.43	10.30	50.73	54.00	-3.27	AVG	

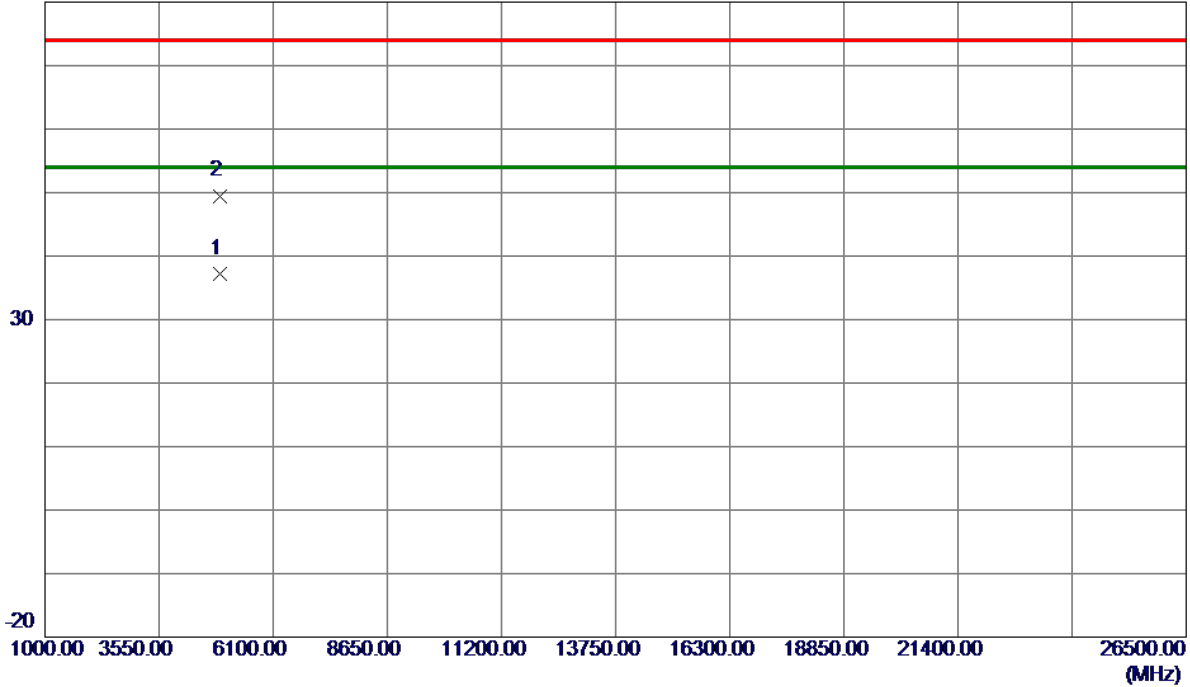
REMARKS:

- (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 *	4922.4580	29.15	8.09	37.24	54.00	-16.76	AVG	
2	4923.1530	41.41	8.09	49.50	74.00	-24.50	Peak	

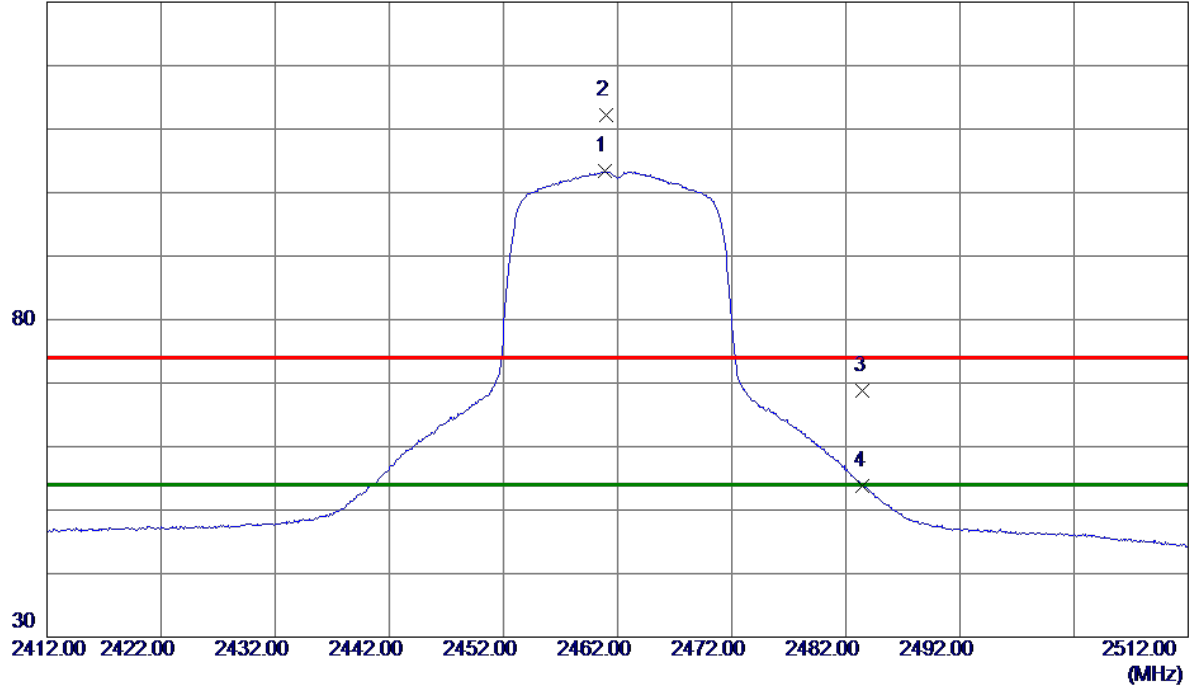
REMARKS:

- (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 *	2460.9000	93.10	10.21	103.31	54.00	49.31	AVG	No Limit
2	2460.9500	102.01	10.21	112.22	74.00	38.22	Peak	No Limit
3	2483.5000	58.51	10.30	68.81	74.00	-5.19	Peak	
4	2483.5000	43.46	10.30	53.76	54.00	-0.24	AVG	

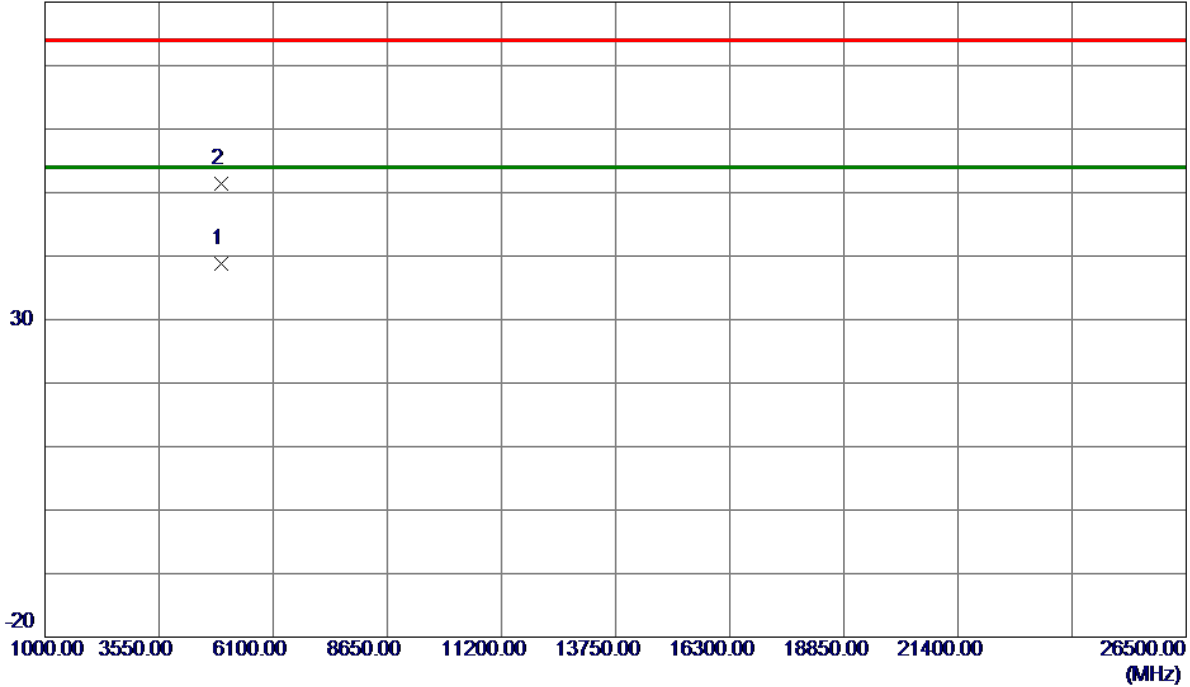
REMARKS:

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

Test Mode:	TX N-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 *	4924.1900	30.65	8.10	38.75	54.00	-15.25	AVG	
2	4929.4400	43.37	8.12	51.49	74.00	-22.51	Peak	

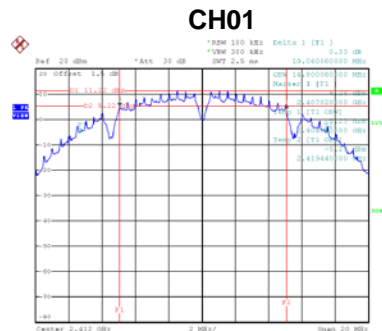
REMARKS:

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

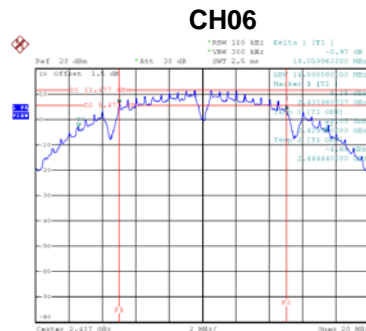
APPENDIX E - BANDWIDTH

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

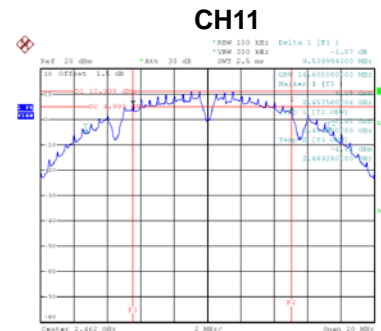
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	10.06	500	Complies
06	2437	10.06	500	Complies
11	2462	9.54	500	Complies



Date: 3.DEC.2019 09:20:40

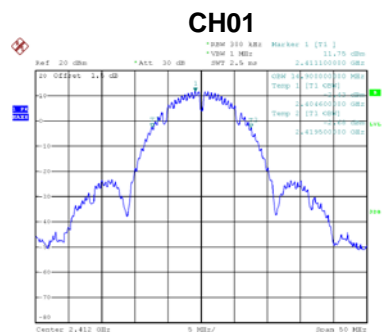


Date: 3.DEC.2019 09:23:43

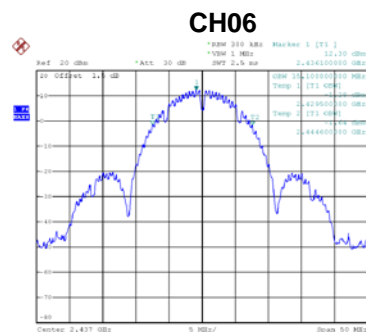


Date: 3.DEC.2019 09:24:05

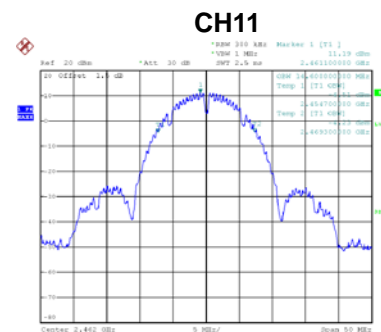
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	14.90	Complies
06	2437	15.10	Complies
11	2462	14.60	Complies



Date: 3.DEC.2019 09:22:04



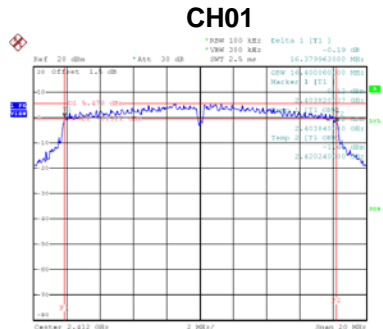
Date: 3.DEC.2019 09:22:58



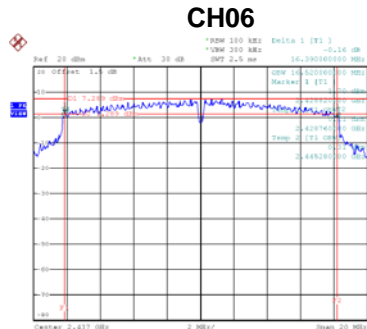
Date: 3.DEC.2019 09:27:09

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

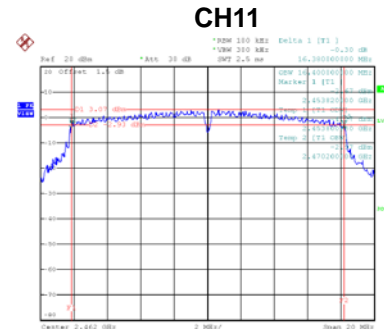
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	16.38	500	Complies
06	2437	16.39	500	Complies
11	2462	16.38	500	Complies



Date: 3.DEC.2019 09:31:07

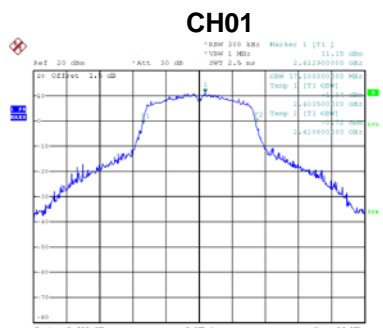


Date: 3.DEC.2019 09:34:38

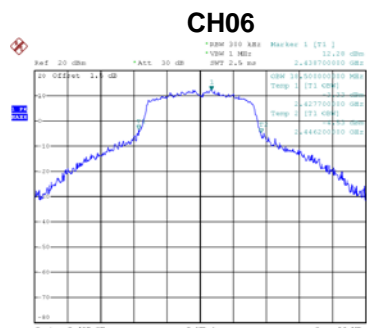


Date: 3.DEC.2019 09:37:38

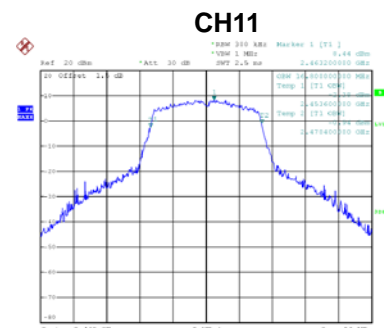
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	17.10	Complies
06	2437	18.50	Complies
11	2462	16.80	Complies



Date: 3.DEC.2019 09:39:31



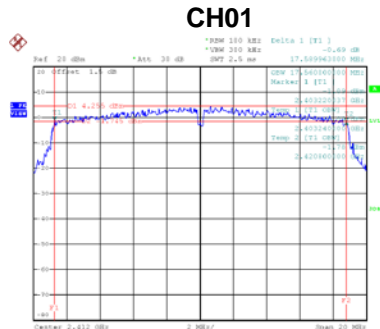
Date: 3.DEC.2019 09:35:47



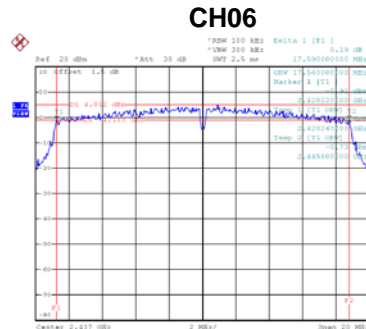
Date: 3.DEC.2019 09:37:04

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

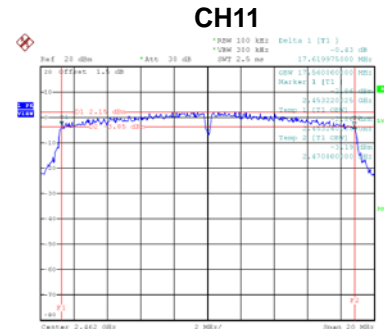
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	17.59	500	Complies
06	2437	17.59	500	Complies
11	2462	17.62	500	Complies



Date: 27.NOV.2019 15:11:44

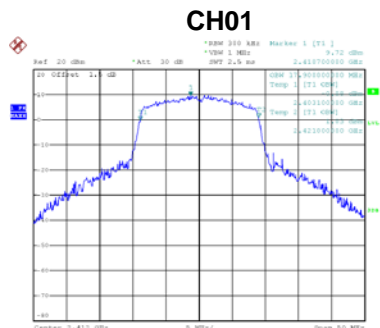


Date: 27.NOV.2019 14:48:16

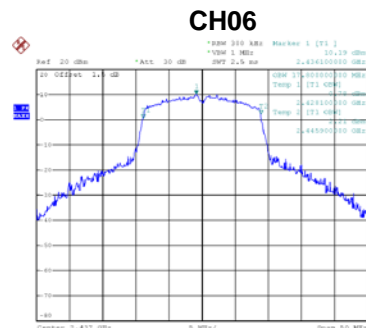


Date: 27.NOV.2019 14:48:49

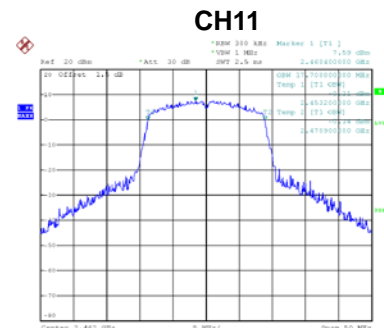
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	17.90	Complies
06	2437	17.80	Complies
11	2462	17.70	Complies



Date: 27.NOV.2019 14:39:54



Date: 27.NOV.2019 14:48:06



Date: 27.NOV.2019 14:50:29

APPENDIX F - MAXIMUM OUTPUT POWER

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

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	22.66	30.00	1.0000	Complies
06	2437	23.27	30.00	1.0000	Complies
11	2462	22.37	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	25.55	30.00	1.0000	Complies
06	2437	26.09	30.00	1.0000	Complies
11	2462	25.08	30.00	1.0000	Complies

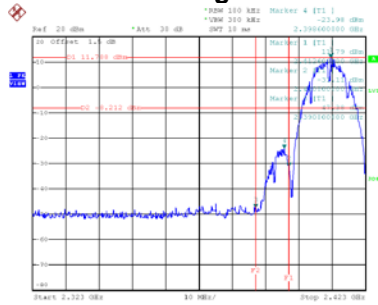
Test Mode	TX N-20M Mode
-----------	---------------

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	24.94	30.00	1.0000	Complies
06	2437	25.31	30.00	1.0000	Complies
11	2462	24.45	30.00	1.0000	Complies

APPENDIX G - CONDUCTED SPURIOUS EMISSIONS

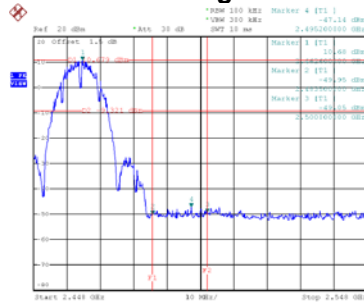
Test Mode TX B Mode

Bandedge-CH01



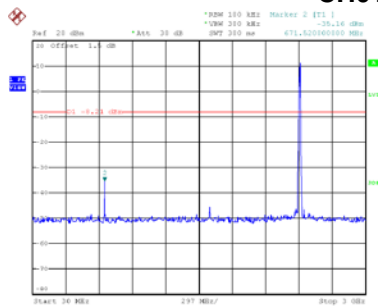
Date: 3.DEC.2019 09:20:47

Bandedge-CH11

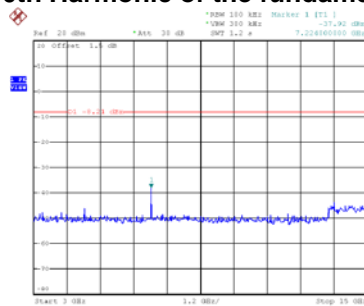


Date: 3.DEC.2019 09:26:12

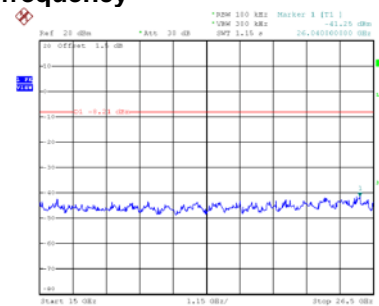
CH01 – 10th Harmonic of the fundamental frequency



Date: 3.DEC.2019 09:21:00

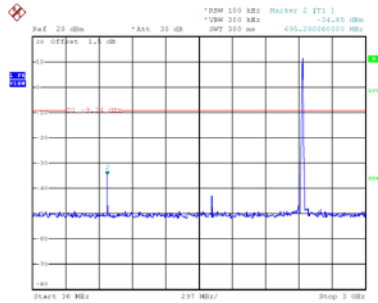


Date: 3.DEC.2019 09:21:07

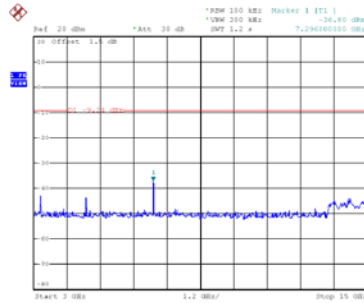


Date: 3.DEC.2019 09:21:15

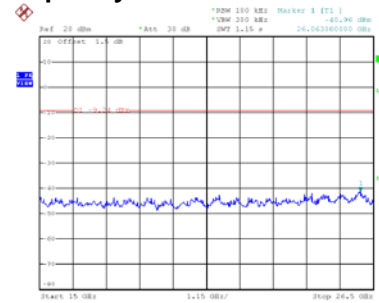
CH06 – 10th Harmonic of the fundamental frequency



Date: 3.DEC.2019 09:24:05

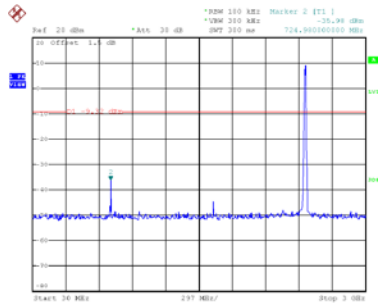


Date: 3.DEC.2019 09:24:12

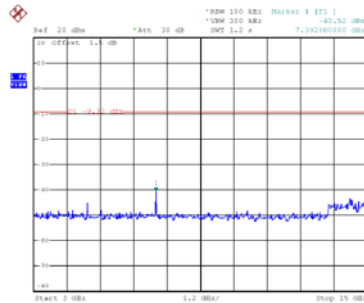


Date: 3.DEC.2019 09:24:20

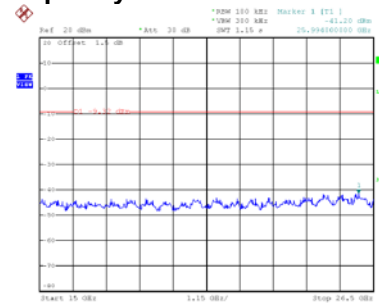
CH11 – 10th Harmonic of the fundamental frequency



Date: 3.DEC.2019 09:26:26



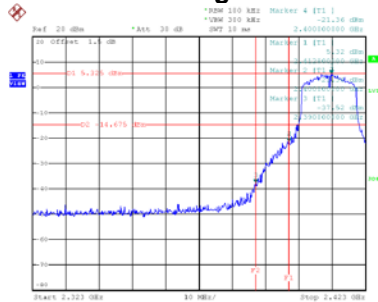
Date: 3.DEC.2019 09:26:34



Date: 3.DEC.2019 09:26:42

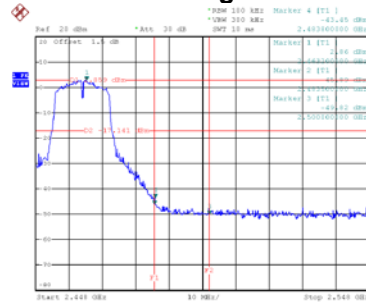
Test Mode TX G Mode

Bandedge-CH01



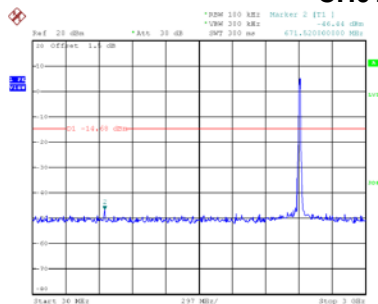
Date: 3.DEC.2019 09:31:15

Bandedge-CH11

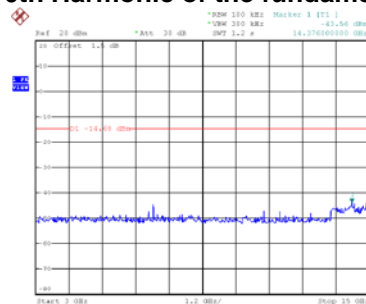


Date: 3.DEC.2019 09:37:46

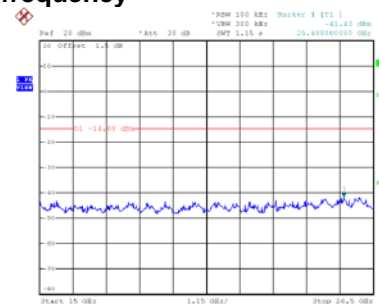
CH01 – 10th Harmonic of the fundamental frequency



Date: 3.DEC.2019 09:31:29

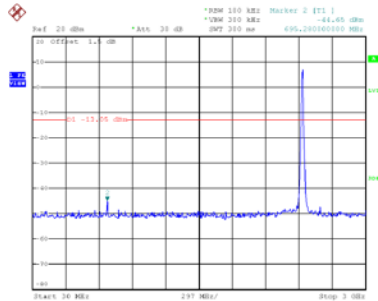


Date: 3.DEC.2019 09:31:37

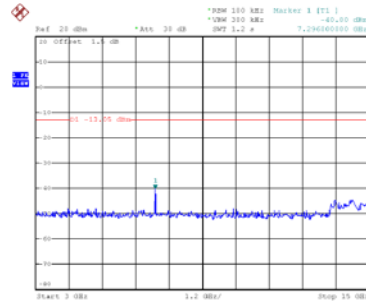


Date: 3.DEC.2019 09:31:45

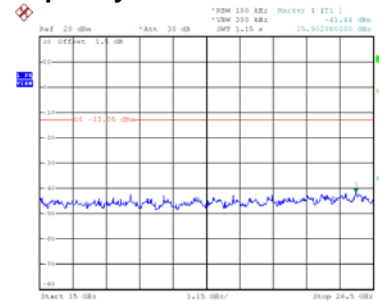
CH06 – 10th Harmonic of the fundamental frequency



Date: 3.DEC.2019 09:35:00

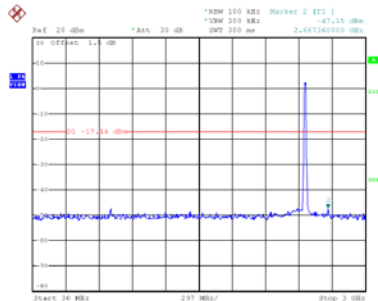


Date: 3.DEC.2019 09:35:08

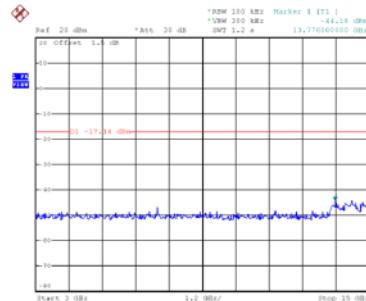


Date: 3.DEC.2019 09:35:16

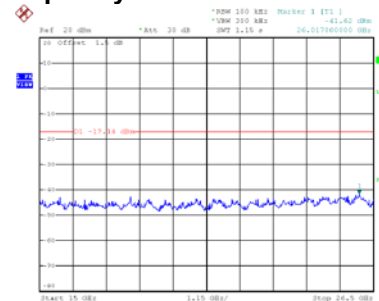
CH11 – 10th Harmonic of the fundamental frequency



Date: 3.DEC.2019 09:38:00



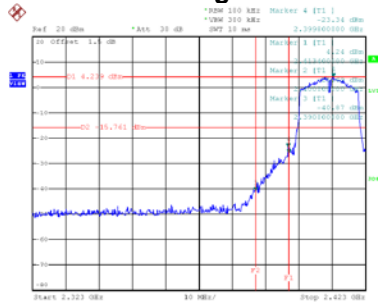
Date: 3.DEC.2019 09:38:08



Date: 3.DEC.2019 09:38:17

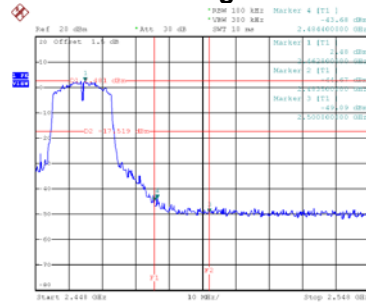
Test Mode TX N-20M Mode

Bandedge-CH01



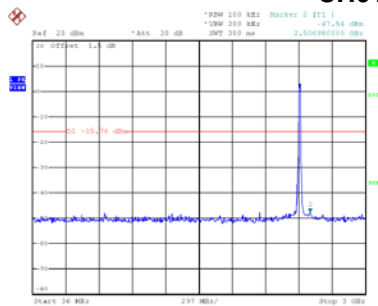
Date: 27.NOV.2019 15:11:52

Bandedge-CH11

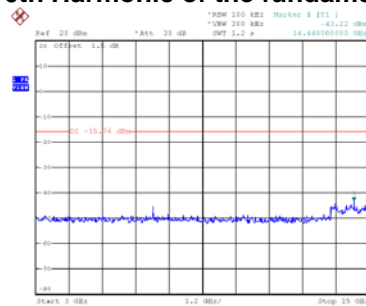


Date: 27.NOV.2019 15:08:51

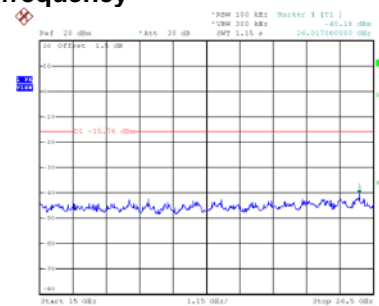
CH01 – 10th Harmonic of the fundamental frequency



Date: 27.NOV.2019 15:12:06

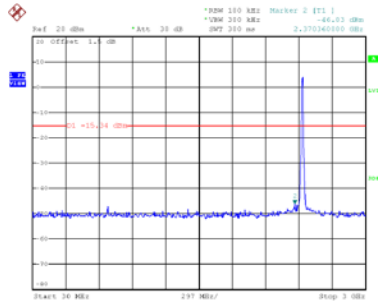


Date: 27.NOV.2019 15:12:14

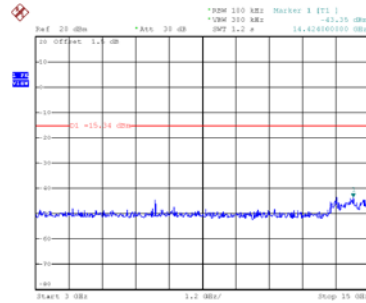


Date: 27.NOV.2019 15:12:21

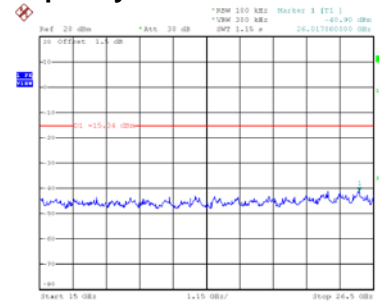
CH06 – 10th Harmonic of the fundamental frequency



Date: 27.NOV.2019 15:08:07

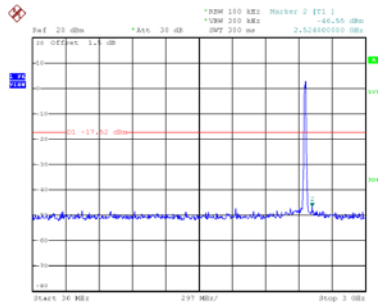


Date: 27.NOV.2019 15:08:15

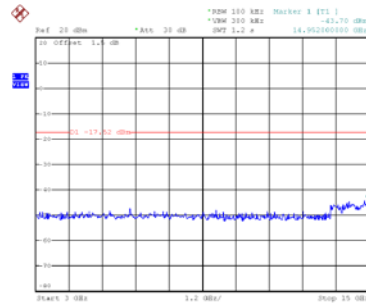


Date: 27.NOV.2019 15:08:23

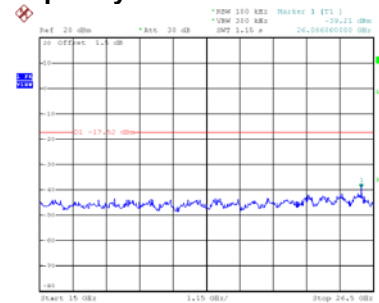
CH11 – 10th Harmonic of the fundamental frequency



Date: 27.NOV.2019 15:09:05



Date: 27.NOV.2019 15:09:13

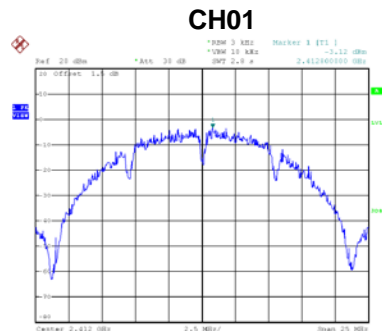


Date: 27.NOV.2019 15:09:20

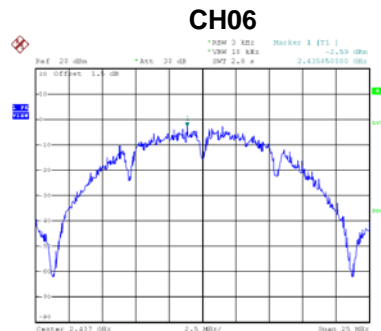
APPENDIX H - POWER SPECTRAL DENSITY

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

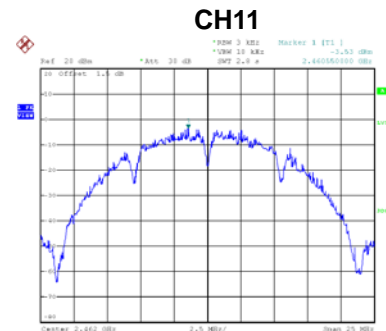
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-3.12	8	Complies
06	2437	-2.59	8	Complies
11	2462	-3.53	8	Complies



Date: 3.DEC.2019 09:20:17



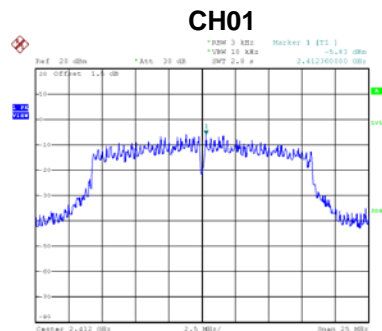
Date: 3.DEC.2019 09:23:18



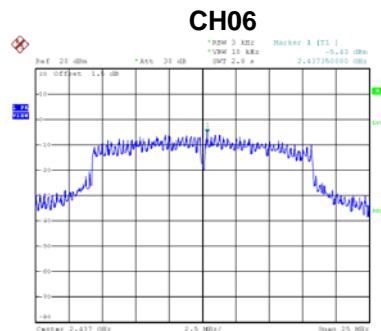
Date: 3.DEC.2019 09:25:18

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

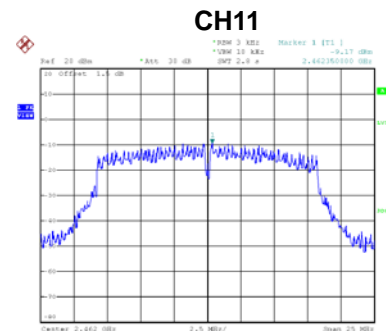
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-5.83	8	Complies
06	2437	-5.43	8	Complies
11	2462	-9.17	8	Complies



Date: 3.DEC.2019 09:30:52



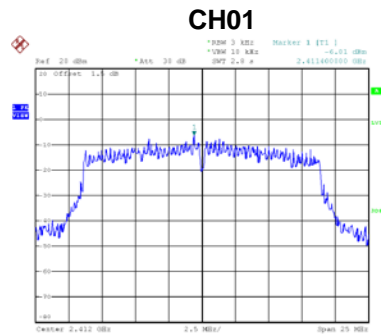
Date: 3.DEC.2019 09:34:24



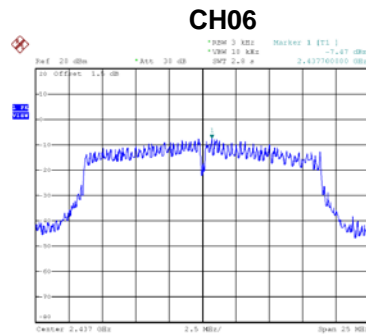
Date: 3.DEC.2019 09:37:24

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

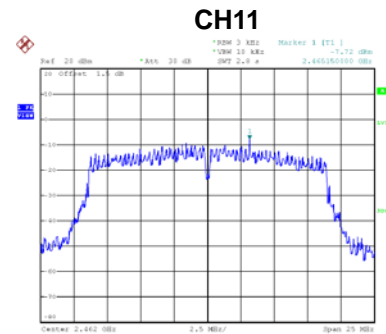
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-6.01	8	Complies
06	2437	-7.47	8	Complies
11	2462	-7.72	8	Complies



Date: 27.NOV.2019 15:11:32



Date: 27.NOV.2019 14:48:03



Date: 27.NOV.2019 14:48:36

End of Test Report