

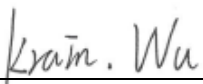
FCC Radio Test Report

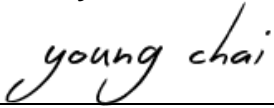
FCC ID: VSFMS3A

This report concerns: **Original Grant**

Project No. : 1907H013
Equipment : Tablet
Brand Name : Juniper Systems
Test Model : MS3A
Series Model : N/A
Applicant : Juniper Systems
Address : 1132 W 1700 N Logan, UT 84321
Manufacturer : Juniper Systems
Address : 1132 W 1700 N Logan, UT 84321
Date of Receipt : Jul. 16, 2019
Date of Test : Jul. 18, 2019~Nov. 03, 2019
Issued Date : Nov. 07, 2019
Report Version : R00
Test Sample : Engineering Sample No.: SH2019091645/SH2019091646/
SH2019091641-5 /SH2019091641-6
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 : Krain Wu


Approved by : Young Chai



Certificate # 5123. 03

Add: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China

TEL: +86-021-61765666

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	12
2.4 DUTY CYCLE	13
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	14
2.6 SUPPORT UNITS	14
3 . AC POWER LINE CONDUCTED EMISSIONS TEST	15
3.1 LIMIT	15
3.2 TEST PROCEDURE	15
3.3 DEVIATION FROM TEST STANDARD	15
3.4 TEST SETUP	16
3.5 EUT OPERATION CONDITIONS	16
3.6 TEST RESULTS	16
4 . RADIATED EMISSIONS TEST	17
4.1 LIMIT	17
4.2 TEST PROCEDURE	18
4.3 DEVIATION FROM TEST STANDARD	18
4.4 TEST SETUP	19
4.5 EUT OPERATION CONDITIONS	20
4.6 TEST RESULTS - 9 KHZ TO 30 MHZ	20
4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	20
4.8 TEST RESULTS - ABOVE 1000 MHZ	20
5 . BANDWIDTH TEST	21
5.1 LIMIT	21
5.2 TEST PROCEDURE	21
5.3 DEVIATION FROM STANDARD	21

Table of Contents	Page
5.4 TEST SETUP	21
5.5 EUT OPERATION CONDITIONS	21
5.6 TEST RESULTS	21
6 . MAXIMUM OUTPUT POWER TEST & E.I.R.P. TEST	22
6.1 LIMIT	22
6.2 TEST PROCEDURE	22
6.3 DEVIATION FROM STANDARD	22
6.4 TEST SETUP	22
6.5 EUT OPERATION CONDITIONS	22
6.6 TEST RESULTS	22
7 . CONDUCTED SPURIOUS EMISSIONS	23
7.1 LIMIT	23
7.2 TEST PROCEDURE	23
7.3 DEVIATION FROM STANDARD	23
7.4 TEST SETUP	23
7.5 EUT OPERATION CONDITIONS	23
7.6 TEST RESULTS	23
8 . POWER SPECTRAL DENSITY TEST	24
8.1 LIMIT	24
8.2 TEST PROCEDURE	24
8.3 DEVIATION FROM STANDARD	24
8.4 TEST SETUP	24
8.5 EUT OPERATION CONDITIONS	24
8.6 TEST RESULTS	24
9 . MEASUREMENT INSTRUMENTS LIST	25
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	27
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	32
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	37
APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ	40
APPENDIX E - BANDWIDTH	89
APPENDIX F - MAXIMUM OUTPUT POWER	94
APPENDIX G - CONDUCTED SPURIOUS EMISSIONS	99

Table of Contents

Page

APPENDIX H - POWER SPECTRAL DENSITY

108

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Nov. 07, 2019

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart C (15.247)				
Standard(s) Section	Test Item	Test Result	Judgment	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	N/A	-----
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 & e.i.r.p.	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:

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

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China
 BTL's Test Firm Registration Number for FCC: 476765
 BTL's Designation Number for FCC: CN1241

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)
SH-C01	CISPR	150 kHz ~ 30 MHz	± 2.26

B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
SH-CB01	CISPR	9 KHz~30 MHz	V	3.79
		9 KHz~30 MHz	H	3.57
		30 MHz~200 MHz	V	4.04
		30 MHz~200 MHz	H	3.76
		200 MHz~1,000 MHz	V	4.24
		200 MHz~1,000 MHz	H	3.84
		1 GHz~18 GHz	V	4.46
		1 GHz~18 GHz	H	4.40
		18 GHz~40 GHz	V	3.95
		18 GHz~40 GHz	H	3.95

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	24°C	61%	AC 120V	Summer Xu
Radiated Emissions-9K-30MHz	23°C	55%	AC 120V	Summer Xu
Radiated Emissions-30 MHz to 1GHz	23°C	55%	AC 120V	Summer Xu
Radiated Emissions-Above 1000 MHz	23°C	55%	AC 120V	Summer Xu
Bandwidth	24°C	61%	AC 120V	Summer Xu
Maximum output power & e.i.r.p.	24°C	61%	AC 120V	Summer Xu
Conducted Spurious Emissions	24°C	61%	AC 120V	Summer Xu
Power Spectral Density	24°C	61%	AC 120V	Summer Xu

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Tablet
Brand Name	Juniper Systems
Test Model	MS3A
Series Model	N/A
Model Difference(s)	N/A
Software Version	MS3A-userdebug 9.1.0.1-20190619 eng.mirror.20190619.093211 test-keys
Hardware Version	DVT1
Power Source	#1 DC voltage supplied from AC/DC adapter. Model: PSAA30R-120 #2 Supplied from Li-ion battery pack.
Power Rating	#1 I/P: 100~240V 0.8A 50~60Hz O/P: 12V --- 2.5A #2 7.2V, 6.0A, 43.2W
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps
Maximum Output Power Non-Beamforming	IEEE 802.11b: 20.89 dBm (0.1226 W) IEEE 802.11g: 23.02 dBm (0.2006 W) IEEE 802.11n (HT20): 23.11 dBm (0.2048 W) IEEE 802.11n (HT40): 23.38 dBm (0.2176 W)

Note:

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

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

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	PIFA	N/A	1.2	N/A
2	N/A	N/A	PCB	N/A	0	N/A

2.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09
Mode 5	TX N40 MODE CHANNEL 06

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

AC power line conducted emissions test	
Final Test Mode:	Description
Mode 5	TX N40 MODE CHANNEL 06

Radiated emissions test - Below 1GHz	
Final Test Mode:	Description
Mode 5	TX N40 MODE CHANNEL 06

Radiated emissions test- Above 1GHz	
Final Test Mode:	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09

Conducted test	
Final Test Mode:	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09

NOTE:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: CCK (1 Mbps)
 802.11g mode: OFDM (6 Mbps)
 802.11n HT20 mode : BPSK (13 Mbps)
 802.11n HT40 mode : BPSK (27 Mbps)
 For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11n40 is found to be the worst case and recorded.
- (4) For radiated emission above 1 GHz test, 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.

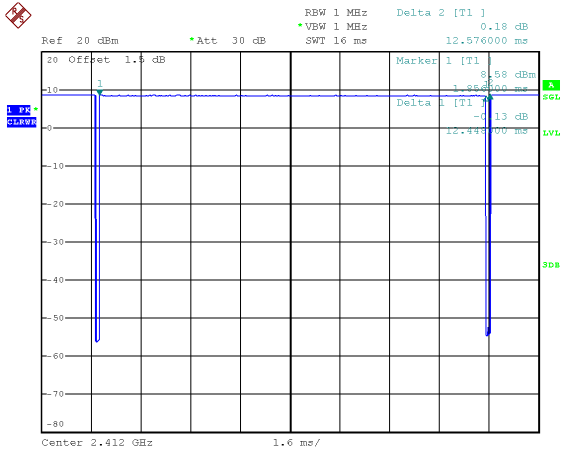
2.3 PARAMETERS OF TEST SOFTWARE**Non-Beamforming**

Test Software	QRCT		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	16	16	15
IEEE 802.11g	17	18	16
IEEE 802.11n (HT20)	17	18	17
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	15	15	15

2.4 DUTY CYCLE

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

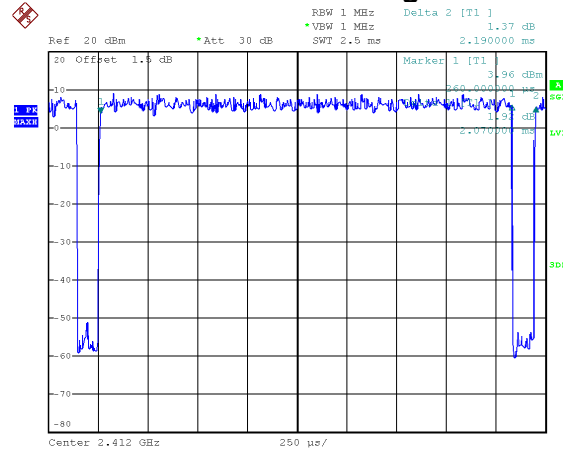
IEEE 802.11b



Date: 18.SEP.2019 18:25:55

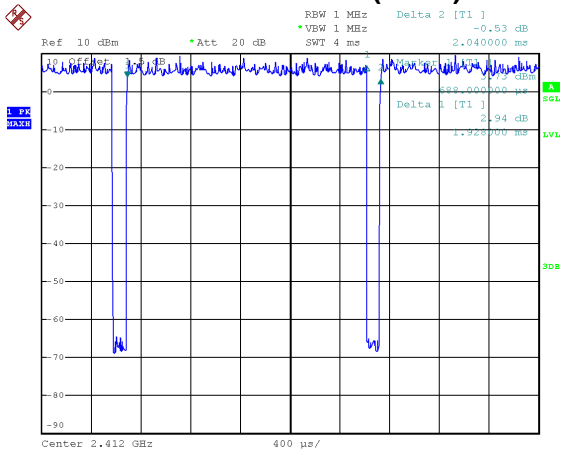
Duty cycle = $12.448 \text{ ms} / 12.576 \text{ ms} = 98.98\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$
IEEE 802.11n (HT20)

IEEE 802.11g



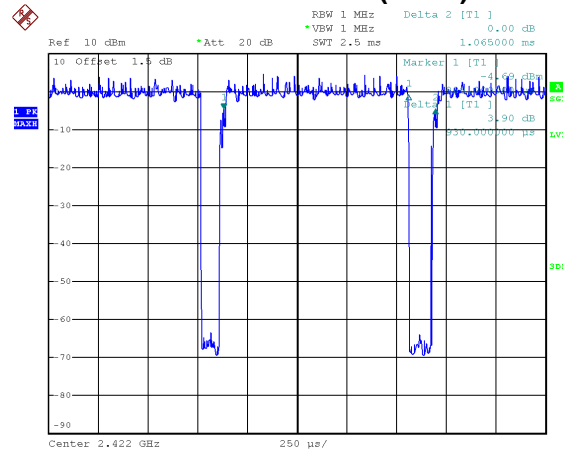
Date: 18.SEP.2019 18:24:49

Duty cycle = $2.070 \text{ ms} / 2.190 \text{ ms} = 94.52\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.24$
IEEE 802.11n (HT40)



Date: 18.SEP.2019 18:22:59

Duty cycle = $1.928 \text{ ms} / 2.040 \text{ ms} = 94.51\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.25$,



Date: 18.SEP.2019 18:21:24

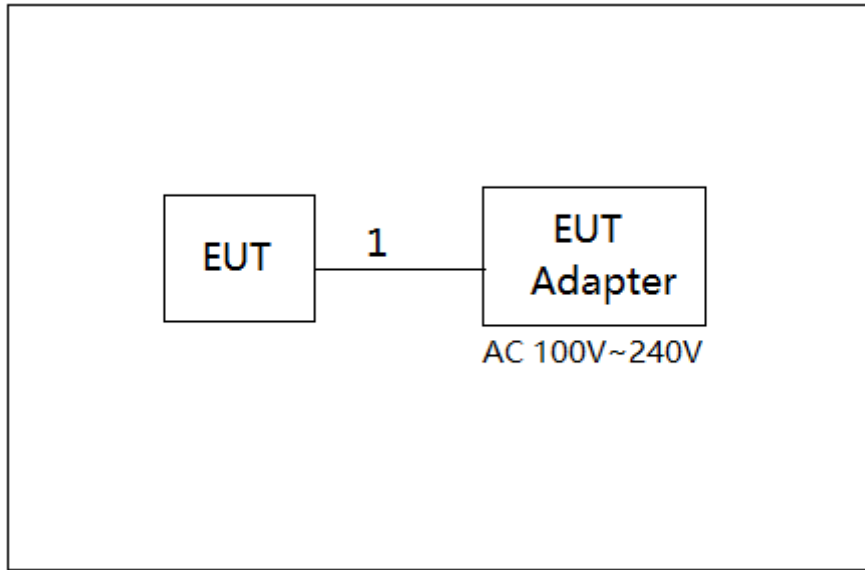
Duty cycle = $0.930 \text{ ms} / 1.065 \text{ ms} = 87.32\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.59$

NOTE:

For IEEE 802.11g and IEEE 802.11n (HT20):
 For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle $< 98\%$).

For IEEE 802.11n (HT40):
 For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2 kHz (Duty cycle $< 98\%$).

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	N/A	N/A	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 - 0.50	66 to 56*	56 - 46*
0.50 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

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

The following table is the setting of the receiver

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

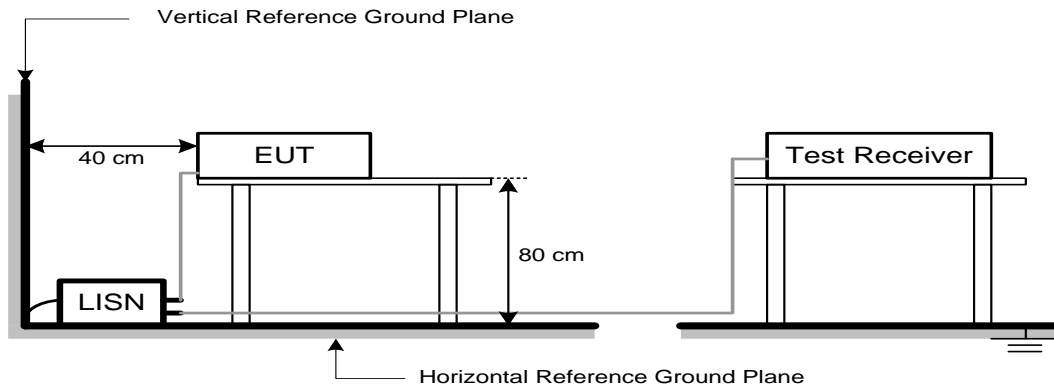
3.2 TEST PROCEDURE

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

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS TEST

4.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-30 MHz)

Frequency (MHz)	Magnetic field strength (H-Field) ($\mu\text{A/m}$)	Measurement Distance (meters)
0.009-0.490	6.37/F(kHz)	300
0.490-1.705	6.37/F(kHz)	30
1.705-30.0	0.08	30

LIMITS OF RADIATED EMISSION MEASUREMENT (30 MHz-1000 MHz)

Frequency (MHz)	Field Strength ($\mu\text{V/m}$ at 3m)
30-88	100
88-216	150
216-960	200
Above 960	500

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).
- (4) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
 Margin Level = Measurement Value - Limit Value

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	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

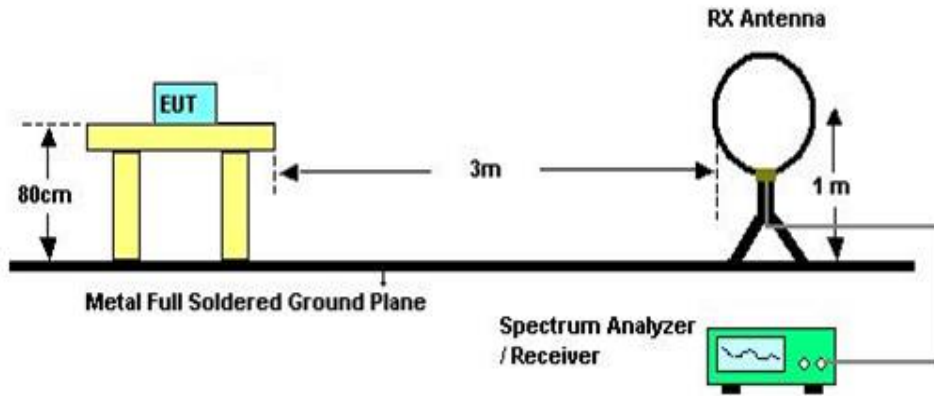
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance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

4.3 DEVIATION FROM TEST STANDARD

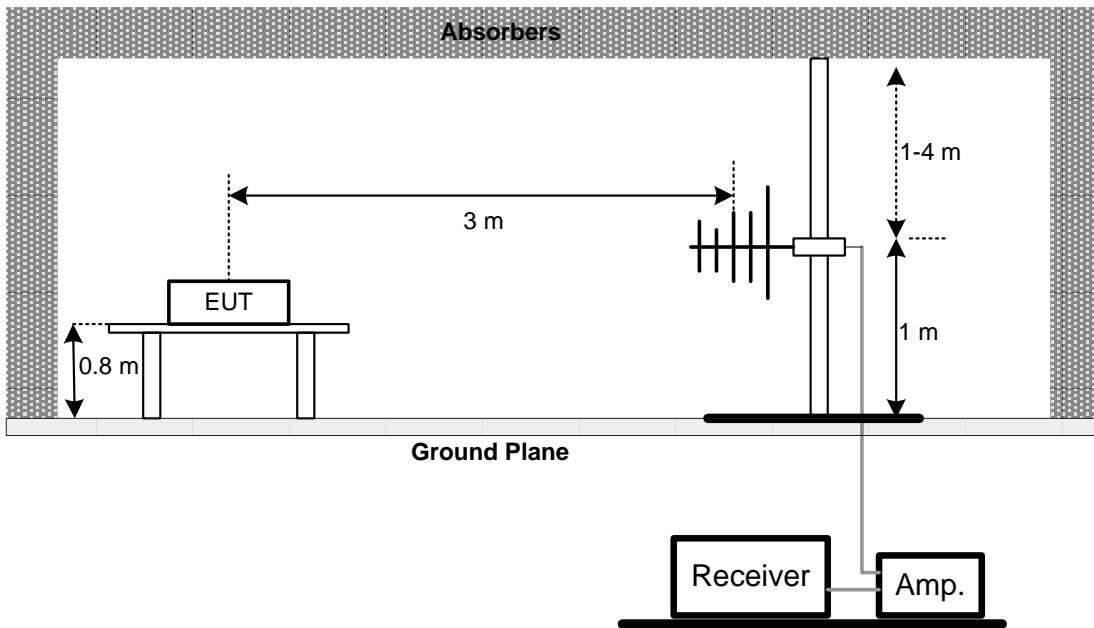
No deviation

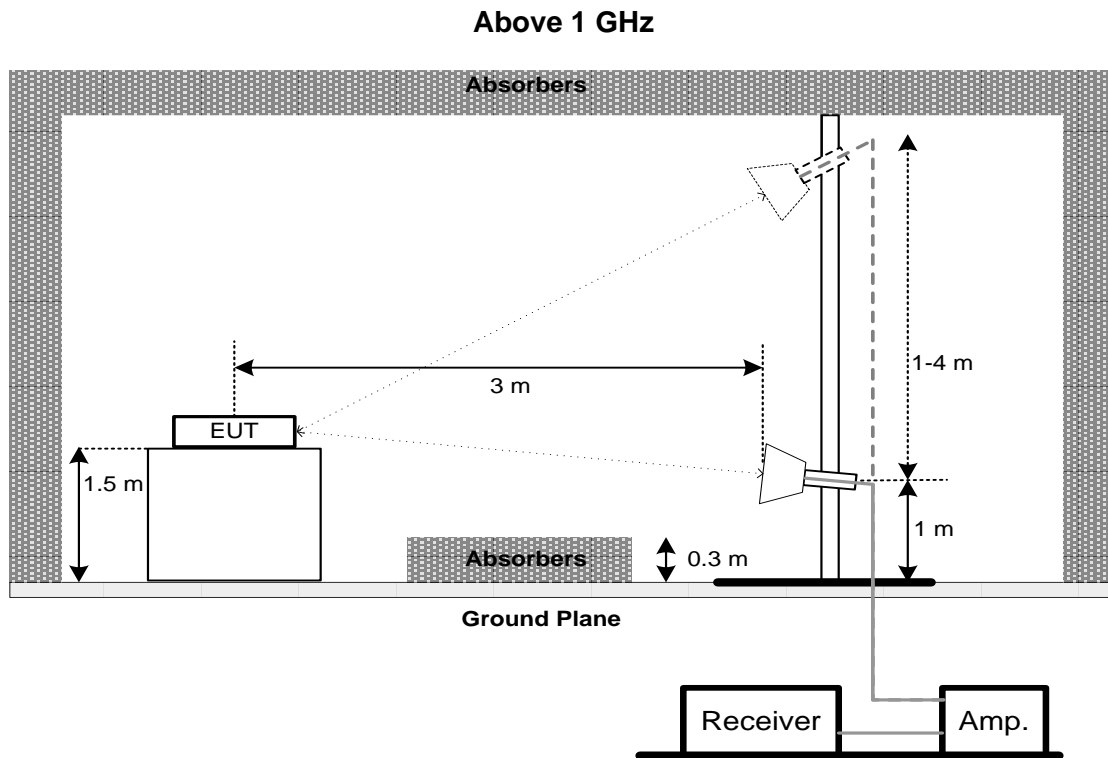
4.4 TEST SETUP

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**

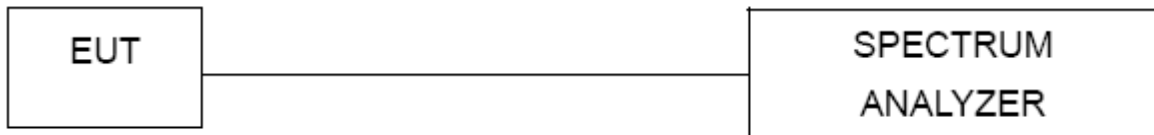
FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(a)(2)	6 dB Bandwidth	Minimum 500 kHz
	99% Emission Bandwidth	-

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: RBW= 100 kHz, VBW=300 kHz, 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 & E.I.R.P. 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

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. The maximum conducted output power was performed in accordance with method 11.9.1.3 (for peak power) or 11.9.2.3.1 (for AVG power) of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP**6.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7. CONDUCTED SPURIOUS EMISSIONS

7.1 LIMIT

For FCC

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. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

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

- 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=3 kHz, VBW=10 kHz, Sweep time = Auto.
- c. 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	Line Impedance Stabilisation Network	Schwarzbeck	NNLK 8121	8121-822	Mar. 29, 2020
2	TWO-LINE V-NETWORK	R&S	ENV216	101340	Nov. 20, 2019
3	Test Cable	emci	EMCRG400-BM-NM-10000	170628	Apr. 17, 2020
4	EMI Test Receiver	R&S	ESCI	100082	Mar. 29, 2020
5	50Ω Terminator	SHX	TF2-1G-A	17051602	Mar. 29, 2020
6	50Ω coaxial switch	Anritsu	MP59B	6201750902	Mar. 29, 2020
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EMCI	EMCI LPA600	275	Mar. 29, 2020
2	EMI Test Receiver	R&S	ESCI	100082	Mar. 29, 2020
3	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	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	719	Mar. 29, 2020
2	Pre-Amplifier	emci	EMC9135	980400	Mar. 29, 2020
3	MXE EMI Receiver	Keysight	N9038A	MY57150106	Mar. 29, 2020
4	Test Cable	emci	EMC104-SM-SM-7000	170330	Apr. 17, 2020
5	Test Cable	emci	EMC104-SM-SM-1000	170331	Apr. 17, 2020
6	Test Cable	emci	EMC104-SM-NM-3500	170621	Apr. 17, 2020
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 Waveguide Horn Antenna	ETS-Lindgren	9120D	00206960	Mar. 29, 2020
2	Pre-Amplifier	emci	EMC012645SE	980421	Mar. 29, 2020
3	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Mar. 29, 2020
4	Test Cable	emci	EMC104-SM-SM-7000	170330	Apr. 17, 2020
5	Test Cable	emci	EMC104-SM-SM-1000	170331	Apr. 17, 2020
6	Test Cable	emci	EMC104-SM-NM-3500	170621	Apr. 17, 2020
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	MXE EMI Receiver	Keysight	N9038A	MY57150106	Mar. 29, 2020

Bandwidth

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100626	Mar. 29, 2020

Maximum Output Power

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Keysight	8990B	MY51000507	Mar. 29, 2020
2	Pulse Power Sensor	Keysight	N1923A	MY58310003	Mar. 29, 2020

Antenna Conducted Spurious Emissions

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100626	Mar. 29, 2020

Power Spectral Density

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100626	Mar. 29, 2020

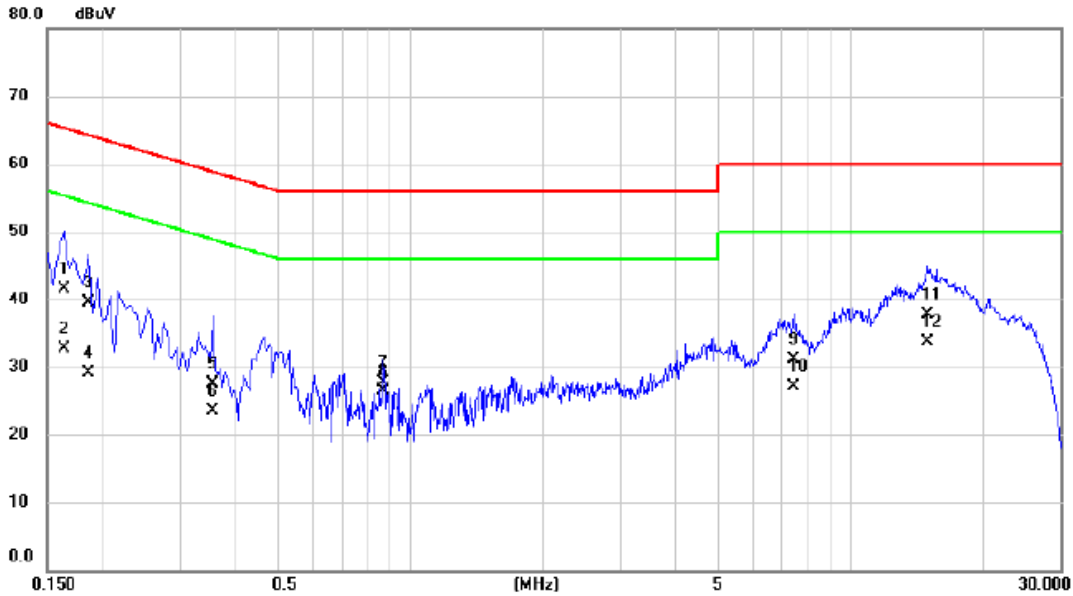
Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode: TX Mode

Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1635	31.80	9.78	41.58	65.28	-23.70	QP	
2		0.1635	22.90	9.78	32.68	55.28	-22.60	AVG	
3		0.1860	29.60	9.81	39.41	64.21	-24.80	QP	
4		0.1860	19.20	9.81	29.01	54.21	-25.20	AVG	
5		0.3570	17.60	9.87	27.47	58.80	-31.33	QP	
6		0.3570	13.70	9.87	23.57	48.80	-25.23	AVG	
7		0.8700	17.80	9.82	27.62	56.00	-28.38	QP	
8		0.8700	16.60	9.82	26.42	46.00	-19.58	AVG	
9		7.4355	20.90	10.14	31.04	60.00	-28.96	QP	
10		7.4355	16.90	10.14	27.04	50.00	-22.96	AVG	
11		14.9820	27.60	10.07	37.67	60.00	-22.33	QP	
12	*	14.9820	23.70	10.07	33.77	50.00	-16.23	AVG	

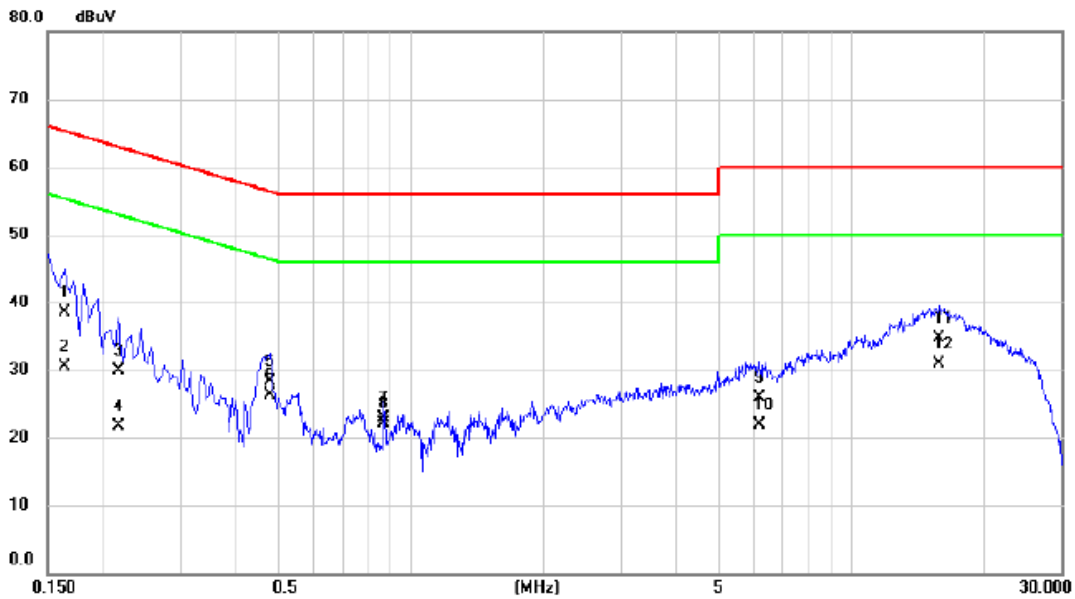
REMARKS:

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

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

Test Mode: TX Mode

Neutral



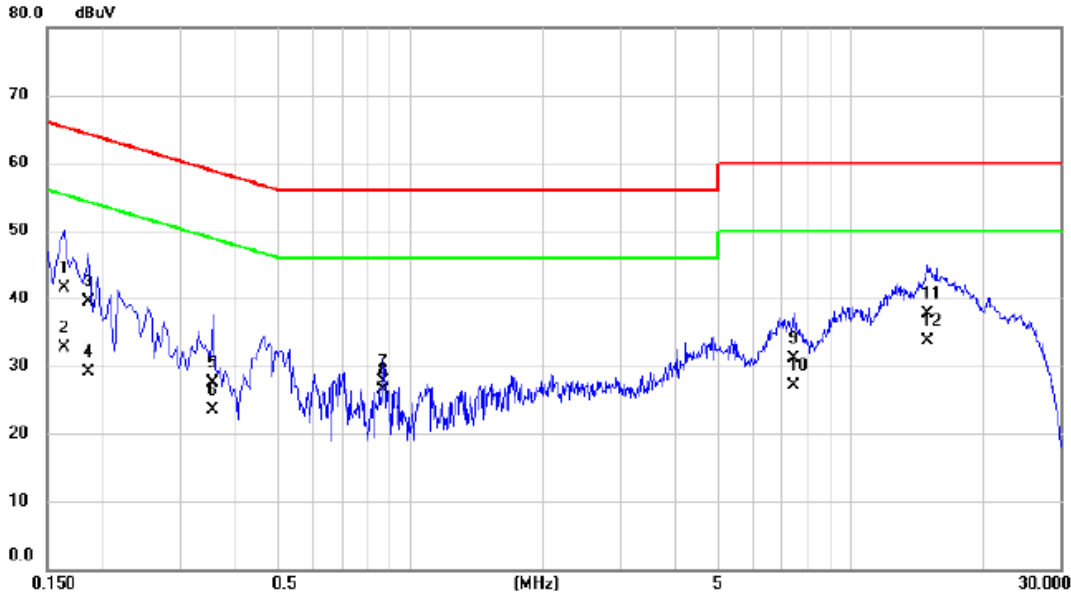
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1635	29.00	9.59	38.59	65.28	-26.69	QP	
2		0.1635	21.00	9.59	30.59	55.28	-24.69	AVG	
3		0.2175	20.20	9.68	29.88	62.91	-33.03	QP	
4		0.2175	12.00	9.68	21.68	52.91	-31.23	AVG	
5		0.4785	18.50	9.81	28.31	56.37	-28.06	QP	
6		0.4785	16.40	9.81	26.21	46.37	-20.16	AVG	
7		0.8700	13.20	9.75	22.95	56.00	-33.05	QP	
8		0.8700	12.30	9.75	22.05	46.00	-23.95	AVG	
9		6.1845	15.90	10.10	26.00	60.00	-34.00	QP	
10		6.1845	11.90	10.10	22.00	50.00	-28.00	AVG	
11		15.8145	24.50	10.11	34.61	60.00	-25.39	QP	
12	*	15.8145	20.70	10.11	30.81	50.00	-19.19	AVG	

REMARKS:

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

Test Mode: TX Mode

Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1635	31.80	9.78	41.58	65.28	-23.70	QP	
2		0.1635	22.90	9.78	32.68	55.28	-22.60	AVG	
3		0.1860	29.60	9.81	39.41	64.21	-24.80	QP	
4		0.1860	19.20	9.81	29.01	54.21	-25.20	AVG	
5		0.3570	17.60	9.87	27.47	58.80	-31.33	QP	
6		0.3570	13.70	9.87	23.57	48.80	-25.23	AVG	
7		0.8700	17.80	9.82	27.62	56.00	-28.38	QP	
8		0.8700	16.60	9.82	26.42	46.00	-19.58	AVG	
9		7.4355	20.90	10.14	31.04	60.00	-28.96	QP	
10		7.4355	16.90	10.14	27.04	50.00	-22.96	AVG	
11		14.9820	27.60	10.07	37.67	60.00	-22.33	QP	
12	*	14.9820	23.70	10.07	33.77	50.00	-16.23	AVG	

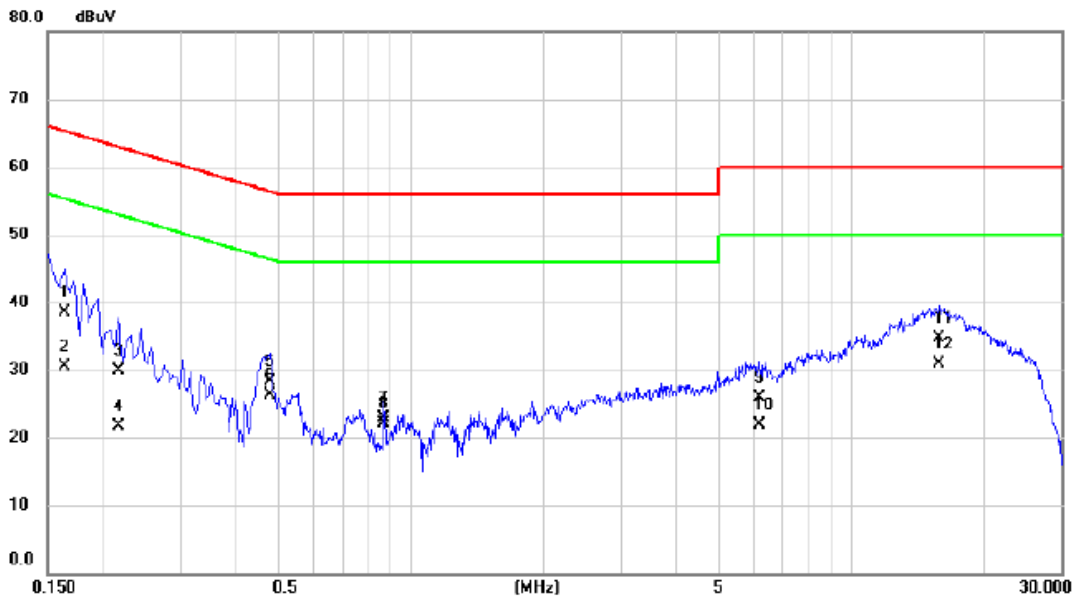
REMARKS:

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

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

Test Mode: TX Mode

Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1635	29.00	9.59	38.59	65.28	-26.69	QP	
2		0.1635	21.00	9.59	30.59	55.28	-24.69	AVG	
3		0.2175	20.20	9.68	29.88	62.91	-33.03	QP	
4		0.2175	12.00	9.68	21.68	52.91	-31.23	AVG	
5		0.4785	18.50	9.81	28.31	56.37	-28.06	QP	
6		0.4785	16.40	9.81	26.21	46.37	-20.16	AVG	
7		0.8700	13.20	9.75	22.95	56.00	-33.05	QP	
8		0.8700	12.30	9.75	22.05	46.00	-23.95	AVG	
9		6.1845	15.90	10.10	26.00	60.00	-34.00	QP	
10		6.1845	11.90	10.10	22.00	50.00	-28.00	AVG	
11		15.8145	24.50	10.11	34.61	60.00	-25.39	QP	
12	*	15.8145	20.70	10.11	30.81	50.00	-19.19	AVG	

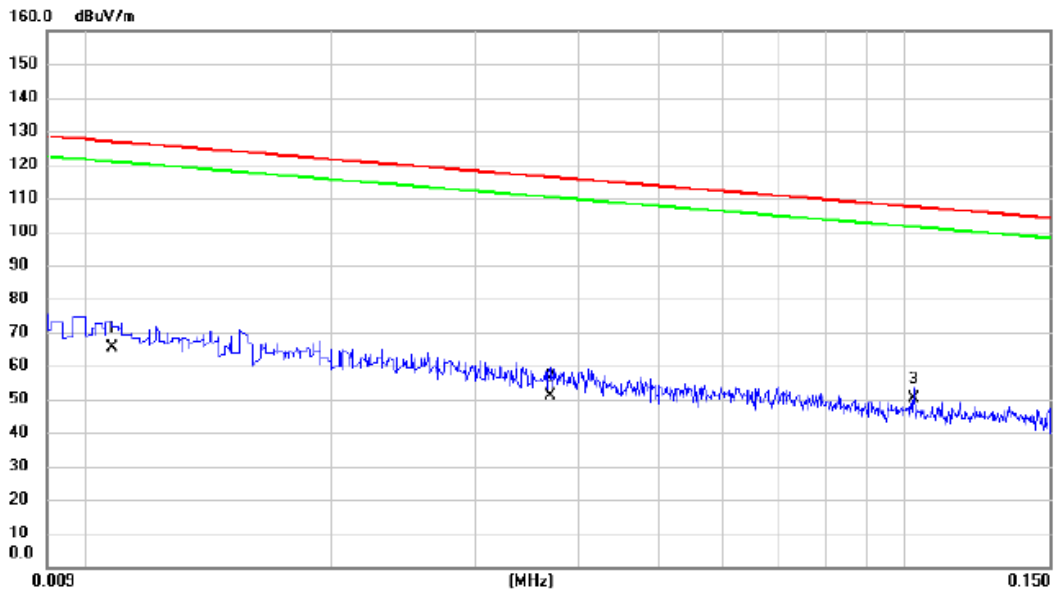
REMARKS:

- (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 Mode

Ant 0°



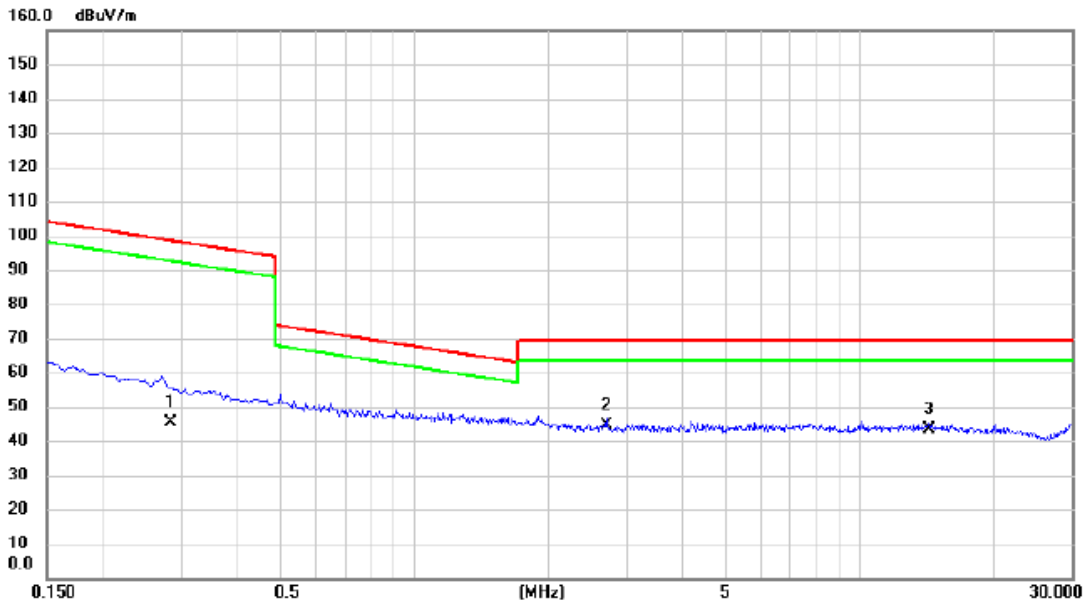
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.0108	-12.70	77.91	65.21	126.94	-61.73	AVG	
2		0.0370	-16.67	67.60	50.93	116.24	-65.31	AVG	
3	*	0.1025	-7.56	57.85	50.29	107.39	-57.10	QP	

REMARKS:

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

Test Mode: TX Mode

Ant 0°



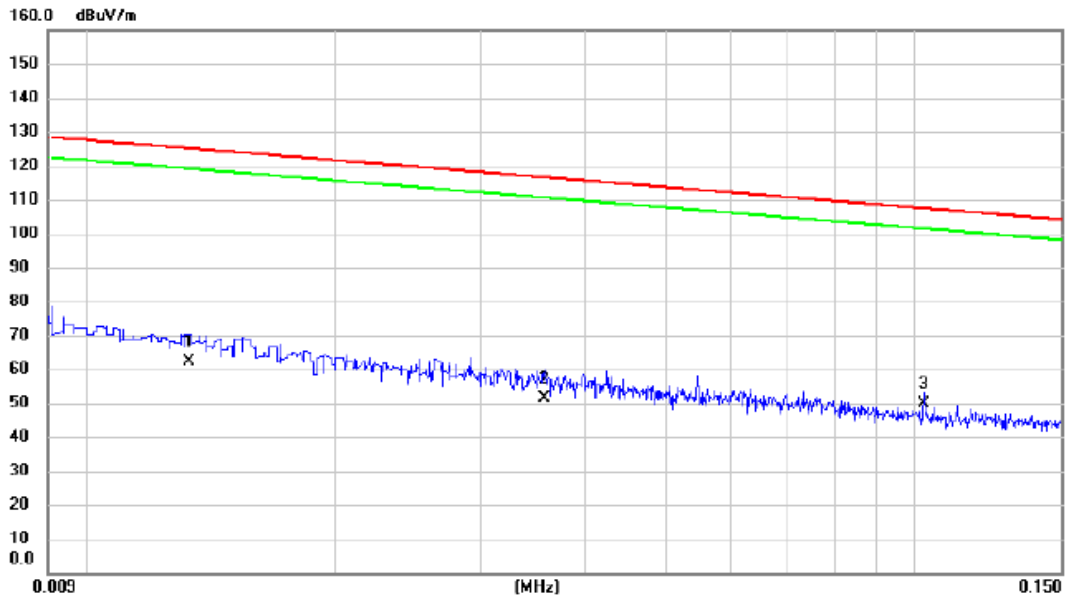
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.2850	-3.90	49.21	45.31	98.51	-53.20	AVG	
2 *	2.7015	6.23	38.24	44.47	69.54	-25.07	QP	
3	14.2980	5.35	38.14	43.49	69.54	-26.05	QP	

REMARKS:

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

Test Mode: TX Mode

Ant 90°



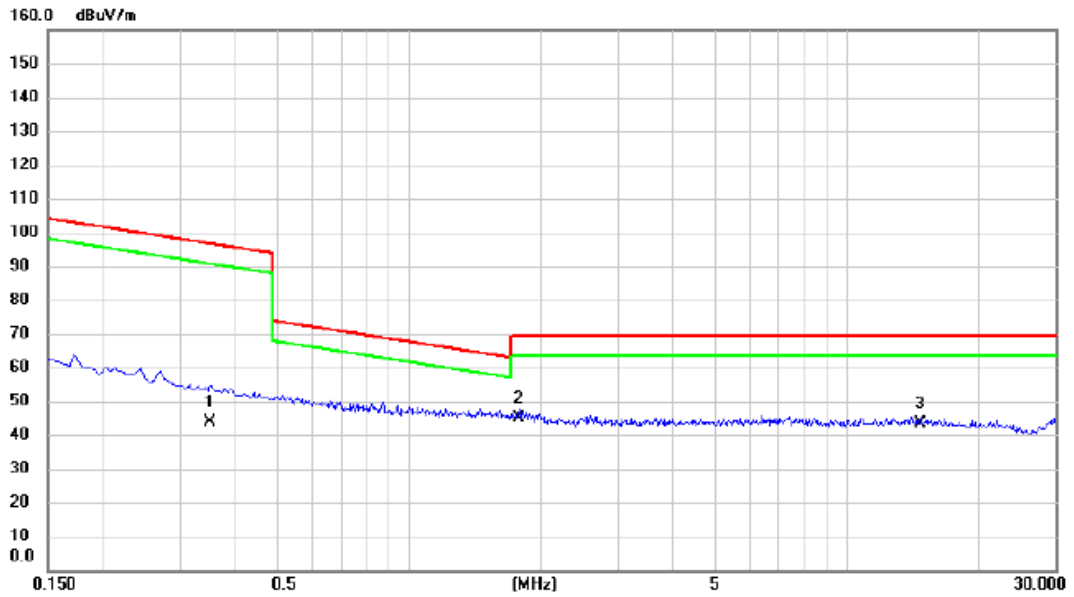
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.0133	-14.30	76.39	62.09	125.13	-63.04	AVG	
2	0.0357	-16.40	67.99	51.59	116.55	-64.96	AVG	
3 *	0.1025	-7.90	57.85	49.95	107.39	-57.44	QP	

REMARKS:

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

Test Mode: TX Mode

Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3525	-3.80	47.55	43.75	96.66	-52.91	AVG	
2	*	1.7790	5.54	39.33	44.87	69.54	-24.67	QP	
3		14.7930	5.42	38.06	43.48	69.54	-26.06	QP	

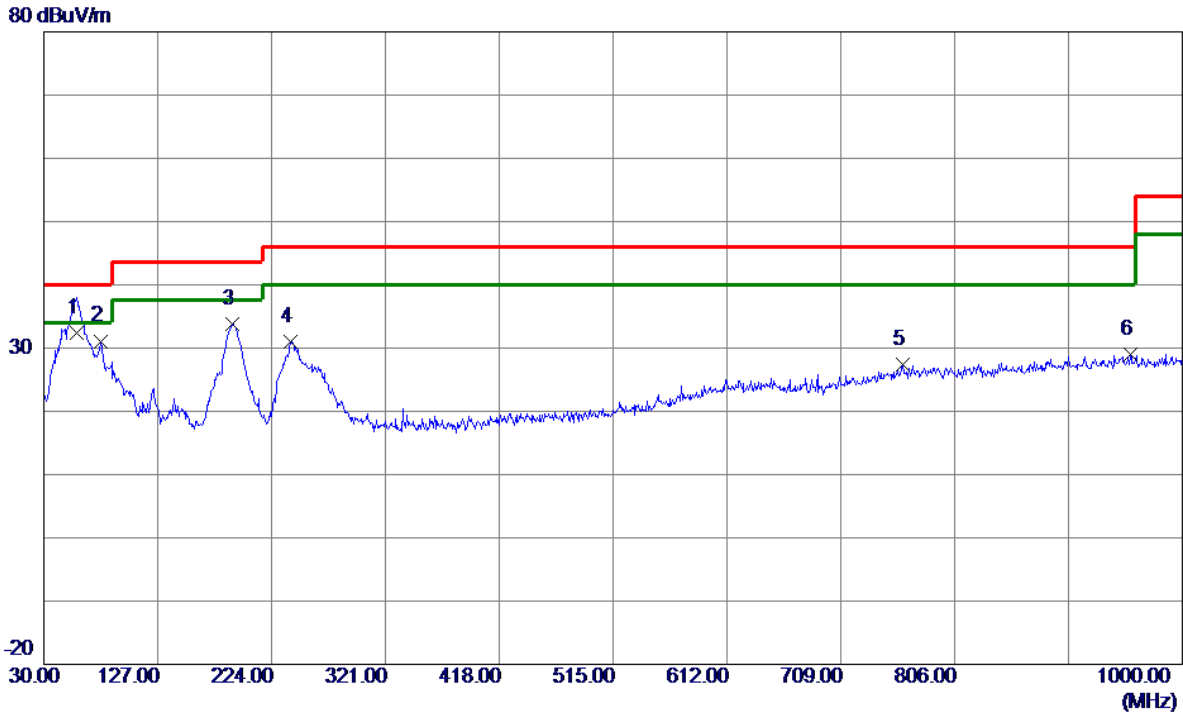
REMARKS:

- (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 Mode

Vertical



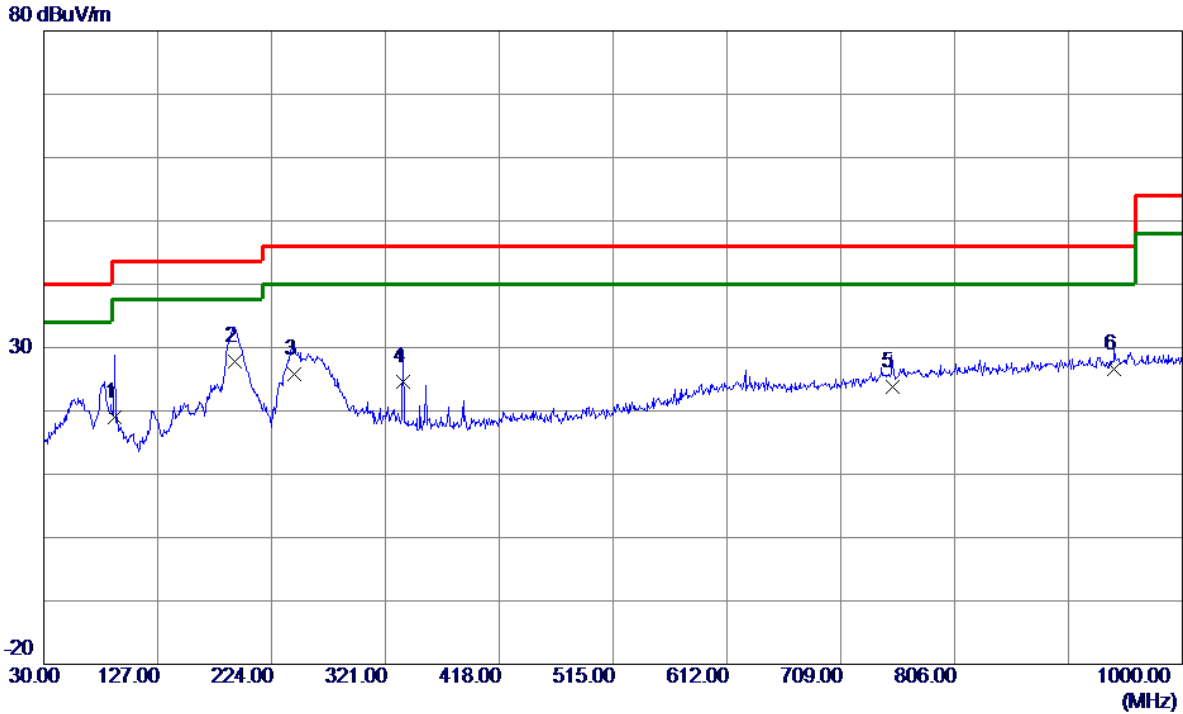
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	57.6450	49.85	-17.45	32.40	40.00	-7.60	QP	
2	78.5000	51.40	-20.30	31.10	40.00	-8.90	Peak	
3	190.5350	52.15	-18.27	33.88	43.50	-9.62	Peak	
4	240.4900	47.92	-16.91	31.01	46.00	-14.99	Peak	
5	761.3800	33.97	-6.62	27.35	46.00	-18.65	Peak	
6	955.8650	34.06	-5.11	28.95	46.00	-17.05	Peak	

REMARKS:

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

Test Mode: TX Mode

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	90.1400	39.47	-20.47	19.00	43.50	-24.50	Peak	
2 *	192.9600	46.15	-18.44	27.71	43.50	-15.79	Peak	
3	242.9150	42.73	-16.90	25.83	46.00	-20.17	Peak	
4	336.0350	38.41	-13.82	24.59	46.00	-21.41	Peak	
5	752.6500	30.46	-6.65	23.81	46.00	-22.19	Peak	
6	941.8000	31.82	-5.19	26.63	46.00	-19.37	Peak	

REMARKS:

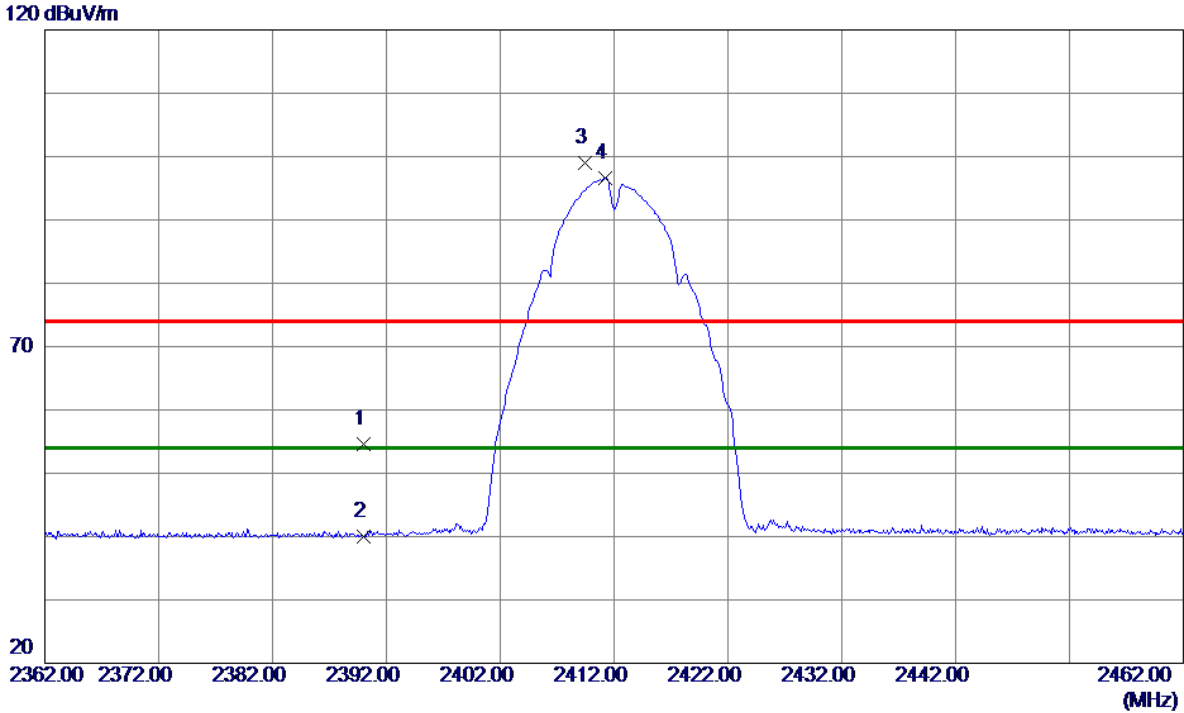
(1) Measurement Value = Reading Level + Correct Factor.

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

APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

Test Mode: TX B Mode 2412 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	22.26	32.39	54.65	74.00	-19.35	Peak	
2	2390.0000	7.58	32.39	39.97	54.00	-14.03	AVG	
3	2409.4000	66.59	32.45	99.04	74.00	25.04	Peak	NO limit
4 *	2411.2000	64.14	32.45	96.59	54.00	42.59	AVG	NO limit

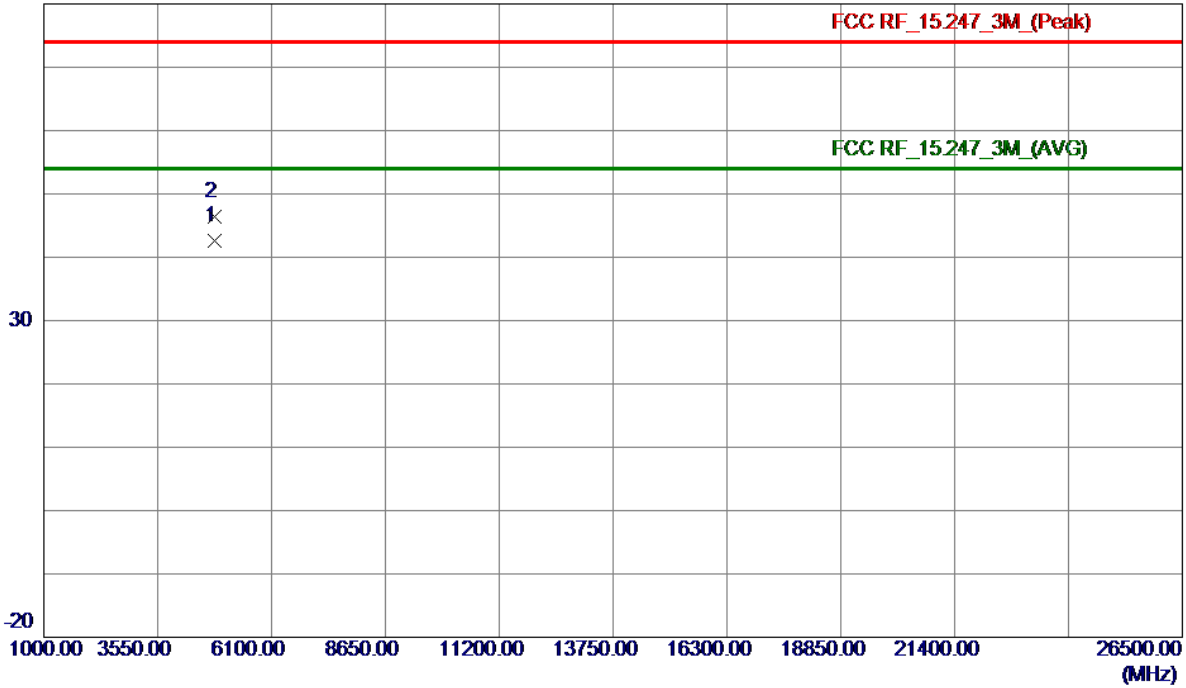
REMARKS:

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

Test Mode: TX B Mode 2412 MHz

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 *	4824.0000	52.22	-9.69	42.53	54.00	-11.47	AVG	
2	4824.0800	56.18	-9.69	46.49	74.00	-27.51	Peak	

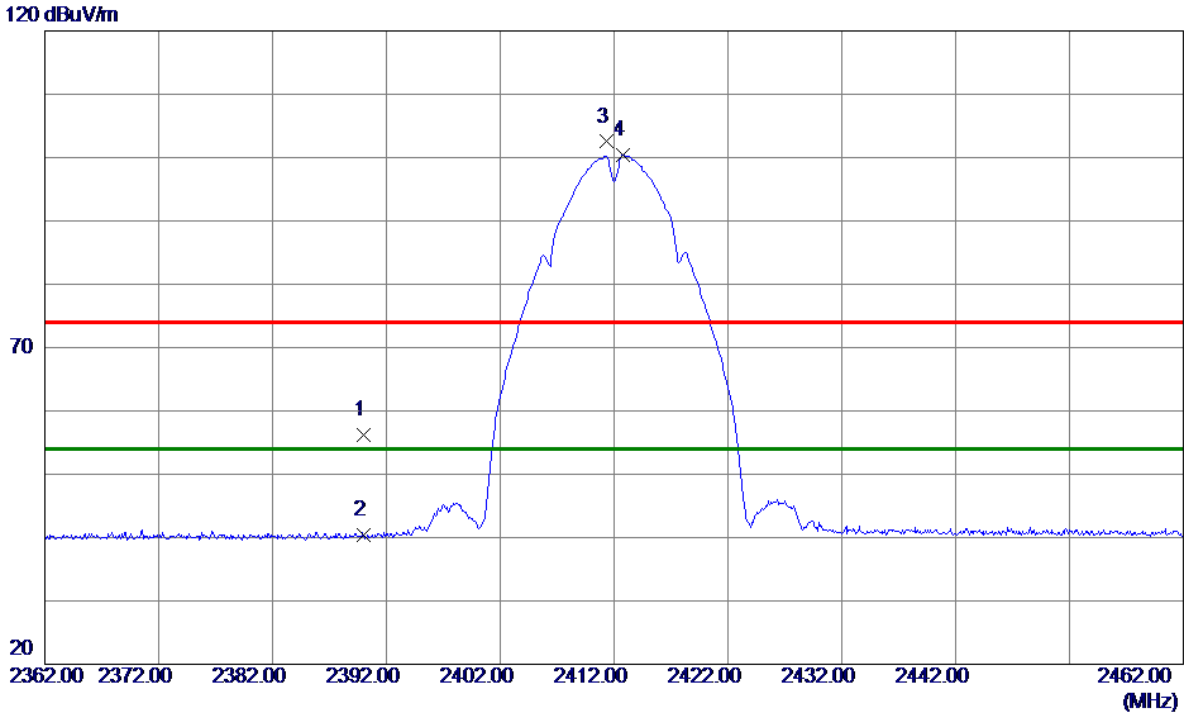
REMARKS:

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

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

Test Mode: TX B Mode 2412 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	23.74	32.39	56.13	74.00	-17.87	Peak	
2	2390.0000	8.00	32.39	40.39	54.00	-13.61	AVG	
3	2411.3000	70.05	32.45	102.50	74.00	28.50	Peak	NO limit
4 *	2412.8000	68.01	32.46	100.47	54.00	46.47	AVG	NO limit

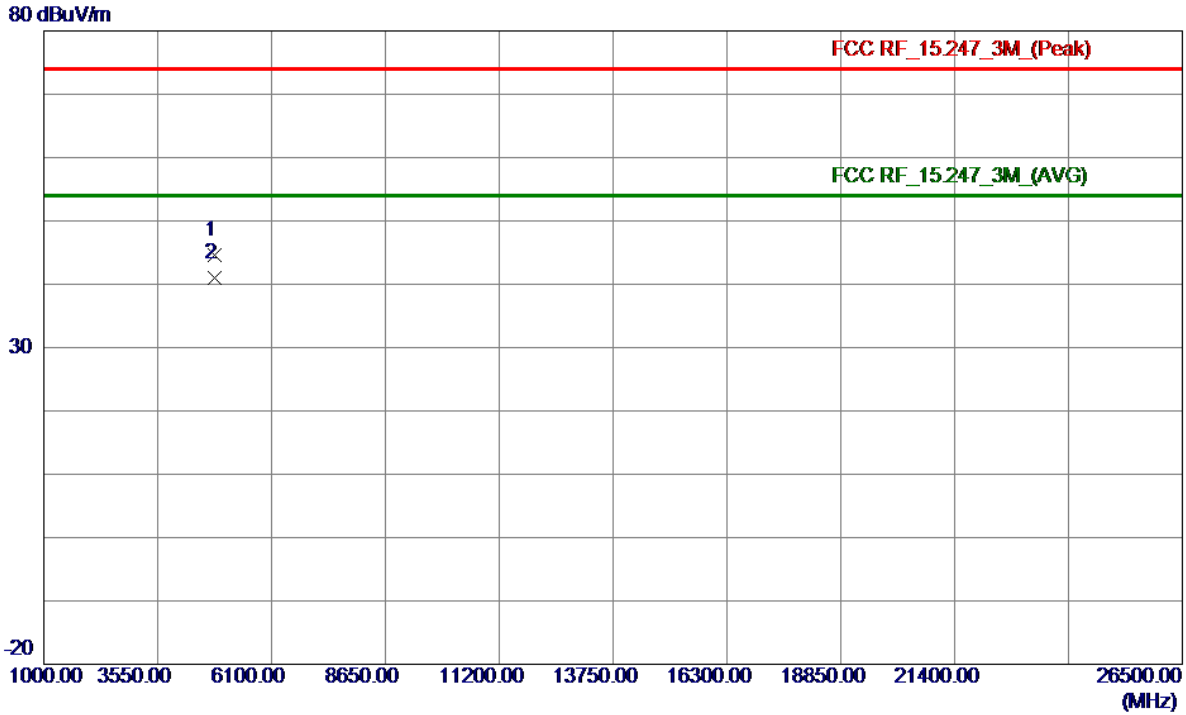
REMARKS:

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

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

Test Mode: TX B Mode 2412 MHz

Horizontal



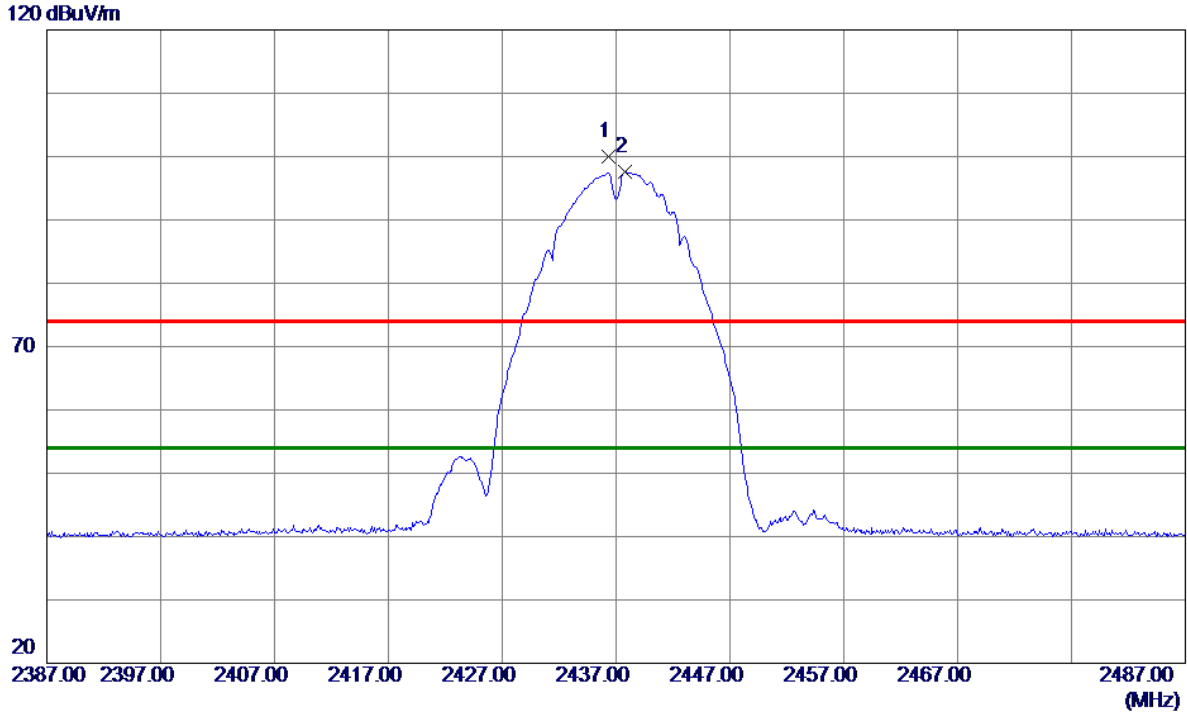
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.7400	54.32	-9.69	44.63	74.00	-29.37	Peak	
2 *	4824.0800	50.69	-9.69	41.00	54.00	-13.00	AVG	

REMARKS:

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

Test Mode: TX B 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	2436.3000	67.40	32.53	99.93	74.00	25.93	Peak	NO limit
2 *	2437.8000	65.01	32.53	97.54	54.00	43.54	AVG	NO limit

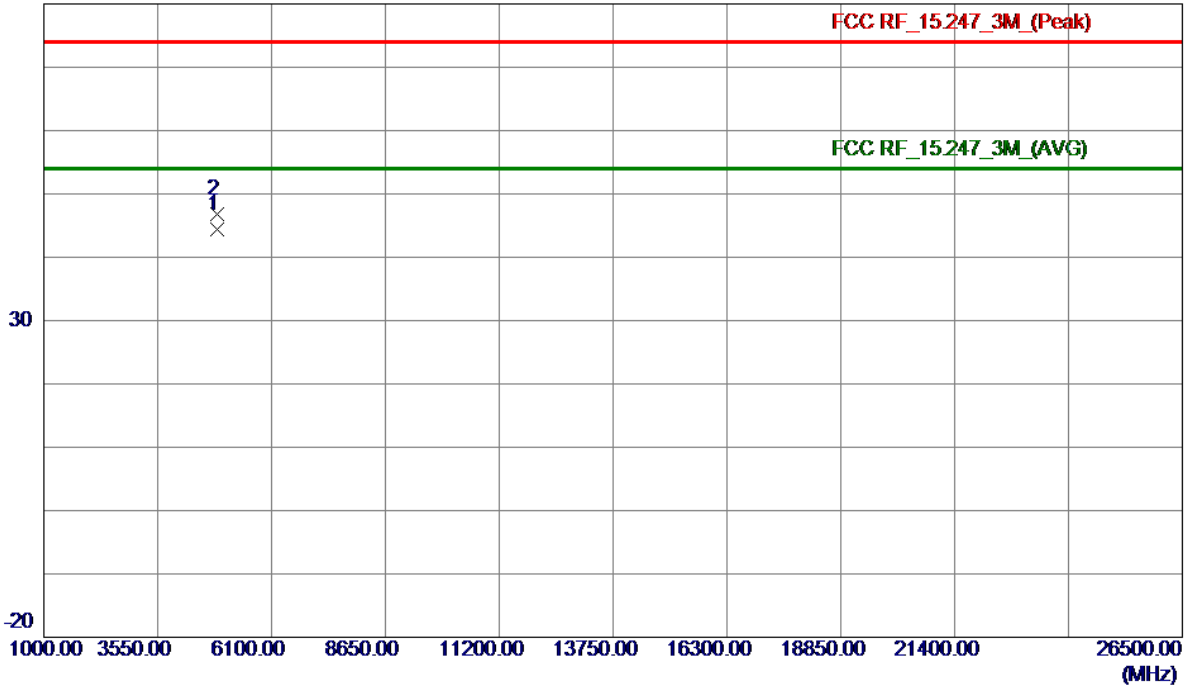
REMARKS:

- (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 *	4874.0000	53.97	-9.50	44.47	54.00	-9.53	AVG	
2	4874.1000	56.31	-9.50	46.81	74.00	-27.19	Peak	

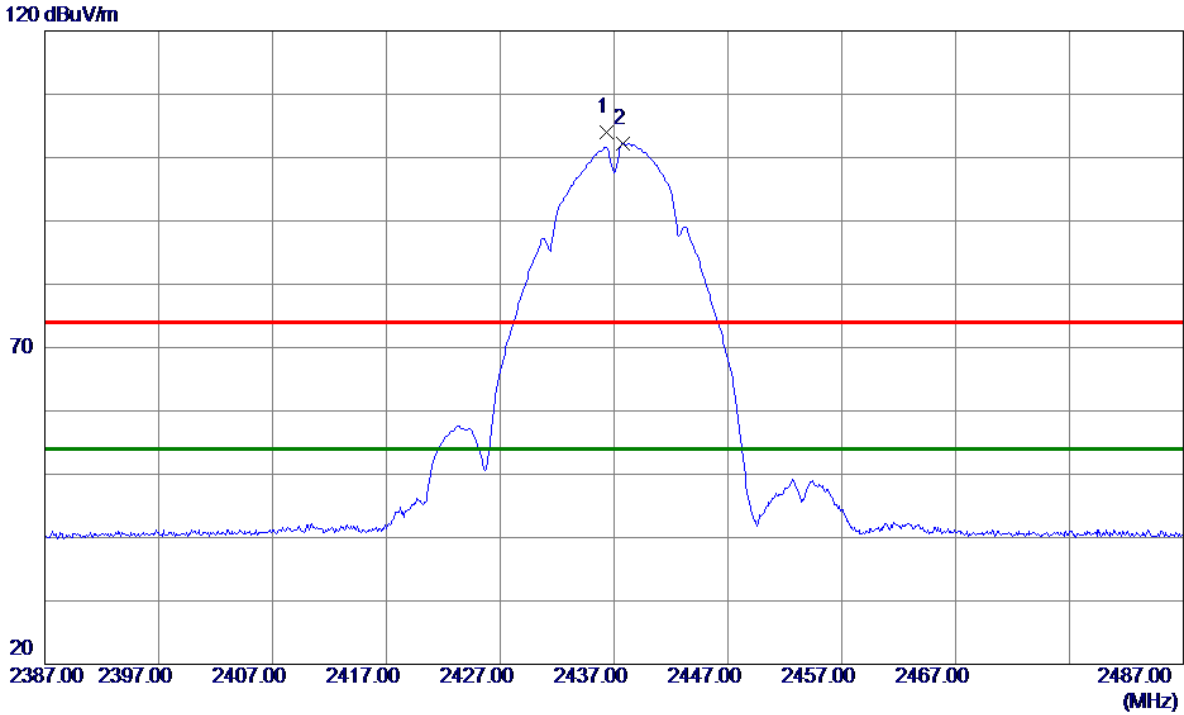
REMARKS:

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

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

Test Mode: TX B Mode 2437 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2436.3000	71.52	32.53	104.05	74.00	30.05	Peak	NO limit
2 *	2437.8000	69.72	32.53	102.25	54.00	48.25	AVG	NO limit

REMARKS:

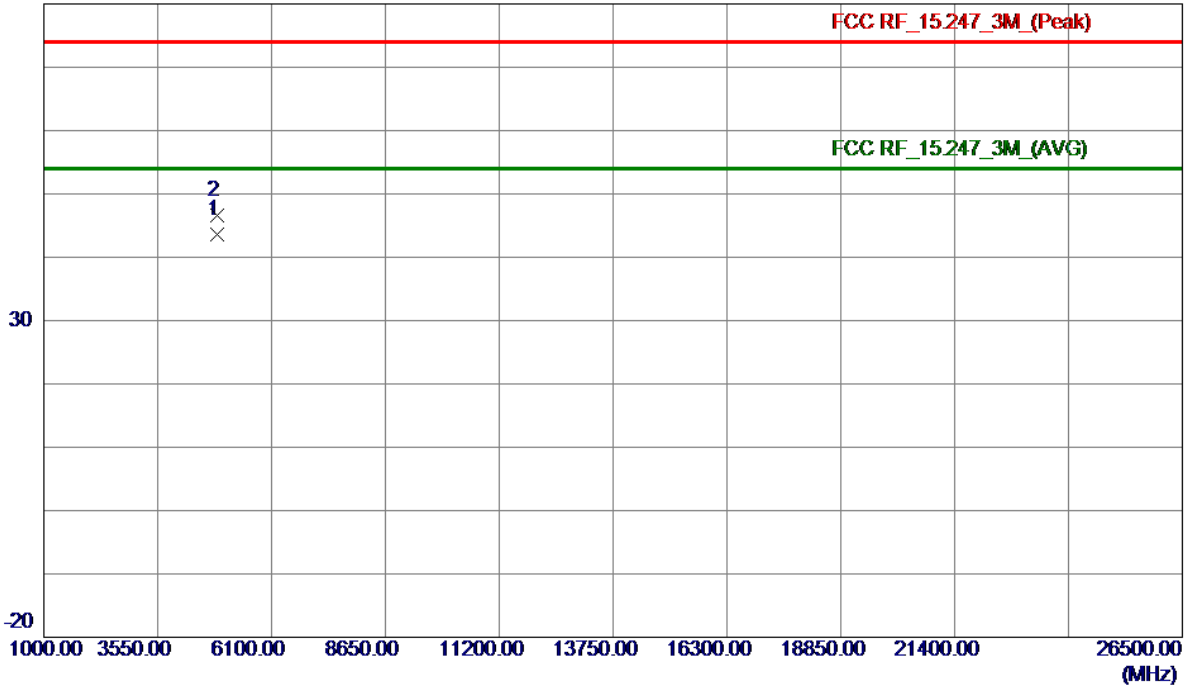
(1) Measurement Value = Reading Level + Correct Factor.

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

Test Mode: TX B Mode 2437 MHz

Horizontal

80 dBuV/m



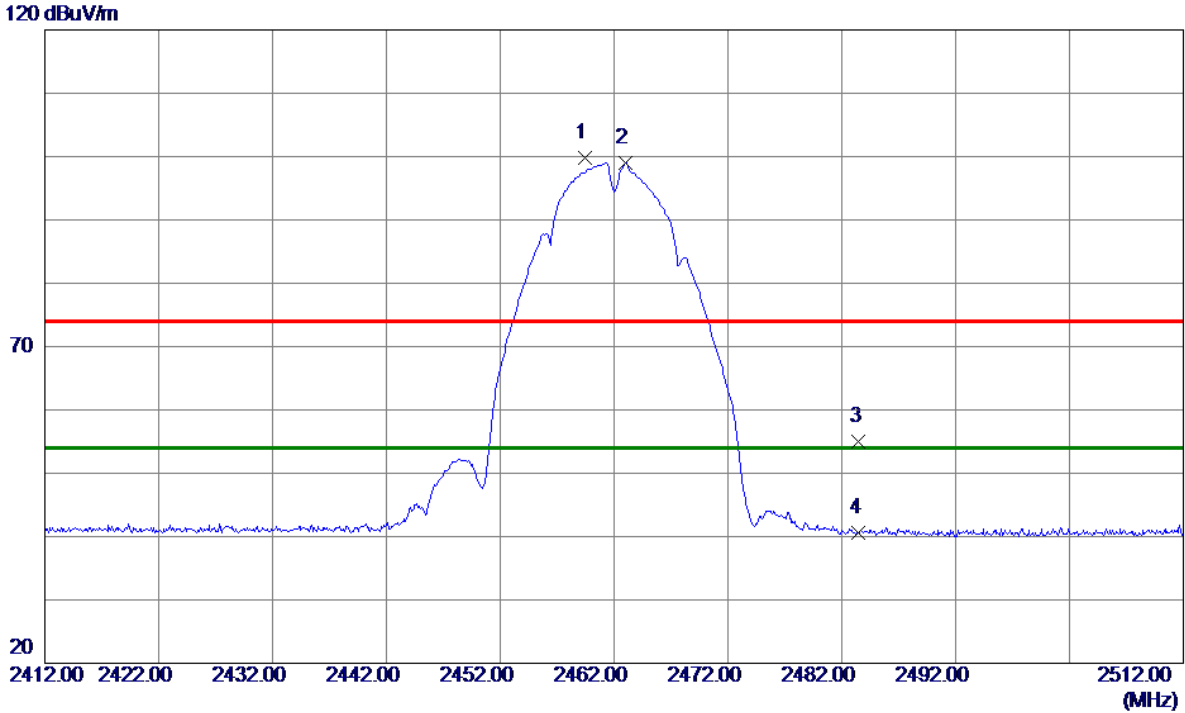
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.0000	53.14	-9.50	43.64	54.00	-10.36	AVG	
2	4874.0600	56.15	-9.50	46.65	74.00	-27.35	Peak	

REMARKS:

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

Test Mode: TX B Mode 2462 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2459.4000	67.28	32.59	99.87	74.00	25.87	Peak	NO limit
2 *	2463.0000	66.42	32.60	99.02	54.00	45.02	AVG	NO limit
3	2483.5000	22.28	32.66	54.94	74.00	-19.06	Peak	
4	2483.5000	7.98	32.66	40.64	54.00	-13.36	AVG	

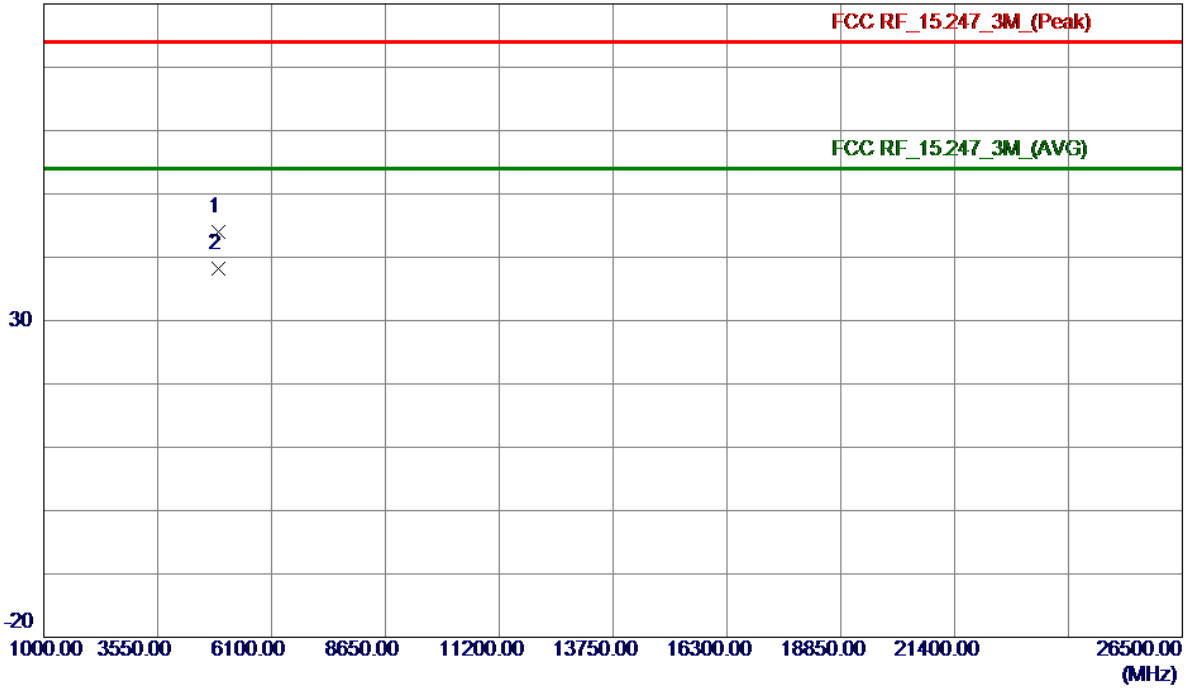
REMARKS:

- (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	4923.9500	53.35	-9.31	44.04	74.00	-29.96	Peak	
2 *	4924.0000	47.43	-9.31	38.12	54.00	-15.88	AVG	

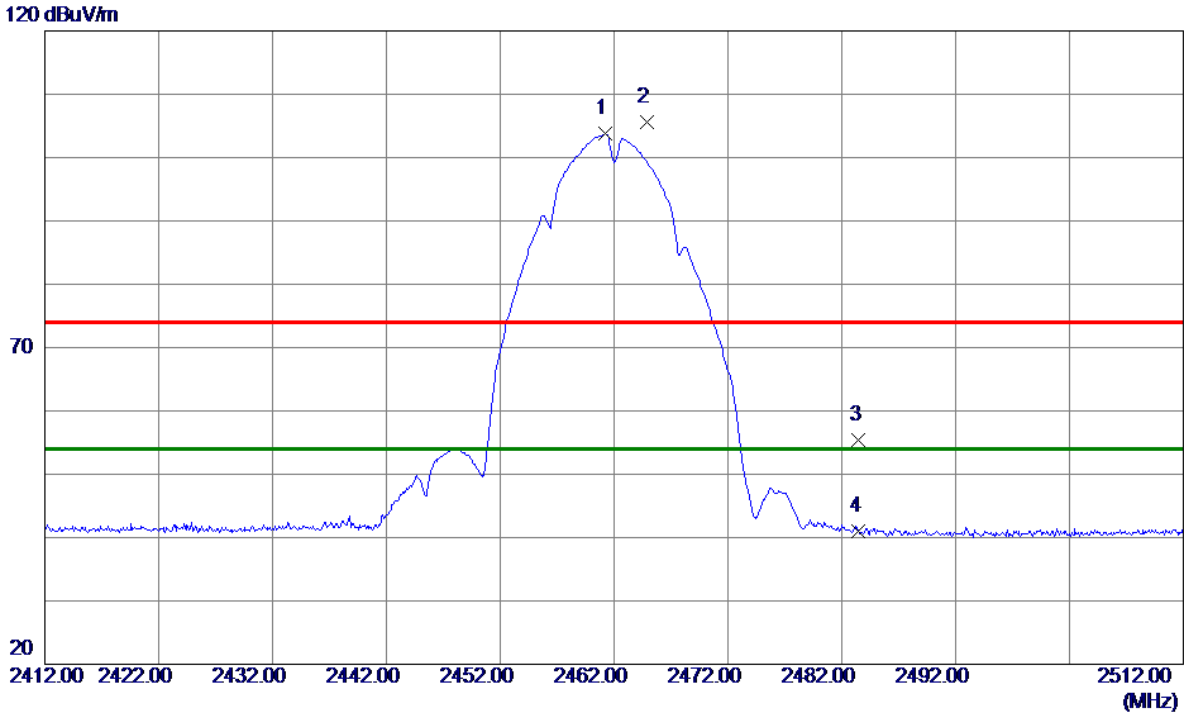
REMARKS:

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

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

Test Mode: TX B Mode 2462 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2461.2000	71.13	32.60	103.73	54.00	49.73	AVG	NO limit
2	2464.9000	73.05	32.61	105.66	74.00	31.66	Peak	NO limit
3	2483.5000	22.75	32.66	55.41	74.00	-18.59	Peak	
4	2483.5000	8.39	32.66	41.05	54.00	-12.95	AVG	

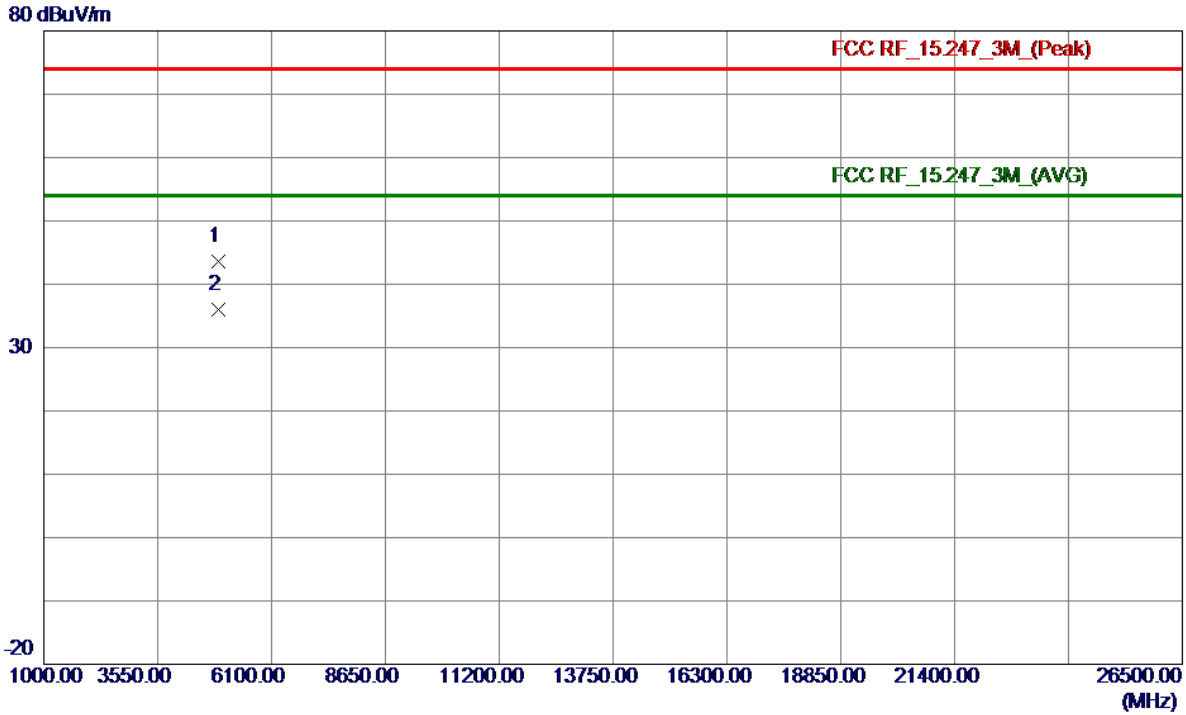
REMARKS:

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

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

Test Mode: TX B Mode 2462 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.7550	52.99	-9.31	43.68	74.00	-30.32	Peak	
2 *	4924.0000	45.25	-9.31	35.94	54.00	-18.06	AVG	

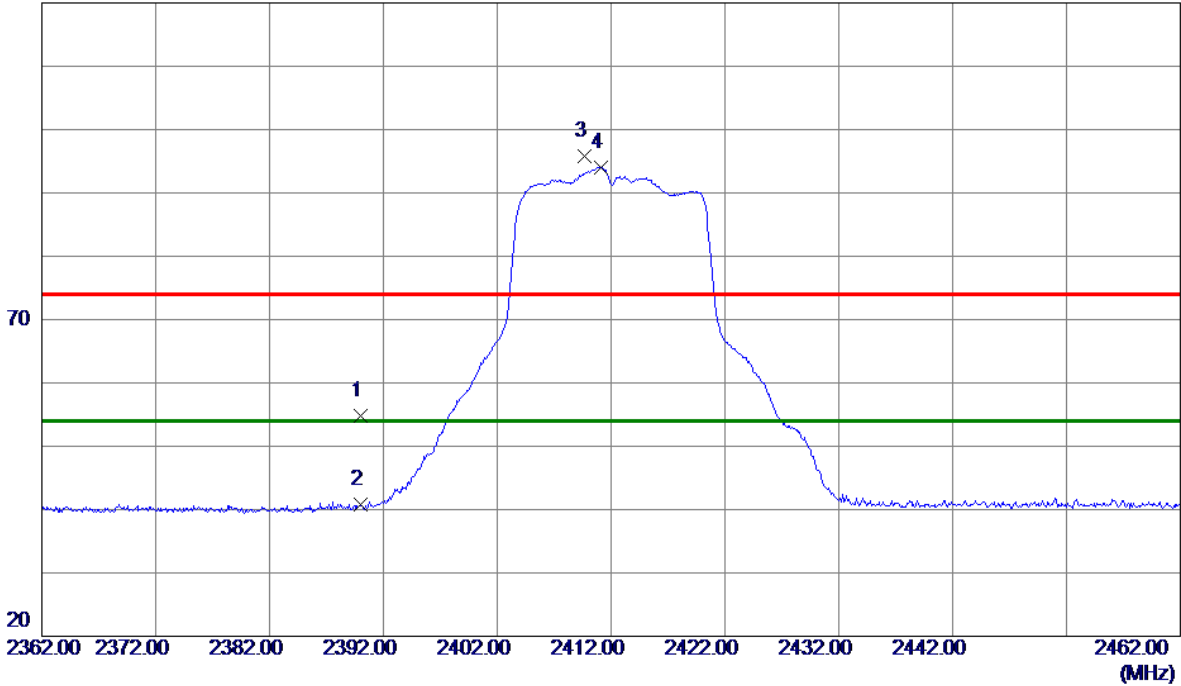
REMARKS:

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

Test Mode: TX G Mode 2412 MHz

Vertical

120 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	22.42	32.39	54.81	74.00	-19.19	Peak	
2	2390.0000	8.34	32.39	40.73	54.00	-13.27	AVG	
3	2409.7000	63.42	32.45	95.87	74.00	21.87	Peak	NO limit
4 *	2411.1000	61.61	32.45	94.06	54.00	40.06	AVG	NO limit

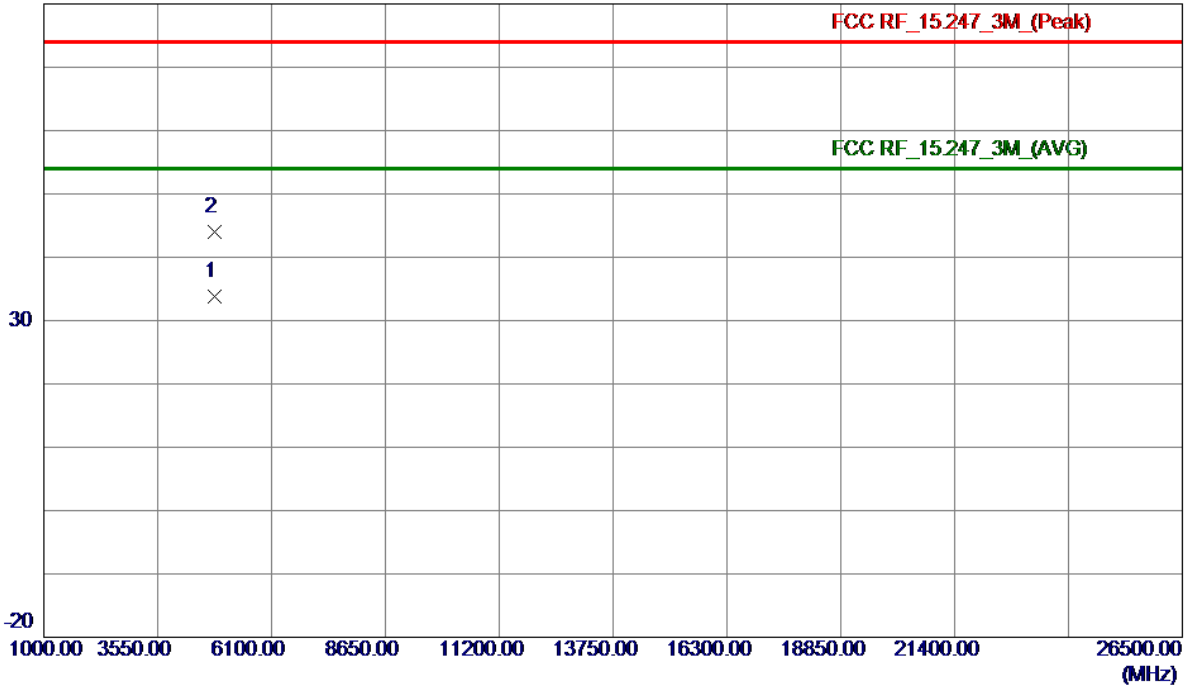
REMARKS:

- (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 *	4822.1500	43.54	-9.70	33.84	54.00	-20.16	AVG	
2	4822.7000	53.77	-9.69	44.08	74.00	-29.92	Peak	

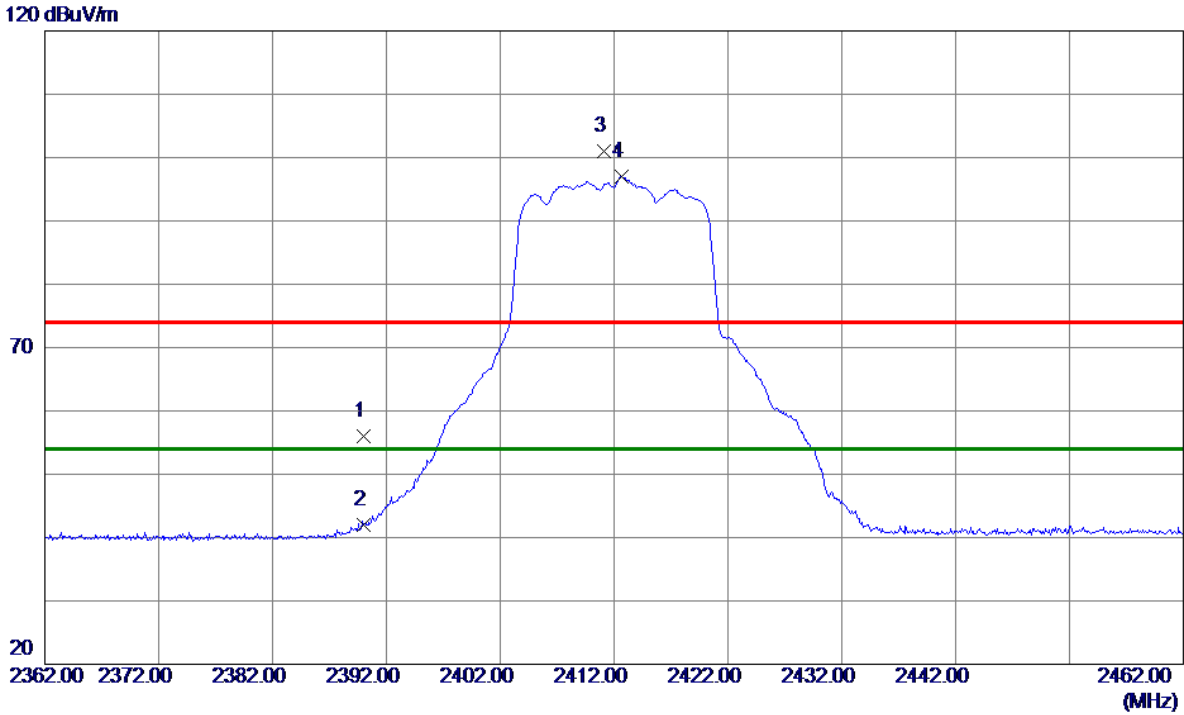
REMARKS:

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

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

Test Mode: TX G Mode 2412 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	23.52	32.39	55.91	74.00	-18.09	Peak	
2	2390.0000	9.64	32.39	42.03	54.00	-11.97	AVG	
3	2411.1000	68.62	32.45	101.07	74.00	27.07	Peak	NO limit
4 *	2412.7000	64.49	32.46	96.95	54.00	42.95	AVG	NO limit

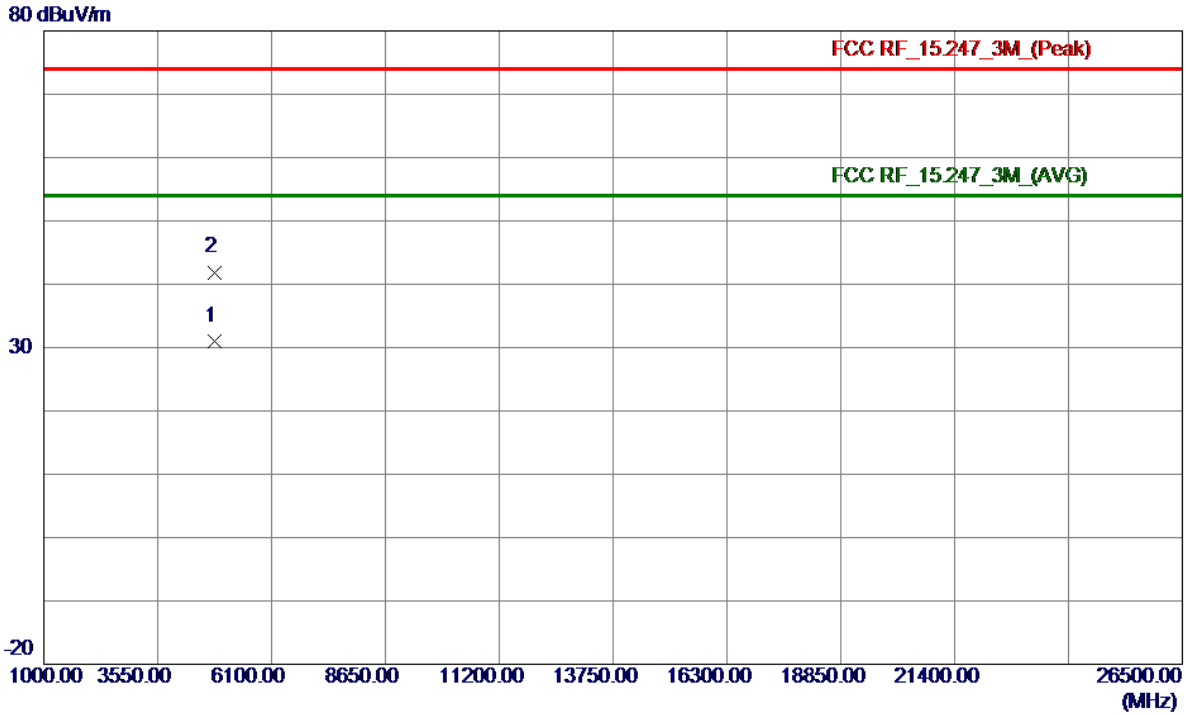
REMARKS:

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

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

Test Mode: TX G Mode 2412 MHz

Horizontal



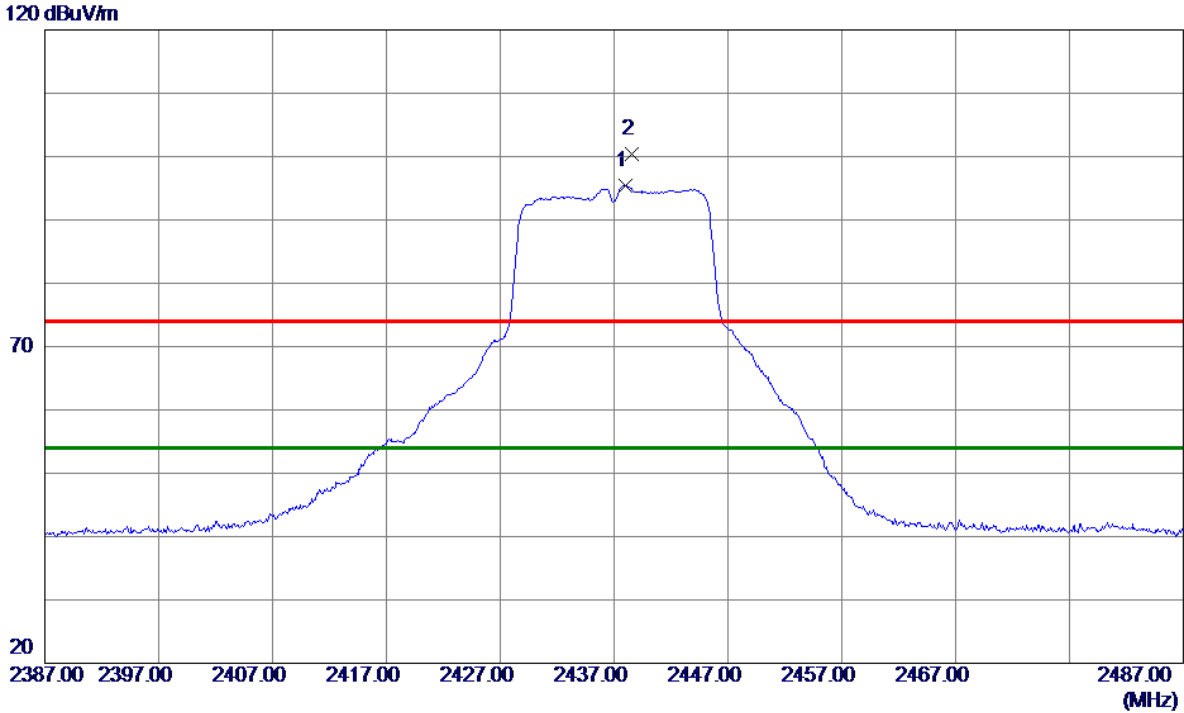
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4821.9000	40.71	-9.70	31.01	54.00	-22.99	AVG	
2	4824.3000	51.59	-9.69	41.90	74.00	-32.10	Peak	

REMARKS:

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

Test Mode: TX G Mode 2437 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2438.0000	62.89	32.53	95.42	54.00	41.42	AVG	NO limit
2	2438.6000	67.89	32.53	100.42	74.00	26.42	Peak	NO limit

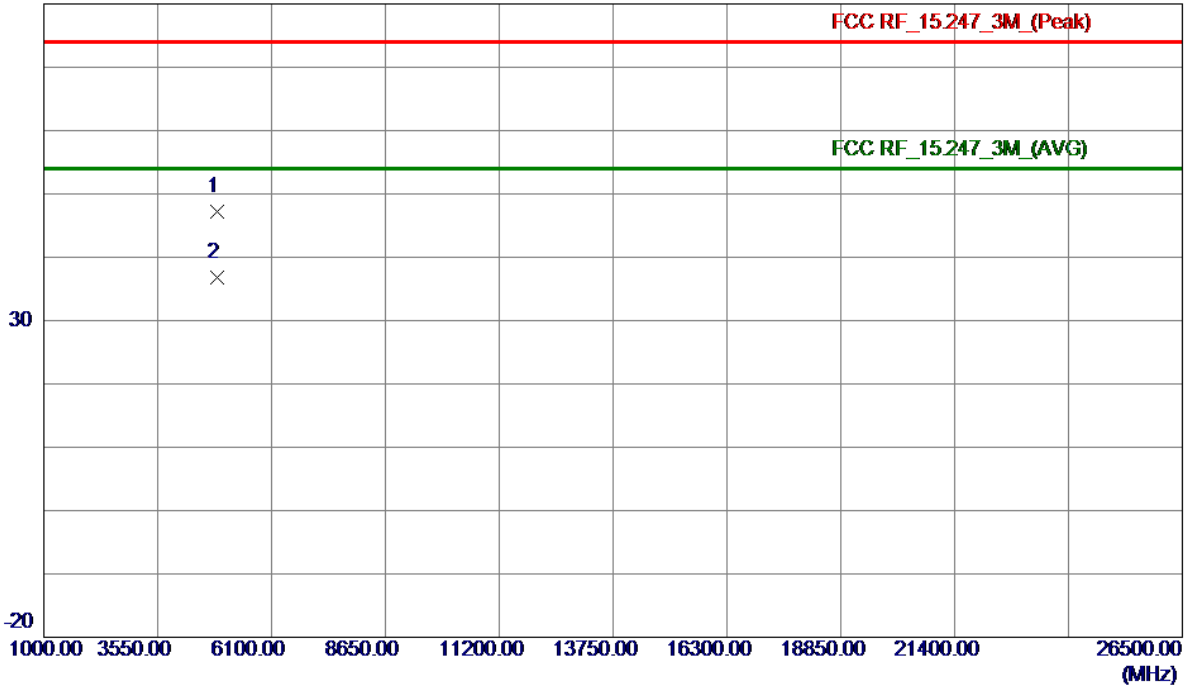
REMARKS:

- (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	4877.2500	56.69	-9.49	47.20	74.00	-26.80	Peak	
2 *	4877.3000	46.26	-9.49	36.77	54.00	-17.23	AVG	

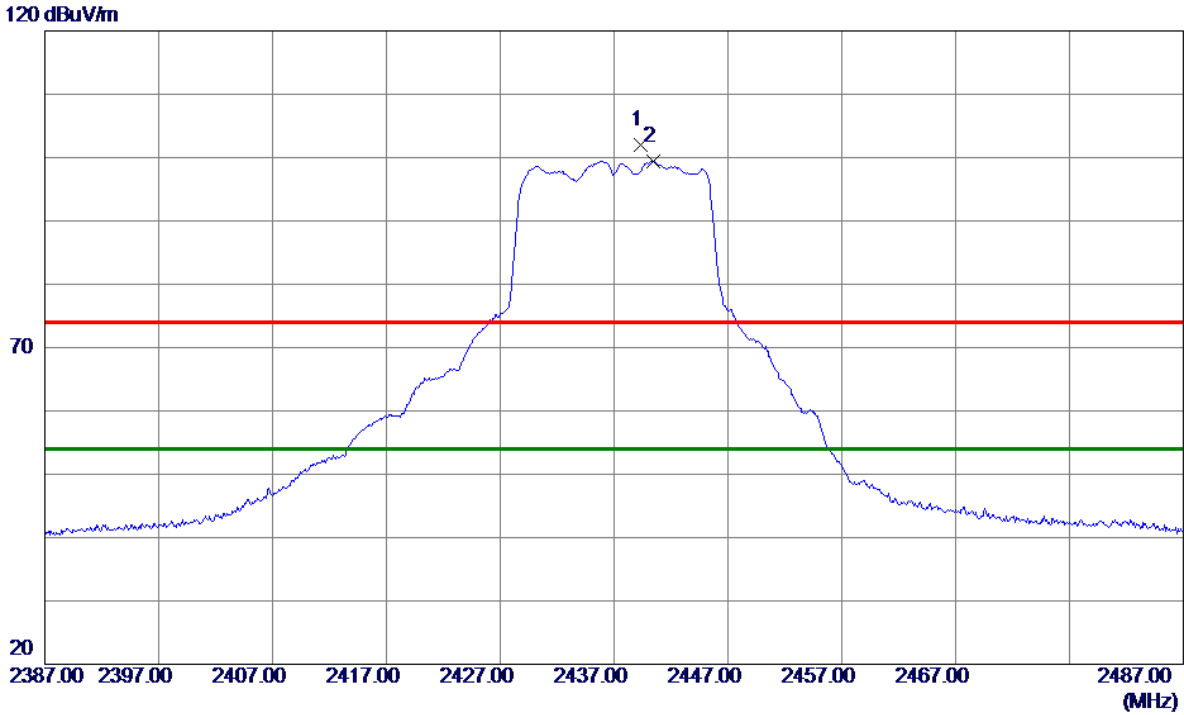
REMARKS:

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

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

Test Mode: TX G Mode 2437 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2439.3000	69.55	32.54	102.09	74.00	28.09	Peak	NO limit
2 *	2440.4000	66.93	32.54	99.47	54.00	45.47	AVG	NO limit

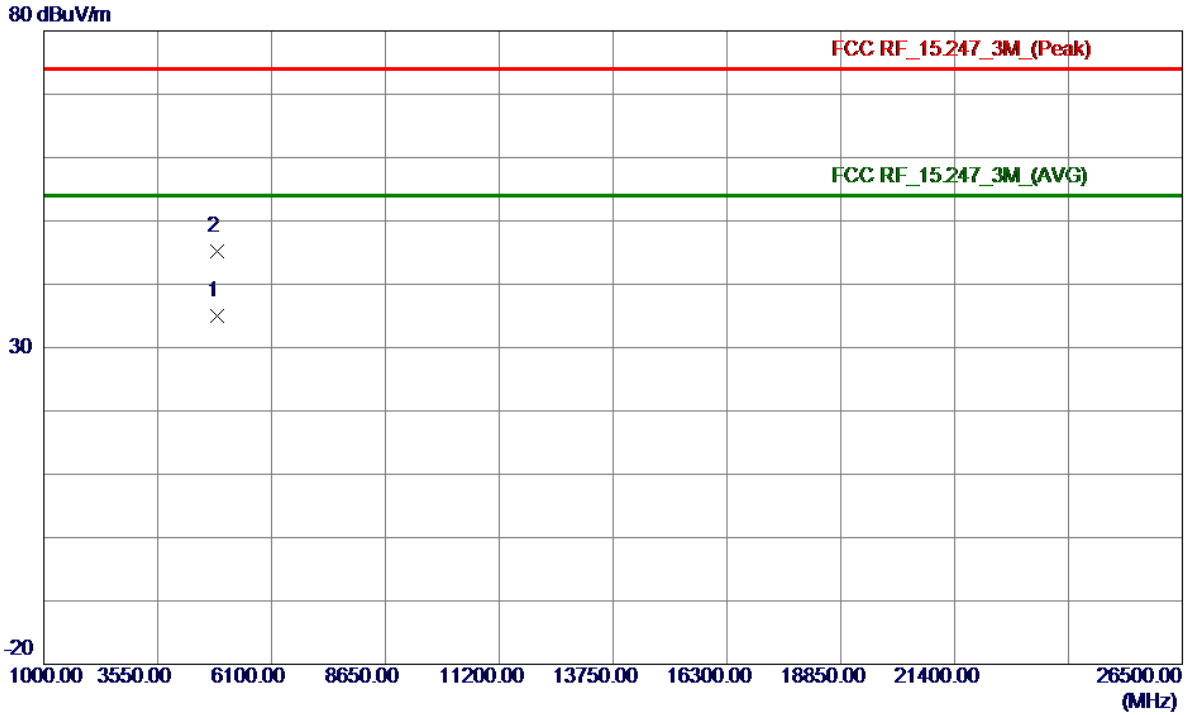
REMARKS:

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

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

Test Mode: TX G Mode 2437 MHz

Horizontal



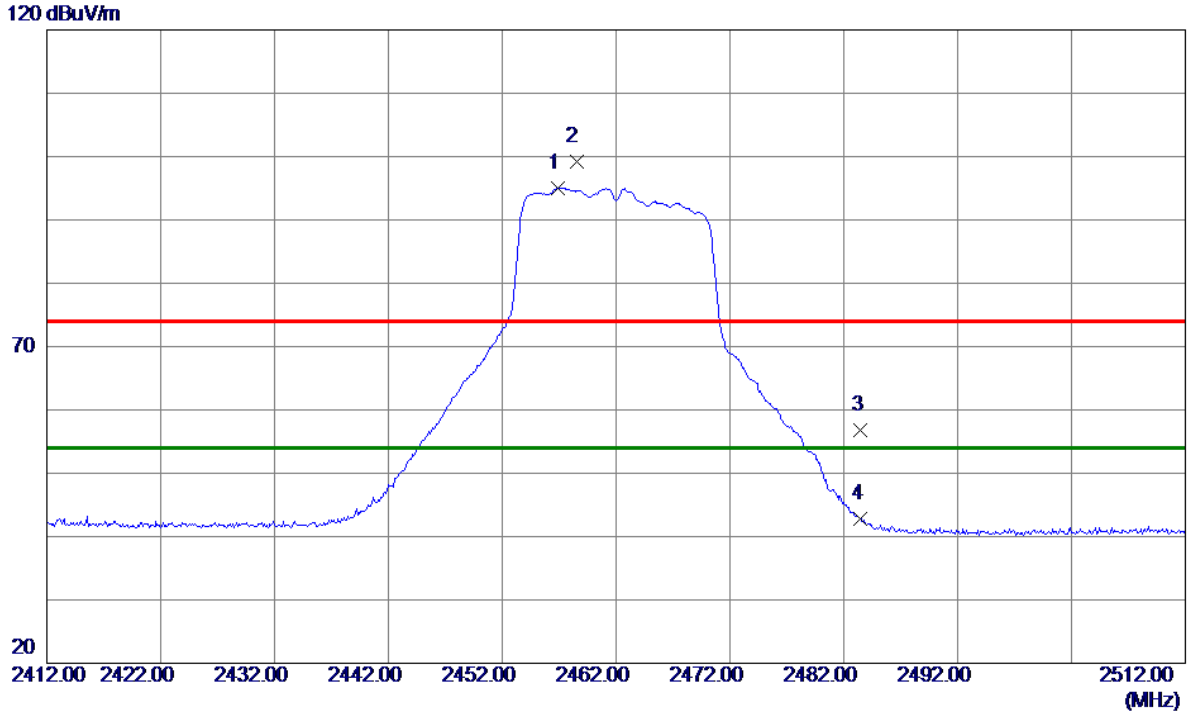
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4872.2000	44.53	-9.51	35.02	54.00	-18.98	AVG	
2	4877.5000	54.77	-9.49	45.28	74.00	-28.72	Peak	

REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2456.9000	62.47	32.59	95.06	54.00	41.06	AVG	NO limit
2	2458.5000	66.63	32.59	99.22	74.00	25.22	Peak	NO limit
3	2483.5000	24.13	32.66	56.79	74.00	-17.21	Peak	
4	2483.5000	10.09	32.66	42.75	54.00	-11.25	AVG	

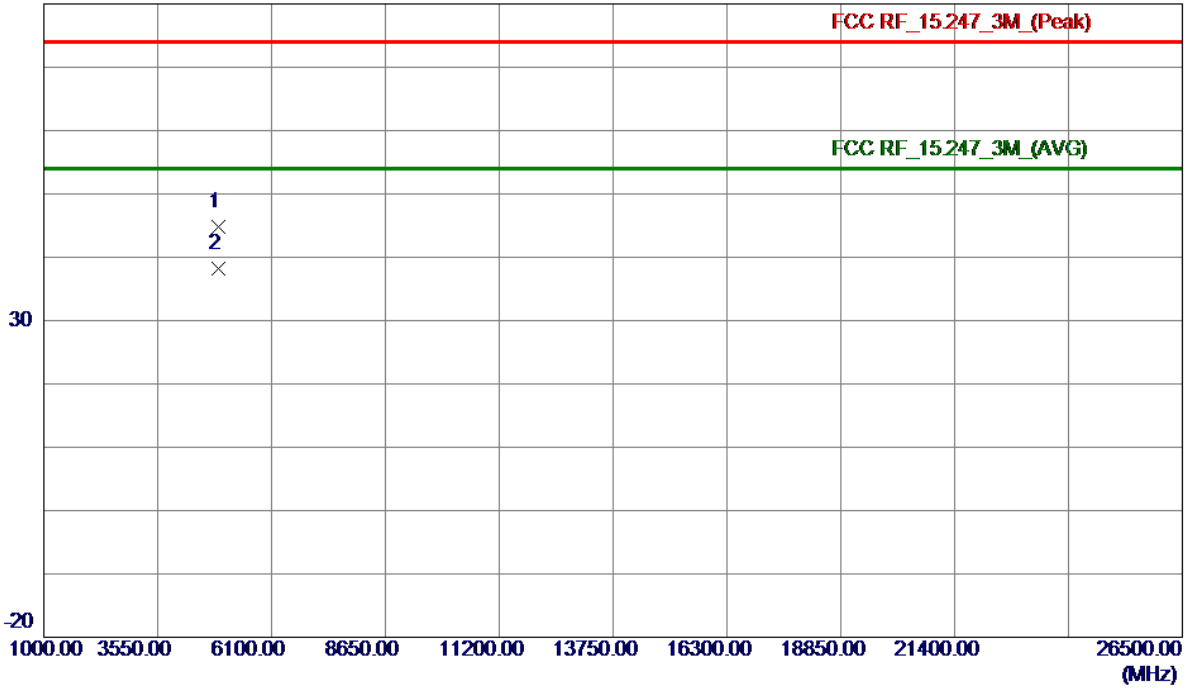
REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Vertical

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	4923.9250	54.17	-9.31	44.86	74.00	-29.14	Peak	
2 *	4924.0000	47.56	-9.31	38.25	54.00	-15.75	AVG	

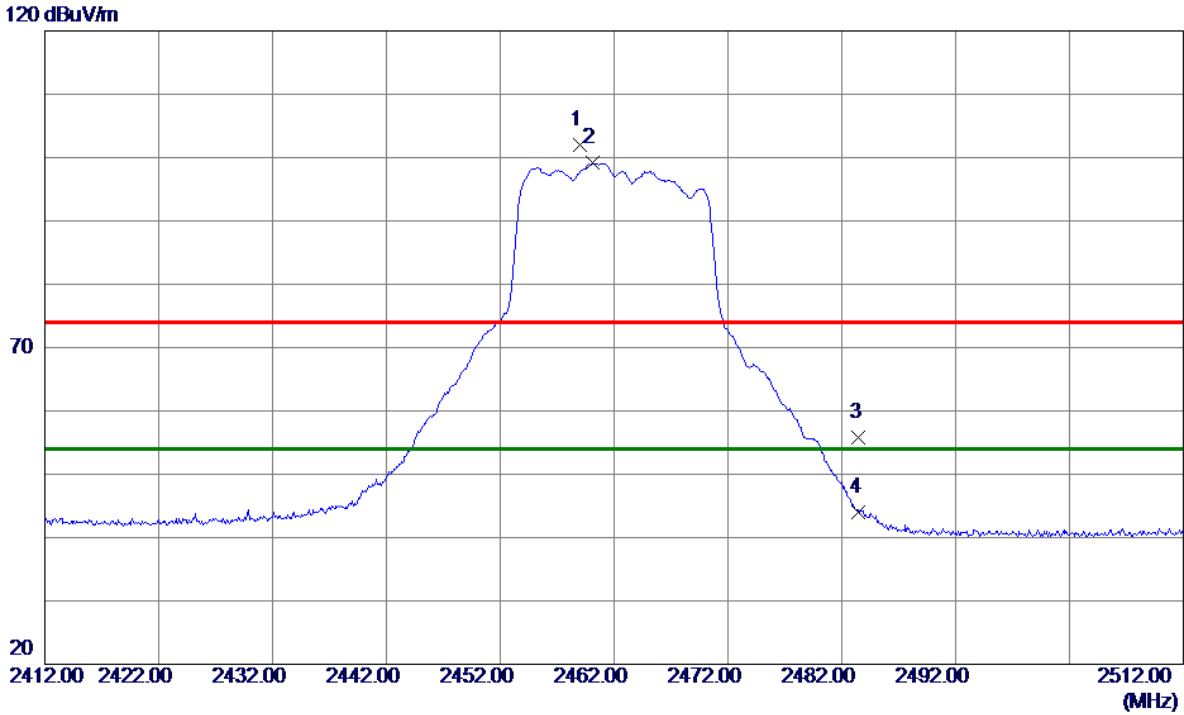
REMARKS:

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

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

Test Mode: TX G Mode 2462 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2459.0000	69.44	32.59	102.03	74.00	28.03	Peak	NO limit
2 *	2460.1000	66.53	32.60	99.13	54.00	45.13	AVG	NO limit
3	2483.5000	23.21	32.66	55.87	74.00	-18.13	Peak	
4	2483.5000	11.34	32.66	44.00	54.00	-10.00	AVG	

REMARKS:

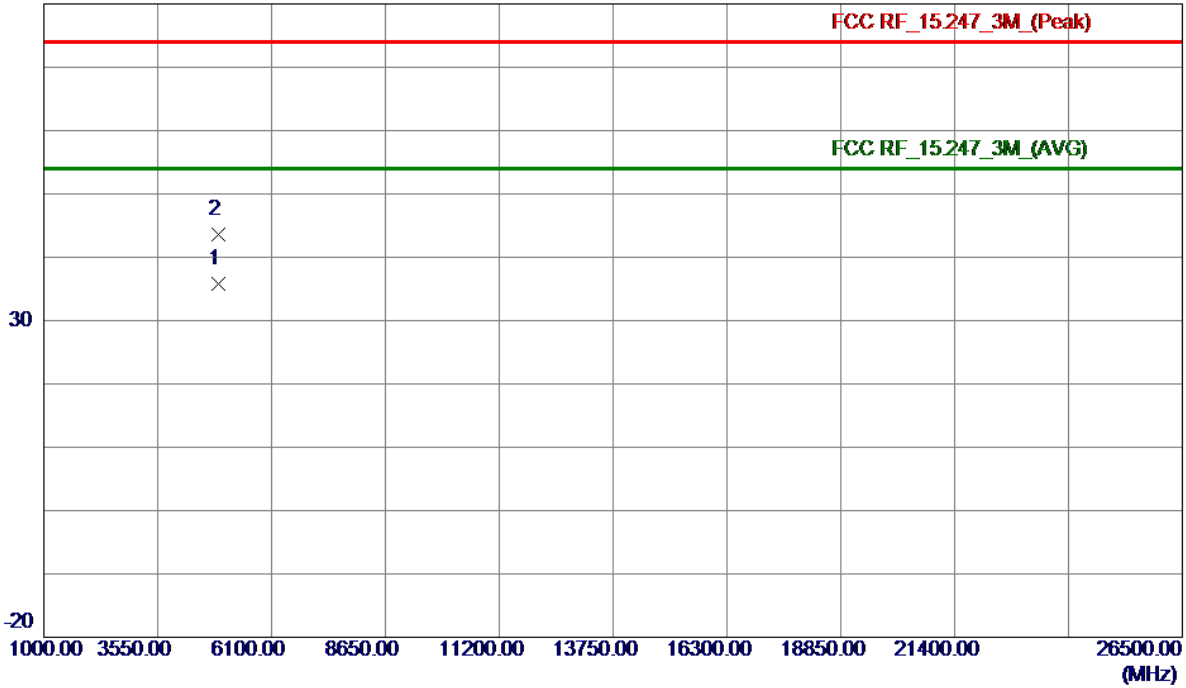
(1) Measurement Value = Reading Level + Correct Factor.

(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 *	4924.0000	45.17	-9.31	35.86	54.00	-18.14	AVG	
2	4924.0350	52.90	-9.31	43.59	74.00	-30.41	Peak	

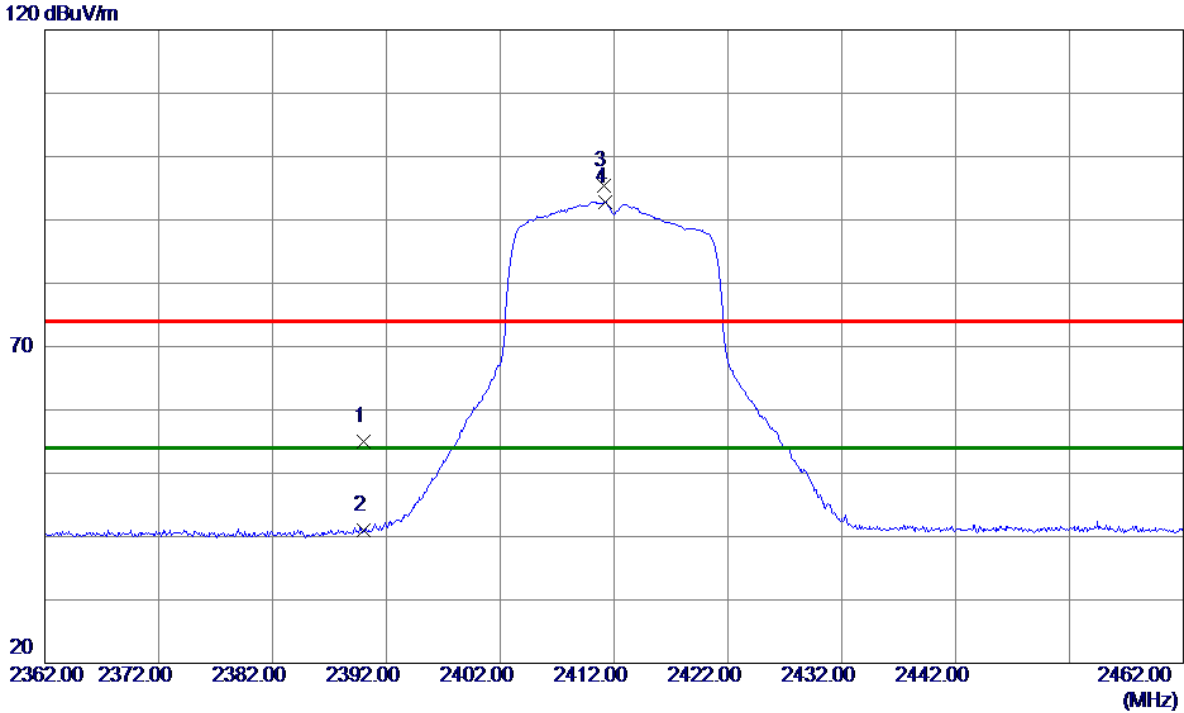
REMARKS:

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

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

Test Mode: TX N-20M Mode 2412 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	22.66	32.39	55.05	74.00	-18.95	Peak	
2	2390.0000	8.61	32.39	41.00	54.00	-13.00	AVG	
3	2411.1000	62.96	32.45	95.41	74.00	21.41	Peak	NO limit
4 *	2411.2000	60.38	32.45	92.83	54.00	38.83	AVG	NO limit

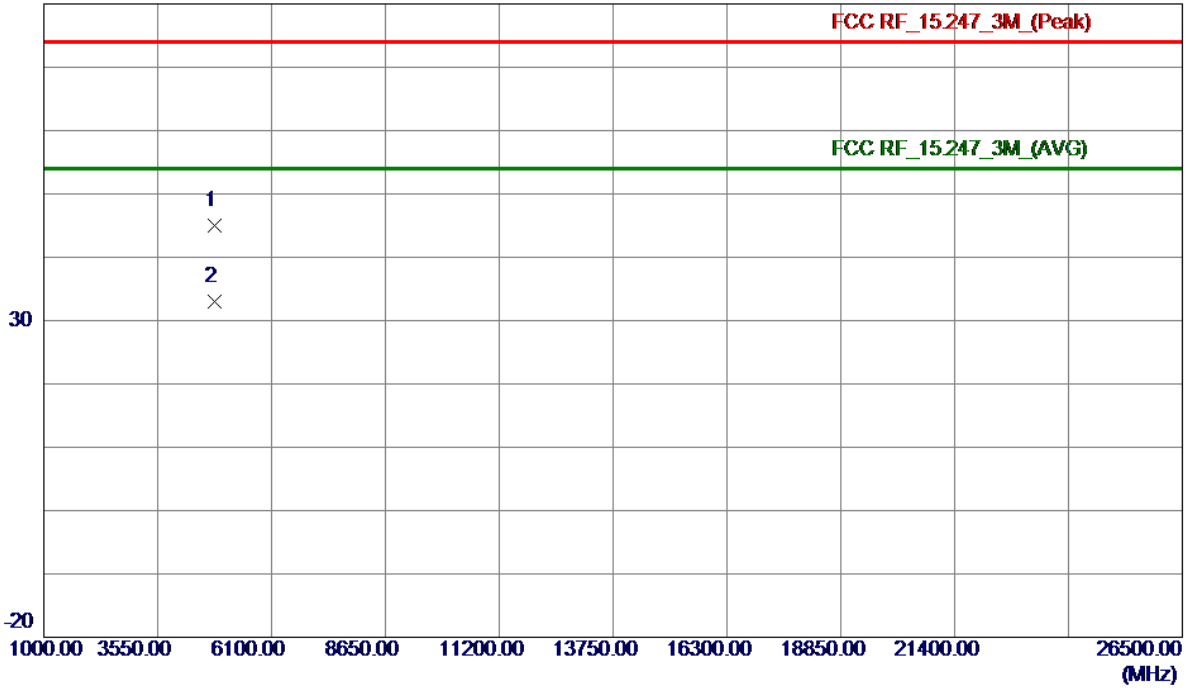
REMARKS:

- (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	4822.8000	54.68	-9.69	44.99	74.00	-29.01	Peak	
2 *	4824.0000	42.75	-9.69	33.06	54.00	-20.94	AVG	

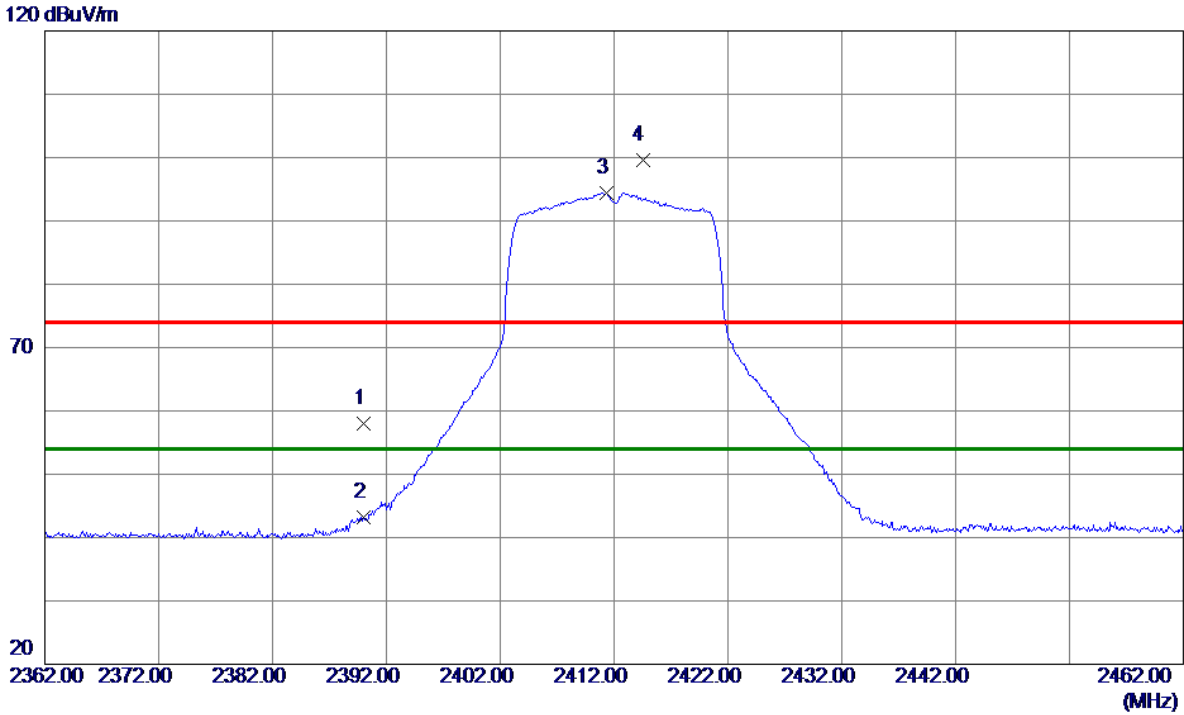
REMARKS:

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

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

Test Mode: TX N-20M Mode 2412 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	25.70	32.39	58.09	74.00	-15.91	Peak	
2	2390.0000	10.75	32.39	43.14	54.00	-10.86	AVG	
3 *	2411.3000	61.99	32.45	94.44	54.00	40.44	AVG	NO limit
4	2414.5000	67.14	32.46	99.60	74.00	25.60	Peak	NO limit

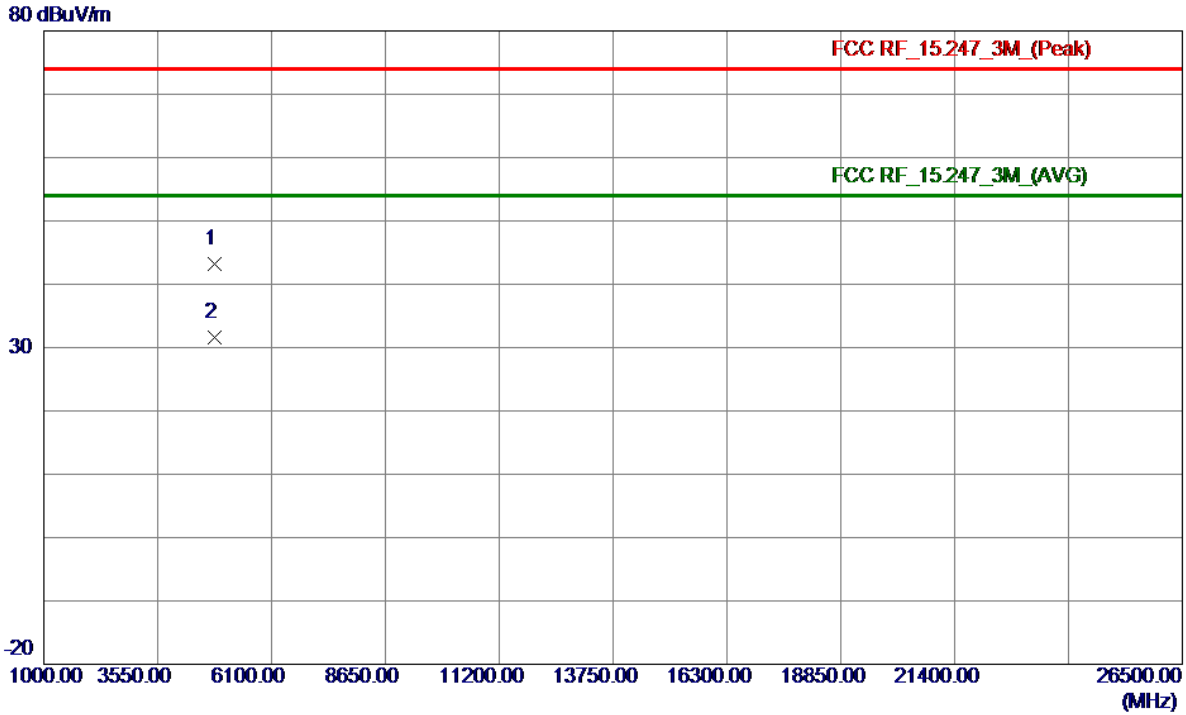
REMARKS:

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

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

Test Mode: TX N-20M Mode 2412 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4817.6500	52.87	-9.71	43.16	74.00	-30.84	Peak	
2 *	4822.8000	41.22	-9.69	31.53	54.00	-22.47	AVG	

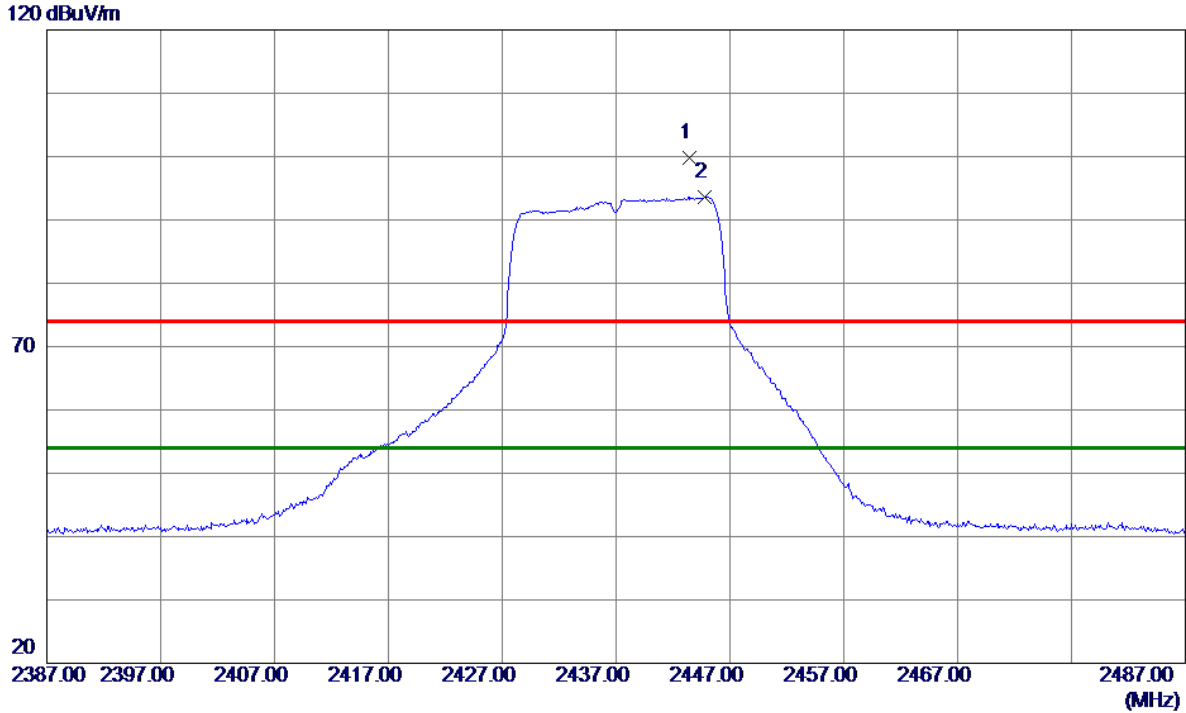
REMARKS:

(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	2443.4000	67.19	32.55	99.74	74.00	25.74	Peak	NO limit
2 *	2444.8000	61.08	32.55	93.63	54.00	39.63	AVG	NO limit

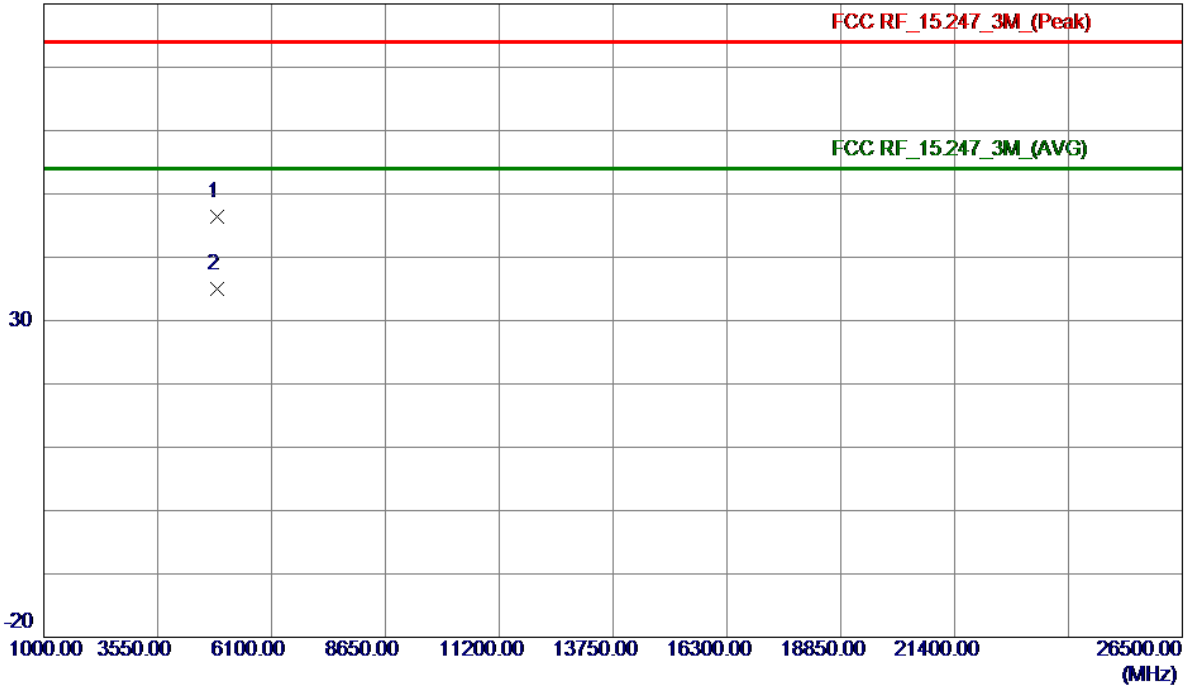
REMARKS:

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

Test Mode: TX N-20M Mode 2437 MHz

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	4873.0500	55.91	-9.50	46.41	74.00	-27.59	Peak	
2 *	4874.2000	44.54	-9.50	35.04	54.00	-18.96	AVG	

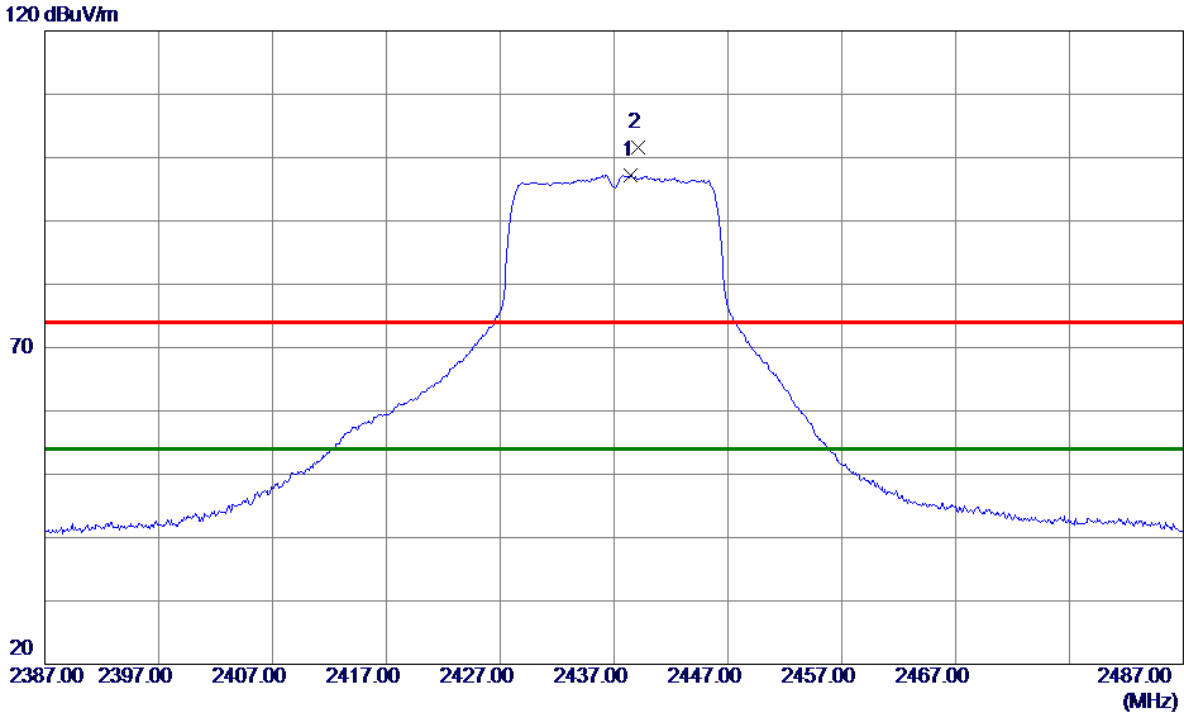
REMARKS:

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

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

Test Mode: TX N-20M Mode 2437 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2438.5000	64.64	32.53	97.17	54.00	43.17	AVG	NO limit
2	2439.1000	69.15	32.53	101.68	74.00	27.68	Peak	NO limit

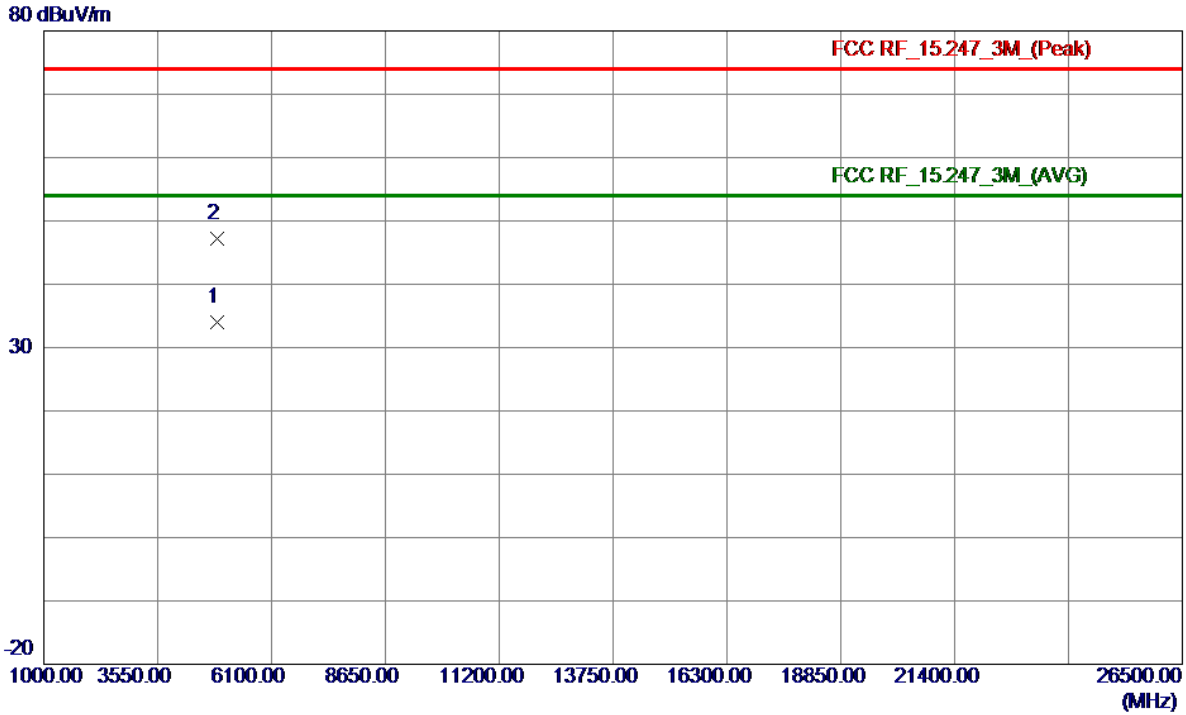
REMARKS:

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

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

Test Mode: TX N-20M Mode 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 *	4874.0000	43.58	-9.50	34.08	54.00	-19.92	AVG	
2	4883.6500	56.65	-9.46	47.19	74.00	-26.81	Peak	

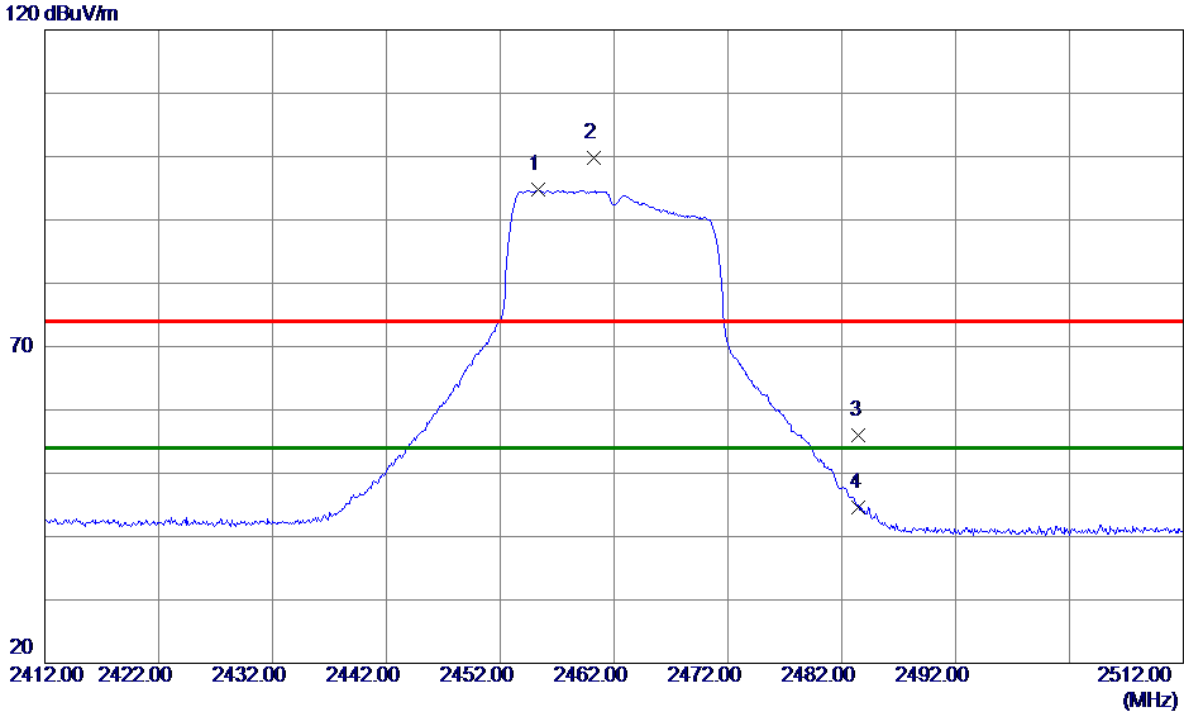
REMARKS:

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

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

Test Mode: TX N-20M Mode 2462 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2455.3000	62.15	32.58	94.73	54.00	40.73	AVG	NO limit
2	2460.2000	67.15	32.60	99.75	74.00	25.75	Peak	NO limit
3	2483.5000	23.42	32.66	56.08	74.00	-17.92	Peak	
4	2483.5000	11.86	32.66	44.52	54.00	-9.48	AVG	

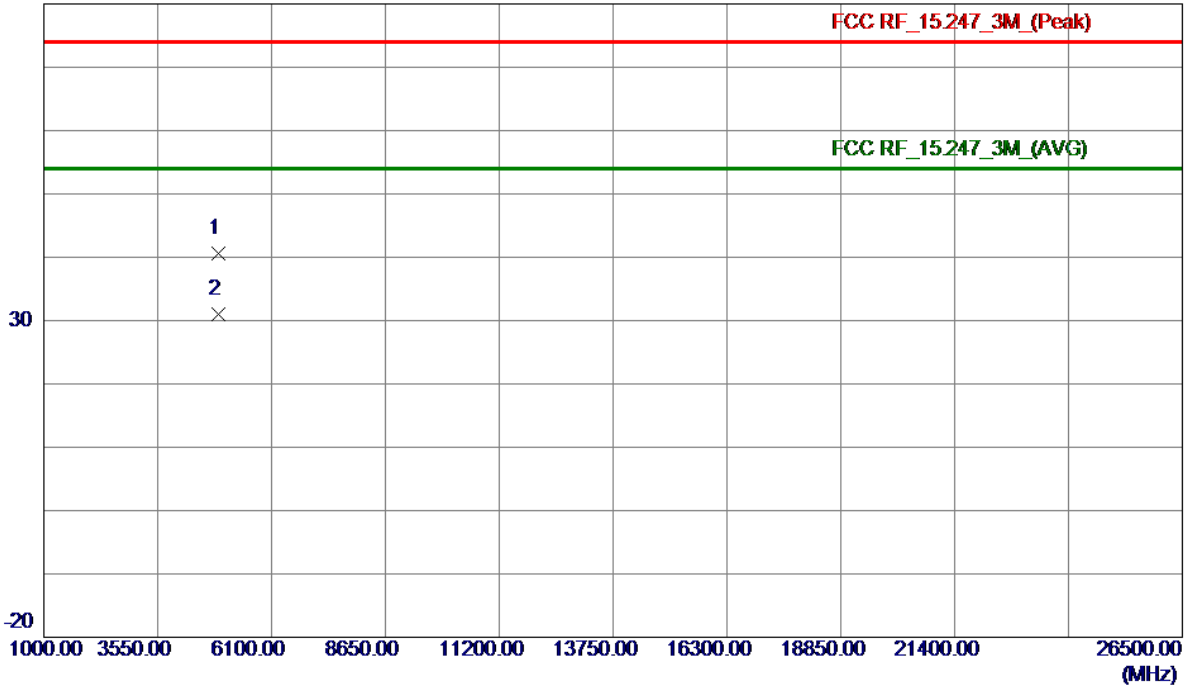
REMARKS:

- (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	4922.9000	49.90	-9.31	40.59	74.00	-33.41	Peak	
2 *	4923.7500	40.38	-9.31	31.07	54.00	-22.93	AVG	

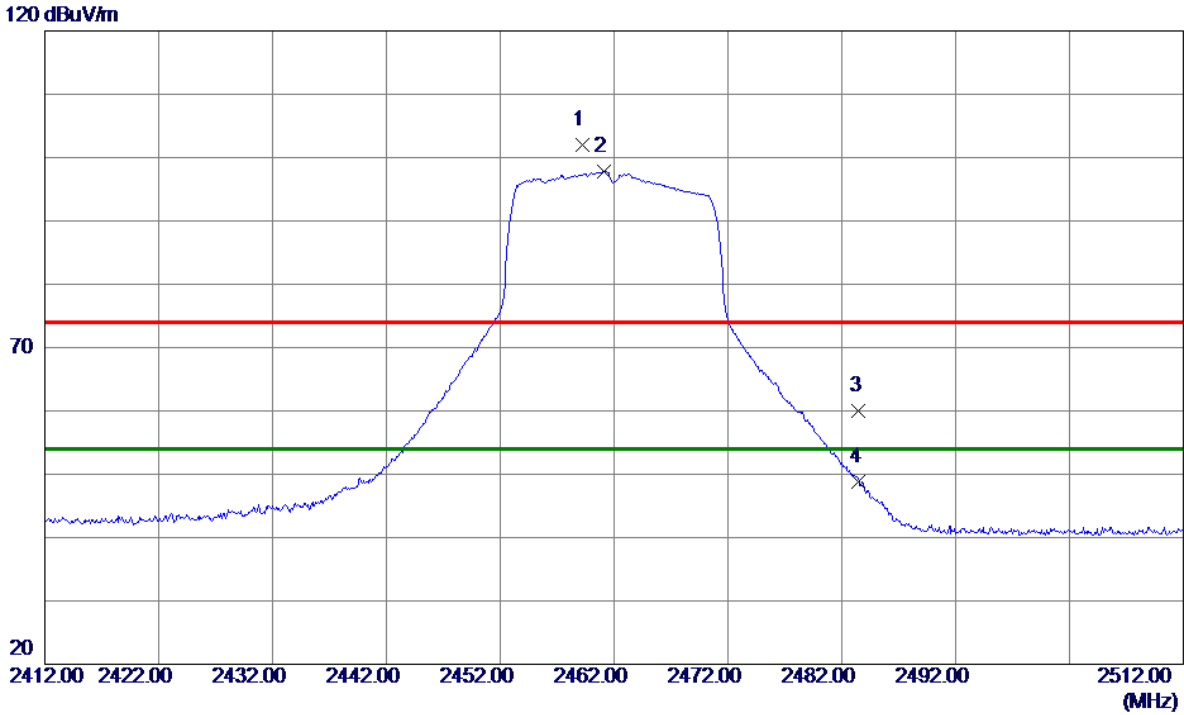
REMARKS:

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

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

Test Mode: TX N-20M Mode 2462 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2459.2000	69.48	32.59	102.07	74.00	28.07	Peak	NO limit
2 *	2461.1000	65.23	32.60	97.83	54.00	43.83	AVG	NO limit
3	2483.5000	27.33	32.66	59.99	74.00	-14.01	Peak	
4	2483.5000	16.22	32.66	48.88	54.00	-5.12	AVG	

REMARKS:

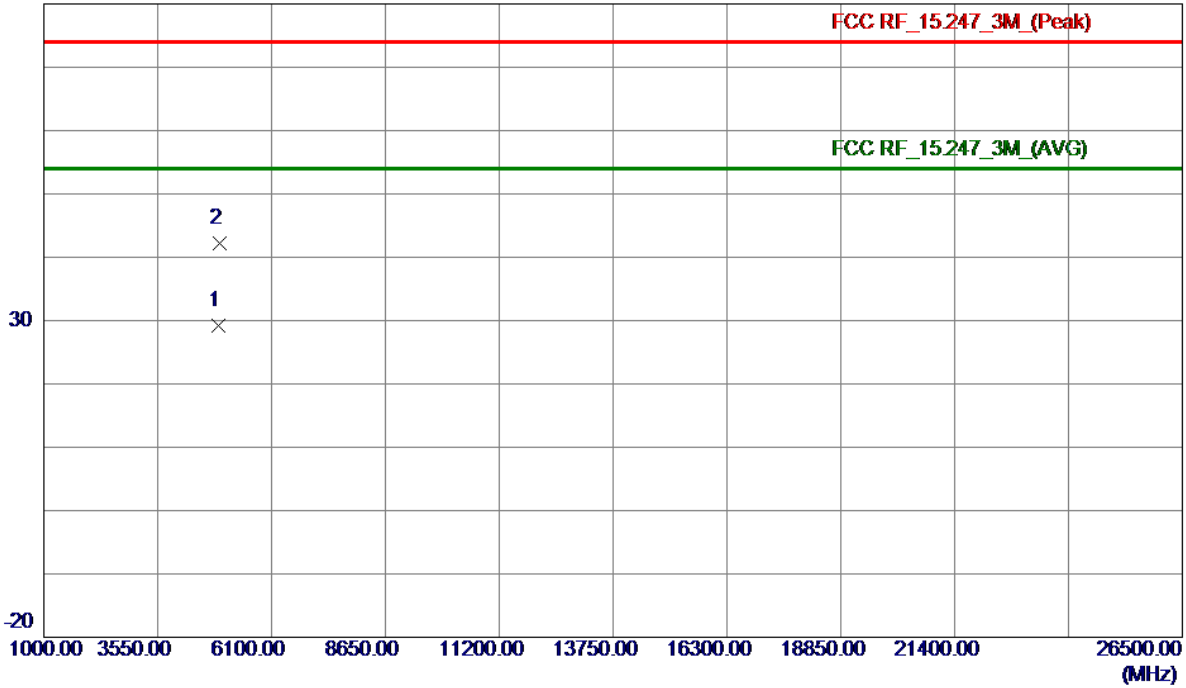
(1) Measurement Value = Reading Level + Correct Factor.

(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 *	4924.1100	38.60	-9.31	29.29	54.00	-24.71	AVG	
2	4924.3600	51.48	-9.31	42.17	74.00	-31.83	Peak	

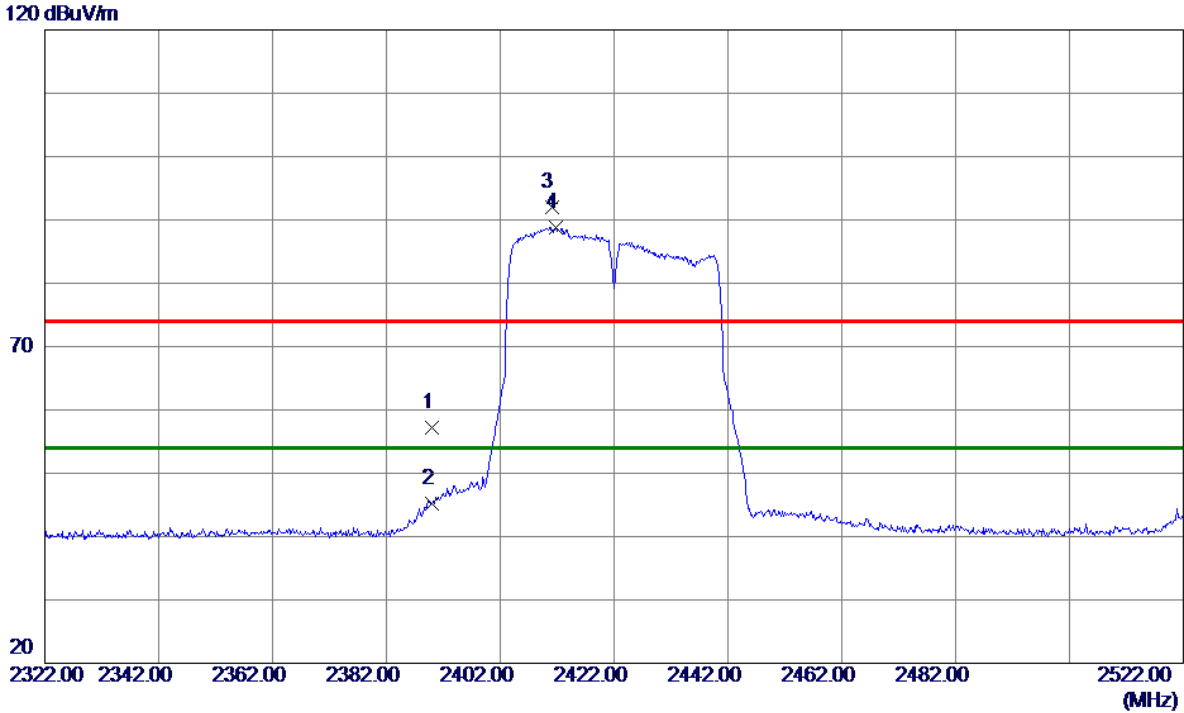
REMARKS:

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

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

Test Mode: TX N-40M Mode 2422MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	24.78	32.39	57.17	74.00	-16.83	Peak	
2	2390.0000	12.88	32.39	45.27	54.00	-8.73	AVG	
3	2411.0000	59.48	32.45	91.93	74.00	17.93	Peak	NO limit
4 *	2411.8000	56.35	32.46	88.81	54.00	34.81	AVG	NO limit

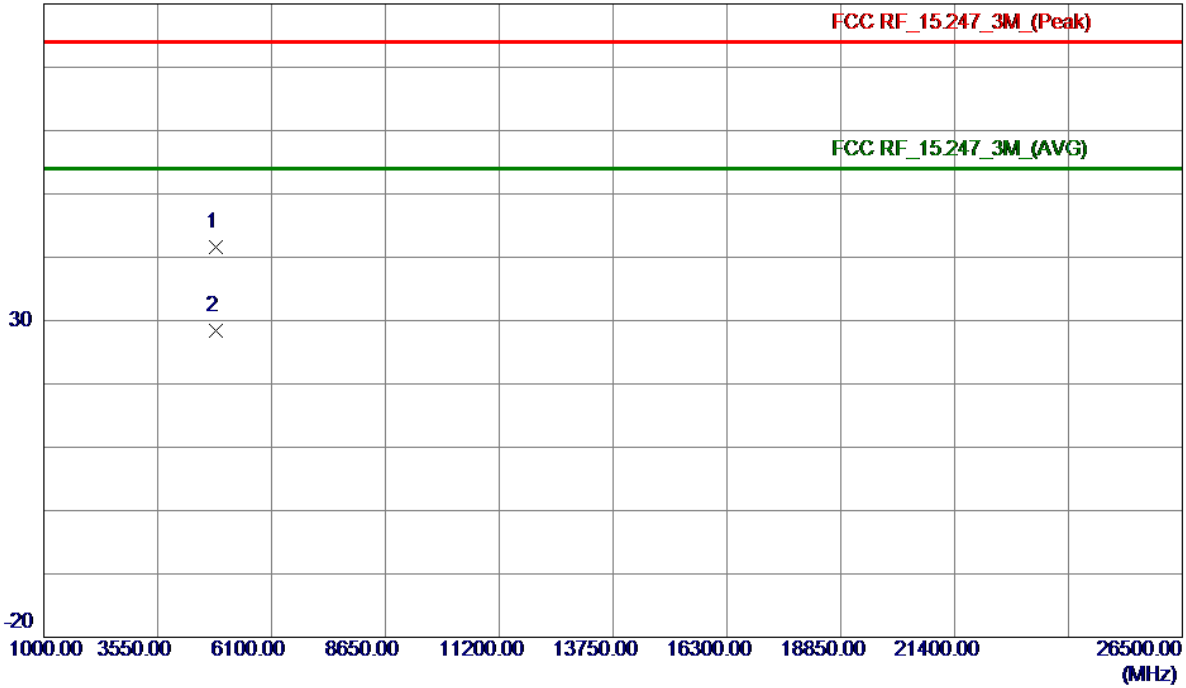
REMARKS:

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

Test Mode: TX N-40M Mode 2422MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4842.5400	51.17	-9.62	41.55	74.00	-32.45	Peak	
2 *	4844.0000	37.94	-9.61	28.33	54.00	-25.67	AVG	

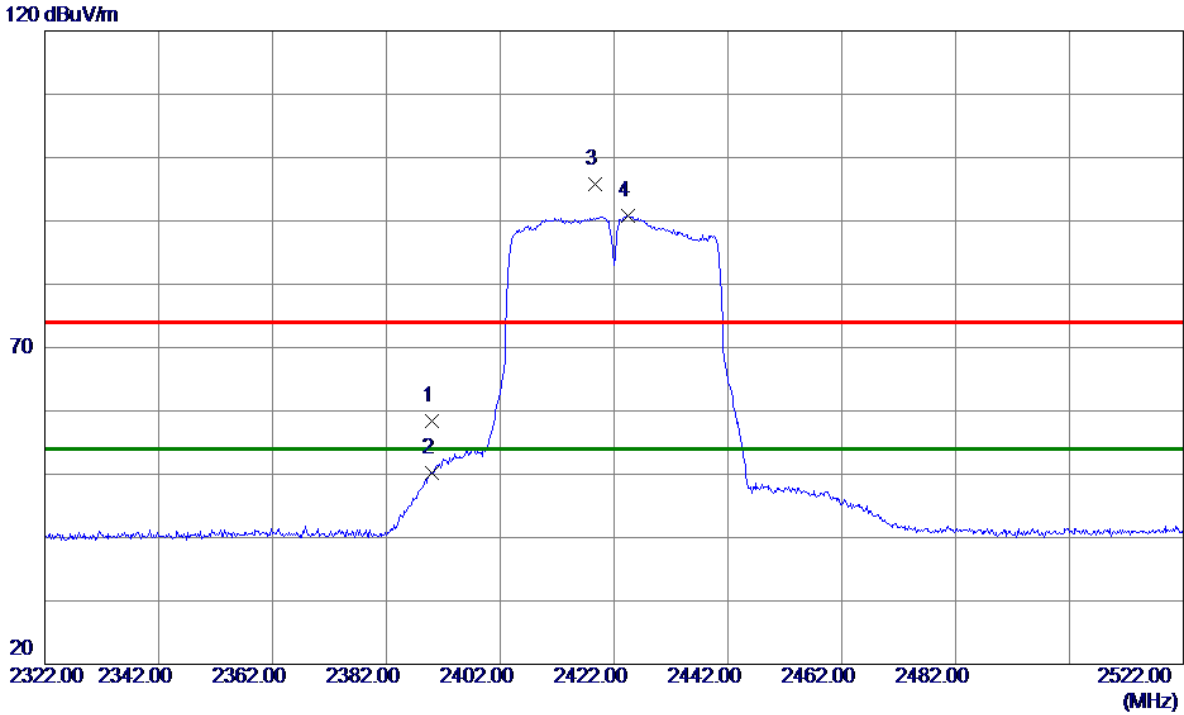
REMARKS:

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

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

Test Mode: TX N-40M Mode 2422MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	26.10	32.39	58.49	74.00	-15.51	Peak	
2	2390.0000	17.78	32.39	50.17	54.00	-3.83	AVG	
3	2418.6000	63.29	32.48	95.77	74.00	21.77	Peak	NO limit
4 *	2424.4000	58.34	32.49	90.83	54.00	36.83	AVG	NO limit

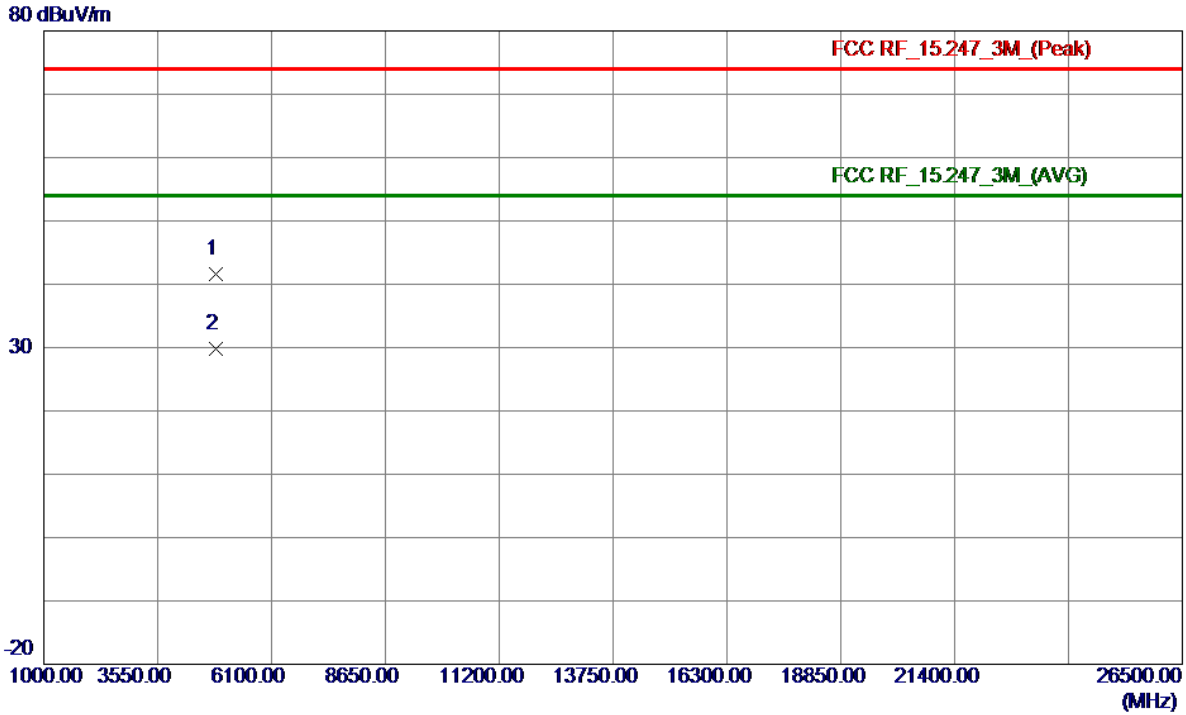
REMARKS:

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

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

Test Mode: TX N-40M Mode 2422MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4840.4300	51.27	-9.63	41.64	74.00	-32.36	Peak	
2 *	4844.0000	39.41	-9.61	29.80	54.00	-24.20	AVG	

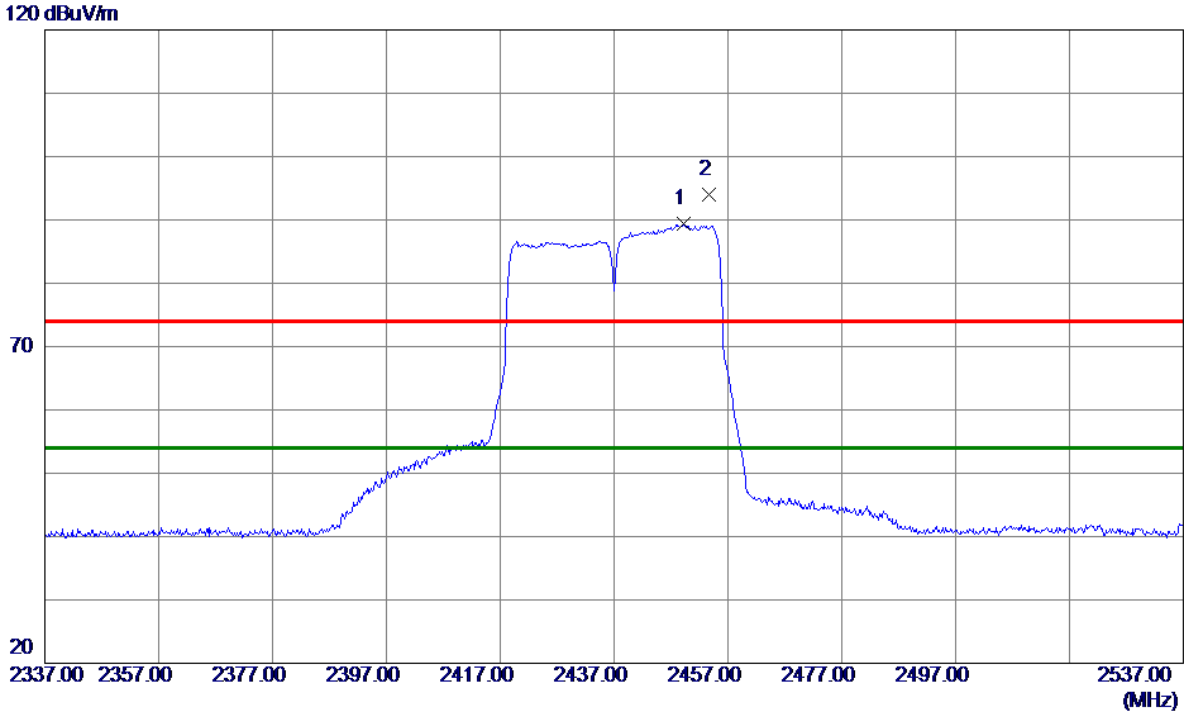
REMARKS:

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

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

Test Mode: TX N-40M 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 *	2449.2000	56.76	32.56	89.32	54.00	35.32	AVG	NO limit
2	2453.6000	61.34	32.58	93.92	74.00	19.92	Peak	NO limit

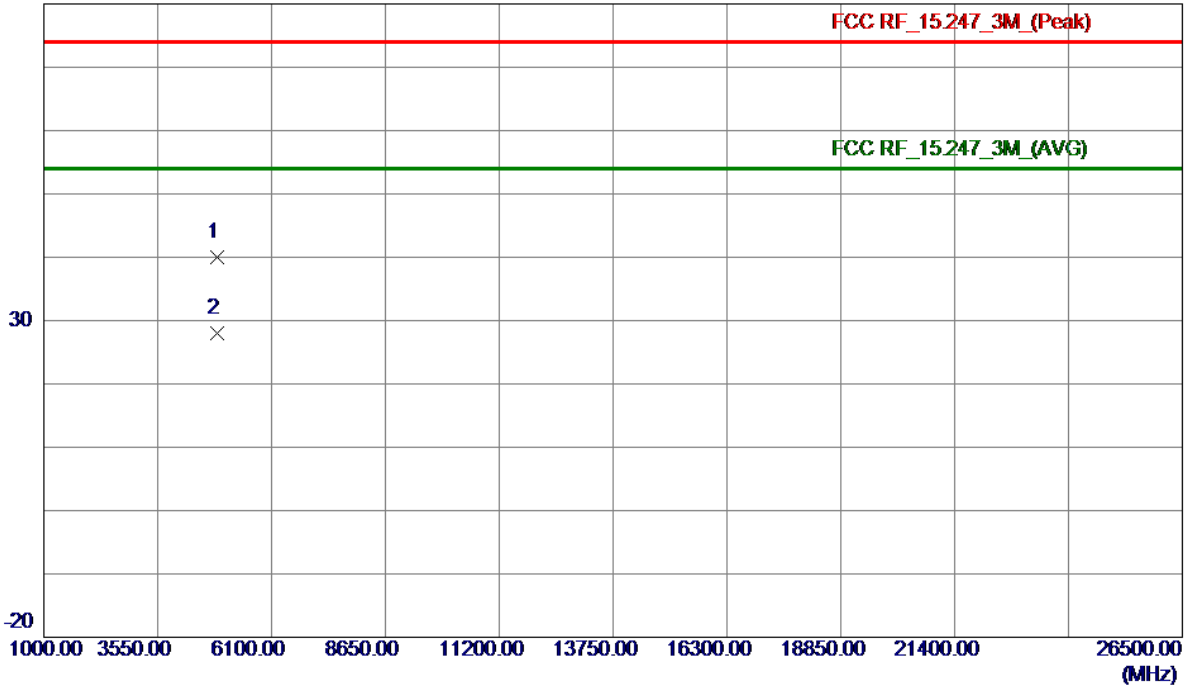
REMARKS:

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

Test Mode: TX N-40M Mode 2437 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.4600	49.47	-9.50	39.97	74.00	-34.03	Peak	
2 *	4874.0000	37.53	-9.50	28.03	54.00	-25.97	AVG	

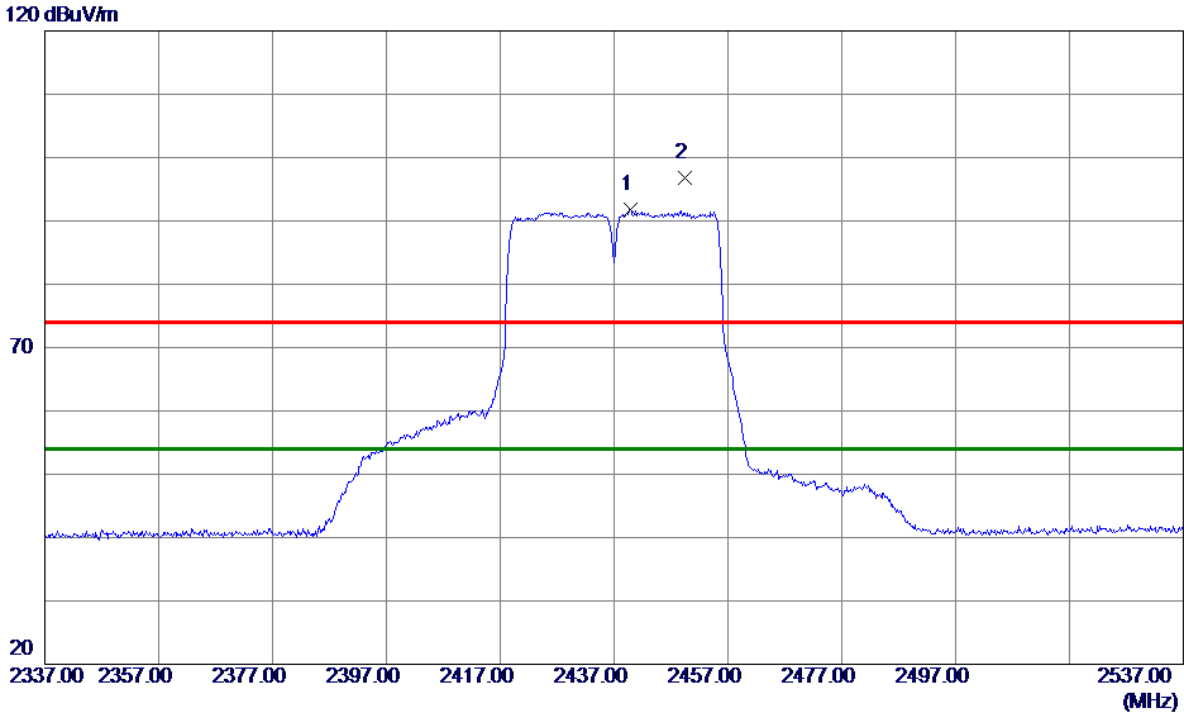
REMARKS:

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

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

Test Mode: TX N-40M Mode 2437 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2439.8000	59.28	32.54	91.82	54.00	37.82	AVG	NO limit
2	2449.4000	64.19	32.56	96.75	74.00	22.75	Peak	NO limit

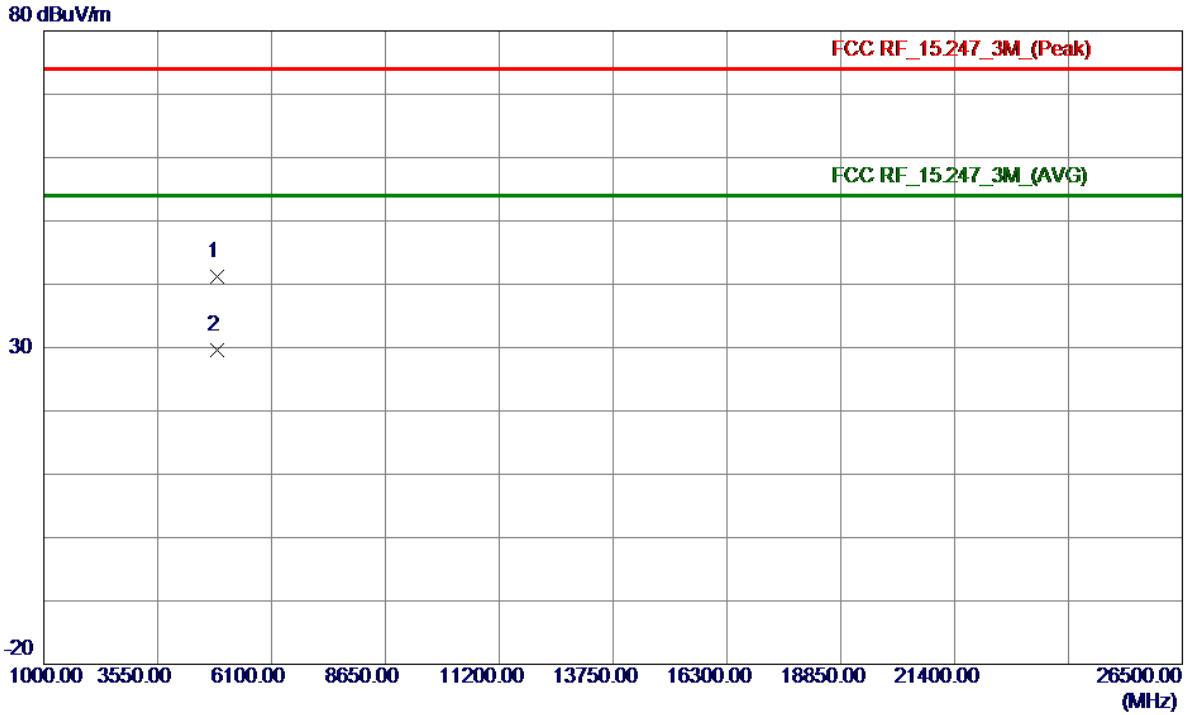
REMARKS:

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

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

Test Mode: TX N-40M Mode 2437 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9250	50.70	-9.50	41.20	74.00	-32.80	Peak	
2 *	4874.0000	39.14	-9.50	29.64	54.00	-24.36	AVG	

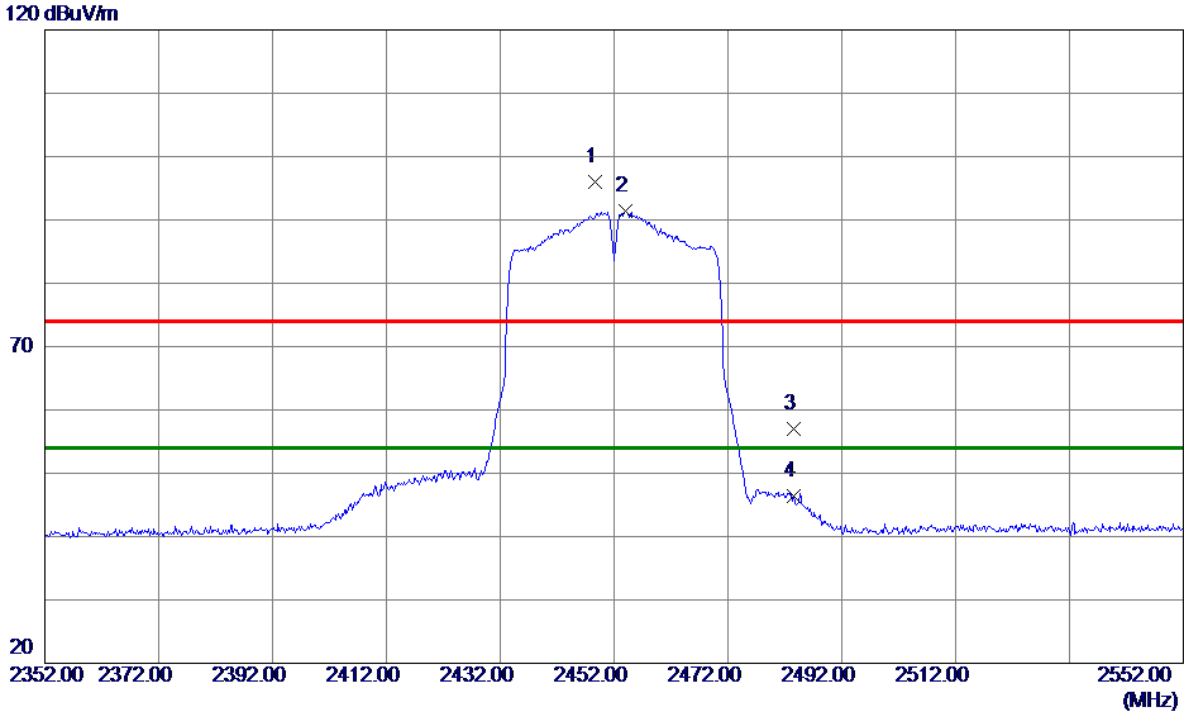
REMARKS:

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

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

Test Mode: TX N-40M Mode 2452 MHz

Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2448.6000	63.42	32.56	95.98	74.00	21.98	Peak	NO limit
2 *	2454.0000	58.74	32.58	91.32	54.00	37.32	AVG	NO limit
3	2483.5000	24.38	32.66	57.04	74.00	-16.96	Peak	
4	2483.5000	13.76	32.66	46.42	54.00	-7.58	AVG	

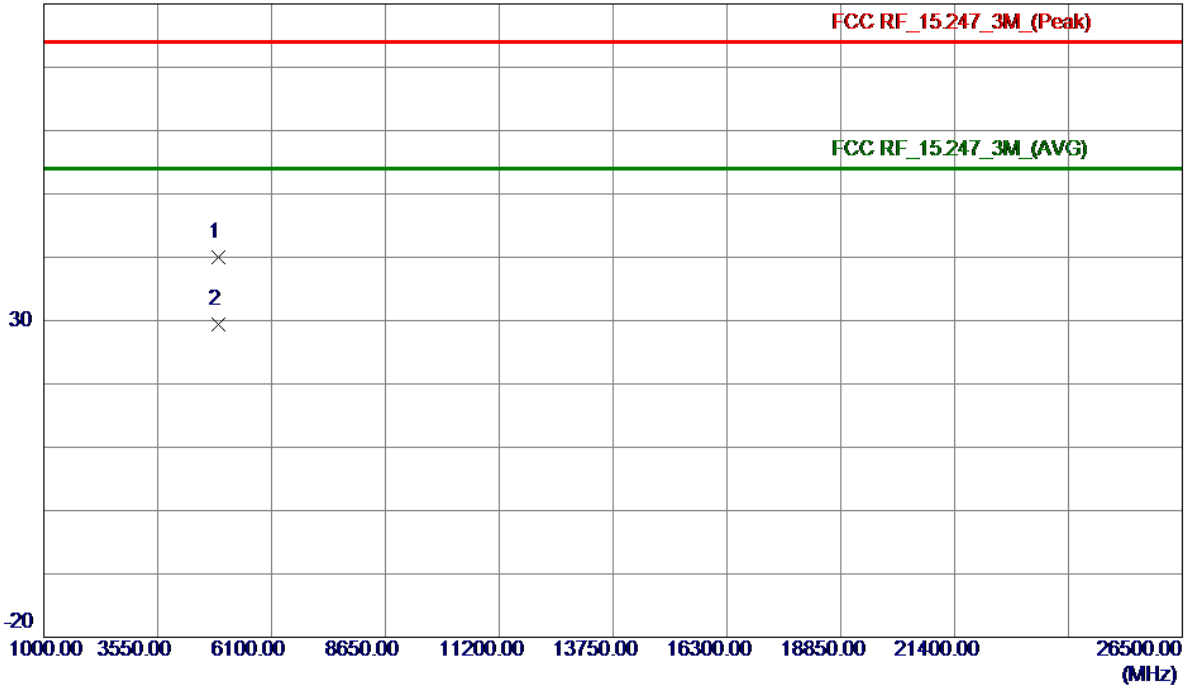
REMARKS:

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

Test Mode: TX N-40M Mode 2452 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4901.5000	49.30	-9.39	39.91	74.00	-34.09	Peak	
2 *	4903.6200	38.79	-9.39	29.40	54.00	-24.60	AVG	

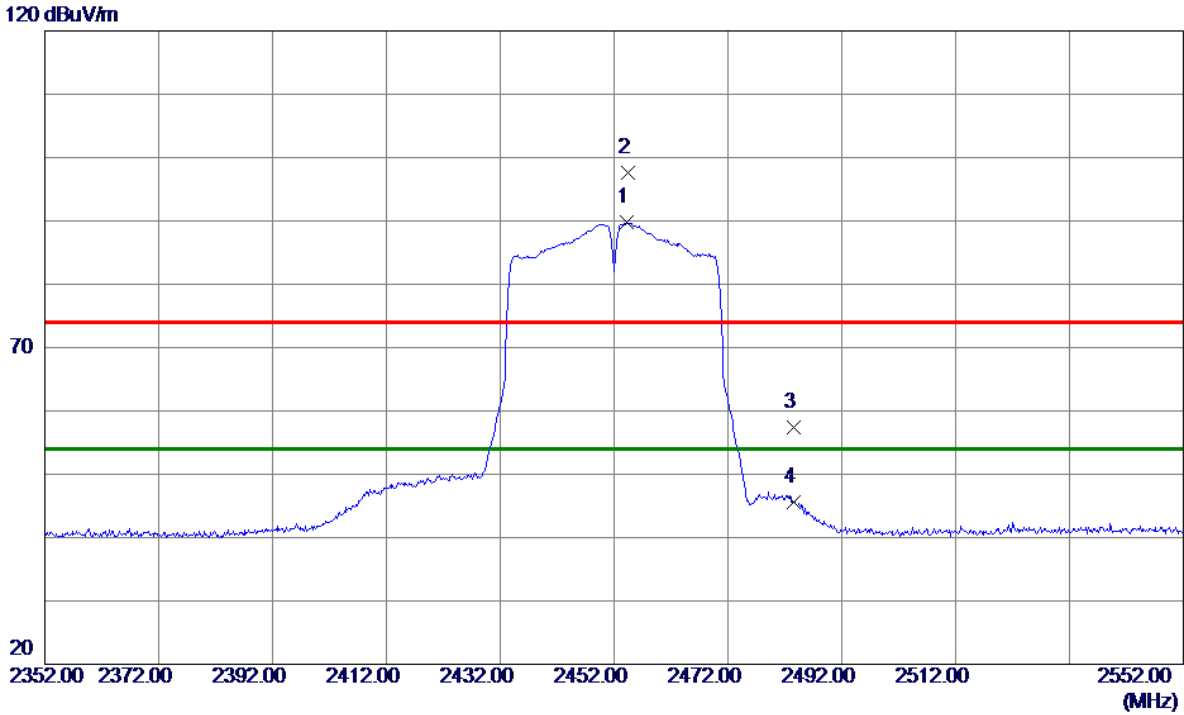
REMARKS:

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

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

Test Mode: TX N-40M Mode 2452 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2454.2000	57.26	32.58	89.84	54.00	35.84	AVG	NO limit
2	2454.4000	64.93	32.58	97.51	74.00	23.51	Peak	NO limit
3	2483.5000	24.71	32.66	57.37	74.00	-16.63	Peak	
4	2483.5000	12.96	32.66	45.62	54.00	-8.38	AVG	

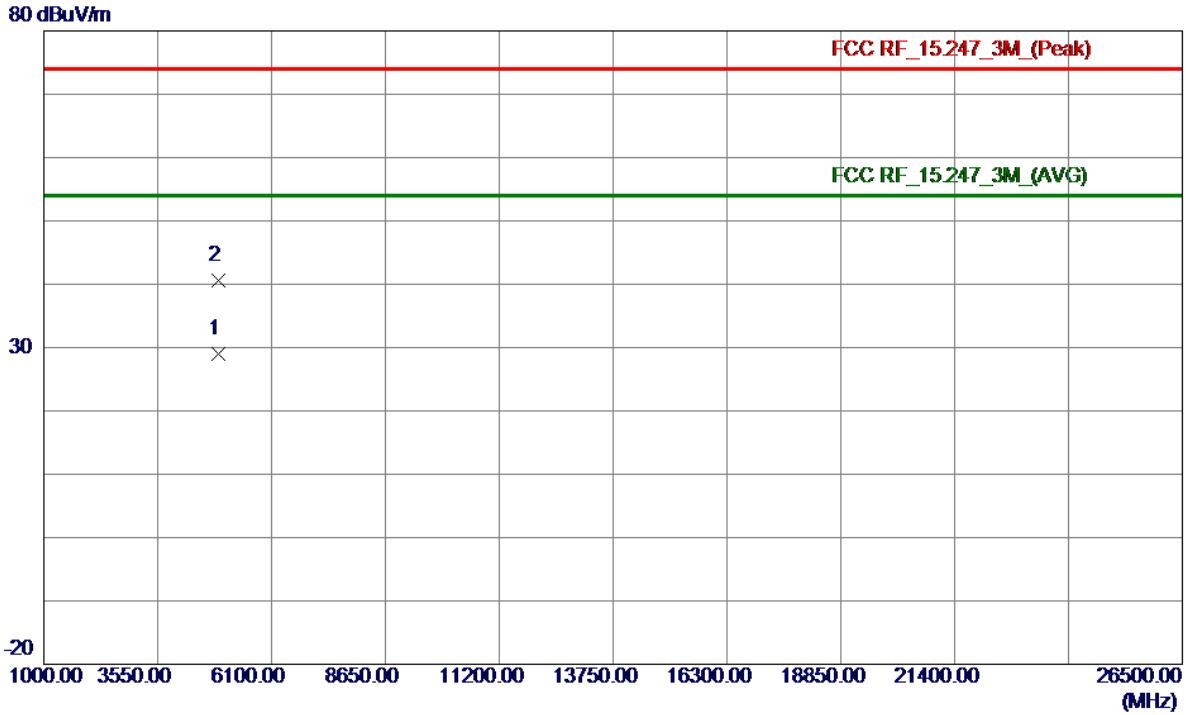
REMARKS:

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

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

Test Mode: TX N-40M Mode 2452 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4896.8200	38.48	-9.41	29.07	54.00	-24.93	AVG	
2	4903.6200	50.02	-9.39	40.63	74.00	-33.37	Peak	

REMARKS:

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

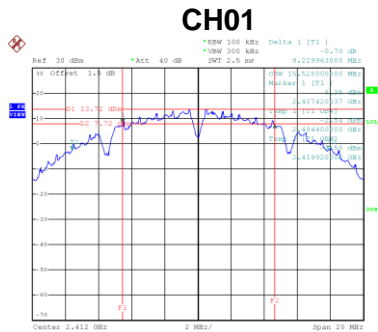
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX E - BANDWIDTH

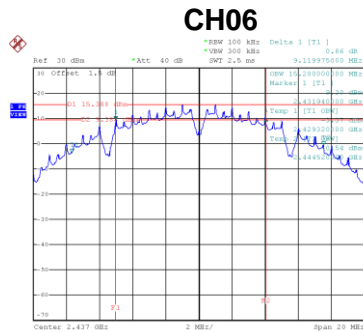
Non-Beamforming

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

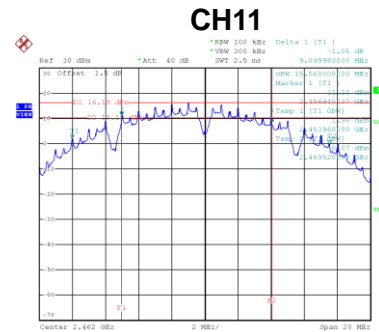
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	9.23	500	Complies
06	2437	9.12	500	Complies
11	2462	9.10	500	Complies



Date: 21.AUG.2019 20:08:10

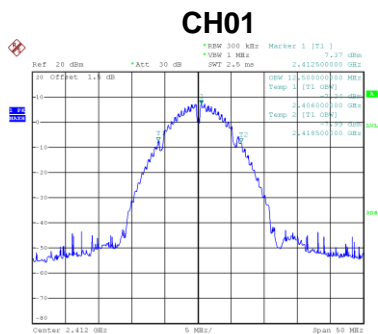


Date: 21.AUG.2019 20:10:12

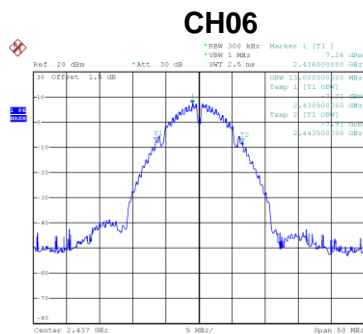


Date: 21.AUG.2019 20:12:00

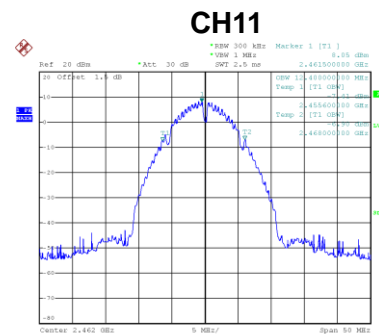
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	12.50	Complies
06	2437	13.00	Complies
11	2462	12.40	Complies



Date: 18.SEP.2019 16:45:20



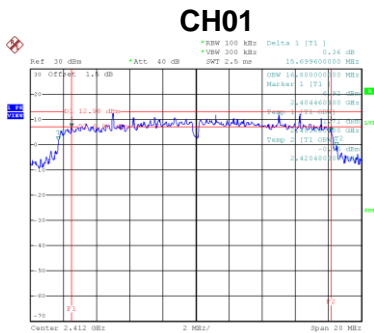
Date: 18.SEP.2019 16:48:07



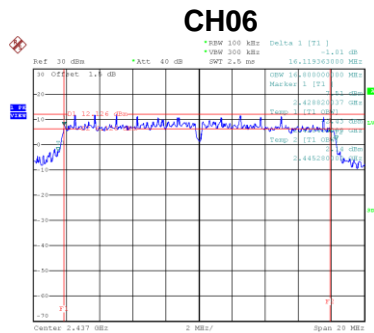
Date: 18.SEP.2019 16:49:10

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

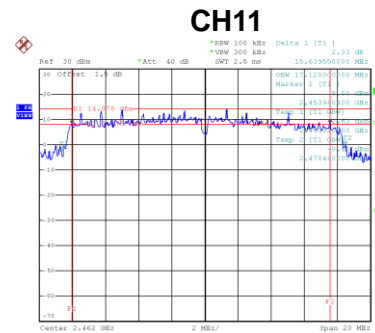
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	15.70	500	Complies
06	2437	16.12	500	Complies
11	2462	15.64	500	Complies



Date: 21.AUG.2019 20:19:58

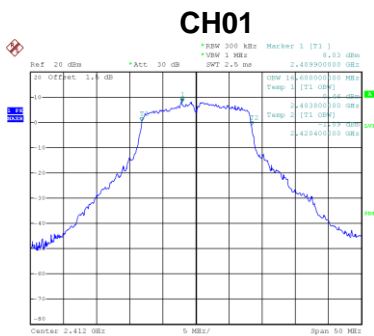


Date: 21.AUG.2019 20:18:02

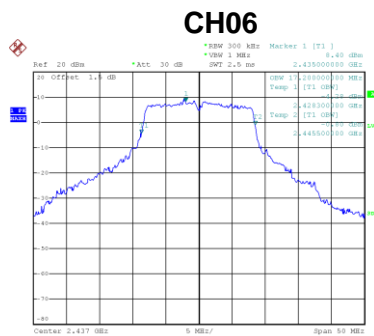


Date: 21.AUG.2019 20:16:32

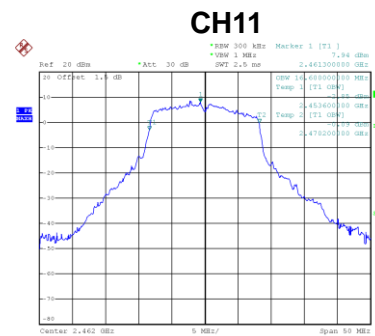
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	16.60	Complies
06	2437	17.20	Complies
11	2462	16.60	Complies



Date: 18.SEP.2019 16:58:04



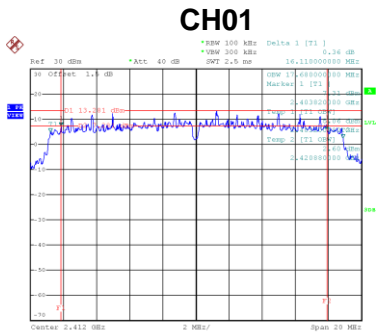
Date: 18.SEP.2019 16:54:35



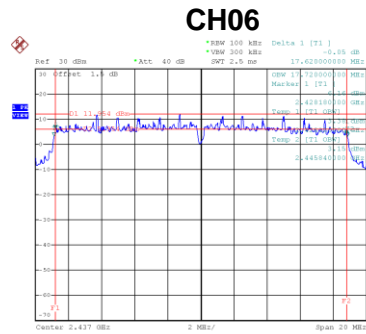
Date: 18.SEP.2019 16:53:03

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

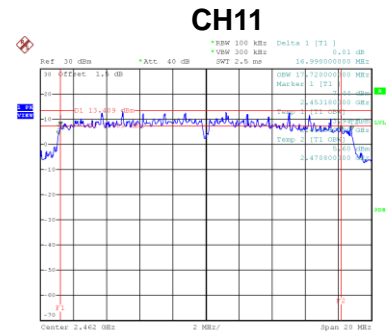
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	16.11	500	Complies
06	2437	17.62	500	Complies
11	2462	16.99	500	Complies



Date: 21.AUG.2019 20:21:45

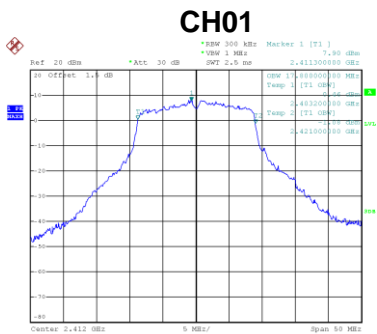


Date: 21.AUG.2019 20:23:17

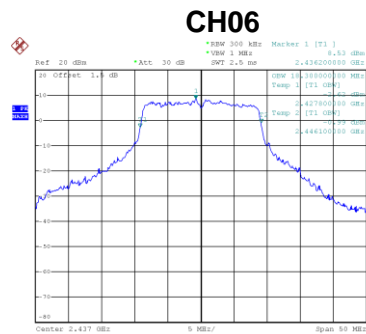


Date: 21.AUG.2019 20:24:56

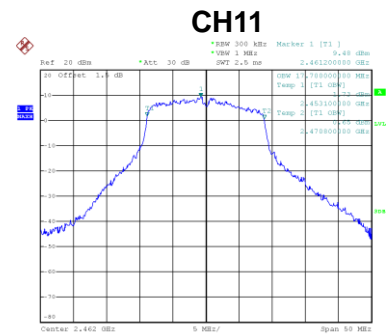
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	17.80	Complies
06	2437	18.30	Complies
11	2462	17.70	Complies



Date: 18.SEP.2019 16:59:47



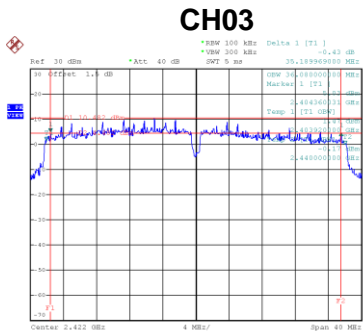
Date: 18.SEP.2019 17:03:20



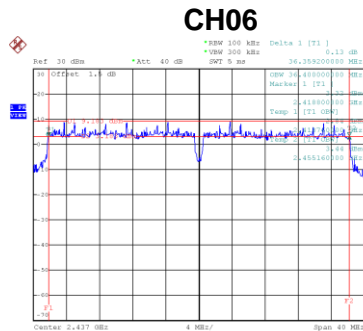
Date: 18.SEP.2019 17:04:00

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

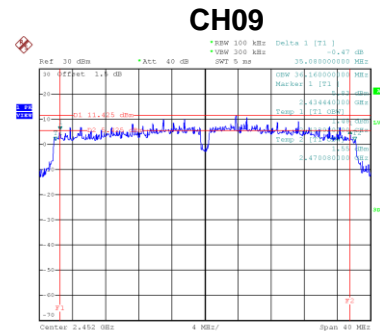
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
03	2422	35.19	500	Complies
06	2437	36.36	500	Complies
09	2452	35.08	500	Complies



Date: 21.AUG.2019 20:26:136

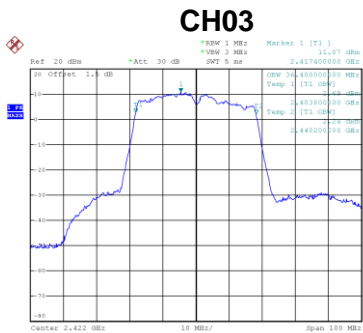


Date: 21.AUG.2019 20:28:109

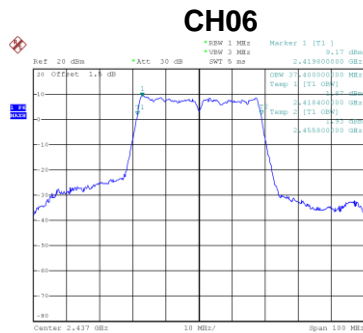


Date: 21.AUG.2019 20:30:146

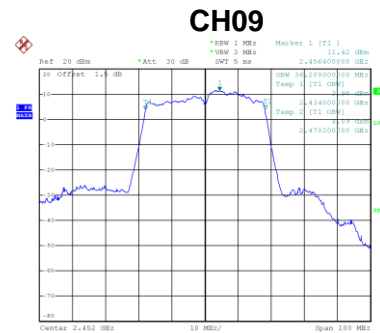
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
03	2422	36.40	Complies
06	2437	37.40	Complies
09	2452	36.20	Complies



Date: 18.SEP.2019 17:07:150



Date: 18.SEP.2019 17:08:138



Date: 18.SEP.2019 17:11:134

APPENDIX F - MAXIMUM OUTPUT POWER

Non-Beamforming

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.60	0.0575	30.00	1.0000	Complies
06	2437	17.80	0.0603	30.00	1.0000	Complies
11	2462	17.45	0.0556	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.57	0.0571	30.00	1.0000	Complies
06	2437	17.95	0.0624	30.00	1.0000	Complies
11	2462	17.27	0.0533	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	20.60	0.1147	30.00	1.0000	Complies
06	2437	20.89	0.1226	30.00	1.0000	Complies
11	2462	20.37	0.1089	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	20.03	0.1007	30.00	1.0000	Complies
06	2437	19.67	0.0927	30.00	1.0000	Complies
11	2462	19.80	0.0955	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	19.76	0.0946	30.00	1.0000	Complies
06	2437	20.33	0.1079	30.00	1.0000	Complies
11	2462	19.66	0.0925	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	22.91	0.1953	30.00	1.0000	Complies
06	2437	23.02	0.2006	30.00	1.0000	Complies
11	2462	22.74	0.1880	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	19.95	0.0989	30.00	1.0000	Complies
06	2437	19.67	0.0927	30.00	1.0000	Complies
11	2462	20.37	0.1089	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	19.75	0.0944	30.00	1.0000	Complies
06	2437	20.34	0.1081	30.00	1.0000	Complies
11	2462	19.82	0.0959	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	22.86	0.1933	30.00	1.0000	Complies
06	2437	23.03	0.2008	30.00	1.0000	Complies
11	2462	23.11	0.2048	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	19.72	0.0938	30.00	1.0000	Complies
06	2437	19.86	0.0968	30.00	1.0000	Complies
09	2452	20.46	0.1112	30.00	1.0000	Complies

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

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	19.60	0.0912	30.00	1.0000	Complies
06	2437	20.82	0.1208	30.00	1.0000	Complies
09	2452	20.22	0.1052	30.00	1.0000	Complies

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

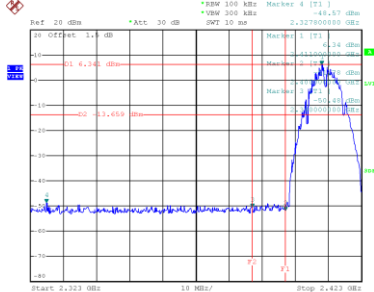
Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	22.67	0.1850	30.00	1.0000	Complies
06	2437	23.38	0.2176	30.00	1.0000	Complies
09	2452	23.35	0.2164	30.00	1.0000	Complies

APPENDIX G - CONDUCTED SPURIOUS EMISSIONS

Non-Beamforming

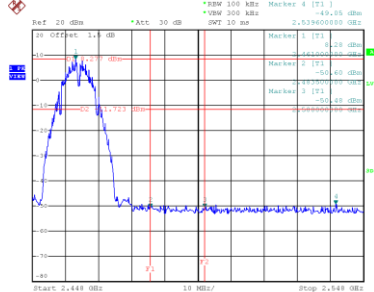
Test Mode TX B Mode_Ant. 1

Bandedge-CH01



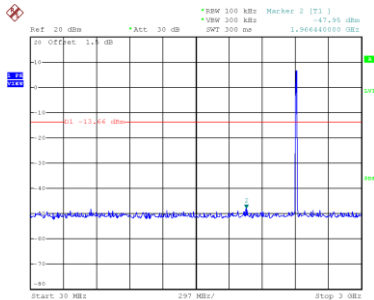
Date: 18.SEP.2019 17:56:47

Bandedge-CH11

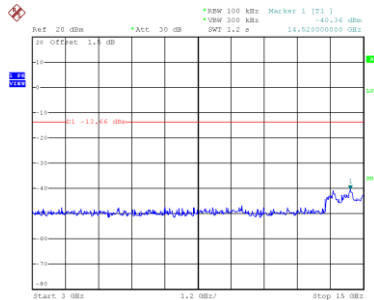


Date: 18.SEP.2019 17:51:29

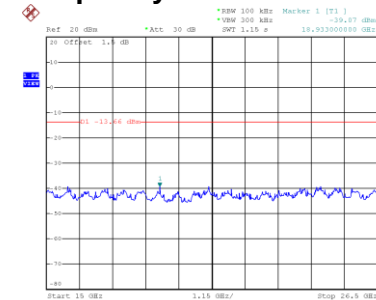
CH01 – 10th Harmonic of the fundamental frequency



Date: 18.SEP.2019 17:57:00

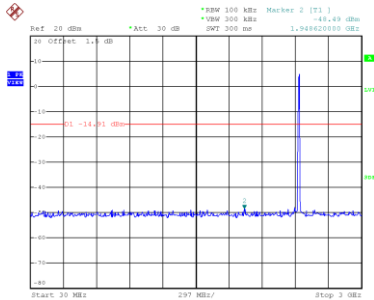


Date: 18.SEP.2019 17:57:07

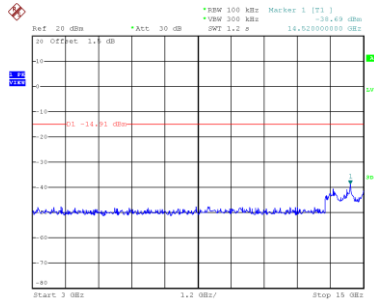


Date: 18.SEP.2019 17:57:14

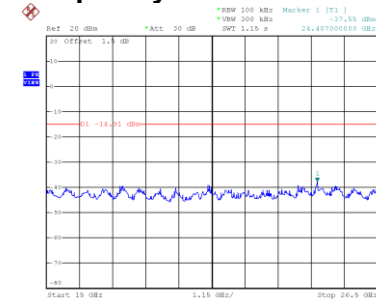
CH06 – 10th Harmonic of the fundamental frequency



Date: 18.SEP.2019 17:53:15

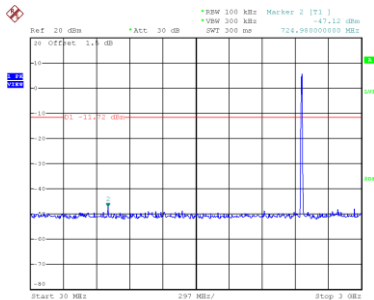


Date: 18.SEP.2019 17:53:22

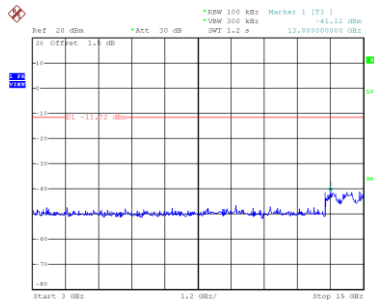


Date: 18.SEP.2019 17:53:29

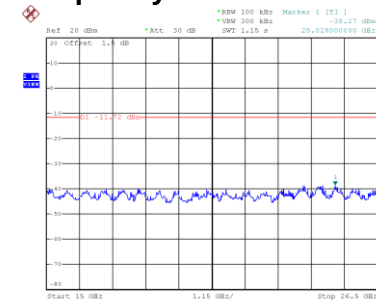
CH11 – 10th Harmonic of the fundamental frequency



Date: 18.SEP.2019 17:51:42



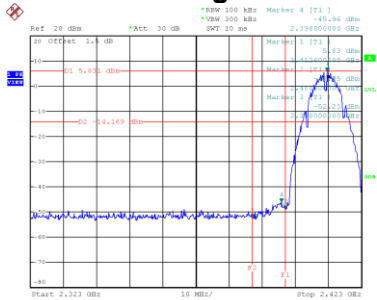
Date: 18.SEP.2019 17:51:49



Date: 18.SEP.2019 17:51:56

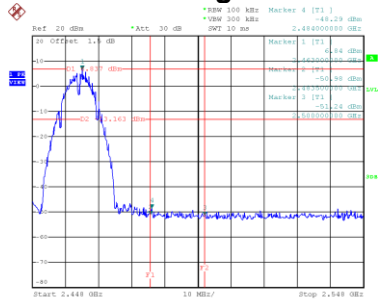
Test Mode TX B Mode_Ant. 2

Bandedge-CH01



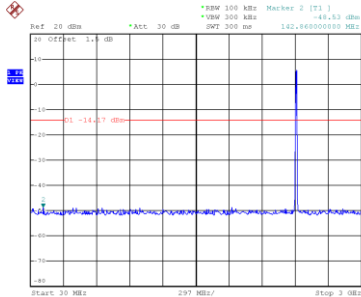
Date: 18_SEP.2019 17:55:03

Bandedge-CH11

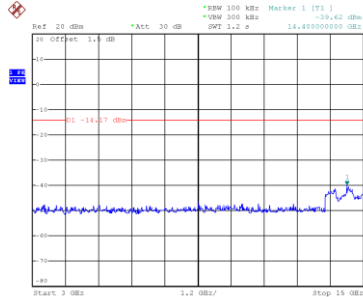


Date: 18_SEP.2019 17:50:130

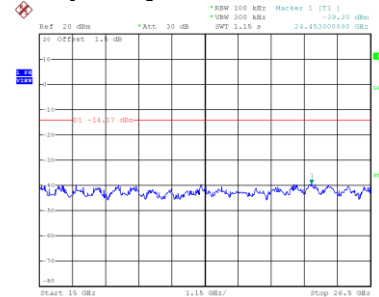
CH01 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:55:116

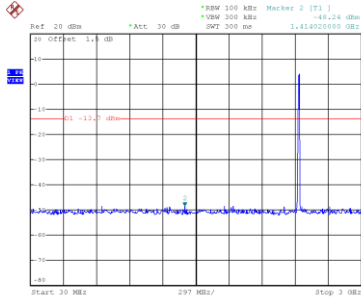


Date: 18_SEP.2019 17:55:123

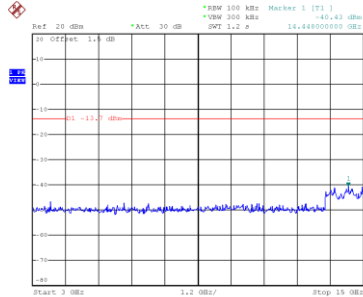


Date: 18_SEP.2019 17:55:130

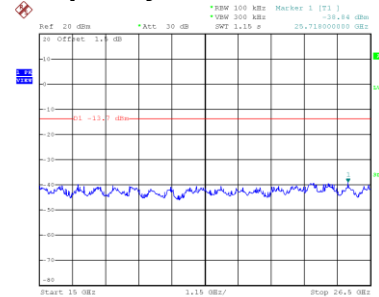
CH06 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:54:18

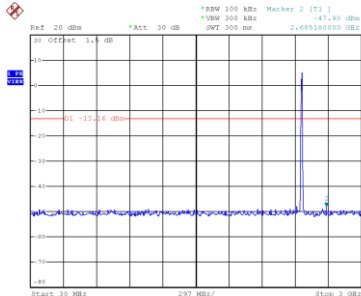


Date: 18_SEP.2019 17:54:25

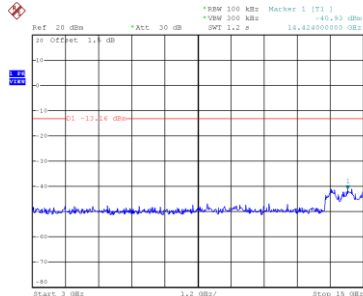


Date: 18_SEP.2019 17:54:32

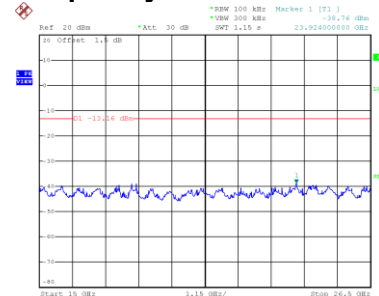
CH11 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:50:143



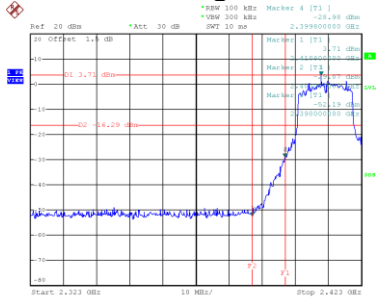
Date: 18_SEP.2019 17:50:151



Date: 18_SEP.2019 17:50:158

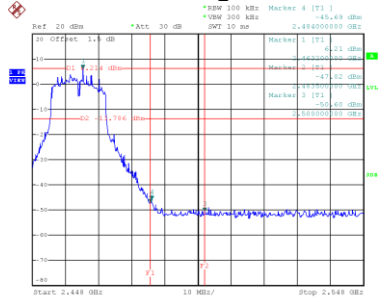
Test Mode TX G Mode_Ant. 1

Bandedge-CH01



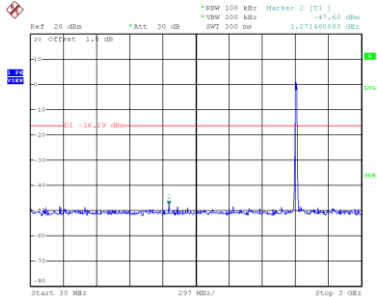
Date: 18_SEP.2019 17:46:13

Bandedge-CH11

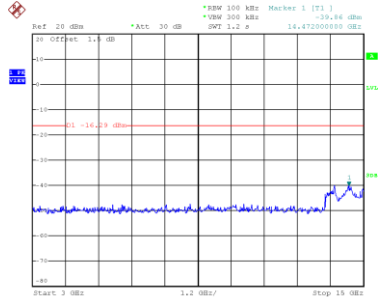


Date: 18_SEP.2019 17:40:02

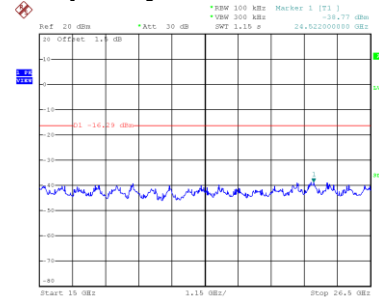
CH01 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:46:26

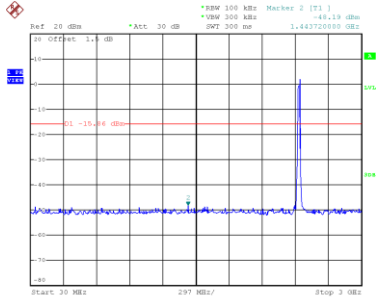


Date: 18_SEP.2019 17:46:33

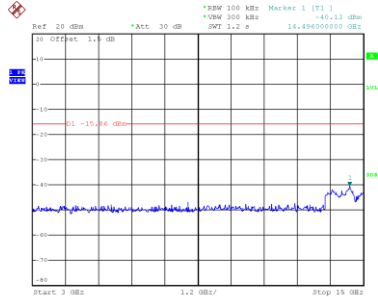


Date: 18_SEP.2019 17:46:40

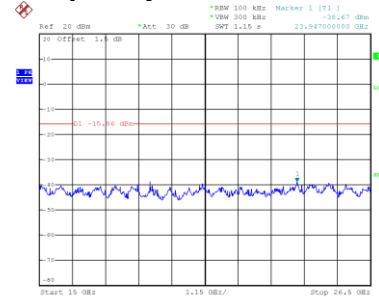
CH06 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:41:20

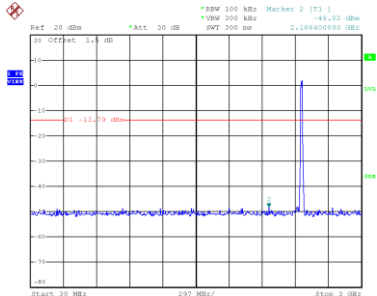


Date: 18_SEP.2019 17:41:27

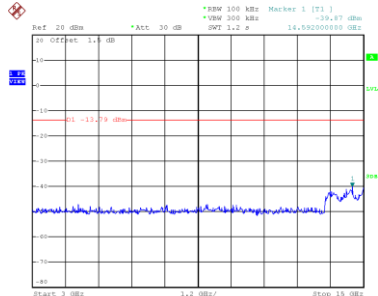


Date: 18_SEP.2019 17:41:34

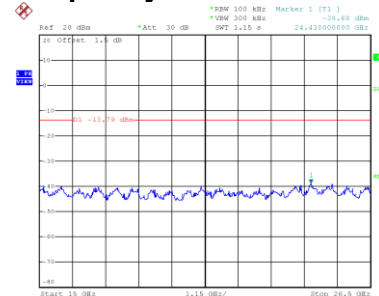
CH11 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:40:15



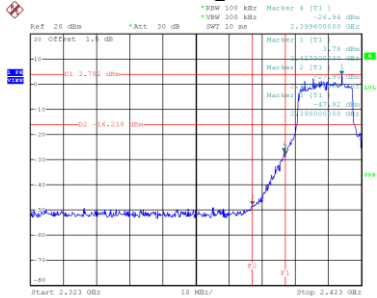
Date: 18_SEP.2019 17:40:22



Date: 18_SEP.2019 17:40:29

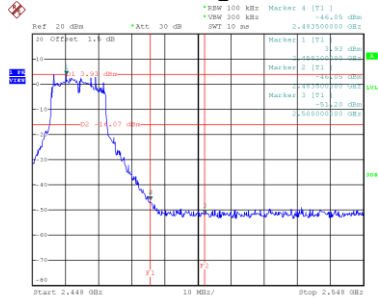
Test Mode TX G Mode_Ant. 2

Bandedge-CH01



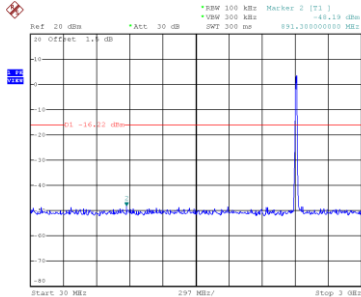
Date: 18_SEP.2019 17:47:02

Bandedge-CH11

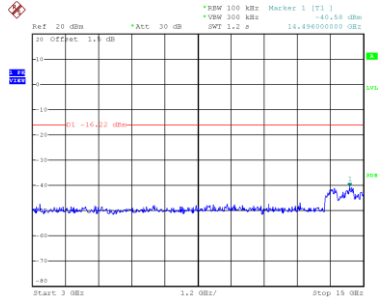


Date: 18_SEP.2019 17:39:28

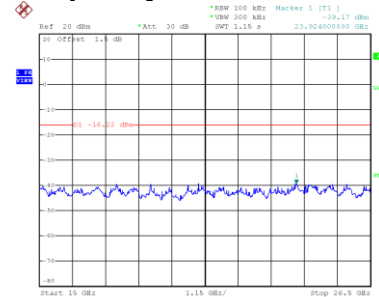
CH01 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:47:15

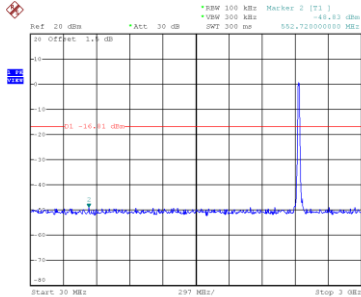


Date: 18_SEP.2019 17:47:22

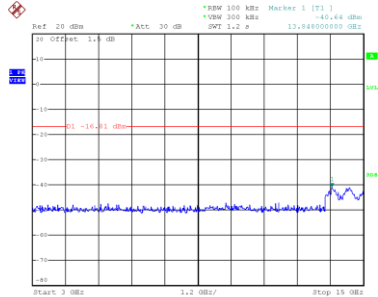


Date: 18_SEP.2019 17:47:29

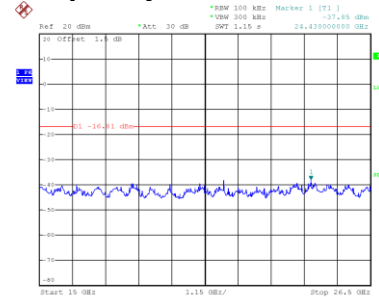
CH06 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:42:11

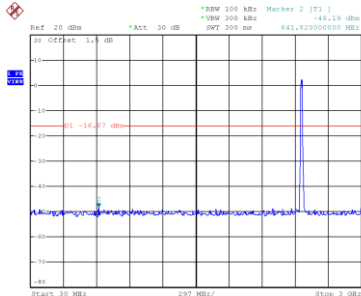


Date: 18_SEP.2019 17:42:18

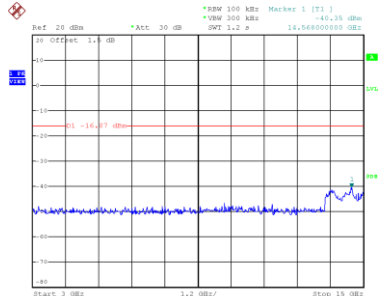


Date: 18_SEP.2019 17:42:25

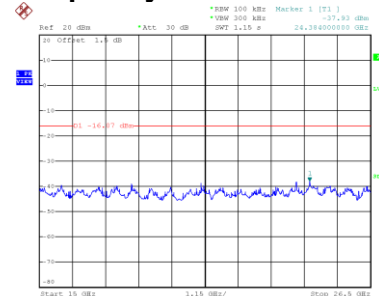
CH11 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:39:41



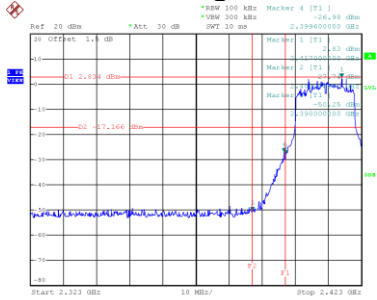
Date: 18_SEP.2019 17:39:48



Date: 18_SEP.2019 17:39:55

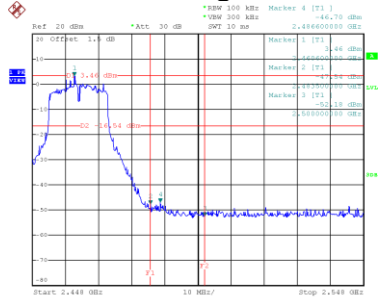
Test Mode TX N-20M Mode_Ant. 1

Bandedge-CH01



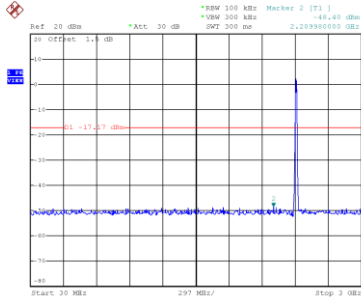
Date: 18_SEP.2019 17:37:06

Bandedge-CH11

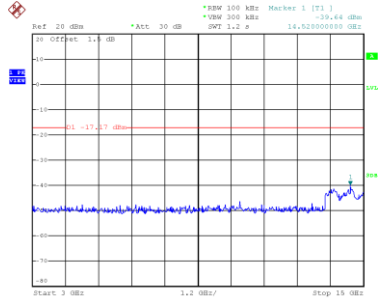


Date: 18_SEP.2019 17:33:14

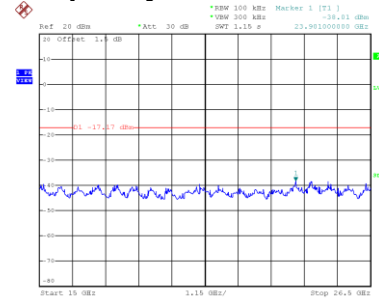
CH01 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:37:19

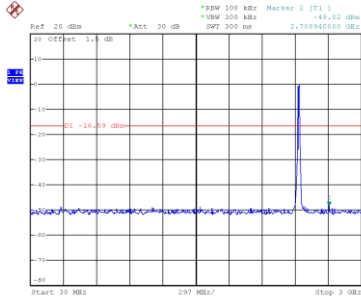


Date: 18_SEP.2019 17:37:26

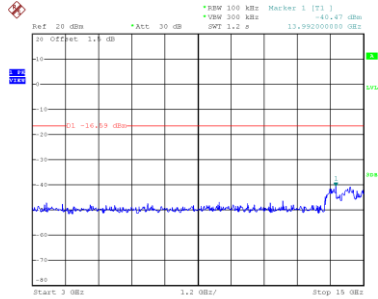


Date: 18_SEP.2019 17:37:33

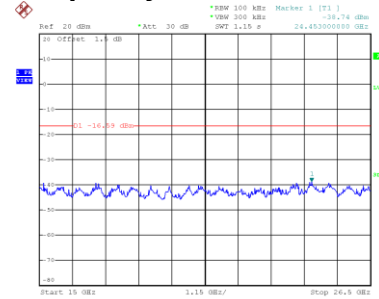
CH06 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:33:53

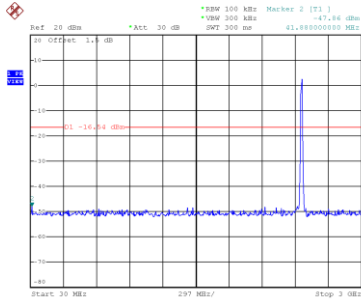


Date: 18_SEP.2019 17:33:00

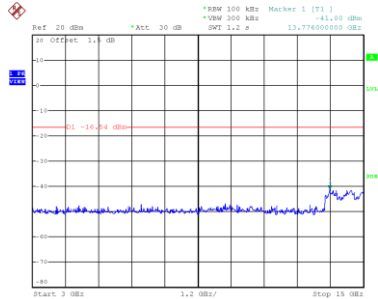


Date: 18_SEP.2019 17:33:07

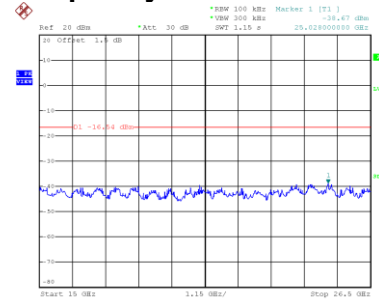
CH11 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:33:147



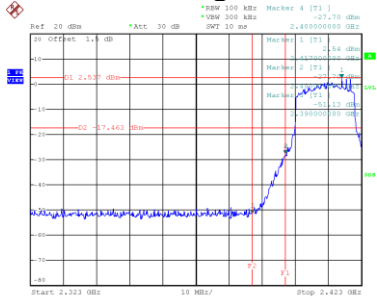
Date: 18_SEP.2019 17:33:154



Date: 18_SEP.2019 17:33:201

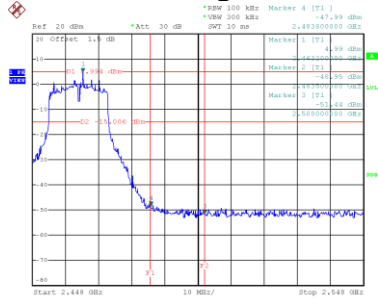
Test Mode TX N-20M Mode_Ant. 2

Bandedge-CH01



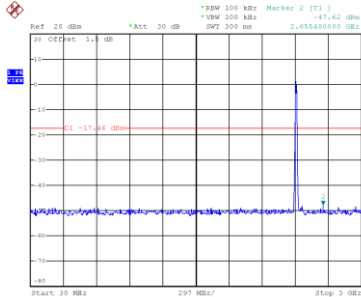
Date: 18_SEP.2019 17:36:132

Bandedge-CH11

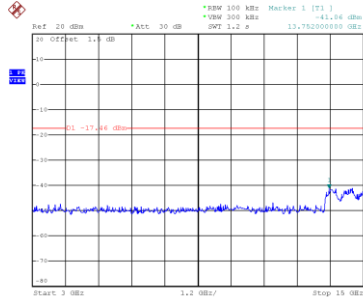


Date: 18_SEP.2019 17:33:100

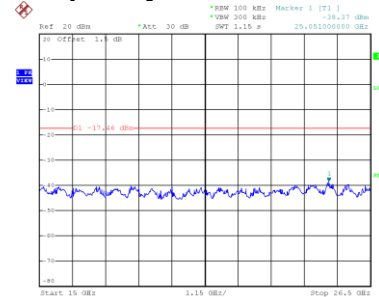
CH01 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:36:145

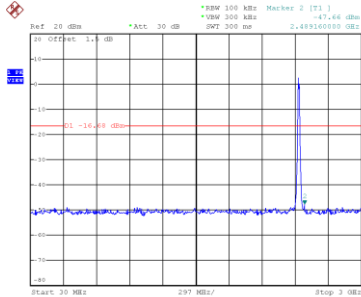


Date: 18_SEP.2019 17:36:152

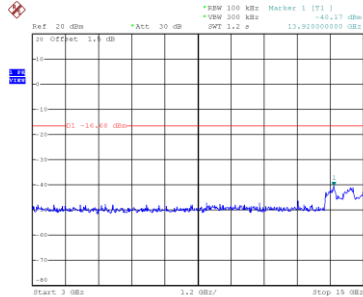


Date: 18_SEP.2019 17:36:159

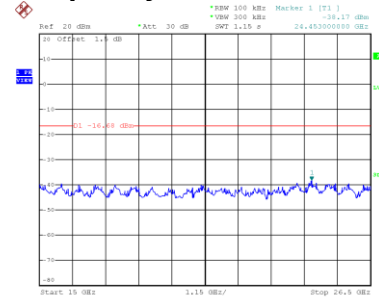
CH06 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:33:127

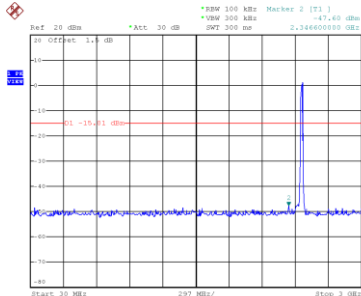


Date: 18_SEP.2019 17:33:134

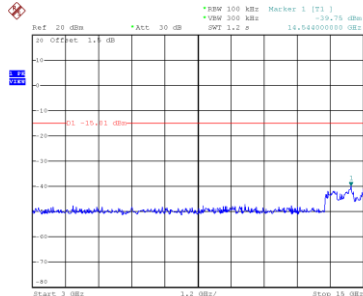


Date: 18_SEP.2019 17:33:141

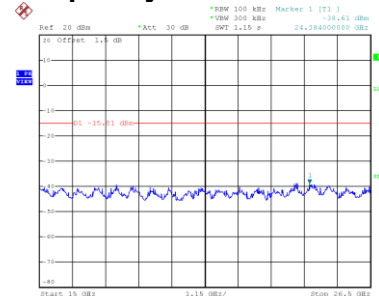
CH11 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:33:113



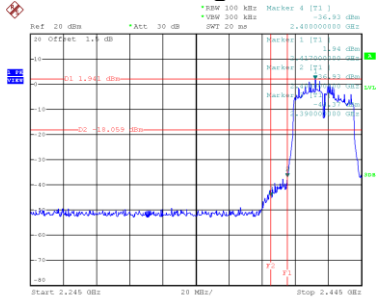
Date: 18_SEP.2019 17:33:120



Date: 18_SEP.2019 17:33:127

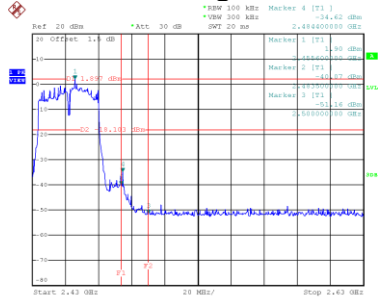
Test Mode TX N-40M Mode_Ant. 1

Bandedge-CH03



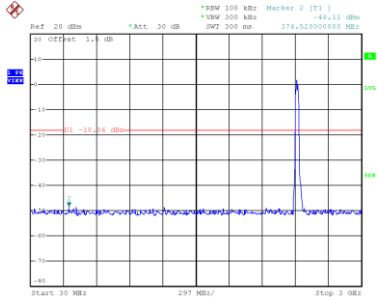
Date: 18_SEP.2019 17:27:44

Bandedge-CH09

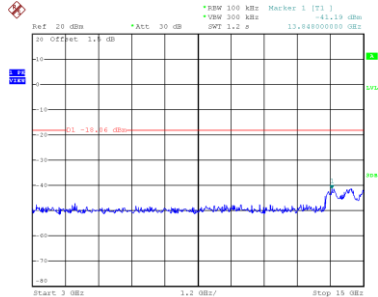


Date: 18_SEP.2019 17:22:38

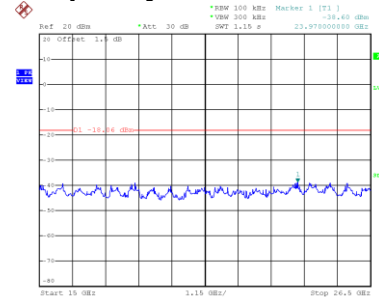
CH03 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:27:57

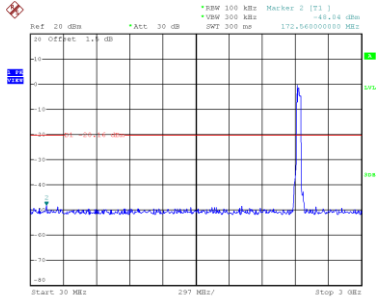


Date: 18_SEP.2019 17:28:04

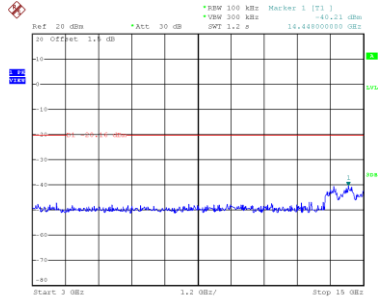


Date: 18_SEP.2019 17:28:11

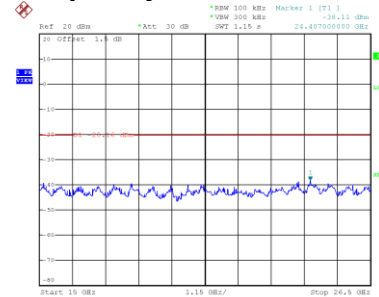
CH06 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:26:52

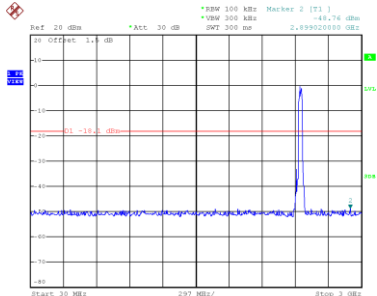


Date: 18_SEP.2019 17:26:59

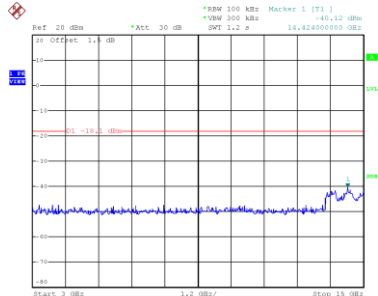


Date: 18_SEP.2019 17:27:06

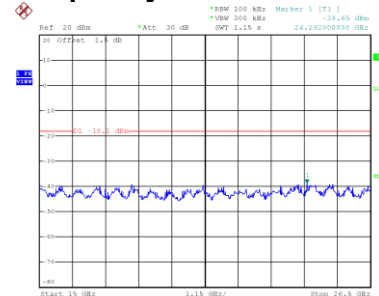
CH09 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:22:51



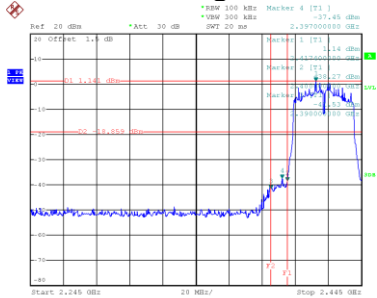
Date: 18_SEP.2019 17:22:59



Date: 18_SEP.2019 17:23:06

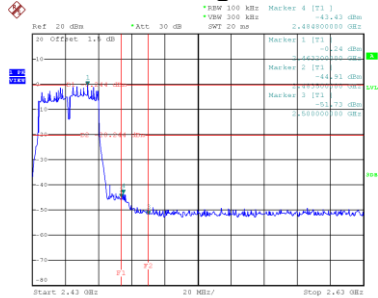
Test Mode TX N-40M Mode_Ant. 2

Bandedge-CH03



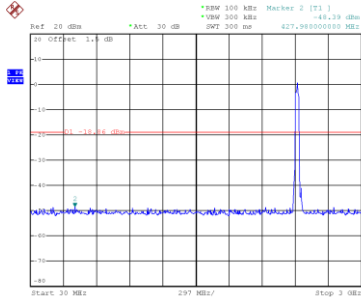
Date: 18_SEP.2019 17:28:55

Bandedge-CH09

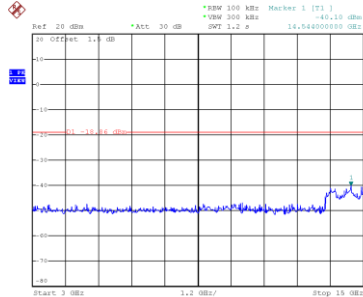


Date: 18_SEP.2019 17:24:05

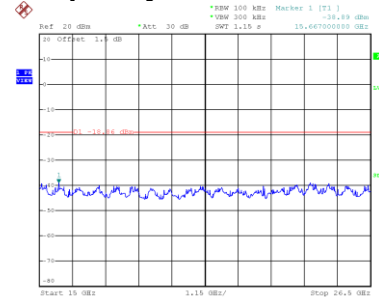
CH03 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:29:08

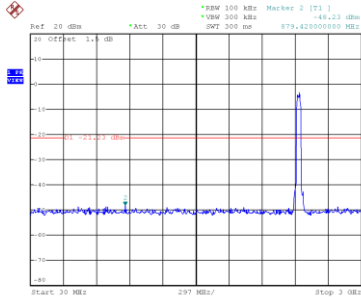


Date: 18_SEP.2019 17:29:15

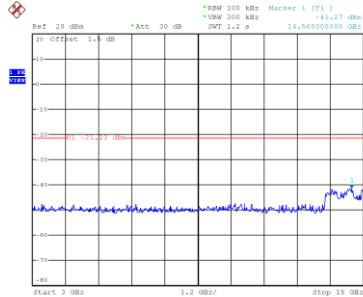


Date: 18_SEP.2019 17:29:23

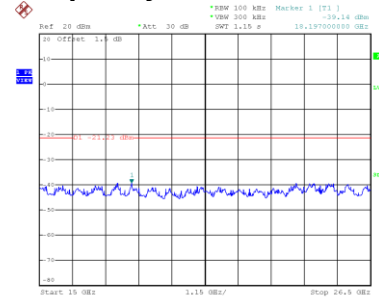
CH06 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:25:35

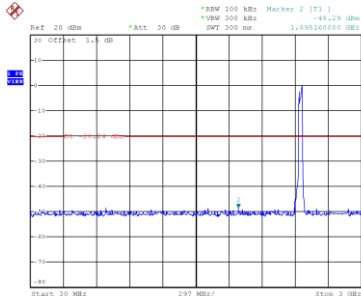


Date: 18_SEP.2019 17:25:42

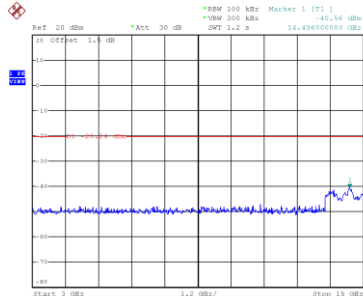


Date: 18_SEP.2019 17:25:49

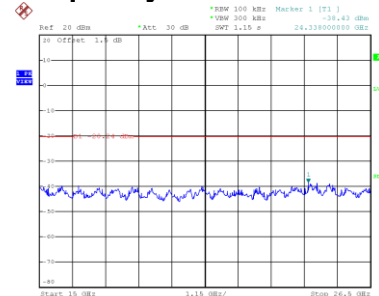
CH09 – 10th Harmonic of the fundamental frequency



Date: 18_SEP.2019 17:24:18



Date: 18_SEP.2019 17:24:25



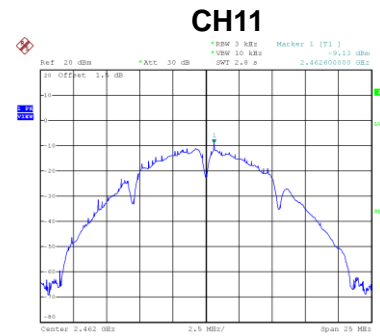
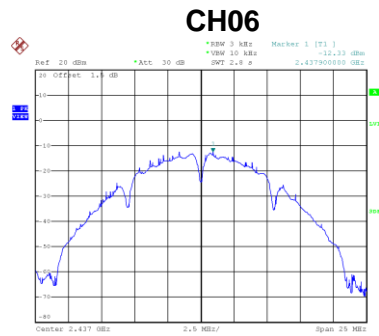
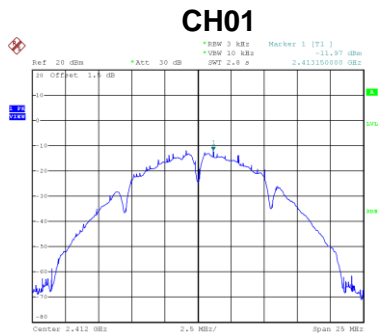
Date: 18_SEP.2019 17:24:32

APPENDIX H - POWER SPECTRAL DENSITY

Non-Beamforming

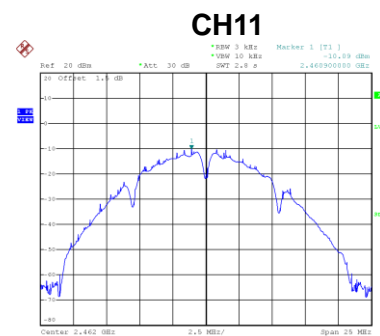
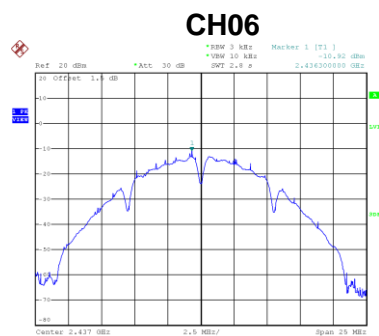
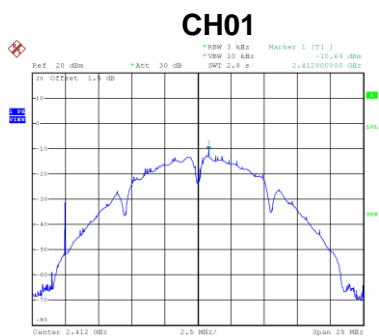
Test Mode	TX B Mode_Ant. 1
-----------	------------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-11.97	8	Complies
06	2437	-12.33	8	Complies
11	2462	-9.13	8	Complies



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

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-10.69	8	Complies
06	2437	-10.92	8	Complies
11	2462	-10.09	8	Complies

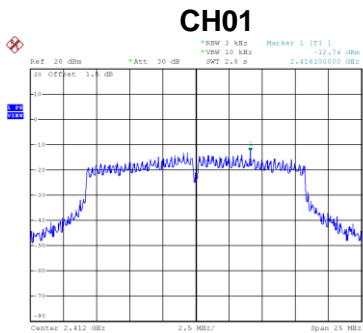


Test Mode	TX B Mode_Total
-----------	-----------------

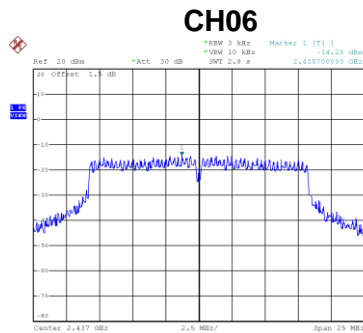
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-8.27	8	Complies
06	2437	-8.56	8	Complies
11	2462	-6.57	8	Complies

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

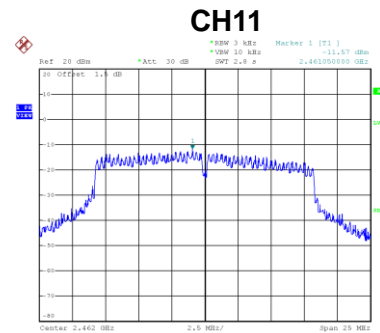
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-12.74	8	Complies
06	2437	-14.28	8	Complies
11	2462	-11.57	8	Complies



Date: 18_SEP_2019 18:09:29



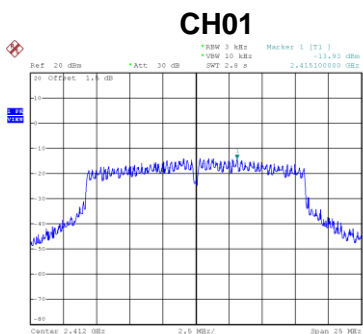
Date: 18_SEP_2019 18:09:06



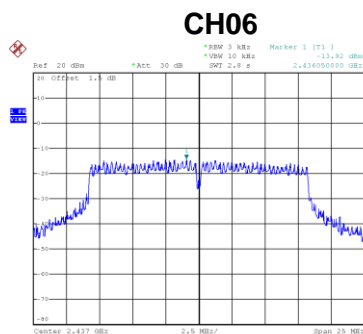
Date: 18_SEP_2019 18:06:43

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

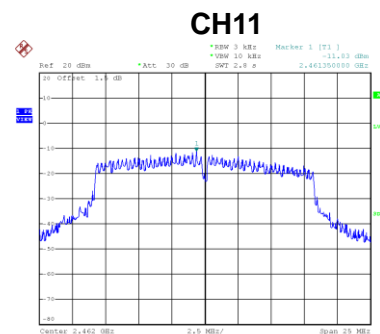
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-13.93	8	Complies
06	2437	-13.92	8	Complies
11	2462	-11.03	8	Complies



Date: 18_SEP_2019 18:09:21



Date: 18_SEP_2019 18:08:15



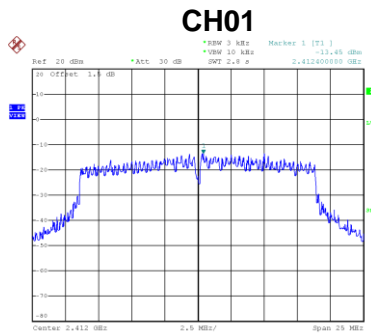
Date: 18_SEP_2019 18:06:34

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

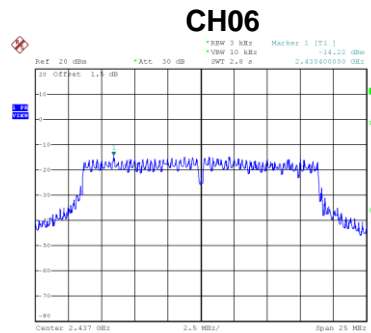
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-10.28	8	Complies
06	2437	-11.09	8	Complies
11	2462	-8.28	8	Complies

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

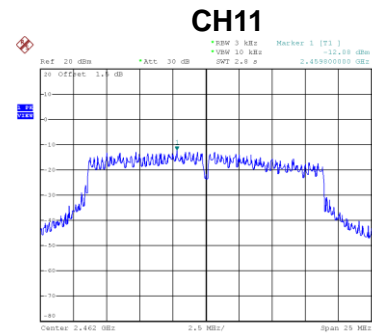
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-13.45	8	Complies
06	2437	-14.22	8	Complies
11	2462	-12.08	8	Complies



Date: 18_SEP_2019 18:11:18



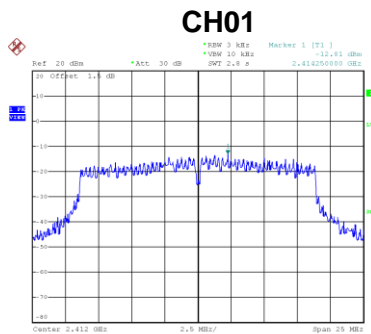
Date: 18_SEP_2019 18:11:15



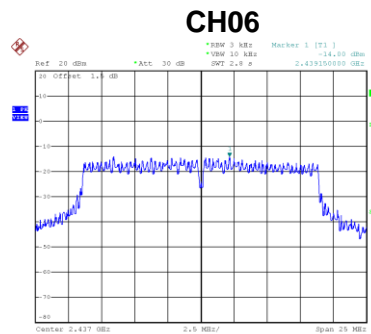
Date: 18_SEP_2019 18:11:16

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

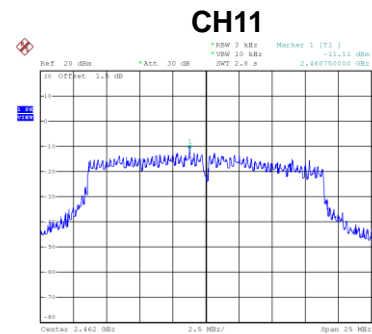
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-12.81	8	Complies
06	2437	-14.00	8	Complies
11	2462	-11.11	8	Complies



Date: 18_SEP_2019 18:10:27



Date: 18_SEP_2019 18:10:57



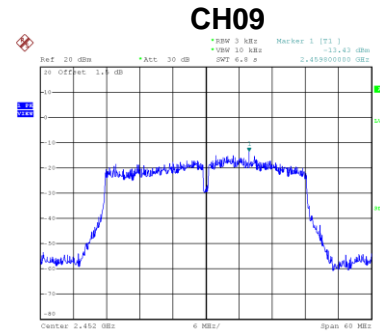
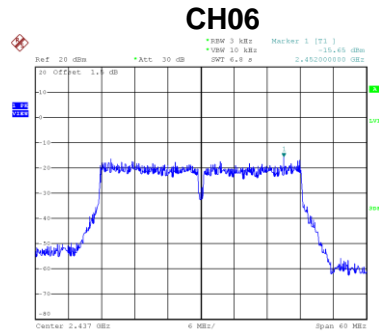
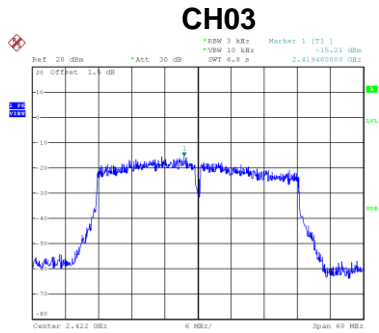
Date: 18_SEP_2019 18:12:04

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

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-10.11	8	Complies
06	2437	-11.10	8	Complies
11	2462	-8.56	8	Complies

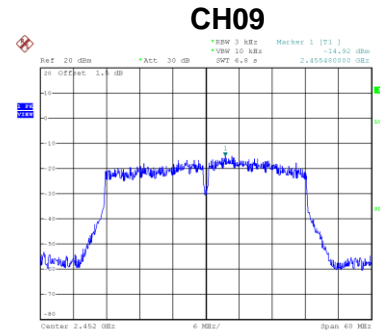
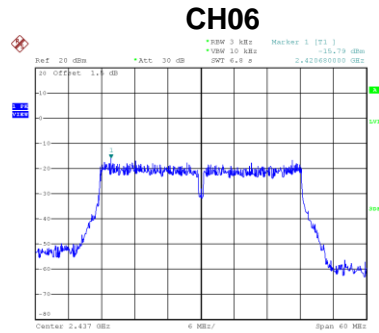
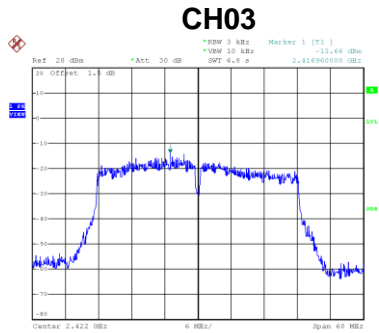
Test Mode	TX N-40M Mode_Ant. 1
-----------	----------------------

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-15.21	8	Complies
06	2437	-15.65	8	Complies
09	2452	-13.43	8	Complies



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

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-13.66	8	Complies
06	2437	-15.79	8	Complies
09	2452	-14.92	8	Complies



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

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-11.36	8	Complies
06	2437	-12.71	8	Complies
09	2452	-11.10	8	Complies

End of Test Report