

FCC Radio Test Report

FCC ID: 2AUA9-RQZY003

This report concerns: Original Grant

Project No. : 2005C136
Equipment : AC2100 Smart WiFi Router
Brand Name : ROCK, rock space
Test Model : RSD0614
Series Model : N/A
Applicant : Shenzhen Renqing Excellent Technology Co., Ltd.
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Manufacturer : Shenzhen Renqing Excellent Technology Co., Ltd.
Address : 104, No.15, Longfu Industrial Zone, Tongsheng Community, Dalang Street, Longhua District, Shenzhen, Guangdong, China
Date of Receipt : May 21, 2020
Date of Test : May 22, 2020 ~ Jun. 10, 2020
Issued Date : Jun. 28, 2020
Report Version : R01
Test Sample : Engineering Sample No.: DG202005224 for conducted, DG202005225 for radiated.
Standard(s) : FCC Part15, Subpart C (15.247)
ANSI C63.10-2013
FCC 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.

Chay. Cai

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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	9
2 . GENERAL INFORMATION	10
2.1 GENERAL DESCRIPTION OF EUT	10
2.2 DESCRIPTION OF TEST MODES	12
2.3 PARAMETERS OF TEST SOFTWARE	14
2.4 DUTY CYCLE	15
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	16
2.6 SUPPORT UNITS	16
3 . AC POWER LINE CONDUCTED EMISSIONS TEST	17
3.1 LIMIT	17
3.2 TEST PROCEDURE	17
3.3 DEVIATION FROM TEST STANDARD	17
3.4 TEST SETUP	18
3.5 EUT OPERATION CONDITIONS	18
3.6 TEST RESULTS	18
4 . RADIATED EMISSIONS TEST	19
4.1 LIMIT	19
4.2 TEST PROCEDURE	20
4.3 DEVIATION FROM TEST STANDARD	20
4.4 TEST SETUP	21
4.5 EUT OPERATION CONDITIONS	22
4.6 TEST RESULTS - 9 KHZ TO 30 MHZ	22
4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	22
4.8 TEST RESULTS - ABOVE 1000 MHZ	22
5 . BANDWIDTH TEST	23
5.1 LIMIT	23
5.2 TEST PROCEDURE	23
5.3 DEVIATION FROM STANDARD	23
5.4 TEST SETUP	23

Table of Contents	Page
5.5 EUT OPERATION CONDITIONS	23
5.6 TEST RESULTS	23
6 . MAXIMUM OUTPUT POWER TEST	24
6.1 LIMIT	24
6.2 TEST PROCEDURE	24
6.3 DEVIATION FROM STANDARD	24
6.4 TEST SETUP	24
6.5 EUT OPERATION CONDITIONS	24
6.6 TEST RESULTS	24
7 . CONDUCTED SPURIOUS EMISSIONS	25
7.1 LIMIT	25
7.2 TEST PROCEDURE	25
7.3 DEVIATION FROM STANDARD	25
7.4 TEST SETUP	25
7.5 EUT OPERATION CONDITIONS	25
7.6 TEST RESULTS	25
8 . POWER SPECTRAL DENSITY TEST	26
8.1 LIMIT	26
8.2 TEST PROCEDURE	26
8.3 DEVIATION FROM STANDARD	26
8.4 TEST SETUP	26
8.5 EUT OPERATION CONDITIONS	26
8.6 TEST RESULTS	26
9 . MEASUREMENT INSTRUMENTS LIST	27
10 . EUT TEST PHOTO	29
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	33
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	38
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	43
APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ	46
APPENDIX E - BANDWIDTH	97
APPENDIX F - MAXIMUM OUTPUT POWER	102
APPENDIX G - CONDUCTED SPURIOUS EMISSIONS	108

Table of Contents**Page****APPENDIX H - POWER SPECTRAL DENSITY****115**

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Jun. 17, 2020
R01	Updated the address of applicant and manufacturer.	Jun. 28, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

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

Note:

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

1.1 TEST FACILITY

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

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

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

The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

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

B. Radiated emissions test:

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

C. Other Measurement:

Parameter	Uncertainty
Bandwidth	±3.8 %
Maximum Output Power	±0.95 dB
Conducted Spurious Emission	±2.71 dB
Power Spectral Density	±0.86 dB
Temperature	±0.08 °C
Time	±0.58 %
Supply voltages	±0.3 %

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

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	55%	AC 120V/60Hz AC 240V/50Hz	Sheldon Ou
Radiated Emissions-9K-30MHz	25°C	60%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-30 MHz to 1GHz	22°C	54%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-Above 1000 MHz	22°C	54%	AC 120V/60Hz	Sheldon Ou
Bandwidth	24°C	67%	DC 12V	Hayden Chen
Maximum Output Power	24°C	67%	DC 12V	Hayden Chen
Conducted Spurious Emissions	24°C	67%	DC 12V	Hayden Chen
Power Spectral Density	24°C	67%	DC 12V	Hayden Chen

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	AC2100 Smart WiFi Router
Brand Name	ROCK, rock space
Test Model	RSD0614
Series Model	N/A
Model Difference(s)	N/A
Power Source	DC voltage supplied from AC adapter. Model: BN058-A24012U
Power Rating	I/P: 100-240V ~50/60Hz, 0.7A O/P: 12V  2.0A
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 Peak Output Power_Non Beamforming	IEEE 802.11b: 29.08 dBm (0.8091 W) IEEE 802.11g: 29.47 dBm (0.8851 W) IEEE 802.11n (HT20): 29.37 dBm (0.8650 W) IEEE 802.11n (HT40): 29.33 dBm (0.8570 W)
Maximum Peak Output Power_Beamforming	IEEE 802.11n (HT20): 28.45 dBm (0.6998 W) IEEE 802.11n (HT40): 27.82 dBm (0.6053 W)
Maximum Average Output Power_Non Beamforming	IEEE 802.11b: 24.73 dBm (0.2972 W) IEEE 802.11g: 21.49 dBm (0.1409 W) IEEE 802.11n (HT20): 18.79 dBm (0.0757 W) IEEE 802.11n (HT40): 17.89 dBm (0.0615 W)
Maximum Average Output Power_Beamforming	IEEE 802.11n (HT20): 18.14 dBm (0.0652 W) IEEE 802.11n (HT40): 16.99 dBm (0.0500 W)

Note:

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

2. Channel List:

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

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Dipole	N/A	3.5
2	N/A	N/A	Dipole	N/A	3.5

Note:

This EUT supports CDD, and all antennas have the same gain, then,

- Non Beamforming function, Directional gain = $G_{ANT} + \text{Array Gain}$,
For power measurements, Array Gain = 0 dB ($N_{ANT} \leq 4$), so the Directional gain=3.5.
For power spectral density measurements, $N_{ANT} = 2$, $N_{SS} = 1$. So Directional gain = $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})$ dB = $3.5 + 10\log(2/1)$ dBi=6.51. Then, the power spectral density limit is $8 - (6.51 - 6) = 7.49$.
- Beamforming function, Beamforming Gain: 3dB. So the Directional gain=3+3.5=6.5.
Then, the power limit is $30 - (6.5 - 6) = 29.5$.

4. Table for Antenna Configuration:

For Non Beamforming:

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

For Beamforming:

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

2.2 DESCRIPTION OF TEST MODES

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

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

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

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

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 5	TX G 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

Output Power test_Non Beamforming	
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

Output Power test_Beamforming	
Final Test Mode	Description
Mode 3	TX N-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09

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

NOTE:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11g Channel 06 is found to be the worst case and recorded.
- (4) For radiated emission above 1 GHz test, 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (5) The measurements for Output Power were tested, the Non Beamforming and Beamforming are recorded in the report. The worst case was Non Beamforming and only worst case were documented for other test items.
- (6) For radiated emissions, the TX WLAN 2.4G B Mode 2437MHz + WLAN 5G A Mode 5745MHz was found the worst case of simultaneous transmission and recorded.

2.3 PARAMETERS OF TEST SOFTWARE

Non Beamforming

Test Software	MP_TEST v1.3.8.0		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	108	124	105
IEEE 802.11g	95	115	92
IEEE 802.11n (HT20)	92/85	93/84	89/82
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	84/84	86/84	84/84

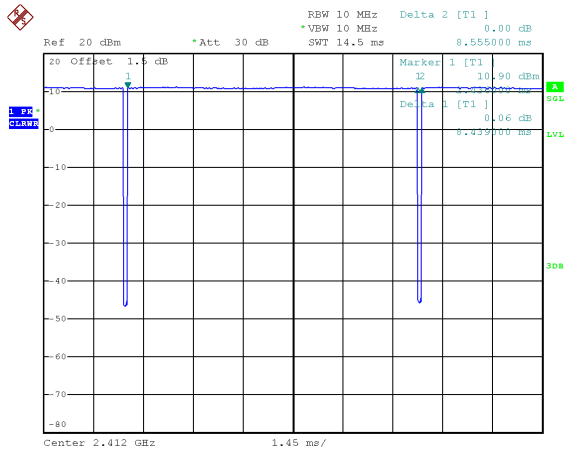
Beamforming

Test Software	MP_TEST v1.3.8.0		
Frequency (MHz)	2412	2437	2462
IEEE 802.11n (HT20)	90/83	90/81	87/80
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	82/82	83/81	82/82

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.

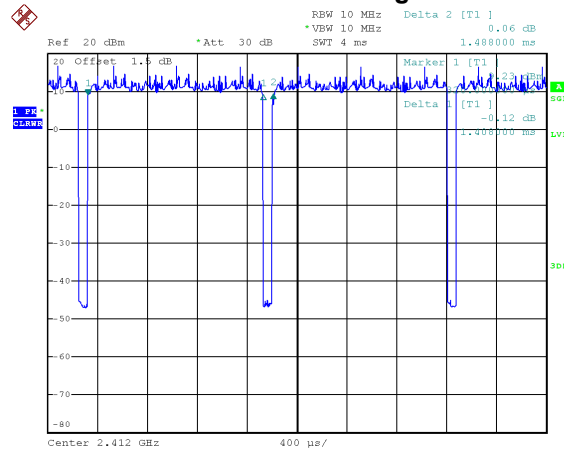
IEEE 802.11b



Date: 27.MAY.2020 20:06:30

Duty cycle = 8.439 ms / 8.555 ms = 98.64%
 Duty Factor = $10 \log(1 / \text{Duty cycle}) = 0.00$

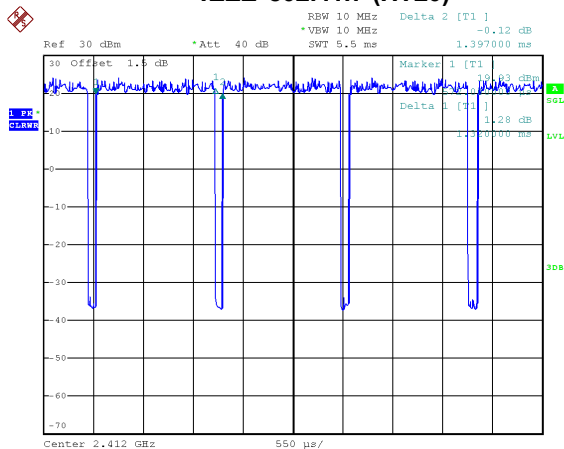
IEEE 802.11g



Date: 27.MAY.2020 20:07:37

Duty cycle = 1.408 ms / 1.488 ms = 94.62%
 Duty Factor = $10 \log(1 / \text{Duty cycle}) = 0.24$

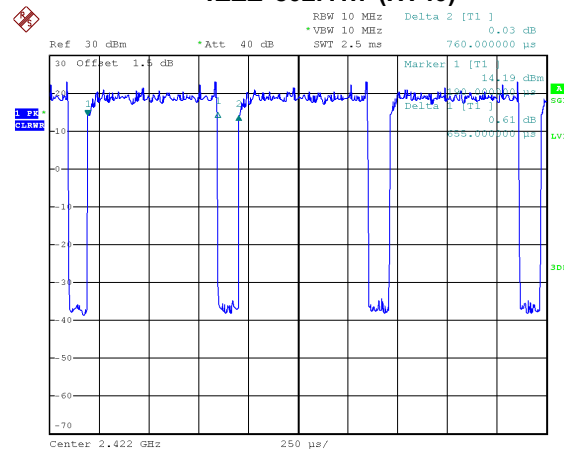
IEEE 802.11n (HT20)



Date: 3.JUN.2020 11:07:05

Duty cycle = 1.320 ms / 1.397 ms = 94.49%
 Duty Factor = $10 \log(1 / \text{Duty cycle}) = 0.25$

IEEE 802.11n (HT40)



Date: 3.JUN.2020 11:07:31

Duty cycle = 0.655 ms / 0.760 ms = 86.18%
 Duty Factor = $10 \log(1 / \text{Duty cycle}) = 0.65$

NOTE:

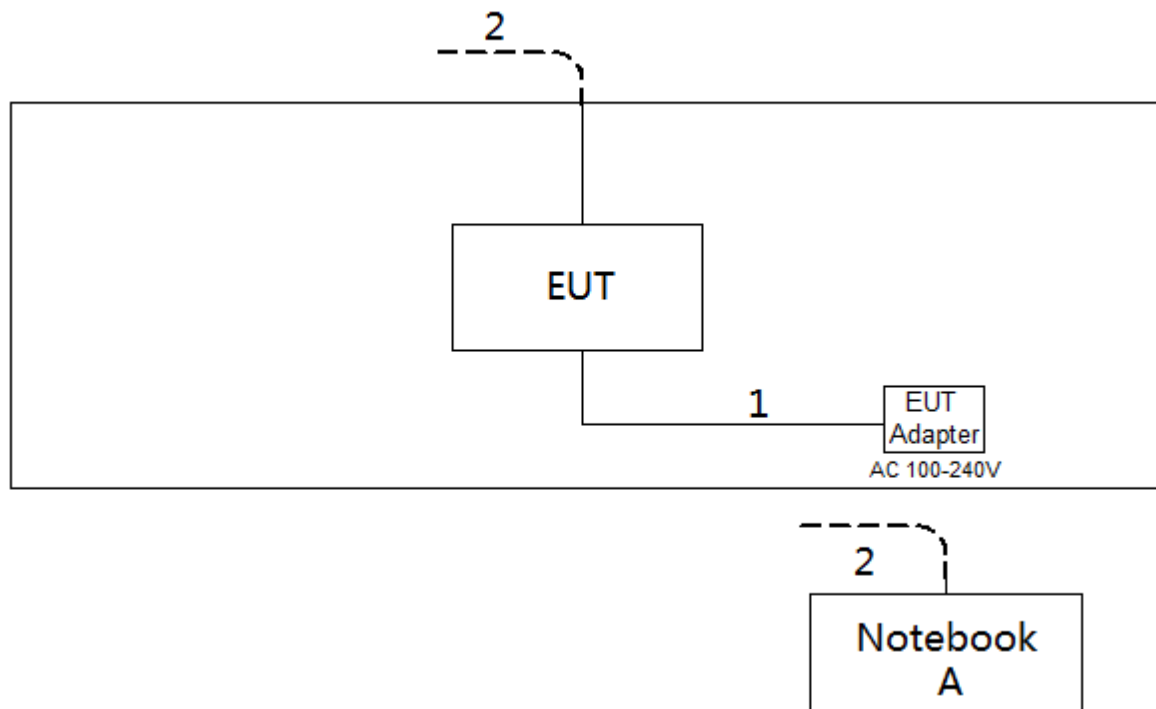
For IEEE 802.11g and IEEE 802.11n (HT20):

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

For IEEE 802.11n (HT40):

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

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

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

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

3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

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

NOTE:

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

The following table is the setting of the receiver

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

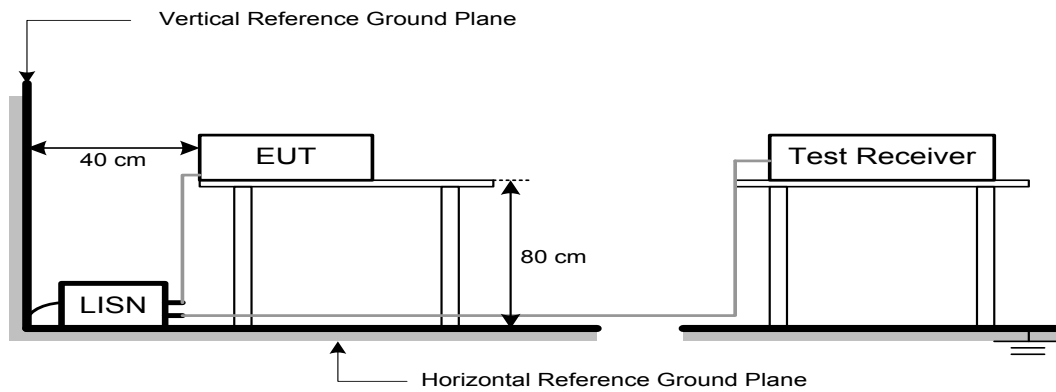
3.2 TEST PROCEDURE

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

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS TEST

4.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

For WLAN 2.4GHz:

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

For WLAN 5GHz:

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBμV/m)
5725-5850	-27 NOTE(4)	68.3
	10 NOTE(4)	105.3
	15.6 NOTE(4)	110.9
	27 NOTE(4)	122.3

NOTE:

- (1) The limit for radiated test was performed according to FCC PART 15C & FCC PART 15E.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) According to 15.407(b)(4)(i), all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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

4.2 TEST PROCEDURE

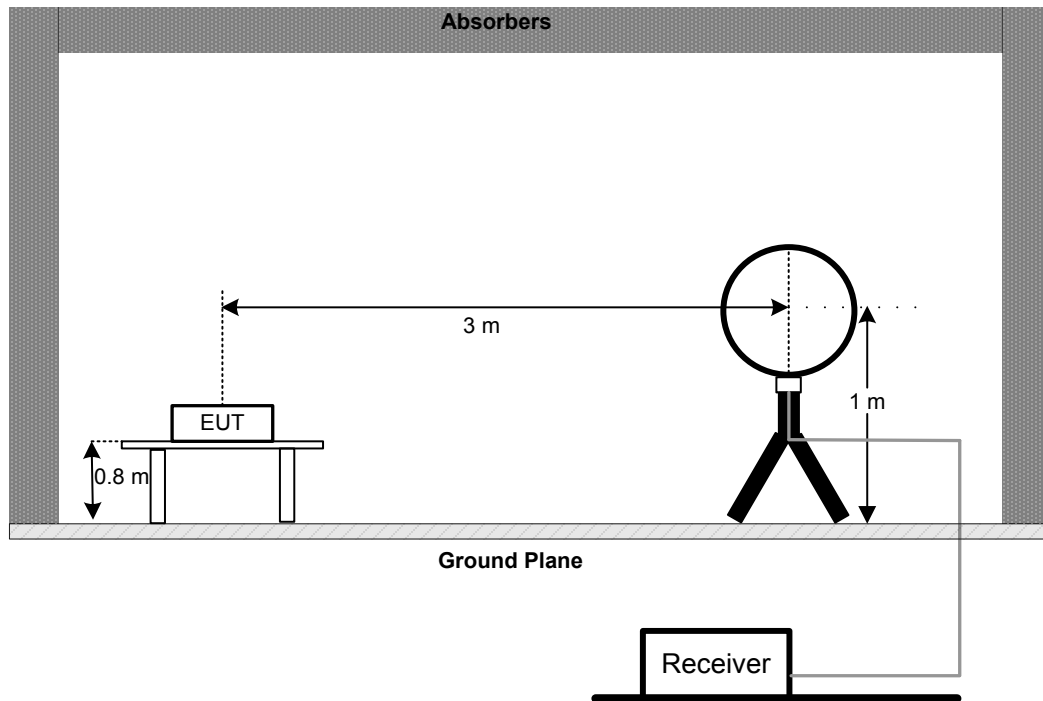
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance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

4.3 DEVIATION FROM TEST STANDARD

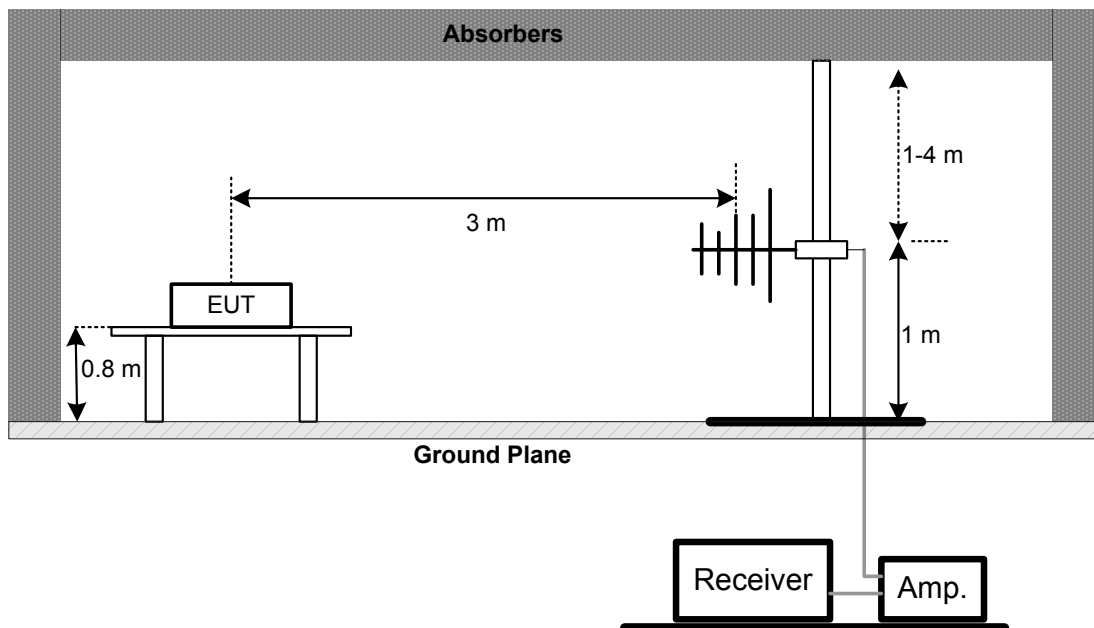
No deviation

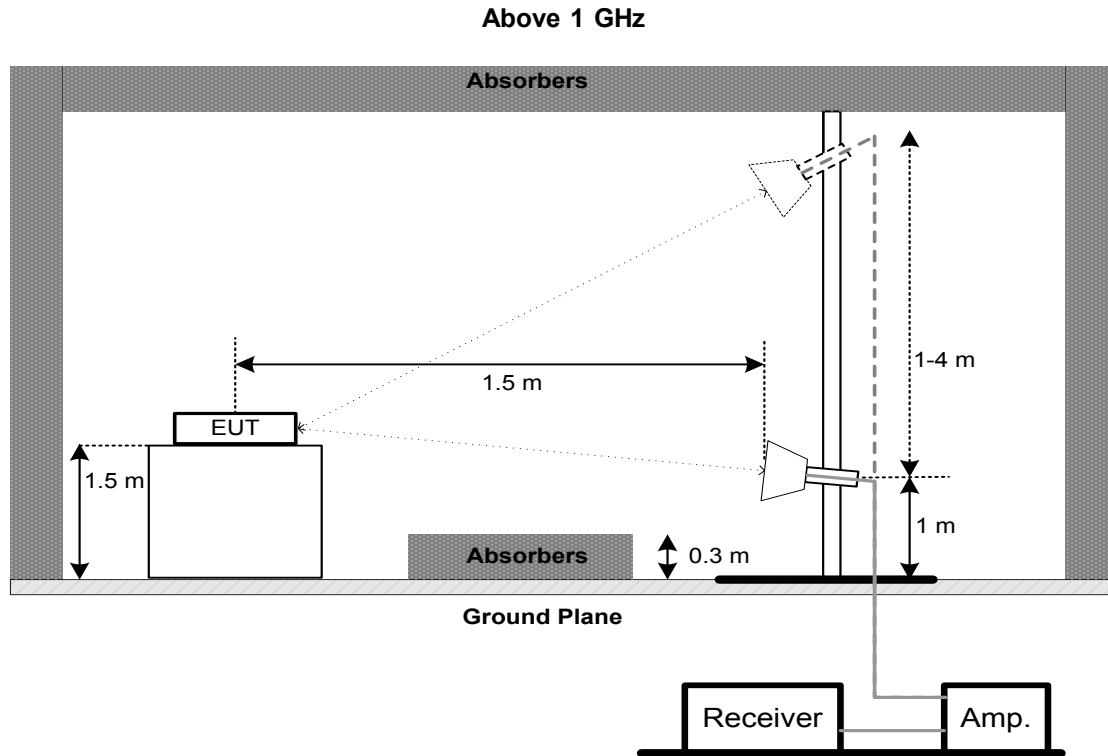
4.4 TEST SETUP

9 kHz-30 MHz



30 MHz to 1 GHz





4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B

Remark:

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

4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

Remark:

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

5. BANDWIDTH TEST

5.1 LIMIT

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

5.2 TEST PROCEDURE

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

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. MAXIMUM OUTPUT POWER TEST

6.1 LIMIT

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

6.2 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- The maximum conducted output power was performed in accordance with method 11.9.1.3 and 11.9.2.3.1 of ANSI C63.10-2013.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7. CONDUCTED SPURIOUS EMISSIONS

7.1 LIMIT

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

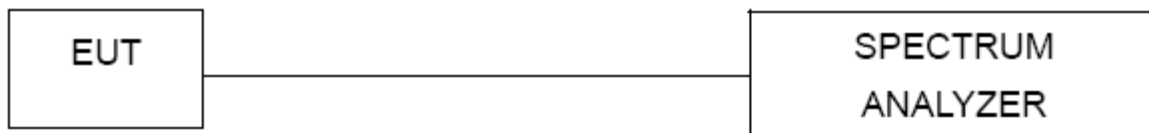
7.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW= 100 kHz, VBW=300 kHz, Sweep time = Auto.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8. POWER SPECTRAL DENSITY TEST

8.1 LIMIT

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

8.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW=3 kHz, VBW=10 kHz, Sweep time = Auto.
- The Power Spectral Density was performed in accordance with method 11.10.2 of ANSI C63.10-2013.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX H.

9. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Feb. 28, 2021
2	LISN	EMCO	3816/2	52765	Mar. 01, 2021
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	Feb. 28, 2021
4	50Ω Terminator	SHX	TF5-3	15041305	Mar. 01, 2021
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 10, 2021

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	EM	EM-6876-1	230	Apr. 16, 2021
2	Cable	N/A	RG 213/U	N/A	May 29, 2021
3	EMI Test Receiver	R&S	ESCI	100895	Feb. 28, 2021
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2021
2*	Amplifier	HP	8447D	2944A09673	Aug. 11, 2021
3	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 22, 2021
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	May 12, 2021
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 23, 2020
3	Amplifier	Agilent	8449B	3008A02333	Mar. 01, 2021
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 07, 2021
5	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	N/A	EMC104-SM-SM-6000	N/A	May 09, 2021
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

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

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

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

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

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

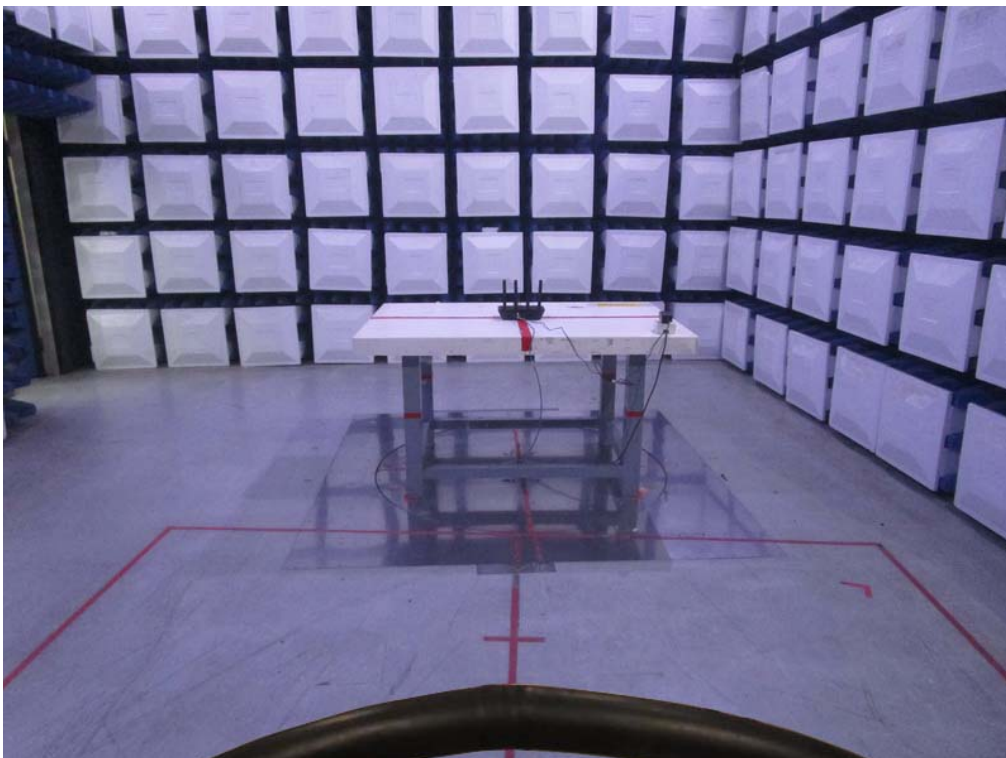
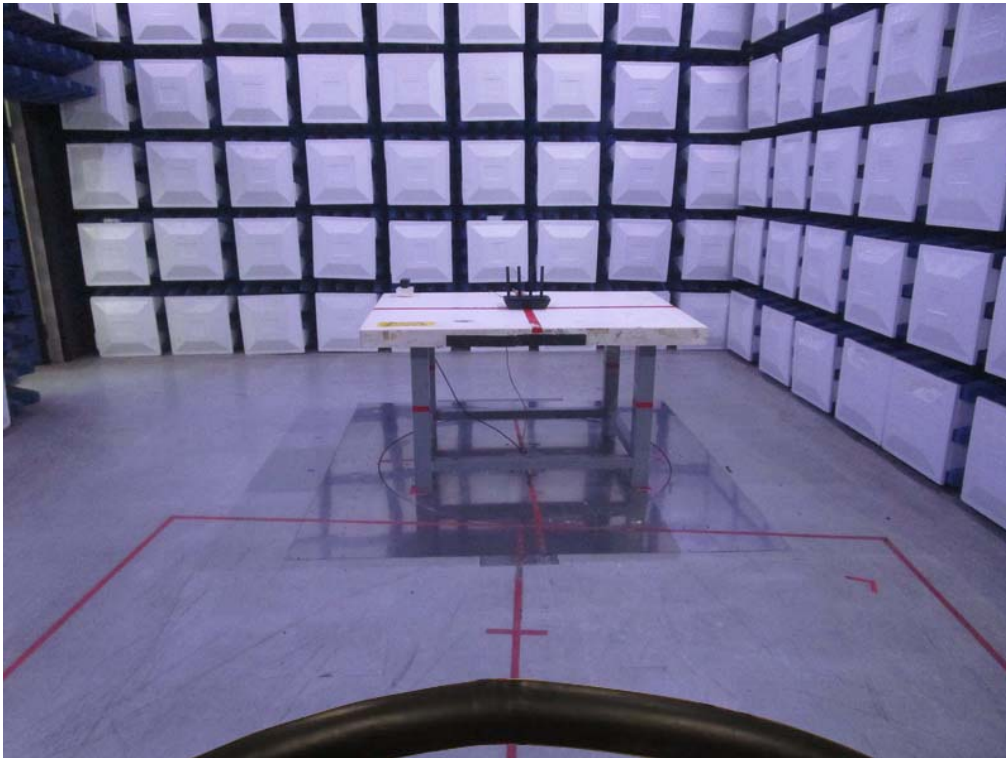
10. EUT TEST PHOTO

AC Power Line Conducted Emissions Test Photos



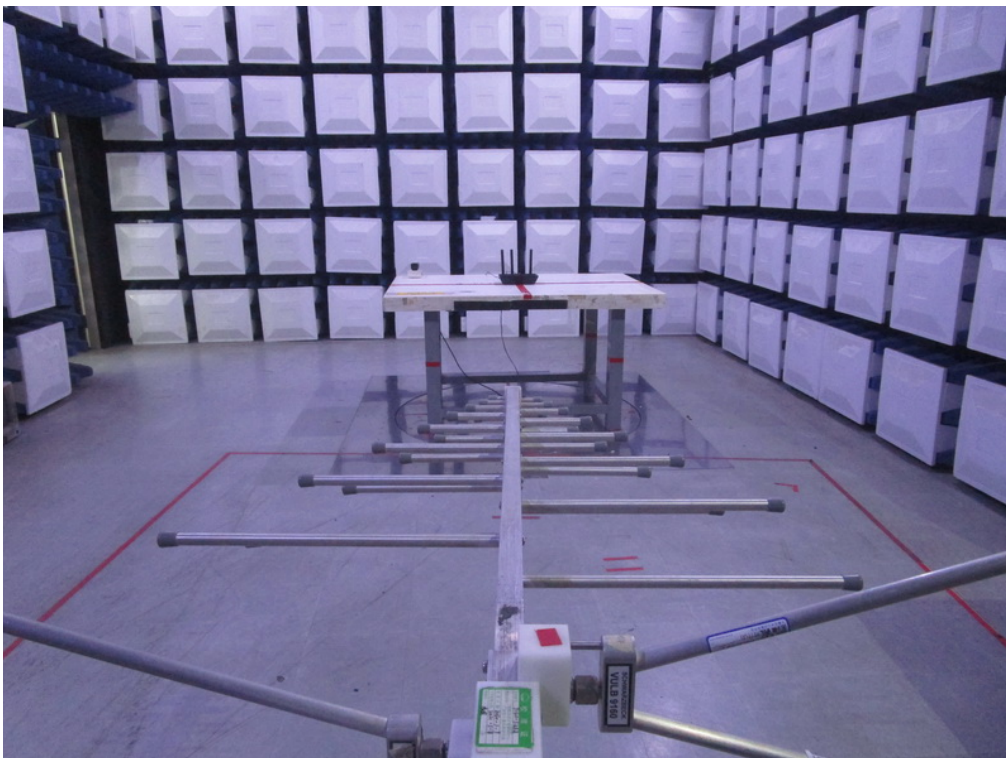
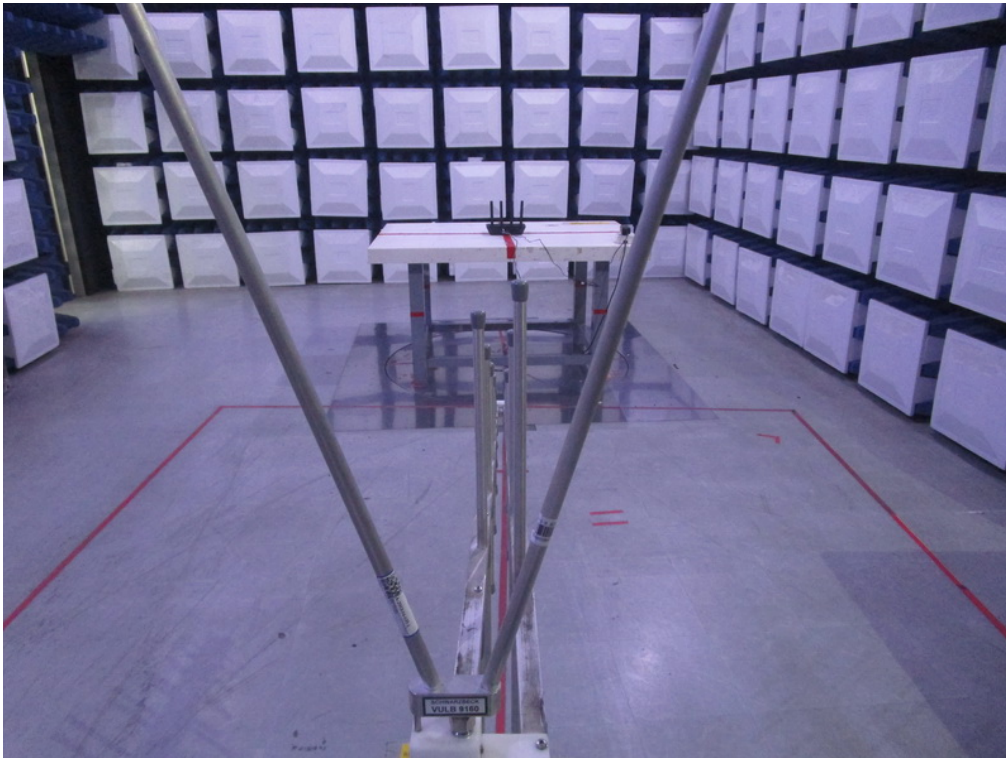
Radiated Emissions Test Photos

9 kHz to 30 MHz



Radiated Emissions Test Photos

30 MHz to 1 GHz



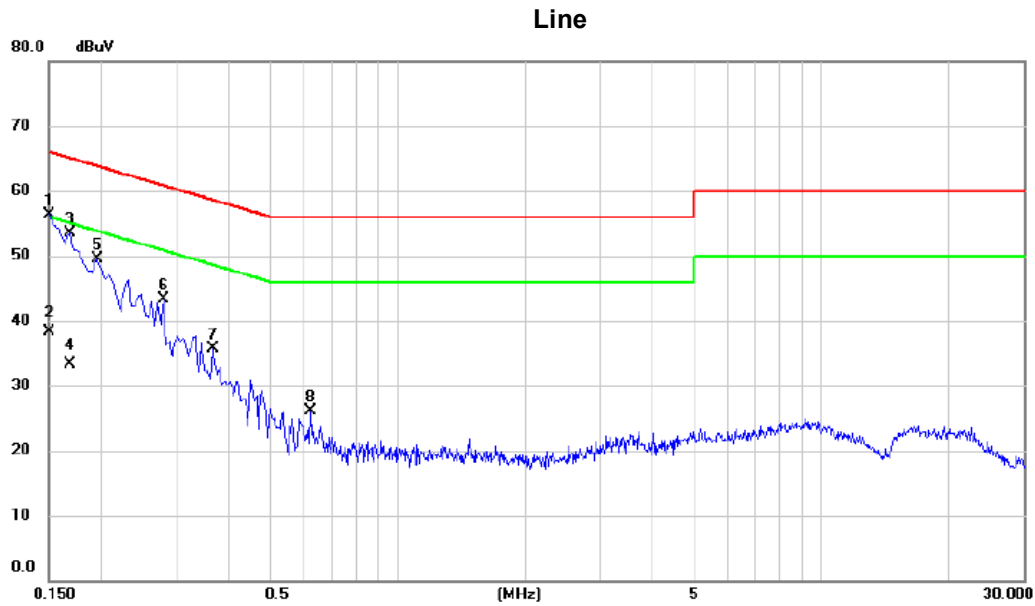
Radiated Emissions Test Photos

Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Voltage	AC 120V/60Hz
Test Mode:	TX G Mode Channel 06



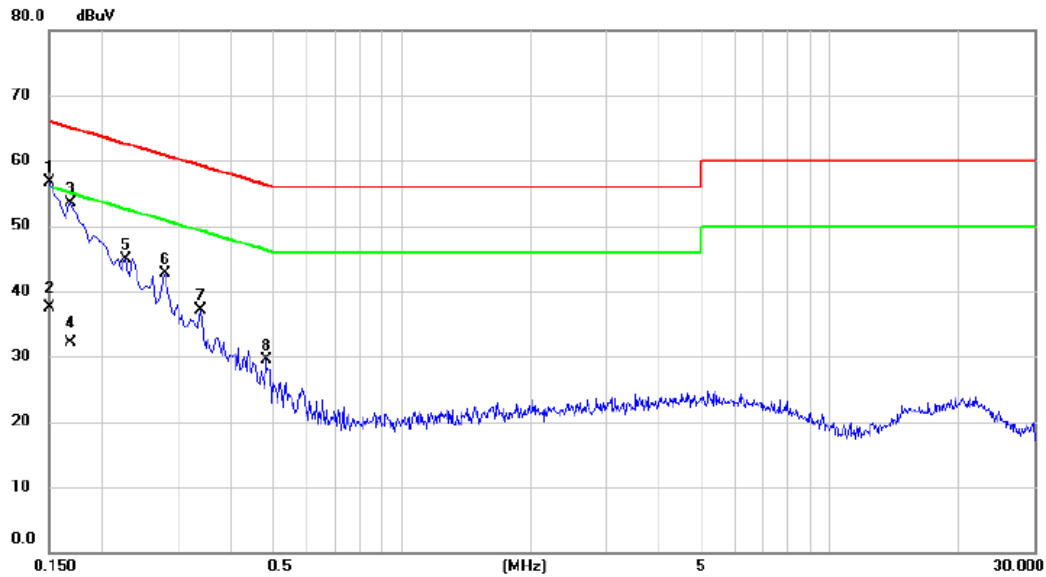
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1500	46.73	9.67	56.40	66.00	-9.60	peak	
2		0.1500	28.60	9.67	38.27	56.00	-17.73	AVG	
3		0.1680	43.74	9.81	53.55	65.06	-11.51	peak	
4		0.1680	23.50	9.81	33.31	55.06	-21.75	AVG	
5		0.1950	39.58	9.90	49.48	63.82	-14.34	peak	
6		0.2805	33.35	9.89	43.24	60.80	-17.56	peak	
7		0.3660	25.76	9.91	35.67	58.59	-22.92	peak	
8		0.6225	16.17	9.94	26.11	56.00	-29.89	peak	

REMARKS:

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

Test Voltage	AC 120V/60Hz
Test Mode:	TX G Mode Channel 06

Neutral

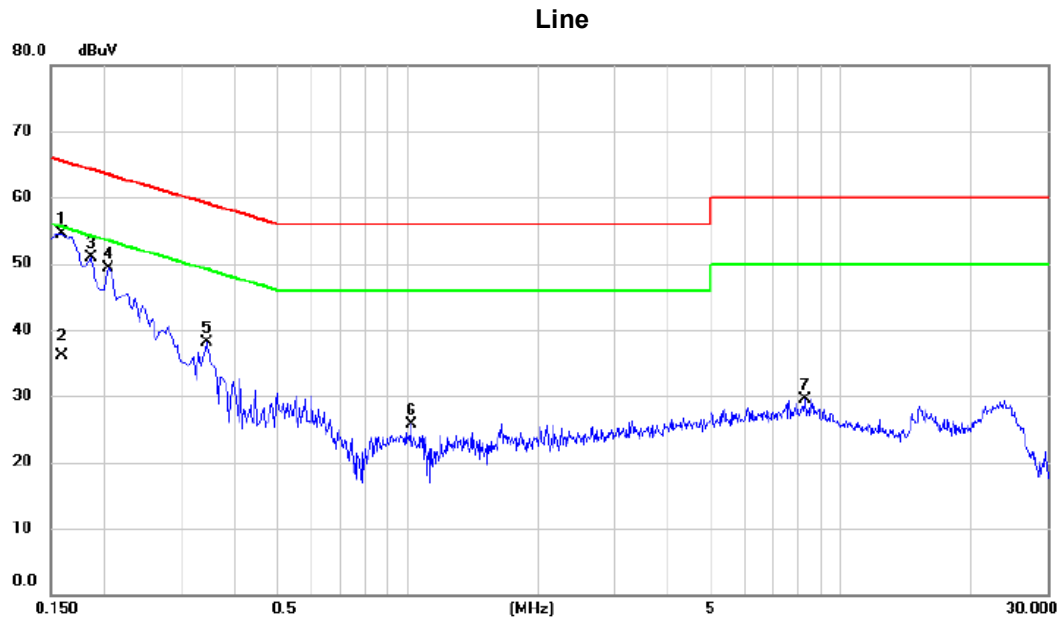


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1500	47.05	9.74	56.79	66.00	-9.21	peak	
2		0.1500	27.80	9.74	37.54	56.00	-18.46	AVG	
3		0.1680	43.55	9.88	53.43	65.06	-11.63	peak	
4		0.1680	22.20	9.88	32.08	55.06	-22.98	AVG	
5		0.2265	35.00	9.99	44.99	62.58	-17.59	peak	
6		0.2805	32.74	10.00	42.74	60.80	-18.06	peak	
7		0.3390	27.05	10.05	37.10	59.23	-22.13	peak	
8		0.4830	19.32	10.13	29.45	56.29	-26.84	peak	

REMARKS:

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

Test Voltage	AC 240V/50Hz
Test Mode:	TX G Mode Channel 06

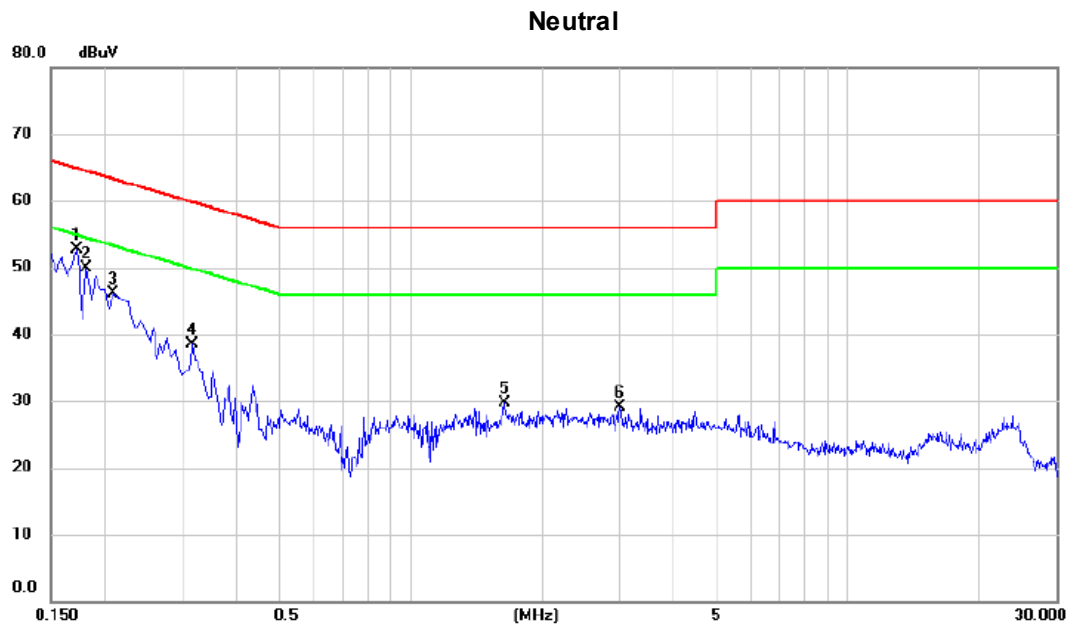


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1590	44.85	9.73	54.58	65.52	-10.94	peak	
2		0.1590	26.30	9.73	36.03	55.52	-19.49	AVG	
3		0.1860	41.09	9.86	50.95	64.21	-13.26	peak	
4		0.2040	39.47	9.91	49.38	63.45	-14.07	peak	
5		0.3435	28.22	9.91	38.13	59.12	-20.99	peak	
6		1.0184	15.76	10.01	25.77	56.00	-30.23	peak	
7		8.2455	18.98	10.57	29.55	60.00	-30.45	peak	

REMARKS:

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

Test Voltage	AC 240V/50Hz
Test Mode:	TX G Mode Channel 06



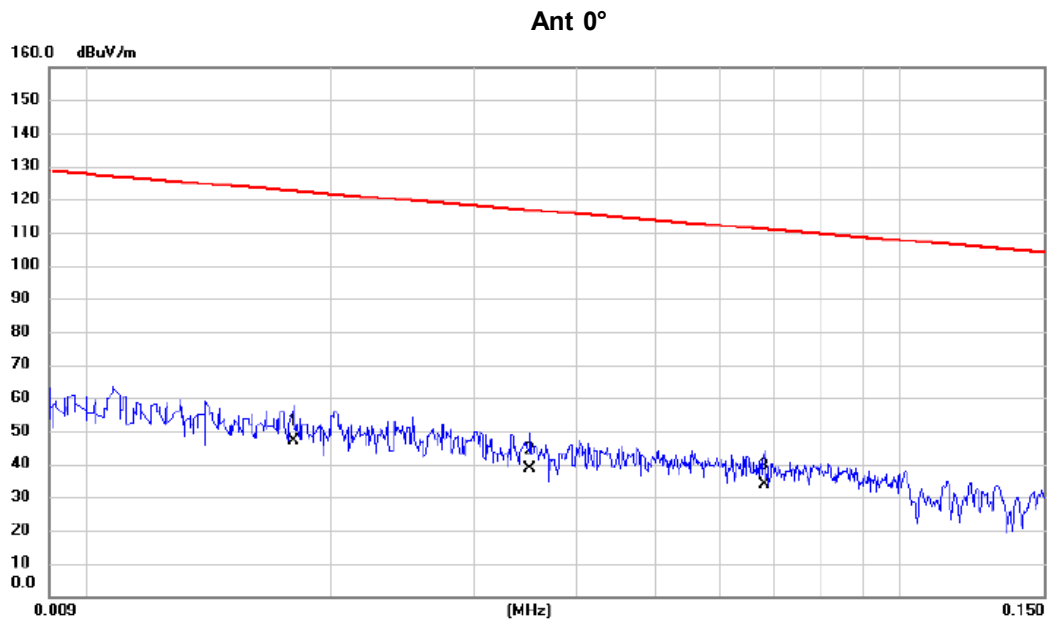
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1725	42.89	9.91	52.80	64.84	-12.04	peak	
2		0.1815	39.95	9.94	49.89	64.42	-14.53	peak	
3		0.2085	36.15	10.00	46.15	63.26	-17.11	peak	
4		0.3165	28.52	10.03	38.55	59.80	-21.25	peak	
5		1.6395	19.32	10.38	29.70	56.00	-26.30	peak	
6		3.0120	18.56	10.52	29.08	56.00	-26.92	peak	

REMARKS:

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

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Test Mode: TX G Mode Channel 06

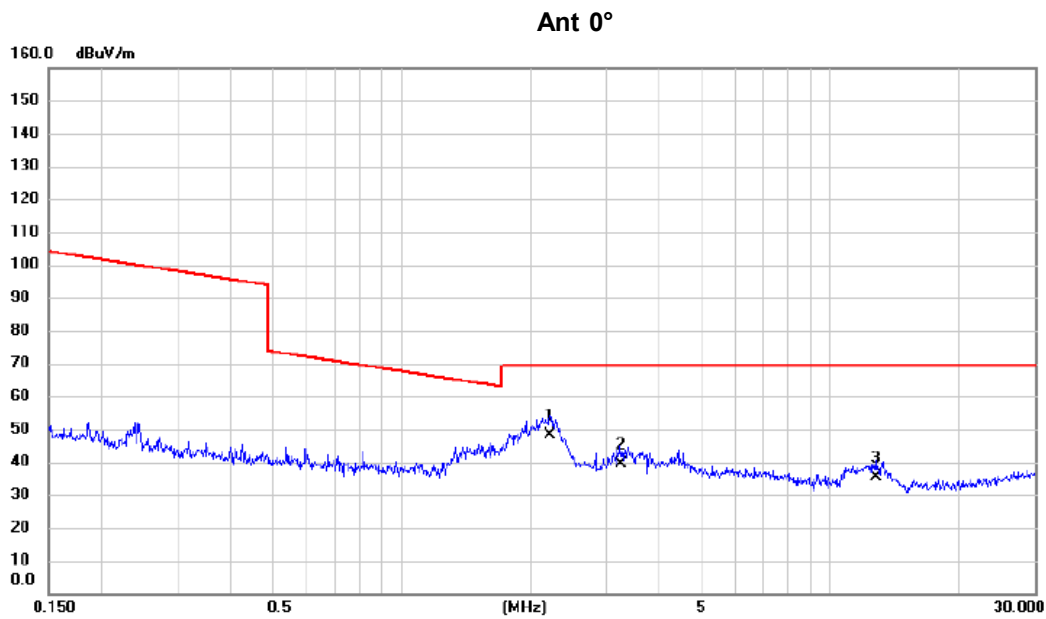


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.018	33.37	13.74	47.11	122.50	-75.39	AVG	
2		0.035	25.96	12.73	38.69	116.70	-78.01	AVG	
3		0.068	21.46	12.44	33.90	110.95	-77.05	AVG	

REMARKS:

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

Test Mode: TX G Mode Channel 06



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2.225	37.34	10.89	48.23	69.54	-21.31	QP	
2		3.241	28.89	10.44	39.33	69.54	-30.21	QP	
3		12.784	24.45	10.92	35.37	69.54	-34.17	QP	

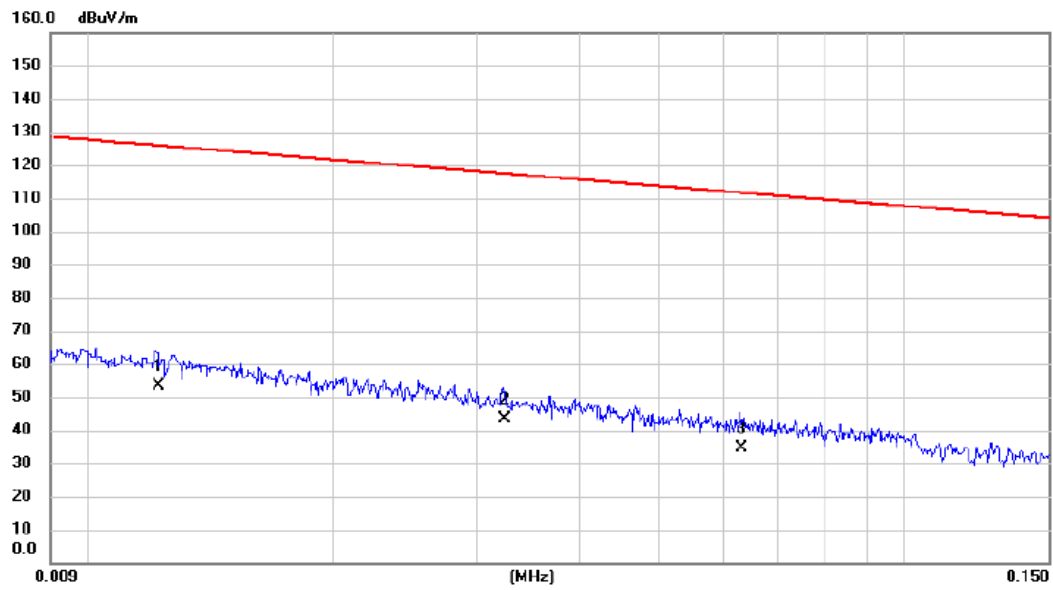
REMARKS:

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

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

Test Mode: TX G Mode Channel 06

Ant 90°



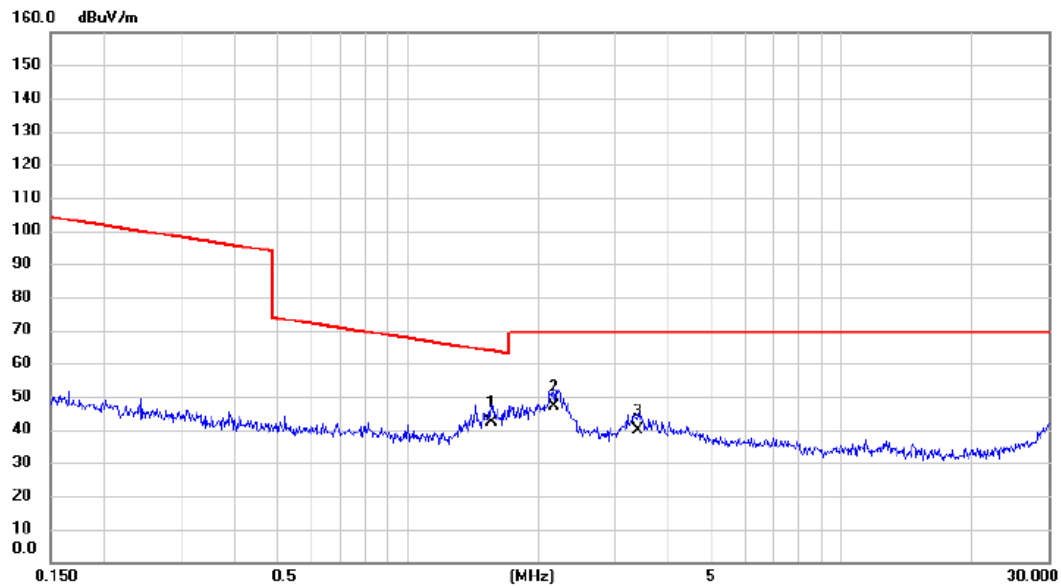
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.012	37.78	15.54	53.32	125.88	-72.56	AVG	
2		0.032	30.41	12.80	43.21	117.39	-74.18	AVG	
3		0.063	22.28	12.41	34.69	111.60	-76.91	AVG	

REMARKS:

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

Test Mode: TX G Mode Channel 06

Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	1.560	30.83	11.27	42.10	63.74	-21.64	QP	
2		2.178	35.95	10.91	46.86	69.54	-22.68	QP	
3		3.399	29.16	10.46	39.62	69.54	-29.92	QP	

REMARKS:

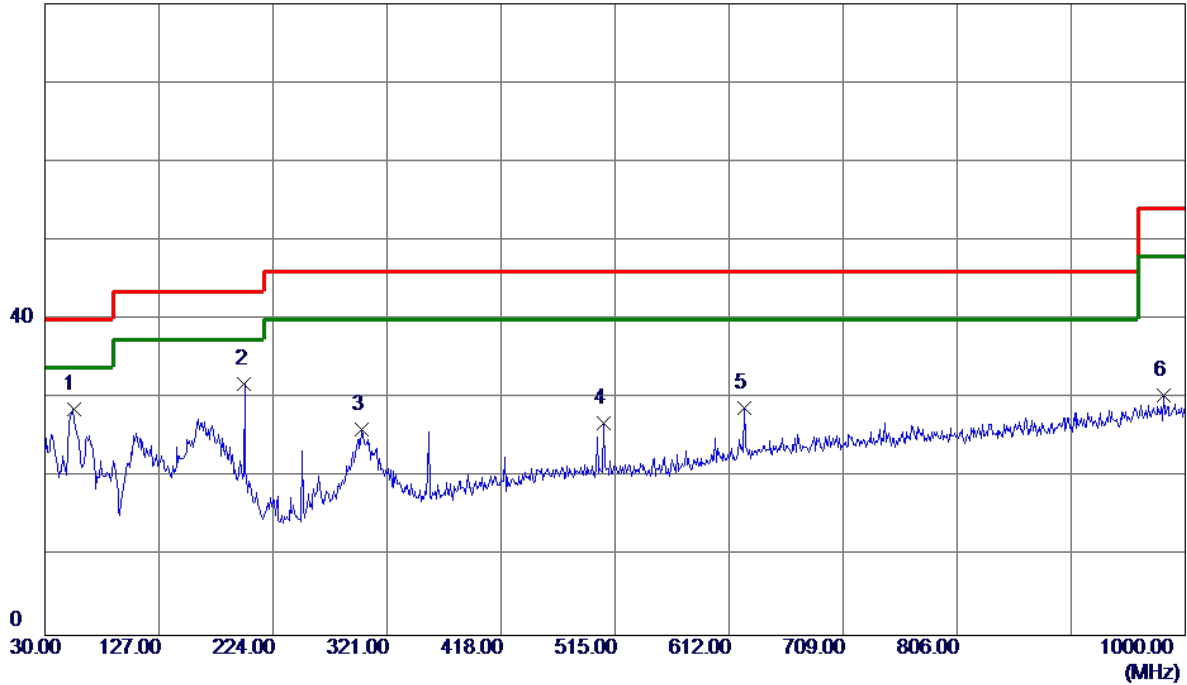
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode: TX G Mode Channel 06

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	54.2500	42.39	-13.81	28.58	40.00	-11.42	Peak	
2	199.7500	47.14	-15.31	31.83	43.50	-11.67	Peak	
3	299.6600	37.67	-11.65	26.02	46.00	-19.98	Peak	
4	505.3000	34.80	-7.99	26.81	46.00	-19.19	Peak	
5	624.6100	34.50	-5.66	28.84	46.00	-17.16	Peak	
6	981.5700	30.67	-0.29	30.38	54.00	-23.62	Peak	

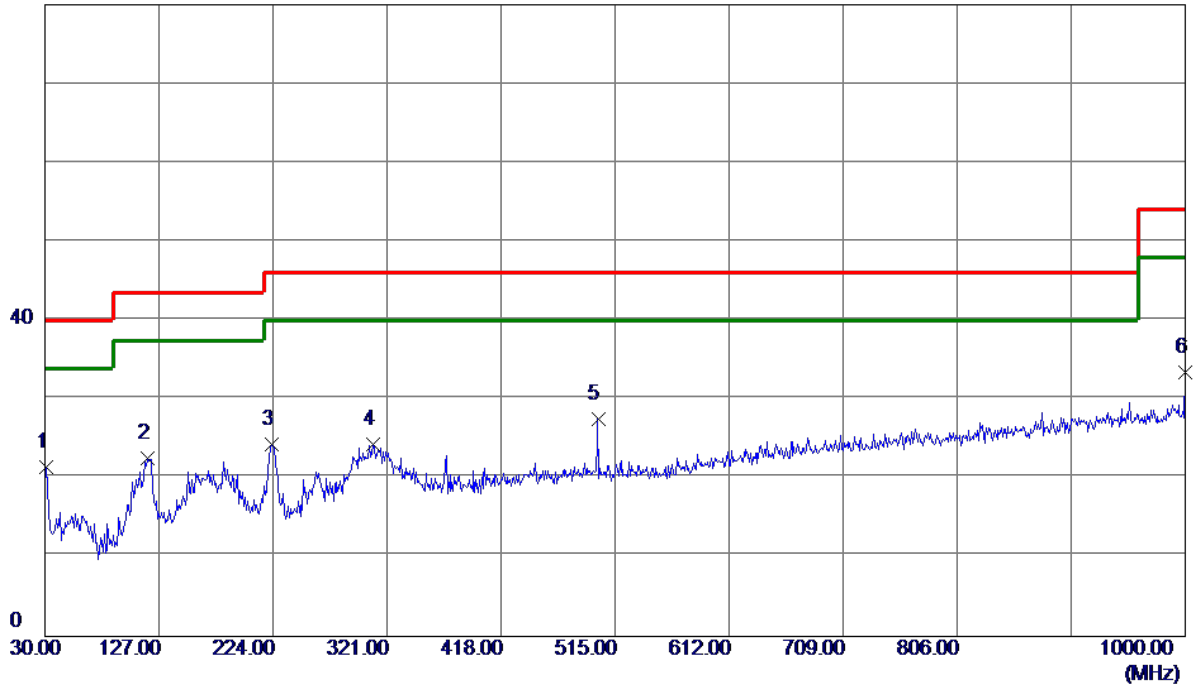
REMARKS:

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

Test Mode: TX G Mode Channel 06

Horizontal

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	30.9700	36.13	-14.64	21.49	40.00	-18.51	Peak	
2	117.3000	36.08	-13.52	22.56	43.50	-20.94	Peak	
3	223.0300	38.97	-14.67	24.30	46.00	-21.70	Peak	
4	309.3599	35.75	-11.49	24.26	46.00	-21.74	Peak	
5 *	500.4500	35.54	-8.03	27.51	46.00	-18.49	Peak	
6	1000.0000	33.45	0.06	33.51	54.00	-20.49	Peak	

REMARKS:

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

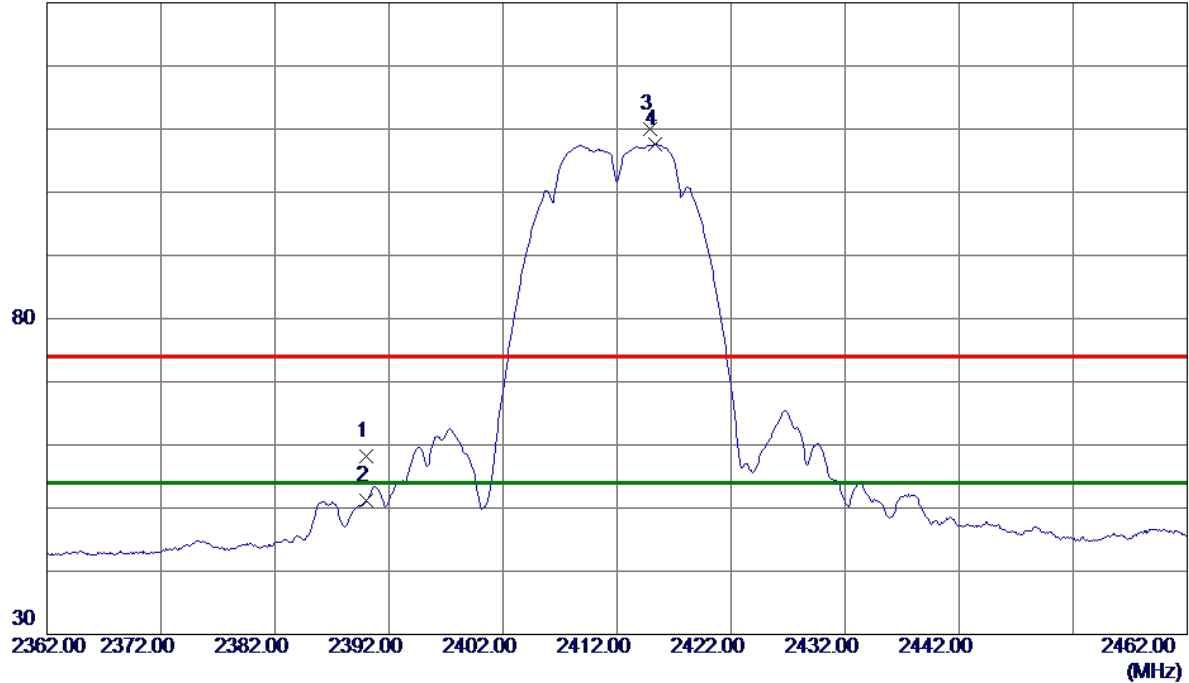
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

Test Mode: TX B Mode 2412 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	48.90	9.33	58.23	74.00	-15.77	Peak	
2	2390.0000	41.78	9.33	51.11	54.00	-2.89	AVG	
3	2414.9000	100.60	9.39	109.99	74.00	35.99	Peak	No Limit
4 *	2415.3000	98.26	9.40	107.66	54.00	53.66	AVG	No Limit

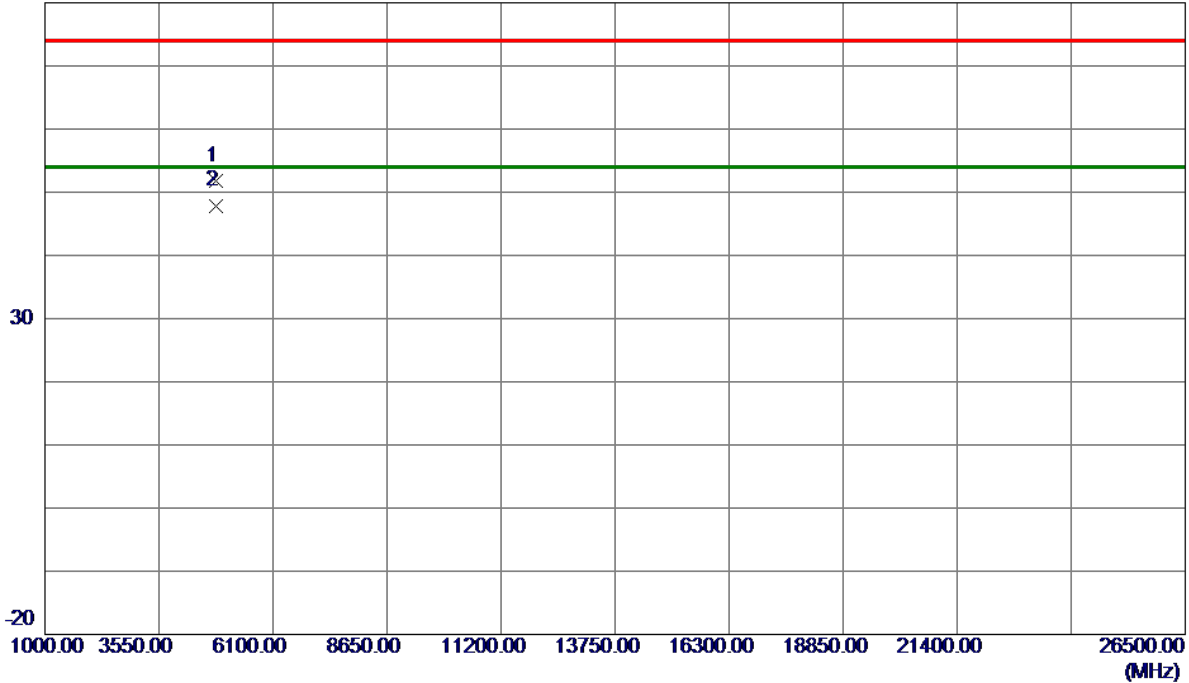
REMARKS:

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

Test Mode:	TX B Mode 2412 MHz
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Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.9750	45.61	6.10	51.71	74.00	-22.29	Peak	
2 *	4823.9750	41.80	6.10	47.90	54.00	-6.10	AVG	

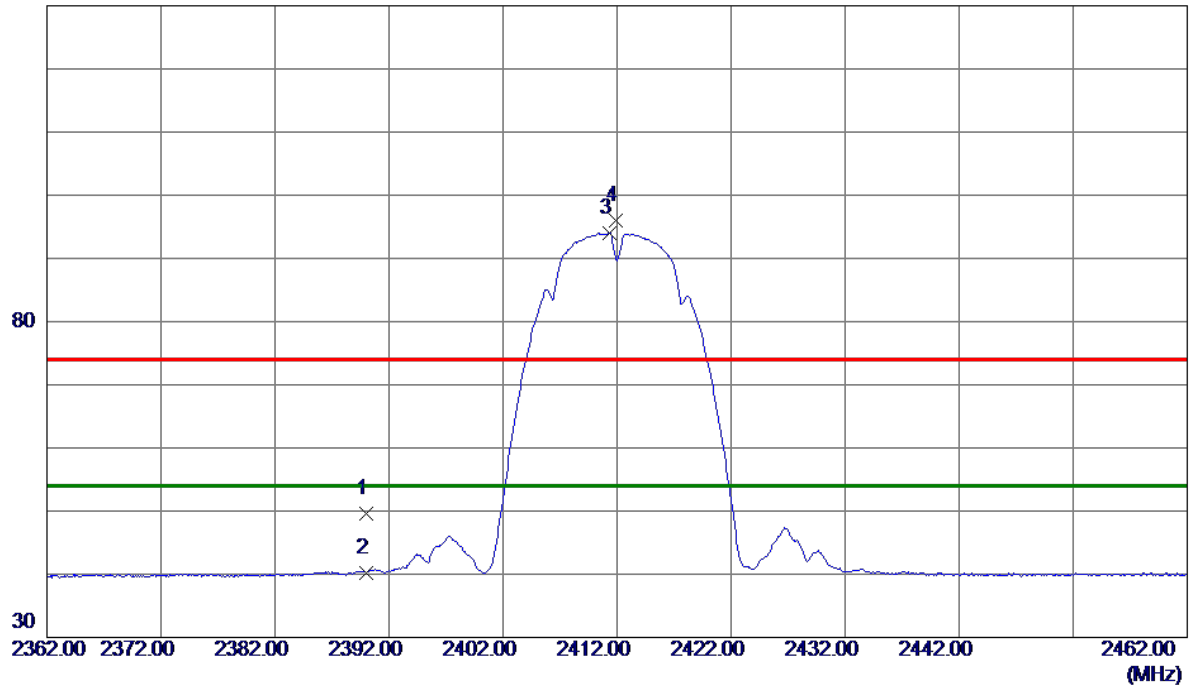
REMARKS:

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

Test Mode: TX B Mode 2412 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	40.32	9.33	49.65	74.00	-24.35	Peak	
2	2390.0000	30.93	9.33	40.26	54.00	-13.74	AVG	
3 *	2411.3000	84.61	9.39	94.00	54.00	40.00	AVG	No Limit
4	2411.9000	86.61	9.39	96.00	74.00	22.00	Peak	No Limit

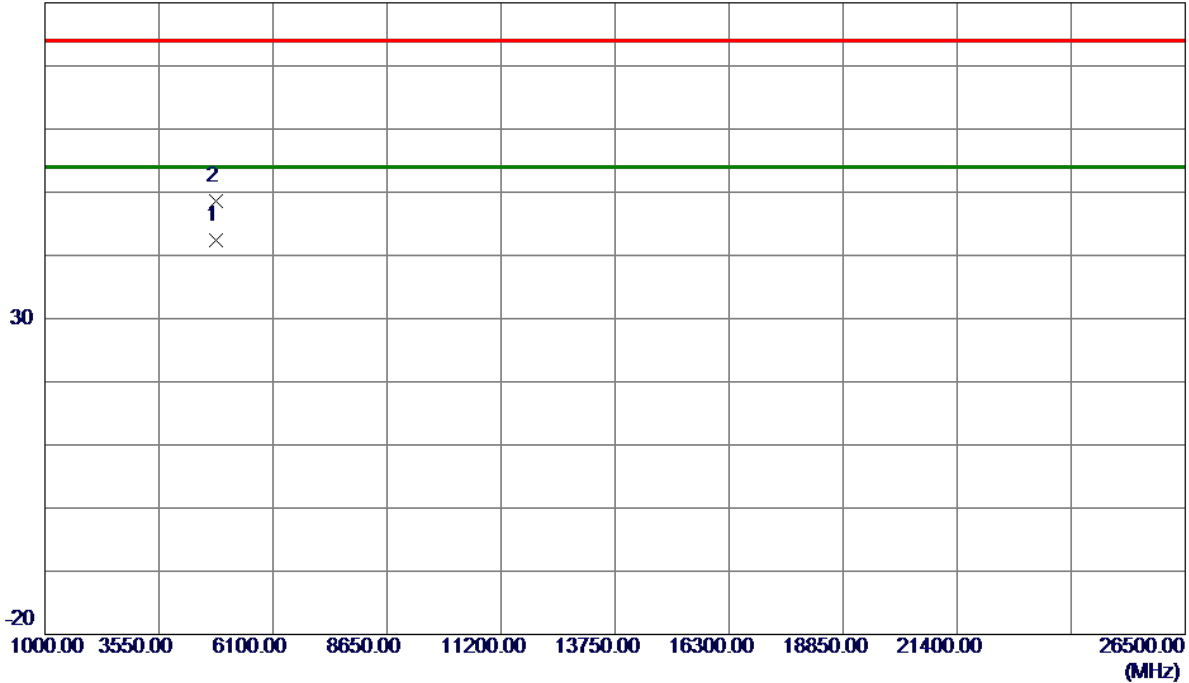
REMARKS:

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

Test Mode: TX B Mode 2412 MHz

Horizontal

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4824.0050	36.29	6.10	42.39	54.00	-11.61	AVG	
2	4824.0700	42.41	6.10	48.51	74.00	-25.49	Peak	

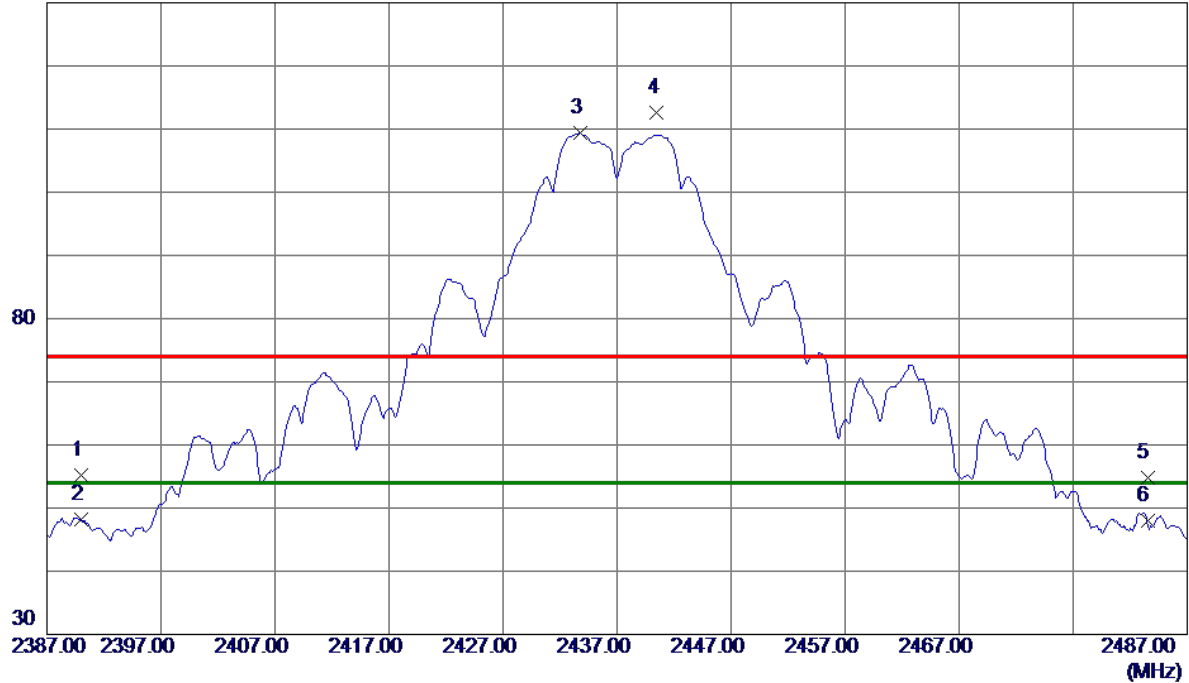
REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	45.96	9.33	55.29	74.00	-18.71	Peak	
2	2390.0000	38.93	9.33	48.26	54.00	-5.74	AVG	
3 *	2433.8000	99.92	9.44	109.36	54.00	55.36	AVG	No Limit
4	2440.5000	103.13	9.46	112.59	74.00	38.59	Peak	No Limit
5	2483.5000	45.28	9.56	54.84	74.00	-19.16	Peak	
6	2483.5000	38.45	9.56	48.01	54.00	-5.99	AVG	

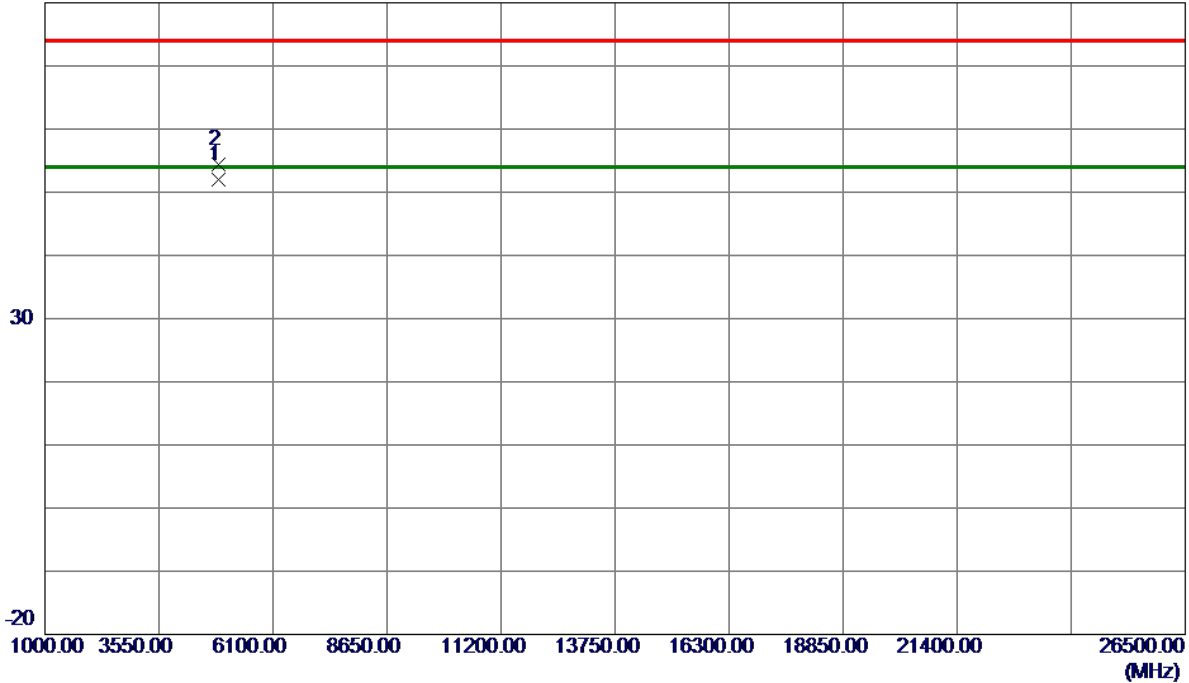
REMARKS:

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

Test Mode:	TX B Mode 2437 MHz
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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 *	4873.9520	45.62	6.36	51.98	54.00	-2.02	AVG	
2	4874.0080	48.06	6.36	54.42	74.00	-19.58	Peak	

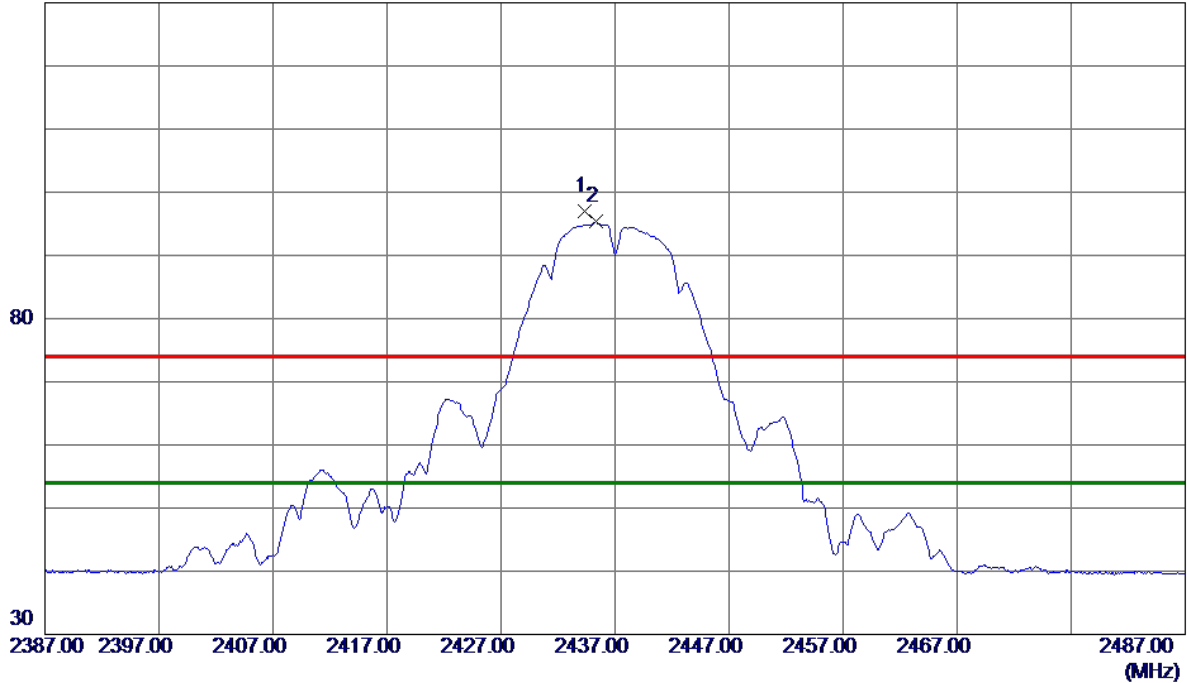
REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2434.3000	87.61	9.44	97.05	74.00	23.05	Peak	No Limit
2 *	2435.3000	85.86	9.45	95.31	54.00	41.31	AVG	No Limit

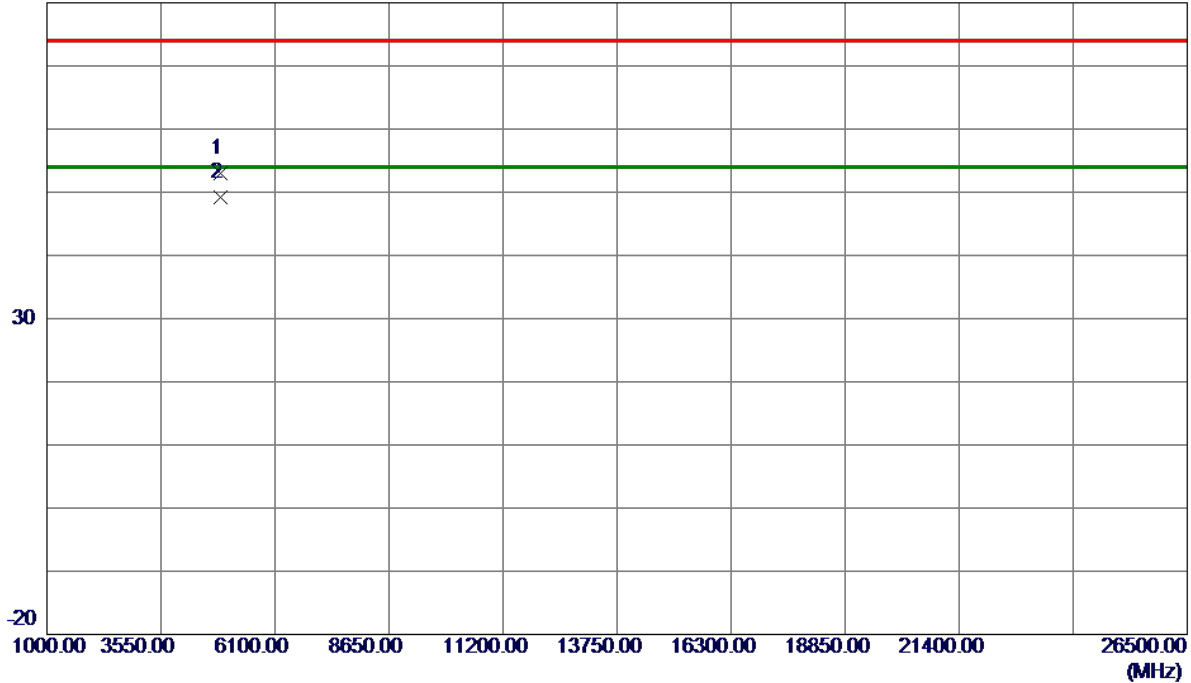
REMARKS:

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

Test Mode:	TX B Mode 2437 MHz
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Horizontal

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.8980	46.67	6.36	53.03	74.00	-20.97	Peak	
2 *	4873.9920	42.84	6.36	49.20	54.00	-4.80	AVG	

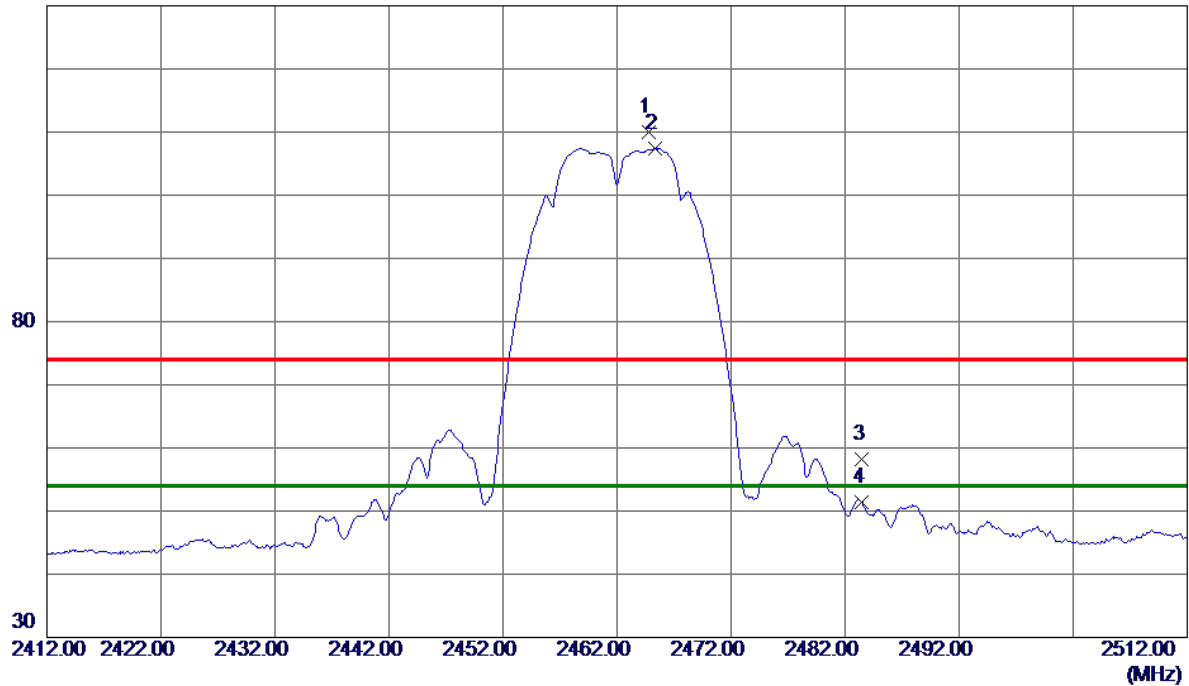
REMARKS:

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

Test Mode: TX B Mode 2462 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2464.8000	100.47	9.52	109.99	74.00	35.99	Peak	No Limit
2 *	2465.3000	97.90	9.52	107.42	54.00	53.42	AVG	No Limit
3	2483.5000	48.61	9.56	58.17	74.00	-15.83	Peak	
4	2483.5000	41.82	9.56	51.38	54.00	-2.62	AVG	

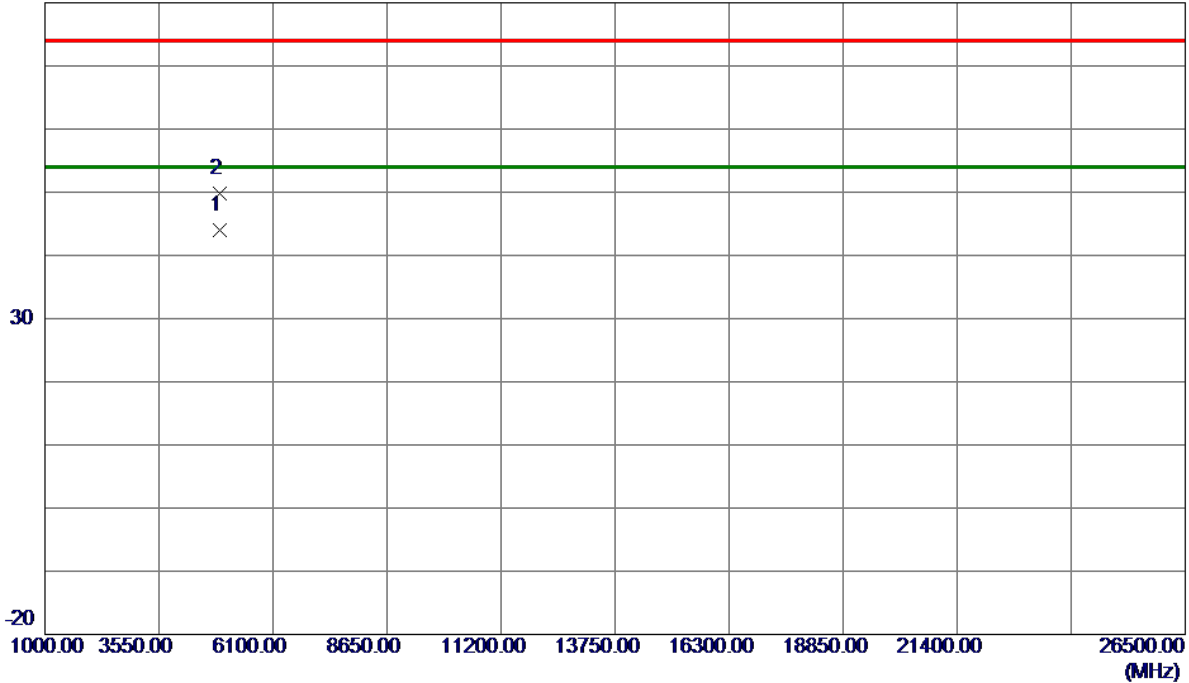
REMARKS:

- (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 *	4923.9800	37.32	6.61	43.93	54.00	-10.07	AVG	
2	4924.1500	43.17	6.61	49.78	74.00	-24.22	Peak	

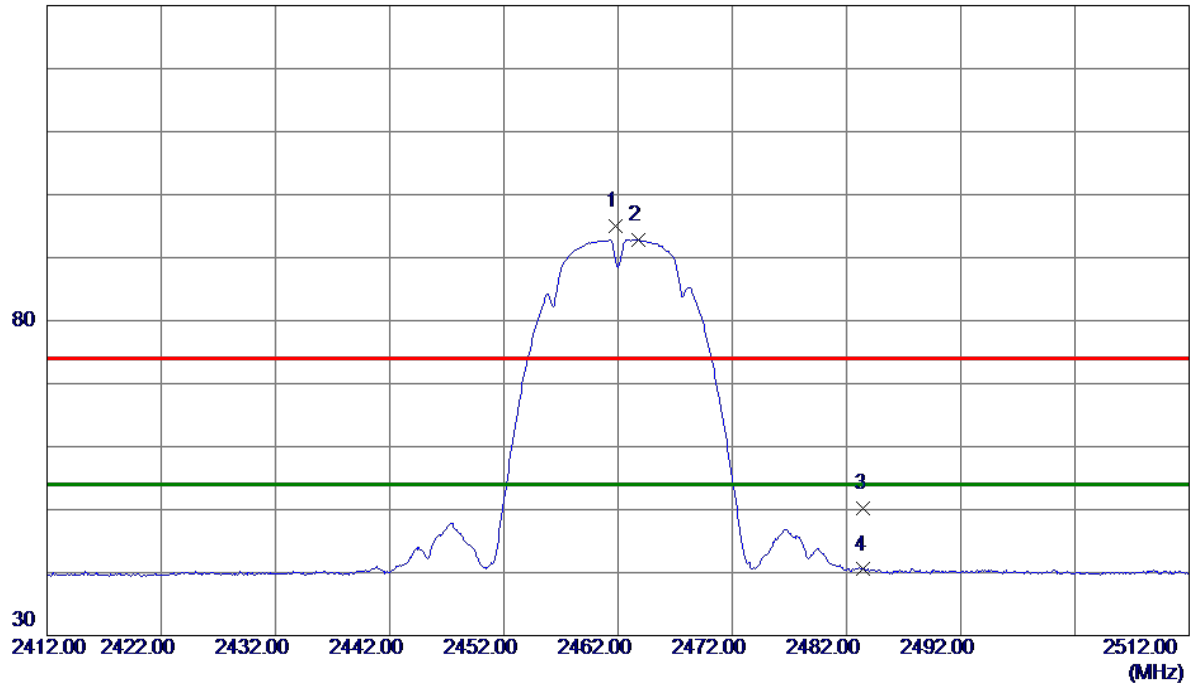
REMARKS:

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

Test Mode: TX B Mode 2462 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2461.8000	85.40	9.51	94.91	74.00	20.91	Peak	No Limit
2 *	2463.8000	83.33	9.52	92.85	54.00	38.85	AVG	No Limit
3	2483.5000	40.60	9.56	50.16	74.00	-23.84	Peak	
4	2483.5000	30.94	9.56	40.50	54.00	-13.50	AVG	

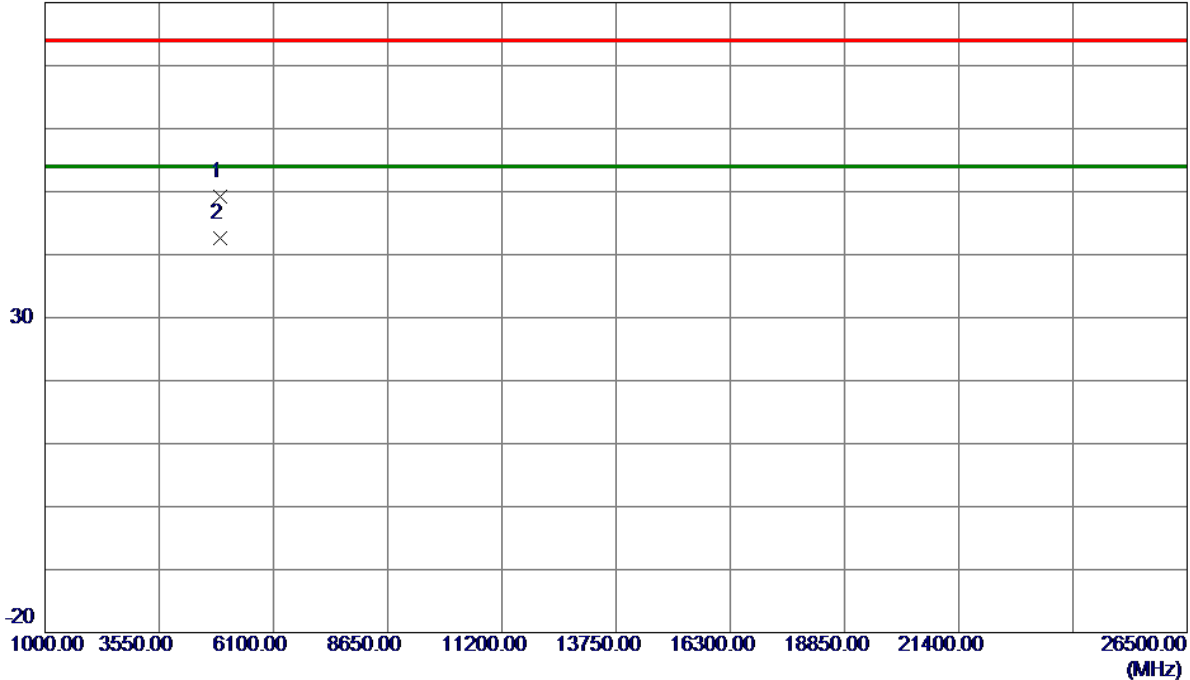
REMARKS:

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

Test Mode:	TX B Mode 2462 MHz
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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	4923.9250	42.61	6.61	49.22	74.00	-24.78	Peak	
2 *	4924.0099	35.90	6.61	42.51	54.00	-11.49	AVG	

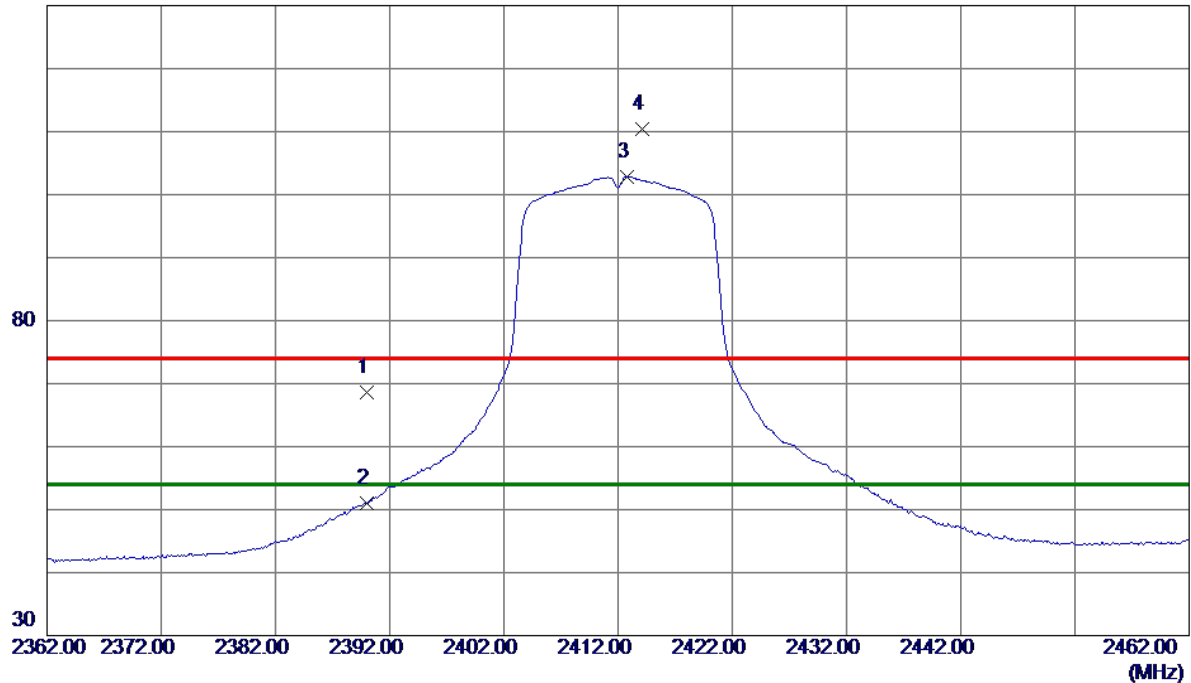
REMARKS:

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

Test Mode: TX G Mode 2412 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	59.23	9.33	68.56	74.00	-5.44	Peak	
2	2390.0000	41.68	9.33	51.01	54.00	-2.99	AVG	
3 *	2412.8000	93.44	9.39	102.83	54.00	48.83	AVG	No Limit
4	2414.1000	101.10	9.39	110.49	74.00	36.49	Peak	No Limit

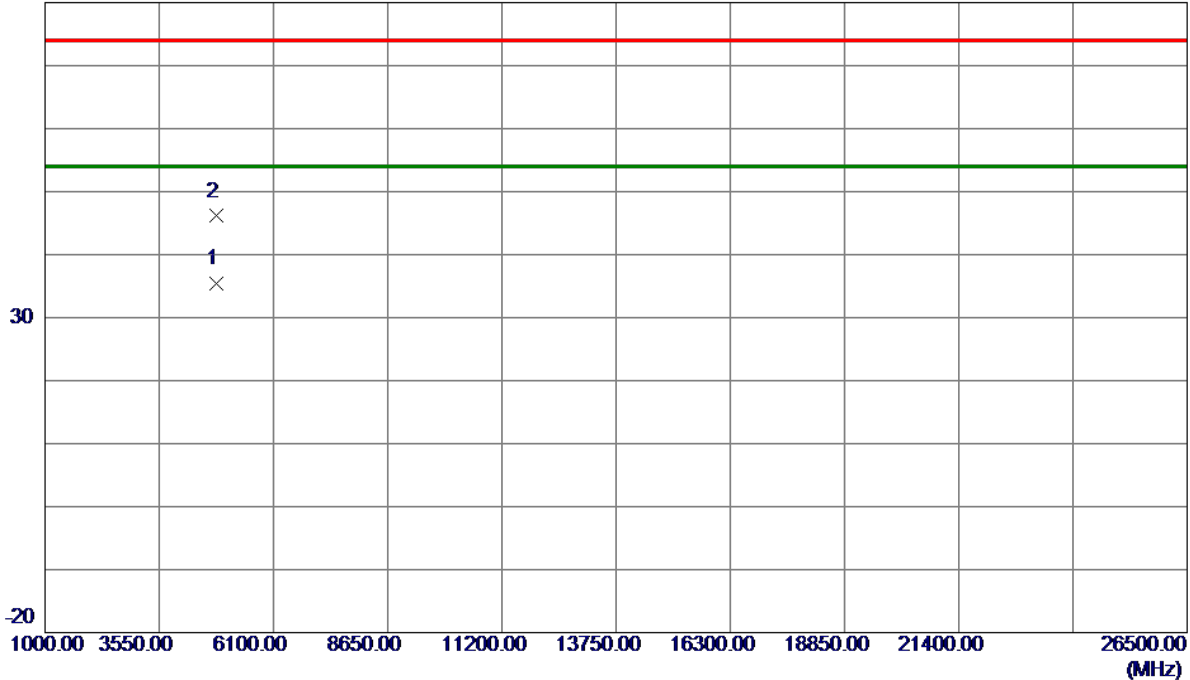
REMARKS:

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

Test Mode:	TX G Mode 2412 MHz
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Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4823.4500	29.27	6.10	35.37	54.00	-18.63	AVG	
2	4823.6000	40.00	6.10	46.10	74.00	-27.90	Peak	

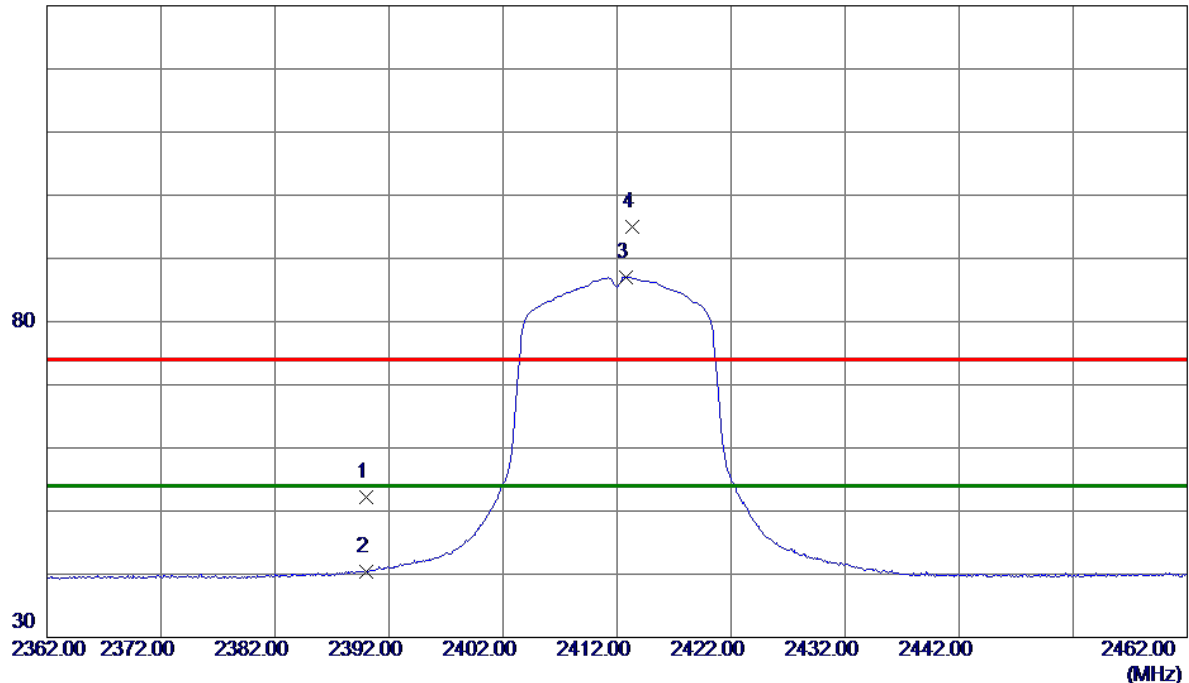
REMARKS:

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

Test Mode: TX G Mode 2412 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	42.78	9.33	52.11	74.00	-21.89	Peak	
2	2390.0000	31.13	9.33	40.46	54.00	-13.54	AVG	
3 *	2412.8000	77.69	9.39	87.08	54.00	33.08	AVG	No Limit
4	2413.3000	85.71	9.39	95.10	74.00	21.10	Peak	No Limit

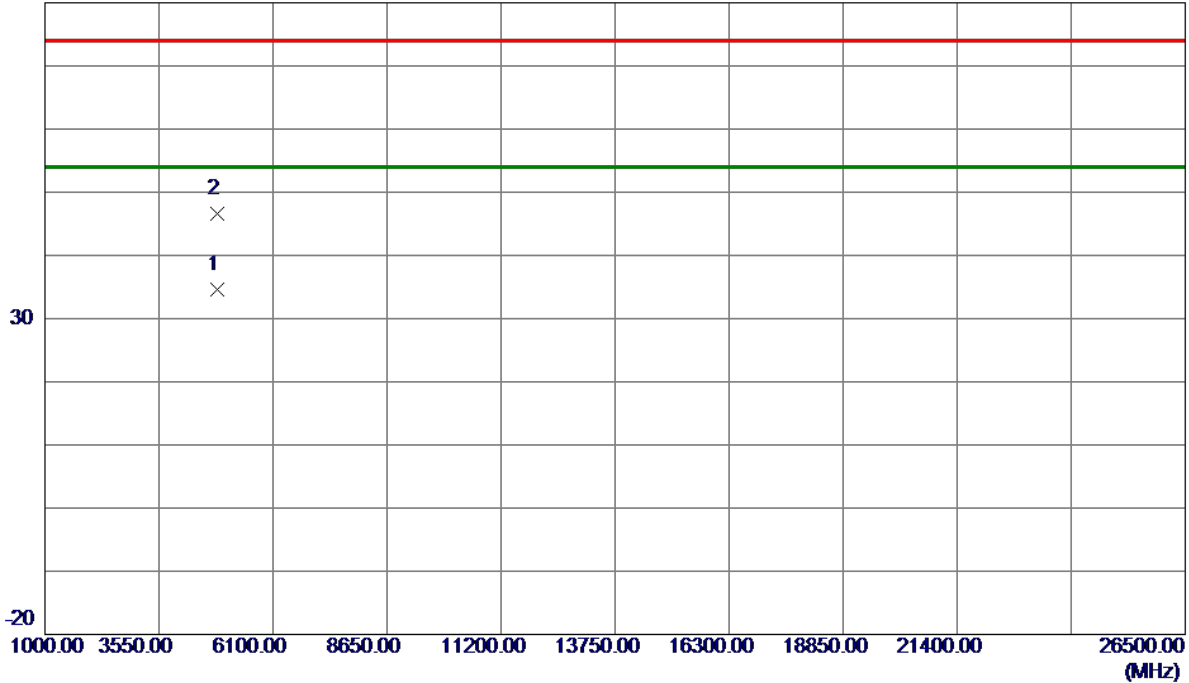
REMARKS:

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

Test Mode:	TX G Mode 2412 MHz
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Horizontal

80 dBuV/m



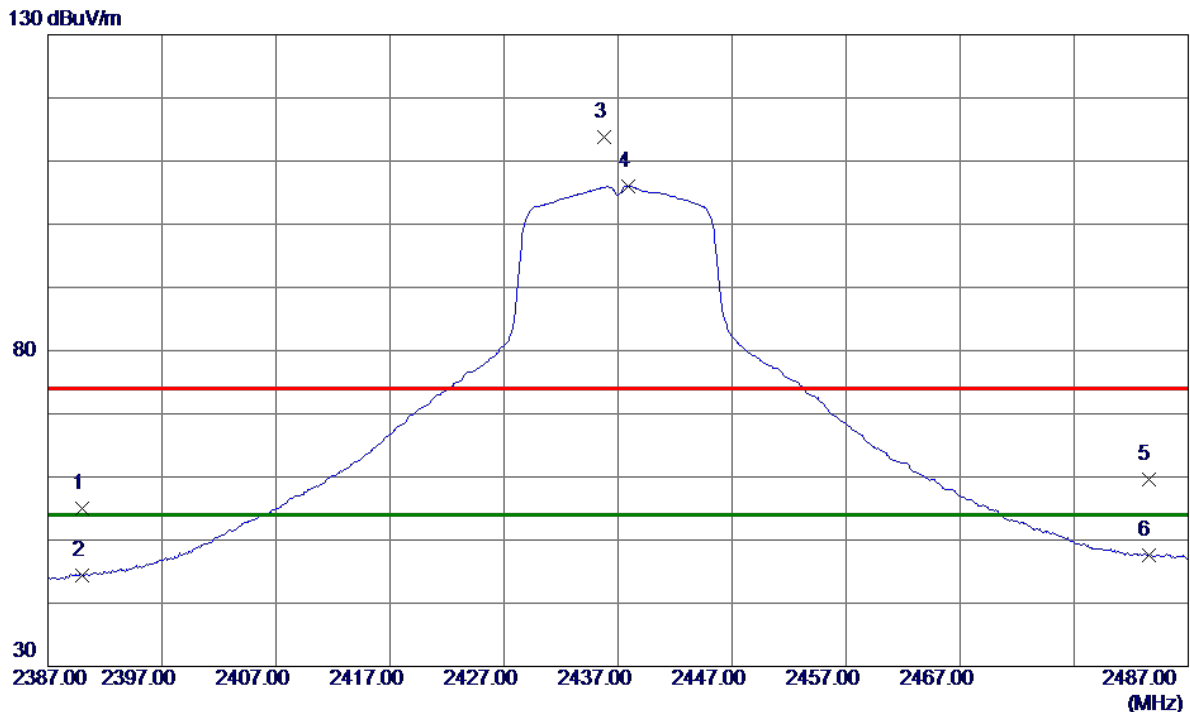
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4845.6000	28.31	6.21	34.52	54.00	-19.48	AVG	
2	4848.2000	40.37	6.22	46.59	74.00	-27.41	Peak	

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	2390.0000	45.75	9.33	55.08	74.00	-18.92	Peak	
2	2390.0000	35.07	9.33	44.40	54.00	-9.60	AVG	
3	2435.8000	104.41	9.45	113.86	74.00	39.86	Peak	No Limit
4 *	2437.9000	96.64	9.45	106.09	54.00	52.09	AVG	No Limit
5	2483.5000	49.96	9.56	59.52	74.00	-14.48	Peak	
6	2483.5000	38.00	9.56	47.56	54.00	-6.44	AVG	

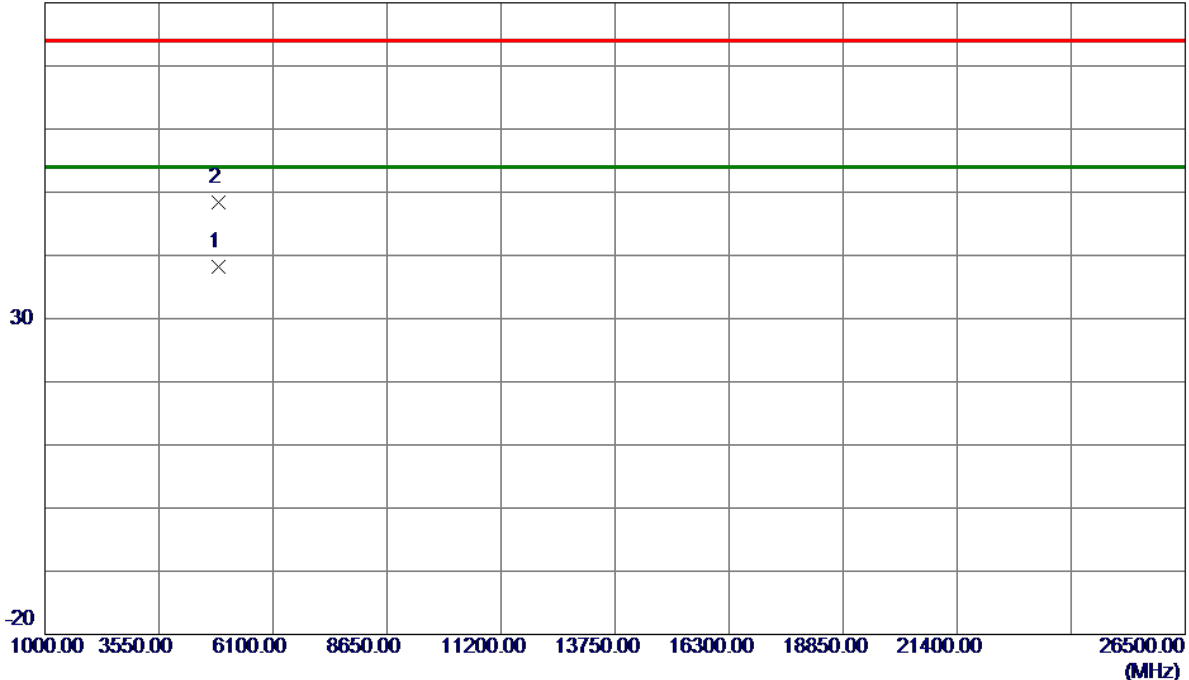
REMARKS:

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

Test Mode:	TX G Mode 2437 MHz
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Vertical

80 dBuV/m



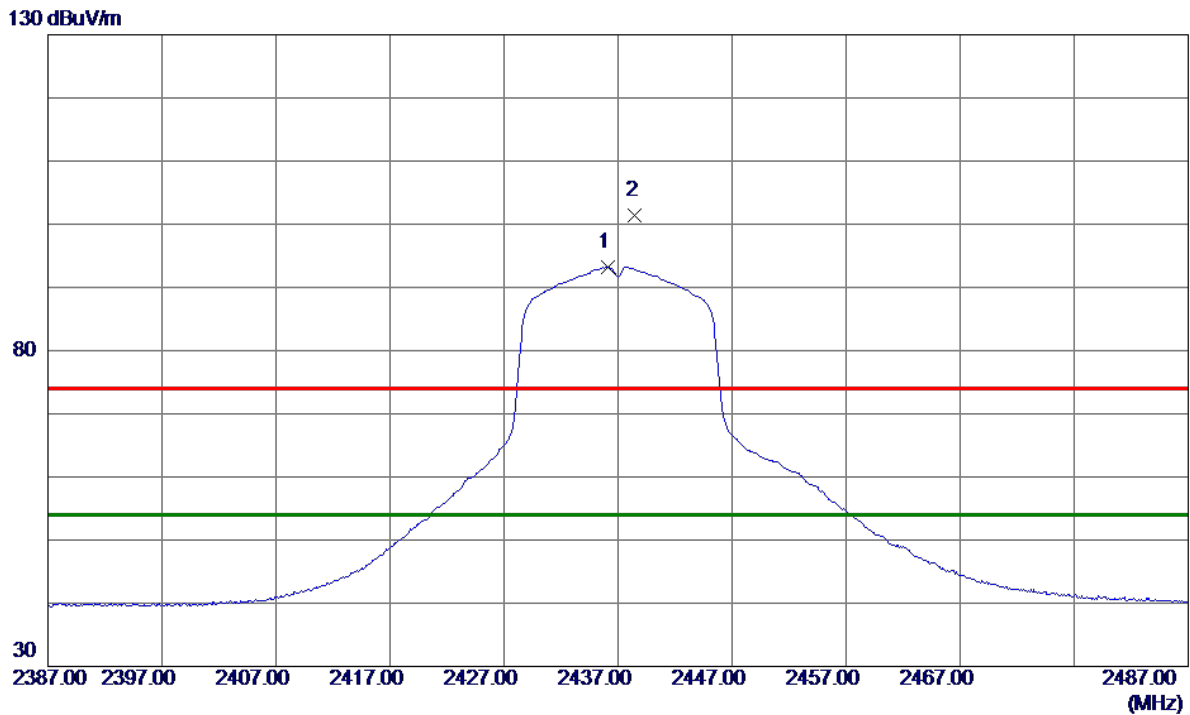
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4876.0500	31.86	6.37	38.23	54.00	-15.77	AVG	
2	4877.7000	42.04	6.38	48.42	74.00	-25.58	Peak	

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 *	2436.1000	83.71	9.45	93.16	54.00	39.16	AVG	No Limit
2	2438.5000	91.94	9.45	101.39	74.00	27.39	Peak	No Limit

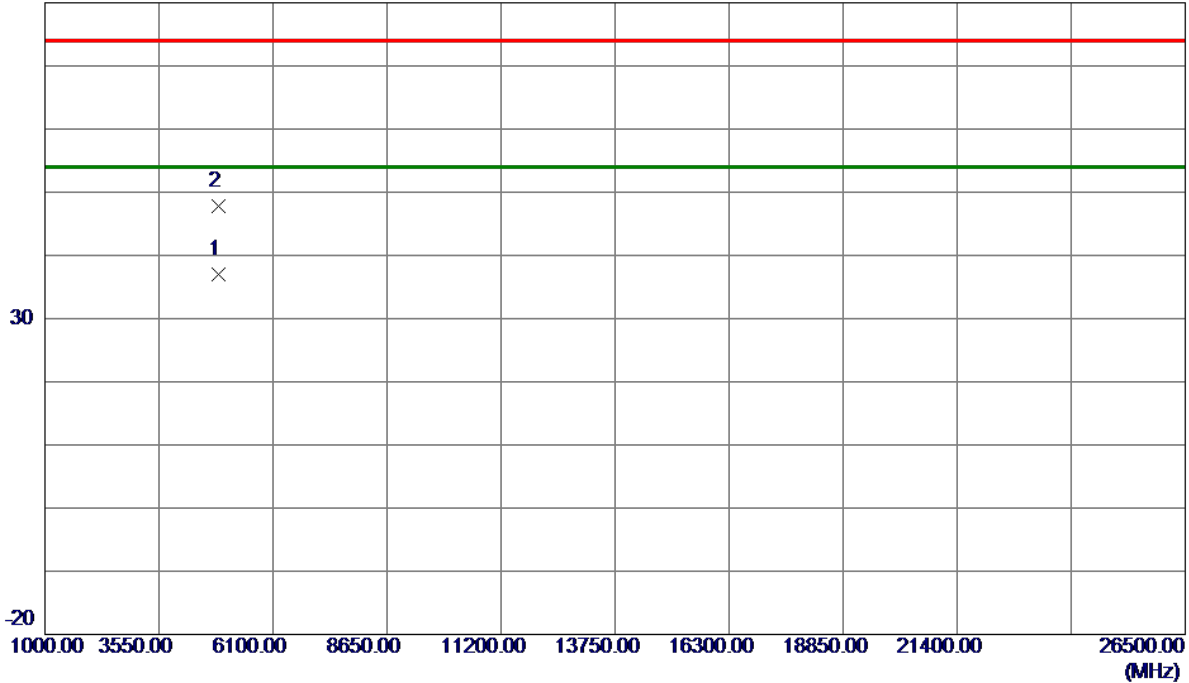
REMARKS:

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

Test Mode: TX G Mode 2437 MHz

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 *	4874.6000	30.55	6.36	36.91	54.00	-17.09	AVG	
2	4875.6000	41.44	6.36	47.80	74.00	-26.20	Peak	

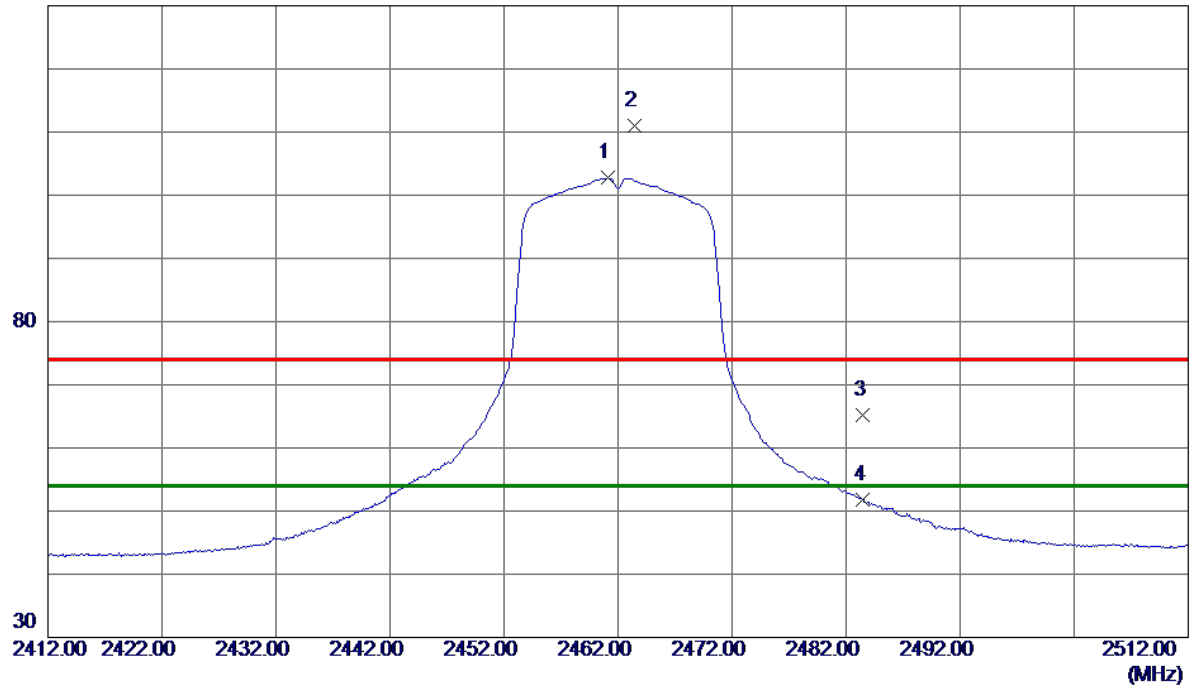
REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2461.1000	93.22	9.51	102.73	54.00	48.73	AVG	No Limit
2	2463.4000	101.42	9.51	110.93	74.00	36.93	Peak	No Limit
3	2483.5000	55.58	9.56	65.14	74.00	-8.86	Peak	
4	2483.5000	42.25	9.56	51.81	54.00	-2.19	AVG	

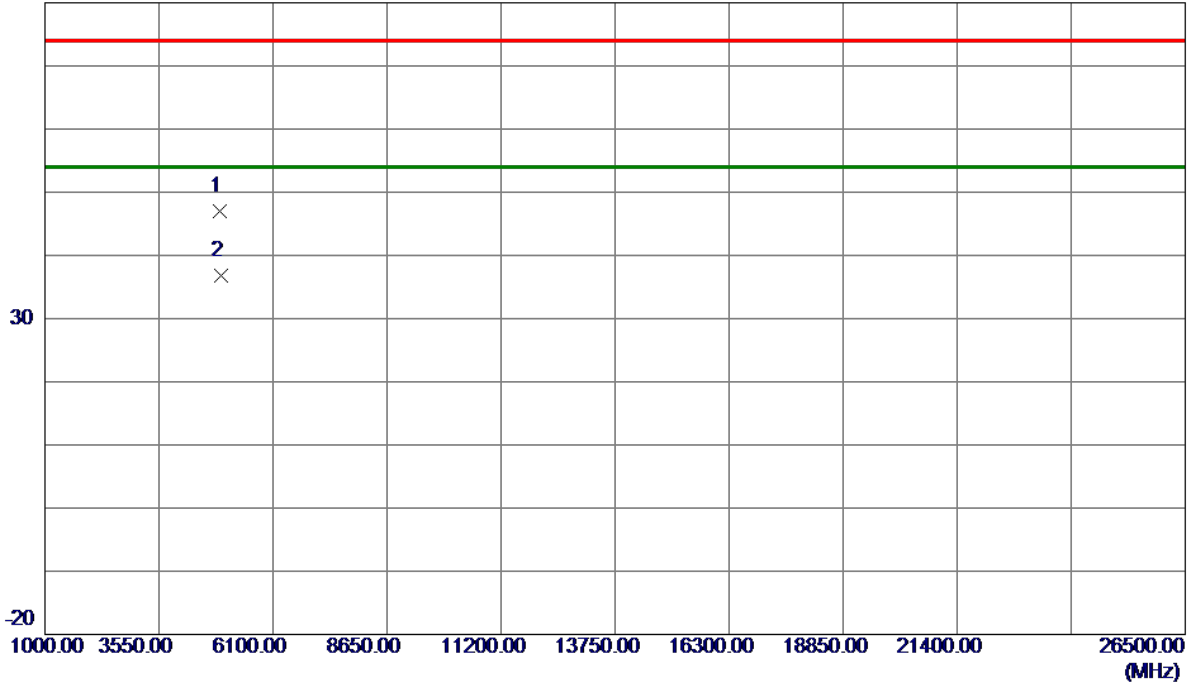
REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Vertical

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4922.8000	40.44	6.61	47.05	74.00	-26.95	Peak	
2 *	4926.0000	30.18	6.62	36.80	54.00	-17.20	AVG	

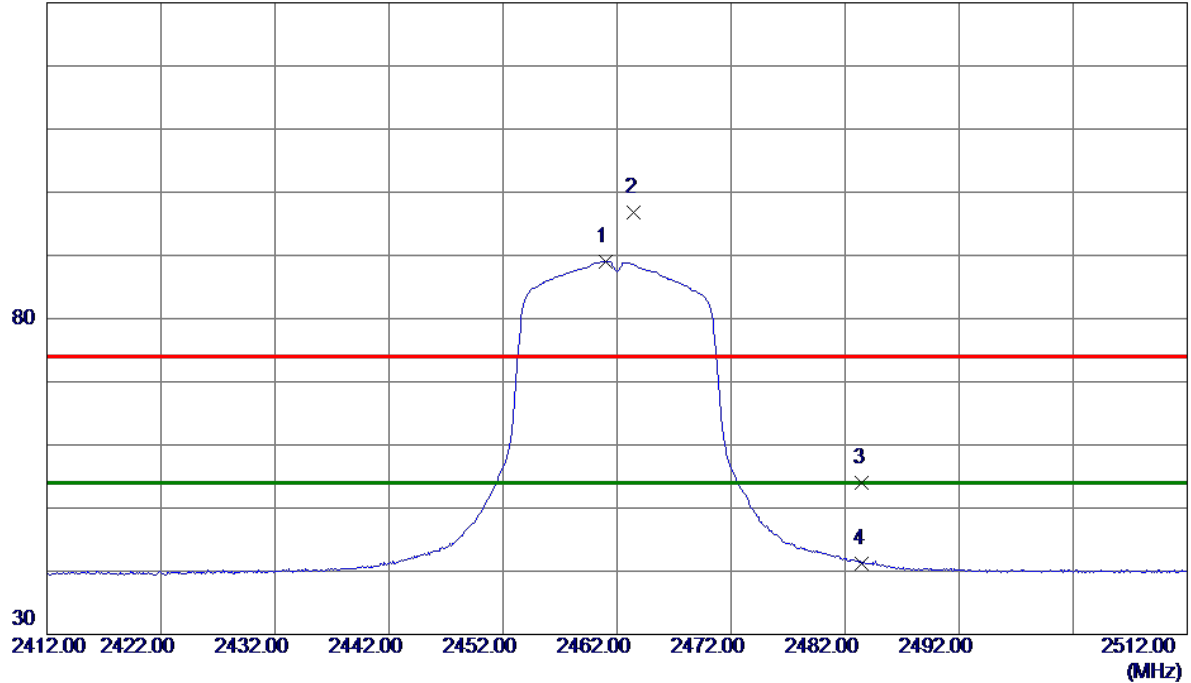
REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2461.0000	79.56	9.51	89.07	54.00	35.07	AVG	No Limit
2	2463.5000	87.30	9.51	96.81	74.00	22.81	Peak	No Limit
3	2483.5000	44.53	9.56	54.09	74.00	-19.91	Peak	
4	2483.5000	31.71	9.56	41.27	54.00	-12.73	AVG	

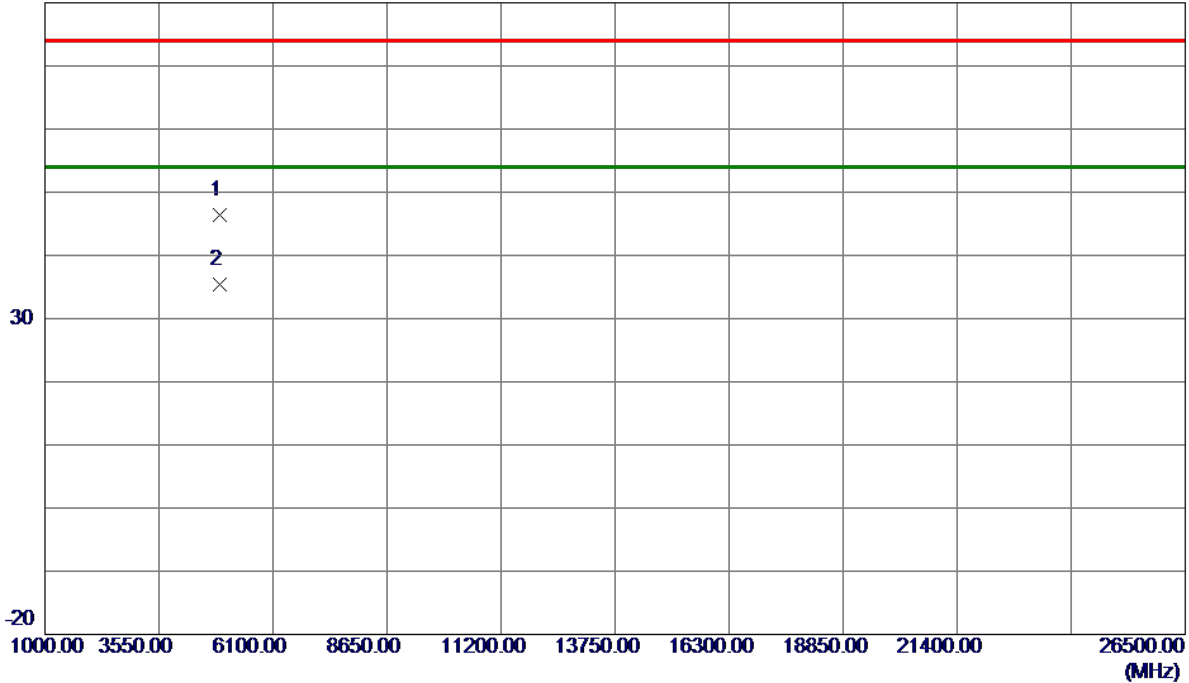
REMARKS:

- (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	4915.2000	39.78	6.57	46.35	74.00	-27.65	Peak	
2 *	4922.8000	28.84	6.61	35.45	54.00	-18.55	AVG	

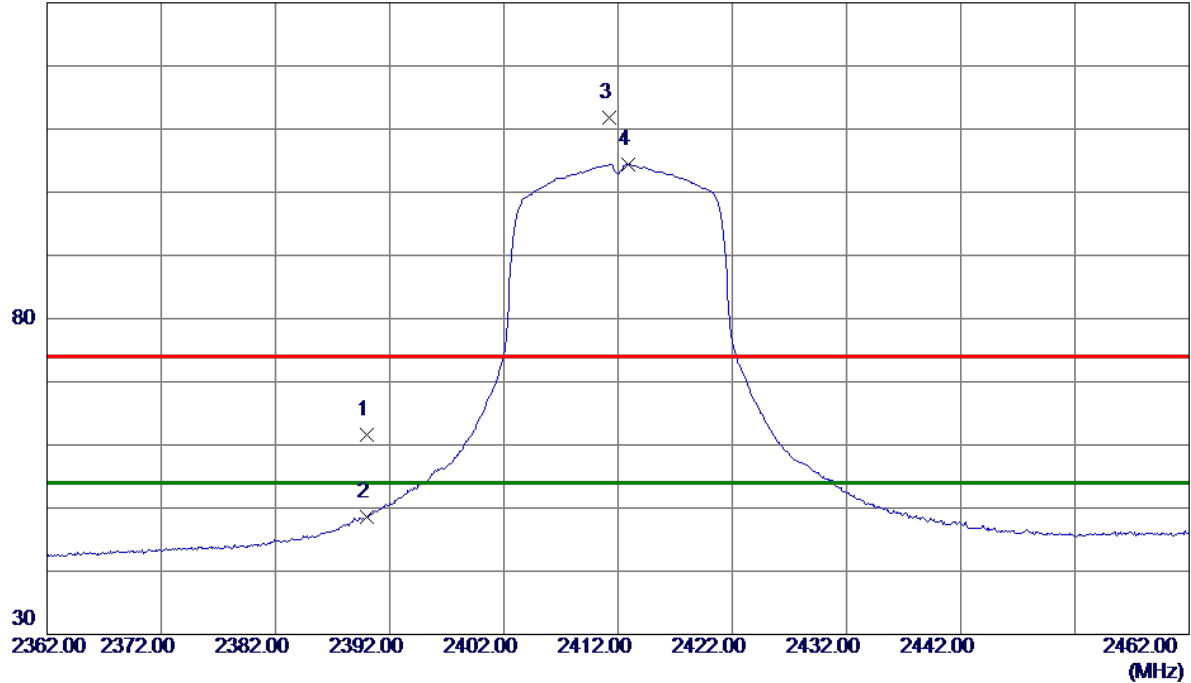
REMARKS:

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

Test Mode: TX N-20M Mode 2412 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	52.34	9.33	61.67	74.00	-12.33	Peak	
2	2390.0000	39.28	9.33	48.61	54.00	-5.39	AVG	
3	2411.2000	102.47	9.39	111.86	74.00	37.86	Peak	No Limit
4 *	2412.9000	95.01	9.39	104.40	54.00	50.40	AVG	No Limit

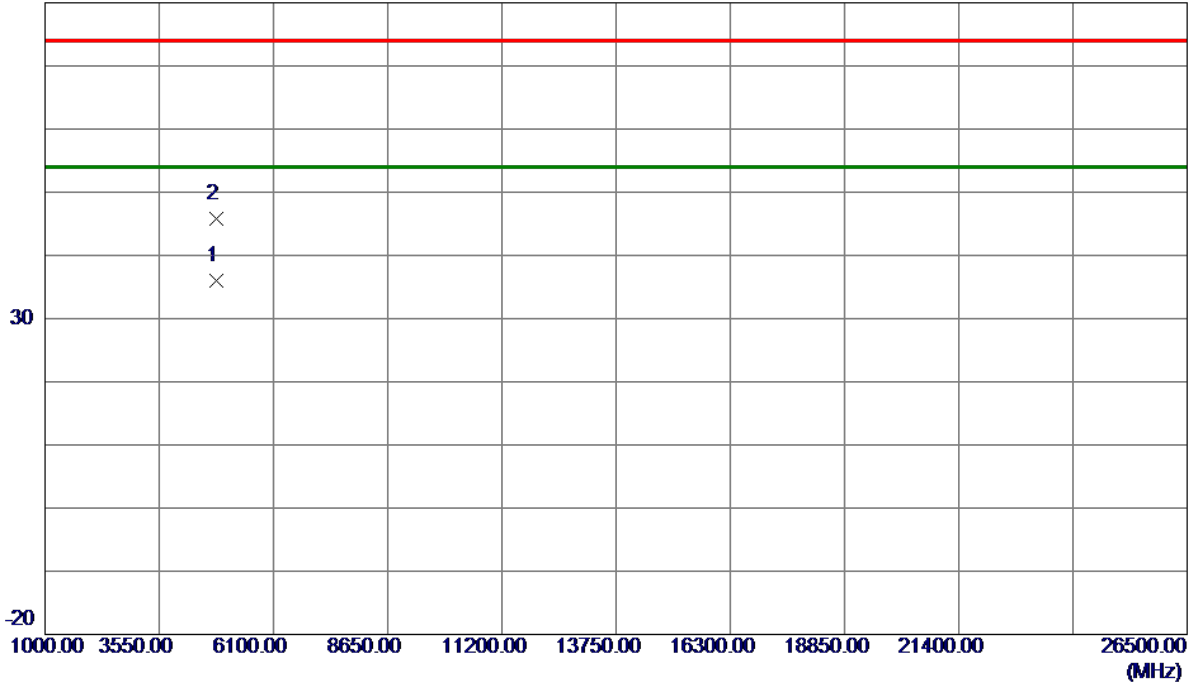
REMARKS:

- (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 *	4823.7000	29.83	6.10	35.93	54.00	-18.07	AVG	
2	4824.8000	39.78	6.10	45.88	74.00	-28.12	Peak	

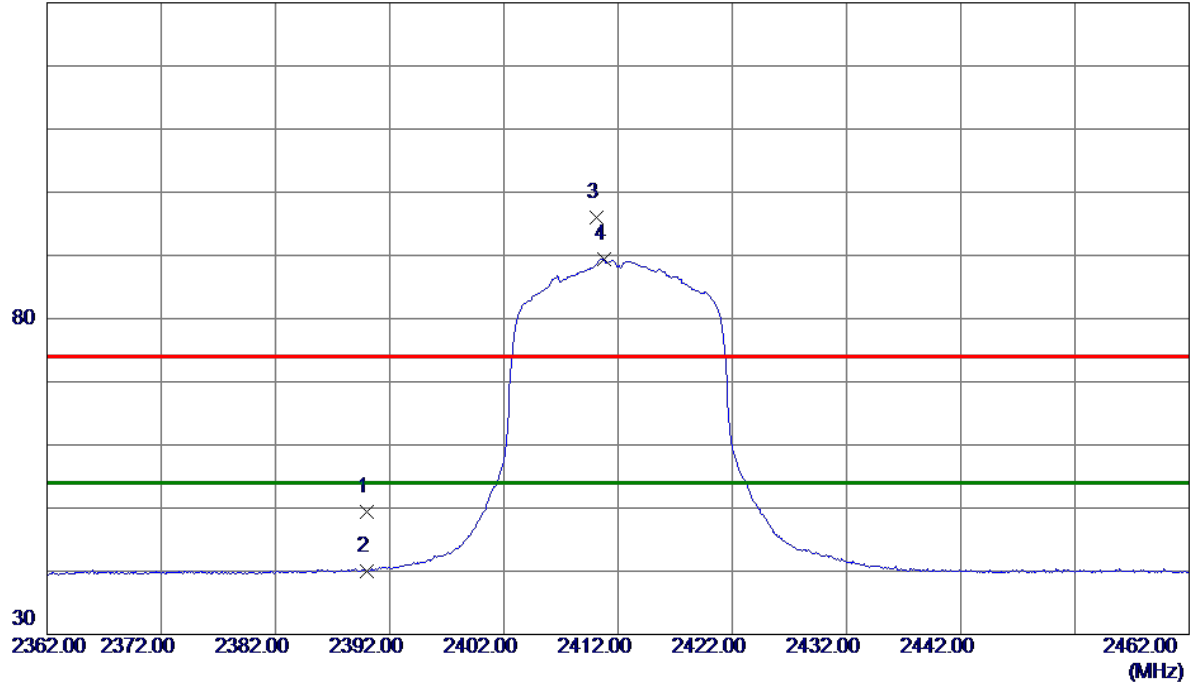
REMARKS:

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

Test Mode: TX N-20M Mode 2412 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	40.04	9.33	49.37	74.00	-24.63	Peak	
2	2390.0000	30.75	9.33	40.08	54.00	-13.92	AVG	
3	2410.1000	86.58	9.38	95.96	74.00	21.96	Peak	No Limit
4 *	2410.8000	80.10	9.38	89.48	54.00	35.48	AVG	No Limit

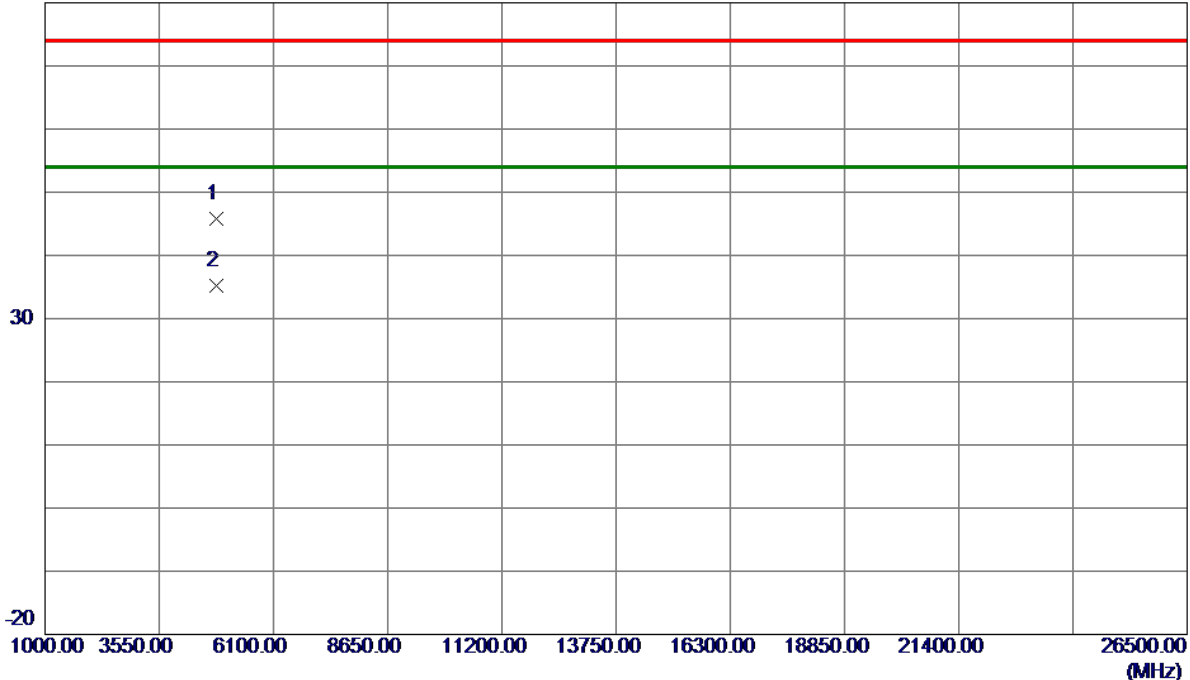
REMARKS:

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

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

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4820.5500	39.73	6.08	45.81	74.00	-28.19	Peak	
2 *	4823.1000	29.17	6.10	35.27	54.00	-18.73	AVG	

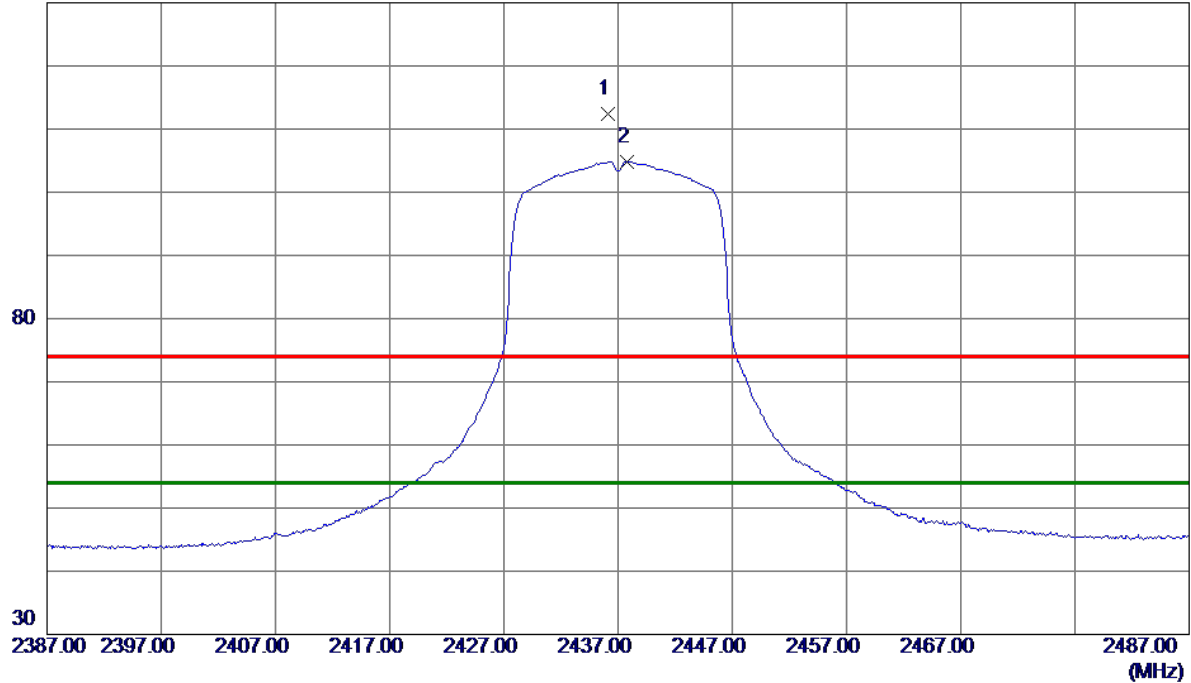
REMARKS:

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

Test Mode: TX N-20M Mode 2437 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2436.1000	102.89	9.45	112.34	74.00	38.34	Peak	No Limit
2 *	2437.8000	95.41	9.45	104.86	54.00	50.86	AVG	No Limit

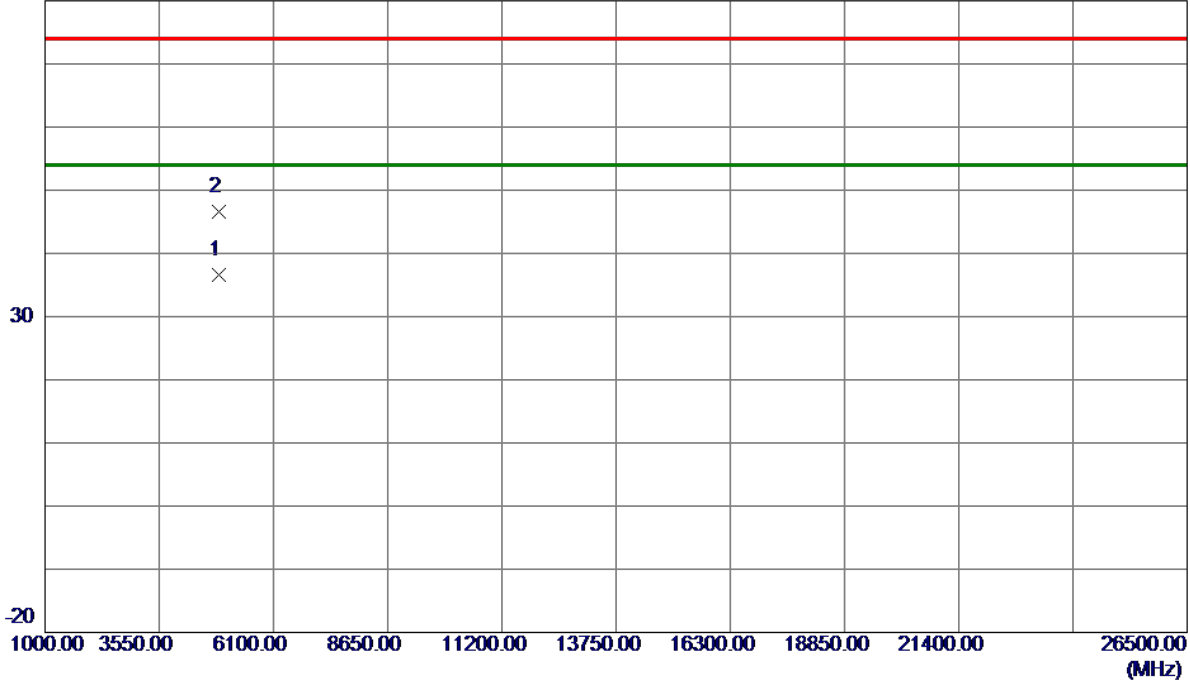
REMARKS:

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

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

80 dBuV/m



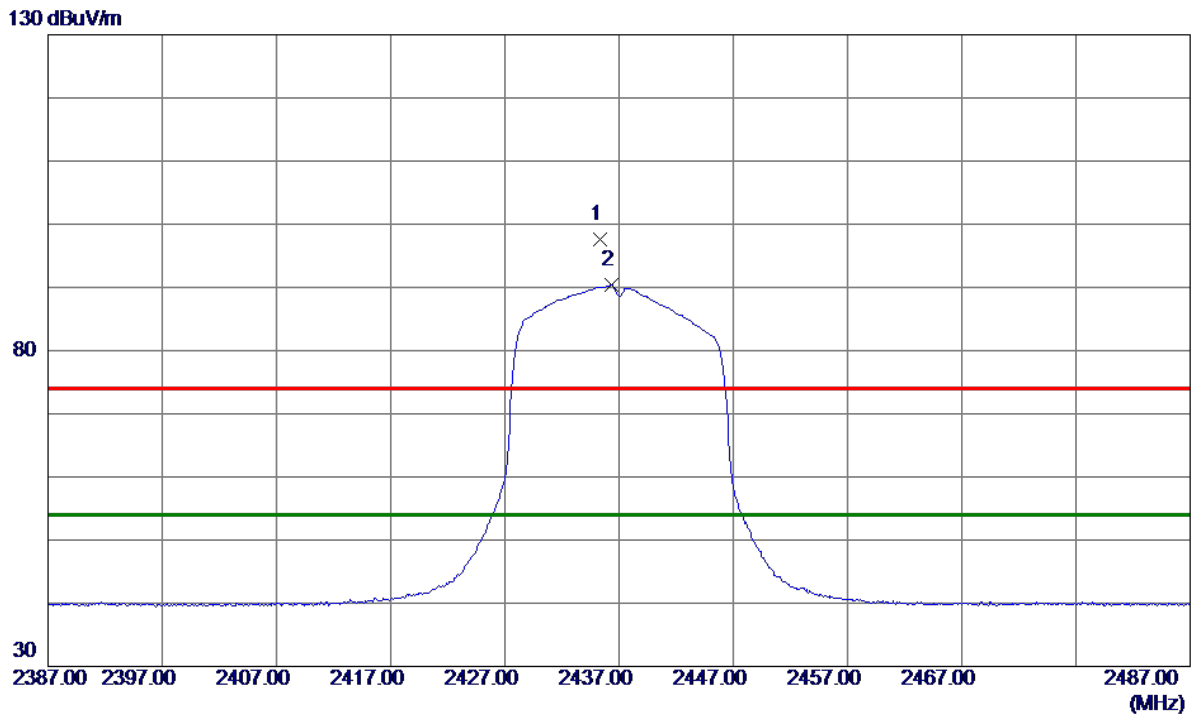
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.1500	30.27	6.36	36.63	54.00	-17.37	AVG	
2	4875.0500	40.30	6.36	46.66	74.00	-27.34	Peak	

REMARKS:

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

Test Mode: TX N-20M Mode 2437 MHz

Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.3000	88.12	9.45	97.57	74.00	23.57	Peak	No Limit
2 *	2436.3000	80.91	9.45	90.36	54.00	36.36	AVG	No Limit

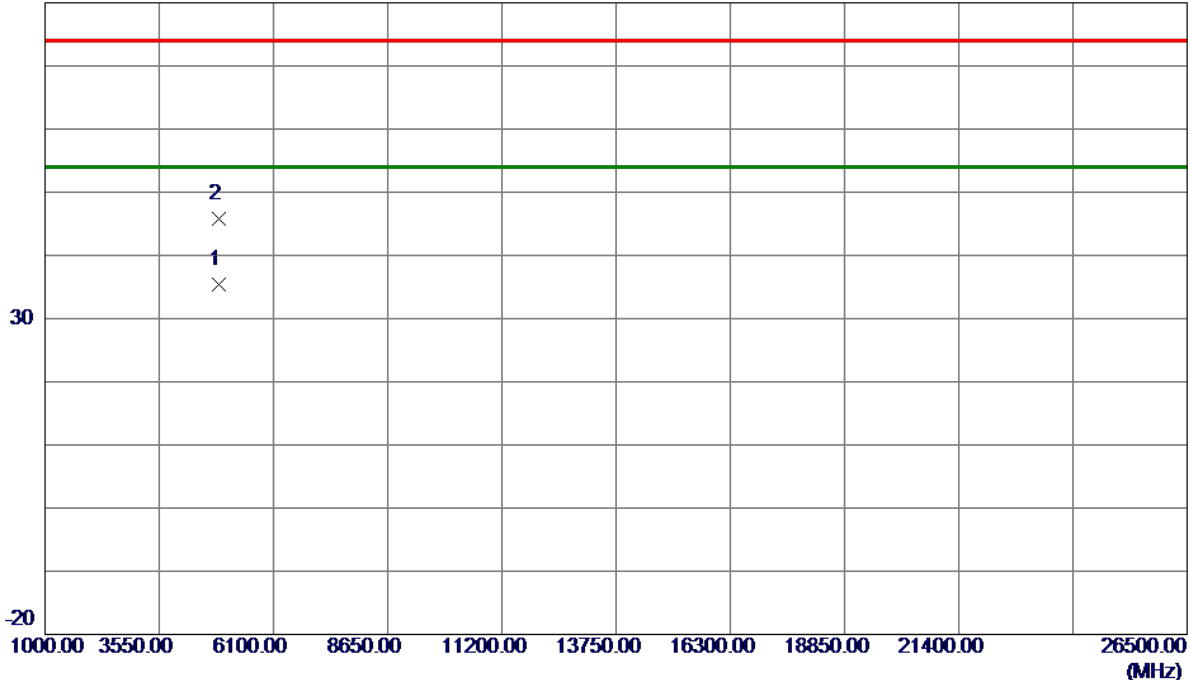
REMARKS:

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

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

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4873.1500	29.13	6.35	35.48	54.00	-18.52	AVG	
2	4875.7500	39.45	6.37	45.82	74.00	-28.18	Peak	

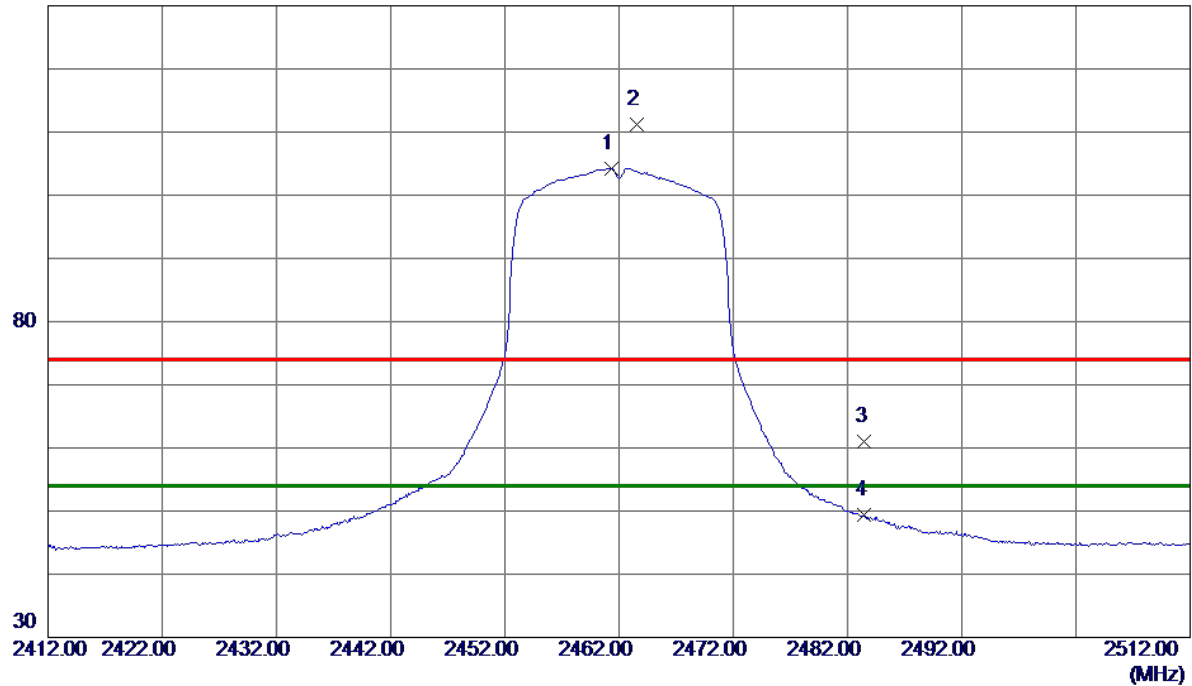
REMARKS:

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

Test Mode: TX N-20M Mode 2462 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2461.3000	94.75	9.51	104.26	54.00	50.26	AVG	No Limit
2	2463.6000	101.77	9.52	111.29	74.00	37.29	Peak	No Limit
3	2483.5000	51.49	9.56	61.05	74.00	-12.95	Peak	
4	2483.5000	39.81	9.56	49.37	54.00	-4.63	AVG	

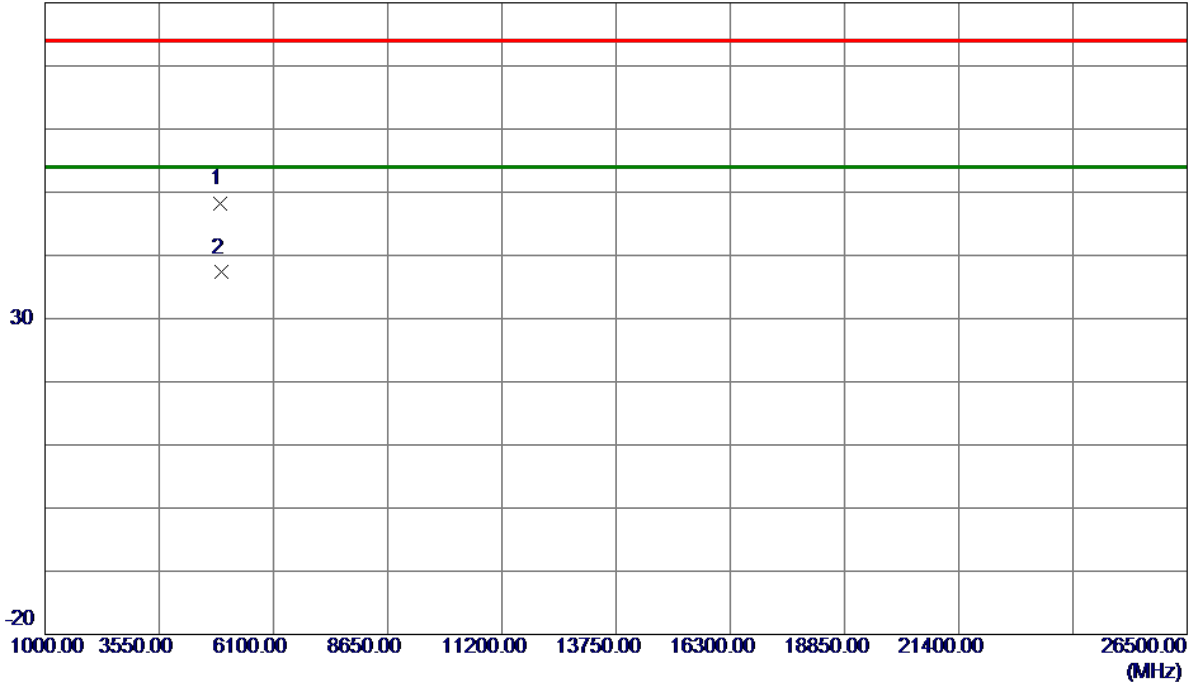
REMARKS:

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

Test Mode:	TX N-20M Mode 2462 MHz
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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	4922.2500	41.66	6.60	48.26	74.00	-25.74	Peak	
2 *	4924.3500	30.69	6.61	37.30	54.00	-16.70	AVG	

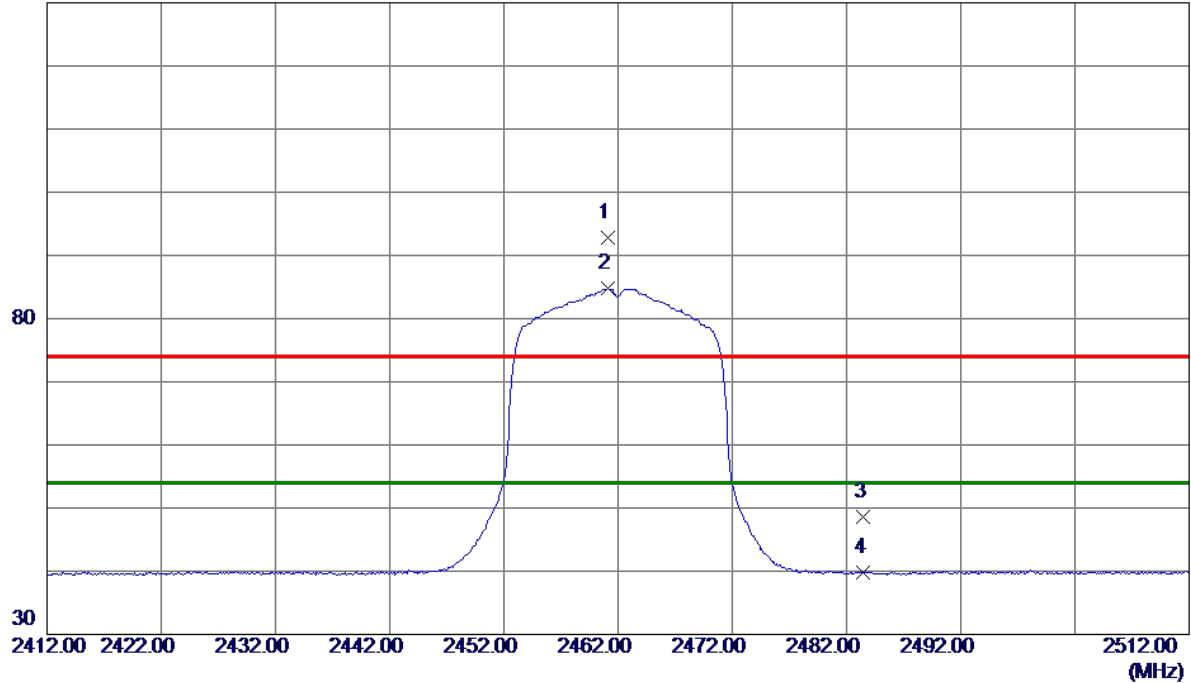
REMARKS:

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

Test Mode: TX N-20M Mode 2462 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2461.1000	83.21	9.51	92.72	74.00	18.72	Peak	No Limit
2 *	2461.1000	75.21	9.51	84.72	54.00	30.72	AVG	No Limit
3	2483.5000	39.05	9.56	48.61	74.00	-25.39	Peak	
4	2483.5000	30.15	9.56	39.71	54.00	-14.29	AVG	

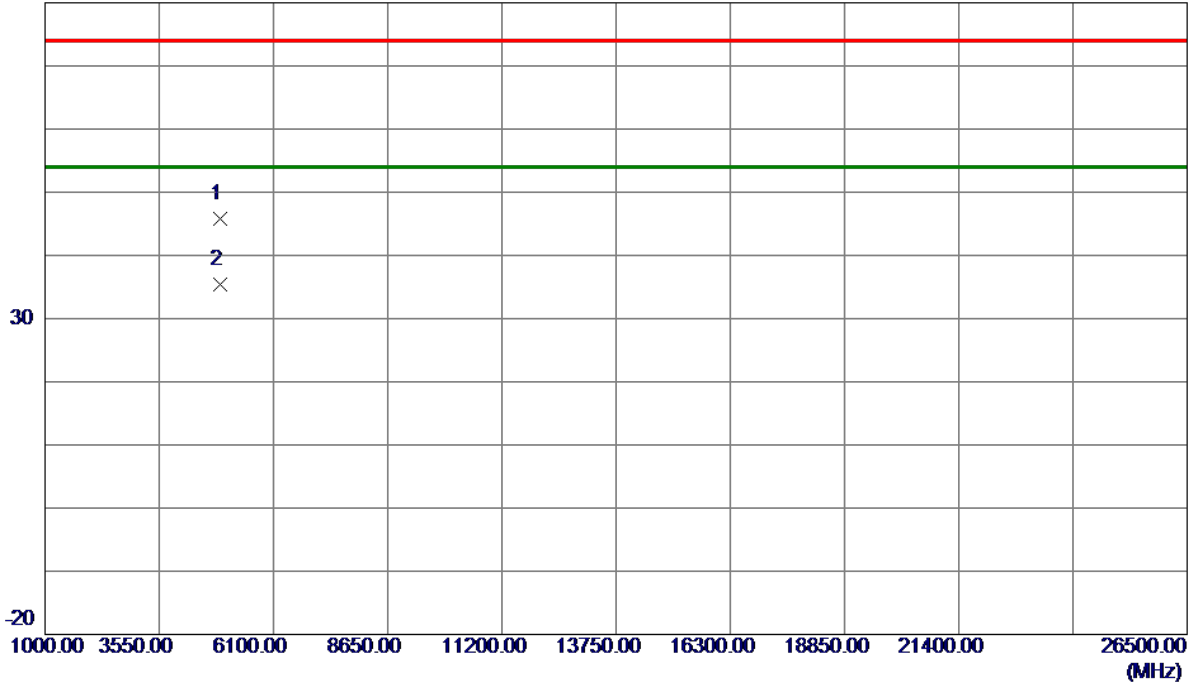
REMARKS:

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

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

80 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4921.8500	39.11	6.60	45.71	74.00	-28.29	Peak	
2 *	4922.5000	28.86	6.60	35.46	54.00	-18.54	AVG	

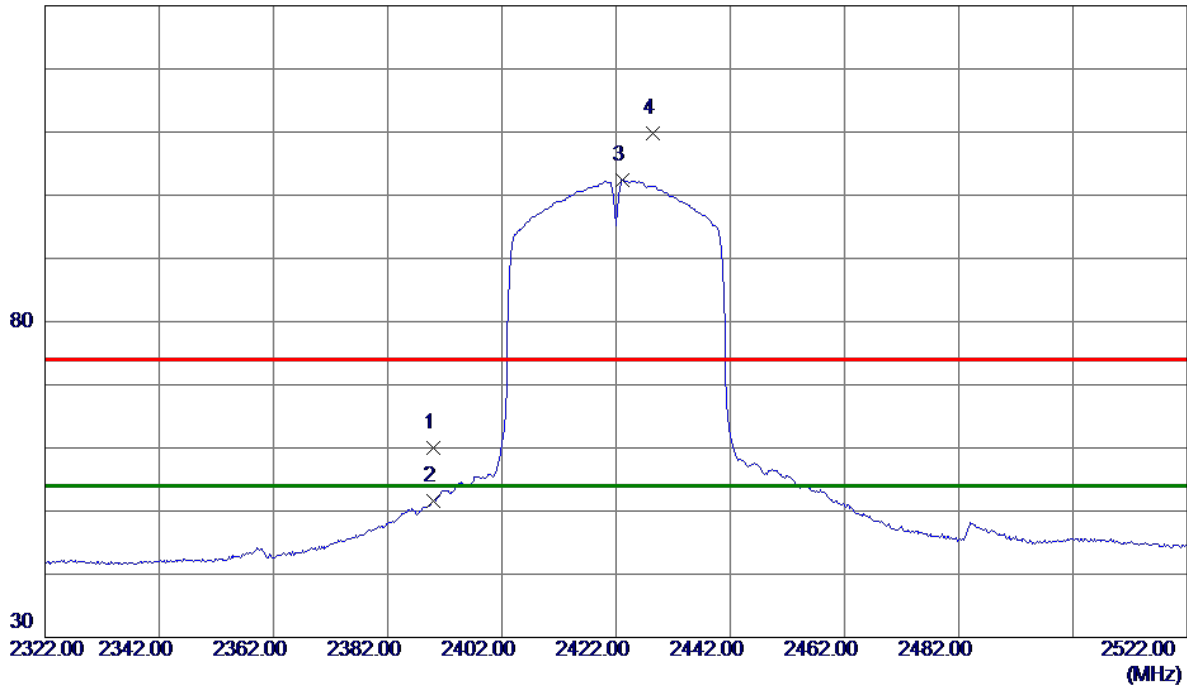
REMARKS:

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

Test Mode: TX N-40M Mode 2422 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	50.58	9.33	59.91	74.00	-14.09	Peak	
2	2390.0000	42.28	9.33	51.61	54.00	-2.39	AVG	
3 *	2423.2000	92.99	9.42	102.41	54.00	48.41	AVG	No Limit
4	2428.4000	100.46	9.43	109.89	74.00	35.89	Peak	No Limit

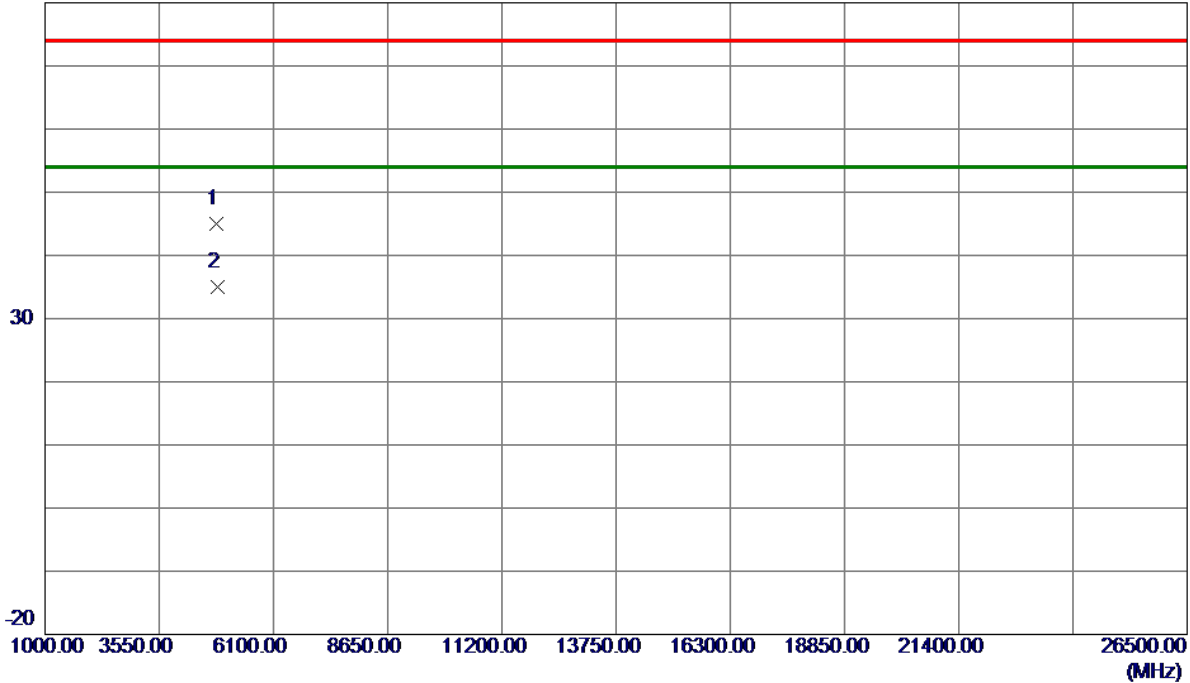
REMARKS:

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

Test Mode:	TX N-40M Mode 2422 MHz
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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	4833.7000	38.78	6.15	44.93	74.00	-29.07	Peak	
2 *	4846.2000	28.81	6.21	35.02	54.00	-18.98	AVG	

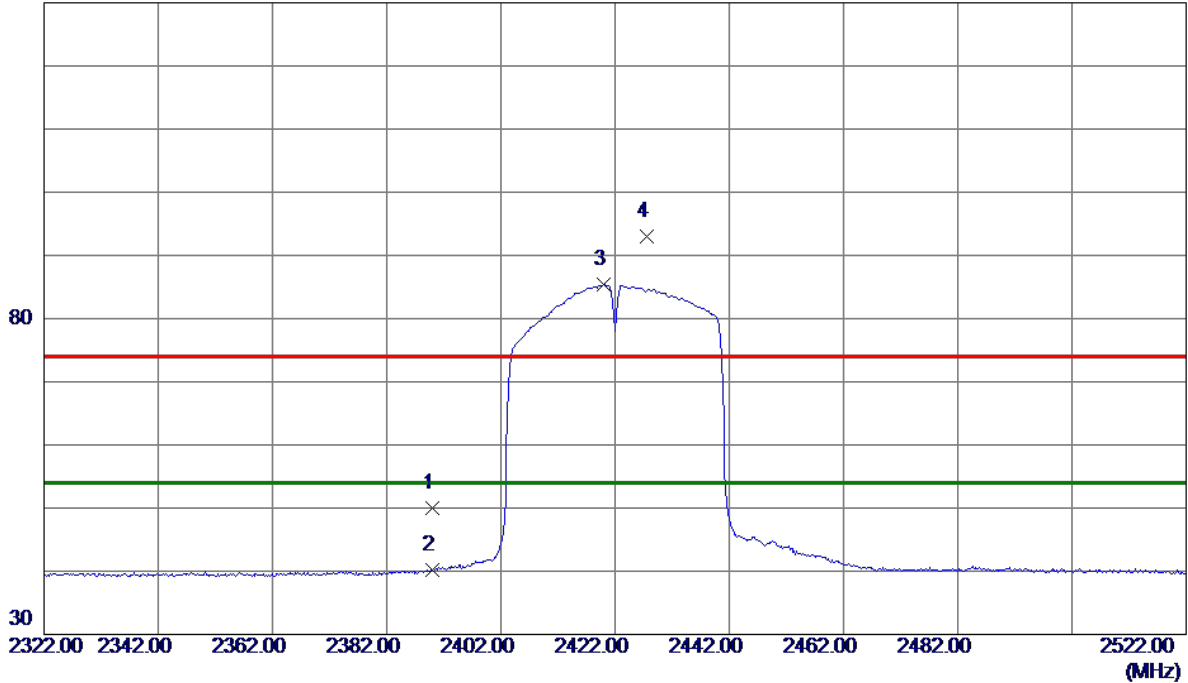
REMARKS:

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

Test Mode: TX N-40M Mode 2422 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	40.72	9.33	50.05	74.00	-23.95	Peak	
2	2390.0000	30.81	9.33	40.14	54.00	-13.86	AVG	
3 *	2420.0000	76.00	9.41	85.41	54.00	31.41	AVG	No Limit
4	2427.6000	83.62	9.43	93.05	74.00	19.05	Peak	No Limit

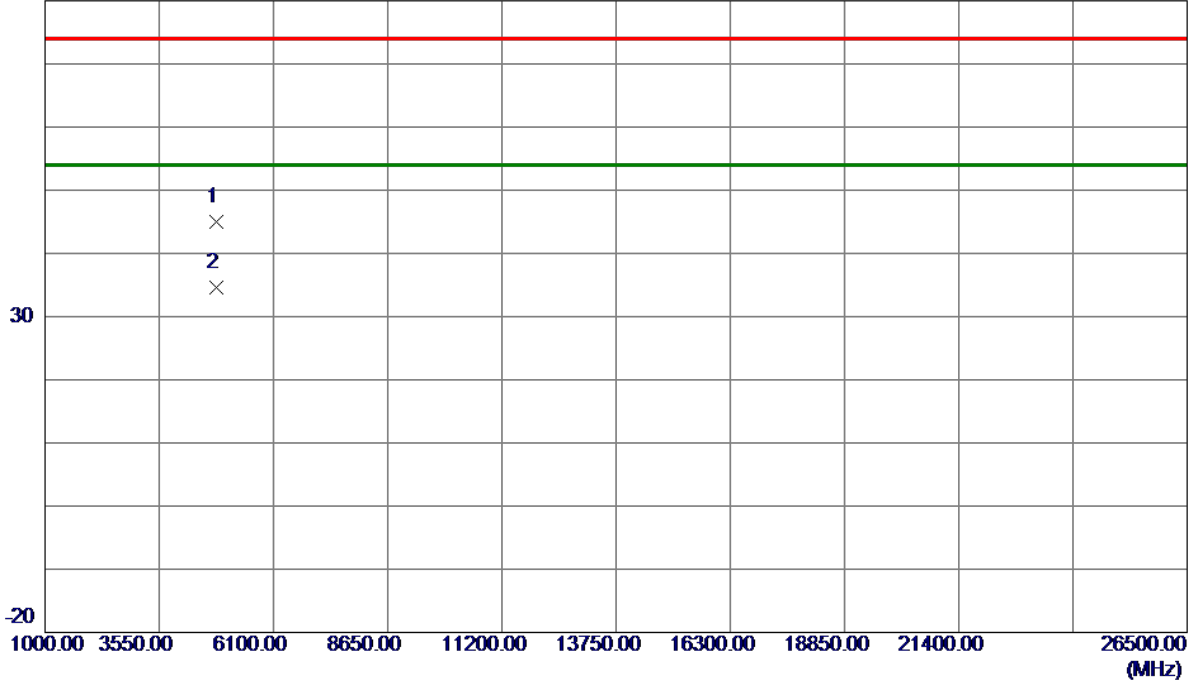
REMARKS:

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

Test Mode:	TX N-40M Mode 2422 MHz
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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	4832.1500	38.92	6.14	45.06	74.00	-28.94	Peak	
2 *	4833.9500	28.49	6.15	34.64	54.00	-19.36	AVG	

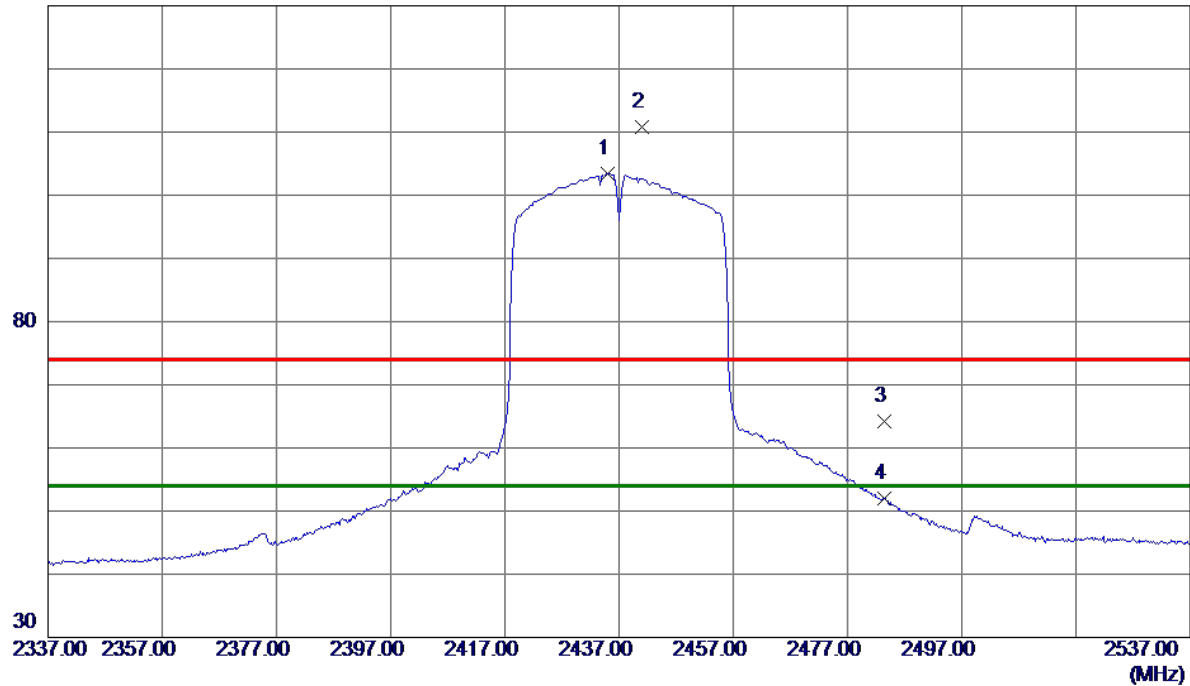
REMARKS:

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

Test Mode: TX N-40M Mode 2437 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2435.0000	94.01	9.44	103.45	54.00	49.45	AVG	No Limit
2	2441.0000	101.38	9.46	110.84	74.00	36.84	Peak	No Limit
3	2483.5000	54.66	9.56	64.22	74.00	-9.78	Peak	
4	2483.5000	42.42	9.56	51.98	54.00	-2.02	AVG	

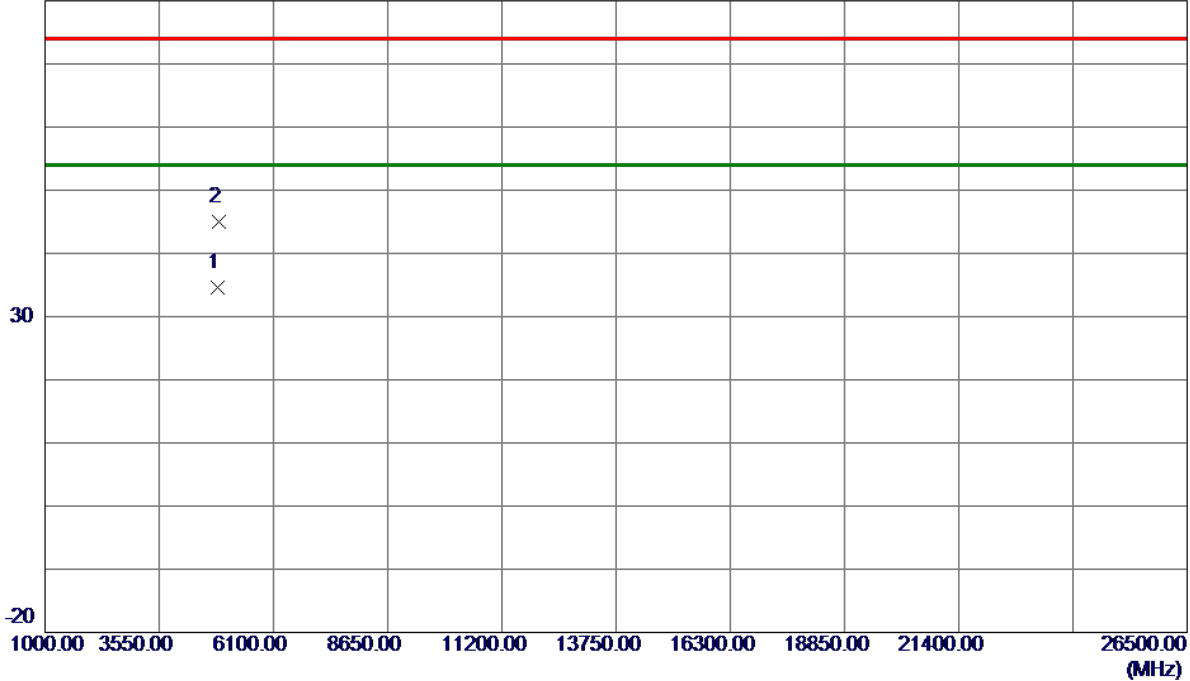
REMARKS:

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

Test Mode:	TX N-40M Mode 2437 MHz
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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 *	4854.0000	28.26	6.25	34.51	54.00	-19.49	AVG	
2	4872.1500	38.65	6.35	45.00	74.00	-29.00	Peak	

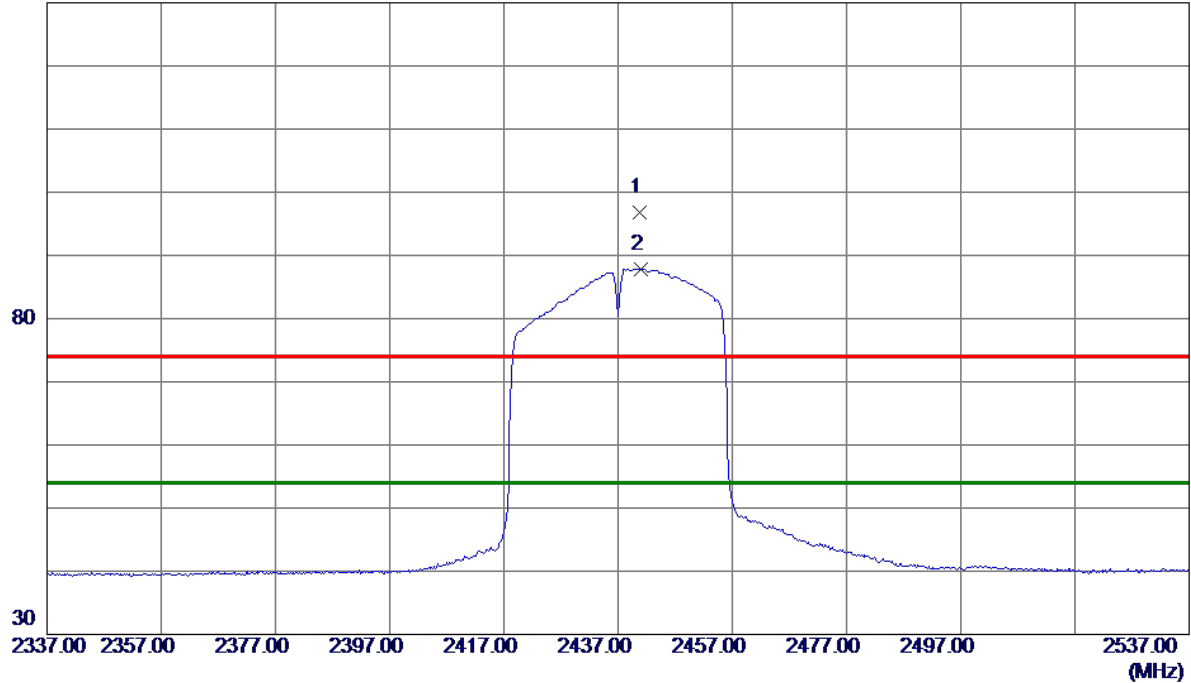
REMARKS:

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

Test Mode: TX N-40M Mode 2437 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2440.8000	87.43	9.46	96.89	74.00	22.89	Peak	No Limit
2 *	2441.0000	78.42	9.46	87.88	54.00	33.88	AVG	No Limit

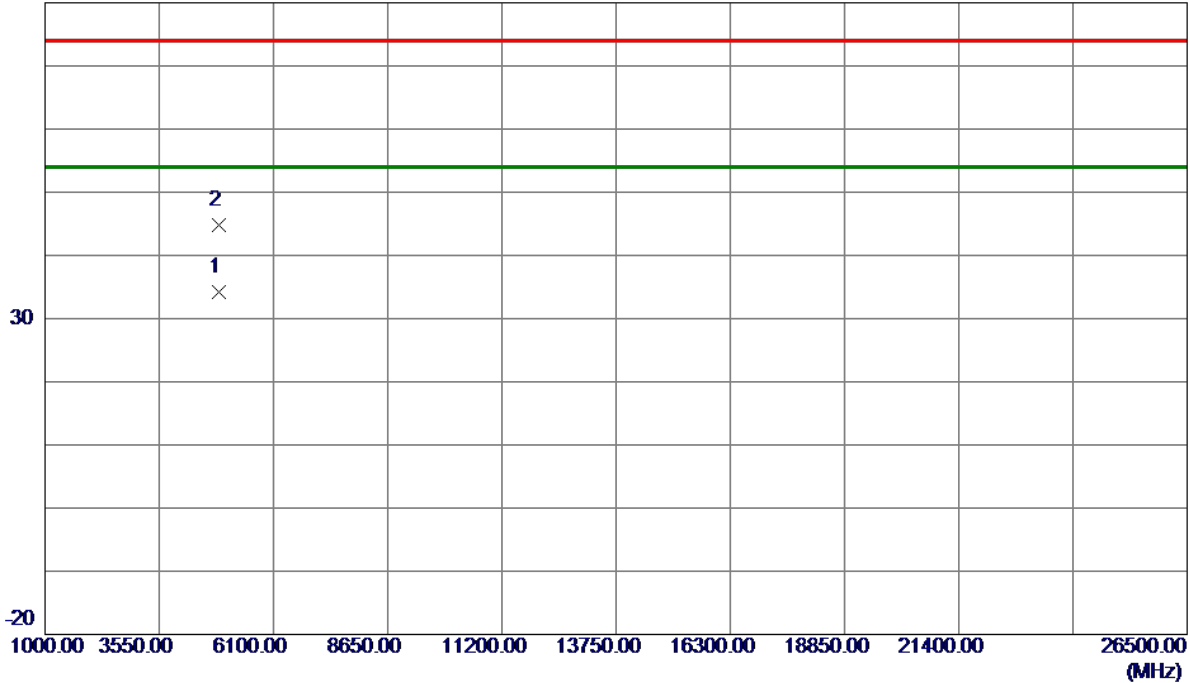
REMARKS:

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

Test Mode:	TX N-40M Mode 2437 MHz
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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 *	4880.0000	27.87	6.39	34.26	54.00	-19.74	AVG	
2	4884.4000	38.36	6.41	44.77	74.00	-29.23	Peak	

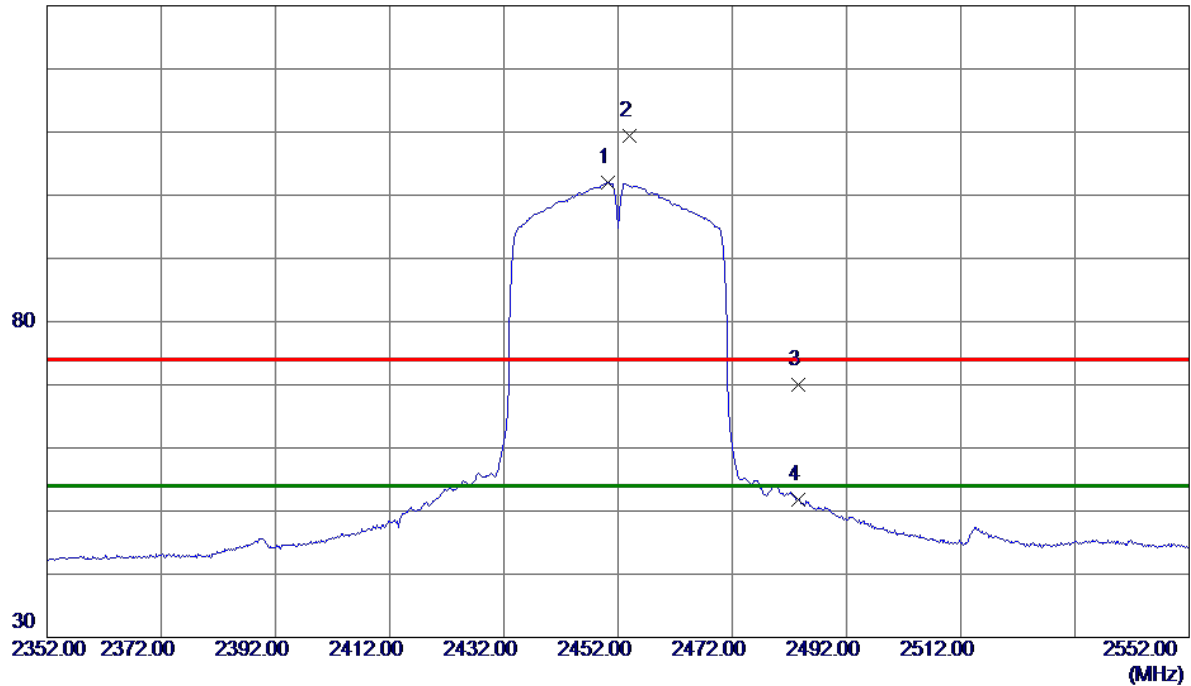
REMARKS:

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

Test Mode: TX N-40M Mode 2452 MHz

Vertical

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2450.2000	92.52	9.48	102.00	54.00	48.00	AVG	No Limit
2	2454.0000	99.91	9.49	109.40	74.00	35.40	Peak	No Limit
3	2483.5000	60.46	9.56	70.02	74.00	-3.98	Peak	
4	2483.5000	42.16	9.56	51.72	54.00	-2.28	AVG	

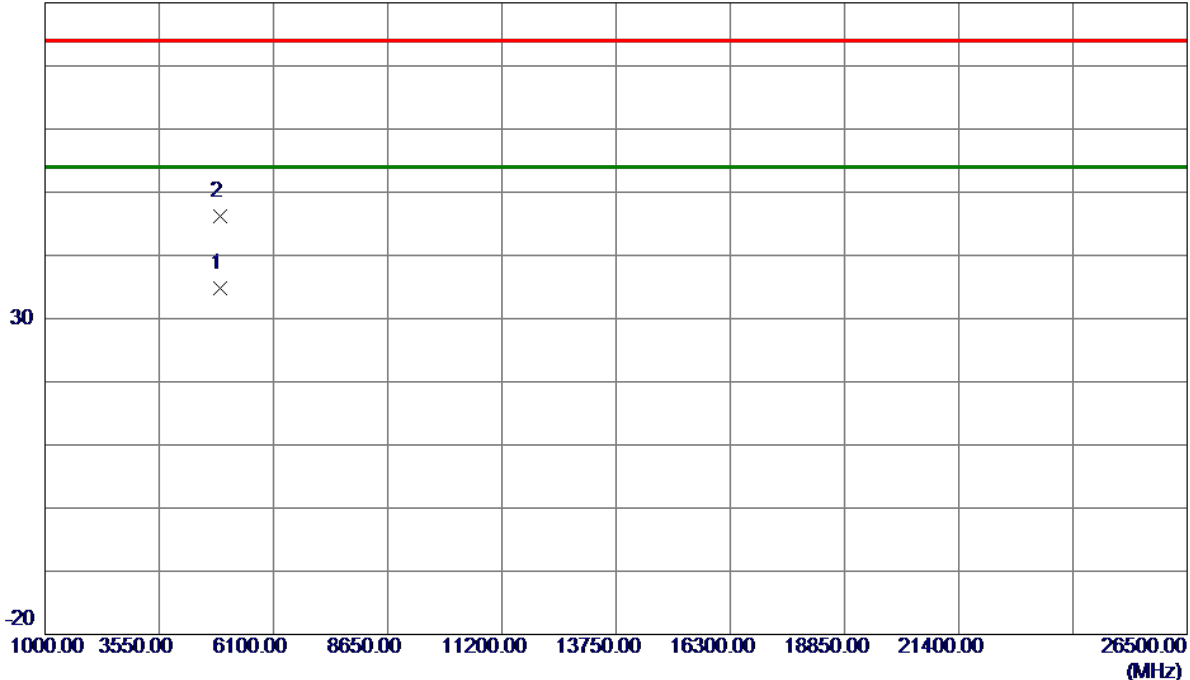
REMARKS:

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

Test Mode:	TX N-40M Mode 2452 MHz
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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 *	4907.1500	28.18	6.53	34.71	54.00	-19.29	AVG	
2	4908.2500	39.64	6.53	46.17	74.00	-27.83	Peak	

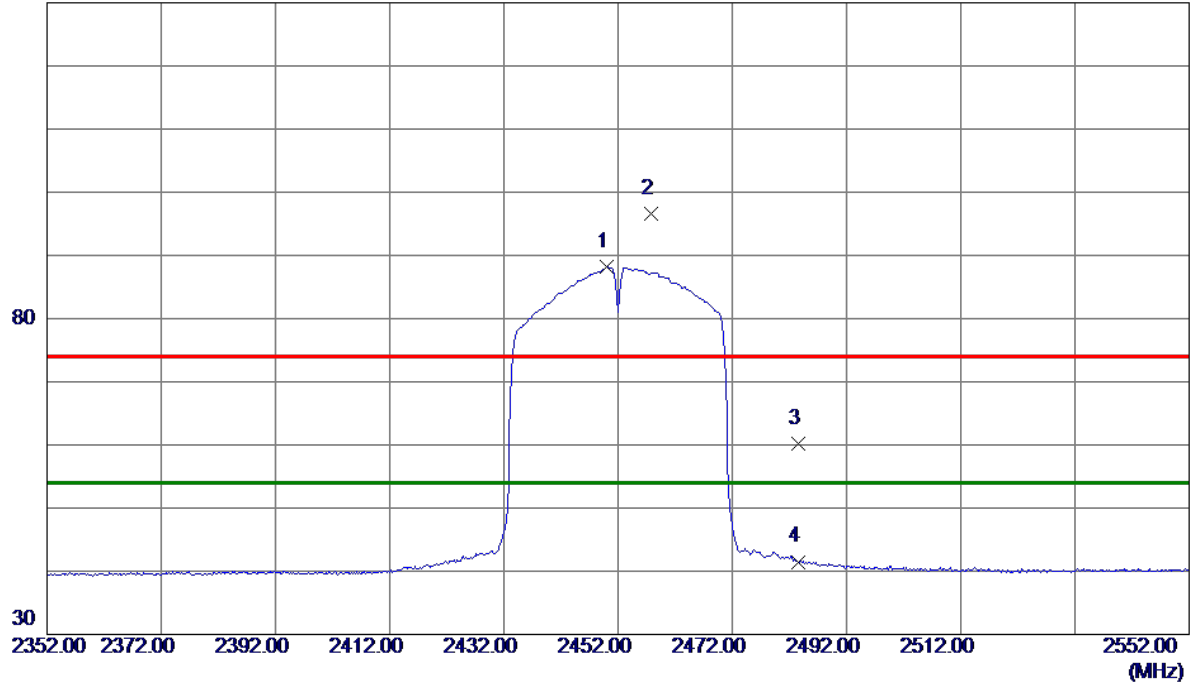
REMARKS:

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

Test Mode: TX N-40M Mode 2452 MHz

Horizontal

130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2450.0000	78.66	9.48	88.14	54.00	34.14	AVG	No Limit
2	2457.8000	87.11	9.50	96.61	74.00	22.61	Peak	No Limit
3	2483.5000	50.67	9.56	60.23	74.00	-13.77	Peak	
4	2483.5000	31.94	9.56	41.50	54.00	-12.50	AVG	

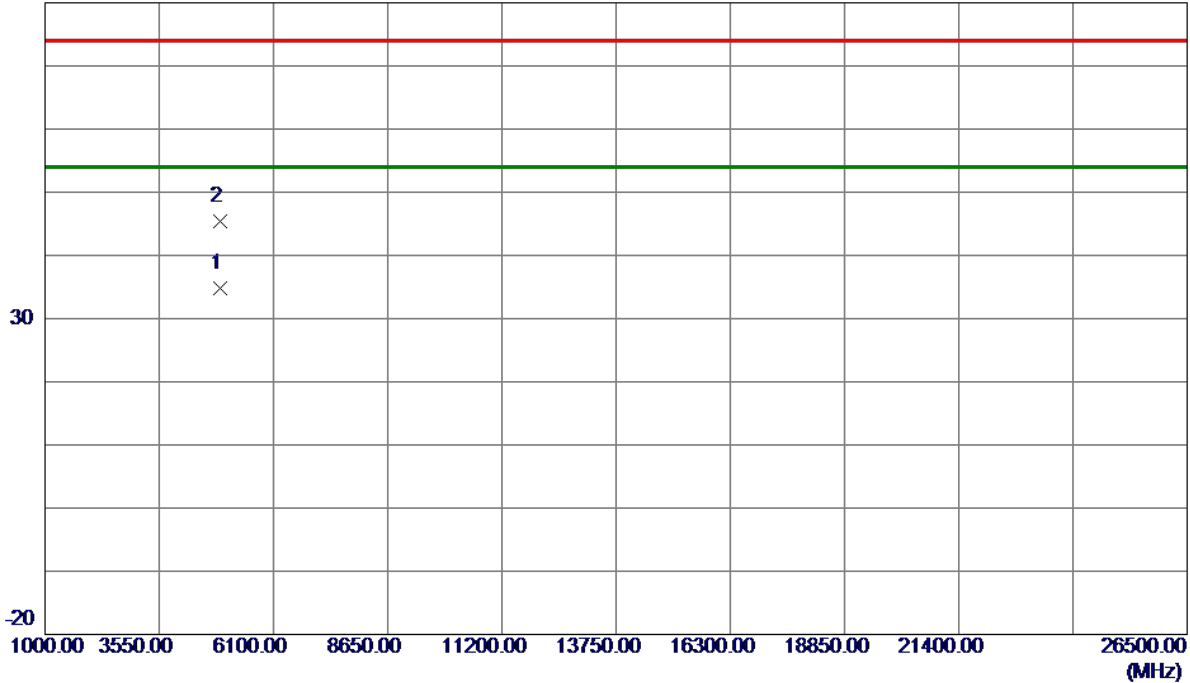
REMARKS:

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

Test Mode:	TX N-40M Mode 2452 MHz
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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 *	4906.0500	28.19	6.52	34.71	54.00	-19.29	AVG	
2	4907.2000	38.94	6.53	45.47	74.00	-28.53	Peak	

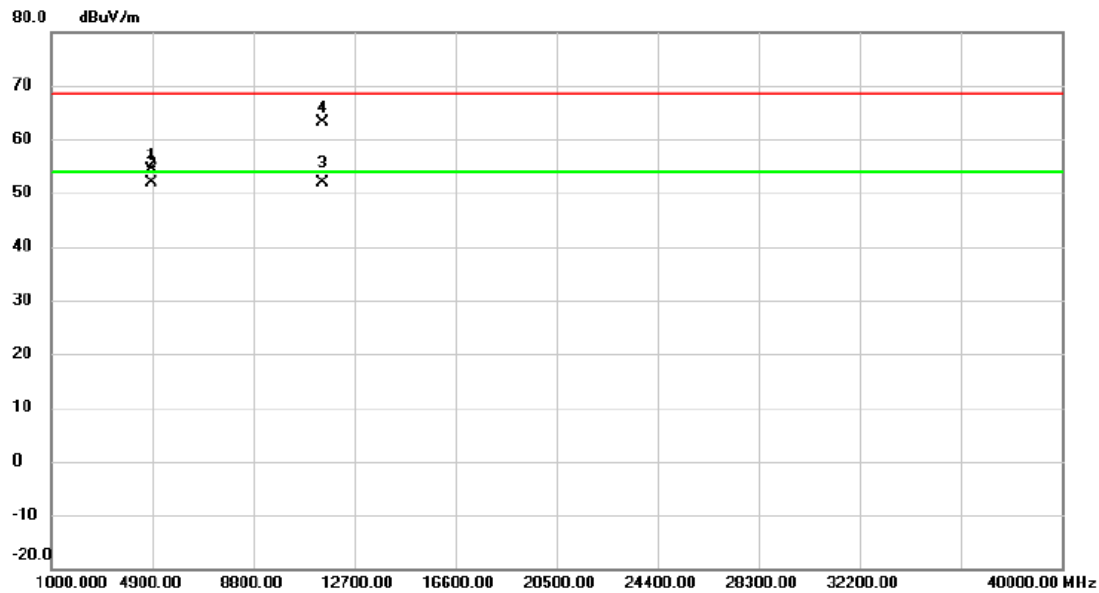
REMARKS:

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

The worst case of simultaneous transmission:

Test Mode:	TX WLAN 2.4G B Mode 2437MHz + WLAN 5G A Mode 5745MHz
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Vertical



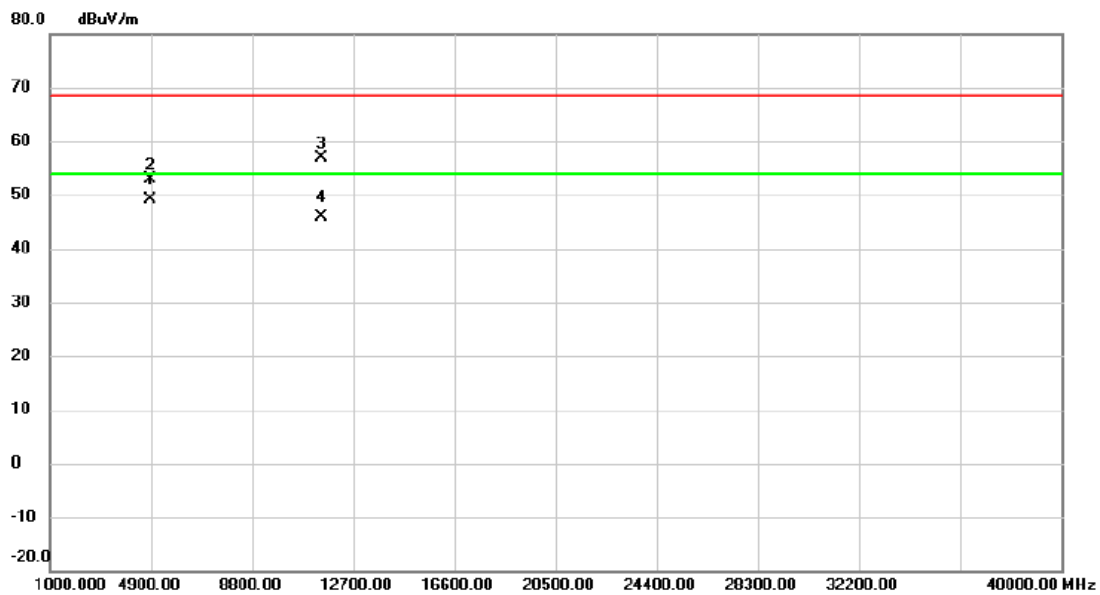
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.981	48.11	6.36	54.47	68.30	-13.83	peak	
2	*	4873.996	45.54	6.36	51.90	54.00	-2.10	AVG	
3		11490.020	35.78	16.03	51.81	54.00	-2.19	AVG	
4		11490.850	47.20	16.05	63.25	68.30	-5.05	peak	

REMARKS:

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

Test Mode: TX WLAN 2.4G B Mode 2437MHz + WLAN 5G A Mode 5745MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4873.980	42.89	6.36	49.25	54.00	-4.75	AVG	
2		4873.989	46.59	6.36	52.95	68.30	-15.35	peak	
3		11489.930	40.95	16.03	56.98	68.30	-11.32	peak	
4		11490.185	29.74	16.03	45.77	54.00	-8.23	AVG	

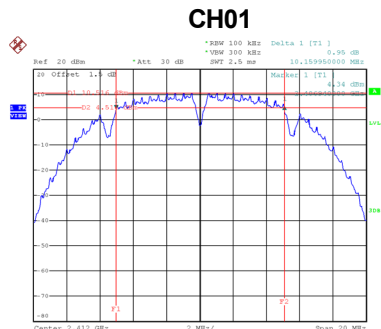
REMARKS:

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

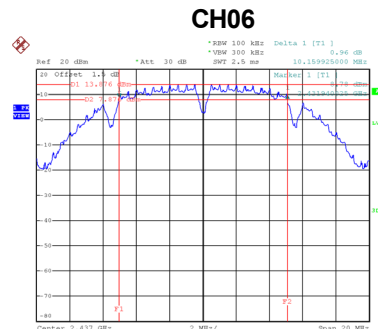
APPENDIX E - BANDWIDTH

Test Mode	TX B Mode
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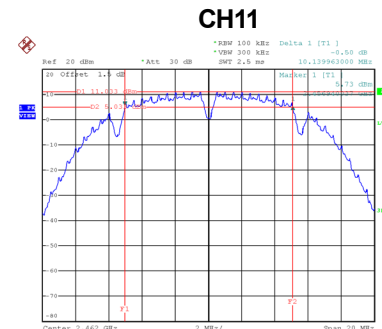
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	10.16	500	Complies
06	2437	10.16	500	Complies
11	2462	10.14	500	Complies



Date: 2.JUN.2020 10:40:56

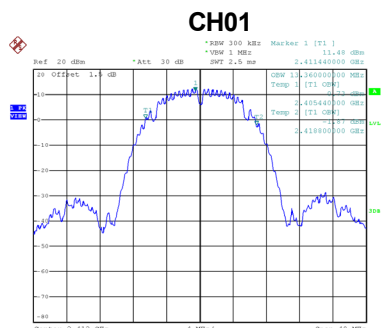


Date: 2.JUN.2020 10:42:16

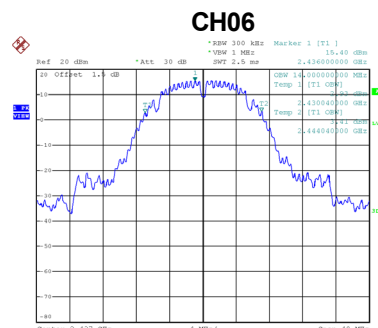


Date: 2.JUN.2020 10:43:40

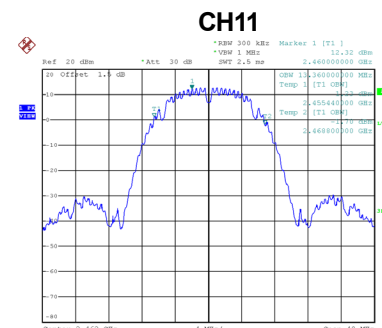
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	13.36	Complies
06	2437	14.00	Complies
11	2462	13.36	Complies



Date: 2.JUN.2020 10:41:03



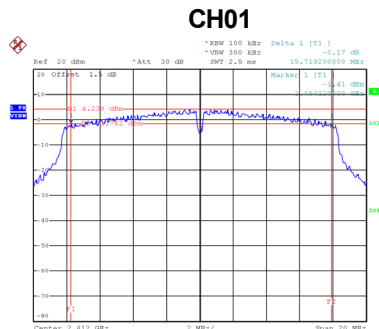
Date: 2.JUN.2020 10:42:22



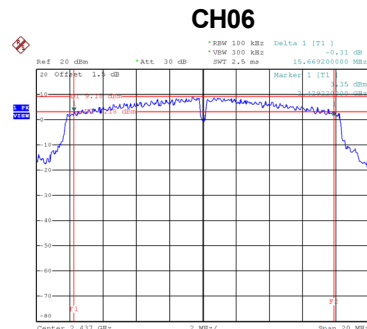
Date: 2.JUN.2020 10:43:46

Test Mode	TX G Mode
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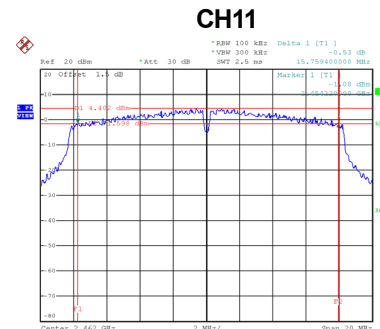
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	15.72	500	Complies
06	2437	15.67	500	Complies
11	2462	15.76	500	Complies



Date: 2.JUN.2020 10:45:01

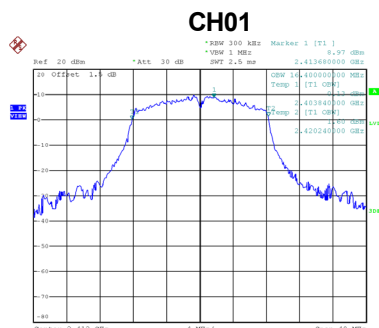


Date: 2.JUN.2020 09:24:58

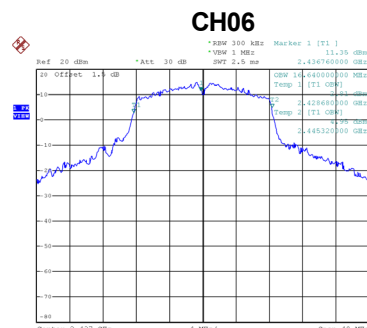


Date: 2.JUN.2020 10:46:14

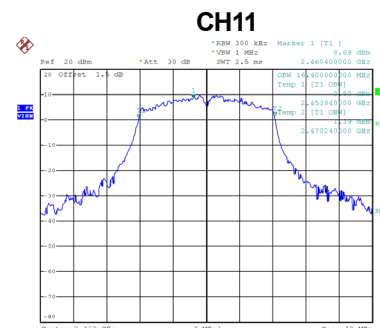
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	16.40	Complies
06	2437	16.64	Complies
11	2462	16.40	Complies



Date: 2.JUN.2020 10:45:08



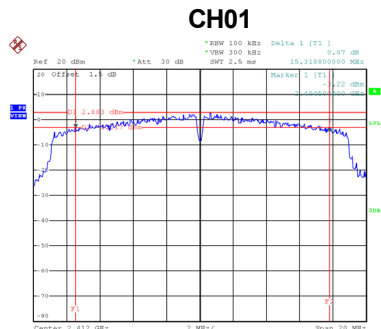
Date: 2.JUN.2020 09:25:05



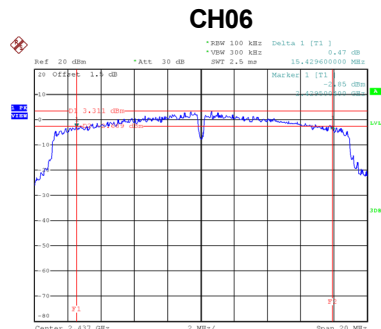
Date: 2.JUN.2020 10:46:20

Test Mode	TX N-20M Mode
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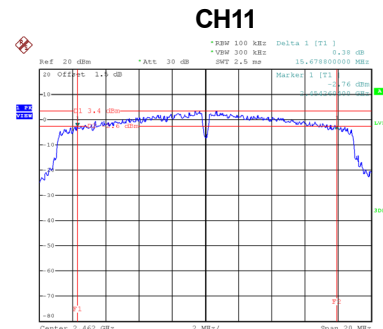
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	15.32	500	Complies
06	2437	15.43	500	Complies
11	2462	15.68	500	Complies



Date: 2.JUN.2020 09:29:53

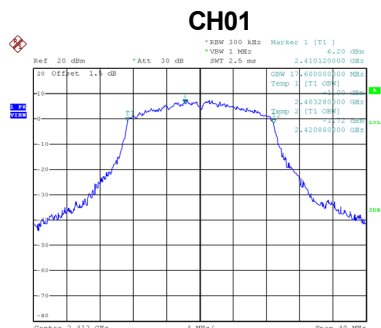


Date: 2.JUN.2020 09:31:50

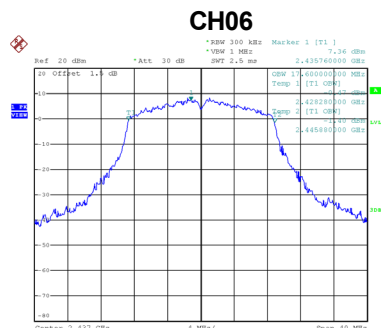


Date: 2.JUN.2020 09:33:04

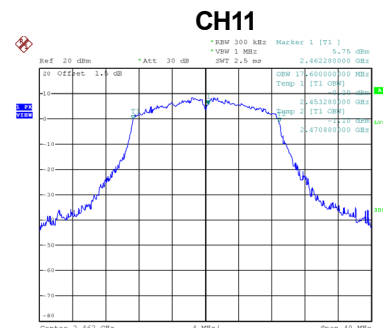
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	17.60	Complies
06	2437	17.60	Complies
11	2462	17.60	Complies



Date: 2.JUN.2020 09:30:00



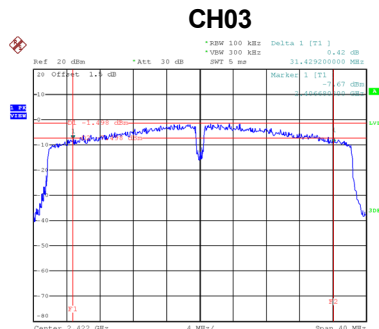
Date: 2.JUN.2020 09:31:56



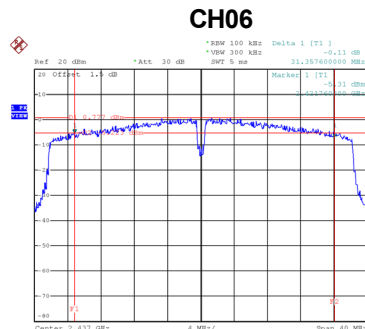
Date: 2.JUN.2020 09:33:11

Test Mode	TX N-40M Mode
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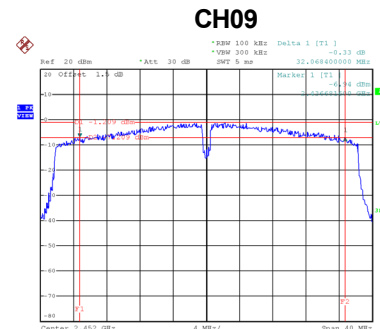
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
03	2422	31.43	500	Complies
06	2437	31.36	500	Complies
09	2452	32.07	500	Complies



Date: 2.JUN.2020 10:47:40

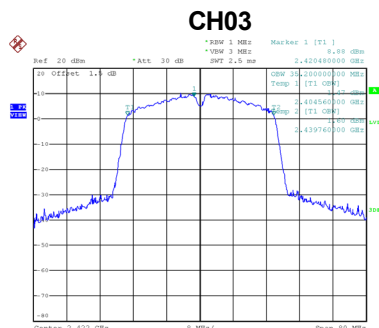


Date: 2.JUN.2020 09:40:53

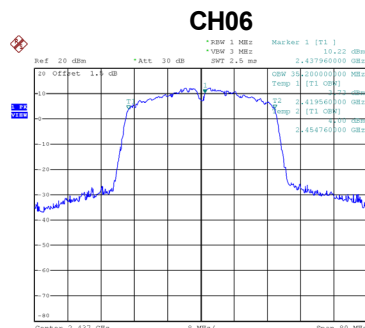


Date: 2.JUN.2020 10:49:56

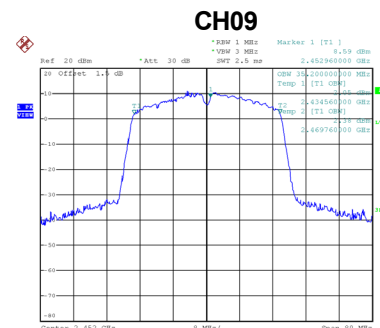
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
03	2422	35.20	Complies
06	2437	35.20	Complies
09	2452	35.20	Complies



Date: 2.JUN.2020 10:47:46



Date: 2.JUN.2020 09:40:59



Date: 2.JUN.2020 10:50:03

APPENDIX F - MAXIMUM OUTPUT POWER

Non Beamforming

Test Mode	TX B Mode
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	25.84	30.00	1.0000	Complies
06	2437	29.08	30.00	1.0000	Complies
11	2462	26.32	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	20.83	30.00	1.0000	Complies
06	2437	24.73	30.00	1.0000	Complies
11	2462	20.94	30.00	1.0000	Complies

Test Mode	TX G Mode
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	28.18	30.00	1.0000	Complies
06	2437	29.47	30.00	1.0000	Complies
11	2462	28.14	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.03	30.00	1.0000	Complies
06	2437	21.49	30.00	1.0000	Complies
11	2462	17.98	30.00	1.0000	Complies

Test Mode	TX N-20M Mode_Ant. 1
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	26.26	30.00	1.0000	Complies
06	2437	26.91	30.00	1.0000	Complies
11	2462	26.72	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.03	30.00	1.0000	Complies
06	2437	16.07	30.00	1.0000	Complies
11	2462	16.87	30.00	1.0000	Complies

Test Mode	TX N-20M Mode_Ant. 2
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	25.92	30.00	1.0000	Complies
06	2437	25.72	30.00	1.0000	Complies
11	2462	25.49	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.07	30.00	1.0000	Complies
06	2437	14.63	30.00	1.0000	Complies
11	2462	14.34	30.00	1.0000	Complies

Test Mode	TX N-20M Mode_Total
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	29.10	30.00	1.0000	Complies
06	2437	29.37	30.00	1.0000	Complies
11	2462	29.16	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.58	30.00	1.0000	Complies
06	2437	18.42	30.00	1.0000	Complies
11	2462	18.79	30.00	1.0000	Complies

Test Mode	TX N-40M Mode_Ant. 1
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	24.96	30.00	1.0000	Complies
06	2437	26.38	30.00	1.0000	Complies
09	2452	25.32	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	12.88	30.00	1.0000	Complies
06	2437	14.49	30.00	1.0000	Complies
09	2452	13.71	30.00	1.0000	Complies

Test Mode	TX N-40M Mode_Ant. 2
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	25.94	30.00	1.0000	Complies
06	2437	26.26	30.00	1.0000	Complies
09	2452	25.66	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	13.94	30.00	1.0000	Complies
06	2437	14.91	30.00	1.0000	Complies
09	2452	15.81	30.00	1.0000	Complies

Test Mode	TX N-40M Mode_Total
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	28.49	30.00	1.0000	Complies
06	2437	29.33	30.00	1.0000	Complies
09	2452	28.50	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	16.45	30.00	1.0000	Complies
06	2437	17.71	30.00	1.0000	Complies
09	2452	17.89	30.00	1.0000	Complies

Beamforming

Test Mode	TX N-20M Mode_Ant. 1
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	25.89	30.00	1.0000	Complies
06	2437	25.88	30.00	1.0000	Complies
11	2462	25.93	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	13.93	30.00	1.0000	Complies
06	2437	14.73	30.00	1.0000	Complies
11	2462	15.37	30.00	1.0000	Complies

Test Mode	TX N-20M Mode_Ant. 2
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	24.74	30.00	1.0000	Complies
06	2437	24.94	30.00	1.0000	Complies
11	2462	24.17	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	13.39	30.00	1.0000	Complies
06	2437	13.63	30.00	1.0000	Complies
11	2462	14.89	30.00	1.0000	Complies

Test Mode	TX N-20M Mode_Total
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	28.36	29.50	0.8913	Complies
06	2437	28.45	29.50	0.8913	Complies
11	2462	28.15	29.50	0.8913	Complies

Channel	Frequency (MHz)	Average Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.67	29.50	0.8913	Complies
06	2437	17.22	29.50	0.8913	Complies
11	2462	18.14	29.50	0.8913	Complies

Test Mode	TX N-40M Mode_Ant. 1
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	23.63	30.00	1.0000	Complies
06	2437	24.74	30.00	1.0000	Complies
09	2452	24.79	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	12.32	30.00	1.0000	Complies
06	2437	13.04	30.00	1.0000	Complies
09	2452	14.10	30.00	1.0000	Complies

Test Mode	TX N-40M Mode_Ant. 2
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Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	24.77	30.00	1.0000	Complies
06	2437	24.85	30.00	1.0000	Complies
09	2452	24.83	30.00	1.0000	Complies

Channel	Frequency (MHz)	Average Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	13.29	30.00	1.0000	Complies
06	2437	13.47	30.00	1.0000	Complies
09	2452	13.86	30.00	1.0000	Complies

Test Mode	TX N-40M Mode_Total
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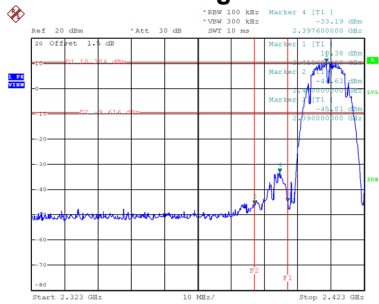
Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	27.25	29.50	0.8913	Complies
06	2437	27.81	29.50	0.8913	Complies
09	2452	27.82	29.50	0.8913	Complies

Channel	Frequency (MHz)	Average Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	15.84	29.50	0.8913	Complies
06	2437	16.27	29.50	0.8913	Complies
09	2452	16.99	29.50	0.8913	Complies

APPENDIX G - CONDUCTED SPURIOUS EMISSIONS

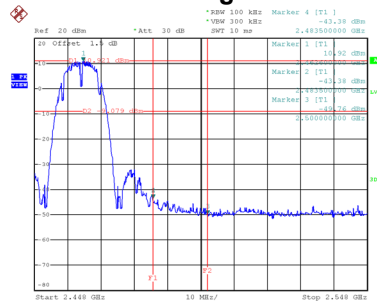
Test Mode TX B Mode

Bandedge-CH01



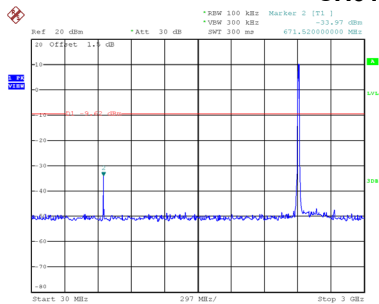
Date: 2.JUN.2020 10:41:10

Bandedge-CH11

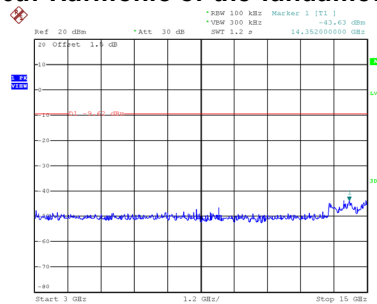


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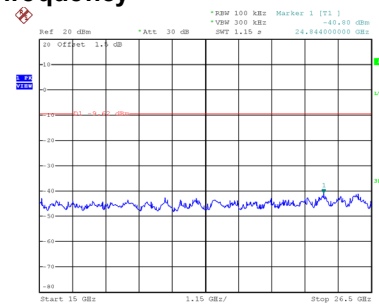
CH01 – 10th Harmonic of the fundamental frequency



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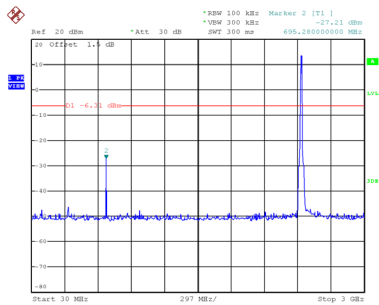


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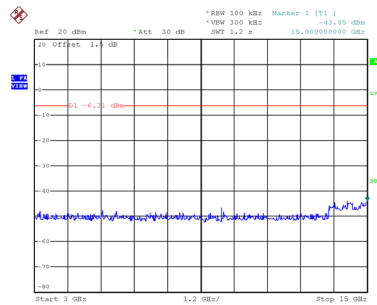


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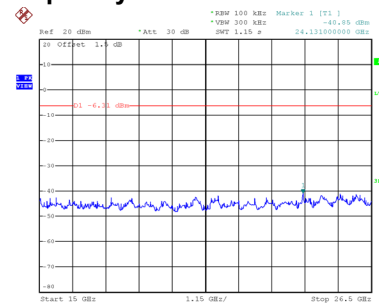
CH06 – 10th Harmonic of the fundamental frequency



Date: 2.JUN.2020 10:42:42

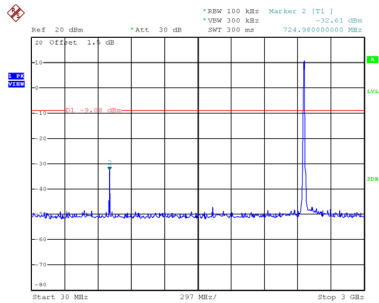


Date: 2.JUN.2020 10:42:49

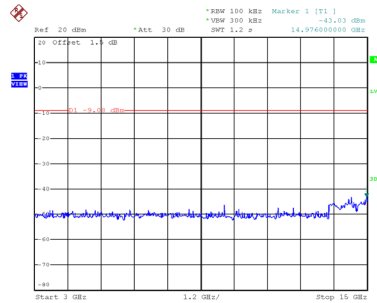


Date: 2.JUN.2020 10:42:56

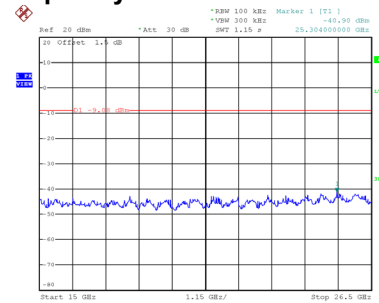
CH11 – 10th Harmonic of the fundamental frequency



Date: 2.JUN.2020 10:44:06



Date: 2.JUN.2020 10:44:13



Date: 2.JUN.2020 10:44:19