

FCC Radio Test Report

FCC ID: 2ACHK-01070189

This report concerns: Class II Permissive Change

Project No. : 2010H019
Equipment : Wireless Digital Flat Panel Detector
Brand Name : iRay Technology
Test Model : Luna1013XE、NDT1013LA、Luna1012X
Series Model : N/A
Applicant : iRay Technology Co. Ltd.
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Date of Receipt : Oct. 22, 2020
Date of Test : Oct. 23, 2020~Dec. 16, 2020
Issued Date : Mar. 24, 2021
Report Version : R01
Test Sample : Engineering Sample No.: SH2020012037,SH2020012037-1
SH2020012037-2
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.

Maker Qi

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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.

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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.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Dec. 18, 2020
R01	Revised report to address TCB's comments.	Mar. 24, 2021

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart C (15.247)				
Standard(s) Section	Test Item	Test Result	Judgment	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	Refer to the module report: R1905A0235-R3 & SHEM180400246701
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	Refer to the module report: R1905A0235-R3 & SHEM180400246701
15.247(b)(3)	Maximum Output Power	APPENDIX F	PASS	Refer to the module report: R1905A0235-R3 & SHEM180400246701
15.247(d)	Conducted Spurious Emissions	APPENDIX G	PASS	Refer to the module report: R1905A0235-R3 & SHEM180400246701
15.247(e)	Power Spectral Density	APPENDIX H	PASS	Refer to the module report: R1905A0235-R3 & SHEM180400246701
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. 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. 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
Radiated Emissions-30 MHz to 1GHz	24°C	58%	AC 120V/60Hz	Forest Li
Radiated Emissions-Above 1000 MHz	24°C	58%	AC 120V/60Hz	Forest Li

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless Digital Flat Panel Detector
Brand Name	iRay Technology
Test Model	Luna1013XE、NDT1013LA、Luna1012X
Series Model	N/A
Model Difference(s)	Naming and using environments are different, everything else is the same
Software Version	N/A
Hardware Version	N/A
Power Source	DC voltage supplied from AC/DC adapter.
Power Rating	100-240V ~/1.5A, 50Hz-60Hz O/P: 24.0V --- 3A Max.
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps
Maximum Output Power	IEEE 802.11b: 13.81 dBm (0.02404 W) IEEE 802.11g: 12.88 dBm (0.01941 W)

Note:

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

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

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	LDS	N/A	-1.66	N/A
2	N/A	N/A	LDS	N/A	3.65	N/A

Note: The antenna gain is provided by the manufacturer.

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 B Mode Channel 11

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

Radiated emissions test - Below 1GHz	
Final Test Mode:	Description
Mode 4	TX B Mode Channel 11

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

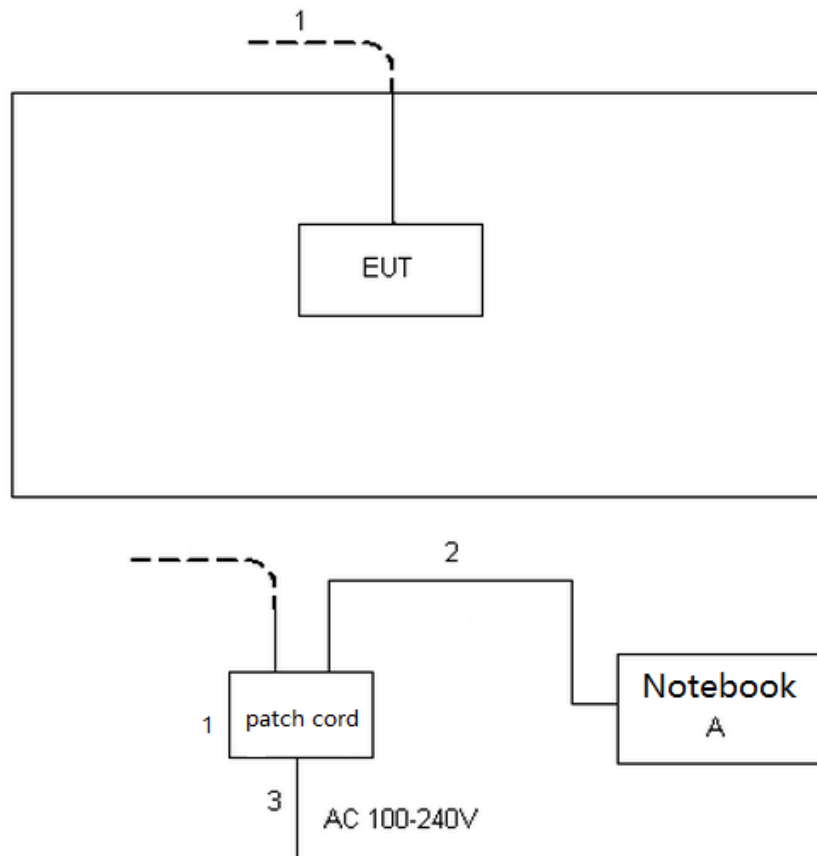
NOTE:

- (1) The measurements are performed at the high, middle, low available channels.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11b Channel 11 is found to be the worst case and recorded.

2.3 PARAMETERS OF TEST SOFTWARE

Test Software	DutApiMimoBtFmBrdigeEth		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	14	14	14
IEEE 802.11g	12	12	12
IEEE 802.11n (HT20)	12	12	12
IEEE 802.11n (HT40)	13	13	11

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.5 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	AC Cable	NO	NO	3m
2	RJ45 Cable	NO	NO	10m
3	AC Cable	NO	NO	1.5m

3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

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

NOTE:

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

The following table is the setting of the receiver

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

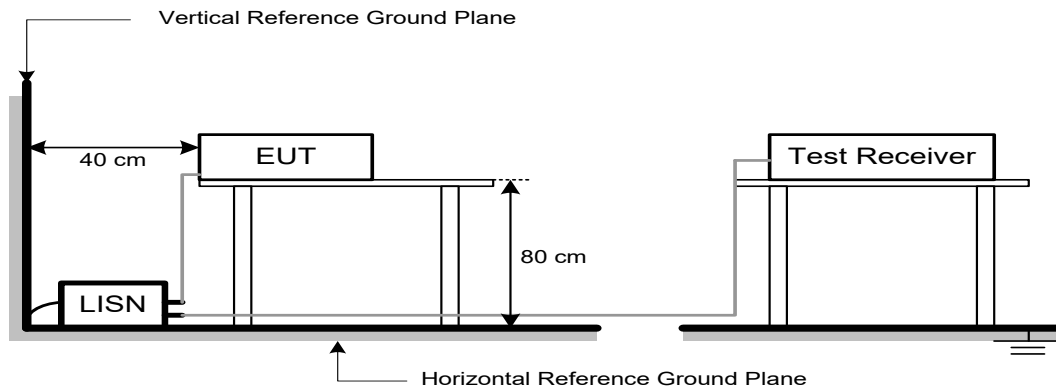
3.2 TEST PROCEDURE

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

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS TEST

4.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

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

NOTE:

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

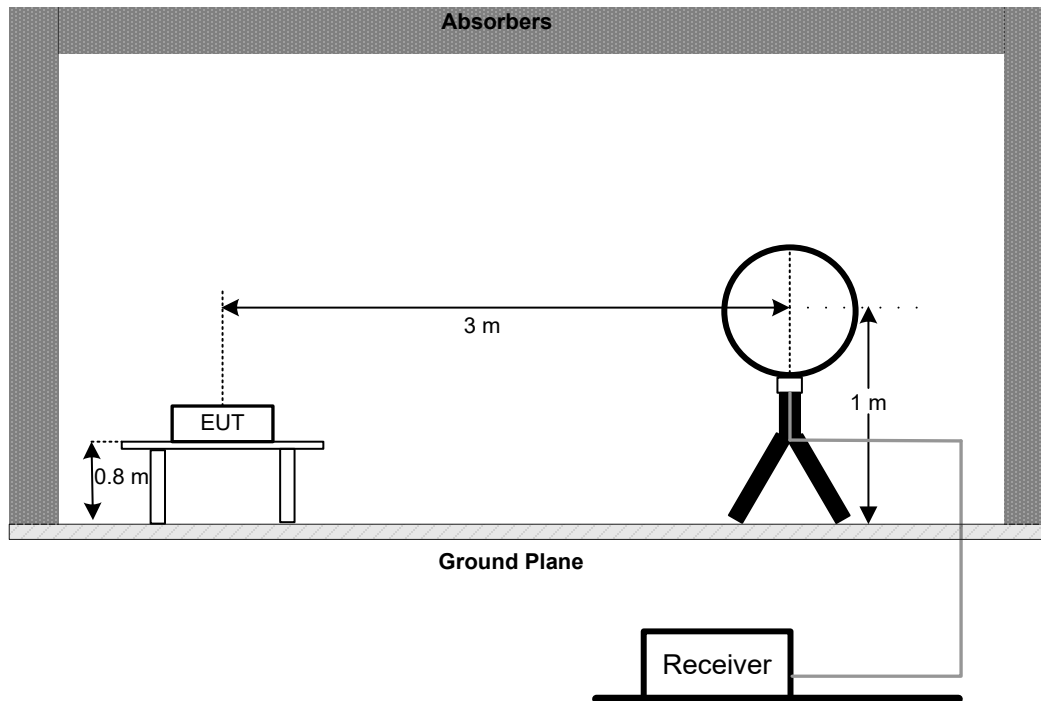
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance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

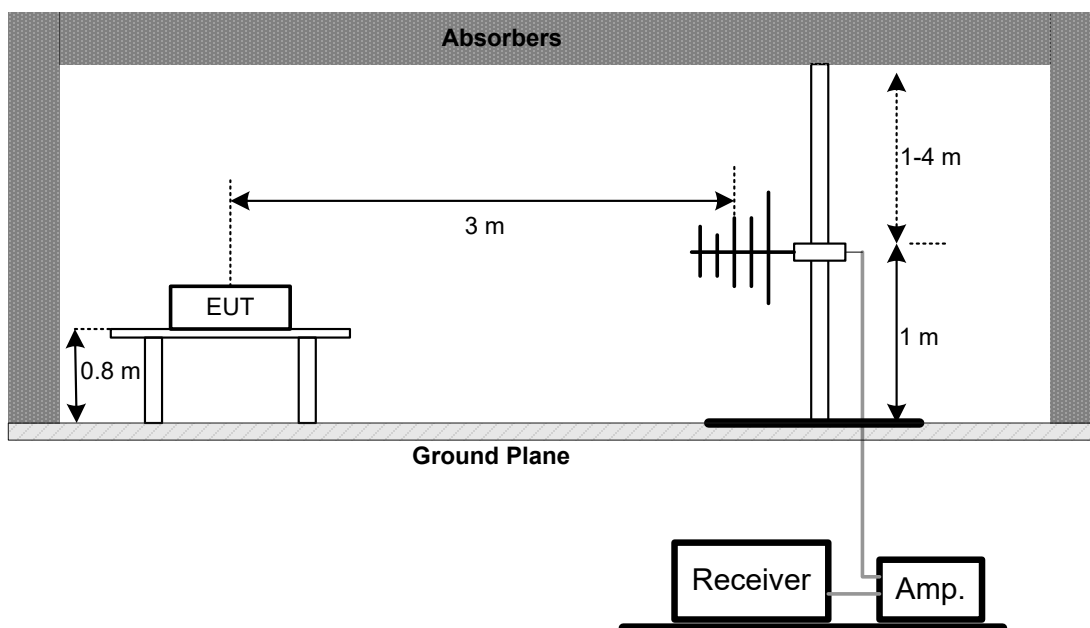
No deviation

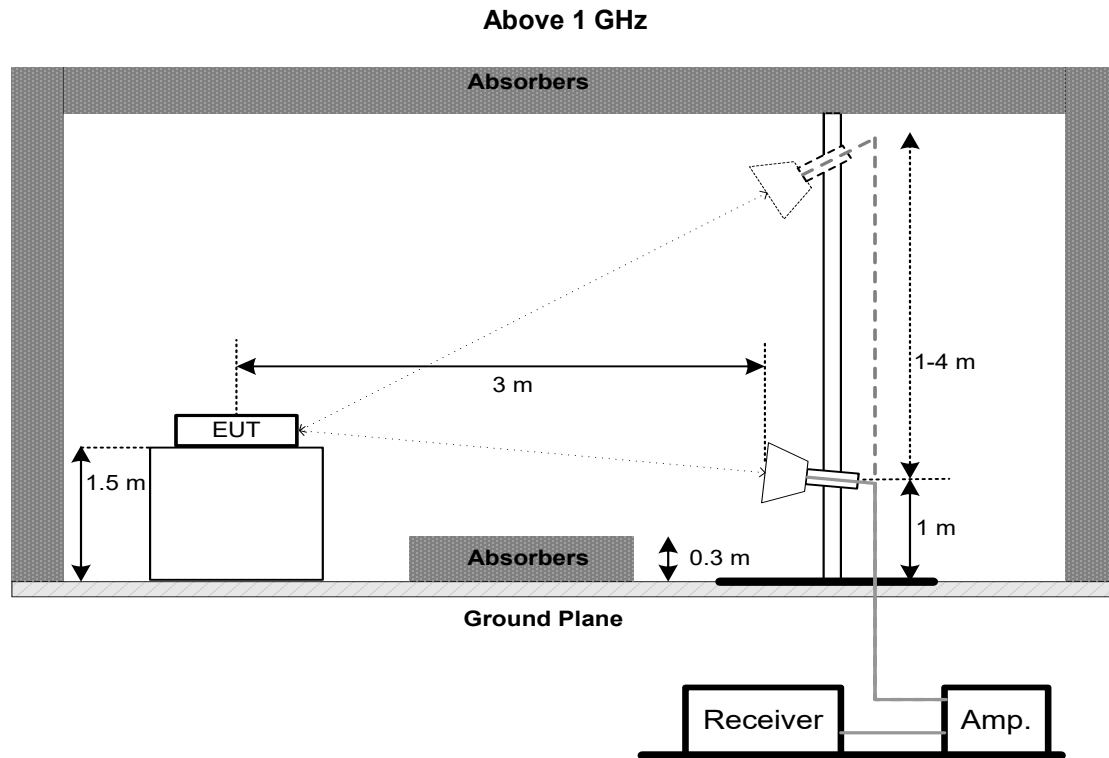
4.4 TEST SETUP

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	-

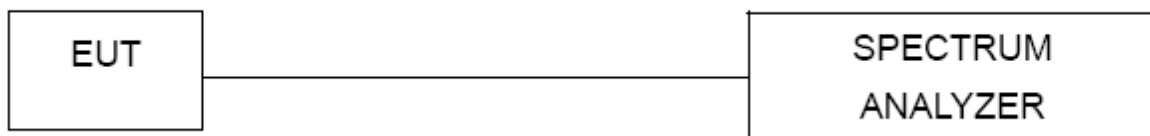
5.2 TEST PROCEDURE

- 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

N/A

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 (for peak power) or 11.9.2.3.1 (for AVG power) 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

N/A

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

N/A

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

N/A

9. MEASUREMENT INSTRUMENTS LIST

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	Apr. 02, 2021
2	Pre-Amplifier	emci	EMC9135	980400	Mar. 21, 2021
3	MXE EMI Receiver	Keysight	N9038A	MY57150106	Mar. 21, 2021
4	Test Cable	emci	EMC104-SM-SM-7000	170330	Apr. 13, 2021
5	Test Cable	emci	EMC104-SM-SM-1000	170331	Apr. 13, 2021
6	Test Cable	emci	EMC104-SM-NM-3500	170621	Apr. 13, 2021
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

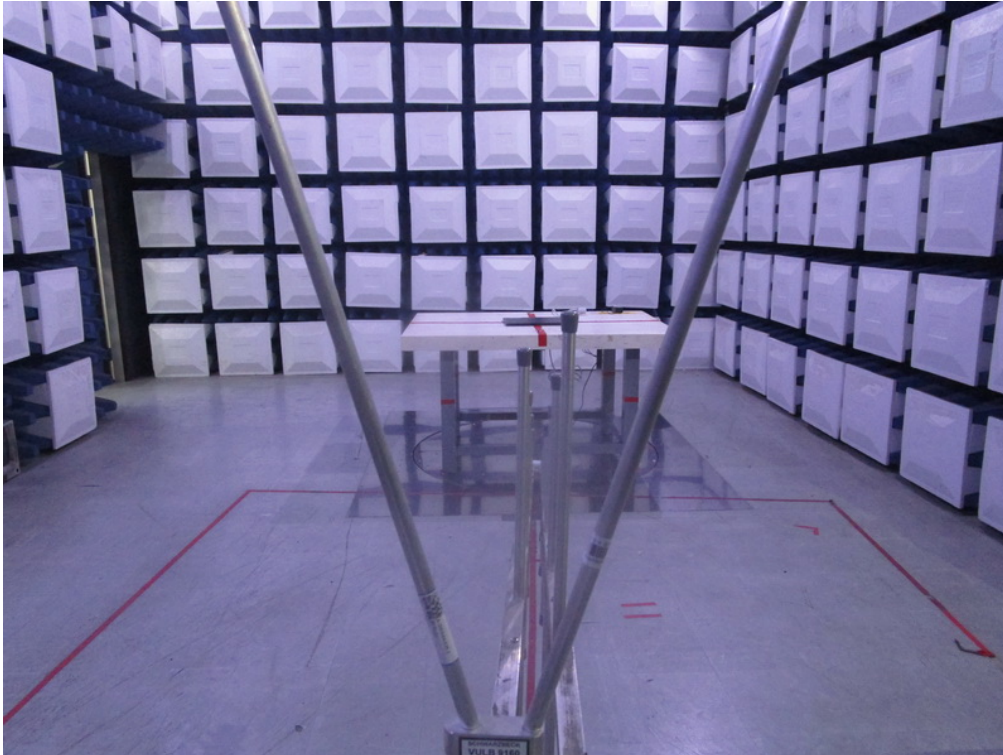
Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double-Ridged Waveguide Horn Antenna	ETS-Lindgren	9120D	00206960	Apr. 02, 2021
2	Pre-Amplifier	emci	EMC012645SE	980421	May. 11, 2021
3	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Mar. 21, 2021
4	Test Cable	emci	EMC104-SM-SM-7000	170330	Apr. 13, 2021
5	Test Cable	emci	EMC104-SM-SM-1000	170331	Apr. 13, 2021
6	Test Cable	emci	EMC104-SM-NM-3500	170621	Apr. 13, 2021
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	MXE EMI Receiver	Keysight	N9038A	MY57150106	May. 06, 2021
9	Double-Ridged Waveguide Horn Antenna	ETS-Lindgren	3116C	00203919	Jul. 20, 2021
10	Pre-Amplifier	emci	EMC184045SE	980409	Mar. 21, 2021
11	EXA Spectrum Analyzer	Keysight	N9010A	MY56480579	Mar. 21, 2021
12	Test Cable	emci	EMC102-KM-KM-800	170654	Apr. 13, 2021
13	Test Cable	emci	Super Reliable-40G-SS11-7000	W0030860001	Apr. 13, 2021
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

10. EUT TEST PHOTO

Radiated Emissions Test Photos

30 MHz to 1 GHz



Radiated Emissions Test Photos

Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

N/A

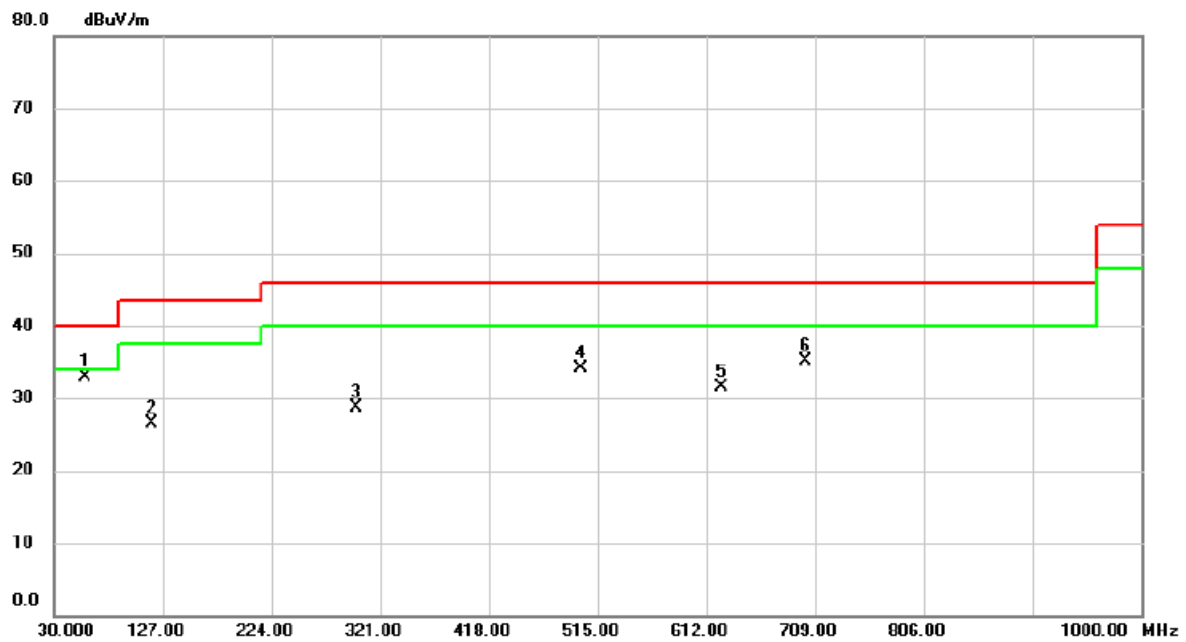
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Note: The measured value have enough margin over 20dB than the limit, therefore they are not reported.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode: TX B Mode 2462 MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	57.645	47.04	-14.23	32.81	40.00	-7.19	peak	
2		116.815	39.80	-13.22	26.58	43.50	-16.92	peak	
3		300.145	39.73	-11.00	28.73	46.00	-17.27	peak	
4		499.965	41.37	-7.26	34.11	46.00	-11.89	peak	
5		625.095	36.38	-4.81	31.57	46.00	-14.43	peak	
6		700.270	38.60	-3.58	35.02	46.00	-10.98	peak	

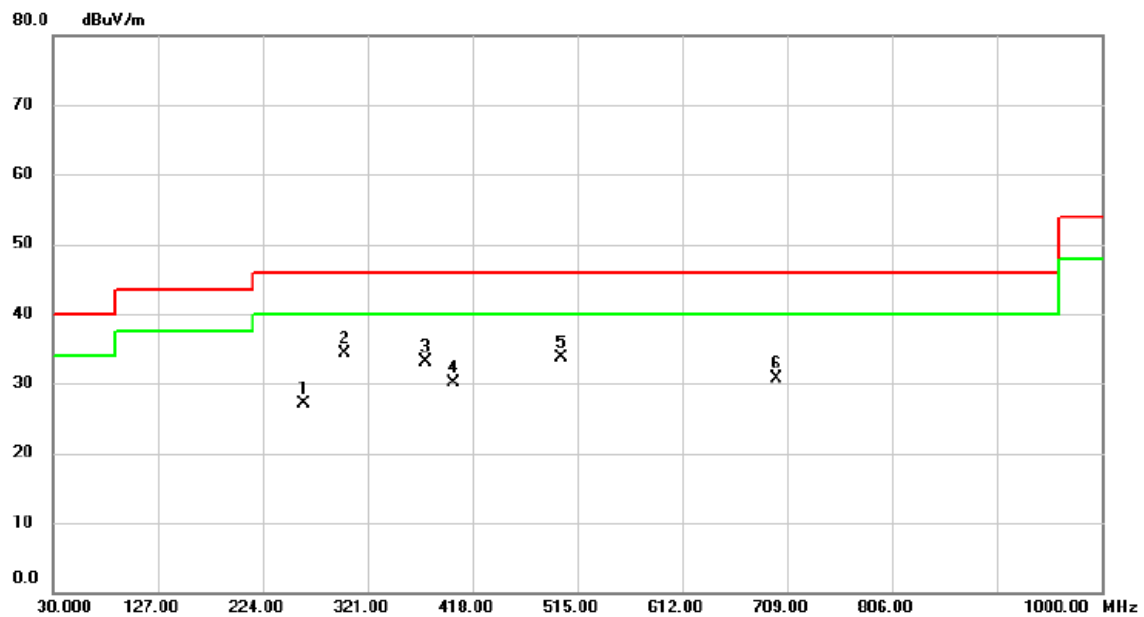
REMARKS:

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

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

Test Mode: TX B Mode 2462 MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		262.315	39.47	-12.32	27.15	46.00	-18.85	peak	
2	*	300.145	45.35	-11.00	34.35	46.00	-11.65	peak	
3		374.835	42.67	-9.60	33.07	46.00	-12.93	peak	
4		400.055	39.16	-9.01	30.15	46.00	-15.85	peak	
5		499.965	40.99	-7.26	33.73	46.00	-12.27	peak	
6		699.785	34.29	-3.58	30.71	46.00	-15.29	peak	

REMARKS:

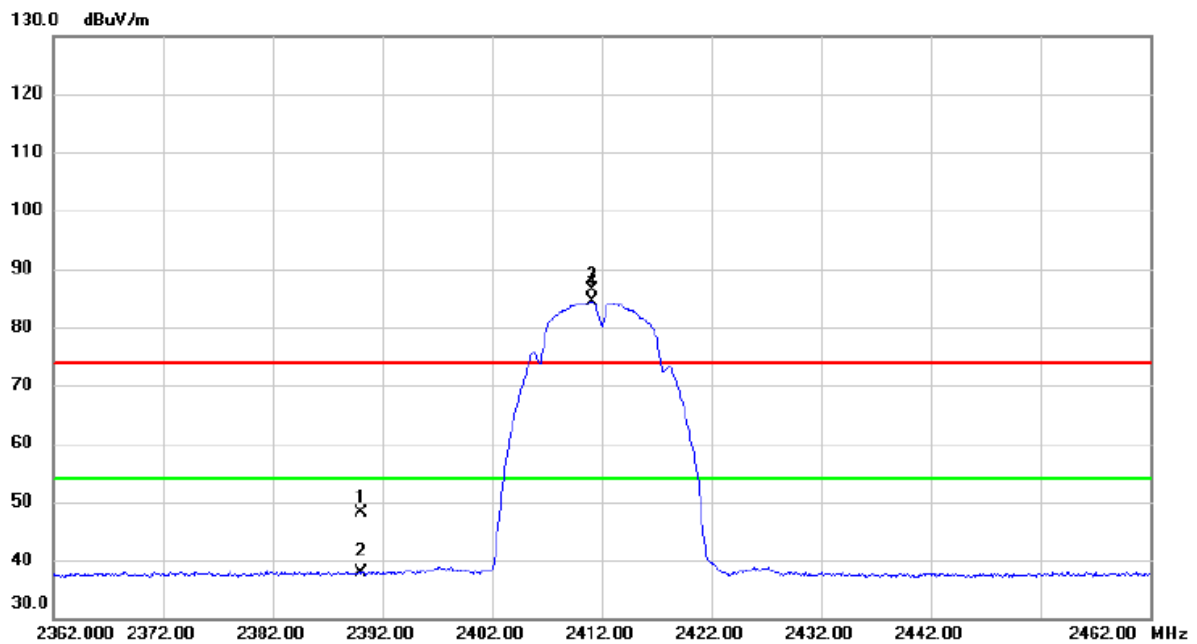
(1) Measurement Value = Reading Level + Correct Factor.

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

APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

Test Mode: TX B Mode 2412 MHz

Vertical



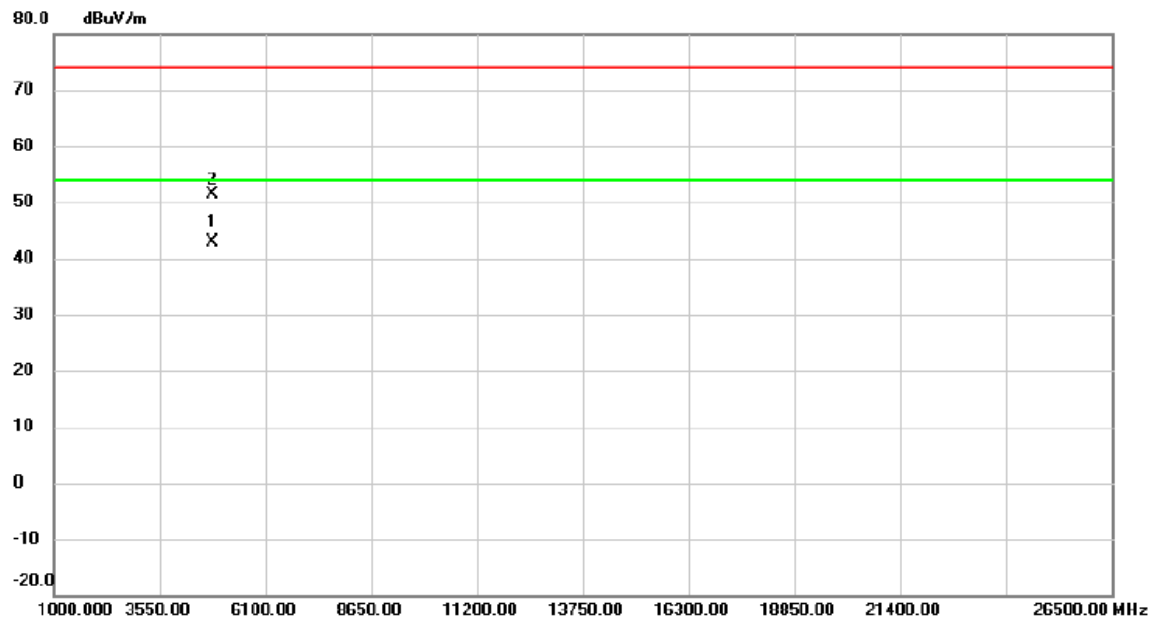
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	40.93	7.26	48.19	74.00	-25.81	peak	
2		2390.000	30.56	7.26	37.82	54.00	-16.18	AVG	
3	X	2411.100	79.15	7.25	86.40	74.00	12.40	peak	No Limit
4	*	2411.200	77.16	7.26	84.42	54.00	30.42	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



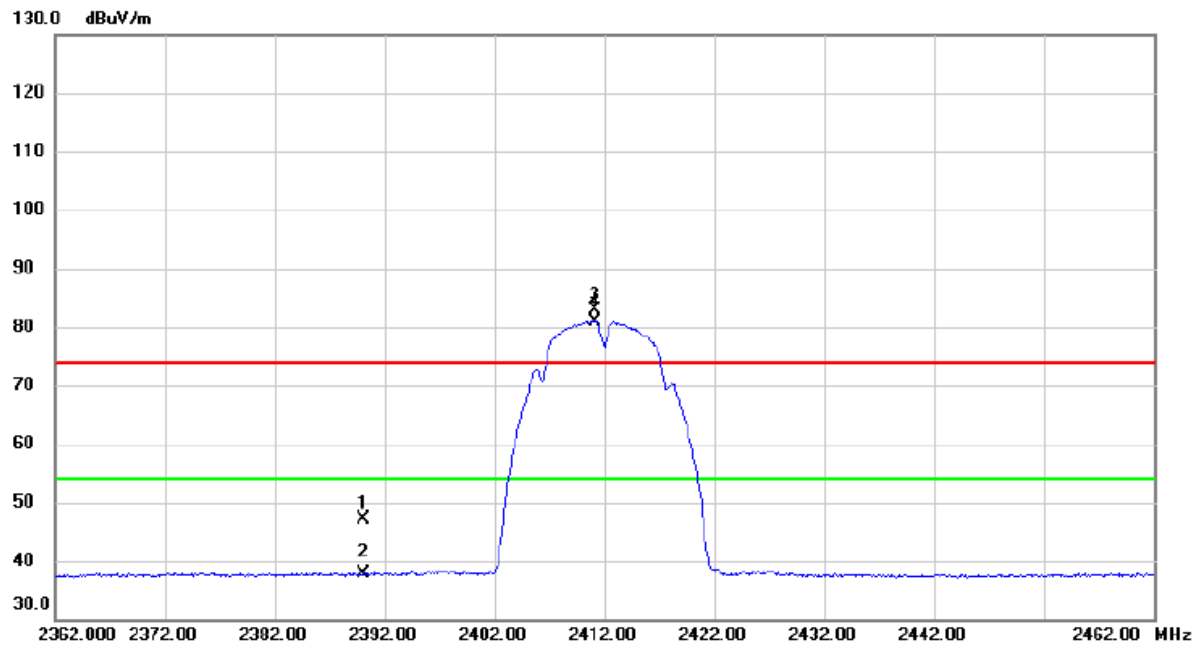
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4824.065	38.52	4.45	42.97	54.00	-11.03	AVG	
2		4824.373	46.94	4.45	51.39	74.00	-22.61	peak	

REMARKS:

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

Test Mode: TX B Mode 2412 MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	39.97	7.26	47.23	74.00	-26.77	peak	
2		2390.000	30.56	7.26	37.82	54.00	-16.18	AVG	
3	X	2411.100	75.63	7.25	82.88	74.00	8.88	peak	No Limit
4	*	2411.200	73.71	7.26	80.97	54.00	26.97	AVG	No Limit

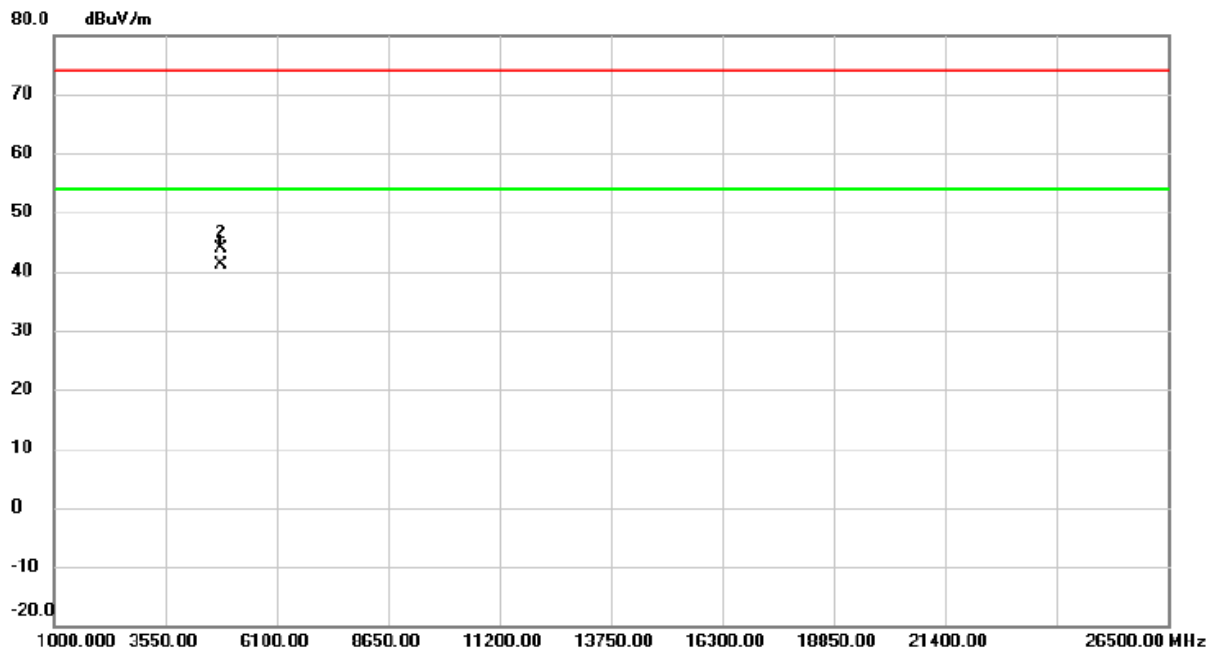
REMARKS:

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

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

Test Mode: TX B Mode 2412 MHz

Horizontal



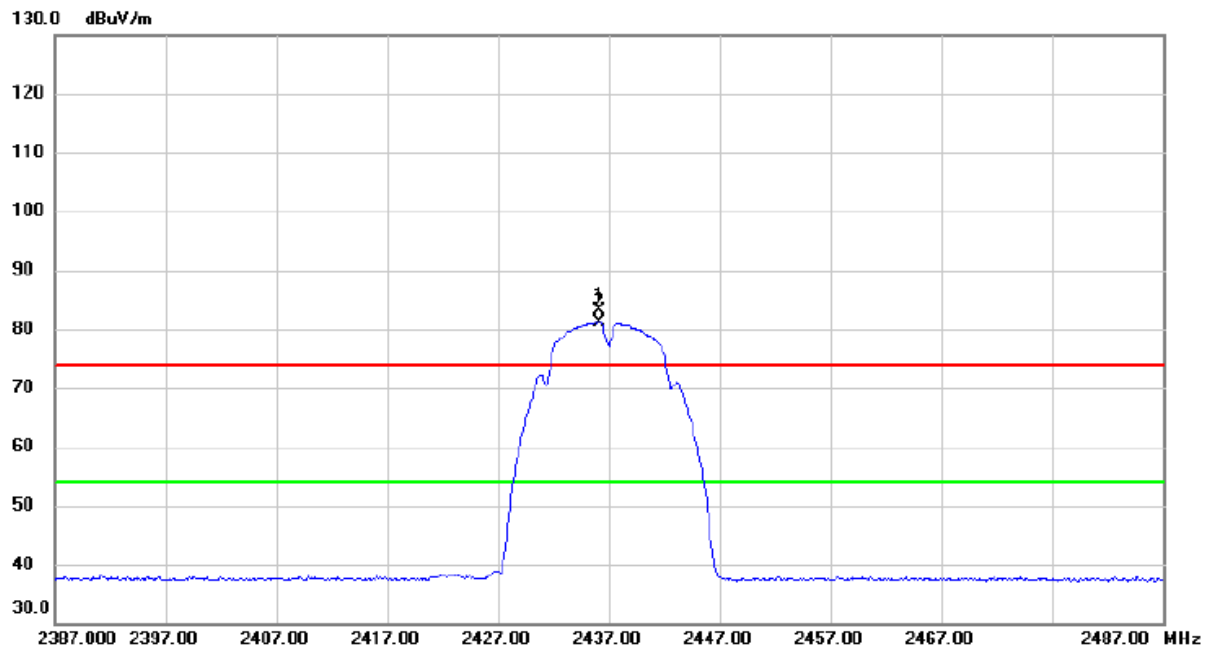
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4825.805	36.63	4.46	41.09	54.00	-12.91	AVG	
2		4825.995	39.36	4.46	43.82	74.00	-30.18	peak	

REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Vertical



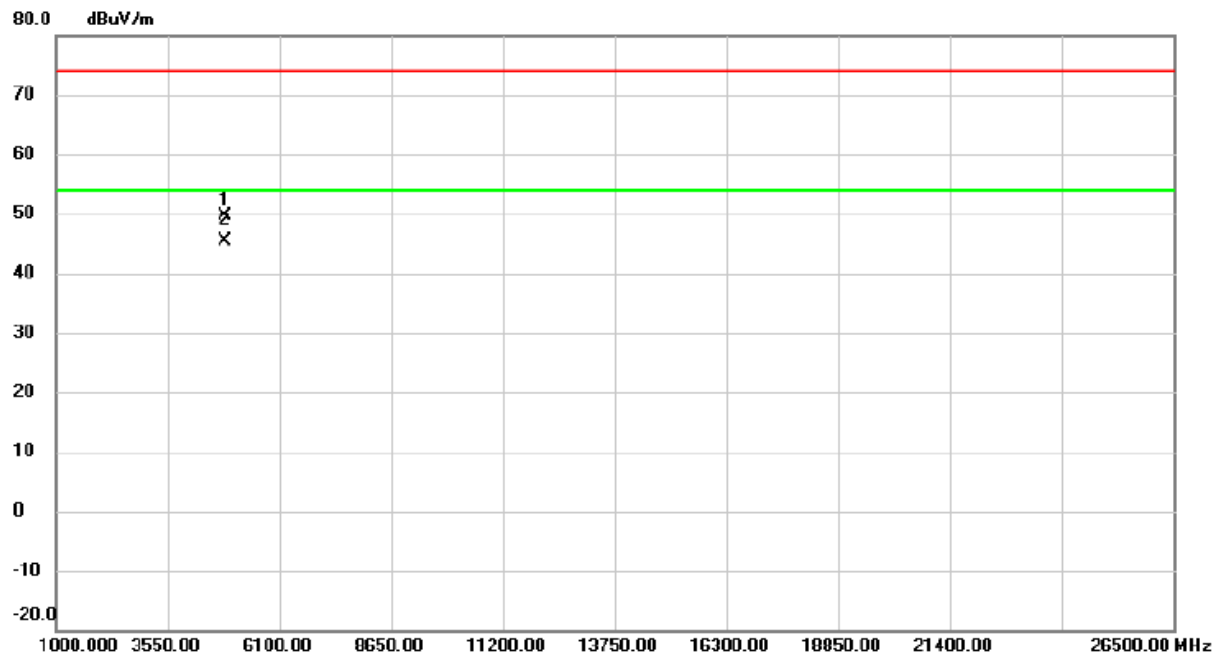
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2436.200	75.96	7.25	83.21	74.00	9.21	peak	No Limit
2	*	2436.200	73.95	7.25	81.20	54.00	27.20	AVG	No Limit

REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Vertical



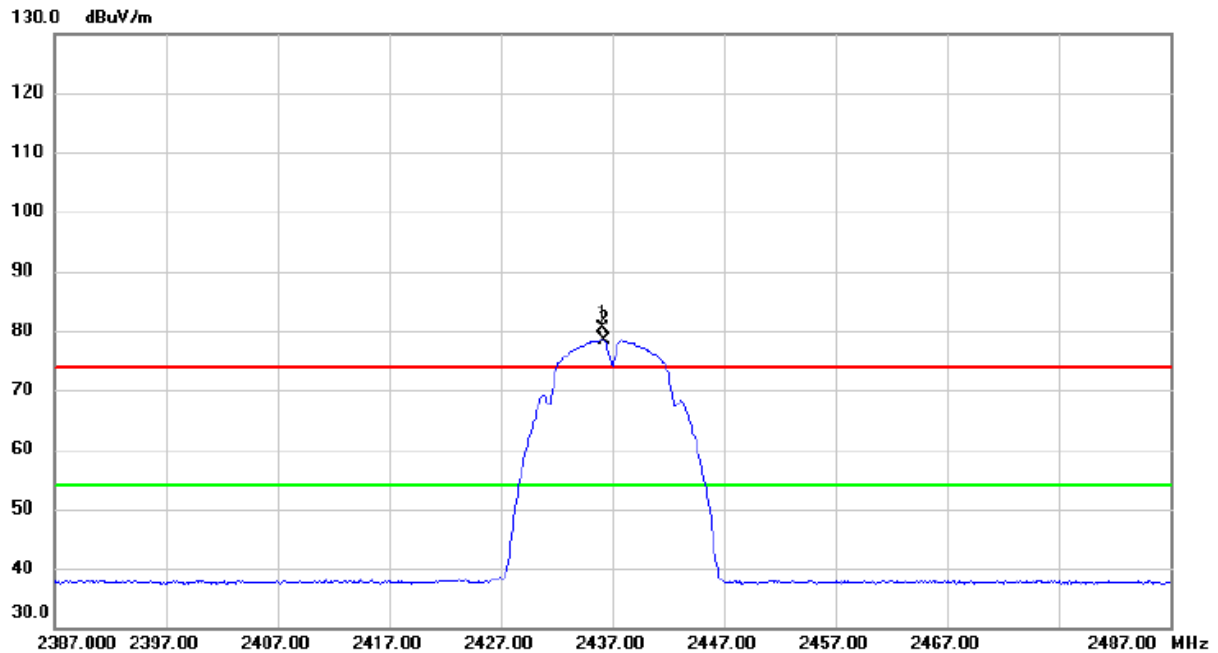
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4873.967	45.07	4.58	49.65	74.00	-24.35	peak	
2	*	4873.983	40.73	4.58	45.31	54.00	-8.69	AVG	

REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Horizontal



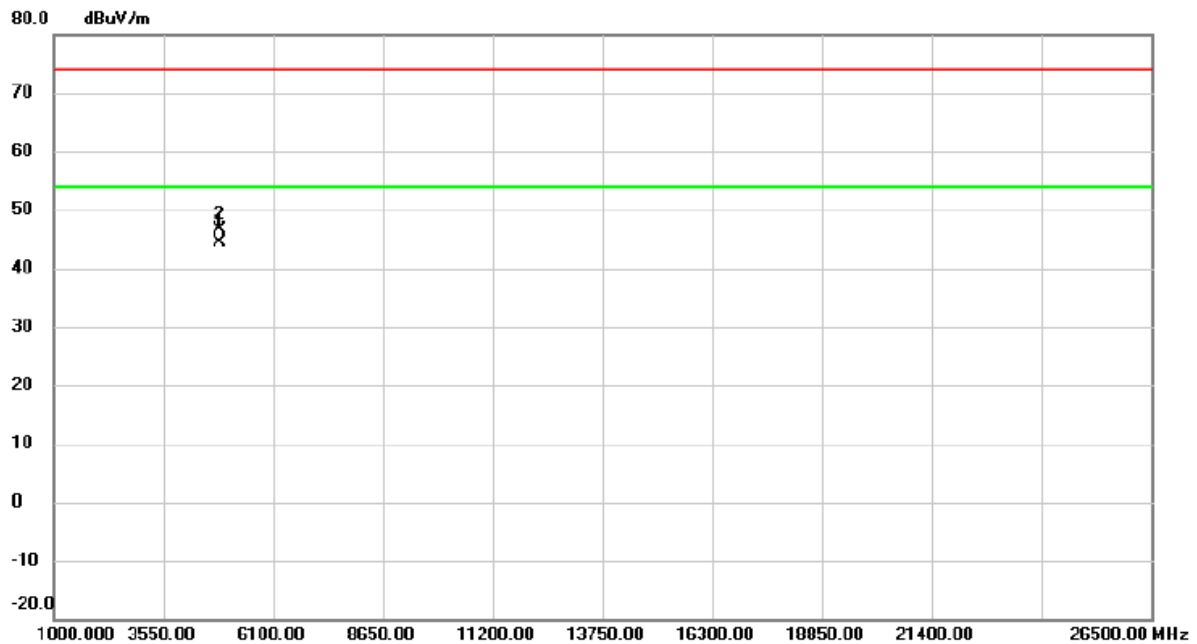
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2436.100	73.14	7.25	80.39	74.00	6.39	peak	No Limit
2	*	2436.300	71.11	7.25	78.36	54.00	24.36	AVG	No Limit

REMARKS:

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

Test Mode: TX B Mode 2437 MHz

Horizontal



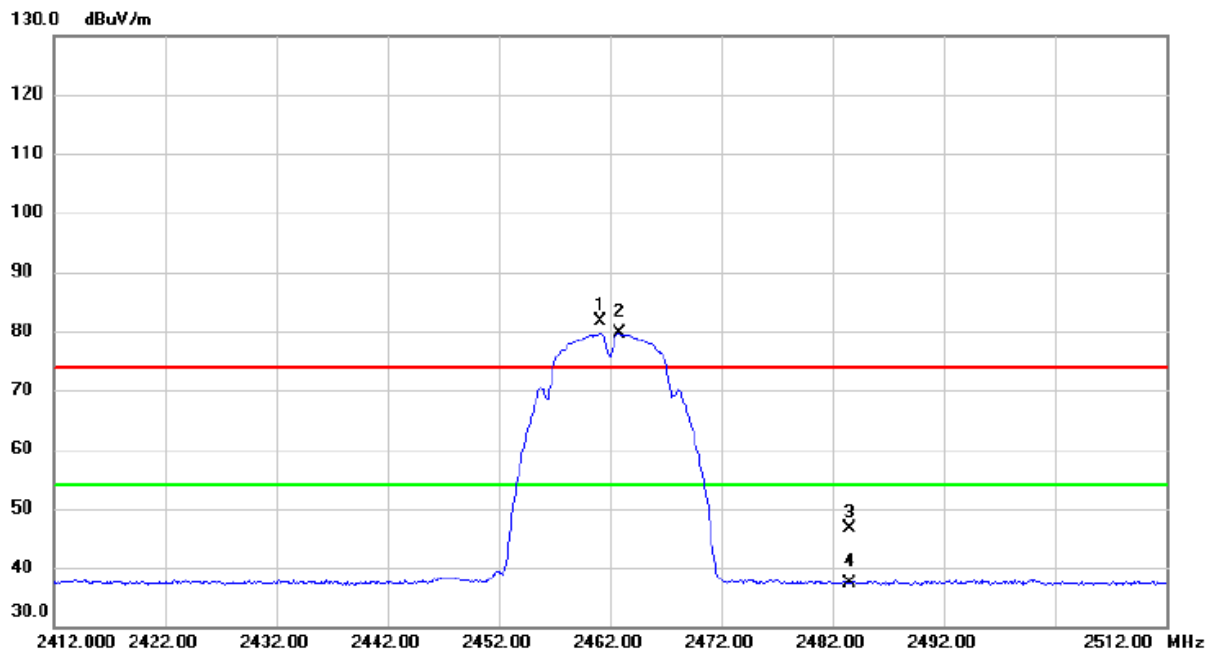
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4873.608	39.68	4.58	44.26	54.00	-9.74	AVG	
2		4874.005	42.16	4.58	46.74	74.00	-27.26	peak	

REMARKS:

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

Test Mode: TX B Mode 2462 MHz

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2461.200	74.38	7.25	81.63	74.00	7.63	peak	No Limit
2	*	2462.900	72.47	7.25	79.72	54.00	25.72	AVG	No Limit
3		2483.500	39.45	7.25	46.70	74.00	-27.30	peak	
4		2483.500	30.23	7.25	37.48	54.00	-16.52	AVG	

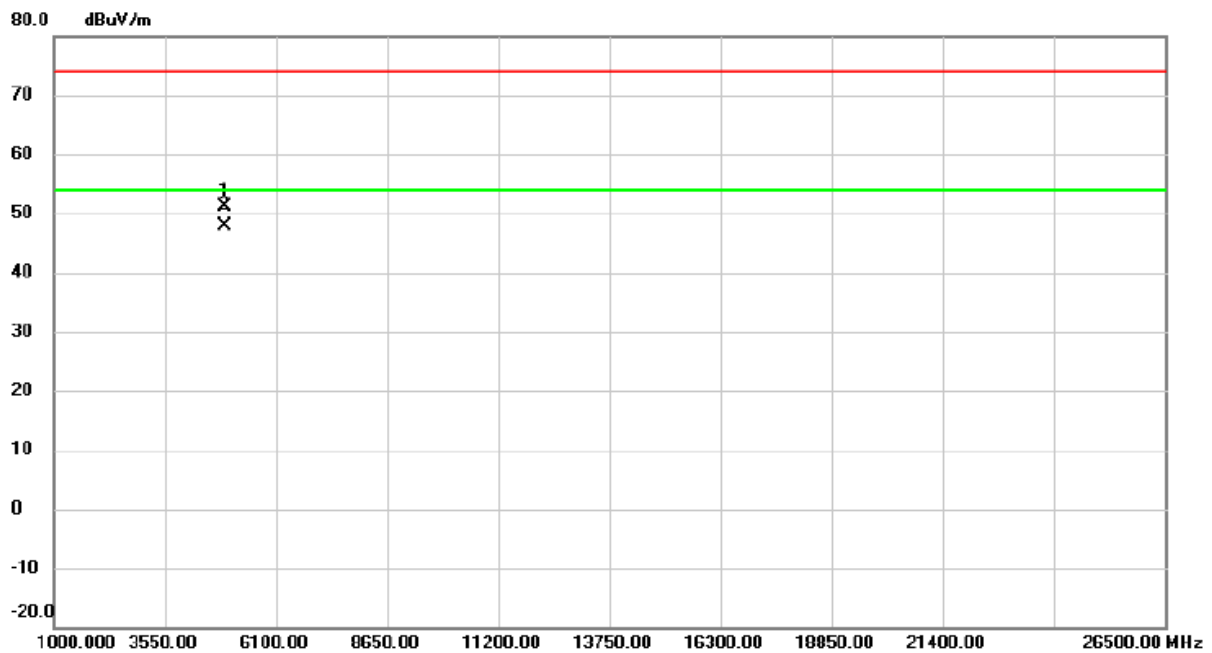
REMARKS:

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

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

Test Mode: TX B Mode 2462 MHz

Vertical



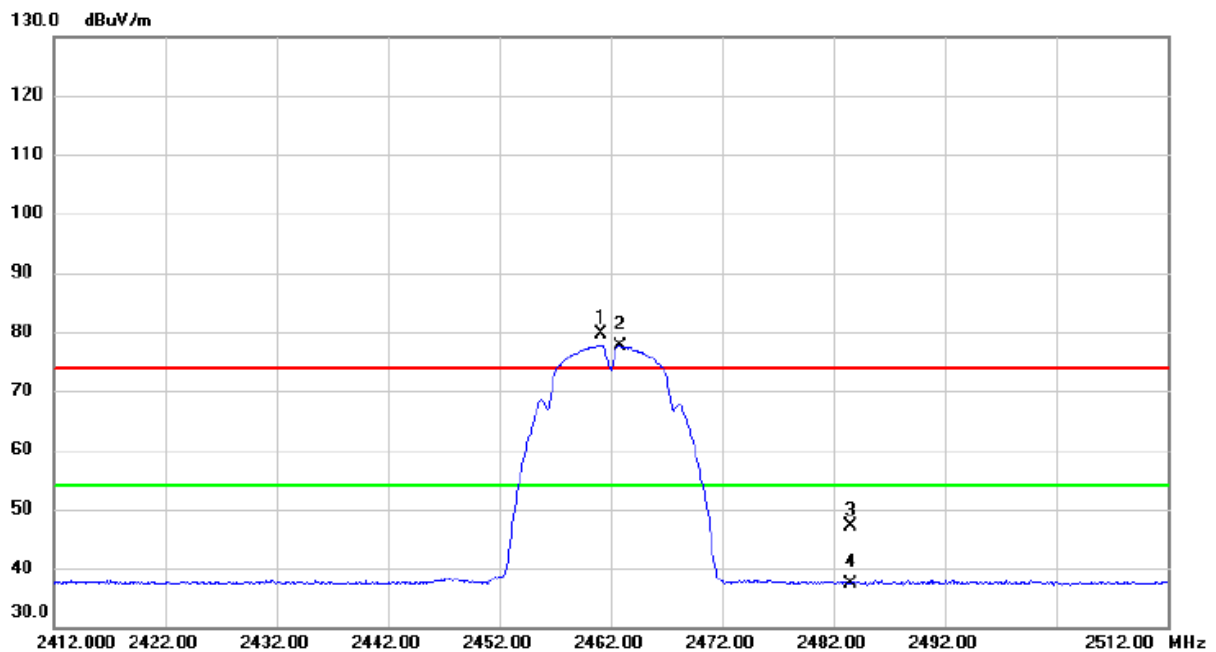
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.945	46.52	4.71	51.23	74.00	-22.77	peak	
2	*	4923.975	43.29	4.71	48.00	54.00	-6.00	AVG	

REMARKS:

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

Test Mode: TX B Mode 2462 MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2461.200	72.36	7.25	79.61	74.00	5.61	peak	No Limit
2	*	2462.900	70.46	7.25	77.71	54.00	23.71	AVG	No Limit
3		2483.500	39.95	7.25	47.20	74.00	-26.80	peak	
4		2483.500	30.06	7.25	37.31	54.00	-16.69	AVG	

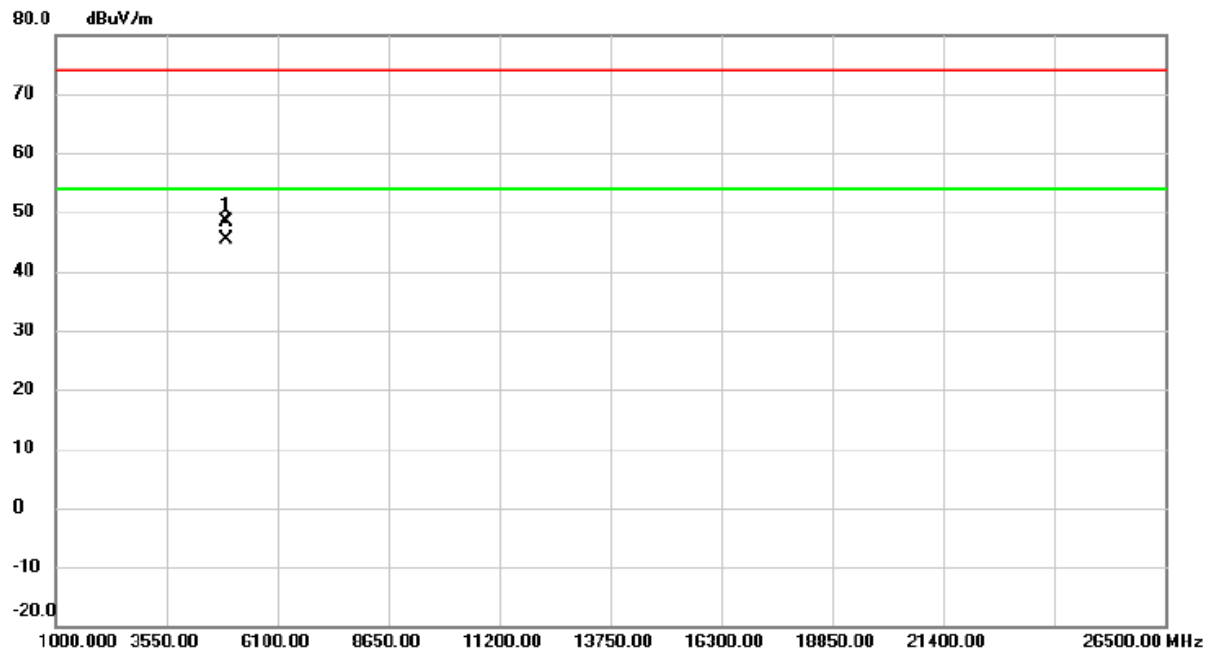
REMARKS:

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

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

Test Mode: TX B Mode 2462 MHz

Horizontal



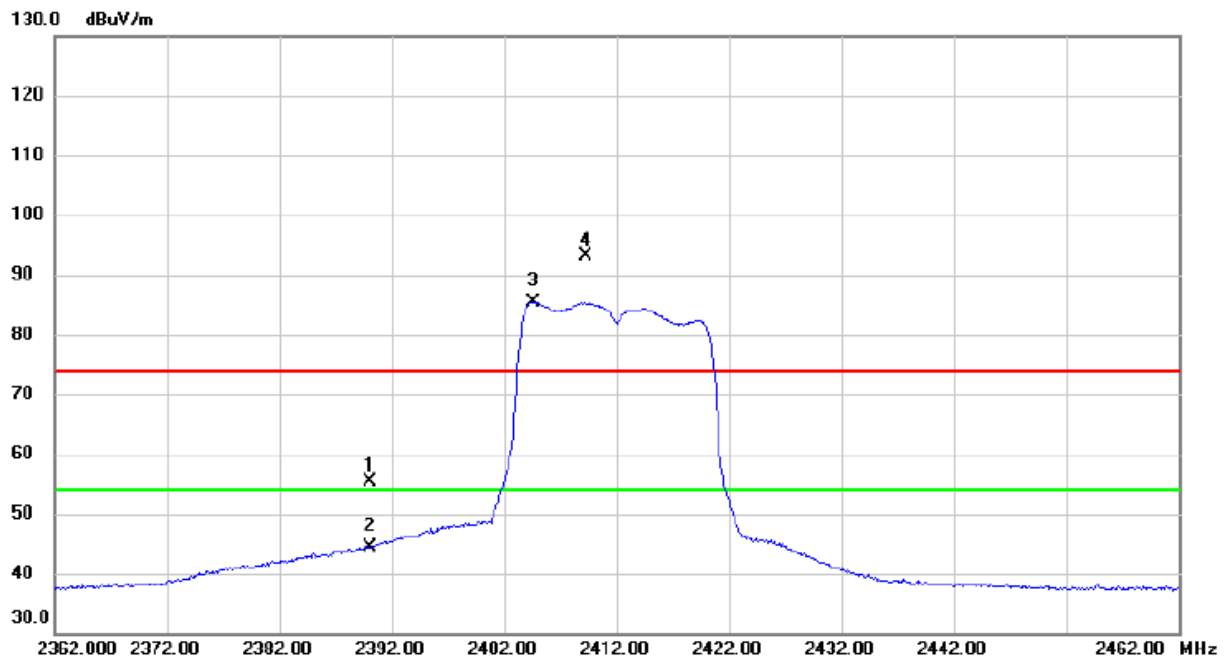
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4923.475	43.56	4.71	48.27	74.00	-25.73	peak	
2	*	4924.055	40.59	4.71	45.30	54.00	-8.70	AVG	

REMARKS:

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

Test Mode: TX G Mode 2412 MHz

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	48.03	7.26	55.29	74.00	-18.71	peak	
2		2390.000	37.16	7.26	44.42	54.00	-9.58	AVG	
3	*	2404.600	78.19	7.26	85.45	54.00	31.45	AVG	No Limit
4	X	2409.300	85.89	7.25	93.14	74.00	19.14	peak	No Limit

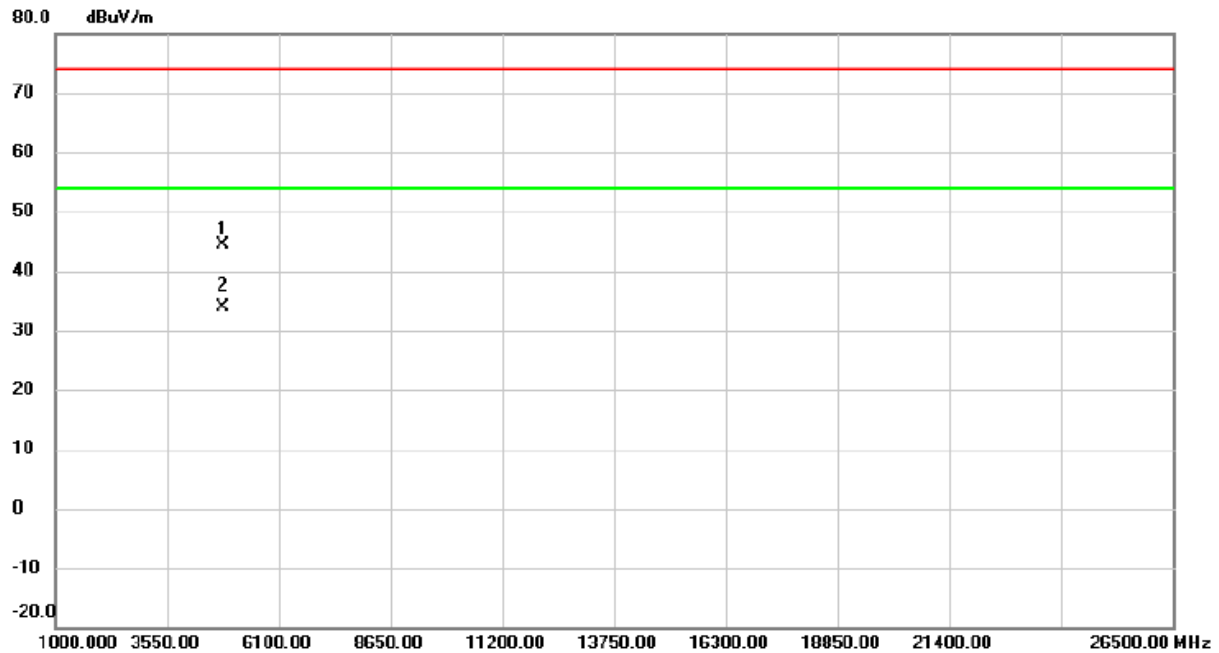
REMARKS:

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

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

Test Mode: TX G Mode 2412 MHz

Vertical



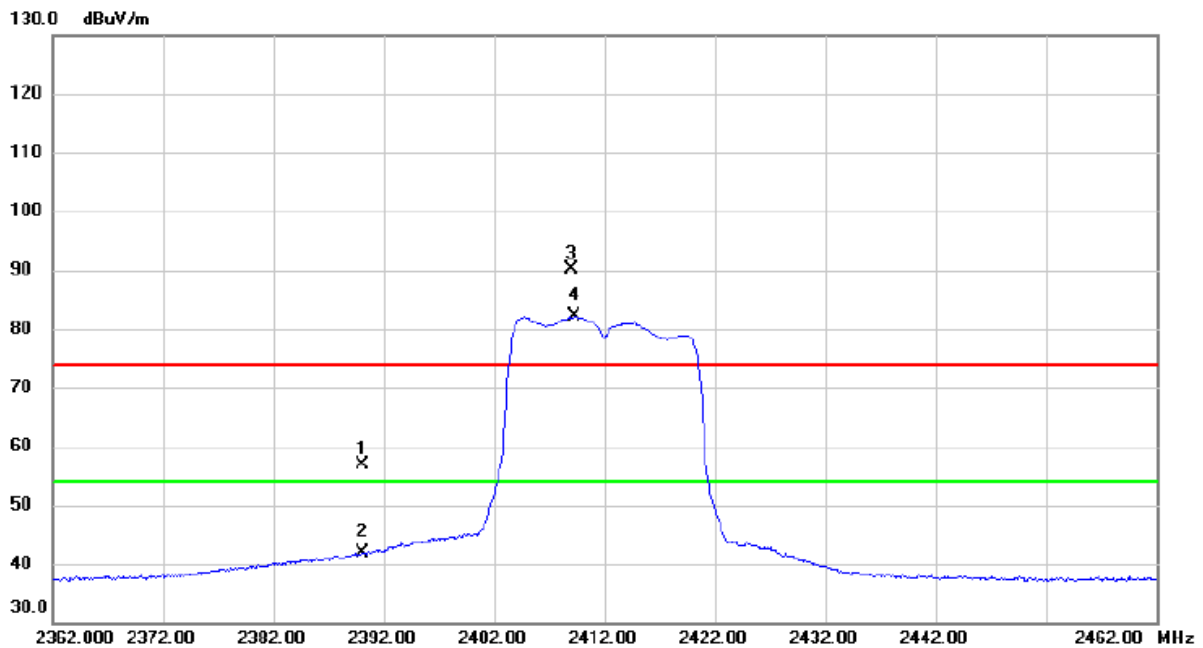
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4823.083	39.95	4.45	44.40	74.00	-29.60	peak	
2	*	4824.120	29.35	4.45	33.80	54.00	-20.20	AVG	

REMARKS:

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

Test Mode: TX G Mode 2412 MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	49.69	7.26	56.95	74.00	-17.05	peak	
2		2390.000	34.56	7.26	41.82	54.00	-12.18	AVG	
3	X	2409.000	82.84	7.25	90.09	74.00	16.09	peak	No Limit
4	*	2409.300	74.83	7.25	82.08	54.00	28.08	AVG	No Limit

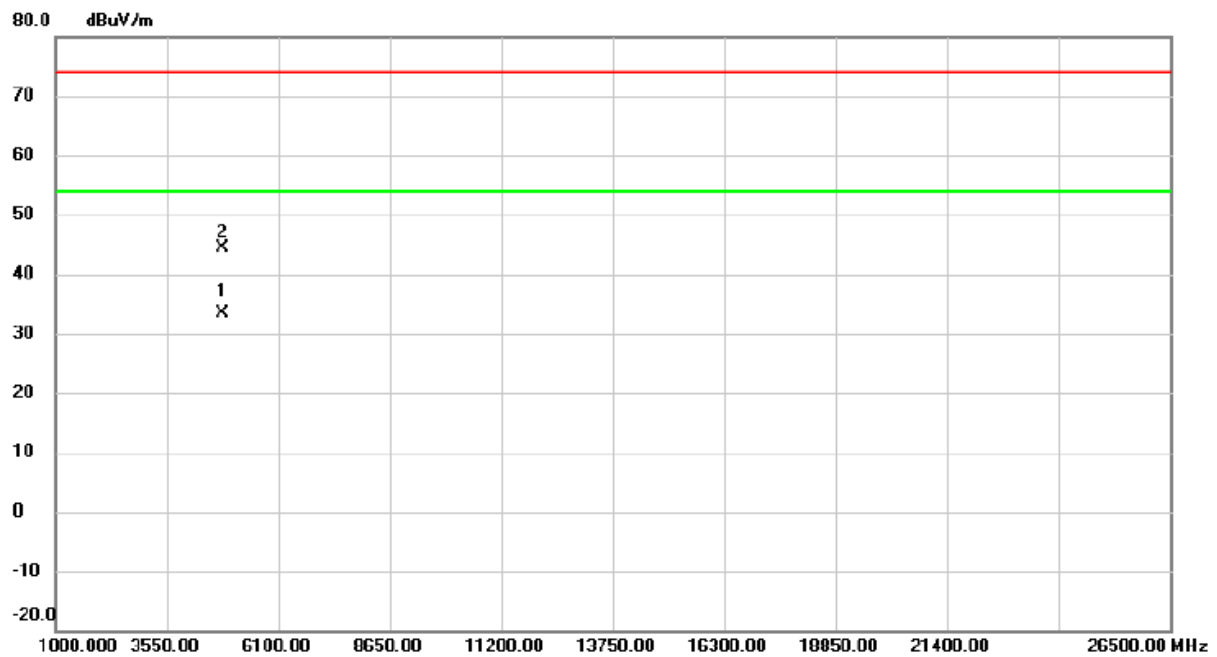
REMARKS:

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

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

Test Mode: TX G Mode 2412 MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4823.445	28.89	4.45	33.34	54.00	-20.66	AVG	
2		4826.110	39.95	4.46	44.41	74.00	-29.59	peak	

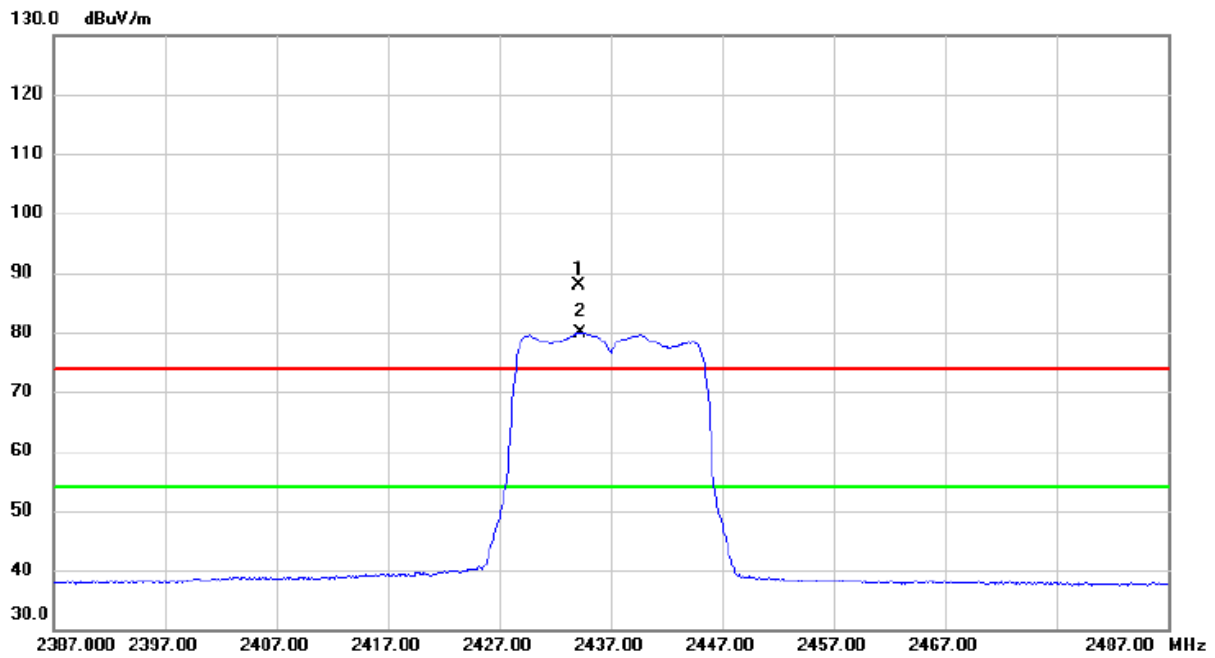
REMARKS:

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

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

Test Mode: TX G Mode 2437 MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2434.200	80.60	7.26	87.86	74.00	13.86	peak	No Limit
2	*	2434.300	72.62	7.25	79.87	54.00	25.87	AVG	No Limit

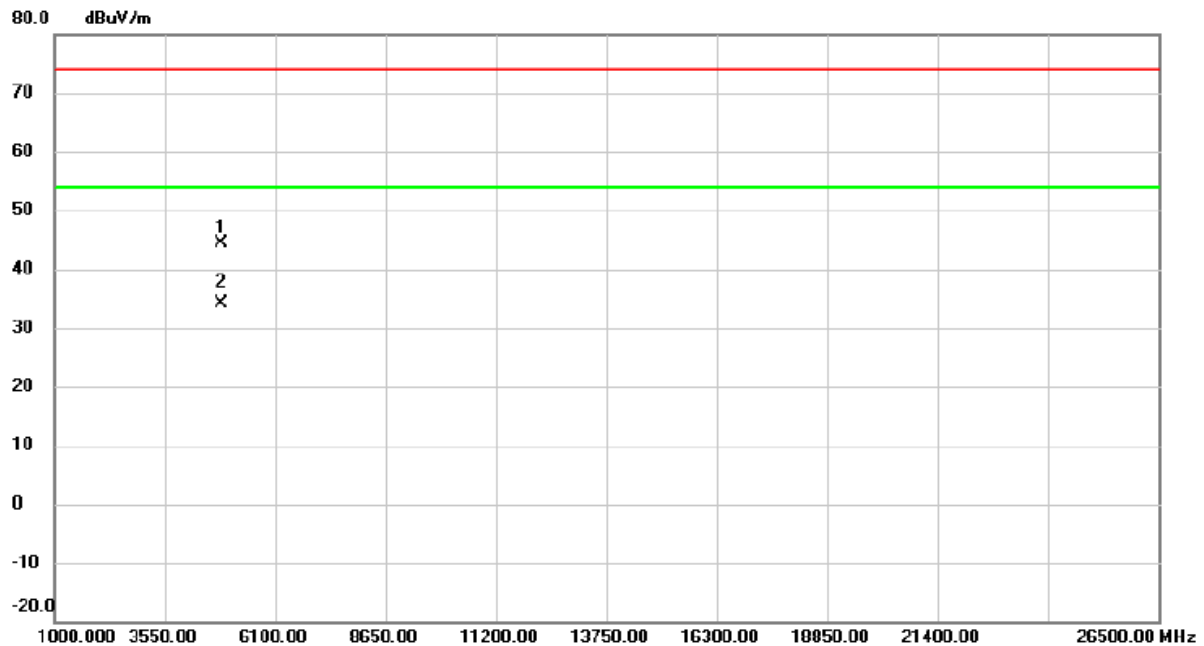
REMARKS:

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

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

Test Mode: TX G Mode 2437 MHz

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4873.358	39.92	4.58	44.50	74.00	-29.50	peak	
2	*	4873.955	29.46	4.58	34.04	54.00	-19.96	AVG	

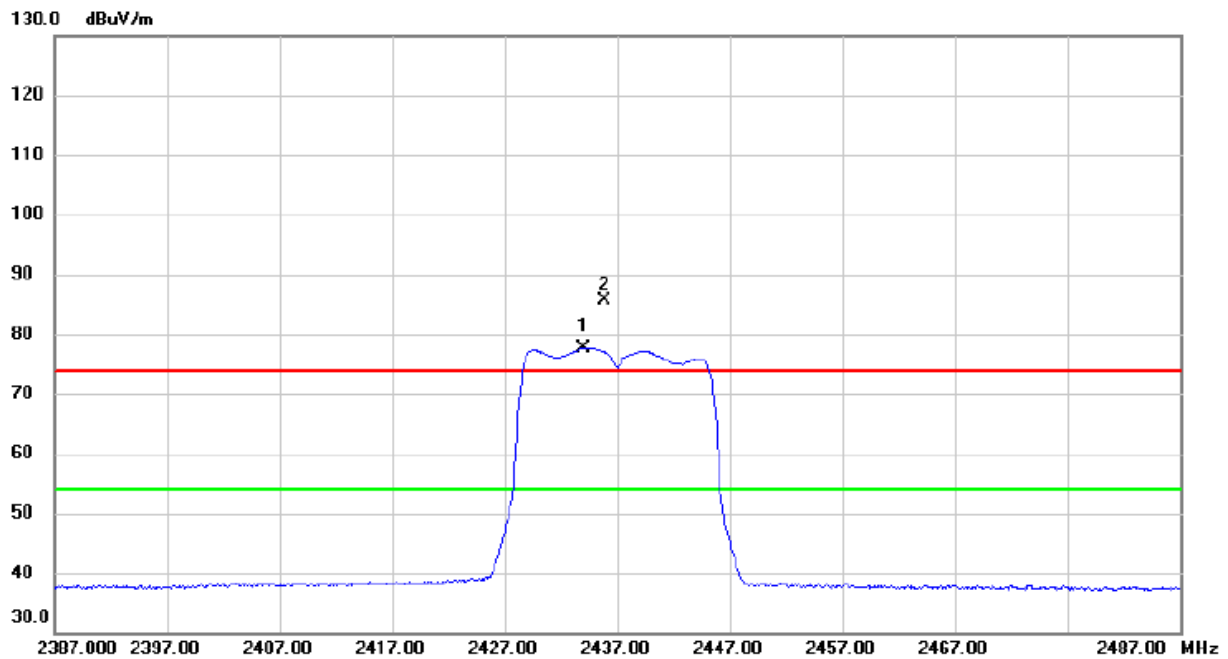
REMARKS:

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

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

Test Mode: TX G Mode 2437 MHz

Horizontal



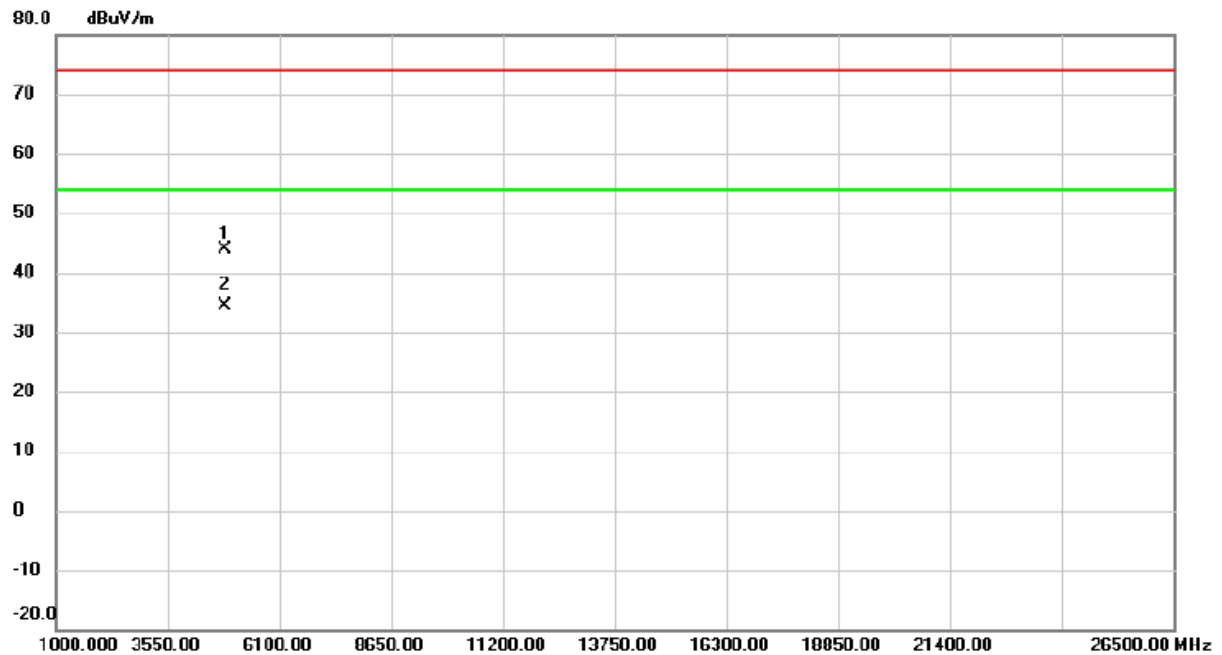
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2434.000	70.45	7.26	77.71	54.00	23.71	AVG	No Limit
2	X	2435.900	78.41	7.25	85.66	74.00	11.66	peak	No Limit

REMARKS:

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

Test Mode: TX G Mode 2437 MHz

Horizontal



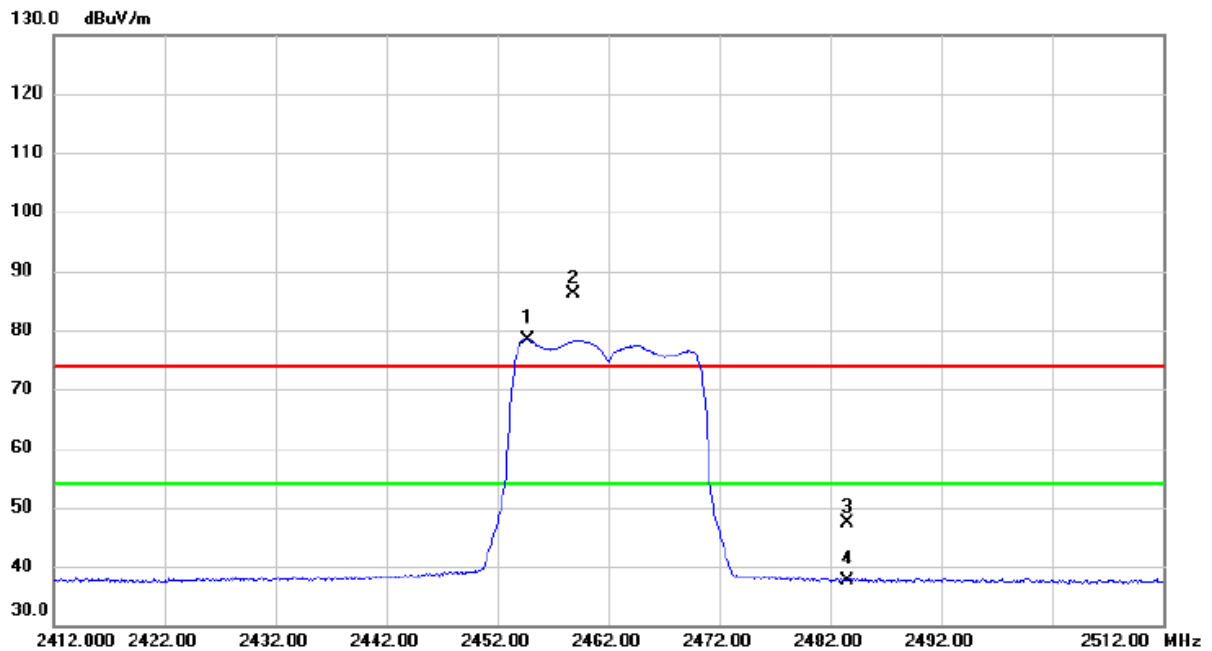
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.432	39.41	4.58	43.99	74.00	-30.01	peak	
2	*	4873.938	29.84	4.58	34.42	54.00	-19.58	AVG	

REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2454.700	71.04	7.25	78.29	54.00	24.29	AVG	No Limit
2	X	2458.900	78.96	7.26	86.22	74.00	12.22	peak	No Limit
3		2483.500	40.02	7.25	47.27	74.00	-26.73	peak	
4		2483.500	30.42	7.25	37.67	54.00	-16.33	AVG	

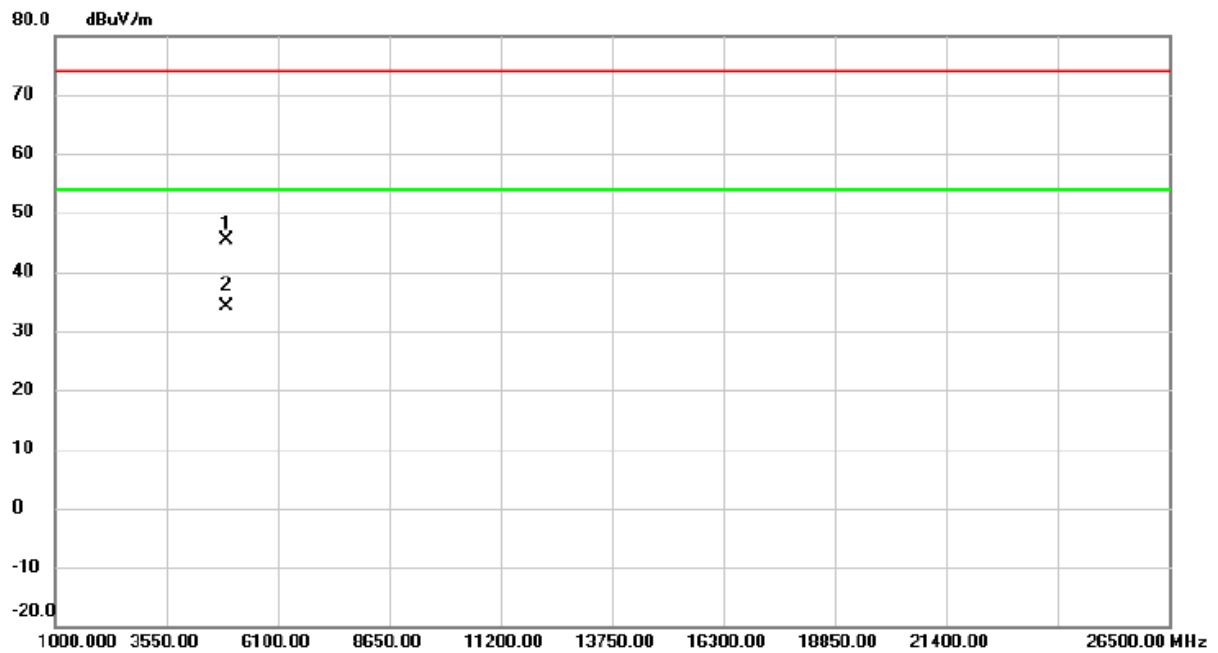
REMARKS:

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

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

Test Mode: TX G Mode 2462 MHz

Vertical



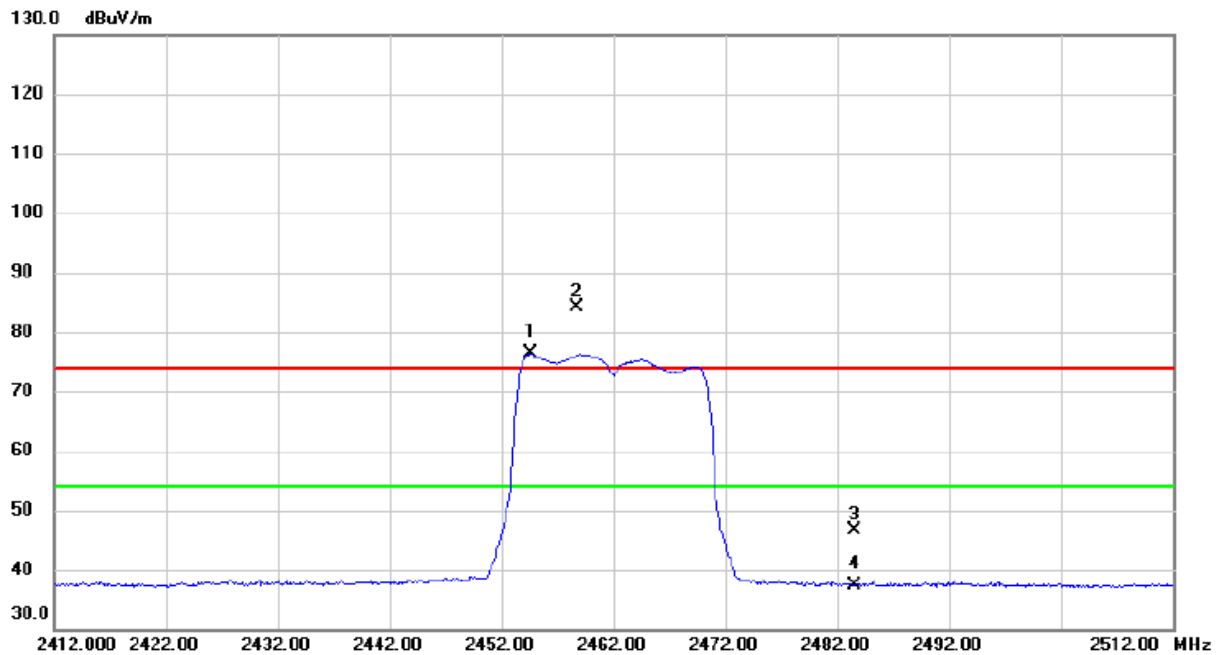
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4922.462	40.55	4.71	45.26	74.00	-28.74	peak	
2	*	4924.000	29.33	4.71	34.04	54.00	-19.96	AVG	

REMARKS:

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

Test Mode: TX G Mode 2462 MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2454.600	69.15	7.25	76.40	54.00	22.40	AVG	No Limit
2	X	2458.700	76.89	7.26	84.15	74.00	10.15	peak	No Limit
3		2483.500	39.38	7.25	46.63	74.00	-27.37	peak	
4		2483.500	30.01	7.25	37.26	54.00	-16.74	AVG	

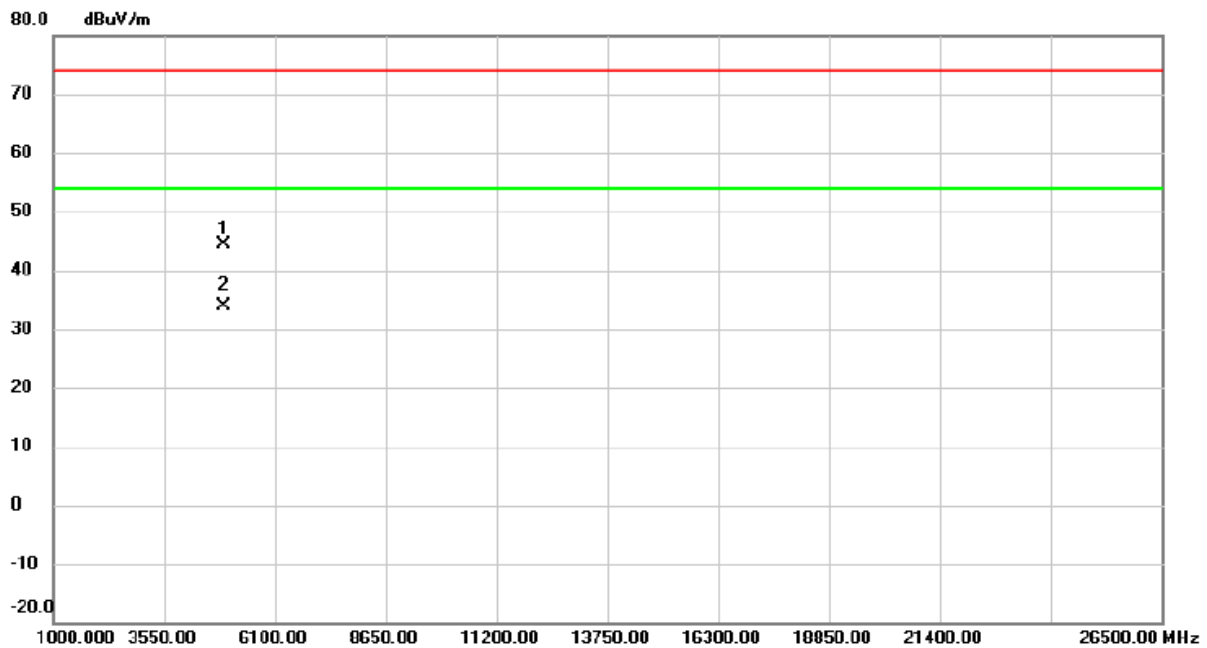
REMARKS:

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

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

Test Mode: TX G Mode 2462 MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4921.640	39.79	4.71	44.50	74.00	-29.50	peak	
2	*	4923.958	29.21	4.71	33.92	54.00	-20.08	AVG	

REMARKS:

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

End of Test Report