



FCC Radio Test Report

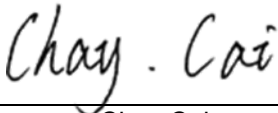
FCC ID: 2AJYB-S210

This report concerns: Original Grant

Project No. : 2403C219
Equipment : Network Audio Streaming Module
Brand Name : StreamUnlimited
Test Model : Stream210
Series Model : N/A
Applicant : StreamUnlimited Engineering GmbH
Address : StreamUnlimited Engineering GmbH, Gutheil Schoder Gasse 10,
Vienna A1100, Austria
Manufacturer : StreamUnlimited Engineering GmbH
Address : StreamUnlimited Engineering GmbH, Gutheil Schoder Gasse 10,
Vienna A1100, Austria
Factory : StreamUnlimited Engineering GmbH
Address : StreamUnlimited Engineering GmbH, Gutheil Schoder Gasse 10,
Vienna A1100, Austria
Date of Receipt : May 30, 2024
Date of Test : May 31, 2024 ~ Aug. 14, 2024
Issued Date : Aug. 26, 2024
Report Version : R00
Test Sample : Engineering Sample No.: DG202405304 for power, DG202405302 for
others.
Standard(s) : FCC CFR Title 47, Part 15, Subpart C

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

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Declaration

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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** assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by **BTL**.

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BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025: 2017 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 No.	Version	Description	Issued Date	Note
BTL-FCCP-3-2403C219	R00	Original Report.	Aug. 26, 2024	Valid

1. APPLICABLE STANDARDS

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of A2LA:

KDB 558074 D01 15.247 Meas Guidance v05r02

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
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 non-standard antenna jack were considered sufficient to comply with the provisions of 15.203.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of

For Radiated Emission 1-18GHz:

Room 102 & Room 701, Building 3, No.9, Jinshagang 1st Road, Dalang, Dongguan City, Guangdong People's Republic of China.

For Power:

Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.

For others:

No.3, Jinshagang 1st Road, Dalang, Dongguan City, Guangdong People's Republic of China.

BTL's Registration Number for FCC: 747969

BTL's Designation Number for FCC: CN1377

2.2 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 95.45% 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	2.88

B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB01	CISPR	9kHz ~ 30MHz	2.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	30MHz ~ 200MHz	V	4.40
		30MHz ~ 200MHz	H	3.62
		200MHz ~ 1,000MHz	V	4.58
		200MHz ~ 1,000MHz	H	3.98

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB18 (3m)	CISPR	1GHz ~ 6GHz	4.48
		6GHz ~ 18GHz	3.88

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB03 (1m)	CISPR	18 ~ 26.5 GHz	3.36

C. Other Measurement:

Test Item	Uncertainty
Bandwidth	0.90 %
Maximum Output Power	1.3 dB
Conducted Spurious Emission	1.9 dB
Power Spectral Density	1.4 dB
Temperature	0.8 °C
Humidity	2.2 %

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

2.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By	Test Date
AC Power Line Conducted Emissions	25°C	60%	AC 120V/60Hz	Hayden Chen	Jun. 03, 2024
Radiated Emissions-9kHz to 30 MHz	26°C	47%	DC 3.3V	Hayden Chen	Jun. 18, 2024
Radiated Emissions-30MHz to 1000MHz	24°C	56%	DC 3.3V	Allen Tong	Jun. 20, 2024
Radiated Emissions-Above 1000MHz	23°C	53%	DC 3.3V	Jensen Zhou	Jun. 13, 2024
	22°C	58%	DC 3.3V	Allen Tong	Jun. 12, 2024
Bandwidth	20°C	55%	DC 3.3V	Arvin Tong	Jun. 26, 2024
Maximum Output Power	25°C	47%	DC 3.3V	Brand Duan	Jun. 04, 2024-Jul. 04, 2024
Conducted Spurious Emissions	20°C	55%	DC 3.3V	Arvin Tong	Jun. 26, 2024
Power Spectral Density	20°C	55%	DC 3.3V	Arvin Tong	Jun. 26, 2024

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Network Audio Streaming Module
Brand Name	StreamUnlimited
Test Model	Stream210
Series Model	N/A
Model Difference(s)	N/A
Hardware Version	L3
Software Version	V3
Power Source	DC voltage supplied from external power supply.
Power Rating	DC 3.3V
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b:DSSS IEEE 802.11g:OFDM IEEE 802.11n:OFDM IEEE 802.11ax:OFDMA
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 72.2 Mbps IEEE 802.11ax: up to 143.4 Mbps
Maximum Output Power	IEEE 802.11ax(HE20): 17.63 dBm (0.0579 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), IEEE 802.11ax(HE20)							
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. Table for Filed Antenna:

Group 1:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1		N/A	FPC	MHF4	3

Group 2:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1		2JF0102P	FPC	Most RF Connectors	2.2

3.2 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(HT20) Mode Channel 01/06/11
Mode 4	TX AX(HE20) Mode Channel 01/06/11
Mode 5	TX AX(HE20) 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 AX(HE20) Mode Channel 06

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 5	TX AX(HE20) 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(HT20) Mode Channel 01/06/11
Mode 4	TX AX(HE20) Mode Channel 01/06/11

Conducted test	
Final Test Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX AX(HE20) Mode Channel 01/06/11

NOTE:

- (1) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (2) For AC power line conducted emissions and radiated emission below 1 GHz test, the TX AX(HE20) Mode Channel 06 is found to be the worst case and recorded.
- (3) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (4) For radiated emission Harmonic 18-26.5GHz test, only tested the worst case and recorded.
- (5) For radiated emission above 1GHz test, both Vertical and Horizontal are evaluated, only the worst case (Horizontal) is recorded.
- (6) IEEE 802.11ax mode only supports full RU, so only the full RU is evaluated and measured inside report.
- (7) There are two antenna groups for this Network Audio Streaming Module which are only differ in gain. Only tested with the max gain's antenna group and recorded.

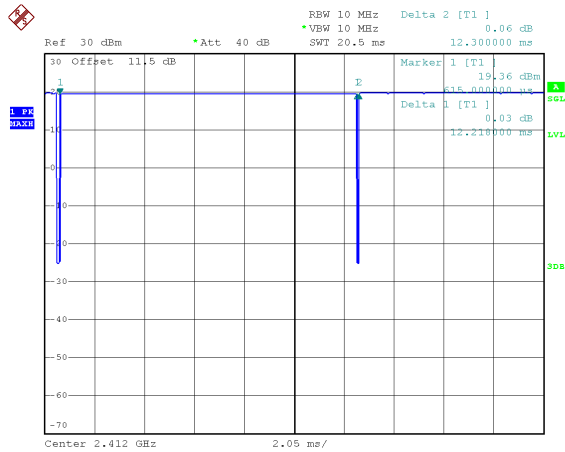
3.3 PARAMETERS OF TEST SOFTWARE

Test Software Version	IPOP V4.1		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	14.5	16	14
IEEE 802.11g	11	17	14.5
IEEE 802.11n(HT20)	9.5	17	12.5
IEEE 802.11ax(HE20)	8.5	17.5	12

3.4 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.

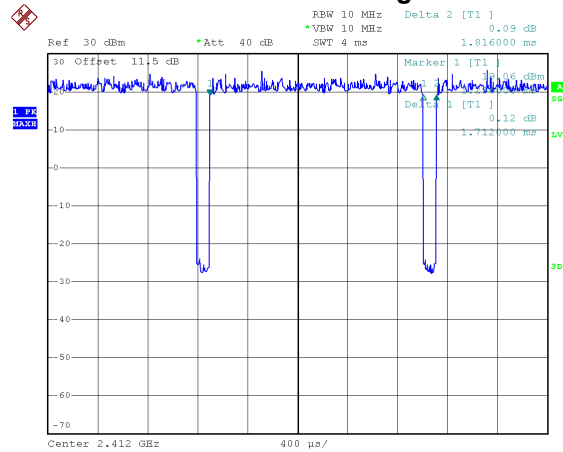
IEEE 802.11b



Date: 26.JUN.2024 16:06:50

Duty cycle = $12.218 \text{ ms} / 12.300 \text{ ms} = 99.33\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00$

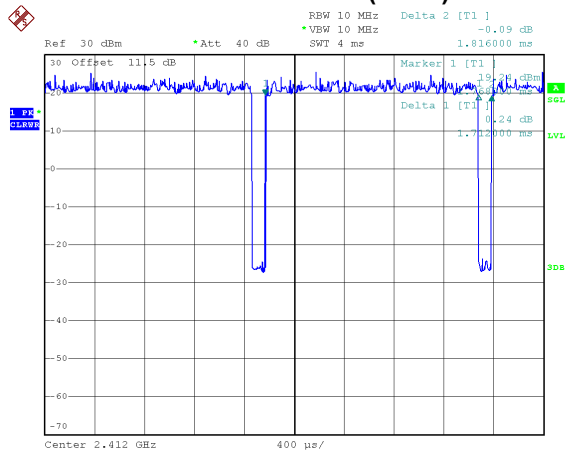
IEEE 802.11g



Date: 26.JUN.2024 16:36:31

Duty cycle = $1.712 \text{ ms} / 1.816 \text{ ms} = 94.27\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.26$

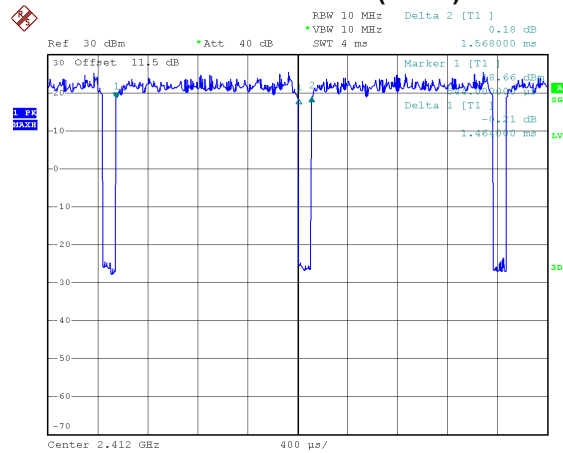
IEEE 802.11n(HT20)



Date: 26.JUN.2024 16:35:03

Duty cycle = $1.712 \text{ ms} / 1.816 \text{ ms} = 94.27\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.26$

IEEE 802.11ax(HE20)



Date: 26.JUN.2024 16:33:36

Duty cycle = $1.464 \text{ ms} / 1.568 \text{ ms} = 93.37\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.30$

NOTE:

For IEEE 802.11b:

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.

For IEEE 802.11g:

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 584 Hz.

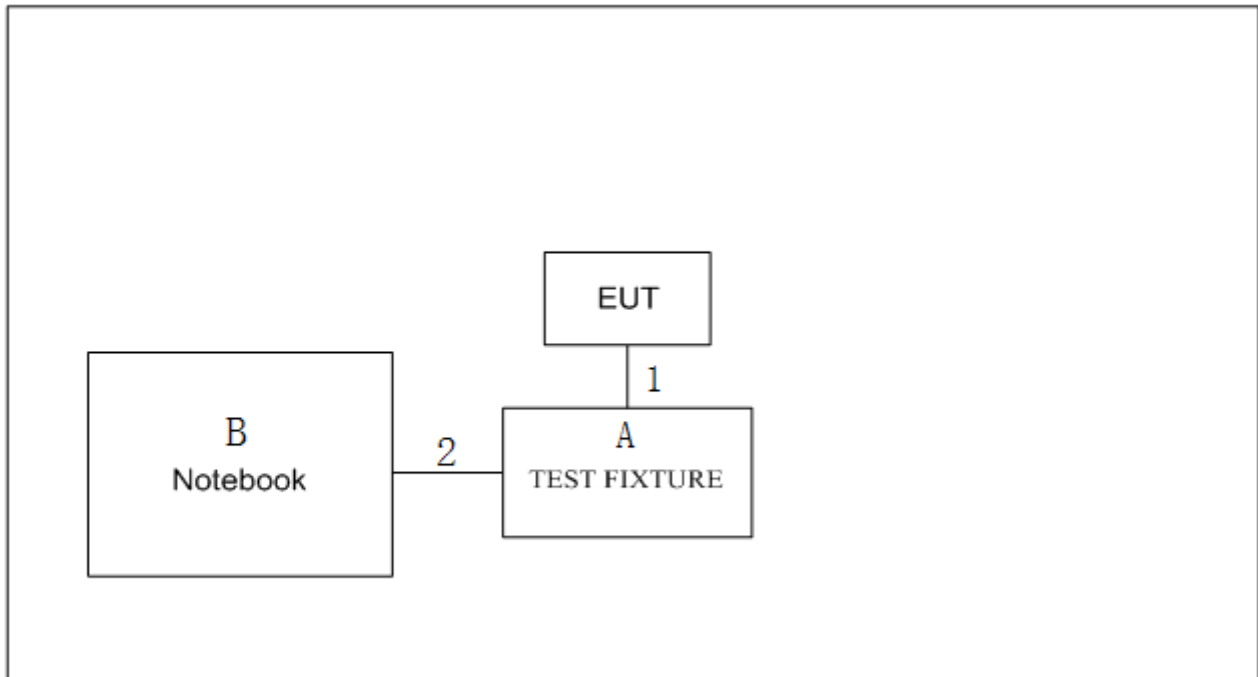
For IEEE 802.11n(HT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 584 Hz.

For IEEE 802.11ax(HE20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 683 Hz.

3.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Test Fixture	N/A	N/A	N/A
B	Notebook	Dell	INSPIRON 5493	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	Data Cable	NO	NO	0.15m
2	USB Cable	NO	NO	1m

3.7 CUSTOMER INFORMATION DESCRIPTION

- 1) The antenna gain is provided by the manufacturer.
- 2) Except for AC power line conducted emissions and radiated emissions, the results of all test items include cable losses. All cable losses are provided by the testing laboratory.

4. AC POWER LINE CONDUCTED EMISSIONS

4.1 LIMIT

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

NOTE:

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

4.2 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.

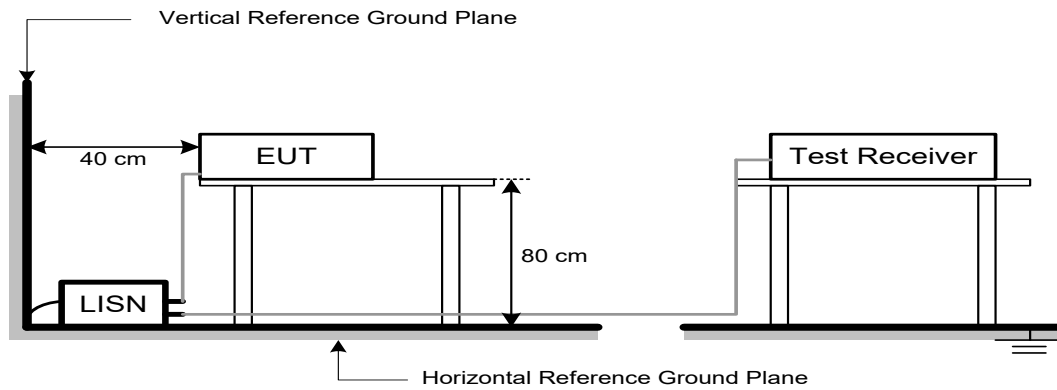
The following table is the setting of the receiver:

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

4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS

Please refer to the APPENDIX A.

5. RADIATED EMISSIONS

5.1 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)	Band edge/ Harmonic at 3m (dBμV/m)		Harmonic at 1m (dBμV/m)	
	Peak	Average	Peak	Average
Above 1000	74	54	83.5 (Note 4)	63.5 (Note 4)

Note:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4)

$$FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

$20\log(d_{\text{limit}}/d_{\text{measure}})=20\log(3/1)=9.5\text{ dB}$.

FS_{limit} : Harmonic at 3m Peak and Average limit.

FS_{max} : Harmonic at 1m Peak and Average Maximum value.

d_{limit} : Harmonic at 3m test distance.

d_{measure} : Harmonic Actual test distance.

5.2 TEST PROCEDURE

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

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

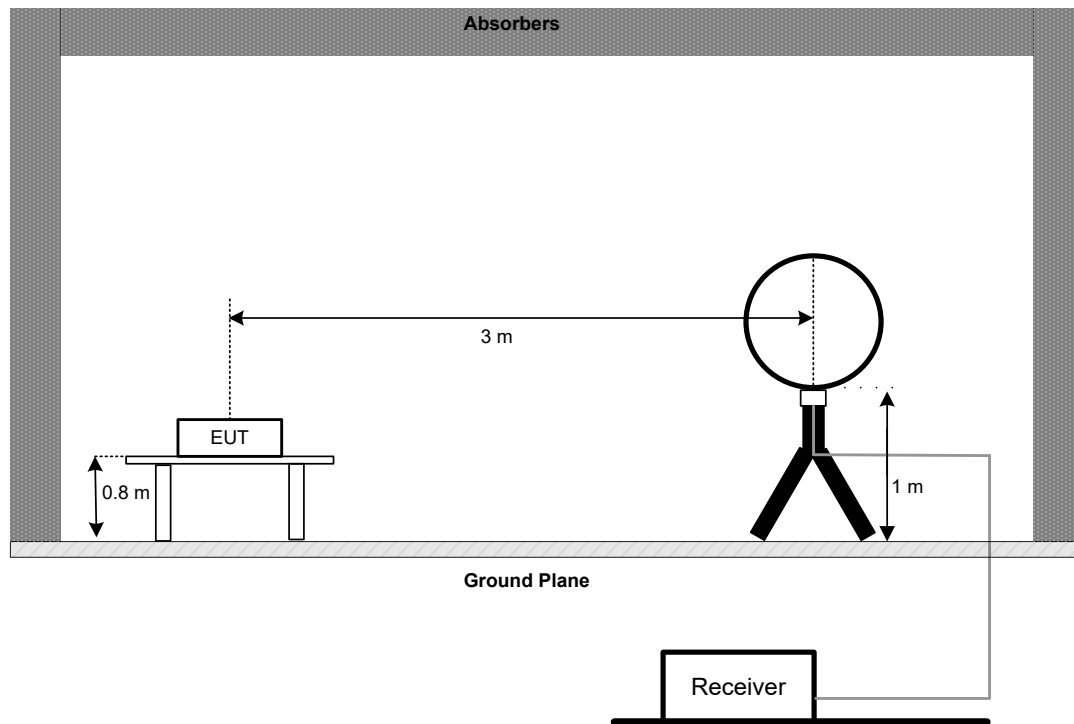
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

5.3 DEVIATION FROM TEST STANDARD

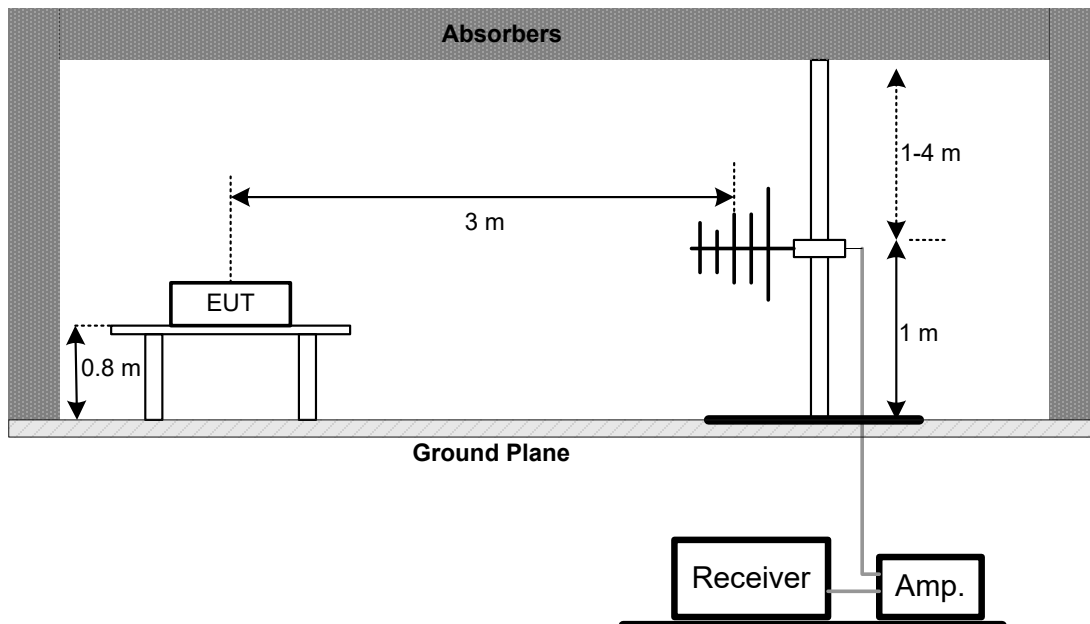
No deviation.

5.4 TEST SETUP

9 kHz to 30 MHz

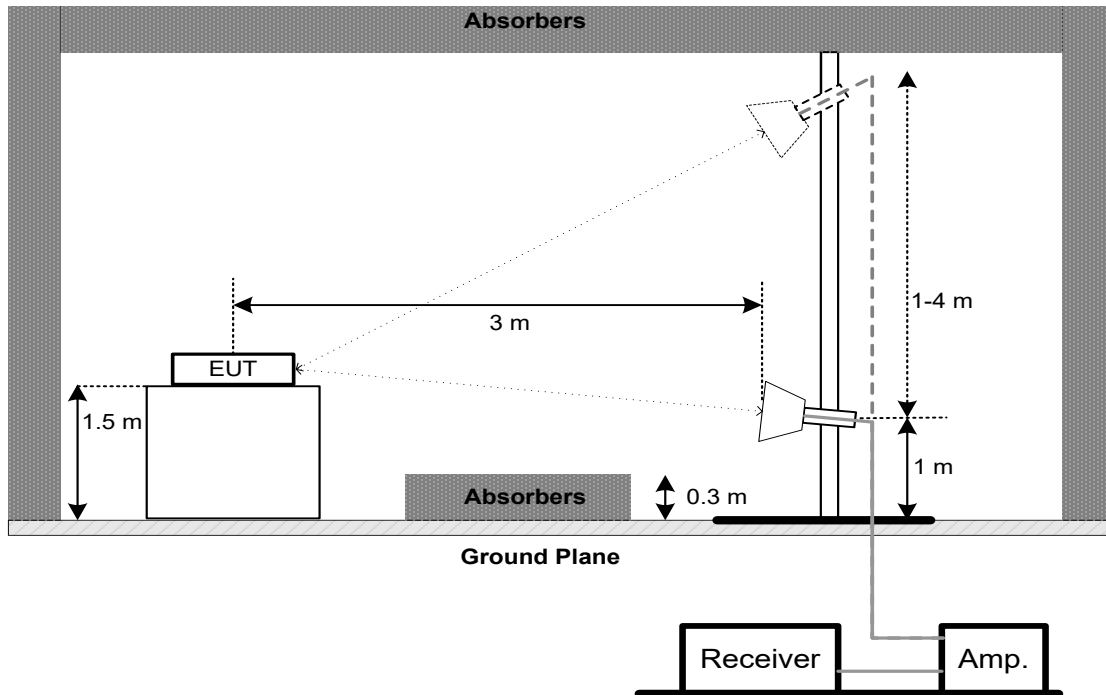


30 MHz to 1 GHz

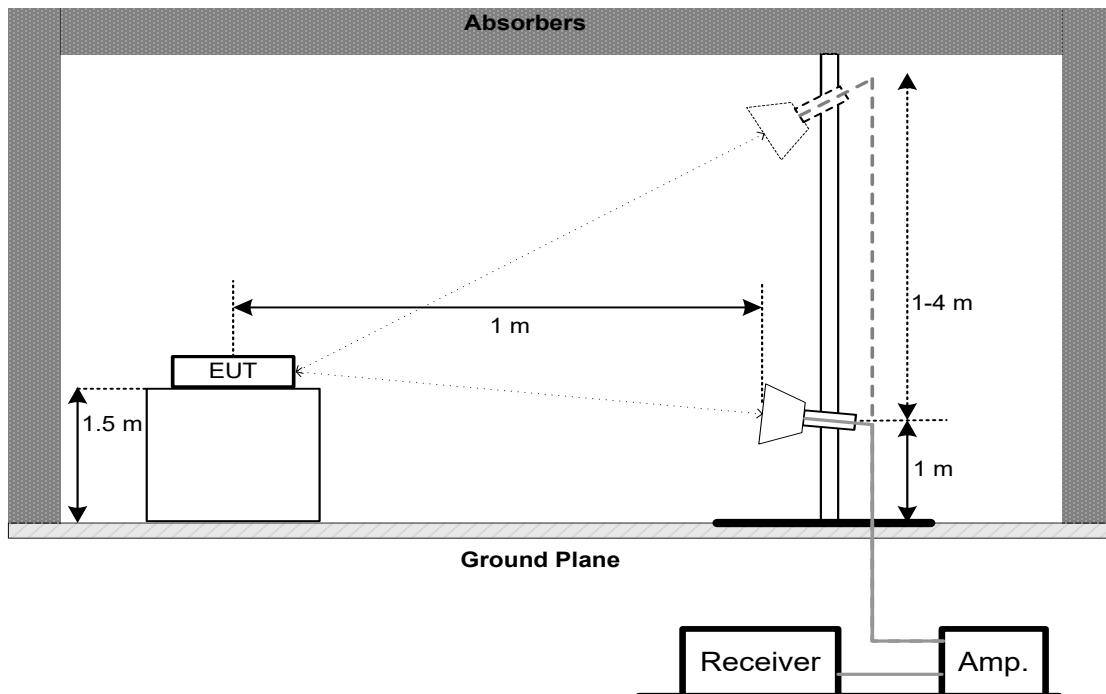


Above 1 GHz

Band edge & Harmonic (1 GHz to 18 GHz)



Harmonic (18 GHz to 26.5 GHz)



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 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.

5.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

5.8 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.

6. BANDWIDTH

6.1 LIMIT

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

6.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

For 6 dB Bandwidth:

Spectrum Parameters	Setting
Span Frequency	> Measurement Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For 99% Emission Bandwidth:

Spectrum Parameters	Setting
Span Frequency	Between 1.5 times and 5.0 times the OBW
RBW	300 kHz For 20MHz 1 MHz For 40MHz
VBW	1 MHz For 20MHz 3 MHz For 40MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

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 E.

7. MAXIMUM OUTPUT POWER

7.1 LIMIT

Section	Test Item	Limit
FCC 15.247(b)(3)	Maximum Output Power	1.0000 Watt or 30.00 dBm

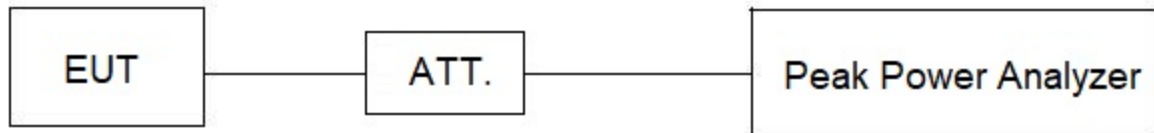
7.2 TEST PROCEDURE

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

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 F.

8. CONDUCTED SPURIOUS EMISSIONS

8.1 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.

8.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Start Frequency	30 MHz
Stop Frequency	26.5 GHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

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 G.

9. POWER SPECTRAL DENSITY

9.1 LIMIT

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

9.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	25 MHz (20 MHz) / 60 MHz (40 MHz)
RBW	3 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP



9.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

9.6 TEST RESULTS

Please refer to the APPENDIX H.

10. 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	ESR3	103027	Jun. 16, 2024
2	TWO-LINE V-NETWORK	R&S	ENV216	101447	Dec. 22, 2024
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
4	Cable	N/A	SFT205-NMNM-9M-001	9M	Nov. 27, 2024
5	643 Shield Room	ETS	6*4*3	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Active Loop Antenna	Schwarzbeck	FMZB 1513-60B	1513-60 B-034	Mar. 30, 2025
2	MXE EMI Receiver	Keysight	N9038A	MY56400091	Dec. 22, 2024
3	Cable	N/A	RW2350-3.8A-NMB M-1.5M	N/A	Jun. 09, 2025
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
5	966 Chamber room	ETS	9*6*6	N/A	Jul. 11, 2024

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	1462	Dec. 13, 2024
2	Attenuator	EMC INSTRUMENT	EMCI-N-6-06	AT-06009	Dec. 13, 2024
3	Preamplifier	EMC INSTRUMENT	EMC001330	980863	Apr. 07, 2025
4	Cable	RegalWay	LMR400-NMNM-12.5m	N/A	Jun. 06, 2025
5	Cable	RegalWay	LMR400-NMNM-3m	N/A	Jun. 06, 2025
6	Cable	RegalWay	LMR400-NMNM-0.5m	N/A	Jun. 06, 2025
7	Receiver	Agilent	N9038A	MY52130039	Dec. 22, 2024
8	Positioning Controller	MF	MF-7802	N/A	N/A
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	966 Chamber room	CM	9*6*6	N/A	May 16, 2025

Radiated Emissions - 1 GHz to 18 GHz

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Multi-Device Controller	ETS-Lindgren	N/A	N/A	N/A
2	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
3	MXA Signal Analyzer	KEYSIGHT	N9020B	MY63380204	Nov. 17, 2024
4	Cable	RegalWay	RWLP50-4.0A-SMS M-1.3M	N/A	Jan. 09, 2025
5	Cable	RegalWay	RWLP50-2.6A-3.5 M2.92MRA-3M	N/A	Jan. 09, 2025
6	Cable	RegalWay	RWLP50-4.0A-SMS M-9M	N/A	Jan. 09, 2025
7	966 Chamber room	ETS	RFD-100 (SVSWR)	Q2179	Jan. 09, 2025
8	Double Ridged Horn Antenna	EMC INSTRUMENT	DRH18-E	210509A18ES	Aug. 08, 2024
9	Preamplifier	EMC INSTRUMENT	EMC118A45SE	981001	May 31, 2025
10	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A
11	Filter	STI	STI15-9912	N/A	Nov. 17, 2024

Radiated Emissions - Above 18 GHz

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY55150209	May 31, 2025
2	Low Noise Amplifier	CONNPHY	CLN-18G40G-4330 -K	619413	Jul. 06, 2024
3	Cable	RegalWay	RWLP50-2.6A-2.92 M2.92M-1.1M	N/A	Jul. 26, 2024
4	Cable	Tonscend	HF160-KMKM-3M	N/A	Jul. 26, 2024
5	Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	1227	Oct. 10, 2024
6	966 Chamber room	CM	9*6*6	N/A	May 19, 2025
7	Positioning Controller	MF	MF-7802	N/A	N/A
8	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

**Bandwidth &
Conducted Spurious Emissions &
Power Spectral Density**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	May 31, 2025
2	Attenuator	Talent Microwave	TA10A0-S-26.5	N/A	N/A
3	DC Block	N/A	N/A	N/A	N/A
4	Measurement Software	BTL	BTL Conducted Test	N/A	N/A

Maximum Output Power

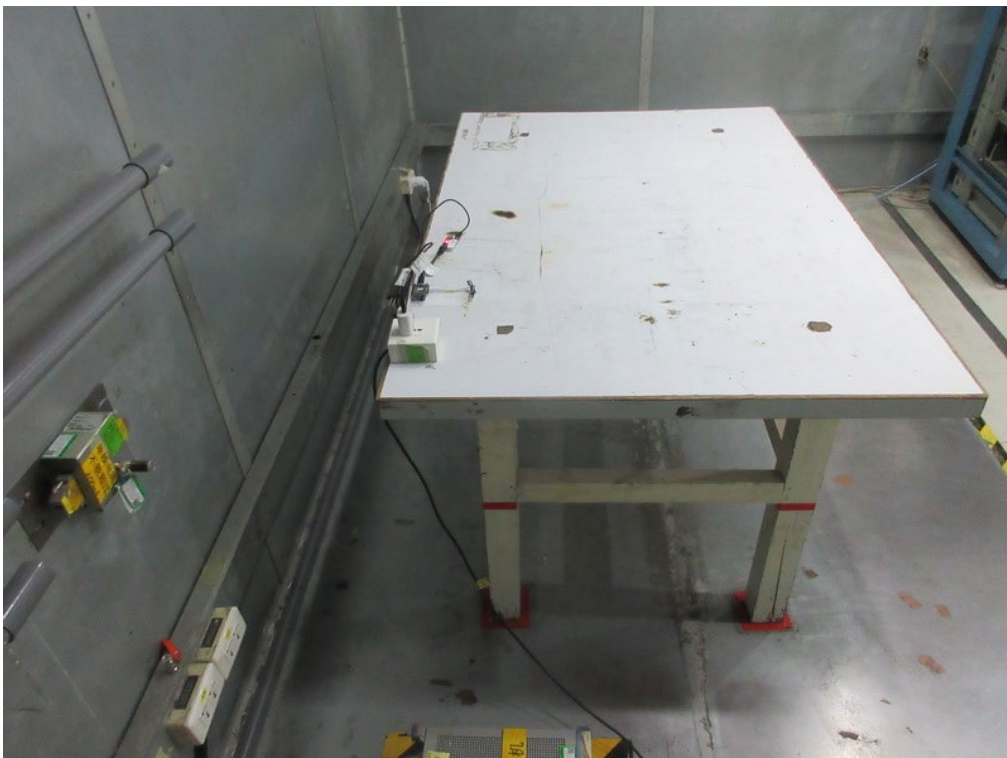
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Attenuator	RegalWay	RWA-201-S-10	NA	Sep. 26, 2024
2	Power sensors	MA24408A	12592	NA	Dec. 22, 2024
3	MA24400A PEAK POWER ANALYZER	VERSION 1.1.0.0	N/A	N/A	N/A

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

All calibration period of equipment list is one year.

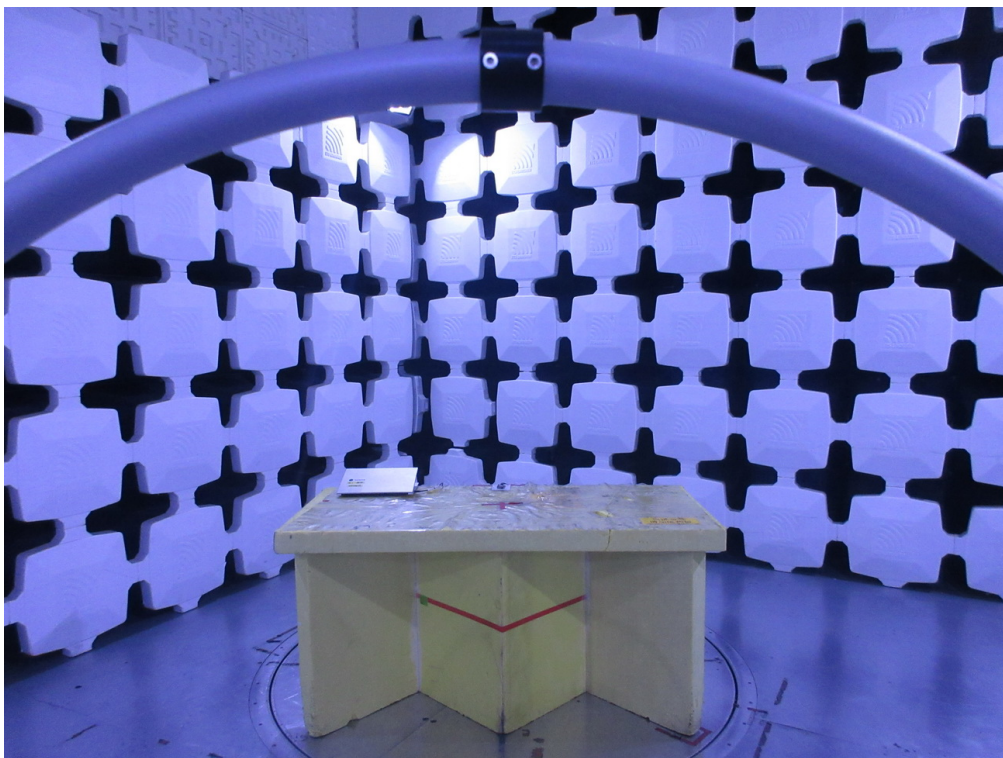
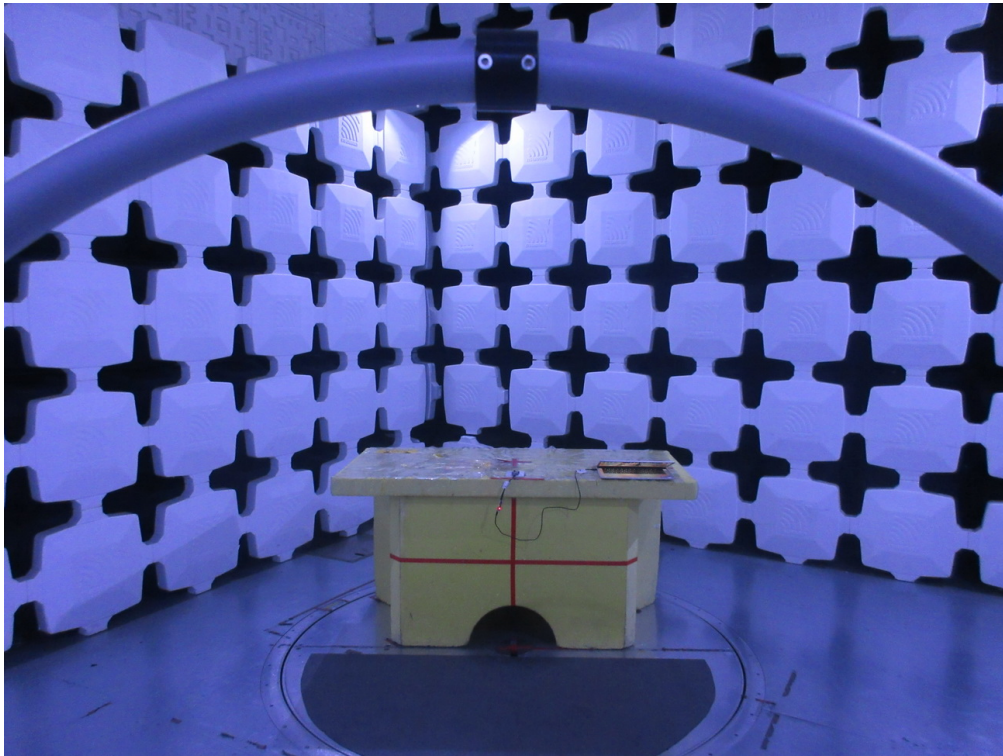
11. EUT TEST PHOTO

AC Power Line Conducted Emissions Test Photos



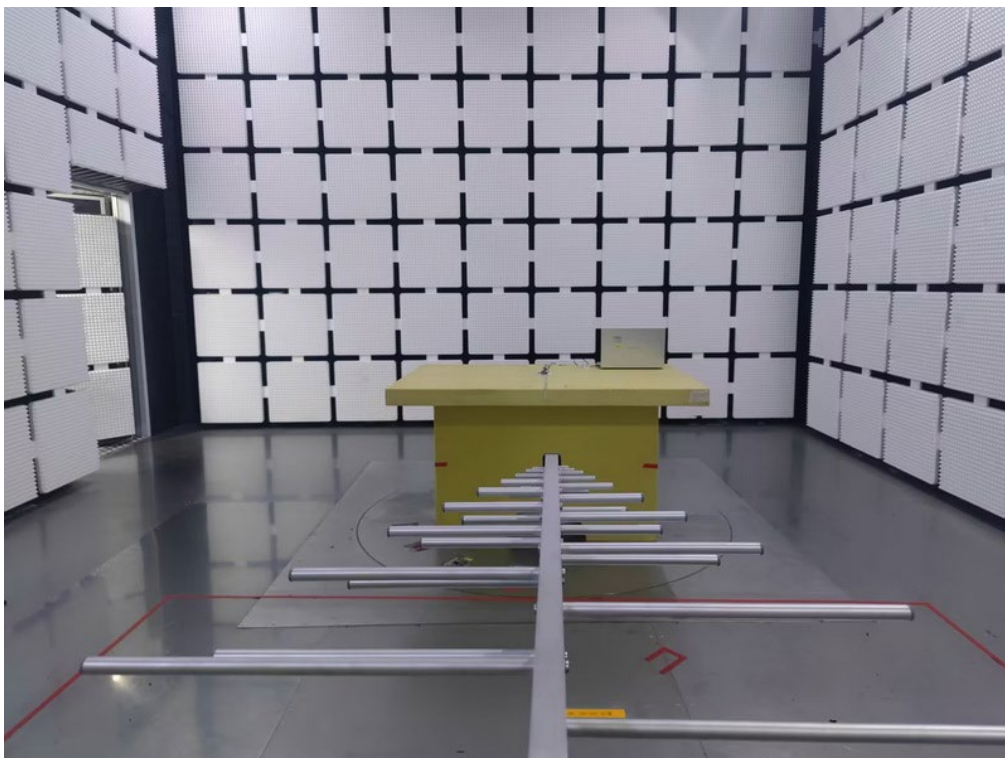
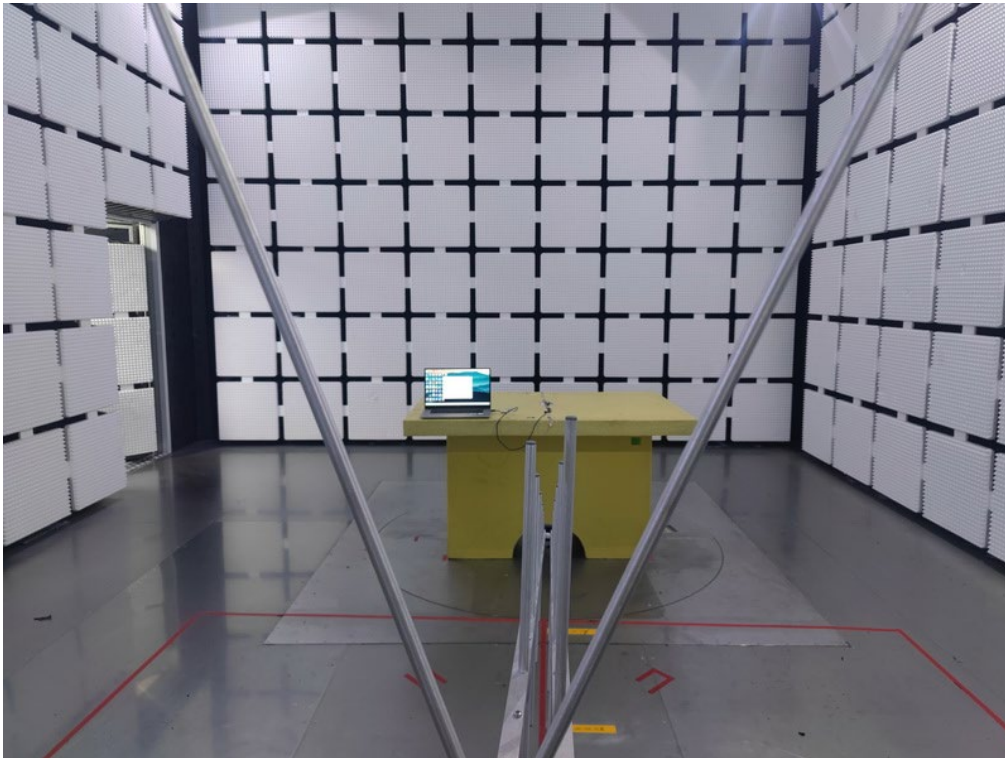
Radiated Emissions Test Photos

9 kHz to 30 MHz



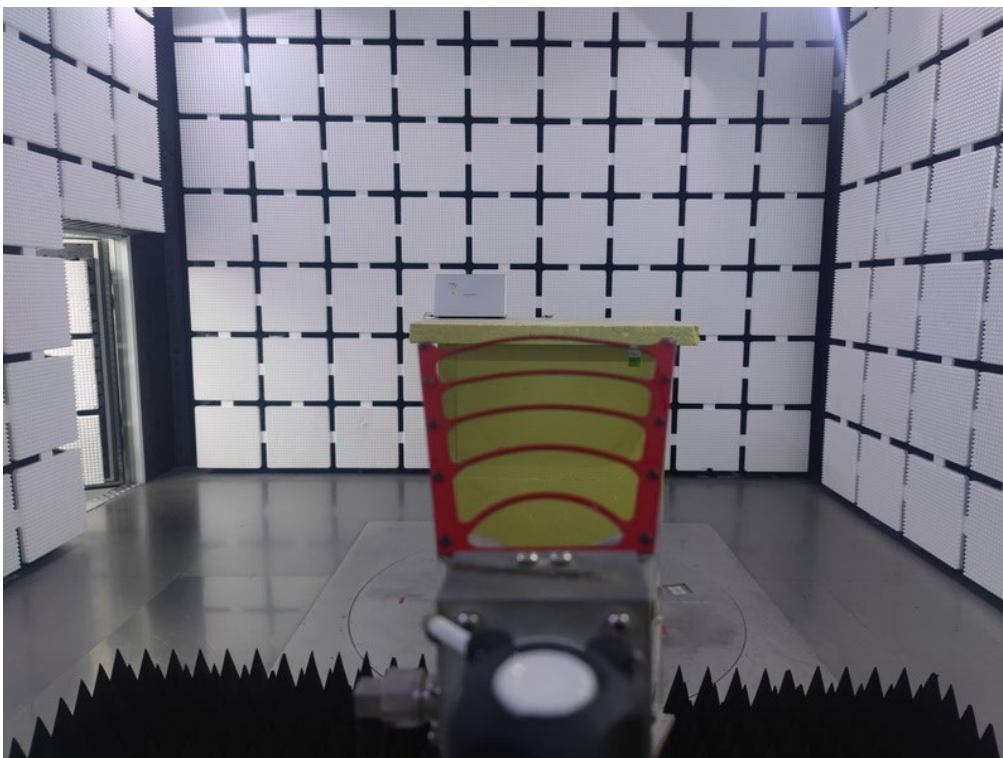
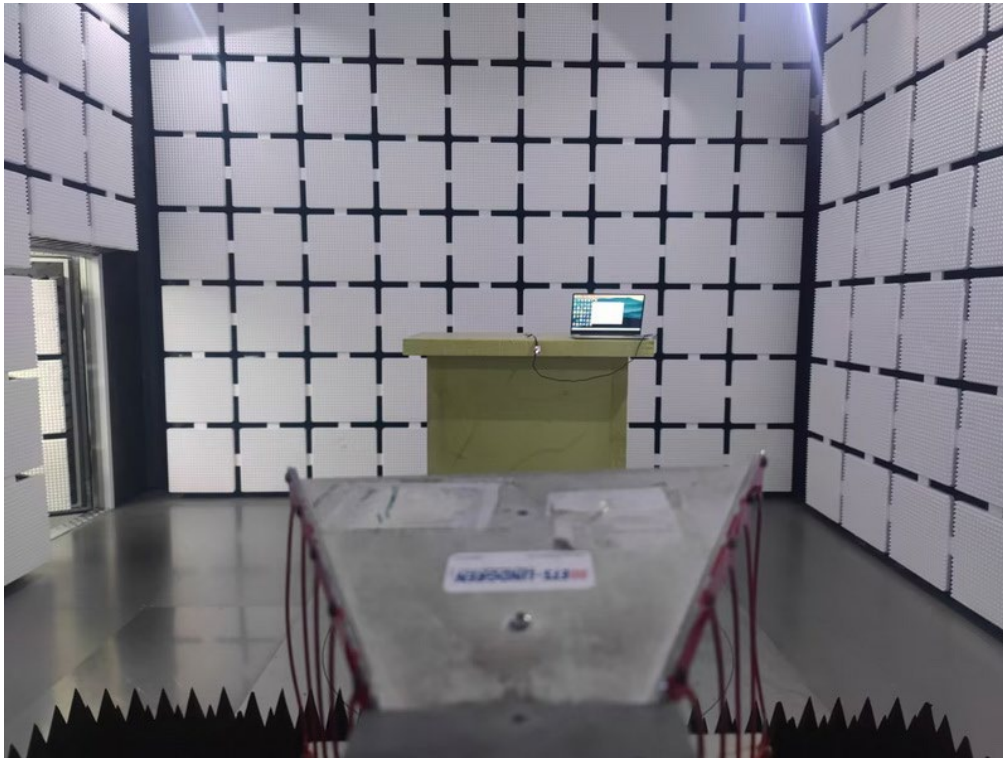
Radiated Emissions Test Photos

30 MHz to 1000 MHz



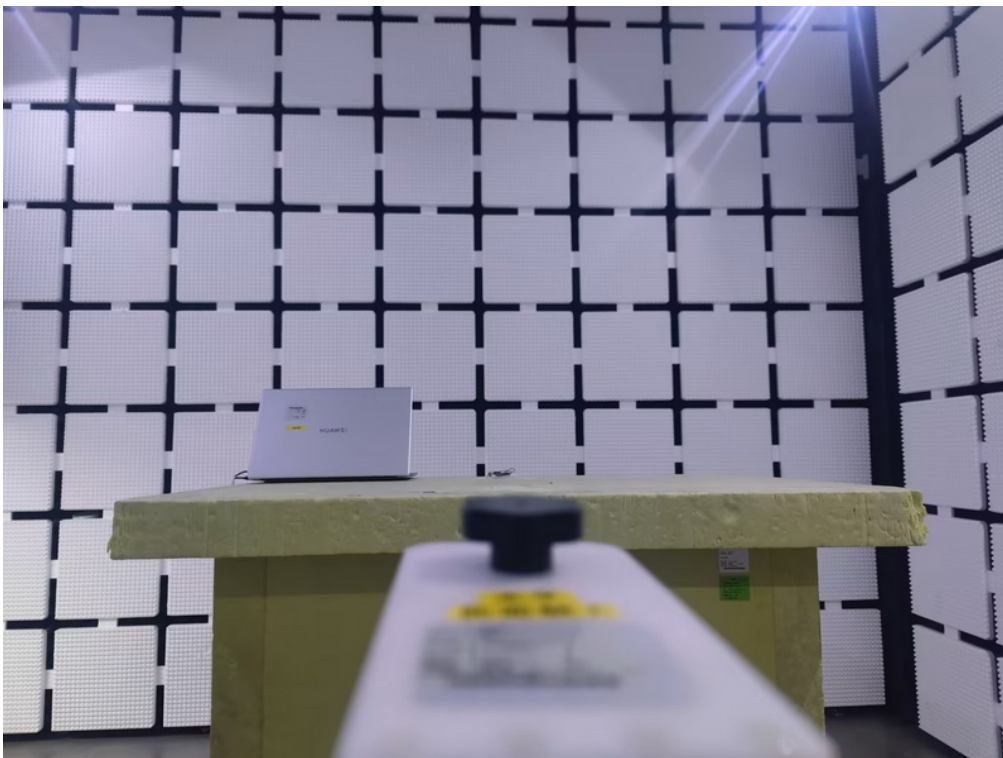
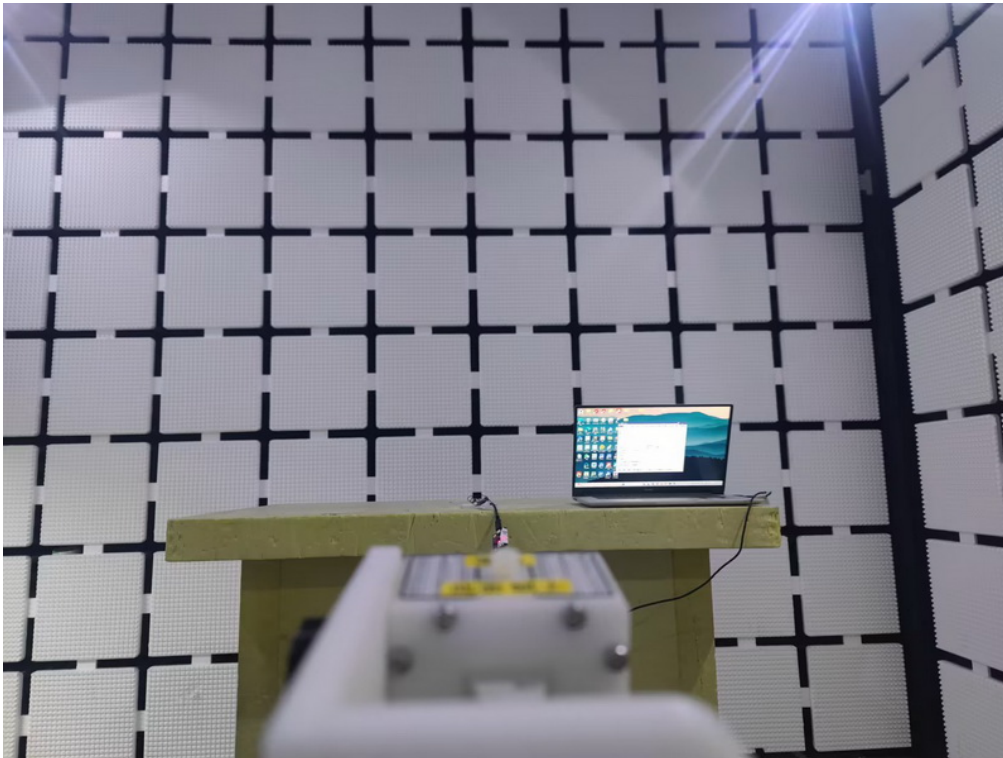
Radiated Emissions Test Photos

Above 1 GHz_Band edge & Harmonic (1 GHz to 18 GHz)

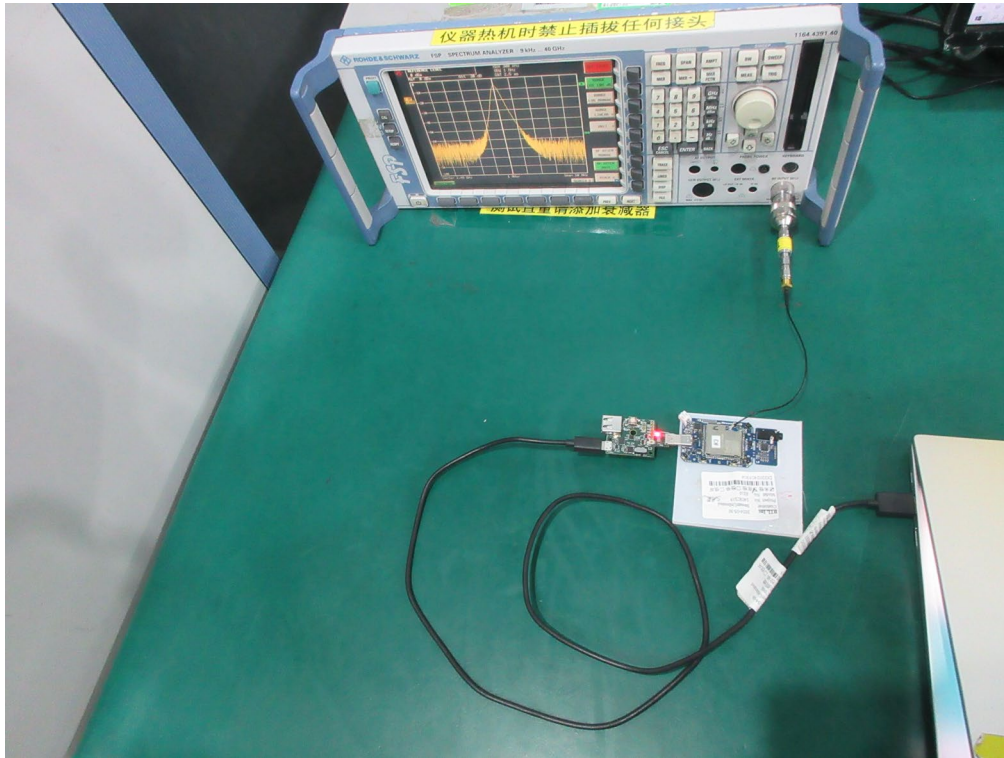


Radiated Emissions Test Photos

Above 1 GHz_Harmonic (18 GHz to 26.5 GHz)

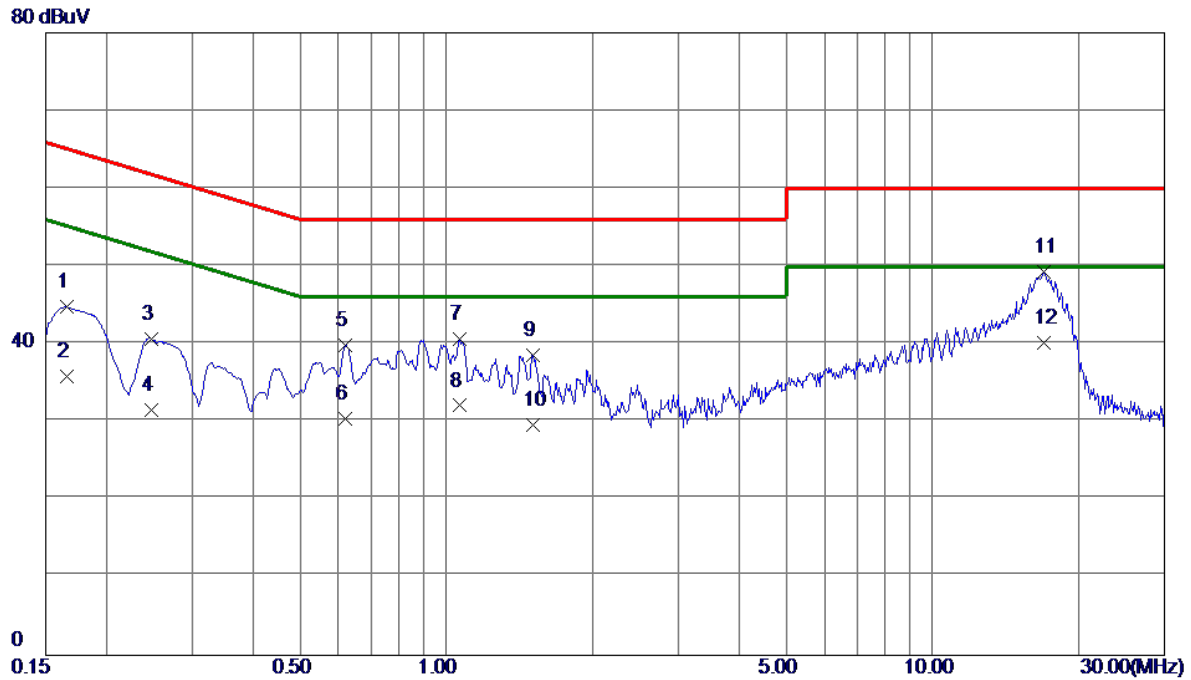


Conducted Test Photos



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX AX(HE20) Mode Channel 06	Phase	Line
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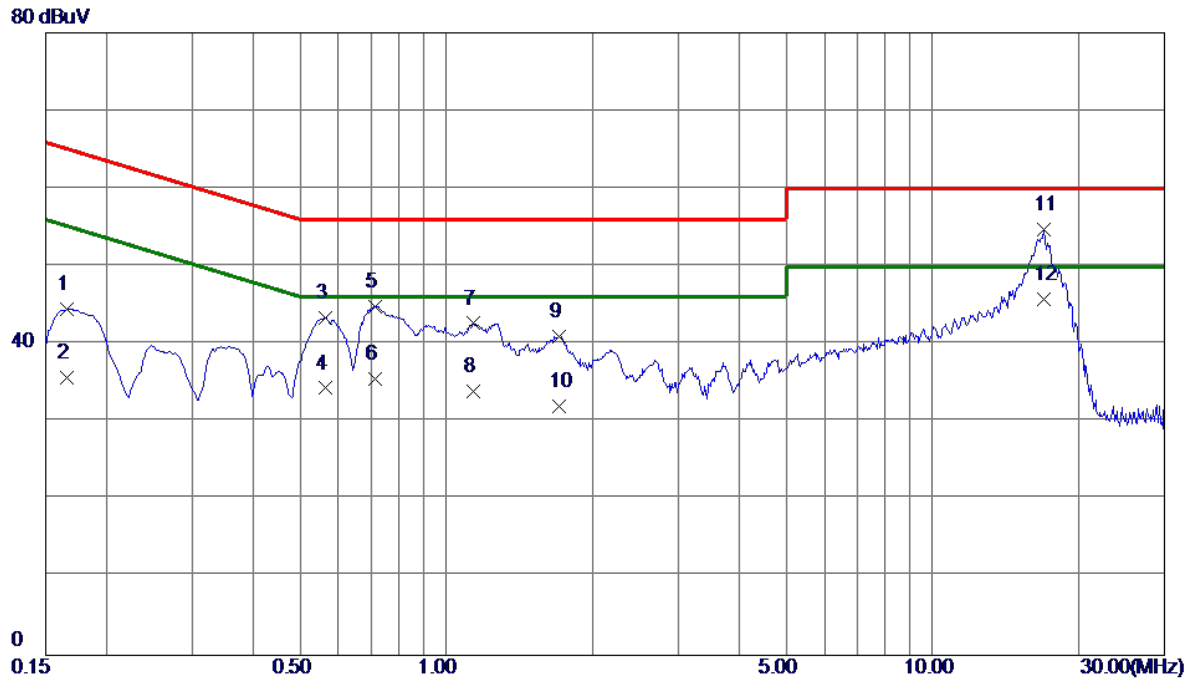


No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1658	34.77	9.97	44.74	65.17	-20.43	QP	
2	0.1658	25.90	9.97	35.87	55.17	-19.30	AVG	
3	0.2468	30.63	10.06	40.69	61.86	-21.17	QP	
4	0.2468	21.39	10.06	31.45	51.86	-20.41	AVG	
5	0.6202	28.99	10.86	39.85	56.00	-16.15	QP	
6	0.6202	19.50	10.86	30.36	46.00	-15.64	AVG	
7	1.0635	29.41	11.28	40.69	56.00	-15.31	QP	
8	1.0635	20.80	11.28	32.08	46.00	-13.92	AVG	
9	1.5045	27.28	11.26	38.54	56.00	-17.46	QP	
10	1.5045	18.31	11.26	29.57	46.00	-16.43	AVG	
11	16.9035	35.74	13.50	49.24	60.00	-10.76	QP	
12 *	16.9035	26.61	13.50	40.11	50.00	-9.89	AVG	

REMARKS:

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

Test Mode	TX AX(HE20) Mode Channel 06	Phase	Neutral
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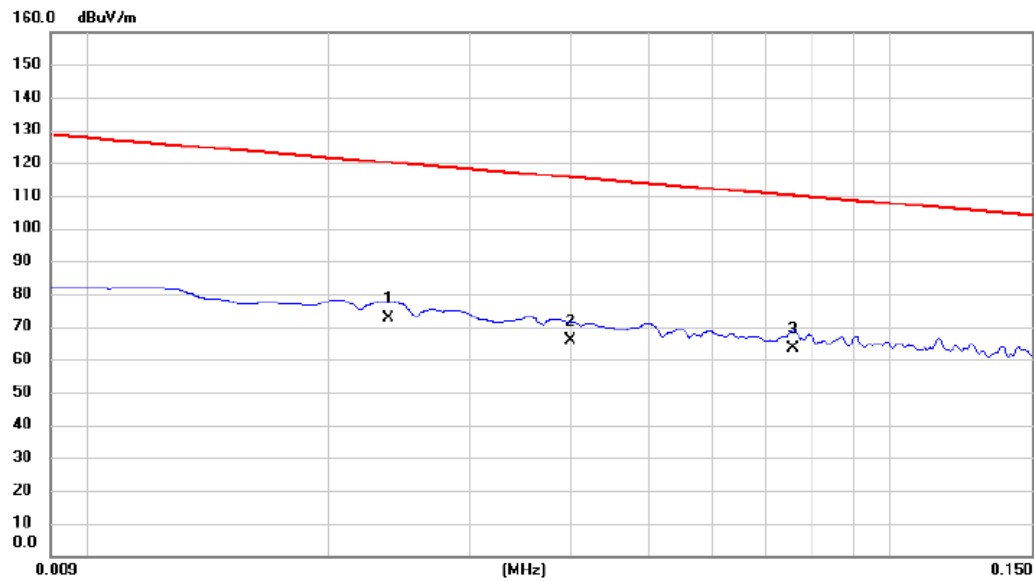
No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1658	34.58	9.93	44.51	65.17	-20.66	QP	
2	0.1658	25.80	9.93	35.73	55.17	-19.44	AVG	
3	0.5639	32.67	10.72	43.39	56.00	-12.61	QP	
4	0.5639	23.60	10.72	34.32	46.00	-11.68	AVG	
5	0.7125	33.87	10.96	44.83	56.00	-11.17	QP	
6	0.7125	24.50	10.96	35.46	46.00	-10.54	AVG	
7	1.1377	31.38	11.26	42.64	56.00	-13.36	QP	
8	1.1377	22.69	11.26	33.95	46.00	-12.05	AVG	
9	1.7070	29.92	11.09	41.01	56.00	-14.99	QP	
10	1.7070	20.90	11.09	31.99	46.00	-14.01	AVG	
11	16.9440	41.25	13.46	54.71	60.00	-5.29	QP	
12 *	16.9440	32.30	13.46	45.76	50.00	-4.24	AVG	

REMARKS:

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

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Test Mode	TX AX(HE20) Mode Channel 06	Polarization	Ant 0°
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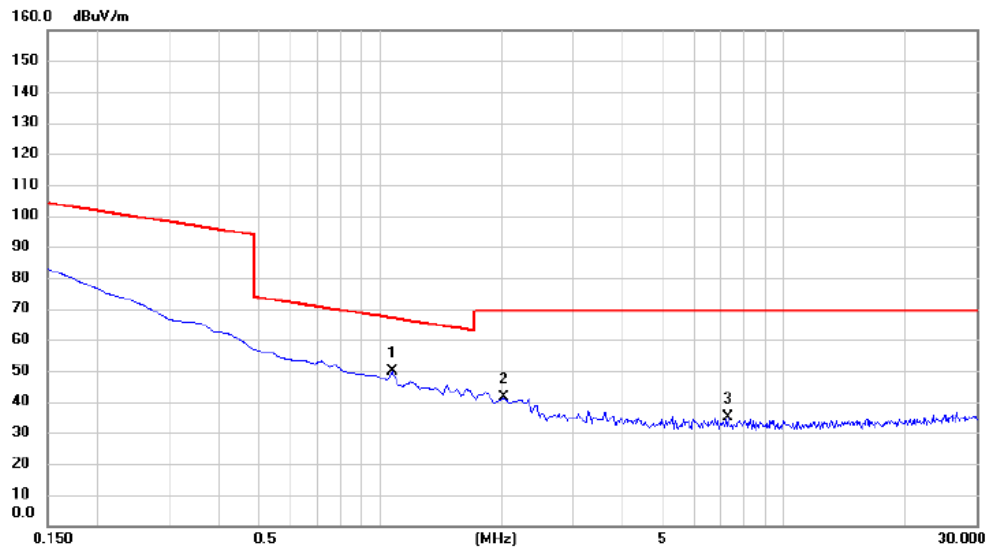


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0237	51.72	20.91	72.63	120.11	-47.48	AVG	
2		0.0400	44.76	21.15	65.91	115.56	-49.65	AVG	
3	*	0.0757	42.14	21.29	63.43	110.02	-46.59	AVG	

REMARKS:

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

Test Mode	TX AX(HE20) Mode Channel 06	Polarization	Ant 0°
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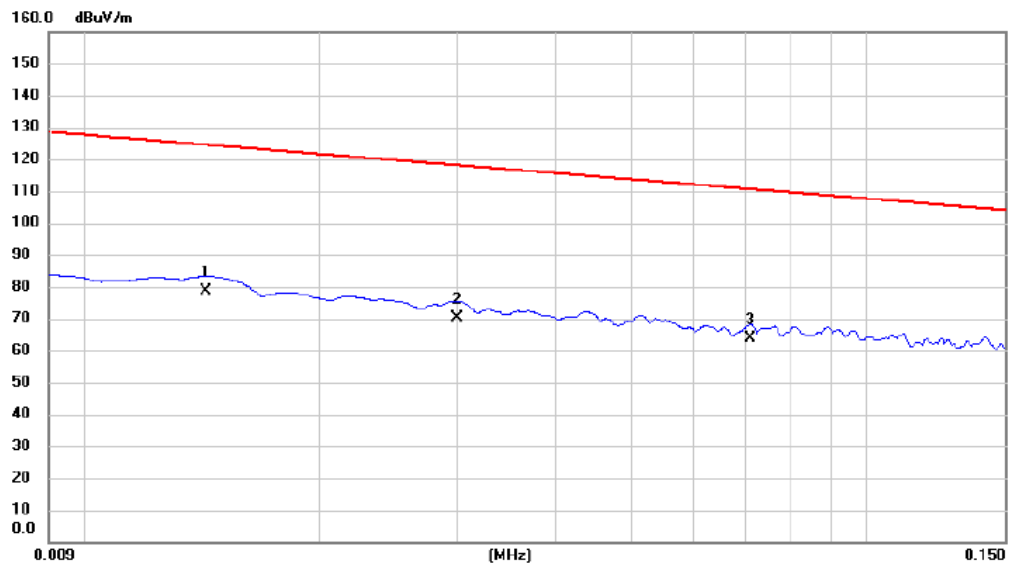


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	1.0754	28.53	21.16	49.69	66.97	-17.28	QP	
2		2.0305	20.13	21.09	41.22	69.54	-28.32	QP	
3		7.2842	13.64	21.17	34.81	69.54	-34.73	QP	

REMARKS:

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

Test Mode	TX AX(HE20) Mode Channel 06	Polarization	Ant 90°
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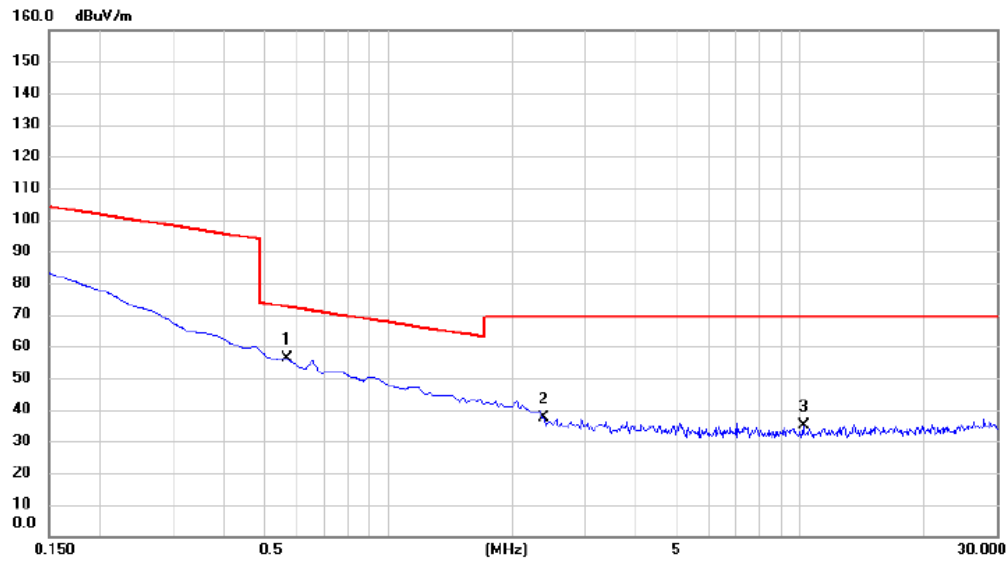


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0143	58.03	20.63	78.66	124.50	-45.84	AVG	
2		0.0300	49.03	21.10	70.13	118.06	-47.93	AVG	
3		0.0710	42.36	21.27	63.63	110.58	-46.95	AVG	

REMARKS:

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

Test Mode	TX AX(HE20) Mode Channel 06	Polarization	Ant 90°
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No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.5680	35.08	21.07	56.15	72.52	-16.37	QP	
2		2.3887	16.29	21.10	37.39	69.54	-32.15	QP	
3		10.2094	13.94	21.20	35.14	69.54	-34.40	QP	

REMARKS:

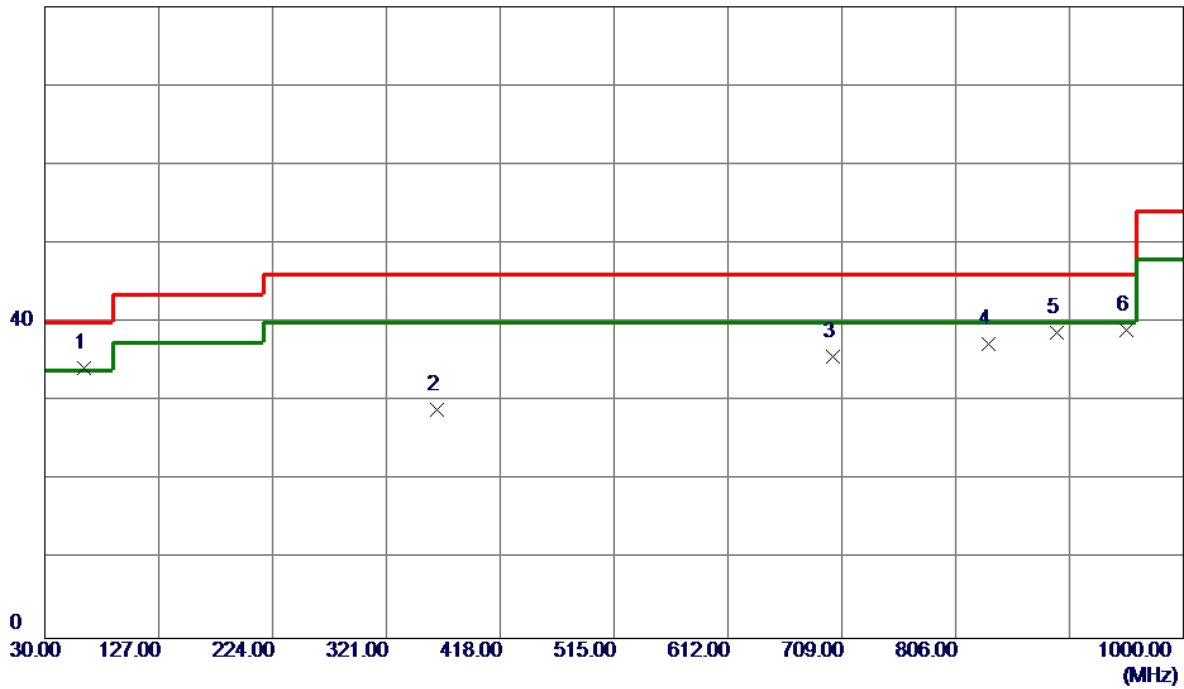
(1) Measurement Value = Reading Level + Correct Factor.

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

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode	TX AX(HE20) Mode Channel 06	Polarization	Vertical
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80 dBuV/m



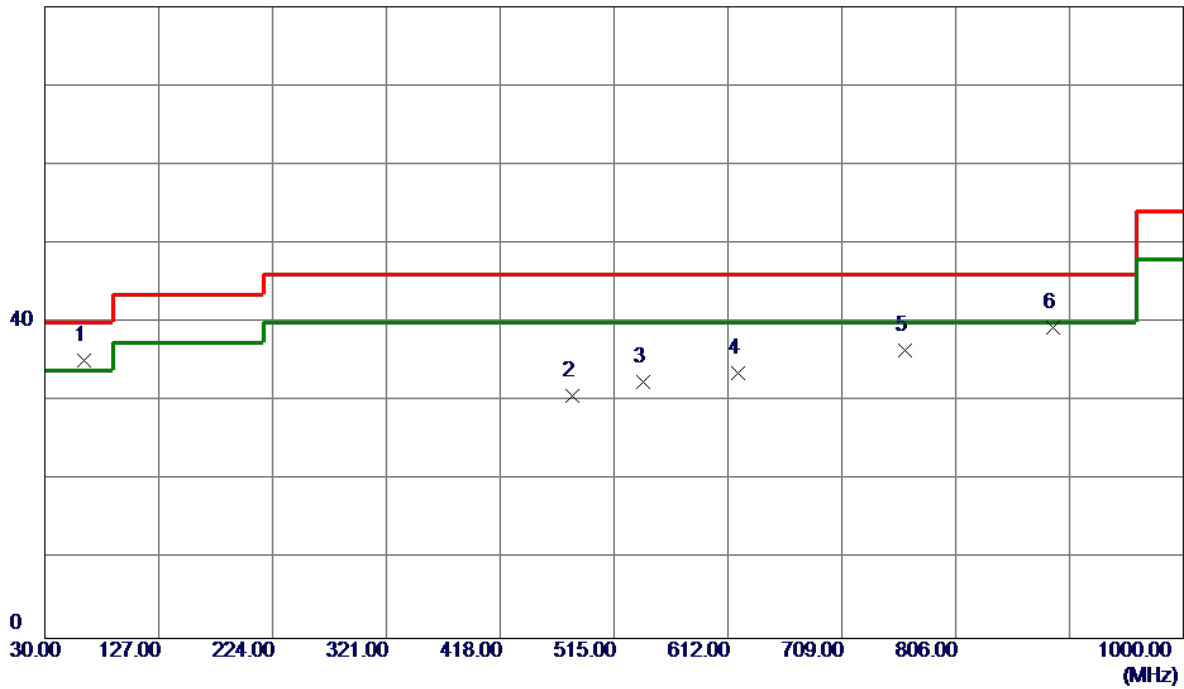
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	62.9800	46.63	-12.38	34.25	40.00	-5.75	Peak	
2	363.6800	38.00	-9.08	28.92	46.00	-17.08	Peak	
3	701.7250	37.81	-2.13	35.68	46.00	-10.32	Peak	
4	834.1300	37.83	-0.56	37.27	46.00	-8.73	Peak	
5	892.3300	38.46	0.27	38.73	46.00	-7.27	Peak	
6	951.0150	38.41	0.62	39.03	46.00	-6.97	Peak	

REMARKS:

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

Test Mode	TX AX(HE20) Mode Channel 06	Polarization	Horizontal
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80 dBuV/m



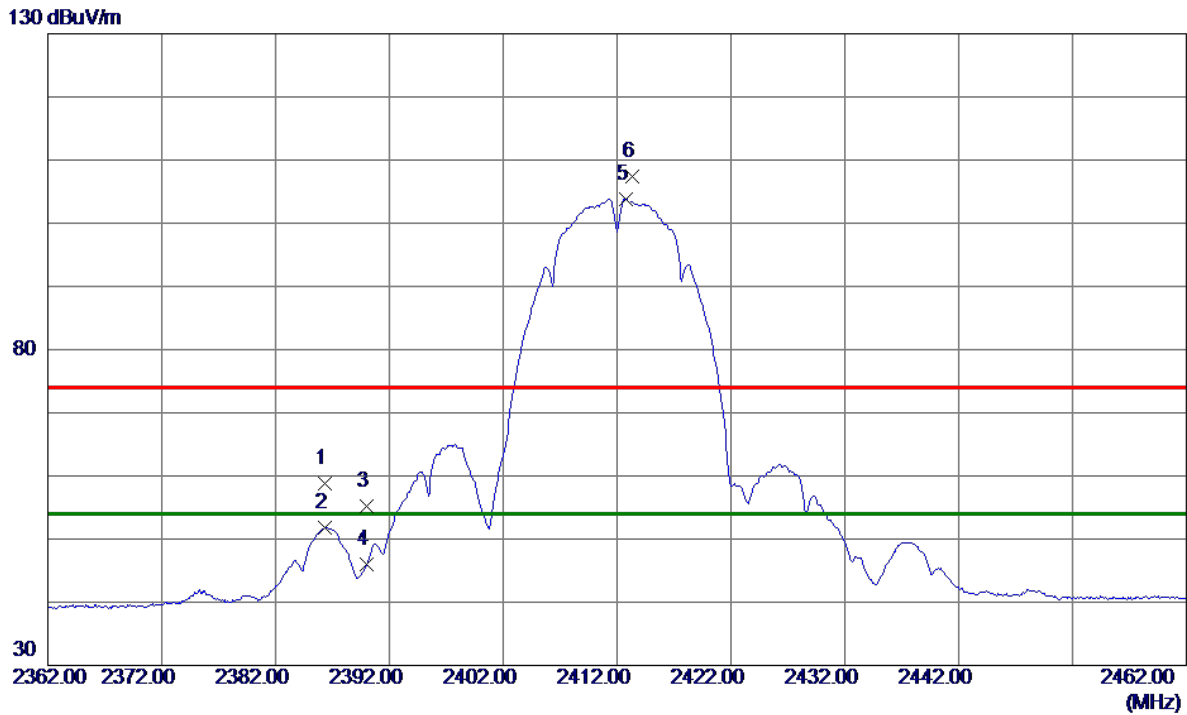
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	63.4650	47.65	-12.45	35.20	40.00	-4.80	Peak	
2	479.5950	36.89	-6.14	30.75	46.00	-15.25	Peak	
3	540.2199	37.55	-5.02	32.53	46.00	-13.47	Peak	
4	620.2450	36.74	-3.13	33.61	46.00	-12.39	Peak	
5	762.8350	37.44	-0.99	36.45	46.00	-9.55	Peak	
6	888.4500	39.10	0.22	39.32	46.00	-6.68	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	Polarization	Horizontal
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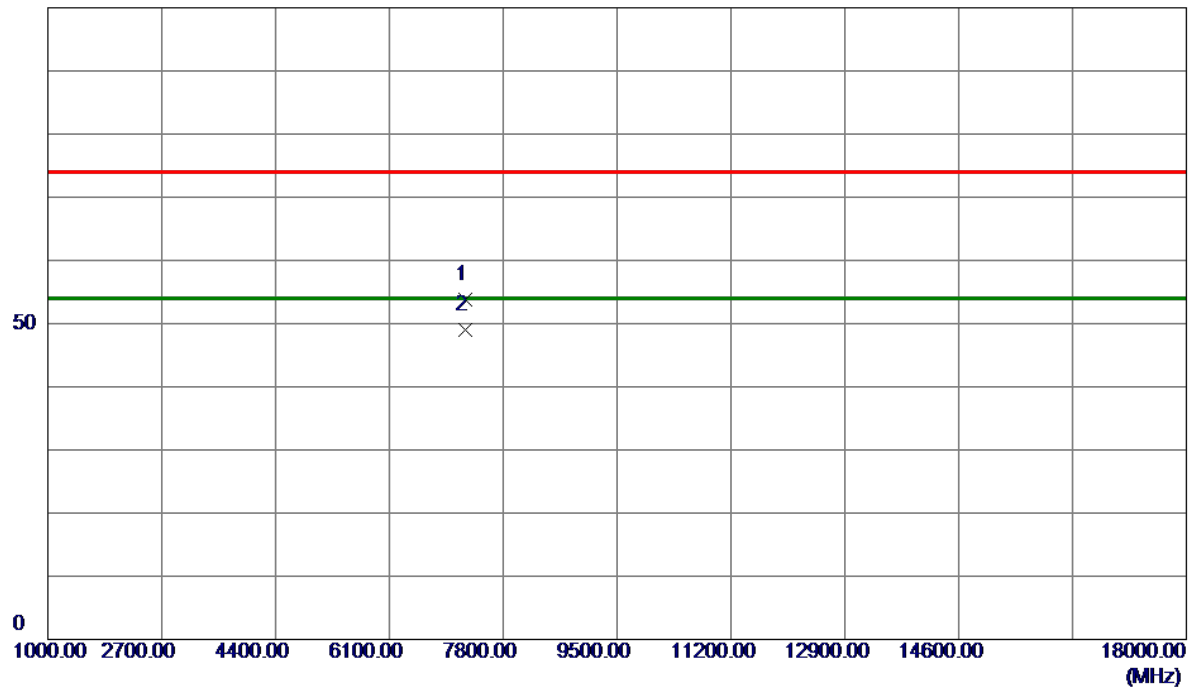
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2386.3000	50.41	8.39	58.80	74.00	-15.20	Peak	
2	2386.3000	43.39	8.39	51.78	54.00	-2.22	AVG	
3	2390.0000	46.84	8.40	55.24	74.00	-18.76	Peak	
4	2390.0000	37.56	8.40	45.96	54.00	-8.04	AVG	
5 *	2412.8000	95.37	8.44	103.81	54.00	49.81	AVG	No Limit
6	2413.3000	98.88	8.45	107.33	74.00	33.33	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	Polarization	Horizontal
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100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	7234.2500	45.50	8.27	53.77	74.00	-20.23	Peak	
2 *	7236.8000	40.79	8.27	49.06	54.00	-4.94	AVG	

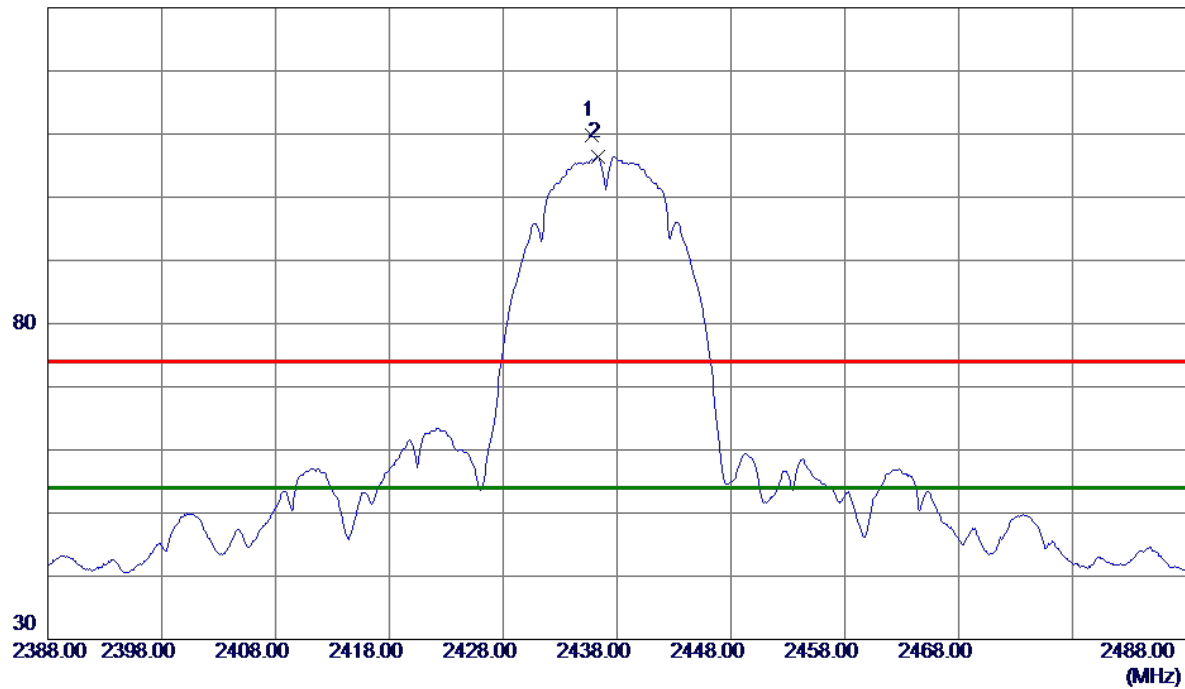
REMARKS:

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

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

Test Mode	TX B Mode 2437 MHz	Polarization	Horizontal
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130 dBuV/m



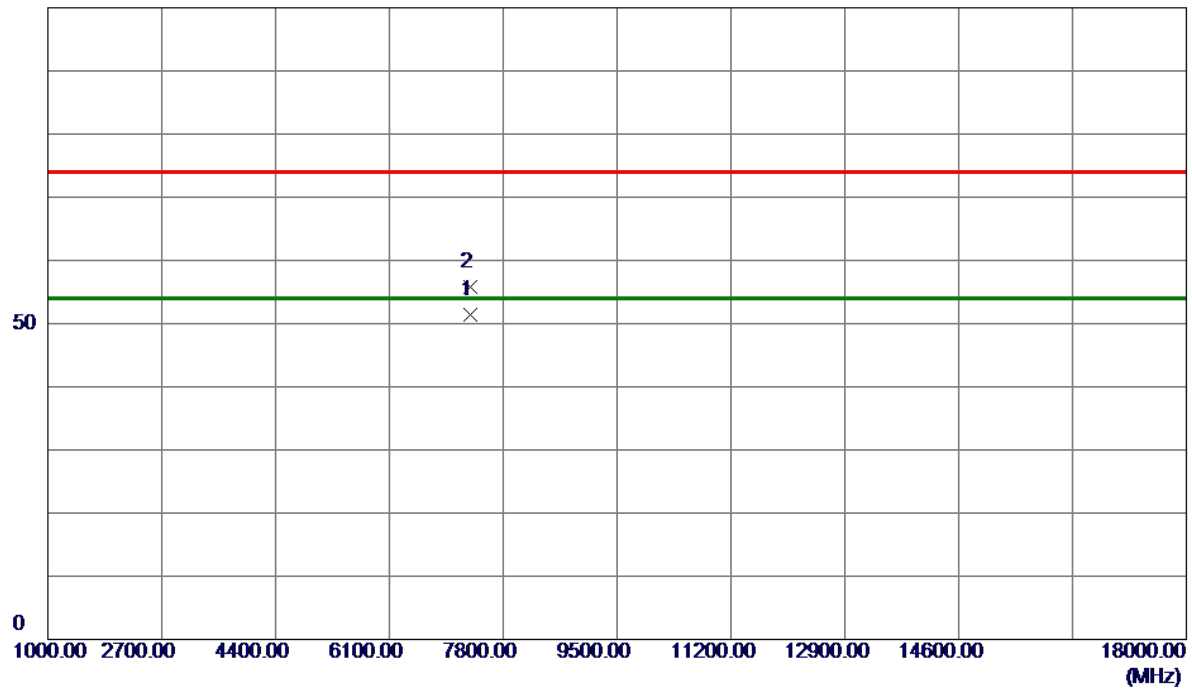
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.8000	101.33	8.49	109.82	74.00	35.82	Peak	No Limit
2 *	2436.3000	97.88	8.49	106.37	54.00	52.37	AVG	No Limit

REMARKS:

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

Test Mode	TX B Mode 2437 MHz	Polarization	Horizontal
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100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7310.3000	42.93	8.38	51.31	54.00	-2.69	AVG	
2	7311.1500	47.35	8.39	55.74	74.00	-18.26	Peak	

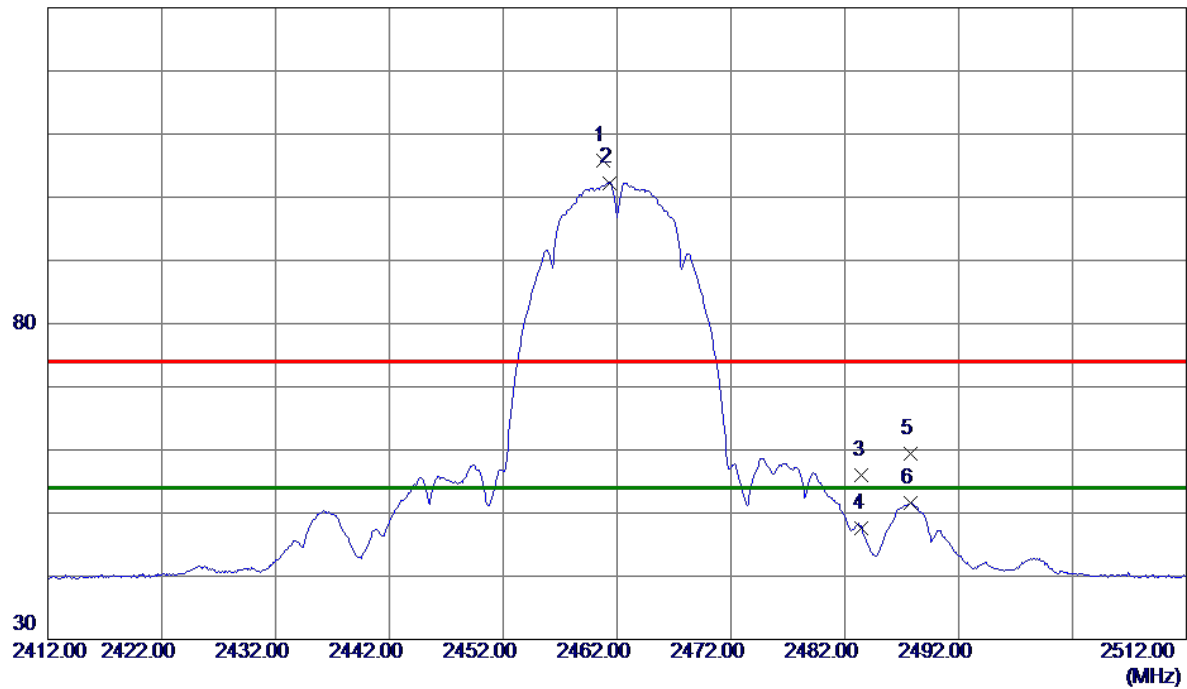
REMARKS:

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

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

Test Mode	TX B Mode 2462 MHz	Polarization	Horizontal
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130 dBuV/m



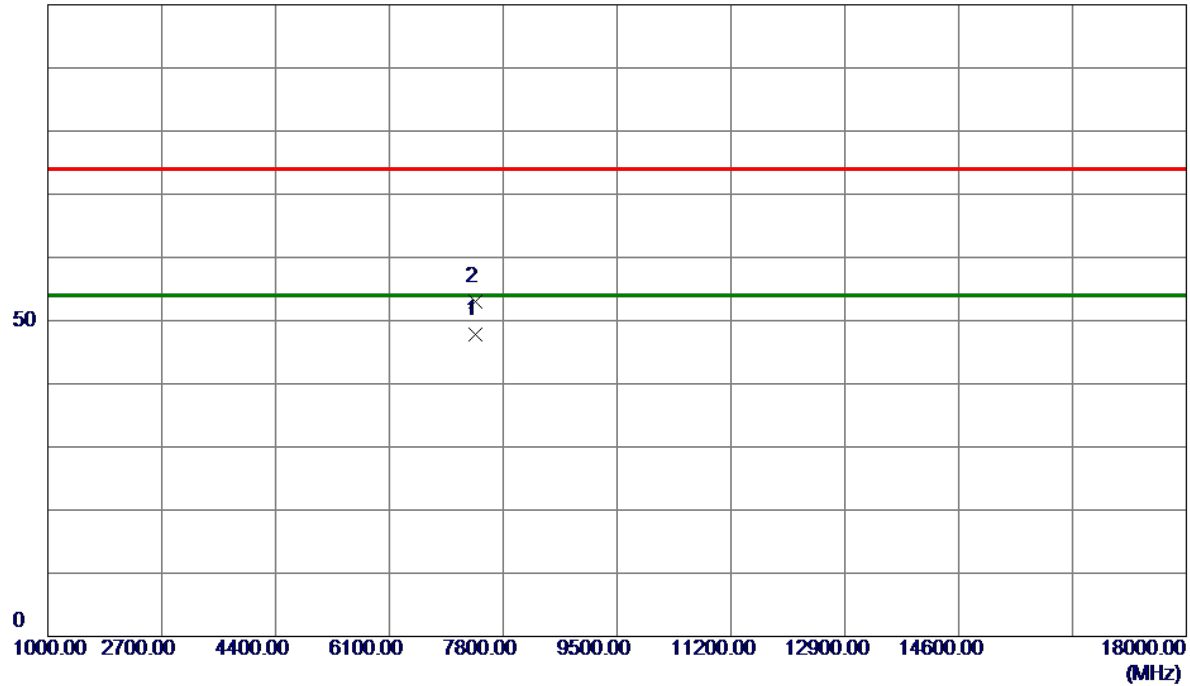
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2460.8000	97.17	8.54	105.71	74.00	31.71	Peak	No Limit
2 *	2461.3000	93.76	8.54	102.30	54.00	48.30	AVG	No Limit
3	2483.5000	47.48	8.59	56.07	74.00	-17.93	Peak	
4	2483.5000	39.05	8.59	47.64	54.00	-6.36	AVG	
5	2487.8000	50.77	8.60	59.37	74.00	-14.63	Peak	
6	2487.8000	43.01	8.60	51.61	54.00	-2.39	AVG	

REMARKS:

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

Test Mode	TX B Mode 2462 MHz	Polarization	Horizontal
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100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7385.3000	39.23	8.50	47.73	54.00	-6.27	AVG	
2	7387.6000	44.49	8.50	52.99	74.00	-21.01	Peak	

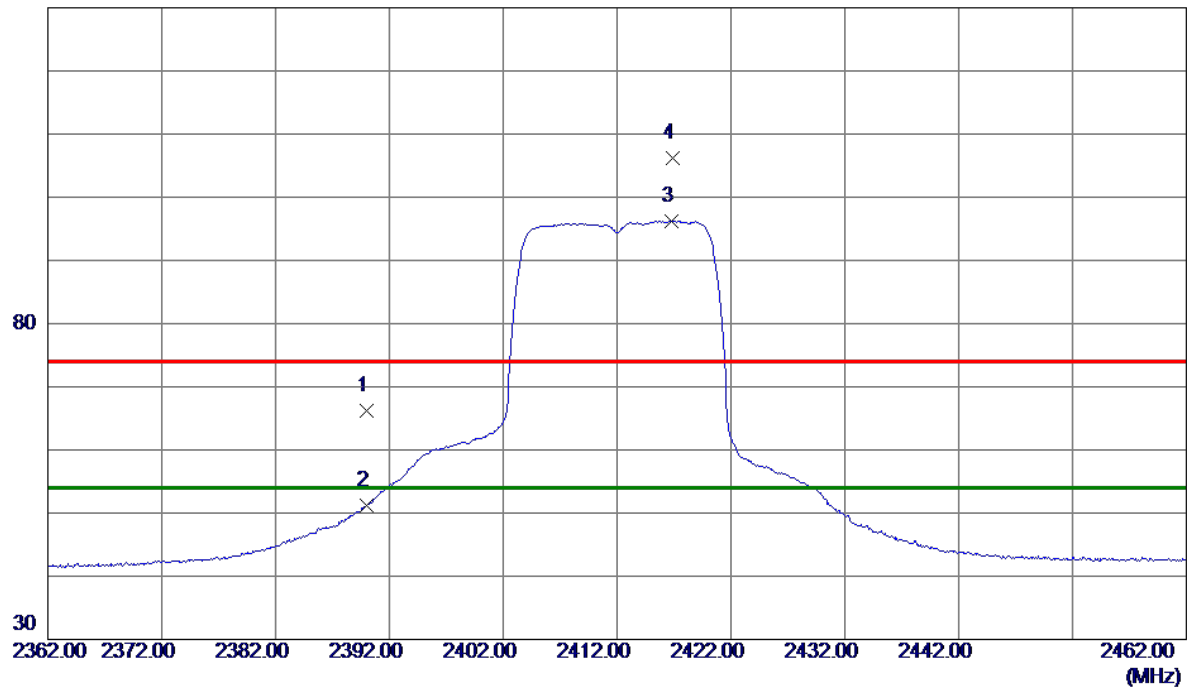
REMARKS:

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

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

Test Mode	TX G Mode 2412 MHz	Polarization	Horizontal
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130 dBuV/m



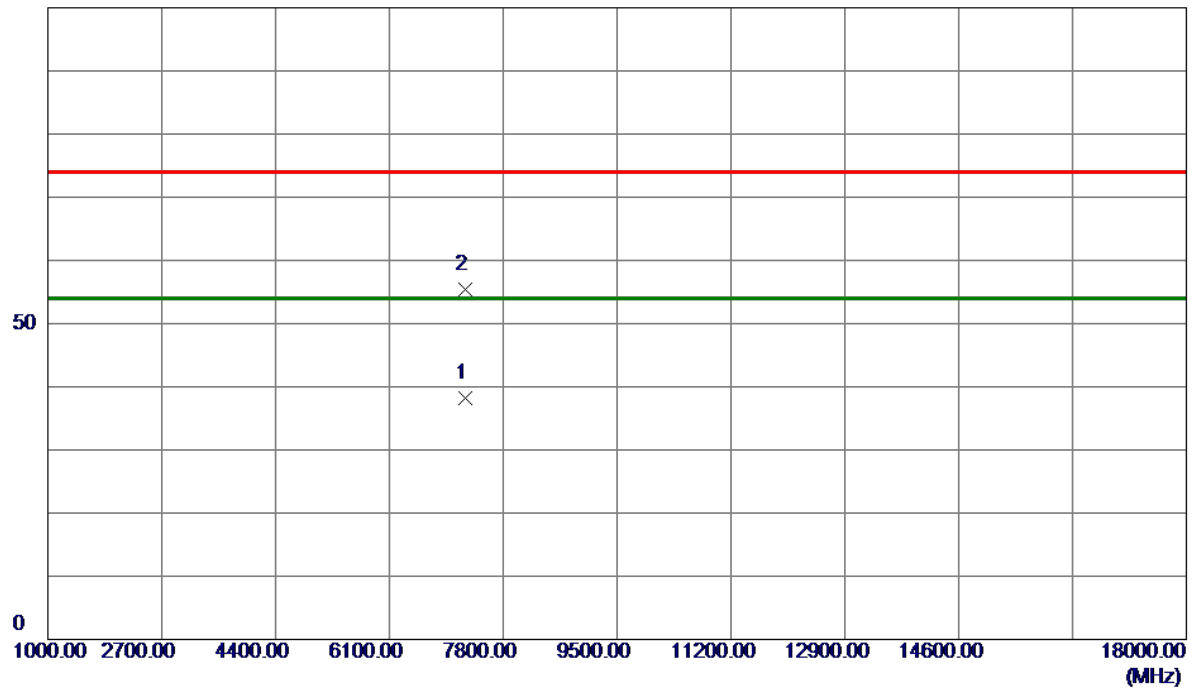
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	57.80	8.40	66.20	74.00	-7.80	Peak	
2	2390.0000	42.73	8.40	51.13	54.00	-2.87	AVG	
3 *	2416.8000	87.76	8.45	96.21	54.00	42.21	AVG	No Limit
4	2416.9000	97.77	8.45	106.22	74.00	32.22	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	Polarization	Horizontal
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100 dBuV/m



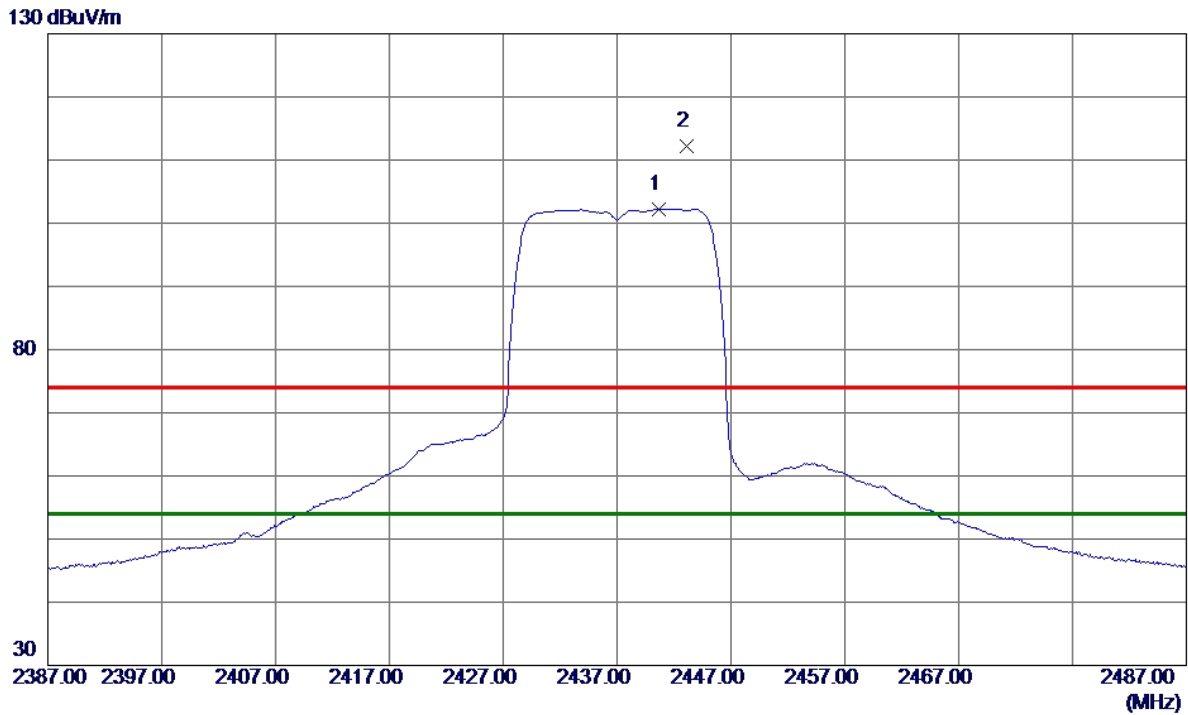
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7237.6500	29.95	8.27	38.22	54.00	-15.78	AVG	
2	7240.0000	47.05	8.27	55.32	74.00	-18.68	Peak	

REMARKS:

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

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

Test Mode	TX G Mode 2437 MHz	Polarization	Horizontal
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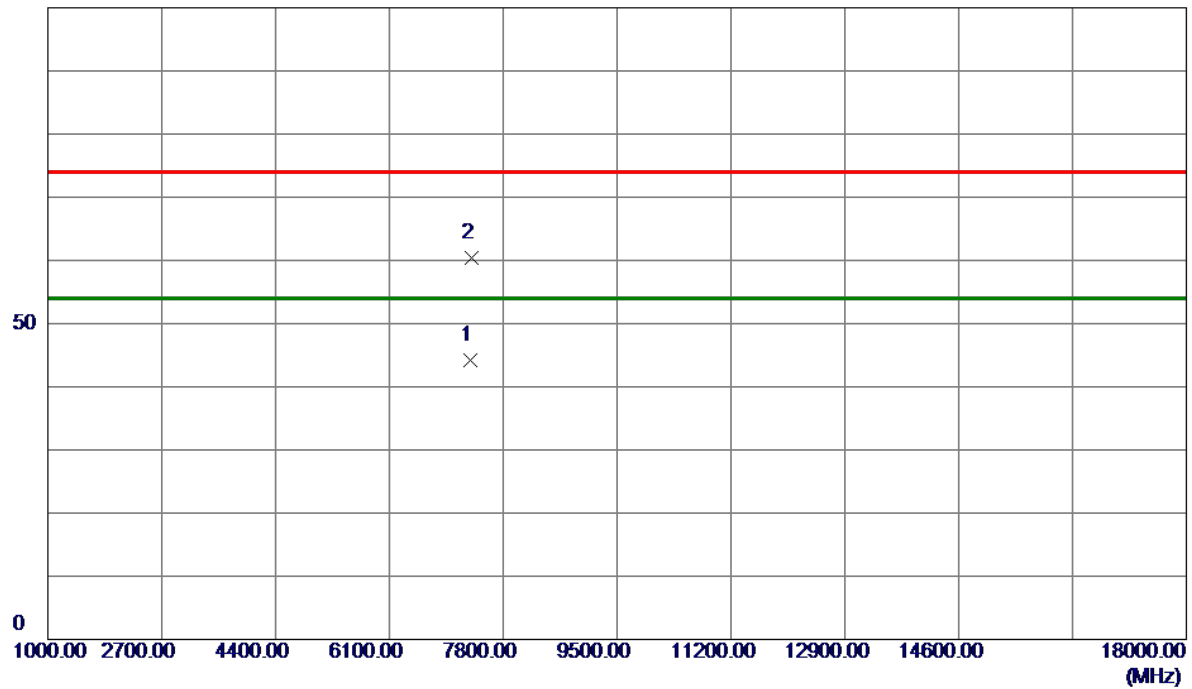
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2440.7000	93.78	8.50	102.28	54.00	48.28	AVG	No Limit
2	2443.1000	103.75	8.51	112.26	74.00	38.26	Peak	No Limit

REMARKS:

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

Test Mode	TX G Mode 2437 MHz	Polarization	Horizontal
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100 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7312.7000	35.77	8.39	44.16	54.00	-9.84	AVG	
2	7322.4500	52.03	8.40	60.43	74.00	-13.57	Peak	

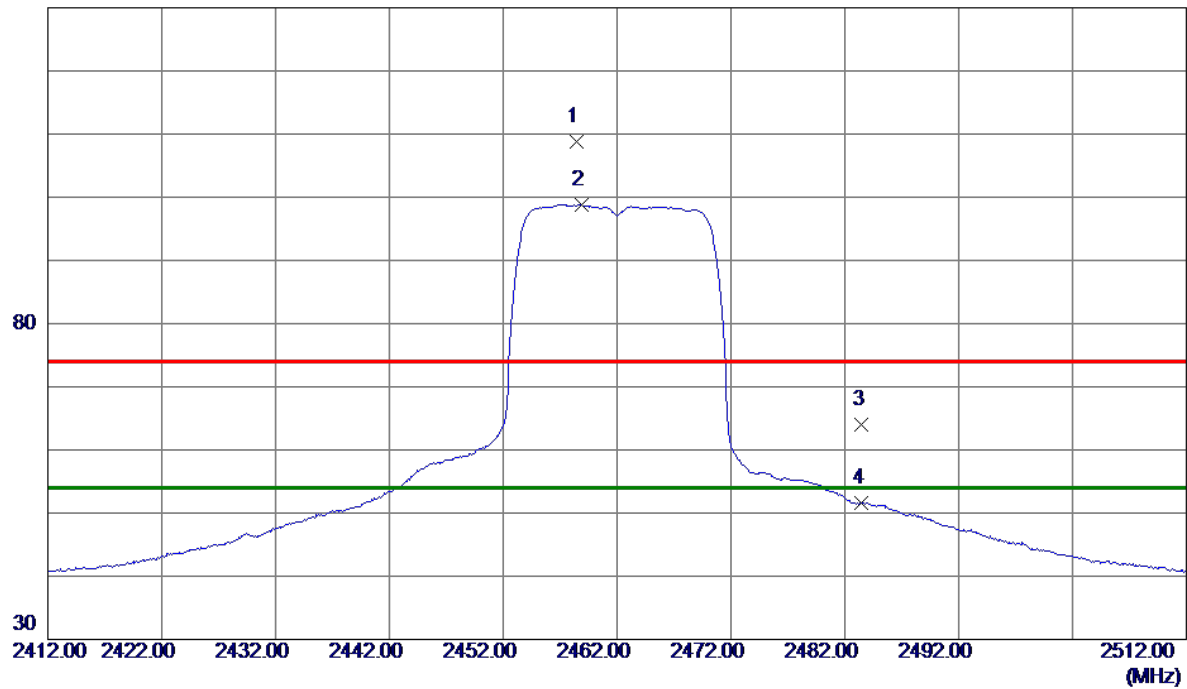
REMARKS:

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

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

Test Mode	TX G Mode 2462 MHz	Polarization	Horizontal
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130 dBuV/m



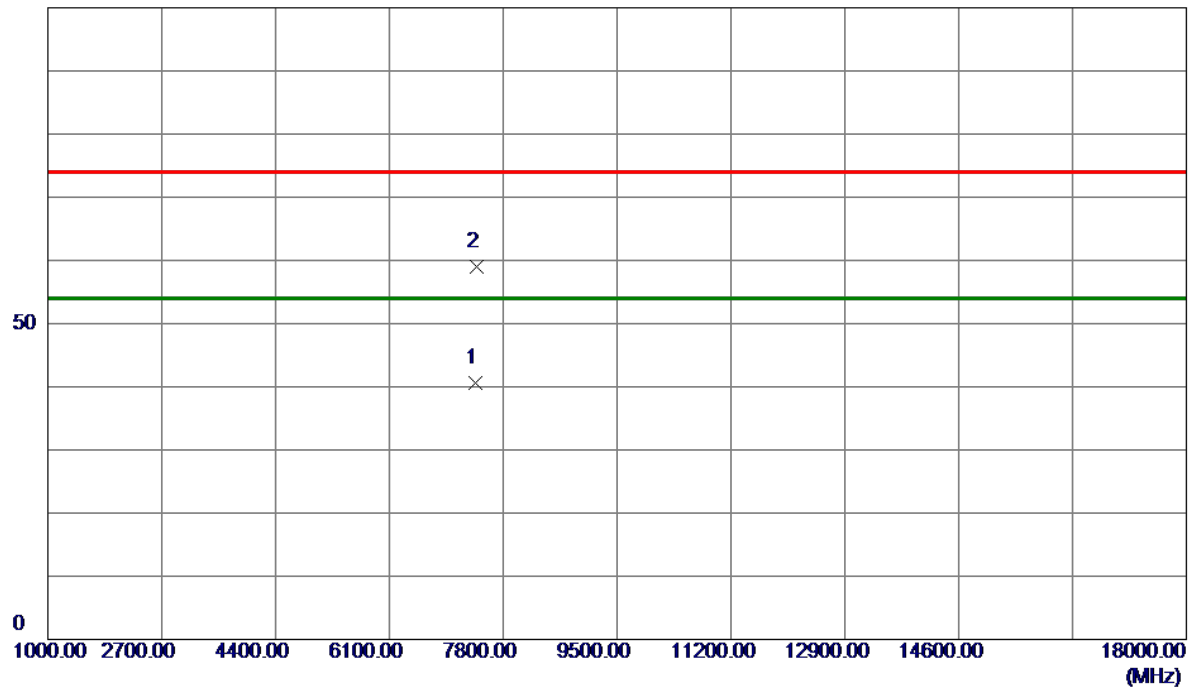
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2458.4000	100.29	8.54	108.83	74.00	34.83	Peak	No Limit
2 *	2458.9000	90.24	8.54	98.78	54.00	44.78	AVG	No Limit
3	2483.5000	55.33	8.59	63.92	74.00	-10.08	Peak	
4	2483.5000	42.98	8.59	51.57	54.00	-2.43	AVG	

REMARKS:

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

Test Mode	TX G Mode 2462 MHz	Polarization	Horizontal
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100 dBuV/m



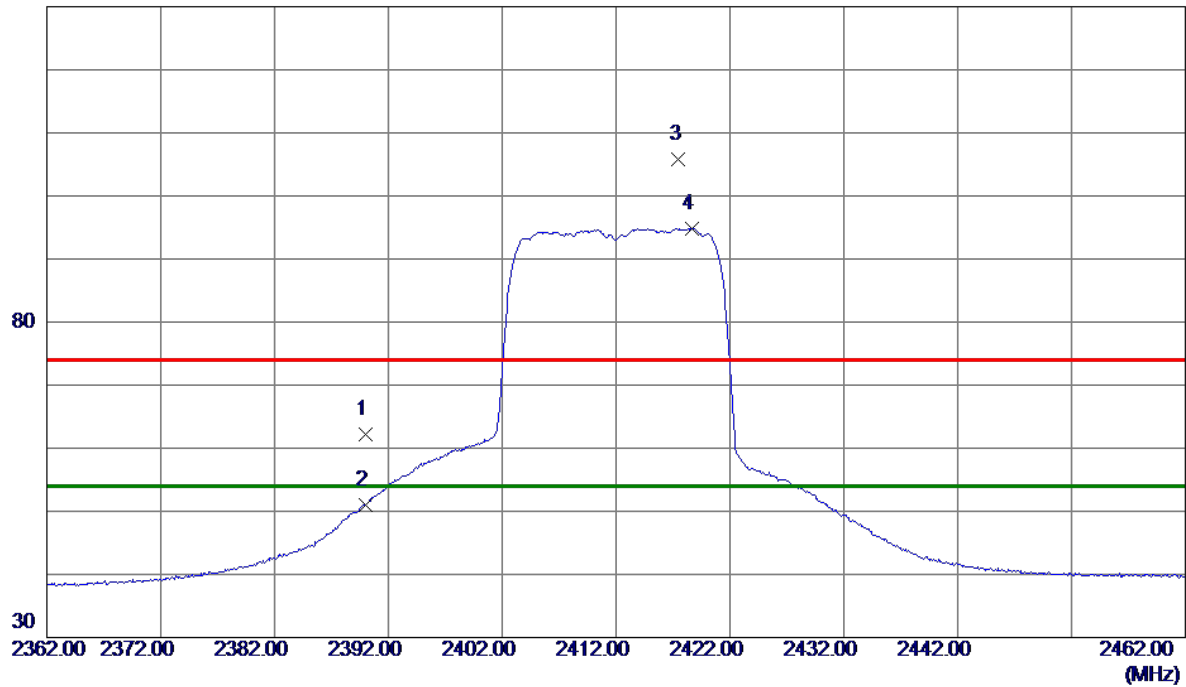
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7387.4000	32.18	8.50	40.68	54.00	-13.32	AVG	
2	7396.5000	50.41	8.52	58.93	74.00	-15.07	Peak	

REMARKS:

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

Test Mode	TX N(HT20) Mode 2412 MHz	Polarization	Horizontal
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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	53.78	8.40	62.18	74.00	-11.82	Peak	
2	2390.0000	42.66	8.40	51.06	54.00	-2.94	AVG	
3	2417.5000	97.32	8.45	105.77	74.00	31.77	Peak	No Limit
4 *	2418.7000	86.41	8.46	94.87	54.00	40.87	AVG	No Limit

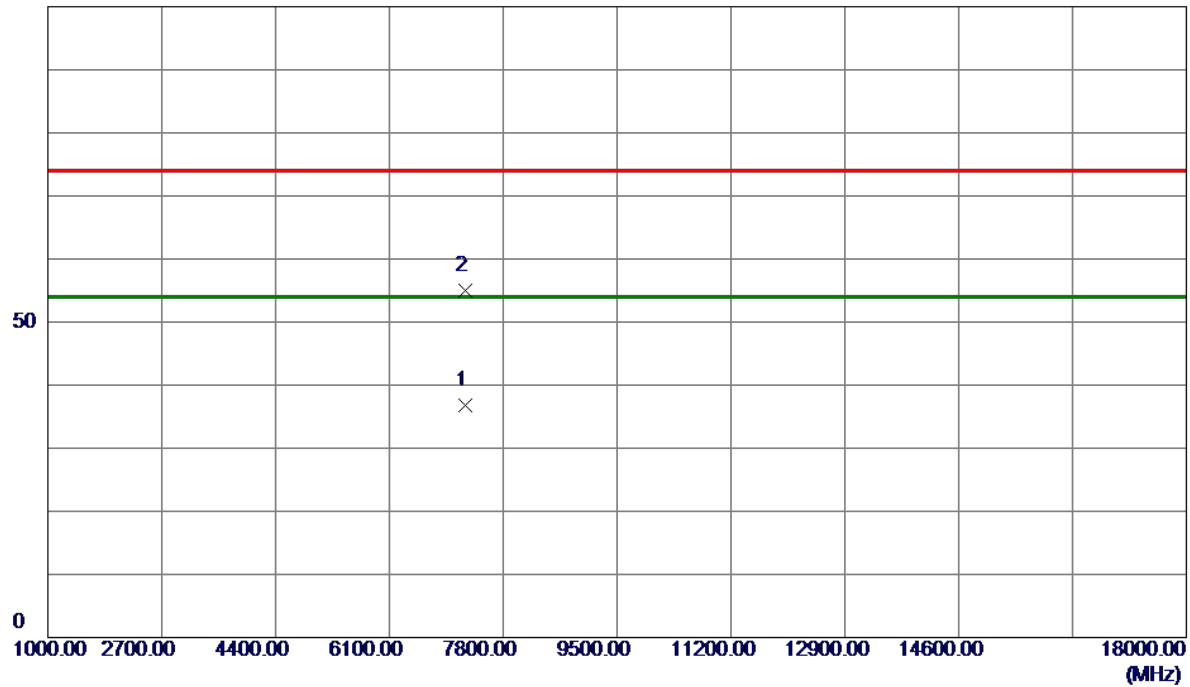
REMARKS:

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

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

Test Mode	TX N(HT20) Mode 2412 MHz	Polarization	Horizontal
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100 dBuV/m



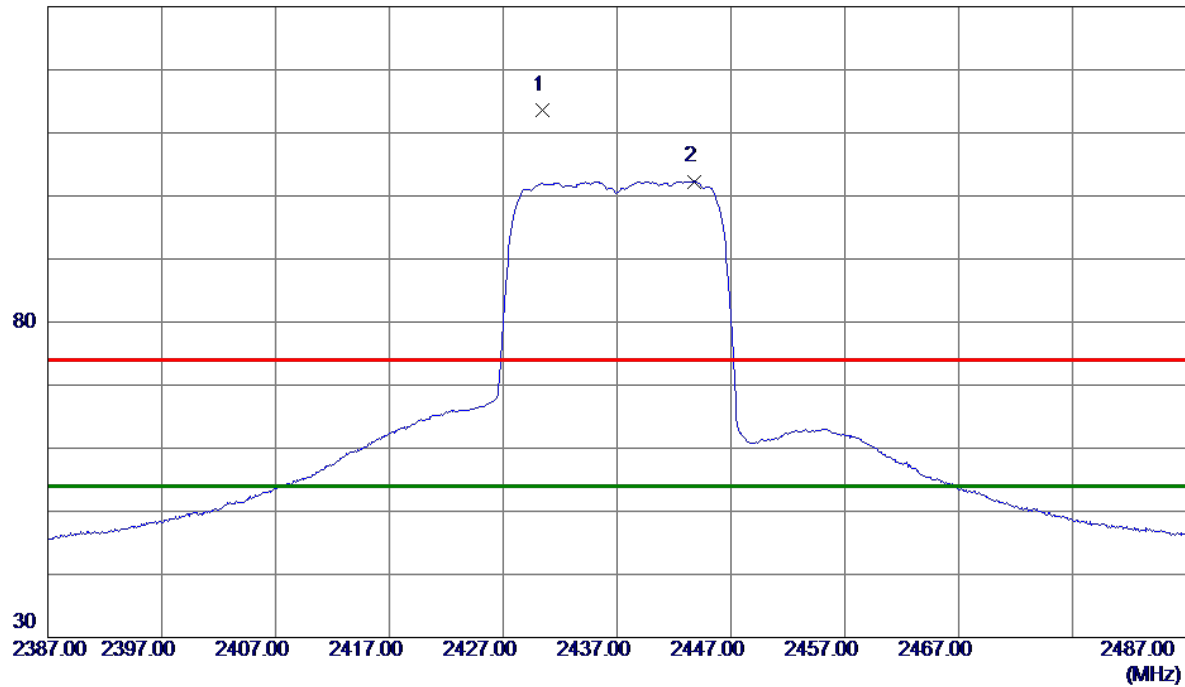
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7236.4500	28.60	8.27	36.87	54.00	-17.13	AVG	
2	7238.5500	46.71	8.27	54.98	74.00	-19.02	Peak	

REMARKS:

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

Test Mode	TX N(HT20) Mode 2437 MHz	Polarization	Horizontal
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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	2430.4000	105.06	8.48	113.54	74.00	39.54	Peak	No Limit
2 *	2443.8000	93.79	8.51	102.30	54.00	48.30	AVG	No Limit

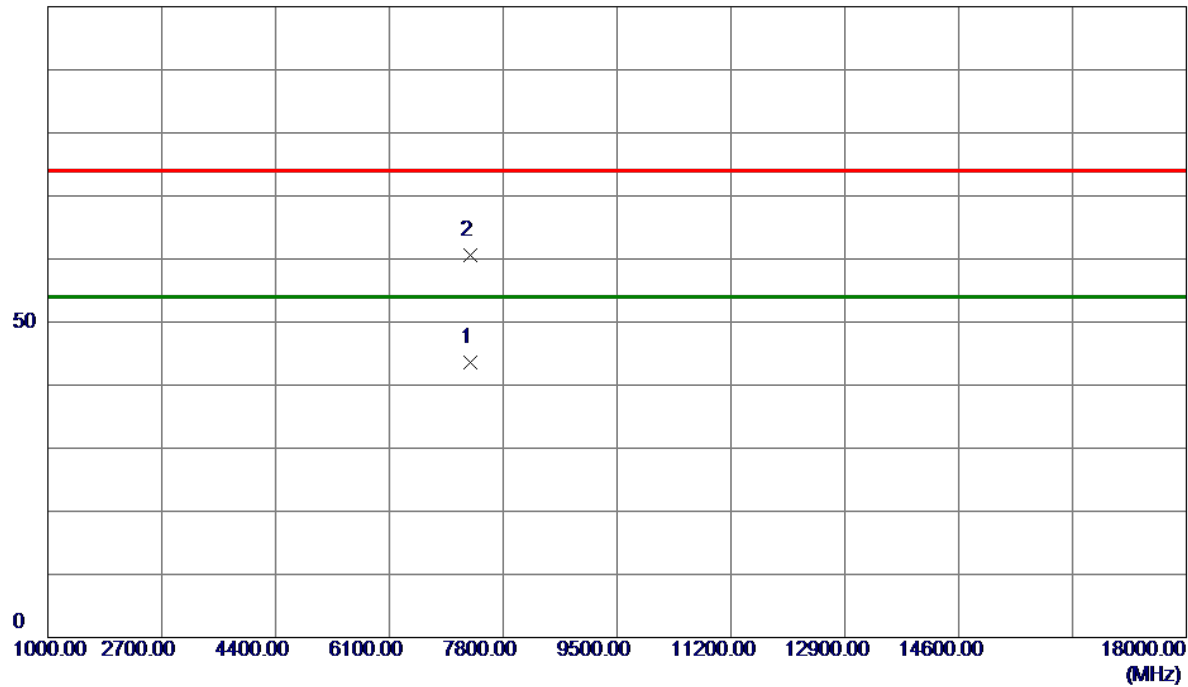
REMARKS:

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

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

Test Mode	TX N(HT20) Mode 2437 MHz	Polarization	Horizontal
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100 dBuV/m



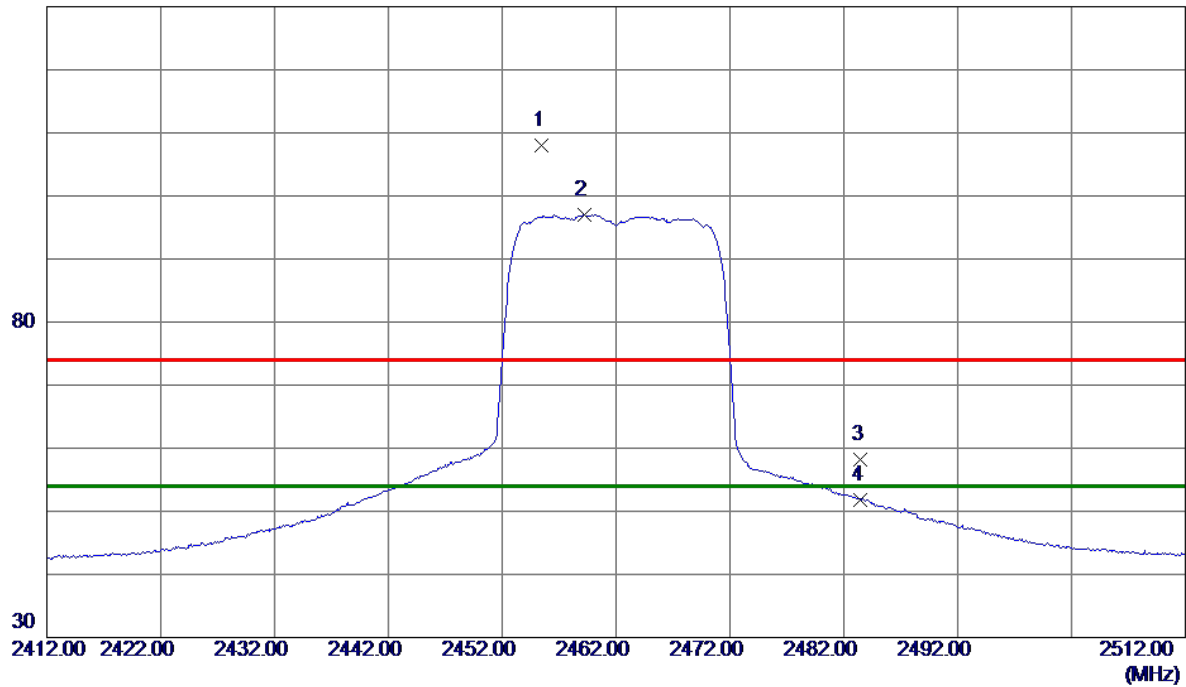
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7309.1500	35.24	8.38	43.62	54.00	-10.38	AVG	
2	7310.9000	52.18	8.38	60.56	74.00	-13.44	Peak	

REMARKS:

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

Test Mode	TX N(HT20) Mode 2462 MHz	Polarization	Horizontal
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130 dBuV/m



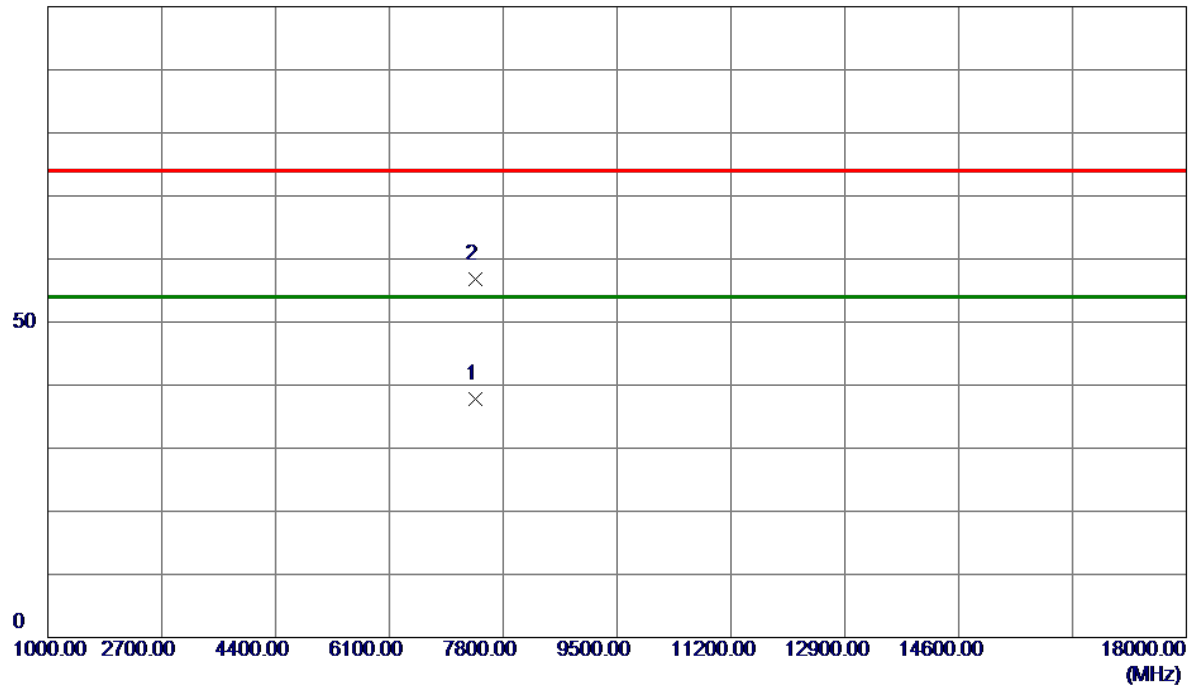
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2455.5000	99.46	8.53	107.99	74.00	33.99	Peak	No Limit
2 *	2459.2000	88.42	8.54	96.96	54.00	42.96	AVG	No Limit
3	2483.5000	49.64	8.59	58.23	74.00	-15.77	Peak	
4	2483.5000	43.27	8.59	51.86	54.00	-2.14	AVG	

REMARKS:

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

Test Mode	TX N(HT20) Mode 2462 MHz	Polarization	Horizontal
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100 dBuV/m



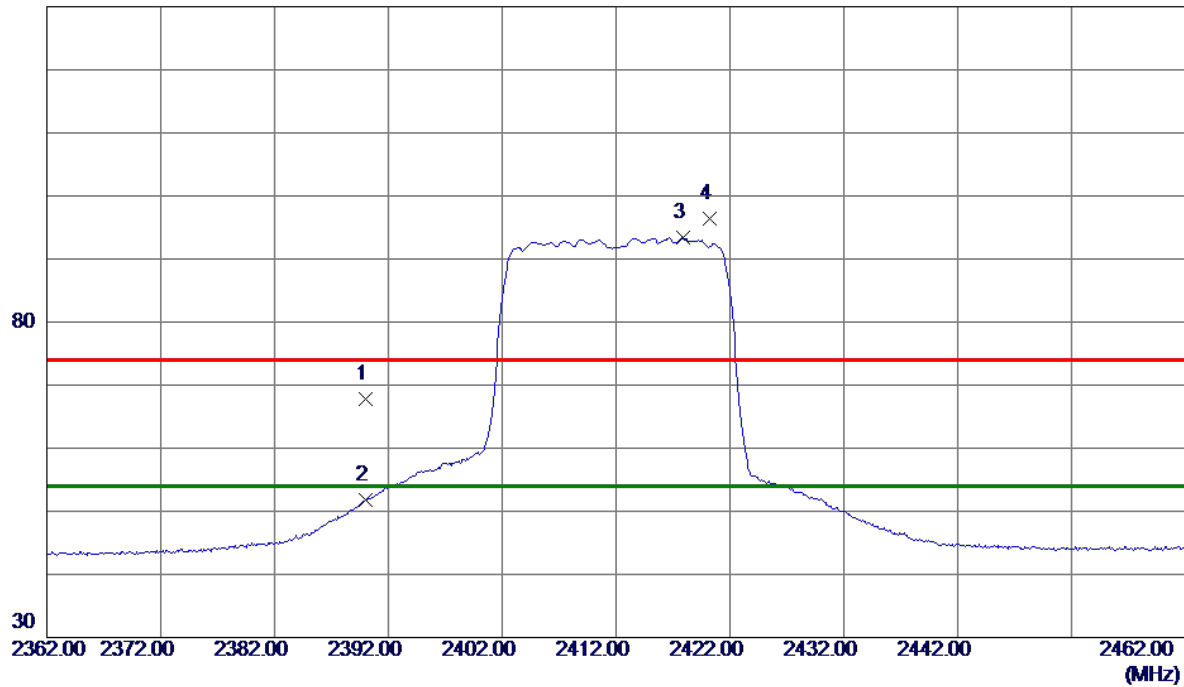
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7386.9000	29.35	8.50	37.85	54.00	-16.15	AVG	
2	7388.1500	48.29	8.51	56.80	74.00	-17.20	Peak	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2412 MHz	Polarization	Horizontal
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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	59.38	8.40	67.78	74.00	-6.22	Peak	
2	2390.0000	43.33	8.40	51.73	54.00	-2.27	AVG	
3 *	2417.9000	84.99	8.45	93.44	54.00	39.44	AVG	No Limit
4	2420.2000	87.85	8.46	96.31	74.00	22.31	Peak	No Limit

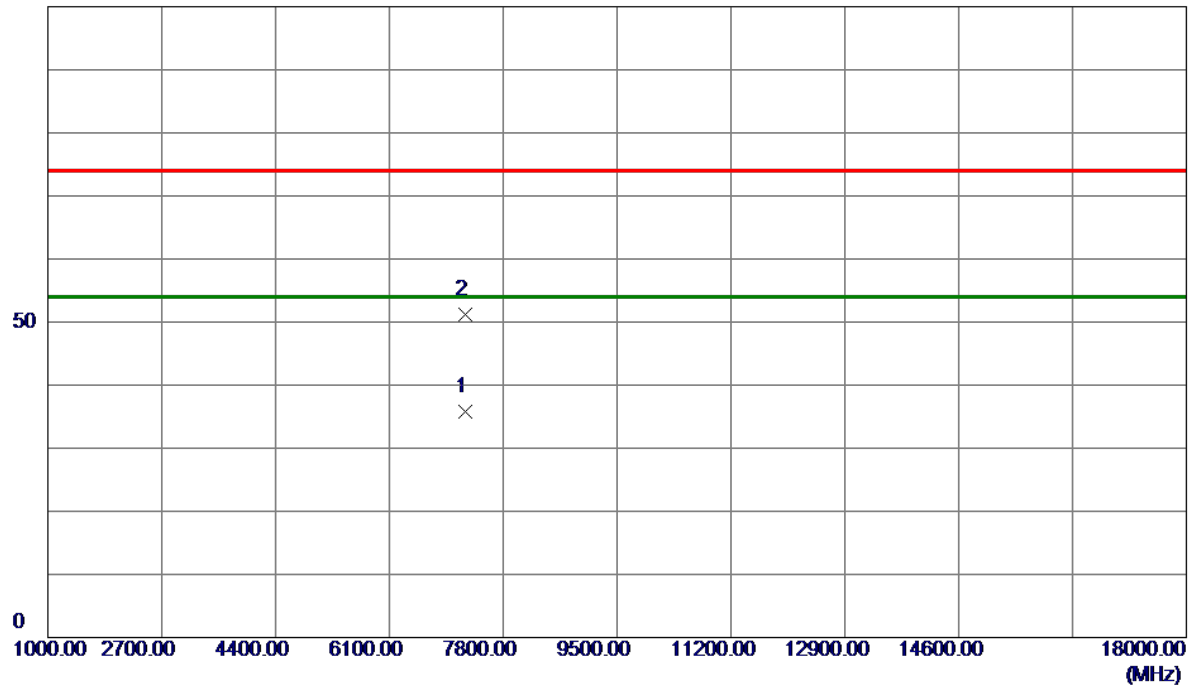
REMARKS:

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

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

Test Mode	TX AX(HE20) Mode 2412 MHz	Polarization	Horizontal
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100 dBuV/m



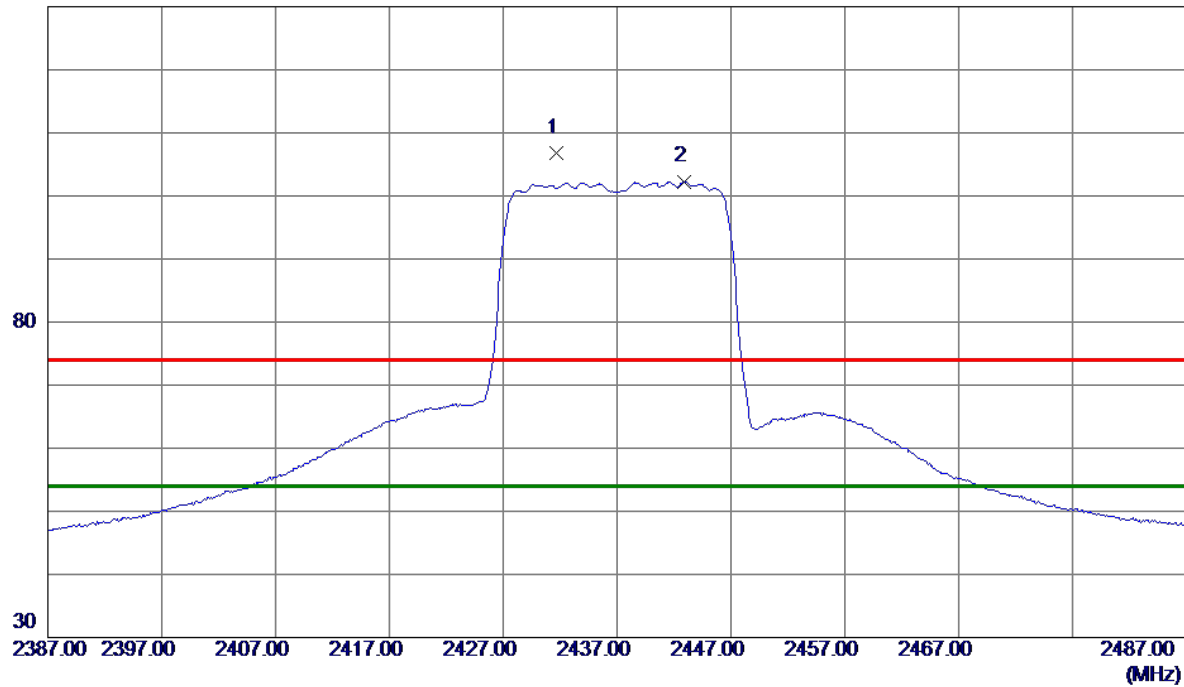
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7237.7000	27.53	8.27	35.80	54.00	-18.20	AVG	
2	7240.1000	43.01	8.27	51.28	74.00	-22.72	Peak	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2437 MHz	Polarization	Horizontal
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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	2431.7000	98.29	8.48	106.77	74.00	32.77	Peak	No Limit
2 *	2442.9000	93.79	8.51	102.30	54.00	48.30	AVG	No Limit

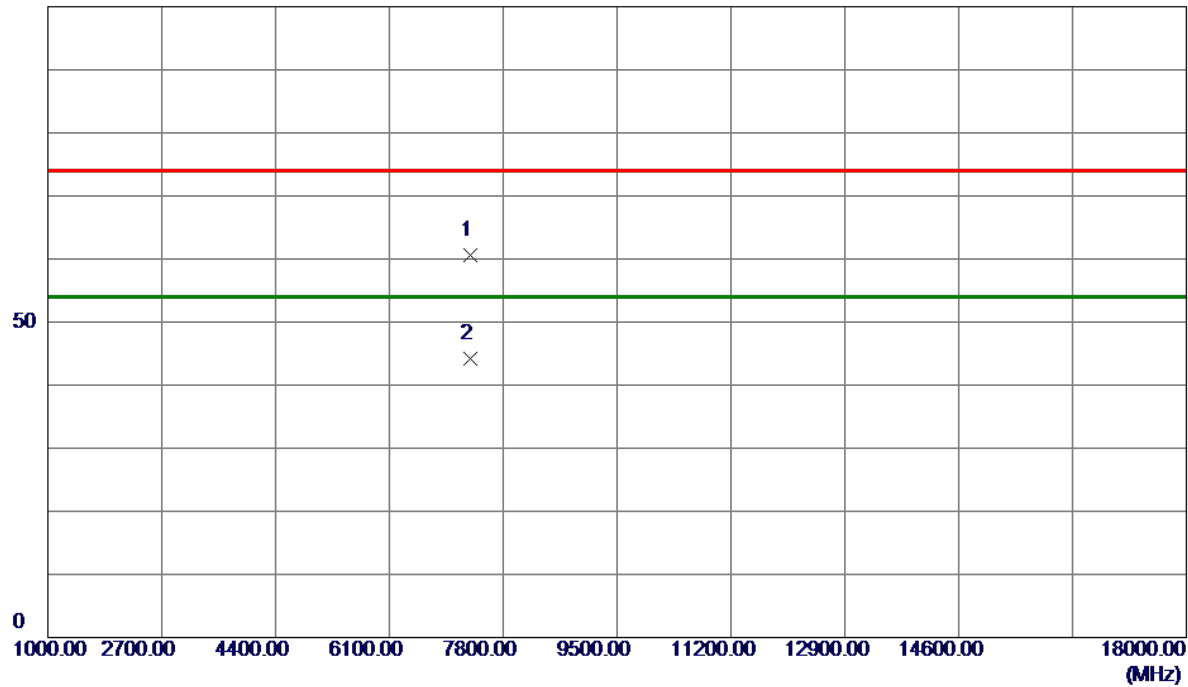
REMARKS:

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

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

Test Mode	TX AX(HE20) Mode 2437 MHz	Polarization	Horizontal
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100 dBuV/m



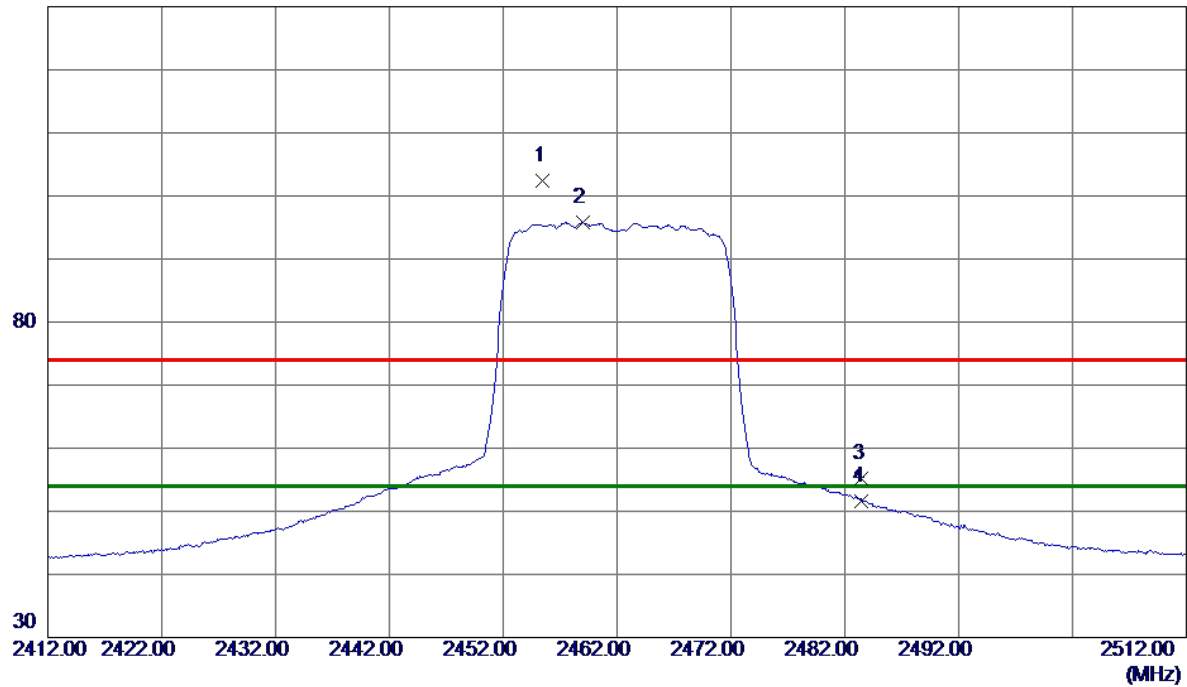
No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	7304.5500	52.21	8.38	60.59	74.00	-13.41	Peak	
2 *	7312.6000	35.73	8.39	44.12	54.00	-9.88	AVG	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2462 MHz	Polarization	Horizontal
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130 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2455.5000	93.91	8.53	102.44	74.00	28.44	Peak	No Limit
2 *	2459.0000	87.23	8.54	95.77	54.00	41.77	AVG	No Limit
3	2483.5000	46.60	8.59	55.19	74.00	-18.81	Peak	
4	2483.5000	43.06	8.59	51.65	54.00	-2.35	AVG	

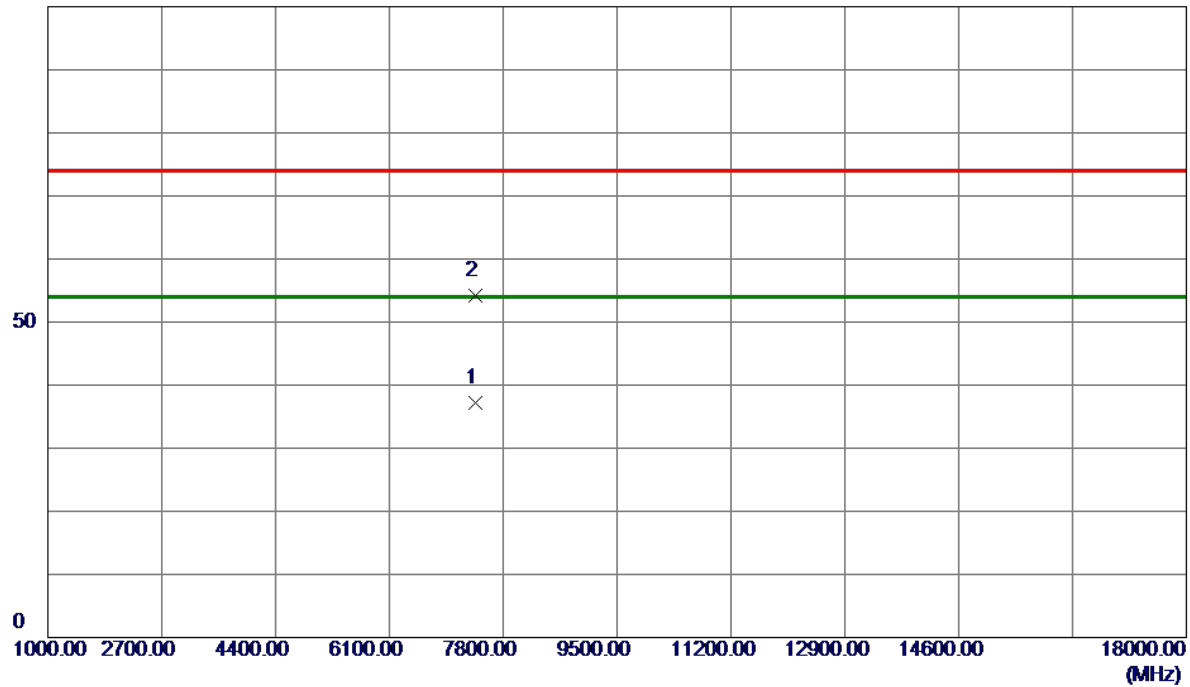
REMARKS:

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

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

Test Mode	TX AX(HE20) Mode 2462 MHz	Polarization	Horizontal
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100 dBuV/m

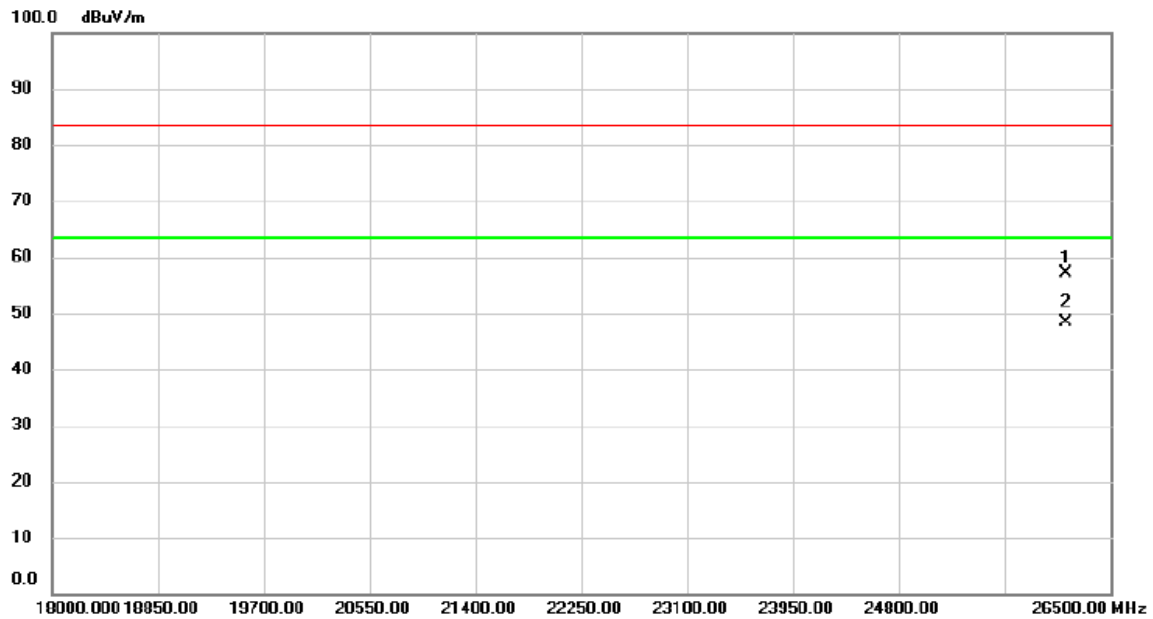


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	7387.5000	28.72	8.50	37.22	54.00	-16.78	AVG	
2	7388.0000	45.66	8.51	54.17	74.00	-19.83	Peak	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2437 MHz	Polarization	Vertical
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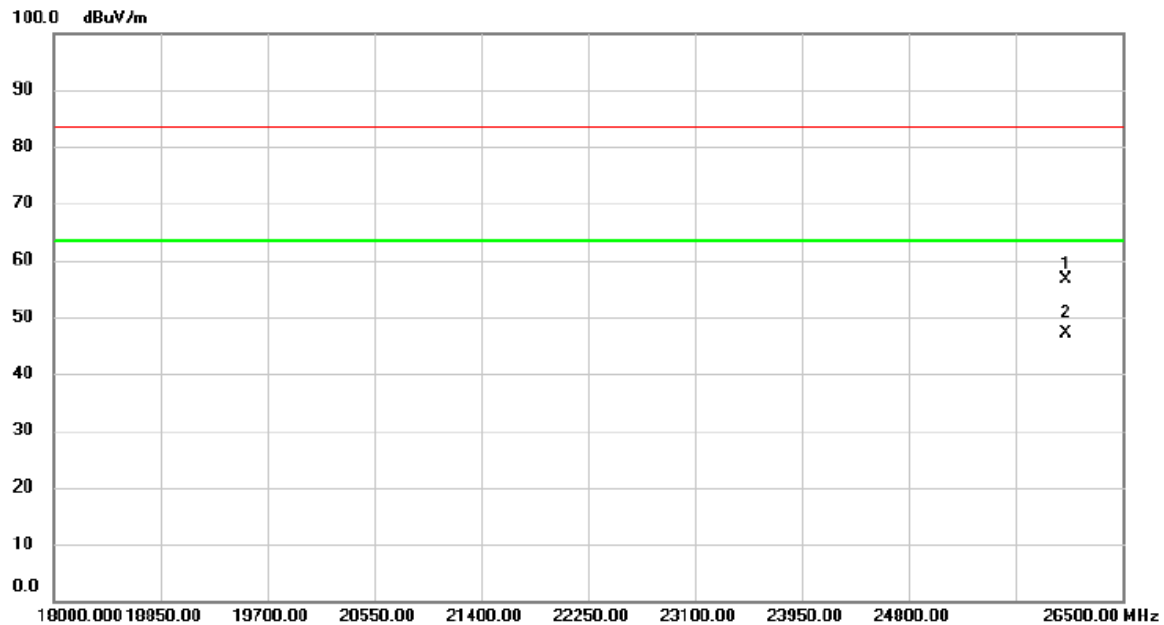


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		26138.75	47.27	9.92	57.19	83.50	-26.31	peak	
2	*	26138.75	38.44	9.92	48.36	63.50	-15.14	AVG	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2437 MHz	Polarization	Horizontal
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No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		26053.75	46.66	9.94	56.60	83.50	-26.90	peak	
2	*	26053.75	37.10	9.94	47.04	63.50	-16.46	AVG	

REMARKS:

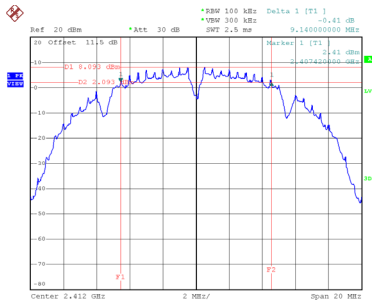
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX E - BANDWIDTH

Test Mode	TX B Mode
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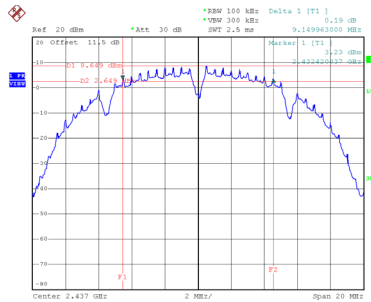
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	9.140	13.280	0.5	Complies
06	2437	9.150	13.280	0.5	Complies
11	2462	9.100	13.280	0.5	Complies

CH01



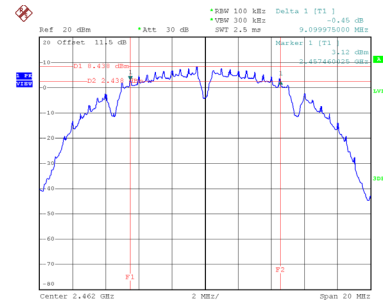
Date: 26.JUN.2024 16:07:54

CH06
6 dB Bandwidth



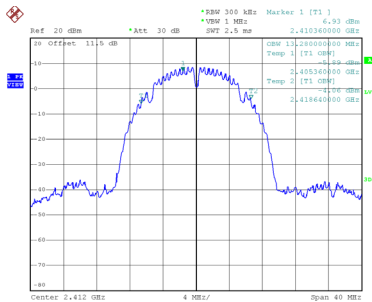
Date: 26.JUN.2024 16:10:29

CH11

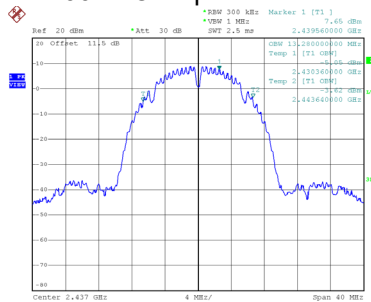


Date: 26.JUN.2024 16:12:11

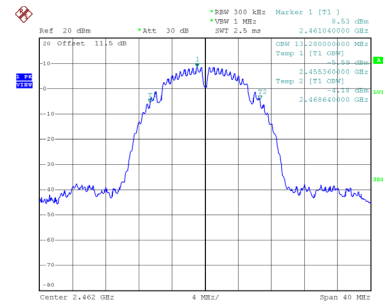
99 % Occupied Bandwidth



Date: 26.JUN.2024 16:08:01



Date: 26.JUN.2024 16:10:37

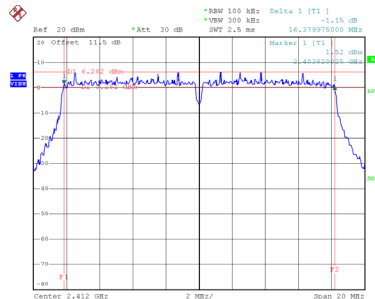


Date: 26.JUN.2024 16:12:19

Test Mode	TX G Mode
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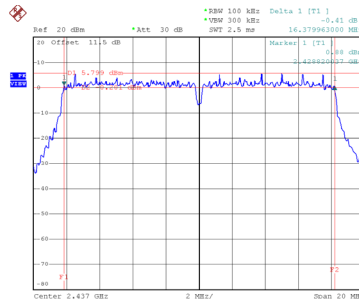
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	16.380	16.560	0.5	Complies
06	2437	16.380	16.560	0.5	Complies
11	2462	16.380	16.480	0.5	Complies

CH01



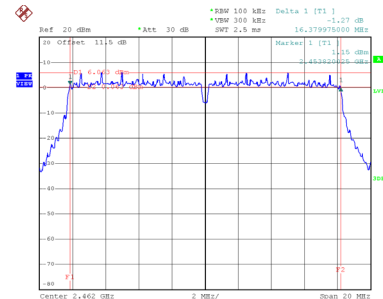
Date: 26.JUN.2024 16:17:05

CH06
6 dB Bandwidth



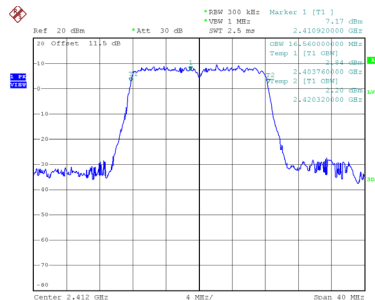
Date: 26.JUN.2024 16:20:07

CH11

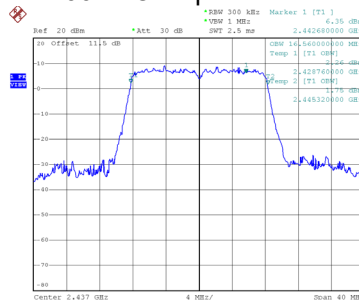


Date: 26.JUN.2024 16:21:25

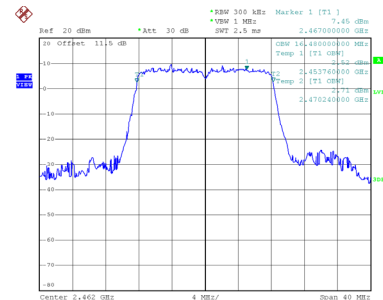
99 % Occupied Bandwidth



Date: 26.JUN.2024 16:17:12



Date: 26.JUN.2024 16:20:15

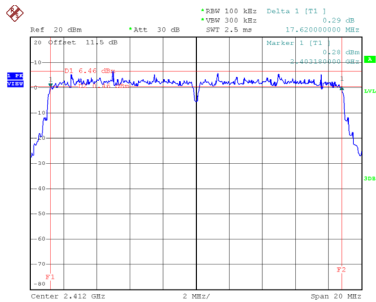


Date: 26.JUN.2024 16:21:32

Test Mode	TX N(HT20) Mode
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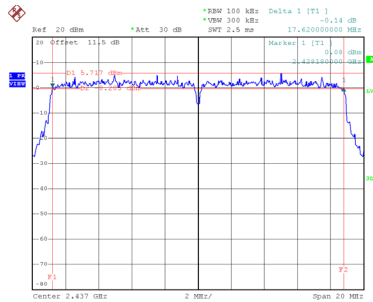
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	17.620	17.600	0.5	Complies
06	2437	17.620	17.600	0.5	Complies
11	2462	17.620	17.600	0.5	Complies

CH01



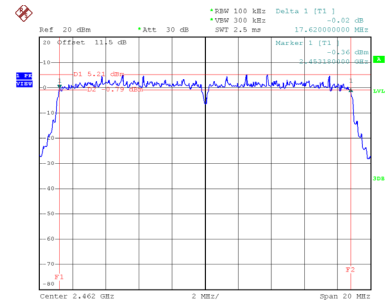
Date: 26.JUN.2024 16:23:29

CH06
6 dB Bandwidth



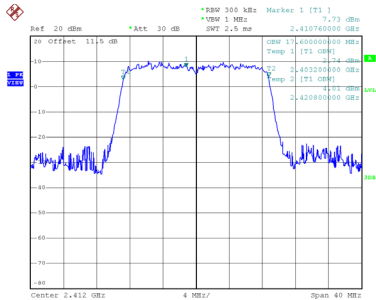
Date: 26.JUN.2024 16:26:33

CH11

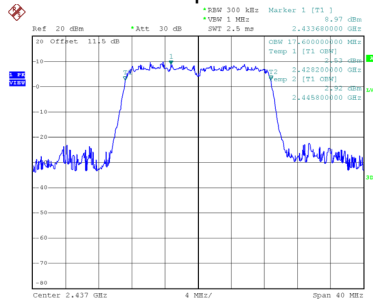


Date: 26.JUN.2024 16:28:02

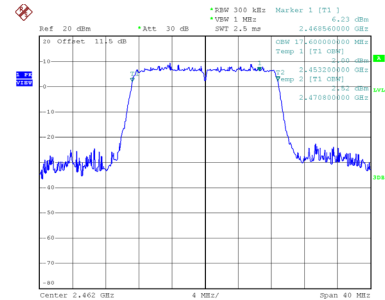
99 % Occupied Bandwidth



Date: 26.JUN.2024 16:23:37



Date: 26.JUN.2024 16:26:41

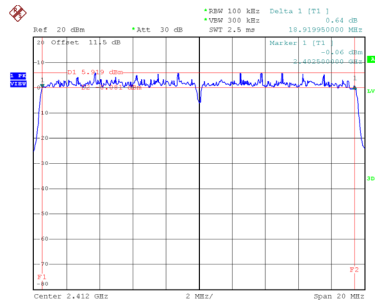


Date: 26.JUN.2024 16:28:10

Test Mode	TX AX(HE20) Mode
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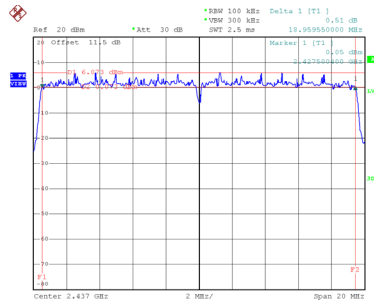
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	18.920	18.880	0.5	Complies
06	2437	18.960	18.960	0.5	Complies
11	2462	18.950	18.960	0.5	Complies

CH01



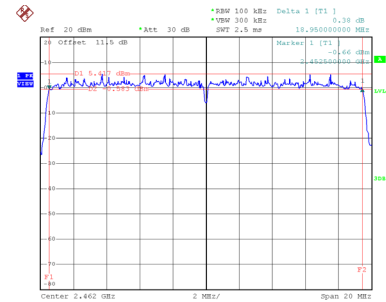
Date: 26.JUN.2024 16:29:29

CH06
6 dB Bandwidth



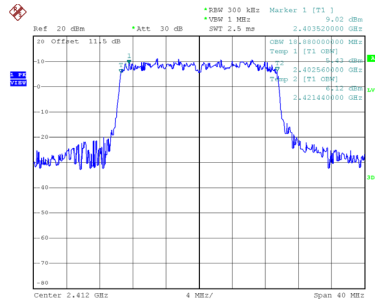
Date: 26.JUN.2024 16:30:43

CH11

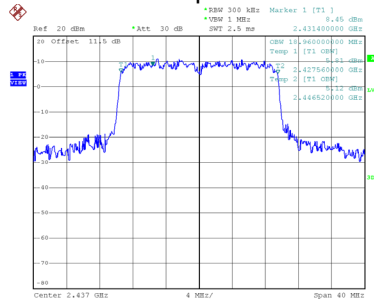


Date: 26.JUN.2024 16:32:15

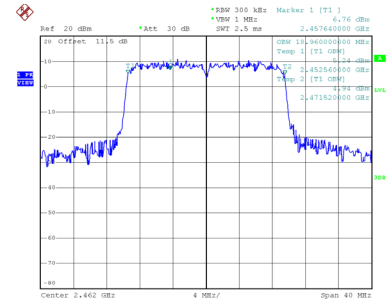
99 % Occupied Bandwidth



Date: 26.JUN.2024 16:29:36



Date: 26.JUN.2024 16:30:50



Date: 26.JUN.2024 16:32:22

APPENDIX F - MAXIMUM OUTPUT POWER

Test Mode	TX B Mode
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.29	0.00	14.29	30.00	1.0000	Complies
06	2437	15.56	0.00	15.56	30.00	1.0000	Complies
11	2462	13.32	0.00	13.32	30.00	1.0000	Complies

Test Mode	TX G Mode
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	10.73	0.26	10.99	30.00	1.0000	Complies
06	2437	16.92	0.26	17.18	30.00	1.0000	Complies
11	2462	13.89	0.26	14.15	30.00	1.0000	Complies

Test Mode	TX N(HT20) Mode
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	9.44	0.26	9.70	30.00	1.0000	Complies
06	2437	16.97	0.26	17.23	30.00	1.0000	Complies
11	2462	11.65	0.26	11.91	30.00	1.0000	Complies

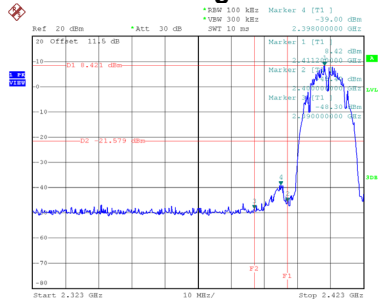
Test Mode	TX AX(HE20) Mode
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	8.14	0.30	8.44	30.00	1.0000	Complies
06	2437	17.33	0.30	17.63	30.00	1.0000	Complies
11	2462	11.23	0.30	11.53	30.00	1.0000	Complies

APPENDIX G - CONDUCTED SPURIOUS EMISSIONS

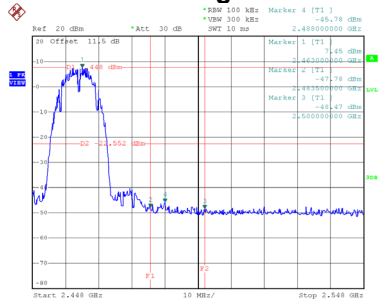
Test Mode TX B Mode

Bandedge-CH01



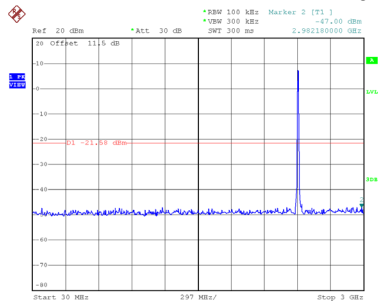
Date: 26.JUN.2024 16:08:09

Bandedge-CH11

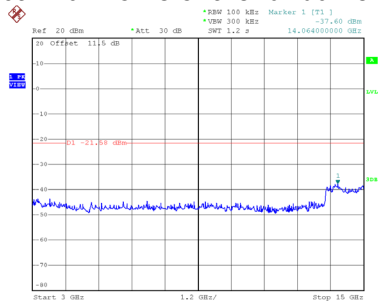


Date: 26.JUN.2024 16:12:27

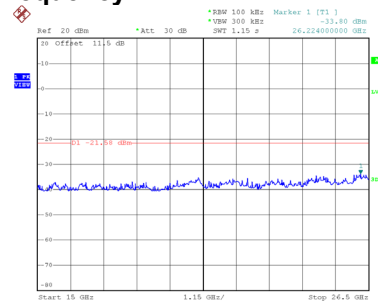
CH01 – 10th Harmonic of the fundamental frequency



Date: 26.JUN.2024 16:08:23

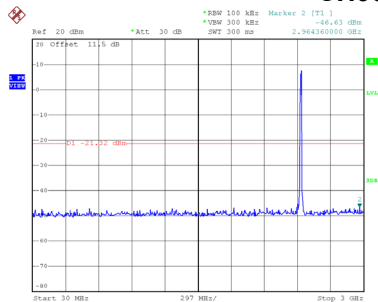


Date: 26.JUN.2024 16:08:32

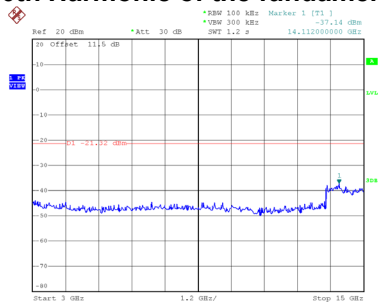


Date: 26.JUN.2024 16:08:40

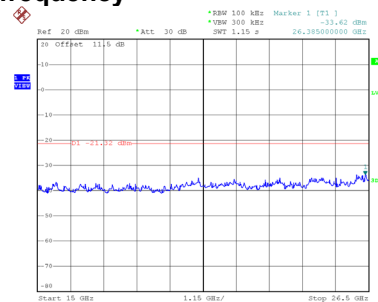
CH06 – 10th Harmonic of the fundamental frequency



Date: 26.JUN.2024 16:10:59

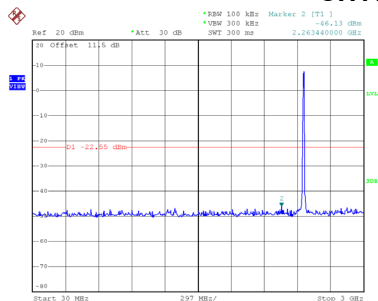


Date: 26.JUN.2024 16:11:07

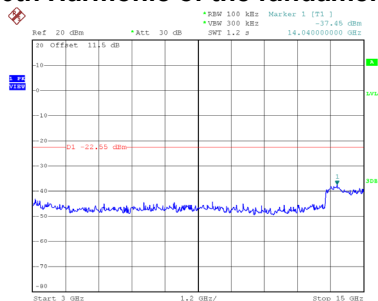


Date: 26.JUN.2024 16:11:16

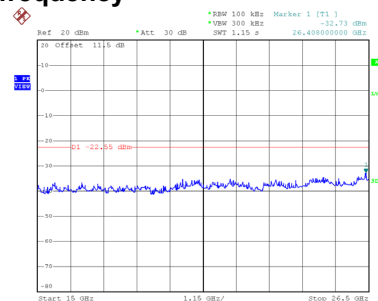
CH11 – 10th Harmonic of the fundamental frequency



Date: 26.JUN.2024 16:12:41



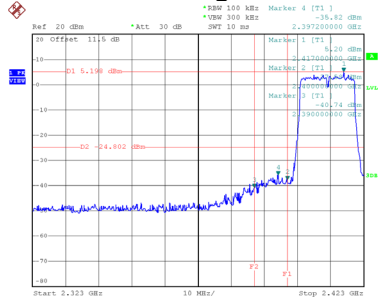
Date: 26.JUN.2024 16:12:49



Date: 26.JUN.2024 16:12:57

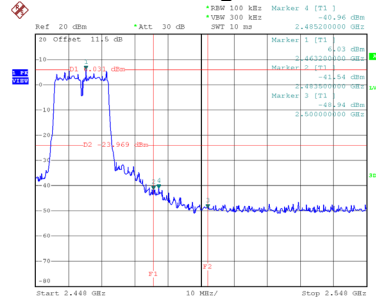
Test Mode TX G Mode

Bandedge-CH01



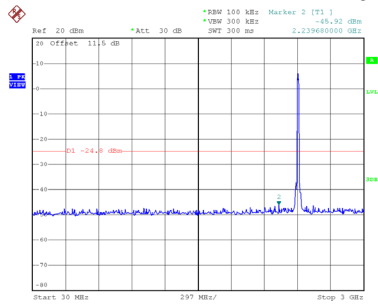
Date: 26.JUN.2024 16:17:20

Bandedge-CH11

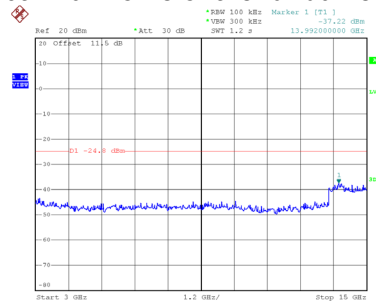


Date: 26.JUN.2024 16:21:40

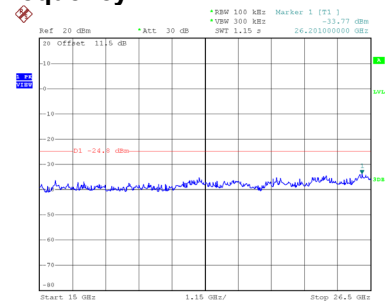
CH01 – 10th Harmonic of the fundamental frequency



Date: 26.JUN.2024 16:17:34

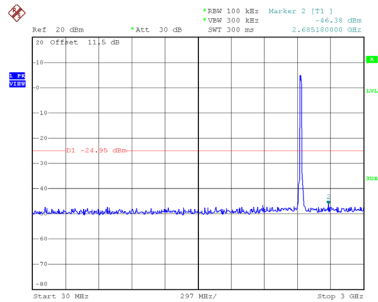


Date: 26.JUN.2024 16:17:42

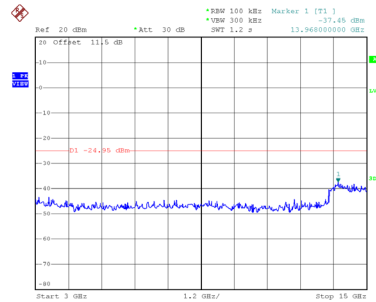


Date: 26.JUN.2024 16:17:51

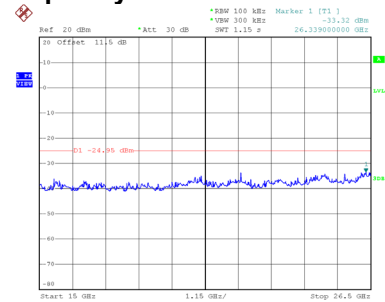
CH06 – 10th Harmonic of the fundamental frequency



Date: 26.JUN.2024 16:20:37

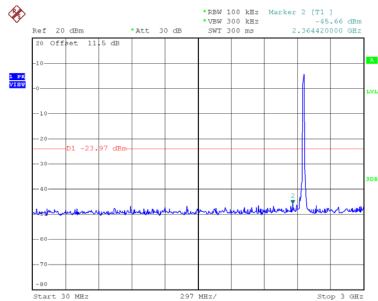


Date: 26.JUN.2024 16:20:45

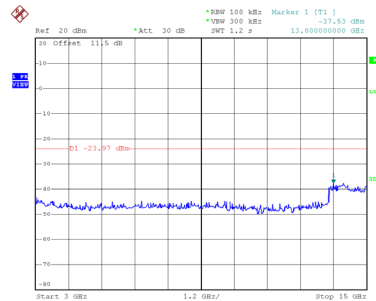


Date: 26.JUN.2024 16:20:54

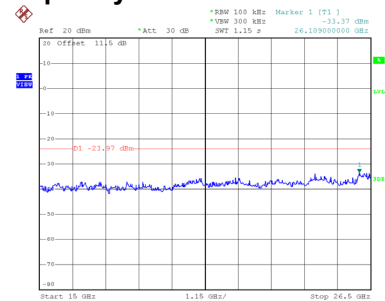
CH11 – 10th Harmonic of the fundamental frequency



Date: 26.JUN.2024 16:21:54



Date: 26.JUN.2024 16:22:02



Date: 26.JUN.2024 16:22:11