



FCC Radio Test Report

FCC ID: 2BMSX-A100WE

This report concerns: Original Grant

Project No. : 2504C049
Equipment : AX3000 WiFi-6 Repeater
Brand Name : **KATALYST**

Test Model : a100we
Series Model : N/A
Applicant : Bolt Brands, LLC.
Address : 8435 Ellerson Dr unit 7 Mechanicsville, Va 23111 America
Manufacturer : Bolt Brands, LLC.
Address : 8435 Ellerson Dr unit 7 Mechanicsville, Va 23111 America
Date of Receipt : Apr. 02, 2025
Date of Test : Apr. 07, 2025 ~ May 08, 2025
Issued Date : May 15, 2025
Report Version : R00
Test Sample : Engineering Sample No.: DG2025040274 for AC power line conducted emissions and other radiated emissions, DG2025040272 for radiated emissions 1-18GHz, DG2025040276 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. (Dongguan)

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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 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 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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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-1-2504C049	R00	Original Report.	May 15, 2025	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

KDB 662911 D01 Multiple Transmitter Output v02r01

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 permanently attached antenna 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:

For Radiated Emissions 1-18GHz: Room 102 & 702, Building A3, No.9, Jinshagang 1st Road, Dalang, Dongguan, Guangdong People's Republic of China.

For Other Items: No.3, Jinshagang 1st Road, Dalang, Dongguan, 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

A. 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	21°C	55%	AC 120V/60Hz	Hayden Chen	May 07, 2025
Radiated Emissions -9kHz to 30 MHz	20°C	50%	AC 120V/60Hz	Hayden Chen	Apr. 24, 2025
Radiated Emissions -30MHz to 1000MHz	24°C	60%	AC 120V/60Hz	Chen Mo	Apr. 10, 2025
Radiated Emissions -Above 1000MHz	23°C	50%	AC 120V/60Hz	Drew Tan	Apr. 18, 2025
	24°C	58%	AC 120V/60Hz	Calvin Wen	Apr. 12, 2025
Bandwidth	24°C	54%	AC 120V/60Hz	Hayden Chen	Apr. 10, 2025
Maximum Output Power	25°C	46-49%	AC 120V/60Hz	Andrew Jiang Alex Yin	Apr. 09, 2025- Apr. 22, 2025
Conducted Spurious Emissions	24°C	54%	AC 120V/60Hz	Hayden Chen	Apr. 10, 2025
Power Spectral Density	24°C	54%	AC 120V/60Hz	Hayden Chen	Apr. 10, 2025

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	AX3000 WiFi-6 Repeater
Brand Name	KATALYST
Test Model	a100we
Series Model	N/A
Model Difference(s)	N/A
Hardware Version	VER1.1
Software Version	V1.0
Power Source	AC Mains.
Power Rating	100-240V~, 50/60Hz, 250mA
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g/n: 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 300 Mbps IEEE 802.11ax: up to 573.6 Mbps
Maximum Output Power	IEEE 802.11ax(HE20): 20.95 dBm (0.1245 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) CH03 - CH09 for IEEE 802.11n(HT40), IEEE 802.11ax(HE40)							
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	P/N	Antenna Type	Connector	Gain (dBi)
1		YJC-6N160-B30	Dipole	N/A	4.86
2		YJC-6N160-B30	Dipole	N/A	4.86

Note:

This EUT supports CDD, and all antennas have the same gain, Directional gain = $G_{ANT} + \text{Array Gain}$.

For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=4.86.

For power spectral density measurements, $N_{ANT}=2$, $N_{SS}=1$.

So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 4.86 + 10\log(2/1)\text{dBi} = 7.87$.

Then, the power spectral density limit is $8 - (7.87 - 6) = 6.13$.

4. Table for Antenna Configuration:

Operating Mode TX Mode	2TX
IEEE 802.11b	V(Ant. 1 + Ant. 2)
IEEE 802.11g	V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT20)	V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)	V(Ant. 1 + Ant. 2)
IEEE 802.11ax(HE20)	V(Ant. 1 + Ant. 2)
IEEE 802.11ax(HE40)	V(Ant. 1 + Ant. 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 AX(HE20) Mode Channel 01/06/11
Mode 4	TX AX(HE40) Mode Channel 03/06/09
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 & Above 18 GHz	
Final Test Mode	Description
Mode 5	TX AX(HE20) Mode Channel 06

Radiated emissions test - 1 GHz - 18 GHz	
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX AX(HE20) Mode Channel 01/06/11
Mode 4	TX AX(HE40) Mode Channel 03/06/09

Conducted test	
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX AX(HE20) Mode Channel 01/06/11
Mode 4	TX AX(HE40) Mode Channel 03/06/09

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 IEEE 802.11ax(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 1 GHz test, the polarization of Vertical and Horizontal are evaluated, the worst case is Vertical and recorded.
- (6) IEEE 802.11ax mode only supports full RU, so only the full RU is evaluated and measured inside report.
- (7) HE20/HE40 covers HT20/HT40, due to same modulation (in full RU). The power setting for 802.11n HT20/HT40 are the same or lower than 802.11ax HE20/HE40.

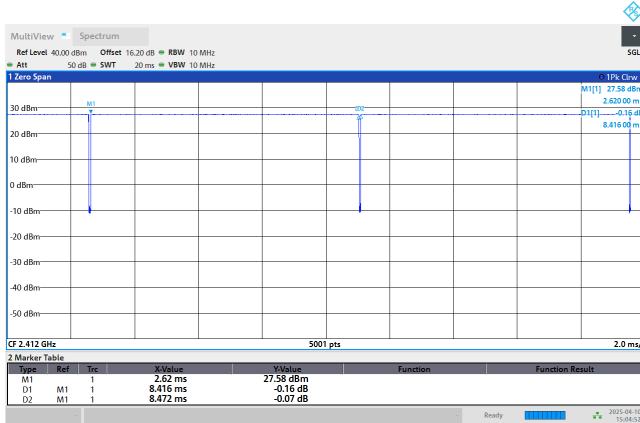
3.3 PARAMETERS OF TEST SOFTWARE

Test Software Version	QATool_Ulv2.78_DLLv6.83_ap		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	5	4.5	3.5
IEEE 802.11g	14.5	14.5	14
IEEE 802.11ax(HE20)	13	16.5	15.5
Frequency (MHz)	2422	2437	2452
IEEE 802.11ax(HE40)	15	15.5	15

3.4 DUTY CYCLE

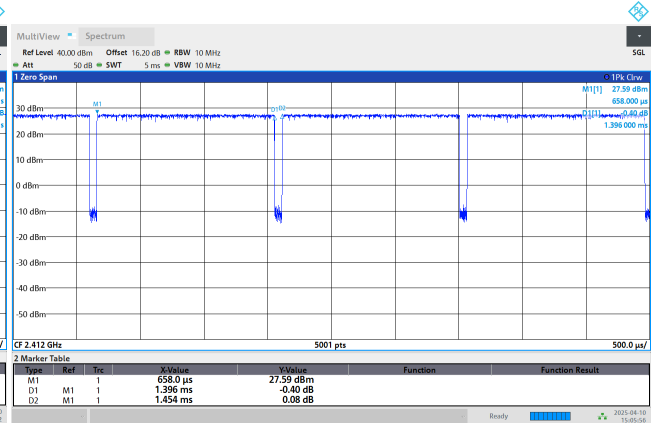
If duty cycle is $\geq 98\%$, duty factor is not required.
 If duty cycle is $< 98\%$, duty factor shall be considered.
 The output power = measured power + duty factor.

802.11b



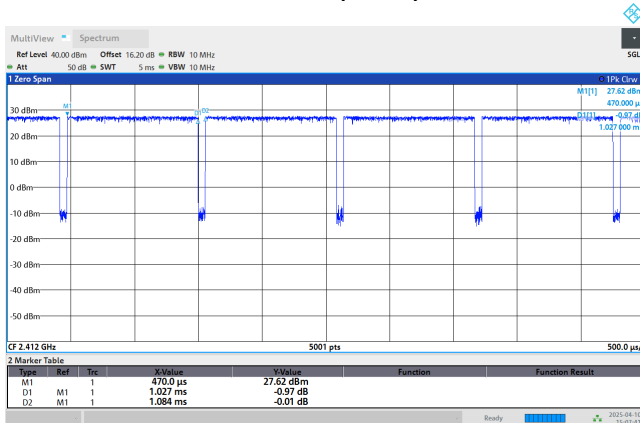
Duty cycle = $8.416 \text{ ms} / 8.472 \text{ ms} = 99.34\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.00 \text{ dB}$

802.11g



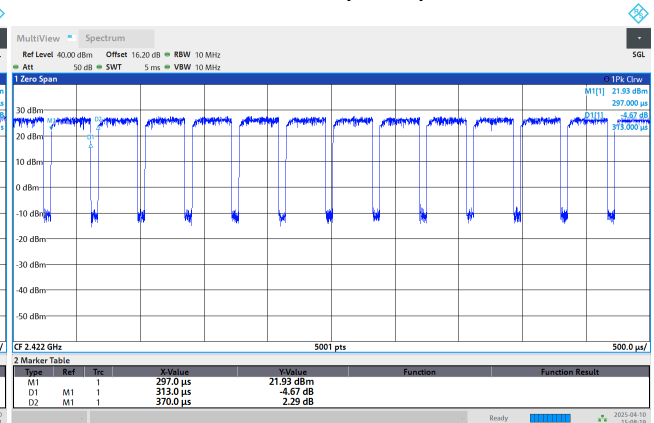
Duty cycle = $1.396 \text{ ms} / 1.454 \text{ ms} = 96.01\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.18 \text{ dB}$

802.11ax(HE20)



Duty cycle = $1.027 \text{ ms} / 1.084 \text{ ms} = 94.74\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.23 \text{ dB}$

802.11ax(HE40)



Duty cycle = $0.313 \text{ ms} / 0.370 \text{ ms} = 84.59\%$
 Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.73 \text{ dB}$

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 716 Hz.

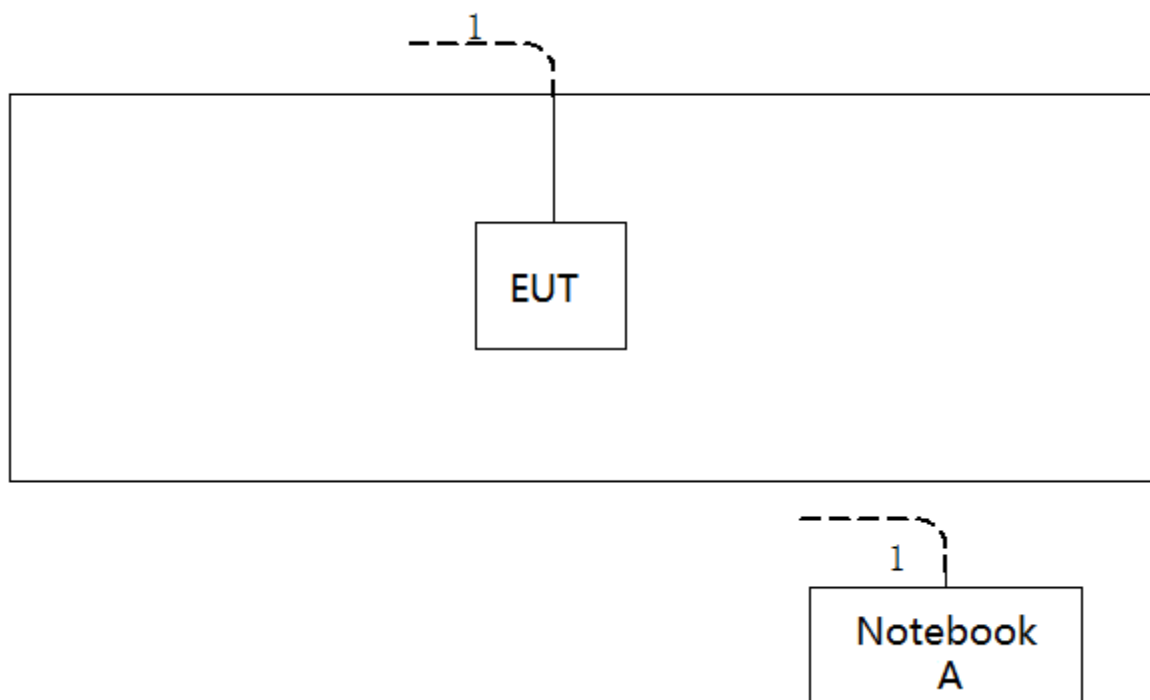
For IEEE 802.11ax(HE20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 974 Hz.

For IEEE 802.11ax(HE40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3195 Hz.

3.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.6 SUPPORT UNITS

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

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

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. Part of the cable losses (0.5dB) are provided by the manufacturer, while the other parts of the 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	□6
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.

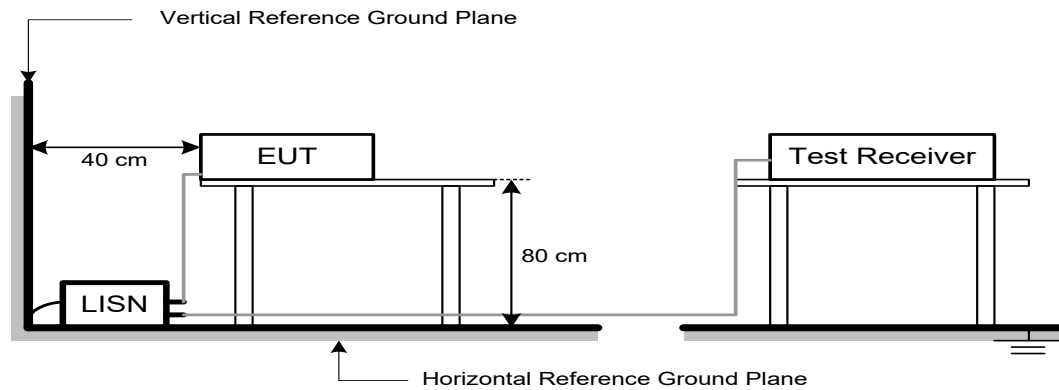
The following table is the setting of the receiver:

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)

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

20log (d_{limit}/d_{measure})=20log (3/1)=9.5 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

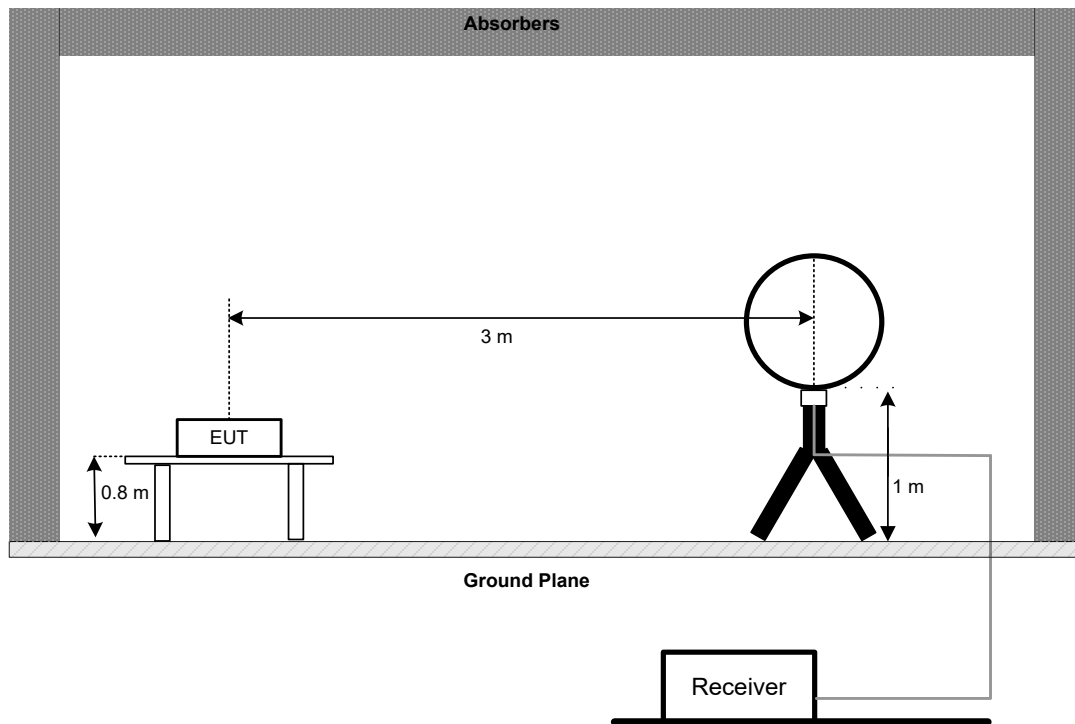
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector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

5.3 DEVIATION FROM TEST STANDARD

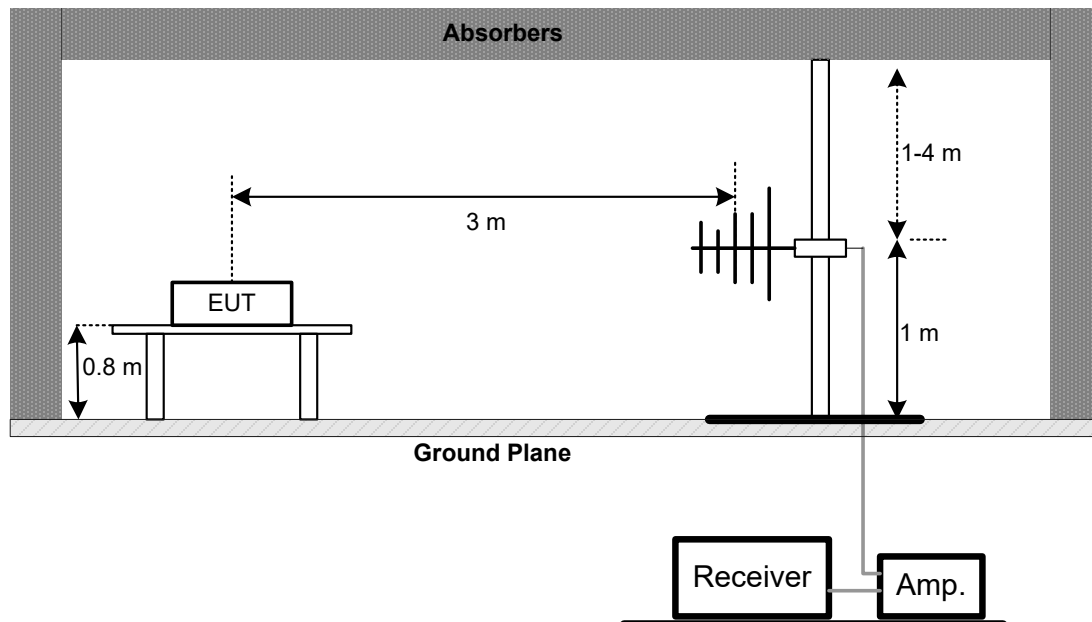
No deviation.

5.4 TEST SETUP

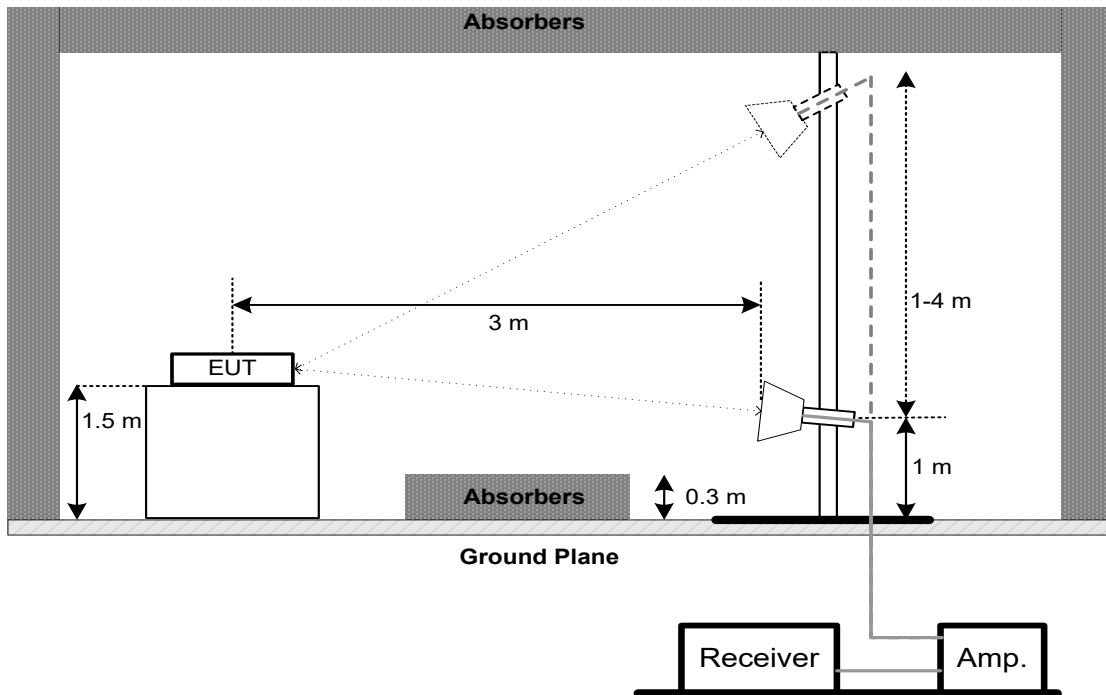
9 kHz to 30 MHz



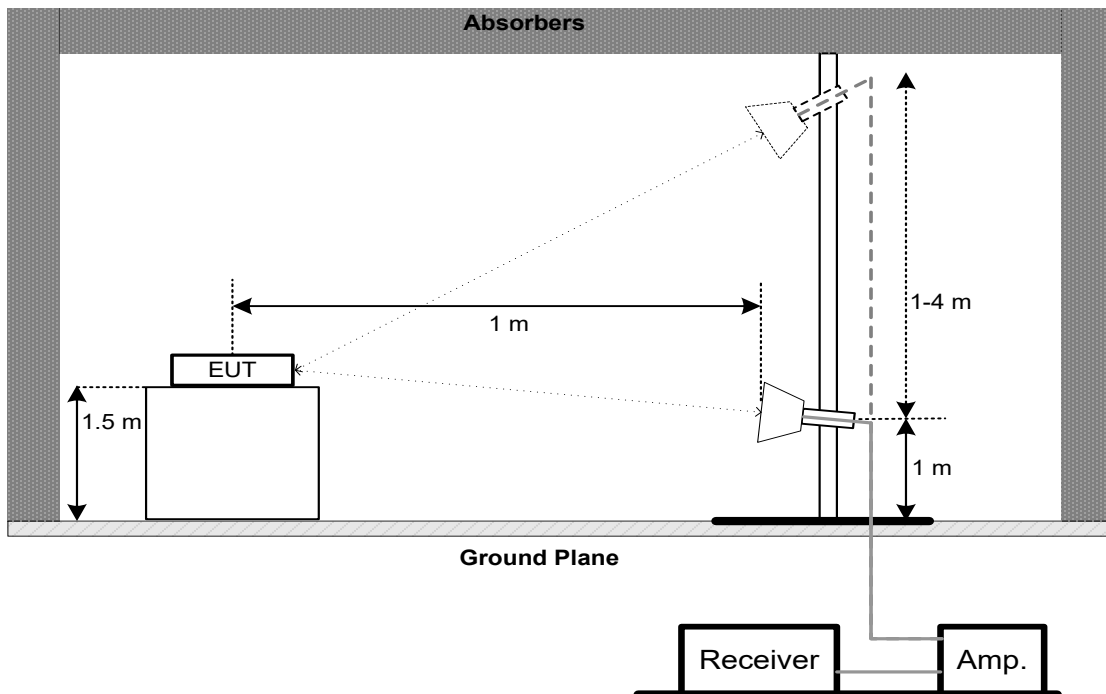
30 MHz to 1 GHz



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	> Measurement Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For 99% Emission Bandwidth:

Spectrum Parameters	Setting
Span	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

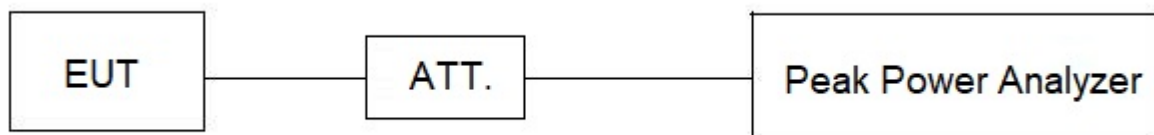
7.2 TEST PROCEDURE

- 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 of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

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:

For Reference Level:

Spectrum Parameters	Setting
Span	≥ 1.5 times the bandwidth.
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For Emission Level - Band edge:

Spectrum Parameters	Setting
Start Frequency	2300 MHz
Stop Frequency	2690 MHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

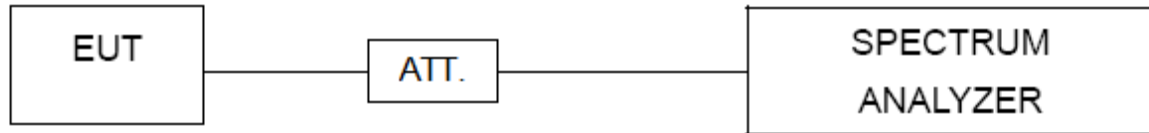
For Emission Level - Harmonic:

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	1.5 times the DTS bandwidth
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	ESCI	100382	Dec. 06, 2025
2	TWO-LINE V-NETWORK	R&S	ENV216	101447	Dec. 06, 2025
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
4	Cable	N/A	SFT205-NMNM-9M -001	9M	Nov. 11, 2025
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 1513-60	00025	Mar. 01, 2026
2	MXE EMI Receiver	Keysight	N9038A	MY56400091	Dec. 06, 2025
3	Cable	N/A	RW4950-3.8A-NMS M-1.5	N/A	Nov. 12, 2025
4	Cable	N/A	LMR400-NMNM-8 M	N/A	Nov. 12, 2025
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	966 Chamber room	ETS	9*6*6	N/A	May 16, 2025

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	01462	Dec. 14, 2025
2	Attenuator	EMC INSTRUMENT	EMCI-N-6-06	AT-06009	Dec. 14, 2025
3	Preamplifier	EMC INSTRUMENT	EMC001330	980998	May 31, 2025
4	Cable	RegalWay	LMR400-NMNM-12 .5m	N/A	Jun. 06, 2025
5	Cable	RegalWay	LMR400-NMNM-3 m	N/A	Jun. 06, 2025
6	Cable	RegalWay	LMR400-NMNM-0. 5m	N/A	Jun. 06, 2025
7	Receiver	Agilent	N9038A	MY52130039	Jan. 10, 2026
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 - 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	MY63430227	Oct. 29, 2025
4	Cable	RegalWay	RWLP50-4.0A-SMS M-1.3M	N/A	Apr. 06, 2026
5	Cable	RegalWay	RWLP50-2.6A-3.5 M2.92MRA-3M	N/A	Apr. 06, 2026
6	Cable	RegalWay	RWLP50-4.0A-SMS M-9M	N/A	Apr. 06, 2026
7	966 Chamber room	ETS	RFD-100 (SVSWR)	Q2179	Jan. 07, 2026
8	Double Ridged Horn Antenna	EMC INSTRUMENT	DRH18-E	210509A18ES	Aug. 28, 2025
9	Preamplifier	EMC INSTRUMENT	EMC118A45SE	981001	May 31, 2025
10	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A
11	Filter	STI	STI15-9969	N/A	Oct. 29, 2025

Radiated Emissions - Above 18 GHz

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMC INSTRUMENT	EMC184045SE	980905	Oct. 29, 2025
2	Cable	RegalWay	RWLP50-2.6A-2.92 M2.92M-1.1M	N/A	Jul. 25, 2025
3	Cable	Tonscend	HF160-KMKM-3M	N/A	Jul. 25, 2025
4	Broad-Band Horn Antenna	Schwarzbeck	BBHA9170(3m)	9170-319	Jun. 16, 2025
5	966 Chamber room	CM	9*6*6	N/A	Dec. 28, 2025
6	EXA Spectrum Analyzer	Keysight	N9010A	MY55150209	Aug. 20, 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	FSV Signal & Spectrum Analyzer	R&S	FSV3044	101682	Oct. 17, 2025
2	CTA	BTL	CTA	N/A	N/A
3	Isolation attenuator	Z-Link	ASMA-16-18-2W	N/A	N/A

Maximum Output Power

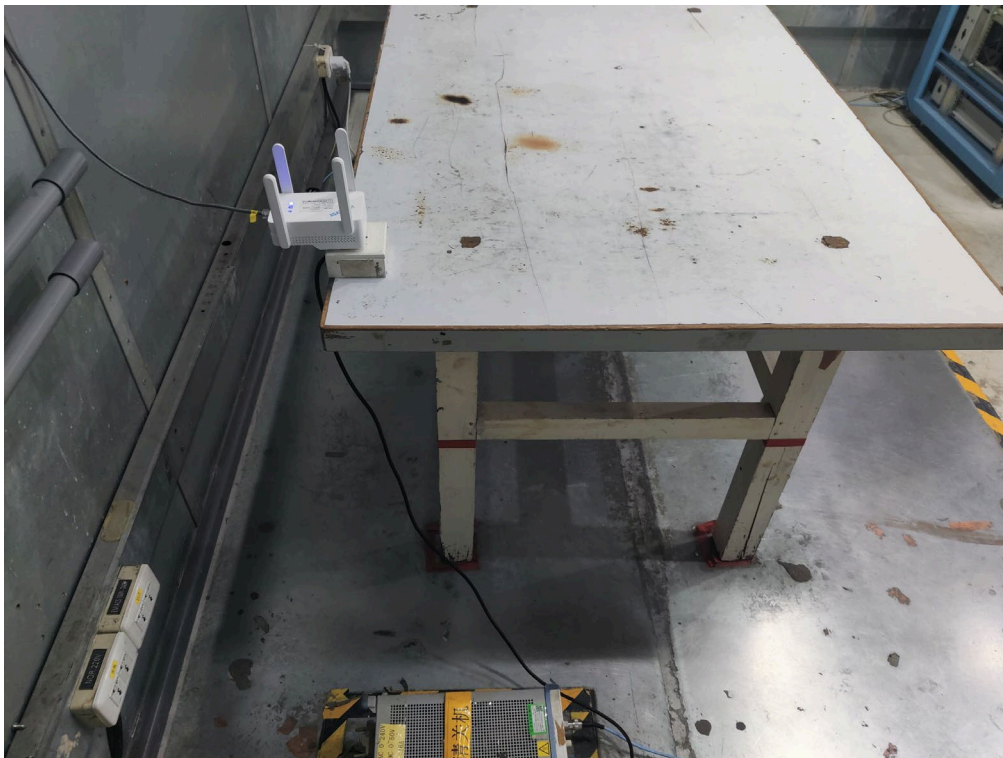
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Peak Power Analyzer	Keysight	8990B	MY51000506	May 31, 2025
2	Wideband power sensor	Keysight	N1923A	MY58310004	May 31, 2025
3	Isolation attenuator	Z-Link	ASMA-10-18-2W	N/A	N/A

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

All calibration period of equipment list is one year.

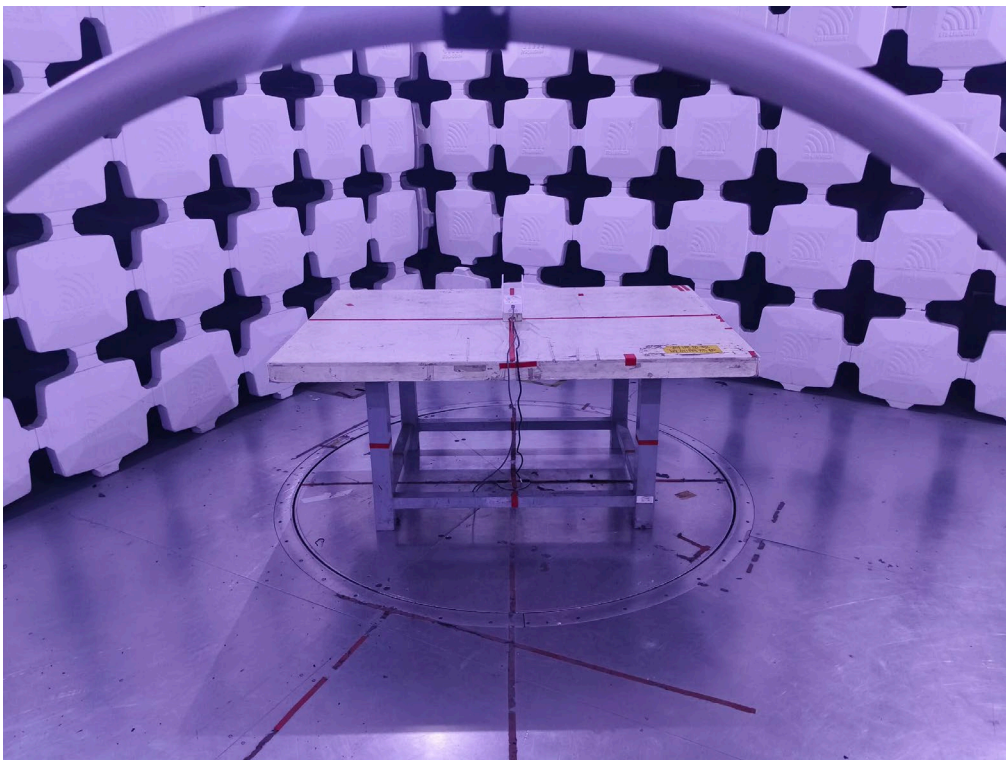
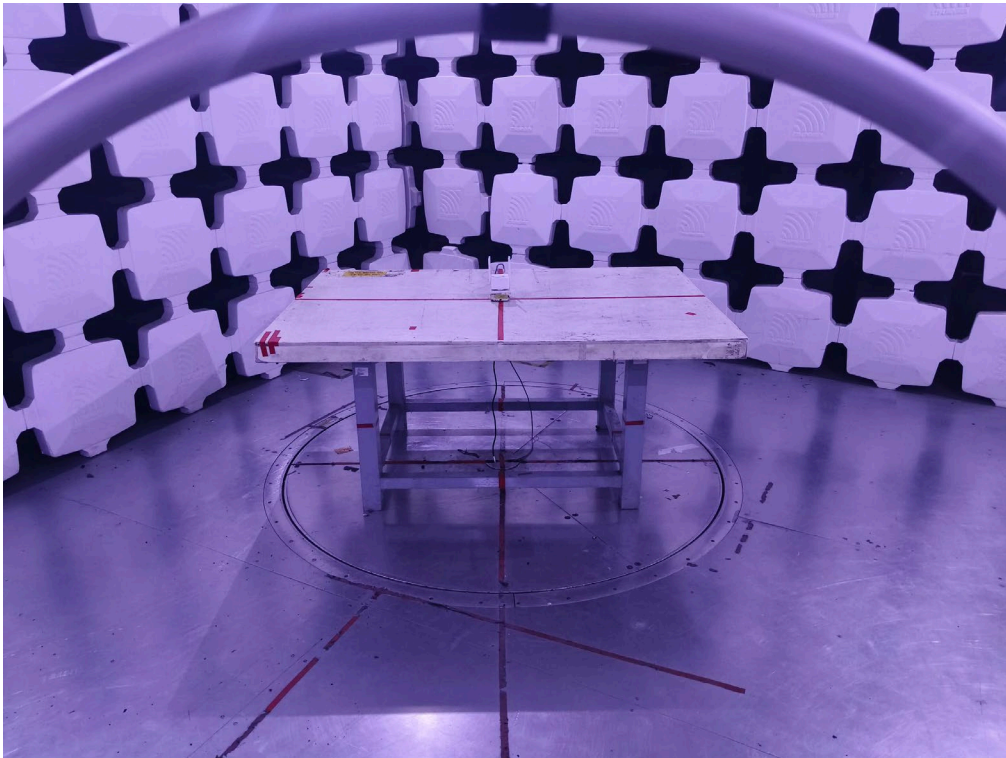
10.1. EUT TEST PHOTO

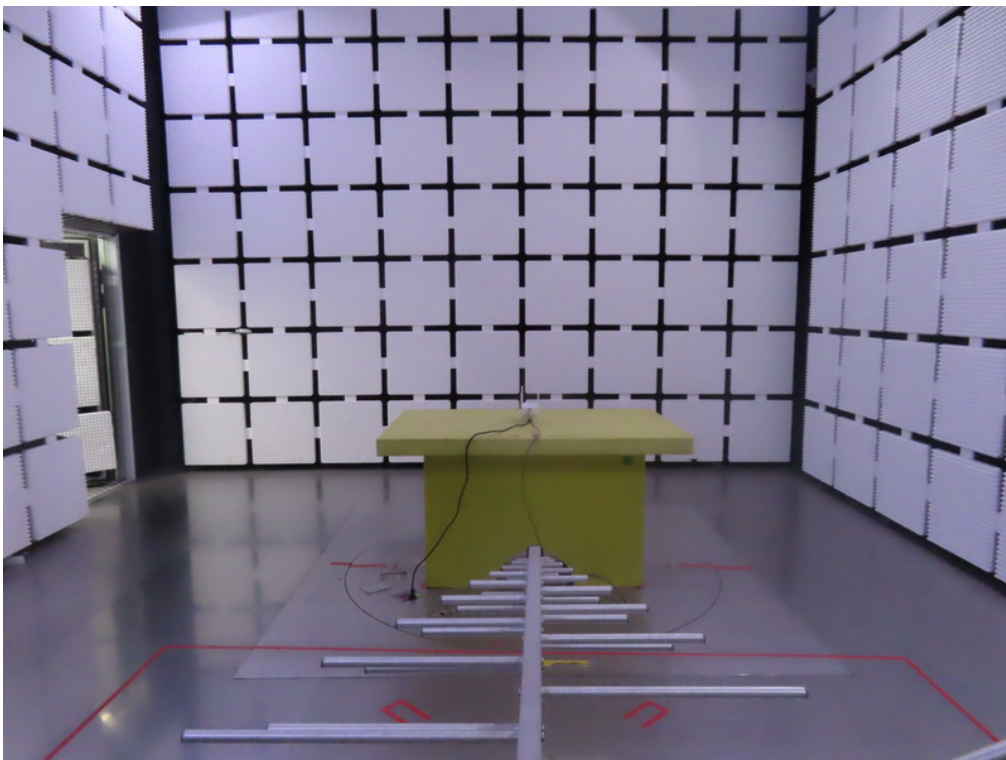
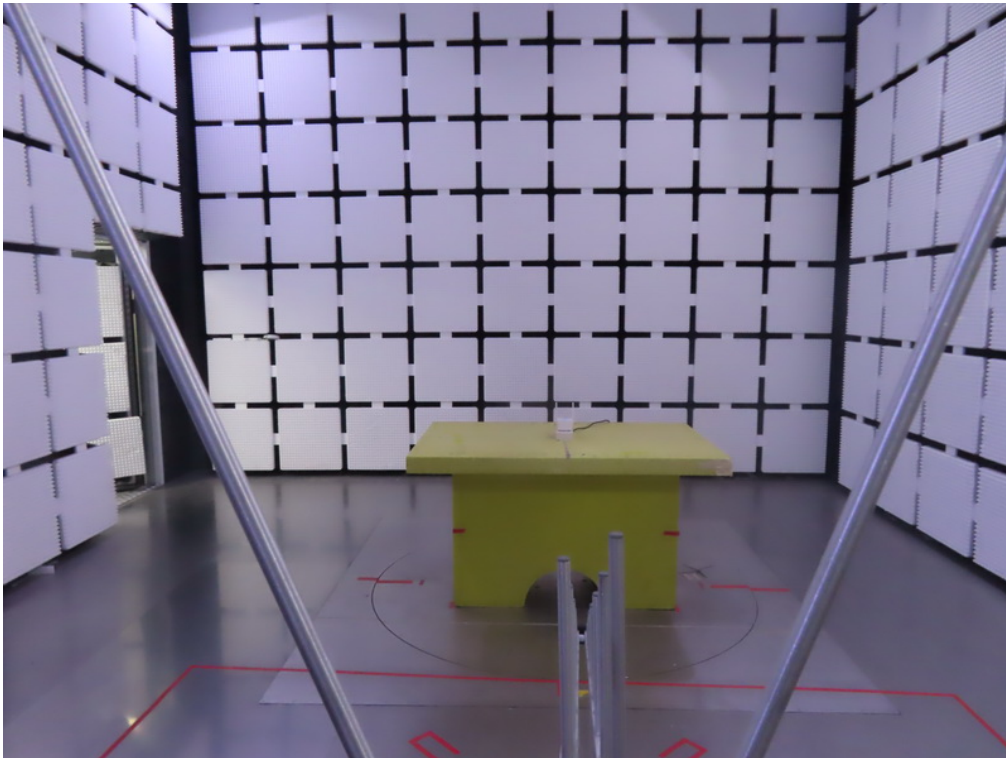
AC Power Line Conducted Emissions Test Photos



Radiated Emissions Test Photos

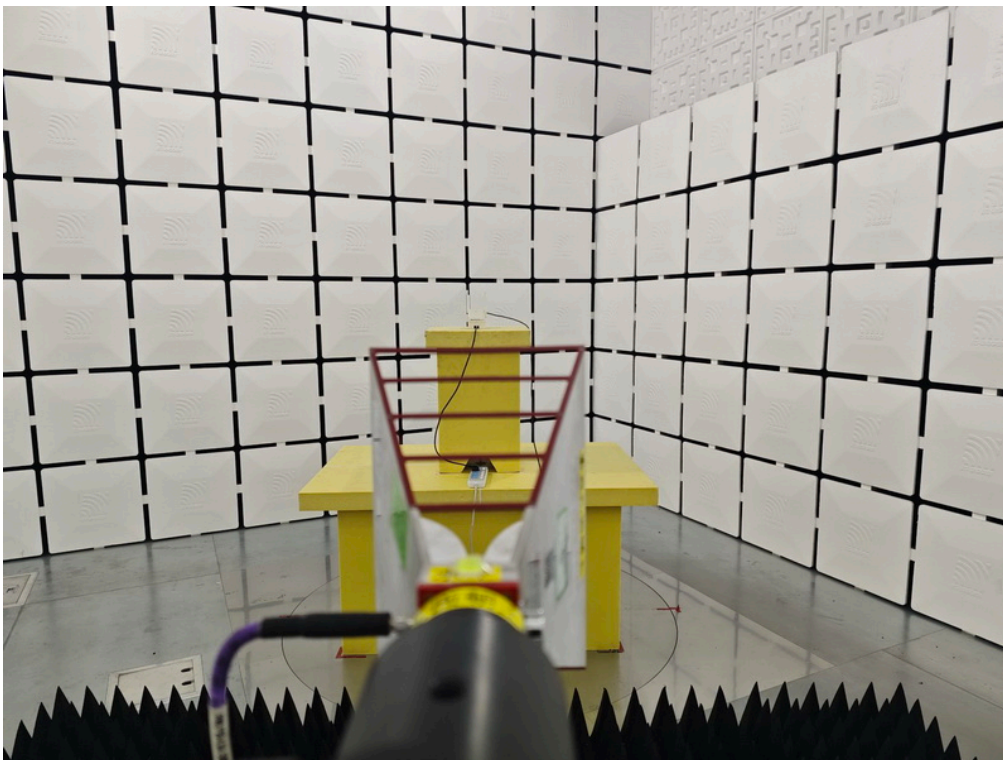
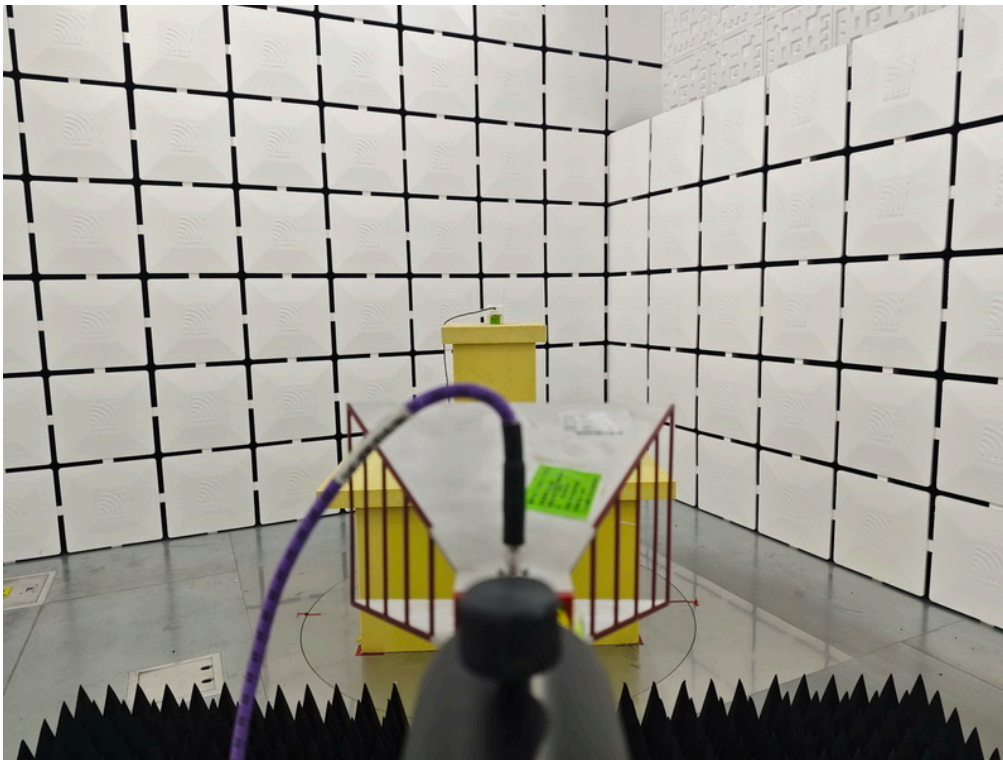
9 kHz to 30 MHz



Radiated Emissions Test Photos**30 MHz to 1 GHz**

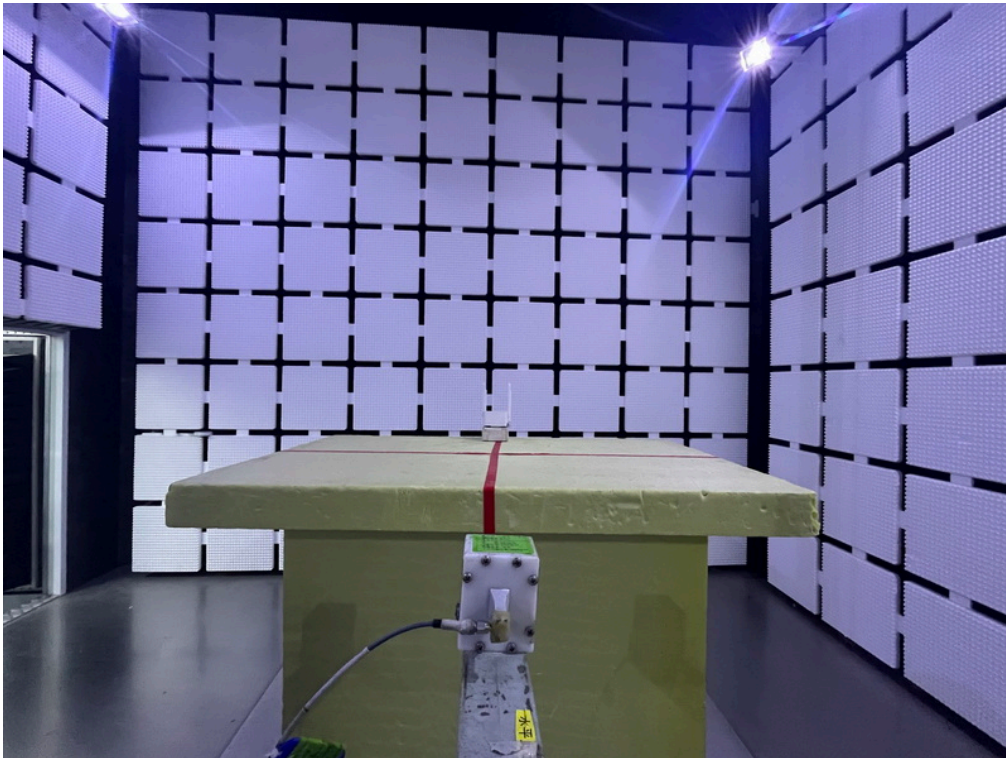
Radiated Emissions Test Photos

Band edge & Harmonic(1 GHz to 18 GHz)

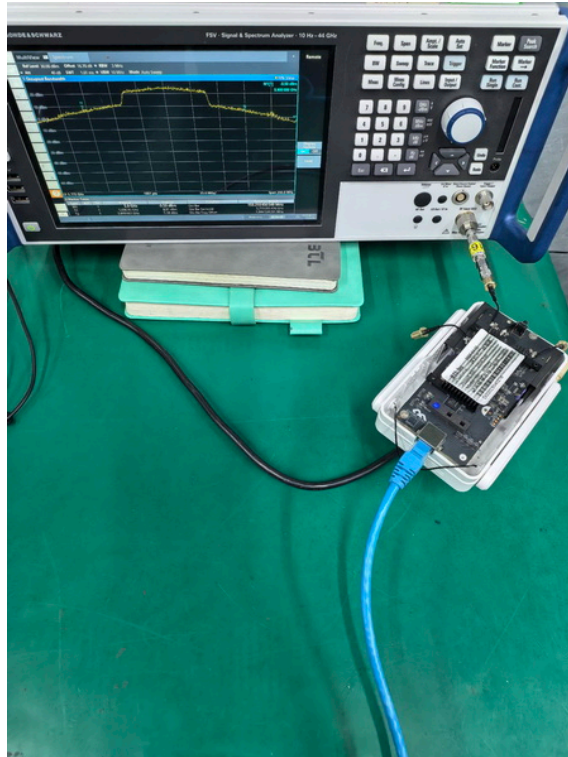


Radiated Emissions Test Photos

Harmonic(18 GHz to 26.5 GHz)

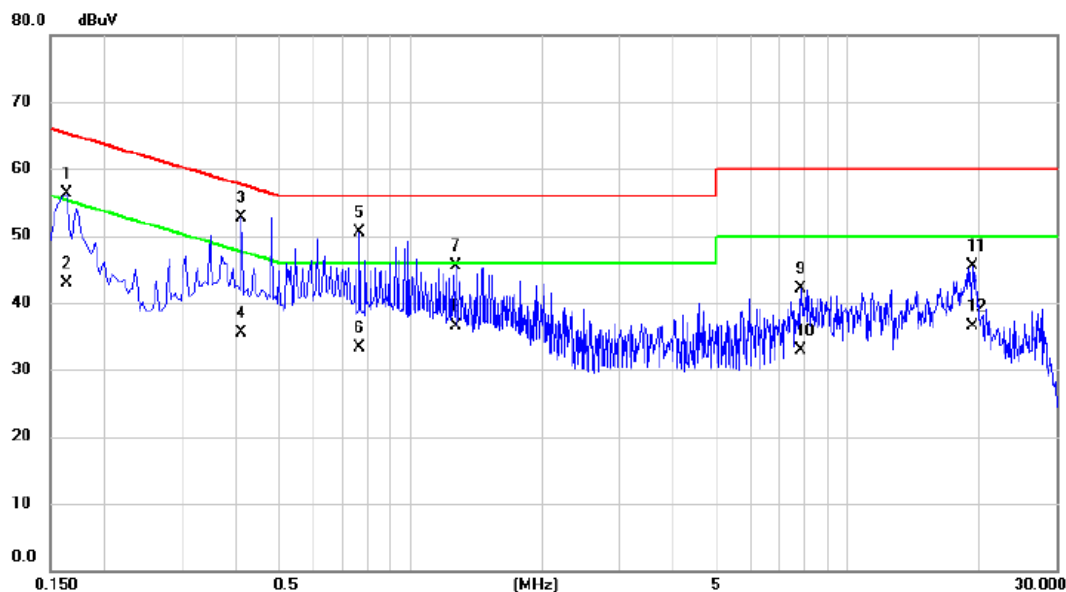


Conducted Test Photos



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX AX20 Mode Channel 06	Phase	Line
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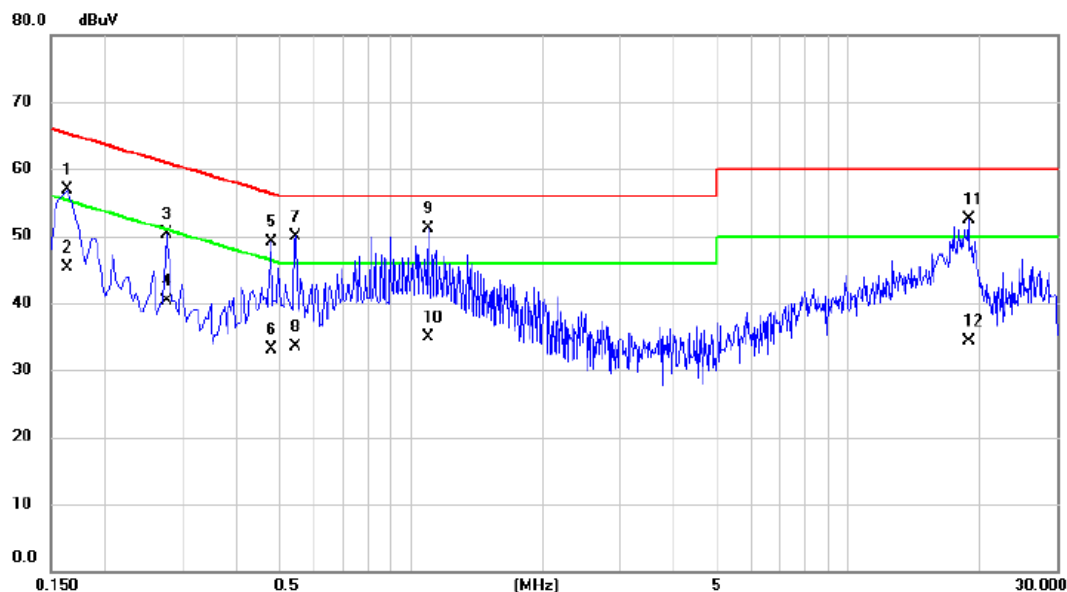
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1635	46.35	9.92	56.27	65.28	-9.01	QP	
2		0.1635	33.00	9.92	42.92	55.28	-12.36	AVG	
3	*	0.4110	42.84	9.94	52.78	57.63	-4.85	QP	
4		0.4110	25.50	9.94	35.44	47.63	-12.19	AVG	
5		0.7665	40.48	10.02	50.50	56.00	-5.50	QP	
6		0.7665	23.20	10.02	33.22	46.00	-12.78	AVG	
7		1.2750	35.45	10.08	45.53	56.00	-10.47	QP	
8		1.2750	26.50	10.08	36.58	46.00	-9.42	AVG	
9		7.8225	30.66	11.38	42.04	60.00	-17.96	QP	
10		7.8225	21.60	11.38	32.98	50.00	-17.02	AVG	
11		19.2930	30.48	14.96	45.44	60.00	-14.56	QP	
12		19.2930	21.50	14.96	36.46	50.00	-13.54	AVG	

REMARKS:

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

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

Test Mode	TX AX20 Mode Channel 06	Phase	Neutral
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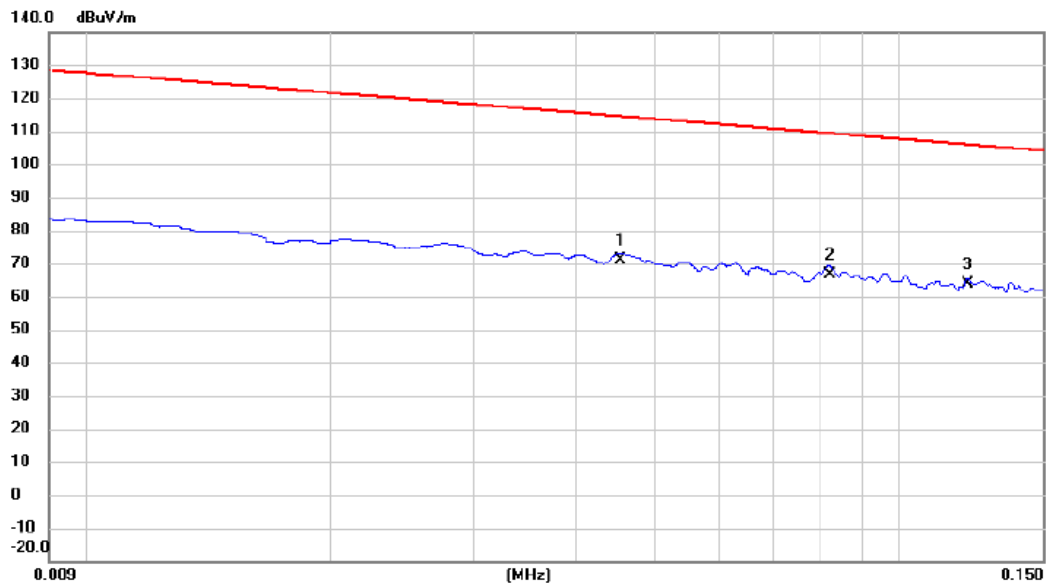
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1635	46.98	9.97	56.95	65.28	-8.33	QP	
2		0.1635	35.30	9.97	45.27	55.28	-10.01	AVG	
3		0.2760	40.30	9.98	50.28	60.94	-10.66	QP	
4		0.2760	30.30	9.98	40.28	50.94	-10.66	AVG	
5		0.4785	39.03	10.03	49.06	56.37	-7.31	QP	
6		0.4785	23.00	10.03	33.03	46.37	-13.34	AVG	
7		0.5460	39.97	10.03	50.00	56.00	-6.00	QP	
8		0.5460	23.50	10.03	33.53	46.00	-12.47	AVG	
9	*	1.0950	41.02	10.10	51.12	56.00	-4.88	QP	
10		1.0950	24.80	10.10	34.90	46.00	-11.10	AVG	
11		18.8475	37.73	14.73	52.46	60.00	-7.54	QP	
12		18.8475	19.60	14.73	34.33	50.00	-15.67	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 AX20 Mode Channel 06	Polarization	Ant 0°
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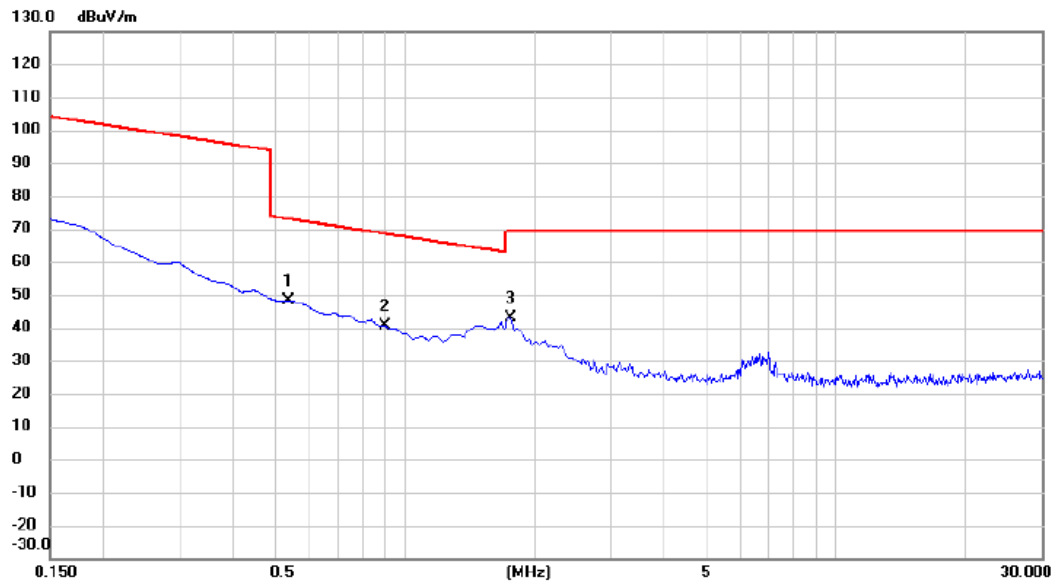


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	0.0454	49.56	21.32	70.88	114.46	-43.58	AVG	
2	0.0820	45.25	21.34	66.59	109.33	-42.74	AVG	
3 *	0.1215	42.40	21.31	63.71	105.92	-42.21	AVG	

REMARKS:

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

Test Mode	TX AX20 Mode Channel 06	Polarization	Ant 0°
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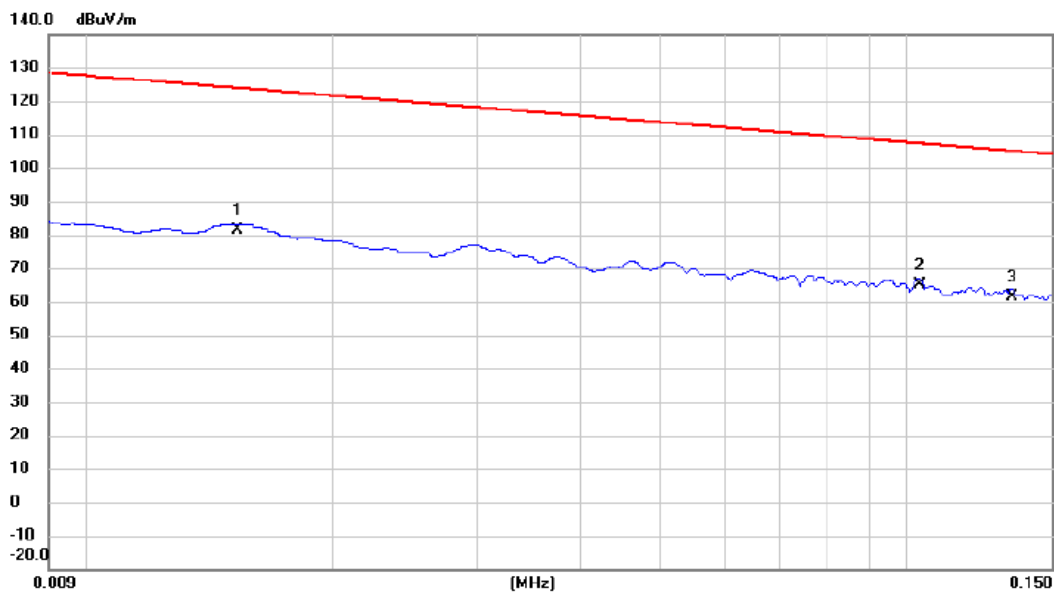
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.5381	27.01	21.16	48.17	72.99	-24.82	QP	
2		0.8962	19.53	21.18	40.71	68.56	-27.85	QP	
3		1.7620	21.91	21.21	43.12	69.54	-26.42	QP	

REMARKS:

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

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

Test Mode	TX AX20 Mode Channel 06	Polarization	Ant 90°
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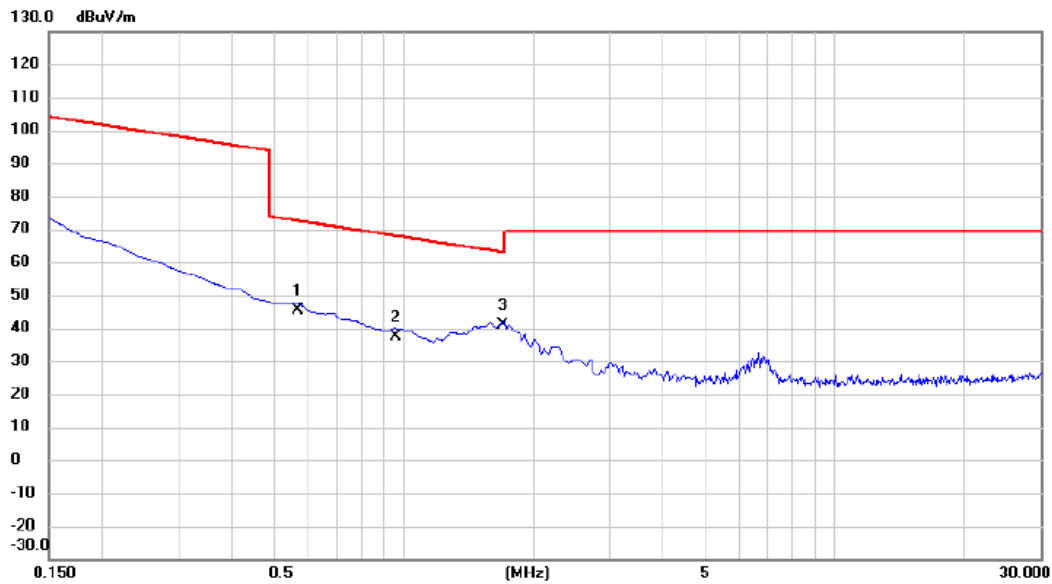
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0153	60.52	21.02	81.54	123.91	-42.37	AVG	
2	*	0.1035	43.63	21.33	64.96	107.31	-42.35	AVG	
3		0.1341	40.14	21.29	61.43	105.06	-43.63	AVG	

REMARKS:

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

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

Test Mode	TX AX20 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	24.25	21.16	45.41	72.52	-27.11	QP	
2	0.9560	16.37	21.19	37.56	68.00	-30.44	QP	
3 *	1.7022	19.68	21.21	40.89	62.98	-22.09	QP	

REMARKS:

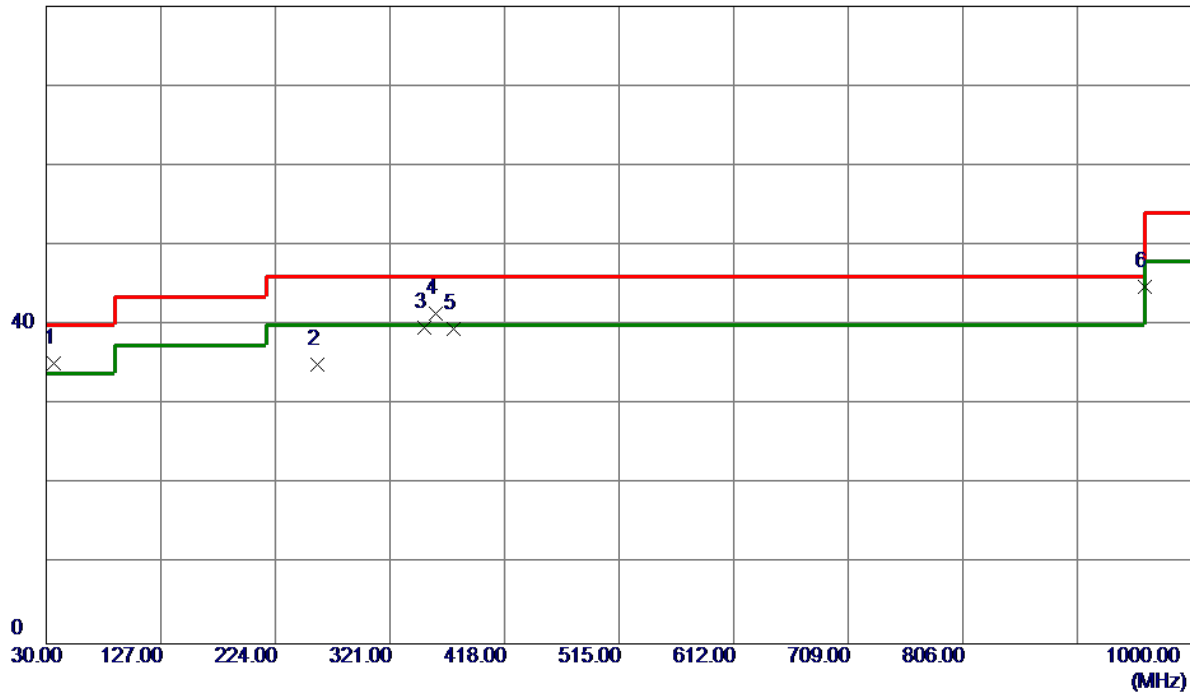
(1) Measurement Value = Reading Level + Correct Factor.

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

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode	TX AX20 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	36.7900	47.45	-12.20	35.25	40.00	-4.75	Peak	
2	259.8900	47.02	-12.04	34.98	46.00	-11.02	Peak	
3	350.1000	49.11	-9.38	39.73	46.00	-6.27	Peak	
4 *	359.8000	50.66	-9.21	41.45	46.00	-4.55	Peak	
5	374.3500	48.15	-8.67	39.48	46.00	-6.52	Peak	
6	960.2300	43.88	0.85	44.73	54.00	-9.27	Peak	

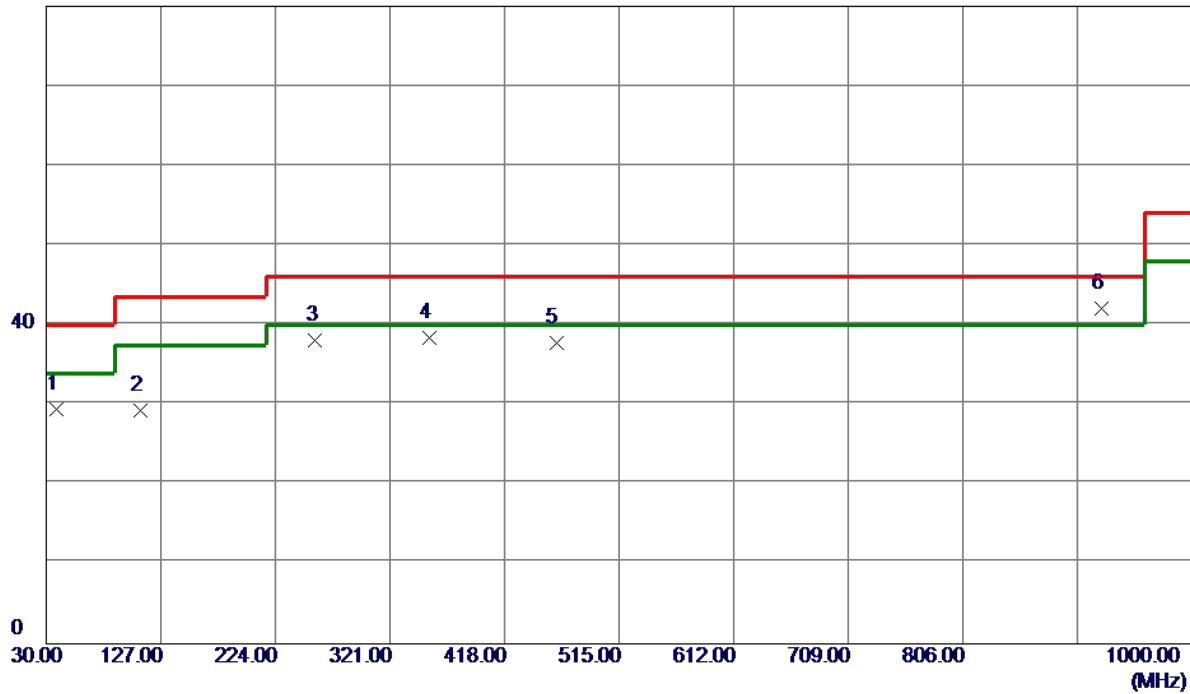
REMARKS:

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

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

Test Mode	TX AX20 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	38.7300	41.45	-11.97	29.48	40.00	-10.52	Peak	
2	109.5400	43.78	-14.46	29.32	43.50	-14.18	Peak	
3	257.9500	50.09	-12.06	38.03	46.00	-7.97	Peak	
4	353.9800	47.64	-9.31	38.33	46.00	-7.67	Peak	
5	461.6500	44.11	-6.41	37.70	46.00	-8.30	Peak	
6 *	923.3700	41.45	0.65	42.10	46.00	-3.90	Peak	

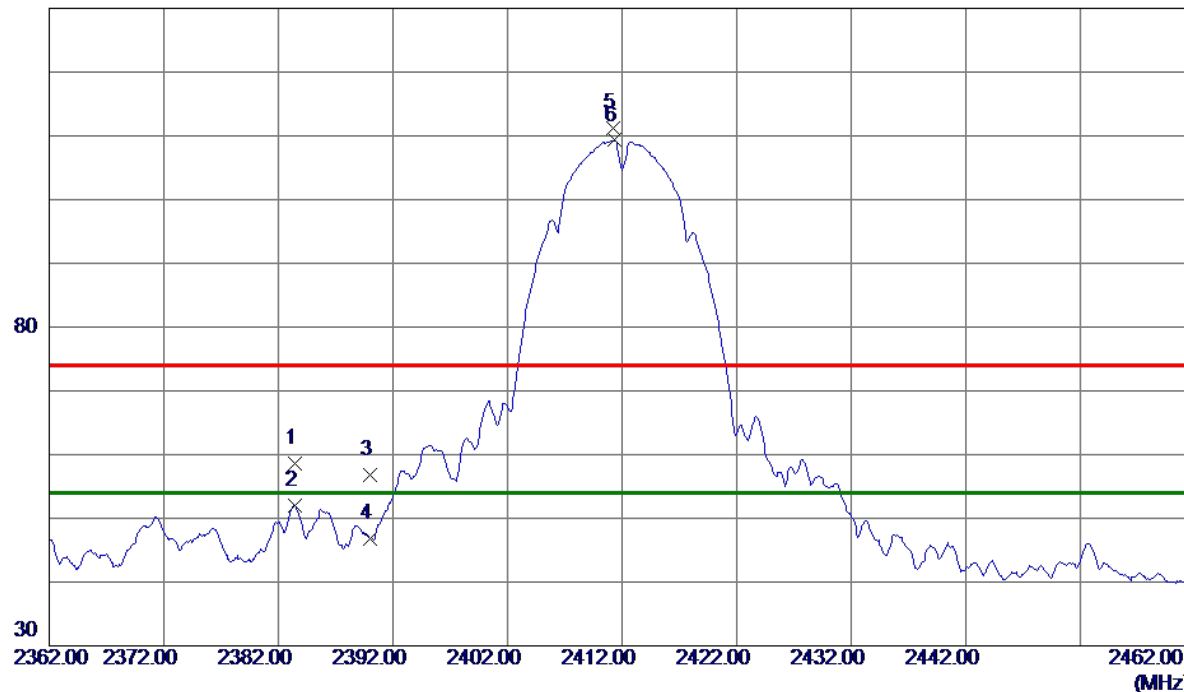
REMARKS:

- (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	Vertical
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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	2383.4000	50.06	8.53	58.59	74.00	-15.41	Peak	
2	2383.4000	43.53	8.53	52.06	54.00	-1.94	AVG	
3	2390.0000	48.34	8.55	56.89	74.00	-17.11	Peak	
4	2390.0000	38.19	8.55	46.74	54.00	-7.26	AVG	
5	2411.2000	102.54	8.60	111.14	74.00	37.14	Peak	No Limit
6 *	2411.3000	100.70	8.60	109.30	54.00	55.30	AVG	No Limit

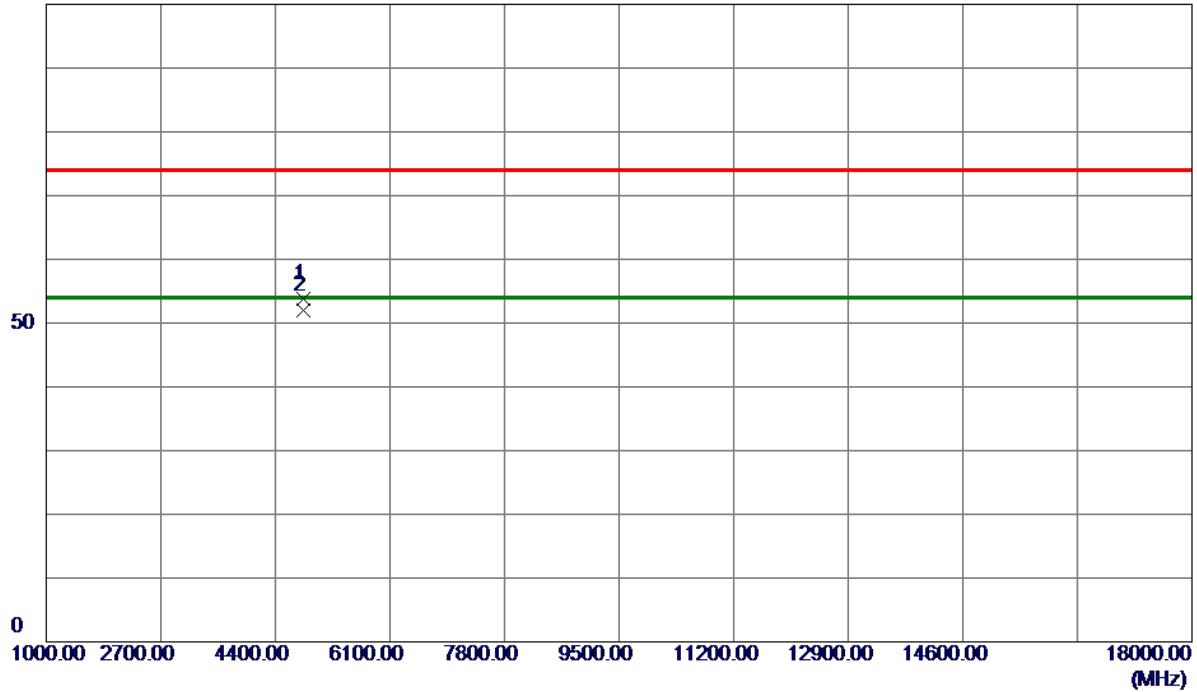
REMARKS:

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

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

Test Mode	TX B Mode 2412 MHz	Polarization	Vertical
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100 dBuV/m



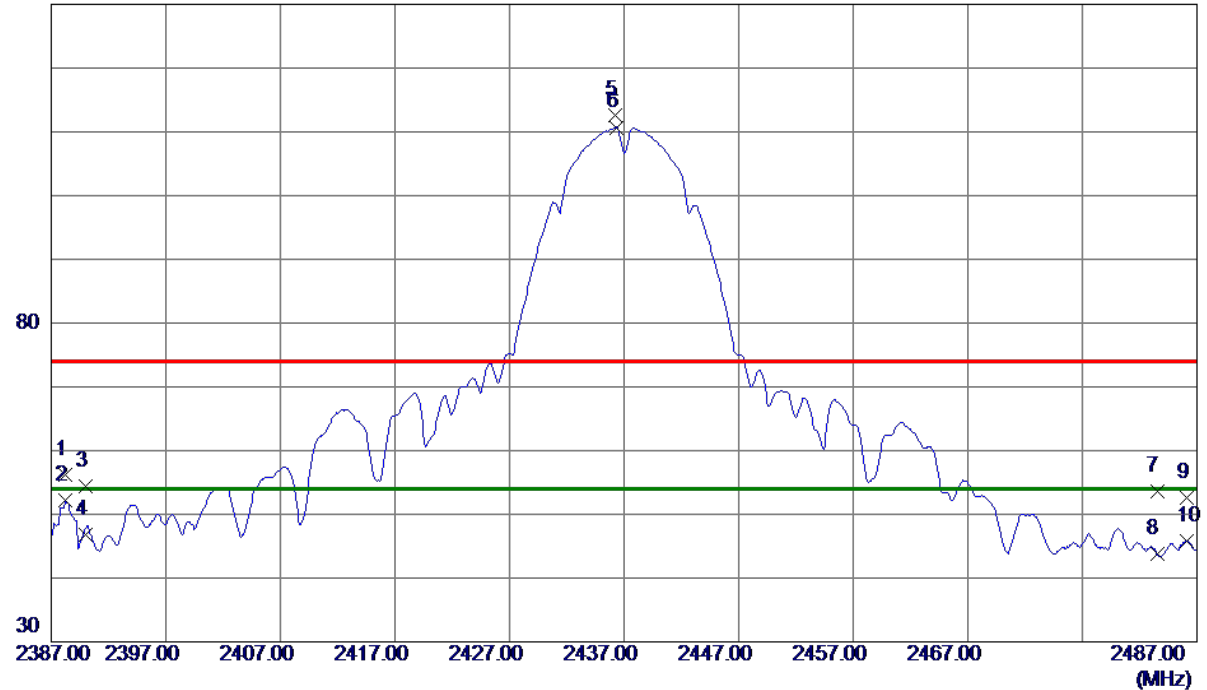
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4823.8600	49.81	4.00	53.81	74.00	-20.19	Peak	
2 *	4824.0000	47.94	4.00	51.94	54.00	-2.06	AVG	

REMARKS:

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

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



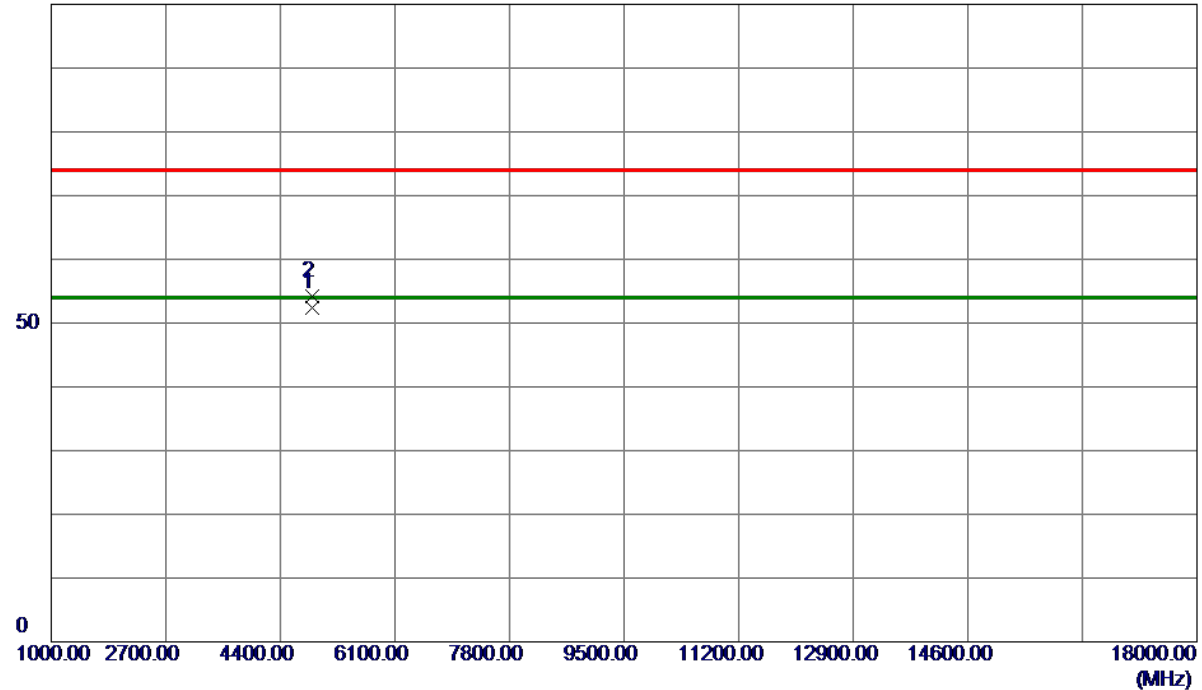
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2388.2000	47.58	8.54	56.12	74.00	-17.88	Peak	
2	2388.2000	43.58	8.54	52.12	54.00	-1.88	AVG	
3	2390.0000	45.90	8.55	54.45	74.00	-19.55	Peak	
4	2390.0000	38.25	8.55	46.80	54.00	-7.20	AVG	
5	2436.2000	103.91	8.67	112.58	74.00	38.58	Peak	No Limit
6 *	2436.3000	102.03	8.67	110.70	54.00	56.70	AVG	No Limit
7	2483.5000	44.79	8.79	53.58	74.00	-20.42	Peak	
8	2483.5000	35.07	8.79	43.86	54.00	-10.14	AVG	
9	2486.1000	43.82	8.80	52.62	74.00	-21.38	Peak	
10	2486.1000	37.02	8.80	45.82	54.00	-8.18	AVG	

REMARKS:

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

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



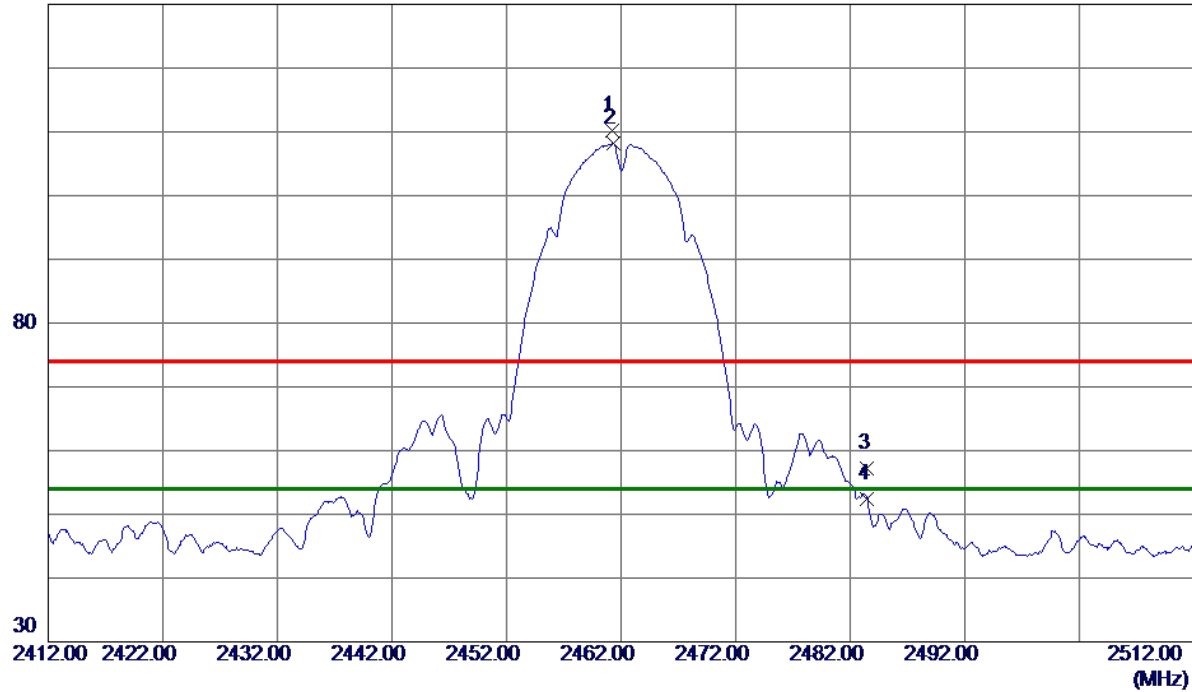
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.0200	48.33	4.09	52.42	54.00	-1.58	AVG	
2	4874.0200	50.13	4.09	54.22	74.00	-19.78	Peak	

REMARKS:

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

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



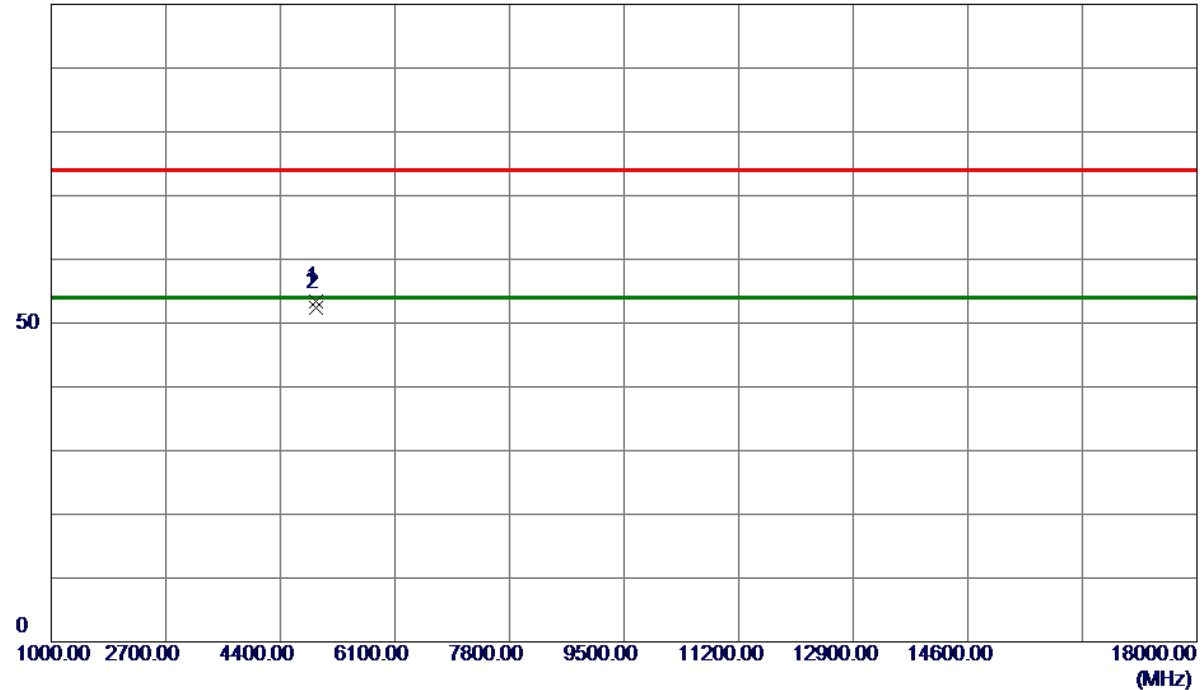
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2461.2000	101.44	8.73	110.17	74.00	36.17	Peak	No Limit
2 *	2461.3000	99.48	8.73	108.21	54.00	54.21	AVG	No Limit
3	2483.5000	48.49	8.79	57.28	74.00	-16.72	Peak	
4	2483.5000	43.52	8.79	52.31	54.00	-1.69	AVG	

REMARKS:

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

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



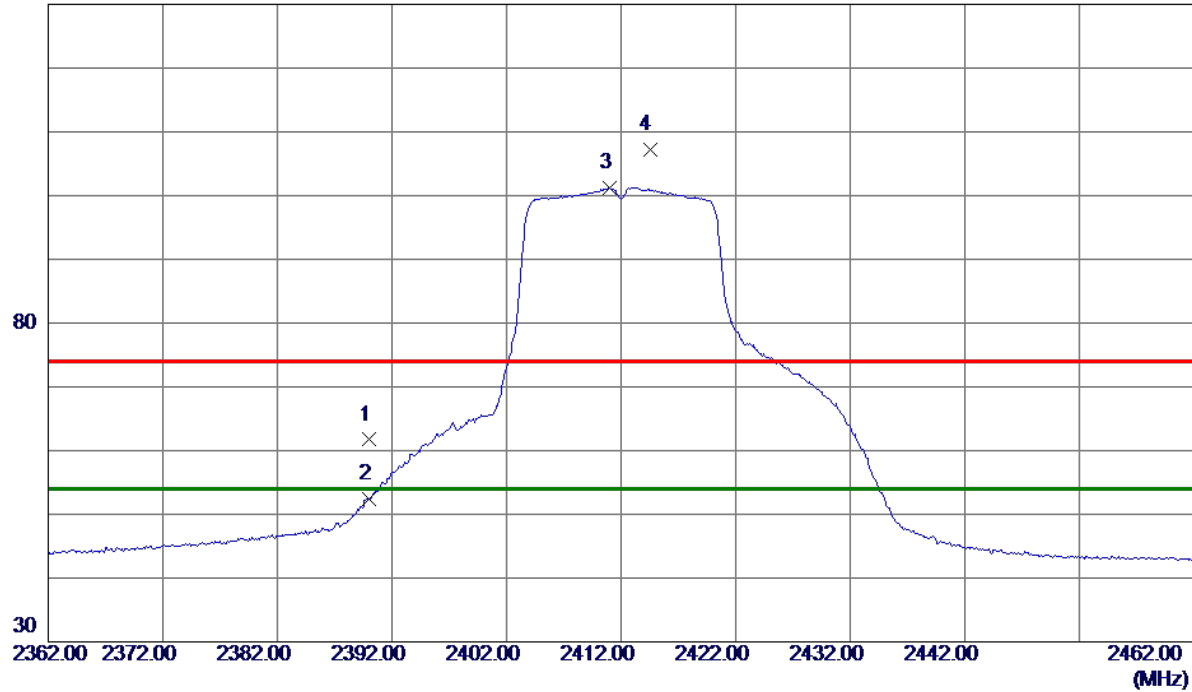
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4923.9800	49.29	4.18	53.47	74.00	-20.53	Peak	
2 *	4923.9800	48.23	4.18	52.41	54.00	-1.59	AVG	

REMARKS:

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

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



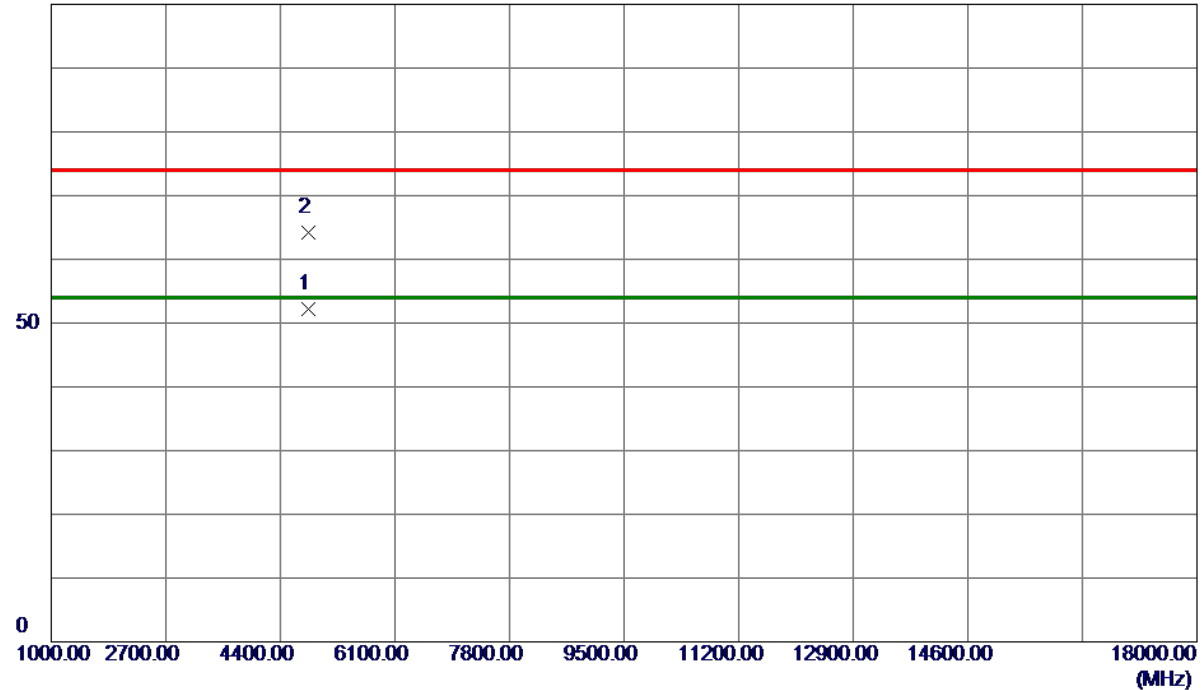
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	53.15	8.55	61.70	74.00	-12.30	Peak	
2	2390.0000	43.94	8.55	52.49	54.00	-1.51	AVG	
3 *	2411.0000	92.68	8.60	101.28	54.00	47.28	AVG	No Limit
4	2414.5000	98.68	8.61	107.29	74.00	33.29	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	Vertical
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100 dBuV/m



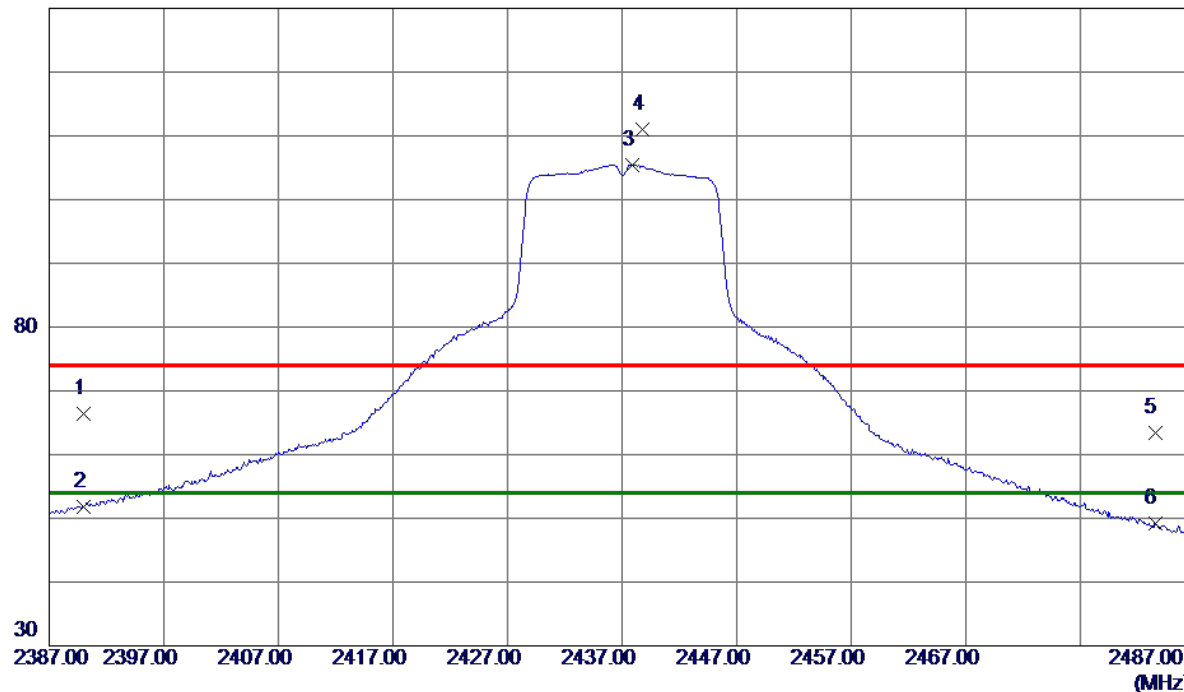
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4823.3000	48.14	4.00	52.14	54.00	-1.86	AVG	
2	4824.2500	60.25	4.00	64.25	74.00	-9.75	Peak	

REMARKS:

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

Test Mode	TX G Mode 2437 MHz	Polarization	Vertical
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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	57.83	8.55	66.38	74.00	-7.62	Peak	
2	2390.0000	43.27	8.55	51.82	54.00	-2.18	AVG	
3 *	2437.9000	96.78	8.67	105.45	54.00	51.45	AVG	No Limit
4	2438.8000	102.38	8.67	111.05	74.00	37.05	Peak	No Limit
5	2483.5000	54.62	8.79	63.41	74.00	-10.59	Peak	
6	2483.5000	40.33	8.79	49.12	54.00	-4.88	AVG	

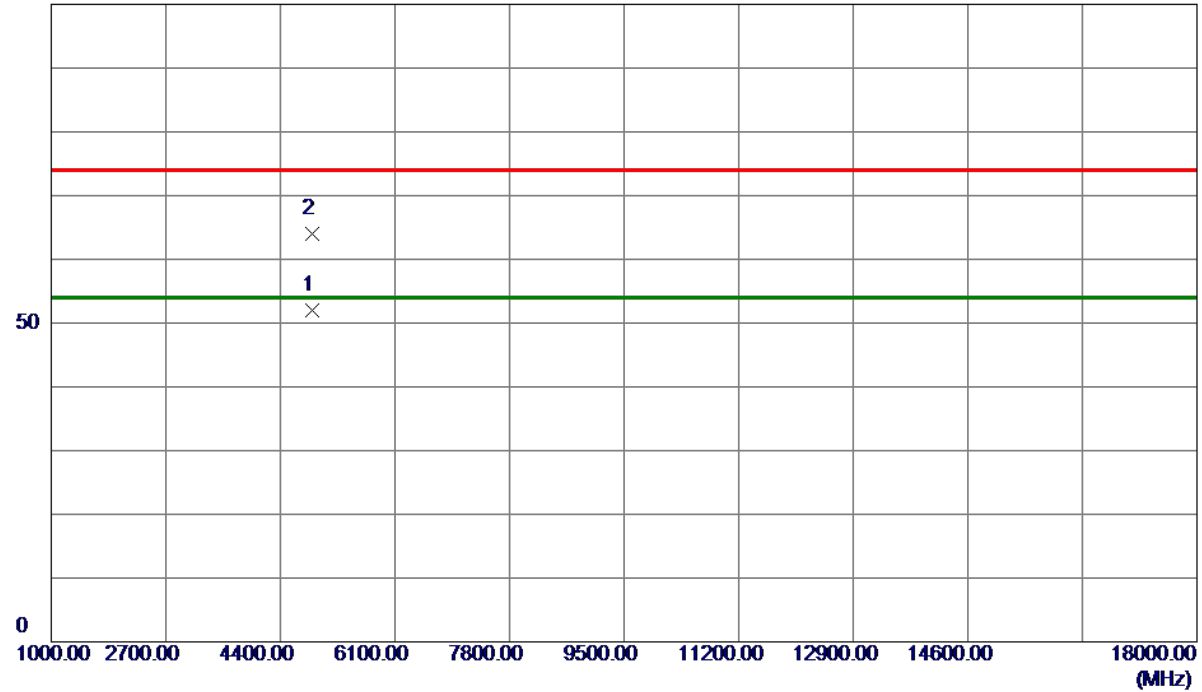
REMARKS:

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

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

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



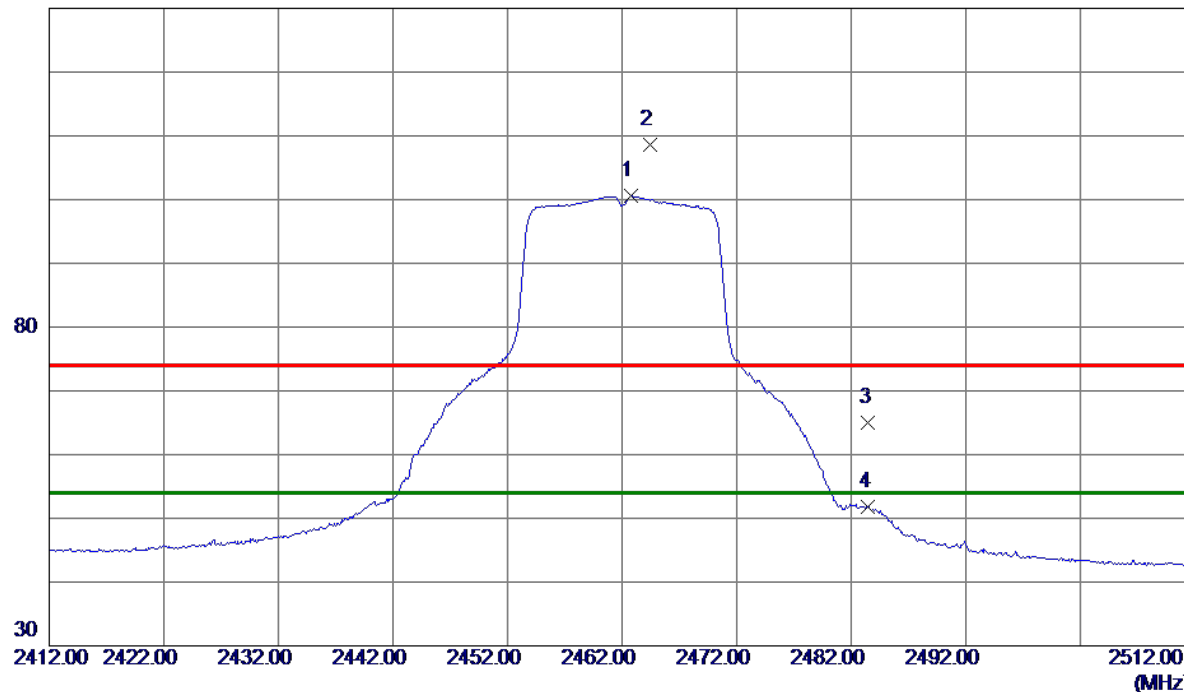
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4874.3500	47.98	4.09	52.07	54.00	-1.93	AVG	
2	4874.9500	59.82	4.09	63.91	74.00	-10.09	Peak	

REMARKS:

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

Test Mode	TX G Mode 2462 MHz	Polarization	Vertical
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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 *	2462.8000	91.81	8.74	100.55	54.00	46.55	AVG	No Limit
2	2464.4000	99.82	8.74	108.56	74.00	34.56	Peak	No Limit
3	2483.5000	56.26	8.79	65.05	74.00	-8.95	Peak	
4	2483.5000	43.06	8.79	51.85	54.00	-2.15	AVG	

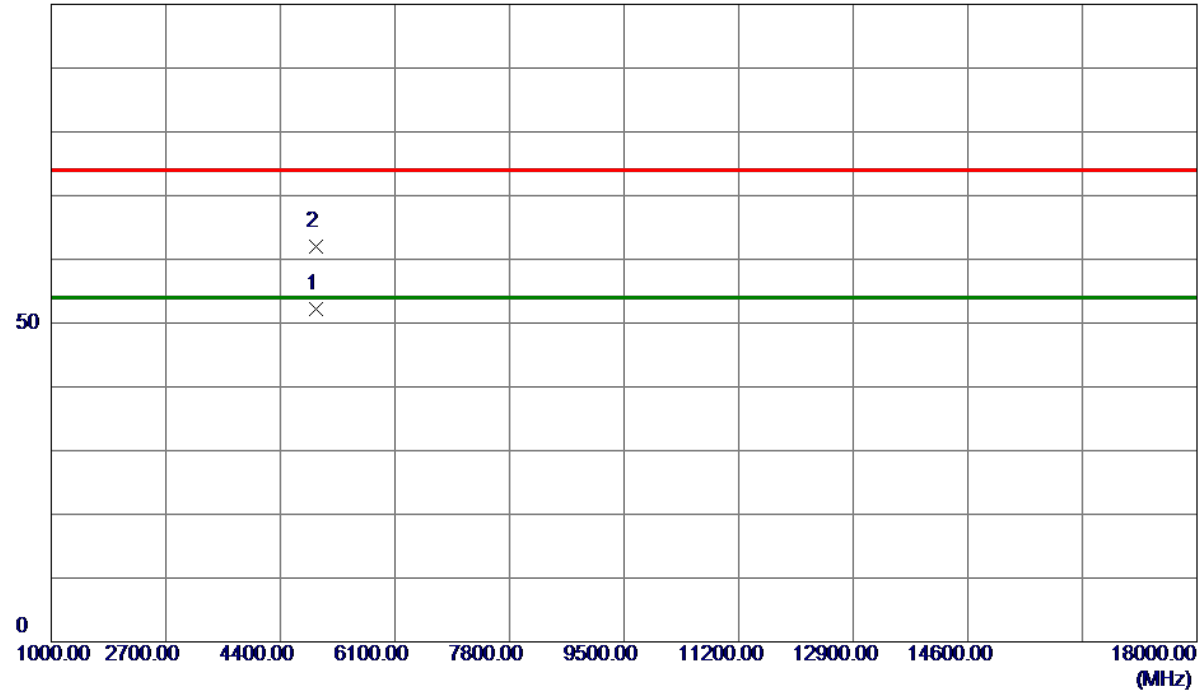
REMARKS:

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

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

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



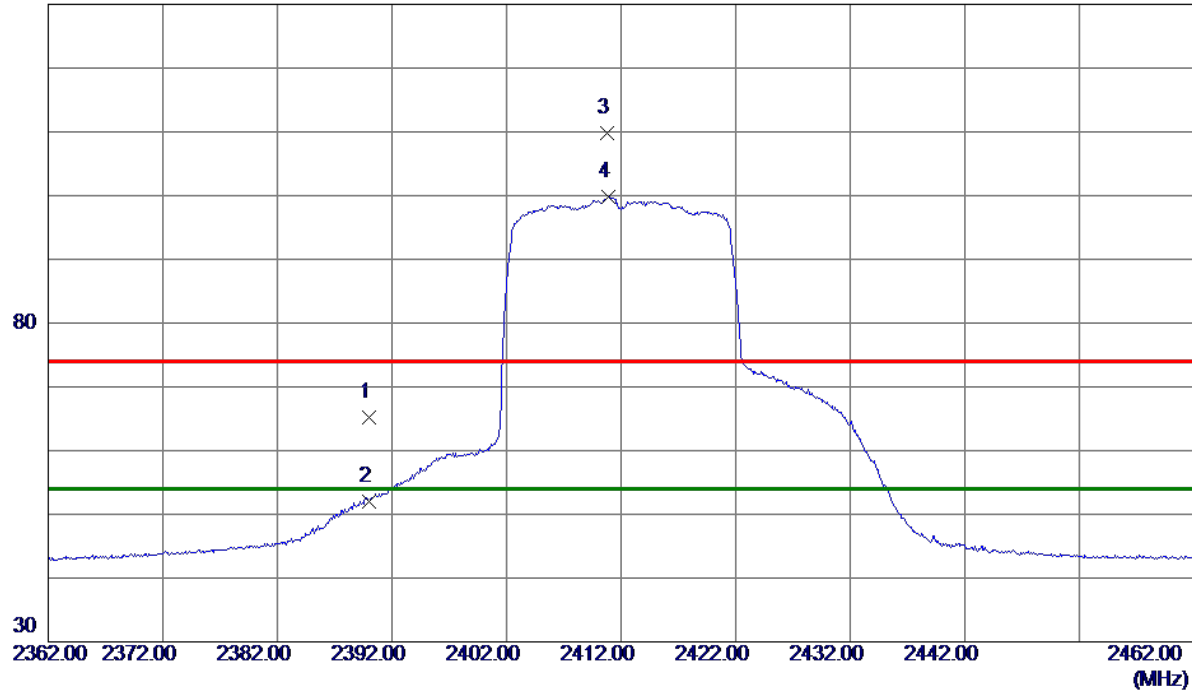
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4924.5000	48.08	4.18	52.26	54.00	-1.74	AVG	
2	4930.1000	57.90	4.19	62.09	74.00	-11.91	Peak	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2412 MHz	Polarization	Vertical
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130 dBuV/m



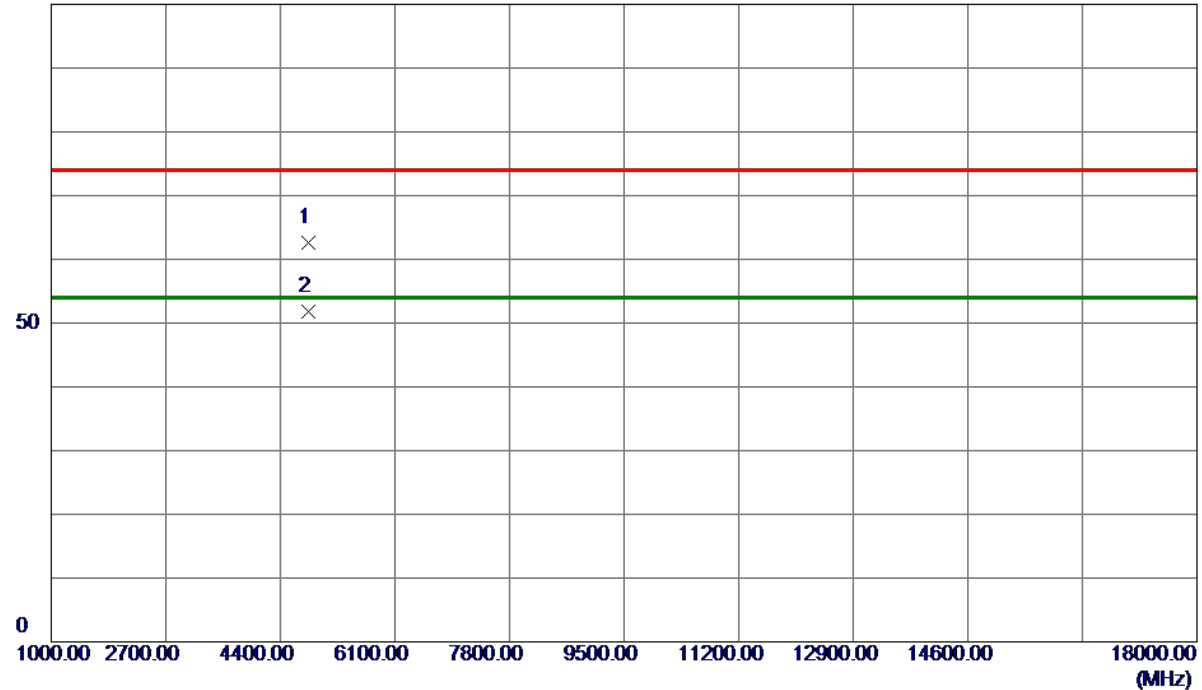
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	56.60	8.55	65.15	74.00	-8.85	Peak	
2	2390.0000	43.36	8.55	51.91	54.00	-2.09	AVG	
3	2410.8000	101.22	8.60	109.82	74.00	35.82	Peak	No Limit
4 *	2410.9000	91.15	8.60	99.75	54.00	45.75	AVG	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	Vertical
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100 dBuV/m



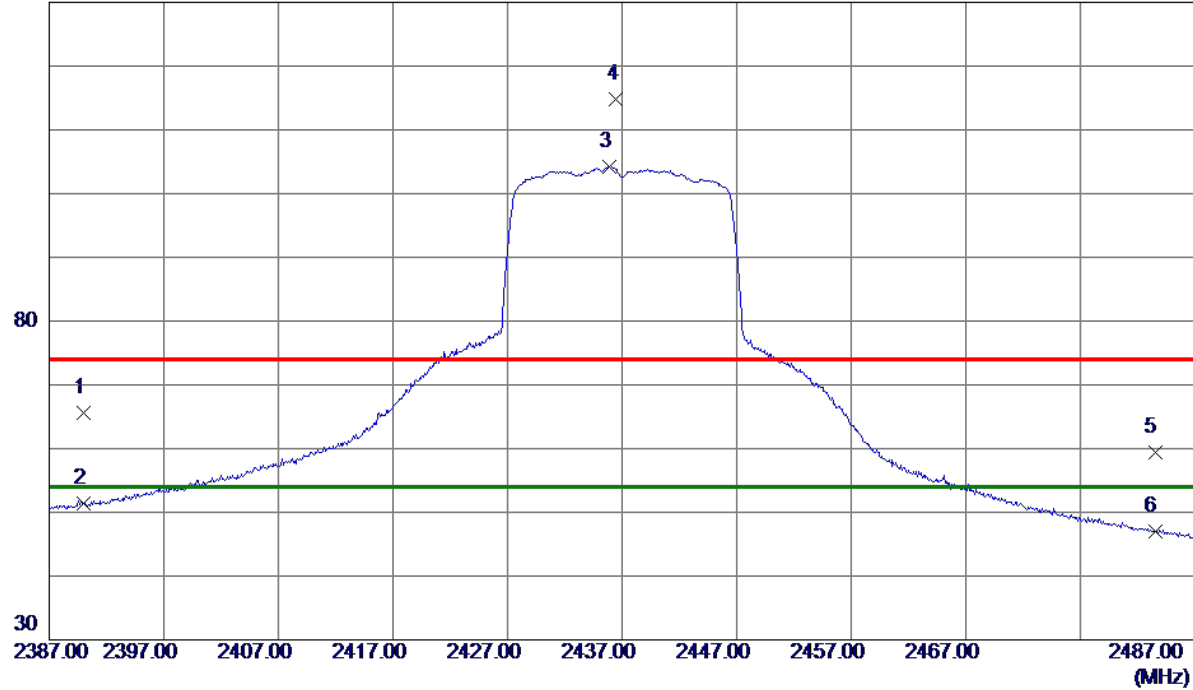
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4820.5500	58.66	4.00	62.66	74.00	-11.34	Peak	
2 *	4821.5500	47.82	4.00	51.82	54.00	-2.18	AVG	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2437 MHz	Polarization	Vertical
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130 dBuV/m



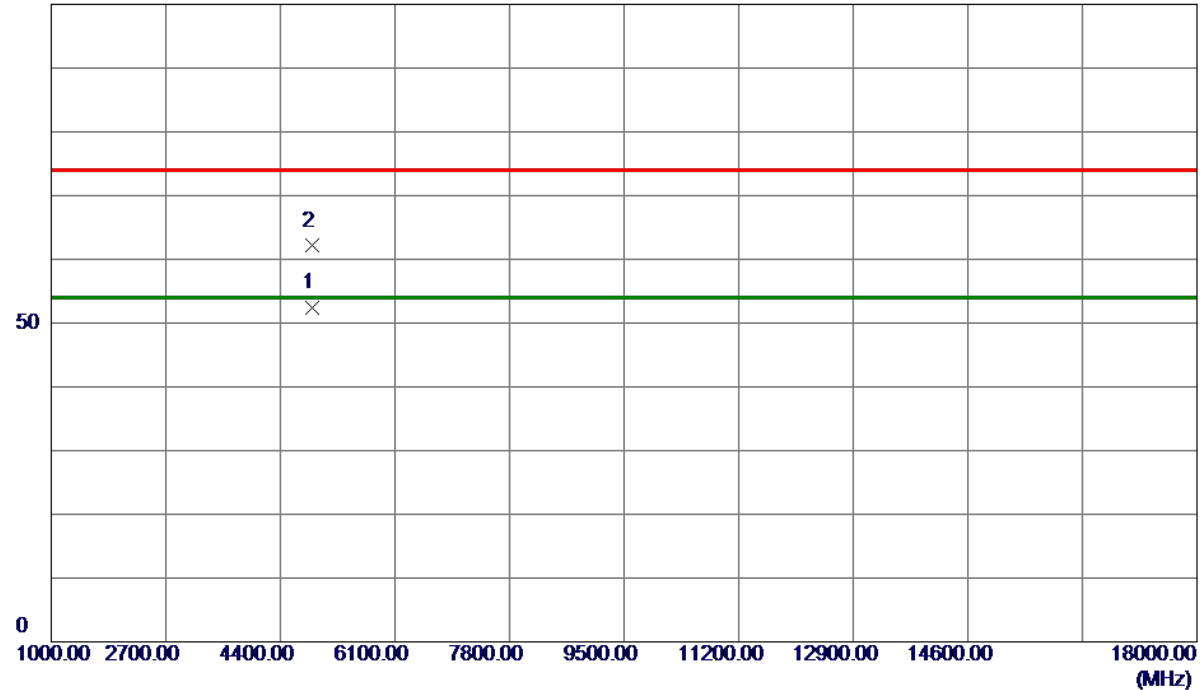
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	57.09	8.55	65.64	74.00	-8.36	Peak	
2	2390.0000	42.87	8.55	51.42	54.00	-2.58	AVG	
3 *	2435.9000	95.58	8.67	104.25	54.00	50.25	AVG	No Limit
4	2436.5000	106.22	8.67	114.89	74.00	40.89	Peak	No Limit
5	2483.5000	50.60	8.79	59.39	74.00	-14.61	Peak	
6	2483.5000	38.21	8.79	47.00	54.00	-7.00	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	Vertical
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100 dBuV/m



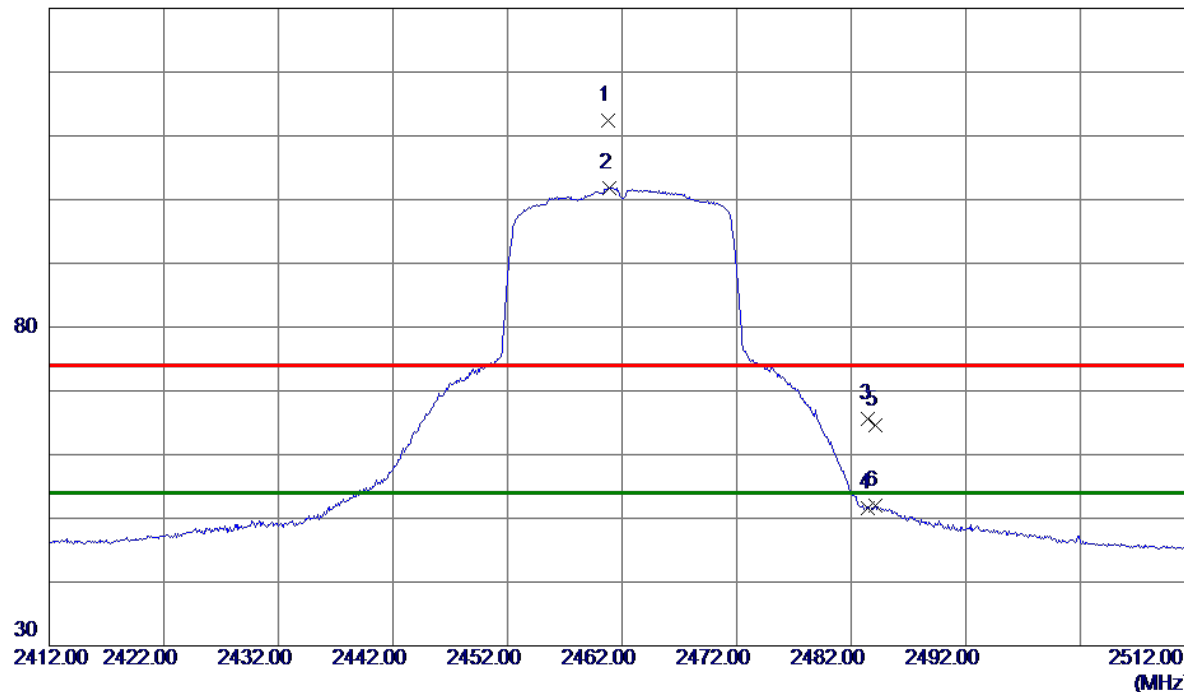
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4875.3000	48.31	4.10	52.41	54.00	-1.59	AVG	
2	4871.1500	58.01	4.09	62.10	74.00	-11.90	Peak	

REMARKS:

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

Test Mode	TX AX(HE20) Mode 2462 MHz	Polarization	Vertical
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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	103.75	8.73	112.48	74.00	38.48	Peak	No Limit
2 *	2460.9000	93.11	8.73	101.84	54.00	47.84	AVG	No Limit
3	2483.5000	56.79	8.79	65.58	74.00	-8.42	Peak	
4	2483.5000	42.78	8.79	51.57	54.00	-2.43	AVG	
5	2484.1000	55.89	8.79	64.68	74.00	-9.32	Peak	
6	2484.1000	43.15	8.79	51.94	54.00	-2.06	AVG	

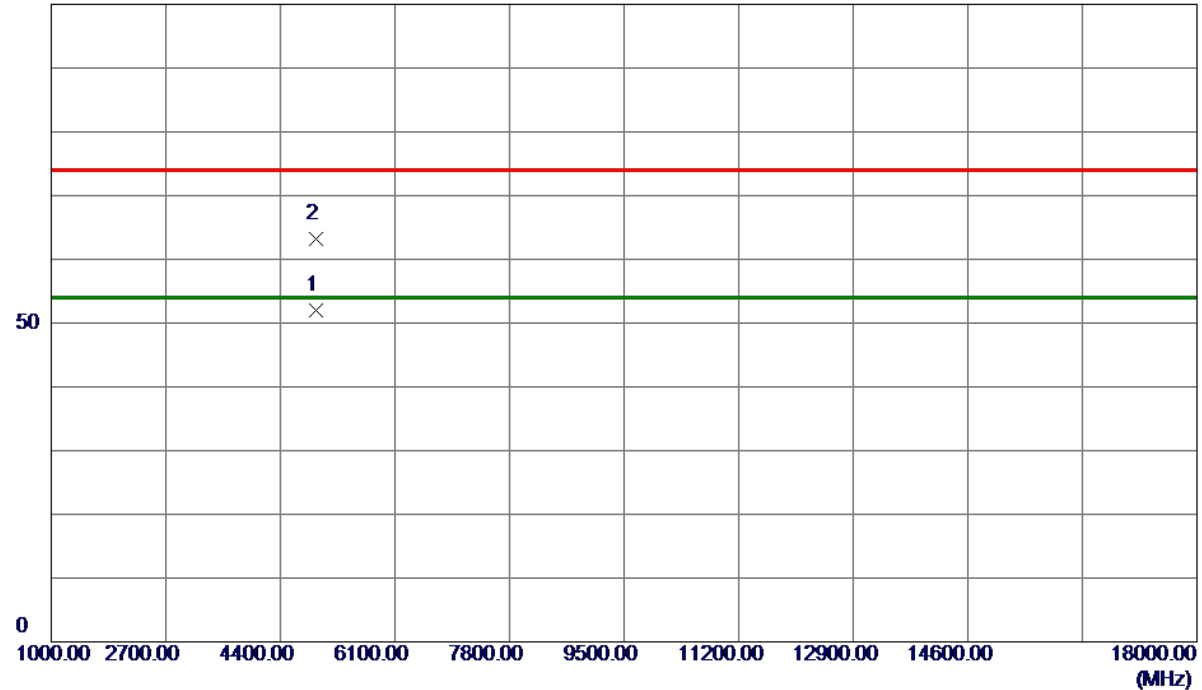
REMARKS:

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

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

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



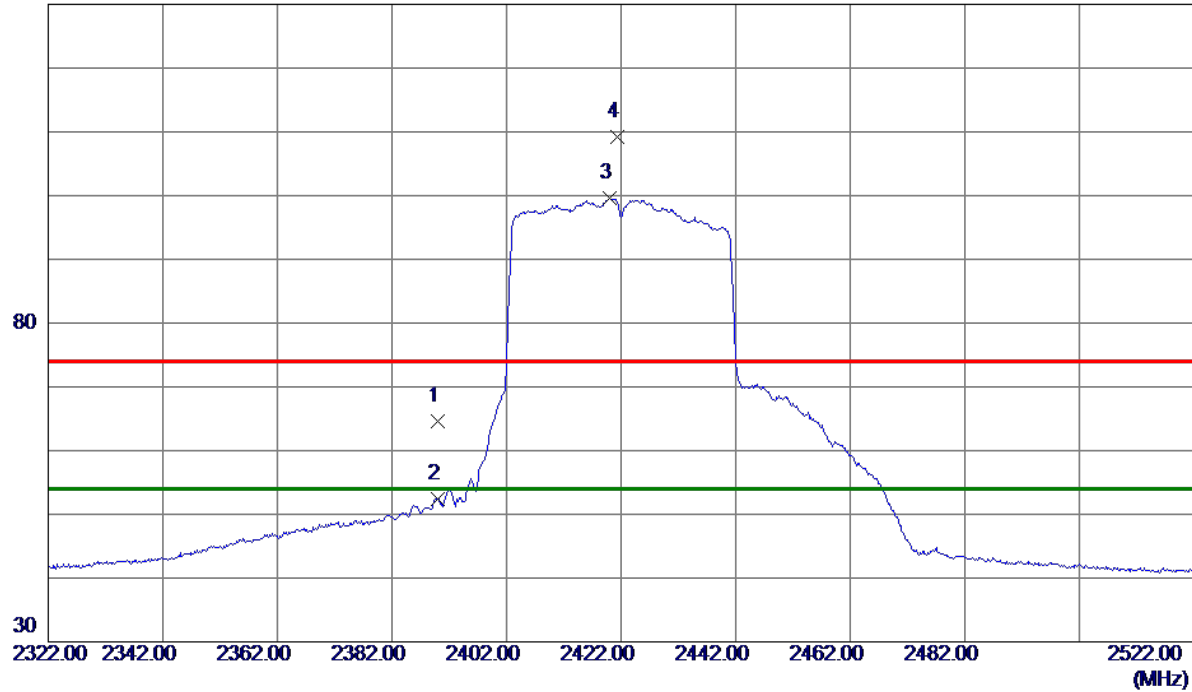
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4925.7000	47.86	4.19	52.05	54.00	-1.95	AVG	
2	4921.9500	58.95	4.18	63.13	74.00	-10.87	Peak	

REMARKS:

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

Test Mode	TX AX(HE40) Mode 2422 MHz	Polarization	Vertical
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130 dBuV/m



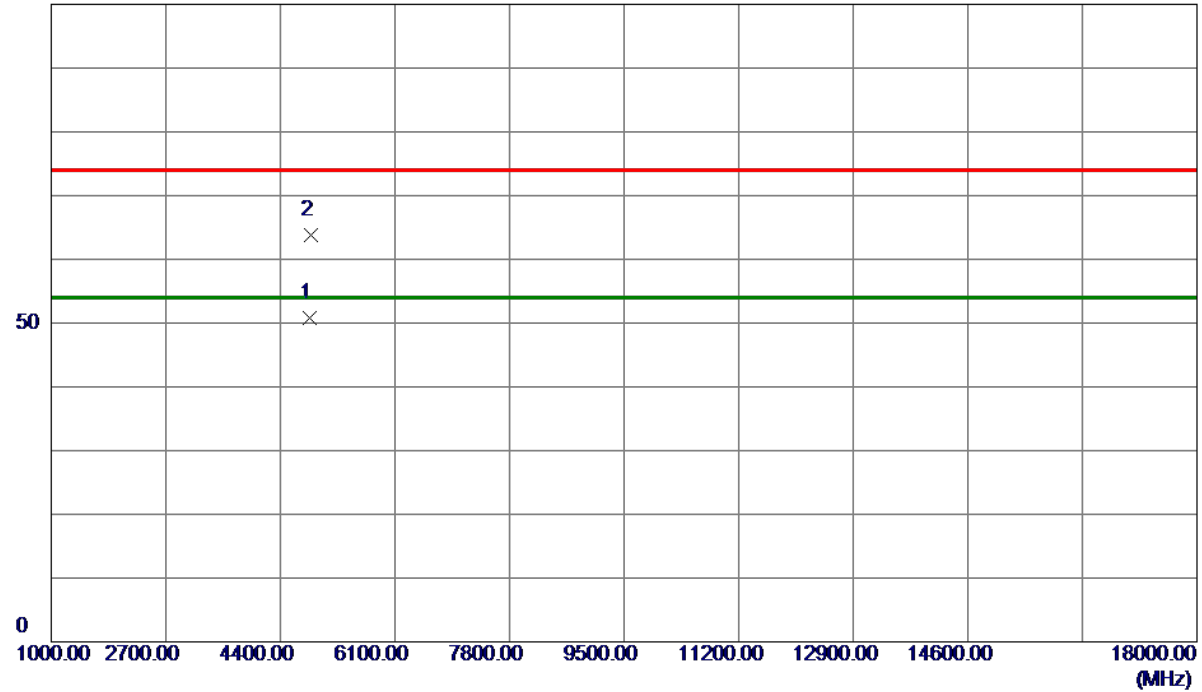
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	56.11	8.55	64.66	74.00	-9.34	Peak	
2	2390.0000	43.82	8.55	52.37	54.00	-1.63	AVG	
3 *	2420.0000	90.89	8.62	99.51	54.00	45.51	AVG	No Limit
4	2421.4000	100.63	8.63	109.26	74.00	35.26	Peak	No Limit

REMARKS:

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

Test Mode	TX AX(HE40) Mode 2422 MHz	Polarization	Vertical
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100 dBuV/m



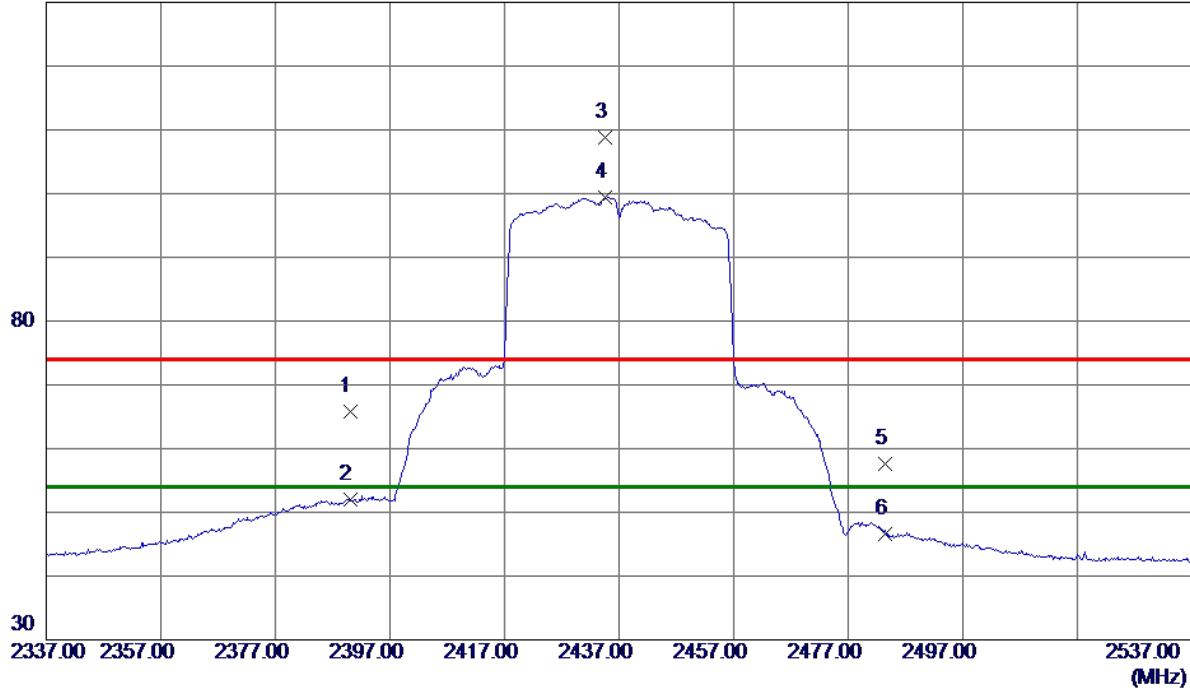
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4835.4000	46.87	4.02	50.89	54.00	-3.11	AVG	
2	4853.0000	59.82	4.06	63.88	74.00	-10.12	Peak	

REMARKS:

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

Test Mode	TX AX(HE40) Mode 2437 MHz	Polarization	Vertical
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130 dBuV/m



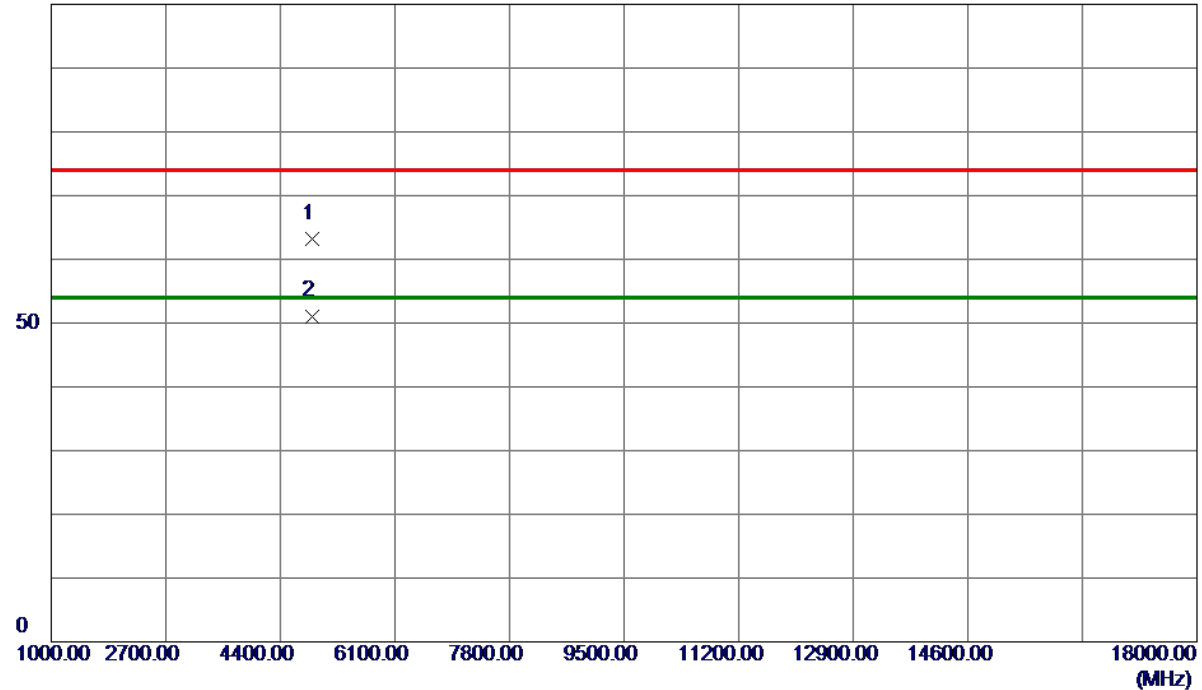
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	57.27	8.55	65.82	74.00	-8.18	Peak	
2	2390.0000	43.36	8.55	51.91	54.00	-2.09	AVG	
3	2434.6000	100.07	8.66	108.73	74.00	34.73	Peak	No Limit
4 *	2434.6000	90.74	8.66	99.40	54.00	45.40	AVG	No Limit
5	2483.5000	48.90	8.79	57.69	74.00	-16.31	Peak	
6	2483.5000	37.76	8.79	46.55	54.00	-7.45	AVG	

REMARKS:

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

Test Mode	TX AX(HE40) Mode 2437 MHz	Polarization	Vertical
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100 dBuV/m



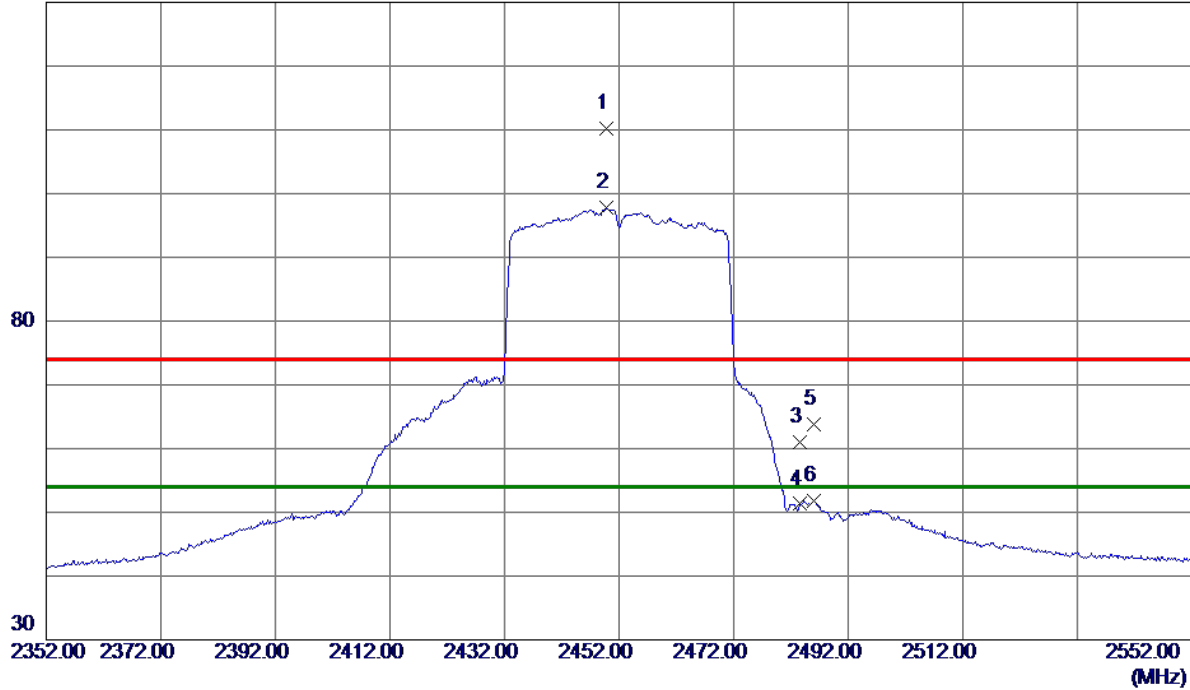
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4881.2000	59.15	4.11	63.26	74.00	-10.74	Peak	
2 *	4881.2000	46.99	4.11	51.10	54.00	-2.90	AVG	

REMARKS:

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

Test Mode	TX AX(HE40) Mode 2452 MHz	Polarization	Vertical
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130 dBuV/m



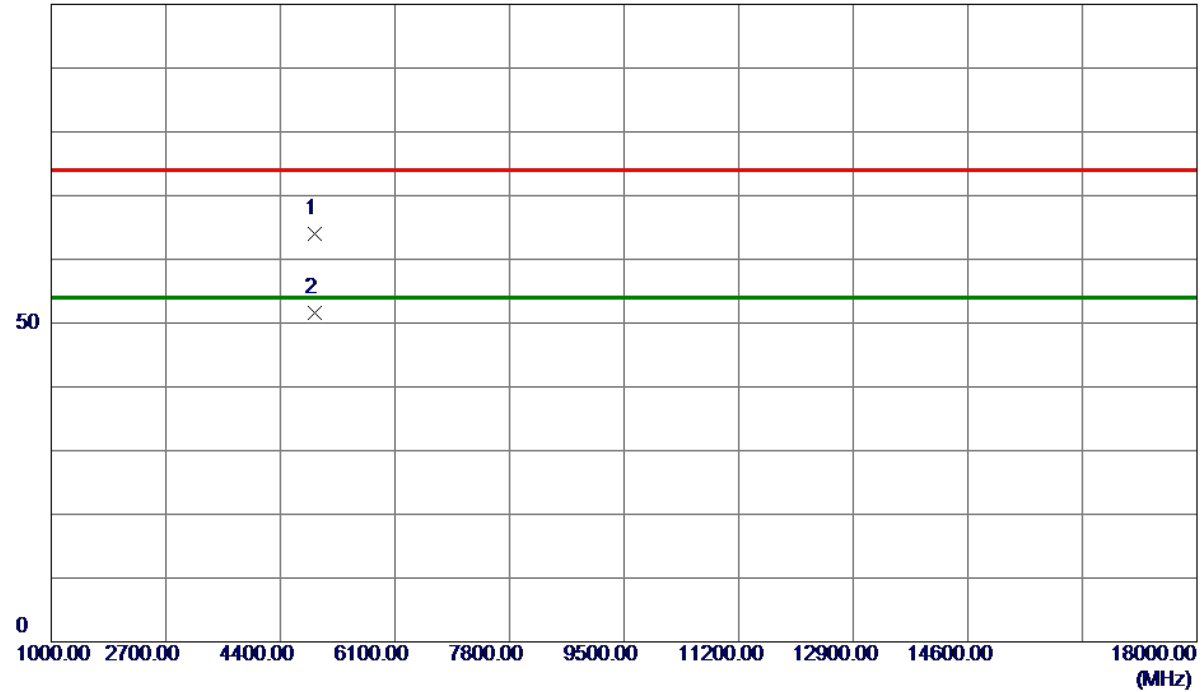
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2449.8000	101.52	8.70	110.22	74.00	36.22	Peak	No Limit
2 *	2449.8000	89.02	8.70	97.72	54.00	43.72	AVG	No Limit
3	2483.5000	52.25	8.79	61.04	74.00	-12.96	Peak	
4	2483.5000	42.51	8.79	51.30	54.00	-2.70	AVG	
5	2486.0000	54.96	8.80	63.76	74.00	-10.24	Peak	
6	2486.0000	42.99	8.80	51.79	54.00	-2.21	AVG	

REMARKS:

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

Test Mode	TX AX(HE40) Mode 2452 MHz	Polarization	Vertical
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100 dBuV/m



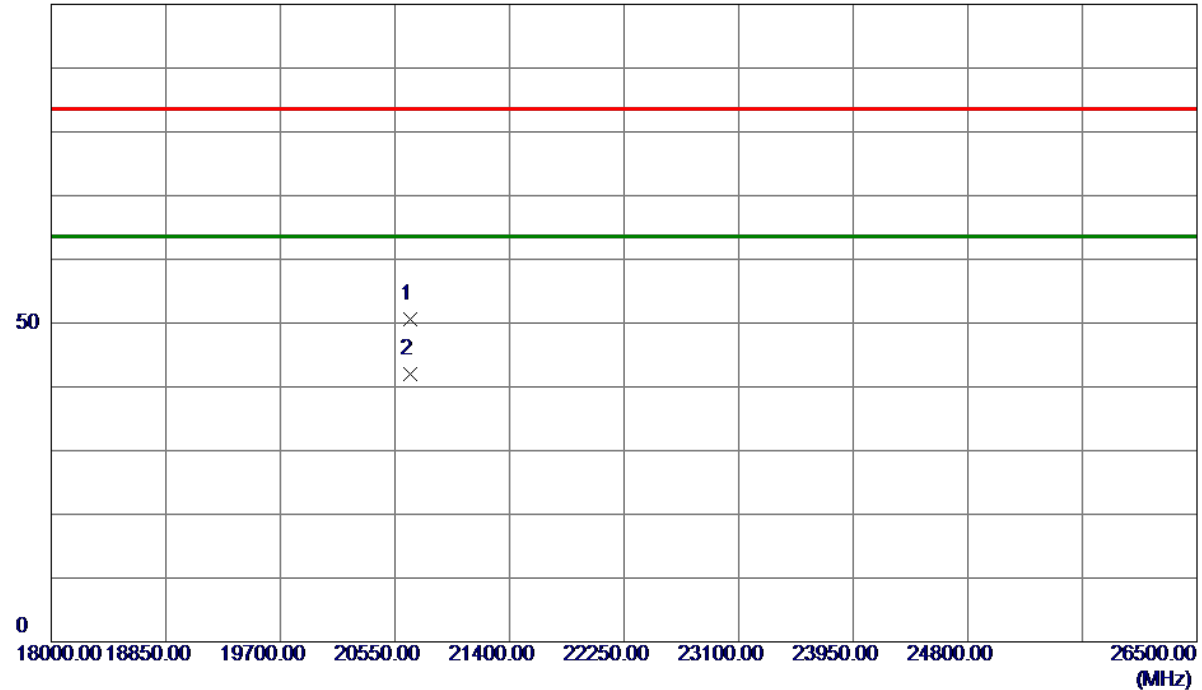
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4904.0000	59.76	4.15	63.91	74.00	-10.09	Peak	
2 *	4909.8000	47.35	4.16	51.51	54.00	-2.49	AVG	

REMARKS:

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

Test Mode	TX AX20 Mode Channel 06	Polarization	Vertical
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100 dBuV/m



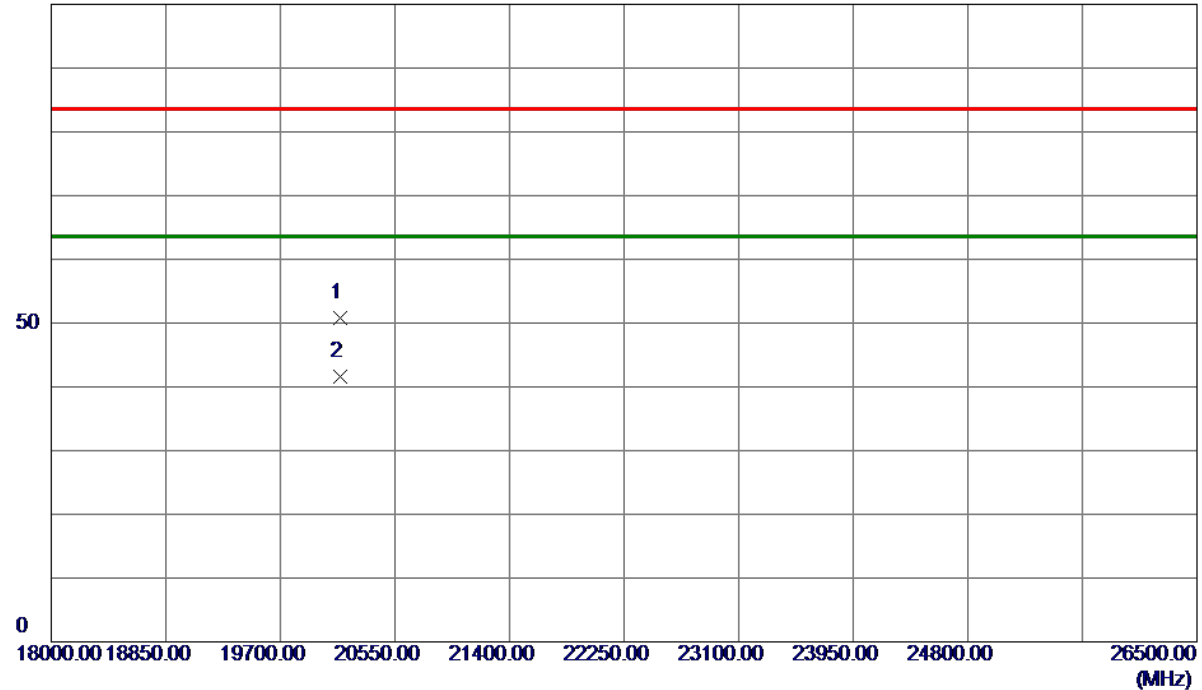
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	20660.5000	50.89	-0.33	50.56	83.50	-32.94	Peak	
2 *	20660.5000	42.37	-0.33	42.04	63.50	-21.46	AVG	

REMARKS:

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

Test Mode	TX AX20 Mode Channel 06	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	20142.0000	51.61	-0.76	50.85	83.50	-32.65	Peak	
2 *	20142.0000	42.39	-0.76	41.63	63.50	-21.87	AVG	

REMARKS:

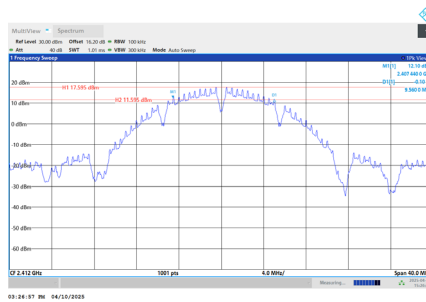
- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX E - BANDWIDTH

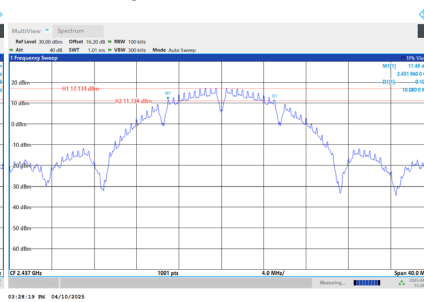
Test Mode	TX B Mode
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Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	9.560	15.420	0.5	Pass
06	2437	10.080	15.905	0.5	Pass
11	2462	9.560	15.603	0.5	Pass

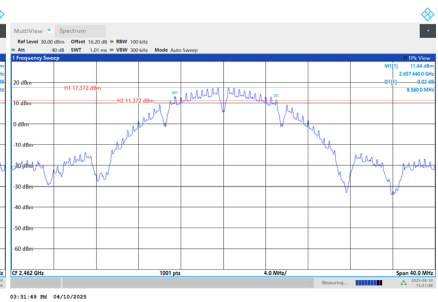
CH01



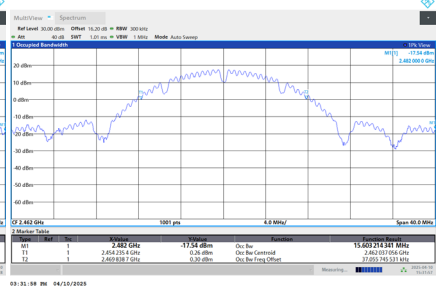
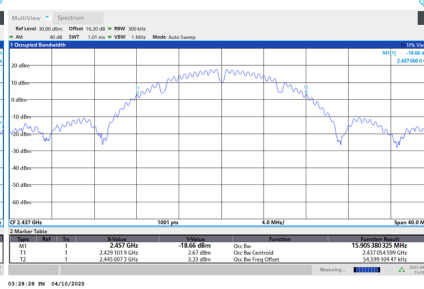
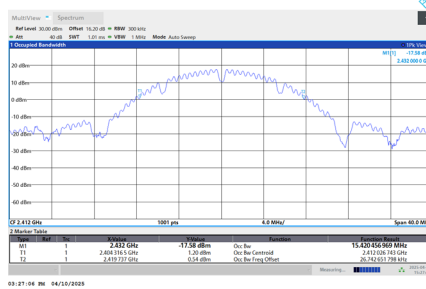
CH06
6 dB Bandwidth



CH11



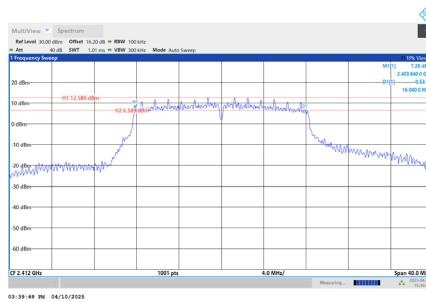
99 % Occupied Bandwidth



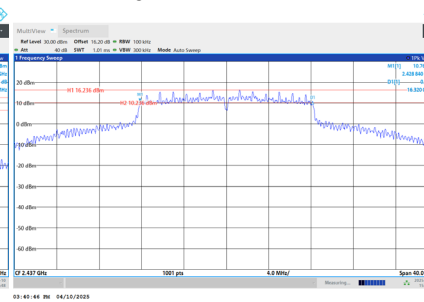
Test Mode	TX G Mode
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Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	16.040	18.090	0.5	Pass
06	2437	16.320	33.464	0.5	Pass
11	2462	16.320	30.868	0.5	Pass

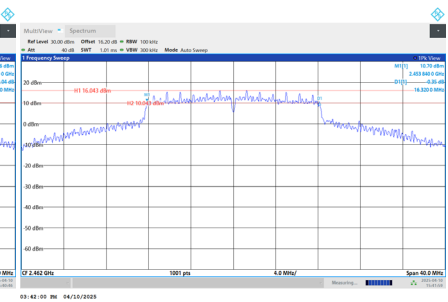
CH01



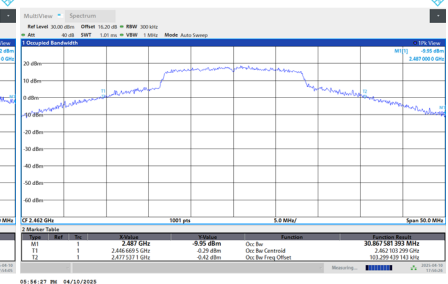
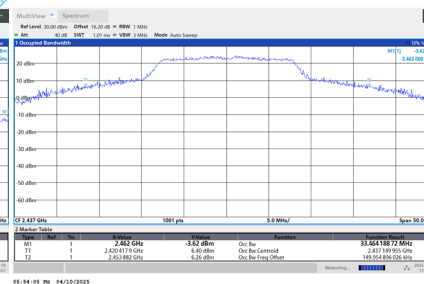
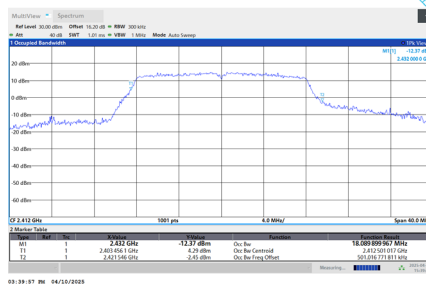
CH06
6 dB Bandwidth



CH11



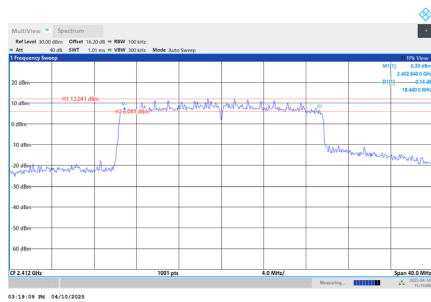
99 % Occupied Bandwidth



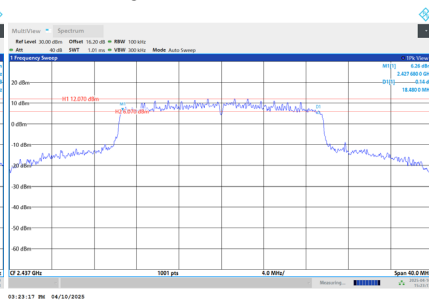
Test Mode TX AX(HE20) Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	18.440	19.028	0.5	Pass
06	2437	18.480	19.311	0.5	Pass
11	2462	18.320	19.381	0.5	Pass

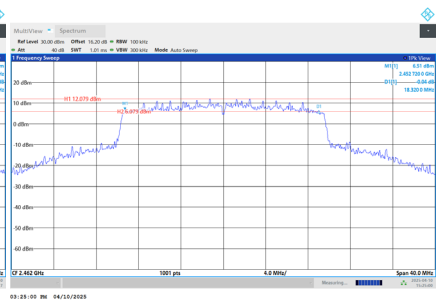
CH01



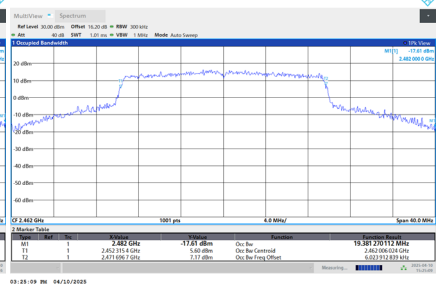
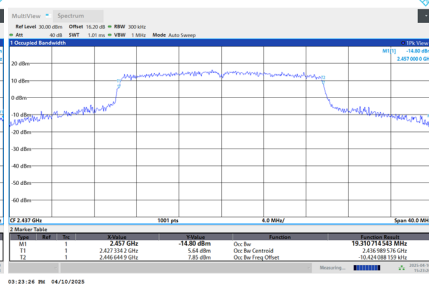
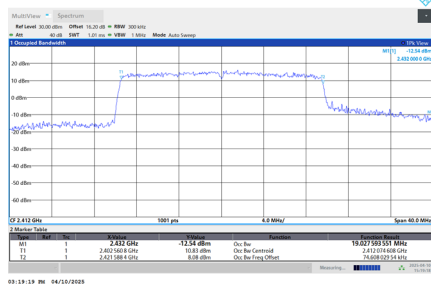
CH06
6 dB Bandwidth



CH11



99 % Occupied Bandwidth



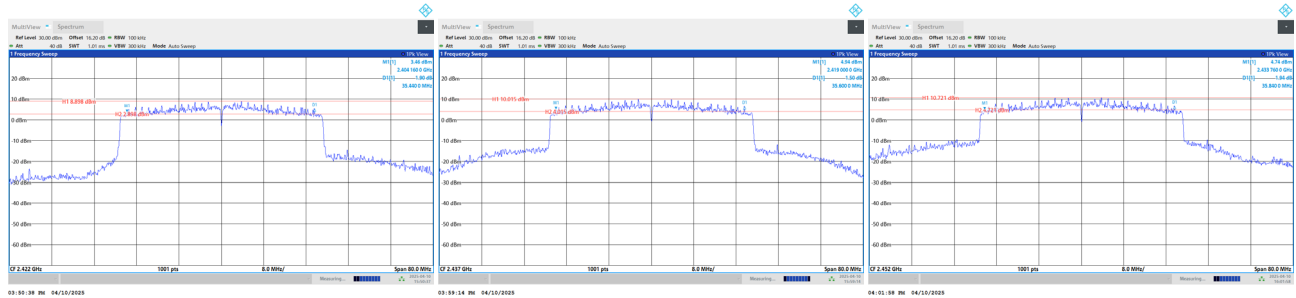
Test Mode	TX AX(HE40) Mode
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Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
03	2422	35.440	38.129	0.5	Pass
06	2437	35.600	38.491	0.5	Pass
09	2452	35.840	40.639	0.5	Pass

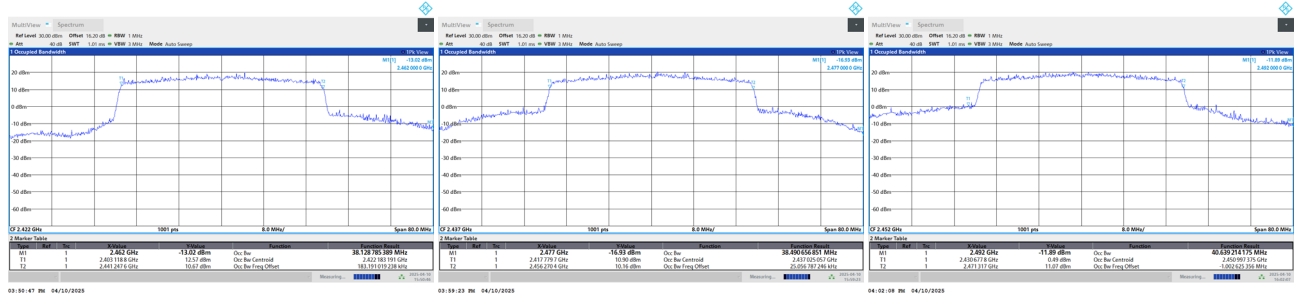
CH03

CH06
6 dB Bandwidth

CH09



99 % Occupied Bandwidth



FAPPENDIX F - MAXIMUM OUTPUT POWER

Test Mode	TX B Mode_Ant 1
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.15	0.00	14.15	30.00	1.0000	Pass
06	2437	13.75	0.00	13.75	30.00	1.0000	Pass
11	2462	13.62	0.00	13.62	30.00	1.0000	Pass

Test Mode	TX B Mode_Ant 2
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	13.45	0.00	13.45	30.00	1.0000	Pass
06	2437	13.23	0.00	13.23	30.00	1.0000	Pass
11	2462	13.15	0.00	13.15	30.00	1.0000	Pass

Test Mode	TX B Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.82	30.00	1.0000	Pass
06	2437	16.51	30.00	1.0000	Pass
11	2462	16.40	30.00	1.0000	Pass

Test Mode	TX G Mode_Ant 1
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.96	0.18	17.14	30.00	1.0000	Pass
06	2437	16.87	0.18	17.05	30.00	1.0000	Pass
11	2462	16.29	0.18	16.47	30.00	1.0000	Pass

Test Mode	TX G Mode_Ant 2
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	18.01	0.18	18.19	30.00	1.0000	Pass
06	2437	17.58	0.18	17.76	30.00	1.0000	Pass
11	2462	16.98	0.18	17.16	30.00	1.0000	Pass

Test Mode	TX G Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	20.70	30.00	1.0000	Pass
06	2437	20.43	30.00	1.0000	Pass
11	2462	19.84	30.00	1.0000	Pass

Test Mode	TX AX(HE20) Mode_Ant 1
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	13.92	0.23	14.15	30.00	1.0000	Pass
06	2437	17.33	0.23	17.56	30.00	1.0000	Pass
11	2462	16.23	0.23	16.46	30.00	1.0000	Pass

Test Mode	TX AX(HE20) Mode_Ant 2
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.48	0.23	14.71	30.00	1.0000	Pass
06	2437	18.05	0.23	18.28	30.00	1.0000	Pass
11	2462	16.89	0.23	17.12	30.00	1.0000	Pass

Test Mode	TX AX(HE20) Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.45	30.00	1.0000	Pass
06	2437	20.95	30.00	1.0000	Pass
11	2462	19.82	30.00	1.0000	Pass

Test Mode	TX AX(HE40) Mode_Ant 1
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	15.12	0.73	15.85	30.00	1.0000	Pass
06	2437	15.88	0.73	16.61	30.00	1.0000	Pass
09	2452	15.39	0.73	16.12	30.00	1.0000	Pass

Test Mode	TX AX(HE40) Mode_Ant 2
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor (dB)	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	15.89	0.73	16.62	30.00	1.0000	Pass
06	2437	16.48	0.73	17.21	30.00	1.0000	Pass
09	2452	15.93	0.73	16.66	30.00	1.0000	Pass

Test Mode	TX AX(HE40) Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	19.26	30.00	1.0000	Pass
06	2437	19.93	30.00	1.0000	Pass
09	2452	19.41	30.00	1.0000	Pass

Note: Output power = Measure result + Cable loss

APPENDIX G - CONDUCTED SPURIOUS EMISSIONS