



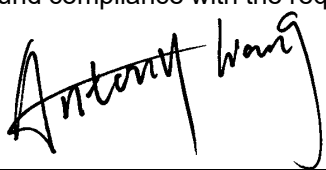
# FCC Radio Test Report

## FCC ID: ZMOSC228GL

This report concerns: Original Grant

**Project No.** : 2403G086  
**Equipment** : LTE Module  
**Brand Name** : Fibocom  
**Test Model** : SC228-GL  
**Series Model** : N/A  
**Applicant** : Fibocom Wireless Inc.  
**Address** : 1101, Tower A, Building 6, Shenzhen International Innovation Valley,  
Dashu 1st Rd, Nanshan, Shenzhen, China  
**Manufacturer** : Fibocom Wireless Inc.  
**Address** : 1101, Tower A, Building 6, Shenzhen International Innovation Valley,  
Dashu 1st Rd, Nanshan, Shenzhen, China  
**Factory** : Fibocom Wireless Inc.  
**Address** : 1101, Tower A, Building 6, Shenzhen International Innovation Valley,  
Dashu 1st Rd, Nanshan, Shenzhen, China  
**Date of Receipt** : Mar. 14, 2024  
**Date of Test** : Mar. 21, 2024 ~ Jul. 09, 2024  
**Issued Date** : Sep. 30, 2024  
**Report Version** : R01  
**Test Sample** : Engineering Sample No.: SSL20240314113 for Power,  
SSL20240314110 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**

**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**.

The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the U.S. Government.

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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-8-2403G086	R00	Original Report.	Sep. 23, 2024	Invalid
BTL-FCCP-8-2403G086	R01	Modified the comments.	Sep. 30, 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 permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

## 2.1 TEST FACILITY

For Power:

The test facilities used to collect the test data in this report is at the location of Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.

For others:

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Dalang Town, 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-CB02	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-CB03 (3m)	CISPR	1GHz ~ 6GHz	4.08
		6GHz ~ 18GHz	4.62

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	0.95 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	66%	AC 120V/60Hz	Hayden Chen	Apr. 08, 2024
Radiated Emissions-9kHz to 30 MHz	23°C	59%	DC 3.8V	Hayden Chen	Apr. 29, 2024
Radiated Emissions-30MHz to 1000MHz	25°C	51%	DC 3.8V	Chen Mo	Apr. 16, 2024
Radiated Emissions-Above 1000MHz	21°C	56%	DC 3.8V	Allen Tong	Apr. 28, 2024 Apr. 29, 2024
Bandwidth	24°C	49%	DC 3.8V	Complex Qin	May 01, 2024
Maximum Output Power	25°C	51%	DC 3.8V	Evan Fang	Apr. 15, 2024
Conducted Spurious Emissions	24°C	49%	DC 3.8V	Complex Qin	May 01, 2024
Power Spectral Density	24°C	49%	DC 3.8V	Complex Qin	May 01, 2024

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	LTE Module
Brand Name	Fibocom
Test Model	SC228-GL
Series Model	N/A
Model Difference(s)	N/A
Hardware Version	V1.1
Software Version	SC228-GL-T16.12.034
Power Source	DC voltage supplied from external power supply.
Power Rating	DC 3.5V - 4.35V, Typical: 3.8V
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 150 Mbps
Maximum Output Power	IEEE 802.11b: 17.18 dBm (0.0522 W)

Note:

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

#### 2. Channel List:

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

#### 3. Antenna Specification:

Ant.	Manufacturer	P/N	Antenna Type	Connector	Gain (dBi)
1	Shenzhen Bogesi Communication Technology Co., Ltd	GHT-019A	Dipole	SMA Male J	3.02

### 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 N(HT40) Mode Channel 03/06/09
Mode 5	TX B 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 B Mode Channel 06

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 5	TX B 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 N(HT40) Mode Channel 03/06/09

Conducted test	
Final Test Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) 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 TX B 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.

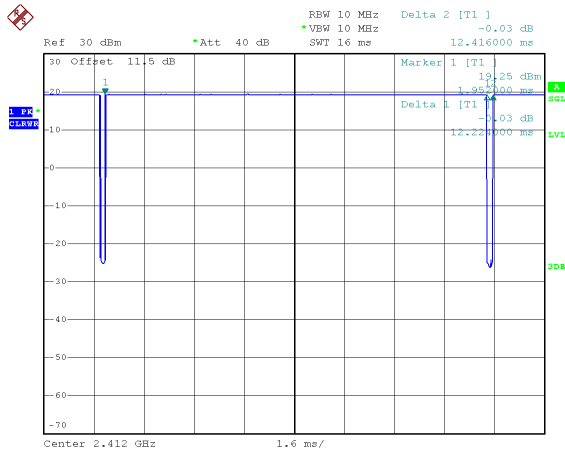
### 3.3 PARAMETERS OF TEST SOFTWARE

Test Software Version	QDART_WIN_4_8_Installer_00078_1		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	13	13	13.5
IEEE 802.11g	8.5	10	8.5
IEEE 802.11n(HT20)	8	9.5	8
Frequency (MHz)	2422	2437	2452
IEEE 802.11n(HT40)	7	8	8

## 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.

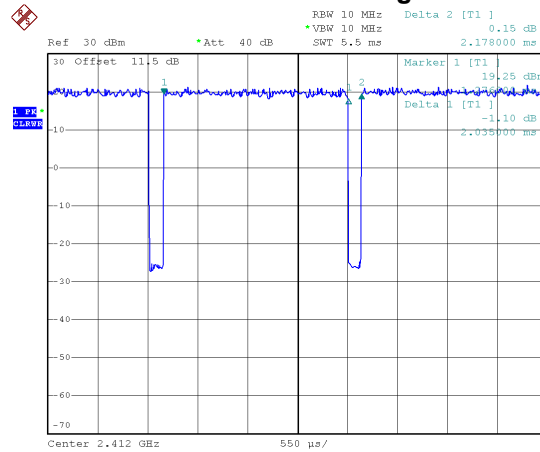
IEEE 802.11b



Date: 1.MAY.2024 10:35:48

Duty cycle =  $12.224 \text{ ms} / 12.416 \text{ ms} = 98.45\%$   
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.00$

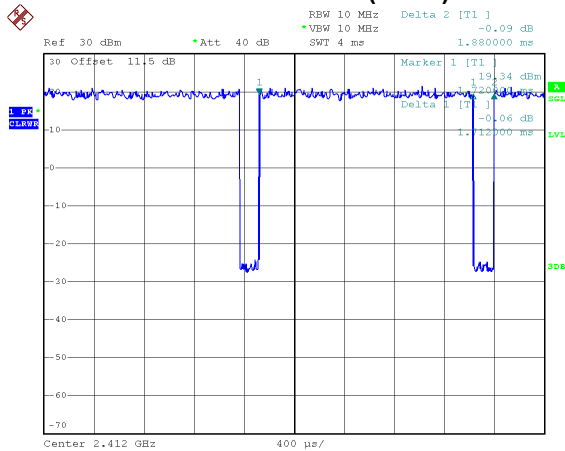
IEEE 802.11g



Date: 1.MAY.2024 10:36:15

Duty cycle =  $2.035 \text{ ms} / 2.178 \text{ ms} = 93.43\%$   
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.29$

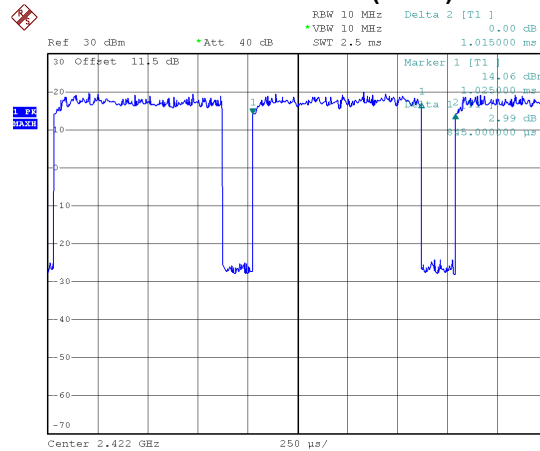
IEEE 802.11n(HT20)



Date: 1.MAY.2024 10:36:47

Duty cycle =  $1.712 \text{ ms} / 1.880 \text{ ms} = 91.06\%$   
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.41$

IEEE 802.11n(HT40)



Date: 1.MAY.2024 10:35:06

Duty cycle =  $0.845 \text{ ms} / 1.015 \text{ ms} = 83.25\%$   
 Duty Factor =  $10 \log(1/\text{Duty cycle}) = 0.80$

**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 491 Hz.

For IEEE 802.11n(HT20):

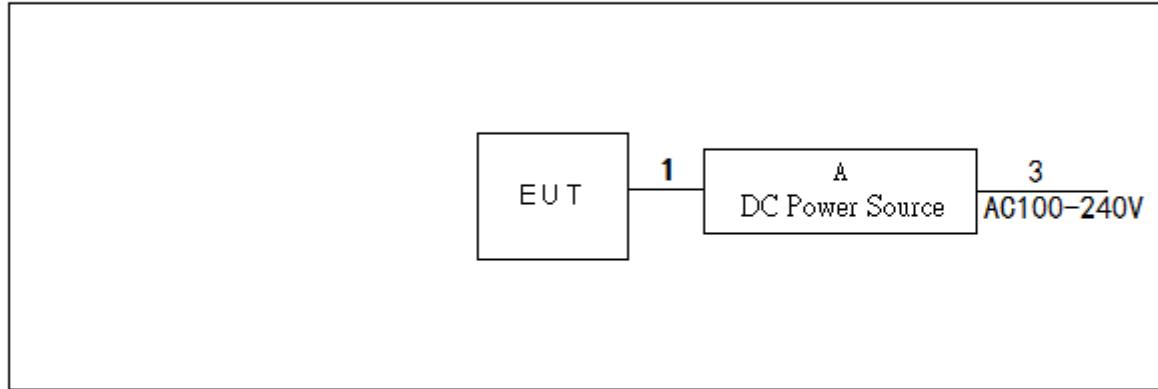
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 584 Hz.

For IEEE 802.11n(HT40):

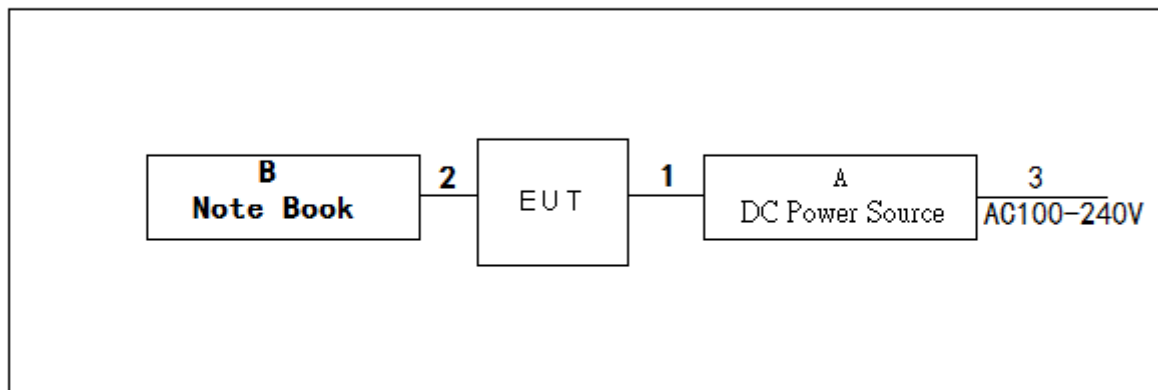
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1183 Hz.

### 3.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

**Radiated emissions 9 kHz to 30 MHz**



**Radiated emissions Above 30 MHz**



### 3.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	DC Power Source	UNI-T	UDP6721	AWP7224050031
B	Note Book	HW	KLVG-16	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1m
2	Data Cable	NO	NO	1m
3	AC 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 $\mu$ 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.

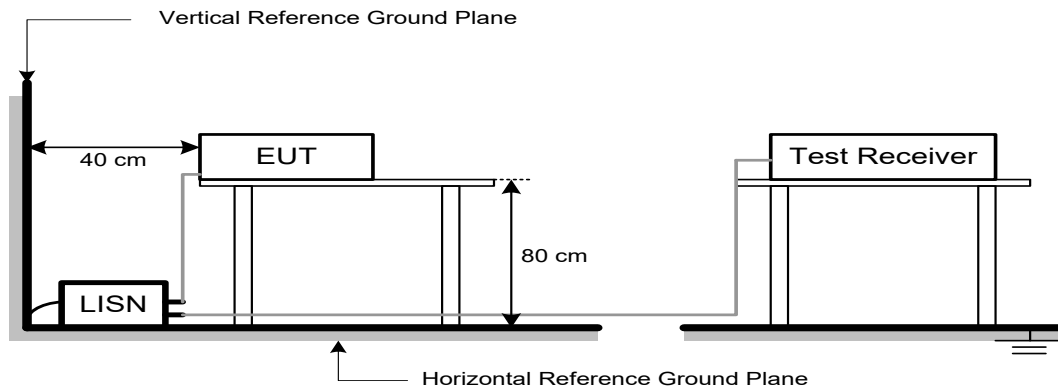
The following table is the setting of the receiver:

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)

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

20log (d<sub>limit</sub>/d<sub>measure</sub>)=20log (3/1)=9.5 dB.

FS<sub>limit</sub>: Harmonic at 3m Peak and Average limit.

FS<sub>max</sub>: Harmonic at 1m Peak and Average Maximum value.

d<sub>limit</sub>: Harmonic at 3m test distance.

d<sub>measure</sub>: Harmonic Actual test distance.

## 5.2 TEST PROCEDURE

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

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

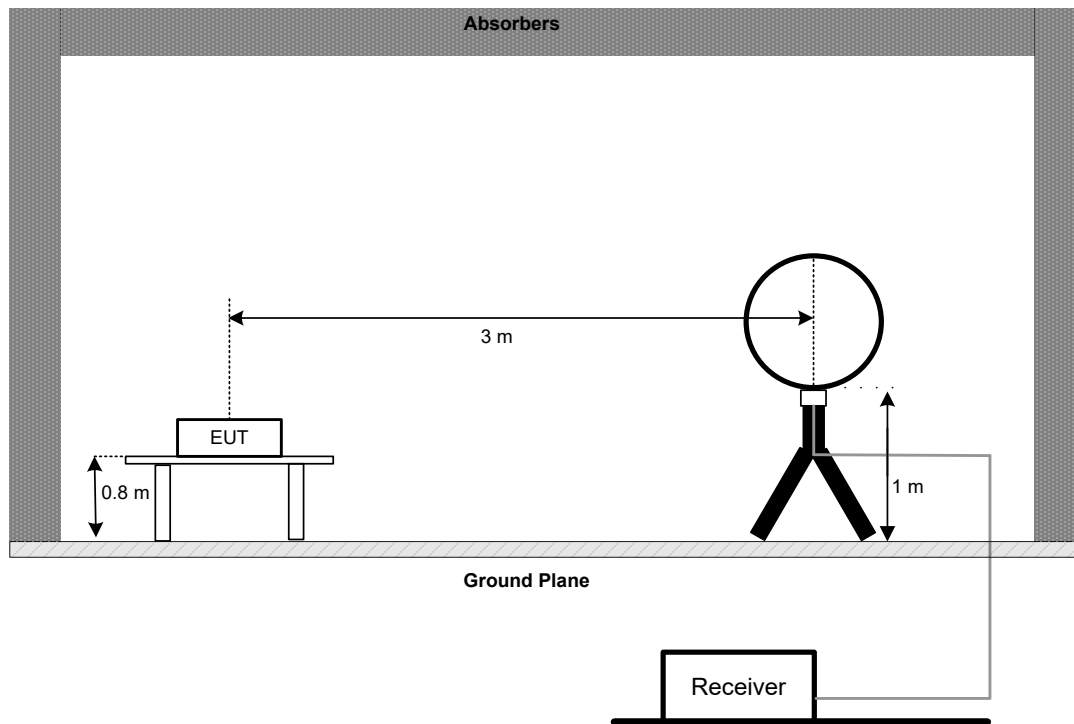
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector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

## 5.3 DEVIATION FROM TEST STANDARD

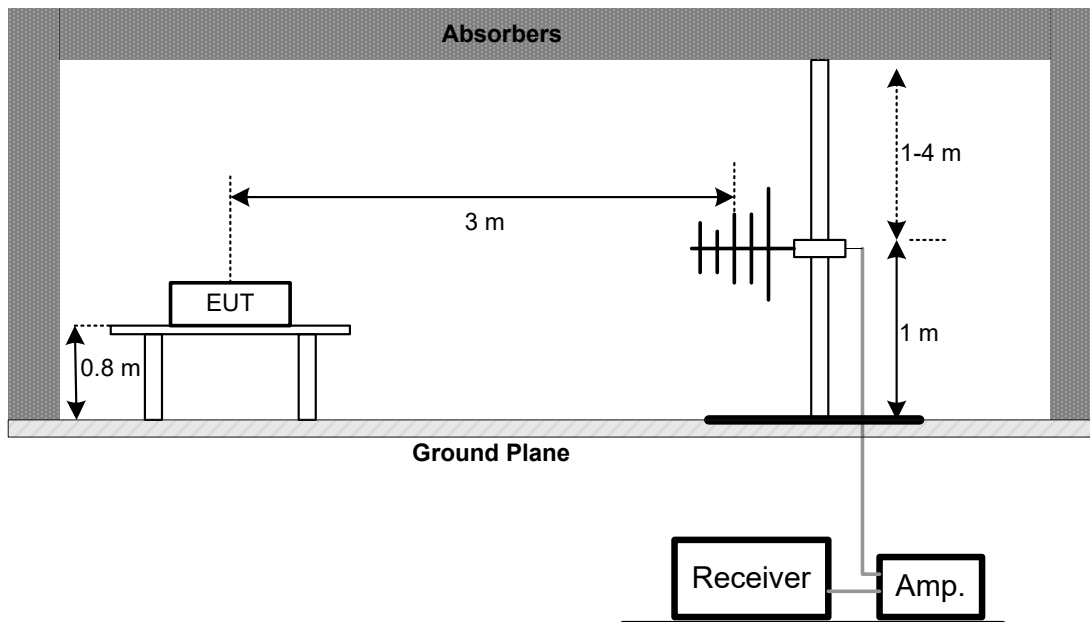
No deviation.

## 5.4 TEST SETUP

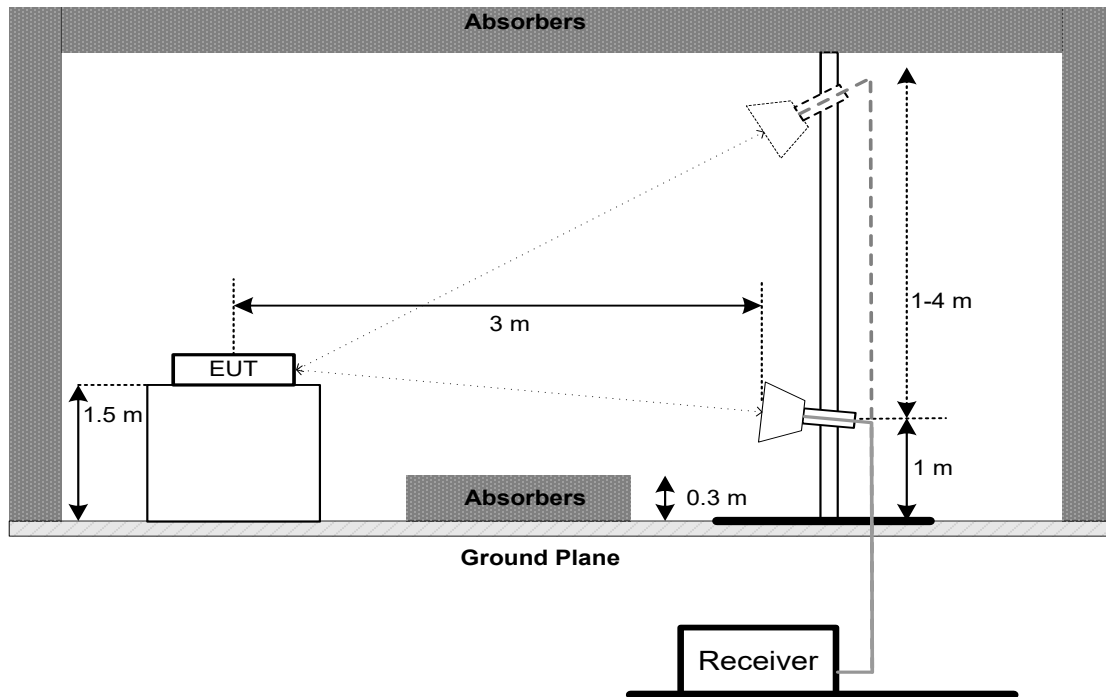
9 kHz to 30 MHz



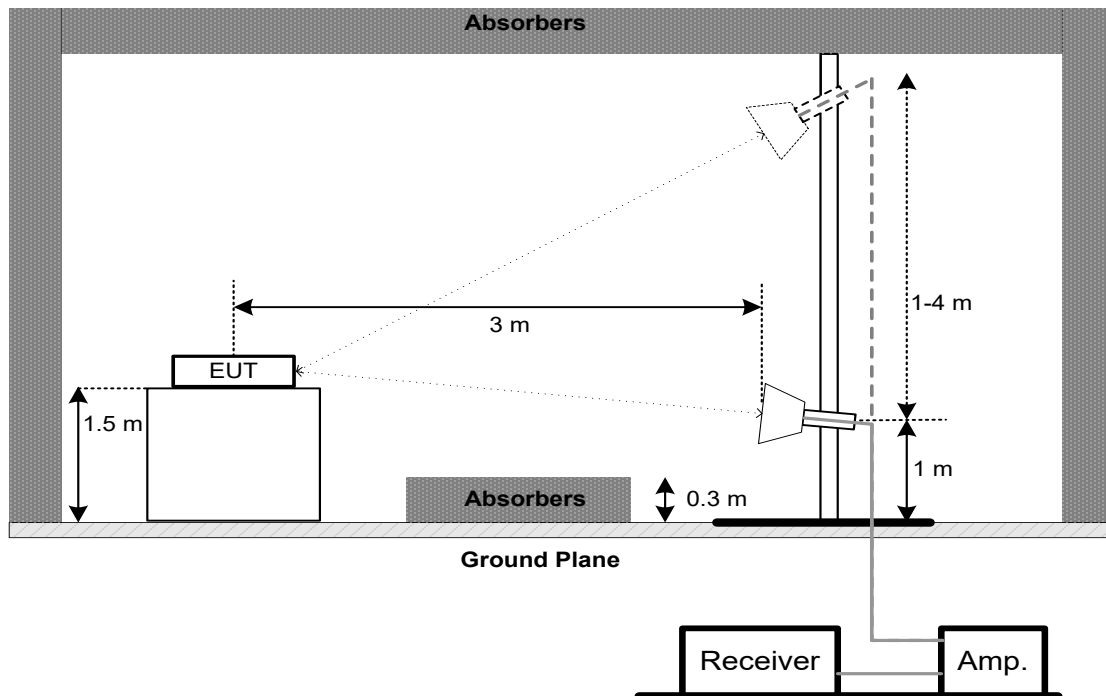
30 MHz to 1 GHz



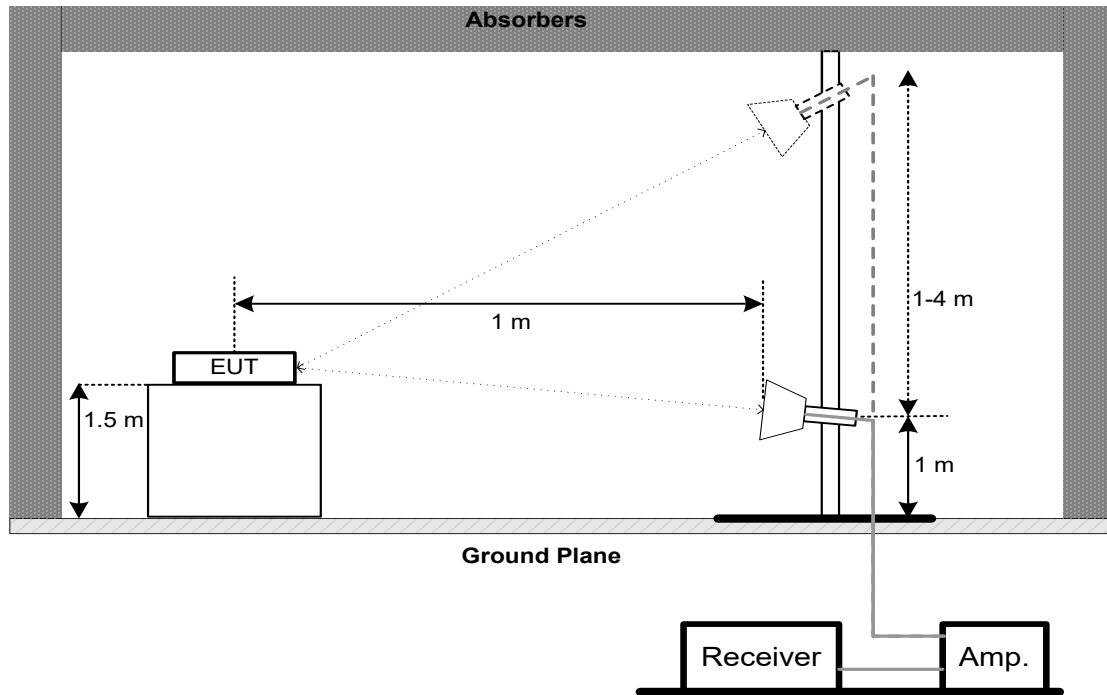
## Above 1 GHz Band edge



## 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

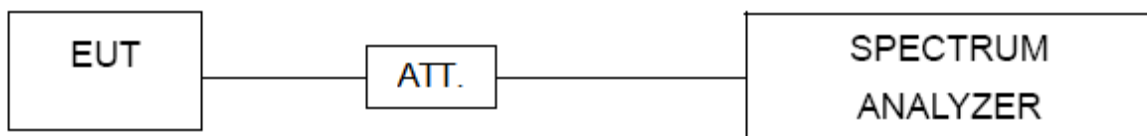
For 99% Emission Bandwidth:

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

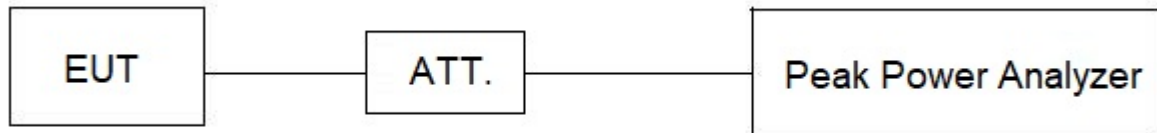
### 7.2 TEST PROCEDURE

- 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

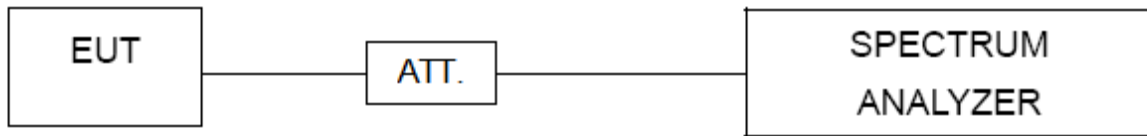
- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

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-9 M-001	9M	Nov. 27, 2024
5	643 Shield Room	ETS	6*4*3	N/A	N/A
6	DC power supply	UNI-T	UDP6721	AWP7224050031	Mar. 20, 2025

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	EMI Test Receiver	Keysight	N9038A	MY56400060	Dec. 22, 2024
3	Cable	RW	LMR-400(30MHz-1 GHz)(10m+2.5m+0.8M)	N/A	Jul. 04, 2024
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
5	1266 Chamber room	ETS	12*6*6	N/A	May 21, 2024
6	DC power supply	UNI-T	UDP6721	AWP7224050031	Mar. 20, 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	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	Jul. 04, 2024
5	Cable	RegalWay	LMR400-NMNM-3 m	N/A	Jul. 04, 2024
6	Cable	RegalWay	LMR400-NMNM-0.5m	N/A	Jul. 04, 2024
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 17, 2024
11	DC power supply	UNI-T	UDP6721	AWP7224050031	Mar. 20, 2025

### Radiated Emissions - Above 1 GHz

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Receiver	Agilent	N9038A	MY52130039	Dec. 22, 2024
2	Preamplifier	EMC INSTRUMENT	EMC118A45SE	981001	Nov. 17, 2024
3	MXA Signal Analyzer	KEYSIGHT	N9020B	MY63380204	Nov. 17, 2024
4	Double Ridged Guide Antenna	ETS	3115	75789	May 31, 2024
5	Cable	RegalWay	RWLP50-4.0A-SMS M-12.5M	N/A	Feb. 19, 2025
6	Cable	RegalWay	RWLP50-4.0A-NM RASM-2.5M	N/A	Aug. 08, 2024
7	Cable	RegalWay	RWLP50-4.0A-NM RASMRA-0.8M	N/A	Aug. 08, 2024
8	Low Noise Amplifier	CONNPHY	CLN-18G40G-4330 -K	619413	Jul. 06, 2024
9	Cable	RegalWay	RWLP50-2.6A-2.92 M2.92M-1.1M	N/A	Jul. 26, 2024
10	Cable	Tonscend	HF160-KMKM-3M	N/A	Jul. 26, 2024
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA9170(3m)	9170-319	Jun. 20, 2024
12	966 Chamber room	CM	9*6*6	N/A	May 17, 2024
13	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A
14	Filter	STI	STI15-9912	N/A	Jun. 16, 2024
15	Positioning Controller	MF	MF-7802	N/A	N/A
16	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
17	DC power supply	UNI-T	UDP6721	AWP7224050031	Mar. 20, 2025

### 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	Jun. 16, 2024
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
5	Attenuator	Talent Microwave	TA10A0-S-26.5	N/A	N/A
6	DC power supply	UNI-T	UDP6721	AWP7224050031	Mar. 20, 2025
7	Spectrum Analyzer	R&S	FSP38	100852	Jun. 16, 2024
8	Multimeter	FLUKE	15B+(TR13)	45123773WS	Jun. 16, 2024
9	Cable	Woke	S02-181212-064	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
4	DC power supply	UNI-T	UDP6721	AWP7224050018	Mar. 20, 2025

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

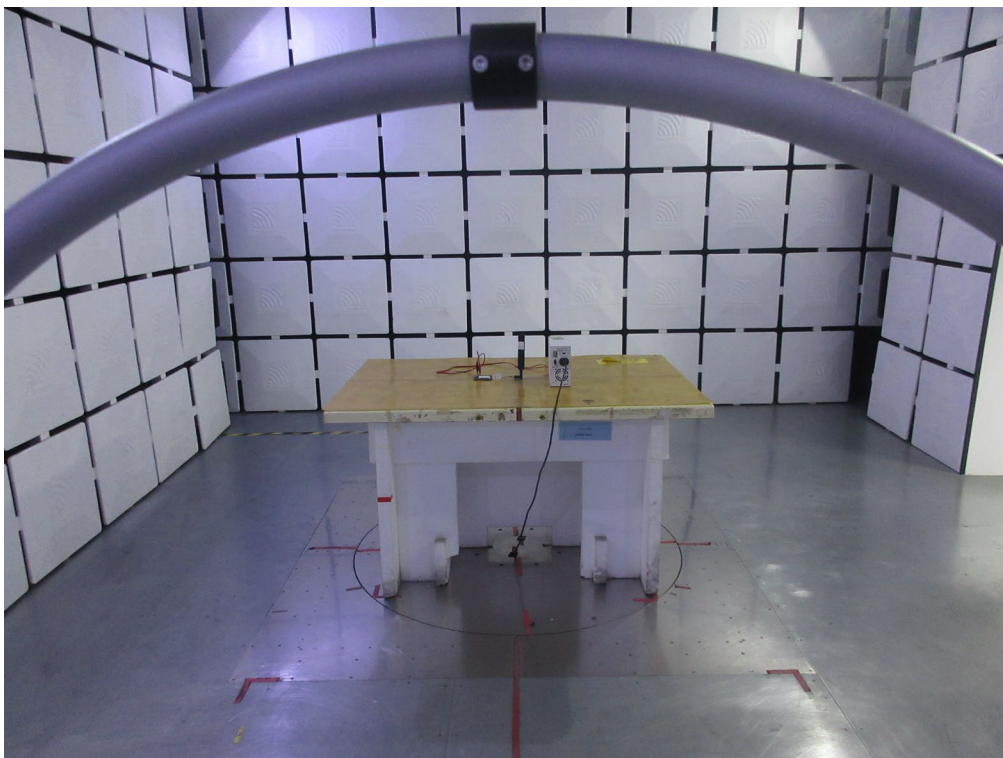
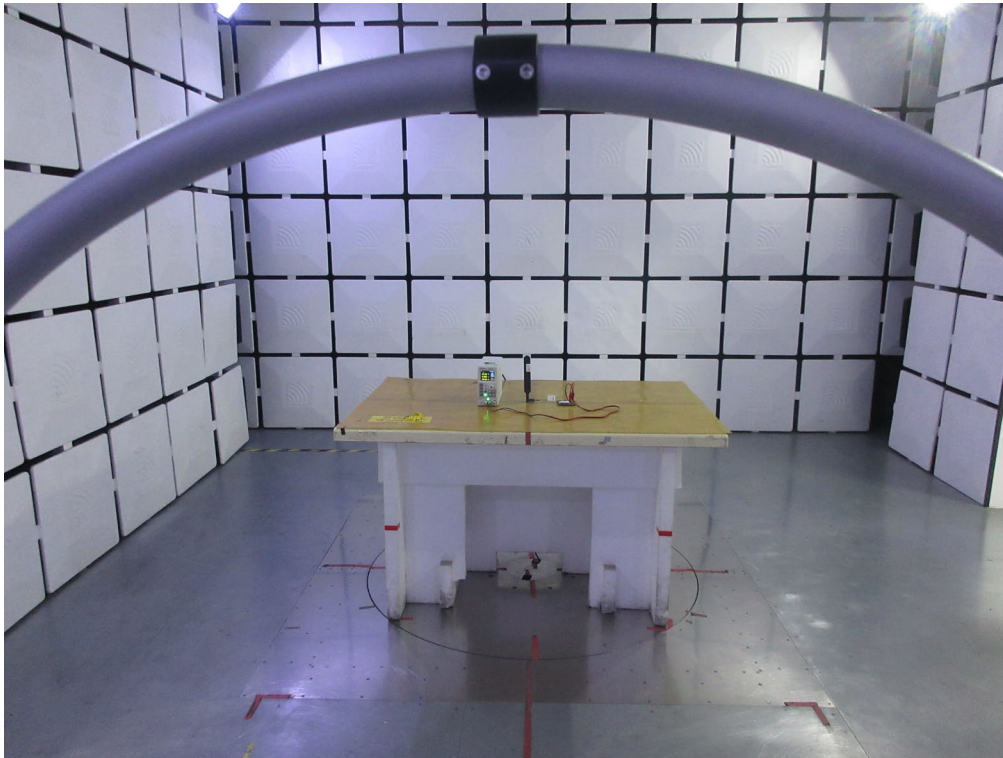
### AC Power Line Conducted Emissions Test Photos





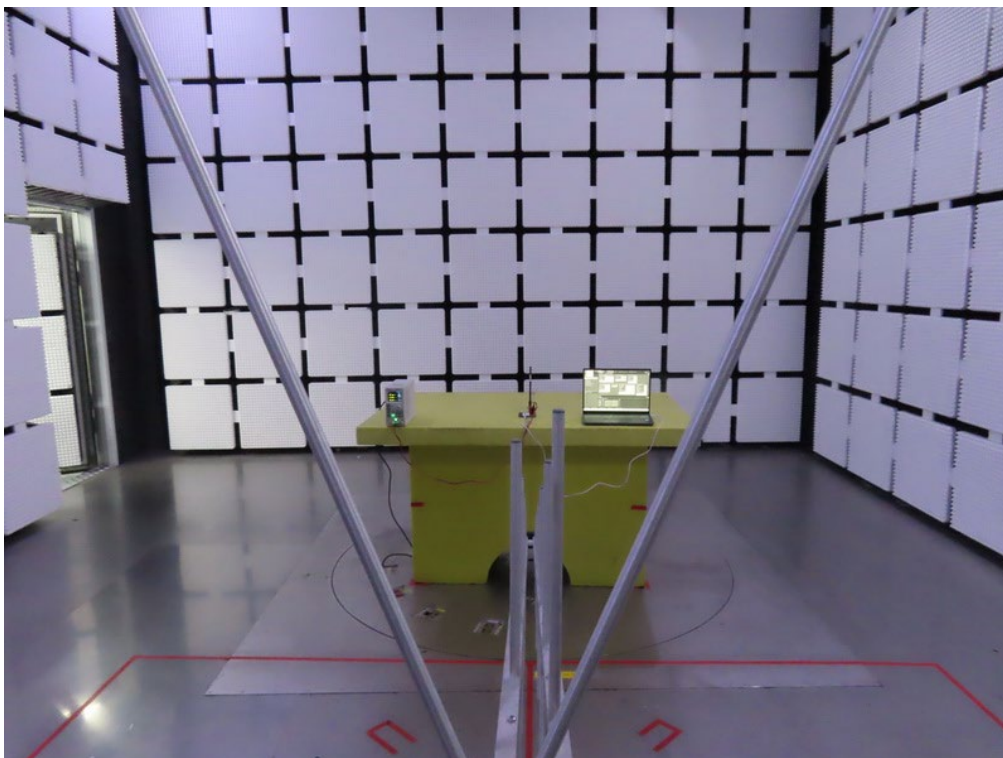
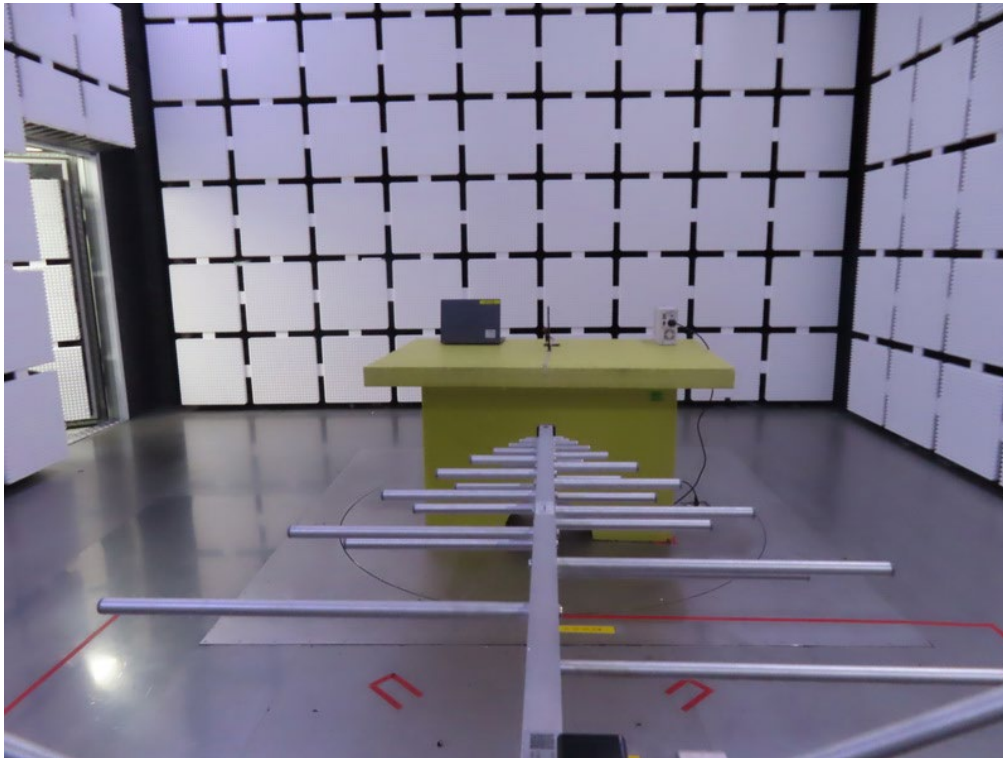
## Radiated Emissions Test Photos

9 kHz to 30 MHz



## Radiated Emissions Test Photos

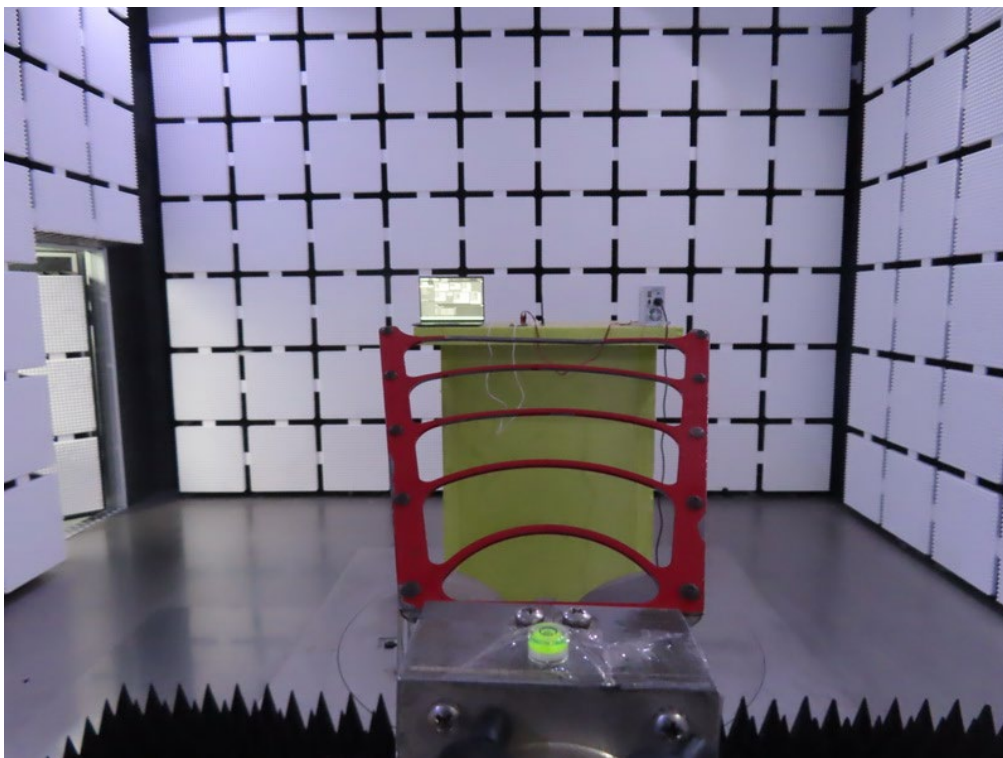
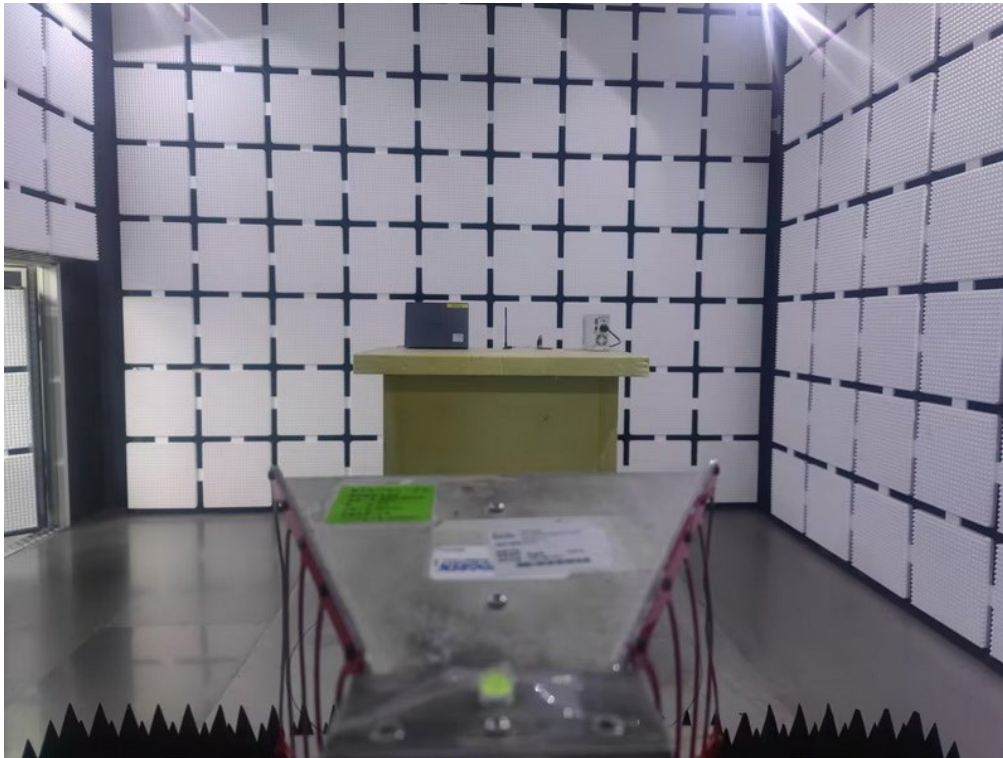
30 MHz to 1000 MHz





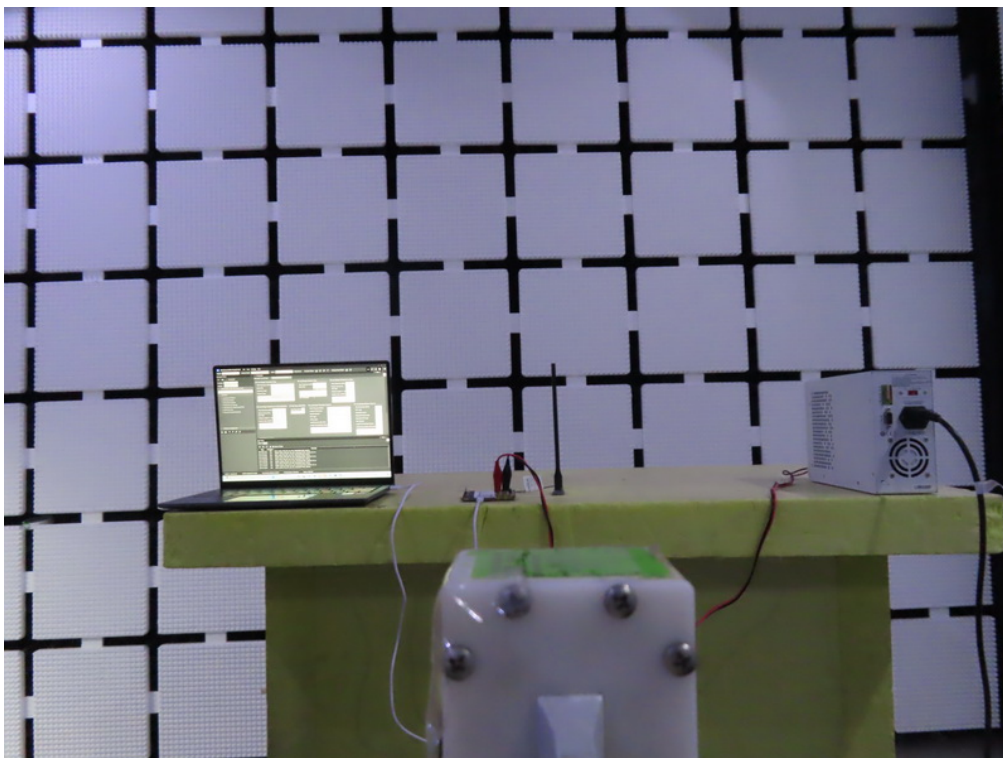
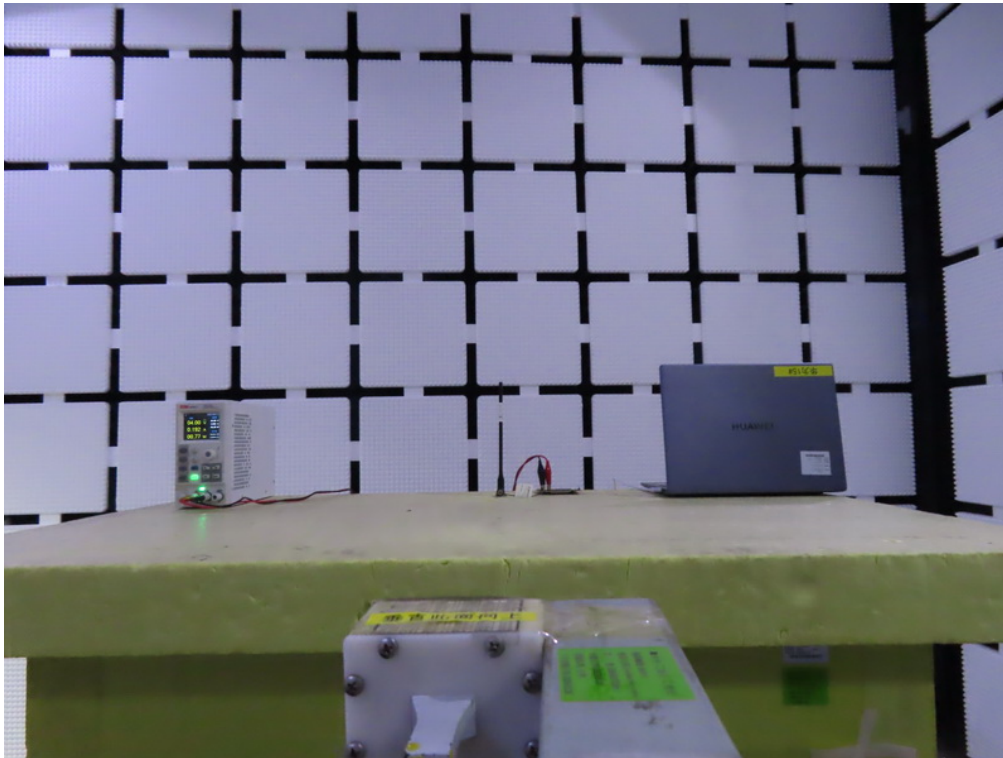
### Radiated Emissions Test Photos

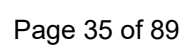
#### Band edge & Harmonic (1 GHz to 18 GHz)



# **Radiated Emissions Test Photos**

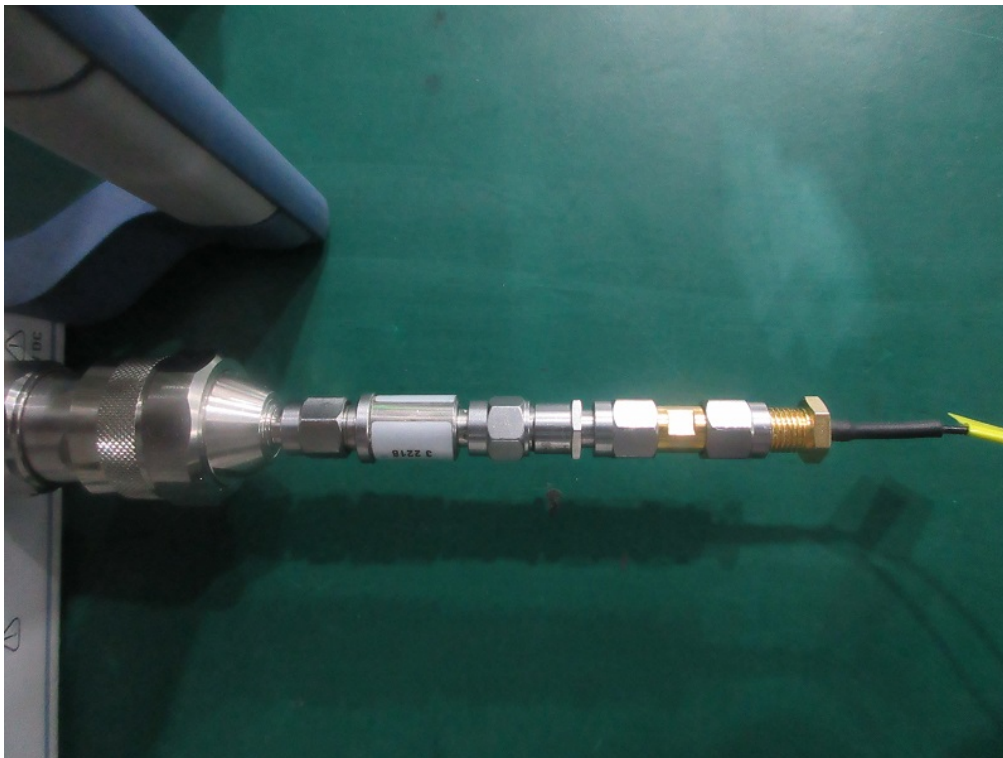
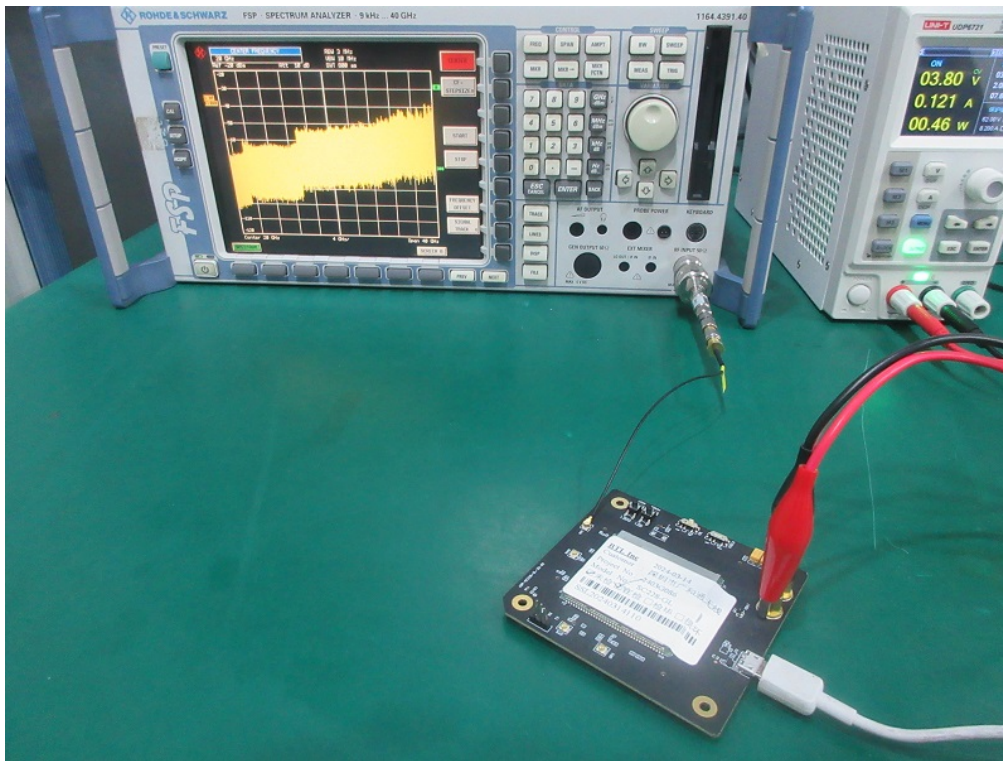
## **Harmonic (18 GHz to 26.5 GHz)**





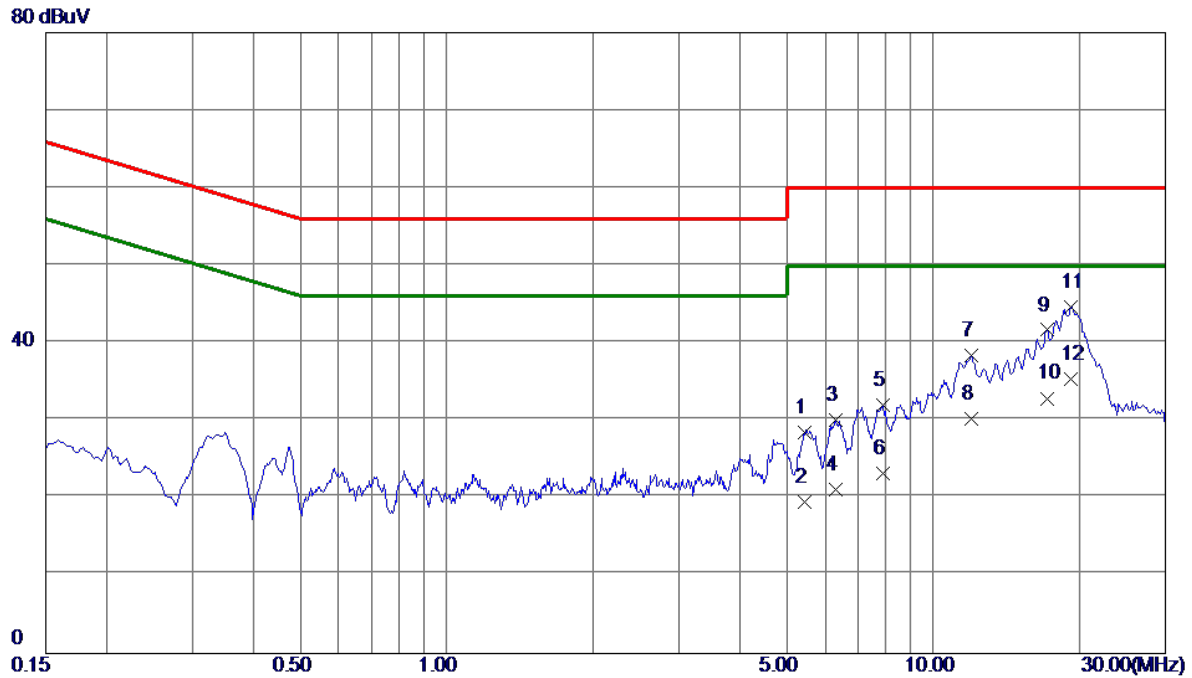


## Conducted Test Photos



## **APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS**

Test Mode	TX B Mode Channel 06	Phase	Line
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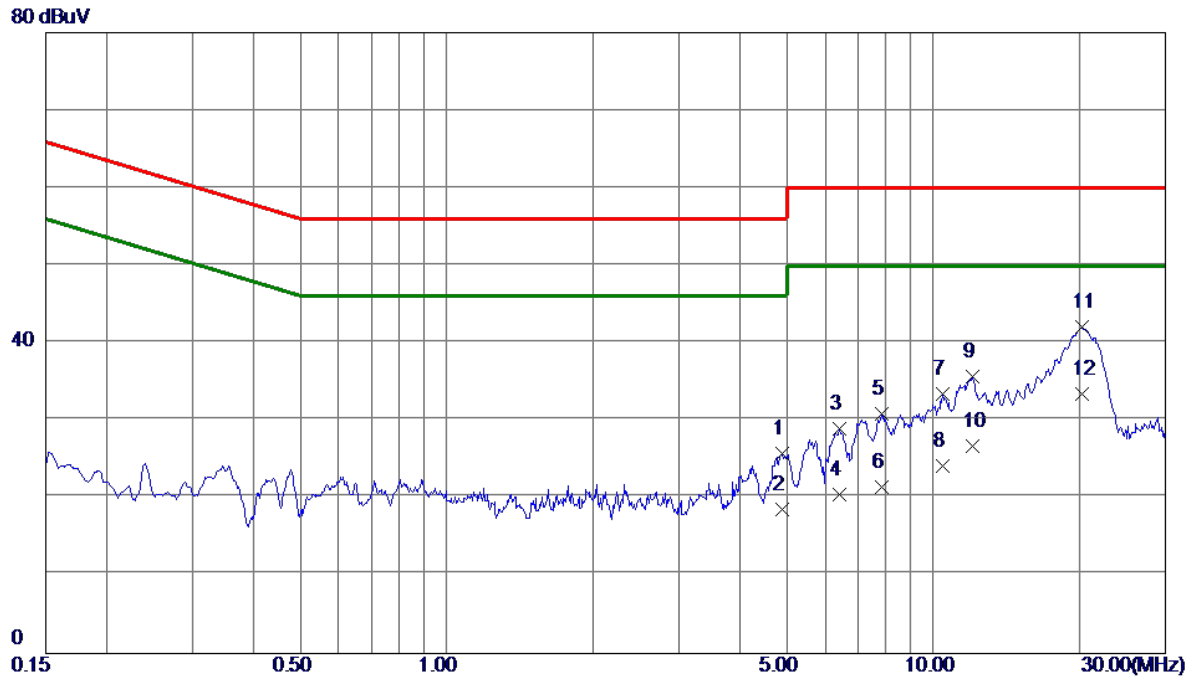


No.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	5.4420	17.60	10.83	28.43	60.00	-31.57	QP	
2	5.4420	8.70	10.83	19.53	50.00	-30.47	AVG	
3	6.3128	19.22	10.90	30.12	60.00	-29.88	QP	
4	6.3128	10.19	10.90	21.09	50.00	-28.91	AVG	
5	7.8698	20.66	11.29	31.95	60.00	-28.05	QP	
6	7.8698	11.90	11.29	23.19	50.00	-26.81	AVG	
7	11.9445	26.06	12.40	38.46	60.00	-21.54	QP	
8	11.9445	17.80	12.40	30.20	50.00	-19.80	AVG	
9	17.1353	28.10	13.58	41.68	60.00	-18.32	QP	
10	17.1353	19.30	13.58	32.88	50.00	-17.12	AVG	
11	19.1783	30.40	14.29	44.69	60.00	-15.31	QP	
12 *	19.1783	21.10	14.29	35.39	50.00	-14.61	AVG	

## REMARKS:

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

Test Mode	TX B 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	4.8863	15.09	10.69	25.78	56.00	-30.22	QP	
2	4.8863	7.80	10.69	18.49	46.00	-27.51	AVG	
3	6.4140	18.12	10.84	28.96	60.00	-31.04	QP	
4	6.4140	9.60	10.84	20.44	50.00	-29.56	AVG	
5	7.8428	19.69	11.22	30.91	60.00	-29.09	QP	
6	7.8428	10.20	11.22	21.42	50.00	-28.58	AVG	
7	10.4663	21.35	12.14	33.49	60.00	-26.51	QP	
8	10.4663	12.09	12.14	24.23	50.00	-25.77	AVG	
9	12.0300	23.36	12.37	35.73	60.00	-24.27	QP	
10	12.0300	14.30	12.37	26.67	50.00	-23.33	AVG	
11	20.2178	27.47	14.54	42.01	60.00	-17.99	QP	
12 *	20.2178	18.90	14.54	33.44	50.00	-16.56	AVG	

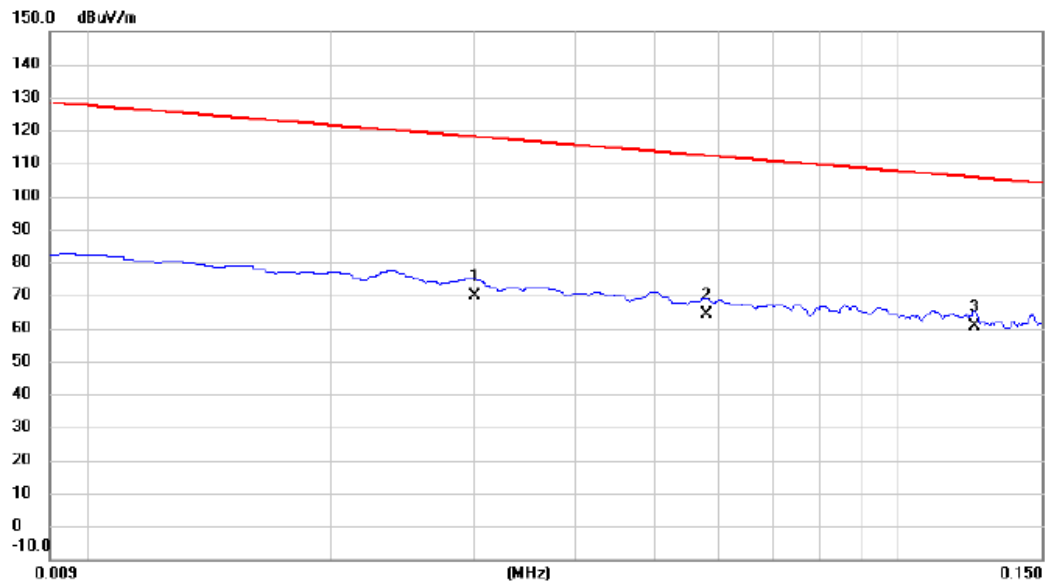
## REMARKS:

- (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 B Mode Channel 06	Polarization	Ant 0°
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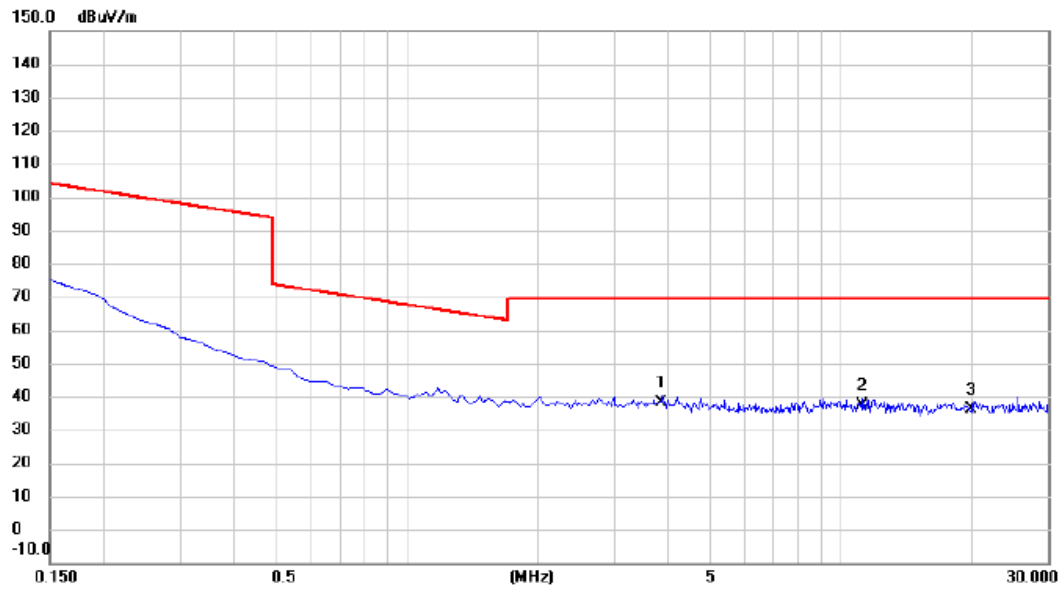


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0301	48.84	21.10	69.94	118.03	-48.09	AVG	
2		0.0580	42.96	21.23	64.19	112.34	-48.15	AVG	
3	*	0.1241	39.25	21.29	60.54	105.73	-45.19	AVG	

## REMARKS:

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

Test Mode	TX B Mode Channel 06	Polarization	Ant 0°
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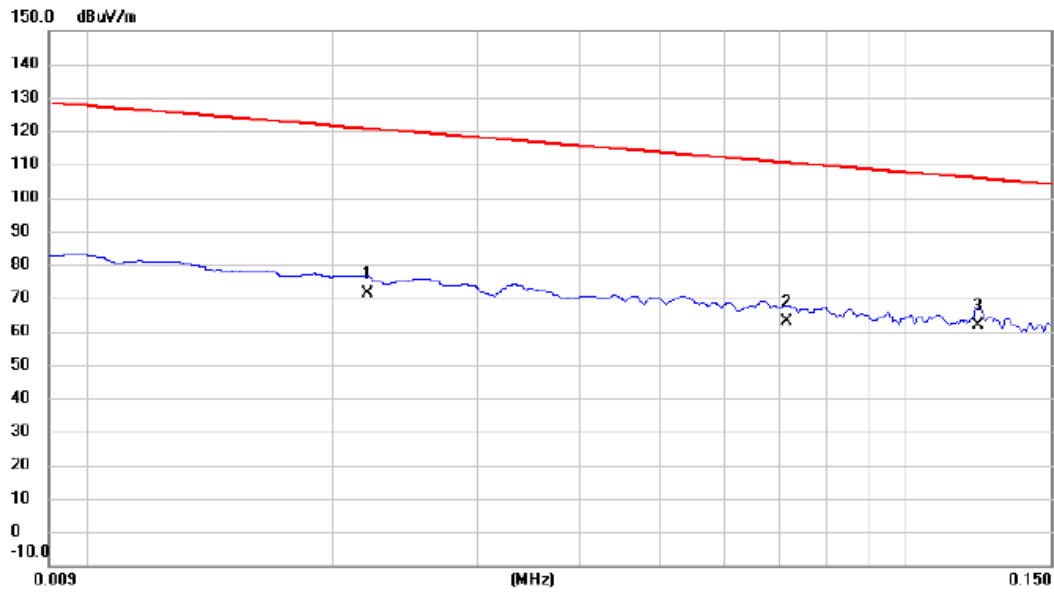
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	3.8663	16.88	21.13	38.01	69.54	-31.53	QP	
2		11.2094	16.24	21.16	37.40	69.54	-32.14	QP	
3		20.0003	14.89	21.31	36.20	69.54	-33.34	QP	

## REMARKS:

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

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

Test Mode	TX B Mode Channel 06	Polarization	Ant 90°
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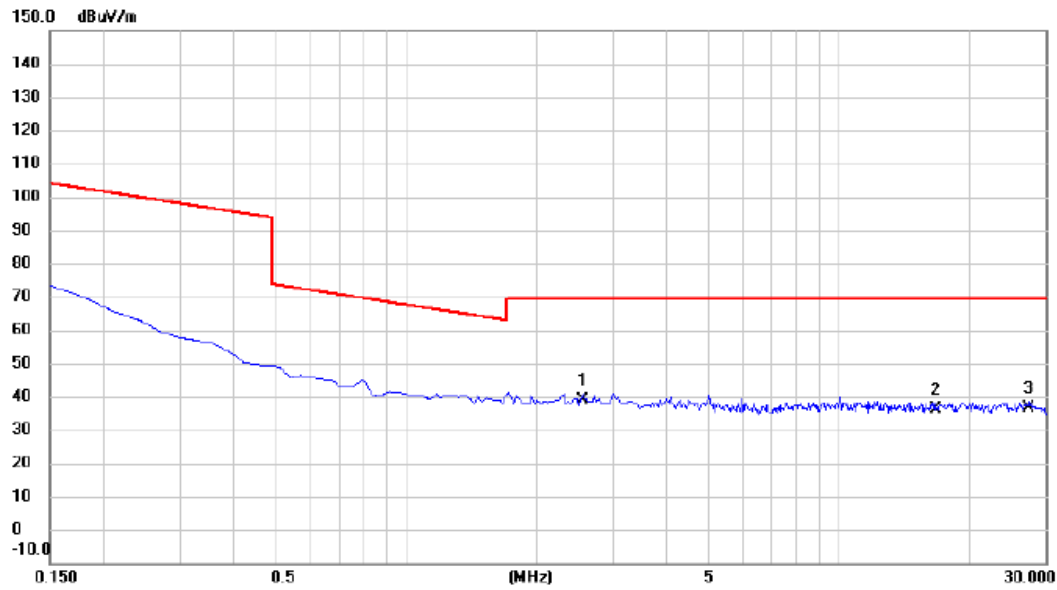


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0220	50.70	20.86	71.56	120.76	-49.20	AVG	
2		0.0716	41.65	21.27	62.92	110.51	-47.59	AVG	
3	*	0.1224	40.55	21.30	61.85	105.85	-44.00	AVG	

## REMARKS:

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

Test Mode	TX B 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	*	2.5530	17.86	21.11	38.97	69.54	-30.57	QP	
2		16.7167	14.92	21.32	36.24	69.54	-33.30	QP	
3		27.5224	14.53	21.94	36.47	69.54	-33.07	QP	

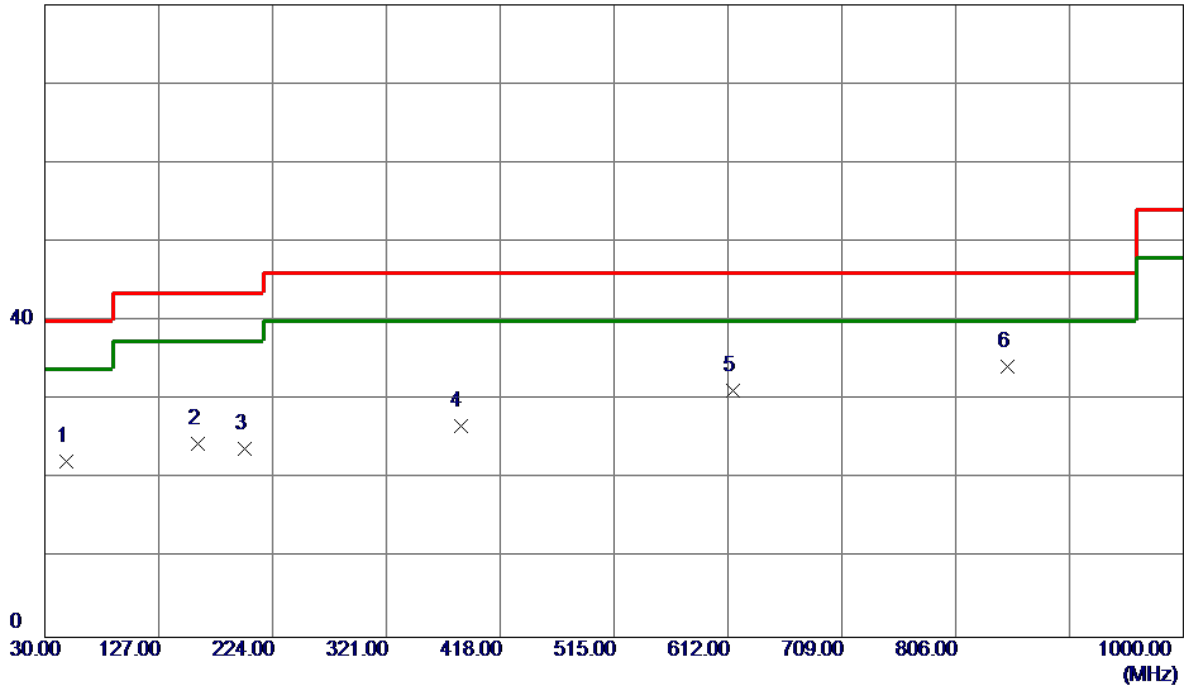
## REMARKS:

- (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 B Mode Channel 06	Polarization	Vertical
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80 dBuV/m



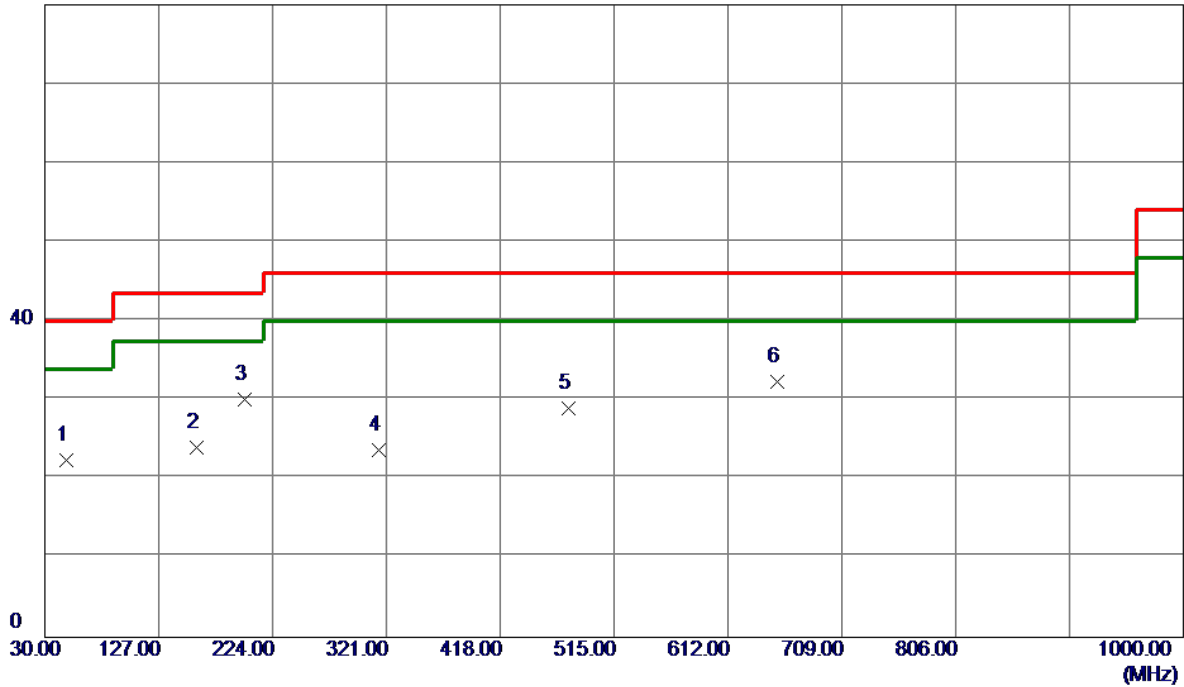
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	47.9450	33.61	-11.30	22.31	40.00	-17.69	Peak	
2	160.4650	35.41	-10.92	24.49	43.50	-19.01	Peak	
3	200.2350	38.41	-14.50	23.91	43.50	-19.59	Peak	
4	384.0500	35.29	-8.58	26.71	46.00	-19.29	Peak	
5	615.8800	34.68	-3.50	31.18	46.00	-14.82	Peak	
6 *	850.1350	34.85	-0.57	34.28	46.00	-11.72	Peak	

## REMARKS:

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

Test Mode	TX B 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	47.9450	33.65	-11.30	22.35	40.00	-17.65	Peak	
2	159.0100	34.87	-10.93	23.94	43.50	-19.56	Peak	
3 *	200.2350	44.55	-14.50	30.05	43.50	-13.45	Peak	
4	314.2100	34.01	-10.27	23.74	46.00	-22.26	Peak	
5	476.2000	35.50	-6.47	29.03	46.00	-16.97	Peak	
6	653.7100	35.23	-2.94	32.29	46.00	-13.71	Peak	

## REMARKS:

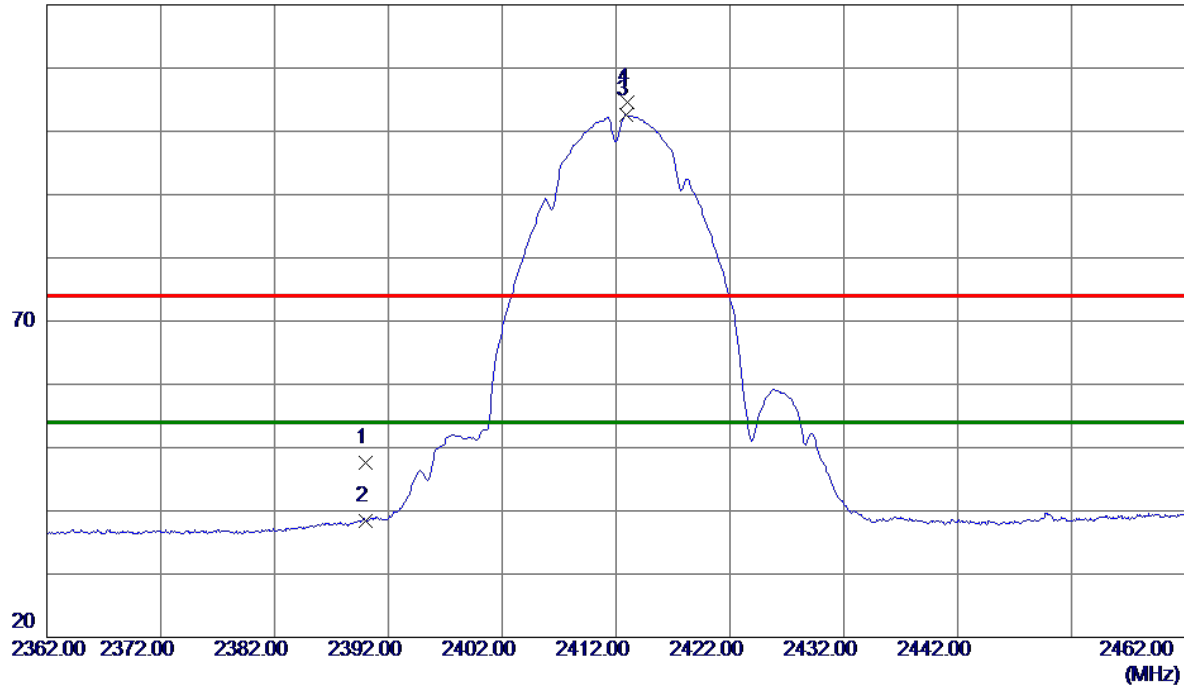
- (1) Measurement Value = Reading Level + Correct Factor.  
(2) Margin Level = Measurement Value - Limit Value.

## **APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ**



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



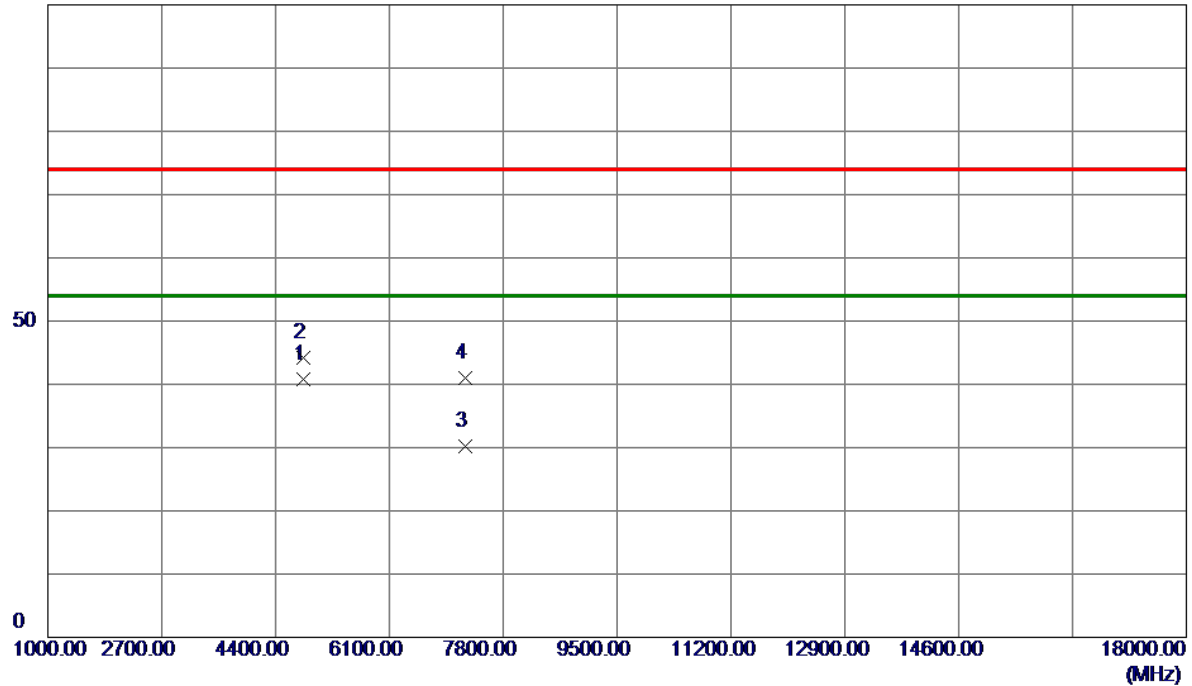
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	39.00	8.51	47.51	74.00	-26.49	Peak	
2	2390.0000	29.87	8.51	38.38	54.00	-15.62	AVG	
3 *	2412.9000	94.11	8.50	102.61	54.00	48.61	AVG	No Limit
4	2413.0000	96.02	8.50	104.52	74.00	30.52	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	Vertical
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100 dBuV/m



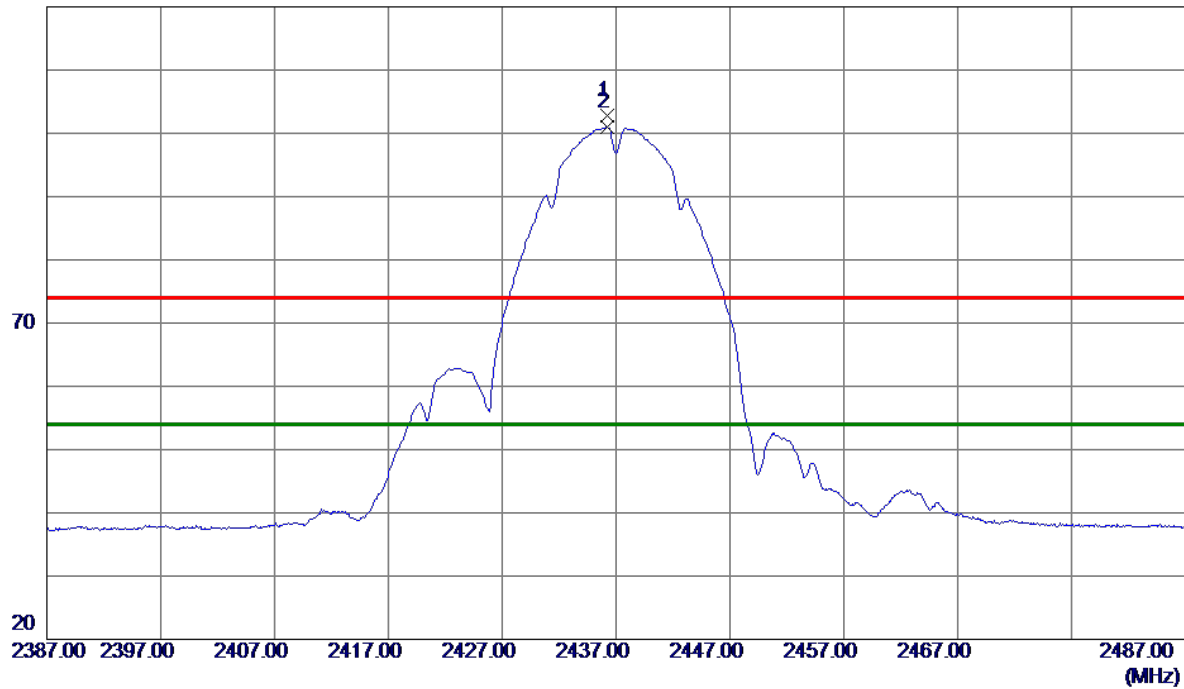
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4823.9750	38.25	2.46	40.71	54.00	-13.29	AVG	
2	4824.0150	41.80	2.46	44.26	74.00	-29.74	Peak	
3	7235.5150	23.19	7.02	30.21	54.00	-23.79	AVG	
4	7239.6700	33.95	7.02	40.97	74.00	-33.03	Peak	

## 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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120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2436.2000	94.25	8.49	102.74	74.00	28.74	Peak	No Limit
2 *	2436.2000	92.48	8.49	100.97	54.00	46.97	AVG	No Limit

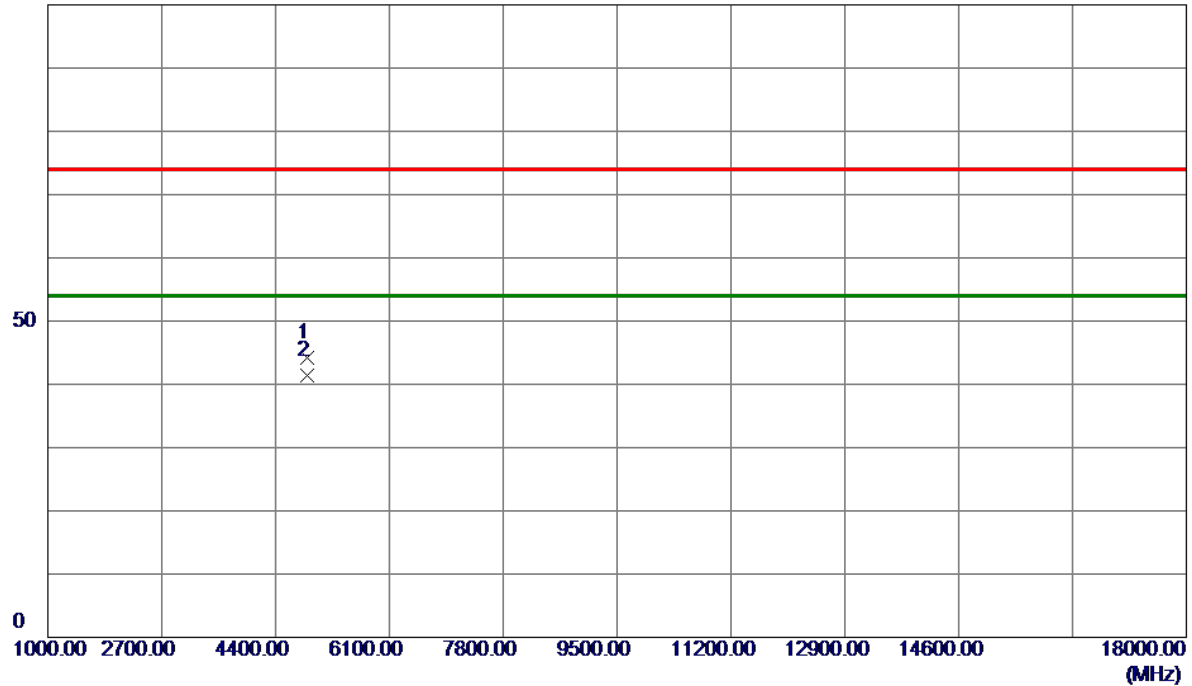
## REMARKS:

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

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

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



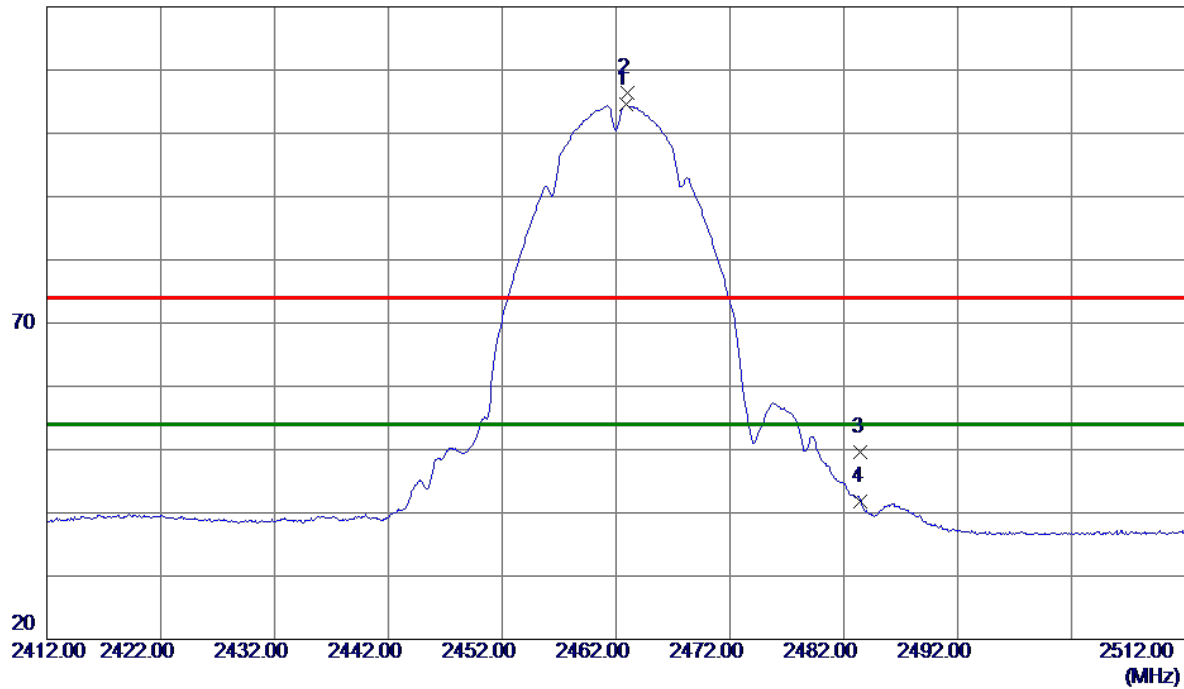
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4873.9900	41.65	2.58	44.23	74.00	-29.77	Peak	
2 *	4874.0650	38.81	2.58	41.39	54.00	-12.61	AVG	

## 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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120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2462.8500	96.07	8.49	104.56	54.00	50.56	AVG	No Limit
2	2462.9500	98.00	8.49	106.49	74.00	32.49	Peak	No Limit
3	2483.5000	41.05	8.48	49.53	74.00	-24.47	Peak	
4	2483.5000	33.28	8.48	41.76	54.00	-12.24	AVG	

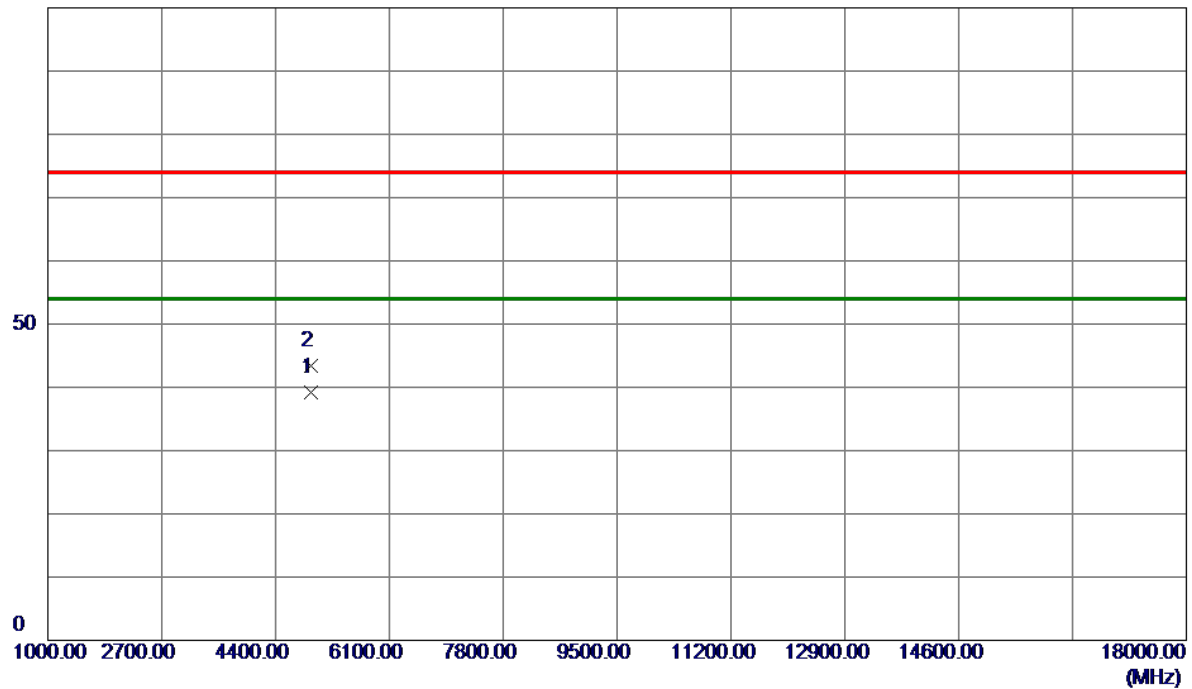
## REMARKS:

(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



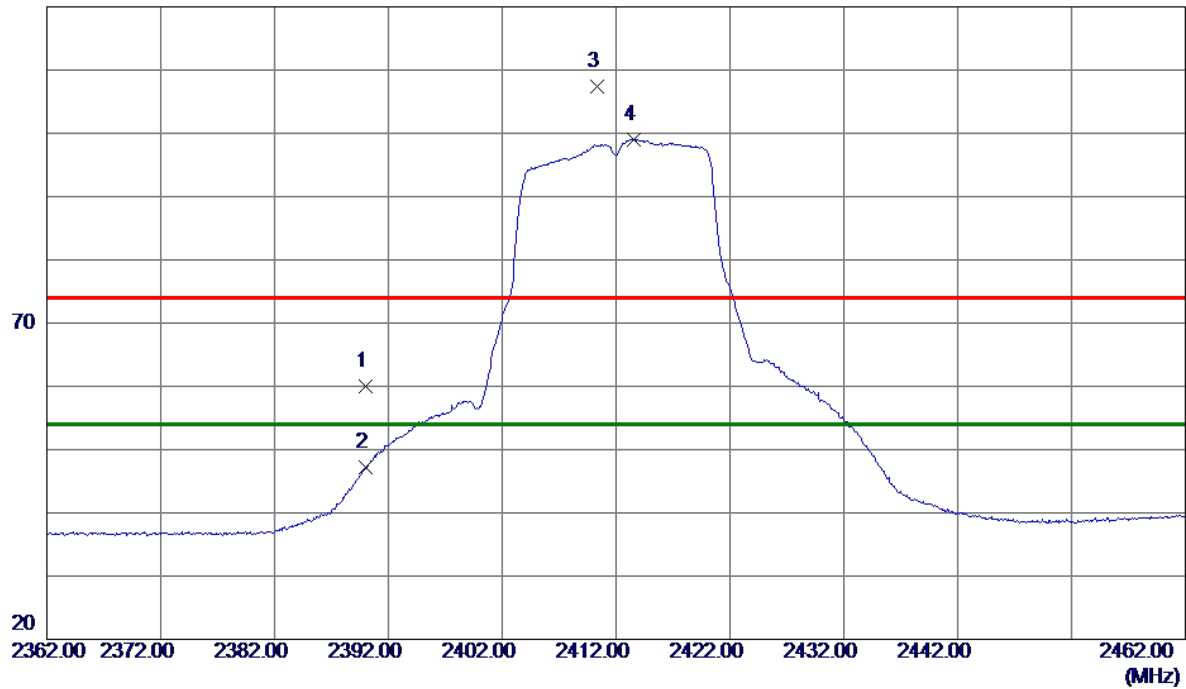
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4924.0050	36.42	2.69	39.11	54.00	-14.89	AVG	
2	4924.0099	40.78	2.69	43.47	74.00	-30.53	Peak	

## 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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120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	51.58	8.51	60.09	74.00	-13.91	Peak	
2	2390.0000	38.76	8.51	47.27	54.00	-6.73	AVG	
3	2410.3500	98.84	8.50	107.34	74.00	33.34	Peak	No Limit
4 *	2413.5500	90.60	8.50	99.10	54.00	45.10	AVG	No Limit

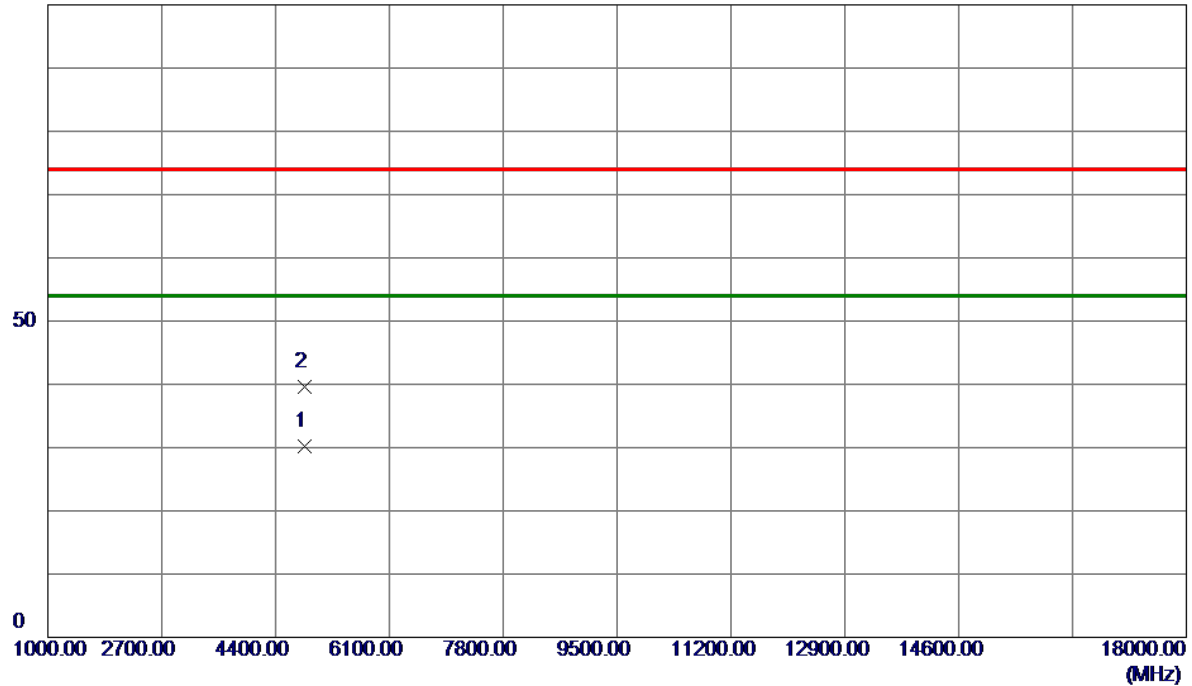
## REMARKS:

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

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

Test Mode	TX G Mode 2412 MHz	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 *	4827.5500	27.80	2.47	30.27	54.00	-23.73	AVG	
2	4830.7500	37.13	2.47	39.60	74.00	-34.40	Peak	

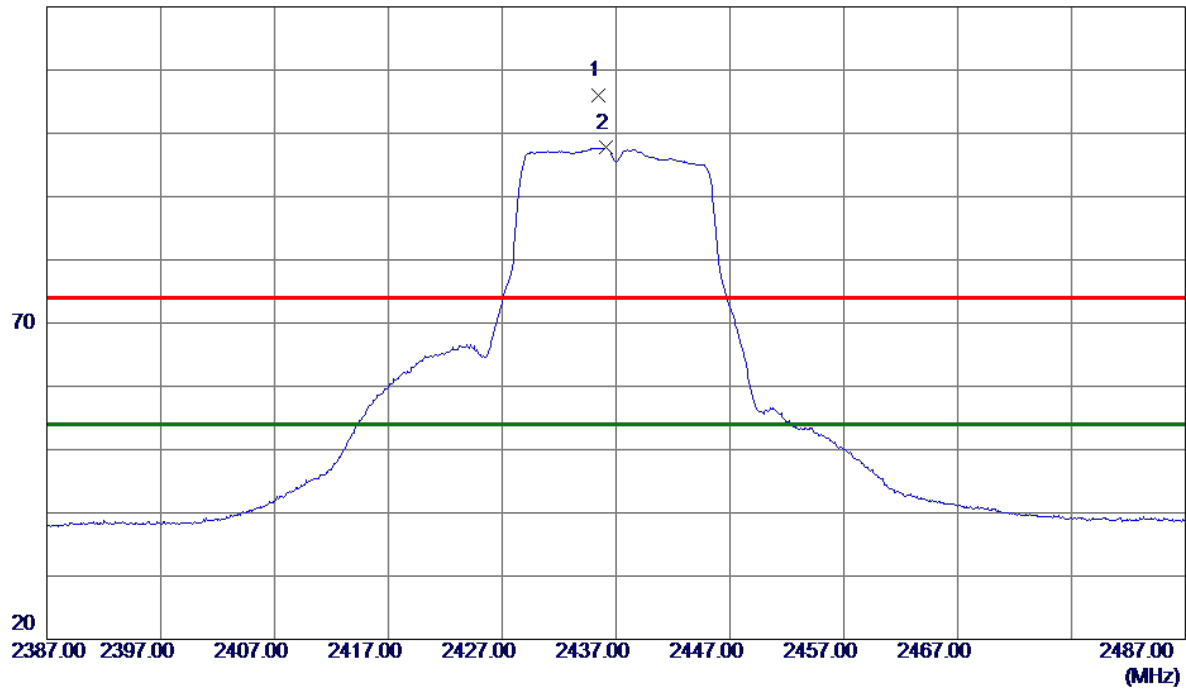
## REMARKS:

- (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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120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2435.4000	97.61	8.49	106.10	74.00	32.10	Peak	No Limit
2 *	2436.1000	89.21	8.49	97.70	54.00	43.70	AVG	No Limit

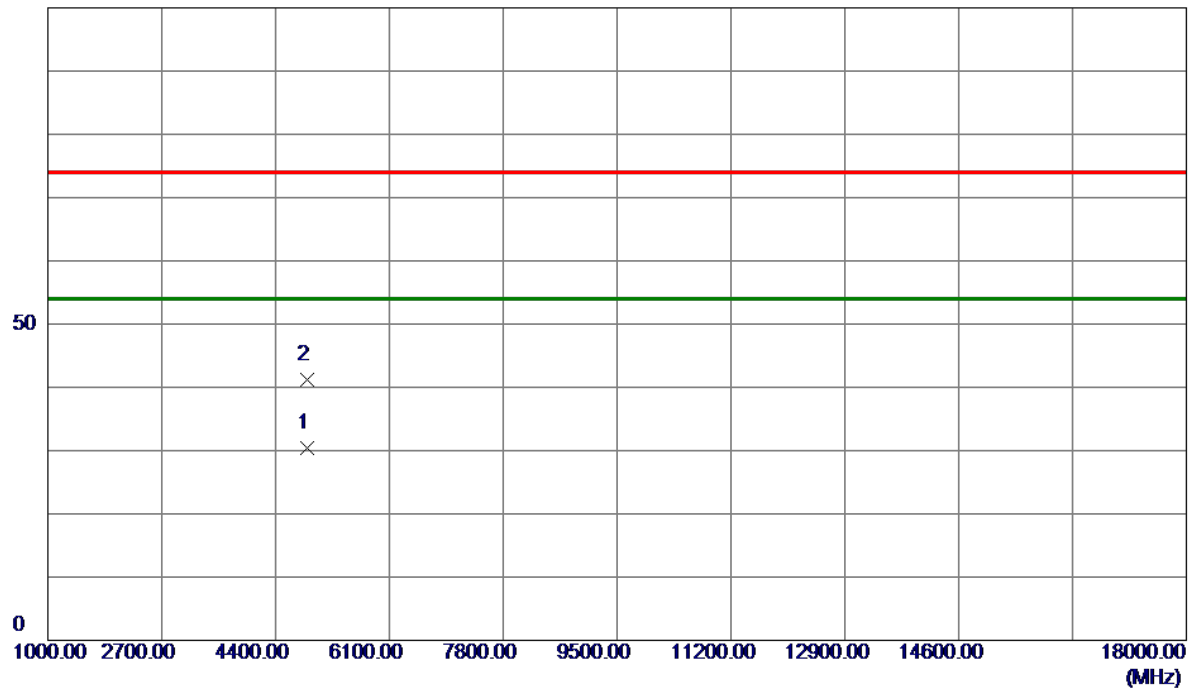
## REMARKS:

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

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

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



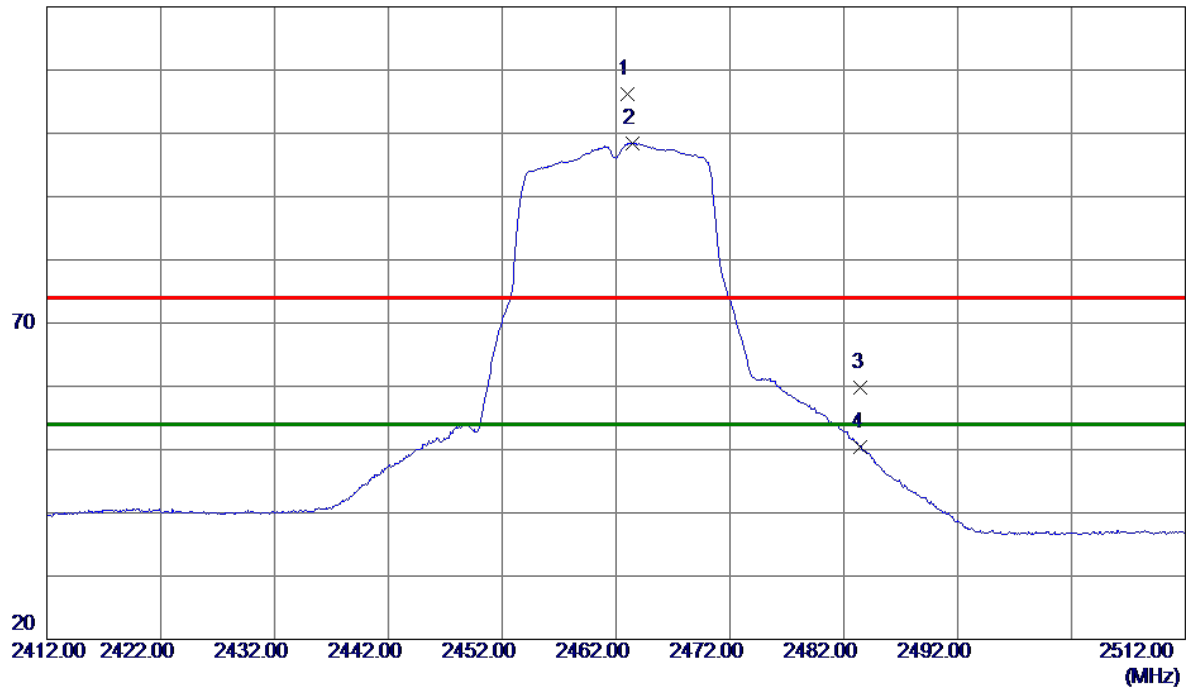
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4873.3500	27.84	2.57	30.41	54.00	-23.59	AVG	
2	4875.3000	38.53	2.58	41.11	74.00	-32.89	Peak	

## 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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120 dBuV/m



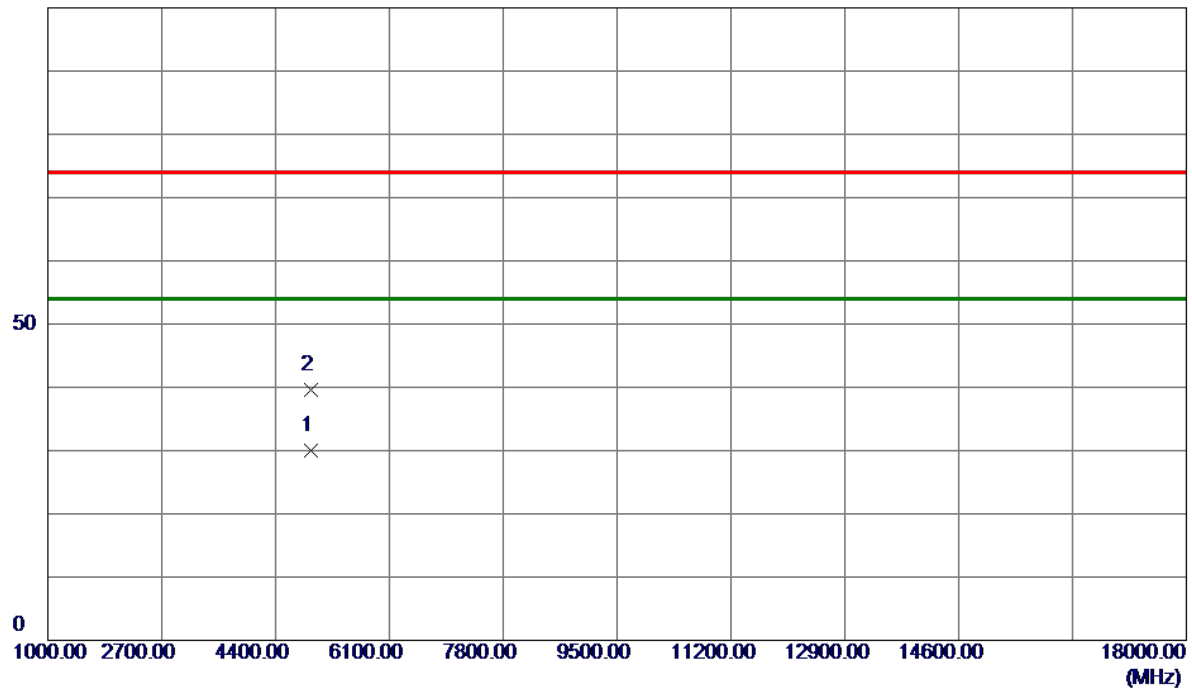
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2463.0000	97.72	8.49	106.21	74.00	32.21	Peak	No Limit
2 *	2463.4500	90.00	8.49	98.49	54.00	44.49	AVG	No Limit
3	2483.5000	51.32	8.48	59.80	74.00	-14.20	Peak	
4	2483.5000	41.87	8.48	50.35	54.00	-3.65	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



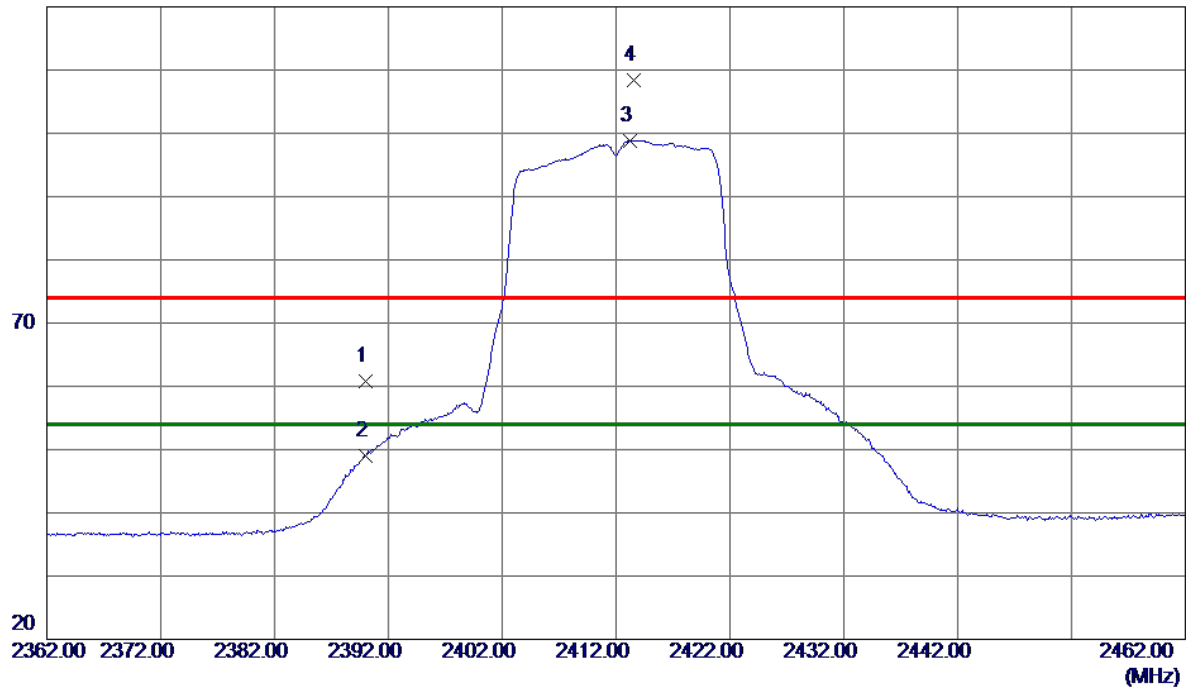
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4924.5500	27.34	2.69	30.03	54.00	-23.97	AVG	
2	4930.0500	36.83	2.71	39.54	74.00	-34.46	Peak	

## REMARKS:

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

Test Mode	TX N(HT20) Mode 2412 MHz	Polarization	Vertical
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120 dBuV/m



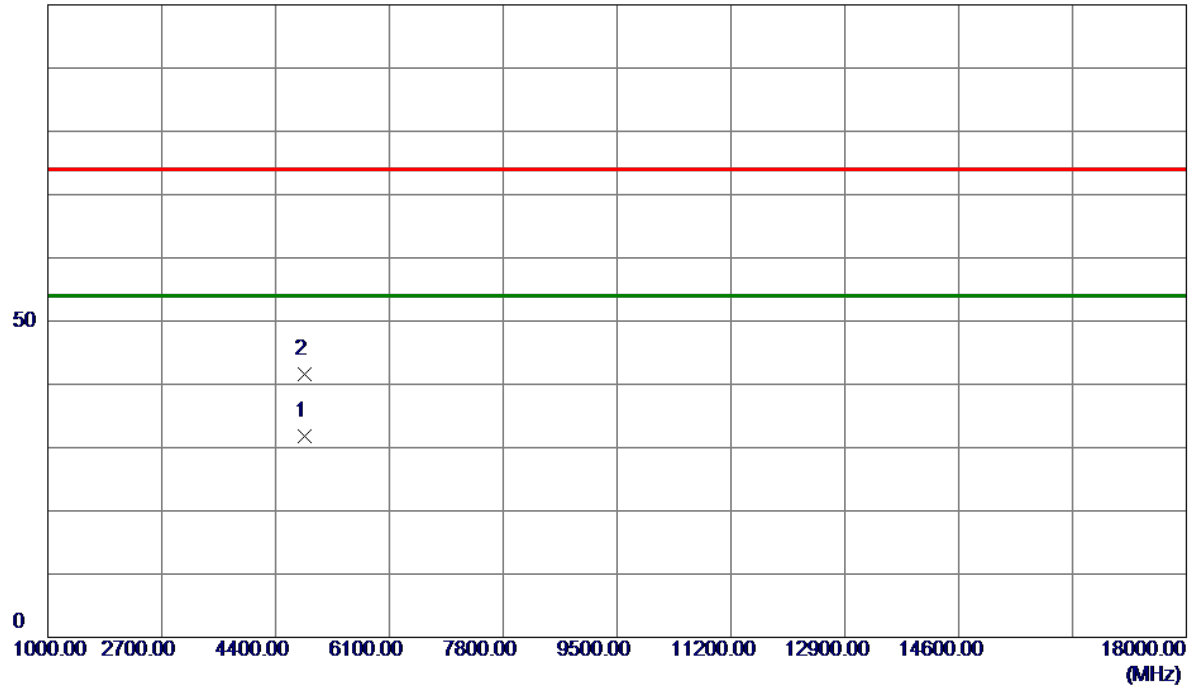
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	52.38	8.51	60.89	74.00	-13.11	Peak	
2	2390.0000	40.53	8.51	49.04	54.00	-4.96	AVG	
3 *	2413.2500	90.35	8.50	98.85	54.00	44.85	AVG	No Limit
4	2413.5500	99.89	8.50	108.39	74.00	34.39	Peak	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	Vertical
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100 dBuV/m



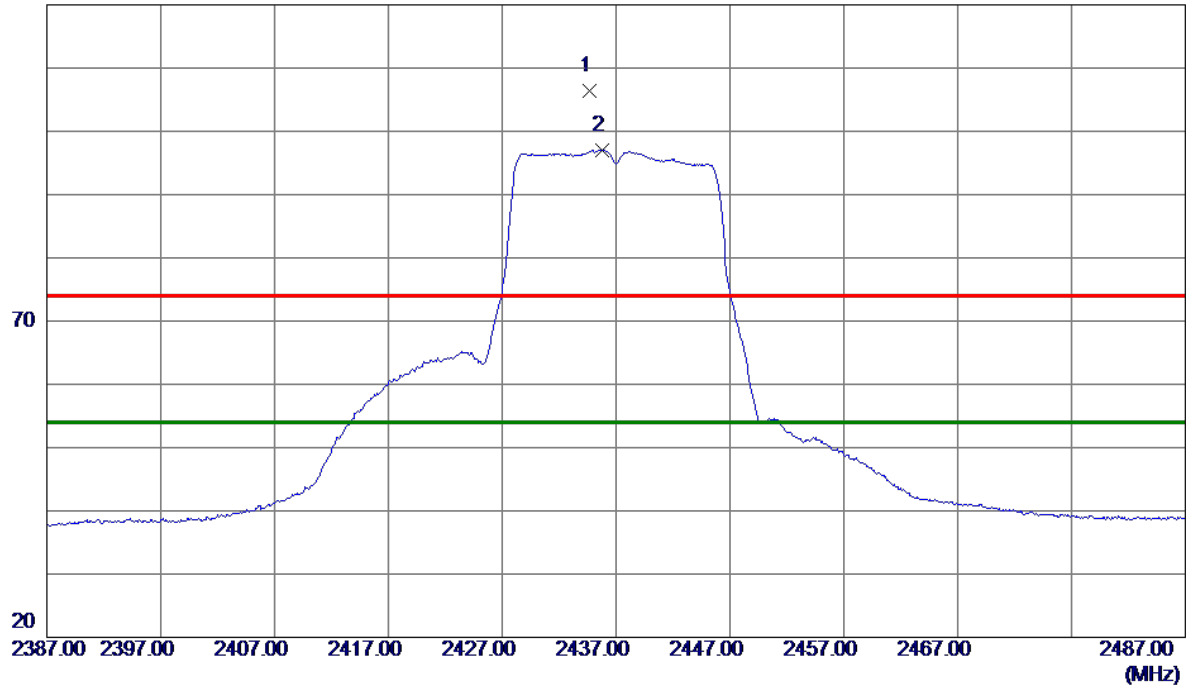
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4827.7500	29.26	2.47	31.73	54.00	-22.27	AVG	
2	4832.0500	39.06	2.48	41.54	74.00	-32.46	Peak	

## REMARKS:

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

Test Mode	TX N(HT20) Mode 2437 MHz	Polarization	Vertical
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120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2434.6500	97.86	8.50	106.36	74.00	32.36	Peak	No Limit
2 *	2435.8000	88.52	8.49	97.01	54.00	43.01	AVG	No Limit

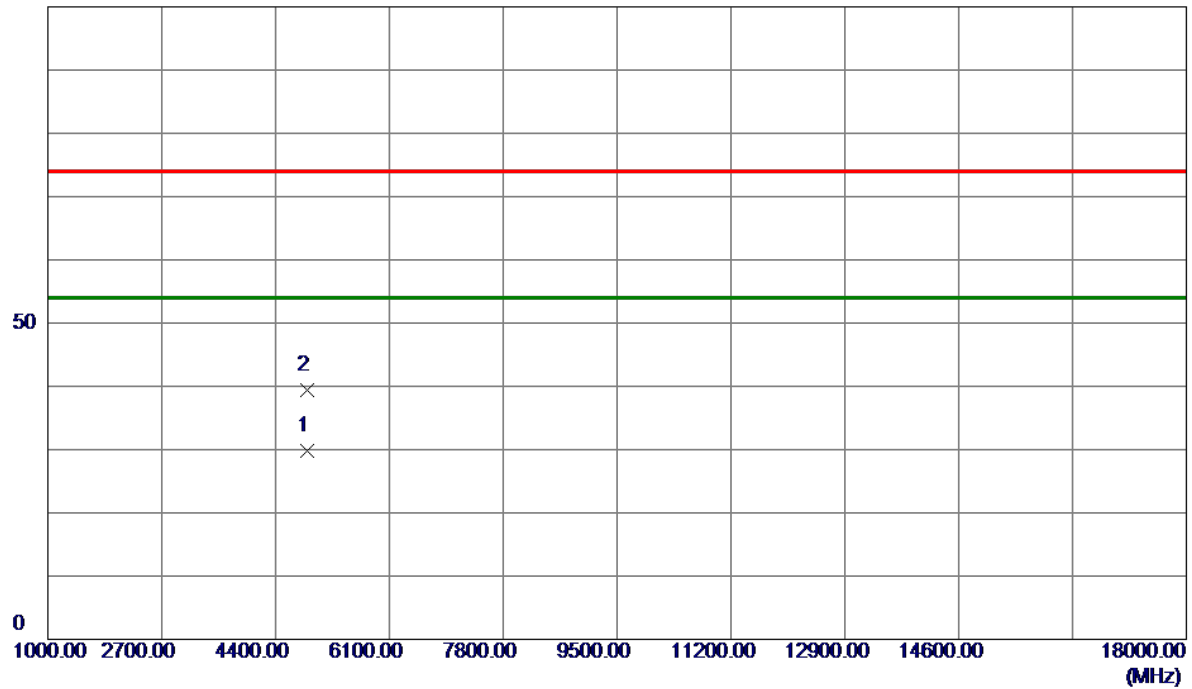
## REMARKS:

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

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

Test Mode	TX N(HT20) Mode 2437 MHz	Polarization	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 *	4871.9500	27.19	2.57	29.76	54.00	-24.24	AVG	
2	4874.6000	36.81	2.58	39.39	74.00	-34.61	Peak	

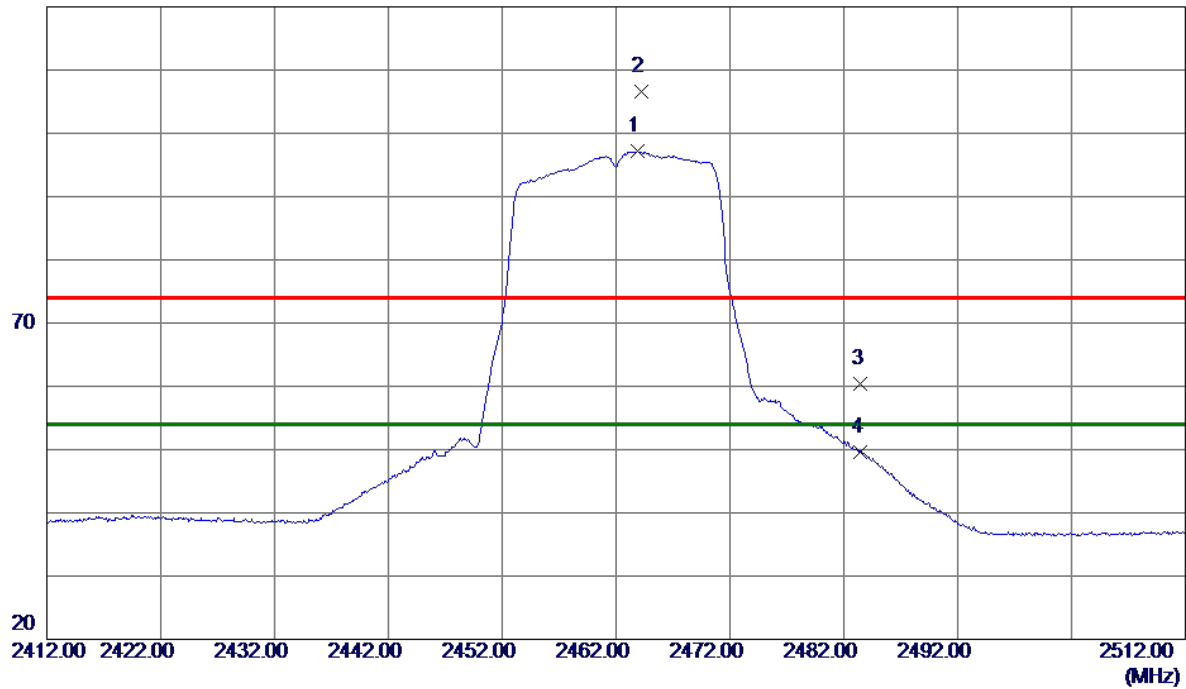
## REMARKS:

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



Test Mode	TX N(HT20) Mode 2462 MHz	Polarization	Vertical
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120 dBuV/m



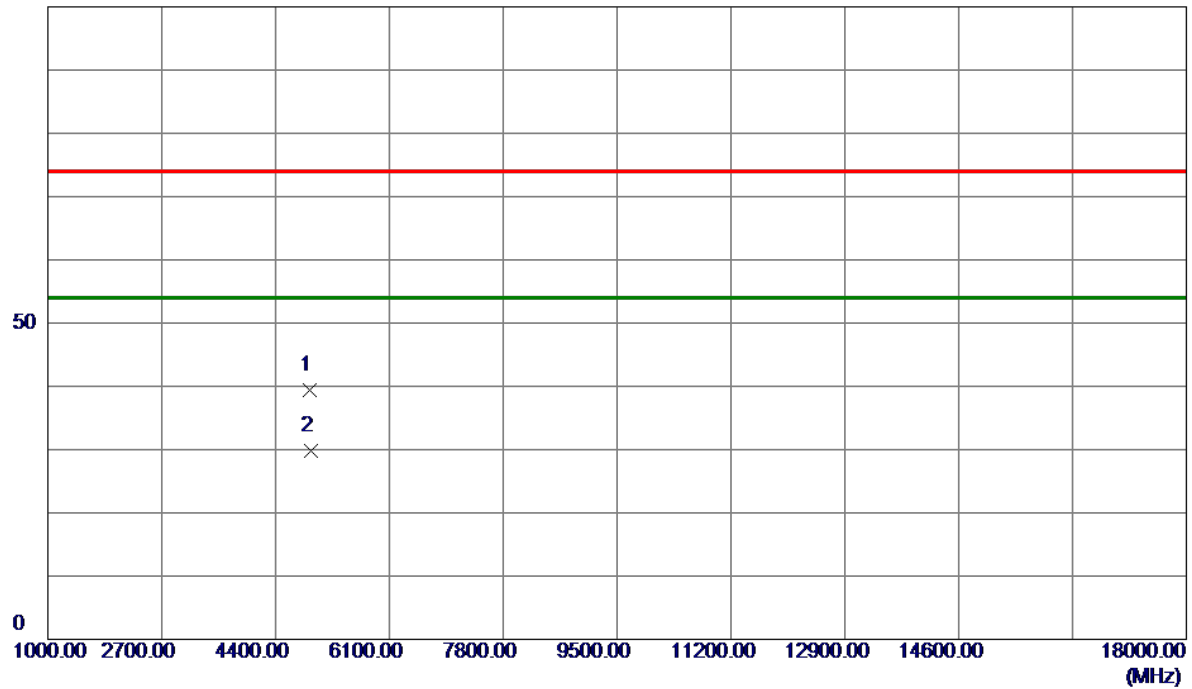
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2463.8500	88.68	8.49	97.17	54.00	43.17	AVG	No Limit
2	2464.2000	98.14	8.49	106.63	74.00	32.63	Peak	No Limit
3	2483.5000	51.86	8.48	60.34	74.00	-13.66	Peak	
4	2483.5000	41.14	8.48	49.62	54.00	-4.38	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	Vertical
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100 dBuV/m



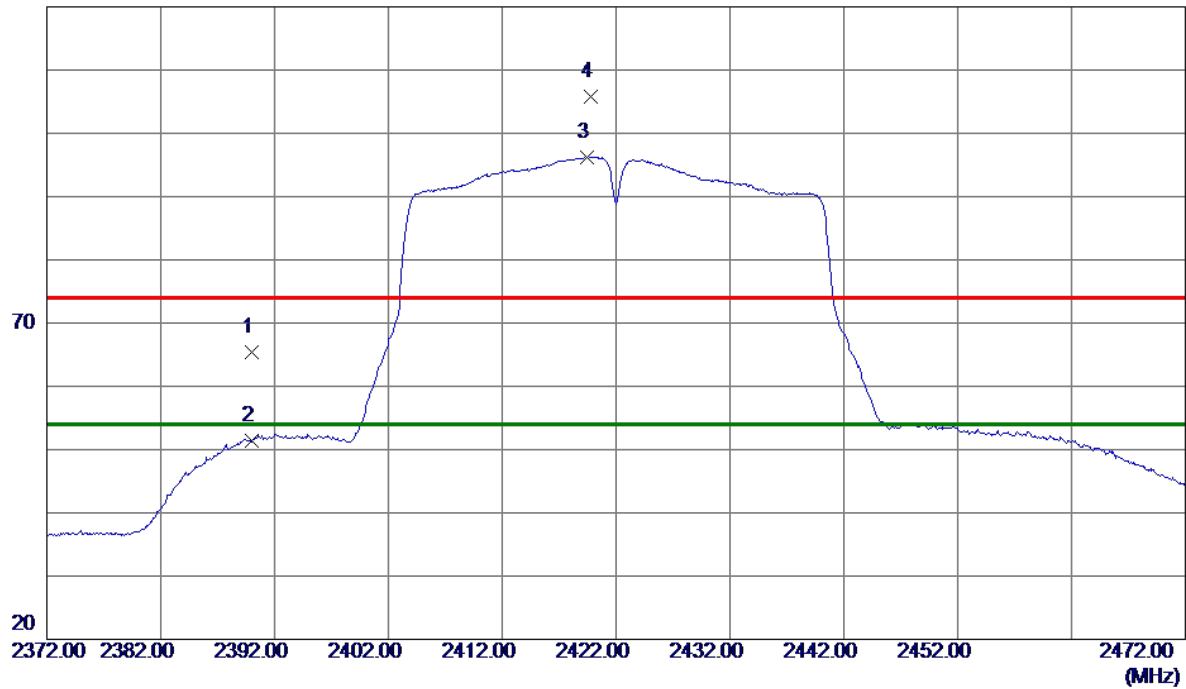
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4915.2500	36.67	2.67	39.34	74.00	-34.66	Peak	
2 *	4925.3000	27.10	2.70	29.80	54.00	-24.20	AVG	

## REMARKS:

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

Test Mode	TX N(HT40) Mode 2422 MHz	Polarization	Vertical
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120 dBuV/m



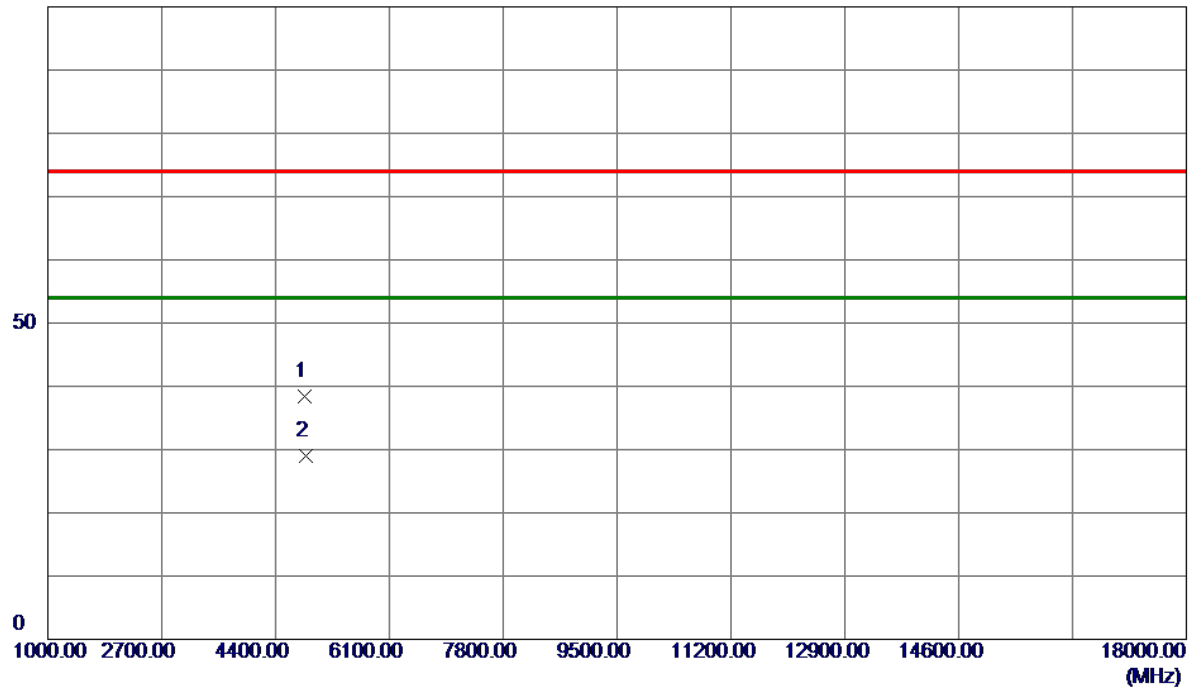
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	56.94	8.51	65.45	74.00	-8.55	Peak	
2	2390.0000	42.90	8.51	51.41	54.00	-2.59	AVG	
3 *	2419.4000	87.78	8.50	96.28	54.00	42.28	AVG	No Limit
4	2419.8000	97.23	8.50	105.73	74.00	31.73	Peak	No Limit

## REMARKS:

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

Test Mode	TX N(HT40) Mode 2422 MHz	Polarization	Vertical
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100 dBuV/m



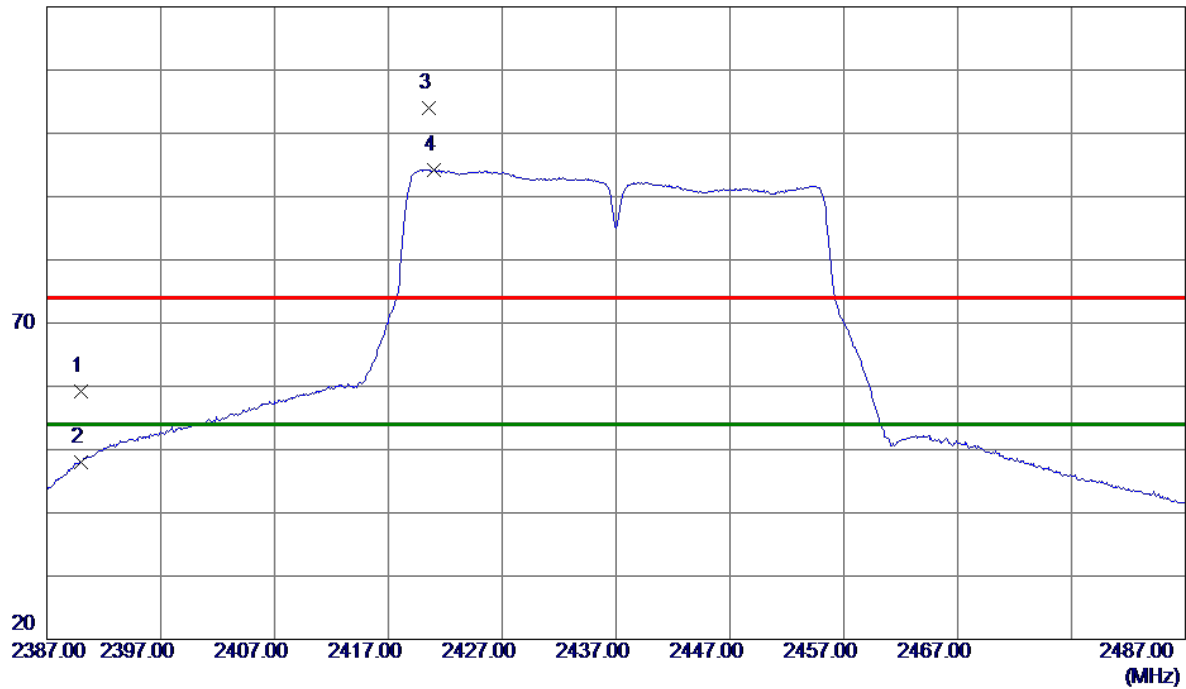
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4836.1500	35.92	2.49	38.41	74.00	-35.59	Peak	
2 *	4848.5000	26.47	2.52	28.99	54.00	-25.01	AVG	

## REMARKS:

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

Test Mode	TX N(HT40) Mode 2437 MHz	Polarization	Vertical
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120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	2390.0000	50.74	8.51	59.25	74.00	-14.75	Peak	
2	2390.0000	39.48	8.51	47.99	54.00	-6.01	AVG	
3	2420.5500	95.44	8.50	103.94	74.00	29.94	Peak	No Limit
4 *	2421.0000	85.74	8.50	94.24	54.00	40.24	AVG	No Limit

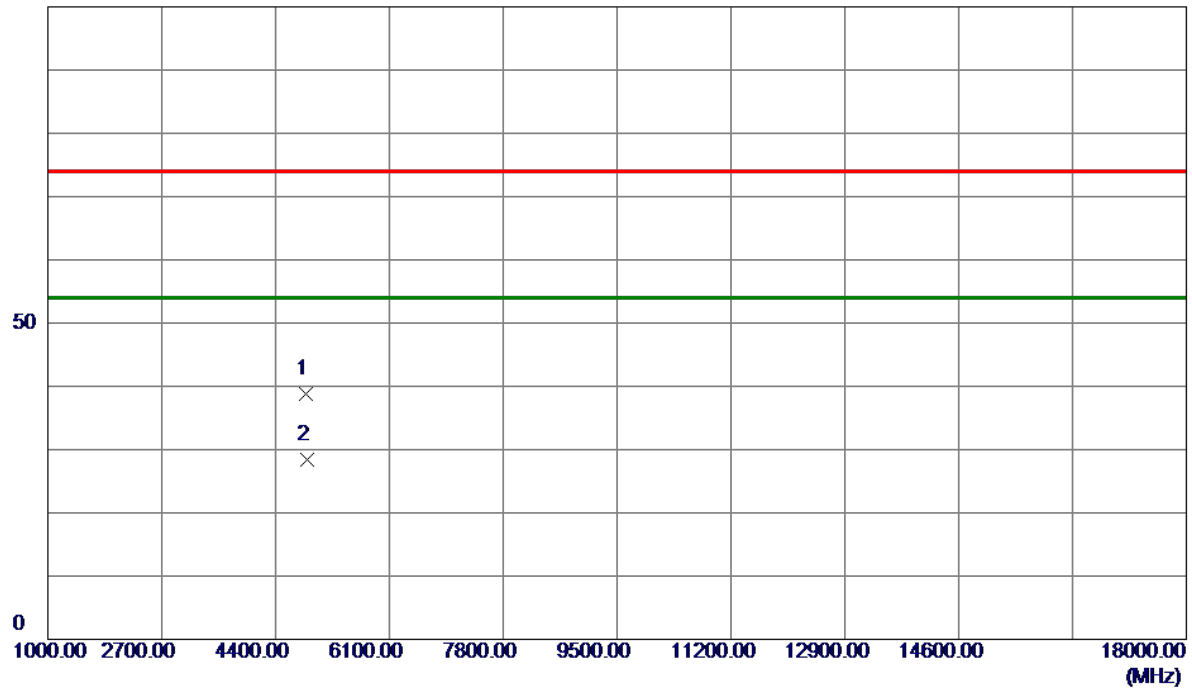
## REMARKS:

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

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

Test Mode	TX N(HT40) Mode 2437 MHz	Polarization	Vertical
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100 dBuV/m



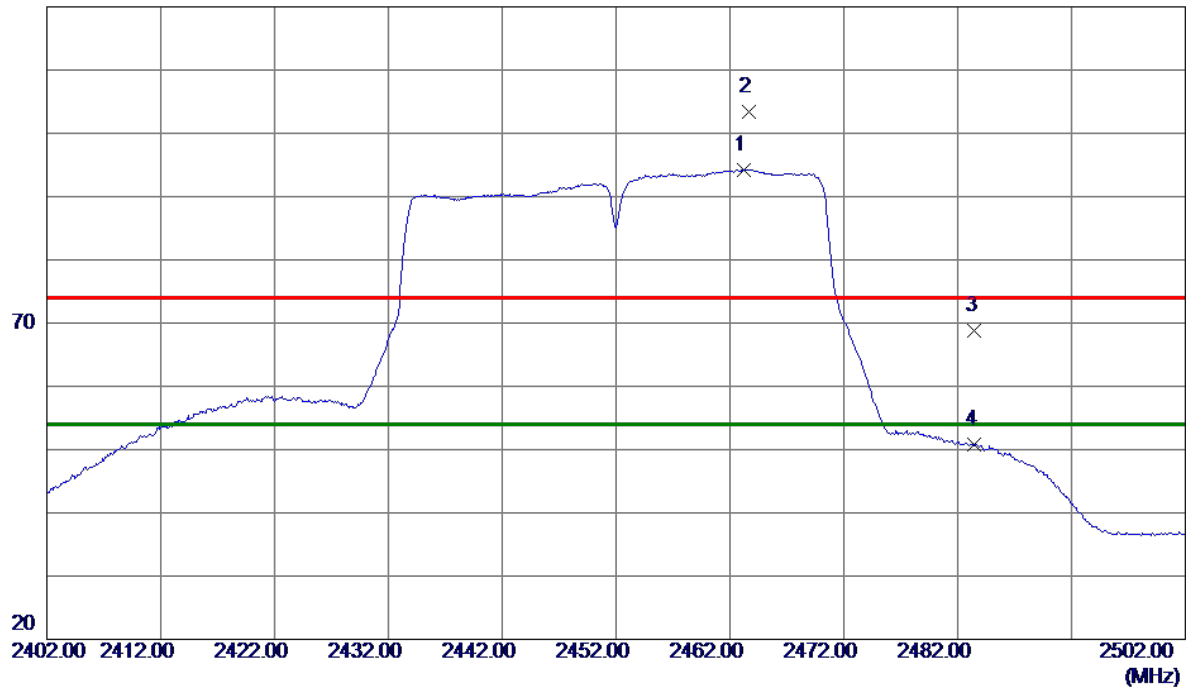
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	4847.1000	36.21	2.51	38.72	74.00	-35.28	Peak	
2 *	4868.3000	25.88	2.56	28.44	54.00	-25.56	AVG	

## REMARKS:

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

Test Mode	TX N(HT40) Mode 2452 MHz	Polarization	Vertical
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120 dBuV/m



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	2463.2500	85.76	8.49	94.25	54.00	40.25	AVG	No Limit
2	2463.7000	94.98	8.49	103.47	74.00	29.47	Peak	No Limit
3	2483.5000	60.32	8.48	68.80	74.00	-5.20	Peak	
4	2483.5000	42.33	8.48	50.81	54.00	-3.19	AVG	

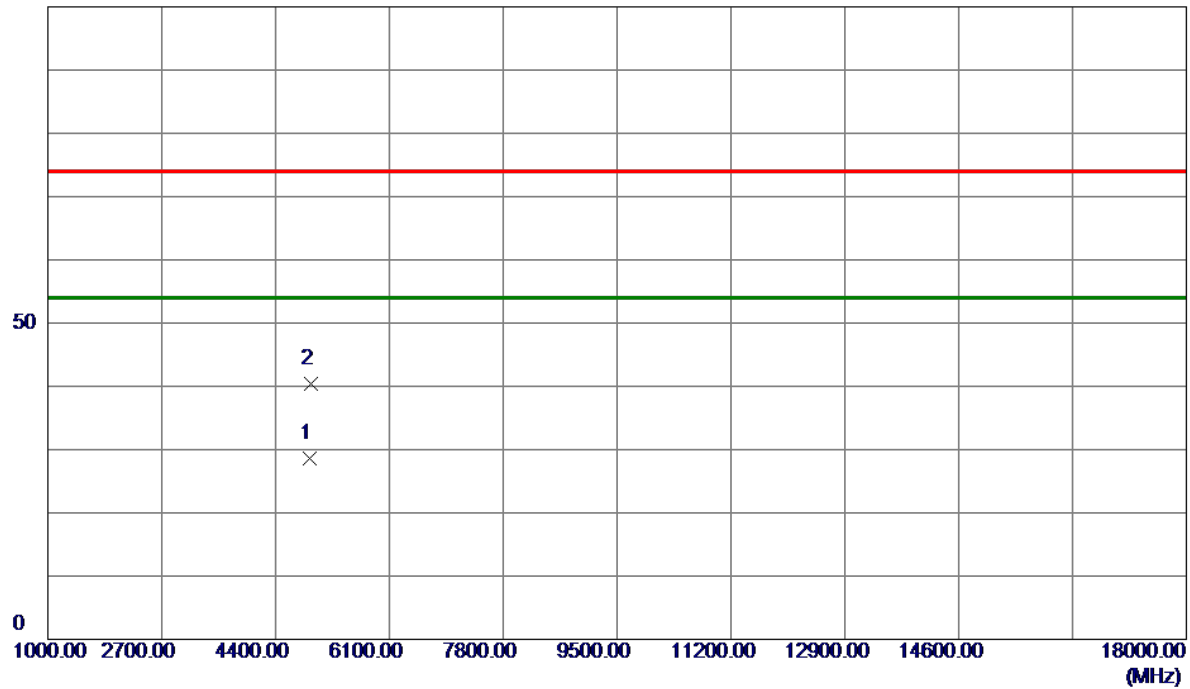
## REMARKS:

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

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

Test Mode	TX N(HT40) Mode 2452 MHz	Polarization	Vertical
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100 dBuV/m



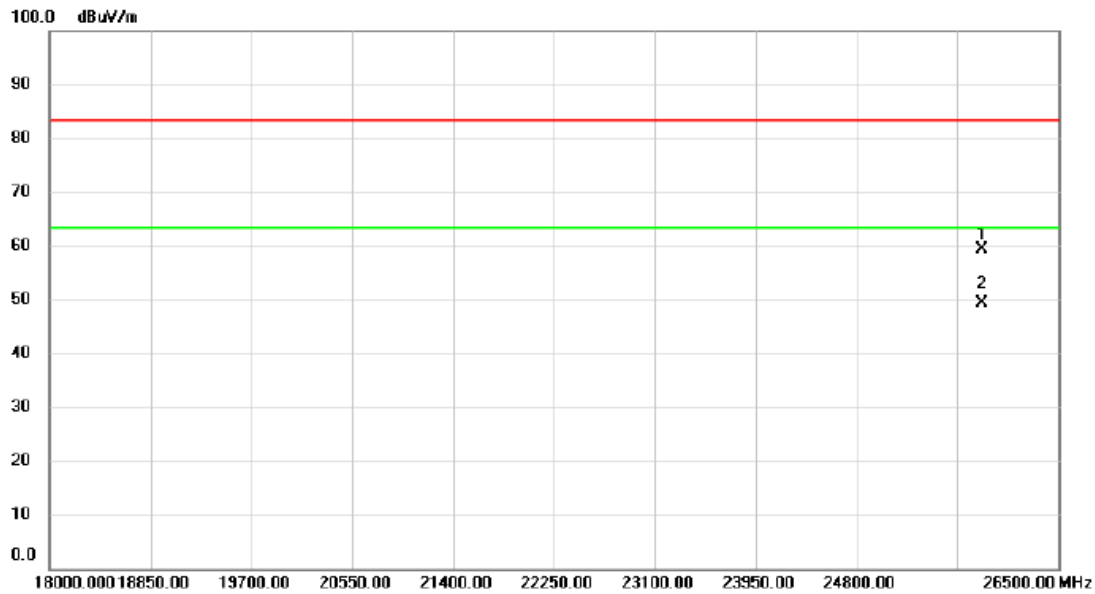
No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4912.1000	26.01	2.66	28.67	54.00	-25.33	AVG	
2	4922.8000	37.65	2.69	40.34	74.00	-33.66	Peak	

## REMARKS:

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



Test Mode	TX B Mode Channel 06	Polarization	Vertical
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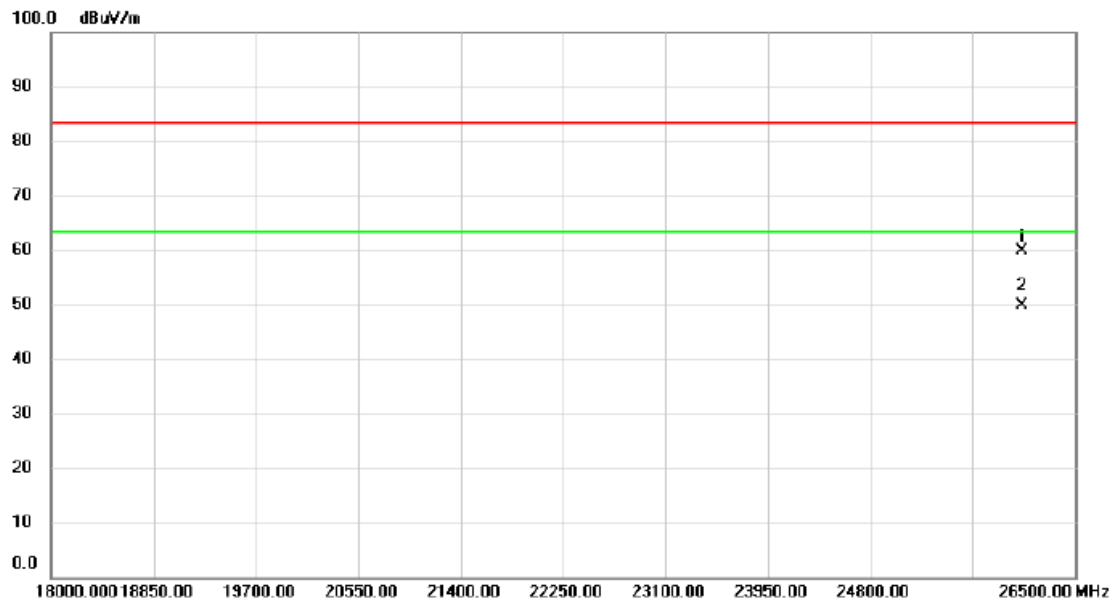


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		25858.250	49.18	10.25	59.43	83.50	-24.07	peak	
2	*	25858.250	39.07	10.25	49.32	63.50	-14.18	AVG	

## REMARKS:

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

Test Mode	TX B Mode Channel 06	Polarization	Horizontal
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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		26066.500	49.45	10.46	59.91	83.50	-23.59	peak	
2	*	26066.500	39.47	10.46	49.93	63.50	-13.57	AVG	

## REMARKS:

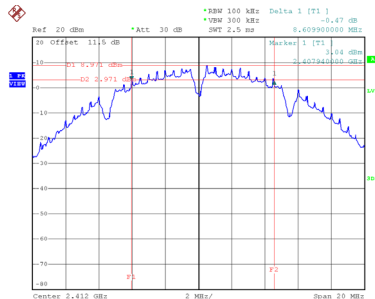
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

## APPENDIX E - BANDWIDTH

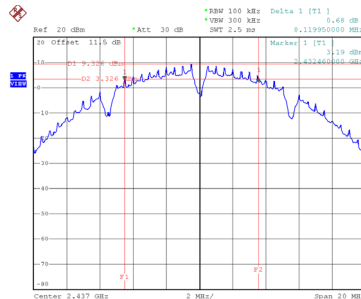
Test Mode	TX B Mode
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Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	8.610	13.760	0.5	Complies
06	2437	8.120	13.840	0.5	Complies
11	2462	8.580	13.680	0.5	Complies

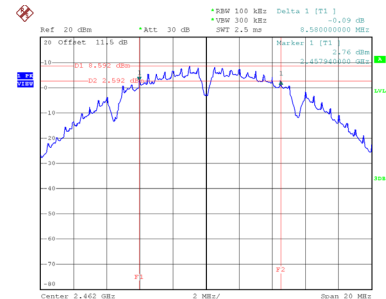
CH01



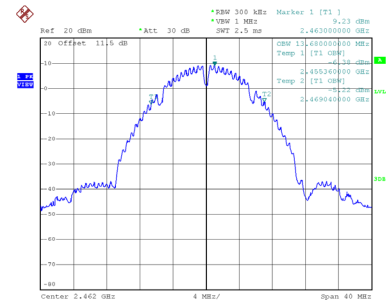
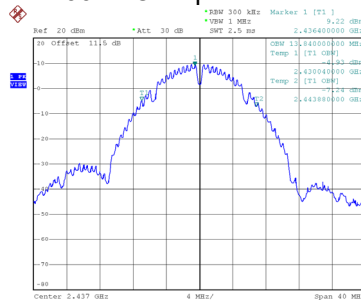
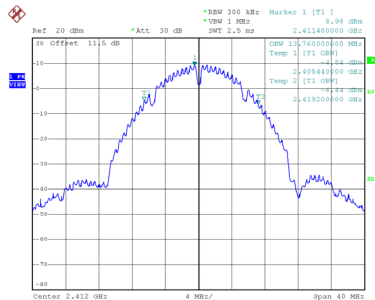
CH06  
6 dB Bandwidth



CH11



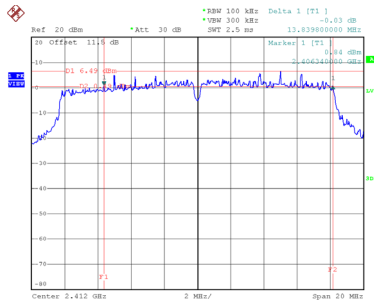
99 % Occupied Bandwidth



Test Mode	TX G Mode
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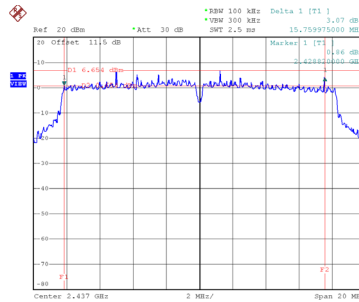
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	13.840	16.800	0.5	Complies
06	2437	15.760	16.880	0.5	Complies
11	2462	15.780	16.640	0.5	Complies

# CH01



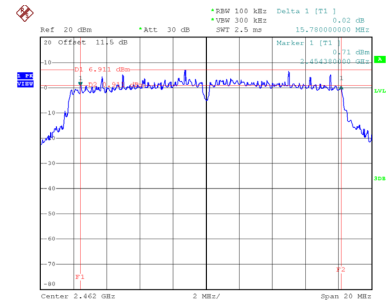
Date: 1.MAY.2024 10:18:28

**CH06**  
6 dB Bandwidth



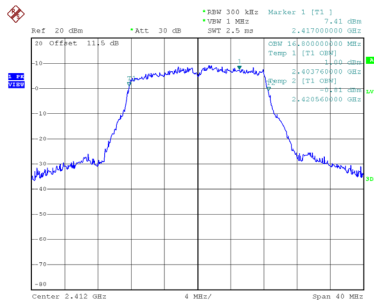
Date: 1.MAY.2024 10:20:02

CH11

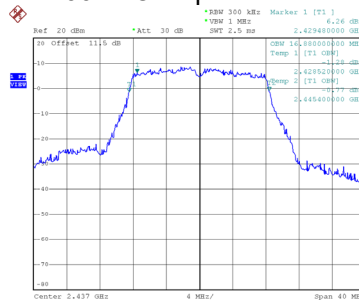


Date: 1.MAY.2024 10:21:40

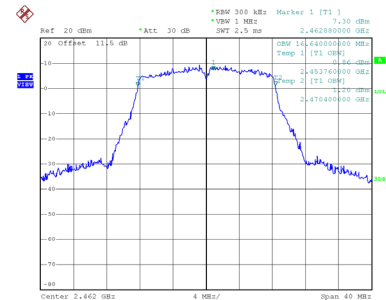
99 % Occupied Bandwidth



Date: 1.MAY.2024 10:18:36



Date: 1.MAY.2024 10:20:09

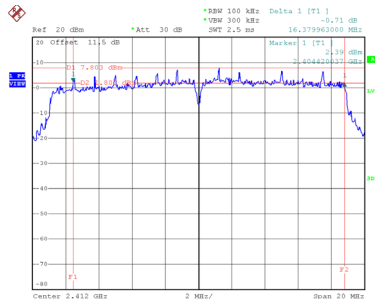


Date: 1.MAY.2024 10:21:47

Test Mode	TX N(HT20) Mode
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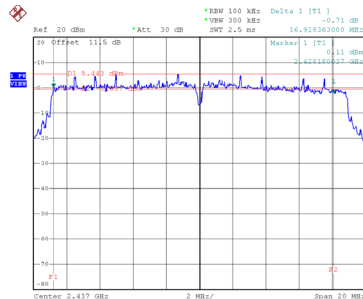
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	16.380	17.920	0.5	Complies
06	2437	16.918	17.920	0.5	Complies
11	2462	15.120	17.760	0.5	Complies

CH01



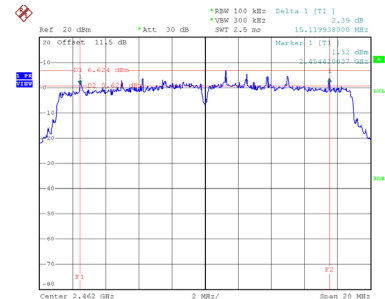
Date: 1.MAY.2024 10:23:45

CH06  
6 dB Bandwidth



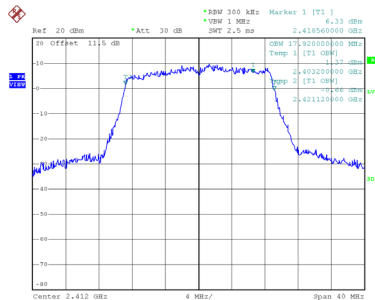
Date: 1.MAY.2024 10:25:18

CH11

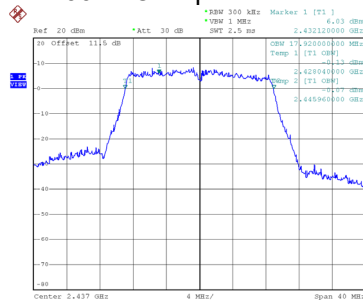


Date: 1.MAY.2024 10:27:13

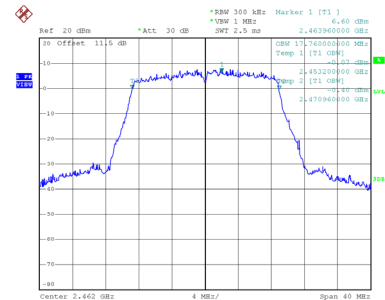
99 % Occupied Bandwidth



Date: 1.MAY.2024 10:23:53



Date: 1.MAY.2024 10:25:25

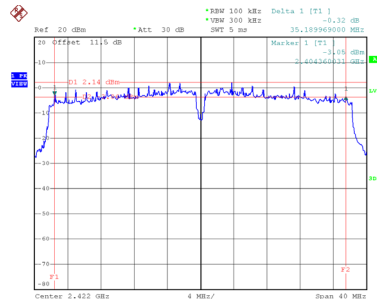


Date: 1.MAY.2024 10:27:21

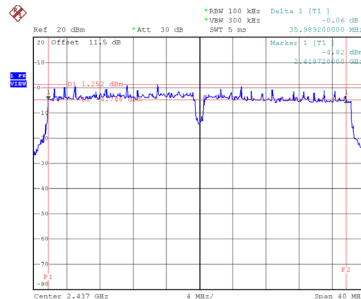
Test Mode	TX N(HT40) Mode
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Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
03	2422	35.190	36.480	0.5	Complies
06	2437	35.989	36.960	0.5	Complies
09	2452	35.990	36.960	0.5	Complies

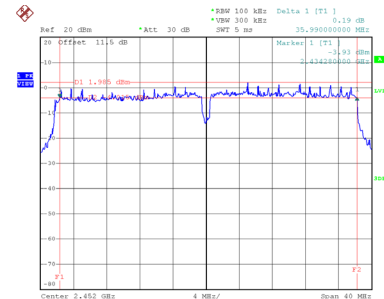
CH03



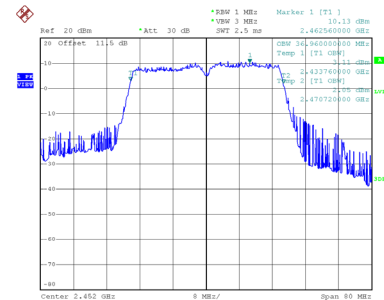
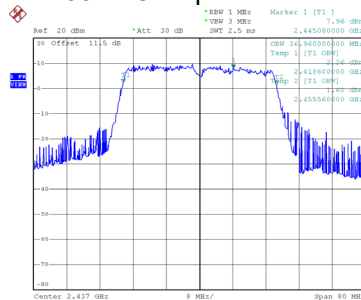
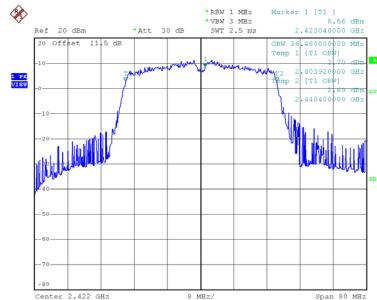
CH06  
6 dB Bandwidth



CH09



99 % Occupied Bandwidth



## **APPENDIX F - MAXIMUM OUTPUT POWER**



Test Mode	TX B Mode_Ant. 1
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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	16.83	0.00	16.83	30.00	1.0000	Complies
06	2437	17.18	0.00	17.18	30.00	1.0000	Complies
11	2462	16.98	0.00	16.98	30.00	1.0000	Complies

Test Mode	TX G Mode_Ant. 1
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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	15.96	0.29	16.25	30.00	1.0000	Complies
06	2437	15.81	0.29	16.10	30.00	1.0000	Complies
11	2462	15.45	0.29	15.74	30.00	1.0000	Complies

Test Mode	TX N(HT20) Mode_Ant. 1
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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	15.28	0.41	15.69	30.00	1.0000	Complies
06	2437	15.14	0.41	15.55	30.00	1.0000	Complies
11	2462	14.81	0.41	15.22	30.00	1.0000	Complies

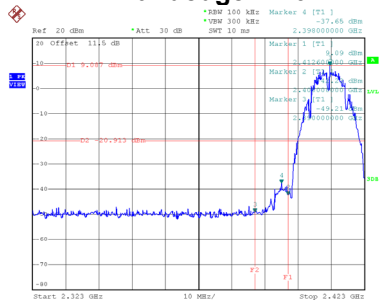
Test Mode	TX N(HT40) Mode_Ant. 1
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	13.92	0.80	14.72	30.00	1.0000	Complies
06	2437	13.94	0.80	14.74	30.00	1.0000	Complies
09	2452	13.34	0.80	14.14	30.00	1.0000	Complies

## **APPENDIX G - CONDUCTED SPURIOUS EMISSIONS**

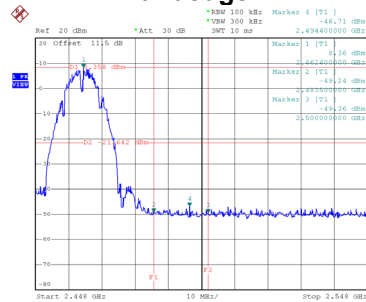
Test Mode TX B Mode\_Ant. 1

## Bandedge-CH01



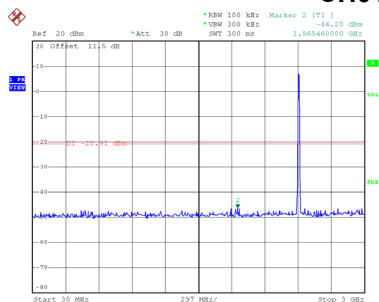
Date: 1.MAY.2024 10:08:33

## Bandedge-CH11

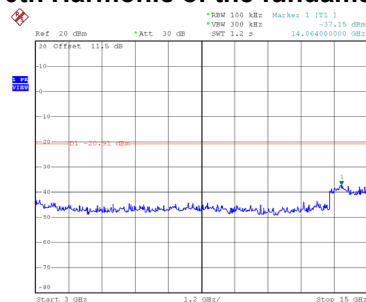


Date: 1.MAY.2024 10:14:47

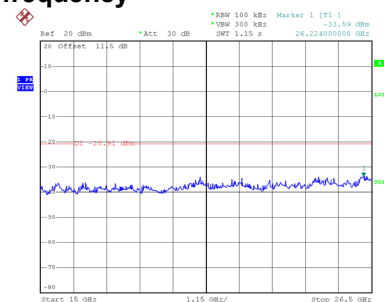
## CH01 – 10th Harmonic of the fundamental frequency



Date: 1.MAY.2024 10:08:47

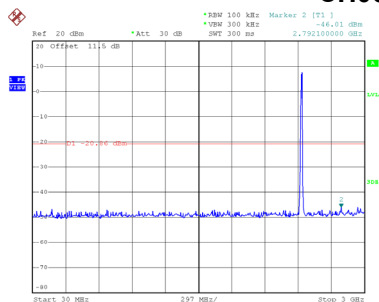


Date: 1.MAY.2024 10:08:56

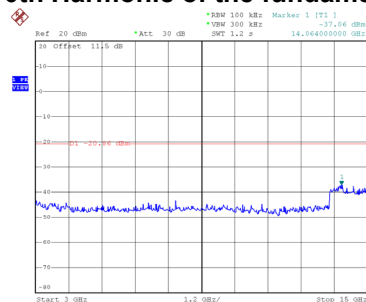


Date: 1.MAY.2024 10:09:04

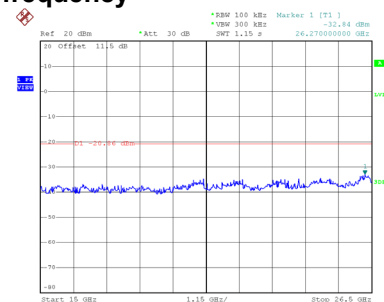
## CH06 – 10th Harmonic of the fundamental frequency



Date: 1.MAY.2024 10:16:36

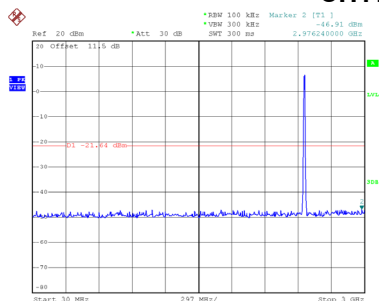


Date: 1.MAY.2024 10:16:44

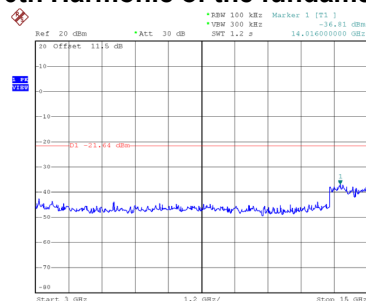


Date: 1.MAY.2024 10:16:52

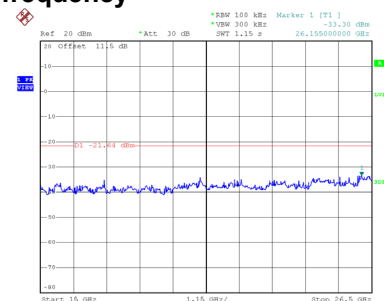
## CH11 – 10th Harmonic of the fundamental frequency



Date: 1.MAY.2024 10:15:01



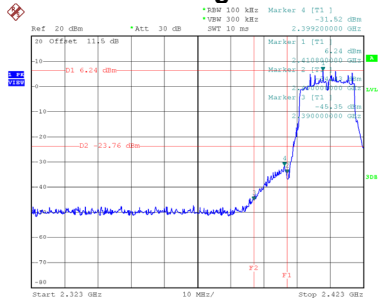
Date: 1.MAY.2024 10:15:09



Date: 1.MAY.2024 10:15:18

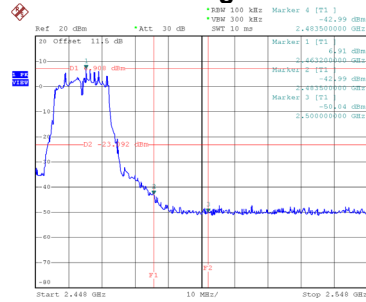
Test Mode TX G Mode\_Ant. 1

## Bandedge-CH01



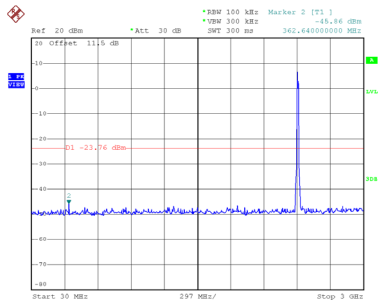
Date: 1.MAY.2024 10:18:44

## Bandedge-CH11

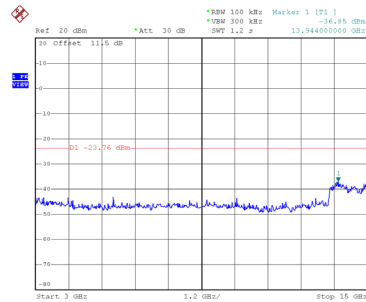


Date: 1.MAY.2024 10:21:55

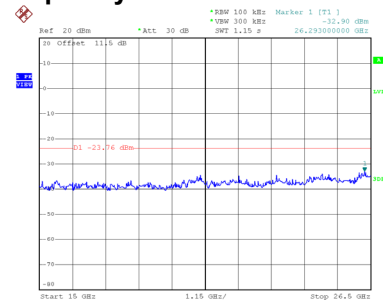
## CH01 – 10th Harmonic of the fundamental frequency



Date: 1.MAY.2024 10:18:58

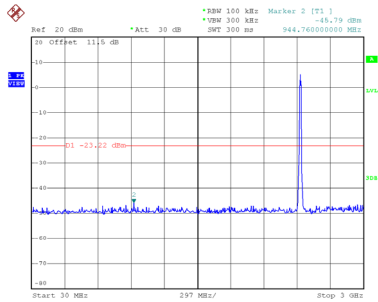


Date: 1.MAY.2024 10:19:06

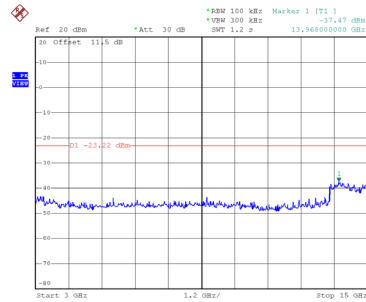


Date: 1.MAY.2024 10:19:15

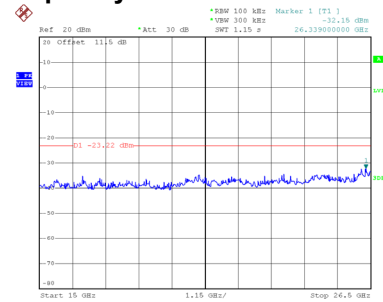
## CH06 – 10th Harmonic of the fundamental frequency



Date: 1.MAY.2024 10:20:31

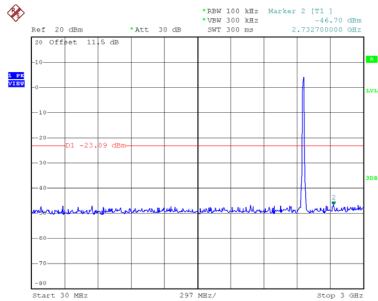


Date: 1.MAY.2024 10:20:39

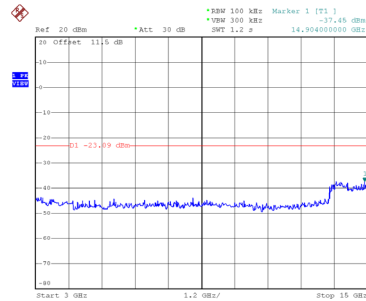


Date: 1.MAY.2024 10:20:48

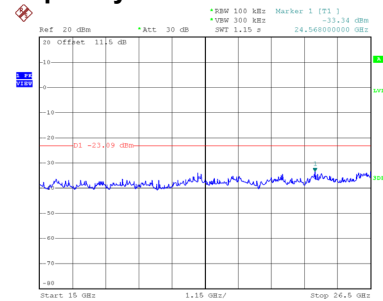
## CH11 – 10th Harmonic of the fundamental frequency



Date: 1.MAY.2024 10:22:09



Date: 1.MAY.2024 10:22:17



Date: 1.MAY.2024 10:22:25