



FCC Radio Test Report

FCC ID: 2AZHDDHP700

This report concerns: Original Grant

Project No. : 2409H035
Equipment : Photo Sticker Cutter
Test Model : DHP700
Series Model : N/A
Applicant : Hannto Technology Co., Ltd.
Address : Room 704, Building 1, No.88, Shengrong Road, Pudong, Shanghai, China.
Manufacturer : Hannto Technology Co., Ltd.
Address : Room 704, Building 1, No.88, Shengrong Road, Pudong, Shanghai, China.
Factory : Huzhou Luxshare Precision Industry Co., Ltd.
Address : No.399. Shengxun Road, Zhili Town Wuxing District, Huzhou City, Zhejiang Province. China
Date of Receipt : Sep. 12, 2024
Date of Test : Sep. 13, 2024~Sep. 26, 2024
Issued Date : Oct. 12, 2024
Report Version : R00
Test Sample : Engineering Sample No.: SH2024091252-2
Standard(s) : FCC CFR Title 47, Part 15, Subpart C
FCC KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2013

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

Louis Li

Prepared by : Louis Li

Riley Wei

Approved by : Riley Wei

Add: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China.

Tel: +86-021-61765666

Web: www.newbtl.com

Service mail: btl_qa@newbtl.com

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.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

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.

Table of Contents	Page
REPORT ISSUED HISTORY	6
1 . SUMMARY OF TEST RESULTS	7
1.1 TEST FACILITY	8
1.2 MEASUREMENT UNCERTAINTY	8
1.3 TEST ENVIRONMENT CONDITIONS	8
2 . GENERAL INFORMATION	9
2.1 GENERAL DESCRIPTION OF EUT	9
2.2 DESCRIPTION OF TEST MODES	11
2.3 PARAMETERS OF TEST SOFTWARE	12
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	13
2.5 SUPPORT UNITS	13
3 . AC POWER LINE CONDUCTED EMISSIONS	14
3.1 LIMIT	14
3.2 TEST PROCEDURE	14
3.3 DEVIATION FROM TEST STANDARD	14
3.4 TEST SETUP	15
3.5 EUT OPERATING CONDITIONS	15
3.6 TEST RESULTS	15
4 . RADIATED EMISSIONS	16
4.1 LIMIT	16
4.2 TEST PROCEDURE	17
4.3 DEVIATION FROM TEST STANDARD	18
4.4 TEST SETUP	18
4.5 EUT OPERATING CONDITIONS	19
4.6 TEST RESULT - 9 KHZ TO 30 MHZ	19
4.7 TEST RESULT - 30 MHZ TO 1000 MHZ	19
4.8 TEST RESULT - ABOVE 1000 MHZ	19
5 . BANDWIDTH	20
5.1 LIMIT	20
5.2 TEST PROCEDURE	20
5.3 DEVIATION FROM STANDARD	20
5.4 TEST SETUP	20

Table of Contents	Page
5.5 EUT OPERATION CONDITIONS	20
5.6 TEST RESULTS	20
6 . MAXIMUM OUTPUT POWER	21
6.1 LIMIT	21
6.2 TEST PROCEDURE	21
6.3 DEVIATION FROM STANDARD	21
6.4 TEST SETUP	21
6.5 EUT OPERATION CONDITIONS	21
6.6 TEST RESULTS	21
7 . CONDUCTED SPURIOUS EMISSION	22
7.1 LIMIT	22
7.2 TEST PROCEDURE	22
7.3 DEVIATION FROM STANDARD	22
7.4 TEST SETUP	22
7.5 EUT OPERATION CONDITIONS	22
7.6 TEST RESULTS	22
8 . POWER SPECTRAL DENSITY	23
8.1 LIMIT	23
8.2 TEST PROCEDURE	23
8.3 DEVIATION FROM STANDARD	23
8.4 TEST SETUP	23
8.5 EUT OPERATION CONDITIONS	23
8.6 TEST RESULTS	23
9 . MEASUREMENT INSTRUMENTS LIST	24
10 . EUT TEST PHOTO	27
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	33
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	36
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	41
APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ	44
APPENDIX E - BANDWIDTH	55
APPENDIX F - MAXIMUM OUTPUT POWER	57

Table of Contents**Page****APPENDIX G - CONDUCTED SPURIOUS EMISSION****59****APPENDIX H - POWER SPECTRAL DENSITY****61**

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-2-2409H035	R00	Original Report.	Oct. 12, 2024	Valid

1. 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 Emission	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 to this device.
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China

BTL's Registration Number for FCC: 964234

BTL's Designation Number for FCC: CN1374

1.2 MEASUREMENT UNCERTAINTY

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

The BTL measurement uncertainty as below table:

A. Radiated emissions test:

Test Site	Measurement Frequency Range	Ant. H / V	U, (dB)
SH-CB02	9 KHz~30 MHz	-	2.72
	30 MHz~200 MHz	V	4.4
	30 MHz~200 MHz	H	3.16
	200 MHz~1,000 MHz	V	4.6
	200 MHz~1,000 MHz	H	4.2
	1GHz ~ 6GHz	-	4.56
	6GHz ~ 18GHz	-	5.14
	18 ~ 26.5 GHz	-	1.68
	26.5~40 GHz		1.71

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

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	24°C	49%	AC 120V/60Hz	Toby Xiong
Radiated Emissions-9 kHz to 30 MHz	28°C	48%	AC 120V/60Hz	Yahya Fang
Radiated Emissions-30 MHz to 1000 MHz	28°C	49%	AC 120V/60Hz	Yahya Fang
Radiated Emissions-Above 1000 MHz	22.6°C ~28°C	45%~49%	AC 120V/60Hz	Yahya Fang
Bandwidth	25°C~27	42%~44	AC 120V/60Hz	Thacker Tang
Maximum Output Power	25°C~27	42%~44	AC 120V/60Hz	Thacker Tang
Conducted Spurious Emission	25°C~27	42%~44	AC 120V/60Hz	Thacker Tang
Power Spectral Density	25°C~27	42%~44	AC 120V/60Hz	Thacker Tang

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Photo Sticker Cutter
Test Model	DHP700
Series Model	N/A
Model Difference(s)	N/A
Software Version	DHP700
Hardware Version	33
HW version	RevA
SW version	33
Power Source	DC Voltage supplied from AC/DC adapter Brand/Model: Baolijin/ BLJ38W240160P-T
Power Rating	I/P: 100-240V - 50/60Hz 1.0A O/P:24.0V  1.6A
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Type	GFSK
Bit Rate of Transmitter	1Mbps
Max. Output Power	1Mbps: -1.39 dBm (0.0007 W)

Note:

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

2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	20	2442
01	2404	21	2444
02	2406	22	2446
03	2408	23	2448
04	2410	24	2450
05	2412	25	2452
06	2414	26	2454
07	2416	27	2456
08	2418	28	2458
09	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

3. Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	Perilla	PCB	N/A	-1.3

Note:

The antenna gain is provided by the manufacturer.

2.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description
Mode 1	TX Mode_1Mbps Channel 00/19/39

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 1	TX Mode_1Mbps Channel 39

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 1	TX Mode_1Mbps Channel 39

Radiated emissions test - Above 1GHz	
Final Test Mode	Description
Mode 1	TX Mode_1Mbps Channel 00/19/39

Conducted test	
Final Test Mode	Description
Mode 1	TX Mode_1Mbps Channel 00/19/39

Note:

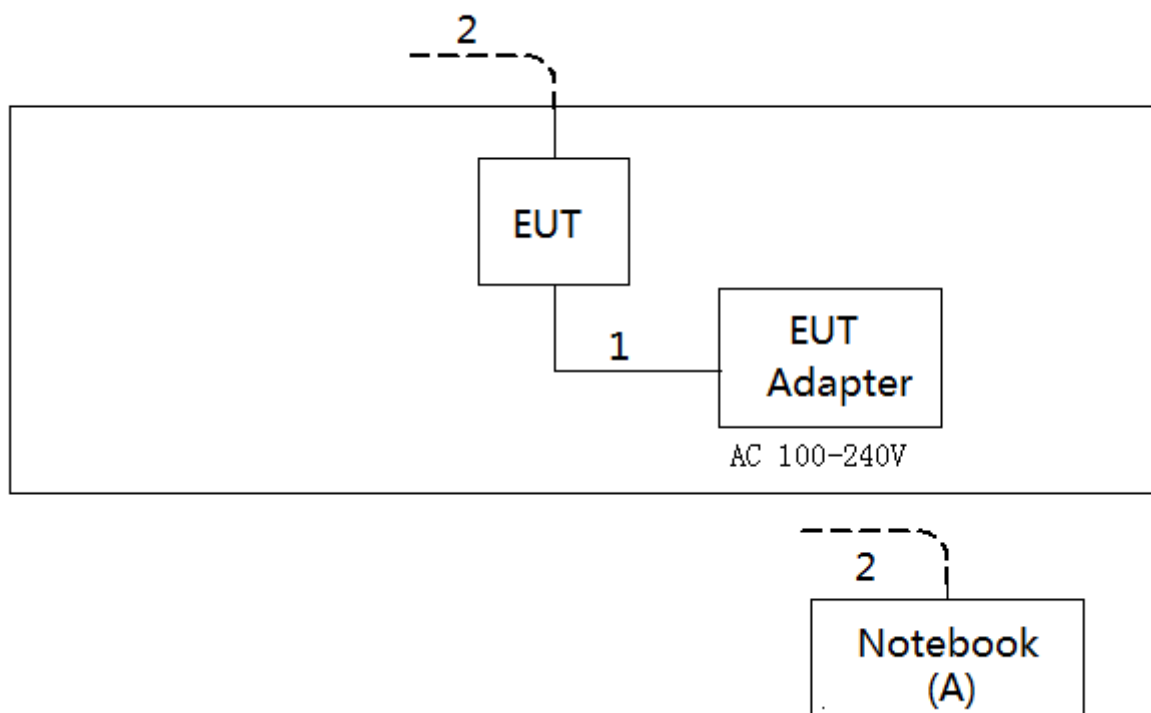
- (1) For radiated emission above 18 GHz test, only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (2) For AC power line conducted emissions and radiated emissions below 1 GHz test, the 1Mbps Channel 39 is found to be the worst case and recorded.
- (3) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.

2.3 PARAMETERS OF TEST SOFTWARE

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test Software Version	BR BlueletSuite_v6_0		
Frequency (MHz)	2402	2440	2480
1Mbps	Default	Default	Default

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.5 SUPPORT UNITS

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

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	USB Cable	NO	NO	10m
1	DC Cable	NO	NO	1m

3. AC POWER LINE CONDUCTED EMISSIONS

3.1 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.

3.2 TEST PROCEDURE

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

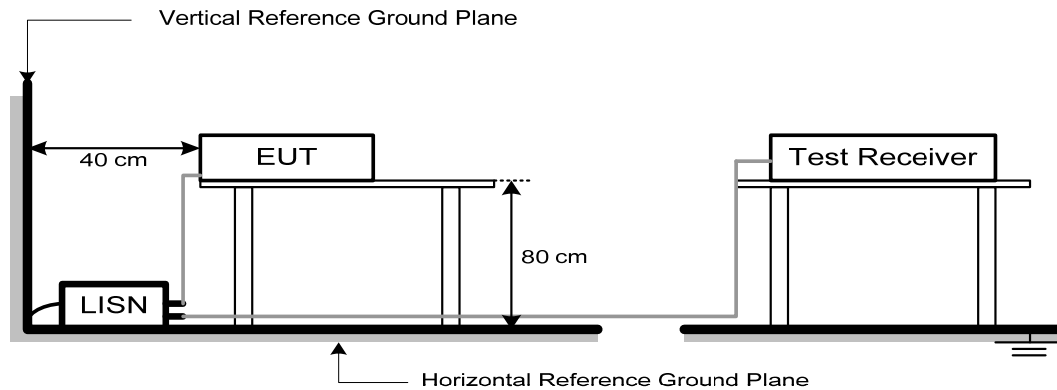
The following table is the setting of the receiver:

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

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP



3.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

Remark:

- (1) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』 . If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a " * " marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150 kHz to 30 MHz.

4. RADIATED EMISSIONS

4.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

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

Note:

- (1) The limit for radiated test was performed according to FCC 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).

4.2 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 shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
- 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

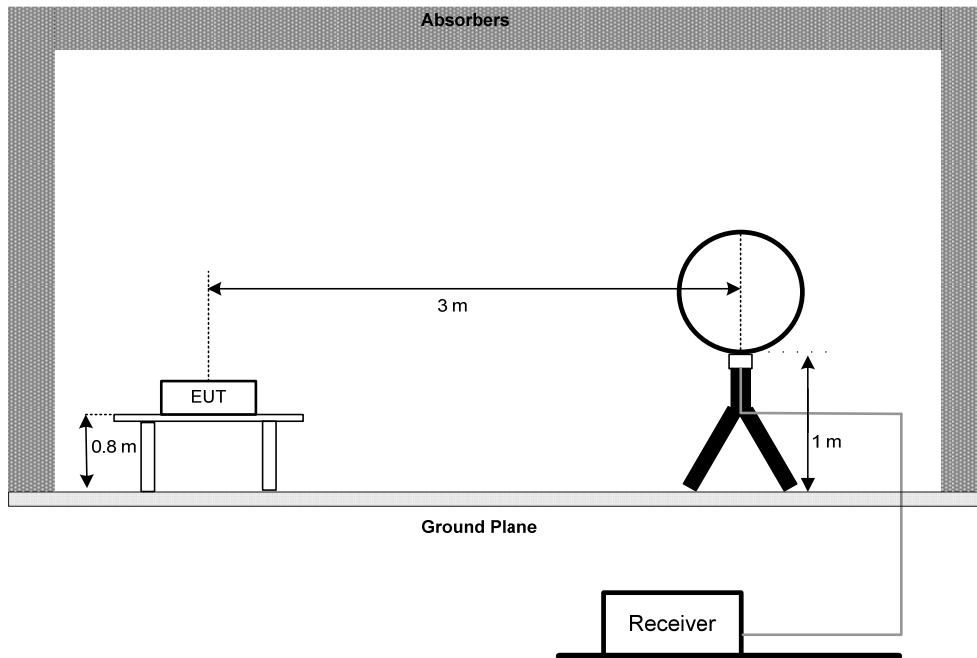
Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector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

4.3 DEVIATION FROM TEST STANDARD

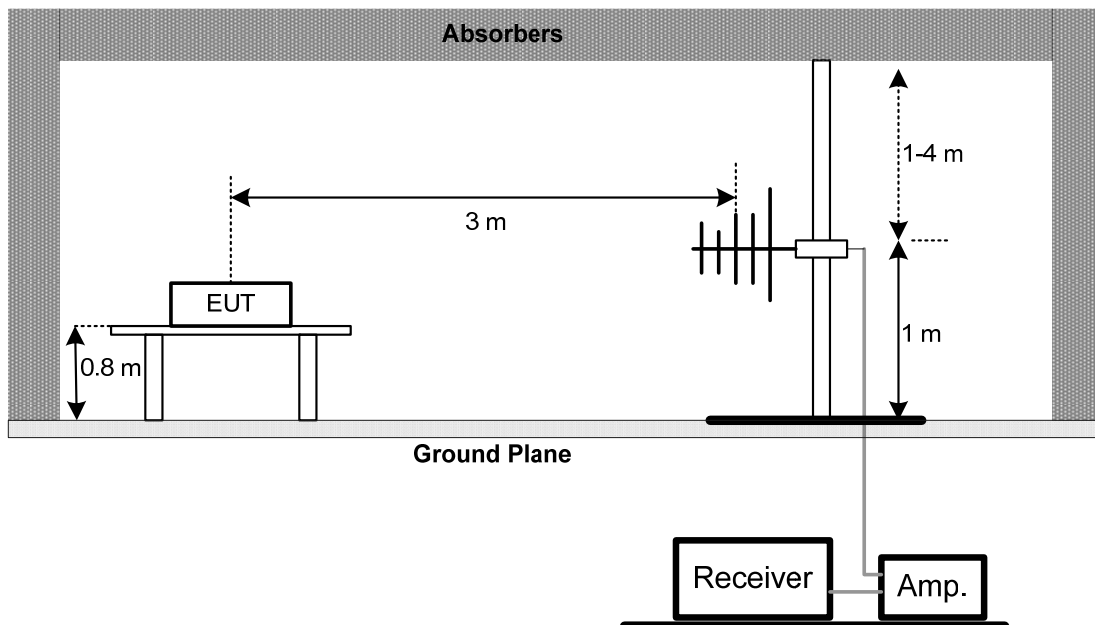
No deviation.

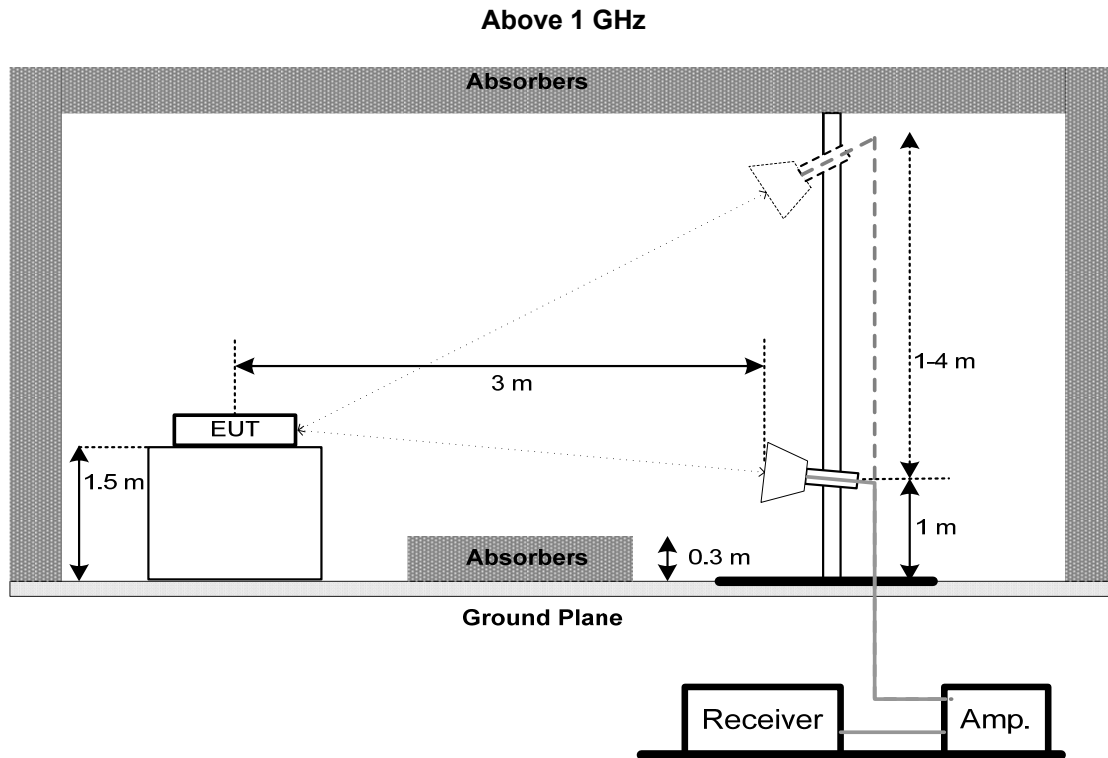
4.4 TEST SETUP

9 kHz to 30 MHz



30 MHz to 1 GHz





4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT - 9 kHz TO 30 MHz

Please refer to the APPENDIX B.

Remark:

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

4.7 TEST RESULT - 30 MHz TO 1000 MHz

Please refer to the APPENDIX C.

4.8 TEST RESULT - ABOVE 1000 MHz

Please refer to the APPENDIX D.

Remark:

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

5. BANDWIDTH

5.1 LIMIT

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

5.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- 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	30 kHz
VBW	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. MAXIMUM OUTPUT POWER

6.1 LIMIT

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

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:

Spectrum Parameters	Setting
Span Frequency	$\geq 3 \times \text{RBW}$
RBW	3 MHz
VBW	3 MHz
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 F.

7. CONDUCTED SPURIOUS EMISSION

7.1 LIMIT

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

7.2 TEST PROCEDURE

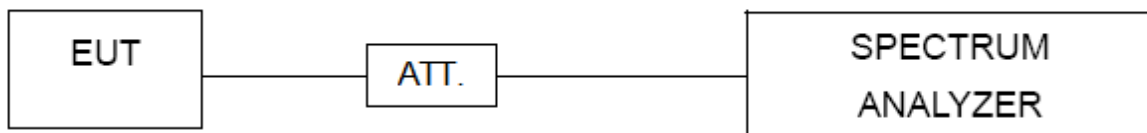
- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

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

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8. POWER SPECTRAL DENSITY

8.1 LIMIT

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

8.2 TEST PROCEDURE

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

Spectrum Parameters	Setting
Span Frequency	2 MHz (1 Mbps)
RBW	3 kHz
VBW	10 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 H.

9. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Line Impedance Stabilisation Network	Schwarzbeck	NNLK 8121	8121-822	Feb. 2, 2025
2	TWO-LINE V-NETWORK	R&S	ENV216	101340	Jul. 12, 2025
3	Test Cable	emci	EMCRG400-BM-N M-10000	N/A	Mar. 09, 2025
4	EMI Test Receiver	R&S	ESR3	100082	Dec. 22, 2024
5	50Ω Terminator	SHX	TF2-1G-A	17051601	Feb. 2, 2025
6	50Ω coaxial switch	Anritsu	MP59B	6201750902	Feb. 2, 2025
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EMCI	EMCI LPA600	275	Mar. 12, 2025
2	MXE EMI Receiver	Keysight	N9038A	MY56400088	Feb. 2, 2025
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A
4	Wideband Radio Communication Test	R&S	CMW500	129246	Jul. 12, 2025
5	Pre-Amplifier	emci	EMC9135	980401	Feb. 2, 2025

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	emci	VULB 9168	1467	Mar. 12, 2025
2	Pre-Amplifier	emci	EMC9135	980401	Feb. 2, 2025
3	MXE EMI Receiver	Keysight	N9038A	MY56400088	Feb. 2, 2025
4	Test Cable	emci	EMC104-SM-SM-7 000	181020	May. 20, 2025
5	Test Cable	emci	RWP50-4.6A-SMS M-1M	20200928 002	May 20, 2025
6	Test Cable	emci	EMC104-SM-SM-2 500	170618	May 20, 2025
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A
8	Wideband Radio Communication Test	R&S	CMW500	129246	Jul. 12, 2025

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double-Ridged Waveguide Horn Antenna	ETS-Lindgren	BBHA 9120D	9120D-1817	Mar.12, 2025
2	Pre-Amplifier	emci	EMC051845SE	980725	Jul. 12, 2025
3	EXA Spectrum Analyzer	Keysight	N9010A	MY56480579	Feb. 2, 2025
4	Test Cable	emci	EMC104-SM-SM-7000	181020	May 20, 2025
5	Test Cable	emci	RWP50-4.6A-SMS M-1M	20200928 002	May 20, 2025
6	Test Cable	emci	EMC104-SM-SM-2500	170618	May 20, 2025
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1	N/A	N/A
8	Wideband Radio Communication Test	R&S	CMW500	129246	Jul. 12, 2025
9	Antenna	Schwarzbeck	BBHA9170	9170-651	Mar. 15, 2025
10	Pre-Amplifier	EMC INSTRUMENT	EMC184045B	980265	Feb. 2, 2025
11	Test Cable	emci	100% S-Parameter Recorded	F02-150819-039	Oct. 21, 2024
12	Test Cable	emci	EMC104-SM-SM-2500	170616	Oct. 21, 2024
13	Test Cable	emci	EMC104-SM-SM-2500	170652	Oct. 21, 2024
14	EXA Spectrum Analyzer	Keysight	N9010A	MY56480559	Feb. 2, 2025

Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 12, 2025
2	BTL Conducted Test	BTL	20231123	N/A	N/A

Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 12, 2025
2	BTL Conducted Test	BTL	20231123	N/A	N/A

Antenna Conducted Spurious Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 12, 2025
2	BTL Conducted Test	BTL	20231123	N/A	N/A

Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 12, 2025
2	BTL Conducted Test	BTL	20231123	N/A	N/A

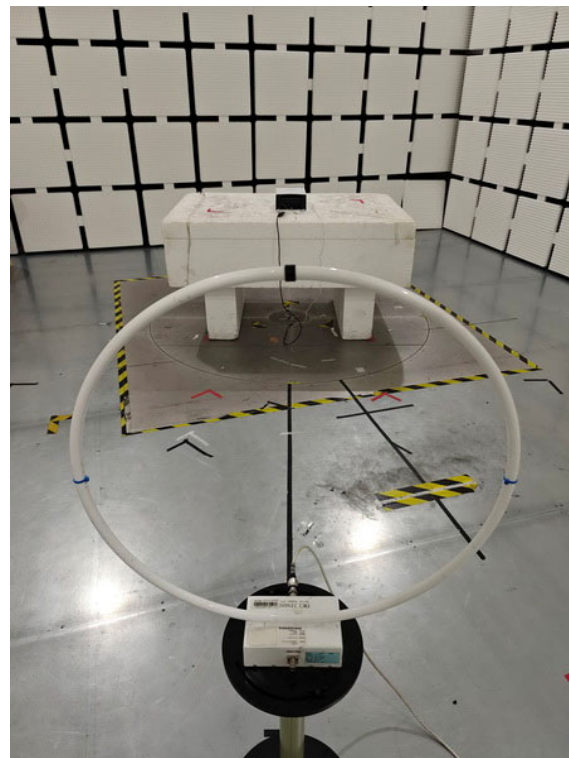
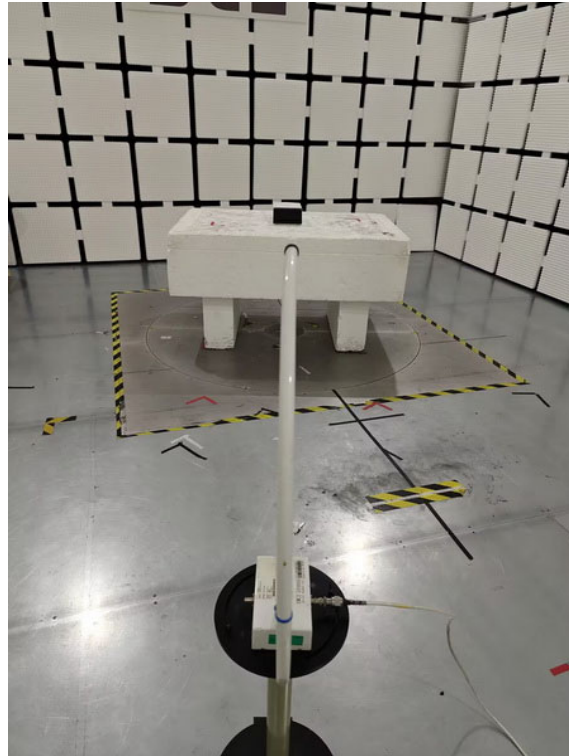
Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

10. EUT TEST PHOTO

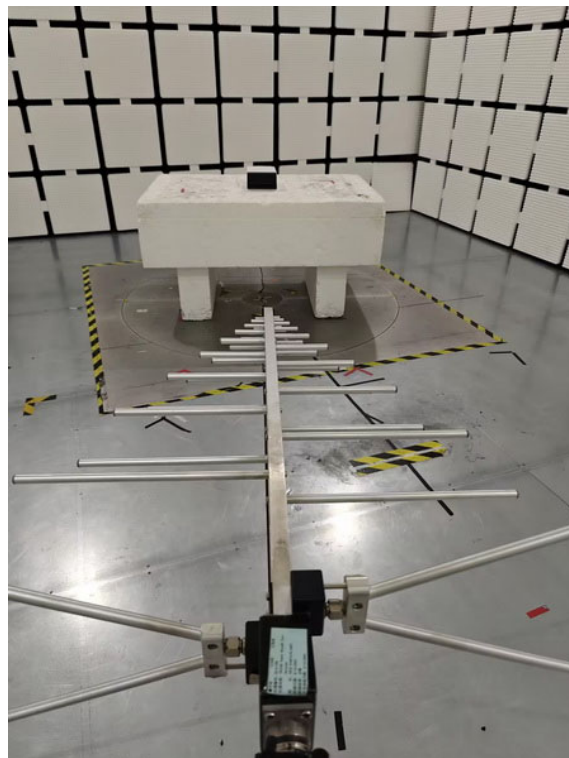
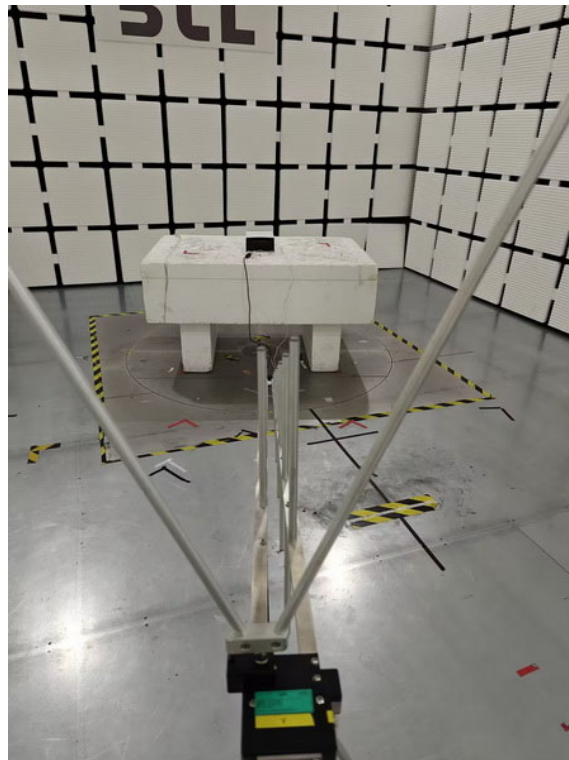
Radiated Emissions Test Photos

9 kHz to 30 MHz



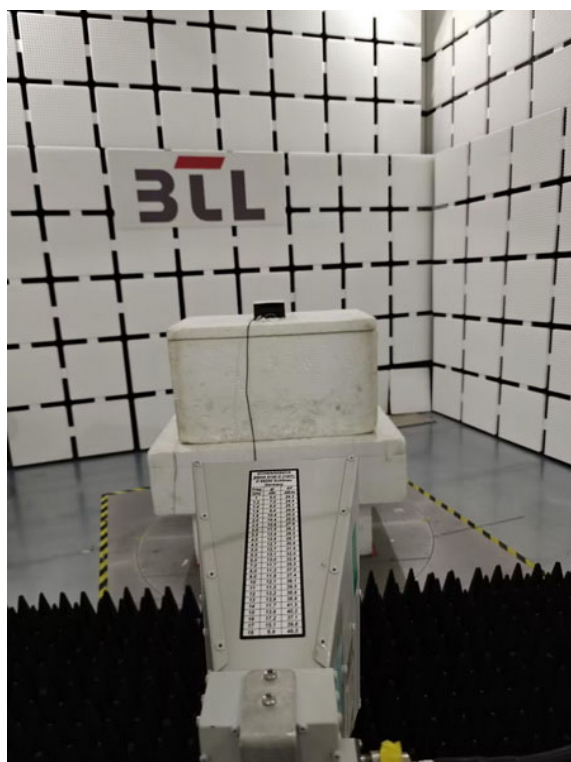
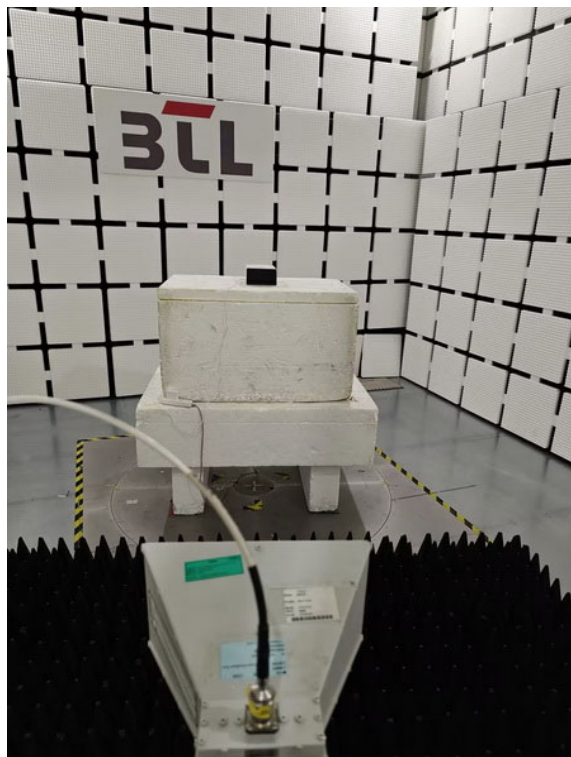
Radiated Emissions Test Photos

30 MHz to 1000 MHz



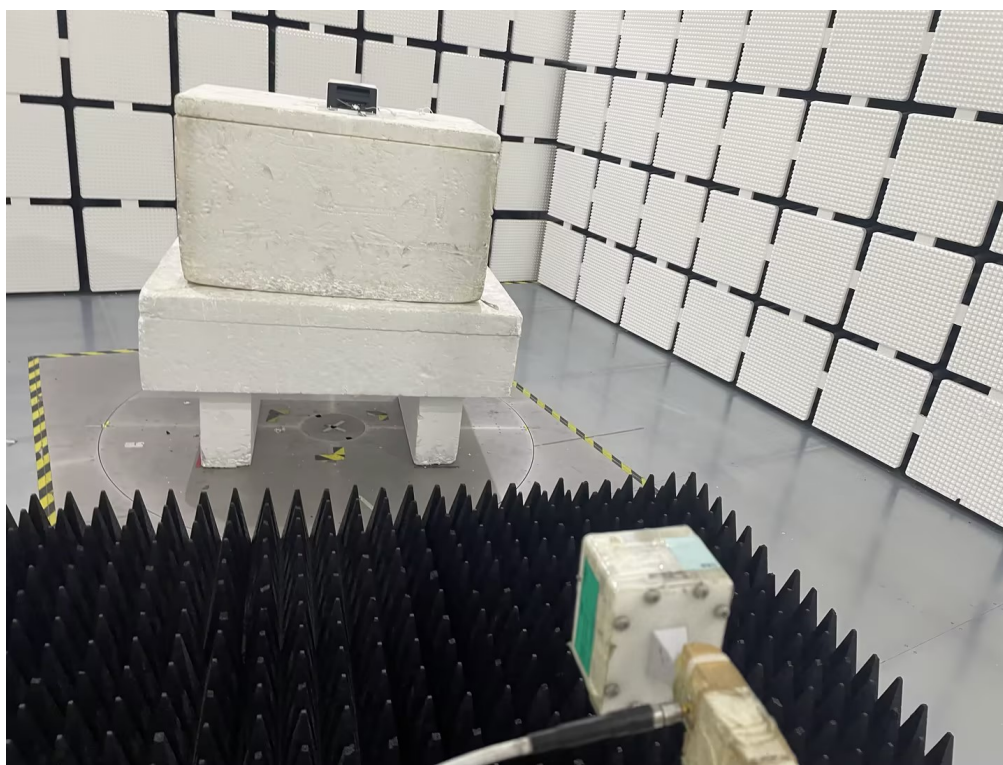
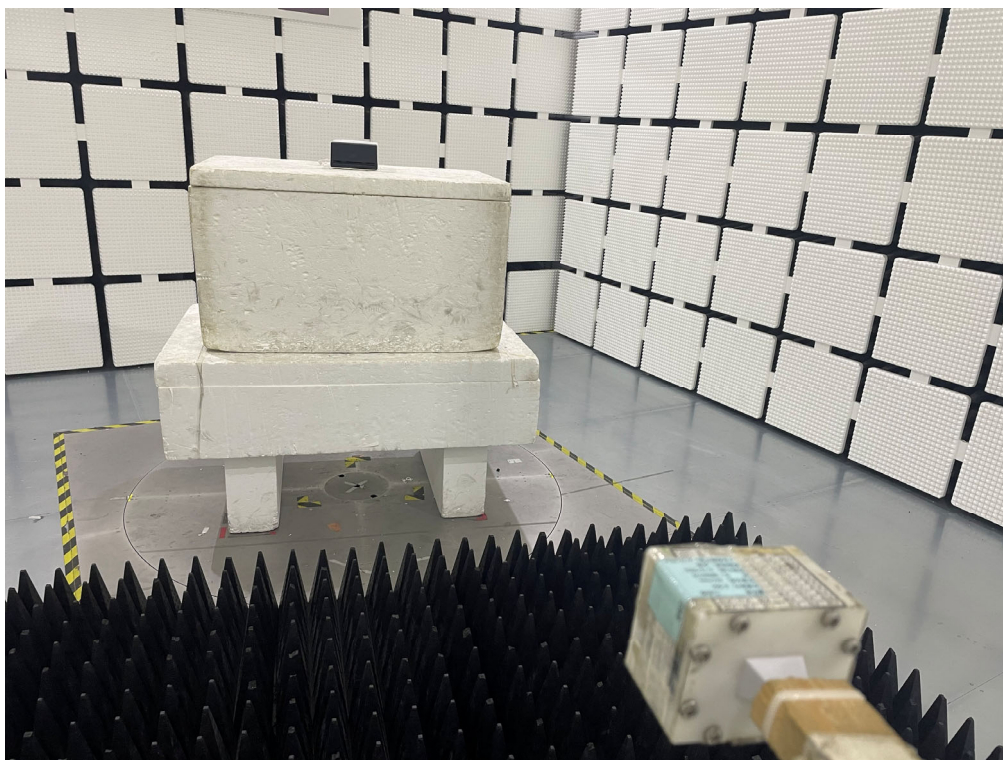
Radiated Emissions Test Photos

Above 1 GHz

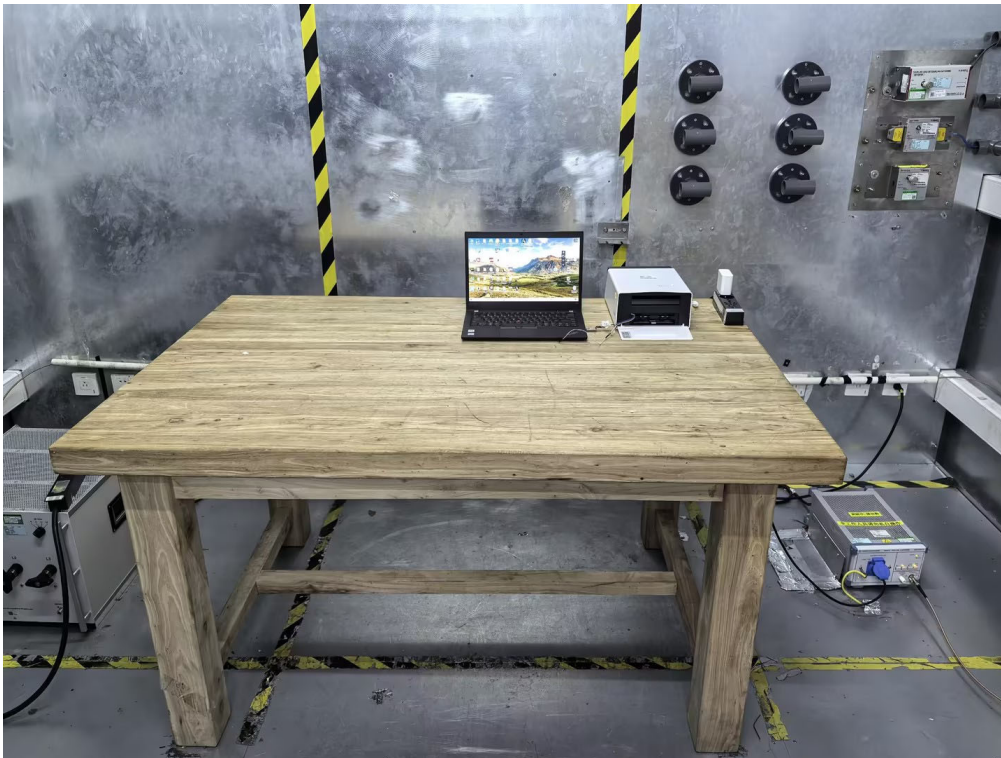


Radiated Emissions Test Photos

Above 18 GHz



Conducted Test Photos

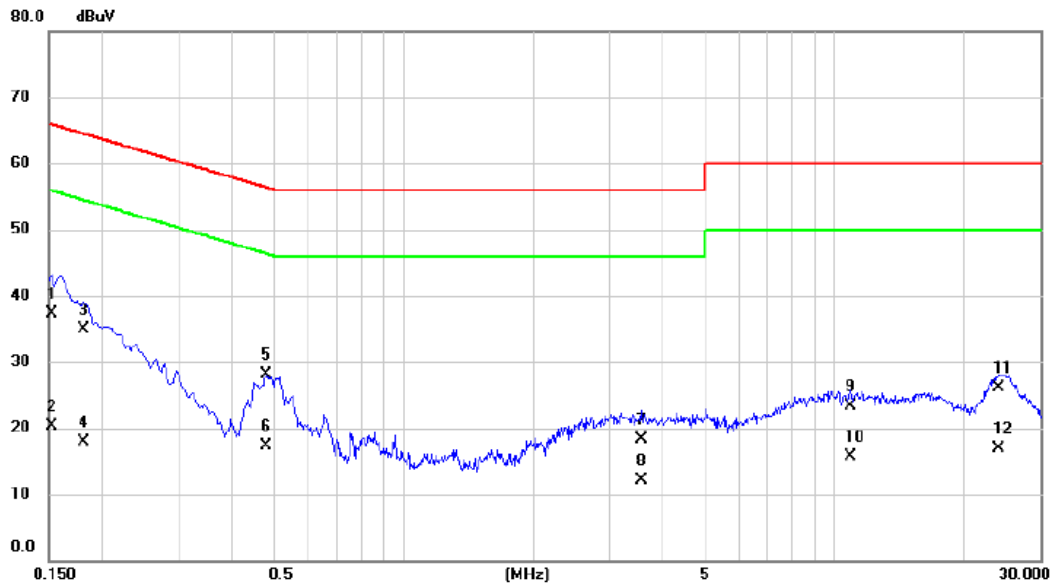


Colse - up Photo



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX Mode Channel 39 _1Mbps	Phase	Line
-----------	---------------------------	-------	------

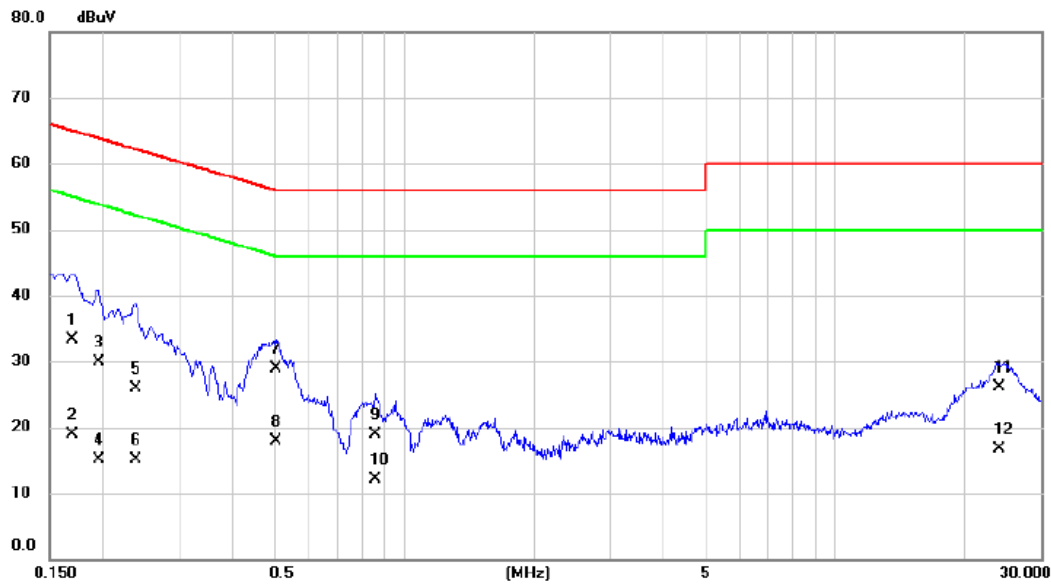


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1522	27.50	9.73	37.23	65.88	-28.65	QP	
2		0.1522	10.50	9.73	20.23	55.88	-35.65	AVG	
3		0.1815	25.20	9.79	34.99	64.42	-29.43	QP	
4		0.1815	8.10	9.79	17.89	54.42	-36.53	AVG	
5	*	0.4807	18.30	9.86	28.16	56.33	-28.17	QP	
6		0.4807	7.40	9.86	17.26	46.33	-29.07	AVG	
7		3.5633	8.30	10.04	18.34	56.00	-37.66	QP	
8		3.5633	2.10	10.04	12.14	46.00	-33.86	AVG	
9		10.9208	13.10	10.27	23.37	60.00	-36.63	QP	
10		10.9208	5.50	10.27	15.77	50.00	-34.23	AVG	
11		24.0203	15.30	10.80	26.10	60.00	-33.90	QP	
12		24.0203	6.20	10.80	17.00	50.00	-33.00	AVG	

REMARKS:

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

Test Mode	TX Mode Channel 39 _1Mbps	Phase	Neutral
-----------	---------------------------	-------	---------



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1702	23.50	9.80	33.30	64.95	-31.65	QP	
2	0.1702	9.20	9.80	19.00	54.95	-35.95	AVG	
3	0.1950	20.10	9.82	29.92	63.82	-33.90	QP	
4	0.1950	5.20	9.82	15.02	53.82	-38.80	AVG	
5	0.2377	16.10	9.83	25.93	62.18	-36.25	QP	
6	0.2377	5.30	9.83	15.13	52.18	-37.05	AVG	
7 *	0.5054	19.00	9.83	28.83	56.00	-27.17	QP	
8	0.5054	8.00	9.83	17.83	46.00	-28.17	AVG	
9	0.8564	9.00	9.85	18.85	56.00	-37.15	QP	
10	0.8564	2.20	9.85	12.05	46.00	-33.95	AVG	
11	23.9437	15.20	10.93	26.13	60.00	-33.87	QP	
12	23.9437	5.80	10.93	16.73	50.00	-33.27	AVG	

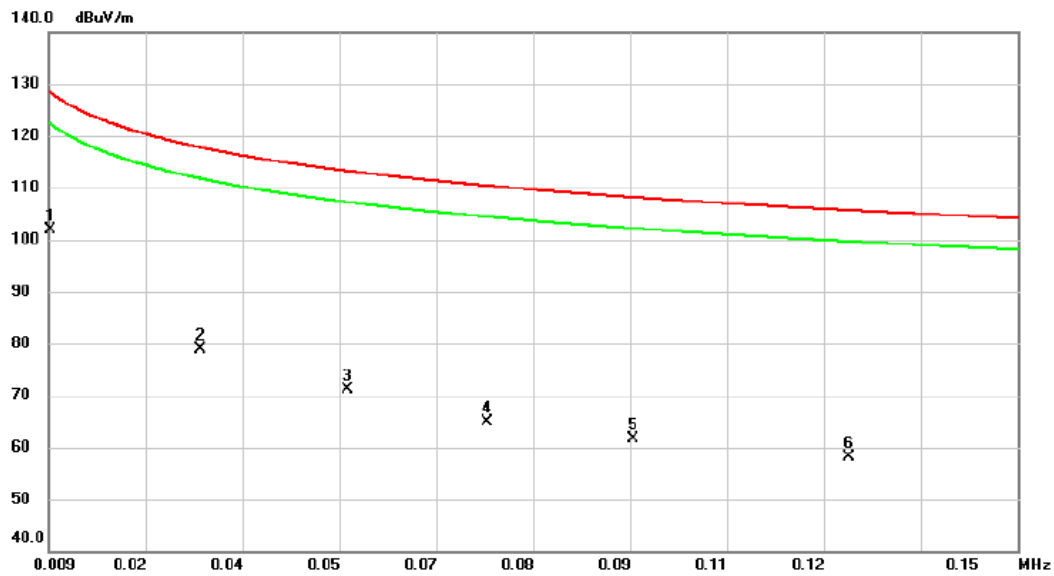
REMARKS:

(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 Mode_1Mbps Channel 39	Polarization	Ant 0°
-----------	--------------------------	--------------	--------



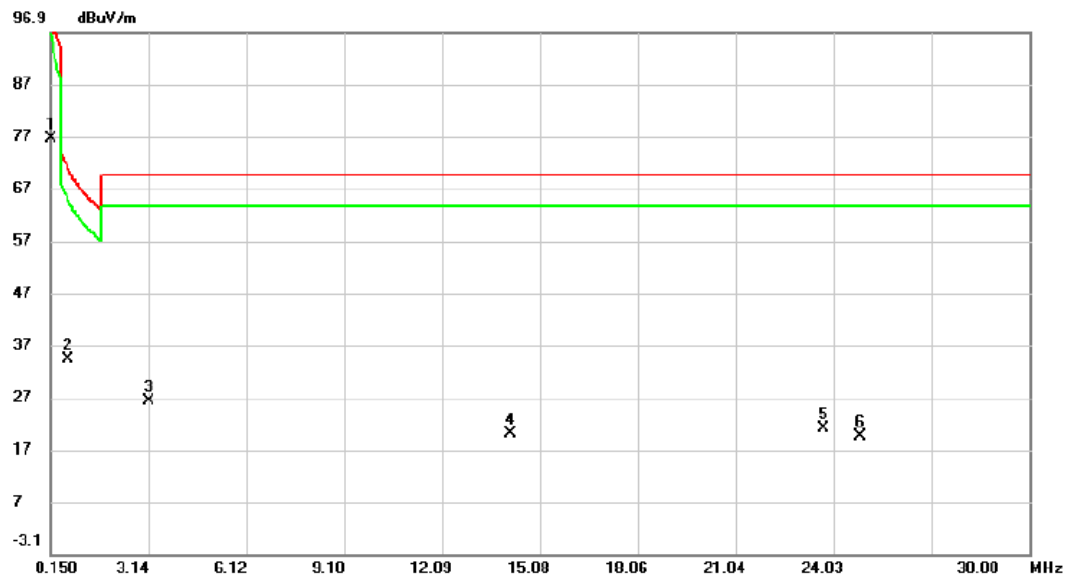
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.0092	53.02	48.77	101.79	128.33	-26.54	peak	
2		0.0310	42.06	36.91	78.97	117.78	-38.81	peak	
3		0.0526	38.82	32.32	71.14	113.19	-42.05	peak	
4		0.0728	35.31	29.68	64.99	110.36	-45.37	peak	
5		0.0940	34.26	27.39	61.65	108.14	-46.49	peak	
6		0.1254	32.43	25.66	58.09	105.64	-47.55	peak	

REMARKS:

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

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

Test Mode	TX Mode_1Mbps Channel 39	Polarization	Ant 0°
-----------	--------------------------	--------------	--------

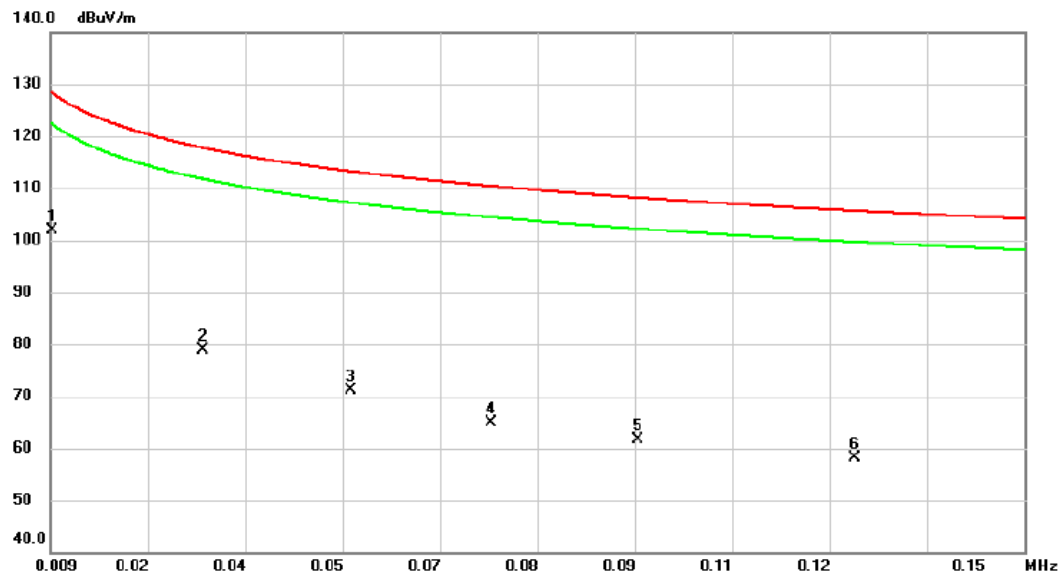


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector Comment
1	*	0.1500	51.87	24.54	76.41	104.09	-27.68	peak
2		0.6724	22.05	12.25	34.30	71.05	-36.75	peak
3		3.1500	20.97	5.39	26.36	69.54	-43.18	peak
4		14.1944	19.79	0.26	20.05	69.54	-49.49	peak
5		23.7463	26.09	-5.11	20.98	69.54	-48.56	peak
6		24.8508	25.07	-5.66	19.41	69.54	-50.13	peak

REMARKS:

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

Test Mode	TX Mode_1Mbps Channel 39	Polarization	Ant 90°
-----------	--------------------------	--------------	---------

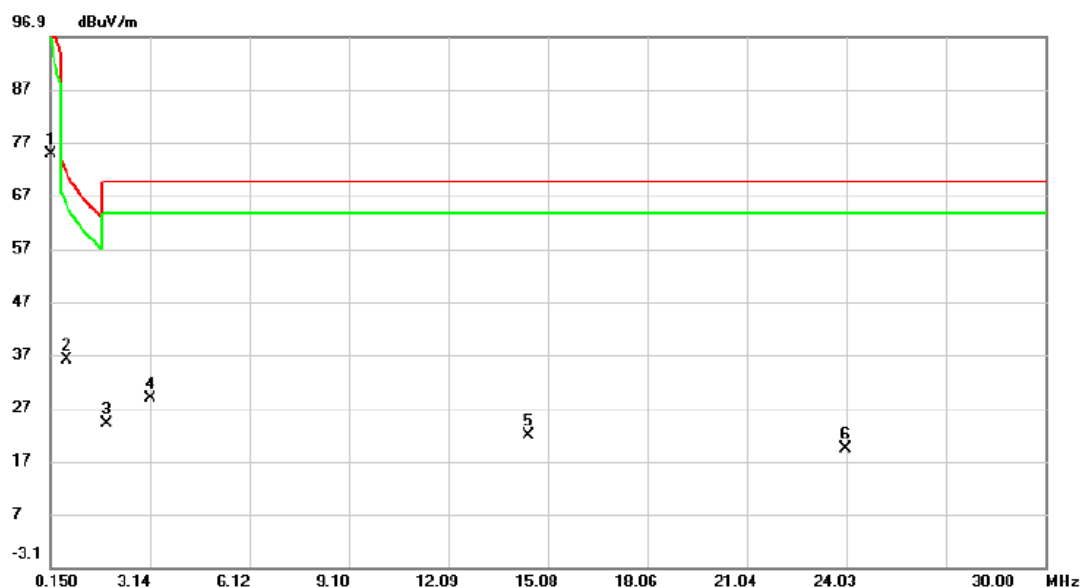


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1 *	0.0092	53.02	48.77	101.79	128.33	-26.54	peak	
2	0.0310	42.06	36.91	78.97	117.78	-38.81	peak	
3	0.0526	38.82	32.32	71.14	113.19	-42.05	peak	
4	0.0728	35.31	29.68	64.99	110.36	-45.37	peak	
5	0.0940	34.26	27.39	61.65	108.14	-46.49	peak	
6	0.1254	32.43	25.66	58.09	105.64	-47.55	peak	

REMARKS:

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

Test Mode	TX Mode_1Mbps Channel 39	Polarization	Ant 90°
-----------	--------------------------	--------------	---------



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.1500	50.36	24.54	74.90	104.09	-29.19	peak	
2		0.6425	23.58	12.52	36.10	71.45	-35.35	peak	
3		1.8365	16.69	7.25	23.94	69.54	-45.60	peak	
4		3.1648	23.52	5.37	28.89	69.54	-40.65	peak	
5		14.5078	21.59	0.07	21.66	69.54	-47.88	peak	
6		24.0001	24.64	-5.28	19.36	69.54	-50.18	peak	

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 Mode_1Mbps Channel 39	Polarization	Vertical
-----------	--------------------------	--------------	----------

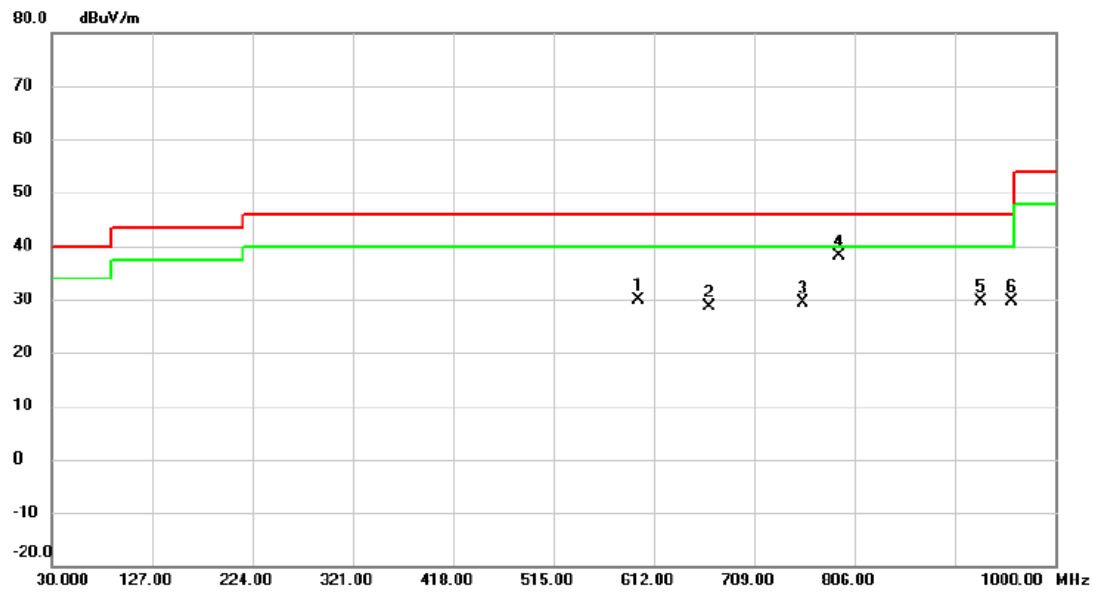


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.2750	49.14	-18.00	31.14	40.00	-8.86	peak	
2		790.9650	36.05	-5.58	30.47	46.00	-15.53	peak	
3		854.5000	33.45	-5.03	28.42	46.00	-17.58	peak	
4		901.0600	35.42	-5.06	30.36	46.00	-15.64	peak	
5		924.3400	33.14	-4.55	28.59	46.00	-17.41	peak	
6		959.7450	35.10	-3.94	31.16	46.00	-14.84	peak	

REMARKS:

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

Test Mode	TX Mode_1Mbps Channel 39	Polarization	Horizontal
-----------	--------------------------	--------------	------------



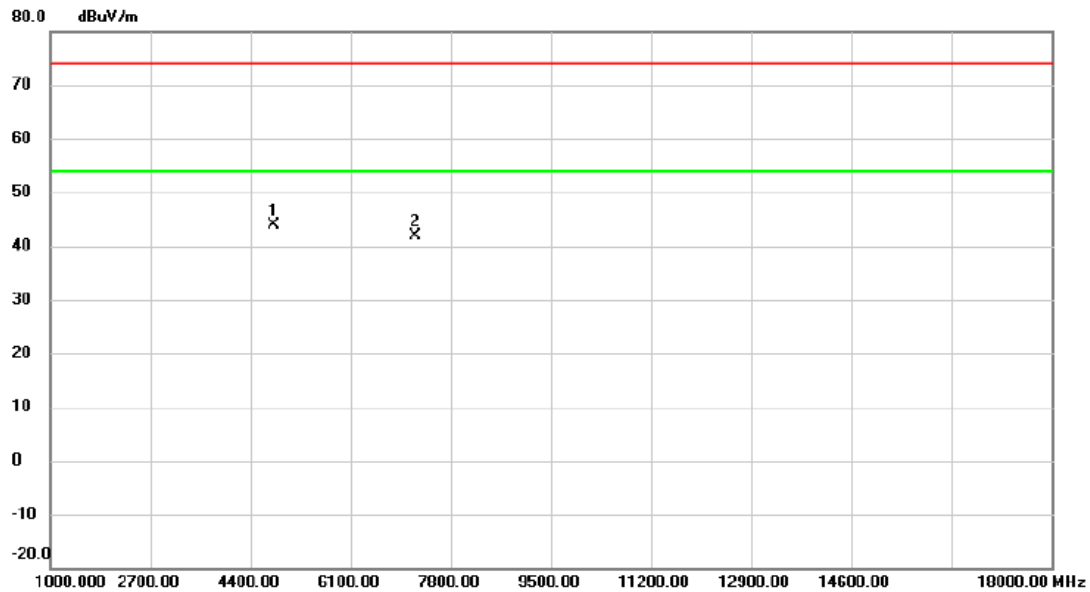
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		596.9650	38.32	-8.47	29.85	46.00	-16.15	peak	
2		665.8350	36.43	-7.77	28.66	46.00	-17.34	peak	
3		756.0450	35.47	-6.04	29.43	46.00	-16.57	peak	
4	*	790.9650	43.70	-5.58	38.12	46.00	-7.88	peak	
5		927.7350	34.13	-4.47	29.66	46.00	-16.34	peak	
6		957.8050	33.64	-3.95	29.69	46.00	-16.31	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 2402 MHz _CH00_1Mbps	Polarization	Vertical
-----------	-------------------------	--------------	----------

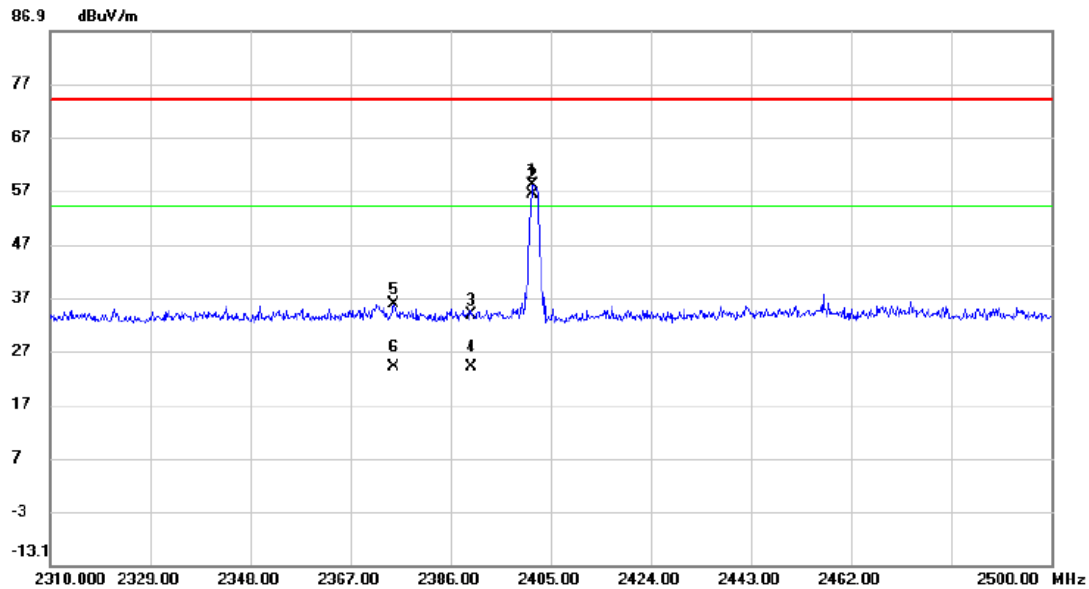


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4804.000	52.98	-9.11	43.87	74.00	-30.13	peak	
2		7206.000	51.98	-10.18	41.80	74.00	-32.20	peak	

REMARKS:

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

Test Mode	TX 2402 MHz _CH00_1Mbps	Polarization	Horizontal
-----------	-------------------------	--------------	------------



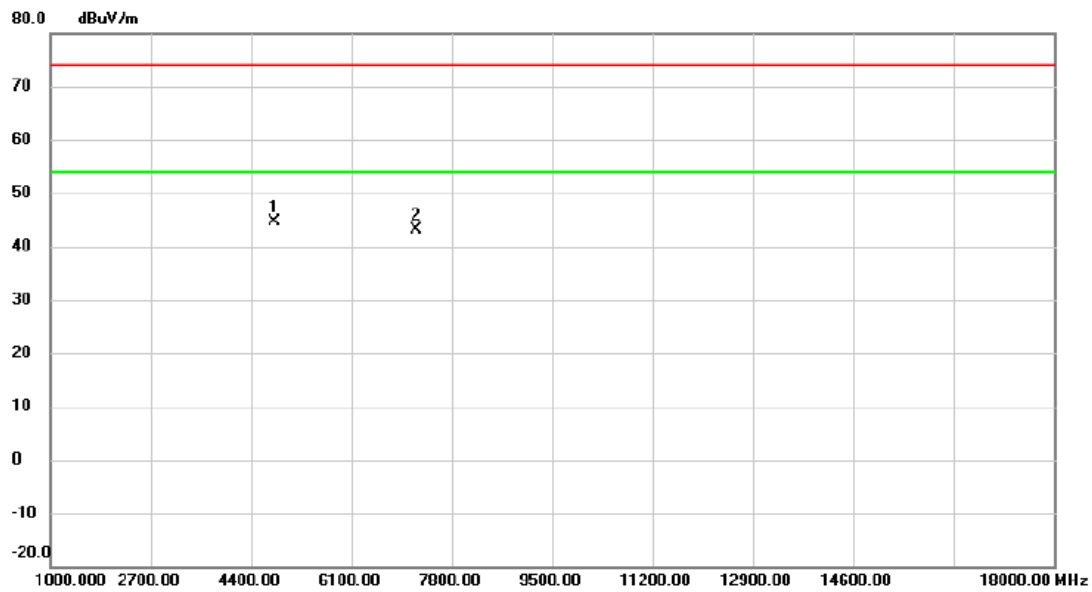
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	2401.675	78.08	-20.12	57.96	74.00	-16.04	peak	
2 *	2401.675	76.40	-20.12	56.28	54.00	2.28	AVG	
3	2390.000	53.89	-20.17	33.72	74.00	-40.28	peak	
4	2390.000	44.14	-20.17	23.97	54.00	-30.03	AVG	
5	2375.265	56.03	-20.22	35.81	74.00	-38.19	peak	
6	2375.265	44.36	-20.22	24.14	54.00	-29.86	AVG	

REMARKS:

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

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

Test Mode	TX 2402 MHz _CH00_1Mbps	Polarization	Horizontal
-----------	-------------------------	--------------	------------

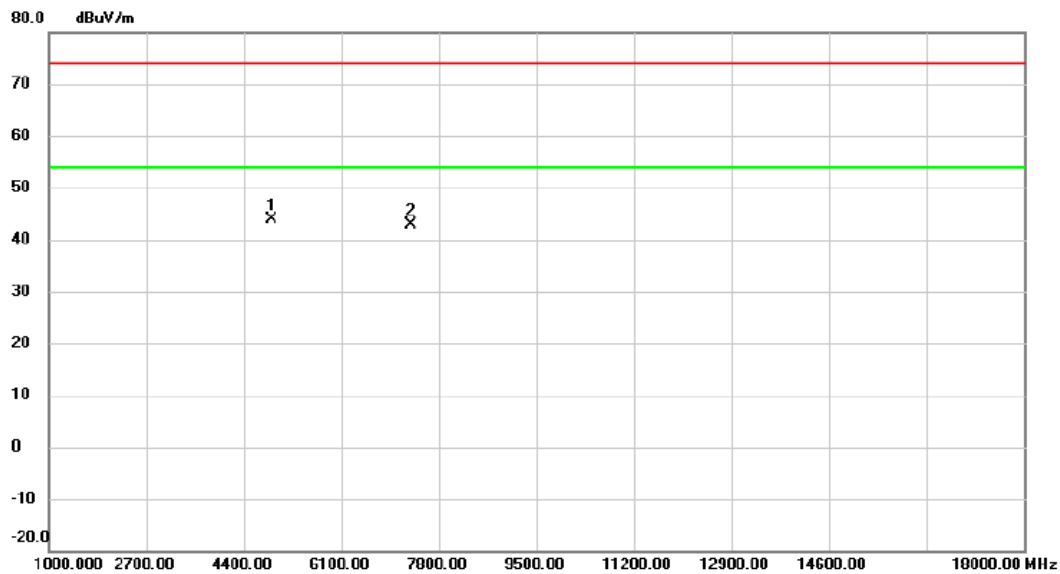


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4804.000	53.77	-9.11	44.66	74.00	-29.34	peak	
2		7206.000	53.39	-10.18	43.21	74.00	-30.79	peak	

REMARKS:

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

Test Mode	TX 2440 MHz _CH19_1Mbps	Polarization	Vertical
-----------	-------------------------	--------------	----------

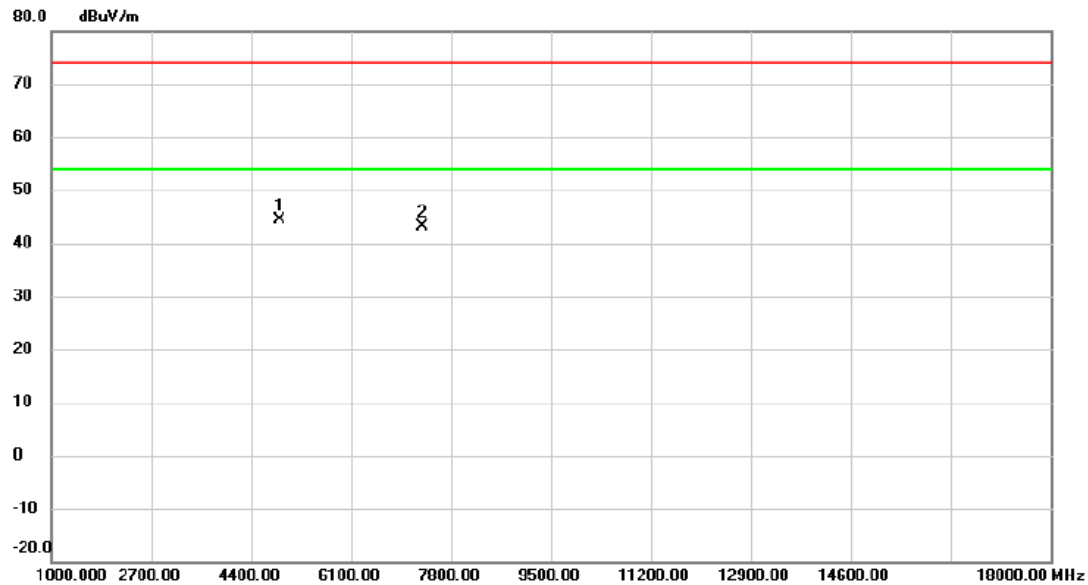


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4880.000	52.47	-8.63	43.84	74.00	-30.16	peak	
2		7320.000	52.70	-9.90	42.80	74.00	-31.20	peak	

REMARKS:

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

Test Mode	TX 2440 MHz _CH19_1Mbps	Polarization	Horizontal
-----------	-------------------------	--------------	------------

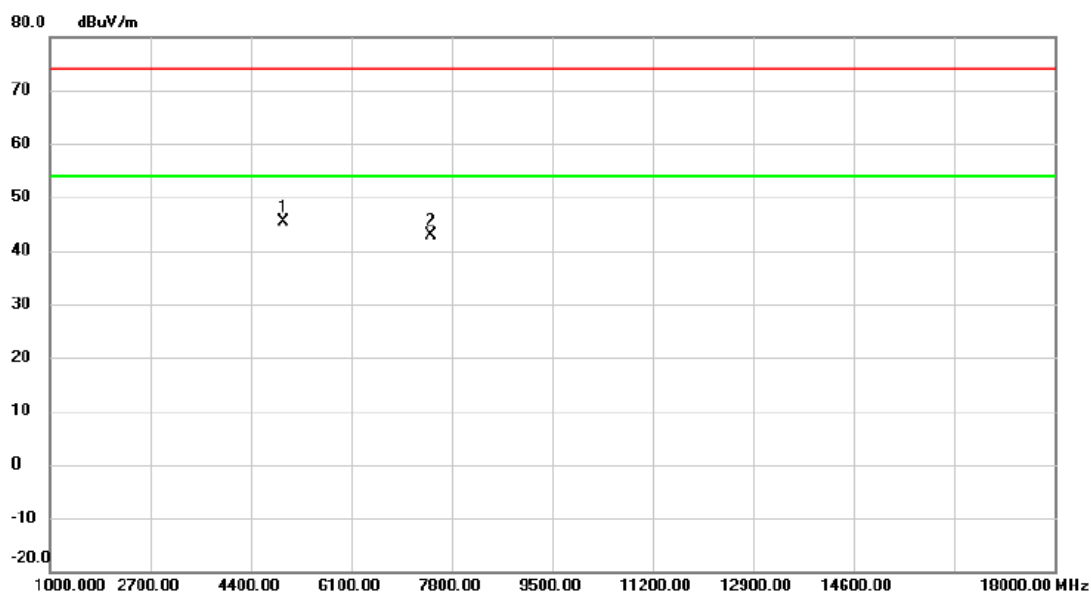


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4880.000	52.95	-8.63	44.32	74.00	-29.68	peak	
2		7320.000	52.99	-9.90	43.09	74.00	-30.91	peak	

REMARKS:

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

Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Vertical
-----------	-------------------------	--------------	----------



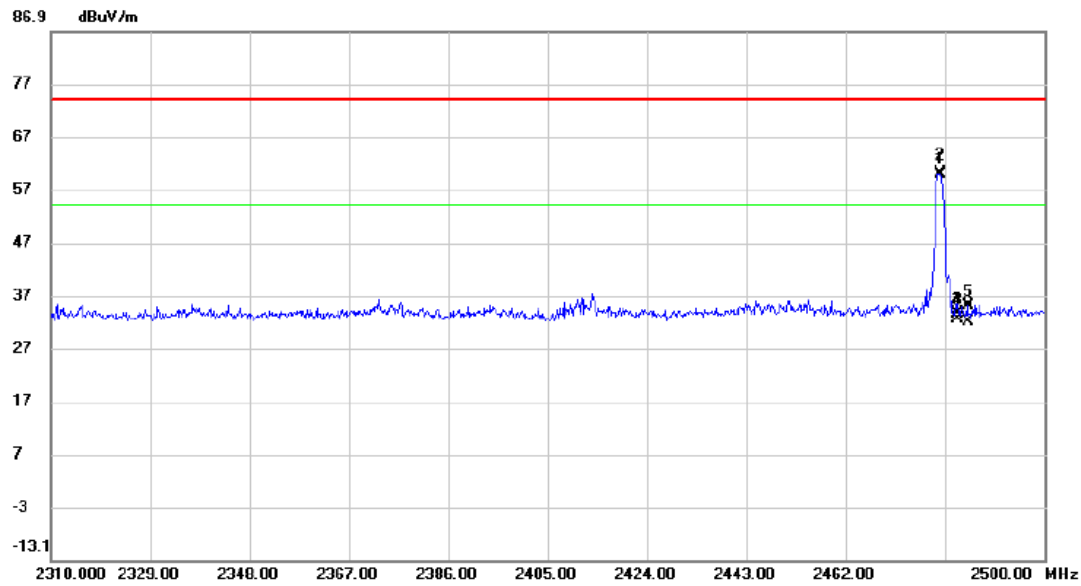
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4960.000	53.38	-8.11	45.27	74.00	-28.73	peak	
2		7440.000	52.42	-9.60	42.82	74.00	-31.18	peak	

REMARKS:

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

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

Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Horizontal
-----------	-------------------------	--------------	------------

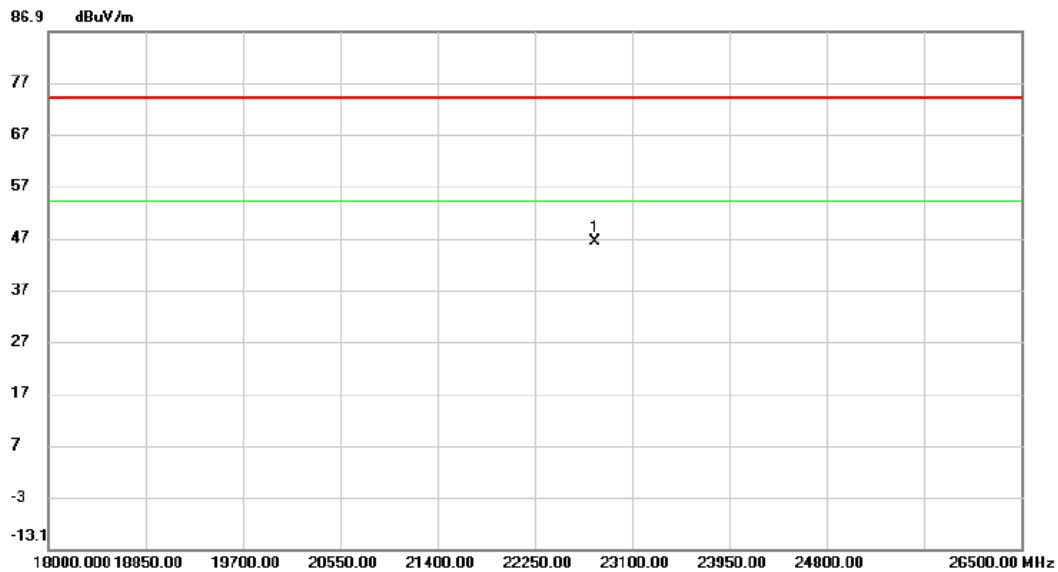


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2480.240	79.82	-19.81	60.01	74.00	-13.99	peak	
2	*	2480.240	79.51	-19.81	59.70	54.00	5.70	AVG	
3		2483.500	53.22	-19.79	33.43	74.00	-40.57	peak	
4		2483.500	52.29	-19.79	32.50	54.00	-21.50	AVG	
5		2485.465	54.86	-19.79	35.07	74.00	-38.93	peak	
6		2485.465	51.82	-19.79	32.03	54.00	-21.97	AVG	

REMARKS:

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

Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Vertical
-----------	-------------------------	--------------	----------

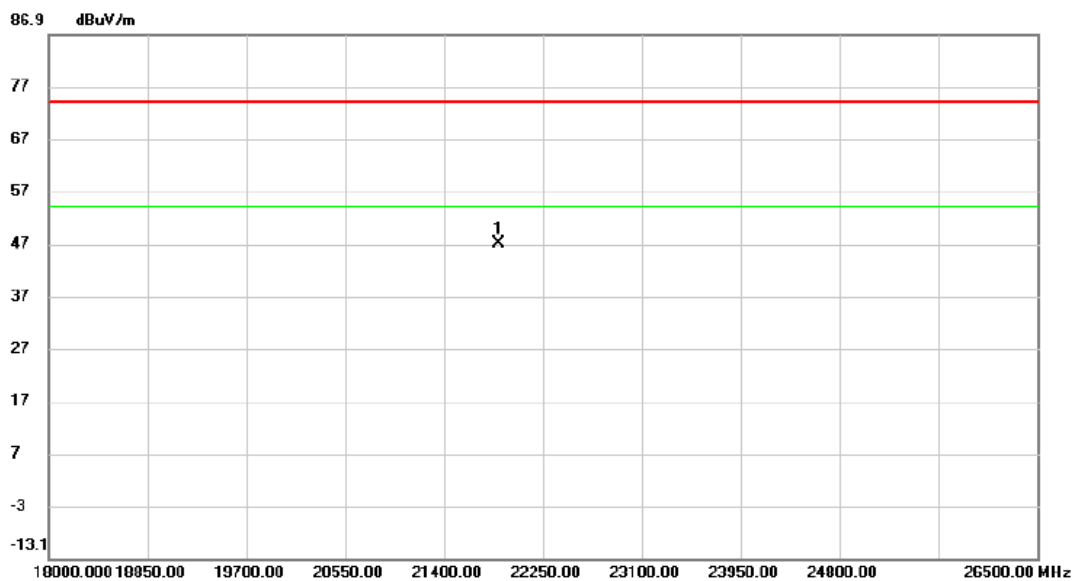


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	22772.750	51.53	-5.20	46.33	74.00	-27.67	peak	

REMARKS:

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

Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Horizontal
-----------	-------------------------	--------------	------------

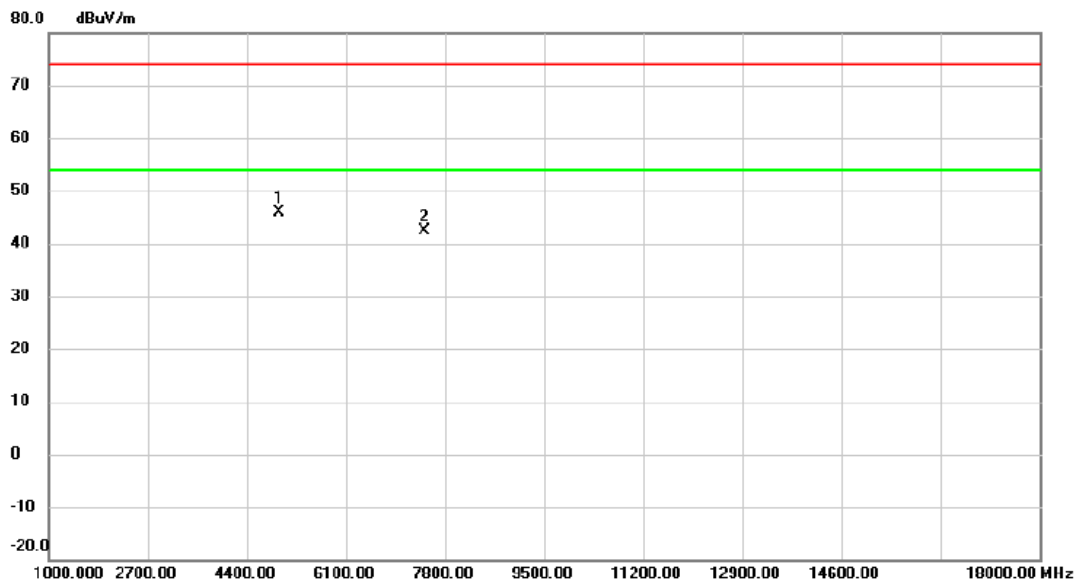


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV		dBuV/m	dBuV/m	dB		
1	*	21870.900	53.49	-6.55	46.94	74.00	-27.06	peak	

REMARKS:

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

Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Horizontal
-----------	-------------------------	--------------	------------



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV		dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4960.000	54.01	-8.11	45.90	74.00	-28.10	peak	
2		7440.000	52.03	-9.60	42.43	74.00	-31.57	peak	

REMARKS:

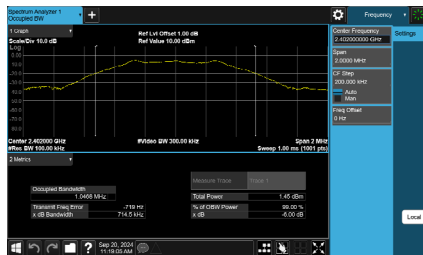
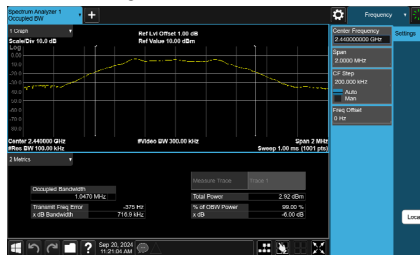
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX E - BANDWIDTH

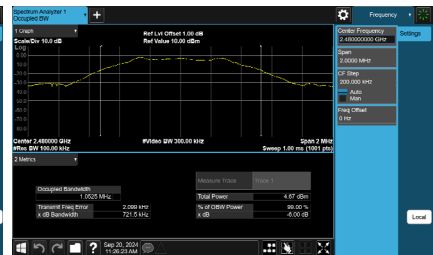
Test Mode	TX Mode _1Mbps
-----------	----------------

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Test Result
00	2402	0.715	1.041	0.5	Pass
19	2440	0.717	1.039	0.5	Pass
39	2480	0.722	1.044	0.5	Pass

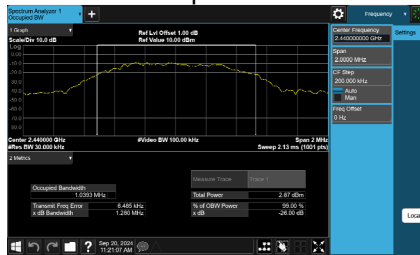
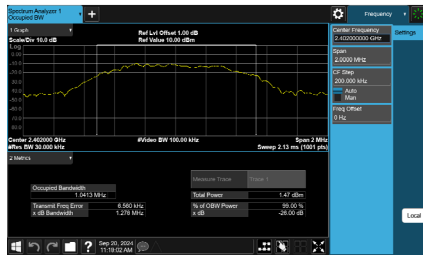
CH00


CH19
6 dB Bandwidth


CH39



99 % Occupied Bandwidth



APPENDIX F - MAXIMUM OUTPUT POWER