



FCC Radio Test Report

FCC ID: RI7ATD551

This report concerns: Class II permissive Change

Project No.	:	2412C414
Equipment	:	LTE Cat-M1 Tracker
Brand Name	:	1. Telit Cinterion 2. DeWALT
Test Model	:	ATD551
Series Model	:	N/A
Applicant	:	Telit Communications S.p.A.
Address	:	Via Stazione di Prosecco 5/b, 34010 Sgonico, Trieste, Italy
Manufacturer	:	Telit Communications S.p.A.
Address	:	Via Stazione di Prosecco 5/b, 34010 Sgonico, Trieste, Italy
Factory	:	Fushan Technology (Vietnam)Limited Liability Company
Address	:	No. 8, Road 6, VSIP Bac Ninh, Phu Chan, Tu Son, Bac Ninh, Vietnam
Date of Receipt	:	Jan. 02, 2025
Date of Test	:	Jan. 03, 2025 ~ Jan. 09, 2025
Issued Date	:	Mar. 13, 2025
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG20250102154-6 for conducted, DG20250102154-3 for radiated.
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.

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.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-5-2412C414	R00	This is a supplementary report to the original test report (BTL-FCCP-5-2404C168). The changes are shown in below table so the worst case of Power, AC Power Line Conducted Emissions and Radiated Emissions are retested and recorded in the report, the original test results please refer to original report.	Mar. 13, 2025	Valid

No.	Workstream	Change Description	Updates / Notes
1	Hardware-LTE Antenna	KAVX Solution#3 implementing	Matching change + cutting tuning trace + adding tuning trace
2	Hardware-GNSS Filter	GNSS Filter	Add SAW filter to GNSS, between module pin and passive tuning components
3	Hardware-Modem Supply Filter	ME310G1WW05R060400 supply filtering	Add EMI filter 120 R to modem supply pins
4	Hardware-GND Copper	Thermal relief for SMD pads on copper GND	Modified copper GND for thermal relief when connecting to SMD pads
5	Hardware Version	V0.6 to V0.7	V0.6 to V0.7

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	-----	PASS	Note(3)
15.247(b)(3)	Maximum Output Power	APPENDIX E	PASS	-----
15.247(d)	Conducted Spurious Emission	-----	PASS	Note(3)
15.247(e)	Power Spectral Density	-----	PASS	Note(3)
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.

(3) The test data please refer to original report No: BTL-FCCP-5-2404C168.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of 1-2/F, 4/F, Building A, 1-2/F, Building B, 3/F, Building C, 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 Measurement:

Test Site	Method	Measurement Frequency Range	U ,(dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.88

B. Radiated emissions Measurement:

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

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

Test Site	Method	Measurement Frequency Range	U ,(dB)
DG-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
Maximum Output Power	1.3 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	23°C	51%	AC 120V/60Hz	Hayden Chen	Jan. 06, 2025
Radiated Emissions-9 kHz to 30 MHz	26°C	47%	AC 120V/60Hz	Hayden Chen	Jan. 07, 2025
Radiated Emissions-30 MHz to 1000 MHz	20°C	39%	AC 120V/60Hz	Drew Tan	Jan. 09, 2025
Radiated Emissions-Above 1000 MHz	20°C	39%	AC 120V/60Hz	Drew Tan	Jan. 09, 2025
Maximum Output Power	21°C	48%	DC 3.7V	Parker Yang	Jan. 08, 2025

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	LTE Cat-M1 Tracker
Brand Name	1. Telit Cinterion 2. DeWALT
Test Model	ATD551
PMN	LTE Cat-M1 Tracker(C1) will use Brand:DeWALT LTE Cat-M1 Tracker(S0) will use Brand:Telit Cinterion LTE Cat-M1 Tracker(S1) will use Brand:Telit Cinterion LTE Cat-M1 Tracker(C2)
Model Difference(s)	Logo, some mechanical parts color, label, accessories are different.
Hardware Version	V0.7
Software Version	V03.05
Power Source	1# DC Voltage supplied from AC adapter. Model: ADS-10LA-06 05010EPCU 2# Supplied from battery.
Power Rating	1# I/P: 100-240V ~ 50/60Hz MAX 0.3A O/P: 5V 2.0A 2# DC 3.7V / 3000mAh
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Type	GFSK
Bit Rate of Transmitter	1Mbps, 2Mbps
Max. Output Power	1Mbps: 8.30 dBm (0.0068 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	P/N	Antenna Type	Connector	Gain (dBi)
1	 KYOCERA AWX	M830320	Ceramic Antenna	N/A	1.8

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 Mode_1Mbps Channel 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 39

Maximum output power test	
Final Test Mode	Description
Mode 1	TX Mode_1Mbps Channel 39

Note:

- (1) 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.
- (2) For radiated emission above 1 GHz test, the polarization of Vertical and Horizontal are evaluated, the worst case is Horizontal and recorded.

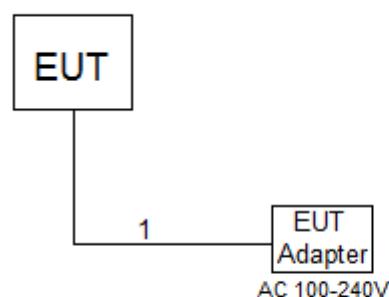
3.3 PARAMETERS OF TEST SOFTWARE

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

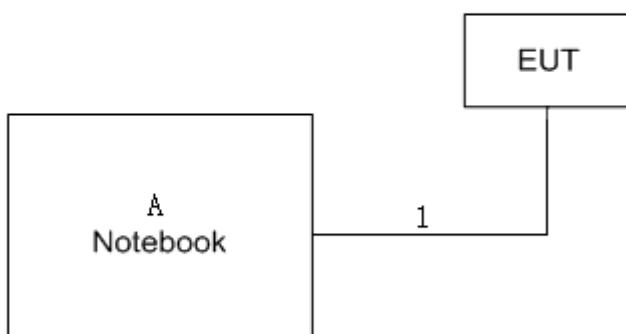
Test Software Version	QCOM_V1.6
Frequency (MHz)	2480
1Mbps	default

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated emissions test – 9KHz to 30MHz, 30 MHz to 1000 MHz



Radiated emissions test – Above 1000MHz



3.5 SUPPORT UNITS

Radiated emissions test –9KHz to 30MHz, 30 MHz to 1000 MHz

Item	Equipment	Brand	Model No.	Series No.
-	-	-	-	-

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

Radiated emissions test – Above 1000MHz

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	Huawei	WFH9	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	USB Cable	NO	NO	0.8m

3.6 CUSTOMER INFORMATION DESCRIPTION

- 1) The antenna gain is provided by the manufacturer.
- 2) Except for AC power line conducted emissions and radiated emissions, the results of all test items include cable losses. Part of the cable losses (0.5 dB) are provided by the manufacturer, while the other parts of the cable losses are provided by the testing laboratory.

4. AC POWER LINE CONDUCTED EMISSIONS

4.1 LIMIT

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

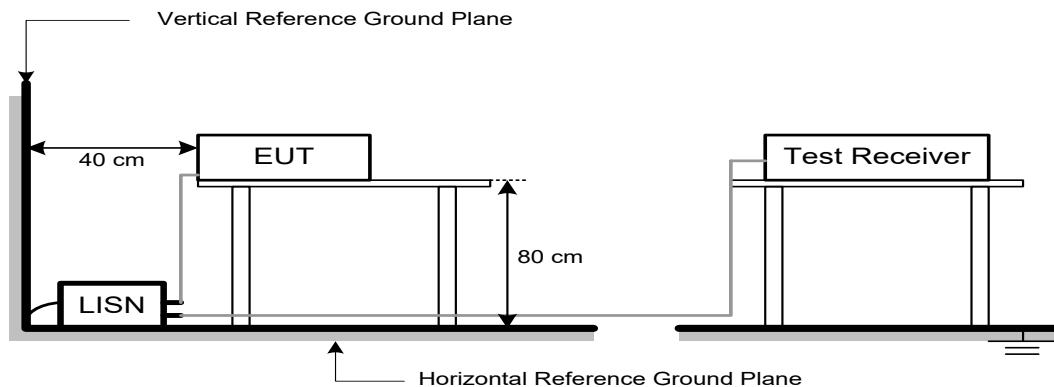
The following table is the setting of the receiver:

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 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.

4.6 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.

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 (dB μ V/m)		Harmonic at 1m (dB μ V/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 (dB μ V/m)=20log Emission level (uV/m).
- (4)

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

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

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

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

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

d_{measure}: Harmonic Actual test distance.

5.2 TEST PROCEDURE

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

The following table is the setting of the receiver:

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

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

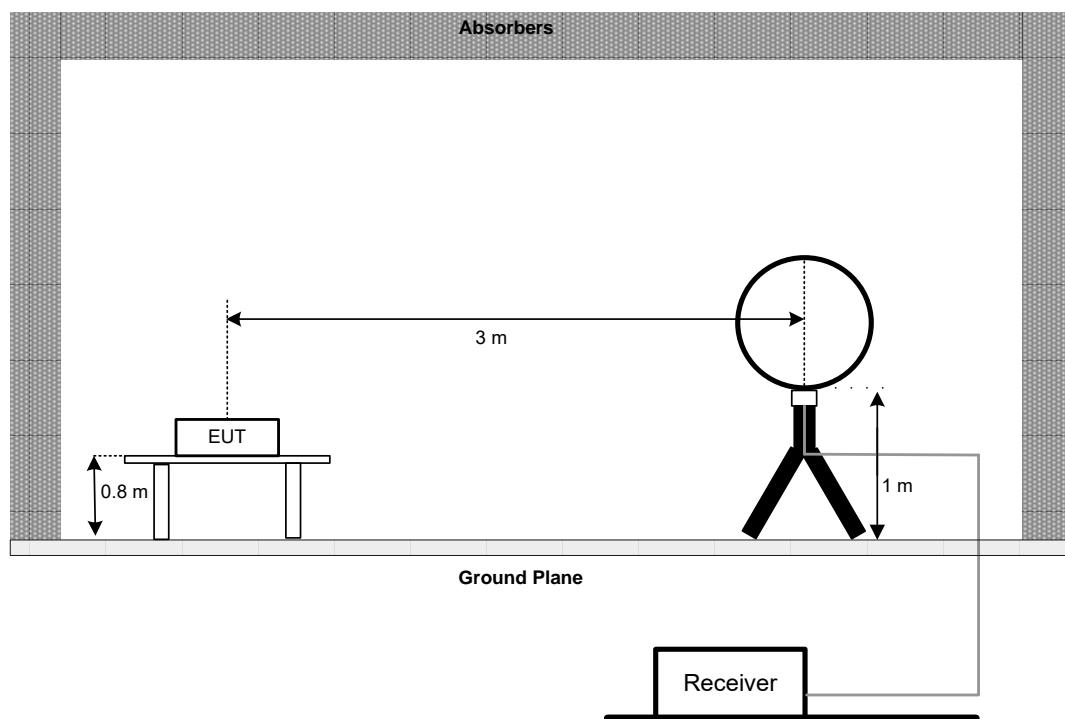
Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector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

5.3 DEVIATION FROM TEST STANDARD

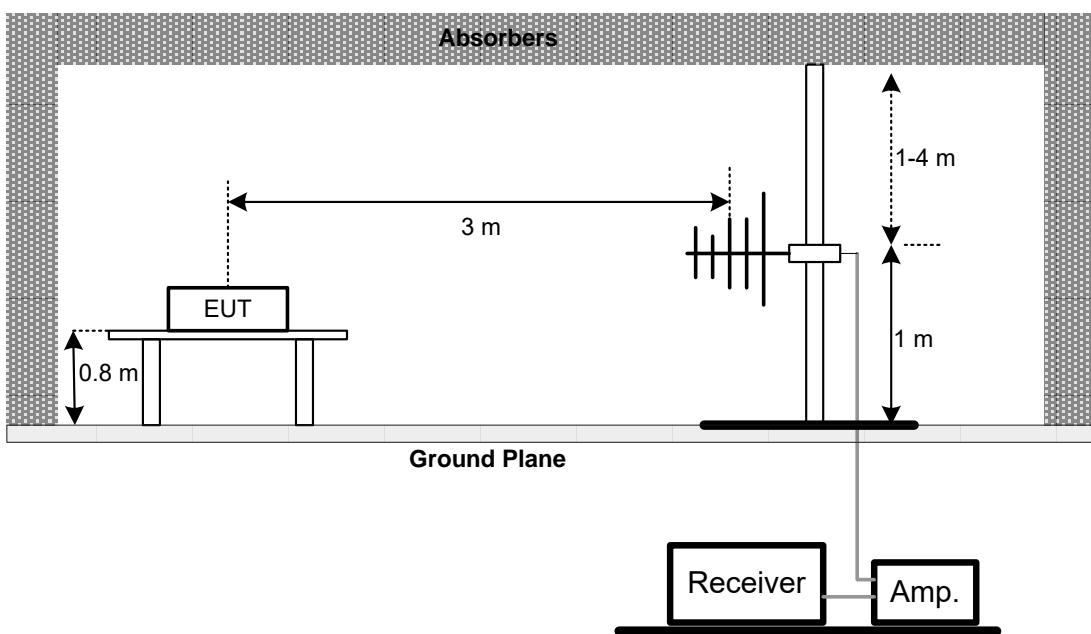
No deviation.

5.4 TEST SETUP

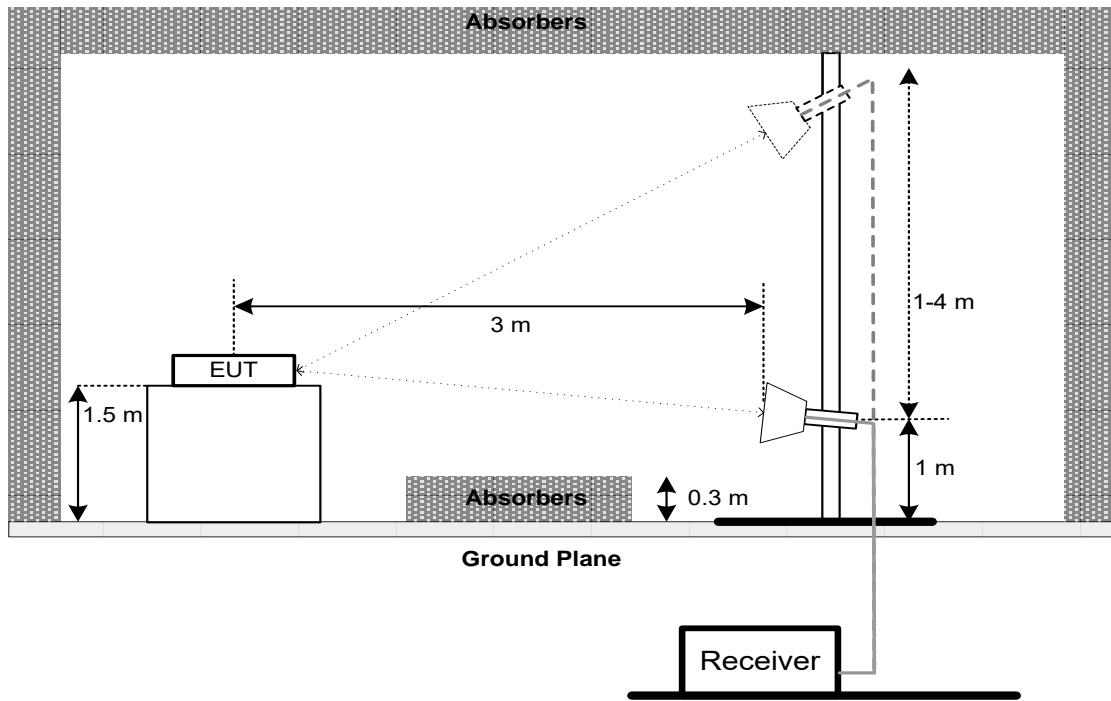
9 kHz to 30 MHz



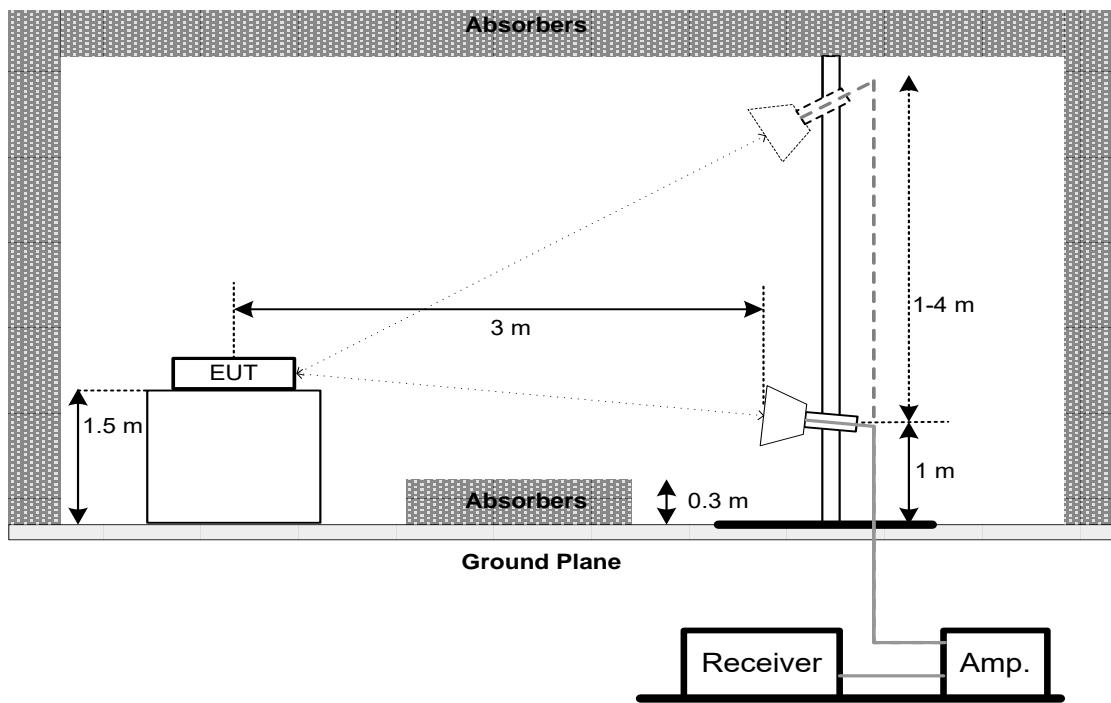
30 MHz to 1 GHz

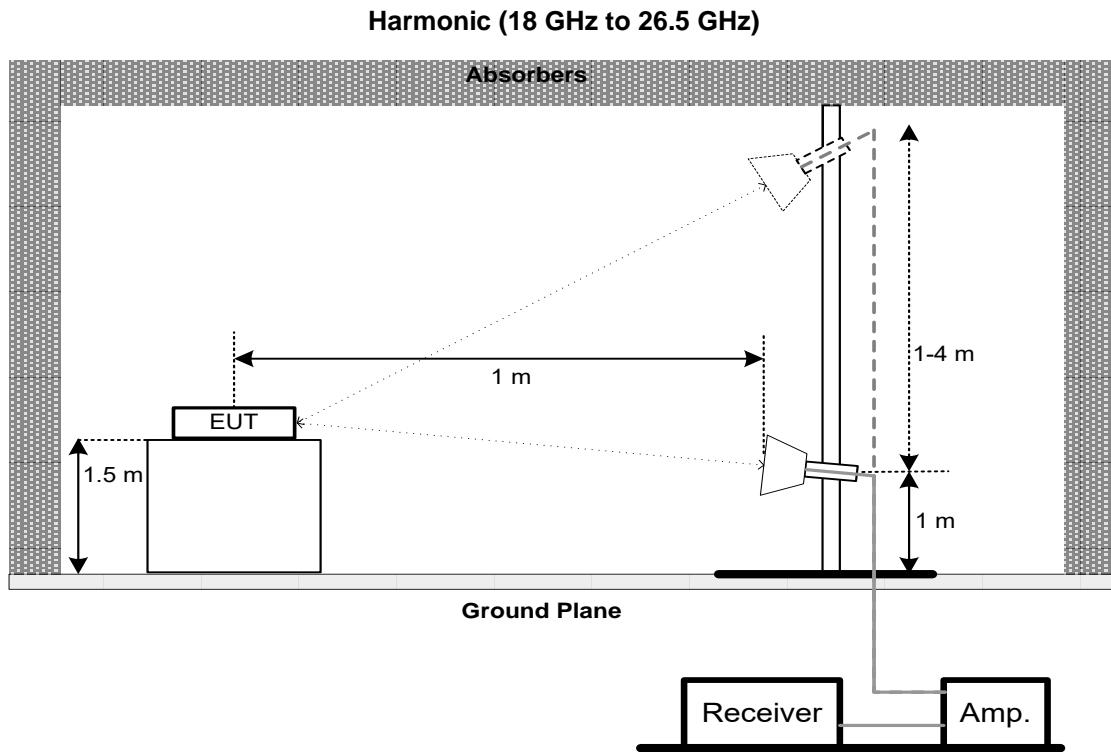


Above 1 GHz
Band edge



Harmonic (1 GHz to 18 GHz)





5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 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.

5.7 TEST RESULT - 30 MHz TO 1000 MHz

Please refer to the APPENDIX C.

5.8 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.

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

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. The maximum conducted output power was performed in accordance with method 11.9.1.3 of ANSI C6 3.10-2013.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX E.

7. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI TEST RECEIVER	R&S	ESCI	100382	Dec. 06, 2025
2	TWO-LINE V-NETWORK	R&S	ENV216	101447	Dec. 06, 2025
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
4	Cable	N/A	SFT205-NMNM-9 M-001	9M	Nov. 11, 2025
5	643 Shield Room	ETS	6*4*3	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Active Loop Antenna	Schwarzbeck	FMZB 1513-60B	1513-60 B-034	Mar. 30, 2025
2	MXE EMI Receiver	Keysight	N9038A	MY56400091	Dec. 06, 2025
3	Cable	N/A	RW4950-3.8A-NMS M-1.5	N/A	Nov. 12, 2025
4	Cable	N/A	LMR400-NMNM-8 M	N/A	Nov. 12, 2025
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	966 Chamber room	ETS	9*6*6	N/A	May 16, 2025

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	01462	Dec. 14, 2025
2	Attenuator	EMC INSTRUMENT	EMCI-N-6-06	AT-06009	Dec. 14, 2025
3	Preamplifier	EMC INSTRUMENT	EMC001330	980998	May 31, 2025
4	Cable	RegalWay	LMR400-NMNM-12 .5m	N/A	Jun. 06, 2025
5	Cable	RegalWay	LMR400-NMNM-3 m	N/A	Jun. 06, 2025
6	Cable	RegalWay	LMR400-NMNM-0. 5m	N/A	Jun. 06, 2025
7	MXE EMI Receiver	KEYSIGHT	N9038B	MY62210123	Oct. 29, 2025
8	Positioning Controller	MF	MF-7802	N/A	N/A
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	966 Chamber room	CM	9*6*6	N/A	May 16, 2025

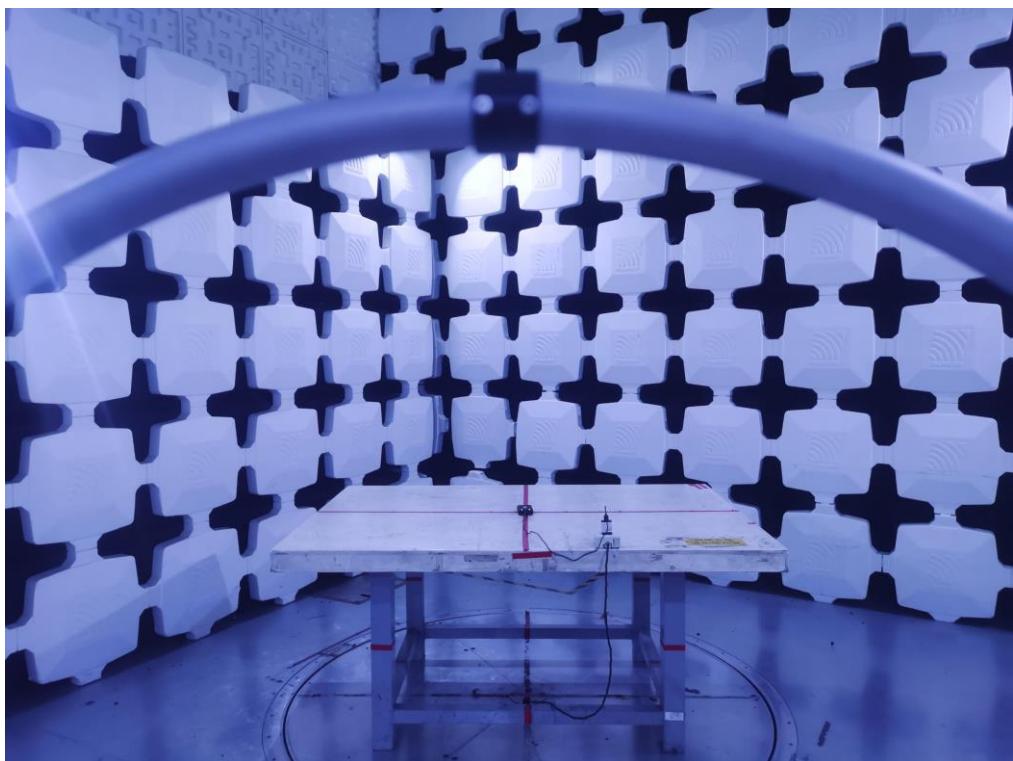
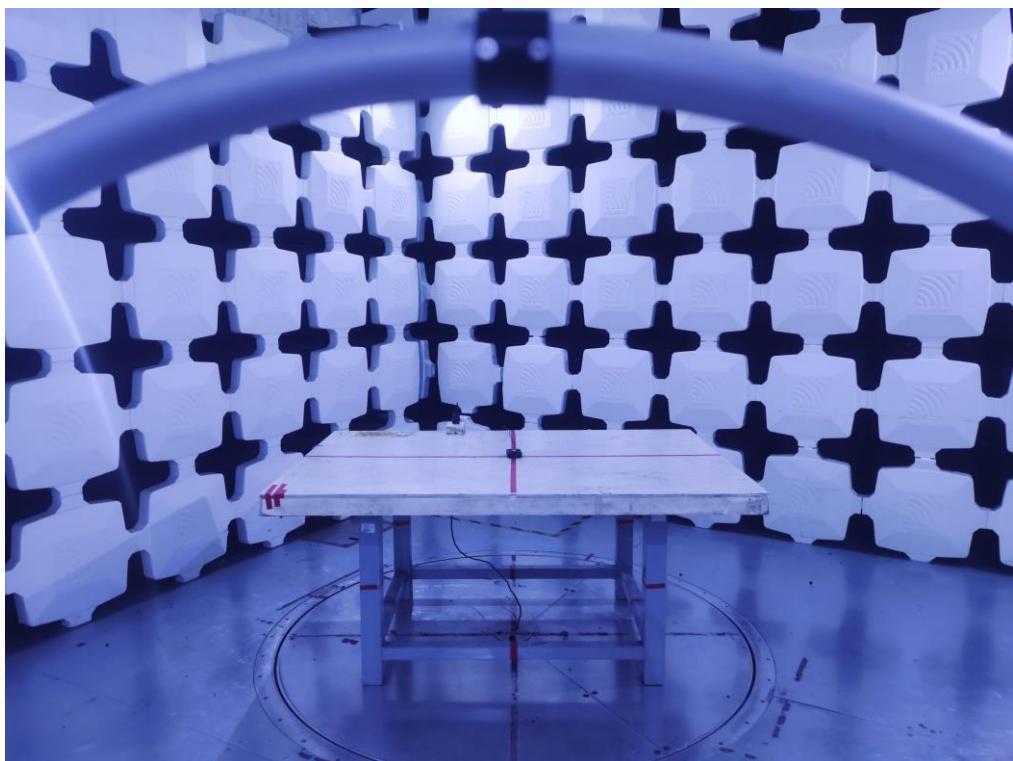
Radiated Emissions - 1 GHz to 18GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY55150209	Aug. 20, 2025
2	Preamplifier	EMC INSTRUMENT	EMC118A45SE	980878	Nov. 25, 2025
3	Double Ridged Guide Antenna	ETS	3115	75789	Jun. 15, 2025
4	Cable	RegalWay	RWLP50-4.0A-SMS M-12.5M	N/A	Jul. 03, 2025
5	Cable	RegalWay	RWLP50-4.0A-NM RASM-2.5M	N/A	Jul. 03, 2025
6	Cable	RegalWay	RWLP50-4.0A-NM RASMRA-0.8M	N/A	Jul. 03, 2025
7	966 Chamber room	CM	9*6*6	N/A	May 19, 2025
8	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A
9	Filter	STI	STI15-9912	N/A	May 31, 2025
10	Positioning Controller	MF	MF-7802	N/A	N/A
11	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

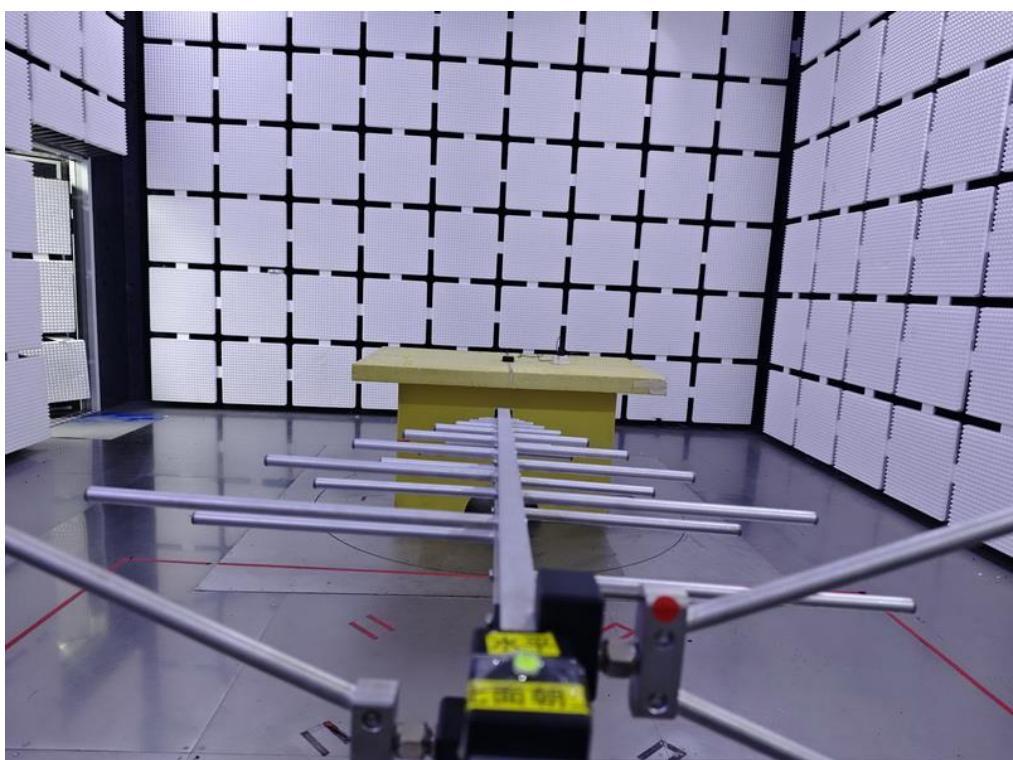
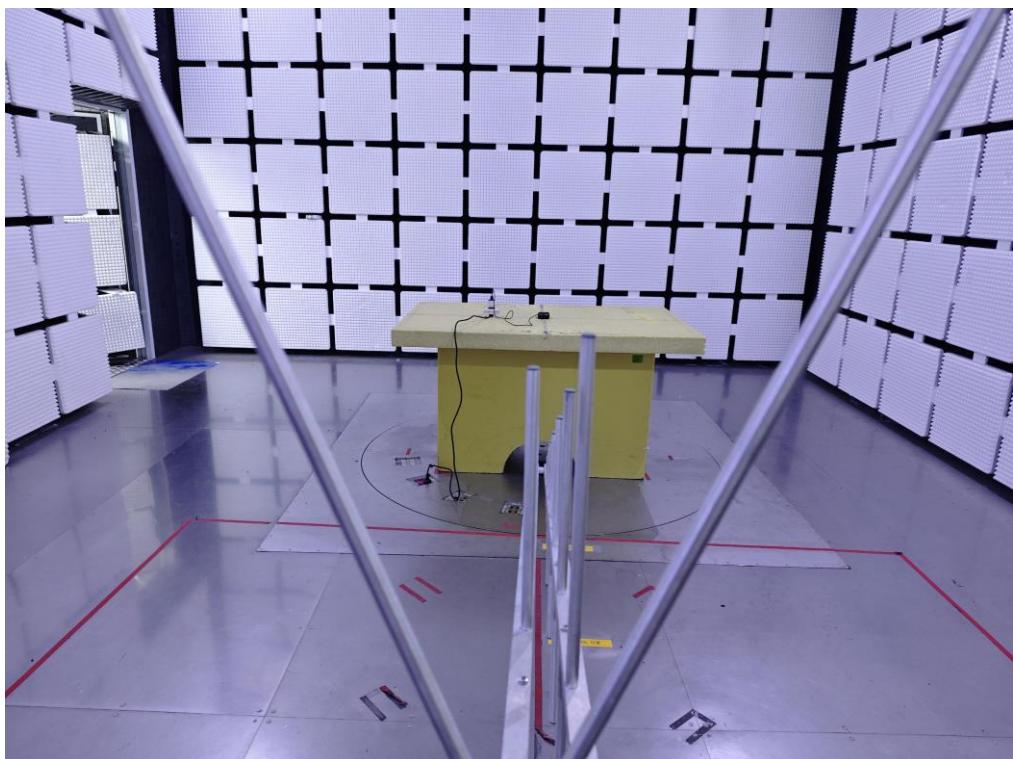
Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP38	100852	May 31, 2025
2	Measurement Software	BTL	BTL Conducted Test	N/A	N/A
3	Isolation attenuator	Z-Link	ASMA-16-18-2W	N/A	N/A

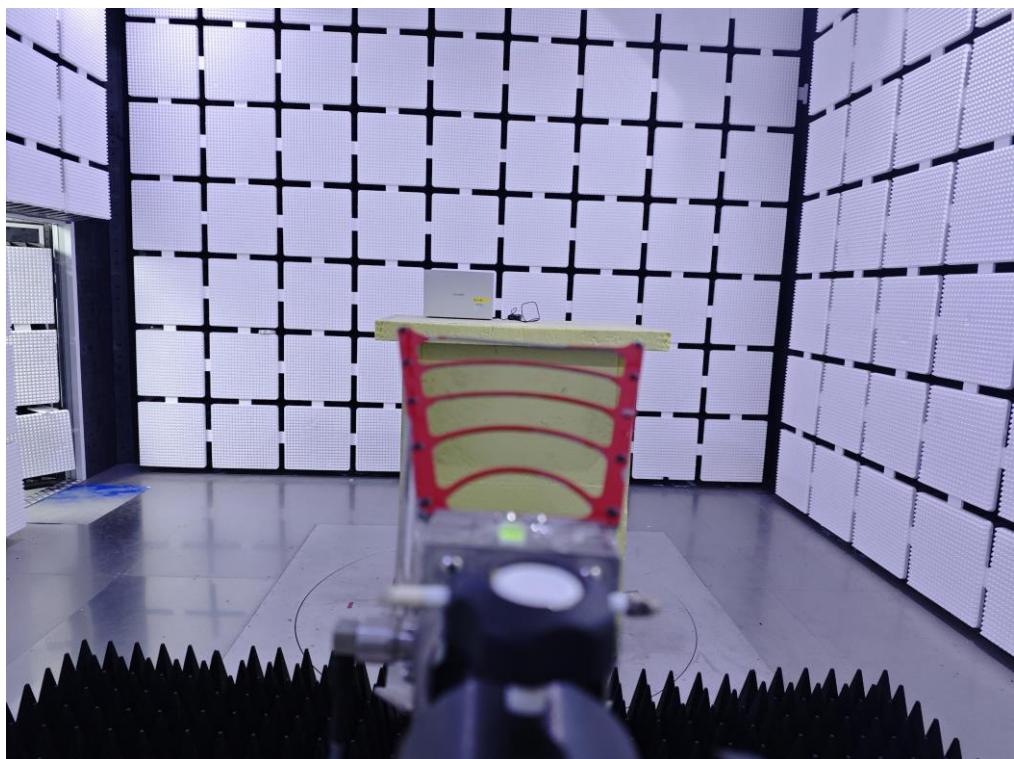
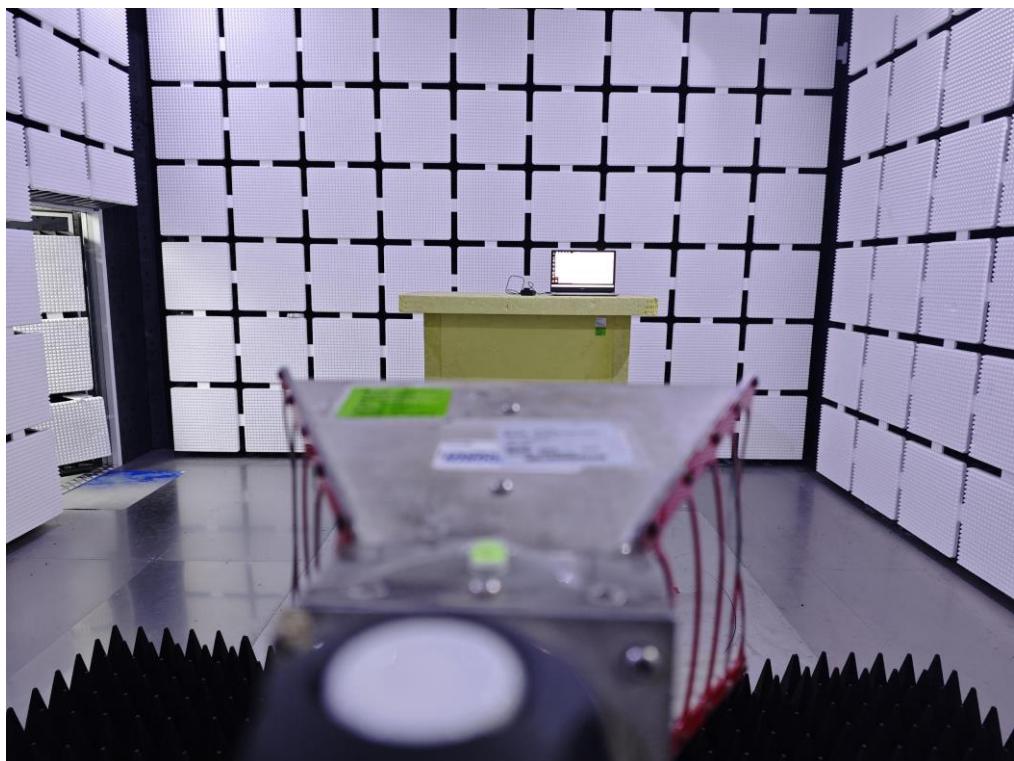
Remark: "N/A" denotes no model name, serial no. or calibration specified.

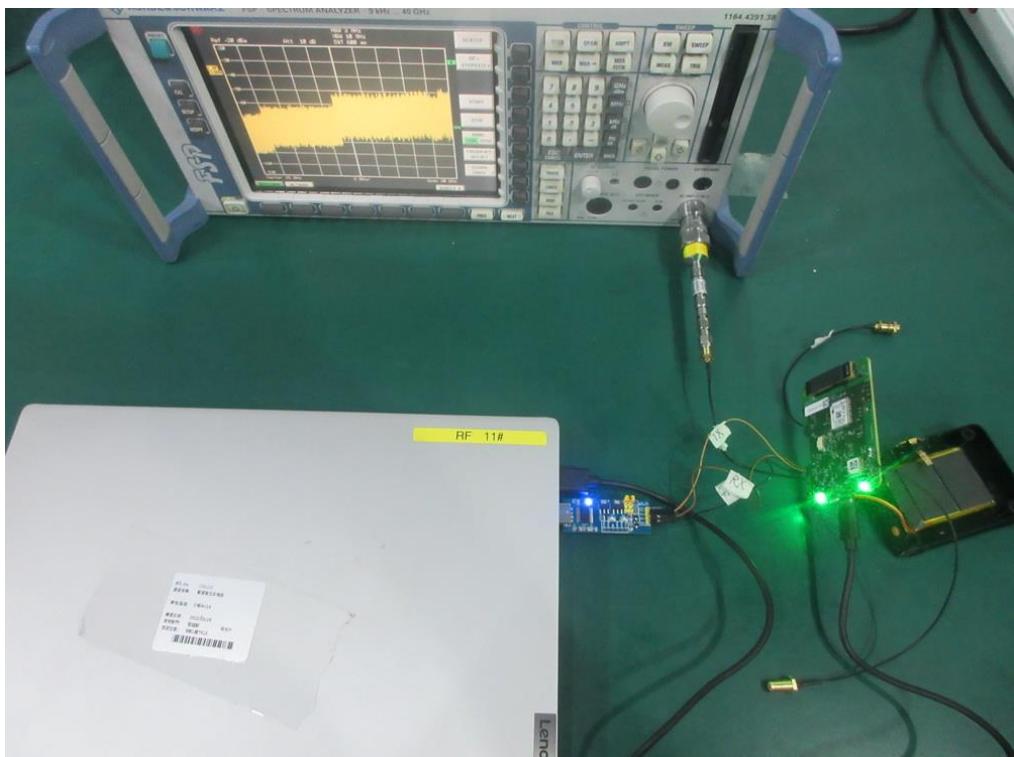
All calibration period of equipment list is one year.

8. EUT TEST PHOTO**AC Power Line Conducted Emissions Test Photos**

Radiated Emissions Test Photos**9 kHz to 30 MHz**

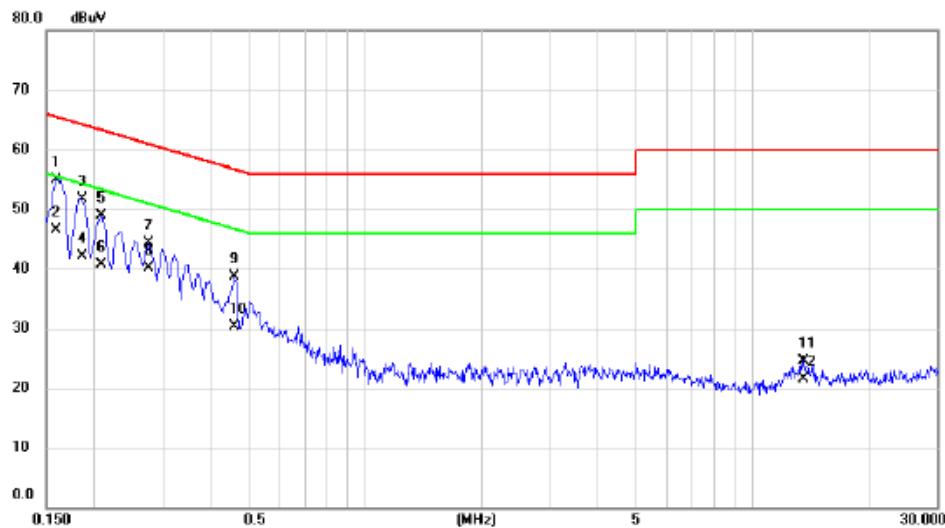
Radiated Emissions Test Photos**30 MHz to 1000 MHz**

Radiated Emissions Test Photos**Harmonic**

Conducted Test Photos

APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX Mode_1Mbps Channel 39	Phase	Line
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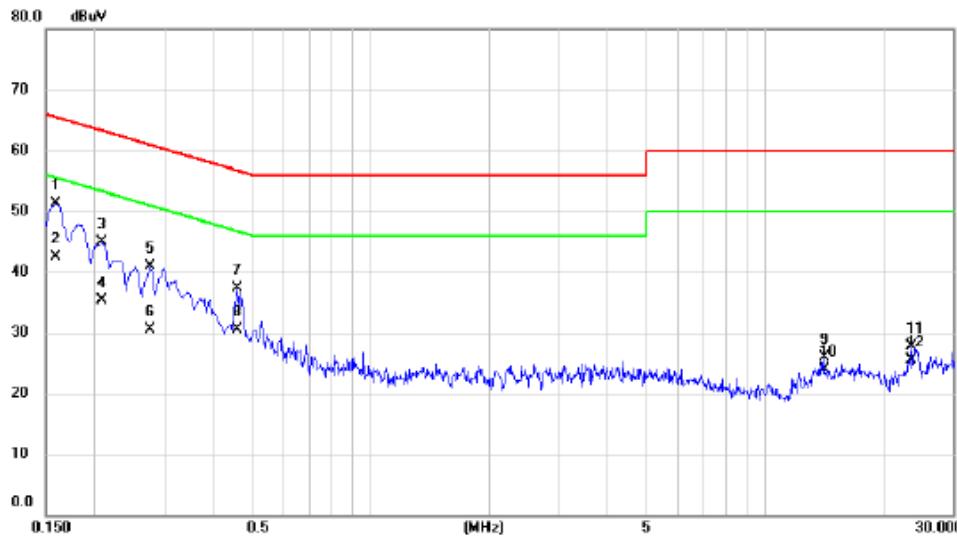


No.	Mk.	Freq. MHz	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level dBuV	Factor dB	ment dBuV				
1		0.1590	45.09	9.91	55.00	65.52	-10.52	QP	
2	*	0.1590	36.50	9.91	46.41	55.52	-9.11	AVG	
3		0.1860	41.83	9.91	51.74	64.21	-12.47	QP	
4		0.1860	32.10	9.91	42.01	54.21	-12.20	AVG	
5		0.2085	38.96	9.90	48.86	63.26	-14.40	QP	
6		0.2085	30.80	9.90	40.70	53.26	-12.56	AVG	
7		0.2760	34.43	9.91	44.34	60.94	-16.60	QP	
8		0.2760	30.10	9.91	40.01	50.94	-10.93	AVG	
9		0.4605	28.79	9.96	38.75	56.68	-17.93	QP	
10		0.4605	20.40	9.96	30.36	46.68	-16.32	AVG	
11		13.5195	11.33	13.18	24.51	60.00	-35.49	QP	
12		13.5195	8.40	13.18	21.58	50.00	-28.42	AVG	

REMARKS:

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

Test Mode	TX Mode_1Mbps Channel 39	Phase	Neutral
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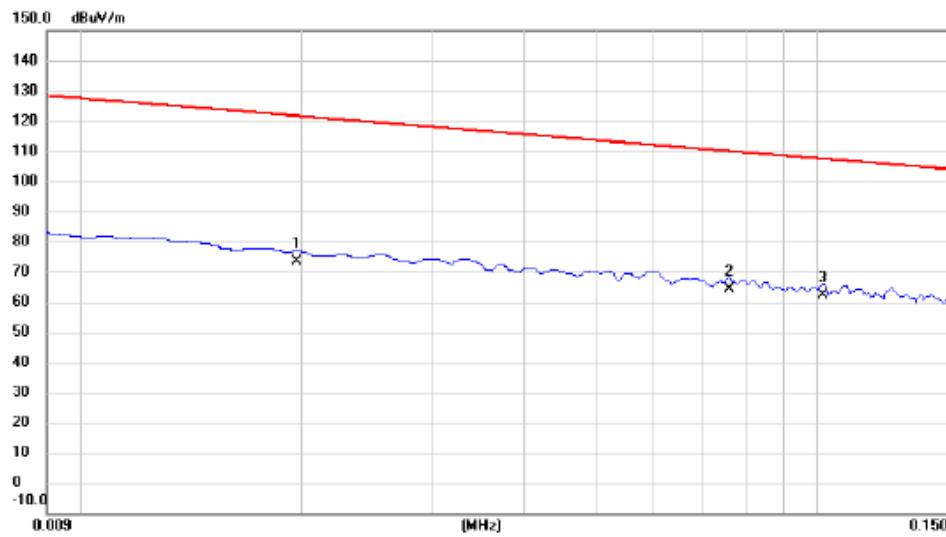
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level	Factor	ment				
1		0.1590	41.32	9.98	51.30	65.52	-14.22	QP	
2	*	0.1590	32.60	9.98	42.58	55.52	-12.94	AVG	
3		0.2085	34.84	9.97	44.81	63.26	-18.45	QP	
4		0.2085	25.40	9.97	35.37	53.26	-17.89	AVG	
5		0.2760	30.94	9.98	40.92	60.94	-20.02	QP	
6		0.2760	20.60	9.98	30.58	50.94	-20.36	AVG	
7		0.4605	27.18	10.03	37.21	56.68	-19.47	QP	
8		0.4605	20.40	10.03	30.43	46.68	-16.25	AVG	
9		14.1225	12.65	13.31	25.96	60.00	-34.04	QP	
10		14.1225	10.60	13.31	23.91	50.00	-26.09	AVG	
11		23.5320	12.31	15.40	27.71	60.00	-32.29	QP	
12		23.5320	10.20	15.40	25.60	50.00	-24.40	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°
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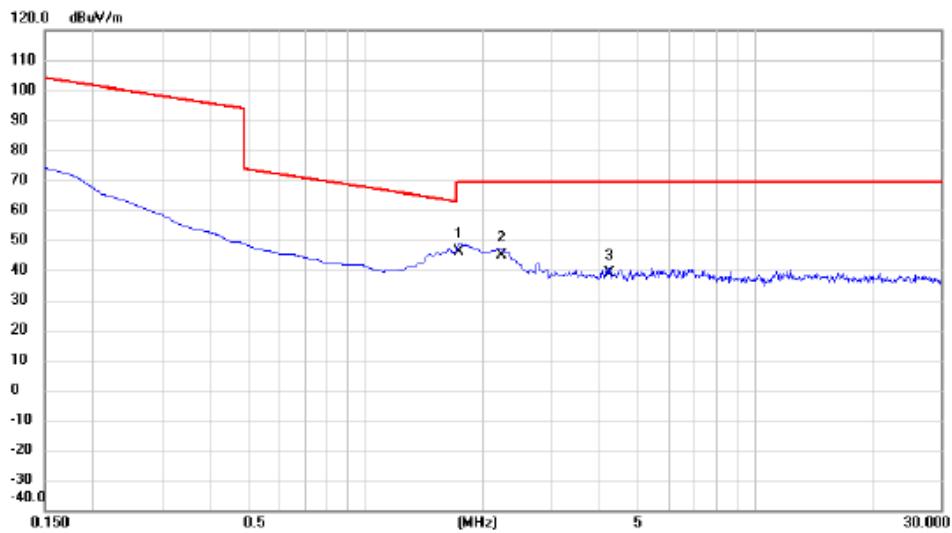


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level	Factor	ment				
1		0.0197	52.69	20.83	73.52	121.72	-48.20	AVG	
2		0.0758	42.68	21.33	64.01	110.01	-46.00	AVG	
3	*	0.1018	41.03	21.34	62.37	107.45	-45.08	QP	

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°
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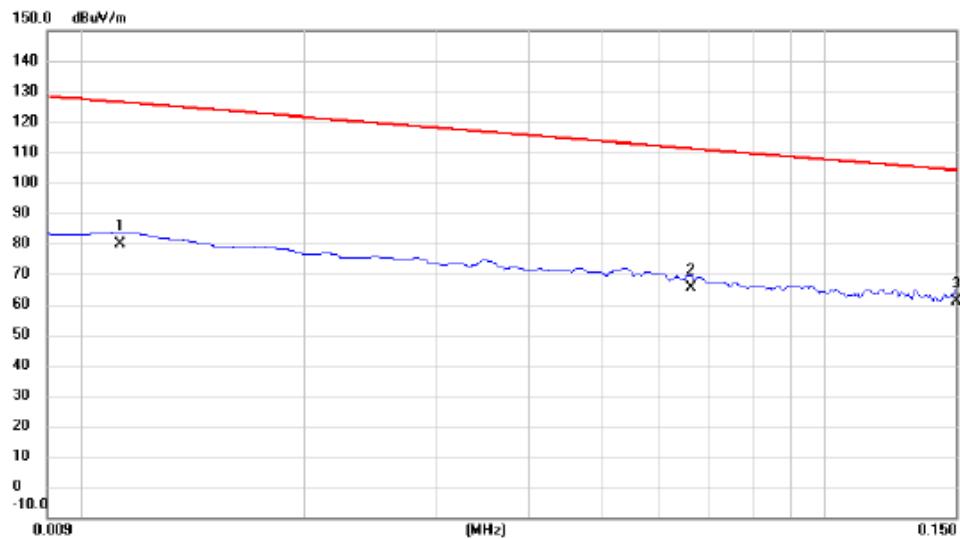


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1	*	1.7321	25.16	21.14	46.30	69.54	-23.24	QP
2		2.2395	24.03	21.11	45.14	69.54	-24.40	QP
3		4.2096	17.68	21.13	38.81	69.54	-30.73	QP

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°
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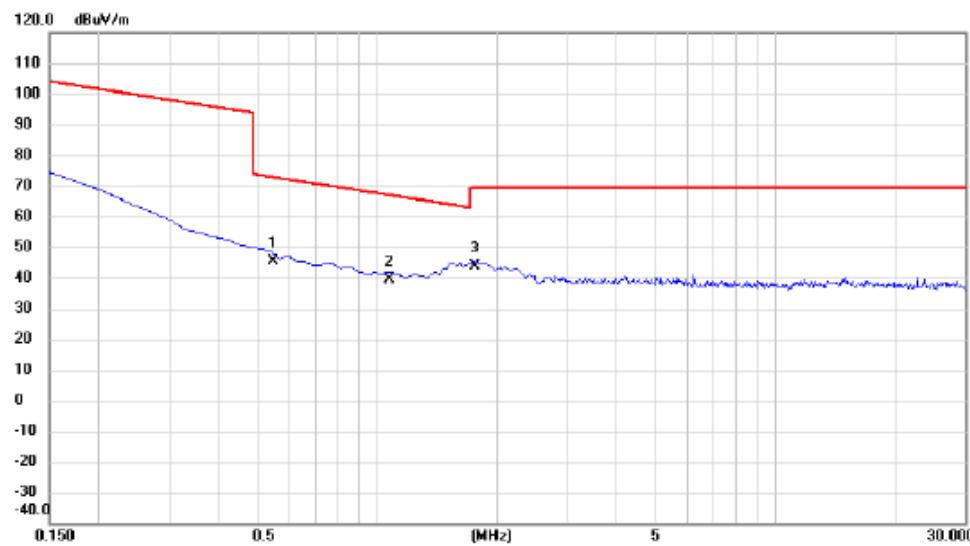


No.	Mk.	Freq. MHz	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1	0.0113	59.13	20.58	79.71	126.54	-46.83	AVG		
2	0.0661	44.20	21.29	65.49	111.20	-45.71	AVG		
3 *	0.1500	39.65	21.27	60.92	104.09	-43.17	AVG		

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°
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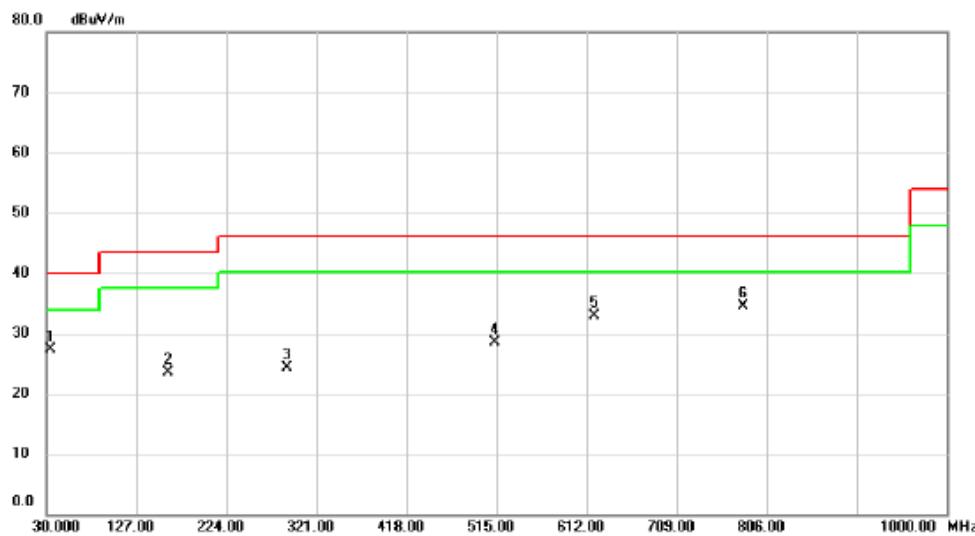
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1	1	0.5493	24.51	21.08	45.59	72.81	-27.22	QP
2	2	1.0754	18.03	21.19	39.22	66.97	-27.75	QP
3	*	1.7620	22.64	21.13	43.77	69.54	-25.77	QP

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 Mode_1Mbps Channel 39	Polarization	Vertical
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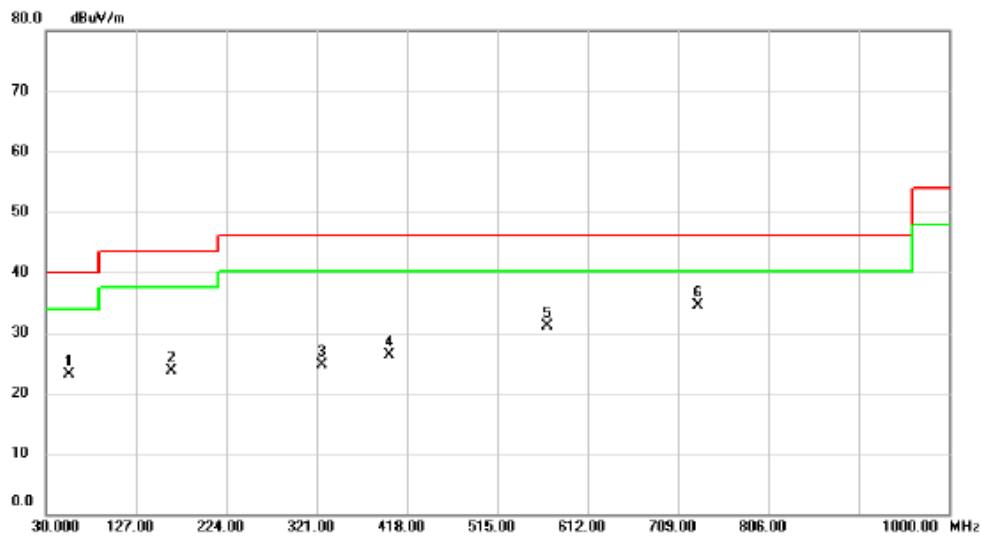


No. Mk.	Freq. MHz	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Detector	Comment
		dBuV	dB	dBuV/m	dBuV/m	dB		
1	34.365	39.86	-12.46	27.40	40.00	-12.60	peak	
2	160.950	34.65	-11.14	23.51	43.52	-20.01	peak	
3	288.990	35.07	-10.69	24.38	46.02	-21.64	peak	
4	513.545	34.18	-5.67	28.51	46.02	-17.51	peak	
5	620.245	36.30	-3.33	32.97	46.02	-13.05	peak	
6 *	780.780	35.41	-0.98	34.43	46.02	-11.59	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
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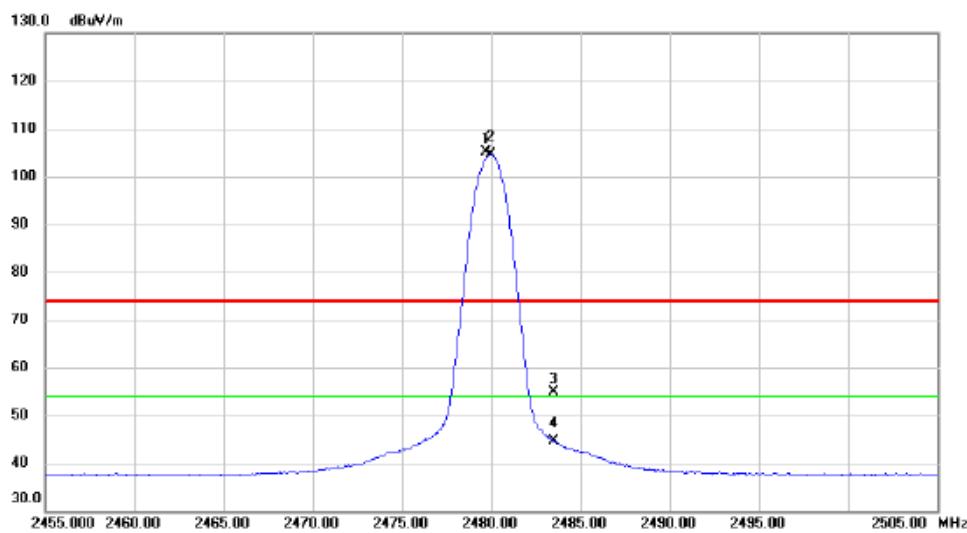
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	54.735	34.64	-11.46	23.18	40.00	-16.82	peak	
2	164.830	35.03	-11.30	23.73	43.52	-19.79	peak	
3	326.335	34.43	-9.73	24.70	46.02	-21.32	peak	
4	398.600	34.57	-8.17	26.40	46.02	-19.62	peak	
5	568.350	35.58	-4.54	31.04	46.02	-14.98	peak	
6 *	730.825	36.10	-1.61	34.49	46.02	-11.53	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 2480 MHz _CH39_1Mbps	Polarization	Horizontal
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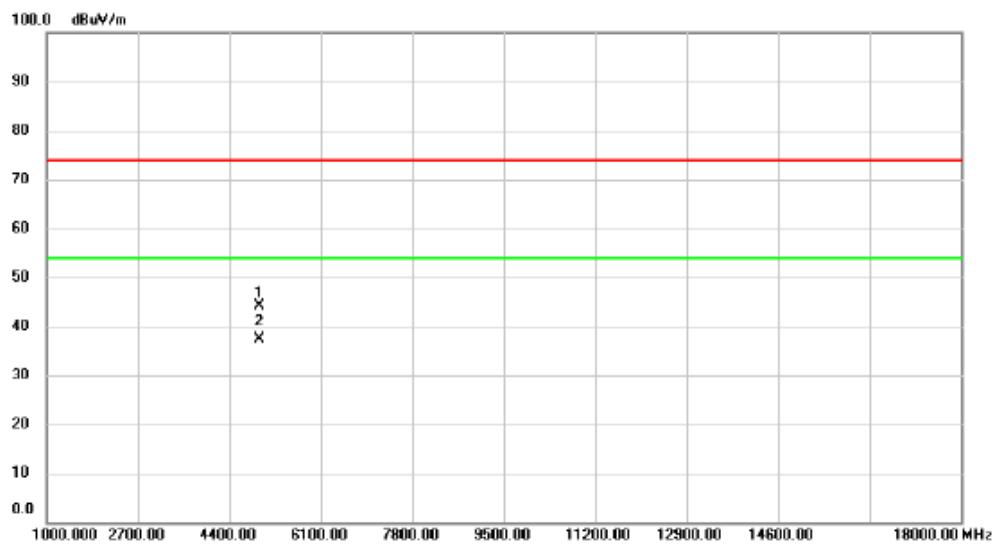


No. Mk.	Freq. MHz	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Comment
		dBuV	dB	dBuV/m	dBuV/m	dB	
1 X	2479.675	96.28	8.83	105.11	74.00	31.11	peak No Limit
2 *	2479.950	95.84	8.83	104.67	54.00	50.67	AVG No Limit
3	2483.500	45.93	8.84	54.77	74.00	-19.23	peak
4	2483.500	35.79	8.84	44.63	54.00	-9.37	AVG

REMARKS:

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

Test Mode	TX 2480 MHz _CH39_1Mbps	Polarization	Horizontal
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4959.230	39.24	4.90	44.14	74.00	-29.86	peak
2 *		4959.860	32.45	4.90	37.35	54.00	-16.65	AVG

REMARKS:

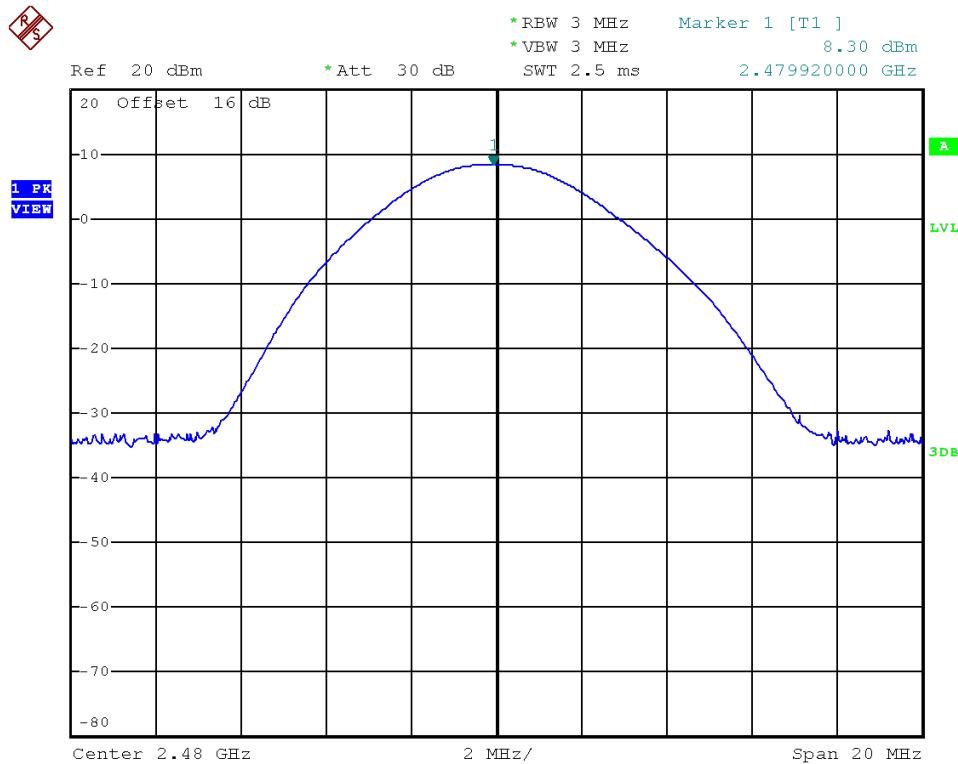
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX E - MAXIMUM OUTPUT POWER

Test Mode	TX Mode _1Mbps
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Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2480	8.30	0.0068	30.00	1.0000	Pass

Note: Output power = Measure result + Cable loss



Date: 8.JAN.2024 16:01:22

End of Test Report