



RADIO TEST REPORT

Applicant	: CHENG UEI PRECISION INDUSTRY CO., LTD.
Address	: No.18, Chung Shan Road, Tu Cheng District, New Taipei City, Taiwan, R.O.C.
Equipment	: Access Controller
Model No.	: FC01, C-F4A
Trade Name	: N/A
FCC ID	: M6E-FC01

I HEREBY CERTIFY THAT :

The sample was received on Jun. 11, 2026 and the testing was completed on Jun.21, 2026 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





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History of this test report

Report No.	Issued Date	Description
26060095-TRDFCC01	Jun.25, 2026	Original



1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024

FCC Rules and Regulations Part 15 Subpart C § 15.225

FCC Rule	Description of Test	Result
15.203	Antenna Requirement	PASS
15.207	AC Power Line Conducted Emission	PASS
15.209 15.225	Radiated Emission	PASS
15.225	20dB Bandwidth	PASS
15.225(e)	Frequency Stability	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement, measurement uncertainty evaluation is not considered.



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Equipment	Access Controller
Model Name	FC01, C-F4A
Model Discrepancy	The models are identical to each other except for model name.
Frequency Range	WIFI 2.4G: 2400MHz-2483.5MHz NFC: 13.56MHz
Modulation Type	WIFI 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM NFC: ASK
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0-MCS7, HT20/HT40
EUT Power Rating:	12VDC, 1500mA, POE(802.3af)
Adapter	Brand: HOLOTO Model: ADS-26FSG-12 12018EPCU

Note: For more details, please refer to the User's manual of the EUT.



2.2. Carrier Frequency of Channels

Channel	Frequency(MHz)
*1	13.56

Note: Channel remarked “*” is selected to perform test.

2.3. Test Mode and Test Software

- During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- The complete test system included support units and EUT for RF test.
- Turn on all power sources of the measurement system.
- When the EUT is power on, then touch the NFC card card, it can transmit.
(Software Version: N/A.)
- The test mode of RF test as follow:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	Normal mode: NFC (Type 2) Normal Mode(TX/RX) for 120V from Adapter
2	Normal mode: NFC (Type 2) Normal Mode(TX/RX) for 240V from Adapter
3	Normal mode: NFC (Type 2) Normal Mode(TX/RX) for 120V from POE Adapter
caused “Test Mode 1,3” generated the worst case, it was reported as the final data.	
Radiation Emissions (Below 1GHz)	
Test Mode	Operating Description
1	Normal mode: NFC (Type 2) Normal Mode(TX/RX) from Adapter
2	Normal mode: NFC (Type 2) Normal Mode(TX/RX) from POE Adapter
caused “Test Mode 1,2” generated the worst case, it was reported as the final data.	
Radiation Emissions (<30MHz)	
Test Mode	Operating Description
1	Normal mode: NFC (Type 2) Normal Mode(TX/RX)
caused “Test Mode 1” generated the worst case, they were reported as the final data.	



2.4. Description of Test System

AC Power Line Conducted Emission & Radiated Emissions (30MHz-1GHz & 9kHz-30MHz)					
Equipment	Brand	Model	Serial No	Length/Type	Power cord/Length/Type
Adapter	HOLOTO	ADS-26FSG-12 12018EPCU	N/A	N/A	1.5m / NS
NFC Card	Tiananxin	NFC Tag Kit	N/A	N/A	N/A
POE Adapter	Sirivision	SR-PG90W-48V	N/A	N/A	N/A



2.5. General Information of Test

Organization	CerpPASS Technology Corp.		
☒ Test Site	CerpPASS Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel: +886-3-3226-888 Fax: +886-3-3226-881		
	FCC	TW1439, TW1079	
	IC	4934E-1, 4934E-2	
Frequency Range Investigated	Conducted: from 150kHz to 30 MHz Radiation: from 9 kHz to 1,000MHz		
Test Distance	The test distance of radiated emission from antenna to EUT is 3 M.		

Test Item	Test Site	Test period	Environmental Conditions	Tested By
Frequency Stability	RFCON01-NK	2026/06/16	22.4℃ / 52%	Leon Huang
Radiated Emissions	3M03-NK	2026/06/16~2026/06/21	21.4~23.7℃ / 52~54%	Leon Huang
AC Power Line Conducted Emission	CON02-NK	2026/06/21	22.9℃ / 54%	Leon Huang

2.6. 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))

Measurement Item	Uncertainty
AC Power Line Conduction(150kHz~30MHz)	± 3.2dB
Radiated Spurious Emission(9kHz~30MHz)	± 3.4dB
Radiated Spurious Emission(30MHz~1GHz)	± 5.2dB
20dB Bandwidth	± 4.5%
Occupied Bandwidth	± 4.4%
Frequency Stability	± 223.073Hz



3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M03-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Sunol	JB1	A020514-1	2025/09/08	2026/09/07
Active Loop Antenna	Schwarzbeck	FMZB 1513	00414	2026/02/04	2027/02/03
Horn Antenna	EMCO	3116	31974	2025/10/07	2026/10/06
Horn Antenna	EMCO	3115	00031589	2026/03/11	2027/03/10
Spectrum Analyzer 44GHz	ROHDE & SCHWARZ	FSV3044	101744	2026/04/01	2027/03/31
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2025/07/10	2026/07/09
Preamplifier	EMC INSTRUMENTS	EMC118A45V1SEE	981070	2026/04/02	2027/04/01
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2025/10/13	2026/10/12
Preamplifier	EM Electronics corp.	EM330	060611	2026/03/17	2027/03/16
Cable-4m(9k-3G)	EMEC	RG-223	18274M	2025/07/02	2026/07/01
Cable-0.5m(1G-18G)	HUBER SUHNER	SUCOFLEX 104	805443/4	2026/03/09	2027/03/08
Cable-3m(1G-18G)	HUBER SUHNER	SUCOFLEX 104	805796/4	2026/03/09	2027/03/08
Cable-3m(10M-40G)	HUBER SUHNER	SF102	804619/2	2025/10/13	2026/10/12
Cable-1m(10M-40G)	HUBER SUHNER	SF102	804398/2	2025/10/13	2026/10/12
Cable-8m(1G-26.5G)	WOKEN	WCBA-WCA203SM	CCE1374	2026/03/09	2027/03/08
Cable-4m(30M-1G)	HUBER SUHNER	RG-214	02953M	2025/07/11	2026/07/10
Cable-1m(30M-1G)	HUBER SUHNER	RG-214	05094M	2025/07/11	2026/07/10
Cable-9m(30M-1G)	HUBER SUHNER	RG-214	00402M	2025/07/11	2026/07/10
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
High Pass Filter	Warison	WFIL-H3000-18000F-03	WR377WC2B1	2025/10/15	2026/10/14
Highpass Filter	WOKEN	WFIL-H7000-18000F-01	WR377WC2B2	2025/10/15	2026/10/14
Bilog Antenna	Sunol	JB1	A020514-1	2025/09/08	2026/09/07
Active Loop Antenna	Schwarzbeck	FMZB 1513	00414	2026/02/04	2027/02/03

Test Item	Frequency Stability				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200207	2026/04/01	2027/03/30
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2025/07/21	2026/07/20



Test Item	AC Power Line Conducted Emission				
Test Site	CON02-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2025/07/10	2026/07/09
Two-Line V-Network	ROHDE & SCHWARZ	ENV216	102185	2025/08/28	2026/08/27
Two-Line V-Network	ROHDE & SCHWARZ	ENV216	101584	2026/01/15	2027/01/14
Cable-4m(9k-3G)	EMEC	RG-223	18274M	2025/07/02	2026/07/01
E3	AUDIX	v8.2014-8-6	RK-000536	NA	NA



4. Antenna Requirements

4.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2. Antenna Construction and Directional Gain

Antenna Type	Coil Antenna
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5. Test of AC Power Line Conducted Emission

5.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz, according to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

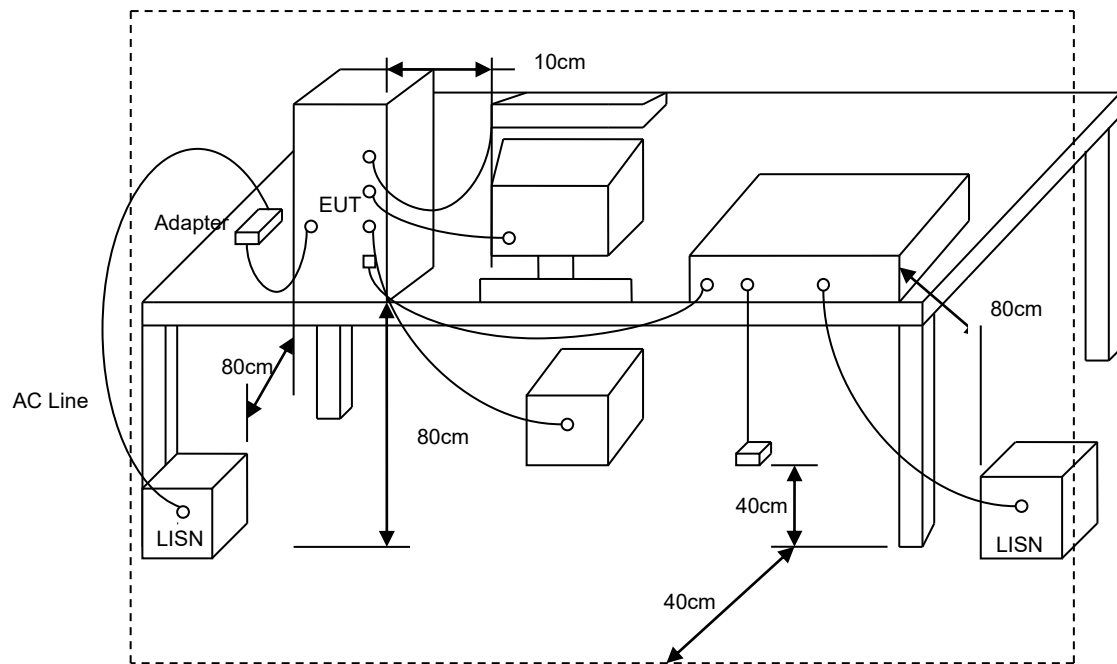
*Decreases with the logarithm of the frequency.

5.2. Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



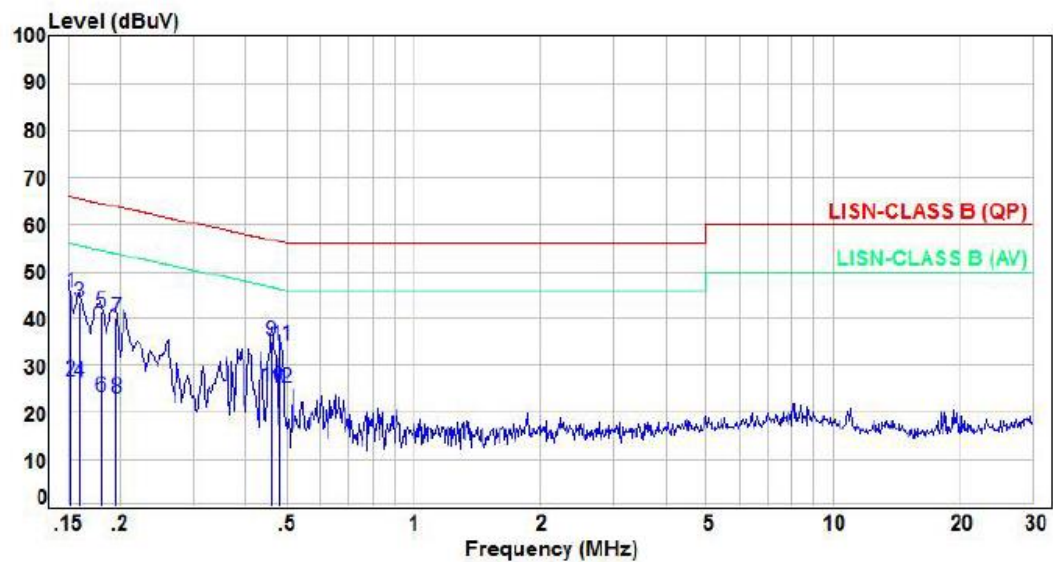
5.3. Typical Test Setup





5.4. Test Result and Data

Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	LINE
Test Mode	:	Mode 1		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1521	9.78	35.75	45.53	65.89	-20.36	QP	P
2	0.1521	9.78	16.83	26.61	55.89	-29.28	Average	P
3	0.1598	9.78	33.78	43.56	65.47	-21.91	QP	P
4	0.1598	9.78	16.59	26.37	55.47	-29.10	Average	P
5	0.1798	9.79	31.60	41.39	64.49	-23.10	QP	P
6	0.1798	9.79	13.71	23.50	54.49	-30.99	Average	P
7	0.1955	9.79	30.43	40.22	63.80	-23.58	QP	P
8	0.1955	9.79	13.28	23.07	53.80	-30.73	Average	P
9	0.4588	9.79	25.48	35.27	56.71	-21.44	QP	P
10	0.4588	9.79	15.71	25.50	46.71	-21.21	Average	P
11	0.4812	9.79	24.58	34.37	56.32	-21.95	QP	P
12	0.4812	9.79	15.55	25.34	46.32	-20.98	Average	P

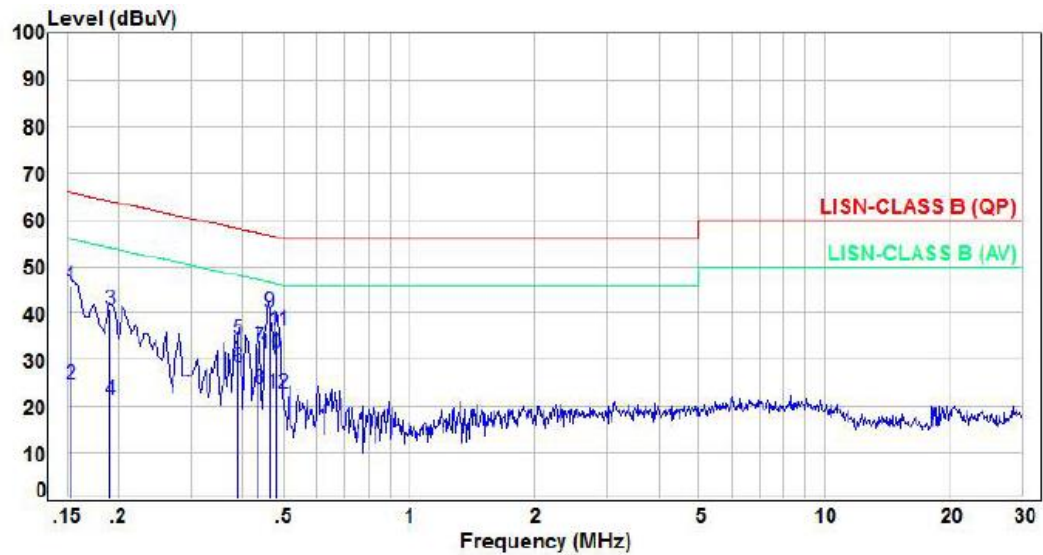
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Power	: DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	: NEUTRAL
Test Mode	: Mode 1		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1530	9.79	36.17	45.96	65.84	-19.88	QP	P
2	0.1530	9.79	14.89	24.68	55.84	-31.16	Average	P
3	0.1908	9.80	30.97	40.77	64.00	-23.23	QP	P
4	0.1908	9.80	11.47	21.27	54.00	-32.73	Average	P
5	0.3866	9.80	24.60	34.40	58.14	-23.74	QP	P
6	0.3866	9.80	18.49	28.29	48.14	-19.85	Average	P
7	0.4351	9.80	22.77	32.57	57.15	-24.58	QP	P
8	0.4351	9.80	13.99	23.79	47.15	-23.36	Average	P
9	0.4623	9.80	30.21	40.01	56.65	-16.64	QP	P
10	0.4623	9.80	21.52	31.32	46.65	-15.33	Average	P
11	0.4812	9.80	26.37	36.17	56.32	-20.15	QP	P
12	0.4812	9.80	12.86	22.66	46.32	-23.66	Average	P

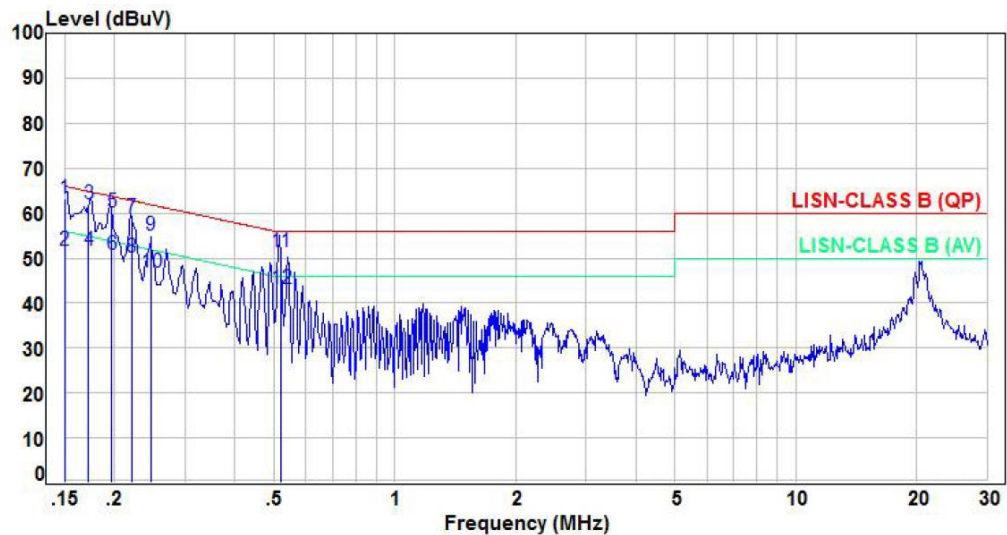
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Power	:	From POE Adapter (AC 120V/60Hz)	Pol/Phase	:	LINE
Test Mode	:	Mode 3		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1500	9.78	53.49	63.27	66.00	-2.73	QP	P
2	0.1500	9.78	41.99	51.77	56.00	-4.23	Average	P
3	0.1722	9.78	52.30	62.08	64.86	-2.78	QP	P
4	0.1722	9.78	42.00	51.78	54.86	-3.08	Average	P
5	0.1968	9.79	50.37	60.16	63.74	-3.58	QP	P
6	0.1968	9.79	40.93	50.72	53.74	-3.02	Average	P
7	0.2209	9.79	49.33	59.12	62.78	-3.66	QP	P
8	0.2209	9.79	40.49	50.28	52.78	-2.50	Average	P
9	0.2460	9.79	45.24	55.03	61.89	-6.86	QP	P
10	0.2460	9.79	36.90	46.69	51.89	-5.20	Average	P
11	0.5189	9.79	41.62	51.41	56.00	-4.59	QP	P
12	0.5189	9.79	33.44	43.23	46.00	-2.77	Average	P

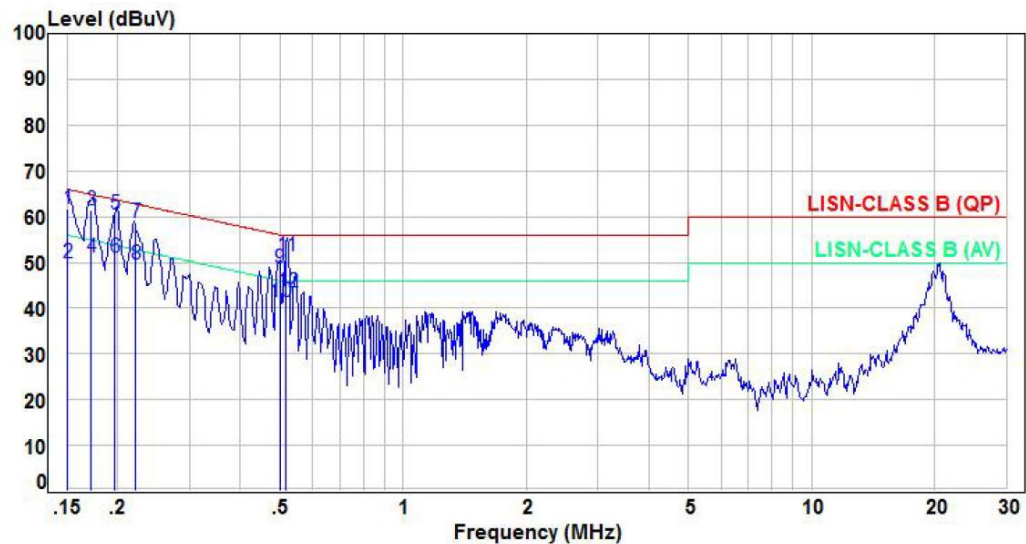
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Power	:	From POE Adapter (AC 120V/60Hz)	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 3		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1505	9.79	51.80	61.59	65.97	-4.38	QP	P
2	0.1505	9.79	40.15	49.94	55.97	-6.03	Average	P
3	0.1724	9.79	51.57	61.36	64.84	-3.48	QP	P
4	0.1724	9.79	41.18	50.97	54.84	-3.87	Average	P
5	0.1970	9.80	50.71	60.51	63.74	-3.23	QP	P
6	0.1970	9.80	41.27	51.07	53.74	-2.67	Average	P
7	0.2215	9.80	48.74	58.54	62.76	-4.22	QP	P
8	0.2215	9.80	39.86	49.66	52.76	-3.10	Average	P
9	0.4994	9.80	38.85	48.65	56.01	-7.36	QP	P
10	0.4994	9.80	31.69	41.49	46.01	-4.52	Average	P
11	0.5182	9.80	41.68	51.48	56.00	-4.52	QP	P
12	0.5182	9.80	33.65	43.45	46.00	-2.55	Average	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

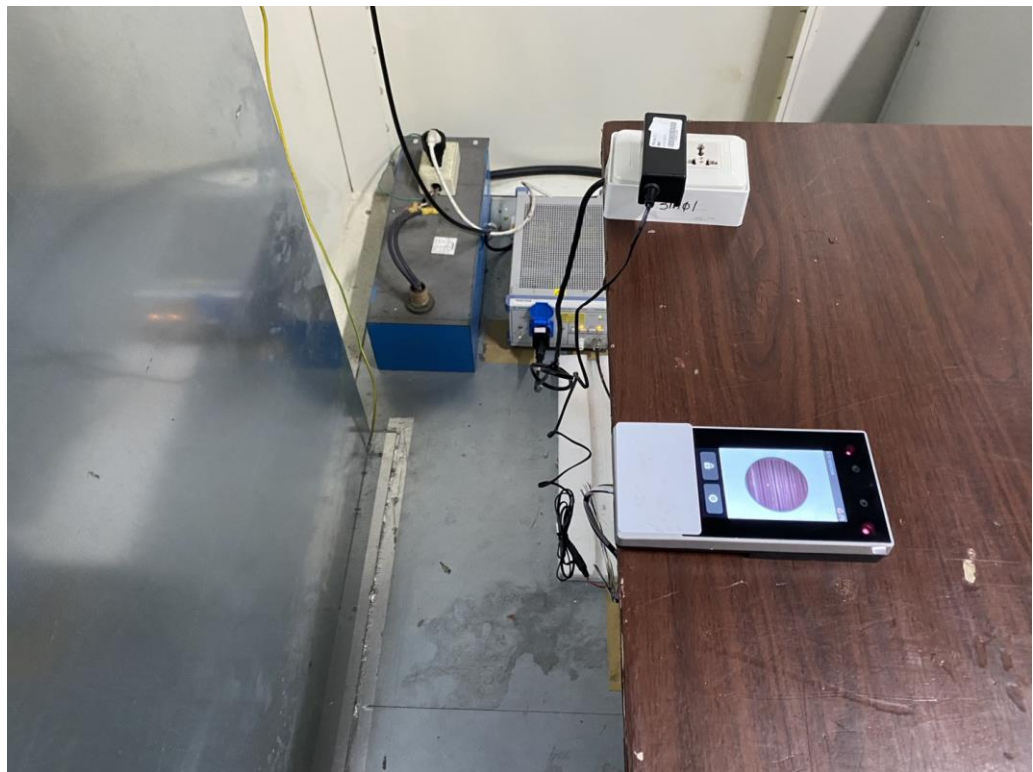


5.5. Test Photographs

Front View



Rear View





6. Test of Radiated Emission

6.1. Test Limit

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

Frequency (MHz)	Distance	Limit (µV/ m)
0.09 ~ 0.490	300m	2400/F(kHz)
0.490 ~ 1.705	30m	24000/ F(kHz)
1.705 ~ 30	30m	30
30 ~ 88	3m	100
88 ~ 216	3m	150
216 ~ 960	3m	200
Above 960	3m	500

Note 1: When the measurement frequency is less than 30 MHz, the distance factor of 300m to 3m is $40 \cdot \log(300/3)=80\text{dB}$, and the limit value needs to compensate the distance factor of 80dB.

Note 2: When the measurement frequency is less than 30 MHz, the distance factor of 30m to 3m is $40 \cdot \log(30/3)=40\text{dB}$, and the limit value needs to compensate the distance factor of 40dB.

15.215 Additional provisions to the general radiated emission limitations.:

- (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.



6.2. Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. "Cone of radiation" has been considered to be 3dB beamwidth of the measurement antenna.

NOTE:

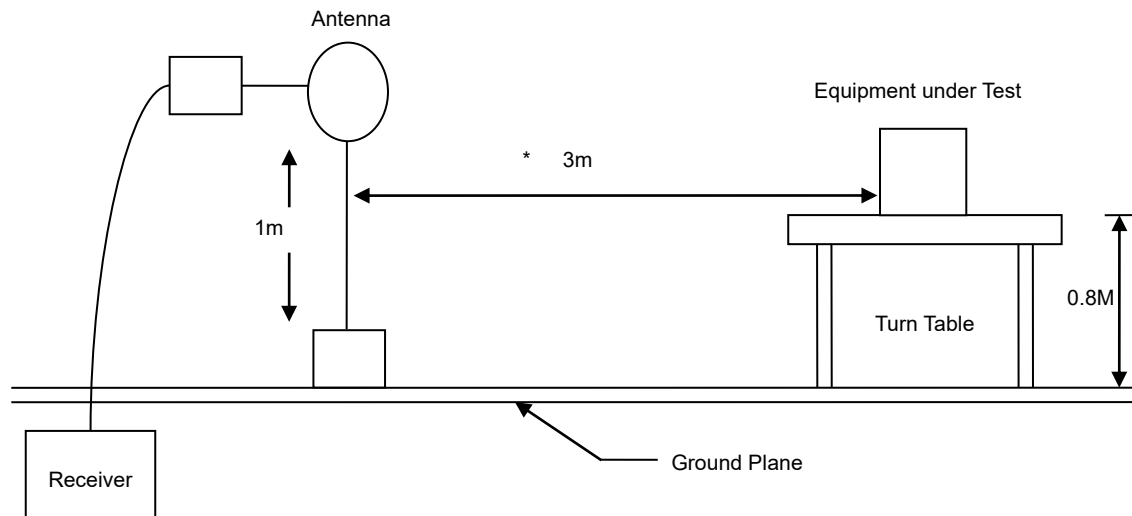
1. The resolution bandwidth of test receiver/spectrum analyzer is 300Hz or CISPS 200Hz(QP detector) at frequency Below 150 kHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 10kHz or CISPS 9kHz(QP detector) at frequency 150 kHz to 30 MHz.
3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.

Note: The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.
(X -AXIS is the worst.)

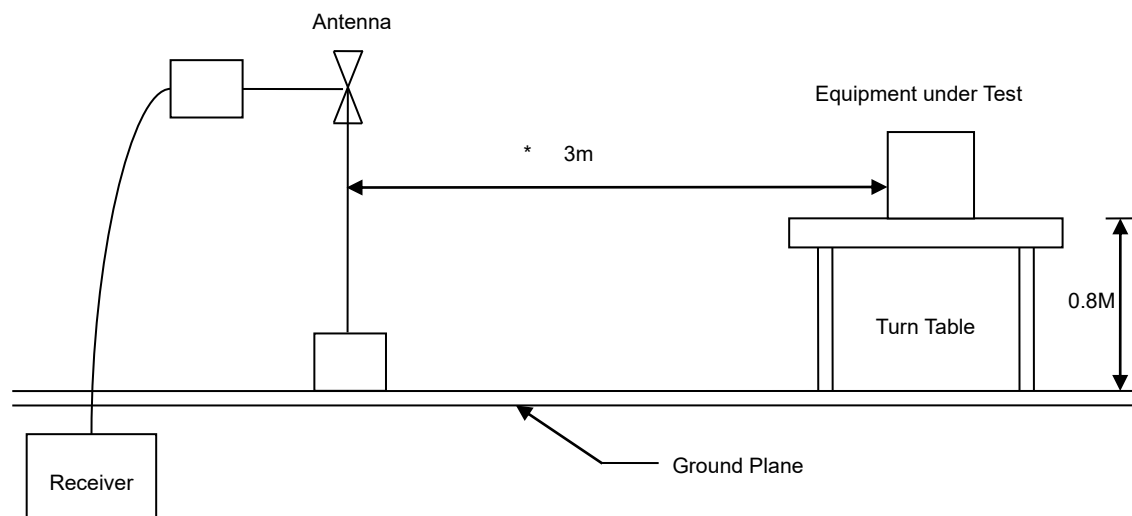


6.3. Typical Test Setup Layout of Radiated Emission

Below 30MHz test setup



30MHz- 1GHz Test Setup

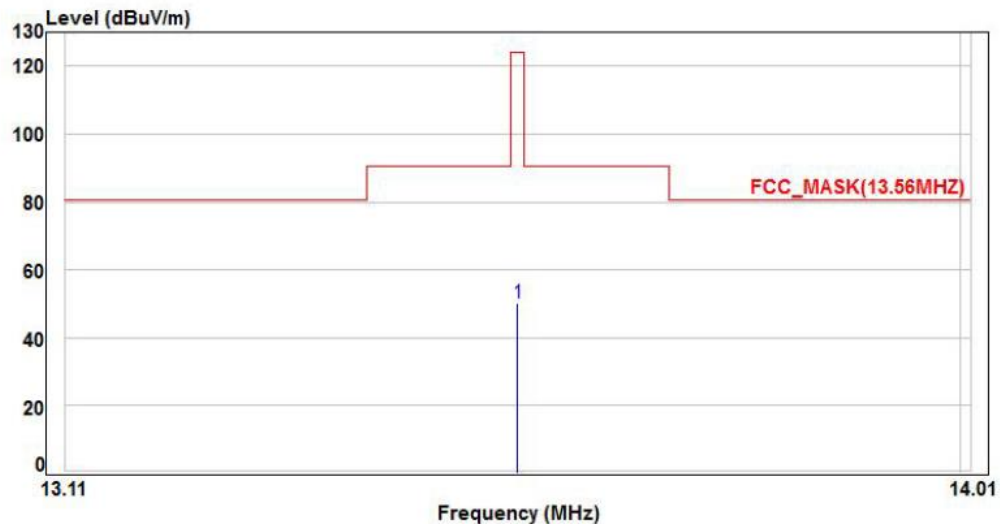




6.4. Test Result and Data

6.4.1. Test Result of Fundamental Emission

Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	OPEN
Test Mode	:	Mode 1		:	

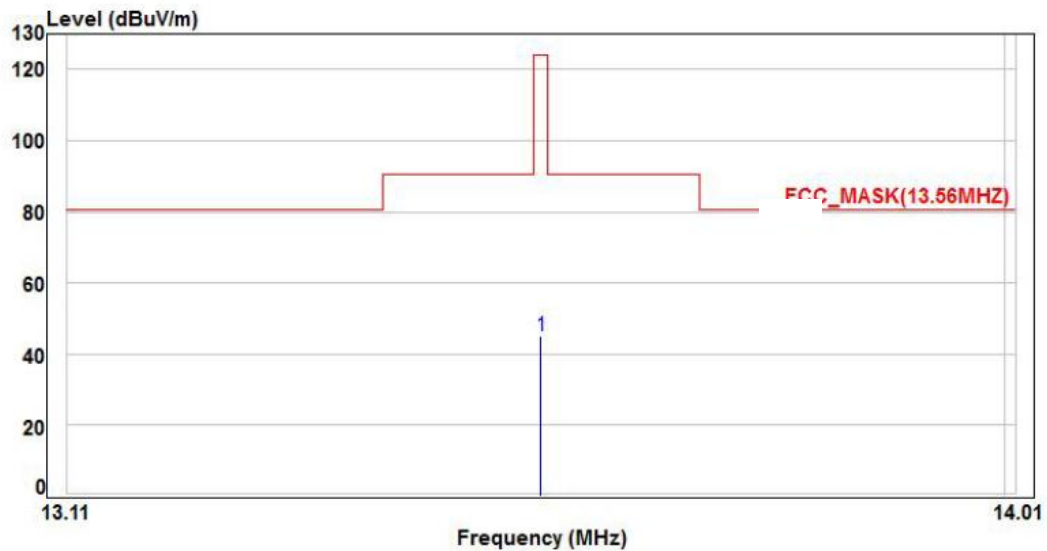


No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	13.560	21.58	28.80	50.38	124.00	-73.62	Peak	100	302	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	CLOSE
Test Mode	:	Mode 1		:	



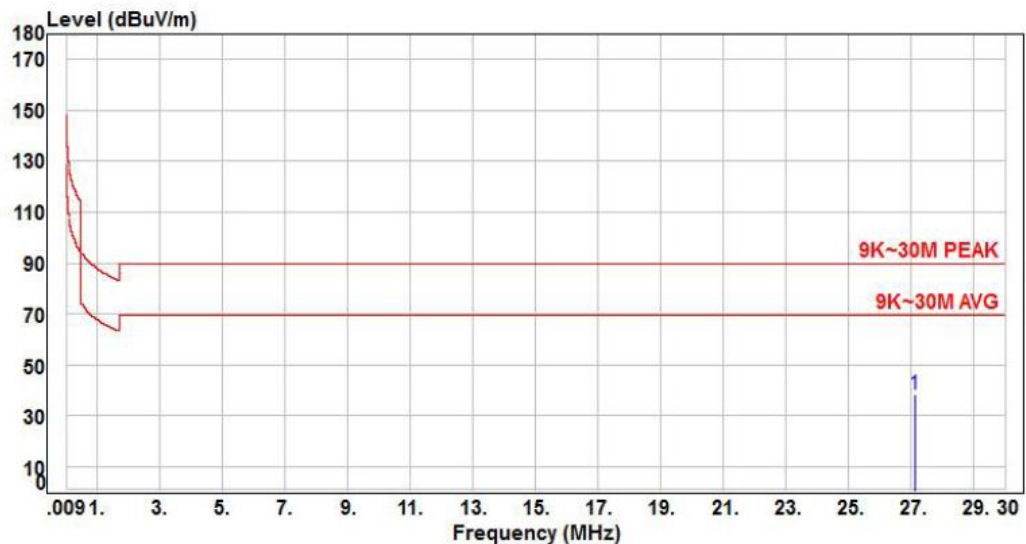
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	13.560	21.58	23.36	44.94	124.00	-79.06	Peak	100	247	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor



6.4.2. Test Result of Unwanted Spurious emission (9kHz ~ 30MHz)

Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	OPEN
Test Mode	:	Mode 1		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	27.120	23.66	14.46	38.12	89.54	-51.42	Peak	100	266	P

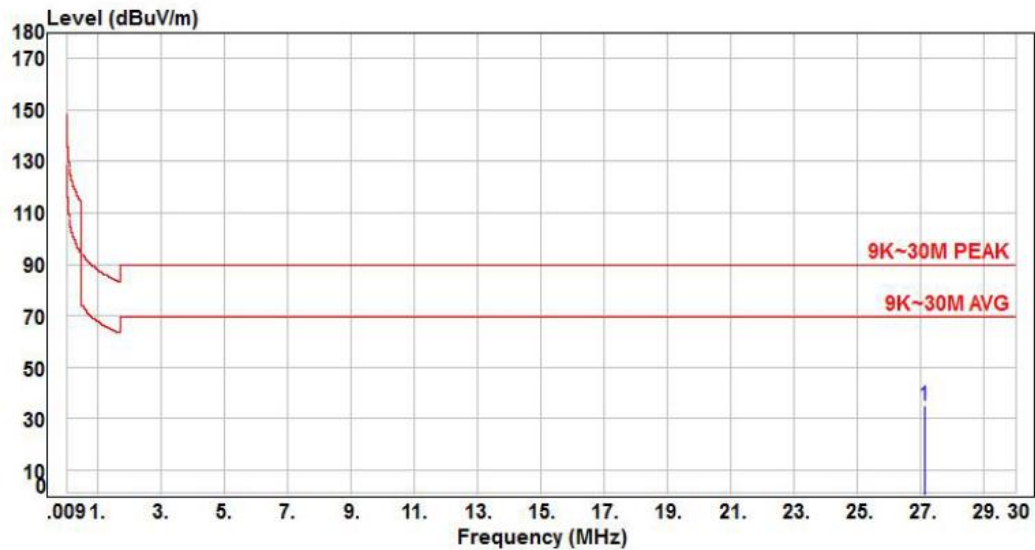
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	CLOSE
Test Mode	:	Mode 1		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	27.120	23.66	11.41	35.07	89.54	-54.47	Peak	100	79	P

Note: Level=Reading+Factor

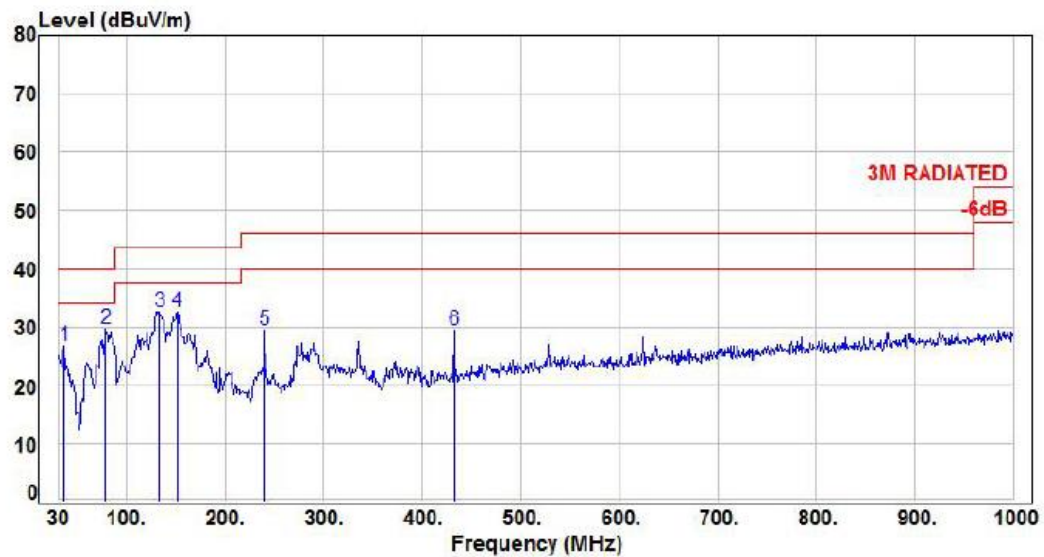
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6.4.3. Test Result of Unwanted Spurious emission (30GHz ~ 1GHz)

Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1		:	

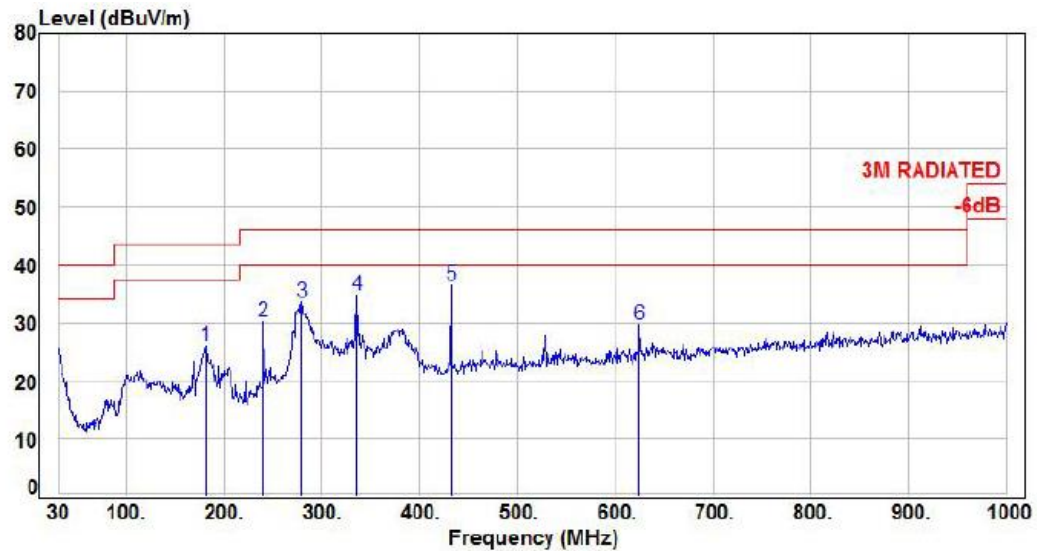


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	36.790	-7.85	34.55	26.70	40.00	-13.30	Peak	100	323	P
2	78.500	-15.16	44.93	29.77	40.00	-10.23	Peak	100	47	P
3	132.820	-8.46	41.14	32.68	43.50	-10.82	Peak	100	328	P
4	151.250	-9.64	42.23	32.59	43.50	-10.91	Peak	100	334	P
5	239.520	-10.36	39.74	29.38	46.00	-16.62	Peak	100	162	P
6	432.550	-4.78	34.28	29.50	46.00	-16.50	Peak	100	249	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1		:

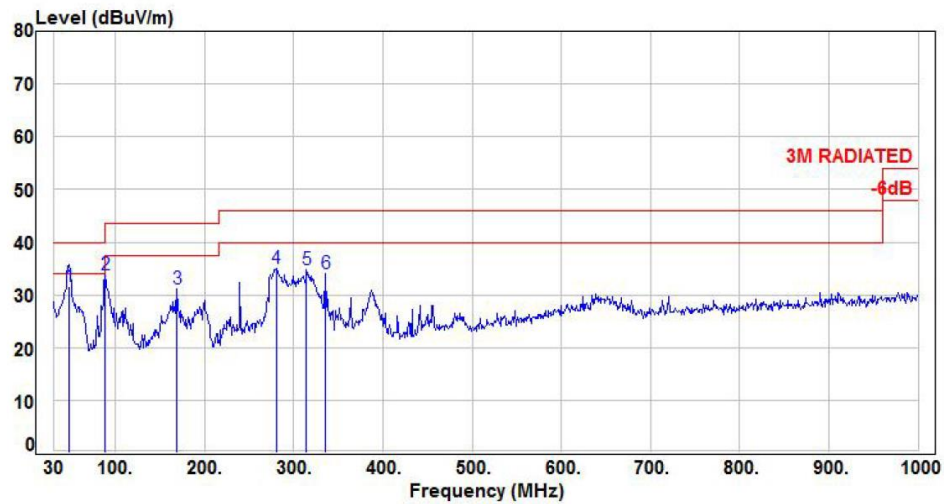


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	181.320	-11.01	36.95	25.94	43.50	-17.56	Peak	100	22	P
2	239.520	-10.36	40.45	30.09	46.00	-15.91	Peak	100	29	P
3	279.290	-8.50	42.07	33.57	46.00	-12.43	Peak	100	64	P
4	335.550	-7.63	42.36	34.73	46.00	-11.27	Peak	100	40	P
5	432.550	-4.78	41.26	36.48	46.00	-9.52	Peak	100	148	P
6	624.610	-1.30	31.05	29.75	46.00	-16.25	Peak	100	69	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2		:	

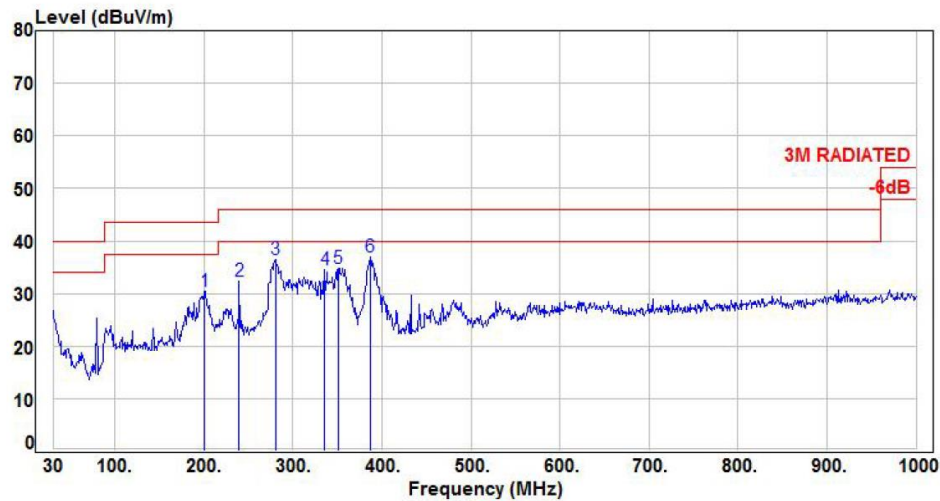


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	48.43	-15.08	46.65	31.57	40.00	-8.43	QP	100	35	P
2	88.20	-15.20	49.04	33.84	43.50	-9.66	Peak	100	277	P
3	168.71	-10.32	41.37	31.05	43.50	-12.45	Peak	100	77	P
4	280.26	-8.50	43.64	35.14	46.00	-10.86	Peak	100	102	P
5	314.21	-7.80	42.49	34.69	46.00	-11.31	Peak	100	275	P
6	335.55	-7.63	41.80	34.17	46.00	-11.83	Peak	200	184	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	DC 12V from Adapter (AC 120V/60Hz)	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	200.72	-9.33	39.75	30.42	43.50	-13.08	Peak	100	253	P
2	239.52	-10.36	42.70	32.34	46.00	-13.66	Peak	100	43	P
3	280.26	-8.50	45.04	36.54	46.00	-9.46	Peak	100	143	P
4	335.55	-7.63	42.22	34.59	46.00	-11.41	Peak	100	203	P
5	351.07	-7.27	42.16	34.89	46.00	-11.11	Peak	100	286	P
6	386.96	-6.30	43.36	37.06	46.00	-8.94	Peak	100	331	P

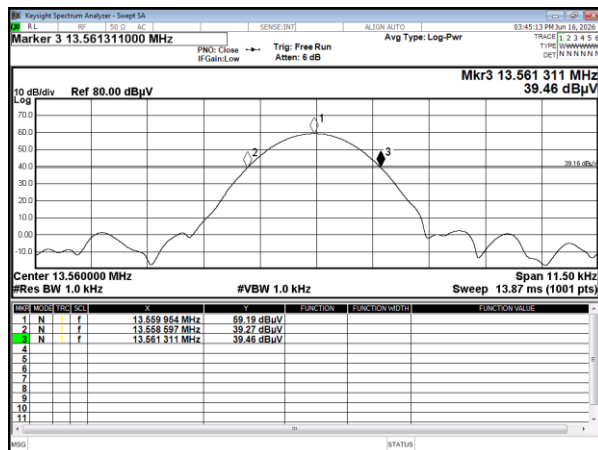
Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor



6.5. 20dB Bandwidth

Modulation Mode	Freq. (MHz)	20dB Bandwidth (kHz)	F _L at 20dB BW (MHz)	F _H at 20dB BW (MHz)
NFC	13.56	2.714	13.558597	13.561311
Limit		N/A	13.553	13.567
Result	Pass			

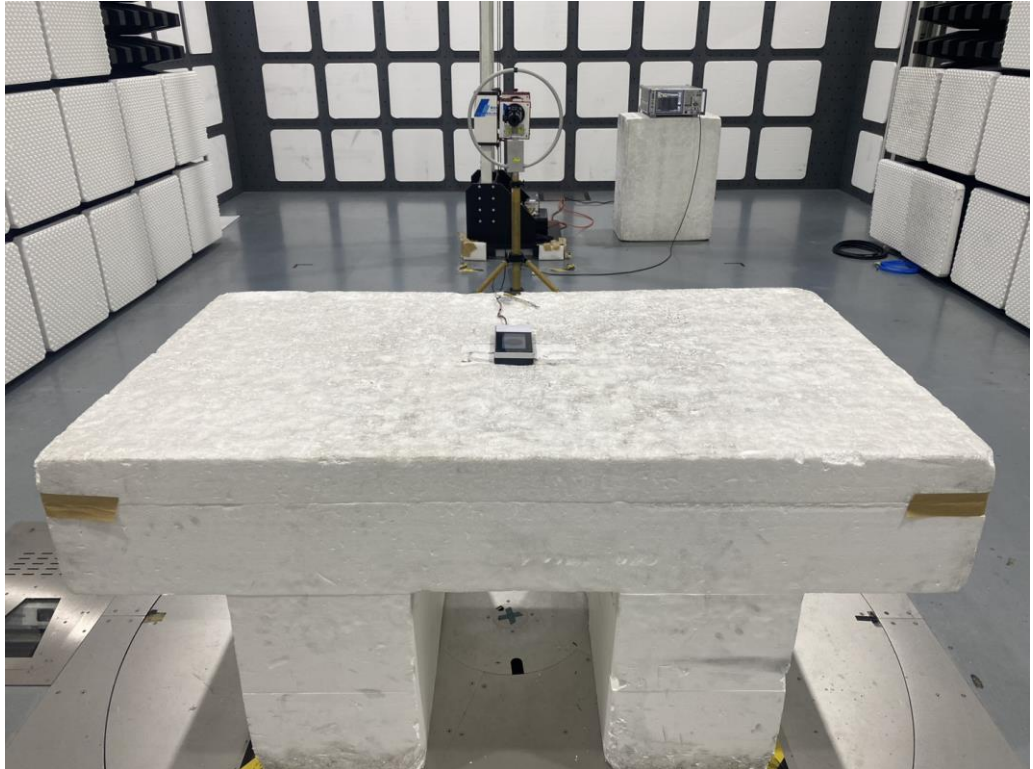
20dB Bandwidth
13.56 MHz





6.6. Test Photographs (9kHz ~ 30MHz)

Front View



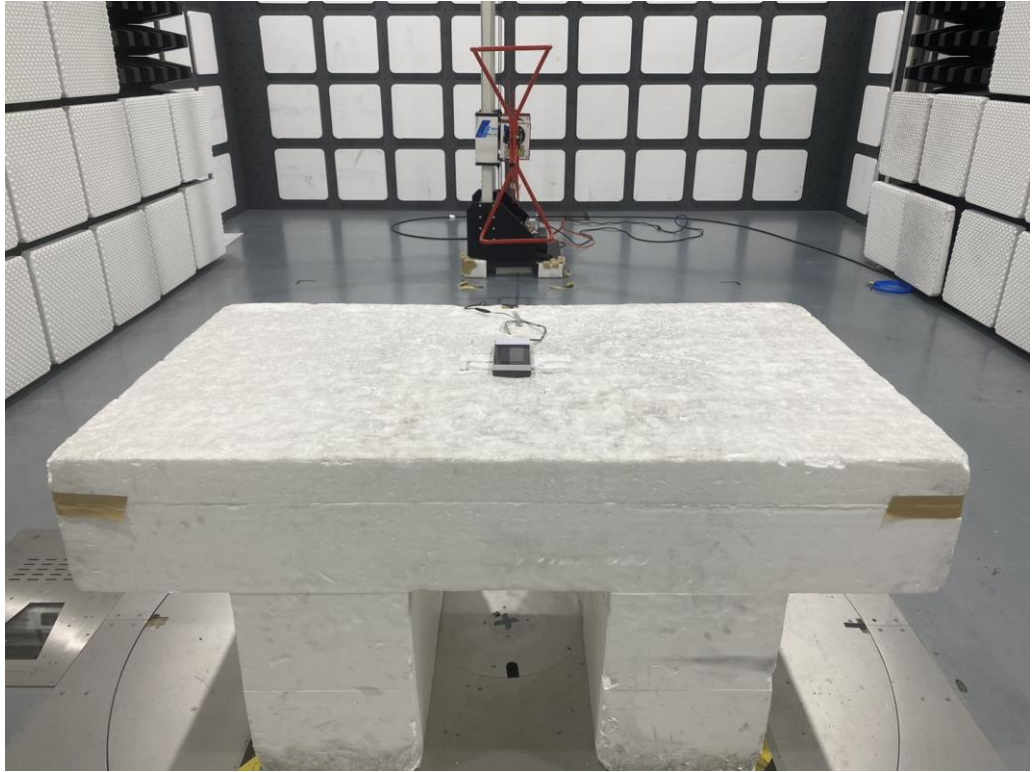
Rear View



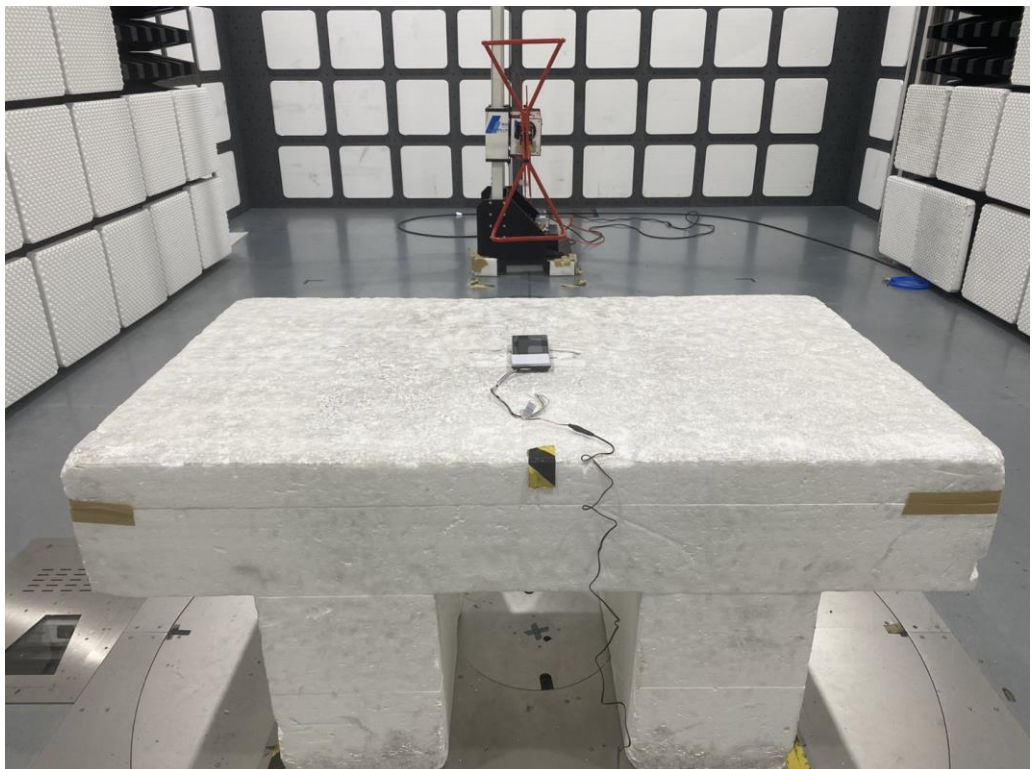


6.7. Test Photographs (30MHz ~ 1GHz)

Front View



Rear View





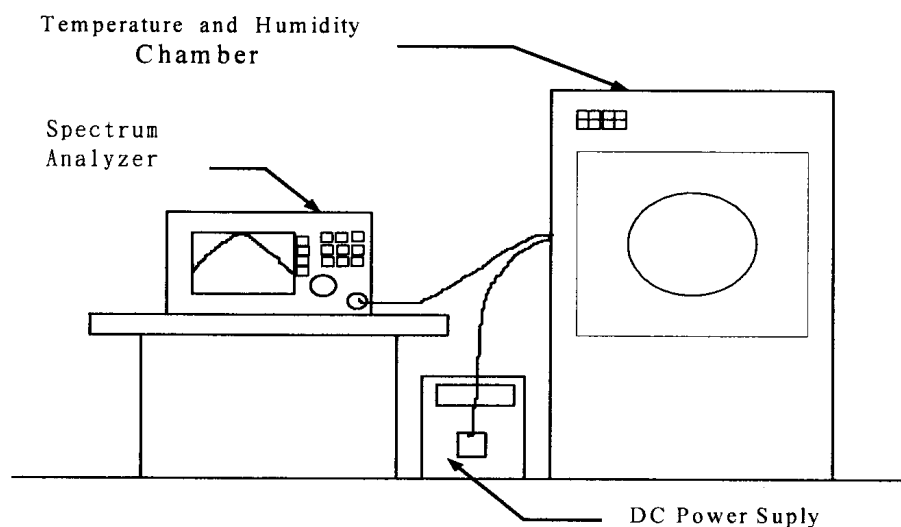
7. Frequency Stability

7.1. Test Procedure

According to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024 Section 6.8

1. The EUT was placed inside the Temperature and Humidity chamber.
2. The transmitter output was connected to spectrum analyzer.
3. Turn the EUT on and couple its output to a spectrum analyzer.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
6. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
7. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

7.2. Test Setup Layout



**7.3. Test Result and Data**

Operating frequency: 13.56 MHz									
Temperature (°C)	Power supply (V)	0 minute		2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	120	13.55995	-0.000354	13.55996	-0.000332	13.55996	-0.000273	13.55996	-0.000273
40	120	13.55995	-0.000354	13.55996	-0.000332	13.55996	-0.000273	13.55996	-0.000280
30	120	13.55995	-0.000339	13.55996	-0.000324	13.55996	-0.000280	13.55996	-0.000280
20	102	13.55995	-0.000339	13.55996	-0.000317	13.55996	-0.000288	13.55996	-0.000265
	120	13.55995	-0.000339	13.55996	-0.000317	13.55996	-0.000288	13.55996	-0.000265
	138	13.55995	-0.000339	13.55996	-0.000310	13.55996	-0.000295	13.55997	-0.000251
10	120	13.55996	-0.000332	13.55996	-0.000317	13.55996	-0.000295	13.55997	-0.000251
0	120	13.55996	-0.000324	13.55996	-0.000317	13.55996	-0.000288	13.55997	-0.000258
-10	120	13.55996	-0.000324	13.55996	-0.000324	13.55996	-0.000280	13.55996	-0.000265
-20	120	13.55996	-0.000317	13.55996	-0.000310	13.55996	-0.000280	13.55997	-0.000258

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