

**EN IEC 55015:2019/A11:2020
EN IEC 61547:2023**

TEST REPORT

For

LED Display Module

**MODEL NUMBER: MO-P6RGB8S3232SS (MO-P6RGB3232-8S-AA),
MI-P6RGB8S3232SS (MI-P6RGB3232-8S-AA)**

REPORT NUMBER: E04A25110262E00101

ISSUE DATE: November 26, 2025

Prepared for

**Lucky Light Electronics Co., Ltd
E&F, 15/F, Cooperative Finance Bldg, Shennan East Road, Luohu District,
Shenzhen, China**

Prepared by

Guangdong Global Testing Technology Co., Ltd.

**Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city, Guangdong, People's Republic of China, 523808**

This report is based on a single evaluation of the submitted sample(s) of the above mentioned product, it does not imply an assessment of the production of the products.

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	November 26, 2025	Initial Issue	

Summary of Test Results

Emission			
Standard	Test Item	Limit	Result
EN IEC 55015:2019/A11:20 20	Conducted emission (AC or DC electric power supply)	Clause 4.3	Pass
	Radiated Emission (30MHz to 1GHz)	Clause 4.5.3	Pass
	Radiated Emission (9 kHz to 30 MHz 2m loop)	Clause 4.5.2	Pass

Immunity (EN IEC 61547:2023)				
Basic Standard	Test Item	Test Specification	Criteria	Result
IEC 61000-4-2:2008	Electrostatic Discharge	Contact +/- 4 kV; Air +/- 2 kV; +/- 4 kV; +/- 8 kV	B	Pass
IEC 61000-4-3:2006+A1:2007+A2:2010	Continuous RF electromagnetic field disturbances	3 V/m, 1 kHz, 80 % AM, 80 MHz-1000 MHz	A	Pass
IEC 61000-4-4:2012	Electrical fast transients burst (DC power ports)	+/-0.5 kV 5/50 ns, 5 kHz	B	Pass
IEC 61000-4-6:2013	Continuous induced RF disturbances (DC power ports)	150 kHz-80 MHz; 1 kHz 80 % AM, 3 V r.m.s.	A	Pass
IEC 61000-4-5:2014+A1:2017	Surges (AC mains power ports)	refer to Clause 5.7 of the standard	C,B(emergency light)	N/A (NOTE 1, 2)
IEC 61000-4-4:2012	Electrical fast transients burst (AC mains power ports)	+/- 1.0 kV 5/50 ns, 5 kHz	B	N/A (NOTE 1, 2)
IEC 61000-4-6:2013	Continuous induced RF disturbances (AC mains power ports)	150 kHz-80 MHz; 1 kHz 80 % AM, 3 V r.m.s.	A	N/A (NOTE 1, 2)
IEC 61000-4-8:2009	Power frequency magnetic field	50/60 Hz, 3 A/m	A	N/A (NOTE 1, 2)
IEC 61000-4-11:2004+A1:2017	Voltage dips and interruptions (AC mains power ports)	Interruptions 0 %: 0.5 cycle; Dips 70 %: 10 cycles	B,B	N/A (NOTE 1, 2)

Note:

1. N/A: In this whole report not applicable.

2. This test is only applicable for devices which can be charged or powered by AC power cable.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

*The measurement result for the sample received is <Pass> according to <EN IEC 55015:2019/A11:2020, EN IEC 61547:2023> when <Accuracy Method> decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Lucky Light Electronics Co., Ltd
Address: E&F, 15/F, Cooperative Finance Bldg, Shennan East Road,
Luohu District, Shenzhen, China

Manufacturer Information

Company Name: Lucky Light Electronics Co., Ltd
Address: Factory Building 6#, Liandong U Valley, NO. 252, Hexi Road,
Sanhe Village, Tonghu Town, Zhongkai High-tech zone, Huizhou
City, Guangdong Province

Factory Information

Company Name: Lucky Light Electronics Co., Ltd
Address: Factory Building 6#, Liandong U Valley, NO. 252, Hexi Road,
Sanhe Village, Tonghu Town, Zhongkai High-tech zone, Huizhou
City, Guangdong Province

EUT Information

Product Description: LED Display Module
Model: MO-P6RGB8S3232SS (MO-P6RGB3232-8S-AA)
Series Model: MI-P6RGB8S3232SS (MI-P6RGB3232-8S-AA)
Brand: LUCKYLIGHT
Sample Received Date: November 19, 2025
Sample Status: Normal
Sample ID: A25110262 001
Date of Tested: November 20, 2025 to November 24, 2025

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
EN IEC 55015:2019/A11:2020	Pass
EN IEC 61547:2023	Pass

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Shawn Wen

Shawn Wen
Laboratory Manager



2. TEST METHODOLOGY

All tests were performed in accordance with the standard EN IEC 55015:2019/A11:2020, EN IEC 61547:2023

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>A2LA (Certificate No.: 6947.01) Guangdong Global Testing Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1343) Guangdong Global Testing Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules</p> <p>ISED (Company No.: 30714) Guangdong Global Testing Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 30714 and the test lab Conformity Assessment Body Identifier (CABID) is CN0148.</p>
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Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emission (AC or DC electric power supply)	0.009 MHz - 30 MHz	2	3.35
Radiated Emission (30MHz to 1GHz)	30 MHz -1 GHz	2	3.83
Radiated Emission (9 kHz to 30 MHz 2m loop)	0.009 MHz - 30 MHz	2	2.78
Note1: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.			
Note 2: According to the standard CISPR 16-4-2, the MU for the Conducted emissions from the AC mains power ports using AMN should not exceed 3.8 in range of 9kHz to 150kHz and 3.4 in range of 150kHz to 30MHz. We have considered the test results containing the value of U _{lab} (in dB) for the measurement instrumentation actually used for the measurements.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name		LED Display Module
Model		MO-P6RGB8S3232SS (MO-P6RGB3232-8S-AA)
Series Model		MI-P6RGB8S3232SS (MI-P6RGB3232-8S-AA)
Model Difference		The main difference between this series of models and the main test model lies in the two different functions of being waterproof and not waterproof. Their internal structure and electronic circuits are the same.
Internal Frequency		below 108MHz
Ratings		Input: DC 5V
Power Supply	DC	5V

5.2. TEST MODE

Test Mode	Description
M01	Lighting
M02	Flashing
M03	Handling Mode (For ESD Immunity Test)

5.3. MONITORING OF EUT FOR ALL IMMUNITY TEST

Other	Monitor the lighting status.
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5.4. SUPPORT UNITS FOR SYSTEM TEST

The following cables were used to form a representative test configuration during the tests.

Item	Type of cable	Shielded Type	Ferrite Core	Length
C-1	DC cable	Unshielded	without ferrite	≤ 1.0 m

6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted emission (AC or DC electric power supply)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Shielding Room 1	CHENG YU	8*5*4	N/A	8/23/2025	8/22/2028
LISN	R&S	ENV216	102843	8/23/2025	8/22/2026
EMI Test Receiver	R&S	ESR3	102647	8/23/2025	8/22/2026
LISN	Schwarzbeck	NNLK 8129 RC	5046	8/23/2025	8/22/2026
Test Software for CE	Farad	EZ-EMC	V1.1.4.2	N/A	N/A

Test Equipment of Radiated Emission (30MHz to 1GHz)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Chamber	ETS	9*6*6	Q2146	8/22/2025	8/21/2026
Receiver	R&S	ESC13	101409	8/22/2025	8/21/2026
Loop Antenna	ETS	6502	243668	2/22/2025	2/21/2028
Pre-Amplifier	HzEMC	HPA-9K0130	HYP A21001	8/23/2025	8/22/2026
Biconilog Antenna	Schwarzbeck	VULB 9168	1315	9/20/2025	9/19/2028
Biconilog Antenna	ETS	3142E	243651	2/22/2025	2/21/2028
Test Software for RE	Farad	EZ-EMC	V1.1.4.2	N/A	N/A

Test Equipment of Radiated Emission (9 kHz to 30 MHz 2m loop)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	102647	8/23/2025	8/22/2026
3 Loop Antenna	Da Ze	ZN30401	2944A09491	8/23/2025	8/22/2026
Test Software for MR	Farad	EZ-EMC	V1.1.4.2	N/A	N/A

Test Equipment of Electrostatic Discharge					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
ESD Simulator	TESEQ	NSG437	336	8/25/2025	8/24/2026

Test Equipment of Continuous RF electromagnetic field disturbances					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Stacked Log-Per-Broadband Antenna	Schwarzbeck	STLP 9129	170	N/A	N/A
Power amplifier	MiCOTOP	MPA-80-1000-500	MPA2209336	8/23/2025	8/22/2026
Power amplifier	MiCOTOP	MPA-1000-6000-100	MPA2209337	8/23/2025	8/22/2026
EPM Series Power Meter	Keysight	N1914A	MY53240003	8/23/2025	8/22/2026
Average Power Sensor	Keysight	E9304A	MY41498925	8/23/2025	8/22/2026
Average Power Sensor	Keysight	E9304A	MY41497454	8/23/2025	8/22/2026
EXG Analog Signal Generator	Keysight	N5171B	MY61252624	8/23/2025	8/22/2026
Field Probe	Narda	EP 601	811ZX11137	8/26/2025	8/25/2026
Test Software for RS	HzEMC	FASLAB-RS	V2.7.2.3	N/A	N/A

Test Equipment of Electrical fast transients burst (DC power ports)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EFT Generator	Everfine	EMS61000-4B	G114921CA1341115	8/22/2025	8/21/2026
Capacitive Coupling Clamp	Everfine	EFTC-2-V200	N/A	8/22/2025	8/21/2026

Test Equipment of Continuous induced RF disturbances (DC power ports)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EXG Analog Signal Generator	KEYSIGHT	N5171B	MY61252670	8/22/2025	8/21/2026
EPM Series Power Meter	KEYSIGHT	N1914A	MY50000188	8/22/2025	8/21/2026
Power Sensor	KEYSIGHT	E9304A	MY51180004	8/22/2025	8/21/2026
Power Sensor	KEYSIGHT	E9304A	MY51120019	8/22/2025	8/21/2026
Power Amplifier	AR	AR/100A 400M	305558	8/22/2025	8/21/2026
Double directional coupler	XIANGHUA	DDT0-1-40	221008732	8/22/2025	8/21/2026
COUPLING AND DECOUPLING NETWORK	Schwarzbeck	CDN M2/M3PE 16A	148	8/23/2025	8/22/2026
COUPLING AND DECOUPLING NETWORK	Schwarzbeck	CDN T8	53	8/22/2025	8/21/2026
Electromagnetic injection pliers	3ctest	EM CL100	EM C22060625	8/22/2025	8/21/2026
6 db attenuator	Huaxiang	WDTS	220831156	8/22/2025	8/21/2026
Test Software for CS	HzEMC	FASLAB-CS	V2.7.2.1	N/A	N/A

7. EMISSION TEST

7.1. CONDUCTED EMISSION (AC OR DC ELECTRIC POWER SUPPLY)

LIMITS

FREQUENCY (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.009-0.05	110	--
0.05-0.15	90-80	--
0.15 -0.5	66 - 56 *	56- 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

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.

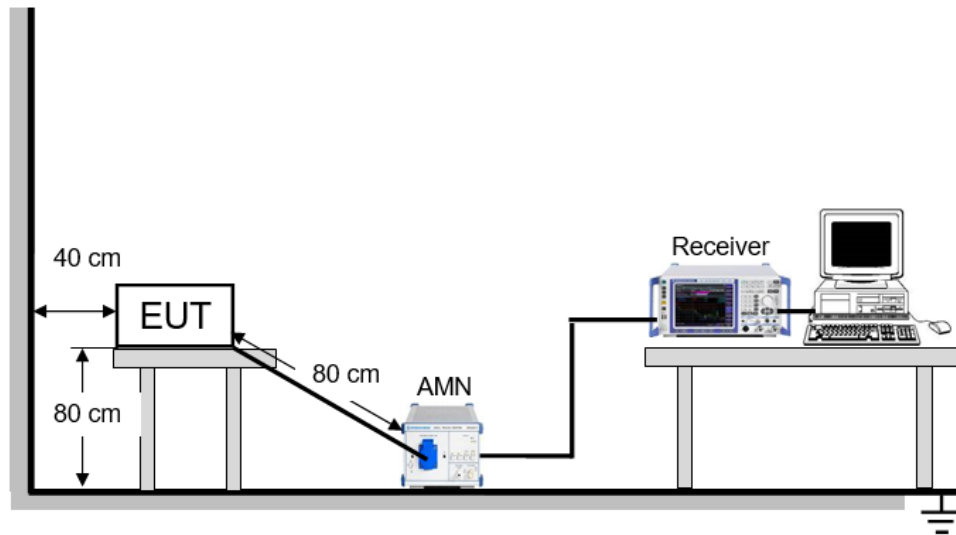
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.09 MHz
Stop Frequency	30 MHz
IF Bandwidth	200Hz (from 9kHz to 150kHz) and 9kHz (from 150kHz to 30MHz)

TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8 meters above the horizontal ground plane and 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. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.
- e. LISN at least 80 cm from nearest part of EUT chassis.
- f. Conducted emissions from the EUT measured in the frequency range between 0.09 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

TEST SETUP



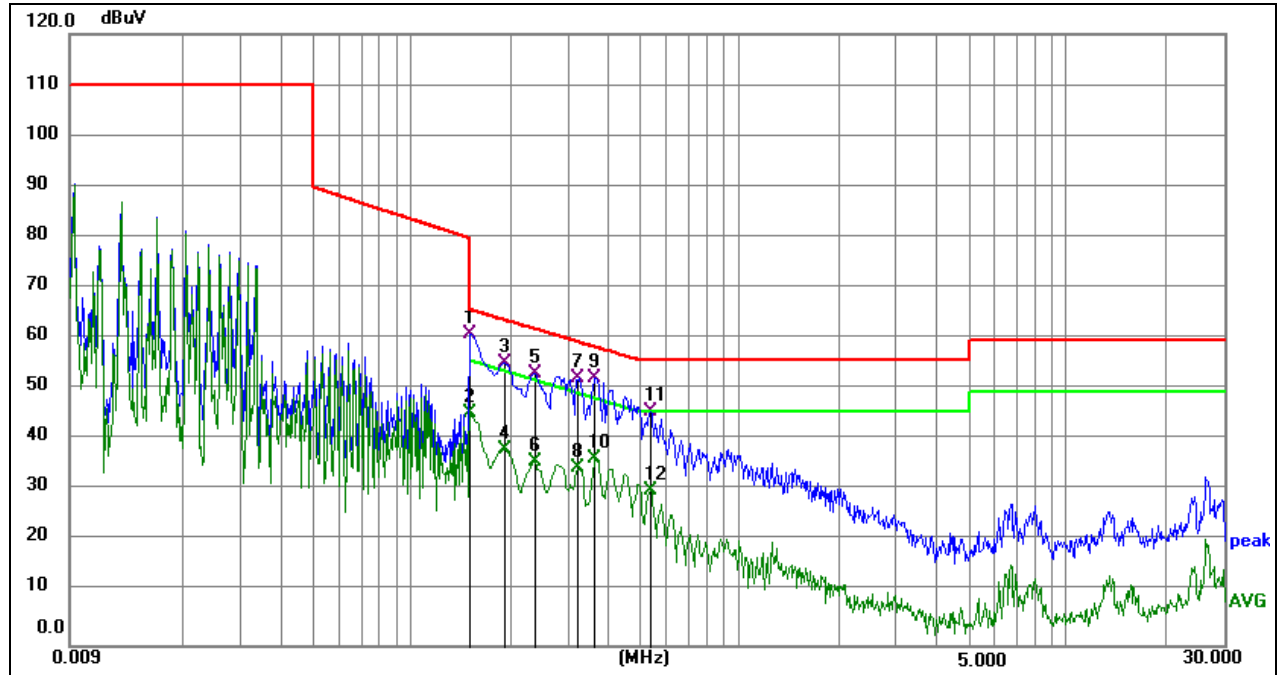
TEST ENVIRONMENT

Temperature	25.3°C	Relative Humidity	52%
Atmosphere Pressure	101kPa		

TEST MODE

Pre-test Mode:	M01 ~ M02
Final Test Mode:	M01, M02

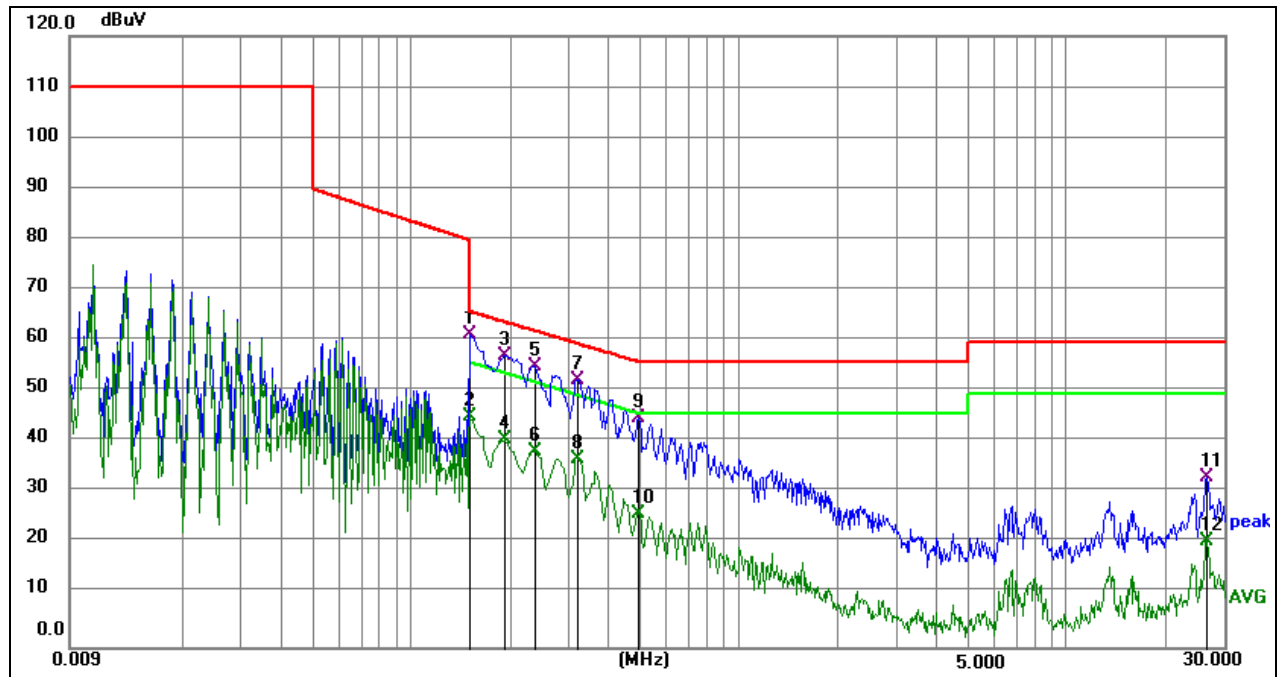
Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

Phase: L1

Mode: M01

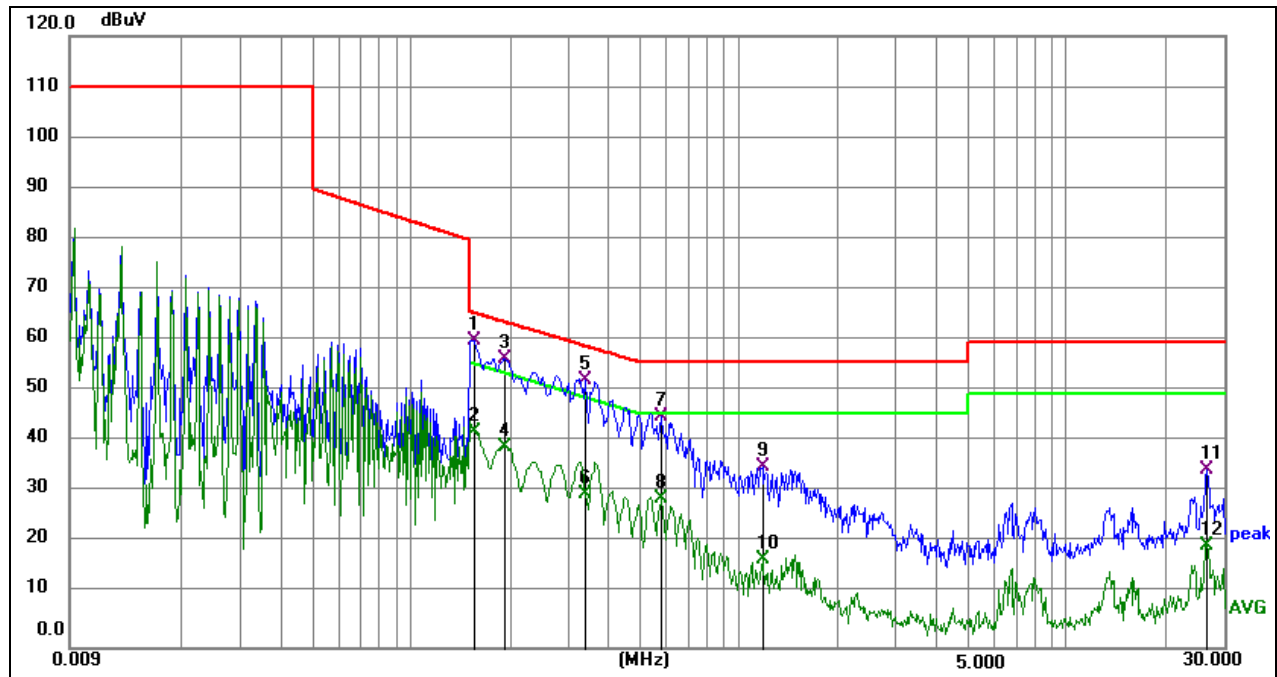
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	51.51	9.71	61.22	66.00	-4.78	QP
2	0.1500	35.99	9.71	45.70	56.00	-10.30	AVG
3	0.1905	45.95	9.65	55.60	64.01	-8.41	QP
4	0.1905	28.98	9.65	38.63	54.01	-15.38	AVG
5	0.2355	43.95	9.61	53.56	62.25	-8.69	QP
6	0.2355	26.51	9.61	36.12	52.25	-16.13	AVG
7	0.3209	42.88	9.62	52.50	59.68	-7.18	QP
8	0.3209	25.41	9.62	35.03	49.68	-14.65	AVG
9	0.3615	42.99	9.68	52.67	58.69	-6.02	QP
10	0.3615	26.97	9.68	36.65	48.69	-12.04	AVG
11	0.5325	36.40	9.61	46.01	56.00	-9.99	QP
12	0.5325	20.83	9.61	30.44	46.00	-15.56	AVG



Phase: N

Mode: M01

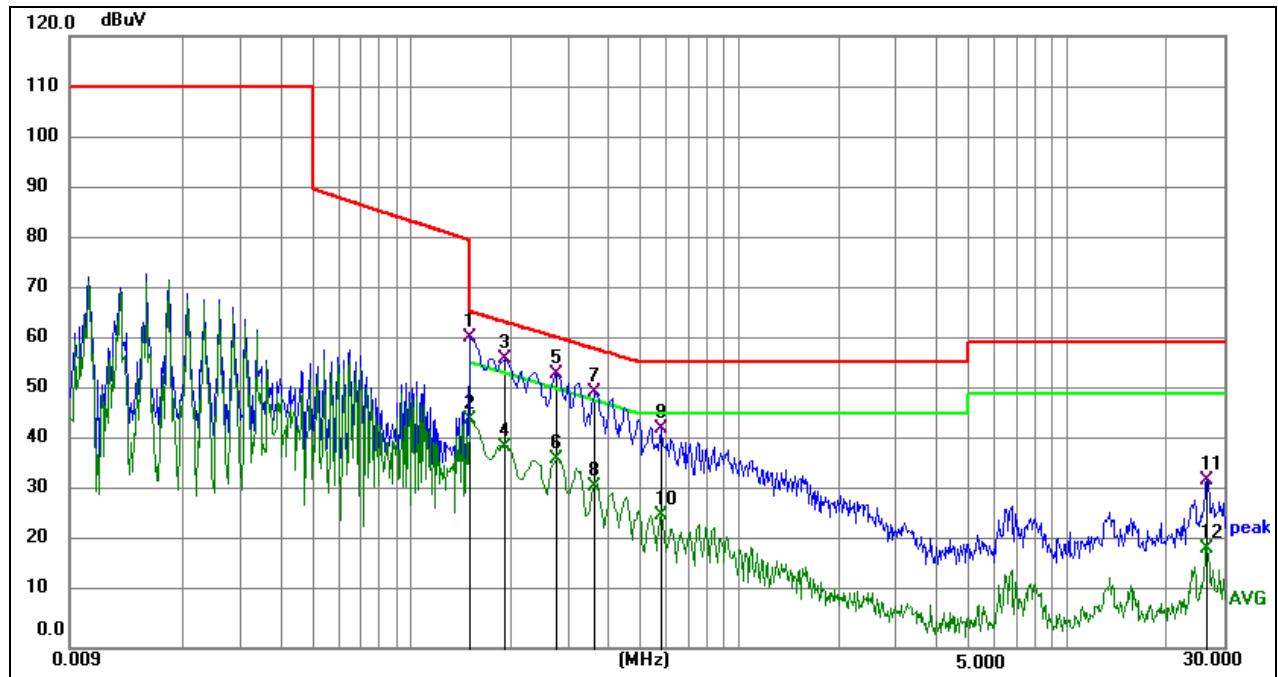
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	51.72	9.64	61.36	66.00	-4.64	QP
2	0.1500	35.74	9.64	45.38	56.00	-10.62	AVG
3	0.1905	47.78	9.65	57.43	64.01	-6.58	QP
4	0.1905	31.16	9.65	40.81	54.01	-13.20	AVG
5	0.2355	45.66	9.63	55.29	62.25	-6.96	QP
6	0.2355	28.92	9.63	38.55	52.25	-13.70	AVG
7	0.3209	42.96	9.62	52.58	59.68	-7.10	QP
8	0.3209	27.39	9.62	37.01	49.68	-12.67	AVG
9	0.4920	35.44	9.61	45.05	56.13	-11.08	QP
10	0.4920	16.88	9.61	26.49	46.13	-19.64	AVG
11	26.5965	22.92	10.57	33.49	60.00	-26.51	QP
12	26.5965	10.52	10.57	21.09	50.00	-28.91	AVG



Phase: N

Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1545	50.67	9.63	60.30	65.75	-5.45	QP
2	0.1545	32.94	9.63	42.57	55.75	-13.18	AVG
3	0.1905	47.10	9.65	56.75	64.01	-7.26	QP
4	0.1905	29.86	9.65	39.51	54.01	-14.50	AVG
5	0.3390	42.89	9.61	52.50	59.23	-6.73	QP
6	0.3390	20.62	9.61	30.23	49.23	-19.00	AVG
7	0.5775	35.79	9.64	45.43	56.00	-10.57	QP
8	0.5775	19.74	9.64	29.38	46.00	-16.62	AVG
9	1.1715	25.81	9.68	35.49	56.00	-20.51	QP
10	1.1715	7.74	9.68	17.42	46.00	-28.58	AVG
11	26.6010	24.38	10.57	34.95	60.00	-25.05	QP
12	26.6010	9.56	10.57	20.13	50.00	-29.87	AVG



Phase: L1

Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	51.16	9.71	60.87	66.00	-5.13	QP
2	0.1500	35.19	9.71	44.90	56.00	-11.10	AVG
3	0.1905	46.98	9.65	56.63	64.01	-7.38	QP
4	0.1905	29.76	9.65	39.41	54.01	-14.60	AVG
5	0.2760	44.18	9.58	53.76	60.94	-7.18	QP
6	0.2760	27.53	9.58	37.11	50.94	-13.83	AVG
7	0.3615	40.40	9.68	50.08	58.69	-8.61	QP
8	0.3615	22.15	9.68	31.83	48.69	-16.86	AVG
9	0.5775	33.28	9.66	42.94	56.00	-13.06	QP
10	0.5775	16.40	9.66	26.06	46.00	-19.94	AVG
11	26.5785	22.34	10.60	32.94	60.00	-27.06	QP
12	26.5785	8.82	10.60	19.42	50.00	-30.58	AVG

7.2. RADIATED EMISSION (30MHZ TO 1GHZ)

LIMITS

FREQUENCY (MHz)	At 10 m	At 3 m
	dB(μ V/m)	dB(μ V/m)
30 – 230	30	40
230 – 1000	37	47

Note:

- (1) The limit for radiated test was performed according to EN IEC 55015
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dB μ V/m)=20log Emission level (μ V/m).

TEST PROCEDURE

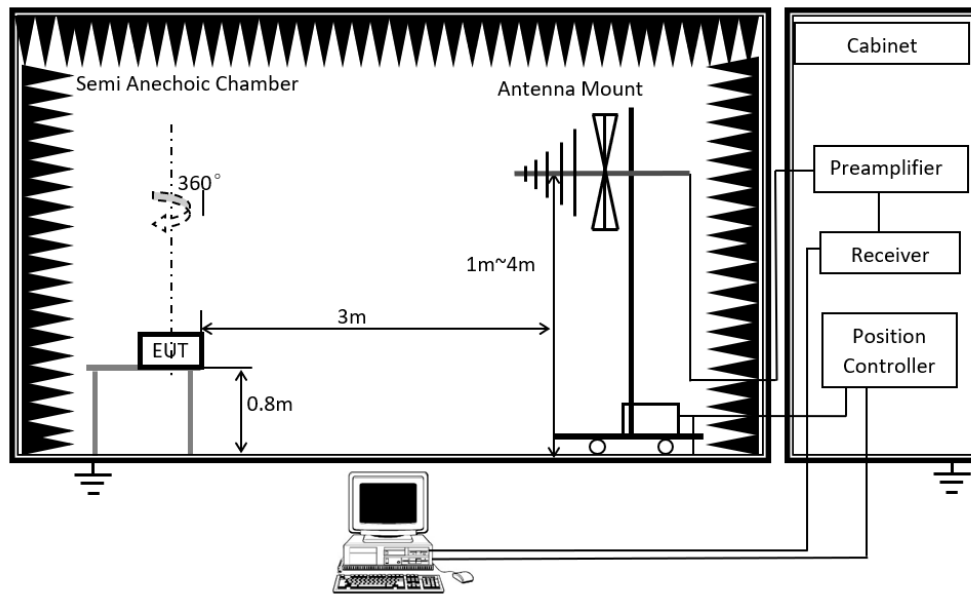
Below 1 GHz and above 30 MHz

The setting of the spectrum analyzer

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak and QP
Trace	Max hold

- a. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp was used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- b. The EUT was placed on a turntable with 80 cm above ground.
- c. 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.
- d. 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.
- e. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.
- f. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- g. For measurement below 1 GHz, the initial step in collecting Radiated emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

TEST SETUP



TEST ENVIRONMENT

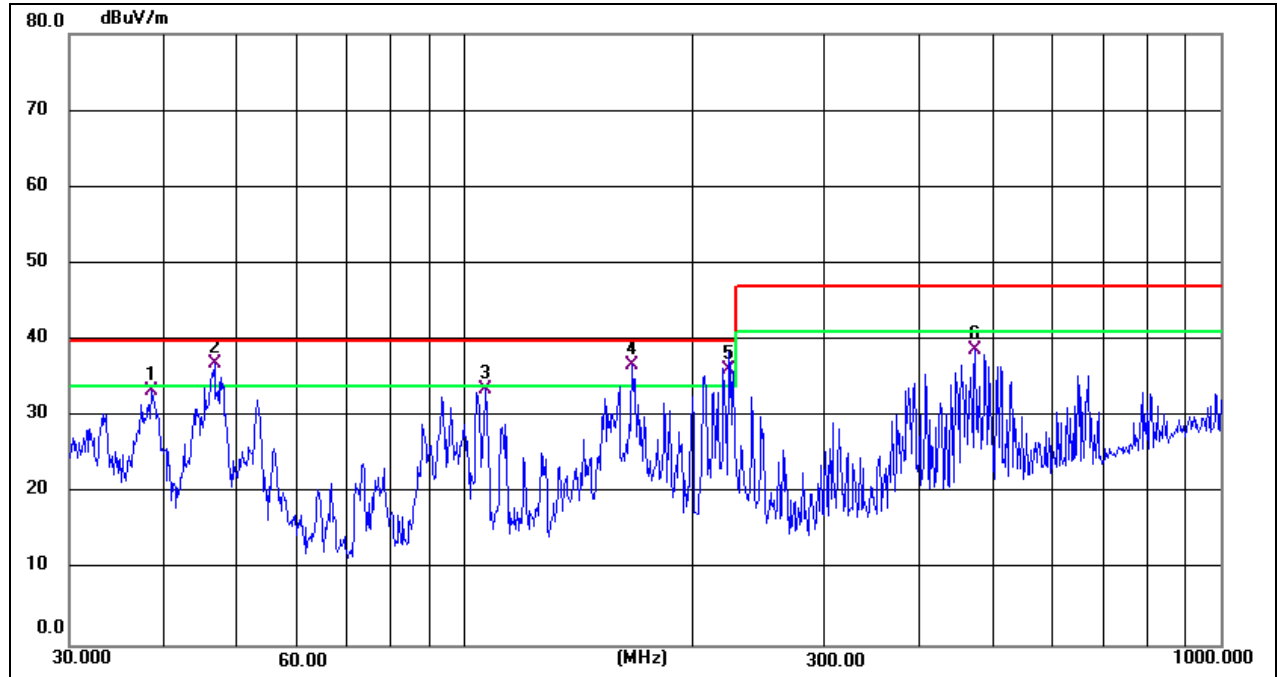
Temperature	23.5°C	Relative Humidity	52%
Atmosphere Pressure	101kPa		

TEST MODE

Pre-test Mode:	M01 ~ M02
Final Test Mode:	M01, M02

Note: All test modes had been tested, but only the worst data recorded in the report.

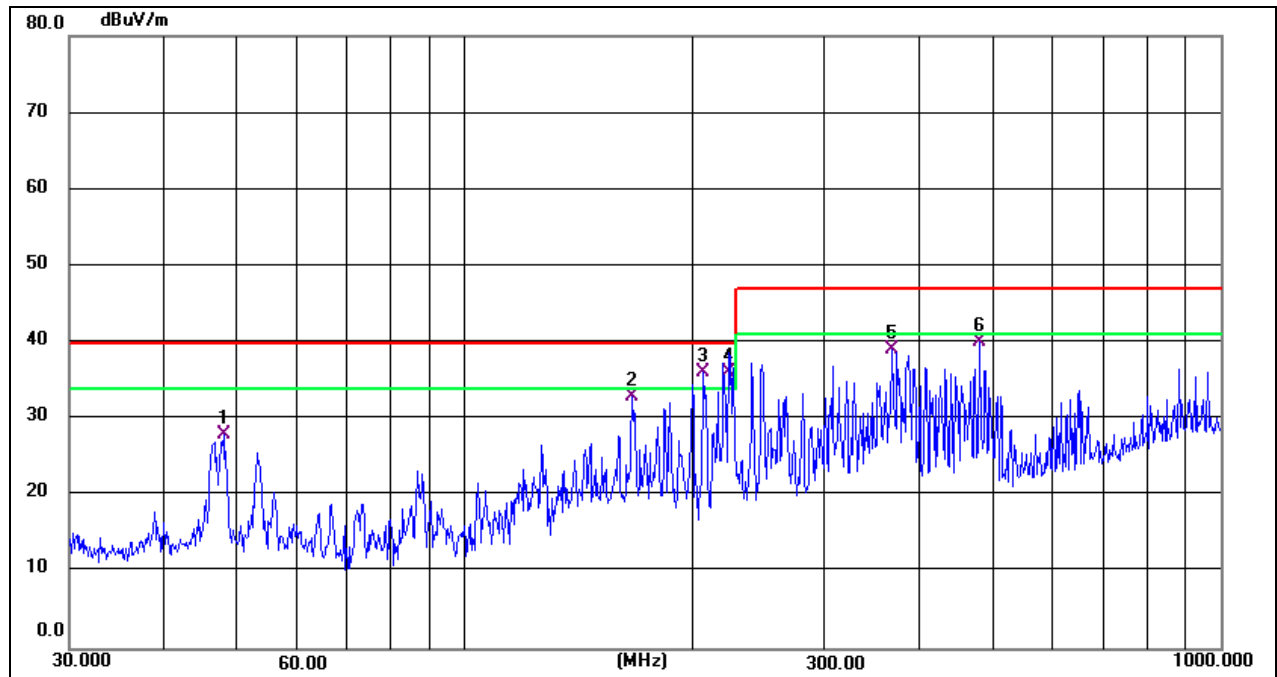
TEST RESULTS



Antenna::Vertical

Mode: M01

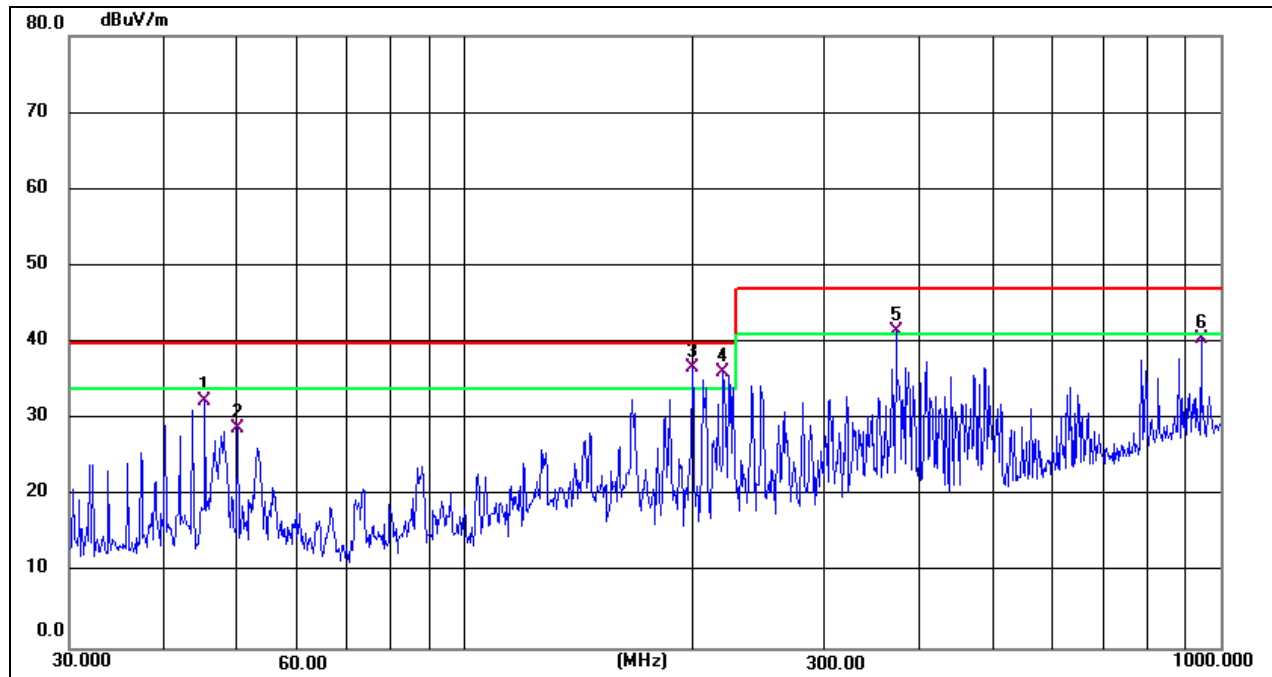
No .	Frequenc y (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margi n (dB)	Detecto r	Commen t
1	38.4810	47.32	-13.90	33.42	40.00	-6.58	QP	
2 *	46.6662	49.97	-13.05	36.92	40.00	-3.08	QP	
3	106.7587	49.13	-15.60	33.53	40.00	-6.47	QP	
4 !	166.6512	49.77	-13.13	36.64	40.00	-3.36	QP	
5 !	223.7333	51.78	-15.68	36.10	40.00	-3.90	QP	
6	473.8346	47.23	-8.52	38.71	47.00	-8.29	QP	



Antenna::Horizontal

Mode: M01

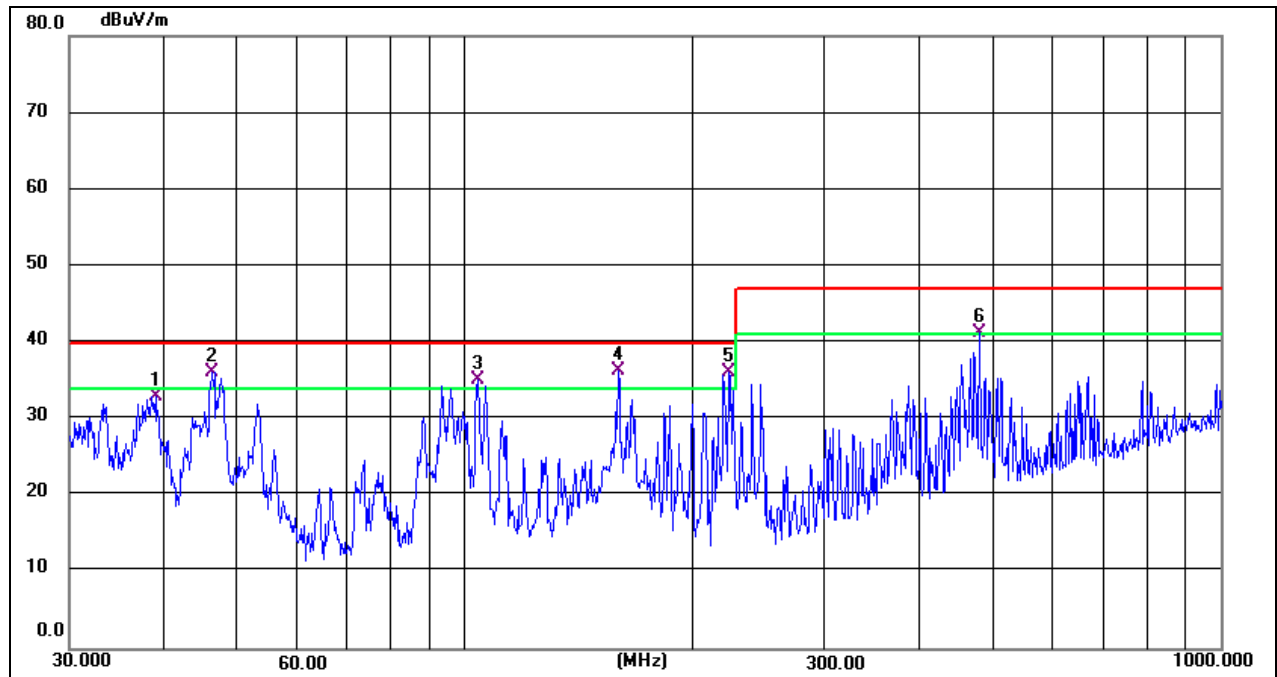
No .	Frequenc y (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margi n (dB)	Detecto r	Commen t
1	47.9940	40.88	-12.90	27.98	40.00	-12.02	QP	
2	166.6512	46.18	-13.13	33.05	40.00	-6.95	QP	
3 !	207.1225	52.18	-16.14	36.04	40.00	-3.96	QP	
4 *	223.7333	51.88	-15.68	36.20	40.00	-3.80	QP	
5	366.8231	50.47	-11.46	39.01	47.00	-7.99	QP	
6	480.5276	48.52	-8.34	40.18	47.00	-6.82	QP	



Antenna::Horizontal

Mode: M02

No .	Frequenc y (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margi n (dB)	Detecto r	Commen t
1	45.3753	45.55	-13.18	32.37	40.00	-7.63	QP	
2	50.0566	41.45	-12.69	28.76	40.00	-11.24	QP	
3 *	199.9855	53.13	-16.35	36.78	40.00	-3.22	QP	
4 !	219.8446	51.86	-15.79	36.07	40.00	-3.93	QP	
5 !	372.0045	52.85	-11.32	41.53	47.00	-5.47	QP	
6	942.1304	40.81	-0.22	40.59	47.00	-6.41	QP	



Antenna::Vertical

Mode: M02

No .	Frequenc y (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Margi n (dB)	Detecto r	Commen t
1	39.0243	46.91	-13.85	33.06	40.00	-6.94	QP	
2 !	46.3402	49.29	-13.07	36.22	40.00	-3.78	QP	
3 !	104.1701	51.07	-15.97	35.10	40.00	-4.90	QP	
4 *	159.7844	48.78	-12.42	36.36	40.00	-3.64	QP	
5 !	223.7333	51.88	-15.68	36.20	40.00	-3.80	QP	
6 !	480.5276	49.61	-8.34	41.27	47.00	-5.73	QP	

7.3. RADIATED EMISSION (9 KHZ TO 30 MHZ 2M LOOP)

LIMITS

Frequency Range	Quasi-peak limits for three loop diameters
	dB(μA) 2m
9 kHz - 70 kHz	88
70 kHz - 150 kHz	88-58*
150 kHz - 3.0 MHz	58-22*
3.0 MHz - 30 MHz	22

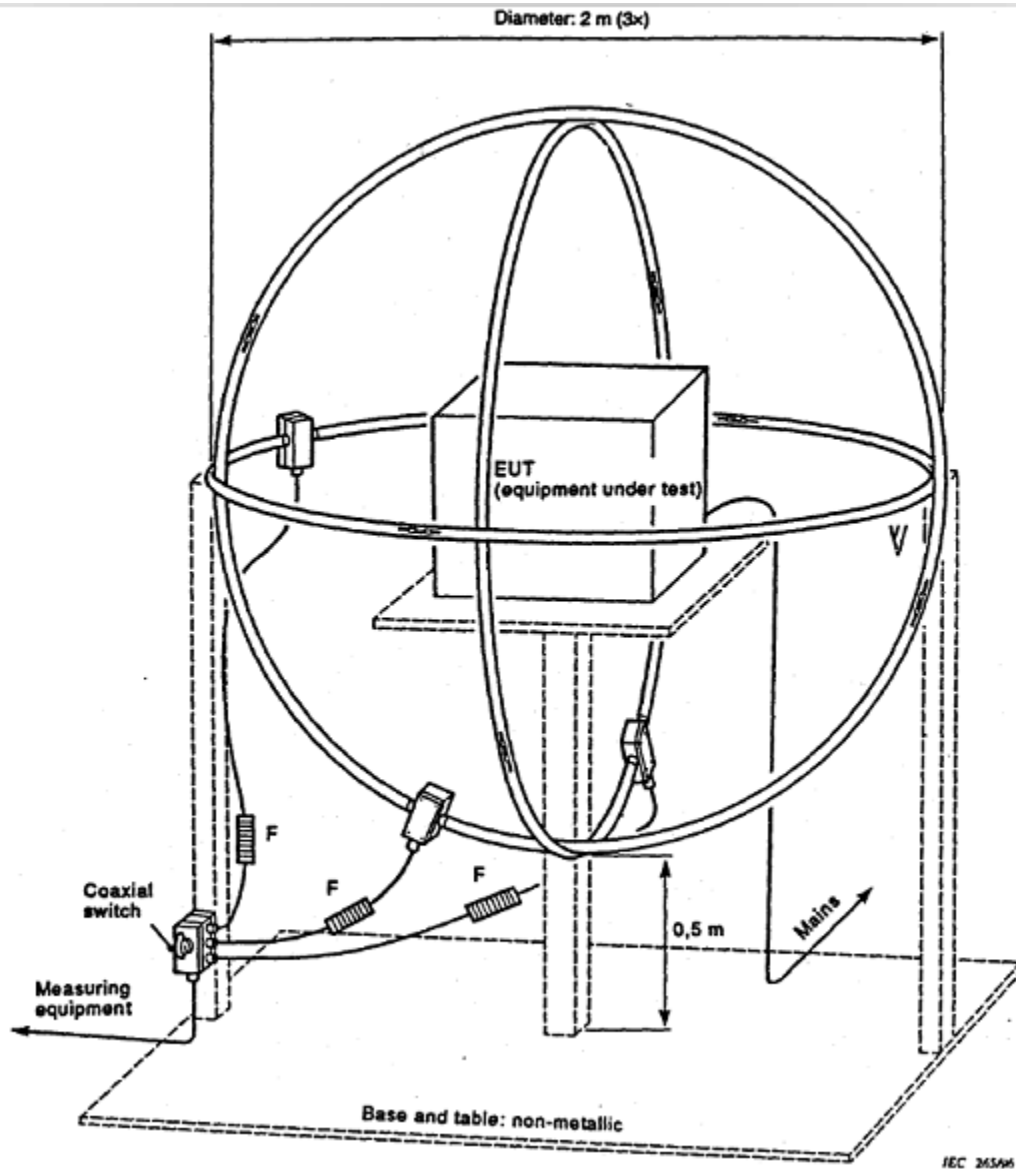
Note:

(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.

TEST PROCEDURE

- The quasi-peak limits of the magnetic component of the radiated electromagnetic disturbance field strength in the frequency range 9 kHz to 30 MHz measured as a current in 2 m, loop antennas around the lighting equipment.
- The measurement range of radiated emission, which is from 9 kHz to 30 MHz, was investigated. All readings are quasi-peak values with a proper resolution Bandwidth. The initial step in collecting radiated emission data is a spectrum analyzer peak scans of the measurement range for all the test modes and then use test receiver for final measurement.

TEST SETUP**TEST ENVIRONMENT**

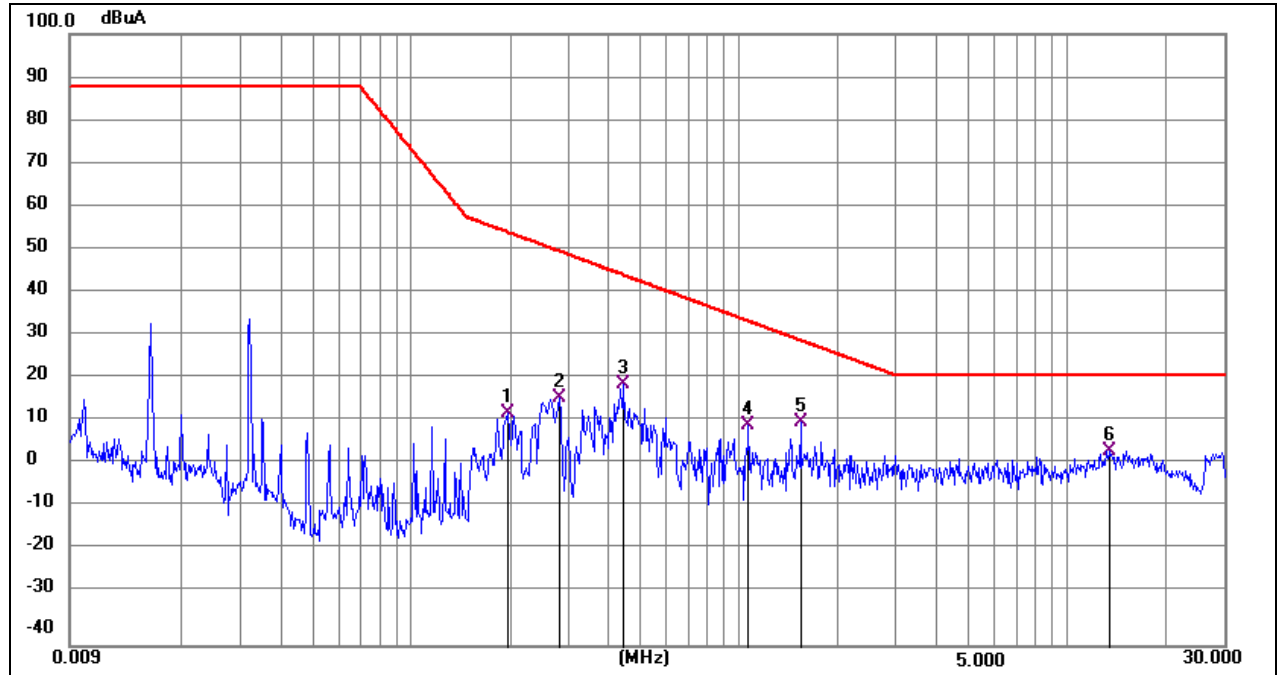
Temperature	25.1°C	Relative Humidity	54%
Atmosphere Pressure	101kPa		

TEST MODE

Pre-test Mode:	M01 ~ M02
Final Test Mode:	M01, M02

Note: All test modes had been tested, but only the worst data recorded in the report.

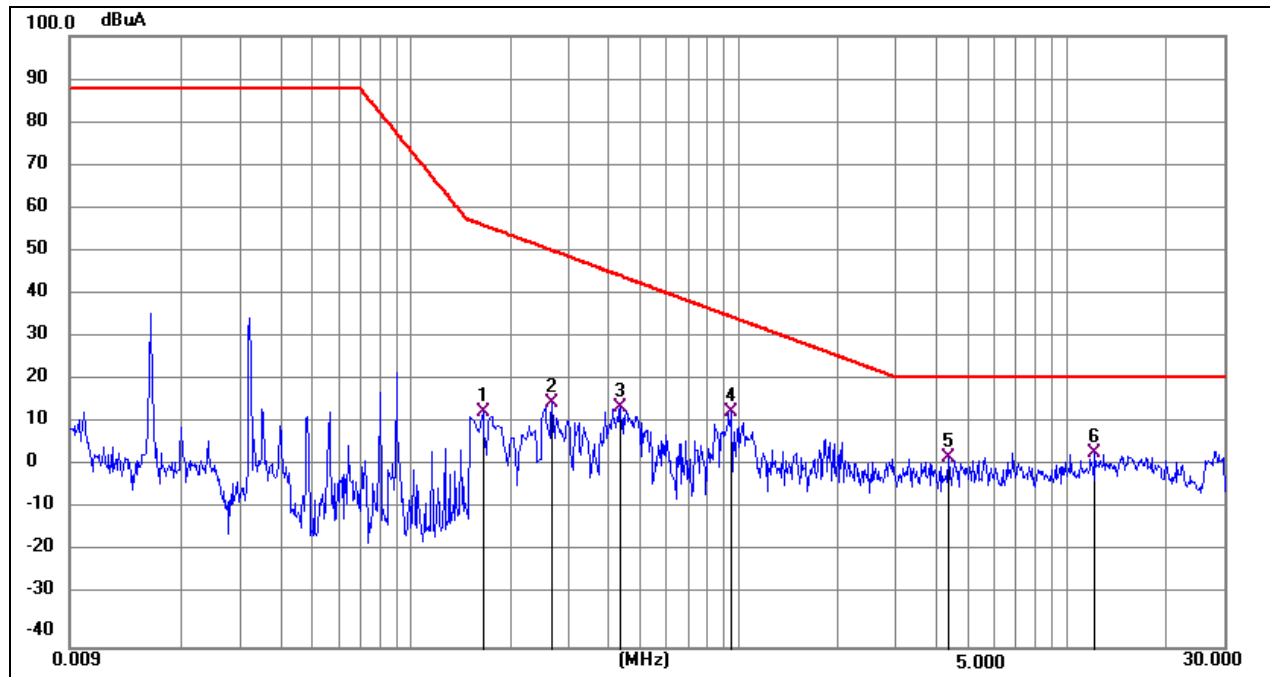
TEST RESULTS



Phase: Y

Mode: M01

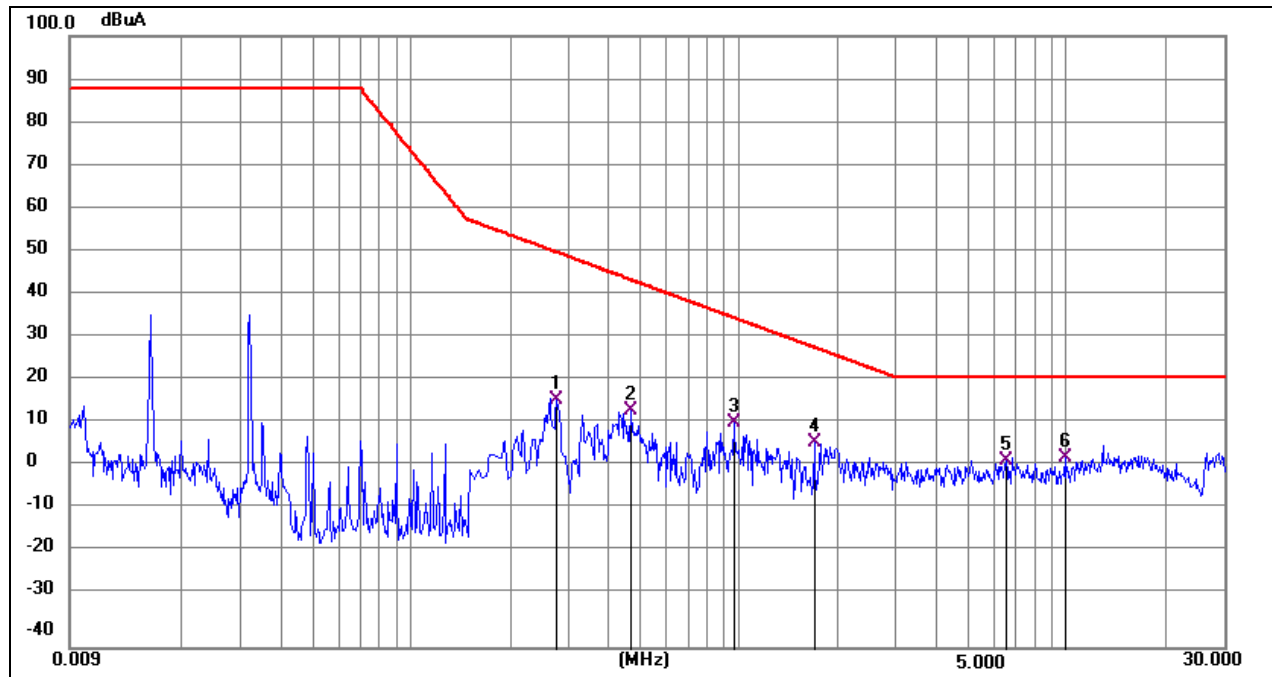
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.1949	14.96	-1.53	13.43	54.74	-41.31	QP
2	0.2805	18.25	-1.42	16.83	50.38	-33.55	QP
3	0.4425	20.98	-1.14	19.84	44.92	-25.08	QP
4	1.0680	10.06	0.32	10.38	34.37	-23.99	QP
5	1.5403	10.93	0.18	11.11	29.98	-18.87	QP
6	13.3391	3.77	1.00	4.77	22.00	-17.23	QP



Phase: X

Mode: M01

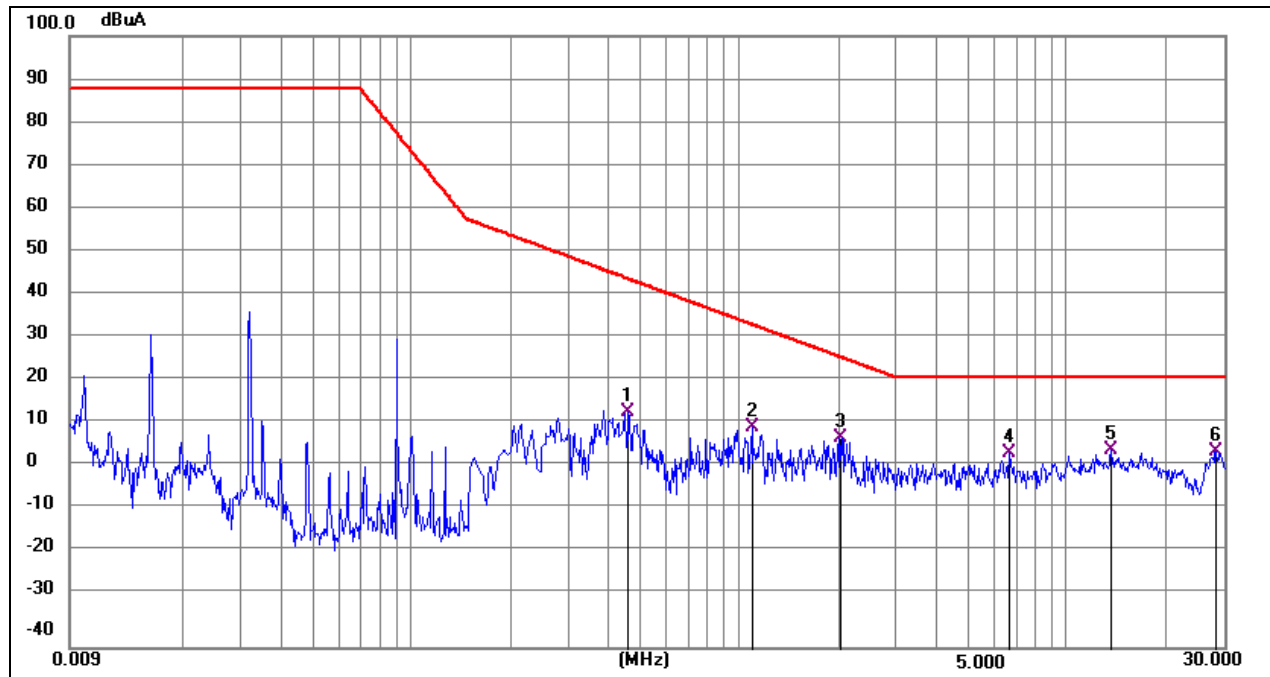
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.1635	15.16	-1.25	13.91	56.84	-42.93	QP
2	0.2670	17.70	-1.45	16.25	50.97	-34.72	QP
3	0.4334	16.30	-1.15	15.15	45.17	-30.02	QP
4	0.9420	13.62	0.25	13.87	35.87	-22.00	QP
5	4.3395	3.77	-0.31	3.46	22.00	-18.54	QP
6	12.1020	3.94	0.73	4.67	22.00	-17.33	QP



Phase: Z

Mode: M01

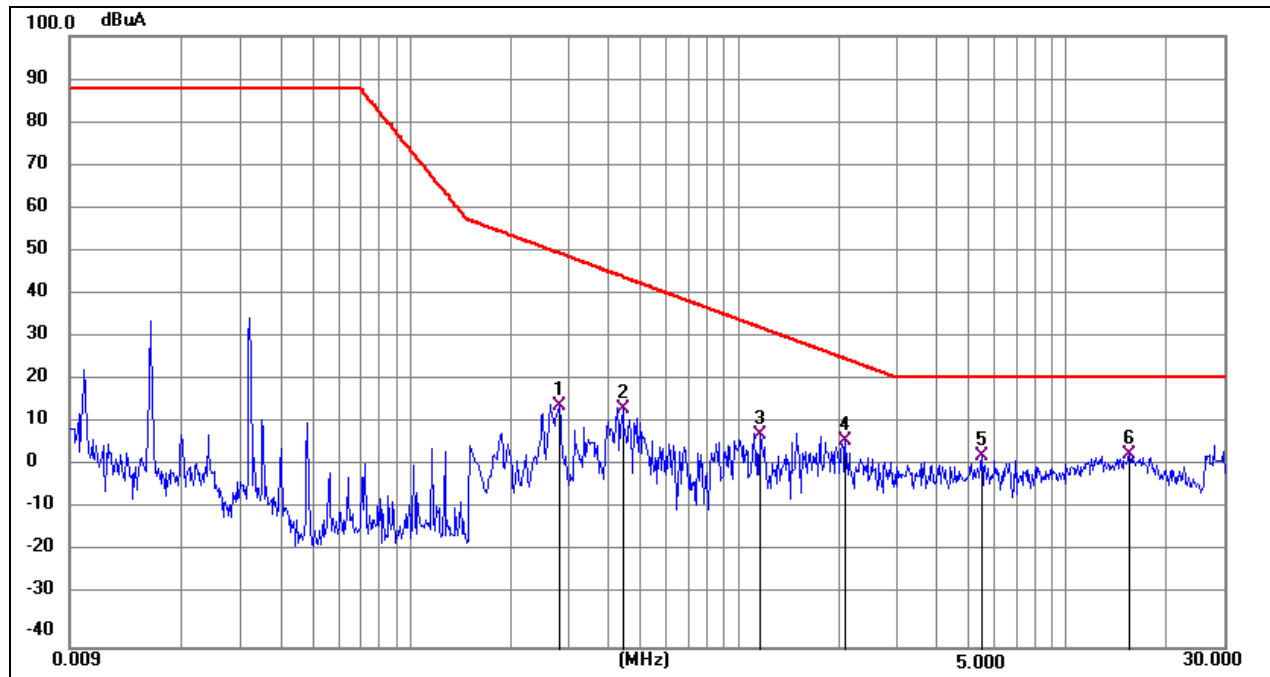
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.2760	18.09	-1.43	16.66	50.57	-33.91	QP
2	0.4650	15.56	-1.11	14.45	44.32	-29.87	QP
3	0.9600	11.23	0.28	11.51	35.64	-24.13	QP
4	1.6890	7.06	0.13	7.19	28.88	-21.69	QP
5	6.5265	3.91	-0.84	3.07	22.00	-18.93	QP
6	9.8610	4.39	-0.85	3.54	22.00	-18.46	QP



Phase: Z

Mode: M02

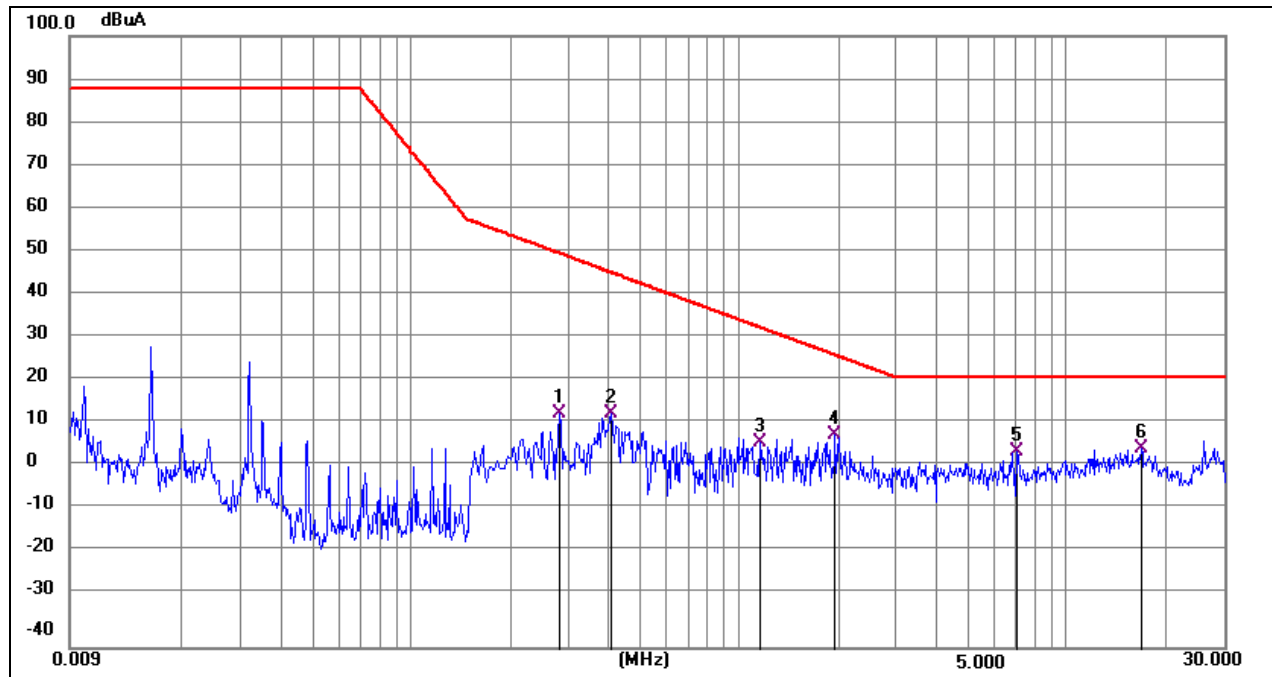
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.4560	15.04	-1.12	13.92	44.56	-30.64	QP
2	1.0905	10.21	0.31	10.52	34.12	-23.60	QP
3	2.0579	8.11	0.04	8.15	26.51	-18.36	QP
4	6.6570	5.65	-0.89	4.76	22.00	-17.24	QP
5	13.5780	4.40	1.05	5.45	22.00	-16.55	QP
6	28.4820	12.58	-7.65	4.93	22.00	-17.07	QP



Phase: Y

Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.2805	16.94	-1.42	15.52	50.38	-34.86	QP
2	0.4380	15.96	-1.14	14.82	45.04	-30.22	QP
3	1.1532	8.62	0.29	8.91	33.45	-24.54	QP
4	2.1030	7.47	0.03	7.50	26.25	-18.75	QP
5	5.4915	4.33	-0.54	3.79	22.00	-18.21	QP
6	15.5310	2.85	1.53	4.38	22.00	-17.62	QP



Phase: X

Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Remark
1	0.2805	15.06	-1.42	13.64	50.38	-36.74	QP
2	0.4040	14.80	-1.18	13.62	46.01	-32.39	QP
3	1.1580	6.85	0.29	7.14	33.40	-26.26	QP
4	1.9635	8.74	0.05	8.79	27.08	-18.29	QP
5	7.0710	6.14	-1.06	5.08	22.00	-16.92	QP
6	16.7591	4.46	1.17	5.63	22.00	-16.37	QP

8. IMMUNITY TEST

8.1. PERFORMANCE CRITERIA

EN IEC 61547:2023

GENERAL PERFORMANCE CRITERIA

According to EN 61547 standard, the general performance criteria as following:

Criteria A	During the test, no change of the luminous intensity shall be observed and the regulating control, if any, shall operate during the test as intended.
Criteria B	During the test, the luminous intensity may change to any value. After the test, the luminous intensity shall be restored to its initial value within 1min.Regulating controls need not unaction during the test, but after the test, the mode of the control shall be the same as before the test provided that during the test no mode changing commands were given.
Criteria C	During and after the test, any change of the luminous intensity is allowed and the lamp(s) may be extinguished. After the test, within 30 min, all functions shall return to normal, if necessary by temporary interruption of the mains supply and/or operating the regulating control. Additional requirement for lighting equipment incorporating a starting device: After the test, the lighting equipment is switched off. After half an hour, it is switched on again. The lighting equipment shall start and operate as intended.

8.2. ELECTROSTATIC DISCHARGE

TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-2:2008
Test Level:	Air Discharge: 2 kV, 4 kV, 8 kV (Direct); Contact Discharge: 4 kV (Direct/Indirect)
Criterion Required:	Performance criteria B
Discharge Impedance:	330 Ω / 150 pF
Polarity:	Positive & Negative
Number of Discharge:	Minimum 10 times at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum

TEST PROCEDURE

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

- a. Contact discharge was applied to conductive surfaces and coupling planes of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second.

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5 m x 0.5 m, is placed parallel to, and positioned at a distance 0.1 m from, the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1 m from the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge.

- b. Air discharges at insulation surfaces of the EUT.

It was at least ten single discharges with positive and negative at the same selected point.

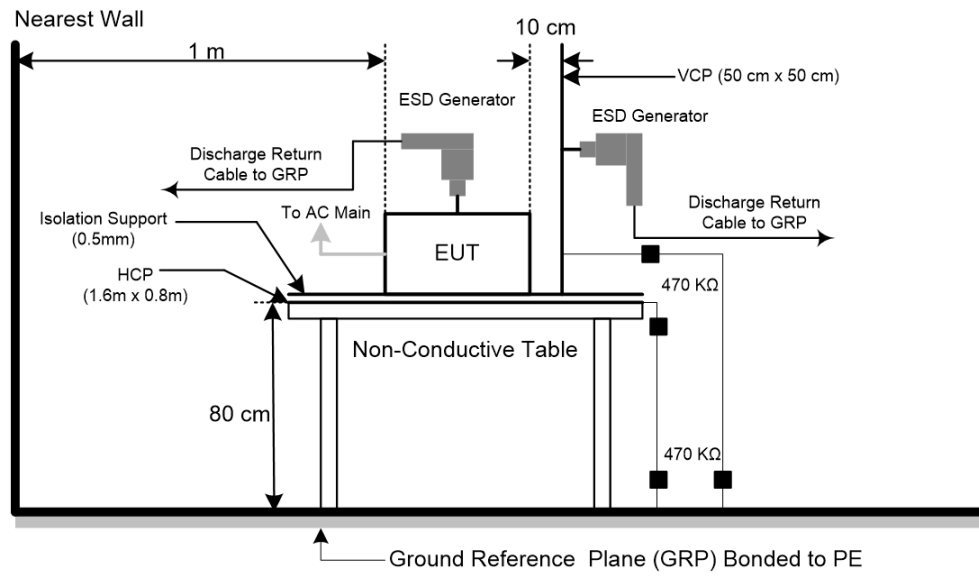
- c. The test shall be performed with single discharges. On each pre-selected point at least 10 single discharges (in the most sensitive polarity) shall be applied.

- d. For air discharge testing, the test shall be applied at all test levels 4 kV and 8 kV.

- e. The ESD test should be executed for both normal operation and handling cases.

- f. For the actual test configuration, please refer to the related Item: EUT Test Photos.

TEST SETUP



TEST ENVIRONMENT

Temperature	23.8°C	Relative Humidity	51%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST MODE

Test Mode:	M01, M03
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TEST RESULTS

Mode	Level(kV)	Polarity	Test Point	Criteria	Result	Judgement
Air Discharge	8	+	All Slot	B	A	Pass
Air Discharge	8	-	All Slot	B	A	Pass
Contact Discharge	4	+	All Metal	B	A	Pass
Contact Discharge	4	-	All Metal	B	A	Pass
Horizontal Coupling	4	+	Front,rear,left,right	B	A	Pass
Horizontal Coupling	4	-	Front,rear,left,right	B	A	Pass
Vertical Coupling	4	+	Front,rear,left,right	B	A	Pass
Vertical Coupling	4	-	Front,rear,left,right	B	A	Pass
Air Discharge	15	+	All Slot	/	/	/
Air Discharge	15	-	All Slot	/	/	/
Contact Discharge	8	+	All Metal	/	/	/
Contact Discharge	8	-	All Metal	/	/	/
Observation:						
A: No observable change.						
Conclusion: The EUT met the requirements of the standard						

8.3. CONTINUOUS RF ELECTROMAGNETIC FIELD DISTURBANCES

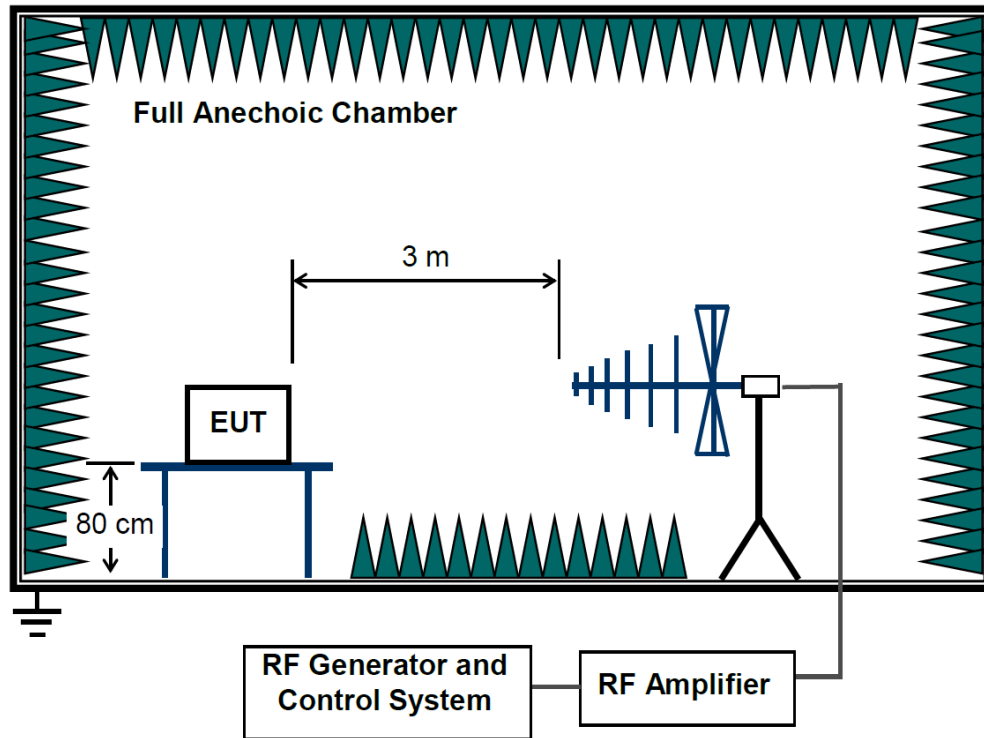
TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-3:2006+A1:2007+A2:2010
Criterion Required:	Performance criteria A
Frequency range:	80 MHz to 1 000 MHz
Test level:	3 V/m (unmodulated)
Modulation:	1 kHz, 80 % AM, sine wave
Frequency Step:	1 % increment
Antenna Polarization:	Horizontal and vertical
Antenna Height:	1.5 meters
Test Distance:	3 meters
Dwell time:	2 seconds

TEST PROCEDURE

The test procedure was in accordance with IEC 61000-4-3.

- The testing was performed in a fully anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.
- The disturbance test signal shall be 80 % amplitude modulated by a sine wave, preferably having a frequency of 1 kHz. A frequency other than 1 kHz may be used where permitted within EN 61547.
- 1 % step size is preferred, the frequency range can be swept incrementally with a step size not exceeding 4 % of the previous frequency with a test level of twice the value of the specified test level.
- The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised and to be able to respond. However, the dwell time should not exceed 5 s at each of the frequencies during the scan.
- The test was performed with the EUT exposed to both vertically and horizontally polarized fields.

TEST SETUP**TEST ENVIRONMENT**

Temperature	22.7°C	Relative Humidity	51%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST MODE

Test Mode:	M01
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TEST RESULTS

Freq.Range (MHz)	Position (Face)	Polarity (H or V)	Field Strength (V/m) (unmodulated,r.m.s)	Criterion	Result	Judgment
80-1000	0°	H&V	3 V/m	A	A	Pass
80-1000	90°	H&V	3 V/m	A	A	Pass
80-1000	180°	H&V	3 V/m	A	A	Pass
80-1000	270°	H&V	3 V/m	A	A	Pass

Observation:

A: No observable change.

Conclusion: The EUT met the requirements of the standard

TEST ENVIRONMENT

Temperature	23.2℃	Relative Humidity	53%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST MODE

Test Mode:	M01
------------	-----

TEST RESULTS

Coupling Line	Test Levels(kV)	Polarity	Criteria	Results	Judgement
Analogue/Digital data ports	0.5	+	B	/	/
Analogue/Digital data ports	0.5	-	B	/	/
DC network power ports	0.5	+	B	A	Pass
DC network power ports	0.5	-	B	A	Pass

Observation:

A: No observable change.

Conclusion: The EUT met the requirements of the standard

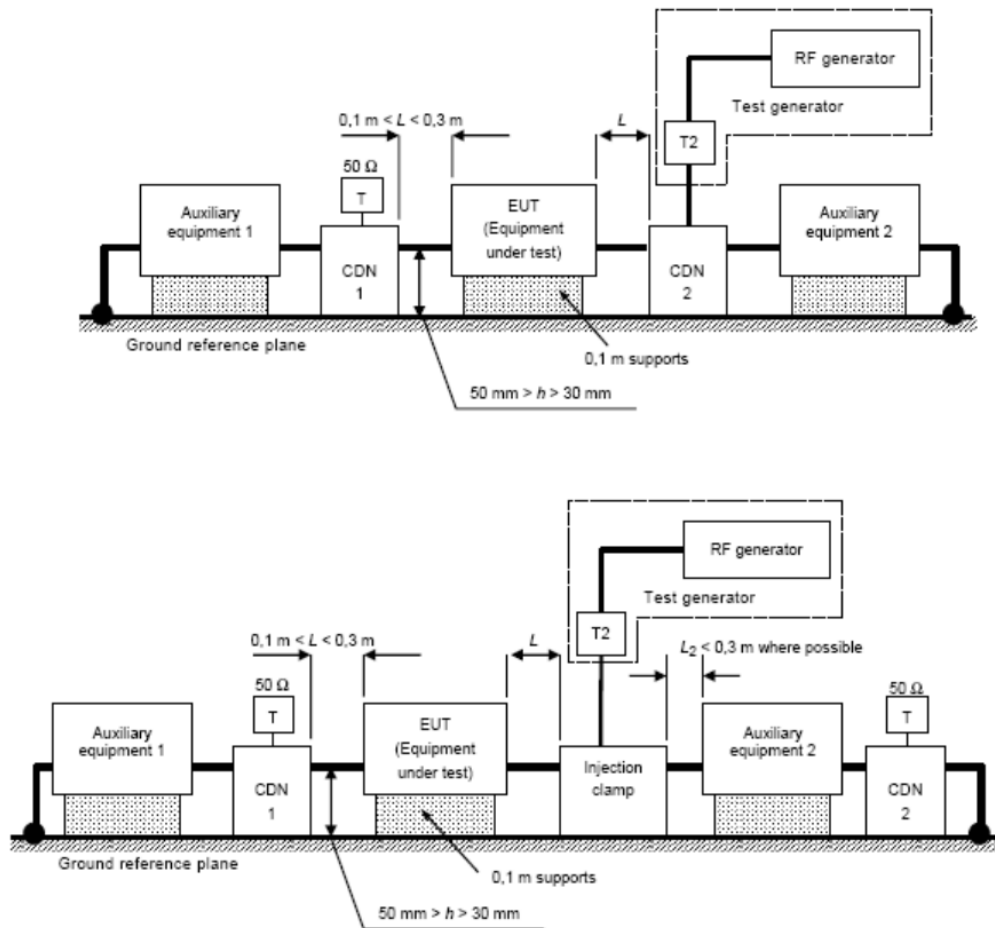
8.5. CONTINUOUS INDUCED RF DISTURBANCES (DC POWER PORTS)

TEST SPECIFICATION

Standard:	EN IEC 61547:2023 IEC 61000-4-6:2013
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TEST PROCEDURE

- a. The EUT shall be tested within its intended operating and climatic conditions.
- b. The test shall be performed with the test generator connected to each of the coupling and decoupling devices in turn, while the other non-excited RF input ports of the coupling devices are terminated by a 50-ohm load resistor.
- c. The frequency range is swept from 150 kHz to 80 MHz, using the signal level established during the setting process and with a disturbance signal of 80 % amplitude. The signal is modulated with a 1 kHz sine wave, pausing to adjust the RF signal level or the switch coupling devices as necessary. The sweep rate shall not exceed 1.5×10^{-3} decades/s. The step size shall not exceed 1 % of the start and thereafter 1 % of the preceding frequency value where the frequency is swept incrementally.
- d. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised, and able to respond. Sensitive frequencies such as clock frequencies and harmonics or frequencies of dominant interest, shall be analyzed separately.
- e. Attempts should be made to fully exercise the EUT during test, and to fully interrogate all exercise modes selected for susceptibility.

TEST SETUP**TEST ENVIRONMENT**

Temperature	24.6°C	Relative Humidity	50%
Atmosphere Pressure	101kPa	Test Voltage	DC 5V

TEST MODE

Test Mode:	M01
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TEST RESULTS

Test Ports (Mode)	Freq.Range (MHz)	Field Strength (unmodulated,r.m.s)	Criteria	Results	Judgment
DC network power ports	0.15---80	3 V	A	A	Pass
Analogue/digital data ports	0.15---80	3 V	A	/	/

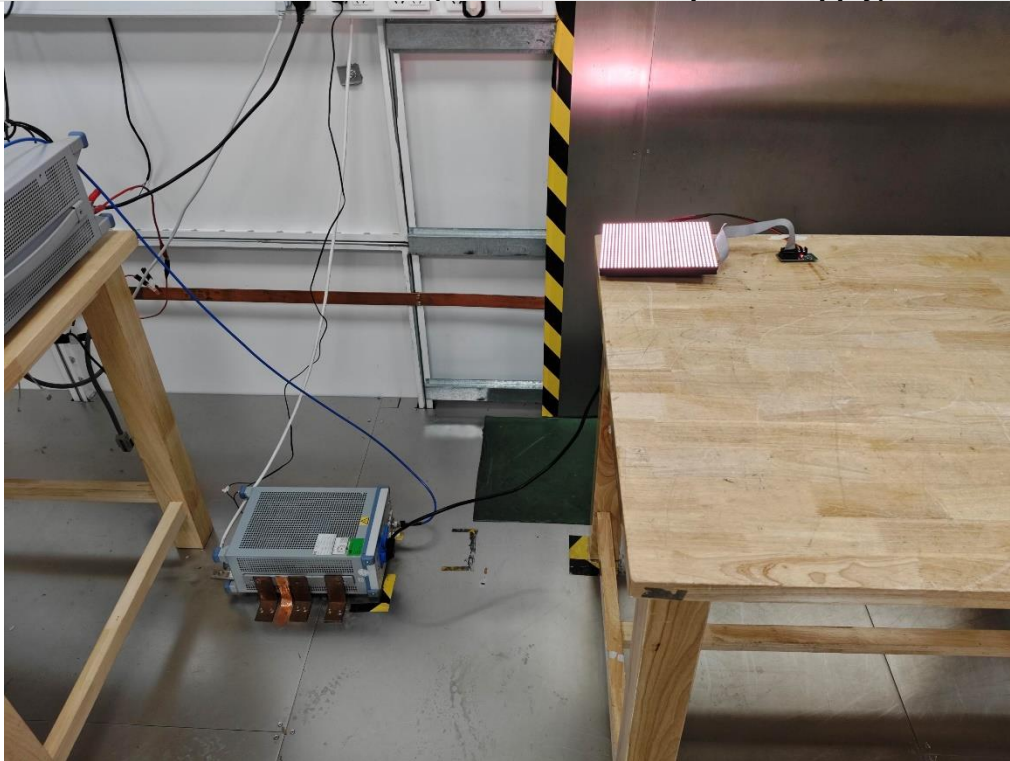
Observation:

A: No observable change.

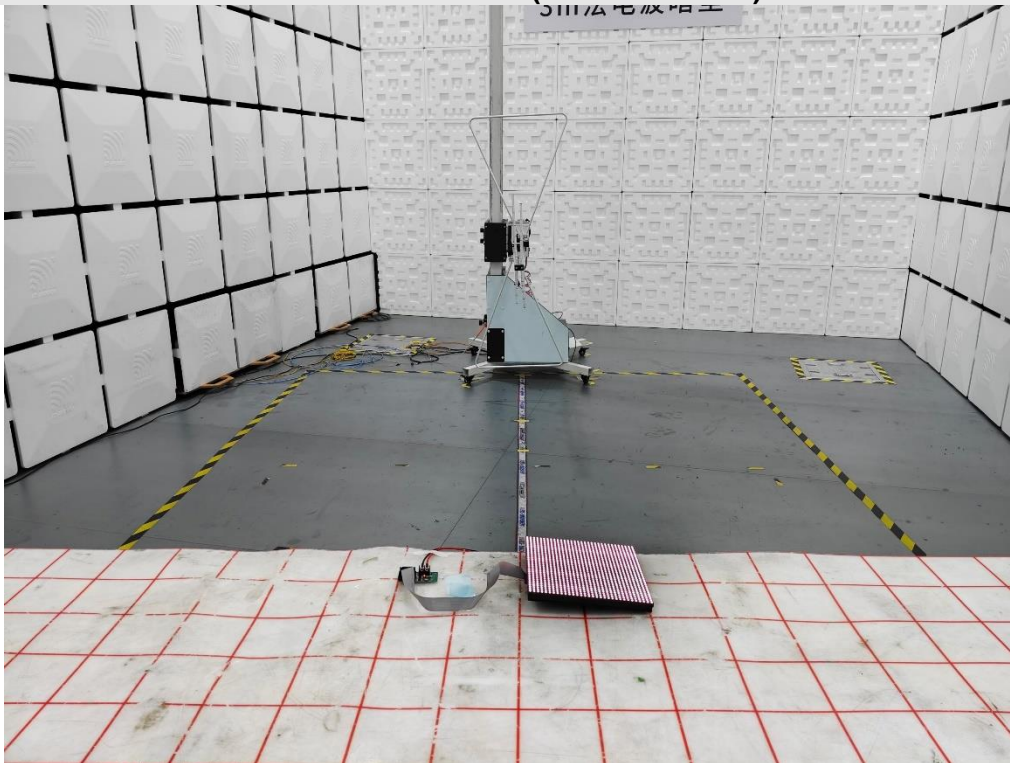
Conclusion: The EUT met the requirements of the standard

APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION

Conducted emission (AC or DC electric power supply)



Radiated Emission (30MHz to 1GHz)



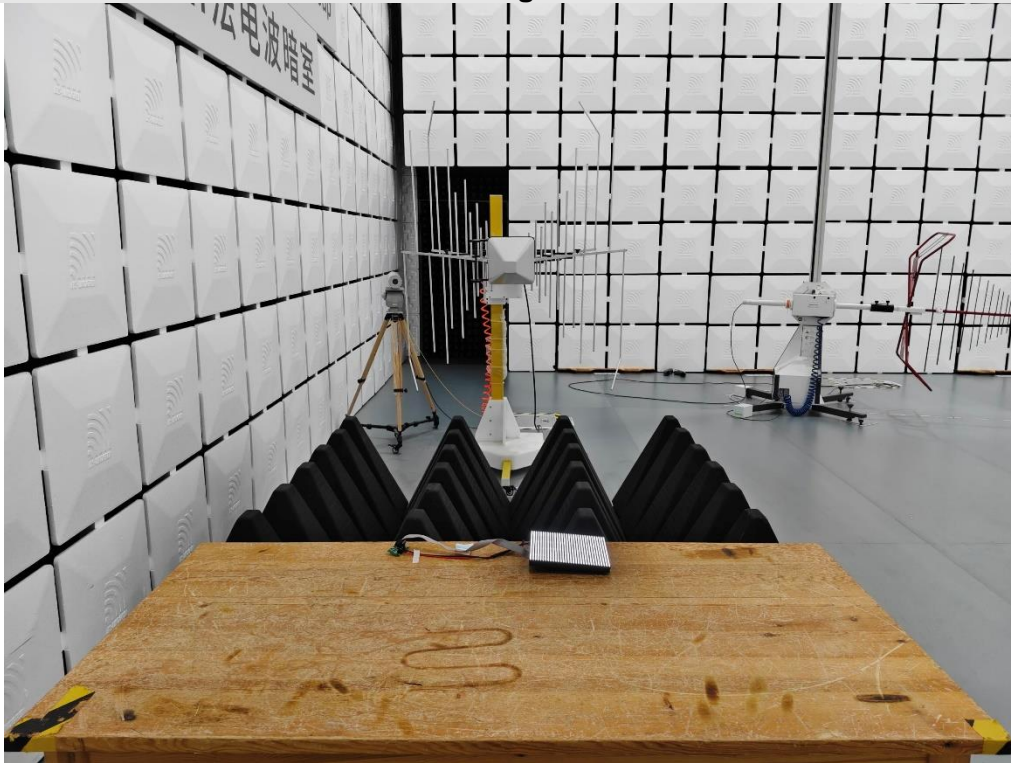
Radiated Emission (9 kHz to 30 MHz 2m loop)



Electrostatic Discharge



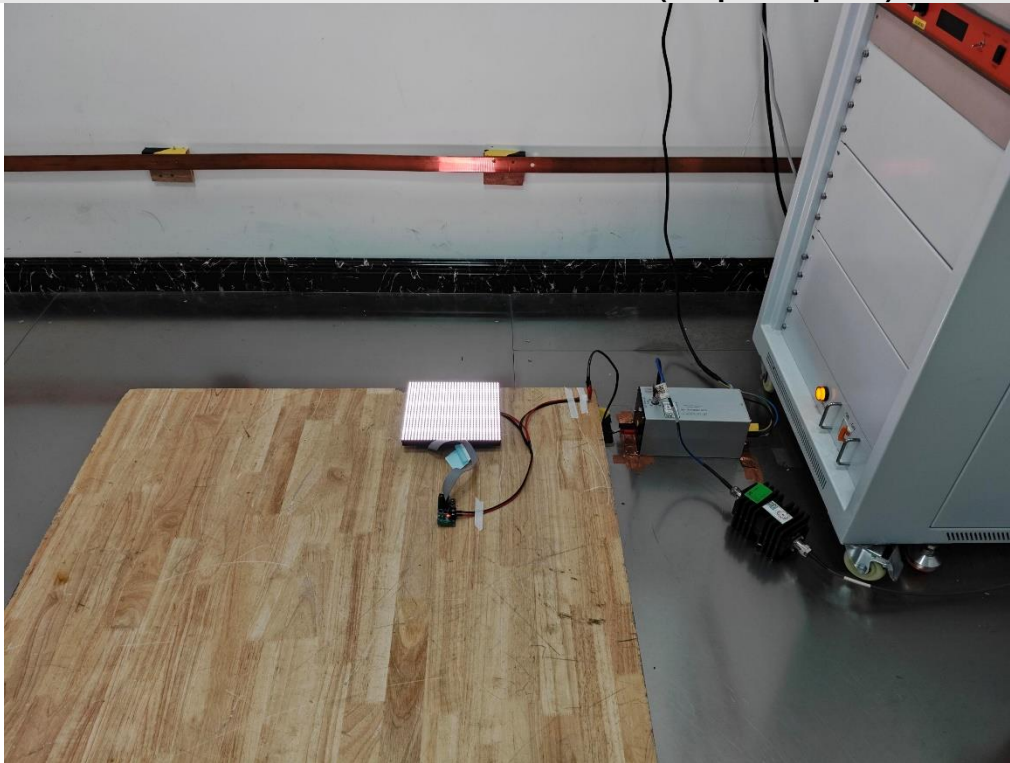
Continuous RF electromagnetic field disturbances



Electrical fast transients burst (DC power ports)

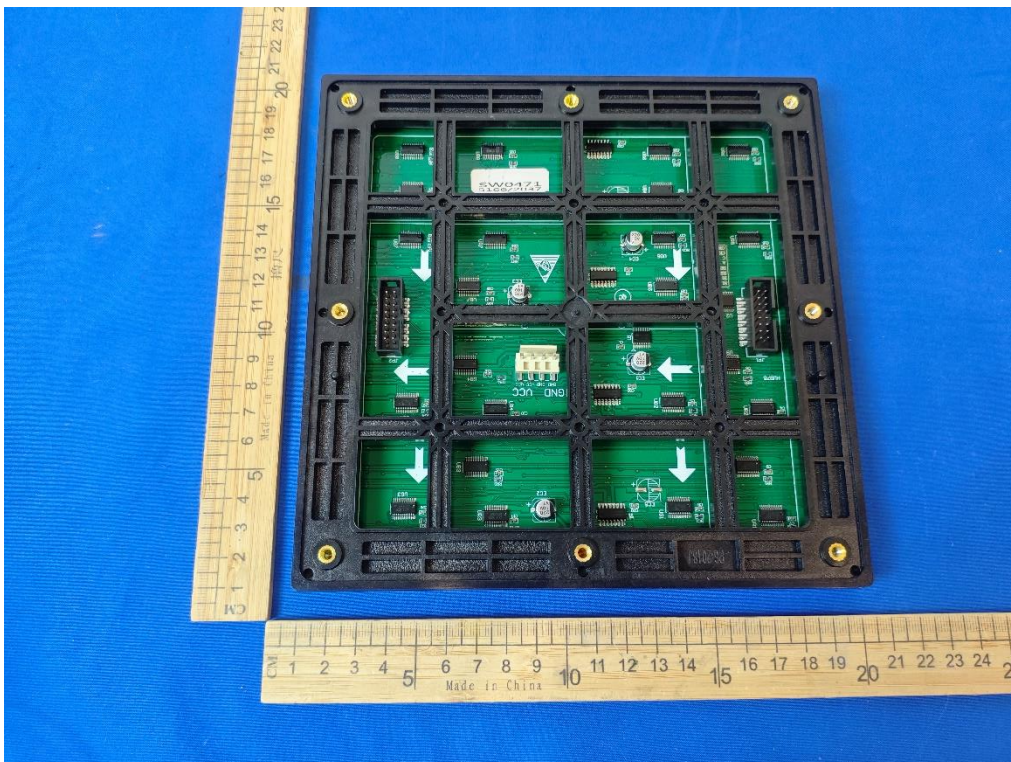
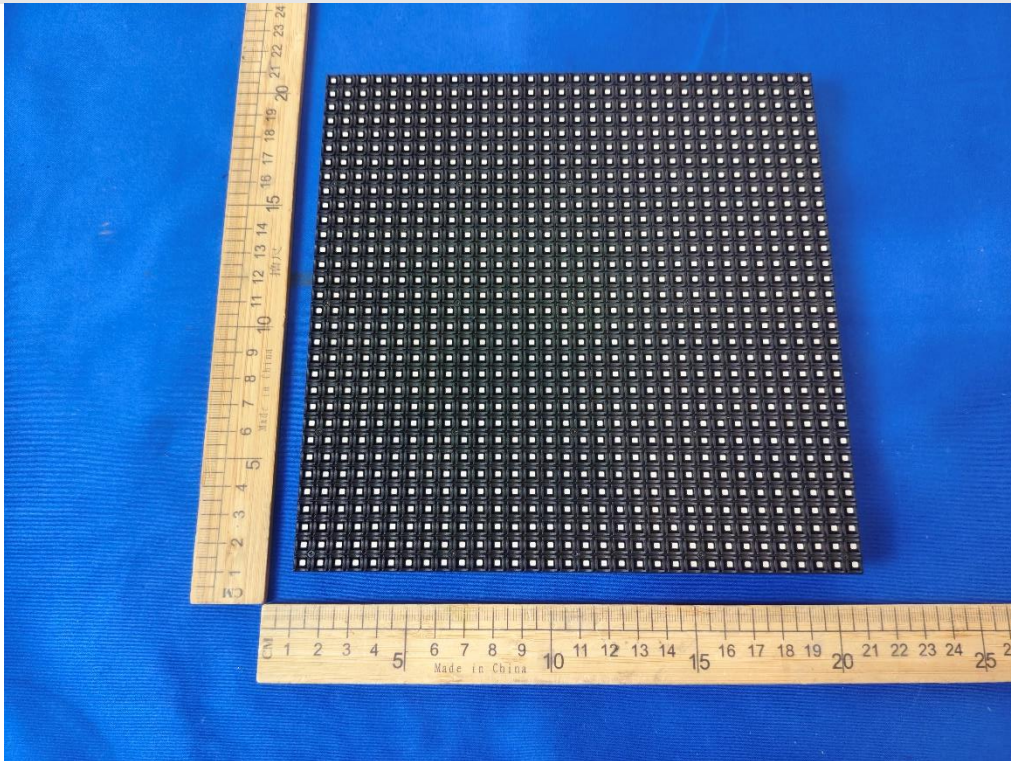


Continuous induced RF disturbances (DC power ports)



APPENDIX: PHOTOGRAPHS OF THE EUT

External



END OF REPORT