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TESTING
CNAS L4595

Page 1 of 66

Report No.: LCSA03276273E

EMC TEST REPORT

For

Shanghai Panelmate Electronics Co., Ltd.

EX-proof industrial Panel PC

Test Model: IPC22240FEX-12700KA-08G-128G-1G1SM1M

Additional Model No.: Please Refer To Page 9

Prepared for : Shanghai Panelmate Electronics Co., Ltd.
Address : Building 18th, No.177 Fulian 2nd Rd. Baoshan District,
Shanghai, 201906

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address : Room 101, 201, Building A and Room 301, Building C,
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Date of receipt of test sample : April 15, 2026
Number of tested samples : 1
Serial number : Prototype
Date of Test : April 15, 2026-April 18, 2026
Date of Report : April 21, 2026



Shenzhen LCS Compliance Testing Laboratory Ltd.
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**TEST REPORT****Report No.** : LCSA03276273E**Date of Issue** : April 21, 2026**Testing Laboratory Name** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Address** : Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China**Testing Location/ Procedure** : Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐**Applicant's Name** : Shanghai Panelmate Electronics Co., Ltd.**Address** : Building 18th, No.177 Fulian 2nd Rd. Baoshan District, Shanghai, 201906**Test Specification****Standard** : EN IEC 61000-6-4:2019
EN IEC 61000-6-2:2019
EN IEC 61000-3-2:2019/A2:2024
EN 61000-3-3:2013/A2:2021/AC:2022**Test Report Form No.** : TRF-4-E-001 A/0**TRF Originator** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Master TRF** : Dated 2011-03**Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved.**

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Test Item Description : EX-proof industrial Panel PC**Trade Mark** : Panelmate**Test Model** : IPC22240FEX-12700KA-08G-128G-1G1SM1M**Result** : Pass**Compiled by:****Supervised by:**

Coco Song / File Administrator

Jelly Li / Technique principal

Gavin Liang / Manager



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TEST REPORT

Test Report No.: LCSA03276273EApril 21, 2026
Date of issue**Test Model..... : IPC22240FEX-12700KA-08G-128G-1G1SM1M****EUT..... : EX-proof industrial Panel PC****Applicant..... : Shanghai Panelmate Electronics Co., Ltd.****Address..... : Building 18th, No.177 Fulian 2nd Rd. Baoshan District, Shanghai, 201906****Telephone..... : /****Fax..... : /****Manufacturer..... : Shanghai Panelmate Electronics Co.,Ltd****Address..... : Building 18th, No.177 Fulian 2nd Road, Baoshan District, Shanghai, 201906****Telephone..... : /****Fax..... : /****Factory..... : Panelmate Intelligent Equipment (Jiangsu) Co., Ltd.****Address..... : Room 101, Building 15, No.99, Mingxuan Road, Yudong Town, Haimen District, Nantong City, Jiangsu Province. 226152****Telephone..... : /****Fax..... : /****Test Result****Pass**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



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Revision History

Report Version	Issue Date	Revision Content	Revised By
000	April 21, 2026	Initial Issue	/





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1. TEST STANDARDS

EN IEC 61000-6-4:2019:Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments

EN IEC 61000-6-2:2019:Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments

EN IEC 61000-3-2:2019/A2:2024:Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

EN 61000-3-3:2013/A2:2021/AC:2022:Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection





2. SUMMARY OF STANDARDS AND RESULTS

2.1 Description of Standards and Results

EMISSION (EMI)			
Description of Test Item	Standard	Result	Memo
AC Power Port Conducted Emission	EN IEC 61000-6-4:2019	PASS	/
Wired network conducted emissions	EN IEC 61000-6-4:2019	PASS	/
Radiated Emissions(30-1000MHz)	EN IEC 61000-6-4:2019	PASS	/
Radiated Emissions(1-6GHz)	EN IEC 61000-6-4:2019	PASS	/
Harmonic Current Emissions Test	EN IEC 61000-3-2:2019/A2:2024	N/A	For AC power port ($\leq 16A$), According to IEC 61000-3-2 Clause 7, this product belongs to exceptions of Clause 7 or Annex C. limits are not specified in this standard.
Voltage Fluctuations& Flicker Test	EN 61000-3-3:2013/A2:2021/AC:2022	PASS	/
IMMUNITY(EMS)			
Description of Test Item	Standard	Result	Memo
Electrostatic Discharge Test	EN IEC 61000-6-2:2019	PASS	/
Continuous Radio Frequency Disturbances Test	EN IEC 61000-6-2:2019	PASS	/
Electrical Fast Transients(EFT) Test	EN IEC 61000-6-2:2019	PASS	/
Surge Test	EN IEC 61000-6-2:2019	PASS	/
Continuous Conducted Disturbances Test	EN IEC 61000-6-2:2019	PASS	/
Power-Frequency Magnetic Fields	EN IEC 61000-6-2:2019	PASS	/
Voltage Dips and Interruptions Test	EN IEC 61000-6-2:2019	PASS	/





2.2 Description of Test Modes

No	Title	Description
Mode 1	Working mode(AC 230V/50Hz)	/

2.3 Description of Performance Criteria

Performance Criteria

Performance criterion A

The apparatus shall continue to operate as intended during the test.

No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion B

The apparatus shall continue to operate as intended after the test.

No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however no change of actual operating state or stored data is allowed to persist after the test. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion B/C

B: The apparatus shall continue to operate as intended after the test.

No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however no change of actual operating state or stored data is allowed to persist after the test. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

Performance criterion C may be applied to toys not using score or data entered by the user.

Performance criterion C

Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.





3. GENERAL INFORMATION

3.1 Description of Device (EUT)

EUT	: EX-proof industrial Panel PC
Test Model	: IPC22240FEX-12700KA-08G-128G-1G1SM1M
Power Supply	: Input: 220-240V~, 50Hz
Highest Internal Frequency	: >108MHz
Classification of Equipment	: /
Additional Model	: IPC22121FEX-XXXX; IPC22122FEX-XXXX; IPC22150FEX-XXXX; IPC22156FEX-XXXX; IPC22156HFEX-XXXX; IPC22170FEX-XXXX; IPC22185FEX-XXXX; IPC22185HFEX-XXXX; IPC22190FEX-XXXX; IPC22215FEX-XXXX;
Model Declaration	: PCB board, structure and internal of these model(s) are the same, So no additional models were tested.

3.2 Support equipment List

Equipment	Manufacturer	Model	Serial Number	Description
PC	Lenovo	Lenovo E41-55	MP1ZW5C4	/
Keyboard	dell	KB212-B	N-0DJ365-71616-47C-0S7C-A0	/
TV	HUAWEI	MateView SE 27	GS0000Z0VSZNN 377	/
Mouse	dell	MS111-P	CN-011D3V-71581-0BM	/

3.3 Description of Test Facility

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

3.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emission (9kHz to 150kHz)	± 2.63 dB
Conducted Emission (150kHz to 30MHz)	± 2.35 dB
Power Disturbance (30MHz to 300MHz)	± 2.90dB
Voltage Fluctuations & Flicker	± 0.510%
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	



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4. MEASURING DEVICES AND TEST EQUIPMENT

AC Power Port Conducted Emission

Equipment	Manufacturer	Model No	Serial No.	Due Date
EMI Test Receiver	R&S	ESR3	102312	2026-12-21
Artificial Mains	R&S	ENV216	101288	2026-05-22
Pulse Limiter	R&S	ESH3-Z2	102750-NB	2026-05-22
EMI Test Software	Farad	EZ	/	/

Wired network conducted emissions

Equipment	Manufacturer	Model No	Serial No.	Due Date
EMI Test Software	Farad	EZ	/	/
EMI Test Receiver	R&S	ESR3	102312	2026-12-21
Artificial Mains	R&S	ENV216	101288	2026-05-22
Pulse Limiter	R&S	ESH3-Z2	102750-NB	2026-05-22
Gigabit network impedance-stabilized network	SCHWARZBECK	NTFM 8158	00510	2026-12-21

Radiated Emissions(30-1000MHz)

Equipment	Manufacturer	Model No	Serial No.	Due Date
EMI Test Software	Farad	EZ	/	/
EMI Test Software	AUDIX	E3	/	/
By-log Antenna	SchwarzBECK	VULB9163	01565	2027-07-12
Horn Antenna	ETS	3115	EABF-018	2027-07-19
EMI Test Receiver	R&S	ESR3	102311	2026-05-22
Broadband Preamplifier	/	BBV9745	00317	2026-11-06
EMI Test Receiver	R&S	ESC17	101173	2026-10-10
By-log Antenna	SchwarzBECK	VULB9163	01143	2027-07-19

Radiated Emissions(1-6GHz)

Equipment	Manufacturer	Model No	Serial No.	Due Date
EMI Test Software	Farad	EZ	/	/
By-log Antenna	SchwarzBECK	VULB9163	01143	2027-07-19
Horn Antenna	ETS	3115	EABF-018	2027-07-19
MXA Signal Analyzer	Agilent	N9020A	MY53290398	2026-05-22
Broadband Preamplifier	/	BBV9745	00317	2026-11-06



**Voltage Fluctuations& Flicker Test**

Equipment	Manufacturer	Model No	Serial No.	Due Date
HARMONICS&FLICKER MEASUREMENT SYSTEM	EVERFINE	HFM-3000	P630850CD1411116	2026-12-21
HARMONICS&FLICKER TESTING POWER SOURCE	EVERFINE	HFM-4000	P624486CD1411124	2026-12-21

Electrostatic Discharge Test

Equipment	Manufacturer	Model No	Serial No.	Due Date
ESD Simulator	emtest	ESD NX30.1	111969	2026-05-25

Continuous Radio Frequency Disturbances Test

Equipment	Manufacturer	Model No	Serial No.	Due Date
/	/	ANB4706.13-20.102/0.5	201805017	2026-01-21

Electrical Fast Transients(EFT) Test

Equipment	Manufacturer	Model No	Serial No.	Due Date
Immunity Simulative Generator	EM TEST	UCS500-M4	0101-34	2026-05-22
Capacitive coupling clamp	3CTEST	EFTC	EC0441098	2026-05-22

Surge Test

Equipment	Manufacturer	Model No	Serial No.	Due Date
Immunity Simulative Generator	EM TEST	UCS500-M4	0101-34	2026-05-22

Continuous Conducted Disturbances Test

Equipment	Manufacturer	Model No	Serial No.	Due Date
Simulator	FRANKONIA	CIT-10/75	A126A1195	2026-05-22
CDN	FRANKONIA	CDN-M2+M3	A2210177	2026-05-22
6dB Attenuator	FRANKONIA	DAM25W	1172040	2026-05-22
Electromagnetic coupling injection clamp	ZHINAN	ZN23203	14017	2026-05-22

Power-Frequency Magnetic Fields

Equipment	Manufacturer	Model No	Serial No.	Due Date
Power frequency mag-field generator System	EVERFINE	EMS61000-8K	906003	2026-05-22





Voltage Dips and Interruptions Test				
Equipment	Manufacturer	Model No	Serial No.	Due Date
Three phase power supply fault simulator	HTEC	HPFS 2003P	234711	2027-01-05
Programmable AC fault power supply	HTEC	HV3P200T	234710	2027-01-05





5. EMISSION TEST RESULTS (EMI)

5.1 AC Power Port Conducted Emission

5.1.1 Limits

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz ~ 500 kHz	79	66
500 kHz ~ 30 MHz	73	60

Notes:

- * Decreasing linearly with logarithm of frequency.
- The lower limit shall apply at the transition frequencies.

5.1.2 Test procedure

- (1) The EUT placement requires reference to the test block diagram and is placed on a non-metallic table.
- (2) Setup the EUT and assistant equipment as shown above block diagram and equipment list.
- (3) The EUT's power was connected to the power mains through a line impedance stabilization network (L.I.S.N). which this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted disturbance. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to EN IEC 61000-6-4:2019 on conducted disturbance emission test.
- (4) The bandwidth of test receiver is set at 9 kHz.
- (5) The frequency range from 150 kHz to 30 MHz is checked.

***Note: 1) Pre-scan all modes and recorded the worst case results in this report.

2) Margin= Reading level + Correct factor - Limit

Correct Factor=Lisn Factor+Cable Factor+Insertion loss of Pulse Limiter

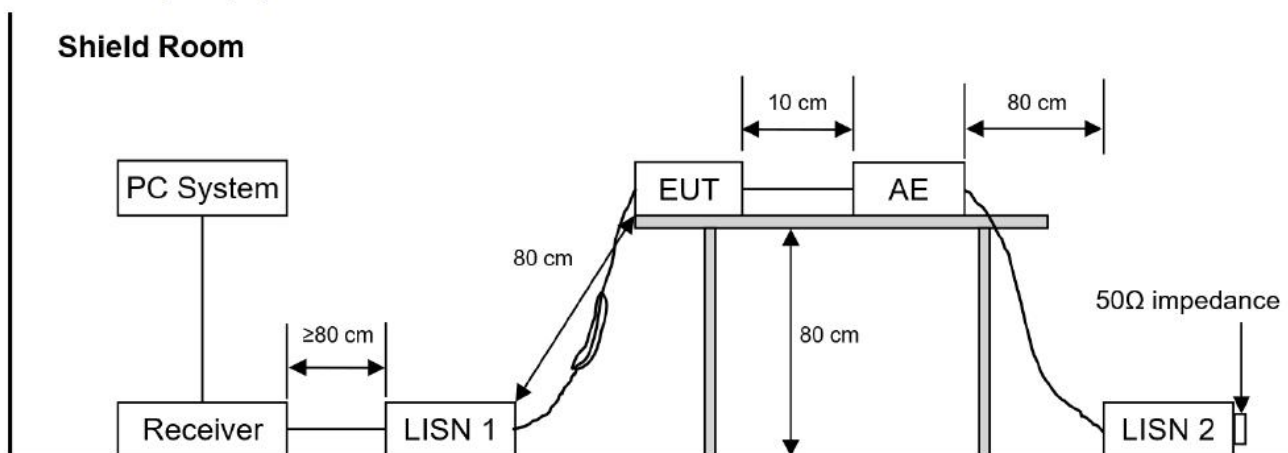
*: The data is the frequency point with the worst margin



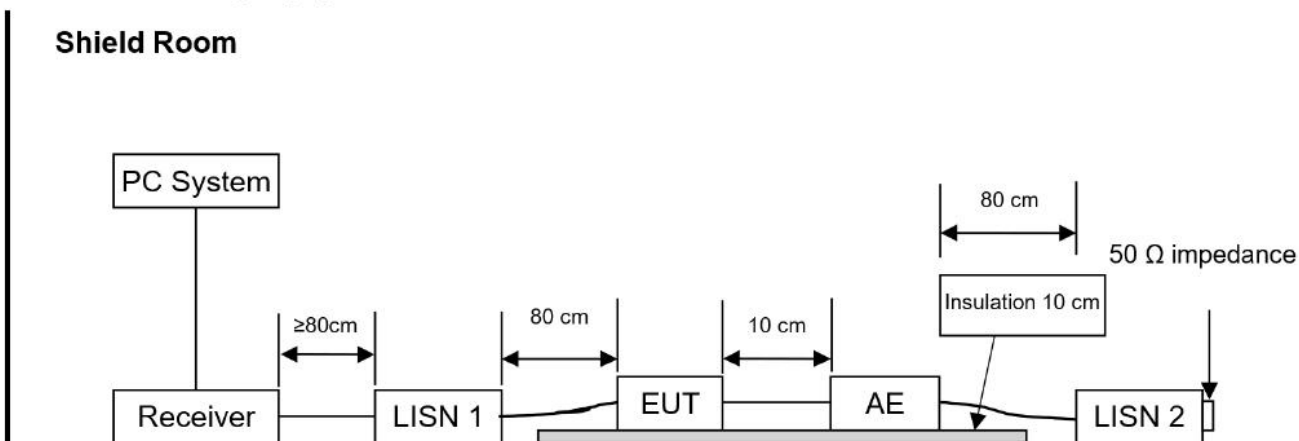


5.1.3 Test Setup Diagram

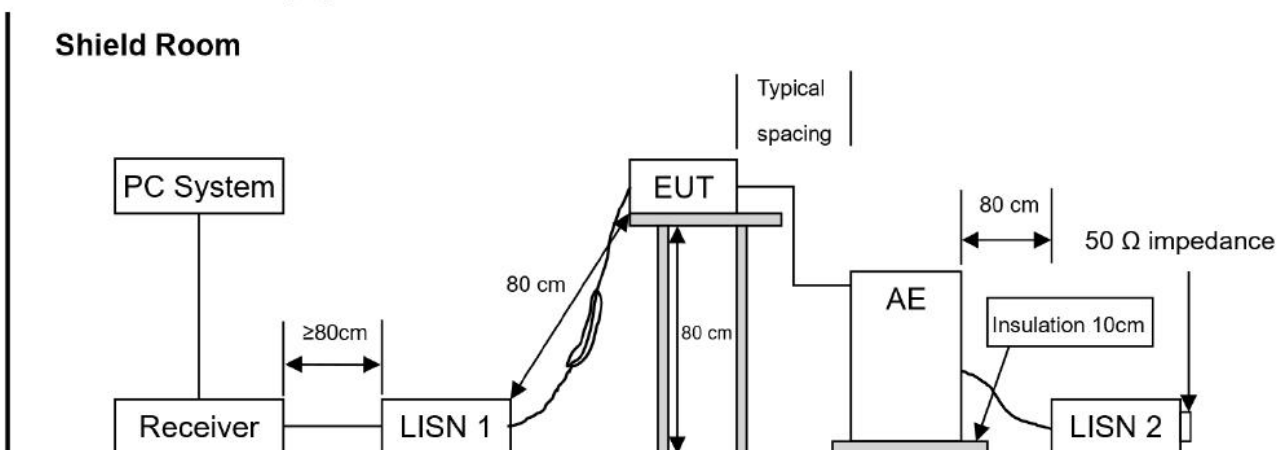
For table-top equipment



For floor standing equipment



For combinations equipment



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5.1.4 E.U.T. Operation

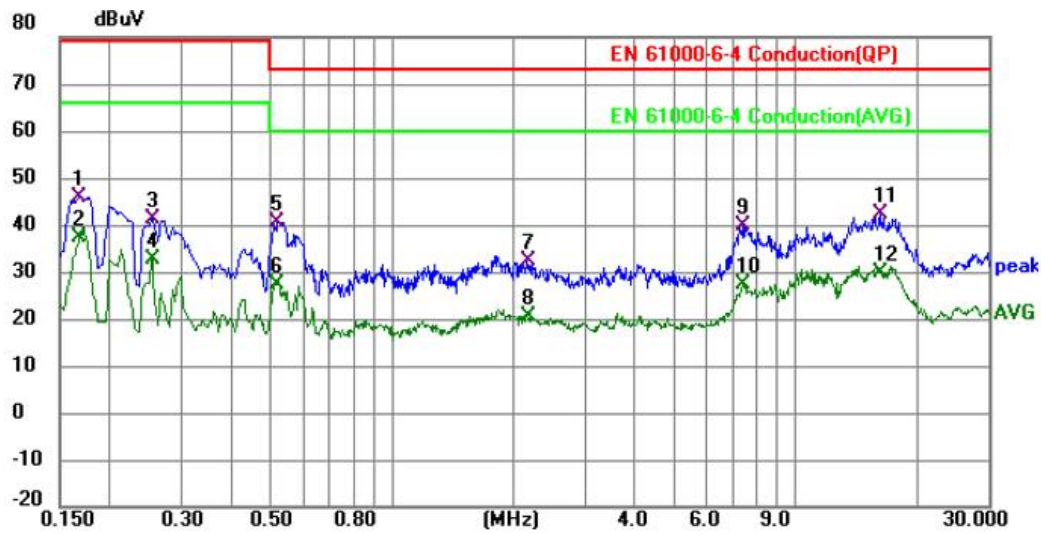
Operating Environment:			
Temperature:	24.2° C	Humidity:	54.9%RH
Test Engineer	KL Zheng		
Mode 1	Working mode	Voltage	AC 230V/50Hz





5.1.5 Test data

Mode 1 / Line: Line

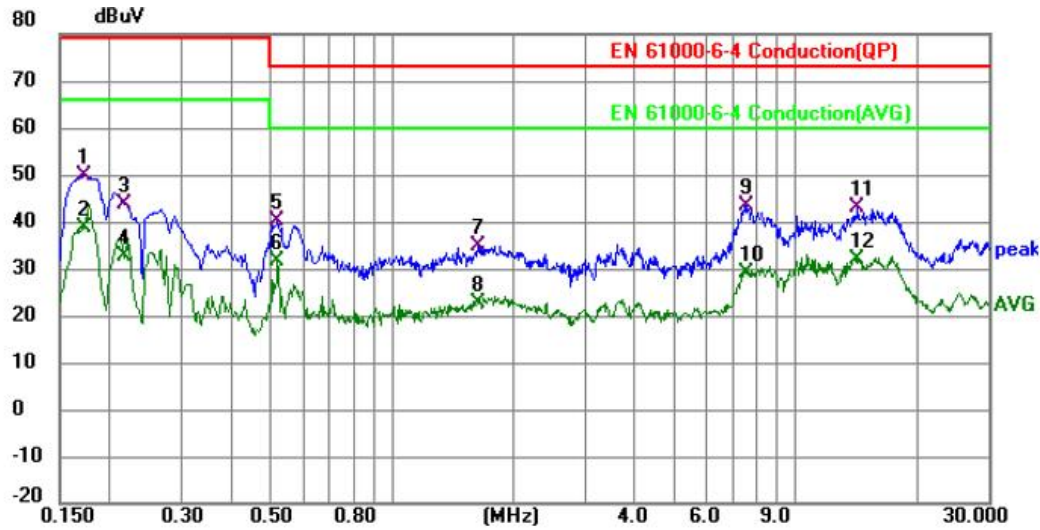


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.1680	25.73	20.31	46.04	79.00	-32.96	QP	
2 *	0.1680	16.88	20.31	37.19	66.00	-28.81	AVG	
3	0.2535	20.90	20.35	41.25	79.00	-37.75	QP	
4	0.2535	12.28	20.35	32.63	66.00	-33.37	AVG	
5	0.5190	20.51	20.15	40.66	73.00	-32.34	QP	
6	0.5190	7.10	20.15	27.25	60.00	-32.75	AVG	
7	2.1614	11.90	20.45	32.35	73.00	-40.65	QP	
8	2.1614	-0.01	20.45	20.44	60.00	-39.56	AVG	
9	7.4220	19.50	20.48	39.98	73.00	-33.02	QP	
10	7.4220	6.76	20.48	27.24	60.00	-32.76	AVG	
11	16.1835	21.76	20.70	42.46	73.00	-30.54	QP	
12	16.1835	9.20	20.70	29.90	60.00	-30.10	AVG	





Mode 1 / Line: Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1725	29.43	20.33	49.76	79.00	-29.24	QP	
2	*	0.1725	18.57	20.33	38.90	66.00	-27.10	AVG	
3		0.2175	23.33	20.34	43.67	79.00	-35.33	QP	
4		0.2175	12.21	20.34	32.55	66.00	-33.45	AVG	
5		0.5190	20.07	20.14	40.21	73.00	-32.79	QP	
6		0.5190	11.50	20.14	31.64	60.00	-28.36	AVG	
7		1.6305	14.25	20.51	34.76	73.00	-38.24	QP	
8		1.6305	2.26	20.51	22.77	60.00	-37.23	AVG	
9		7.5885	22.96	20.60	43.56	73.00	-29.44	QP	
10		7.5885	8.66	20.60	29.26	60.00	-30.74	AVG	
11		14.2845	22.44	20.61	43.05	73.00	-29.95	QP	
12		14.2845	11.50	20.61	32.11	60.00	-27.89	AVG	





5.2 Wired network conducted emissions

5.2.1 Limits

Voltage limits: Class A				
Frequency			Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz	~	500kHz	97 ~ 87*	84 ~ 74*
0.5MHz	~	30MHz	87	74
Current limits: Class A				
Frequency			Quasi-Peak Level dB(μA)	Average Level dB(μA)
150kHz	~	500kHz	53 ~ 43*	40 ~ 30*
0.5MHz	~	30MHz	43	30
Notes: 1. * Decreasing linearly with logarithm of frequency.				
2. The lower limit shall apply at the transition frequencies.				

5.2.2 Test procedure

The EUT placement requires reference to the test block diagram and is placed on a non-metallic table in shielded room.

Connect ISN directly to reference ground plane.

The measured voltage at the measurement port of the ISN should correct the reading by adding the voltage division factor of the ISN, and compare to the voltage limit.

1. For broadcast receiver tuner ports

a. For EUTs that support audio signals, the signal used to exercise the EUT shall be a 1 kHz sinusoidal signal unless otherwise specified as more appropriate by the manufacturer.

b. EUTs that display video images or EUTs with ports that are used to provide video signals shall be exercised in accordance with Table B.1 and configured, where possible, using the parameters given in Table B.2. (Table B.1 and B.2 see to standard EN IEC 61000-6-4:2019)

Video ports shall output signals, and images shall be displayed, corresponding to the highest complexity level listed in Table B.1 that the EUT is capable of generating. However, the manufacturer may choose to exercise the displays and video ports using the text image given in Table B.1 (Complexity level 2) where emission levels using this text image are not reduced in comparison to emission levels obtained using Complexity levels 3 or 4.

2. For Local Area Network (LAN) device, if ports supporting Ethernet traffic (for example 100Base-T, 1000Base-T), that can operate at multiple rates, measurements may be limited to mode in which the EUT operates at its maximum rate.

When assessing an EUT transmitting 10Base-T Ethernet traffic, apply the following:

In order to make reliable emission measurements representative of high LAN utilization it is only necessary to create a condition of LAN utilization in excess of 10 % and sustain that level for a minimum of 250 ms. The content of the test traffic should consist of both periodic and pseudo-random messages in order to emulate realistic types of data transmission (e.g. random: files compressed or encrypted; periodic:

***Note: 1) Pre-scan all modes and recorded the worst case results in this report.

2) Margin= Reading level + Correct factor - Limit

Correct Factor=Lisn Factor+Cable Factor+Insertion loss of Pulse Limiter





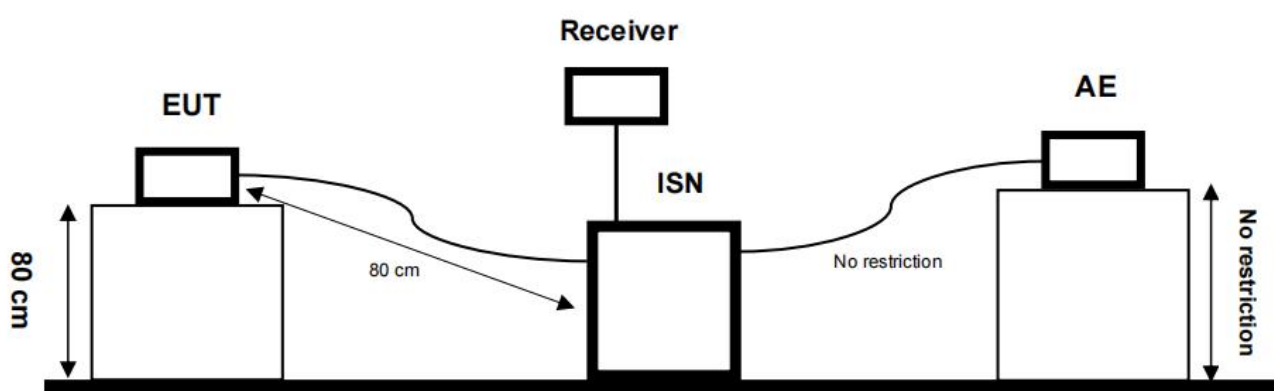
*: The data is the frequency point with the worst margin(uncompressed graphic files, memory dumps, screen updates, disk images). If the LAN maintains transmission during idle periods measurements shall also be made during idle periods.

When disturbance voltage measurements are performed on a single unscreened balanced pair, an adequate ISN for two wires shall be used; when performed on unscreened cables containing two balanced pairs, an adequate ISN for four wires shall be used.

3. Antenna port all other ports not defined above:

A representative signal shall be defined by the manufacturer.

5.2.3 Test Setup Diagram



EUT means Equipment Under Test

AE means Associated Equipment.





5.2.4 E.U.T. Operation

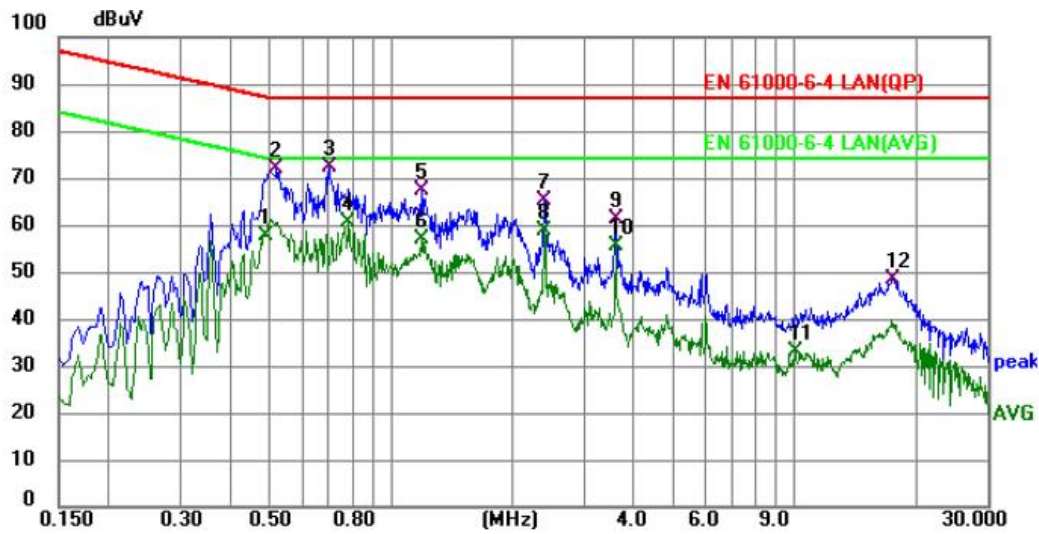
Operating Environment:			
Temperature:	24.2° C	Humidity:	54.9%RH
Test Engineer	KL Zheng		
Mode 1	Working mode	Voltage	AC 230V/50Hz





5.2.5 Test data

Mode 1



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.4875	37.71	19.83	57.54	74.21	-16.67	AVG	
2	0.5190	51.97	19.84	71.81	87.00	-15.19	QP	
3	0.7035	52.42	20.02	72.44	87.00	-14.56	QP	
4 *	0.7845	40.49	20.09	60.58	74.00	-13.42	AVG	
5	1.1895	47.39	20.11	67.50	87.00	-19.50	QP	
6	1.1895	36.75	20.11	56.86	74.00	-17.14	AVG	
7	2.4000	45.21	20.11	65.32	87.00	-21.68	QP	
8	2.4000	38.55	20.11	58.66	74.00	-15.34	AVG	
9	3.6060	40.97	20.12	61.09	87.00	-25.91	QP	
10	3.6060	35.38	20.12	55.50	74.00	-18.50	AVG	
11	10.0320	12.71	20.25	32.96	74.00	-41.04	AVG	
12	17.5244	27.89	20.60	48.49	87.00	-38.51	QP	





5.3 Radiated Emissions(30-1000MHz)

5.3.1 Limits

Frequency	Field Strengths Limits at 10m measuring distance dB(μV)/m	Field Strengths Limits at 3m measuring distance dB(μV)/m
30 MHz to 230 MHz	40	50
230 MHz to 1 GHz	47	57

Note:

- (1) The smaller limit shall apply at the cross point between two frequency bands.
(2) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

5.3.2 Test procedure

- (1) The EUT was placed on a non-metallic table (Refer to the 'Block diagram of test setup'). above the ground plane inside an anechoic chamber.
- (2) Test antenna center was located 3m or 10m from the EUT and assistant equipment boundary (imaginary circular periphery) on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to EN IEC 61000-6-4:2019 on radiated emission test.
- (3) Spectrum frequency from 30 MHz to 1 GHz was investigated.
- (4) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to EN IEC 61000-6-4:2019 on Radiated Emission test.
- (5) For emissions from 30 MHz to 1 GHz, Quasi-Peak values were measured with EMI Receiver and the bandwidth of Receiver is 120 kHz.
- (6) Note:1).Pre-Scan all mode, Thus record worse case mode result in this report.

2) Margin= Reading level + Correct factor – Limit

Correct Factor=Antenna Factor+Cable Factor- Pre-amplifier Factor

*: The data is the frequency point with the worst margin

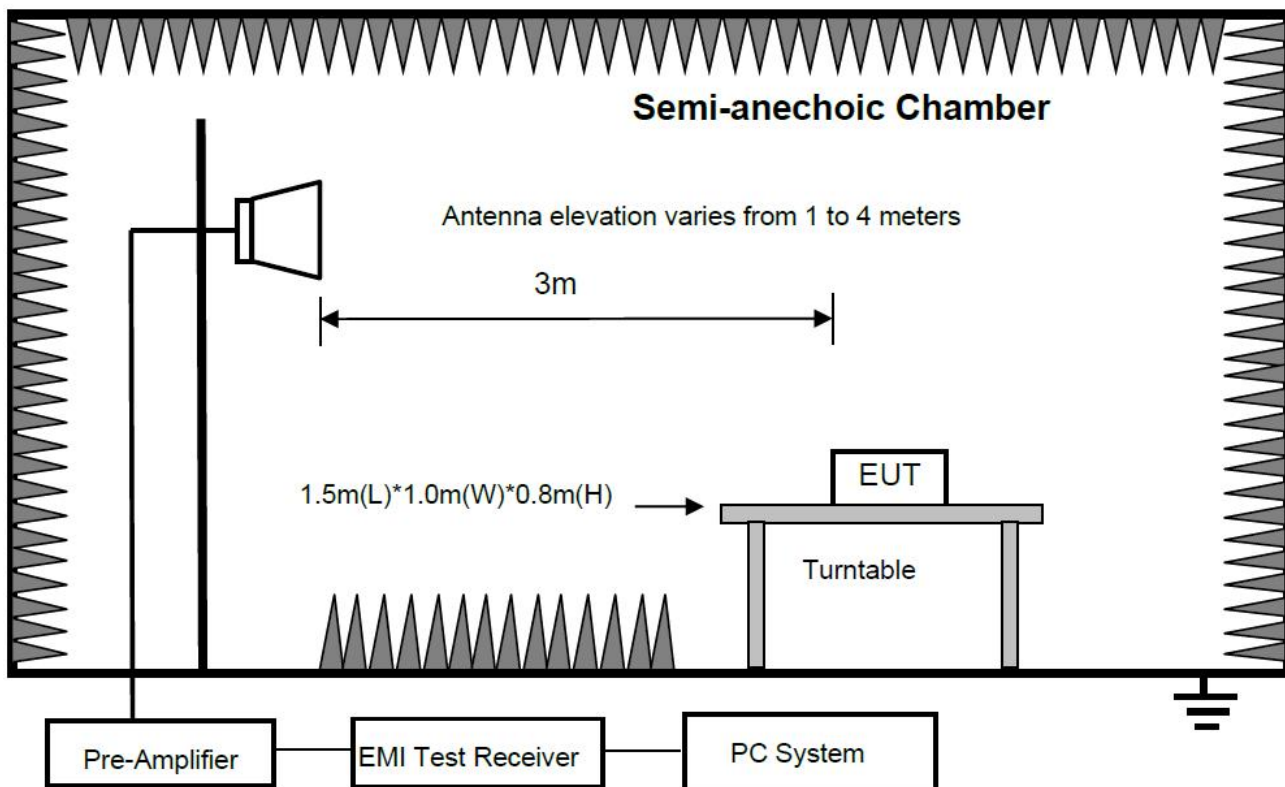




5.3.3 Test Setup Diagram

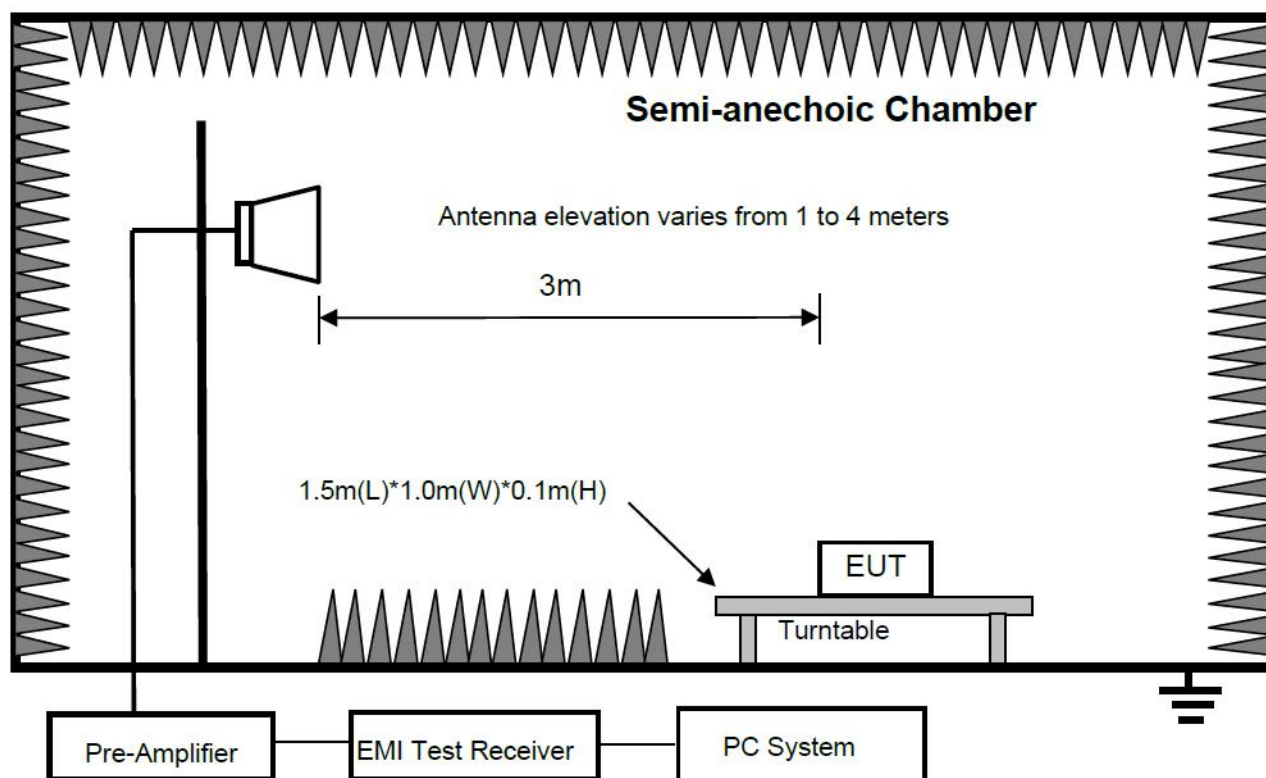
Above 1 GHz

For table-top equipment

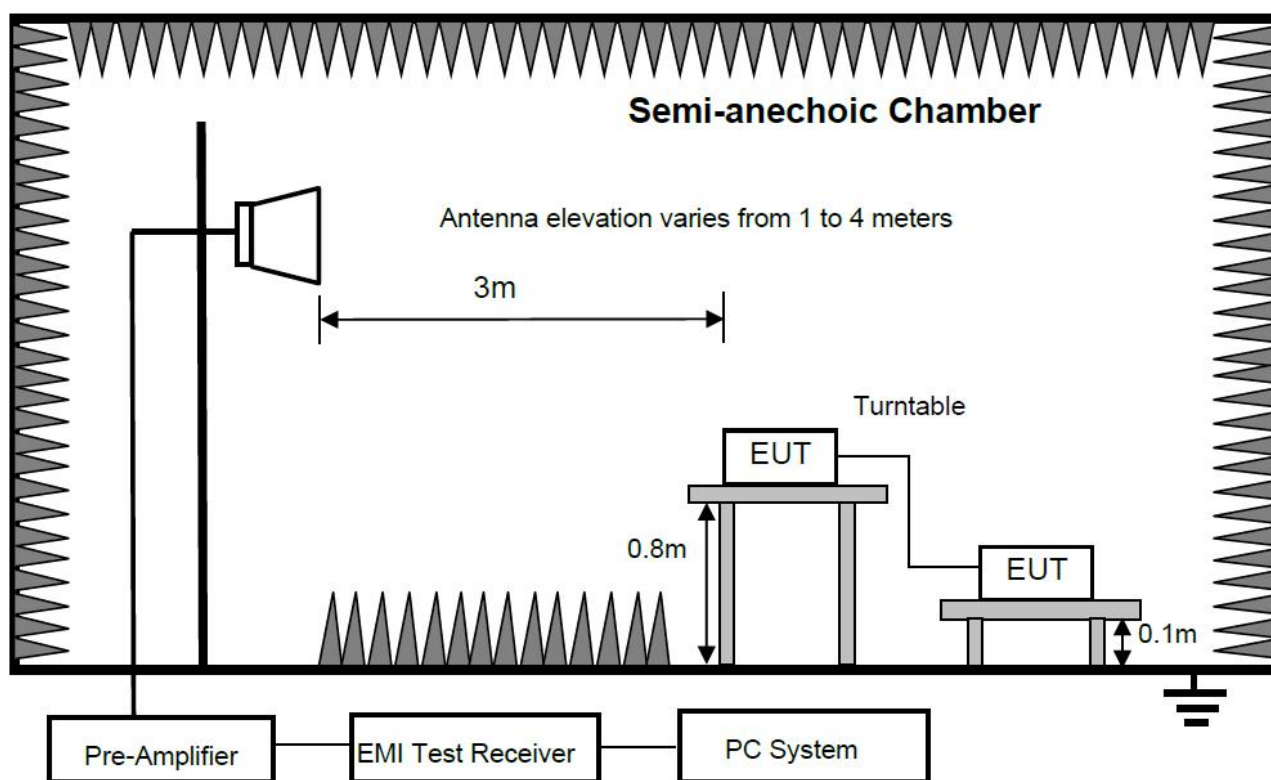




For floor standing equipment



For combinations equipment





5.3.4 E.U.T. Operation

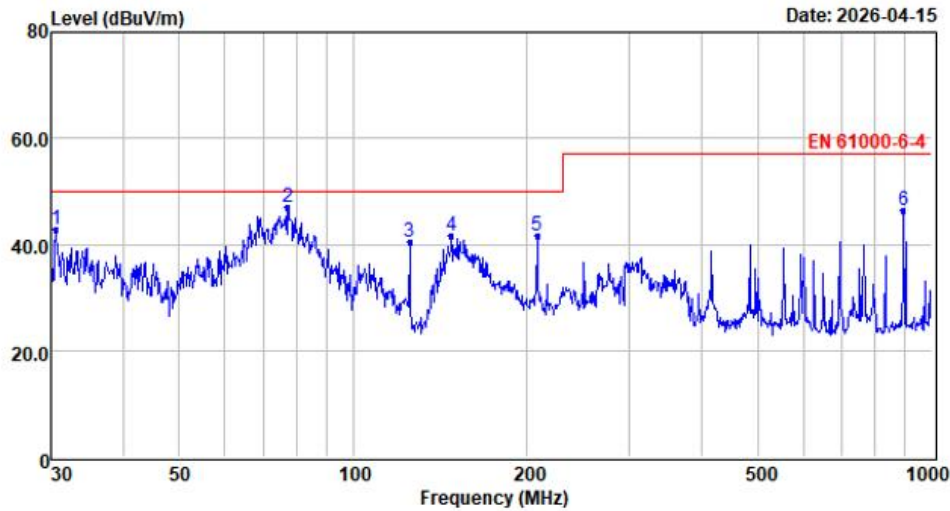
Operating Environment:			
Temperature:	26° C	Humidity:	54%RH
Test Engineer	KL Zheng		
Mode 1	Working mode	Voltage	AC 230V/50Hz





5.3.5 Test data

Mode 1 / Polarization: Vertical



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	30.64	31.89	0.41	10.64	42.94	50.00	-7.06	QP
2	77.05	36.34	0.72	9.91	46.97	50.00	-3.03	QP
3	125.01	29.66	0.93	9.99	40.58	50.00	-9.42	QP
4	147.92	31.89	1.03	8.66	41.58	50.00	-8.42	QP
5	207.85	29.28	1.21	11.16	41.65	50.00	-8.35	QP
6	893.86	22.89	2.09	21.28	46.26	57.00	-10.74	QP

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported



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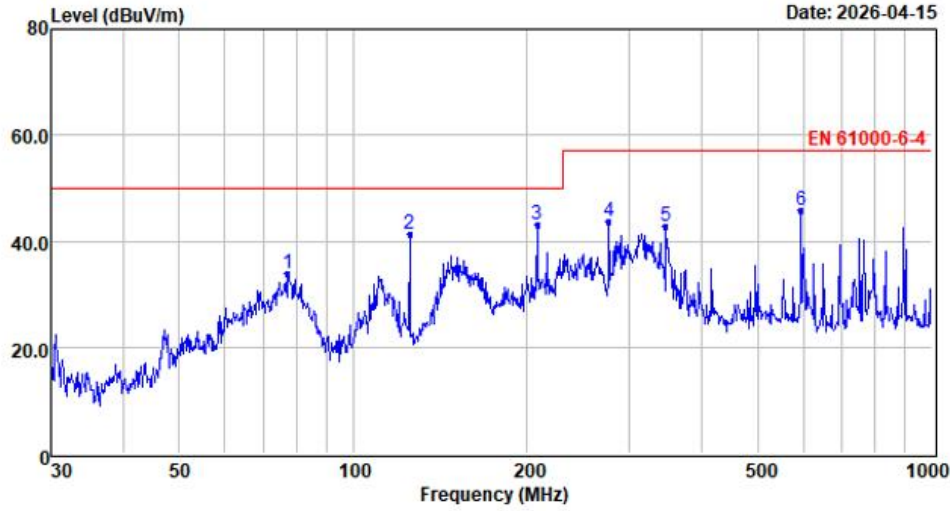
Add: Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

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Mode 1 / Polarization: Horizontal



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	77.05	23.28	0.72	9.91	33.91	50.00	-16.09	QP
2	125.01	30.53	0.93	9.99	41.45	50.00	-8.55	QP
3	207.85	30.69	1.21	11.16	43.06	50.00	-6.94	QP
4	277.09	29.32	1.29	13.24	43.85	57.00	-13.15	QP
5	346.81	26.83	1.36	14.73	42.92	57.00	-14.08	QP
6	595.13	25.13	1.50	19.15	45.78	57.00	-11.22	QP

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported





5.4 Radiated Emissions(1-6GHz)

5.4.1 Limits

Frequency	Field Strengths Limits at 10m measuring distance dB(μV)/m	Field Strengths Limits at 3m measuring distance dB(μV)/m
1 GHz to 3 GHz	/	Average:56; Peak:76
3 GHz to 6 GHz	/	Average:60; Peak:80

Note:
(1) The smaller limit shall apply at the cross point between two frequency bands.
(2) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

5.4.2 Test procedure

- (1) The EUT was placed on a non-metallic table (Refer to the 'Block diagram of test setup'). above the ground plane inside an anechoic chamber.
 - (2) Test antenna center was located 3m or 10m from the EUT and assistant equipment boundary (imaginary circular periphery) on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to EN IEC 61000-6-4:2019 on radiated emission test.
 - (3) Spectrum frequency from 1 GHz to 6 GHz was investigated.
 - (4) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to EN IEC 61000-6-4:2019 on Radiated Emission test.
 - (5) For emissions above 1 GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz VBW is set at 3 MHz.
 - (6) Note:1).Pre-Scan all mode, Thus record worse case mode result in this report.
2) Margin= Reading level + Correct factor – Limit
Correct Factor=Antenna Factor+Cable Factor- Pre-amplifier Factor
- *: The data is the frequency point with the worst margin

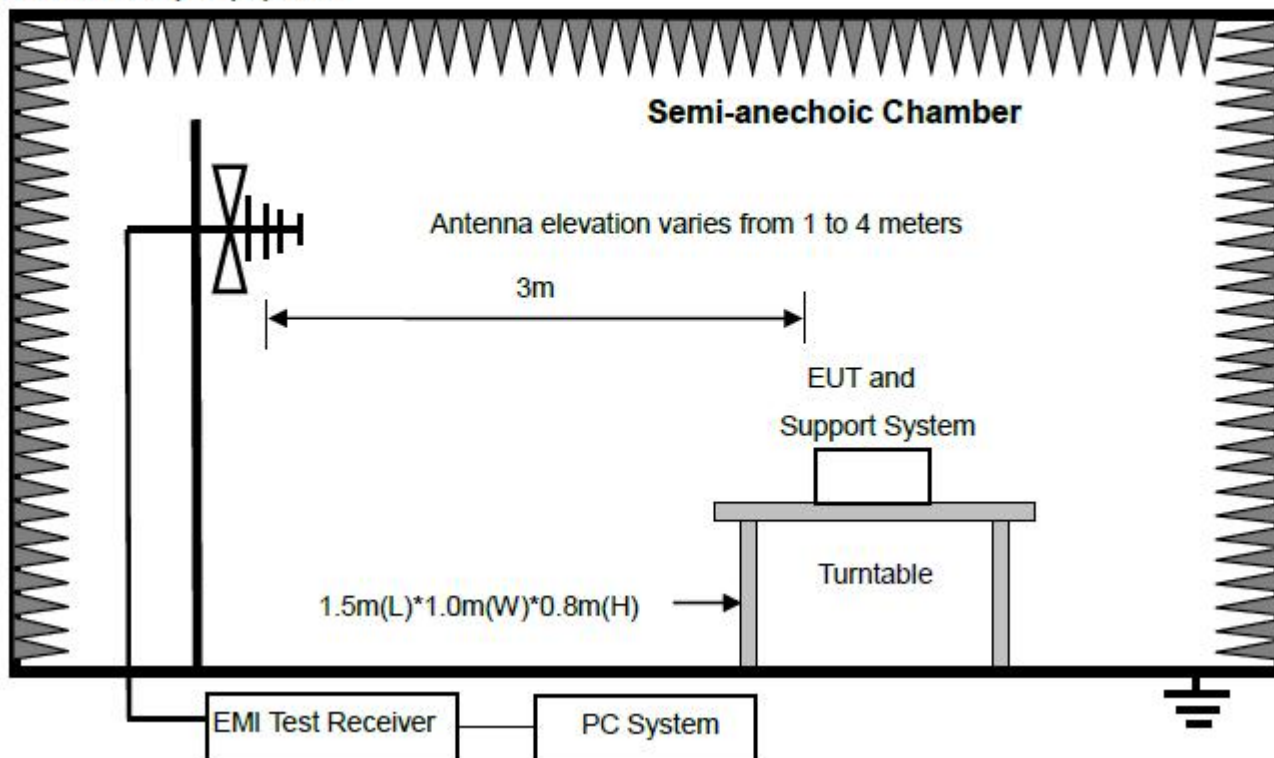




5.4.3 Test Setup Diagram

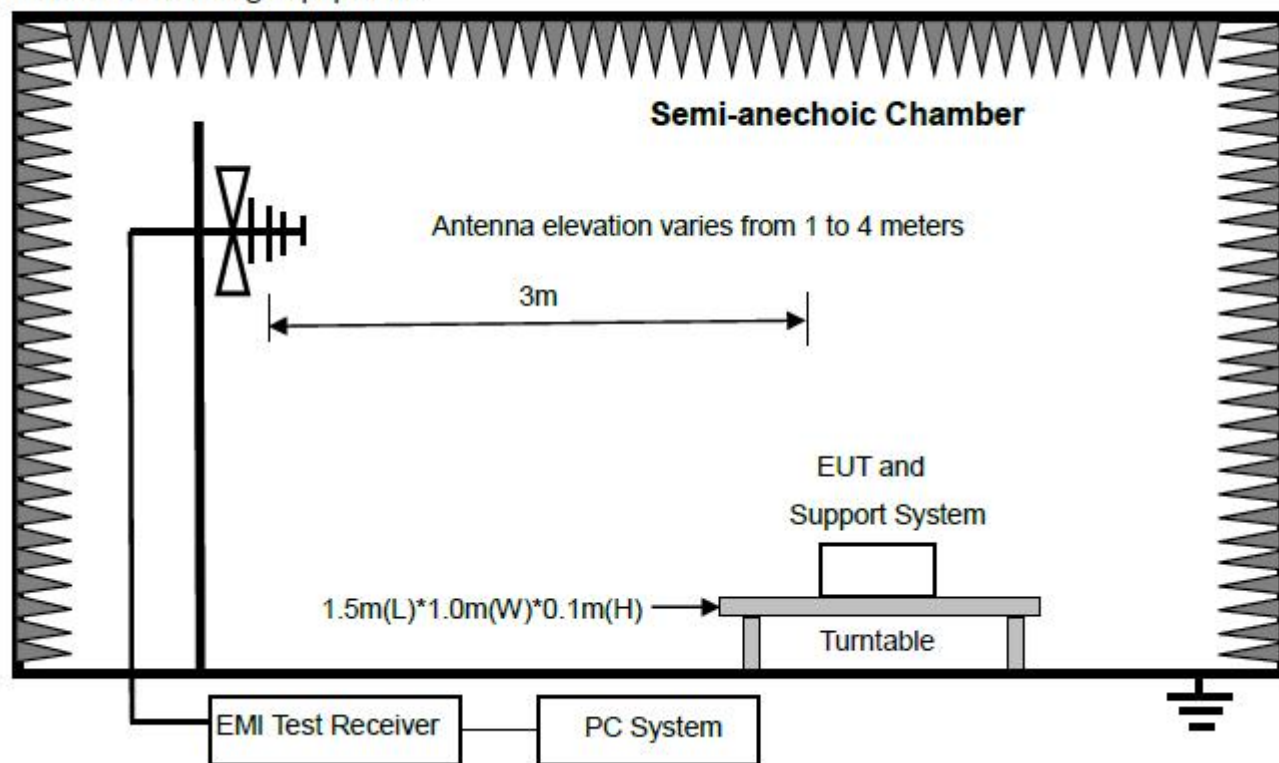
Below 1 GHz

For table-top equipment

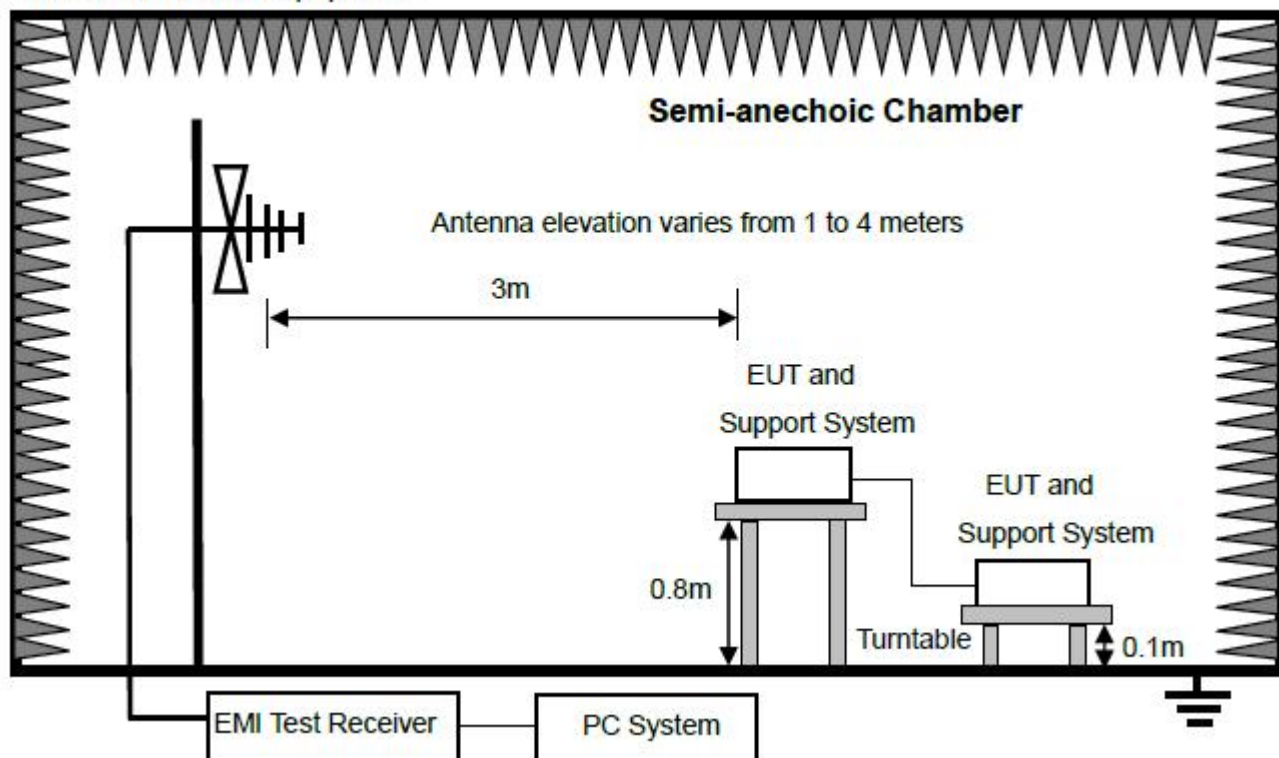




For floor standing equipment



For combinations equipment





5.4.4 E.U.T. Operation

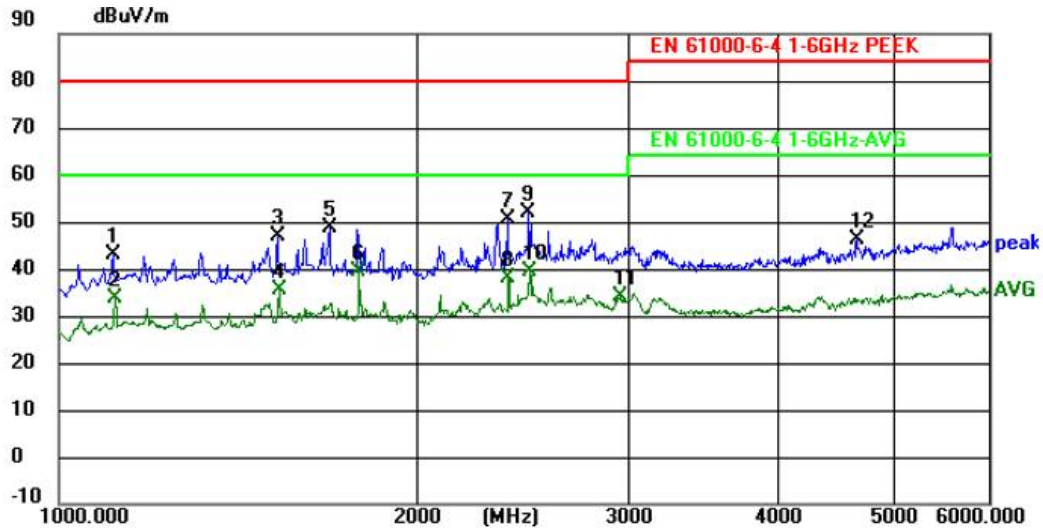
Operating Environment:			
Temperature:	23.6° C	Humidity:	52.3%RH
Test Engineer	KL Zheng		
Mode 1	Working mode	Voltage	AC 230V/50Hz





5.4.5 Test data

Mode 1 / Polarization: Vertical

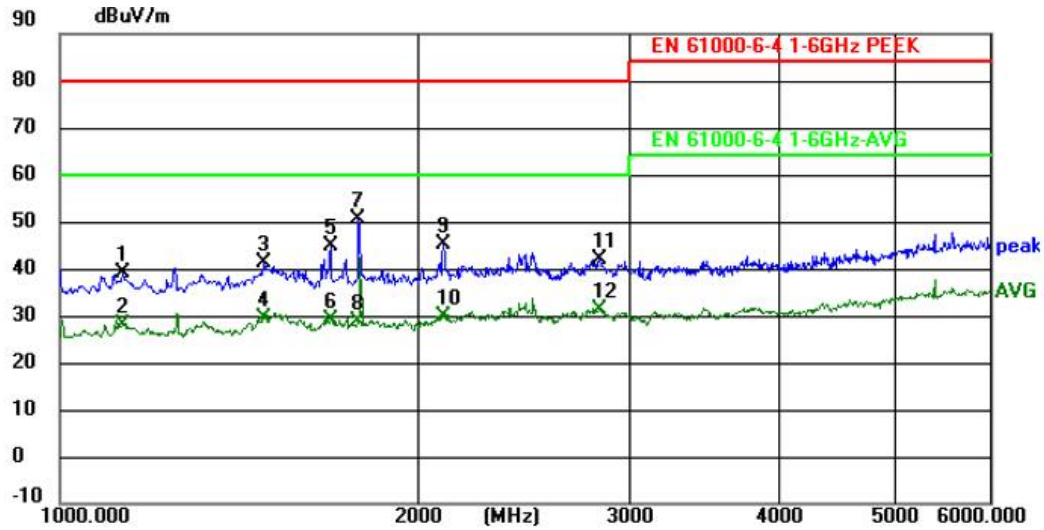


No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1	1110.0000	56.08	-12.97	43.11	80.00	-36.89	peak	
2	1115.0000	46.83	-12.91	33.92	60.00	-26.08	AVG	
3	1525.0000	58.95	-12.14	46.81	80.00	-33.19	peak	
4	1530.0000	47.79	-12.13	35.66	60.00	-24.34	AVG	
5	1685.0000	61.30	-12.62	48.68	80.00	-31.32	peak	
6	1785.0000	51.45	-12.09	39.36	60.00	-20.64	AVG	
7	2375.0000	59.69	-8.99	50.70	80.00	-29.30	peak	
8	2380.0000	46.98	-9.02	37.96	60.00	-22.04	AVG	
9	2475.0000	60.88	-9.08	51.80	80.00	-28.20	peak	
10 *	2480.0000	48.77	-9.13	39.64	60.00	-20.36	AVG	
11	2955.0000	42.03	-8.03	34.00	60.00	-26.00	AVG	
12	4660.0000	50.03	-3.94	46.09	84.00	-37.91	peak	





Mode 1 / Polarization: Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		1130.0000	51.72	-12.73	38.99	80.00	-41.01	peak	
2		1130.0000	40.91	-12.73	28.18	60.00	-31.82	AVG	
3		1485.0000	53.58	-12.27	41.31	80.00	-38.69	peak	
4		1485.0000	41.89	-12.27	29.62	60.00	-30.38	AVG	
5		1685.0000	57.52	-12.62	44.90	80.00	-35.10	peak	
6		1685.0000	41.83	-12.62	29.21	60.00	-30.79	AVG	
7		1780.0000	62.53	-12.06	50.47	80.00	-29.53	peak	
8		1780.0000	40.80	-12.06	28.74	60.00	-31.26	AVG	
9		2095.0000	55.40	-10.07	45.33	80.00	-34.67	peak	
10		2095.0000	39.87	-10.07	29.80	60.00	-30.20	AVG	
11		2830.0000	50.09	-8.07	42.02	80.00	-37.98	peak	
12	*	2830.0000	39.31	-8.07	31.24	60.00	-28.76	AVG	





5.5 Voltage Fluctuations& Flicker Test

5.5.1 Limits

Voltage fluctuations & flicker Limit

Test Item	Limit	Note
Pst	1.0	Pst means Short-term flicker indicator
Plt	0.65	Plt means long-term flicker indicator
Tdt	0.5	Tdt means maximum time that dt exceeds 3.3%
dmax (%)	4%	dmax means maximum relative voltage change.
dc (%)	3.3%	dc means relative steady-state voltage change.

5.5.2 Test procedure

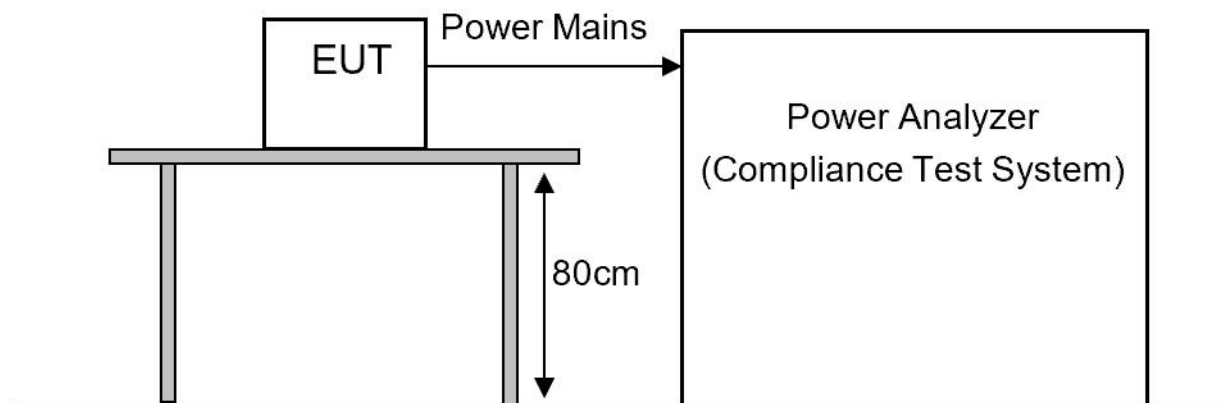
The EUT is placed on top of a wooden table (according to the standard height requirements, refer to the test layout), the most unfavorable sequence of voltage changes under normal conditions during the flick measurement; the measure time shall include that part of whole operation changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.



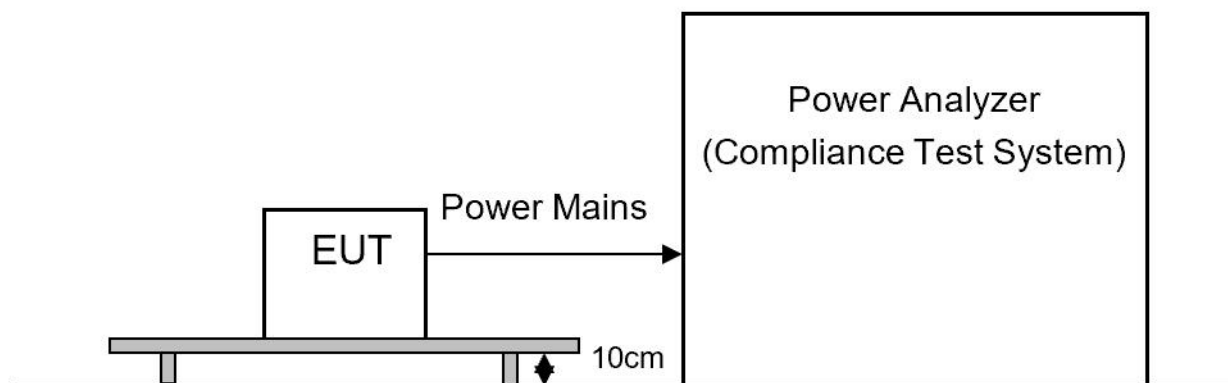


5.5.3 Test Setup Diagram

Table-top device



Floor-standing device





5.5.4 E.U.T. Operation

Operating Environment:			
Temperature:	24.8° C	Humidity:	55.7%RH
Test Engineer	KL Zheng		
Mode 1	Working mode	Voltage	AC 230V/50Hz

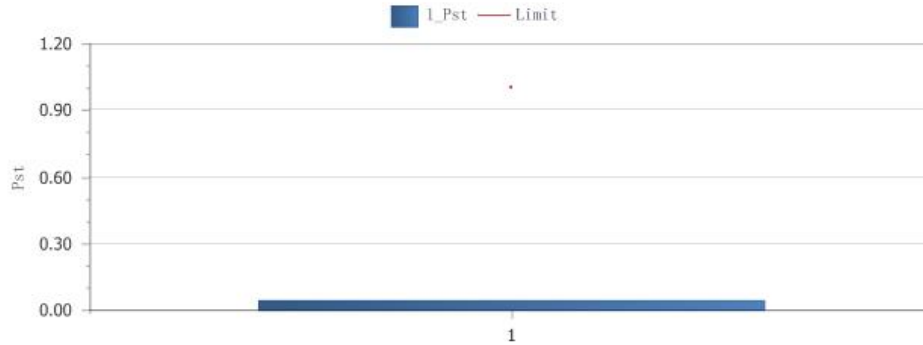




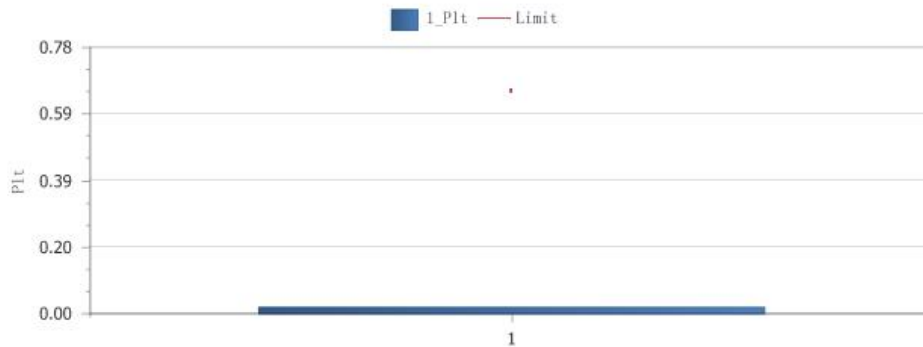
5.5.5 Test data

Mode 1

Pst and Limit



Plt and Limit



Relevant Parameter and Judgment During Test Period

Voltage at end of test	230.895V		
Voltage Fluctuation and Flicker	Test Value	Test Limit	Result
Tmax	0ms	500ms	Pass
dc	0.00%	3.30%	Pass
dmax	0.00%	4.00%	Pass
Pst	0.040	1.000	Pass
Plt	0.018	0.650	Pass

Elem1 Test Parameters

Count	dc (%)	dmax (%)	Tmax (ms)	Pst	Plt
1	0.00	0.00	0.00	0.040	0.018





6. IMMUNITY TEST RESULTS (EMS)

6.1 Electrostatic Discharge Test

6.1.1 Limits

Test Level		Performance Criteria
Air Discharge	±2kV, ±4kV and ±8kV	B
Contact Discharge	±4kV	
Performance criteria B description: During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test. After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended.		

6.1.2 Test procedure

Air Discharge:

The test was applied on non-conductive surfaces of EUT. The round discharge tip of the discharge electrode was approached as fast as possible to touch the EUT. After each discharge, the discharge electrode was removed from the EUT. The generator was re-triggered for a new single discharge and repeated 20 times for each pre-selected test point. This procedure was repeated until all the air discharge completed.

Contact Discharge:

All the procedure was same as air discharge. Except that the generator was re-triggered for a new single discharge. The tip of the discharge electrode was touching the EUT before the discharge switch was operated.

Indirect discharge for horizontal coupling plane:

At least 20 single discharges were applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

Indirect discharge for vertical coupling plane:

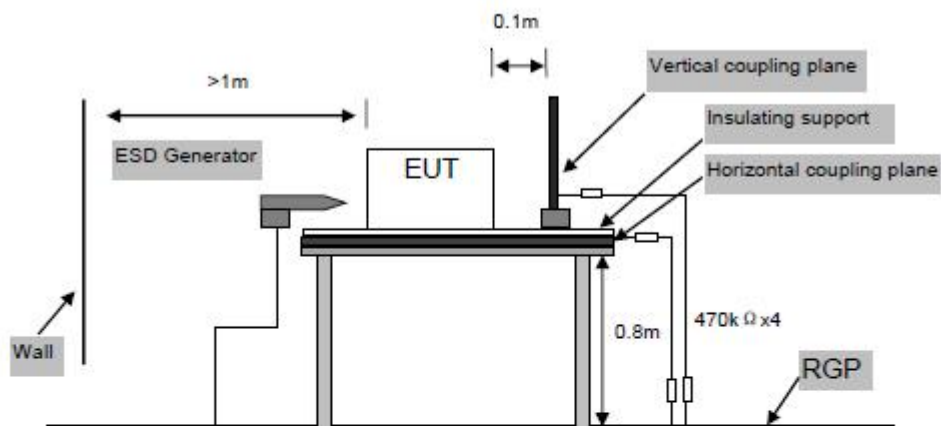
At least 20 single discharges were applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, was placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges were applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.



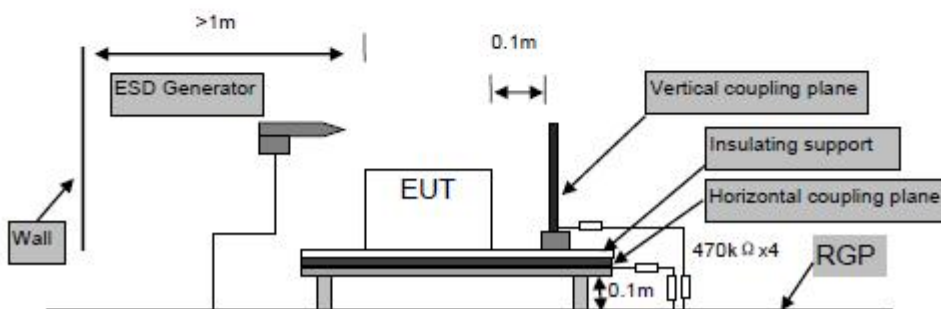


6.1.3 Test Setup Diagram

Table-top equipment



Floor-standing equipment



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6.1.4 Test data

Operating Environment:					
Test Site:	ELECTROSTATIC DISCHARG IMMUNITY TEST (0KV-30KV)		Test Engineer	KL Zheng	
Temperature:	23.3° C		Humidity:	52.1%RH	
Memo:	/				
Sample No.: A260316074001			Mode 1: Working mode		
Test voltage: AC 230V/50Hz			Memo:		
Measure parameters: 20 times at each point for contact discharge; 20 times at each point for air discharge. 1 second interval for each discharge.					
Type of discharge	Test level	Test point	Required	Observation	Result
Contact to EUT	±4kV	Front, Back, Left, Right, Top, Bottom	B	B	Pass
Contact to coupling planes	±4kV	Coupling planes	B	A	Pass
Air	±2 kV /±4 kV /±8kV	Front, Back, Left, Right, Top, Bottom	B	B	Pass
Observation description: A: Normal performance within limits specified by the manufacturer requestor or purchaser. B: Temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the equipment under test recovers its normal performance, without operator intervention.					





6.2 Continuous Radio Frequency Disturbances Test

6.2.1 Limits

Swept frequency test		Performance Criteria
Frequency (MHz)	80 to 1000	A
Field Strength	10V/m rms voltage level of the unmodulated signal	
Frequency (MHz)	1400 to 6000	
Field Strength	3V/m rms voltage level of the unmodulated signal	
Modulation	AM modulated to a depth of 80% by a sine wave of ☒1 kHz, ☐400 Hz (note 1)	
Step Size	1% increments	
Dwell time	≤5 Sec.	
Performance criteria A description for other devices: During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer when the EUT is used as intended.		

6.2.2 Test procedure

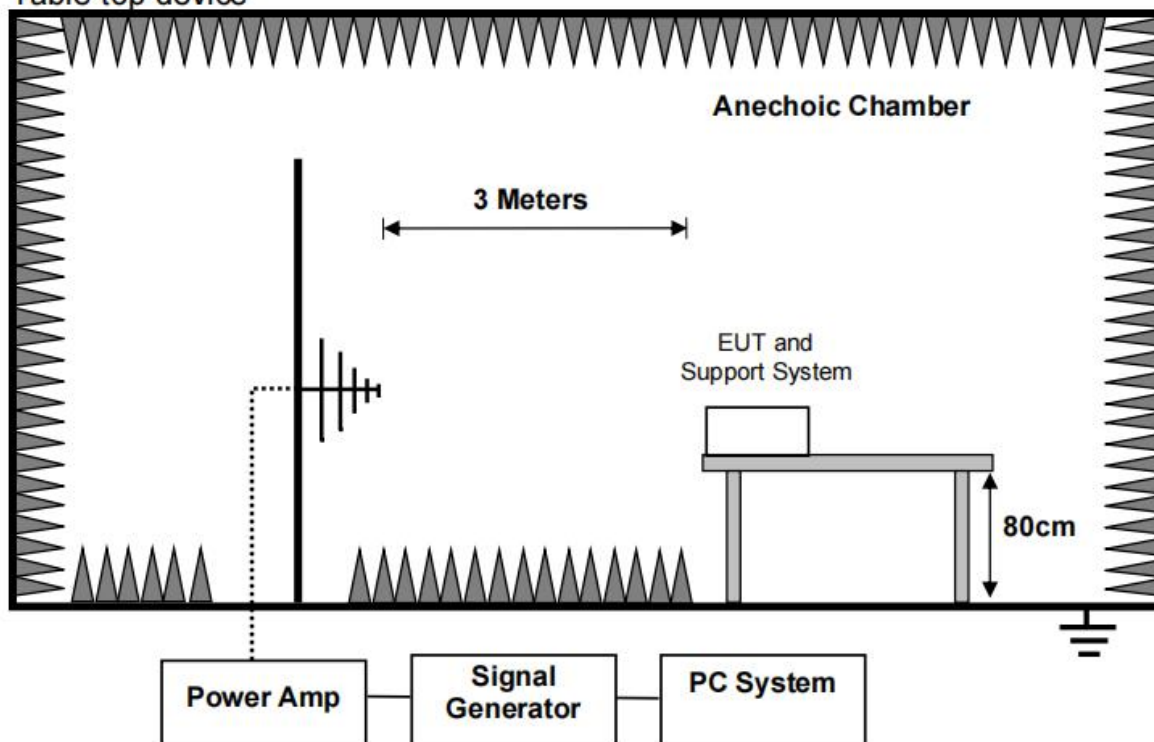
The field sensor is placed on the EUT table (Ground clearance height reference "block diagram of test setup") which is 3 meters away from the transmitting antenna. Through the signal generator, power amplifier and transmitting antenna to produce a uniformity field strength around the EUT table from frequency range specified and records the signal generator 's output level at the same time for whole measured frequency range. Then, put EUT and its simulators on the EUT turn table and keep them 3 meters away from the transmitting antenna which is mounted on an antenna tower and fixes at 1 meter height above the ground. Using the recorded signal generator's output level to measure the EUT from frequency range specified and both horizontal & vertical polarization of antenna must be set and measured. Each of the four sides of EUT must be faced this transmitting antenna and measures individually.



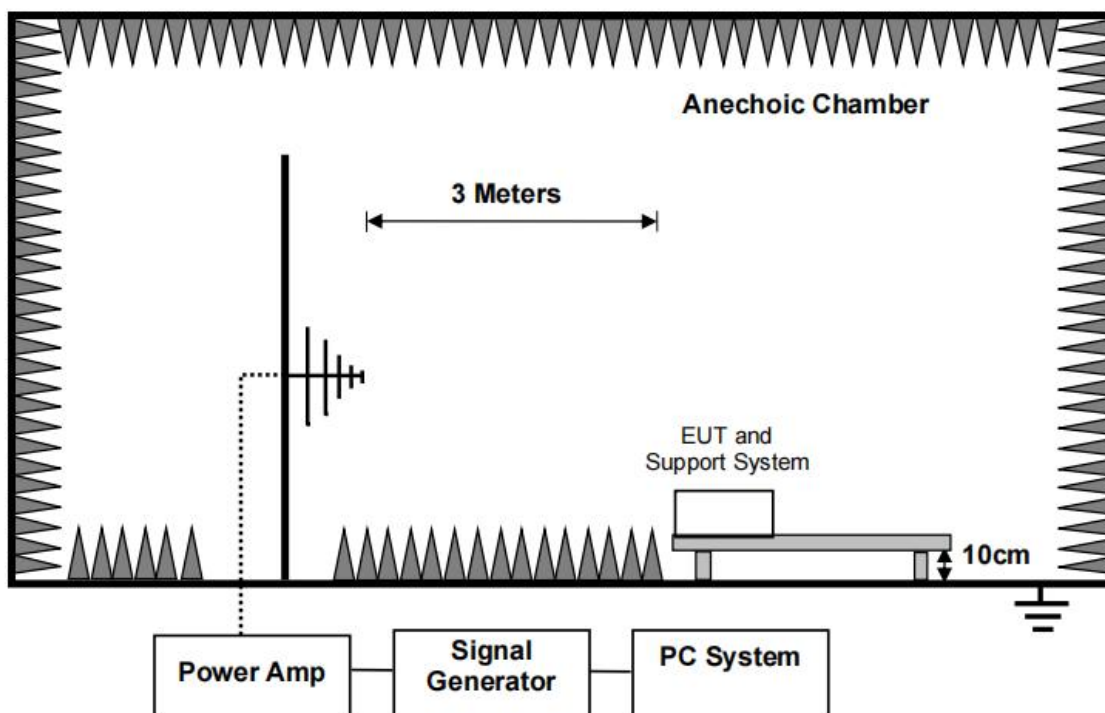


6.2.3 Test Setup Diagram

Table-top device



Floor-standing device





6.2.4 Test data

Operating Environment:						
Test Site:	RF FIELD STRENGTH SUSCEPTIBILITY TEST (UP TO 10V/m)			Test Engineer	KL Zheng	
Temperature:	24.8° C			Humidity:	52%RH	
Memo:	/					
Sample No.: A260316074001				Mode 1: Working mode		
Test voltage: AC 230V/50Hz				Memo:		
Steps: 1%, Dwell time 1s, 1kHz 80% AM modulation						
Test frequency	Level	EUT position	Antenna polarization	Required	Observation	Result
80MHz to 1000MHz	10V/m	Front	H	A	A	Pass
			V	A	A	Pass
		Left	H	A	A	Pass
			V	A	A	Pass
		Rear	H	A	A	Pass
			V	A	A	Pass
		Right	H	A	A	Pass
			V	A	A	Pass
1400MHz to 6000MHz	3V/m	Front	H	A	A	Pass
			V	A	A	Pass
		Left	H	A	A	Pass
			V	A	A	Pass
		Rear	H	A	A	Pass
			V	A	A	Pass
		Right	H	A	A	Pass
			V	A	A	Pass
Observation description:						
A: Normal performance within limits specified by the manufacturer requestor or purchaser.						





6.3 Electrical Fast Transients(EFT) Test

6.3.1 Limits

Test Level			Performance Criteria
Test voltage	±2kVfor AC mains port	±1kV for dc input or signal port	B
Repetition Frequency	5kHz	5kHz	
Burst Duration	15ms	15ms	
Burst Period	300ms	300ms	
Inject Time(s)	120s	120s	
Inject Method	Direct for AC mains port	Capacitive coupling clamp or CDN	
Inject Line	AC mains	Analogue/digital data ports, and DC network power ports	
Note: This test shall be additionally performed on analogue/digital data ports, and DC network power ports, of radio equipment and associated ancillary equipment, if the cables may be longer than 3 m.			
Performance criteria B description: During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test. After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended.			

6.3.2 Test procedure

The EUT and its simulators were placed on the ground reference plane and were insulated from it by a wood support 0.1m ± 0.01m thick. The ground reference plane was 1m*1m metallic sheet with 0.65mm minimum thickness. This reference ground plane was project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane was more than 0.5m. All cables to the EUT was placed on the wood support, cables not subject to EFT/B was routed as far as possible from the cable under test to minimize the coupling between the cables.

For DC input and AC power ports:

The EUT was connected to the power mains by using a coupling device that couples the EFT interference signal to AC or DC power lines. Both positive transients and negative transients of test voltage were applied during compliance test and the duration of the test can't less than 2mins.

For analogue/digital data ports:

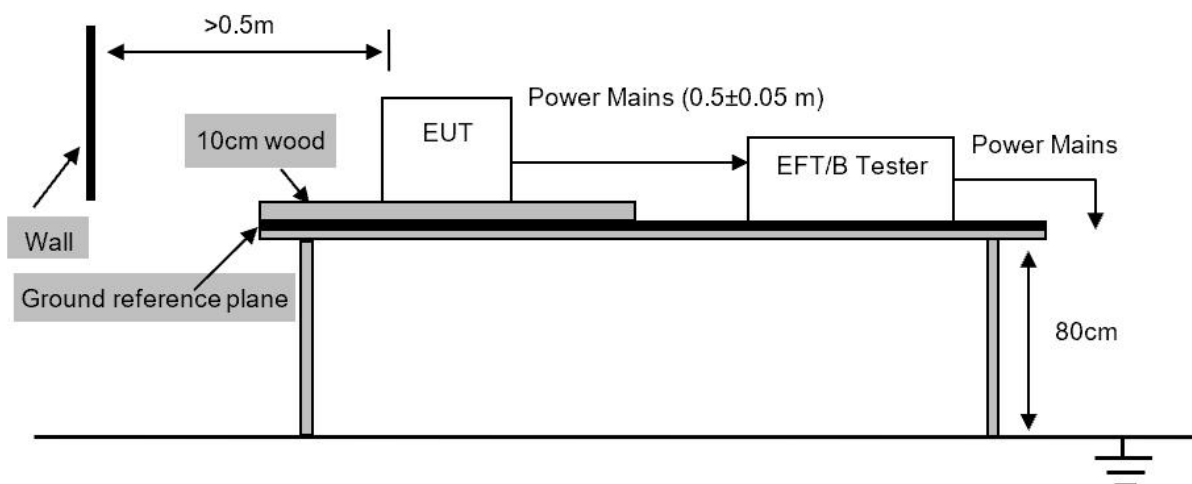
The capacitive coupling clamp was connected to the power by using a coupling device that couples the EFT interference signal to capacitive coupling clamp. Both positive transients and negative transients of test voltage were applied during compliance test and the duration of the test can't less than 2mins.



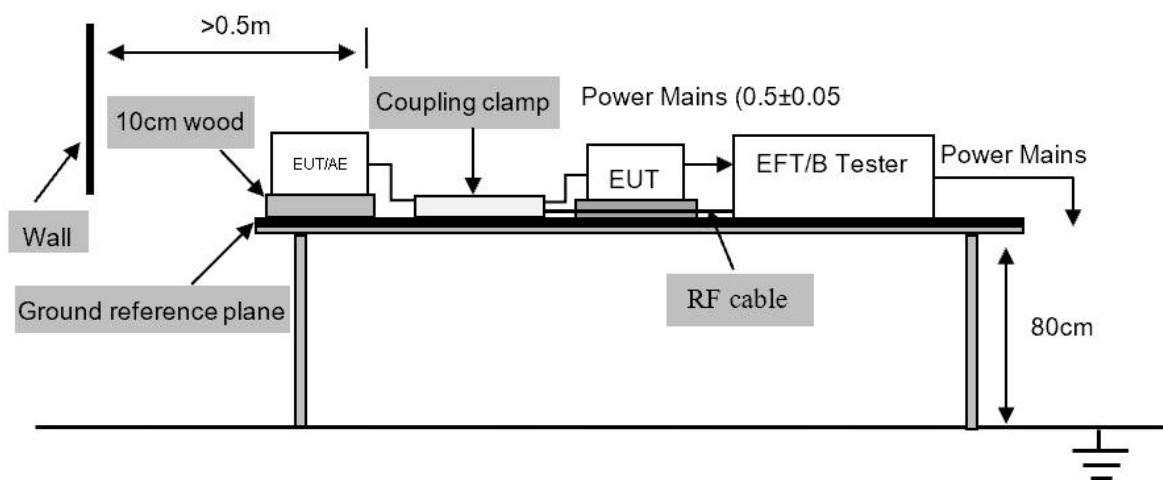


6.3.3 Test Setup Diagram

For power port (Note: if the DC network power cable may be lengths greater than 3 m, the requirement is applicable).



For analogue/digital data ports, if the cables may be longer than 3 m.





6.3.4 Test data

Operating Environment:						
Test Site:	Electrical fast transients / burst for analogue/digital data ports		Test Engineer		KL Zheng	
Temperature:	23.1° C		Humidity:		53.1%RH	
Memo:	/					
Sample No.: A260316074001			Mode 1: Working mode			
Test voltage: AC 230V/50Hz			Memo:			
Test burst parameters: Burst period 300ms, Durations 15ms, Repetition frequency 5kHz						
Port/Coupling	Line	Test voltage	Test time(s)	Required	Observation	Result
AC Mains/ Direct	L	+2kV	120	B	B	Pass
		-2kV	120	B	B	Pass
	N	+2kV	120	B	B	Pass
		-2kV	120	B	B	Pass
	PE	+2kV	120	B	B	Pass
		-2kV	120	B	B	Pass
	L-N	+2kV	120	B	B	Pass
		-2kV	120	B	B	Pass
	L-PE	+2kV	120	B	B	Pass
		-2kV	120	B	B	Pass
	N-PE	+2kV	120	B	B	Pass
		-2kV	120	B	B	Pass
	L-N-PE	+2kV	120	B	B	Pass
		-2kV	120	B	B	Pass
Observation description: B: Temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the equipment under test recovers its normal performance, without operator intervention.						

Test burst parameters: Burst period 300ms, Durations 15ms, Repetition frequency 5kHz						
Port/Coupling	Line	Test voltage	Test time(s)	Required	Observation	Result
Signal/ Capacitive Clamp	Signal	+1kV	120	B	B	Pass
		-1kV	120	B	B	Pass
Observation description: B: Temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the equipment under test recovers its normal performance, without operator intervention.						





6.4 Surge Test

6.4.1 Limits

Test level for AC mains ports		Performance Criterion
Line to Line	1 kV 1.2/50(8/20) μ s	B
Line to Ground	2 kV 1.2/50(8/20) μ s	B
Test level for DC mains ports		Performance Criterion
Line to Line	0.5 kV 1.2/50(8/20) μ s	B
Line to Ground	1 kV 1.2/50(8/20) μ s	B
Note: In telecommunications centre 1 kV line to ground and 0,5 kV line to line shall be used.		
Wired network port (outdoor)		Performance Criterion
Line to Ground	1 kV 10/700(5/320) μ s (symmetrically)	B
Line to Ground or Shield to Ground	1 kV 1.2/50(8/20) μ s (non-symmetrically)	B
Line to Line	0.5 kV 1.2/50(8/20) μ s (non-symmetrically)	B
Wired network port (indoor)		Performance Criterion
Line to Ground or Shield to Ground	0.5 kV 1.2/50(8/20) μ s (longer than 30m)	B
Performance criteria B description: During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test. After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended.		

6.4.2 Test procedure

For line-to- nature coupling mode, provide a 1 kV 1.2/50 us voltage surge (at pen-circuit condition) and 8/20 us current surge to EUT selected points.

For line-to- ground coupling mode, provide a 2 kV 1.2/50 us voltage surge (at pen-circuit condition) and 8/20 us current surge to EUT selected points.

At least 5 positive and 5 negative (polarity) tests with a maximum 1-minute repetition rate are applied during test.

Different phase angles are done individually.

For other surge test, each line of internet port to ground coupling mode, provide a combination wave specified above table.

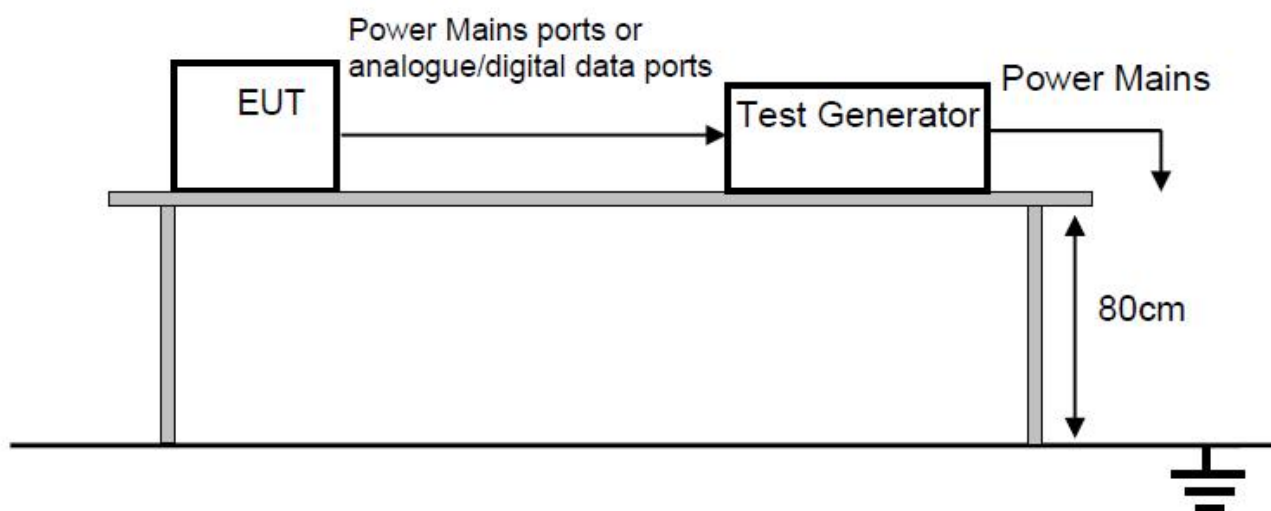
At least 5 positive and 5 negative (polarity) tests with a maximum 1-minute repetition rate are applied during test.

Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.





6.4.3 Test Setup Diagram





6.4.4 Test data

Operating Environment:					
Test Site:	Surges IMMUNITY TEST		Test Engineer	KL Zheng	
Temperature:	23.3° C		Humidity:	52.3%RH	
Memo:	/				
Sample No.: A260316074001			Mode 1: Working mode		
Test voltage: AC 230V/50Hz			Memo:		
Test wave parameters: Wave type: 1.2/50us-8/20us; Voltage phase: 0°, 90°, 180°, 270°; Pulse times: 5 times at each polarity; Pulse interval: 60s					
Line/Port	Internal impedance	Test voltage	Required	Observation	Result
L-N	2Ω	+0.5kV	B	B	Pass
	2Ω	-0.5kV	B	B	Pass
L-N	2Ω	+1kV	B	B	Pass
	2Ω	-1kV	B	B	Pass
L-PE	12Ω	+0.5kV	B	B	Pass
	12Ω	-0.5kV	B	B	Pass
N-PE	12Ω	+0.5kV	B	B	Pass
	12Ω	-0.5kV	B	B	Pass
L-PE	12Ω	+1kV	B	B	Pass
	12Ω	-1kV	B	B	Pass
N-PE	12Ω	+1kV	B	B	Pass
	12Ω	-1kV	B	B	Pass
L-PE	12Ω	+2kV	B	B	Pass
	12Ω	-2kV	B	B	Pass
N-PE	12Ω	+2kV	B	B	Pass
	12Ω	-2kV	B	B	Pass
Observation description: B: Temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the equipment under test recovers its normal performance, without operator intervention.					





6.5 Continuous Conducted Disturbances Test

6.5.1 Limits

Test Level		Performance Criteria
Frequency	0.15MHz to 80MHz	A
Field Strength	10V measured unmodulated	
Modulation	AM modulated to a depth of 80% by a sinusoidal audio signal of ☒ 1 kHz / ☐ 400 Hz (see note1)	
Step Size	1% increments	
Dwell time	>0.5 Sec.	
Note 1: If the wanted signal is modulated at 1 kHz, then the test signal of 400 Hz shall be used. Note 2: This test shall be additionally performed on signal ports, wired network ports, control ports, and DC power ports, of radio equipment and associated ancillary equipment, if the cables may be longer than 3 m. Note 3: Performance criteria A description: During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer when the EUT is used as intended.		

6.5.2 Test procedure

The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).

The disturbance signal described below is injected to EUT through CDN.

The EUT operates within its operational mode(s) under intended climatic conditions after power on.

Use the frequency range specified by the standard, interference signal level, and interference signal for testing.

The step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

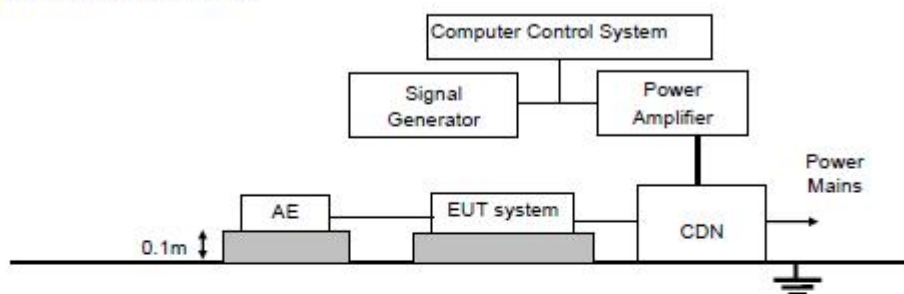
Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.



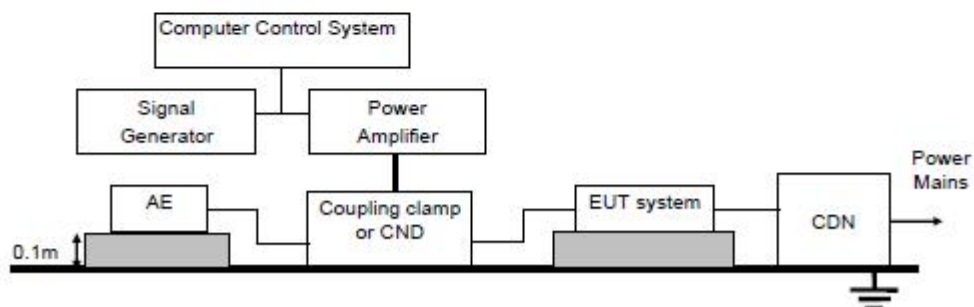


6.5.3 Test Setup Diagram

For power port (Note: if the DC network power cable may be lengths greater than 3 m, the requirement is applicable).



For analogue/digital data ports, if the cables may be longer than 3 m.





6.5.4 Test data

Operating Environment:					
Test Site:	Continuous induced RF disturbances for analogue/digital data ports (150kHz-80MHz)		Test Engineer	KL Zheng	
Temperature:	23.3° C		Humidity:	52.1%RH	
Memo:	/				
Sample No.: A260316074001			Mode 1: Working mode		
Test voltage: AC 230V/50Hz			Memo:		
Test steps: 1%, Dwell time 1s, 1kHz 80% AM modulation					
Test frequency	Injected Position	Strength	Required	Observation	Result
0.15MHz to 80MHz	AC Port	10V	A	A	Pass
0.15MHz to 80MHz	Signal Port	10V	A	A	Pass
Observation Description: A: Normal performance within limits specified by the manufacturer requestor or purchaser.					





6.6 Power-Frequency Magnetic Fields

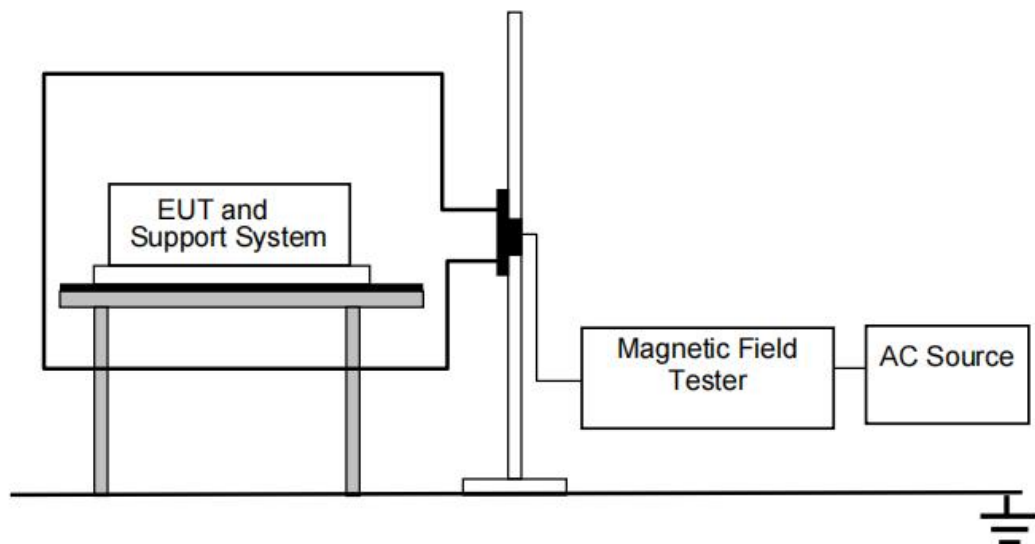
6.6.1 Limits

Level	Magnetic Field Strength (A/m)	Performance Criterion
4	30	A
Performance criteria A description: During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer when the EUT is used as intended.		

6.6.2 Test procedure

The EUT shall be subjected to the test magnetic field by using the induction coil of standard dimensions (1m*1m). Then induction coil shall then be rotated by 90° in order to expose the EUT to the test field with different orientations.

6.6.3 Test Setup Diagram





6.6.4 Test data

Operating Environment:				
Test Site:	MAGNETIC FIELD SUSCEPTIBILITY TEST(0- 120A/m)	Test Engineer	KL Zheng	
Temperature:	23.5° C	Humidity:	52.1%RH	
Memo:	/			
Sample No.: A260316074001		Mode 1: Working mode		
Test voltage: AC 230V/50Hz		Memo:		
Test parameters	Coil orientation	Required	Observation	Result
30A/m 50Hz Duration 300s	X	A	A	Pass
	Y	A	A	Pass
	Z	A	A	Pass
Observation description: A: Normal performance within limits specified by the manufacturer requestor or purchaser.				





6.7 Voltage Dips and Interruptions Test

6.7.1 Limits

Test Level %UT	Duration (in period)	Performance Criterion
0	1	B
40	10 for 50Hz/12 for 60Hz	C
70	25 for 50Hz/30 for 60Hz	C
0	250 for 50Hz/300 for 60Hz	C

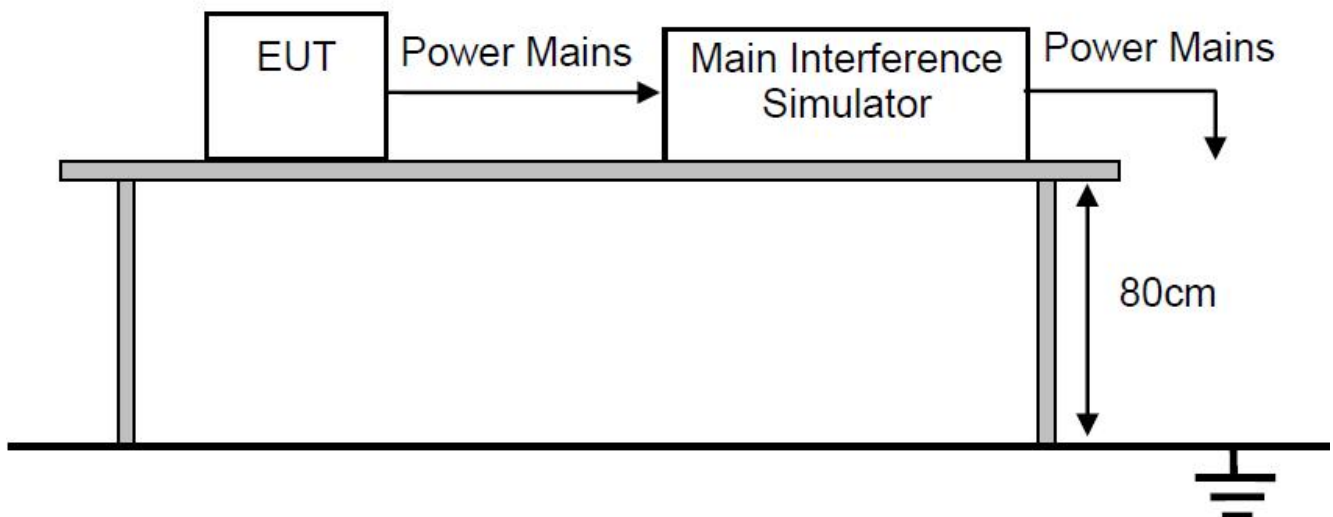
Performance criteria B description: During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test. After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended.

Performance criteria C description: During and after testing, a temporary loss of function is allowed, provided the function is self recoverable, or can be restored by the operation of the controls or cycling of the power to the EUT by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

6.7.2 Test procedure

The EUT and test generator were setup as shown. The interruptions are introduced at selected phase angles with specified duration. Record any degradation of performance.

6.7.3 Test Setup Diagram





6.7.4 Test data

Operating Environment:					
Test Site:	VOLTAGE DIPS AND INTERRUPTIONS TEST		Test Engineer	KL Zheng	
Temperature:	22.3° C		Humidity:	52.3%RH	
Memo:	/				
Sample No.: A260316074001			Mode 1: Working mode		
Test voltage: AC 230V/50Hz			Memo:		
Voltage Dips & Short Interruptions %U _T	Duration (in period)	Phase Angle	Required	Observation	Result
0	1P	0° to 360°	B	B	Pass
40	10P	0° to 360°	C	C	Pass
70	25P	0° to 360°	C	C	Pass
0	250P	0° to 360°	C	C	Pass
Observation description: B: Temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the equipment under test recovers its normal performance, without operator intervention. C: Temporary loss of function or degradation of performance, the correction of which requires operator intervention.					





7. TEST SETUP PHOTOS

AC Power Port Conducted Emission

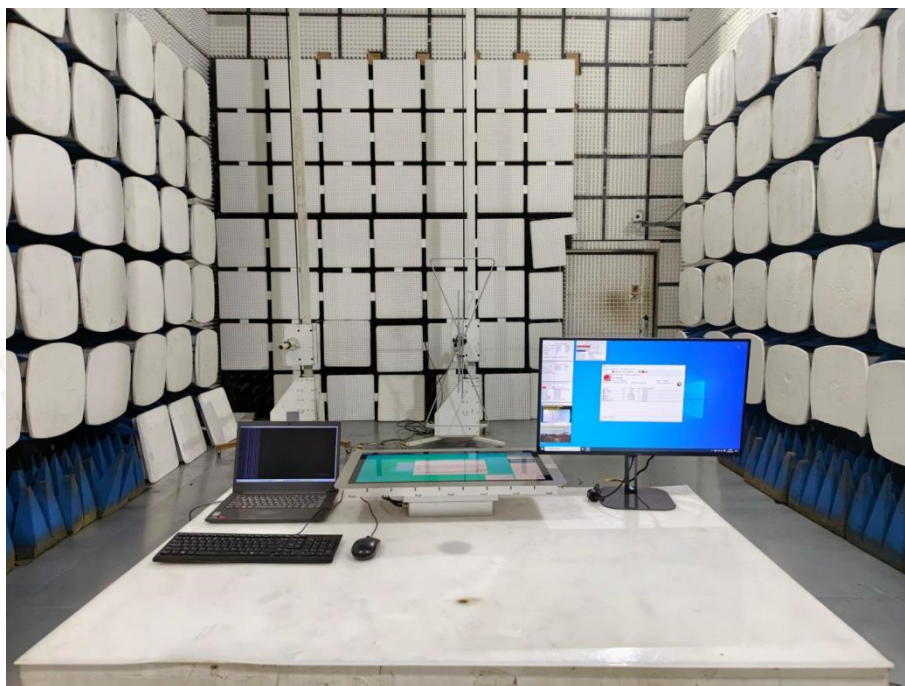


Wired network conducted emissions

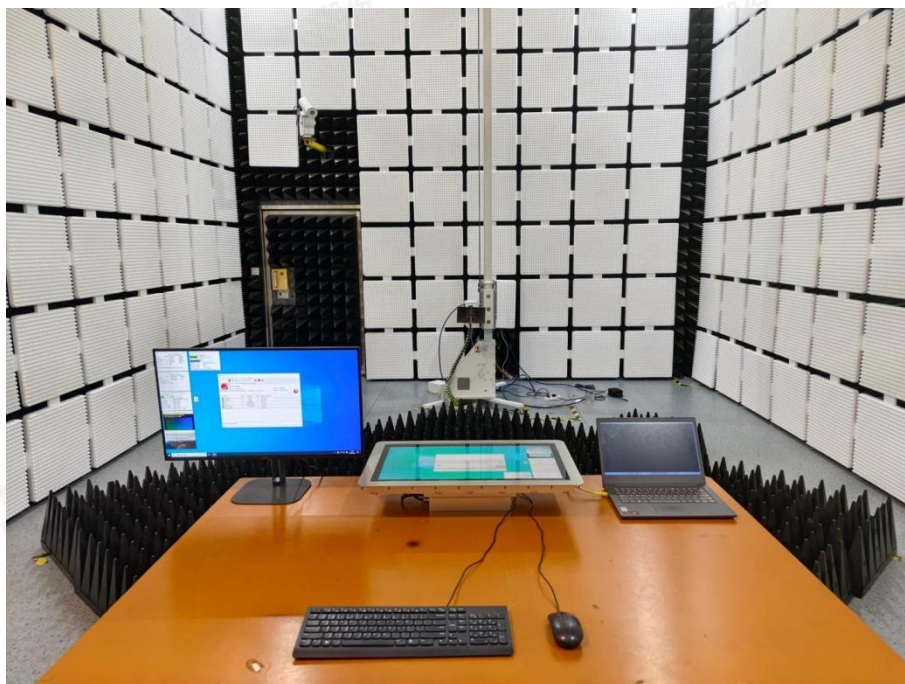




Radiated Emissions(30-1000MHz)



Radiated Emissions(1-6GHz)

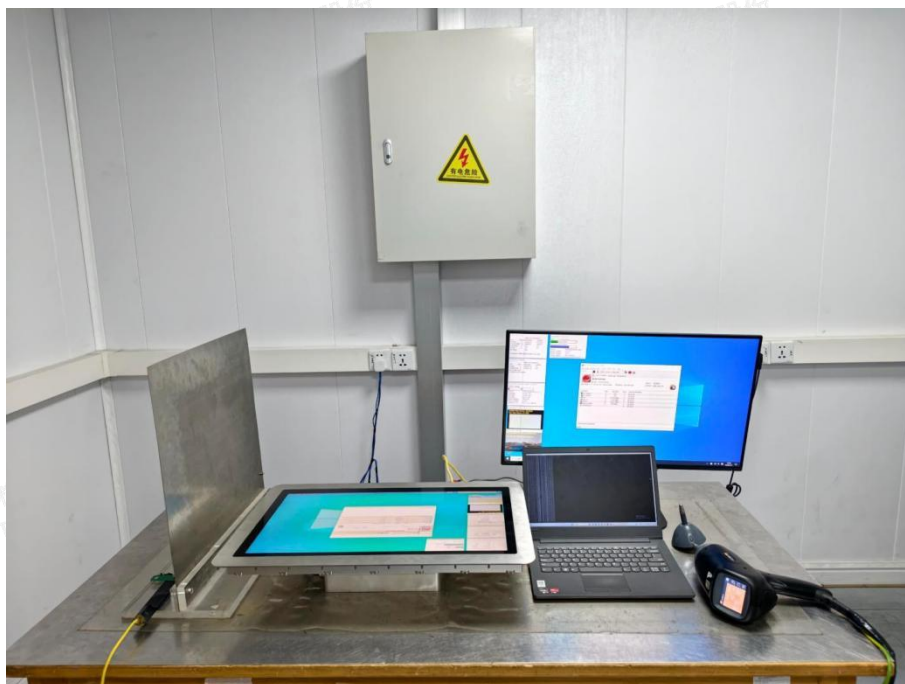




Voltage Fluctuations& Flicker Test



Electrostatic Discharge Test





Continuous Radio Frequency Disturbances Test



Electrical Fast Transients(EFT) Test





Surge Test



Continuous Conducted Disturbances Test





Power-Frequency Magnetic Fields



Voltage Dips and Interruptions Test





8. EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)



Fig. 1

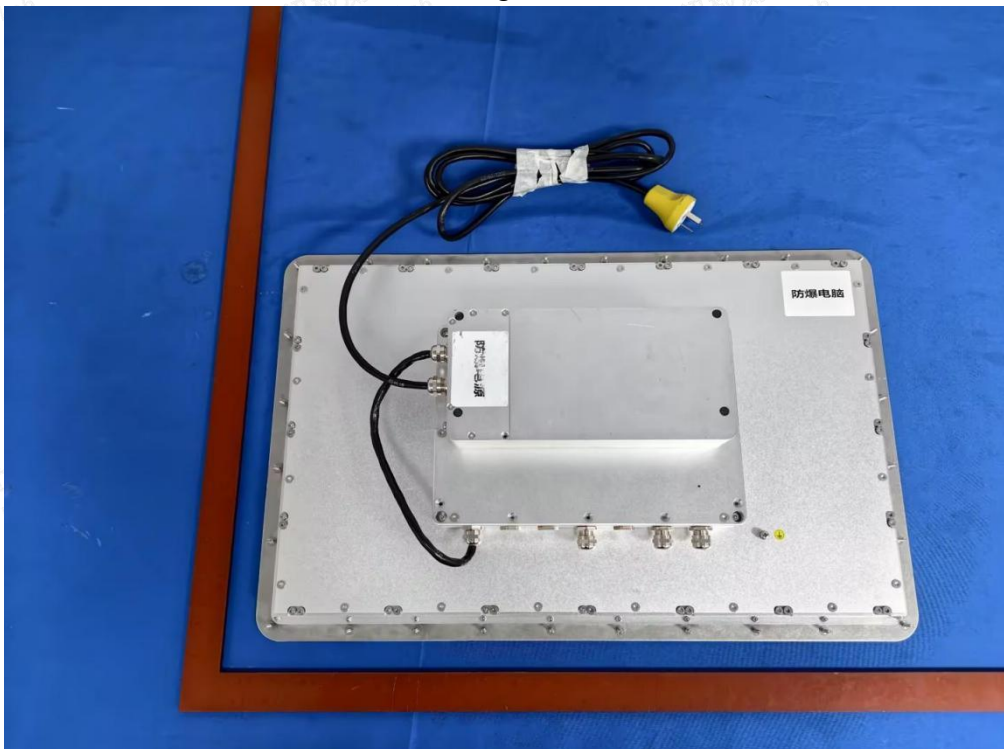


Fig. 2





Fig. 3



Fig. 4





Fig. 5



Fig. 6





Fig. 7

-----End Report-----

