EMC TEST REPORT

Applicant:	SHENZHEN Magic Chip TECHNOLOGY CO.,LTD
Address of Applicant:	5E, JinDa City, Central Road, Xinqiao Street, Baoan District, Shenzhen City, China 518125
Manufacturer/Factory:	SHENZHEN Magic Chip TECHNOLOGY CO.,LTD
Address of Manufacturer/Factory:	5E, JinDa City, Central Road, Xinqiao Street, Baoan District, Shenzhen City, China 518125

Equipment Under Test (EUT)

Product Name:	MINI PC
Model No.:	MCIPC8, MCIPC, MCIPCA, MCIPCB, MCIPCD, MCIPCE, MCTPC, MCMQ, MCSR, MCNAS12, MCNAS14, MCNAS11, MCAIPC1, MCAIPC2, MCAIPC, MCN5, MCMQ12, MCMQ13, MCMQR, MCMQ, MCVX4, MCNUC, MCNASPC，MCNAS
Trade Mark:	N/A
Rating:	AC Adapter Model: A364-1203000I Input: AC 100-240V~, 50/60Hz, 1.5A Output: DC 12V, 3A, 36W

Applicable standards:	EN 55032:2015+A1:2020 EN 55035:2017+A1:2020 EN IEC 61000-3-2:2019+A2:2024 EN 61000-3-3:2013+A2:2021 EN IEC 61000-4-2:2025, EN IEC 61000-4-3:2020, EN 61000-4-4:2012, EN 61000-4-5:2014+A1:2017, EN IEC 61000-4-6:2023, EN IEC 61000-4-11:2020
Date of sample receipt:	Sep.16, 2026
Date of Test:	Sep.16, 2026 to Sep.22, 2026
Date of report issued:	Sep.22, 2026
Test Result :	PASS *

General disclaimer:

The test results presented in this report relate only to the object tested.

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* In the configuration tested, the EUT complied with the standards specified above.

2 Version

Version No.	Date	Description
00	Sep.22, 2026	Original

Test by: Glen Su **Date:** Sep.22, 2026

Test Engineer

Prepared by: Clive Cheng **Date:** Sep.22, 2026

Project Engineer

Reviewed by: Alice zhang **Date:** Sep.22, 2026

Reviewer

SHENZHEN HYCERT CO., LTD. HYC

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4 Test Summary

Test item	Test Requirement	Test Method	Result
Radiated Emission	EN 55032:2015+A1:2020	EN 55032	PASS
Conducted Emission		EN 55032	PASS
Harmonic Emission	EN IEC 61000-3-2:2019+A2:2024	EN IEC 61000-3-2	N/A
Flicker Emission	EN 61000-3-3:2013+A2:2021	EN 61000-3-3	PASS
ESD	EN 55035:2017+A1:2020	EN IEC 61000-4-2	PASS
Radiated Immunity		EN IEC 61000-4-3	PASS
Electrical Fast Transients		EN 61000-4-4	PASS
Surge Immunity		EN 61000-4-5	PASS
Injected Currents		EN IEC 61000-4-6	PASS
Voltage Dips and Interruptions		EN IEC 61000-4-11	PASS

Remark:

1. *PASS: Comply with the essential requirements in the standard.*
2. *N/A: Not applicable.*

5 General Information

5.1 General Description of EUT

Product Name:	MINI PC
Model No.:	MCIPC8, MCIPC, MCIPCA, MCIPCB, MCIPCD, MCIPCE, MCTPC, MCMQ, MCSR, MCNAS12, MCNAS14, MCNAS11, MCAIPC1, MCAIPC2, MCAIPC, MCN5, MCMQ12, MCMQ13, MCMQR, MCMQ, MCVX4, MCNUC, MCNASPC，MCNAS
Remark:	All above models are identical in the same PCB layout, interior structure and electrical circuits. The difference is model name and appearance for commercial purpose.
Test Model No.:	MCIPC8
Power supply:	AC Adapter Model: A364-1203000I Input: AC 100-240V~, 50/60Hz, 1.5A Output: DC 12V, 3A, 36W
The highest frequency of the internal sources of the EUT is (less than 108)MHz:	☒less than 108 MHz, the measurement shall only be made up to 1 GHz. ☐ between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. ☐ between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. ☐ above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

Remark: The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.

5.2 Test mode and Test voltage

Test mode:	
Operation mode	Keep the EUT in operation status
Test voltage:	
AC 230V 50Hz	

5.3 Description of Support Units

Manufacturer	Description	Model	Serial Number
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

5.4 Monitoring of EUT for All Immunity Test

Visual:	Monitor the voltage output and indicator light of the EUT.
Audio:	N/A

5.5 Deviation from Standards

None.

5.6 Abnormalities from Standard Conditions

None.

5.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 381383**

Designation Number: CN5029

Shenzhen HyCert Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

● **ISED —Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Shenzhen HyCert Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing.

● **NVLAP (LAB CODE:600179-0)**

Shenzhen HyCert Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.8 Test Location

All test items were performed at:

Shenzhen HyCert Co., Ltd.
Address: 201, Building A, Hongwan Science and Technology Park, No. 30 Xijing Road, Gushu Community, Xixiang Street, Bao'an District, Shenzhen, China
WEB:www.hycert-lab.com TEL:0755-23050312 EMAIL:info@hycert-lab.com

6 Test Instruments List

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	HYC250	Apr. 11, 2026	Apr. 10, 2027
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	HYC251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	HYC203	Apr. 12, 2026	Apr. 11, 2027
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	HYC640	Apr. 12, 2026	Apr. 11, 2027
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	HYC208	Apr. 11, 2026	Apr. 10, 2027
6	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	HYC575	Jul. 01, 2026	Jun. 30, 2027
7	Loop Antenna	ZHINAN	ZN30900A	HYC534	Nov.16, 2025	Nov.15, 2026
8	Broadband Preamplifier	SCHWARZBECK	BBV9718	HYC535	Apr. 11, 2026	Apr. 10, 2027
9	Amplifier(1GHz-26.5GHz)	HP	8449B	HYC601	Apr. 11, 2026	Apr. 10, 2027
10	Horn Antenna (18GH-40GHz)	Schwarzbeck	BBHA 9170	HYC691	Apr. 11, 2026	Apr. 10, 2027
11	FSV·Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	HYC666	Mar. 11, 2026	Mar. 10, 2027
12	Amplifier	/	LNA-1000-30S	HYC650	Apr. 11, 2026	Apr. 10, 2027
13	CDNE M2+M3-16A	HCT	30MHz-300MHz	HYC692	Nov. 13, 2025	Nov. 12, 2026
14	Wideband Amplifier	/	WDA-01004000-15P35	HYC602	Apr. 11, 2026	Apr. 10, 2027
15	Thermo meter	JINCHUANG	GSP-8A	HYC643	Apr. 15, 2026	Apr. 14, 2027
16	RE cable 1	HYC	N/A	HYC675	Jul. 11, 2026	Jul. 10, 2027
17	RE cable 2	HYC	N/A	HYC676	Jul. 11, 2026	Jul. 10, 2027
18	RE cable 3	HYC	N/A	HYC677	Jul. 11, 2026	Jul. 10, 2027
19	RE cable 4	HYC	N/A	HYC678	Jul. 11, 2026	Jul. 10, 2027
20	RE cable 5	HYC	N/A	HYC679	Jul. 11, 2026	Jul. 10, 2027
21	RE cable 6	HYC	N/A	HYC680	Jul. 11, 2026	Jul. 10, 2027
22	RE cable 7	HYC	N/A	HYC681	Jul. 11, 2026	Jul. 10, 2027
23	RE cable 8	HYC	N/A	HYC682	Jul. 11, 2026	Jul. 10, 2027
24	EMI Test Software	AUDIX	E3-6.100614a	HYC725	N/A	N/A

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	HYC252	Jul. 12, 2022	Jul. 11, 2027
2	EMI Test Receiver	R&S	ESCI 7	HYC552	Apr. 12, 2026	Apr. 11, 2027
3	LISN	ROHDE & SCHWARZ	ENV216	HYC226	Apr. 11, 2026	Apr. 10, 2027
4	Coaxial Cable	HYC	N/A	HYC227	N/A	N/A
5	Thermo meter	JINCHUANG	GSP-8A	HYC642	Apr. 15, 2026	Apr. 14, 2027
6	Absorbing clamp	Elektronik-Feinmechanik	MDS21	HYC229	Apr. 12, 2026	Apr. 11, 2027
7	ISN	SCHWARZBECK	NTFM 8158	HYC565	Apr. 11, 2026	Apr. 10, 2027
8	High voltage probe	SCHWARZBECK	TK9420	HYC537	Apr. 11, 2026	Apr. 10, 2027
9	Antenna end assembly	Weinschel	1870A	HYC560	Apr. 11, 2026	Apr. 10, 2027
10	EMI Test Software	AUDIX	E3-6.100622	HYC726	N/A	N/A
11	Current probe	CYBERTEK	EM5011	HYC698	Jan. 13, 2026	Jan. 12, 2027

ESD						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	ESD Simulator	LINCEL	ESD-203B	HYC645	Apr. 12, 2026	Apr. 11, 2027
2	Thermo meter	KTJ	TA328	HYC243	Apr. 15, 2026	Apr. 14, 2027

Conducted Immunity						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Signal Generator	ROHDE & SCHWARZ	SMB 100A	HYC553	Apr. 11, 2026	Apr. 10, 2027
2	CDN	LionCEL	CDN-M3-16	HYC554	Apr. 11, 2026	Apr. 10, 2027
3	CDN	CYBERTEK	EM 5070	HYC559	Apr. 11, 2026	Apr. 10, 2027
4	Power amplifier	rflight	NTWPA-00010475	HYC555	Apr. 11, 2026	Apr. 10, 2027
5	ATT	SUNWAVE	SJ-50-06DB	HYC556	Apr. 11, 2026	Apr. 10, 2027
6	Clamp	SCHAFFNER	KEMZ 801	HYC558	Apr. 12, 2026	Apr. 11, 2027
7	Thermo meter	JINCHUANG	GSP-8A	HYC642	Apr. 15, 2026	Apr. 14, 2027
8	CS Test software	EZ-CS	V3A1	HYC731	N/A	N/A

Harmonic/ Flicker						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Power Analyzer H/F	EMTEST	LFZ-1-16	HYC646	Apr. 11, 2026	Apr. 10, 2027
2	AC POWER SUPPLY	EMTEST	ACS500	HYC236	Apr. 11, 2026	Apr. 10, 2027
3	Thermo meter	JINCHUANG	GSP-8A	HYC639	Apr. 15, 2026	Apr. 14, 2027
4	Harmonics/Flicker Test software	HFA(16A) program	V1.0.0.14	HYC728	N/A	N/A

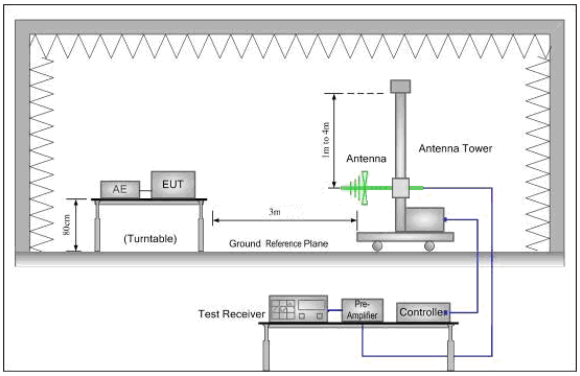
EFT, Surge, Voltage dips and Interruption						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	EMTEST system	EMTEST	UCS500N	HYC239	Apr. 11, 2026	Apr. 10, 2027
2	Clamp	EMTEST	HFK	HYC557	Apr. 11, 2026	Apr. 10, 2027
3	Thermo meter	JINCHUANG	GSP-8A	HYC639	Apr. 15, 2026	Apr. 14, 2027
4	EFT/SURGE/DipsTest software	iec control	5.0.9.0	HYC727	N/A	N/A

Radiated Immunity						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Probe	STT	SEM-600	HYC648	Apr. 12, 2026	Apr. 11, 2027
2	Stacked Log.-Per.-Broadband Antenna	SCHWARZBECK	STLP 9129	HYC658	Jul. 11, 2026	Jul. 10, 2027
3	MXG vector Signal Generator	Agilent	N5181A	HYC659	Nov. 13, 2025	Nov. 12, 2026
4	Power amplifier	Micotop	MPA-20-1000-250	HYC660	Jul. 11, 2026	Jul. 10, 2027
5	Power amplifier	Micotop	MPA-1000-6000-100	HYC661	Jul. 11, 2026	Jul. 10, 2027
6	EPM SSERIES POWER METER	Agilent	E4419B	HYC662	Nov. 13, 2025	Nov. 12, 2026
7	E-SERIES AVG POWER SENSOR	HP	E9301A	HYC670	Nov. 13, 2025	Nov. 12, 2026
8	Thermo meter	JINCHUANG	GSP-8A	HYC643	Apr. 15, 2026	Apr. 14, 2027
9	RS Test software	EM	V1.2.6	HYC729	N/A	N/A

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	KUMAO	SF132	HYC647	Jul. 16, 2026	Jul. 15, 2027

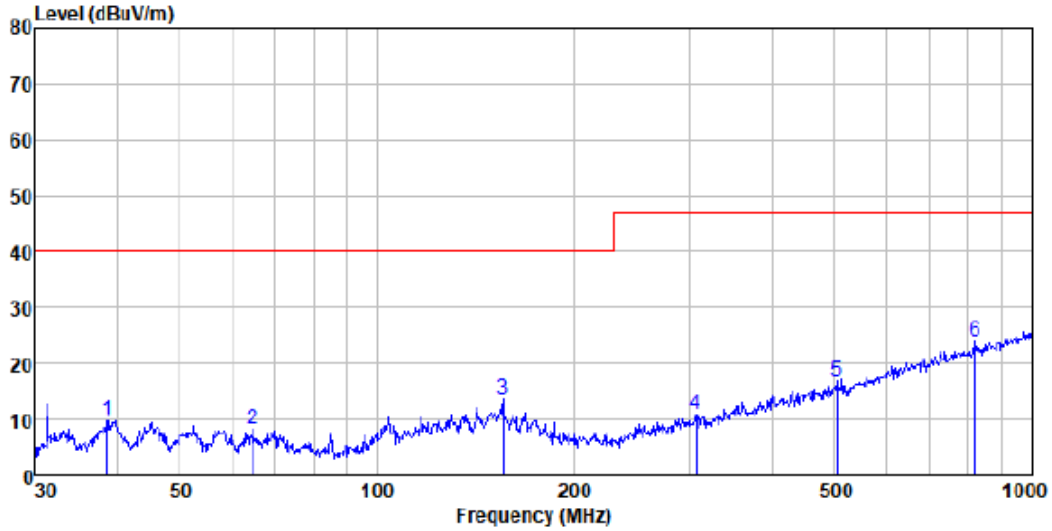
7 Emission Test Results

7.1 Radiated Emission

Test setup:	
Test Standard:	EN 55032:2015+A1:2020
Test Frequency Range:	30MHz to 1GHz
Class / Severity:	Class B
Test site:	Measurement Distance: 3m
Receiver setup:	Frequency: 30MHz-1GHz; Detector: Quasi-peak; RBW: 120KHz; VBW: 300KHz; Value: Quasi-peak
Limit:	30MHz-230MHz: 40.00 dBµV/m @3m, Quasi-peak 230MHz-1GHz: 47.00 dBµV/m @3m, Quasi-peak
Test procedure:	1. The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to EN 55032 on radiated emission test. 2. The frequency range from 30MHz to 1000MHz is checked.
Test environment:	Temp.: 25 °C; Humid.: 52%; Press.: 1 012mbar
Measurement Uncertainty:	3.8062dB （30MHz-200MHz） 3.9531dB （200MHz-1GHz）
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	PASS

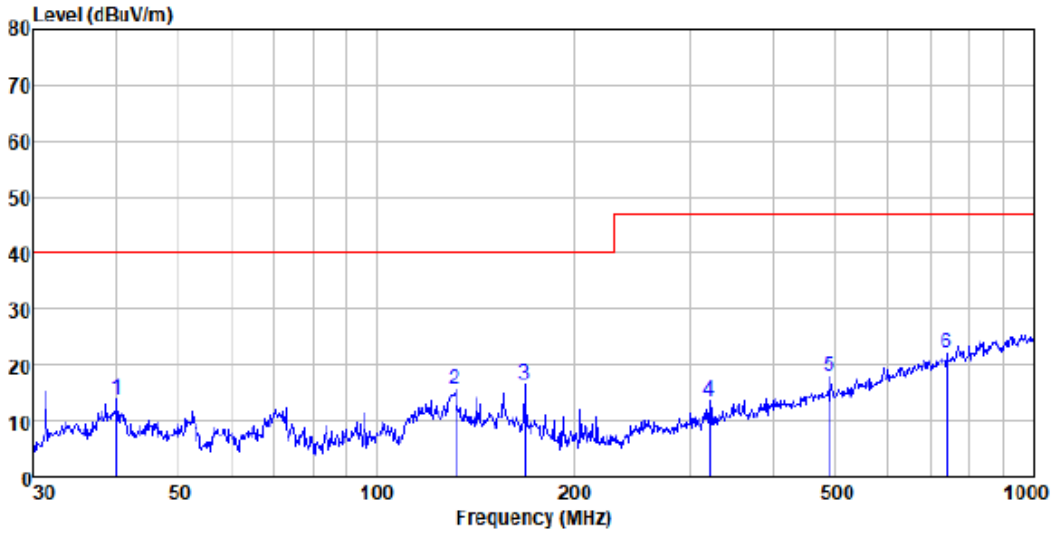
Measurement Data

Test mode:	Operation mode	Antenna Polarity:	Horizontal



	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	38.752	27.97	14.15	33.55	1.28	9.85	40.00	-30.15	Peak
2	64.433	28.60	11.46	33.54	1.67	8.19	40.00	-31.81	Peak
3	155.910	29.87	14.81	33.47	2.49	13.70	40.00	-26.30	Peak
4	306.754	27.96	12.44	33.19	3.60	10.81	47.00	-36.19	Peak
5	504.706	28.23	16.90	32.89	4.61	16.85	47.00	-30.15	Peak
6	818.834	27.33	22.45	32.09	6.11	23.80	47.00	-23.20	Peak

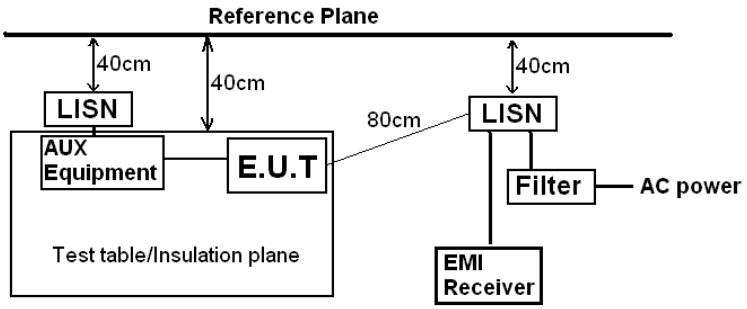
Test mode:	Operation mode	Antenna Polarity:	Vertical



	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	40.135	31.83	14.33	33.54	1.29	13.91	40.00	-26.09	Peak
2	131.758	33.55	13.30	33.52	2.29	15.62	40.00	-24.38	Peak
3	167.824	33.76	13.72	33.45	2.58	16.61	40.00	-23.39	Peak
4	321.061	30.34	12.84	33.16	3.69	13.71	47.00	-33.29	Peak
5	490.745	29.63	16.71	32.91	4.54	17.97	47.00	-29.03	Peak
6	739.661	27.42	21.19	32.32	5.75	22.04	47.00	-24.96	Peak

Notes:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
1. Final Level (dBuV/m)=Reading level(dBuV)+Antenna Factor(dB/m)+Cable Loss(dB)-Preamp Factor(dB)

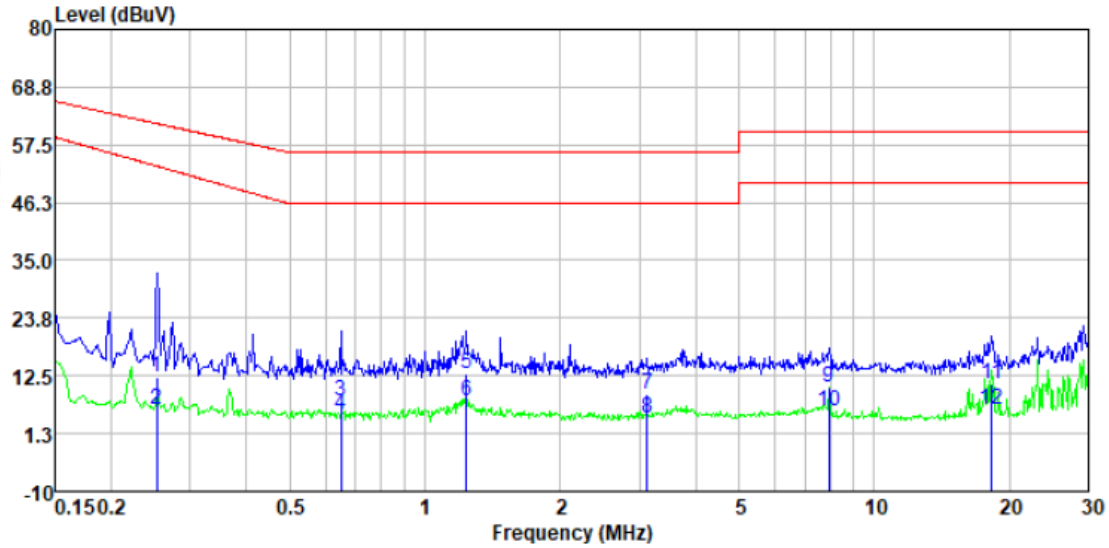
7.2 Conducted Emission

<table>
<tr><td>Test Setup:</td><td>

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test Standard:</td><td>EN 55032:2015+A1:2020</td></tr>
<tr><td>Test Frequency Range:</td><td>150kHz to 30MHz</td></tr>
<tr><td>Class / Severity:</td><td>Class B</td></tr>
<tr><td>Receiver setup:</td><td>RBW=9kHz, VBW=30kHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBμV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.</td></tr>
<tr><td>Test procedure:</td><td>1. The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the EN 55032 regulations during conducted emission test.
2. The frequency range from 150 KHz to 30 MHz is investigated.</td></tr>
<tr><td>Test environment:</td><td>Temp.: | 24 °C | Humid.: | 51% | Press.: | 1012mbar</td></tr>
<tr><td>Measurement Uncertainty:</td><td>3.48dB</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 6 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.2 for details</td></tr>
<tr><td>Test results:</td><td>PASS.</td></tr>
</table>

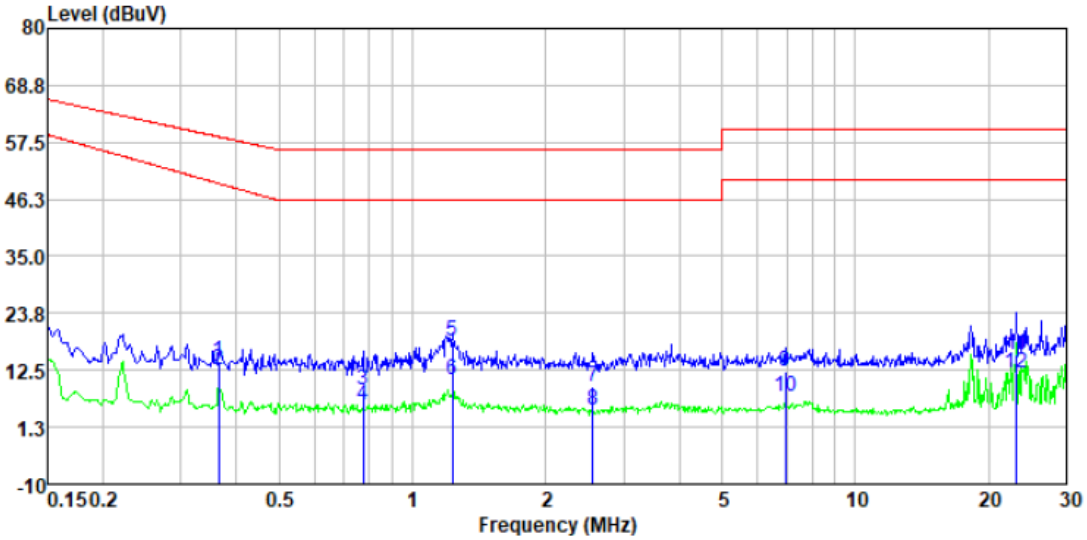
Measurement Data

Test mode:	Operation mode	Phase Polarity:	Line



	Freq	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dB	
1	0.253	-7.35	19.68	61.64	-49.31	QP
2	0.253	-13.83	19.68	53.34	-47.49	Average
3	0.651	-11.97	19.68	56.00	-48.29	QP
4	0.651	-14.67	19.68	46.00	-40.99	Average
5	1.236	-6.61	19.68	56.00	-42.93	QP
6	1.236	-12.15	19.68	46.00	-38.47	Average
7	3.123	-10.66	19.70	56.00	-46.96	QP
8	3.123	-15.28	19.70	46.00	-41.58	Average
9	7.935	-9.67	19.82	60.00	-49.85	QP
10	7.935	-14.36	19.82	50.00	-44.54	Average
11	18.232	-9.10	20.05	60.00	-49.05	QP
12	18.232	-14.07	20.05	50.00	-44.02	Average

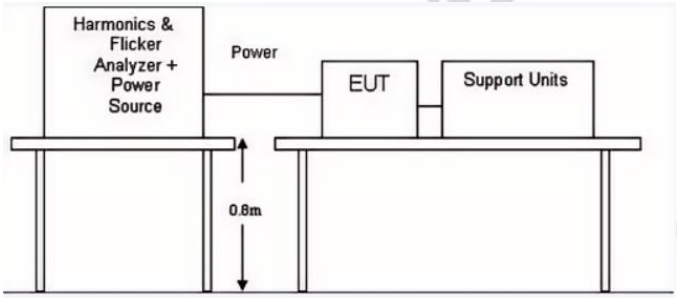
Test mode:	Operation mode	Phase Polarity:	Neutral



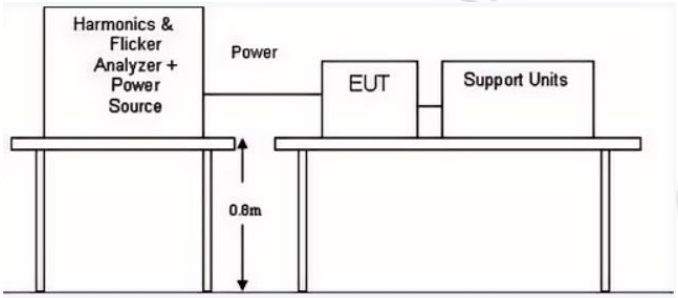
	Freq	Read Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dB	
1	0.365	-5.28	19.68	58.61	-44.21	QP
2	0.365	-7.22	19.68	49.39	-36.93	Average
3	0.775	-10.92	19.68	56.00	-47.24	QP
4	0.775	-14.05	19.68	46.00	-40.37	Average
5	1.229	-1.37	19.68	56.00	-37.69	QP
6	1.229	-9.13	19.68	46.00	-35.45	Average
7	2.554	-10.37	19.70	56.00	-46.67	QP
8	2.554	-15.13	19.70	46.00	-41.43	Average
9	6.951	-7.38	19.76	60.00	-47.62	QP
10	6.951	-12.54	19.76	50.00	-42.78	Average
11	23.140	-4.77	20.21	60.00	-44.56	QP
12	23.140	-8.26	20.21	50.00	-38.05	Average

Notes:
1. An initial pre-scan was performed on the line and neutral lines with peak detector.
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission
2. The disturbance voltage is calculated by adding the LISN Factor & Cable Loss Factor. The basic equation with a sample calculation is as follows:
Correct Factor(dB)=LISN Factor(dB)+Cable Loss(dB)
Final level(dBuV)=Reading level(dBuV)+Correct Factor(dB)

7.3 Harmonic Emission

Test Setup:						
Test Standard:	EN IEC 61000-3-2:2019+A2:2024					
Frequency range:	100Hz to 2kHz					
Measurement Time:	2.5 min					
Class/Severity:	Class B					
Detector:	As per EN IEC 61000-3-2					
Test environment:	Temp.:	24 °C	Humid.:	51%	Press.:	1 012mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details only show the worst case					
Test results:	N/A. The active input power of the EUT is less than 75W. No limits apply for equipment with an active input power up to and including 75W					

7.4 Flicker Emission

Test Setup:						
Test Standard:	EN IEC 61000-3-3:2013+A1:2019					
Class/Severity:	Clause 5 of EN 61000-3-3					
Measurement Time:	10 min					
Detector:	As per EN 61000-3-3					
Test environment:	Temp.:	24 °C	Humid.:	51%	Press.:	1 012mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	PASS.					

Measurement Data

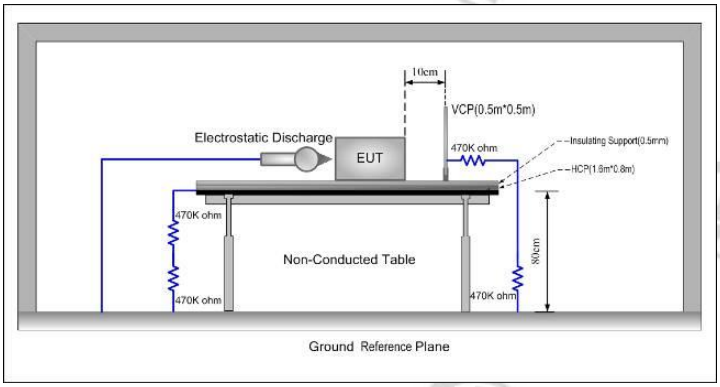
	EUT values	Limit	Result
Pst	0.028	1.00	PASS
Plt	0.028	0.65	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.085	4.00	PASS
dt [s]	0.000	0.50	PASS

8 Immunity Test Results

8.1 Performance Criteria Description

Criterion A:	The EUT shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. If the performance level is not specified by the manufacturer, this may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended
Criterion B:	The EUT shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. However, during the test degradation of performance is allowed but no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.
Criterion C:	Temporary loss of function is allowed during the test, provided the function is self-recoverable or can be restored by the operation of the controls.

8.2 Electrostatic discharge

Test Setup:	
Test Standard:	EN 55035:2017+A1:2020, EN IEC 61000-4-2:2025
Polarity:	Positive & Negative
Number of Discharge:	Contact Discharge: Minimum 10 times at each test point, Air Discharge: Minimum 10 times at each test point.
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum
Test Procedure:	**1. Air Discharge:** This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed. 2. **Contact Discharge:** All the procedure shall be same as Air Discharge. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated. 3. **Indirect discharge for horizontal coupling plane:** At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge. 4. **Indirect discharge for vertical coupling plane:** At least 10 single discharges (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are complete illuminated.
Test environment:	Temp.: 25 °C | Humid.: 49% | Press.: 1 015mbar
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	PASS

Measurement Record

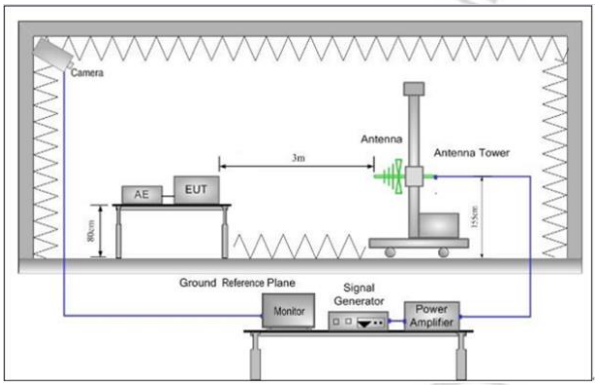
Test points:	I: Metal part II: All plastic seams			
Direct discharge				
Discharge Voltage (KV)	**Type of discharge**	**Test points**	**Observations (Performance Criterion)**	**Result**
± 4	Contact	I	B	PASS
± 8	Air	II	B	PASS
Indirect discharge				
Discharge Voltage (KV)	**Type of discharge**	**Test points**	**Observation Performance**	**Result**
± 4	HCP-Bottom/Top/ Front/Back/Left/Right	Edge of the HCP	B	PASS
± 4	VCP-Front/Back /Left/Right	Center of the VCP	B	PASS

Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details

N/A: Not applicable

8.3 Radiated Immunity

Test Setup:	
Test Standard:	EN 55035:2017+A1:2020, EN IEC 61000-4-3:2020
Frequency range:	80-1000MHz, 1800/2600/3500/5000(±1%)MHz
Modulation:	80%, 1kHz Amplitude Modulation
Test Procedure:	The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. All the scanning conditions are as follows : Condition of Test ---------- Remarks Radiated Signal ---------- Modulated Dwell time of radiated ---------- 0.0015 decade/s Waiting Time ---------- 1 Sec.
Test environment:	Temp.: 25 °C | Humid.: 50% | Press.: 1 010mbar
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	PASS

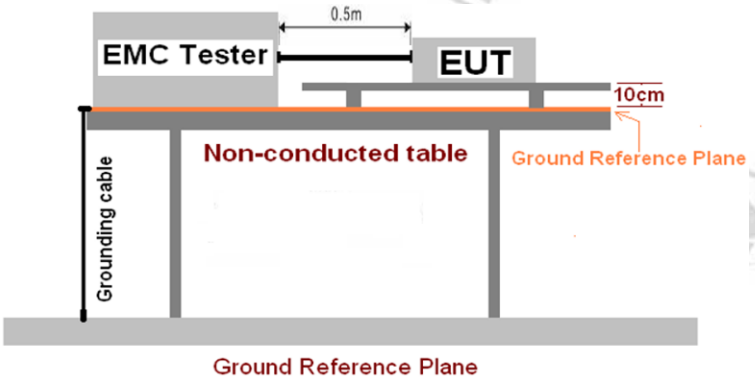
Measurement Record

Frequency (MHz)	Level	Modulation	EUT Face	Antenna Polarization	Observations (Performance Criterion)	Result
80-1000	3 V/m	1 kHz, 80 % Amp. Mod, 1 % increment, dwell time=3seconds	Front	H / V	A	PASS
			Rear	H / V	A	PASS
			Left	H / V	A	PASS
			Right	H / V	A	PASS
			Top	H / V	A	PASS
			Bottom	H / V	A	PASS
1800/2600 /3500/5000 (±1%)	3V/m	1kHz, 80% Amp. Mod, 1% increment	Front	H / V	A	PASS
			Rear	H / V	A	PASS
			Left	H / V	A	PASS
			Right	H / V	A	PASS
			Top	H / V	A	PASS
			Bottom	H / V	A	PASS

Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details

8.4 Electrical fast transients

Test Setup:						
Test Standard:	EN 55035:2017+A1:2020, EN 61000-4-4:2012					
Polarity:	Positive & Negative					
Test signal specification:	Rise time=5ns, Duration time=50ns; Burst Duration=15ms, Burst Period=300ms; Repetition Frequency=5KHz					
Test Duration:	2 minute per level & polarity					
Test Procedure:	1. EUT shall be placed 0.8m high above the ground reference plane which is a min.1m*1m metallic sheet with 0.65mm minimum thickness. This reference ground plane shall 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 beneath the EUT, shall be more than 0.5m 2. The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 minutes.					
Test environment:	Temp.:	24 °C	Humid.:	48%	Press.:	1 015mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	PASS.					

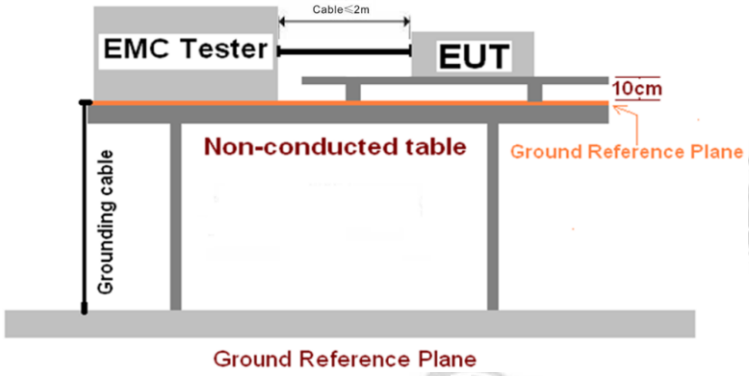
Measurement Record

Lead under Test	Level (±kV)	Coupling Direct/Clamp	Observations (Performance Criterion)	Result
L	± 1.0	Direct	B	PASS
N	± 1.0	Direct	B	PASS
L-N	± 1.0	Direct	B	PASS
PE	± 1.0	Direct	B	PASS
L-PE	± 1.0	Direct	B	PASS
N-PE	± 1.0	Direct	B	PASS
L-N-PE	± 1.0	Direct	B	PASS

Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details

8.5 Surges

Test Setup:						
Test Standard:	EN 55035:2017+A1:2020, EN 61000-4-5:2014+A1:2017					
Polarity:	Positive & Negative					
Generator source impedance:	2Ω (line-line coupling) 12Ω (line-PE coupling)					
Test signal specification:	Rise time=1.2us, Duration time=50us; Test Interval: 60s between each surge;					
No. of surges:	5 positive, 5 negative at 0°, 90°, 180°, 270°.					
Test Procedure:	1. Set up the EUT and test generator as shown on above setup photo. 2. For line to line coupling mode, provide a 1KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points. 3. At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test. 4. Different phase angles are done individually. 5. Repeat procedure 2) to 4) except the open-circuit test voltage change from 1KV to 2KV for line to earth coupling mode test. 6. Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.					
Test environment:	Temp.:	25 °C	Humid.:	56%	Press.:	1 010mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	PASS.					

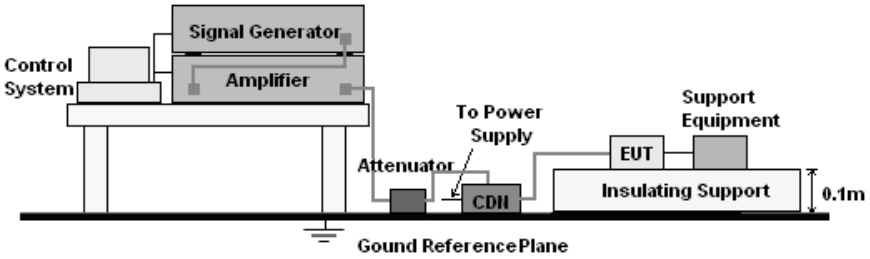
Measurement Record

Location	Level(kV)	Pulse No	Surge Interval	Phase(deg)	Observations (Performance Criterion)	Result
L-N	± 1	5	60s	0°	B	PASS
				90°	B	PASS
				180°	B	PASS
				270°	B	PASS
L-N-PE	± 2	5	60s	0°	B	PASS
				90°	B	PASS
				180°	B	PASS
				270°	B	PASS

Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details.

8.6 Radio-frequency continuous conducted

Test Setup:	
Test Standard:	EN 55035:2017+A1:2020, EN IEC 61000-4-6:2023
Frequency range:	0.15MHz to 80MHz
Test Procedure:	1. Set up the EUT, CDN and test generator as shown on above setup photo. 2. Let EUT work in test mode and measure. 3. The EUT and supporting equipments 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 at above 0.1-0.3m 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). 4. The disturbance signal described below is injected to EUT through CDN. 5. The EUT operates within its operational mode(s) under intended climatic conditions after power on. 6. The frequency range is swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave 7. The rate of sweep shall not exceed 1.5×10-3 decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value. 8. Recording the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.
Test environment:	Temp.: 25 °C | Humid.: 50% | Press.: 1 010mbar
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	PASS.

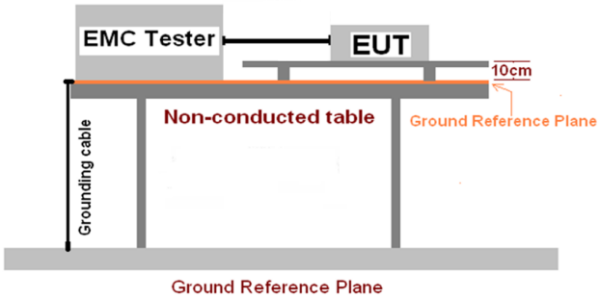
Measurement Record

Frequency	Injected Position	Level	Modulation	Observations (Performance Criterion)	Result
150kHz to 10MHz	AC Mains	3Vrms	1 kHz, 80 % Amp. Mod, 1 % increment, dwell time=2seconds	A	PASS
10MHz to 30MHz	AC Mains	3 to 1 Vrms	1 kHz, 80 % Amp. Mod, 1 % increment, dwell time=2seconds	A	PASS
30MHz to 80MHz	AC Mains	1Vrms	1 kHz, 80 % Amp. Mod, 1 % increment, dwell time=2seconds	A	PASS

Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details.

8.7 Voltage dips and Voltage interruptions

Test Setup:						
Test Standard:	EN 55035:2017+A1:2020, EN IEC 61000-4-11:2020					
Number of Dips / Interruptions:	3 per Level					
Test Procedure:	1. Set up the EUT and test generator as shown on above setup photo. 2. The interruption is introduced at selected phase angles with specified duration. There is a 3mins minimum interval between each test event. 3. After each test a full functional check is performed before the next test. 4. Repeat procedures 2 & 3 for voltage dips, only the level and duration is changed. 5. Record any degradation of performance.					
Test environment:	Temp.:	25 °C	Humid.:	50%	Press.:	1 010mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	PASS.					

Measurement Record

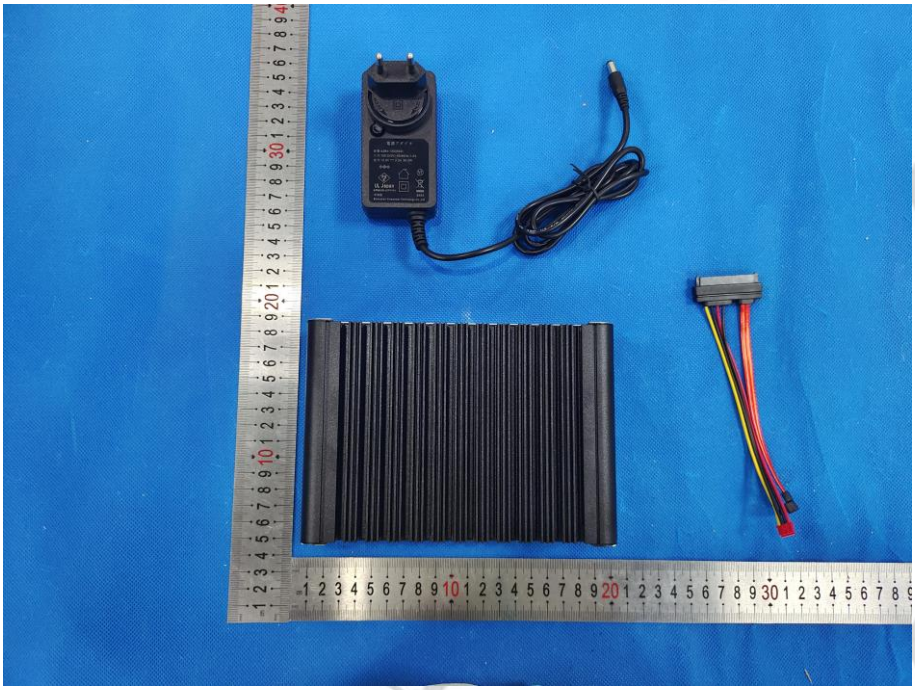
Test Level % U_T	Duration (Periods)	Phase angle	No. of drop out	Time between dropout	Observations (Performance Criterion)	Result
<5	0.5	0°,180°	3	10s	B	PASS
70	25	0°,180°	3	10s	C	PASS
Voltage interruptions:						
<5	250	0°,180°	3	10s	C	PASS

Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details.

9 EUT Constructional Details

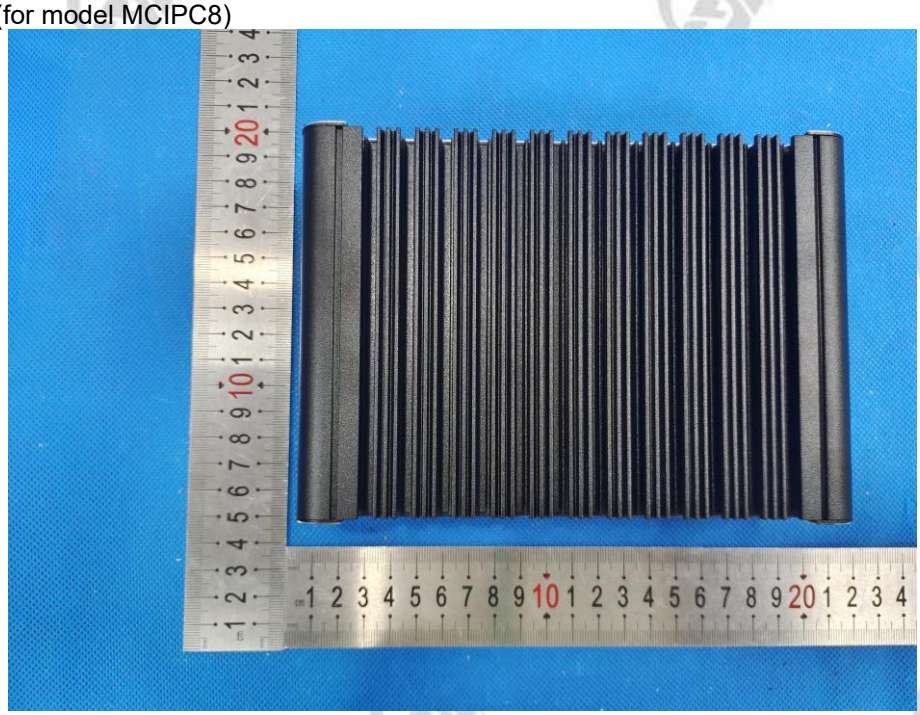
Picture 1



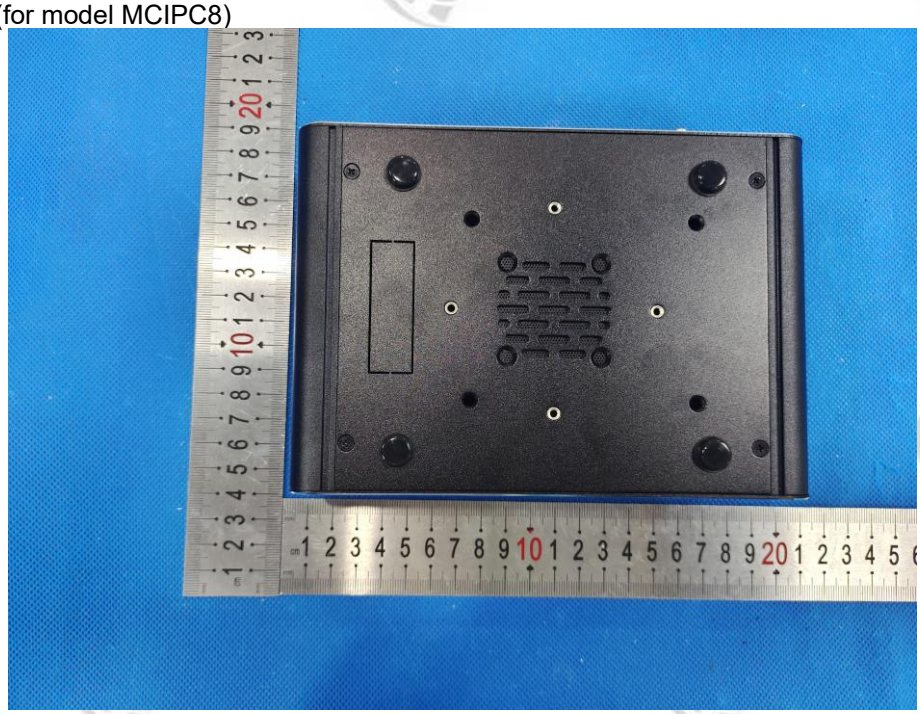
Picture 2 (for model MCIPC8)



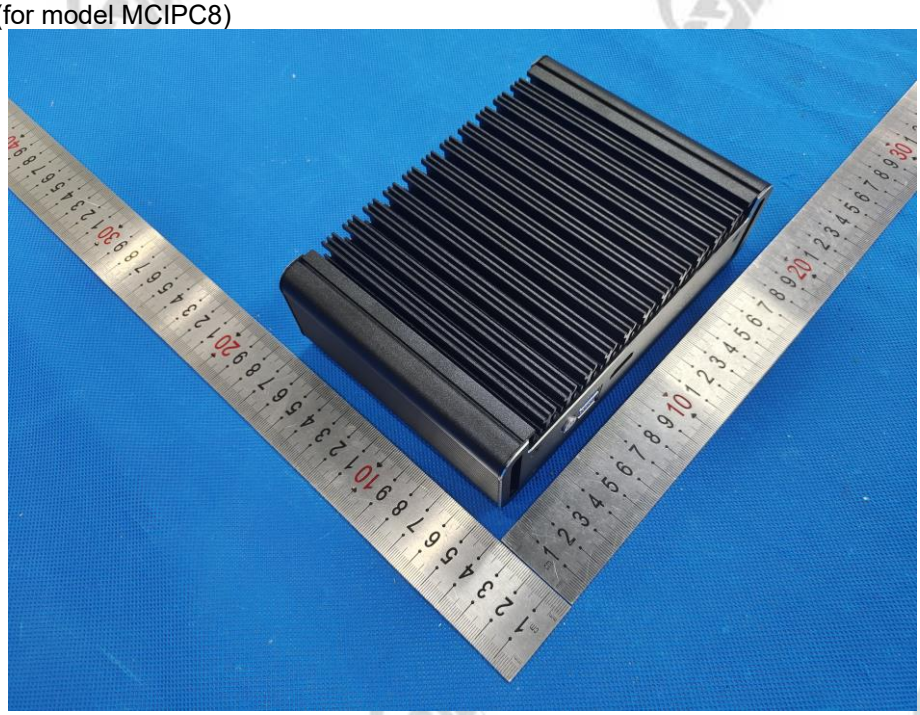
Picture 3 (for model MCIPC8)



Picture 4 (for model MCIPC8)



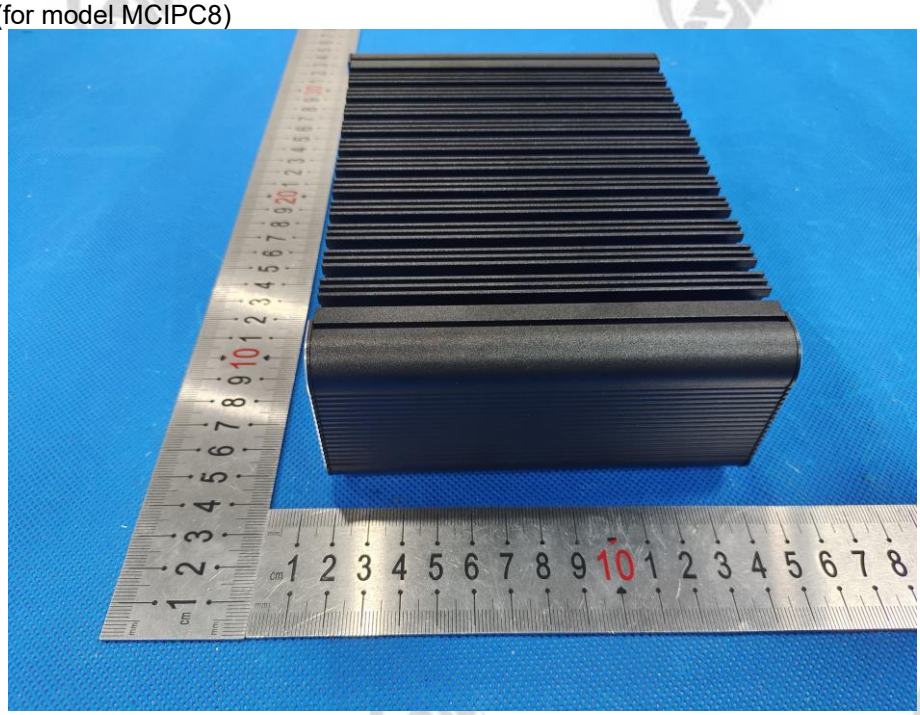
Picture 5 (for model MCIPC8)



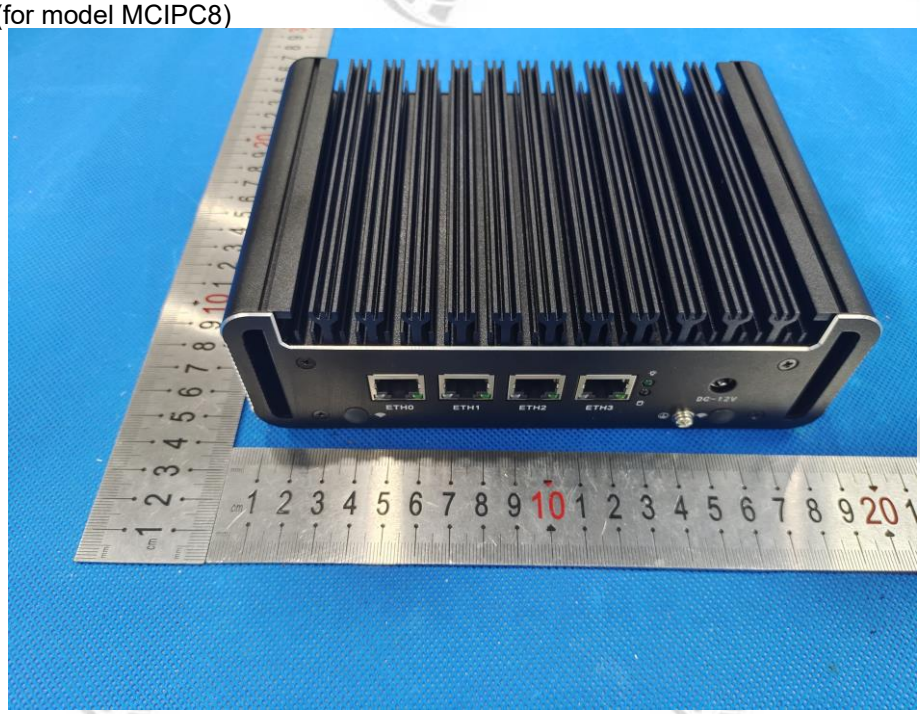
Picture 6 (for model MCIPC8)



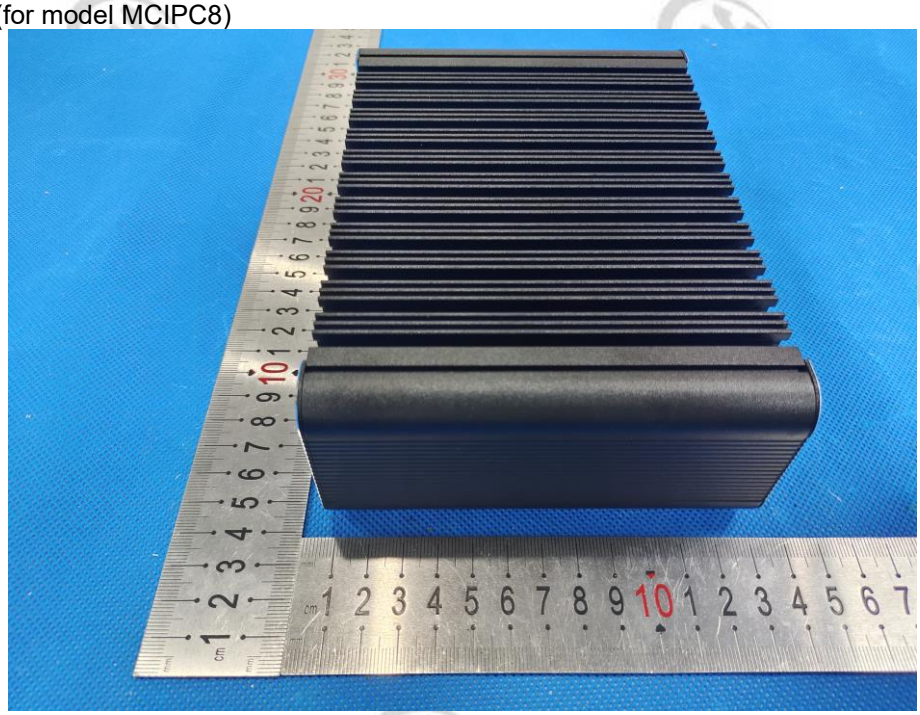
Picture 7 (for model MCIPC8)



Picture 8 (for model MCIPC8)

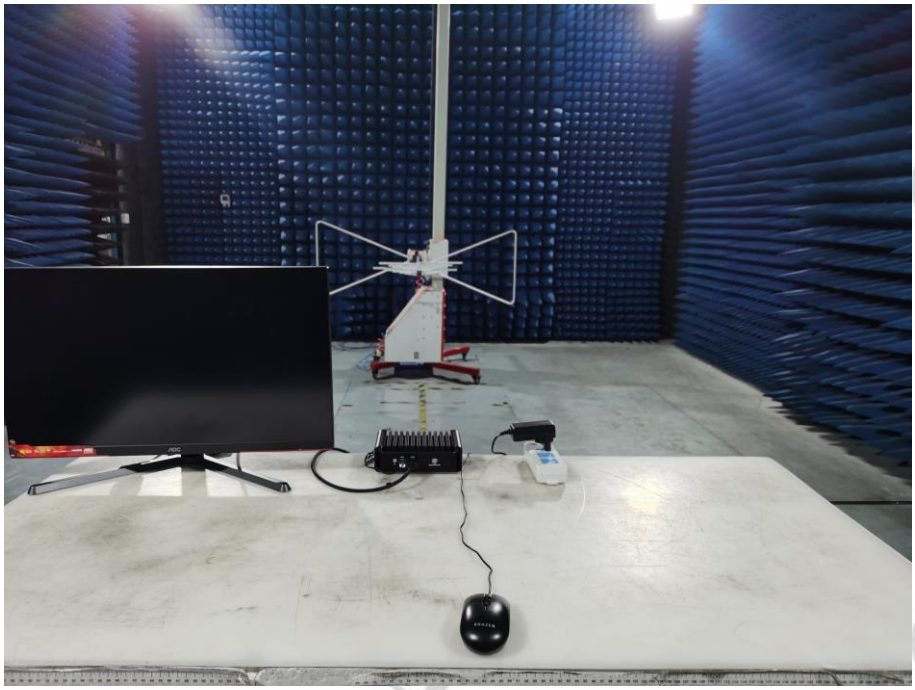


Picture 9 (for model MCIPC8)



10 EUT Test Setup Photos

Radiated Emission



Conducted Emission



------End------