TEST REPORT

Report No.:	BCTC2505635175E
Applicant:	Radxa Computer (Shenzhen) Co.,Ltd.
Product Name:	Radxa E52C
Test Model:	Radxa E52C D8E32O0
Tested Date:	2025-05-19 to 2025-06-19
Issued Date:	2025-07-02

Shenzhen BCTC Testing Co., Ltd.

Product Name:	Radxa E52C
Trademark:	radxa®
Model/Type Reference:	Radxa E52C D8E32O0 Radxa E52C D2E16O0, Radxa E52C D4E32O0
Prepared For:	Radxa Computer (Shenzhen) Co.,Ltd.
Address:	1602, Smart Valley, tiezai Road, Gongle community, Xixiang, Baoan, Shenzhen
Manufacturer:	Radxa Computer (Shenzhen) Co.,Ltd.
Address:	1602, Smart Valley, tiezai Road, Gongle community, Xixiang, Baoan, Shenzhen
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China.
Sample Received Date:	2025-05-19
Sample Tested Date:	2025-05-19 to 2025-06-19
Issue Date:	2025-07-02
Report No.:	BCTC2505635175E
Test Standards:	EN 55032:2015+A11:2020+A1:2020, EN 55035:2017+A11:2020 EN IEC 61000-3-2:2019+A2:2024, EN 61000-3-3:2013+A2:2021
Test Results:	PASS

Tested by:

Icey Chen

Icey Chen/ Project Handler

Approved by:

Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp.This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full.The tested sample(s) and the sample information are provided by the client.

Table Of Content

(Note: N/A means not applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2505635175E	2025-07-02	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

Emission		
Standard	**Test Item**	**Test result**
EN 55032	Conducted emissions from the AC mains power ports	Pass
EN 55032	Asymmetric mode conducted emissions	Pass
EN 55032	Conducted differential voltage emissions	N/A[2]
EN 55032	Radiated emissions	Pass
EN IEC 61000-3-2	Harmonic current emission(H)	N/A[5]
EN 61000-3-3	Voltage fluctuations & flicker(F)	Pass

Immunity (EN 55035)		
Standard	**Test Item**	**Test result**
EN 55035	Electrostatic discharge (ESD)	Pass
EN 55035	Continuous RF electromagnetic field disturbances(RS)	Pass
EN 55035	Electrical fast transients/burst (EFT)	Pass
EN 55035	Surges	Pass
EN 55035	Continuous induced RF disturbances (CS)	Pass
EN 55035	Broadband impulse noise disturbances, repetitive	N/A[3]
EN 55035	Broadband impulse noise disturbances, isolated	N/A[3]
EN 55035	Power frequency magnetic field (PFMF)	N/A[4]
EN 55035	Voltage dips and interruptions (DIPS)	Pass

Remark:
1. Applicable to ports listed above and intended to connect to cables longer than 3 m.
2. (1) TV broadcast receiver tuner ports with an accessible connector,
   (2) RF modulator output ports;
   (3) FM broadcast receiver tuner ports with an accessible connector.
But the EUT has no above ports, so this test item is not applicable.
3. Applicable only to CPE xDSL ports.
4. The Product doesn't contain any device susceptible to magnetic fields.
5. The Product belongs to Class A, and its power is less than 75W, so it deems to fulfil this standard without testing.

3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Value (dB)
Conducted Emission (150kHz-30MHz)	3.10
Asymmetric mode conducted emissions (150KHz-30MHz)	3.9(cat 3) 4.3(cat 5) 4.8(cat 6)
Radiated Emission(30MHz~200MHz)	4.60
Radiated Emission(200MHz~1GHz)	5.20
Radiated disturbance (1GHz-6GHz)	5.20

4. Product Information And Test Setup

4.1 Product Information

Ratings:	DC 5V 3A
Model difference:	All models are identical except for the Memory and storage capacity. Radxa E52C D8E32O0:DRAM:8GB, eMMC:32GB Radxa E52C D2E16O0:DRAM: 2GB eMMC:16GB Radxa E52C D4E32O0:DRAM: 4GB, eMMC:32GB
Adapter Information:	Manufacture: / Model No.: Radxa Power PD 30W Input: AC 100-240V 50/60Hz 1A Output:5V⎓ 5A, 9V⎓ 2A, 12V⎓ 2.5A 30W
The highest frequency of the internal sources of the EUT is (above 1 GHz):	☐ 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.

Cable of Product

No.	Cable Type	Quantity	Provider	Length (m)	Shielded	Note
1	USB Cable	1	Applicant	1.2	Yes	--
2	USB Cable	1	BCTC	1	Yes	--
3	RJ45	3	BCTC	1.5	Yes	--

4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
1.	---	---	---	---	---

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Test Mode

Test item	Test Mode	Test Voltage
Conducted emissions from the AC mains power ports (150KHz-30MHz) Class B	Working	AC 230V/50Hz
Asymmetric mode conducted emissions (150KHz-30MHz) Class B	Working	AC 230V/50Hz
Radiated emissions(30MHz-1GHz) Class B	Working	AC 230V/50Hz
Radiated emissions(1 – 6 GHz) 108≤F<500MHz up to 2G 500≤F<1GHz up to 5G 1GHz ≤F up to 6G ☐Class A ☒Class B	Working	AC 230V/50Hz
Harmonic current emission Class A	Working	AC 230V/50Hz
Voltage fluctuations & flicker(F)	Working	AC 230V/50Hz
Electrostatic discharge (ESD) ☒Air Discharge: ±2,4,8kV ☒Contact Discharge: ±2,4kV ☒HCP & VCP: ±2,4kV 10 times each point/	Working	AC 230V/50Hz
Continuous RF electromagnetic field disturbances(RS) 80MHz-1000MHz, 1800MHz, 2600MHz,3500MHz,5000MHz 3V/m,80% AM Front, Rear, Left, Right H/V	Working	AC 230V/50Hz
Electrical fast transients/burst (EFT) ☒1kV AC(Input) ☐0.5kV DC(Input) ☐0.5kV signal,Telec,control	Working	AC 230V/50Hz
Surges ☒1kV Line-Line, ☒2kV Line-PE, N-PE ☐0.5kVDC(Input) ☐1KV,☐4KV signal,Telec, control Line-Line:90°+1kV,270°-1kV Line-PE:90°+2kV,270°-2kV N-PE:90°-2kV,270°+2kV	Working	AC 230V/50Hz
Continuous induced RF disturbances (CS) A 0.15MHz to 10MHz 3V, 10MHz-30MHz 3 to 1V, 30MHz-80MHz 1V ☒ AC(Input) ☐ DC(Input) ☐ signal, Telec, control	Working	AC 230V/50Hz
Voltage dips and interruptions (DIPS) Less 5% 0.5P 10ms B 70% 25P 500ms C Voltage Interruptions less5% 250P 5000ms C	Working	AC 230V/50Hz

5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

5.2 Test Instrument Used

Conducted Emissions Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Receiver	R&S	ESR3	102075	May 14, 2025	May 13, 2026
ISN	HPX	ISN T800	S1509001	May 14, 2025	May 13, 2026
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD 9561-F	01323	May 14, 2025	May 13, 2026

Radiated Emissions Test (966 Chamber#02)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
966 chamber	SKET	966 Room	966	Oct. 31. 2024	Oct. 30.2027
Receiver	R&S	ESR3	102075	May 08 2025	May 07, 2026
Receiver	R&S	ESRI7	100010	Oct. 31. 2024	Oct. 30. 2025
TRILOG Broadband Antenna	Schwarzbeck	VULB9168	1323	May 24, 2025	May 23, 2026
Amplifier	SKET	LNPA-30M01G-30	SK2021082004	Oct. 31. 2024	Oct. 30. 2025
Software	SKET	EZ-EMC	FA-03A1	\	\
Horn Antenna	schwarzbeck	BBHA9120D	1541	May 24, 2025	May 23, 2026
Amplifier	SKET	LAPA_01G18G-45dB	SK2021040901	May 14, 2025	May 13, 2026

Electrostatic Discharge Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Electrostatic Discharge Simulator	3C TEST	EDS 30T	ES031000123059	Mar. 04, 2025	Mar. 03, 2026

Harmonic / Flicker Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Harmonic & Flicker Tester	LAPLACE	AC2000A	439263	May 16, 2025	May 15, 2026
AC Power Supply	KIKUSUI	PCR4000M	UK001879	May 14, 2025	May 13, 2026
Software	HTEC	H/F	V1.5	\	\

Continuous RF Electromagnetic Field Disturbances Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Power meter	Keysight	E4419	A00065	May 14, 2025	May 13, 2026
Power sensor	Keysight	E9300A	US39211659	May 14, 2025	May 13, 2026
Power sensor	Keysight	E9300A	US39211305	May 14, 2025	May 13, 2026
Amplifier	SKET	HAP_801000-250W	21201805013	May 14, 2025	May 13, 2026
Amplifier	SKET	HAP_0103-75W	21201805014	May 14, 2025	May 13, 2026
Amplifier	SKET	HAP_0306-50W	21201805015	May 14, 2025	May 13, 2026
Stacked double Log.-Per. Antenna	Schwarzbeck	STLP 9129	00077	\	\
Field Probe	Narda	EP-601	611WX80256	May 14, 2025	May 13, 2026
Signal Generator	Agilent	N5181A	MY50143748	May 14, 2025	May 13, 2026
Software	SKET	EMC-S	1.2.0.18	\	\

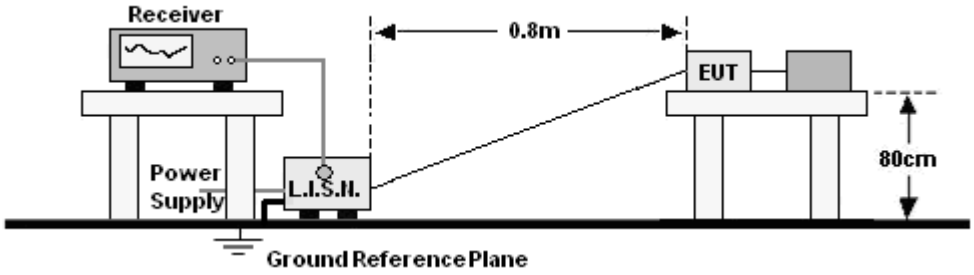
EFT And Surge And Voltage Dips And Interruptions Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Compact Generator	TRANSIENT	TRA2000	646	May 14, 2025	May 13, 2026
Coupling Clamp	PARTNER	CN-EFT1000	CN-EFT1000-1624	May 14, 2025	May 13, 2026

Continuous Induced RF Disturbances Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
C/S Test System	SCHLODER	CDG-6000-75	126B1405/2016	May 14, 2025	May 13, 2026
Attenuator	SCHLODER	6DB DC-1G	HA1630	May 14, 2025	May 13, 2026
CDN	SCHLODER	CDN M2+M3	A2210389/2016	May 14, 2025	May 13, 2026
Injection Clamp	SCHLOBER	EMCL-20	132A1272/2016	May 14, 2025	May 13, 2026
Software	HUBERT	HUBERTEN 61000-4-6	1.4.1.0	\	\

6. Conducted Emissions

6.1 Block Diagram Of Test Setup

For mains ports:



6.2 Limit

Limits for Conducted emissions at the mains ports of Class B MME

Frequency range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0,15 to 0,50	66 to 56*	56 to 46*
0,50 to 5	56	46
5 to 30	60	50

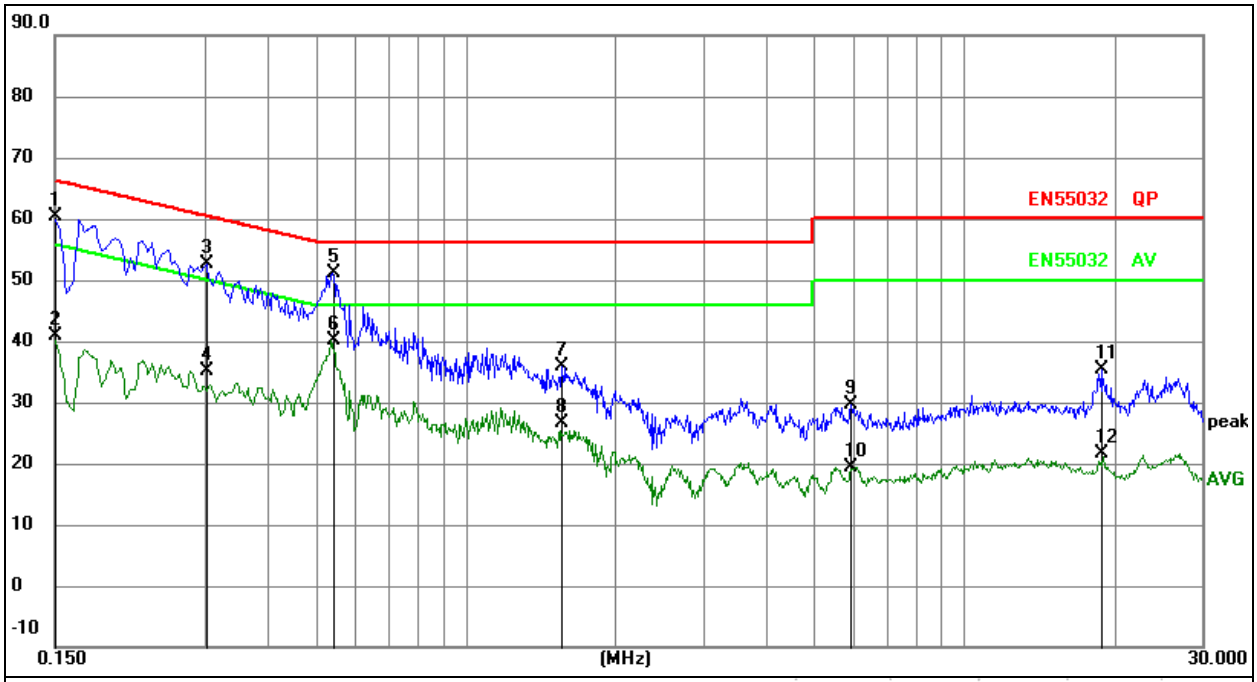
Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

6.3 Test procedure

For mains ports:
a. The Product was placed on a nonconductive table 0. 8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 Test Result

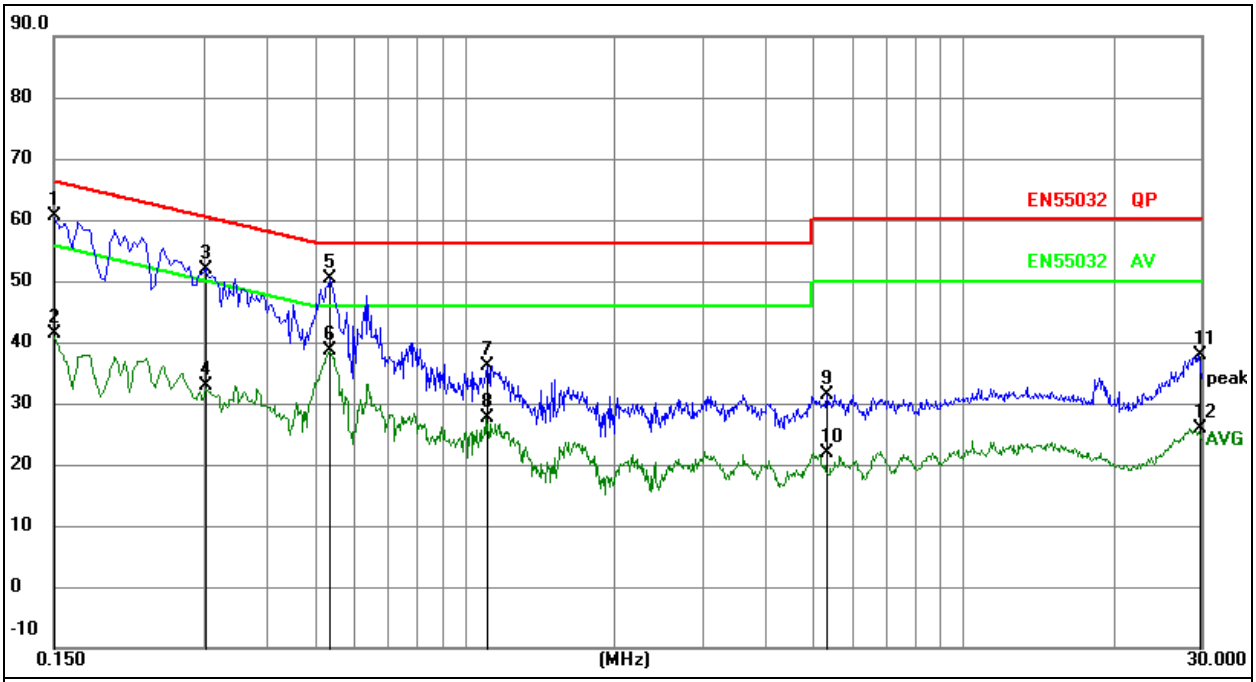
Temperature:	26 ℃	Relative Humidity:	54%RH
Pressure:	101kPa	Phase :	Line
Test Voltage :	AC 230V/50Hz	Test Mode:	Working



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.1500	40.36	20.04	60.40	66.00	-5.60	QP
2		0.1500	20.89	20.04	40.93	56.00	-15.07	AVG
3		0.3017	32.68	20.05	52.73	60.20	-7.47	QP
4		0.3017	15.05	20.05	35.10	50.20	-15.10	AVG
5	*	0.5407	30.95	20.10	51.05	56.00	-4.95	QP
6		0.5407	20.12	20.10	40.22	46.00	-5.78	AVG
7		1.5599	15.64	20.22	35.86	56.00	-20.14	QP
8		1.5599	6.43	20.22	26.65	46.00	-19.35	AVG
9		5.9291	8.70	20.82	29.52	60.00	-30.48	QP
10		5.9291	-1.39	20.82	19.43	50.00	-30.57	AVG
11		18.8205	12.00	23.33	35.33	60.00	-24.67	QP
12		18.8205	-1.74	23.33	21.59	50.00	-28.41	AVG

Temperature:	26 ℃	Relative Humidity:	54%RH
Pressure:	101kPa	Phase :	Neutral
Test Voltage :	AC 230V/50Hz	Test Mode:	Working



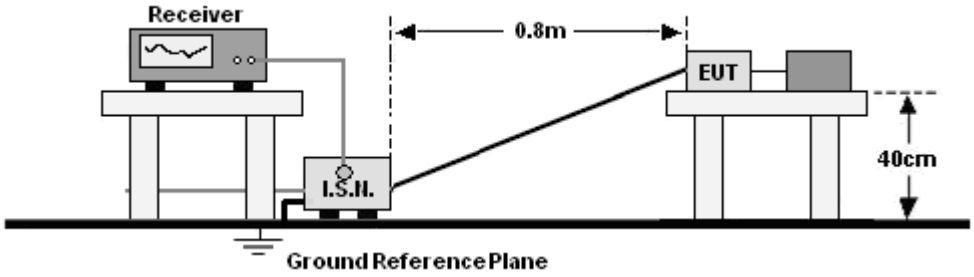
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1	*	0.1500	40.60	20.04	60.64	66.00	-5.36	QP
2		0.1500	21.22	20.04	41.26	56.00	-14.74	AVG
3		0.3017	31.95	20.05	52.00	60.20	-8.20	QP
4		0.3017	12.77	20.05	32.82	50.20	-17.38	AVG
5		0.5350	30.26	20.09	50.35	56.00	-5.65	QP
6		0.5350	18.60	20.09	38.69	46.00	-7.31	AVG
7		1.1112	15.87	20.26	36.13	56.00	-19.87	QP
8		1.1112	7.43	20.26	27.69	46.00	-18.31	AVG
9		5.3330	10.66	20.75	31.41	60.00	-28.59	QP
10		5.3330	1.16	20.75	21.91	50.00	-28.09	AVG
11		29.6838	13.15	24.76	37.91	60.00	-22.09	QP
12		29.6838	1.08	24.76	25.84	50.00	-24.16	AVG

7. Conducted Emissions

7.1 Block Diagram Of Test Setup

For asymmetric mode ports:



7.2 Limit

Limits for asymmetric mode conducted emissions of Class B MME

Frequency range (MHz)	Voltage Limits dB(μV)		Current Limits dB(μA)	
	Quasi-peak	Average	Quasi-peak	Average
0,15 to 0,50	84-74	74-64	40-30	30-20
0,50 to 30	74	64	30	20

Notes: *Decreasing linearly with logarithm of frequency.

7.3 Test procedure

For asymmetric mode ports:

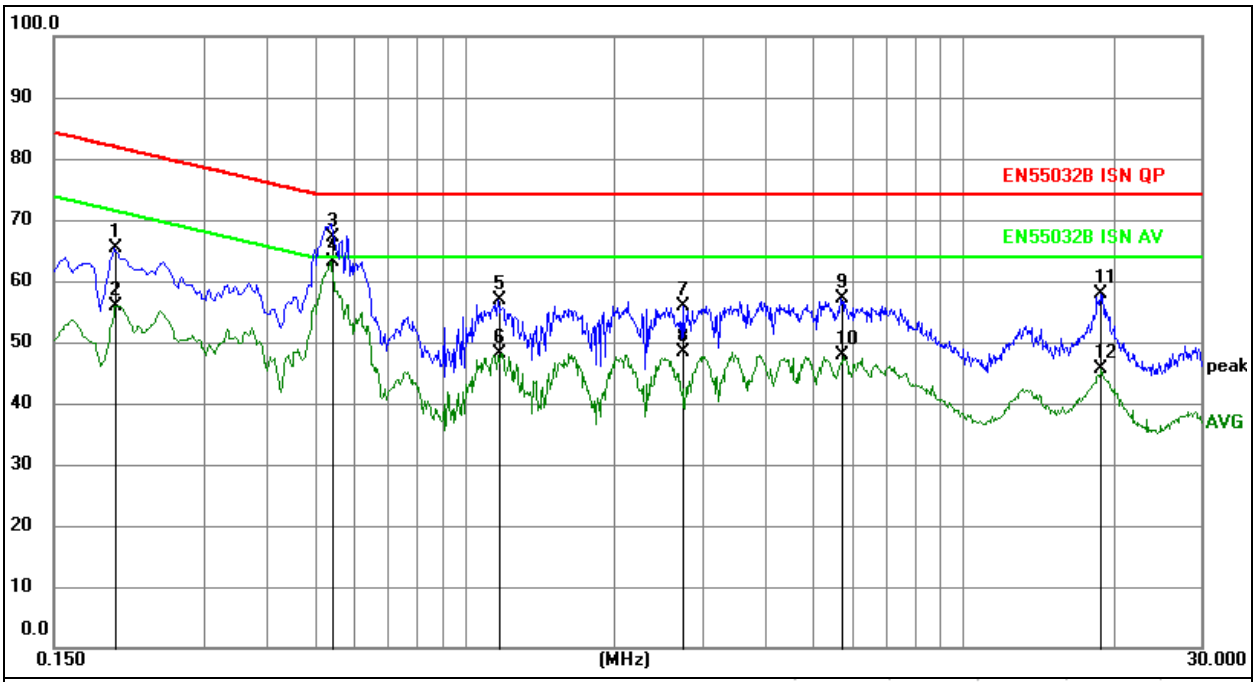
a. The Product was placed on a non-conductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the associated port through votalge probe.

b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

7.4 Test Result

Temperature:	26 ℃	Relative Humidity:	54%RH
Pressure:	101kPa	Phase :	TELE
Test Voltage :	AC 230V/50Hz	Test Mode:	Working



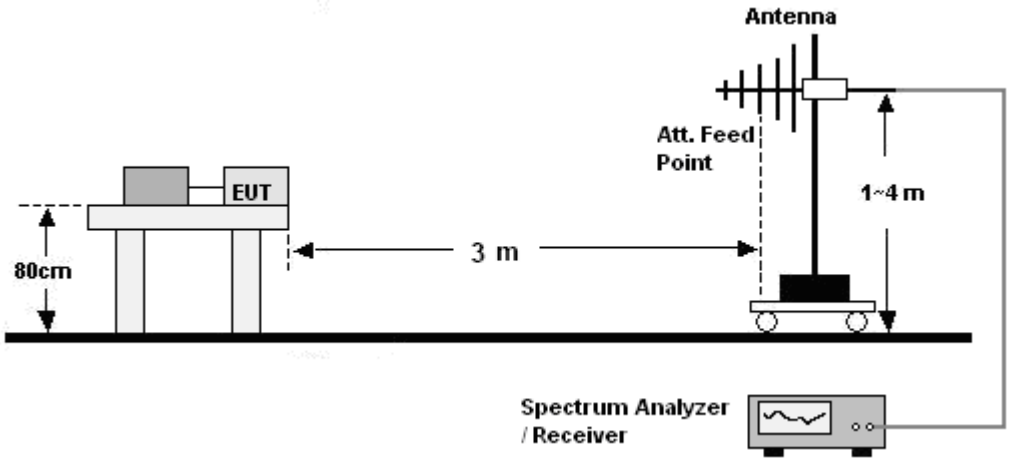
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.1995	45.34	19.94	65.28	81.63	-16.35	QP
2		0.1995	36.05	19.94	55.99	71.63	-15.64	AVG
3		0.5410	47.06	20.04	67.10	74.00	-6.90	QP
4	*	0.5410	43.09	20.04	63.13	64.00	-0.87	AVG
5		1.1669	36.67	20.15	56.82	74.00	-17.18	QP
6		1.1669	27.88	20.15	48.03	64.00	-15.97	AVG
7		2.7465	35.84	20.09	55.93	74.00	-18.07	QP
8		2.7465	28.18	20.09	48.27	64.00	-15.73	AVG
9		5.6849	36.83	20.19	57.02	74.00	-16.98	QP
10		5.6849	27.60	20.19	47.79	64.00	-16.21	AVG
11		18.9105	37.36	20.44	57.80	74.00	-16.20	QP
12		18.9105	25.17	20.44	45.61	64.00	-18.39	AVG

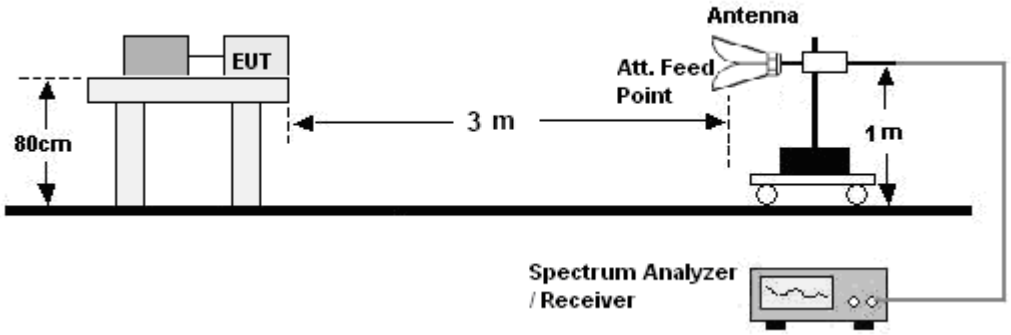
8. Radiated Emissions Test

8.1 Block Diagram Of Test Setup

30MHz ~ 1GHz:



Above 1GHz:



8.2 Limits

Limits for radiated disturbance of Class B MME

Frequency (MHz)	Quasi-peak limits at 3m dB(μV/m)
30-230	40
230-1000	47

Frequency (GHz)	limit above 1G at 3m dB(μV/m)	
	Average	peak
1-6	54	74

Note: The lower limit shall apply at the transition frequencies.

8.3 Test Procedure

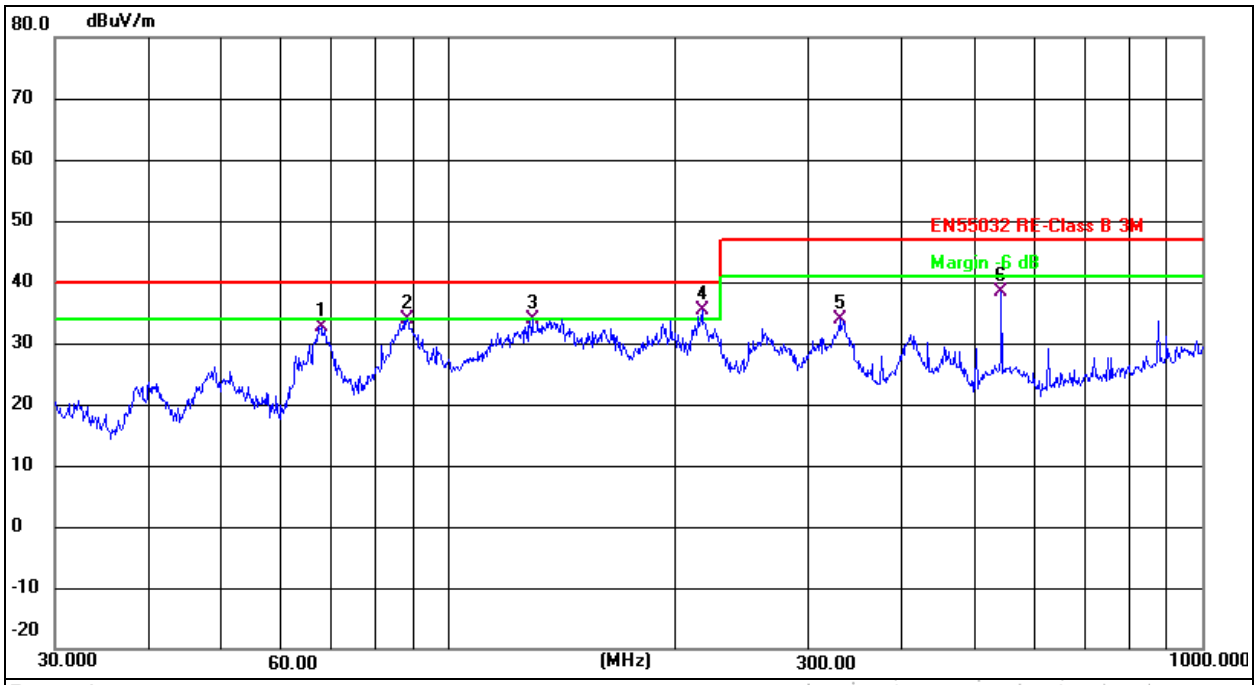
30MHz ~ 1GHz:
a. The Product was placed on the nonconductive turntable 0.8 m above the ground in a semi anechoic chamber.
b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
c. For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

Above 1GHz:
a. The Product was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
c. For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

8.4 Test Results

30MHz ~ 1GHz

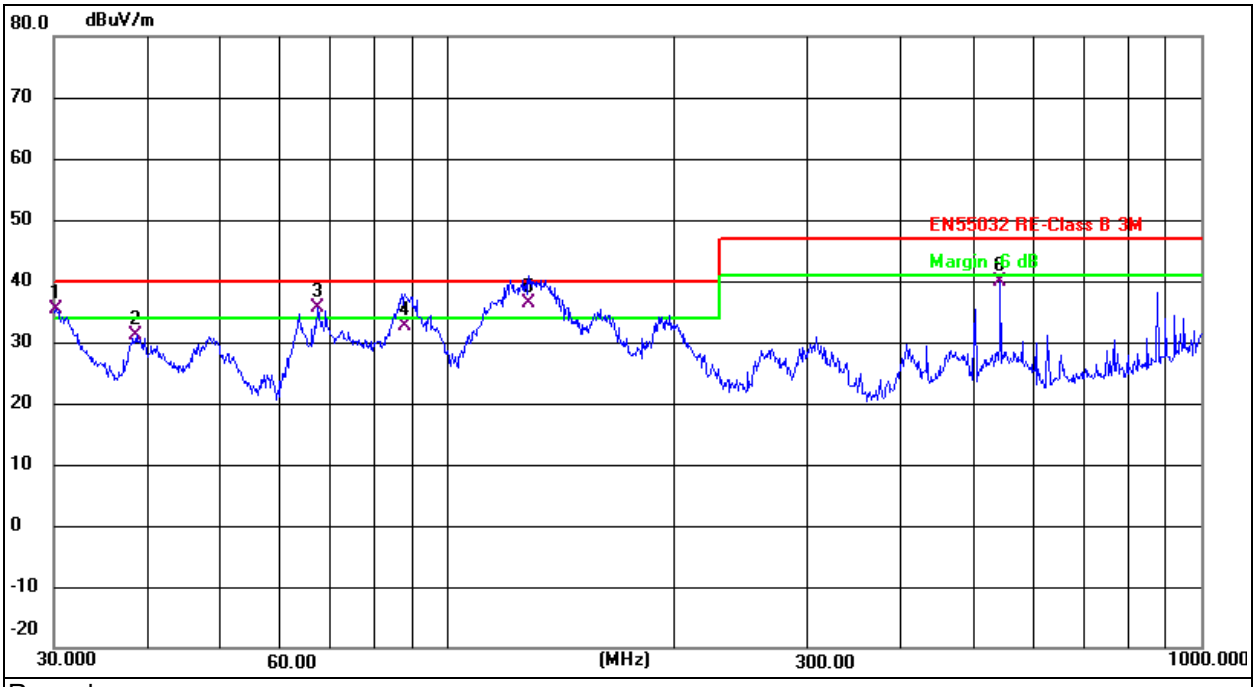
Temperature:	24 ℃	Relative Humidity:	54%RH
Pressure:	101KPa	Phase :	Horizontal
Test Voltage :	AC 230V/50Hz	Test Mode:	Working



Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	67.6751	46.79	-14.09	32.70	40.00	-7.30	QP
2	88.0329	48.95	-15.06	33.89	40.00	-6.11	QP
3	129.0145	46.14	-12.30	33.84	40.00	-6.16	QP
4 *	216.7828	49.12	-13.86	35.26	40.00	-4.74	QP
5	330.1949	43.69	-9.91	33.78	47.00	-13.22	QP
6	541.3725	41.96	-3.67	38.29	47.00	-8.71	QP

Temperature:	24 ℃	Relative Humidity:	54%RH
Pressure:	101KPa	Phase :	Vertical
Test Voltage :	AC 230V/50Hz	Test Mode:	Working

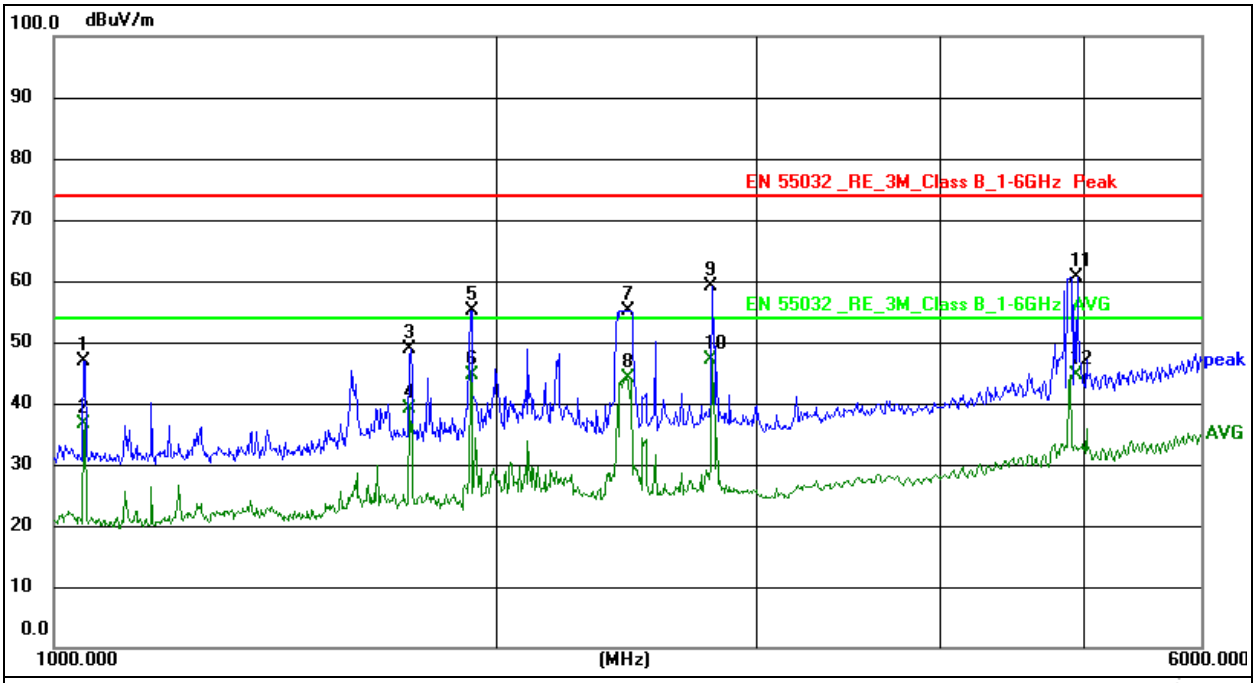


Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	30.2110	47.80	-12.49	35.31	40.00	-4.69	QP
2	38.6160	43.35	-12.16	31.19	40.00	-8.81	QP
3 !	67.2021	49.58	-14.02	35.56	40.00	-4.44	QP
4	87.7246	47.74	-15.05	32.69	40.00	-7.31	QP
5 *	128.1129	48.63	-12.36	36.27	40.00	-3.73	QP
6	541.3721	43.67	-3.67	40.00	47.00	-7.00	QP

Above 1GHz

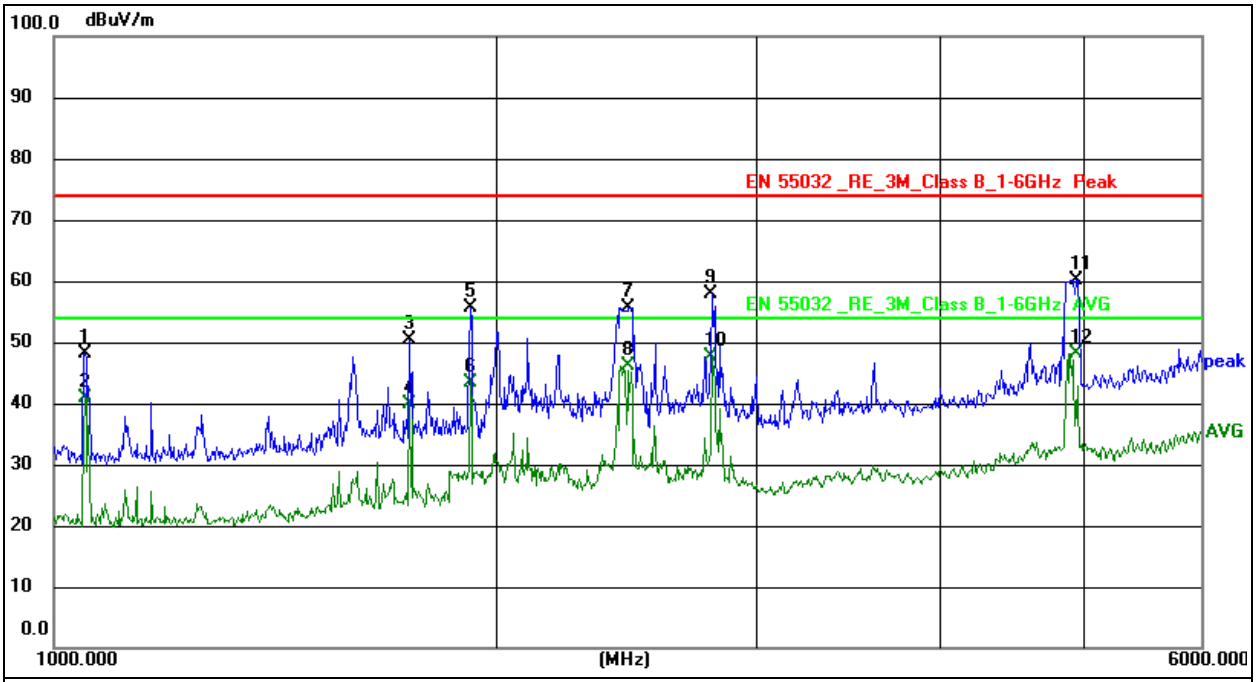
Temperature:	24.5 ℃	Relative Humidity:	54%RH
Pressure:	101KPa	Phase :	Horizontal
Test Voltage :	AC 230V/50Hz	Test Mode:	Working



Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1047.688	74.44	-27.56	46.88	74.00	-27.12	peak
2	1047.688	64.17	-27.56	36.61	54.00	-17.39	AVG
3	1745.842	74.08	-25.12	48.96	74.00	-25.04	peak
4	1745.842	64.28	-25.12	39.16	54.00	-14.84	AVG
5	1919.761	79.54	-24.35	55.19	74.00	-18.81	peak
6	1919.761	69.07	-24.35	44.72	54.00	-9.28	AVG
7	2458.283	78.01	-22.90	55.11	74.00	-18.89	peak
8	2458.283	66.96	-22.90	44.06	54.00	-9.94	AVG
9	2796.783	81.37	-22.27	59.10	74.00	-14.90	peak
10 *	2796.783	69.31	-22.27	47.04	54.00	-6.96	AVG
11	4944.369	75.01	-14.30	60.71	74.00	-13.29	peak
12	4944.369	58.94	-14.30	44.64	54.00	-9.36	AVG

Temperature:	24.5 ℃	Relative Humidity:	54%RH
Pressure:	101KPa	Phase :	Vertical
Test Voltage :	AC 230V/50Hz	Test Mode:	Working

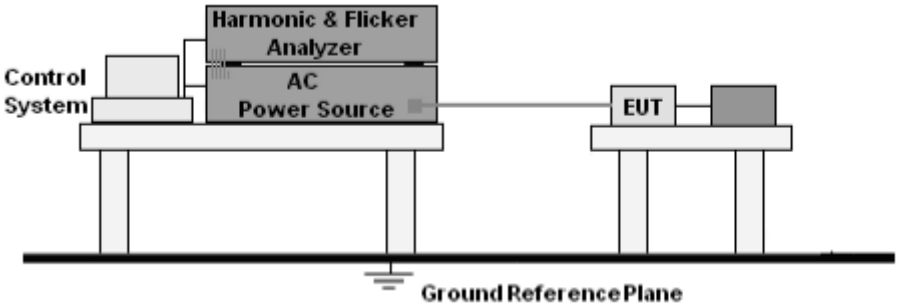


Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1049.567	75.71	-27.55	48.16	74.00	-25.84	peak
2	1049.567	68.52	-27.55	40.97	54.00	-13.03	AVG
3	1742.717	75.39	-25.13	50.26	74.00	-23.74	peak
4	1742.717	64.89	-25.13	39.76	54.00	-14.24	AVG
5	1916.324	80.02	-24.37	55.65	74.00	-18.35	peak
6	1916.324	67.81	-24.37	43.44	54.00	-10.56	AVG
7	2458.283	78.51	-22.90	55.61	74.00	-18.39	peak
8	2458.283	68.96	-22.90	46.06	54.00	-7.94	AVG
9	2796.783	80.23	-22.27	57.96	74.00	-16.04	peak
10	2796.783	69.94	-22.27	47.67	54.00	-6.33	AVG
11	4944.369	74.51	-14.30	60.21	74.00	-13.79	peak
12 *	4944.369	62.42	-14.30	48.12	54.00	-5.88	AVG

9. Harmonic Current Emission(H)

9.1 Block Diagram of Test Setup



9.2 Limit

EN IEC 61000-3-2:2019+A2:2024

9.3 Test Procedure

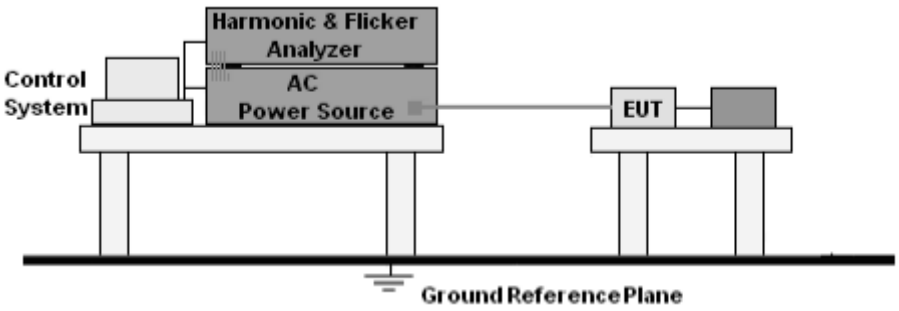
a. The Product was placed on the top of a non-conductive table above the ground and operated to produce the maximum harmonic components under normal operating conditions for each successive harmonic component in turn.
b. The correspondent test program of test instrument to measure the current harmonics emanated from Product was chosen. The measure time shall be not less than the time necessary for the Product to be exercised.

9.4 Test Results

The Product belongs to Class A, and its power is less than 75W, so it deems to fulfil this standard without testing.

10. Voltage Fluctuations & Flicker(F)

10.1 Block Diagram of Test Setup



10.2 Limit

EN 61000-3-3:2013+A2:2021 Clause 5.

10.3 Test Procedure

a. The Product was placed on the top of a non-conductive table above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.
b. During the flick test, the measure time shall include that part of whole operation cycle in which the Product produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

10.4 Test Results

Temperature:	23.5 ℃	Relative Humidity:	54%RH
Pressure:	101kPa	Test Mode:	Working
Test Voltage :	AC 230V/50Hz		

Test duration (sec):600
Describe:Working

Load Power : 3.000 W **Power Factor:0.366**
Load Current : 0.035 mArms **Crest Factor:3.972**
Nominal Voltage : 230.11 Vrms

Test Result: pass **Status: Test Completed**

Result:

T-max (ms):	**0.00**	**Test limit (ms):**	**500.00**	**Pass**
Highest dc (%):	**0.04**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.60**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.00**	**Test limit:**	**1.00**	**Pass**

11. Immunity Test Of General The Performance Criteria

Product Standard	EN 55035: 2017+A11:2020 clause 8
CRITERION A	The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. 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 by what the user may reasonably expect from the equipment if used as intended.
CRITERION B	During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test. After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
CRITERION C	Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

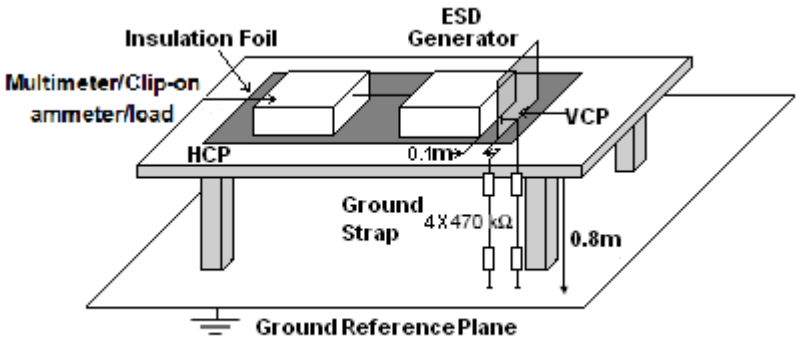
12. Electrostatic Discharge (ESD)

12.1 Test Specification

Basic standard	:	IEC 61000-4-2
Test Port	:	Enclosure port
Discharge Impedance	:	330 ohm / 150 pF
Discharge Mode	:	Single Discharge
Discharge Period	:	one second between each discharge

12.2 Block Diagram of Test Setup

For Floor Stand:



12.3 Test Procedure

a. Electrostatic discharges were applied only to those points and surfaces of the Product that are accessible to users during normal operation.
b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
c. The time interval between two successive single discharges was at least 1 second.
d. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the Product.
e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the Product as fast as possible (without causing mechanical damage) to touch the Product. After each discharge, the ESD generator was removed from the Product and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
g. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane in sufficiently different positions that the four faces of the Product were completely illuminated. The VCP (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the Product.

12.4 Test Results

Temperature:	23.5 ℃	Relative Humidity:	54%RH
Pressure:	101kPa	Test Mode:	Working
Test Voltage :	AC 230V/50Hz		

Discharge Method	Discharge Position	Voltage (±kV)	Min. No. of Discharge per polarity (Each Point)	Required Level	Performance Criterion
Contact Discharge	HCP	4	10	B	A
	VCP	4	10	B	A
	Metal casing, network port, screws	4	10	B	A
Air Discharge	N/A	8	10	B	N/A

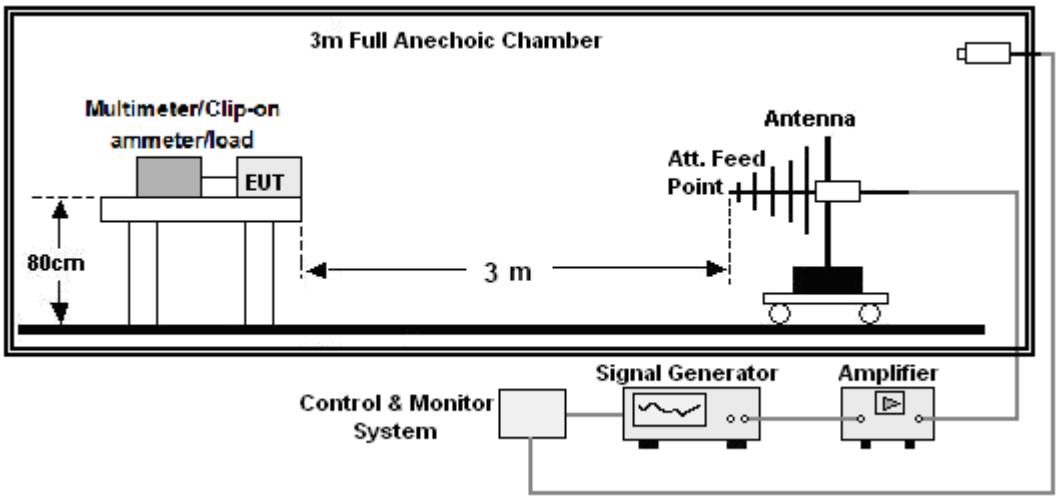
13. Continuous Rf Electromagnetic Field Disturbances (RS)

13.1 Test Specification

Basic standard	:	IEC 61000-4-3
Test Port	:	Enclosure port
Step Size	:	1%
Modulation	:	1kHz, 80% AM
Dwell Time	:	1 second
Polarization	:	Horizontal & Vertical

13.2 Block Diagram of Test Setup

Below 1GHz:



13.3 Test Procedure

a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the Product.
b. The frequency range is swept from 80MHz to 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz, with the signal 80% amplitude modulated with a 1 kHz sine wave,and the step size was 1%.
c. 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, but should not exceed 5 s at each of the frequencies during the scan.
d. The test was performed with the Product exposed to both vertically and horizontally polarized fields on each of the four sides.
e. For Broadcast reception function:Group 2 not apply in this test.

13.4 Test Results

Temperature:	24.3 ℃	Relative Humidity:	68%RH
Pressure:	101kPa	Test Mode:	Working
Test Voltage :	AC 230V/50Hz		

Frequency	Position	Field Strength (V/m)	Required Level	Performance Criterion
80 – 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz	Front, Right, Back, Left	3	A	A

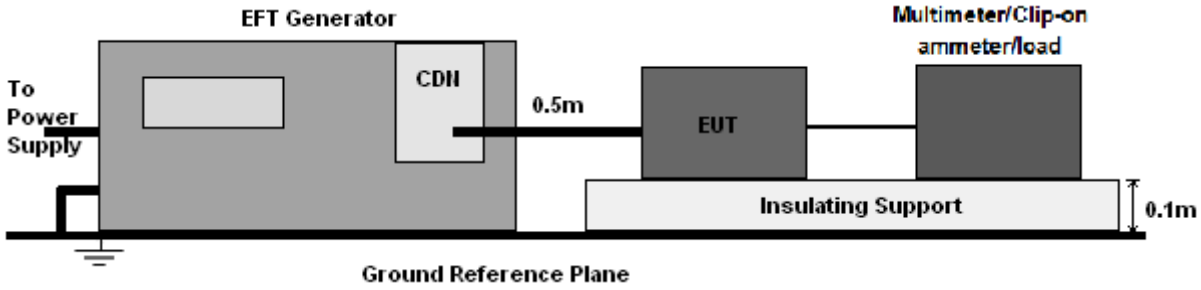
14. Electrical Fast Transients/Burst (EFT)

14.1 Test Specification

Basic standard	:	IEC 61000-4-4
Test Port	:	input ac/dc. Power port
.Impulse Frequency	:	5 kHz
Impulse Wave-shape	:	5/50 ns
Burst Duration	:	15 ms
Burst Period	:	300 ms
Test Duration	:	2 minutes per polarity

14.2 Block Diagram of EUT Test Setup

For input ac/dc. power port:



14.3 Test Procedure

a. The Product and support units were located on a non-conductive table above ground reference plane.
b. A 0.5m-long power cord was attached to Product during the test.

14.4 Test Results

Temperature:	23.6 ℃	Relative Humidity:	53%RH
Pressure:	101kPa	Test Mode:	Working
Test Voltage :	AC 230V/50Hz		

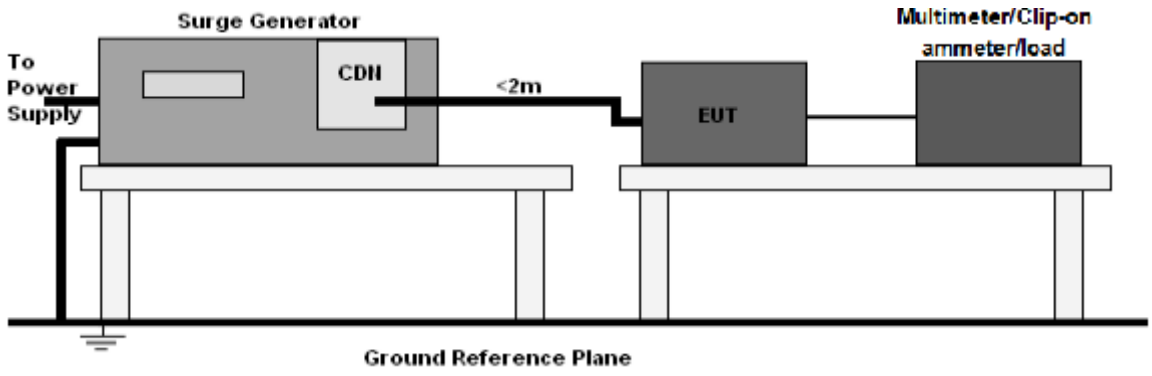
Coupling	Voltage (kV)	Polarity	Required Level	Performance Criterion
AC MainsL-N-P	1.0	±	B	A

15. Surges Immunity Test

15.1 Test Specification

Basic standard	:	IEC 61000-4-5
Test Port	:	input ac/dc. power port
Wave-Shape	:	Open Circuit Voltage - 1.2 / 50 us Short Circuit Current - 8 / 20 us
Pulse Repetition Rate	:	1 pulse / min.
Phase Angle	:	0° / 90° / 180° / 270°
Test Events	:	5 pulses (positive & negative) for each polarity

15.2 Block Diagram of EUT Test Setup



15.3 Test Procedure

a. The surge is to be applied to the Product power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave.
b. The power cord between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter). Interconnection line between the Product and the coupling/decoupling networks shall be 2 meters in length (or shorter).

15.4 Test Result

Temperature:	23.6 ℃	Relative Humidity:	53%RH
Pressure:	101kPa	Test Mode:	Working
Test Voltage :	AC 230V/50Hz		

Coupling Line	Voltage (kV)	Phase Angle	Required Level	Performance Criterion
L - N	+ 1	90°	B	A
	- 1	270°		
L - PE	+ 2	90°	B	A
	- 2	270°		
N - PE	+ 2	90°	B	A
	- 2	270°		

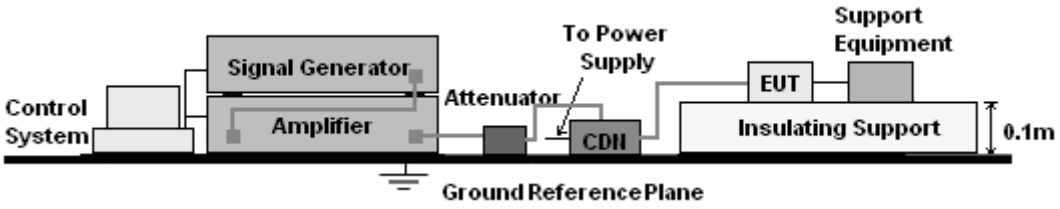
16. Continuous induced RF disturbances (CS)

16.1 Test Specification

Basic standard	:	IEC 61000-4-6
Test Port	:	input ac/dc. power port
Step Size	:	1%
Modulation	:	1kHz, 80% AM
Dwell Time	:	1 second

16.2 Block Diagram of EUT Test Setup

For input ac/ac. power port:



16.3 Test Procedure

For input ac/dc. power port:
a. The Product and support units were located at a ground reference plane with the interposition of a 0.1 m thickness insulating support and the CDN was located on GRP directly.
b. The frequency range is swept from 150 kHz to 10MHz, 10MHz to 30MHz, 30MHz to 80MHz with the signal 80% amplitude modulated with a 1 kHz sine wave, and the step size was 1% of fundamental.
c. The dwell time at each frequency shall be not less than the time necessary for the Product to be able to respond.

16.4 Test Result

Temperature:	23.6 ℃	Relative Humidity:	53%RH
Pressure:	101kPa	Test Mode:	Working
Test Voltage :	AC 230V/50Hz		

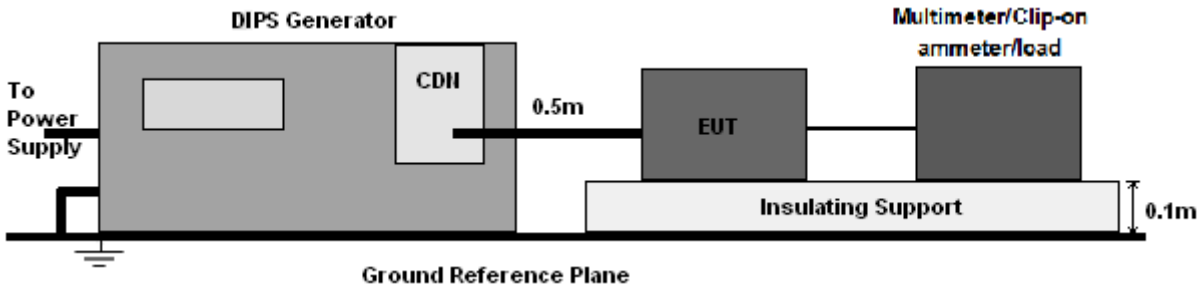
Inject Line	Frequency (MHz)	Voltage Level (V r.m.s.)	Required Level	Performance Criterion
a.c. port	0.15 to 10	3	A	A
	10 to 30	3 to 1	A	A
	30 to 80	1	A	A

17. Voltage dips and interruptions (DIPS)

17.1 Test Specification

Basic standard	:	IEC 61000-4-11
Test Port	:	input ac. power port
Phase Angle	:	0°, 180°
Test cycle	:	3 times

17.2 Block Diagram of EUT Test Setup



17.3 Test Procedure

a. The Product and support units were located on a non-conductive table above ground floor.
b. Set the parameter of tests and then perform the test software of test simulator.
c. Conditions changes to occur at 0 degree crossover point of the voltage waveform.

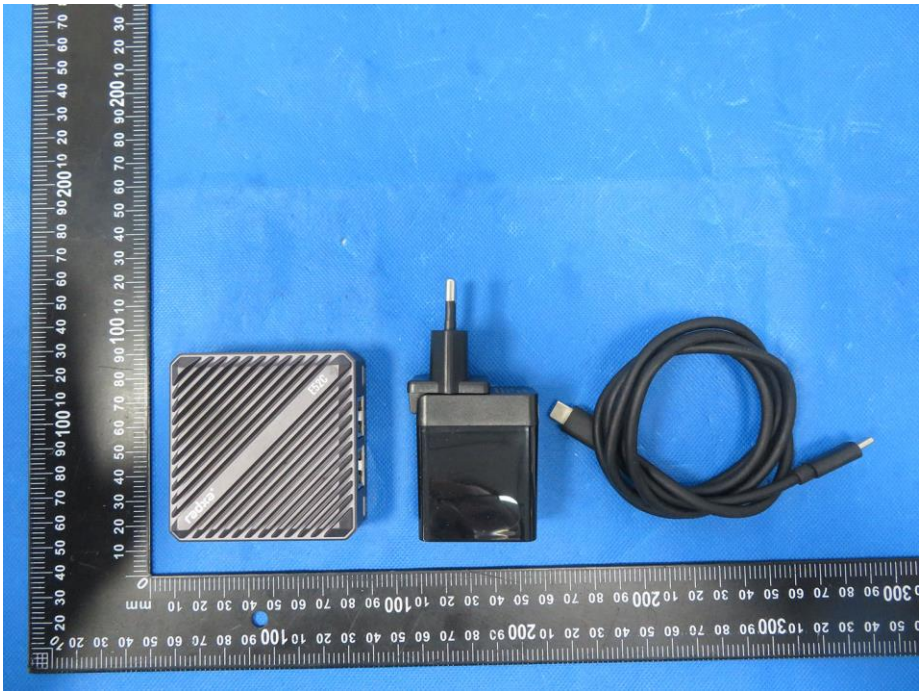
17.4 Test Result

Temperature:	23.6 ℃	Relative Humidity:	53%RH
Pressure:	101kPa	Test Mode:	Working
Test Voltage :	AC 230V/50Hz		

Test Level % U_T	Voltage dips in % U_T	Duration (ms)	Required Level	Performance Criterion
< 5	≥95	10	B	A
70	30	500	C	A
Voltage Interruptions:*				
< 5	≥95	5000	C	C*
Remark: T (s) = 1 / f (Hz).				
Note*: The EUT Unable to working during testing, and it need manually connect after test.				

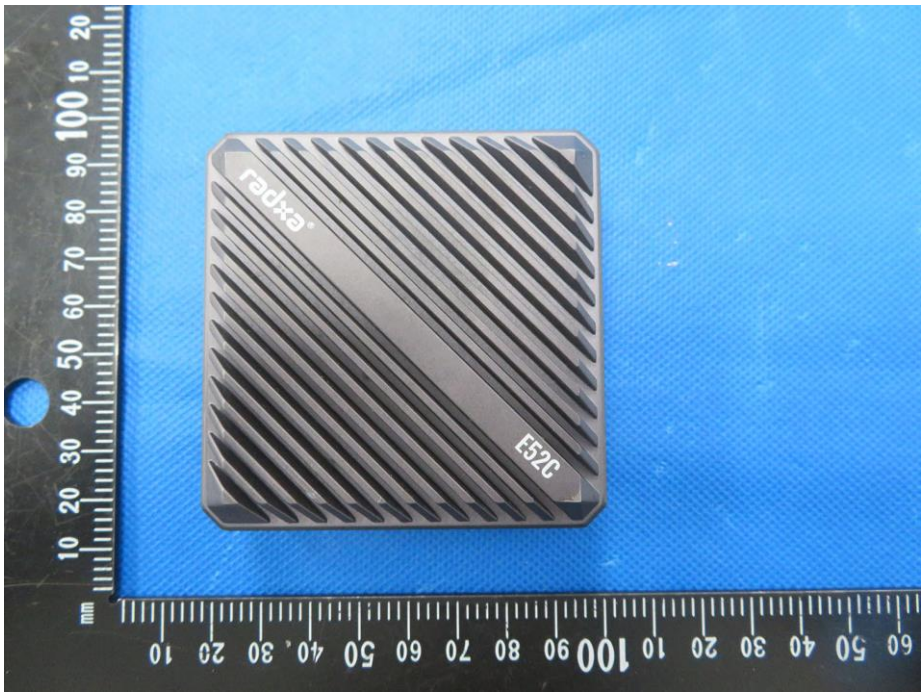
18. EUT Photographs

EUT Photo 1

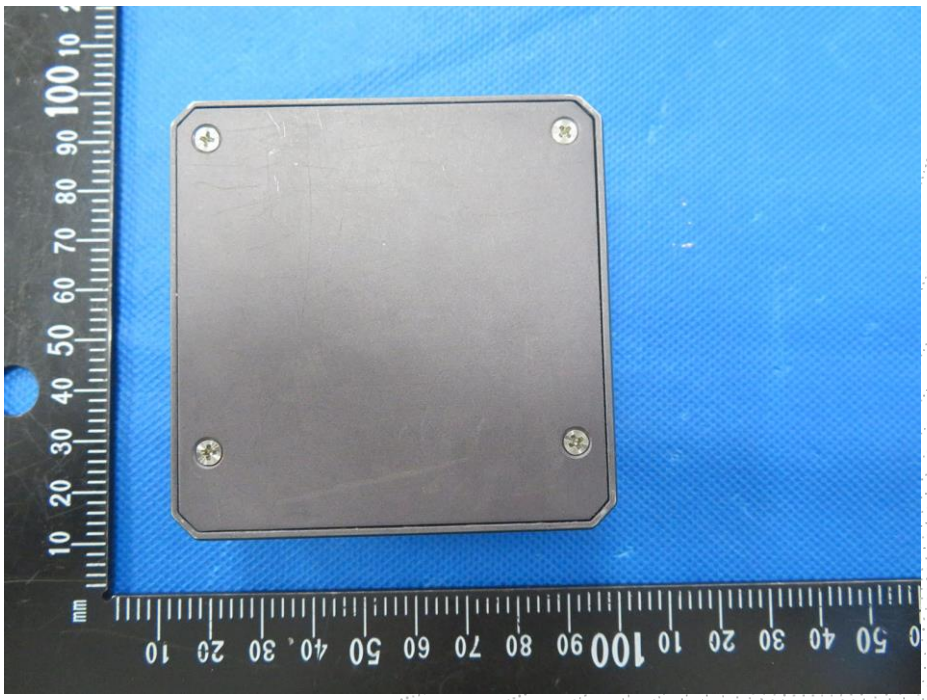


EUT Photo 2

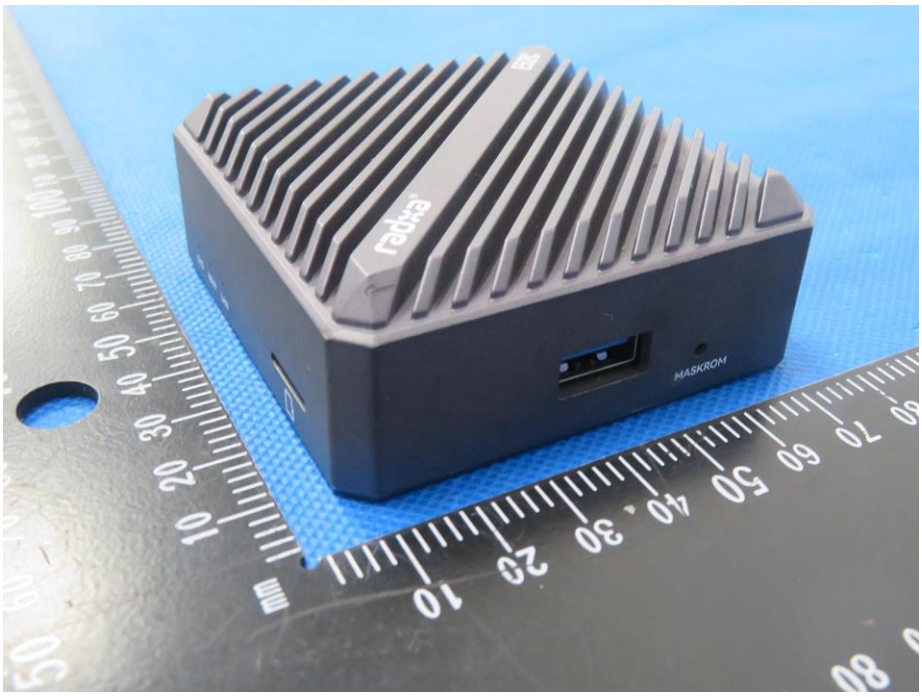
EUT Photo 3



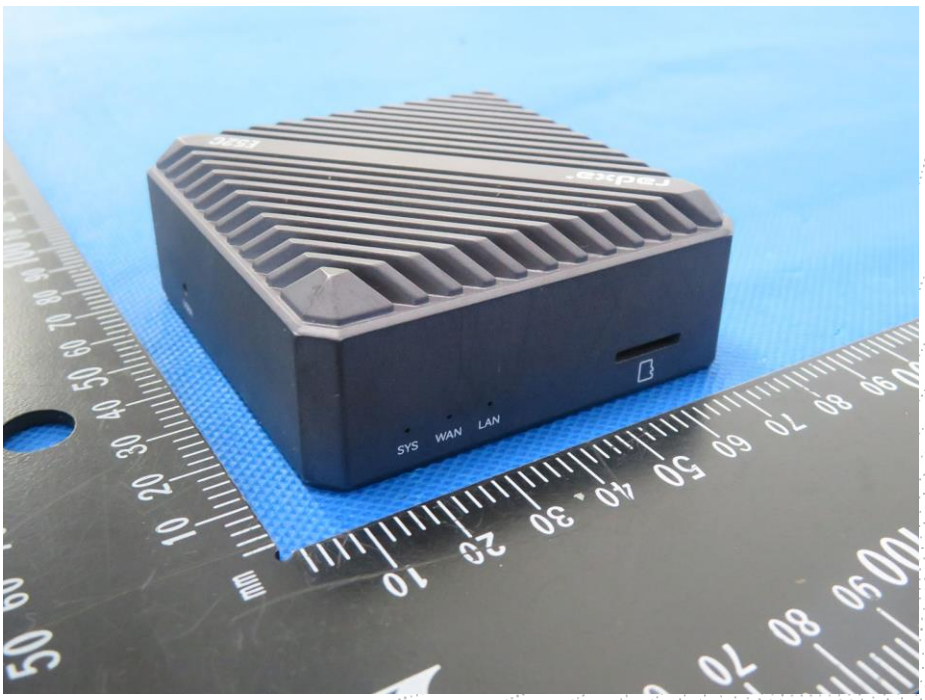
EUT Photo 4



EUT Photo 5

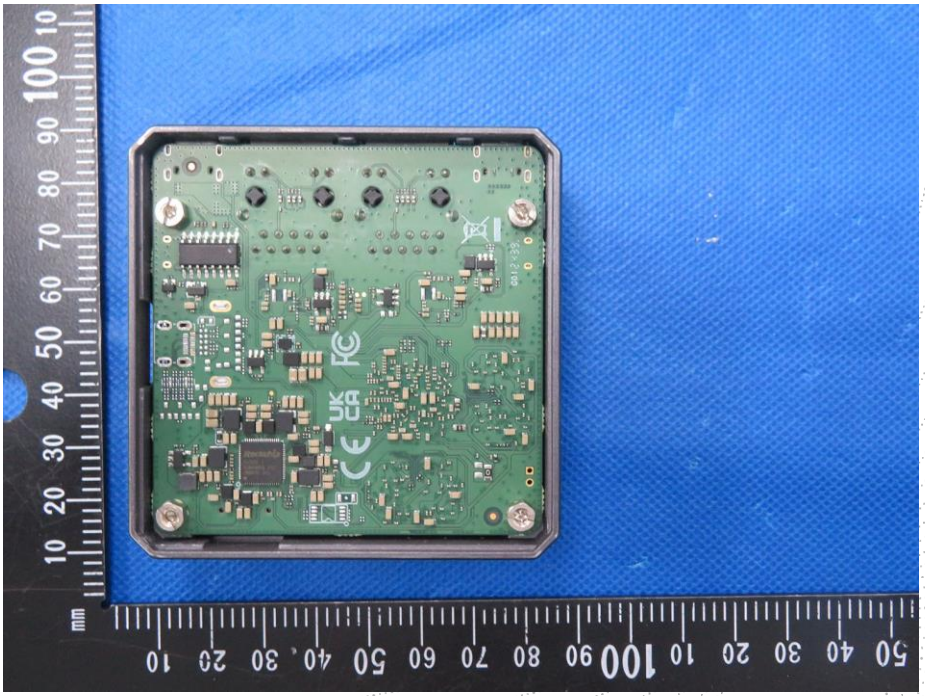


EUT Photo 6

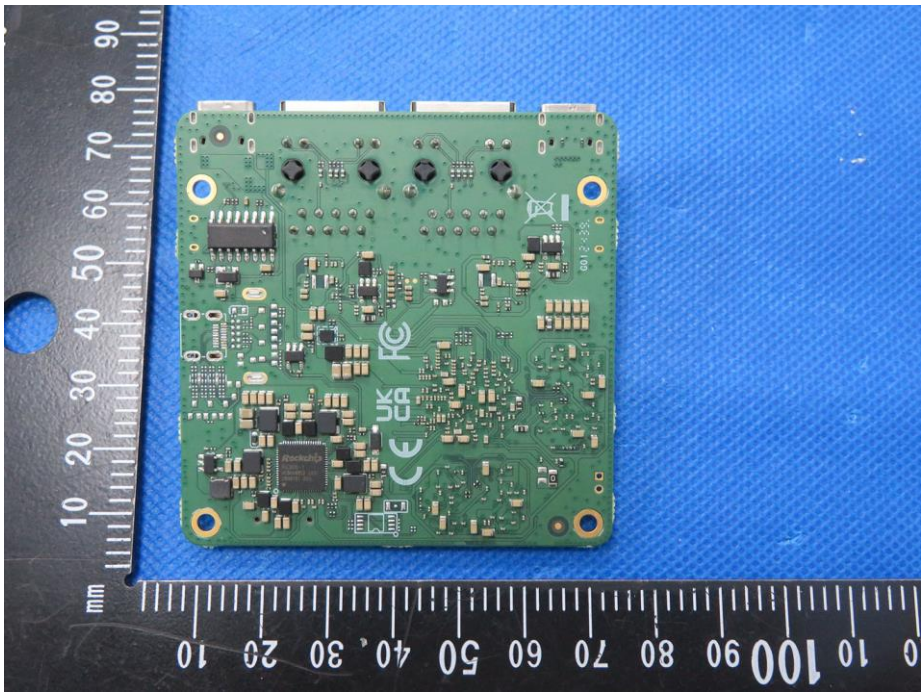


EUT Photo 7

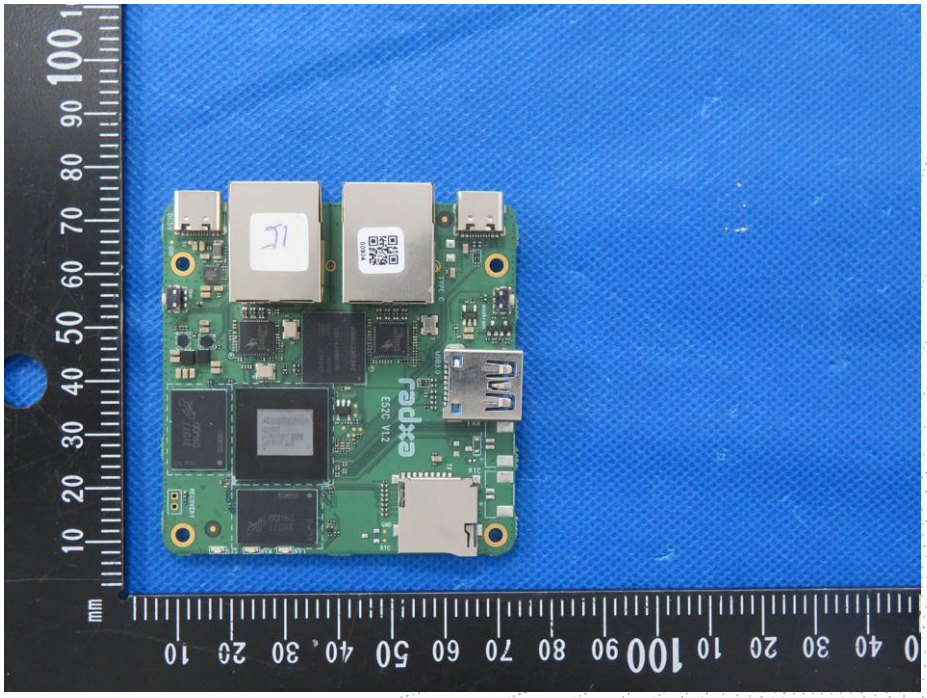
EUT Photo 8



EUT Photo 9

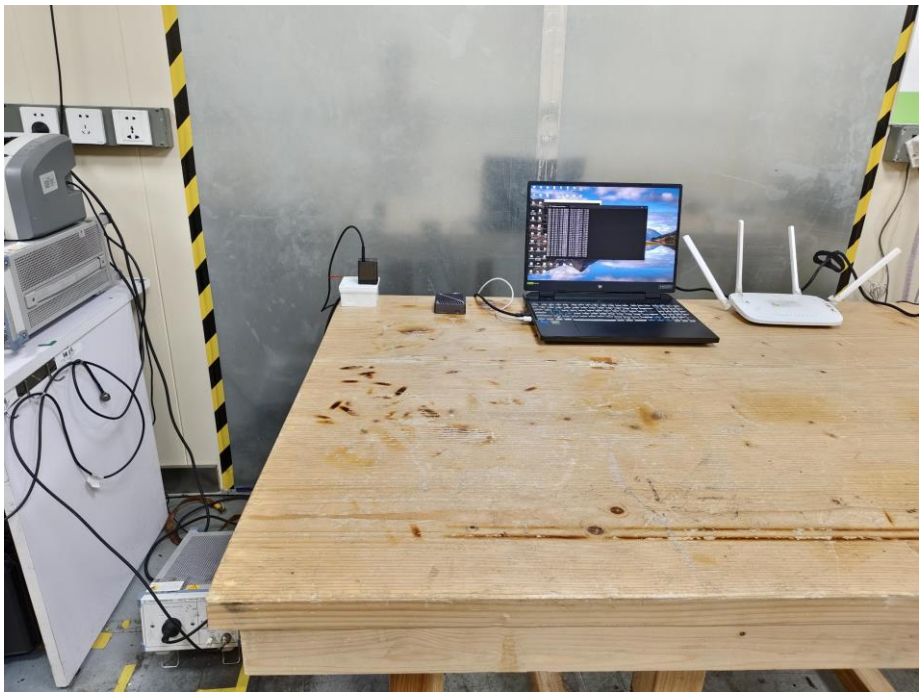


EUT Photo 10

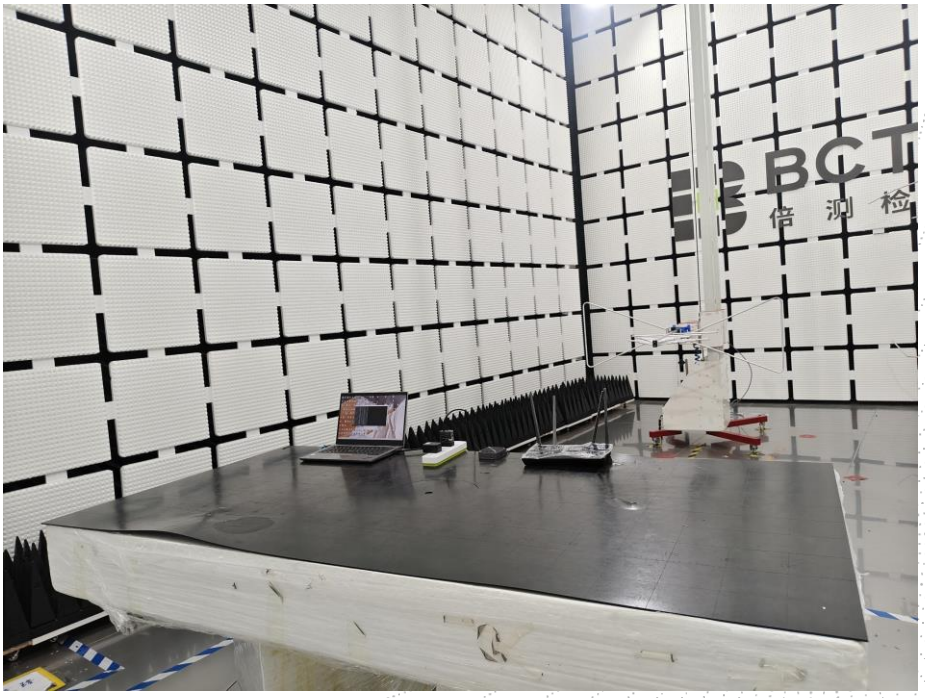


19. EUT Test Setup Photographs

Conducted emissions

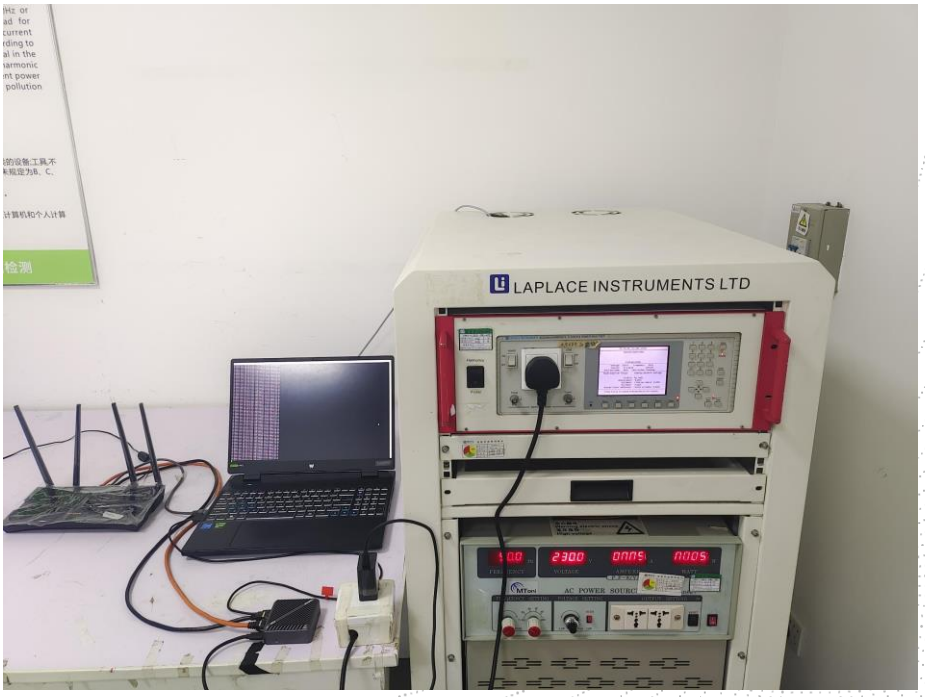


Radiated emissions (30MHz~1GHz)



Radiated emissions (Above 1GHz)

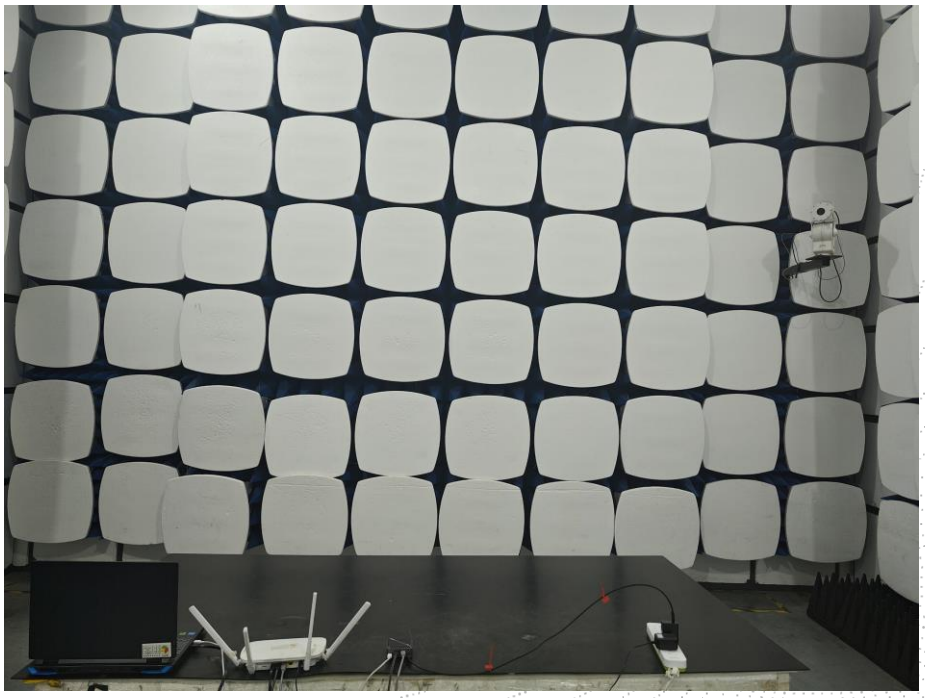
F



ESD


对水平和垂直耦合板放电，耦合板距离设备10cm,耦合板通过2个470K欧电阻接地，不马上泄放的电荷形成静电场。
BCTC 倍测检测

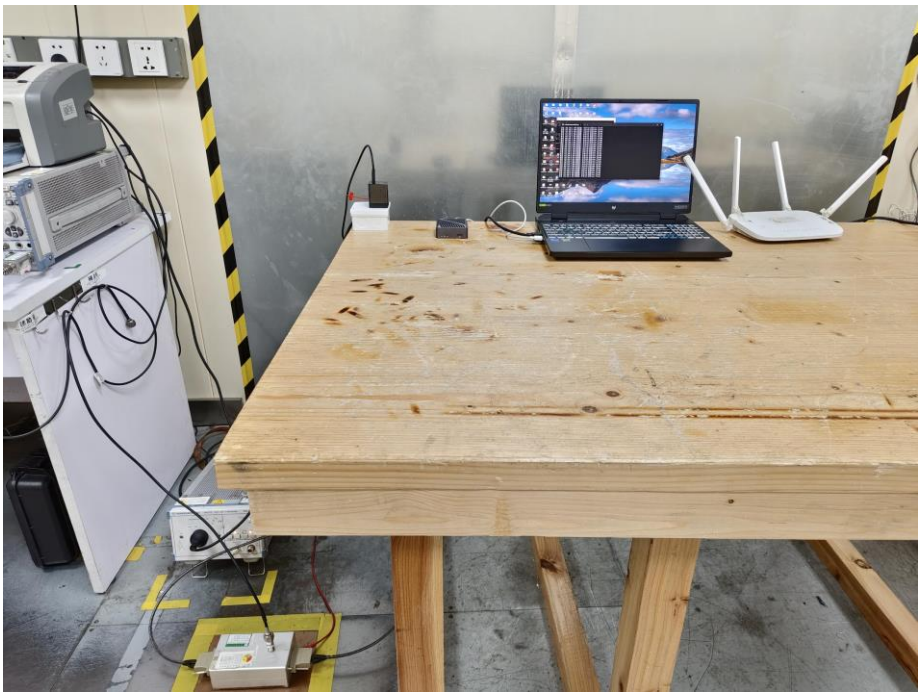
RS



EFT & Dips & Surge

CS

TELE



STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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