



EMC TEST REPORT

Product Name: tv antenna

FCC ID: 2BEBV-AN8001

Trade mark: bafitop

Model No.: AN8001, AN8002, AN8003, AN8004, AN8005, AN8006, AN8007, AN8008,
AN8009, AN8010, AN8011, AN8012, AN8013, AN8014, AN8015, AN8016

S/N: /

Report No.: CTB24103003101E02

Applicant: Shenzhen Bafitop Techonlogy Co., Ltd

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Shajing Street, Baoan District, Shenzhen

Manufacturer: Shenzhen Bafitop Techonlogy Co., Ltd

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Prepared by: Shenzhen CTB Testing Technology Co., Ltd.

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Sample No.: 24103003101

Date of Receipt: Nov. 05, 2024

Date of Test(s): Nov. 06, 2024 ~ Nov. 08, 2024

Date of Issue: Nov. 12, 2024

Test Standard(s): 47 CFR Part 15 Subchapter B, ANSI C63.4: 2014

Test Result: Pass

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

Compiled by:

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Reviewed by:

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Approved by:



Rita Xiao

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. 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 CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client. "★" indicates the testing items were fulfilled by subcontracted lab. "✖" indicates the items are not in CNAS accreditation scope.

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1. Description of version

Report No.	Issue Date	Description	Approved
CTB24103003101E02	Nov. 12, 2024	Original	Valid

2. Test summary

Test procedures according to the technical standards:

Standard	Test Item	Test Result
§15.107	Conducted Emission	PASS
§15.109	Radiated Emission	PASS

Note: N/A is abbreviation for Not Applicable.

1. The Product is powered by DC power, this test items is not applicable.

3. Measurement uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %

Test Item	Frequency	Expanded Uncertainty (U_{Lab})
No.1 Conducted Emission	150 kHz to 30 MHz	± 3.1 dB
No.2 Conducted Emission	150 kHz to 30 MHz	± 3.2 dB
Radiated Emission	30 MHz to 1000 MHz	± 4.1 dB
Radiated Emission	1000 MHz to 6000 MHz	± 4.8 dB

4. General information

4.1. Description of EUT

Product name	tv antenna
Trade mark	bafitop
Model No.	AN8001
Serial Model No.	AN8002, AN8003, AN8004, AN8005, AN8006, AN8007, AN8008, AN8009, AN8010, AN8011, AN8012, AN8013, AN8014, AN8015, AN8016
Model Difference	All model's the function, software and electric circuit are the same. Only with a product color, shape and model named different. Test Sample Model: AN8001.
Rated Voltage& current	DC 5V
Highest Internal Frequency	>108MHz
Configuration	☒ Table-top ☐ Floor-standing
Classification	☐ Class A ☒ Class B
The highest frequency of the internal sources of the EUT	☐ below 1.705 MHz, the measurement shall only be made up to 30 MHz. ☐ between 1.705 MHz and 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 5th harmonic of the highest frequency or 40 GHz, whichever is lower.

Note: The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

4.2. Description of accessory device

Description	Manufacturer	Model	Specification	Note
TV	/	/	/	☐ Applicant ☒ CTB

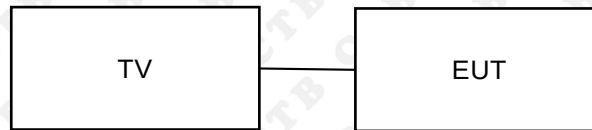
External I/O Cable

Cable Description	Shielded Type	Ferrite Core	Length(m)	Note
/	☐ Shielded ☐ Non-shielded	☐ Yes ☐ No	/	☐ Applicant ☐ CTB

4.3. Test conditions

Temperature: 15-25°C
 Relative Humidity: 30-60 %
 Atmospheric pressure: 800hPa-1060hPa

4.4. Block diagram of EUT configuration



4.5. Operating condition of EUT

The test system was pre-tested based on the consideration of all possible combinations of EUT operation modes according to test plan. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively. All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, (*)the worst data were recorded and reported.

Pretest Test Mode	Description	Test Voltage
Mode 1*	Working	DC 5V

Radiated emission test		
Final Test Mode	Description	Test Voltage
Mode 1*	Working	DC 5V

5. List of Test and Measurement Instruments

No.1 Continuous disturbance						
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated until
1	843 Shield Room	C/ R/ T	843	/	/	2027/6/21
2	AMN	ROHDE&SCHWARZ	ESH3-Z5	831551852	/	2025/6/30
3	Pulse limiter	ROHDE&SCHWARZ	ESH3-Z2	357881052	/	2025/6/28
4	EMI TEST RECEIVER	R&S	ESCI	100428	V4.42.SP3	2025/6/30
5	Coaxial cable	Agilent	UCE500-SMNM-1.5M	/	/	2025/6/30
6	ISN	Schwarzbeck	NTFM8158	183	/	2025/6/30
7	Voltage Probe	Schwarzbeck	TK 9420	01189	/	2024/11/16
8	EZ-EMC	Frad	Ver/ EMC-con3A1/1	/	/	/
9	Current Probe	FCC	F-52B	199453	/	2025/5/27

Radiated emission(No.1 Chamber)						
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated until
1	966 Chamber	C/ R/ T	966	/	/	2027/6/21
2	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA 9120 D	01911	/	2025/7/06
3	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2025/6/29
4	Amplifier	Agilent	8449B	3008A01838	/	2025/6/30
5	Amplifier	HP	8447E	2945A02747	/	2025/6/28
6	loop antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/29
7	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESPI	100362	RF_ATTEN_7 (104489/003)	2025/6/28
8	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/6/28
9	Coaxial cable	ETS	RFC-SNS-100-N MS-80	/	/	2025/6/28
10	Coaxial cable	ETS	RFC-SN-100-NM S-20	/	/	2025/6/28
11	Coaxial cable	ETS	RFC-SNS-100-S MS-20	/	/	2025/6/28
12	Coaxial cable	ETS	RFC-NNS-100-N MS-300	/	/	2025/6/28
13	EMI test software	Frad	EZ-EMC	Ver/ FA-03A2 RE	/	/

6. Conducted Emission

6.1. Limit

☒ Except for Class A devices:

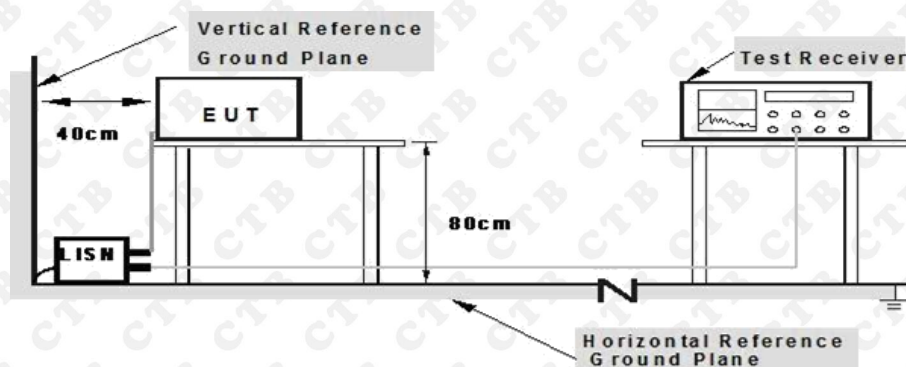
Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Note: Decreases with the logarithm of the frequency.

☐ For Class A devices:

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	79	66
0.5-30	73	60

6.2. Test setup



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

The setup of EUT is according with ANSI C63.4 measurement procedure. Specification used with FCC Part 15 limits.

6.3. EMI test receiver setup

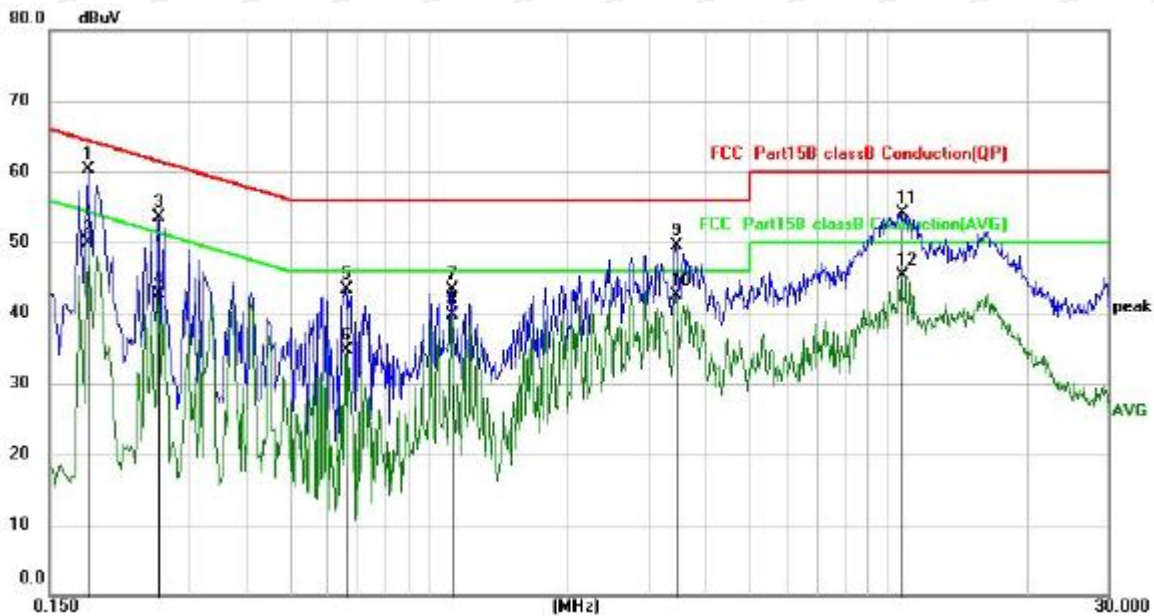
Frequency Range	9kHz-30MHz
Resolution Bandwidth	200Hz (9kHz-150kHz) 9kHz (150kHz-30MHz)

6.4. Test procedure

1. Measurement was performed in shielded room, and instruments used were followed clause 4 of ANSI C63.4.
2. Detailed test procedure was following clause 7 of ANSI C63.4.
3. Frequency range 150kHz – 30MHz was checked and EMI receiver measurement bandwidth was set to 9 kHz.

6.5. Test results

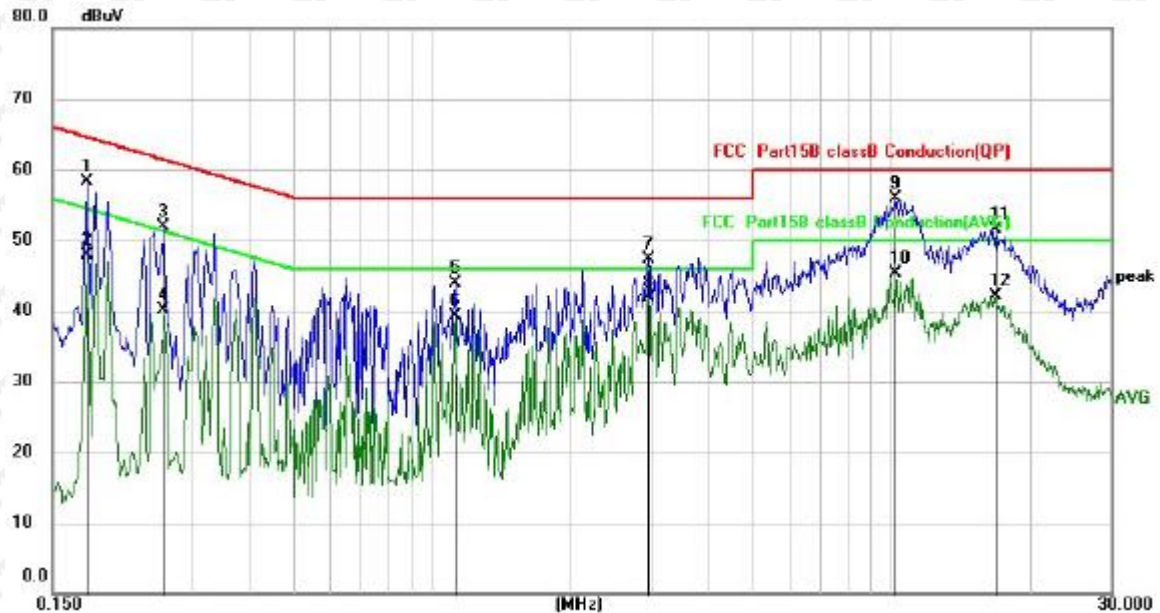
Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Phase :	Line
Test Voltage :	DC 5V	Test Mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1819	49.48	10.78	60.26	64.40	-4.14	QP
2		0.1819	39.09	10.78	49.87	54.40	-4.53	AVG
3		0.2580	42.78	10.67	53.45	61.50	-8.05	QP
4		0.2580	32.10	10.67	42.77	51.50	-8.73	AVG
5		0.6580	32.57	10.67	43.24	56.00	-12.76	QP
6		0.6580	24.02	10.67	34.69	46.00	-11.31	AVG
7		1.1220	32.26	11.03	43.29	56.00	-12.71	QP
8		1.1220	28.58	11.03	39.61	46.00	-6.39	AVG
9		3.4380	37.65	11.90	49.55	56.00	-6.45	QP
10	*	3.4380	30.52	11.90	42.42	46.00	-3.58	AVG
11		10.6780	40.90	13.25	54.15	60.00	-5.85	QP
12		10.6780	32.09	13.25	45.34	50.00	-4.66	AVG

Note: Result=Reading + Factor
Over Limit=Result - Limit

Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Phase :	Neutral
Test Voltage :	DC 5V	Test Mode:	Mode 1



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	0.1777	47.50	10.79	58.29	64.59	-6.30	QP
2	0.1777	37.05	10.79	47.84	54.59	-6.75	AVG
3	0.2615	41.25	10.67	51.92	61.38	-9.46	QP
4	0.2615	29.51	10.67	40.18	51.38	-11.20	AVG
5	1.1233	32.95	11.03	43.98	56.00	-12.02	QP
6	1.1233	28.23	11.03	39.26	46.00	-6.74	AVG
7	2.9619	35.52	11.79	47.31	56.00	-8.69	QP
8 *	2.9619	30.14	11.79	41.93	46.00	-4.07	AVG
9	10.1791	42.66	13.24	55.90	60.00	-4.10	QP
10	10.1791	32.08	13.24	45.32	50.00	-4.68	AVG
11	16.8387	38.05	13.43	51.48	60.00	-8.52	QP
12	16.8387	28.63	13.43	42.06	50.00	-7.94	AVG

Note: Result=Reading + Factor

Over Limit=Result – Limit

7. Radiated emissions

7.1. Limit

Except for Class A devices (at 3m):

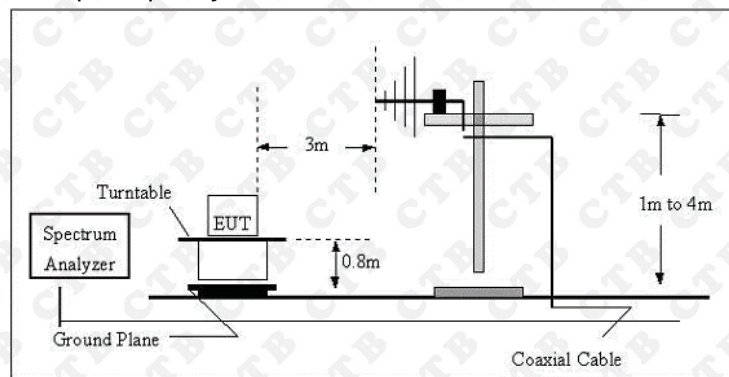
Frequency of emission (MHz)	Field strength (microvolts/meter)	
	(microvolts/meter)	(dB μ V/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

For Class A devices (at 10m):

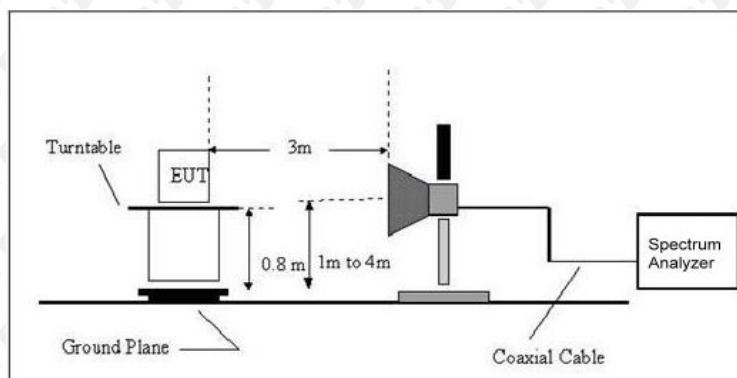
Frequency of emission (MHz)	Field strength (microvolts/meter)	
	(microvolts/meter)	(dB μ V/m)
30-88	90	39
88-216	150	43.5
216-960	210	46.4
Above 960	300	49.5

7.2. Test setup

Radiated Emission Test Set-Up Frequency Below 1 GHz



Radiated Emission Test Set-Up Frequency Above 1GHz



The radiated tests were performed in 3 meter Chamber test site, using the setup accordance with the ANSI C63.4:2014.

7.3. EMI test receiver setup and spectrum analyzer setup

During the radiated emission test, the EMI test receiver and Spectrum Analyzer were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30MHz-1000MHz	100kHz	300kHz	120kHz	QP
Above 1GHz	1MHz	3MHz	/	PK
	1MHz	10Hz	/	AVG

7.4. Test procedure

1. The measurement was performed in a semi-anechoic chamber, and instruments used were followed clause 4 of ANSI C63.4
2. Detailed test procedure was following clause 8 of ANSI C63.4.

7.5. Corrected Amplitude & Margin Calculation

1. The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

2. The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

7.6. Test results

Up to 1GHz

Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Horizontal
Test Voltage :	DC 5V	Test Mode:	Mode 1



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			
			dBuV	dB	dBuV/m	dB/m	dB	Detector
1		30.2641	38.33	-6.18	32.15	40.00	-7.85	QP
2		154.5493	37.45	-1.94	35.51	43.50	-7.99	QP
3	!	204.5961	42.34	-4.73	37.61	43.50	-5.89	QP
4		314.3764	38.16	-2.59	35.57	46.00	-10.43	QP
5	*	585.8156	38.99	3.36	42.35	46.00	-3.65	QP
6		974.0436	34.61	8.78	43.39	54.00	-10.61	QP

Note: Result=Reading+Factor
Over Limit=Result-Limit

Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Vertical
Test Voltage :	DC 5V	Test Mode:	Mode 1

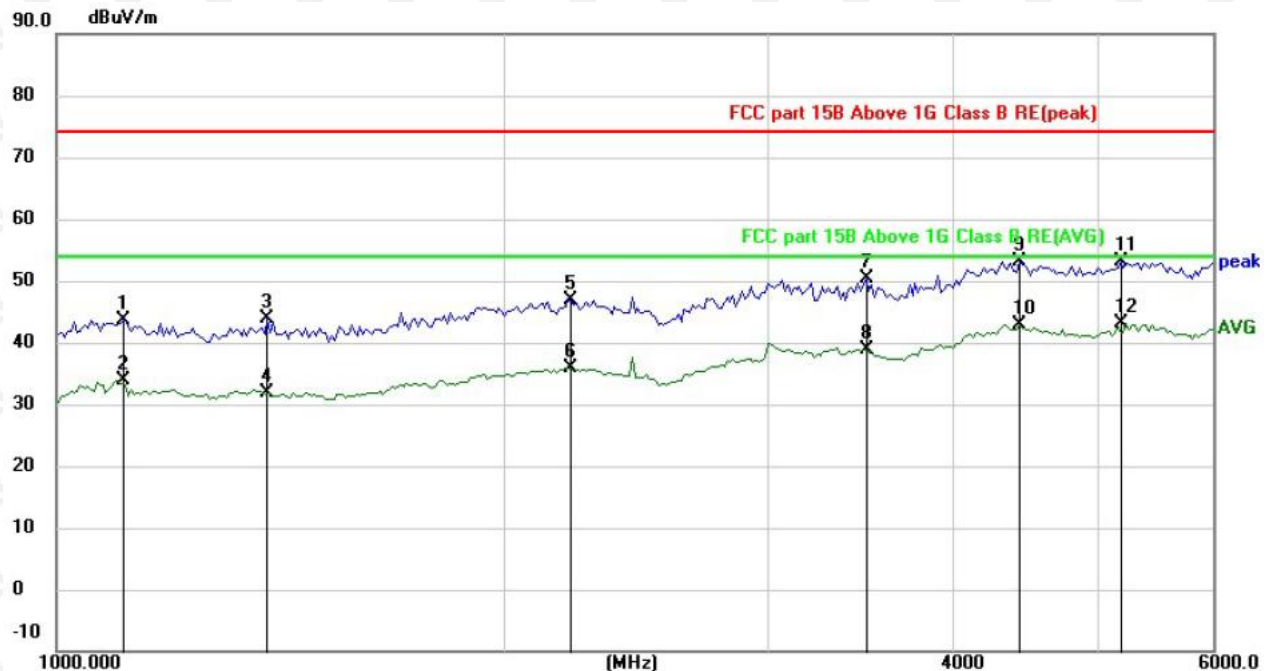


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			Detector
			dBuV	dB	dBuV/m	dB/m	dB	
1	*	30.0000	42.77	-6.16	36.61	40.00	-3.39	QP
2		42.2281	36.74	-6.84	29.90	40.00	-10.10	QP
3		73.3593	39.84	-8.69	31.15	40.00	-8.85	QP
4		151.8632	38.12	-2.48	35.64	43.50	-7.86	QP
5		513.6331	36.11	2.33	38.44	46.00	-7.56	QP
6		974.0436	33.43	8.78	42.21	54.00	-11.79	QP

Note: Result=Reading+Factor
Over Limit=Result-Limit

Above 1GHz

Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Horizontal
Test Voltage :	DC 5V	Test Mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		1108.520	50.33	-6.64	43.69	74.00	-30.31	peak
2		1108.520	40.55	-6.64	33.91	54.00	-20.09	AVG
3		1386.796	50.17	-6.29	43.88	74.00	-30.12	peak
4		1386.796	38.28	-6.29	31.99	54.00	-22.01	AVG
5		2219.613	46.55	0.37	46.92	74.00	-27.08	peak
6		2219.613	35.52	0.37	35.89	54.00	-18.11	AVG
7		3505.144	44.36	5.94	50.30	74.00	-23.70	peak
8		3505.144	33.01	5.94	38.95	54.00	-15.05	AVG
9		4444.377	43.63	9.50	53.13	74.00	-20.87	peak
10		4444.377	33.32	9.50	42.82	54.00	-11.18	AVG
11		5198.752	41.01	12.08	53.09	74.00	-20.91	peak
12	*	5198.752	30.97	12.08	43.05	54.00	-10.95	AVG

Note: Result=Reading+Factor
Over Limit=Result-Limit

Temperature:	23°C	Relative Humidity:	54 %
Pressure:	101kPa	Polarization :	Vertical
Test Voltage :	DC 5V	Test Mode:	Mode 1

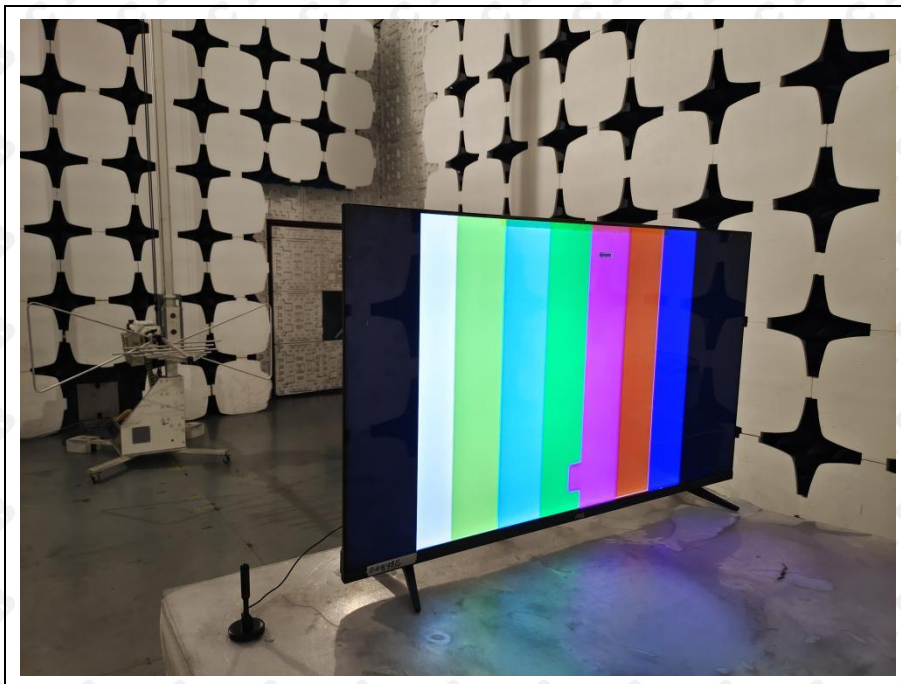


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		1234.334	50.87	-6.49	44.38	74.00	-29.62	peak
2		1234.334	40.05	-6.49	33.56	54.00	-20.44	AVG
3		1734.928	49.62	-3.58	46.04	74.00	-27.96	peak
4		1734.928	38.95	-3.58	35.37	54.00	-18.63	AVG
5		2269.887	49.19	0.60	49.79	74.00	-24.21	peak
6		2269.887	38.62	0.60	39.22	54.00	-14.78	AVG
7		3489.478	46.60	5.87	52.47	74.00	-21.53	peak
8		3489.478	36.04	5.87	41.91	54.00	-12.09	AVG
9		4606.530	45.54	10.09	55.63	74.00	-18.37	peak
10	*	4606.530	34.93	10.09	45.02	54.00	-8.98	AVG
11		5510.475	43.26	12.93	56.19	74.00	-17.81	peak
12		5510.475	31.79	12.93	44.72	54.00	-9.28	AVG

Note: Result=Reading+Factor
Over Limit=Result-Limit

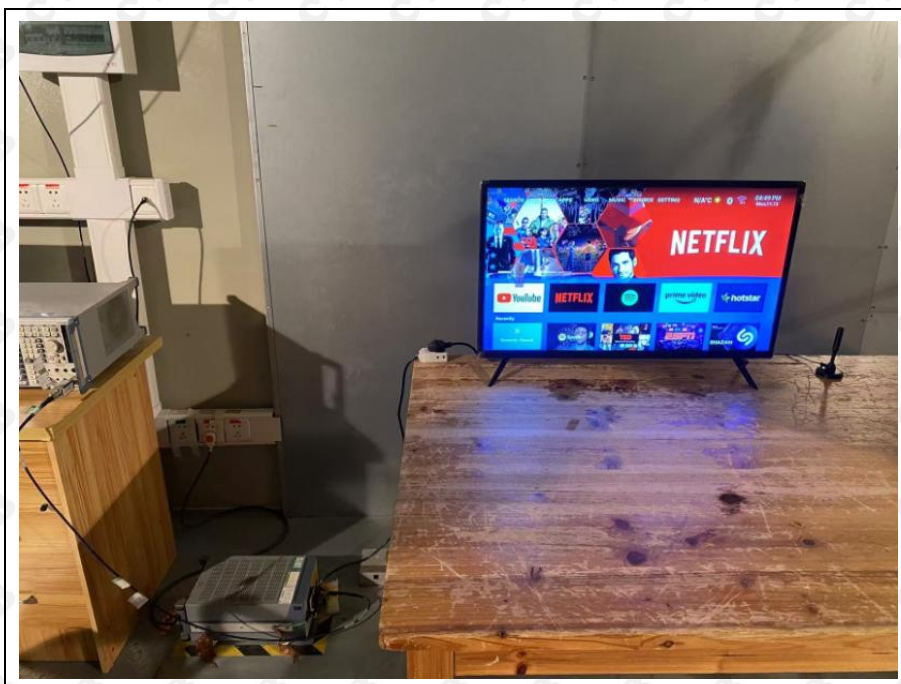
8. Photographs of test setup

RE up to 1GHz



RE above 1GHz





9. Photographs of EUT

EUT photo 1



EUT photo 2



EUT photo 3



EUT photo 4



EUT photo 5



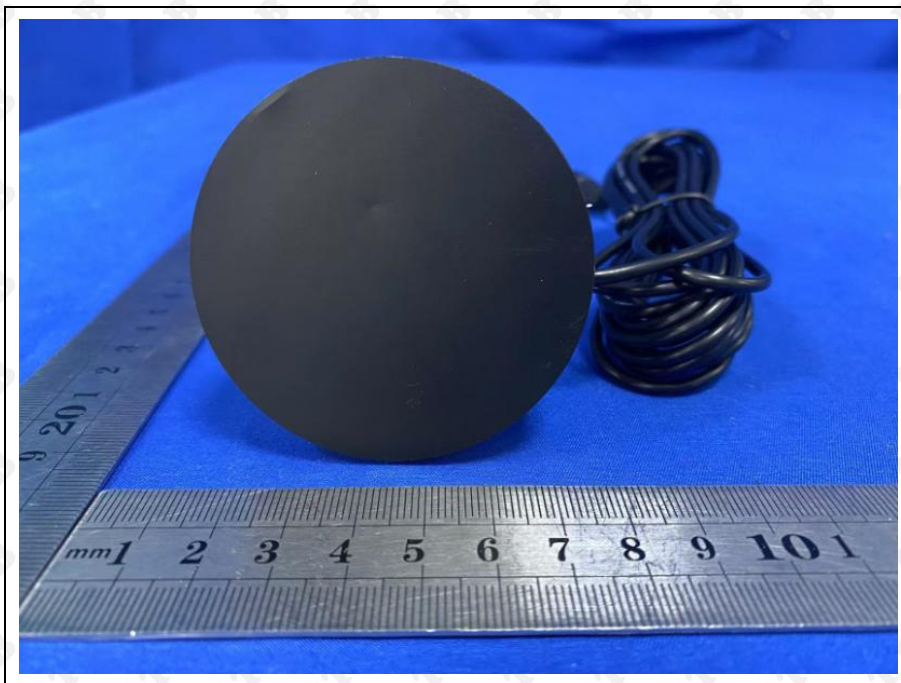
EUT photo 6



EUT photo 7



EUT photo 8



EUT photo 9



End of report