TEST REPORT

Report No.:	BCTC2504547247E
Applicant:	Shenzhen Wins Novelty Co.,Ltd
Product Name:	Car Head Up Display
Test Model:	G21
Tested Date:	2025-04-16 to 2025-04-28
Issued Date:	2025-05-12

Shenzhen BCTC Testing Co., Ltd.

FCC ID: 2BLYN-G21

Product Name:	Car Head Up Display
Trademark:	N/A
Model/Type reference:	G21 W2, W2S, W1, G4, G6, M1, G1, Y03, G100
Prepared For:	Shenzhen Wins Novelty Co.,Ltd
Address:	2F, BLDG 30, Chen Tian Industrial Area, Xi xiang Street, Bao an district, Shenzhen
Manufacturer:	Shenzhen Wins Novelty Co.,Ltd
Address:	2F, NO.30 Building, Chentian Industrial Area, Xixiang Street, Bao an district, Shenzhen, China
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:	2025-04-16
Sample tested Date:	2025-04-16 to 2025-04-28
Issue Date:	2025-05-12
Report No.:	BCTC2504547247E
Test Standards:	CFR 47 FCC Part 15 subpart B ANSI C63.4:2014
Test Results:	PASS

Tested by:

Brave Zeng/ 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.

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(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2504547247E	2025-05-12	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

Standard	Test Item	Test result
FCC 15.107	Conducted Emission	Pass
FCC 15.109	Radiated Emission	Pass

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
Radiated Emission(30MHz~200MHz)	4.60
Radiated Emission(200MHz~1GHz)	5.20
Radiated Emission(1GHz~6GHz)	5.20

4. Product Information And Test Setup

4.1 Product Information

Ratings:	DC 5V from adapter
Model differences:	All models have the same circuit and RF module, but the model names.
The highest frequency of the unintentional radiators internal sources of the EUT is above 1 GHz:	☐ less than 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 5 times the highest frequency or 40GHz, whichever is less.

Cable of Product

No.	Cable Type	Quantity	Provider	Length (m)	Shielded	Note
1	--	--	Applicant	---	No	---
2	--	--	BCTC	--	No	--

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.	Adapter	UGREEN	CD289	---	---

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 Emission (150KHz-30MHz) Class B	Working	AC 120V/60Hz
Radiated emission(30MHz-1GHz) Class B	Working	AC 120V/60Hz
Radiated emission(1GHz-6GHz) Class B	Working	AC 120V/60Hz

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	ESR	102075	May 16, 2024	May 15, 2025
LISN	R&S	ENV216	101375	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD 9561-F	01323	May 16, 2024	May 15, 2025

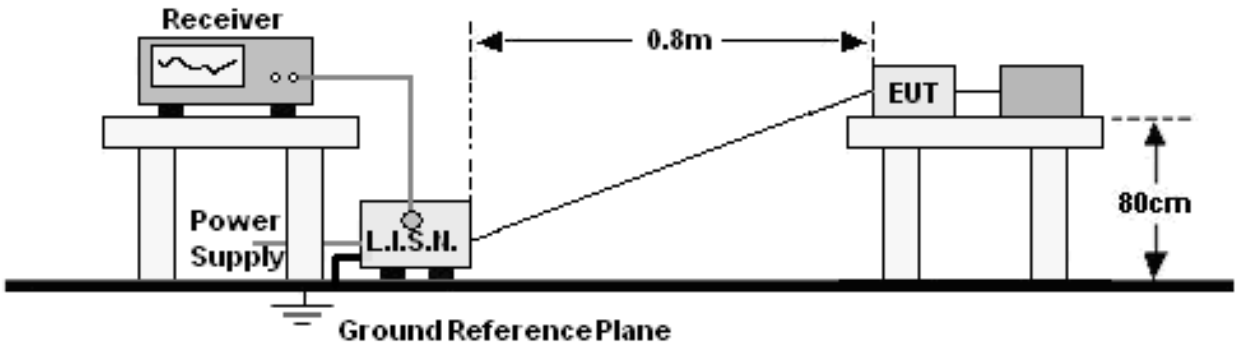
Radiated Emissions Test (966 Chamber#01)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026
Receiver	R&S	ESRP	101154	May 16, 2024	May 15, 2025
Receiver	R&S	ESR	102075	May 16, 2024	May 15, 2025
Amplifier	SKET	LAPA_01G18G-45dB	SK2021040901	May 16, 2024	May 15, 2025
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 16, 2024	May 15, 2025
TRILOG Broadband Antenna	schwarzbeck	VULB9163	942	May 21, 2024	May 20, 2025
Horn Antenna	schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

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	ESR	102075	May 16, 2024	May 15, 2025
Receiver	R&S	ESRI7	100010	Oct. 31. 2024	Oct. 30. 2025
TRILOG Broadband Antenna	Schwarzbeck	VULB9168	1323	Feb. 28, 2024	Feb. 27, 2025
Amplifier	SKET	LNPA-30M01G-30	SK2021082004	Oct. 31. 2024	Oct. 30. 2025
Software	SKET	EZ-EMC	FA-03A1	\	\
Horn Antenna	schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025
Amplifier	SKET	LAPA_01G18G-45dB	SK2021040901	May 16, 2024	May 15, 2025

6. Conducted Emission At The Mains Terminals Test

6.1 Block Diagram Of Test Setup

For mains ports:



6.2 Limit

Limits for Class B devices

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

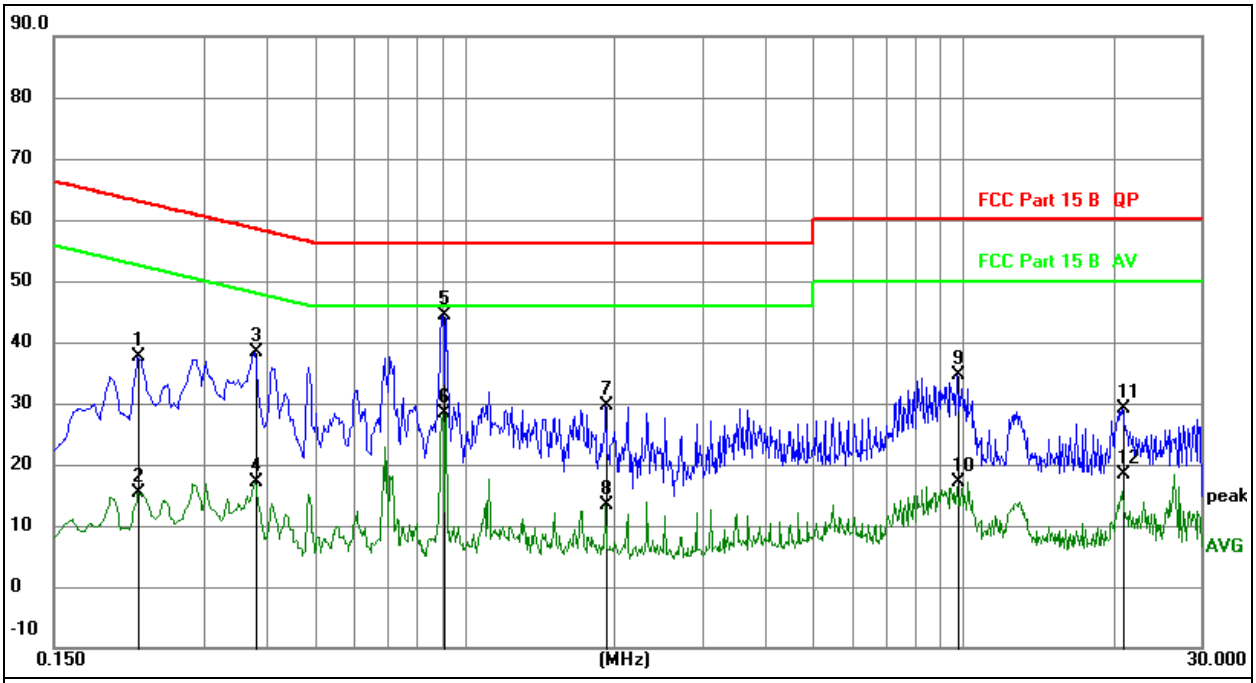
Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

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

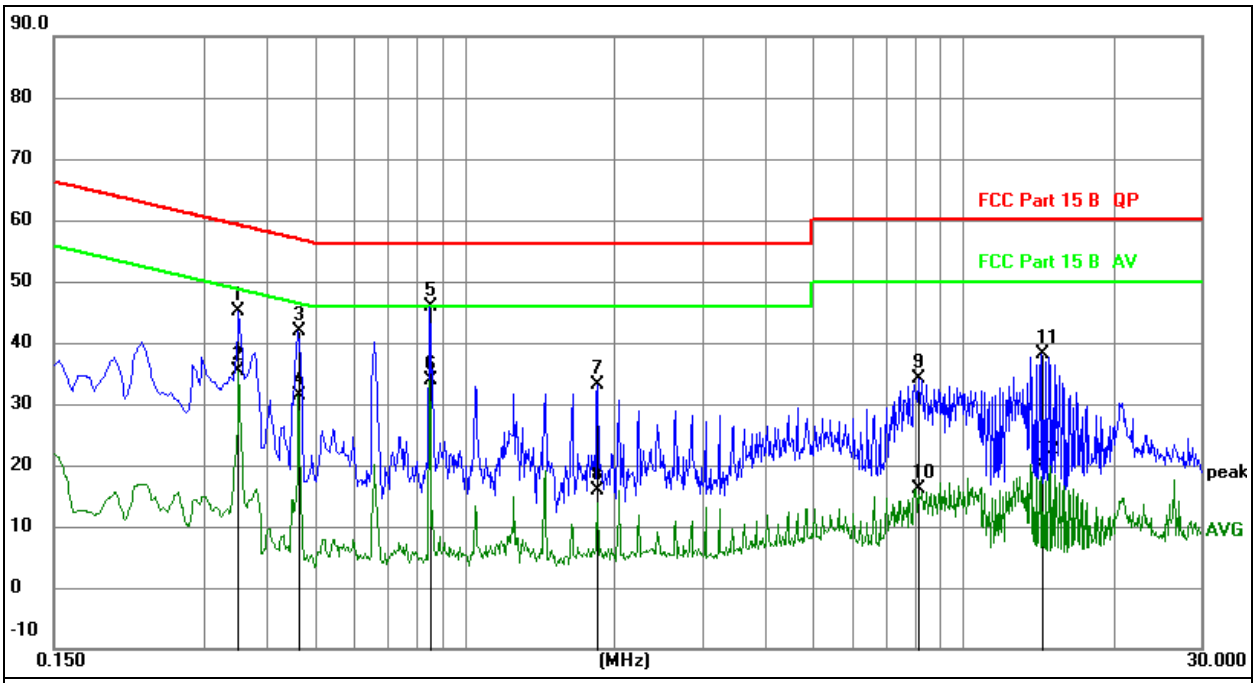
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Line
Test Voltage:	AC 120V/60Hz	Test Mode:	Working



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		0.2220	17.66	20.07	37.73	62.74	-25.01	QP
2		0.2220	-4.81	20.07	15.26	52.74	-37.48	AVG
3		0.3795	18.29	20.08	38.37	58.29	-19.92	QP
4		0.3795	-2.94	20.08	17.14	48.29	-31.15	AVG
5	*	0.9060	24.40	20.09	44.49	56.00	-11.51	QP
6		0.9060	8.21	20.09	28.30	46.00	-17.70	AVG
7		1.9230	9.42	20.10	29.52	56.00	-26.48	QP
8		1.9230	-6.66	20.10	13.44	46.00	-32.56	AVG
9		9.7395	14.53	20.17	34.70	60.00	-25.30	QP
10		9.7395	-2.94	20.17	17.23	50.00	-32.77	AVG
11		20.8410	8.87	20.32	29.19	60.00	-30.81	QP
12		20.8410	-1.88	20.32	18.44	50.00	-31.56	AVG

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Neutral
Test Voltage:	AC 120V/60Hz	Test Mode:	Working



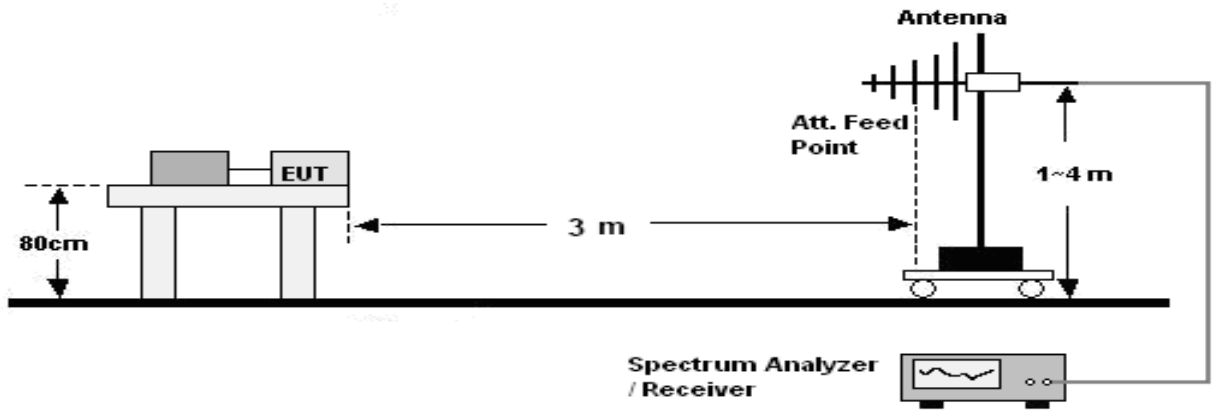
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.3520	25.12	20.07	45.19	58.92	-13.73	QP
2		0.3520	15.25	20.07	35.32	48.92	-13.60	AVG
3		0.4637	21.75	20.08	41.83	56.63	-14.80	QP
4		0.4637	11.31	20.08	31.39	46.63	-15.24	AVG
5	*	0.8483	25.90	20.09	45.99	56.00	-10.01	QP
6		0.8483	13.73	20.09	33.82	46.00	-12.18	AVG
7		1.8483	13.12	20.10	33.22	56.00	-22.78	QP
8		1.8483	-4.14	20.10	15.96	46.00	-30.04	AVG
9		8.1483	13.86	20.16	34.02	60.00	-25.98	QP
10		8.1483	-4.00	20.16	16.16	50.00	-33.84	AVG
11		14.3641	17.85	20.29	38.14	60.00	-21.86	QP
12		14.3641	-0.10	20.29	20.19	50.00	-29.81	AVG

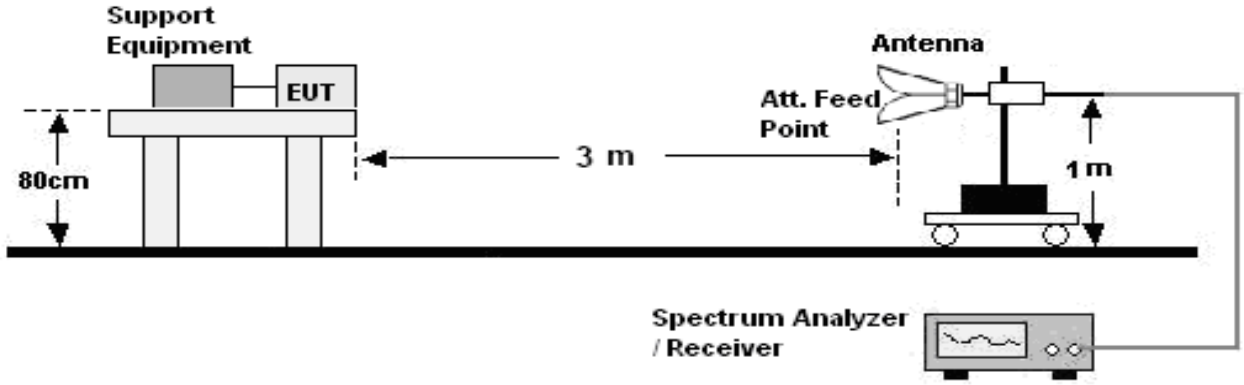
7. Radiation Emission Test

7.1 Block Diagram Of Test Setup

30MHz ~ 1GHz:



Above 1GHz:



7.2 Limit

Limits for Class B devices

Frequency (MHz)	limits at 3m dB(μV/m)		
	QP Detector	PK Detector	AV Detector
30-88	40.0	--	--
88-216	43.5	--	--
216-960	46.0	--	--
960 to 1000	54.0	--	--
Above 1000	--	74.0	54.0

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

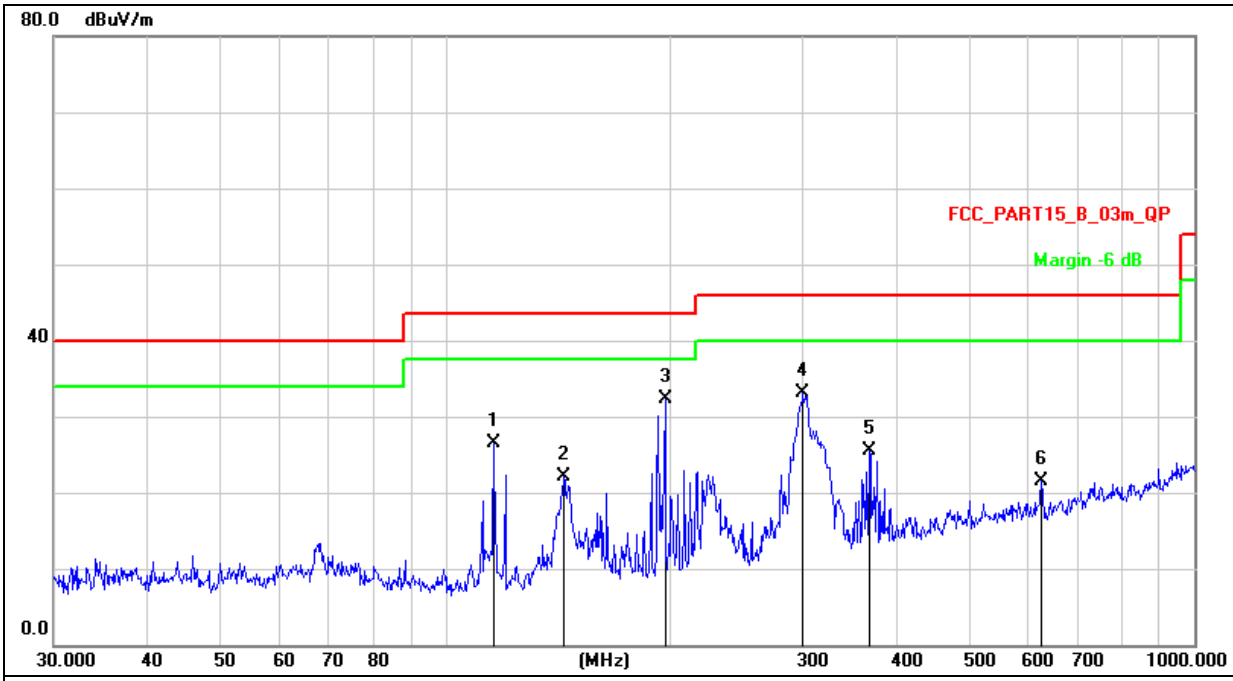
7.3 Test Procedure

30MHz ~ 1GHz:
a. The Product was placed on the nonconductive turntable 0.8 m above the ground at a 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 0.8/0.1 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.

7.4 Test Result

30MHz ~ 1GHz

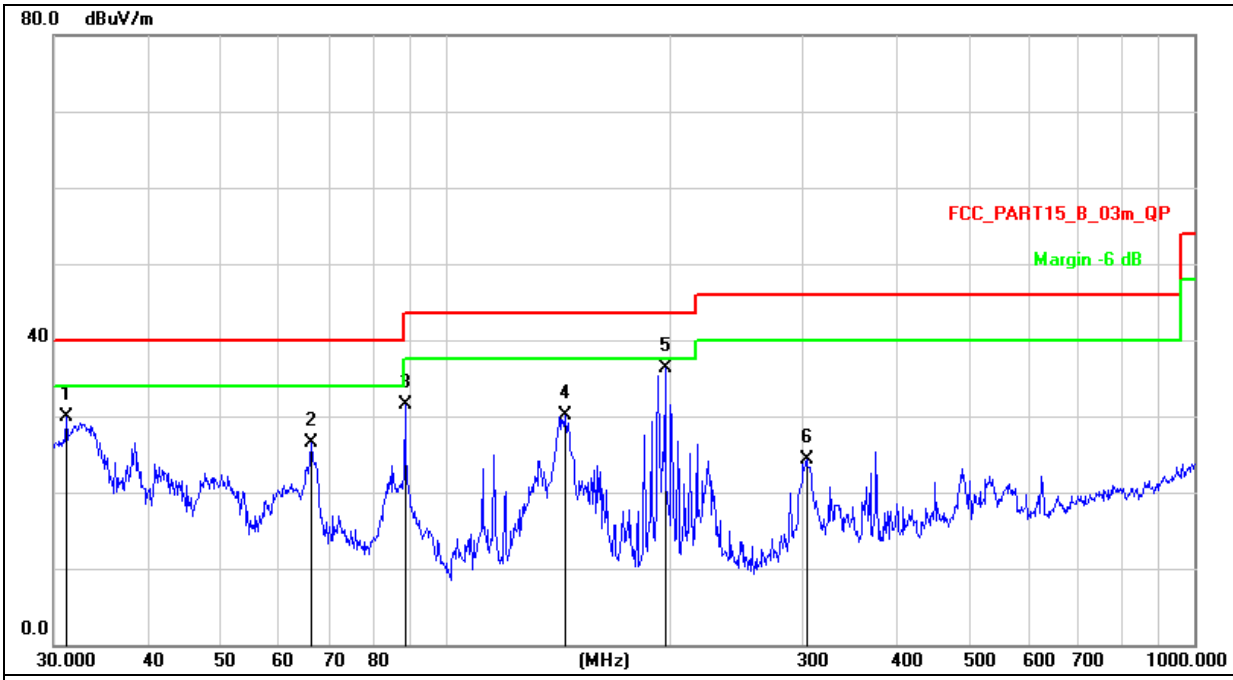
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode:	Working



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

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		116.1321	42.29	-15.70	26.59	43.50	-16.91	QP
2		143.8295	37.46	-15.27	22.19	43.50	-21.31	QP
3	*	196.5098	46.75	-14.44	32.31	43.50	-11.19	QP
4		300.3672	45.34	-12.18	33.16	46.00	-12.84	QP
5		368.1116	36.12	-10.68	25.44	46.00	-20.56	QP
6		625.0780	27.49	-6.08	21.41	46.00	-24.59	QP

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode:	Working

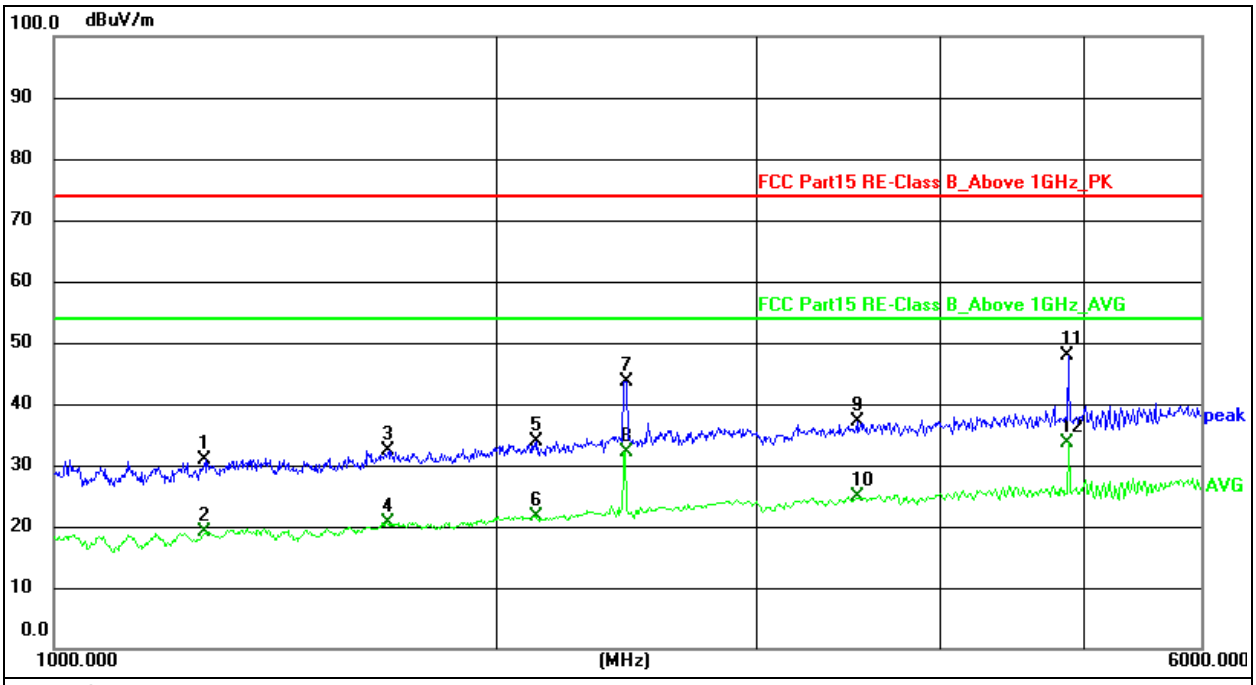


Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		31.1798	45.68	-15.87	29.81	40.00	-10.19	QP
2		66.2662	41.30	-14.84	26.46	40.00	-13.54	QP
3		88.3421	47.11	-15.57	31.54	43.50	-11.96	QP
4		144.3348	45.31	-15.26	30.05	43.50	-13.45	QP
5	*	196.5098	50.76	-14.44	36.32	43.50	-7.18	QP
6		303.5437	36.42	-12.11	24.31	46.00	-21.69	QP

Above 1GHz

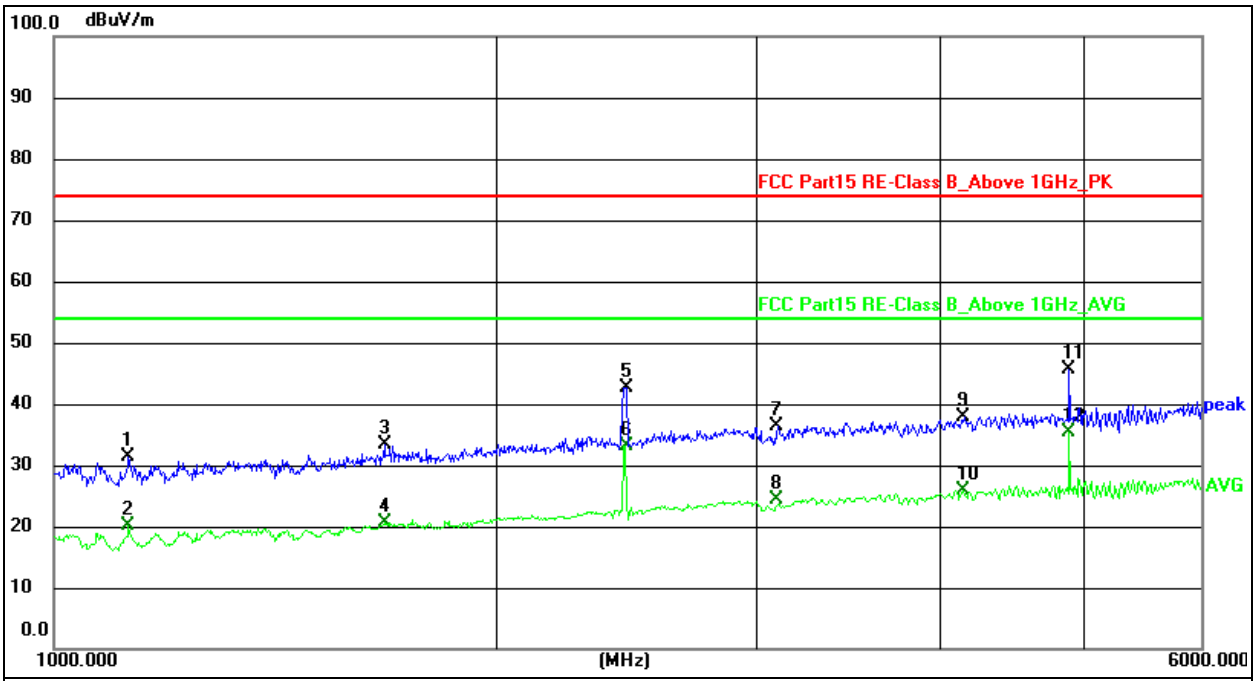
Temperature:	23.5 ℃	Relative Humidity:	60%
Pressure:	101KPa	Phase :	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode:	Working



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	1266.823	59.38	-28.41	30.97	74.00	-43.03	peak
2	1266.823	47.63	-28.41	19.22	54.00	-34.78	AVG
3	1687.408	59.46	-27.07	32.39	74.00	-41.61	peak
4	1687.408	47.74	-27.07	20.67	54.00	-33.33	AVG
5	2126.188	59.57	-25.71	33.86	74.00	-40.14	peak
6	2126.188	47.41	-25.71	21.70	54.00	-32.30	AVG
7	2445.105	68.52	-24.79	43.73	74.00	-30.27	peak
8	2445.105	56.94	-24.79	32.15	54.00	-21.85	AVG
9	3505.144	59.45	-22.33	37.12	74.00	-36.88	peak
10	3505.144	47.18	-22.33	24.85	54.00	-29.15	AVG
11	4874.002	67.64	-19.68	47.96	74.00	-26.04	peak
12 *	4874.002	53.31	-19.68	33.63	54.00	-20.37	AVG

Temperature:	23.5 ℃	Relative Humidity:	60%
Pressure:	101KPa	Phase :	Vertical
Test Voltage:	AC 120V/60Hz	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	1123.517	60.13	-28.87	31.26	74.00	-42.74	peak
2	1123.517	49.12	-28.87	20.25	54.00	-33.75	AVG
3	1675.358	60.37	-27.11	33.26	74.00	-40.74	peak
4	1675.358	47.74	-27.11	20.63	54.00	-33.37	AVG
5	2445.105	67.54	-24.79	42.75	74.00	-31.25	peak
6	2445.105	57.96	-24.79	33.17	54.00	-20.83	AVG
7	3097.515	59.48	-23.02	36.46	74.00	-37.54	peak
8	3097.515	47.40	-23.02	24.38	54.00	-29.62	AVG
9	4148.127	58.95	-21.19	37.76	74.00	-36.24	peak
10	4148.127	47.17	-21.19	25.98	54.00	-28.02	AVG
11	4882.743	65.21	-19.66	45.55	74.00	-28.45	peak
12 *	4882.743	55.02	-19.66	35.36	54.00	-18.64	AVG

8. EUT Photographs

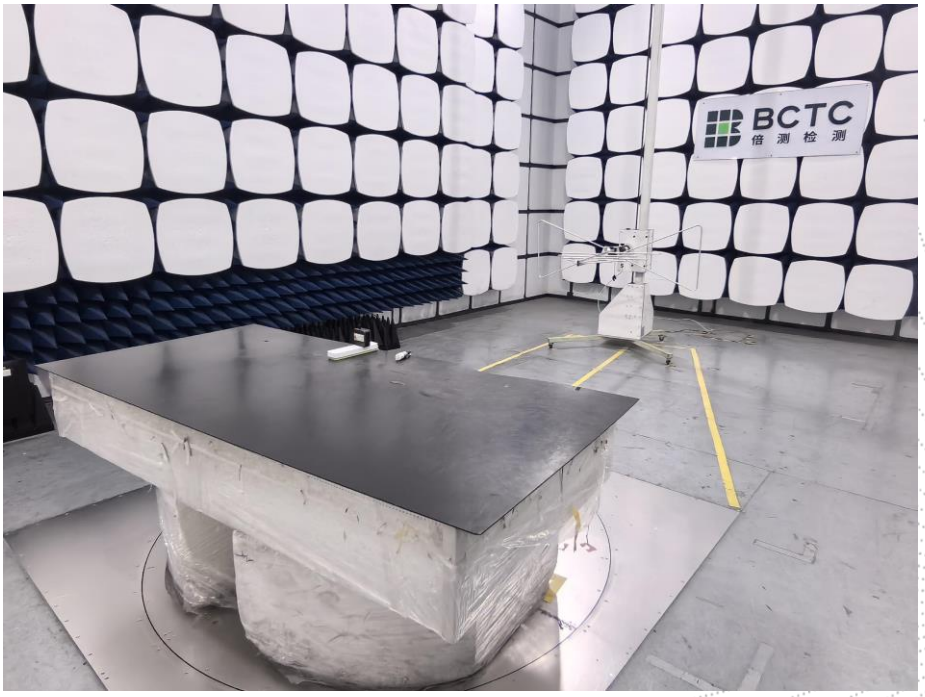
EUT Photo 1

NOTE: Appendix-Photographs Of EUT Constructional Details.

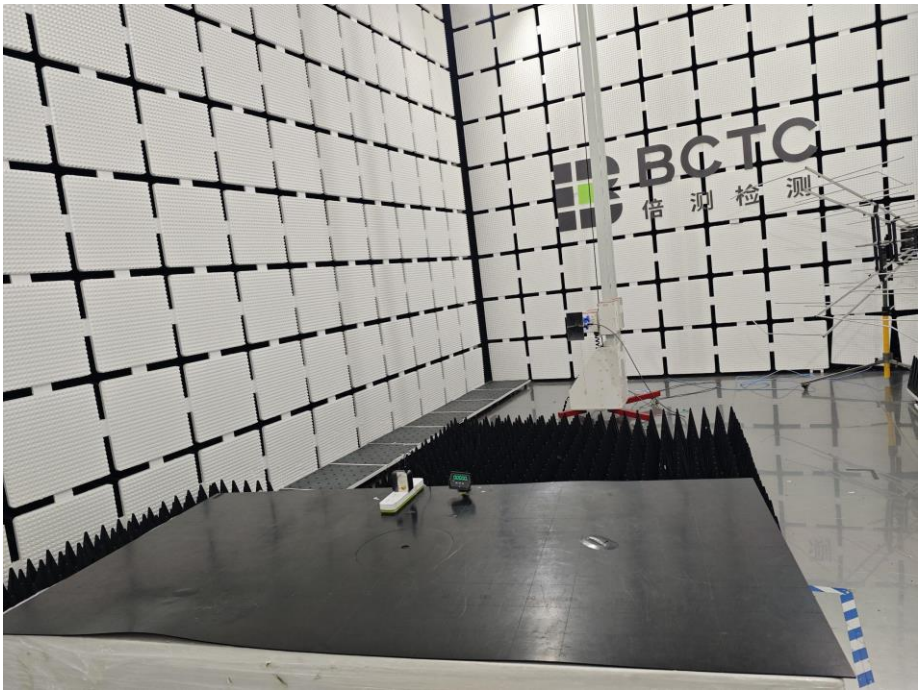
9. EUT Test Setup Photographs

Conducted emissions

Radiated emissions(30MHz~1GHz)



Radiated emissions(Above 1GHz)



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.

Address:
1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

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Website: http://www.chnbctc.com

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Complaint/Advice E-mail: advice@bctc-lab.com.cn

※※※※※ END ※※※※※