

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

TEST REPORT FCC Rules and Regulations Part PART 15.249

Report Reference No...... CTA25021801101

FCC ID...... 2BN8L-54707

Compiled by

(position+printed name+signature.. File administrators Joan Wu

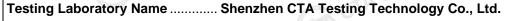
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Approved by

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Date of issue...... Mar. 04, 2025



Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,

Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name......Zhongshan Yatai Electric Appliances Co., Ltd

No.4 Xinlong St, Nanlong Industrial Park, SanXiang Town, ZhongShan

City, 528463, GuangDong, China

Standard FCC Rules and Regulations PART 15.249

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ı	Test item description	W40LBS-Cance DD	BrushessMotor(GPS	١
		VVTULBU Galloc BE	Di usi icssivicioi (Gi G	

Trade Mark HASWING

Manufacturer Zhongshan Yatai Electric Appliances Co., Ltd

CTATESTING

Model/Type reference..... #54707

Listed ModelsN/A

Modulation GFSK

Frequency......2448MHz

Ratings DC 12V From external circuit

Result......PASS





CTATESTIN

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TEST REPORT

CTA TESTING Equipment under Test : W40LBS-Canoe DD BrushessMotor(GPS)

Model /Type #54707

: N/A Listed Models

Applicant : Zhongshan Yatai Electric Appliances Co., Ltd

No.4 Xinlong St, Nanlong Industrial Park, SanXiang Town, ZhongShan Address

City, 528463, GuangDong, China

: Zhongshan Yatai Electric Appliances Co., Ltd Manufacturer

: No.4 Xinlong St, Nanlong Industrial Park, SanXiang Town, ZhongShan CTA TESTING Address

City, 528463, GuangDong, China

CTATES	ESTIN	ESTING		
	CTATE	STING		
Test	Result:	PASS		

The test report merely corresponds to the test sample.

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

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CTATE			
		CTA TESTING	





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1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.249: Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz, and 24.0 - 24.25 GHz.

ANSI C63.10:2013: American National Standard for Testing Unlicensed Wireless Devices

ANSI C63.4: 2014: –American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz Range of 9 kHz to 40GHz

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2. SUMMARY

2.1. General Remarks

2.1. General Remarks			
Date of receipt of test sample	100	Feb. 18, 2025	STING
Testing commenced on		Feb. 18, 2025	CTATES
Testing concluded on	1:	Mar. 04, 2025	

2.2. Product Description

Name of EUT	W40LBS-Canoe DD BrushessMotor(GPS)			
Model Number	#54707			
Power Rating	DC 12V From external circuit			
Hardware version:	V1.0			
Software version:	V1.0			
Sample ID:	CTA250218011-1# (Engineer sample) CTA250218011-2# (Normal sample)			
Operation frequency	2448MHz			
Modulation	GFSK			
Antenna Type	PCB antenna			
Antenna Gain	0.62 dBi			
2.3. Equipment Under Test	TATESTING			
Power supply system utilise	CITIO			

2.3. Equipment Under Test

Power supply system utilised

2.3. Equipment Under 1		C,					
Power supply system ut	ilisea					TATE	
Power supply voltage	:	0	230V / 50 Hz		0	120V / 60Hz	
		•	12 V DC	The Civillation Civillation	0	24 V DC	(6) 10
		0	Other (specified in	blank bel	ow)		43
STING			<u>/</u>				Will Your

2.4. Short description of the Equipment under Test (EUT)

This is a W40LBS-Canoe DD BrushessMotor(GPS).

For more details, refer to the user's manual of the EUT.

2.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- supplied by the manufacturer
- O supplied by the lab

- TATES	GIA	
CIN C.	CTA TESTING	
		CTATESTING



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2.6. EUT operation mode

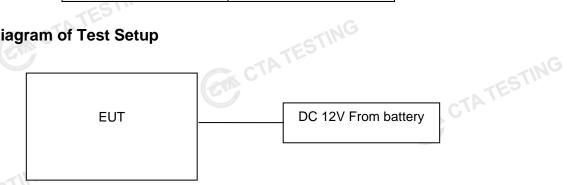
The Applicant use Key to control the EUT for staying in continuous transmitting and receiving mode for testing .There is 1 channels provided to the EUT. Channel 1 was selected to test.

s provided to the EUT. Chan	ner i was selected to test.	
Channel	Frequency (MHz)	GTING
01	2448	ES
	CAN CALL	

Test frequency: CTATESTING

Channel	Frequency (MHz)
01	2448

2.7. Block Diagram of Test Setup



Modifications

No modifications were implemented to meet testing criteria.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Baoʻan District, Shenzhen, China

3.2. Test Facility

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

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

Industry Canada Registration Number. Is: 27890 CAB identifier: CN0127

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Radiated Emission:

Temperature:	23 ° C
Humidity:	48 %
NG	
Atmospheric pressure:	950-1050mbar

AC Main Conducted testing:

ic Main Conducted testing:		
Temperature:	24 ° C	NG.
C		GTING
Humidity:	45 %	TES!
Towns of the second	350,110	
Atmospheric pressure:	950-1050mbar	1

Conducted testing:

bonducted testing:	
Temperature:	24 ° C
Humidity:	45 %
ESTIN	
Atmospheric pressure:	950-1050mbar
	CTATESTING

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3.4. Summary of measurement results

FCC PART 15.249		
FCC Part 15.249(a)	Field Strength of Fundamental	PASS
FCC Part 15.209	Spurious Emission	PASS
FCC Part 15.209	Band edge	PASS
FCC Part 15.215(c)	20dB bandwidth	PASS
FCC Part 15.207	Conducted Emission	N/A
FCC Part 15.203	Antenna Requirement	PASS

3.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd.:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.02 dB	(1)
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Output Peak power	30MHz~18GHz	0.55 dB	(1)
Power spectral density	/	0.57 dB	(1)
Spectrum bandwidth	/	1.1%	(1)
Radiated spurious emission (30MHz-1GHz)	30~1000MHz	4.10 dB	(1)
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB	(1)
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB	(1)

⁽¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence CTA TESTIN level using a coverage factor of k=2.

3.6. Equipments Used during the Test

Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date	
LISN	R&S	ENV216	CTA-308	2024/08/03	2025/08/02	
LISN	R&S	ENV216	CTA-314	2024/08/03	2025/08/02	
EMI Test Receiver	R&S	ESPI	CTA-307	2024/08/03	2025/08/02	
EMI Test Receiver	R&S	ESCI	CTA-306	2024/08/03	2025/08/02	
Spectrum Analyzer	Agilent	N9020A	CTA-301	2024/08/03	2025/08/02	TATES
CTING					CIA	

		.			
Spectrum Analyzer	R&S	FSU	CTA-337	2024/08/03	2025/08/02
Vector Signal generator	Agilent	N5182A	CTA-305	2024/08/03	2025/08/02
Analog Signal Generator	R&S	SML03	CTA-304	2024/08/03	2025/08/02
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	R&S	CTA-302	2024/08/03	2025/08/02
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2024/08/03	2025/08/02
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2023/10/17	2026/10/16
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2023/10/13	2026/10/12
Loop Antenna	Zhinan	ZN30900C	CTA-311	2023/10/17	2026/10/16
Broadband Horn Antenna	A-INFOMW	LB-180500H-2.4F	CTA-336	2023/09/13	2026/09/12
Amplifier	Schwarzbeck	BBV 9745	CTA-312	2024/08/03	2025/08/02
Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2024/08/03	2025/08/02
Directional coupler	NARDA	4226-10	CTA-303	2024/08/03	2025/08/02
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2024/08/03	2025/08/02
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2024/08/03	2025/08/02
Automated filter bank	Tonscend	JS0806-F	CTA-404	2024/08/03	2025/08/02
Power Sensor	Agilent	U2021XA	CTA-405	2024/08/03	2025/08/02
Amplifier	Schwarzbeck	BBV9719	CTA-406	2024/08/03	2025/08/02
	Vector Signal generator Analog Signal Generator WIDEBAND RADIO COMMUNICATION TESTER Temperature and humidity meter Ultra-Broadband Antenna Horn Antenna Loop Antenna Broadband Horn Antenna Amplifier Amplifier Directional coupler High-Pass Filter High-Pass Filter Automated filter bank Power Sensor	Vector Signal generator Analog Signal Generator WIDEBAND RADIO COMMUNICATION TESTER Temperature and humidity meter Ultra-Broadband Antenna Schwarzbeck Horn Antenna Schwarzbeck Loop Antenna Zhinan Broadband Horn Antenna A-INFOMW Amplifier Schwarzbeck Amplifier Taiwan chengyi Directional coupler NARDA High-Pass Filter XingBo Automated filter bank Power Sensor Agilent	Vector Signal generator Analog Signal Generator WIDEBAND RADIO COMMUNICATION TESTER Temperature and humidity meter Ultra-Broadband Antenna Horn Antenna Broadband Horn Antenna Amplifier Amplifier Amplifier Schwarzbeck Amplifier Taiwan chengyi Directional coupler High-Pass Filter N5182A R&S SML03 RAS VULB9163 VULB9163 VULB9163 VULB9163 BBHA 9120D LB-180500H-2.4F AFINFOMW LB-180500H-2.4F BBV 9745 RAMC051845B Directional coupler NARDA 4226-10 High-Pass Filter XingBo XBLBQ-GTA18 High-Pass Filter XingBo XBLBQ-GTA27 Automated filter bank Power Sensor Agilent U2021XA	Vector Signal generatorAgilentN5182ACTA-305Analog Signal GeneratorR&SSML03CTA-304WIDEBAND RADIO COMMUNICATION TESTERCMW500R&SCTA-302Temperature and humidity meterChigoZG-7020CTA-326Ultra-Broadband AntennaSchwarzbeckVULB9163CTA-310Horn AntennaSchwarzbeckBBHA 9120DCTA-309Loop AntennaZhinanZN30900CCTA-311Broadband Horn AntennaA-INFOMWLB-180500H-2.4FCTA-336AmplifierSchwarzbeckBBV 9745CTA-312AmplifierTaiwan chengyiEMC051845BCTA-313Directional couplerNARDA4226-10CTA-303High-Pass FilterXingBoXBLBQ-GTA18CTA-402High-Pass FilterXingBoXBLBQ-GTA27CTA-403Automated filter bankTonscendJS0806-FCTA-404Power SensorAgilentU2021XACTA-405	Vector Signal generator Agilent N5182A CTA-305 2024/08/03 Analog Signal Generator R&S SML03 CTA-304 2024/08/03 WIDEBAND RADIO COMMUNICATION TESTER CMW500 R&S CTA-302 2024/08/03 Temperature and humidity meter Chigo ZG-7020 CTA-326 2024/08/03 Ultra-Broadband Antenna Schwarzbeck VULB9163 CTA-310 2023/10/17 Horn Antenna Schwarzbeck BBHA 9120D CTA-309 2023/10/13 Loop Antenna Zhinan ZN30900C CTA-311 2023/10/17 Broadband Horn Antenna A-INFOMW LB-180500H-2.4F CTA-336 2023/09/13 Amplifier Schwarzbeck BBV 9745 CTA-312 2024/08/03 Amplifier Taiwan chengyi EMC051845B CTA-313 2024/08/03 Directional coupler NARDA 4226-10 CTA-303 2024/08/03 High-Pass Filter XingBo XBLBQ-GTA18 CTA-402 2024/08/03 Automated filter bank Tonscend JS0806-F

	Test Equipment	Manufacturer	Model No.	Version number	Calibration Date	Calibration Due Date
CTATE	EMI Test Software	Tonscend	TS®JS32-RE	5.0.0.2	N/A	N/A
	EMI Test Software Tonscend		Tonscend TS®JS32-CE		N/A	N/A
	RF Test Software	Tonscend	TS®JS1120-3	3.1.65	N/A	N/A
	RF Test Software	Tonscend	TS®JS1120	3.1.46	N/A	N/A
·					CT	All
G						

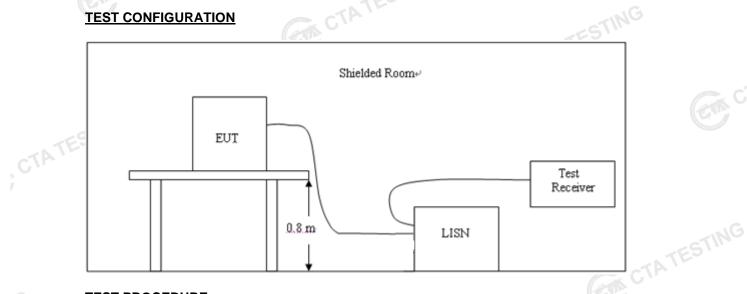
CTATESTING CTATES

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4. TEST CONDITIONS AND RESULTS

4.1. AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following:

Eroguenov rongo (MUz)	Limit (dBuV)
Frequency range (MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the freque	ency.	

TEST RESULTS

Not applicable

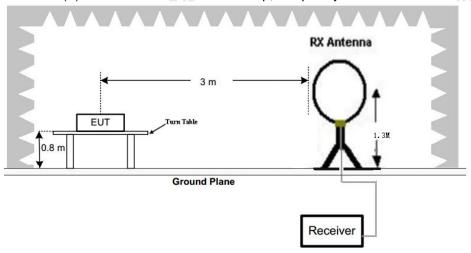


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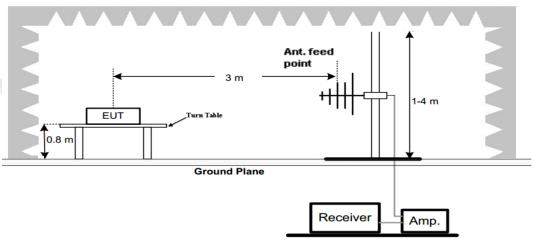
4.2. Radiated Emission and Band Edges

TEST CONFIGURATION

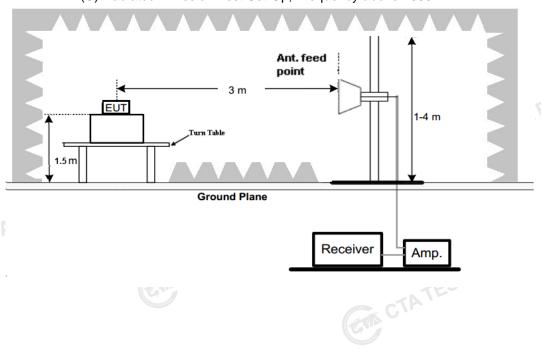
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



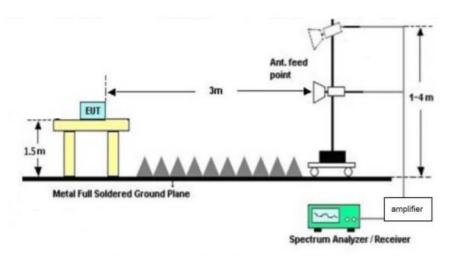
(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



TESTING



TEST PROCEDURE

- The EUT was placed on a turn table which is 0.8m above ground plane when testing frequency range 9 KHz –25GHz.
- Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0[∞] to 360[∞] to acquire the highest emissions from EUT.
- 3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4. Repeat above procedures until all frequency measurements have been completed.
- 5. The EUT minimum operation frequency was 26MHz and maximum operation frequency was 1910MHz.so radiated emission test frequency band from 9KHz to 25GHz.
- 6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Ultra-Broadband Antenna	3
1GHz-18GHz	Double Ridged Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	, C

Transd=AF +CL-AG

RADIATION LIMIT

According 15.249, the field strength of emissions from intentional radiators operated within 2400MHz-2483.5 MHz shall not exceed 94dBµV/m (50mV/m):

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FCC PART 15.249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

		Rad	iated emission limits	
	Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
	0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
	0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
	1.705-30	3	20log(30)+ 40log(30/3)	30
	30-88	3	40.0	100
CTATE	88-216	3 NG	43.5	150
	216-960	3	46.0	200
,	Above 960	GTP 3	54.0	500

TEST RESULTS

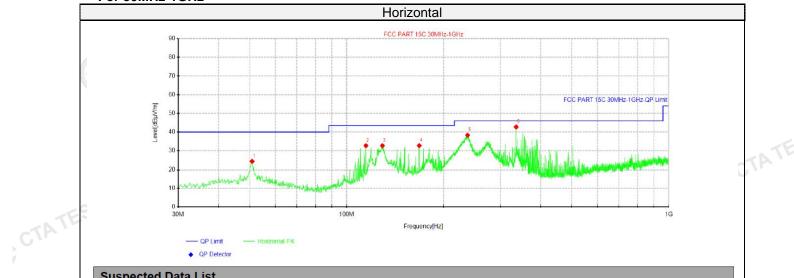
Remark:

- This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.
- 2. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9 KHz to 30MHz and not recorded in this report.



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For 30MHz-1GHz



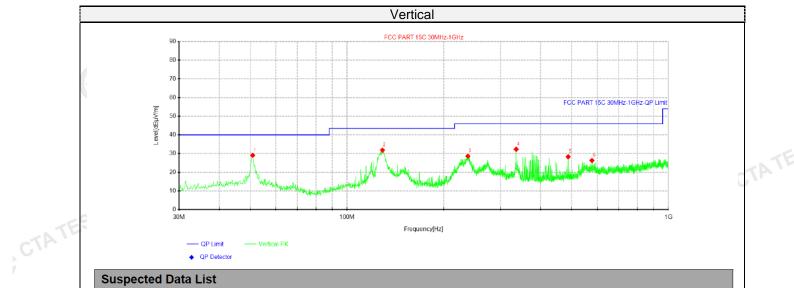
Suspe	Suspected Data List								
NO	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Delevity
NO.	[MHz]	[dBµV]	[dBµV/m]	[dB/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
1	50.855	35.56	24.34	-11.22	40.00	15.66	200	359	Horizontal
2	114.753	46.36	32.73	-13.63	43.50	10.77	100	3	Horizontal
3	129.061	49.08	32.72	-16.36	43.50	10.78	100	336	Horizontal
4	167.982	47.92	32.75	-15.17	43.50	10.75	200	173	Horizontal
5	237.337	50.74	38.36	-12.38	46.00	7.64	100	173	Horizontal
6	335.913	53.55	42.76	-10.79	46.00	3.24	100	115	Horizontal

Note:1).Level ($dB\mu V/m$)= Reading ($dB\mu V$)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB) CTATESTING

3). Margin(dB) = Limit (dB μ V/m) - Level (dB μ V/m)

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Suspe	Suspected Data List								
NO	Freq.	Reading	Level	Factor	Limit	Margin	Height	Angle	Dolority
NO.	[MHz]	[dBµV]	[dBµV/m]	[dB/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
1	50.855	40.30	29.08	-11.22	40.00	10.92	200	131	Vertical
2	128.818	48.18	31.85	-16.33	43.50	11.65	100	268	Vertical
3	237.58	41.02	28.65	-12.37	46.00	17.35	100	48	Vertical
4	335.913	43.12	32.33	-10.79	46.00	13.67	200	60	Vertical
5	487.597	37.61	28.31	-9.30	46.00	17.69	100	315	Vertical
6	578.171	33.43	26.33	-7.10	46.00	19.67	100	199	Vertical

Note:1).Level ($dB\mu V/m$)= Reading ($dB\mu V$)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB) CTATESTING

3). Margin(dB) = Limit (dB μ V/m) - Level (dB μ V/m)

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For 1GHz to 25GHz

GFSK (above 1GHz)

GFSK (above 1GHz)									
Frequency(MHz):			2448		Polarity:		HORIZONTAL		
Frequency (MHz)	Emis Lev (dBu	vel	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre- amplifier (dB)	Correction Factor (dB/m)
2448.00	86.97	PK	114.00	27.03	98.20	27.53	3.47	42.23	-11.23
2448.00	80.04	AV	94.00	13.96	91.27	27.53	3.47	42.23	-11.23
4896.00	49.53	PK	74.00	24.47	53.36	32.65	5.35	41.83	-3.83
4896.00	40.15	AV	54.00	13.85	43.98	32.65	5.35	41.83	-3.83
7344.00	51.21	PK	74.00	22.79	51.29	36.84	6.82	43.74	-0.08
7344.00	38.18	AV	54.00	15.82	38.26	36.84	6.82	43.74	-0.08
GTIN	•			•					73 uses

Frequency(MHz):		2448		Polarity:		VERTICAL			
Frequency (MHz)	Emis Le (dBu	vel	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre- amplifier (dB)	Correction Factor (dB/m)
2448.00	85.66	PK	114.00	28.34	96.89	27.53	3.47	42.23	-11.23
2448.00	79.09	AV	94.00	14.91	90.32	27.53	3.47	42.23	-11.23
4896.00	48.17	PK	74.00	25.83	52.00	32.65	5.35	41.83	-3.83
4896.00	38.36	ΑV	54.00	15.64	42.19	32.65	5.35	41.83	-3.83
7344.00	48.91	PK	74.00	25.09	48.99	36.84	6.82	43.74	-0.08
7344.00	37.20	AV	54.00	16.80	37.28	36.84	6.82	43.74	-0.08

REMARKS:

- Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
- Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)- Pre-amplifier 2.
- Margin value = Limit value- Emission level.
- -- Mean the PK detector measured value is below average limit.
- The other emission levels were very low against the limit.



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Results of Band Edges Test (Radiated)

Frequency(MHz):		24	48	Pola	Polarity: HORIZONTA		\L		
Frequency (MHz)	Emis Lev (dBu)	vel	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre- amplifier (dB)	Correction Factor (dB/m)
2390.00	61.95	PK	74.00	12.05	72.37	27.42	4.31	42.15	-10.42
2390.00	43.37	AV	54.00	10.63	53.79	27.42	4.31	42.15	-10.42
2400.00	62.49	PK	74.00	11.51	72.92	27.43	4.31	42.17	-10.43
2400.00	48.87	AV	54.00	5.13	59.30	27.43	4.31	42.17	-10.43
Freque	Frequency(MHz):			48	Pola	arity:		VERTICAL	•
Frequency (MHz)	Emis Lev (dBu)	vel	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre- amplifier (dB)	Correction Factor (dB/m)
2390.00	60.30	PK	74.00	13.70	70.72	27.42	4.31	42.15	-10.42
2390.00	41.53	AV	54.00	12.47	51.95	27.42	4.31	42.15	-10.42
2400.00	61.42	PK	74.00	12.58	71.85	27.43	4.31	42.17	-10.43
2400.00	47.19	AV	54.00	6.81	57.62	27.43	4.31	42.17	-10.43
Freque	ncy(MHz)	:	24	48	Pola	arity:	HORIZONTAL		
Frequency (MHz)	Emis Lev (dBu)	vel	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre- amplifier (dB)	Correction Factor (dB/m)
2483.50	62.60	PK	74.00	11.40	72.71	27.7	4.47	42.28	-10.11
2483.50	43.18	AV	54.00	10.82	53.29	27.7	4.47	42.28	-10.11
Frequency(MHz):			2448		Polarity:		VERTICAL		
Frequency (MHz)	Emis Lev (dBu)	vel	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre- amplifier (dB)	Correction Factor (dB/m)
2483.50	61.08	PK	74.00	12.92	71.19	27.7	4.47	42.28	-10.11
2483.50	41.75	AV	54.00	12.25	51.86	27.7	4.47	42.28	-10.11
Note:			Cili			CTP CTP	TES		- CTA

Note:

- Emission level (dBuV/m) = Meter Reading+ antenna Factor+ cable loss- preamp factor.
- Margin value = Limits-Emission level.
- 3) -- Mean the PK detector measured value is below average limit.
- The other emission levels were very low against the limit.
- RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV CTA TESTING value.

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4.3. 20dB Bandwidth Measurement

TEST CONFIGURATION



TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30KHz RBW and 300KHz VBW.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus CTA TESTING 20dB.

LIMIT

N/A

TEST RESULTS

Modulation	Channel	20dB bandwidth (MHz)	Result
GFSK	01	1.656	PASS

Note: 1. The test results including the cable loss.



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4.4. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

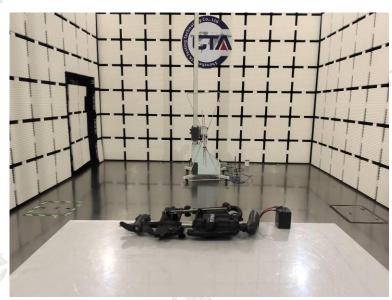
And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than CTATE 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

The maximum gain of antenna was 0.62 dBi.

Remark:The antenna Remark: The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Shenzhen CTA Testing Technology Co., Ltd. does not assume any responsibility. CTATES

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5. Test Setup Photos of the EUT



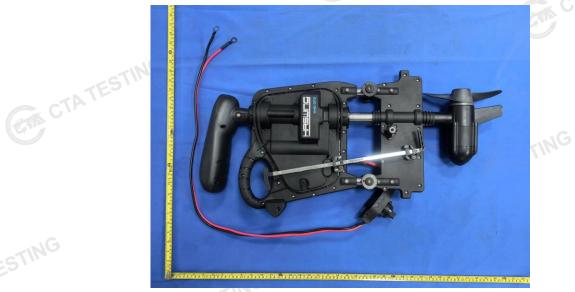


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6. Test Photos of the EUT







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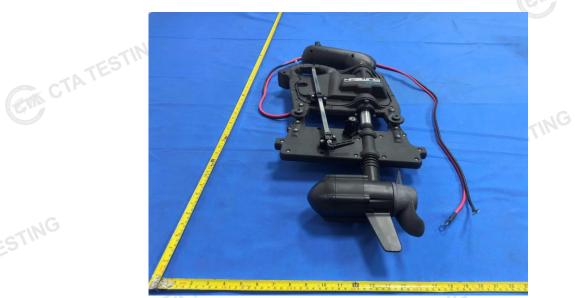




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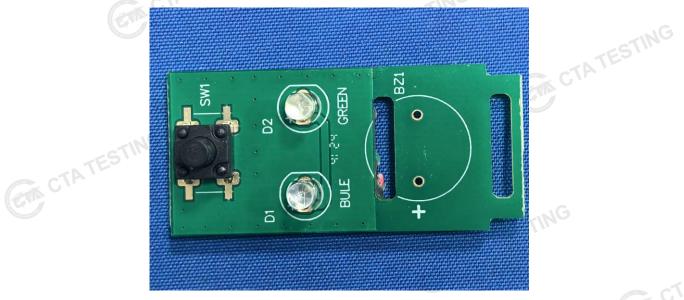




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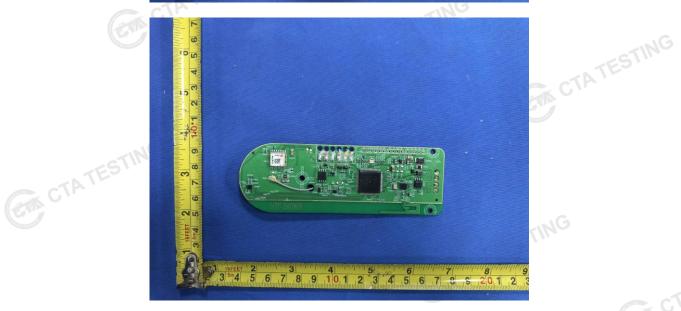




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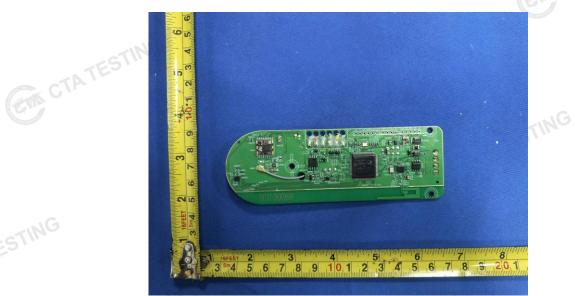




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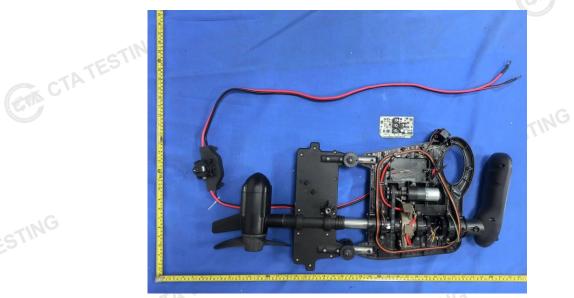


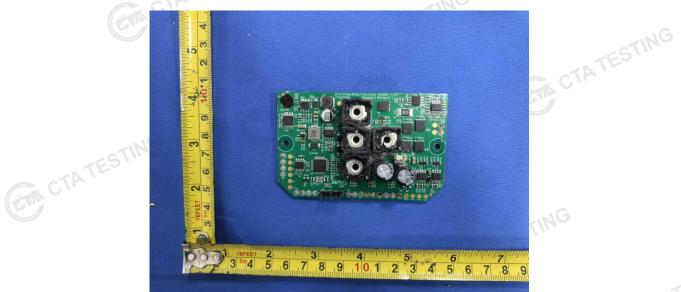


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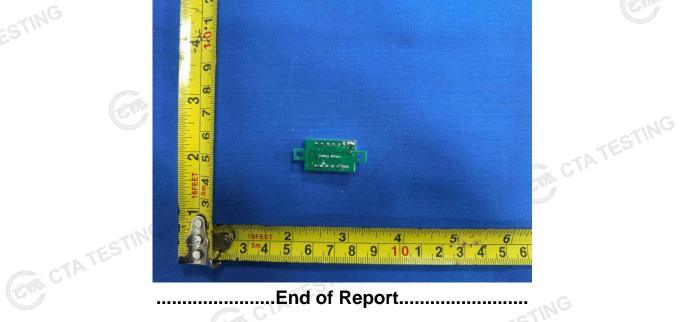


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End of Report.....

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