Shenzhen Huatongwei International Inspection Co.,Ltd.
Huatongwei 101, No.006, Keji south 12th Road, High-tech zone community, Yuehai Street,
Nanshan District, Shenzhen, Guangdong, China
Phone:86-755-26715499 E-mail: cs@szhtw.com.cn Website:http://www.szhtw.com.cn

TEST REPORT

For FCC Part15B

Report No. .....:	**CHTEW23090010**	Report verification:
Project No. .....:	SHT2305025604EW	
FCC ID ..... :	**OA8-TC368**	
Applicant's name ..... :	**Quanzhou Chierda Electronic Telecom Co., Ltd.**	
Address.....:	No.8,Zian Road,Jiangnan High-tech Industrial Zone,Quanzhou,Fujian,China	
Product Name ..... :	**TWO WAY RADIO**	
Trade Mark .....:	chierda	
Model No. .....:	TC368	
Listed Model(s) .....:	TC368PLUS, TC368D, TC388	
Standard ..... :	**FCC CFR Title 47 Part 15 Subpart B**	
Date of receipt of test sample.....:	Jun.13, 2023	
Date of testing.....:	Jun.20, 2023- Sep.07, 2023	
Date of issue.....:	Sep.07, 2023	
Result ....:	**Pass**	

Compiled by (position+printed name+signature)...:	File administrator Caspar Chen	Caspar Chen
Supervised by (position+printed name+signature)...:	Project Engineer Caspar Chen	Caspar Chen
Approved by (position+printed name+signature)...:	RF Manager Xu Yang	Xu Yang

Testing Laboratory Name ..... :	**Shenzhen Huatongwei International Inspection Co., Ltd.**
Address.....:	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

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The test report merely corresponds to the test sample.

Contents

1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

FCC CFR Title 47 Part 15 Subpart B - Unintentional Radiators

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

1.2. Report version information

Revision No.	Date of issue	Description
N/A	2023-09-07	Original

2. TEST DESCRIPTION

Section	Test Item	Section in CFR 47	Result #1	Test Engineer
5.1	Conducted Emissions	15.107(a)	-	-
5.2	Radiated Emissions	15.109(a)	PASS	Yifan Wang

Note:

#1: The test result does not include measurement uncertainty value

3. SUMMARY

3.1. Client Information

Applicant:	Quanzhou Chierda Electronic Telecom Co., Ltd.
Address:	No.8,Zian Road,Jiangnan High-tech Industrial Zone,Quanzhou,Fujian,China
Manufacturer:	Quanzhou Chierda Electronic Telecom Co., Ltd.
Address:	No.8,Zian Road,Jiangnan High-tech Industrial Zone,Quanzhou,Fujian,China

3.2. Product Description

Main unit information:	
Product Name:	TWO WAY RADIO
Trade Mark:	chierda
Model No.:	TC368
Listed Model(s):	TC368PLUS, TC368D, TC388
Power supply:	DC 7.4V from Battery
Hardware version:	TC368 Ver 1.0
Software version:	TC368 FCC program Ver 1.2.1
Accessory unit information:	
Battery information:	Model: TC368 Voltage: DC 7.4V Capacity: 2800mAh(20.72WH)
Charger information:	Model: DC368 Input: DC5V,1000mA Output: DC5V,1000mA

3.3. Testing Laboratory Information

Laboratory Name	Shenzhen Huatongwei International Inspection Co., Ltd.	
Laboratory Location	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China	
Contact information:	Tel: 86-755-26715499 E-mail: cs@szhtw.com.cn http://www.szhtw.com.cn	
Qualifications	Type	Accreditation Number
	FCC	762235

4. TEST CONFIGURATION

4.1. Descriptions of test mode

Test mode	Description
RX mode	Keep the EUT in Receiving status

RX Frequency: 462.6375MHz

4.2. Support unit used in test configuration

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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

Whether support unit is used?			
✓ No			
Item	Equipment	Trade Name	Model No.
1	-	-	-
2	-	-	-

4.3. Environmental conditions

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

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050mba

4.4. Statement of the measurement uncertainty

No.	Test Items	Measurement Uncertainty
1	Radiated Emission	4.54dB for 30MHz-1GHz 5.10dB for above 1GHz

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

4.5. Equipments Used during the Test

● Radiated Emission-Below 1GHz							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	HTWE0127	SAC-3m-02	C11121	2018/09/30	2023/09/29
●	EMI Test Receiver	R&S	HTWE0099	ESCI	100900	2022/08/30	2023/08/29
●	Ultra-Broadband Antenna	SCHWARZBECK	HTWE0547	VULB9163	945	2022/05/23	2025/05/22
●	Pre-Amplifer	SCHWARZBECK	HTWE0295	BBV 9742	N/A	2022/11/04	2023/11/03
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-01	N/A	N/A	2023/02/24	2024/02/23
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-02	SUCOFLEX104	501184/4	2023/02/24	2024/02/23
●	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A

● Radiated emission-Above 1GHz							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	HTWE0122	SAC-3m-01	C11121	2018/09/27	2023/09/26
●	Spectrum Analyzer	R&S	HTWE0098	FSP40	100597	2022/08/25	2023/08/24
●	Horn Antenna	ETS	HTWE0548	3117	240120	2022/05/20	2025/05/19
●	Broadband Pre-amplifier	SCHWARZBECK	HTWE0201	BBV 9718	9718-248	2023/02/27	2024/02/26
●	RF Connection Cable	HUBER+SUHNER	HTWE0126-01	RE-7-FH	N/A	2023/02/27	2024/02/26
●	Test Software	Audix	N/A	E3	N/A	N/A	N/A

● Auxiliary Equipment							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
○	Radio communication tester	R&S	HTWE0287	CMW500	137688-Lv	2022/08/25	2023/08/24
○	RF Communication Test Set	HP	HTWE0038	8920A	3813A10206	2022/08/25	2023/08/24
○	Digital intercom communication tester	Aeroflex	HTWE0255	3920B	1001682041	2022/08/25	2023/08/24

5. TEST CONDITIONS AND RESULTS

5.1. Conducted Emissions

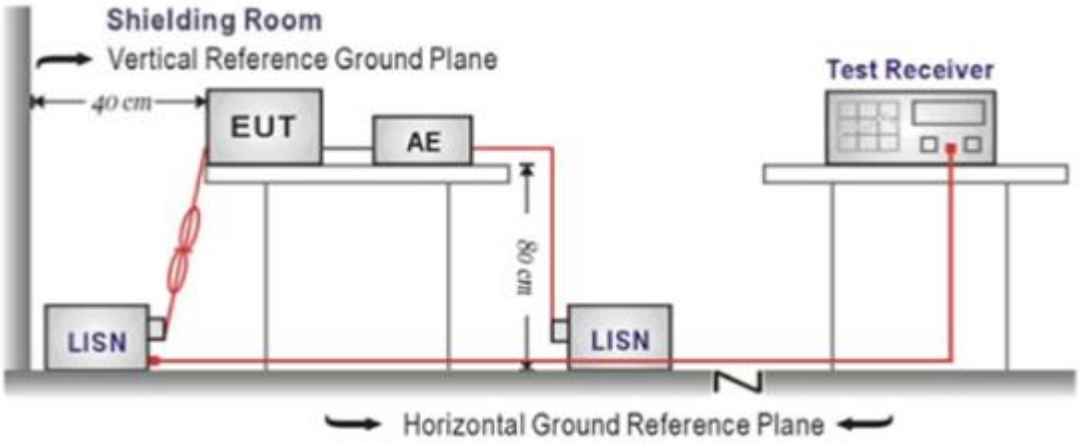
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.107:

Frequency range (MHz)	Limit (dBuV)	
	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 frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup according to ANSI C63.4:2014
2. The EUT was placed on a plat form of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50ohm / 50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor,was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

Please refer to the clause 4.1

TEST RESULTS

☐ **Passed** ☒ **Not Applicable**

5.2. Radiated Emissions

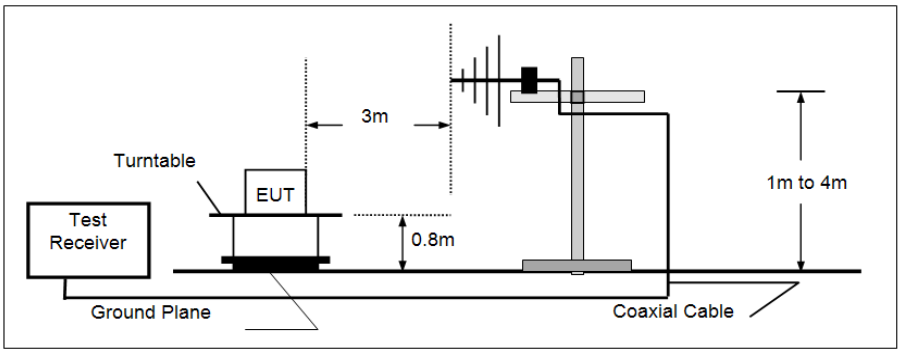
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.109

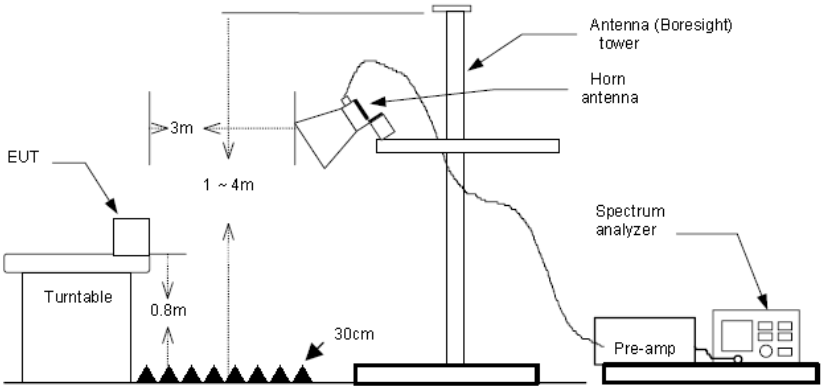
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

➢ 30MHz ~ 1GHz



➢ Above 1GHz



TEST PROCEDURE

1. The EUT was tested according to ANSI C63.4:2014.
2. The EUT is placed on a turn table which is 0.8 meter above ground.
3. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
4. The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.
5. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. Thisis repeated for both horizontal and vertical polarization of the antenna.
6. Use the following spectrum analyzer settings
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Below 1GHz,
   RBW=120KHz, VBW=300KHz, Sweep=auto, Detector function=peak, Trace=max hold;
   If the emission level of the EUT measured by the peak detectoris 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, theemission measurement will be repeated using the quasi-peak detector and reported.
   (3) From 1GHz to 5th harmonic, RBW=1MHz, VBW=3MHz

TEST MODE:

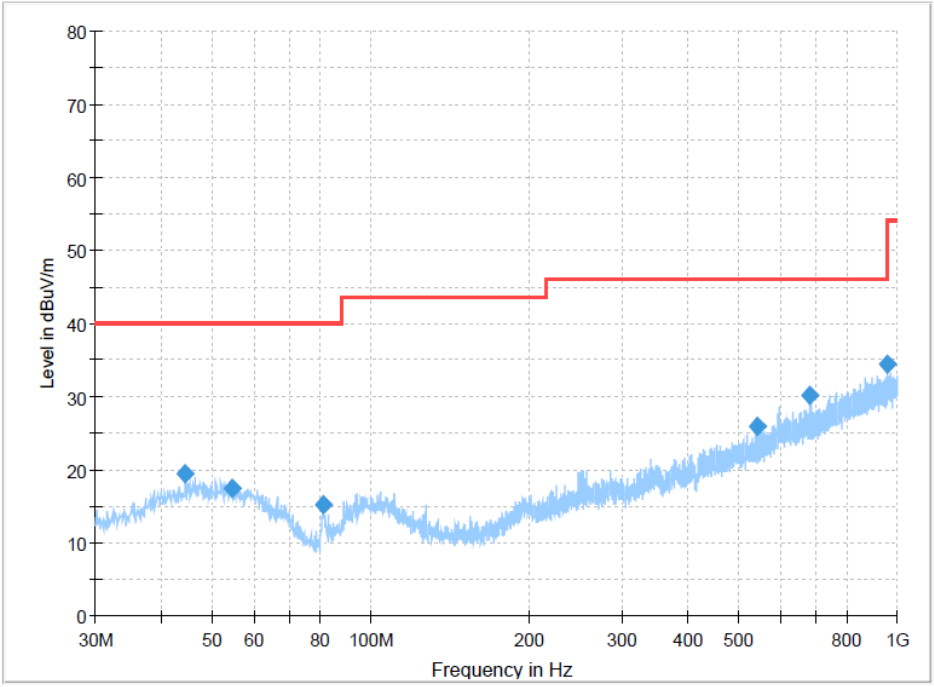
Please refer to the clause 4.1

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

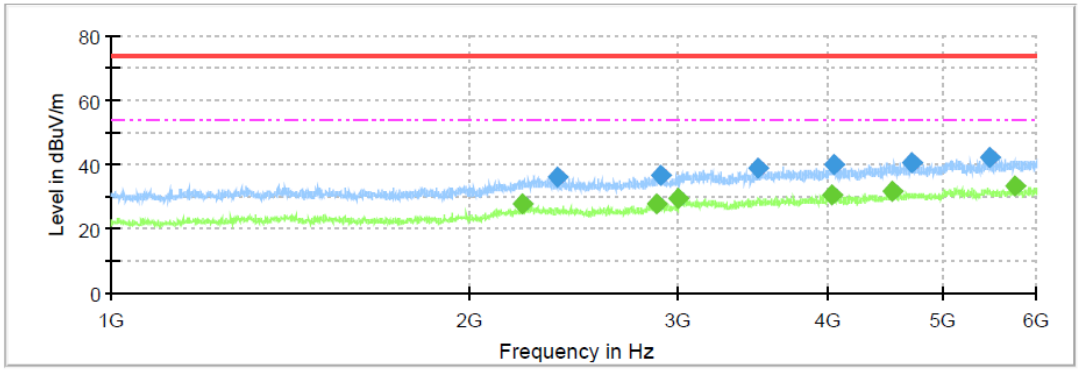
Note: Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
The emission levels of frequency above 6GHz are very lower than limit and not show in test report.

Polarization:	Horizontal



Final_Result

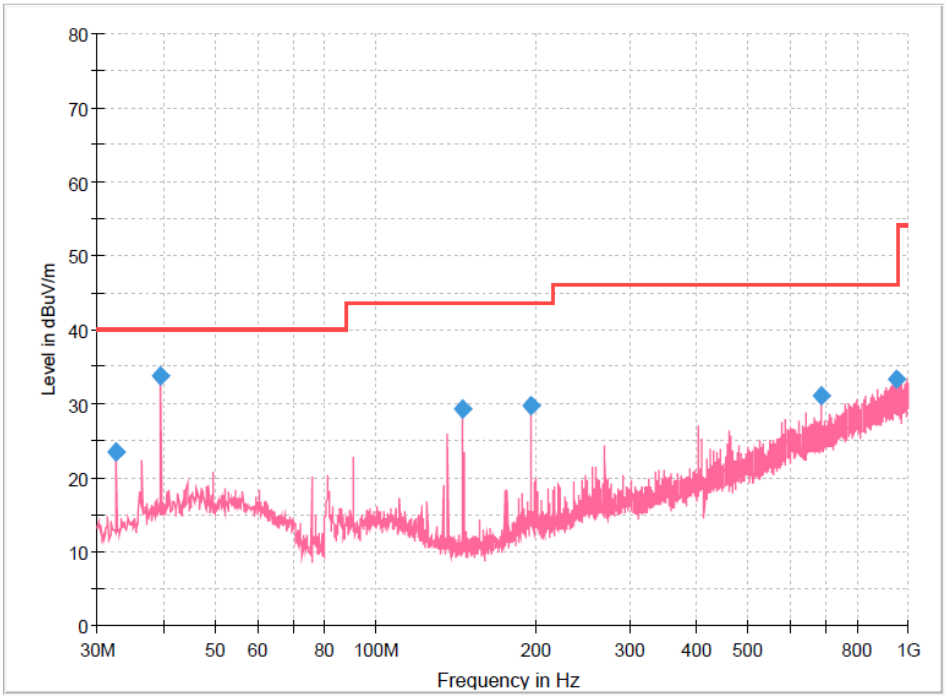
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
44.428750	19.36	40.00	20.64	300.0	H	182.0	-9.0
54.613750	17.40	40.00	22.60	100.0	H	121.0	-9.1
81.288750	15.30	40.00	24.70	100.0	H	15.0	-15.5
539.977500	25.88	46.00	20.12	300.0	H	340.0	-1.2
679.051250	30.07	46.00	15.93	300.0	H	222.0	2.2
955.380000	34.30	46.00	11.70	300.0	H	69.0	7.4



Final_Result

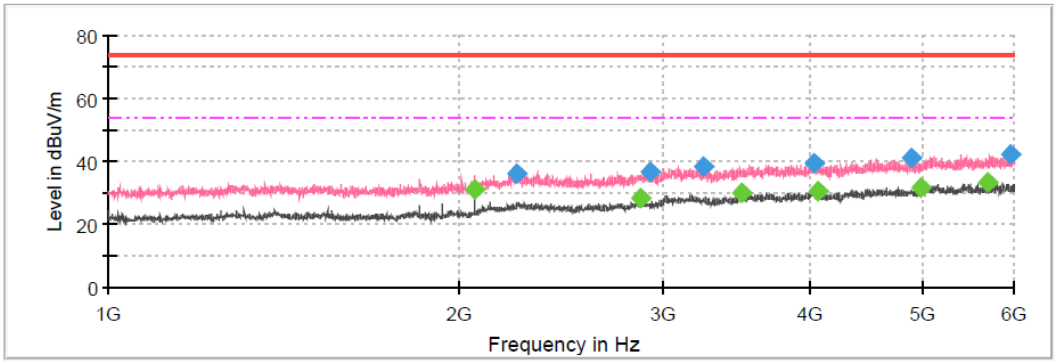
Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2212.500000	---	27.55	54.00	26.45	150.0	H	46.0	-5.7
2375.000000	36.18	---	74.00	37.82	150.0	H	253.0	-5.7
2873.125000	---	27.76	54.00	26.24	150.0	H	357.0	-4.4
2893.125000	36.51	---	74.00	37.49	150.0	H	347.0	-4.4
3001.875000	---	29.48	54.00	24.52	150.0	H	0.0	-4.1
3505.000000	38.86	---	74.00	35.14	150.0	H	65.0	-3.4
4035.625000	---	30.75	54.00	23.25	150.0	H	0.0	-1.6
4053.750000	40.15	---	74.00	33.85	150.0	H	0.0	-1.5
4546.875000	---	31.83	54.00	22.17	150.0	H	206.0	0.7
4707.500000	40.51	---	74.00	33.49	150.0	H	338.0	1.0
5482.500000	42.43	---	74.00	31.57	150.0	H	301.0	3.1
5762.500000	---	33.08	54.00	20.92	150.0	H	225.0	3.4

Polarization:	Vertical



Final_Result

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
32.546250	23.56	40.00	16.44	100.0	V	340.0	-12.7
39.457500	33.67	40.00	6.33	100.0	V	340.0	-10.0
145.308750	29.17	43.50	14.33	100.0	V	340.0	-14.3
195.506250	29.68	43.50	13.82	100.0	V	355.0	-10.4
687.538750	31.16	46.00	14.84	100.0	V	13.0	2.1
948.832500	33.33	46.00	12.67	100.0	V	219.0	7.1



Final_Result

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2062.500000	---	30.89	54.00	23.11	150.0	V	305.0	-7.5
2245.625000	36.21	---	74.00	37.79	150.0	V	11.0	-5.6
2862.500000	---	28.06	54.00	25.94	150.0	V	104.0	-4.5
2916.250000	36.84	---	74.00	37.16	150.0	V	39.0	-4.4
3250.000000	38.21	---	74.00	35.79	150.0	V	170.0	-3.9
3503.750000	---	30.03	54.00	23.97	150.0	V	123.0	-3.4
4043.125000	39.27	---	74.00	34.73	150.0	V	238.0	-1.5
4072.500000	---	30.38	54.00	23.62	150.0	V	58.0	-1.4
4888.750000	41.35	---	74.00	32.65	150.0	V	123.0	1.4
4985.000000	---	31.81	54.00	22.19	150.0	V	314.0	1.6
5697.500000	---	33.11	54.00	20.89	150.0	V	58.0	3.1
5961.250000	41.99	---	74.00	32.01	150.0	V	86.0	3.8

6. TEST SETUP PHOTOS OF THE EUT

Radiated Emissions (30MHz-1GHz)

Radiated Emissions (Above 1GHz)

7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Refer to the test report No.: CHTEW23090009

--------End of Report--------