TEST REPORT

Report No……:	**CHTEW2004000101**	Report Verification:
Project No……:	**SHT2001005811EW**	
FCC ID..... :	**2ASNSRB18**	
Applicant's name..... :	**Shenzhen Retevis Technology Co., Ltd.**	
Address.....:	Room 700, 7/F, 13-C, Zhonghaixin Science&Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China	
Manufacturer.....:	Shenzhen Retevis Technology Co., Ltd.	
Address.....:	Room 700, 7/F, 13-C, Zhonghaixin Science&Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China	
Test item description ..... :	**Two Way Radio**	
Trade Mark .....:	RETEVIS	
Model/Type reference.....:	RB18	
Listed Model(s) .....:	-	
Standard ..... :	**47 CFR FCC Part 15 Subpart B**	
Date of receipt of test sample……..:	Mar.17, 2020	
Date of testing……:	Mar.17, 2020- Mar.31, 2020	
Date of issue……...:	Apr.01, 2020	
Result..... ……..:	**Pass**	

Compiled by (position+printed name+signature)..:	File administrators Echo Wei	Echo Wei
Supervised by (position+printed name+signature)..:	Project Engineer Gaosheng Pan	Gaosheng. Pan
Approved by (position+printed name+signature)..:	RF Manager Hans Hu	Hans Hu

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

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	2020-04-01	Original

2. TEST DESCRIPTION

Test Item	Section in CFR 47	Result	Test Engineer
Conducted Emissions	15.107(a)	Pass	Jianquan Wu
Radiated Emissions	15.109(a)	Pass	Kang Yang

Note: The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

Applicant:	Shenzhen Retevis Technology Co., Ltd.
Address:	Room 700, 7/F, 13-C, Zhonghaixin Science&Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China
Manufacturer:	Shenzhen Retevis Technology Co., Ltd.
Address:	Room 700, 7/F, 13-C, Zhonghaixin Science&Technology Park, No.12 Ganli 6th Road, Jihua Street, Longgang District, Shenzhen, China

3.2. Product Description

Name of EUT:	Two Way Radio
Trade Mark:	RETEVIS
Model No.:	RB18
Listed Model(s)	-
Power supply:	DC 3.7V
Adapter information:	Model: DSA-5PF07-05 FUS 050100 Input:100-240Va.c.,50/60Hz 0.2A Output: +5Vd.c.,1A

3.3. Radio Specification Description

Weather receive frequency:	162.400MHz, 162.425MHz, 162.450MHz, 162.475MHz, 162.500MHz, 162.525MHz, 162.550MHz, 161.650MHz, 161.775MHz, 163.275MHz
Modulation Type:	FM
Antenna Type:	Integral

3.4. 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	
Qualifications	Type	Accreditation Number
	CNAS	L1225
	A2LA	3902.01
	FCC	762235
	Canada	5377A

4. TEST CONFIGURATION

4.1. Test mode

Test mode	Describe
Charging + Weather receive mode	Keep the EUT in weather receiving mode in 162.475MHz frequency, and keep the EUT charging mode.

4.2. Support unit used in test configuration and system

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	Equipement	Trade Name	Model No.	FCC ID	Power cord
1					
2					

4.3. Testing environmental condition

Type	Requirement	Actual
Temperature:	15~35°C	25°C
Relative Humidity:	25~75%	50%
Air Pressure:	860~1060mbar	1000mbar

4.4. Statement of the measurement uncertainty

Test item	Range	Measurement uncertainty
Radiated Emissions	30~1000MHz	4.90 dB
Radiated Emissions	1~18GHz	4.96 dB
Conducted Disturbance	0.15~30MHz	3.02 dB

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

● Conducted Emission							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Shielded Room	Albatross projects	HTWE0114	N/A	N/A	2018/09/28	2023/09/27
●	EMI Test Receiver	R&S	HTWE0111	ESCI	101247	2019/10/26	2020/10/25
●	Artificial Mains	SCHWARZBECK	HTWE0113	NNLK 8121	573	2019/10/23	2020/10/22
●	Pulse Limiter	R&S	HTWE0033	ESH3-Z2	100499	2019/10/23	2020/10/22
●	RF Connection Cable	HUBER+SUHNER	HTWE0113-02	ENVIROFLEX_142	EF-NM-BNCM-2M	2019/10/23	2020/10/22
●	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A

● Radiated Emission-6th test site							
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	2021/09/29
●	EMI Test Receiver	R&S	HTWE0099	ESCI	100900	2019/10/26	2020/10/25
●	Ultra-Broadband Antenna	SCHWARZBECK	HTWE0119	VULB9163	546	2017/04/05	2020/04/04
●	Pre-Amplifer	SCHWARZBECK	HTWE0295	BBV 9742	N/A	2019/11/14	2020/11/13
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-01	N/A	N/A	2019/08/21	2020/08/20
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-02	SUCOFLEX104	501184/4	2019/05/27	2020/05/26
●	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A

● Radiated emission-7th test site							
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	N/A	2018/09/30	2021/09/29
●	Spectrum Analyzer	R&S	HTWE0098	FSP40	100597	2019/10/26	2020/10/25
●	Horn Antenna	SCHWARZBECK	HTWE0126	9120D	1011	2017/04/01	2020/03/31
●	Broadband Pre-amplifier	SCHWARZBECK	HTWE0201	BBV 9718	9718-248	2019/05/23	2020/05/22
●	RF Connection Cable	HUBER+SUHNER	HTWE0121-01	RE-7-FH	N/A	2019/05/10	2020/05/09
●	Test Software	Audix	N/A	E3	N/A	N/A	N/A

5. TEST CONDITIONS AND RESULTS

5.1. Conducted Emissions

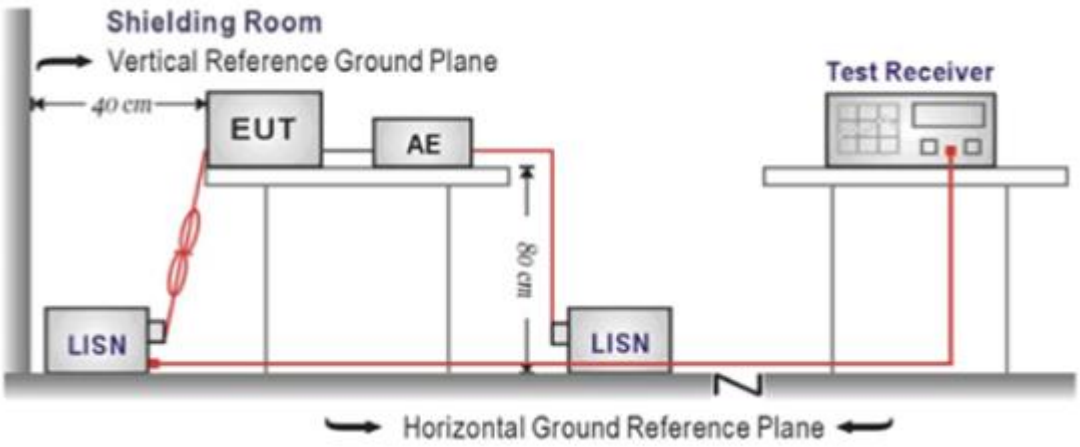
LIMIT

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 10 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 10 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.

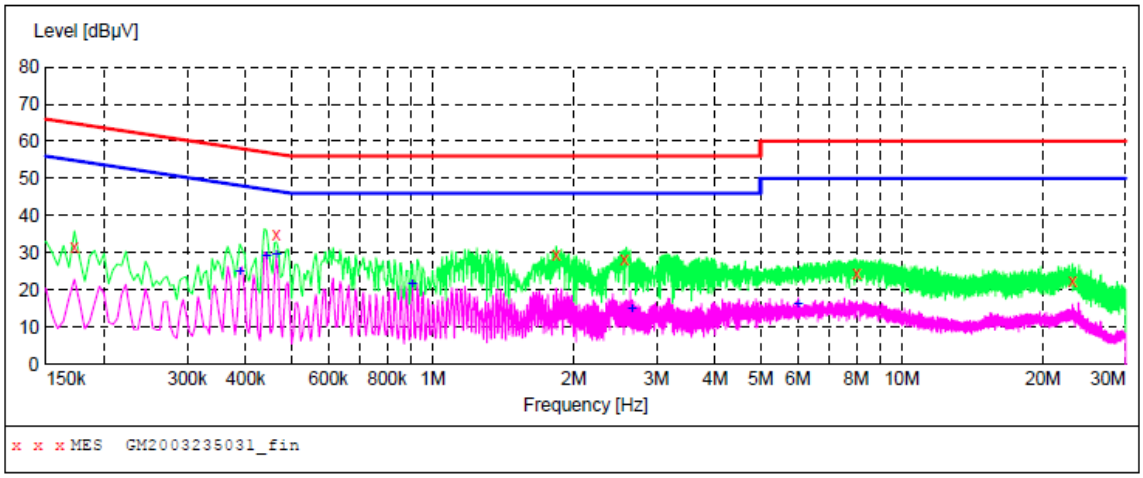
TEST MODE:

Please refer to the clause 4.1

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Polarity:	L



MEASUREMENT RESULT: "GM2003235031_fin"

3/23/2020 6:02PM

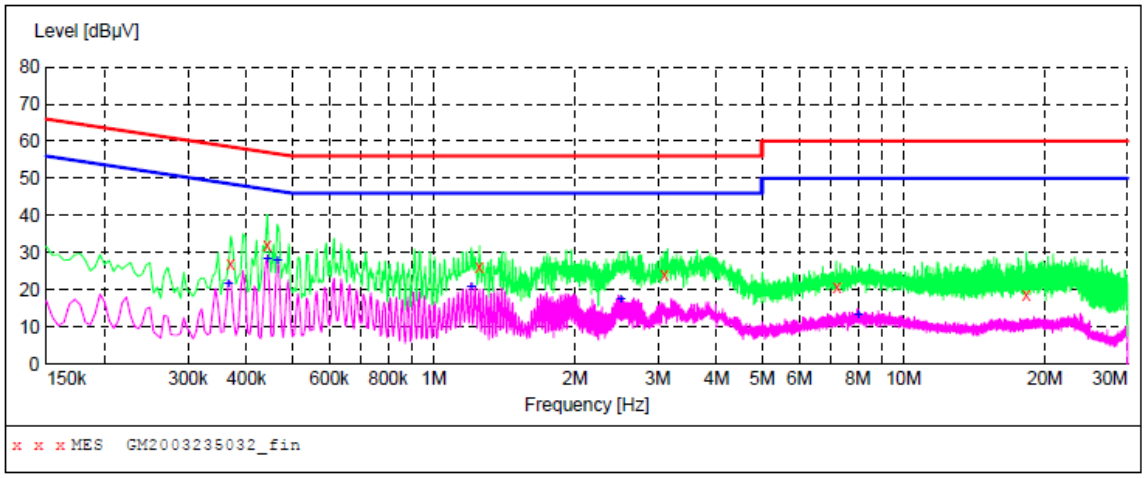
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172500	31.70	10.1	65	33.1	QP	L1	GND
0.465000	34.90	10.1	57	21.7	QP	L1	GND
1.833000	29.40	10.1	56	26.6	QP	L1	GND
2.566500	28.20	10.1	56	27.8	QP	L1	GND
8.016000	24.30	10.2	60	35.7	QP	L1	GND
23.127000	22.30	10.2	60	37.7	QP	L1	GND

MEASUREMENT RESULT: "GM2003235031_fin2"

3/23/2020 6:02PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.388500	24.70	10.1	48	23.4	AV	L1	GND
0.442500	29.10	10.1	47	17.9	AV	L1	GND
0.465000	29.40	10.1	47	17.2	AV	L1	GND
0.906000	21.50	10.1	46	24.5	AV	L1	GND
2.661000	14.90	10.1	46	31.1	AV	L1	GND
6.013500	16.10	10.2	50	33.9	AV	L1	GND

Polarity:	N



MEASUREMENT RESULT: "GM2003235032_fin"

3/23/2020 6:06PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.370500	27.00	10.1	59	31.5	QP	N	GND
0.442500	31.90	10.1	57	25.1	QP	N	GND
1.252500	26.20	10.1	56	29.8	QP	N	GND
3.102000	24.00	10.1	56	32.0	QP	N	GND
7.219500	20.90	10.2	60	39.1	QP	N	GND
18.267000	18.60	10.2	60	41.4	QP	N	GND

MEASUREMENT RESULT: "GM2003235032_fin2"

3/23/2020 6:06PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.366000	21.60	10.1	49	27.0	AV	N	GND
0.442500	28.20	10.1	47	18.8	AV	N	GND
0.465000	27.90	10.1	47	18.7	AV	N	GND
1.203000	20.70	10.1	46	25.3	AV	N	GND
2.499000	17.20	10.1	46	28.8	AV	N	GND
8.007000	13.00	10.2	50	37.0	AV	N	GND

5.2. Radiated Emissions

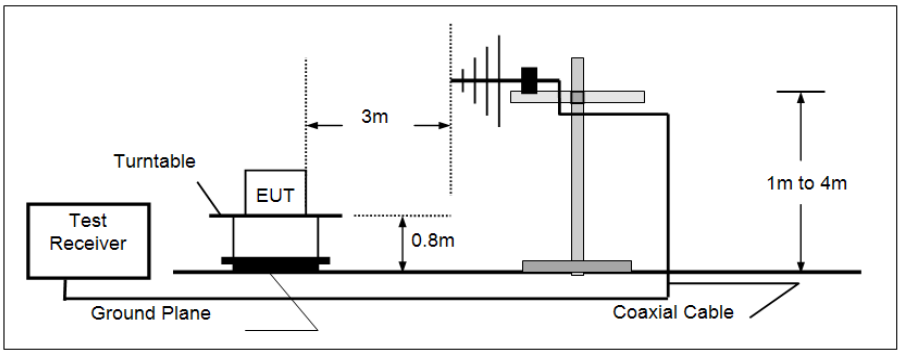
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.109

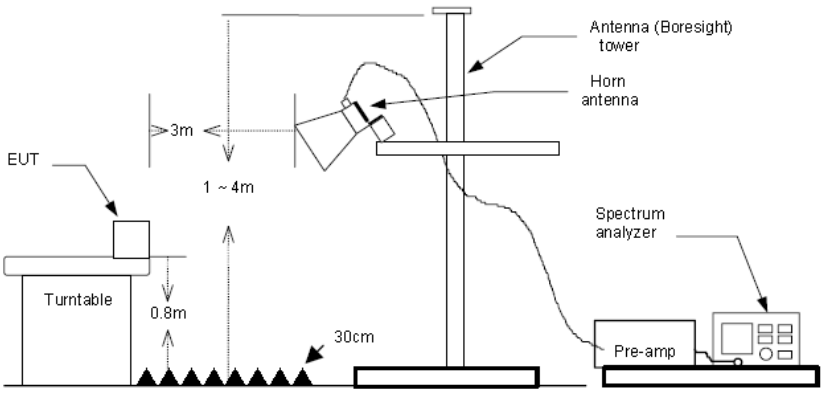
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

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:

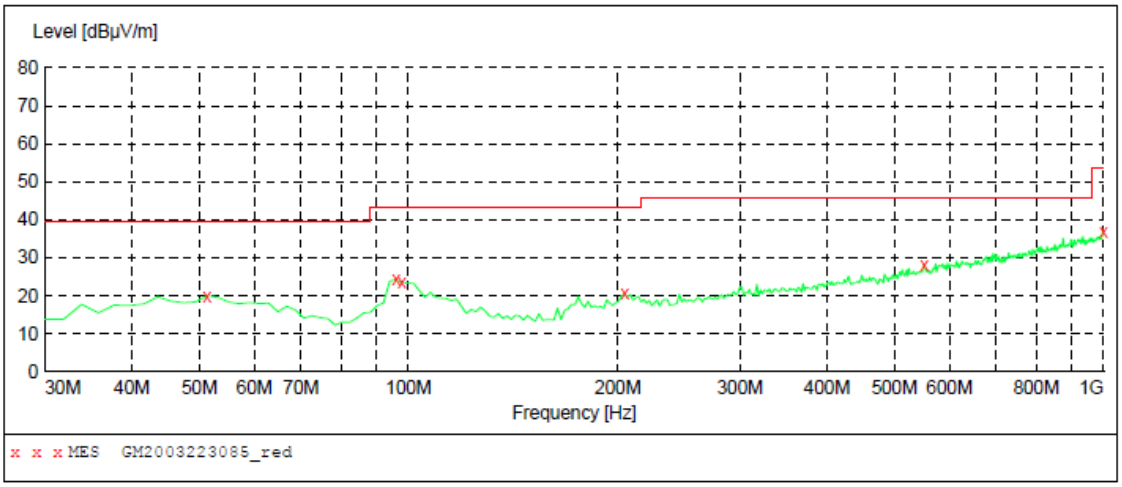
Please refer to the clause 4.1

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.

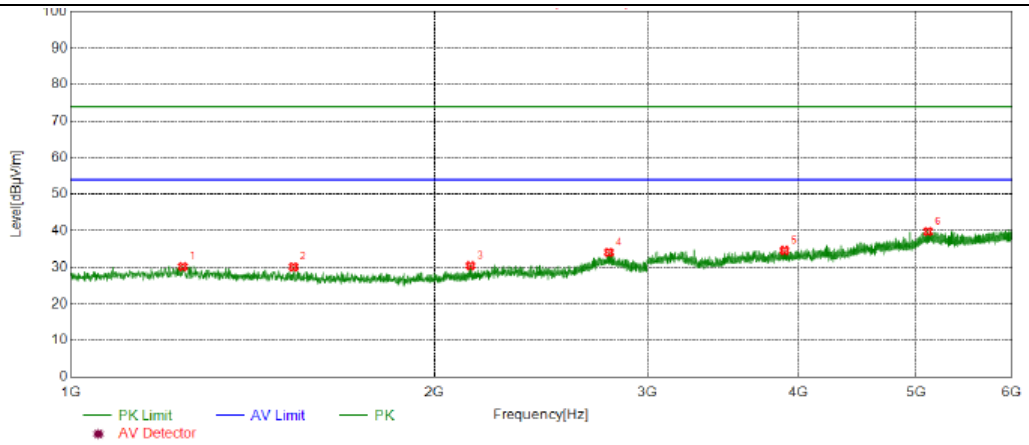
Polarity:	Horizontal



MEASUREMENT RESULT: "GM2003223085_red"

3/23/2020 7:42PM

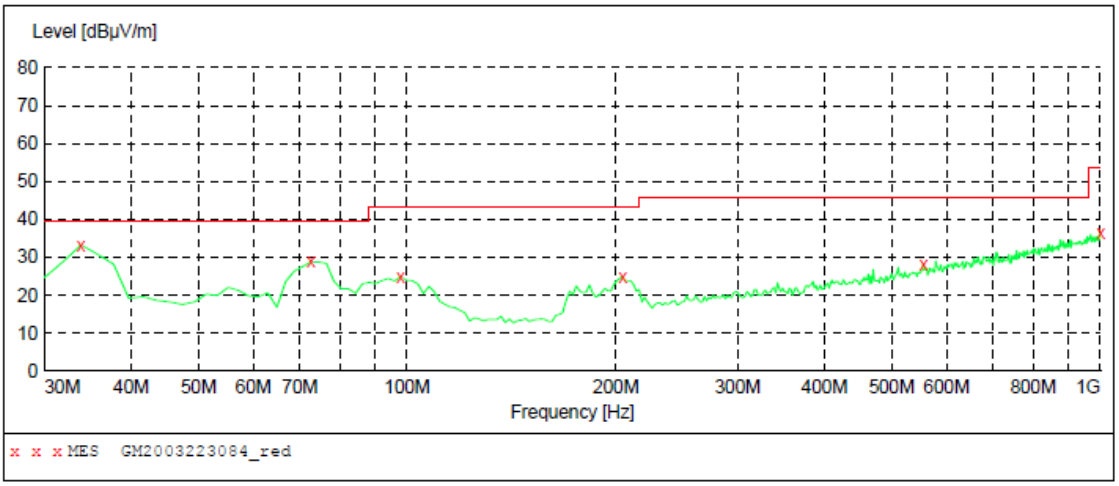
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
51.340000	20.00	-8.8	40.0	20.0	QP	100.0	6.00	HORIZONTAL
95.960000	24.30	-10.6	43.5	19.2	QP	300.0	166.00	HORIZONTAL
97.900000	23.50	-10.4	43.5	20.0	QP	300.0	166.00	HORIZONTAL
204.600000	20.50	-9.7	43.5	23.0	QP	300.0	360.00	HORIZONTAL
551.860000	28.20	0.2	46.0	17.8	QP	100.0	67.00	HORIZONTAL
998.060000	36.80	9.4	53.9	17.1	QP	100.0	160.00	HORIZONTAL



Suspected Data List

NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Detector
1	1237.500	35.98	-5.73	30.25	74.00	43.75	Horizontal	PK
2	1528.125	35.98	-5.81	30.17	74.00	43.83	Horizontal	PK
3	2141.250	34.06	-3.58	30.48	74.00	43.52	Horizontal	PK
4	2786.250	32.25	1.88	34.13	74.00	39.87	Horizontal	PK
5	3894.375	32.00	2.63	34.63	74.00	39.37	Horizontal	PK
6	5116.875	30.98	8.83	39.81	74.00	34.19	Horizontal	PK

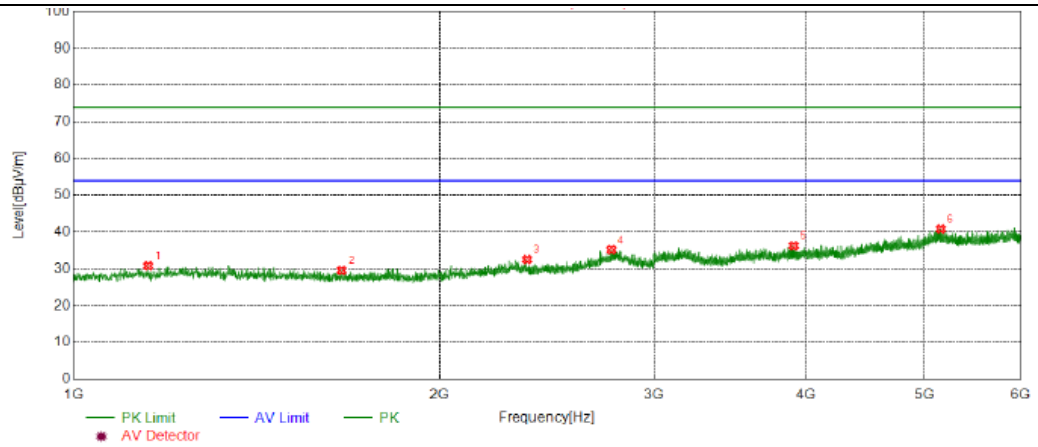
Polarity:	Vertical



MEASUREMENT RESULT: "GM2003223084_red"

3/23/2020 7:38PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
33.880000	33.30	-12.1	40.0	6.7	QP	100.0	232.00	VERTICAL
72.680000	28.80	-13.8	40.0	11.2	QP	100.0	206.00	VERTICAL
97.900000	24.80	-10.4	43.5	18.7	QP	100.0	266.00	VERTICAL
204.600000	24.90	-9.7	43.5	18.6	QP	100.0	160.00	VERTICAL
555.740000	28.20	0.3	46.0	17.8	QP	100.0	6.00	VERTICAL
1000.000000	36.40	9.5	53.9	17.5	QP	100.0	0.00	VERTICAL

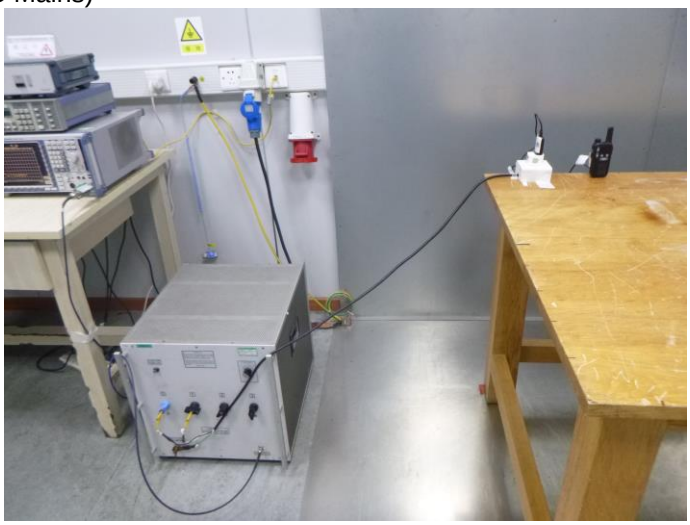


Suspected Data List

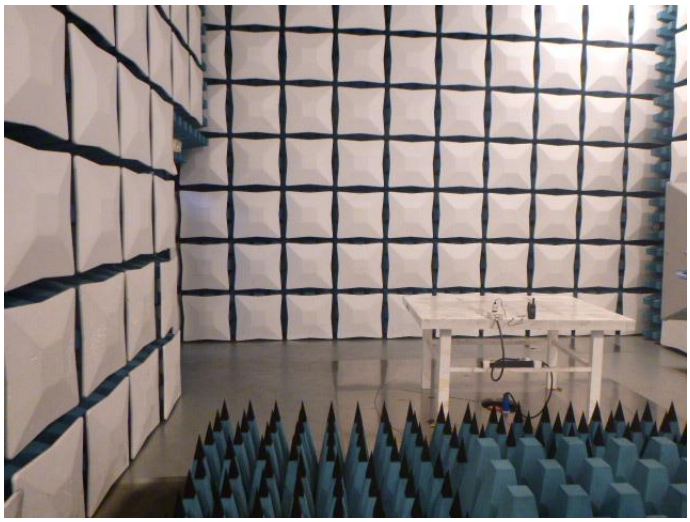
NO.	Freq. [MHz]	Reading [dBµV/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Detector
1	1151.875	37.17	-6.34	30.83	74.00	43.17	Vertical	PK
2	1661.250	35.76	-6.17	29.59	74.00	44.41	Vertical	PK
3	2359.375	34.94	-2.38	32.56	74.00	41.44	Vertical	PK
4	2766.250	33.61	1.58	35.19	74.00	38.81	Vertical	PK
5	3906.250	33.63	2.69	36.32	74.00	37.68	Vertical	PK
6	5159.375	31.95	8.91	40.86	74.00	33.14	Vertical	PK

6. TEST SETUP PHOTOS

Conducted Emissions (AC Mains)



Radiated Emissions



7. EXTERANAL AND INTERNAL PHOTOS

Reference to the test report No.: CHTEW20040001.

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