



ТІ	EST REPORT		
Report No	CHTEW20100100	Report Verification:	
FCC ID :	2ASNSRB26		
Applicant's name : Address	Shenzhen Retevis Technology Co., Ltd. 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	RB26		
Listed Model(s)			
Standard:	FCC CFR Title 47 Part 15 Subp	art B	
Date of receipt of test sample	Oct.09, 2020		
Date of testing	Oct.09, 2020- Nov.12, 2020		
Date of issue	Nov. 12, 2020		
Result	PASS		
Compiled by ( position+printed name+signature):	File administrators Echo Wei	Echo Wei	
Supervised by ( position+printed name+signature):	Project Engineer Hans Hu	Homsty	
Approved by ( position+printed name+signature):	RF Manager Hans Hu	Homsty	
Testing Laboratory Name: :	Shenzhen Huatongwei International Inspection Co., Ltd.		
Address	1/F, Bldg 3, Hongfa Hi-tech Indus Gongming, Shenzhen, China	strial Park, Genyu Road, Tianliao,	

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The test report merely corresponds to the test sample.

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# 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

<u>ANSI C63.4: 2014</u> – 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

Revision No.	Date of issue	Description
N/A	2020-11-12	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	Quanhai Deng
Antenna conducted power for reciver	15.111	Pass	Zijian Li
Scanning receviers and frequency converters used with scanning receivers	15.121(b)	N/A #1	-

Note:

1. The measurement uncertainty is not included in the test result.

2. #1, The scanning recevie frequency range of this EUT is from 462.5500 to 467.7250MHz, not in the cellular radiotelephone service frequency bands, so this item is not applicable.

# 3. <u>SUMMARY</u>

# 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**

Main unit		
Name of EUT:	Two Way Radio	
Trade Mark:	RETEVIS	
Model/Type reference:	RB26	
Listed Model(s)	-	
Power supply:	DC 3.7V	
Hardware version:	RB26-v3.0	
Software version:	RB26-v3.0	
Ancillary unit		
Battery information:	Model: BL26	
	Voltage: DC 3.7V	
	Capacity: 2000mAh(7.4Wh)	
Charger information:	Model: DC26	
	Input: DC5Va.c.,1000mA	
	Output: DC4.2Va.c.,300mA	

# 3.3. Radio Specification Description

Transmit frequency:#2	Main channel: (462MHz)	462.5500, 462.5750, 462.6000, 462.6250, 462.6500, 462.6750, 462.7000, 462.7250MHz
	Interstitial channel: (462MHz)	462.5625, 462.5875, 462.6125, 462.6375, 462.6625, 462.6875, 462.7125 MHz
	Main channel: (467MHz)	467.5500, 467.5750, 467.6000, 467.6250, 467.6500, 467.6750, 467.7000, 467.7250MHz
	Interstitial channel: (467MHz)	467.5675, 467.5875, 467.6125, 467.6375, 467.6625, 467.6875, 467.7125MHz
Receive Frequency Range:#3	462.5500~467.7250MHz	
Modulation Type:	FM	
Antenna Type:	Integral	
Antenna Gain:	2.15dBi	

Note:

#2: Transmit unit of this two way radio, please refer to the FCC Part95 report.

#3: This report only evaluate the receive function of this two way radio.

# 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		
	Туре	Accreditation Number	
	CNAS	L1225	
Qualifications	A2LA	3902.01	
	FCC	762235	
	Canada	5377A	

# 4. TEST CONFIGURATION

## 4.1. EUT operation mode

Test mode	Describe	
Charging mode	Keep the EUT in charging mode, but the EUT shut down.	
Scan receive mode 1	Scanning stopped, receving singal at 462.6375MHz	
Scan receive mode 2	Scanning stopped, receving singal at 467.6375MHz	

Test item	Pre-test mode	Final test mode	
Conducted emissions	Charging mode	Charging mode	
Radiated emissions	Charging mode, scan receive mode	Charging mode, scan receive mode	
Antenna conducted power for reciver	scan receive mode1, scan receive mode2	scan receive mode1	
Sanning receivers and frequency converters used with sanning receviers	-	-	

# 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:

Whet	Whether support unit is used?				
✓	No				
Item	Equipment	Trade Name	Model No.	FCC ID	Power cord
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

Test	Frequency range	Measurement uncertainty
Radiated Emission	30~1000MHz	4.90 dB
Radiated Emission	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	2020/10/19	2021/10/18		
•	Artificial Mains	SCHWARZBECK	HTWE0113	NNLK 8121	573	2020/10/15	2021/10/14		
•	Pulse Limiter	R&S	HTWE0033	ESH3-Z2	100499	2020/10/15	2021/10/14		
•	RF Connection Cable	HUBER+SUHNER	HTWE0113-02	ENVIROFLE X_142	EF-NM- BNCM-2M	2020/10/15	2021/10/14		
•	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	2020/10/19	2021/10/18		
•	Ultra-Broadband Antenna	SCHWARZBEC K	HTWE0119	VULB9163	546	2020/04/28	2023/04/27		
•	Pre-Amplifer	SCHWARZBEC K	HTWE0295	BBV 9742	N/A	2019/11/14	2020/11/13		
•	RF Connection Cable	HUBER+SUHN ER	HTWE0062-01	N/A	N/A	2020/05/27	2021/05/26		
•	RF Connection Cable	HUBER+SUHN ER	HTWE0062-02	SUCOFLEX10 4	501184/4	2020/05/27	2021/05/26		
•	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	2020/10/20	2021/10/19	
•	Horn Antenna	SCHWARZBE CK	HTWE0126	9120D	1011	2020/04/01	2023/03/31	
•	Broadband Pre- amplifier	SCHWARZBE CK	HTWE0201	BBV 9718	9718-248	2020/05/23	2021/05/22	
•	RF Connection Cable	HUBER+SUH NER	HTWE0121-01	RE-7-FH	N/A	2020/05/10	2021/05/09	
•	Test Software	Audix	N/A	E3	N/A	N/A	N/A	

# 5. TEST CONDITIONS AND RESULTS

## 5.1. Conducted Emissions

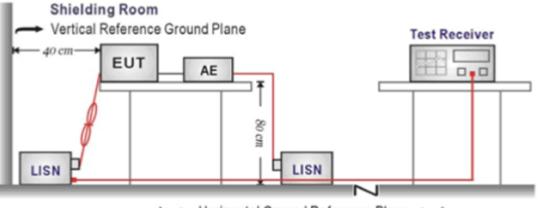
## <u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart B Section 15.107:

Frequency range (MHz)	Limit (dBuV)				
Frequency range (Miriz)	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**



Horizontal Ground Reference Plane

## TEST PROCEDURE

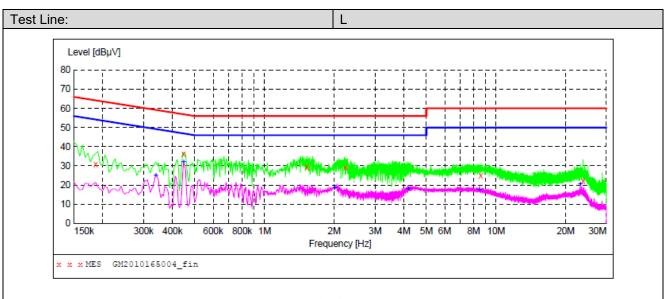
- 1. The EUT was setup according to ANSI C63.4:2014
- 2. The EUT was placed on a plat form of nominal size, 1 m by 1.5 m, raised 10 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 10 cm from any other 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



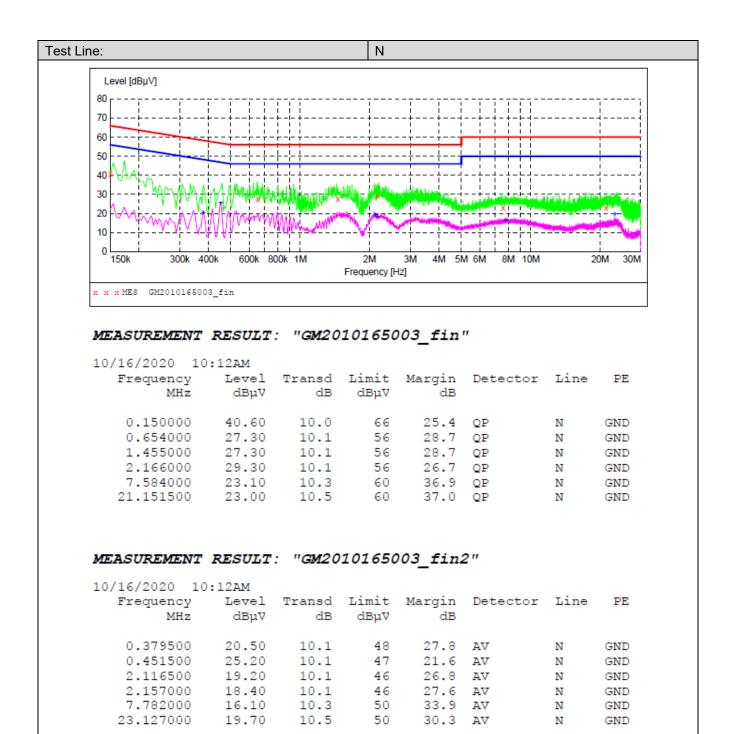
#### MEASUREMENT RESULT: "GM2010165004\_fin"

10/16/2020 10:15AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.186000 0.447000 1.527000 2.233500 8.592000 23.752500	31.00 36.00 29.70 29.10 25.10 22.20	10.0 10.1 10.1 10.1 10.3 10.5	64 57 56 60 60	26.3	QP	L1 L1 L1 L1 L1 L1	GND GND GND GND GND GND

# MEASUREMENT RESULT: "GM2010165004\_fin2"

10/16/2020 10 Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.339000	25.00	10.1	49	24.2	AV	L1	GND
0.447000	32.00	10.1	47	14.9	AV	L1	GND
2.008500	18.40	10.1	46	27.6	AV	ь1	GND
4.173000	18.10	10.2	46	27.9	AV	L1	GND
8.466000	17.40	10.3	50	32.6	AV	L1	GND
23.127000	20.50	10.5	50	29.5	AV	ь1	GND



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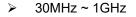
# 5.2. Radiated Emissions

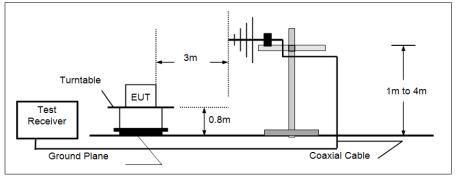
LIMIT

### FCC CFR Title 47 Part 15 Subpart B Section 15.109

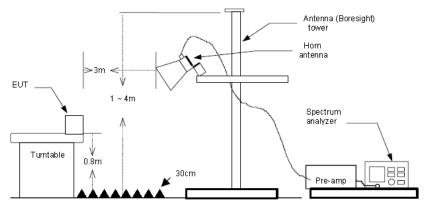
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

### **TEST CONFIGURATION**





#### 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. This is 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, the emission measurement will be repeated using the quasi-peak detector and reported.
    - (3) From 1GHz to 5th harmonic, RBW=1MHz, VBW=3MHz

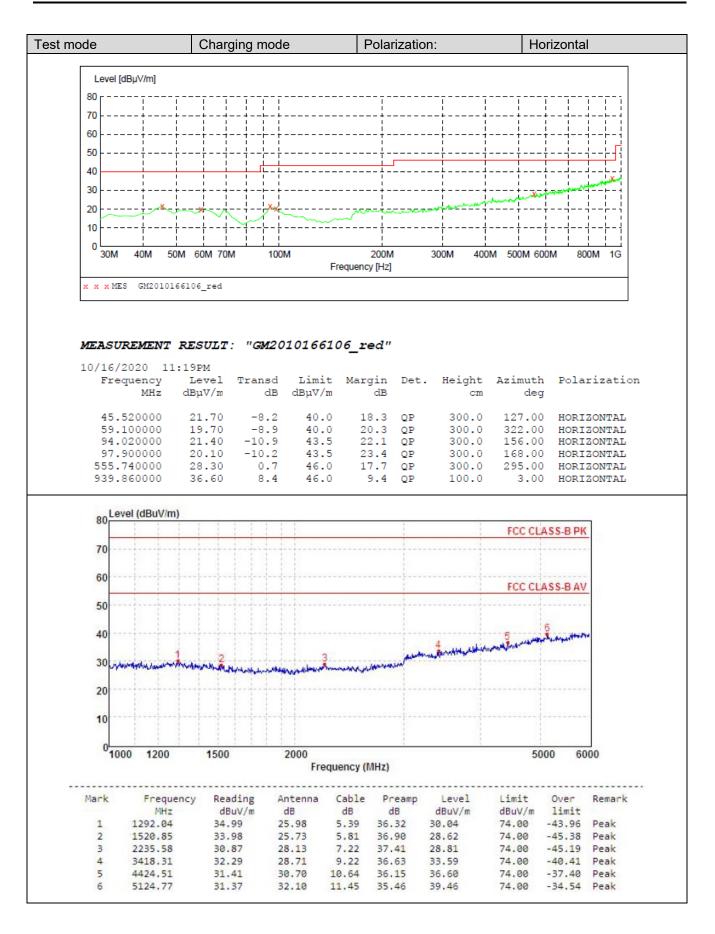
# TEST MODE:

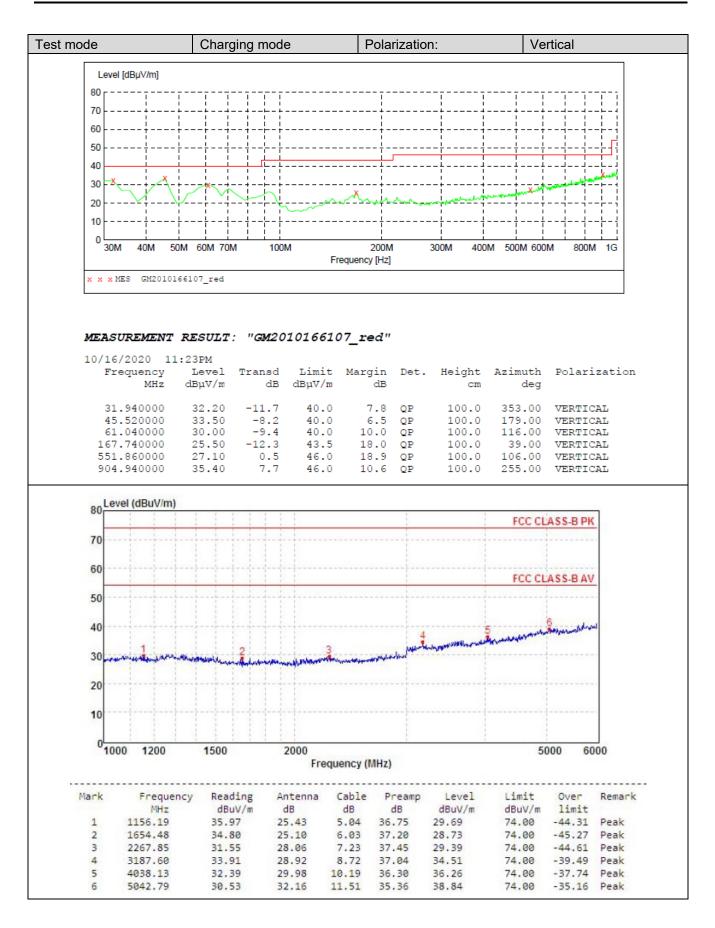
Please refer to the clause 4.1

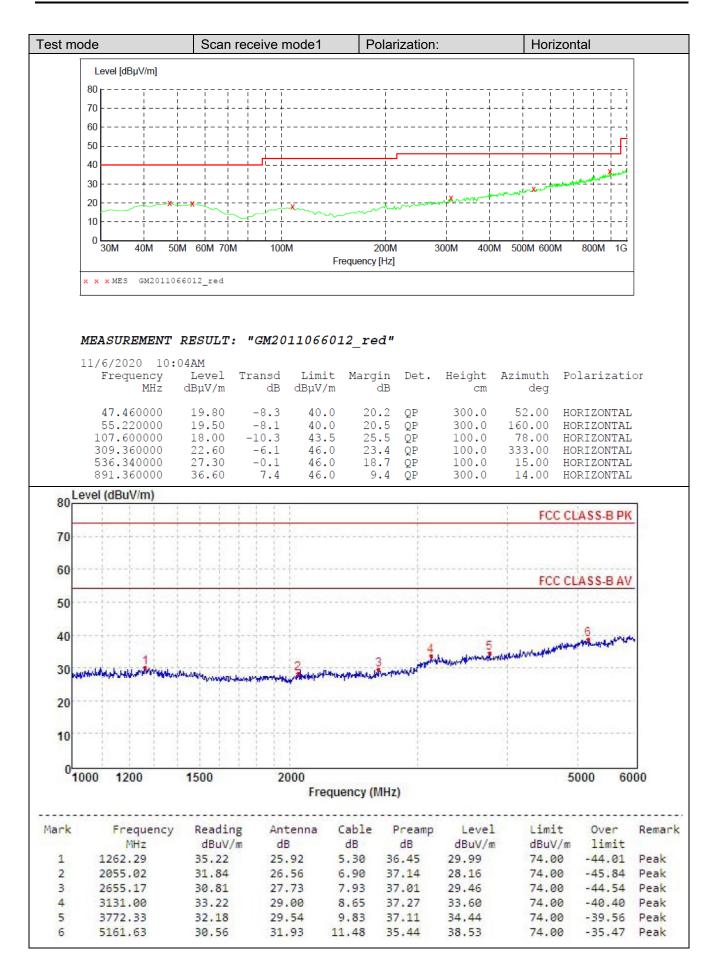
#### TEST RESULTS

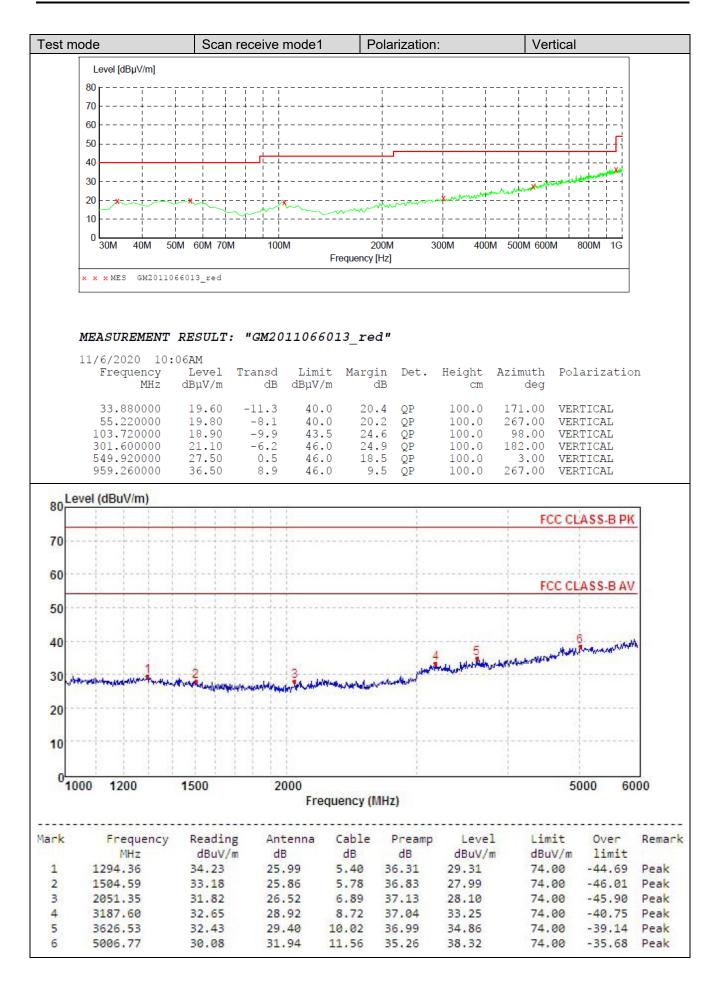
☑ Passed □ Not Applicable

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.









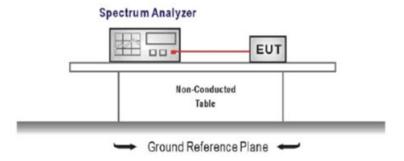
# 5.3. Antenna conducted power for reciver

## <u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart B Section 15.111:

Frequency range	Limit
9KHz to 3GHz	2.0 nW (-57dBm)

## **TEST CONFIGURATION**



## TEST PROCEDURE

- 1. The receiver antenna terminal connected to a spectrum analyzer.
- 2. Receiver set as follow:

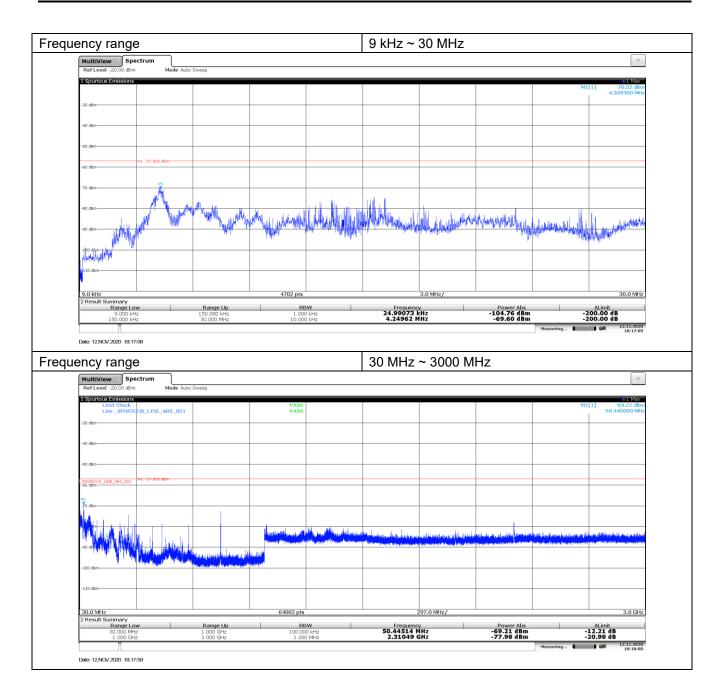
Frequency range	RBW (kHz)	VBW (kHz)
9 kHz ~ 150 kHz	1	3
150 kHz ~ 30 MHz	10	30
30 MHz ~ 1000 MHz	100	300
1000 MHz ~ 3000 MHz	1000	3000

## TEST MODE:

Please refer to the clause 4.1

## TEST RESULTS

☑ Passed □ Not Applicable

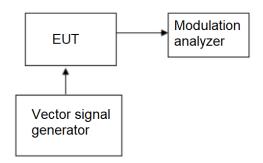


## 5.4. Sanning receivers and frequency converters used with sanning receivers

### <u>LIMIT</u>

scanning receivers shall reject any signals from the Cellular Radiotelephone Service frequency bands that are 38 dB or lower based upon a 12 dB SINAD measurement, which is considered the threshold where a signal can be clearly discerned from any interference that may be present

## TEST CONFIGURATION



### TEST PROCEDURE

The RF level of vector signal generator will adjusted to produce GSM signals at the receiver antenna port of the EUT.

### TEST MODE:

Please refer to the clause 4.1

## TEST RESULTS

## Passed Not Applicable

The scanning recevie frequency range of this EUT is from 462.5500 to 467.7250MHz, not in the cellular radiotelephone service frequency bands, so this item is not applicable.

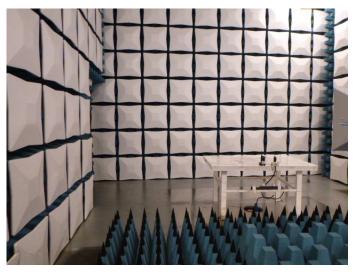
# 6. TEST SETUP PHOTOS OF THE EUT

# Conducted Emissions (AC Mains)



**Radiated Emissions** 





# 7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Reference to the test report No.: CHTEW20100099

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