

TEST REPORT

Applicant: Shenzhen HelloRadioSky Technology Co., LTD

Address of Applicant: Room 402, Building D, Kejutong, Oulian Road, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China

Manufacturer: Shenzhen HelloRadioSky Technology Co., LTD

Address of Manufacturer: Room 402, Building D, Kejutong, Oulian Road, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China

Factory: Shenzhen HelloRadioSky Technology Co., LTD

Address of Factory: Room 402, Building D, Kejutong, Oulian Road, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China

Equipment Under Test (EUT)

Product Name: Receiver

Model No.: HR8EG, HR7EG, HR8E, HR7E, HR8C, HR7C, HR9EGA, HR9EG, HR8EGA, HR7EGA

Trade Mark: N/A

FCC ID: 2BHKV-HR8EG

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: August 07, 2024

Date of Test: August 07-23, 2024

Date of report issued: August 26, 2024

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Robinson Luo

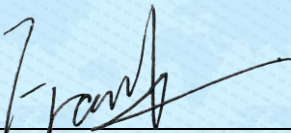
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	August 26, 2024	Original

Prepared By:


Project Engineer

Date:

August 26, 2024

Check By:


Reviewer

Date:

August 26, 2024

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	N/A
Conducted Output Power	15.247 (b)(3)	Pass
Channel Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247(d)	Pass
Spurious Emission	15.205/15.209	Pass

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10:2013

Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 7.25 \times 10^{-8}$
2	Duty cycle	$\pm 0.37\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF conducted power	$\pm 0.75\text{dB}$
5	RF power density	$\pm 3\text{dB}$
6	Conducted Spurious emissions	$\pm 2.58\text{dB}$
7	AC Power Line Conducted Emission	$\pm 3.44\text{dB}$ (0.15MHz ~ 30MHz)
8	Radiated Spurious emission test	$\pm 3.1\text{dB}$ (9kHz-30MHz)
		$\pm 3.8039\text{dB}$ (30MHz-200MHz)
		$\pm 3.9679\text{dB}$ (200MHz-1GHz)
		$\pm 4.29\text{dB}$ (1GHz-18GHz)
		$\pm 3.30\text{dB}$ (18GHz-40GHz)
9	Temperature test	$\pm 1^\circ\text{C}$
10	Humidity test	$\pm 3\%$
11	Time	$\pm 3\%$

5 General Information

5.1 General Description of EUT

Product Name:	Receiver
Model No.:	HR8EG, HR7EG, HR8E, HR7E, HR8C, HR7C, HR9EGA, HR9EG, HR8EGA, HR7EGA
Test Model No.:	HR8EG
Remark:All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are appearance color and model name for commercial purpose.	
Test sample(s) ID:	GTSL2024070448-1
Sample(s) Status:	Engineer sample
S/N:	HR8EG20240800001
Operation Frequency:	2416MHz~2466MHz
Channel Numbers:	47
Channel Separation:	1MHz
Modulation Type:	GFSK
Antenna Type:	ANT1&2: Coaxial Antenna
Antenna Gain:	ANT1&2:1.5dBi
Power Supply:	DC 4.5-7.4V

Remark:

1. Antenna gain information provided by the customer
2. The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.
3. This product is dual antenna, but it does not support MIMO.

Operation Frequency each of channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2416	13	2430	25	2442	37	2454
2	2418	14	2431	26	2443	38	2455
3	2419	15	2432	27	2444	39	2456
4	2421	16	2433	28	2445	40	2457
5	2422	17	2434	29	2446	41	2458
6	2423	18	2435	30	2447	42	2459
7	2424	19	2436	31	2448	43	2460
8	2425	20	2437	32	2449	44	2461
9	2426	21	2438	33	2450	45	2462
10	2427	22	2439	34	2451	46	2463
11	2428	23	2440	35	2452	47	2466
12	2429	24	2441	36	2453		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2416MHz
The middle channel	2441MHz
The Highest channel	2466MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
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5.3 Description of Support Units

None

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations: ● FCC—Registration No.: 381383 Designation Number: CN5029 Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. ● ISED —Registration No.: 9079A CAB identifier: CN0091 The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing ● NVLAP (LAB CODE:600179-0) Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.7 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960

5.8 Additional Instructions

Test Software	Special test software provided by manufacturer
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	June 22, 2024	June 21, 2027
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 11, 2024	April 10, 2025
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	April 17, 2023	April 16, 2025
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 11, 2024	April 10, 2025
8	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 13, 2023	Nov.12, 2024
9	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 11, 2024	April 10, 2025
10	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 11, 2024	April 10, 2025
11	Horn Antenna (18-26.5GHz)	/	UG-598A/U	GTS664	Oct. 29, 2023	Oct. 28, 2024
12	Horn Antenna (26.5-40GHz)	A.H Systems	SAS-573	GTS665	Oct. 29, 2023	Oct. 28, 2024
13	FSV·Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	March 12, 2024	March 11, 2025
14	Amplifier	/	LNA-1000-30S	GTS650	April 11, 2024	April 10, 2025
15	CDNE M2+M3-16A	HCT	30MHz-300MHz	GTS692	Nov. 08, 2023	Nov.07, 2024
16	Wideband Amplifier	/	WDA-01004000-15P35	GTS602	April 11, 2024	April 10, 2025
17	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 18, 2024	April 17, 2025
18	RE cable 1	GTS	N/A	GTS675	July 02. 2024	July 01. 2025
19	RE cable 2	GTS	N/A	GTS676	July 02. 2024	July 01. 2025
20	RE cable 3	GTS	N/A	GTS677	July 02. 2024	July 01. 2025
21	RE cable 4	GTS	N/A	GTS678	July 02. 2024	July 01. 2025
22	RE cable 5	GTS	N/A	GTS679	July 02. 2024	July 01. 2025
23	RE cable 6	GTS	N/A	GTS680	July 02. 2024	July 01. 2025
24	RE cable 7	GTS	N/A	GTS681	July 05. 2024	July 04. 2025
25	RE cable 8	GTS	N/A	GTS682	July 05. 2024	July 04. 2025

RF Conducted Test:						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 11, 2024	April 10, 2025
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 11, 2024	April 10, 2025
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	April 11, 2024	April 10, 2025
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 11, 2024	April 10, 2025
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 11, 2024	April 10, 2025
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 11, 2024	April 10, 2025
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 11, 2024	April 10, 2025
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 11, 2024	April 10, 2025
9	Thermo meter	JINCHUANG	GSP-8A	GTS641	April 18, 2024	April 17, 2025

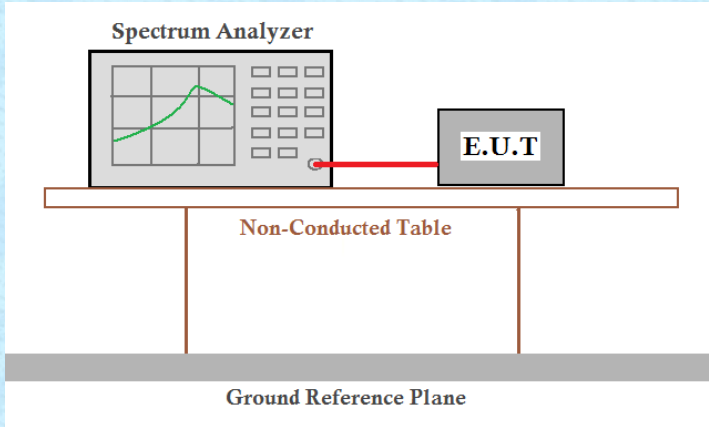
General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Barometer	KUMAO	SF132	GTS647	April 18, 2024	April 17, 2025

7 Test results and Measurement Data

7.1 Antenna requirement

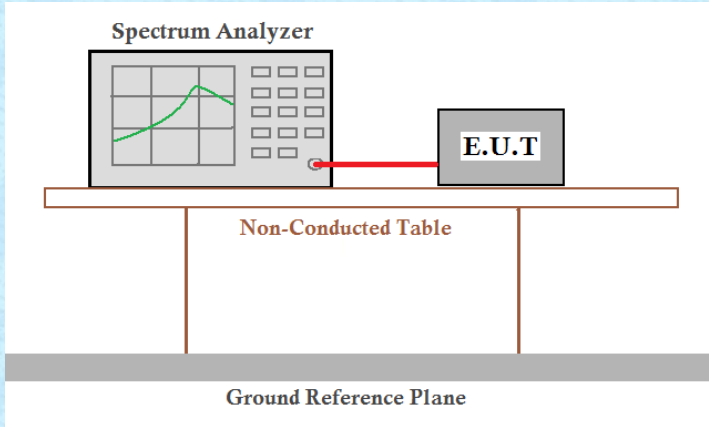
Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
E.U.T Antenna:	
The antenna is Coaxial Antenna, reference to the appendix II for details	

7.2 Conducted Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013
Limit:	30dBm
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer, shown with a grid and a green curve, is connected to an E.U.T. (Equipment Under Test) box by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a white rectangular table labeled 'Non-Conducted Table'. This table is supported by two vertical legs and sits on a thick grey horizontal bar labeled 'Ground Reference Plane'.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

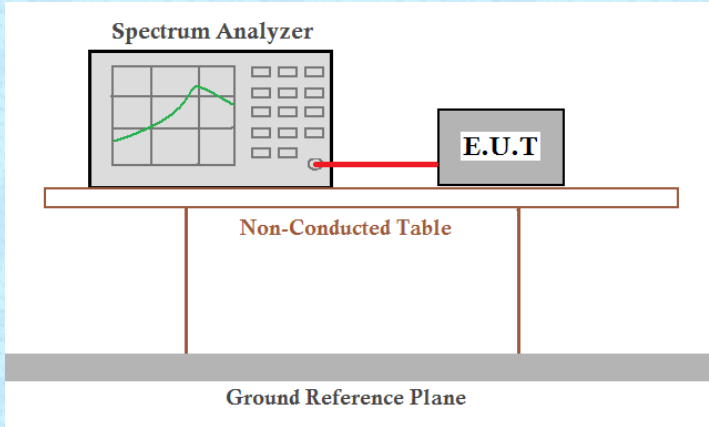
Measurement Data: The detailed test data see Appendix for 2.4G.

7.3 Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013
Limit:	>500KHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer, showing a frequency spectrum on its screen, is connected to an Equipment Under Test (E.U.T.) by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a Non-Conducted Table. This table is supported by a Ground Reference Plane, which is represented by a thick grey bar at the bottom of the setup.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data: The detailed test data see Appendix for 2.4G.

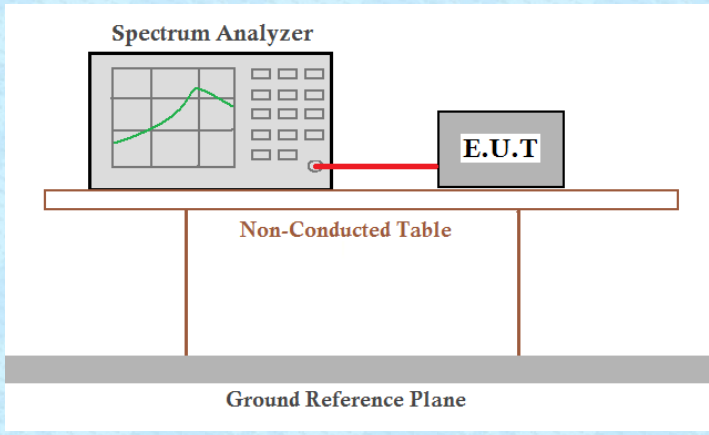
7.4 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013
Limit:	8dBm/3kHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer, shown with a green trace on its screen, is connected to an E.U.T. (Equipment Under Test) by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a white Non-Conducted Table. This table is supported by two vertical legs and rests on a thick grey Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data: The detailed test data see Appendix for 2.4G.

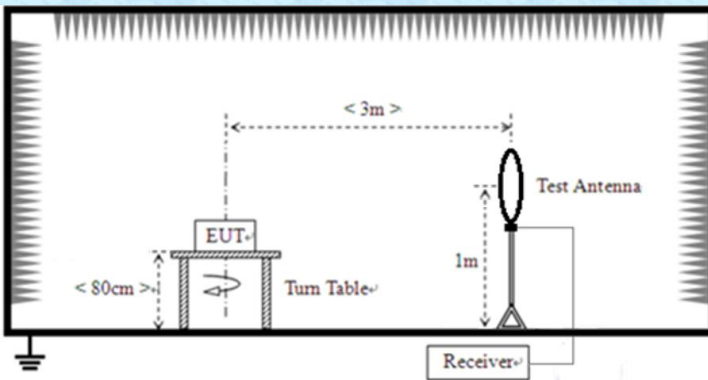
7.5 Spurious Emission in Non-restricted & restricted Bands

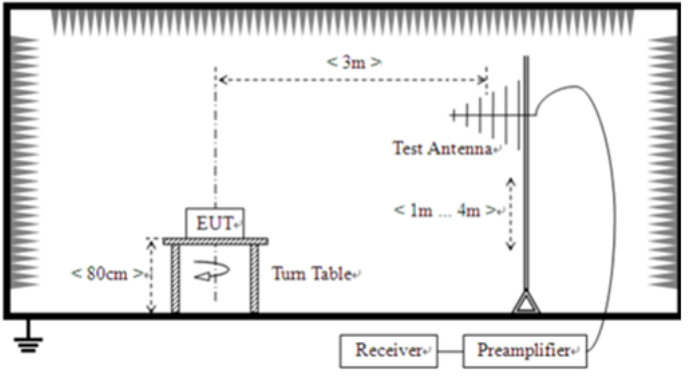
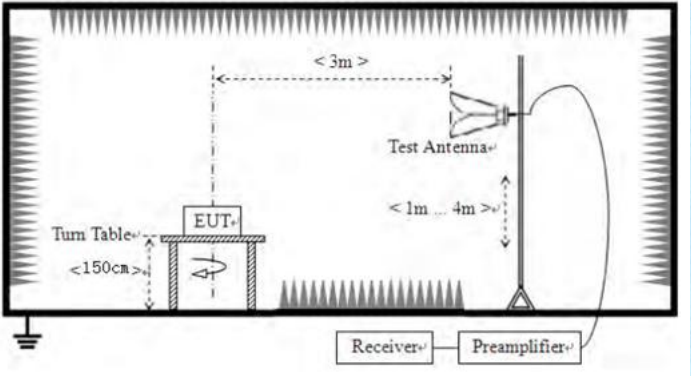
7.5.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data: The detailed test data see Appendix for 2.4G.

7.5.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Note: For Duty cycle $\geq 98\%$, average detector set as above For Duty cycle $< 98\%$, average detector set as below: $VBW \geq 1 / T$					
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP/PK/AV	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	30m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Above 1GHz	500	Average		
		5000	Peak		
Test setup:	For radiated emissions from 9kHz to 30MHz				
					

	For radiated emissions from 30MHz to 1GHz  For radiated emissions above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 6.0 for details

Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Measurement data:

Remark:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

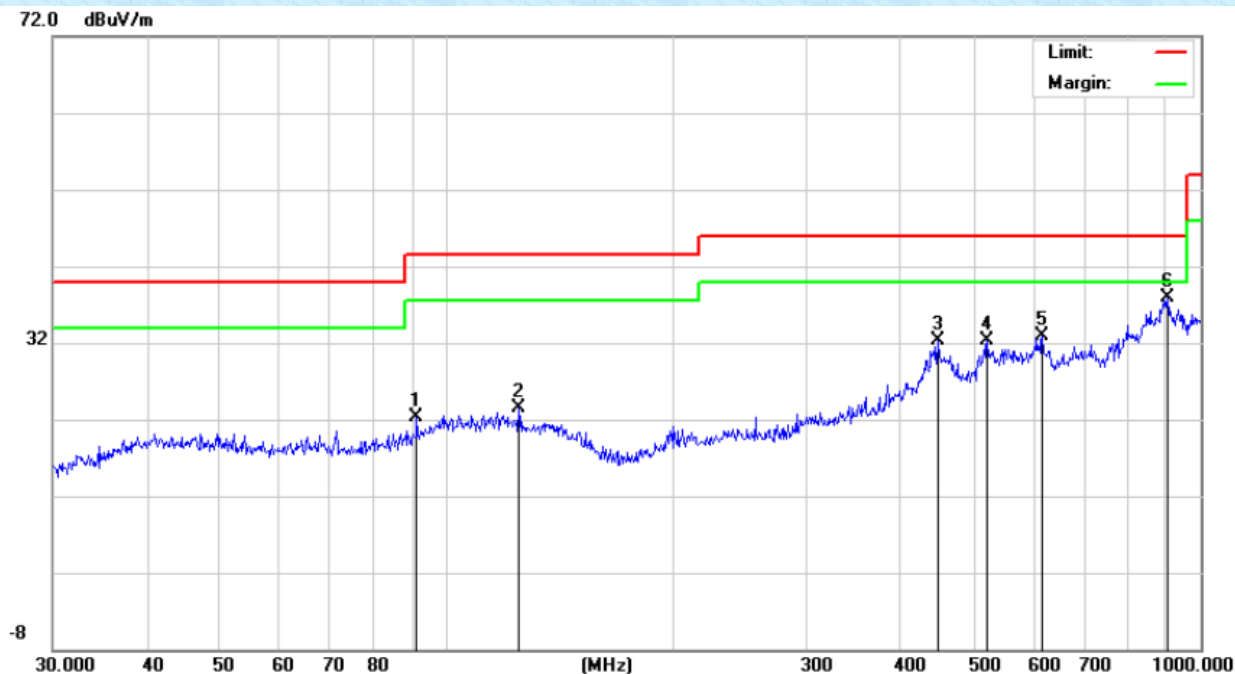
■ 9kHz~30MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

■ Below 1GHz

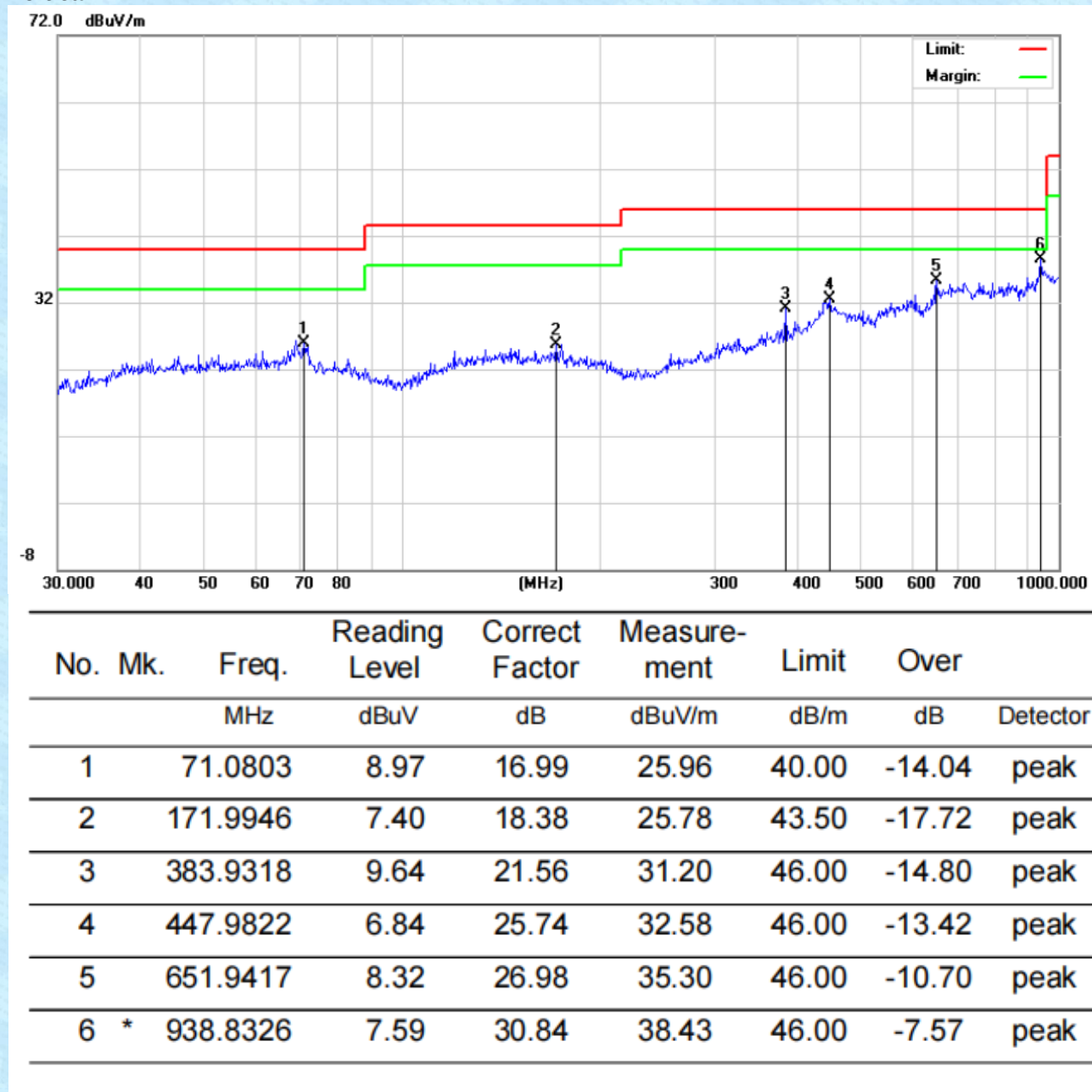
Pre-scan all the test modes, and find that the worst case is 2466MHz of ant2, so only the test results of ant2 at 2466MHz are displayed.

Horizontal:



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		91.1746	7.44	14.83	22.27	43.50	-21.23	peak
2		124.5690	7.33	16.13	23.46	43.50	-20.04	peak
3		447.9822	7.47	24.82	32.29	46.00	-13.71	peak
4		520.8882	7.23	25.14	32.37	46.00	-13.63	peak
5		616.3718	7.65	25.18	32.83	46.00	-13.17	peak
6	*	903.3094	6.58	31.34	37.92	46.00	-8.08	peak

Vertical:



■ Above 1GHz

■ Unwanted Emissions in Non-restricted Frequency Bands

Test channel:	Lowest channel
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4832.00	35.05	31.09	7.29	38.36	35.07	74.00	-38.93	Vertical
7248.00	30.33	35.84	9.43	38.97	36.63	74.00	-37.37	Vertical
9664.00	30.14	38.26	10.03	39.69	38.74	74.00	-35.26	Vertical
4832.00	38.88	31.09	7.29	38.36	38.90	74.00	-35.10	Horizontal
7248.00	31.89	35.84	9.43	38.97	38.19	74.00	-35.81	Horizontal
9664.00	29.35	38.26	10.03	39.69	37.95	74.00	-36.05	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4832.00	24.29	31.09	7.29	38.36	24.31	54.00	-29.69	Vertical
7248.00	19.28	35.84	9.43	38.97	25.58	54.00	-28.42	Vertical
9664.00	18.49	38.26	10.03	39.69	27.09	54.00	-26.91	Vertical
4832.00	28.27	31.09	7.29	38.36	28.29	54.00	-25.71	Horizontal
7248.00	21.30	35.84	9.43	38.97	27.60	54.00	-26.40	Horizontal
9664.00	18.04	38.26	10.03	39.69	26.64	54.00	-27.36	Horizontal

Test channel:	Middle channel
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	35.28	32.04	7.04	38.38	35.98	74.00	-38.02	Vertical
7323.00	30.49	36.10	9.18	39.00	36.77	74.00	-37.23	Vertical
9764.00	30.27	38.30	10.27	39.73	39.11	74.00	-34.89	Vertical
4882.00	39.15	32.04	7.04	38.38	39.85	74.00	-34.15	Horizontal
7323.00	32.06	36.10	9.18	39.00	38.34	74.00	-35.66	Horizontal
9764.00	29.50	38.30	10.27	39.73	38.34	74.00	-35.66	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	24.48	32.04	7.04	38.38	25.18	54.00	-28.82	Vertical
7323.00	19.40	36.10	9.18	39.00	25.68	54.00	-28.32	Vertical
9764.00	18.61	38.30	10.27	39.73	27.45	54.00	-26.55	Vertical
4882.00	28.48	32.04	7.04	38.38	29.18	54.00	-24.82	Horizontal
7323.00	21.44	36.10	9.18	39.00	27.72	54.00	-26.28	Horizontal
9764.00	18.17	38.30	10.27	39.73	27.01	54.00	-26.99	Horizontal

Test channel:	Highest channel
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4932.00	35.14	32.19	6.75	38.39	35.69	74.00	-38.31	Vertical
7398.00	30.40	36.39	9.00	39.03	36.76	74.00	-37.24	Vertical
9864.00	30.19	38.36	10.12	39.77	38.90	74.00	-35.10	Vertical
4932.00	38.99	32.19	6.75	38.39	39.54	74.00	-34.46	Horizontal
7398.00	31.96	36.39	9.00	39.03	38.32	74.00	-35.68	Horizontal
9864.00	29.41	38.36	10.12	39.77	38.12	74.00	-35.88	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4932.00	24.39	32.19	6.75	38.39	24.94	54.00	-29.06	Vertical
7398.00	19.34	36.39	9.00	39.03	25.70	54.00	-28.30	Vertical
9864.00	18.55	38.36	10.12	39.77	27.26	54.00	-26.74	Vertical
4932.00	28.38	32.19	6.75	38.39	28.93	54.00	-25.07	Horizontal
7398.00	21.37	36.39	9.00	39.03	27.73	54.00	-26.27	Horizontal
9864.00	18.10	38.36	10.12	39.77	26.81	54.00	-27.19	Horizontal

Remarks:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

■ Unwanted Emissions in Restricted Frequency Bands

Test channel:	Lowest channel
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	46.26	26.81	4.60	38.52	39.15	74.00	-34.85	Horizontal
2390.00	50.53	27.01	4.65	38.56	43.63	74.00	-30.37	Horizontal
2310.00	47.13	26.81	4.60	38.52	40.02	74.00	-33.98	Vertical
2390.00	51.93	27.01	4.65	38.56	45.03	74.00	-28.97	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	36.04	26.81	4.60	38.52	28.93	54.00	-25.07	Horizontal
2390.00	37.48	27.01	4.65	38.56	30.58	54.00	-23.42	Horizontal
2310.00	36.23	26.81	4.60	38.52	29.12	54.00	-24.88	Vertical
2390.00	38.45	27.01	4.65	38.56	31.55	54.00	-22.45	Vertical

Test channel:	Highest channel
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	48.59	27.26	4.52	38.59	41.78	74.00	-32.22	Horizontal
2500.00	47.14	27.30	4.49	38.60	40.33	74.00	-33.67	Horizontal
2483.50	49.97	27.26	4.52	38.59	43.16	74.00	-30.84	Vertical
2500.00	48.45	27.30	4.49	38.60	41.64	74.00	-32.36	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	36.79	27.26	4.52	38.59	29.98	54.00	-24.02	Horizontal
2500.00	36.33	27.30	4.49	38.60	29.52	54.00	-24.48	Horizontal
2483.50	36.60	27.26	4.52	38.59	29.79	54.00	-24.21	Vertical
2500.00	36.52	27.30	4.49	38.60	29.71	54.00	-24.29	Vertical

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II and appendix III** for details.

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