ZCT Test Report

Report No: ZCT20240417F015

Issued for

Applicant:	Shenzhen Jinyanuo Electronics Co., Ltd.
Address:	1604, Block B, Building 1, Wisdom Home Phase I, No. 76, Baohe Avenue, Baolong Street, Longgang District, Shenzhen, China
Product Name:	Night vision
Brand Name:	N/A
Model Name:	NVG07S
Series Model:	NVG07,NVG10
Test Standard:	FCC Part 15 SUBPART B

TEST RESULT CERTIFICATION

Applicant's Name..... :	Shenzhen Jinyanuo Electronics Co., Ltd.
Address..... :	1604, Block B, Building 1, Wisdom Home Phase I, No. 76, Baohe Avenue, Baolong Street, Longgang District, Shenzhen, China
Manufacture's Name..... :	Shenzhen Jinyanuo Electronics Co., Ltd.
Address..... :	1604, Block B, Building 1, Wisdom Home Phase I, No. 76, Baohe Avenue, Baolong Street, Longgang District, Shenzhen, China

Product Description

Product Name..... :	Night Vision
Brand Name .....:	N/A
Model Name..... :	NVG07S
Series Model.....:	NVG07,NVG10
Test Standards..... :	FCC Part15 Subpart B
Test Procedure..... :	ANSI C63.4-2014

This device described above has been tested by ZCT, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test..... :

Date (s) of performance of tests. : April 08, 2024 to April 17, 2024

Date of Issue.....: April 17,2024

Test Result.....: Pass

Test Engineer: Jack Luo / Engineer

Technical Manager: Mary Peng /Manager

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	April 16,2024	ZCT20240417F015	N/A	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Rules and Regulations Part 15 Subpart B AND ANSI C63.4-2014.			
No.	Test Item	Result	Remark
1	Conducted Emission	N/A	--
2	Radiated Emission	PASS	--

1.1 TESTING LABORATORY

Company Name:	Zhongchuang Compliance Service Laboratory
Address:	Floor 3, Huilian Industrial Zone, No.18, Xinhe Community Industrial South Road, Fuhai Street, Bao 'an District, Shenzhen, Guangdong
Email:	Cunwang163@gmail.com
Laboray Accreditations	

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ±**U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	±4.13 dB
2	Conducted Emission (150KHz-30MHz)	±4.74 dB
3	All emissions,radiated(<1G) 30MHz-1000MHz	±5.2 dB
4	All emissions,radiated(>1G) 1000MHz -3000MHz	±4.66 dB
5	All emissions,radiated(<1G) 3000MHz -6000MHz	±5.31 dB

1.3 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	ZCT-E001	2024.03.25	2025.03.24
Signal Analyzer	R&S	FSV40-N	ZCT-E012	2024.03.25	2025.03.24
Active loop Antenna	ZHINAN	ZN30900C	ZCT-E013	2024.03.25	2025.03.24
Bilog Antenna	SCHWARZBECK	VULB 9168	ZCT-E002	2024.03.25	2025.03.24
Horn Antenna	SCHWARZBECK	BBHA 9120D	ZCT-E003	2024.03.25	2025.03.24
SHF-EHF Horn Antenna (18GHz-40GHz)	A-INFO	LB-180400-KF	ZCT-E018	2024.03.25	2025.03.24
Pre-Amplifier(20MHz-3GHz)	EMCI	EM330N	ZCT-E004	2024.03.25	2025.03.24
Pre-Amplifier (1GHz-18GHz)	N/A	TSAMP-0518SE	ZCT-E014	2024.03.25	2025.03.24
Temperature & Humidity	HTC-1	victor	ZCT-E005	2024.03.25	2025.03.24
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	ZCT-E020	2024.03.20	2025.05.19
LISN	R&S	ENV216	ZCT-E007	2024.03.20	2023.05.19
LISN	ETS	3810/2NM	ZCT-E009	2024.03.20	2023.05.19
Temperature & Humidity	HTC-1	victor	ZCT-E008	2024.03.20	2023.05.19
Testing Software	EZ-EMC(Ver.EMC-CON 3A1.1)				

Test Equipment Calibration

All of the test equipment is effective use and calibration certification institution, GRGT, the address is Floor 3, Huilian Industrial Zone, No.18, Xinhe Community Industrial South Road, Fuhai Street, Bao 'an District, Shenzhen, China

2. GENERAL INFORMATION

2.1 General Description Of The EUT

Product Name	Night vision
Trade Name	N/A
Model Name	NVG07S
Series Mode	N/A
Model Difference	The above product with same circuit, PCB layout, electrical parts, materials and wiring structures, Appearance shape, the materials of decorative accessories is same, only different color.
Power Supply	AC 5V
Battery	N/A
Hardware version number	V1.0
Software version number	V1.0

Note:

For a more detailed features description, please refer to the manufacturer's specificationsor the User's Manual.

This report is for product testing only, and does not have CNAS and CMA qualifications

2.1 DESCRIPTION OF THE TEST MODES

To investigate the maximum EUT emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	full load

Note: The test modes were carried out for all operation modes. Only worst case will be show in this report.

3. CONDUCTED EMISSION MEASUREMENT

3.1 Power Line Conducted Emission Limits

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 Test Procedure

a. 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 C63.4.

b. Support equipment, if needed, was placed as per ANSI C63.4.

c. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

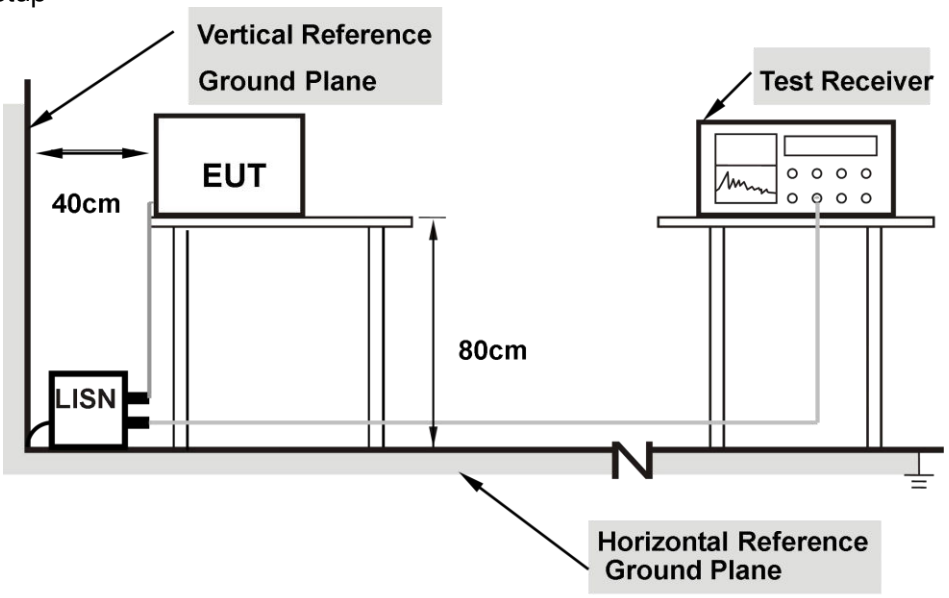
d. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.

e. All support equipments received AC power from a second LISN, if any.

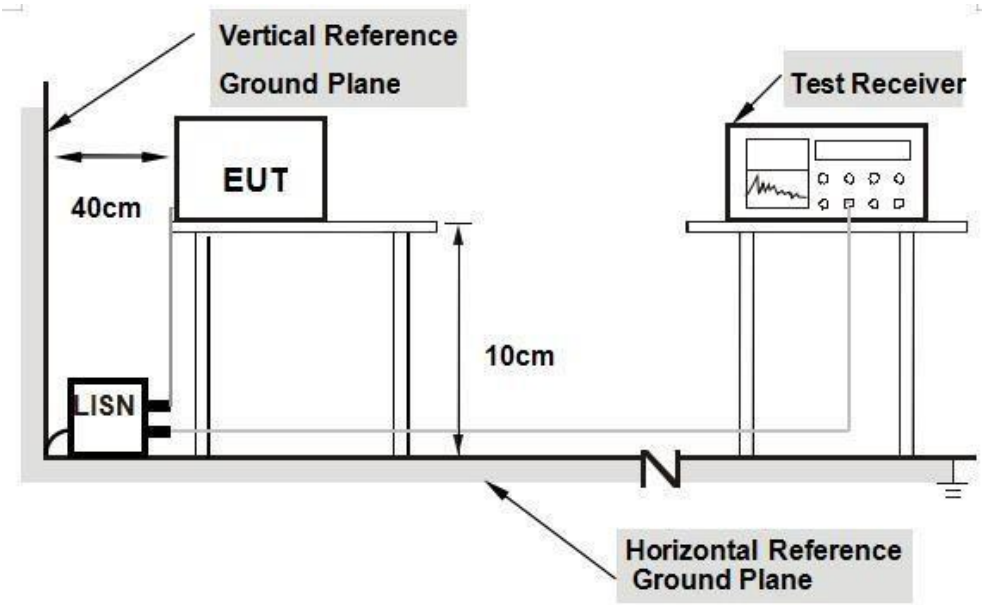
f. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected 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.

g. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes. and the test data has been listed in 3.4

3.3 Test Setup



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 10 cm from EUT and at least 10 cm from other units and other metal planes support. units.

3.4 Test Result

Temperature:	23.5℃	Relative Humidity:	59%
Phase:	L	Test Mode:	N/A
Test Voltage:	N/A		

Temperature:	23.5℃	Relative Humidity:	59%
Phase:	N	Test Mode:	N/A
Test Voltage:	N/A		

4. RADIATED EMISSION MEASUREMENT

4.1 Radiated Emission Limits

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz

4.2 Test Procedure

a. The EUT is placed on a turntable, which is 0.8m above groundplane.

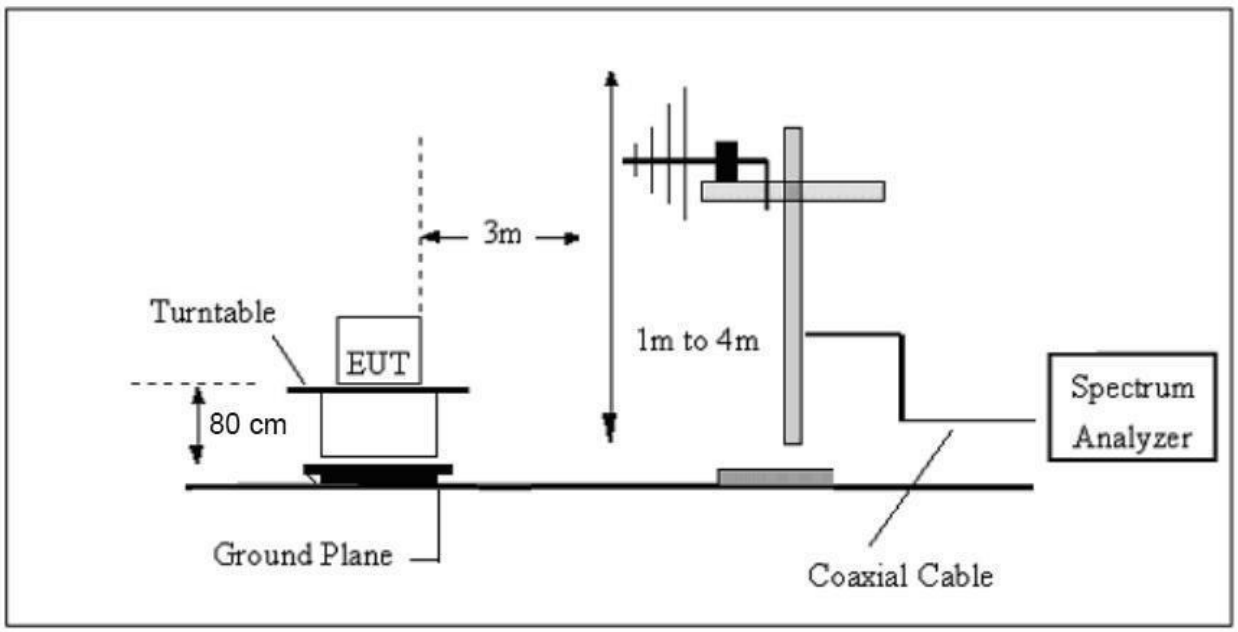
b. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.

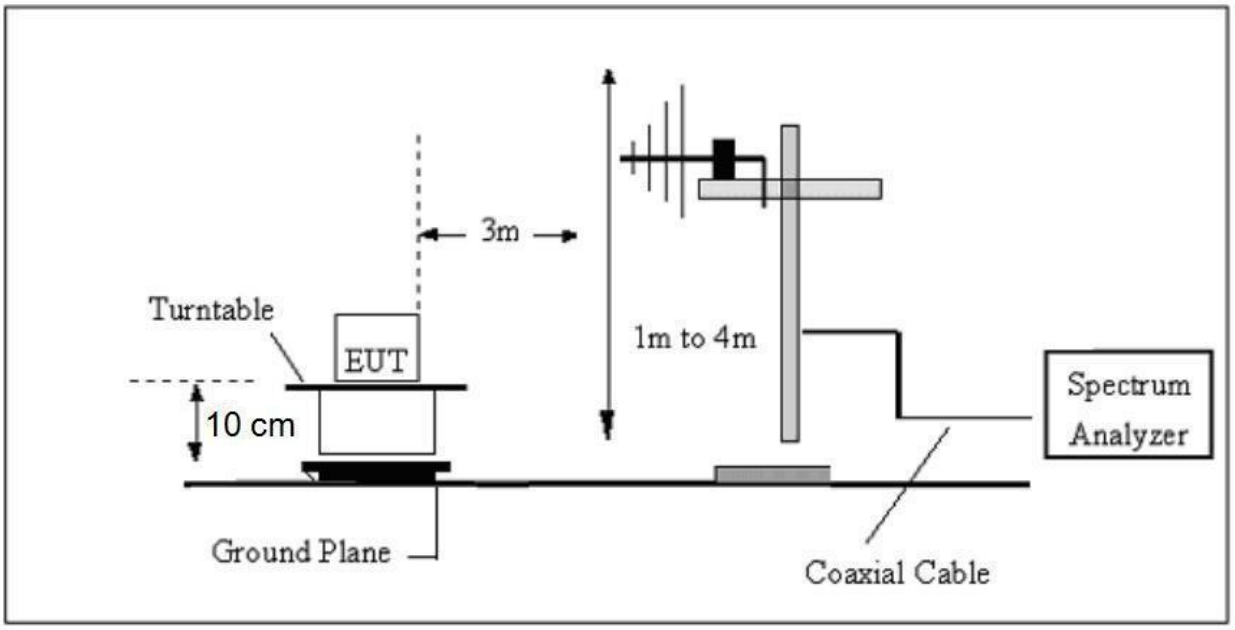
c. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.

d. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

e. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical

4.3 Test setup



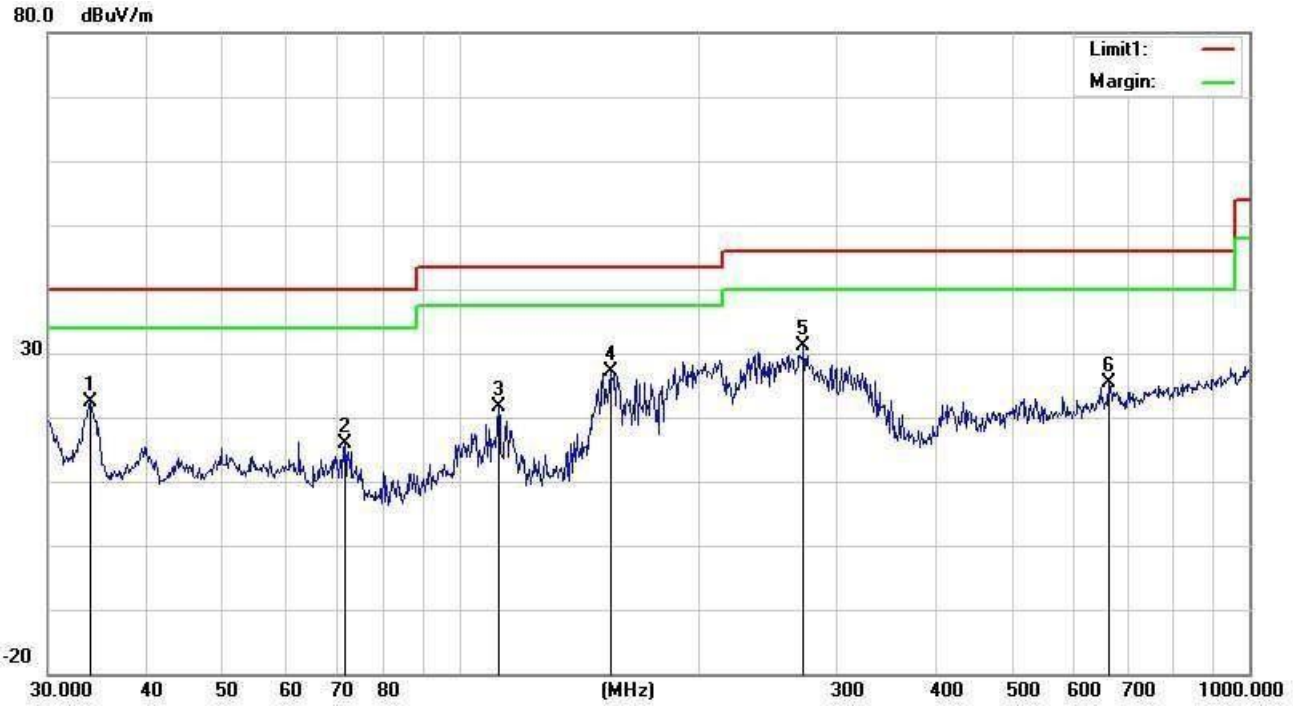


4.4 Test Results

Temperature:	23.5℃	Relative Humidity:	59%
Test Voltage:	AC 5V	Phase:	Horizontal
Test Mode:	Mode 1		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	33.9174	38.02	- 15.55	22.47	40.00	- 17.53	QP
2	71.3300	36.55	-20.57	15.98	40.00	-24.02	QP
3	111.7380	38.99	- 17.39	21.60	43.50	-21.90	QP
4	154.8204	46.29	- 19.22	27.07	43.50	- 16.43	QP
5	272.2776	45.74	- 14.58	31.16	46.00	- 14.84	QP
6	663.4730	31.98	-6.71	25.27	46.00	-20.73	QP

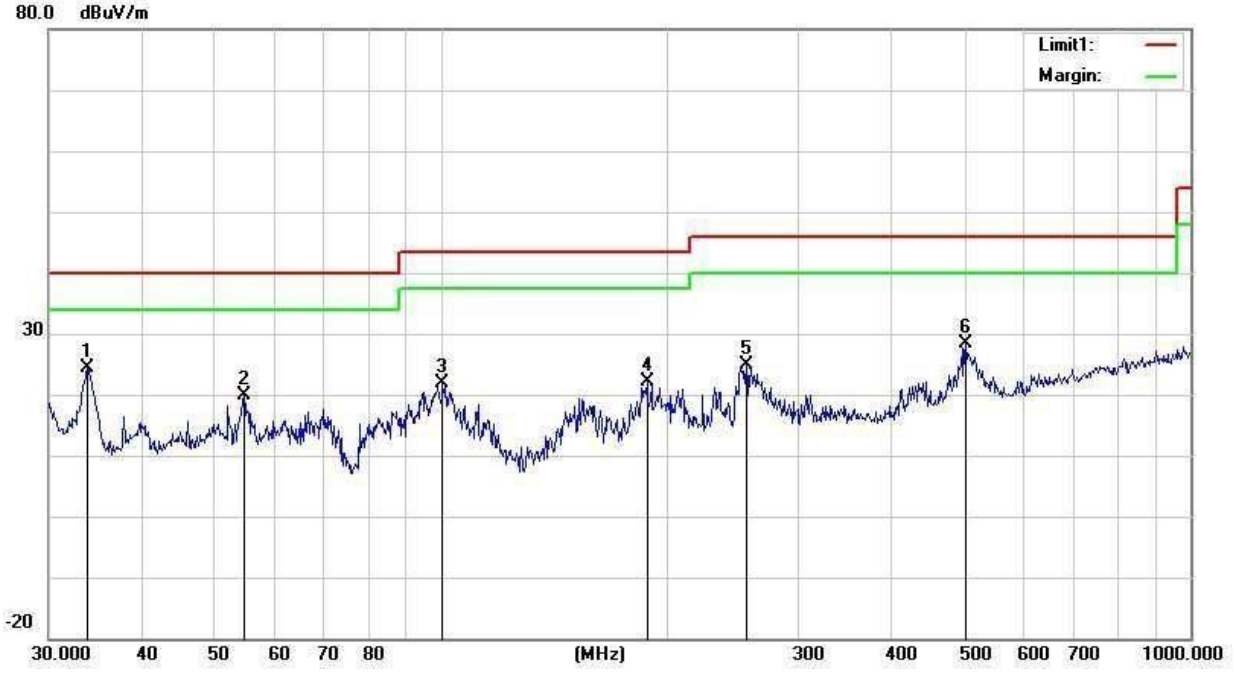
Remark:
1. Margin = Result (Result =Reading + Factor)–Limit



Temperature:	23.5℃	Relative Humidity:	59%
Test Voltage:	AC 5V	Phase:	Vertical
Test Mode:	Mode 1		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	33.7986	39.98	- 15.48	24.50	40.00	- 15.50	QP
2	54.6430	36.79	- 16.83	19.96	40.00	-20.04	QP
3	100.5806	39.79	- 17.82	21.97	43.50	-21.53	QP
4	188.4125	40.00	- 17.78	22.22	43.50	-21.28	QP
5	255.6231	39.89	- 15. 10	24.79	46.00	-21.21	QP
6	501.1790	38.19	-9.92	28.27	46.00	- 17.73	QP

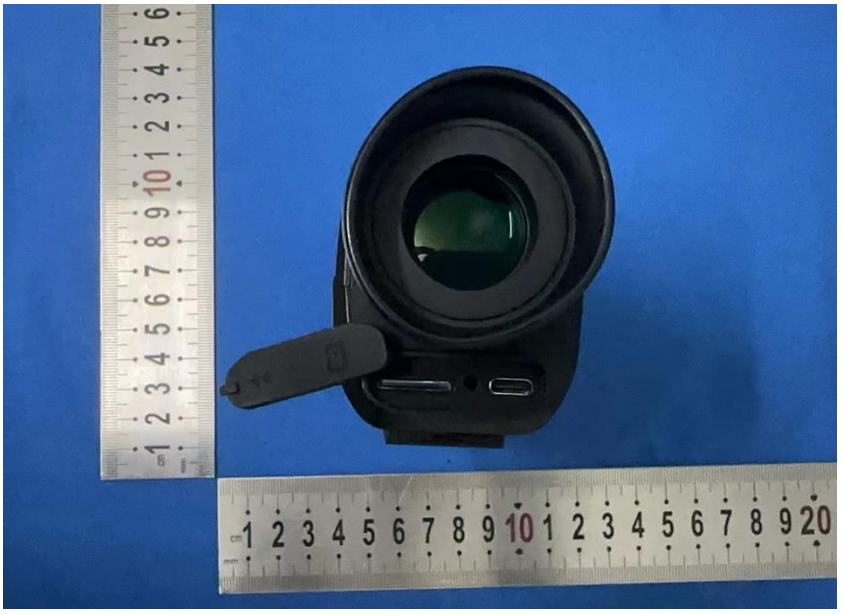
Remark:
1. Margin = Result (Result =Reading + Factor)–Limit



5.Accessories equipment

Item	Equipment	Mfr/Brand	Model/Type No.	parameter	Remark
1	Plastic hard shell	Shenzhen Rizhibang Electronics Co., Ltd	940(f1)	PC;V-0;Min. thickness: 1.5, mm	Tested with the appliance
2	Plastic silica gel	Dongguan Zhenneng Electronics Co., Ltd			Tested with the appliance
3	Circuit board	Shenzhen Jialichuang Technology Co., Ltd	4-layer printed circuit board		Tested with the appliance
4	Display	Shenzhen Shengteng Technology Co., Ltd	854*480	-10—45	Tested with the appliance
5	Glass	Jiangxi Tianyi Photoelectric Technology Co., Ltd	K9 high density glass		Tested with the appliance
6	Resistance capacitance	Shenzhen Meilong Technology Co., Ltd			Tested with the appliance
7	Diode triode	Jiangsu Changdian Technology Co., Ltd	SS8050 SS8550	1.5a 40v	Tested with the appliance
8	Integrated circuit	Taiwan Liandian Technology Co., Ltd	FM658AMG	-20-40	Tested with the appliance
9	Hardware	Guangdong Keyou Precision Machinery Manufacturing Co., Ltd			Tested with the appliance
10	Wire rod	Shenzhen Lianjiaxiang Technology Co., Ltd			Tested with the appliance
11	LED	Shenzhen Shibo Optoelectronics Co., Ltd			Tested with the appliance

6.APPENDIX-PHOTOGRAPHS OF THE EUT



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