



FCC Test Report

Equipment
under Test : Mirror front lamp

Trade Name : N/A

Model /Type : A50

Listed Models : A20,A30,A40,A60,A70,A80,A90,A100,A110,A120,A130,
A140,A150, A160,A170,A180,A190,A200,A210

Applicant : Shenzhen sanluo Electronic Technology Co., Ltd

Address : 2 / F, building C, No. 236 Fumin Road, Longxi community,
Longgang street, Longgang District, Shenzhen

Manufacturer : Shenzhen sanluo Electronic Technology Co., Ltd

Address : 2 / F, building C, No. 236 Fumin Road, Longxi community,
Longgang street, Longgang District, Shenzhen

Laboratory : Shenzhen Yacetong Testing Technology Services Co., Ltd.

Address : Room 310, No.12, Tongfu Industrial Zone, Xinhe Community,
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The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.





TEST RESULT CERTIFICATION

Applicant's name..... Shenzhen sanluo Electronic Technology Co., Ltd
Address..... 2 / F, building C, No. 236 Fumin Road, Longxi community,
Longgang street, Longgang District, Shenzhen
Manufacturer's Name..... Shenzhen sanluo Electronic Technology Co., Ltd
Address..... 2 / F, building C, No. 236 Fumin Road, Longxi community,
Longgang street, Longgang District, Shenzhen

Product description

Product name..... Mirror front lamp
Test model: A50

Standards..... FCC Part15B: November 12, 2020
ANSI C63.4:2010

This device described above has been tested by YCT, and the test results show that the equipment under test (EUT) is in compliance with Part 15 of FCC Rules. 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..... June 18, 2024 ~ June 21, 2024

Date of Issue..... June 21, 2024

Test Result..... **Pass**

Testing Engineer :

Jack Yu

Technical Manager :



Authorized Signatory :

(Jim he)





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1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC Part15B: November 12, 2020 ANSI C63.4:2010	Conducted Emission	Class B	PASS	
	Radiated Emission	Class B	PASS	

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.





1.1 TEST FACILITY

Shenzhen Yacetong Testing Technology Services Co., Ltd.
Room 310, No.12, Tongfu Industrial Zone, Xinhe Community, Fuhai Street,
Bao 'an District, Shenzhen, Guangdong, China



1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$ · 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** %.

Test Item	Uncertainty
Conducted Emission	2.6dB
Radiated Emission(Below 1G)	4.56dB(distance:3m; Polarize:V)
	4.42dB(distance:3m; Polarize:H)
Radiated Emission(1GHz-18GHz)	3.78dB(distance:3m; Polarize:V)
	3.69dB(distance:3m; Polarize:H)





2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Mirror front lamp	
Brand	N/A	
Model Name	A50	
Additional Model Number(s)	A20,A30,A40,A60,A70,A80,A90,A100,A110,A120,A130,A140,A150, A160,A170,A180,A190,A200,A210	
Model Difference	All above models are identical in the same PCB layout, interior structure and electrical circuits. Color and lamp cap differences	
Product Description	The EUT is a Mirror front lamp	
	oscillator frequency:	N/A
	Connecting I/O port:	N/A
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Power Rating	DC 5V by Adapter AC 100V/60Hz	





2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI 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	Running

For Conducted Test	
Final Test Mode	Description
Mode 1	Running

For Radiated Test	
Final Test Mode	Description
Mode 1	Running

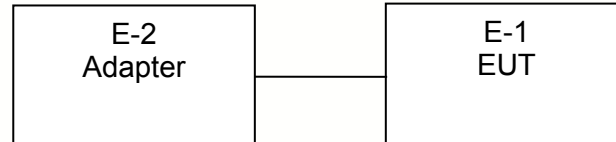




2.3 DESCRIPTION OF TEST SETUP



Mode 1



2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	EUT	N/A	A50	N/A	EUT
E-2	Adapter	N/A	SG-0502000AU	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” means “shielded” “with core”; “NO” means “unshielded” “without core”.





2.5 MEASUREMENT INSTRUMENTS LIST

2.6 CONDUCTED TEST SITE

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	LISN	R&S	ENV216	101334	Apr. 10,24	Apr. 9,25	1 year
2	LISN	SCHWARZBECK	NNLK 8129	8129267	Apr. 10,24	Apr. 9,25	1 year
3	Pulse Limiter	SCHWARZBECK	VTSD 9561F	9716	Apr. 10,24	Apr. 9,25	1 year
4	50Ω Switch	ANRITSU CORP	MP59B	6200983704	Apr. 10,24	Apr. 9,25	1 year
5	Test Cable	N/A	C01	N/A	Apr. 10,24	Apr. 9,25	1 year
6	Test Cable	N/A	C02	N/A	Apr. 10,24	Apr. 9,25	1 year
7	Test Cable	N/A	C03	N/A	Apr. 10,24	Apr. 9,25	1 year
8	EMI Test Receiver	R&S	ESCI	101318	Apr. 10,24	Apr. 9,25	1 year
9	Passive Voltage Probe	ESA50-Z3	R&S	100173	Apr. 10,24	Apr. 9,25	1 year
10	Triple-Loop Antenna	EVERFINE	LIA-2	11020016	Apr. 10,24	Apr. 9,25	1 year
11	Absorbing Clamp	R&S	MDS-21	100423	Apr. 10,24	Apr. 9,25	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Bilog Antenna	TESEQ	CBL6111D	31437	Apr. 10,24	Apr. 9,25	1 year
2	Test Cable	N/A	R-01	N/A	Apr. 10,24	Apr. 9,25	1 year
3	Test Cable	N/A	R-02	N/A	Apr. 10,24	Apr. 9,25	1 year
4	EMI Test Receiver	Rohde&Schwarz	ESVD	847312/008	Apr. 10,24	Apr. 9,25	1 year
5	Antenna Mast	EM	SC100_1	N/A	N/A	N/A	N/A
6	Turn Table	EM	SC100	060533	N/A	N/A	N/A
7	50Ω Switch	Anritsu Corp	MP59B	6200983705	Apr. 10,24	Apr. 9,25	1 year
8	Spectrum Analyzer	Aglient	E4407B	160400005	Apr. 10,24	Apr. 9,25	1 year



9	Horn Antenna	EM	EM-AH-10180	2011071402	Apr. 10,24	Apr. 9,25	1 year
10	Amplifier	EM	EM-30180	060536	Apr. 10,24	Apr. 9,25	1 year





3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	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

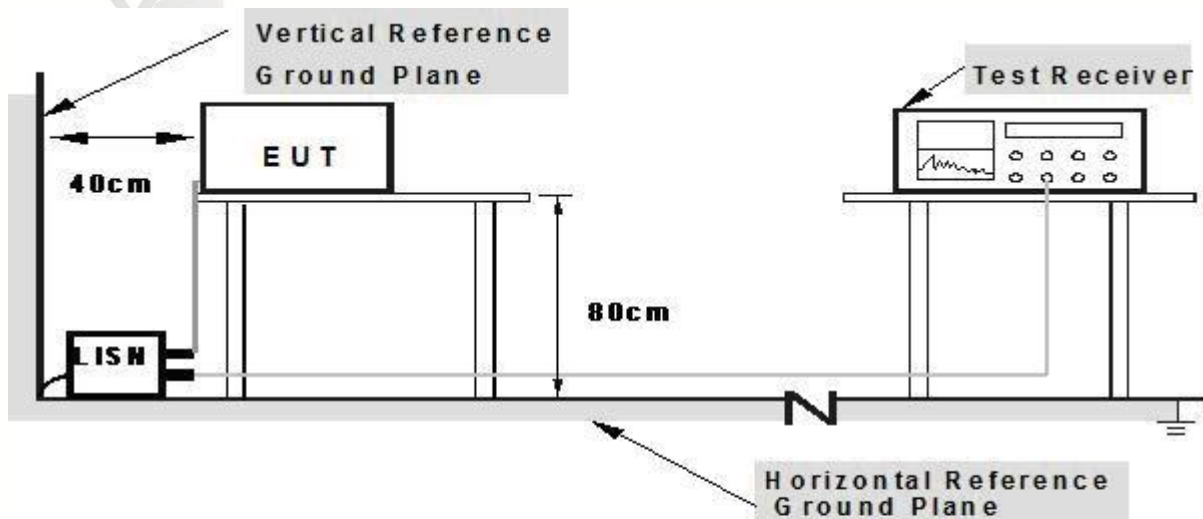
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



3.1.2 TEST PROCEDURE

- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



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

3.1.4 EUT OPERATING CONDITIONS

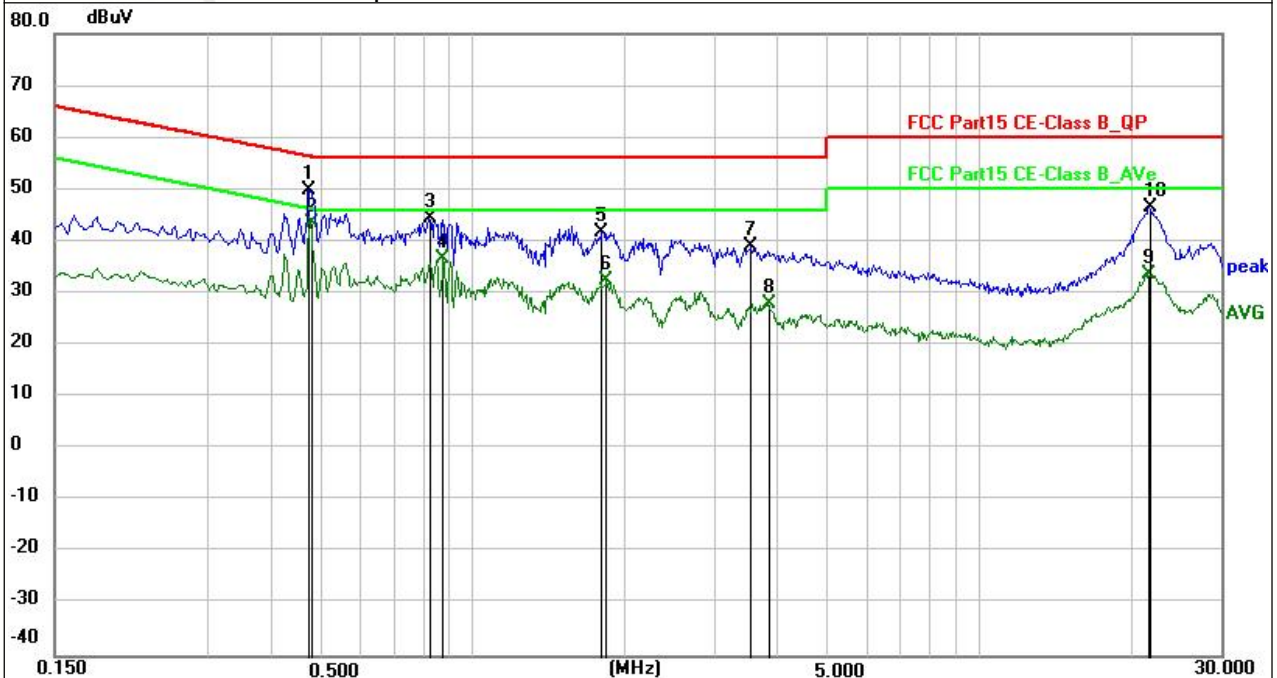
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

3.1.5 TEST RESULTS

EUT :	Mirror front lamp	Model Name. :	A50
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2024-06-20
Test Mode :	Running	Phase :	L
Test Voltage :	DC 5V by Adapter AC 120V/60Hz		

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit



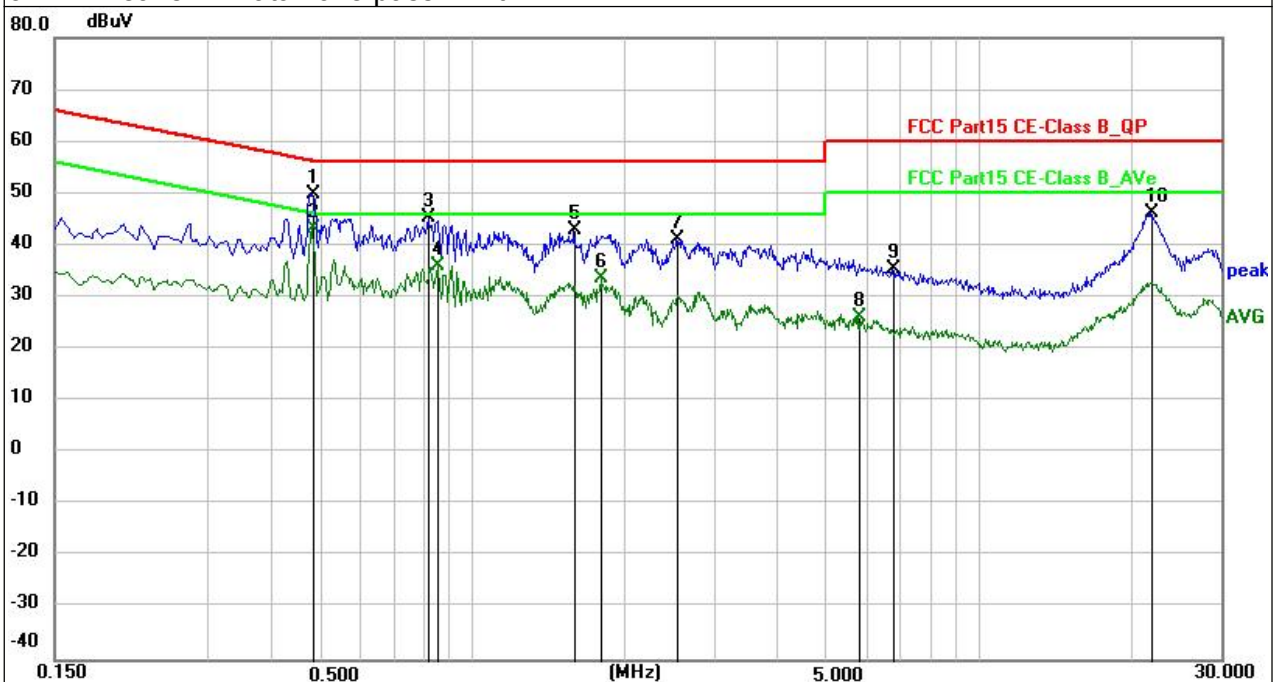
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.4740	33.24	16.69	49.93	56.44	-6.51	peak	P	
2 *	0.4785	26.83	16.69	43.52	46.37	-2.85	AVG	P	
3	0.8250	27.89	16.64	44.53	56.00	-11.47	peak	P	
4	0.8790	20.06	16.64	36.70	46.00	-9.30	AVG	P	
5	1.8060	25.30	16.51	41.81	56.00	-14.19	peak	P	
6	1.8465	15.80	16.51	32.31	46.00	-13.69	AVG	P	
7	3.5565	22.64	16.28	38.92	56.00	-17.08	peak	P	
8	3.8265	11.83	16.24	28.07	46.00	-17.93	AVG	P	
9	21.5340	14.53	19.10	33.63	50.00	-16.37	AVG	P	
10	21.6330	27.31	19.10	46.41	60.00	-13.59	peak	P	



EUT :	Mirror front lamp	Model Name. :	A50
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2024-06-20
Test Mode :	Running	Phase :	N
Test Voltage :	DC 5V by Adapter AC 120V/60Hz		

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. N/A means All Data have pass Limit



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.4830	32.39	17.52	49.91	56.29	-6.38	peak	P	
2 *	0.4830	25.78	17.52	43.30	46.29	-2.99	AVG	P	
3	0.8205	27.98	17.51	45.49	56.00	-10.51	peak	P	
4	0.8565	18.67	17.51	36.18	46.00	-9.82	AVG	P	
5	1.5855	25.36	17.49	42.85	56.00	-13.15	peak	P	
6	1.7925	16.30	17.48	33.78	46.00	-12.22	AVG	P	
7	2.5305	23.58	17.45	41.03	56.00	-14.97	peak	P	
8	5.7840	8.78	17.52	26.30	50.00	-23.70	AVG	P	
9	6.7425	17.80	17.67	35.47	60.00	-24.53	peak	P	
10	21.7320	27.12	19.10	46.22	60.00	-13.78	peak	P	



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 3m)
	dBuV/m	dBuV/m
30 ~ 88	39.0	40.0
88 ~ 216	43.5	43.5
216 ~ 960	46.5	46.0
Above 960	49.5	54.0

Notes:

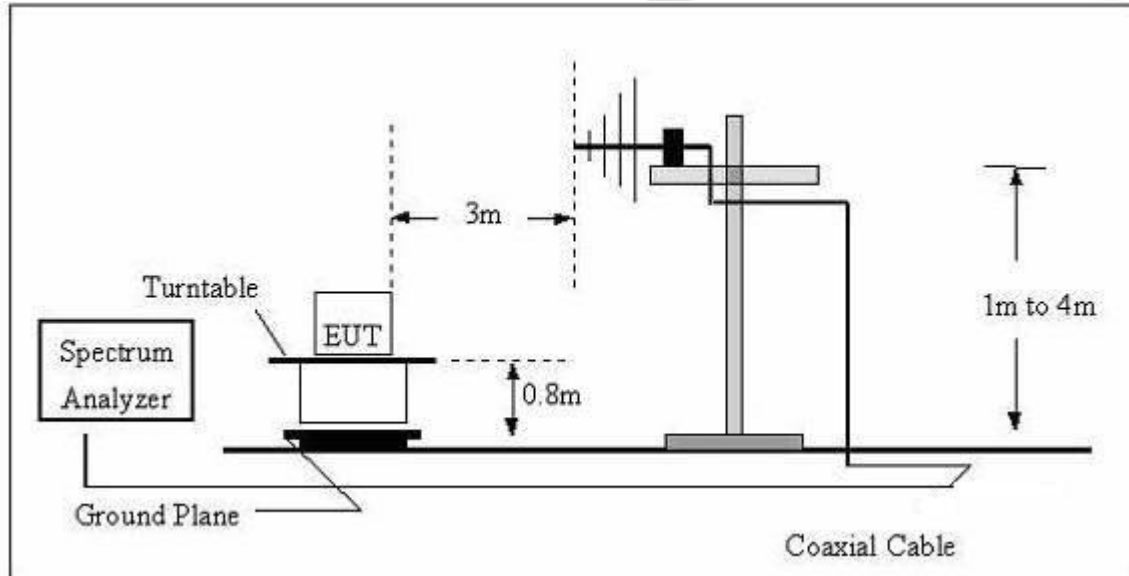
- (1) The limit for radiated test was performed according to as following:
FCC PART 15B /ICES-003.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

3.2.2 TEST PROCEDURE

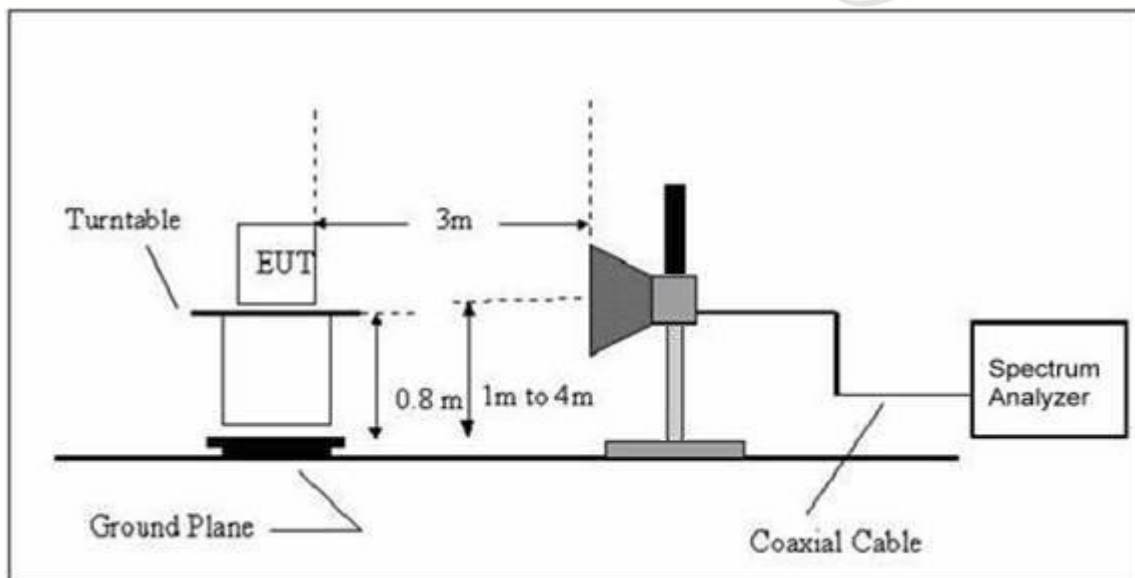
- a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured, above 1G Average detector mode will be instead.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP(AV) Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.2.3 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1GHz



3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.5 TEST RESULTS

EUT :	Mirror front lamp	Model Name :	A50
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2024-06-20
Test Mode :	Running	Polarization :	Horizontal
Test Power :	DC 5V by Adapter AC 120V/60Hz		

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	32.1794	52.50	-17.11	35.39	40.00	-4.61	peak			P	
2	41.7129	48.46	-16.35	32.11	40.00	-7.89	peak			P	
3	51.4807	49.87	-16.53	33.34	40.00	-6.66	peak			P	
4	78.6887	52.00	-20.38	31.62	40.00	-8.38	peak			P	
5	185.1378	41.45	-18.23	23.22	43.50	-20.28	peak			P	
6	658.8361	32.70	-6.96	25.74	46.00	-20.26	peak			P	





EUT :	Mirror front lamp	Model Name :	A50
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2024-06-20
Test Mode :	Running	Polarization :	Vertical
Test Power :	DC 5V by Adapter AC 120V/60Hz		

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	31.7312	52.22	-17.11	35.11	40.00	-4.89	peak			P	
2	51.6615	51.99	-16.53	35.46	40.00	-4.54	peak			P	
3 *	82.9384	57.22	-20.65	36.57	40.00	-3.43	peak			P	
4	95.7622	53.17	-20.20	32.97	43.50	-10.53	peak			P	
5	143.3260	33.17	-16.49	16.68	43.50	-26.82	peak			P	
6	195.1363	44.00	-19.05	24.95	43.50	-18.55	peak			P	





3.2.6 TEST RESULTS(Above 1GHz)

EUT :	Mirror front lamp	Model Name :	A50
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	N/A	Test Date :	N/A
Test Mode :	N/A	Polarization :	N/A
Test Power :	N/A		





3.2.7. LABELING REQUIREMENTS

(a) In addition to the requirements in part 2 of this chapter, a device subject to certification, or Supplier's Declaration of Conformity shall be labeled as follows:

(1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under part 73 of this chapter, land mobile operation under part 90 of this chapter, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is impracticable to label it with the statement specified under paragraph (a) of this section in a font that is four-point or larger, and the device does not have a display that can show electronic labeling, then the information required by this paragraph shall be placed in the user manual and must also either be placed on the device packaging or on a removable label attached to the device.

(b)-(c) [Reserved]

(d) Consumer electronics TV receiving devices, including TV receivers, videocassette recorders, and similar devices, that incorporate features intended to be used with cable television service, but do not fully comply with the technical standards for cable ready equipment set forth in §15.118, shall not be marketed with terminology that describes the device as "cable ready" or "cable compatible," or that otherwise conveys the impression that the device is fully compatible with cable service. Factual statements about the various features of a device that are intended for use with cable service or the quality of such features are acceptable so long as such statements do not imply that the device is fully compatible with cable service. Statements relating to product features are generally acceptable where they are limited to one or more specific features of a device, rather than the device as a whole. This requirement applies to consumer TV receivers, videocassette recorders and similar devices manufactured or imported for sale in this country on or after October 31, 1994.

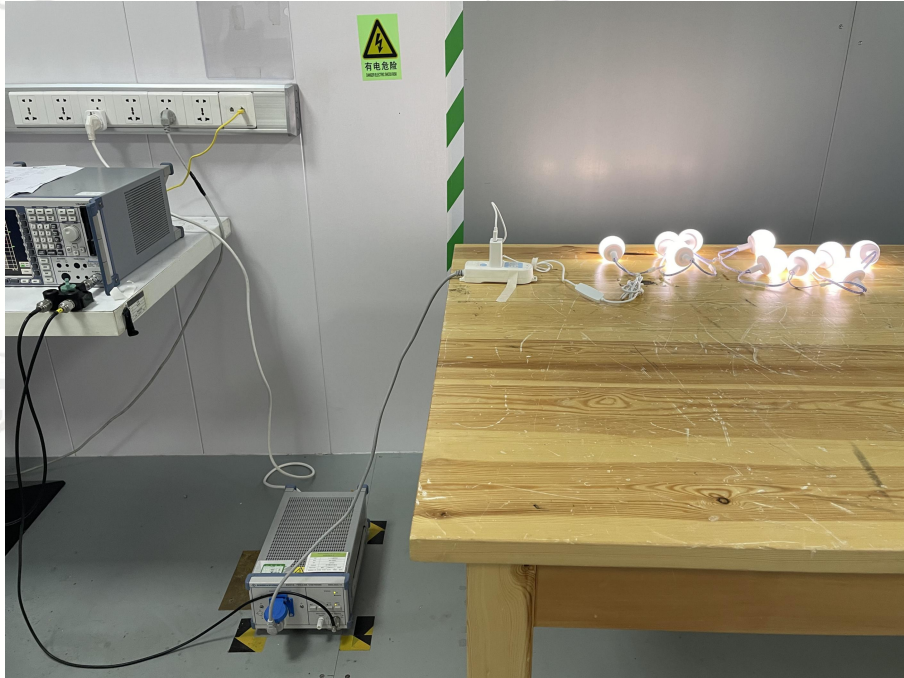


This device complies with part 15 of the FCC Rules for use with cable television service.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



4. EUT TEST PHOTO

CE



RE



ATTACHMENT PHOTOGRAPHS OF EUT









*****THE END OF REPORT*****

