Test Report

Verified code: 556971

Report No.: E20211216778201-4

Customer:	Lumi United Technology Co., Ltd.
Address:	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China
Sample Name:	Roller Shade Driver E1
Sample Model:	RSD-M01
Receive Sample Date:	Dec.17,2021
Test Date:	Dec.18,2021 ~ Dec.21,2021
Reference Document:	EN 55014-1:2017+A11:2020Electromagnetic compatibility - Requirements for householdappliances, electric tools and similar apparatus - Part 1: Emission EN 55014-2:2015 Electromagnetic compatibility - Requirements for householdappliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard EN 61000-3-3:2013Electromagnetic compatibility (EMC) –Part 3-3: Limits–Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection
Test Result:	Pass

Prepared by: Reviewed by: Approved by:

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2022-02-18

GUANGZHOU GRG METROLOGY & TEST CO., LTD.
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REVISION HISTORY

Rev.	Report No.	Revisions	Effect Page	Revised By
00	E20210316495901-4-G2	Initial Issue	ALL	Yu Shanshan
01	E20211216778201-4	Update	See below	Yu Shanshan

Rev.01:

1. This report replaces the original report E20210316495901-4-G2(issue date: 2021-06-11), which is invalid immediately after this report issued.

2. The EUT were added two IC, the information as below table, after reassessment, all items are re-test.

Original component model	Manufacturer / Producer	Corresponding PCB tag number	Add reporting component model	Manufacturer / Producer	Corresponding PCB tag number
Drive IC (DRV8833)	Dezhou instrument semiconductor technology (Shanghai) Co., Ltd	U1	Drive IC (AT8833)	Hangzhou Zhongke Microelectronics Co., Ltd	U1
Voltage stabilizing IC (SGM2203)	Shengbang Microelectronics (Beijing) Co., Ltd	U3	Voltage stabilizing IC (CW7533)	China Resources Microelectronics Limited	U3

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Statement

1. The report is invalid without "special seal for inspection and testing"; some copies are invalid; The report is invalid if it is altered or missing; The report is invalid without the signature of the person who prepared, reviewed and approved it.

2. The sample information is provided by the client and responsible for its authenticity; The content of the report is only valid for the samples sent this time.

3. When there are reports in both Chinese and English, the Chinese version will prevail when the language problems are inconsistent.

4. If there is any objection concerning the report, please inform us within 15 days from the date of receiving the report.

5. Without the agreement of the laboratory, the client is not authorized to use the test results for unapproved propaganda.

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1. TEST RESULT SUMMARY

Rev.00

Test Item	Test mode	Test Requirement	Test Method	Class / Severity	Test Result
Conduction Emission	Mode 1 Mode 2	EN 55014-1:2017+A11:2020	CISPR 14-1:2016	Meet standard limits	PASS
Radiated Emission	Mode 1 Mode 2 Mode 3	EN 55014-1:2017+A11:2020	CISPR 14-1:2016	Meet standard limits	PASS
Disturbance Power	Mode 1 Mode 2	EN 55014-1:2017+A11:2020	CISPR 14-1:2016	Meet standard limits	PASS
Harmonic Current	/	EN 61000-3-2:2019	EN 61000-3-2:2019	/	Note 1)
Voltage Fluctuation and Flicks	Mode 1 Mode 2	EN 61000-3-3:2013	EN 61000-3-3:2013	Dt,dc,dmax(4%),Pst	PASS
Electrostatic discharge	Mode 1 Mode 2 Mode 3	EN 55014-2:2015	IEC 61000-4-2:2008	Enclosure port: Contact Discharge: ±4 kV (Direct/Indirect) Air Discharge: ±8 kV (Direct); Performance Criterion B	PASS
Continuous RF electromagnetic field disturbances	Mode 1 Mode 2 Mode 3	EN 55014-2:2015	IEC 61000-4-3:2006+A1:2007+A2:2010	80-1000MHz, 3V/m,80%AM(1kHz) performance criterion: A	PASS
Electrical fast transient/burst	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-4:2012	AC Input and output Power: ±1kV 5/50 Tr/Th ns 5kHz Performance Criterion B	PASS
Surge	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-5-2017	ACInput Port:1.2/50（8/20）Tr/Th us line to line: ±1.0kV -270 °;+90 ° Performance Criterion B	PASS
Conducted radio frequency disturbances	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-6:2013	AC Input and output Power: 0.15MHz-80MHz 3V 80%AM(1kHz) Performance Criterion A	PASS
Voltage Dip & Voltage Interruptions	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-11:2004+AMD1:2017	AC Input Port: 0%,0.5T Performance Criterion C 70%,25T for 50Hz Performance Criterion C 40%,10 T for 50Hz Performance Criterion C	PASS

Rev.01

Test Item	Test mode	Test Requirement	Test Method	Class / Severity	Test Result
Conduction Emission	Mode 1 Mode 2	EN 55014-1:2017+A11:2020	CISPR 14-1:2016	Meet standard limits	PASS
Radiated Emission	Mode 1 Mode 2 Mode 3	EN 55014-1:2017+A11:2020	CISPR 14-1:2016	Meet standard limits	PASS
Disturbance Power	Mode 1 Mode 2	EN 55014-1:2017+A11:2020	CISPR 14-1:2016	Meet standard limits	PASS
Harmonic Current	/	EN 61000-3-2:2019	EN 61000-3-2:2019	/	Note 1)
Voltage Fluctuation and Flicks	Mode 1 Mode 2	EN 61000-3-3:2013	EN 61000-3-3:2013	Dt,dc,dmax(4%),Pst	PASS
Electrostatic discharge	Mode 1 Mode 2 Mode 3	EN 55014-2:2015	IEC 61000-4-2:2008	Enclosure port: Contact Discharge : ±4 kV (Direct/Indirect) Air Discharge: ±8 kV (Direct); Performance Criterion B	PASS
Continuous RF electromagnetic field disturbances	Mode 1 Mode 2 Mode 3	EN 55014-2:2015	IEC 61000-4-3:2006+A1:2007+A2:2010	80-1000MHz, 3V/m,80%AM(1kHz) performance criterion: A	PASS
Electrical fast transient/burst	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-4:2012	AC Input and output Power: ±1kV 5/50 Tr/Th ns 5kHz Performance Criterion B	PASS
Surge	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-5-2017	AC Input Port:1.2/50（8/20）Tr/Th us line to line: ±1.0kV 0 °, 90 °, 180 °, 270 ° Performance Criterion B	PASS
Conducted radio frequency disturbances	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-6:2013	AC Input and output Power: 0.15MHz-80MHz 3V 80%AM(1kHz) Performance Criterion A	PASS
Voltage Dip & Voltage Interruptions	Mode 1 Mode 2	EN 55014-2:2015	IEC 61000-4-11:2004+AMD1:2017	AC Input Port: 0%,0.5T Performance Criterion C 70%,25T for 50Hz Performance Criterion C 40%,10 T for 50Hz Performance Criterion C	PASS

Note 1):Not applicable, since The EUT with a rated power of less 75 W.

2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name:	Lumi United Technology Co., Ltd.
Address:	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.2 MANUFACTURER

Name:	Lumi United Technology Co., Ltd.
Address:	8th Floor, JinQi Wisdom Valley, No.1 Tangling Road, Liuxian Ave, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 FACTORY

Name:	Guangdong A-OK Technology Grand Development Co.,Ltd.
Address:	Hexing Road South Side, Sanhe Economic Development Zone, Huiyang, 516213Huizhou, Guangdong, PEOPLE'S REPUBLIC OF CHINA.

2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment:	Roller Shade Driver E1
Model No.:	RSD-M01
Adding Models:	/
Trade Name:	Aqara
Work Frequency:	2405MHz – 2480MHz
Power Supply:	5V ⎓ 1A power from USB cable or DC7.4V power from battery
Bettery specification:	GLIDA-INP523450-2S1P 7.4V/1000mAh(7.4Wh) , 2INP6/34/50
Sample submitting way:	■Provided by customer □Sampling
Sample No:	E20210316495901-0001 for **Rev.00** E20211216778201-0001 for **Rev.01**
Note:	/

2.5 TEST MODE

Mode No.	Description of the modes
Mode 1	Charging
Mode 2	Charging+Zigbee communication+motor rotation
Mode 3	Zigbee communication +motor rotation

2.6 LOCAL SUPPORTIVE INSTRUMENTS

Rev.00

Name of Equipment	Manufacturer	Model	Serial Number	Note
Gateway	Lumi United Technology Co., Ltd.	M1S	/	/
AC adapter	Apple	A1443	/	/
Cable				
/	/	/	/	/

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Name of Equipment	Manufacturer	Model	Serial Number	Note
Gateway	Lumi United Technology Co., Ltd.	E1	/	/
Mobile Phone	VIVO	VIVO Y79	/	/
TP-LINK Router	TP-LINK	TL-WDR6500	/	/
AC adapter 1	Jiangxi Aohai technology Co.,Ltd.	A70-050200U-EU1	/	/
AC adapter 2	Dongguan Aohai power technology Co.,Ltd.	QC18-US	/	/
Cable				
DC cable	/	/	/	Unshielded 2m (AC adapter 1 to EUT)

2.7 CONFIGURATION OF SYSTEM UNDER TEST

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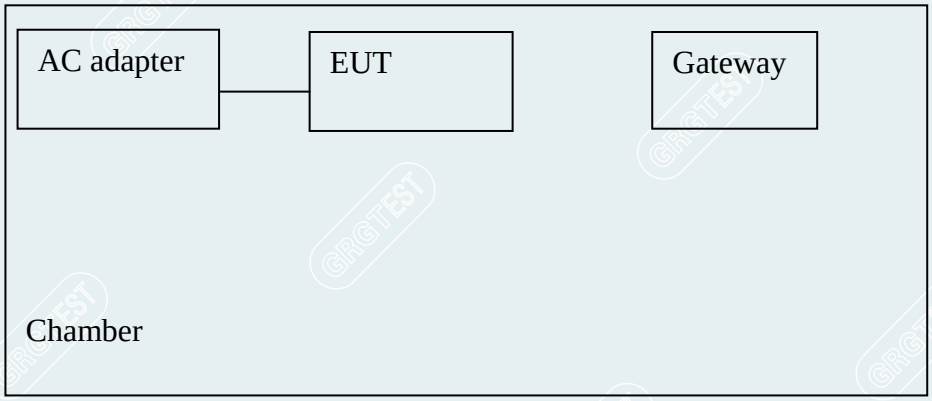
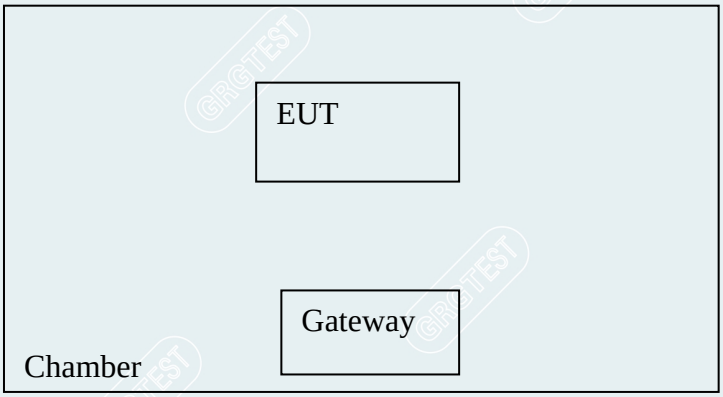
Mode 1, Mode 2



Mode 3



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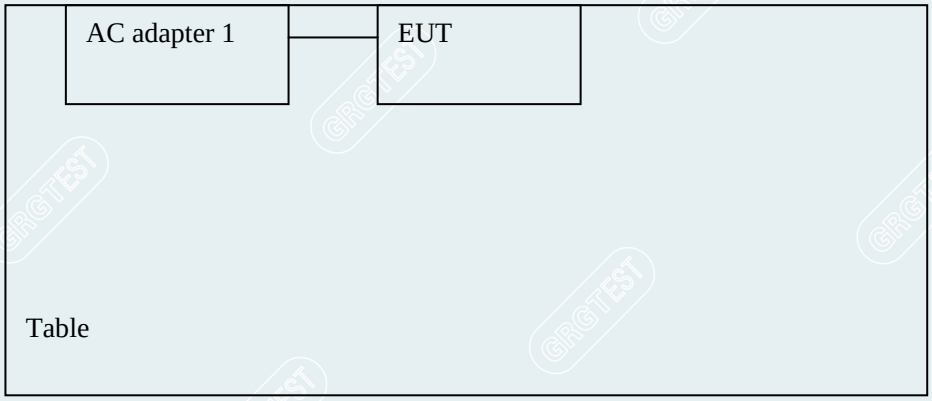
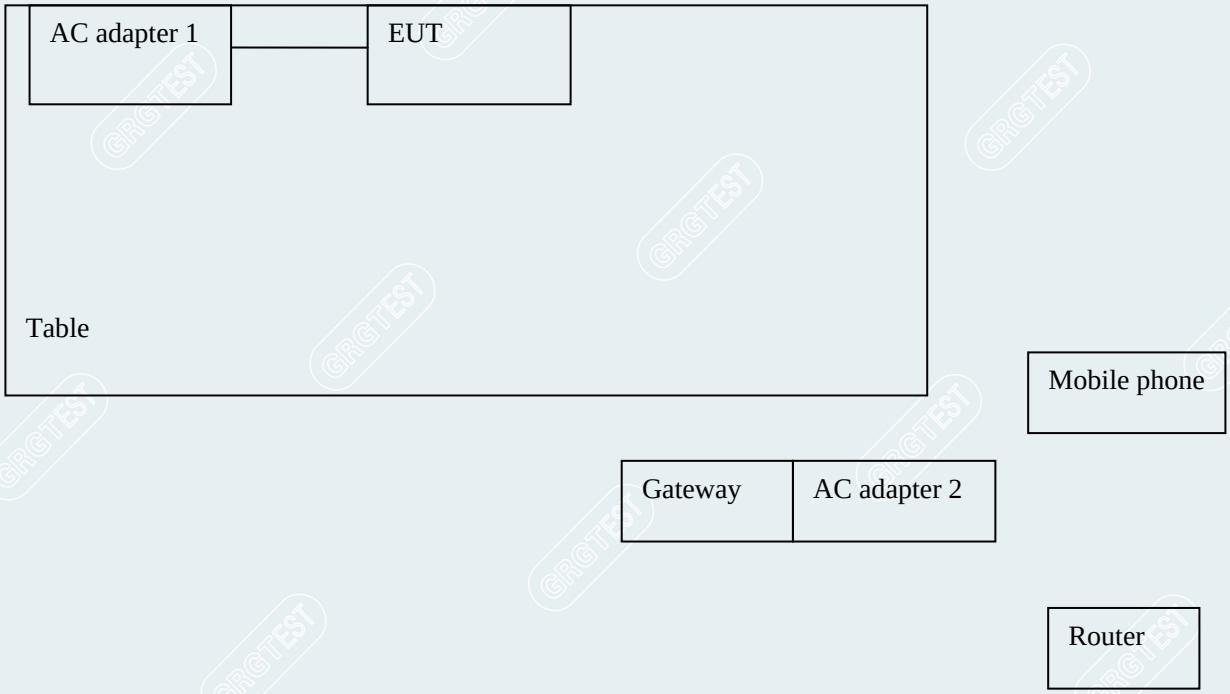
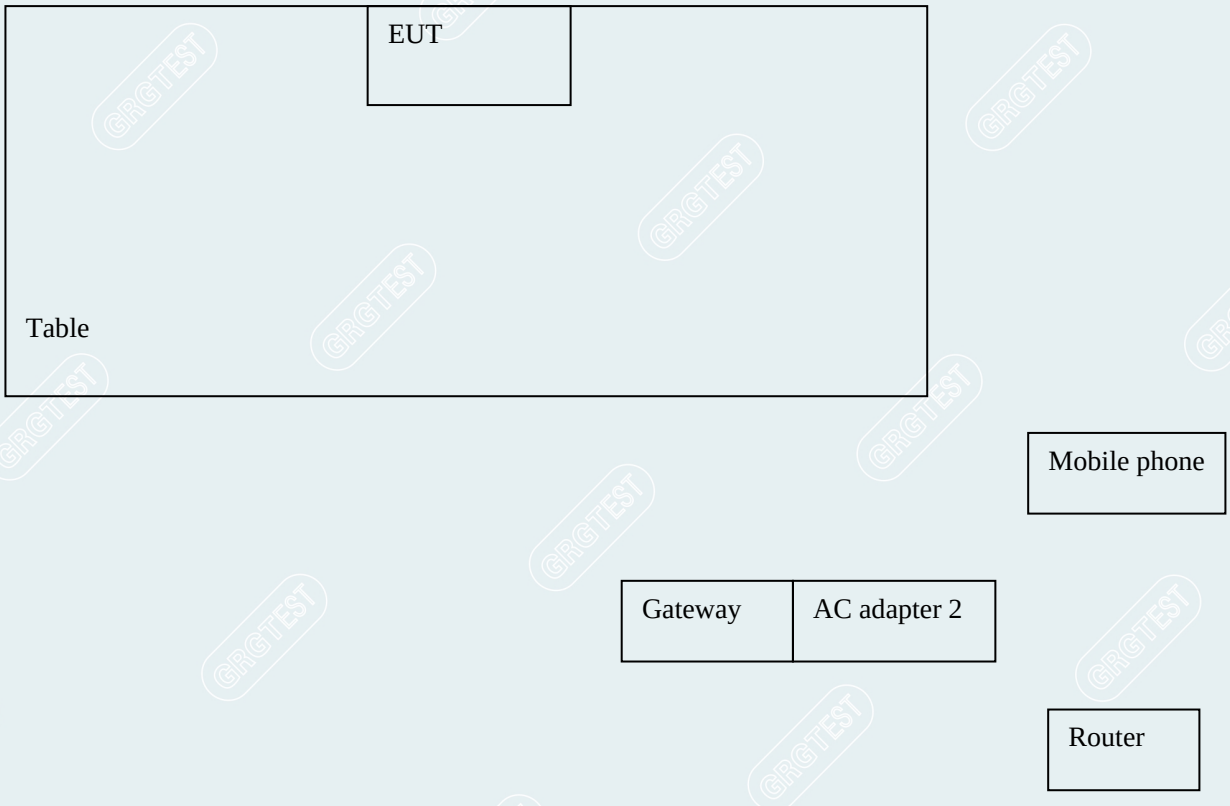
Mode 1



Mode 2


AC adapter 1
EUT
Table
Mobile phone
Gateway
AC adapter 2
Router

Mode 3


EUT
Table
Mobile phone
Gateway
AC adapter 2
Router

3. LABORATORYAND ACCREDITATIONS

3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co,. Ltd.

Add.: No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District Shenzhen, 518110, People's Republic of China.

P.C.: 518000

Tel : 0755-61180008

Fax: 0755-61180008

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	A2LA(Certificate#:2861.01)
China	CNAS(L0446)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	ISED (Company Number: 24897, CAB identifier:CN0069)
USA	FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site, http://www.grgtest.com

3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty
Conduction Emission	9 kHz ~ 150 kHz	2.2 dB[1)]
	150 kHz ~ 10 MHz	2.8 dB[1)]
	10 MHz ~ 30 MHz	2.8 dB[1)]
Radiated Emission（3m）	30MHz～200MHz(H)	4.3 dB[1)]
	200MHz～1000MHz(H)	4.5 dB[1)]
	30MHz～200MHz(V)	4.4 dB[1)]
	200MHz～1000MHz(V)	4.5 dB[1)]
Disturbance Power	30MHz～300MHz	4.0 dB[1)]
Voltage Fluctuation and Flicks	/	[2)]
Electrostatic discharge	/	[2)]
Electrical fast transient/burst	/	[2)]
Surge	/	[2)]
Conducted radio frequency disturbances	/	[2)]
Voltage Dip & Voltage Interruptions	/	[2)]

Note[1)]: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of *k*=2.

[2)]Tests have proved that, EMS test item equipment meet the requirements of the standard with a confidence level of not less than 95%.

4. LIST OF USED TEST EQUIPMENT AT GRGT

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Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conduction Emission				
EZ-EMC	EZ	CCS-3A1-CE	/	/
EMI Receiver	R&S	ESCI	100783	2021-10-08
LISN(EUT)	R&S	ENV216	101543	2022-02-25
Radiated Emission (Below 1G)				
Test S/W	EZ	CCS-2ANT	/	/
Test Receiver	R&S	ESCI	100145	2021-10-07
Preamplifier	EMEC	EM330	/	2022-03-21
Bi-log Antenna	TESEQ	CBL6143A	26039	2021-11-25
Disturbance Power				
Test S/W	EZ	CCS-03RSD-M01	/	/
Test Receiver	R&S	ESCI	100783	2021-10-08
Absorbing clamp	ROHDE&SCHWARZ	MDS-21	100165	2022-04-15
Voltage Fluctuation and Flicks				
Test S/W	/	CTS4	/	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
Harmonic & Flicker Tester	SCHAFFNER	CCN1000	72045	2021-11-15
Electrostatic discharge				
Dito ESD Simulator	EM Test	dito	V0809103493	2021-11-18
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Radio-Frequency Electromagnetic Field				
Test S/W	Tonscend	JS35-RS	/	/
Signal generator	R&S	SMA100A	100434	2021-10-08
Switch	TOYO	BS5000	/	/
Power Amplifier	SCHAFFNER	CBA9433	3007	2022-03-21
Power Amplifier	TESEQ	CBA 3G-050	T44161	2022-04-16
Power Amplifier	Milmega	AS1860-50	1079232	2021-11-15
Dual directional Coupler	AR	DC 6180A	0328212	2021-10-08

Dual directional Coupler	AR	DC 7144A	327057	2021-10-08
Log-periodic broadband antenna	Schaffner	CBL6143	5082	2021-10-08
Microwave Log.-Per. Antenna	Schwarzbeck	STLP9149	9149-163	2021-10-09
Power Meter	Keysight	N1914A	MY57090009	2021-10-16
Power Probe	Keysight	E9301A	MY57060008	2021-10-08
Electrical fast transient/burst				
Test S/W	/	Win3025 Version 4.00	/	/
Fast Transients/Burst Generator	TESEQ	NSG 3025	26861	2021-10-16
Surge				
Surge simulator	3ctest	CWS 600G	ES0381813	2021-11-15
Lightning surge coupling decoupling network	3ctest	SPN 3618T	ES0941720	2021-11-15
Conducted radio frequency disturbances				
Test S/W	Tonscend	JS35-CS	/	/
Conduction and radiation immunity testing system	TESEQ	NSG4070	25807	2022-04-16
Attenuator	weinschel corp	40-6-34	QQ986	2021-10-08
Coupled decoupled network	Luthi	CDN801-M2	1897	2021-10-08
Voltage Dip & Voltage Interruptions				
Test S/W	AMETEK	AC Source CIGuiSII-500lix	2.0.0.7-No v.2006	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
current switchgear	TESEQ	NSG2200-1	A17820	2021-10-16

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Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conduction Emission				
EZ-EMC	EZ	CCS-3A1-CE	/	/
EMI Receiver	R&S	ESCI	100783	2022-09-14
LISN(EUT)	R&S	ENV216	101543	2022-09-14
Radiated Emission (Below 1GHz)				
Test S/W	EZ	CCS-2ANT	/	/
Test Receiver	R&S	ESCI	I00266	2022-09-13
Preamplifier	EMEC	EM330	/	2022-03-21
Bi-log Antenna	TESEQ	CBL6143A	26039	2022-11-25
Disturbance Power				
Test S/W	EZ	CCS-03RSD-M 01	/	/
Test Receiver	R&S	ESCI	100783	2022-09-13
Absorbing clamp	ROHDE&SCHWAR Z	MDS-21	100165	2022-04-15
Voltage Fluctuation and Flicks				
Test S/W	/	CTS4	/	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
Harmonic & Flicker Tester	SCHAFFNER	CCN1000	72045	2022-09-24
Electrostatic discharge				
Dito ESD Simulator	EM Test	dito	V0809103493	2022-10-30
Test S/W	Tonscend	JS35-RS	/	/
Signal generator	R&S	SMA100A	100434	2022-09-04
Switch	TOYO	BS5000	/	/
Power Amplifier	SCHAFFNER	CBA9433	3007	2022-03-21
Power Amplifier	TESEQ	CBA 3G-050	T44161	2022-04-16
Power Amplifier	Milmega	AS1860-50	1079232	2022-10-29
Dual directional Coupler	AR	DC 6180A	0328212	2022-09-22
Dual directional Coupler	AR	DC 7144A	327057	2022-09-22
Log-periodic broadband antenna	Schaffner	CBL6143	5082	2022-02-04
Microwave Log.-Per. Antenna	Schwarzbeck	STLP9149	9149-163	2022-09-18
Power Meter	Keysight	N1914A	MY57090009	2022-10-11
Power Probe	Keysight	E9301A	MY57060008	2022-09-04

Electrical fast transient/burst				
Test S/W	/	Win3025 Version 4.00	/	/
Fast Transients/Burst Generator	TESEQ	NSG 3025	26861	2022-09-04
Surge				
Combined wave lightning surge simulator	3ctest	CWS 600G	ES0381813	2022-10-29
Lightning surge coupling decoupling network	3ctest	SPN 3618T	ES0941720	2022-11-05
Conducted radio frequency disturbances				
Test S/W	Tonscend	JS35-CS	/	/
Conduction and radiation immunity testing system	TESEQ	NSG4070	25807	2022-04-16
Attenuator	weinschelcorp	40-6-34	QQ986	2022-09-08
CDN	Luthi	CDN801-M2	1897	2022-09-11
Voltage Dip & Voltage Interruptions				
Test S/W	AMETEK	AC Source CIGuiSII-500lix	2.0.0.7-No v.2006	/
Power Source	SCHAFFNER	NSG1007	54789	2022-03-21
current switchgear	TESEQ	NSG2200-1	A17820	2022-09-24
Harmonic & Flicker Tester	SCHAFFNER	CCN1000	72045	2022-09-24

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5. EMISSION TEST

5.1 CONDUCTION EMISSION MEASUREMENT

5.1.1 LIMITS

Frequency range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.50	66 - 56	59 - 46
0.50 ~ 5	56	46
5 ~ 30	60	50

NOTE: (1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases in line with the logarithm of the frequency in the range of 150 kHz to 0.5MHz.
(3) All emanations from a class B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.1.2 TEST PROCEDURE

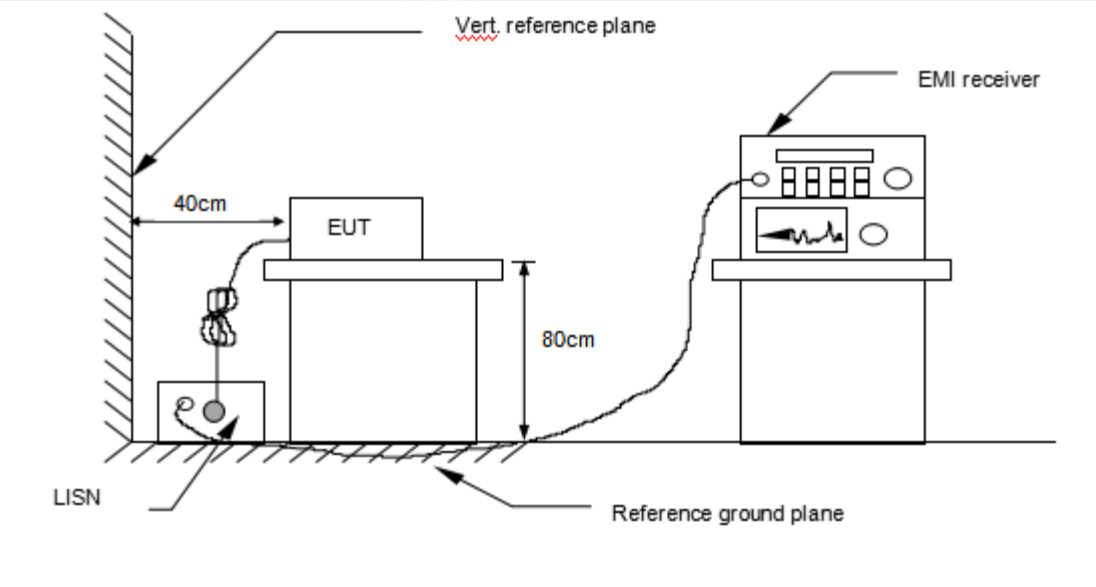
Procedure of Preliminary Test

- The EUT and Support equipment, if needed, was set up as per the test configuration to simulate typical usage per the user's manual. When 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 CISPR 14/EN 55014 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor standing equipment, it is placed on the ground plane, which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- All I/O cables were positioned to simulate typical actual usage as per CISPR 14/EN 55014 .
- The test equipment EUT received AC230V/50Hz main power, through a Line Impedance Stabilization Network (LISN), which supplied power source and was grounded to the ground plane.
- All support equipment power received from a second LISN.
- The EUT test program was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.
- The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in section 2.5 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in section 2.5 producing the highest emission level.
- The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

Procedure of Final Test

- EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.
- The test data of the worst-case condition(s) was recorded.

5.1.3 TEST SETUP



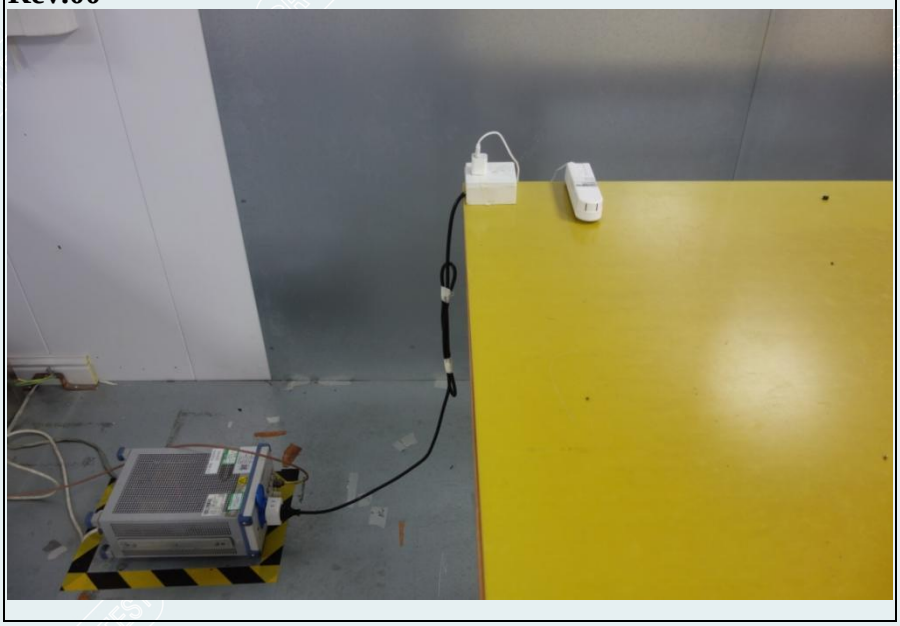
5.1.4 DATA SAMPLE

Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XXXX	24.60	10.97	19.90	44.50	30.87	56.00	46.00	-11.50	-15.13	Pass

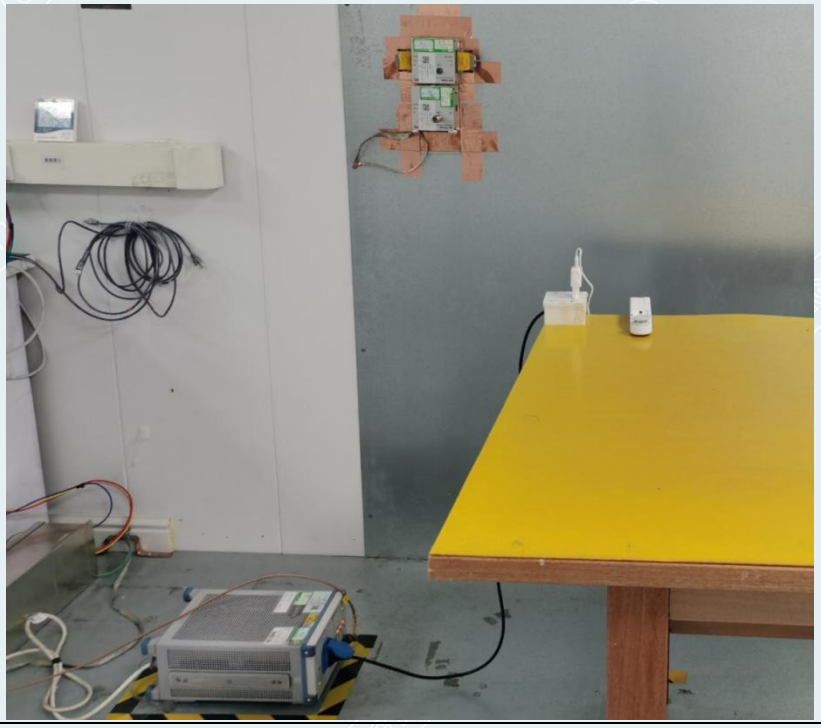
Factor = Insertion loss of LISN + Cable Loss
Result = Quasi-peak Reading/ Average Reading + Factor
Limit = Limit stated in standard
Margin = Result (dBuV) – Limit (dBuV)

5.1.5 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00



Rev.01



Mode 1

Mode 2

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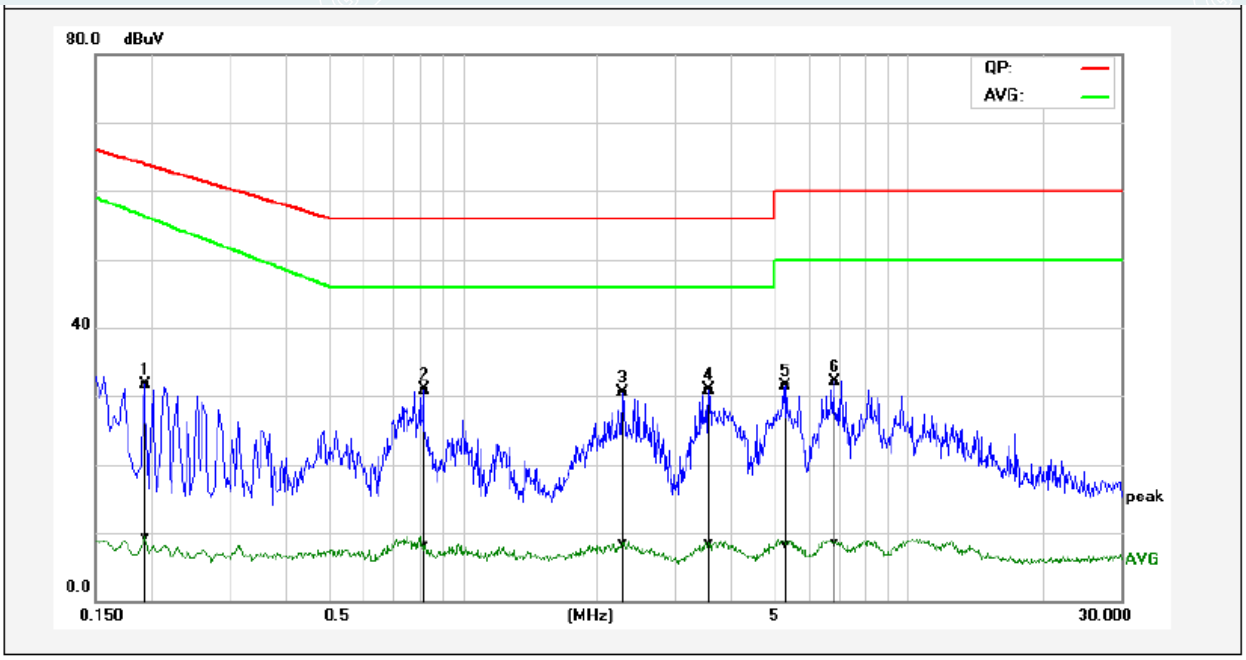
5.1.6 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/49%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

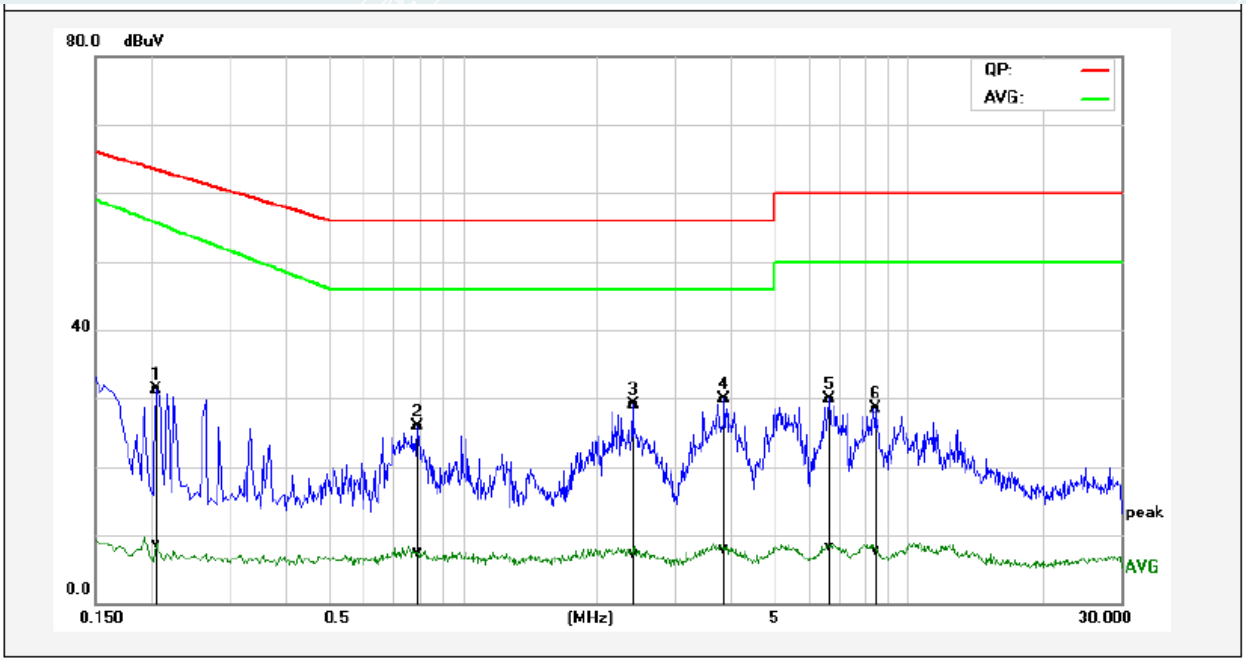
Line: L1



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1940	22.18	-0.21	9.61	31.79	9.40	63.86	56.22	-32.07	-46.82	Pass
2*	0.8180	21.30	-1.50	9.61	30.91	8.11	56.00	46.00	-25.09	-37.89	Pass
3	2.2940	20.94	-1.12	9.62	30.56	8.50	56.00	46.00	-25.44	-37.50	Pass
4	3.5780	21.18	-1.20	9.64	30.82	8.44	56.00	46.00	-25.18	-37.56	Pass
5	5.3220	21.87	-1.36	9.66	31.53	8.30	60.00	50.00	-28.47	-41.70	Pass
6	6.8060	22.48	-1.17	9.69	32.17	8.52	60.00	50.00	-27.83	-41.48	Pass

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/49%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

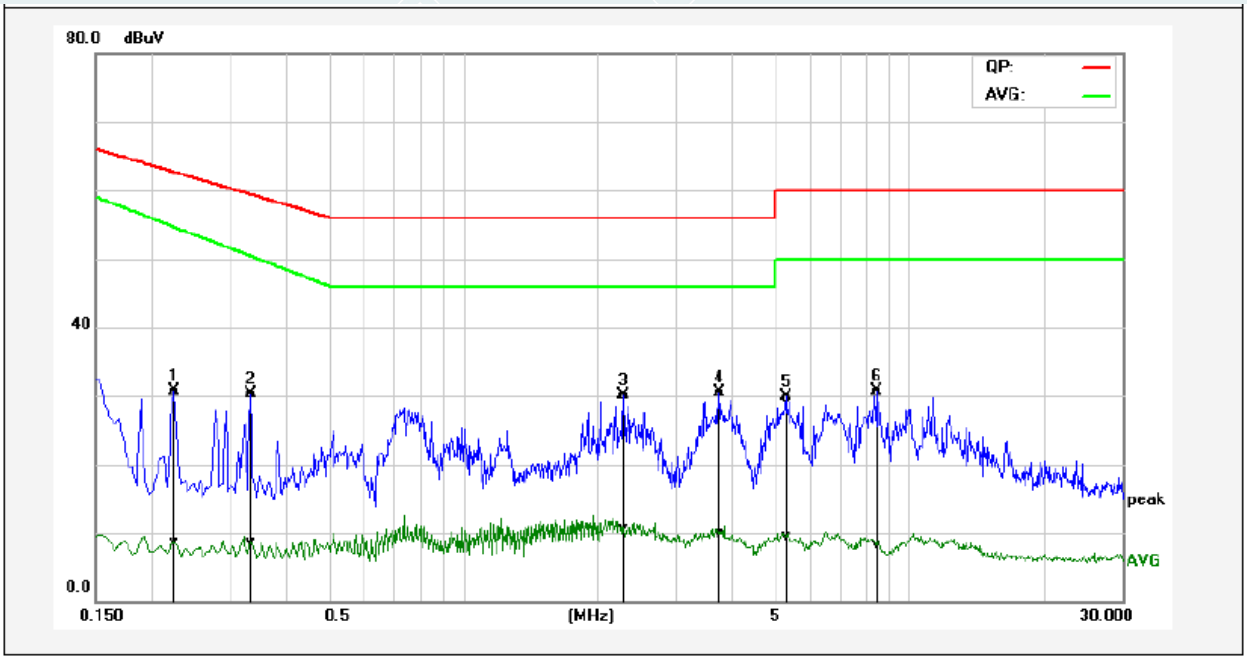
Line: N



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.2060	21.71	-0.90	9.60	31.31	8.70	63.36	55.57	-32.05	-46.87	Pass
2	0.7940	16.20	-2.16	9.61	25.81	7.45	56.00	46.00	-30.19	-38.55	Pass
3	2.4100	19.54	-2.27	9.62	29.16	7.35	56.00	46.00	-26.84	-38.65	Pass
4*	3.8660	20.27	-1.64	9.64	29.91	8.00	56.00	46.00	-26.09	-38.00	Pass
5	6.6300	20.28	-1.37	9.69	29.97	8.32	60.00	50.00	-30.03	-41.68	Pass
6	8.4660	18.80	-1.95	9.71	28.51	7.76	60.00	50.00	-31.49	-42.24	Pass

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/49%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

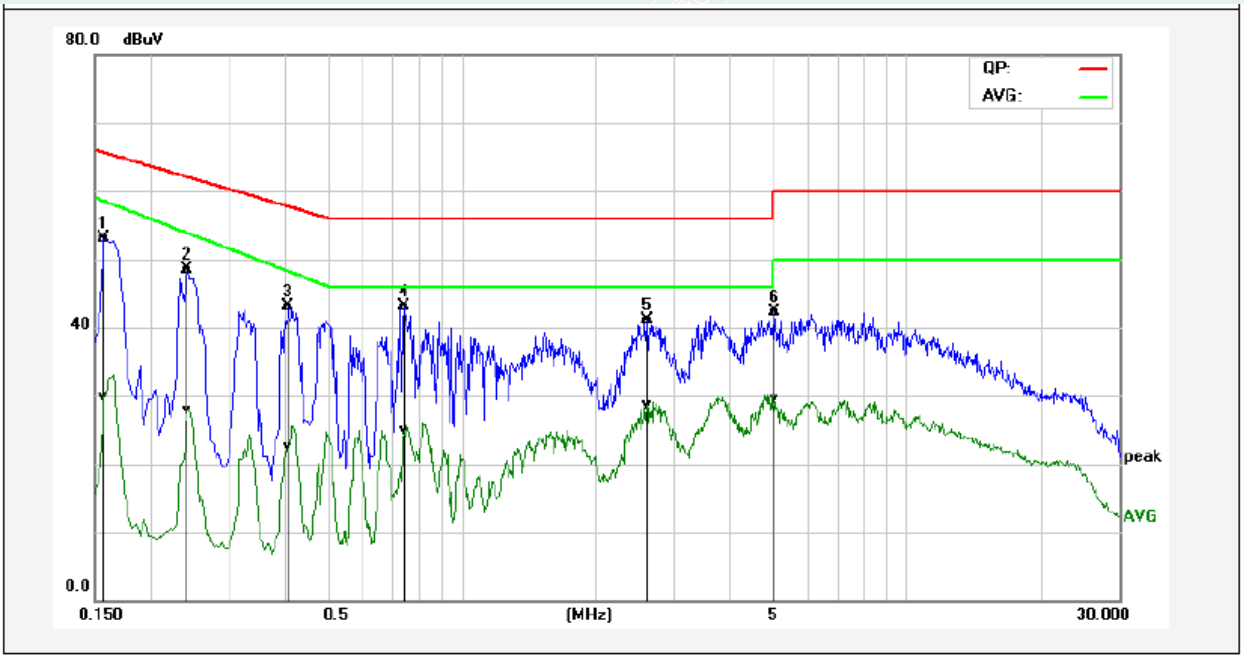
Line: L1



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.2260	21.06	-0.99	9.61	30.67	8.62	62.59	54.57	-31.92	-45.95	Pass
2	0.3339	20.73	-0.96	9.61	30.34	8.65	59.35	50.36	-29.01	-41.71	Pass
3	2.2900	20.57	1.11	9.62	30.19	10.73	56.00	46.00	-25.81	-35.27	Pass
4*	3.7500	20.85	0.23	9.64	30.49	9.87	56.00	46.00	-25.51	-36.13	Pass
5	5.3020	20.14	-0.15	9.66	29.80	9.51	60.00	50.00	-30.20	-40.49	Pass
6	8.4300	21.02	-1.37	9.71	30.73	8.34	60.00	50.00	-29.27	-41.66	Pass

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/49%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

Line: N



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1580	43.43	20.26	9.60	53.03	29.86	65.56	58.44	-12.53	-28.58	Pass
2	0.2420	39.00	18.31	9.60	48.60	27.91	62.02	53.84	-13.42	-25.93	Pass
3	0.4100	33.57	12.91	9.62	43.19	22.53	57.65	48.14	-14.46	-25.61	Pass
4	0.7460	33.55	15.25	9.61	43.16	24.86	56.00	46.00	-12.84	-21.14	Pass
5	2.6220	31.47	19.14	9.63	41.10	28.77	56.00	46.00	-14.90	-17.23	Pass
6	5.0500	32.58	19.90	9.66	42.24	29.56	60.00	50.00	-17.76	-20.44	Pass

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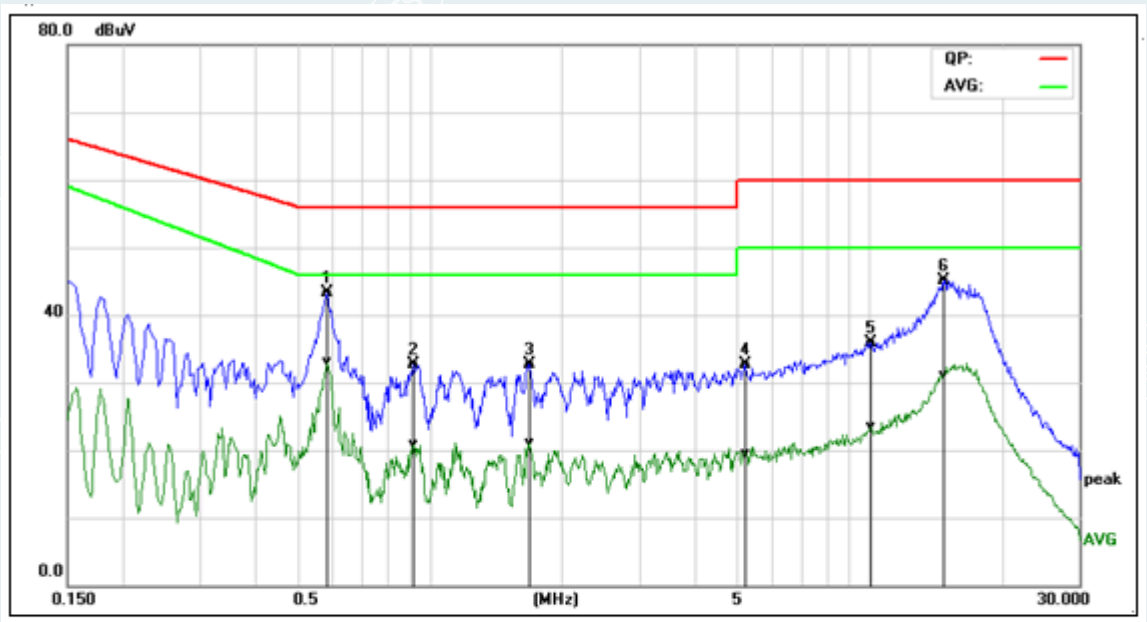
EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

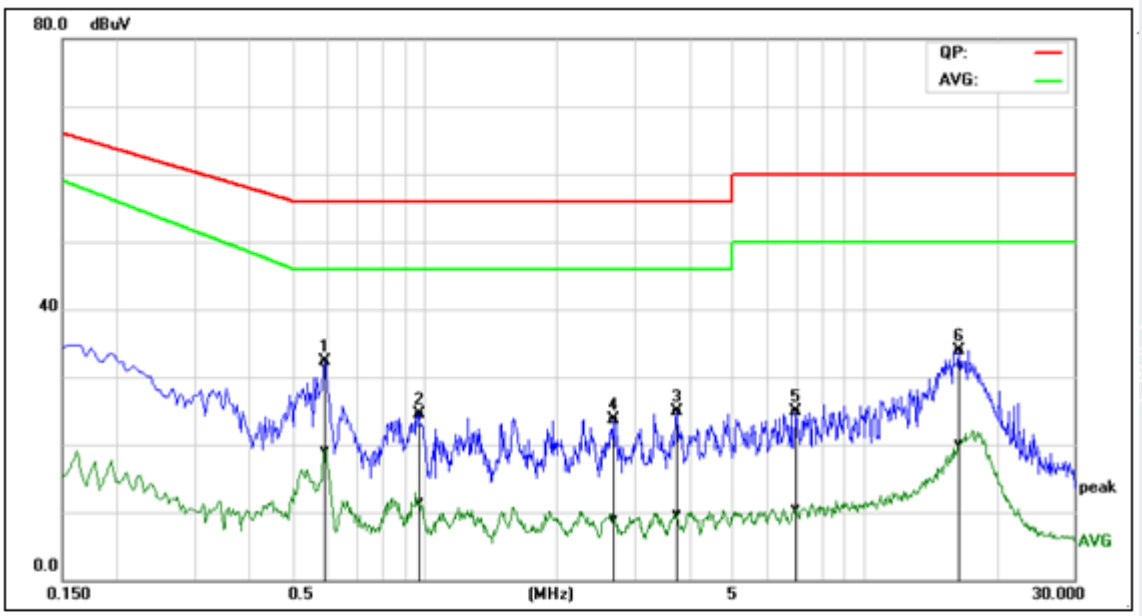
Line: **L1**



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.5860	33.75	23.47	9.57	43.32	33.04	56.00	46.00	-12.68	-12.96	Pass
2	0.9220	23.14	11.31	9.59	32.73	20.90	56.00	46.00	-23.27	-25.10	Pass
3	1.6820	23.11	11.49	9.60	32.71	21.09	56.00	46.00	-23.29	-24.91	Pass
4	5.2460	22.96	9.87	9.68	32.64	19.55	60.00	50.00	-27.36	-30.45	Pass
5	10.0980	26.05	13.77	9.79	35.84	23.56	60.00	50.00	-24.16	-26.44	Pass
6	14.7780	35.25	21.17	9.84	45.09	31.01	60.00	50.00	-14.91	-18.99	Pass

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

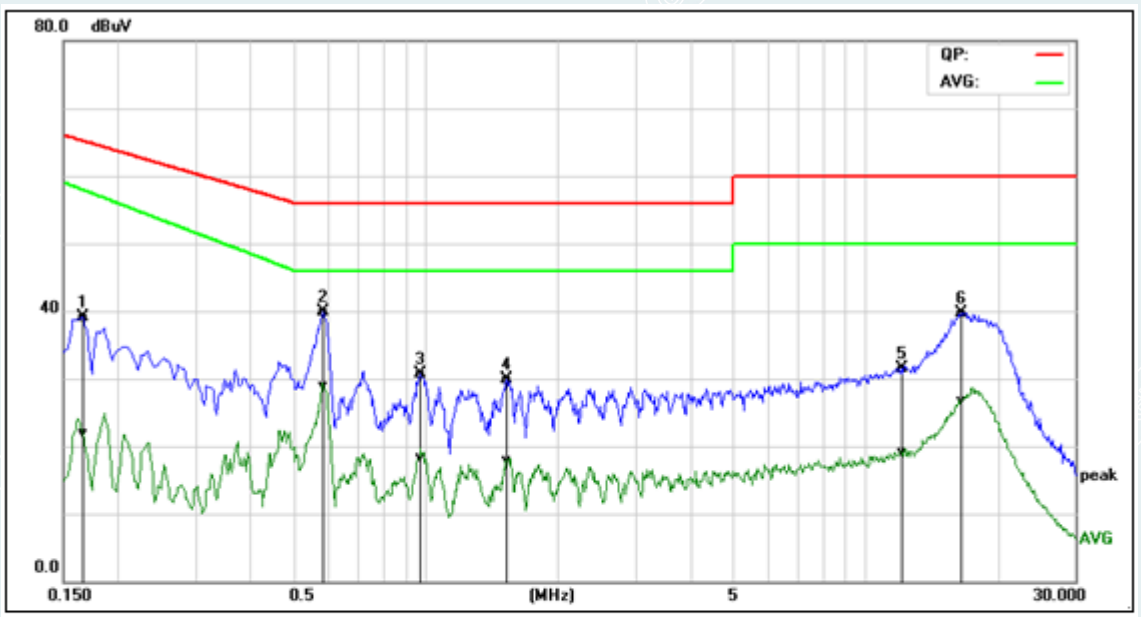
Line: **N**



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.5940	22.44	9.43	9.68	32.12	19.11	56.00	46.00	-23.88	-26.89	Pass
2	0.9700	14.92	1.88	9.63	24.55	11.51	56.00	46.00	-31.45	-34.49	Pass
3	3.7500	15.20	0.03	9.63	24.83	9.66	56.00	46.00	-31.17	-36.34	Pass
4	2.6860	14.08	-0.69	9.60	23.68	8.91	56.00	46.00	-32.32	-37.09	Pass
5	6.9980	15.21	0.78	9.72	24.93	10.50	60.00	50.00	-35.07	-39.50	Pass
6	16.4500	23.98	10.19	9.91	33.89	20.10	60.00	50.00	-26.11	-29.90	Pass

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

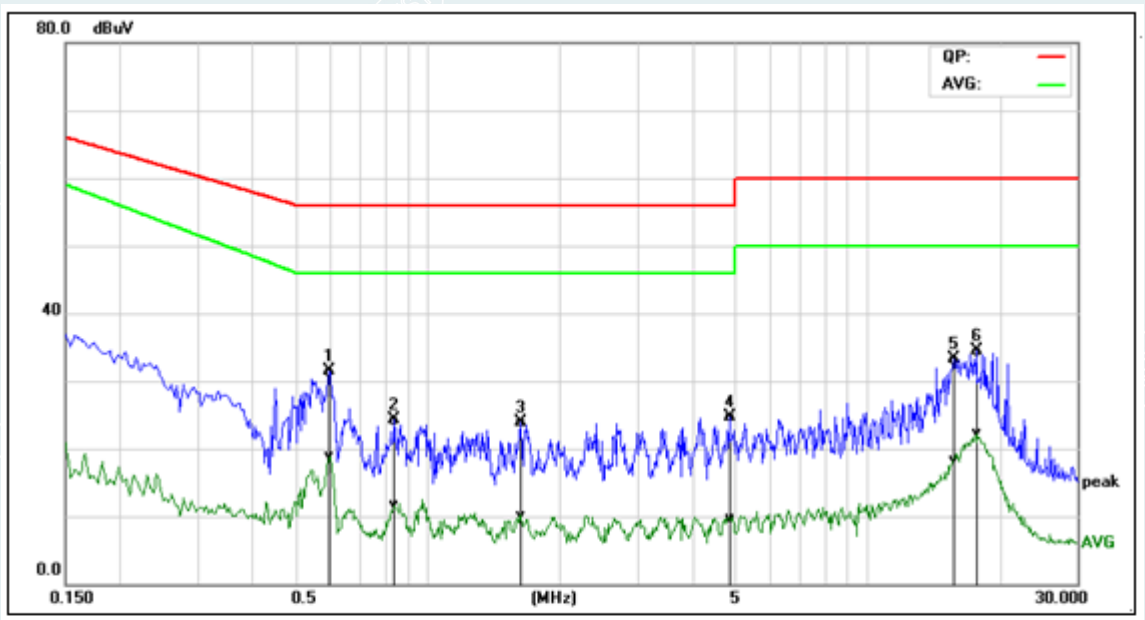
Line: **L1**



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1658	29.56	12.34	9.53	39.09	21.87	65.16	57.92	-26.07	-36.05	Pass
2*	0.5854	30.31	19.43	9.57	39.88	29.00	56.00	46.00	-16.12	-17.00	Pass
3	0.9684	21.08	8.63	9.59	30.67	18.22	56.00	46.00	-25.33	-27.78	Pass
4	1.5274	20.32	8.35	9.60	29.92	17.95	56.00	46.00	-26.08	-28.05	Pass
5	12.0600	21.66	9.33	9.81	31.47	19.14	60.00	50.00	-28.53	-30.86	Pass
6	16.4856	29.92	16.91	9.87	39.79	26.78	60.00	50.00	-20.21	-23.22	Pass

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Line: **N**



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.5980	21.72	9.19	9.68	31.40	18.87	56.00	46.00	-24.60	-27.13	Pass
2	0.8420	14.55	2.07	9.64	24.19	11.71	56.00	46.00	-31.81	-34.29	Pass
3	1.6300	14.32	0.58	9.61	23.93	10.19	56.00	46.00	-32.07	-35.81	Pass
4	4.8659	15.05	0.05	9.66	24.71	9.71	56.00	46.00	-31.29	-36.29	Pass
5	15.7180	23.29	8.48	9.89	33.18	18.37	60.00	50.00	-26.82	-31.63	Pass
6	17.6900	24.45	12.30	9.92	34.37	22.22	60.00	50.00	-25.63	-27.78	Pass

5.2 RADIATED EMISSION MEASUREMENT

5.2.1 LIMITS

Below 1GHz

Frequency range (MHz)	Limits dB(μV/m)
	Distance: 3m
	Quasi peak
30 ~ 230	40
230 ~ 1000	47

NOTE:(1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m)

5.2.2 TEST PROCEDURE

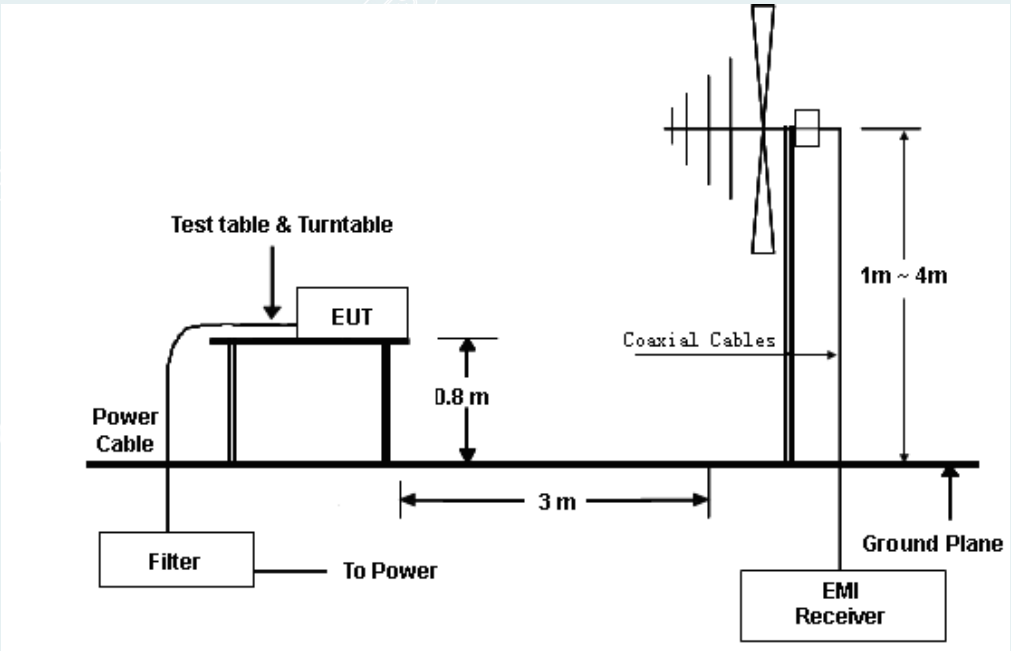
Procedure of Preliminary Test

- The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.1 meters is used which is placed on the ground plane. When the EUT is a floor standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per CISPR 14/EN 55014.
- All I/O cables were positioned to simulate typical usage as per CISPR 14/EN 55014.
- The EUT received AC 230V/50Hz main power from the outlet socket under the turntable. All support equipment power received from another socket under the turntable.
- Mains cables, telephone lines or other connections to auxiliary equipment located outside the test are shall drape to the floor, be fitted with ferrite clamps or ferrite tubes placed on the floor at the point where the cable reaches the floor and then routed to the place where they leave the turntable. No extension cords shall be used to mains receptacle.
- The antenna was placed at 10 meter away from the EUT as stated in CISPR 14/EN 55014. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.
- The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- The test mode(s) described in section 2.5 were scanned during the preliminary test:
- After the preliminary scan, we found the test mode described in section 2.5 producing the highest emission level.
- The EUT and cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for the final test.

Procedure of Final Test

- EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test.
- The Analyzer / Receiver scanned from 30MHz to 1000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and only Q.P. reading is presented.
- The test data of the worst-case condition(s) was recorded.

5.2.3 TEST SETUP



5.2.4 DATA SAMPLE

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
XXXX	63.53	-27.15	36.38	43.50	-7.12	QP

Frequency (MHz) = Emission frequency in MHz

Reading (dBuV) = Uncorrected Analyzer / Receiver reading

Correct Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain

Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)

Limit (dBuV/m) = Limit stated in standard

Margin (dB) = Result (dBuV/m) – Limit(dBuV/m)

QP = Quasi-peak Reading

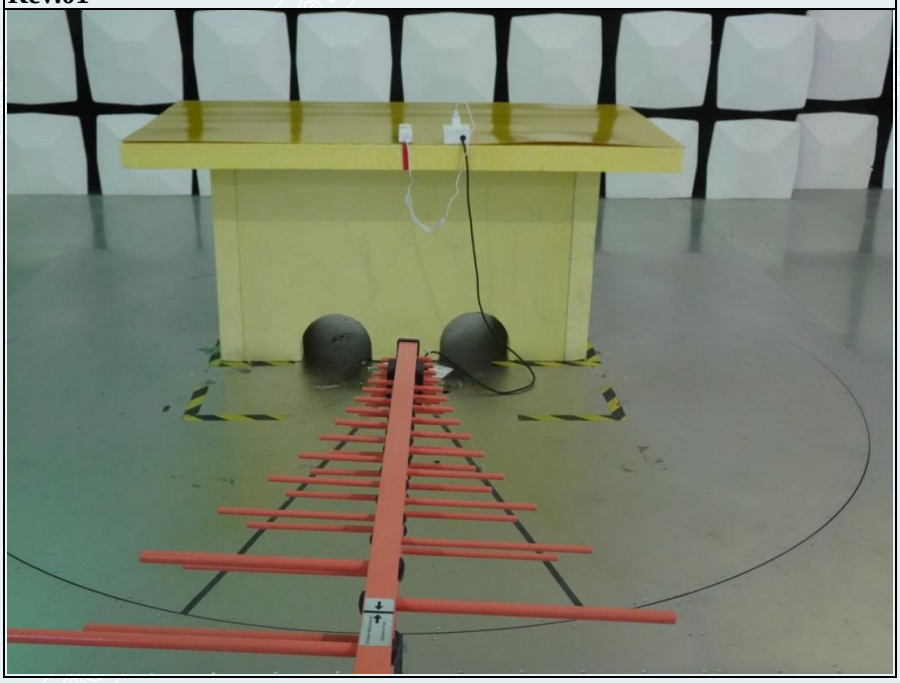
Calculation Formula

Margin (dB) = Result (dBuV/m) – Limits (dBuV/m)

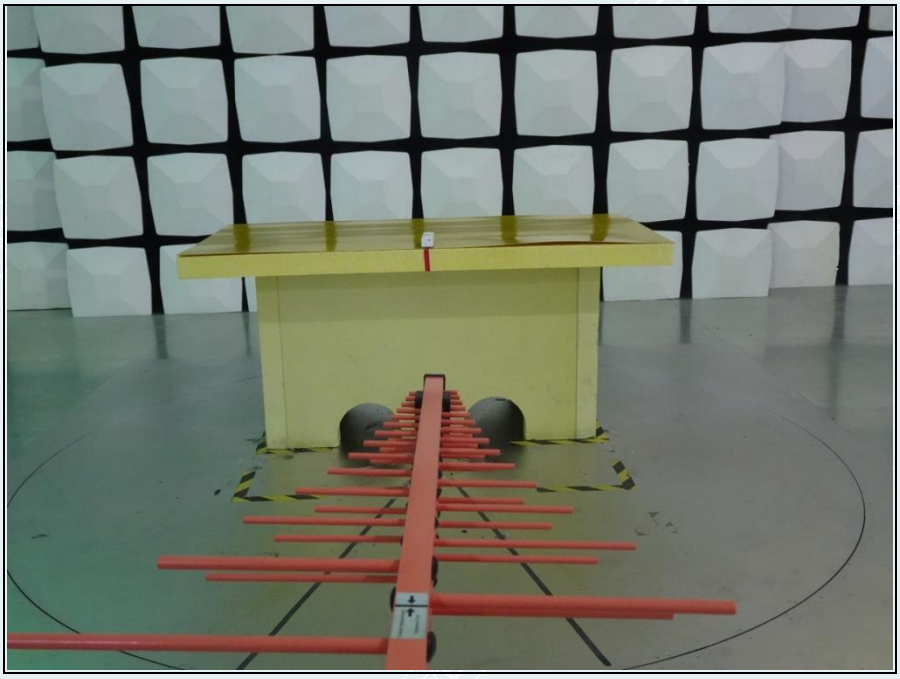
Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)

5.2.5 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.01



Below 1GHz (Mode 1&Mode 2)



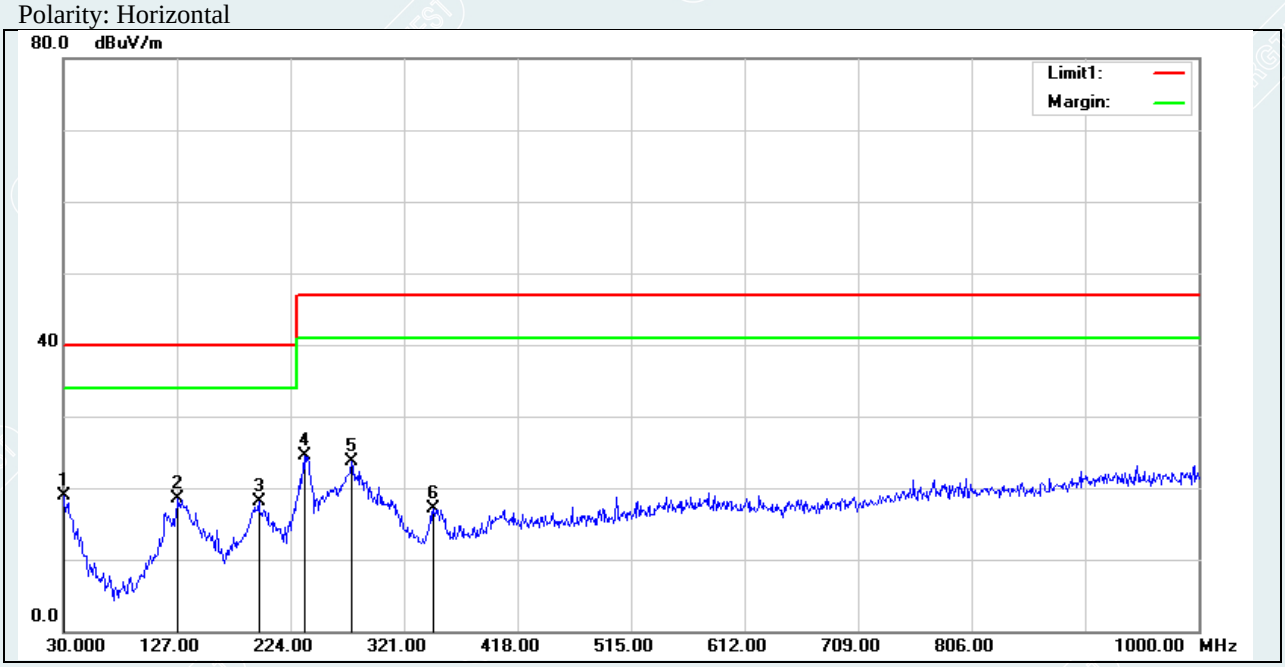
Below 1GHz (Mode 3)

5.2.6 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	23.1℃/41%RH/101.0kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-04-15	Sample No.	E20210316495901-0001

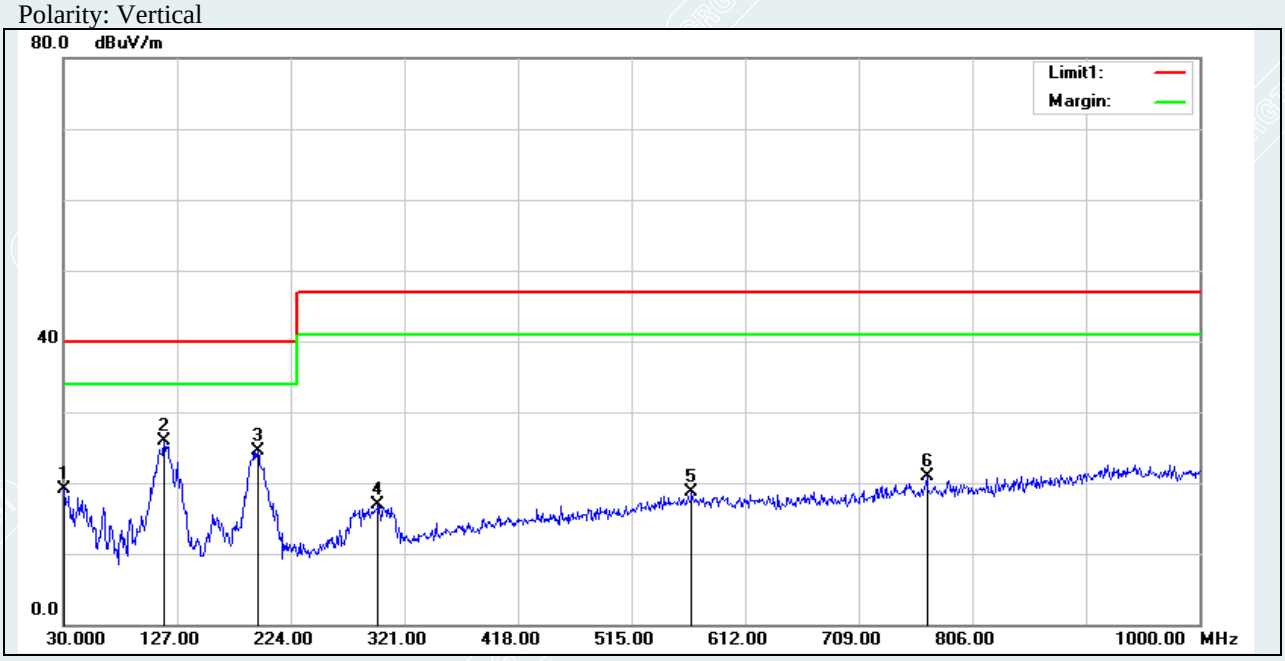
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Height (cm)	Degree (deg.)	Remark
1*	30.0000	35.92	-17.05	18.87	40.00	-21.13	400	217	QP
2	127.9700	44.86	-26.44	18.42	40.00	-21.58	267	0	QP
3	196.8400	45.79	-27.75	18.04	40.00	-21.96	100	275	QP
4	235.6400	50.72	-26.21	24.51	47.00	-22.49	100	112	QP
5	276.3800	49.00	-25.34	23.66	47.00	-23.34	100	59	QP
6	346.2200	40.66	-23.63	17.03	47.00	-29.97	100	75	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	23.1℃/41%RH/101.0kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-04-15	Sample No.	E20210316495901-0001

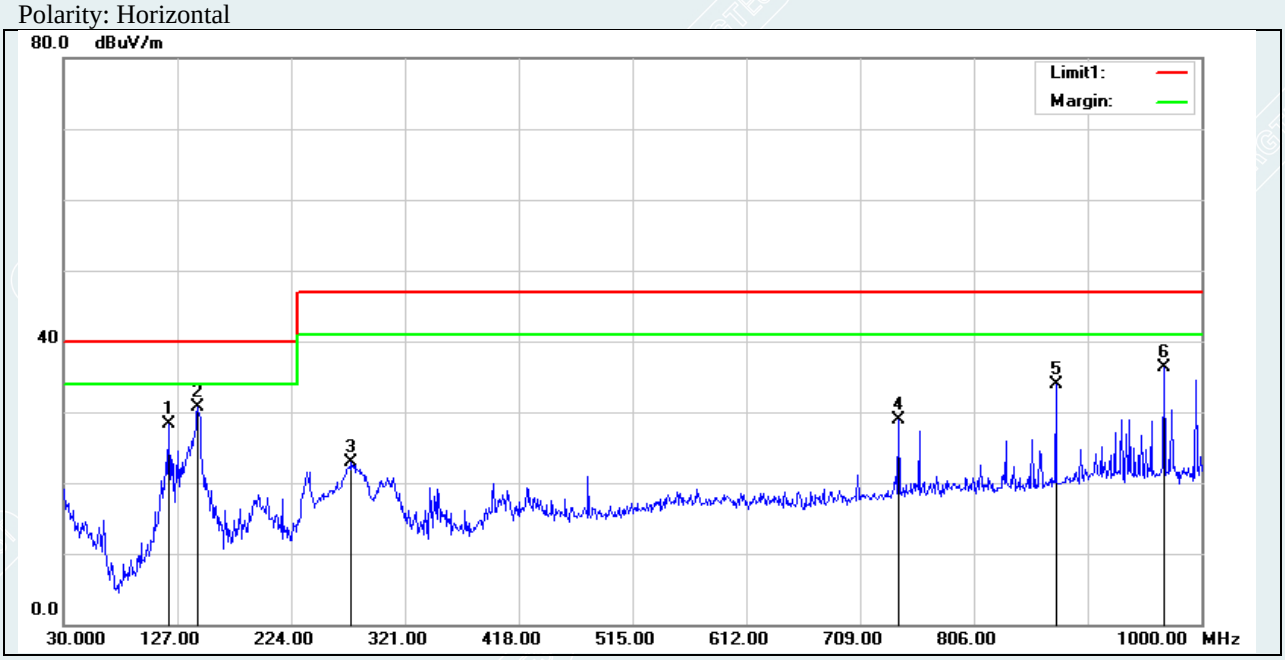
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Height (cm)	Degree (deg.)	Remark
1	30.9700	36.63	-17.52	19.11	40.00	-20.89	100	169	QP
2*	115.3600	52.82	-26.85	25.97	40.00	-14.03	100	59	QP
3	195.8700	52.34	-27.82	24.52	40.00	-15.48	100	321	QP
4	298.6900	41.73	-24.78	16.95	47.00	-30.05	100	283	QP
5	566.4100	36.57	-17.84	18.73	47.00	-28.27	400	156	QP
6	767.2000	36.87	-15.90	20.97	47.00	-26.03	400	185	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	23.1℃/41%RH/101.0kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-04-15	Sample No.	E20210316495901-0001

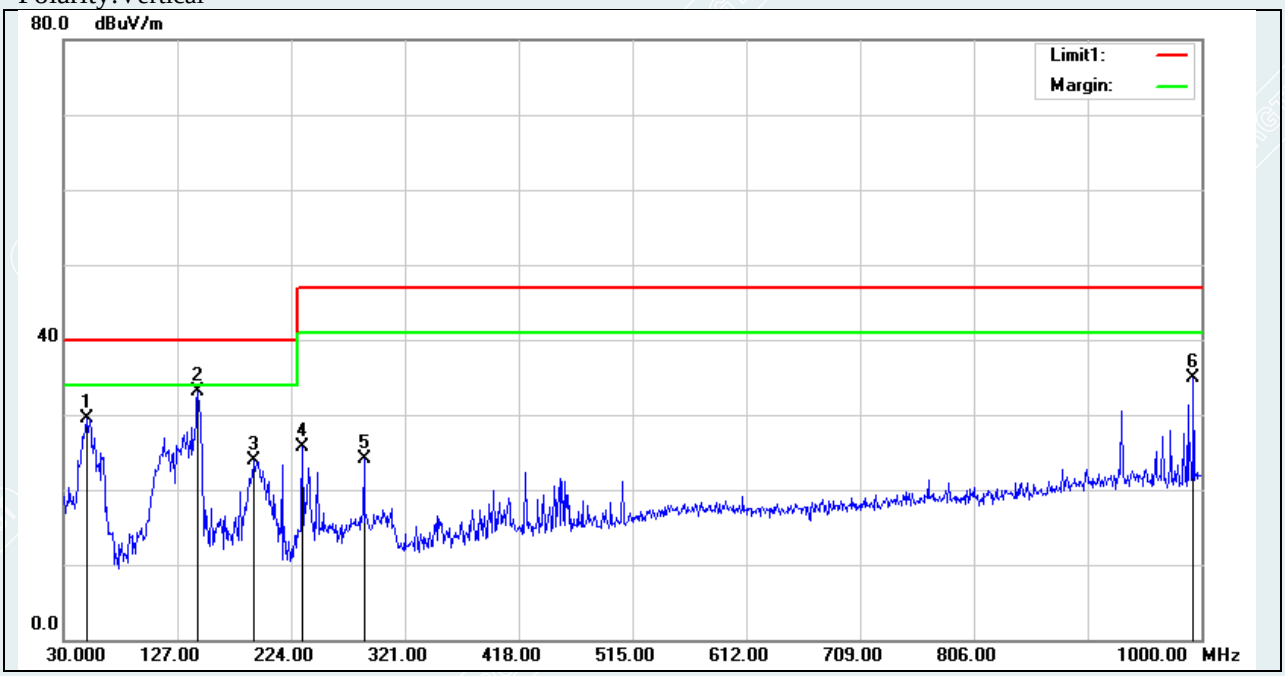
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Height (cm)	Degree (deg.)	Remark
1	119.2400	54.80	-26.52	28.28	40.00	-11.72	200	332	QP
2*	144.4600	57.68	-27.02	30.66	40.00	-9.34	200	299	QP
3	275.4100	48.22	-25.35	22.87	47.00	-24.13	100	225	QP
4	741.9800	45.18	-16.21	28.97	47.00	-18.03	100	49	QP
5	875.8400	49.23	-15.26	33.97	47.00	-13.03	100	81	QP
6	967.9900	50.72	-14.49	36.23	47.00	-10.77	100	33	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	23.1℃/41%RH/101.0kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-04-15	Sample No.	E20210316495901-0001

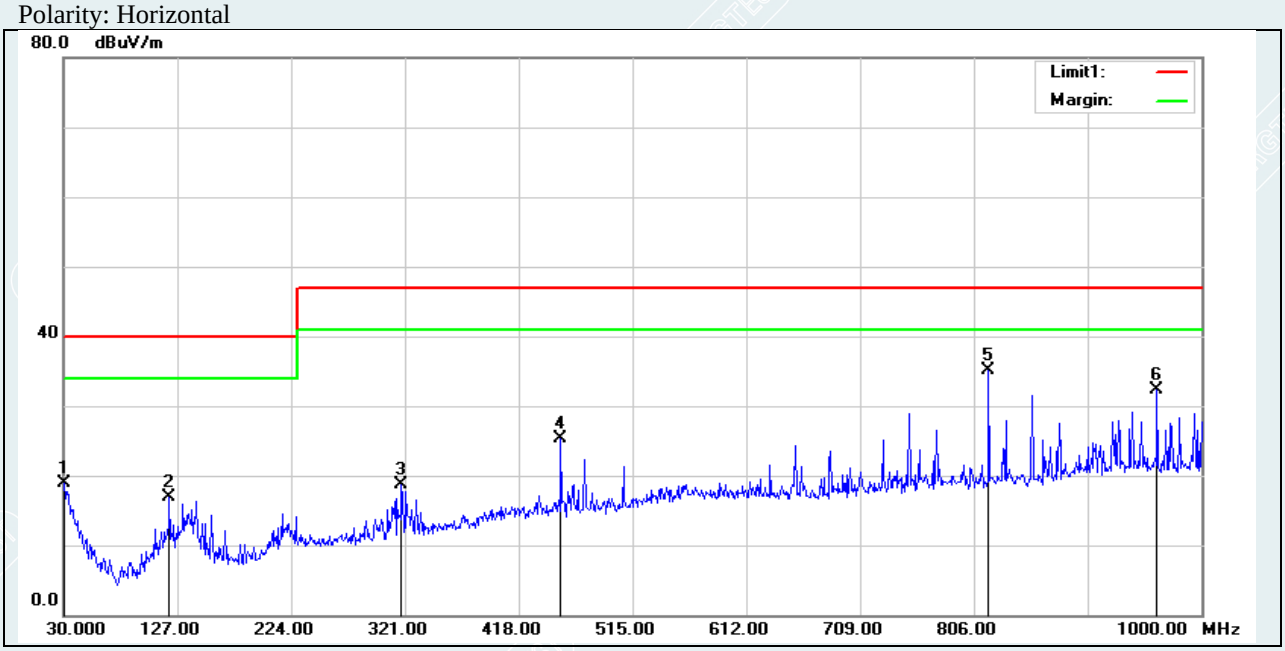
Polarity:Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Height (cm)	Degree (deg.)	Remark
1	49.4000	55.84	-26.41	29.43	40.00	-10.57	100	30	QP
2*	144.4600	60.17	-27.02	33.15	40.00	-6.85	100	307	QP
3	191.9900	52.01	-28.10	23.91	40.00	-16.09	100	233	QP
4	233.7000	51.84	-26.17	25.67	47.00	-21.33	100	252	QP
5	286.0800	49.24	-25.14	24.10	47.00	-22.90	100	156	QP
6	993.2100	49.02	-14.12	34.90	47.00	-12.10	100	342	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	23.1℃/41%RH/101.0kPa	Test Mode	Mode 3
Power supply	DC7.4V	Tested By	Tang Shenghui
Test Date	2021-04-15	Sample No.	E20210316495901-0001

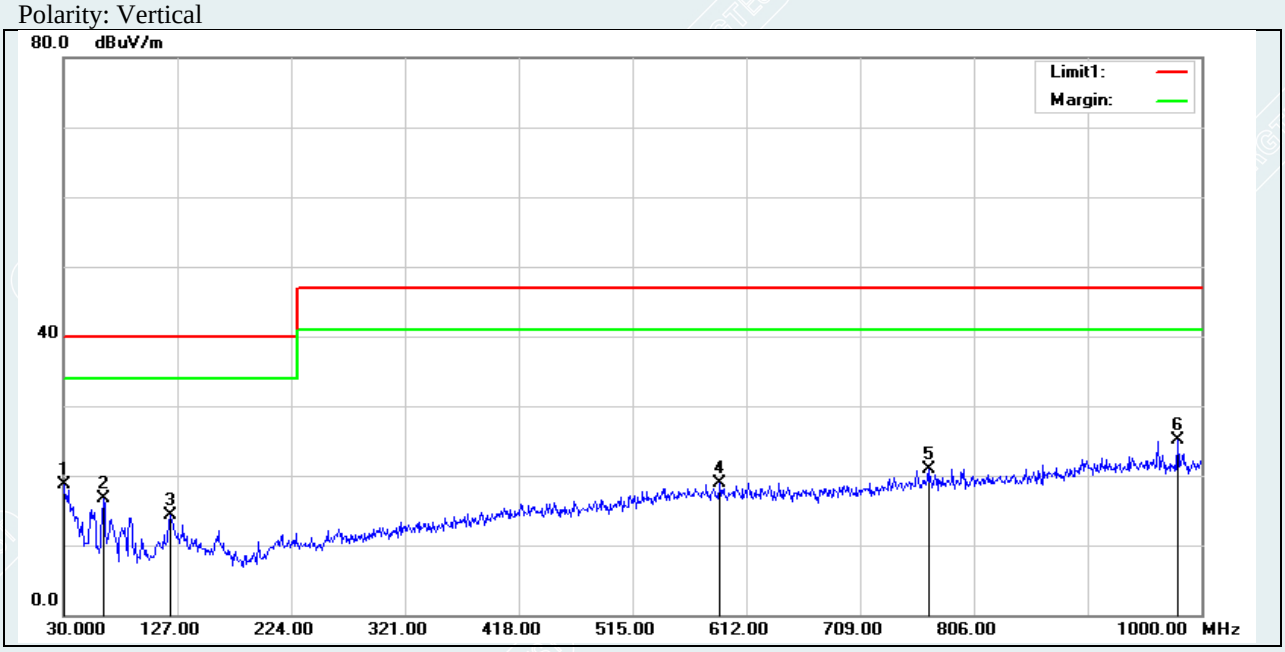
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Height (cm)	Degree (deg.)	Remark
1	30.9700	36.52	-17.52	19.00	40.00	-21.00	100	234	QP
2	120.2100	43.45	-26.46	16.99	40.00	-23.01	138	360	QP
3	318.0900	42.80	-24.05	18.75	47.00	-28.25	100	253	QP
4	453.8900	45.86	-20.63	25.23	47.00	-21.77	200	77	QP
5*	818.6100	50.63	-15.62	35.01	47.00	-11.99	100	234	QP
6	962.1700	46.82	-14.56	32.26	47.00	-14.74	300	268	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	23.1℃/41%RH/101.0kPa	Test Mode	Mode 3
Power supply	DC7.4V	Tested By	Tang Shenghui
Test Date	2021-04-15	Sample No.	E20210316495901-0001

Polarity: Vertical

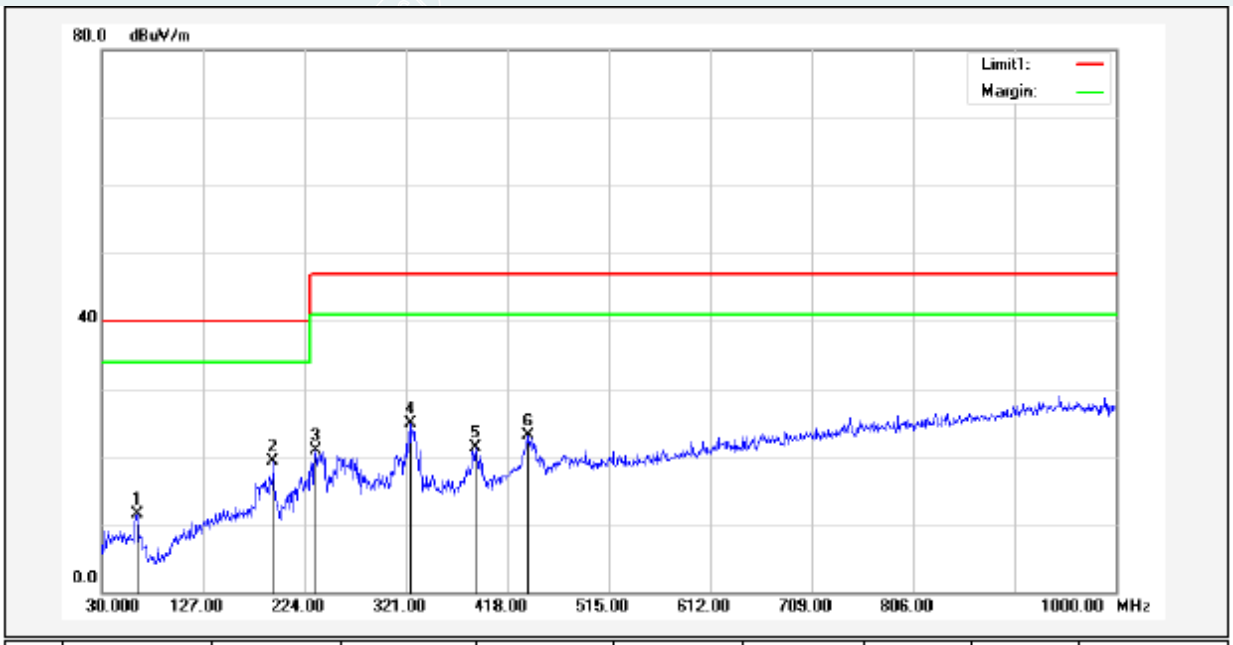


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Height (cm)	Degree (deg.)	Remark
1*	30.0000	35.73	-17.05	18.68	40.00	-21.32	400	33	QP
2	63.9500	47.10	-30.38	16.72	40.00	-23.28	100	338	QP
3	121.1800	40.67	-26.46	14.21	40.00	-25.79	100	360	QP
4	589.6900	36.65	-17.75	18.90	47.00	-28.10	400	340	QP
5	767.2000	36.84	-15.90	20.94	47.00	-26.06	400	148	QP
6	979.6300	39.42	-14.32	25.10	47.00	-21.90	100	174	QP

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/47%RH/101.0kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-12-18	Sample No.	E20211216778201-0001

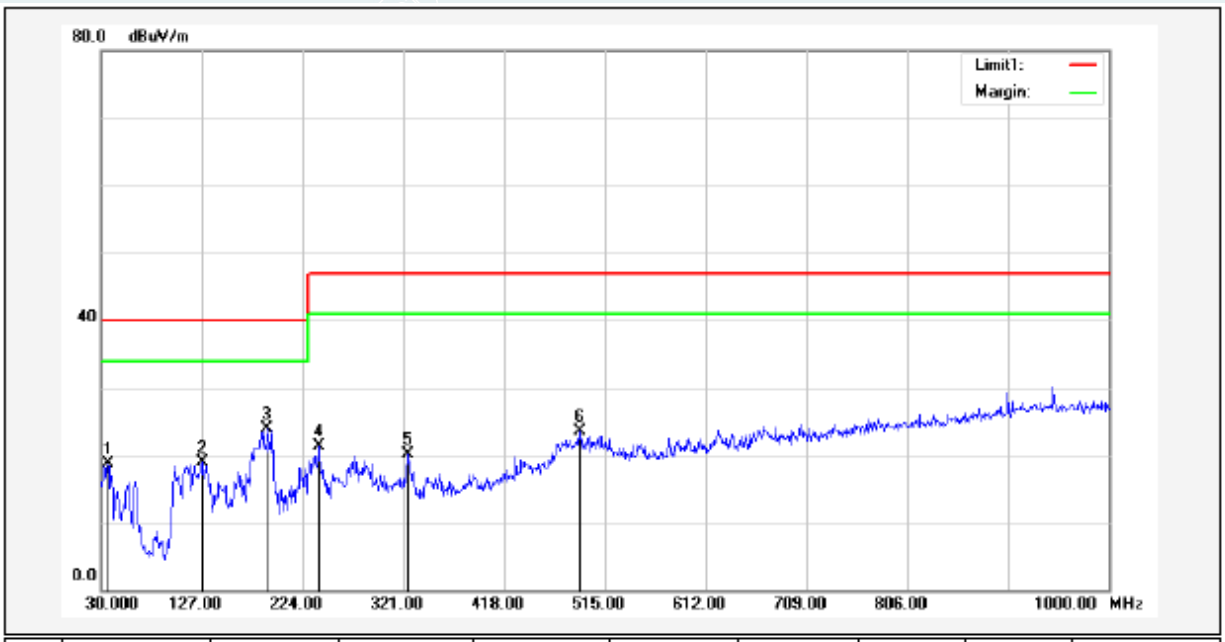
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	63.9500	39.40	-27.81	11.59	40.00	-28.41	358	300	QP
2*	193.9300	46.17	-26.84	19.33	40.00	-20.67	133	100	QP
3	234.6700	46.51	-25.67	20.84	47.00	-26.16	74	100	QP
4	324.8800	47.32	-22.46	24.86	47.00	-22.14	321	100	QP
5	387.9300	41.80	-20.42	21.38	47.00	-25.62	133	100	QP
6	437.4000	41.65	-18.62	23.03	47.00	-23.97	305	100	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/47%RH/101.0kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-12-18	Sample No.	E20211216778201-0001

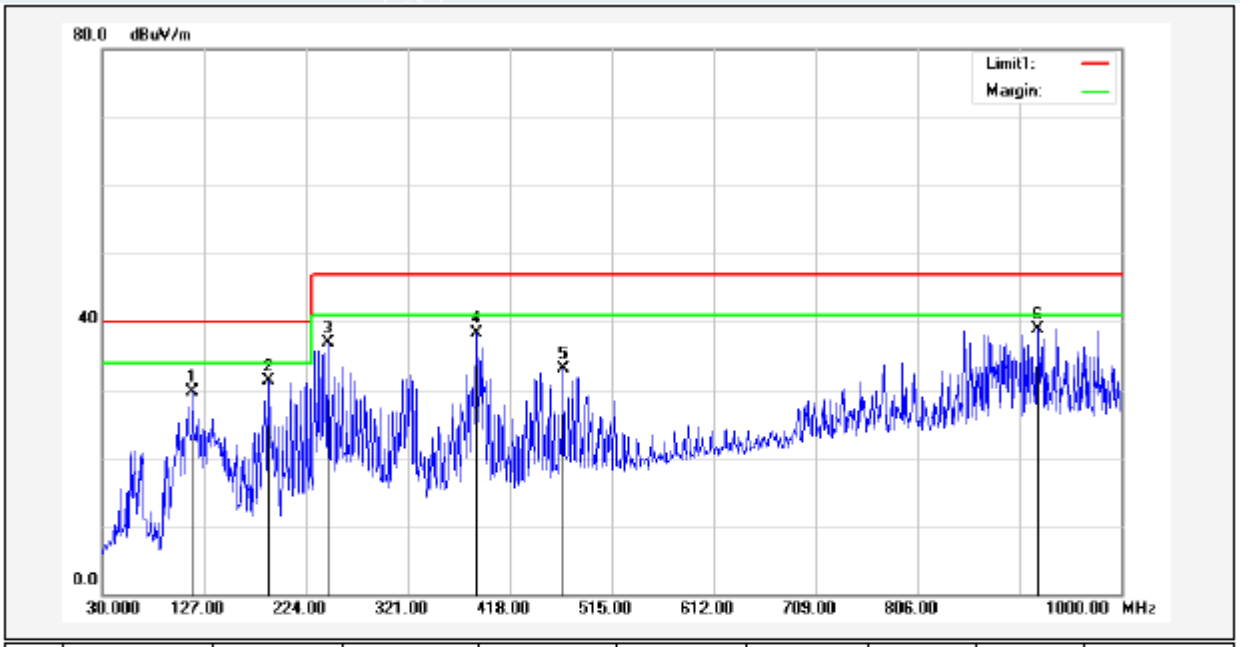
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	36.7900	45.98	-27.26	18.72	40.00	-21.28	152	100	QP
2	127.0000	44.82	-25.99	18.83	40.00	-21.17	228	100	QP
3*	190.0500	50.48	-26.52	23.96	40.00	-16.04	187	100	QP
4	239.5200	46.82	-25.44	21.38	47.00	-25.62	148	100	QP
5	324.8800	42.62	-22.46	20.16	47.00	-26.84	133	100	QP
6	490.7500	40.90	-17.47	23.43	47.00	-23.57	185	100	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/47%RH/101.0kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-12-18	Sample No.	E20211216778201-0001

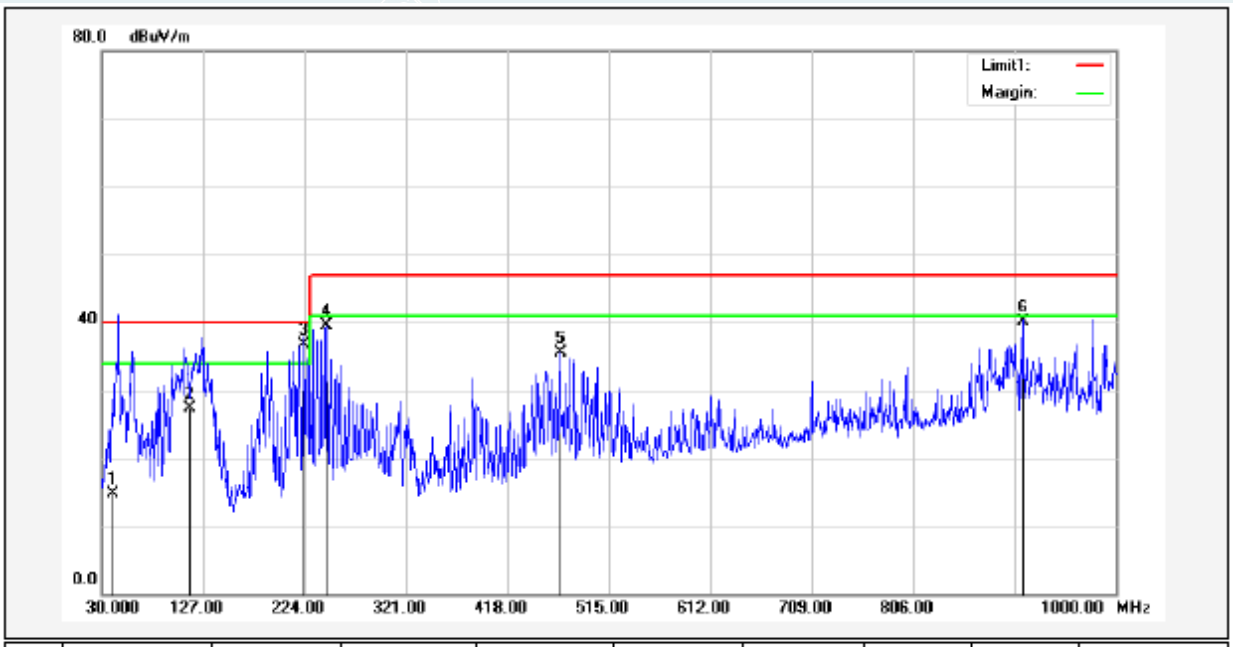
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	116.3300	56.60	-26.97	29.63	40.00	-10.37	360	155	QP
2	188.1100	57.67	-26.35	31.32	40.00	-8.68	36	100	QP
3	245.3400	62.00	-25.16	36.84	47.00	-10.16	125	100	QP
4	385.9900	58.75	-20.49	38.26	47.00	-8.74	89	100	QP
5	469.4100	50.89	-17.84	33.05	47.00	-13.95	98	100	QP
6*	920.4600	48.04	-9.16	38.88	47.00	-8.12	263	100	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/47%RH/101.0kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-12-18	Sample No.	E20211216778201-0001

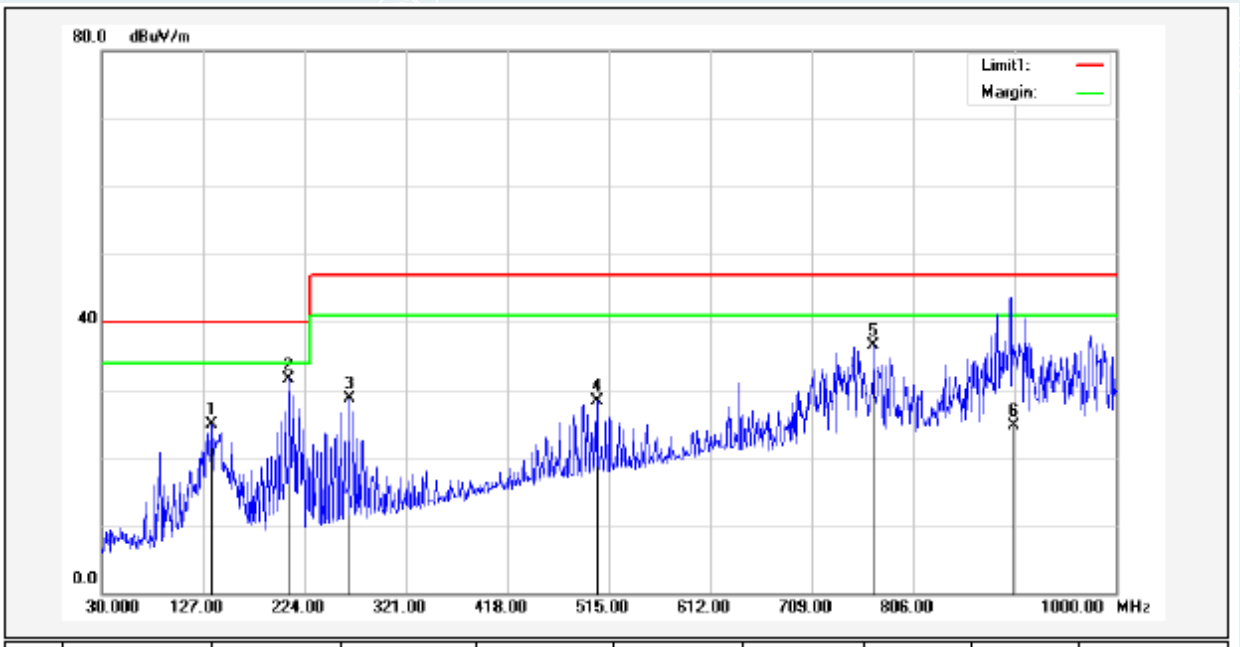
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	40.8092	41.51	-26.86	14.65	40.00	-25.35	210	200	QP
2	115.0700	54.36	-27.06	27.30	40.00	-12.70	208	100	QP
3*	223.5100	62.86	-26.21	36.65	40.00	-3.35	173	100	QP
4	245.3400	64.72	-25.16	39.56	47.00	-7.44	144	100	QP
5	468.4400	53.39	-17.86	35.53	47.00	-11.47	146	100	QP
6	910.7600	49.49	-9.29	40.20	47.00	-6.80	1	300	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/47%RH/101.0kPa	Test Mode	Mode 3
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-12-18	Sample No.	E20211216778201-0001

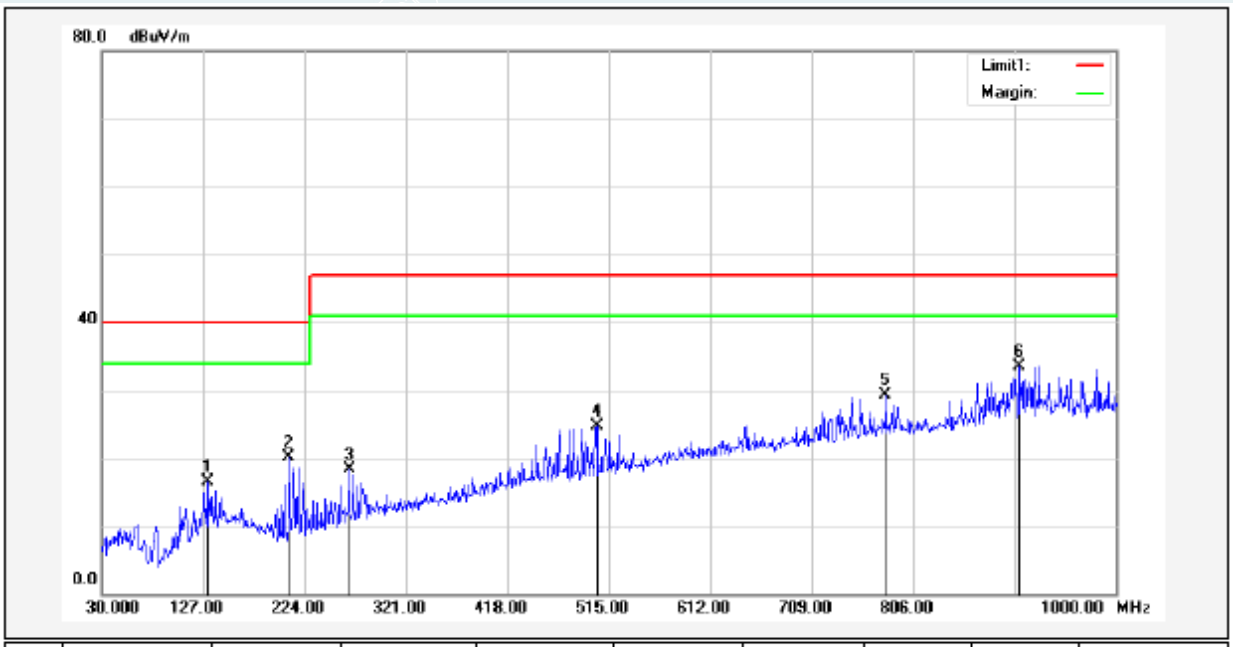
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	135.7300	50.22	-25.22	25.00	40.00	-15.00	54	200	QP
2*	209.4500	58.48	-26.88	31.60	40.00	-8.40	95	100	QP
3	266.6800	52.92	-24.31	28.61	47.00	-18.39	74	100	QP
4	503.3600	45.56	-17.22	28.34	47.00	-18.66	43	200	QP
5	768.1700	47.84	-11.39	36.45	47.00	-10.55	259	400	QP
6	902.4391	34.03	-9.42	24.61	47.00	-22.39	292	100	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/47%RH/101.0kPa	Test Mode	Mode 3
Power supply	AC230V/50Hz	Tested By	Wang Xinyuan
Test Date	2021-12-18	Sample No.	E20211216778201-0001

Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	131.8500	42.00	-25.54	16.46	40.00	-23.54	148	200	QP
2	209.4500	46.90	-26.88	20.02	40.00	-19.98	360	259	QP
3	266.6800	42.54	-24.31	18.23	47.00	-28.77	0	148	QP
4	503.3600	41.87	-17.22	24.65	47.00	-22.35	358	100	QP
5	779.8100	40.55	-11.22	29.33	47.00	-17.67	217	200	QP
6*	907.8500	42.91	-9.34	33.57	47.00	-13.43	267	200	QP

5.3 DISTURBANCE POWER MEASUREMENT

5.3.1 LIMITS

FREQUENCY (MHz)	dB(pw)	
	Quasi-peak	Average
30 ~ 300	45 ~ 55 [1)]	35 ~ 45 [1)]
200 ~ 300	Margin 0 ~ 10 [2)]	-
Note: [1)] Increasing linearly with the frequency.		

5.3.2 TEST PROCEDURE

The appliance to be tested is placed on a non-metallic table at least 0.8 m from other metallic objects and the lead to be measured on is stretched in a straight line for a distance sufficient to accommodate the absorbing clamp, and to permit the necessary measuring adjustment of position for tuning. The clamp is placed around the lead so as to measure a quantity proportional to the disturbance power on the lead.

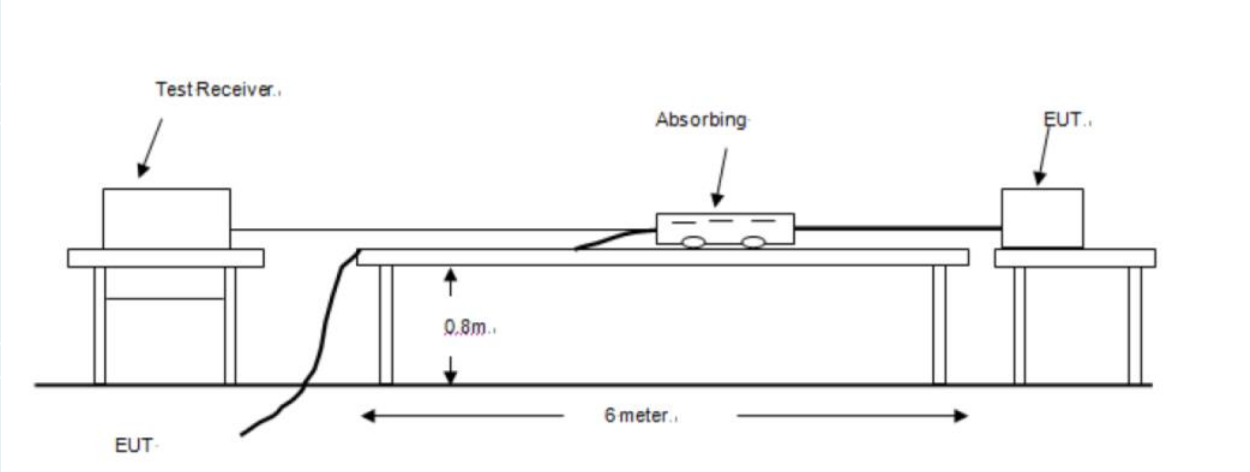
The absorbing clamp is positioned for maximum indication at each test frequency: the clamp shall be moved along the lead until the maximum value is found between a position adjacent to the appliance and a distance of about a half-wavelength from it.

The straight portion of the lead to be measured on should therefore be about 6 m long, this being equal to λ max/2 + 0,6 m in order to allow at any time the positioning of the absorbing clamp and a possible second clamp for additional isolation. Pre-testing is carried out in all operating modes to find the worst mode for the every test terminal.

Test Modes: Auto Mode

The test mode(s) were scanned during the preliminary test. A test at about 160 kHz and at about 50 MHz shall be made over a range of 0.9 to 1.1 times the rated voltage in order to check whether the level of disturbance varies considerably with the supply voltage; in which case, the measurements are to be made at the voltage that causes maximum disturbance. After the preliminary scan, we found the test mode producing the highest emission level. The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

5.3.3 TEST SETUP



5.3.4 DATA SAMPLE

Frequency (MHz)	Reading (dBpW)	Correct Factor (dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Remark
XX.XXXX	35.54	4.56	40.10	55.00	-14.90	QP
XX.XXXX	29.66	4.56	34.22	45.00	-10.78	AVG

Frequency (MHz) = Emission frequency in MHz

Reading (dBpW) = Uncorrected Analyzer / Receiver reading

Correction Factor (dB) = Antenna factor + Cable loss – Amplifier gain

Result (dBpW) = Reading (dBpW) + Corr. Factor (dB)

Limit (dBpW) = Limit stated in standard

Margin (dB) = Result (dBpW) – Limit(dBpW)

QP = Quasi-peak Reading

AVG = Average Reading

Calculation Formula

Margin (dB) = Result (dBpW) – Limits (dBpW)

Result (dBpW) = Reading (dBpW) + Correction Factor (dB)

5.3.5 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00

Mode 1&Mode 2

Rev.01

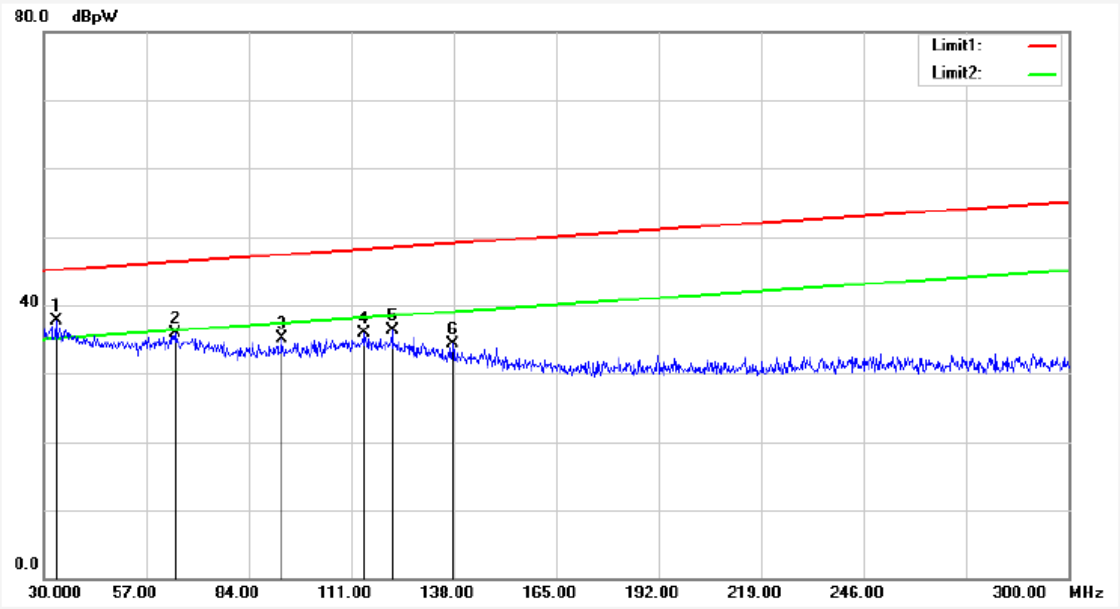
Mode 1&Mode 2

5.3.6 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/50%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

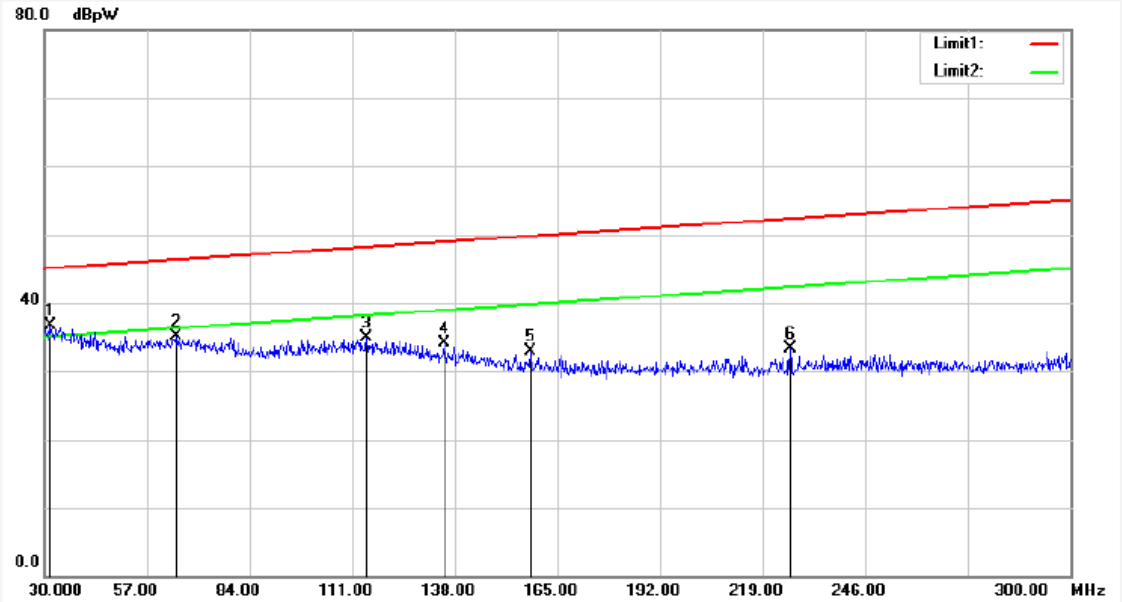
AC Cable



No.	Frequency (MHz)	Reading (dBpW)	Correction factor(dB)	Result (dBpW)	Limit (dBpW)	Over (dB)	Remark
1	33.2400	13.22	24.47	37.69	45.12	-7.43	peak
2	64.8300	12.49	23.34	35.83	46.29	-10.46	peak
3	92.6400	12.55	22.48	35.03	47.32	-12.29	peak
4	114.2400	12.70	23.20	35.90	48.12	-12.22	peak
5	121.8000	13.39	22.96	36.35	48.40	-12.05	peak
6	137.7300	12.57	21.65	34.22	48.99	-14.77	peak

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/50%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

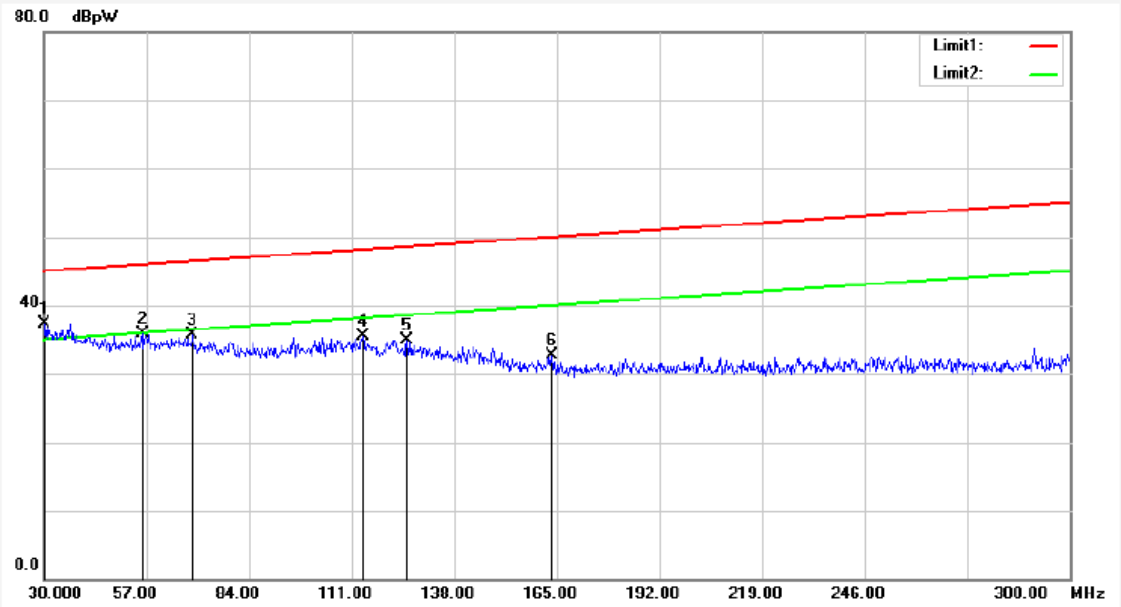
DC Cable



No.	Frequency (MHz)	Reading (dBpW)	Correction factor(dB)	Result (dBpW)	Limit (dBpW)	Over (dB)	Remark
1	31.6200	11.96	24.68	36.64	45.06	-8.42	peak
2	64.8300	11.83	23.34	35.17	46.29	-11.12	peak
3	114.7800	11.80	23.18	34.98	48.14	-13.16	peak
4	135.3000	12.24	21.85	34.09	48.90	-14.81	peak
5	157.9800	12.13	20.79	32.92	49.74	-16.82	peak
6	226.2900	12.74	20.63	33.37	52.27	-18.90	peak

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/50%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

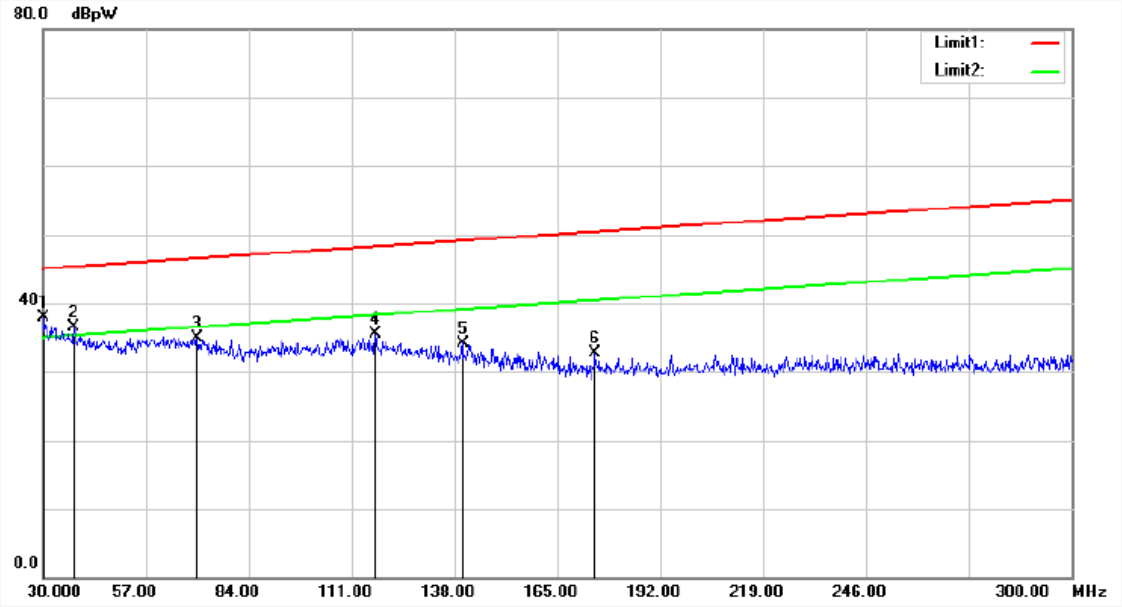
AC Cable



No.	Frequency (MHz)	Reading (dBpW)	Correction factor(dB)	Result (dBpW)	Limit (dBpW)	Over (dB)	Remark
1	30.2700	12.49	24.85	37.34	45.01	-7.67	peak
2	55.9200	12.78	23.04	35.82	45.96	-10.14	peak
3	69.1500	12.32	23.37	35.69	46.45	-10.76	peak
4	113.9700	12.39	23.20	35.59	48.11	-12.52	peak
5	125.5800	12.21	22.65	34.86	48.54	-13.68	peak
6	163.6500	12.11	20.52	32.63	49.95	-17.32	peak

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	21.1℃/50%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Zhong Fuping
Test Date	2021-04-22	Sample No.	E20210316495901-0001

DC Cable

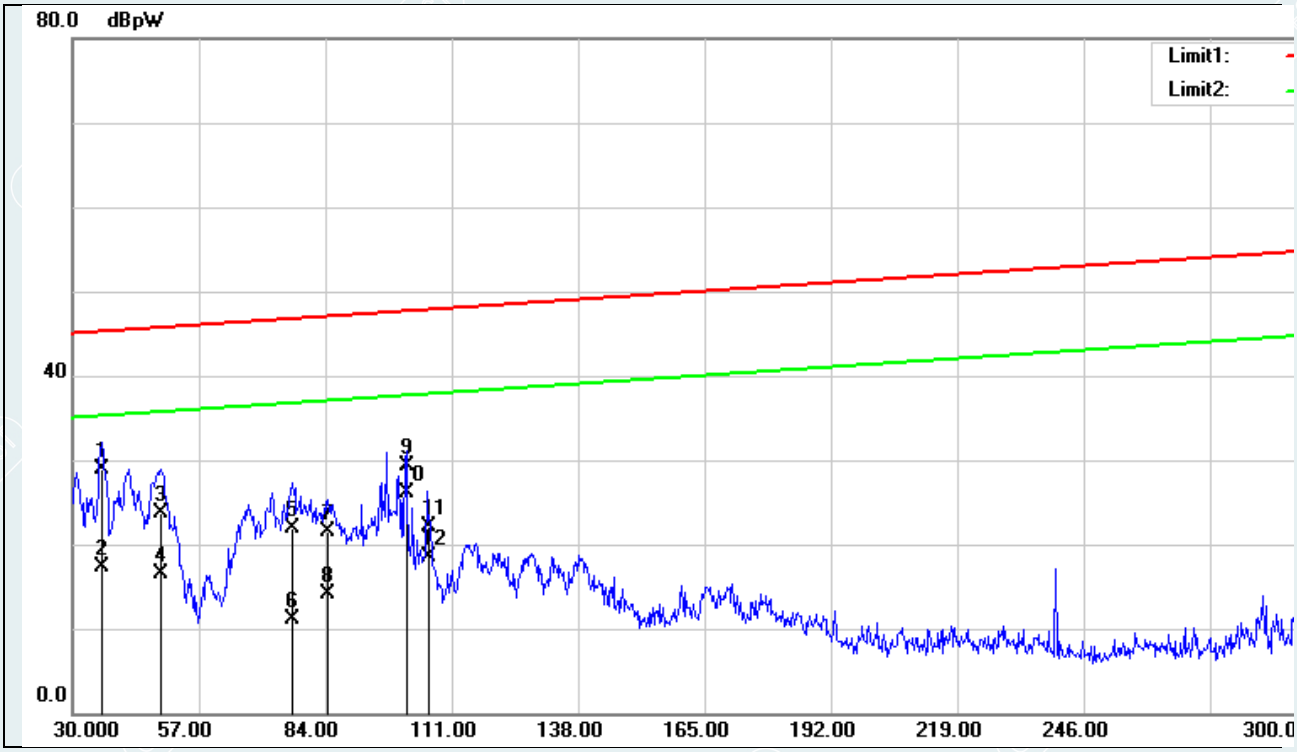


No.	Frequency (MHz)	Reading (dBpW)	Correction factor(dB)	Result (dBpW)	Limit (dBpW)	Over (dB)	Remark
1	30.2700	13.06	24.85	37.91	45.01	-7.10	peak
2	38.1000	12.55	23.95	36.50	45.30	-8.80	peak
3	70.5000	11.68	23.32	35.00	46.50	-11.50	peak
4	117.2100	12.45	23.15	35.60	48.23	-12.63	peak
5	140.1600	12.74	21.46	34.20	49.08	-14.88	peak
6	174.9900	12.57	20.21	32.78	50.37	-17.59	peak

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.51℃/57%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

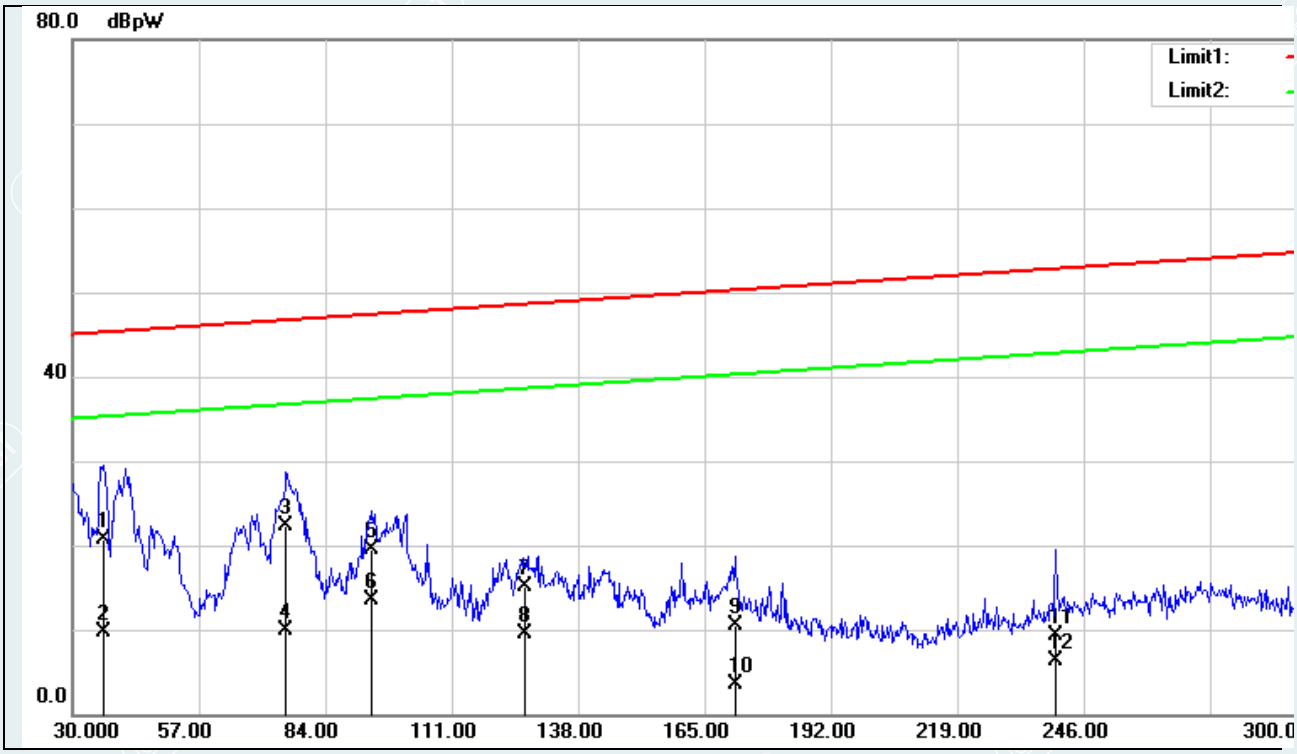
AC Cable



No.	Frequency (MHz)	Reading (dBpW)	Correct Factor(dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Remark
1	36.2100	30.83	-1.93	28.90	45.23	-16.33	QP
2	36.2100	19.23	-1.93	17.30	35.23	-17.93	AVG
3	48.9000	27.17	-3.47	23.70	45.70	-22.00	QP
4	48.9000	20.07	-3.47	16.60	35.70	-19.10	AVG
5	76.9800	25.34	-3.44	21.90	46.74	-24.84	QP
6	76.9800	14.64	-3.44	11.20	36.74	-25.54	AVG
7	84.6000	25.50	-4.00	21.50	47.02	-25.52	QP
8	84.6000	18.10	-4.00	14.10	37.02	-22.92	AVG
9	101.2800	34.07	-4.77	29.30	47.64	-18.34	QP
10*	101.2800	30.87	-4.77	26.10	37.64	-11.54	AVG
11	106.1700	26.92	-4.72	22.20	47.82	-25.62	QP
12	106.1700	23.22	-4.72	18.50	37.82	-19.32	AVG

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.51℃/57%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

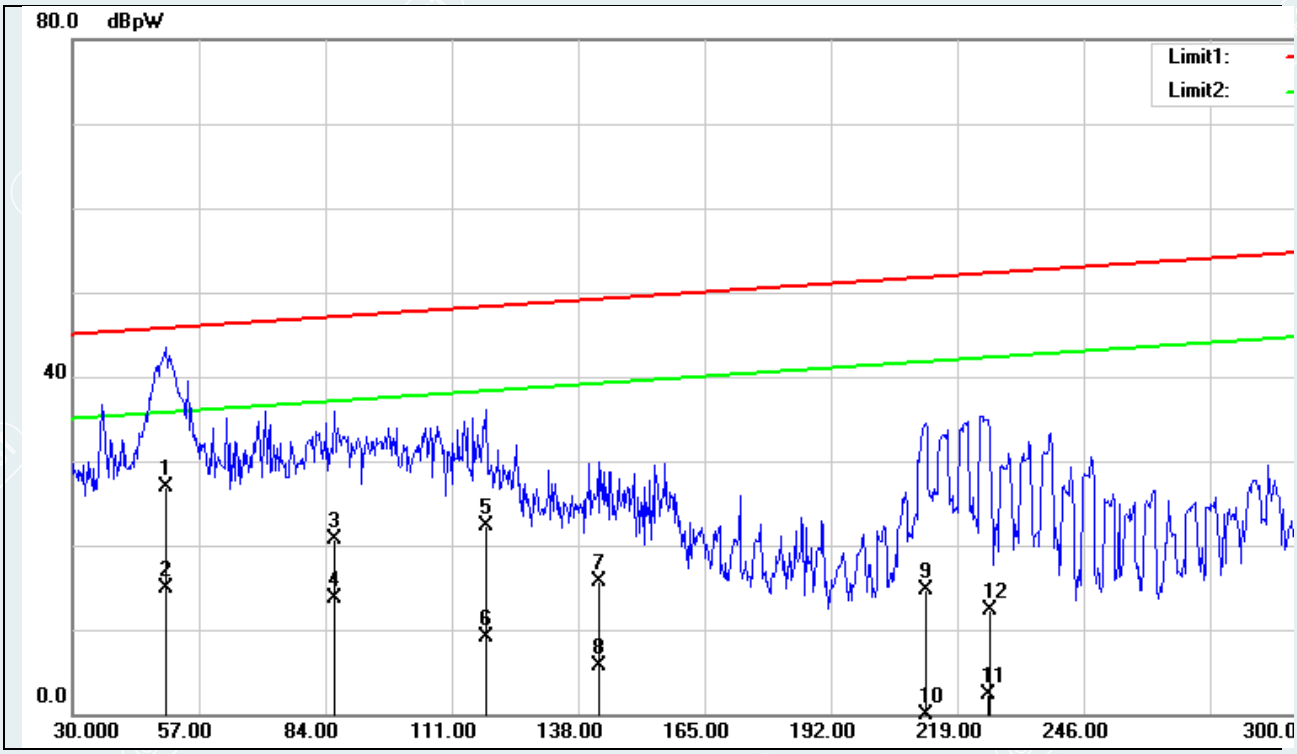
DC Cable



No.	Frequency (MHz)	Reading (dBpW)	Correct Factor(dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Remark
1	36.4800	22.80	-2.00	20.80	45.24	-24.44	QP
2	36.4800	11.70	-2.00	9.70	35.24	-25.54	AVG
3	75.6300	25.78	-3.48	22.30	46.69	-24.39	QP
4	75.6300	13.38	-3.48	9.90	36.69	-26.79	AVG
5	93.9900	24.37	-4.77	19.60	47.37	-27.77	QP
6*	93.9900	18.37	-4.77	13.60	37.37	-23.77	AVG
7	126.7900	19.63	-4.53	15.10	48.58	-33.48	QP
8	126.7900	14.03	-4.53	9.50	38.58	-29.08	AVG
9	171.4800	15.37	-4.87	10.50	50.24	-39.74	QP
10	171.4800	8.47	-4.87	3.60	40.24	-36.64	AVG
11	240.0600	14.61	-5.21	9.40	52.78	-43.38	QP
12	240.0600	11.51	-5.21	6.30	42.78	-36.48	AVG

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.51℃/57%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

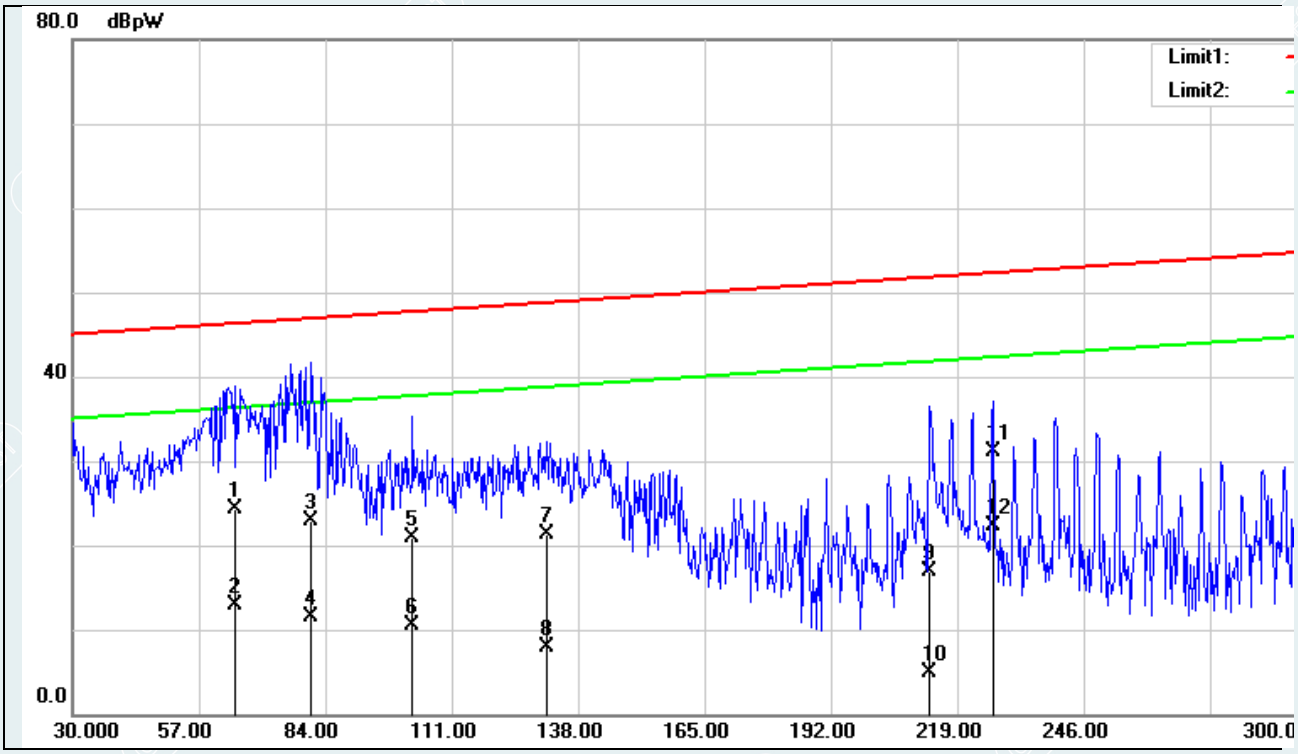
AC Cable



No.	Frequency (MHz)	Reading (dBpW)	Correct Factor(dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Remark
1*	49.9800	30.55	-3.55	27.00	45.74	-18.74	QP
2	49.9800	18.55	-3.55	15.00	35.74	-20.74	AVG
3	85.8900	24.88	-4.18	20.70	47.07	-26.37	QP
4	85.8900	17.88	-4.18	13.70	37.07	-23.37	AVG
5	118.2900	26.89	-4.59	22.30	48.27	-25.97	QP
6	118.2900	13.79	-4.59	9.20	38.27	-29.07	AVG
7	142.3200	20.42	-4.62	15.80	49.16	-33.36	QP
8	142.3200	10.32	-4.62	5.70	39.16	-33.46	AVG
9	212.2500	20.18	-5.38	14.80	51.75	-36.95	QP
10	212.2500	5.08	-5.38	-0.30	41.75	-42.05	AVG
11	225.4800	7.79	-5.39	2.40	42.24	-39.84	AVG
12	226.0200	17.70	-5.40	12.30	52.26	-39.96	QP

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.51℃/57%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

DC Cable



No.	Frequency (MHz)	Reading (dBpW)	Correct Factor(dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Remark
1	64.5600	28.05	-3.75	24.30	46.28	-21.98	QP
2	64.5600	16.65	-3.75	12.90	36.28	-23.38	AVG
3	80.7600	26.36	-3.46	22.90	46.88	-23.98	QP
4	80.7600	15.06	-3.46	11.60	36.88	-25.28	AVG
5	102.6300	25.76	-4.76	21.00	47.69	-26.69	QP
6	102.6300	15.36	-4.76	10.60	37.69	-27.09	AVG
7	131.2500	25.80	-4.50	21.30	48.75	-27.45	QP
8	131.2500	12.50	-4.50	8.00	38.75	-30.75	AVG
9	213.0600	22.38	-5.38	17.00	51.78	-34.78	QP
10	213.0600	10.28	-5.38	4.90	41.78	-36.88	AVG
11	226.5600	36.50	-5.40	31.10	52.28	-21.18	QP
12*	226.5600	27.80	-5.40	22.40	42.28	-19.88	AVG

5.4 VOLTAGE FLUCTUATION & FLICKER MEASUREMENT

5.4.1 LIMITS

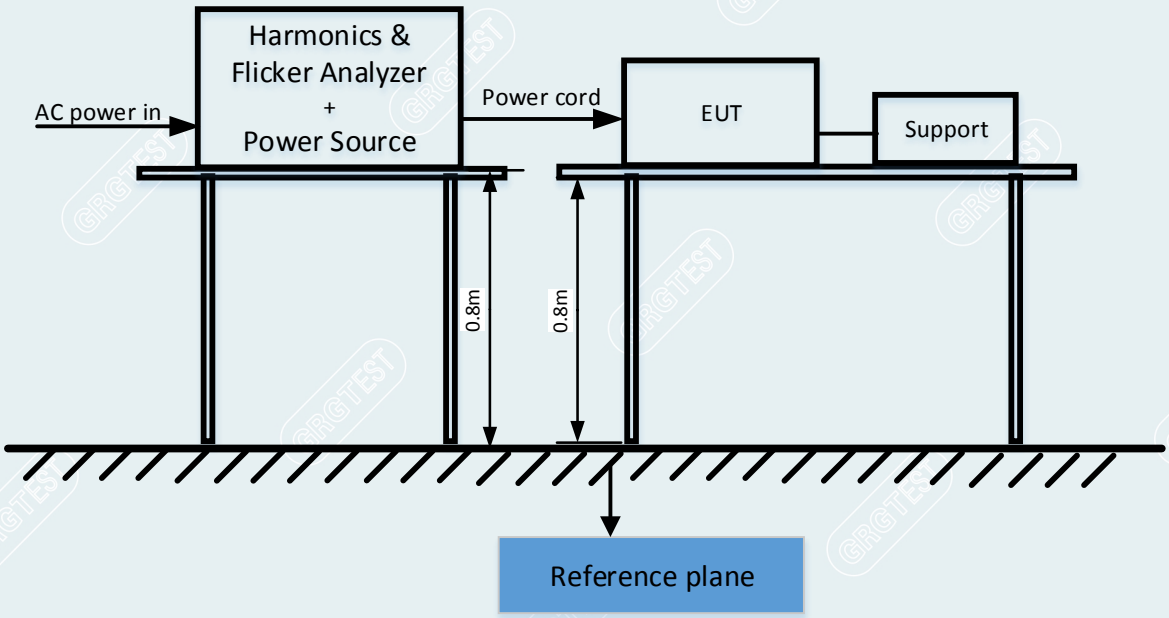
	Test Item	Limit	Remark
Test Item	P_{st}	1.0	P_{st} means short-term flicker indicator.
	P_{lt}	0.65	P_{lt} means long-term flicker indicator.
	T_{dt} (ms)	500	T_{dt} means maximum time that dt exceeds 3 %.
	d_{max} (%)	4%,6%,7%	d_{max} means maximum relative voltage change.
	dc (%)	3.3%	dc means relative steady-state voltage change

5.4.2 TEST PROCEDURE

The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.

During the flick measurement, the measure time shall include that part of whole operation cycle in which the EUT produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

5.4.3 TEST SETUP



5.4.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00

Rev.01

Mode 1 & Mode 2

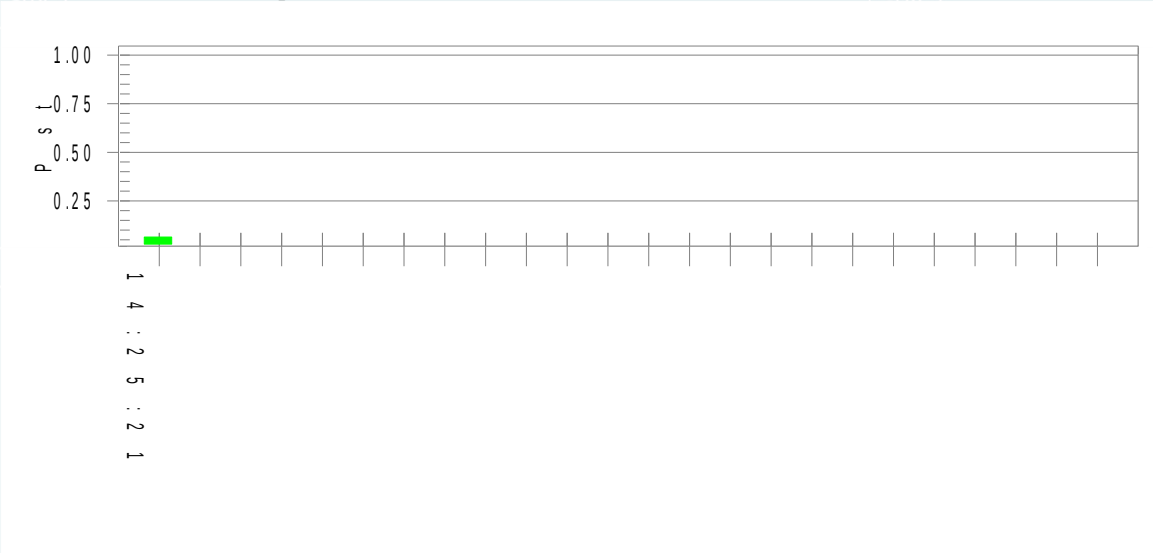
5.4.5 TEST RESULTS

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25.8℃/34%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-19	Sample No.	E20210316495901-0001

Test category: All parameters (European limits) Test Margin: 100
Test date: 2021/4/19 Start time: 14:15:00End time: 14:25:27
Test duration (min): 10 Data file name: F-000561.cts_data
Test Result: Pass Status: Test Completed

Pst_i and limit line European Limits



Plt and limit line

Parameter values recorded during the test:
Vrms at the end of test (Volt):230.10
T-max (mS): 0 Test limit (mS): 500.0 Pass
Highest dc (%):0.00 Test limit (%): 3.30 Pass
Highest dmax (%):0.00 Test limit (%): 4.00 Pass
Highest Pst (10 min. period): 0.064 Test limit: 1.000 Pass
Highest Plt (2 hr. period): 0.028Test limit: 0.650 Pass

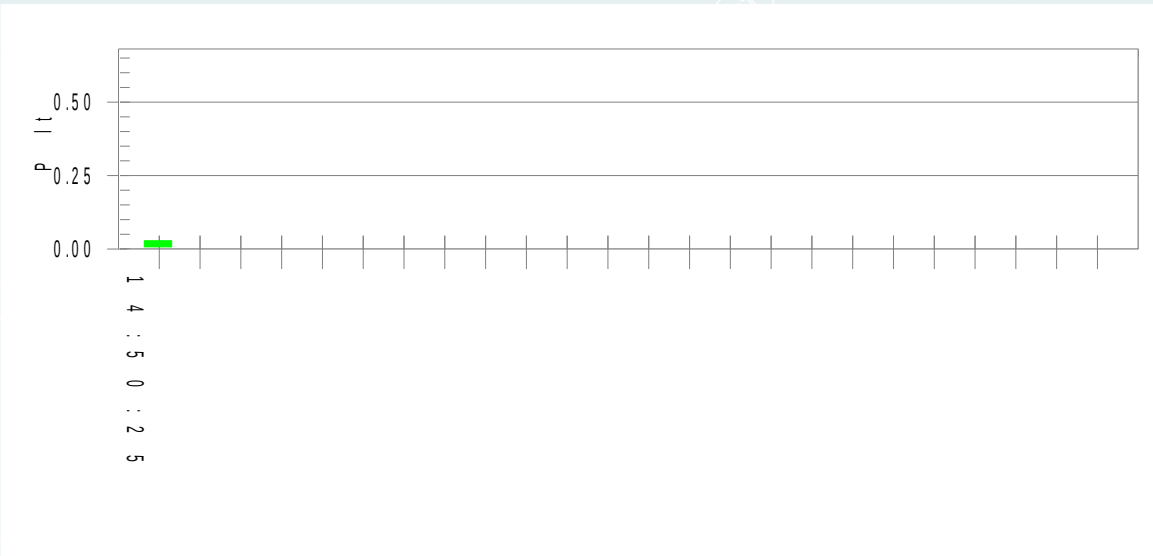
EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25.8℃/34%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-19	Sample No.	E20210316495901-0001

Test category: All parameters (European limits) Test Margin: 100
Test date: 2021/4/19 Start time: 14:40:04End time: 14:50:31
Test duration (min): 10 Data file name: F-000562.cts_data

Test Result: Pass Status: Test Completed

Psti and limit line European Limits

Plt and limit line



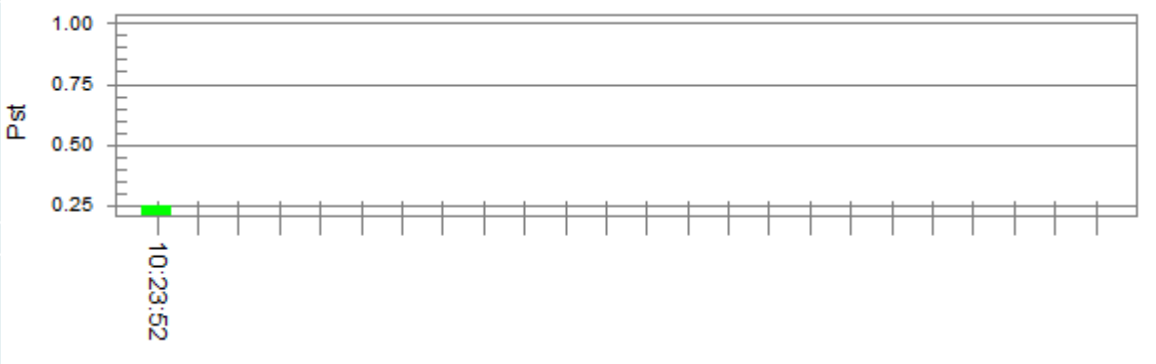
Parameter values recorded during the test:
Vrms at the end of test (Volt):230.06
T-max (mS): 0 Test limit (mS): 500.0 Pass
Highest dc (%):0.00 Test limit (%): 3.30 Pass
Highest dmax (%):0.00 Test limit (%): 4.00 Pass
Highest Pst (10 min. period): 0.064 Test limit: 1.000 Pass
Highest Plt (2 hr. period): 0.028Test limit: 0.650 Pass

Rev.01

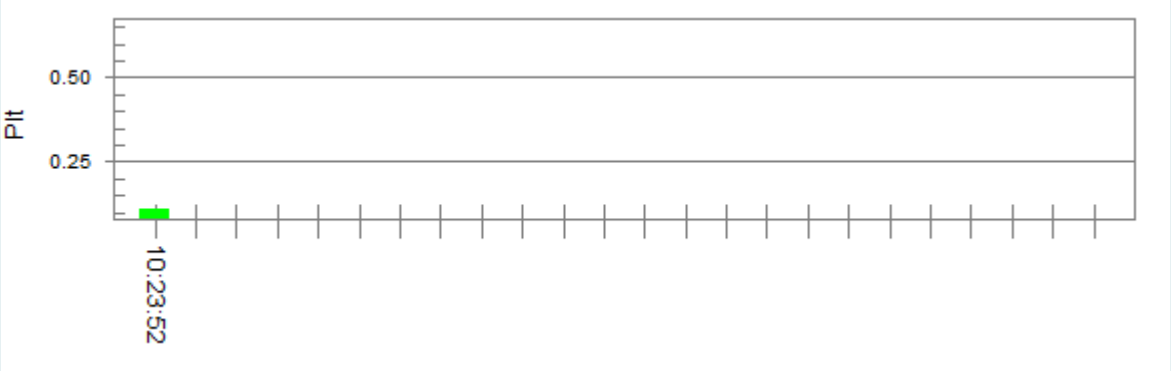
EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang shenghui
Test Date	2021-12-19	Sample No.	E20211216778201-0001

Test category: All parameters (European limits) Test Margin: 100
Test date: 2021/12/19 Start time: 10:13:31 End time: 10:23:58
Test duration (min): 10 Data file name: F-000058.cts_data
Test Result: Pass Status: Test Completed

Pst_i and limit line European Limits
Pst_i and limit line European Limits



Plt and limit line



Parameter values recorded during the test:

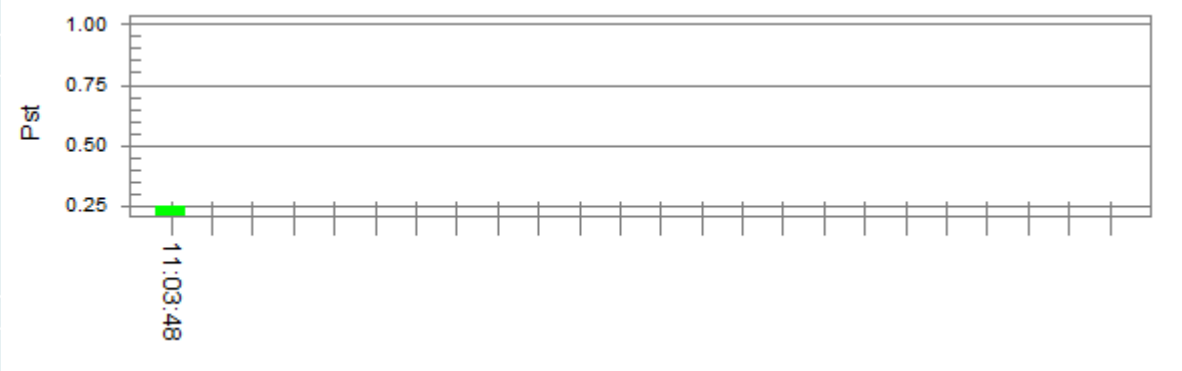
Vrms at the end of test (Volt): 229.96

Highest dt (%):		Test limit (%):		
T-max (mS):	0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.248	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.108	Test limit:	0.650	Pass

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang shenghui
Test Date	2021-12-19	Sample No.	E20211216778201-0001

Test category: All parameters (European limits) Test Margin: 100
Test date: 2021/12/19 Start time: 10:53:27 End time: 11:03:55
Test duration (min): 10 Data file name: F-000059.cts_data
Test Result: Pass Status: Test Completed

Pst_i and limit line European Limits



Plt and limit line

Parameter values recorded during the test:

Vrms at the end of test (Volt): 229.98

Highest dt (%):		Test limit (%):		
T-max (mS):	0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.248	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.108	Test limit:	0.650	Pass

6. IMMUNITY TEST

6.1 GENERAL DESCRIPTION

EN 55014-2:2015		
Test Method	**Test Type**	**Minimum Requirement**
IEC 61000-4-2	Electrostatic discharge immunity test	Enclosure port: Contact Discharge : ±4 kV (Direct/Indirect) Air Discharge: ±8 kV (Direct); Performance Criterion B
IEC 61000-4-3	Continuous RF electromagnetic field disturbances	Radio-Frequency Electromagnetic Field Susceptibility Test – RS: 80 ~1000 MHz, 3V/m, 80% AM(1kHz), Performance Criterion A
IEC 61000-4-4	Electrical fast transient/burst immunity test	AC Input Power: ±1kV 5/50 Tr/Th ns 5kHz Performance Criterion B
IEC 61000-4-5	Surge immunity test	AC Input Port:1.2/50（8/20）Tr/Th us line to line: ±1.0kV 0 °, 90 °, 180 °, 270 ° Performance Criterion B
IEC 61000-4-6	Conducted radio frequency disturbances immunity test	AC Input Power: 0.15MHz-80MHz 3V 80%AM(1kHz) Performance Criterion A
IEC 61000-4-11	Voltage Dip & Voltage Interruptions immunity test	AC Input Port: 0%,0.5T Performance Criterion C 70%,25T for 50Hz Performance Criterion C 40%,10 T for 50Hz Performance Criterion C

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6.2 GENERAL PERFORMANCE CRITERIA DESCRIPTION

Criteria A	The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
Criteria B	The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however no change of actual operating state or stored data is allowed to persist after the test. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
Criteria C	Temporary loss of function is allowed, provided the function is selfrecoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

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6.3 ELECTROSTATIC DISCHARGEIMMUNITY TEST

6.3.1 TEST SPECIFICATION

Test Method	IEC 61000-4-2:2008
Discharge Impedance	330 ohm / 150 pF
Discharge Voltage	Enclosure port: Contact Discharge : ±4 kV (Direct/Indirect) Air Discharge: ±8 kV (Direct);
Polarity	Positive & Negative
Number of Discharge	Minimum 10 times at each test point
Discharge Mode	Single Discharge 1 second minimum

6.3.2 TEST PROCEDURE

a) The EUT was located 0.1 m minimum from all side of the HCP (dimensions 1.6m * 0.8m).

b) The support units were located another table 30 cm away from the EUT, but direct support unit was/were located at same location as EUT on the HCP and keep at a distance of 10 cm with EUT.

a) The time interval between two successive single discharges was at least 1 second.

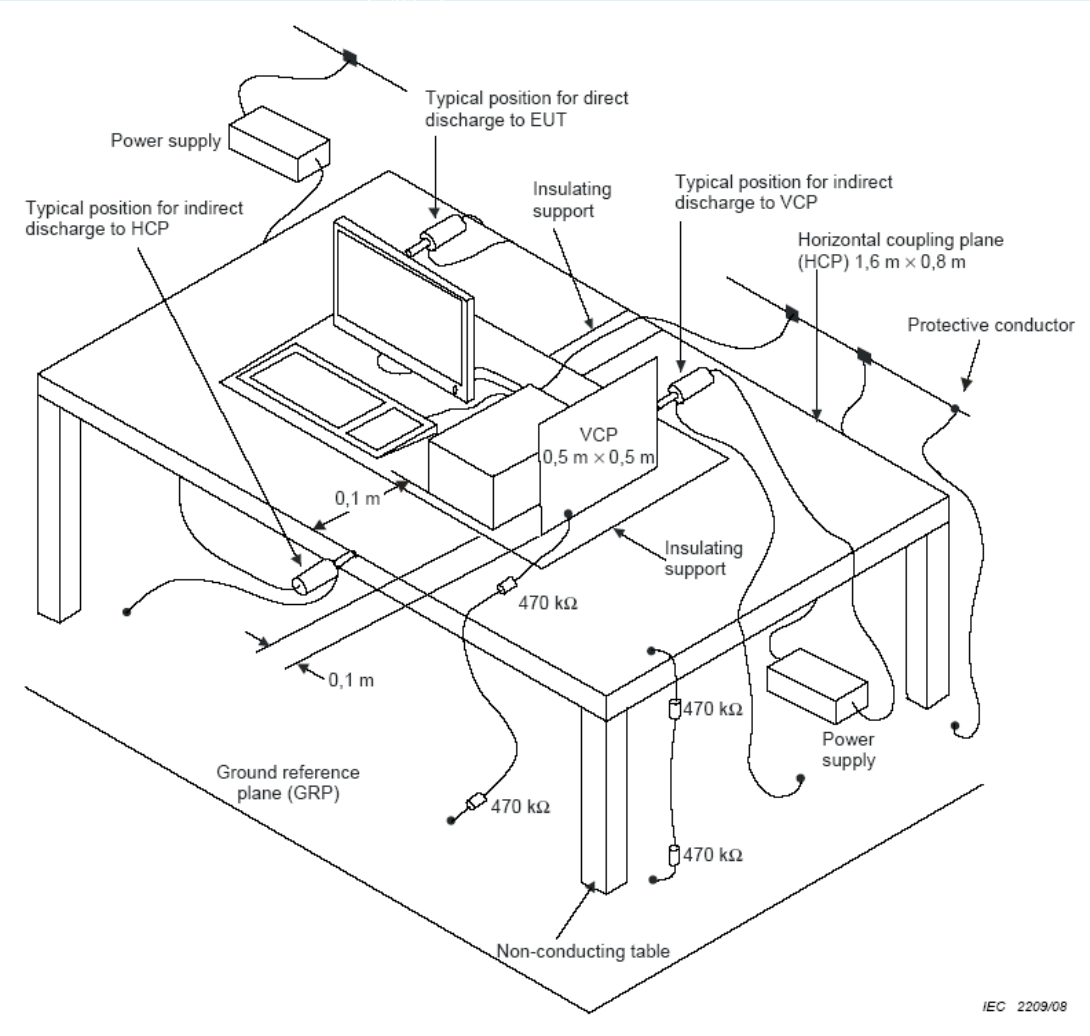
b) Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.

c) Air discharges were applied with the round discharge tip of the discharge electrode approaching the EUT as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator was removed from the EUT and re-triggered for a new single discharge. The test was repeated until all discharges were complete.

d) At least ten single discharges (in the most sensitive polarity) were applied at the front edge of each HCP opposite the center point of each unit of the EUT and 0.1 meters from the front of the EUT. The long axis of the discharge electrode was in the plane of the HCP and perpendicular to its front edge during the discharge.

e) At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane (VCP) in sufficiently different positions that the four faces of the EUT were completely illuminated. The VCP (dimensions 0.5m * 0.5m) was placed vertically to and 0.1 meters from the EUT.

6.3.3 TEST SETUP



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6.3.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00

Mode 1 & Mode 2

Mode 3

Rev.01

Mode 1 & Mode 2

Mode 3

6.3.5 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.2℃/52%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Horizontal coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Screw	±4kV	C	Criterion B	Criterion A[1)]	PASS
Indicator light	±8 kV	A	Criterion B	Criterion A[1)]	PASS
Gaps	±8 kV	A	Criterion B	Criterion A[1)]	PASS
USB port	±8 kV	A	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.2℃/52%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Horizontal coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Screw	±4kV	C	Criterion B	Criterion A[1)]	PASS
Indicator light	±8 kV	A	Criterion B	Criterion A[1)]	PASS
Gaps	±8 kV	A	Criterion B	Criterion A[1)]	PASS
USB port	±8 kV	A	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.2℃/52%RH/101kPa	Test Mode	Mode 3
Power supply	DC7.4V	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Horizontal coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Screw	±4kV	C	Criterion B	Criterion A[1)]	PASS
Indicator light	±8 kV	A	Criterion B	Criterion A[1)]	PASS
Gaps	±8 kV	A	Criterion B	Criterion A[1)]	PASS
USB port	±8 kV	A	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

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Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Horizontal coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
USB port	±4kV	C	Criterion B	Criterion A[1)]	PASS
Gaps	±8kV	A	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Horizontal coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
USB port	±4kV	C	Criterion B	Criterion A[1)]	PASS
Gaps	±8kV	A	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 3
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Discharge point	Discharge voltage	C-Conduct A-Air	Required Performance	Actual performance	Result
Vertical coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
Horizontal coupling plane	±4kV	C	Criterion B	Criterion A[1)]	PASS
USB port	±4kV	C	Criterion B	Criterion A[1)]	PASS
Gaps	±8kV	A	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

---------- The following blanks ----------

6.4 CONTINUOUS RF ELECTROMAGNETIC FIELD DISTURBANCES

6.4.1 TEST SPECIFICATION

Basic Standard	IEC 61000-4-3:2006+A1:2007+A2:2010
Frequency Range	80 MHz ~1000 MHz;
Field Strength	3V/m
Modulation	1kHz Sine Wave, 80%, AM Modulation
Frequency Step	1 % of preceding frequency value
Polarity of Antenna	Horizontal and Vertical
Test Distance:	3 m
Antenna Height:	1.5m

6.4.2 TEST PROCEDURE

a) The testing was performed in a fully anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.

b) The frequency range is swept from 80MHz to 1000MHz with the signal 80% amplitude modulated with a 1 kHz sine-wave. The rate of sweep did not exceed 1.5 x 10^{-3} decade/s, where the frequency range is swept incrementally; the step size was 1% of preceding frequency value.

c) The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.

d) The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

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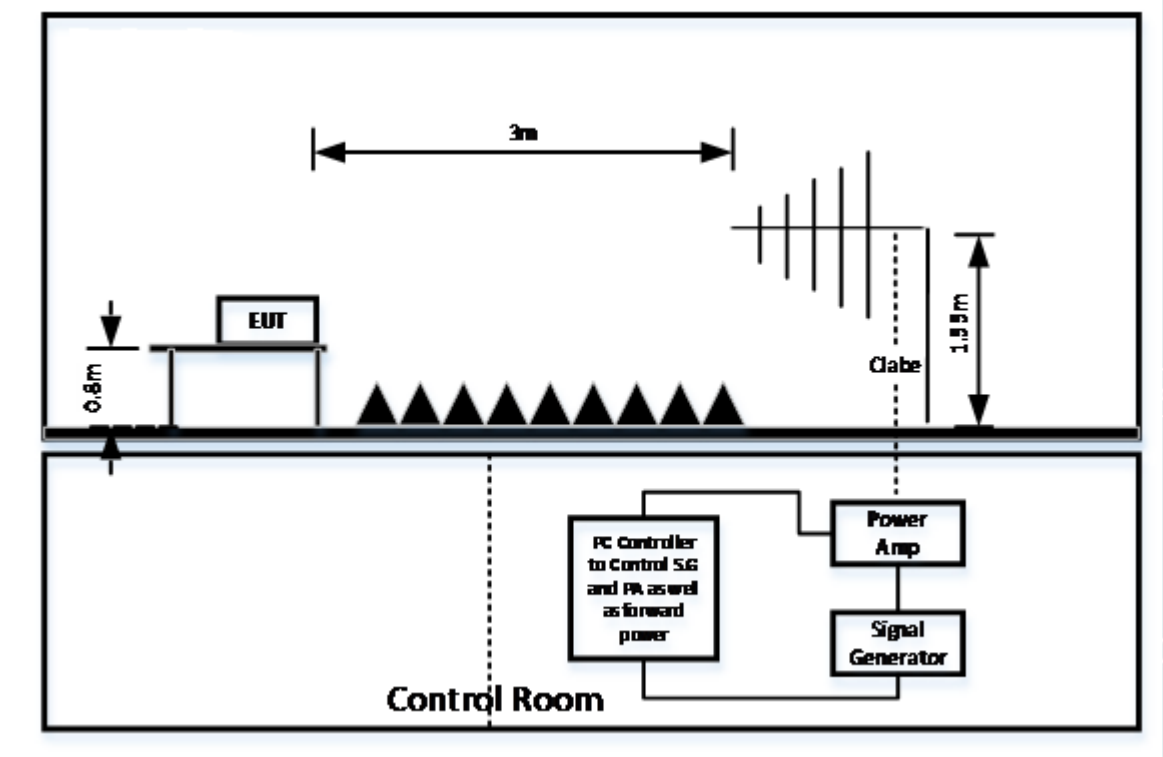
6.4.3 TEST SETUP



NOTE:

(1) Table-top equipment

The EUT installed in a representative system as described in section 7 of IEC 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

(2) Floor-standing equipment

The EUT installed in a representative system as described in section 7 of IEC 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

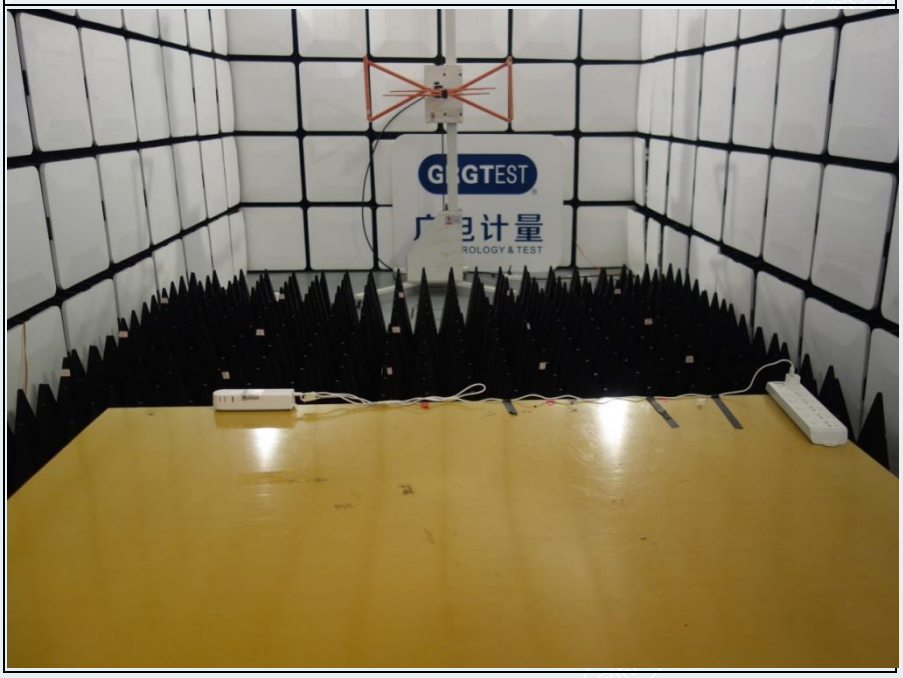
Note: the EUT is a Table-top equipment.

Note: the EUT is a table-top equipment.

---------- **The following blanks** ----------

6.4.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

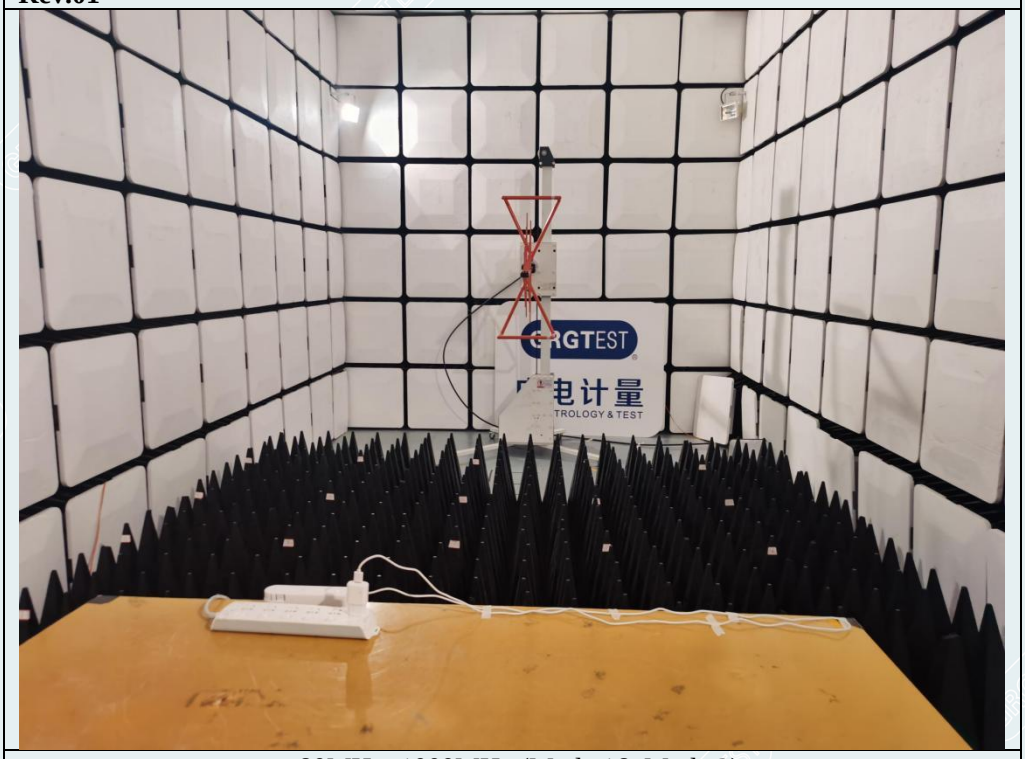
Rev.00



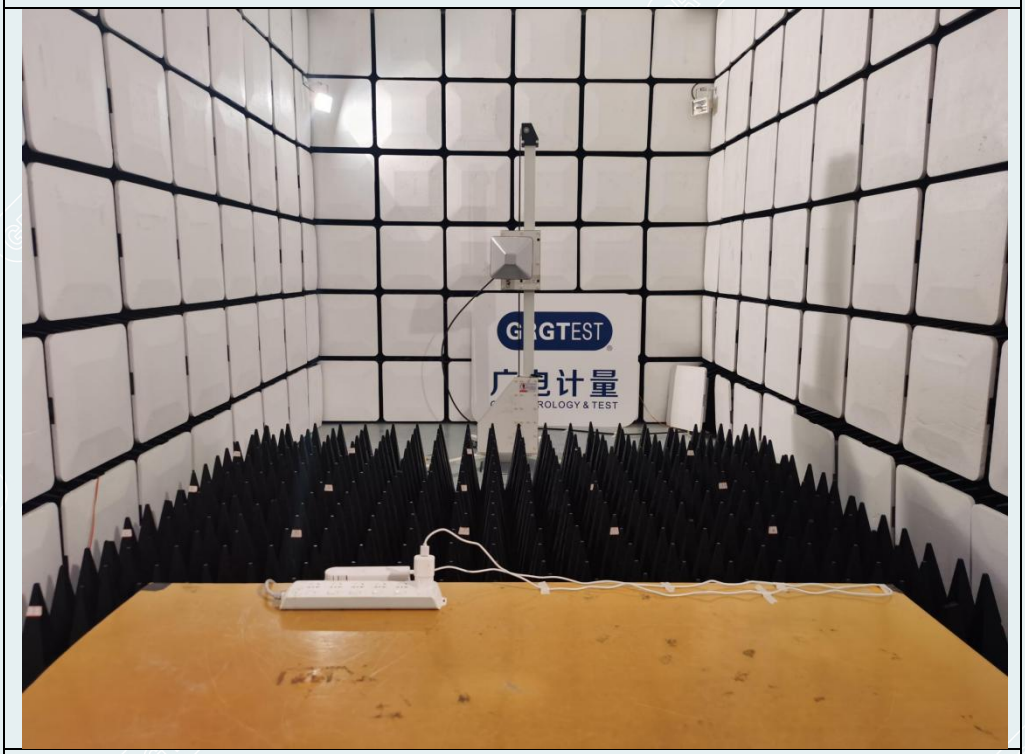
Mode 1& Mode 2

Mode 3

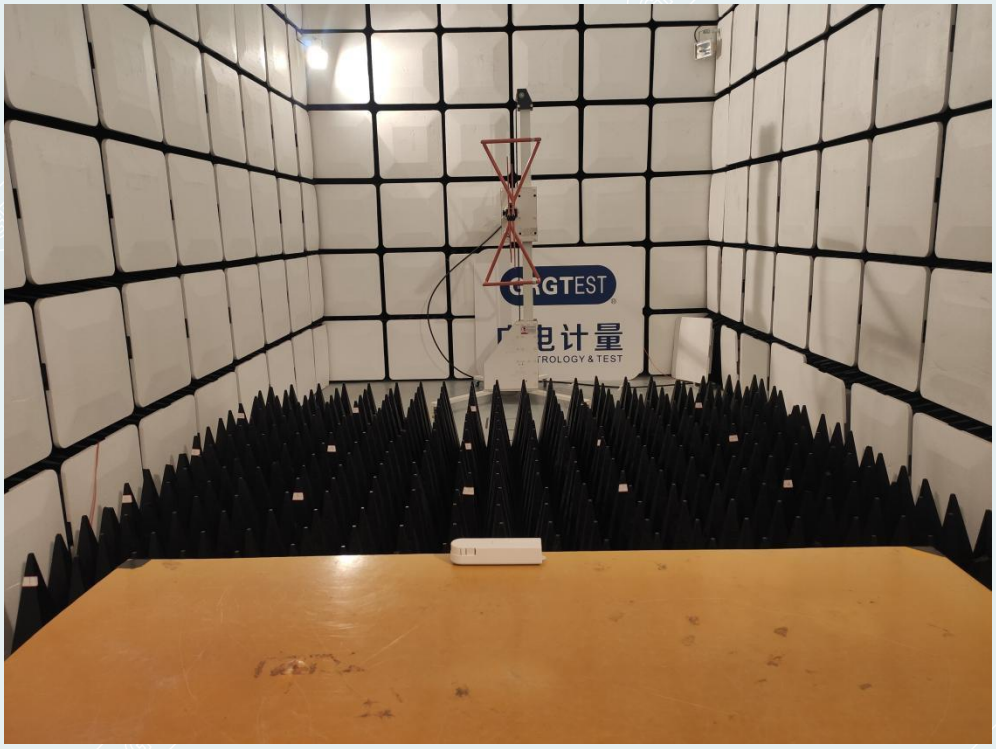
Rev.01



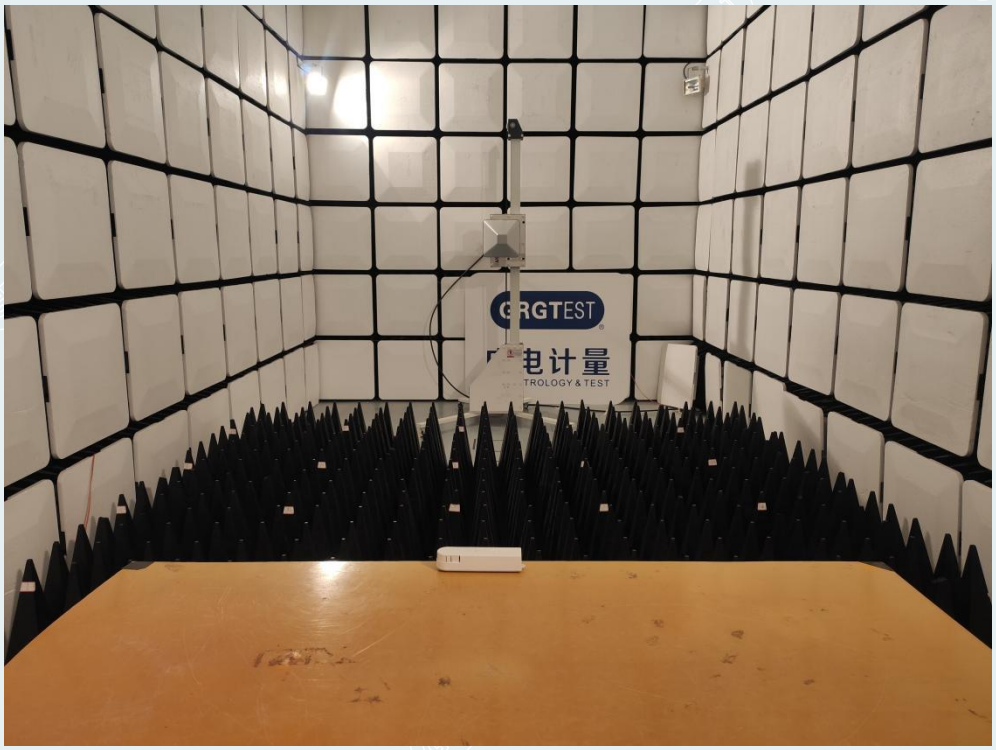
80MHz~1000MHz (Mode 1& Mode 2)



1000MHz~6000MHz (Mode 1& Mode 2)



80MHz~1000MHz (Mode 3)



1000MHz~6000MHz (Mode 3)

6.4.5 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25℃/51%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~1000MHz	3	Front	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Left	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Right	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Rear	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25℃/51%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~1000MHz	3	Front	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Left	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Right	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Rear	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25℃/51%RH/101kPa	Test Mode	Mode 3
Power supply	DC7.4V	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~1000MHz	3	Front	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Left	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Right	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
		Rear	H	Criterion A	Criterion A [1)]	pass
			V	Criterion A	Criterion A [1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

---------- The following blanks ----------

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-19	Sample No.	E20211216778201-0001

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~1000MHz	3	Front	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Left	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Right	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Rear	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-19	Sample No.	E20211216778201-0001

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~1000MHz	3	Front	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Left	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Right	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Rear	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 3
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-19	Sample No.	E20211216778201-0001

Frequency (MHz)	Field strength (V/m)	EUT orientation	Antenna polarization	Required criterion	Actual performance	Result
80MHz~1000MHz	3	Front	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Left	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Right	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
		Rear	H	Criterion A	Criterion A[1)]	pass
			V	Criterion A	Criterion A[1)]	pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

---------- The following blanks ----------

6.5 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

6.5.1 TEST SPECIFICATION

Test Method	IEC 61000-4-4:2012
Test Voltage	AC Input and output Power: ±1kV
Polarity	Positive and Negative
Impulse Frequency	5 kHz
Impulse Wave-shape	5 ns/50ns for voltage
Burst Duration	15 ms at 5kHz
Burst Period	300 ms
Test Duration	12 min

6.5.2 TEST PROCEDURE

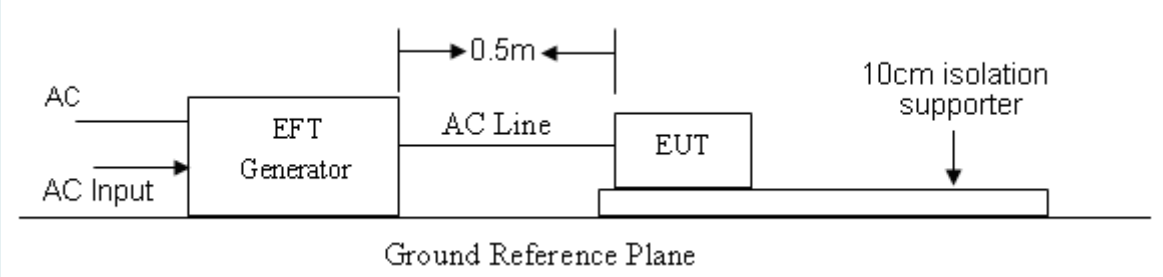
a) Both positive and negative polarity discharges were applied.

b) The length of the "hot wire" from the coaxial output of the EFT generator to the terminals on the EUT should not exceed 1 meter.

c) The duration time of each test sequential was 2 minute.

d) The transient/burst waveform was in accordance with IEC61000-4-4, 5/50ns.

6.5.3 TEST SETUP

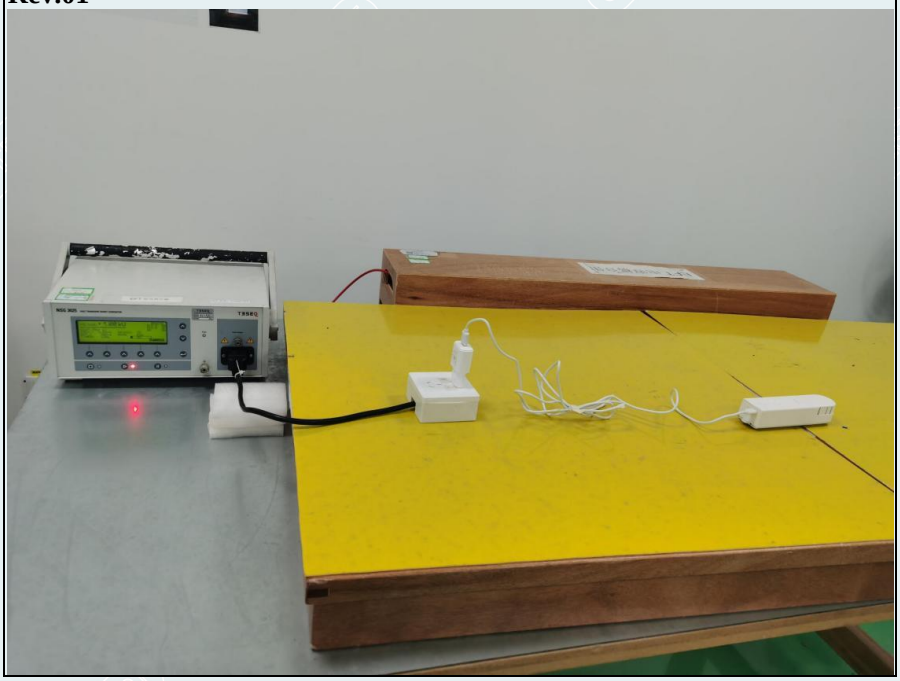


6.5.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00

Mode 1&Mode 2

Rev.01



Mode 1&Mode 2

6.5.5 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25.3℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04.20	Sample No.	E20210316495901-0001

Test Point	Polarity	Test Level (kV)	Required Performance	Actual performance	Result
L	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A [1)]	PASS
N	+	1	Criterion B	Criterion A [1)]	PASS
	-	1	Criterion B	Criterion A [1)]	PASS
L-N	+	1	Criterion B	Criterion A [1)]	PASS
	-	1	Criterion B	Criterion A [1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25.3℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04.20	Sample No.	E20210316495901-0001

Test Point	Polarity	Test Level (kV)	Required Performance	Actual performance	Result
L	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A [1)]	PASS
N	+	1	Criterion B	Criterion A [1)]	PASS
	-	1	Criterion B	Criterion A [1)]	PASS
L-N	+	1	Criterion B	Criterion A [1)]	PASS
	-	1	Criterion B	Criterion A [1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Test Point	Polarity	Test Level (kV)	Required Performance	Actual performance	Result
L	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
L-N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Test Point	Polarity	Test Level (kV)	Required Performance	Actual performance	Result
L	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
L-N	+	1	Criterion B	Criterion A[1)]	PASS
	-	1	Criterion B	Criterion A[1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.					

6.6 SURGE IMMUNITY TEST

6.6.1 TEST SPECIFICATION

Test Method	IEC 61000-4-5:2017
Wave-Shape	Combination Wave AC Input Port: 1.2/50 μs Open Circuit Voltage 8/20 μs Short Circuit Current
Test Voltage	AC Input Port: Line to line: 1kV
Generator Source Impedance	AC Input Port: Line to line 2ohm
Polarity	Positive and Negative
Phase Angle	0 °, 90 °, 180 °, 270 °
Pulse Repetition Rate	1 minute
Number of Tests	5 times for each phase angel

6.6.2 TEST PROCEDURE

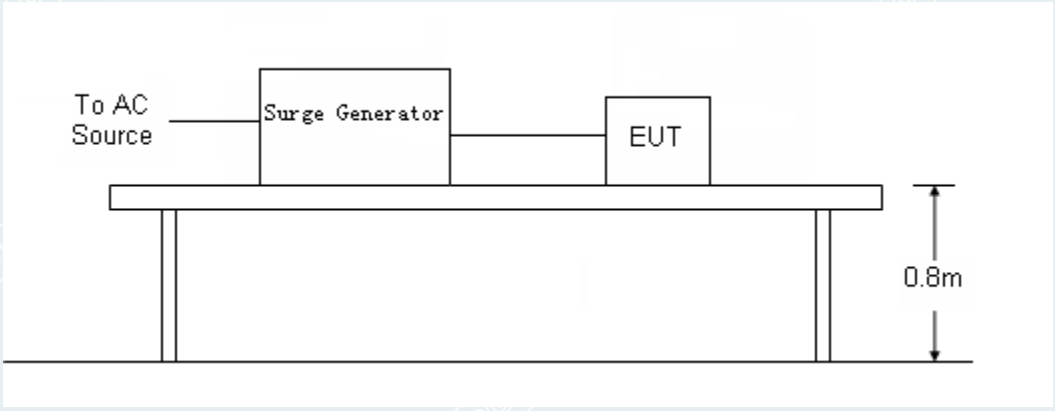
a) Set up the EUT and test generator.

b) Power Port for line to line coupling mode, provide a 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

c) Pulses shall be applied to the a.c. voltage wave as follows; five positive polarity pulses and five negative polarity pulses.

d) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

6.6.3 TEST SETUP

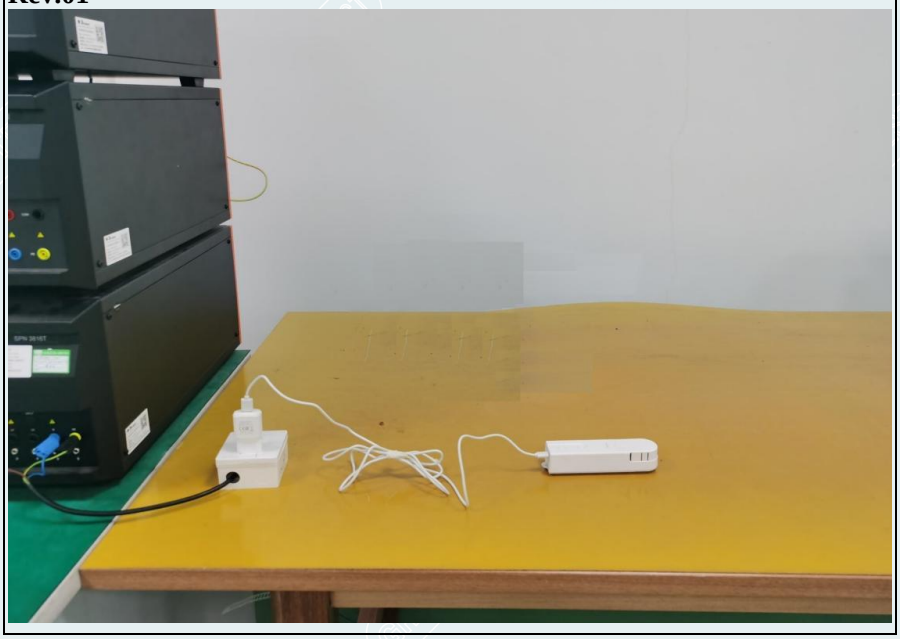


6.6.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00

Mode 1&Mode 2

Rev.01



Mode 1&Mode 2

6.6.5 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/42%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Test port	Polarity	Test Level	Phase	Required Performance	Actual performance	Result
L-N	+	1kV	90 °	Criterion B	Criterion A [1)]	PASS
	-	1kV	270 °	Criterion B	Criterion A [1)]	PASS
NOTE: [1)] Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.9℃/42%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-21	Sample No.	E20210316495901-0001

Test port	Polarity	Test Level	Phase	Required Performance	Actual performance	Result
L-N	+	1kV	90 °	Criterion B	Criterion A [1)]	PASS
	-	1kV	270 °	Criterion B	Criterion A [1)]	PASS
NOTE: [1)] Before test, during the test, and after test, the EUT function is normal.						

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Test port	Polarity	Test Level	Phase	Required Performance	Actual performance	Result
L-N	+/-	1kV	0 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	90 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	180 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	270 °	Criterion B	Criterion A [1)]	PASS
NOTE: [1)] Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.7℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Test port	Polarity	Test Level	Phase	Required Performance	Actual performance	Result
L-N	+/-	1kV	0 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	90 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	180 °	Criterion B	Criterion A [1)]	PASS
	+/-	1kV	270 °	Criterion B	Criterion A [1)]	PASS
NOTE: [1)] Before test, during the test, and after test, the EUT function is normal.						

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6.7 CONDUCTED RADIO FREQUENCY DISTURBANCES IMMUNITY TEST

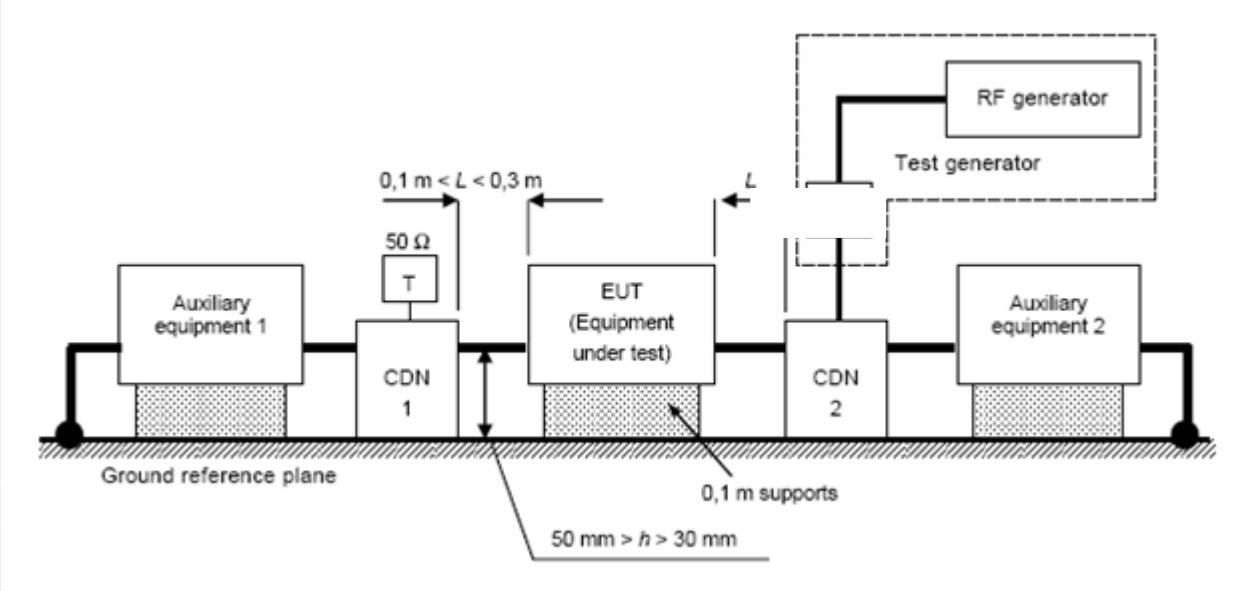
6.7.1 TEST SPECIFICATION

Test Method	IEC 61000-4-6:2013
Frequency Range	0.15MHz ~ 80MHz
Field Strength	AC Input Power: 0.15MHz-80MHz 3V
Modulation	1kHz ,80%AM
Injection Method	AC Input Power:CDN
Frequency Step	1%
Dwell Time	1s

6.7.2 TEST PROCEDURE

a) Set up the EUT, CDN and test generators.
b) Let the EUT work in test mode and measure it.
c) The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
d) The disturbance signal described below is injected to EUT through CDN.
e) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
f) The frequency range is using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1 kHz sine wave.
g) The rate of sweep shall not exceed 1.5*10-3decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
h) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

6.7.3 TEST SETUP

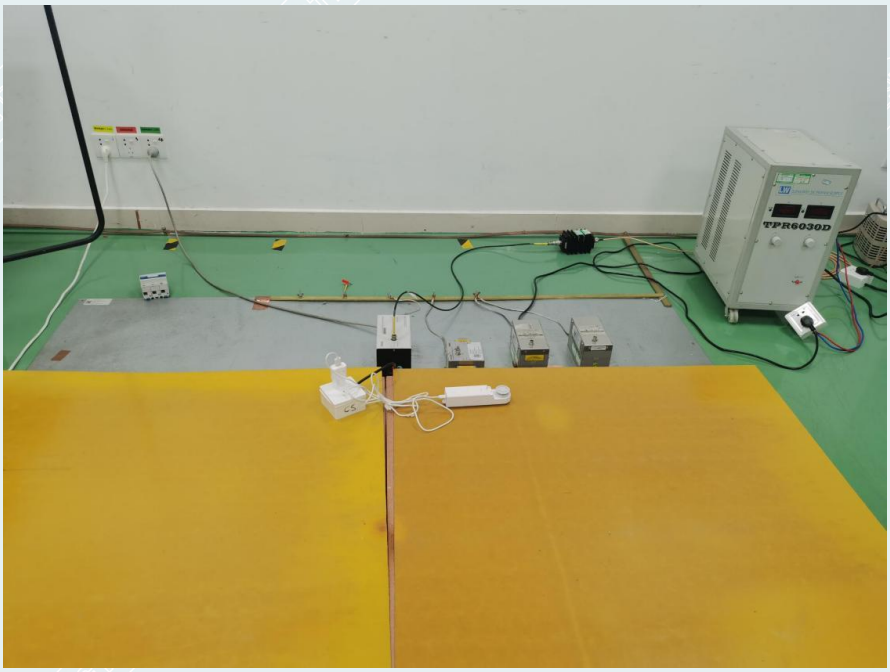


6.7.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00

Mode 1 & Mode 2

Rev.01



Mode 1 & Mode 2

---------- The following blanks ----------

6.7.5 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25.6℃/44%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-20	Sample No.	E20210316495901-0001

Test Ports	Frequency Band(MHz)	Field Strength (Vrms)	Injection Method	Required Performance	Actual performance	Result
Power port	0.15~80	3	CDN	Criterion A	Criterion A[1)]	Pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	25.6℃/44%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-20	Sample No.	E20210316495901-0001

Test Ports	Frequency Band(MHz)	Field Strength (Vrms)	Injection Method	Required Performance	Actual performance	Result
Power port	0.15~80	3	CDN	Criterion A	Criterion A[1)]	Pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

---------- The following blanks ----------

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.5℃/57%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Test Ports	Frequency Band(MHz)	Field Strength (Vrms)	Injection Method	Required Performance	Actual performance	Result
Power port	0.15~80	3	CDN	Criterion A	Criterion A[1)]	Pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.5℃/57%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

Test Ports	Frequency Band(MHz)	Field Strength (Vrms)	Injection Method	Required Performance	Actual performance	Result
Power port	0.15~80	3	CDN	Criterion A	Criterion A[1)]	Pass
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

---------- The following blanks ----------

6.8 VOLTAGE DIP & VOLTAGE INTERRUPTIONS IMMUNITY TEST

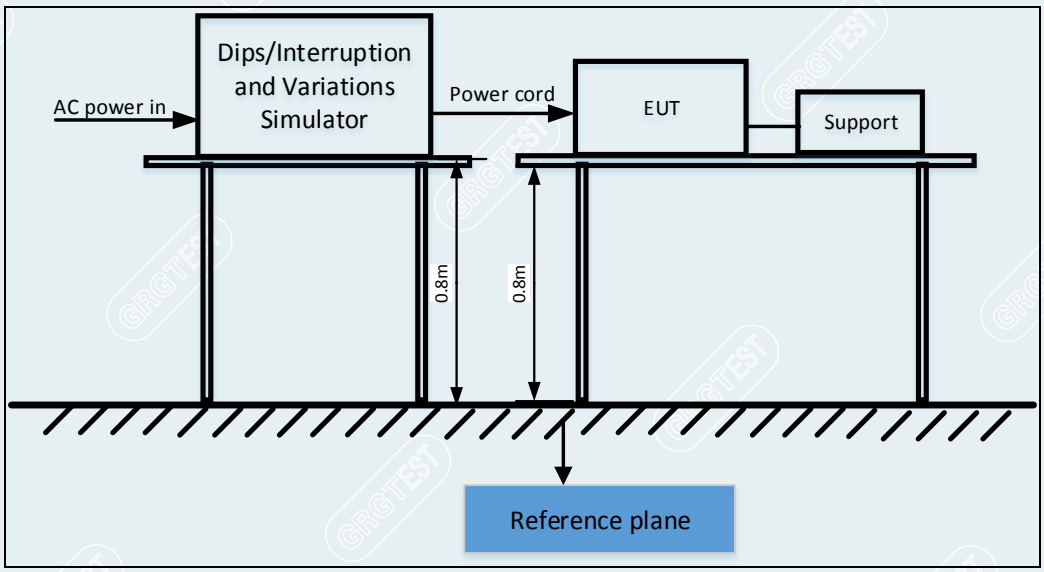
6.8.1 TEST SPECIFICATION

Test Method	IEC 61000-4-11:2004+AMD1:2017
Test duration time	0%,0.5T 70%,25T for 50Hz 70%,30T for 60Hz 40%,10 T for 50Hz 40%,12 T for 60Hz
Interval between event	10s for each dips at each test angle
Phase Angle	0 °,180 °
Test cycle	3

6.8.2 TEST PROCEDURE

a) The EUT and test generator.
b) The interruptions is introduced at selected phase angles with specified duration.
c) Record any degradation of performance.

6.8.3 TEST SETUP



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6.8.4 PHOTOGRAPH OF THE TEST ARRANGEMENT

Rev.00

Mode 1 & Mode 2

Rev.01

Mode 1 & Mode 2

---------- The following blanks ----------

6.8.5 TEST RESULTS

Rev.00

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.8℃/50%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-20	Sample No.	E20210316495901-0001

Test level % U_T	Voltage Dips & Interruptions % U_T	Duration (Period)	Angle	Required Performance	Actual performance	Result
0	100	0.5	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
70	30	25	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
40	60	10	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.8℃/50%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Wu Haoting
Test Date	2021-04-20	Sample No.	E20210316495901-0001

Test level % U_T	Voltage Dips & Interruptions % U_T	Duration (Period)	Angle	Required Performance	Actual performance	Result
0	100	0.5	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
70	30	25	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
40	60	10	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

Rev.01

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.1℃/51%RH/101kPa	Test Mode	Mode 1
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

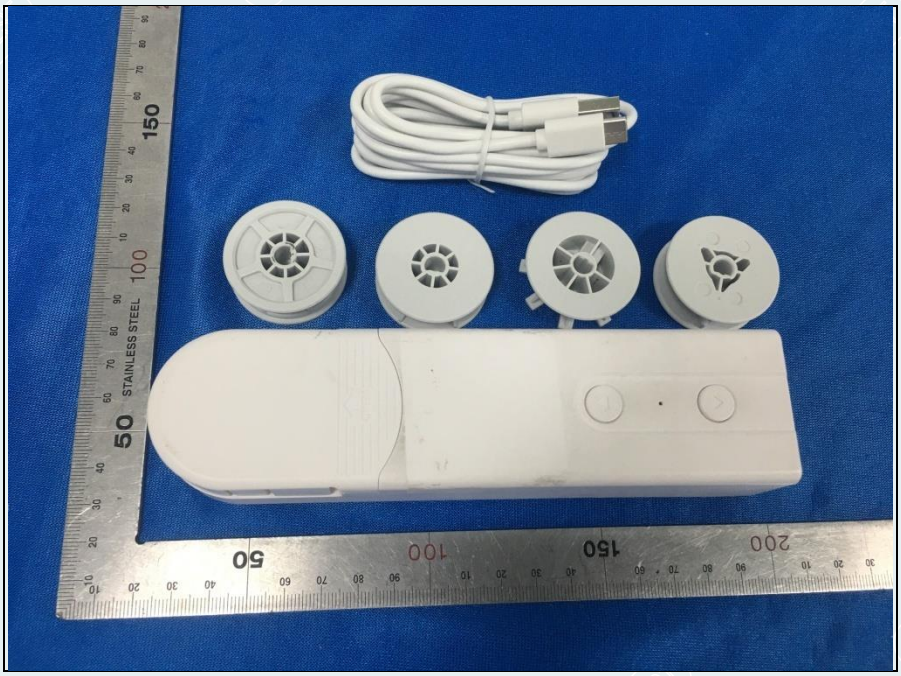
Test level % U_T	Voltage Dips & Interruptions % U_T	Duration (Period)	Angle	Required Performance	Actual performance	Result
0	100	0.5	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
70	30	25	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
40	60	10	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

EUT Name	Roller Shade Driver E1	Model	RSD-M01
Environmental Conditions	24.1℃/51%RH/101kPa	Test Mode	Mode 2
Power supply	AC230V/50Hz	Tested By	Tang Shenghui
Test Date	2021-12-21	Sample No.	E20211216778201-0001

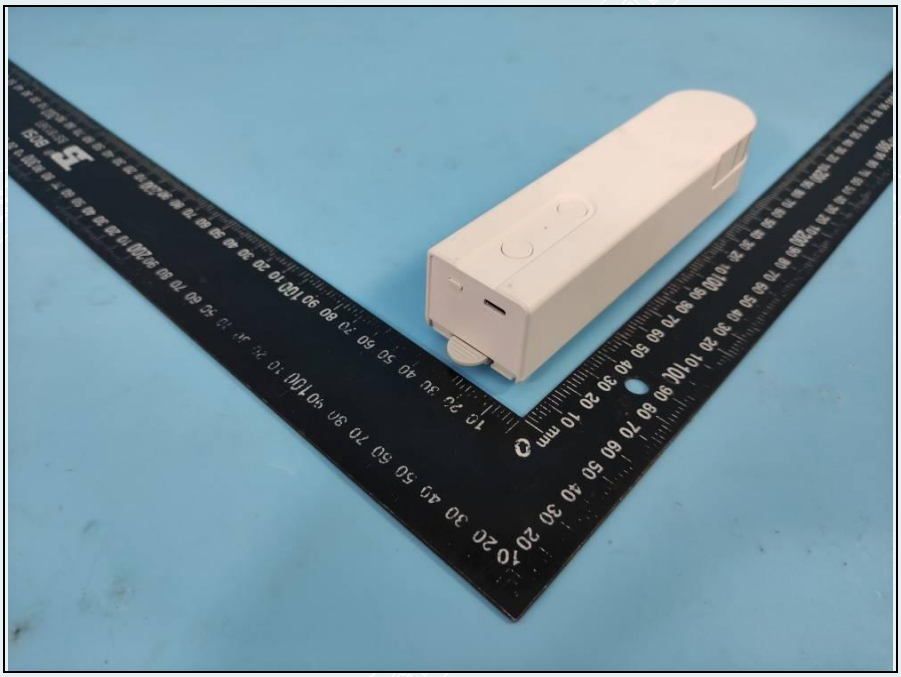
Test level % U_T	Voltage Dips & Interruptions % U_T	Duration (Period)	Angle	Required Performance	Actual performance	Result
0	100	0.5	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
70	30	25	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
40	60	10	0 °	C	A [1)]	PASS
			180 °	C	A [1)]	PASS
NOTE: [1)]Before test, during the test, and after test, the EUT function is normal.						

APPENDIX A: PHOTOGRAPH OF THE EUT

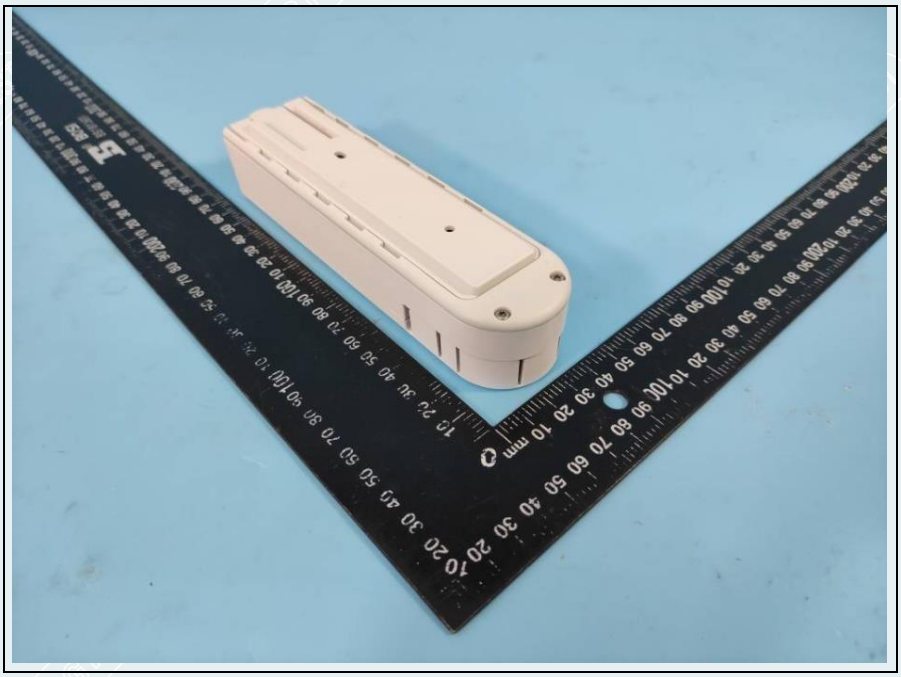
External Photos of EUT
Rev.01



EUT-1



EUT-2

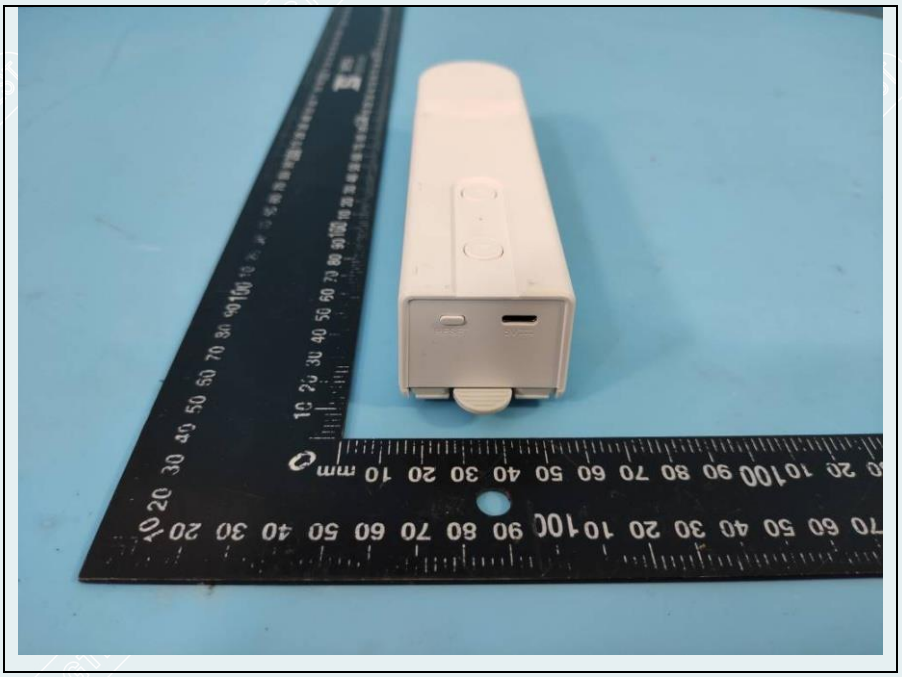


EUT-3

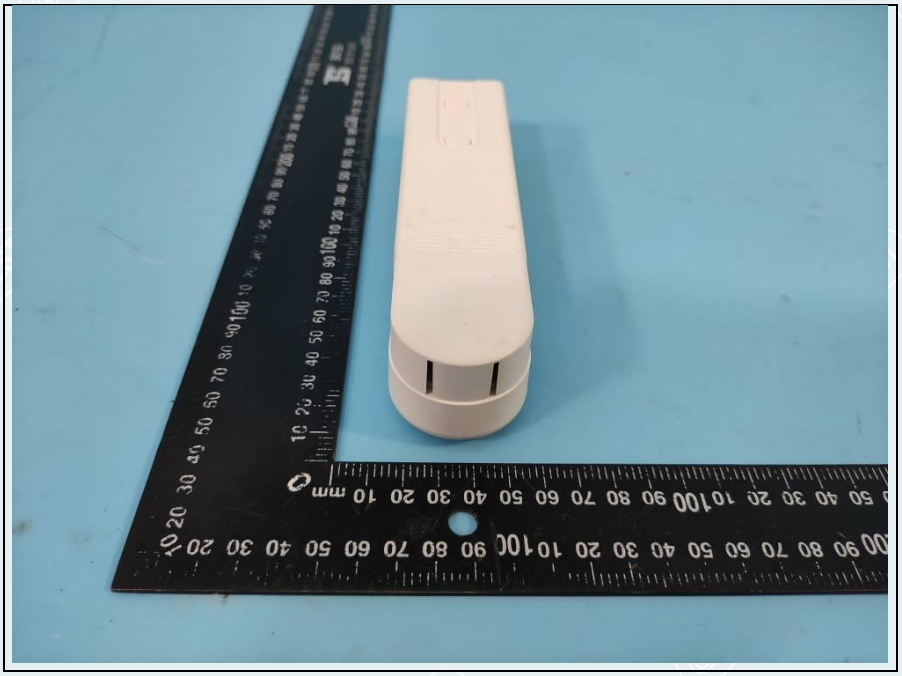
EUT-4

EUT-5

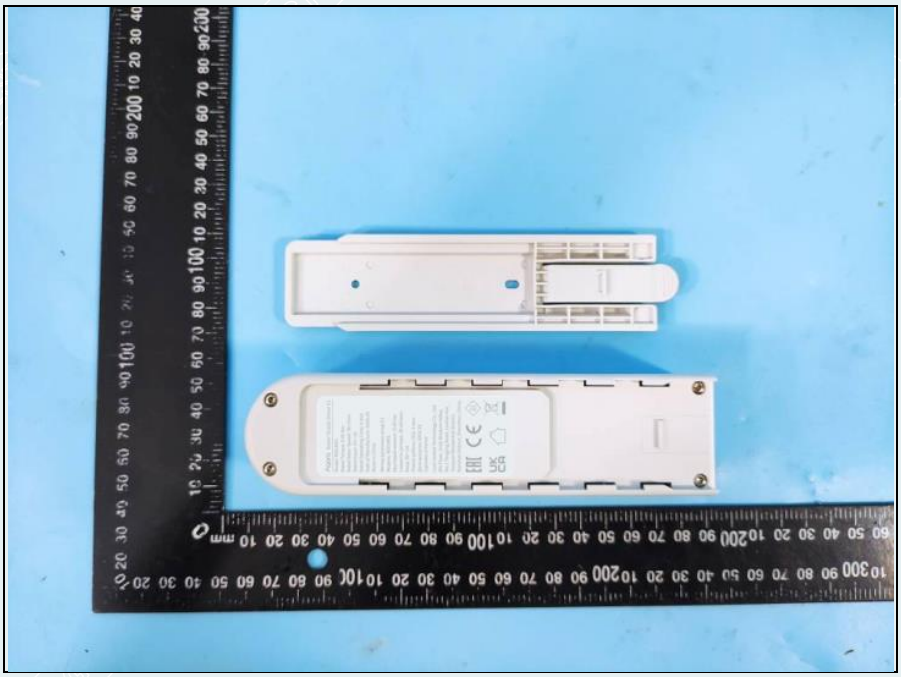
EUT-6



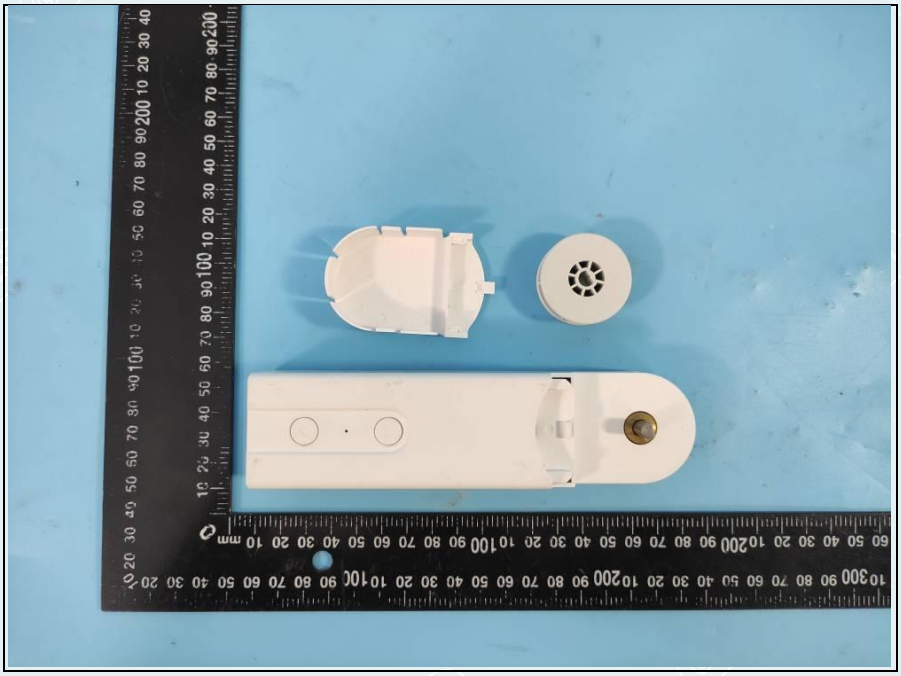
EUT-7



EUT-8

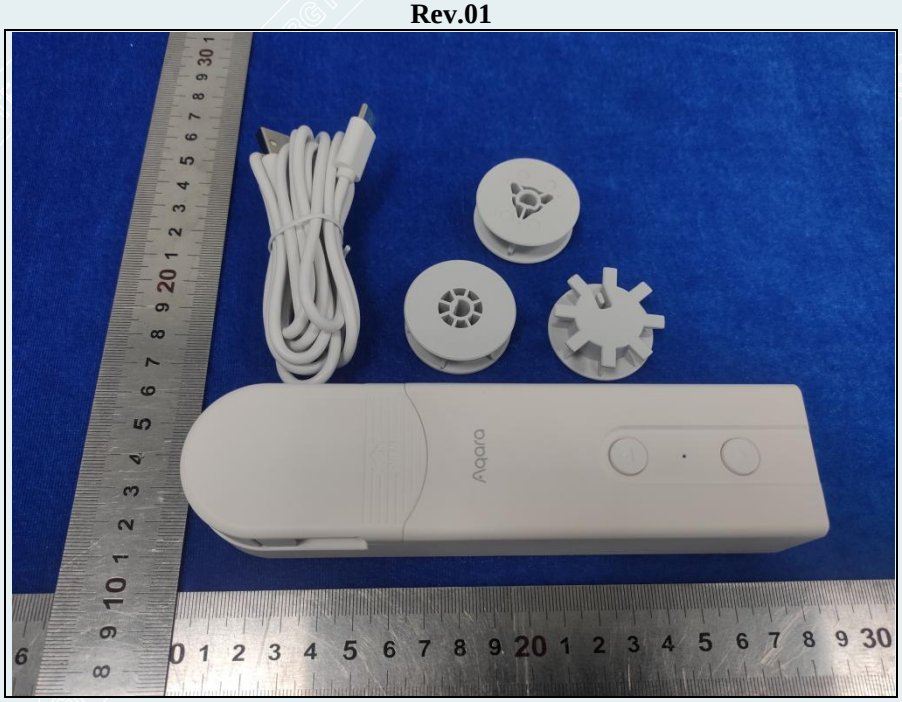


EUT-9



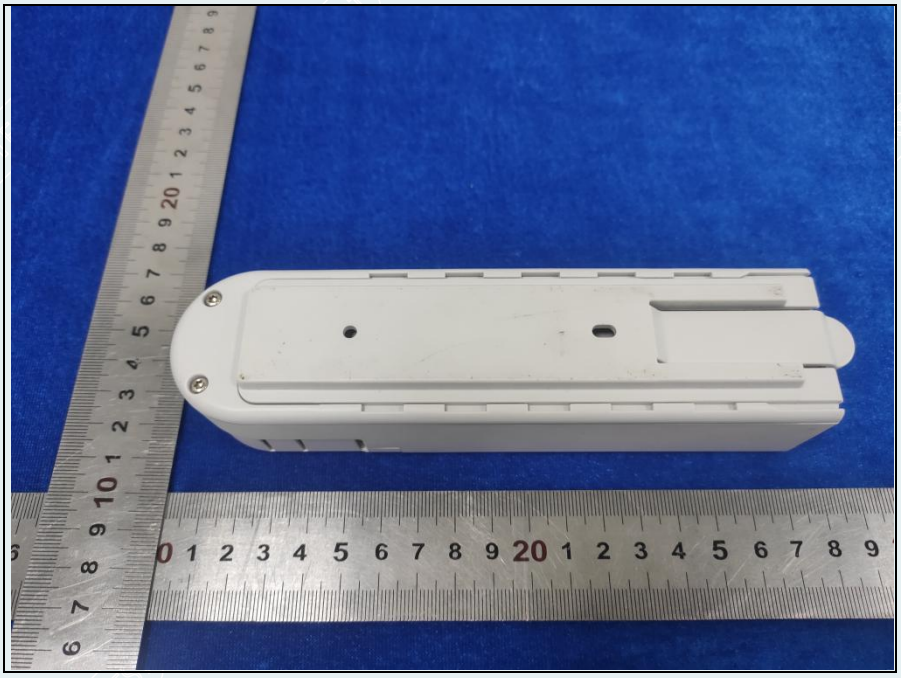
EUT-10

Rev.01

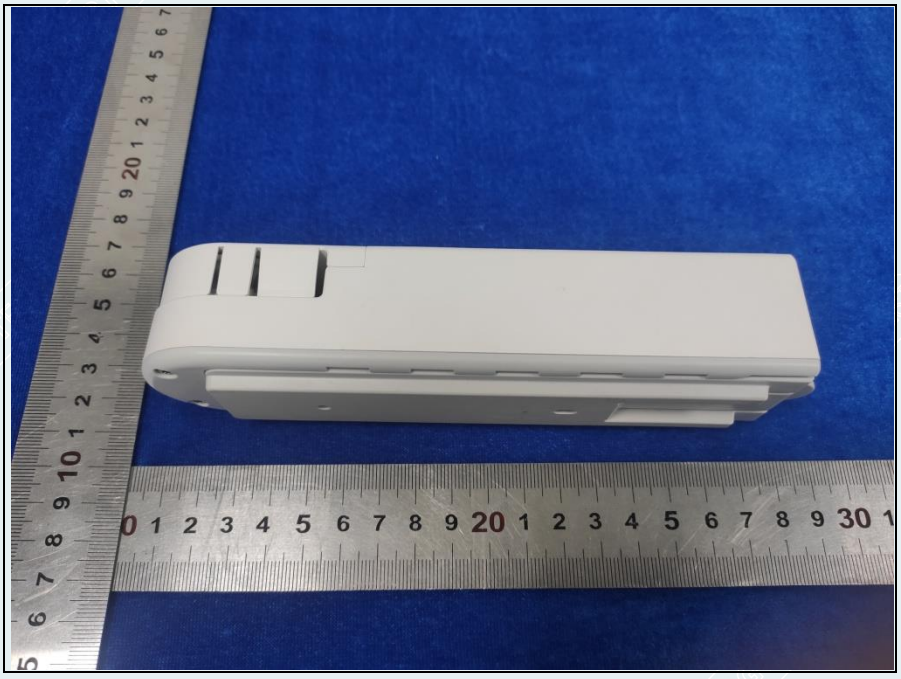


EUT-1

EUT-2



EUT-3

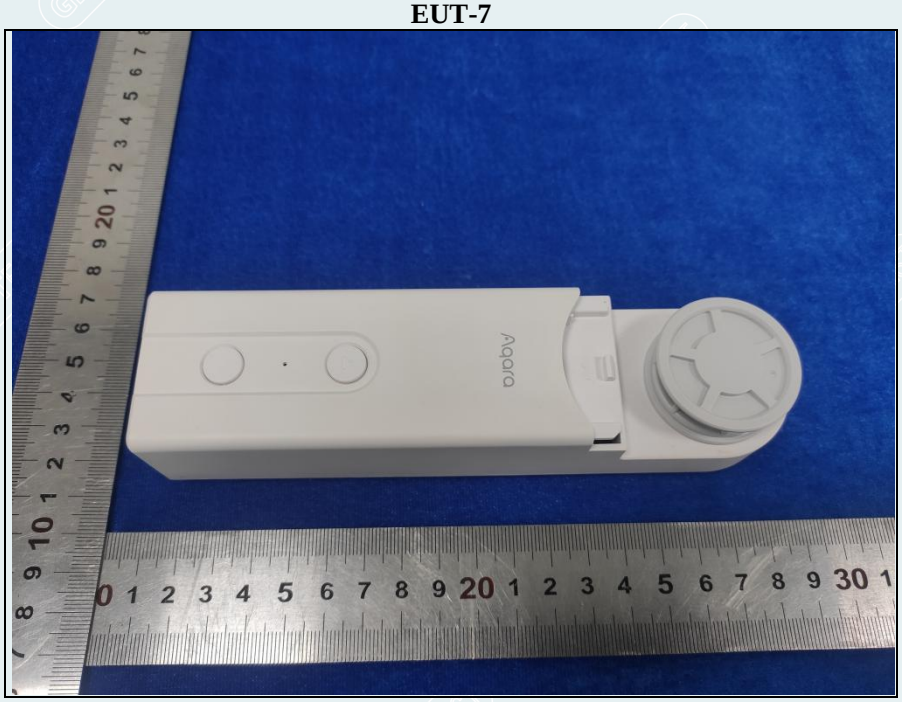


EUT-4

EUT-5

EUT-6

EUT-7



EUT-8

EUT-9

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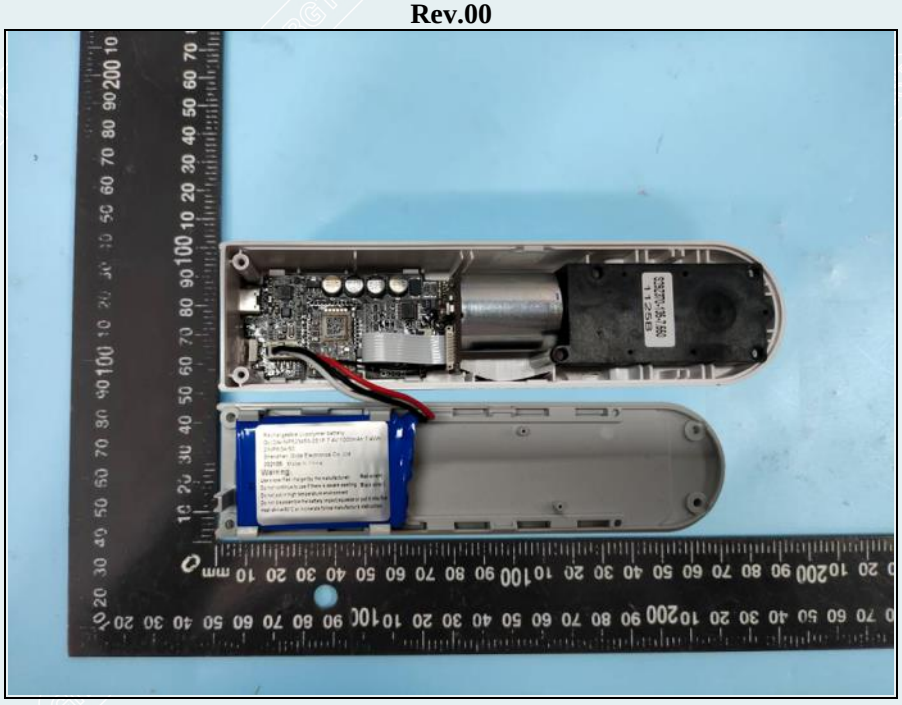
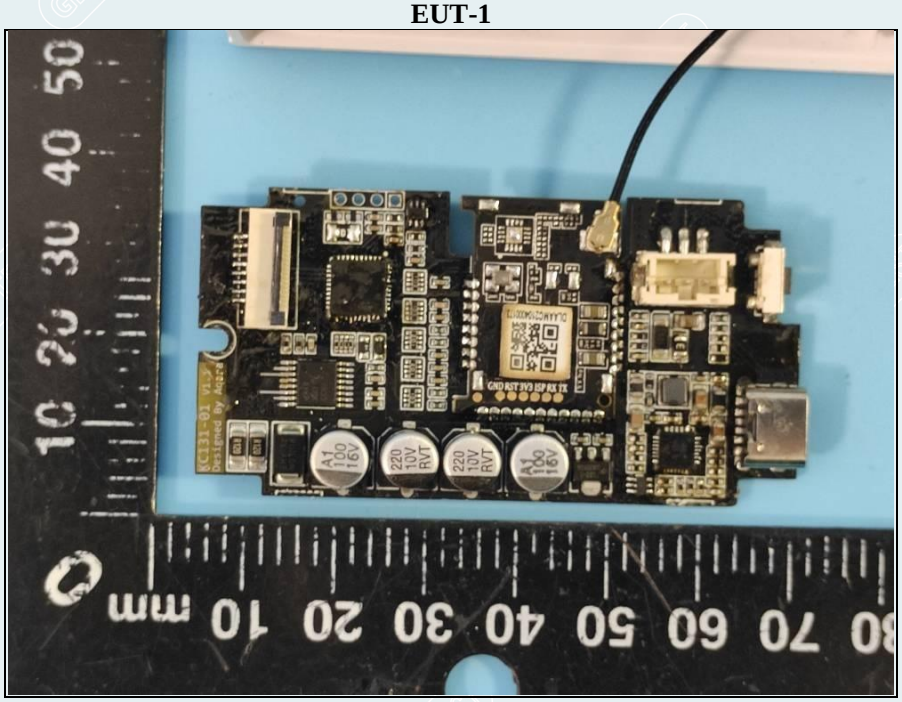
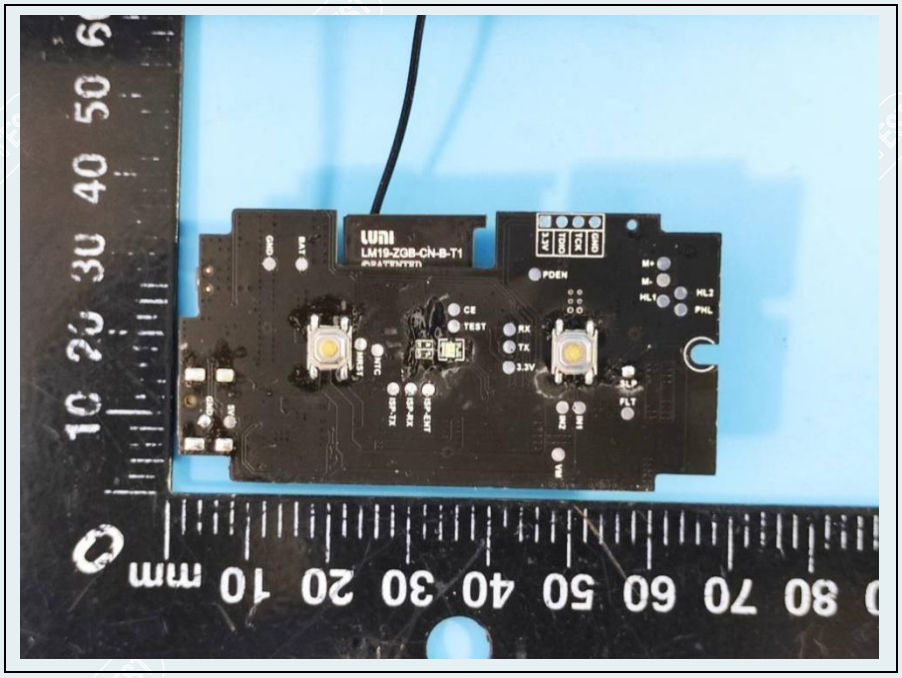
Internal Photos of EUT
Rev.00



EUT-1



EUT-2



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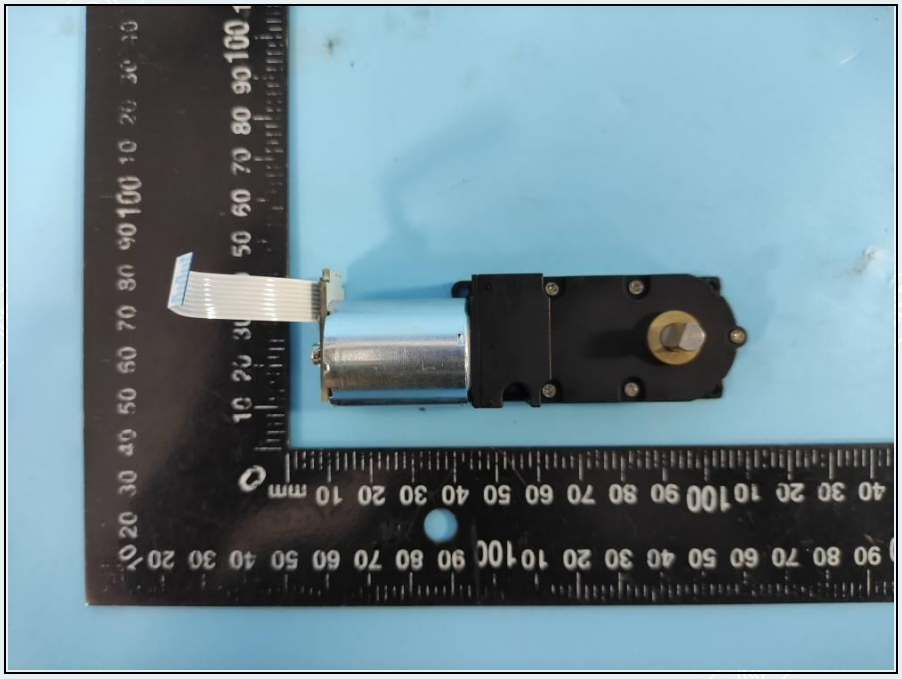
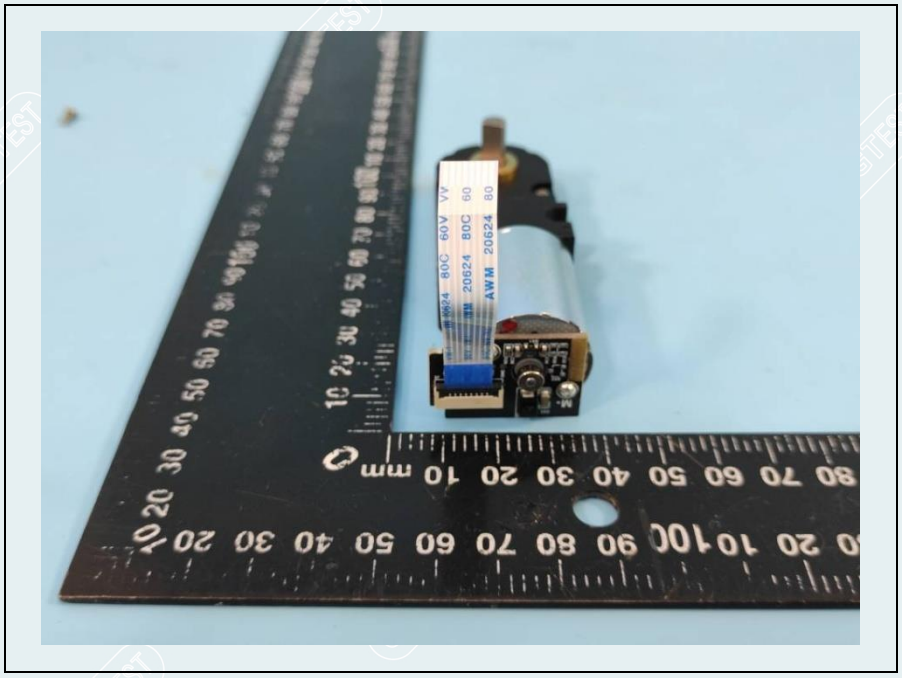
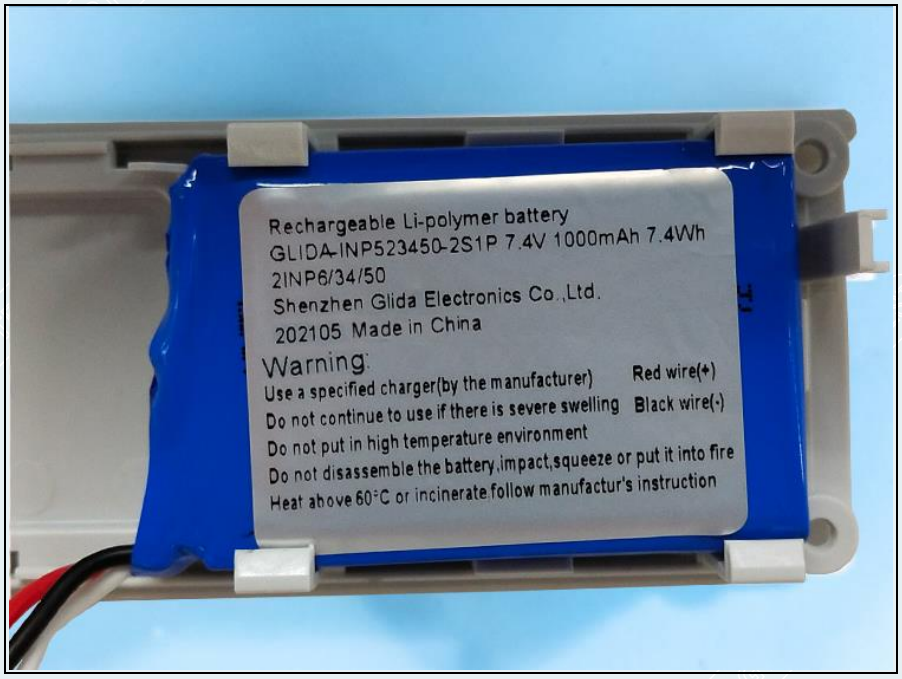


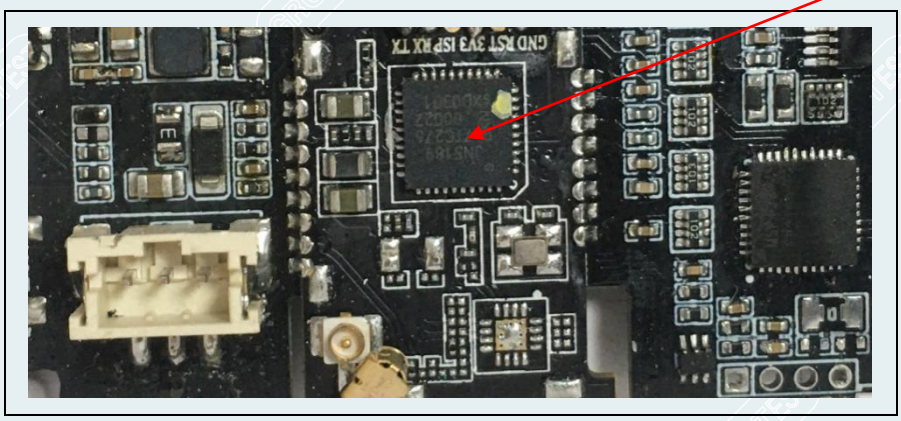
EUT-4



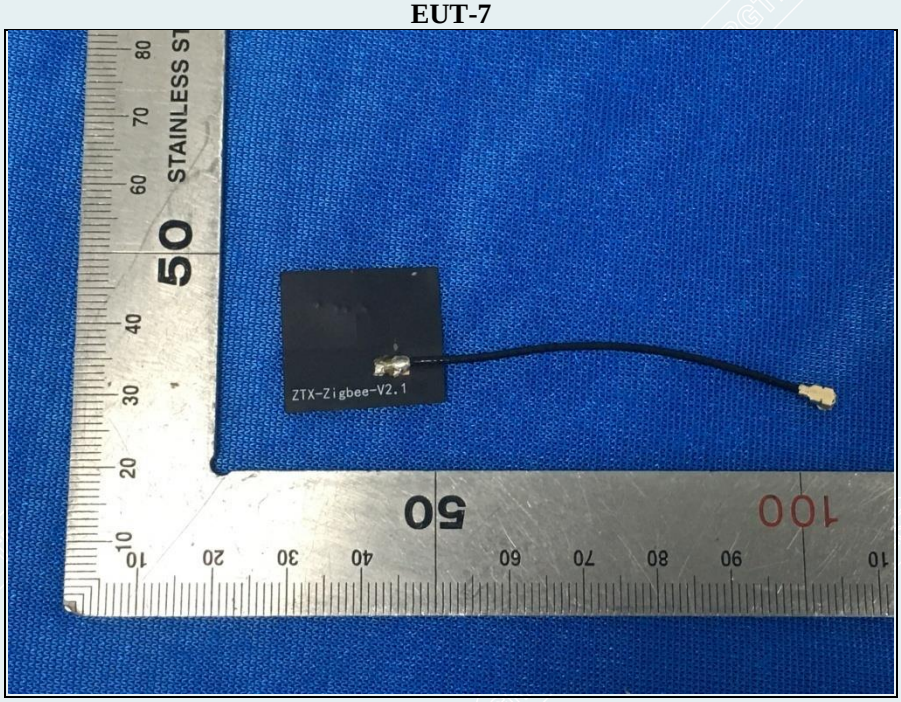
EUT-5


Rechargeable Li-polymer battery
GLIDA-INP523450-2S1P 7.4V 1000mAh 7.4Wh
2INP6/34/50
Shenzhen Glida Electronics Co.,Ltd.
202105 Made in China
Warning:
Use a specified charger(by the manufacturer)
Do not continue to use if there is severe swelling
Do not put in high temperature environment
Do not disassemble the battery,impact,squeeze or put it into fire
Heat above 60°C or incinerate,follow manufactur's instruction
Red wire(+)
Black wire(-)

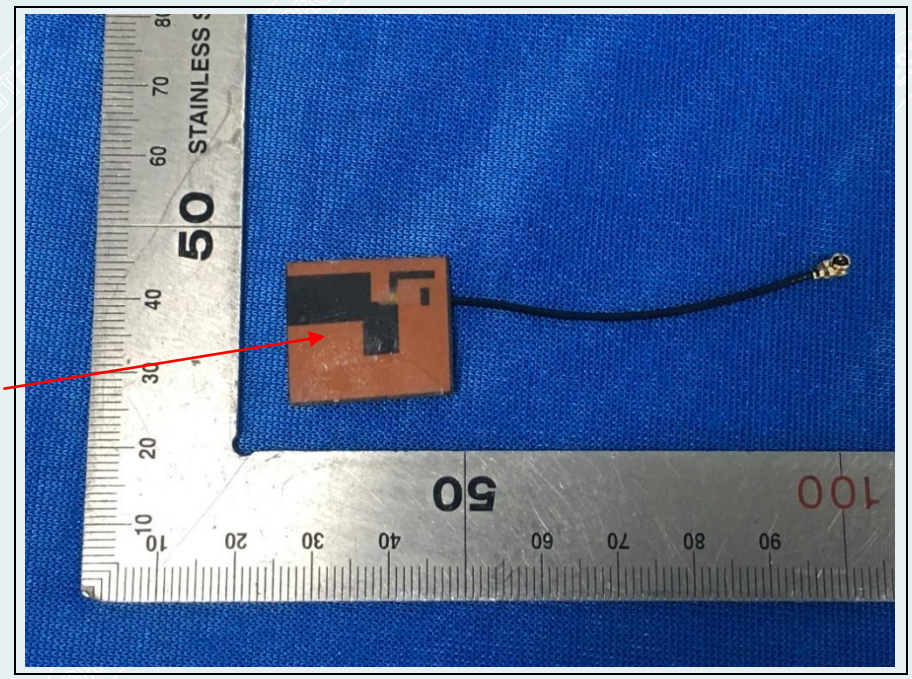
EUT-6



EUT-7



EUT-8



EUT-9

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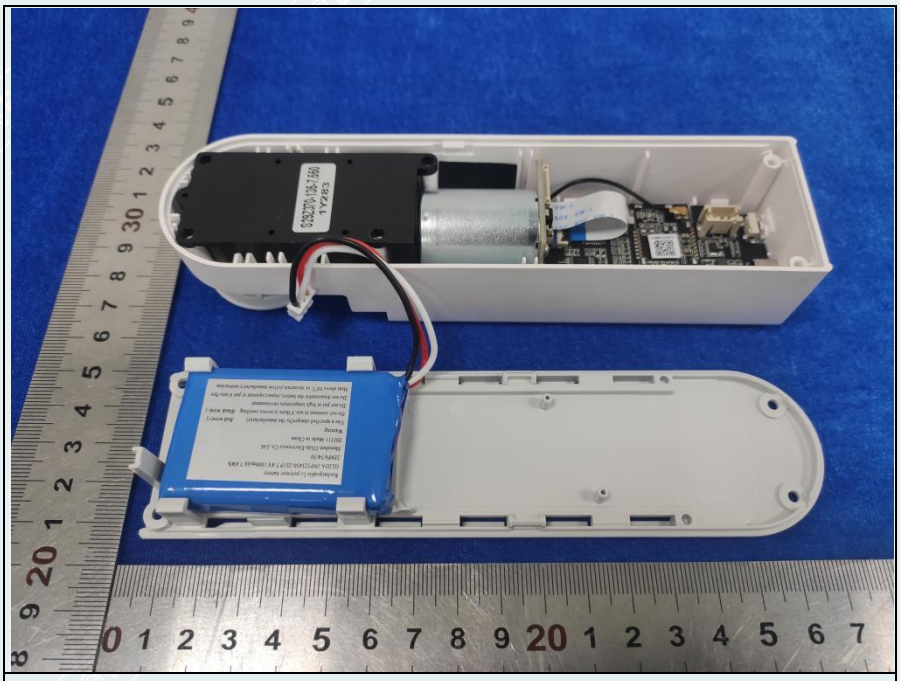
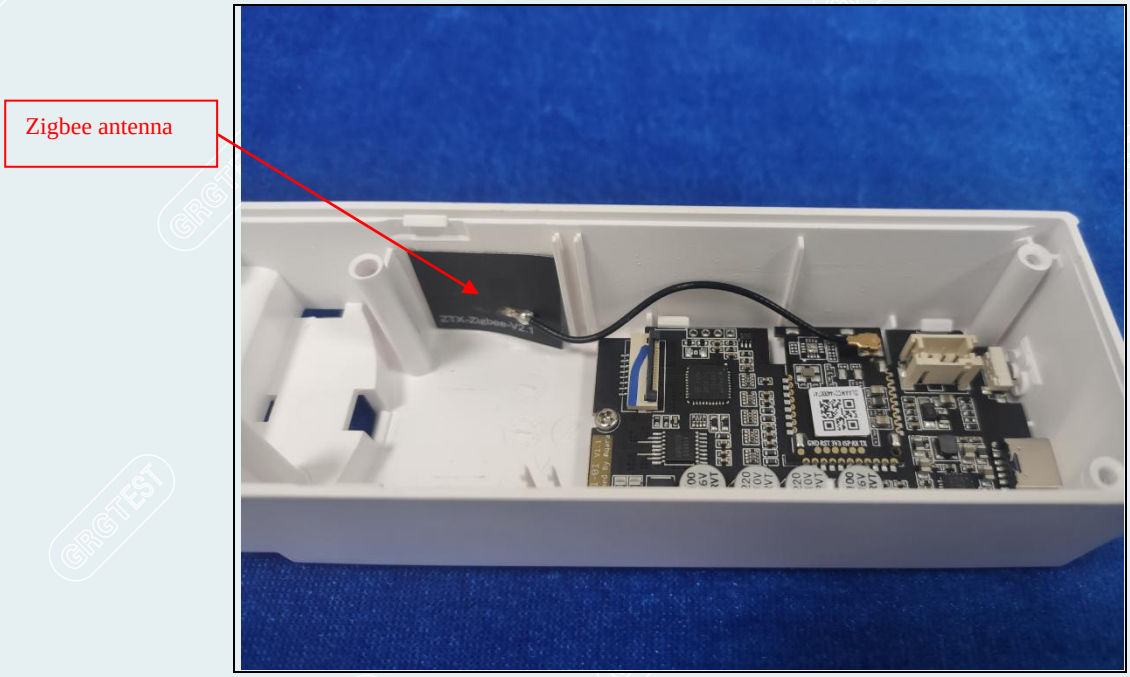
Rev.01

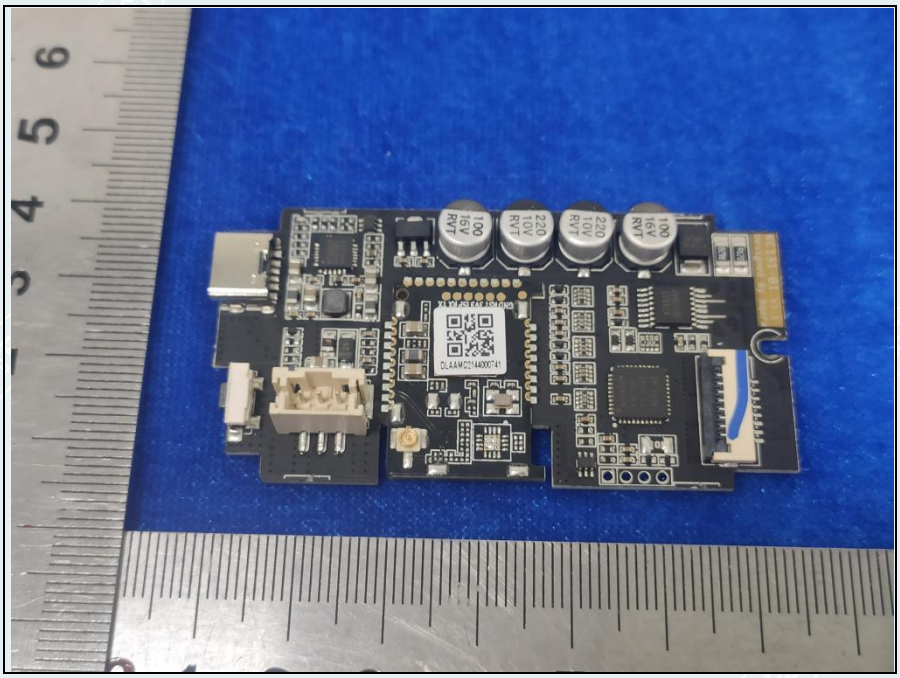


EUT-1

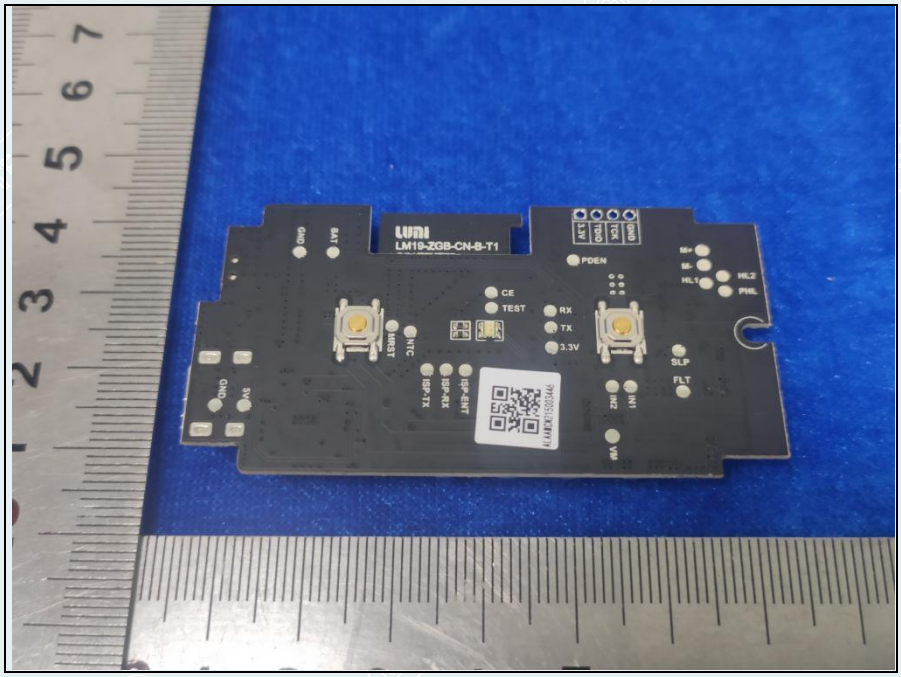
EUT-2



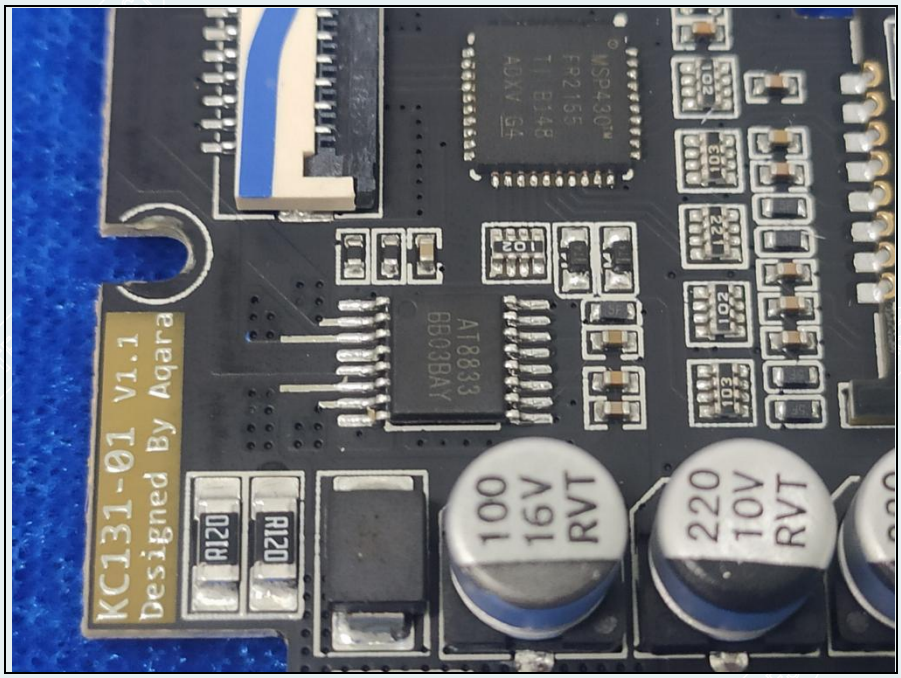
EUT-3



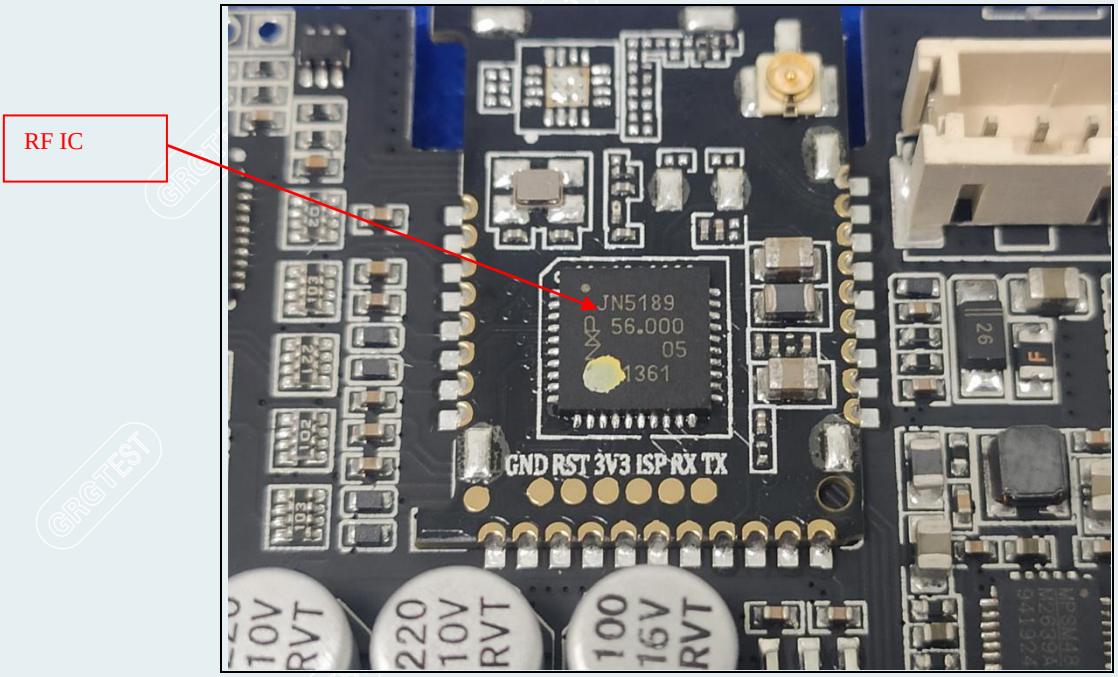
EUT-4


LUMI
LM19-ZGB-CN-B-T1
GND
BAT
PDEN
CE
TEST
RX
TX
3.3V
NRST
NTC
SLP
FLT
SWD
SWC
VIN

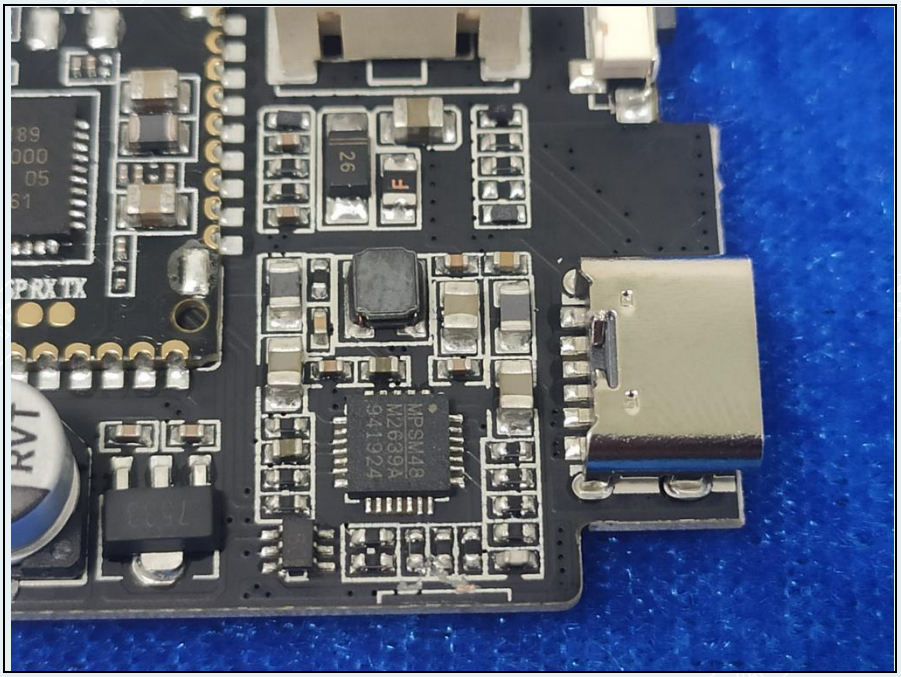
EUT-5


KC131-01 V1.1
Designed By Aqara
R120
R120
100
16V
RVT
220
10V
RVT

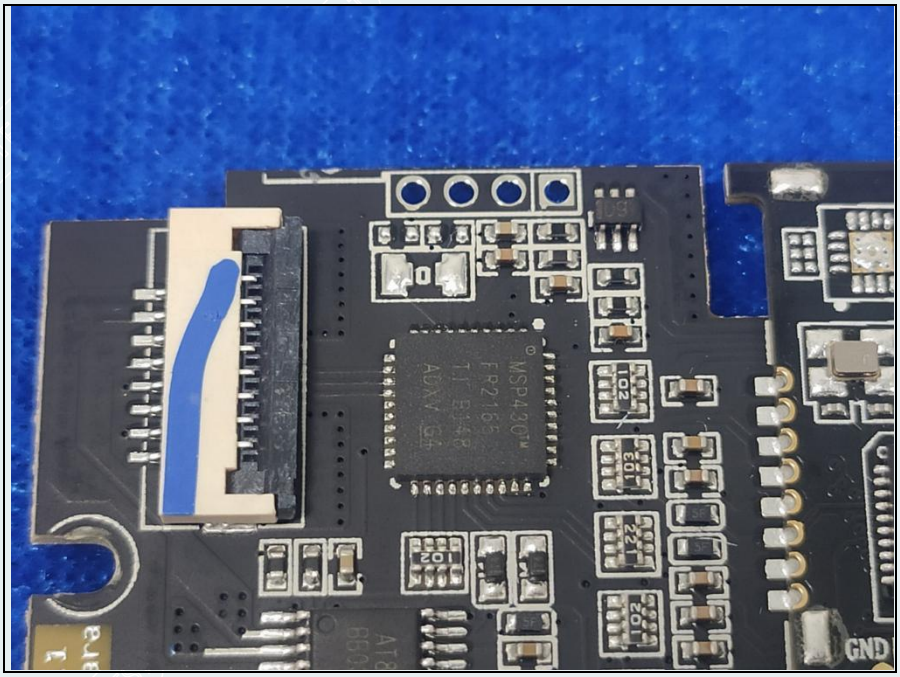
EUT-6


RF IC
JN5189
56.000
GND RST 3V3 ISP RX TX
10V
RVT
220
10V
RVT
100
16V
RVT

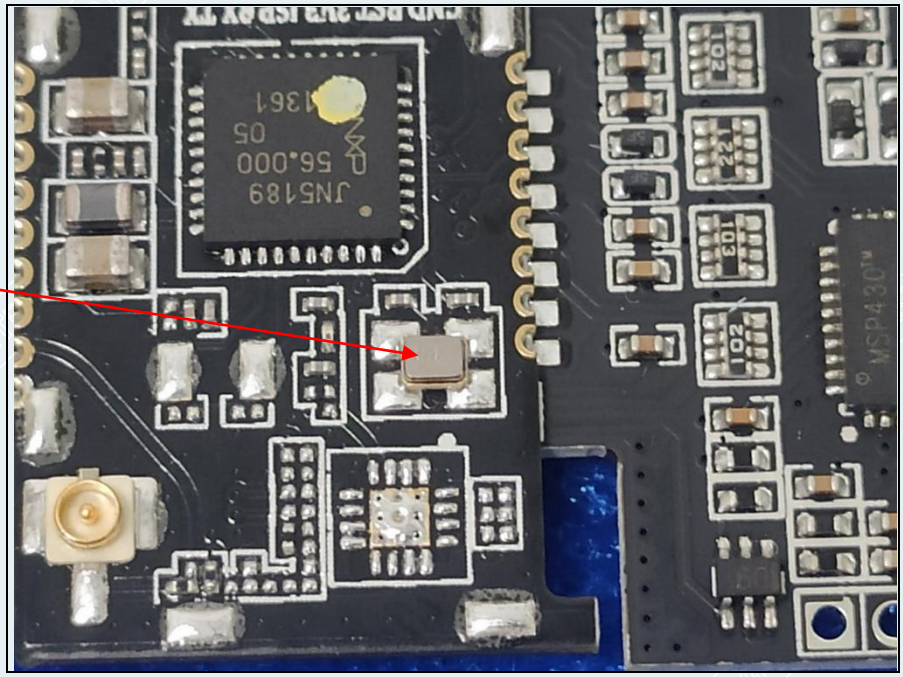
EUT-7


MPSM48
M2639A
RVT

EUT-8



EUT-9



EUT-10

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