

TEST REPORT

Application No.: SHEM1912019865HS
Applicant: Chuzhou Bettyma Baby Carrier Co.,Ltd
Address of Applicant: Shitan Modern Industrial Park, Quanjiao, Chuzhou, Anhui, China
Manufacturer: Chuzhou Bettyma Baby Carrier Co.,Ltd
Address of Manufacturer: Shitan Modern Industrial Park, Quanjiao, Chuzhou, Anhui, China
Factory: Chuzhou Bettyma Baby Carrier Co.,Ltd
Address of Factory: Shitan Modern Industrial Park, Quanjiao, Chuzhou, Anhui, China
Equipment Under Test (EUT):
EUT Name: Battery-Powerde Ride-On Children's Cars/Ride On Vehicle
Model No.: BDM-0923
Standard(s) : EN 55014-1:2017
 EN 61000-3-2:2014
 EN 61000-3-3:2013
 EN 55014-2:2015
Date of Receipt: 2019-12-20
Date of Test: 2019-12-26 to 2019-12-31
Date of Issue: 2020-01-03

Test Result:	Pass*
---------------------	--------------

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

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Parlan Zhan

Parlan Zhan
E&E Section Manager



The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

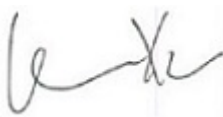

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center EMC Laboratory

NO.588 West Jindu Road, Songjiang District, Shanghai, China 201612
中国·上海·松江区金都西路588号 邮编: 201612

t(86-21) 61915666 f(86-21) 61915678 www.sgsgroup.com.cn
t(86-21) 61915666 f(86-21) 61915678 e.sgs.china@sgs.com



Revision Record			
Version	Description	Date	Remark
00	Original	2020-01-03	/

Authorized for issue by:				
				
		Leo Xu / Project Engineer		
				
		Bruce Tang / Reviewer		

2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	EN 55014-1:2017	CISPR 16-2-1	N/A	Pass
Radiated Emissions (30MHz-1GHz)	EN 55014-1:2017	CISPR 16-2-3	N/A	Pass
Harmonic Current Emission	EN 61000-3-2:2014	EN 61000-3-2:2014	Class A	N/A*
Voltage Fluctuations and Flicker	EN 61000-3-3:2013	EN 61000-3-3:2013	Clause 5 of EN 61000-3-3	Pass

N/A: Not applicable

N/A*: Please refer to Section 6.3 of this report for details.

Immunity Part				
Item	Standard	Method	Requirement	Result
Electrostatic Discharge	EN 55014-2:2015	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass
Radiated Immunity (80MHz-1GHz)	EN 55014-2:2015	EN 61000-4-3:2006 +A1:2008+A2:2010	3V/m, 80%, 1kHz Amp. Mod.	Pass
Electrical Fast Transients/Burst at Power Port	EN 55014-2:2015	EN 61000-4-4:2012	1kV 5/50ns Tr/Td 5kHz Repetition Frequency	Pass
Surge at Power Port	EN 55014-2:2015	EN 61000-4-5:2014 +A1:2017	1.2/50µs Tr/Td 1kV Line to Line 2kV Line to Ground	Pass
Conducted Immunity at Power Port (150kHz-230MHz)	EN 55014-2:2015	EN 61000-4-6:2014	3Vrms (emf), 80%, 1kHz Amp. Mod.	Pass
Voltage Dips and Interruptions	EN 55014-2:2015	EN 61000-4-11:2004 +A1:2017	For 50Hz: 0 % UT for 0.5per 40 % UT for 10per 70 % UT for 25per For 60Hz: 0 % UT for 0.5per 40 % UT for 12per 70 % UT for 30per UT is Supply Voltage	Pass

N/A: Not applicable



3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	5
4.1 DETAILS OF E.U.T.	5
4.2 DESCRIPTION OF SUPPORT UNITS	5
4.3 MEASUREMENT UNCERTAINTY	5
4.4 TEST LOCATION	6
4.5 TEST FACILITY	6
4.6 DEVIATION FROM STANDARDS	6
4.7 ABNORMALITIES FROM STANDARD CONDITIONS	6
4.8 MONITORING OF EUT FOR ALL IMMUNITY TEST	6
5 EQUIPMENT LIST	7
6 EMISSION TEST RESULTS	9
6.1 CONDUCTED EMISSIONS AT MAINS TERMINALS (150kHz-30MHz)	9
6.2 RADIATED EMISSIONS (30MHz-1GHz)	12
6.3 HARMONIC CURRENT EMISSION	17
6.4 VOLTAGE FLUCTUATIONS AND FLICKER	18
7 IMMUNITY TEST RESULTS	19
7.1 PERFORMANCE CRITERIA DESCRIPTION IN EN 55014-2:2015	19
7.2 ELECTROSTATIC DISCHARGE	20
7.3 RADIATED IMMUNITY (80MHz-1GHz)	21
7.4 ELECTRICAL FAST TRANSIENTS/BURST AT POWER PORT	22
7.5 SURGE AT POWER PORT	23
7.6 CONDUCTED IMMUNITY AT POWER PORT (150kHz-230MHz)	24
7.7 VOLTAGE DIPS AND INTERRUPTIONS	25
8 PHOTOGRAPHS	26
8.1 CONDUCTED EMISSIONS AT MAINS TERMINALS (150kHz-30MHz) TEST SETUP	26
8.2 RADIATED EMISSIONS (30MHz-1GHz) TEST SETUP	26
8.3 VOLTAGE FLUCTUATIONS AND FLICKER TEST SETUP	27
8.4 ELECTROSTATIC DISCHARGE TEST SETUP	28
8.5 RADIATED IMMUNITY (80MHz-1GHz) TEST SETUP	29
8.6 ELECTRICAL FAST TRANSIENTS/BURST AT POWER PORT TEST SETUP	30
8.7 SURGE AT POWER PORT TEST SETUP	30
8.8 CONDUCTED IMMUNITY AT POWER PORT (150kHz-230MHz) TEST SETUP	31
8.9 VOLTAGE DIPS AND INTERRUPTIONS TEST SETUP	31
8.10 EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	32

4 General Information

4.1 Details of E.U.T.

Power supply: DC12V4A,48W
Adaptor:LKC-120050-G
Input:100-240V~,50/60Hz,0.26A
Output:DC12V500mA
Test voltage: AC230V50Hz

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conducted Emission at mains port using AMN	±2.6dB (9kHz to 150kHz)
		±2.3dB (150kHz to 30MHz)
2	Conducted Emission at mains port using VP	±1.9 dB (9kHz to 30MHz)
3	Conducted Emission at telecommunication port using AAN	±4.1 dB (150kHz to 30MHz)
4	Radiated Power	±3.0dB
5	Radiated emission	±4.4dB (30MHz-1GHz)
		±4.8dB (1GHz-6GHz)
		±5.2dB (6GHz-18GHz)

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (LAB CODE: 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

- **FCC (Designation Number: CN5033)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory. Test Firm Registration Number: 479755.

- **ISED (CAB identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. ISED#: 8617A.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 Monitoring of EUT for All Immunity Test

Visual: weoking status

5 Equipment List

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI test receiver	Rohde & Schwarz	ESR7	SHEM162-1	2019-12-20	2020-12-19
Line impedance stabilization network	SCHWARZBECK	NSLK8127	SHEM061-1	2019-12-20	2020-12-19
Line impedance stabilization network	EMCO	3816/2	SHEM019-1	2019-12-20	2020-12-19
Pulse limiter	Rohde & Schwarz	ESH3-Z2	SHEM029-1	2019-12-20	2020-12-19
Shielding Room	ZHONGYU	8*4*3M	SHEM079-2	2017-12-20	2020-12-19
CE test Cable	/	/	CE01	2019-12-26	2020-12-25

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI test receiver	Rohde & Schwarz	ESU40	SHEM051-1	2019-12-20	2020-12-19
CONTROLLER	INNCO	CO200	SHEM047-1	N/A	N/A
ANTENNA MAST	INNCO	MA400-EP	SHEM047-2	N/A	N/A
TURN DEVICE	INNCO	DE 3600-RH	SHEM047-3	N/A	N/A
Broadband UHF-VHF ANTENNA	SCHWARZBECK	VULB9168	SHEM048-1	2019-10-14	2021-10-13
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2017-07-22	2020-07-21
Low Amplifier	CLAVIO	BDLNA-0001-412010	SHEM164-1	2019-08-13	2020-08-12

Voltage Fluctuations and Flicker					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Harmonic&Flicker analyzer	AMETEK	PACS-1	SHEM024-2	2019-08-13	2020-08-12
AC Power Source 5KVA	AMETEK	5001iX	SHEM025-2	2019-08-13	2020-08-12

Electrostatic Discharge					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Electrostatic Discharge Simulator	TESEQ	NSG 437	SHEM041-2	2019-08-13	2020-08-12

Radiated Immunity (80MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Signal generator	Rohde & Schwarz	SMJ100A	SHEM141-1	2019-08-13	2020-08-12
Power Meter	Rohde & Schwarz	NRP	SHEM057-1	2019-12-20	2020-12-19
Power meter sensor	Rohde & Schwarz	NRP-Z91	SHEM057-2	2019-12-20	2020-12-19
Antenna	SCHWARZBECK	STLP9128D	SHEM130-1	N/A	N/A
Amplifier	MILMEGA	AS0840-55-55	SHEM133-1	2019-12-20	2020-12-19
Power meter sensor	Rohde & Schwarz	NRP-Z22	SHEM136-1	2019-12-20	2020-12-19
ElectroMagnetic Field Probe	ETS-Lindgren	HI-6105	SHEM134-1	2019-08-13	2020-08-12
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2017-07-22	2020-07-21



Electrical Fast Transients/Burst at Power Port					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2019-12-20	2020-12-19

Surge at Power Port					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2019-12-20	2020-12-19

Conducted Immunity at Power Port (150kHz-230MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Signal generator	Rohde & Schwarz	SMJ100A	SHEM141-1	2019-08-13	2020-08-12
PAMP Conducted RF test system	HAEFFLY	PAMP250	SHEM023-1	2019-12-20	2020-12-19
6dB Attenuator	HUAXIANG	DTS50-6dB-1G-A	SHEM123-2	2019-12-20	2020-12-19
CDN impedance and K-factor	LUTHI	L-801 M1	SHEM023-5	2019-12-20	2020-12-19
CDN impedance and K-factor	LUTHI	L-801 M2/M3	SHEM023-6	2019-12-20	2020-12-19
Shielding Room	ZHONGYU	5*5*3M	SHEM079-6	2019-12-20	2022-12-19
Coupling and Decoupling Network	Teseq	CDN M016	SHEM168-1	2019-08-13	2020-08-12

Voltage Dips and Interruptions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2019-12-20	2020-12-19

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Digital pressure meter	YONGZHI	DYM3-01	SHEM082-1	2018-01-25	2021-01-24
Temperature&humidity recorder	ShangHai weather meter work	ZJ 1-2B	SHEM042-1~6	2019-09-16	2020-09-15
Digital Multimeter	FLUKE	17B	SHEM043-3	2019-09-02	2020-09-01
Autoformer regulator	Guangzhou bao de	TDGC2-5KVA	SHEM150-1	N/A	N/A
Multi-purpose tong tester	FLUKE	316	SHEM001-1	2019-12-20	2020-12-19

6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement:	EN 55014-1:2017
Test Method:	CISPR 16-2-1
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 59dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

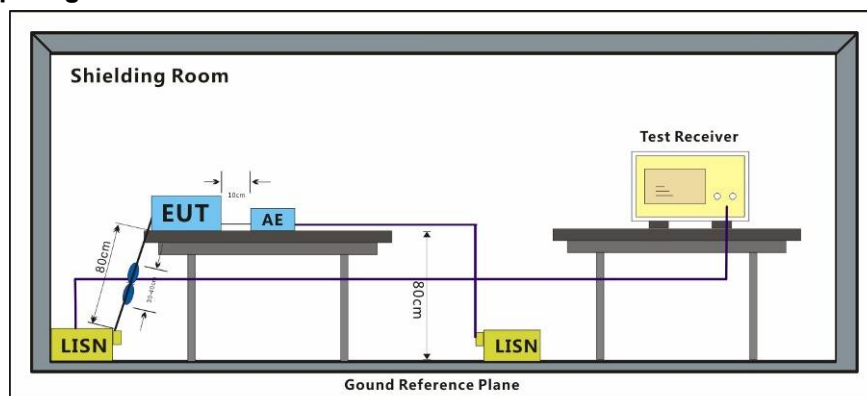
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode a: Charging mode: keep EUT charging with adaptor,

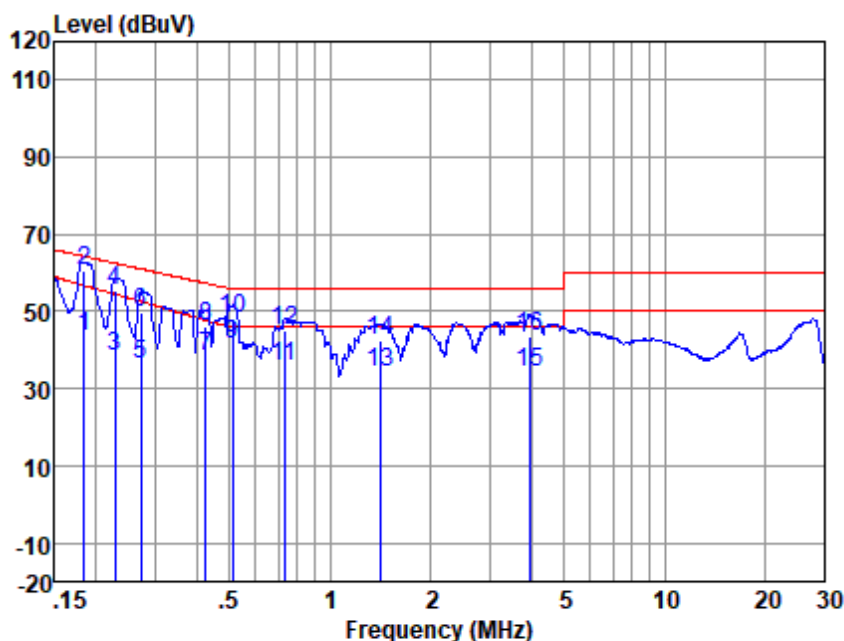
6.1.2 Test Setup Diagram



6.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Mode:a; Line:Live Line

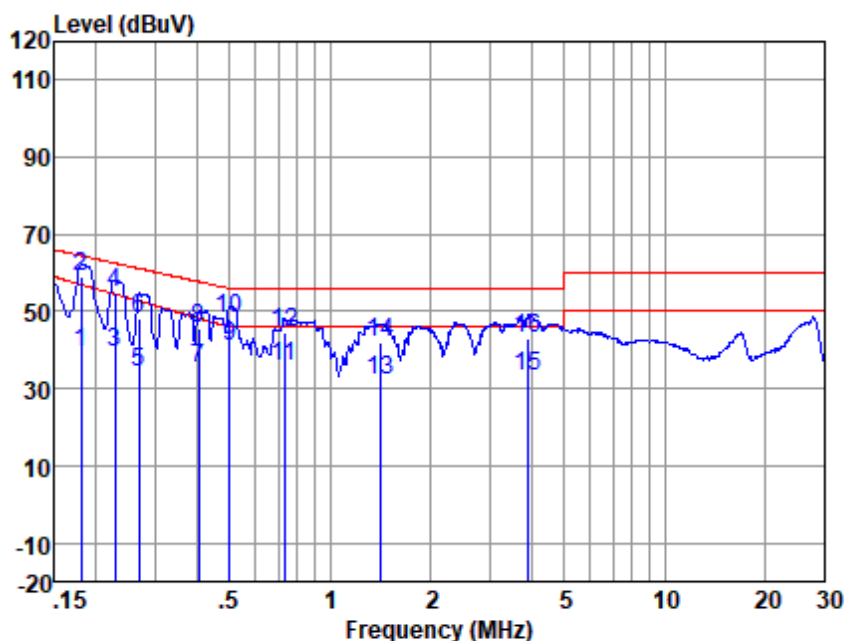


LISN : LINE
EUT/Project No : 19865HS
Test Mode : a

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.18	33.38	0.07	10.00	43.45	56.83	-13.38	Average
2	0.18	50.49	0.07	10.00	60.56	64.33	-3.77	QP
3	0.23	28.23	0.07	10.00	38.30	54.54	-16.24	Average
4	0.23	45.31	0.07	10.00	55.38	62.57	-7.19	QP
5	0.27	26.19	0.07	10.00	36.26	52.59	-16.33	Average
6	0.27	39.93	0.07	10.00	50.00	61.07	-11.07	QP
7	0.42	28.35	0.08	10.00	38.43	47.79	-9.36	Average
8	0.42	36.27	0.08	10.00	46.35	57.37	-11.02	QP
9	0.51	31.34	0.08	10.00	41.42	46.00	-4.58	Average
10	0.51	38.27	0.08	10.00	48.35	56.00	-7.65	QP
11	0.73	25.49	0.09	10.00	35.58	46.00	-10.42	Average
12	0.73	34.79	0.09	10.00	44.88	56.00	-11.12	QP
13	1.41	24.19	0.11	10.10	34.40	46.00	-11.60	Average
14	1.41	32.19	0.11	10.10	42.40	56.00	-13.60	QP
15	3.94	23.70	0.13	10.30	34.13	46.00	-11.87	Average
16	3.94	33.25	0.13	10.30	43.68	56.00	-12.32	QP

Notes: Emission Level = Read Level +LISN Factor + Cable loss

Mode:a; Line:Neutral Line



LISN : NEUTRAL

EUT/Project No : 19865HS

Test Mode : a

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.18	29.28	0.06	10.00	39.34	57.05	-17.71	Average
2	0.18	48.72	0.06	10.00	58.78	64.50	-5.72	QP
3	0.23	29.35	0.06	10.00	39.41	54.54	-15.13	Average
4	0.23	44.75	0.06	10.00	54.81	62.57	-7.76	QP
5	0.27	24.30	0.06	10.00	34.36	52.71	-18.35	Average
6	0.27	38.34	0.06	10.00	48.40	61.16	-12.76	QP
7	0.40	25.04	0.06	10.00	35.10	48.30	-13.20	Average
8	0.40	35.40	0.06	10.00	45.46	57.77	-12.31	QP
9	0.50	31.07	0.06	10.00	41.13	46.00	-4.87	Average
10	0.50	38.29	0.06	10.00	48.35	56.00	-7.65	QP
11	0.73	25.68	0.07	10.00	35.75	46.00	-10.25	Average
12	0.73	34.44	0.07	10.00	44.51	56.00	-11.49	QP
13	1.42	22.21	0.09	10.10	32.40	46.00	-13.60	Average
14	1.42	31.81	0.09	10.10	42.00	56.00	-14.00	QP
15	3.92	22.62	0.13	10.30	33.05	46.00	-12.95	Average
16	3.92	32.80	0.13	10.30	43.23	56.00	-12.77	QP

Notes: Emission Level = Read Level + LISN Factor + Cable loss

6.2 Radiated Emissions (30MHz-1GHz)

Test Requirement: EN 55014-1:2017

Test Method: CISPR 16-2-3

Frequency Range: 30MHz to 1GHz

Measurement Distance: 3m

Limit:

30MHz-230MHz 40 dB(μ V/m) quasi-peak

230MHz-1GHz 47 dB(μ V/m) quasi-peak

Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

6.2.1 E.U.T. Operation

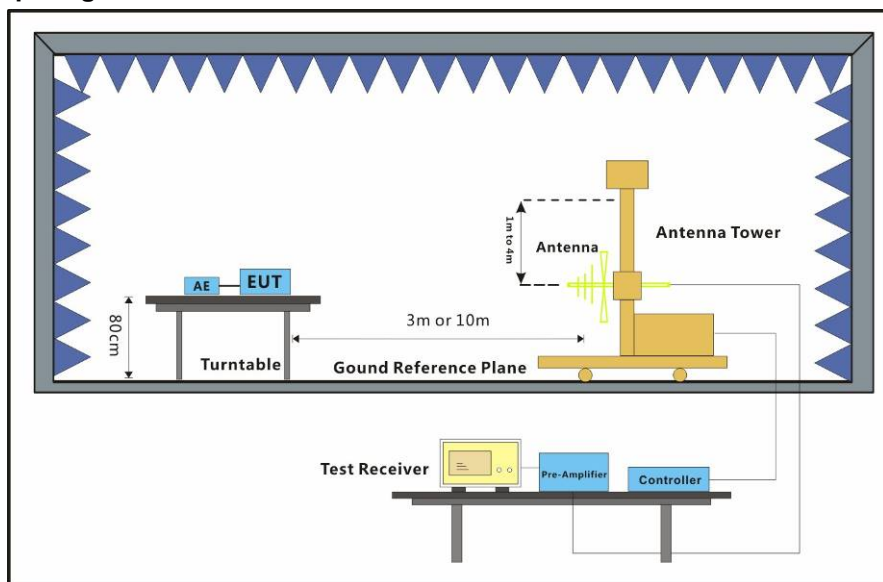
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Charging mode: keep EUT charging with adaptor,

b: Running mode: keep EUT running.

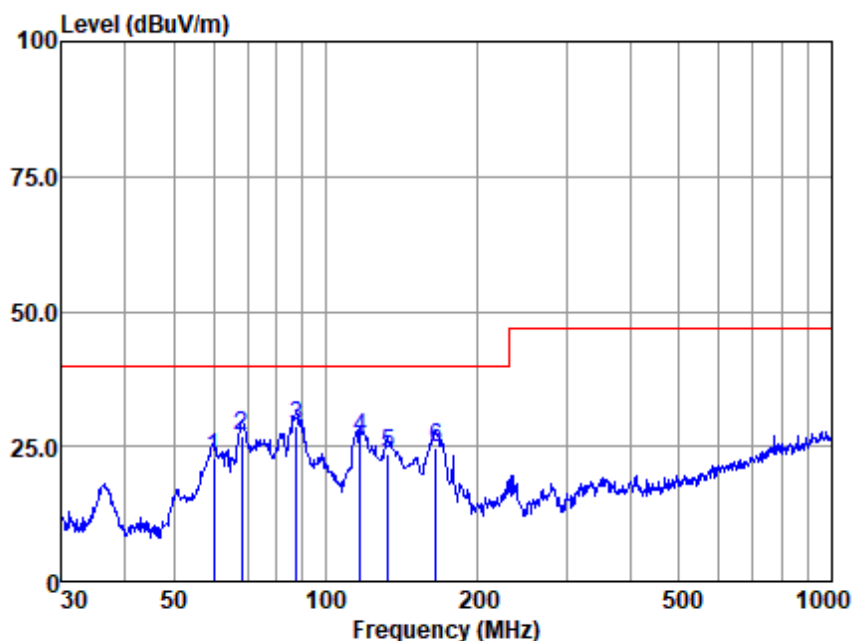
6.2.2 Test Setup Diagram



6.2.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

Mode:a; Polarization:Horizontal



Antenna Polarity :HORIZONTAL

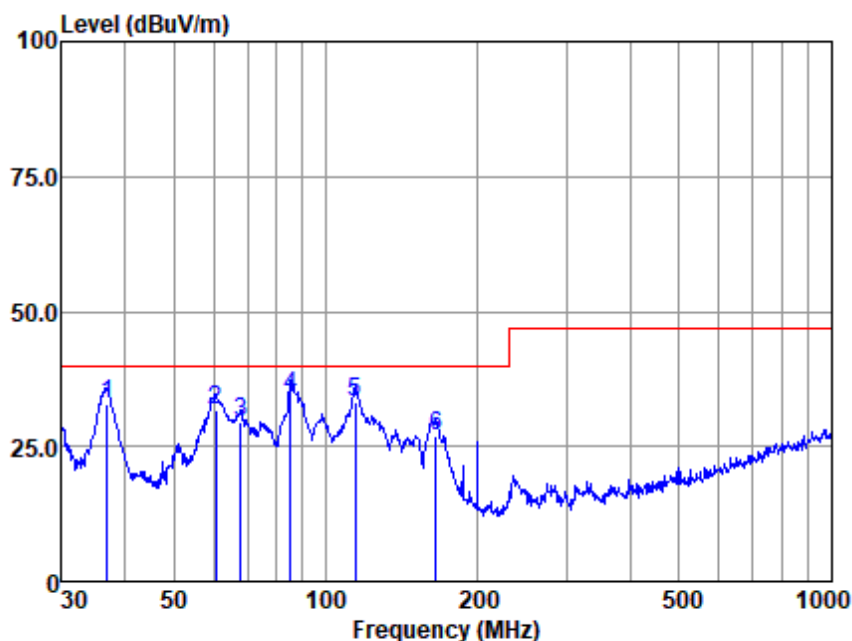
EUT/Project :19865HS

Test mode :a

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	60.069	51.40	13.10	0.59	42.33	22.76	40.00	-17.24	QP
2	68.151	56.63	11.95	0.64	42.27	26.95	40.00	-13.05	QP
3	87.418	62.01	8.06	0.94	42.28	28.73	40.00	-11.27	QP
4	116.950	56.90	10.74	1.28	42.29	26.63	40.00	-13.37	QP
5	132.685	52.44	12.00	1.41	42.26	23.59	40.00	-16.41	QP
6	165.487	52.55	12.98	1.49	42.21	24.81	40.00	-15.19	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Mode:a; Polarization:Vertical



Antenna Polarity :VERTICAL

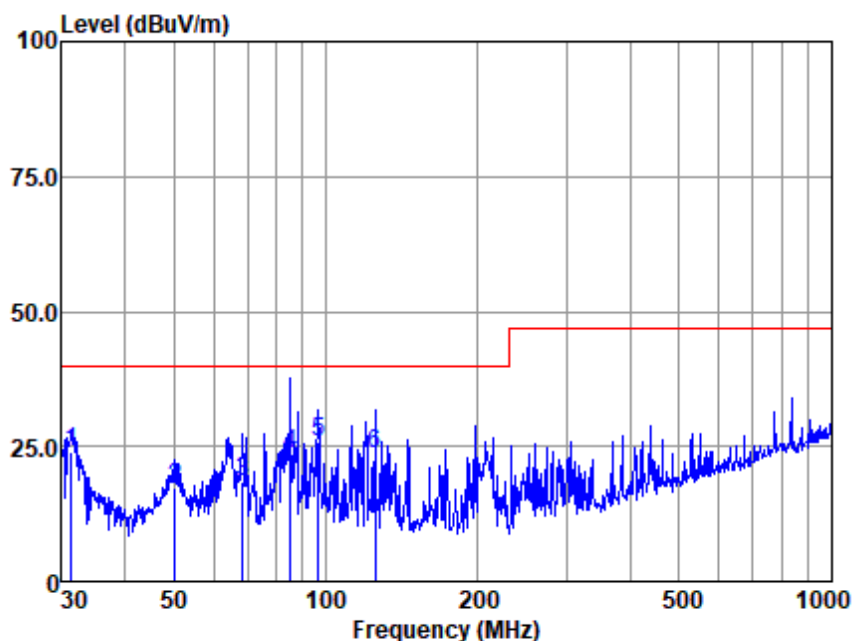
EUT/Project :19865HS

Test mode :a

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	36.895	62.02	12.72	0.35	42.34	32.75	40.00	-7.25	QP
2	60.492	60.38	13.04	0.59	42.32	31.69	40.00	-8.31	QP
3	67.913	59.31	11.99	0.63	42.27	29.66	40.00	-10.34	QP
4	85.298	67.22	8.38	0.89	42.28	34.21	40.00	-5.79	QP
5	114.114	63.72	10.48	1.24	42.29	33.15	40.00	-6.85	QP
6	164.908	54.58	13.00	1.49	42.21	26.86	40.00	-13.14	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Mode:b; Polarization:Horizontal



Antenna Polarity :HORIZONTAL

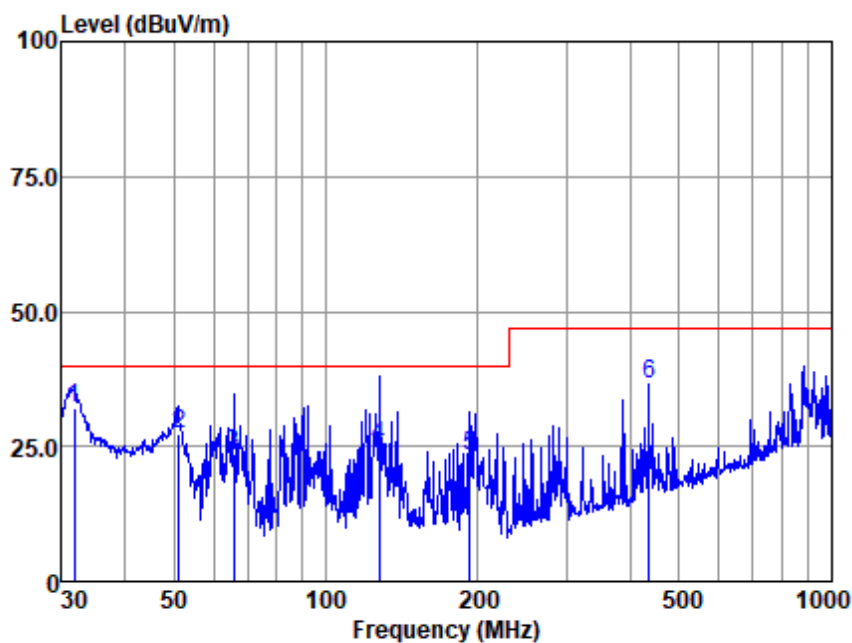
EUT/Project :19865HS

Test mode :b

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	31.289	53.88	12.25	0.28	42.37	24.04	40.00	-15.96	QP
2	50.232	45.58	13.69	0.48	42.33	17.42	40.00	-22.58	QP
3	68.391	48.05	11.92	0.64	42.27	18.34	40.00	-21.66	QP
4	84.999	56.53	8.43	0.89	42.28	23.57	40.00	-16.43	QP
5	96.775	58.50	8.40	1.09	42.31	25.68	40.00	-14.32	QP
6	125.007	53.05	11.42	1.37	42.27	23.57	40.00	-16.43	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Mode:b; Polarization:Vertical



Antenna Polarity :VERTICAL

EUT/Project :19865HS

Test mode :b

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	31.731	61.61	12.27	0.45	42.37	31.96	40.00	-8.04	QP
2	51.121	55.65	13.63	0.49	42.33	27.44	40.00	-12.56	QP
3	65.573	52.97	12.30	0.62	42.29	23.60	40.00	-16.40	QP
4	127.665	54.24	11.63	1.41	42.27	25.01	40.00	-14.99	QP
5	192.419	53.44	10.34	1.71	42.19	23.30	40.00	-16.70	QP
6	435.590	58.46	16.56	3.16	41.81	36.37	47.00	-10.63	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

6.3 Harmonic Current Emission

Test Requirement: EN 61000-3-2:2014

Test Method: EN 61000-3-2:2014

Frequency Range: 100Hz to 2kHz

There is no need for Harmonics test to be performed on this product (rated power is less than 75W) in accordance with EN 61000-3-2:2014.

For further details, please refer to Clause 7 of EN 61000-3-2 which states:

"For the following categories of equipment, limits are not specified in this standard.- equipment with a rated power of 75W or less, other than lighting equipment."

6.4 Voltage Fluctuations and Flicker

Test Requirement: EN 61000-3-3:2013

Test Method: EN 61000-3-3:2013

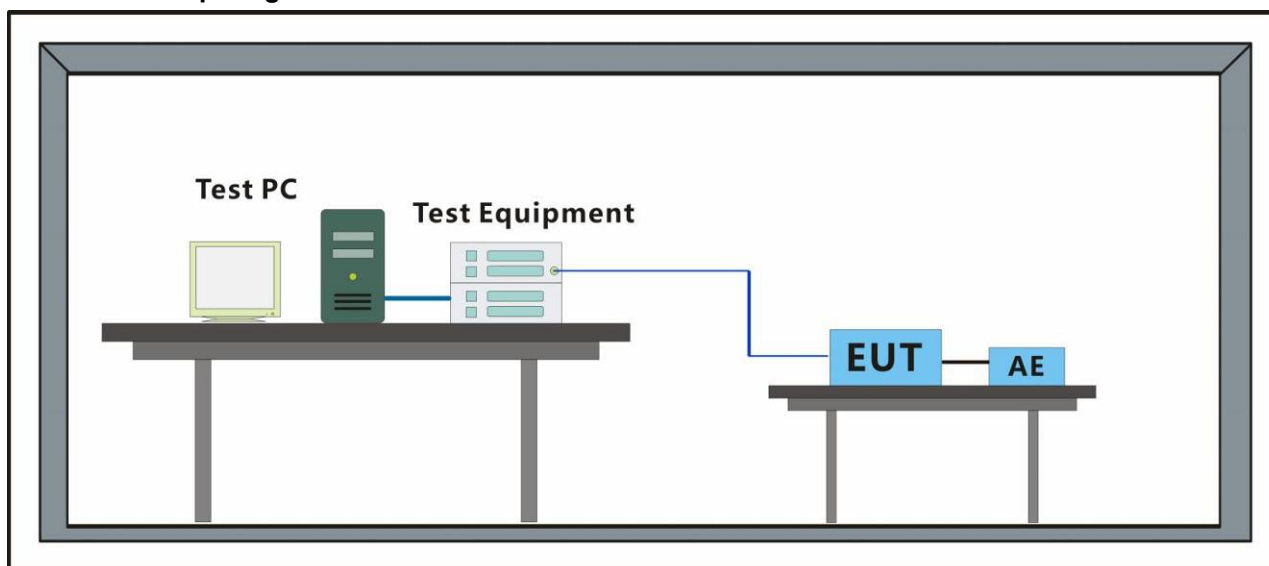
6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode a: Charging mode: keep EUT charging with adaptor,

6.4.2 Test Setup Diagram



6.4.3 Measurement Data

Mode:a

Parameter values recorded during the test:

Vrms at the end of test (Volt): 229.96

T-max (mS): 0

Highest dc (%): 0.56

Highest dmax (%): 0.35

Highest Pst (10 min. period): 0.026

Highest Plt (2 hr. period): 0.022

Test limit (mS): 500.0 Pass

Test limit (%): 3.30 Pass

Test limit (%): 4.00 Pass

Test limit: 1.000 Pass

Test limit: 0.650 Pass

7 Immunity Test Results

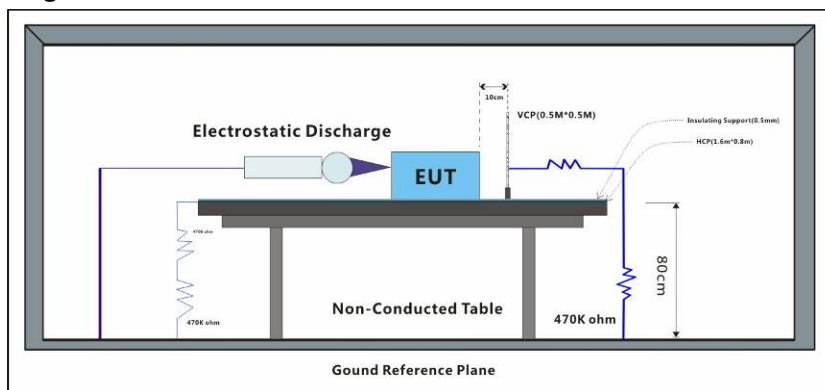
7.1 Performance Criteria Description in EN 55014-2:2015

Criterion 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.
Criterion 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. 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.
Criterion C	Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

7.2 Electrostatic Discharge

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-2:2009
 Performance Criterion: B
 Discharge Impedance: 330Ω/150pF
 Number of Discharge: Minimum 10 times at each test point
 Discharge Mode: Single Discharge
 Discharge Period: 1 second minimum

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Charging mode: keep EUT charging with adaptor,
 b: Running mode: keep EUT running.

7.2.3 Test Results:

Observations: Test Point:

1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side

Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	8	+	1	B
Air Discharge	8	-	1	B
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

Results:

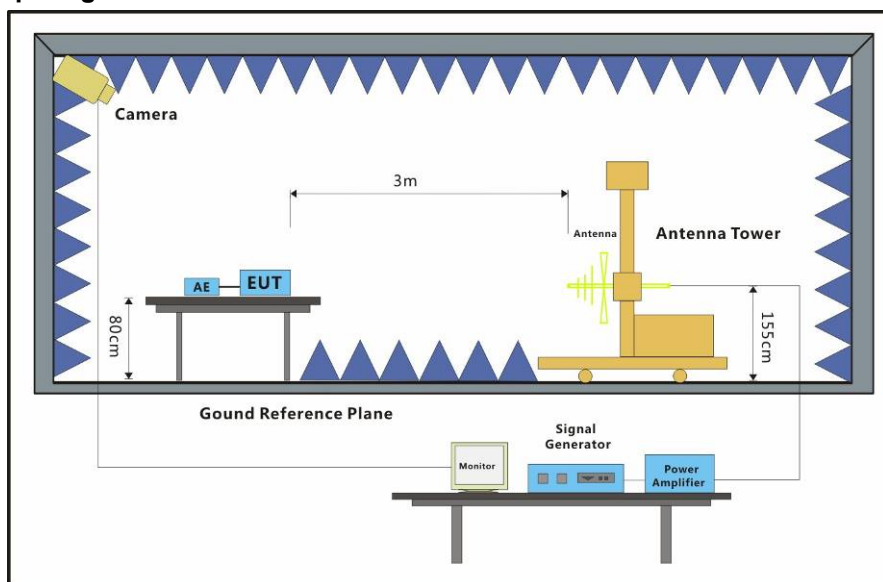
A: No degradation in the performance of the EUT was observed.

B: Discharging the AUX port, the audio device of EUT restarted.

7.3 Radiated Immunity (80MHz-1GHz)

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-3:2006 +A1:2008+A2:2010
 Performance Criterion: A
 Frequency Range: 80MHz to 1GHz
 Antenna Polarisation: Vertical and Horizontal
 Modulation: 1kHz, 80% Amp. Mod, 1% increment

7.3.1 Test Setup Diagram



7.3.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Charging mode: keep EUT charging with adaptor,
 b: Running mode: keep EUT running.

7.3.3 Test Results:

Frequency	Level (V/m)	EUT Face	Dwell time	Result / Observations
80MHz-1GHz	3	Front	3s	A
80MHz-1GHz	3	Back	3s	A
80MHz-1GHz	3	Left	3s	A
80MHz-1GHz	3	Right	3s	A
80MHz-1GHz	3	Top	3s	A
80MHz-1GHz	3	Underside	3s	A

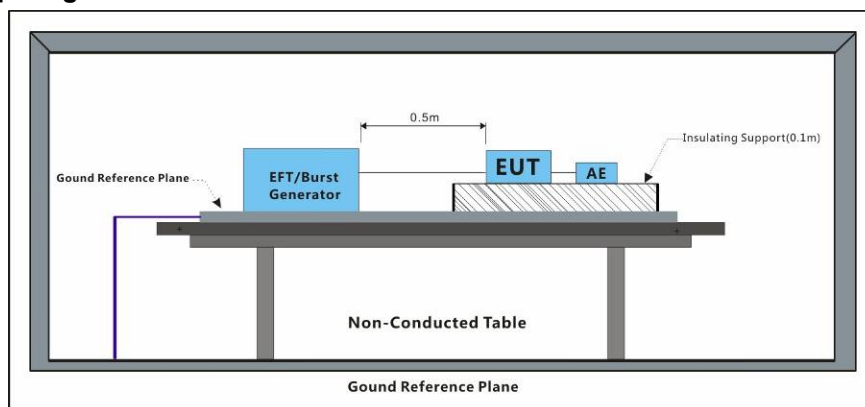
Results:

A: No degradation in the performance of the EUT was observed.

7.4 Electrical Fast Transients/Burst at Power Port

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-4:2012
 Performance Criterion: B
 Repetition Frequency: 5kHz
 Burst Period: 300ms
 Test Duration: 2 minute per level & polarity

7.4.1 Test Setup Diagram



7.4.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Charging mode: keep EUT charging with adaptor,

7.4.3 Test Results:

Test Line	Level (kV)	Polarity	CDN/Clamp	Result / Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

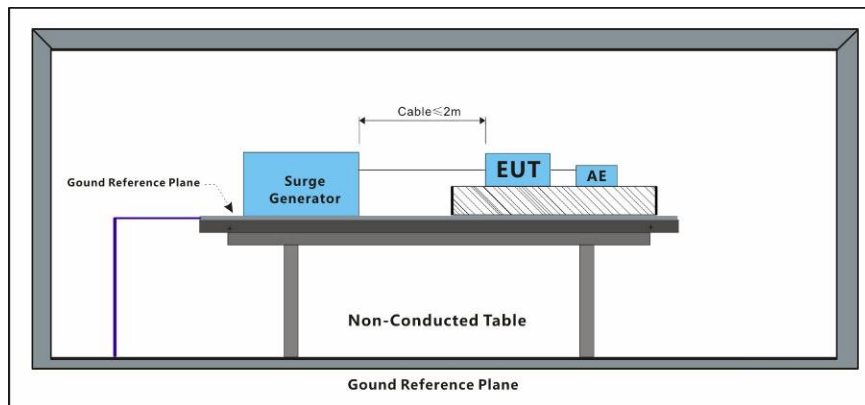
Results:

A: No degradation in the performance of the EUT was observed.

7.5 Surge at Power Port

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-5:2014 +A1:2017
 Performance Criterion: B
 Interval: 60s between each surge
 No. of surges: 5 positive at 90°, 5 negative at 270°.

7.5.1 Test Setup Diagram



7.5.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar
 Test mode: a: Charging mode: keep EUT charging with adaptor,

7.5.3 Test Results:

Test Line	Level (kV)	Polarity	Phase (deg)	Result / Observations
L-N	1	+	90°	A
L-N	1	-	270°	A

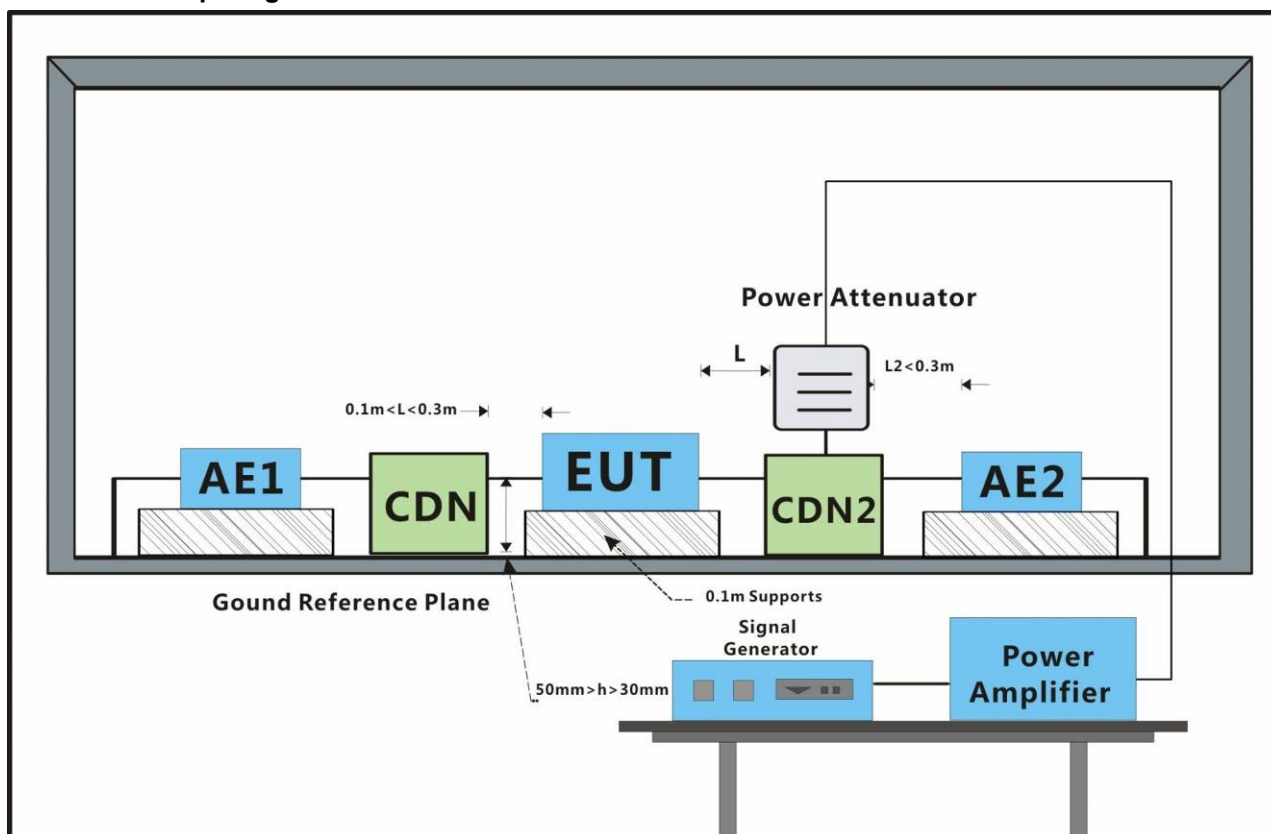
Results:

A: No degradation in the performance of the EUT was observed.

7.6 Conducted Immunity at Power Port (150kHz-230MHz)

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-6:2014
 Performance Criterion: A
 Frequency Range: 0.15MHz to 230MHz
 Modulation: 80%, 1kHz Amplitude Modulation
 Step Size: 1%

7.6.1 Test Setup Diagram



7.6.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Charging mode: keep EUT charging with adaptor,

7.6.3 Test Results:

Cable port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
AC power port	3	CDN	2s	A

Results:

A: No degradation in the performance of the EUT was observed.

7.7 Voltage Dips and Interruptions

Test Requirement: EN 55014-2:2015

Test Method: EN 61000-4-11:2004 +A1:2017

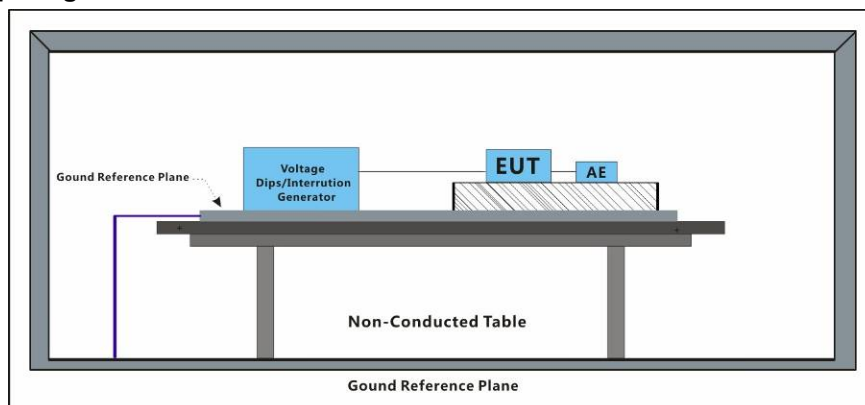
Performance Criterion: For 50Hz:
0% of UT (Rated Voltage) for 0.5 Cycle: C;
40% of UT for 10 Cycle: C;
70% of UT for 25 Cycle: C

For 60Hz:
0% of UT (Rated Voltage) for 0.5 Cycle: C;
40% of UT for 12 Cycle: C;
70% of UT for 30 Cycle: C

No. of Dips / Interruptions: 3 per Level

Time between dropout 10s

7.7.1 Test Setup Diagram



7.7.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a: Charging mode: keep EUT charging with adaptor,

7.7.3 Test Results:

Level % UT	Phase (deg)	Duration	No. of Dips / Interruptions	Result / Observations
0	0°	0.5 Cycles	3	A
0	180°	0.5 Cycles	3	A
40	0°	10 Cycles	3	A
40	180°	10 Cycles	3	A
70	0°	25 Cycles	3	A
70	180°	25 Cycles	3	A

Results:

A: No degradation in the performance of the EUT was observed.

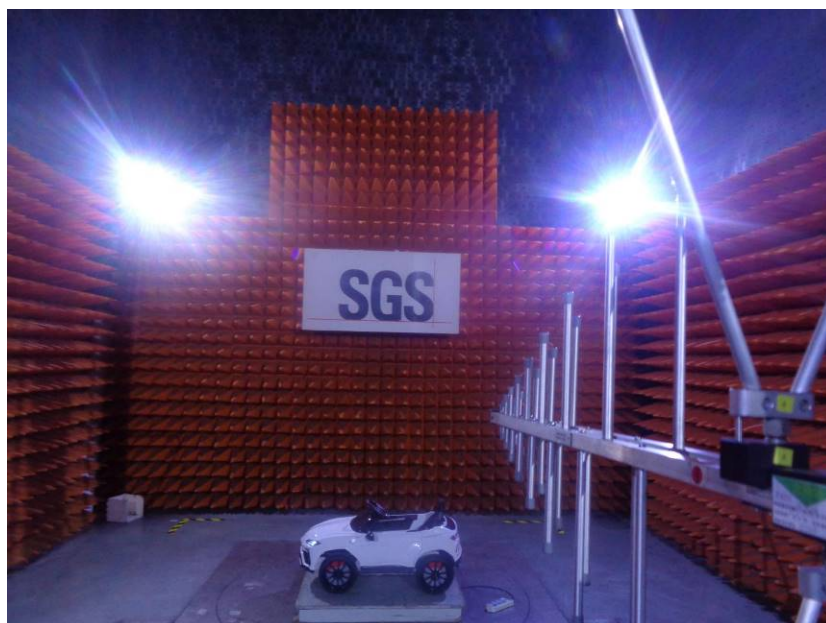
8 Photographs

8.1 Conducted Emissions at Mains Terminals (150kHz-30MHz) Test Setup



8.2 Radiated Emissions (30MHz-1GHz) Test Setup





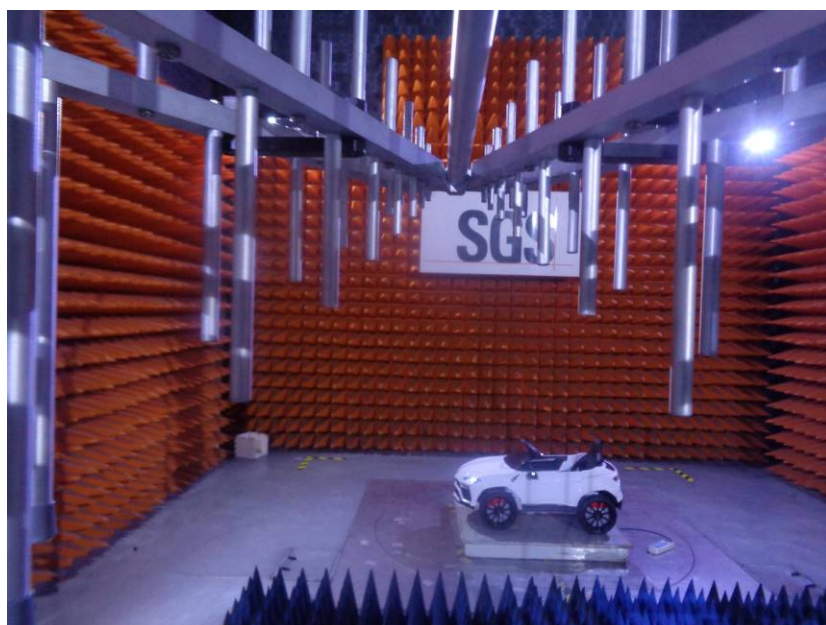
8.3 Voltage Fluctuations and Flicker Test Setup



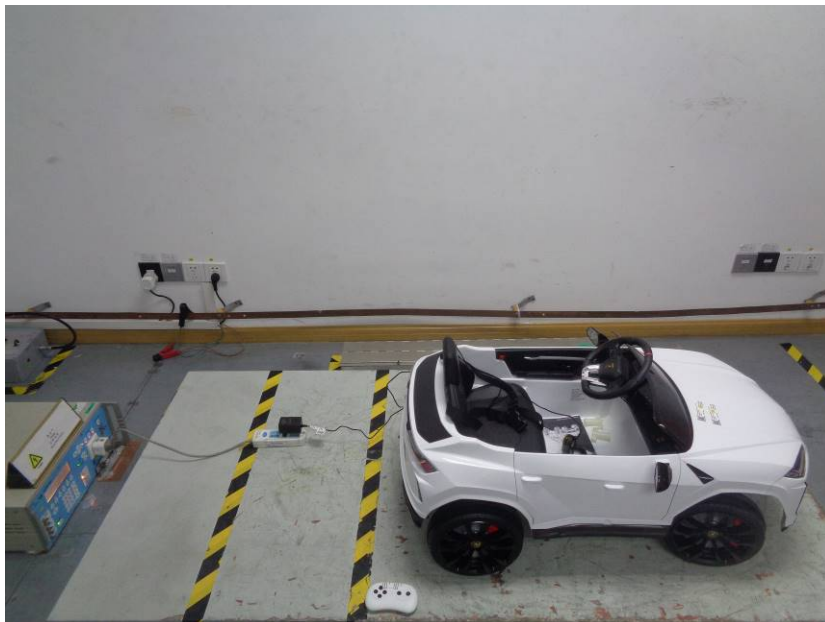
8.4 Electrostatic Discharge Test Setup



8.5 Radiated Immunity (80MHz-1GHz) Test Setup



8.6 Electrical Fast Transients/Burst at Power Port Test Setup



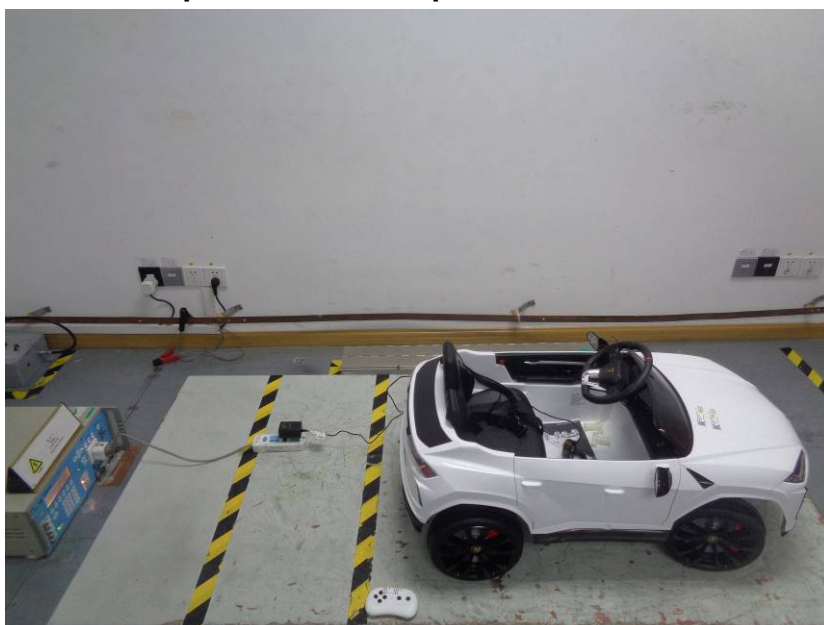
8.7 Surge at Power Port Test Setup



8.8 Conducted Immunity at Power Port (150kHz-230MHz) Test Setup

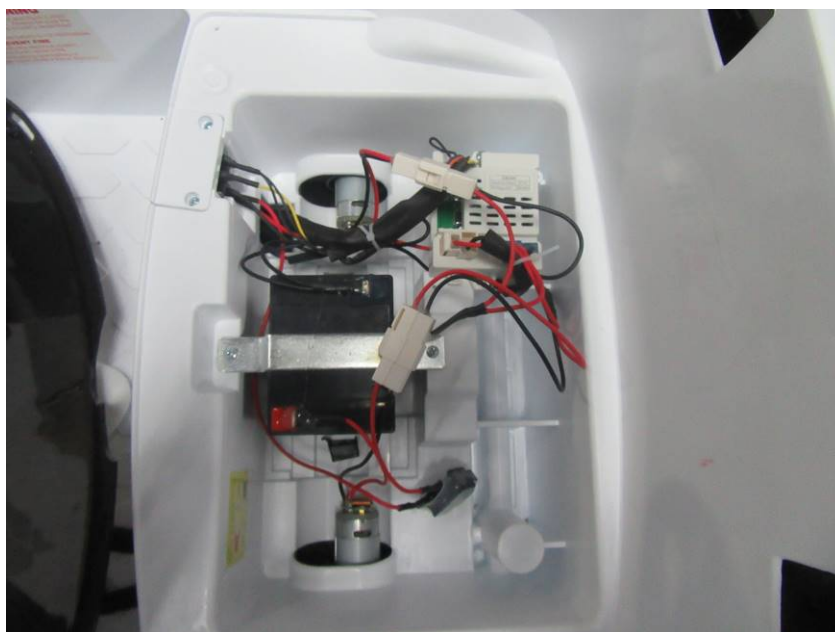


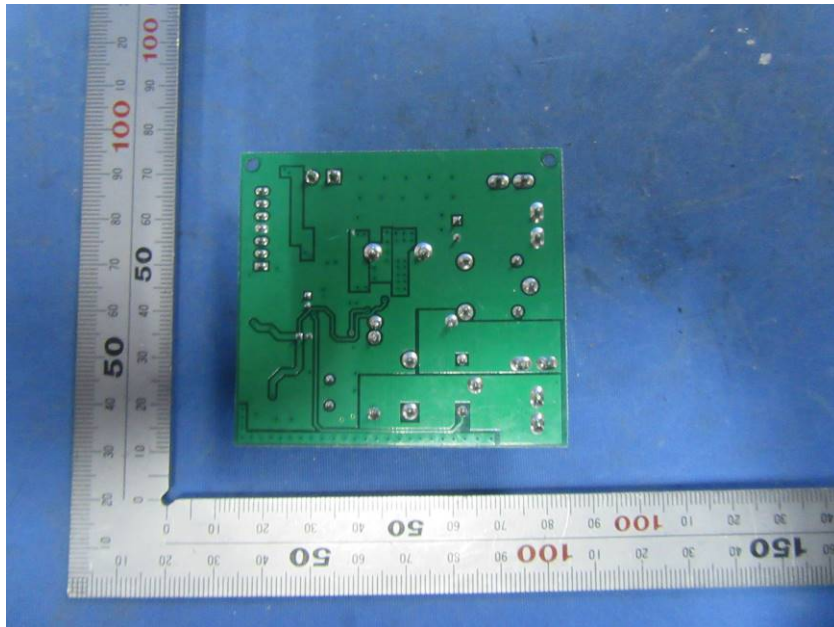
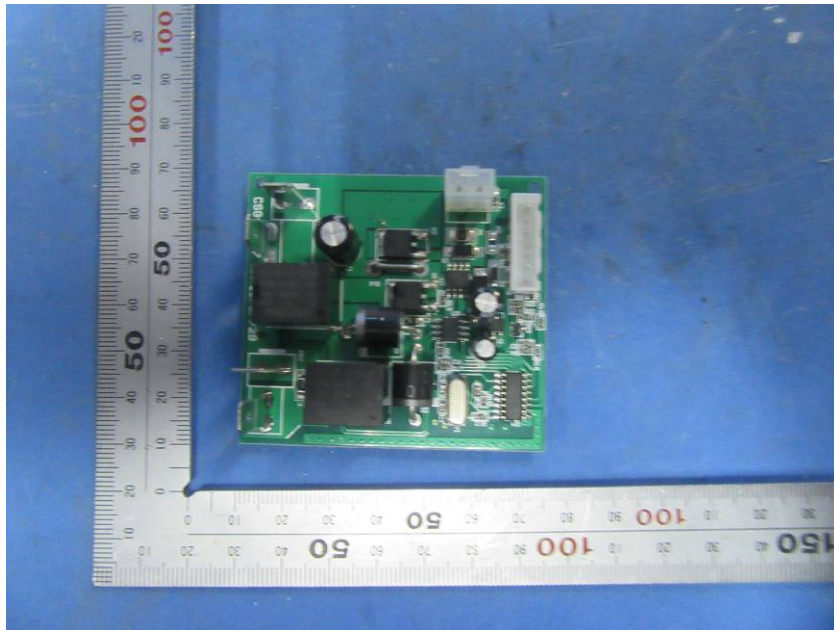
8.9 Voltage Dips and Interruptions Test Setup

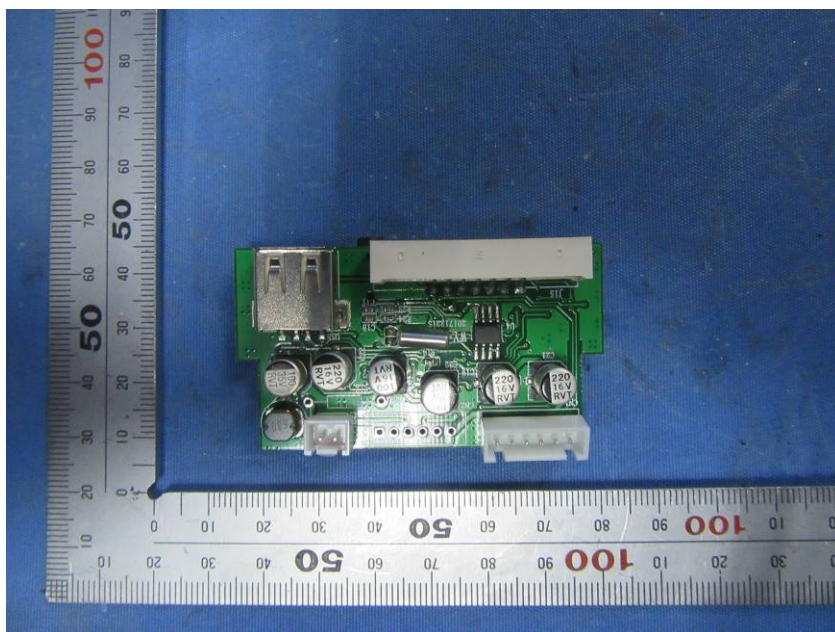


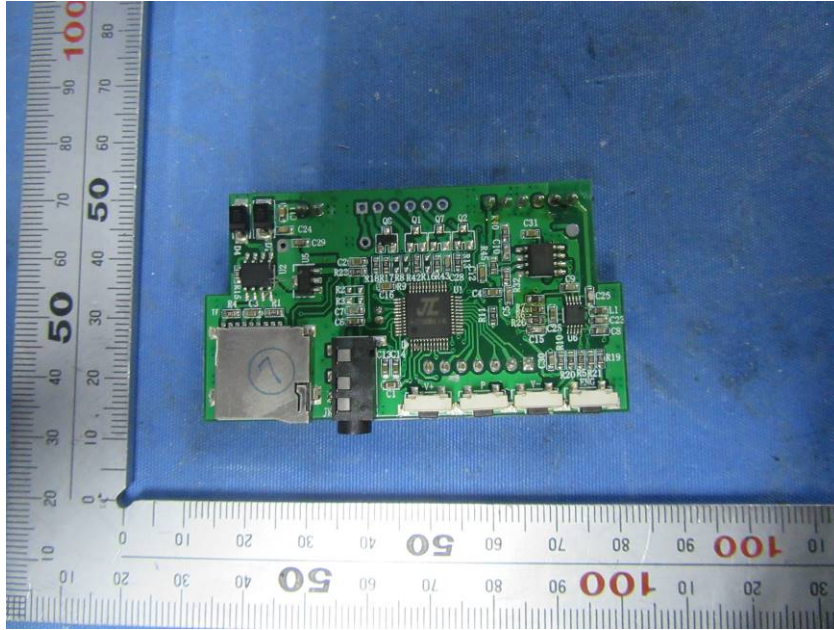
8.10 EUT Constructional Details (EUT Photos)

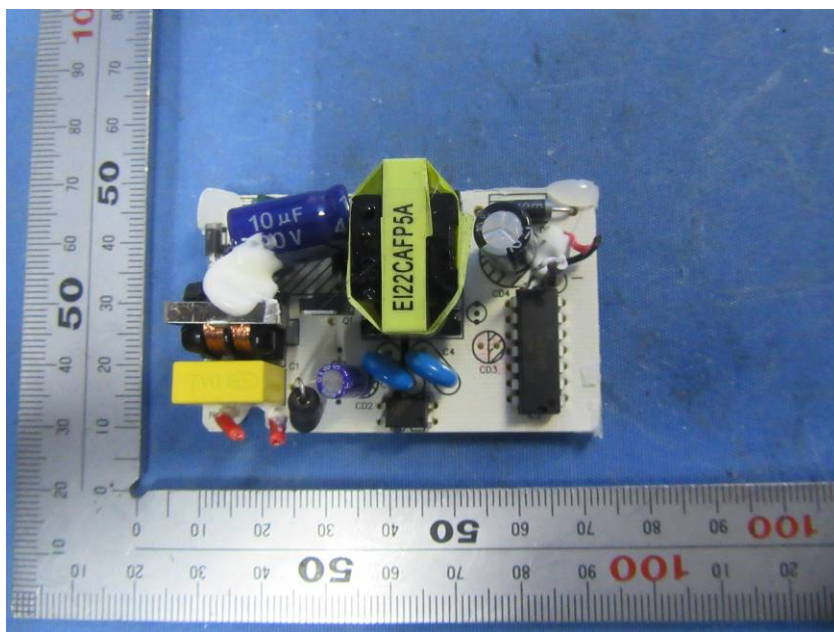


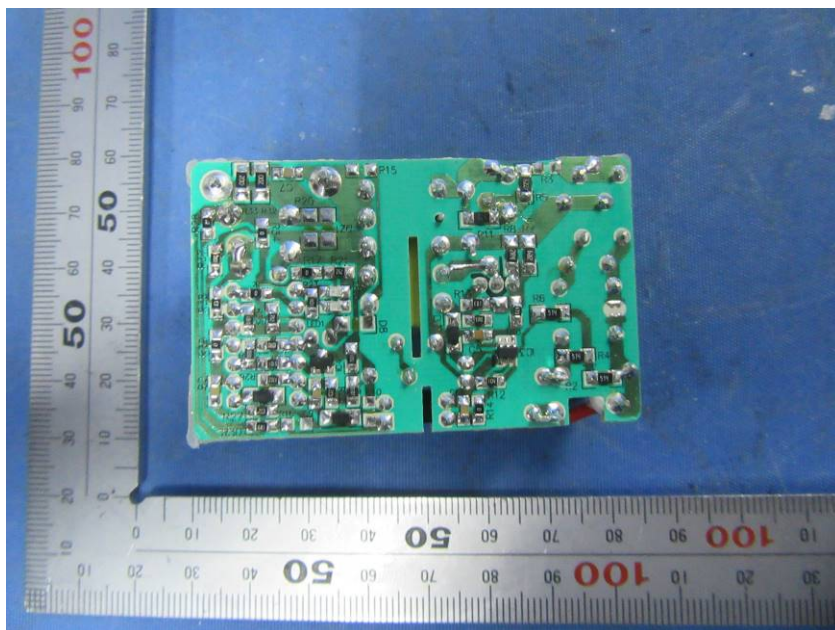












- End of the Report -