

Test Report

Applicant: CNEX AIE SL

Product Name: massager

Brand Name: N/A

Model No.: 30015, 10993, 11029, 11013, 11031, 11003, 11043, 11073, 11083, 11051, 11061, 40681, 11091, 20545, 30229, 20439, 30539, 30703, 30709, 19033, 19024, 19032, 19023, 19035, 19031, 19030, 19034

Date of Receipt : Sep.19, 2016

Date of Test: Sep.19-22, 2016

Date of Report: Sep.23 2016

Prepared by: Most Technology Service Co., Limited


The EMC testing has been performed on the submitted samples and found in compliance with the council EMC directive 2014/30/EU.

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TEST REPORT DECLARATION

Report Number	MTE/CEC/S16092068	
Applicant	CNEX AIE SL	
	C/ Mendez Nuñez,4908302 Mataró - Barcelona - Spain	
Manufacturer	CNEX AIE SL	
	C/ Mendez Nuñez,4908302 Mataró - Barcelona - Spain	
Product	Product Name	massager
	Model No.	30015
	Power Supply	DC 1.5V by Battery
Test Result	The EUT was found compliant with the requirement(s) of the standards.	
Standard	EN 55014-1:2006+A1:2009+A2:2011, EN 55014-2:2015 (IEC 61000-4-2:2008)	
<p>*Note</p> <p>The above device has been tested by Most Technology Service Co., Limited To determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test record, data evaluation & Equipment Under Test (EUT) configurations represented are contained in this test report and Most Technology Service Co., Limited Is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the requirement of the above standards.</p> <p>This report applies to above tested sample only. This report shall not be reproduced except in full, without written approval of Most Technology Service Co., Limited, this document may be altered or revised by Most Technology Service Co., Limited, personal only, and shall be noted in the revision of the document.</p>		
Prepared by	<i>chloe</i>	
	Chloe Cai	
Reviewed by	<i>John</i>	
	John Lin	
Approved by	<i>Yvette Zhou</i>	
	Yvette Zhou(Manager)	

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	massager
Model Number	:	30015, 10993, 11029, 11013,11031, 11003, 11043, 11073, 11083, 11051, 11061, 40681, 11091, 20545, 30229, 20439, 30539, 30703, 30709,19033, 19024, 19032, 19023, 19035, 19031, 19030, 19034
Remark	:	Used 30015 does all tests

1.2. Operational Mode(s) of EUT

Order Number	:	Test Mode(s)
1	:	Running

1.3. Test Voltage(s) of EUT

Order Number	:	Test Voltage(s)
1	:	DC1.5V by Battery

2. DESCRIPTION OF TEST STANDARD

The intention of this publication is to establish uniform requirements for the radio disturbance level of the equipment contained in the scope, to fix limits of disturbance, to describe methods of measurement and to standardize operating conditions and interpretation of results.

The following referenced standard are indispensable for the application of this report.

Referenced Description below:

EN 55014-1:2006+A1:2009+A2:2011

Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus -- Part 1: Emission.

EN 55014-2:2015

Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus -- Part 2: Immunity - Product family standard

3. LABORATORY INFORMATION

3.1. Laboratory Name

Most Technology Service Co., Limited

3.2. Location

No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China

3.3. Test facility

- | | | |
|---------------------|---|---|
| 3m Anechoic Chamber | : | Nov. 28, 2012 File on Federal Communication Commission
Registration Number:490827 |
| Shielding Room | : | Nov. 28, 2012 File on Federal Communication Commission
Registration Number:490827 |
| EMC Lab. | : | Accredited by TUV Rheinland Shenzhen
Audit Report: UA 50149851
Mar. 12, 2009

Accredited by Industry Canada
Registration Number: 7103A-1
Oct. 22, 2012

Accredited by TIMCO
Registration Number: Q1460
March 28, 2010 |

3.4. Measurement Uncertainty

No.	Item	Uncertainty
1.	Uncertainty for Conducted Disturbance Test	1.25dB
2.	Uncertainty for Power Clamp Test	1.15dB
3.	Uncertainty for Radiated Disturbance Test	3.15dB

4. SUMMARY OF TEST RESULTS

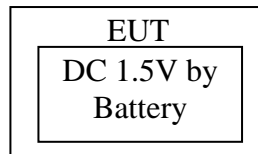
EMISSION			
Test Item	Standard	Results	
Conducted disturbance at mains terminals	EN 55014-1:2006+A1:2009+A2:2011	N/A	
Disturbance power test	EN 55014-1:2006+A1:2009+A2:2011	N/A	
Radiated disturbance	EN 55014-1:2006+A1:2009+A2:2011	PASS	
Harmonic current emissions	EN 61000-3-2:2014	N/A	
Voltage fluctuations & flicker	EN 61000-3-3:2013	N/A	
Clicks	EN 55014-1:2006+A1:2009+A2:2011	PASS	
IMMUNITY (EN 55014-2:2015)			
Test Item	Basic Standard	Performance Criteria	Results
Electrostatic discharge (ESD)	IEC 61000-4-2:2008	B	PASS
Radio-frequency, Continuous radiated disturbance	IEC 61000-4-3:2006+A1:2007+A2:2010	A	N/A
Electrical fast transient (EFT)	IEC 61000-4-4:2012	B	N/A
Surge (Input a.c. power ports)	IEC 61000-4-5:2005	B	N/A
Radio-frequency, Continuous conducted disturbance	IEC 61000-4-6:2008	A	N/A
Voltage dips, 60% reduction	IEC 61000-4-11:2004	C	N/A
Voltage dips, 30% reduction		C	N/A
Voltage interruptions		C	N/A
N/A is an abbreviation for Not Applicable.			

Because the electronic control circuitry of EUT with no Oscillator frequency higher than 15MHz, and is power by mains only, According to EN55014-2 section 4, the EUT may be defined as category II. Radiation immunity (IEC61000-4-3) need no test.

5. BLOCK DIAGRAM OF TEST SETUP

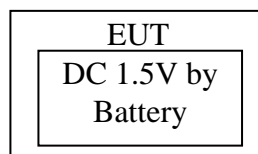
The equipments are installed test to meet EN 55014-1 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application. EUT was tested in normal configuration (Please See following Block diagrams)

5.1. Block Diagram of connection between EUT and simulation-EMI



(EUT: massager)

5.2. Block Diagram of connection between EUT and simulation-EMS



(EUT: massager)

6. TEST INSTRUMENT USED

6.1. For Radiation Test (In Anechoic Chamber)

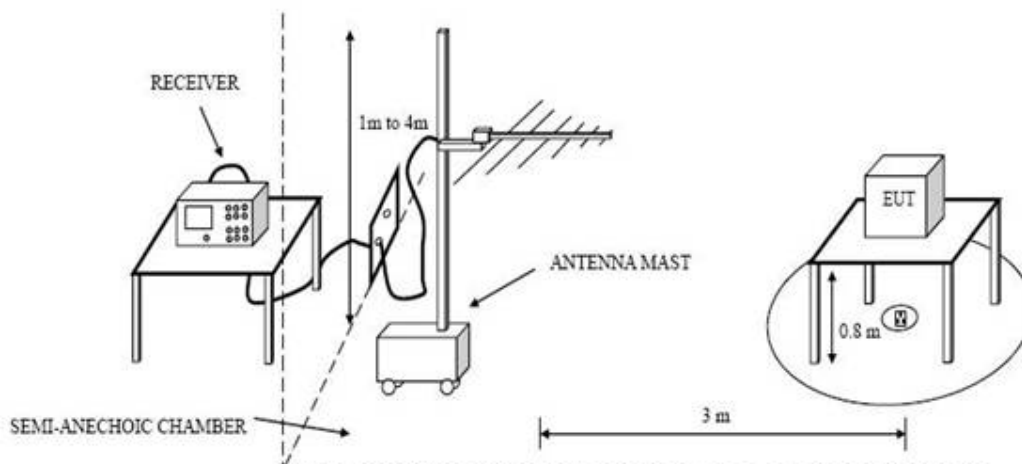
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESPI	101202	Mar. 10, 16	1 Year
2.	Bilog Antenna	Sunol	JB3	A121206	Mar. 14, 16	1 Year
3.	Cable	Resenberger	N/A	NO.1	Mar. 07, 16	1 Year
4.	Cable	SchwarzBeck	N/A	NO.2	Mar. 07, 16	1 Year
5.	Cable	SchwarzBeck	N/A	NO.3	Mar. 07, 16	1 Year
6.	DC Power Filter	DuoJi	DL2×30B	N/A	N/A	N/A
7.	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	N/A	N/A
8.	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	N/A	N/A

6.2. For Electrostatic Discharge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Tester	Zhongsheng	ESD-203AX	023K14538	Sept. 25, 15	1 Year

7. RADIATED DISTURBANCE TEST

7.1. Configuration of Test System



7.2. Test Standard

EN 55014-1:2006+A1:2009+A2:2011

7.3. Radiated Disturbance Limit

All emanations from devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB μ V/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: 1. The lower limit shall apply at the transition frequencies.

2. Distance refers to the distance in meters between the test antenna and the closed point of any part of the EUT.

7.4. Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 10m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to EN 55014-1 on Radiated Disturbance test.

The bandwidth setting on the test receiver is 120 kHz.

The frequency range from 30MHz to 1000MHz is checked. The test result are reported on Section 7.5.

7.5. Radiated Disturbance Test Results

7.5.1. Test Results: **PASS**

7.5.2. Emission Level = Correct Factor + Reading Level.

7.5.3. All readings are Quasi-Peak values.

7.5.4. The test data and the scanning waveform are attached within Appendix I.

8. CLICKS

The EUT which fulfil the following condition:

- the click rate is no more than 5;
- none of the caused clicks has a duration longer than 20 ms,
- 90% of the caused clicks have a duration less than 10 ms (measured duration time is 0.4ms), was deemed to comply with the limits.

9. IMMUNITY PERFORMANCE CRITERIA

The test results shall be classified in terms of the loss of function or degradation of performance of the equipment under test, relative to a performance level by its manufacturer or the requestor of the test, or the agreed between the manufacturer and the purchaser of the product.

Definition related to the performance level:

Based on the used product standard

Based on the declaration of the manufacturer, requestor or purchaser

Criterion A:

The apparatus shall continue to operate as intended during the test and 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. 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. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed, however. No change of actual operation 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 the apparatus if used as intended.

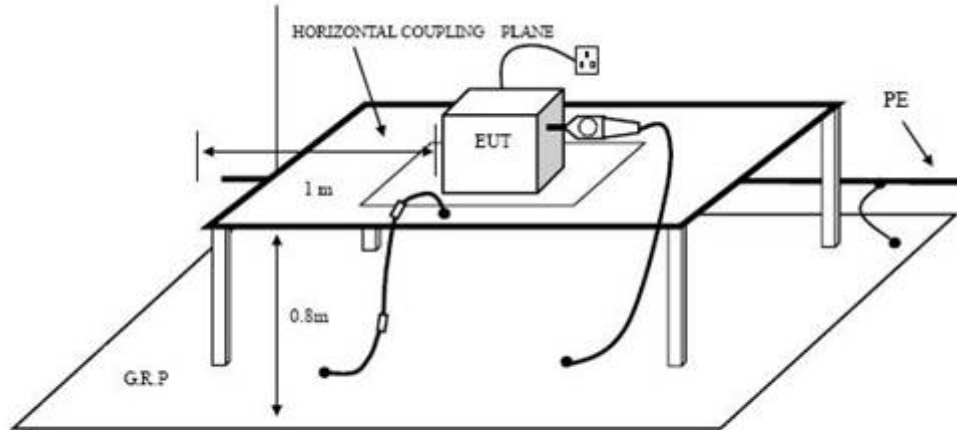
Criterion C:

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.

10.ELECTROSTATIC DISCHARGE IMMUNITY TEST

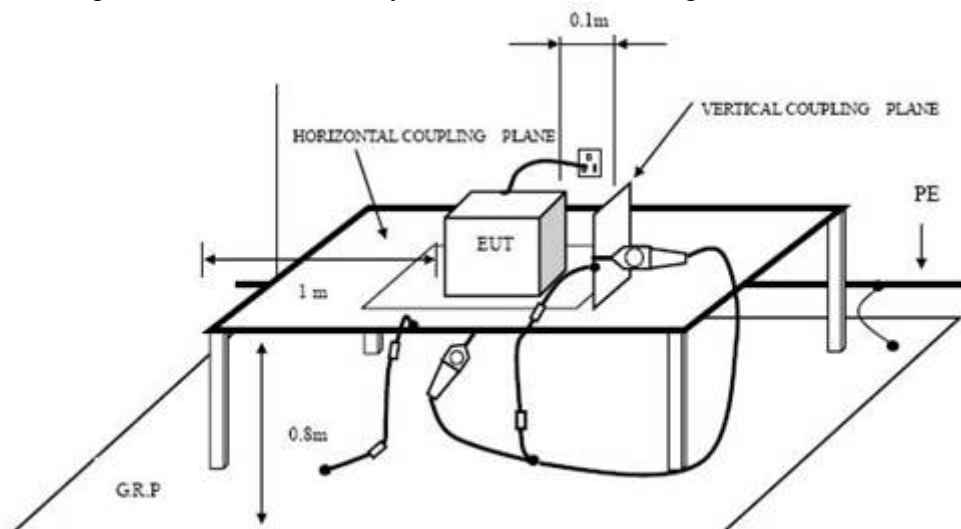
10.1.Configuration of Test System

10.1.1. Configuration of ESD Test System(Direct Discharge)



DIRECT DISCHARGE SETUP

10.1.2.Configuration of ESD Test System(Indirect Discharge)



INDIRECT DISCHARGE SETUP

10.2.Test Standard

EN 55014-2:2015(IEC 61000-4-2:2008)
 (Severity Level 3 for Air Discharge at 8KV,
 Severity Level 2 for Contact Discharge at 4KV)

10.3. Severity Levels and Performance Criterion

10.3.1. Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	2	2
2.	4	4
3.	6	8
4.	8	15
X	Special	Special

10.3.2. Performance criterion : **B**

10.4. Test Procedure

10.4.1. Air Discharge:

The test was applied on non-conductive surfaces of EUT. The round discharge tip of the discharge electrode was approached as fast as possible to touch the EUT. After each discharge, the discharge electrode was removed from the EUT. The generator was re-triggered for a new single discharge and repeated 20 times for each pre-selected test point. This procedure was repeated until all the air discharge completed

10.4.2. Contact Discharge:

All the procedure was same as Section 10.4.1. except that the generator was re-triggered for a new single discharge for each pre-selected test point. The tip of the discharge electrode was touch the EUT before the discharge switch was operated.

10.4.3. Indirect discharge for horizontal coupling plane

At least 20 single discharges were applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

10.4.4. Indirect discharge for vertical coupling plane

At least 20 single discharge were applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, was placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges were applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

10.5. Test Results

10.5.1. Test Results: **PASS**

10.5.2. Test data on the following pages.

Electrostatic Discharge Test Results

Most Technology Service Co., Limited

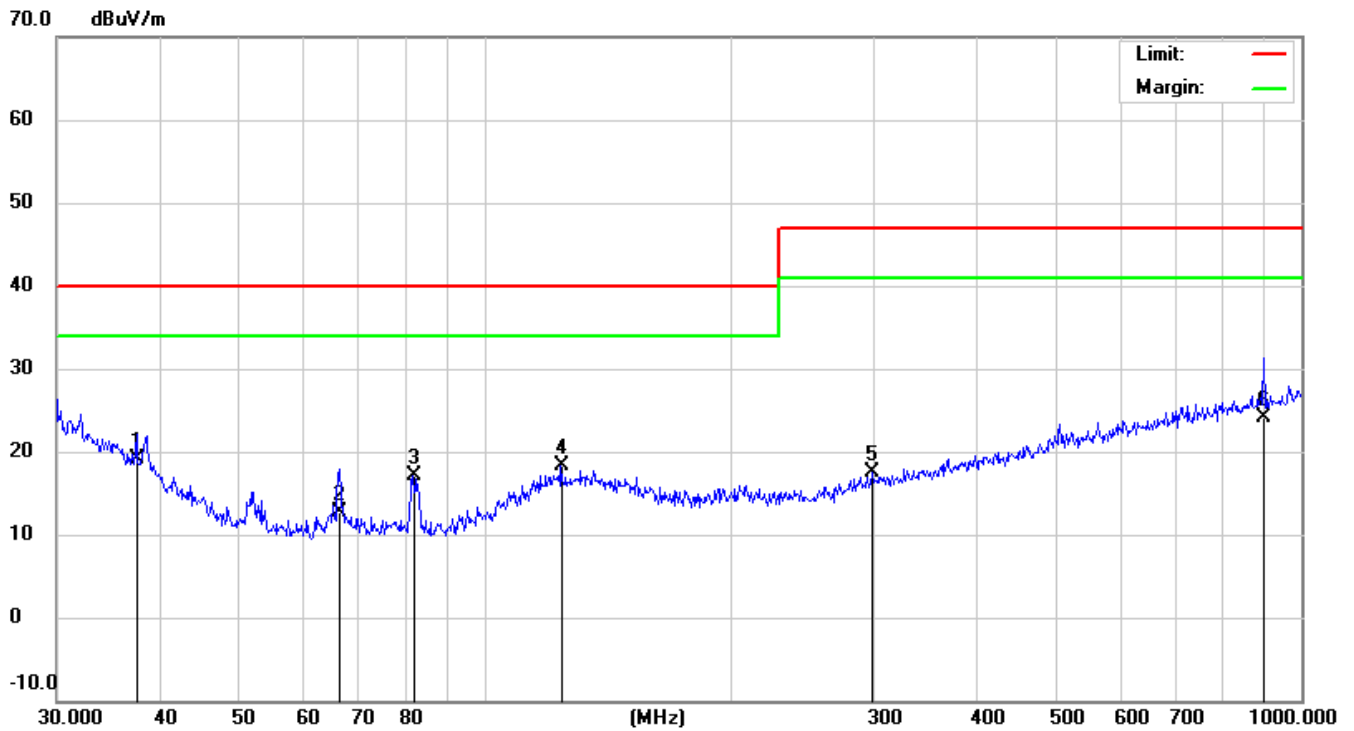
<i>Test Voltage</i> :	1	<i>Test Date:</i>	Sep.21, 2016
<i>Test Mode</i> :	1	<i>Criterion</i> :	B
<i>Temperature:</i>	25 °C	<i>Humidity:</i>	56%
<p><i>Air Discharge: ±8KV</i> # For Air Discharge each Point Positive 10 times and negative 10 times discharge.</p> <p><i>Contact Discharge: ±4KV</i> # For Contact Discharge each point positive 10 times and negative 10 times discharge</p>			
<i>Test Results Description</i>			
<i>Location</i>	<i>Kind</i> A-Air Discharge C-Contact Discharge		<i>Result</i>
<i>Housing</i>	A		PASS
<i>Gaps</i>	A		PASS
<i>Switch</i>	A		PASS
<i>HCP</i>	C		PASS
<i>VCP of Front</i>	C		PASS
<i>VCP of Rear</i>	C		PASS
<i>VCP of Left</i>	C		PASS
<i>VCP of Right</i>	C		PASS
<i>Remark :</i>			

Discharge was considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).

Reviewer :  _____

APPENDIX I

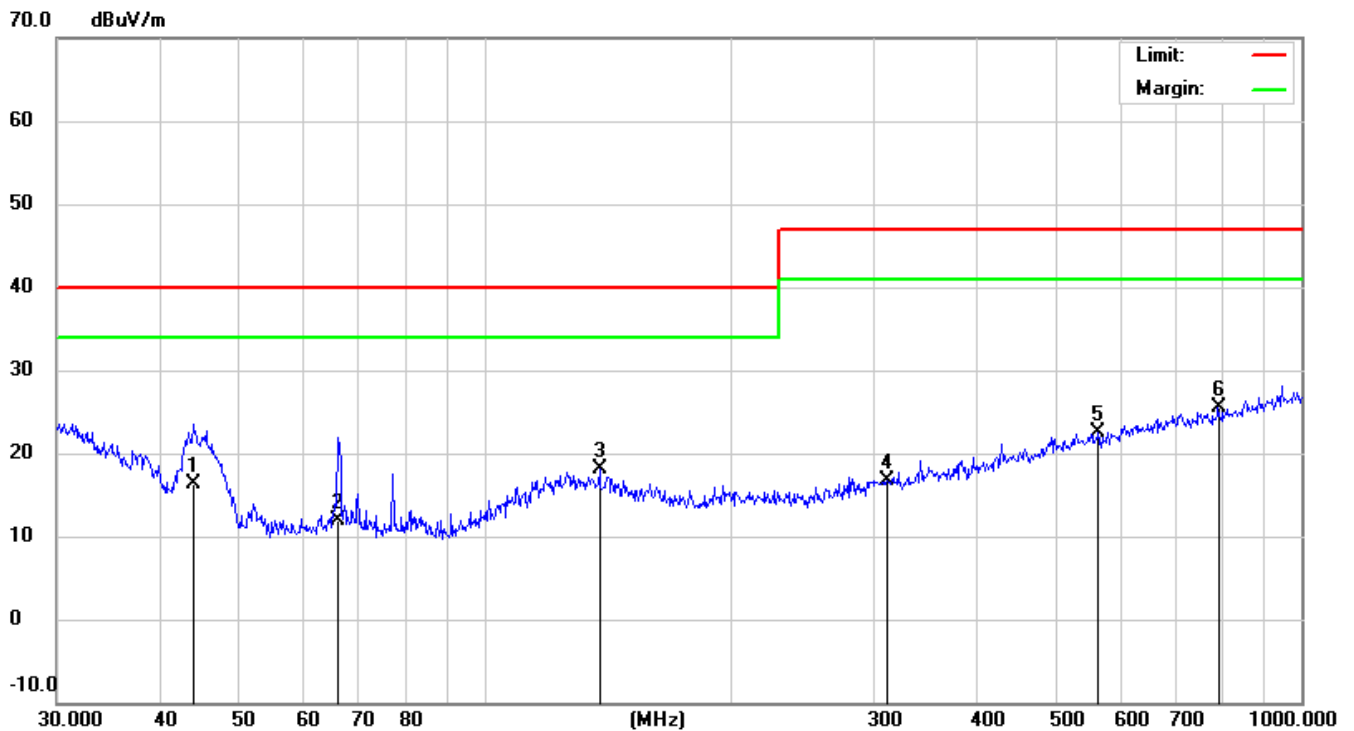
EUT:	massager	M/N:	30015
Mode:	Running	Polarization:	Horizontal
Test by:	SUNNY	Power:	DC 1.5V by Battery
Temperature: / Humidity	24.0°C / 50.5%	Test date:	2016-09-21



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Detector	Comment
1	*	37.5479	3.40	15.61	19.01	40.00	-20.99			QP	
2		66.4989	4.60	8.05	12.65	40.00	-27.35			QP	
3		81.7833	9.04	8.06	17.10	40.00	-22.90			QP	
4		124.1330	4.24	13.97	18.21	40.00	-21.79			QP	
5		298.2681	4.03	13.44	17.47	47.00	-29.53			QP	
6		900.1474	2.10	22.00	24.10	47.00	-22.90			QP	

*:Maximum data x:Over limit !:over margin

EUT:	massager	M/N:	30015
Mode:	Running	Polarization:	Vertical
Test by:	SUNNY	Power:	DC 1.5V by Battery
Temperature: / Humidity	24.0°C / 50.5%	Test date:	2016-09-21

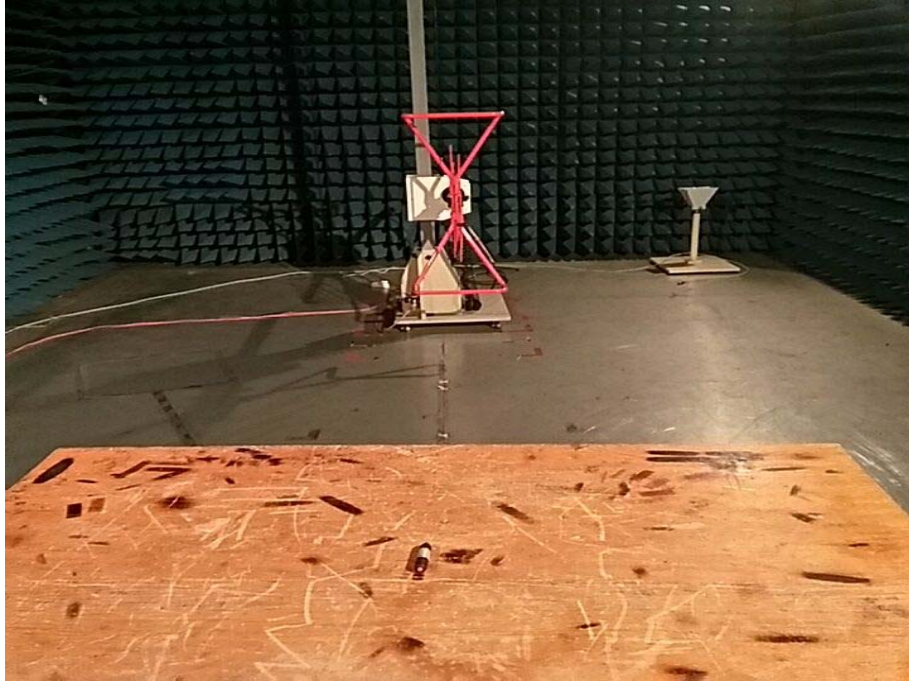


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		44.1202	5.30	11.08	16.38	40.00	-23.62	QP		
2		66.2661	3.80	8.04	11.84	40.00	-28.16	QP		
3		138.3873	4.64	13.46	18.10	40.00	-21.90	QP		
4		311.0866	3.03	13.71	16.74	47.00	-30.26	QP		
5		564.6388	4.16	18.41	22.57	47.00	-24.43	QP		
6	*	790.6187	4.72	20.82	25.54	47.00	-21.46	QP		

*:Maximum data x:Over limit !:over margin

APPENDIX II
(Test Photos)

Radiated Test Setup Photograph



ESD Test Setup Photograph



APPENDIX III
(Photos of the EUT)

Figure 1
General Appearance of the EUT



Figure 2
General Appearance of the EUT



Figure 3
General Appearance of the EUT



Figure 4
General Appearance of the EUT



Figure 5
Inside of the EUT



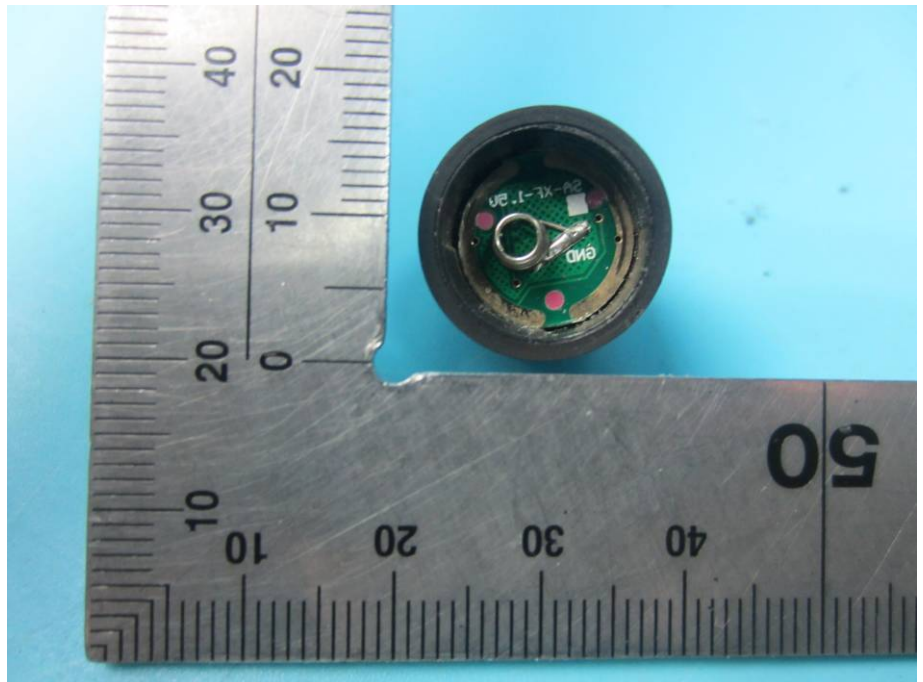
Figure 6
Inside of the EUT



Figure 7
Inside of the EUT



Figure 8
Inside of the EUT



Serial Number: 10993

Figure 9

General Appearance of the EUT



Serial Number: 11029

Figure 10

General Appearance of the EUT



Serial Number: 11013

Figure 11

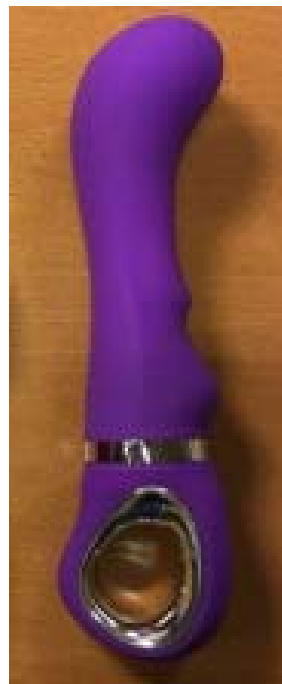
General Appearance of the EUT



Serial Number: 11003

Figure 12

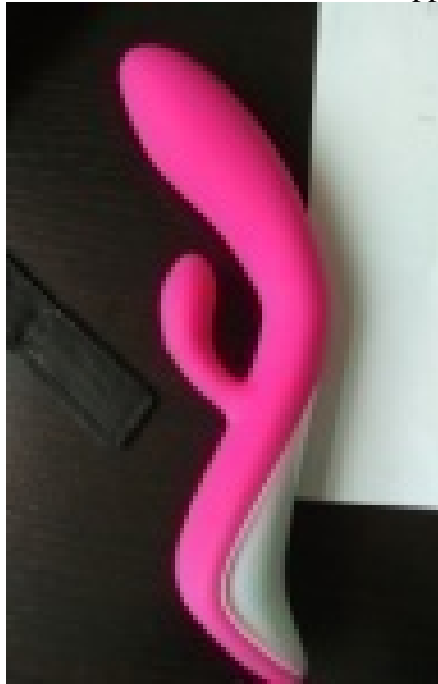
General Appearance of the EUT



Serial Number: 11031

Figure 13

General Appearance of the EUT



Serial Number: 11043

Figure 14

General Appearance of the EUT



Serial Number: 11073

Figure 15

General Appearance of the EUT



Serial Number: 11083

Figure 16

General Appearance of the EUT



Serial Number: 11051

Figure 17

General Appearance of the EUT



Serial Number: 11061

Figure 18

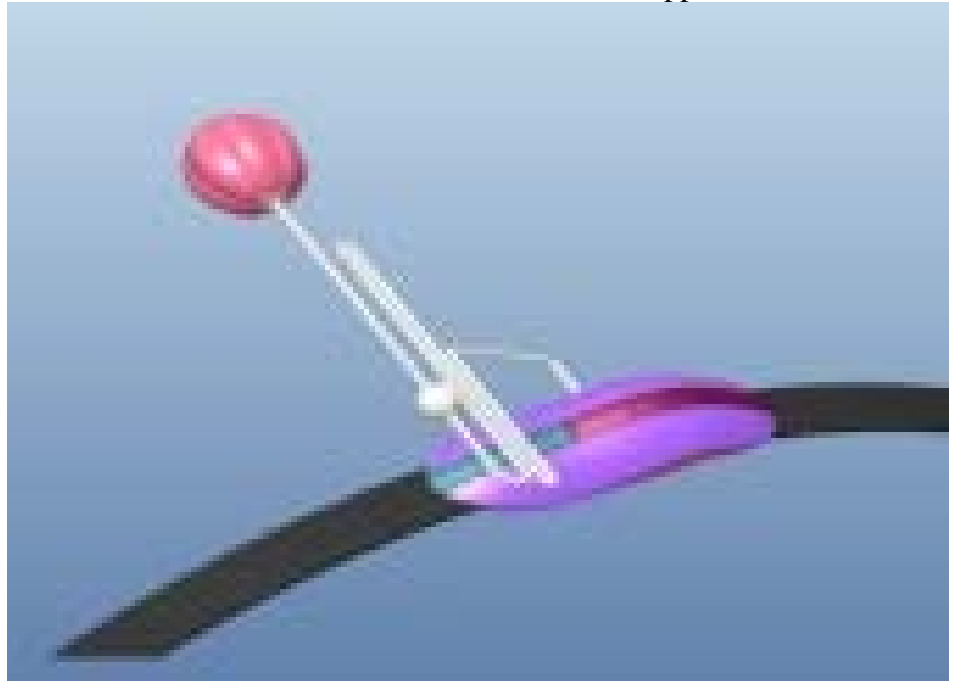
General Appearance of the EUT



Serial Number: 40681

Figure 19

General Appearance of the EUT



Serial Number: 11091

Figure 20

General Appearance of the EUT



Serial Number: 20545

Figure 21

General Appearance of the EUT



Serial Number: 30229

Figure 22

General Appearance of the EUT



Serial Number: 20439

Figure 23

General Appearance of the EUT



Serial Number: 30539

Figure 24

General Appearance of the EUT



Serial Number: 30703

Figure 25

General Appearance of the EUT



Serial Number: 30709

Figure 26

General Appearance of the EUT



Serial Number: 19033

Figure 27

General Appearance of the EUT



Serial Number: 19024

Figure 28

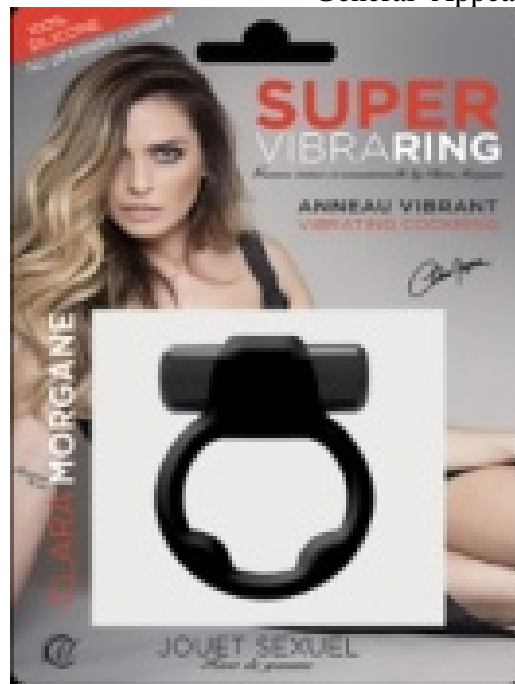
General Appearance of the EUT



Serial Number: 19023

Figure 29

General Appearance of the EUT



Serial Number: 19032

Figure 30

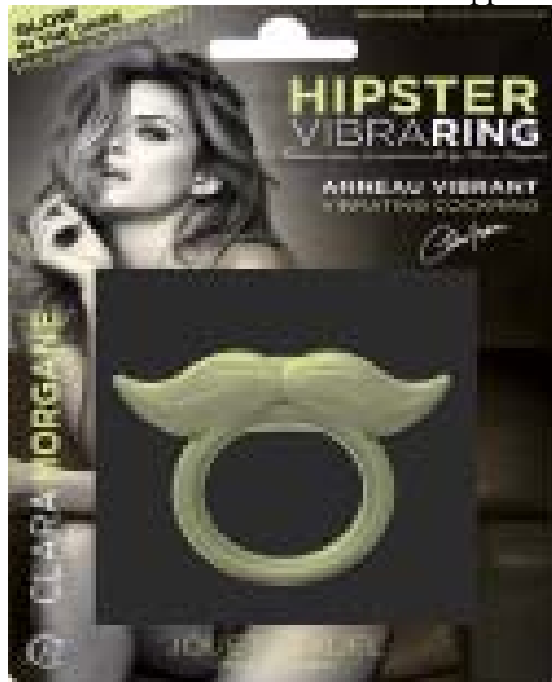
General Appearance of the EUT



Serial Number: 19035

Figure 31

General Appearance of the EUT



Serial Number: 19031

Figure 32

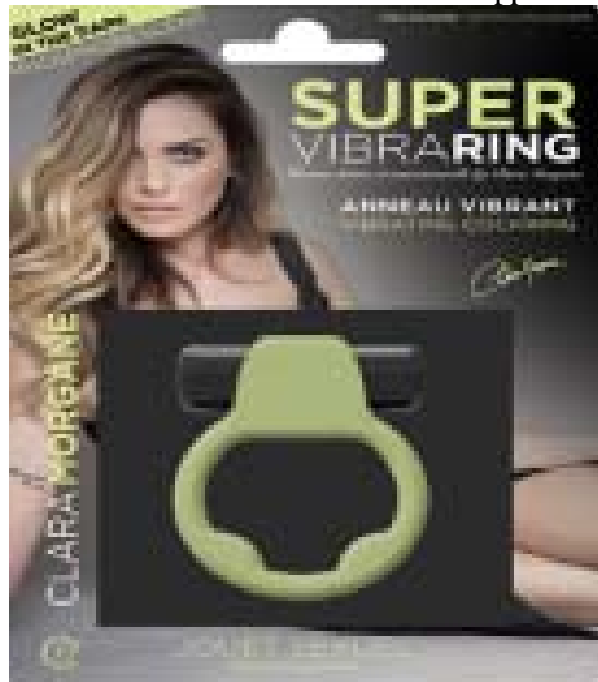
General Appearance of the EUT



Serial Number: 19030

Figure 33

General Appearance of the EUT



Serial Number: 19034

Figure 34

General Appearance of the EUT

