SGS-CSTC Standards Technical Services Co., Ltd.

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technological Development District, Guangzhou, China 510663
Telephone: +86 (0) 20 82155555
Fax: +86 (0) 20 82075059
Email: ee.guangzhou@sgs.com

TEST REPORT

Application No:	GZEM1210004478HS
Applicant:	HoMedics Group Ltd
Product Name:	Kitchen scale
Product Description:	Kitchen scale
Model No:	1150BKDR
P.O. No.:	PC0001189
Standards:	EN 55014-1:2006+A1:2009+A2:2011, EN 55014-2:1997+A1:2001+A2:2008.
Date of Receipt:	2012-10-26
Date of Test:	2012-10-31
Date of Issue:	2012-11-29
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 EC Declaration of Conformity and compliance with all relevant EC Directives.

SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. GUANGZHOU BRANCH 广州分公司 电子电气实验室

Richard Li
Manager

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00		2012-11-29		Original

Authorized for issue by:				
Tested By		Rain Yuan **(Rain Yuan) / Project Engineer**		2012-10-31 **Date**
Prepared By		Icy Chen **(Icy Chen) / Clerk**		2012-11-29 **Date**
Checked By		Crystal Wang **(Crystal Wang) / Reviewer**		2012-11-29 **Date**

3 Test Summary

Electromagnetic Interference (EMI)				
Test	**Test Requirement**	**Test Method**	**Class / Severity**	**Result**
Radiated Emission (30MHz to 1GHz)	EN 55014-1:2006 +A1:2009+A2:2011	CISPR 16-2-3:2006	Table 3	PASS
Electromagnetic Susceptibility(EMS)				
Test	**Test Requirement**	**Test Method**	**Class / Severity**	**Result**
Electrostatic Discharge (ESD)	EN 55014-2:1997 +A1:2001+A2:2008	EN 61000-4-2:2009	Contact ±4 kV Air ±8 kV	PASS

4 Contents

5 General Information

5.1 Client Information

Applicant:	HoMedics Group Ltd
Address of Applicant:	HoMedics House, Somerhill Business Park, Five Oak Green Road, Tonbridge, Kent TN11 0GP England

5.2 General Description of E.U.T.

Product Name:	Kitchen scale
Product Description:	Kitchen scale
Model No:	1150BKDR

5.3 Details of E.U.T.

Rated Supply Voltage:	DC 3V = 2 x 1.5V size “AAA” batteries
Power Cable:	N/A

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Deviation from Standards

None.

5.6 General Test Climate During Testing

Temperature: 15-30 °C Humidity: 30-70 %RH Atmospheric Pressure: 860-1060 mbar

5.7 Abnormalities from Standard Conditions

N/A

5.8 Monitoring of EUT for All Immunity Test

Audio: N/A

Visual: LCD display of the EUT

5.9 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory,

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,

Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

5.10 Test Facility

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

- **NVLAP (Lab Code: 200611-0)**

  SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

- **ACMA**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

  Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

- **FCC (Registration No.: 282399)**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

- **Industry Canada (Registration No.: 4620B-1)**

  The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

- **VCCI (Registration No.: R-2460, C-2584, G-449 and T-1179)**

  The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460, C-2584，G-449 and T-1179 respectively.

- **CBTL (Lab Code: TL129)**

  SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01:2006-10 and Rules of procedure IECEE 02:2006-10, and the relevant IECEE CB-Scheme Operational documents.

6 Equipment Used during Test

RE in Chamber						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date (YYYY-MM-DD)	Calibration Interval
EMC0525	Compact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	2014-08-30	2Y
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2012-11-11	1Y
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	100236	2013-03-12	1Y
EMC0528	RI High frequency Cable	SGS	20 m	N/A	2013-06-01	1Y
EMC2025	Trilog Broadband Antenna 30-3000MHz	SCHWARZBECK MESS-ELEKTRONIK	VULB 9163	9163-450	2013-12-17	2Y
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	2012-11-28	1Y
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	2012-11-28	1Y
EMC2026	Horn Antenna 1-18GHz	R&S	BBHA 9120D	9120D-841	2013-11-28	2Y
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	2014-07-01	2Y
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	2013-03-12	1Y
EMC0049	Amplifier	Agilent	8447D	2944A10862	2013-03-12	1Y
EMC0075	310N Amplifier	Sonama	310N	272683	2013-03-12	1Y
EMC0523	Active Loop Antenna	EMCO	6502	42963	2012-11-17	1Y
EMC2041	Broad-Band Horn Antenna (14)15-26.5(40)GHz	SCHWARZBECK MESS-ELEKTRONI	BBHA 9170	9170-375	2014-06-01	3Y
EMC0530	10m Semi-Anechoic Chamber	ETS	N/A	N/A	2014-04-27	2Y

Electrostatic Discharge						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date (YYYY-MM-DD)	Calibration Interval
EMC0809	ESD Simulator	EM Test AG	Dito	V0735102864	2012-11-22	1Y
EMC0804	ESD Ground Plane	SGS	3m x 3m	N/A	N/A	N/A
EMC0077	Temperature, & Humidity	Shanghai Meteorological Instrument factory Co., Ltd.	ZJ1-2B	709151	2012/11/26	1Y

General used equipment						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date (YYYY-MM-DD)	Calibration Interval
EMC0006	DMM	Fluke	73	70681569	2012-11-14	1Y
EMC0007	DMM	Fluke	73	70671122	2012-11-14	1Y

7 Electromagnetic Interference Test Results

7.1 Radiated Emissions, 30MHz to 1GHz

Test Requirement: EN 55014-1

Test Method: CISPR 16-2-3, semi-anechoic chamber

Test Date: 2012-10-31

Frequency Range: 30 MHz to 1GHz

Measurement Distance: 3m

Detector: Peak for pre-scan
Quasi-Peak or（and）Average for final measurement
Quasi-Peak for final test (120 kHz resolution bandwidth)

Limit:

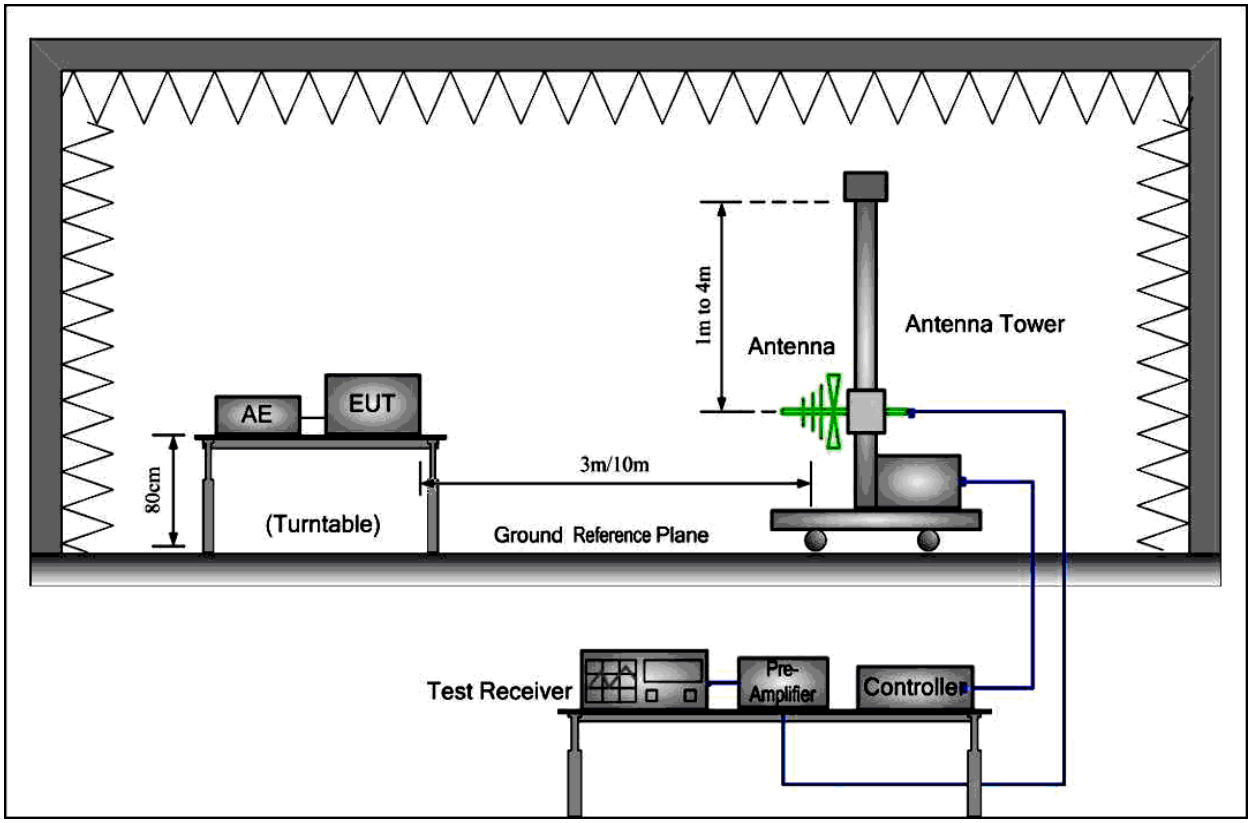
For 3m

Frequency range	Quasi-peak limits
MHz	dB (μV/m)
30 to 230	40
230 to 1000	47
At transitional frequencies the lower limit applies.	

7.1.1 E.U.T. Operation

EUT Operation: Test the EUT in weighing mode.

7.1.2 Test Setup and Procedure



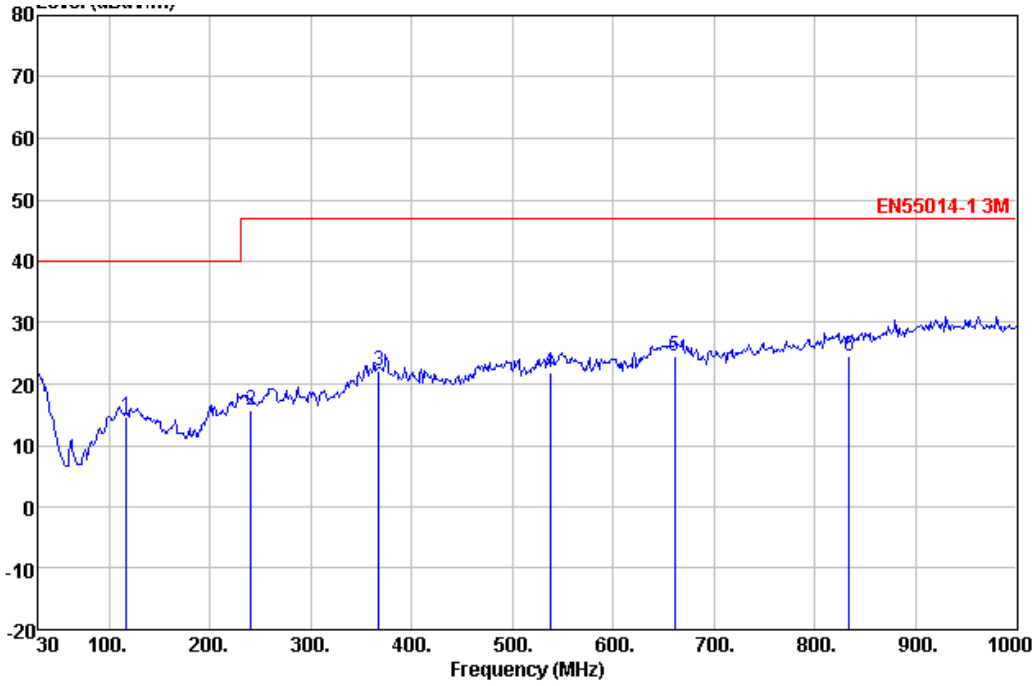
1. The radiated emissions test was conducted in a semi-anechoic chamber.
2. The mains cables shall drape to the ground reference plane.
3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emission spectrum signature data plots of the EUT.
5. The frequencies of maximum emission were determined in the final radiated emissions measurement, The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.

7.1.3 Measurement Data

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

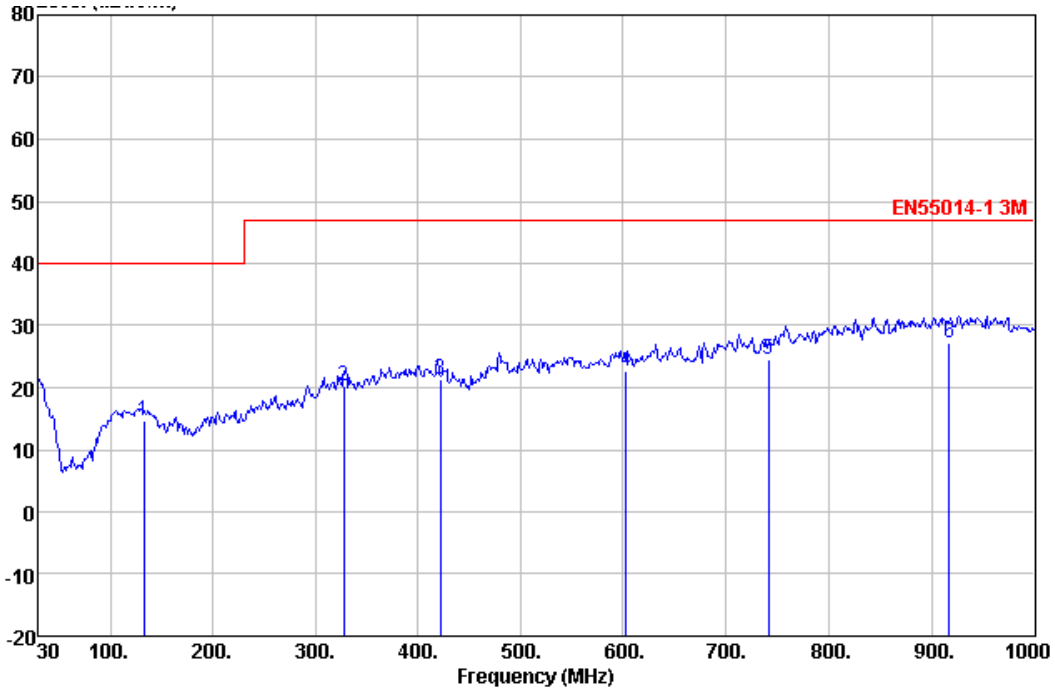
Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Over Limit	Limit Line	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	dBuV/m	
117.300	29.26	11.75	0.28	26.53	14.76	-25.24	40.00	QP
240.490	29.98	11.13	0.77	26.01	15.87	-31.13	47.00	QP
367.560	32.11	15.13	1.20	26.18	22.26	-24.74	47.00	QP
537.310	29.45	18.14	1.46	27.18	21.87	-25.13	47.00	QP
660.500	31.19	18.60	1.81	27.18	24.42	-22.58	47.00	QP
834.130	28.95	20.53	1.97	26.94	24.51	-22.49	47.00	QP

Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Over Limit	Limit Line	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	dBuV/m	
132.820	28.75	11.84	0.41	26.43	14.57	-25.43	40.00	QP
327.790	31.38	13.66	1.11	25.96	20.19	-26.81	47.00	QP
421.880	30.44	16.17	1.24	26.62	21.23	-25.77	47.00	QP
603.270	29.63	18.68	1.55	27.23	22.63	-24.37	47.00	QP
741.980	29.75	20.08	1.85	27.09	24.59	-22.41	47.00	QP
916.580	31.01	20.97	1.97	26.76	27.19	-19.81	47.00	QP

Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.

8 Electromagnetic Susceptibility Test Results

8.1 Performance Criteria Description in Clause 6 of EN 55014-2

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.

8.2 ESD

Test Requirement:	EN 55014-2	
Test Method:	EN 61000-4-2	
Criterion Required:	B	
Test Date:	2012-10-31	
Discharge Impedance:	330 Ω / 150 pF	
Discharge Voltage:	Air Discharge:	8 kV
	Contact Discharge:	4 kV
	VCP/HCP:	4 kV
Polarity:	Positive & Negative	
Number of Discharge:	Minimum 10 times at each test point	
Discharge Mode:	Single Discharge	
Discharge Period:	1 second minimum	

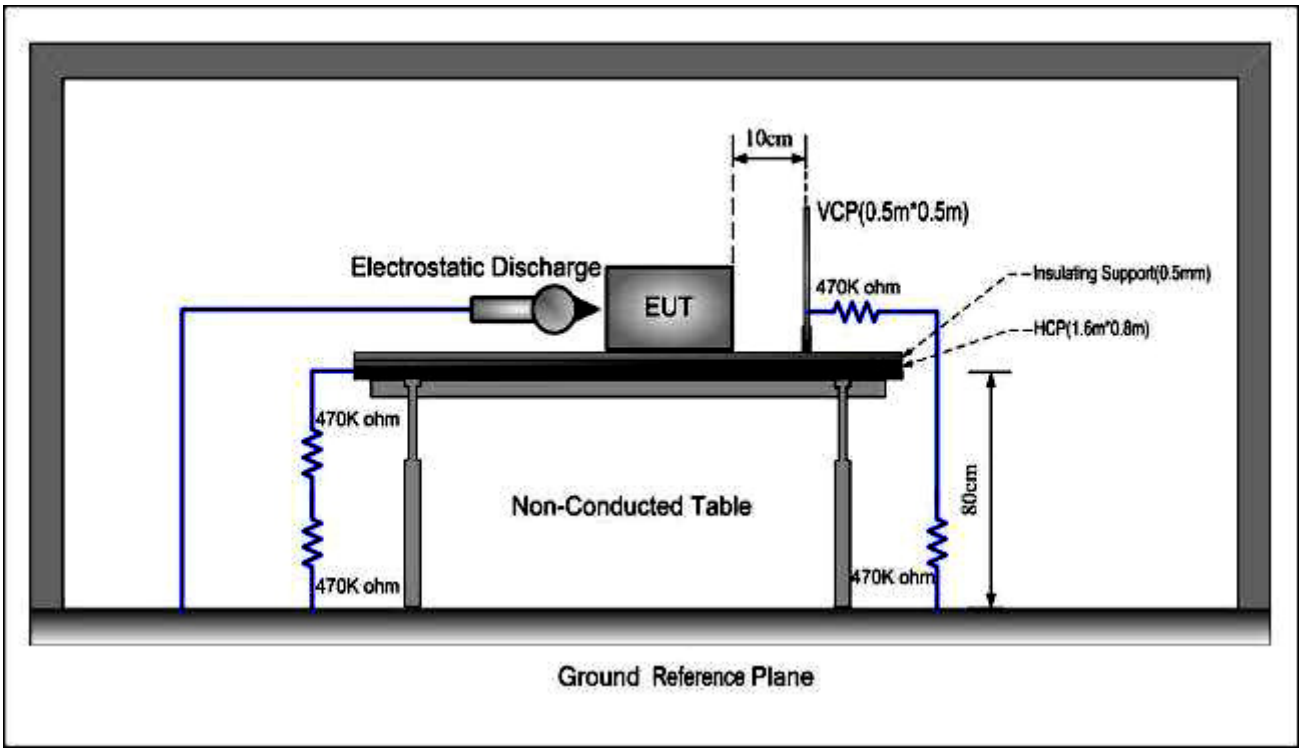
8.2.1 E.U.T. Operation

Operating Environment:

Temperature: 21 °C Humidity: 57 % RH Atmospheric Pressure: 1009 mbar

EUT Operation: Test the EUT in weighing mode and idle mode.

8.2.2 Test Setup and Procedure



1. Contact discharge was applied only to conductive surfaces of the EUT. Air discharge was applied only to non-conducted surfaces of the EUT.
2. The EUT was put on a 0.8m high wooden table for table-top equipment or 0.1m high for floor standing equipment standing on the ground reference plane (GRP).
3. A horizontal coupling plane(HCP) 1.6m by 0.8m in size was placed on the table, and the EUT with its cables were isolated from the HCP by an insulating support thick than 0.5mm. The VCP 0.5m by 0.5m in size while HCP were constructed from the same material type and thickness as that of the GRP, and connected to the GRP via a 470kΩ resistor at each end. The distance between EUT and any of the other metallic surfaces except the GRP, HCP and VCP was greater than 1m.
4. During the contact discharges, the tip of the discharge electrode touched the EUT before the discharge switch is operated. During the air discharges, the round discharge tip of the discharge electrode was approached as fast as possible to touch the EUT.
5. After each discharge, the ESD generator was removed from the EUT, the generator is then retriggered for a new single discharge. For ungrounded product, a discharge cable with two resistances was used after each discharge to remove remnant electrostatic voltage. 10 times of each polarity single discharge were applied to HCP and VCP.

8.2.3 Test Results

Direct Application Test Results

Observations: Test Point:

1. All insulated enclosure & seams.
2. All accessible metal parts of the enclosure.

Direct Application			Test Results	
Discharge Level (kV)	**Polarity (+/-)**	**Test Point**	**Contact Discharge**	**Air Discharge**
8	+/-	1	N/A	A
4	+/-	2	A	N/A

Indirect Application Test Results

Observations: Test Point:

1. All sides.

Indirect Application			Test Results	
Discharge Level (kV)	**Polarity (+/-)**	**Test Point**	**Horizontal Coupling**	**Vertical Coupling**
4	+/-	1	A	A

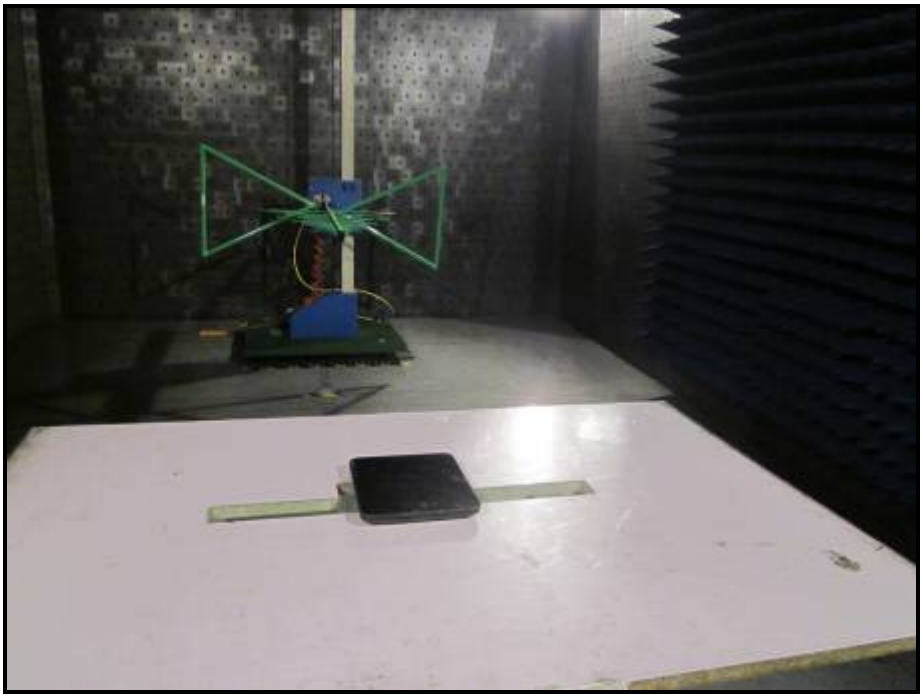
Results:

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

N/A: Not applicable (floor mounted EUT or not requested by Standard).

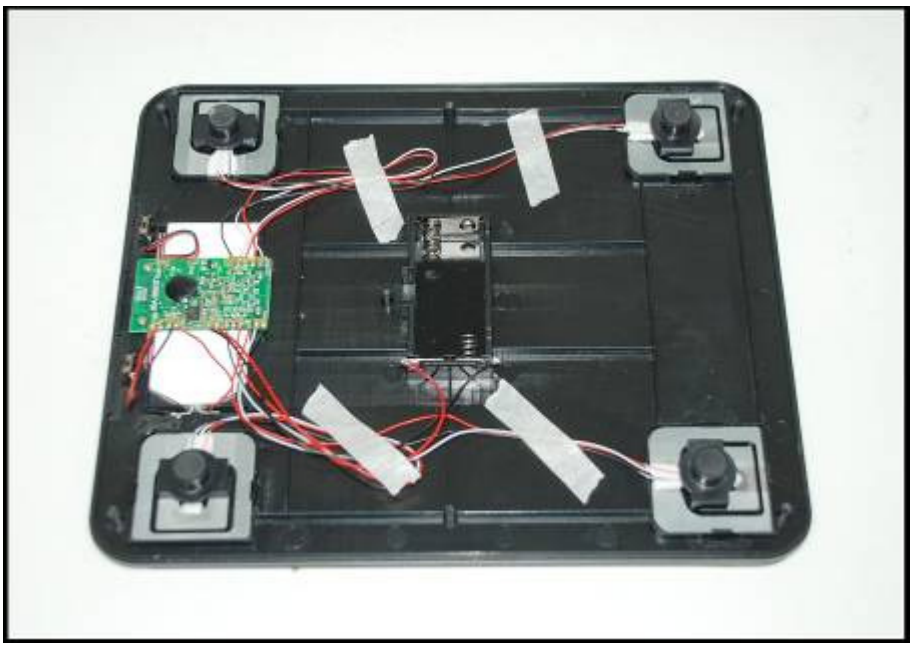
9 Photographs

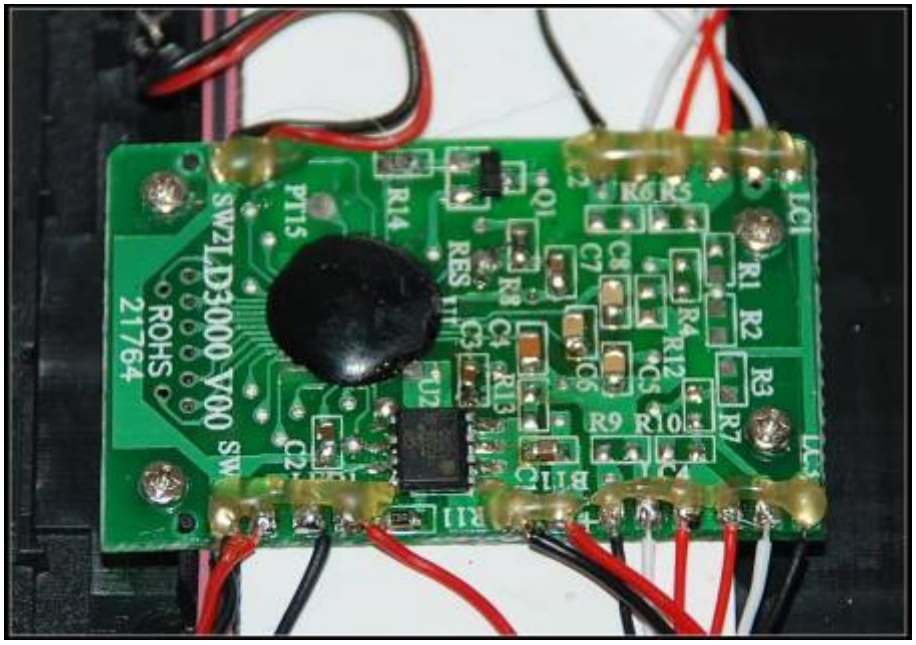
9.1 Radiated Emission Test Setup

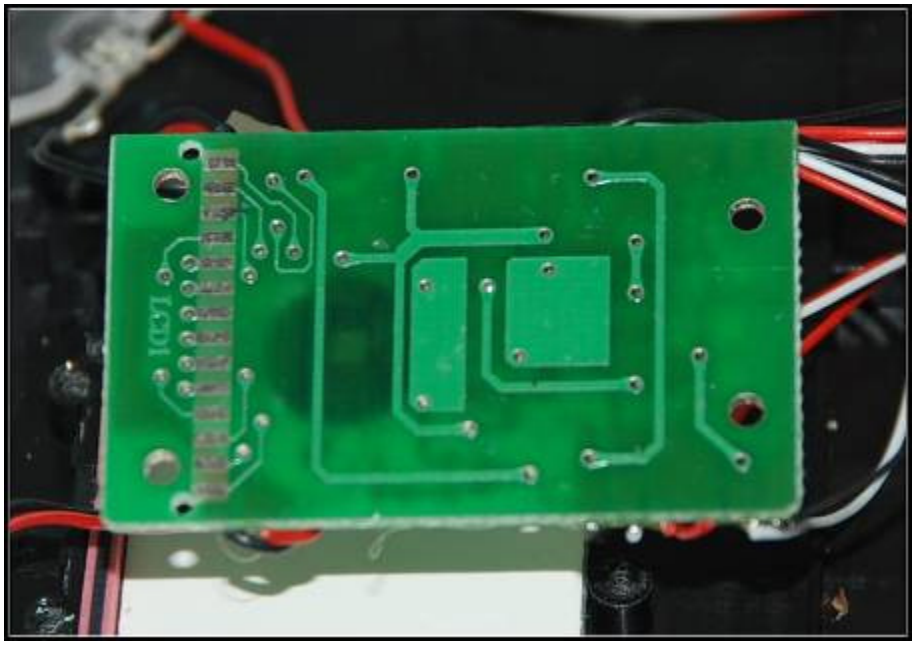


9.2 ESD Test Setup

9.3 EUT Constructional Details







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