TEST REPORT

Applicant: DONGHAI DESHANG HEALTH TECHNOLOGY CO., LTD

Address of Applicant: 30 Binhe North Road, Niushan street, Donghai County, Lianyungang City, Jiangsu Province, China

Equipment Under Test (EUT)

Product Name: HAIR DRYER

Model No.: HY-88 750W, HY-89 750W, HY-99 750W, HY-86 700W, HY-82 700W, 220-240V～ 50/60Hz

Applicable standards: EN 55014-1:2017+A11:2020
EN 55014-2:2015
EN IEC 61000-3-2:2019
EN 61000-3-3:2013+A1:2019

Date of sample receipt: June 28, 2021

Date of Test: June 29, 2021 To July 6, 2021

Date of report issued: July 7, 2021

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.

Authorized Signature

Kevin Wang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*July 7, 2021*	*Original*

Prepared By: Gary Wang ***Date:*** *July 7, 2021*

Project Engineer

Reviewed By: Kevin Wang ***Date:*** *July 7, 2021*

Reviewer

3 Contents

4 Test Summary

Test Item	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission	EN 55014-1	CISPR 16-2-3	Table 3	PASS
Disturbance Power	EN 55014-1	EN 55014-1	Table 2	PASS
Discontinuous Interference	EN 55014-1	EN 55014-1	N/A	N/A
Conducted Emission	EN 55014-1	CISPR 16-2-1	Table 1	PASS
Harmonic Emission	EN IEC 61000-3-2	EN IEC 61000-3-2	Class A	PASS
Flicker Emission	EN 61000-3-3	EN 61000-3-3	Clause 5 of EN 61000-3-3	PASS
Electrostatic discharges	EN 55014-2	EN 61000-4-2	Contact ±4 kV Air ±8 kV	PASS
Radio-frequency electromagnetic fields	EN 55014-2	EN 61000-4-3	3V/m 80%, 1kHz, AM	PASS
Electrical Fast Transients	EN 55014-2	EN 61000-4- 4	AC±1.0kV	PASS
Surges	EN 55014-2	EN 61000-4-5	1kV Line to Line 2kV Line to Ground	PASS
Injected currents	EN 55014-2	EN 61000-4-6	3Vrms (emf), 80%, 1kHz Amp. Mod.	PASS
Voltage dips and short interruptions	EN 55014-2	EN 61000-4-11	0 % U_T* for 0.5per 40 % U_T* for 10per 70 % U_T* for 25per	PASS

Remark:

1. *Pass: Comply with the essential requirements in the standard.*
2. *N/A: Not applicable.*
3. *UT: the nominal supply voltage; D.M: Differential Mode; C.M: Common Mode.*

5 General Information

5.1 Client Information

Applicant:	DONGHAI DESHANG HEALTH TECHNOLOGY CO., LTD
Address of Applicant:	30 Binhe North Road, Niushan street, Donghai County, Lianyun-gang City, Jiangsu Province, China.
Manufacturer:	DONGHAI DESHANG HEALTH TECHNOLOGY CO., LTD
Address of Manufacturer:	30 Binhe North Road, Niushan street, Donghai County, Lianyun-gang City, Jiangsu Province, China.

5.2 General Description of EUT

Product Name:	HAIR DRYER
Model No.:	HY-88 750W, HY-89 750W, HY-99 750W, HY-86 700W, HY-82 700W, 220-240V～ 50/60Hz Remark: All the models are identical in the same PCB layout, interior structure and electrical circuits. The only differences are the model name and appearance color for commercial purpose.
Test Model No.:	HY-88 750W
Power supply:	AC 220-240V, 50/60Hz,750W

5.3 Test mode

On mode	Keep the EUT in the operation status.
Test Voltage:	230V/50Hz

5.4 Description of Support Units

None.

5.5 Deviation from Standards

None.

5.6 Abnormalities from Standard Conditions

None.

5.7 Monitoring of EUT for All Immunity Test

Visual:	Monitor the EUT operating status.
Audio:	N/A

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	N/A	N/A
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	ROHDE & SCHWARZ	ESRP	GTS602	Mar. 19 2021	Mar. 18 2022
4	BiConiLog Antenna	SCHWARZBECK	VULB 9168	GTS606	Mar. 19 2021	Mar. 18 2022
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 24 2021	June. 23 2022
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 24 2021	June. 23 2022
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 24 2021	June. 23 2022
9	Coaxial Cable	GTS	N/A	GTS211	June. 24 2021	June. 23 2022
10	Coaxial cable	GTS	N/A	GTS210	June. 24 2021	June. 23 2022
11	Coaxial Cable	GTS	N/A	GTS212	June. 24 2021	June. 23 2022
12	Amplifier(100kHz-3GHz)	N/A	LNA 0920N	GTS605	Mar. 19 2021	Mar. 18 2022
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 24 2021	June. 23 2022
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 24 2021	June. 23 2022
15	Band filter	Amindeon	82346	GTS219	June. 24 2021	June. 23 2022
16	Power Meter	Anritsu	ML2495A	GTS540	June. 24 2021	June. 23 2022
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 24 2021	June. 23 2022
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 24 2021	June. 23 2022
19	Splitter	Agilent	11636B	GTS237	June. 24 2021	June. 23 2022
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 24 2021	June. 23 2022
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 18 2020	Oct. 17 2021
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 18 2020	Oct. 17 2021
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 18 2020	Oct. 17 2021
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 24 2021	June. 23 2022

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 24 2021	June. 23 2022
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 24 2021	June. 23 2022
4	ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	June. 24 2021	June. 23 2022
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 24 2021	June. 23 2022
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 24 2021	June. 23 2022
9	ISN	SCHWARZBECK	NTFM 8158	GTS565	June. 24 2021	June. 23 2022
10	High voltage probe	SCHWARZBECK	TK9420	GTS537	July. 10 2020	July. 09 2021

Disturbance power						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 24 2021	June. 23 2022
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 24 2021	June. 23 2022
4	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 24 2021	June. 23 2022
5	Coaxial Cable	GTS	N/A	GTS213	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 24 2021	June. 23 2022

ESD						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	ESD Simulator	KIKUSUI	KES4021A	GTS242	June. 24 2021	June. 23 2022
2	Thermo meter	KTJ	TA328	GTS243	June. 24 2021	June. 23 2022

Conducted Immunity						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Signal Generator	ROHDE & SCHWARZ	SMB 100A	GTS553	June. 24 2021	June. 23 2022
2	CDN	LionCEL	CDN-M3-16	GTS554	June. 24 2021	June. 23 2022
3	CDN	CYBERTEK	EM 5070	GTS559	June. 24 2021	June. 23 2022
4	Power amplifier	rflight	NTWPA-00010475	GTS555	June. 24 2021	June. 23 2022
5	ATT	SUNWAVE	SJ-50-06DB	GTS556	June. 24 2021	June. 23 2022
6	Clamp	SCHAFFNER	KEMZ 801	GTS558	June. 24 2021	June. 23 2022

Harmonic/ Flicker						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Power Analyzer H/F	EMTEST	DPA500	GTS235	June. 24 2021	June. 23 2022

2	AC POWER SUPPLY	EMTEST	ACS500	GTS236	June. 24 2021	June. 23 2022
3	Thermo meter	KTJ	TA328	GTS256	June. 24 2021	June. 23 2022

EFT, Surge, Voltage dips and Interruption						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	EMTEST system	EMTEST	UCS500N	GTS239	June. 24 2021	June. 23 2022
2	Clamp	EMTEST	HFK	GTS557	June. 24 2021	June. 23 2022
3	Thermo meter	KTJ	TA328	GTS238	June. 24 2021	June. 23 2022

Radiated Immunity						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Fully-Anechoic Chamber 2	Chang Zhou Zhong Shuo	854	SEM001-05	May. 09 2020	May. 08 2020
2	Power Sensor	Rohde & Schwarz	NRP-Z91	SEM009-09	Mar. 31 2021	Mar. 30 2021
3	Stacked Log.-Per.-Broadband Antenna (70MHz-10GHz)	Schwarzbeck	STLP 9129	SEM003-25	N/A	N/A
4	Signal Generator (9kHz-6GHz)	Rohde & Schwarz	SMB100A	SEM006-11	Mar. 31 2021	Mar. 30 2021
5	Broadband Amplifier (80MHz-1GHz)	Rohde & Schwarz	BBA150-BC250	SEM005-12	Sep. 23 2020	Sep. 22 2021
6	Broadband Amplifier(800MHz-3GHz)	Rohde & Schwarz	BBA150-D110	SEM005-13	Mar. 31 2021	Mar. 30 2022
7	Broadband Amplifier(2.5GHz-6GHz)	Rohde & Schwarz	BBA150-E60	SEM005-16	April. 10 2021	April. 09 2022
8	Measurement Software	Rohde & Schwarz	EMC32 V9.25.00	N/A	N/A	N/A

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 24 2021	June. 23 2022
2	Barometer	ChangChun	DYM3	GTS255	June. 24 2021	June. 23 2022

7 Emission Test Results

7.1 Radiated Emission

Test Requirement:	EN 55014-1
Test Method:	EN 55014-1
Test Frequency Range:	30MHz to 1GHz
Test site:	Measurement Distance: 3m

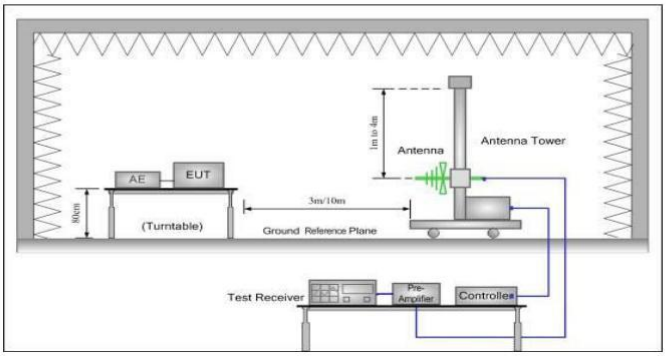
Receiver setup:

Frequency	Detector	RBW	VBW	Value
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak

Limit:

Frequency	Limit (dBμV/m @3m)	Value
30MHz-230MHz	40.00	Quasi-peak
230MHz-1GHz	47.00	Quasi-peak

Test setup:



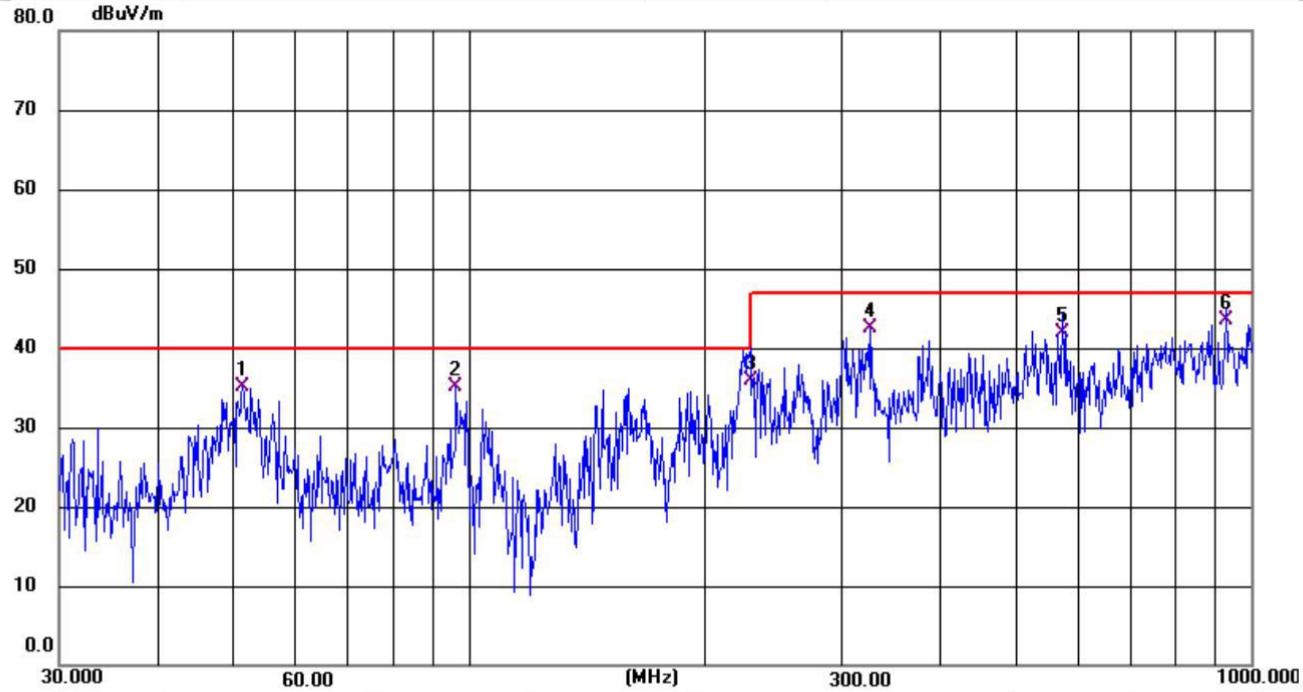
Test Procedure:

1. The radiated emissions test was conducted in a semi-anechoic chamber.
2. 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.
3. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
4. The frequencies of maximum emission were determined in the final radiated emissions measurement. 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.

Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1 012mbar
Measurement Record:	Uncertainty: ± 4.50dB					
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					

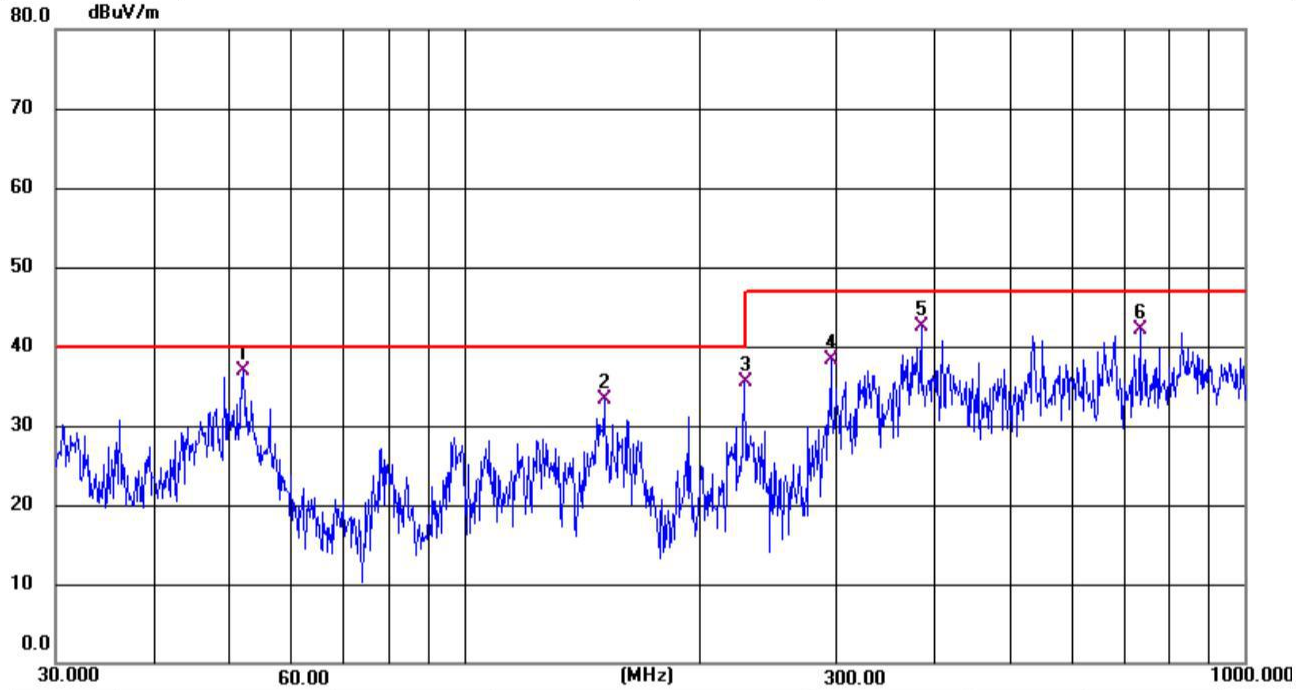
Measurement Data

Test mode:	On mode	Polarization:	Horizontal



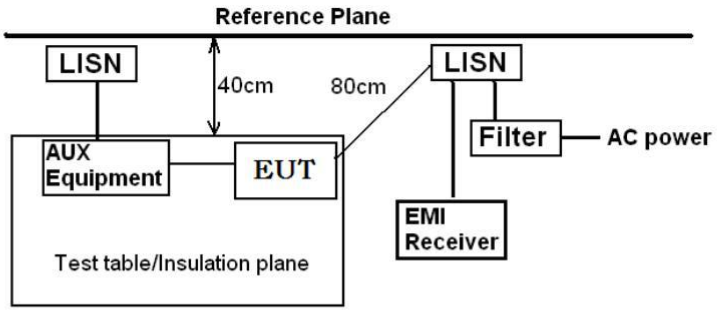
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	51.4806	51.76	-16.58	35.18	40.00	-4.82	QP
2	96.4360	56.61	-21.45	35.16	40.00	-4.84	QP
3	229.2930	51.26	-15.41	35.85	40.00	-4.15	QP
4	326.7395	54.00	-11.52	42.48	47.00	-4.52	QP
5	574.6258	48.55	-6.56	41.99	47.00	-5.01	QP
6 *	929.0081	43.56	-0.03	43.53	47.00	-3.47	QP

Test mode:	On mode	Polarization:	Vertical



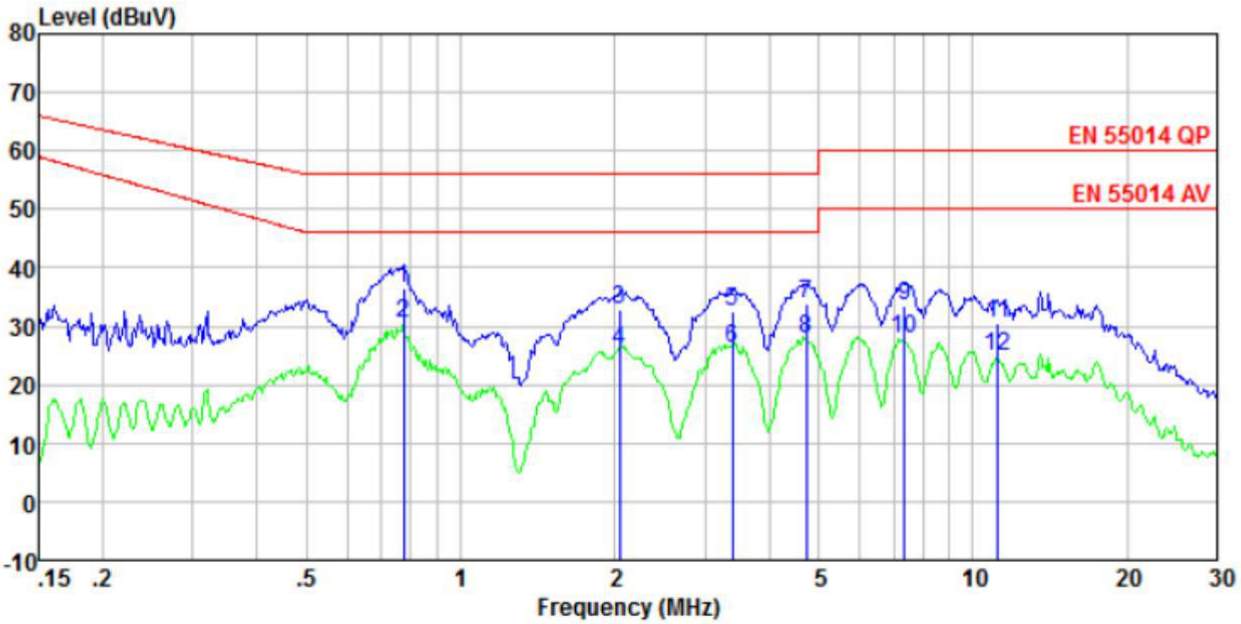
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	52.2077	53.65	-16.72	36.93	40.00	-3.07	QP
2	151.5971	51.78	-18.56	33.22	40.00	-6.78	QP
3	228.4902	50.95	-15.44	35.51	40.00	-4.49	QP
4	295.1467	53.71	-15.43	38.28	47.00	-8.72	QP
5	385.2803	51.81	-9.24	42.57	47.00	-4.43	QP
6	734.4913	47.76	-5.73	42.03	47.00	-4.97	QP

7.2 Conducted Emission

Test Requirement:	EN 55014-1
Test Method:	EN 55014-1
Test Frequency Range:	150kHz to 30MHz
Class / Severity:	Class B
Limit:	Frequency range (MHz) / Limit (dBμV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 59 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(LISN). The provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to EN55032 Class B on conducted measurement.
Test environment:	Temp.: 24 °C / Humid.: 51% / Press.: 1012mbar
Measurement Record:	**Uncertainty: ±3.45dB**
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Pass

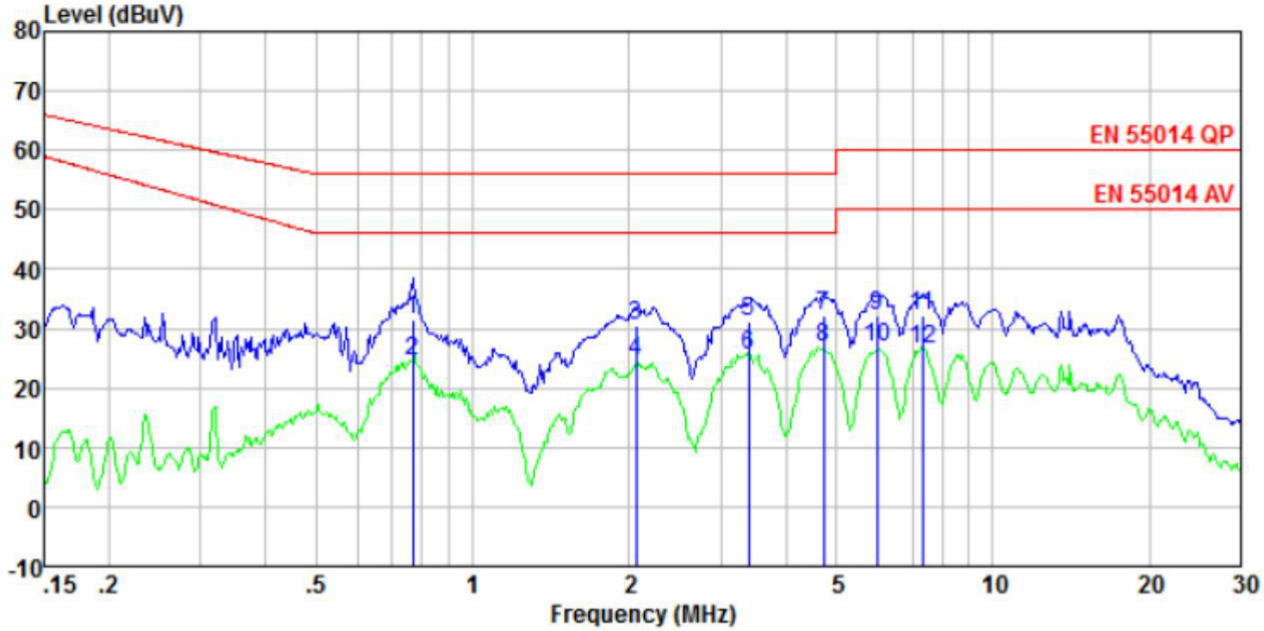
Measurement Data

Test mode:	On mode	Phase Polarity:	Line:



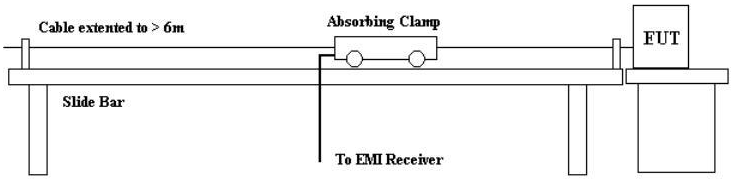
Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.78	36.22	0.24	0.14	36.60	56.00	-19.40	QP
0.78	30.16	0.24	0.14	30.54	46.00	-15.46	Average
2.04	32.53	0.20	0.18	32.91	56.00	-23.09	QP
2.04	25.51	0.20	0.18	25.89	46.00	-20.11	Average
3.40	32.21	0.20	0.18	32.59	56.00	-23.41	QP
3.40	25.90	0.20	0.18	26.28	46.00	-19.72	Average
4.72	33.39	0.20	0.17	33.76	56.00	-22.24	QP
4.72	27.53	0.20	0.17	27.90	46.00	-18.10	Average
7.37	33.18	0.20	0.19	33.57	60.00	-26.43	QP
7.37	27.41	0.20	0.19	27.80	50.00	-22.20	Average
11.20	30.22	0.20	0.20	30.62	60.00	-29.38	QP
11.20	24.41	0.20	0.20	24.81	50.00	-25.19	Average

Test mode:	On mode	Phase Polarity:	Neutral:



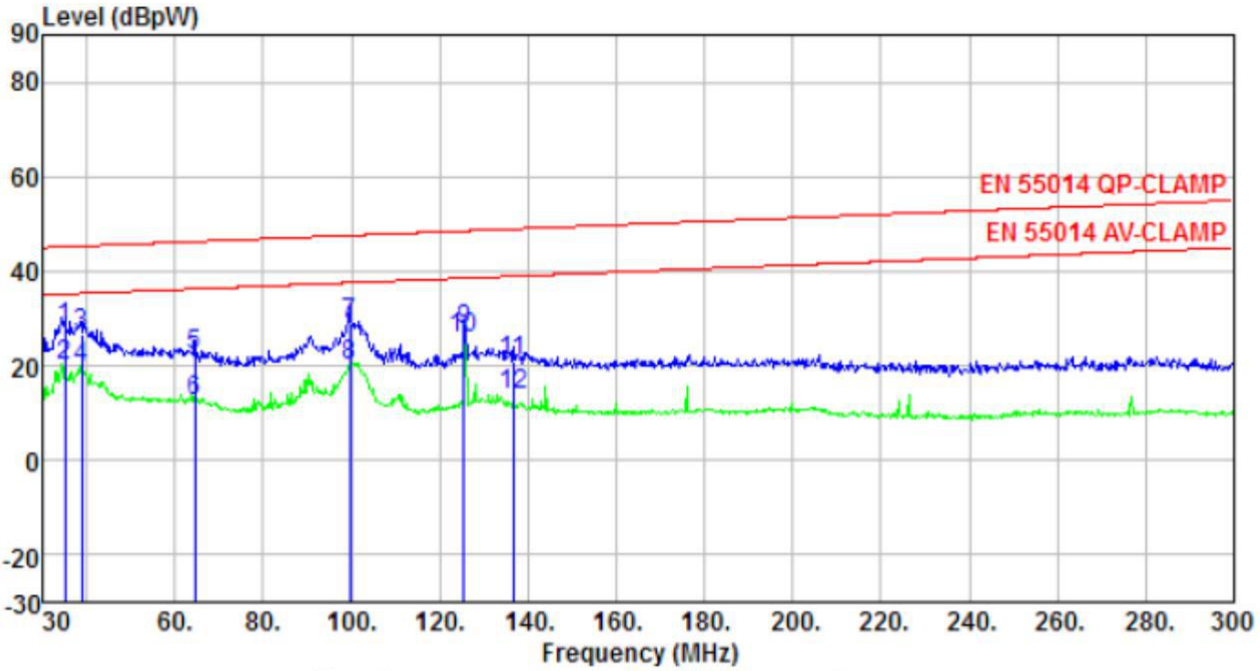
Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.77	31.17	0.24	0.13	31.54	56.00	-24.46	QP
0.77	24.03	0.24	0.13	24.40	46.00	-21.60	Average
2.07	30.10	0.20	0.18	30.48	56.00	-25.52	QP
2.07	24.28	0.20	0.18	24.66	46.00	-21.34	Average
3.40	30.84	0.20	0.18	31.22	56.00	-24.78	QP
3.40	25.23	0.20	0.18	25.61	46.00	-20.39	Average
4.72	31.81	0.20	0.17	32.18	56.00	-23.82	QP
4.72	26.53	0.20	0.17	26.90	46.00	-19.10	Average
5.99	31.83	0.20	0.18	32.21	60.00	-27.79	QP
5.99	26.46	0.20	0.18	26.84	50.00	-23.16	Average
7.33	31.65	0.20	0.19	32.04	60.00	-27.96	QP
7.33	26.28	0.20	0.19	26.67	50.00	-23.33	Average

7.3 Disturbance Power

<table>
<tr><td>Test Requirement:</td><td colspan="6">EN 55014-1</td></tr>
<tr><td>Test Method:</td><td colspan="6">EN 55014-1</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="6">30MHz to 300MHz</td></tr>
<tr><td>Receiver setup:</td><td colspan="6">RBW=120kHz, VBW=300kHz</td></tr>
<tr><td>Limit:</td><td colspan="6">
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBpW)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>30 to 300</td><td>45 to 55 [a]</td><td>35 to 45 [a]</td></tr>
</table>
a Increasing linearly with the frequency.
</td></tr>
<tr><td>Test setup:</td><td colspan="6"> 
</td></tr>
<tr><td>Test environment:</td><td>Temp.:</td><td>25 °C</td><td>Humid.:</td><td>50%</td><td>Press.:</td><td>1 012mbar</td></tr>
<tr><td>Measurement Record:</td><td colspan="6">Uncertainty: ± 3.68dB</td></tr>
<tr><td>Test Instruments:</td><td colspan="6">Refer to section 6 for details</td></tr>
<tr><td>Test mode:</td><td colspan="6">Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td colspan="6">Pass</td></tr>
</table>

Measurement Data

Test mode:	On mode	Test Line:	AC line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBpW	dB	dBpW	dBpW	dB	
1	35.130	7.89	20.23	28.12	45.20	-17.08	QP
2	35.130	-0.11	20.23	20.12	35.20	-15.08	Average
3	38.910	6.11	20.36	26.47	45.34	-18.87	QP
4	38.910	-0.89	20.36	19.47	35.34	-15.87	Average
5	64.560	2.90	19.53	22.43	46.29	-23.86	QP
6	64.560	-7.10	19.53	12.43	36.29	-23.86	Average
7	99.660	9.77	19.05	28.82	47.59	-18.77	QP
8	99.660	0.77	19.05	19.82	37.59	-17.77	Average
9	125.580	8.12	19.51	27.63	48.55	-20.92	QP
10	125.580	6.12	19.51	25.63	38.55	-12.92	Average
11	136.650	2.09	18.96	21.05	48.96	-27.91	QP
12	136.650	-4.91	18.96	14.05	38.96	-24.91	Average

7.4 Harmonics Test Results

Test Requirement:	EN IEC 61000-3-2		
Test Method:	EN IEC 61000-3-2		
Frequency range:	100Hz to 2kHz		
Measurement Time:	2.5 min		
Class/Severity:	Class A		
Detector:	As per EN IEC 61000-3-2		
Test environment:	Temp.: 24°C	Humid.: 51%	Press.: 1010bar
Test Instruments:	Refer to section 5 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

7.5 Flicker Test Result

Test Requirement:	EN 61000-3-3					
Test Method:	EN 61000-3-3					
Class/Severity:	Clause 5 of EN 61000-3-3					
Measurement Time:	10 min					
Detector:	As per EN 61000-3-3					
Test environment:	Temp.:	24°C	Humid.:	51%	Press.:	1 012mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					

Measurement Data

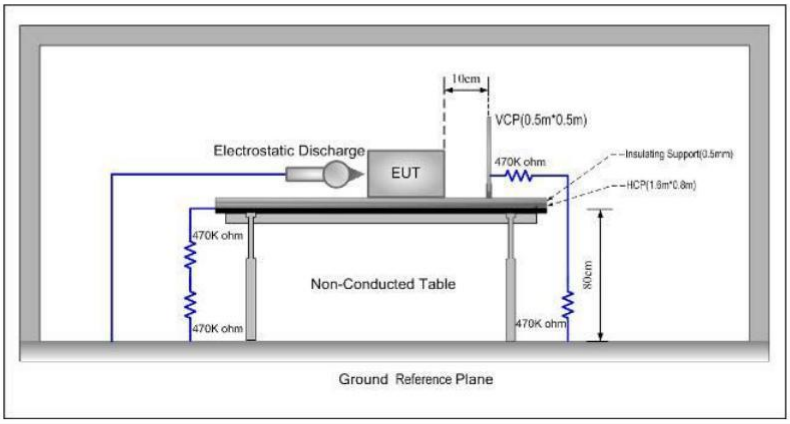
	EUT values	Limit	Result
Pst	0.042	1.00	PASS
Plt	0.049	0.65	PASS
Dc[%]	0.000	3.30	PASS
Dmax[%]	0.059	4.00	PASS
Dt [s]	0.000	0.50	PASS

8 Immunity Test Results

8.1 Performance Criteria Description in 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 Electrostatic Discharge

Test Requirement:	EN 55014-2
Test Method:	EN 61000-4-2
Discharge Voltage:	Contact Discharge: ±4kV Air Discharge: ±8kV HCP/VCP:±4kV
Polarity:	Positive & Negative
Number of Discharge:	Minimum 10 times at each test point.
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum
Performance Criterion:	B
Test setup:	
Test Procedure:	**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 10 times for each pre-selected test point. This procedure was repeated until all the air discharge completed **2. Contact Discharge:** The test was applied on conductive surfaces of EUT. the generator was re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. the tip of the discharge electrode was touch the EUT before the discharge switch was operated. **3. Indirect discharge for horizontal coupling plane** At least 10 single discharges shall be applied at the front edge of each HCP opposite the centre point of each unit of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge. Consideration should be given to exposing all sides of the EUT. **4. Indirect discharge for vertical coupling plane**

	At least 10 single discharges 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.		
Test environment:	Temp.: 24 °C	Humid.: 51%	Press.:1012mbar
Test mode:	Refer to section 6 for details		
Test Instruments:	Refer to section 5.3 for details		
Test results:	Pass		

Measurement Record:

Test points:	I: Metal
	II: Seams, Switch

Direct discharge

Discharge Voltage (KV)	Type of discharge	Test points	Observations (Performance Criterion)	Result
± 4	Contact	I	A	Pass
± 8	Air	II	A	Pass

Indirect discharge

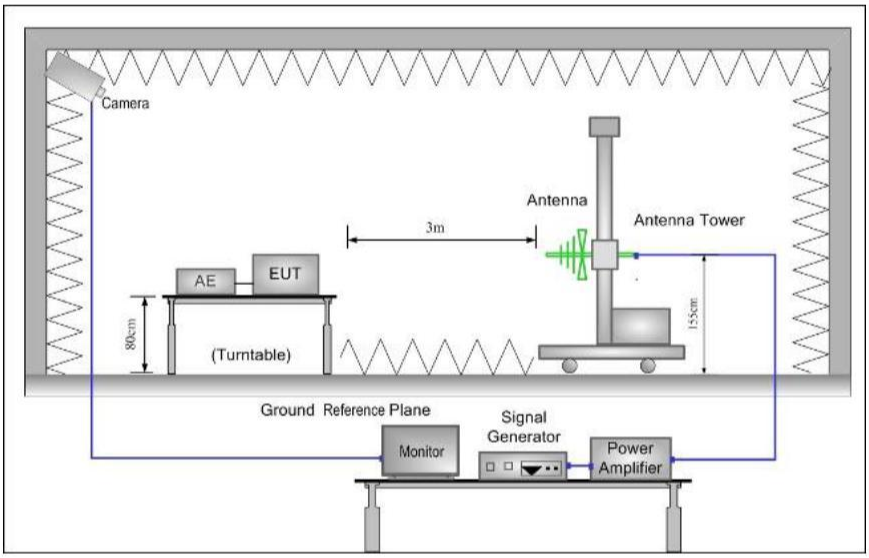
Discharge Voltage (KV)	Type of discharge	Test points	Observation Performance	Result
± 4	HCP-Bottom/Top/ Front/Back/Left/Right	Edge of the HCP	A	Pass
± 4	VCP-Front/Back /Left/Right	Center of the VCP	A	Pass

Remark:

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

N/A: not applicable

8.3 Radio-frequency electromagnetic fields

Test Requirement:	EN 55014-2
Test Method:	EN 61000-4-3
Frequency range:	80MHz to 1GHz
Test Level:	3V/m
Modulation:	80%, 1kHz Amplitude Modulation
Performance Criterion:	Criteria B
Test setup:	
Test Procedure:	1. For table-top equipment, the EUT was placed in the chamber on a non-conductive table 0.8m high. For arrangement of floor-standing equipment, the EUT was mounted on a non-conductive support 0.1m above the supporting plane. For human body-mounted equipment, the EUT may be tested in the same manner as table top items. 2. If possible, a minimum of 1 m of cable is exposed to the electromagnetic field. Excess length of cables interconnecting units of the EUT shall be bundled low-inductively in the approximate center of the cable to form a bundle 30 cm to 40 cm in length. 3. The EUT was initially placed with one face coincident with the calibration plane. The EUT face being illuminated was contained within the UFA (Uniform Field Area). 4. The frequency ranges to be considered were swept with the signal modulated and pausing to adjust the RF signal level or to switch oscillators and antennas as necessary. Were the frequency range was swept incrementally, the step size was not exceed 1 % of the preceding frequency value. 5. The dwell time of the amplitude modulated carrier at each frequency was not be less than the time necessary for the EUT to be exercised and to respond, and was not less than 0,5 s. 6. The test normally was performed with the generating antenna facing each side of the EUT. 7. The polarization of the field generated by each antenna necessitates

	testing each selected side twice, once with the antenna positioned vertically and again with the antenna positioned horizontally. 8. The EUT was performed in a configuration to actual installation conditions, a video camera and/or a audio monitor were used to monitor the performance of the EUT.					
Test environment:	Temp.:	25°C	Humid.:	52%	Press.:	1 012mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					

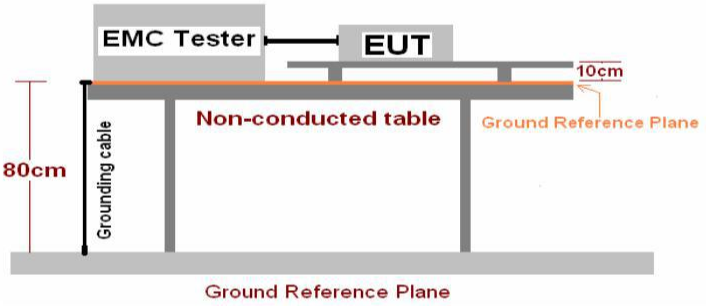
Measurement Record:

Frequency	Level	Modulation	Antenna Polarization	EUT Face	Observations (Performance Criterion)
80 MHz-1 GHz	3 V/m	1 kHz, 80 % Amp. Mod, 1% increment, dwell time=3seconds	V	Front	A
			H		A
			V	Rear	A
			H		A
			V	Left	A
			H		A
			V	Right	A
			H		A
			V	Top	A
			H		A
			V	Bottom	A
			H		A

Remarks:

A: No degradation in the performance of the E.U.T. was observed.

8.4 Electrical Fast Transients

Test Requirement:	EN 55014-2		
Test Method:	EN 61000-4-4		
Test Level:	1.0kV on AC port		
Polarity:	Positive & Negative		
Repetition Frequency:	5kHz		
Burst Duration:	15ms		
Burst Period:	300ms		
Test Duration:	2 minute per level & polarity		
Performance Criterion:	B		
Test setup:			
Test Procedure:	1. The EUT and its simulators were placed on the ground reference plane and were insulated from it by a wood support 0.1m + 0.01m thick. The ground reference plane was 1m*1m metallic sheet with 0.65mm minimum thickness. 2. This reference ground plane was project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane was more than 0.5m. 3. All cables to the EUT was placed on the wood support, cables not subject to EFT/B was routed as far as possible from the cable under test to minimize the coupling between the cables. 4. The length of the signal and power lines between the coupling device and the EUT is 0.5m 5. The EUT is connected to the power mains through a coupling device that directly couples the EFT/B interference signal. 6. Each of the Line and Neutral conductors is impressed with burst noise for 2 minutes.		
Test environment:	Temp.: 26 °C	Humid.: 54%	Press.: 1012mbar
Test Instruments:	Refer to section 6 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Pass		

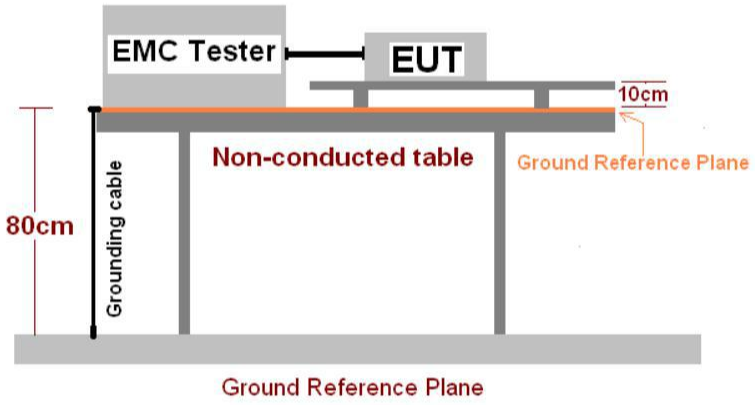
Measurement Record:

Lead under Test	Level (kV)	Coupling Direct/Clamp	Observations (Performance Criterion)	Result
L	+/- 1kV	Direct	A	Pass
N	+/- 1kV	Direct	A	Pass
L-N	+/- 1kV	Direct	A	Pass

Remark:

A: No degradation in the performance of the E.U.T. was observed.

8.5 Surges

Test Requirement:	EN 55014-2		
Test Method:	EN 61000-4-5		
Test Level:	1kV line to line 2kV line to earth		
Polarity:	Positive & Negative		
Generator source impedance:	2Ω (line-line coupling) 12Ω (line-earth coupling)		
Test signal specification:	Rise time=1.2us, Duration time=50us; Test Interval: 60s between each surge;		
No. of surges:	5 positive, 5 negative at 0°, 90°, 180°, 270°.		
Performance Criterion:	B		
Test setup:			
Test Procedure:	1. For line-to-line coupling mode, provide a 1kV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points, and for active line / neutral lines to ground are same except test level is 2kV. 2. At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are applied during test. 3. Different phase angles are done individually. 4. Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.		
Test environment:	Temp.: 26 °C	Humid.: 53%	Press.: 1012mbar
Test Instruments:	Refer to section 6 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Pass		

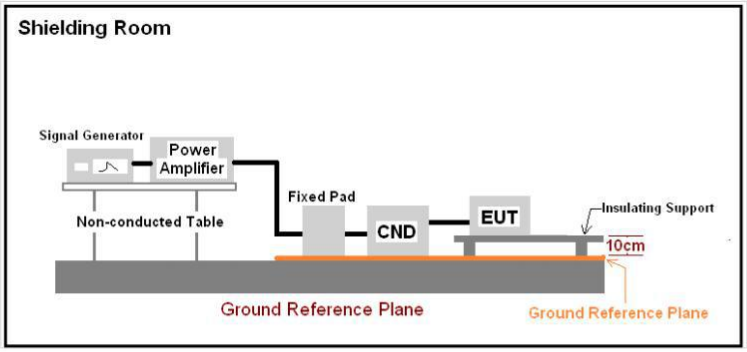
Measurement Record:

Location	Level(kV)	Pulse No	Surge Interval	Phase(deg)	Observations (Performance Criterion)
L-N	+1kV	5	60s	0,90,180,270	A
	-1kV				

Remark:

A: No degradation in the performance of the E.U.T. was observed.

8.6 Injected Currents test

Test Requirement:	EN 55014-2		
Test Method:	EN 61000-4-6		
Frequency range:	0.15MHz to 230MHz		
Test Level:	3V rms on AC Ports (unmodulated emf into 150Ω)		
Modulation:	80%, 1kHz Amplitude Modulation		
Performance Criterion:	Criteria A		
Test setup:			
Test Procedure:	1. 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). 2. The disturbance signal described below is injected to EUT through CDN. 3. The EUT operates within its operational mode(s) under intended climatic conditions after power on. 4. Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.		
Test environment:	Temp.: 24 °C	Humid.: 51%	Press.: 1012mbar
Test Instruments:	Refer to section 6 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

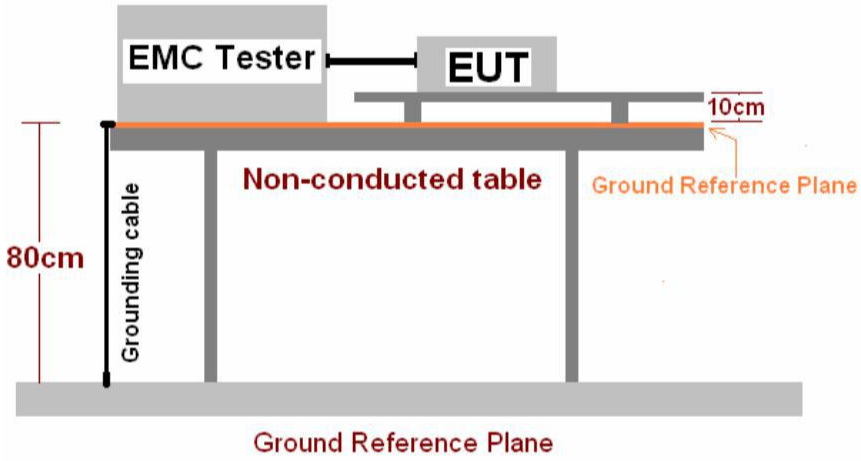
Measurement Record:

Frequency	Injected Position	Test Level	Modulation	Step Size	Dwell Time	Observations (Performance Criterion)
150kHz to 230MHz	AC Main	3Vrms	80%, 1kHz Amp. Mod.	1%	2s	A

Remark:

A: No loss of function was observed.

8.7 Voltage Dips and Voltage Interruptions

Test Requirement:	EN 55014-2					
Test Method:	EN 61000-4-11					
Test Level:	0% of VT(Supply Voltage) for 0.5 period 70% of VT(Supply Voltage) for 25 period 40% of VT(Supply Voltage) for 10 period					
No. of Dips /Interruptions:	3 per Level					
Performance Criterion:	C					
Test setup:						
Test Procedure:	1. The EUT and test generator were setup as shown on above setup photo. 2. The interruptions are introduced at selected phase angles with specified duration. 3. Record any degradation of performance.					
Test environment:	Temp.:	26 °C	Humid.:	53%	Press.:	1 012mbar
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					

Measurement Record:

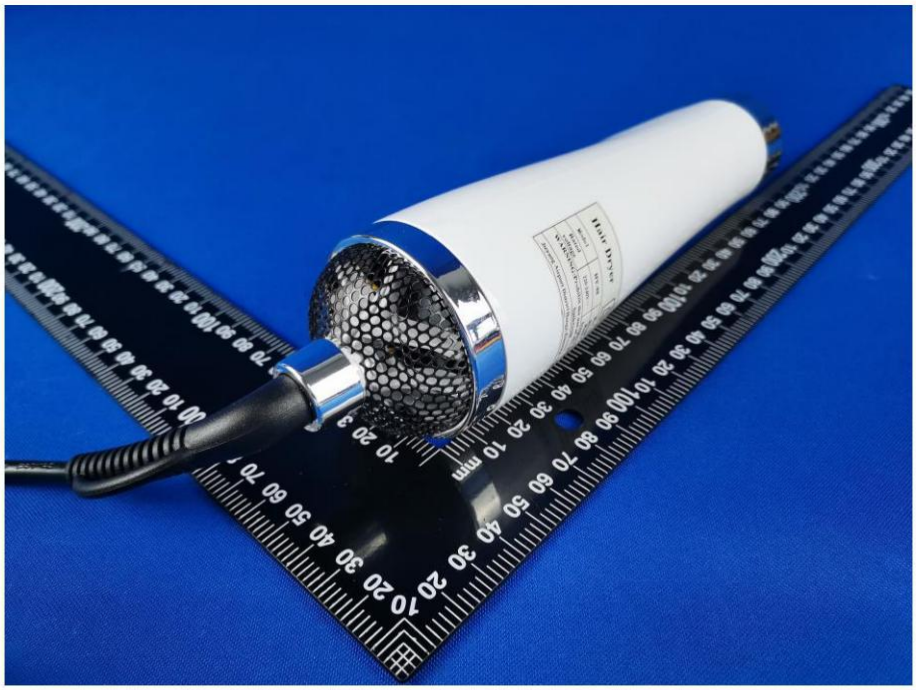
Test Level % U_T	Duration (Periods)	Phase angle	No. of drop out	Time between dropout	Observations (Performance Criterion)	Result
0	0.5	0°, 90°, 180°, 270°	3	10s	A	Pass
70	25	0°, 90°, 180°, 270°	3	10s	B	Pass
40	10	0°, 90°, 180°, 270°	3	10s	B	Pass

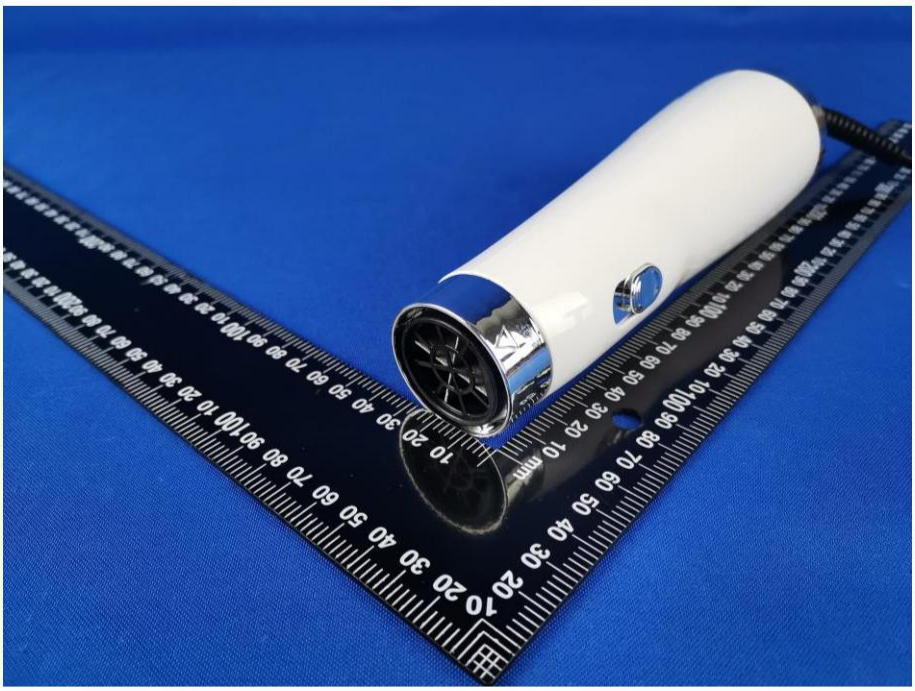
Remark:

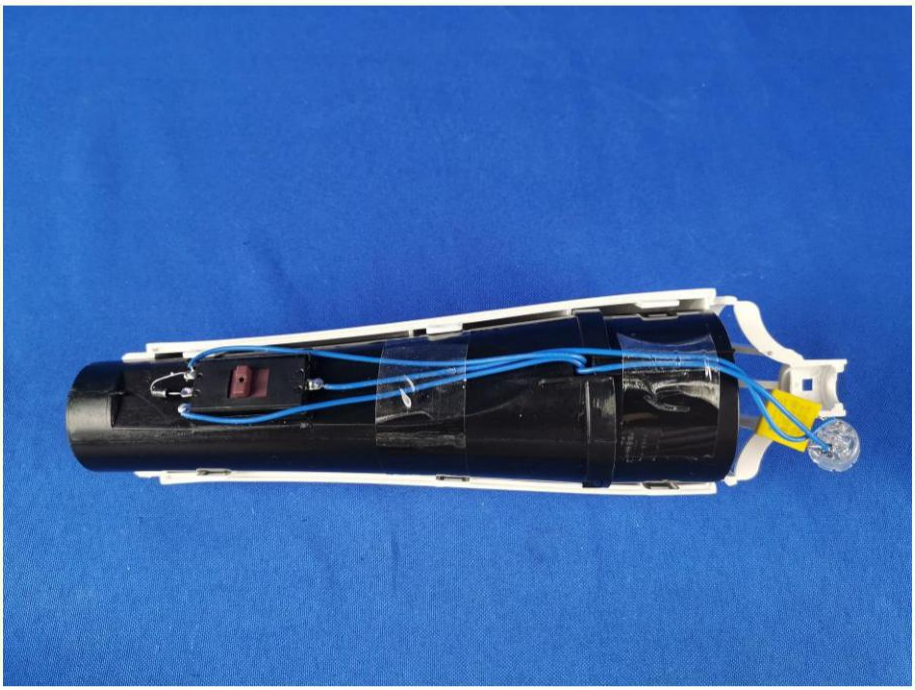
A: No degradation in performance of the EUT was observed.

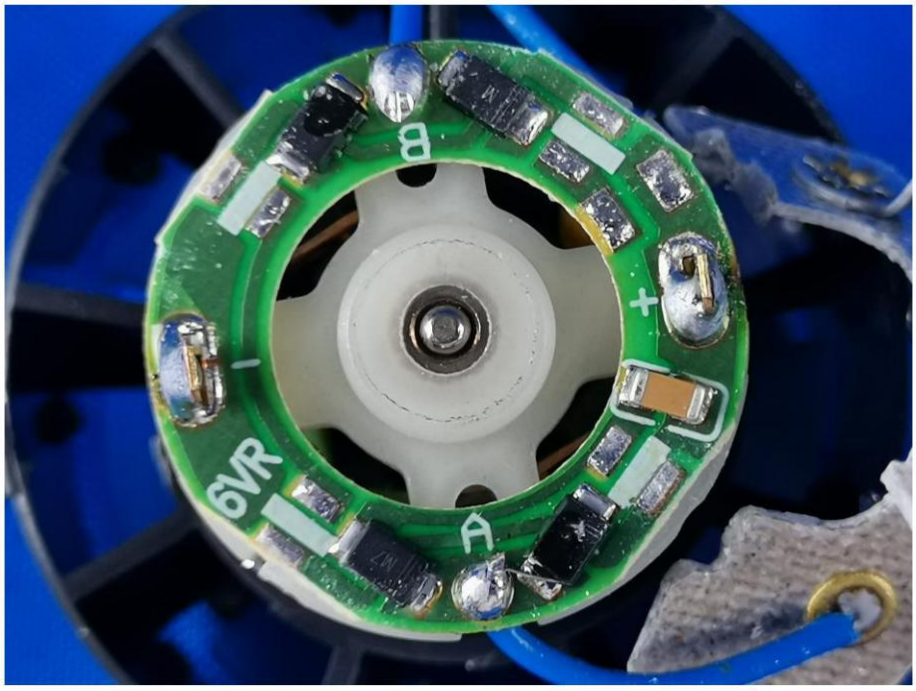
B: During the test, the screen from the display will have some flickers,after the experiment, the function can automatically return to normal

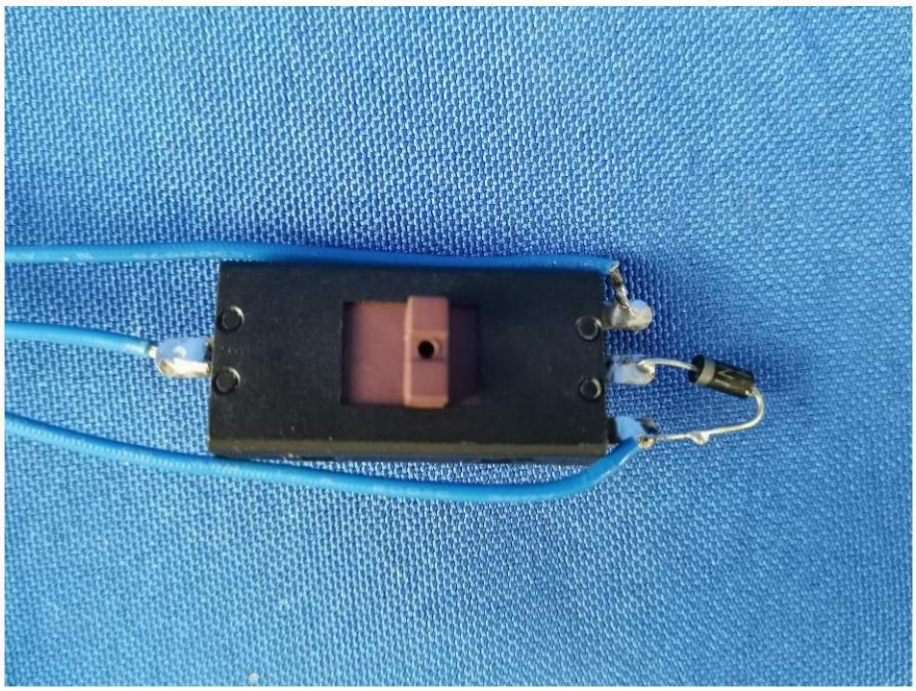
9 Photographs of the EUT

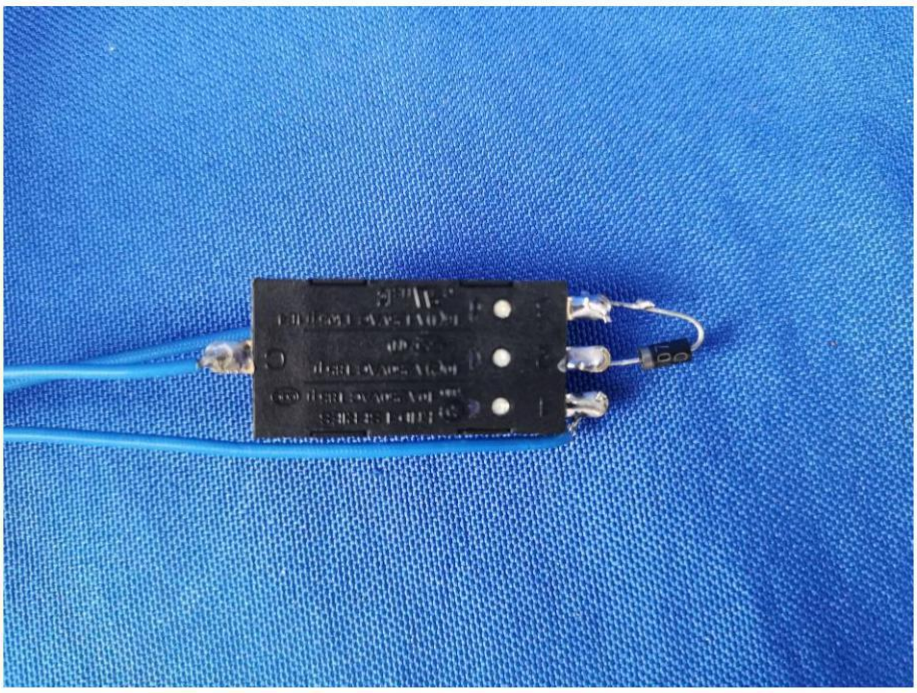












The following photo was submitted and identified by the client, only for reference

HY-82 700W

HY-86 700W

HY-89 750W

HY-99 750W

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