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Report No.: SHEM140200024001
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1 Cover Page

TEST REPORT

Application No.:	SHEM1402000240LM
Applicant:	SHANGHAI WEINSUN ELECTRONICS CO., LTD
Address of Applicant:	No.3266, Jin Du Road, Min Hang District, Shanghai, China
Manufacturer:	SHANGHAI WEINSUN ELECTRONICS CO., LTD
Address of Manufacture:	No.3266, Jin Du Road, Min Hang District, Shanghai, China
Product Name:	Spot light
Model No.(EUT):	P1608-S-DIM
Add Model No.:	P1604-S-DIM, P1608-C2-DIM, P1604-C2-DIM, SP1608-DIM, SP1604-DIM, P1608-S, P1604-S2, P1604-S
Standards:	EN 62493:2010
Date of Receipt:	February 11, 2014
Date of Test:	February 12, 2014 to March 12, 2014
Date of Issue:	March 25, 2014
Test Result:	Pass*

* In the configuration tested, the EUT (Equipment under test) complied with the standards specified above.



Tony Wu
E&E Section Manager
SGS-CSTC (Shanghai) Co., Ltd.

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.



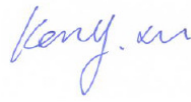
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		March 13, 2014		Original

Authorized for issue by:				
Engineer		Zoe Cang _____ Print Name		 _____ Date (March 12, 2014)
Clerk		Susie Liu _____ Print Name		 _____ Date (March 13, 2014)
Reviewer		Keny Xu _____ Print Name		 _____ Date (March 13, 2014)

1	1.1	APPLICATION OF LIMITS (Test summary)		
		Specific absorption rate (SAR)		
a)	CISPR 15 clause 4.3.1 Disturbance voltage mains terminals (20 kHz – 30 MHz)	*)		P
b)	CISPR 15 clause 4.4 Radiated electromagnetic disturbances magnetic component (100 kHz – 30 MHz)	*)		P
c)	CISPR 15 clause 4.4.2 Radiated electromagnetic disturbances electric component (30 MHz – 300 MHz)	*)		P
2	*)	<input checked="" type="checkbox"/> See Annex A and Annex B for measurements of b and c above <input type="checkbox"/> Only measurement of d) below. See measurement results below. In this case this test report does not show compliance with IEC 62493.		—
		Induced current density		
d)	Induced current density (20 kHz – 10 MHz)	Refer to measurement results following		P

	Power supply system utilised:		—
	Voltage	AC 220-260V, 9W	—
	Frequency	50Hz	—
	Environmental conditions:		—
	Temperature	23.5 °C	—
	Humidity	40%	—
	EUT operation mode:		—
	<input checked="" type="checkbox"/> Normal operation	--	—
	<input type="checkbox"/> Other operation:		—

Note: There are 9 models mentioned in this report, and they are the similar in electrical and electronic characters. Only the model P1608-S-DIM was tested since their differences were the model number, power and appearance deviation.



2	Disturbance voltage mains terminals						
Operating mode(s) used during test:		Light mode					
Test set up :		CISPR 15					
Test set up description :		Table – top					
Remarks :		N/A					
Ambient Temperature :		23.1 °C					
2.1.1	EQUIPMENT USED DURING TEST						
Conducted Emission							
	Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date
	1	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2014-02-23	2015-02-22
	2	Line impedance stabilization network	SCHWARZBECK	NSLK8127	8127-490	2014-02-23	2015-02-22
	3	Line impedance stabilization network	ETS	3816/2	00034161	2014-02-23	2015-02-22

2.1.2 Measurement Data

Live Line

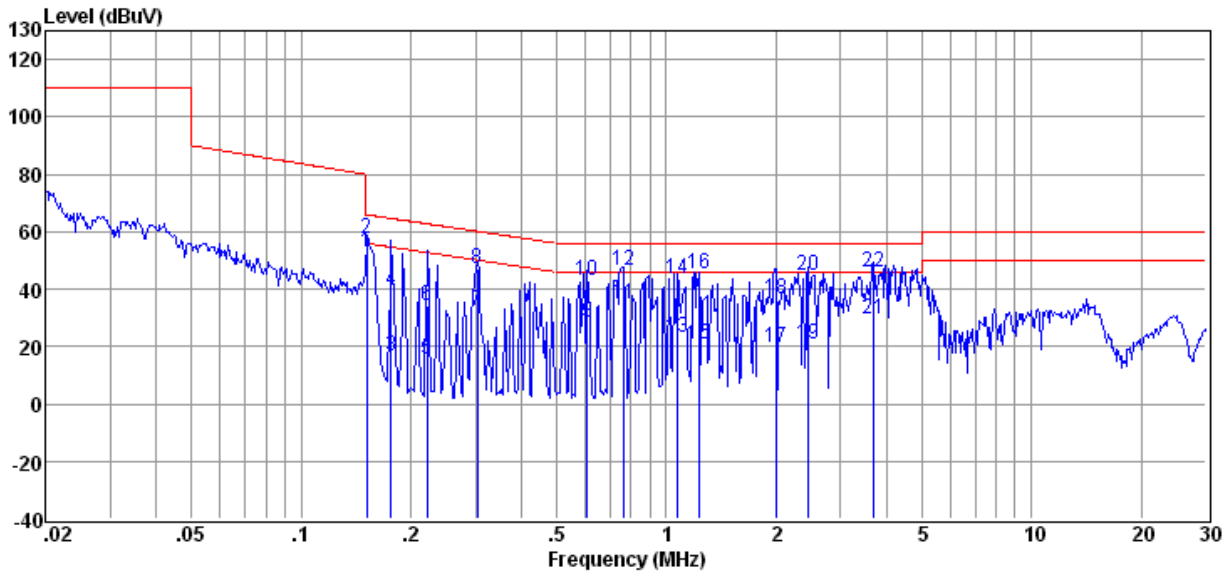
Item	Freq.	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)	
1	0.151	52.71	0.20	0.10	53.01	55.92	-2.91	Average
2	0.151	57.20	0.20	0.10	57.50	65.92	-8.42	QP
3	0.177	16.49	0.15	0.10	16.74	54.64	-37.90	Average
4	0.177	39.32	0.15	0.10	39.57	64.64	-25.07	QP
5	0.222	15.40	0.11	0.10	15.61	52.75	-37.14	Average
6	0.222	34.20	0.11	0.10	34.41	62.75	-28.34	QP
7	0.304	32.23	0.13	0.10	32.46	50.13	-17.67	Average
8	0.304	46.95	0.13	0.10	47.18	60.13	-12.95	QP
9	0.606	27.96	0.20	0.10	28.26	46.00	-17.74	Average
10	0.606	42.82	0.20	0.10	43.12	56.00	-12.88	QP
11	0.761	34.49	0.20	0.10	34.79	46.00	-11.21	Average
12	0.761	45.97	0.20	0.10	46.27	56.00	-9.73	QP
13	1.070	22.92	0.21	0.10	23.23	46.00	-22.77	Average
14	1.070	43.33	0.21	0.10	43.64	56.00	-12.36	QP
15	1.228	20.42	0.22	0.10	20.74	46.00	-25.26	Average
16	1.228	45.09	0.22	0.10	45.41	56.00	-10.59	QP
17	1.997	19.02	0.30	0.10	19.42	46.00	-26.58	Average
18	1.997	35.94	0.30	0.10	36.34	56.00	-19.66	QP
19	2.447	20.21	0.30	0.11	20.62	46.00	-25.38	Average
20	2.447	44.45	0.30	0.11	44.86	56.00	-11.14	QP
21	3.670	29.26	0.30	0.16	29.72	46.00	-16.28	Average
22	3.670	45.23	0.30	0.16	45.69	56.00	-10.31	QP

Neutral Line

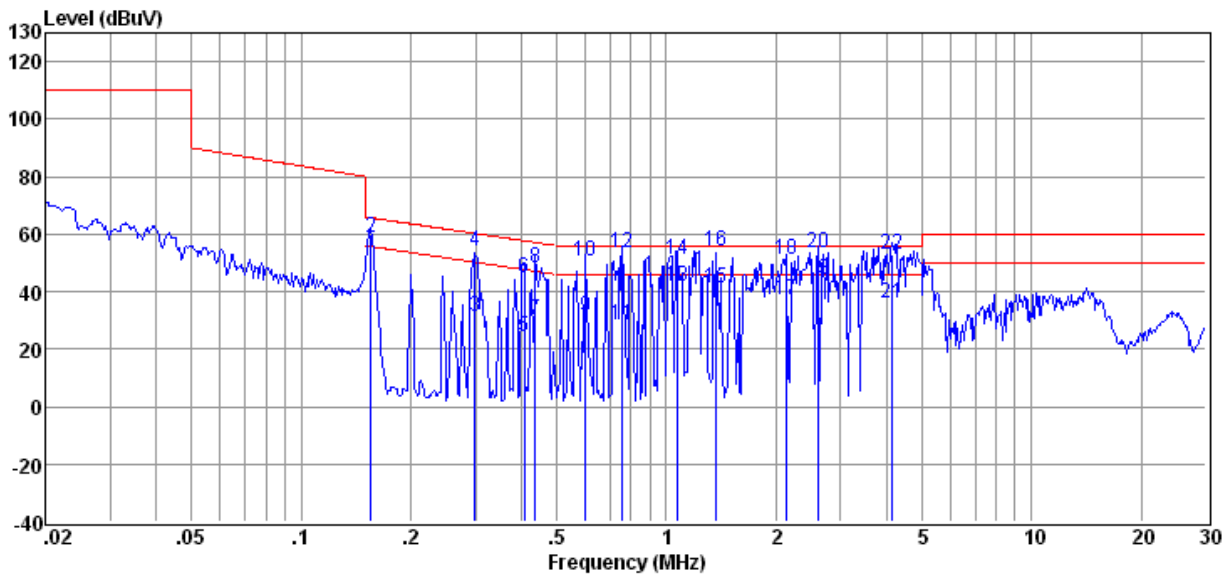
Item	Freq.	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dB μ V)	(dB)	(dB)	(dB μ V)	(dB μ V)	(dB)	
1	0.155	52.20	0.19	0.10	52.49	55.72	-3.23	Average
2	0.155	58.38	0.19	0.10	58.67	65.72	-7.05	QP
3	0.299	30.80	0.10	0.10	31.00	50.26	-19.26	Average
4	0.299	53.60	0.10	0.10	53.80	60.26	-6.46	QP
5	0.407	24.00	0.10	0.10	24.20	47.70	-23.50	Average
6	0.407	44.47	0.10	0.10	44.67	57.70	-13.03	QP
7	0.438	29.65	0.10	0.10	29.85	47.10	-17.25	Average
8	0.438	47.73	0.10	0.10	47.93	57.10	-9.17	QP
9	0.601	30.99	0.15	0.10	31.24	46.00	-14.76	Average
10	0.601	50.42	0.15	0.10	50.67	56.00	-5.33	QP
11	0.755	27.78	0.20	0.10	28.08	46.00	-17.92	Average
12	0.755	53.44	0.20	0.10	53.74	56.00	-2.26	QP
13	1.070	41.55	0.21	0.10	41.86	46.00	-4.14	Average
14	1.070	51.09	0.21	0.10	51.40	56.00	-4.60	QP
15	1.364	40.73	0.24	0.10	41.07	46.00	-4.93	Average
16	1.364	54.00	0.24	0.10	54.34	56.00	-1.66	QP
17	2.131	36.59	0.29	0.10	36.98	46.00	-9.02	Average
18	2.131	50.63	0.29	0.10	51.02	56.00	-4.98	QP
19	2.589	43.74	0.27	0.12	44.13	46.00	-1.87	Average
20	2.589	53.31	0.27	0.12	53.70	56.00	-2.30	QP
21	4.145	35.60	0.22	0.17	35.99	46.00	-10.01	Average
22	4.145	52.30	0.22	0.17	52.69	56.00	-3.31	QP

2.1.3 Graphical Presentation Of The Result

Live Line



Neutral Line



Test Setup Photo



3	INDUCED CURRENT DENSITY				
3.1.1	MEASUREMENT RESULTS				
	Measuring with "Van der Hoofden" test head				
	Type of lighting equipment: refer to below table				
Location of EUT	Measuring distance	Result (F)	Limit (F)	Verdict	
Location of measurement point at a distance mid-way along the lamp	Refer to table in the standard as below	0.210	0.85	P	

Type of lighting equipment	Measurement distance	(cm)	√
Hand lamps ^a		5 ^a	
Table lighting equipment		30	
Wall lighting equipment		50	
Up lighter		50	
Suspended lighting equipment		50	
Ceiling and/or recessed lighting equipment for fluorescent lamps with an input power ^b ≤ 180 W		50	
Ceiling and/or recessed lighting equipment for fluorescent lamps with an input power ^b > 180 W		70	
Ceiling and/or recessed lighting equipment for discharge lamps with an input power ^b ≤ 180 W		70	
Ceiling and/or recessed lighting equipment for discharge lamps with an input power ^b > 180 W		100	
Portable lighting equipment		50	
Flood lights		200	
Lighting equipment for road and street Lighting		200	
Lighting chains		50	
Lighting equipment for swimming-pools and similar applications		50	
Lighting equipment for stage lighting, television and film studios (outdoor and indoor)		100	
Lighting equipment for use in clinical areas of hospitals and health care buildings		50	
Ground recessed lighting equipment		50	
Aquarium lighting equipment		50	

Plug- in night lights	50	
Self ballasted lamps	30	√
UV and IR radiation equipment	50	
Transport lighting (installed in the passenger compartment of buses and trains)	50	
Other lighting equipment not mentioned in this table	50	

a Measurement distance should be 30 cm and the measured value should be calculated to a distance of 5 cm (equation; $1/r^3$)

b Total nominal power of the lighting equipment.

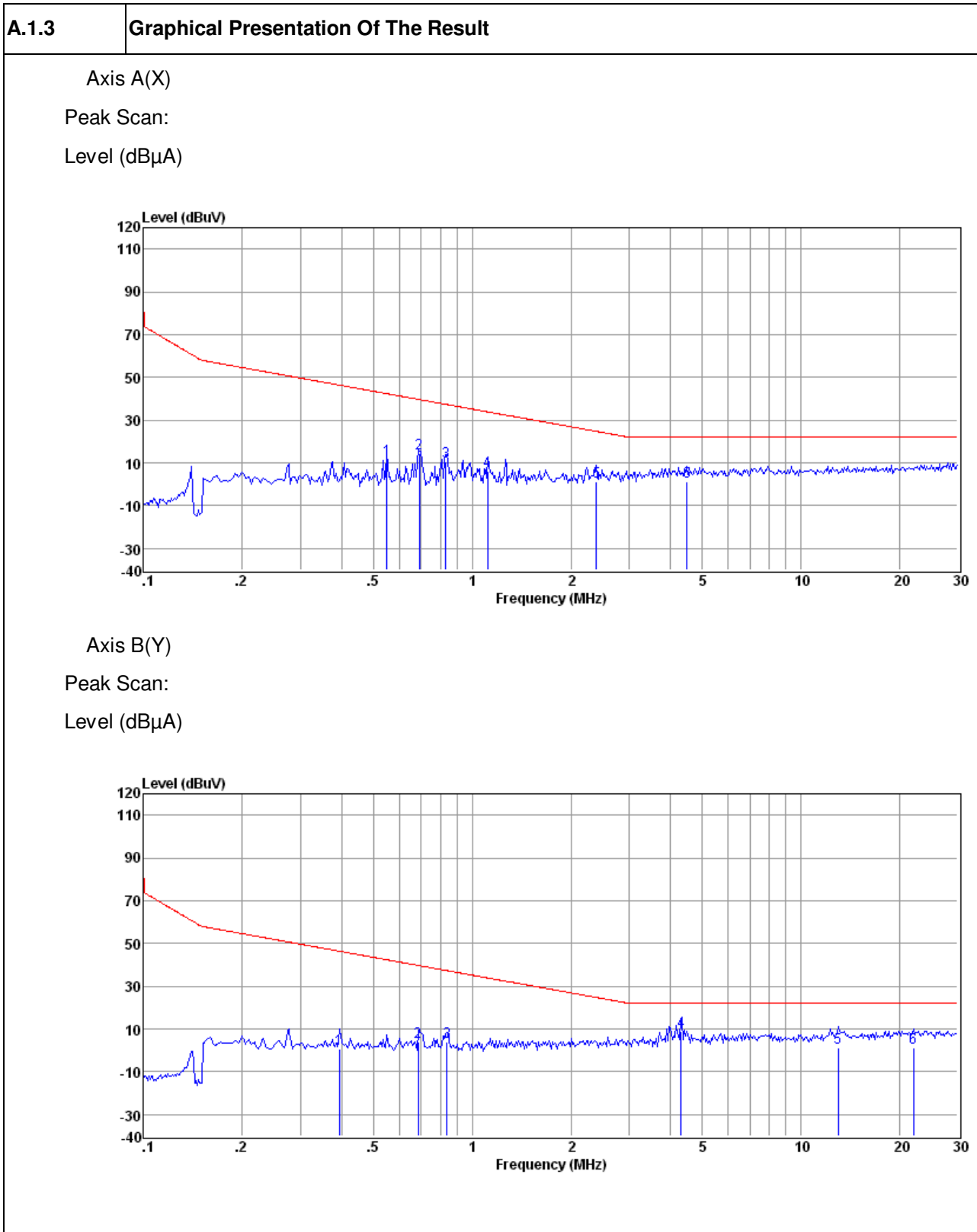
3.1.2 EQUIPMENT USED DURING TEST

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date	Cal.Due date
1	“Van der Hoofden” test head	SCHWARZBECK	VDHH 9502	059	2014-01-11	2015-01-10
2	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2014-02-24	2015-02-22

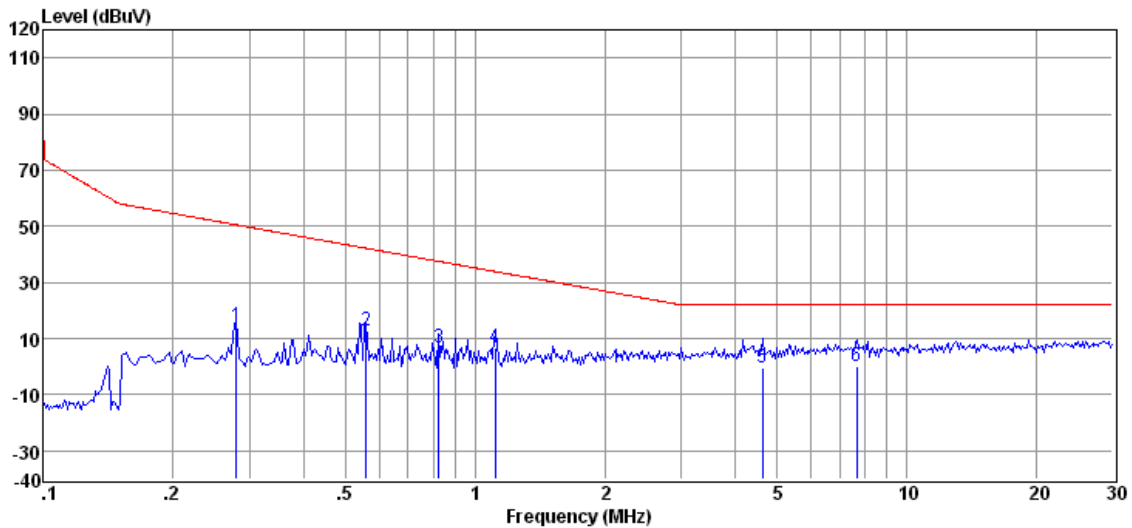
Test Setup Photo



A.1.2	Measurement Data						
Axis A(X)							
Item	Freq.	Read Level	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dB μ V)	(dB)	(dBuA)	(dBuA)	(dB)	
1	0.550	11.54	0.30	11.84	42.39	-30.55	QP
2	0.690	13.90	0.30	14.20	39.66	-25.46	QP
3	0.832	10.37	0.30	10.67	37.42	-26.75	QP
4	1.114	6.16	0.30	6.46	33.91	-27.45	QP
5	2.388	1.13	0.31	1.44	24.74	-23.30	QP
6	4.495	0.90	0.38	1.28	22.00	-20.72	QP
Axis B(Y)							
Item	Freq.	Read Level	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dB μ V)	(dB)	(dBuA)	(dBuA)	(dB)	
1	0.394	0.50	0.30	0.80	46.38	-45.58	QP
2	0.685	3.50	0.30	3.80	39.76	-35.96	QP
3	0.839	3.91	0.30	4.21	37.32	-33.11	QP
4	4.317	8.58	0.38	8.96	22.00	-13.04	QP
5	13.010	0.88	0.50	1.38	22.00	-20.62	QP
6	22.042	0.50	0.74	1.24	22.00	-20.76	QP
Axis C(Z)							
Item	Freq.	Read Level	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dB μ V)	(dB)	(dBuA)	(dBuA)	(dB)	
1	0.281	13.99	0.30	14.29	50.48	-36.19	QP
2	0.559	12.62	0.30	12.92	42.19	-29.27	QP
3	0.825	6.65	0.30	6.95	37.51	-30.56	QP
4	1.114	6.52	0.30	6.82	33.91	-27.09	QP
5	4.644	-0.98	0.39	-0.59	22.00	-22.59	QP
6	7.679	-0.13	0.50	0.37	22.00	-21.63	QP
Supplementary information:							
N/A							



Axis C(Z)
Peak Scan:
Level (dBμA)



Supplementary information:

N/A

A.1.4

Setup Photo

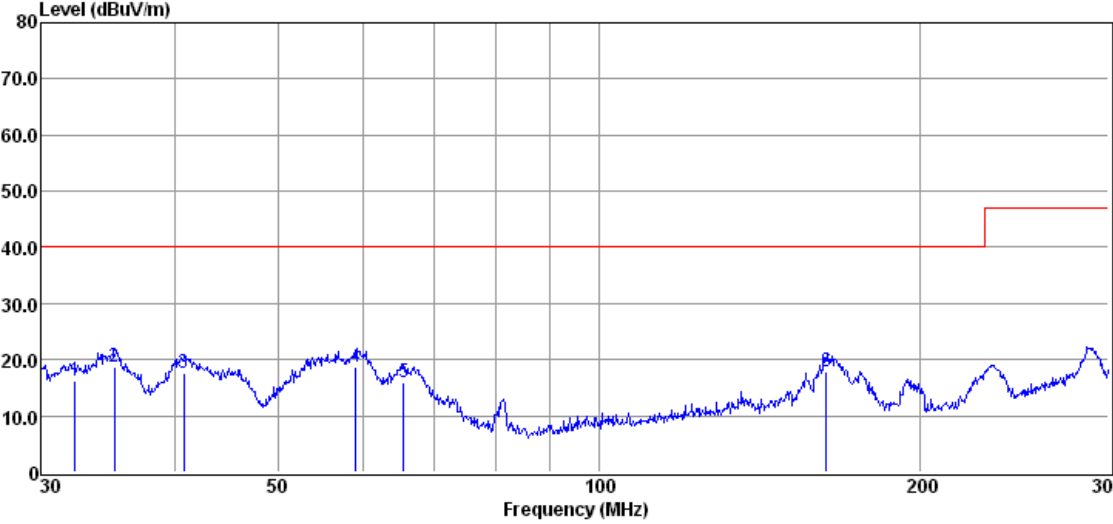
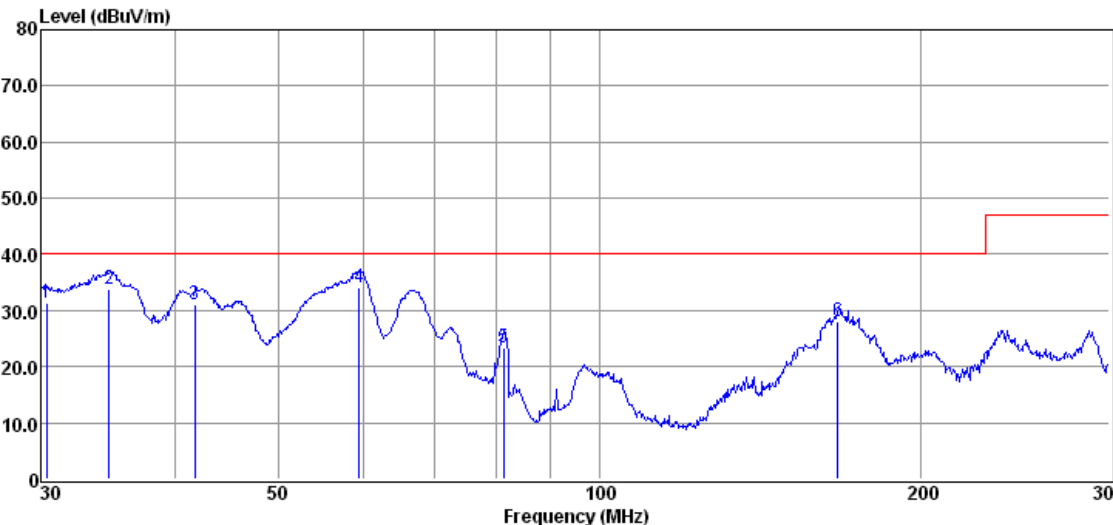


Annex B

B.1	Radiated electromagnetic disturbance (Electric component)	
Operating mode(s) used during test:	Light mode	
Test set up :	CISPR 15	
Test set up description :	Table – top	
Measurement distance (3 or 10 m):	3 m	
Remarks :	N/A	
Ambient Temperature :	21.0°C	

B.1.1	Equipment Used During Test						
	Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date
	1	EMI test receiver	Rohde & Schwarz	ESU40	100109	2014-02-23	2015-02-22
	2	Antenna	SCHWARZBE CK	VULB916 8	9168-313	2014-03-07	2015-03-06
	3	CONTROLLER	INNCO	CO200	474	/	/
	4	Antenna	SCHWARZBE CK	BBHA912 0D	9120D-67 9	2014-03-07	2015-03-06
	5	Antenna	SCHWARZBE CK	BBHA917 0	9170-373	2014-03-07	2015-03-06
	6	Low noise amplifier	LNA6900	TESEQ	71033	2014-02-23	2015-02-22
Supplementary information:							
N/A							

B.1.2		Measurement Data (Antenna Method in CISPR 22)							
Tested terminal: Horizontal									
Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dB μ V)	(dB/m)	(dB)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
1	32.28	28.22	12.24	24.70	0.45	16.21	40.00	-23.79	QP
2	35.14	30.46	12.43	24.70	0.49	18.68	40.00	-21.32	QP
3	40.78	28.49	13.27	24.70	0.57	17.63	40.00	-22.37	QP
4	59.11	30.32	12.25	24.70	0.72	18.59	40.00	-21.41	QP
5	65.53	28.50	11.43	24.70	0.77	16.00	40.00	-24.00	QP
6	163.10	28.75	12.51	24.67	1.33	17.92	40.00	-22.08	QP
Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.									
Tested terminal: Vertical									
Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dB μ V)	(dB/m)	(dB)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
1	30.35	43.49	12.12	24.70	0.42	31.33	40.00	-8.67	QP
2	34.73	45.68	12.38	24.70	0.49	33.85	40.00	-6.15	QP
3	41.76	41.92	13.23	24.70	0.57	31.02	40.00	-8.98	QP
4	59.56	45.84	12.23	24.70	0.73	34.10	40.00	-5.90	QP
5	81.21	38.48	8.76	24.70	0.88	23.42	40.00	-16.58	QP
6	167.08	38.81	12.39	24.63	1.35	27.92	40.00	-12.08	QP
Level = Read Level + Antenna Factor + Cable Loss – Preamp Factor.									

<p>B.1.3</p>	<p>Graphical Presentation of The Result</p>
<p>Tested terminal: Horizontal</p> <p>Peak scan</p> <p>Level (dBμV/m)</p>  <p>Tested terminal: Vertical</p> <p>Peak scan</p> <p>Level (dBμV/m)</p> 	



Annex C

<p>C.1</p>	<p>Exterior of EUT</p>
