



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park,
Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com

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TEST REPORT

Application No.: SZEM1711012116CR
Applicant: Shenzhen Reflying Electronics Co., Ltd
Address of Applicant: 6 Bldg, GaoXinJian Industrial zone, HePing villiage, Fuyong Town, Bao'an district, Shenzhen, Guangdong, China
Manufacturer: Shenzhen Reflying Electronics Co., Ltd
Address of Manufacturer: 6 Bldg, GaoXinJian Industrial zone, HePing villiage, Fuyong Town, Bao'an district, Shenzhen, Guangdong, China
Factory: Shenzhen Reflying Electronics Co., Ltd
Address of Factory: 6 Bldg, GaoXinJian Industrial zone, HePing villiage, Fuyong Town, Bao'an district, Shenzhen, Guangdong, China
Equipment Under Test (EUT):
EUT Name: PowerBase Wireless Desk Charger
Model No.: CY2376PPWIR, RWC15♣
♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID: A7M-CY2376PPWIR
Standard(s) : 47 CFR Part 18
Date of Receipt: 2017-12-02
Date of Test: 2017-12-07 to 2017-12-19
Date of Issue: 2017-12-20

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Jack Zhang
EMC Laboratory 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.

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2017-12-20		Original

Authorized for issue by:				
				
		Leo Lai /Project Engineer		
				
		Eric Fu /Reviewer		



2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 18	FCC OST/MP-5:1986	N/A	Pass
Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)	47 CFR Part 18	FCC OST/MP-5:1986	N/A	Pass

N/A: Not applicable

Remark:

Model No.: CY2376PPWIR, RWC15

Only the model CY2376PPWIR was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on model No..



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4 General Information

4.1 Details of E.U.T.

Power supply:	Input: DC 9V & DC 5V from USB port
Cable:	100cm shielded USB cable
Operation Frequency:	100-205kHz
Antenna Type:	Loop antenna
Modulation type:	Load modulation
Test voltage:	AC 120V/60Hz (Voltage of the AC/DC adapter)

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	Huawei	HW-059200CHQ	N/A
Dummy load	E-Charging	N/A	N/A
Mobile phone	Samsung	G950F	N/A

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conduction emission	3.0dB (150kHz to 30MHz)
2	Radiated emission	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-6GHz)
3	Temperature test	1°C
4	Humidity test	3%



4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

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

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 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.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



5 Equipment List

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ChangZhou ZhongYu	GB-88	SEM001-06	2017-05-10	2018-05-09
Measurement Software	AUDIX	e3 V5.4.1221d	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2017-07-13	2018-07-12
LISN	Rohde & Schwarz	ENV216	SEM007-01	2017-09-27	2018-09-26
LISN	ETS-LINDGREN	3816/2	SEM007-02	2017-04-14	2018-04-13
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2017-04-14	2018-04-13

Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2017-05-10	2018-05-09
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2017-07-13	2018-07-12
EMI Test Receiver (9kHz-3GHz)	Rohde & Schwarz	ESR	SEM004-03	2017-04-14	2018-04-13
Trilog-Broadband Antenna(30MHz-1GHz)	Schwarzbeck	VULB9168	SEM003-18	2016-06-29	2019-06-28
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2017-06-05	2018-06-04
Active.Loop Antenna	ETS-LINDGREN	6502	SEM003-08	2017-08-22	2020-08-21

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2017-09-29	2018-09-28
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2017-04-18	2018-04-17

6 Emission Test Results

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

Test Requirement: 47 CFR Part 18
Test Method: FCC OST/MP-5:1986
Frequency Range: 150kHz to 30MHz

6.1.1 E.U.T. Operation

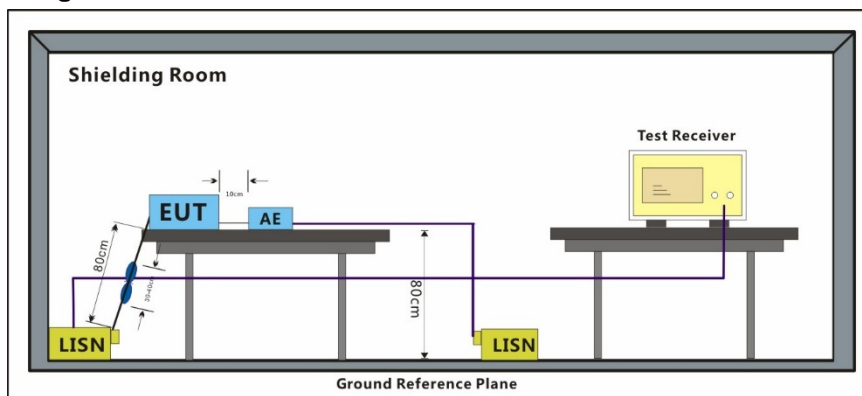
Operating Environment:

Temperature: 23.7 °C Humidity: 37.8 % RH Atmospheric Pressure: 1020 mbar

Pretest these mode to find the worst case:
a: Normal Working_9V
b: Normal Working_5V

The worst case for final test:
a: Normal Working_9V

6.1.2 Test Setup Diagram

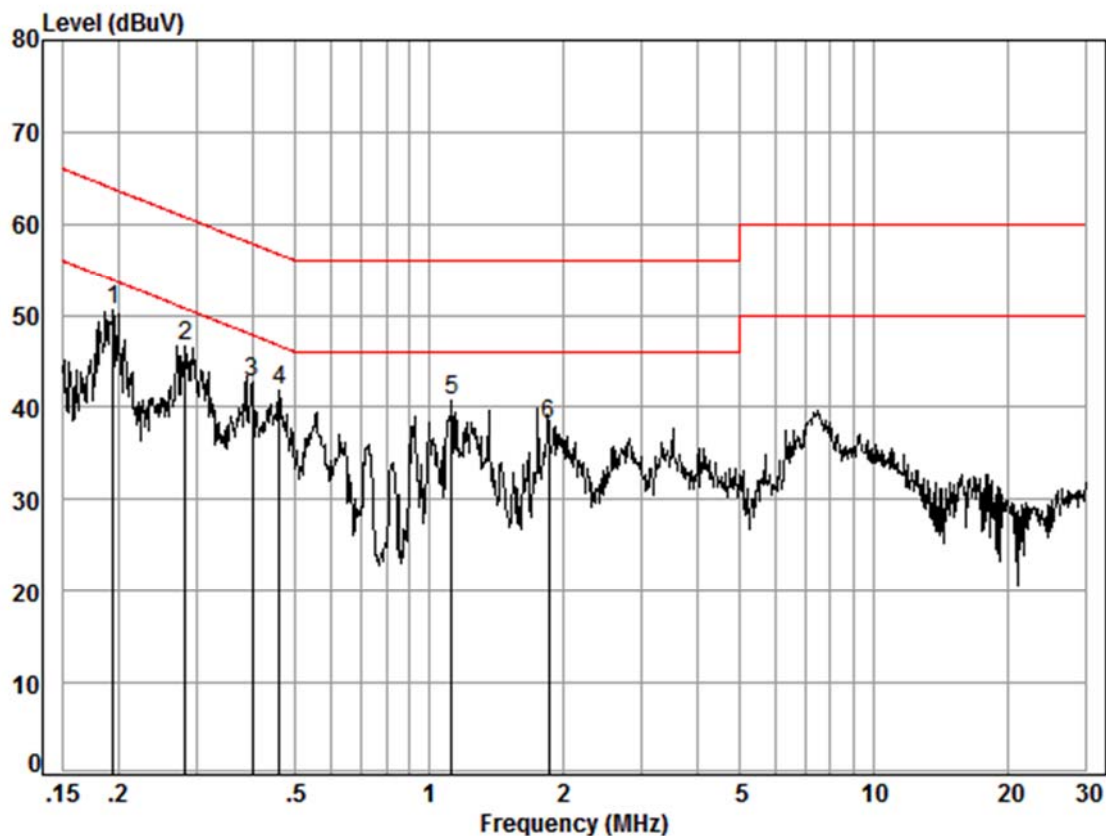


6.1.3 Measurement Data

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. We have tested the dummy load with (10%, 50%, 100%) of rating current, and with mobile phone which with (10%, 50%, 90%) capacity of battery and found that dummy load with 100% current is the worst case, the worst one data was show on the report.



Mode:a; Line:Live Line



Site : Shielding Room
Condition: Line
Job No. : 12116CR
Test mode: a

	Freq	Cable	LISN	Read	Limit	Over	
	MHz	Loss	Factor	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB
1	0.19	0.02	9.50	40.97	50.49	53.84	-3.35 Peak
2	0.28	0.01	9.51	37.10	46.62	50.72	-4.10 Peak
3	0.40	0.01	9.49	33.15	42.65	47.86	-5.21 Peak
4	0.46	0.01	9.49	32.37	41.87	46.67	-4.80 Peak
5	1.12	0.02	9.51	31.24	40.77	46.00	-5.23 Peak
6	1.86	0.02	9.51	28.70	38.23	46.00	-7.77 Peak

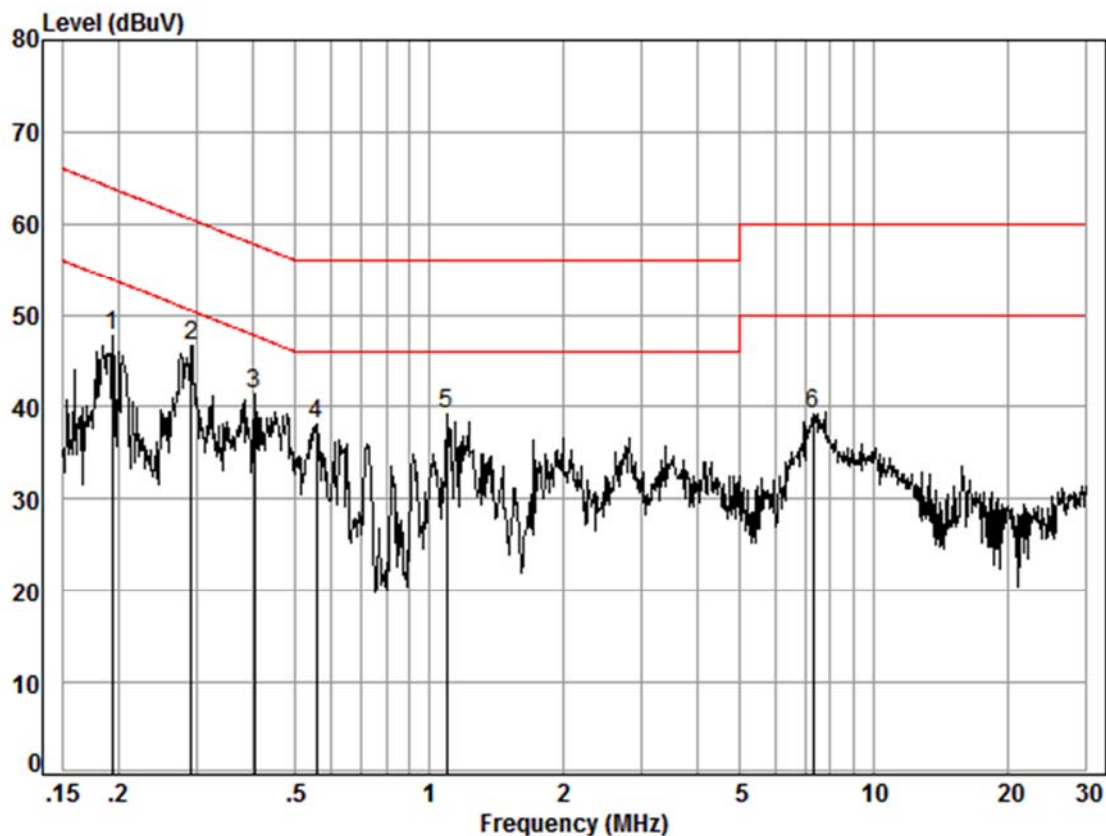


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Mode:a; Line:Neutral Line



Site : Shielding Room

Condition: Neutral

Job No. : 12116CR

Test mode: a

	Freq	Cable	LISN	Read	Limit	Over	
	MHz	Loss	Factor	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB
1	0.19	0.02	9.57	38.15	47.74	53.89	-6.15 Peak
2	0.29	0.01	9.58	36.99	46.58	50.50	-3.92 Peak
3	0.40	0.01	9.59	31.73	41.33	47.77	-6.44 Peak
4	0.56	0.01	9.61	28.63	38.25	46.00	-7.75 Peak
5	1.09	0.02	9.63	29.63	39.28	46.00	-6.72 Peak
6	7.33	0.01	9.73	29.58	39.32	50.00	-10.68 Peak

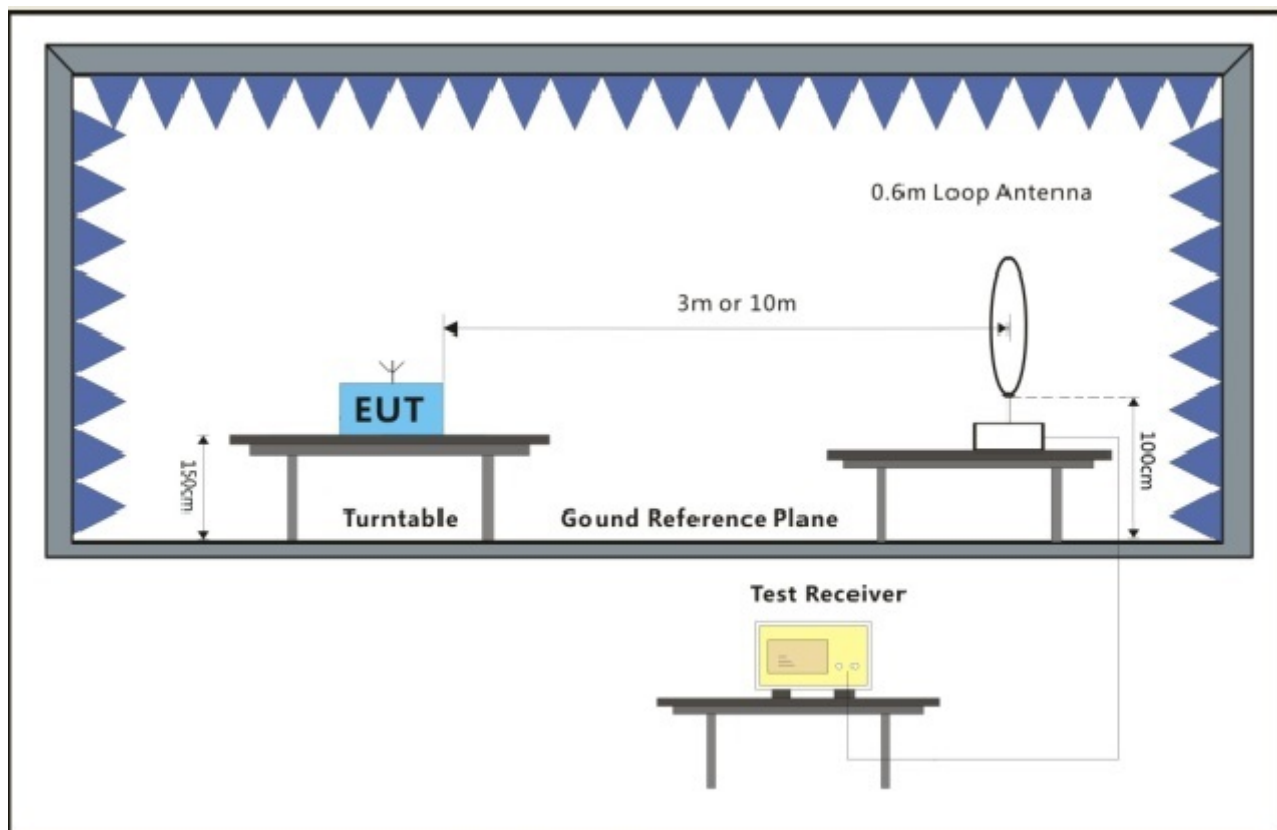
6.2 Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)

Test Requirement: 47 CFR Part 18
Test Method: FCC OST/MP-5:1986
Frequency Range: 9kHz to 30MHz
Measurement Distance: 10m

6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 24 °C Humidity: 53 % RH Atmospheric Pressure: 1020 mbar
Pretest these mode to find the worst case:
a: Normal Working_9V
b: Normal Working_5V
The worst case for final test:
a: Normal Working_9V

6.2.2 Test Setup Diagram

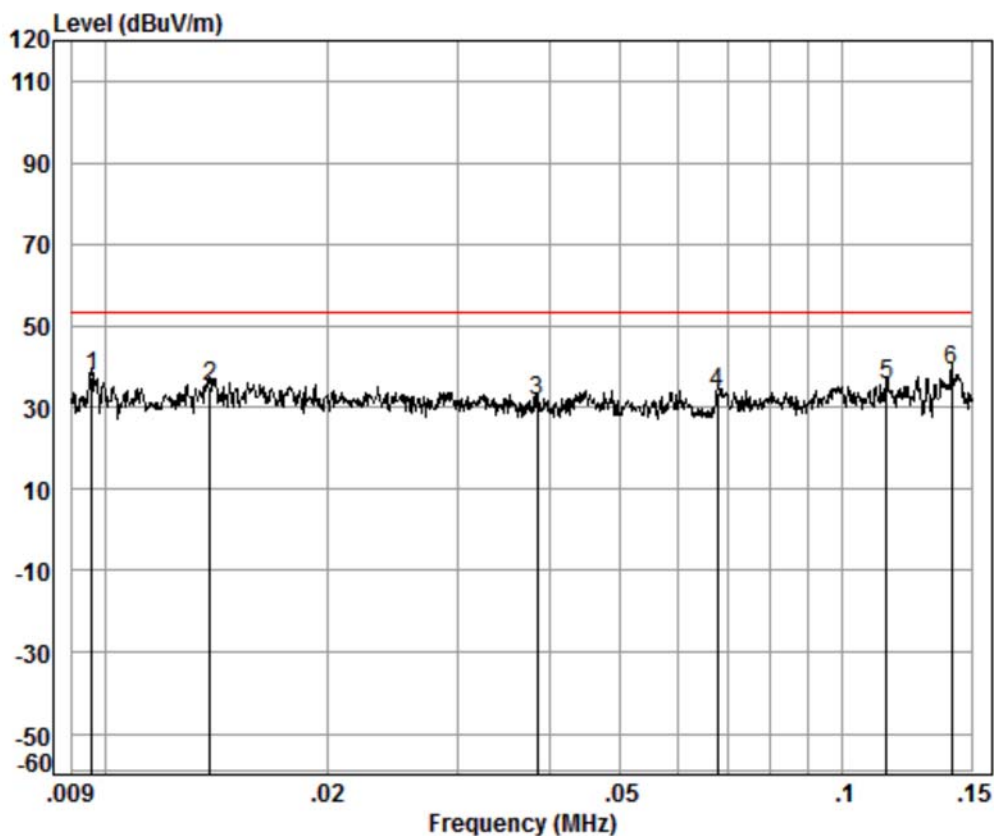


6.2.3 Measurement Data

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. We have tested the dummy load with (10%, 50%, 100%) of rating current, and with mobile phone which with (10%, 50%, 90%) capacity of battery and found that dummy load with 100% current is the worst case, the worst one data was show on the report.



Mode:a; Polarization:Horizontal

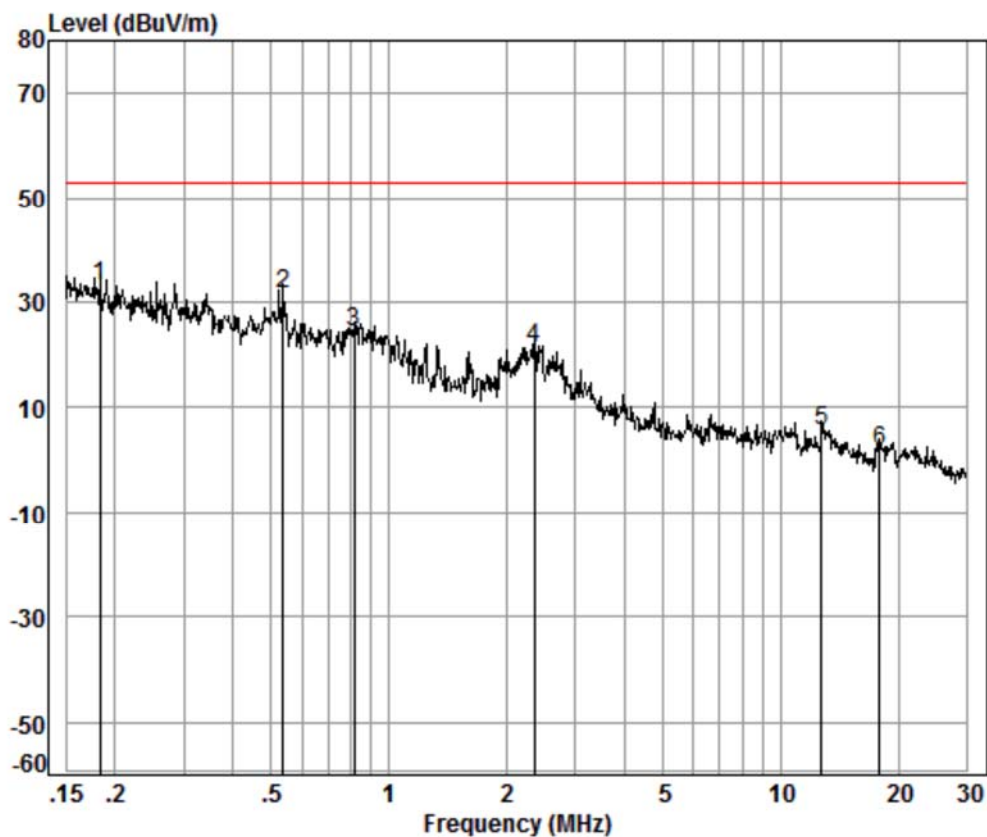


Condition: 10m
Job No. : 12116CR
Test Mode: a

	Freq	Cable	Ant	Preamp	Read	
	MHz	Loss	Factor	Factor	Level	Level
	MHz	dB	dB/m	dB	dBuV	dBuV/m
1	0.01	0.29	19.57	32.32	49.98	37.52
2	0.01	0.26	17.27	32.49	50.33	35.37
3	0.04	0.15	13.14	32.50	50.87	31.66
4	0.07	0.09	12.18	32.51	54.00	33.76
5	0.11	0.06	11.90	32.51	56.06	35.51
6 pp	0.14	0.06	11.75	32.50	59.80	39.11



Mode:a; Polarization:Vertical



Condition: 10m

Job No. : 12116CR

Test Mode: a

		Cable	Ant	Preamp	Read		
	Freq	Loss	Factor	Factor	Level	Level	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	
1	pp	0.18	0.07	11.82	32.51	53.81	33.19
2		0.54	0.12	11.75	32.49	52.15	31.53
3		0.81	0.19	12.00	32.46	44.42	24.15
4		2.35	0.35	12.14	32.46	41.18	21.21
5		12.72	0.55	10.52	32.50	26.97	5.54
6		17.94	0.64	9.84	32.52	23.98	1.94



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The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

$$L_{300} / L_{10} = D_{10} / D_{300}$$

Note:

L₃₀₀: Level @ 300m distance. Unit: uV/m;

L₁₀: Level @ 10m distance. Unit: uV/m;

D₃₀₀: 300m distance. Unit: m

D₁₀: 10m distance. Unit: m

The level at 300m test distance is below:

Frequency (MHz)	Read Level @ 10m (dBuV/m)	Read Level @ 300m (dBuV/m)	Limit @ 300m (dBuV/m)	Margin (dB)
0.01	37.52	-21.56	23.52	-45.09
0.01	35.37	-23.71	23.52	-47.24
0.04	31.66	-27.42	23.52	-50.95
0.07	33.76	-25.32	23.52	-48.85
0.11	35.51	-23.57	23.52	-47.10
0.14	39.11	-19.97	23.52	-43.50
0.18	33.19	-25.89	23.52	-49.42
0.54	31.53	-27.55	23.52	-51.08
0.81	24.15	-34.93	23.52	-58.46
2.35	21.21	-37.87	23.52	-61.40
12.72	5.54	-53.54	23.52	-77.07
17.94	1.94	-57.14	23.52	-80.67



7 Photographs

Refer to EUT external and internal photos.

- End of the Report -