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Report No.: GZEM140800414401
Page: 1 of 31
FCC ID: SZQ-T130

TEST REPORT

Application No.:	GZEM1408004144RF
Applicant:	Salcomp (Shenzhen) Co., Ltd.
Manufacturer:	Salcomp (Shenzhen) Co., Ltd.
Factory:	Salcomp (Shenzhen) Co., Ltd. Salcomp Industrial Eletrônica da Amazônia Ltda Salcomp Manufacturing India Pvt Ltd.
FCC ID:	SZQ-T130
Product Name:	Verizon Wireless Charging Pad
Product Description:	Low Power Transmitter
Model No.:	VZW1COIL-WC
Trade Mark:	Verizon
Standards:	CFR 47 FCC PART 15 SUBPART C:2013 section 15.207 CFR 47 FCC PART 15 SUBPART C:2013 section 15.209
Date of Receipt:	2014-08-13
Date of Test:	2014-08-28 to 2014-08-29
Date of Issue:	2014-09-09
Test Result :	Pass*

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.
Please refer to section 3 of this report for further details.



Authorized Signature:

Richard Li
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.

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		2014-09-09		Original

Authorized for issue by:			
Tested By	 (Jack Liang) /Project Engineer	2014-08-28 to 2014-08-29	Date
Prepared By	 (June Chen) /Clerk	2014-09-09	Date
Checked By	 (Fred Zhu) /Reviewer	2014-09-09	Date

3 Test Summary

ELECTROMAGNETIC INTERFERENCE (EMI)				
Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (9 kHz to 30MHz)	FCC PART 15 C section 15.209	ANSI C 63.10: Clause 6.4	Section 15.209	PASS
Radiated Emission (30MHz to 1GHz)	FCC PART 15 section 15.209	ANSI C 63.10: Clause 6.4	section 15.209	PASS
Conducted Emission (150 KHz to 30 MHz)	FCC PART 15 section 15.207	ANSI C63.10: Clause 6.2	section 15.207	PASS

Remark:

EUT: In this whole report EUT means Equipment Under Test.

N/A: not applicable. Refer to the relative section for the details.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radio Frequency.

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5 General Information

5.1 Client Information

Applicant:	Salcomp (Shenzhen) Co., Ltd.
Address of Applicant:	Salcomp Road, Furong Industrial Area, Xinqiao, Shajing, Baoan District, Shenzhen 518125 CHINA
Manufacturer:	Salcomp (Shenzhen) Co., Ltd.
Address of Manufacturer	Salcomp Road, Furong Industrial Area, Xinqiao, Shajing, Baoan District, Shenzhen 518125 CHINA
Factory:	Salcomp (Shenzhen) Co., Ltd.
Address of Factory:	Salcomp Road, Furong Industrial Area, Xinqiao, Shajing, Baoan District, Shenzhen 518125 CHINA
Factory:	Salcomp Industrial Eletrônica da Amazônia Ltda
Address of Factory:	Av. dos Oitis, no. 4,145, Distrito Industrial 69075-842 Manaus, Amazonas BRAZIL
Factory:	Salcomp Manufacturing India Pvt Ltd
Address of Factory:	Nokia Telecom SEZ SIPCOT Industrial Park Phase III Chennai – Bangalore Highway Sriperumbudur, Tamil Nadu-602 105

5.2 General Description of E.U.T.

Product Name:	Verizon Wireless Charging Pad
Model No.:	VZW1COIL-WC
Product Description:	Low Power Transmitter

5.3 Details of E.U.T.

Power Supply:	DC 5V(supplied by adaptor)
Transmitter details	Model: VZW1COIL-WC Input: DC 5V, 1.8A Output: 5W

5.4 Description of Support Units

The EUT has been tested with simulate receiver, resistor and adapter provided by applicant.

Adapter details

Model: S32A02

Input: AC 100-240 50/60 Hz 0.4A

Output:DC 5V 1.8A

5.5 Deviation from Standards

None.

5.6 Abnormalities from Standard Conditions

None.

5.7 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.

5.8 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 accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

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.

- **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

Conducted Emission						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date	Cal.Due date
					(YYYY-MM-DD)	(YYYY-MM-DD)
EMC0306	Shielding Room	Zhong Yu	8 x 3 x 3.8 m ³	N/A	N/A	N/A
EMC0118	Two-line v-netwok	R&S	ENV216	100359	2014-03-03	2015-03-03
EMC0102	LISN	SCHAFFNER CHASE	MN2050D/1	1421	2013-09-22	2014-09-22
EMC2046	Artificial Mains Network (LISN)	AFJ Instruments	LT32C	S.N.32031120150	2014-03-03	2015-03-03
EMC0506	EMI Test Receiver	Rohde & Schwarz	ESCS30	100085	2014-03-03	2015-03-03
EMC0107	Coaxial Cable	SGS	2m	N/A	2014-07-25	2016-07-25
EMC0106	Voltage Probe	SGS	N/A	N/A	2014-4-19	2015-4-19
EMC0120	8 Line ISN	Fischer Custom Communications	FCC-TLISN-T8-02	20550	2014-08-30	2015-08-30
EMC0121	4 Line ISN	Fischer Custom Communications	FCC-TLISN-T4-02	20549	2014-08-30	2015-08-30
EMC0122	2 Line ISN	Fischer Custom Communications	FCC-TLISN-T2-02	20548	2014-08-30	2015-08-30
EMC2047	CDN	Elektronik-Feinmechanik	L-801:AF2	2793	2011-11-11	2014-11-11
EMC2048	CDN	Elektronik-Feinmechanik	L-801:M2/M3	2738	2011-11-11	2014-11-11
EMC2062	6dB Attenuator	HP	8491A	24487	2014-04-19	2015-04-19
EMC167	Conical metal housing	SGS-EMC	N/A	N/A	2014-02-16	2016-02-16

RE in Chamber						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date	Cal.Due date
					(YYYY-MM-DD)	(YYYY-MM-DD)
EMC0525	Compact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	2013-12-5	2014-12-5
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2014-04-19	2015-04-19
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	100236	2014-03-03	2015-03-03
EMC0528	RI High frequency Cable	SGS	20 m	N/A	2014-05-09	2015-05-09
EMC2025	Trilog Broadband Antenna 30-1000MHz	SCHWARZBECK MESS-ELEKTRONIK	VULB 9160	9160-3372	2014-07-14	2017-07-14
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	2013-08-31	2016-08-31
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	2014-05-04	2017-05-04
EMC2026	Horn Antenna 1-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	9120D-841	2013-08-31	2016-08-31
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	2012-07-01	2015-07-01
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	2014-03-03	2015-03-03
EMC2065	Amplifier	HP	8447F	N/A	2014-08-25	2015-08-25
EMC0075	310N Amplifier	Sonama	310N	272683	2014-03-03	2015-03-03
EMC0523	Active Loop Antenna	EMCO	6502	42963	2014-03-03	2016-03-03
EMC2041	Broad-Band Horn Antenna (14)15-26.5(40)GHz	SCHWARZBECK MESS-ELEKTRONI	BBHA 9170	9170-375	2014-05-26	2017-05-26
EMC2069	2.4GHz filter	Micro-Tronics	BRM 50702	149	2014-04-19	2015-04-19
EMC0530	10m Semi-Anechoic Chamber	ETS	N/A	N/A	2014-05-03	2016-05-03

General used equipment						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date	Cal.Due date
					(YYYY-MM-DD)	(YYYY-MM-DD)
EMC0006	DMM	Fluke	73	70681569	2013-09-13	2014-09-13
EMC0007	DMM	Fluke	73	70671122	2013-09-13	2014-09-13

7 Emission Test Results

7.1 Radiated Emissions

Test Requirement: FCC Part15 C
Test Method: ANSI C63.10:2009
Frequency Range: 9 kHz to1GHz
Measurement Distance: 3 m
Detector: peak and average for pre-scan
Class / Limit:

Frequency range MHz	Field strength (uV/m)	Measurement Distance (meters)
0.009 to 0.490	2400/F(kHz)	300
0.490 to 1.705	24000/F(kHz)	30
1.705 to 30.0	30	30
30 to 88	100	3
88 to 216	150	3
216 to 960	200	3
Above 960	500	3

Correction factor used due to measurement distance of 3m:

Frequency range MHz	Field strength (dBuV/m)	Measurement Distance (meters)
0.009 to 0.490	67.6-20log(f)(kHz)+40	3
0.490 to 1.705	87.6-20log(f)(kHz)+20	3
1.705 to 30.0	49.5	3
30 to 88	40.0	3
88 to 216	43.5	3
216 to 960	46.0	3
Above 960	49.0	3

7.1.1 E.U.T. Operation

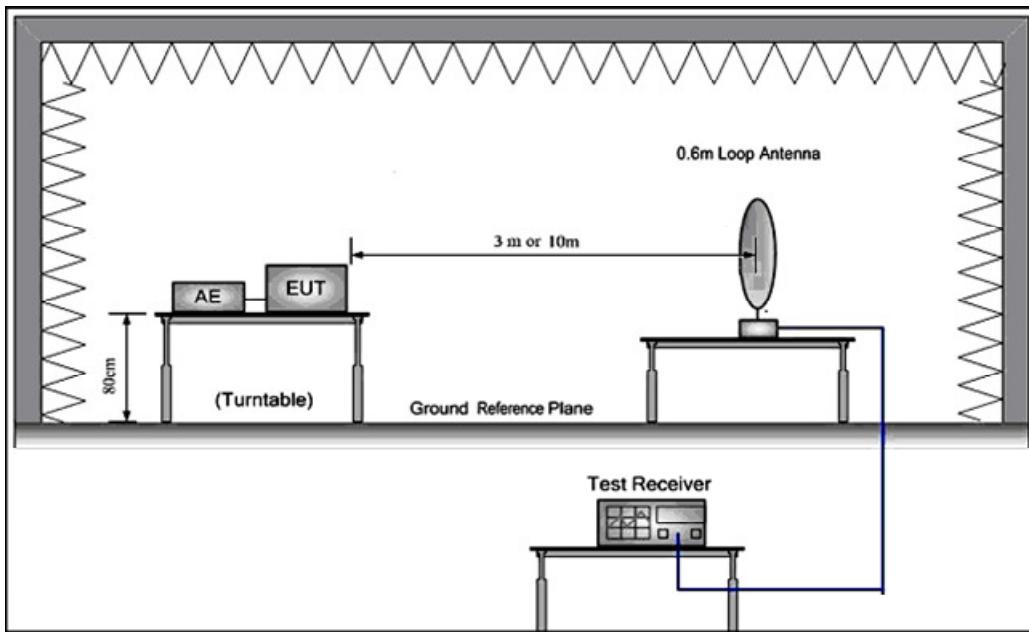
Operating Environment:

Temperature: 22.0 °C Humidity: 51 %RH Atmospheric Pressure: 1006 mbar

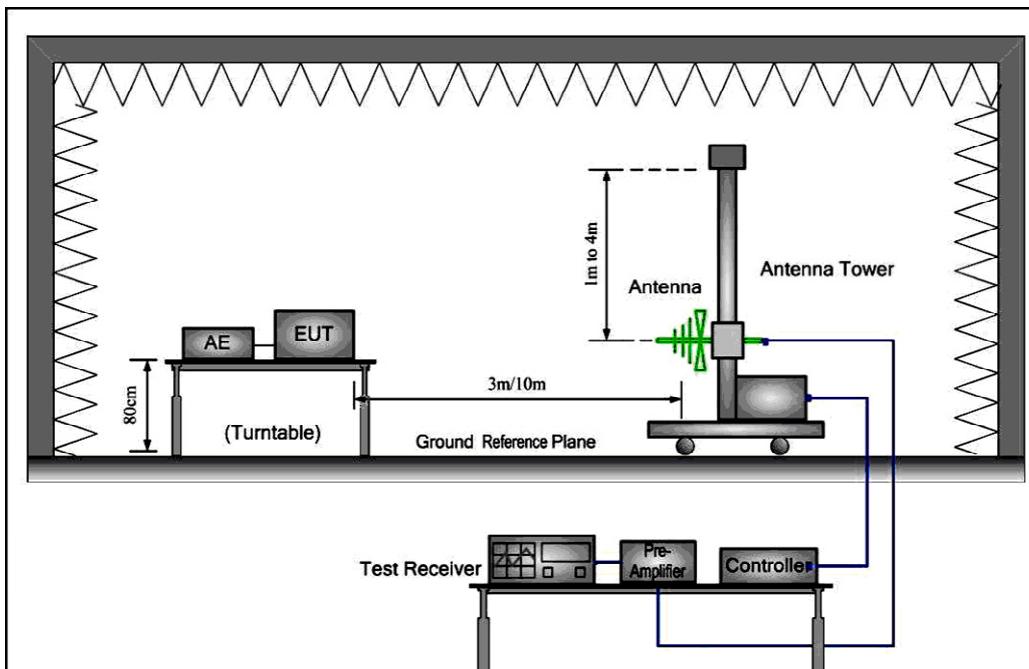
EUT Operation: Test the EUT in charging &standby mode.

Test Configuration:

1) 9 kHz to 30 MHz emissions:



2) 30 MHz to 1 GHz emissions:



Test Procedure:

1) 9 kHz to 30 MHz emissions:

For testing performed with the loop antenna. The center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

2) 30 MHz to 1 GHz emissions:

For testing performed with the bi-log type antenna. The measurement is performed with the EUT rotated 360°, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

Detector Peak for pre-scan

Test Receiver test setup	Detector		
	9 kHz-150 kHz	150 kHz-30 MHz	30 MHz-1000 MHz
RBW	200 Hz	9 kHz	120 kHz
VBW	≥ RBW	≥ RBW	≥ RBW
Sweep	auto	auto	auto
Detector function	QP	QP	QP
Trace	max hold	max hold	max hold

7.1.2 Spurious Emission: below 30 MHz

Charging with max load mode

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Remark
1	0.03	58.12	0.02	58.14	78.06	-19.92	PK
2	0.71	41.22	0.07	41.29	50.57	-9.28	PK
3	1.65	31.92	0.09	32.01	49.50	-17.49	PK
4	4.22	22.82	0.10	22.92	49.50	-26.58	PK
5	6.56	22.31	0.10	22.41	49.50	-27.09	PK
6	25.12	23.25	0.10	23.35	49.50	-26.15	PK

Charging with mid load mode

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Remark
1	0.12	58.34	0.02	58.36	86.02	-27.66	PK
2	0.63	41.22	0.07	41.29	51.61	-10.32	PK
3	3.62	31.62	0.09	31.71	49.50	-17.79	PK
4	5.43	22.36	0.10	22.46	49.50	-27.04	PK
5	12.36	22.57	0.10	22.67	49.50	-26.83	PK
6	25.25	23.23	0.10	23.33	49.50	-26.17	PK

Charging with min load mode

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Remark
1	0.06	58.22	0.02	58.24	72.04	-13.80	PK
2	0.65	41.12	0.07	41.19	51.34	-10.15	PK
3	4.23	31.65	0.09	31.74	49.50	-17.76	PK
4	5.83	22.24	0.10	22.34	49.50	-27.16	PK
5	9.25	22.65	0.10	22.75	49.50	-26.75	PK
6	25.62	23.12	0.10	23.22	49.50	-26.28	PK

Standby mode

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Over limit (dB)	Remark
1	0.05	57.22	0.02	57.24	73.62	-16.38	PK
2	0.95	42.34	0.07	42.41	48.05	-5.64	PK
3	4.23	31.21	0.09	31.30	49.50	-18.2	PK
4	8.29	23.32	0.10	23.42	49.50	-26.08	PK
5	10.34	23.45	0.10	23.55	49.50	-25.95	PK
6	22.34	23.62	0.10	23.72	49.50	-25.78	PK

Remark:

Result = Reading+ Correct Factor

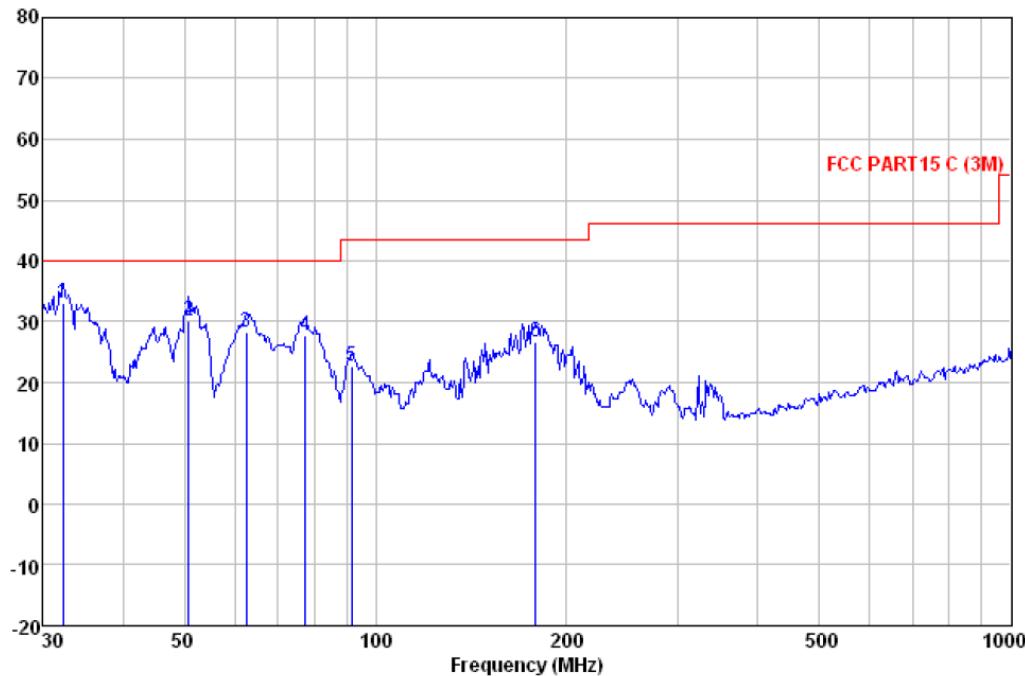
7.1.3 Spurious Emission: above 30 MHz

Charging with max load mode

Vertical:

Peak scan

Level (dB μ V/m)

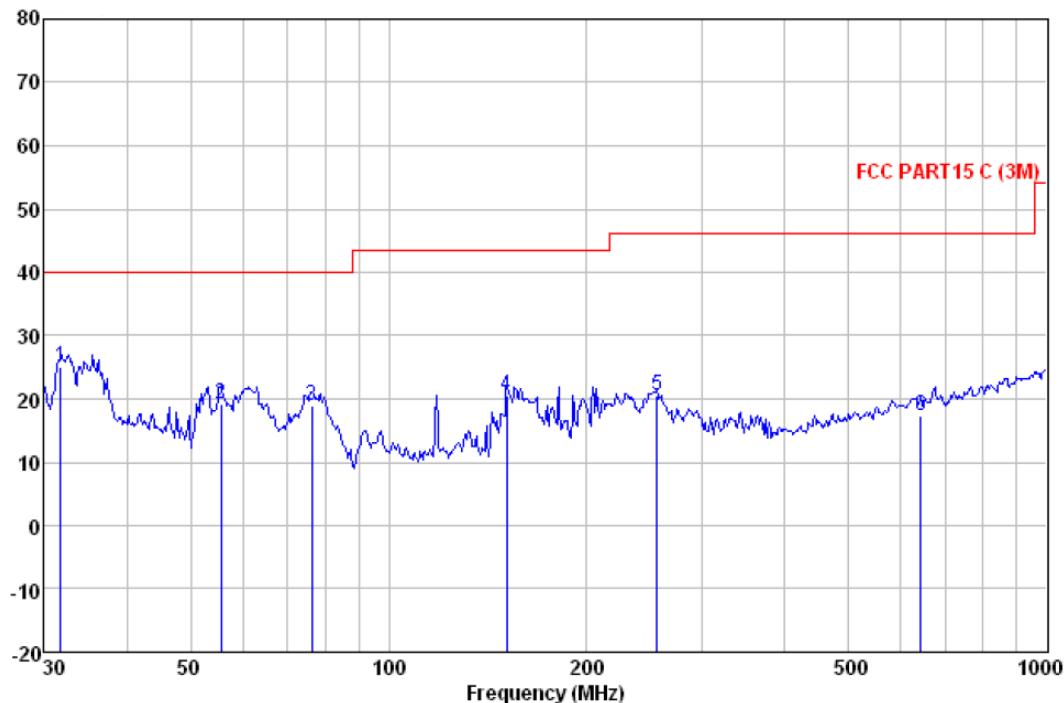


Quasi-peak measurement

Freq MHz	Read	Antenna	Cable	Preamp	Limit Line dBuV/m	Over Limit dB	Over Remark
	Level dBuV	Factor	Loss dB	Factor			
32.179	51.59	12.32	0.84	31.60	33.15	40.00	-6.85 QP
50.764	47.50	13.21	1.10	31.60	30.21	40.00	-9.79 QP
62.651	47.13	11.63	1.13	31.60	28.29	40.00	-11.71 QP
77.593	49.74	8.20	1.28	31.60	27.62	40.00	-12.38 QP
91.816	40.76	12.24	1.32	31.60	22.72	43.50	-20.78 QP
178.758	46.51	9.62	1.84	31.33	26.64	43.50	-16.86 QP

Horizontal:

Peak scan

Level (dB μ V/m)

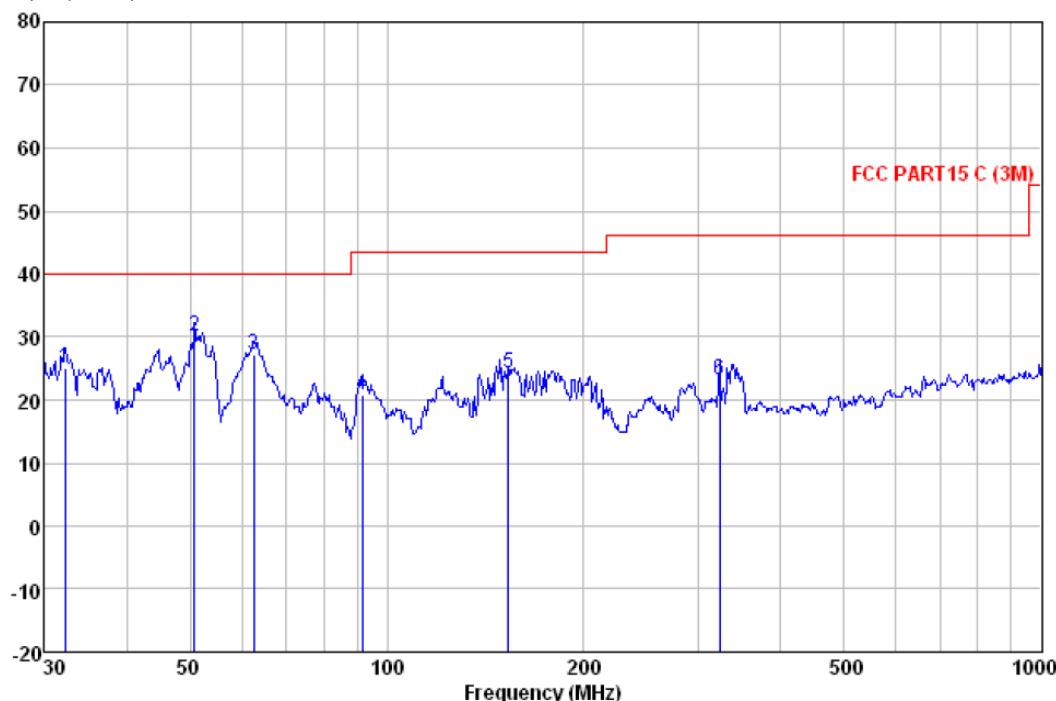
Quasi-peak measurement

Freq	Read		Antenna		Cable		Preamp		Limit	Over	Over
	Level	Factor	Loss	Factor	Level	Line	Line	Remark			
MHz	dB μ V	dB/m		dB	dB	dB μ V/m	dB μ V/m				
31.731	43.42	12.32		0.84	31.60	24.98	40.00	-15.02	QP		
55.609	36.60	12.97		1.10	31.60	19.07	40.00	-20.93	QP		
76.512	41.36	8.03		1.27	31.60	19.06	40.00	-20.94	QP		
151.067	41.95	8.29		1.66	31.41	20.49	43.50	-23.01	QP		
255.623	37.43	12.06		2.22	31.30	20.41	46.00	-25.59	QP		
642.861	26.64	18.61		3.30	31.25	17.30	46.00	-28.70	QP		

Charging with mid load mode

Vertical:

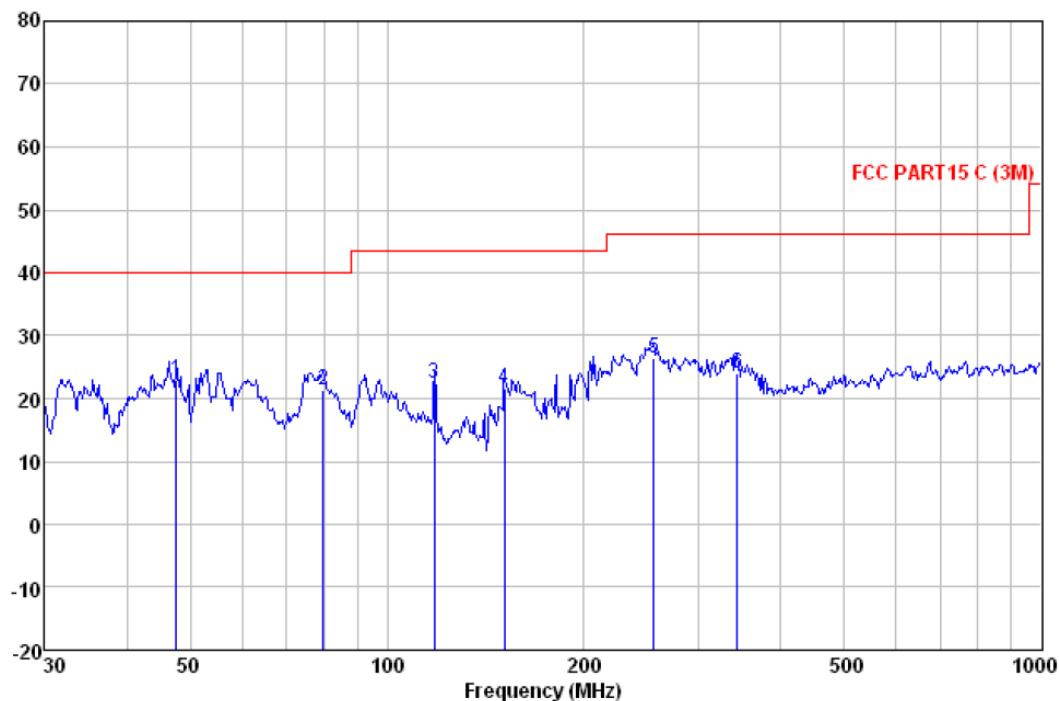
Peak scan

Level (dB μ V/m)**Quasi-peak measurement**

Freq MHz	Read	Antenna	Cable	Preamp	Limit Line dB	Over Line dB	Over Limit Remark
	Freq MHz	Level dB μ V	Factor	Loss Factor			
32.179	43.59	12.32	0.84	31.60	25.15	40.00	-14.85 QP
50.764	47.50	13.21	1.10	31.60	30.21	40.00	-9.79 QP
62.651	46.13	11.63	1.13	31.60	27.29	40.00	-12.71 QP
91.816	38.76	12.24	1.32	31.60	20.72	43.50	-22.78 QP
153.200	45.65	8.39	1.69	31.39	24.34	43.50	-19.16 QP
322.189	38.47	13.46	2.45	31.25	23.13	46.00	-22.87 QP

Horizontal:

Peak scan

Level (dB μ V/m)

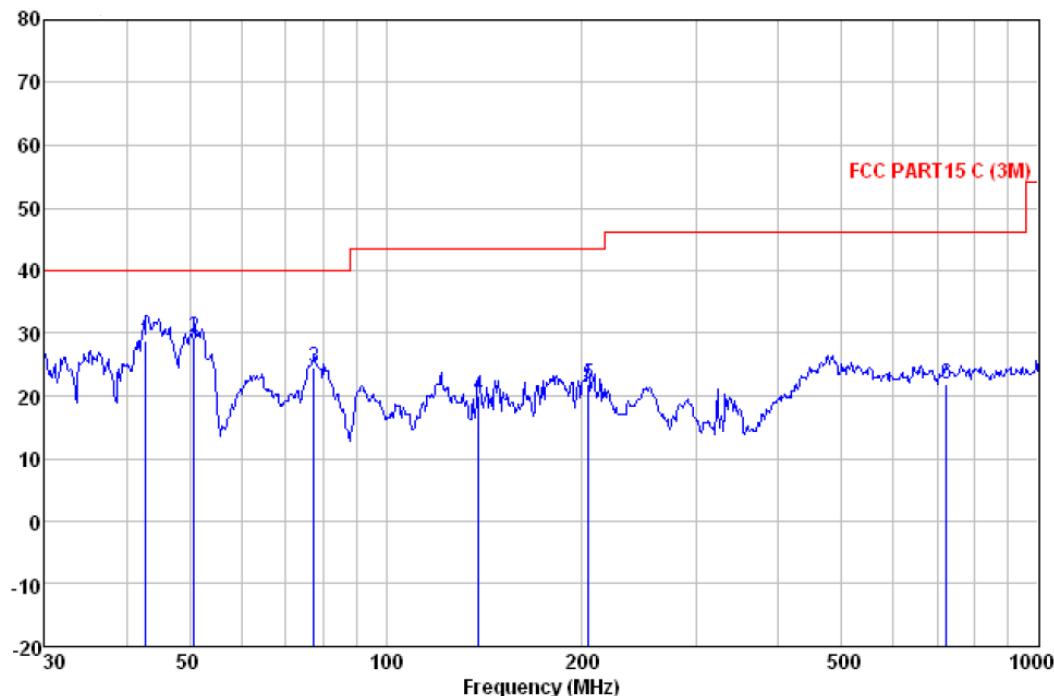
Quasi-peak measurement

Freq MHz	ReadAntenna		Cable		Preamp Level	Limit Line	Over Limit	Remark
	Level dBuV	Factor	Loss dB	Factor				
					dBuV/m	dBuV/m		
47.659	39.98	13.39	1.07	31.60	22.84	40.00	-17.16	QP
79.800	43.13	8.54	1.29	31.60	21.36	40.00	-18.64	QP
118.186	41.73	10.79	1.45	31.55	22.42	43.50	-21.08	QP
151.067	42.95	8.29	1.66	31.41	21.49	43.50	-22.01	QP
255.623	43.43	12.06	2.22	31.30	26.41	46.00	-19.59	QP
343.180	38.48	14.17	2.54	31.20	23.99	46.00	-22.01	QP

Charging with min load mode

Vertical:

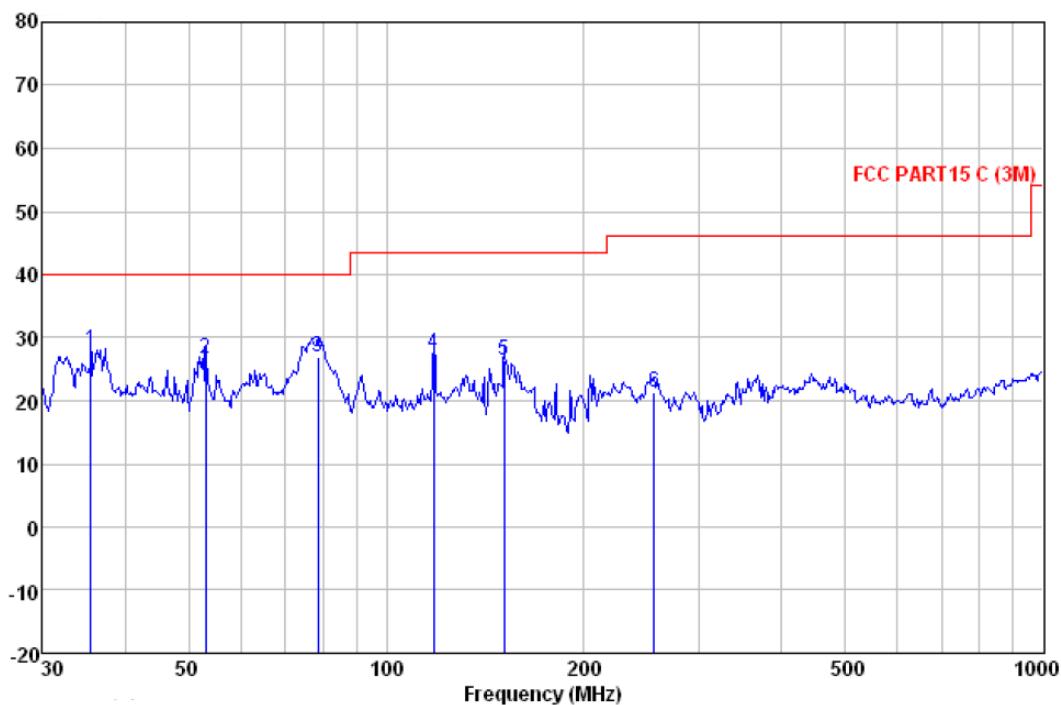
Peak scan

Level (dB μ V/m)**Quasi-peak measurement**

Freq MHz	Read	Antenna	Cable	Preamp	Limit Line dB	Over Line Limit dB	Over Remark
	Level dB μ V	Level Factor	Loss Factor	Level dB			
42.900	45.80	13.56	1.02	31.60	28.78	40.00	-11.22 QP
50.764	46.50	13.21	1.10	31.60	29.21	40.00	-10.79 QP
77.593	46.74	8.20	1.28	31.60	24.62	40.00	-15.38 QP
138.874	41.68	8.24	1.54	31.47	19.99	43.50	-23.51 QP
204.238	40.53	10.70	1.91	31.30	21.84	43.50	-21.66 QP
724.261	30.51	19.10	3.54	31.20	21.95	46.00	-24.05 QP

Horizontal:

Peak scan

Level (dB μ V/m)

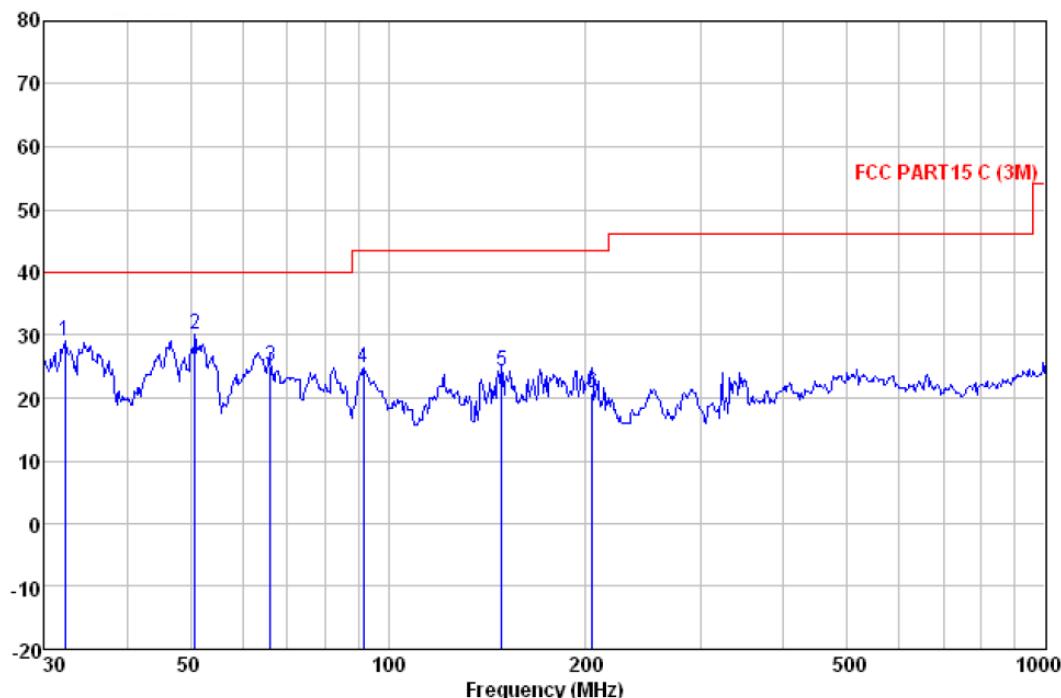
Quasi-peak measurement

Freq MHz	Read	Antenna Level	Cable Loss	Preamp Factor	Limit Line	Over Limit	Over Remark
	dB μ V	dB/m	dB	dB	dB μ V/m	dB μ V/m	dB
35.499	46.14	12.44	0.92	31.60	27.90	40.00	-12.10 QP
53.131	44.00	13.10	1.10	31.60	26.60	40.00	-13.40 QP
78.689	48.80	8.37	1.29	31.60	26.86	40.00	-13.14 QP
118.186	46.73	10.79	1.45	31.55	27.42	43.50	-16.08 QP
151.067	47.95	8.29	1.66	31.41	26.49	43.50	-17.01 QP
255.623	38.43	12.06	2.22	31.30	21.41	46.00	-24.59 QP

Standby mode:

Vertical:

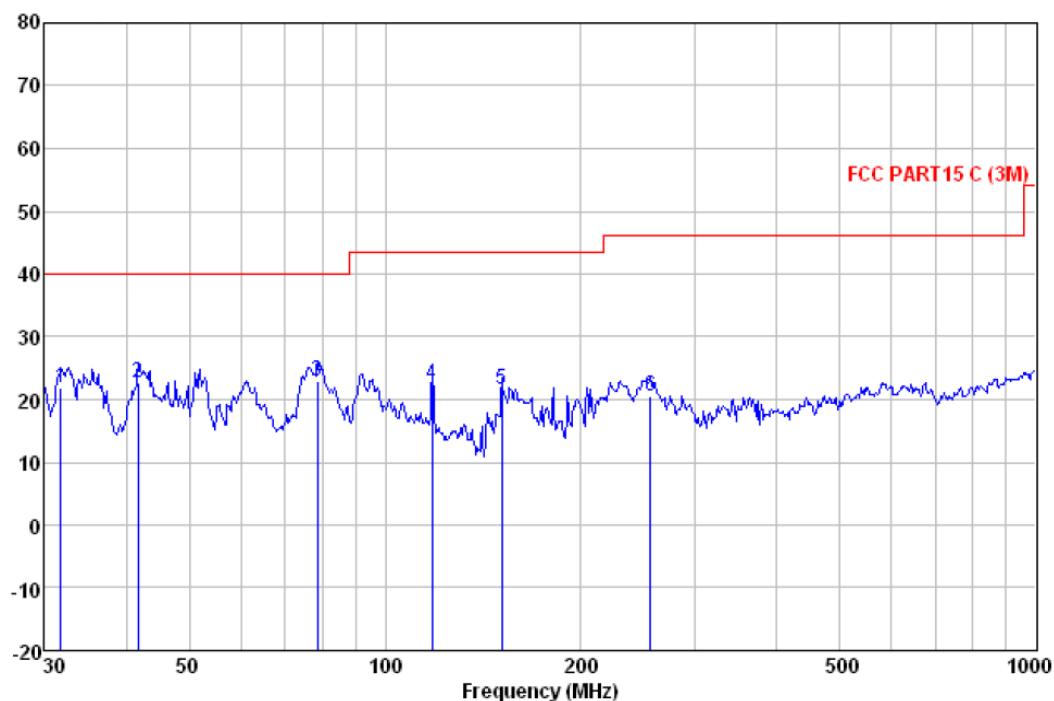
Peak scan

Level (dB μ V/m)**Quasi-peak measurement**

Freq	Read Antenna		Cable Preamp		Limit	Over Line	Over Limit	Remark
	Level	Factor	Loss	Factor				
MHz	dB μ V	dB/m	dB	dB	dB μ V/m	dB μ V/m	dB	
32.179	47.59	12.32	0.84	31.60	29.15	40.00	-10.85	QP
50.764	47.50	13.21	1.10	31.60	30.21	40.00	-9.79	QP
66.266	45.28	10.16	1.16	31.60	25.00	40.00	-15.00	QP
91.816	42.76	12.24	1.32	31.60	24.72	43.50	-18.78	QP
148.963	45.79	8.26	1.64	31.41	24.28	43.50	-19.22	QP
204.238	39.53	10.70	1.91	31.30	20.84	43.50	-22.66	QP

Horizontal:

Peak scan

Level (dB μ V/m)

Quasi-peak measurement

Freq	Read		Antenna Factor	Cable Loss		Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dB μ V		dB/m	dB					
31.731	40.42	12.32	0.84	31.60	21.98	40.00	-18.02	QP		
41.713	39.63	13.57	1.01	31.60	22.61	40.00	-17.39	QP		
78.689	44.80	8.37	1.29	31.60	22.86	40.00	-17.14	QP		
118.186	41.73	10.79	1.45	31.55	22.42	43.50	-21.08	QP		
151.067	42.95	8.29	1.66	31.41	21.49	43.50	-22.01	QP		
255.623	37.43	12.06	2.22	31.30	20.41	46.00	-25.59	QP		

7.2 Conducted Emissions at Mains Terminals 150 kHz to 30 MHz

Test Requirement: FCC Part 15 C section 15.207
Test Method: ANSI C63.10: Clause 6.2
Frequency Range: 150 kHz to 30 MHz
Detector: Peak for pre-scan (9 kHz Resolution Bandwidth)
Test Limit

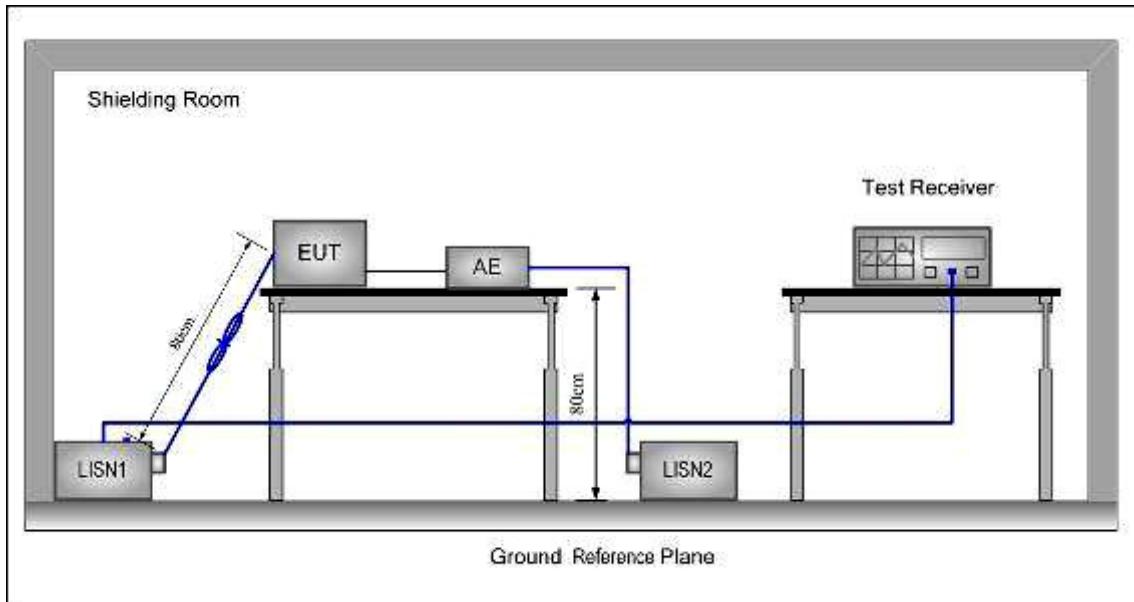
Limits for conducted disturbance at the mains ports of class B

Frequency Range (MHz)	Class B Limit dB(μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

NOTE 1 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.

EUT Operation: Test the EUT in charging & standby mode. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.
Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Test Configuration:



Test procedure:

1. The mains terminal disturbance voltage test was conducted in a shielded room.
2. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
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. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0,4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0,8 m from the LISN 2.

7.2.1 Measurement Data

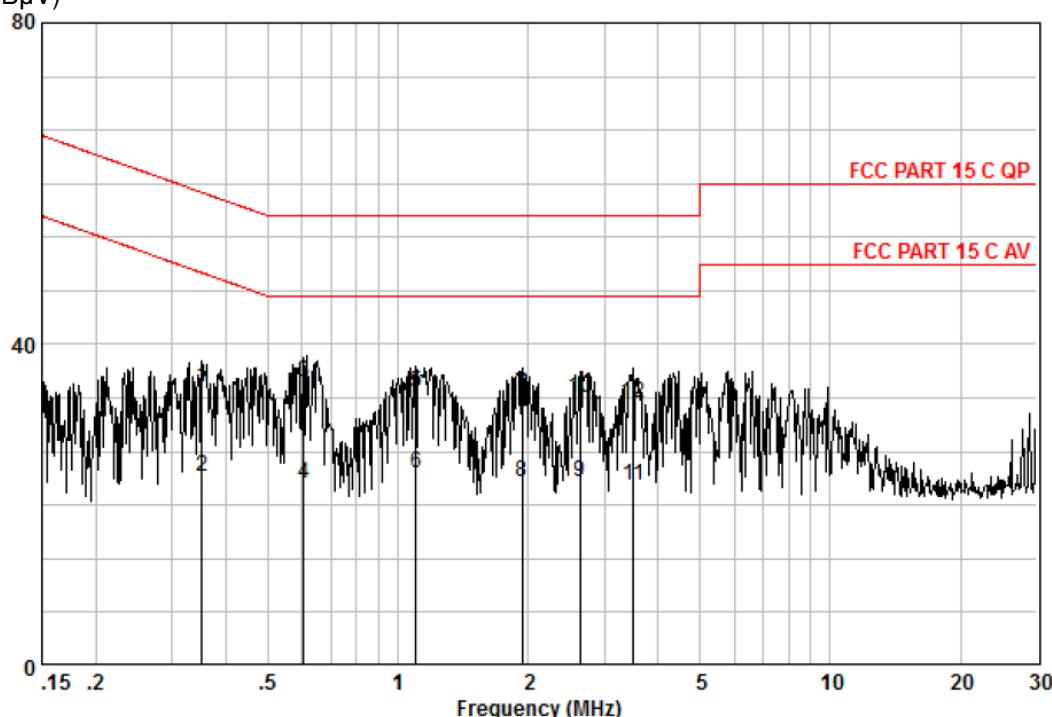
An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected. For EUT the communicating was worst case mode.

The following Quasi-Peak and Average measurements were performed on the EUT:

Charging with max load mode

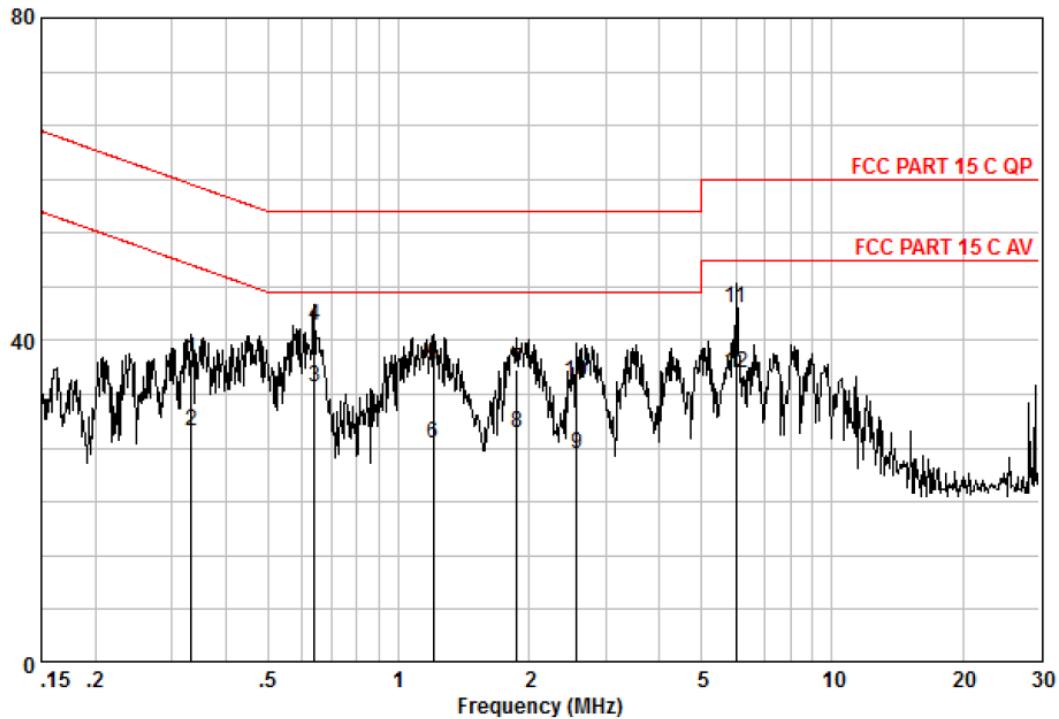
Neutral Line
Level(dB μ V)



Measure data:

Freq MHz	Read Level dB μ V	Cable Loss dB	LISN Factor dB	Level dB μ V	Limit Line dB μ V	Over Limit dB	Over Limit Remark
	MHz	dB μ V	dB		dB μ V	dB μ V	
0.352	24.96	0.08	9.66	34.70	58.91	-24.22	QP
0.352	13.72	0.08	9.66	23.46	48.91	-25.46	AVERAGE
0.604	25.54	0.07	9.67	35.28	56.00	-20.72	QP
0.604	12.87	0.07	9.67	22.61	46.00	-23.39	AVERAGE
1.100	24.18	0.05	9.68	33.91	56.00	-22.09	QP
1.100	14.17	0.05	9.68	23.90	46.00	-22.10	AVERAGE
1.939	24.04	0.05	9.69	33.78	56.00	-22.22	QP
1.939	13.12	0.05	9.69	22.86	46.00	-23.14	AVERAGE
2.636	13.00	0.12	9.69	22.81	46.00	-23.19	AVERAGE
2.636	23.46	0.12	9.69	33.27	56.00	-22.73	QP
3.509	12.55	0.16	9.71	22.41	46.00	-23.59	AVERAGE
3.509	22.94	0.16	9.71	32.80	56.00	-23.20	QP

Live Line
Level(dBuV)



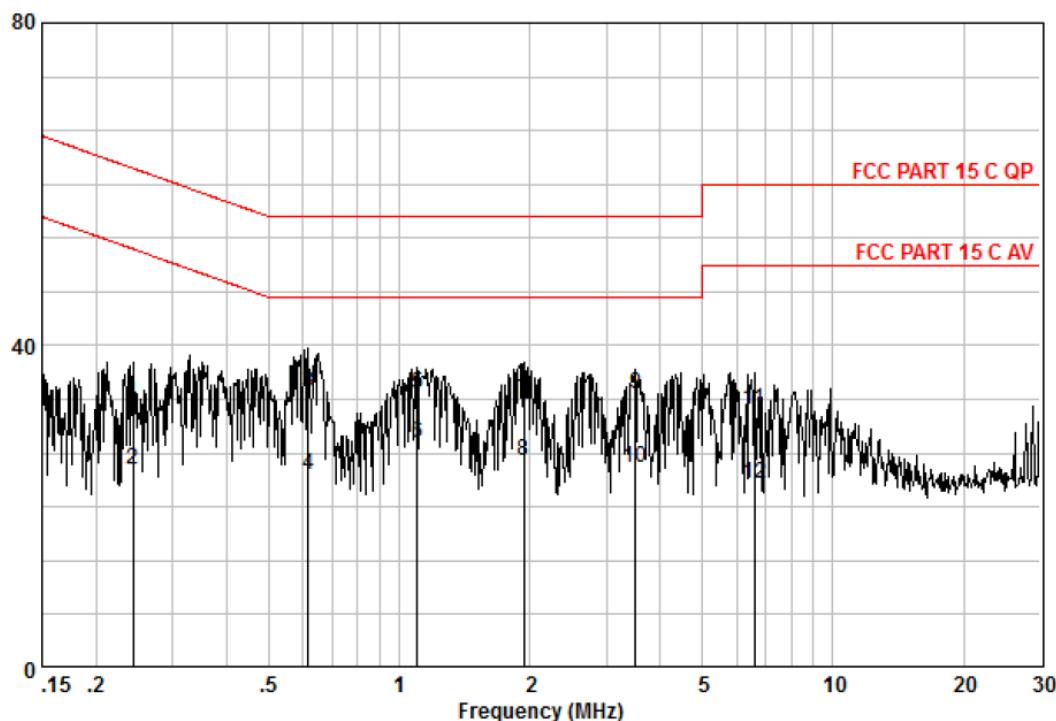
Measure result:

Freq MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Level dBuV	Limit Line dBuV	Over Limit dB	Remark
0,332	27,86	0,09	9,70	37,65	59,40	-21,75	QP
0,332	18,95	0,09	9,70	28,74	49,40	-20,66	AVERAGE
0,641	24,38	0,07	9,70	34,15	46,00	-11,85	AVERAGE
0,641	32,04	0,07	9,70	41,81	56,00	-14,19	QP
1,203	27,02	0,05	9,70	36,77	56,00	-19,23	QP
1,203	17,58	0,05	9,70	27,33	46,00	-18,67	AVERAGE
1,878	26,56	0,05	9,70	36,31	56,00	-19,69	QP
1,878	18,76	0,05	9,70	28,51	46,00	-17,49	AVERAGE
2,581	16,22	0,11	9,70	26,03	46,00	-19,97	AVERAGE
2,581	25,14	0,11	9,70	34,95	56,00	-21,05	QP
5,993	34,10	0,18	9,75	44,03	60,00	-15,97	QP
5,993	26,06	0,18	9,75	35,99	50,00	-14,01	AVERAGE

Charging with mid load mode

Neutral Line

Level(dBuV)

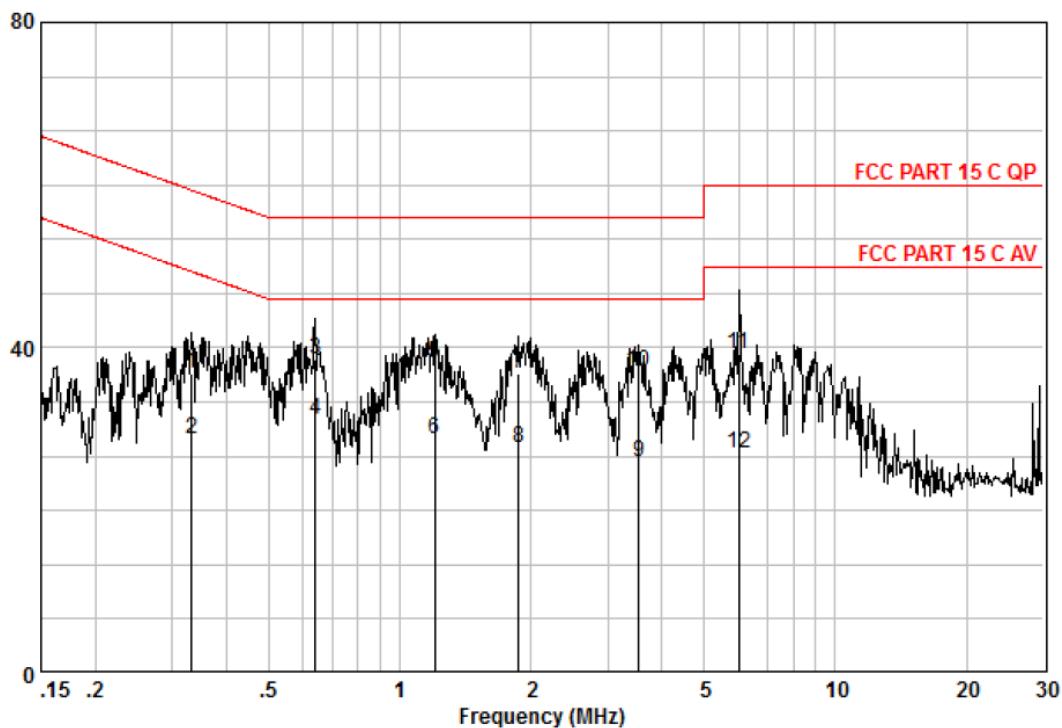


Measure data:

Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0,243	23,16	0,11	9,66	32,93	62,00	-29,06	QP
0,243	14,96	0,11	9,66	24,73	52,00	-27,26	AVERAGE
0,617	24,44	0,07	9,67	34,18	56,00	-21,82	QP
0,617	14,14	0,07	9,67	23,88	46,00	-22,12	AVERAGE
1,100	24,24	0,05	9,68	33,97	56,00	-22,03	QP
1,100	18,08	0,05	9,68	27,81	46,00	-18,19	AVERAGE
1,939	23,38	0,05	9,69	33,12	56,00	-22,88	QP
1,939	16,02	0,05	9,69	25,76	46,00	-20,24	AVERAGE
3,509	24,12	0,16	9,71	33,98	56,00	-22,02	QP
3,509	14,96	0,16	9,71	24,82	46,00	-21,18	AVERAGE
6,592	22,10	0,17	9,73	31,99	60,00	-28,01	QP
6,592	12,96	0,17	9,73	22,85	50,00	-27,15	AVERAGE

Live Line

Level(dBuV)



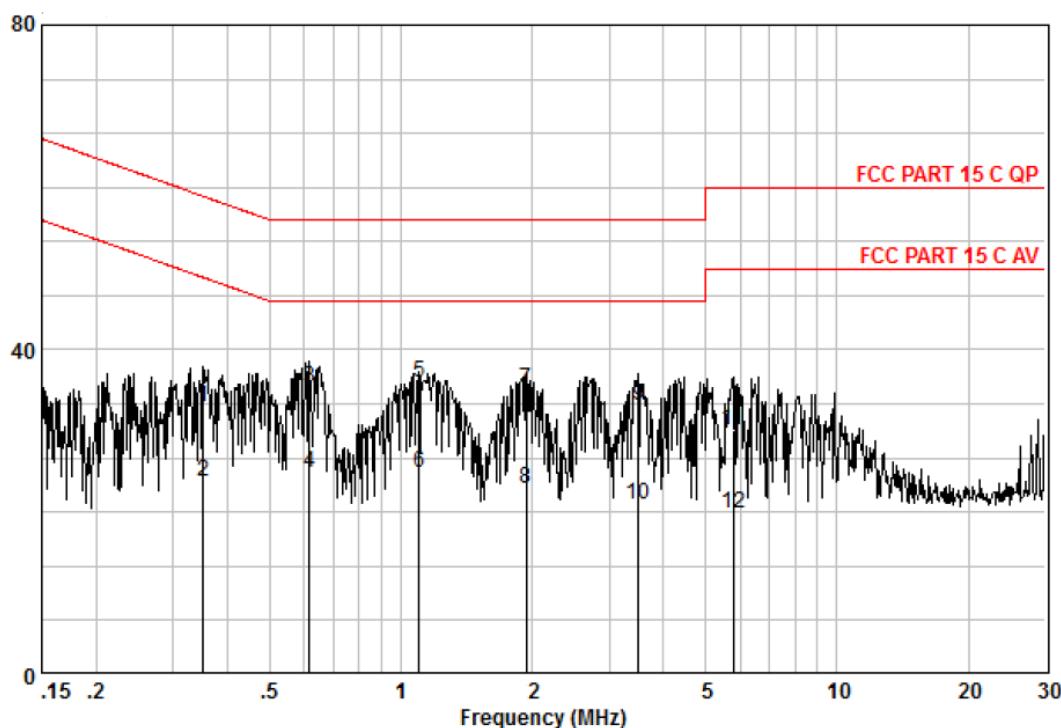
Measure result:

Freq MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Level dBuV	Limit Line dBuV	Over Line dB	Over Limit dB	Remark
0.332	27.12	0.09	9.70	36.91	59.40	-22.49	QP	
0.332	19.02	0.09	9.70	28.81	49.40	-20.59	AVERAGE	
0.641	28.90	0.07	9.70	38.67	56.00	-17.33	QP	
0.641	21.33	0.07	9.70	31.10	46.00	-14.90	AVERAGE	
1.203	28.36	0.05	9.70	38.11	56.00	-17.89	QP	
1.203	19.02	0.05	9.70	28.77	46.00	-17.23	AVERAGE	
1.878	27.18	0.05	9.70	36.93	56.00	-19.07	QP	
1.878	18.02	0.05	9.70	27.77	46.00	-18.23	AVERAGE	
3.547	16.02	0.16	9.70	25.88	46.00	-20.12	AVERAGE	
3.547	27.24	0.16	9.70	37.10	56.00	-18.90	QP	
5.993	29.34	0.18	9.75	39.27	60.00	-20.73	QP	
5.993	17.02	0.18	9.75	26.95	50.00	-23.05	AVERAGE	

Charging with min load mode

Neutral Line

Level(dBuV)

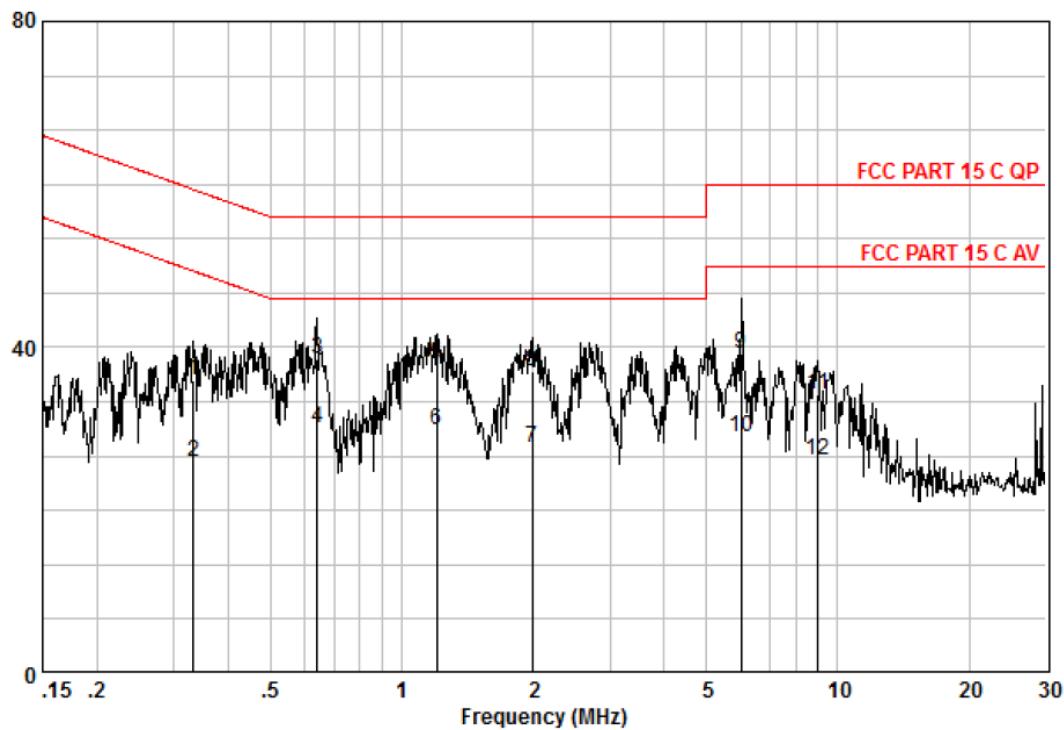


Measure data:

Freq	Read Level	Cable Loss	LISN Factor	Limit Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0,352	23,12	0,08	9,66	32,86	58,91	-26,06	QP
0,352	14,02	0,08	9,66	23,76	48,91	-25,16	AVERAGE
0,617	25,48	0,07	9,67	35,22	56,00	-20,78	QP
0,617	15,14	0,07	9,67	24,88	46,00	-21,12	AVERAGE
1,100	26,14	0,05	9,68	35,87	56,00	-20,13	QP
1,100	15,02	0,05	9,68	24,75	46,00	-21,25	AVERAGE
1,939	25,32	0,05	9,69	35,06	56,00	-20,94	QP
1,939	13,08	0,05	9,69	22,82	46,00	-23,18	AVERAGE
3,509	23,28	0,16	9,71	33,14	56,00	-22,86	QP
3,509	11,02	0,16	9,71	20,88	46,00	-25,12	AVERAGE
5,774	20,14	0,18	9,72	30,04	60,00	-29,96	QP
5,774	10,02	0,18	9,72	19,92	50,00	-30,08	AVERAGE

Live Line

Level(dBuV)

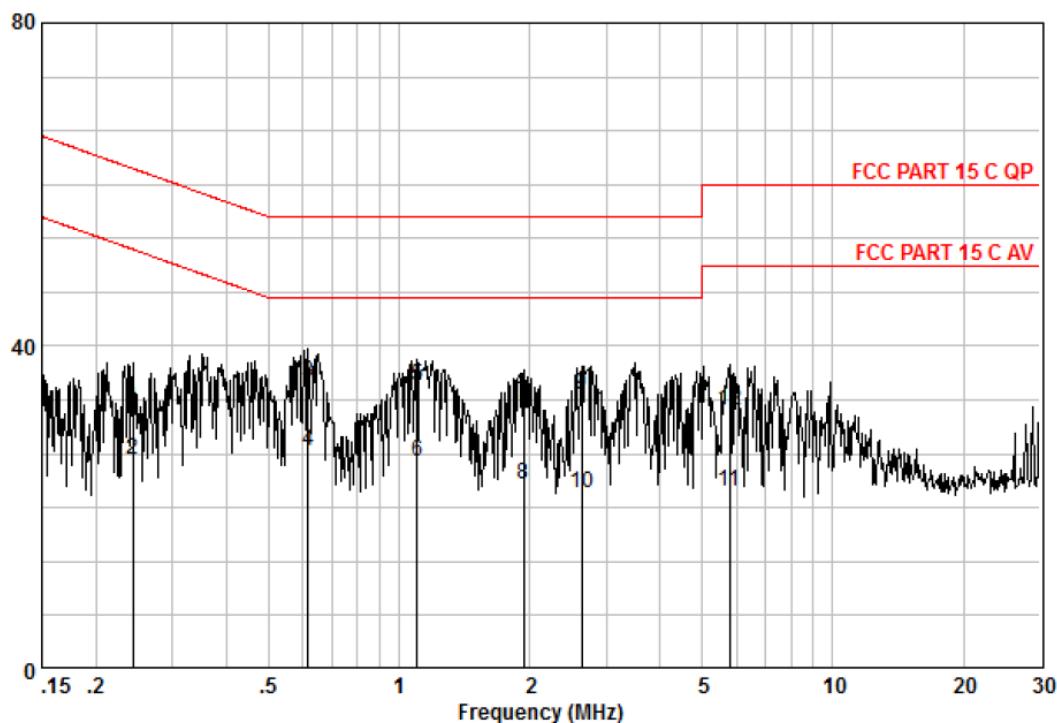


Measure result:

Freq	Read Level	Cable Loss	LISN Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0,332	26,22	0,09	9,70	36,01	59,40	-23,39	QP
0,332	16,14	0,09	9,70	25,93	49,40	-23,47	AVERAGE
0,641	28,88	0,07	9,70	38,65	56,00	-17,35	QP
0,641	20,39	0,07	9,70	30,16	46,00	-15,84	AVERAGE
1,203	28,28	0,05	9,70	38,03	56,00	-17,97	QP
1,203	20,14	0,05	9,70	29,89	46,00	-16,11	AVERAGE
1,991	18,02	0,05	9,70	27,77	46,00	-18,23	AVERAGE
1,991	27,34	0,05	9,70	37,09	56,00	-18,91	QP
5,993	29,30	0,18	9,75	39,23	60,00	-20,77	QP
5,993	19,02	0,18	9,75	28,95	50,00	-21,05	AVERAGE
9,011	24,28	0,20	9,80	34,28	60,00	-25,72	QP
9,011	16,08	0,20	9,80	26,08	50,00	-23,92	AVERAGE

Standby mode:

Neutral Line

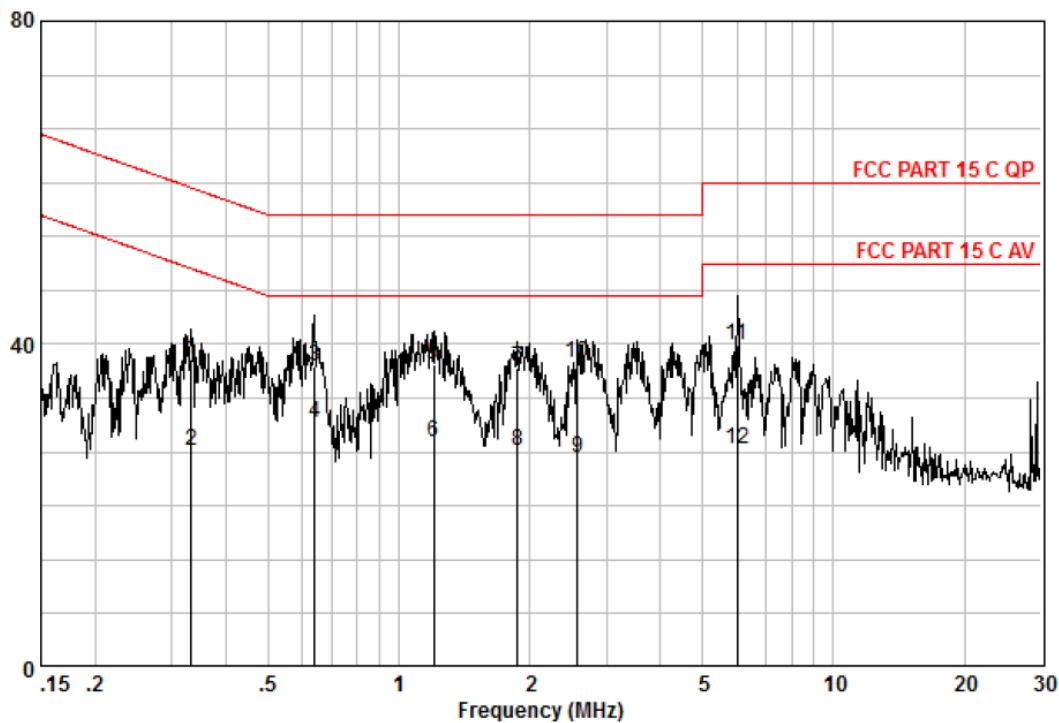
Level(dB μ V)

Measure data:

Freq MHz	Read Level dB μ V	Cable Loss dB	LISN Factor	Level dB μ V	Limit Line dB μ V	Over Limit dB		Remark
						Line	Over Limit	
0,243	22,42	0,11	9,66	32,19	62,00	-29,80	QP	
0,243	16,14	0,11	9,66	25,91	52,00	-26,08	AVERAGE	
0,617	25,80	0,07	9,67	35,54	56,00	-20,46	QP	
0,617	17,27	0,07	9,67	27,01	46,00	-18,99	AVERAGE	
1,100	25,28	0,05	9,68	35,01	56,00	-20,99	QP	
1,100	16,02	0,05	9,68	25,75	46,00	-20,25	AVERAGE	
1,939	23,12	0,05	9,69	32,86	56,00	-23,14	QP	
1,939	13,08	0,05	9,69	22,82	46,00	-23,18	AVERAGE	
2,636	24,26	0,12	9,69	34,07	56,00	-21,93	QP	
2,636	12,02	0,12	9,69	21,83	46,00	-24,17	AVERAGE	
5,774	12,02	0,18	9,72	21,92	50,00	-28,08	AVERAGE	
5,774	22,20	0,18	9,72	32,10	60,00	-27,90	QP	

Live Line

Level(dBuV)



Measure result:

Freq MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Level dBuV	Limit Line dBuV	Over Limit dB		Remark
						Over Line dB	Over Limit dB	
0.332	28.32	0.09	9.70	38.11	59.40	-21.29	QP	
0.332	17.08	0.09	9.70	26.87	49.40	-22.53	AVERAGE	
0.641	27.46	0.07	9.70	37.23	56.00	-18.77	QP	
0.641	20.57	0.07	9.70	30.34	46.00	-15.66	AVERAGE	
1.203	27.64	0.05	9.70	37.39	56.00	-18.61	QP	
1.203	18.08	0.05	9.70	27.83	46.00	-18.17	AVERAGE	
1.878	27.26	0.05	9.70	37.01	56.00	-18.99	QP	
1.878	17.14	0.05	9.70	26.89	46.00	-19.11	AVERAGE	
2.581	16.02	0.11	9.70	25.83	46.00	-20.17	AVERAGE	
2.581	27.96	0.11	9.70	37.77	56.00	-18.23	QP	
5.993	30.02	0.18	9.75	39.95	60.00	-20.05	QP	
5.993	17.02	0.18	9.75	26.95	50.00	-23.05	AVERAGE	

--End of Report--