FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION TEST REPORT

FOR

PRINTER SCANNER

MODEL NUMBER: vPRP5500, ePRP4500

FCC ID: 2AEAP-4555
IC: 12772A-4555

REPORT NUMBER: 15U20046-E2, REVISION D

ISSUE DATE: APRIL 13, 2015

Prepared for
SICPA SERVICES LIMITED
1000, 3rd STREET WEST, NORTH VANCOUVER
BC V7P 316, CANADA

Prepared by
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	03/10/15	Initial Issue	C. Wilson
A	03/13/15	Update report to address TCB's questions Section 6 and Section 8.2	T. Chu
B	04/09/15	Update report to address TCB's questions Section 7.2.1.	M. Mekuria
C	04/10/15	Update Standards	T. C.
D	04/10/15	Re-test Frequency Stability	T. C.

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SICPA SERVICES LIMITED
1000 3rd STREET WEST,
NORTH VANCOUVER, BC V7P 316
CANADA

EUT DESCRIPTION: PRINTER SCANNER

MODEL: vPRP 5500, ePRP4500

TESTED MODEL: vPRP 5500

SERIAL NUMBER: VPR #002

DATE TESTED: FEBRUARY 19 - MARCH 03, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C	Pass
INDUSTRY CANADA RSS-210 Issue 8, Annex 2	Pass
INDUSTRY CANADA RSS-GEN Issue 4	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Verification Services Inc. By:

Colin Wilson
Project Lead
UL Verification Services Inc.

Tested By:

Oliver Su and Thanh Nguyen
EMC Engineers
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4:2009 (FCC) and ANSI C63.10:2013 (IC), FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☒ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB
Radiated Disturbance, 1 to 6 GHz	± 3.86 dB
Radiated Disturbance, 6 to 18 GHz	± 4.23 dB
Radiated Disturbance, 18 to 26 GHz	± 5.30 dB
Radiated Disturbance, 26 to 40 GHz	± 5.23 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a printer scanner with 13.56 MHz NFC communication to passport/visa.
The RFID module is manufactured by decipher it GmbH.

5.2. DESCRIPTION OF MODEL DIFFERENCES

The vPRP 5500 has a larger printer paper size and increased paper draw and enclosure to accommodate this but is otherwise identical to the ePRP4500. The main PCB and all other functions are the same. The EUT model vPRP 5500 was chosen as representing the worst case scenario.

5.3. MAXIMUM OUTPUT POWER

Frequency Range (MHz)	Mode	E field at 30 m distance (dBuV/m)
13.56	RFID	11.58

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two loop antennas.

5.5. SOFTWARE AND FIRMWARE

The test program was “SICPA-epr-production-tester .exe”, RFID Portion activated.

5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case for vPRP and ePRP scanner and printer were activated the RFID application that generated RF Emissions.

5.7. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Monitor	Dell	1907FPC	CN-0CC299-64180-65A-3XCS Rev A00	DoC
Keyboard	Dell	L100	CNORH659735716B202y0	DoC
Mouse	Agilent	PID	HS328HA02ED	DoC
Personal computer	Lenovo	ThinkCentre	1S10AB0011USMJ00ZAZ6	DoC
Ethernet switch	Netgear	GTS108T	29SA3C5T00E79	DoC

I/O CABLES

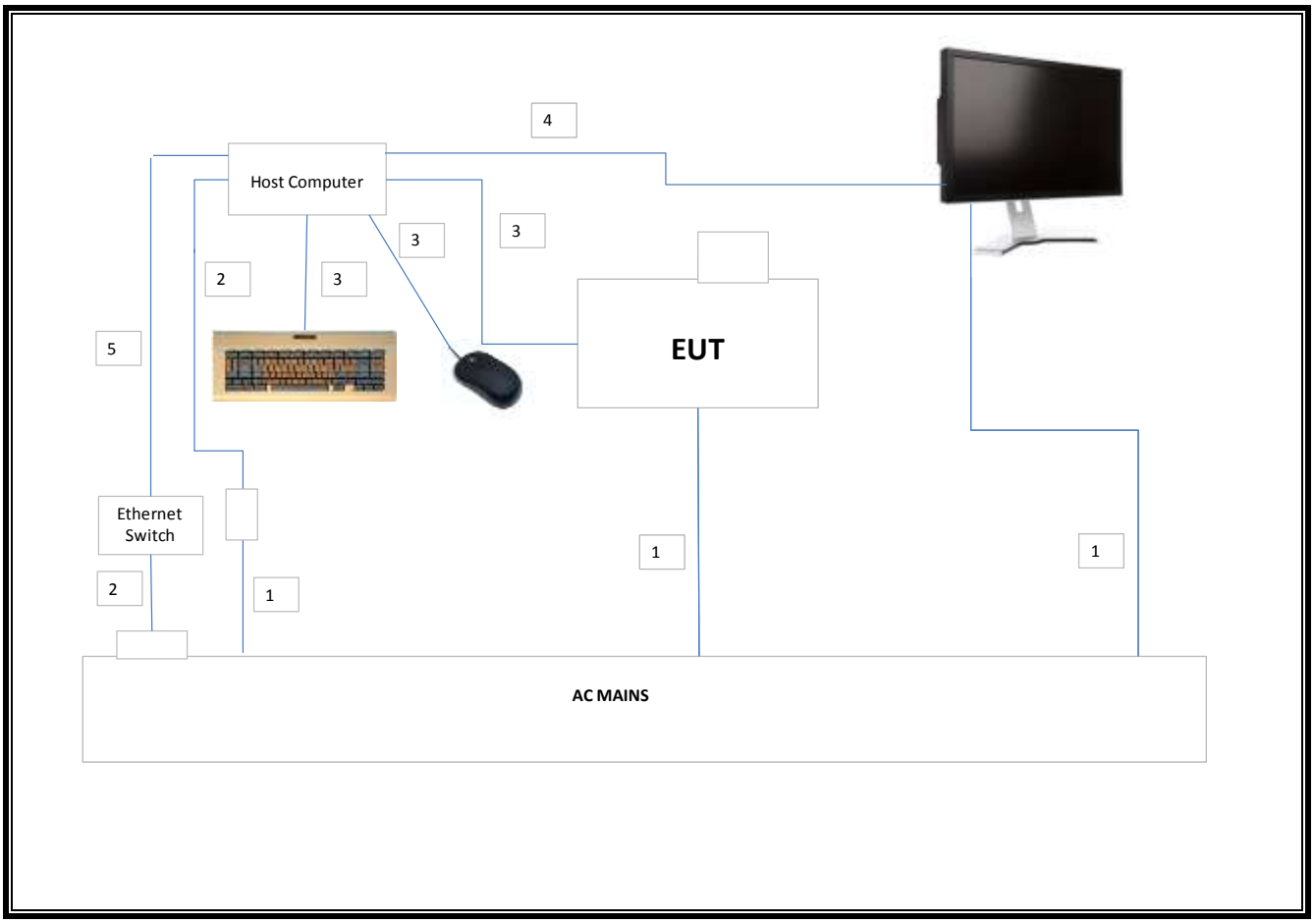
I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length** m	**Remarks**
1	AC	3	3 prong	Unshielded	2	Monitor, EUT, Computer
2	DC	2	DC Plug	Unshielded	1.8	PC
3	USB	3	USB	Shielded	1.2	KBD, Mouse, EUT
4	Display	1	VGA	Shielded	1.5	Monitor
5	Ethernet	1	RJ45	UTP	10	Switch

TEST SETUP

The EUT was installed in a typical configuration. The customer provided test software to exercise the EUT. Refer to the following diagram.

During radiated emissions measurement, the Ethernet cable from the host computer was routed to the switch located outside of the chamber.

SETUP DIAGRAM



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List					
Description	**Manufacturer**	**Model**	**T No.**	**Cal Date**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent	N9030A	T905	5/17/2014	5/17/2015
Antenna, Horn, 18 GHz	ETS Lindgren	3117	T862	4/14/2014	4/14/2015
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB3	T889	4/27/2014	4/27/2015
RF PreAmplifier, 1-18GHz	Miteq	AFS42-00101800-25-S-42	T491	6/5/2014	6/5/2015
Antenna, Active Loop 9KHz to 30MHz	ETS Lindgren	6502	T757	10/14/2014	10/14/2015
Preamp, 1000MHz	Sonoma	310N	T835	6/5/2014	6/5/2015
EMI test Receiver	R&S	ESCI 7	T284	9/16/2014	9/6/2015
LISN	T24	FCC-LISN 50/250-25-2	T24	1/16/2015	1/16/2016
LISN	T29	8012-50-R-24-BNC	T29	5/7/2014	5/7/2015
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T754	4/10/2015	4/10/2016

7. RADIATED EMISSION TEST RESULTS

7.1. 99% & 26 dB BANDWIDTH

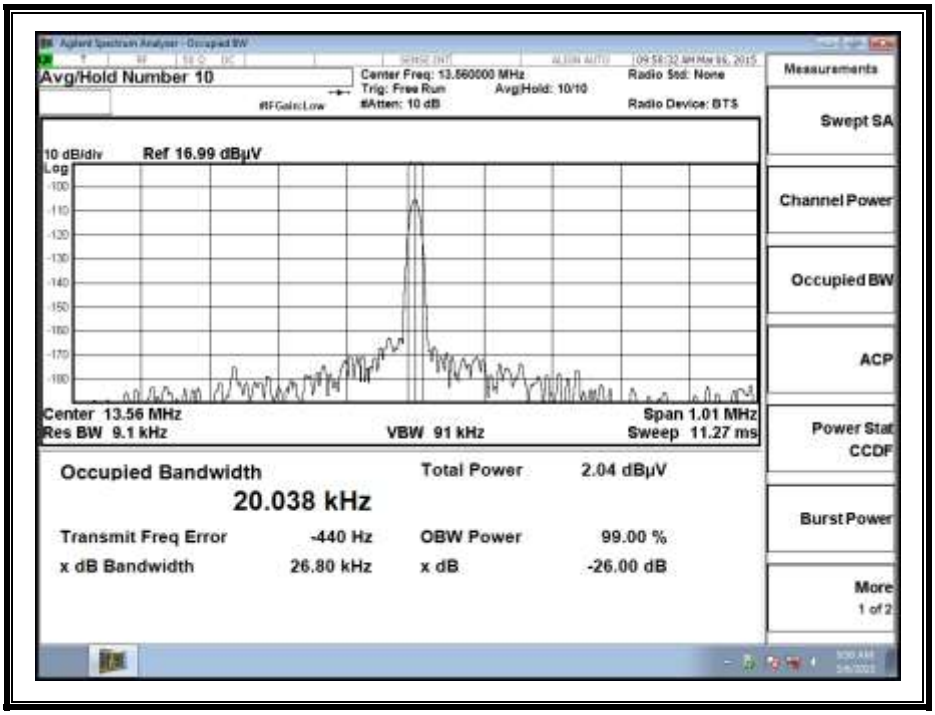
LIMITS

None; for reporting purposes only.

RESULTS

Frequency (MHz)	99% Bandwidth (KHz)	26 dB BW (KHz)
13.56	20.0380	26.8000

99% & 26 dB BANDWIDTH



7.2. LIMITS AND PROCEDURE

LIMIT

§15.225
IC RSS-GEN, Section 8.9 and 8.10.

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:
§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.
§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:
Limit (dBuV/m) = 20 log limit (uV/m)

In addition:

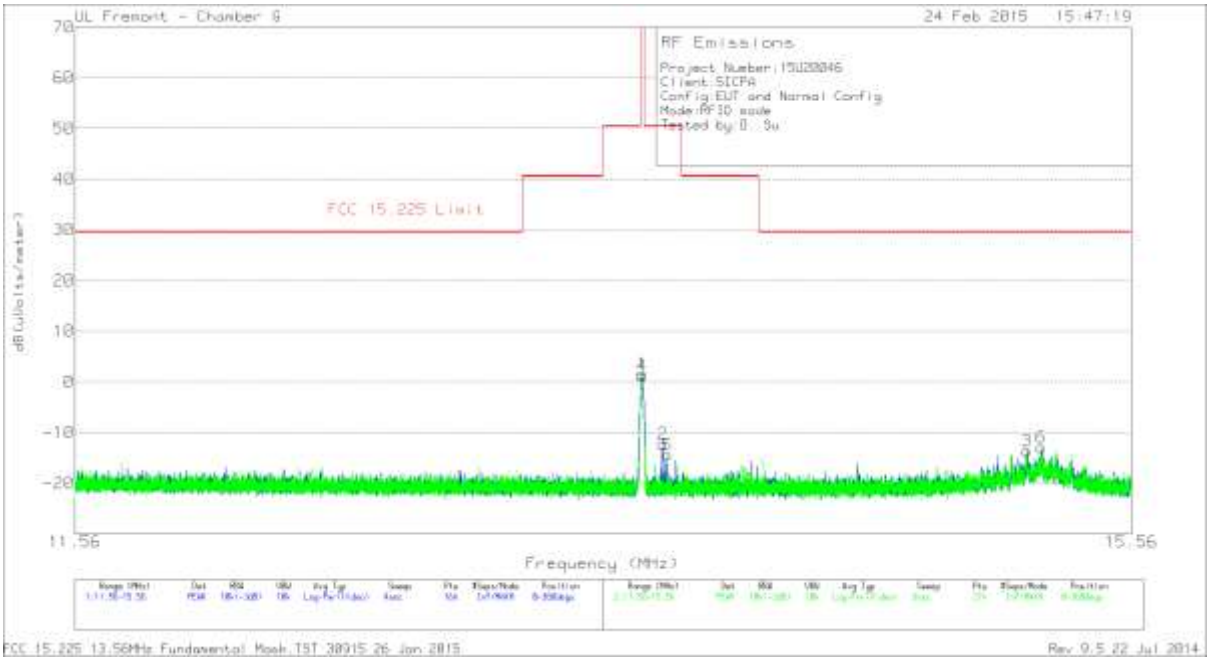
§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (d) The provisions in §§ 15.225, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

RESULTS:

7.2.1. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

1) Fundamental Mask



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 30m	Corrected Reading dB(uVolts /meter)	FCC 15.225 Limit	Margin (dB)	Azimuth (Degs)
1	13.56	40.28	PK	10.7	.6	-40	11.58	84	-72.42	0-360
2	13.6405	26.47	PK	10.7	.6	-40	-2.23	50.5	-52.73	0-360
3	15.10925	25.14	PK	10.6	.6	-40	-3.66	29.54	-33.2	0-360
4	13.55948	39.81	PK	10.7	.6	-40	11.11	84	-72.89	0-360
5	13.65731	24.27	PK	10.7	.6	-40	-4.43	50.5	-54.93	0-360
6	15.1712	25.87	PK	10.6	.6	-40	-2.93	29.54	-32.47	0-360

Note: Markers 1-3 above are Loop antenna face-on position, Markers 4-7 above are Loop antenna face-off position.

PK - Peak detector
FCC 15.225 13.56MHz Fundamental Mask.TST 30915 26 Jan 2015

2) Spurious Emissions 10KHz- 30MHz

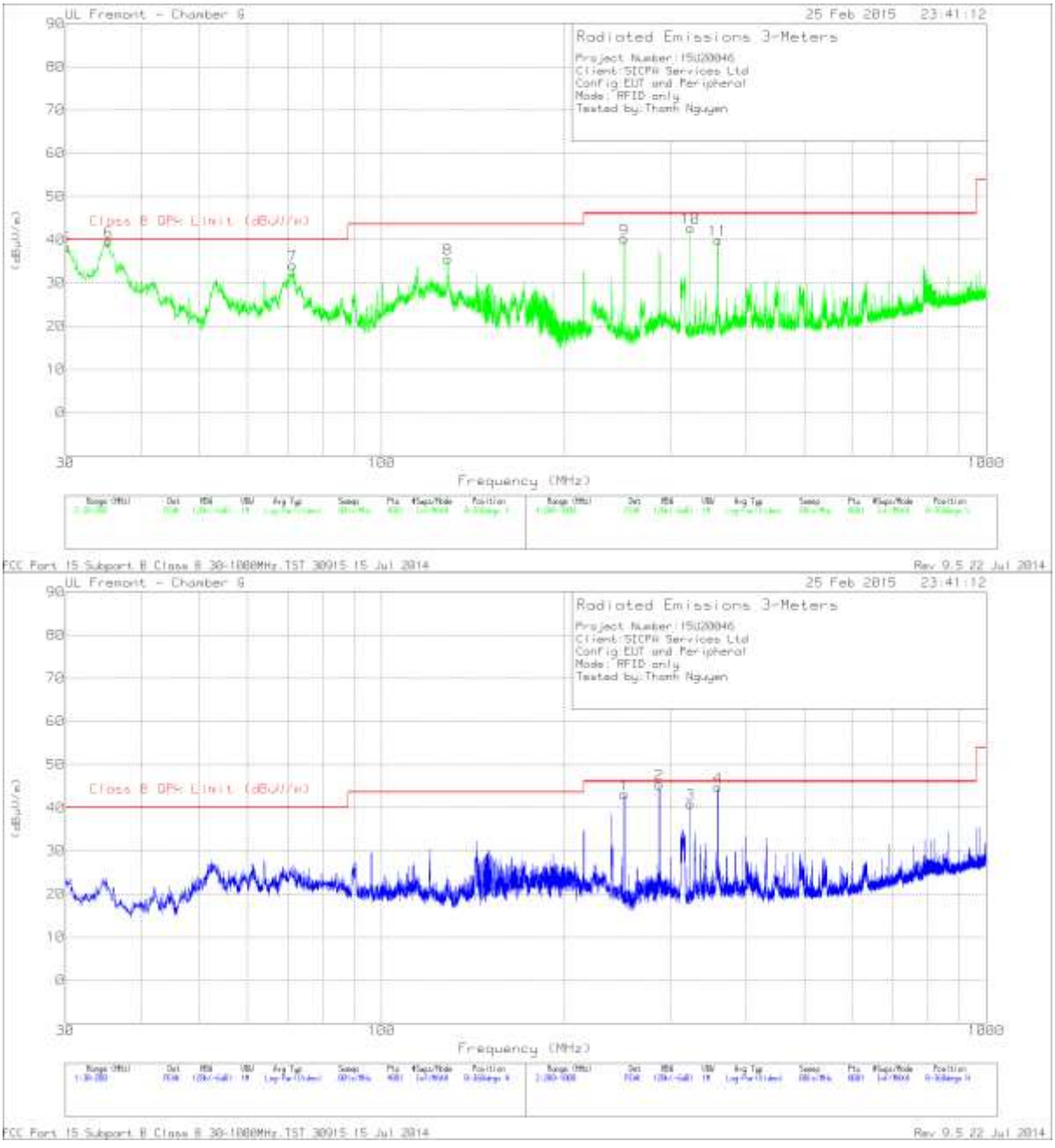
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.0458	54.49	PK	11.7	.1	-80	-13.71	54.39	-68.1	34.39	-48.1	0-360
7	.04581	46.87	PK	11.6	.1	-80	-21.43	54.39	-75.82	34.39	-55.82	0-360
2	.06828	55.31	PK	11	.1	-80	-13.59	50.92	-64.51	30.92	-44.51	0-360
8	.06828	45.85	PK	11	.1	-80	-23.05	50.92	-73.97	30.92	-53.97	0-360
9	.13675	34.66	PK	10.8	.1	-80	-34.44	44.89	-79.33	24.89	-59.33	0-360
3	.13676	41.58	PK	10.8	.1	-80	-27.52	44.88	-72.4	24.88	-52.4	0-360

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 30m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
10	7.63144	18.95	PK	10.8	.5	-40	-9.75	29.54	-39.29	-	-	0-360
4	13.55945	31.02	PK	10.7	.6	-40	2.32	29.54	-27.22	-	-	0-360
11	13.55945	39.98	PK	10.7	.6	-40	11.28	29.54	-18.26	-	-	0-360
5	15.17154	14.12	PK	10.6	.6	-40	-14.68	29.54	-44.22	-	-	0-360
12	15.30437	19.67	PK	10.6	.6	-40	-9.13	29.54	-38.67	-	-	0-360
13	21.05475	19.08	PK	9.9	.8	-40	-10.22	29.54	-39.76	-	-	0-360
6	23.92208	10.55	PK	9.4	.8	-40	-19.25	29.54	-48.79	-	-	0-360
14	23.92208	21.67	PK	9.4	.8	-40	-8.13	29.54	-37.67	-	-	0-360

PK - Peak detector

RE_FCC 15.225_9K-30MHz.DAT 30915 8 Jan 2015

7.2.2. TX SPURIOUS EMISSION 30 TO 1000 MHz



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Hybrid	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	30.0425	45.52	PK	24.1	-31.3	38.32	40	-1.68	0-360	100	V
6	35.355	50.42	PK	20.4	-31.2	39.62	40	-.38	0-360	100	V
7	71.31	53.7	PK	11.2	-30.8	34.1	40	-5.9	0-360	100	V
8	128.7275	48.98	PK	16.8	-30.2	35.58	43.52	-7.94	0-360	100	V
1	252	57.32	PK	14.9	-29.2	43.02	46.02	-3	0-360	301	H
9	252	54.41	PK	14.9	-29.2	40.11	46.02	-5.91	0-360	201	V
2	288	58.12	PK	16.3	-29	45.42	46.02	-.6	0-360	100	H
3	324	52.87	PK	16.8	-28.7	40.97	46.02	-5.05	0-360	100	H
10	324.1	54.65	PK	16.8	-28.7	42.75	46.02	-3.27	0-360	201	V
4	360	55.71	PK	17.5	-28.5	44.71	46.02	-1.31	0-360	100	H
11	360	50.84	PK	17.5	-28.5	39.84	46.02	-6.18	0-360	201	V

PK - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	Hybrid	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
35.3622	45.53	QP	20.4	-31.2	34.73	40	-5.27	52	112	V
288.023	58.07	QP	16.3	-29	45.37	46.02	-.65	219	101	H

QP - Quasi-Peak detector

FCC Part 15 Subpart B Class B 30-1000MHz.TST 30915 15 Jul 2014
Rev 9.5 22 Jul 2014

8. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207
IC RSS-GEN, Section 8.8

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dBµV)	
	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
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

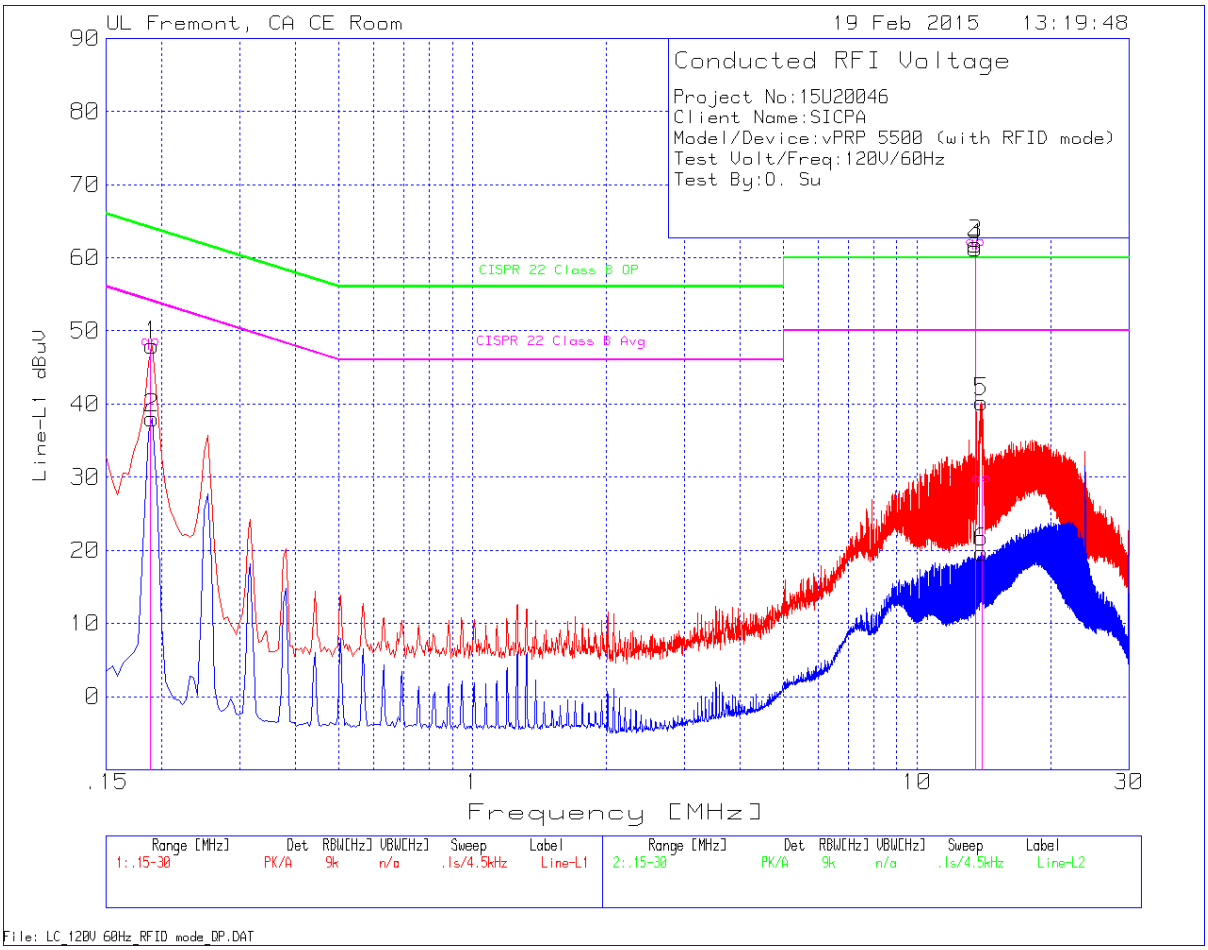
TEST PROCEDURE

ANSI C63.4:2009 (FCC) and ANSI C63.10:2013 (IC)

RESULTS

8.1. OPERATING MODE

LINE 1 RESULTS



Line-L1 .15 - 30MHz

Trace Markers

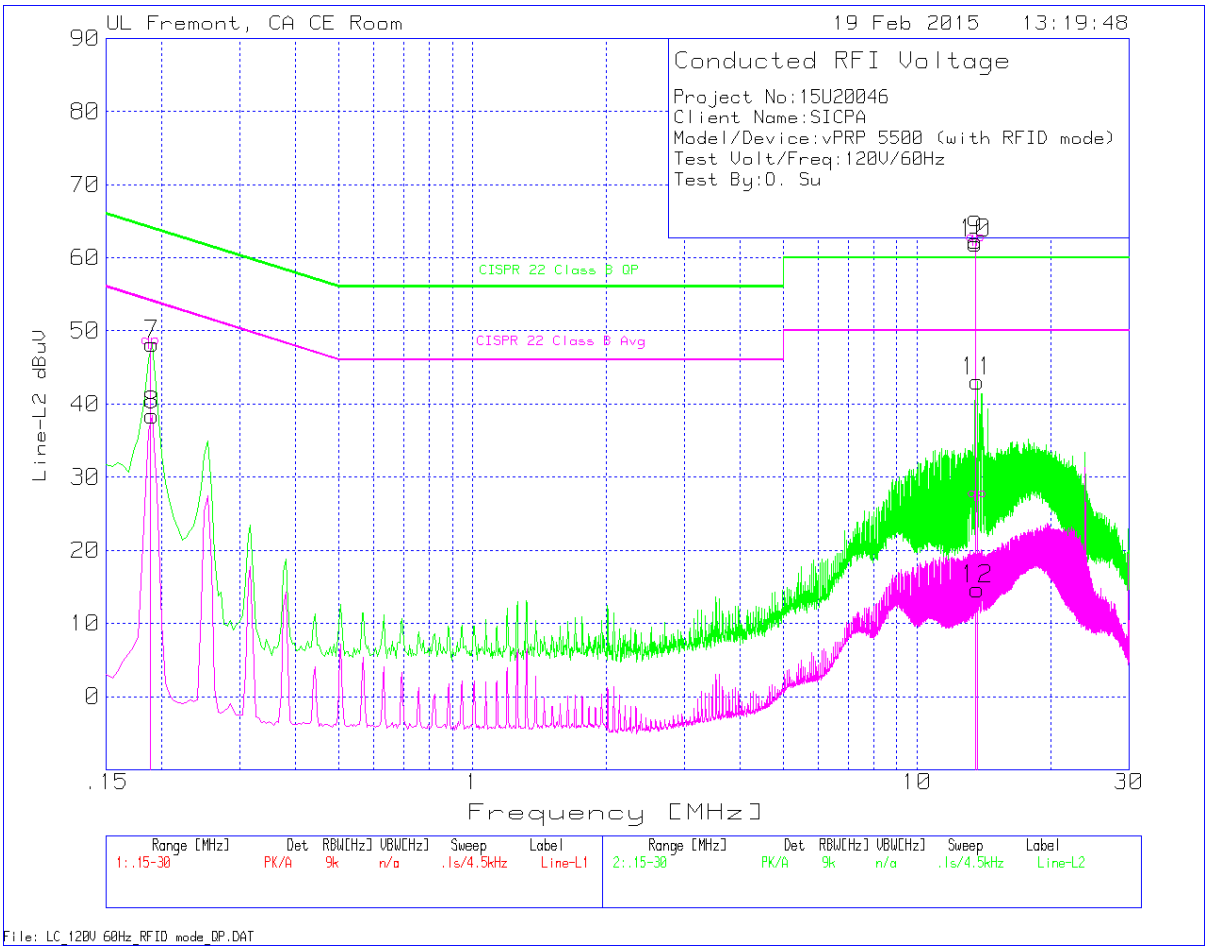
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.1905	46.95	PK	1	0	47.95	64	-16.05	-	-
2	.1905	37.1	Av	1	0	38.1	-	-	54	-15.9
3	13.56	61.4	PK	.2	.2	61.8	60	1.8	-	-
4	13.56	60.92	Av	.2	.2	61.32	-	-	50	11.32
5	13.9785	39.8	PK	.2	.2	40.2	60	-19.8	-	-
6	13.9785	19.33	Av	.2	.2	19.73	-	-	50	-30.27

Quasi-Peak Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
.1887	46.51	QP	1	0	47.51	64.1	-16.59	-	-
13.5591	60.75	QP	.2	.2	61.15	60	1.15	-	-
13.9812	28.38	QP	.2	.2	28.78	60	-31.22	-	-

Note: 13.56 MHz is the fundamental signal and it is excluded from this data.

LINE 2 RESULTS



Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
7	.1905	47.09	PK	1.1	0	48.19	64	-15.81	-	-
8	.1905	37.36	Av	1.1	0	38.46	-	-	54	-15.54
9	13.56	61.94	PK	.2	.2	62.34	60	2.34	-	-
10	13.56	61.5	Av	.2	.2	61.9	-	-	50	11.9
11	13.6905	42.73	PK	.2	.2	43.13	60	-16.87	-	-
12	13.6905	14.25	Av	.2	.2	14.65	-	-	50	-35.35

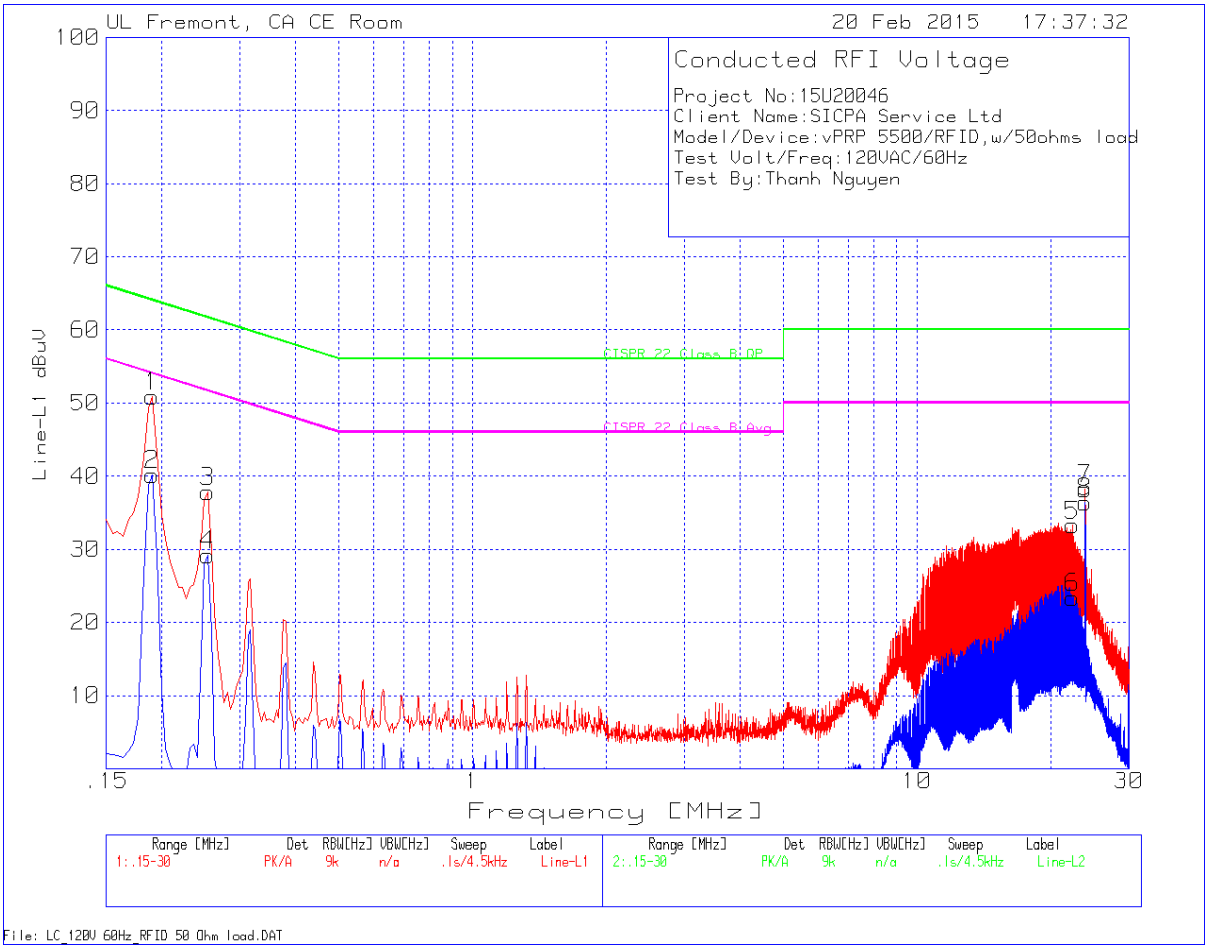
Quasi-Peak Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
.1887	46.56	QP	1.1	0	47.66	64.1	-16.44	-	-
13.5591	61.32	QP	.2	.2	61.72	60	1.72	-	-
13.6896	26.37	QP	.2	.2	26.77	60	-33.23	-	-

QP - Quasi-Peak detector

Note: 13.56 MHz is the fundamental signal and it is excluded from this data.

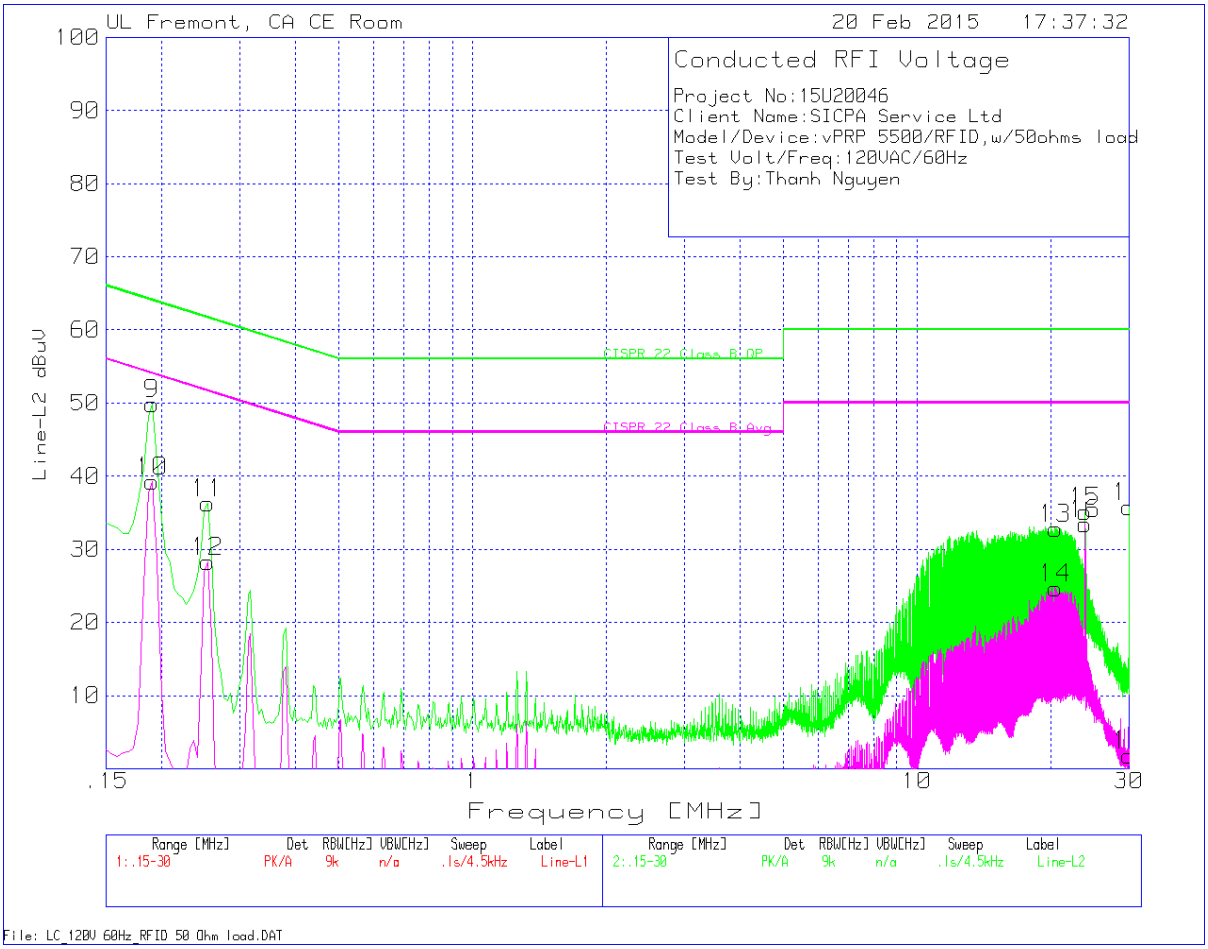
8.2. OPERATING MODE WITH 50 Ohms LOAD



Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.1905	49.86	PK	1	0	50.86	64	-13.14	-	-
2	.1905	39.15	Av	1	0	40.15	-	-	54	-13.85
3	.2535	37.15	PK	.7	0	37.85	61.6	-23.75	-	-
4	.2535	28.45	Av	.7	0	29.15	-	-	51.6	-22.45
5	22.389	32.76	PK	.3	.2	33.26	60	-26.74	-	-
6	22.389	22.89	Av	.3	.2	23.39	-	-	50	-26.61
7	23.91	37.74	PK	.3	.2	38.24	60	-21.76	-	-
8	23.91	35.95	Av	.3	.2	36.45	-	-	50	-13.55



Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
9	.1905	48.71	PK	1.1	0	49.81	64	-14.19	-	-
10	.1905	38.14	Av	1.1	0	39.24	-	-	54	-14.76
11	.2535	35.6	PK	.7	0	36.3	61.6	-25.3	-	-
12	.2535	27.55	Av	.7	0	28.25	-	-	51.6	-23.35
13	20.508	32.35	PK	.3	.2	32.85	60	-27.15	-	-
14	20.508	24.14	Av	.3	.2	24.64	-	-	50	-25.36
15	23.91	34.63	PK	.3	.2	35.13	60	-24.87	-	-
16	23.91	32.96	Av	.3	.2	33.46	-	-	50	-16.54
17	30	35.21	PK	.3	.3	35.81	60	-24.19	-	-
18	30	1.22	Av	.3	.3	1.82	-	-	50	-48.18

PK - Peak detector
Av - average detection

9. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

TEST PROCEDURE

ANSI C63.4:2009 (FCC) and ANSI C63.10:2013 (IC)

RESULTS

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vac)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
115.00	50	13.5594136	3.767	13.5596247	-11.801	13.5594097	4.053	13.5594098	4.050	± 100
115.00	40	13.5594408	1.758	13.5594307	2.507	13.5594240	3.002	13.5595140	-3.634	± 100
115.00	30	13.5594657	-0.078	13.5594601	0.337	13.5594242	2.988	13.5594454	1.423	± 100
115.00	***20***	***13.5594647***	***0.000***	***13.5594642***	***0.032***	***13.5594639***	***0.054***	***13.5595240***	***-4.377***	***± 100***
115.00	10	13.5594146	3.690	13.5594433	1.579	13.5594437	1.550	13.5594464	1.346	± 100
115.00	0	13.5594673	-0.194	13.5594474	1.275	13.5595277	-4.646	13.5594988	-2.518	± 100
115.00	-10	13.5595234	-4.327	13.5595278	-4.653	13.5594821	-1.284	13.5595420	-5.702	± 100
115.00	-20	13.5595508	-6.350	13.5595586	-6.928	13.5595624	-7.205	13.5595676	-7.592	± 100
97.75	20	13.5594635	0.087	13.5594030	4.549	13.5594647	0.001	13.5594030	4.549	± 100
132.25	20	13.5594633	0.101	13.5594633	0.104	13.5594631	0.116	13.5594473	1.280	± 100