FCC 47 CFR PART 15 SUBPART B
ICES-003 ISSUE 5

TEST REPORT

FOR

MOBILE PERSONAL EMERGENCY RESPONSE SYSTEM

HANDSET MODEL NUMBER: ANH1115
CHARGING CRADLE MODEL NUMBER: ANC1115
WEARABLE MODEL NUMBER: ANW1115

HANDSET FCC ID: 2AGPI-ANH1115
CHARGING CRADLE FCC ID: 2AGPI-ANC1115
WEARABLE GCC ID: 2AGPI-ANW1115

HANDSET IC ID: 20951-ANH1115
CHARGING CRADLE IC ID: 20951-ANC1115
WEARABLE IC ID: 20951-ANW1115

REPORT NUMBER: 15U21636-E4V2

ISSUE DATE: JANUARY 27, 2016

Prepared for
ANELTO
6270 MORNINGSTAR DR SUITE 100
THE COLONY
TX 75056 USA

Prepared by
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	01/14/16	Initial issue	H. Mustapha
V2	01/27/16	Updated EUT Description to include Wearable & Sect 5.1	H. Mustapha

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Anelto
6270 Morningstar Dr.
The Colony, TX 75056 USA

EUT DESCRIPTION: MOBILE PERSONAL EMERGENCY RESPONSE SYSTEM

MODEL: PHONE: ANH1115, CRADLE: ANC1115, WEARABLE: ANW1115

SERIAL NUMBER: Handset: B8; Cradle: CB30; Wearable WB38

DATE TESTED: Sept. 16 - Dec. 3, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART B, Class B	Pass
ICES – 003 ISSUE 5, Class B	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
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UL Verification Services Inc.

Tested By:

Lionel Lara

LIONEL LARA
WiSE LAB ENGINEER
UL Verification Services Inc.

FRANK IBRAHIM
PROGRAM MANAGER
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2009 and CAN/CSA-CEI/IEC CISPR 22-10 as referenced by ICES-003 Issue 5.

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(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☐ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☐ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☐ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Mobile Personal Emergency Response System, which consists of a handset, a charging cradle and a wearable.

GENERAL INFORMATION

Power Requirements	For cradle/handset – 5V at 2A For wearable - 3V at 50 mA external power supply
List of frequencies generated or used by the EUT	32kHz

5.2. TEST CONFIGURATIONS

The following configuration was investigated during testing:

Configuration	Description
Typical configuration 1	The charging cradle was plugged into AC and handset was mounted inside cradle. The wearable was set on the side.
Typical configuration 2	The charging cradle was plugged into a laptop computer via USB and handset was mounted inside cradle. The wearable was set on the side. An Ethernet switch was connected to the laptop.

5.3. WORST CASE MODE OF OPERATION

Mode	Description
Normal	All three devices were powered on and set to transmit.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was HW A, Version 1.0.

5.5. MODIFICATIONS

No modifications were made during testing.

5.6. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

PERIPHERAL SUPPORT EQUIPMENT LIST			
Description	**Manufacturer**	**Model**	**Serial Number**
AC Charger	Phihong	PSA10F-050Q	N/A
DC Power Supply	Sorenson	XHR 60-18	1308A1935
Switch	Netgear	GST108T	295A3C5T00E79

I/O CABLES

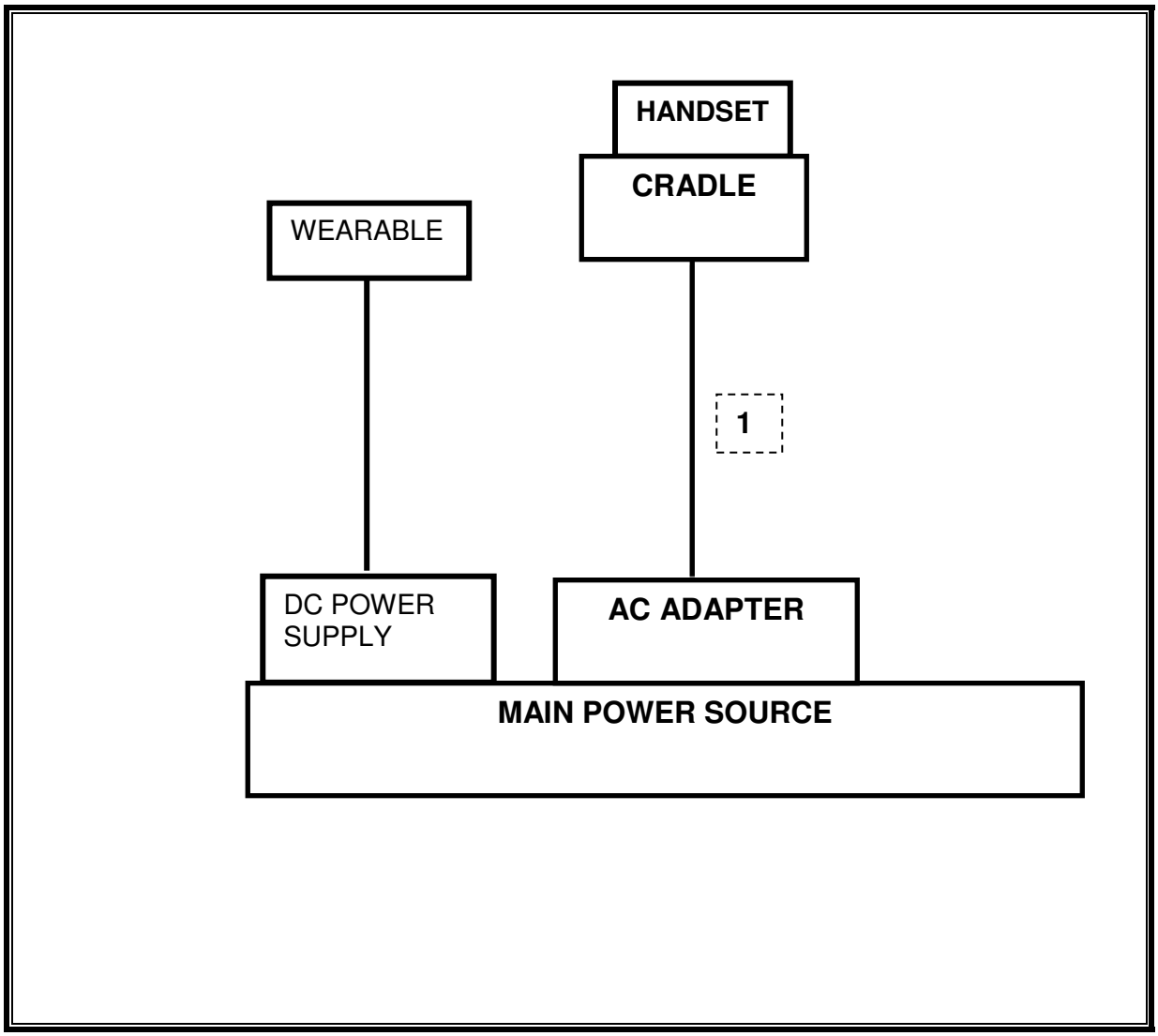
I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length** m	**Remarks**
1	DC	1	micro-USB	unshielded	1.5	
2	USB	1	micro-USB	unshielded	1.5	
3	DC	1	DC	unshielded	1.8	
4	Ethernet	1	RJ45	unshielded	2	

TEST SETUP

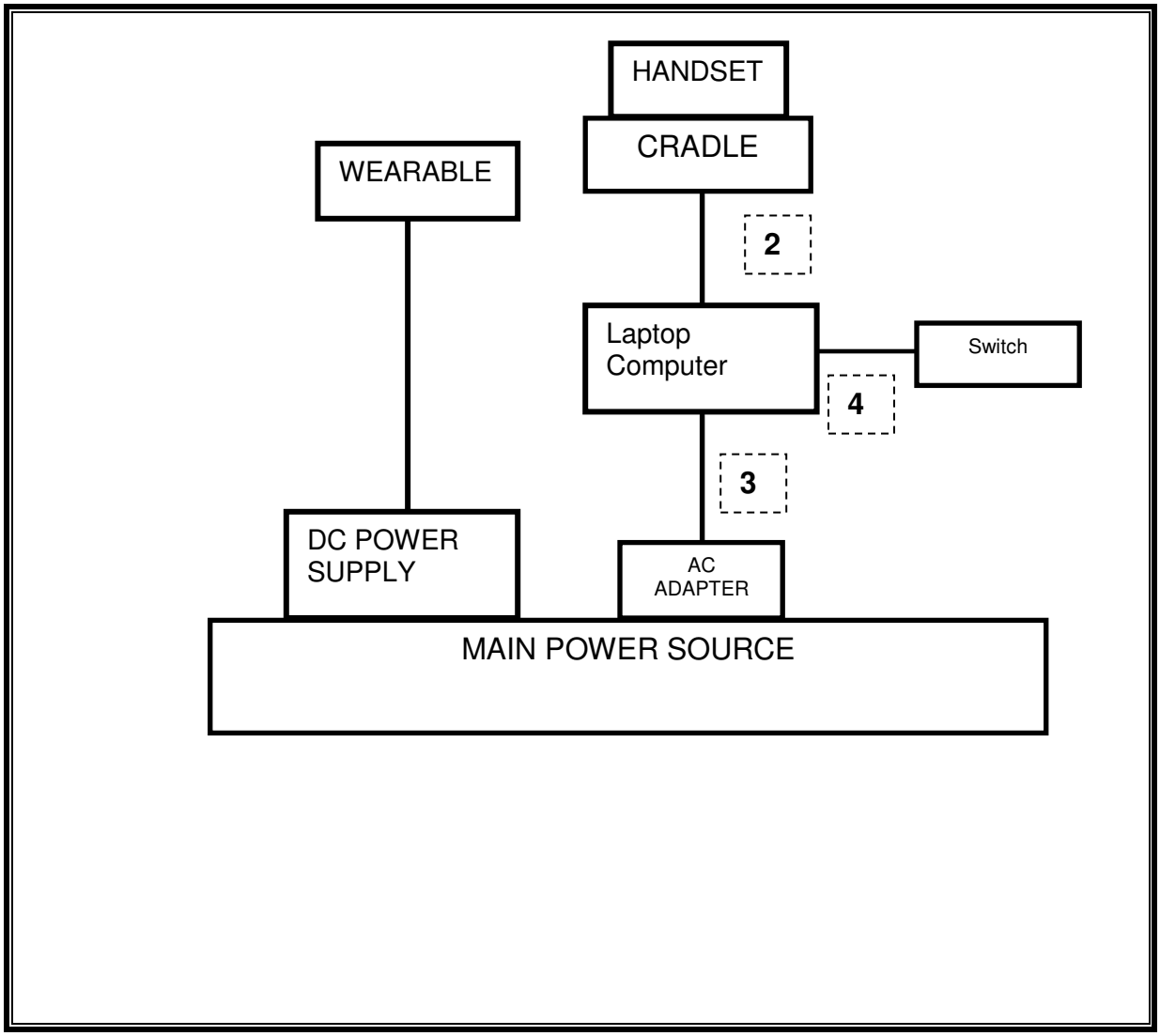
The EUT was set in normal mode.

TEST SETUP DIAGRAM

Configuration 1



Configuration 2



6. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	S/N	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Preamplifier, 1300 MHz	Agilent/HP	8447D	T10	01/16/16
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB3	477	06/10/16
Preamplifier, 26.5 GHz	Agilent/HP	8449B	3008A04710	04/13/16
EMI Test Receiver, 9KHz to 7GHz	Rohde & Schwarz	ESCI 7	284	09/16/16
LISN, 30 MHz	FCC	50/250-25-2	114	01/16/16
LISN	Solar	8012-50-R-24-BNC	29	06/11/16

Test Software			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, July 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, June 26 2015

7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4: 2009

LIMIT

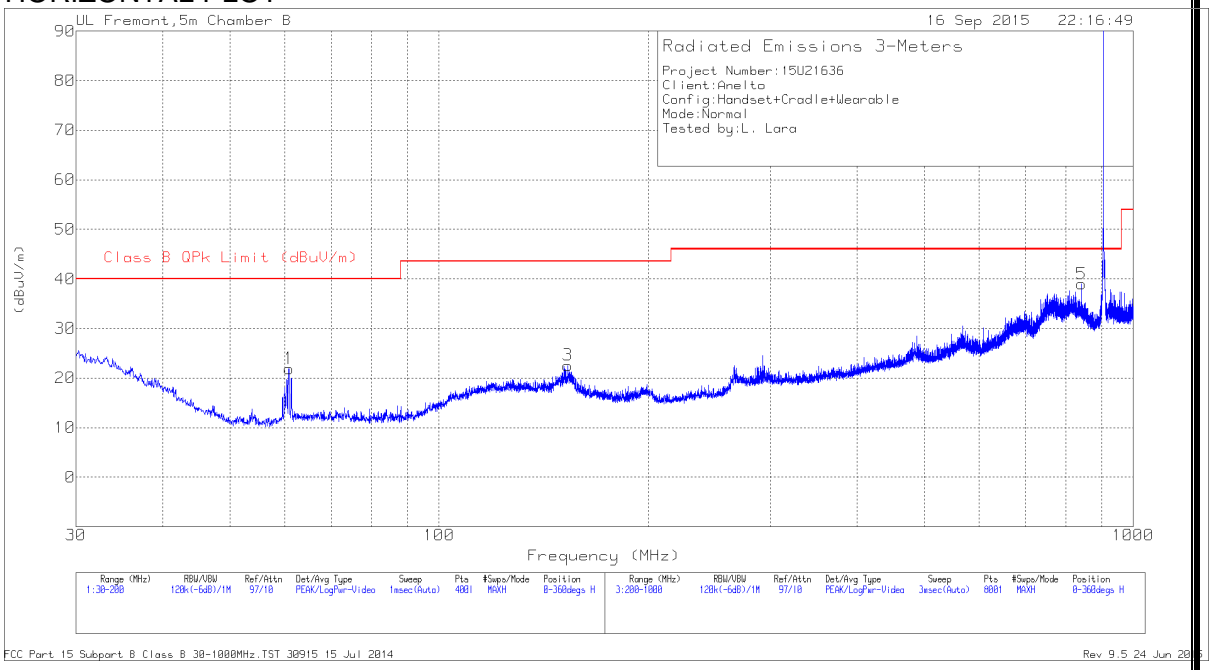
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dBµV/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54
Note: The lower limit shall apply at the transition frequency.	

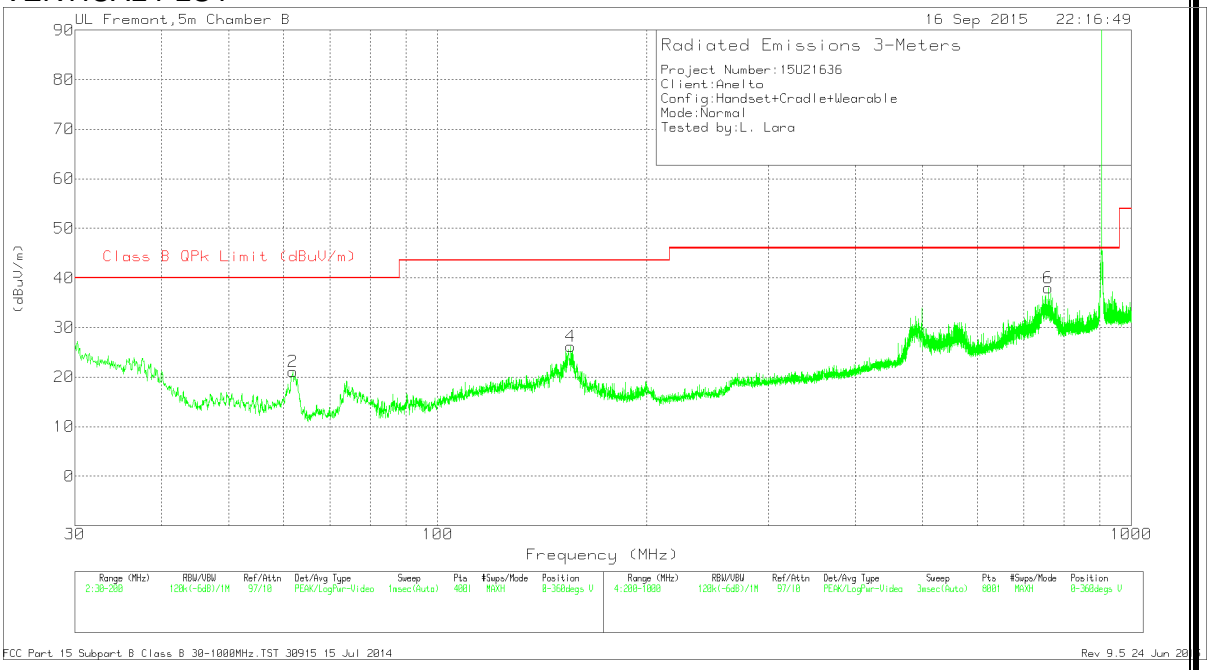
RESULTS

RADIATED EMISSIONS 30 TO 1000 MHz (CONFIGURATION 1)

HORIZONTAL PLOT



VERTICAL PLOT



HORIZONTAL AND VERTICAL DATA (CONFIGRATION 1)

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	60.77	38.73	Pk	11.7	-28.5	21.93	40	-18.07	0-360	100	H
2	61.8325	37.76	Pk	11.7	-28.4	21.06	40	-18.94	0-360	101	V
3	153.25	33.77	Pk	16.3	-27.5	22.57	43.52	-20.95	0-360	299	H
4	155.63	37.54	Pk	16.2	-27.5	26.24	43.52	-17.28	0-360	101	V
6	759.5	37.97	Pk	24.9	-24.9	37.97	46.02	-8.05	0-360	101	V
5	842.3	37.84	Pk	25.6	-24.4	39.04	46.02	-6.98	0-360	101	H
7	*906.3	105.51	Pk	26.5	-23.9	108.11	-	-	0-360	101	H
8	*906.3	105.76	Pk	26.5	-23.9	108.36	-	-	0-360	101	V

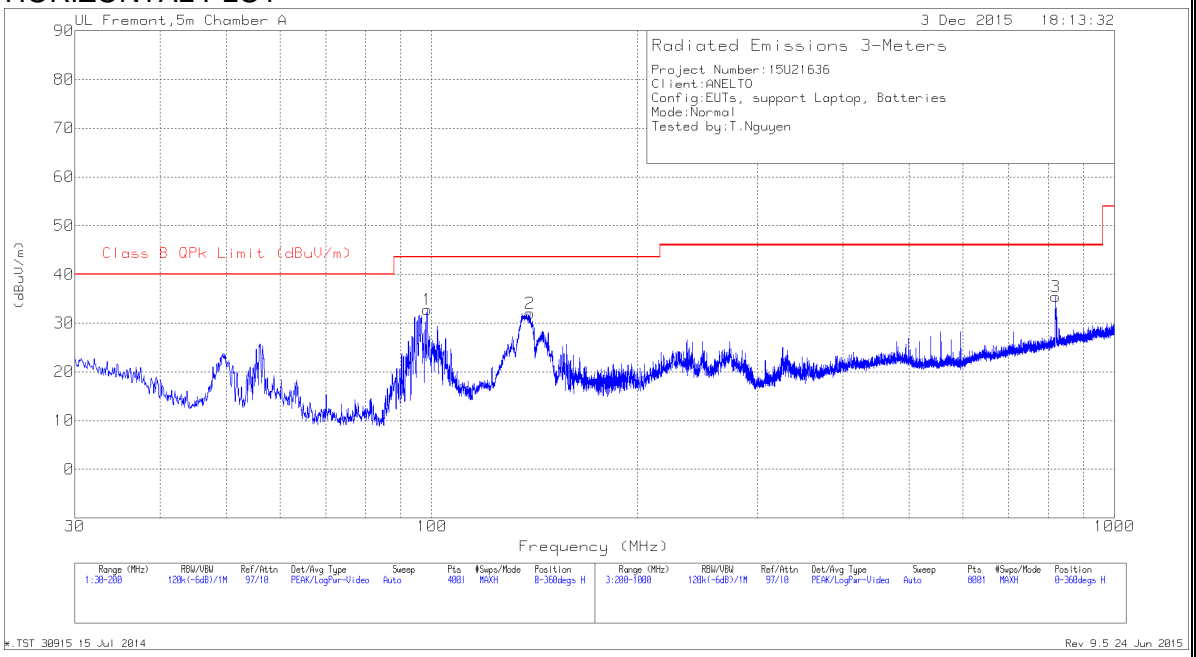
* - Fundamental frequency

PK - Peak detector

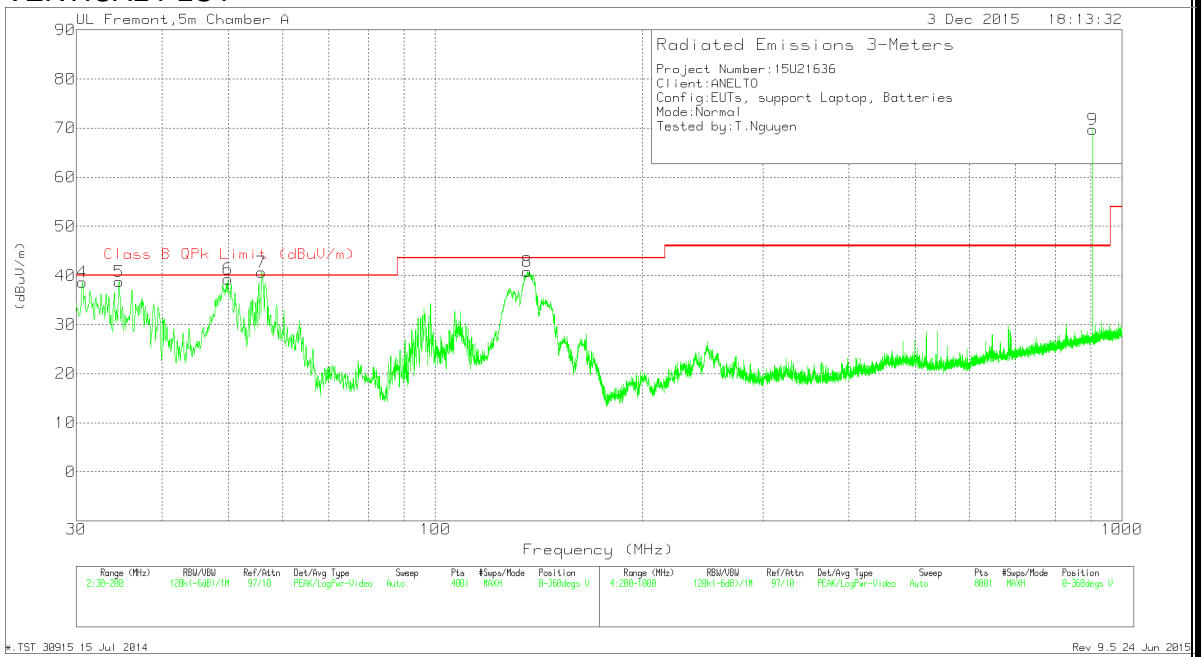
RESULTS

RADIATED EMISSIONS 30 TO 1000 MHz (CONFIGURATION 2)

HORIZONTAL PLOT



VERTICAL PLOT



HORIZONTAL AND VERTICAL DATA (CONFIGRATION 2)

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	30.6049	43.36	Qp	24.8	-31.2	36.96	40	-3.04	216	100	V
5	34.6428	45.39	Qp	21.8	-31.2	35.99	40	-4.01	216	100	V
6	49.8468	53.61	Qp	11.9	-31	34.51	40	-5.49	140	100	V
7	56.0165	57.63	Qp	11	-30.9	37.73	40	-2.27	140	100	V
1	98.425	49.68	Pk	13.7	-30.6	32.78	43.52	-10.74	0-360	299	H
8	136.4525	50.75	Qp	17.3	-30.3	37.75	43.52	-5.77	161	106	V
2	139.225	45.36	Pk	17	-30.3	32.06	43.52	-11.46	0-360	299	H
3	819.7	37.91	Pk	25.5	-27.9	35.51	46.02	-10.51	0-360	199	H
9	*906	70.88	Pk	26.1	-27.2	69.78	-	-	0-360	299	V

Qp - Quasi-Peak detector
PK - Peak detector

* - Fundamental frequency

7.2. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4: 2009

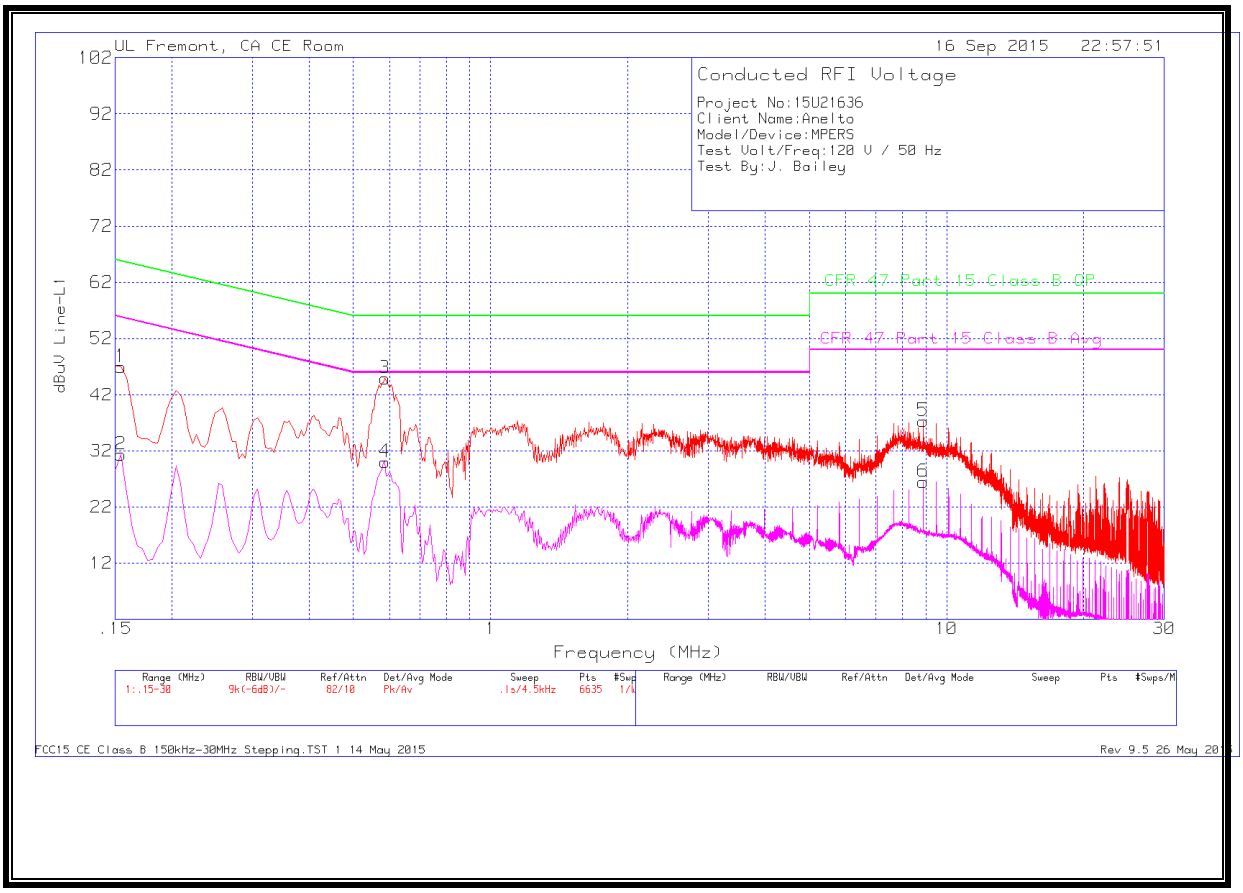
LIMIT

§15.107 (a) Except for Class A digital devices, for equipment 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 50 μH/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.

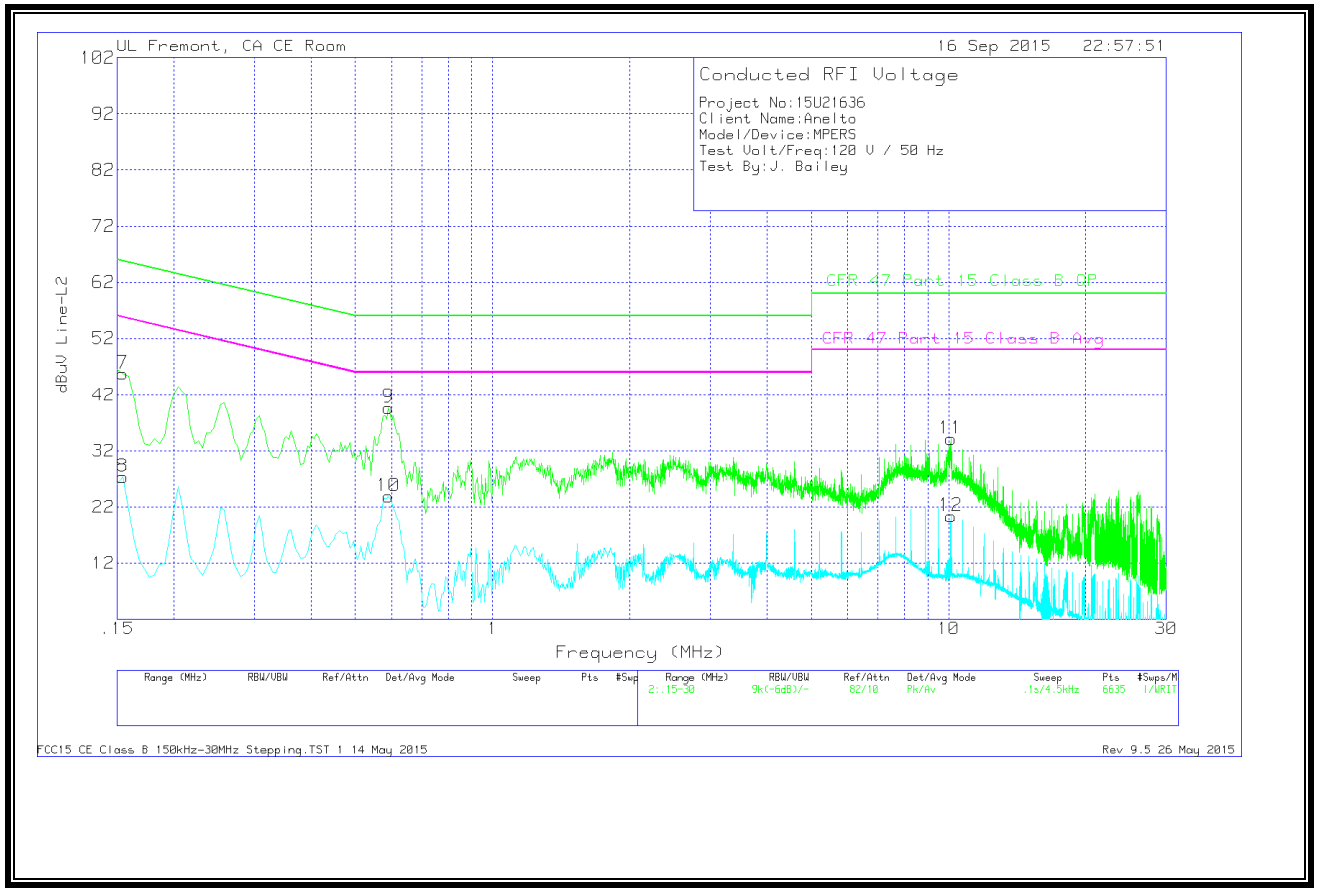
Frequency range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

RESULTS

Line-L1 .15 - 30MHz (CONFIGURATION 1)



Line-L2 .15 - 30MHz (CONFIGURATION 1)



RESULTS (CONFIGURATION 1)

Trace Markers

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.1545	45.62	Pk	1.3	0	46.92	65.75	-18.83	-	-
2	.1545	30.03	Av	1.3	0	31.33	-	-	55.75	-24.42
3	.5865	44.6	Pk	.3	0	44.9	56	-11.1	-	-
4	.5865	29.7	Av	.3	0	30	-	-	46	-16
5	8.8845	36.98	Pk	.2	.1	37.28	60	-22.72	-	-
6	8.8845	26.18	Av	.2	.1	26.48	-	-	50	-23.52

Pk - Peak detector
Av - Average detection

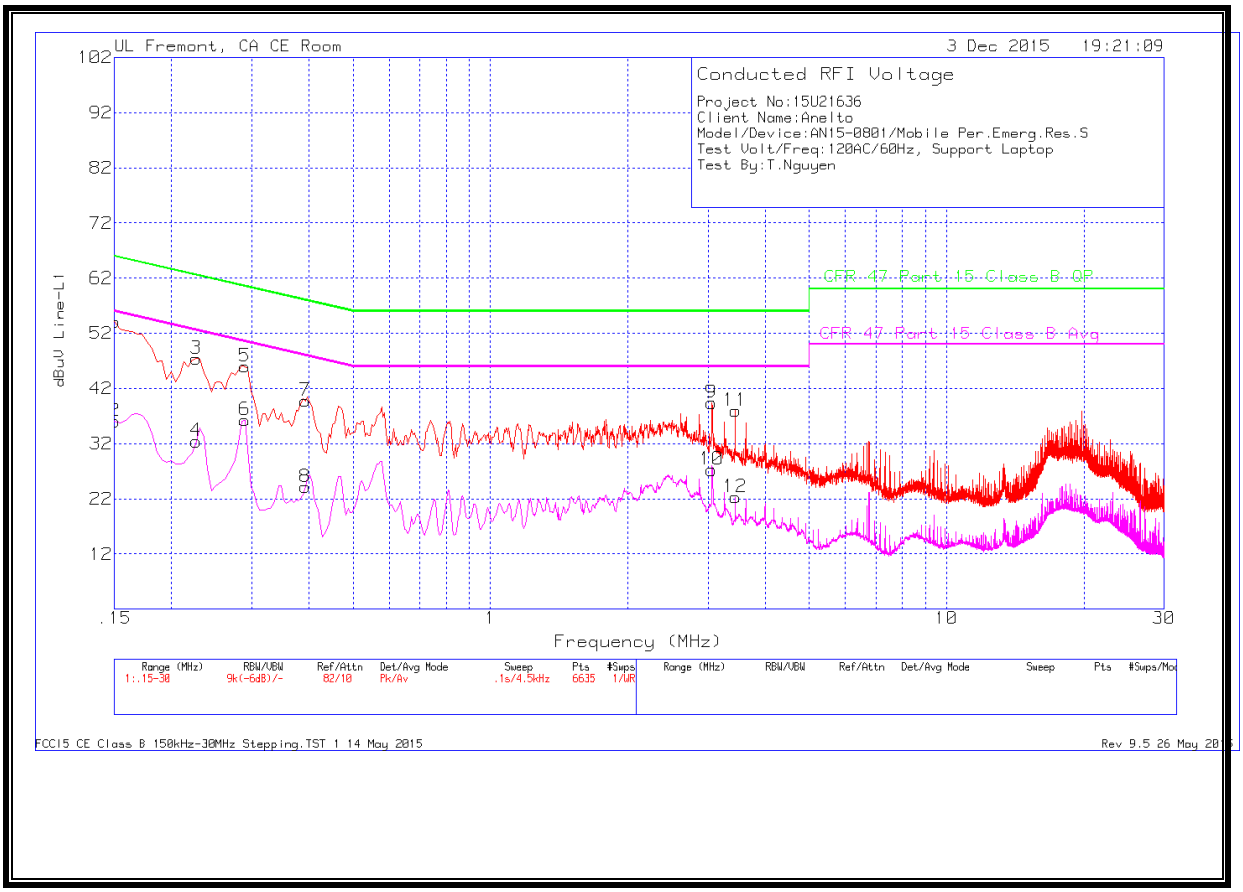
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
7	.1545	44.33	Pk	1.4	0	45.73	65.75	-20.02	-	-
8	.1545	25.99	Av	1.4	0	27.39	-	-	55.75	-28.36
9	.591	39.4	Pk	.3	0	39.7	56	-16.3	-	-
10	.591	23.63	Av	.3	0	23.93	-	-	46	-22.07
11	10.113	33.76	Pk	.2	.2	34.16	60	-25.84	-	-
12	10.113	19.97	Av	.2	.2	20.37	-	-	50	-29.63

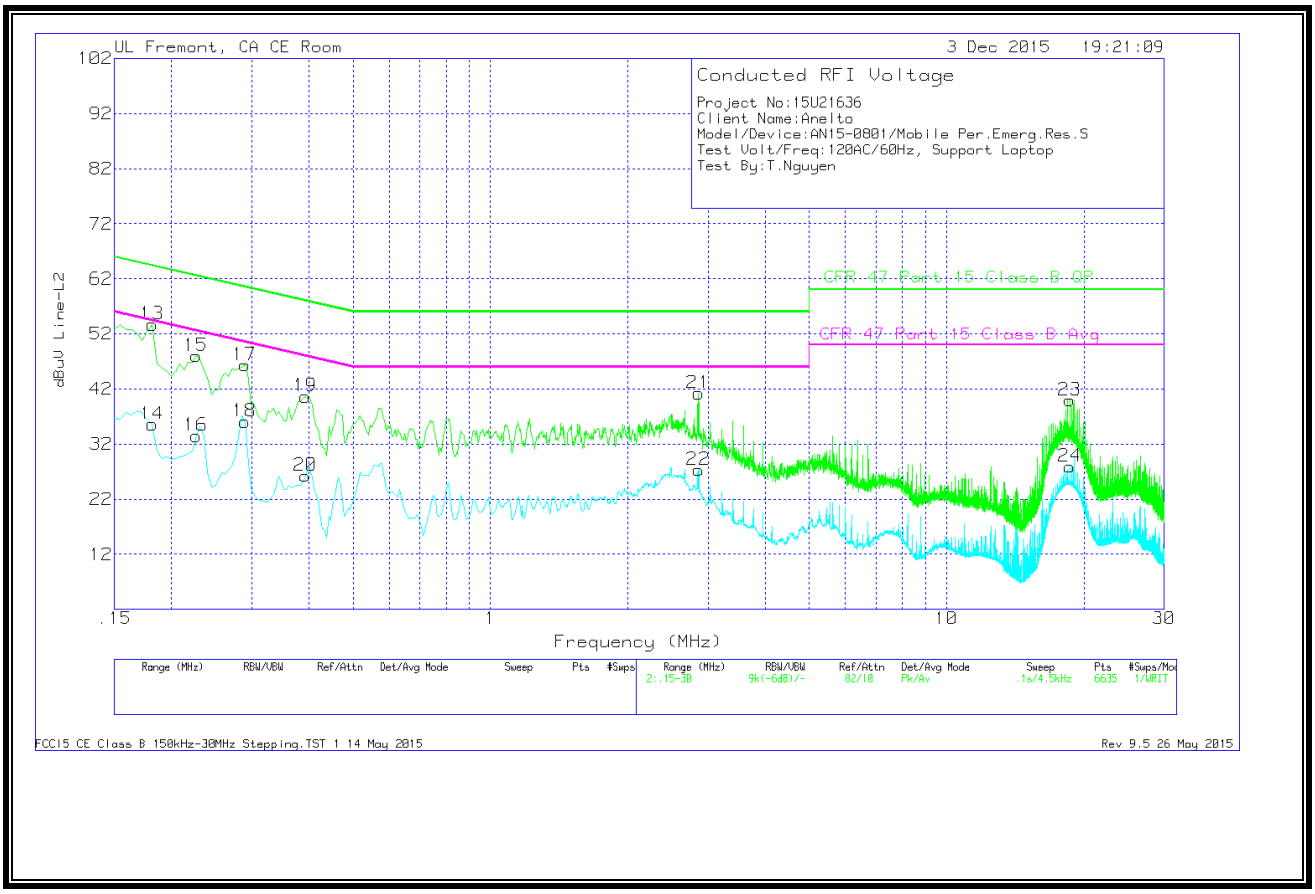
Pk - Peak detector
Av - Average detection

RESULTS

Line-L1 .15 - 30MHz (CONFIGURATION 2)



Line-L2 .15 - 30MHz (CONFIGURATION 2)



RESULTS (CONFIGURATION 2)

Trace Markers

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.15	52.68	Pk	1.4	0	54.08	66	-11.92	-	-
2	.15	34.65	Av	1.4	0	36.05	-	-	56	-19.95
3	.2265	46.62	Pk	.8	0	47.42	62.58	-15.16	-	-
4	.2265	31.61	Av	.8	0	32.41	-	-	52.58	-20.17
5	.2895	45.37	Pk	.6	0	45.97	60.54	-14.57	-	-
6	.2895	35.68	Av	.6	0	36.28	-	-	50.54	-14.26
7	.393	39.34	Pk	.4	0	39.74	58	-18.26	-	-
8	.393	23.74	Av	.4	0	24.14	-	-	48	-23.86
9	3.057	39.09	Pk	.2	.1	39.39	56	-16.61	-	-
10	3.057	26.95	Av	.2	.1	27.25	-	-	46	-18.75
11	3.444	37.7	Pk	.2	.1	38	56	-18	-	-
12	3.444	21.97	Av	.2	.1	22.27	-	-	46	-23.73

Pk - Peak detector
Av - Average detection

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.1815	52.49	Pk	1.2	0	53.69	64.42	-10.73	-	-
14	.1815	34.39	Av	1.2	0	35.59	-	-	54.42	-18.83
15	.2265	47.12	Pk	.9	0	48.02	62.58	-14.56	-	-
16	.2265	32.59	Av	.9	0	33.49	-	-	52.58	-19.09
17	.2895	45.75	Pk	.6	0	46.35	60.54	-14.19	-	-
18	.2895	35.47	Av	.6	0	36.07	-	-	50.54	-14.47
19	.393	40.23	Pk	.4	0	40.63	58	-17.37	-	-
20	.393	25.82	Av	.4	0	26.22	-	-	48	-21.78
21	2.859	40.91	Pk	.2	.1	41.21	56	-14.79	-	-
22	2.859	27.01	Av	.2	.1	27.31	-	-	46	-18.69
23	18.627	39.45	Pk	.3	.2	39.95	60	-20.05	-	-
24	18.627	27.4	Av	.3	.2	27.9	-	-	50	-22.1

Pk - Peak detector
Av - Average detection