



CERTIFICATION TEST REPORT

Report Number. : 12720909-E6V3

Applicant : VeriFone, Inc
1400 WEST STANFORD RANCH ROAD
ROCKLIN, CA, 95765, U.S.A.

Model : M440

FCC ID : B32M440

IC : 787C-M440

EUT Description : Point-of-Interaction Terminal

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-210 ISSUE 9
ISED RSS-GEN ISSUE 5

Date of Issue:

August 05, 2019

Prepared by:

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NVLAP Lab code: 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	7/9/2019	Initial Issue	--
V2	7/22/2019	Updated Verbage, Worst case statement, and Company name	Tri Pham
V3	8/5/2019	Updated XYZ worst case orientation and highest frequency	Tri Pham

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: VeriFone, Inc.
1400 WEST STANFORD RANCH ROAD
ROCKLIN, CA, 95765, U.S.A.

EUT DESCRIPTION: Point-of-Interaction Terminal

MODEL: M440

SERIAL NUMBER: Radiated: 346522674

DATE TESTED: May 22, 2019 – June 10, 2019

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Complies
ISED RSS-210 Issue 9, Annex B	Complies
ISED RSS-GEN Issue 5	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

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 the U.S. government.

Approved & Released For
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Frank Ibrahim
Operations Leader
Consumer Technology Division
UL Verification Services Inc.

Reviewed By:



Tri Pham
Project Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 5, and RSS-210 Issue 9.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, 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	47658 Kato Rd
<input type="checkbox"/> Chamber A	<input type="checkbox"/> Chamber D	<input checked="" type="checkbox"/> Chamber I
<input type="checkbox"/> Chamber B	<input type="checkbox"/> Chamber E	<input type="checkbox"/> Chamber J
<input type="checkbox"/> Chamber C	<input type="checkbox"/> Chamber F	<input checked="" type="checkbox"/> Chamber K
	<input type="checkbox"/> Chamber G	<input type="checkbox"/> Chamber L
	<input type="checkbox"/> Chamber H	<input type="checkbox"/> Chamber M

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0

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

RADIATED EMISSIONS

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)
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.17 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The M440 is an integrated countertop Point-of-Interaction (POI) terminal designed to process online and offline transactions in an attended environment. The Multi-Lane (M440) product is part of the two-chip Carbon family (Android applications and Engage payment engine). It accepts all payment methods - MSR, PSCR, Contactless, and wallets. The radio communication mechanisms available in the system include WiFi dual band 802.11 a/b/g/n and Bluetooth 4.1 BLE (BT4.2 on Android 7.1 or later versions), and CTLS (NFC).

5.2. MAXIMUM ELECTRIC FIELD STRENGTH

The testing was performed at 3 meters. The transmitter maximum electric field at 30-meter distance was converted from the 3-meter data. The transmitter has a maximum peak radiated electric field strength as follows:

Frequency Range (MHz)	Mode	Kbps	E Field at 30m distance (dBuV/m)
13.56	Type A	106	31.16

5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was Qualcomm Radio Control Tool, Version 4.0.00123.

5.4. WORST-CASE CONFIGURATION AND MODE

The fundamental of the EUT was investigated in two orthogonal orientations X and Z, it was determined that X-axis was the worst case orientation, therefore all final radiated testing was performed with the EUT in X(flatbed) position.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788

The device has Type A, B, and F. Based on the manufacturer, Type A was selected as worst-case type for the available types during the testing covered by this report.

The device has the following data rates: 106Kbps, 424Kbps, 848 Kbps. Based on the manufacturer, 106Kbps was selected as worst case data rate during the testing covered by this report.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID/DoC
AC/DC Adapter	Verifone	2AAJ012F US	A1914000007	DoC
Base Plug	Verifone	M400 BAS	445-101-01-A REV:A00	DoC

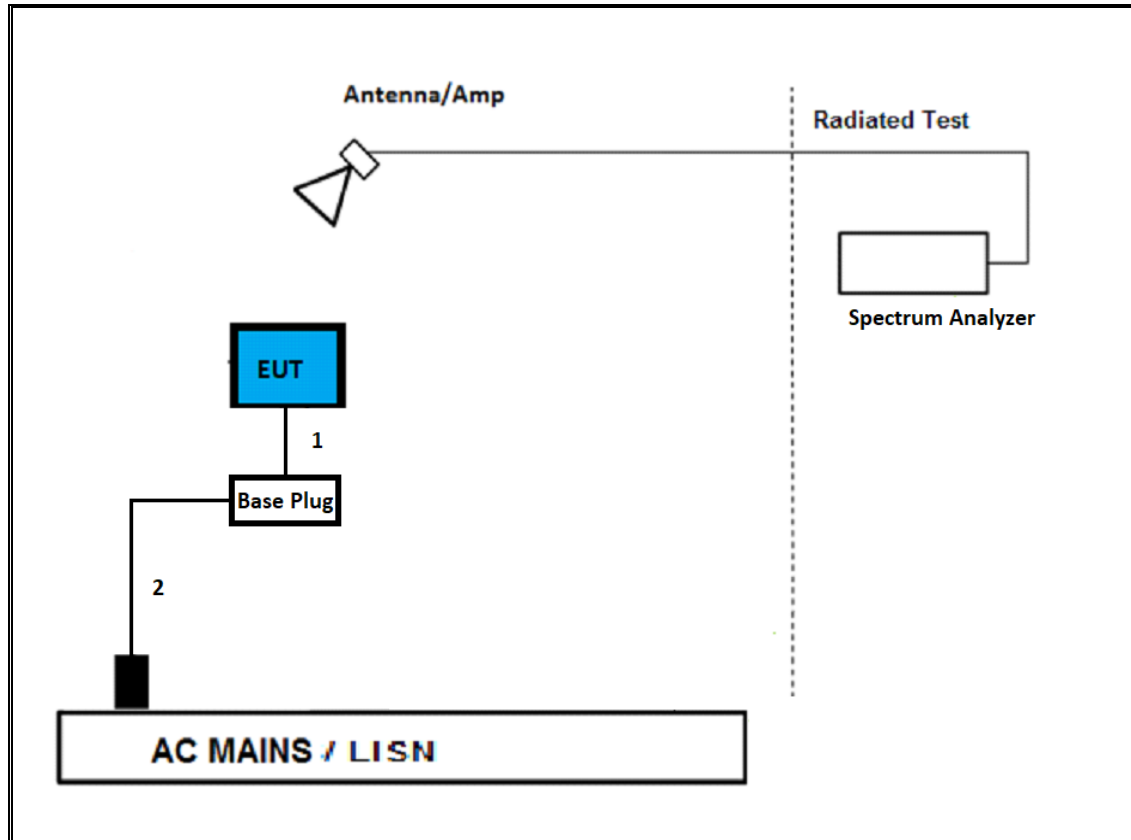
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	USB Type-C	Shielded	1.5	Base Plug to EUT
2	DC	5	DC	Unshielded	1.8	AC/DC Adapter to Base Plug

TEST SETUP

Test software exercised the radio card.

SETUP DIAGRAM



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Antenna, Active Loop 9kHz-30MHz	COM-POWER CORPORATION	AL-130R	PRE165308	4/11/2020	4/11/2019
Antenna, Passive Loop 30Hz – 1MHz	Electro-Metrics	EM-6871	PRE0179465	5/31/2020	5/31/2019
Antenna, Passive Loop 100kHz – 30MHz	Electro-Metrics	EM-6872	PRE0179467	5/31/2020	5/31/2019
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179376	02/14/2020	02/14/2019
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179372	02/16/2020	02/16/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T908	01/23/2020	01/23/2019
Temp Chamber	Thermotron Industries	SE-600-10-10	T80	11/13/2019	05/13/2019
Amplifier, 100kHz to 1GHz, 32 dB	Sonoma Instrument	310	175953	12/13/2019	12/13/2018
Hybrid Antenna, 30MHz to 3GHz	SunAR rf motion	JB3	PRE0184052	10/24/2019	10/24/2018
AC Line Conducted					
EMI Receiver	Rohde & Schwarz	ESR	T1436	02/14/2020	02/14/2019
LISN for Conducted Emissions CISPR-16	FCC INC.	FCC LISN 50/250	T1310	06/15/2019	06/15/2018
Test Software List					
Radiated Software	UL	UL EMC	Ver 9.5, June 22, 2018		
Antenna Port Software	UL	UL RF	Ver 9.6, April 18, 2019		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015		

NOTES:

- Equipment listed above that calibrated during the testing period was set for test after the calibration.

Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

Note: * indicates automation software version used in the compliance certification testing

7. OCCUPIED BANDWIDTH Type A

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

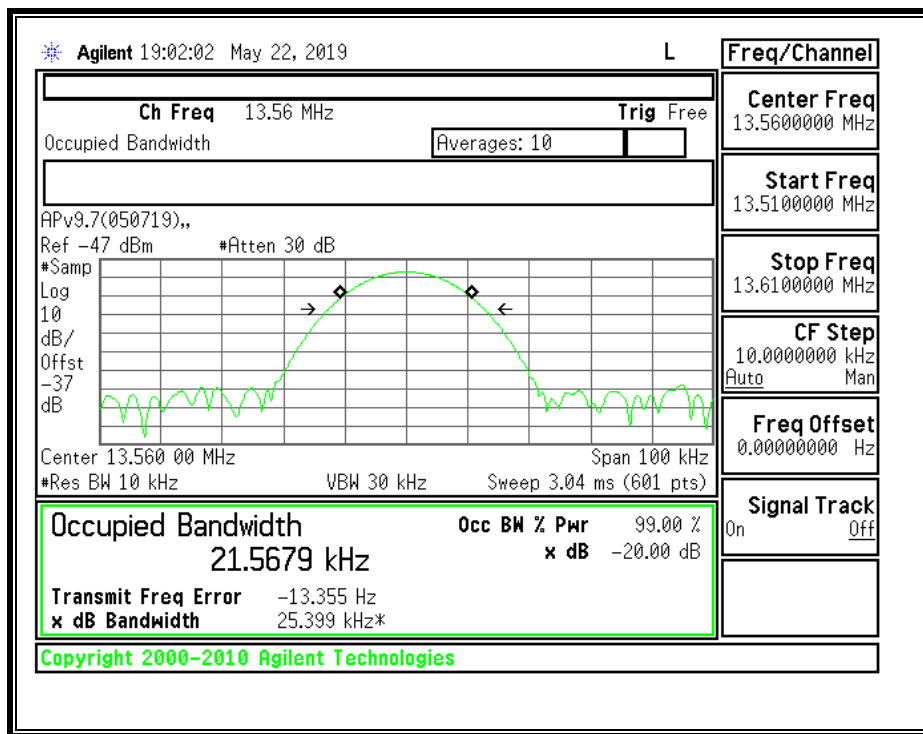
The transmitter output is connected to the spectrum analyzer. The RBW is set to 10kHz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

99% and 20dB BW

Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
106	13.56	21.5679	25.399

106Kbps



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

§15.225

IC RSS-210, Annex B.6

IC RSS-GEN, Section 8.9 (Transmitter)

(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 field 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.

TEST PROCEDURE

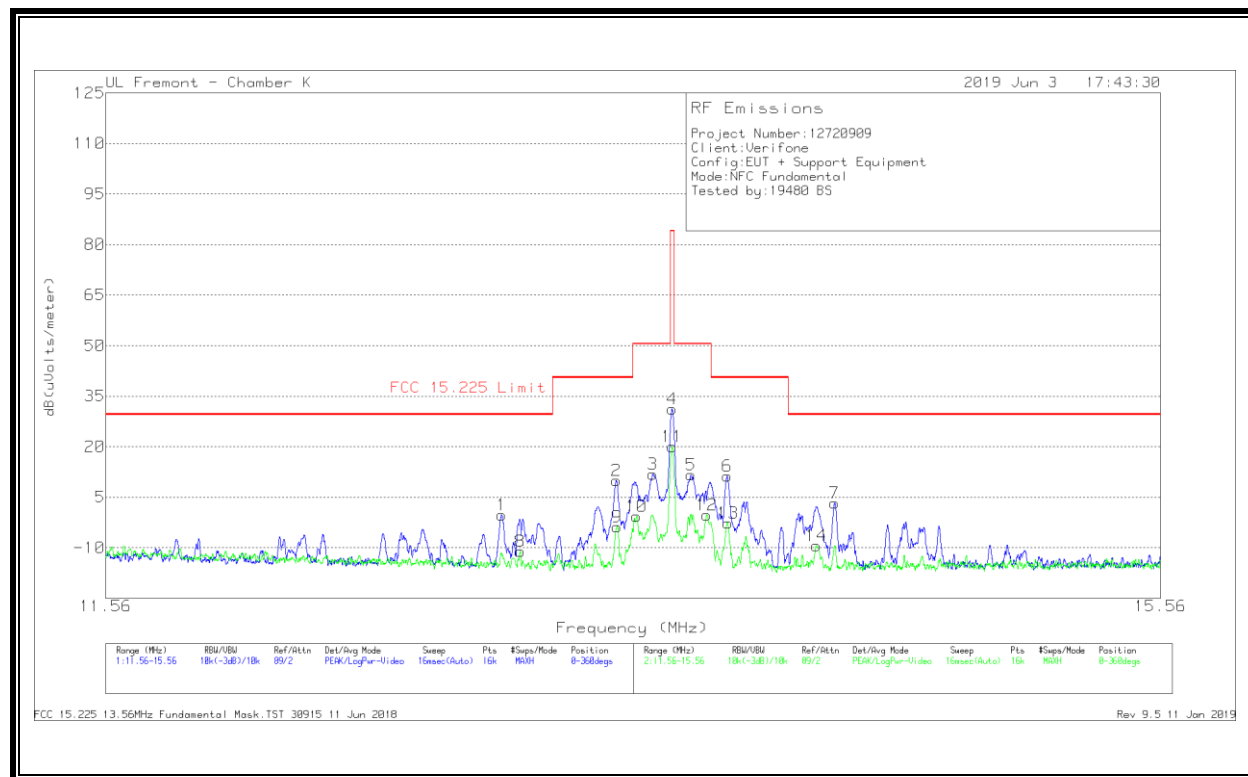
ANSI C63.10, 2013

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 25 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

RESULTS

8.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 - 30 MHz) Type A

FUNDAMENTAL 106Kbps



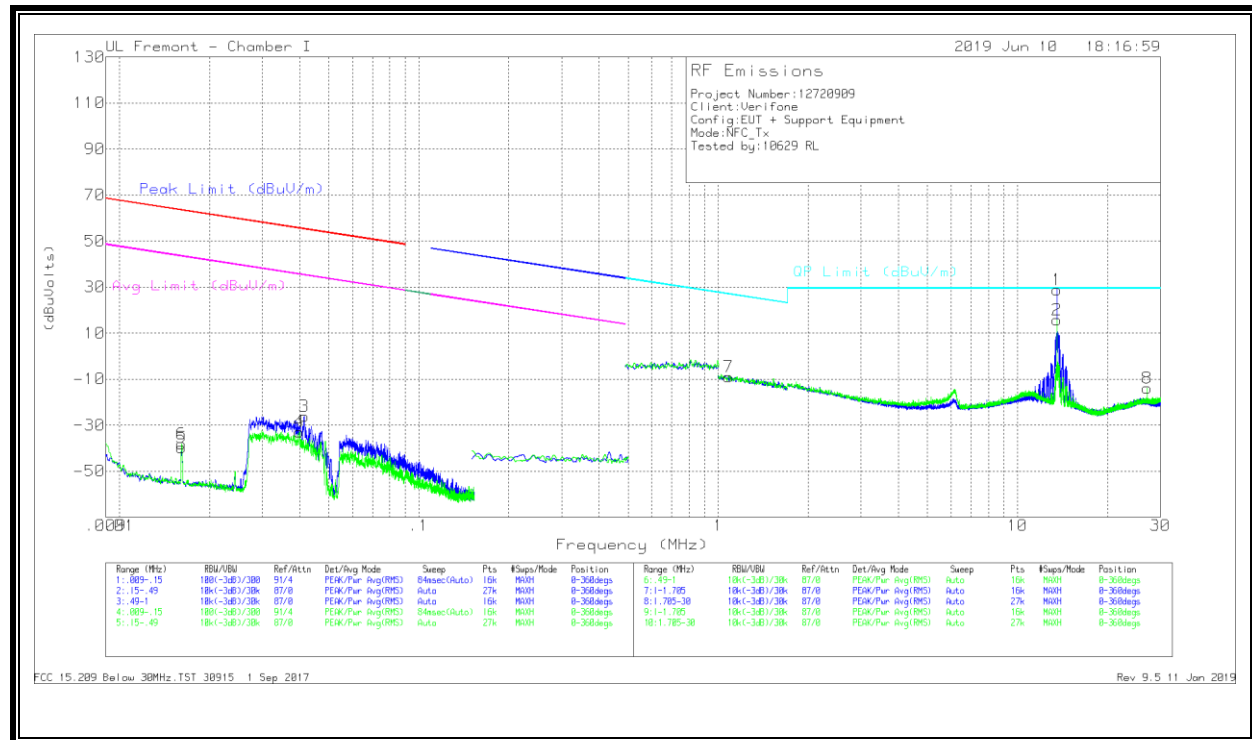
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr 30m	Corrected Reading dB(uVolts/meter)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)	Polarity
1	12.924	24.43	Pk	14.9	.4	-40	-.27	29.54	-29.81	0-360	Face-On
2	13.34813	34.75	Pk	14.8	.4	-40	9.95	40.51	-30.56	0-360	Face-On
3	13.48713	36.63	Pk	14.8	.4	-40	11.83	50.5	-38.67	0-360	Face-On
4	*13.5595	55.96	Pk	14.8	.4	-40	31.16	84	-52.84	0-360	Face-On
5	13.63275	36.5	Pk	14.8	.4	-40	11.7	50.5	-38.8	0-360	Face-On
6	13.772	36.23	Pk	14.7	.4	-40	11.33	40.51	-29.18	0-360	Face-On
7	14.1955	28.14	Pk	14.7	.4	-40	3.24	29.54	-26.3	0-360	Face-On
8	12.992	13.63	Pk	14.9	.4	-40	-11.07	29.54	-40.61	0-360	Face-Off
9	13.35025	20.9	Pk	14.8	.4	-40	-3.9	40.51	-44.41	0-360	Face-Off
10	13.42538	24.17	Pk	14.8	.4	-40	-.63	50.5	-51.13	0-360	Face-Off
11	*13.5595	44.79	Pk	14.8	.4	-40	19.99	84	-64.01	0-360	Face-Off
12	13.69338	24.54	Pk	14.8	.4	-40	-.26	50.5	-50.76	0-360	Face-Off
13	13.775	22.12	Pk	14.7	.4	-40	-2.78	40.51	-43.29	0-360	Face-Off
14	14.12163	15.54	Pk	14.7	.4	-40	-9.36	29.54	-38.9	0-360	Face-Off

* - Indicates fundamental frequency

Pk - Peak detector

SPURIOUS EMISSION 106Kbps



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0180175 (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.04138	28.95	Pk	57	-32.2	-80	-26.25	55.25	-81.5	35.25	-61.5	0-360
5	.01615	13.45	Pk	59.3	-32.4	-80	-39.65	63.42	-103.07	43.42	-83.07	0-360
4	.03992	22.28	Pk	57	-32.2	-80	-32.92	55.56	-88.48	35.56	-68.48	0-360
6	.01614	15.09	Pk	59.3	-32.4	-80	-38.01	63.43	-101.44	43.43	-81.44	0-360

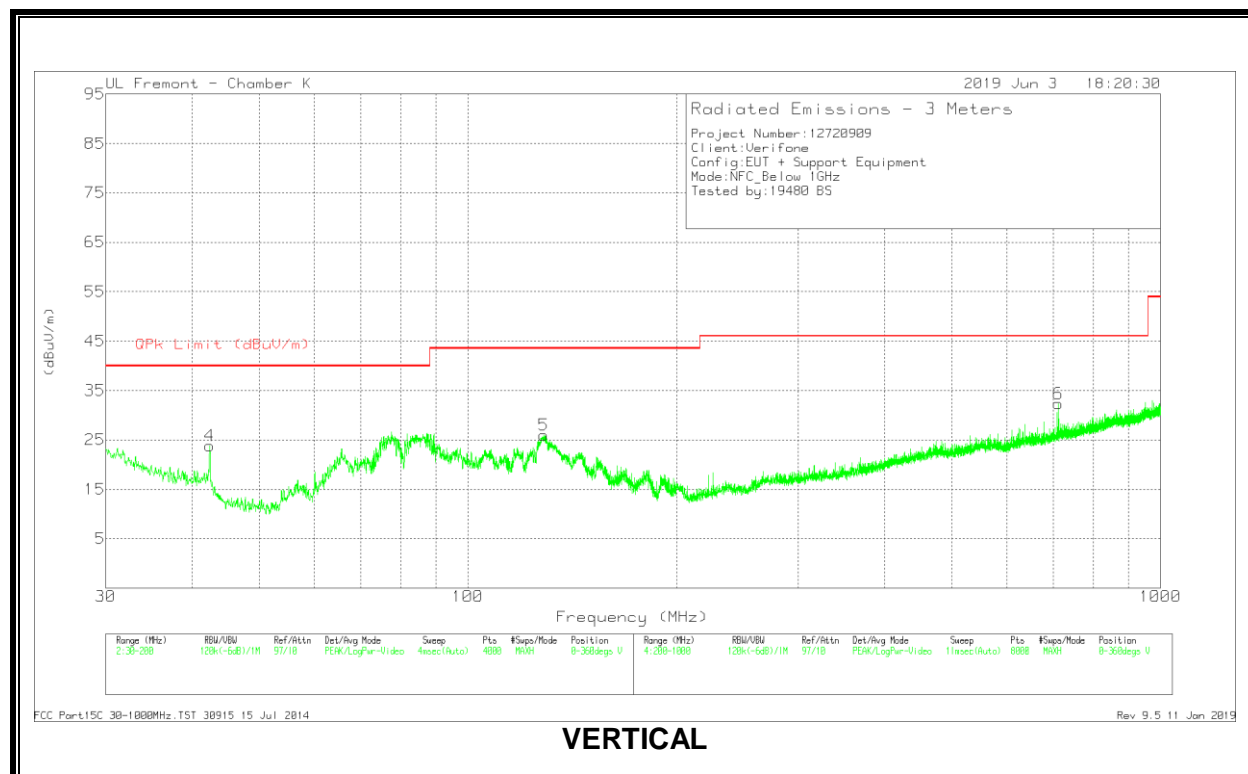
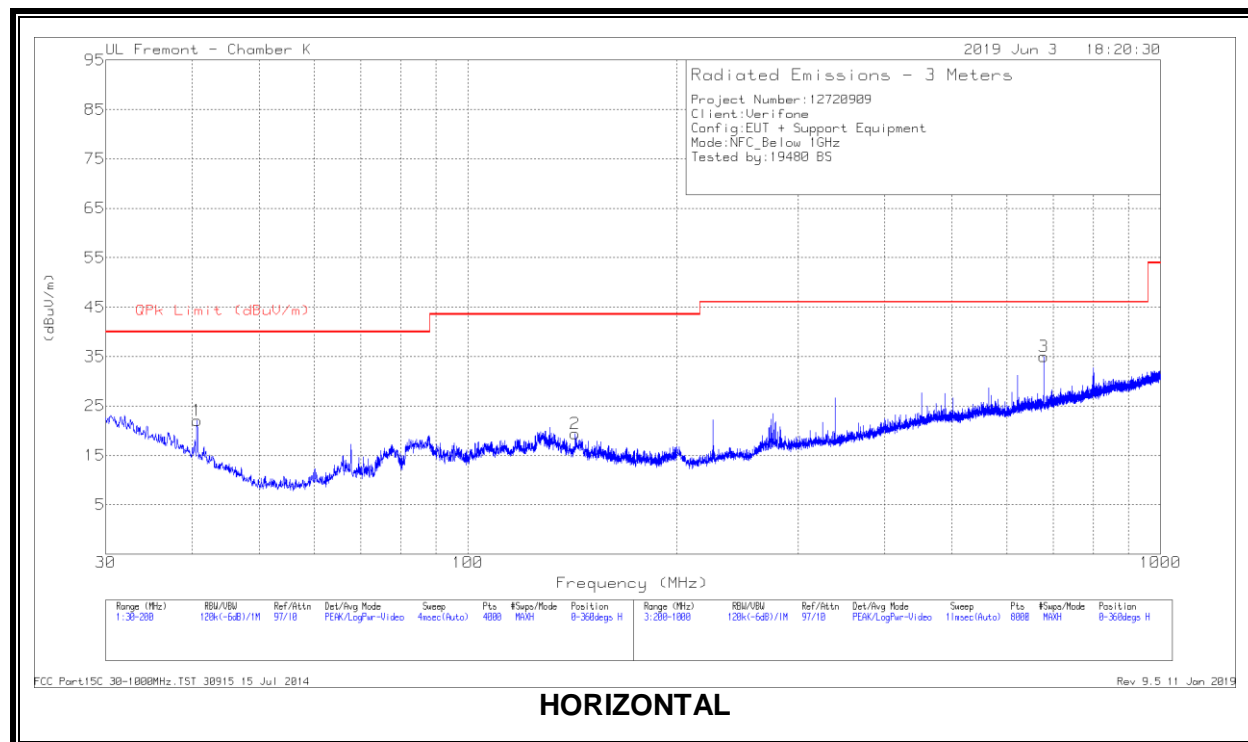
Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0180175 (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
7	1.08107	16.39	Pk	46.4	-31.8	-40	-9.01	26.95	-35.96	0-360
1	13.56207	66.21	Pk	34.1	-31.5	-40	28.81	29.5	-.69	0-360
2	13.55998	53.11	Pk	34.1	-31.5	-40	15.71	29.5	-13.79	0-360
8	27.119	23.85	Pk	33.6	-31.3	-40	-13.85	29.5	-43.35	0-360

Pk - Peak detector

8.3. TX SPURIOUS EMISSION 30 TO 1000 MHz Type A

SPURIOUS EMISSION TYPE A - 106Kbps



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF PRE0184052 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6278	34.38	Pk	19.2	-31.5	22.08	40	-17.92	0-360	199	H
2	142.9092	31.23	Pk	18.7	-30.5	19.43	43.52	-24.09	0-360	199	H
4	42.3707	37.39	Pk	17.8	-31.4	23.79	40	-16.21	0-360	100	V
5	* 128.7531	37.13	Pk	19.6	-30.8	25.93	43.52	-17.59	0-360	100	V
3	678.2699	38.55	Pk	25.7	-28.4	35.85	46.02	-10.17	165	114	H
	678.2699	34.82	Qp	25.7	-28.4	32.12	46.02	-13.9	165	114	H
6	712.3666	34.42	Pk	26.4	-28.5	32.32	46.02	-13.7	0-360	299	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

Qp - Quasi-Peak detector

9. FREQUENCY STABILITY Type A

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ 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.

IC RSS-210, Annex B.6

Carrier frequency stability shall be maintained to $\pm 0.01\%$ (± 100 ppm).

TEST PROCEDURE

ANSI C63.10-2013 Clause 6.8

RESULTS

ID:	10629 RL	Date:	5/23/2019
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No non-compliance noted.

106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20°C Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measured with Time Elapse								
(Vdc)	(°C)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
12.00	50	13.5598952	1.908	13.5598883	2.415	13.5598841	2.721	13.5598825	2.842	± 100
12.00	40	13.5599008	1.494	13.5598985	1.660	13.5598947	1.944	13.5598917	2.160	± 100
12.00	30	13.5598919	2.148	13.5598936	2.019	13.5598969	1.781	13.5599005	1.510	± 100
12.00	20	13.5599210	0.000	13.5599207	0.022	13.5599237	-0.198	13.5599270	-0.443	± 100
12.00	10	13.5599759	-4.045	13.5599770	-4.130	13.5599791	-4.284	13.5599817	-4.471	± 100
12.00	0	13.5599896	-5.060	13.5599938	-5.369	13.5600011	-5.907	13.5600109	-6.626	± 100
12.00	-10	13.5600382	-8.645	13.5600426	-8.969	13.5600473	-9.312	13.5600526	-9.706	± 100
10.20	20	13.5599803	-4.371	13.5599752	-3.993	13.5599697	-3.587	13.5599629	-3.088	± 100
13.8	20	13.5599578	-2.710	13.5599562	-2.594	13.5599550	-2.507	13.5599531	-2.369	± 100

10. AC MAINS LINE CONDUCTED EMISSIONS Type A

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 50 μ H/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 (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
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

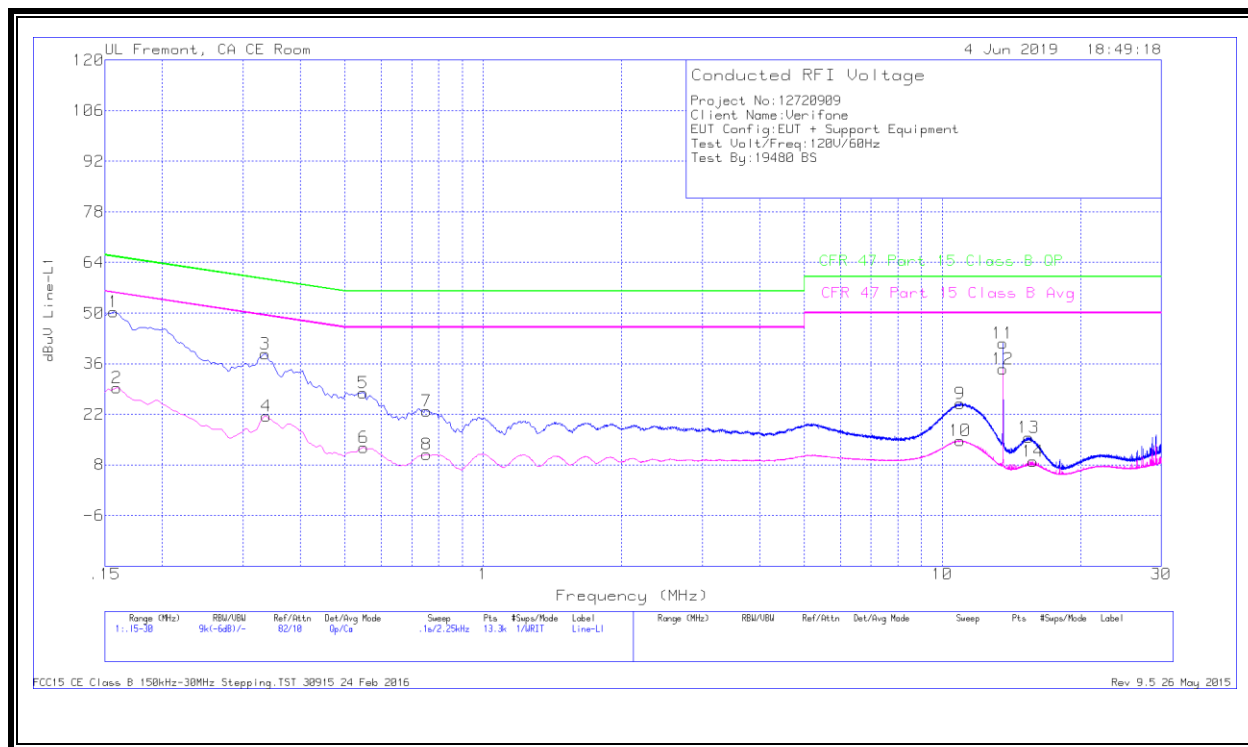
ANSI C63.10:2013

RESULTS

No non-compliance noted:

NORMAL OPERATION, 106Kbps

LINE 1 RESULTS



Worst Emission

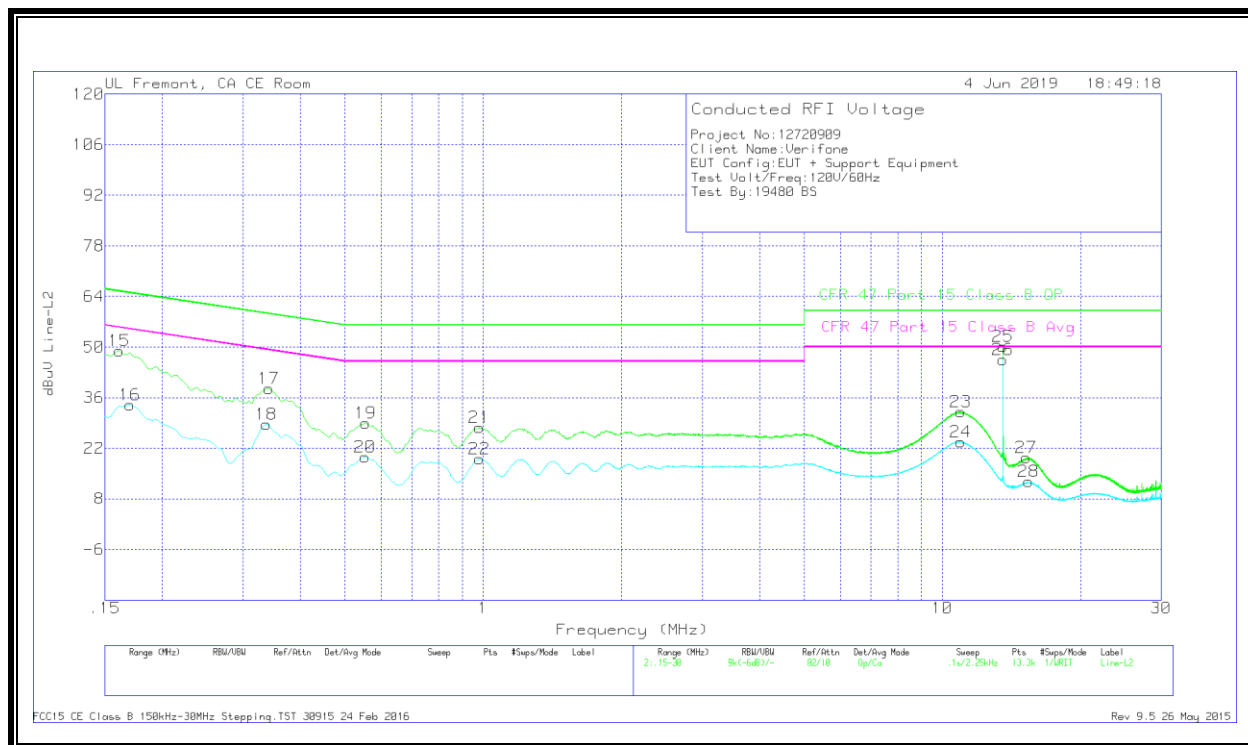
Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
1	.15675	40.07	Qp	.1	0	10.1	50.27	65.63	-15.36	-	-
2	.159	19.04	Ca	.1	0	10.1	29.24	-	-	55.52	-26.28
3	.3345	28.67	Qp	0	0	10.1	38.77	59.34	-20.57	-	-
4	.33675	11.46	Ca	0	0	10.1	21.56	-	-	49.28	-27.72
5	.54825	17.85	Qp	0	0	10.1	27.95	56	-28.05	-	-
6	.54937	2.68	Ca	0	0	10.1	12.78	-	-	46	-33.22
7	.753	12.83	Qp	0	0	10.1	22.93	56	-33.07	-	-
8	.753	.71	Ca	0	0	10.1	10.81	-	-	46	-35.19
9	10.9275	14.53	Qp	0	.2	10.2	24.93	60	-35.07	-	-
10	10.9275	4.35	Ca	0	.2	10.2	14.75	-	-	50	-35.25
11	*13.56	31.17	Qp	.1	.2	10.2	41.67	60	-18.33	-	-
12	*13.56	24	Ca	.1	.2	10.2	34.5	-	-	50	-15.5
13	15.405	4.96	Qp	.1	.3	10.2	15.56	60	-44.44	-	-
14	15.7425	-1.8	Ca	.1	.3	10.3	8.9	-	-	50	-41.1

Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: Markers 11 and 12 are the 13.56MHz NFC Fundamental

LINE 2 RESULTS



Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
15	.16125	38.78	Qp	.1	0	10.1	48.98	65.4	-16.42	-	-
16	.17025	23.88	Ca	0	0	10.1	33.98	-	-	54.95	-20.97
17	.34125	28.47	Qp	0	0	10.1	38.57	59.17	-20.6	-	-
18	.33675	18.51	Ca	0	0	10.1	28.61	-	-	49.28	-20.67
19	.555	18.83	Qp	0	0	10.1	28.93	56	-27.07	-	-
20	.55275	9.5	Ca	0	0	10.1	19.6	-	-	46	-26.4
21	.98025	17.51	Qp	0	.1	10.1	27.71	56	-28.29	-	-
22	.98025	8.82	Ca	0	.1	10.1	19.02	-	-	46	-26.98
23	10.9815	21.68	Qp	0	.2	10.2	32.08	60	-27.92	-	-
24	10.97925	13.34	Ca	0	.2	10.2	23.74	-	-	50	-26.26
25	*13.56	39.65	Qp	.1	.2	10.2	50.15	60	-9.85	-	-
26	*13.56	36.1	Ca	.1	.2	10.2	46.6	-	-	50	-3.4
27	15.24975	8.84	Qp	.1	.3	10.2	19.44	60	-40.56	-	-
28	15.4365	2.24	Ca	.1	.3	10.2	12.84	-	-	50	-37.16

Qp - Quasi-Peak detector

Ca - CISPR average detection

Note: Markers 25 and 26 are the 13.56MHz NFC Fundamental