

ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

Test Report No. : W153R-D023

AGR No. : A152A-137

Applicant : BLUEBIRD INC.

Address : (Dogok-dong, SEI Tower13,14)39, Eonjuro30-gil, Gangnam-gu, Seoul, South Korea

Manufacturer : BLUEBIRD INC.

Address : (Dogok-dong, SEI Tower13,14)39, Eonjuro30-gil, Gangnam-gu, Seoul, South Korea

Type of Equipment : Premium Enterprise Tablet

FCC ID. : SS4ET100

Model Name : ET100

Serial number : N/A

Total page of Report : 54 pages (including this page)

Date of Incoming : February 12, 2015

Date of issue : March 30, 2015

SUMMARY

The equipment complies with the regulation; *FCC PART 15 SUBPART C Section 15.247*

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by: 
Jae-Ho, Lee / Chief Engineer
ONETECH Corp.

Approved by: 
Sung-Ik, Han / Managing Director
ONETECH Corp.

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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
W153R-D023	March 30, 2015	Initial Issue	All

1. VERIFICATION OF COMPLIANCE

- . APPLICANT : BLUEBIRD INC.
- . ADDRESS : (Dogok-dong, SEI Tower 13,14) 39, Eonjuro30-gil, Gangnam-gu, Seoul, South Korea
- . CONTACT PERSON : Jaeho, Lee / Research Engineer
- . TELEPHONE NO : +82-70-7730-8210
- . FCC ID : SS4ET100
- . MODEL NO/NAME : ET100
- . SERIAL NUMBER : N/A
- . DATE : March 28, 2015

EQUIPMENT CLASS	<i>DSS – PART 15 SPREAD SPECTRUM TRANSMITTER</i>
KIND OF EQUIPMENT	Premium Enterprise Tablet
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2013
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	None
FINAL TEST WAS CONDUCTED ON	3 m, Semi Anechoic Chamber

- . The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.247 (d)	100 kHz Bandwidth Outside the Frequency Band	Met the Limit / PASS
15.247 (d)	Radiated Emission which fall in the Restricted Band	Met the Limit / PASS
15.209	Radiated Emission Limits, General Requirement	Met the Limit / PASS
15.207	Conducted Limits	Met the Limit / PASS
15.203	Antenna Requirement	Met requirement / PASS

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 301-14, Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do, 464-862 Korea.

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-4112/ C-4617/ G-666/ T-1842 IC (Industry Canada) – Registration No. Site# 3736-3

-. Site Accreditation:

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation No. 85

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

3. GENERAL INFORMATION

3.1 Product Description

The BLUEBIRD INC., Model ET100 (referred to as the EUT in this report) is a Premium Enterprise Tablet. The product specification described herein was obtained from product data sheet or user’s manual.

DEVICE TYPE	Premium Enterprise Tablet	
OPERATING FREQUENCY	2 402 MHz ~ 2 480 MHz	
RF OUTPUT POWER	1 Mbps	5.37 dBm
	2 Mbps	4.38 dBm
	3 Mbps	3.61 dBm
NUMBER OF CHANNEL	79 Channels	
MODULATION TYPE	GFSK for 1 Mbps, DQPSK for 2 Mbps, 8-DPSK for 3 Mbps	
ANTENNA TYPE	Chip Antenna	
ANTENNA GAIN	2.7 dBi	
LIST OF EACH OSC. OR CRYSTAL. FREQ.(FREQ.>=1 MHz)	24 MHz	
USED AC/DC ADAPTER	Output: DC 12 V, 4.17 A Model No: KPL-050F Manufacturer: Ningbo ISO Electronic Co., Ltd.	

3.2 Alternative type(s)/model(s); also covered by this test report.

-. None

4. EUT MODIFICATIONS

-. None

5. SYSTEM TEST CONFIGURATION

5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Mother board	N/A	PCB-BP80S-MAIN-REV.0.2	N/A
LCD panel	Innolux Display	EJ1011A-01G	N/A
Card slot board	N/A	FPCB-BP80S-SD-SIMSAM-REV.0.1	N/A
Flash LED board	N/A	PCB-BP80S-FLASH-LED-REV.0.1	N/A
Battery	XIAMEN POWERLONG INDUSTRY JOINT-STOCK CO., LTD.	PL8046135/3.7V	N/A
Light sensor board	N/A	LIGHT-SENSOR-REV.0.1	N/A
Camera module	N/A	HU106-B	N/A
SSD	N/A	MS-0460SSN	N/A
Touch sensor board	N/A	BP80_REV05	N/A
GPS antenna	N/A	PE8G4006GB1_Rev1.0	N/A
Value sub board	N/A	PCB-BP80S-VALUE-SUB-REV01	N/A
Wireless module	CINTERION	PHS8-P	QIPPHS8-P
WLAN module	INTEL	7265NGW	PD97265NG
WWAN antenna	DONGNAM	BP80S (MAIN)	N/A
WLAN antenna	DONGNAM	BP80S (WiFi)	N/A
NFC antenna	N/A	N/A	N/A
Adaptor	Ningbo Electronic Co., Ltd.	KPL-050F	N/A

5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	Description	Connected to
ET100	Bluebird Inc.	Premium Enterprise Tablet (EUT)	Adaptor
KPL-050F	Ningbo Electronic Co., Ltd.	Adaptor	EUT

5.3 Mode of operation during the test

- For the testing, software used to control the EUT for staying in continuous transmitting mode is programmed.
- Test should proceed in the worst of conditions.

5.4 Configuration of Test System

Line Conducted Test: The EUT was tested in a charging mode. The EUT was connected to Adapter. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2013 7.3.3 to determine the worse operating conditions.

Radiated Emission Test: Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter open area test site.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

5.5 Antenna Requirement

For intentional device, according to section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Construction:

The transmitter antenna of the EUT is a Chip antenna, so no consideration of replacement by the user.

6. PRELIMINARY TEST

6.1 AC Power line Conducted Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X
Receiving Mode	-

6.2 General Radiated Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X
Receiving Mode	-

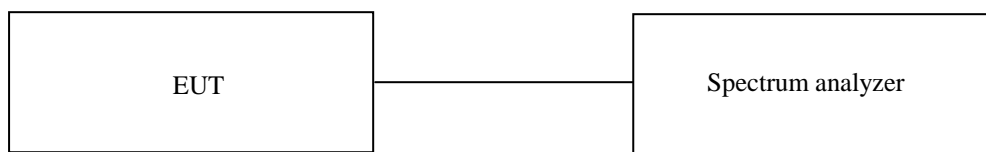
7. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

7.1 Operating environment

Temperature : 21.4 °C
 Relative humidity : 45.1 % R.H

7.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



7.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable above the ground plane.

The frequency spectrum from 30 MHz to 40 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

7.4 Test equipment used

Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
□ - ESCI	Rohde & Schwarz	EMI Test Receiver	101012	Nov. 03, 2014(1Y)
■ - ESU	Rohde & Schwarz	EMI Test Receiver	100261	Apr. 29, 2014(1Y)
□ - 8564E	HP	Spectrum Analyzer	3650A00756	Apr. 28, 2014(1Y)
□ - FSP	Rohde & Schwarz	Spectrum Analyzer	100017	Oct. 08, 2014(1Y)
■ - 310N	Sonoma Instrument	AMPLIFIER	312544	Apr. 28, 2014(1Y)
■ - FSV30	Rohde & Schwarz	Signal Analyzer	101372	Apr. 28, 2014(1Y)
■ - SCU-18	Rohde & Schwarz	PRE-AMPLIFIER	102209	Jun. 12, 2014(1Y)
■ - MA240	HD GmbH	Antenna Master	N/A	N/A
■ - HD100	HD GmbH	Position Controller	N/A	N/A
■ - DS420S	HD GmbH	Turn Table	N/A	N/A
■ - HFH2-Z2	Rohde & Schwarz	Loop Antenna	879 285/26	Dec. 09, 2014(2Y)
■ - VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-255	May 02, 2014(2Y)
■ - BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Sep. 05, 2013(2Y)
■ - BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	N/A
■ - 83051A	Agilent	Microwave System Preamplifier	3950M00201	Apr. 30, 2014(1Y)

All test equipment used is calibrated on a regular basis.

7.4 Test data for Transmitting mode radiated emission

7.4.1 Radiated Emission which fall in the Restricted Band

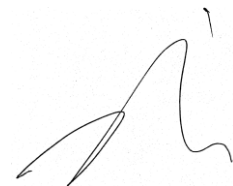
7.4.1.1 Test data for 1 Mbps

- . Test Date : March 28, 2015
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Measurement distance : 3 m
- . Operating Condition : Highest Output Power Transmitting Mode(Low Channel and High Channel)
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 342.18	54.11	Peak	H	27.00	7.50	43.00	45.61	74.00	28.39
	42.77	Average	H				34.27	54.00	19.73
2 342.18	48.62	Peak	V				40.12	74.00	33.88
	37.77	Average	V				29.27	54.00	24.73
Test Data for High Channel									
2 483.50	55.06	Peak	H	27.40	7.70	43.00	47.16	74.00	26.84
	43.11	Average	H				35.21	54.00	18.79
2 483.50	48.35	Peak	V				40.45	74.00	33.55
	37.45	Average	V				29.55	54.00	24.45

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical



Tested by: Jun-Hui, Lee/ Senior Engineer

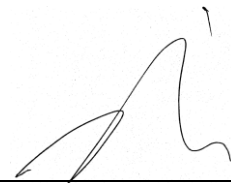
7.5.1.2 Test data for 2 Mbps

- Test Date : March 28, 2015
- Resolution bandwidth : 1 MHz for Peak and Average Mode
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Measurement distance : 3 m
- Operating Condition : Highest Output Power Transmitting Mode(Low Channel and High Channel)
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 342.07	55.09	Peak	H	27.00	7.50	43.00	46.59	74.00	27.41
	42.76	Average	H				34.26	54.00	19.74
2 342.07	48.76	Peak	V				40.26	74.00	33.74
	38.04	Average	V				29.54	54.00	24.46
Test Data for High Channel									
2 483.50	55.9	Peak	H	27.40	7.70	43.00	48.00	74.00	26.00
	43.22	Average	H				35.32	54.00	18.68
2 483.50	48.16	Peak	V				40.26	74.00	33.74
	37.53	Average	V				29.63	54.00	24.37

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical



Tested by: Jun-Hui, Lee/ Senior Engineer

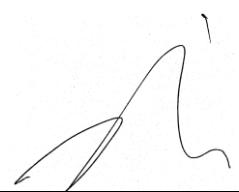
7.5.1.3 Test data for 3 Mbps

- Test Date : March 28, 2015
- Resolution bandwidth : 1 MHz for Peak and Average Mode
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Measurement distance : 3 m
- Operating Condition : Highest Output Power Transmitting Mode(Low Channel and High Channel)
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 322.84	54.53	Peak	H	27.00	7.50	43.00	46.03	74.00	27.97
	42.62	Average	H				34.12	54.00	19.88
2 322.84	48.84	Peak	V				40.34	74.00	33.66
	38.11	Average	V				29.61	54.00	24.39
Test Data for High Channel									
2 483.50	56.94	Peak	H	27.40	7.70	43.00	49.04	74.00	24.96
	43.97	Average	H				36.07	54.00	17.93
2 483.50	51.06	Peak	V				43.16	74.00	30.84
	40.76	Average	V				32.86	54.00	21.14

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical



Tested by: Jun-Hui, Lee/ Senior Engineer

7.5.2 Spurious & Harmonic Radiated Emission above 1 GHz


7.5.2.1 Test data for 1 Mbps

- . Test Date : March 28, 2015
- . Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating Condition : Highest Output Power Transmitting Mode
- . Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 402.00	98.22	Peak	H	27.20	7.50	42.80	90.12	113.98	23.86
	99.83	Peak	V				91.73	113.98	22.25
4 804.00	43.82	Peak	H	30.70	11.10	42.50	43.12	73.98	30.86
	42.17	Average	H				41.47	53.98	12.51
	49.66	Peak	V				48.96	73.98	25.02
	47.03	Average	V				46.33	53.98	7.65
Test Data for Middle Channel									
2 441.00	97.97	Peak	H	27.30	7.60	42.90	89.97	113.98	24.01
	99.56	Peak	V				91.56	113.98	22.42
4 882.00	43.26	Peak	H	30.70	11.20	42.50	42.76	73.98	31.22
	41.15	Average	H				40.65	53.98	13.33
	48.00	Peak	V				47.50	73.98	26.48
	46.48	Average	V				45.98	53.98	8.00

Test Data for High Channel									
2 480.00	97.26	Peak	H	27.40	7.70	42.90	89.46	113.98	24.52
	99.33	Peak	V				91.53	113.98	22.45
4 960.00	40.58	Peak	H	30.80	11.80	42.30	40.88	73.98	33.10
	37.96	Average	H				38.26	53.98	15.72
	45.27	Peak	V				45.57	73.98	28.41
	43.68	Average	V				43.98	53.98	10.00

Remark: "H": Horizontal, "V": Vertical, "*" Frequency fall in restricted band



Tested by: Jun-Hui, Lee/ Senior Engineer

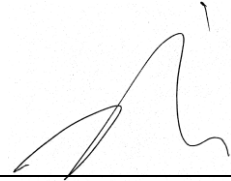
7.5.2.2 Test data for 2 Mbps

- Test Date : March 28, 2015
- Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Operating Condition : Highest Output Power Transmitting Mode
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 402.00	98.28	Peak	H	27.20	7.50	42.80	90.18	113.98	23.8
	100.54	Peak	V				92.44	113.98	21.54
4 804.00	41.08	Peak	H	30.7	11.1	42.5	40.38	73.98	33.60
	39.38	Average	H				38.68	53.98	15.30
	45.74	Peak	V				45.04	73.98	28.94
	42.37	Average	V				41.67	53.98	12.31
Test Data for Middle Channel									
2 441.00	98.04	Peak	H	27.30	7.60	42.90	90.04	113.98	23.94
	100.31	Peak	V				92.31	113.98	21.67
4 882.00	40.03	Peak	H	30.70	11.20	42.40	39.53	73.98	34.45
	37.46	Average	H				36.96	53.98	17.02
	44.29	Peak	V				43.79	73.98	30.19
	40.81	Average	V				40.31	53.98	13.67

Test Data for High Channel									
2 480.00	97.51	Peak	H	27.40	7.70	42.90	89.71	113.98	24.27
	100.00	Peak	V				92.20	113.98	21.78
4 960.00	38.01	Peak	H	30.80	11.80	42.30	38.31	73.98	35.67
	35.85	Average	H				36.15	53.98	17.83
	42.45	Peak	V				42.75	73.98	31.23
	38.00	Average	V				38.30	53.98	15.68

Remark: "H": Horizontal, "V": Vertical, "*" Frequency fall in restricted band



Tested by: Jun-Hui, Lee/ Senior Engineer


7.5.2.3 Test data for 3 Mbps

- Test Date : March 28, 2015
- Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Operating Condition : Highest Output Power Transmitting Mode
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 402.00	98.86	Peak	H	27.20	7.50	42.80	90.76	113.98	23.22
	101.10	Peak	V				93.00	113.98	20.98
4 804.00	41.37	Peak	H	30.70	11.10	42.50	40.67	73.98	33.31
	39.19	Average	H				38.49	53.98	15.49
	45.86	Peak	V				45.16	73.98	28.82
	40.91	Average	V				40.21	53.98	13.77
Test Data for Middle Channel									
2 441.00	98.51	Peak	H	27.30	7.60	42.90	90.51	113.98	23.47
	100.97	Peak	V				92.97	113.98	21.01
4 882.00	39.52	Peak	H	30.70	11.20	42.40	39.02	73.98	34.96
	38.20	Average	H				37.70	53.98	16.28
	43.78	Peak	V				43.28	73.98	30.70
	39.13	Average	V				38.63	53.98	15.35

Test Data for High Channel									
2 480.00	98.12	Peak	H	27.40	7.70	42.90	90.32	113.98	23.66
	100.57	Peak	V				92.77	113.98	21.21
4 960.00	37.83	Peak	H	30.80	11.80	42.30	38.13	73.98	35.85
	36.35	Average	H				36.65	53.98	17.33
	41.30	Peak	V				41.60	73.98	32.38
	36.69	Average	V				36.99	53.98	16.99

Remark: "H": Horizontal, "V": Vertical, "*" Frequency fall in restricted band



Tested by: Jun-Hui, Lee/ Senior Engineer

7.5.3 Spurious Radiated Emission

7.5.3.1 Test Data for 1 Mbps

7.5.3.1.1 Test Data for 30 MHz ~ 1 000 MHz

Humidity Level : (45 ~ 46) % R.H. Temperature: (24 ~ 25) °C

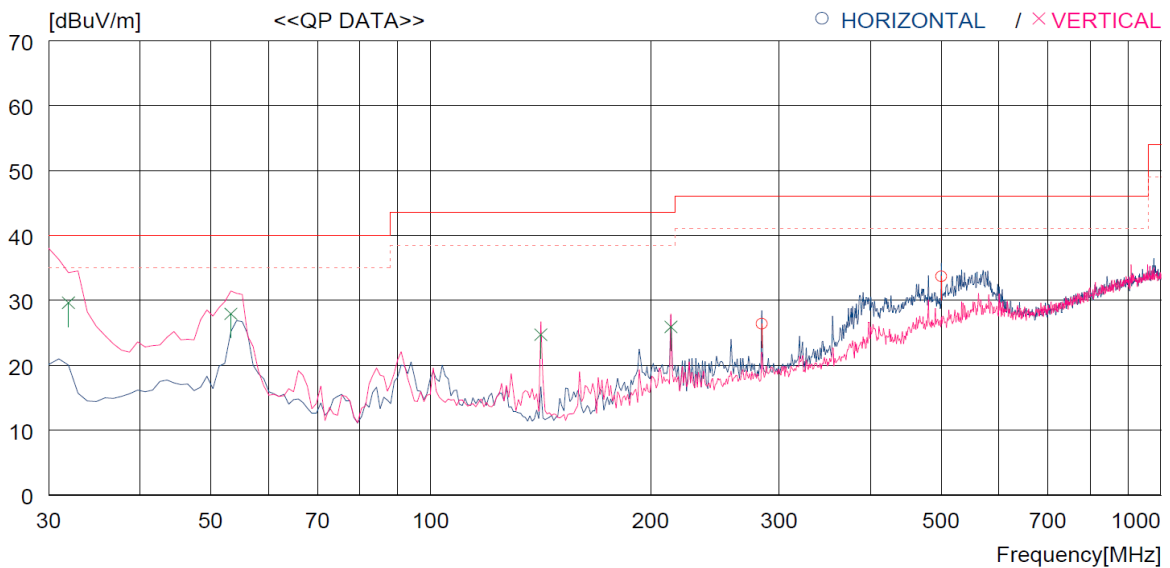
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

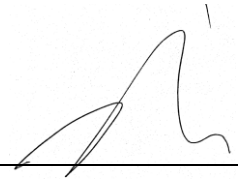
EUT : Premium Enterprise Tablet Date: March 28, 2015

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

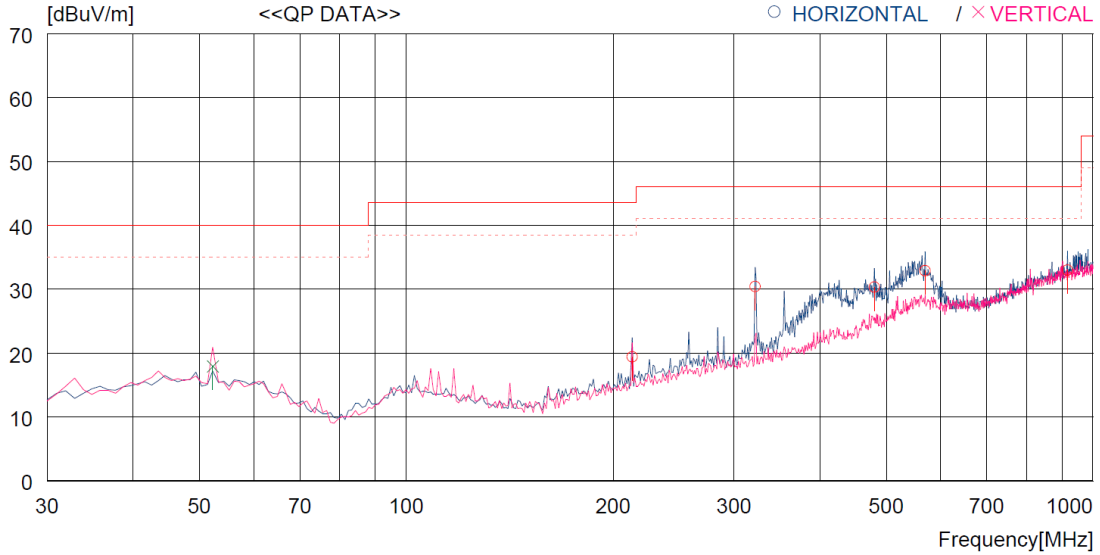
Operating condition : Tablet pc Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	284.140	35.6	14.4	9.4	33.0	26.4	46.0	19.6	100	335
2	500.451	37.8	18.4	10.6	33.1	33.7	46.0	12.3	200	151
----- Vertical -----										
3	31.940	42.7	13.1	7.0	33.2	29.6	40.0	10.4	100	110
4	53.280	38.9	14.8	7.4	33.2	27.9	40.0	12.1	100	320
5	141.550	40.3	9.2	8.3	33.1	24.7	43.5	18.8	100	243
6	213.330	37.4	12.6	8.9	33.0	25.9	43.5	17.6	100	207


Tested by: Jun-Hui, Lee/ Senior Engineer

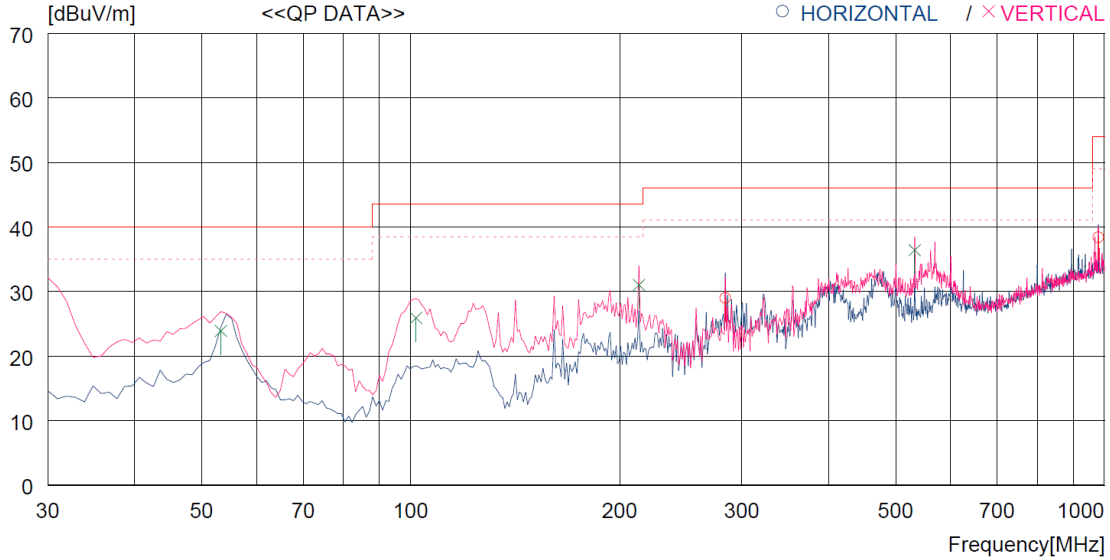
Operating condition : Tablet pc Portable Portable Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
---- Horizontal ----										
1	213.330	30.9	12.6	8.9	33.0	19.4	43.5	24.1	100	158
2	321.970	38.6	15.2	9.6	33.0	30.4	46.0	15.6	100	0
3	480.081	34.8	18.1	10.5	33.1	30.3	46.0	15.7	200	288
4	569.319	35.4	19.8	10.9	33.2	32.9	46.0	13.1	200	288
5	917.538	29.3	23.5	12.5	32.3	33.0	46.0	13.0	100	214
---- Vertical ----										
6	52.310	28.8	14.9	7.4	33.2	17.9	40.0	22.1	100	256

Tested by: Jun-Hui, Lee/ Senior Engineer

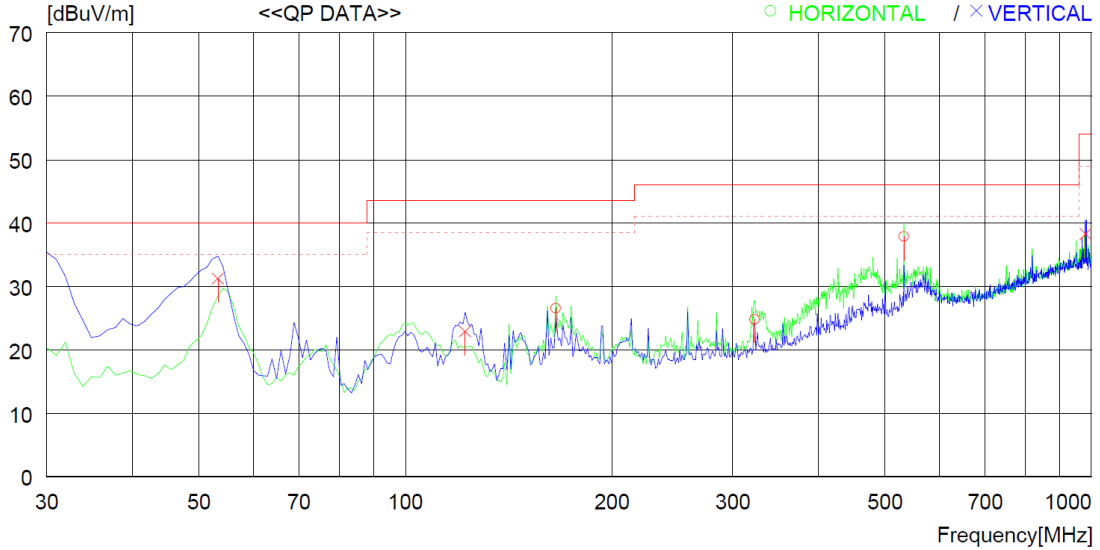
Operating condition : Tablet pc Cradle Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	284.140	38.2	14.4	9.4	33.0	29.0	46.0	17.0	100	242
2	979.617	33.5	24.0	12.7	31.8	38.4	54.0	15.6	111	0
----- Vertical -----										
3	53.280	34.9	14.8	7.4	33.2	23.9	40.0	16.1	111	359
4	101.780	37.5	13.5	8.0	33.1	25.9	43.5	17.6	111	359
5	213.330	42.5	12.6	8.9	33.0	31.0	43.5	12.5	111	359
6	532.460	39.7	19.1	10.8	33.2	36.4	46.0	9.6	100	89

Tested by: Jun-Hui, Lee/ Senior Engineer

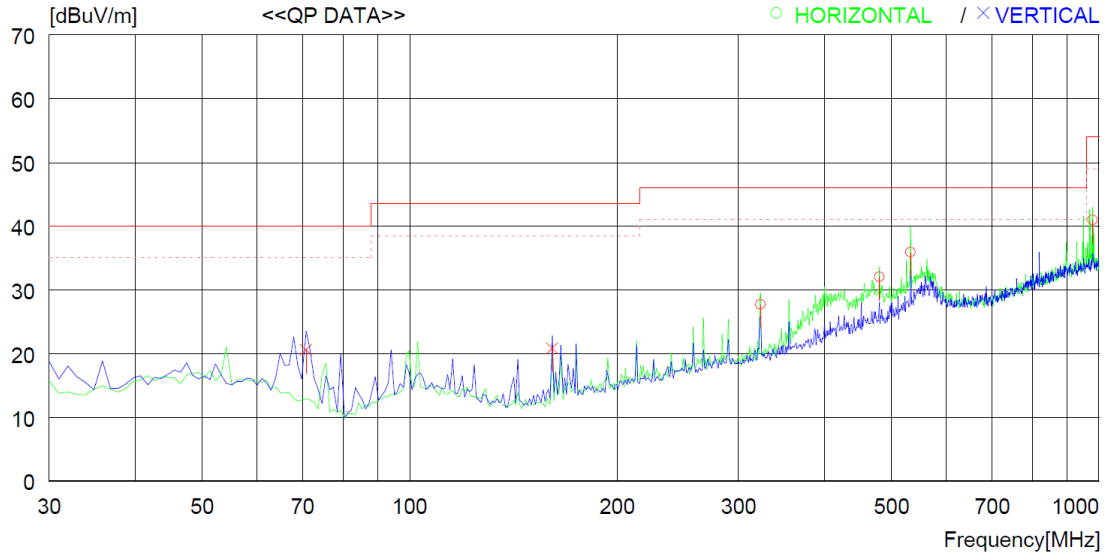
Operating condition : Tablet pc IC Card Reader Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	165.800	41.5	8.9	9.1	33.0	26.5	43.5	17.0	200	359
2	322.940	32.8	14.1	10.8	32.9	24.8	46.0	21.2	100	230
3	532.460	40.4	17.9	12.7	33.2	37.8	46.0	8.2	200	359
----- Vertical -----										
4	53.280	43.3	13.6	7.3	33.0	31.2	40.0	8.8	100	359
5	122.150	37.3	10.0	8.7	33.1	22.9	43.5	20.6	100	359
6	979.617	31.8	22.6	15.6	31.8	38.2	54.0	15.8	100	180

Tested by: Jun-Hui, Lee/ Senior Engineer

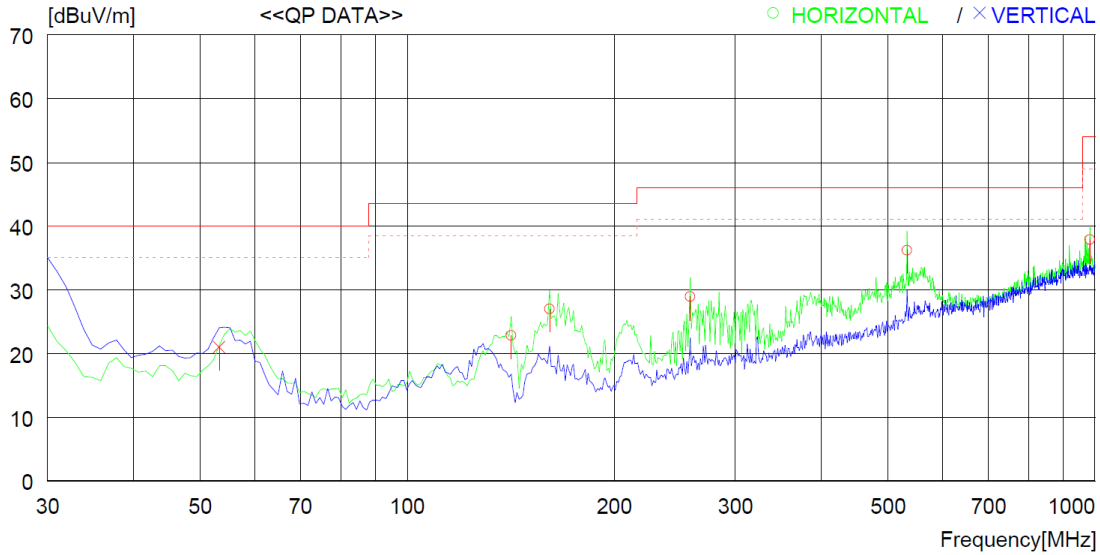
Operating condition : Tablet pc IC Card Reader Portable Mode



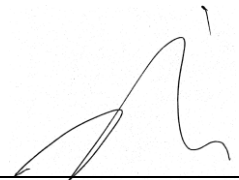
No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	322.940	35.7	14.1	10.8	32.9	27.7	46.0	18.3	100	165
2	480.081	36.1	17.0	12.1	33.2	32.0	46.0	14.0	200	359
3	532.460	38.5	17.9	12.7	33.2	35.9	46.0	10.1	200	201
4	979.617	34.5	22.6	15.6	31.8	40.9	54.0	13.1	100	208
----- Vertical -----										
5	70.740	36.3	9.6	7.7	33.0	20.6	40.0	19.4	100	359
6	160.950	36.1	8.7	9.0	33.0	20.8	43.5	22.7	100	174

Tested by: Jun-Hui, Lee/ Senior Engineer

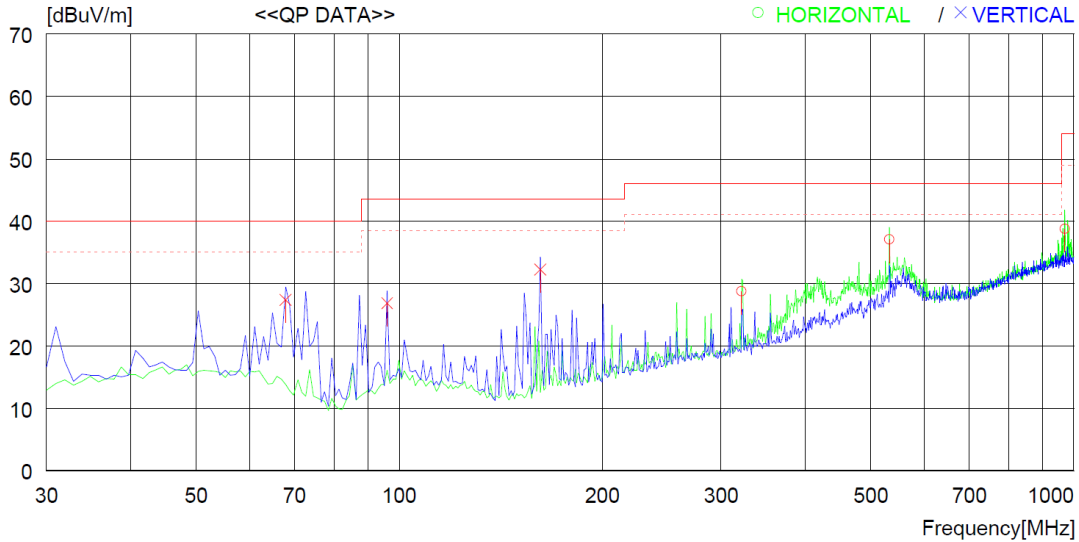
Operating condition : Tablet pc Barcord Reader Charging Mode



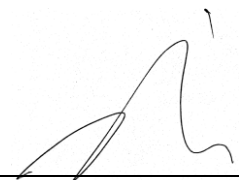
No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	141.550	38.9	8.1	8.8	33.0	22.8	43.5	20.7	300	336
2	160.950	42.3	8.7	9.0	33.0	27.0	43.5	16.5	200	0
3	257.950	38.9	12.6	10.3	32.9	28.9	46.0	17.1	100	359
4	532.460	38.8	17.9	12.7	33.2	36.2	46.0	9.8	200	95
5	982.526	31.3	22.6	15.6	31.7	37.8	54.0	16.2	100	215
----- Vertical -----										
6	53.280	33.1	13.6	7.3	33.0	21.0	40.0	19.0	400	46


Tested by: Jun-Hui, Lee/ Senior Engineer

Operating condition : Tablet pc Barcord Reader Portable Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	321.970	36.7	14.1	10.8	32.9	28.7	46.0	17.3	100	181
2	532.460	39.6	17.9	12.7	33.2	37.0	46.0	9.0	200	0
3	970.887	32.4	22.6	15.5	31.8	38.7	54.0	15.3	100	359
----- Vertical -----										
4	67.830	42.3	10.5	7.6	33.0	27.4	40.0	12.6	300	0
5	95.960	40.6	11.2	8.1	33.1	26.8	43.5	16.7	300	0
6	161.920	47.5	8.7	9.0	33.0	32.2	43.5	11.3	300	0

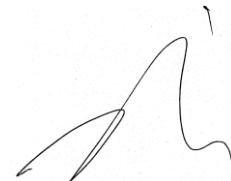


Tested by: Jun-Hui, Lee/ Senior Engineer

7.5.3.1.2 Test Data for Below 30 MHz

- Test Date : March 28, 2015
- Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- Frequency range : 9 kHz ~ 30 MHz
- Measurement distance : 3 m
- Operating Condition : Highest Output Power Transmitting Mode
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
It was not observed any emissions from the EUT.								



Tested by: Jun-Hui, Lee/ Senior Engineer

7.5.3.3 Test Data for 3 Mbps

7.5.3.3.1 Test Data for 30 MHz ~ 1 000 MHz

Humidity Level : (45 ~ 46) % R.H. Temperature: (24 ~ 25) °C

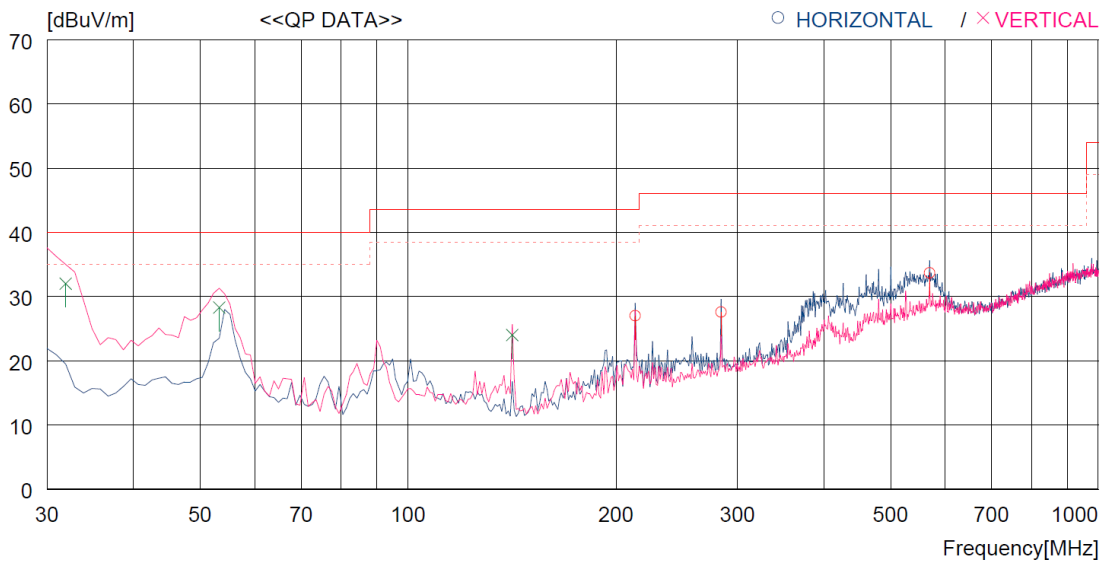
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED


EUT : Premium Enterprise Tablet Date: March 28, 2015

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

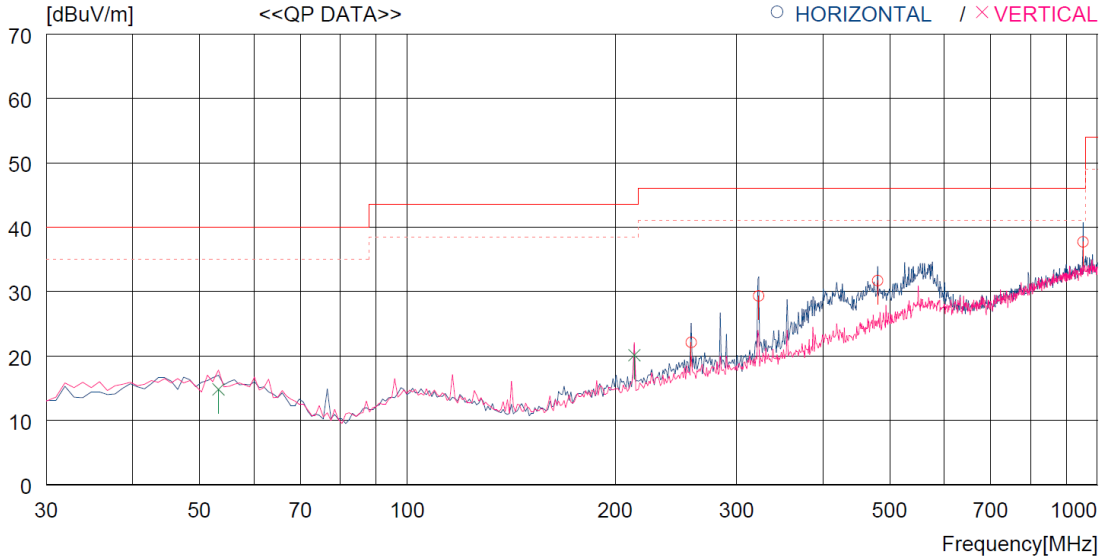
Operating condition : Tablet pc Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	213.330	38.5	12.6	8.9	33.0	27.0	43.5	16.5	200	256
2	284.140	36.8	14.4	9.4	33.0	27.6	46.0	18.4	100	359
3	569.319	36.2	19.8	10.9	33.2	33.7	46.0	12.3	100	359
----- Vertical -----										
4	31.940	45.1	13.1	7.0	33.2	32.0	40.0	8.0	100	179
5	53.280	39.3	14.8	7.4	33.2	28.3	40.0	11.7	100	0
6	141.550	39.6	9.2	8.3	33.1	24.0	43.5	19.5	100	229


Tested by: Jun-Hui, Lee/ Senior Engineer

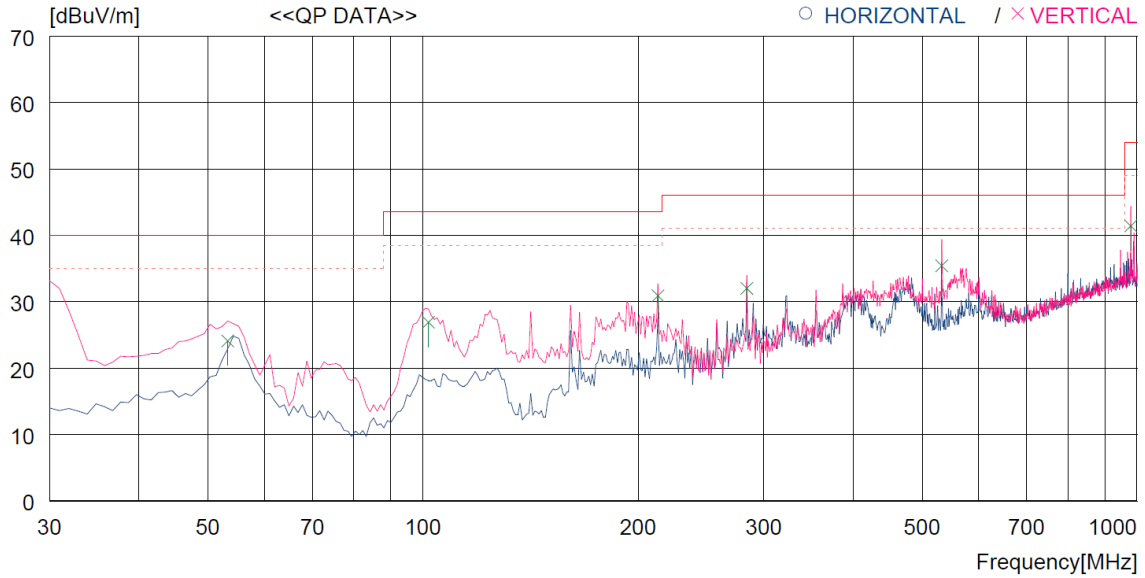
Operating condition : Tablet pc Portable Portable Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	257.950	32.2	13.7	9.2	33.0	22.1	46.0	23.9	100	180
2	322.940	37.4	15.3	9.6	33.0	29.3	46.0	16.7	100	207
3	480.081	36.2	18.1	10.5	33.1	31.7	46.0	14.3	200	153
4	952.457	33.3	23.8	12.6	32.0	37.7	46.0	8.3	100	235
----- Vertical -----										
5	53.280	25.8	14.8	7.4	33.2	14.8	40.0	25.2	100	74
6	213.330	31.6	12.6	8.9	33.0	20.1	43.5	23.4	100	0

Tested by: Jun-Hui, Lee/ Senior Engineer

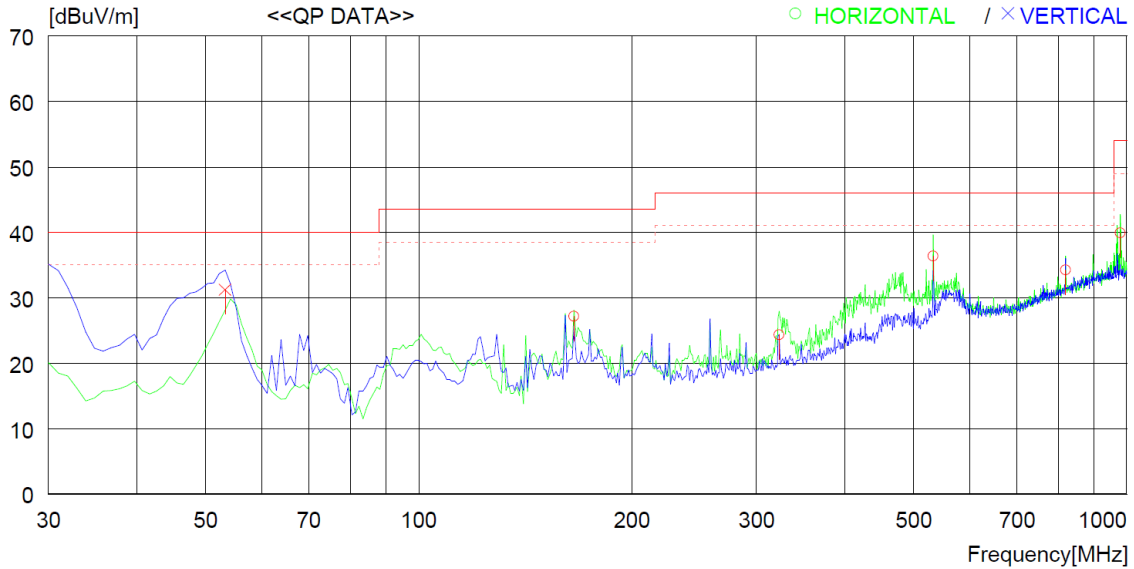
Operating condition : Tablet pc Cradle Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Vertical -----										
1	53.280	35.1	14.8	7.4	33.2	24.1	40.0	15.9	126	0
2	101.780	38.5	13.5	8.0	33.1	26.9	43.5	16.6	100	96
3	213.330	42.4	12.6	8.9	33.0	30.9	43.5	12.6	126	0
4	284.140	41.2	14.4	9.4	33.0	32.0	46.0	14.0	126	0
5	532.460	38.7	19.1	10.8	33.2	35.4	46.0	10.6	100	75
6	979.617	36.5	24.0	12.7	31.8	41.4	54.0	12.6	126	0

Tested by: Jun-Hui, Lee/ Senior Engineer

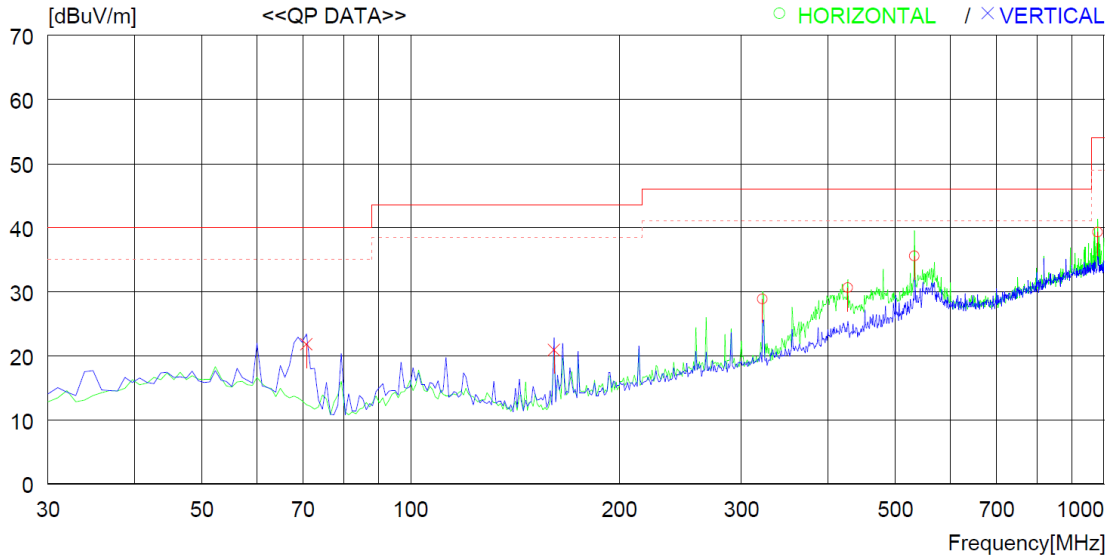
Operating condition : Tablet pc IC Card Reader Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	165.800	42.1	8.9	9.1	33.0	27.1	43.5	16.4	200	153
2	322.940	32.3	14.1	10.8	32.9	24.3	46.0	21.7	100	144
3	532.460	38.9	17.9	12.7	33.2	36.3	46.0	9.7	200	359
4	819.571	31.2	21.1	14.8	32.9	34.2	46.0	11.8	100	348
5	979.617	33.5	22.6	15.6	31.8	39.9	54.0	14.1	100	208
----- Vertical -----										
6	53.280	43.3	13.6	7.3	33.0	31.2	40.0	8.8	100	187

Tested by: Jun-Hui, Lee/ Senior Engineer

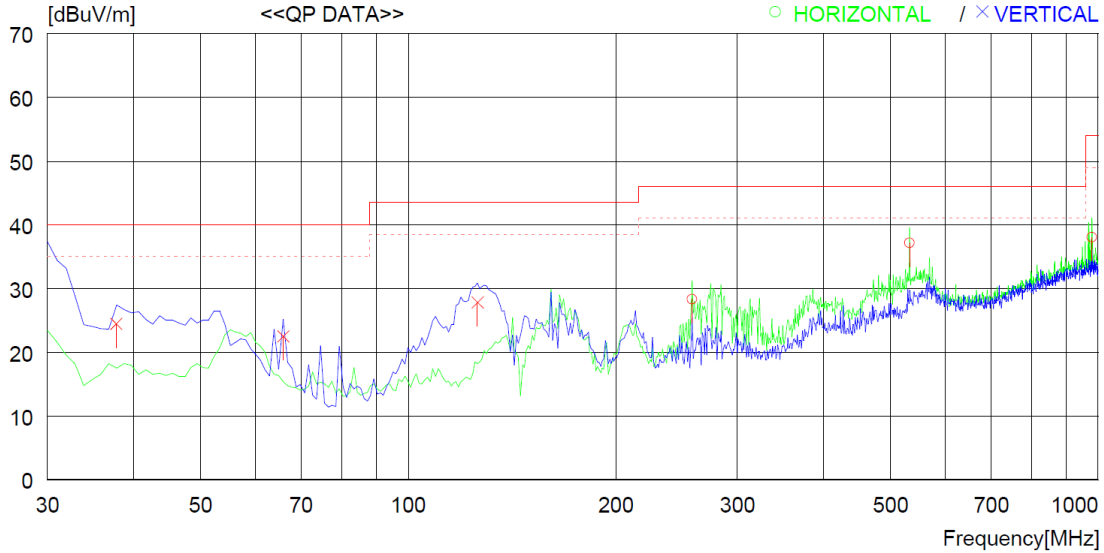
Operating condition : Tablet pc IC Card Reader Portable Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	321.970	36.8	14.1	10.8	32.9	28.8	46.0	17.2	100	208
2	426.731	35.7	16.3	11.7	33.1	30.6	46.0	15.4	100	13
3	532.460	38.1	17.9	12.7	33.2	35.5	46.0	10.5	200	359
4	979.617	32.9	22.6	15.6	31.8	39.3	54.0	14.7	100	166
----- Vertical -----										
5	70.740	37.5	9.6	7.7	33.0	21.8	40.0	18.2	100	359
6	160.950	36.2	8.7	9.0	33.0	20.9	43.5	22.6	100	359

Tested by: Jun-Hui, Lee/ Senior Engineer

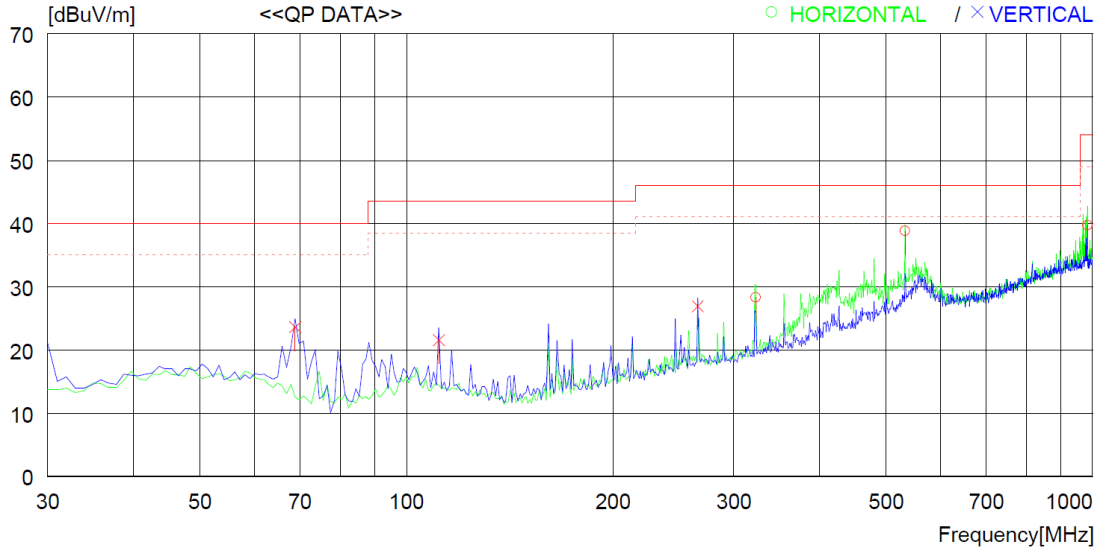
Operating condition : Tablet pc Barcord Reader Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	257.950	38.3	12.6	10.3	32.9	28.3	46.0	17.7	100	194
2	532.460	39.7	17.9	12.7	33.2	37.1	46.0	8.9	200	116
3	979.617	31.6	22.6	15.6	31.8	38.0	54.0	16.0	100	359
----- Vertical -----										
4	37.760	37.6	12.7	7.1	33.0	24.4	40.0	15.6	200	0
5	65.890	36.8	11.2	7.5	33.0	22.5	40.0	17.5	100	348
6	126.030	42.5	9.6	8.7	33.0	27.8	43.5	15.7	100	95

Tested by: Jun-Hui, Lee/ Senior Engineer

Operating condition : Tablet pc Barcord Reader Portable Mode



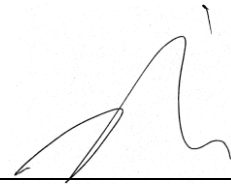
No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	322.940	36.3	14.1	10.8	32.9	28.3	46.0	17.7	100	359
2	532.460	41.4	17.9	12.7	33.2	38.8	46.0	7.2	200	208
3	982.526	33.2	22.6	15.6	31.7	39.7	54.0	14.3	100	250
----- Vertical -----										
4	68.800	38.7	10.2	7.7	33.0	23.6	40.0	16.4	100	115
5	111.480	35.2	11.0	8.4	33.1	21.5	43.5	22.0	100	0
6	265.710	36.7	12.8	10.3	32.9	26.9	46.0	19.1	100	271

Tested by: Jun-Hui, Lee/ Senior Engineer

7.5.3.3.2 Test Data for Below 30 MHz

- Test Date : March 28, 2015
- Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- Frequency range : 9 kHz ~ 30 MHz
- Measurement distance : 3 m
- Operating Condition : Highest Output Power Transmitting Mode
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
It was not observed any emissions from the EUT.								



Tested by: Jun-Hui, Lee/ Senior Engineer

8. CONDUCTED EMISSION TEST

8.1 Operating environment

Temperature : (24 ~ 25) °C
Relative humidity : (45 ~ 46) % R.H.

8.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μH + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

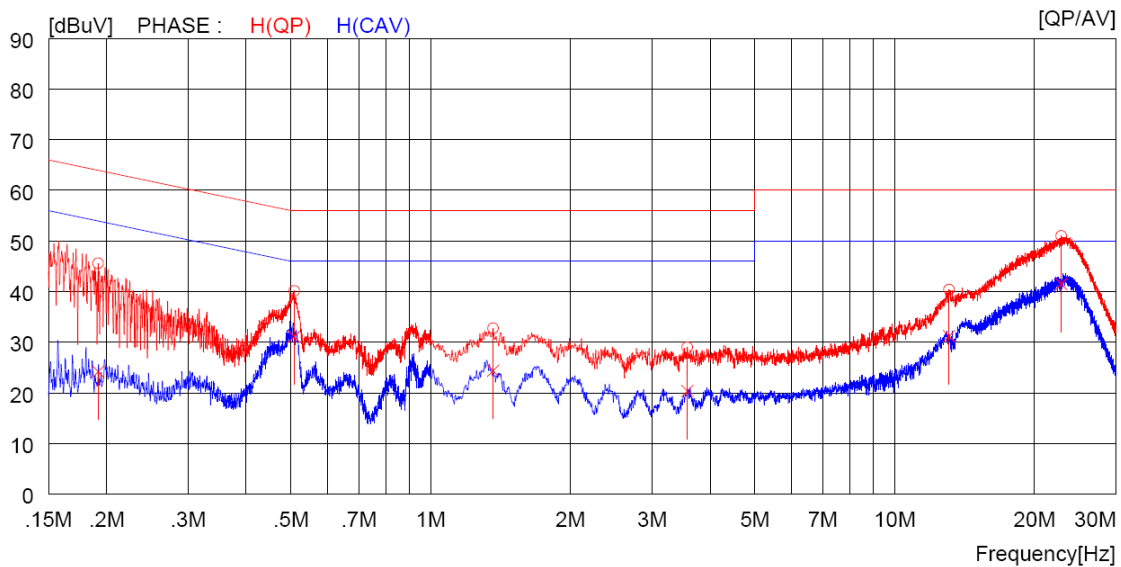
8.3 Test equipment used

Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ - ESCI	Rohde & Schwarz	EMI Test Receiver	101012	Nov. 03, 2014 (1Y)
■ - NSLK 8128	Schwarzbeck	LISN	8128-216	Apr. 11, 2014 (1Y)
□ - 3825/2	EMCO	LISN	9109-1867	Apr. 29, 2014 (1Y)

All test equipment used is calibrated on a regular basis.

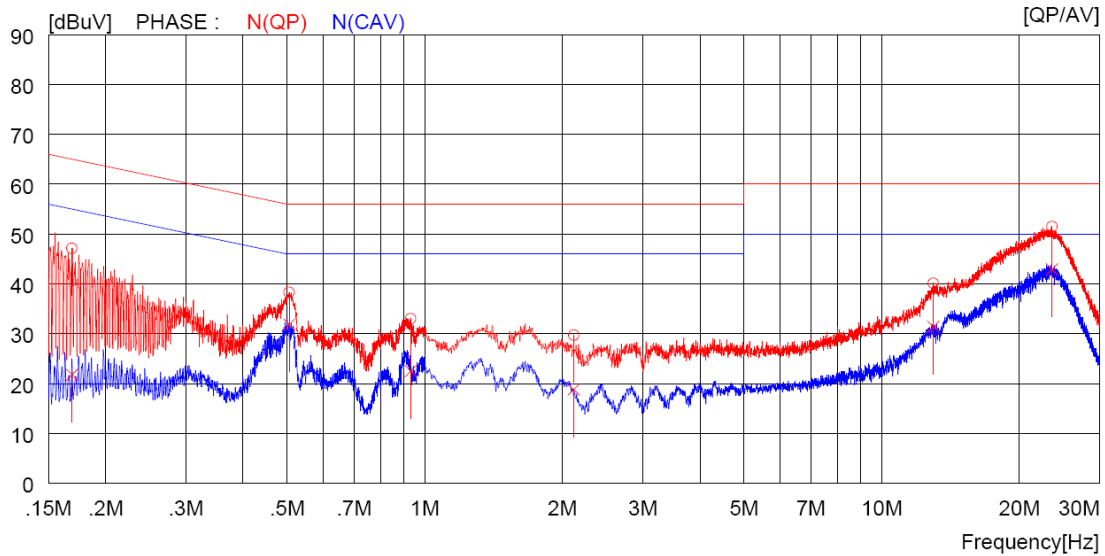
8.4 Test data for Charging & Transmitting Mode_1 Mbps

- Test Date : March 28, 2015
- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Operating condition : Tablet pc Charging Mode
- Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.19200	35.7	----	9.9	45.6	----	63.9	----	18.3	----	H (QP)
2	0.50800	30.1	----	10.0	40.1	----	56.0	----	15.9	----	H (QP)
3	1.36400	22.7	----	10.0	32.7	----	56.0	----	23.3	----	H (QP)
4	3.57600	19.0	----	10.0	29.0	----	56.0	----	27.0	----	H (QP)
5	13.11000	30.2	----	10.2	40.4	----	60.0	----	19.6	----	H (QP)
6	22.88000	40.8	----	10.2	51.0	----	60.0	----	9.0	----	H (QP)
7	0.19200	----	14.3	9.9	----	24.2	----	53.9	----	29.7	H (CAV)
8	0.50800	----	21.1	10.0	----	31.1	----	46.0	----	14.9	H (CAV)
9	1.36400	----	14.4	10.0	----	24.4	----	46.0	----	21.6	H (CAV)
10	3.57600	----	10.4	10.0	----	20.4	----	46.0	----	25.6	H (CAV)
11	13.11000	----	21.0	10.2	----	31.2	----	50.0	----	18.8	H (CAV)
12	22.88000	----	31.3	10.2	----	41.5	----	50.0	----	8.5	H (CAV)

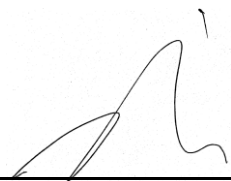
- Test Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16900	37.2	----	9.9	47.1	----	65.0	----	17.9	----	N (QP)
2	0.50500	28.3	----	10.0	38.3	----	56.0	----	17.7	----	N (QP)
3	0.93100	23.0	----	10.0	33.0	----	56.0	----	23.0	----	N (QP)
4	2.12000	19.7	----	10.0	29.7	----	56.0	----	26.3	----	N (QP)
5	12.97000	29.9	----	10.2	40.1	----	60.0	----	19.9	----	N (QP)
6	23.60000	41.3	----	10.2	51.5	----	60.0	----	8.5	----	N (QP)
7	0.16900	----	11.9	9.9	----	21.8	----	55.0	----	33.2	N (CAV)
8	0.50500	----	21.8	10.0	----	31.8	----	46.0	----	14.2	N (CAV)
9	0.93100	----	12.5	10.0	----	22.5	----	46.0	----	23.5	N (CAV)
10	2.12000	----	8.8	10.0	----	18.8	----	46.0	----	27.2	N (CAV)
11	12.97000	----	21.2	10.2	----	31.4	----	50.0	----	18.6	N (CAV)
12	23.60000	----	32.7	10.2	----	42.9	----	50.0	----	7.1	N (CAV)

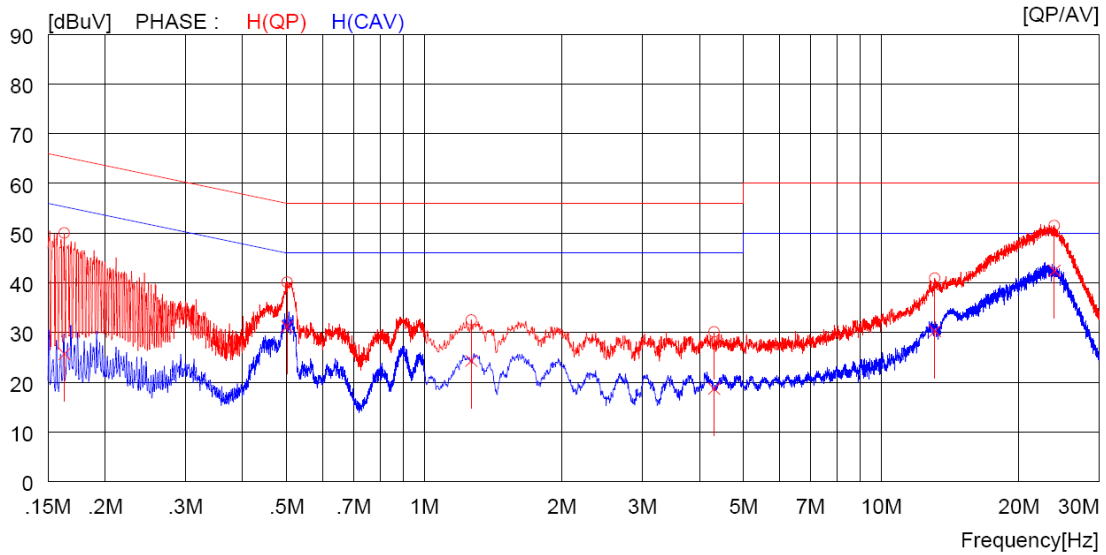
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.



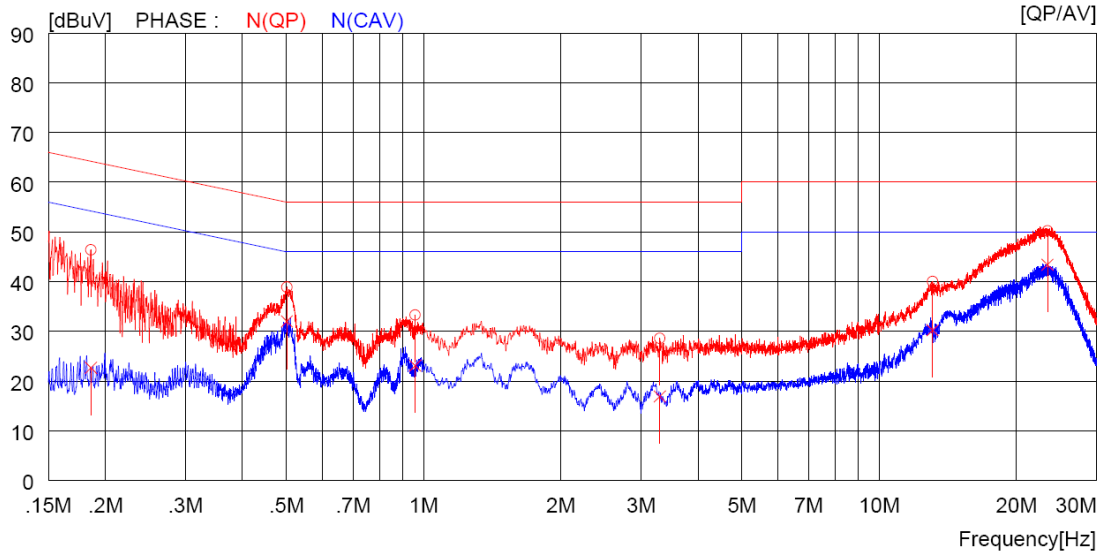
Tested by: Jun-Hui, Lee/ Senior Engineer

- Operating condition : Tablet pc Cradle Charging Mode
- Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16300	40.1	----	9.9	50.0	----	65.3	----	15.3	----	H (QP)
2	0.50100	30.1	----	10.0	40.1	----	56.0	----	15.9	----	H (QP)
3	1.26800	22.5	----	10.0	32.5	----	56.0	----	23.5	----	H (QP)
4	4.30800	20.1	----	10.0	30.1	----	56.0	----	25.9	----	H (QP)
5	13.10000	30.7	----	10.2	40.9	----	60.0	----	19.1	----	H (QP)
6	23.96000	41.3	----	10.2	51.5	----	60.0	----	8.5	----	H (QP)
7	0.16300	----	15.8	9.9	----	25.7	----	55.3	----	29.6	H (CAV)
8	0.50100	----	21.2	10.0	----	31.2	----	46.0	----	14.8	H (CAV)
9	1.26800	----	14.3	10.0	----	24.3	----	46.0	----	21.7	H (CAV)
10	4.30800	----	8.7	10.0	----	18.7	----	46.0	----	27.3	H (CAV)
11	13.10000	----	20.1	10.2	----	30.3	----	50.0	----	19.7	H (CAV)
12	23.96000	----	32.2	10.2	----	42.4	----	50.0	----	7.6	H (CAV)

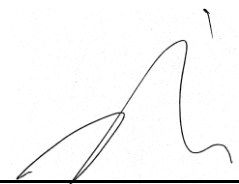
- Test Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18600	36.5	----	9.9	46.4	----	64.2	----	17.8	----	N(QP)
2	0.50100	28.9	----	10.0	38.9	----	56.0	----	17.1	----	N(QP)
3	0.95800	23.3	----	10.0	33.3	----	56.0	----	22.7	----	N(QP)
4	3.30000	18.6	----	10.0	28.6	----	56.0	----	27.4	----	N(QP)
5	13.11000	29.8	----	10.2	40.0	----	60.0	----	20.0	----	N(QP)
6	23.42000	40.0	----	10.2	50.2	----	60.0	----	9.8	----	N(QP)
7	0.18600	----	12.8	9.9	----	22.7	----	54.2	----	31.5	N(CAV)
8	0.50100	----	22.0	10.0	----	32.0	----	46.0	----	14.0	N(CAV)
9	0.95800	----	13.1	10.0	----	23.1	----	46.0	----	22.9	N(CAV)
10	3.30000	----	6.9	10.0	----	16.9	----	46.0	----	29.1	N(CAV)
11	13.11000	----	20.0	10.2	----	30.2	----	50.0	----	19.8	N(CAV)
12	23.42000	----	33.2	10.2	----	43.4	----	50.0	----	6.6	N(CAV)

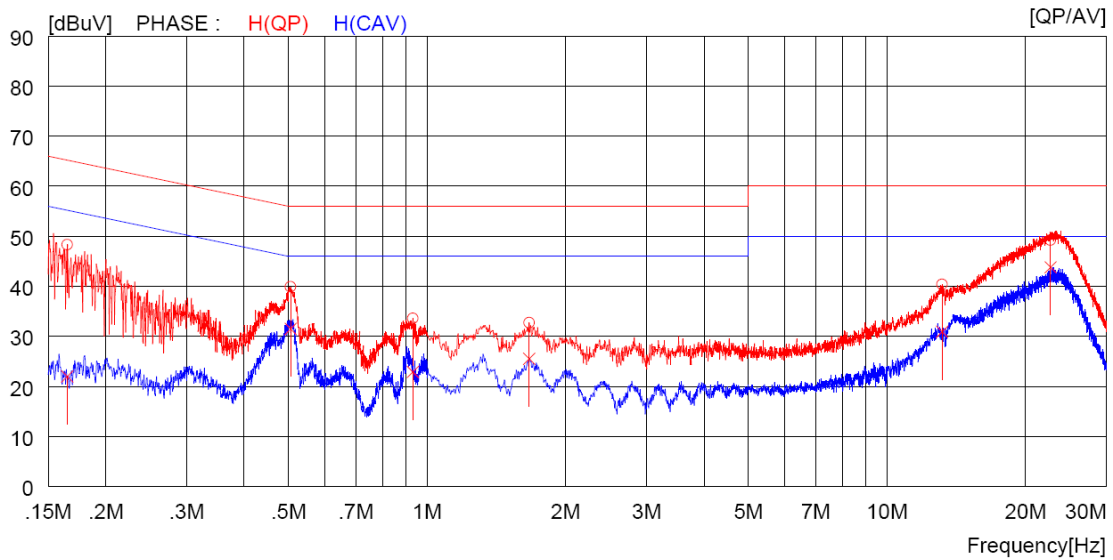
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.



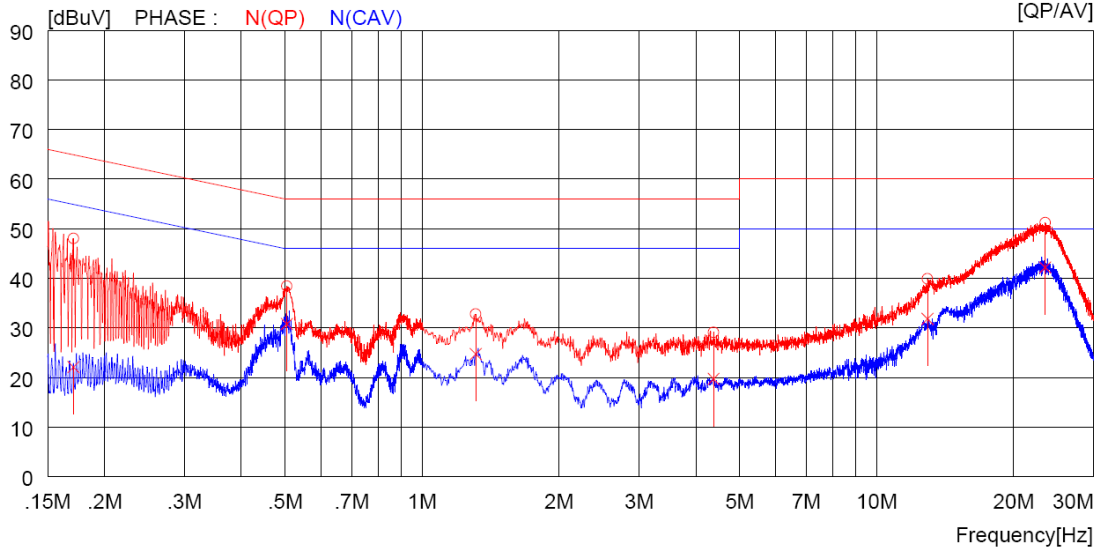
Tested by: Jun-Hui, Lee/ Senior Engineer

- Operating condition : Tablet pc IC Card Reader Charging Mode
- Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16500	38.4	----	9.9	48.3	----	65.2	----	16.9	----	H (QP)
2	0.50500	29.9	----	10.0	39.9	----	56.0	----	16.1	----	H (QP)
3	0.93100	23.6	----	10.0	33.6	----	56.0	----	22.4	----	H (QP)
4	1.66800	22.7	----	10.0	32.7	----	56.0	----	23.3	----	H (QP)
5	13.18000	30.2	----	10.2	40.4	----	60.0	----	19.6	----	H (QP)
6	22.69000	39.0	----	10.2	49.2	----	60.0	----	10.8	----	H (QP)
7	0.16500	----	12.1	9.9	22.0	----	55.2	----	33.2	----	H (CAV)
8	0.50500	----	21.5	10.0	31.5	----	46.0	----	14.5	----	H (CAV)
9	0.93100	----	12.9	10.0	22.9	----	46.0	----	23.1	----	H (CAV)
10	1.66800	----	15.5	10.0	25.5	----	46.0	----	20.5	----	H (CAV)
11	13.18000	----	20.7	10.2	30.9	----	50.0	----	19.1	----	H (CAV)
12	22.69000	----	33.6	10.2	43.8	----	50.0	----	6.2	----	H (CAV)

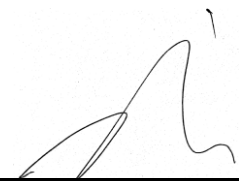
- Test Line : NEUTRAL LINE



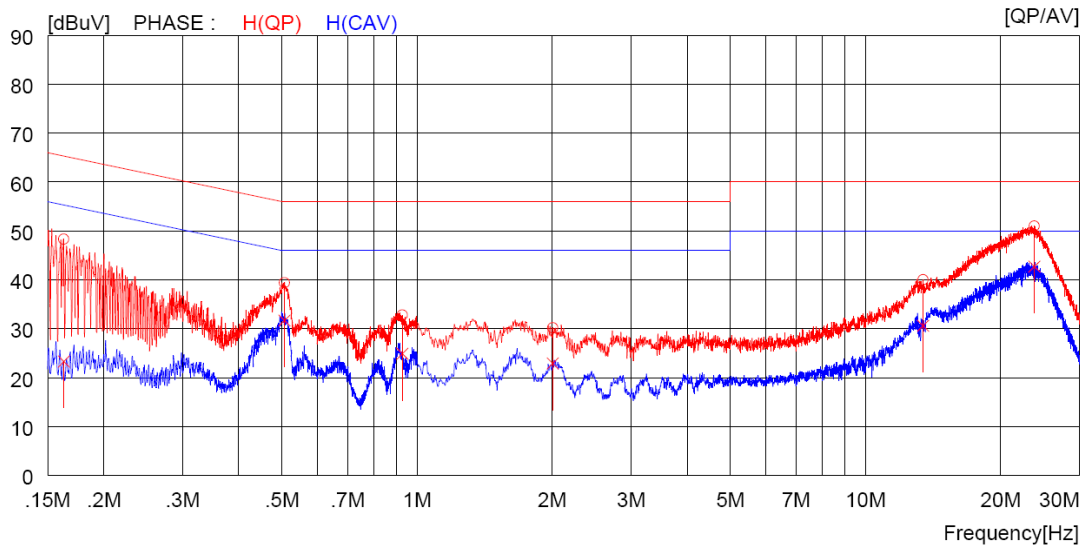
NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.17100	38.1	----	9.9	48.0	----	64.9	----	16.9	----	N(QP)
2	0.50400	28.4	----	10.0	38.4	----	56.0	----	17.6	----	N(QP)
3	1.31200	22.8	----	10.0	32.8	----	56.0	----	23.2	----	N(QP)
4	4.38000	19.1	----	10.0	29.1	----	56.0	----	26.9	----	N(QP)
5	12.94000	29.7	----	10.2	39.9	----	60.0	----	20.1	----	N(QP)
6	23.49000	41.0	----	10.2	51.2	----	60.0	----	8.8	----	N(QP)
7	0.17100	----	12.2	9.9	----	22.1	----	54.9	----	32.8	N(CAV)
8	0.50400	----	20.8	10.0	----	30.8	----	46.0	----	15.2	N(CAV)
9	1.31200	----	14.7	10.0	----	24.7	----	46.0	----	21.3	N(CAV)
10	4.38000	----	9.7	10.0	----	19.7	----	46.0	----	26.3	N(CAV)
11	12.94000	----	21.6	10.2	----	31.8	----	50.0	----	18.2	N(CAV)
12	23.49000	----	32.0	10.2	----	42.2	----	50.0	----	7.8	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

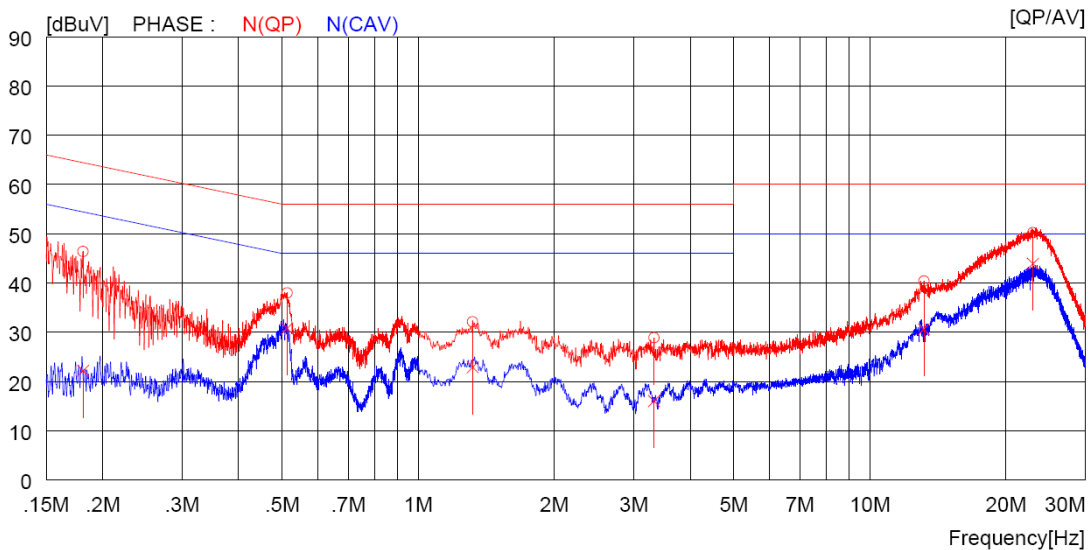

Tested by: Jun-Hui, Lee/ Senior Engineer

-. Operating condition : Tablet pc Barcord Reader Charging Mode
 -. Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16300	38.4	----	9.9	48.3	----	65.3	----	17.0	----	H (QP)
2	0.50600	29.4	----	10.0	39.4	----	56.0	----	16.6	----	H (QP)
3	0.92800	22.8	----	10.0	32.8	----	56.0	----	23.2	----	H (QP)
4	2.00800	20.2	----	10.0	30.2	----	56.0	----	25.8	----	H (QP)
5	13.44000	29.8	----	10.2	40.0	----	60.0	----	20.0	----	H (QP)
6	23.79000	40.8	----	10.2	51.0	----	60.0	----	9.0	----	H (QP)
7	0.16300	----	13.4	9.9	----	23.3	----	55.3	----	32.0	H (CAV)
8	0.50600	----	21.7	10.0	----	31.7	----	46.0	----	14.3	H (CAV)
9	0.92800	----	14.9	10.0	----	24.9	----	46.0	----	21.1	H (CAV)
10	2.00800	----	12.9	10.0	----	22.9	----	46.0	----	23.1	H (CAV)
11	13.44000	----	20.4	10.2	----	30.6	----	50.0	----	19.4	H (CAV)
12	23.79000	----	32.5	10.2	----	42.7	----	50.0	----	7.3	H (CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18100	36.5	----	9.9	46.4	----	64.4	----	18.0	----	N (QP)
2	0.51300	28.0	----	10.0	38.0	----	56.0	----	18.0	----	N (QP)
3	1.32000	22.1	----	10.0	32.1	----	56.0	----	23.9	----	N (QP)
4	3.32800	18.9	----	10.0	28.9	----	56.0	----	27.1	----	N (QP)
5	13.17000	30.2	----	10.2	40.4	----	60.0	----	19.6	----	N (QP)
6	22.97000	40.0	----	10.2	50.2	----	60.0	----	9.8	----	N (QP)
7	0.18100	----	12.3	9.9	----	22.2	----	54.4	----	32.2	N (CAV)
8	0.51300	----	20.8	10.0	----	30.8	----	46.0	----	15.2	N (CAV)
9	1.32000	----	12.9	10.0	----	22.9	----	46.0	----	23.1	N (CAV)
10	3.32800	----	6.0	10.0	----	16.0	----	46.0	----	30.0	N (CAV)
11	13.17000	----	20.4	10.2	----	30.6	----	50.0	----	19.4	N (CAV)
12	22.97000	----	33.7	10.2	----	43.9	----	50.0	----	6.1	N (CAV)

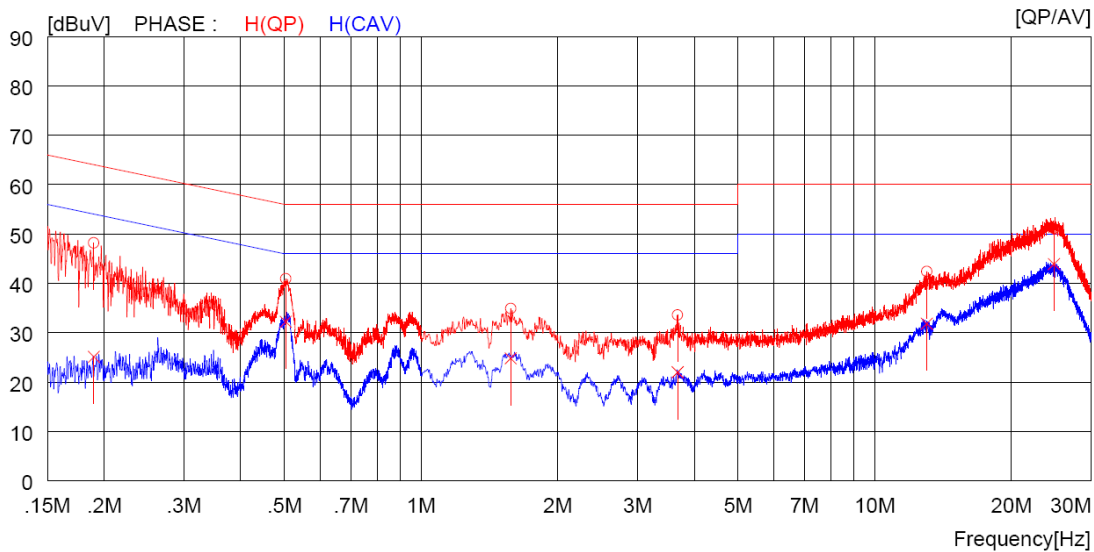
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

Tested by: Jun-Hui, Lee/ Senior Engineer

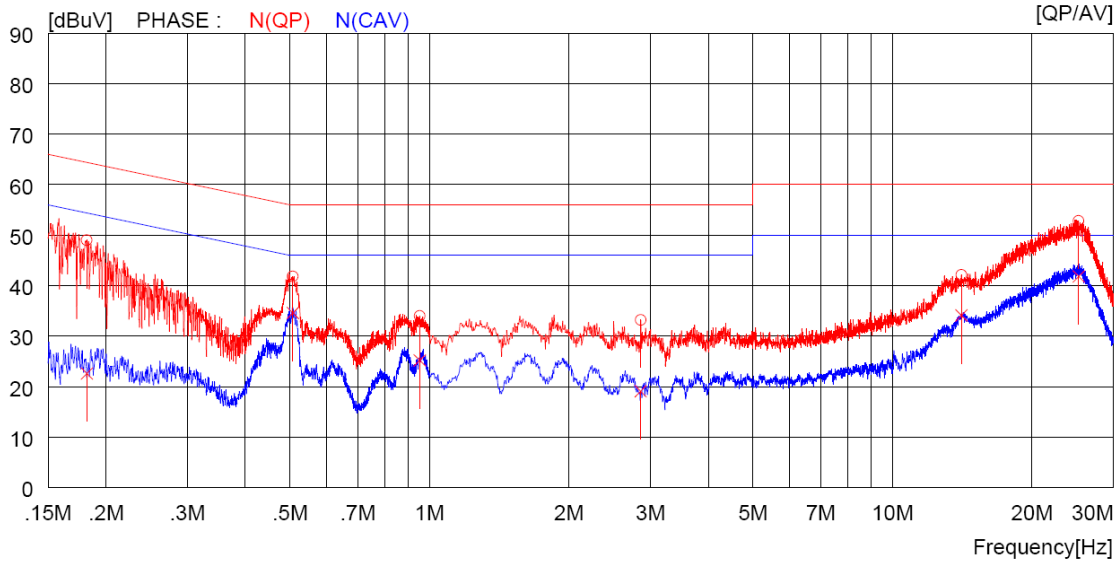
8.6 Test data for Charging & Transmitting Mode_3 Mbps

- Test Date : March 28, 2015
- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Operating condition : Tablet pc Charging Mode
- Tested Line : HOT LINE



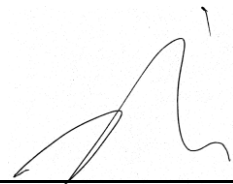
NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.19000	38.2	----	10.0	48.2	----	64.0	----	15.8	----	H (QP)
2	0.50300	30.9	----	10.0	40.9	----	56.0	----	15.1	----	H (QP)
3	1.57600	24.9	----	10.0	34.9	----	56.0	----	21.1	----	H (QP)
4	3.68000	23.6	----	10.0	33.6	----	56.0	----	22.4	----	H (QP)
5	13.03000	32.2	----	10.2	42.4	----	60.0	----	17.6	----	H (QP)
6	24.84000	40.9	----	10.2	51.1	----	60.0	----	8.9	----	H (QP)
7	0.19000	----	15.1	10.0	----	25.1	----	54.0	----	28.9	H (CAV)
8	0.50300	----	22.2	10.0	----	32.2	----	46.0	----	13.8	H (CAV)
9	1.57600	----	14.8	10.0	----	24.8	----	46.0	----	21.2	H (CAV)
10	3.68000	----	12.0	10.0	----	22.0	----	46.0	----	24.0	H (CAV)
11	13.03000	----	21.6	10.2	----	31.8	----	50.0	----	18.2	H (CAV)
12	24.84000	----	33.7	10.2	----	43.9	----	50.0	----	6.1	H (CAV)

- Test Line : NEUTRAL LINE



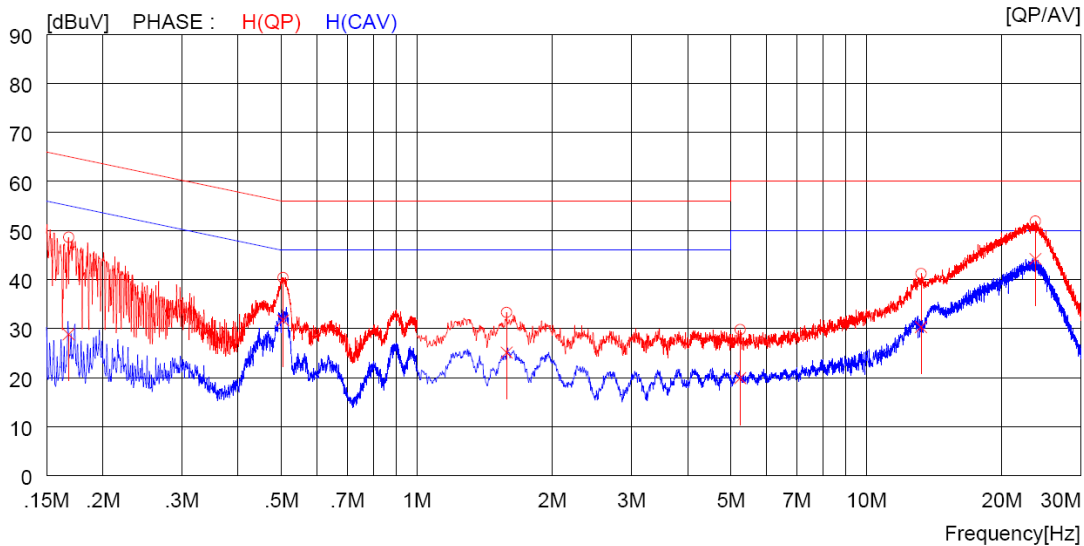
Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.



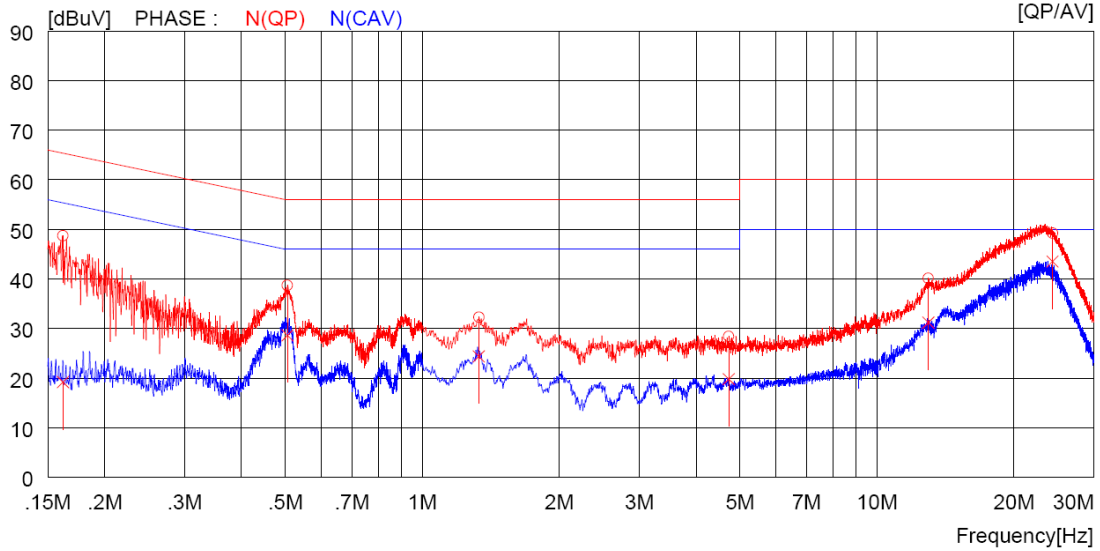
Tested by: **Jun-Hui, Lee/ Senior Engineer**

-. Operating condition : Tablet pc Cradle Charging Mode
 -. Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16800	38.7	----	9.9	48.6	----	65.1	----	16.5	----	H (QP)
2	0.50400	30.4	----	10.0	40.4	----	56.0	----	15.6	----	H (QP)
3	1.58400	23.3	----	10.0	33.3	----	56.0	----	22.7	----	H (QP)
4	5.24000	19.8	----	10.0	29.8	----	60.0	----	30.2	----	H (QP)
5	13.24000	31.0	----	10.2	41.2	----	60.0	----	18.8	----	H (QP)
6	23.77000	41.7	----	10.2	51.9	----	60.0	----	8.1	----	H (QP)
7	0.16800	----	18.9	9.9	----	28.8	----	55.1	----	26.3	H (CAV)
8	0.50400	----	21.7	10.0	----	31.7	----	46.0	----	14.3	H (CAV)
9	1.58400	----	15.1	10.0	----	25.1	----	46.0	----	20.9	H (CAV)
10	5.24000	----	9.9	10.0	----	19.9	----	50.0	----	30.1	H (CAV)
11	13.24000	----	20.1	10.2	----	30.3	----	50.0	----	19.7	H (CAV)
12	23.77000	----	34.0	10.2	----	44.2	----	50.0	----	5.8	H (CAV)

- Test Line : NEUTRAL LINE



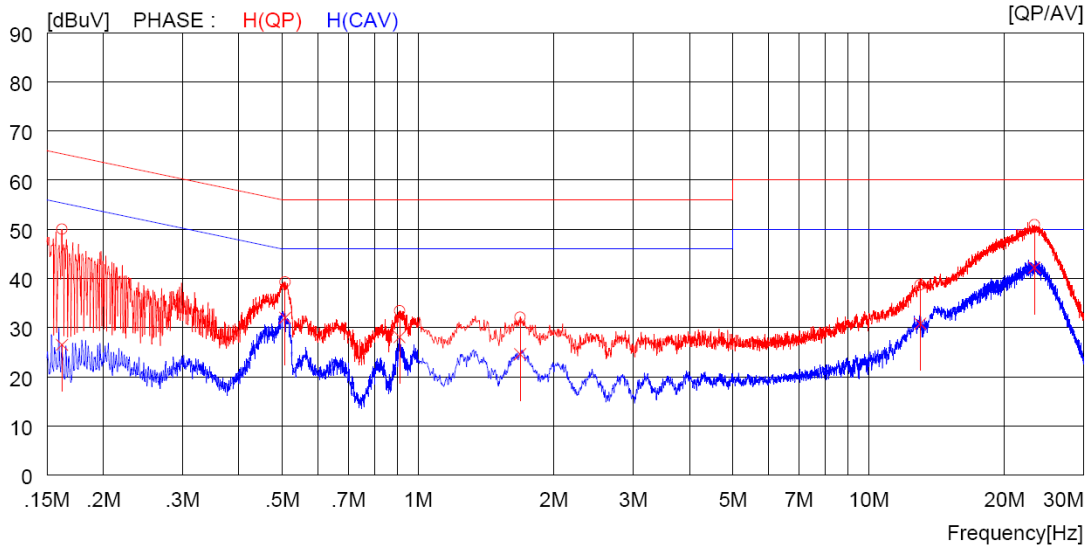
NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16200	38.8	----	9.9	48.7	----	65.4	----	16.7	----	N(QP)
2	0.50500	28.7	----	10.0	38.7	----	56.0	----	17.3	----	N(QP)
3	1.33200	22.3	----	10.0	32.3	----	56.0	----	23.7	----	N(QP)
4	4.72400	18.4	----	10.0	28.4	----	56.0	----	27.6	----	N(QP)
5	12.98000	29.9	----	10.2	40.1	----	60.0	----	19.9	----	N(QP)
6	24.34000	39.0	----	10.2	49.2	----	60.0	----	10.8	----	N(QP)
7	0.16200	----	9.3	9.9	----	19.2	----	55.4	----	36.2	N(CAV)
8	0.50500	----	18.6	10.0	----	28.6	----	46.0	----	17.4	N(CAV)
9	1.33200	----	14.4	10.0	----	24.4	----	46.0	----	21.6	N(CAV)
10	4.72400	----	9.8	10.0	----	19.8	----	46.0	----	26.2	N(CAV)
11	12.98000	----	21.0	10.2	----	31.2	----	50.0	----	18.8	N(CAV)
12	24.34000	----	33.3	10.2	----	43.5	----	50.0	----	6.5	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

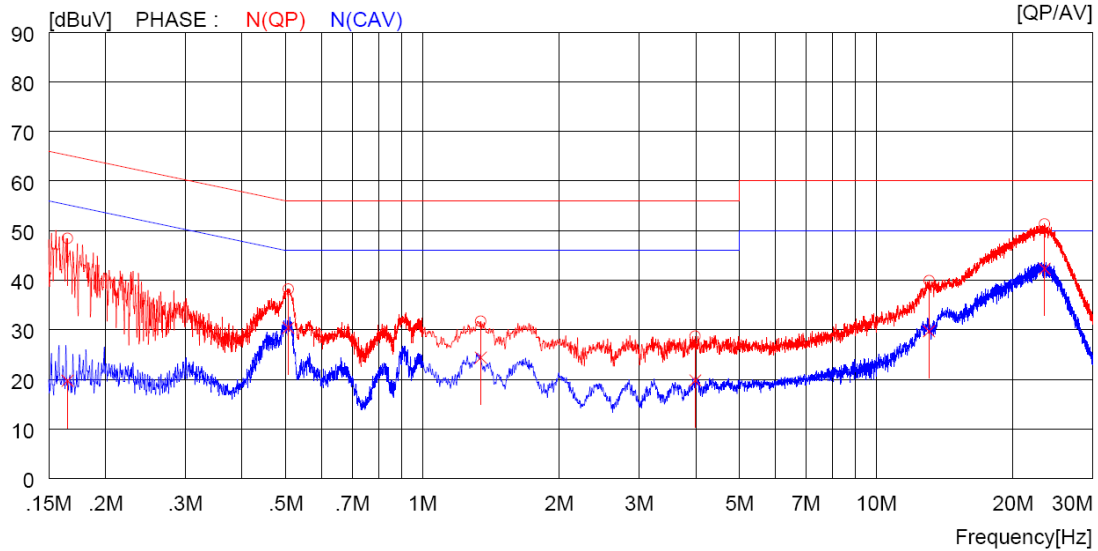
Tested by: Jun-Hui, Lee/ Senior Engineer

-. Operating condition : Tablet pc IC Card Reader Charging Mode
-. Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16200	40.1	----	9.9	50.0	----	65.4	----	15.4	----	H (QP)
2	0.50700	29.3	----	10.0	39.3	----	56.0	----	16.7	----	H (QP)
3	0.91000	23.4	----	10.0	33.4	----	56.0	----	22.6	----	H (QP)
4	1.68400	22.1	----	10.0	32.1	----	56.0	----	23.9	----	H (QP)
5	13.02000	28.5	----	10.2	38.7	----	60.0	----	21.3	----	H (QP)
6	23.34000	40.7	----	10.2	50.9	----	60.0	----	9.1	----	H (QP)
7	0.16200	----	16.6	9.9	----	26.5	----	55.4	----	28.9	H (CAV)
8	0.50700	----	22.0	10.0	----	32.0	----	46.0	----	14.0	H (CAV)
9	0.91000	----	18.1	10.0	----	28.1	----	46.0	----	17.9	H (CAV)
10	1.68400	----	14.6	10.0	----	24.6	----	46.0	----	21.4	H (CAV)
11	13.02000	----	20.6	10.2	----	30.8	----	50.0	----	19.2	H (CAV)
12	23.34000	----	32.0	10.2	----	42.2	----	50.0	----	7.8	H (CAV)

-. Tested Line : NEUTRAL LINE



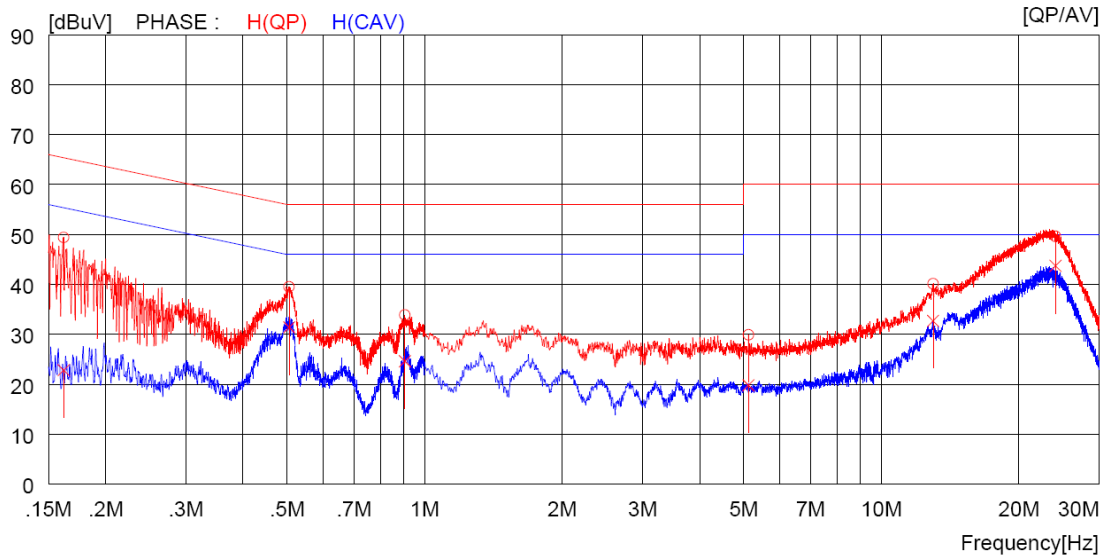
NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16500	38.5	----	9.9	48.4	----	65.2	----	16.8	----	N (QP)
2	0.50600	28.2	----	10.0	38.2	----	56.0	----	17.8	----	N (QP)
3	1.34400	21.7	----	10.0	31.7	----	56.0	----	24.3	----	N (QP)
4	3.99200	18.7	----	10.0	28.7	----	56.0	----	27.3	----	N (QP)
5	13.08000	29.7	----	10.2	39.9	----	60.0	----	20.1	----	N (QP)
6	23.52000	41.1	----	10.2	51.3	----	60.0	----	8.7	----	N (QP)
7	0.16500	----	9.8	9.9	----	19.7	----	55.2	----	35.5	N (CAV)
8	0.50600	----	20.4	10.0	----	30.4	----	46.0	----	15.6	N (CAV)
9	1.34400	----	14.4	10.0	----	24.4	----	46.0	----	21.6	N (CAV)
10	3.99200	----	9.8	10.0	----	19.8	----	46.0	----	26.2	N (CAV)
11	13.08000	----	19.5	10.2	----	29.7	----	50.0	----	20.3	N (CAV)
12	23.52000	----	32.1	10.2	----	42.3	----	50.0	----	7.7	N (CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

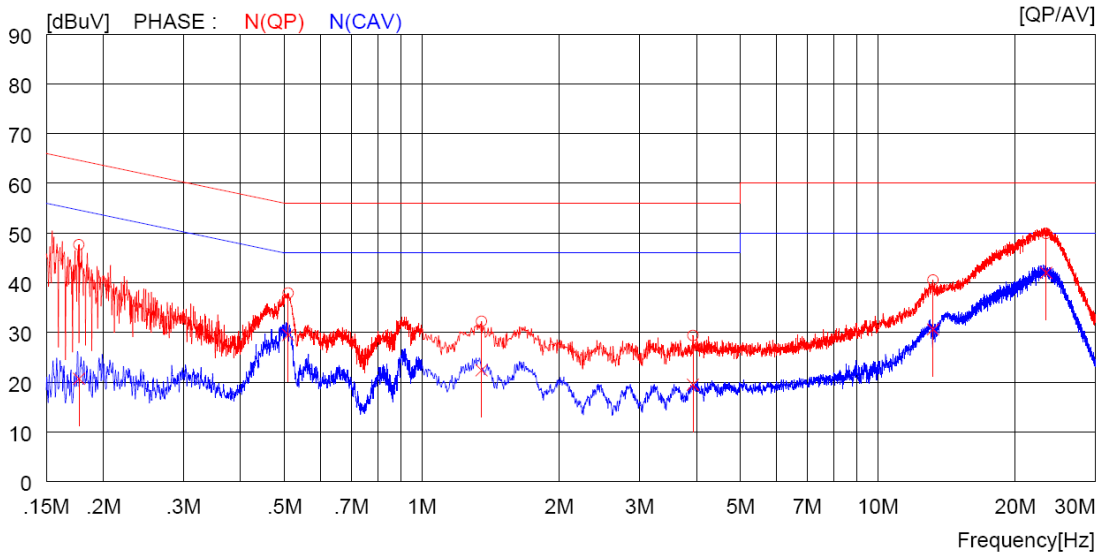
Tested by: Jun-Hui, Lee/ Senior Engineer

-. Operating condition : Tablet pc Barcord Reader Charging Mode
 -. Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.16200	39.5	----	9.9	49.4	----	65.4	----	16.0	----	H (QP)
2	0.50500	29.5	----	10.0	39.5	----	56.0	----	16.5	----	H (QP)
3	0.90500	23.9	----	10.0	33.9	----	56.0	----	22.1	----	H (QP)
4	5.12000	19.9	----	10.0	29.9	----	60.0	----	30.1	----	H (QP)
5	12.99000	29.9	----	10.2	40.1	----	60.0	----	19.9	----	H (QP)
6	24.08000	39.4	----	10.2	49.6	----	60.0	----	10.4	----	H (QP)
7	0.16200	----	12.9	9.9	----	22.8	----	55.4	----	32.6	H (CAV)
8	0.50500	----	21.4	10.0	----	31.4	----	46.0	----	14.6	H (CAV)
9	0.90500	----	14.6	10.0	----	24.6	----	46.0	----	21.4	H (CAV)
10	5.12000	----	9.8	10.0	----	19.8	----	50.0	----	30.2	H (CAV)
11	12.99000	----	22.5	10.2	----	32.7	----	50.0	----	17.3	H (CAV)
12	24.08000	----	33.5	10.2	----	43.7	----	50.0	----	6.3	H (CAV)

- Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.17700	37.7	----	9.9	47.6	----	64.6	----	17.0	----	N (QP)
2	0.50900	27.9	----	10.0	37.9	----	56.0	----	18.1	----	N (QP)
3	1.35200	22.2	----	10.0	32.2	----	56.0	----	23.8	----	N (QP)
4	3.93200	19.4	----	10.0	29.4	----	56.0	----	26.6	----	N (QP)
5	13.21000	30.3	----	10.2	40.5	----	60.0	----	19.5	----	N (QP)
6	23.39000	39.7	----	10.2	49.9	----	60.0	----	10.1	----	N (QP)
7	0.17700	----	10.8	9.9	----	20.7	----	54.6	----	33.9	N (CAV)
8	0.50900	----	19.5	10.0	----	29.5	----	46.0	----	16.5	N (CAV)
9	1.35200	----	12.4	10.0	----	22.4	----	46.0	----	23.6	N (CAV)
10	3.93200	----	9.5	10.0	----	19.5	----	46.0	----	26.5	N (CAV)
11	13.21000	----	20.4	10.2	----	30.6	----	50.0	----	19.4	N (CAV)
12	23.39000	----	31.8	10.2	----	42.0	----	50.0	----	8.0	N (CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

Tested by: Jun-Hui, Lee/ Senior Engineer