NVLAP LAB CODE 200707-0

FCC PART 15.225
EMI MEASUREMENT AND TEST REPORT

For

Honeywell Inc.

Honeywell Buildings 1500 West Dundee Rd,

Arlington Heights, IL 60004, USA

FCC ID: BNG-BOTAC01

Report Type:	**Product Type:**
Original Report	IdentIPoint

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Report Number:	RSZ09101401
Report Date:	2009-11-16
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TABLE OF CONTENTS

GENERAL INFORMATION **4**
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4
OBJECTIVE 4
RELATED SUBMITTAL(S)/GRANT(S) 4
TEST METHODOLOGY 4
TEST FACILITY 4
SYSTEM TEST CONFIGURATION **6**
JUSTIFICATION 6
EUT EXERCISE SOFTWARE 6
EQUIPMENT MODIFICATIONS 6
LOCAL SUPPORT EQUIPMENT LIST AND DETAILS 6
EXTERNAL I/O CABLE 6
CONFIGURATION OF TEST SETUP 7
BLOCK DIAGRAM OF TEST SETUP 7
SUMMARY OF TEST RESULTS **8**
FCC §15.203 - ANTENNA REQUIREMENT **9**
STANDARD APPLICABLE 9
ANTENNA CONNECTED CONSTRUCTION 9
FCC §15.207 - CONDUCTED EMISSION **10**
MEASUREMENT UNCERTAINTY 10
EUT SETUP 10
EMI TEST RECEIVER SETUP 11
TEST EQUIPMENT LIST AND DETAILS 11
TEST PROCEDURE 11
TEST RESULTS SUMMARY 11
TEST DATA 11
PLOT(S) OF TEST DATA 13
FCC §15.205 & §15.209 - RADIATED EMISSIONS TEST **16**
MEASUREMENT UNCERTAINTY 16
EUT SETUP 16
EMI TEST RECEIVER SETUP 17
TEST EQUIPMENT LIST AND DETAILS 17
CORRECTED AMPLITUDE & MARGIN CALCULATION 17
TEST RESULTS SUMMARY 18
TEST DATA 18
FCC §15.225(A) (B) (C) & §15.31(F) – FIELD STRENGTH OF RADIATED EMISSIONS **22**
APPLICABLE STANDARD 22
TEST EQUIPMENT LIST AND DETAILS 22
EUT SETUP 22
TEST DATA 22
FCC §15.225(D) §15.209 & §15.31(F) - OUT OF BAND EMISSION **29**
APPLICABLE STANDARD 29
TEST EQUIPMENT LIST AND DETAILS 29
EUT SETUP 29

TEST DATA 29
FCC §15.225(E) - FREQUENCY STABILITY 35
APPLICABLE STANDARD 35
TEST EQUIPMENT LIST AND DETAILS 35
TEST PROCEDURE 35
TEST DATA 35
FCC §15.215(C) – 20 DB BANDWIDTH TESTING 37
REQUIREMENT 37
TEST EQUIPMENT LIST AND DETAILS 37
TEST PROCEDURE 37
TEST DATA 37
DECALARATION LETTER 39

GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *Honeywell Inc.*'s product, model number: *BTFPT(FCC ID:BNG-BOTAC01)* or the "EUT" as referred to in this report is a *IdentIPoint*. The EUT is measured approximately 21.5 cm L x 16.5 cm W x 12 cm H. rated input voltage: DC 12V adapter or DC 48V POE. The operating frequency of the CPU is 200MHz.

Adapter Information: SWITCHING POWER SUPPLY
MODEL: SAW18 12.0-1500US
INPUT: 100-240V 50/60Hz 900mA
OUTPUT: 12V 1500mA

**Note: The series products, model BTBAS, BTSTD, BTFPT, we select BTFPT to test, the all model are electrically identical, only their model names have differences, which was explained in the attached Declaration Letter.*

**All measurement and test data in this report was gathered from production sample serial number: 0910014 (Assigned by BACL, Shenzhen). The EUT was received on 2009-09-14.*

Objective

This Type approval report is prepared on behalf of *Honeywell Inc.* in accordance with Part 2, Subpart J, and Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules, sec 15.203, 15.205, 15.207, 15.209 and 15.225.

Related Submittal(s)/Grant(s)

FCC Part 15.247 submission with FCC ID: BNG-BOTAC01.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Lab Corp. (ShenZhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 21, 2007. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

NVLAP LAB CODE 200707-0

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

N/A.

Equipment Modifications

Bay Area Compliance Lab Corp. (Shenzhen) has not done any modification on the EUT.

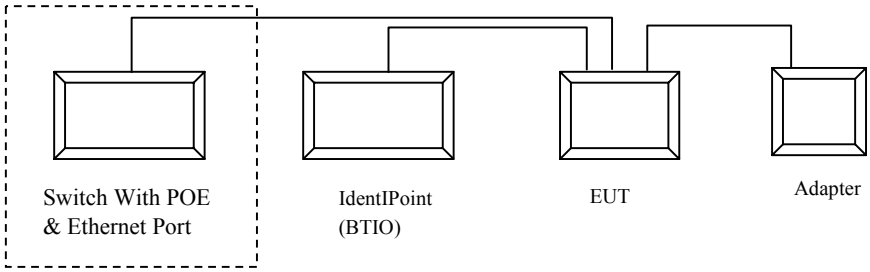
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
NETGEAR	Prosofe 8 Port 10/100 Switch with 4 Port POE	FS108P	IDL18663E00030	DoC
Honeywell	IdentIPoint	BTIO	N/A	N/A
NETGEAR	Switching Adapter	DSA-0421S-501	330-10142-01	DoC

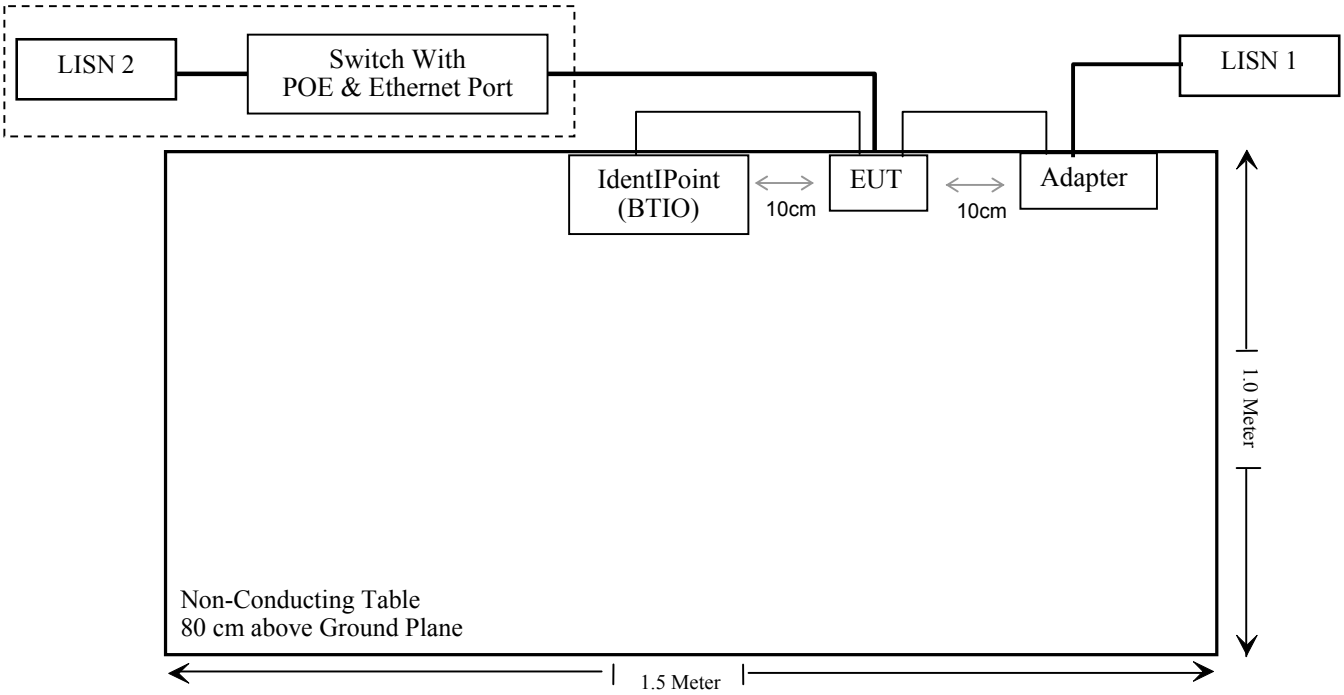
External I/O Cable

Cable Description	Length (m)	From/Port	To
Unshielded Undetachable power Cable	0.50	IdentIPoint (BTIO)	EUT

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.205	Restricted Band of operation	Compliant
§15.207	Conducted Emission	Compliant*
§15.209	Radiated Emission Test	Compliant*
§15.225(a) (b) (c) §15.31(f)	Field Strength of Radiated Emissions	Compliant
§15.225(d) §15.209, §15.31(f)	Out of Band Emission	Compliant
§15.225(e)	Frequency Stability	Compliant
§15.215(c)	20 dB Bandwidth Testing	Compliant

Note:* Within measurement uncertainty.

FCC §15.203 - ANTENNA REQUIREMENT

Standard Applicable

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

Antenna Connected Construction

The EUT has a printed loop antenna on PCB, which complies with the Part 15.203. Please see EUT photo for details.

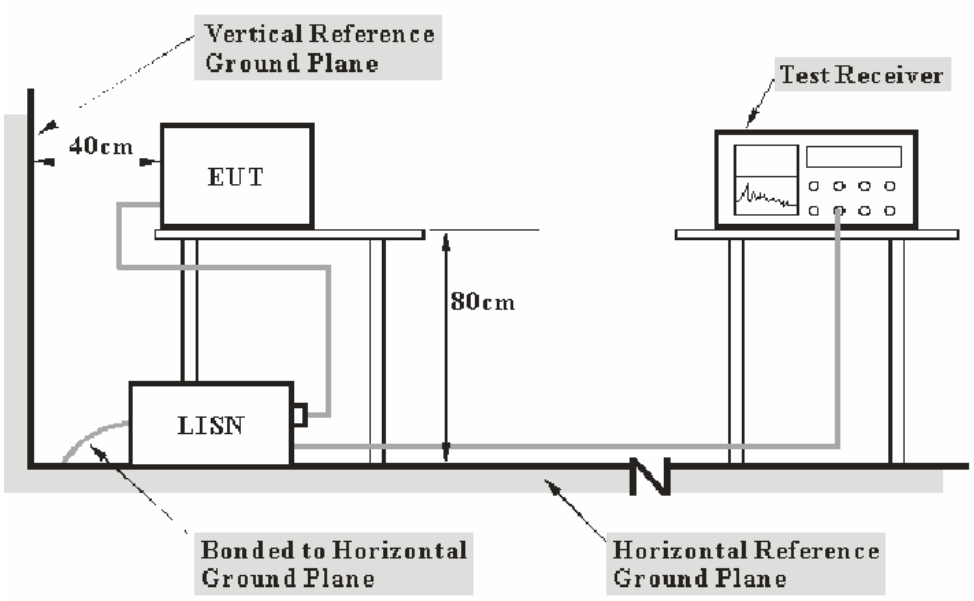
FCC §15.207 - CONDUCTED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Lab Corp. (ShenZhen) is ±2.4 dB.

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IF B/W***
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	100035	2008-11-07	2009-11-06
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2009-03-25	2010-03-25

***** Com-Power's LISN were used as the supporting equipment.
*** Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure were performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

11.38 dB at **0.3450 MHz** in the **Line** conductor mode, powered by adapter

1.50 dB at **0.5050 MHz** in the **Line** conductor mode, powered by POE

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Sula Huang on 2009-10-30.

Test Mode: Transmitting (powered by adapter)

Line Conducted Emissions				FCC PART 15.207	
Frequency (MHz)	**Amplitude (dBµV)**	**Detector (QP/AV)**	**Conductor (Line/Neutral)**	**Limit (dBµV)**	**Margin (dB)**
0.3450	37.70	AV	Line	49.08	11.38
0.1500	54.30	QP	Line	66.00	11.70
0.3450	47.10	QP	Line	59.08	11.98
0.3500	36.90	AV	Neutral	48.96	12.06
0.1750	51.00	QP	Line	64.72	13.72
0.3500	44.70	QP	Neutral	58.96	14.26
2.4150	40.40	QP	Neutral	56.00	15.60
0.8500	30.20	AV	Line	46.00	15.80
2.6650	39.80	QP	Neutral	56.00	16.20
9.2100	33.80	AV	Neutral	50.00	16.20
8.9250	43.70	QP	Neutral	60.00	16.30
2.2750	29.60	AV	Neutral	46.00	16.40
4.8800	29.40	AV	Line	46.00	16.60
0.5300	29.20	AV	Line	46.00	16.80
2.6650	28.80	AV	Neutral	46.00	17.20
0.8400	38.40	QP	Line	56.00	17.60
6.8150	42.20	QP	Line	60.00	17.80
15.9800	42.00	QP	Neutral	60.00	18.00
0.5300	38.00	QP	Line	56.00	18.00
15.4350	31.90	AV	Neutral	50.00	18.10
0.1750	34.30	AV	Line	54.72	20.42
0.1500	35.30	AV	Line	56.00	20.70
0.1500	43.80	QP	Neutral	66.00	22.20
0.1500	32.60	AV	Neutral	56.00	23.40

Test Mode: Transmitting (powered by POE)

Line Conducted Emissions				FCC PART 15.207	
Frequency (MHz)	**Amplitude (dBµV)**	**Detector (QP/AV)**	**Conductor (Line/Neutral)**	**Limit (dBµV)**	**Margin (dB)**
0.5050	44.50	AV	Line	46.00	1.50*
0.5050	44.10	AV	Neutral	46.00	1.90*
0.5050	50.80	QP	Line	56.00	5.20
0.5050	50.20	QP	Neutral	56.00	5.80
0.5700	39.40	AV	Neutral	46.00	6.60
0.4400	39.30	AV	Neutral	47.06	7.76
0.4400	39.30	AV	Line	47.06	7.76
0.6950	36.50	AV	Neutral	46.00	9.50
0.5700	46.20	QP	Neutral	56.00	9.80
0.3800	37.60	AV	Line	48.28	10.68
0.3150	38.70	AV	Line	49.84	11.14
0.4400	45.80	QP	Neutral	57.06	11.26
0.3200	37.80	AV	Neutral	49.71	11.91
0.4400	44.80	QP	Line	57.06	12.26
0.5800	43.10	QP	Line	56.00	12.90
0.6950	42.50	QP	Neutral	56.00	13.50
0.5800	31.60	AV	Line	46.00	14.40
0.2550	36.70	AV	Line	51.59	14.89
16.2300	35.10	AV	Neutral	50.00	14.90
15.7650	44.70	QP	Neutral	60.00	15.30
0.3800	42.40	QP	Line	58.28	15.88
0.3150	43.90	QP	Line	59.84	15.94
0.3200	43.50	QP	Neutral	59.71	16.21
0.2550	43.40	QP	Line	61.59	18.19

* Within measurement uncertainty.

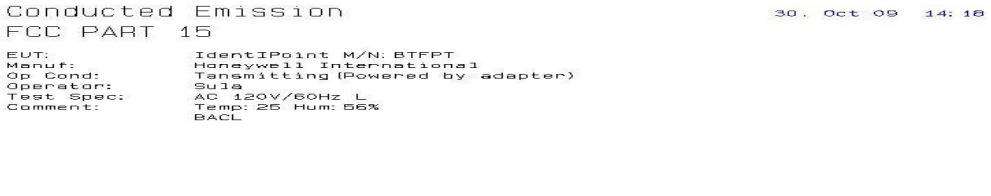
Note: The EUT is powered by POE, and POE is powered by AC mains.

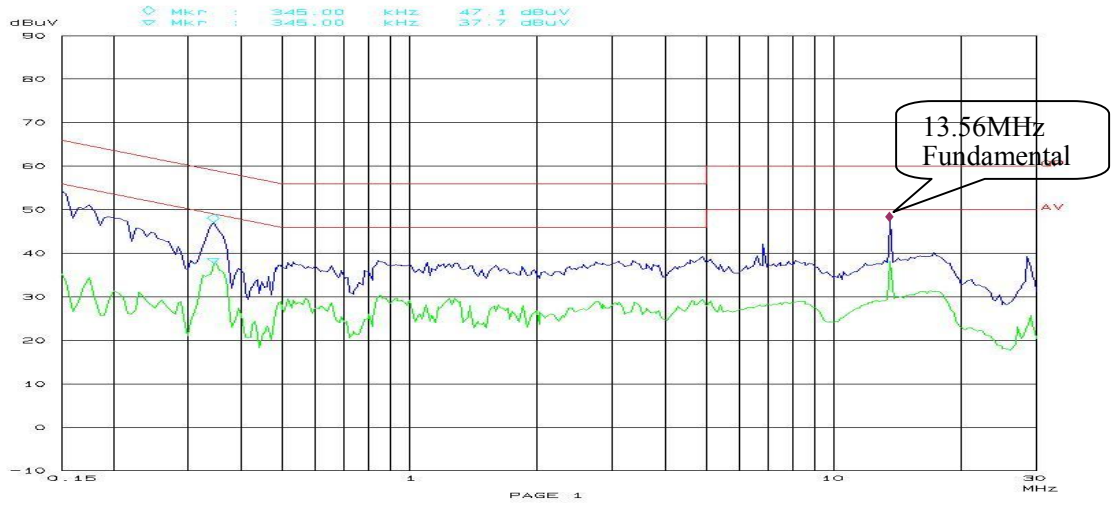
Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference.

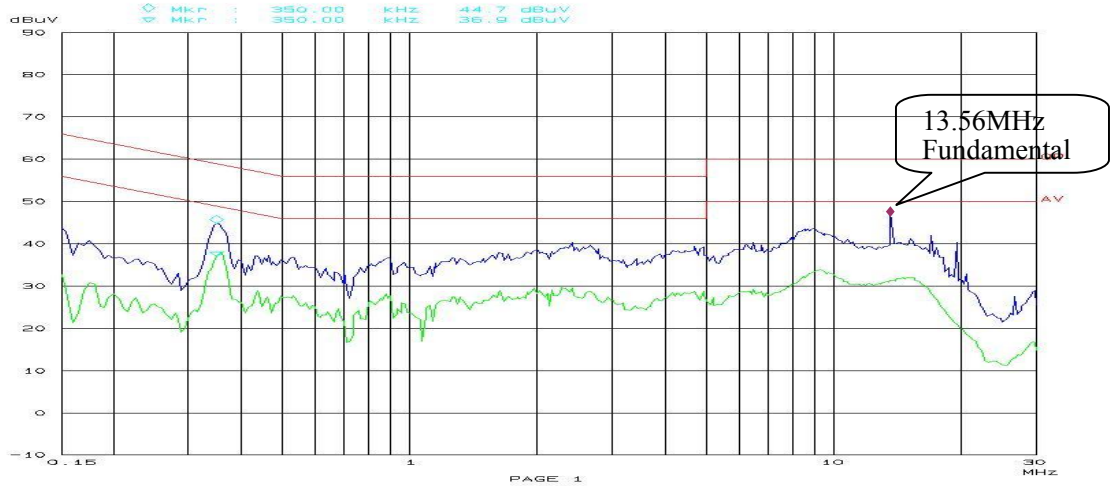
Transmitting (powered by adapter) mode:

Line:



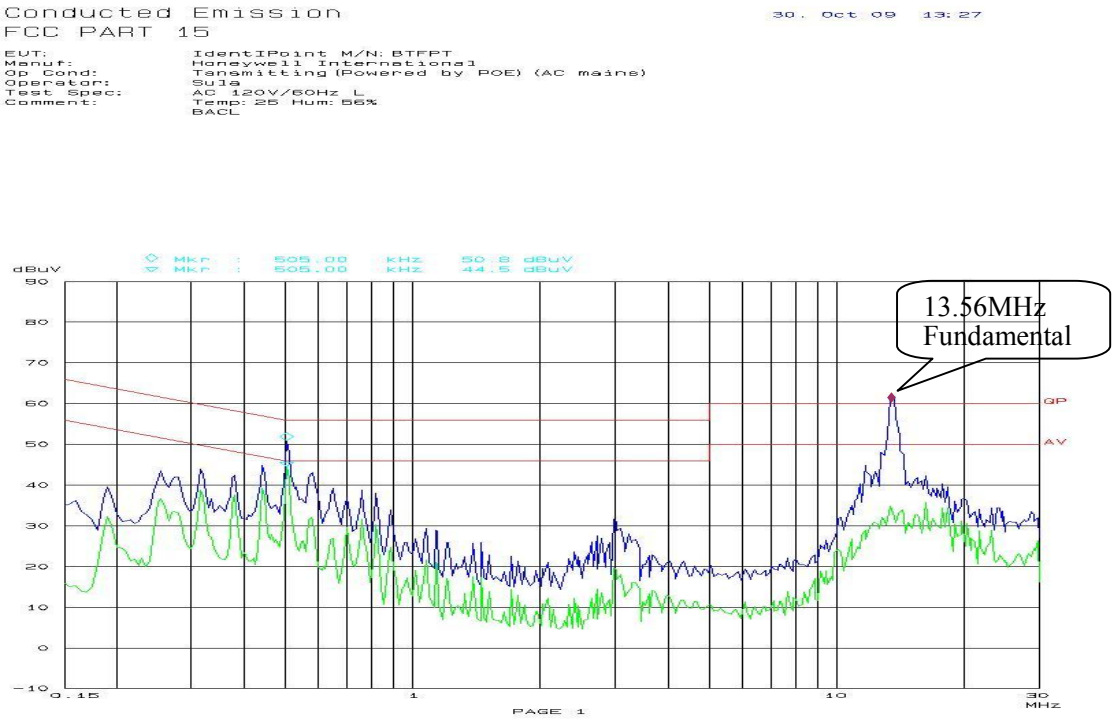


Neutral:

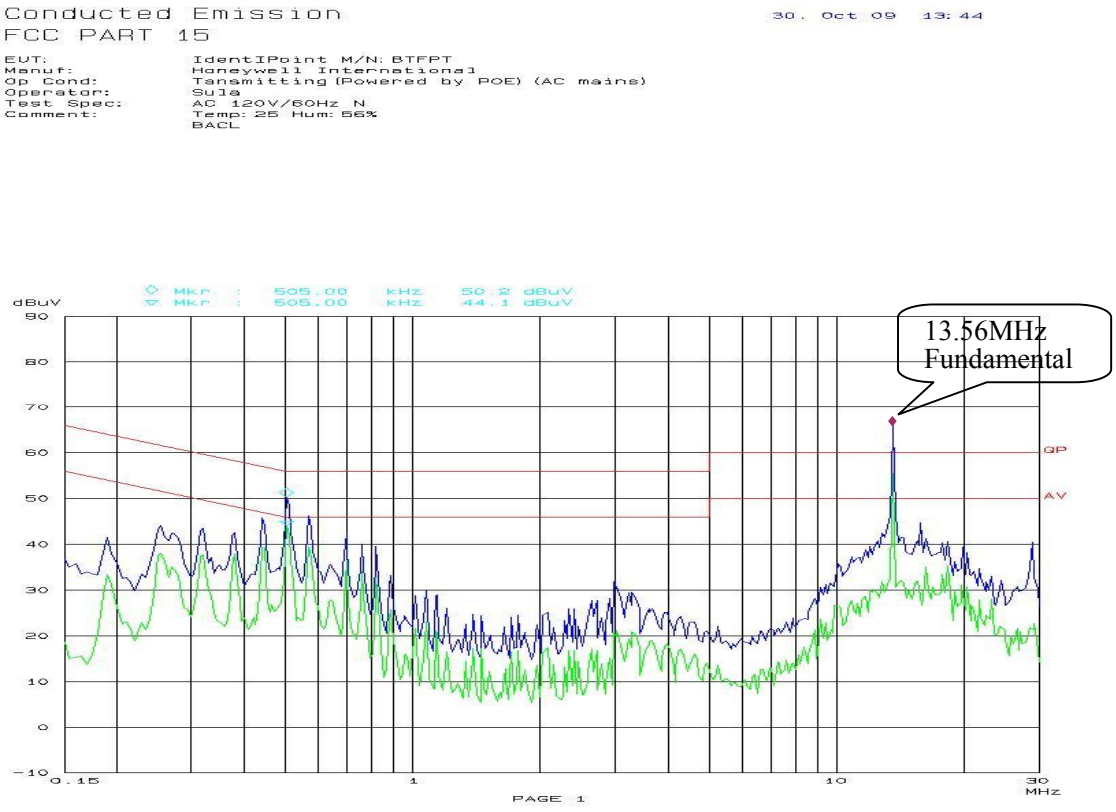


Transmitting (powered by POE) mode:

Line:



Neutral:



FCC §15.205 & §15.209 - RADIATED EMISSIONS TEST

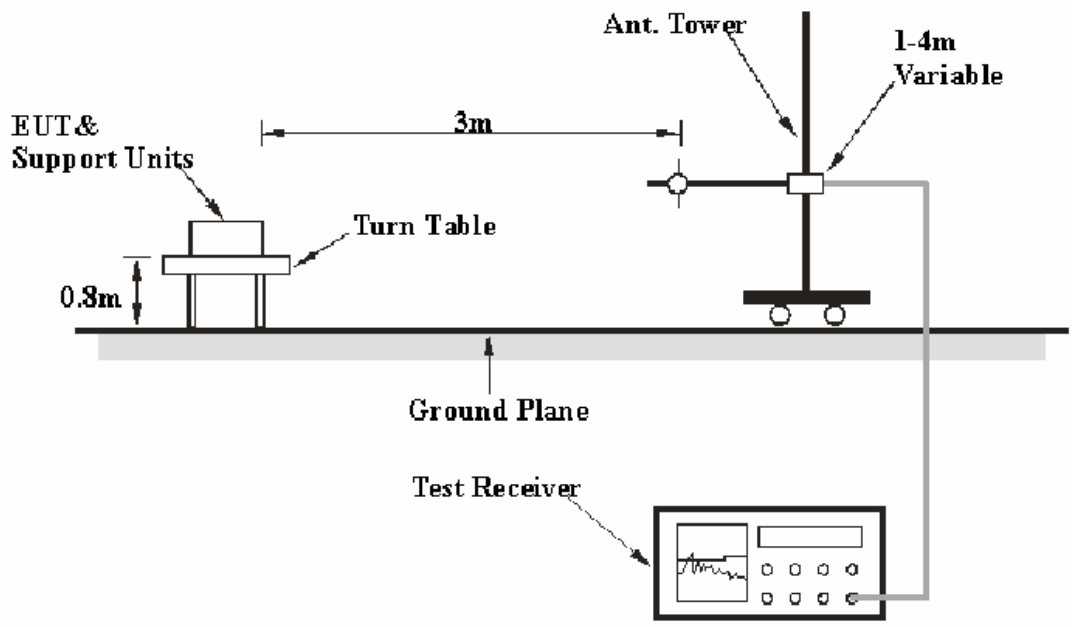
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Lab Corp. (ShenZhen) is ±4.0 dB.

The fundamental data was recorded in average detection mode: set the VBW AVE on, then record the data.

EUT Setup



The radiated emission tests were performed in the 3-meter chamber A test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part Subpart C limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

According to FCC Rules, 47 CFR 15.33, the EUT emissions were investigated up to 1000 MHz.

During the radiated emission test, the EMI test Receiver was set with the following configurations:

Frequency Range	***RBW***	***Video B/W***
30 – 1000 MHz	100 kHz	300 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447D	2944A09795	2008-11-15	2009-11-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2009-10-16	2010-10-16
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2009-05-05	2010-05-04
HP	Amplifier	8449B	3008A00277	2009-09-12	2010-09-11
Sunol Sciences	Horn Antenna	DRH-118	A052604	2009-05-05	2010-05-04
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2009-07-08	2010-07-07

*** Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Cord. Amp. = Meter Reading + Antenna Loss+ Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Limit - Cord. Amp.

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 with the worst margin reading of:

Below 1GHz:

2.3 dB at **154.755000 MHz** in the **Vertical** polarization, powered by adapter
2.8 dB at **375.924500 MHz** in the **Horizontal** polarization, powered by POE

Above 1GHz:

23.48 dB at **1026.0 MHz** in the **Vertical** polarization, powered by adapter
20.29 dB at **1044.0 MHz** in the **Vertical** polarization, powered by POE

Test Data

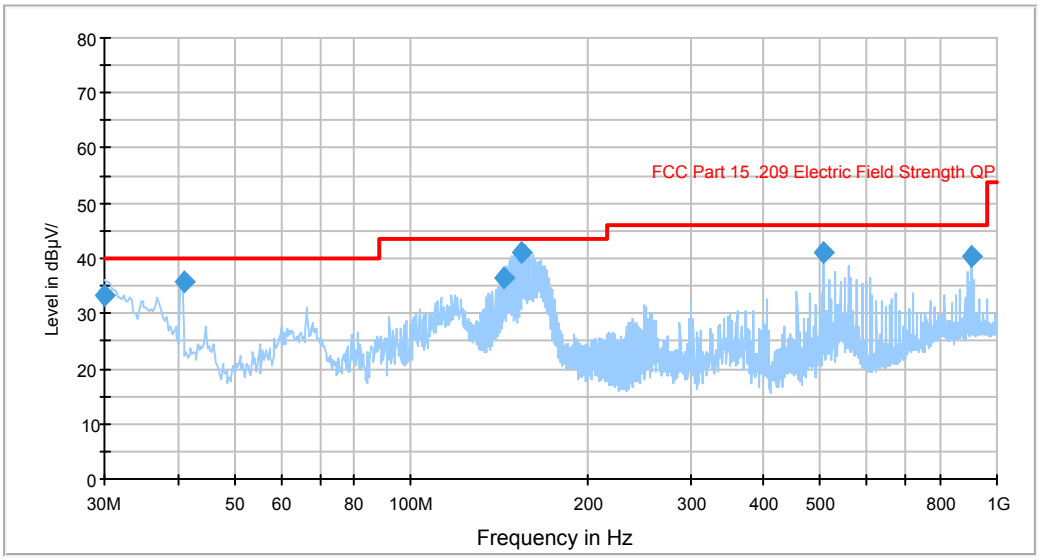
Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

The testing was performed by Sula Huang on 2009-10-22 to 2009-11-03.

Test mode: Transmitting (powered by adapter)

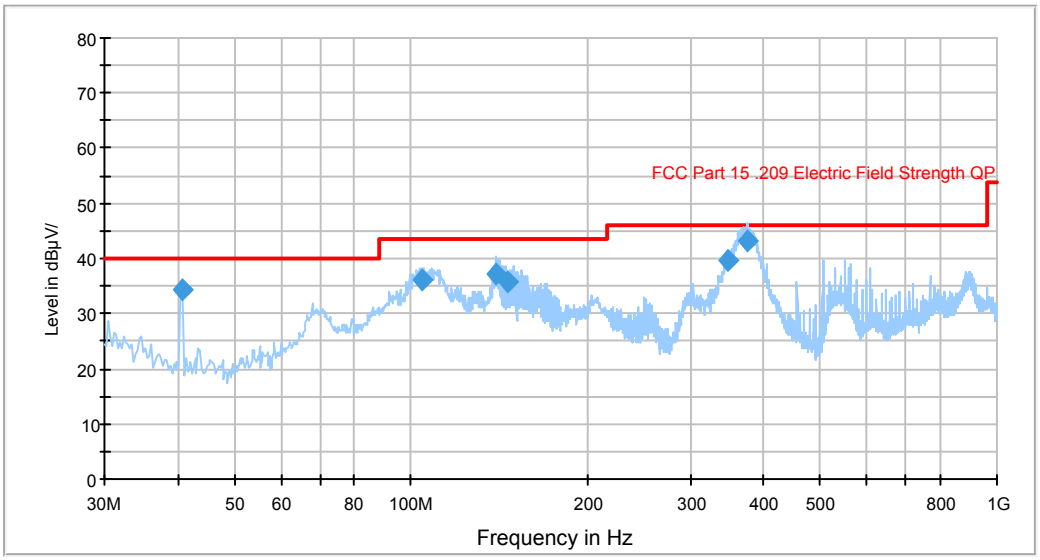
Below 1GHz:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
154.755000	41.2	115.0	V	256.0	-15.3	43.5	2.3*
40.919750	35.9	131.0	V	196.0	-13.9	40.0	4.1
506.676250	41.0	99.0	V	342.0	-10.2	46.0	5.0
907.117500	40.5	281.0	H	12.0	0.5	46.0	5.5
30.039625	33.2	100.0	V	315.0	-5.9	40.0	6.8
144.537500	36.6	217.0	H	100.0	-14.9	43.5	6.9

Note: * Within measurement uncertainty.

Test mode: Transmitting (powered by POE)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
375.924500	43.2	100.0	H	317.0	-12.8	46.0	2.8*
40.696500	34.4	117.0	V	262.0	-13.7	40.0	5.6
139.422500	37.3	195.0	H	205.0	-14.4	43.5	6.2
348.049500	39.7	100.0	H	300.0	-13.4	46.0	6.3
104.831250	36.2	278.0	H	166.0	-16.0	43.5	7.3
145.816000	35.8	210.0	H	249.0	-15.0	43.5	7.7

Note: * Within measurement uncertainty.

The EUT is powered by POE, and POE is powered by AC mains.

Above 1GHz:

Indicated		Detector (PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part 15.225/15.209			
Frequency (MHz)	Receiver Reading (dBµV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Comment
Transmitting (powered by adapter)												
1026.0	34.82	AV	356	1.23	V	23.6	3.48	31.38	30.52	54	23.48	spurious
1004.0	34.81	AV	181	1.20	H	23.6	3.48	31.38	30.51	54	23.49	spurious
1026.0	50.08	PK	356	1.23	V	23.6	3.48	31.38	45.78	74	28.22	spurious
1004.0	49.23	PK	181	1.20	H	23.6	3.48	31.38	44.93	74	29.07	spurious
Transmitting (powered by POE)												
1044.0	37.99	AV	357	1.25	V	23.6	3.50	31.38	33.71	54	20.29	spurious
1154.0	37.31	AV	360	1.30	V	23.6	3.90	31.58	33.23	54	20.77	spurious
1040.0	35.48	AV	300	1.35	H	23.6	3.50	31.38	31.20	54	22.80	spurious
1166.0	35.15	AV	245	1.42	H	23.6	3.92	31.58	31.09	54	22.91	spurious
1154.0	52.71	PK	360	1.30	V	23.6	3.90	31.58	48.63	74	25.37	spurious
1044.0	52.86	PK	357	1.25	V	23.6	3.50	31.38	48.58	74	25.42	spurious
1040.0	50.97	PK	300	1.35	H	23.6	3.50	31.38	46.69	74	27.31	spurious
1166.0	50.54	PK	245	1.42	H	23.6	3.92	31.58	46.48	74	27.52	spurious

FCC §15.225(a) (b) (c) & §15.31(f) – FIELD STRENGTH OF RADIATED EMISSIONS

Applicable Standard

As per FCC Part 15.225

(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.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447E	1937A01046	2009-08-02	2010-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2008-11-07	2009-11-06
ETS	Passive Loop Antenna	6512	00029604	2009-03-04	2010-03-04

*** Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

EUT Setup

The field strength of radiated emissions tests were performed in the 3-meter chamber A test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part Subpart C limits.

Test Data

Environmental Conditions

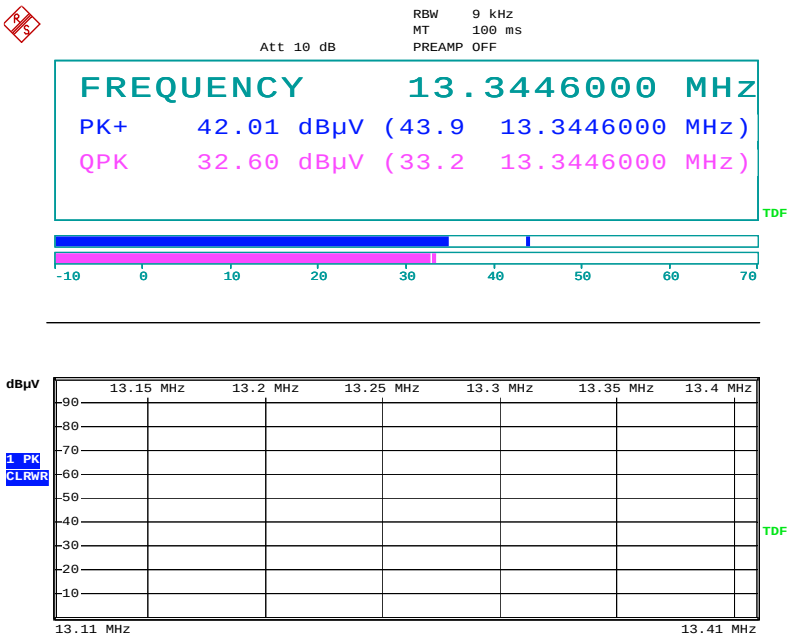
Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

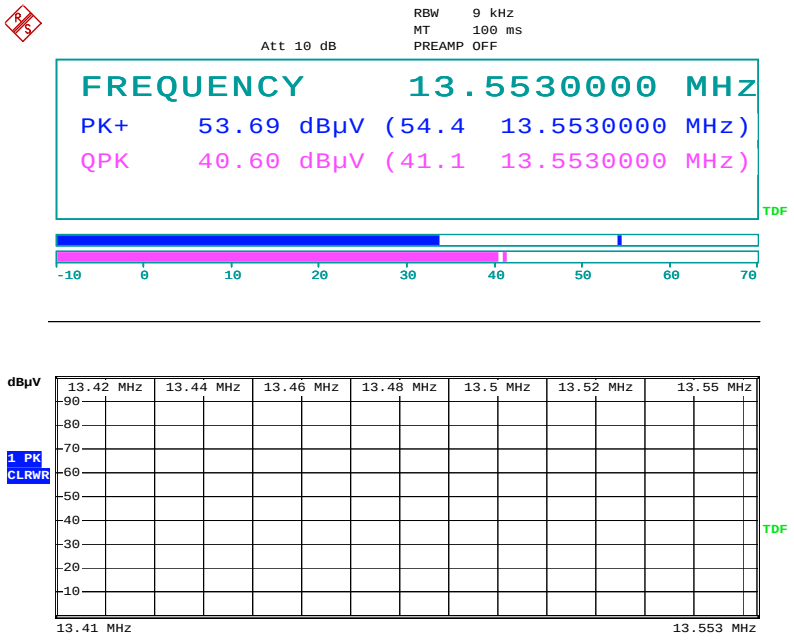
The testing was performed by Sula Huang on 2009-10-22.

Test Result: Pass

Test Mode: Transmitting (powered by adapter)

Indicated			Table Angle Degree	Antenna Height (m)	Detector PK/QP/AV	Correction Factor			Cord. Amp. (dBµV/m) @ 3m	FCC Part 15.225/209	
Frequency Range (MHz)	Mark Point (MHz)	Reading (dBµV/m) @3m				Ant. Factor (dB)	Cable Loss (dB)	Pre-Amp. Gain (dB)		Limit (dBµV/m) @3m	Result
13.110-13.410	13.345	0.92	182	1.32	QP	32.1	0.20	0.0	33.20	80.5	Pass
13.410-13.553	13.553	8.81	180	1.31	QP	32.1	0.20	0.0	41.10	90.5	Pass
13.553-13.567	13.560	24.6	181	1.32	QP	32.1	0.20	0.0	56.90	124	Pass
13.567-13.710	13.567	12.22	180	1.30	QP	32.1	0.20	0.0	44.50	90.5	Pass
13.710-14.010	13.773	4.13	182	1.32	QP	32.1	0.20	0.0	36.40	80.5	Pass





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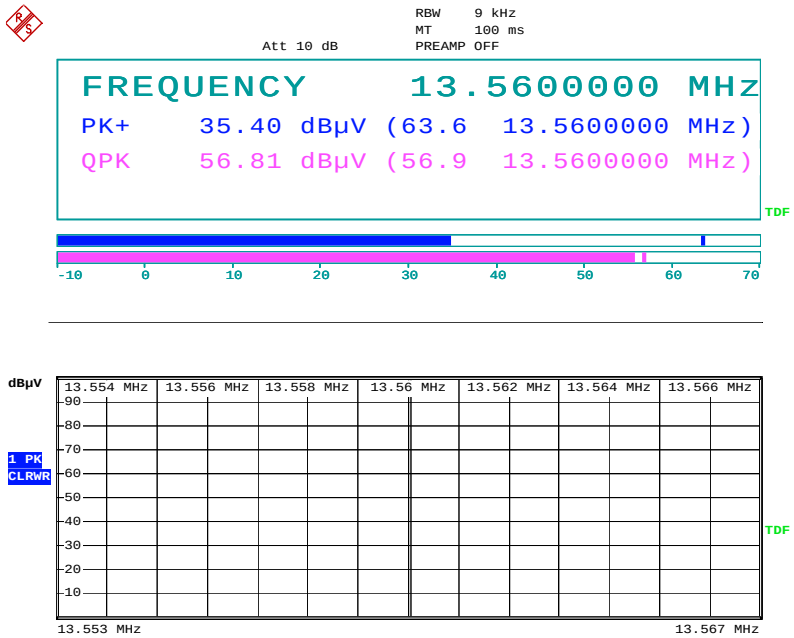

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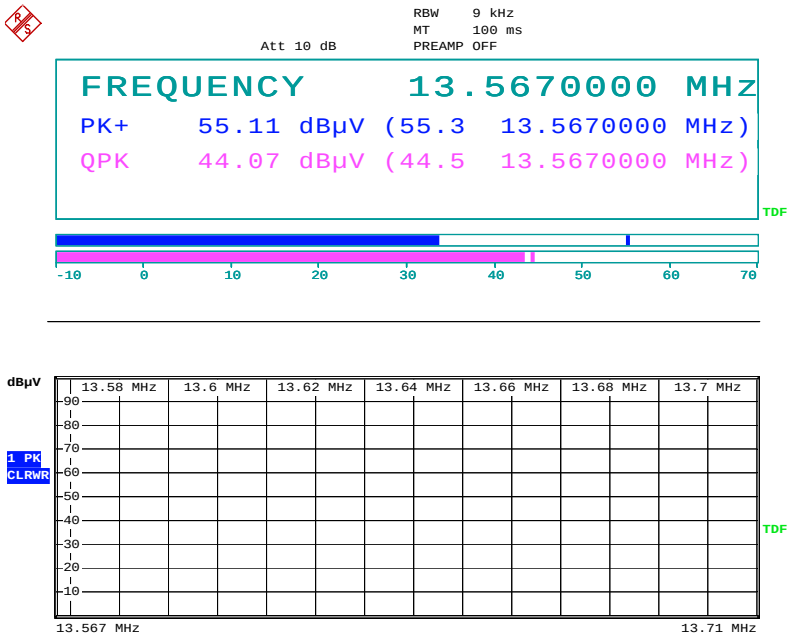

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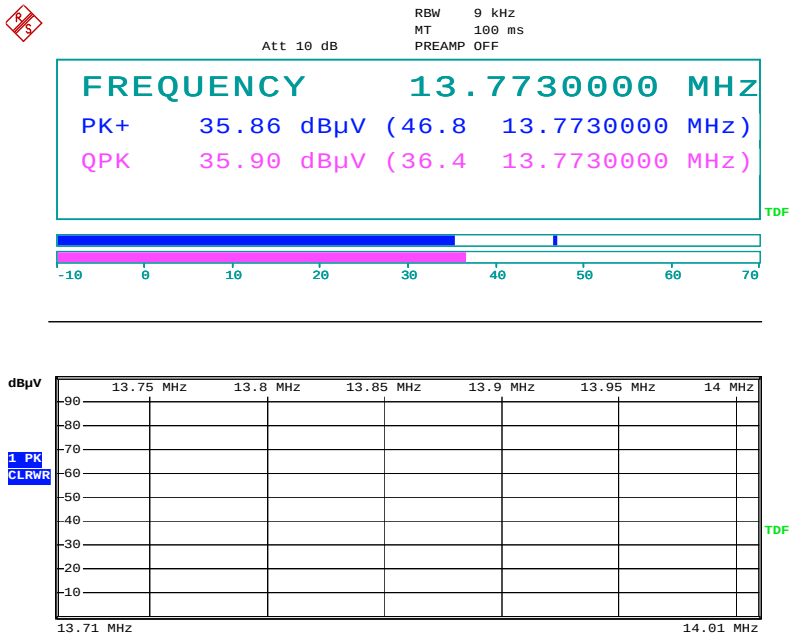

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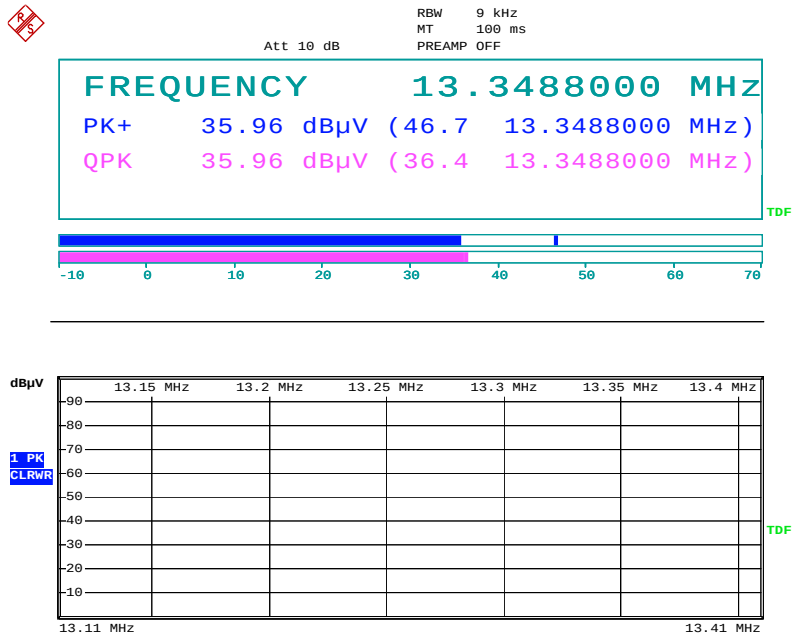
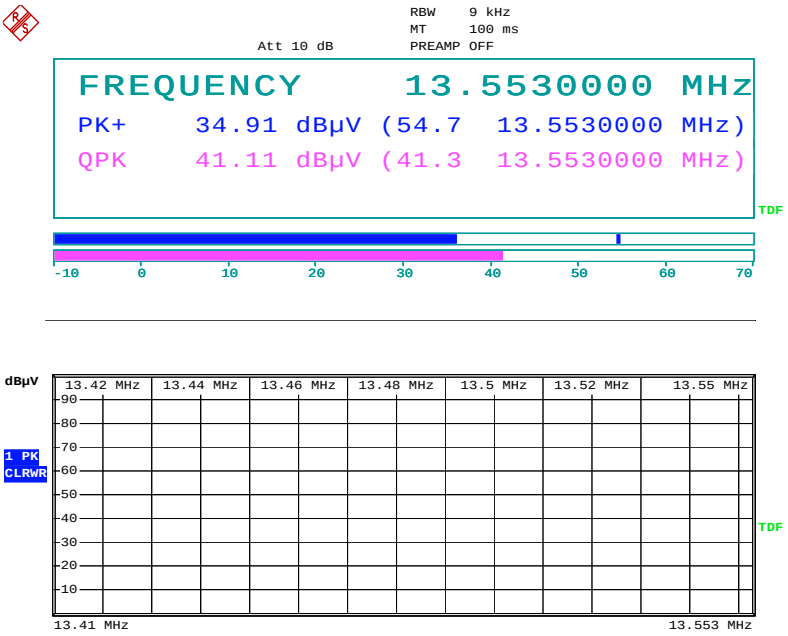
Test Mode: Transmitting (powered by POE)

Indicated			Table Angle Degree	Antenna Height (m)	Detector PK/QP/AV	Correction Factor			Cord. Amp. (dBµV/m) @ 3m	FCC Part 15.225/209	
Frequency Range (MHz)	Mark Point (MHz)	Reading (dBµV/m) @3m				Ant. Factor (dB)	Cable Loss (dB)	Pre-Amp. Gain (dB)		Limit (dBµV/m) @3m	Result
13.110-13.410	13.349	4.11	180	1.31	QP	32.1	0.20	0.0	36.40	80.5	Pass
13.410-13.553	13.553	9.03	181	1.30	QP	32.1	0.20	0.0	41.30	90.5	Pass
13.553-13.567	13.560	24.7	182	1.31	QP	32.1	0.20	0.0	57.00	124	Pass
13.567-13.710	13.567	12.31	183	1.32	QP	32.1	0.20	0.0	44.60	90.5	Pass
13.710-14.010	13.773	4.22	180	1.30	QP	32.1	0.20	0.0	36.50	80.5	Pass





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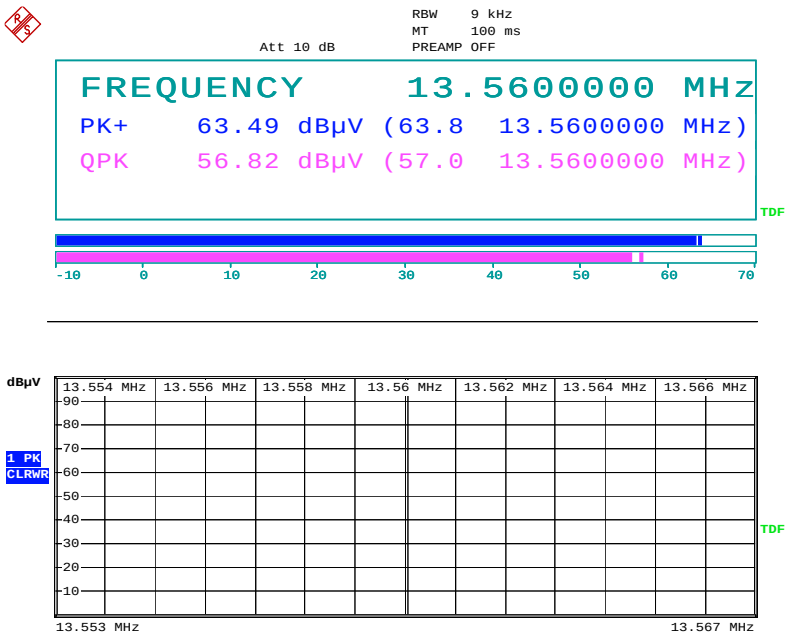

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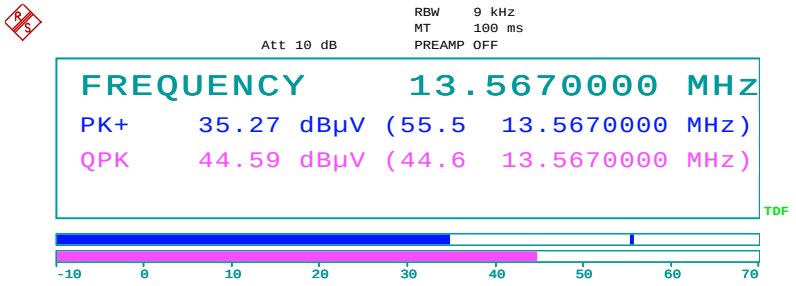

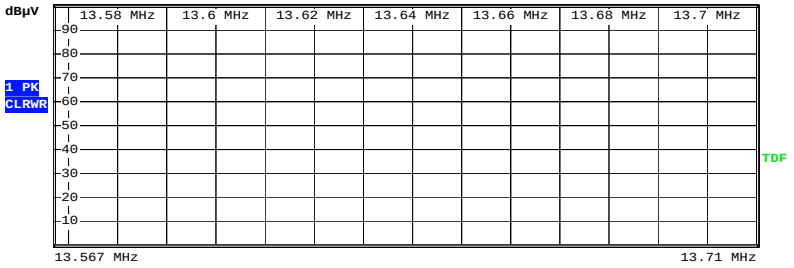

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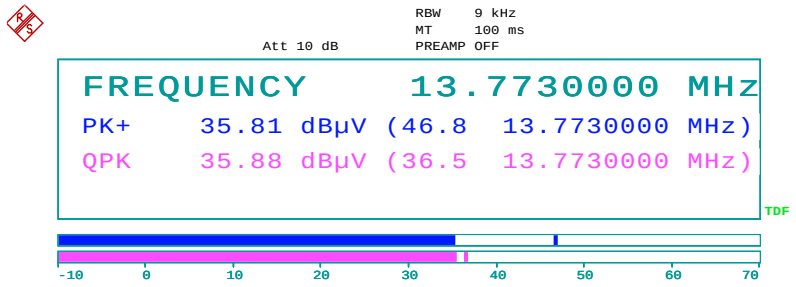

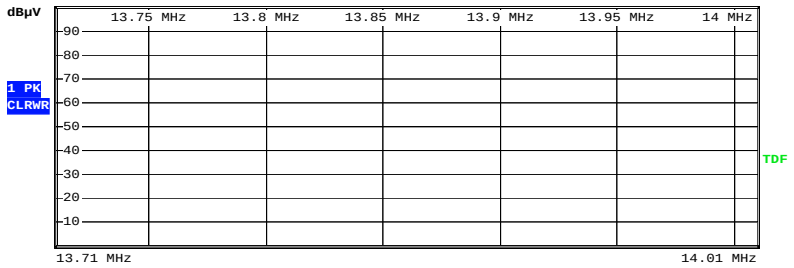

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FCC §15.225(d) §15.209 & §15.31(f) - OUT OF BAND EMISSION

Applicable Standard

As per FCC Part 15.225(d) §15.31(f) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447E	1937A01046	2009-08-02	2010-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2008-11-07	2009-11-06
ETS	Passive Loop Antenna	6512	00029604	2009-03-04	2010-03-04

*** Statement of Traceability:** Bay Area Compliance Lab Corp. (Shenzhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

EUT Setup

The out of band emission tests were performed in the 3-meter chamber A test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part Subpart C limits.

Test Data

Environmental Conditions

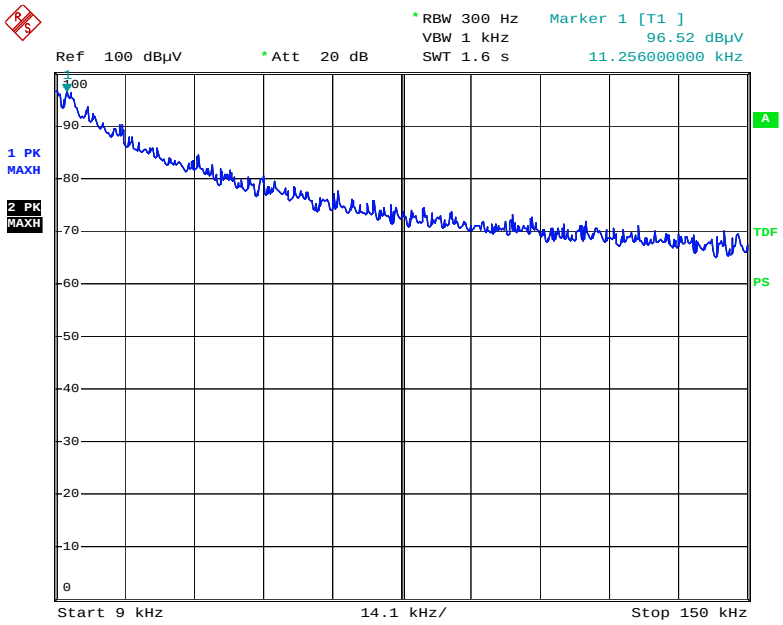
Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

The testing was performed by Sula Huang on 2009-10-22.

Test Mode: Transmitting (powered by adapter)

Indicated		Table Angle Degree	Ant. Height (m)	Detector PK/QP/AV	Correction Factor			Cord. Amp. (dBµV/m) @3m	FCC Part 15.225	
Frequency (MHz)	Reading (dBµV/m) @ 3m				Ant. Factor (dB)	Cable Loss (dB)	Pre-Amp. Gain (dB)		Limit (dBµV/m) @3m	Result
0.011	8.67	182	1.32	PK	87.8	0.05	0.0	96.52	126.78	Pass
0.150	9.29	180	1.31	PK	63.5	0.06	0.0	72.85	104.08	Pass
16.154	11.31	183	1.30	PK	31.9	0.20	0.0	43.41	69.50	Pass
29.020	12.92	181	1.31	PK	30.3	0.28	0.0	43.50	69.50	Pass

Test Result: Pass



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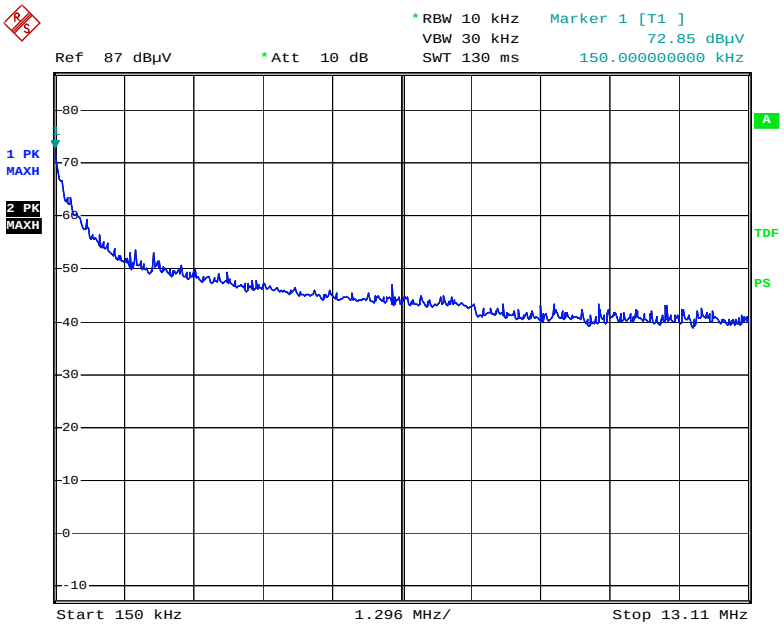

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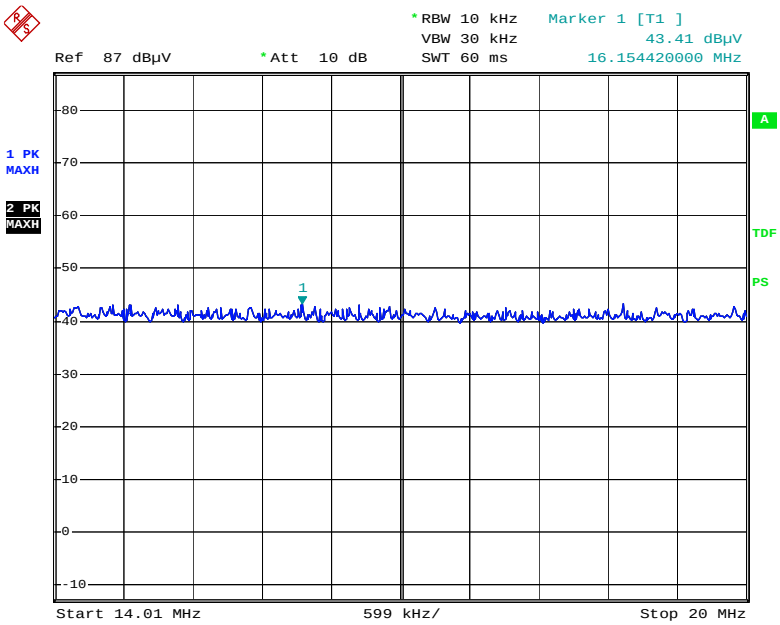

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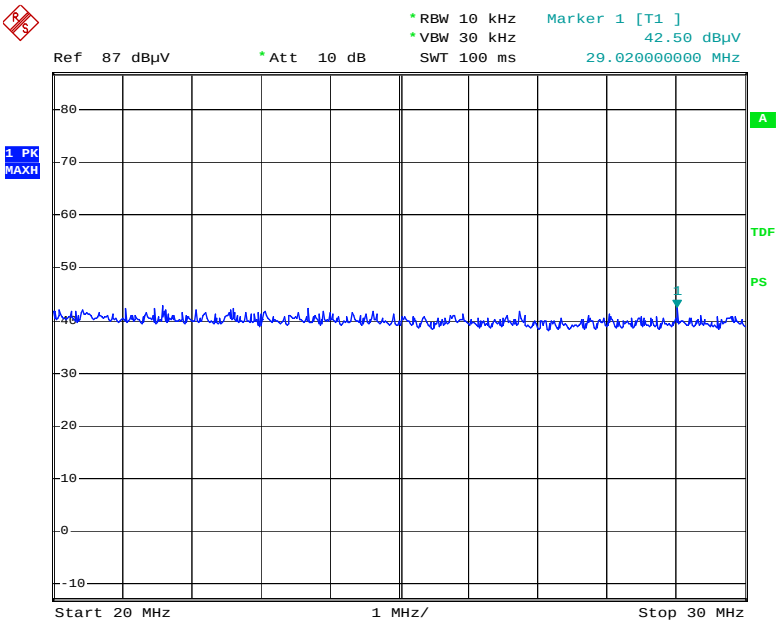

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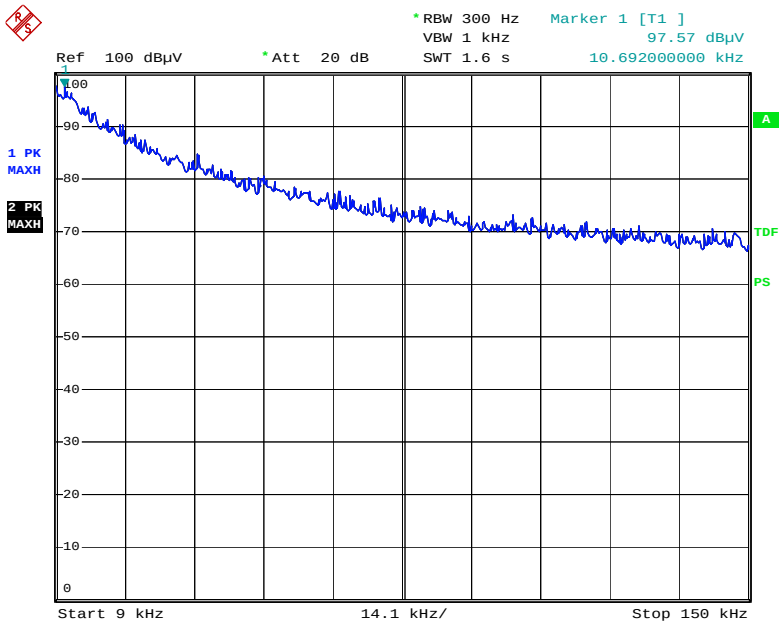
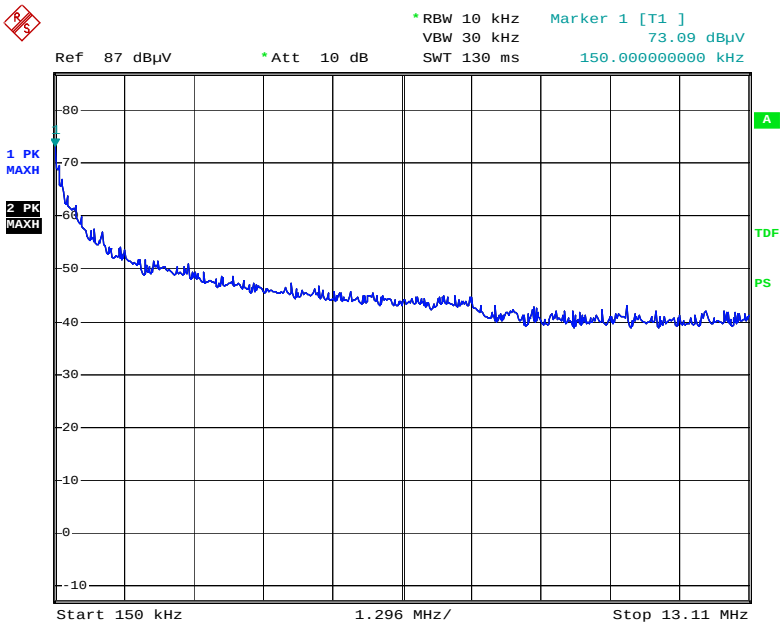
Test Mode: Transmitting (powered by POE)

Indicated		Table Angle Degree	Ant. Height (m)	Detector PK/QP/AV	Correction Factor			Cord. Amp. (dBµV/m) @3m	FCC Part 15.225	
Frequency (MHz)	Reading (dBµV/m) @ 3m				Ant. Factor (dB)	Cable Loss (dB)	Pre-Amp. Gain (dB)		Limit (dBµV/m) @3m	Result
0.010	9.72	180	1.31	PK	87.8	0.05	0.0	97.57	127.60	Pass
0.150	9.53	182	1.30	PK	63.5	0.06	0.0	73.09	104.08	Pass
15.759	11.85	180	1.32	PK	31.9	0.20	0.0	43.95	69.50	Pass
22.100	11.70	183	1.31	PK	31.2	0.25	0.0	43.15	69.50	Pass

Test Result: Pass





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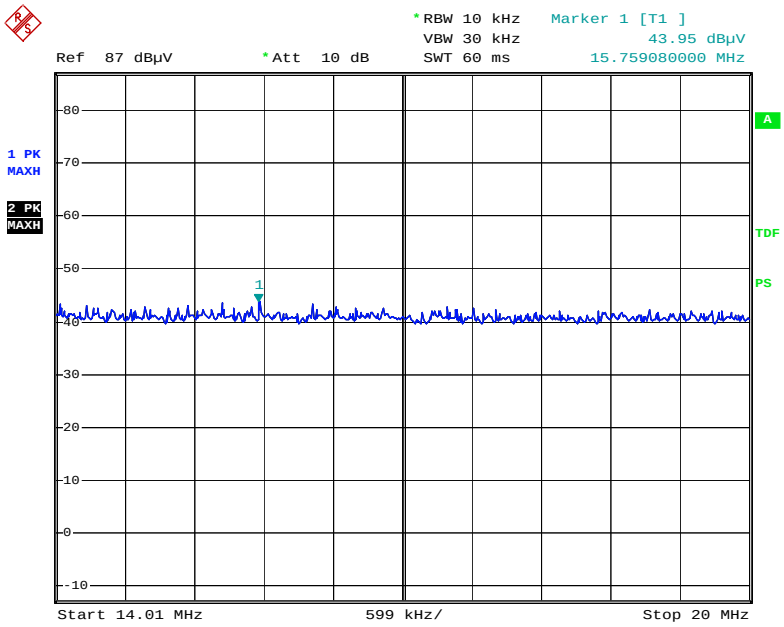

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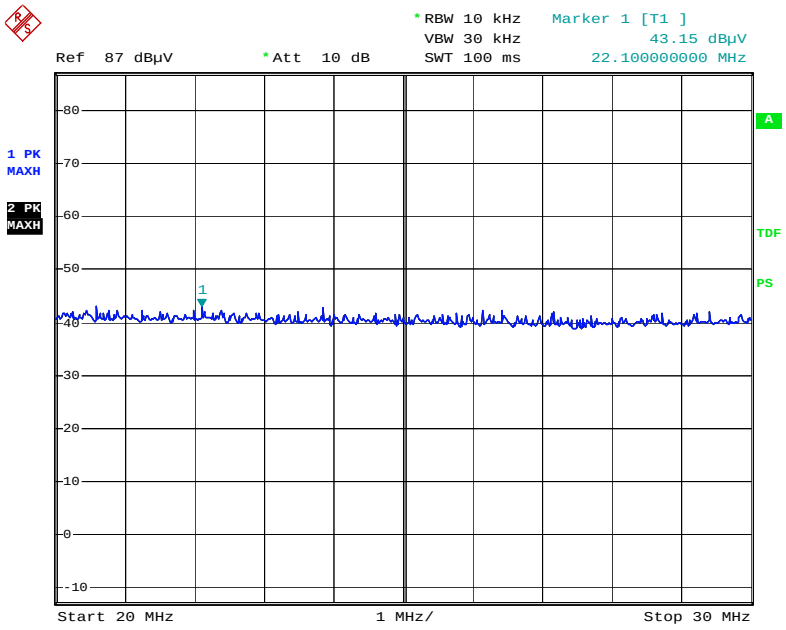

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FCC §15.225(e) - FREQUENCY STABILITY

Applicable Standard

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2008-11-07	2009-11-06
WUHUAN	Temperature & Humidity Chamber	HTP205	20021115	2009-05-09	2010-05-09

*** Statement of Traceability:** Bay Area Compliance Lab Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to PC, than to an external AC power supply and loop antenna was connected to a f Spectrum Analyzer. The EUT was placed inside the temperature chamber.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Spectrum Analyzer.

Frequency Stability vs. Voltage: An external variable AC power supply Source. The voltage was set to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the end point. The output frequency was recorded for each voltage.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

The testing was performed by Sula Huang on 2009-10-22.

Test Result: Pass

Test Mode: Transmitting (powered by adapter)

Test Environment		Measured Frequency (MHz)	Frequency Error	Part 15.225 Limit	Result
Power Supply	Temperature (^{O}C)				
AC 120 V	-20	13.56047	0.0034%	±0.01%	Pass
	-10	13.56046	0.0027%	±0.01%	Pass
	0	13.56047	0.0034%	±0.01%	Pass
	10	13.56046	0.0027%	±0.01%	Pass
	20	13.56048	0.0035%	±0.01%	Pass
	30	13.56049	0.0036%	±0.01%	Pass
	40	13.56048	0.0035%	±0.01%	Pass
	50	13.56048	0.0035%	±0.01%	Pass
Max. = AC 138 V	20	13.56049	0.0036%	±0.01%	Pass
Min. = AC 102 V	20	13.56047	0.0034%	±0.01%	Pass

Test Mode: Transmitting (powered by POE)

Test Environment		Measured Frequency (MHz)	Frequency Error	Part 15.225 Limit	Result
Power Supply	Temperature (^{O}C)				
AC 120 V	-20	13.56047	0.0034%	±0.01%	Pass
	-10	13.56046	0.0027%	±0.01%	Pass
	0	13.56048	0.0035%	±0.01%	Pass
	10	13.56047	0.0034%	±0.01%	Pass
	20	13.56046	0.0027%	±0.01%	Pass
	30	13.56049	0.0036%	±0.01%	Pass
	40	13.56048	0.0035%	±0.01%	Pass
	50	13.56047	0.0034%	±0.01%	Pass
Max. = AC 138 V	20	13.56049	0.0036%	±0.01%	Pass
Min. = AC 102 V	20	13.56047	0.0034%	±0.01%	Pass

Note: The EUT is powered by POE, and POE is powered by AC mains.

FCC §15.215(c) – 20 dB BANDWIDTH TESTING

Requirement

Per 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2008-10-16	2009-10-16
HP	Amplifier	8447E	1937A01046	2008-11-15	2009-11-15
Sunol Sciences	Bilog Antenna	JB1	A040904-2	2009-05-05	2010-05-04

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

Test Data

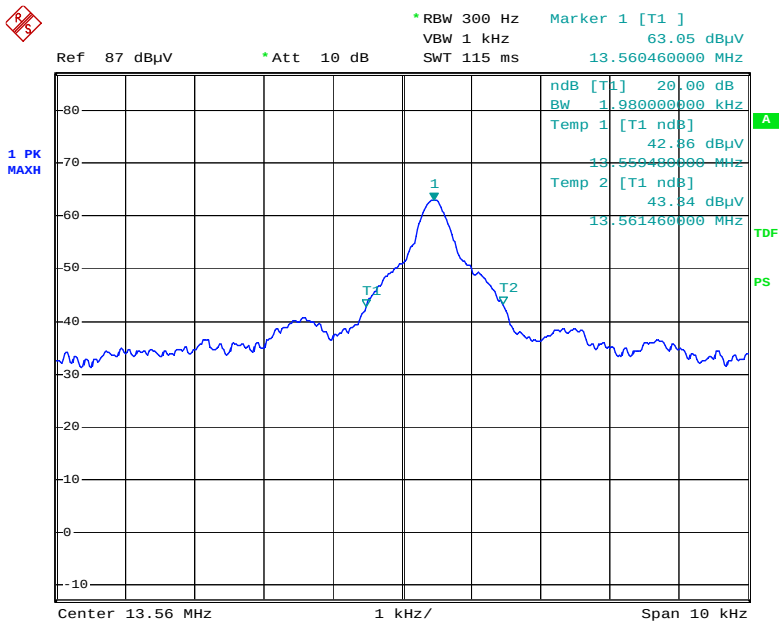
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Sula Huang on 2009-10-22.

Test Mode: Transmitting

20 dB Occupied Bandwidth



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DECALARATION LETTER

Honeywell

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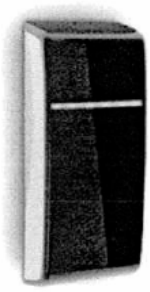
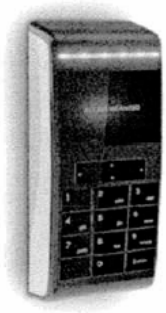
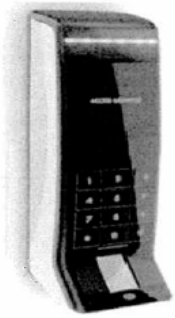
Differences between BTBAS, BTSTD and BTFPT

There are three models exist under IdentIPoint:
BTBAS – Basic model, IP65 waterproof
BTSTD – Standard model, with keypad and display
BTFPT – Fingerprint model, with keypad, display and fingerprint sensor.

Here is a summary of the differences between the 3 models of IdentIPoint

	BTBAS	BTSTD	BTFPT
Appearance			
LCD	Not present	128 x 64 ASTN	128 x 64 ASTN
LED indicator position	Mid upper half	Above LCD	Above LCD
Keypad	Not present	3 x 4	3 x 4
Fingerprint circuit	Not present	Not present	Capacitive Fingerprint detection with Infrared finger sensing
Board configuration	Top board + Bottom board	Top board + Bottom board	Top board + Bottom board + Fingerprint board

All three models are built under the same circuitry and carry the same software.

Sincerely,
Gregory Turner
Director of Global Offerings

******* END OF REPORT *******