

FCC PART 15 B
MEASUREMENT AND TEST REPORT

For

Grandstream Networks, Inc.

5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park,

Shenzhen, Guangdong, China

FCC ID: YZZGXV3662

Report Type: Original Report	Product Type: IP Dome Camera
Test Engineer: Eric Lee	<i>Eric Lee</i>
Report Number: RSZ10112603	
Report Date: 2011-01-06	
Reviewed By: Lisa Zhu EMC Engineer	<i>Lisa Zhu</i>
Prepared By: Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008	

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP*, NIST, or any agency of the Federal Government.

* This report contains data that are not covered by the NVLAP accreditation and are marked with an asterisk "★" (Rev.2)

TABLE OF CONTENTS

GENERAL INFORMATION.....3
 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)3
 OBJECTIVE3
 RELATED SUBMITTAL(S)/GRANT(S).....3
 TEST FACILITY3

SYSTEM TEST CONFIGURATION.....5
 JUSTIFICATION5
 EUT EXERCISE SOFTWARE5
 EQUIPMENT MODIFICATIONS5
 HOST SYSTEM CONFIGURATION LIST AND DETAILS5
 LOCAL SUPPORT EQUIPMENT LIST AND DETAILS5
 EXTERNAL I/O CABLE.....6
 CONFIGURATION OF TEST SETUP6
 BLOCK DIAGRAM OF TEST SETUP7

SUMMARY OF TEST RESULTS9

FCC §15.107 – AC LINE CONDUCTED EMISSIONS.....10
 MEASUREMENT UNCERTAINTY10
 EUT SETUP10
 EMI TEST RECEIVER SETUP.....10
 TEST EQUIPMENT LIST AND DETAILS.....11
 TEST PROCEDURE11
 TEST RESULTS SUMMARY11
 TEST DATA11

FCC §15.109 - RADIATED SPURIOUS EMISSIONS20
 MEASUREMENT UNCERTAINTY20
 EUT SETUP.....20
 EMI TEST RECEIVER SETUP.....21
 TEST EQUIPMENT LIST AND DETAILS.....21
 TEST PROCEDURE21
 CORRECTED AMPLITUDE & MARGIN CALCULATION22
 TEST RESULTS SUMMARY22
 TEST DATA22

PRODUCT SIMILARITY DECLARATION LETTER.....29

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Grandstream Networks, Inc.*'s product, model number: *GXV3662_HDIR* (FCC ID: *YZZGXV3662*) or the "EUT" as referred to in this report is an *IP dome camera*, which measures approximately 15.5 cm (L) x 13.5 cm (W) x 12.1 cm (H). Input voltage: DC 12V adapter, the highest operating frequency is 296 MHz.

Adapter information: SWITCHING POWER SUPPLY

Manufacturer: Click

Model: CPS012A120100U

Input: 100-240 VAC 50/60Hz 0.4A

Output: DC 12V 1.0A

Note: the product IP dome camera, model GXV3662_HDIR& GXV3662_HD are electrically identical, the difference between them is whether they have IR LED light or not, the model GXV3662_HDIR has IR LED board on the camera lens, while the model GXV3662_HD hasn't IR LED board on the camera lens, which was explained in the declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 1011132 (Assigned by BACL, Shenzhen). The EUT was received on 2010-11-26.*

Objective

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

The objective of the manufacturer is to determine compliance with FCC Part 15B.

Related Submittal(s)/Grant(s)

N/A

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 December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

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).



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 manufacturer testing fashion.

EUT Exercise Software

N/A

Equipment Modifications

No modification was made to the unit tested.

Host System Configuration List and Details

Manufacturer	Device Name	Model	Serial Number	FCC ID
DELL	Motherboard	OWC297	CN-OWC297-70821-566-02BR	DOC
DELL	Power	NPS-250KB D	CN-0H2678-17972-56E8NBM	DOC
Seagate	Hard Disk	ST340014A	5JXK3NAD	DOC
DELL	3.5' Floppy	N/A	CN-0N8893-69802-54Q-02OZ	DOC
Lite-ON	CD-Rom	LTN-489S	N/A	DOC
Intel	CPU	Celeron D-2533	N/A	N/A
ProMOS	Memory	V826632K24SATG-C0	0525-K1933700	N/A
Intel	Ethernet	PRO 10/100 VE	N/A	DOC

Local Support Equipment List and Details

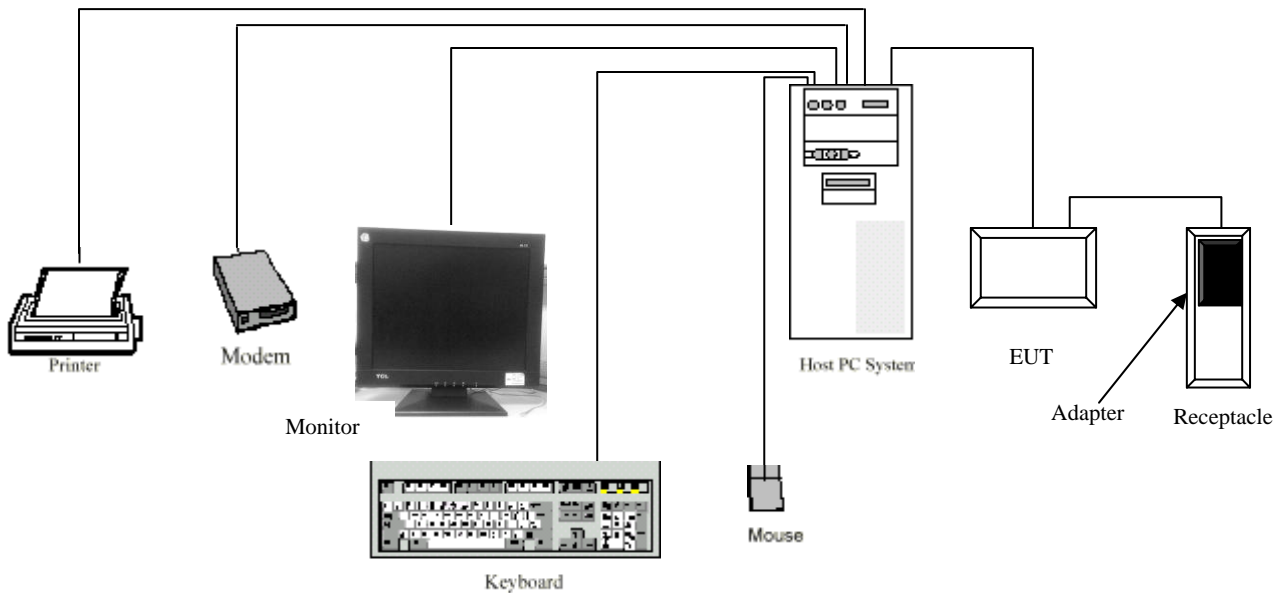
Manufacturer	Description	Model	Serial Number	FCC ID
DELL	PC	2#	N/A	DOC
DELL	Keyboard 2#	L100	CNORH656658907BL05DC	DOC
DELL	Mouse 2#	MOC5UO	G1900NKD	DOC
DELL	LCD 1#	E178WFPC	CN-OWY564-64180-7C4-2SQH	DOC
HP	Laser Jet5L	C3941A	JPTVOB2337	DOC
SAST	Modem	AEM-2100	0293	DOC
NETGEAR	Prosafe Switch with POE	FS108P	N/A	DOC

External I/O Cable

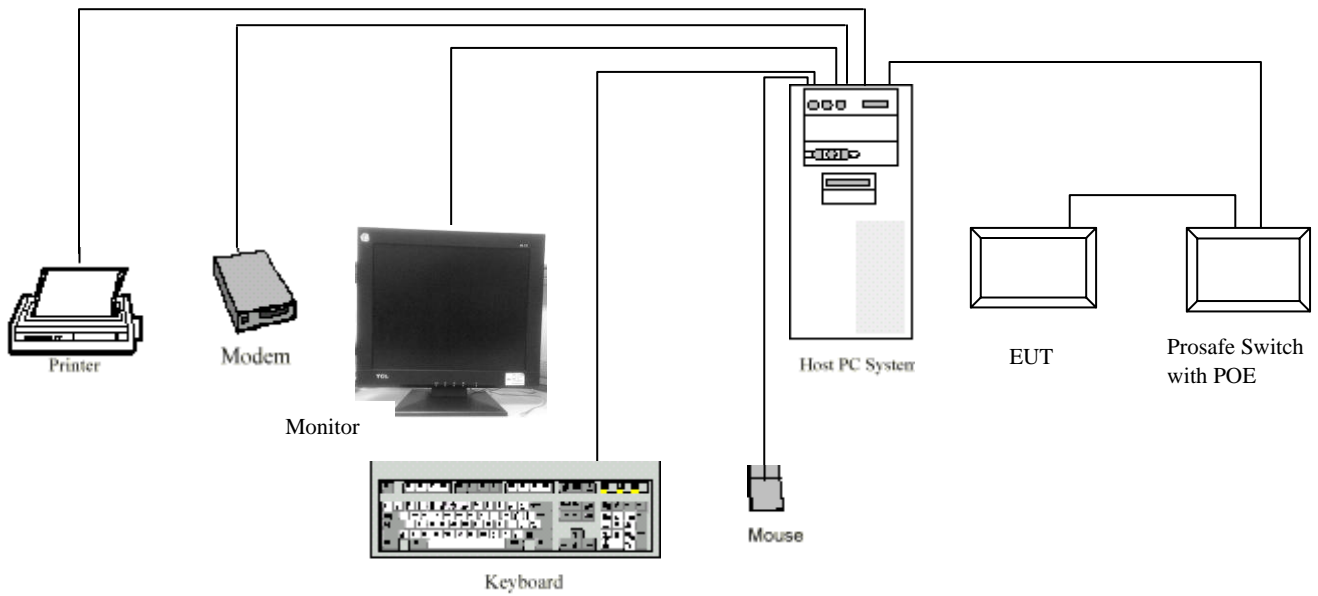
Cable Description	Length (m)	From/Port	To
Shielded Detachable K/B Cable	1.5	K/B Port/Host	K/B
Shielded Detachable Mouse Cable	1.5	Mouse Port/Host	Mouse
Shielded Detachable VGA Cable	1.5	VGA Port/Host	Monitor
Unshielded Detachable RJ45 Cable	1.5	RJ45 Port/Host	EUT
Unshielded Detachable AC Cable	1.2	Adapter	AC Mains
Unshielded Detachable DC Cable	2.5	EUT	Adapter
Shielded Detachable Printer Cable	1.2	Parallel Port/Host	Printer
Shielded Detachable Serial Cable	1.2	Serial Port/Host	Modem

Configuration of Test Setup

For AC/DC adapter power supply

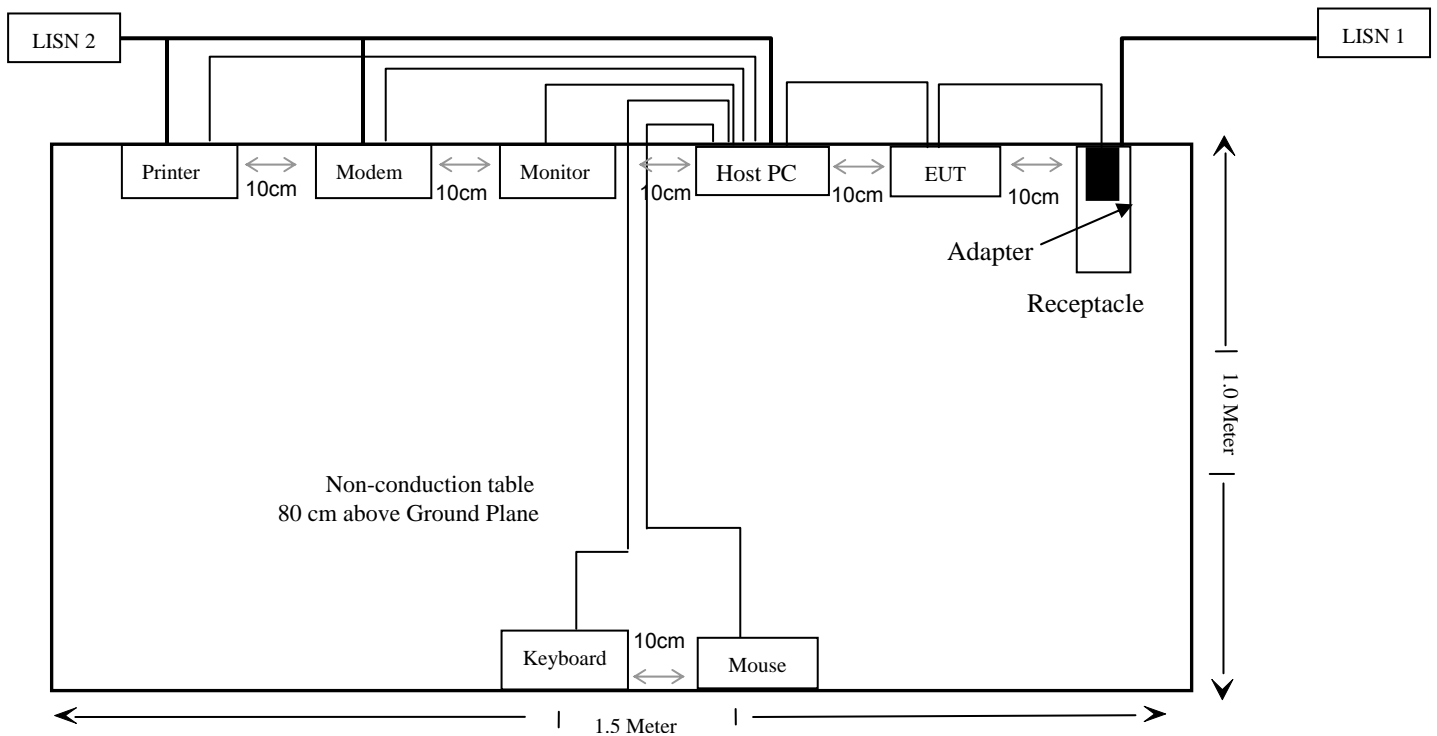


For POE power supply

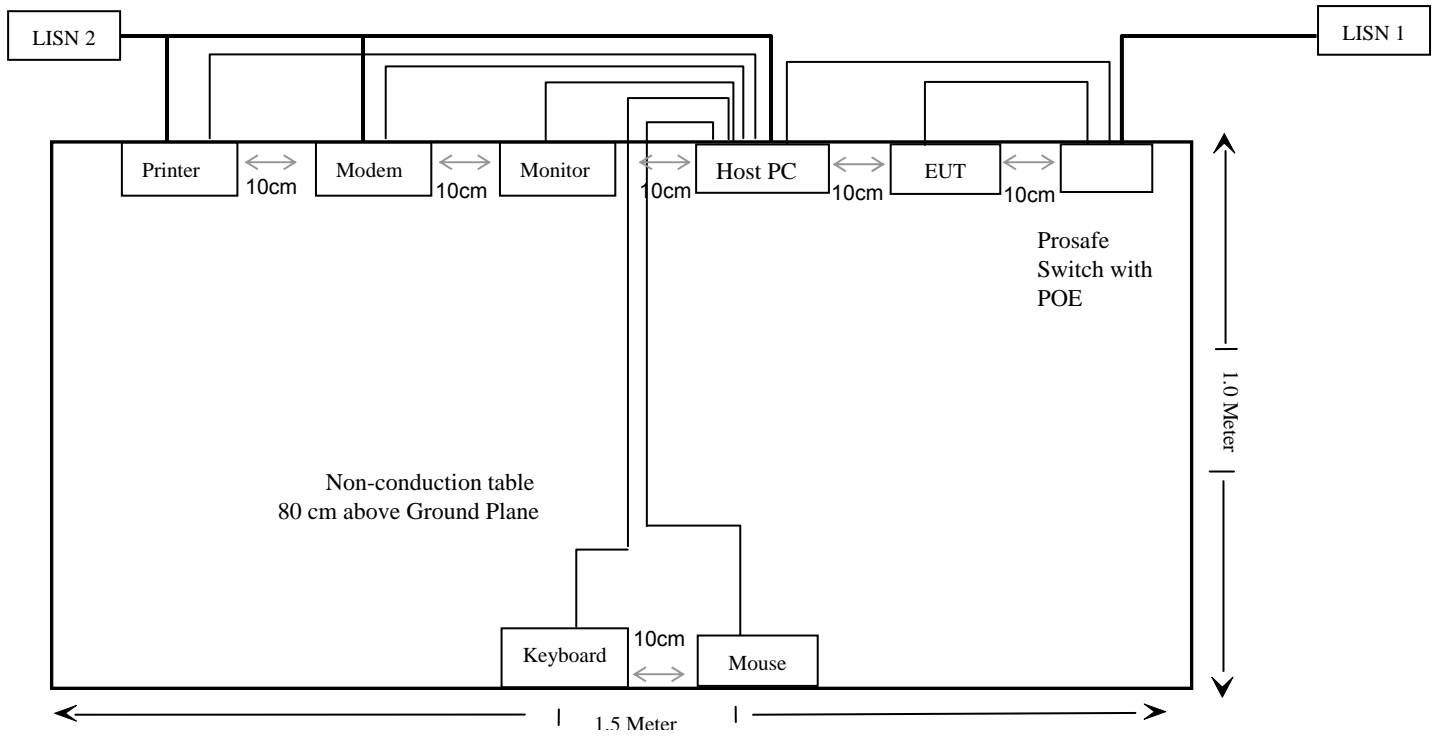


Block Diagram of Test Setup

For AC/DC adapter power supply



For POE power supply



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliance
§15.109	Radiated Spurious Emissions	Compliance

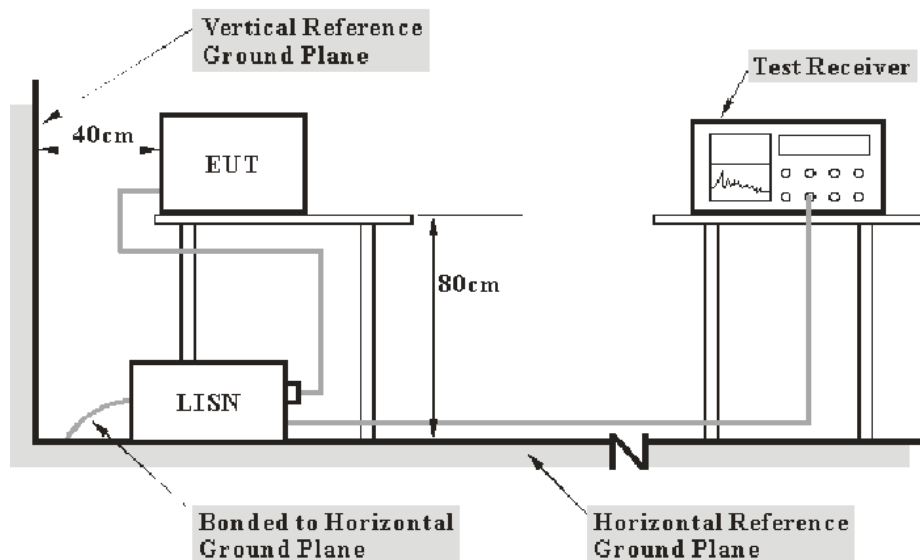
FCC §15.107 – AC LINE CONDUCTED EMISSIONS

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 Laboratories Corp (Shenzhen) is ± 2.4 dB. (k=2, 95% level of confidence)

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 C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.107, Class B limits.

The spacing between the peripherals was 10 cm.

For AC/DC adapter power supply, the adapter was connected to a 120 VAC/60 Hz power source. For POE power supply, the prosafe switch with POE 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:

<u>Frequency Range</u>	<u>IF B/W</u>
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	830245/006	2010-03-03	2011-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2010-03-09	2011-03-08
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12208	N/A	N/A

* **Statement of Traceability:** Bay Area Compliance Laboratory Corp. 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 first LISN; the other support equipments were connected to second LISN for AC/DC adapter power supply. EUT and host PC were connected to prosafe switch with POE prosafe switch with POE was connected to the first LISN.all the other relevant support equipments were connected to the second LISN for POE power supply mode.

Maximizing procedure was 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 15.107 Class B, with the worst margin reading of:

AC/DC adapter Power Supply

4.74 dB at 0.155 MHz in the **Line** conductor mode

POE Power Supply

4.76 dB at 2.880 MHz in the **Neutral** conductor mode

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

The testing was performed by Eric Lee on 2011-01-06

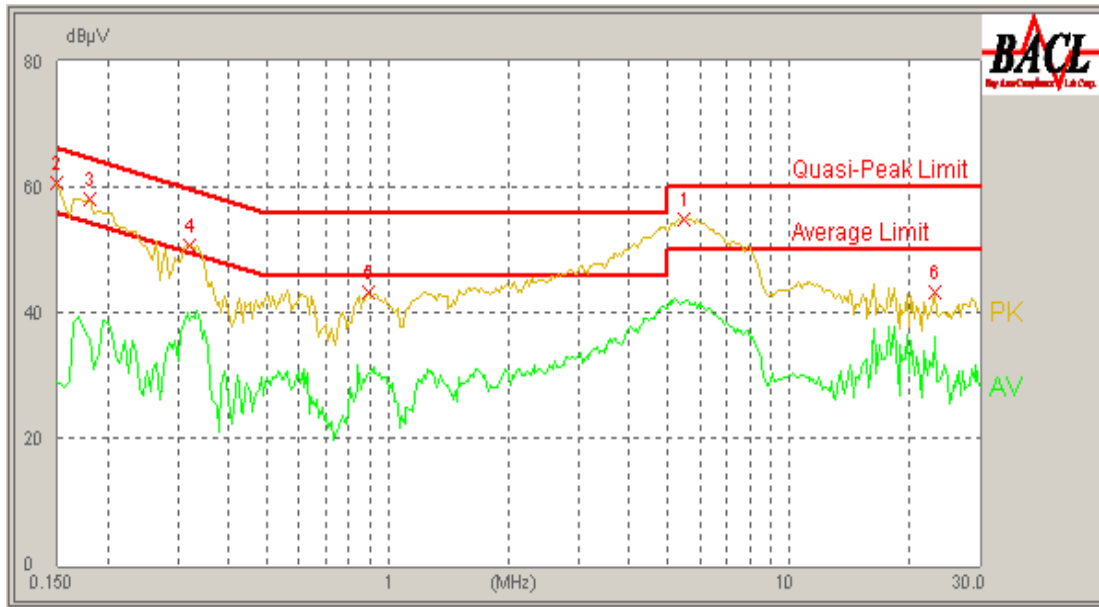
AC/DC adapter Power Supply

Test Mode: Running (GXV3662_HDIR)

AC 120V/ 60 Hz, Line

Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/Ave/QP)
5.390	10.10	37.07	50.00	12.93	Ave
0.150	10.10	52.59	66.00	13.41	QP
5.420	10.10	45.15	60.00	14.85	QP
0.190	10.10	49.07	64.86	15.79	QP
0.330	10.00	45.02	60.86	15.84	QP
0.330	10.00	30.79	50.86	20.07	Ave
0.900	10.20	35.37	56.00	20.63	QP
0.900	10.20	22.31	46.00	23.69	Ave
26.610	10.20	26.11	50.00	23.89	Ave
0.190	10.10	29.96	54.86	24.90	Ave
26.485	10.20	31.79	60.00	28.21	QP
0.150	10.10	27.69	56.00	28.31	Ave

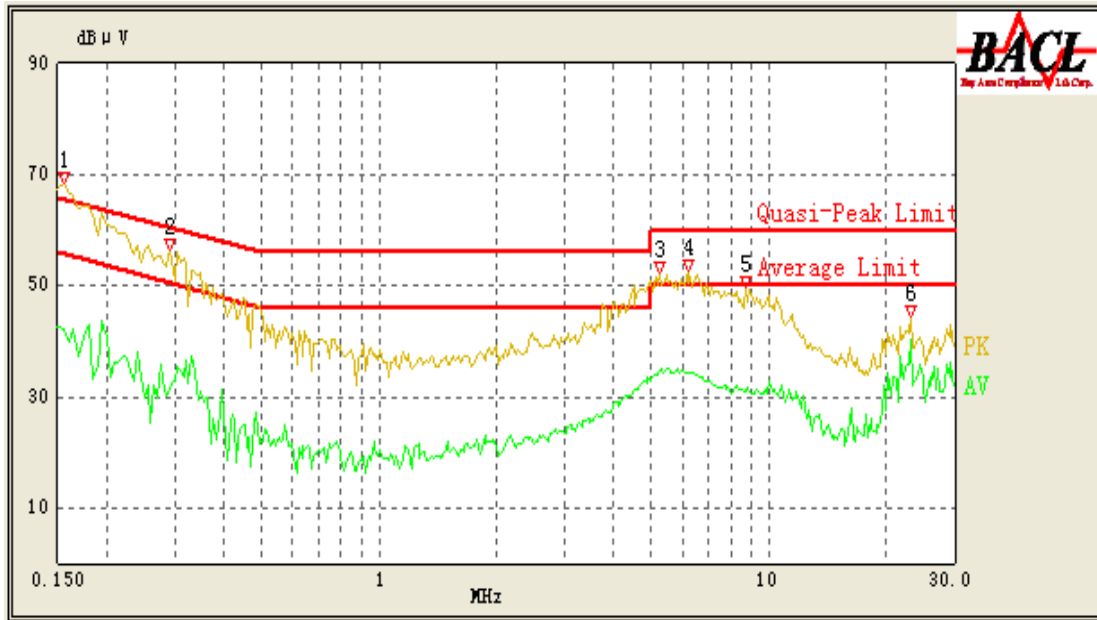
AC 120V/ 60 Hz, Neutral:



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/Ave/QP)
5.485	10.10	41.79	50.00	8.21	Ave
5.485	10.10	49.85	60.00	10.15	QP
0.320	10.00	38.79	51.14	12.35	Ave
0.320	10.00	48.66	61.14	12.48	QP
0.150	10.10	53.07	66.00	12.93	QP
23.130	10.20	36.37	50.00	13.63	Ave
0.180	10.10	49.77	65.14	15.37	QP
0.885	10.20	30.39	46.00	15.61	Ave
0.895	10.20	39.76	56.00	16.24	QP
0.180	10.10	36.15	55.14	18.99	Ave
23.130	10.20	40.86	60.00	19.14	QP
0.150	10.10	29.40	56.00	26.60	Ave

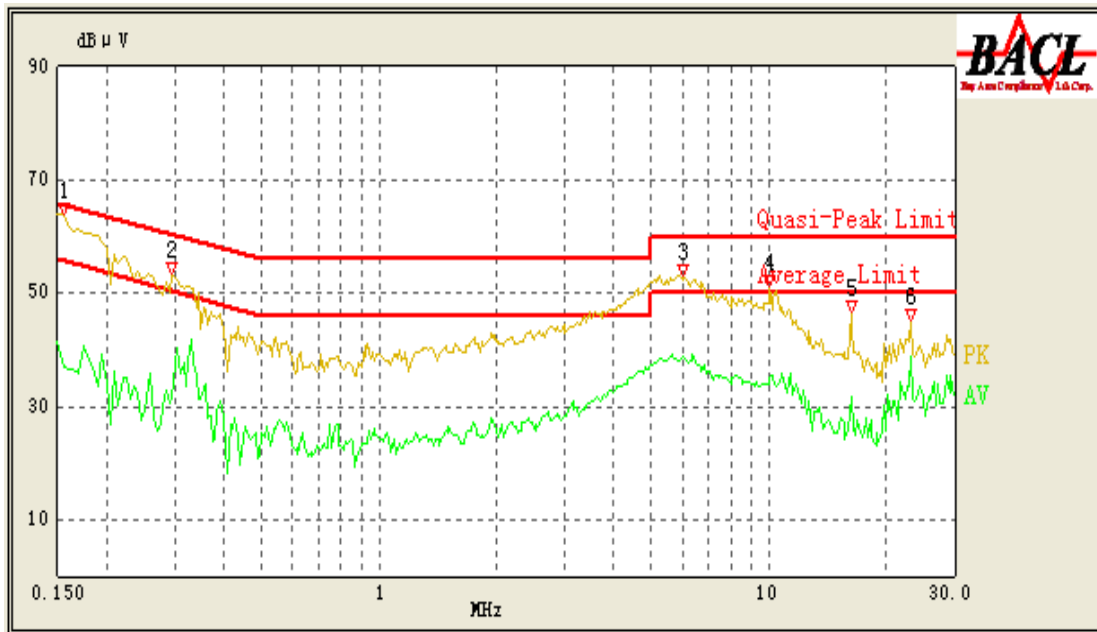
Test Mode: Running (GXV3662_HD)

AC 120V/ 60 Hz, Line



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/Ave/QP)
0.155	61.12	10.10	65.86	4.74	QP
23.130	40.38	10.17	50.00	9.62	Ave
0.155	42.07	10.10	55.86	13.79	Ave
0.290	48.06	10.01	62.00	13.94	QP
5.230	34.52	10.10	50.00	15.48	Ave
6.150	34.44	10.10	50.00	15.56	Ave
23.130	42.82	10.17	60.00	17.18	QP
5.265	42.44	10.10	60.00	17.56	QP
6.200	42.35	10.10	60.00	17.65	QP
8.715	31.05	10.10	50.00	18.95	Ave
0.290	31.50	10.01	52.00	20.50	Ave
8.740	38.43	10.10	60.00	21.57	QP

AC 120V/ 60 Hz, Neutral:

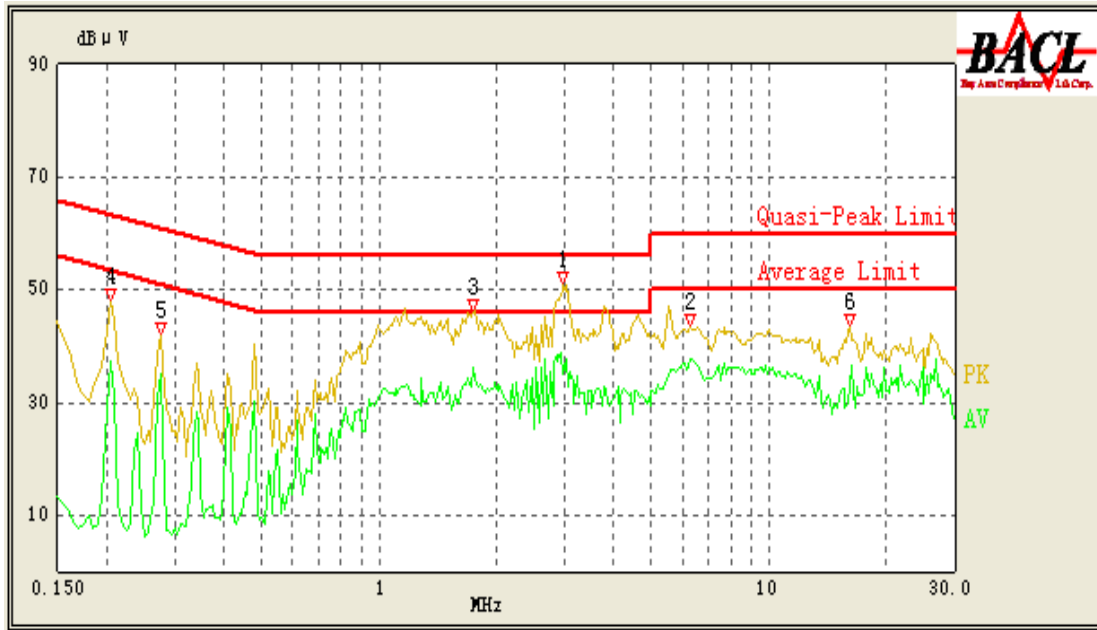


Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/Ave/QP)
0.155	59.51	10.10	65.86	6.35	QP
23.130	38.63	10.17	50.00	11.37	Ave
6.105	38.50	10.10	50.00	11.50	Ave
6.045	46.78	10.10	60.00	13.22	QP
10.055	35.15	10.10	50.00	14.85	Ave
0.295	46.95	10.00	61.86	14.91	QP
23.130	43.33	10.17	60.00	16.67	QP
10.070	42.41	10.10	60.00	17.59	QP
16.230	31.69	10.16	50.00	18.31	Ave
0.155	36.89	10.10	55.86	18.97	Ave
0.295	31.38	10.00	51.86	20.48	Ave
16.265	33.06	10.16	60.00	26.94	QP

POE Power Supply

Test Mode: Running (GXV3662_HDIR)

AC 120V/ 60 Hz, Line



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/Ave/QP)
1.745	36.33	10.17	46.00	9.67	Ave
2.960	35.10	10.15	46.00	10.90	Ave
6.300	37.78	10.10	50.00	12.22	Ave
16.230	36.61	10.16	50.00	13.39	Ave
2.970	41.71	10.15	56.00	14.29	QP
0.205	37.17	10.06	54.43	17.26	Ave
0.275	35.17	10.02	52.43	17.26	Ave
0.205	46.74	10.06	64.43	17.69	QP
1.740	38.03	10.17	56.00	17.97	QP
16.225	38.22	10.16	60.00	21.78	QP
0.275	40.48	10.02	62.43	21.95	QP
6.300	36.66	10.10	60.00	23.34	QP

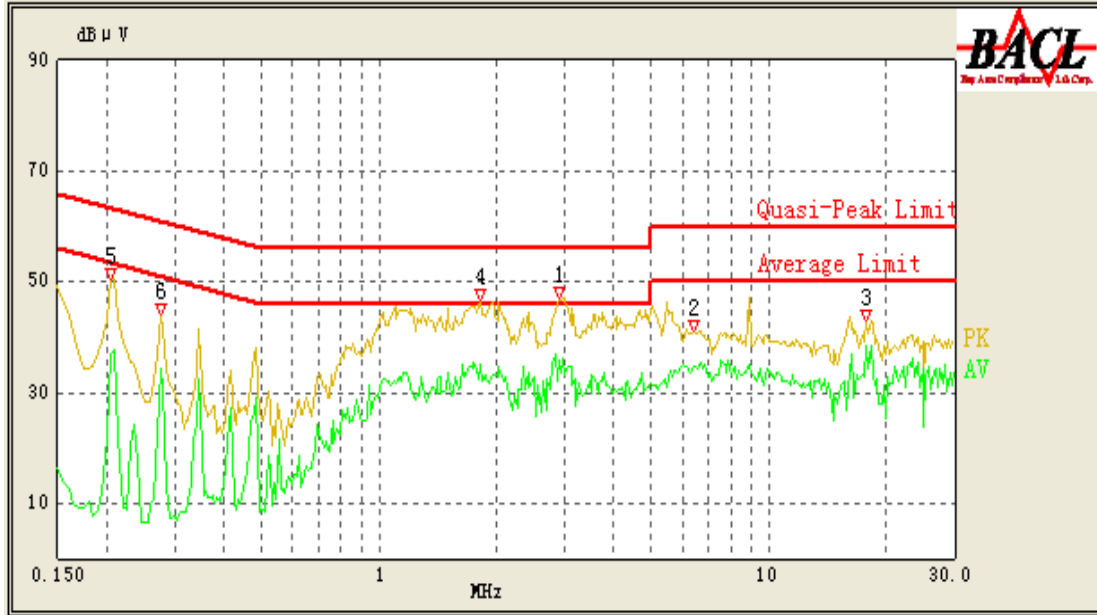
AC 120V/ 60 Hz, Neutral:



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/Ave/QP)
2.880	41.24	10.16	46.00	4.76	Ave
16.230	37.27	10.16	50.00	12.73	Ave
1.180	32.86	10.12	46.00	13.14	Ave
9.395	36.67	10.10	50.00	13.33	Ave
2.885	40.84	10.16	56.00	15.16	QP
1.180	40.33	10.12	56.00	15.67	QP
0.205	46.70	10.06	64.43	17.73	QP
0.205	35.71	10.06	54.43	18.72	Ave
9.390	39.11	10.10	60.00	20.89	QP
16.230	39.05	10.16	60.00	20.95	QP
0.275	31.14	10.02	52.43	21.29	Ave
0.275	39.24	10.02	62.43	23.19	QP

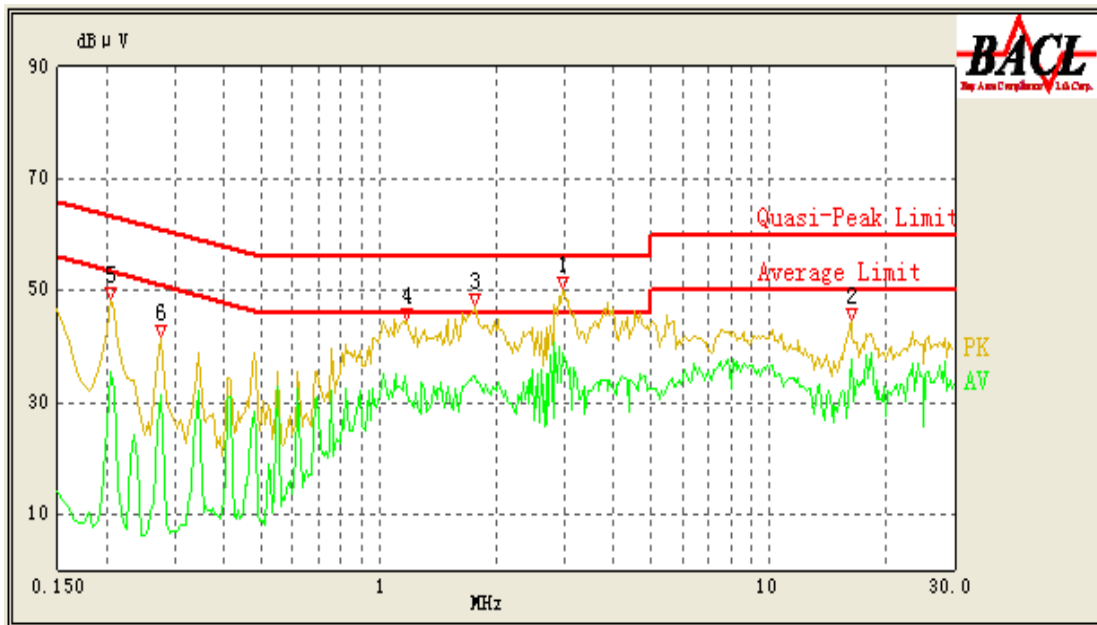
Test Mode: Running (GXV3662_HD)

AC 120V/ 60 Hz, Line



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBµV)	Limit (dBµV)	Margin (dB)	Remark (PK/Ave/QP)
2.905	35.67	10.15	46.00	10.33	Ave
1.815	35.21	10.18	46.00	10.79	Ave
17.695	38.46	10.18	50.00	11.54	Ave
2.910	40.73	10.15	56.00	15.27	QP
6.425	34.62	10.10	50.00	15.38	Ave
0.205	48.17	10.06	64.43	16.26	QP
0.205	37.05	10.06	54.43	17.38	Ave
1.825	38.43	10.18	56.00	17.57	QP
0.275	34.42	10.02	52.43	18.01	Ave
17.695	40.61	10.18	60.00	19.39	QP
0.275	41.85	10.02	62.43	20.58	QP
6.425	21.92	10.10	60.00	38.08	QP

AC 120V/ 60 Hz, Neutral:



Conducted Emissions			FCC Part 15.107, Class B		
Frequency (MHz)	Corrected Factor (dB)	Corrected Result (dBμV)	Limit (dBμV)	Margin (dB)	Remark (PK/Ave/QP)
2.960	38.83	10.15	46.00	7.17	Ave
1.170	34.68	10.12	46.00	11.32	Ave
1.765	34.62	10.18	46.00	11.38	Ave
16.230	37.65	10.16	50.00	12.35	Ave
2.960	42.27	10.15	56.00	13.73	QP
1.175	40.04	10.12	56.00	15.96	QP
1.765	39.27	10.18	56.00	16.73	QP
0.205	46.92	10.06	64.43	17.51	QP
0.205	35.56	10.06	54.43	18.87	Ave
0.275	31.20	10.02	52.43	21.23	Ave
0.275	39.61	10.02	62.43	22.82	QP
16.295	31.38	10.16	60.00	28.62	QP

FCC §15.109 - RADIATED SPURIOUS EMISSIONS

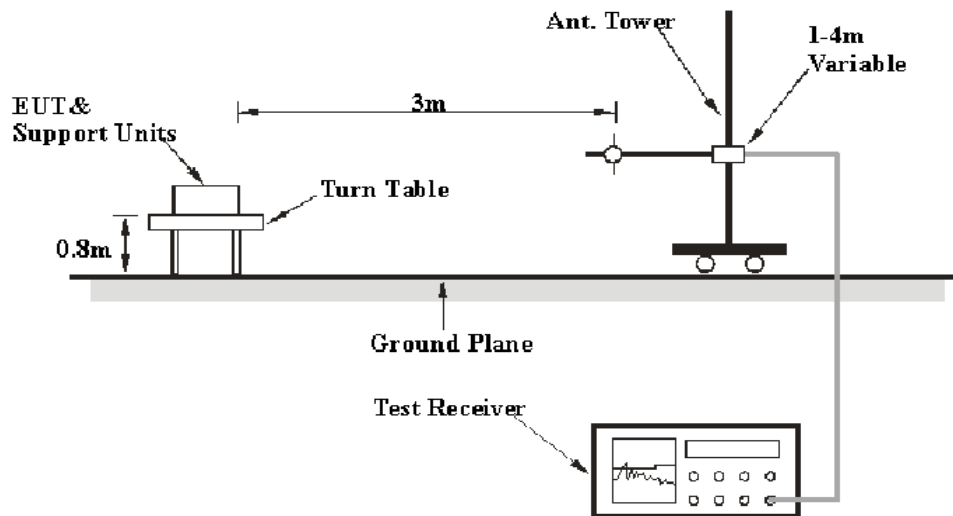
Measurement Uncertainty

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.

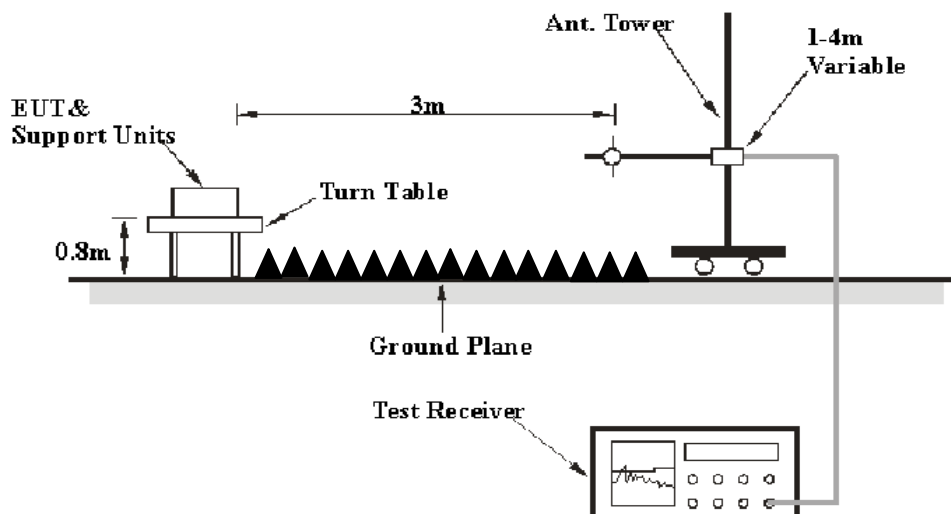
Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. is ± 4.0 dB. ($k=2$, 95% level of confidence)

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109 Class B limits.

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.

For AC/DC adapter power supply, the adapter was connected to a 120 VAC/60 Hz power source. For POE power supply, the prosafe switch with POE was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 2000 MHz.

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

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>	<i>Detector</i>
30MHz – 1000 MHz	100 kHz	300 kHz	QP
Above 1 GHz	1MHz	3 MHz	Peak
Above 1 GHz	1MHz	10 Hz	Ave

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447E	1937A01046	2010-08-02	2011-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-24	2011-11-24
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2010-07-05	2011-07-04
Rohde&Schwarz	Spectrum Analyzer	FSEM30	849720/019	2010-07-08	2011-07-08
SUPER ULTRA	Pre-amplifier	ZVA-213+	N/A	2010-09-12	2011-09-11
Sunol Sciences	Horn Antenna	DRH-118	A052604	2010-05-05	2011-05-04

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

Test Procedure

During the radiated emissions test, the adapter and all the other relevant support equipments were connected to the AC floor outlet for AC/DC adapter power supply mode; EUT and host PC were connected to prosafe switch with POE, all the other relevant support equipments were connected to the AC floor outlet for POE power supply mode.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode from 30 MHz to 1 GHz, Peak and average detection mode above 1 GHz.

Corrected Amplitude & Margin Calculation

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

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Loss} + \text{Cable Loss} - \text{Amplifier Gain}$$

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

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Results Summary

According to the data in the following table, the EUT complied with the FCC §15.109 Class B, with the worst margin reading of:

For AC/DC adapter power supply

4.3 dB at 31.395500 MHz in the Vertical polarization

For POE power supply

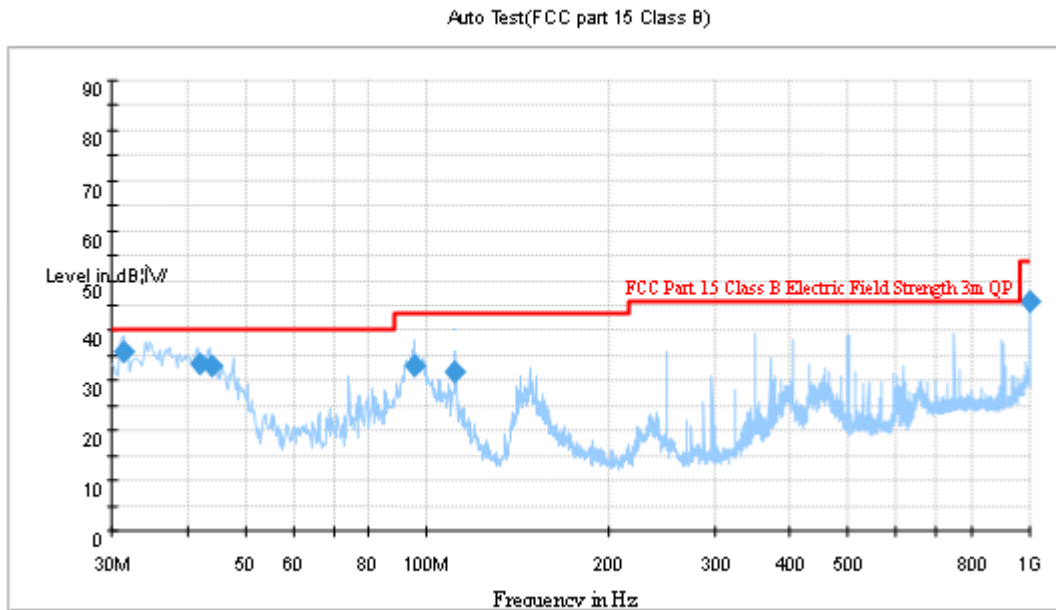
2.0 dB at 34.649000 MHz in the Vertical polarization

Test Data

Environmental Conditions

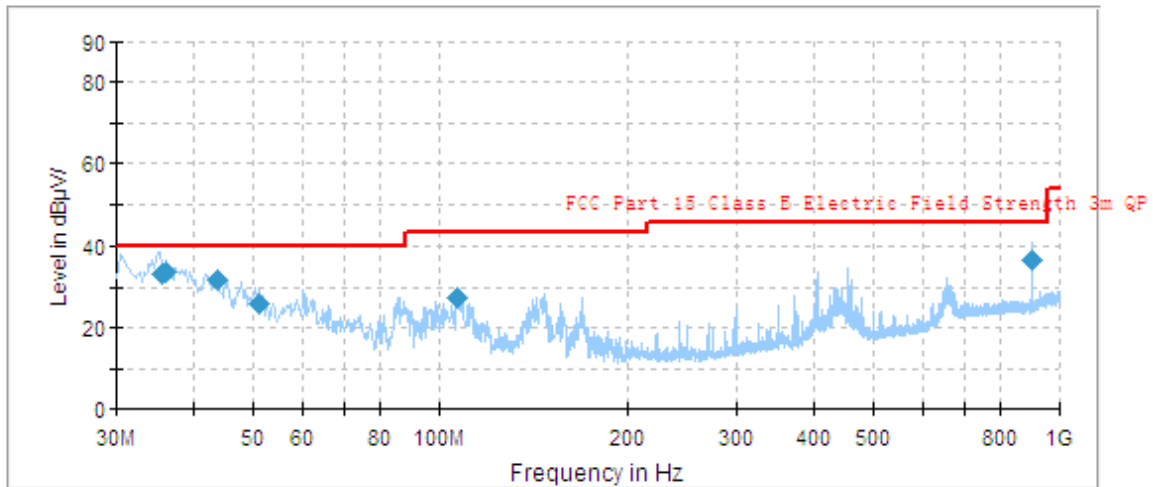
Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

The testing was performed by Eric Lee on 2011-01-06

*AC/DC adapter Power Supply***30-1000 MHz:***Test Mode: Running (Model: GXV3662_HDIR)*

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
31.395500	35.7	110.0	V	2.0	-6.4	40.0	4.3
42.075000	33.4	100.0	V	30.0	-13.4	40.0	6.6
43.829500	32.8	112.0	V	98.0	-14.4	40.0	7.2
999.993125	45.6	100.0	H	169.0	1.7	53.9	8.3
95.227250	32.8	100.0	V	264.0	-16.0	43.5	10.7
111.458500	31.8	112.0	V	221.0	-13.2	43.5	11.7

Test Mode: Running (Model: GXV3662_HD)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
36.129000	33.7	101.0	V	0.0	-9.6	40.0	6.3
35.522250	33.1	101.0	V	108.0	-9.2	40.0	6.9
43.812500	31.7	101.0	V	90.0	-14.4	40.0	8.3
901.957500	36.6	101.0	H	207.0	-0.8	46.0	9.4
51.105750	25.8	101.0	V	222.0	-17.4	40.0	14.2
106.707500	27.3	113.0	V	284.0	-13.8	43.5	16.2

Above 1 GHz:*Test Mode: Running (Model: GXV3662_HDIR)*

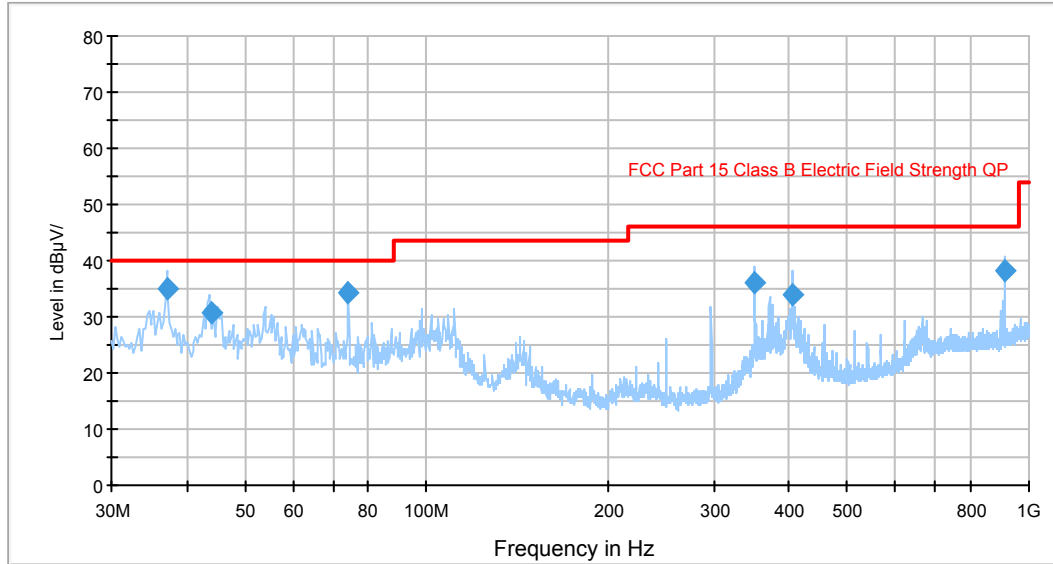
Frequency (MHz)	S.A. Reading (dBuV)	Detector PK/QP/Ave	Direction Degree	Test Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBµV/m)	FCC §15.109 Class B	
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)
1501.8	29.51	Ave	85	1.0	H	27.10	2.25	26.83	32.03	54	21.97
1501.8	47.94	PK	85	1.0	H	27.10	2.25	26.83	50.46	74	23.54
1490.9	26.82	Ave	94	1.0	V	26.80	2.25	26.83	29.04	54	24.96
1490.9	45.28	PK	94	1.0	V	26.80	2.25	26.83	47.50	74	26.50
1330.5	45.07	PK	126	1.0	H	26.40	2.13	26.83	46.77	74	27.23
1325.4	24.41	Ave	102	1.0	V	26.40	2.13	26.83	26.11	54	27.89
1330.5	24.22	Ave	126	1.0	H	26.40	2.13	26.83	25.92	54	28.08
1325.4	43.65	PK	102	1.0	V	26.40	2.13	26.83	45.35	74	28.65

Test Mode: Running (Model: GXV3662_HD)

Frequency (MHz)	S.A. Reading (dBuV)	Detector PK/QP/Ave	Direction Degree	Test Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBµV/m)	FCC §15.109 Class B	
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)
1500.2	29.30	Ave	85	1.0	H	27.10	2.25	26.83	31.82	54	22.18
1500.2	47.64	PK	85	1.0	H	27.10	2.25	26.83	50.16	74	23.84
1498.5	26.49	Ave	94	1.0	V	26.80	2.25	26.83	28.71	54	25.29
1328.2	45.42	PK	126	1.0	H	26.40	2.13	26.83	47.12	74	26.88
1498.5	44.69	PK	94	1.0	V	26.80	2.25	26.83	46.91	74	27.09
1328.2	24.54	Ave	126	1.0	H	26.40	2.13	26.83	26.24	54	27.76
1330.4	24.35	Ave	102	1.0	V	26.40	2.13	26.83	26.05	54	27.95
1330.4	43.29	PK	102	1.0	V	26.40	2.13	26.83	44.99	74	29.01

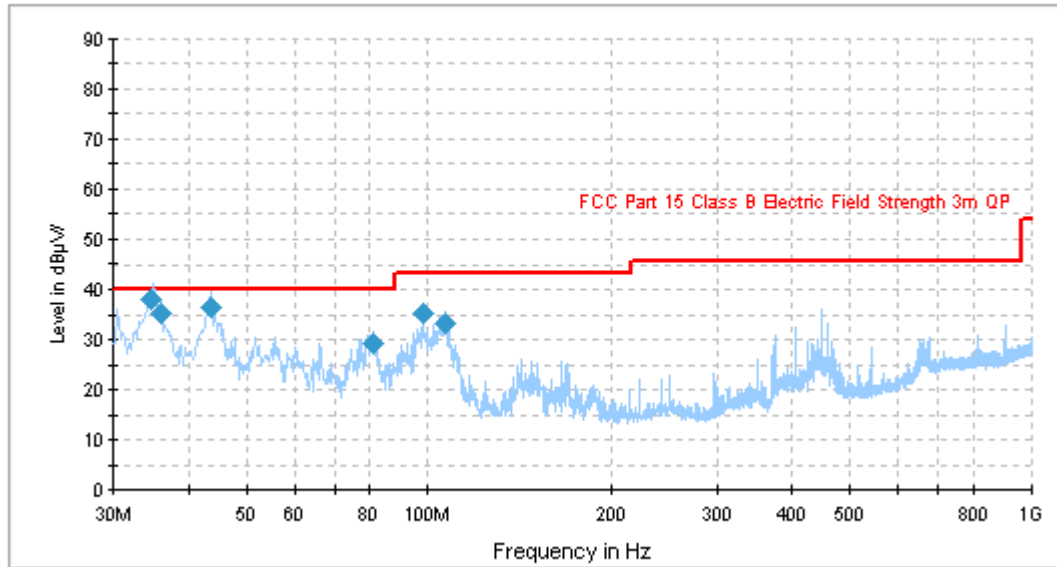
POE Power Supply**30-1000 MHz:***Test Mode: Running (Model: GXV3662_HDIR)*

Auto Test(FCC 15 Class B)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
37.272500	35.1	100.0	V	256.0	-10.3	40.0	4.9
74.227000	34.3	100.0	V	18.0	-18.2	40.0	5.7
911.143250	38.2	370.0	H	244.0	-0.4	46.0	7.8
43.834750	30.6	100.0	V	43.0	-14.4	40.0	9.4
350.982250	36.0	136.0	V	147.0	-11.1	46.0	10.0
404.829250	34.0	138.0	V	90.0	-9.9	46.0	12.0

Test Mode: Running (Model: GXV3662_HD)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
34.649000	38.0	100.0	V	309.0	-8.6	40.0	2.0*
43.790500	36.6	100.0	V	200.0	-14.4	40.0	3.4*
36.155000	35.4	101.0	V	335.0	-9.6	40.0	4.6
98.442000	35.5	100.0	V	27.0	-15.0	43.5	8.0
106.726000	33.5	113.0	V	56.0	-13.8	43.5	10.0
81.211750	29.5	101.0	V	0.0	-18.1	40.0	10.5

*With measurement uncertainty.

Above 1 GHz:*Test Mode: Running (Model: GXV3662_HDIR)*

Frequency (MHz)	S.A. Reading (dBuV)	Detector PK/QP/Ave	Direction Degree	Test Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	FCC §15.109 Class B	
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)
1507.2	38.85	Ave	79	1.0	H	27.10	2.25	26.83	41.37	54	12.63
1507.2	45.94	PK	79	1.0	H	27.10	2.25	26.83	48.46	74	25.54
1503.3	25.68	Ave	96	1.0	V	26.80	2.25	26.83	27.90	54	26.10
1503.3	43.73	PK	96	1.0	V	26.80	2.25	26.83	45.95	74	28.05
1125.4	25.22	Ave	10	1.0	V	24.4	1.98	26.84	24.76	54	29.24
1121.9	26.44	Ave	122	1.0	H	21.5	1.98	26.84	23.08	54	30.92
1125.4	42.75	PK	100	1.0	V	24.4	1.98	26.84	42.29	74	31.71
1121.9	43.23	PK	122	1.0	H	21.5	1.98	26.84	39.87	74	34.13

Test Mode: Running (Model: GXV3662_HD)

Frequency (MHz)	S.A. Reading (dBuV)	Detector PK/QP/Ave	Direction Degree	Test Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	FCC §15.109 Class B	
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)
1502.7	39.45	Ave	79	1.0	H	27.10	2.25	26.83	41.97	54	12.03
1501.4	25.62	Ave	96	1.0	V	26.80	2.25	26.83	27.84	54	26.16
1502.7	45.03	PK	79	1.0	H	27.10	2.25	26.83	47.55	74	26.45
1501.4	43.68	PK	96	1.0	V	26.80	2.25	26.83	45.90	74	28.10
1122.8	25.75	Ave	10	1.0	V	24.4	1.98	26.84	25.29	54	28.71
1124.2	26.86	Ave	122	1.0	H	21.5	1.98	26.84	23.50	54	30.50
1122.8	42.96	PK	100	1.0	V	24.4	1.98	26.84	42.50	74	31.50
1124.2	43.55	PK	122	1.0	H	21.5	1.98	26.84	40.19	74	33.81

PRODUCT SIMILARITY DECLARATION LETTER



Company: Grandstream Networks, Inc.

Address: 5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, ShenZhen, China

Product Similarity Declaration

To: Bay Area Compliance Laboratories Corp.

We, Grandstream Networks, Inc., hereby declare that Our products IP dome Camera model name GXV3662_HDIR is electrically identical with the Model GXV3662_HD, GXV3662_HDIR and GXV3662_HD has the same PCB Layout and components except that GXV3662_HDIR has IR LED board on camera Lens and GXV3662_HD with out IR LED board on camera Lens.

Please contact me if you have any question.

Signature:

A handwritten signature in black ink, appearing to read 'Jianwen Huang', is written over a light green rectangular background.

Print Name: Jianwen Huang

Title: Hardware Manager

Date: 2010-11-29

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