

## EMI TEST REPORT

On Model Name: IP Multimedia Phone

Model Number: GXV3175

Brand Name: Grandstream

Prepared for Grandstream Networks, INC

FCC ID Number: YZZGXV3175-P

According to FCC 47 CFR Part 15, Subpart B

Test Report #: SHE-1212-10918-FCC

Tested by: Daomen Galanz  
Engineer Company Name

Reviewed by: Jameryon ECMG  
Senior Engineer Company Name

QC Manager: Swall Zhang ECMG  
QC Manager Company Name

Test Report Released by: Swall Zhang January 9<sup>th</sup>, 2013  
Swall Zhang Date

## **Test Location**

*Tests performed in a Certified ANSI Semi-Anechoic Chamber and Shielded Room.*

<i>Test Site Location</i>	<i>: Galanz</i>
	<i>25 South Ronggui Rd., Shunde, Foshan, Guangdong, China</i>
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## **Test Facility**

*The test facility was recognized, certified, or accredited by the following organizations:*

- CNAL - LAB Code: L2244**

*Galanz EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.*

- FCC - Registration No.: 580210**

*Galanz EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC was maintained in our files.*

# *Table of Contents*

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<b>GOVERNMENT DISCLAIMER NOTICE</b>	2
<b>REPRODUCTION CLAUSE</b>	2
<b>OPINIONS AND INTERPRETATIONS</b>	2
<b>STATEMENT OF MEASUREMENT UNCERTAINTY</b>	2
<b>ADMINISTRATIVE DATA</b>	3
<b>EUT DESCRIPTION</b>	4
<b>TEST SUMMARY</b>	5
<b>TEST MODE JUSTIFICATION</b>	6
<b>EUT EXERCISE SOFTWARE</b>	6
<b>EQUIPMENT MODIFICATION</b>	6
<b>EUT SAMPLE PHOTOS</b>	7
<b>TEST SYSTEM DETAILS</b>	11
<b>ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS</b>	14
<b>ATTACHMENT 2 - RADIATED EMISSION MEASUREMENT</b>	18

### List Attached Files

<b>Exhibit Type</b>	<b>File Description</b>	<b>File Name</b>
<i>Test Report</i>	<i>Test Report</i>	YZZGXV3175-P_Test report.pdf
<i>Operation Description</i>	<i>Technical Description</i>	YZZGXV3175-P_operation description.pdf
<i>External Photos</i>	<i>External Photos</i>	YZZGXV3175-P_External Photos.pdf
<i>Internal Photos</i>	<i>Internal Photos</i>	YZZGXV3175-P_Internal Photos.pdf
<i>Block Diagram</i>	<i>Block Diagram</i>	YZZGXV3175-P_Block Diagram.pdf
<i>Schematics</i>	<i>Circuit Diagram</i>	YZZGXV3175-P_Schematics.pdf
<i>ID Label/Location</i>	<i>Label and Location</i>	YZZGXV3175-P_Label & Location.pdf
<i>User Manual</i>	<i>User Manual</i>	YZZGXV3175-P_User Manual.pdf
<i>Test setup photos</i>	<i>Test setup photos</i>	YZZGXV3175-P_Test Setup Photos.pdf

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### ***Opinions and Interpretations***

*This test report relates to the abovementioned equipment under test (EUT). Without the permission of ECMG Electronic Technical Testing Corp (Shenzhen) Test Lab this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark on this or similar products. The manufacturer has sole responsibility of continued compliance of the device.*

### ***Statement of Measurement Uncertainty***

*The data and results referenced in the document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may result in additional deviation.*

## **Administrative Data**

*Test Sample* : IP Multimedia Phone

*Model Numbers* : GXB3175

*Model Tested* : GXB3175

*Receipt Date* : December 6<sup>th</sup>, 2012

*Date Tested* : December 6<sup>th</sup> to 26<sup>th</sup>, 2012

*Applicant* : Grandstream Networks, INC

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

*Telephone* : (86)-755-26014600

*Fax* : (86)-755-26014601

*Manufacturer* : Grandstream Networks, INC

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

*Telephone* : (86)-755-26014600

*Fax* : (86)-755-26014601

*Factory* : Grandstream Networks, INC

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

*Telephone* : (86)-755-26014600

*Fax* : (86)-755-26014601

## **EUT Description**

*Grandstream Networks, INC., model tested GXV3175 (referred to as the EUT in this report) is an IP Multimedia Phone.*

*Technical specifications of the EUT are as below:*

<b>Parameter</b>		<b>Range</b>
<i>Basic parameters</i>	<i>Rated voltage</i>	12VDC
	<i>Rated Current</i>	1.5A
<i>I/O Ports</i>	<i>Home Button</i>	<i>Press Home button to navigate to main screen</i>
	<i>Camera</i>	<i>1.3M pixel adjustable CMOS camera with privacy shutter</i>
	<i>PC Ethernet Port</i>	<i>10/100Mbps RJ-45 port connecting to PC</i>
	<i>Network Ethernet Port</i>	<i>10/100Mbps RJ-45 port connecting to Ethernet</i>
	<i>Power Jack</i>	<i>12V DC Power connector port</i>
	<i>RJ11 Jack</i>	<i>Phone handset connector port</i>
	<i>Camera Adjust Wheel</i>	<i>Scroll the wheel to turn on/off the camera; Adjust the camera position and lens angle</i>
	<i>Stylus</i>	<i>Stylus for touch screen (optional)</i>
	<i>USB Port</i>	<i>USB devices may be connected via the USB port. For example, you can connect a USB flash drive to save captured pictures and plug in USB keyboard or mouse for the built-in web browser</i>
	<i>SD Card Slot</i>	<i>SD card could be inserted in for picture/music/video files storage</i>
	<i>HDMI</i>	<i>High-Definition Multimedia Interface</i>
	<i>Headset Jack</i>	<i>3.5mm stereo headset connector port</i>
<i>Power Adapter</i>	<i>Input</i>	<i>100-240VAC 50/60Hz 0.4A</i>
	<i>Output</i>	<i>12VDC, 1.5A,</i>
	<i>Model</i>	<i>SFF1200150A1BB</i>
	<i>Brand name</i>	<i>Mass</i>

*NOTE: For more detailed informations or features please refer to user's manual of EUT.*

## Test Summary

The Electromagnetic Compatibility requirements on model GXV3175 for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

<b>Emission Tests</b>				
<b>Specifications</b>	<b>Description</b>	<b>Test Results</b>	<b>Test Point</b>	<b>Remark</b>
<i>FCC Part 15.107 ANSI C63.4 -2003</i>	<i>Conducted Emission</i>	<i>Passed</i>	<i>AC Input Port</i>	<i>Attachment 1</i>
<i>FCC Part 15.109 ANSI C63.4 -2003</i>	<i>Radiated Emission</i>	<i>Passed</i>	<i>Enclosure</i>	<i>Attachment 2</i>

### ***Test Mode Justification***

*Pre-scan has been conducted to determine the worst-case modes from all possible combinations between available operational modes, the following modes were chosen for the final test as described below.*

#### ***IP Call mode:***

*Connected the EUT to another an IP Phone by an RJ-45 cable and established a video call communication between them. Then connected a notebook PC to PC port of the EUT by another an RJ-45 cable and ping “192.168.0.160 -t” to EUT and measured it.*

#### ***For PoE Mode:***

*Removed AC Adaptor of EUT, Let EUT powered by PoE mode and measured it.*

### ***EUT Exercise Software***

*No test software support this test.*

### ***Equipment Modification***

*Any modifications installed previous to testing by Grandstream Networks, INC. will be incorporated in each production model sold or leased in United States.*

*There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen). Test personnel.*

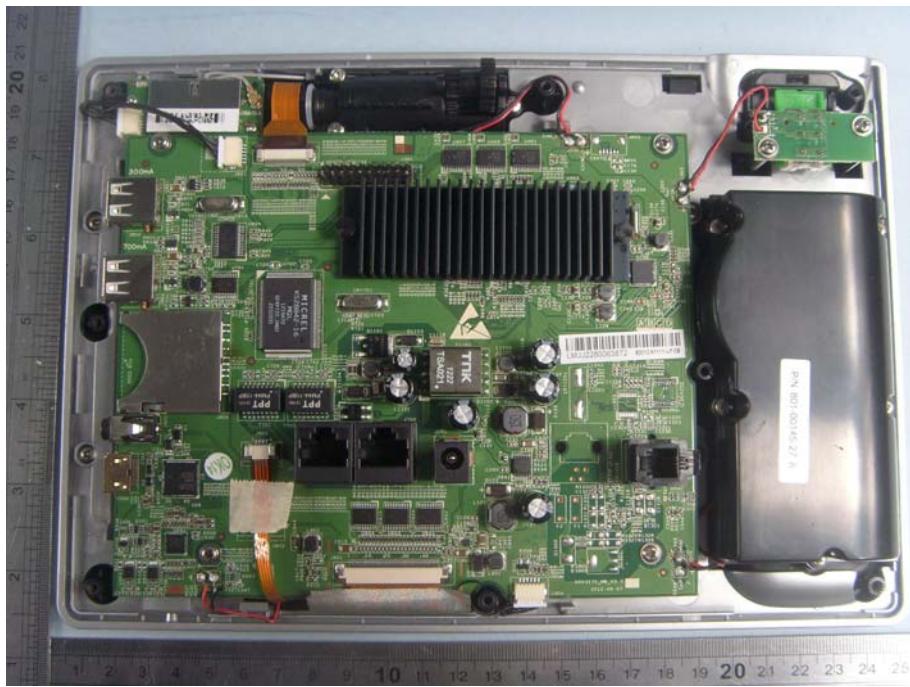
**EUT Sample Photos for model GXV3175**



**EUT- Front View**



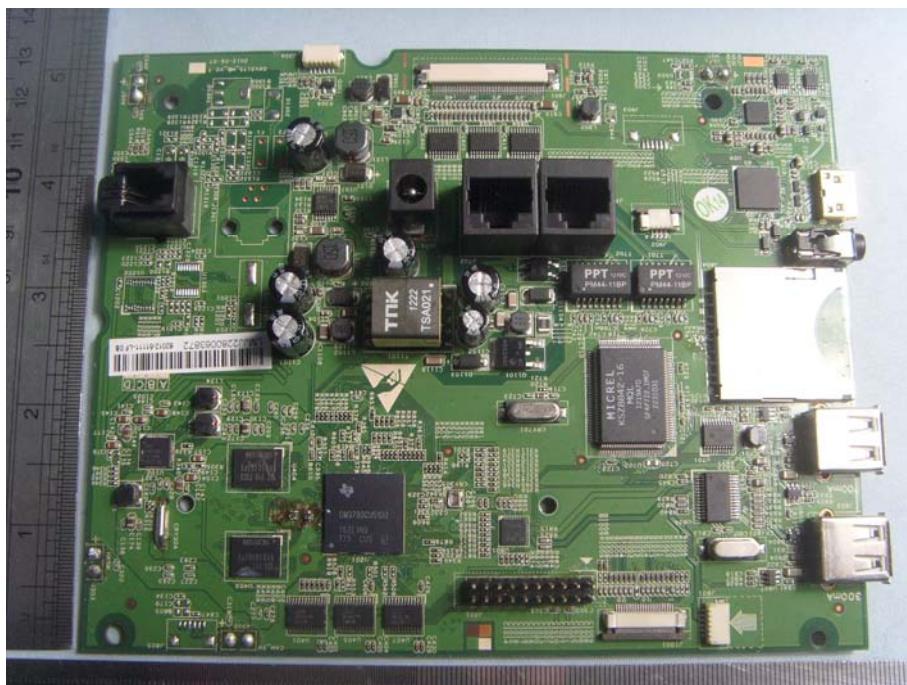
**EUT -Rear View**



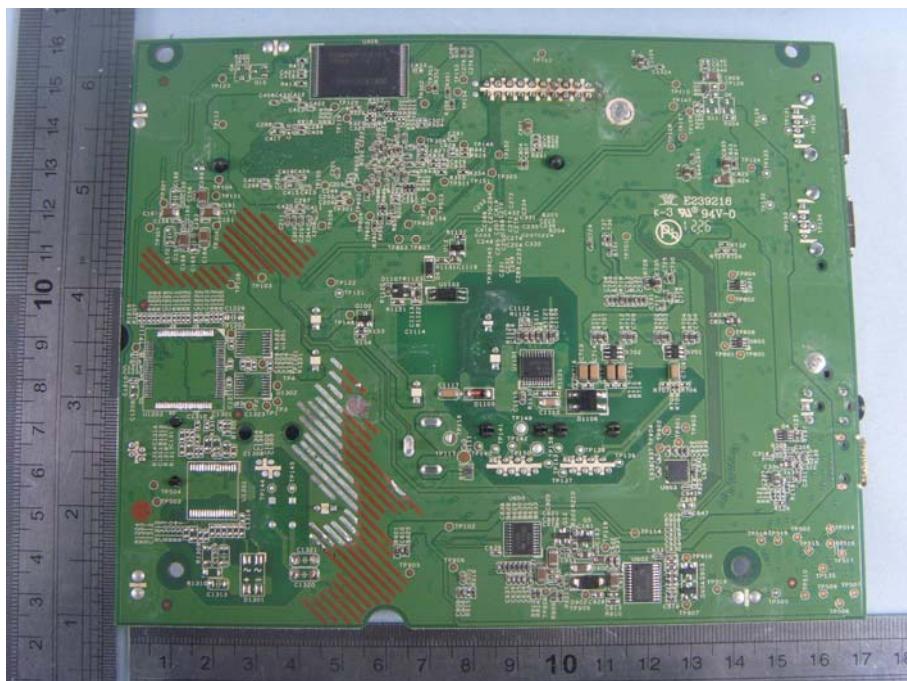
**EUT Uncovered View #1**



**EUT Uncovered View #2**



**Mainboard -Front View**



**Mainboard -Rear View**



**Power Adaptor View (Manufacturer: Mass Power)**

## Test System Details

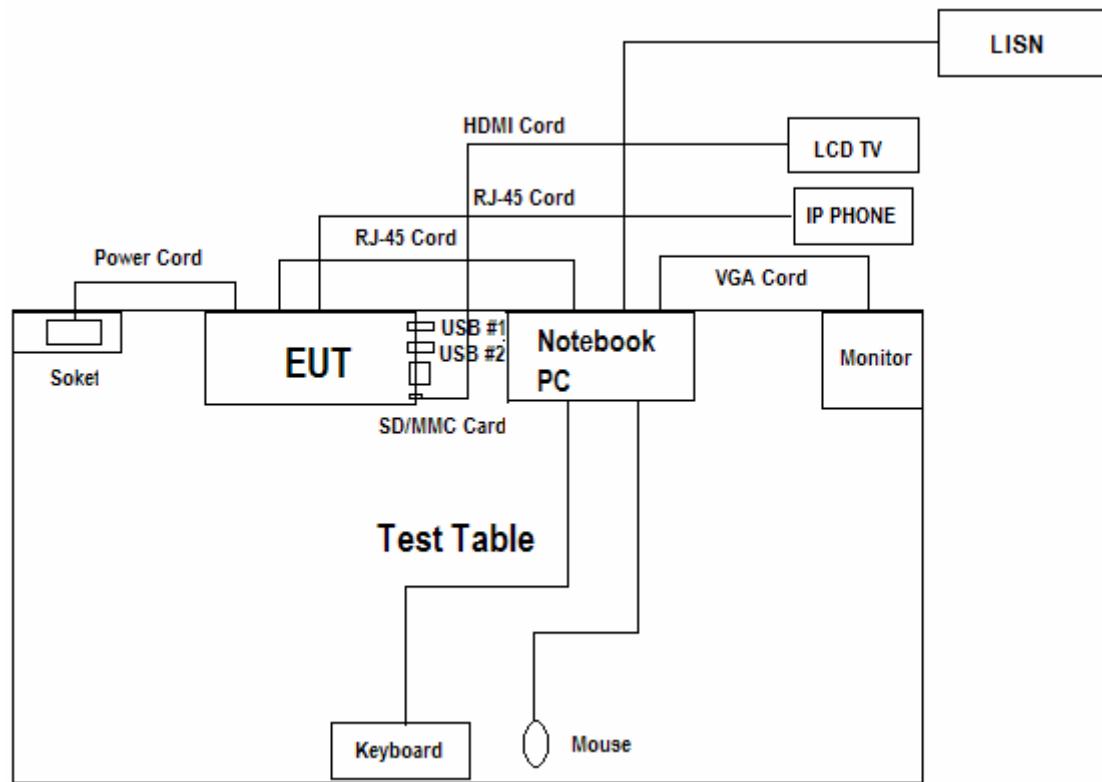
<b>EUT</b>			
<b>Model Number:</b>	GXV3175		
<b>Model Tested:</b>	GXV3175		
<b>Description:</b>	IP Multimedia Phone		
<b>Input:</b>	DC12V		
<b>Manufacturer:</b>	Grandstream Networks, INC		
<b>Support Equipment</b>			
<b>Description</b>	<b>Model Number</b>	<b>Serial Number</b>	<b>Manufacturer</b>
Notebook PC	NC4000	CNU4122BCL	HP
Power Adapter Of Notebook PC	PPP009H	239427-003	HP
Mouse	MO32B0	23-033131	HP
Keyboard	SK-1788	N/A	LENOVO
Monitor	177V+	N/A	AOC
LCD TV	KLV-32BX320	N/A	SONY
Power Over Ethernet Adapter base unit	DWL-P200	E405162001002	D-Link
PoE Power Adaptor	FJ-SW2545XY	2004010807120622	FUJIA

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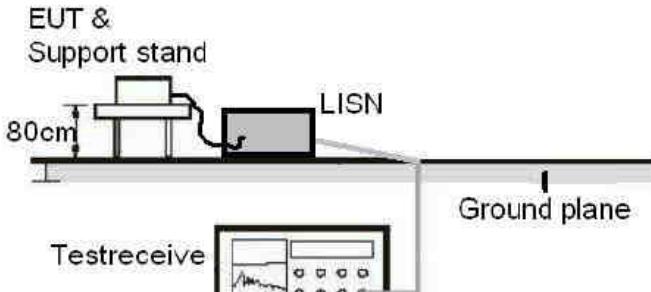
Cable Description					
Description	From	To	Length (Meters)	Shielded (Y/N)	Ferrite (Y/N)
Adapter Cord Of Notebook	Power Adapter	Notebook PC	1.6	N	Y
	Power Adapter	AC Plug	1.2	N	Y
Mouse Cord	Mouse	Plug	1.2	N	Y
Keyboard Cord	Keyboard	Plug	1.2	N	Y
VGA Cable	Monitor	Notebook	1.2	Y	Y
RJ-45 Cord #1	EUT	Notebook PC	1.5	N	N
RJ-45 Cord #2	EUT	Another IP Multimedia Phone	>3.0	N	N
HDMI Cable	EUT	LCD TV	1.2	Y	Y
Headphone Cable	EUT	Headphone	1.2	N	N
PoE power Cable	PoE	Plug	1.6	N	Y
Power Adapter cord of EUT	EUT	Plug	2.4	N	N
Note: The "EUT" means "IP Multimedia Phone".					

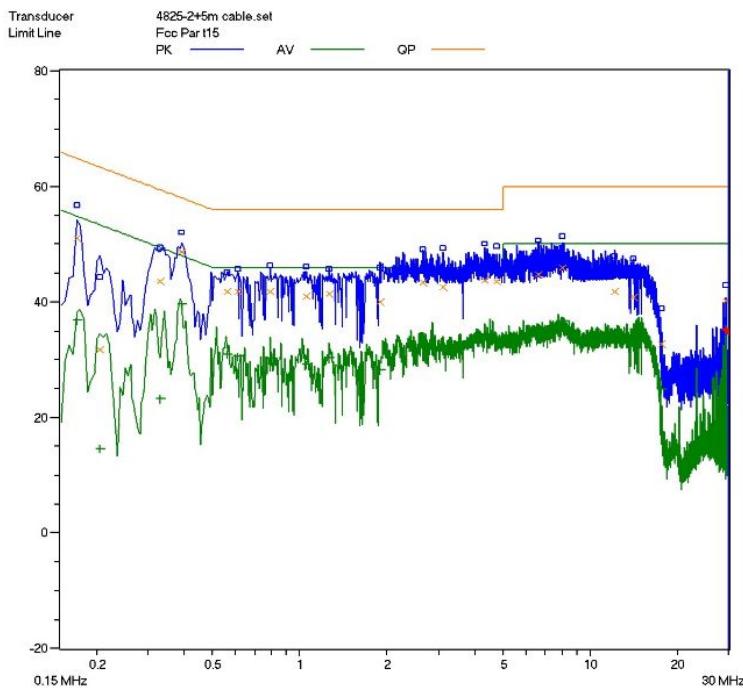
*NOTE: The EUT has been tested as an independent unit together with other necessary accessories or support units. The above support units or accessories were used to form a representative test configuration during the test tests.*

## ***Configuration of Tested System***

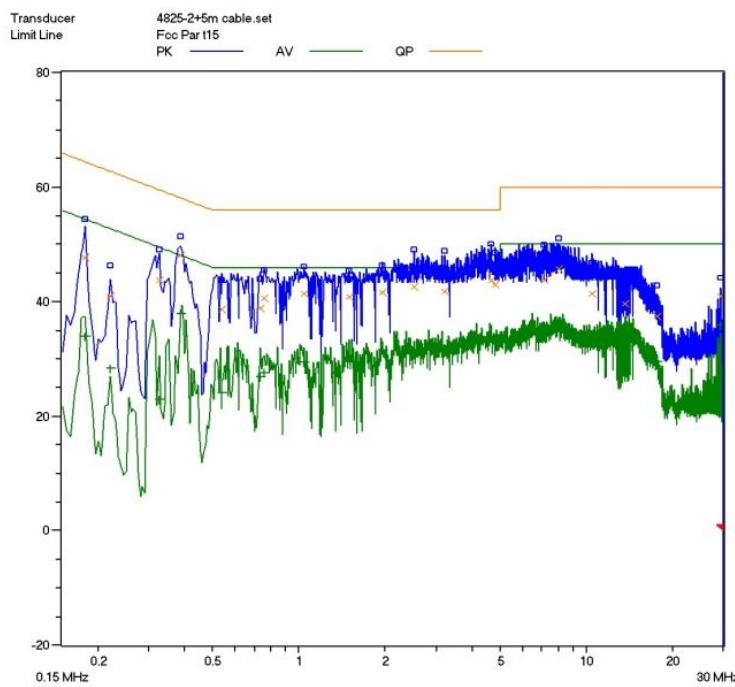


## ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

<b>CLIENT:</b>	Grandstream Networks, INC	<b>TEST STANDERD:</b>	FCC Part 15, Subpart B, Section 15.107
<b>MODEL NUMBERS:</b>	GXV3175	<b>PRODUCT:</b>	IP Multimedia Phone
<b>MODEL TESTED:</b>	GXV3175	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	23°C	<b>HUMIDITY:</b>	51%
<b>ATM PRESSURE:</b>	103kPa	<b>GROUNDING:</b>	None
<b>TESTED BY:</b>	Daomen	<b>DATE OF TEST:</b>	December 7 <sup>th</sup> , 2012
<b>TEST REFERENCE:</b>	ANSI C63.4- 2003		
<b>TEST PROCEDURE:</b>	The EUT was set up according to the guidelines of ANSI C63.4- 2003 for conducted emissions. The measurement was using a AMN on each line and an EMI receiver peak scan was made at the frequency measurement range. The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged. The frequency range investigated was from 150KHz to 30MHz.		
<b>DESCRIPTION OF TEST MODE</b>	IP Call mode		
<b>TEST SET UP</b>			
<b>TESTED RANGE:</b>	150kHz to 30MHz		
<b>TEST VOLTAGE:</b>	AC 120V/60Hz		
<b>RESULTS:</b>	The EUT meets the requirements of test reference for Conducted Emissions. The test results relate only to the equipment under test provided by client.		
<b>Changes or Modifications:</b>	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen). Test personnel.		
<b>M. UNCERTAINTY:</b>	Freq. $\pm 2 \times 10^{-7} \times$ Center Freq., Amp $\pm 2.6$ dB		



**Line L Conducted Emission Graph**



**Line N Conducted Emission Graph**

**Test Data:**

<b>Lines (L/N)</b>	<b>Frequency (MHz)</b>	<b>Corrected QP Level (dBuV)</b>	<b>Limits QP (dBuV)</b>	<b>Margin QP (dB)</b>	<b>Frequency (MHz)</b>	<b>Corrected AV Level (dBuV)</b>	<b>Limits AV (dBuV)</b>	<b>Margin QP (dB)</b>
<i>L</i>	0.170	51.1	64.9	-13.8	0.170	36.9	54.9	-18.0
<i>L</i>	0.390	48.0	58.0	-10.0	0.390	39.7	48.0	-8.3
<i>L</i>	7.890	45.9	60.0	-14.1	7.890	36.6	50.0	-13.4
<i>N</i>	0.180	47.8	64.4	-16.6	0.180	33.9	54.4	-20.5
<i>N</i>	0.385	48.1	58.2	-10.1	0.385	37.8	48.2	-10.4
<i>N</i>	7.995	45.7	60.0	-14.3	7.995	36.6	50.0	-13.4

**Note :**

- 1) All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not use.
- 2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.
- 3) The other reading are too low against official limits that are not be recorded.

**Test Equipment List:**

<i>Test Equipment</i>	<i>Model No.</i>	<i>Manufacturer</i>	<i>Serial No.</i>	<i>Last Cal.</i>	<i>Cal. Interval</i>
Receiver	SMR4503	SCHAFFNER	11725	2012.07.08	2013.07.08
Line impedance stabilization network	4825/2	ETS	1161	2012.07.08	2013.07.08
<i>Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.</i>					

**TESTED BY:** Daomen  
**ENGINEER**

Galanz  
**COMPANY NAME**

**REVIEWED BY:** Jamesym  
**SENIOR ENGINEER**

ECMG  
**COMPANY NAME**



**Conducted Emission Test Set-up**

## **ATTACHMENT 2 – RADIATED EMISSION MEASUREMENT**

<b>CLIENT:</b>	Grandstream Networks, INC	<b>TEST STANDERD:</b>	FCC Part 15,Subpart B, Section 15.109
<b>MODEL NUMBERS:</b>	GXV3175	<b>PRODUCT:</b>	IP Multimedia Phone
<b>EUT MODEL:</b>	GXV3175	<b>EUT DESIGNATION:</b>	Home or Office
<b>TEMPERATURE:</b>	23°C	<b>HUMIDITY:</b>	49%RH
<b>ATM PRESSURE:</b>	103.0kPa	<b>GROUNDING:</b>	None
<b>TESTED BY:</b>	Daomen	<b>DATE OF TEST:</b>	December 7 <sup>th</sup> , 2012
<b>TEST REFERENCE:</b>	ANSI C63.4- 2003		
<b>TEST PROCEDURE:</b>	<p>The EUT was set up according to the guidelines of ANSI C63.4- 2003 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. signal discrimination was then performed and the significant peaks marked. these peaks were then quasi-peaked in the frequency range of 30 MHz to 1GHz and average and peak in the frequency range of 1GHz to 3GHz at an anechoic chamber.</p> <p>The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor are given as follows:</p> <p>FS= RA + AF + CF - AG</p> <p>Where: FS = Field Strength</p> <p>RA = Receiver Amplitude</p> <p>AF = Antenna Factor</p> <p>CF = Cable Attenuation Factor</p> <p>AG = Amplifier Gain</p>		
<b>TEST MODE</b>	IP Call mode, PoE mode		
<b>TESTED RANGE:</b>	9K-30MHz and 30MHz to 8GHz		
<b>TEST VOLTAGE:</b>	AC 120V/60Hz		
<b>RESULTS:</b>	The EUT meet the requirements of test reference for radiated emissions. The test results relate only to the equipment under test provided by client.		
<b>CHANGES OR MODIFICATIONS:</b>	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen). Test personnel.		
<b>M. UNCERTAINTY:</b>	Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp $\pm 2.6$ dB		

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Frequency measured at 9KHz to 30MHz:

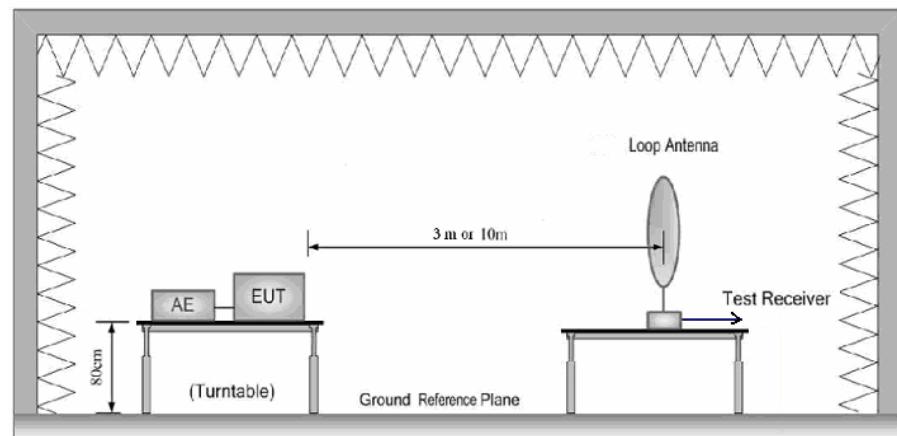


Figure 1 : Frequencies measured below 1 GHz configuration

**TEST SET-UP:**

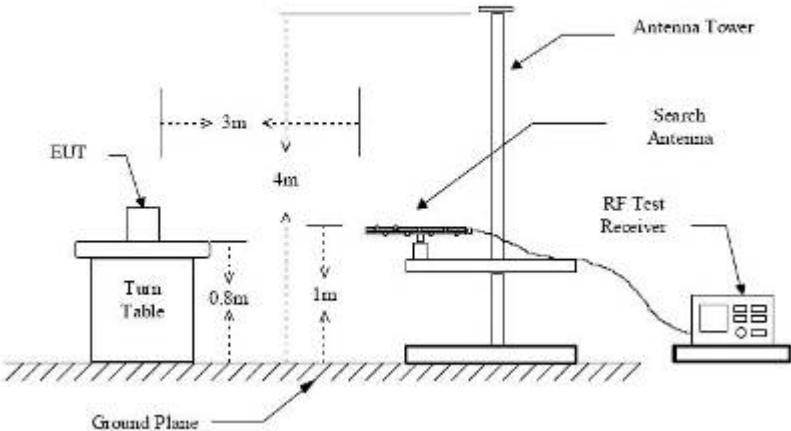
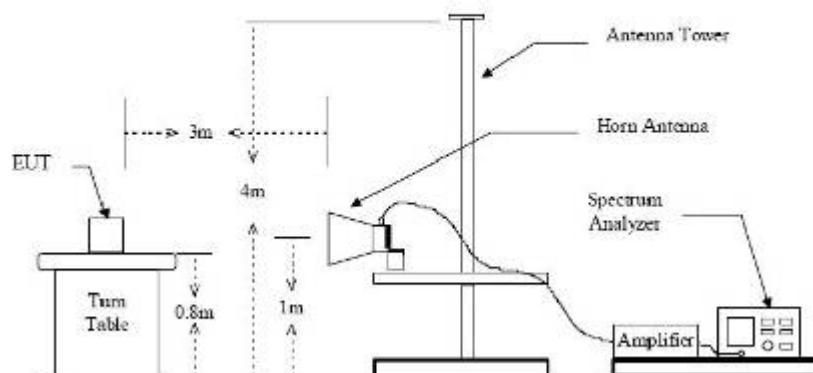
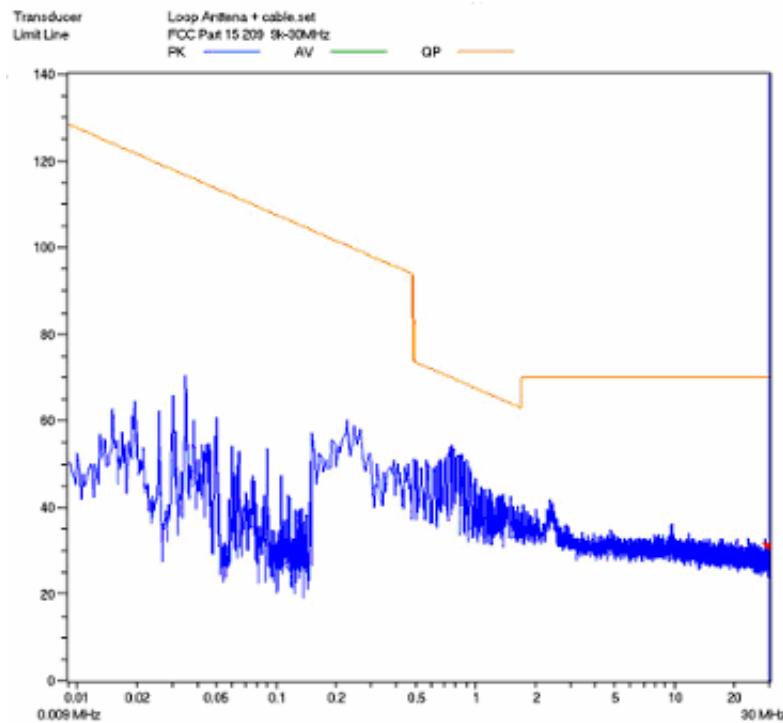


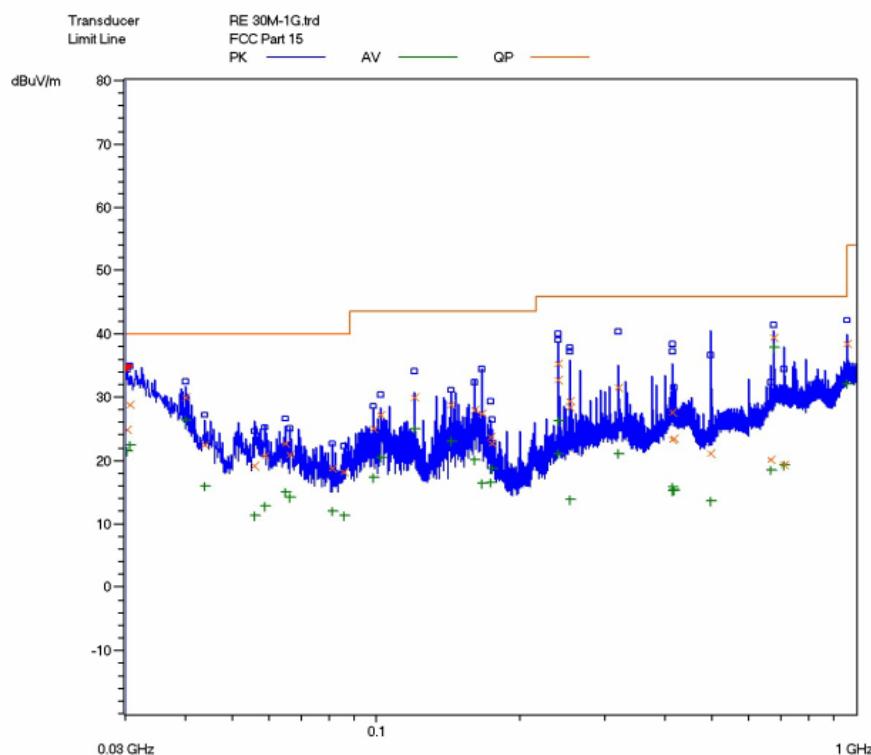
Figure 2 : Frequencies measured above 1 GHz configuration



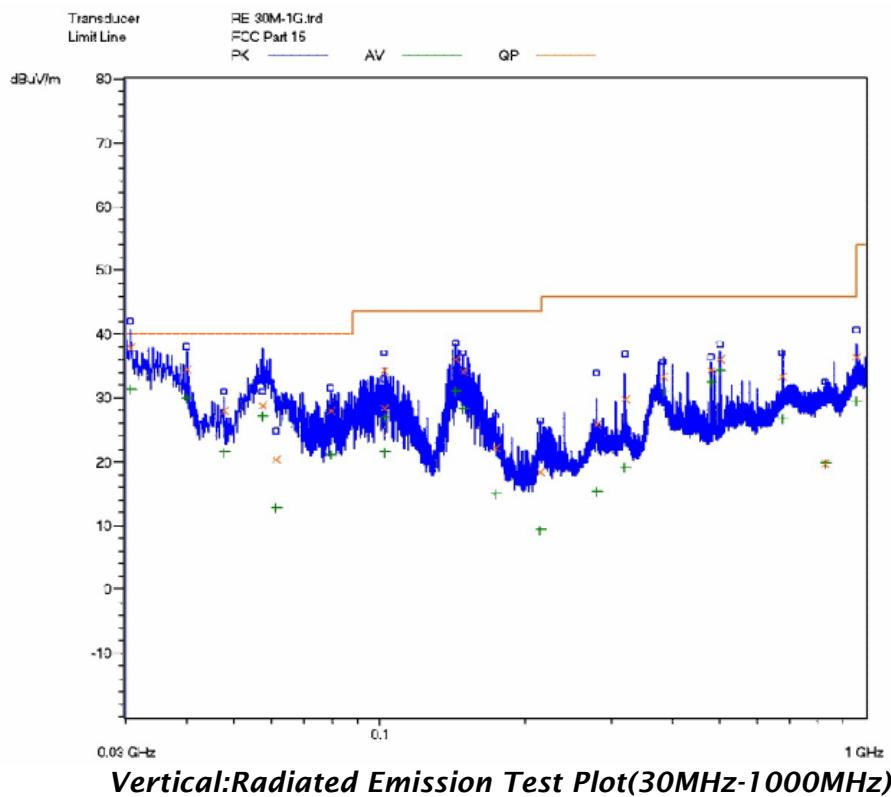
**For IP Call Mode:**



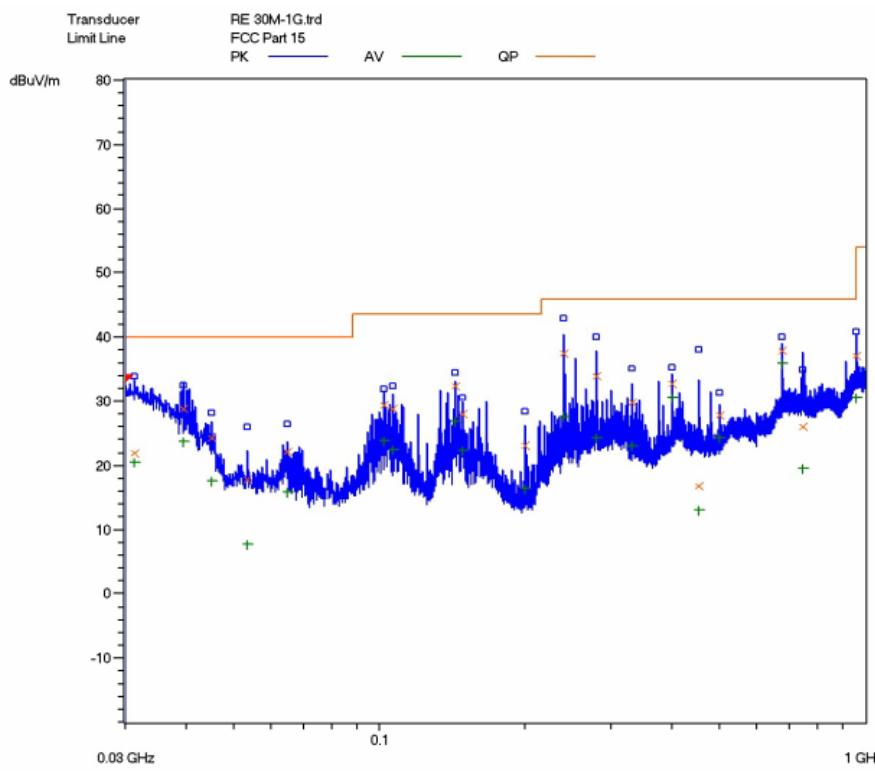
**Radiated Filed Strength Emission Test Plot(9KHz-30MHz)**

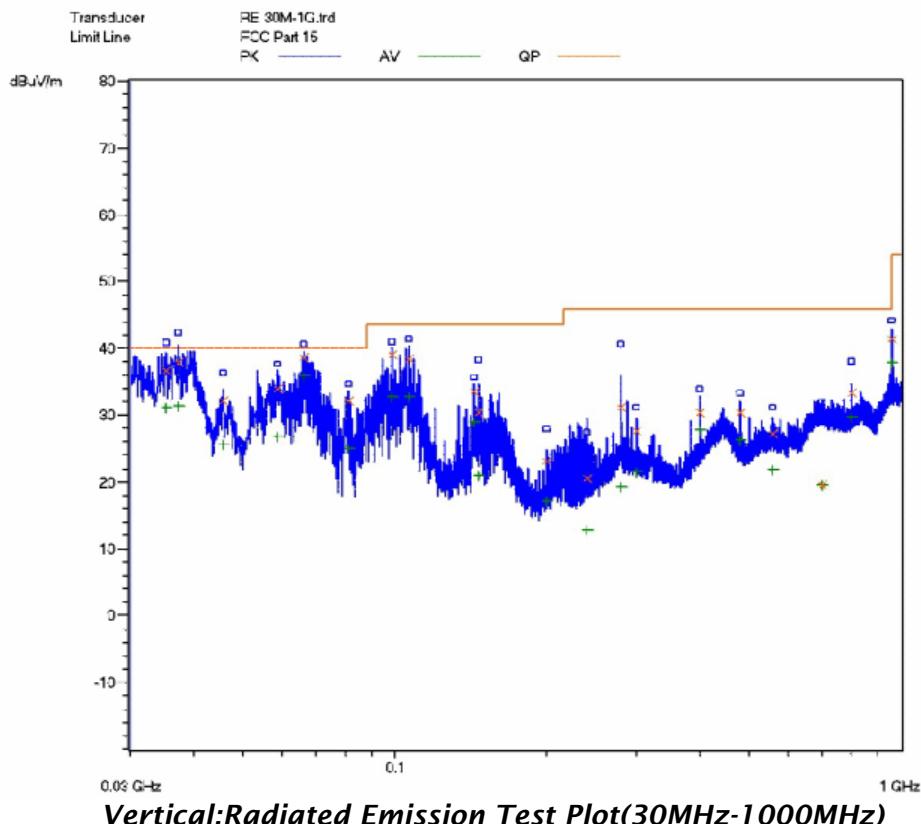


**Horizontal:Radiated Emission Test Plot(30MHz-1000MHz)**



**For PoE mode:**





**Test Data:****IP Call mode/9KHz to 30MHz:**

Test No. #:	Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/
3	/	/	/	/	/	/	/
4	/	/	/	/	/	/	/
5	/	/	/	/	/	/	/
6	/	/	/	/	/	/	/

**Note:**

1. The field strength is calculated by adding the antenna factor, cable factor. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss.
2. The limits shown are based on quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz. the bandwidth of Test Receiver was set at 200Hz in frequency range of 9KHz to 150KHz, 9kHz in the frequency range of 150KHz to 30MHz.
3. All emission levels in the frequency range of 9KHz to 30MHz are 20dB below the official limits that are not reported.

**IP Call Mode/Below 1GHz:**

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>Horizontal</b>							
30.240	0.02	16.8	/	8.08	24.9	40.0	-15.1
58.640	0.02	5.5	/	15.18	20.7	40.0	-19.3
98.480	0.02	7.7	/	17.28	25.0	43.5	-18.5
174.960	0.02	7.8	/	14.98	22.8	43.5	-20.7
414.720	0.20	15.3	/	7.9	23.4	46.0	-22.6
960.000	0.44	23.9	/	14.16	38.5	46.0	-7.5
<b>Vertical</b>							
47.840	0.02	10.1	/	17.88	28.0	40.0	-12.0
61.280	0.02	5.6	/	14.68	20.3	40.0	-19.7
213.440	0.12	7.9	/	10.38	18.4	43.5	-25.1
280.080	0.15	13.2	/	12.45	25.8	46.0	-20.2
320.080	0.16	13.4	/	16.14	29.7	46.0	-16.3
671.920	0.36	20.1	/	12.94	33.4	46.0	-12.6

**Note:**

1. All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 60 s sweep time. A video filter was not used.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss -Preamplifier Factor.
3. The other emission levels are 20dB below the official limits that are not reported.

**IP Call Mode/Above 1GHz:**

Frequency (GHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
<b>Peak Measurement</b>								
1.660	1.82	27.3	33.0	1.92	60.2	74	-13.8	H
2.320	2.25	29.2	33.0	6.99	57.46	74	-16.54	H
3.320	2.61	32.0	32.1	14.23	52.48	74	-21.52	H
1.630	1.82	27.3	33.0	2.98	65.1	74	-8.9	V
2.205	2.15	28.6	33.0	5.99	57.76	74	-16.24	V
2.315	2.25	29.2	33.0	7.93	56.52	74	-17.48	V
<b>Average Measurement</b>								
1.660	1.82	27.3	33.0	13.02	49.1	54	-4.9	H
2.320	2.25	29.2	33.0	21.55	42.9	54	-11.1	H
3.320	2.61	32.0	32.1	23.31	43.4	54	-10.6	H
1.630	1.82	27.3	33.0	13.22	48.9	54	-5.1	V
2.205	2.15	28.6	33.0	21.65	42.1	54	-11.9	V
2.315	2.25	29.2	33.0	20.05	44.4	54	-9.6	V

**Note:**

1. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss -Preamplifier Factor.
2. The limits shown are based on Peak value and Average value detector above 1GHz, the bandwidth of Test Receiver was set at 1MHz above 1GHz.
3. The other emission levels are 20dB below the official limits that are not reported.

**PoE Mode/Below 1GHz:**

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>Horizontal</b>							
31.280	0.02	17.0	/	4.88	21.9	40.0	-18.1
64.800	0.02	5.1	/	17.08	22.2	40.0	-17.8
148.080	0.12	8.6	/	19.38	28.1	43.5	-15.4
280.000	0.15	13.2	/	20.65	34.0	46.0	-12.0
672.000	0.36	20.1	/	17.54	38.0	46.0	-8.0
960.000	0.44	23.9	/	12.86	37.2	46.0	-8.8
<b>Vertical</b>							
35.280	0.02	18.2	/	18.48	36.7	40.0	-3.3
45.760	0.02	12.9	/	19.28	32.2	40.0	-7.8
146.640	0.02	8.3	/	22.08	30.4	43.5	-13.1
279.920	0.15	13.2	/	17.95	31.3	46.0	-14.7
480.000	0.20	17.5	/	12.80	30.5	46.0	-15.5
800.000	0.39	22.2	/	10.71	33.3	46.0	-12.7

**Note:**

1. All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 60 s sweep time. A video filter was not used.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss -Preamplifier Factor.
3. The other emission levels are 20dB below the official limits that are not reported.

**PoE Mode/Above 1GHz:**

Frequency (GHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
<b>Peak Measurement</b>								
1.460	1.71	25.2	33.6	19.38	41.13	74	-32.87	H
1.656	1.82	27.3	33.0	2.08	64.2	74	-9.8	H
1.990	1.98	27.8	33.0	14	48.78	74	-25.22	H
1.627	1.79	27.0	33.0	1.29	60.5	74	-13.5	V
1.635	1.79	27.0	33.0	0.59	61.2	74	-12.8	V
1.665	1.82	27.3	33.0	0.18	62.3	74	-11.7	V
<b>Average Measurement</b>								
1.460	1.71	25.2	33.6	29.08	31.43	54	-22.57	H
1.656	1.82	27.3	33.0	13.02	49.1	54	-4.9	H
1.990	1.98	27.8	33.0	29.65	33.13	54	-20.87	H
1.627	1.79	27.0	33.0	13.09	48.7	54	-5.3	V
1.635	1.79	27.0	33.0	12.49	49.3	54	-4.7	V
1.665	1.82	27.3	33.0	13.42	48.7	54	-5.3	V

**Note:**

1. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss -Preamplifier Factor.
2. The limits shown are based on Peak value and Average value detector above 1GHz, the bandwidth of Test Receiver was set at 1MHz above 1GHz.
3. The other emission levels are 20dB below the official limits that are not reported.

**Test Equipment List:**

<b>Test Equipment</b>	<b>Model No.</b>	<b>Manufacturer</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal. Due</b>
Receiver	SMR4503	SCHAFFNER	11725	2012.07.08	2013.07.07
HF Loop Antenna	HLA6120	TESEQ	26348	2012.09.27	2013.09.26
Double-ridged Wave guide horn	3115	ETS	6587	2012.08.02	2013.08.01
Microwave system amplifier	83017A	Agilent	MY39500438	2012.07.11	2013.07.10
Biconilog Antenna	3142C	ETS	00042672	2012.09.28	2013.09.27
Band-pass Filter	BRM50702	Micro-Tronic	S/N-030	2012.11.30	2013.11.29
Spectrum Analyzer	FSP30	R&S	100755	2012.11.30	2013.11.29
<i>Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.</i>					

TESTED BY:

*Daomen*

ENGINEER

*Galanz*

COMPANY NAME

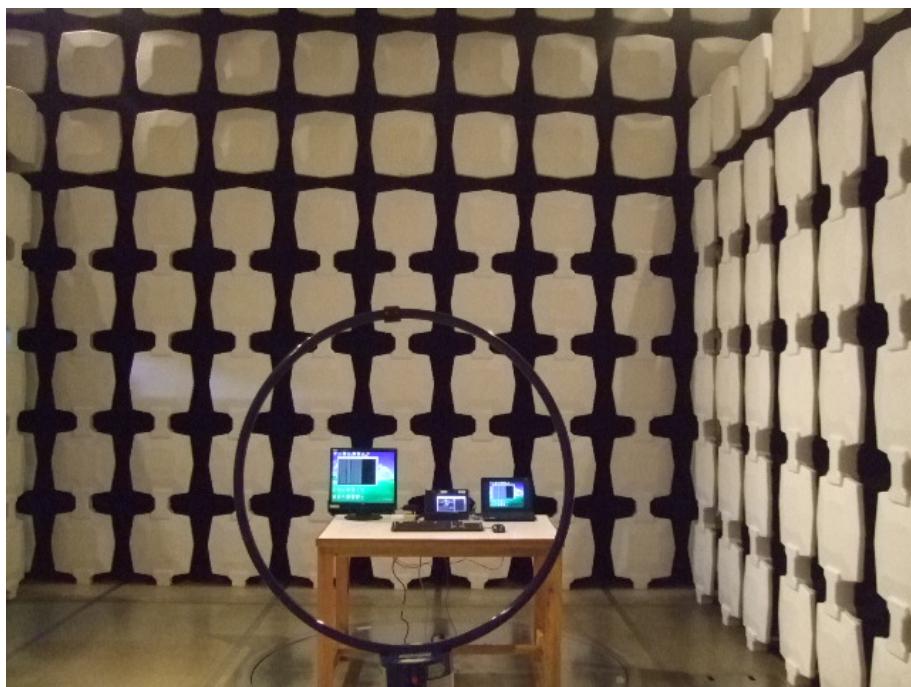
REVIEWED BY:

*Jameym*

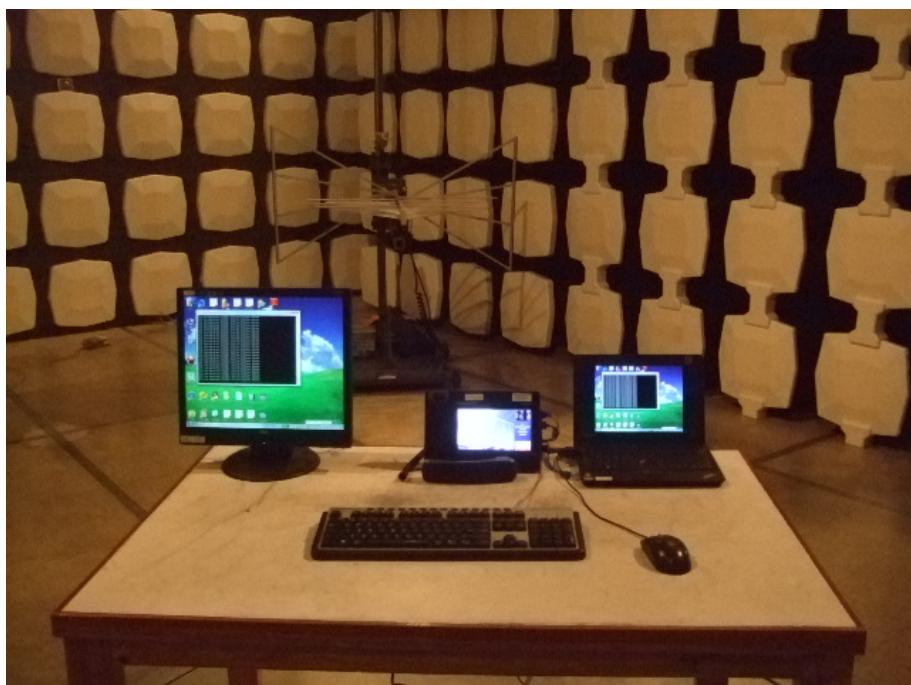
SENIOR ENGINEER

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COMPANY NAME



***Radiated Emission Test Set-up (9 KHz-30MHz)***



***Radiated Emission Test Set-up (Below 1GHz)***



***Radiated Emission Test Set-up (Above 1GHz)***