

EMI TEST REPORT

On Model Name: Analog Telephone Adapter

Model Number: HT701

Brand Name: Grandstream

Prepared for Grandstream Networks, INC

FCC ID Number: YZZHT701

According to FCC 47 CFR Part 15, Subpart B

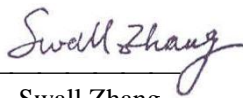
Test Report #: SHE-1111-10726-FCC

Prepared by: Sewen Guo

Reviewed by: Jawen Yin

QC Manager: Swall Zhang

Test Report Released by:


Swall Zhang

November 25, 2011

Date

Test Location

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

Test Site Location : Galanz

*25 South Ronggui Rd., Shunde, Foshan,
Guangdong, China*

Tel : (86)-757-23612785

Fax : (86)-757-23612537

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

<i>GOVERNMENT DISCLAIMER NOTICE</i>	2
<i>REPRODUCTION CLAUSE</i>	2
<i>OPINIONS AND INTERPRETATIONS</i>	2
<i>STATEMENT OF MEASUREMENT UNCERTAINTY</i>	2
<i>ADMINISTRATIVE DATA</i>	3
<i>EUT DESCRIPTION</i>	4
<i>TEST SUMMARY</i>	5
<i>TEST MODE JUSTIFICATION</i>	6
<i>EUT EXERCISE SOFTWARE</i>	6
<i>EQUIPMENT MODIFICATION</i>	6
<i>TEST SYSTEM DETAILS</i>	7
<i>ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS</i>	14
<i>ATTACHMENT 2 – RADIATED EMISSION MEASUREMENT</i>	20

List Attached Files

<i>Exhibit Type</i>	<i>File Description</i>	<i>File Name</i>
<i>Test Report</i>	<i>Test Report</i>	<i>YZZHT701 _Test report_rev01.pdf</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>YZZHT701_operation description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>YZZHT701_External Photos.pdf</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>YZZHT701_Internal Photos.pdf</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>YZZHT701_Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>YZZHT701_Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label and Location</i>	<i>YZZHT701_Label & Location_rev01.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>YZZHT701 _User Manual.pdf</i>
<i>Test setup photos</i>	<i>Test setup photos</i>	<i>YZZHT701 _Test Setup Photos_rev01.pdf</i>

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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 : Analog Telephone Adapter

Model Numbers : HT701

Model Tested : HT701

Date of Receipt : November 7, 2011

Date Tested : November 9, 2011 to November 23, 2011

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

EUT Description

Grandstream Networks, INC., model tested HT701 (referred to as the EUT in this report) is an Analog Telephone Adapter.

The EUT is an Analog Telephone Adapter whose main technical specifications are as below:

Parameter		Range
<i>Basic parameters</i>	<i>Rated voltage</i>	<i>12VDC</i>
	<i>Rated Current</i>	<i>0.5A</i>
<i>I/O Ports</i>	<i>DC Power jack</i>	<i>Power adapter connection</i>
	<i>INTERNET Port (RJ-45)</i>	<i>Connect to the internal LAN network or router.</i>
	<i>RESET</i>	<i>Factory Reset button. Press for 7 seconds to reset factory default settings.</i>
	<i>PHONE (RJ-11)</i>	<i>FXS port to be connected to analog phones / fax machines.</i>
<i>Adapter informations</i>	<i>Input</i>	<i>100-240VAC 50/60Hz 0.18A</i>
	<i>Output</i>	<i>12VDC,500mA,</i>
	<i>Model</i>	<i>SDF1200050A1BB</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 HT701 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.

Emission Tests				
Specifications	Description	Test Results	Test Point	Remark
<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 final test as described below:

IP Call mode:

Connected an IP phone to INTERNET port by an RJ-45 signal line and connected an analog phone to PHONE port by an RJ-11 signal line. Then established a call communication between them and measured it.

Connected to PC mode:

Connected an notebook PC to INTERNET port of the EUT by an RJ-45 signal line and ping 192.168.0.162 to EUT 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.

Test System Details

EUT			
Model Number:	HT701		
Model Tested:	HT701		
Description:	Analog Telephone Adapter		
Input:	AC 120V/60Hz		
Manufacturer:	Grandstream Networks, INC		
Support Equipment			
Description	Model Number	Serial Number	Manufacturer
Notebook PC	NC4000	CNU4122BCL	HP
Adapter Of Notebook PC	PPP009H	239427-003	HP
Mouse	MO32B0	23-033131	HP
Keyboard	SK-1788	N/A	LENOVO
Monitor	177V+	N/A	AOC
IP Phone	GXP2100	N/A	Grandstream Networks, INC
Analog Phone	2957E	N/A	Daerxun Technology Co., Ltd

<i>Cable Description</i>					
<i>Description</i>	<i>From</i>	<i>To</i>	<i>Length (Meters)</i>	<i>Shielded (Y/N)</i>	<i>Ferrite (Y/N)</i>
<i>Adapter Cord Of Notebook PC</i>	<i>AC/DC Adapter</i>	<i>Notebook PC</i>	<i>1.6</i>	<i>N</i>	<i>Y</i>
	<i>AC Plug</i>	<i>AC/DC Adapter</i>	<i>1.2</i>	<i>N</i>	<i>Y</i>
<i>Mouse Cord</i>	<i>Mouse</i>	<i>Plug</i>	<i>1.2</i>	<i>N</i>	<i>Y</i>
<i>Keyboard Cord</i>	<i>keyboard</i>	<i>Plug</i>	<i>1.2</i>	<i>N</i>	<i>Y</i>
<i>VGA Cord</i>	<i>Notebook PC</i>	<i>Monitor</i>	<i>1.2</i>	<i>Y</i>	<i>Y</i>
<i>RJ-45 Cord</i>	<i>EUT</i>	<i>Notebook PC& IP Phone</i>	<i>1.5</i>	<i>N</i>	<i>N</i>
<i>AC/DC Adapter Cord of EUT</i>	<i>EUT</i>	<i>Plug</i>	<i>2.4</i>	<i>N</i>	<i>Y</i>
<i>Note: The "EUT" means "Analog Telephone Adapter".</i>					

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.

Sample Photo For Model HT701



EUT- Top View



EUT- Bottom View



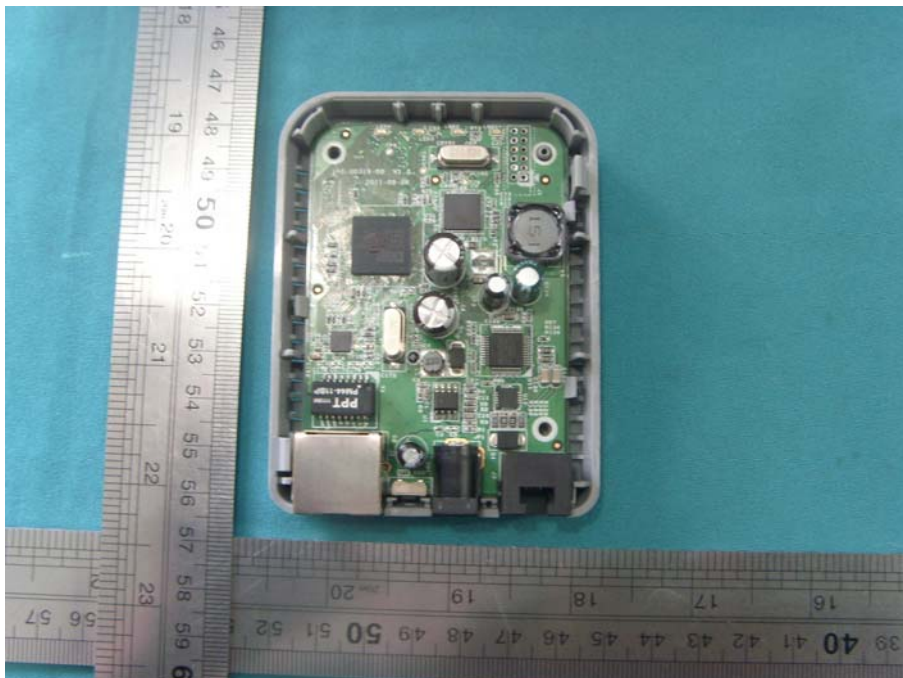
EUT- I/O Ports View



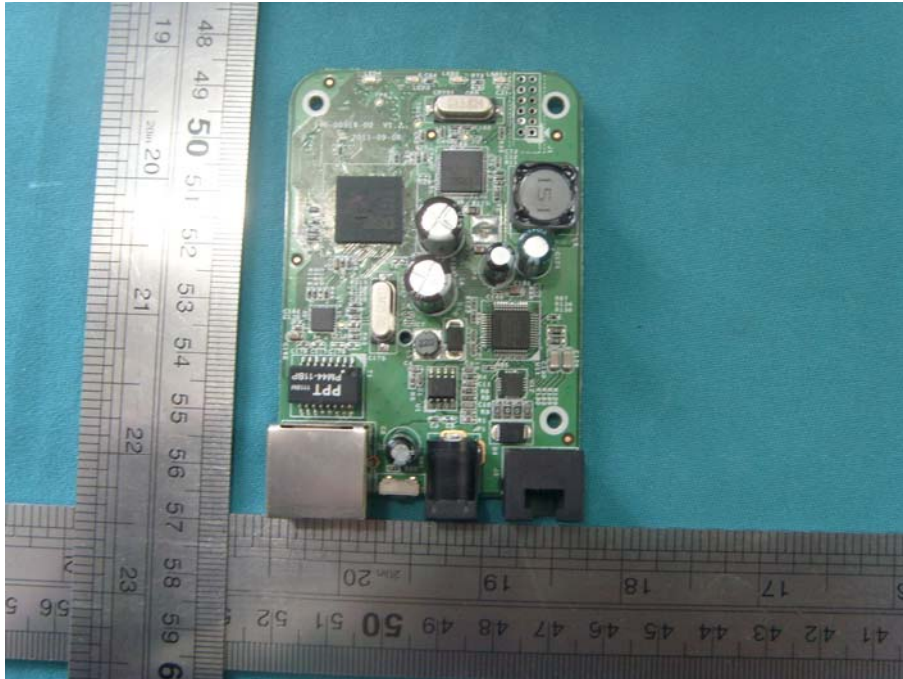
AC/DC Adapter View



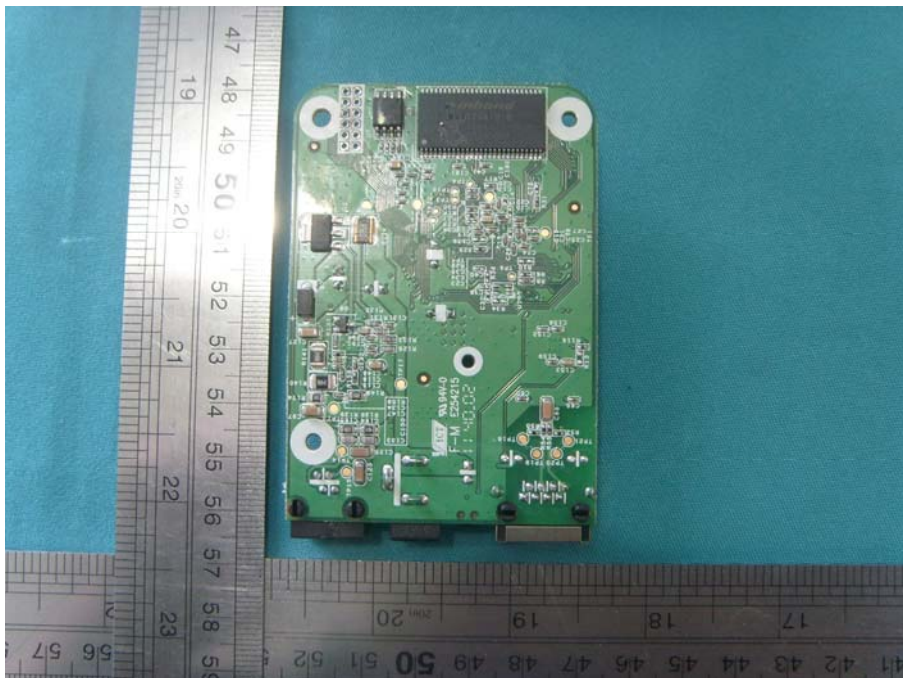
RJ-45 Cable View



EUT-Uncovered View



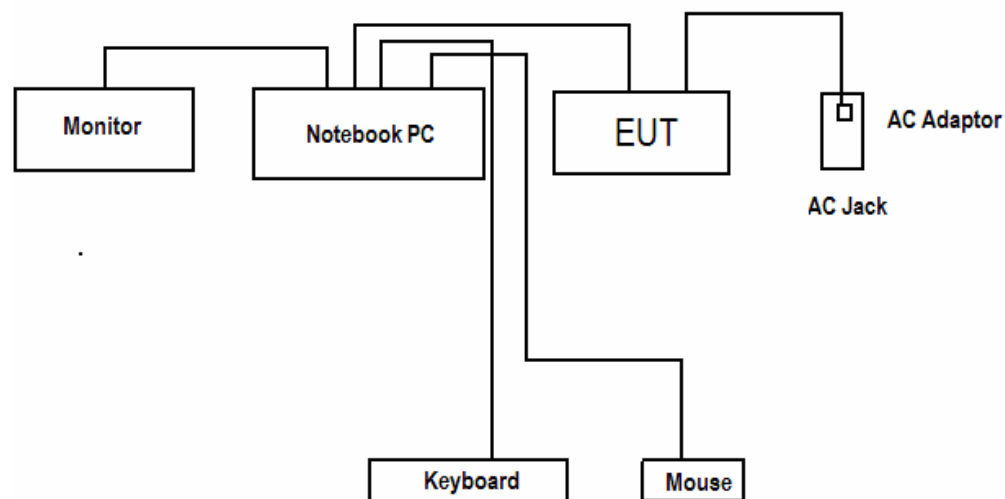
Mainboard- Top View



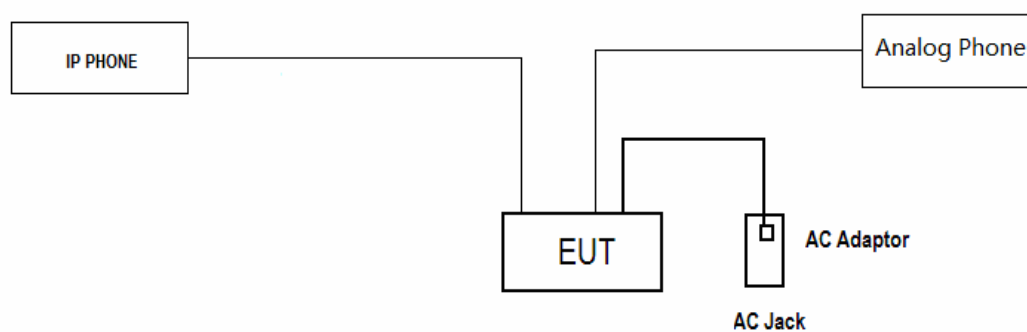
Mainboard- Bottom View

Configuration of Tested System

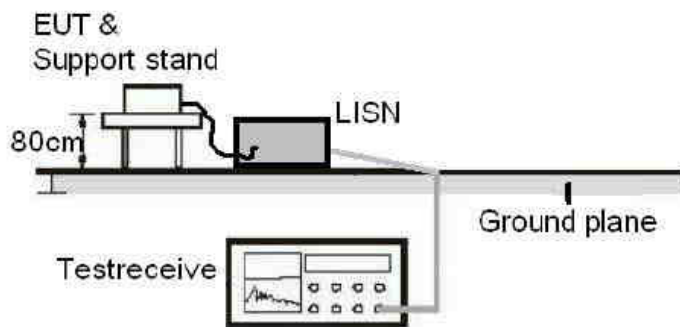
Connected to PC:



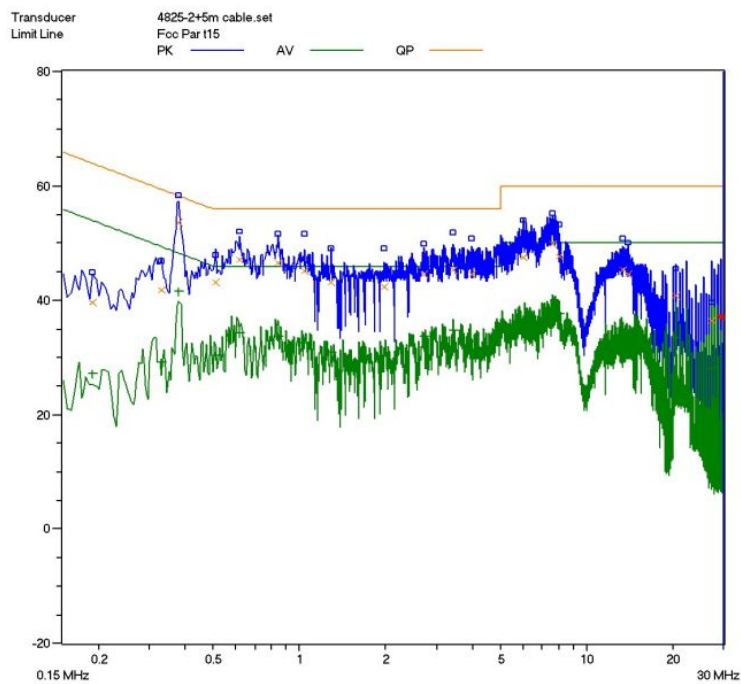
IP Call Mode:



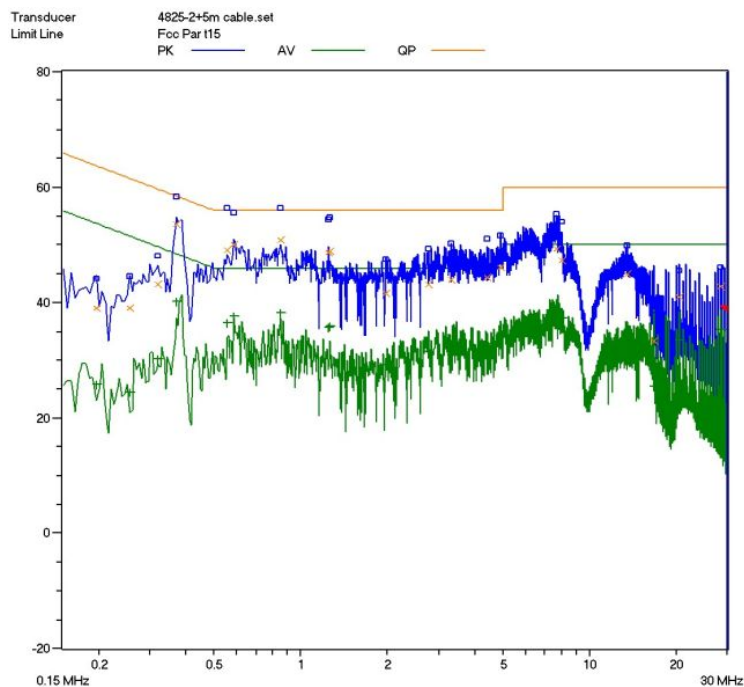
ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	Grandstream Networks, INC	TEST STANDERD:	FCC Part 15, Subpart B, Section 15.107
MODEL NUMBERS:	HT701	PRODUCT:	Analog Telephone Adapter
MODEL TESTED:	HT701	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	51%
ATM PRESSURE:	102.5kPa	GROUNDING:	None
TESTED BY:	Sewen Guo	DATE OF TEST:	November 14, 2011
TEST REFERENCE:	ANSI C63.4- 2003		
TEST PROCEDURE:	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.		
DESCRIPTION OF TEST MODE	Pre-scan has been conducted to determine the worst-case modes from all possible combinations between available operational modes. IP Call mode and connected to PC mode were selected for the final testing.		
TEST SET UP	 <p>The diagram illustrates the test setup for conducted emissions. It shows a test bench with a horizontal surface. On the left, a 'Support stand' holds the 'EUT' (Equipment Under Test). A vertical dimension line indicates a height of '80cm' from the bench surface to the top of the support stand. To the right of the EUT is a 'LISN' (Line Impedance Stabilization Network). Below the EUT, a 'Testreceive' device is connected to the LISN. A 'Ground plane' is indicated by a horizontal line on the right side of the bench, connected to the LISN and the Testreceive device.</p>		
TESTED RANGE:	150kHz to 30MHz		
TEST VOLTAGE:	AC 120V/60Hz		
RESULTS:	The EUT meets the requirements of test reference for Conducted Emissions. The test results relate only to the equipment under test provided by client.		
Changes or Modifications:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY:	Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp ± 2.6 dB		

IP Call mode:

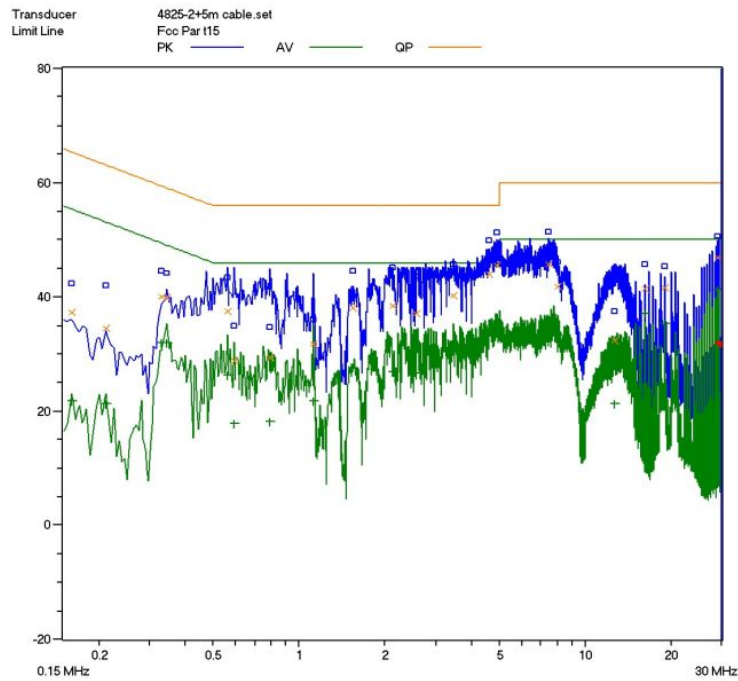


Line L Conducted Emission Graph

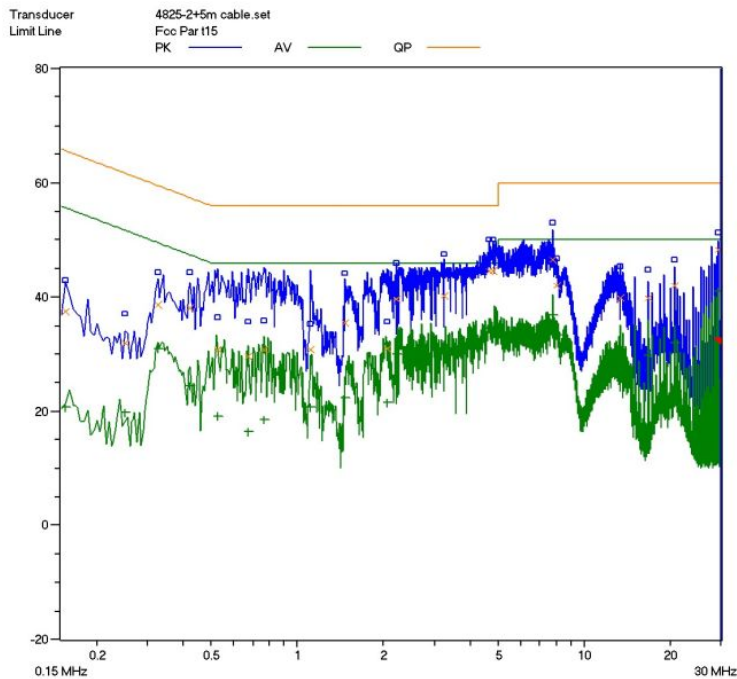


Line N Conducted Emission Graph

Connected to PC:



Line L Conducted Emission Graph



Line N Conducted Emission Graph

Test Data:

<i>Lines (L/N)</i>	<i>Frequency (MHz)</i>	<i>Corrected QP Level (dBuV)</i>	<i>Limits QP (dBuV)</i>	<i>Margin QP (dB)</i>	<i>Frequency (MHz)</i>	<i>Corrected AV Level (dBuV)</i>	<i>Limits AV (dBuV)</i>	<i>Margin QP (dB)</i>
Connected to PC								
L	4.615	44.0	56	-12.0	4.615	34.3	46.0	-11.7
L	4.925	45.6	56	-10.4	4.925	35.7	46.0	-10.3
L	7.410	45.8	60	-14.2	7.410	35.1	50.0	-14.9
N	3.235	40.3	56	-15.7	3.235	30.6	46	-15.4
N	4.685	44.6	56	-11.4	4.685	34.5	46	-11.5
N	4.800	44.5	56	-11.5	4.800	34.2	46	-11.8
IP Call Mode								
L	0.380	53.7	58.3	-4.6	0.380	34.3	48.3	-14.0
L	0.615	47.1	56	-8.9	0.615	33.8	46	-12.2
L	0.845	46.5	56	-9.5	0.845	38.5	46	-7.5
N	0.370	53.7	58.5	-4.8	0.370	40.3	48.5	-8.2
N	0.555	49.1	56	-6.9	0.555	36.5	56	-19.5
N	0.860	50.9	56	-5.1	0.860	38.2	56	-17.8
<p>Note :</p> <p>1) All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not use.</p> <p>2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.</p> <p>3) The other readings are too low against the official limits that are not be recorded.</p>								

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>
<i>Receiver</i>	<i>SMR4503</i>	<i>SCHAFFNER</i>	<i>11725</i>	<i>2011.07.08</i>	<i>2012.07.08</i>
<i>Line impedance stabilization network</i>	<i>4825/2</i>	<i>ETS</i>	<i>1161</i>	<i>2011.07.08</i>	<i>2012.07.08</i>
<i>Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.</i>					

SIGNED BY:



ENGINEER

REVIEWED BY:



SENIOR ENGINEER

Connected to PC:



Conducted Emission Test Set-up

IP Call Mode:

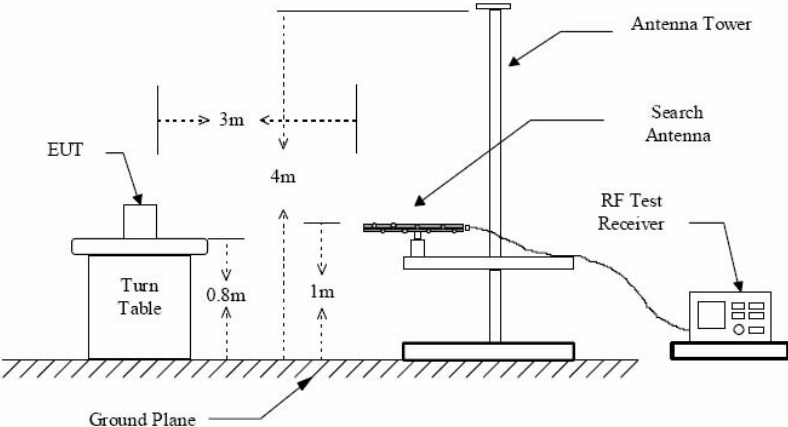
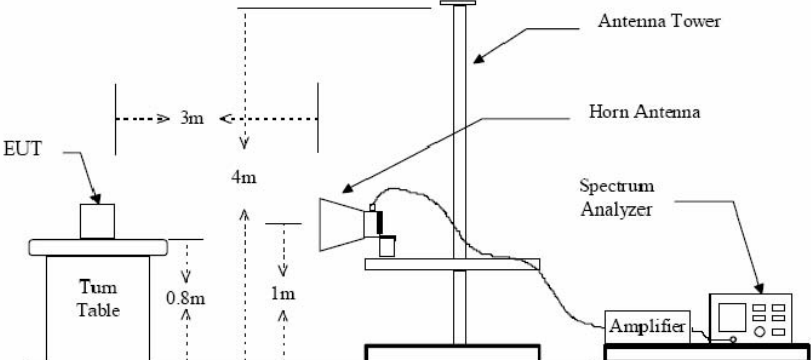


Conducted Emission Test Set-up

ATTACHMENT 2 - RADIATED EMISSION MEASUREMENT

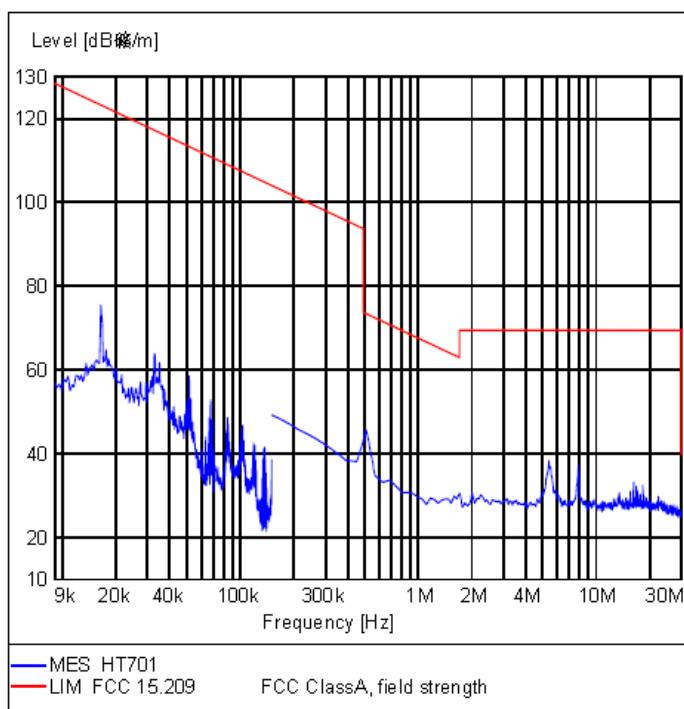
CLIENT:	Grandstream Networks, INC	TEST STANDERD:	FCC Part 15,Subpart B, Section 15.109
MODEL NUMBERS:	HT701	PRODUCT:	Analog Telephone Adapter
EUT MODEL:	HT701	EUT DESIGNATION:	Home or Office
TEMPERATURE:	23°C	HUMIDITY:	49%RH
ATM PRESSURE:	103.0kPa	GROUNDING:	None
TESTED BY:	Sewen Guo	DATE OF TEST:	November 17, 2011
TEST REFERENCE:	ANSI C63.4- 2003		
TEST PROCEDURE:	<p>The EUT was set up according to the guidelines of ANSI C63.4- 2003 for radiated emissions.</p> <p>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 9kHz to 1GHz and average and peak in the frequency range of 1GHz above 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>		
TEST MODE	<p>For 9KHz to 30MHz:</p> <p>Pre-scan has been conducted to determine the worst-case modes from all possible combinations between available operational modes.IP Call modes was chosen for final test.</p> <p>For 30MHz to 2,000MHz:</p> <p>Pre-scan has been conducted to determine the worst-case modes from all possible combinations between available operational modes. IP Call Mode and connected to PC mode were selected for the final testing.</p>		
TESTED RANGE:	9KHz to 2,000MHz		
TEST VOLTAGE:	AC 120V/60Hz		
RESULTS:	The EUT meet the requirements of test reference for radiated emissions.The test results relate only to the equipment under test provided by client.		

Continue on to next page...

<p>TEST SET-UP</p>	<p>Figure 1 : Frequencies measured below 1 GHz configuration</p>  <p>Figure 2 : Frequencies measured above 1 GHz configuration</p> 
<p>CHANGES OR MODIFICATIONS:</p>	<p>There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen). test personnel.</p>
<p>M. UNCERTAINTY:</p>	<p>Freq. $\pm 2 \times 10^{-7} \times$ Center Freq., Amp ± 2.6 dB</p>

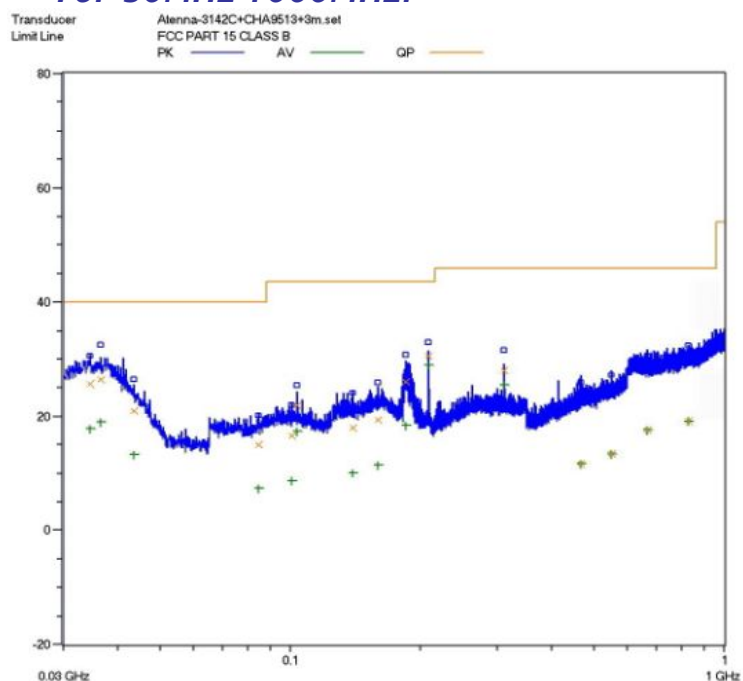
IP Call Mode:

For 9KHz-30MHz:

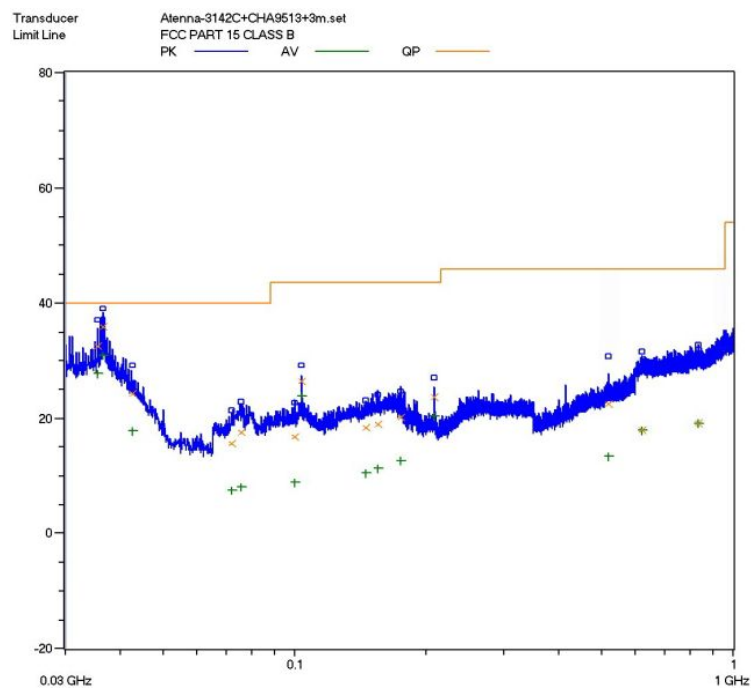


Radiated Field Strength Emission Test Plot(peak,max hold)

For 30MHz-1000MHz:

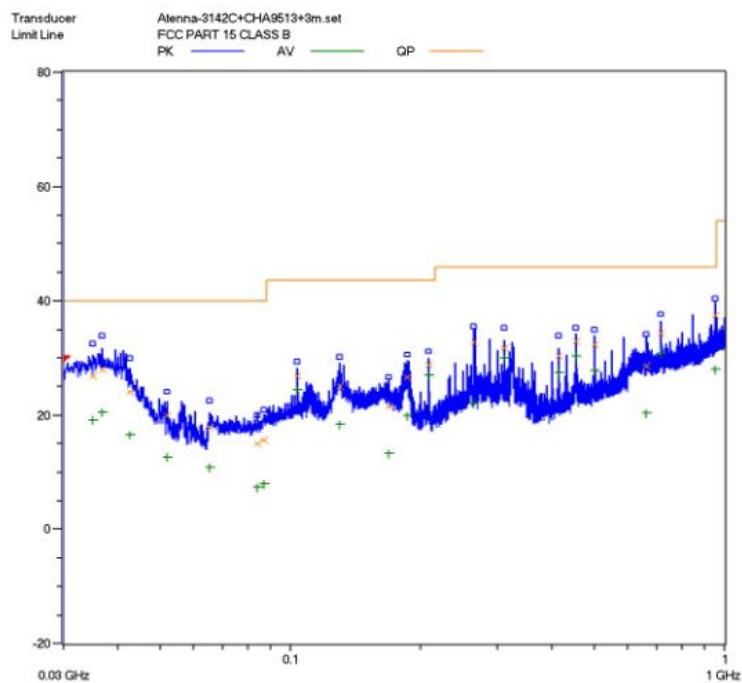


Horizontal:Radiated Emission Test Plot(peak,max hold)

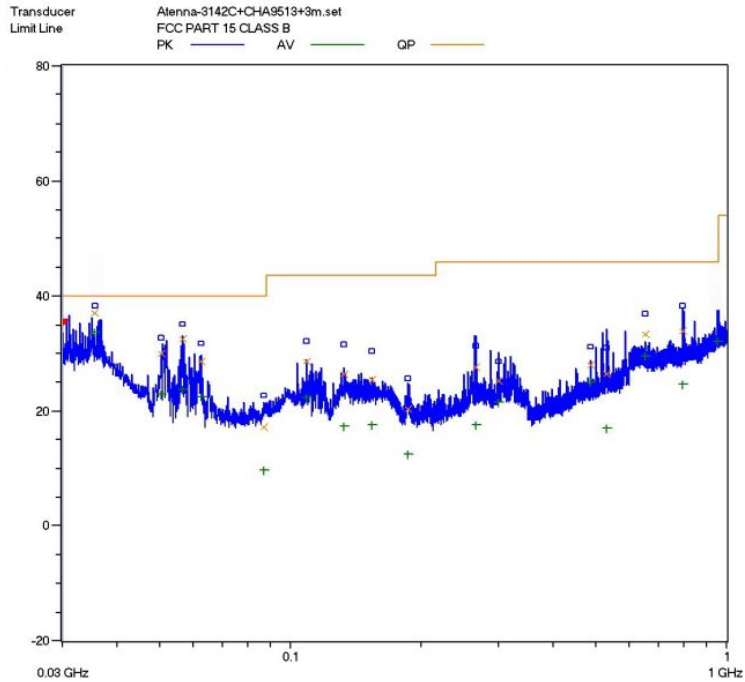


Vertical:Radiated Emission Test Plot(peak,max hold)

Connected to PC:



Horizontal:Radiated Emission Test Plot(peak,max hold)



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:

- The field strength is calculated by adding the antenna factor, cable factor. The basic equation with a sample calculation is as follows:

$$\text{Emission Level} = \text{Reading Level} + \text{Antenna Factor} + \text{Cable Loss}.$$
- 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.
- All emission levels in the frequency range of 9KHz to 30MHz are 20dB below the official limits that are not reported.

IP Call Mode/30MHz to 1000MHz:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamplifier Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
Horizontal							
34.480	0.02	17.9	/	7.68	25.6	40	-14.4
36.640	0.02	18.4	/	8.08	26.5	40	-13.5
43.520	0.02	13.9	/	7.08	21.0	40	-19.0
185.040	0.1	5.9	/	20	26.0	43.5	-17.5
207.360	0.12	7.6	/	22.88	30.6	43.5	-12.9
311.040	0.16	13.7	/	14.14	28.0	43.5	-15.5
Vertical							
35.600	0.02	18.3	/	14.18	32.5	40	-7.5
36.640	0.02	18.4	/	17.48	35.9	40	-4.1
42.800	0.02	15.4	/	8.98	24.4	40	-15.6
103.680	0.02	7.7	/	18.78	26.5	43.5	-17.0
173.920	0.02	9.4	/	10.68	20.1	43.5	-23.4
207.360	0.12	7.6	/	15.98	23.7	43.5	-19.8

Note:

- 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.
- 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.
- The other emission levels are 20dB below the official limits that are not reported.

IP Call Mode/Above 1GHz:

<i>Frequency (MHz)</i>	<i>Cable Loss (dB)</i>	<i>Antenna Factor (dB)</i>	<i>Preamplifier Factor (dB)</i>	<i>Reading Level (dBuV/m)</i>	<i>Emission Level (dBuV/m)</i>	<i>Limit (dBuV/m)</i>	<i>Margin (dB)</i>	<i>Antenna Polarization (H/V)</i>
Peak Measurement								
1.056	1.39	23.9	-33.6	-9.44	49.45	74	-24.55	H
1.192	1.48	24.2	-33.6	-11.69	47.59	74	-26.41	H
1.328	1.57	25.3	-33.6	-13.13	47.34	74	-26.66	H
1.064	1.40	24.1	-33.6	-2.51	56.59	74	-17.41	V
1.320	1.53	24.8	-33.6	-7.24	52.69	74	-21.31	V
1.592	1.73	26.3	-33.6	-7.67	53.96	74	-20.04	V
Average Measurement								
1.056	1.39	23.9	-33.6	-16.59	42.3	54	-11.7	H
1.192	1.48	24.2	-33.6	-14.18	45.1	54	-8.9	H
1.328	1.57	25.3	-33.6	-21.77	38.7	54	-15.3	H
1.064	1.40	24.1	-33.6	-18.2	40.9	54	-13.1	V
1.320	1.53	24.8	-33.6	-20.33	39.6	54	-14.4	V
1.592	1.73	26.3	-33.6	-23.43	38.2	54	-15.8	V

Note:

- 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.*
- 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.*
- The other emission levels are 20dB below the official limits that are not reported.*

Connected to PC/Below 1GHz:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamplifier Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
Horizontal							
264.800	0.15	12.9	/	19.65	32.7	46	-13.3
311.040	0.16	13.7	/	18.04	31.9	46	-14.1
414.720	0.2	15.1	/	15.1	30.4	46	-15.6
454.800	0.2	16.8	/	15.9	32.9	46	-13.1
500.000	0.2	17.4	/	14.8	32.4	46	-13.6
714.640	0.39	20.5	/	13.51	34.4	46	-11.6
Vertical							
50.480	0.02	8.2	/	21.88	30.1	40	-9.9
56.560	0.02	5.7	/	26.78	32.5	40	-7.5
62.240	0.02	5.4	/	23.18	28.6	40	-11.4
529.520	0.3	18.1	/	8.1	26.5	46	-19.5
649.680	0.36	20	/	13.04	33.4	46	-12.6
794.720	0.39	21.5	/	12.11	34.0	46	-12.0

Note:

- 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.
- 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.
- The other emission levels are 20dB below the official limits that are not reported.

Connected to PC/Above 1GHz:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamplifier Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
1.056	1.39	23.9	-33.6	-7	51.89	74	-22.11	H
1.192	1.48	24.2	-33.6	-5.67	53.61	74	-20.39	H
1.328	1.57	25.3	-33.6	-10.26	50.21	74	-23.79	H
1.064	1.40	24.1	-33.6	-1.24	57.86	74	-16.14	V
1.320	1.53	24.8	-33.6	-3.01	56.92	74	-17.08	V
1.592	1.73	26.3	-33.6	-6.32	55.31	74	-18.69	V
Average Measurement								
1.056	1.39	23.9	-33.6	-14.79	44.1	54	-9.9	H
1.192	1.48	24.2	-33.6	-13.28	46.0	54	-8.0	H
1.328	1.57	25.3	-33.6	-20.67	39.8	54	-14.2	H
1.064	1.40	24.1	-33.6	-17.9	41.2	54	-12.8	V
1.320	1.53	24.8	-33.6	-19.23	40.7	54	-13.3	V
1.592	1.73	26.3	-33.6	-19.33	42.3	54	-11.7	V

Note:

- 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.
- 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.
- The other emission levels are 20dB below the official limits that are not reported.

Test Equipment List:

Test Equipment	Model No.	Manufacturer	Serial No.	Last Cal.	Cal. Due
EMI Test Receiver #1	ESCS30	Rohde & Schwarz	SB3319	2011.02.25	2012.02.24
Triple Loop Antenna	HXYZ9170	Schwarzbeck	SB2662	2011.02.25	2012.02.24
EMI Test Receiver #2	SMR4503	SCHAFFNER	11725	2011.07.08	2012.07.07
Double-ridged Wave guide horn	3115	ETS	6587	2011.08.02	2012.08.01
Microwave system amplifier	83017A	Agilent	MY39500438	2011.07.11	2012.07.10
Biconilog Antenna	3142C	ETS	00042672	2011.09.28	2012.09.27
Band-pass Filter	BRM50702	Micro-Tronic	S/N-030	2001.11.30	2011.11.29
Spectrum Analyzer	FSP30	R&S	100755	2010.11.30	2011.11.29
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY:



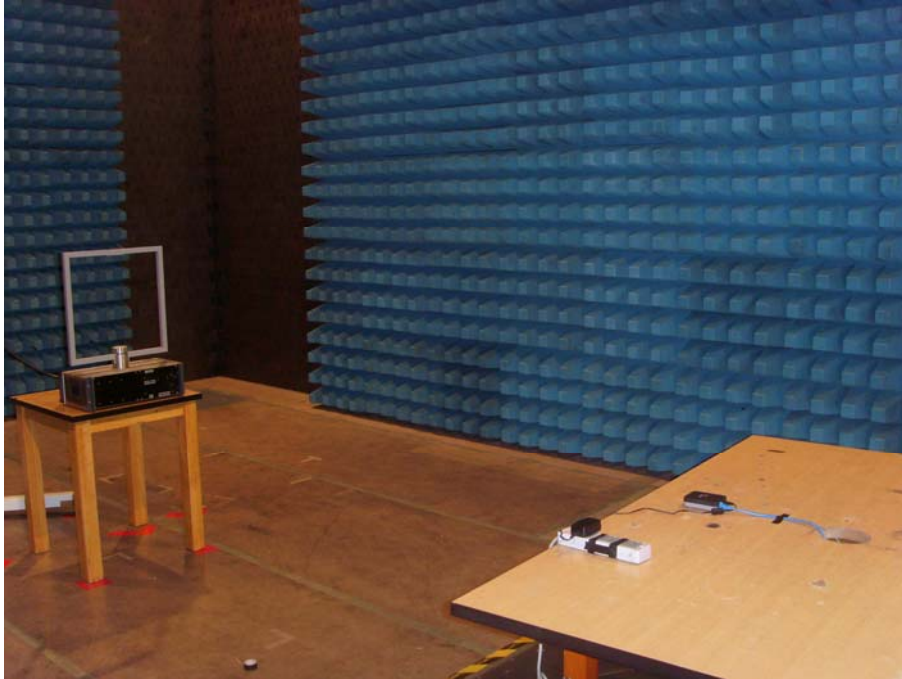
ENGINEER

REVIEWED BY:



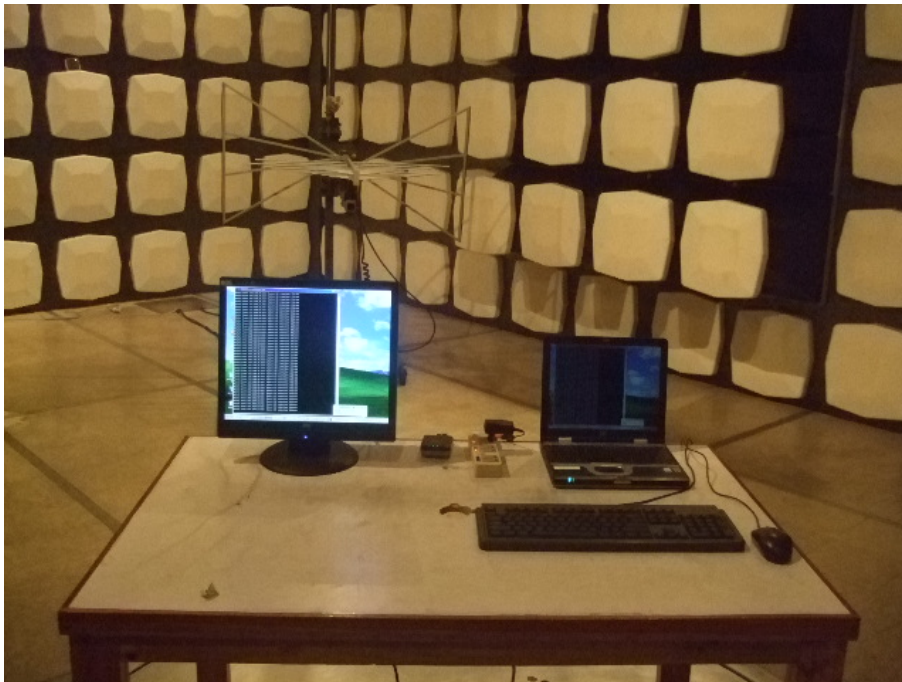
SENIOR ENGINEER

9KHz to 30MHz:

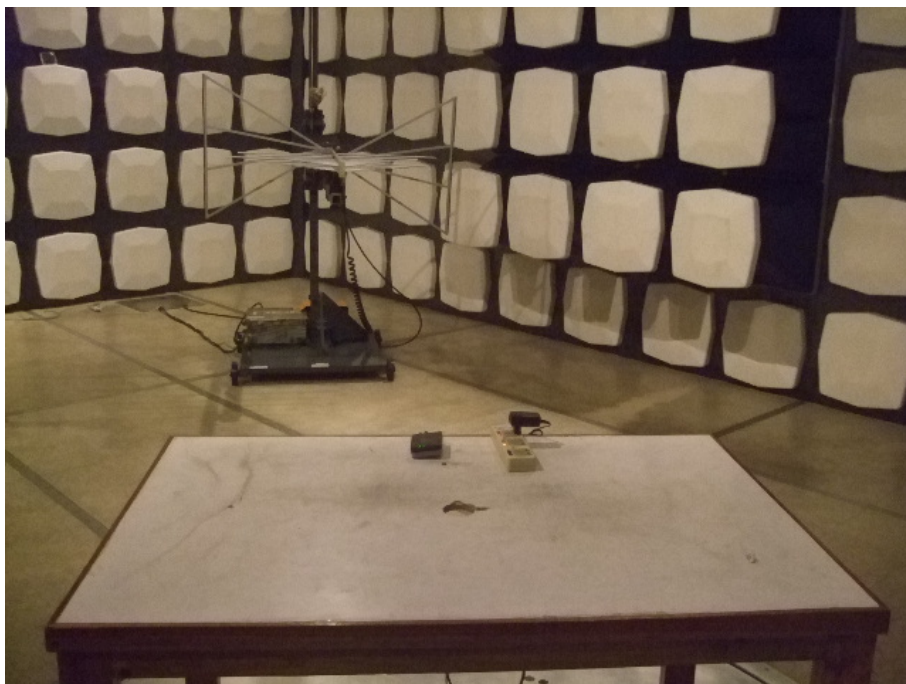


IP Call Mode: Radiated Emission Test Set-up

30MHz to 1000MHz:

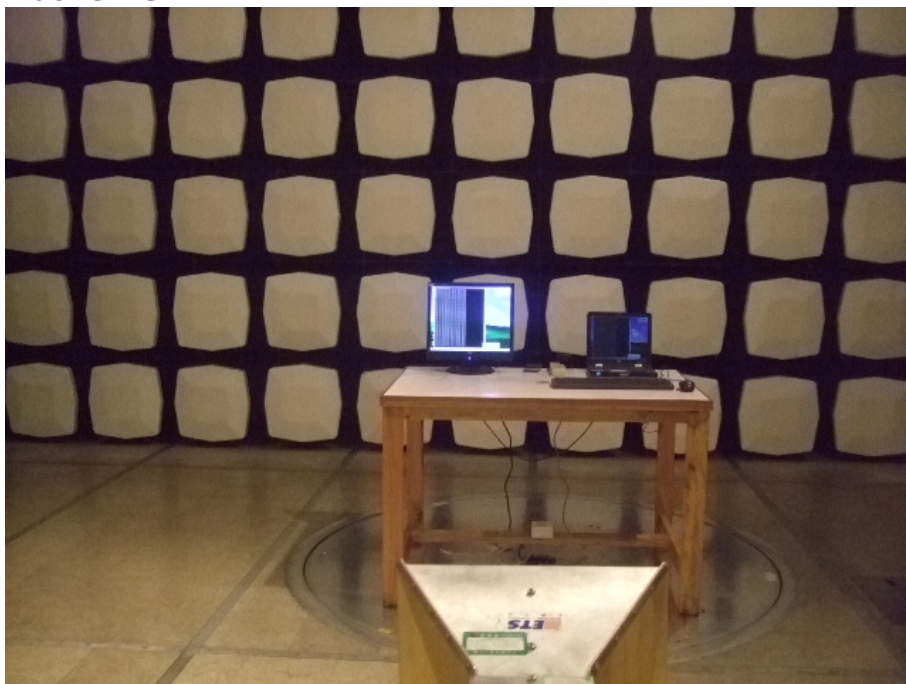


Connected to PC: Radiated Emission Test Set-up



IP Call mode: Radiated Emission Test Set-up

Above 1GHz:



Connected to PC: Radiated Emission Test Set-up



IP Call Mode: Radiated Emission Test Set-up