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EMI TEST REPORT

On Model Name: IP Phone

Model Number: GXP1525,GXP1520,GXP1510

Brand Name: Grandstream

Prepared for Grandstream Networks, Inc.

FCC ID Number: YZZGXP15XX

According to FCC 47 CFR Part 15, Subpart B

Test Report #: SHE-1403-11137-FCC

Tested by: Daomen — Galanz
Daomen /Engineer — Company Name

Reviewed by: — ECMG
Jawen Yin/ Senior Engineer — Company Name

QC Manager: Swall Zhang — ECMG
Swall Zhang/QC Manager — Company Name

Test Report Released by: Swall Zhang — April 24th, 2014
Swall Zhang — 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 CN AL/AC01:2002 accreditation criteria for testing laboratories (identic al 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.

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List Attached Files

Exhibit Type	File Description	File Name
Test Report	Test Report	YZZGXP15XX _Test report.pdf
Operation Description	Technical Description	YZZGXP15XX_operation description.pdf
External Photos	External Photos	YZZGXP15XX_External Photos
Internal Photos	Internal Photos	YZZGXP15XX_Internal Photos
Block Diagram	Block Diagram	YZZGXP15XX_Block Diagram.pdf
Schematics	Circuit Diagram	YZZGXP15XX _Schematics.pdf
ID Label/Location	Label and Location	YZZGXP15XX_Label & Location.pdf
User Manual	User Manual	YZZGXP15XX _User Manual.pdf
Test set-up photos	Test set-up photos	YZZGXP15XX _Test Set-up Photos

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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 Phone*
Model Numbers	*: GXP1525,GXP1520,GXP1510*
Model Tested	*: GXP1525*
Receipt Date	*: April 9 th, 2014*
Date Tested	*: April 11st, 2014*
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 GXP1525 (referred to as the EUT in this report) is an IP Phone.

Technical specifications of the EUT are as belows:

Parameter		***Range***
Basic parameters	*Rated Voltage*	*+5VDC*
	Rated Current	*600mA*
I/O Ports	*Power jack*	*Power Adapter connection*
	LAN Port	*Dual switched auto-sensing 10/ 100 Mbps Ethernet ports, integrated PoE (GXP1525 only)*
	PC Port	*Connect to PC*
	Handset	*Connect to handset*
	Headset	*RJ9 headset jack (allowing EHS with Plantronics headsets)*
Power Adapter #1(AMIGO)	*Input*	*100-240VAC 50/60Hz*
	Output	*5VDC,0.6A*
	Model	*AMS20-0500600FU2*
	Brand name	*AMIGO*
Power Adapter #2(Mass power-1)	*Input*	*100-240VAC 50/60Hz*
	Output	*5VDC,0.6A*
	Model	*PCF-0500060AV*
	Brand name	*Mass power*
Power Adapter #3(Mass power-2)	*Input*	*100-240VAC 50/60Hz*
	Output	*5VDC,0.8A*
	Model	*SCF0500080A1BA*
	Brand name	*Mass power*

NOTE:

1. *The EUT includes three power adapters which have been tested and recorded in this report.*
2. *For more detailed informations or features please refer to user's manual of EUT.*

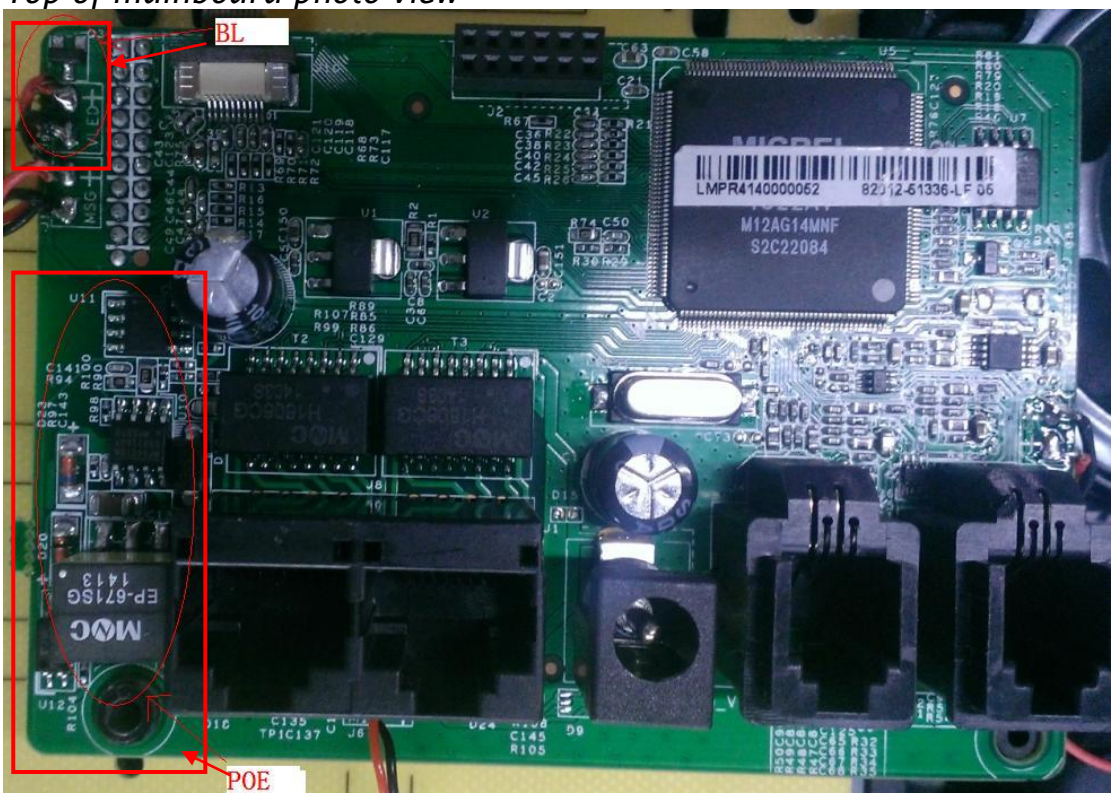
EUT Model Derived

Model GXP1525,GXP1520 and GXP1510 is identical except for differences as belows:

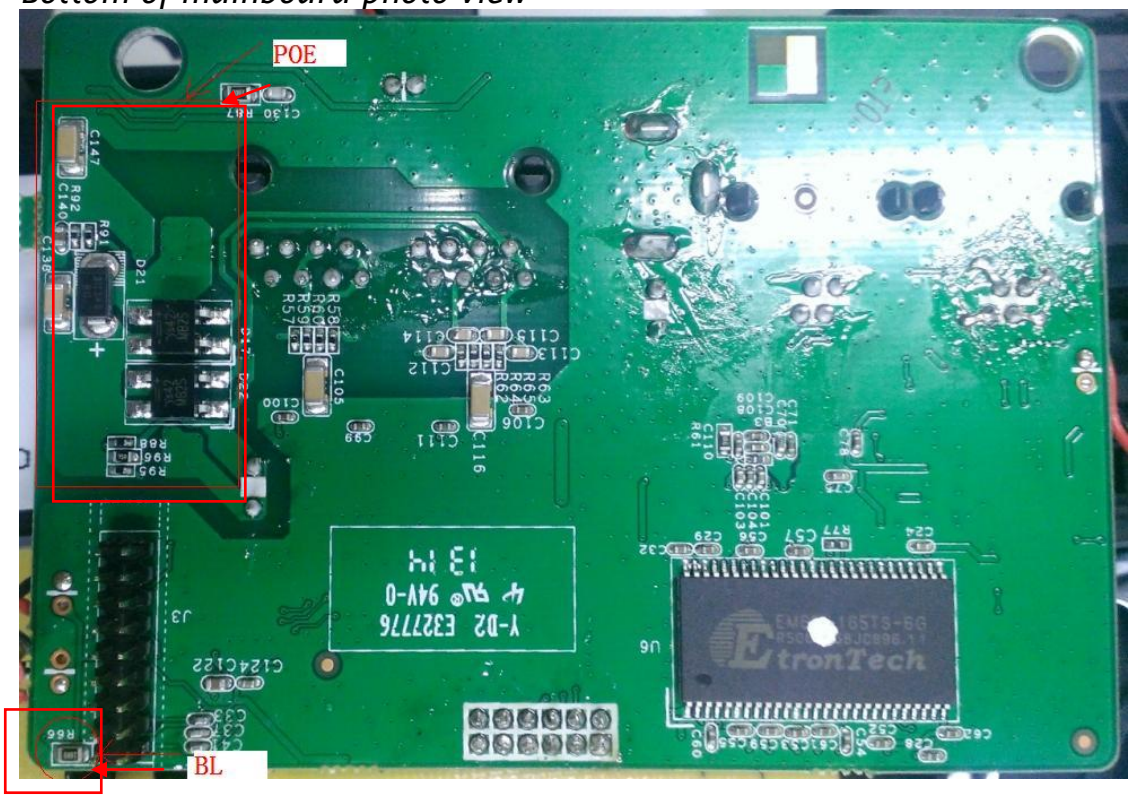
1.GXP1520 is different from GXP1525 as below:
1) No PoE module.
2.GXP 1510 are different from GXP1525 as below:
1) No PoE module.
2) No LCD backlight.
3) Only one 1 line/one SIP account.

Anything else are the same as GXP1525. Model GXP1525 was selected for the final testing.

Top of mainboard photo view



Bottom of mainboard photo view



Test Summary

The Electromagnetic Compatibility requirements on model GXP1525 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***
FCC Part 15.107 ANSI C63.4 -2009	*Conducted Emission*	*Passed*	*AC Input Port*	*Attachment 1*
FCC Part 15.109 ANSI C63.4 -2009	*Radiated Emission*	*Passed*	*Enclosure*	*Attachment 2*

Test Mode Justification

The system was tested in IP Call mode and PoE mode.

EUT Exercise Software

No Exercise sofware 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.

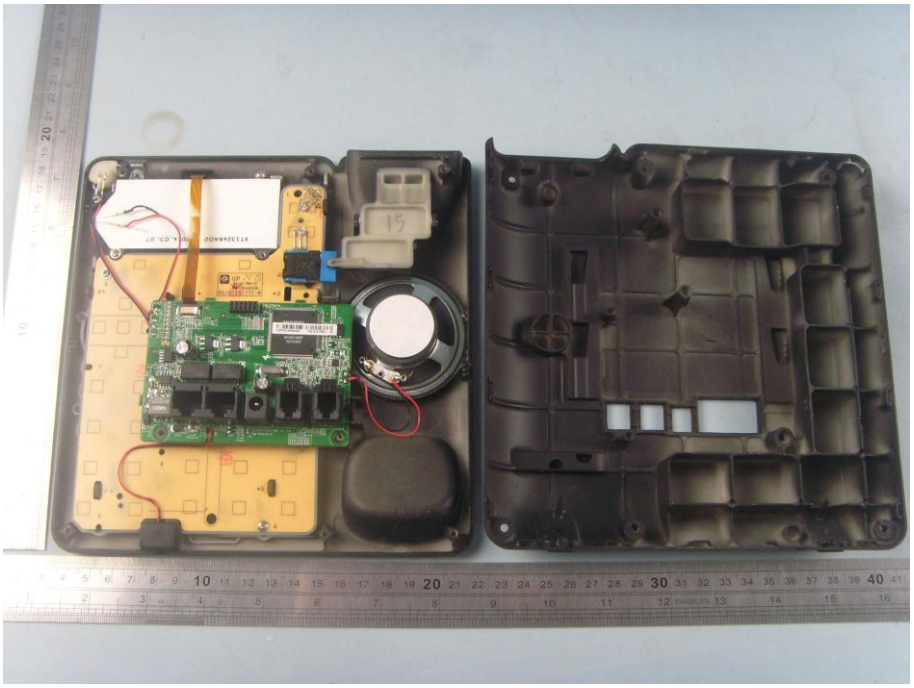
There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen). Test personnel.

EUT Sample Photos

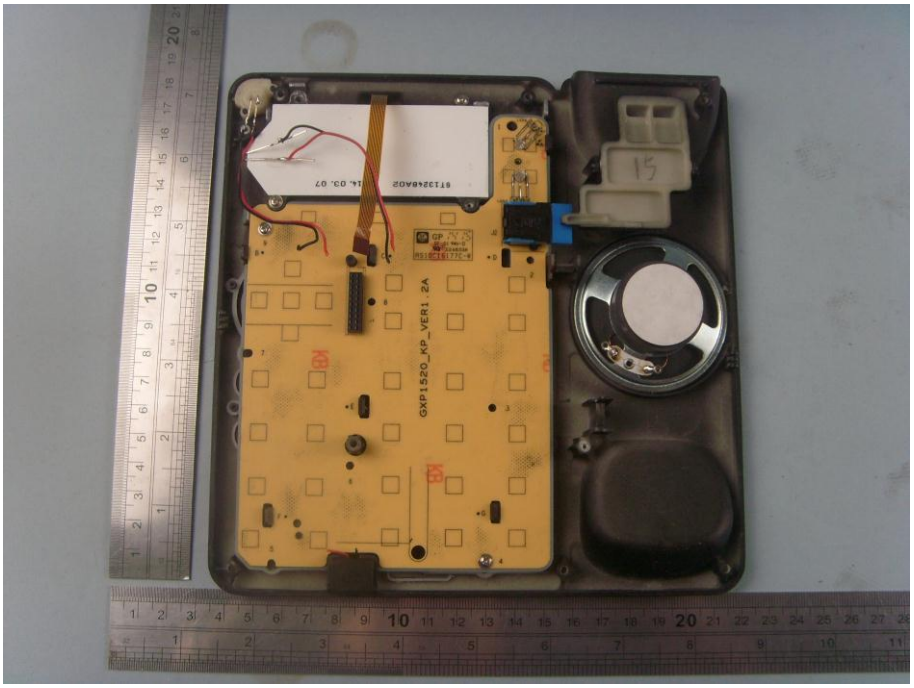
EUT Model:GXP1525

EUT- Front View

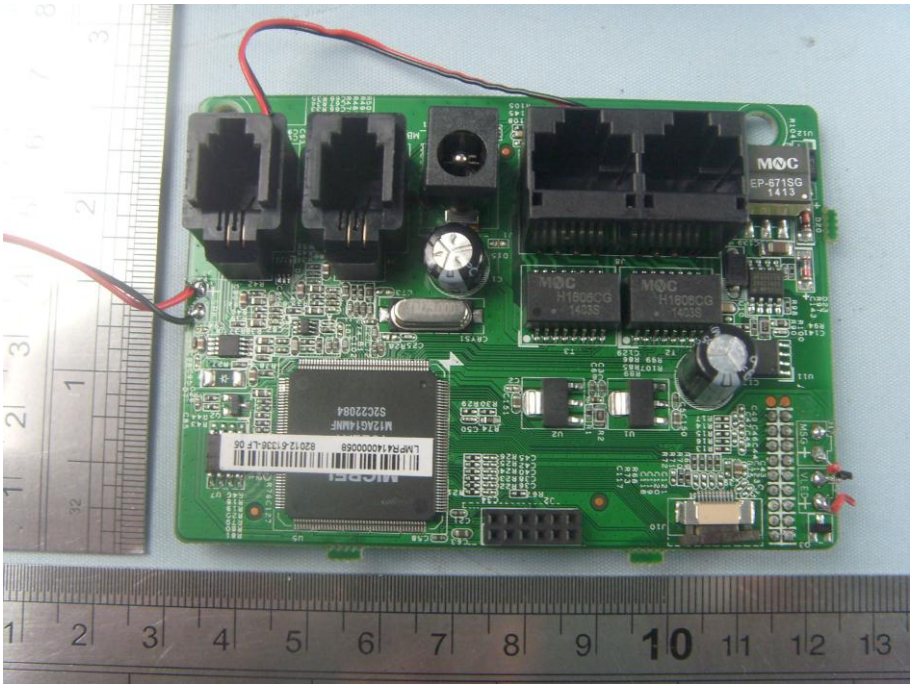
EUT- Rear View



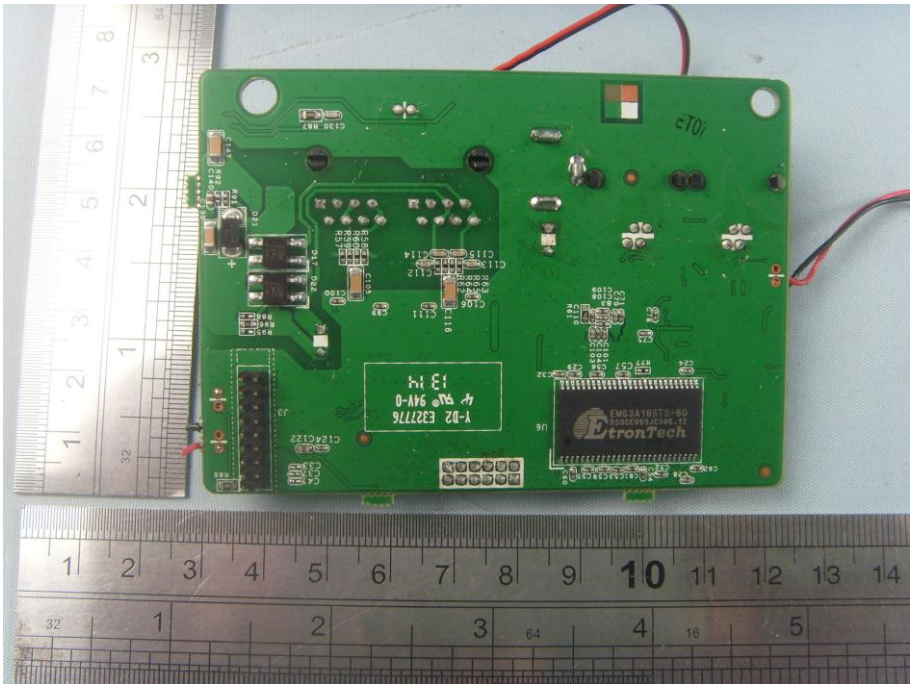
EUT-Uncovered View #1



EUT-Uncovered View #2



Main board- Top View



Main board- Bottom View

Power Adaptor #1 View (AMIGO)

Power Adaptor #2 View (Mass power-1)

Power Adaptor #3 View (Mass Power-2)

Test System Details

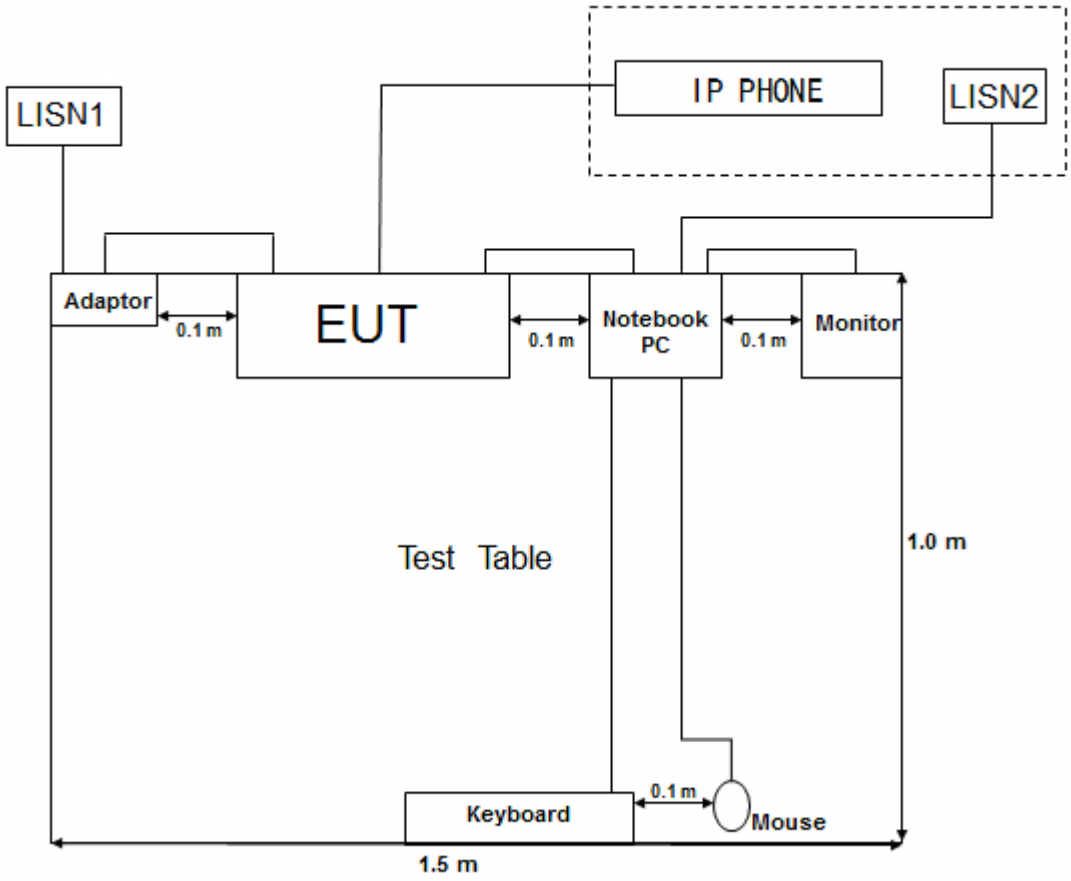
EUT			
Model Number:	GXP1525,GXP1520,GXP1510		
Model Tested:	GXP1525		
Description:	IP PHONE		
Input:	5VDC		
Manufacturer:	Grandstream Networks, Inc.		
Support Equipment			
Description	**Model Number**	**Serial Number**	**Manufacturer**
Notebook Computer	TYPE2374	2374-KU1	IBM
Power Adapter Of Notebook Computer	ThinkPad 57Y4614	---	IBM
Mouse	MO32B0	23-033131	IBM
Keyboard	SK-1788	---	Lenovo
Monitor	TFT1780PS	B8879HA021638	AOC
IP PHONE	GXP2130	---	Grandstream

Continue on to next page…

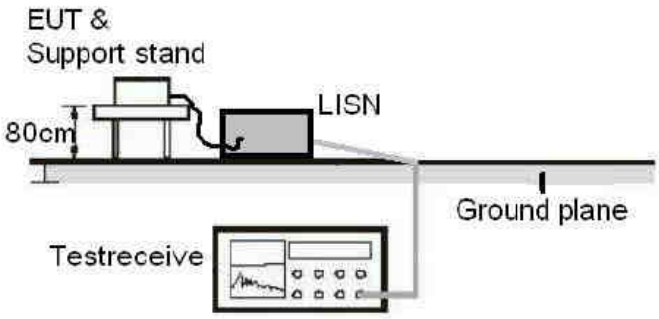
Cable Description					
Description	**From**	**To**	**Length (Meters)**	**Shielded (Y/N)**	**Ferrite core (Y/N)**
Power Cord Of Notebook Computer	Power Adapter	Notebook Computer	1.6	N	Y
	Power Adapter	AC Plug	1.2	N	Y
Power power cord of monitor	Monitor	AC Plug	1.2	N	Y
Mouse cord	Mouse	Plug	1.2	N	Y
Keyboard cord	Keyboard	Plug	1.2	N	Y
VGA Cord	Monitor	Notebook Computer	1.2	Y	Y
RJ-45 Cord 1	EUT	Notebook Computer	1.5	N	N
RJ-45 Cord 2	EUT	GXP2130	3.0	N	N
Power cord of power Adapter #1 (AMIGO)	EUT	Plug	1.8	N	N
Power cord of power Adapter #2 (Mass power-1)	EUT	Plug	1.8	N	N
Power cord of power Adapter #3 (Mass power-2)	EUT	Plug	1.8	N	N
Note:The "EUT" means "IP 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.

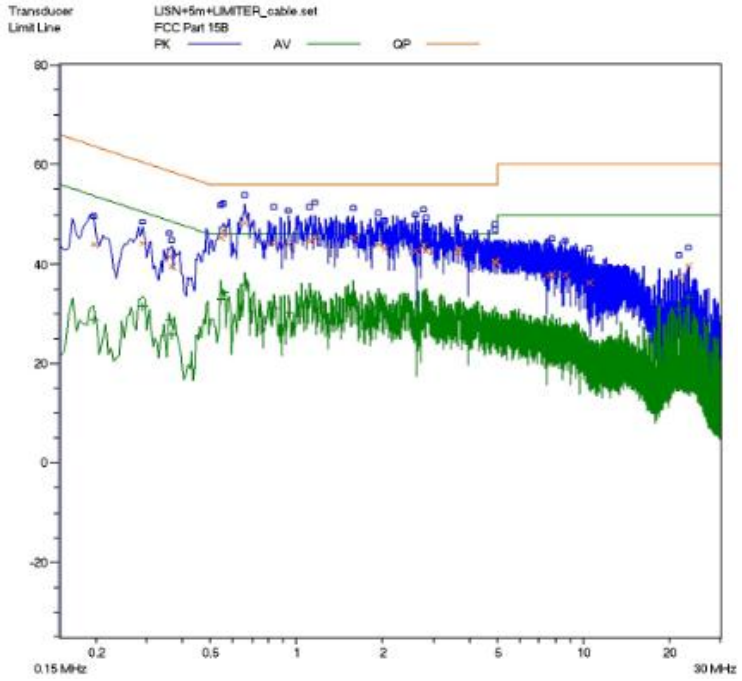
Configuration of Tested System



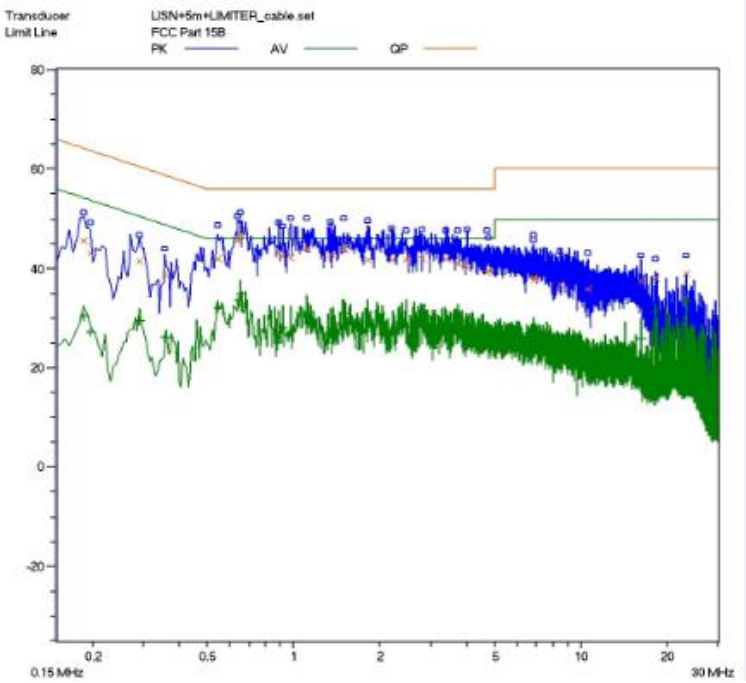
ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	Grandstream Networks, Inc.	**TEST STANDERD:**	FCC Part 15, Subpart B, Section 15.107
MODEL NUMBERS:	GXP1525,GXP1520, GXP1510	**PRODUCT:**	IP Phone
MODEL TESTED:	GXP1525	**EUT DESIGNATION:**	Home or Office
TEMPERATURE:	23°C	**HUMIDITY:**	51%
ATM PRESSURE:	103kPa	**GROUNDING:**	None
TESTED BY:	Daomen	**DATE OF TEST:**	April 11st , 2014
TEST REFERENCE:	ANSI C63.4 -2009		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4 -2009 for conducted emissions. The measurement was using a AMN on each line and an EMI recei ver peak scan was made at the frequency measurement range. The six highest si gnificant peaks were then marked, and these signals were then quasi-peaked and averaged. The frequency range investigated was from 150KHz to 30MHz.		
TEST MODE:	IP Call		
TEST SET UP			
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. ± $2x10^{-7}$ x Center Freq., Amp ± 2.6 dB		

Power Adaptor #1:(AMIGO power)

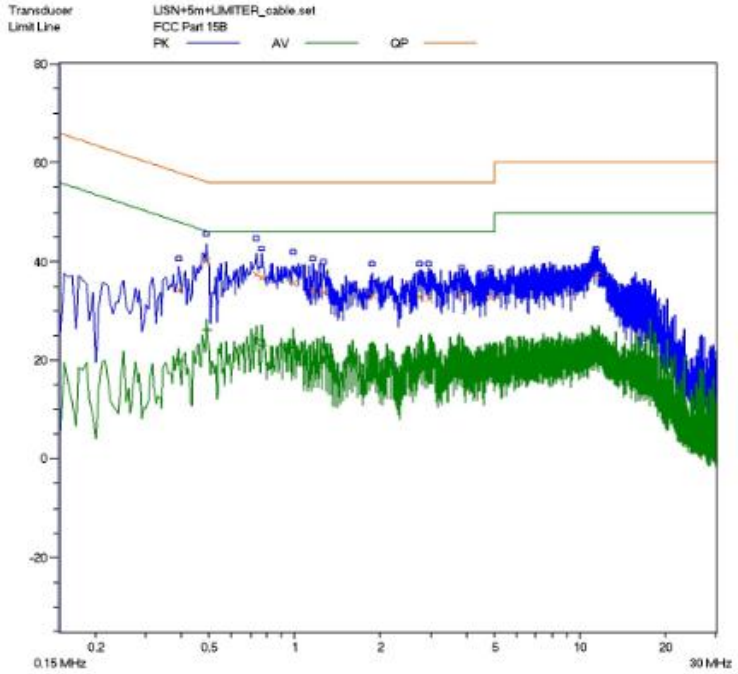


Line L Conducted Emission Graph

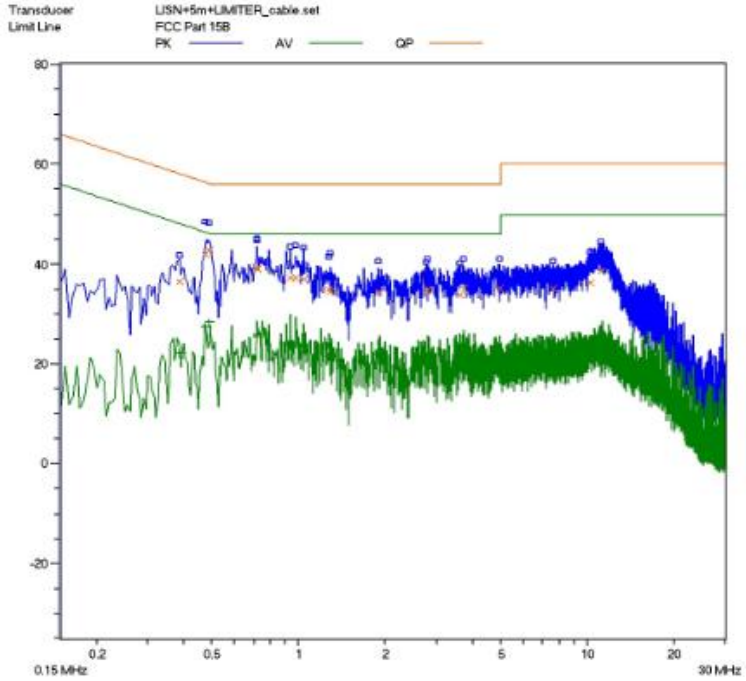


Line N Conducted Emission Graph

Power Adaptor #2:(Mass power-1)

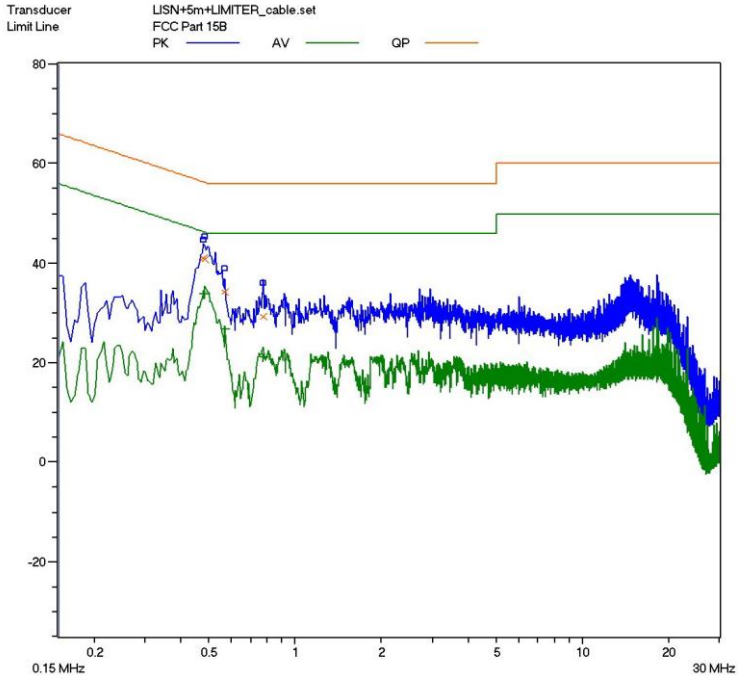


Line L Conducted Emission Graph

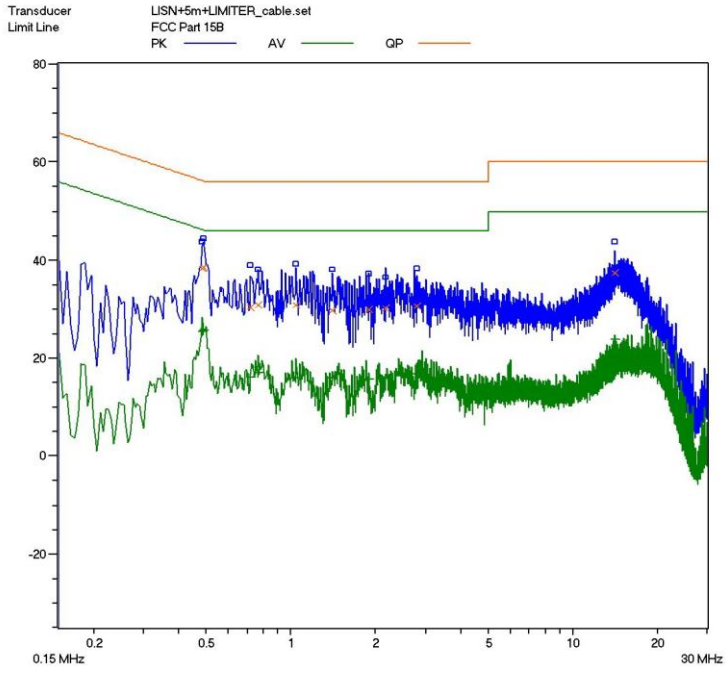


Line N Conducted Emission Graph

Power Adaptor #3:(Mass power-2)



Line L Conducted Emission Graph



Line N Conducted Emission Graph

Test Data:

Power Adaptor #1(AMIGO)

Lines	*Frequency (MHz)*	*Corrected QP Level (dBuV)*	*Limits QP (dBuV)*	*Margin QP (dB)*	*Frequency (MHz)*	*Corrected AVE Level (dBuV)*	*Limits AVE (dBuV)*	*Margin AVE (dB)*
L	*0.545*	*45.5*	*56*	*-10.5*	*0.545*	*32.9*	*46*	*-13.1*
L	*0.555*	*46.7*	*56*	*-9.3*	*0.555*	*34.3*	*46*	*-11.7*
L	*0.655*	*48.3*	*56*	*-7.7*	*0.655*	*35.9*	*46*	*-10.1*
N	*0.635*	*45.6*	*56*	*-10.4*	*0.635*	*33.5*	*46*	*-12.5*
N	*0.650*	*46.6*	*56*	*-9.4*	*0.650*	*34.9*	*46*	*-11.1*
N	*1.110*	*44*	*56*	*-12*	*1.110*	*31.1*	*46*	*-14.9*

Note:

1) All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not used.

2) Other emission levels are too low against official limt that are not reported.

Power Adaptor #2(Mass power-1)

Lines	*Frequency (MHz)*	*Corrected QP Level (dBuV)*	*Limits QP (dBuV)*	*Margin QP (dB)*	*Frequency (MHz)*	*Corrected AVE Level (dBuV)*	*Limits AVE (dBuV)*	*Margin AVE (dB)*
L	*0.490*	*40.1*	*56.2*	*-16.1*	*0.490*	*26.1*	*46.2*	*-20.1*
L	*0.730*	*37.5*	*56*	*-18.5*	*0.730*	*24*	*46*	*-22*
L	*0.760*	*36.1*	*56*	*-19.9*	*0.760*	*22.9*	*46*	*-23.1*
N	*0.475*	*41.9*	*56.4*	*-14.5*	*0.475*	*27.5*	*46.4*	*-18.9*
N	*0.490*	*42.8*	*56.2*	*-13.4*	*0.490*	*28.4*	*46.2*	*-17.8*
N	*0.720*	*39.3*	*56*	*-16.7*	*0.720*	*25.9*	*46*	*-20.1*

Note:

3) All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not used.

4) Other emission levels are too low against official limt that are not reported.

Power Adaptor #3(Mass power-2)

Lines	*Frequency (MHz)*	*Corrected QP Level (dBuV)*	*Limits QP (dBuV)*	*Margin QP (dB)*	*Frequency (MHz)*	*Corrected AVE Level (dBuV)*	*Limits AVE (dBuV)*	*Margin AVE (dB)*
L	*0.4800*	*41.1*	*56.3*	*-15.2*	*0.4880*	*33.9*	*46.3*	*-12.4*
L	*0.4850*	*40.9*	*56.3*	*-15.4*	*0.4850*	*33.9*	*46.3*	*-12.4*
L	*0.5650*	*34.3*	*56.0*	*-21.7*	*0.5650*	*26.7*	*46*	*-19.3*
N	*0.4850*	*38.4*	*56.3*	*-17.9*	*0.4850*	*25.4*	*46.3*	*-20.9*
N	*0.4900*	*38.5*	*56.2*	*-17.7*	*0.4900*	*25.6*	*46.2*	*-20.6*
N	*14.1550*	*37.5*	*60.0*	*-22.5*	*14.1550*	*23.9*	*50.0*	*-26.1*

Note:

1) All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not used.

2) Other emission levels are too low against official limta that are not report.

Test Equipment List:

Test Equipment	*Model No.*	*Manufacturer*	*Serial No.*	*Last Cal.*	*Cal. Interval*
EMI Receiver	*SMR4503*	*SCHAFFNER*	*11725*	*2013.07.08*	*2014.07.08*
Line impedance stabilization network	*ESH2-Z5*	*R&S*	*N/A*	*2013.07.08*	*2014.07.08*
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

TESTED BY: Daomen ***GALANZ***

ENGINEER ***COMPANY NAME***

REVIEWED BY: ***ECMG***

SENIOR ENGINEER ***COMPANY NAME***

Conducted Emission Test Set-up –Front View

Conducted Emission Test Set-up –Rear View

ATTACHMENT 2 – RADIATED EMISSION MEASUREMENT

CLIENT:	Grandstream Networks, Inc.	**TEST STANDERD:**	FCC Part 15,Subpart B, Section 15.109
MODEL NUMBERS:	GXP1525,GXP1520, GXP1510	**PRODUCT:**	IP Phone
EUT MODEL:	GXP1525	**EUT DESIGNATION:**	Home or Office
TEMPERATURE:	23°C	**HUMIDITY:**	49%RH
ATM PRESSURE:	103.0kPa	**GROUNDING:**	None
TESTED BY:	Daomen	**DATE OF TEST:**	April 11st , 2014
TEST REFERENCE:	ANSI C63.4 -2009		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4 -2009 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 frequ ency range of 30 MHz to 1GHz and average and peak in the frequency range of 1 GHz to 2GHz at an anechoic chamber. The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected rea dings against the limits. Explanation of the Correction Factor are given as follows: FS= RA + AF + CF - AG Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain		
TEST MODE	IP Call mode and PoE mode		
TESTED RANGE:	9K-30MHz and 30MHz to 2GHz. **Note:** As the highest frequency operated of the EUT is 125MHz, so upper frequency of radiated emission test is up to 2GHz as per FCC PART 15,subpart B,section 15.33(b).		
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.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen). Test personnel.		
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 3.6 dB		

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TEST SET-UP:

Frequency measured at 9KHz to 30MHz:

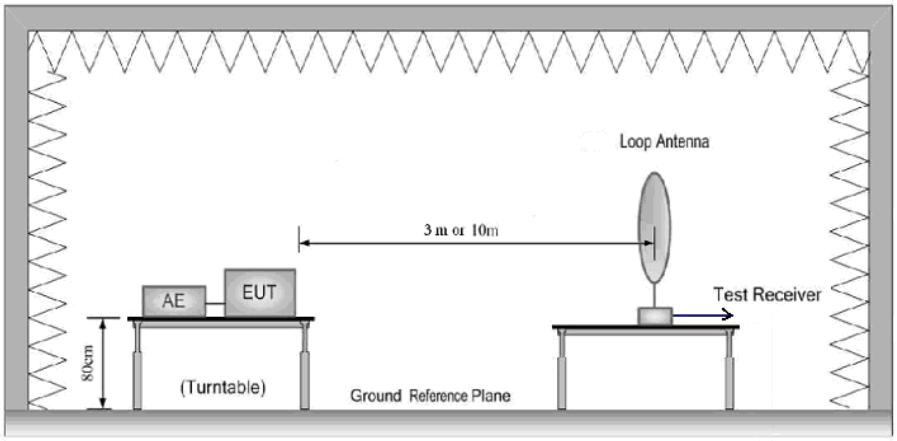


Figure 1 : Frequencies measured below 1 GHz configuration

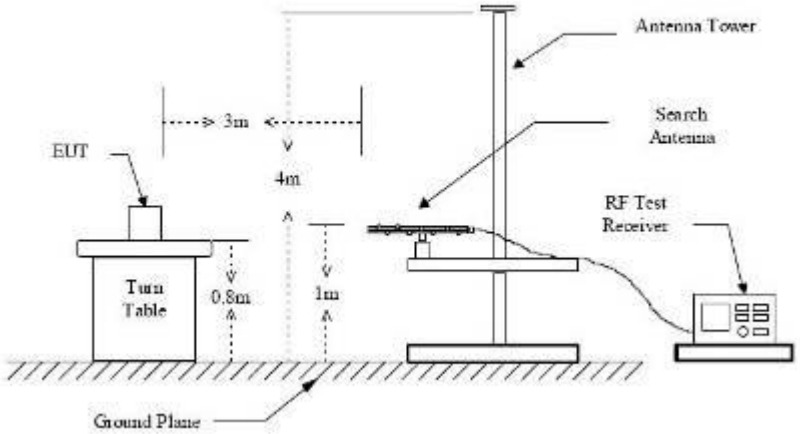
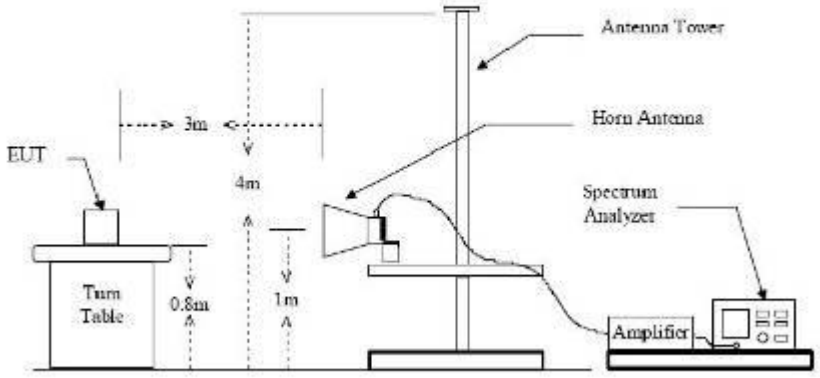
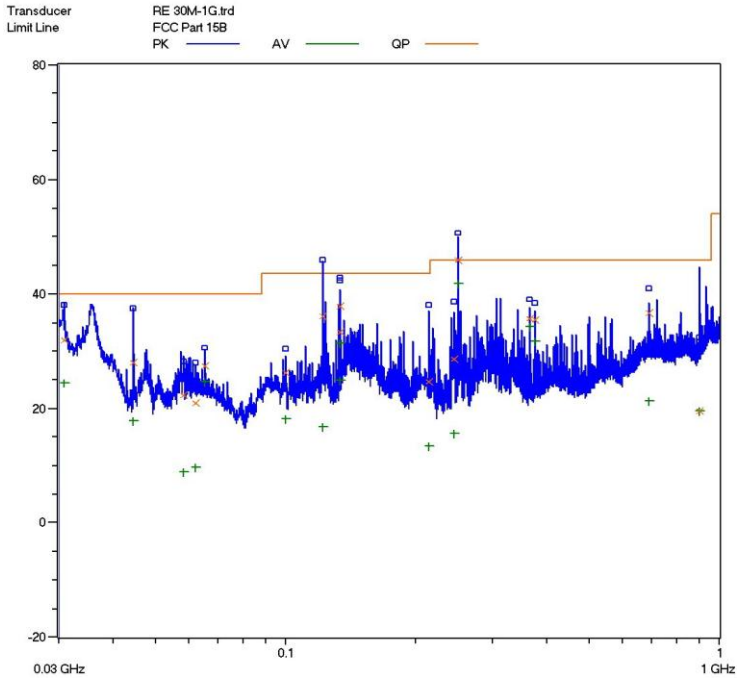


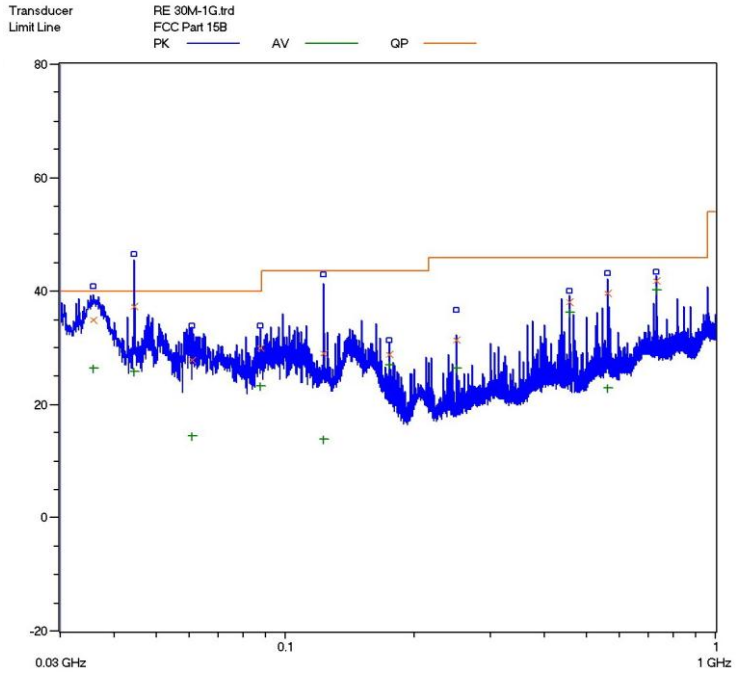
Figure 2 : Frequencies measured above 1 GHz configuration



30-1000MHz:
Power Adaptor #1:Amigo power

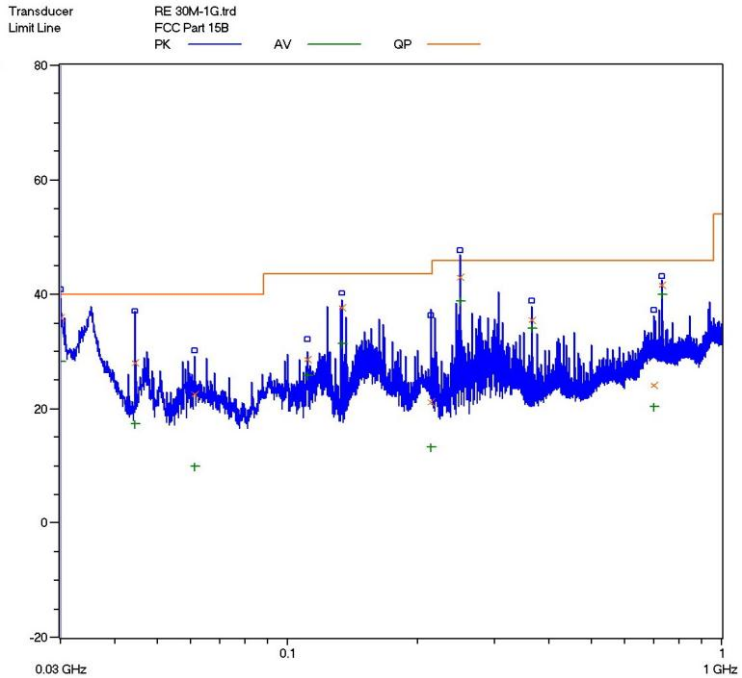


Horizontal: Radiated Emission Test Plot (Peak,max hold)

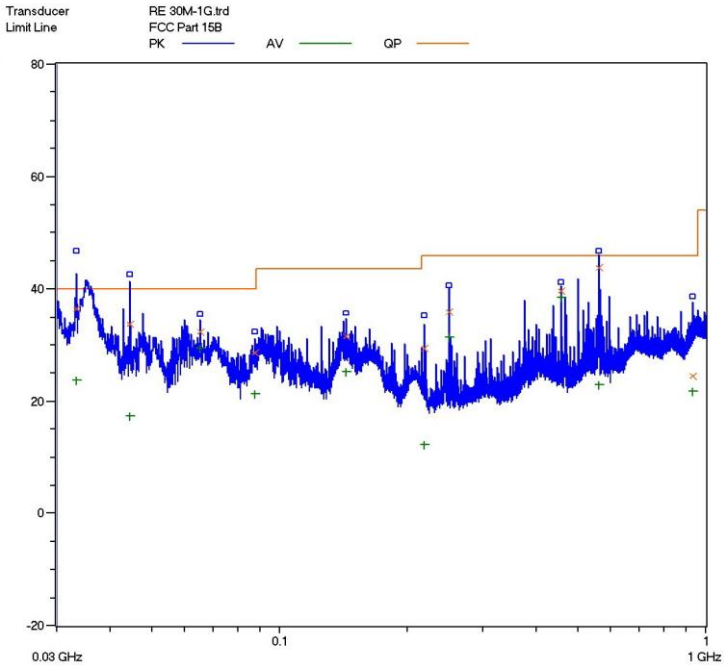


Vertical: Radiated Emission Test Plot (Peak,max hold)

30-1000MHz:
Power Adaptor #2: Mass Power-1

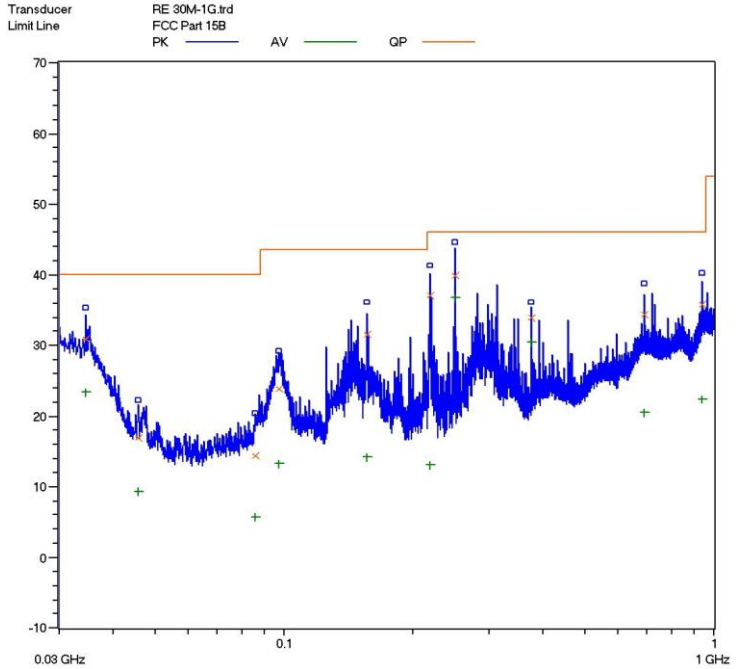


Horizontal: Radiated Emission Test Plot (Peak,max hold)

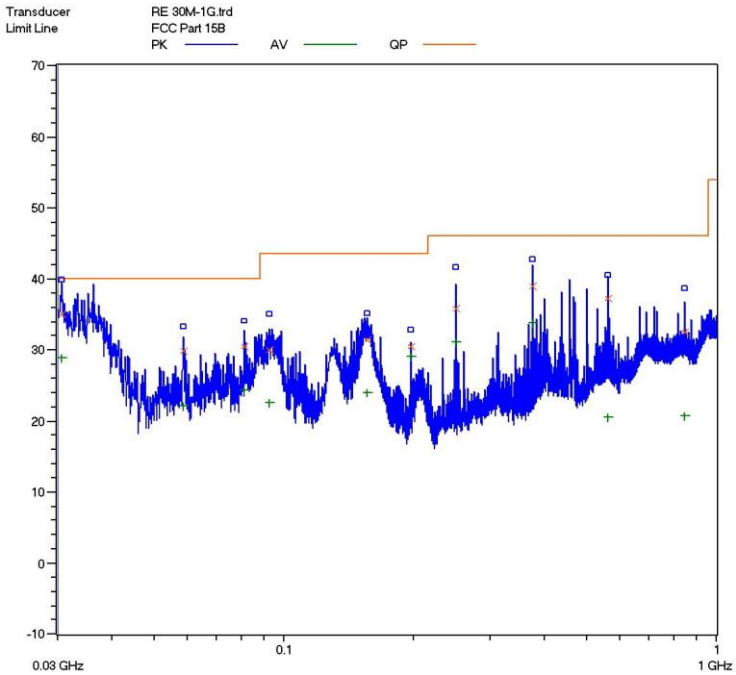


Vertical: Radiated Emission Test Plot (Peak,max hold)

30-1000MHz:
Power Adaptor #3: Mass Power-2



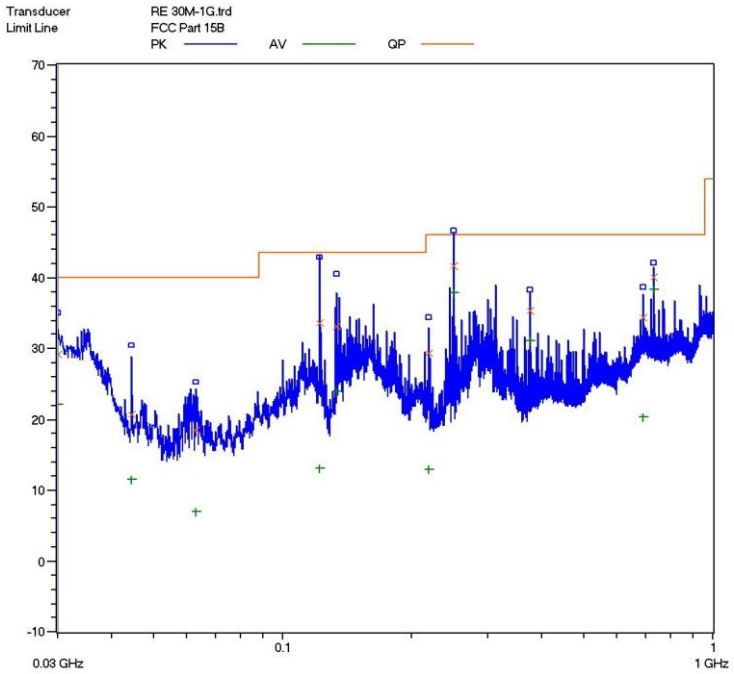
Horizontal: Radiated Emission Test Plot (Peak,max hold)



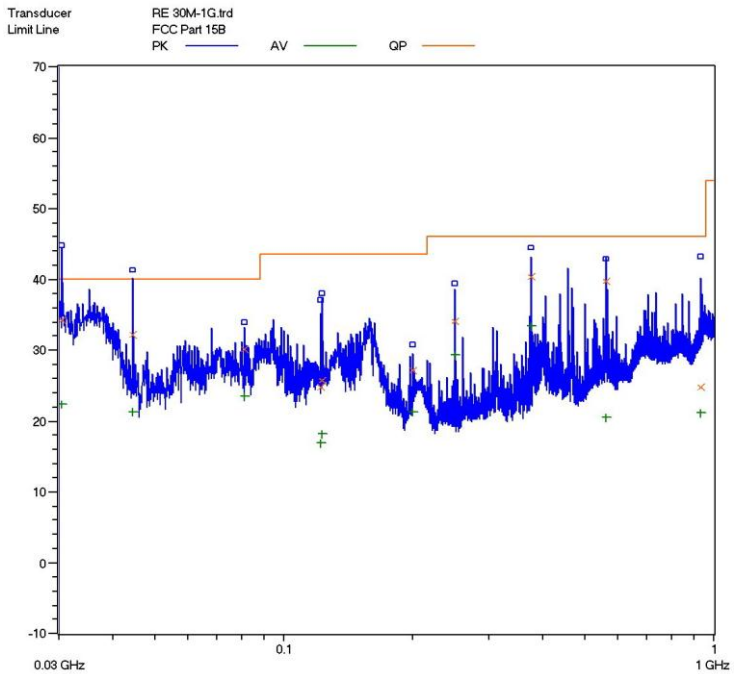
Vertical: Radiated Emission Test Plot (Peak,max hold)

PoE mode:

30MHz-1000MHz:



Horizontal:Radiated Emission Test Plot



Vertical:Radiated Emission Test Plot

Test Data:

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. *Power Adapter #1 at IP Call mode was selected for the final testing in frequency range of 9KHz to 30MHz.*
4. *All emission levels in the frequency range of 9KHz to 30MHz are 20dB below the official limits that are not reported*

Test Data:
Power Adaptor #1:AMIGO power
30-1000MHz:

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)
Horizontal							
121.740	0.02	6.5	/	29.48	36.0	43.5	-7.5
133.440	0.02	7.5	/	30.38	37.9	43.5	-5.6
250.020	0.12	11.8	/	32.58	44.5	46	-1.5
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
Vertical							
35.700	0.02	18.2	/	16.68	34.9	40	-5.1
44.460	0.02	12.9	/	24.28	37.2	40	-2.8
729.060	0.39	21.1	/	20.31	41.8	46	-4.2
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/

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.*

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)*
Peak Measurement								
1.170	*1.12*	*24.5*	*-34.45*	*-10.89*	*49.18*	*74*	*-24.82*	*H*
1.194	*1.20*	*24.7*	*-34.45*	*-14.34*	*46.01*	*74*	*-27.99*	*H*
1.630	*1.75*	*26.8*	*-33.6*	*-19.19*	*42.96*	*74*	*-31.04*	*H*
1.170	*1.12*	*24.5*	*-34.45*	*-7.6*	*52.47*	*74*	*-21.53*	*V*
1.300	*1.45*	*25.2*	*-33.6*	*-10.01*	*50.24*	*74*	*-23.76*	*V*
1.640	*1.75*	*26.8*	*-33.6*	*-13.63*	*48.52*	*74*	*-25.48*	*V*
Average Measurement								
1.170	*1.12*	*24.5*	*-34.45*	*-24.36*	*35.71*	*54*	*-18.29*	*H*
1.194	*1.20*	*24.7*	*-34.45*	*-27.08*	*33.27*	*54*	*-20.73*	*H*
1.630	*1.75*	*26.8*	*-33.6*	*-25.26*	*36.89*	*54*	*-17.11*	*H*
1.170	*1.12*	*24.5*	*-34.45*	*-24.87*	*35.20*	*54*	*-18.8*	*V*
1.300	*1.45*	*25.2*	*-33.6*	*-24.14*	*36.11*	*54*	*-17.89*	*V*
1.640	*1.75*	*26.8*	*-33.6*	*-24.95*	*37.20*	*54*	*-16.8*	*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.*

Power Adaptor #2: Mass Power-1
30-1000 MHz:

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)
Horizontal							
30.000	0.02	16.7	/	19.28	36.0	40	-4.0
249.960	0.12	11.8	/	31.18	43.1	46	-2.9
729.060	0.39	21.1	/	20.01	41.5	46	-4.5
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
Vertical							
33.300	0.02	17.6	/	18.88	36.5	40	-3.5
44.400	0.02	13.0	/	20.78	33.8	40	-6.2
562.500	0.3	18.4	/	25.1	43.8	46	-2.2
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/

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.*

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)*
Peak Measurement								
1.170	*1.12*	*24.5*	*-34.45*	*-12.86*	*47.21*	*74*	*-26.79*	*H*
1.194	*1.20*	*24.7*	*-34.45*	*-13.55*	*46.80*	*74*	*-27.2*	*H*
1.630	*1.75*	*26.8*	*-33.6*	*-16.55*	*45.60*	*74*	*-28.4*	*H*
1.170	*1.12*	*24.5*	*-34.45*	*-11.11*	*48.96*	*74*	*-25.04*	*V*
1.300	*1.45*	*25.2*	*-33.6*	*-12.03*	*48.22*	*74*	*-25.78*	*V*
1.640	*1.75*	*26.8*	*-33.6*	*-13.43*	*48.72*	*74*	*-25.28*	*V*
Average Measurement								
1.170	*1.12*	*24.5*	*-34.45*	*-24.8*	*35.27*	*54*	*-18.73*	*H*
1.194	*1.20*	*24.7*	*-34.45*	*-24.25*	*36.10*	*54*	*-17.9*	*H*
1.630	*1.75*	*26.8*	*-33.6*	*-26.88*	*35.27*	*54*	*-18.73*	*H*
1.170	*1.12*	*24.5*	*-34.45*	*-22.97*	*37.10*	*54*	*-16.9*	*V*
1.300	*1.45*	*25.2*	*-33.6*	*-24.92*	*35.33*	*54*	*-18.67*	*V*
1.640	*1.75*	*26.8*	*-33.6*	*-25.95*	*36.20*	*54*	*-17.8*	*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.*

Power Adaptor #3:Mass Power-2
30-1000 MHz:

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)
Horizontal							
34.640	0.02	17.9	/	12.98	30.9	40	-9.1
218.720	0.12	8.2	/	28.78	37.1	46	-8.9
250.000	0.12	11.8	/	32.08	44.0	46	-2.0
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
Vertical							
30.560	0.02	16.8	/	18.28	35.1	40	-4.9
375.040	0.16	13.9	/	24.78	39	46	-7.0
562.480	0.3	18.4	/	21.78	37.2	46	-8.8
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/

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.*

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)
Peak Measurement								
1.170	1.12	24.5	-34.45	-12.86	47.21	74	-26.79	H
1.194	1.20	24.7	-34.45	-13.55	46.80	74	-27.2	H
1.630	1.75	26.8	-33.6	-16.55	45.60	74	-28.4	H
1.170	1.12	24.5	-34.45	-11.11	48.96	74	-25.04	V
1.300	1.45	25.2	-33.6	-12.03	48.22	74	-25.78	V
1.640	1.75	26.8	-33.6	-13.43	48.72	74	-25.28	V
Average Measurement								
1.170	1.12	24.5	-34.45	-24.8	35.27	54	-18.73	H
1.194	1.20	24.7	-34.45	-24.25	36.10	54	-17.9	H
1.630	1.75	26.8	-33.6	-26.88	35.27	54	-18.73	H
1.170	1.12	24.5	-34.45	-22.97	37.10	54	-16.9	V
1.300	1.45	25.2	-33.6	-24.92	35.33	54	-18.67	V
1.640	1.75	26.8	-33.6	-25.95	36.20	54	-17.8	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:
30-1000MHz:

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)*
Horizontal							
128.680	*0.02*	*7.2*	*/*	*26.48*	*33.7*	*43.5*	*-9.8*
250.000	*0.12*	*11.8*	*/*	*27.68*	*43.6*	*46*	*-2.4*
720.040	*0.39*	*20.7*	*/*	*18.91*	*40*	*46*	*-6.0*
/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
Vertical							
30.400	*0.02*	*16.7*	*/*	*17.48*	*34.2*	*40*	*-5.8*
375.040	*0.16*	*13.9*	*/*	*26.34*	*40.4*	*46*	*-5.6*
562.480	*0.3*	*18.4*	*/*	*21.1*	*39.8*	*46*	*-6.2*
/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
/	*/*	*/*	*/*	*/*	*/*	*/*	*/*

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)
Peak Measurement								
1.170	1.12	24.5	-34.45	-11.9	48.17	74	-25.83	H
1.194	1.20	24.7	-34.45	-13.13	47.22	74	-26.78	H
1.630	1.75	26.8	-33.6	-15.26	46.89	74	-27.11	H
1.170	1.12	24.5	-34.45	-13.8	46.27	74	-27.73	V
1.300	1.45	25.2	-33.6	-12.98	47.27	74	-26.73	V
1.640	1.75	26.8	-33.6	-12.65	49.50	74	-24.5	V
Average Measurement								
1.170	1.12	24.5	-34.45	-27.29	32.78	54	-21.22	H
1.194	1.20	24.7	-34.45	-25.21	35.14	54	-18.86	H
1.630	1.75	26.8	-33.6	-25.92	36.23	54	-17.77	H
1.170	1.12	24.5	-34.45	-22.97	37.10	54	-16.9	V
1.300	1.45	25.2	-33.6	-24.15	36.10	54	-17.9	V
1.640	1.75	26.8	-33.6	-24.76	37.39	54	-16.61	V

Note:

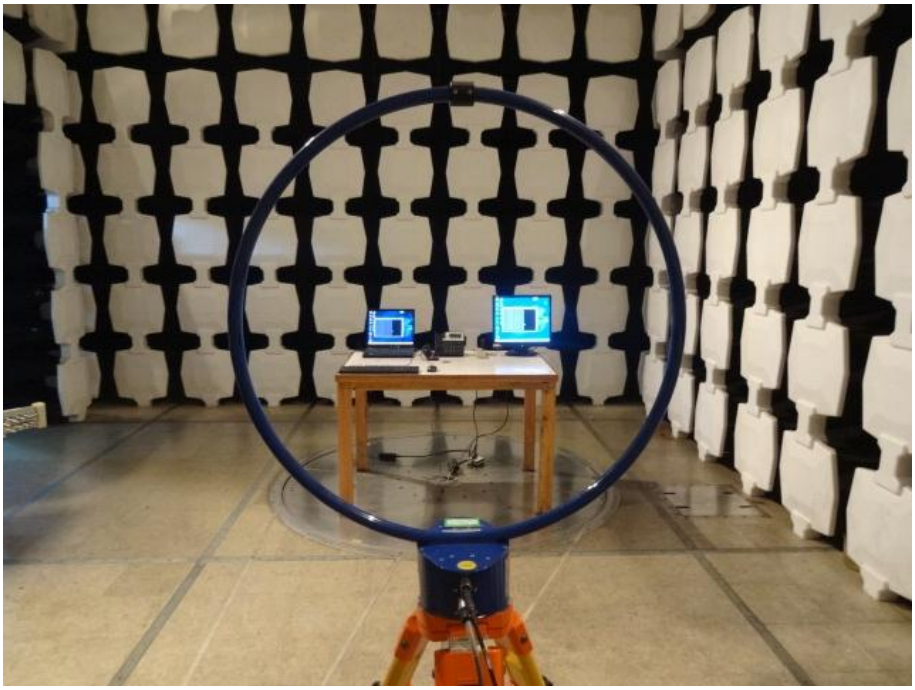
1. *The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss –Preamplifier Factor.*
2. *The limits shown are based on Peak value and Average value 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:

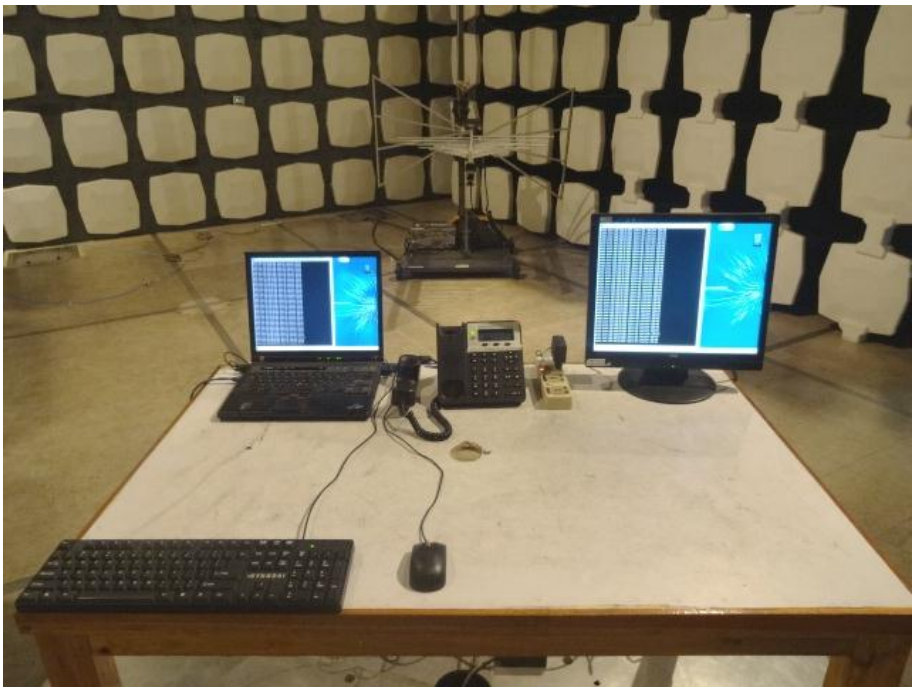
Test Equipment	*Model No.*	*Manufacturer*	*Serial No.*	*Last Cal.*	*Cal. Due*
Receiver	*SMR4503*	*SCHAFFNER*	*11725*	*2013.07.08*	*2014.07.07*
HF Loop Antenna	*HLA6120*	*TESEQ*	*26348*	*2013.09.27*	*2014.09.26*
Double-ridged Wave guide horn	*3115*	*ETS*	*6587*	*2013.08.02*	*2014.08.01*
Microwave system amplifier	*83017A*	*Agilent*	*MY39500438*	*2013.07.11*	*2014.07.10*
Biconilog Antenna	*3142C*	*ETS*	*00042672*	*2013.09.28*	*2014.09.27*
Band-pass Filter	*BRM50702*	*Micro-Tronic*	*S/N-030*	*2013.11.30*	*2014.11.29*
Spectrum Analyzer	*FSP30*	*R&S*	*100755*	*2013.11.30*	*2014.11.29*
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

TESTED BY: _____ ***GALANZ***
ENGINEER ***COMPANY NAME***

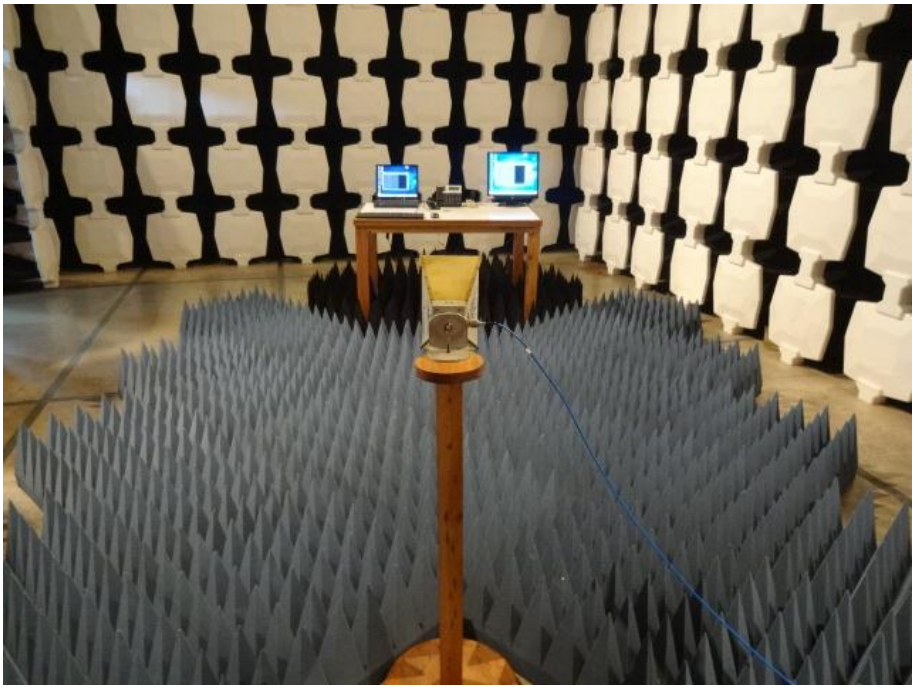
REVIEWED BY: _____ ***ECMG***
SENIOR ENGINEER ***COMPANY NAME***



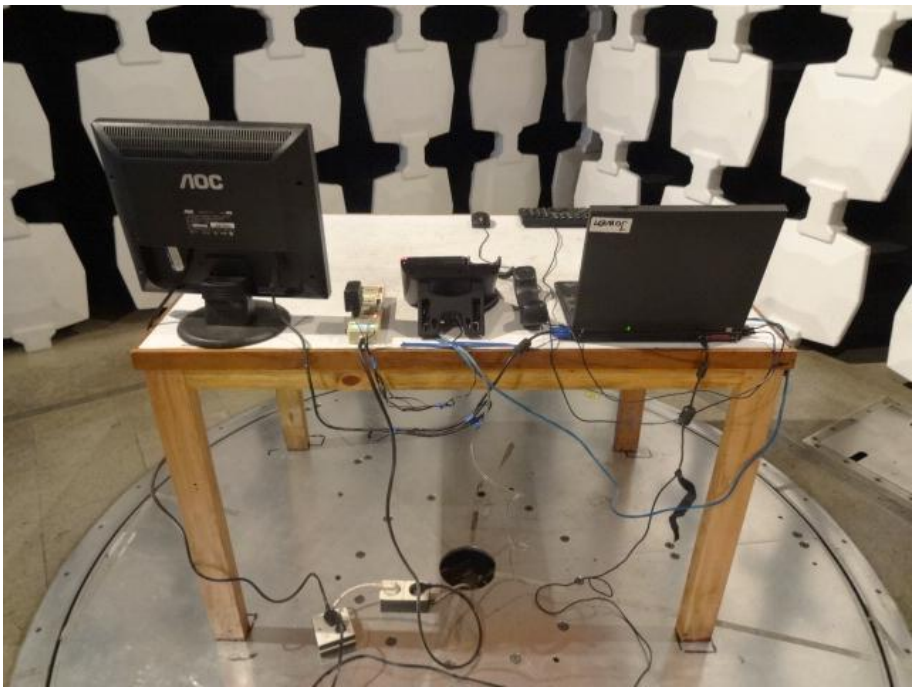
Radiated Emission Test Set-up (9KHz-30MHz)



Radiated Emission Test Set-up (Below 1GHz)



Radiated Emission Test Set-up (Above 1GHz)



Radiated Emission Test Set-up (Rear View)