



www.ecmg-global.net

EMI TEST REPORT

On Model Name: Sip Deskphone

Model Number: E129 Sip Deskphone

Brand Name: AVAYA

Prepared for AVAYA

FCC ID Number: TYM-E129V13

FCC Rule Part(s): FCC 47 CFR Part 15, Subpart B

FCC Test Procedure(s): ANSI C63.4-2014

Test Report #: SHE-1510-11374-FCC ID

Prepared by: *Alex Yu* ECMG
Alex Yu /EMC Engineer Company Name

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

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

Test Report Released by: *Swall Zhang* October 18th, 2015
Swall Zhang Date

Test Location

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

Test Site Location:

*CCIC Southern Electronic
Product Testing (Shenzhen)
Co., Ltd.*

*Electronic Testing Building,
Shahe Road, Xili, Nanshan
District, Shenzhen, 518055,
P. R. China*

Tel: (86) 755 26627338

Fax: (86) 755 26627238

Website : <http://www.ccic-set.com/>

Accreditation Bodies

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

- *CNAL- LAB Code: L1659*
CCIC-SET 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.
- *CCIC-SET is a FCC registered (Reg. No. 406086) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.*

Table of Contents

GOVERNMENT DISCLAIMER NOTICE	2
REPRODUCTION CLAUSE	2
OPINIONS AND INTERPRETATIONS	2
STATEMENT OF MEASUREMENT UNCERTAINTY	2
ADMINISTRATIVE DATA	3
EUT DESCRIPTION	4
TEST SUMMARY	5
TEST MODE JUSTIFICATION	6
EUT EXERCISE SOFTWARE	6
EQUIPMENT MODIFICATION	6
§15.33 FREQUENCY RANGE OF RADIATED MEASUREMENTS	7
EUT SAMPLE PHOTOS FOR MODEL E129 SIP DESKPHONE	8
TEST SYSTEM DETAILS	17
ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS	19
ATTACHMENT 2 - RADIATED EMISSION MEASUREMENT	28

List Attached Files

Exhibit Type	File Description	File Name
<i>Test Report</i>	<i>Test Report</i>	<i>TYM-E129V13 _Test report.pdf</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>TYM-E129V13_Operation description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>TYM-E129V13_External Photos</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>TYM-E129V13_Internal Photos</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>TYM-E129V13_Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>TYM-E129V13 _Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label and Location</i>	<i>TYM-E129V13_Label & Location.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>TYM-E129V13 _User Manual.pdf</i>
<i>Test set-up photos</i>	<i>Test set-up photos</i>	<i>TYM-E129V13 _Test Set-up Photos</i>

Government Disclaimer Notice

When government drawing, specification, or other data are used for any purpose other than in connection with a definitely related government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawing, specifications, or other data, is not to be regarded by implication or otherwise in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell patented invention that may in any way be related thereto. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Reproduction Clause

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from ECMG Electronic Technical Testing Corp (Shenzhen).

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 : *Sip Deskphone*
Model Numbers : *E129 Sip Deskphone*
Model Tested : *E129 Sip Deskphone*
Receipt Date : *October 8th , 2015*
Date Tested : *October 14th, 2015*
Applicant : *AVAYA*
Address : *250 Sidney Street Belleville, Ontario, K8P 3Z3 Canada.*
Telephone : *613-967-5545*
Fax : *613-967-5417*
Manufacturer : *AVAYA*
Address : *250 Sidney Street Belleville, Ontario, K8P 3Z3 Canada.*
Telephone : *613-967-5545*
Fax : *613-967-5417*
Factory : *Grandstream Networks, Inc.*
Address : *4th Floor, Rainbow Technology Tower #16
New West Road, Nanshan Science
Park(Central) Shenzhen, China 518057.*
Telephone : *(86)-755-26014600*
Fax : *(86)-755-26014601*

EUT Description

AVAYA model tested E129 Sip Deskphone(referred to as the EUT in this report) is an Sip Deskphone.

Technical specifications of the EUT are as bellow:

Parameter		Range
Basic parameters	<i>Rated voltage</i>	+5VDC or powered by DC 48V PoE
	<i>Rated Current</i>	0.8A
I/O Ports	<i>PC Port</i>	10/100Mbps RJ-45 port for PC connection
	<i>LAN Port</i>	10/100Mbps RJ-45 port connecting to Ethernet, integrated PoE
	<i>5VDC Power Supply Interface</i>	5V DC Power connector port
	<i>Headset Jack</i>	RJ9, supporting Electronic Hook Switch (EHS) with Plantronics headsets
	<i>Handset Port</i>	RJ9 handset connector port
Power Adapter	<i>Input& Output</i>	100-240VAC ,50/60Hz &5VDC,0.8A
	<i>Model</i>	SCF0500080A1BA
	<i>Brand name</i>	Mass power
	<i>Input& Output</i>	100-240VAC ,50/60Hz &5VDC,0.8A
	<i>Model</i>	NBSS05B050080VU
	<i>Brand name</i>	Mass power
	<i>Input& Output</i>	100-240VAC ,50/60Hz &5VDC,0.8A
	<i>Model</i>	UE05L5-050080SPAU
	<i>Brand name</i>	DONGGUAN SHILONG FUHUA ELECTRONIC CO LTD
	<i>Input& Output</i>	100-240VAC ,50/60Hz &5VDC,0.8A
	<i>Model</i>	R60UC0500080B
	<i>Brand name</i>	Sunlight

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

Test Summary

The Electromagnetic Compatibility requirements on model E129 Sip Deskphone 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 C63.4-2014	Conducted Emission	Passed	AC Input Port	Attachment 1
FCC Part 15.109 ANSI C63.4-2014	Radiated Emission	Passed	Enclosure	Attachment 2

Test Mode Justification

Pre-Scan has been conducted to determine the worst-case from all possible combination between available operation mode .Following mode(s) was (were) selected for the final test as listed below:

Pre-Test Mode	
EMI Test Mode	Mode 1: Communication with an IP Phone and notebook PC+ Mass Power(Model: SCF0500080A1BA)
	Mode 2: Communication with an IP Phone and notebook PC+ Power adapter(Model: UE05L5-050080SPAU)
	Mode 3: Communication with an IP Phone and notebook PC+ Mass Power(Model: NBSS05B050080VU)
	Mode 4: Communication with an IP Phone and notebook PC+ Sunlight Power(Model: R60UC0500080B)
	Mode 5: PoE mode powered by DC 48V
Final Test Mode: Mode 1,Mode 2,Mode 3,Mode 4 and Mode 5	

EUT Exercise Software

No exercise software support this test.

Equipment Modification

Any modifications installed previous to testing by AVAYA 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.

§15.33 Frequency range of radiated measurements

(b) For unintentional radiators:

(1) Except as otherwise indicated in paragraphs (b)(2) or (b)(3) of this section, for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

<i>Highest frequency generated or used in the device or on which the device operates or tunes (MHz)</i>	<i>Upper frequency of measurement range (MHz)</i>
Below 1.705	30.
1.705-108	1000.
108-500	2000.
500-1000	5000.
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

Note: As the highest frequency operated of the EUT is 207MHz, so upper frequency of radiated emission test is up to 2GHz as per §15.33(b)(1).

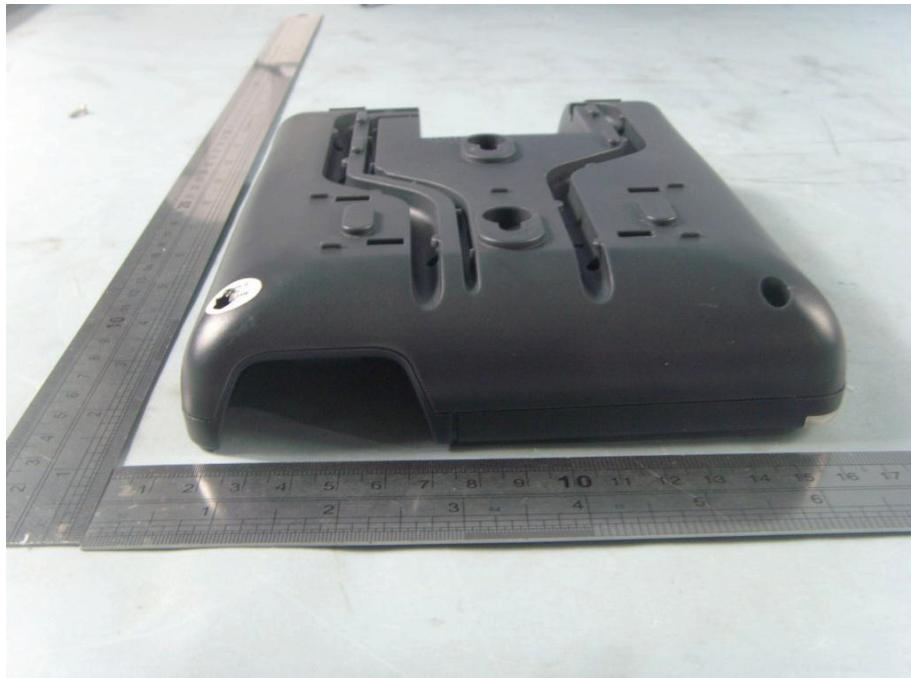
EUT Sample Photos for model E129 Sip Deskphone



EUT- Front View



EUT- Rear View



EUT- Top View



EUT- Bottom View



EUT- Left Side View



EUT- Right Side View



Power Adaptor View (Manufacturer: Mass Power)



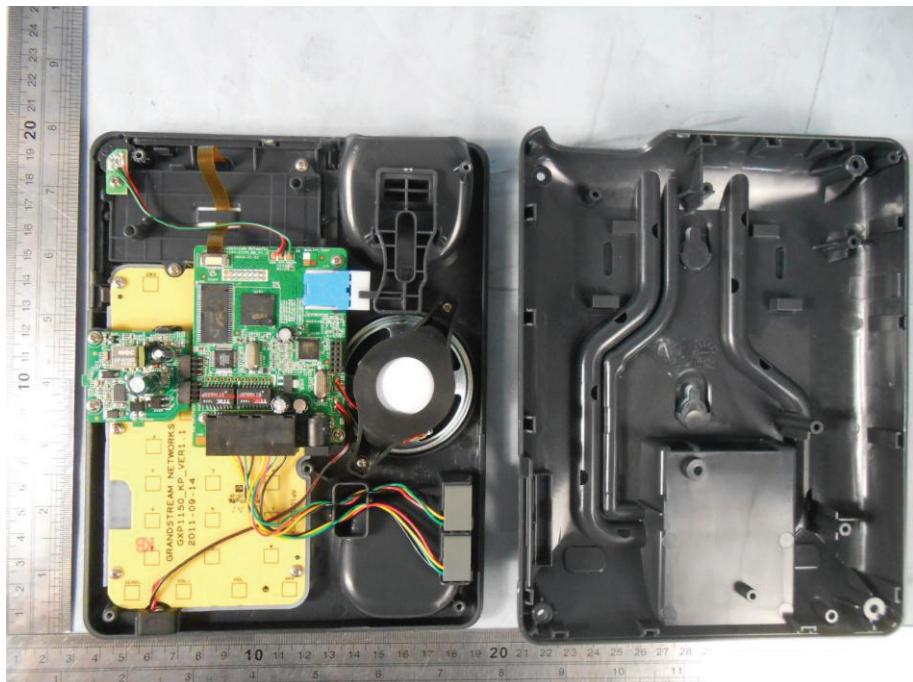
Power Adaptor View (Manufacturer: SHILONG)



Power Adaptor View (Manufacturer: Mass Power)



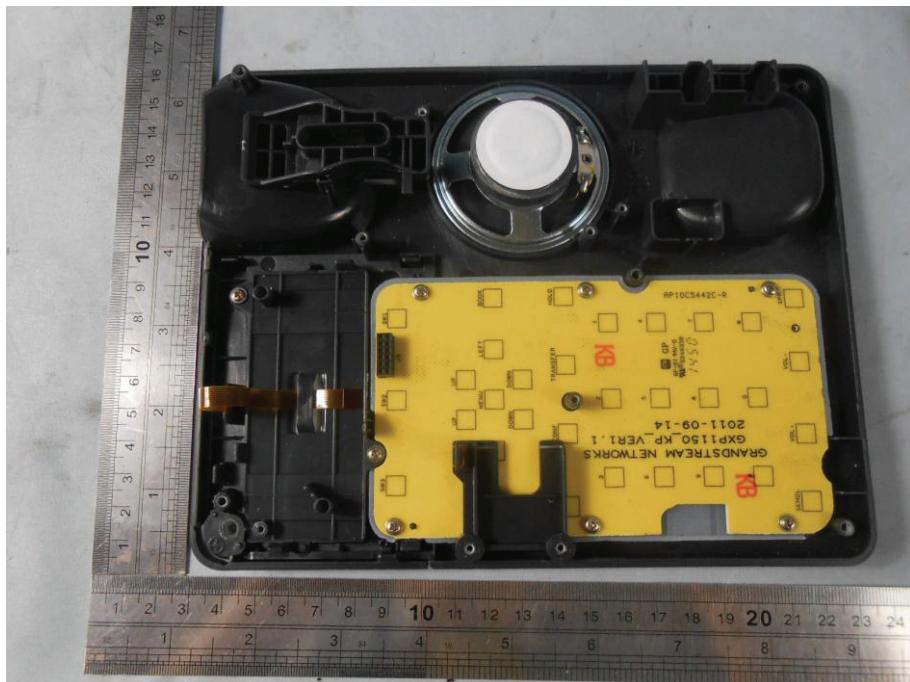
Power Adaptor View (Manufacturer: Sunlight)



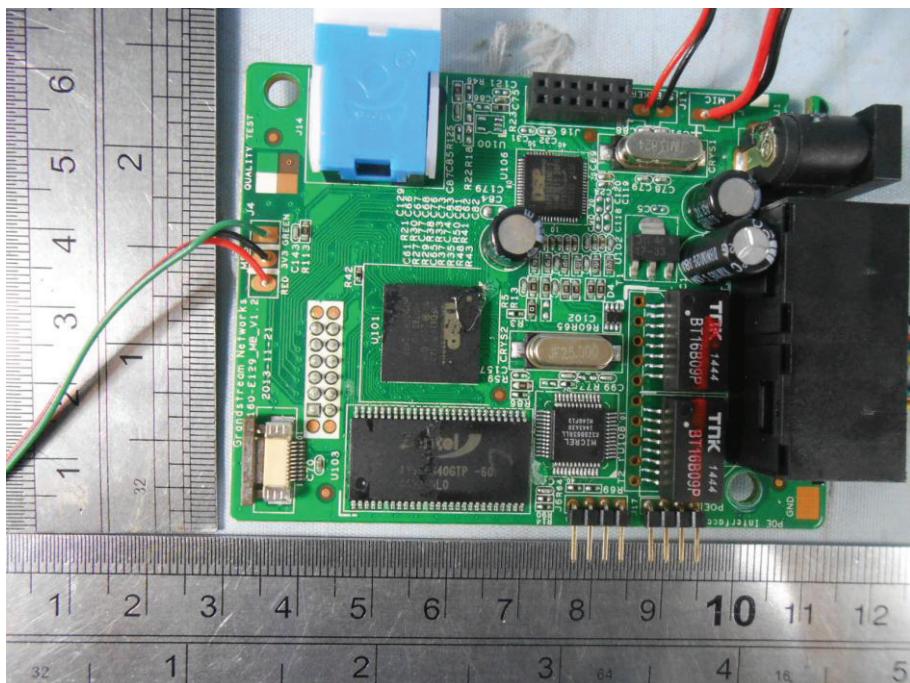
EUT-Uncovered View #1



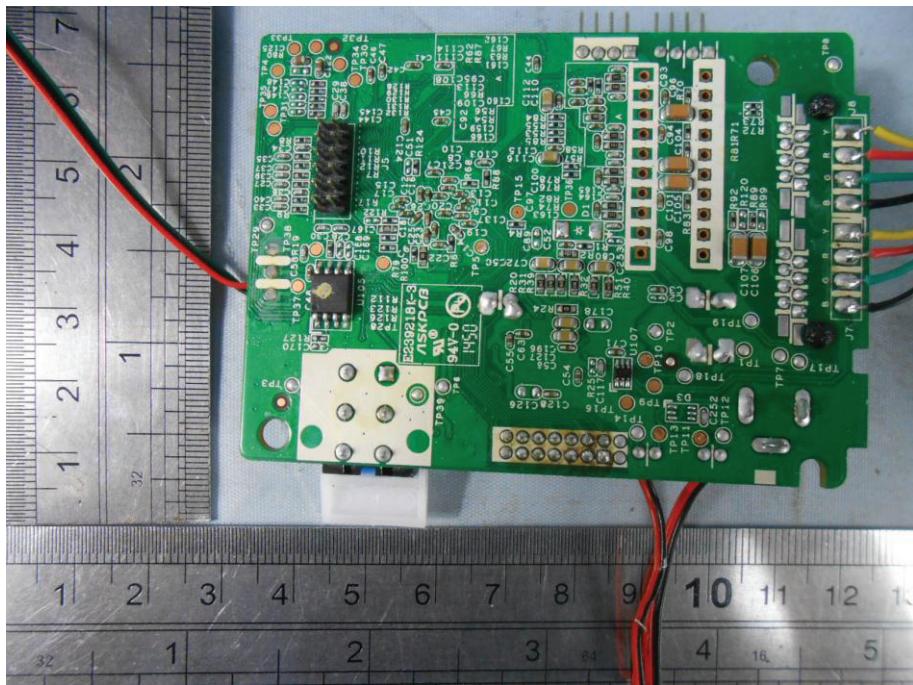
EUT-Uncovered View #2



EUT-Uncovered View #3



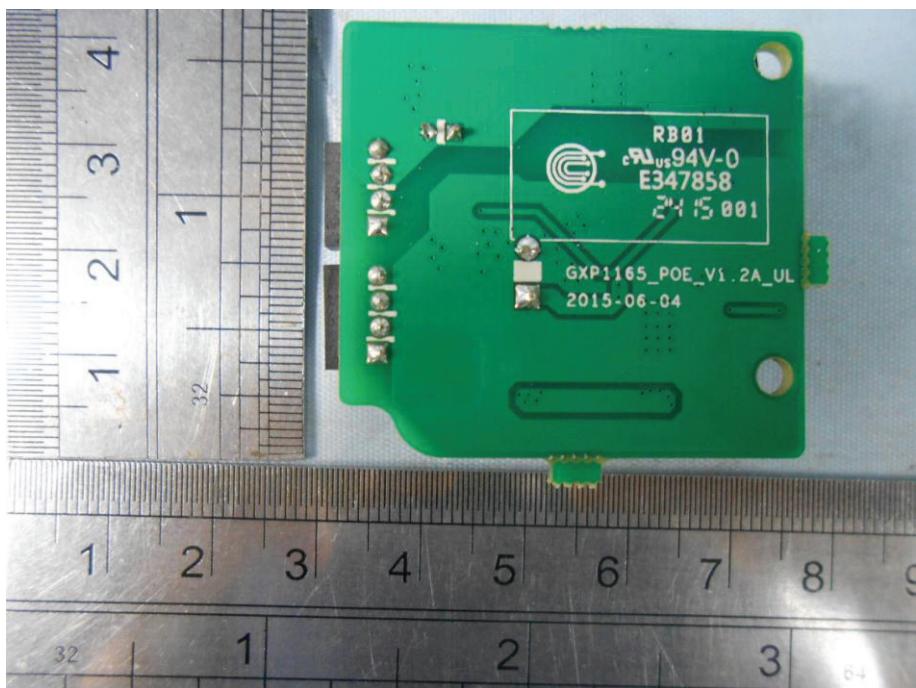
Main board- Top View



Main board- Bottom View



PoE board- Top View



PoE board- Bottom View

Test System Details

EUT	
Model Number:	<i>E129 SIP DESKPHONE</i>
Model Tested:	<i>E129 SIP DESKPHONE</i>
Description:	<i>SIP DESKPHONE</i>
Input:	<i>AC 120V/60Hz</i>
Manufacturer:	<i>AVAYA</i>

Cable Description:

Signal Cable Type		Signal Cable Description
<i>A</i>	<i>Network Cable</i>	<i>Un-Shielding, 1.5m</i>
<i>B</i>	<i>VGA Cable</i>	<i>Shielding, 1.5m</i>
<i>C</i>	<i>Network Cable</i>	<i>Un-Shielding, 5.0m</i>
<i>D</i>	<i>Mouse Cable</i>	<i>Un-Shielding, 1.5m</i>
<i>E</i>	<i>Power Cable</i>	<i>Un-Shielding, 1.5m</i>

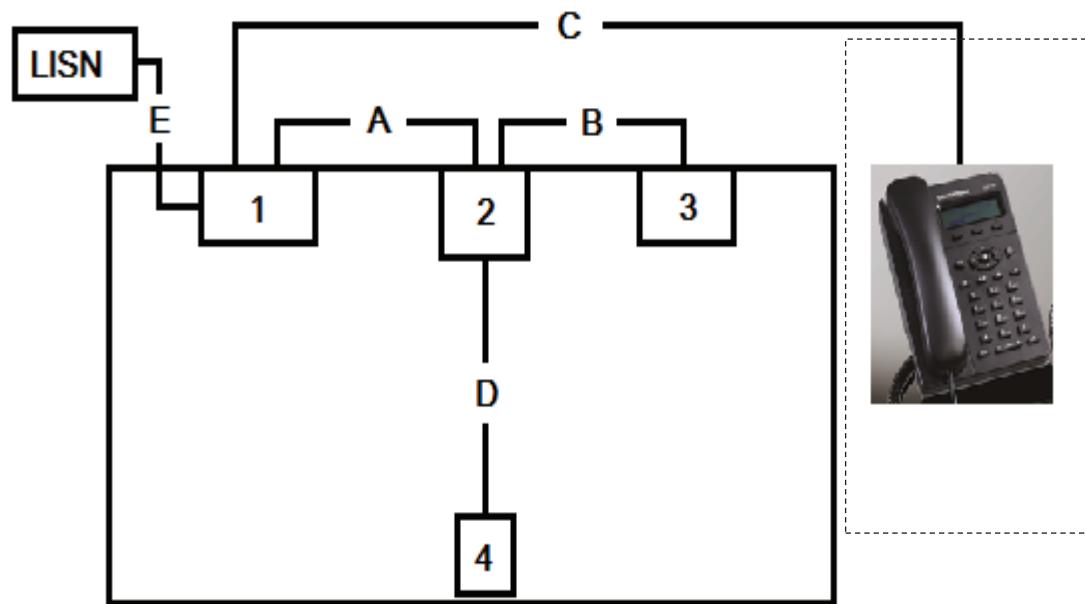
Support Device:

Product		Manufacturer	Model No.	Power Cord
1	<i>EUT</i>	AVAYA	<i>E129 Sip Deskphone</i>	<i>Non-Shielding, 1.5m</i>
2	<i>Notebook PC</i>	IBM	T43	<i>Non-Shielding, 1.5m</i>
3	<i>Monitor</i>	PHILIPS	220T1	<i>Non-Shielding, 1.8m</i>
4	<i>Mouse</i>	Lenovo	44AC107	<i>Non-Shielding, 1.5m</i>

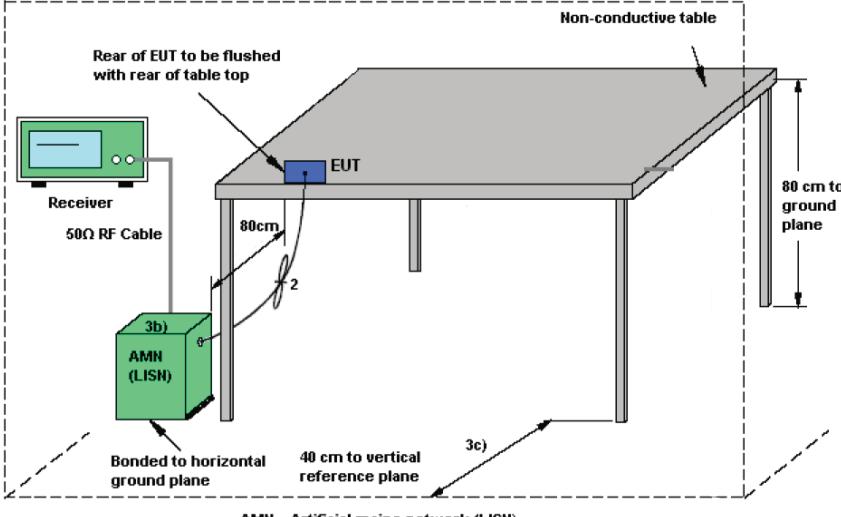
Note 1: The EUT has been tested as an independent unit together with other necessary accessories or support units. The above support units or accessories were used to form a representative test configuration during the test tests.

Note 2: All support device list above (except for EUT) have been approved by FCC DoC.

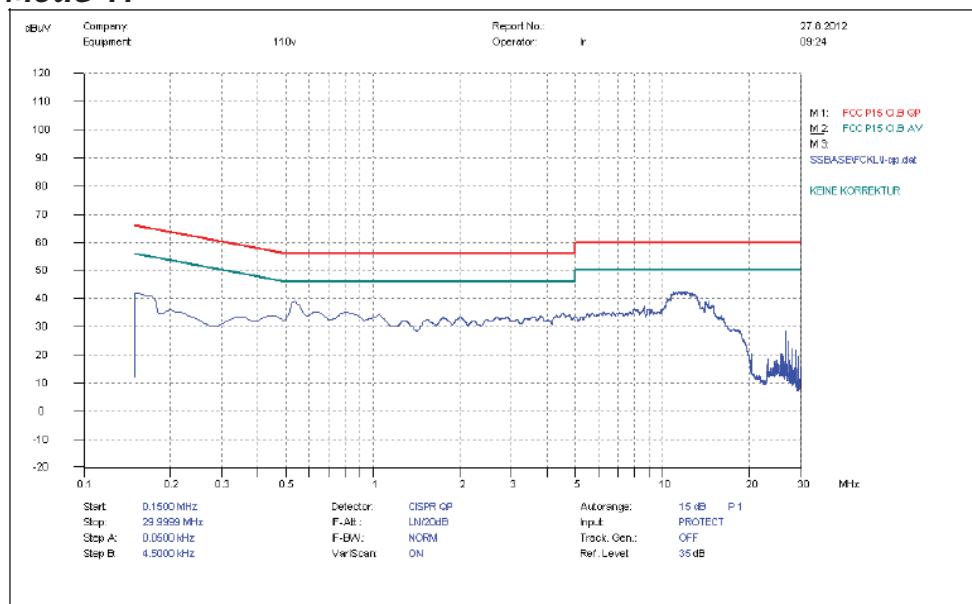
Configuration of Tested System



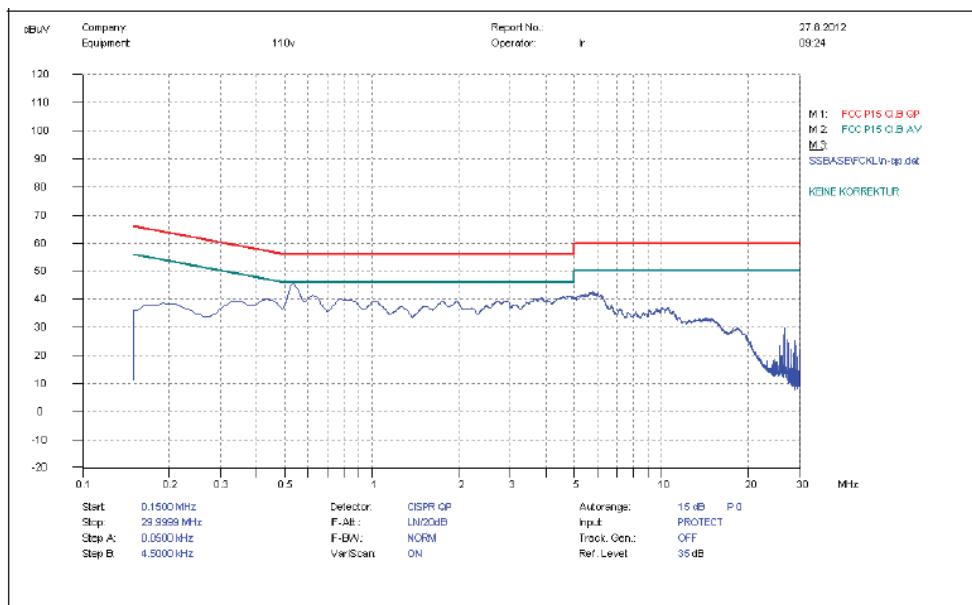
ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	AVAYA	TEST STANDERD:	FCC Part 15, Subpart B, Section 15.107
MODEL NUMBERS:	E129 Sip Deskphone	PRODUCT:	Sip Deskphone
MODEL TESTED:	E129 Sip Deskphone	EUT DESIGNATION:	Home or Office
TEMPERATURE:	23°C	HUMIDITY:	51%
ATM PRESSURE:	103kPa	GROUNDING:	None
TESTED BY:	Alex Yu	DATE OF TEST:	Oct. 14 th , 2015
TEST REFERENCE:	ANSI C63.4-2014		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4-2014 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.		
TEST MODE:	Mode 1,Mode 2,Mode 3,Mode 4		
TEST SET UP:	 <p>Non-conductive table</p> <p>Rear of EUT to be flushed with rear of table top</p> <p>EUT</p> <p>80cm</p> <p>80 cm to ground plane</p> <p>Receiver</p> <p>50Ω RF Cable</p> <p>AMN (LISN)</p> <p>3b)</p> <p>3c)</p> <p>Bonded to horizontal ground plane</p> <p>40 cm to vertical reference plane</p> <p>AMN = Artificial mains network (LISN) AE = Associated equipment EUT = Equipment under test ISN = Impedance stabilization network</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:	Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: 2.60dB		

Mode 1:

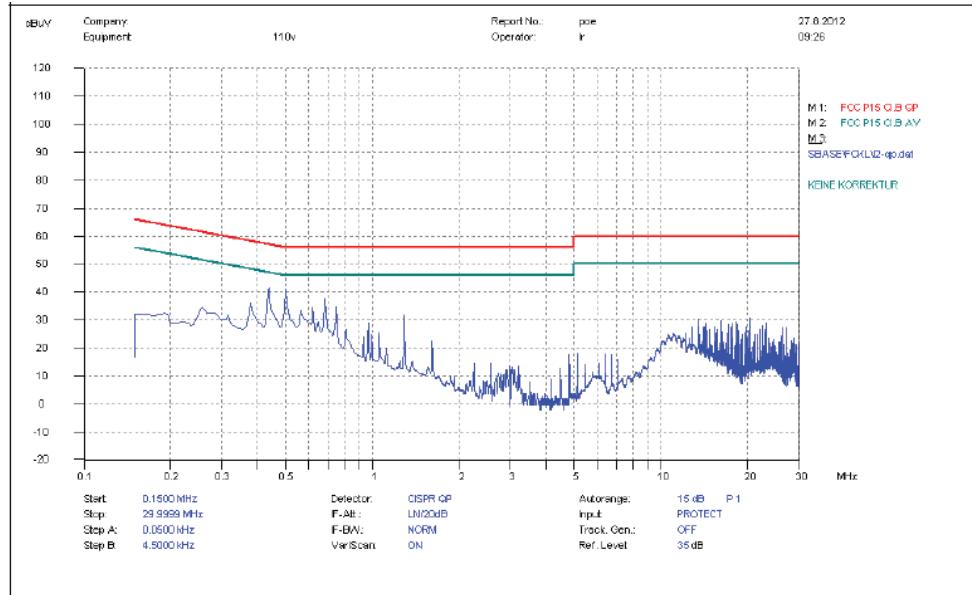


Line L Conducted Emission Graph

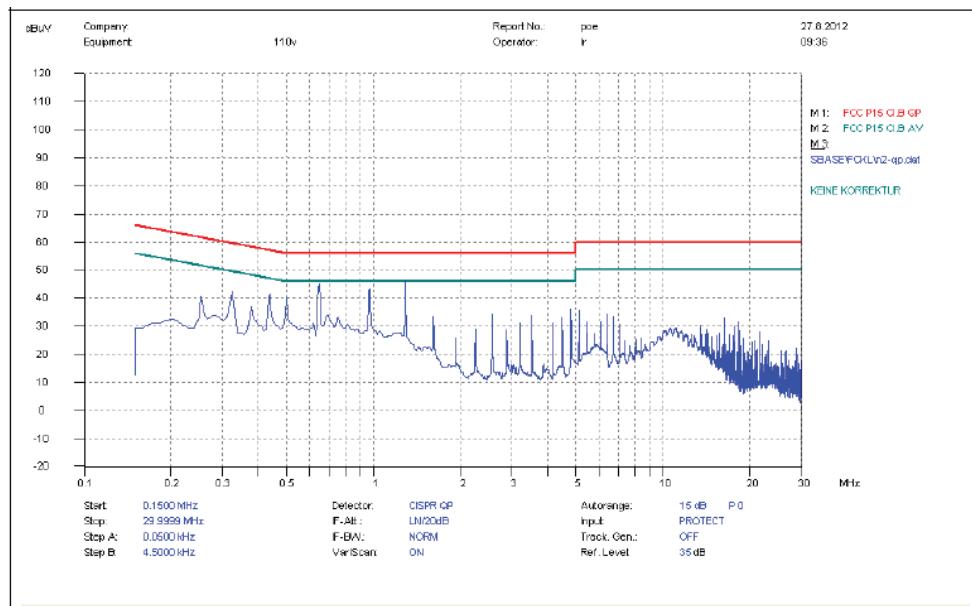


Line N Conducted Emission Graph

Mode 2:

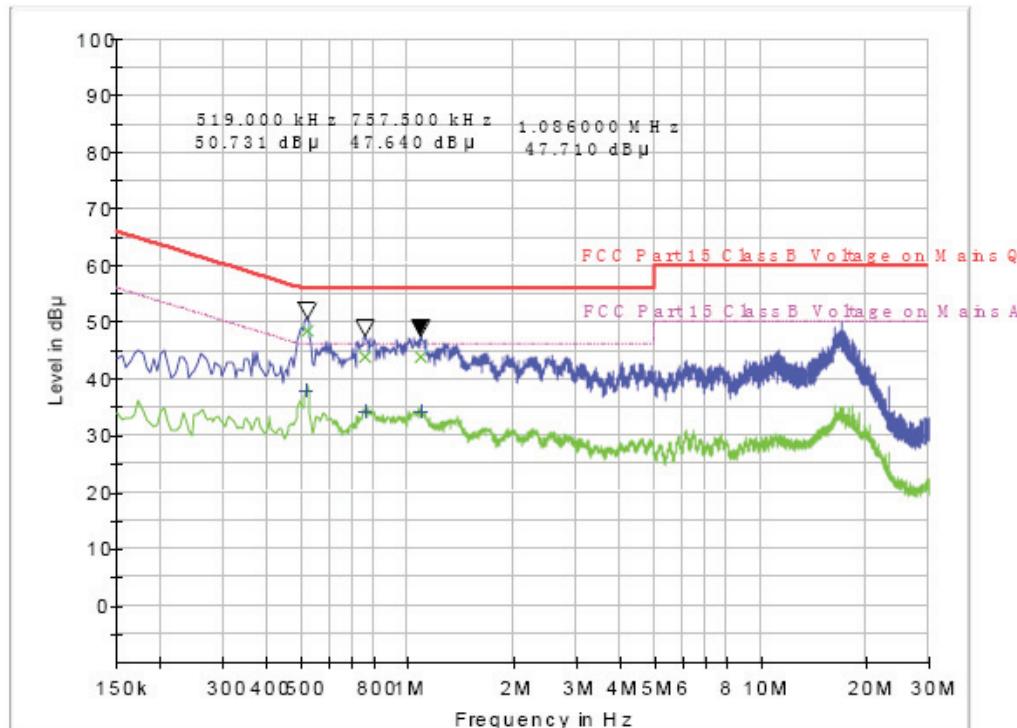


Line L Conducted Emission Graph

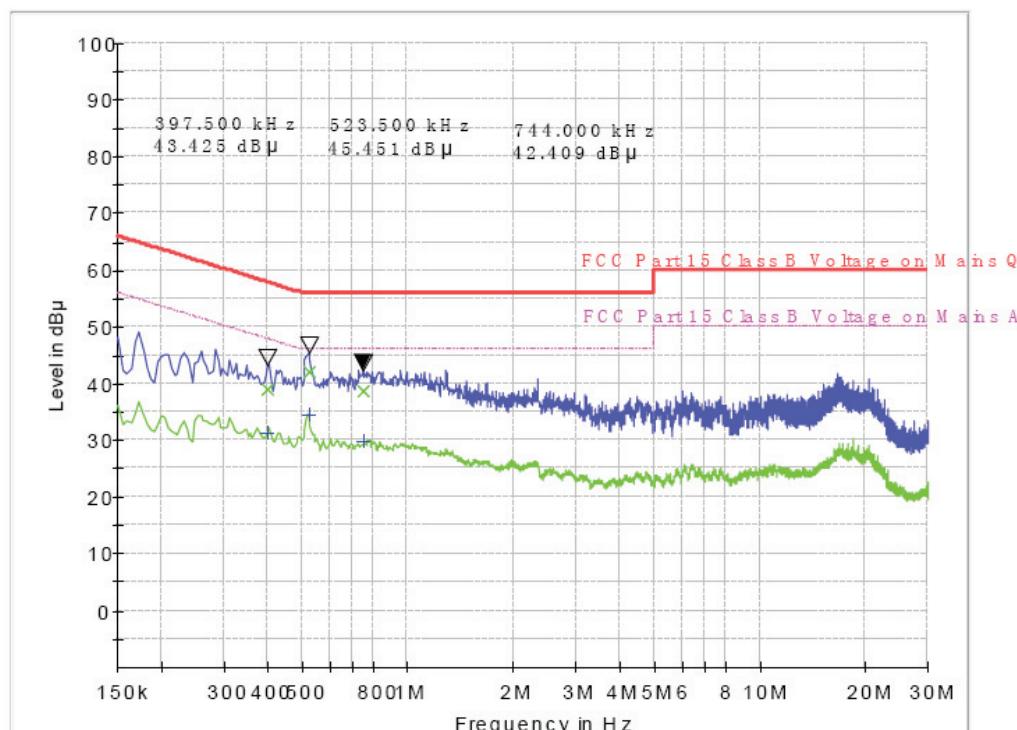


Line N Conducted Emission Graph

Mode 3:



Line L Conducted Emission Graph



Line N Conducted Emission Graph