

## EMI TEST REPORT

On Model Name: 10	). I "	PAD
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Model Number: 101P\*\*\*

Brand Name: N/A

Prepared for Shenzhen KTC Technology Co., Ltd.

FCC ID Number: ROU00002

According to FCC 47 CFR Part 15, Subpart B

Test Report #: SHE-1212-10930-FCC

Tested by:  $\frac{\text{Seventions}}{\text{Engineer}} \frac{\text{ECMG}}{\text{Company Name}}$ 

Reviewed by: ECMG
Senior Engineer Company Name

Test Report Released by:

Swall Zhang

Date

#### **Test Location**

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

Test Site Location: Shenzhen Academy of

Metrology and quality

Inspection.

Bldg. of Metrology & Quality Inspection. Longzhu Road, Nanshan District, Shenzhen,

Guangdong, China.

#### **Accreditation Bodies**

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

- CNAL LAB Code: L0579
- SMQ 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.: 979748 SMQ 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	ROU00002 _Test report.pdf
Operation Description	Technical Description	ROU00002_operation description.pdf
External Photos	External Photos	ROU00002_External Photos.pdf
Internal Photos	Internal Photos	ROU00002_Internal Photos.pdf
Block Diagram	Block Diagram	ROU00002_Block Diagram.pdf
Schematics	Circuit Diagram	ROU00002 _Schematics.pdf
ID Label/Location	Label and Location	ROU00002 _Label & Location.pdf
User Manual	User Manual	ROU00002_User Manual.pdf
Test setup photos	Test setup photos	ROU00002 _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 : 10.1" PAD

Model Number : 101P\*\*\*

Model Tested : 101P11C

Incept Date : January 14<sup>th</sup>, 2013

Date Tested : January 14<sup>th</sup> to 19<sup>th</sup>, 2013

Applicant : Shenzhen KTC Technology Co., Ltd.

Address Northern Wuhe Road, Gangtou, Buji,

Longgang, Shenzhen, China

Telephone : (86)-755-33688121

*Fax* : (86)-755-33615329

Manufacturer : Shenzhen KTC Technology Co., Ltd.

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Telephone : (86)-755-33688121

Fax : 86-755-33615329

Factory : Shenzhen KTC Technology Co., Ltd.

Address The workshop No#1, Northern Wuhe Road,

Gangtou, Buji, Longgang, Shenzhen, China

Telephone : (86)-755-33688121

Fax : (86)-755-33615329

## **EUT Description**

Shenzhen KTC Technology Co., Ltd. model tested 101P11C (referred to as the EUT in this report) is a 10.1" PAD.

Technical specifications of the EUT are as below:

Parameter		Range
Basic	Rated voltage	9VDC
parameters	Rated Current	2A
	Power Jack	9V DC Power connector port
I/O Ports	USB Port	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
" - " - " - " - " - " - " - " - " - " -	SD Card Slot	SD card could be inserted in for picture/music/video files storage
	HDMI	High-Definition Multimedia Interface
	Headset Jack	3.5mm stereo headset connector port
	Input	100-240VAC 50/60Hz 0.4A
Power	Output	9VDC,2A,
Adapter #1	Model	SEF0900200A1BA
	Brand name	Mass
	Input	100-240VAC 50/60Hz 0.45A
Power	Output	9VDC,2A,
Adapter #2	Model	HNC090200U
	Brand name	HUONIU
	Input	100-240VAC 50/60Hz 0.5A
Power	Output	9VDC,2A,
Adapter #3	Model	ASSA2-090200
	Brand name	AQUIL

## NOTE:

- 1. For more detailed informations or features please refer to user's manual of EUT.
- 2. Pre-Scan has been conducted to determine the worst-case from all possible combinations between available power adapter, the worst-case power adapter #1 (Mass Power) was selected for the all testing.

#### **EUT Model Derived**

101P\*\*\* model designations as follows:

101: express screen size is 10.1 inches;

"P": express Pad;

The first "\*": can be 0-9, express various front panel style;

The second "\*": can be 0-9, express various rear cover style;

The third "\*": can be A-Z, express various surface frame color.

Model 101P11C was selected for the final testing.

## **Test Summary**

The Electromagnetic Compatibility requirements on model 101P11C 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 EUT is a portable device that has three orientations; therefore, X Y and Z orientations have been investigated, and the worst case was found to be at Y position.

Pre-scan has been conducted to determine the worst-case from all possible combinations between available operation mode.the following mode were selected the final testing:

#### Connected to PC mode:

Connected the EUT to PC by an USB cable, an exercise software which "Winthrax.EXE" runs on windows XP system and control EUT operating on exchange data mode and measured it.

## TF card Play Mode:

Let EUT runs on TF Card playing mode and measured it.

## **EUT Exercise Software**

No test sofware support this test.

## **Equipment Modification**

Any modifications installed previous to testing by Shenzhen KTC Technology Co., Ltd 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 101P11C**



**EUT- Front View** 



**EUT -Rear View** 

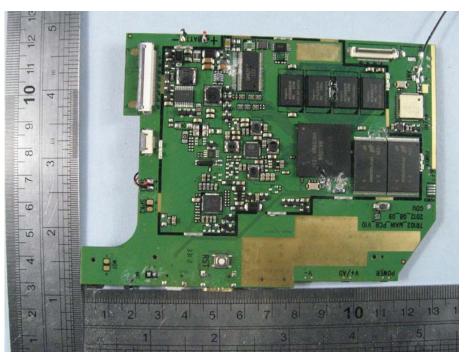
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I/O Port(side) View



**EUT-Uncovered View** 



Mainboard -Top View



Mainboard -Bottom View



Power Adaptor View (Manufacturer: Mass Power)



Power Adaptor View (Manufacturer: HUONIU)



Power Adaptor View (Manufacturer:AQUIL)

## **Test System Details**

EUT					
Model Number:	101P***				
Model Tested:	101P11C				
Description:	10.1" PAD				
Input:	DC9V				
Manufacturer:	Shenzhen KTC Technology	y Co., Ltd.			
Support Equipment					
Description	Model Number	Serial Number	Manufacturer		
LCD TV	KLV-22EX310	6004657	SONY		
Host PC	78SZJ2X		DELL		
Mouse	MO28UOL	44AC107	Lenovo		
Keyboard	KU-0225	0683207	Lenovo		
Printer	Q5911A	CNCJM43467	HP		
Monitor	380MT	06054E	DELL		

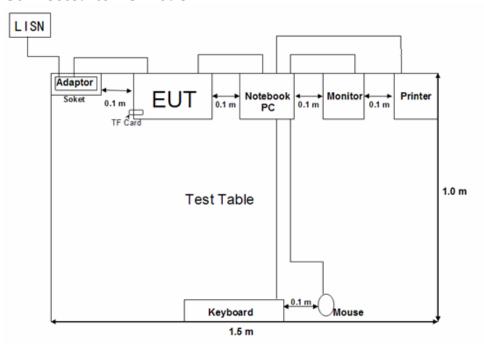
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Cable Description							
Description	From	То	Length (Meters)	Shielded (Y/N)	Ferrit		
Mouse Cord	Mouse	Plug	1.2	N	Υ		
Keyboard Cord	keyboard	Plug	1.2	N	Y		
VGA Cable	Monitor	PC	1.2	Y	Y		
HDMI Cable	EUT	LCD TV	1.2	Y	Y		
Headphone Cable	EUT	Headphone	1.2	N	N		
USB Cord	EUT	PC	1.2	Y	Y		
Cord of Power Adapter	EUT	Plug	1.8	N	N		

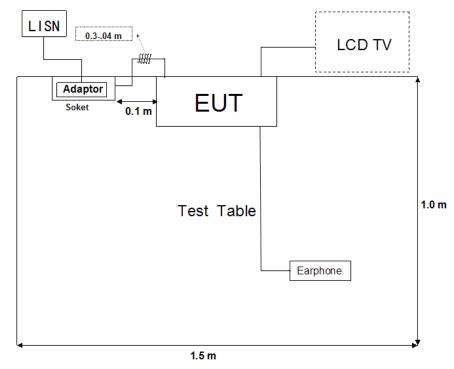
NOTE: The EUT has been tested as an independent unit together with other necessary accessories or support units. The above support units or accessories were used to form a representative test configuration during the test tests.

## **Configuration of Tested System**

## Connected to PC mode:



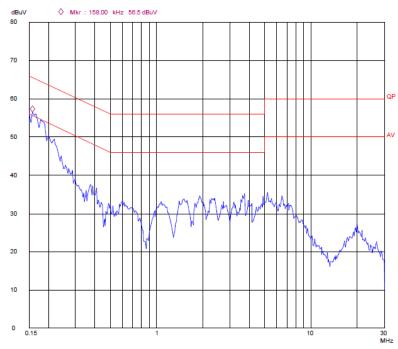
## TF Card playing mode:



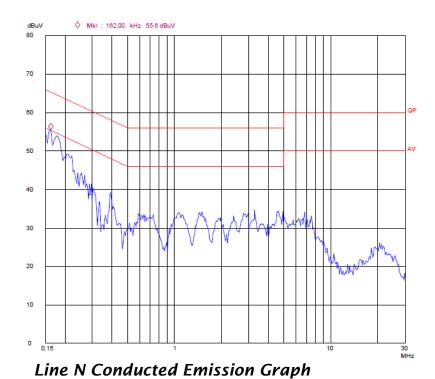
## ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

	I		T		
CLIENT:	Shenzhen KTC Technology Co., Ltd.	TEST STANDERD:	FCC Part 15, Subpart B, Section 15.107		
MODEL NUMBERS:	101P***	PRODUCT:	10.1" PAD		
MODEL TESTED:	101P11C	EUT DESIGNATION:	Home or Office		
TEMPERATURE:	23°C	HUMIDITY:	51%		
ATM PRESSURE:	103kPa	GROUNDING:	None		
TESTED BY:	SEWEN GUO	DATE OF TEST:	January 15 <sup>th</sup> , 2013		
TEST REFERENCE:	ANSI C63.4- 2009				
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4- 2009 for conduc ted 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 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	TF Card playing mode and Connected to PC mode				
TEST SET UP	Support stand  80cm LISN  80cm Ground plane  Testreceive				
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 in (Shenzhen). Test personnel.	stalled by ECMG Electronic	Technical Testing Corp		
M. UNCERTAINTY:	Freq. ± 2x10 <sup>-7</sup> x Center Freq.,	Amp ± 2.6 dB			

## TF Card Playing mode:

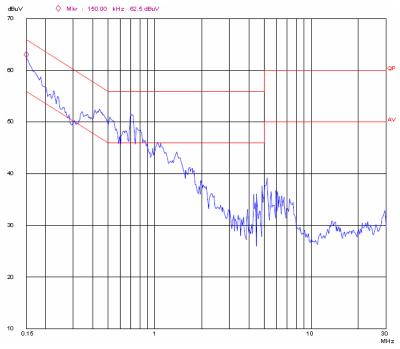


Line L Conducted Emission Graph

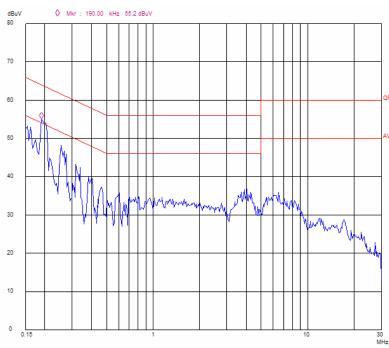


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Prepared by ECMG Electronic Technical Testing Corp (Shenzhen)

## Connected to PC mode:



Line L Conducted Emission Graph



Line N Conducted Emission Graph

#### Test Data:

Lines	Frequency (MHz)	Corrected QP Level (dBuV)	Limits QP (dBuV)	Margin QP (dB)	Frequency (MHz)	Corrected AV Level (dBuV)	Limits AV (dBuV)	Margin QP (dB)
			TF Cai	d playing	mode			
L	0.158	50.7	65.6	-14.9	0.158	35.9	55.6	-19.7
L	0.178	47.2	64.6	-17.4	0.178	32.7	54.6	-21.9
L	0.210	43.0	63.2	-20.2	0.210	31.4	53.2	-21.8
N	0.162	50.3	65.4	-15.1	0.162	35.5	55.4	-19.9
N	0.182	47.7	64.4	-16.7	0.182	32.8	54.4	-21.6
N	0.218	43.0	62.9	-19.9	0.218	33.2	52.9	-19.7
			Conne	cted to PC	C mode			
L	0.158	60.5	65.6	-5.1	0.158	50.8	55.6	-4.8
L	0.238	53	62.2	-9.2	0.238	46.8	52.2	-5.4
L	0.426	50.5	57.3	-6.8	0.426	41	47.3	-6.3
N	0.162	57.9	65.4	-7.5	0.162	48.4	55.4	-7.0
N	0.246	47.2	61.9	-14.7	0.246	41.4	51.9	-10.5
N	0.454	46.3	56.8	-10.5	0.454	41.9	46.8	-4.9

- 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 emissions levels are too low against official limits that are not be recorded.

Test Equipment list:

Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	ESCS30	R&S	11725/01	2012-07-09	2013-07-08
Line impedance stabilization network	ETS	4825/02	1161	2012-07-09	2013-07-08

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.

TESTED	BY:	Somerano	ECMG
		ENGINEER	COMPANY NAME
		Janerym	
REVIEWI	ED BY	0	ECMG

COMPANY NAME

## EUT Model: 101P11C



Conducted Emission Test Set-up (TF Card playing mode)

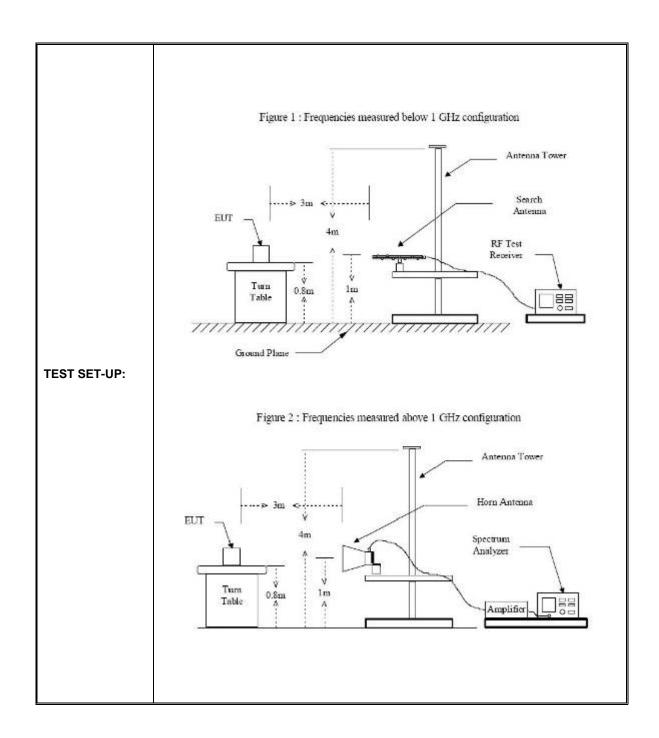


Conducted Emission Test Set-up (Connected to PC mode)

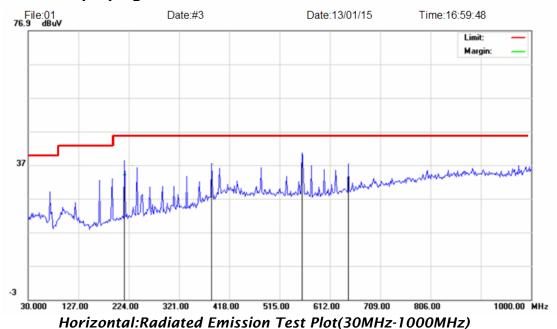
## ATTACHMENT 2 - RADIATED EMISSION MEASUREMENT

CLIENT:	Shenzhen KTC Technology	TEST STANDERD.	FCC Part 15,Subpart B,			
CLIENT:	Co., Ltd.	TEST STANDERD:	Section 15.109			
MODEL NUMBERS:	101P***	PRODUCT:	10.1" PAD			
EUT MODEL:	101P11C	EUT DESIGNATION:	Home or Office			
TEMPERATURE:	23°C	HUMIDITY:	49%RH			
ATM PRESSURE:	103.0kPa	GROUNDING:	None			
TESTED BY:	Sewen Guo	DATE OF TEST:	January 18 <sup>th</sup> , 2013			
TEST REFERENCE:	ANSI C63.4- 2009					
	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 frequency range of 30 MHz to 1GHz and average and peak in the frequency range of 1GHz to 10GHz at an anechoic chamber.					
TEST PROCEDURE:	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:					
	FS= RA + AF + CF - AG					
	Where: FS = Field Strength					
	RA = Receiver Amplitude					
	AF = Antenna Factor					
	CF = Cable Attenuation Factor					
	AG = Amplifier Gain					
TEST MODE	TF Card playing mode,Connecte	ed to PC mode				
TESTED RANGE:	30MHz to 10GHz					
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. ± 2x10 <sup>-7</sup> x Center Freq., A	mp ± 2.6 dB				

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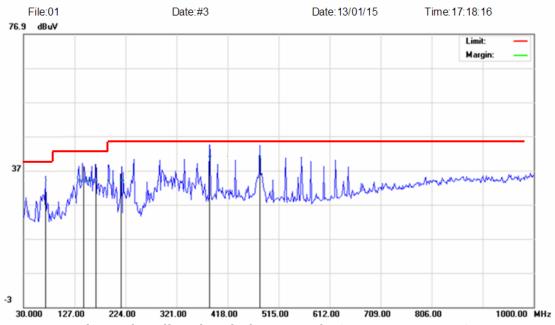


## TF Card playing mode:

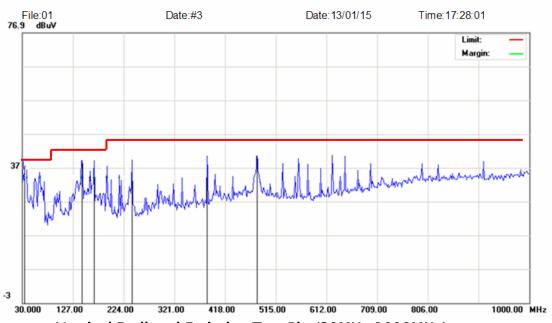


Vertical:Radiated Emission Test Plot(30MHz-1000MHz)

## Connected to PC mode:



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



Vertical:Radiated Emission Test Plot(30MHz-1000MHz)

## Test Data: Below 1GHz:

Free ways	Antenna	Corrected	Dalta OB	3 Meters				
Frequency [MHz]	Polarization [V/H]	Reading [dBµV/m]	Delta, QP [dB]	Limits [dBµV/m]				
TF Card playing mode								
384.050	Н	40.87	-5.13	46				
558.650	Н	42.24	-3.76	46				
647.556	Н	40.05	-5.95	46				
296.750	V	44.80	-1.20	46				
445.483	V	44.64	-1.36	46				
742.950	V	44.89	-1.11	46				
Connected to PC mode								
144.783	Н	38.61	-4.89	43.5				
384.050	Н	44.40	-1.60	46				
479.433	Н	44.85	-1.15	46				
144.783	V	38.79	-4.71	43.5				
384.050	V	43.94	-2.06	46				
479.433	V	43.43	-2.57	46				

- 1. All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 60s 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( no preamplifier factor below 1 GHz).
- 3. The other emission levels are 20dB below the official limits that are not reported.

#### Above 1GHz:

## TF Card playing mode:

Frequenc y (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarizati on (H/V)		
	Peak Measurement									
1.056	1.39	23.9	-33.60	-6.59	52.30	74	-21.70	Н		
1.192	1.48	24.2	-33.60	-4.58	54.70	74	-19.30	Н		
1.328	1.57	25.3	-33.60	-3.97	56.50	74	-17.50	Н		
1.631	1.78	26.1	-33.00	-13.48	47.40	74	-26.60	V		
1.660	1.78	26.1	-33.00	-11.98	48.90	74	-25.10	V		
1.818	1.89	27.3	-33.00	-15.09	47.10	74	-26.90	V		
	Average Measurement									
1.056	1.39	23.9	-33.60	-18.59	40.3	54	-13.70	Н		
1.192	1.48	24.2	-33.60	-16.58	42.7	54	-11.30	Н		
1.328	1.57	25.3	-33.60	-15.17	45.3	54	-8.70	Н		
1.631	1.78	26.1	-33.00	-13.78	47.1	54	-6.90	V		
1.660	1.78	26.1	-33.00	-14.38	46.5	54	-7.50	V		
1.818	1.89	27.3	-33.00	-15.39	46.8	54	-7.20	V		

- 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.

## Above 1GHz: Connected to PC:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarizati on (H/V)		
	Peak Measurement									
1.170	1.12	24.5	-34.45	-12.87	47.20	74	-26.80	Н		
2.046	1.58	27.5	-37.37	-23.70	42.75	74	-31.25	Н		
1.860	1.31	26.7	-37.37	-23.04	42.34	74	-31.66	Н		
1.170	1.12	24.5	-34.45	-12.97	47.10	74	-26.90	V		
1.856	1.30	26.3	-37.37	-22.76	42.21	74	-31.79	V		
1.860	1.31	26.7	-37.37	-25.37	40.01	74	-33.99	V		
Average Measurement										
1.170	1.12	24.5	-34.45	-32.18	27.89	54	-26.11	Н		
1.346	1.23	24.7	-35.60	-41.59	24.86	54	-29.14	Н		
1.860	1.31	26.7	-37.37	-42.81	22.57	54	-31.43	Н		
1.170	1.12	24.5	-34.45	-33.05	27.02	54	-26.98	V		
1.856	1.30	26.3	-37.37	-42.87	22.10	54	-31.90	V		
1.860	1.31	26.7	-37.37	-44.81	20.57	54	-33.43	V		

- 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 Date		
EMI Test Receiver	SMR4503	SCHAFFNER	11725	2012-07-09	2013-07-08		
Bilog Antenna	3142C	ETS	00042672	2012-07-09	2013-07-08		
Double-ridged wave guide horn	3115	ETS	6587	2012-07-09	2013-07-08		
3m Semi- anechoic chamber	<i>9X6X6</i>	ETS	N/A	2012-07-09	2013-07-08		

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST)

ЕСМС
COMPANY NAME
ECMG COMPANY NAME

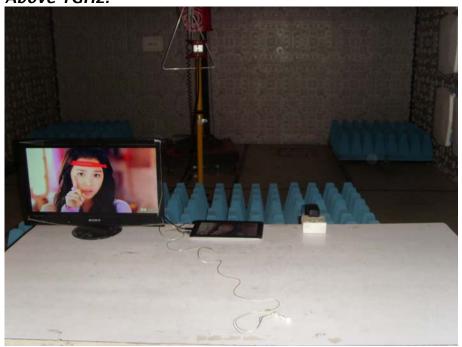
## EUT Model: 101P11C

## **Below 1GHz:**



Radiated Emission Test Set-up (TF Card playing mode)

## Above 1GHz:



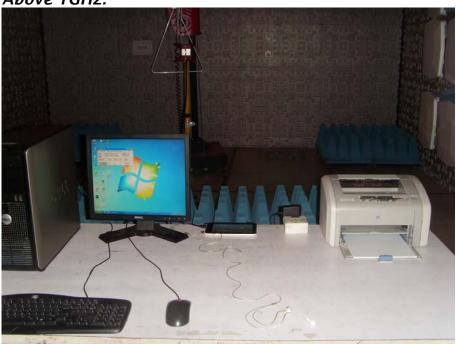
Radiated Emission Test Set-up (TF Card playing mode)

## **Below 1GHz:**



Radiated Emission Test Set-up (Connected to PC mode)

## Above 1GHz:



Radiated Emission Test Set-up (Connected to PC mode)

TF Card playing mode:



Radiated Emission Test Set-up (Rear view)

Connected to PC mode:



Radiated Emission Test Set-up (Rear view)