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Report No.: GTI20160197F-4 Fax: +86-755-86116468

# **FCC TEST REPORT**

Page 1 of 17

Product name:	Tablet PC
Trademark:	
Model/Type reference:	A723G
Listed Model(s):	See the page 6
FCC ID:	2AEB5-A723
Test Standards:	47 CFR FCC Part 15 Subpart B - Unintentional Radiators ANSI C63.4: 2014
Applicant:	AOC
Address of applicant:	14F-5, NO.258, Liancheng Rd., Zhonghe Dist., New Taipei City, Taiwan
Date of Receipt:	Mar. 05, 2016
Date of Test Date:	Mar. 05, 2016- Mar. 11, 2016
Data of issue:	Mar. 11, 2016

Pass \*

**Test result** 

<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above



Equipment: Tablet PC

Model Name: A723G

Manufacturer: Shenzhen KTC Technology Co., Ltd.

Manufacturer Address: Northern Wuhe Road, Gangtou,Buji, Longgang,Shenzhen, China

DC 3.7V from 2700mAh by rechargeable battery DC 5.0V from Adapter

Compiled By:

(Sevin Li)

SevinLi

Reviewed By:

(Tony Wang)

Approved By:

(Walter Chen)

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	Table of Contents	Page
1.	SUMMARY	4
	1.1 Test Standards	4
	1.2 TEST DESCRIPTION	4
	1.3 TEST FACILITY	
	1.4 MEASUREMENT UNCERTAINTY	4
2.	GENERAL INFORMATION	6
	2.1 Environmental conditions	6
	2.2 GENERAL DESCRIPTION OF EUT	
	2.3 DESCRIPTION OF TEST MODES	
	2.4 DESCRIPTION OF PERIPHERAL DURING TESTING	
	2.5 Measurement Instruments List	
3.	EMC EMISSION TEST	9
:	3.1 CONDUCTED EMISSION MEASUREMENT	9
:	3.2 RADIATED EMISSION	
4.	EUT TEST PHOTO	16
5.	PHOTOGRAPHS OF EUT CONSTRUCTIONAL	



# 1. SUMMARY

#### 1.1 Test Standards

The tests were performed according to following standards:

47 CFR FCC Part 15 Subpart B - Unintentional Radiators

ANSI C63.4: 2014 – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz

# 1.2 Test Description

Emission Measurement requirements				
Radiated Emission	Part15.109	PASS		
Conducted Disturbance	Part15.107	PASS		

Remark: The measurement uncertainty is not included in the test result.

# 1.3 Test Facility

## 1.3.1 Address of the test laboratory

Shenzhen General Testing & Inspection Technology Co., Ltd.

Add: 1F, 2 Block, Jiaquan Building, Guanlan High-tech Park Baoan District, Shenzhen, Guangdong, China.

#### 1.3.2 Laboratory accreditation

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

#### IC Registration No.: 9783A

The 3m alternate test site of Shenzhen GTI Technology Co., Ltd.EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Aug, 2011.

#### FCC-Registration No.: 214666

Shenzhen GTI Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 214666, Sep 19, 2011

## 1.4 Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements—and is documented in the Shenzhen General Testing & Inspection Technology Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.



Page 5 of 17 Report No.: GTI20160197F-4

Hereafter the best measurement capability for General Testing & Inspection laboratory is reported:

#### A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U(dB)	NOTE
C01	ANSI	150 KHz ~ 30MHz	3.2	

#### B. Radiated Measurement:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.7 dB	(1)
Radiated Emission	1~18GHz	5.0 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.



2. GENERAL INFORMATION

# 2.1 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

g			
Normal Temperature:	25°C		
Relative Humidity:	55 %		
Air Pressure:	101KPa		

# 2.2 General Description of EUT

Product Name:	Tablet PC	
Model/Type reference:	A723G	
List Model:	700P***, &&700*****	
Model difference:	700P*** (1st* could be 0-99 or A-Z, means different client code; 2nd* could be 0-99 or A-Z or blank, stands for the shape or color of enclosure, no impact on Products safety and EMC characteristics); &&700******(& could be "A-Z" or "a-z", * could be "0-99", "A-Z", "a-z", "-", "/" or blank, means different client code, no impact on Products safety and EMC characteristics	
Power supply:	DC 3.7V from battery, 2700mAh Battery model: 338085	
Adapter1 information:	Model: EP29-05015WULZ Input: 100-240, 50/60Hz, 0.35Max Output: 5V ===1500mA	
Adapter2 information:	Model: SA69-050150U Input: 100-240, 50/60Hz, 0.30Max Output: 5V ===1500mA	
Hardware version:	V10	
Software version:	V5.1	

Note: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



# 2.3 Description of Test Modes

Frequency range investigated: conduction 150 kHz to 30 MHz; according to 15.33(b), radiation 30MHz-6GHz(30MHz to the 5th harmonic of the highest fundamental frequency).

The Highest operation frequency is 1.2GHz

The device was a Table PC. As the function of the EUT, the operation mode selected to test as follow:

Test Mode Function Description					
1 USB Data Transfer Link PC+ WIFI Idle + BT Idle + GPS RX					
2 PC Operation PC Operation + Adapter1					
3 PC Operation PC Operation + Adapter2					
Remark: Link with PC means data application transferred mode between EUT and PC					

Test Item	EUT Configure Mode	
AC Conducted Emission	Mode 1	
Radiated Emissions <1GHz	Mode 1	
Radiated Emissions ≥1GHz	Mode 1	

# 2.4 Description of Peripheral during Testing

No.	Product	Manufacturer	Serial No.	Certification
1	PC	Lenovo	H435	DOC
2	PC Power Supply	Bestec	ATX-250-12Z	DOC
3	Display	DELL	U2412M	DOC
4	Printer	HP	PJ1008	DOC
5	USB Flash	TRANSCEND	TS2GJFV30	DOC
6	Mouse	DELL	N889	DOC
7	Keyboard	DELL	SK-8185	DOC

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Tel.: (86)755-27588991



2.5 Measurement Instruments List

Conducted Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101112	Jan 04,2017
2	LISN	R&S	ENV216	101113	Jan 04,2017
3	EMI Test Receiver	R&S	ESCI	100920	Jan 04,2017
4	Cable	Schwarzbeck	AK9515E	33156	Jan 04,2017

Radiate	Radiated Emission				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100967	Jan 04,2017
2	Log-Bicon Antenna	Schwarzbeck	CBL6141 A	4180	Jan 04,2017
3	Spectrum Analyzer	Rohde & Schwarz	FSU	100105	Jan 04,2017
4	Horn Antenna	Schwarzbeck	BBHA 9120D	648	Jan 07,2017
5	Pre-Amplifier	HP	8447D	1937A030 50	Jan 04,2017
6	Pre-Amplifier	EMCI	EMC051 835	980075	Jan 04,2017
7	Antenna Mast	UC	UC3000	N/A	N/A
8	Turn Table	UC	UC3000	N/A	N/A
9	Cable Below 1GHz	Schwarzbeck	AK9515E	33155	Jan 04,2017
10	Cable Above 1GHz	Hubersuhner	SUCOFLE X102	DA1580	Jan 04,2017

Note: 1. The Cal. Interval was one year.



# 3. EMC EMISSION TEST

#### 3.1 Conducted Emission Measurement

# **LIMIT**

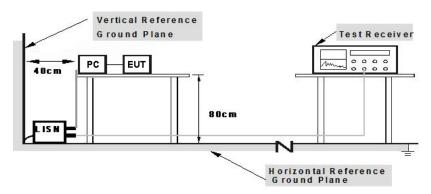
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following:

FREQUENCY (MHz)	Class A	(dBuV)	Class B (dBuV)		
PREQUENCY (WITZ)	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	
0.50 -5.0	73.00	60.00	56.00	46.00	
5.0 -30.0	73.00	60.00	60.00	50.00	

#### **TEST PROCEDURE**

- a) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2014.
- b) Support equipment, if needed, was placed as per ANSI C63.4-2014.
- c) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2014.
- d) An USB Line connection between the EUT and PC which received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- e) All support equipments received AC power from a second LISN, if any.
- f) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- g) Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- h) During the above scans, the emissions were maximized by cable manipulation.

#### **TEST SETUP**

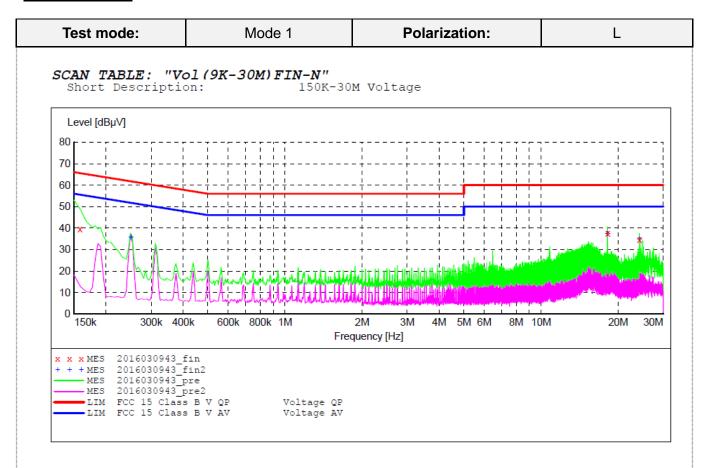


Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80
from other units and other metal planes



#### **TEST RESULTS**



## MEASUREMENT RESULT: "2016030943\_fin"

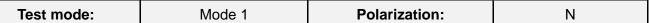
3/9/2016	5 10:40	MAC						
Frequ	iency MHz	Level dBµV		Limit dBµV	Margin dB	Detector	Line	PE
0.15		20 E0	0 0	6.6	26 1	OD	T 1	CND
18.17					26.1 22.5	~	L1 L1	GND GND
24.22	24000	34.60	11.1	60	25.4	QP	L1	GND

#### MEASUREMENT RESULT: "2016030943\_fin2"

3/9/2	2016 10:40.	AM						
Fr	requency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dBuV	dB	dBuV	dB			
	11112	αΣμν	Q.D	αΣμν	4.2			
_	250000	25 00	0.7	F-0	16.0	7.17	T 1	CINTE
· ·	0.250000	35.80	9.7	52	10.0	AV	L1	GND
18	3.170000	37.40	10.8	50	12.6	AV	L1	GND
2.4	1.224000	34.60	11.1	50	15.4	AV	L1	GND

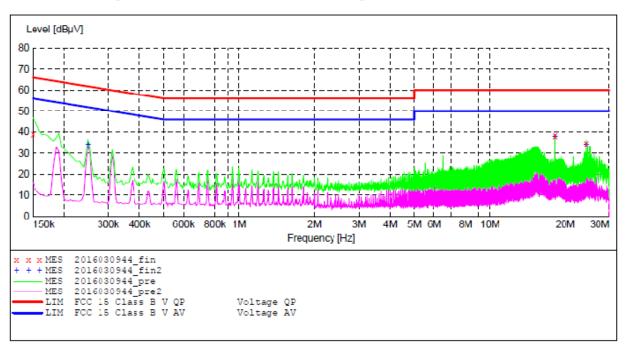
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Page 11 of 17 Report No.: GTI20160197F-4



#### SCAN TABLE: "Vol (9K-30M) FIN-N"

Short Description: 150K-30M Voltage



#### MEASUREMENT RESULT: "2016030944 fin"

3/9/2016	10:44	AM						
_	ncy MHz		Transd dB		Margin dB	Detector	Line	PE
0.150	000	39.00	9.5	66	27.0	QP	N	GND
18.167	000	37.90	10.5	60	22.1	QP	N	GND
24.224	000	34.20	10.8	60	25.8	OP	N	GND

#### MEASUREMENT RESULT: "2016030944 fin2"

3/	9/2016 10:4	4AM						
	Frequency MHz	Level dBµV		Limit dBµV	Margin dB	Detector	Line	PE
	0.249000	33.80	9.5	52	18.0	AV	N	GND
	18.167000	37.60	10.5		12.4	AV	N	GND
	24.224000	33.90	10.8	50	16.1	AV	N	GND



## 3.2 Radiated Emission

#### **LIMITS**

LIMITS OF RADIATED EMISSION MEASUREMENT (Below 1000MHz)

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 3m)
FREQUENCY (MHZ)	dBuV/m	dBuV/m
30 ~ 88	39.0	40.0
88 ~ 216	43.5	43.5
216 ~ 960	46.5	46.0
Above 960	49.5	54.0

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (at	3m) dBuV/m	Class B (at 3m) dBuV/m				
FREQUENCT (MITZ)	Peak	Avg	Peak	Avg			
Above 1000	80	60	74	54			

#### Notes:

- 1) The limit for radiated test was performed according to as following: CISPR 22/ FCC PART 15B /ICES-003.
- 2) The tighter limit applies at the band edges.
- 3) Emission level (dBuV/m)=20log Emission level (uV/m).

#### **TEST PROCEDURE**

- a) The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured, above 1G Average detector mode will be instead.
- e) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP (AV) Limits and then no additional QP Mode measurement performed.

Note: For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that



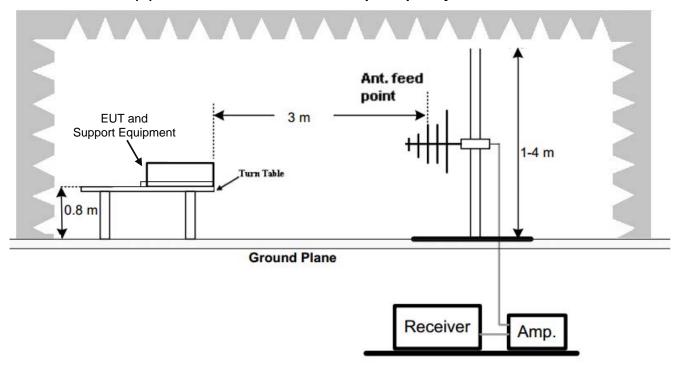
which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

Report No.: GTI20160197F-4

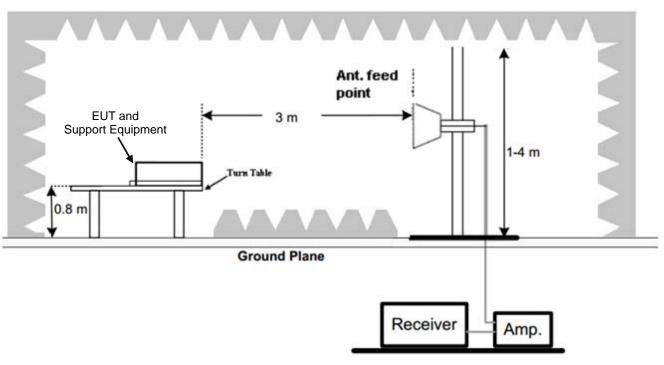
#### **TEST SETUP**

For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### (A) Radiated Emission Test Set-Up Frequency below 1 GHz

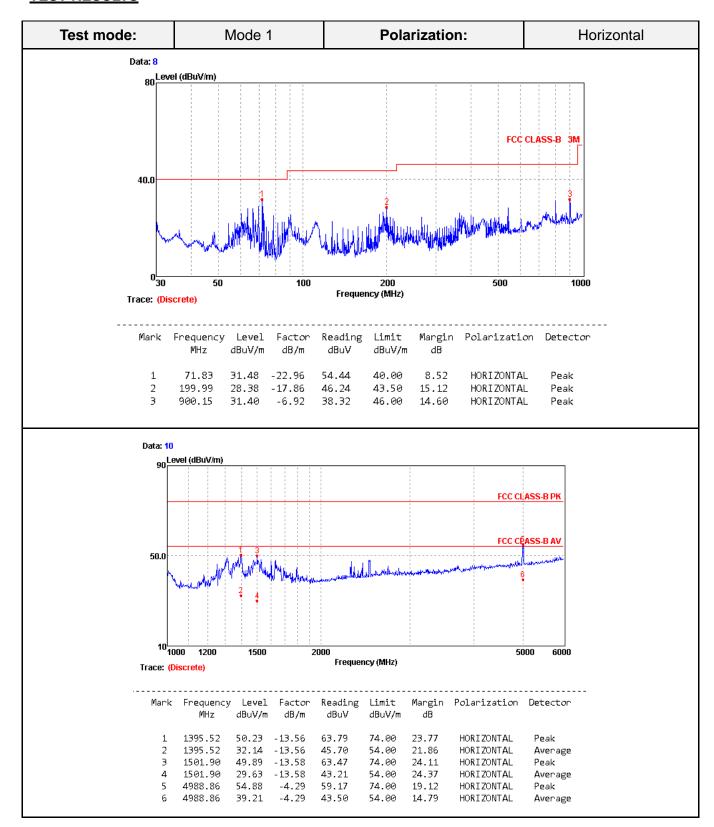


## (B) Radiated Emission Test Set-UP Frequency above 1GHz





#### **TEST RESULTS**



Peak

Average



4

2498.25

36.10

-9.80

45.90

54.00

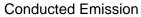
17.90

VERTICAL

Test mode: Mode 1 Polarization: Vertical Data: 7 80 Level (dBuV/m) FCC CLASS-B 3M 40.0 030 50 100 200 500 1000 Frequency (MHz) Trace: (Discrete) Mark Frequency Level Factor Reading Limit Margin Polarization Detector dBuV/m dB/m dBuV dBuV/m MHz dB 30.21 29.60 -8.49 38.09 40.00 VERTICAL 10.40 Peak 84.70 29.24 -21.09 50.33 40.00 10.76 VERTICAL Peak 28.06 -18.98 47.04 43.50 15.44 VERTICAL Peak 27.93 -20.22 171.99 48.15 43.50 15.57 VERTICAL Peak 5 25.90 -14.33 372.00 40.23 46.00 VERTICAL 20.10 Peak 668.14 27.64 46.00 18.36 -9.64 37.28 VERTICAL Peak Data: 9 90 Level (dBuV/m) FCC CLASS-B PK FCC CLASS-B AV 50.0 10<mark>1000</mark> 1200 5000 6000 Frequency (MHz) Trace: (Discrete) Mark Frequency Level Factor Reading Limit Margin Polarization Detector dBuV/m dBuV/m MHz dB/m dBuV dΒ 1398.02 50.20 -13.55 63.75 74.00 23.80 VERTICAL Peak VERTICAL 2 1398.02 35.80 -13.55 49.35 54.00 18.20 Average 3 2498.25 49.31 -9.80 59.11 74.00 24.69 VERTICAL



# 4. EUT TEST PHOTO





Radiated Emission below 1GHz



Radiated Emission above 1GHz



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5. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Please reference to the test report No.: GTI20160197F-1				
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