

# Global United Technology Services Co., Ltd.

Report No.: GTS201803000068F03

# TEST REPORT

**AOC Applicant:** 

**Address of Applicant:** 14F-5, No. 258, Liancheng Rd., Zhonghe Dist., New Taipei

City, Taiwan

**AOC** Manufacturer/Factory:

14F-5, No. 258, Liancheng Rd., Zhonghe Dist., New Taipei Address of

City, Taiwan Manufacturer/Factory:

**Equipment Under Test (EUT)** 

**Product Name: Tablet PC** 

Model No.: A741

Trade Mark: **AOC** 

FCC ID: 2AEB5-A741

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart B

Date of sample receipt: March 01, 2018

Date of Test: March 02-13, 2018

Date of report issued: March 14, 2018

Test Result: PASS \*

Authorized Signature:

**Laboratory Manager** 

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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



# 2 Version

Version No.	Date	Description
00	March 14, 2018	Original

Prepared by:	Tiger. Che	Date:	March 14, 2018	
	Project Engineer			
Reviewed by:	Andy W	Date:	March 14, 2018	



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# 4 Test Summary

Test Item	Test Requirement	Test Method	Class / Severity	Result
Conducted Emission	FCC Part15.107	ANSI C63.4-2014	Class B	PASS
Radiated Emissions #	FCC Part15.109	ANSI C63.4-2014	Class B	PASS

#### Remark:

- 1. Pass: The EUT complies with the essential requirements in the standard.
- 2. # Refer to FCC Part 15.33 (b)(1) conditional testing procedure:

The highest frequency generated or used in the EUT	Test frequency range of Radiated emission
<108MHz	30MHz ~ 1GHz
108MHz ~ 500MHz	30MHz ~ 2GHz
500MHz ~ 1GHz	30MHz ~ 5GHz
>1GHz	30MHz ~ 5th harmonic of the highest frequency or 40 GHz, whichever is lower.

The highest frequency of the internal sources of the EUT is more than 108MHz.



### 5 General Information

## 5.1 General Description of EUT

Product Name:	Tablet PC
Model No.:	A741
Serial No.:	1000377576001
Test sample(s) ID:	GTS201803000068-2
Sample(s) Status:	Normal sample
Hardware:	AK47-BT-V4.2
Software:	A741_2018
Power supply:	AC Adapter
	Model:TPA-95A050100UU
	Input: AC 100-240V, 50/60Hz, 0.15A
	Output: DC 5V, 1000mA
	Battery: DC 3.7V, 2400mAh, 8.88Wh

# 5.2 Test mode and Test voltage

Test mode:	
PC mode	Keep the EUT in data exchange with PC mode
TF card playing mode	Keep the EUT in TF card playing mode
REC mode	Keep the EUT in continuous record mode
Test voltage	
AC120V 60Hz	

## 5.3 Description of Support Units

Manufacturer	Description	Model	Serial Number
Lenovo	Notebook PC	E40	N/A
DELL	MONITOR	VS12490	GTS237-1
DELL	KEYBOARD	SK-8115	GTS237-2

## 5.4 Deviation from Standards

None.

#### 5.5 Abnormalities from Standard Conditions

None.



### 5.6 Test Facility

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

#### • FCC —Registration No.: 381383

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383, Jan. 08, 2018.

#### • Industry Canada (IC) —Registration No.: 9079A-2

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016

#### 5.7 Test Location

The test was performed at:

Global United Technology Services Co., Ltd.

Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480 Fax: 0755-27798960



# 6 Test Instruments list

Radia	Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	July. 03 2015	July. 02 2020	
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A	
3	ESU EMI Test Receiver	R&S	ESU26	GTS203	June.28 2017	June.27 2018	
4	BiConiLog Antenna	SCHWARZBECK	VULB9163	GTS214	June.28 2017	June.27 2018	
5	Double-ridged horn antenna	SCHWARZBECK	9120D	GTS208	June.28 2017	June.27 2018	
6	Horn Antenna	ETS-LINDGREN	3160-09	GTS218	June.28 2017	June.27 2018	
7	RF Amplifier	HP	8347A	GTS204	June.28 2017	June.27 2018	
8	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	June.28 2017	June.27 2018	
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
10	Coaxial Cable	GTS	N/A	GTS211	June.28 2017	June.27 2018	
11	Coaxial Cable	GTS	N/A	GTS210	June.28 2017	June.27 2018	
12	Coaxial Cable	GTS	N/A	GTS212	June.28 2017	June.27 2018	
13	Thermo meter	N/A	N/A	GTS256	June.28 2017	June.27 2018	

Conc	Conducted Emission							
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2014	May.15 2019		
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June.28 2017	June.27 2018		
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June.28 2017	June.27 2018		
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June.28 2017	June.27 2018		
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A		
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A		
7	Thermo meter	KTJ	TA328	GTS233	June.28 2017	June.27 2018		

Gene	ral used equipment:					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Barometer	ChangChun	DYM3	GTS257	June.28 2017	June.27 2018



## 7 Test Results and Measurement Data

## 7.1 Radiated Emission

FCC Part15 B S	FCC Part15 B Section 15.109						
ANSI C63.4:201	ANSI C63.4:2014						
30MHz to 25000	)MHz						
Measurement D	istance: 3m (S	Semi-Anecho	ic Chambei	·)			
Frequency	Frequency Detector RBW VI			Frequency Detector RBW VE		VBW	Remark
30MHz- 1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value			
Above 1GHz	Peak Peak	1MHz 1MHz	3MHz 10Hz	Peak Value Average Value			
Freque	1	Limit (dBuV/	/m @3m)	Remark			
30MHz-88MHz 40.00			Quasi-peak Value				
88MHz-2 <sup>-</sup>	16MHz	43.5	0	Quasi-peak Value			
216MHz-9	60MHz	46.00		Quasi-peak Value			
960MHz-	960MHz-1GHz 54.00 54.00		0	Quasi-peak Value			
			Average Value				
Above 1	GHz	74.0	0	Peak Value			
	EUT-	< 1n n Table⊬	a 4m >√	fier			
	ANSI C63.4:201 30MHz to 25000 Measurement D Frequency 30MHz- 1GHz Above 1GHz Freque 30MHz-8 88MHz-2 216MHz-9 960MHz- Above 1 Below 1GHz	ANSI C63.4:2014  30MHz to 25000MHz  Measurement Distance: 3m (Single States of States	ANSI C63.4:2014  30MHz to 25000MHz  Measurement Distance: 3m (Semi-Anecho  Frequency Detector RBW  30MHz- Quasi-peak 120kHz  1GHz  Above 1GHz  Peak 1MHz  Peak 1MHz  Frequency Limit (dBuV/  30MHz-88MHz 40.0  88MHz-216MHz 43.5  216MHz-960MHz 46.0  960MHz-1GHz 54.0  Above 1GHz  Above 1GHz  Tum Table  Test	ANSI C63.4:2014  30MHz to 25000MHz  Measurement Distance: 3m (Semi-Anechoic Chamber Frequency Detector RBW VBW 30MHz-1GHz Quasi-peak 120kHz 300kHz 1GHz  Above 1GHz Peak 1MHz 3MHz 10Hz  Frequency Limit (dBuV/m @3m)  30MHz-88MHz 40.00  88MHz-216MHz 43.50  216MHz-960MHz 46.00  960MHz-1GHz 54.00  Above 1GHz 74.00  Below 1GHz  Frest Antenna 74.00			



Test Procedure:  1. The EUT was placed on the top of a the ground at a 3 meter semi-anech rotated 360 degrees to determine the radiation.  2. The EUT was set 3 meters away from antenna, which was mounted on the tower.  3. The antenna height is varied from the ground to determine the maximum Both horizontal and vertical polarization make the measurement.  4. For each suspected emission, the Expression case and then the antenna was tunimeters and the rotatable table was degrees to find the maximum reading.  5. The test-receiver system was set to the ground at a 3 meter semi-anech rotated and the toward and the semi-anech reading.	noic chamber. The table was the position of the highest of the interference-receiving to top of a variable-height antennation meter to four meters above turn value of the field strength. Intions of the antenna are set to set to heights from 1 meter to 4 turned from 0 degrees to 360 mg.		
Specified Bandwidth with Maximum  6. If the emission level of the EUT in p the limit specified, then testing could of the EUT would be reported. Othe have 10dB margin would be re-tested peak or average method as specified sheet.	Hold Mode.  leak mode was 10dB lower than d be stopped and the peak values rwise the emissions that did not led one by one using peak, quasi-		
	2% Press.: 1 012mbar		
Measurement Record:	Uncertainty: ± 4.50dB		
Test Instruments: Refer to section 6 for details	-		
Test mode: Refer to section 5.2 for details. Only sho	Refer to section 5.2 for details. Only show the worst case.		
Test results: Pass			

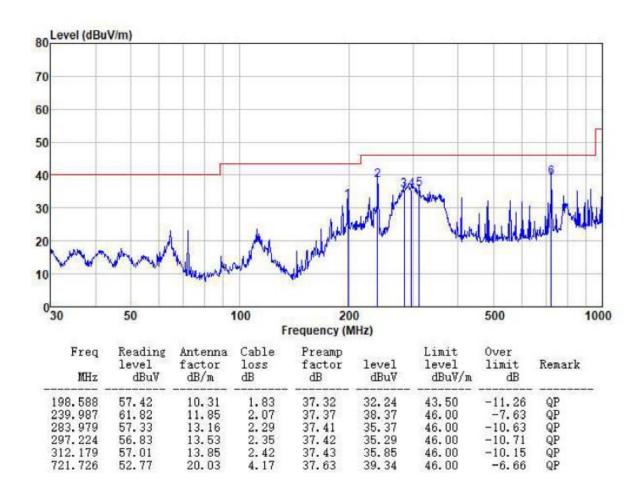
Note: For above  $6\mbox{GHz}$  ,  $% \mbox{ no emission}$  no emission found , only report worse case  $30\mbox{MHz}$  to  $6\mbox{GHz}$ 



#### **Measurement Data**

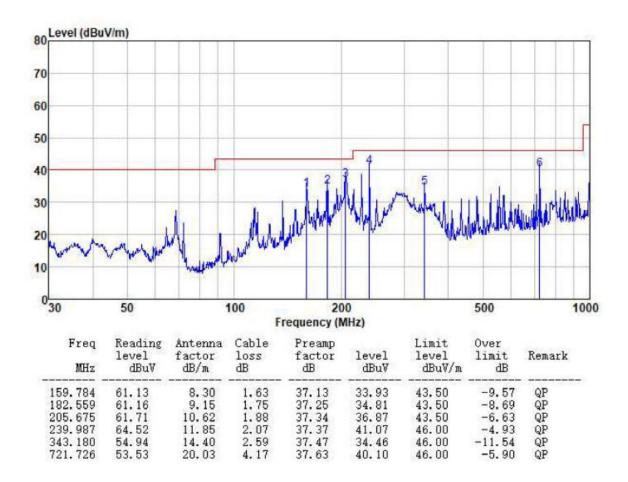
Below 1GHz

Test mode:	PC mode	Antenna Polarity:	Horizontal



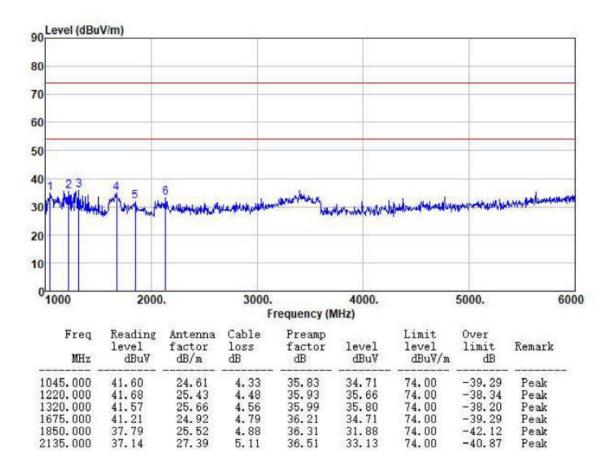


Test mode:	PC mode	Antenna Polarity:	Vertical
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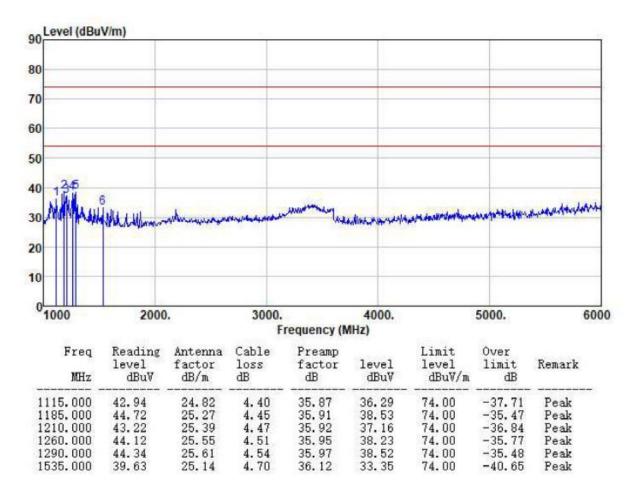


#### Above 1GHz





Test mode: PC mode Antenna Polarity: Vertical
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#### Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor



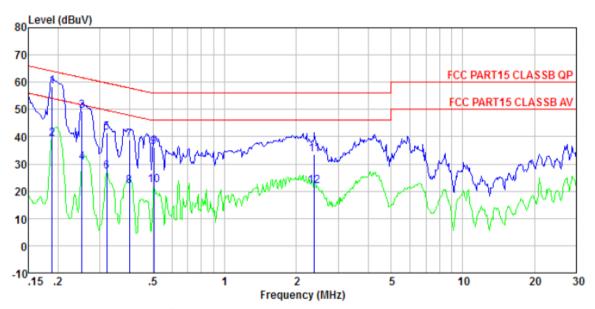
## 7.2 Conducted Emissions

Test Requirement:	FCC Part15 B Section 15.107				
Test Method:	ANSI C63.4:2014				
Test Frequency Range:	150kHz to 30MHz				
Class / Severity:	Class B				
Receiver setup:	RBW=9kHz, VBW=30kHz				
Limit:		Limit (c	dBuV)		
	Frequency range (MHz)    Limit (dBµV)   Quasi-peak				
	0.15-0.5	66 to 56*	56 to 46*		
	0.5-5	56	46		
Toot ootup:	0.5-30	60	50		
Test setup:	Reference Plane  LISN  40cm  80cm  Filter  AC power  Equipment  Test table/Insulation plane  Remark:  E.U.T: Equipment Under Test  LISN: Line Impedence Stabilization Network  Test table height=0.8m				
Test procedure	<ol> <li>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs).</li> <li>Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.</li> </ol>				
Test environment:	Temp.: 25 °C Humio	d.: 52% Pre	ess.: 1 012mbar		
Test Instruments:	Refer to section 6 for details	. ,	•		
Test mode:	Refer to section 5.2 for details. Only show the worst case.				
Test results:	Pass				

#### **Measurement Data**



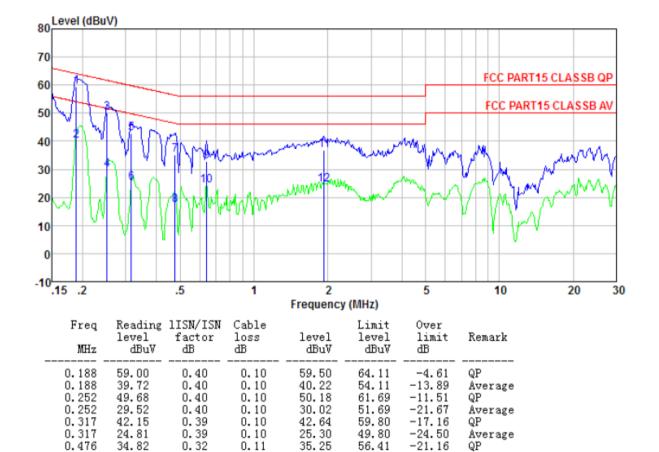
Test mode: PC mode	Phase Polarity:	Line
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Freq MHz	Reading level dBuV	1ISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.188	58.02	0.40	0.10	58.52	64.11	-5.59	QP
0.188	38.55	0.40	0.10	39.05	54.11	-15.06	Average
0.252	48.97	0.40	0.10	49.47	61.69	-12.22	QP
0.252	29.91	0.40	0.10	30.41	51.69	-21.28	Average
0.320	40.86	0.39	0.10	41.35	59.71	-18.36	QP
0.320	26.61	0.39	0.10	27.10	49.71	-22.61	Average
0.398	38.24	0.35	0.11	38.70	57.90	-19.20	QP
0.398	21.36	0.35	0.11	21.82	47.90	-26.08	Average
0.505	35.68	0.31	0.11	36.10	56.00	-19.90	QP
0.505	21.67	0.31	0.11	22.09	46.00	-23.91	Average
2.384	33.28	0.20	0.18	33.66	56.00	-22.34	QP
2.384	21.41	0.20	0.18	21.79	46.00	-24.21	Average



Test mode: PC mo	de Phase Polarity:	Neutral
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#### Notes:

0.476

0.641

0.641

1.928

1.928

16.86

32.57

23.96

36.45

24.10

1. The following Quasi-Peak and Average measurements were performed on the EUT:

0.11

0.12

0.12

0.17

0.17

17.29

32.96

24.35

36.82

24.47

-29.12

-23.04

-21.65

-19.18

-21.53

Average

Average

Average

QΡ

46.41

56.00

46.00

56.00

46.00

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

0.32

0.27

0.27

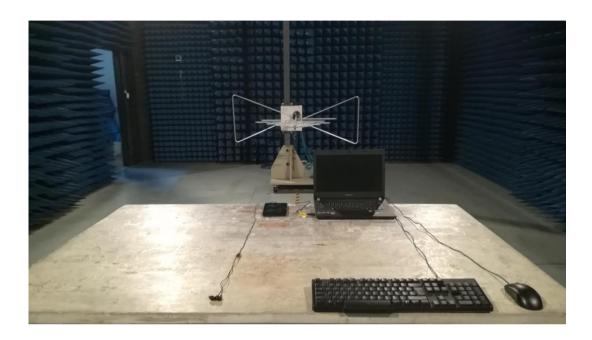
0.20

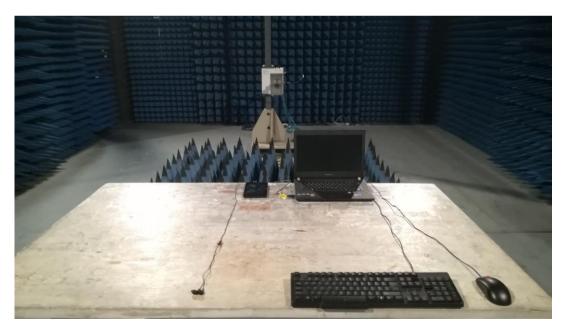
0.20



# 8 Test Setup Photo

Radiated Emission







# 9 EUT Constructional Details

Reference to the test report No.: GTS201803000068F01

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