Report No: CCISE171210303

FCC REPORT

Applicant: Grand Electronics INC.

Address of Applicant: 11650 Brentcross Dr Tomball Texas United States 77377

Equipment Under Test (EUT)

Product Name: Tablet PC

Model No.: i7, i7s

Trade mark: neutab.

FCC ID: 2AGNK-I7

Applicable standards: FCC CFR Title 47 Part 15 Subpart B

Date of sample receipt: 27 Dec., 2017

Date of Test: 27 Dec., 2017 to 22 Feb., 2018

Date of report issued: 26 Feb., 2018

Test Result: PASS *

Authorized Signature:



Bruce Zhang Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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^{*} In the configuration tested, the EUT complied with the standards specified above.



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2 Version

Version No.	Date	Description
00	26 Feb., 2018	Original

Tested by: Mike 0U **Date:** 26 Feb., 2018

Test Engineer

Reviewed by: Date: 26 Feb., 2018

Project Engineer





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4 Test Summary

Test Item	Section in CFR 47	Result	
Conducted Emission	Part 15.107	Pass	
Radiated Emission	Part 15.109	Pass	

Remark

Pass: The EUT complies with the essential requirements in the standard.

N/A: The EUT not applicable of the test item.



5 General Information

5.1 Client Information

Applicant:	Grand Electronics INC.		
Address of Applicant:	11650 Brentcross Dr Tomball Texas United States 77377		
Manufacturer/ Factory:	Dongguan Digi-in Digital Technology Co., Ltd		
Address:	Jiatian Industrial Park, Wulian, Fenggang Town, Dongguan City, Guangdong, China		

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5.2 General Description of E.U.T.

Product Name:	Tablet PC
Model No.:	i7, i7s
Power supply:	Rechargeable Li-ion Battery DC3.7V-2500mAh
AC adapter:	Model: UF22P1501 Input: AC100-240V 50/60Hz 500mA Output: DC 5.0V, 2.1A/ DC 9.0V, 1.67A/ DC 12.0V, 1.25A
Remark:	The Model No.: i7, I7s were identical inside, the electrical circuit design, layout, components and internal wiring, with only difference being model name.

5.3 Test Mode

Operating mode	Detail description
PC mode	Keep the EUT in Downloading mode (Worst case)
Charging+Recording mode	Keep the EUT in Charging+Recording mode
Charging+Playing mode	Keep the EUT in Charging+Playing mode

The sample was placed 0.8m above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

5.4 Measurement Uncertainty

Items	Expanded Uncertainty (Confidence of 95%)
Conducted Emission (9kHz ~ 30MHz)	2.14 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	4.24 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	4.35 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	4.44 dB (k=2)
Radiated Emission (18GHz ~ 26.5GHz)	4.56 dB (k=2)



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5.5 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
HP	Printer	CB495A	05257893	DoC
MERCURY	Wireless router	MW150R	12922104015	FCC ID
NAKAMICHI	Bluetooth earphone	T8	N/A	FCC ID

5.6 Related Submittal(s) / Grant (s)

This is an original grant, no related submittals and grants.

5.7 Laboratory Facility

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

• FCC - Registration No.: 727551

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

CNAS - Registration No.: CNAS L6048

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.8 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,

Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China
Telephone: +86 (0) 755 2311 8282 Fax: +86 (0) 755 2311 6366





5.9 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 SAC	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	07-22-2017	07-21-2020		
	DiO anil an Antana	001114/4 DZDEOK	VIII D0460	00100005	02-25-2017	02-24-2018		
2	BiConiLog Antenna	SCHWARZBECK	VULB9163	CCIS0005	02-20-2018	02-19-2019		
		0011111107775011	DDIIAAAAAD	0010000	02-25-2017	02-24-2018		
3	Horn Antenna	SCHWARZBECK	BBHA9120D	CCIS0006	02-20-2018	02-19-2019		
	Pre-amplifier			0010000	02-25-2017	02-24-2018		
4	(10kHz-1.3GHz)	HP 8447D CCIS000	CCIS0003	02-20-2018	02-19-2019			
_	Pre-amplifier	Compliance Direction	515.1015	00100011	02-25-2017	02-24-2018		
5	(1GHz-18GHz)	Systems Inc. PAP-1G18	CCIS0011	02-20-2018	02-19-2019			
	Spectrum analyzer	D	50000	0010000	02-25-2017	02-24-2018		
6	9k-30GHz	Rohde & Schwarz	FSP30	CCIS0023	02-20-2018	02-19-2019		
_	ENUT 15 :	D	50007	00100107	02-25-2017	02-24-2018		
7	EMI Test Receiver	Rohde & Schwarz	ESRP7	CCIS0167	02-20-2018	02-19-2019		
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A		
	Capyial Cable	Coaxial Cable N/A N/A CCIS00		00100040	02-25-2017	02-24-2018		
9	Coaxial Cable			CCIS0018	02-20-2018	02-19-2019		
40	0 :1011	N1/A	N1/A	00100000	02-25-2017	02-24-2018		
10	Coaxial Cable	N/A	N/A	CCIS0020	02-20-2018	02-19-2019		

Cond	Conducted Emission:							
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	07-22-2017	07-21-2020		
•	EMIT (D.	D 1 1 0 0 1	F001	0010000	02-25-2017	02-24-2018		
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	02-20-2018	02-19-2019		
0	1.1011	0114.05	MANGOSOD		02-25-2017	02-24-2018		
3	LISN	CHASE	MN2050D	CCIS0074	02-20-2018	02-19-2019		
4	LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	07-21-2017	07-20-2018		
_	0 11011	0010	11/4	00100000	02-25-2017	02-24-2018		
5	Coaxial Cable	CCIS	N/A	CCIS0086	02-20-2018	02-19-2019		
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A		



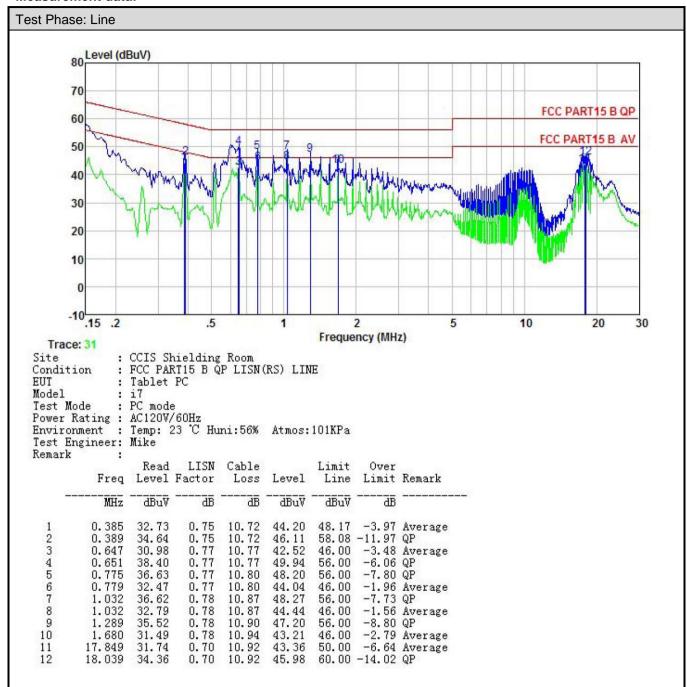
6 Test results and Measurement Data

6.1 Conducted Emission

Test Requirement:	FCC Part 15 B Section 15.10	FCC Part 15 B Section 15.107				
Test Method:	ANSI C63.4:2014					
Test Frequency Range:	150kHz to 30MHz	150kHz to 30MHz				
Class / Severity:	Class B					
Receiver setup:	RBW=9kHz, VBW=30kHz					
Limit:	Frequency range (MHz)	Lir	mit (dBµV)			
	, , , ,	Quasi-peak	Average			
	0.15-0.5	66 to 56*	56 to 46*			
	0.5-5	56	46			
	0.5-30	60	50			
	* Decreases with the logarith	· · ·				
Test setup:	Reference Plan	ne				
	AUX Equipment E.U.T Test table/Insulation plane Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m					
Test procedure	 The E.U.T and simulators line impedance stabilization 500hm/50uH coupling impedance. The peripheral devices are a LISN that provides a 500 termination. (Please refers photographs). Both sides of A.C. line are interference. In order to fir positions of equipment an according to ANSI C63.4: 	on network(L.I.S.N.) bedance for the mea e also connected to ohm/50uH coupling s to the block diagra e checked for maxim nd the maximum en d all of the interface	asuring equipment. the main power through impedance with 500hm am of the test setup and mum conducted hission, the relative cables must be changed			
Test environment:	Temp.: 23 °C Hun	nid.: 56%	Press.: 101kPa			
Test Instruments:	Refer to section 5.9 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					



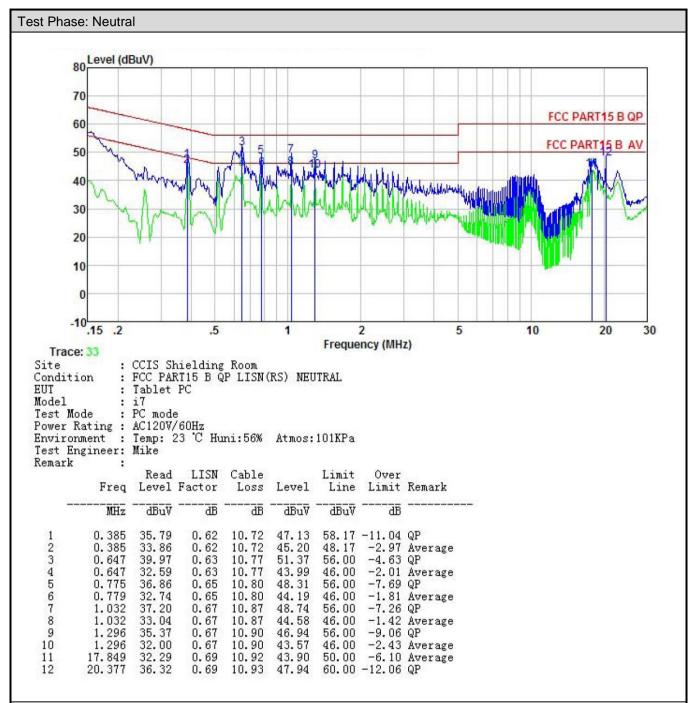
Measurement data:



Notes

- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- Final Level =Receiver Read level + LISN Factor + Cable Loss.





Notes

- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss.



6.2 Radiated Emission

0.2 Naulateu Elilission							
Test Requirement:	FCC Part 15 B Section 15.109						
Test Method:	ANSI C63.4:2014						
Test Frequency Range:	30MHz to 6000MHz						
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)						
Receiver setup:	Frequency	Dete		RBW	VB۱		Remark
	30MHz-1GHz	Quasi-		120kHz	300kHz		Quasi-peak Value
	Above 1GHz	Pea RM		1MHz 1MHz	3MF 3MF		Peak Value Average Value
Limit:	Frequenc			(dBuV/m @			
Littie	30MHz-88M			40.0	, , , ,		Quasi-peak Value
	88MHz-216M			43.5			Quasi-peak Value
	216MHz-960			46.0			Quasi-peak Value
	960MHz-1G			54.0			Quasi-peak Value
	Above 1GI	J-,		54.0			Average Value
	Above 1Gr	12		74.0			Peak Value
Test setup:	Below 1GHz			_			
	Search Antenna Tum 0.8m 1m RF Test Receiver Ground Plane						
	Above 1GHz						
	- SOCM	Antenna Tower AE EUT Ground Reference Plane Test Receiver Test Receiver Controller					



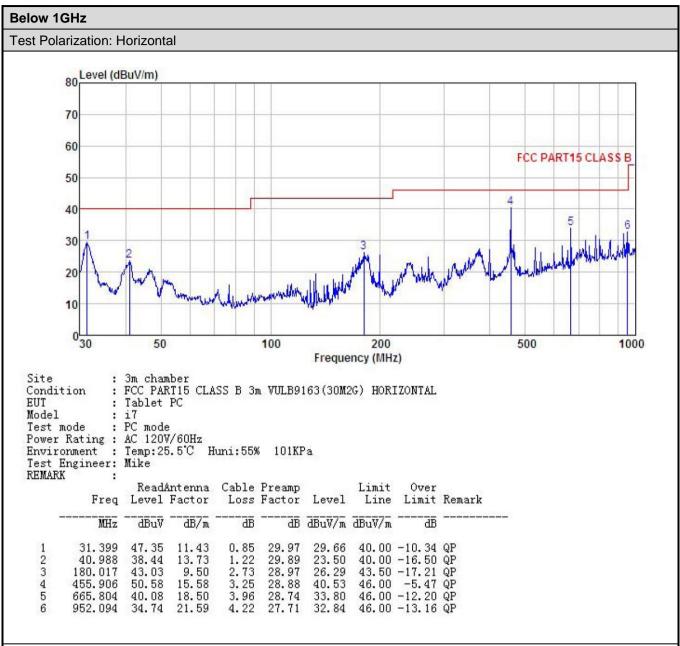


	1					
Test Procedure:	 The EUT was placed on the top of a rotating table 0.8 meters ground at a 3 meter semi-anechoic camber. The table was rodegrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-received. 					
		ght antenna				
	 The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 					
Test environment:	Temp.:	25 °C	Humid.:	55%	Press.:	1 01kPa
Test Instruments:	Refer to section 5.9 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					
Remark:	All of the observed value above 6GHz ware the niose floor , which were no recorded					





Measurement Data:

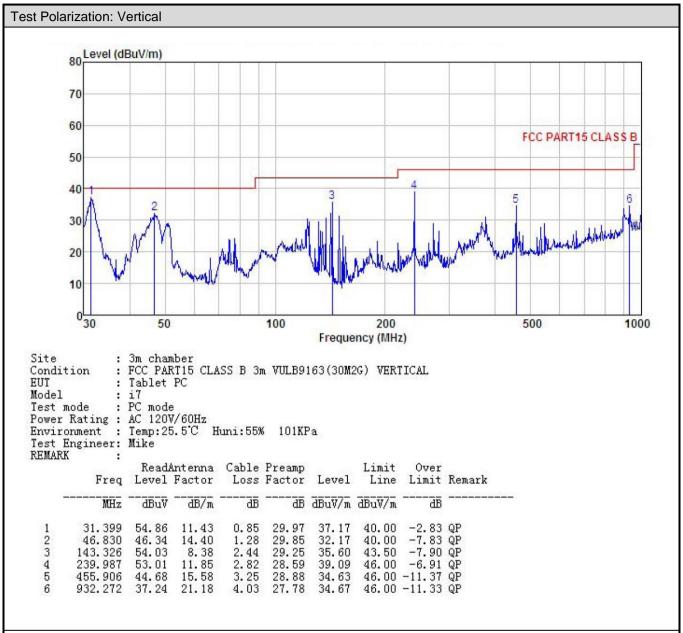


Remark:

Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

2. The emission levels of other frequencies are very lower than the limit and not show in test report.





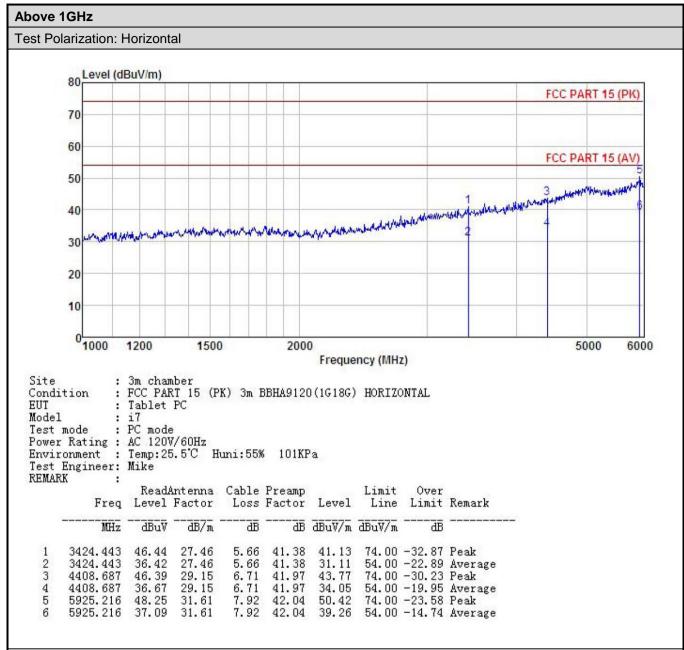
Remark:

^{1.} Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

^{2.} The emission levels of other frequencies are very lower than the limit and not show in test report.







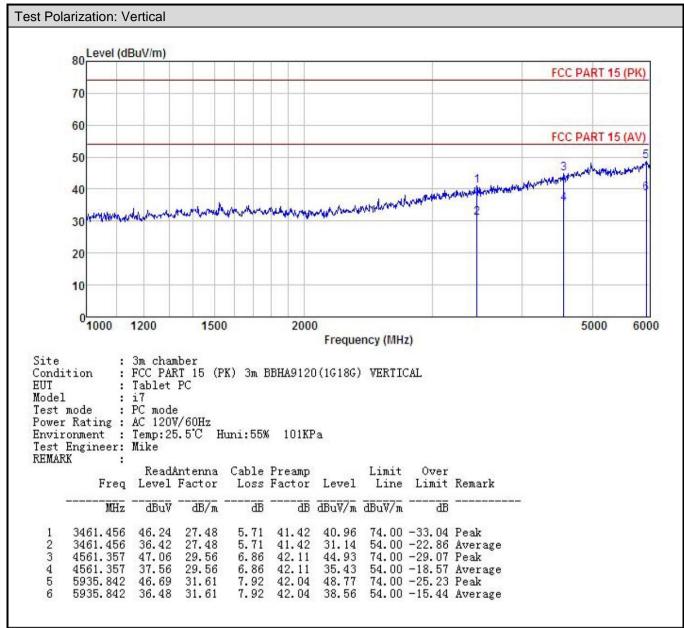
Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor.

^{2.} The emission levels of other frequencies are very lower than the limit and not show in test report.







Remark:

- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.