

# FCC TEST REPORT for Anker Technology Co., Limited

Anker folio keyboard case for iPad Air Model No.: TC980, A7719, 98AP9803A-BTA

Prepared for : Anker Technology Co., Limited

Address : RM703 KOWLOON BUILDING 555 NATHAN RD KL HONG

KONG

Prepared By : Shenzhen Anbotek Compliance Laboratory Limited

Address : 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road,

Nanshan District, Shenzhen, Guangdong, China

Tel: (86) 755-26066544 Fax: (86) 755-26014772

Report Number : R011409070E

Date of Test : Sept. 09~ 24, 2014

Date of Report : Oct. 20, 2014



## TABLE OF CONTENTS

## Description

	Page
Test Report	
1. GENERAL INFORMATION	Δ
1.1. Description of Device (EUT)	
1.2. Auxiliary Equipment Used during Test	
1.4. Measurement Uncertainty	
2. TEST PROCEDURE	
3. CONDUCTED LIMITS	
3.1. Block Diagram of Test Setup.	
3.2. Power Line Conducted Emission Measurement Limits (15.207)	
3.3. Configuration of EUT on Measurement	
3.4. Operating Condition of EUT	7
3.5. Test Procedure	
3.6. Power Line Conducted Emission Measurement Results	8
4. RADIATION INTERFERENCE	11
4.1. Requirements (15.249, 15.209):	11
4.2. Test Procedure	
4.3. Test Configuration:	12
4.4. Test Results	
5. OCCUPIED BANDWIDTH	
5.1. Requirements (15.249):	19
5.2. Test Procedure	
5.3. Test Configuration:	
5.4. Test Results	19
6. PHOTOGRAPH	23
6.1. Photo of Conducted Emission Test.	23
6.2. Photo of Radiation Emission Test	23
APPENDIX I (EXTERNAL PHOTOS)	25
APPENDIX II(INTERNAL PHOTOS)	28

Appendix I (3 Pages)

Appendix II (3 Pages)



#### **TEST REPORT**

**Applicant** : Anker Technology Co., Limited Manufacturer : Anker Technology Co., Limited

**EUT** : Anker folio keyboard case for iPad Air

Model No. : TC980, A7719, 98AP9803A-BTA

Serial No. : N.A. Trade Mark : Anker

Rating : DC 5V, 350mA

Measurement Procedure Used:

FCC Part15 Subpart C, Paragraph 15.207, 15.249 & 15.209

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

0 4 00 04 0014

Date of Test :	Sept. 09~ 24, 2014
	poho shang
Prepared by:	
	(Engineer / Kebo Zhang)
	Amy Ding
Reviewer:	
	(Project Manager/Amy Ding)
	Jon Chen
Approved & Authorized Signer : _	
	(Manager/Tom Chen)



#### 1. GENERAL INFORMATION

## 1.1. Description of Device (EUT)

EUT : Anker folio keyboard case for iPad Air

Model Number : TC980, A7719, 98AP9803A-BTA

(Note: All samples are the same except the model number and

appearance, so we prepare "TC980" for EMC test only.)

Test Power Supply: DC 5V via adapter AC 120V, 60Hz/

DC 5V(With DC 3.7V Battery inside)

Frequency : 2402-2480MHz

No. of Channel: 79

Channel Space : 1MHz

Antenna : Printed Antenna: 2 dBi

Specification

Applicant : Anker Technology Co., Limited

Address : RM703 KOWLOON BUILDING 555 NATHAN RD KL HONG

**KONG** 

Manufacturer : Anker Technology Co., Limited

Address : RM703 KOWLOON BUILDING 555 NATHAN RD KL HONG

**KONG** 

Factory : Shenzhen HASKEY Technology Co., Ltd.

Address : BOW Technology Park, G Area, Democracy West Industry Park,

Shajing Town, Baoan District, Shenzhen, China

Date of receiver : Sept. 09, 2014

Date of Test : Sept. 09~ 24, 2014



#### 1.2. Auxiliary Equipment Used during Test

Adapter : Power Supply

Model:MX12L3-0502000V

Input: AC 100-240V, 50-60Hz, 0.35A

Output: DC 5V, 2A

CE, FCC

Mobile Phone SAMSUNG

Model:GT-I8268

#### 1.3. Description of Test Facility

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

#### CNAS - LAB Code: L3503

Shenzhen Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

#### FCC-Registration No.: 752021

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed 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 752021, July 10, 2013.

#### IC-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, February 22, 2013.

#### **Test Location**

All Emissions tests were performed at

Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

#### 1.4. Measurement Uncertainty

Radiation Uncertainty : Ur = 4.3 dB

Conduction Uncertainty : Uc = 3.4dB



#### 2. Test Procedure

**GENERAL**: This report shall NOT be reproduced except in full without the written approval of Shenzhen Anbotek Compliance Laboratory Limited. The EUT was transmitting a test signal during the testing.

**RADIATION INTERFERENCE**: The test procedure used was ANSI STANDARD C63.4-2009 using a spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100KHz and the video bandwidth was 300KHz up to 1.0GHz and 1.0MHz with a video BW of 3.0MHz above 1.0GHz. The ambient temperature of the EUT was 74.3oF with a humidity of 69%.

**FORMULA OF CONVERSION FACTORS**: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the Spectrum Analyzer Meter Reading.

#### Example:

Freq (MHz) METER READING + ACF = FS 20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

**ANSI STANDARD C63.4-2009 10.1.7 MEASUREMENT PROCEDURES**: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.



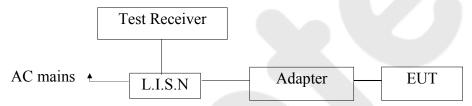
#### 3. Conducted Limits

#### **Test Equipment**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval	
1.	Two-Line	Rohde & Schwarz	ENV216	100055	Apr. 22, 2014	1 Year	
	V-network				1 ,		
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 22, 2014	1 Year	
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 22, 2014	1 Year	

#### 3.1. Block Diagram of Test Setup

3.1.1. Block diagram of connection between the EUT and simulators



#### 3.2. Power Line Conducted Emission Measurement Limits (15.207)

Frequency	Limits	s dB(μV)
MHz	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

#### 3.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

## 3.4. Operating Condition of EUT

- 3.4.1. Setup the EUT and simulator as shown as Section 3.1.
- 3.4.2. Turn on the power of all equipment.
- 3.4.3. Let the EUT work in test mode (Charging to adapter) and measure it.

#### 3.5. Test Procedure



The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2003 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test results are reported on Section 3.6.

## 3.6. Power Line Conducted Emission Measurement Results **PASS.**

The frequency range from 150KHz to 30 MHz is investigated.

Please refer the following pages.



#### CONDUCTED EMISSION TEST DATA

Test Site: 1# Shielded Room Operating Condition: Charging to adapter

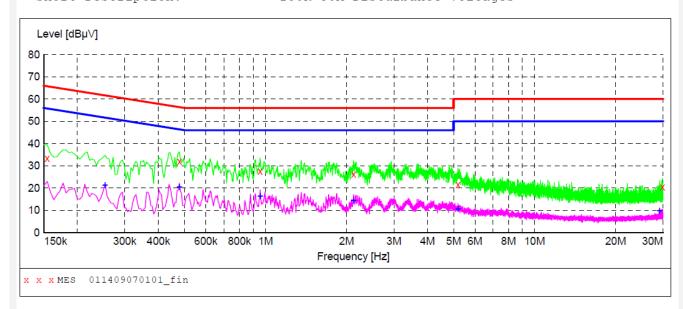
Test Specification: DC 5V via adapter AC 120V, 60Hz

Comment: Live Line

Tem:25°C Hum:50%

#### SCAN TABLE: "Voltage (150K~30M) FIN"

Short Description: 150K-30M Disturbance Voltages



## MEASUREMENT RESULT: "011409070101 fin"

9/10/2014 5:3	34PM						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PΕ
MHz	dΒμV	dB	dΒμV	dB			
0.154500	33.40	20.1	66	32.4	QP	L1	GND
0.478500	31.90	20.1	56	24.5	QP	L1	GND
0.955500	27.50	20.2	56	28.5	QP	L1	GND
2.125000	26.30	20.3	56	29.7	QP	L1	GND
5.189500	21.60	20.5	60	38.4	QP	L1	GND
29.840500	20.40	20.9	60	39.6	QP	L1	GND

#### MEASUREMENT RESULT: "011409070101 fin2"

9/10/2014 5:34PM							
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
11112	aDp.	42	αΣμν	42			
0.253500	21.40	20.1	52	30.2	AV	L1	GND
0.478500	20.60	20.1	46	25.8	AV	L1	GND
0.955500	16.30	20.2	46	29.7	AV	L1	GND
2.125000	14.50	20.3	46	31.5	AV	L1	GND
5.189500	10.50	20.5	50	39.5	AV	L1	GND
29.120500	9.90	20.9	50	40.1	AV	L1	GND



#### CONDUCTED EMISSION TEST DATA

Test Site: 1# Shielded Room Operating Condition: Charging to adapter

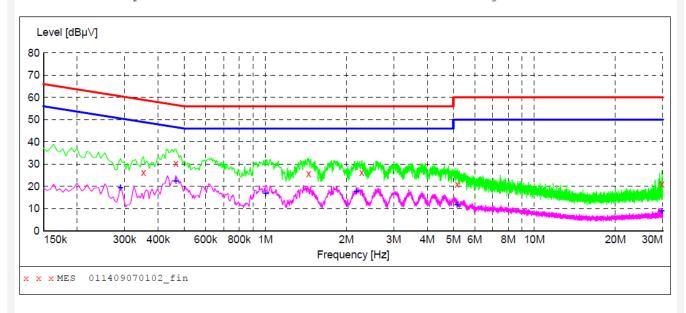
Test Specification: DC 5V via adapter AC 120V, 60Hz

Comment: Neutral Line

Tem:25℃ Hum:50%

#### SCAN TABLE: "Voltage (150K~30M) FIN"

Short Description: 150K-30M Disturbance Voltages



#### MEASUREMENT RESULT: "011409070102 fin"

9	/10/2014 5:3	37PM						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dΒμV	dB	dΒμV	dB			
	0.352500	26.10	20.1	59	32.8	QP	N	GND
	0.465000	30.20	20.1	57	26.4	QP	N	GND
	1.450000	25.70	20.3	56	30.3	QP	N	GND
	2.282500	26.30	20.3	56	29.7	QP	N	GND
	5.167000	21.00	20.5	60	39.0	QP	N	GND
	29.777500	20.90	20.9	60	39.1	QP	N	GND

#### MEASUREMENT RESULT: "011409070102 fin2"

9/10/2014 5:3	37PM							
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE	
0.289500	19.50	20.1	51	31.0	AV	N	GND	
0.465000	22.30	20.1	47	24.3	AV	N	GND	
1.004500	16.90	20.2	46	29.1	AV	N	GND	
2.179000	17.70	20.3	46	28.3	AV	N	GND	
5.153500	11.80	20.5	50	38.2	AV	N	GND	
29.777500	9.00	20.9	50	41.0	AV	N	GND	



#### 4. Radiation Interference

#### 4.1. Requirements (15.249, 15.209):

4.1.1.	Γest Limits	(< 30)	MHZ)	١
--------	-------------	--------	------	---

Frequency	Field Strength	Measurement Distance	
(MHz)	(microvolts/meter)	(meter)	
0.009-0.490	2400/F(kHz)	300	
0.490-1.705	24000/F(kHz)	30	
1.705-30.0	30	30	

#### 4.1.2. Test Limits ( $\geq$ 30 MHZ)

FIELD STRENGTH	FIELD STRENGTH	S15.209	
of Fundamental:	of Harmonics	30 - 88 MHz	40 dBuV/m
@3M			
902-928 MHZ		88 - 216 MHz	43.5
2.4-2.4835 GHz		216 - 960 MHz	46
94 dBμV/m @3m	54 dBμV/m @3m	ABOVE 960 MHz	54dBuV/m

For range 9KHz~30MHz, The measured value is really too low to be recorded.

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation.

#### 4.2. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

All readings from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All reading are above 1GHz, peak & average values with a resolution bandwidth of 1MHz. The EUT is tested in 9\*6\*6 Chamber.

The test results are listed in Section 4.3.

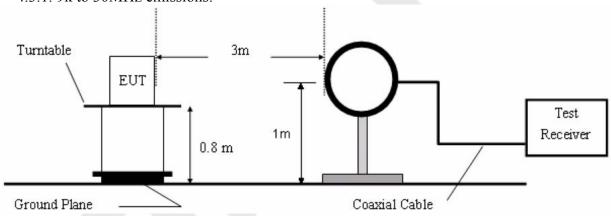


Test Equipment

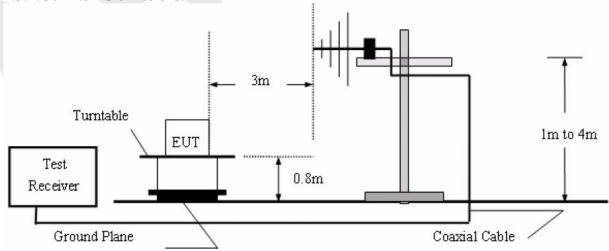
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Aug. 08, 2014	1 Year
2.	Preamplifier	Instruments corporation	EMC01183 0	980100	Aug. 08, 2014	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 22, 2014	1 Year
4.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Apr. 04, 2014	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 24, 2014	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Aug. 08, 2014	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A

## 4.3. Test Configuration:

#### 4.3.1. 9k to 30MHz emissions:

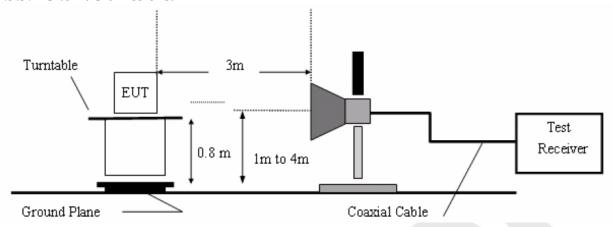


#### 4.3.2. 30M to 1G emissions:





#### 4.3.3. 1G to 40G emissions:



## 4.4. Test Results

#### PASS.

The EUT was tested on (Charging to adapter, BT Mode) modes, only the worst data of (BT Mode) are attached in the following pages.

#### Data:



#### **Below 1GHz:**

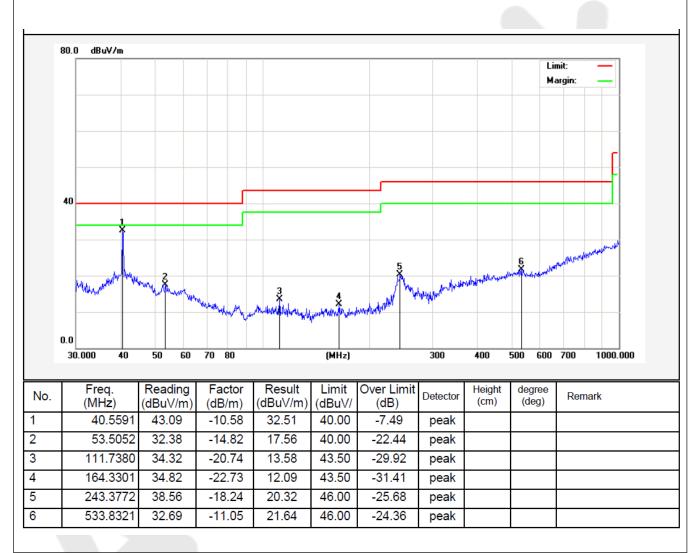
Job No.: 011409070E Polarziation: Horizontal

Standard: (RE)FCC PART15 C \_3m Power Source: DC 3.7V

Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.3( C)/55%RH

Mode: BT Mode Distance: 3m

Note: 30-1000MHz





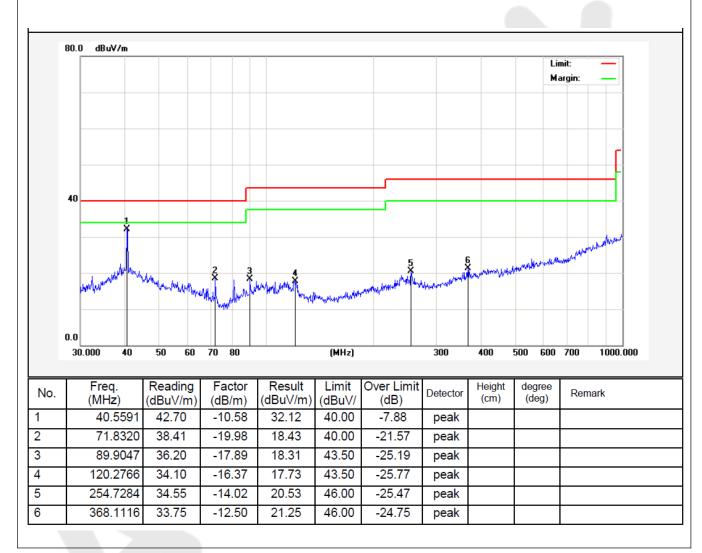
Job No.: 011409070E Polarziation: Vertical

Standard: (RE)FCC PART15 C \_3m Power Source: DC 3.7V

Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.3( C)/55%RH

Mode: BT Mode Distance: 3m

Note: 30-1000MHz





#### **Above 1 GHz:**

Horizonta	al
CH Low	(2402MHz)

CITLOW	(27021111	<i>L)</i>						
Frequency	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
MHz	dB	dB/m	dB	$dB\mu V$	$dB\mu V/m \\$	$dB\mu V/m \\$	dB	
2402.000	2.17	31.21	35.30	92.05	90.13	114.0	-23.87	Peak
2402.000	2.17	31.21	35.30	81.21	79.29	94.0	-14.71	AV
4804.000	2.56	34.01	34.71	48.68	50.54	74.0	-23.46	Peak
4804.000	2.56	34.01	34.71	35.01	36.87	54.0	-17.13	AV
7206.000	2.98	36.16	35.15	46.21	50.20	74.0	-23.80	Peak
7206.000	2.98	36.16	35.15	30.57	34.56	54.0	-19.44	AV
9608.000								
9608.000							<b></b>	
12010.000						/		
12010.000					)		/	

Vertical

CH Low	(2402MH	(z)						
Frequency	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
MHz	dB	dB/m	dB	dBμV	$dB\mu V/m$	$dB\mu V/m$	dB	
2402.000	2.17	31.21	35.30	90.54	88.62	114.0	-25.38	Peak
2402.000	2.17	31.21	35.30	82.69	80.77	94.0	-13.23	AV
4804.000	2.56	34.01	34.71	44.81	46.67	74.0	-27.33	Peak
4804.000	2.56	34.01	34.71	35.77	37.63	54.0	-16.37	AV
7206.000	2.98	36.16	35.15	41.52	45.51	74.0	-28.49	Peak
7206.000	2.98	36.16	35.15	35.03	39.02	54.0	-14.98	AV
9608.000								
9608.000								
12010.000								
12010.000								

NOTE: "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. The results of different modulations are the same.



Horizontal	
CH Middle (	2441MHz)

	(	,						
Frequency	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
MHz	dB	dB/m	dB	$dB\mu V$	$dB\mu V/m$	$dB\mu V/m$	dB	
2441.000	2.19	31.22	34.60	92.56	91.37	114.0	-22.63	Peak
2441.000	2.19	31.22	34.60	82.69	81.50	94.0	-12.50	AV
4882.000	2.57	35.00	34.58	43.24	46.23	74.0	-27.77	Peak
4882.000	2.57	35.00	34.58	40.01	43.00	54.0	-11.00	AV
7323.000	3.00	36.17	35.14	43.85	47.88	74.0	-26.12	Peak
7323.000	3.00	36.17	35.14	36.13	40.16	54.0	-13.84	AV
9764.000								
9764.000								
12205.000						()		<i>_</i>
12205.000						/		

---

Vertical CH Middle (2441MHz)

10 (2 1 111)	, 11 1 <i>2 )</i>						
Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
dB	dB/m	dB	$dB\mu V$	$dB\mu V/m$	$dB\mu V/m$	dB	
2.19	31.22	34.60	92.37	91.18	114.0	-22.82	Peak
2.19	31.22	34.60	81.54	80.35	94.0	-13.65	AV
2.57	35.00	34.58	44.23	47.22	74.0	-26.78	Peak
2.57	35.00	34.58	40.19	43.18	54.0	-10.82	AV
3.00	36.17	35.14	43.25	47.28	74.0	-26.72	Peak
3.00	36.17	35.14	35.94	39.97	54.0	-14.03	AV
		<b>J</b>					
	Cable Loss dB  2.19 2.19 2.57 2.57 3.00 3.00	Loss dB/m  2.19 31.22 2.19 31.22 2.57 35.00 2.57 35.00 3.00 36.17 3.00 36.17	Cable Loss         Ant Factor dB         Preamp Factor dB           2.19         31.22         34.60           2.19         31.22         34.60           2.57         35.00         34.58           2.57         35.00         34.58           3.00         36.17         35.14           3.00         36.17         35.14	Cable Loss Loss Factor dB         Ant Factor Factor dB         Preamp dB dBμV         Read Level dBμV           2.19 31.22 34.60 92.37 2.19 31.22 34.60 81.54 2.57 35.00 34.58 44.23 2.57 35.00 34.58 40.19 3.00 36.17 35.14 43.25 3.00 36.17 35.14 35.94         35.14 35.94 35.94	Cable Loss Factor dB         Ant Factor dB         Preamp dB dBμV         Read Level dBμV/m           2.19 31.22 34.60 92.37 91.18           2.19 31.22 34.60 81.54 80.35           2.57 35.00 34.58 44.23 47.22           2.57 35.00 34.58 40.19 43.18           3.00 36.17 35.14 43.25 47.28           3.00 36.17 35.14 35.94 39.97	Cable Loss Loss GB         Ant Agent Loss Factor GB         Preamp Factor GB         Read Level Level GBμV/m         Level Limit GBμV/m         Level GBμV/m         Limit GBμV/m           2.19         31.22         34.60         92.37         91.18         114.0           2.19         31.22         34.60         81.54         80.35         94.0           2.57         35.00         34.58         44.23         47.22         74.0           2.57         35.00         34.58         40.19         43.18         54.0           3.00         36.17         35.14         43.25         47.28         74.0           3.00         36.17         35.14         35.94         39.97         54.0	Cable Loss Factor Loss GB/m         Ant GB/m         Preamp Factor GB/m         Read Level Level GB/m         Level Limit Limit GB/m         Cover Limit Limit GB/m         Over Limit GB/m           2.19         31.22         34.60         92.37         91.18         114.0         -22.82           2.19         31.22         34.60         81.54         80.35         94.0         -13.65           2.57         35.00         34.58         44.23         47.22         74.0         -26.78           2.57         35.00         34.58         40.19         43.18         54.0         -10.82           3.00         36.17         35.14         43.25         47.28         74.0         -26.72           3.00         36.17         35.14         35.94         39.97         54.0         -14.03 </td

---

NOTE: "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. The results of different modulations are the same.



12400.000 12400.000

Horizonta	al (2480MF	Ja)						
Frequency	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
MHz	dB	dB/m	dB	$dB\mu V$	$dB\mu V/m$	$dB\mu V/m$	dB	
2480.000	2.20	31.65	36.00	90.37	88.22	114.0	-25.78	Peak
2480.000	2.20	31.65	36.00	82.24	80.09	94.0	-13.91	AV
4960.000	2.58	35.06	34.79	46.31	49.16	74.0	-24.84	Peak
4960.000	2.58	35.06	34.79	36.89	39.74	54.0	-14.26	AV
7440.000	3.02	36.19	34.90	48.55	52.86	74.0	-21.14	Peak
7440.000	3.02	36.20	35.20	39.43	43.45	54.0	-10.55	AV
9920.000								
9920.000								
12400.000						()		
12400.000						<u></u>		
Vertical								
CH High (2	480MHz)							
Frequency	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit	Over Limit	Remark
MHz	dB	dB/m	dB	dBμV	dBμV/m	dBμV/m	dB	
IVIIIZ	uБ	UD/III	UD	шυμν	ασμ ν/π	ασμ ν/π	uБ	
2480.000	2.20	31.65	36.00	92.54	90.39	114.0	-23.61	Peak
2480.000	2.20	31.65	36.00	84.68	82.53	94.0	-11.47	AV
4960.000	2.58	35.06	34.79	41.06	43.91	74.0	-30.09	Peak
4960.000	2.58	35.06	34.79	35.53	38.38	54.0	-15.62	AV
7440.000	3.02	36.19	34.90	43.77	48.08	74.0	-25.92	Peak
7440.000	3.02	36.20	35.20	34.03	38.05	54.0	-15.95	AV
9920.000								
9920.000			<b></b>					
4.4.0.0.0.								

NOTE: "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. The results of different modulations are the same.



## 5. Occupied Bandwidth

#### 5.1. Requirements (15.249):

The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.249.

#### 5.2. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Test Equipment

	Test Equipment					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Aug. 08, 2014	1 Year
2.	Preamplifier	Instruments corporation	EMC01183 0	980100	Aug. 08, 2014	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 22, 2014	1 Year
4.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Apr. 04, 2014	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 24, 2014	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Aug. 08, 2014	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A

## 5.3. Test Configuration:

Same as the test configuration in 4.3.

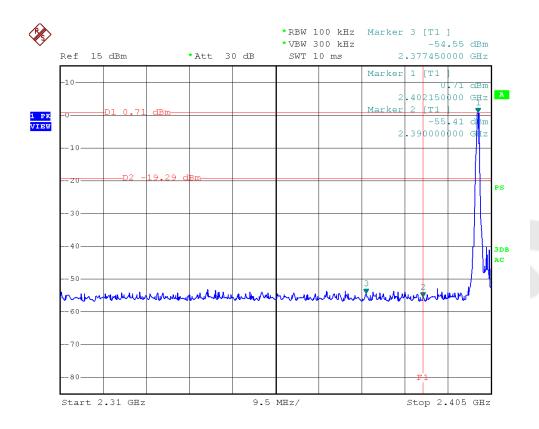
#### 5.4. Test Results

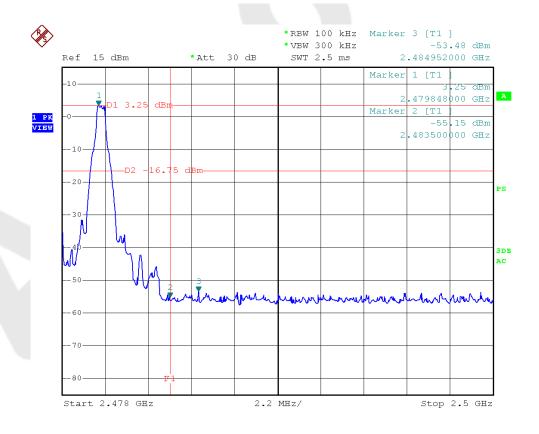
Pass.

Please refer the following plot.

(Note: Marker 3 means the highest value in 2.39GHz~2.4GHz or 2.4835~2.5GHz)



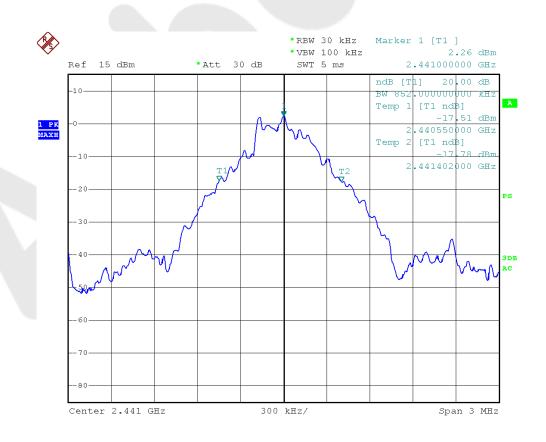




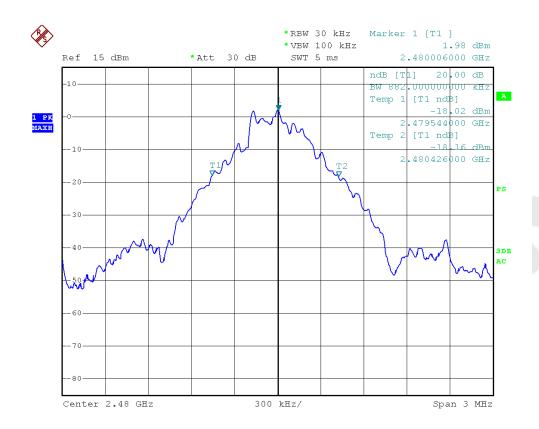














## 6. PHOTOGRAPH

## 6.1. Photo of Conducted Emission Test



## 6.2. Photo of Radiation Emission Test









## **APPENDIX I (EXTERNAL PHOTOS)**

Figure 1 The EUT-Outside View



Figure 2
The EUT- Front View

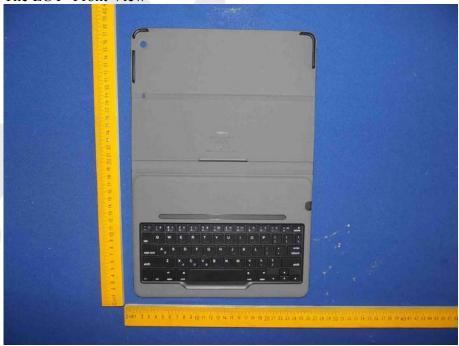








Figure 4
The EUT- Partial View











## APPENDIX II(INTERNAL PHOTOS)

Figure 6
The EUT-Inside View

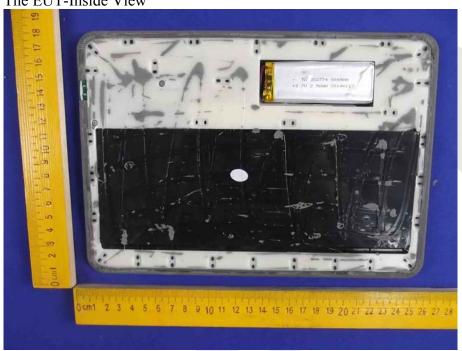


Figure 7
The EUT-Inside View







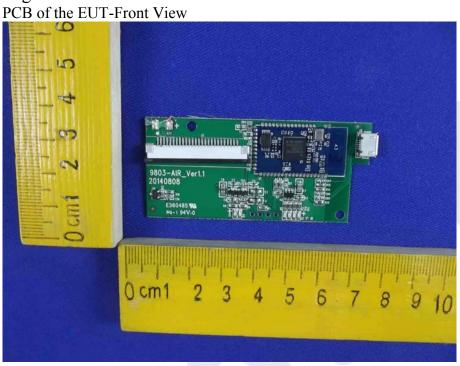
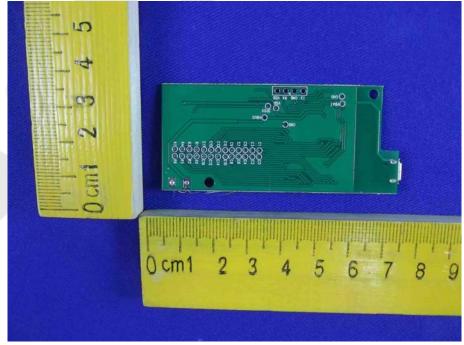


Figure 9 PCB of the EUT-Back View







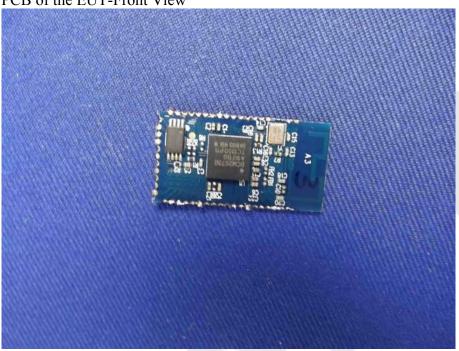


Figure 11 PCB of the EUT-Back View

