

# FCC RF Test Report

**APPLICANT** : TCT Mobile Limited  
**EQUIPMENT** : Tablet PC  
**BRAND NAME** : ALCATEL  
**MODEL NAME** : ONE TOUCH EVO 7HD / ONE TOUCH E710  
(Module: one touch M600Q)  
**FCC ID** : RAD428  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : (DTS) Digital Transmission System

The product was integrated the WWAN Module (Brand Name: ALCATEL, Model Name: one touch M600Q, FCC ID: RAD425) during test.

The product was received on Jul. 19, 2013 and completely tested on Aug. 15, 2013. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



**SPORTON INTERNATIONAL (SHENZHEN) INC.**

No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.



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### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.36 dB at 2484.250 MHz
3.2	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

# 1 General Description

## 1.1 Applicant

**TCT Mobile Limited**

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203

## 1.2 Manufacturer

**TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED**

70 Huifeng 4rd., ZhongKai Hi-tech Development District, Huizhou, Guangdong 516006 P.R.China (TCL Mobile Communication Co., LTD. Huizhou)

## 1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Brand Name	ALCATEL
Model Name	ONE TOUCH EVO 7HD / ONE TOUCH E710 (Module: one touch M600Q)
FCC ID	RAD428
EUT supports Radios application	GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink Only)/ WLAN 11bgn / Bluetooth 3.0
HW Version	V6.0
SW Version	119
EUT Stage	Production Unit

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz
Antenna Type	PIFA Antenna type with gain 0.9 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

## 1.5 Modification of EUT

No modifications are made to the EUT during all test items.



### 1.6 Testing Site

<b>Test Site</b>	SPORTON INTERNATIONAL (SHENZHEN) INC.	
<b>Test Site Location</b>	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL: +86-755-3320-2398	
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC/IC Registration No.</b>
	03CH01-SZ	831040/4086F-1

**Note:** The test site complies with ANSI C63.4 2003 requirement.

### 1.7 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ANSI C63.10-2009

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 2 Test Configuration of Equipment Under Test

### 2.1 Carrier Frequency Channel

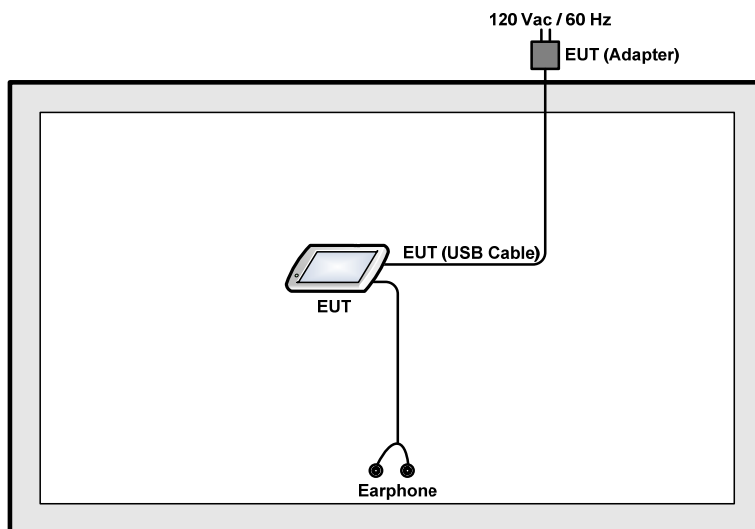
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437	-	-

### 2.2 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

Test Cases				
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1
		802.11g	6 Mbps	1
		802.11n HT20	6.5 Mbps	11
		802.11n HT40	13.5 Mbps	6
	Radiated Spurious Emission	802.11b	1 Mbps	1
		802.11g	6 Mbps	1
		802.11n HT20	6.5 Mbps	11
		802.11n HT40	13.5 Mbps	6

## 2.3 Connection Diagram of Test System



## 2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Earphone	INTOPIC	Jazz-278	FCC DoC	Shielded, 2.2 m	N/A

## 2.5 EUT Operation Test Setup

For WLAN function, programmed RF utility, execute “adbtool” software to make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.



### 3 Test Result

#### 3.1 Radiated Band Edges and Spurious Emission Measurement

##### 3.1.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

**3.1.3 Test Procedures**

1. The testing follows the guidelines in ANSI C63.10-2009.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz;  $VBW \geq RBW$ ; Sweep = auto; Detector function = peak; Trace = max hold;
  - (3) Set RBW = 1 MHz, VBW= 3MHz for  $f \geq 1$  GHz for peak measurement.  
 For average measurement:
    - $VBW = 10$  Hz, when duty cycle is no less than 98 percent.
    - $VBW \geq 1/T$ , when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	100.00	-	-	10hz
802.11g	97.21	1.392	0.718	1Khz
802.11n HT20	97.31	1.307	0.765	1Khz
802.11n HT40	94.77	0.652	1.534	3Khz

**Note:** For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.



### 802.11b Duty Cycle



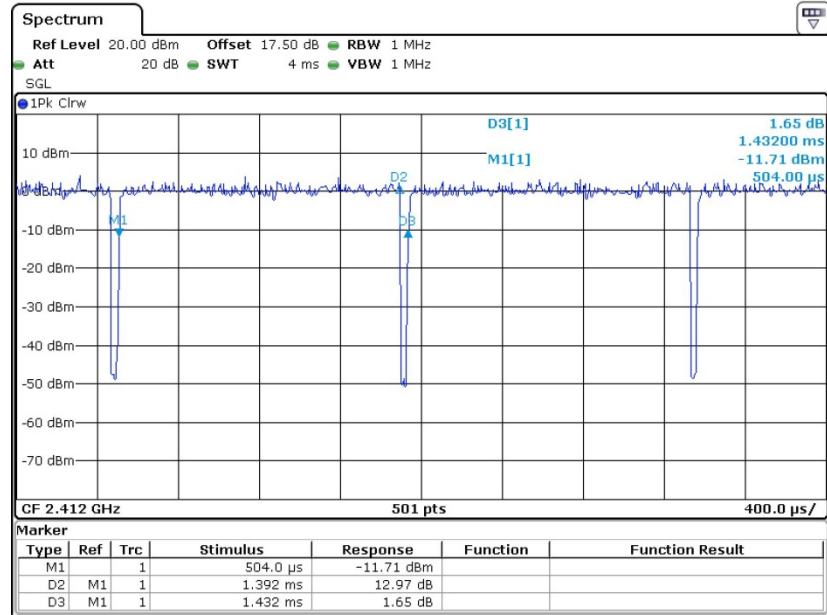
Date: 9.MAY.2013 17:55:31

**Note:**

The total loss is 17.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11g Duty Cycle



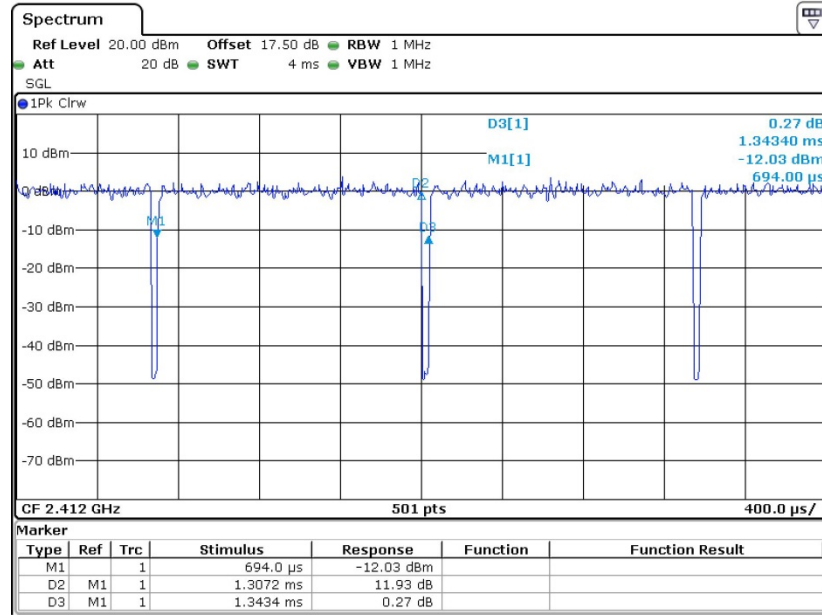
Date: 9.MAY.2013 18:17:39

**Note:**

The total loss is 17.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11n HT20 Duty Cycle



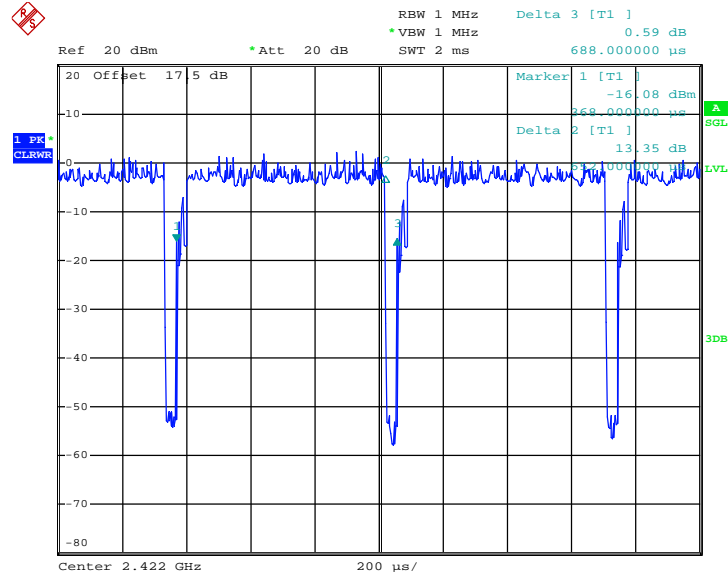
Date: 9.MAY.2013 19:28:24

**Note:**

The total loss is 17.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11n HT40 Duty Cycle

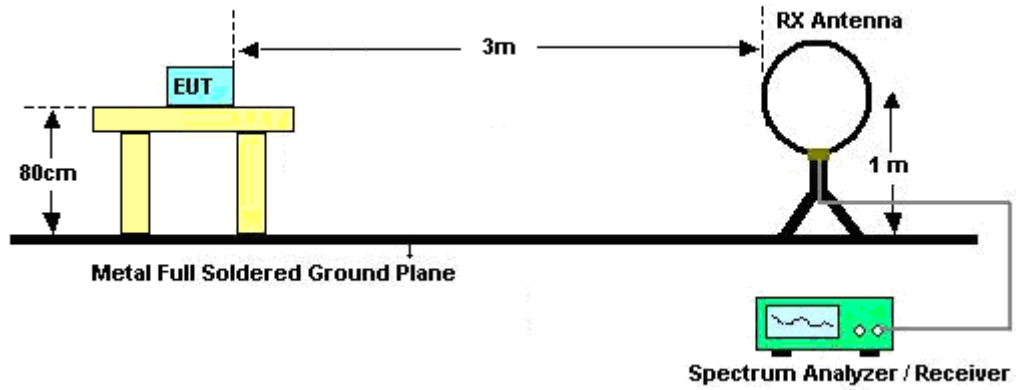


Note:

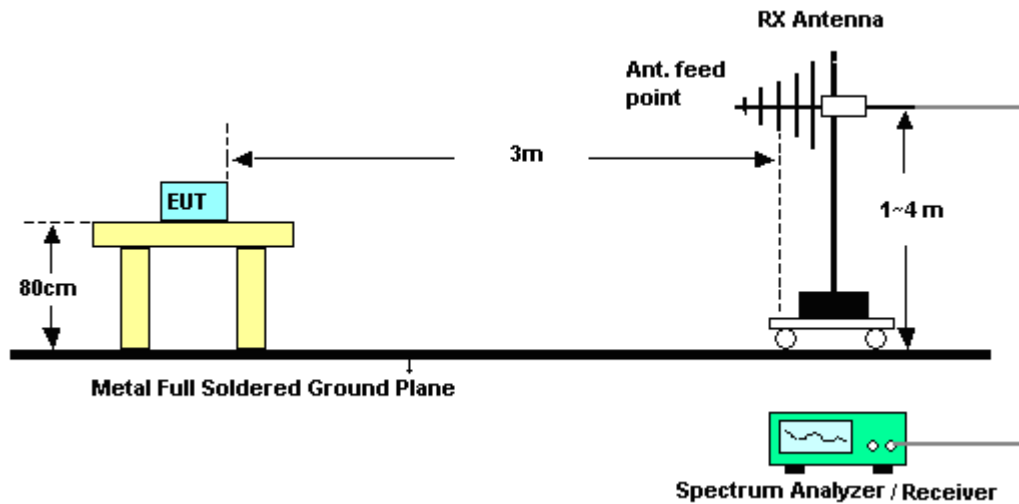
The total loss is 17.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

### 3.1.4 Test Setup

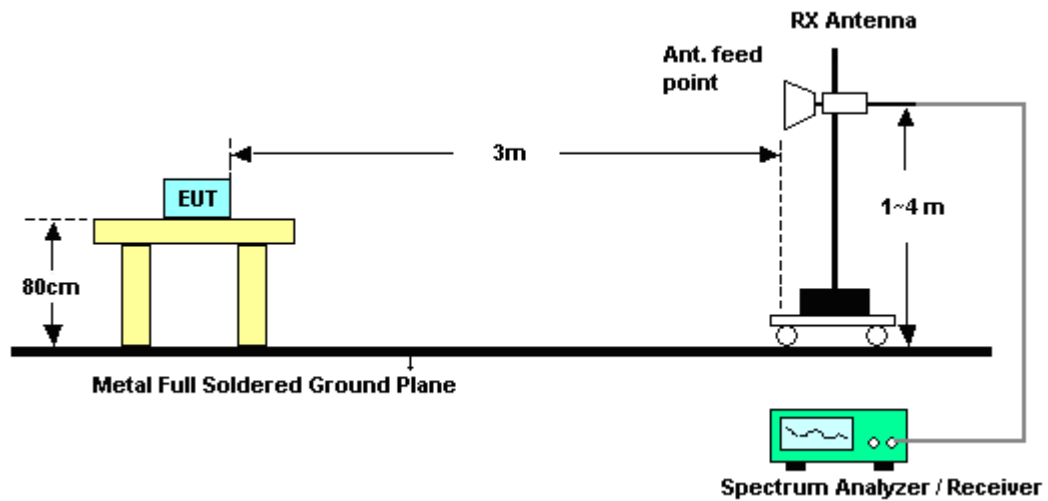
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.1.5 Test Results of Radiated Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.





3.1.6 Test Result of Radiated Band Edges

Test Mode :	802.11b	Temperature :	23~25°C
Test Band :	Low	Relative Humidity :	49~53%
Test Channel :	01	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.02	50.63	-23.37	74	42.69	32.14	5.59	29.79	100	118	Peak
2331.15	42.38	-11.62	54	34.6	32.05	5.53	29.8	100	118	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2382.09	50.89	-23.11	74	42.97	32.12	5.59	29.79	100	117	Peak
2331.24	42.52	-11.48	54	34.74	32.05	5.53	29.8	100	117	Average

Test Mode :	802.11g	Temperature :	23~25°C
Test Band :	Low	Relative Humidity :	49~53%
Test Channel :	01	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2387.04	49.45	-24.55	74	41.51	32.14	5.59	29.79	100	306	Peak
2385.6	38.86	-15.14	54	30.92	32.14	5.59	29.79	100	306	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2387.67	49.77	-24.23	74	41.83	32.14	5.59	29.79	100	306	Peak
2385.87	38.8	-15.2	54	30.86	32.14	5.59	29.79	100	306	Average



Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Band :	High	Relative Humidity :	49~53%
Test Channel :	11	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2484.25	70.64	-3.36	74	62.42	32.27	5.71	29.76	130	269	Peak
2483.56	49.22	-4.78	54	41	32.27	5.71	29.76	130	269	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2485.36	69.06	-4.94	74	60.84	32.27	5.71	29.76	100	264	Peak
2484.1	49.65	-4.35	54	41.43	32.27	5.71	29.76	100	264	Average

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Band :	High	Relative Humidity :	49~53%
Test Channel :	06	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2390	63.93	-10.07	74	55.95	32.14	5.62	29.78	105	263	Peak
2388.66	47.65	-6.35	54	39.71	32.14	5.59	29.79	105	263	Average
2483.5	62.66	-11.34	74	54.44	32.27	5.71	29.76	105	263	Peak
2483.98	45.93	-8.07	54	37.71	32.27	5.71	29.76	105	263	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.74	60.96	-13.04	74	53.02	32.14	5.59	29.79	100	268	Peak
2389.02	44.39	-9.61	54	36.45	32.14	5.59	29.79	100	268	Average
2483.59	62.17	-11.83	74	53.95	32.27	5.71	29.76	100	268	Peak
2499.58	45.22	-8.78	54	36.94	32.29	5.74	29.75	100	268	Average

3.1.7 Test Result of Radiated Emission (30MHz ~ 10<sup>th</sup> Harmonic)

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	<ol style="list-style-type: none"> <li>2412 MHz is fundamental signal which can be ignored.</li> <li>7206 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 101.25 dBµV/m-20dB = 81.25dBµV/m.</li> <li>Average measurement was not performed if peak level went lower than the average limit.</li> </ol>		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2412	101.25	-	-	93.24	32.17	5.62	29.78	100	118	Peak
2412	99.15	-	-	91.14	32.17	5.62	29.78	100	118	Average
4824	37.81	-36.19	74	53.03	33.68	8.36	57.26	105	198	Peak
7236	40.46	-40.79	81.25	52.44	35.29	9.97	57.24	189	185	Peak

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	<ol style="list-style-type: none"> <li>2412 MHz is fundamental signal which can be ignored.</li> <li>7206 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.</li> <li>Average measurement was not performed if peak level went lower than the average limit.</li> </ol>		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2412	101.3	-	-	93.29	32.17	5.62	29.78	100	117	Peak
2412	99.23	-	-	91.22	32.17	5.62	29.78	100	117	Average
4824	38.55	-35.45	74	53.77	33.68	8.36	57.26	125	215	Peak
7236	43.12	-38.18	81.3	55.1	35.29	9.97	57.24	154	201	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. 7206 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2412	104.08	-	-	96.07	32.17	5.62	29.78	200	306	Peak
2412	97	-	-	88.99	32.17	5.62	29.78	200	306	Average
4824	38.71	-35.29	74	53.93	33.68	8.36	57.26	105	198	Peak
7236	41.44	-42.64	84.08	53.42	35.29	9.97	57.24	189	185	Peak

<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. 7206 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2412	104.24	-	-	96.23	32.17	5.62	29.78	100	306	Peak
2412	96.92	-	-	88.91	32.17	5.62	29.78	100	306	Average
4824	38.57	-35.43	74	53.79	33.68	8.36	57.26	154	278	Peak
7236	40.13	-44.11	84.24	52.11	35.29	9.97	57.24	132	235	Peak



<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
62.67	27.26	-12.74	40	51.42	5.53	0.85	30.54	-	-	Peak
105.6	33.59	-9.91	43.5	51.26	11.8	1.18	30.65	100	120	Peak
186.33	26.79	-16.71	43.5	46.84	9	1.33	30.38	-	-	Peak
352.5	27.86	-18.14	46	41.09	14.77	1.83	29.83	-	-	Peak
531.7	24.22	-21.78	46	33.22	18.1	2.19	29.29	-	-	Peak
696.9	36.23	-9.77	46	43.49	19.38	2.43	29.07	-	-	Peak
2462	106.7	-	-	98.54	32.24	5.68	29.76	130	269	Peak
2462	97.86	-	-	89.7	32.24	5.68	29.76	130	269	Average
4924	37.94	-36.06	74	52.64	33.92	8.46	57.08	146	347	Peak
7386	39.85	-34.15	74	51.53	35.35	10.02	57.05	145	274	Peak



<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
84	24.22	-15.78	40	45.66	8.1	1.08	30.62	-	-	Peak
95.88	31.31	-12.19	43.5	50.41	10.4	1.16	30.66	-	-	Peak
172.56	31.61	-11.89	43.5	51.12	9.63	1.28	30.42	120	210	Peak
353.9	28.66	-17.34	46	41.87	14.77	1.84	29.82	-	-	Peak
533.1	25.37	-20.63	46	34.37	18.1	2.19	29.29	-	-	Peak
898.5	29.93	-16.07	46	34.81	21.22	2.71	28.81	-	-	Peak
2462	105.4	-	-	97.24	32.24	5.68	29.76	100	264	Peak
2462	96.63	-	-	88.47	32.24	5.68	29.76	100	264	Average
4924	38.31	-35.69	74	53.01	33.92	8.46	57.08	125	320	Peak
7386	40.2	-33.8	74	51.88	35.35	10.02	57.05	145	274	Peak



<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	104.5	-	-	96.4	32.22	5.65	29.77	105	263	Peak
2437	96.25	-	-	88.15	32.22	5.65	29.77	105	263	Average
4874	39.22	-34.78	74	54.18	33.8	8.41	57.17	132	224	Peak
7311	40.84	-33.16	74	52.7	35.31	9.99	57.16	119	347	Peak

<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	49~53%
<b>Test Engineer :</b>	Gavin Zhang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	103.76	-	-	95.66	32.22	5.65	29.77	100	268	Peak
2437	94.1	-	-	86	32.22	5.65	29.77	100	268	Average
4874	38.41	-35.59	74	53.37	33.8	8.41	57.17	125	321	Peak
7311	40.46	-33.54	74	52.32	35.31	9.99	57.16	154	214	Peak



## **3.2 Antenna Requirements**

### **3.2.1 Standard Applicable**

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

### **3.2.2 Antenna Connected Construction**

Non-standard connector used.

### **3.2.3 Antenna Gain**

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.





## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
ESCI TEST Receiver	R&S	ESCI	100724	9kHz-3GHz	Mar. 28, 2013	Aug. 15, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSP30	101362	9kHz~30GHz	Oct. 11, 2012	Aug. 15, 2013	Oct. 10, 2013	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 12, 2012	Aug. 15, 2013	Oct. 11, 2013	Radiation (03CH01-SZ)
Bilog Antenna	SCHAFFNER	CBL6112B	2614	30MHz~2GHz	Nov. 03, 2012	Aug. 15, 2013	Nov. 02, 2013	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz-3000MHz GAIN 30db	Mar. 28, 2013	Aug. 15, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	Mar. 28, 2013	Aug. 15, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
SHF-EHF-Horn	Schwarzbeck	BBHA9170	BBHA9170 249	14GHz~40GHz	Nov. 23, 2012	Aug. 15, 2013	Nov. 22, 2013	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz-30MHz	Oct. 22, 2012	Aug. 15, 2013	Oct. 21, 2013	Radiation (03CH01-SZ)
Turn Table	EM Electronic	EM 1000	N/A	0 ~ 360 degree	N/A	Aug. 15, 2013	N/A	Radiation (03CH01-SZ)
Antenna Mast	EM electronic	EM 1000	N/A	1 m - 4 m	N/A	Aug. 15, 2013	N/A	Radiation (03CH01-SZ)



## 5 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.54
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### Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.72
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## **Appendix B. Product Equality Declaration**