



# FCC RF Test Report

**APPLICANT** : TCT Mobile Limited  
**EQUIPMENT** : Tablet PC  
**BRAND NAME** : ALCATEL  
one touch  
**MODEL NAME** : ONE TOUCH EVO 7HD / ONE TOUCH E710  
(Module: one touch M800O)  
**FCC ID** : RAD456  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : (DTS) Digital Transmission System

The product was integrated the WWAN Module (Brand Name: ALCATEL/one touch / Model Name: one touch M800O, FCC ID: RAD382) during the test.

The product was received on Jun. 13, 2013 and testing was completed on Oct. 29, 2013. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant 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,  
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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 3.46 dB at 2483.620 MHz |



# 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<br>one touch  |
| Model Name                      | ONE TOUCH EVO 7HD / ONE TOUCH E710<br>(Module: one touch M800O)                         |
| FCC ID                          | RAD456  |
| EUT supports Radios application | GPRS/EGPRS/WCDMA/HSPA/HSPA+/DC-HSDPA/LTE/<br>WLAN2.4GHz 802.11bgn<br>Bluetooth v3.0+EDR |
| HW Version                      | JUPITER_MAIN_V6.0   |
| SW Version                      | UPDATA_111_104  |
| 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                                      | 802.11b/g/n : PIFA Antenna type  |
| Type of Modulation                                | 802.11b : DSSS (DBPSK / DQPSK / CCK)<br>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

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

**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 C63.4-2003

**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

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

### 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

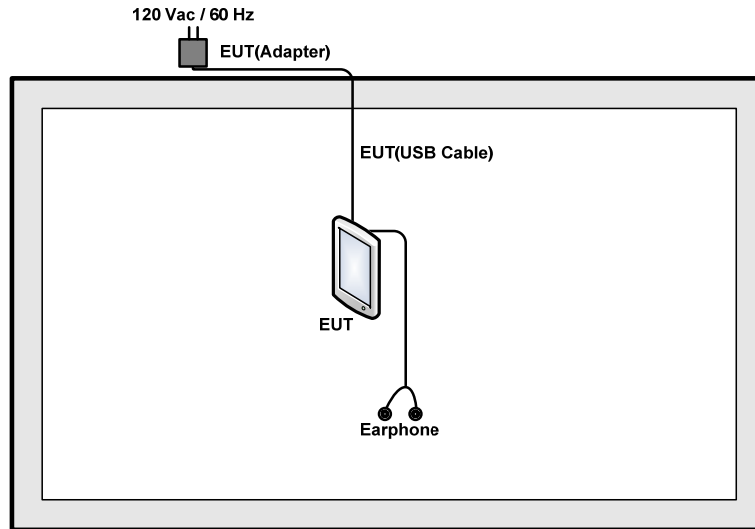
Final results of test modes, data rates and test channels are shown as following table.

| Test Cases   |                            |              |           |              |
|--------------|----------------------------|--------------|-----------|--------------|
|              | Test Items                 | Mode         | Data Rate | Test Channel |
| Radiated TCs | Radiated Band Edge         | 802.11b      | 1 Mbps    | 01           |
|              |                            | 802.11g      | 6 Mbps    | 01           |
|              |                            | 802.11n HT20 | 6.5 Mbps  | 11           |
|              | Radiated Spurious Emission | 802.11b      | 1 Mbps    | 01           |
|              |                            | 802.11g      | 6 Mbps    | 01           |
|              |                            | 802.11n HT20 | 6.5 Mbps  | 11           |
|              |                            | 802.11n HT40 | 13.5 Mbps | 06           |



## 2.3 Connection Diagram of Test System

<WLAN Tx Mode>



## 2.4 Support Unit used in test configuration and system

| Item | Equipment | Trade Name | Model Name | FCC ID | Data Cable | Power Cord |
|------|-----------|------------|------------|--------|------------|------------|
| 1.   | Earphone  | Lenovo     | SH100      | N/A    | N/A        | N/A        |

## 2.5 EUT Operation Test Setup

For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.

### 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<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(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

The measuring equipment is listed in the section 4 of this test report.

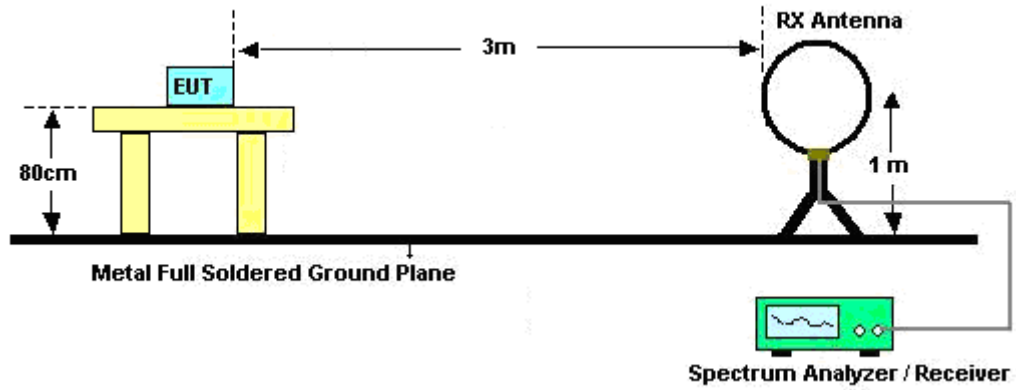
**3.1.3 Test Procedures**

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
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.

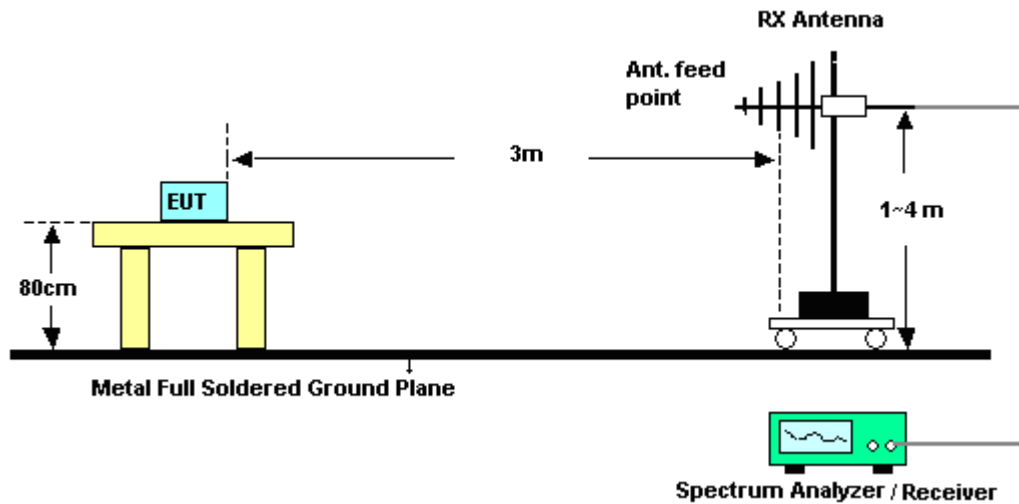
| Band                | Duty Cycle(%) | T(ms) | 1/T(kHz) | VBW Setting |
|---------------------|---------------|-------|----------|-------------|
| 802.11b             | 100           | -     | -        | 10hz        |
| 802.11g             | 97.21         | 1.392 | 0.718    | 1Khz        |
| 2.4GHz 802.11n HT20 | 97.31         | 1.307 | 0.765    | 1Khz        |
| 2.4GHz 802.11n HT40 | 94.77         | 0.652 | 1.534    | 3Khz        |

### 3.1.4 Test Setup

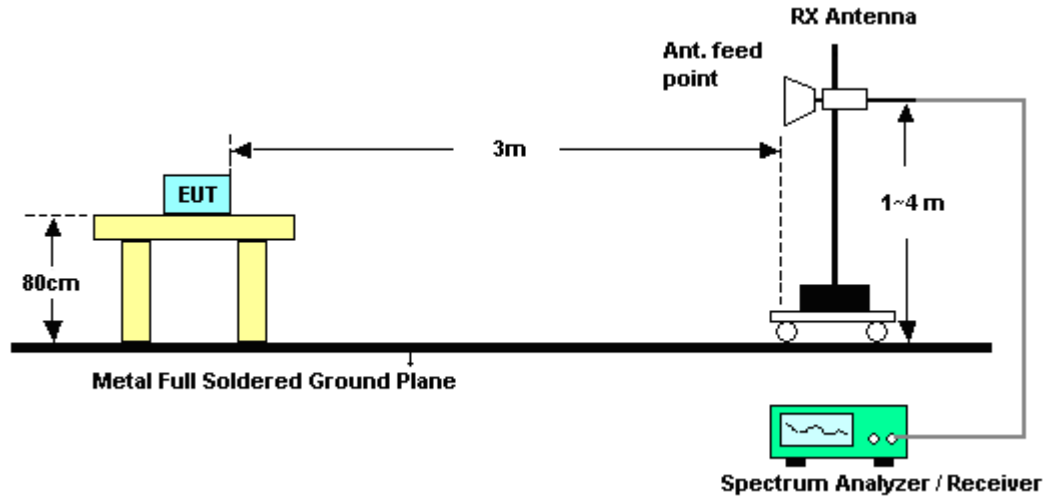
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.1.5 Test Results of Radiated Spurious 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 Spurious at Band Edges

|                |         |                     |           |
|----------------|---------|---------------------|-----------|
| Test Mode :    | 802.11b | Temperature :       | 25~26°C   |
| Test Band :    | Low     | Relative Humidity : | 54~58%    |
| Test Channel : | 01      | Test Engineer :     | Robin Luo |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2334.57                       | 56.65               | -17.35                  | 74                          | 48.85                     | 32.07                       | 5.53                    | 29.8                       | 106                  | 20                      | Peak    |
| 2331.24                       | 49.54               | -4.46                   | 54                          | 41.76                     | 32.05                       | 5.53                    | 29.8                       | 106                  | 20                      | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2335.11                     | 50.87               | -23.13                  | 74                          | 43.07                     | 32.07                       | 5.53                    | 29.8                       | 200                  | 249                     | Peak    |
| 2333.76                     | 42.46               | -11.54                  | 54                          | 34.68                     | 32.05                       | 5.53                    | 29.8                       | 200                  | 249                     | Average |

|                |         |                     |           |
|----------------|---------|---------------------|-----------|
| Test Mode :    | 802.11g | Temperature :       | 25~26°C   |
| Test Band :    | Low     | Relative Humidity : | 54~58%    |
| Test Channel : | 01      | Test Engineer :     | Robin Luo |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2389.9                        | 64.27               | -9.73                   | 74                          | 56.45                     | 31.98                       | 5.62                    | 29.78                      | 132                  | 215                     | Peak    |
| 2389.92                       | 50.41               | -3.59                   | 54                          | 42.59                     | 31.98                       | 5.62                    | 29.78                      | 132                  | 215                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2389.38                     | 56.4                | -17.6                   | 74                          | 48.62                     | 31.98                       | 5.59                    | 29.79                      | 161                  | 75                      | Peak    |
| 2389.83                     | 44.86               | -9.14                   | 54                          | 37.04                     | 31.98                       | 5.62                    | 29.78                      | 161                  | 75                      | Average |



|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Test Mode :    | 802.11n HT20 | Temperature :       | 25~26°C   |
| Test Band :    | High         | Relative Humidity : | 54~58%    |
| Test Channel : | 11           | Test Engineer :     | Robin Luo |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2485.72                       | 68.89               | -5.11                   | 74                          | 60.67                     | 32.27                       | 5.71                    | 29.76                      | 129                  | 308                     | Peak    |
| 2483.62                       | 50.54               | -3.46                   | 54                          | 42.32                     | 32.27                       | 5.71                    | 29.76                      | 129                  | 308                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2484.82                     | 65.62               | -8.38                   | 74                          | 57.4                      | 32.27                       | 5.71                    | 29.76                      | 190                  | 252                     | Peak    |
| 2483.53                     | 46.54               | -7.46                   | 54                          | 38.32                     | 32.27                       | 5.71                    | 29.76                      | 190                  | 252                     | Average |

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

Note: Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

|                        |  |                            |            |
|------------------------|--|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11b  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 01   | <b>Relative Humidity :</b> | 54~58%     |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2412 MHz is fundamental signal which can be ignored.<br>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  |
|-------------------|------------------|-------------------|-----------------------|---------------------|-----------------------|-------------------|----------------------|----------------|-------------------|---------|
| 2412              | 106.22           | -                 | -                     | 98.21               | 32.17                 | 5.62              | 29.78                | 106            | 19                | Peak    |
| 2412              | 104.17           | -                 | -                     | 96.16               | 32.17                 | 5.62              | 29.78                | 106            | 19                | Average |
| 4824              | 39.48            | -34.52            | 74                    | 54.7                | 33.68                 | 8.36              | 57.26                | 105            | 198               | Peak    |

|                        |  |                            |          |
|------------------------|--|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11b  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 01   | <b>Relative Humidity :</b> | 54~58%   |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2412 MHz is fundamental signal which can be ignored.<br>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  |
|-------------------|------------------|-------------------|-----------------------|---------------------|-----------------------|-------------------|----------------------|----------------|-------------------|---------|
| 2412              | 101.26           | -                 | -                     | 93.25               | 32.17                 | 5.62              | 29.78                | 200            | 248               | Peak    |
| 2412              | 99.21            | -                 | -                     | 91.2                | 32.17                 | 5.62              | 29.78                | 200            | 248               | Average |
| 4824              | 37.76            | -36.24            | 74                    | 52.98               | 33.68                 | 8.36              | 57.26                | 105            | 198               | Peak    |





|                        |  |                            |            |
|------------------------|--|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11g  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 01   | <b>Relative Humidity :</b> | 54~58%     |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2412 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2412                 | 107.68              | -                       | -                           | 99.67                   | 32.17                       | 5.62                    | 29.78                      | 132                  | 215                     | Peak    |
| 2412                 | 99.14               | -                       | -                           | 91.13                   | 32.17                       | 5.62                    | 29.78                      | 132                  | 215                     | Average |
| 4824                 | 37.48               | -36.52                  | 74                          | 52.7                    | 33.68                       | 8.36                    | 57.26                      | 105                  | 198                     | Peak    |

|                        |  |                            |          |
|------------------------|--|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11g  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 01   | <b>Relative Humidity :</b> | 54~58%   |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2412 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2412                 | 102.68              | -                       | -                           | 94.67                   | 32.17                       | 5.62                    | 29.78                      | 160                  | 74                      | Peak    |
| 2412                 | 94.34               | -                       | -                           | 86.33                   | 32.17                       | 5.62                    | 29.78                      | 160                  | 74                      | Average |
| 4824                 | 38.76               | -35.24                  | 74                          | 53.98                   | 33.68                       | 8.36                    | 57.26                      | 105                  | 198                     | Peak    |



|                        |  |                            |            |
|------------------------|--|----------------------------|------------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 11   | <b>Relative Humidity :</b> | 54~58%     |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2462 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 104.69               | 26.11               | -17.39                  | 43.5                        | 43.67                   | 11.8                        | 1.29                    | 30.65                      | -                    | -                       | Peak    |
| 169.68               | 30.54               | -12.96                  | 43.5                        | 49.6                    | 9.8                         | 1.57                    | 30.43                      | 200                  | 300                     | Peak    |
| 199.75               | 30.11               | -13.39                  | 43.5                        | 49.64                   | 9.1                         | 1.7                     | 30.33                      | -                    | -                       | Peak    |
| 307.42               | 27.33               | -18.67                  | 46                          | 42.19                   | 13.08                       | 2.04                    | 29.98                      | -                    | -                       | Peak    |
| 780.78               | 26.54               | -19.46                  | 46                          | 31.77                   | 20.6                        | 3.13                    | 28.96                      | -                    | -                       | Peak    |
| 960.23               | 29.03               | -24.97                  | 54                          | 32.52                   | 21.8                        | 3.43                    | 28.72                      | -                    | -                       | Peak    |
| 2462                 | 109.17              | -                       | -                           | 101.01                  | 32.24                       | 5.68                    | 29.76                      | 128                  | 307                     | Peak    |
| 2462                 | 98.91               | -                       | -                           | 90.75                   | 32.24                       | 5.68                    | 29.76                      | 128                  | 307                     | Average |
| 4924                 | 38.29               | -35.71                  | 74                          | 52.99                   | 33.92                       | 8.46                    | 57.08                      | 146                  | 347                     | Peak    |
| 7386                 | 39.92               | -34.08                  | 74                          | 51.6                    | 35.35                       | 10.02                   | 57.05                      | 145                  | 274                     | Peak    |



|                        |  |                            |          |
|------------------------|--|----------------------------|----------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 11   | <b>Relative Humidity :</b> | 54~58%   |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2462 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 111.48               | 28.58               | -14.92                  | 43.5                        | 45.68                   | 12.2                        | 1.33                    | 30.63                      | 200                  | 360                     | Peak    |
| 199.75               | 24.93               | -18.57                  | 43.5                        | 44.46                   | 9.1                         | 1.7                     | 30.33                      | -                    | -                       | Peak    |
| 314.21               | 27.72               | -18.28                  | 46                          | 42.07                   | 13.54                       | 2.06                    | 29.95                      | -                    | -                       | Peak    |
| 504.33               | 27.91               | -18.09                  | 46                          | 37.08                   | 17.62                       | 2.54                    | 29.33                      | -                    | -                       | Peak    |
| 551.86               | 25.88               | -20.12                  | 46                          | 33.64                   | 18.84                       | 2.66                    | 29.26                      | -                    | -                       | Peak    |
| 939.86               | 26.85               | -19.15                  | 46                          | 30.05                   | 22.1                        | 3.45                    | 28.75                      | -                    | -                       | Peak    |
| 2462                 | 104.71              | -                       | -                           | 96.55                   | 32.24                       | 5.68                    | 29.76                      | 190                  | 251                     | Peak    |
| 2462                 | 94.76               | -                       | -                           | 86.6                    | 32.24                       | 5.68                    | 29.76                      | 190                  | 251                     | Average |
| 4924                 | 37.65               | -36.35                  | 74                          | 52.35                   | 33.92                       | 8.46                    | 57.08                      | 146                  | 347                     | Peak    |
| 7386                 | 39.47               | -34.53                  | 74                          | 51.15                   | 35.35                       | 10.02                   | 57.05                      | 145                  | 274                     | Peak    |



|                        |  |                            |            |
|------------------------|--|----------------------------|------------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT40  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 06   | <b>Relative Humidity :</b> | 54~58%     |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2437 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2437                 | 108.74              | -                       | -                           | 100.64                  | 32.22                       | 5.65                    | 29.77                      | 155                  | 25                      | Peak    |
| 2437                 | 98.3                | -                       | -                           | 90.2                    | 32.22                       | 5.65                    | 29.77                      | 155                  | 25                      | Average |
| 4874                 | 38.51               | -35.49                  | 74                          | 53.47                   | 33.8                        | 8.41                    | 57.17                      | 132                  | 224                     | Peak    |
| 7311                 | 40.15               | -33.85                  | 74                          | 52.01                   | 35.31                       | 9.99                    | 57.16                      | 119                  | 347                     | Peak    |

|                        |  |                            |          |
|------------------------|--|----------------------------|----------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT40  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 06   | <b>Relative Humidity :</b> | 54~58%   |
| <b>Test Engineer :</b> | Robin Luo  | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2437 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2437                 | 109.46              | -                       | -                           | 101.36                  | 32.22                       | 5.65                    | 29.77                      | 105                  | 295                     | Peak    |
| 2437                 | 99.34               | -                       | -                           | 91.24                   | 32.22                       | 5.65                    | 29.77                      | 105                  | 295                     | Average |
| 4874                 | 38.04               | -35.96                  | 74                          | 53                      | 33.8                        | 8.41                    | 57.17                      | 132                  | 224                     | Peak    |
| 7311                 | 39.33               | -34.67                  | 74                          | 51.19                   | 35.31                       | 9.99                    | 57.16                      | 119                  | 347                     | Peak    |

## 4 List of Measuring Equipment

| Instrument                | Manufacturer         | Model No. | Serial No.  | Characteristics           | Calibration Date | Test Date     | Due Date      | Remark                |
|---------------------------|----------------------|-----------|-------------|---------------------------|------------------|---------------|---------------|-----------------------|
| Spectrum Analyzer         | Agilent Technologies | N9038A    | MY52260185  | 20Hz~26.5GHz              | Apr. 04, 2013    | Oct. 29, 2013 | Apr. 03, 2014 | Radiation (03CH01-SZ) |
| Double Ridge Horn Antenna | ETS Lindgren         | 3117      | 00119436    | 1GHz~18GHz                | Oct. 12, 2013    | Oct. 29, 2013 | Oct. 11, 2014 | Radiation (03CH01-SZ) |
| Bilog Antenna             | SCHAFFNER            | CBL6112B  | 2614        | 30MHz~2GHz                | Nov. 03, 2012    | Oct. 29, 2013 | Nov. 02, 2013 | Radiation (03CH01-SZ) |
| Amplifier                 | ADVANTEST            | BB525C    | E9007003    | 9kHz-3000MHz<br>GAIN 30db | Mar. 28, 2013    | Oct. 29, 2013 | Mar. 27, 2014 | Radiation (03CH01-SZ) |
| Amplifier                 | Yiai                 | AV3860B   | 04030       | 2GHz~26.5GHz              | Mar. 28, 2013    | Oct. 29, 2013 | Mar. 27, 2014 | Radiation (03CH01-SZ) |
| SHF-EHF-Horn              | Schwarzbeck          | BBHA9170  | BBHA9170249 | 14GHz~40GHz               | Nov. 23, 2012    | Oct. 29, 2013 | Nov. 22, 2013 | Radiation (03CH01-SZ) |
| Loop Antenna              | R&S                  | HFH2-Z2   | 100354      | 9kHz-30MHz                | May 29, 2013     | Oct. 29, 2013 | May 28, 2014  | Radiation (03CH01-SZ) |
| Turn Table                | EM Electronics       | EM 1000   | N/A         | 0 ~ 360 degree            | N/A              | Oct. 29, 2013 | N/A           | Radiation (03CH01-SZ) |
| Antenna Mast              | EM Electronics       | EM 1000   | N/A         | 1 m - 4 m                 | N/A              | Oct. 29, 2013 | N/A           | Radiation (03CH01-SZ) |



## 5 Uncertainty of Evaluation

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

|   |      |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.90 |
|---|------|



## **Appendix B. Product Equality Declaration**

# TCT Mobile Limited

5F, C building, No. 232, Liang Jing Road, Zhangjiang High-Tech Park, Pudong,  
Shanghai, China

Tel: +86(0)2161460890 ; Fax: +86(0)2161460600

Federal Communications Commission  
Authorization and Evaluation Division  
1435 Oakland Mills Road  
Columbia, MD 21046

To whom it may concern:

FCC IDs RAD456 and RAD381 are tablet PCs that share the same enclosure, main logic board, display, battery and I/O design. Both FCC IDs use the same Wi-Fi / Bluetooth chipset, and operate using the same transmit power levels. Also, both FCC IDs run the same software.

The Wi-Fi and Bluetooth test reports from [FCC ID: RAD381] (WLAN/BT only) will represent the RF and EMC performance of FCC ID: [FCC ID: RAD456] (WWAN+WiFi).

FCC ID: RAD381 is identical to FCC ID: RAD456, except that FCC ID: RAD381 does not have WWAN radio capability.

| FCC ID | RF function    |
|--------|----------------|
| RAD381 | WLAN/BT        |
| RAD456 | WLAN/BT + WWAN |

Pursuant to KDB 996369, we would use Wi-Fi and Bluetooth test reports from [FCC ID: RAD381] (WLAN/BT only) in our application for [FCC ID: RAD456] (WLAN/BT + WWAN).

Should you have any comments or questions, please feel free to contact me.

Sincerely,



Contact Person: Zhizhou Gong

E-mail: zhizhou.gong@jrdcom.com