

# Variant FCC RF Test Report

APPLICANT : DELL Inc.  
EQUIPMENT : Tablet PC  
BRAND NAME : Dell  
MODEL NAME : T01C; T01C003  
TYPE NAME : T01C003  
FCC ID : E2K-T01C003  
STANDARD : FCC Part 15 Subpart C §15.247  
CLASSIFICATION : (DSS) Spread Spectrum Transmitter

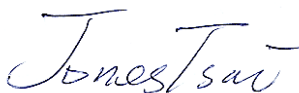
This is a variant report which is only valid together with the original test report. The product was received on May 30, 2014 and testing was completed on Sep. 13, 2014. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and the testing has shown the tested sample to be in 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.



---

Reviewed by: Joseph Lin / Supervisor



---

Approved by: Jones Tsai / Manager



**SPORTON INTERNATIONAL (KUNSHAN) INC.**  
**No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.**

## TABLE OF CONTENTS

|                                                                 |    |
|-----------------------------------------------------------------|----|
| REVISION HISTORY .....                                          | 3  |
| SUMMARY OF TEST RESULT .....                                    | 4  |
| 1 GENERAL DESCRIPTION .....                                     | 5  |
| 1.1 Applicant .....                                             | 5  |
| 1.2 Manufacturer .....                                          | 5  |
| 1.3 Feature of Equipment Under Test .....                       | 5  |
| 1.4 Product Specification of Equipment Under Test .....         | 6  |
| 1.5 Modification of EUT .....                                   | 7  |
| 1.6 Testing Location .....                                      | 7  |
| 1.7 Applicable Standards .....                                  | 7  |
| 2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST .....              | 8  |
| 2.1 Test Mode .....                                             | 8  |
| 2.2 Connection Diagram of Test System .....                     | 9  |
| 2.3 Support Unit used in test configuration and system .....    | 9  |
| 2.4 EUT Operation Test Setup .....                              | 9  |
| 3 TEST RESULT .....                                             | 10 |
| 3.1 Radiated Band Edges and Spurious Emission Measurement ..... | 10 |
| 4 LIST OF MEASURING EQUIPMENT .....                             | 19 |
| 5 UNCERTAINTY OF EVALUATION .....                               | 20 |
| APPENDIX A. SETUP PHOTOGRAPHS                                   |    |
| APPENDIX B. PRODUCT EQUALITY DECLARATION                        |    |

## REVISION HISTORY

| REPORT NO.   | VERSION | DESCRIPTION                                                                                                                                                                                                                                                                           | ISSUED DATE   |
|--------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| FR422417-01A | Rev. 01 | This is a variant report for T01C; T01C003. The product equality declaration could be referred to Appendix B. Based on the similarity between two models, only the worst case of Radiated Spurious Emission from original test report (Sporton Report Number FR422417A) was verified. | Oct. 31, 2014 |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |
|              |         |                                                                                                                                                                                                                                                                                       |               |



## **SUMMARY OF TEST RESULT**

| <b>Report Section</b> | <b>FCC Rule</b> | <b>IC Rule</b>  | <b>Description</b>                                       | <b>Limit</b>          | <b>Result</b> | <b>Remark</b>                            |
|-----------------------|-----------------|-----------------|----------------------------------------------------------|-----------------------|---------------|------------------------------------------|
| 3.1                   | 15.247(d)       | RSS-210<br>A8.5 | Radiated Band Edges<br>and Radiated Spurious<br>Emission | 15.209(a) & 15.247(d) | Pass          | Under limit<br>9.39 dB at<br>191.020 MHz |



# 1 General Description

## 1.1 Applicant

**DELL Inc.**

One Dell Way, Round Rock, Texas 78682, United States

## 1.2 Manufacturer

**DELL Inc.**

One Dell Way, Round Rock, Texas 78682, United States

## 1.3 Feature of Equipment Under Test

| Product Feature                        |                                                                                                                                                    |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Equipment</b>                       | Tablet PC                                                                                                                                          |
| <b>Brand Name</b>                      | Dell                                                                                                                                               |
| <b>Model Name</b>                      | T01C; T01C003                                                                                                                                      |
| <b>Type Name</b>                       | T01C003                                                                                                                                            |
| <b>FCC ID</b>                          | E2K-T01C003                                                                                                                                        |
| <b>EUT supports Radios application</b> | WLAN 2.4GHz 802.11b/g/n HT20/HT40<br>WLAN 5GHz 802.11a/n HT20/HT40<br>WLAN 5GHz 802.11ac VHT20/VHT40/VHT80<br>Bluetooth v3.0+EDR/Bluetooth v4.0 LE |
| <b>HW Version</b>                      | B2                                                                                                                                                 |
| <b>SW Version</b>                      | Venue7 3740_V1.84_140916-NoModem                                                                                                                   |
| <b>EUT Stage</b>                       | Identical Prototype                                                                                                                                |

## 1.4 Product Specification of Equipment Under Test

| Product Specification subjective to this standard |                                                                                                         |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Tx/Rx Frequency Range</b>                      | 2402 MHz ~ 2480 MHz                                                                                     |
| <b>Number of Channels</b>                         | 79                                                                                                      |
| <b>Carrier Frequency of Each Channel</b>          | 2402+n*1 MHz; n=0~78                                                                                    |
| <b>Antenna Type</b>                               | IFA Antenna                                                                                             |
| <b>Type of Modulation</b>                         | Bluetooth BR (1Mbps) : GFSK<br>Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK<br>Bluetooth EDR (3Mbps) : 8-DPSK |

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are five types of EUT for this project. The differences between them are summary below:

| Sample List | RAM | ROM | CPU     | Front Camera | Rear Camera | LCD                        | PCBA       | Color |
|-------------|-----|-----|---------|--------------|-------------|----------------------------|------------|-------|
| Sample 1    | 1G  | 16G | 1.6 PRQ | OV           | Liteon      | CPT<br>without EMI coating | Chinabuild | Black |
| Sample 2    | 2G  | 16G | 1.6 QS  | OV           | Liteon      | AUO<br>with EMI coating    | Tripod     | Red   |
| Sample 3    | 2G  | 16G | 1.6 QS  | OV           | Liteon      | CPT<br>with EMI coating    | Chinabuild | Black |
| Sample 4    | 2G  | 16G | 1.6 QS  | OV           | Liteon      | AUO<br>without EMI coating | Chinabuild | Red   |
| Sample 5    | 2G  | 16G | 1.6 QS  | OV           | Liteon      | AUO<br>without EMI coating | Tripod     | Red   |

## 1.5 Modification of EUT

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

## 1.6 Testing Location

|                    |                                                            |                         |
|--------------------|------------------------------------------------------------|-------------------------|
| Test Site          | SPORTON INTERNATIONAL (KUNSHAN) INC.                       |                         |
| Test Site Location | No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. |                         |
|                    | TEL: +86-0512-5790-0158<br>FAX: +86-0512-5790-0958         |                         |
| Test Site No.      | Sporton Site No.                                           | FCC/IC Registration No. |
|                    | 03CH01-KS                                                  | 149928/4086E-1          |

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

## 1.7 Applicable 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 Public Notice DA 00-705
- ♦ 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

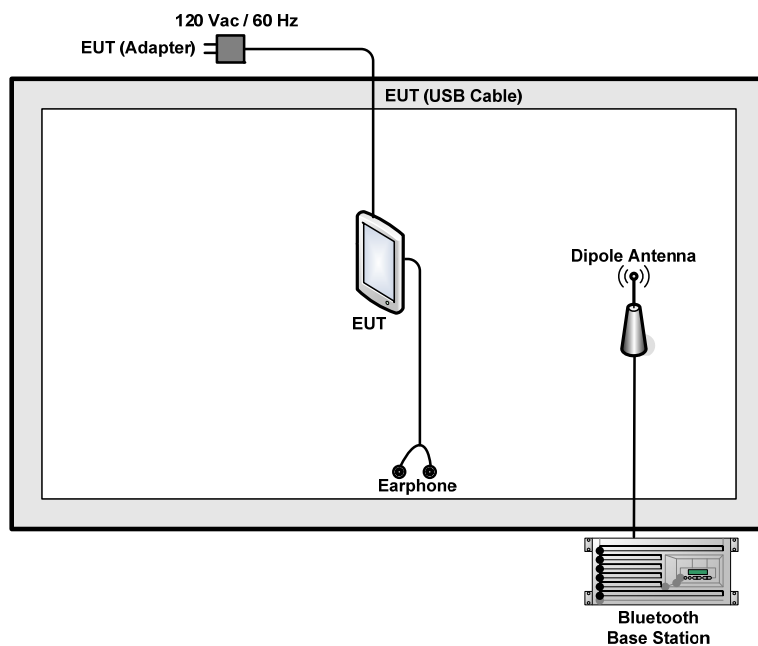
### 2.1 Test Mode

The following summary table is showing all test modes to demonstrate in compliance with the standard.

| Summary table of Test Cases                                                                                           |                         |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------|
| Test Item                                                                                                             | Data Rate / Modulation  |
| Radiated                                                                                                              | Bluetooth BR 1Mbps GFSK |
| Test Cases                                                                                                            | Mode 1: CH78_2480 MHz   |
| <b>Remark:</b> For Radiated Test Cases, The tests were performance with Adapter, Earphone and USB Cable for Sample 1. |                         |



## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

| Item | Equipment              | Trade Name | Model Name | FCC ID | Data Cable | Power Cord        |
|------|------------------------|------------|------------|--------|------------|-------------------|
| 1.   | Bluetooth Base Station | R&S        | CBT        | N/A    | N/A        | Unshielded, 1.8 m |
| 2.   | Earphone               | Lenovo     | SH100      | N/A    | N/A        | N/A               |

## 2.4 EUT Operation Test Setup

For Bluetooth function, the engineering test program was provided and enabled to make EUT connect with Bluetooth base station to continuous transmit/receive.

### 3 Test Result

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

##### 3.1.1 Limit of Radiated Band Edges and Spurious Emission

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. 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.

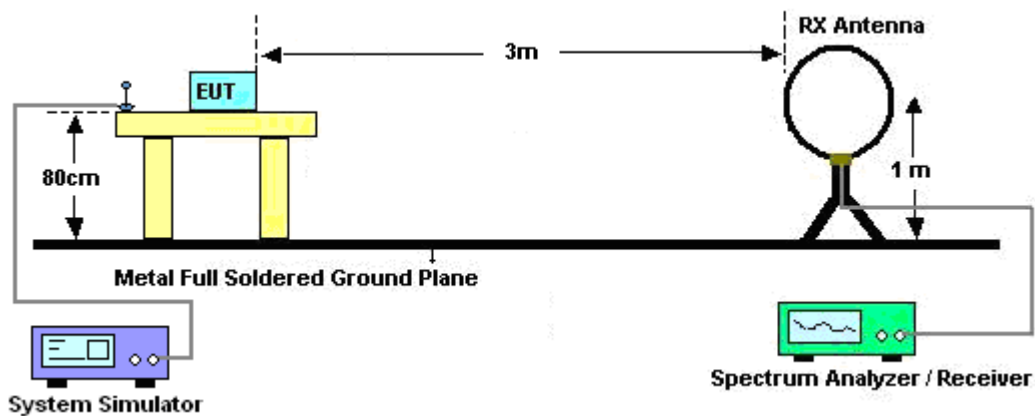
### 3.1.3 Test Procedures

1. The testing follows the guidelines in Spurious Radiated Emissions of FCC Public Notice DA 00-705 Measurement Guidelines.
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. For each suspected emission, 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 to comply with the guidelines.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. 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, RBW=1MHz for  $f > 1$ GHz ; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak
  - (3) For average measurement: use duty cycle correction factor method per 15.35(c).  
Duty cycle = On time/100 milliseconds  
On time =  $N_1 * L_1 + N_2 * L_2 + \dots + N_{n-1} * L_{n-1} + N_n * L_n$   
Where  $N_1$  is number of type 1 pulses,  $L_1$  is length of type 1 pulses, etc.  
Average Emission Level = Peak Emission Level +  $20 * \log(\text{Duty cycle})$
6. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

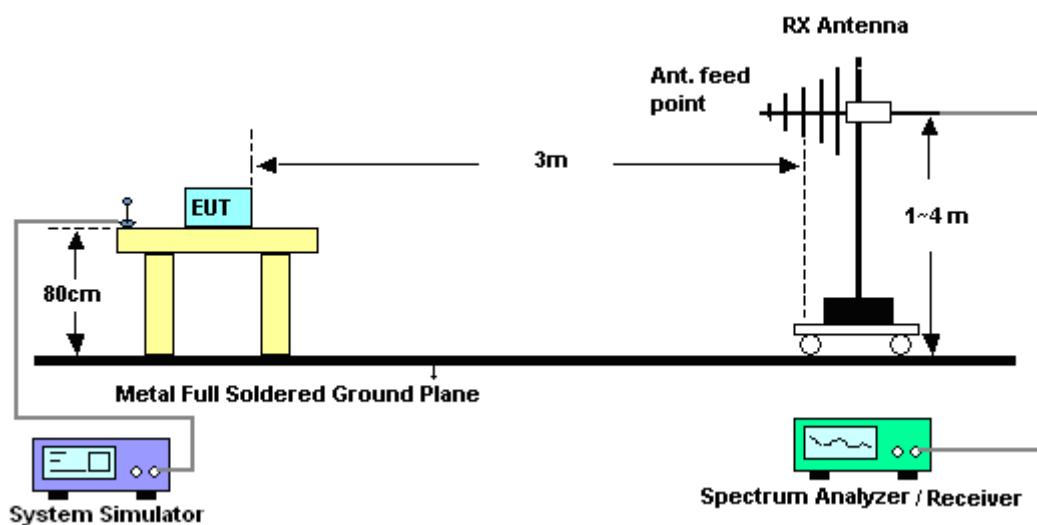
Note: The average levels were calculated from the peak level corrected with duty cycle correction factor (-24.79dB) derived from  $20 \log(\text{dwell time}/100\text{ms})$ . This correction is only for signals that hop with the fundamental signal, such as band-edge and harmonic. Other spurious signals that are independent of the hopping signal would not use this correction.

### 3.1.4 Test Setup

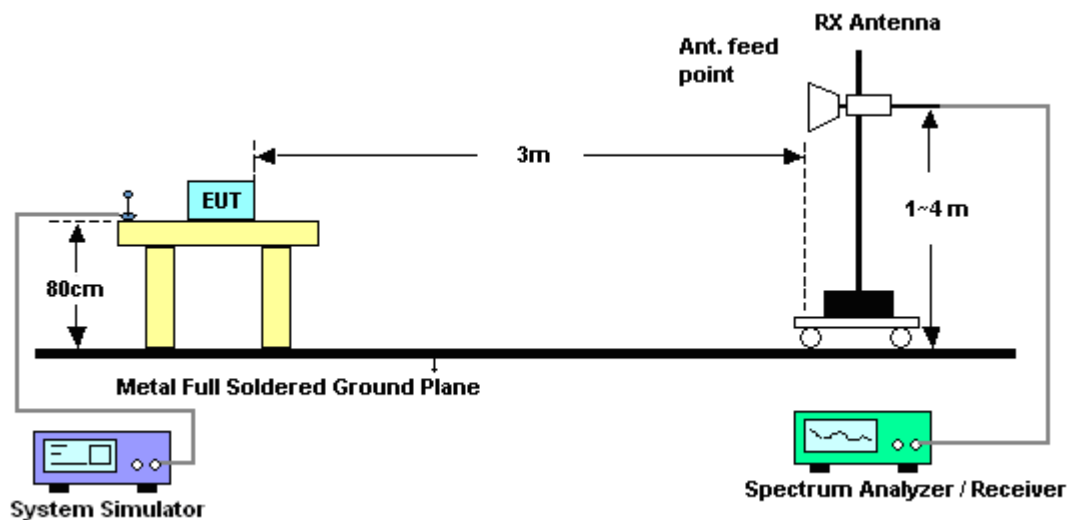
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

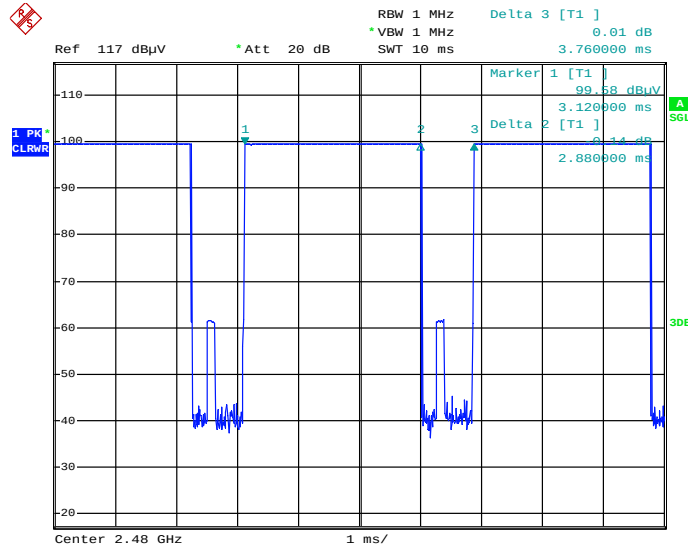


### 3.1.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

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.

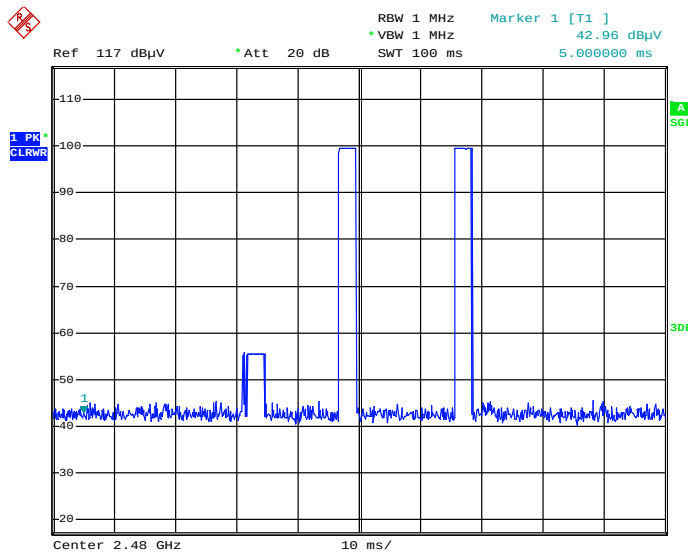
### 3.1.6 Duty cycle correction factor for average measurement

**DH5 on time (One Pulse) Plot on Channel 39**



Date: 13.SEP.2014 10:35:45

**DH5 on time (Count Pulses) Plot on Channel 39**



Date: 13.SEP.2014 10:32:28

**Note:**

1. Worst case Duty cycle = on time/100 milliseconds =  $2 * 2.88 / 100 = 5.76 \%$
2. Worst case Duty cycle correction factor =  $20 * \log(\text{Duty cycle}) = -24.79 \text{ dB}$
3. DH5 has the highest duty cycle worst case and is reported.

**Duty Cycle Correction Factor Consideration for AFH mode:**

Bluetooth normal hopping rate is 1600Hz and reduced to 800Hz in AFH mode; due to the reduced number of hopping frequencies, with the same packet configuration the dwell time in each channel frequency within 100msec period is longer in AFH mode than normal mode.

In AFH mode, the minimum hopping frequencies are 20, to get the longest dwell time DH5 packet is observed; the period to have DH5 packet completing one hopping sequence is

$$2.88 \text{ ms} \times 20 \text{ channels} = 57.6 \text{ ms}$$

There cannot be 2 complete hopping sequences within 100ms period, considering the random hopping behavior, maximum 2 hops can be possibly observed within the period.  $[100\text{ms} / 57.6\text{ms}] = 2 \text{ hops}$

Thus, the maximum possible ON time:

$$2.88 \text{ ms} \times 2 = 5.76 \text{ ms}$$

Worst case Duty Cycle Correction factor, which is derived from the maximum possible ON time,

$$20 \times \log(5.76 \text{ ms}/100\text{ms}) = -24.79 \text{ dB}$$

**3.1.7 Test Result of Radiated Spurious at Band Edges**

|                       |       |                            |          |
|-----------------------|-------|----------------------------|----------|
| <b>Test Mode :</b>    | 1Mbps | <b>Temperature :</b>       | 22~23°C  |
| <b>Test Channel :</b> | 78    | <b>Relative Humidity :</b> | 42~43%   |
|                       |       | <b>Test Engineer :</b>     | Star Wei |

| 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  |
| 2483.5                        | 61.86               | -12.14                  | 74                          | 58.49                   | 33.01                       | 3.65                    | 33.29                      | 165                  | 40                      | Peak    |
| 2483.5                        | 37.07               | -16.93                  | 54                          | -                       | -                           | -                       | -                          | -                    | -                       | 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  |
| 2483.5                      | 58.51               | -15.49                  | 74                          | 55.14                   | 33.01                       | 3.65                    | 33.29                      | 100                  | 148                     | Peak    |
| 2483.5                      | 33.72               | -20.28                  | 54                          | -                       | -                           | -                       | -                          | -                    | -                       | Average |

**Note:** Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.79dB)



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

|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 1Mbps                                                                                                                                                | <b>Temperature :</b>       | 22~23°C    |
| <b>Test Channel :</b>  | 78                                                                                                                                                   | <b>Relative Humidity :</b> | 42~43%     |
| <b>Test Engineer :</b> | Star Wei                                                                                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2480 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  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 97.9                 | 27.47               | -16.03                  | 43.5                        | 50.03                   | 10.15                       | 0.91                    | 33.62                      | -                    | -                       | Peak    |
| 191.02               | 34.11               | -9.39                   | 43.5                        | 57.86                   | 8.55                        | 1.26                    | 33.56                      | 100                  | 120                     | Peak    |
| 280.26               | 24.86               | -21.14                  | 46                          | 44.05                   | 12.66                       | 1.55                    | 33.4                       | -                    | -                       | Peak    |
| 378.23               | 21.78               | -24.22                  | 46                          | 37.96                   | 15.38                       | 1.77                    | 33.33                      | -                    | -                       | Peak    |
| 551.86               | 23.34               | -22.66                  | 46                          | 35.75                   | 18.5                        | 2.1                     | 33.01                      | -                    | -                       | Peak    |
| 800.18               | 23.91               | -22.09                  | 46                          | 34.12                   | 19.85                       | 2.56                    | 32.62                      | -                    | -                       | Peak    |
| 2480                 | 102.55              | -                       | -                           | 99.18                   | 33.01                       | 3.65                    | 33.29                      | 165                  | 48                      | Peak    |
| 2480                 | 77.76               | -                       | -                           | -                       | -                           | -                       | -                          | 165                  | 48                      | Average |
| 4960                 | 46.63               | -27.37                  | 74                          | 39.9                    | 35.2                        | 5.33                    | 33.8                       | 100                  | 154                     | Peak    |
| 7440                 | 49.41               | -24.59                  | 74                          | 40.57                   | 36.27                       | 6.75                    | 34.18                      | 100                  | 10                      | Peak    |

**Note:** 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor( -24.79)

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 1Mbps                                                                                                                                                | <b>Temperature :</b>       | 22~23°C  |
| <b>Test Channel :</b>  | 78                                                                                                                                                   | <b>Relative Humidity :</b> | 42~43%   |
| <b>Test Engineer :</b> | Star Wei                                                                                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2480 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  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 46.49                | 30.11               | -9.89                   | 40                          | 54.2                    | 8.88                        | 0.64                    | 33.61                      | 112                  | 120                     | Peak    |
| 188.11               | 29.83               | -13.67                  | 43.5                        | 53.66                   | 8.48                        | 1.25                    | 33.56                      | -                    | -                       | Peak    |
| 286.08               | 23.39               | -22.61                  | 46                          | 42.44                   | 12.78                       | 1.56                    | 33.39                      | -                    | -                       | Peak    |
| 461.65               | 23.31               | -22.69                  | 46                          | 38.08                   | 16.46                       | 1.96                    | 33.19                      | -                    | -                       | Peak    |
| 558.65               | 23.23               | -22.77                  | 46                          | 35.58                   | 18.51                       | 2.15                    | 33.01                      | -                    | -                       | Peak    |
| 744.89               | 22.18               | -23.82                  | 46                          | 32.66                   | 19.86                       | 2.45                    | 32.79                      | -                    | -                       | Peak    |
| 2480                 | 98.92               | -                       | -                           | 95.55                   | 33.01                       | 3.65                    | 33.29                      | 100                  | 146                     | Peak    |
| 2480                 | 74.13               | -                       | -                           | -                       | -                           | -                       | -                          | 100                  | 146                     | Average |
| 4960                 | 47.88               | -26.12                  | 74                          | 41.15                   | 35.2                        | 5.33                    | 33.8                       | 100                  | 120                     | Peak    |
| 7440                 | 48.2                | -25.8                   | 74                          | 39.36                   | 36.27                       | 6.75                    | 34.18                      | 145                  | 226                     | Peak    |

**Note:** 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor( -24.79)

## 4 List of Measuring Equipment

| Instrument                | Manufacturer | Model No. | Serial No.     | Characteristics | Calibration Date | Test Date     | Due Date      | Remark                   |
|---------------------------|--------------|-----------|----------------|-----------------|------------------|---------------|---------------|--------------------------|
| EMI Test Receiver         | R&S          | ESCI      | 100534         | 9kHz~3GHz       | Nov. 05, 2013    | Sep. 13, 2014 | Nov. 04, 2014 | Radiation<br>(03CH01-KS) |
| Spectrum Analyzer         | R&S          | FSP30     | 101399         | 9kHz~30GHz      | May 04, 2014     | Sep. 13, 2014 | May 03, 2015  | Radiation<br>(03CH01-KS) |
| Loop Antenna              | R&S          | HFH2-Z2   | 100321         | 9kHz~30MHz      | Oct. 09, 2013    | Sep. 13, 2014 | Oct. 08, 2014 | Radiation<br>(03CH01-KS) |
| Bilog Antenna             | SCHAFFNER    | CBL6112D  | 23182          | 25MHz~2GHz      | Jan. 08, 2014    | Sep. 13, 2014 | Jan. 07, 2015 | Radiation<br>(03CH01-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117      | 75959          | 1GHz~18GHz      | Jan. 08, 2014    | Sep. 13, 2014 | Jan. 07, 2015 | Radiation<br>(03CH01-KS) |
| Active Horn Antenna       | com-power    | AHA-118   | 701030         | 1GHz~18GHz      | Nov. 18, 2013    | Sep. 13, 2014 | Nov. 17, 2014 | Radiation<br>(03CH01-KS) |
| SHF-EHF Horn              | Schwarzbeck  | BBHA 9170 | BBHA1702<br>49 | 15GHz~40GHz     | Mar. 10, 2014    | Sep. 13, 2014 | Mar. 09, 2015 | Radiation<br>(03CH01-KS) |
| Amplifier                 | com-power    | PA-103A   | 161073         | 1MHz~1GHz       | May 04, 2014     | Sep. 13, 2014 | May 03, 2015  | Radiation<br>(03CH01-KS) |
| Amplifier                 | Agilent      | 8449B     | 3008A023<br>71 | 1GHz~26.5GHz    | Dec. 10, 2013    | Sep. 13, 2014 | Dec. 09, 2014 | Radiation<br>(03CH01-KS) |
| AC Power Source           | Chroma       | 61601     | F1040900<br>04 | N/A             | NCR              | Sep. 13, 2014 | NCR           | Radiation<br>(03CH01-KS) |
| Turn Table                | MF           | MF7802    | N/A            | 0~360 degree    | NCR              | Sep. 13, 2014 | NCR           | Radiation<br>(03CH01-KS) |
| Antenna Mast              | MF           | MF7802    | N/A            | 1 m~4 m         | NCR              | Sep. 13, 2014 | NCR           | Radiation<br>(03CH01-KS) |

## 5 Uncertainty of Evaluation

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.5 |
|-------------------------------------------------------------------------|-----|



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

## Product Equality Declaration

(Declaration of equality of a product variant with a previously assessed original product. To be signed in the name of the company that is responsible for the product variant)

We, **BYD Precision Manufacture CO., LTD**, declare on our sole responsibility for the product --  
*Model Name: T01C003 (FCC ID: E2K-T01C003)* as below:

The main differences conducted to 2nd source are:

1. Add 2nd source of Adapter , P/N: LA10EUNM130 & LA10USNM130
2. Add 2nd source of DDR3, P/N: 11143382-00 & 11212957-00
3. Add 2nd source of EMMC, P/N: 11147188-00 & 11169784-00
4. Add 2nd source of LCD, P/N: 11218030-00 & 11170378-00 & 11218117-00
5. SW differences as below:

Change from YTP802A110830 to Venue7 3740\_V1.84\_140916-NoModem

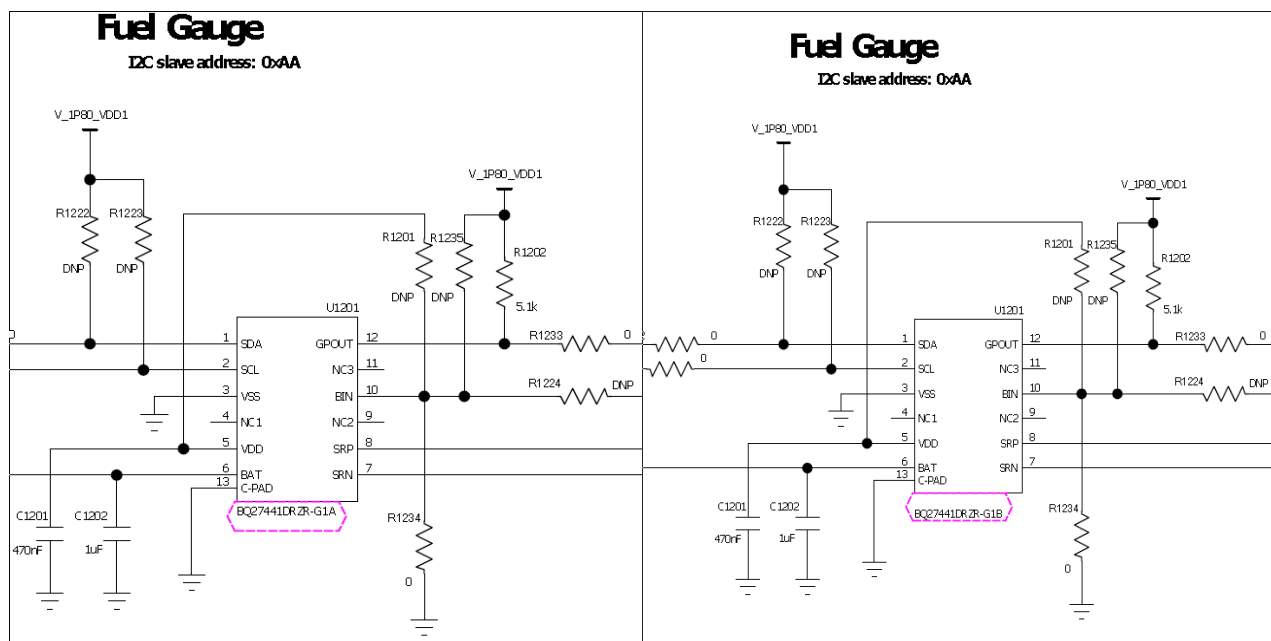
6. HW differences as below:

1. Fuel Gauge IC upgrade from BQ27441DRZR-G 1A to BQ27441DRZR-G1B.

SCH location:

P708-B1-BOT

B2



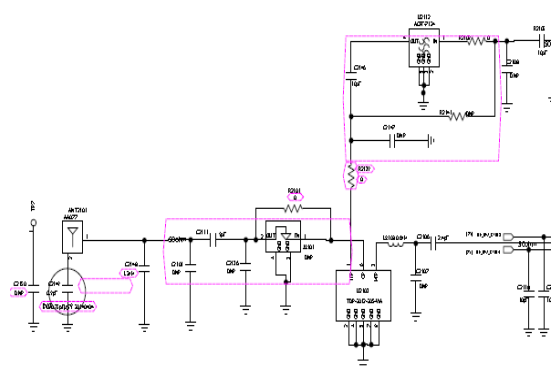
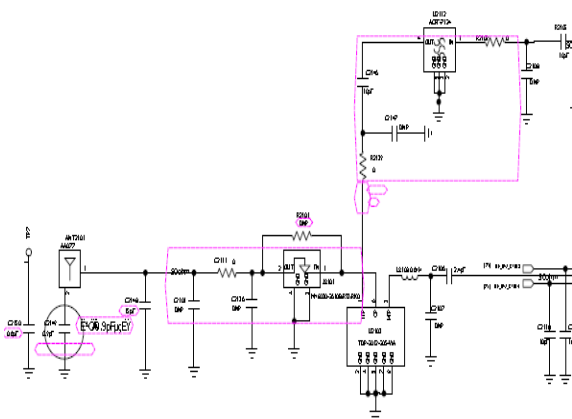
## 2. BT/WIFI antenna matching optimization.

C2149 change from 0402 0.75 PF to 0402 0.9 PF;  
C2150 change from 0402 0.5 PF to 0402 DNP;  
C2148 change from 0402 9 PF to 0402 1.2NH;  
J2101 change from MM8030-2610B/RJ3/RK0 to DNP;  
R2101 change from DNP to 0201 0R.

SCH location:

**P708-B1-BOT**

**B2**



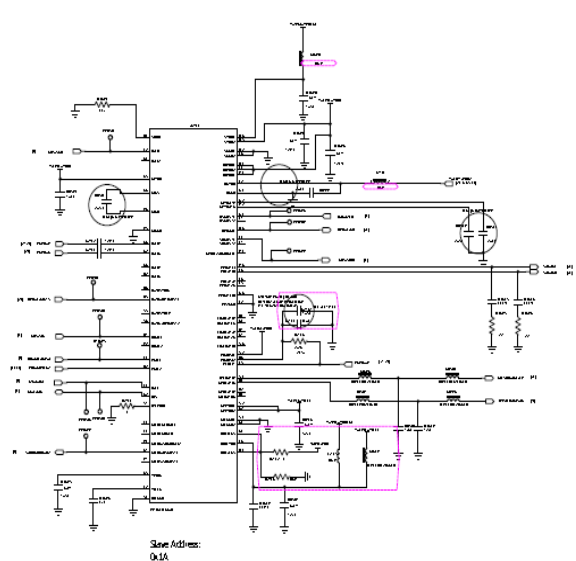
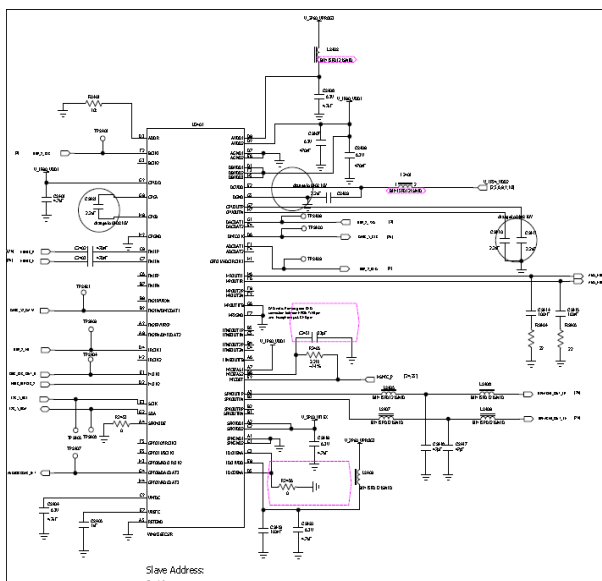
## 3. Optimization of audio circuit.

Add R2457 0R 0201 L2410;  
Delete R2456, L2401, L2402, L2409.

SCH location:

**P708-B1-BOT**

**B2**

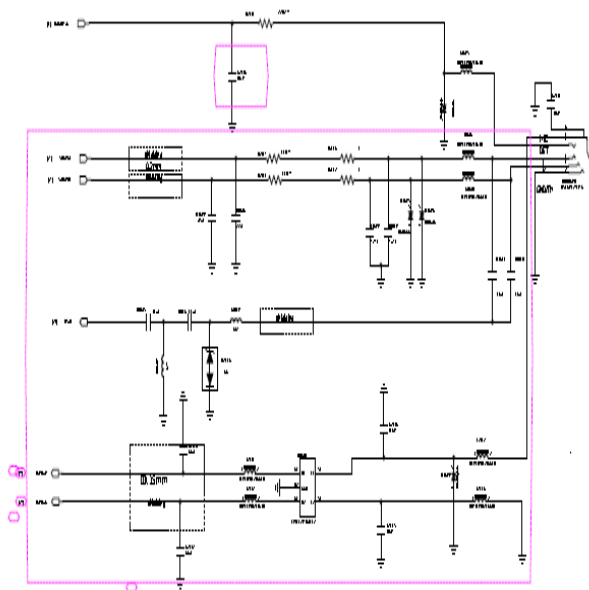


#### 4. Optimization Headset interface circuit.

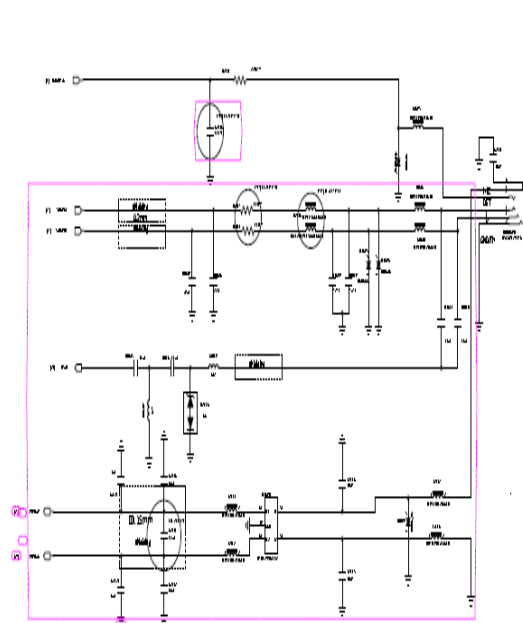
Add C2452 4.7uF 0402;  
 R2506 change from 0R 0402 to BLM15AG601SN1D;  
 R2507 change from 0R 0402 to BLM15AG601SN1D;  
 C2506 change from 0201 DNP to 0201 100nF;  
 R2504 change from 10R 0201 to 33R 0201;  
 R2505 change from 10R 0201 to 33R 0201;  
 Add C2515 33pF 0201.

SCH location:

**P708-B1-BOT**



**B2**

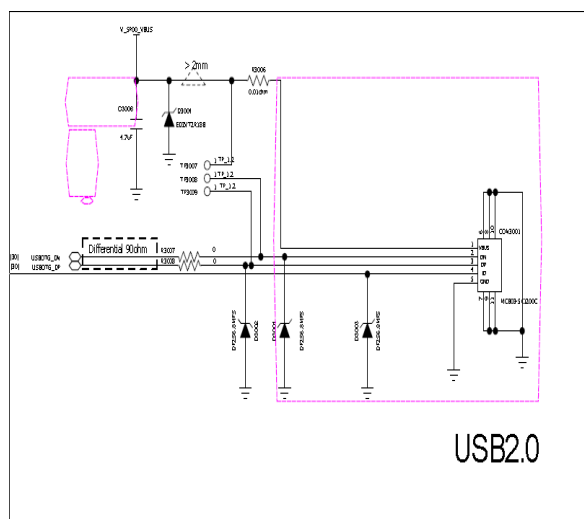


#### 5. Replacing the USB connector.

Connector changed from CON3001 MCB03-5K1200C to 3FU005S-7W200CR007.

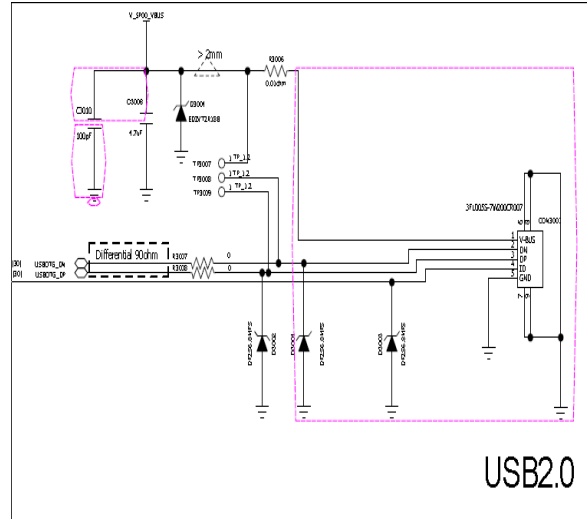
SCH location:

**P708-B1-BOT**



USB2.0

**B2**



USB2.0



E-Mail: tao.zeli@byd.com.