



Variant FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : CDMA/LTE Digital Mobile Handset
BRAND NAME : ZTE
MODEL NAME : ZTE FLASH 4G LTE
FCC ID : Q78-ZTEN9500
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Nov. 01, 2012 and completely tested on Jan. 11, 2013. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
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SUMMARY OF TEST RESULT

| Report Section | FCC Rule | IC Rule | Description | Limit | Result | Remark |
|----------------|-----------|-----------------|--|--------------------------|--------|---|
| 3.1 | 15.247(d) | RSS-210 A8.5 | Radiated Band Edges and Spurious Emission | 15.209(a) & 15.247(d) | Pass | Under limit 3.86 dB at 2483.500 MHz |



1 General Description

1.1 Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.2 Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.3 Feature of Equipment Under Test

| Product Feature | |
|---------------------------------|---|
| Equipment | CDMA/LTE Digital Mobile Handset |
| Brand Name | ZTE |
| Model Name | ZTE FLASH 4G LTE |
| FCC ID | Q78-ZTEN9500 |
| EUT supports Radios application | CDMA/EV-DO/LTE/WLAN 11bgn/Bluetooth/Bluetooth4.0 – LE/NFC |
| HW Version | c7zB |
| SW Version | N9500V1.0.0B13 |
| EUT Stage | Identical Prototype |

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 Frequency Range | 2402 MHz ~ 2480 MHz |
| Number of Channels | 40 |
| Carrier Frequency of Each Channel | 2402+n*2 MHz; n=0~39 |
| Maximum Output Power to Antenna | Bluetooth v4.0 - LE : 1.94 dBm (0.0016 W) |
| Antenna Type | PIFA Antenna with gain 0 dBi |
| Type of Modulation | Bluetooth v4.0 - LE : GFSK |

1.5 Testing Site

| | | | |
|---------------------------|--|-----------|--------------------------------|
| 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 FAX: +86-0512-5790-0958 | | |
| Test Site No. | Sporton Site No. | | FCC/IC Registration No. |
| | TH01-KS | 03CH01-KS | 149928/4086E-1 |

1.6 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 v02
- ♦ ANSI C63.4-2003 and ANSI C63.10-2009
- ♦ IC RSS-210 Issue 8
- ♦ IC RSS-Gen Issue 3
- ♦ NOTICE 2012-DRS0126

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.
3. Per the section 2.2.3 of Notice of 2012-DRS0126, "Receivers Excluded from Industry Canada Requirements", only radio communication receivers operating in stand-alone mode within the band 30-960 MHz and scanner receivers are subject to Industry Canada requirements.

2 Test Configuration of Equipment Under Test

2.1 Descriptions of Test Mode

The RF output power was recorded in the following table:

| Channel | Frequency | Bluetooth 4.0 – LE RF Output Power | |
|---------|-----------|------------------------------------|-----|
| | | Data Rate / Modulation | |
| | | GFSK | |
| | | 1Mbps | |
| Ch00 | 2402MHz | 1.94 | dBm |
| Ch19 | 2440MHz | 1.64 | dBm |
| Ch39 | 2480MHz | 1.69 | dBm |

- a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction (150 KHz to 30 MHz), radiation (9 KHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). Pre-scanned tests, X, Y, Z in three orthogonal panels to determine the final configuration (Y plane as worst plane) from all possible combinations.

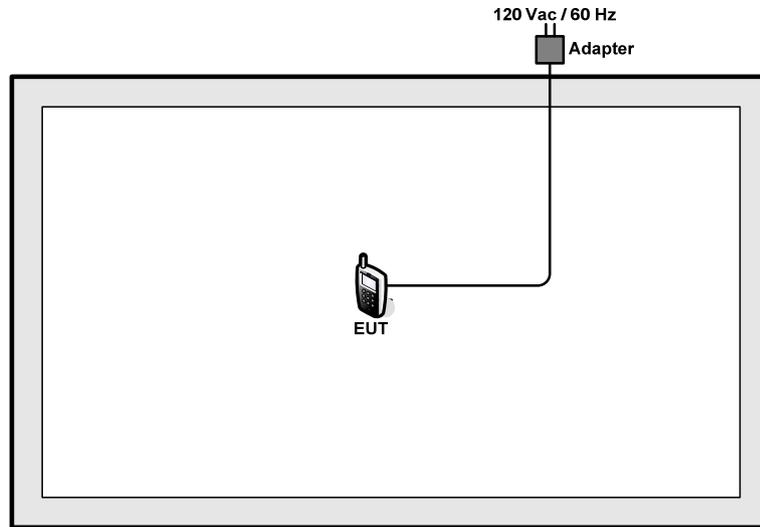


2.2 Test Mode

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 |
| | Bluetooth 4.0 – LE / GFSK |
| Conducted Power TCs | Mode 1: Bluetooth Tx CH00_2402 MHz_1Mbps |
| | Mode 2: Bluetooth Tx CH19_2440 MHz_1Mbps |
| | Mode 3: Bluetooth Tx CH39_2480 MHz_1Mbps |
| Radiated TCs | Mode 1: Bluetooth Tx CH00_2402 MHz_1Mbps |

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. | DC Power Supply | GWINSTEK | GPS-3030D | N/A | N/A | Unshielded, 1.8 m |

2.5 Description of RF Function Operation Test Setup

For Bluetooth function, programmed RF utility, "ADB" installed in the PC make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.



2.6 Measurement Results Explanation Example

For conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and 10dB attenuator between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and 10dB attenuator factor.

Offset = RF cable loss + attenuator factor.

Following table shows an offset computation example with cable loss 4.2 dB.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 4.2 + 10 = 14.2 \text{ (dB)} \end{aligned}$$

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. 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 and ANSI C63.4-2003 test site requirement.
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(us) | 1/T(KHz) | VBW Setting |
|--------------------|---------------|-------|----------|-------------|
| Bluetooth 4.0 - LE | 66.88 | 0.42 | 2.38 | 3KHz |

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



Marker-Delta method :

- (1) Set RBW = 1 MHz, VBW = 3 MHz, peak detector.

Repeat the measurement with an average detector, use RBW = 1MHz

VBW = 10 Hz, when duty cycle is no less than 98 percent.

VBW \geq 1/T, when duty cycle is less than 98 percent

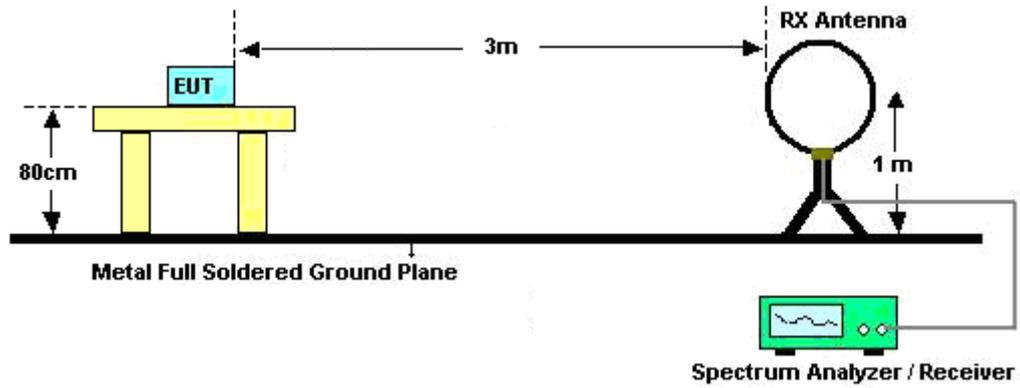
- (2) Set span = 10MHz, that encompasses both the peak of the fundamental emission and the band-edge emission under investigation. Set RBW = 100KHz, 1% of the total span. Set VBW = 100KHz \geq RBW.

- (3) Subtract the delta measured in step (2) from the field strengths measured in step (1).

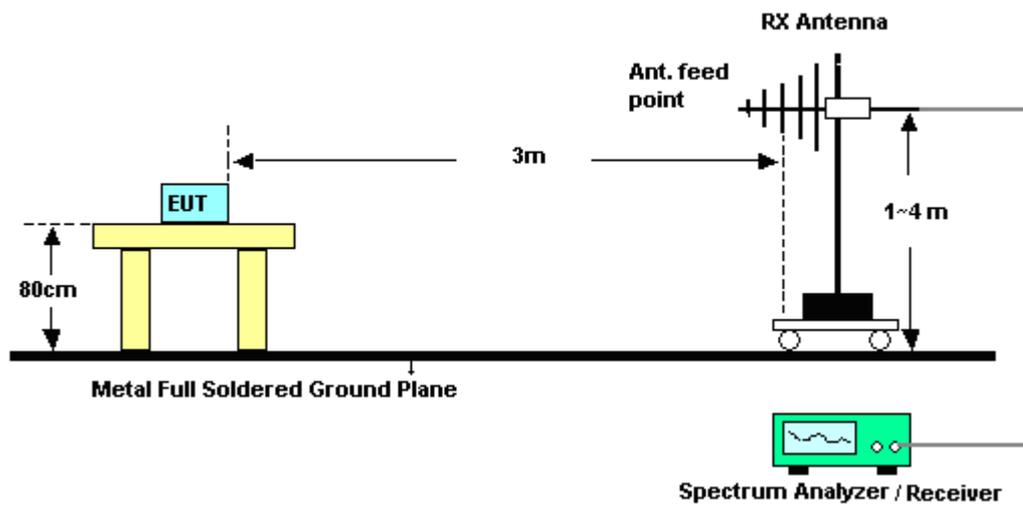
The resultant field strengths (peak/average) are then used to determine band-edge compliance as required by Section 15.205.

3.1.4 Test Setup

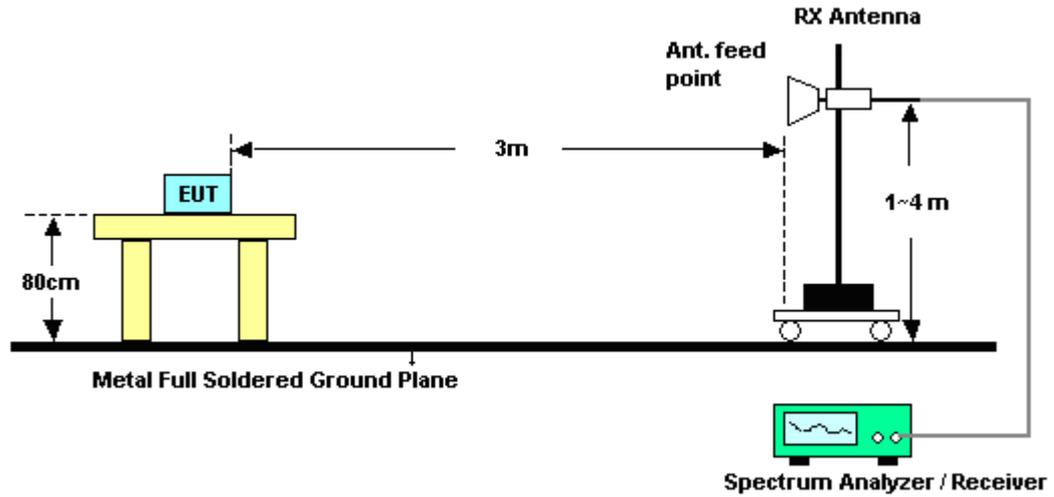
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.1.5 Test Results of Radiated Emissions (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 Test Result of Radiated Band Edges

| | | | |
|-----------------------|--------|----------------------------|------------|
| Test Mode : | Mode 1 | Temperature : | 23~25°C |
| Test Channel : | 00 | Relative Humidity : | 42~43% |
| | | Test Engineer : | Steven Hao |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency (MHz) | Level (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
| 2386.59 | 49 | -25 | 74 | 45.54 | 32.86 | 2.11 | 31.51 | 100 | 112 | Peak |
| 2386.86 | 36.91 | -17.09 | 54 | 33.45 | 32.86 | 2.11 | 31.51 | 100 | 98 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency (MHz) | Level (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
| 2385.24 | 49.14 | -24.86 | 74 | 45.73 | 32.83 | 2.09 | 31.51 | 100 | 155 | Peak |
| 2388.03 | 37.04 | -16.96 | 54 | 33.58 | 32.86 | 2.11 | 31.51 | 100 | 116 | Average |



| | | | |
|-----------------------|--------|----------------------------|------------|
| Test Mode : | Mode 3 | Temperature : | 23~25°C |
| Test Channel : | 39 | Relative Humidity : | 42~43% |
| | | Test Engineer : | Steven Hao |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency (MHz) | Level (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
| 2483.5 | 55.71 | -18.29 | 74 | 52.05 | 33.01 | 2.16 | 31.51 | 188 | 49 | Peak |
| 2483.5 | 51.96 | -2.04 | 54 | 48.3 | 33.01 | 2.16 | 31.51 | 188 | 49 | Average |
| 2483.5 | 40.31 | -33.69 | 74 | - | - | - | - | - | - | Peak |
| 2483.5 | 39.34 | -14.66 | 54 | - | - | - | - | - | - | Average |

Summary results of marker-delta method:

| Test mode | Maximum field strength of the fundamental emission (dBµV/m) | Delta Result (dB) | Measurement Result (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Result |
|-----------|---|-------------------------|-----------------------------------|-------------------|----------------|--------|
| Peak | 95.78 | 55.47 | 40.31 | 74 | -33.69 | Pass |
| Average | 94.81 | 55.47 | 39.34 | 54 | -14.66 | Pass |

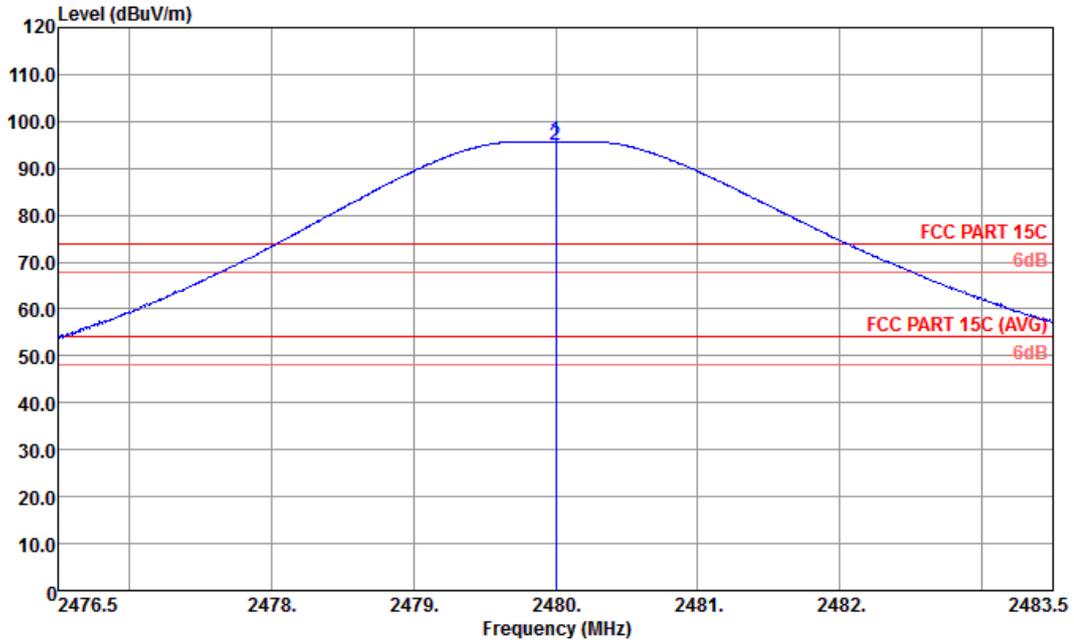
Note: Measurement result = Maximum field strength – Delta result

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency (MHz) | Level (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
| 2483.5 | 54.63 | -19.37 | 74 | 50.97 | 33.01 | 2.16 | 31.51 | 192 | 76 | Peak |
| 2483.5 | 50.14 | -3.86 | 54 | 46.48 | 33.01 | 2.16 | 31.51 | 192 | 76 | Average |

Summary results of marker-delta method:



| | | | |
|-----------------|------------|---------------------|------------|
| Test Mode : | Mode 3 | Temperature : | 23~25°C |
| Test Channel : | 39 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Horizontal |



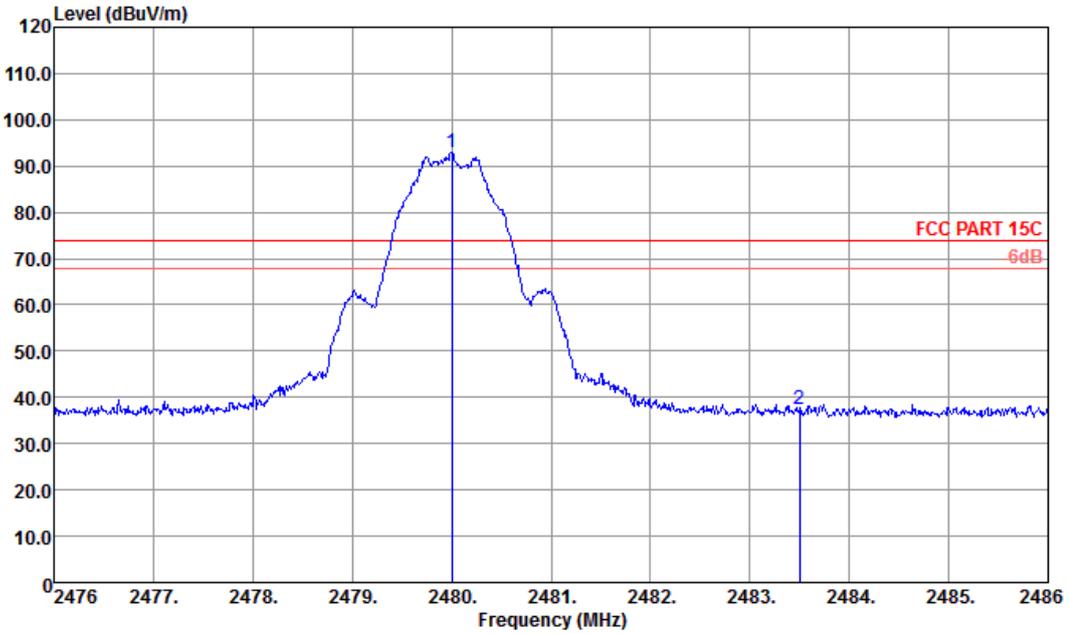
Site : 03CH01-KS
 Condition : FCC PART 15C 3m HF ANT-100803 HORIZONTAL

| | Freq | Level | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | A/Pos | T/Pos | Remark |
|-----|---------|--------|------------|------------|-------------------|----------------|------------|---------------|-------|-------|---------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 * | 2480.00 | 95.78 | 21.78 | 74.00 | 92.12 | 33.01 | 2.16 | 31.51 | 189 | 49 | Peak |
| 2 * | 2480.00 | 94.81 | 40.81 | 54.00 | 91.15 | 33.01 | 2.16 | 31.51 | 189 | 49 | Average |

* Maximum field strength of the fundamental emission



| | | | |
|-----------------|------------|---------------------|------------|
| Test Mode : | Mode 3 | Temperature : | 23~25°C |
| Test Channel : | 39 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Horizontal |



Site : 03CH01-KS
 Condition : FCC PART 15C 3m HF ANT-100803 HORIZONTAL

| | Freq | Level | Over | Limit | ReadAntenna | Cable | Preamp | A/Pos | I/Pos | Remark |
|-----|---------|--------|--------|--------|-------------|-------|--------|-------|-------|----------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg |
| 1 * | 2480.00 | 93.05 | 19.05 | 74.00 | 89.39 | 33.01 | 2.16 | 31.51 | 187 | 356 Peak |
| 2 | 2483.50 | 37.58 | -36.42 | 74.00 | 33.92 | 33.01 | 2.16 | 31.51 | 187 | 356 Peak |

* Marker-Delta Method (RBW/VBW=100KHz): 55.47 dB , single carrier Mode



3.1.7 Test Result of Radiated Emission (30 MHz ~ 10th Harmonic)

Note: Below 1GHz for radiated emission measurement, pre-scanned all test modes and only choose the worst case mode was recorded in the report.

| | | | |
|------------------------|--|----------------------------|------------|
| Test Mode : | Mode 1 | Temperature : | 23~25°C |
| Test Channel : | 00 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Horizontal |
| Remark : | 1. 2402 MHz is fundamental signal which can be ignored. 2. 2399 MHz and 7206 MHz are not within a restricted band, and their limit lines are 20dB below the highest emission level. For example, 94.01 dBuV/m - 20dB = 70.01 dBuV/m. 3. Average measurement was not performed if peak level went lower than the average limit. | | |

| Frequency (MHz) | Level (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
|-------------------|------------------|-------------------|-----------------------|---------------------|-----------------------|-------------------|----------------------|----------------|-------------------|---------|
| 33.211 | 22.39 | -17.61 | 40 | 39.94 | 16.04 | 0 | 33.59 | - | - | Peak |
| 129.015 | 23.76 | -19.74 | 43.5 | 45.64 | 11.71 | 0 | 33.59 | - | - | Peak |
| 357.929 | 24.75 | -21.25 | 46 | 43.43 | 14.67 | 0 | 33.35 | - | - | Peak |
| 423.54 | 25.3 | -20.7 | 46 | 42.42 | 16.14 | 0 | 33.26 | - | - | Peak |
| 875.247 | 33.28 | -12.72 | 46 | 45.38 | 20.48 | 0 | 32.58 | - | - | Peak |
| 955.438 | 35.15 | -10.85 | 46 | 46.83 | 20.76 | 0 | 32.44 | 100 | 22 | Peak |
| 2399 | 57.74 | -16.27 | 74.01 | 54.28 | 32.86 | 2.11 | 31.51 | 100 | 115 | Peak |
| 2402 | 94.01 | - | - | 90.55 | 32.86 | 2.11 | 31.51 | 100 | 115 | Peak |
| 2402 | 91.72 | - | - | 88.26 | 32.86 | 2.11 | 31.51 | 100 | 115 | Average |
| 4804 | 49.87 | -24.13 | 74 | 43.16 | 35.17 | 3.08 | 31.54 | 100 | 264 | Peak |
| 7206 | 49.78 | -24.23 | 74.01 | 41.34 | 36.16 | 3.24 | 30.96 | 120 | 168 | Peak |



| | | | |
|------------------------|---|----------------------------|----------|
| Test Mode : | Mode 1 | Temperature : | 23~25°C |
| Test Channel : | 00 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Vertical |
| Remark : | 1. 2402 MHz is fundamental signal which can be ignored. 2. 2399 MHz and 7206 MHz are not within a restricted band, and their limit lines are 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. | | |

| Frequency (MHz) | Level (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 37.155 | 27.8 | -12.2 | 40 | 47.23 | 14.19 | 0 | 33.62 | - | - | Peak |
| 97.115 | 23.15 | -20.35 | 43.5 | 46.74 | 10.03 | 0 | 33.62 | - | - | Peak |
| 129.015 | 25.18 | -18.32 | 43.5 | 47.06 | 11.71 | 0 | 33.59 | - | - | Peak |
| 460.727 | 26.29 | -19.71 | 46 | 43.03 | 16.45 | 0 | 33.19 | - | - | Peak |
| 878.322 | 34.98 | -11.02 | 46 | 47.06 | 20.47 | 0 | 32.55 | - | - | Peak |
| 952.094 | 36.22 | -9.78 | 46 | 47.92 | 20.74 | 0 | 32.44 | 125 | 0 | Peak |
| 2399 | 56.08 | -16.33 | 72.41 | 52.62 | 32.86 | 2.11 | 31.51 | 100 | 0 | Peak |
| 2402 | 92.41 | - | - | 88.95 | 32.86 | 2.11 | 31.51 | 100 | 0 | Peak |
| 2402 | 90.01 | - | - | 86.55 | 32.86 | 2.11 | 31.51 | 100 | 0 | Average |
| 4804 | 49.4 | -24.6 | 74 | 42.69 | 35.17 | 3.08 | 31.54 | 100 | 236 | Peak |
| 7206 | 50.52 | -21.89 | 72.41 | 42.08 | 36.16 | 3.24 | 30.96 | 100 | 236 | Peak |



| | | | |
|------------------------|--|----------------------------|------------|
| Test Mode : | Mode 2 | Temperature : | 23~25°C |
| Test Channel : | 19 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Horizontal |
| Remark : | 1. 2440 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 (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2440 | 95.9 | - | - | 92.32 | 32.95 | 2.14 | 31.51 | 162 | 26 | Peak |
| 2440 | 94.99 | - | - | 91.41 | 32.95 | 2.14 | 31.51 | 162 | 26 | Average |
| 4880 | 48.52 | -25.48 | 74 | 41.74 | 35.18 | 3.12 | 31.52 | 112 | 154 | Peak |
| 7320 | 50.48 | -23.52 | 74 | 42 | 36.21 | 3.21 | 30.94 | 100 | 360 | Peak |

| | | | |
|------------------------|--|----------------------------|----------|
| Test Mode : | Mode 2 | Temperature : | 23~25°C |
| Test Channel : | 19 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Vertical |
| Remark : | 1. 2440 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 (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2440 | 93.5 | - | - | 89.92 | 32.95 | 2.14 | 31.51 | 133 | 80 | Peak |
| 2440 | 92.57 | - | - | 88.99 | 32.95 | 2.14 | 31.51 | 133 | 80 | Average |
| 4880 | 48.71 | -25.29 | 74 | 41.93 | 35.18 | 3.12 | 31.52 | 154 | 78 | Peak |
| 7320 | 49.98 | -24.02 | 74 | 41.5 | 36.21 | 3.21 | 30.94 | 125 | 48 | Peak |



| | | | |
|------------------------|--|----------------------------|------------|
| Test Mode : | Mode 3 | Temperature : | 23~25°C |
| Test Channel : | 39 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Horizontal |
| Remark : | 1. 2480 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 (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2480 | 95.65 | - | - | 91.99 | 33.01 | 2.16 | 31.51 | 191 | 24 | Peak |
| 2480 | 94.65 | - | - | 90.99 | 33.01 | 2.16 | 31.51 | 191 | 24 | Average |
| 4960 | 37.34 | -36.66 | 74 | 30.49 | 35.2 | 3.16 | 31.51 | 100 | 0 | Peak |
| 7440 | 39.85 | -34.15 | 74 | 31.32 | 36.27 | 3.18 | 30.92 | 124 | 58 | Peak |

| | | | |
|------------------------|--|----------------------------|----------|
| Test Mode : | Mode 3 | Temperature : | 23~25°C |
| Test Channel : | 39 | Relative Humidity : | 42~43% |
| Test Engineer : | Steven Hao | Polarization : | Vertical |
| Remark : | 1. 2480 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 (dBuV/m) | Over Limit (dB) | Limit Line (dBuV/m) | Read Level (dBuV) | Antenna Factor (dB) | Cable Loss (dB) | Preamp Factor (dB) | Ant Pos (cm) | Table Pos (deg) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2480 | 93.17 | - | - | 89.51 | 33.01 | 2.16 | 31.51 | 128 | 46 | Peak |
| 2480 | 92.43 | - | - | 88.77 | 33.01 | 2.16 | 31.51 | 128 | 46 | Average |
| 4960 | 37.16 | -36.84 | 74 | 30.31 | 35.2 | 3.16 | 31.51 | 102 | 324 | Peak |
| 7440 | 40.53 | -33.47 | 74 | 32 | 36.27 | 3.18 | 30.92 | 145 | 25 | Peak |



4 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---------------------------|--------------|-----------|------------|-----------------|------------------|---------------|---------------|-----------------------|
| Spectrum Analyzer | R&S | FSP40 | 100319 | 9kHz~40GHz | Dec. 29, 2012 | Dec. 31, 2012 | Dec. 28, 2013 | Conducted (TH01-KS) |
| Power Meter | Agilent | E4416A | MY45101555 | N/A | Aug. 22, 2012 | Dec. 31, 2012 | Aug. 21, 2013 | Conducted (TH01-KS) |
| Power Sensor | Agilent | E9327A | MY44421198 | N/A | Aug. 22, 2012 | Dec. 31, 2012 | Aug. 21, 2013 | Conducted (TH01-KS) |
| DC Power Supply | GWINSTEK | GPS-3030D | E1884515 | N/A | Aug. 22, 2012 | Dec. 31, 2012 | Aug. 21, 2013 | Conducted (TH01-KS) |
| Thermal Chamber | Ten Billion | TTC-B3S | TBN-960502 | N/A | Dec. 29, 2012 | Dec. 31, 2012 | Dec. 28, 2013 | Conducted (TH01-KS) |
| EMI Test Receiver | R&S | ESCI | 100534 | 9kHz~3GHz | Nov. 08, 2012 | Jan. 11, 2013 | Nov. 07, 2013 | Radiation (03CH01-KS) |
| Spectrum Analyzer | R&S | FSP30 | 100400 | 9kHz~30GHz | Jun. 01, 2012 | Jan. 11, 2013 | May 31, 2013 | Radiation (03CH01-KS) |
| Bilog Antenna | SCHAFFNER | CBL6112D | 23182 | 25MHz~2GHz | Dec. 07, 2012 | Jan. 11, 2013 | Dec. 06, 2013 | Radiation (03CH01-KS) |
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9 kHz~30 MHz | Jul. 03, 2012 | Jan. 11, 2013 | Jul. 02, 2014 | Radiation (03CH01-KS) |
| Double Ridge Horn Antenna | EMCO | 3117 | 00075959 | 1GHz~18GHz | Jan. 06, 2013 | Jan. 11, 2013 | Jan. 05, 2014 | Radiation (03CH01-KS) |
| Amplifier | com-power | PA-103A | 161069 | 1MHz~1GHz | Jun. 01, 2012 | Jan. 11, 2013 | May 31, 2013 | Radiation (03CH01-KS) |
| Amplifier | Agilent | 8449B | 3008A02370 | 1GHz~26.5GHz | Dec. 29, 2012 | Jan. 11, 2013 | Dec. 28, 2013 | Radiation (03CH01-KS) |
| Active Horn Antenna | com-power | AHA-118 | 701023 | 1GHz~18GHz | Nov. 07, 2012 | Jan. 11, 2013 | Nov. 06, 2013 | Radiation (03CH01-KS) |
| SHF-EHF Horn | Schwarzbeck | BBHA 9170 | 9170249 | 15GHz~40GHz | Nov. 23, 2012 | Jan. 11, 2013 | Nov. 22, 2013 | Radiation (03CH01-KS) |



5 Uncertainty of Evaluation

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 2.54 |
|---|------|

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 4.72 |
|---|------|



Appendix A. Photographs of EUT

Please refer to Sporton report number EP270201-03 as below.



Appendix C. Product Equality Declaration

ZTE CORPORATION**Product Change Description**

As the applicant of the below model, [ZTE Corporation] declares that the product,

[ZTE N9500]
[ZTE Corporation]

is the variant of the initial certified product,

[ZTE N9500]
[ZTE Corporation]
[Project Number: 12ZTE132]
FCC ID: Q78-ZTEN9500

SOFTWARE MODIFICATIONS:

Protocol Stack changes: NO
MMS/STK changes: NO
JAVA changes: NO
Other changes detailed: NO

HARDWARE MODIFICATION:

Band changes: NO
Power Amplifier changes: NO
Antenna changes: YES, new WIFI/Bluetooth antenna with higher gain (1dB up).
PCB Layout changes: NO
Components on PCB changes: Yes

A: Optimize PDN and change below filter capacitances from top layer to bottom.

VREG_S6_1P05: C271
VREG_L27_1P05: C238
VREG_L26_1P05: C279
VREG_L28_1P05: C242

B: Delete redundant components:

S4200, C4221, C4220, L4215, L4210, L4216, L4208, L5121, L5120, L5119, C5121, C5122, S5100, C5118.

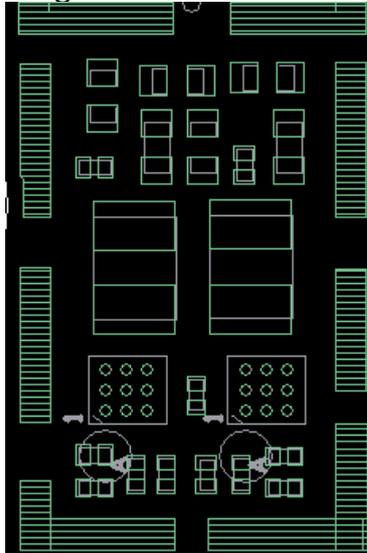
C: Component packaging updated:

L5101 now be packaged with 0402 instead of 0201.

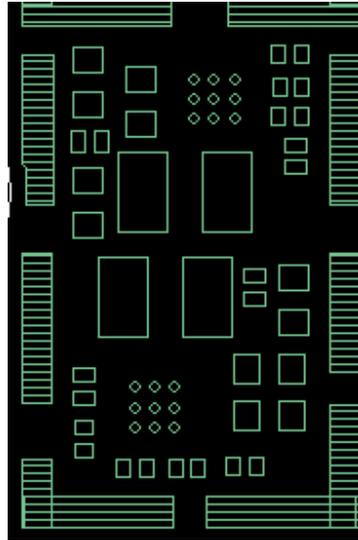
D: Optimize ADP components layout.

Please notice that only change components layout but PCB layout is same.

Original:



Now:



LCD changes: NO
Speaker changes: NO
Camera changes: NO
Vibrator changes: NO
Bluetooth changes: NO
FM changes: NO
Other changes: NO

MECHANICAL MODIFICATIONS:

Use new metal front/back cover or keypad: NO
Mechanical shell changes: NO
Other changes detailed: NO

ACCESSORY MODIFICATIONS:

Battery changes: NO
AC Adaptor changes: NO
Earphone changes: NO

Min Zhang

APPROVED BY: Min Zhang

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