

## TEST REPORT

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Report No.: SRTC2012-H024-E0018

Product Name: GSM Digital Mobile Phone

Product Model: ZTE-G S226

Applicant: ZTE Corporation

Manufacturer: ZTE Corporation

Specification: FCC Part15B (Verification)

(October 1, 2009 edition)

FCC ID: Q78-GS226

The State Radio\_monitoring\_center Testing Center (SRTC)

No.80 Beilishi Road Xicheng District Beijing, China

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## 1. General information

### 1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested.

### 1.2 Information about the testing laboratory

Company: The State Radio\_monitoring\_center Testing Center (SRTC)  
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City: Beijing  
Country or Region: China  
Contacted person: Wang Junfeng  
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Fax: +86 10 68009195 +86 10 68009205  
Email: wangjf@srrc.org.cn / wangjunfeng@srtc.org.cn

### 1.3 Applicant's details

Company: ZTE Corporation  
Address: ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, 518057  
City: Shenzhen  
Country or Region: P.R.China  
Grantee Code: Q78  
Contacted person: Min Zhang  
Tel: +86-021-68897541  
Fax: +86-021-50801070  
Email: zhang.min13@zte.com.cn

### 1.4 Manufacturer's details

Company: ZTE Corporation  
Address: Zhongxing Bldg, Hi-Tech Park, NanShan District, 518057  
City: Shenzhen  
Country or Region: P.R.China  
Contacted person: Li Dezi  
Tel: +86-021-68895196  
Fax: +86-021-50801070  
Email: li.dezi@zte.com.cn

## 1.5 Application details

Date of reception of test sample: 3<sup>rd</sup> Feb 2012

Date of test: 6<sup>th</sup> Feb 2012 to 16<sup>th</sup> Feb 2012

## 1.6 Reference specification

FCC Part 15B October 1, 2009 (Verification)

## 1.7 Information of EUT

### 1.7.1 General information

|                            |                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------|
| Name of EUT                | GSM Digital Mobile Phone                                                              |
| FCC ID                     | Q78-GS226                                                                             |
| Frequency range            | GSM850:<br>Tx:824~849MHz Rx:869~894MHz<br>PCS1900:<br>Tx:1850~1910MHz Rx:1930~1990MHz |
| Rated output power         | GSM850:33.0dBm<br>PCS1900:30.0dBm                                                     |
| E.R.P. & E.I.R.P.          | E.R.P.: 29.9dBm<br>E.I.R.P.: 26.3dBm                                                  |
| Modulation type            | GMSK                                                                                  |
| Emission Designator        | 300KGXW                                                                               |
| Duplex mode                | FDD                                                                                   |
| Equipment Class            | Class B                                                                               |
| Duplex spacing             | GSM850:45MHz<br>PCS1900:80MHz                                                         |
| Antenna type               | Fixed Integral                                                                        |
| Power Supply               | Battery or charger                                                                    |
| Rated Power Supply Voltage | 3.7V                                                                                  |
| Extreme Temperature        | Lowest: -30°C<br>Highest: +50°C                                                       |
| Extreme Voltage            | Minimum: 3.5V<br>Maximum: 4.2V                                                        |
| HW Version                 | GMAP                                                                                  |
| SW Version                 | ZTE-CN-QD-P120D10V0.0.1                                                               |

### 1.7.2 EUT details

| Name                     | Model      | IMEI            |
|--------------------------|------------|-----------------|
| GSM Digital Mobile Phone | ZTE-G S226 | 862781010002717 |

### 1.7.3 Auxiliary equipment details

AE (Auxiliary Equipment) 1#: Charger

|                |                    |
|----------------|--------------------|
| Equipment      | Charger            |
| Manufacturer   | ZTE CORPORATION    |
| Model Number   | STC-A22O50I200M5-C |
| Input Voltage  | 100V-240V a.c.     |
| Output Voltage | 5.0V d.c.          |
| Frequency      | 50/60Hz            |

AE (Auxiliary Equipment) 2#: Battery

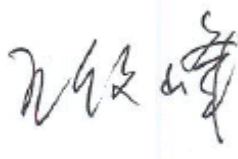
|               |                    |
|---------------|--------------------|
| Equipment     | Battery            |
| Manufacturer  | ZTE CORPORATION    |
| Model Number  | Li3706T42P3h383857 |
| Capacity      | 670mAh             |
| Rated Voltage | 3.7V d.c.          |

Note: All the auxiliary equipments have been labeled with number in order to identify the test sample.

## 2. Test information

### 2.1 Summary of the test results

| No. | Test case           | FCC reference | Verdict |
|-----|---------------------|---------------|---------|
| 1   | Conducted emissions | 15.107        | Pass    |
| 2   | Radiated emissions  | 15.109        | Pass    |

|                                                                                                                                                                          |                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>This Test Report Is Issued by:<br/>Mr. Song Qizhu<br/>Director of the test lab</p>  | <p>Checked by:<br/>Mr. Wang Junfeng<br/>Deputy director of the test lab</p>  |
| <p>Tested by:<br/>Mr. Dong Qifeng<br/>Test engineer</p>                               | <p>Issued date:</p> <p><b>2012.03.14</b></p>                                                                                                                    |

## 2.2 Test result

### 2.2.1 Conducted Emissions-FCC Part15.107

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 22°C        | 49.6%             | 99.7kPa  |

Test Setup:

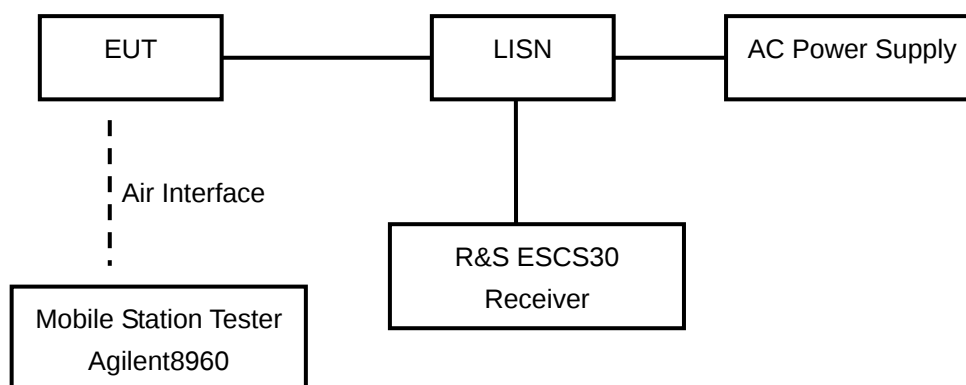


Figure 1

Test Procedure:

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT is connected with LISN via the charger. The LISN is connected to the reference ground. The accessories of the EUT are connected with the EUT such as headset etc. The test set-up and the test methods are performed according to ANSI C63.4:2009.

Then start the test software ES-K1. Sweep the whole frequency band through the range from 150 KHz to 30 MHz. The measurement should be done for both L line and N line. During pre-test, the receiver uses both peak detector and average detector. And the final test, the receiver uses both average detector and Quasi-peak detector.

The data of cable loss has been calibrated in full testing frequency range before the testing.

Limit:

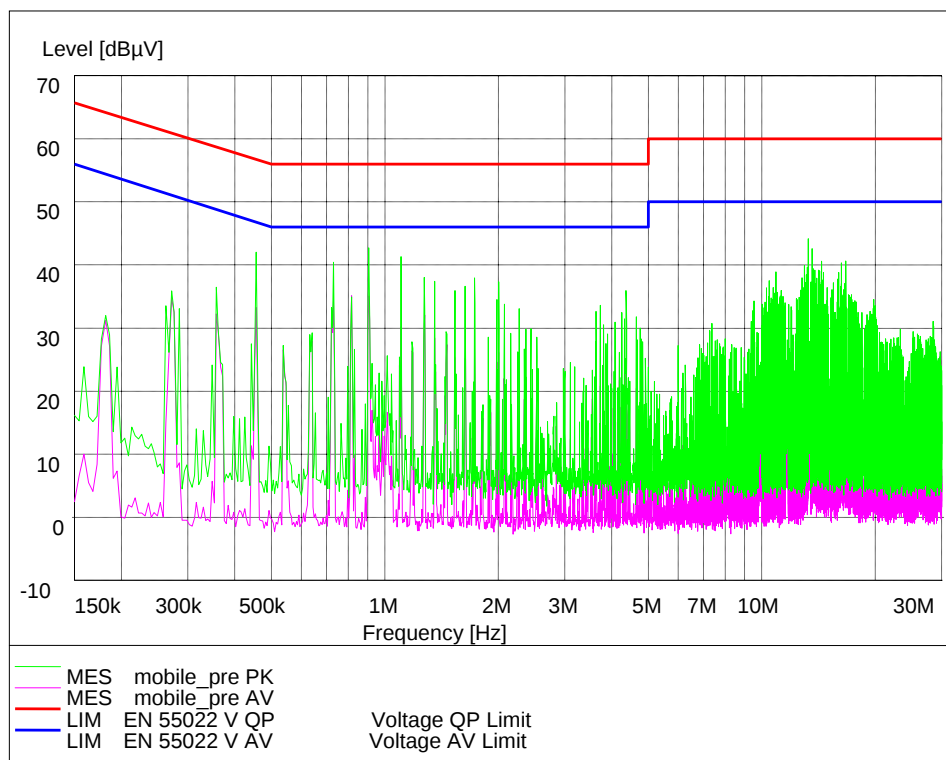
| Frequency of Emission(MHz) | Limits(dB $\mu$ V) |           |
|----------------------------|--------------------|-----------|
|                            | Quasi-peak         | Average   |
| 0.15~0.5                   | 66 to 56*          | 56 to 46* |
| 0.5~5                      | 56                 | 46        |
| 5~30                       | 60                 | 50        |

Note: \* Decreases with the logarithm of the frequency

Test result:

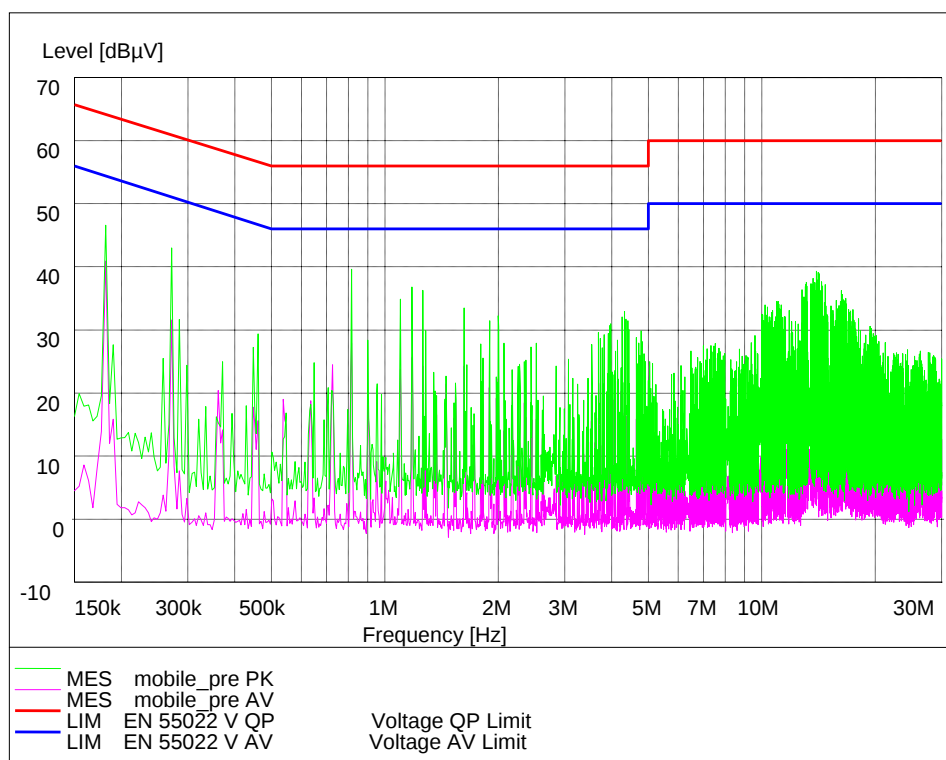
Refer to the following figures.

## GSM 850 AE1#+AE2#



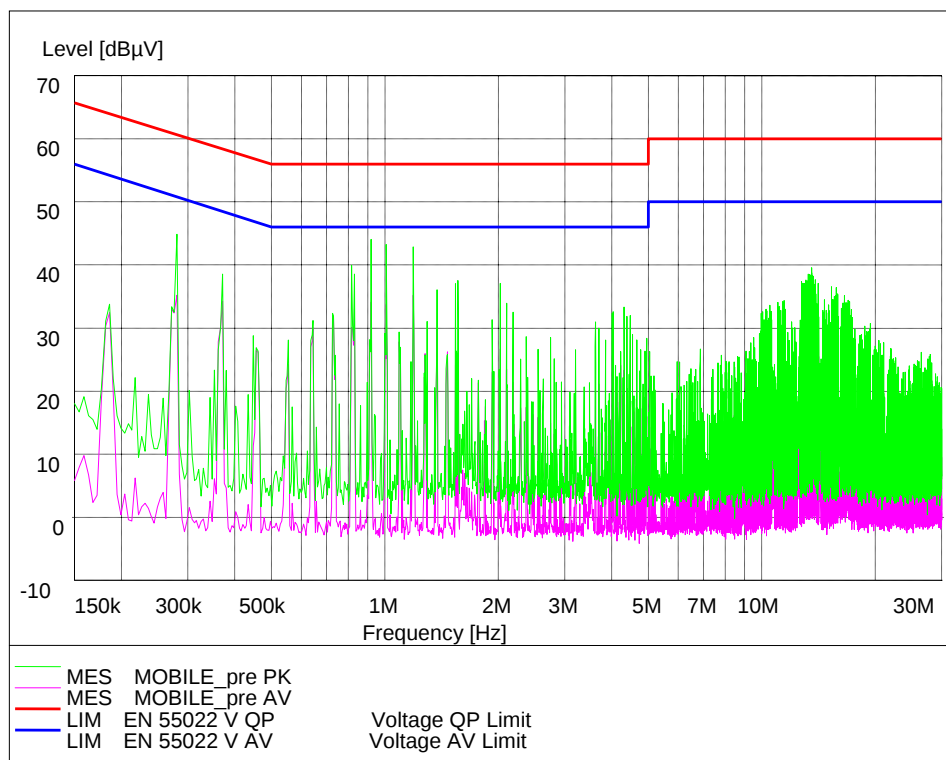
## L and N Line

## GSM 1900 AE1#+AE2#



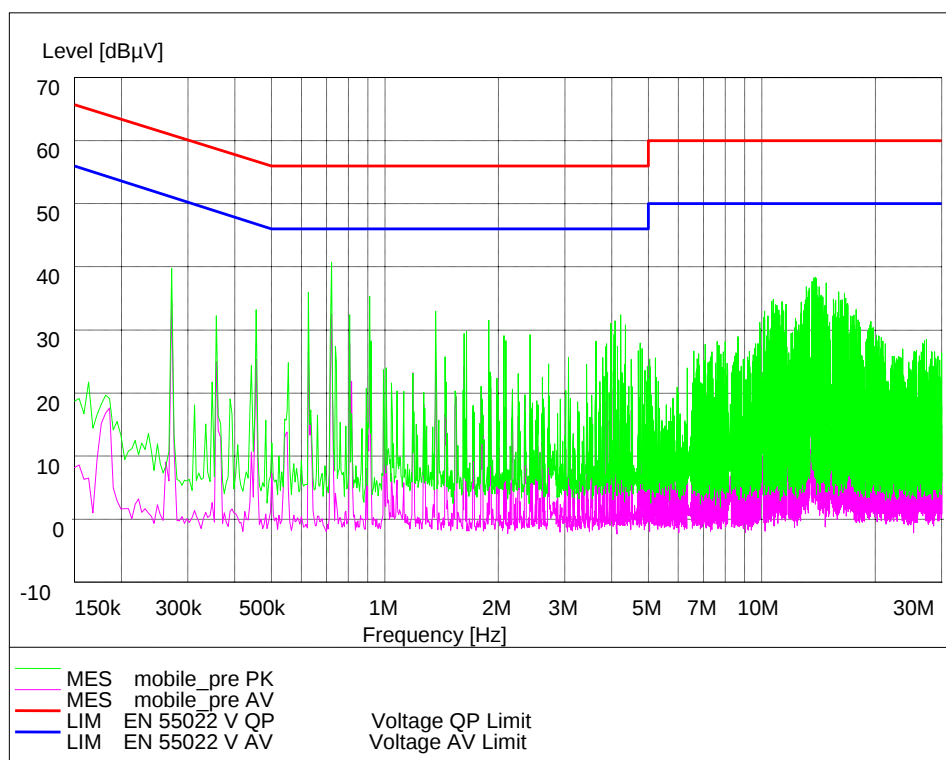
## L and N Line

## FM Radio AE1#+AE2#



## L and N Line

## MP3/MP4 AE1#+AE2#



## Land N Line

## 2.2.2 Radiated Emissions-FCC Part15.109

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 20.5°C      | 50.1%             | 99.8kPa  |

Test Setup:

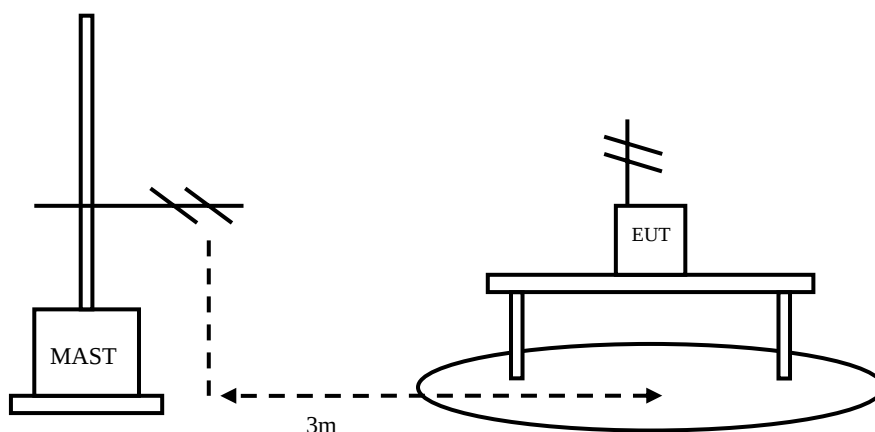


Figure 2

Test Procedure:

The EUT should be placed on a non-metallic table 80cm above the ground plane. The receive antennas shall be moved from 1 to 4 meters. The distance between EUT and receive antenna should be 3 meters.

The accessories of the EUT are connected with the EUT such as headset etc. The test set-up and the test methods are performed according to ANSI C63.4:2009.

Then start the test software ES-K1. Sweep the whole frequency band through the range from 30MHz to 1GHz, using receive log period antenna HL562.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna.

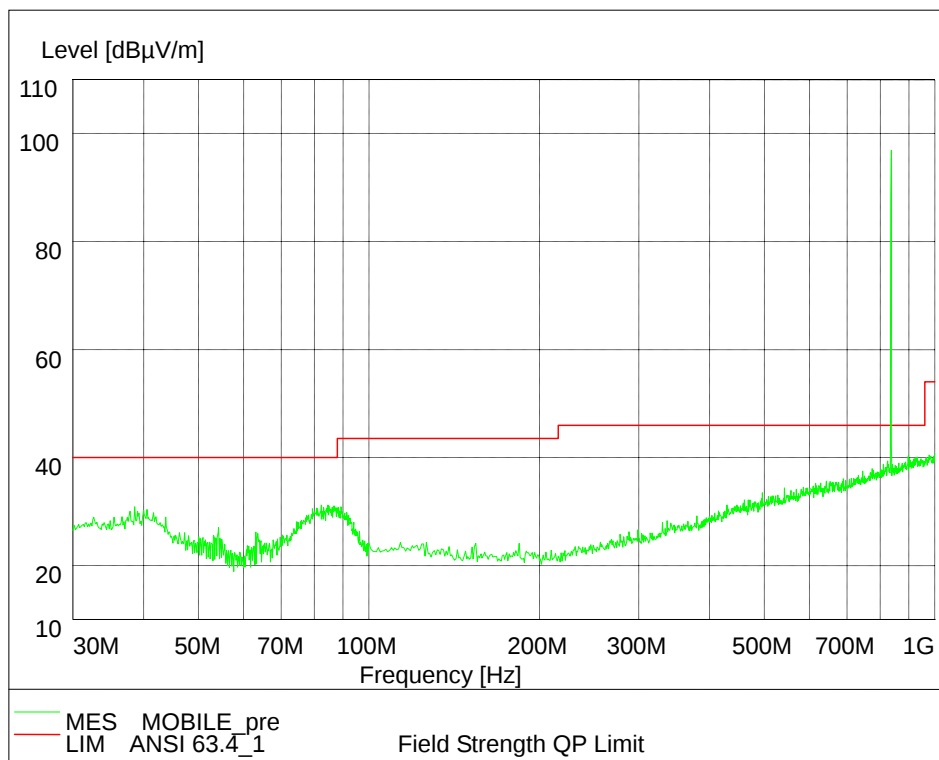
The data of cable loss and antenna factor have been calibrated in full testing frequency range before the testing.

Limit:

| Frequency of Emission(MHz)                                              | Limits     |                     |
|-------------------------------------------------------------------------|------------|---------------------|
|                                                                         | Detector   | Unit (dB $\mu$ V/m) |
| 30~88                                                                   | Quasi-peak | 40                  |
| 88~216                                                                  | Quasi-peak | 43.5                |
| 216~960                                                                 | Quasi-peak | 46                  |
| 960~1000                                                                | Quasi-peak | 54                  |
| 1000~5th harmonic of the highest frequency or 40GHz, whichever is lower | Average    | 54                  |
|                                                                         | Peak       | 74                  |

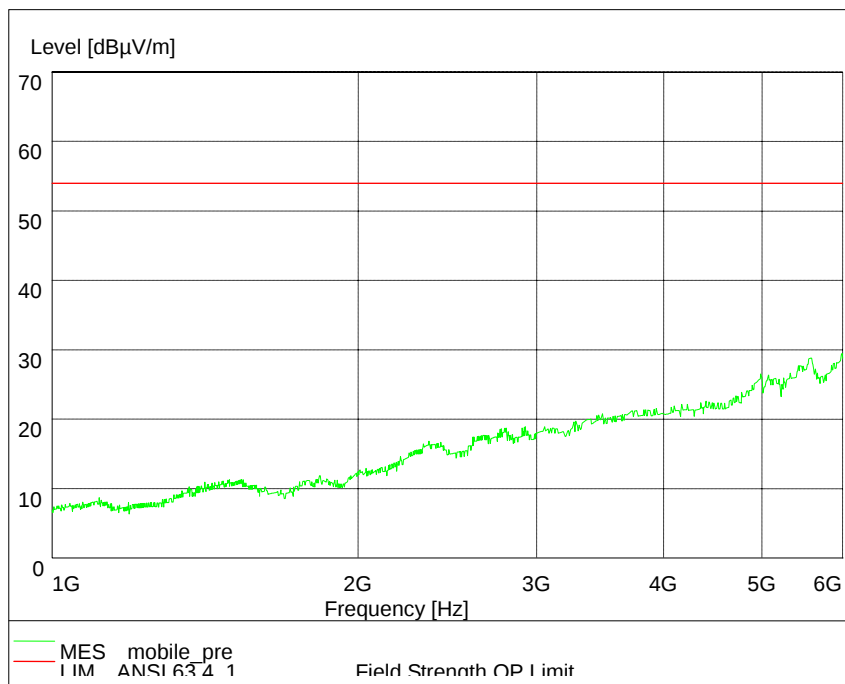
Test result:

AE1#+AE2#



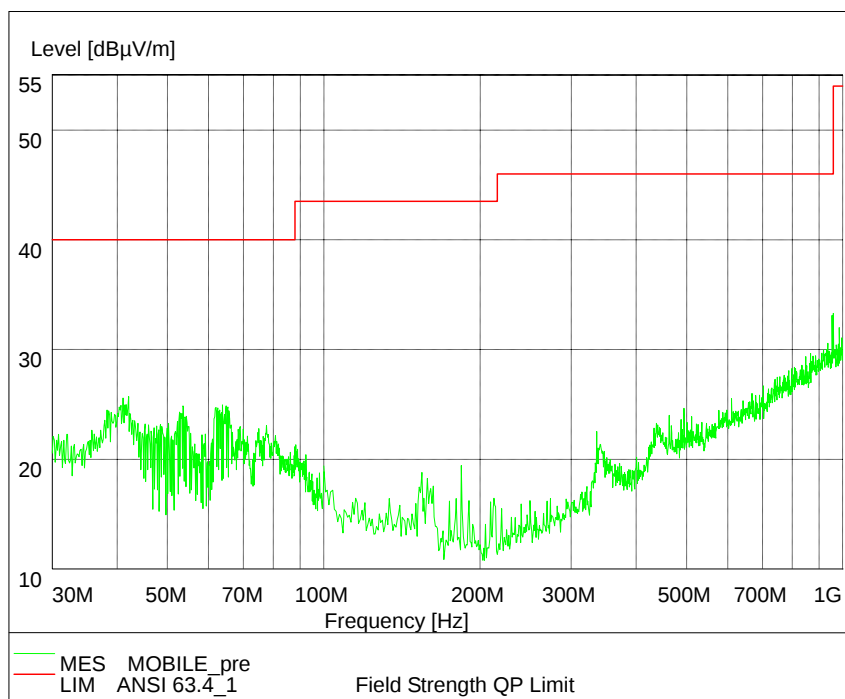
GSM 850(30MHz – 1GHz)

Note: The signal beyond the limit is the base station simulator carrier.

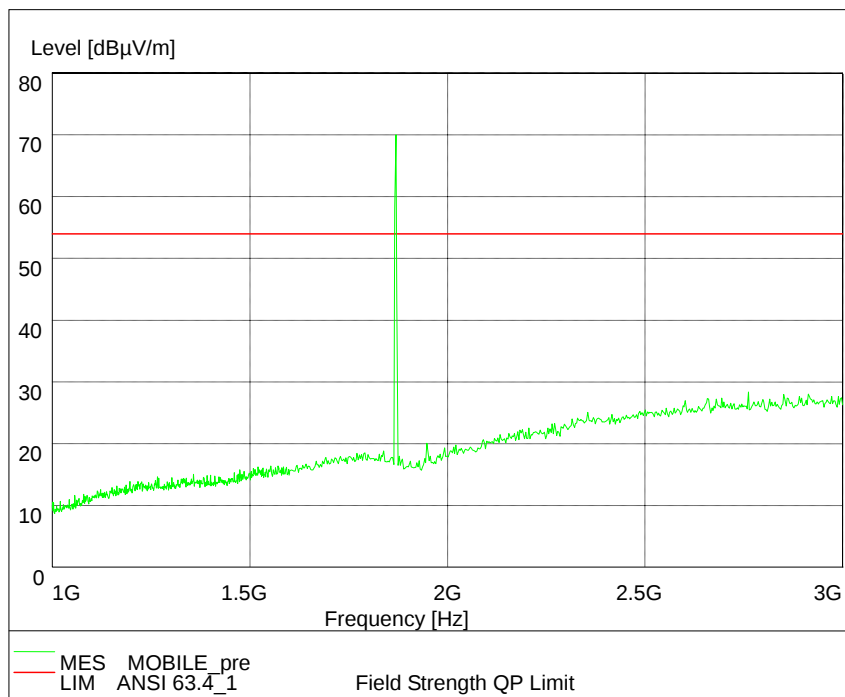


GSM 850(1GHz – 6GHz)

AE1#+AE2#

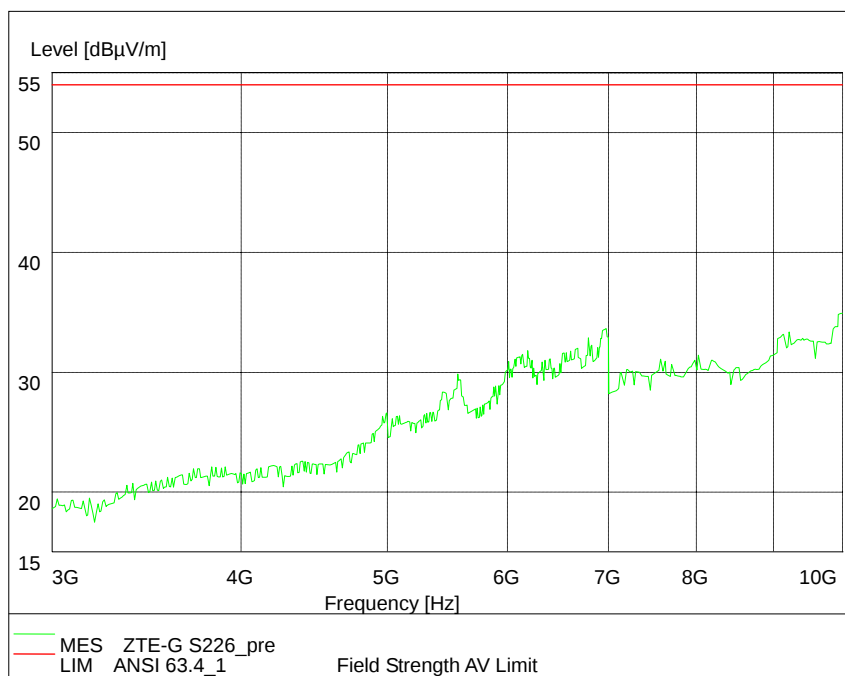


PCS 1900(30MHz – 1GHz)



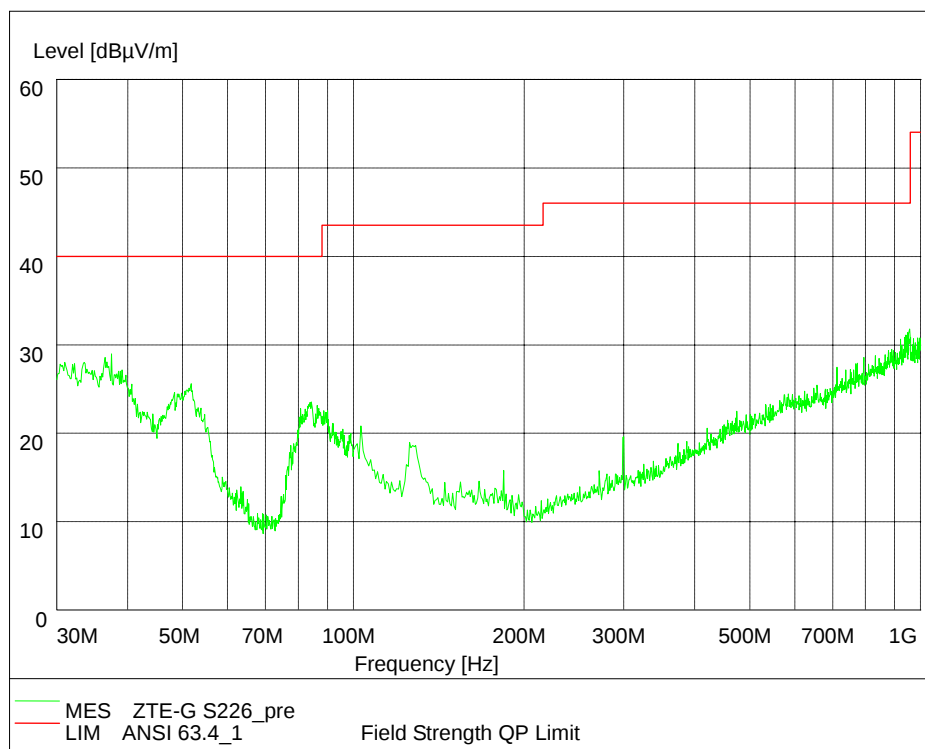
### PCS 1900(1GHz – 3GHz )

Note: The signals beyond the limit are the base station and simulator carrier.

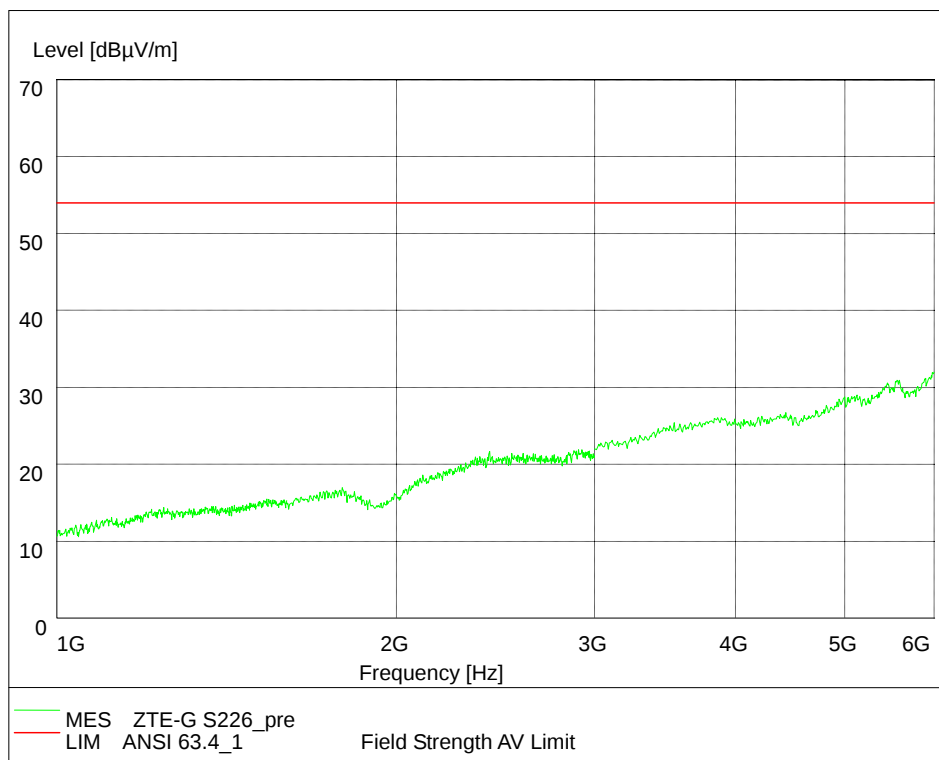


### PCS 1900(3GHz – 10GHz )

AE1#+AE2#

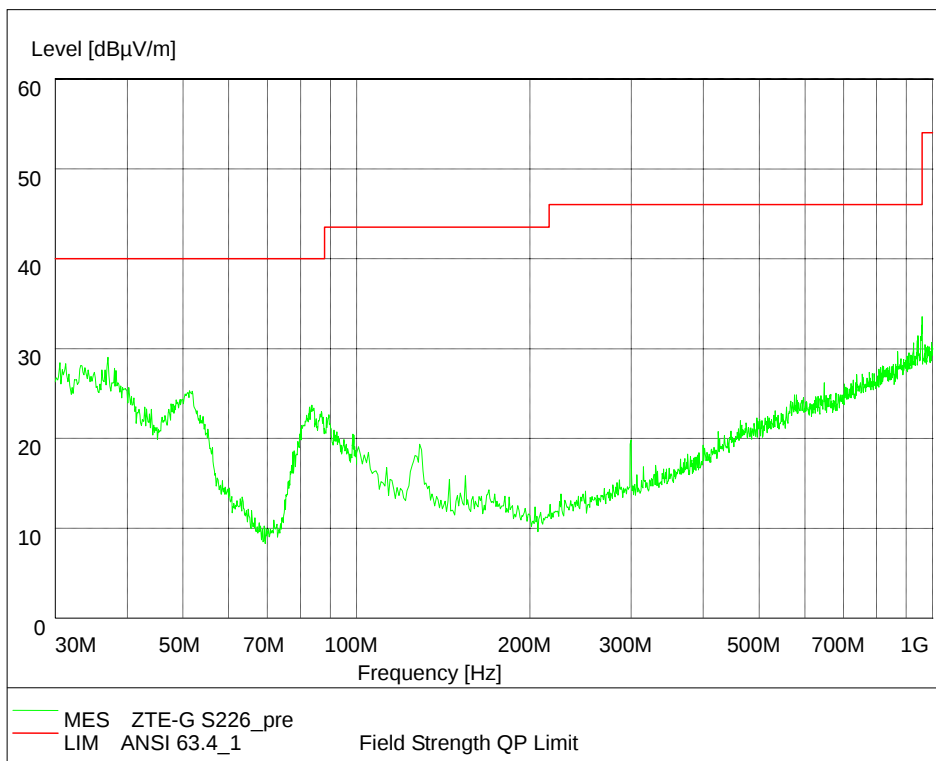


FM Radio (30MHz – 1GHz )

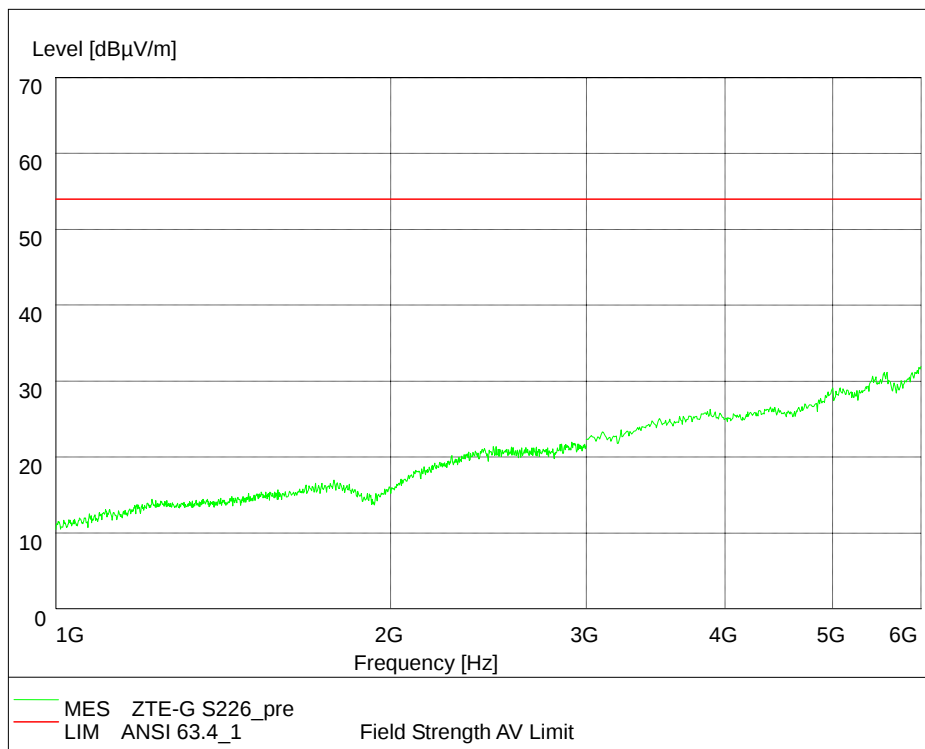


FM Radio (1GHz – 6GHz)

AE1#+AE2#



MP3/MP4 (30MHz – 1GHz)



MP3/MP4 (1GHz – 6GHz)

### 2.3. List of test equipments

| No. | Name/Model                                  | Manufacturer | S/N         | Calibration Due Date       |
|-----|---------------------------------------------|--------------|-------------|----------------------------|
| 1   | 23.18m×16.88m×9.60m Semi-Anechoic Chamber   | FRANKONIA    | -----       | 19 <sup>th</sup> Aug. 2012 |
| 2   | ESI 40 EMI test receiver                    | R&S          | 100015      | 19 <sup>th</sup> Aug. 2012 |
| 3   | E5515C(8960) Mobile Station Tester          | Agilent      | GB44050904  | 19 <sup>th</sup> Aug. 2012 |
| 4   | 9.080m×5.255m×3.525m Shielding room         | FRANKONIA    | -----       | 19 <sup>th</sup> Aug. 2012 |
| 5   | ESCS30 EMI test receiver                    | R&S          | 100029      | 19 <sup>th</sup> Aug. 2012 |
| 6   | HL562 Ultra log test antenna                | R&S          | 100016      | 19 <sup>th</sup> Aug. 2012 |
| 7   | ESH3-Z2 Pulse limiter                       | R&S          | 10002       | 19 <sup>th</sup> Aug. 2012 |
| 8   | ESH3-Z5 Attenuator                          | R&S          | 100020      | 19 <sup>th</sup> Aug. 2012 |
| 9   | ESH2Z11 LISN                                | R&S          | 50FH-020-10 | 19 <sup>th</sup> Aug. 2012 |
| 10  | HF 906 Double-Ridged Waveguide Horn Antenna | R&S          | 100030      | 19 <sup>th</sup> Aug. 2012 |
| 11  | HF 906 Double-Ridged Waveguide Horn Antenna | R&S          | 100029      | 19 <sup>th</sup> Aug. 2012 |
| 12  | PS2000 Turn Table                           | FRANKONIA    | -----       | 19 <sup>th</sup> Aug. 2012 |
| 13  | MA260 Antenna Master                        | FRANKONIA    | -----       | 19 <sup>th</sup> Aug. 2012 |
| 14  | ES-K1EMI test software                      | R&S          | -----       | 19 <sup>th</sup> Aug. 2012 |
| 15  | HL562 Receive antenna                       | R&S          | 100167      | 19 <sup>th</sup> Aug. 2012 |

## Appendix