FCC RF Test Report

APPLICANT	:	**ZTE CORPORATION**
EQUIPMENT	:	**CDMA2000 Single band (850M)**
BRAND NAME	:	**ZTE**
MODEL NAME	:	**AC2787_V3**
FCC ID	:	**Q78-AC2787V3**
STANDARD	:	**FCC 47 CFR Part 2, 22(H)**
CLASSIFICATION	:	**Transmitter Worn on Body (TNB)**

The product was received on Jun. 14, 2012 and completely tested on Jul. 12, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown 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

Jones Tsai / Manager

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG252204-01	Rev. 01	This is a variant report for AC2787_V3. The product equality declaration can be referred to Appendix C. All the test cases were performed in original report which can be referred to Sporton Report Number FG252204 for FCC ID: Q78-AC2787V2 as Appendix D. Based on original report, only the Conducted Power, ERP and Radiated Spurious Emissions were verified.	Jul. 16, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1046	N/A	Conducted Output Power	N/A	PASS	-
3.2	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
3.3	§2.1053 §22.917(a)	RSS-132 (4.5.1)	Field Strength of Spurious Radiation	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 43.12 dB at 5854.000 MHz

1 General Description

1.1 Applicant

ZTE CORPORATION

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

1.2 Manufacturer

ZTE CORPORATION

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

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	CDMA2000 Single band (850M)
Brand Name	ZTE
Model Name	AC2787_V3
FCC ID	Q78-AC2787V3
EUT supports Radios application	CDMA / EV-DO
HW Version	AC2787MB_B
SW Version	AC2787_MDM6085-1_LU8ADA24
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.

Product Specification subjective to this standard	
Tx Frequency	824.70 MHz ~ 848.31 MHz
Rx Frequency	869.70 MHz ~ 893.31 MHz
Maximum Output Power to Antenna	21.69 dBm
Antenna Type	PCB Antenna
Type of Modulation	QPSK

1.4 Maximum ERP

FCC Rule	System	Type of Modulation	Maximum ERP (W)
Part 22	CDMA2000 BC0 1xEV-DO Rev. A	QPSK	0.0687

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:

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- FCC 47 CFR Part 2, 22(H)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v01
- IC RSS-132 Issue 2

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.

1.7 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	VOSTRO1450	PPD-AR5B195	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m

2 Test Configuration of Equipment Under Test

2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.

Frequency range investigated for radiated emission is as follows:

1. 30 MHz to 9000 MHz for CDMA2000 BC0.

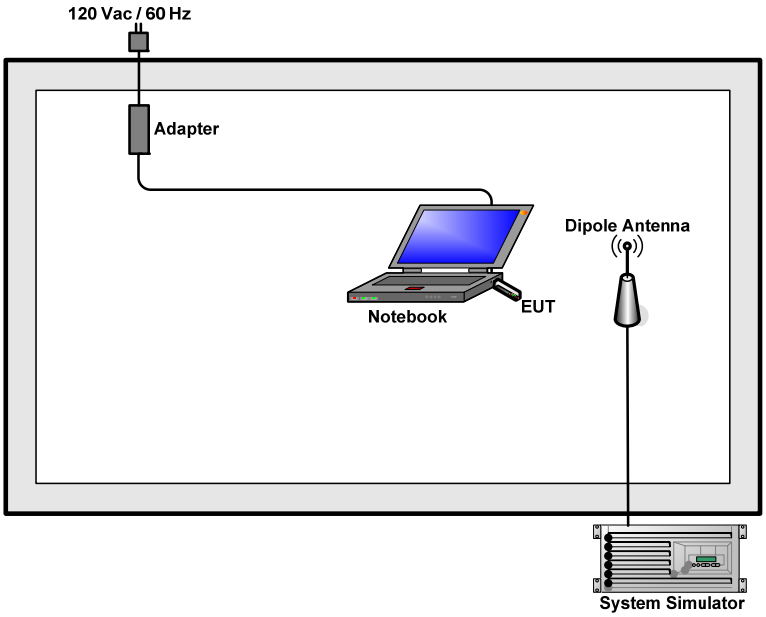
Test Modes	
Band	**Radiated TCs**
CDMA2000 BC0	1xEV-DO Rev. A Link Mode

Note: The maximum RF output power level is 1xEV-DO Rev. A RTAP153.6K mode for CDMA2000 BC0; only this mode was used for all tests.

The conducted power table is as follows:

Conducted Power (*Unit: dBm)			
Band	**CDMA2000 BC0**		
Channel	**1013**	**384**	**777**
Frequency	**824.7**	**836.52**	**848.31**
1xRTT RC1+SO55	21.55	21.13	21.45
1xRTT RC3+SO55	21.54	21.25	21.47
1xRTT RC3+SO32 (+F-SCH)	21.54	21.10	21.44
1xRTT RC3+SO32 (+SCH)	21.53	21.14	21.39
1xEV-DO RTAP 153.6K	**21.69**	21.30	21.46
1xEV-DO RETAP 4096K	21.62	21.37	21.47

2.2 Connection Diagram of Test System



3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

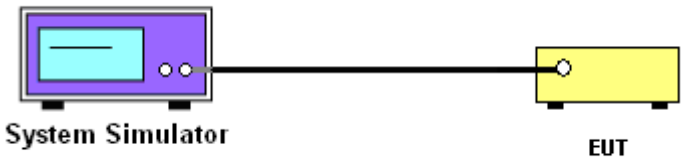
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to base station.
2. Set EUT at maximum power through base station.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Compare each band and different modulation combination to show the worst data rate.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

CDMA2000 BC0			
Test Mode	**CDMA 2000 1xEV-DO Rev. A**		
Test Status	**RTAP 153.6K**		
Channel	**1013 (Low)**	**384 (Mid)**	**777 (High)**
Frequency (MHz)	**824.7**	**836.52**	**848.31**
Conducted Power (dBm)	21.69	21.30	21.46
Conducted Power (Watts)	0.15	0.13	0.14

Note: maximum average power for CDMA2000.

3.2 Effective Radiated Power

3.2.1 Description of the ERP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v01. The ERP of mobile transmitters must not exceed 7 Watts.

3.2.2 Measuring Instruments

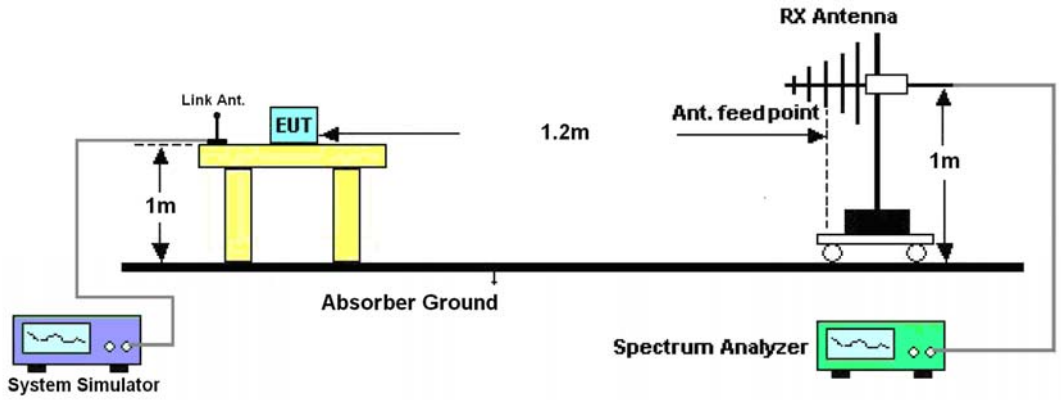
See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The EUT was placed on a turntable with 1.0 meter height in a fully anechoic chamber.
2. The EUT was set at 1.2 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiated power.
4. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
5. Taking the record of maximum ERP/EIRP.
6. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
7. The conducted power at the terminal of the dipole antenna is measured.
8. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
9. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs

   Ps (dBm)：Input power to substitution antenna.
   Gs (dBi or dBd)：Substitution antenna Gain.
   Et = Rt + AF
   Es = Rs + AF
   AF (dB/m)：Receive antenna factor
   Rt：The highest received signal in spectrum analyzer for EUT.
   Rs：The highest received signal in spectrum analyzer for substitution antenna.

3.2.4 Test Setup



3.2.5 Test Result of ERP

CDMA2000 BC0 1xEV-DO Rev. A_RTAP 153.6K Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.70	-30.35	-48.12	0.00	-1.08	16.69	0.0467
836.52	-31.45	-48.28	0.00	-0.93	15.90	0.0389
848.31	-30.56	-48.35	0.00	-0.76	17.03	0.0505
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.70	-28.52	-47.97	0.00	-1.08	18.37	0.0687
836.52	-29.85	-48.01	0.00	-0.93	17.23	0.0528
848.31	-30.02	-48.05	0.00	-0.76	17.27	0.0533

3.3 Field Strength of Spurious Radiation Measurement

3.3.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43+10\log_{10}(P[Watts])$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.3.2 Measuring Instruments

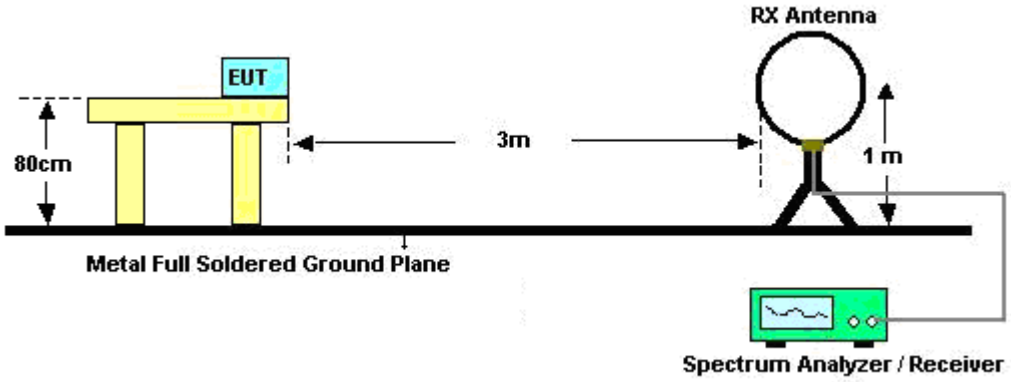
See list of measuring instruments of this test report.

3.3.3 Test Procedures

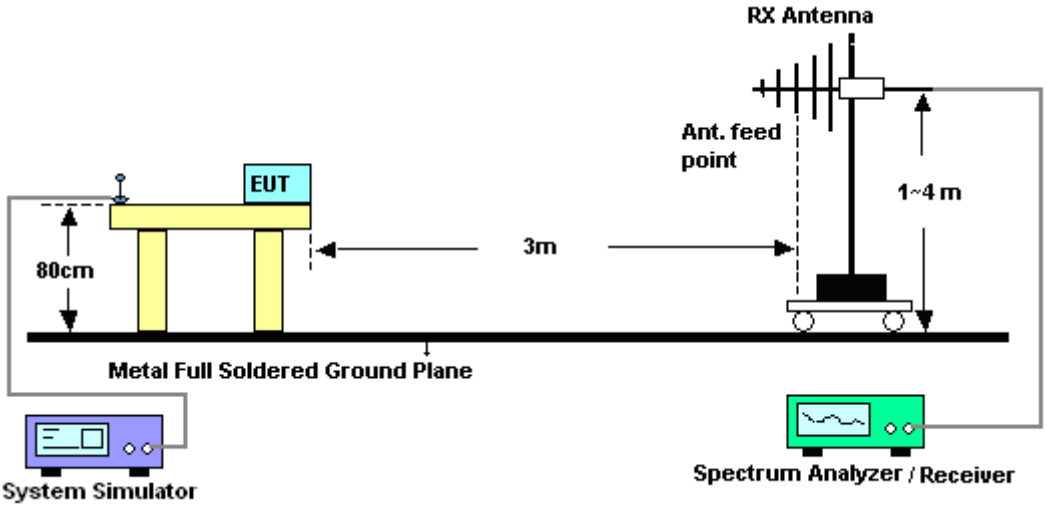
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15

3.3.4 Test Setup

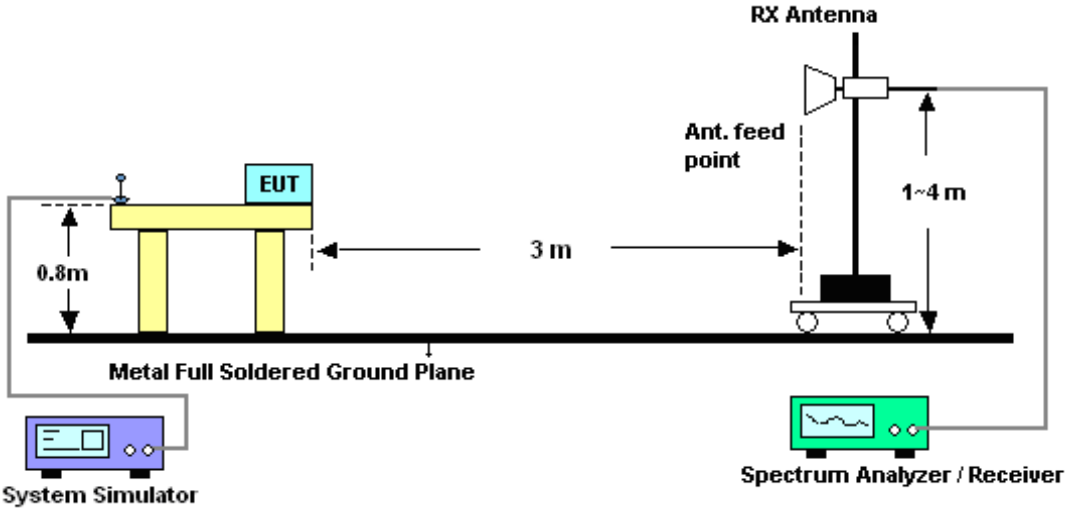
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

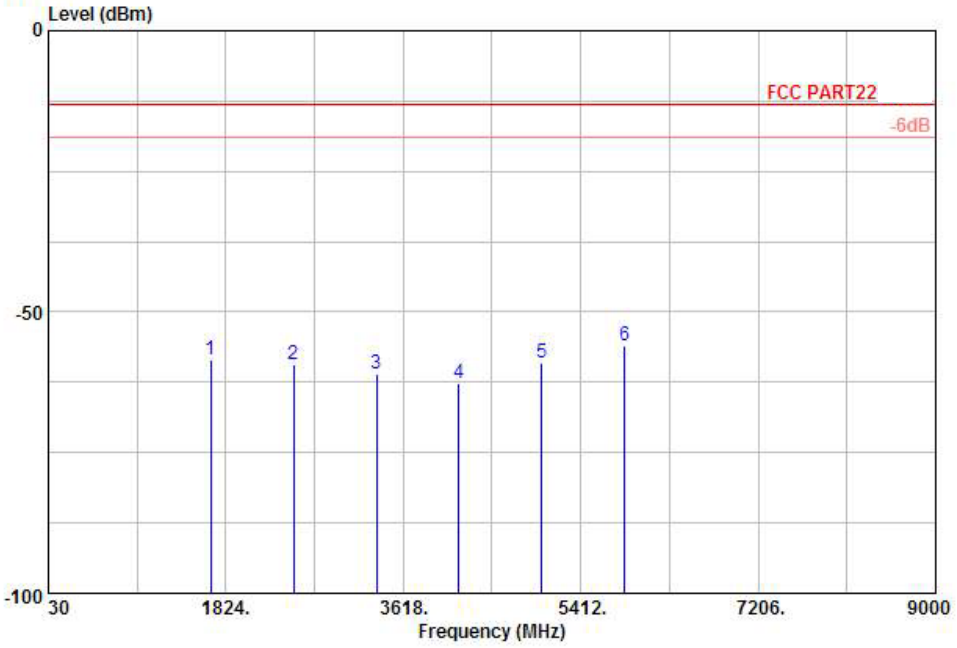


3.3.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

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.

3.3.6 Test Result of Field Strength of Spurious Radiated

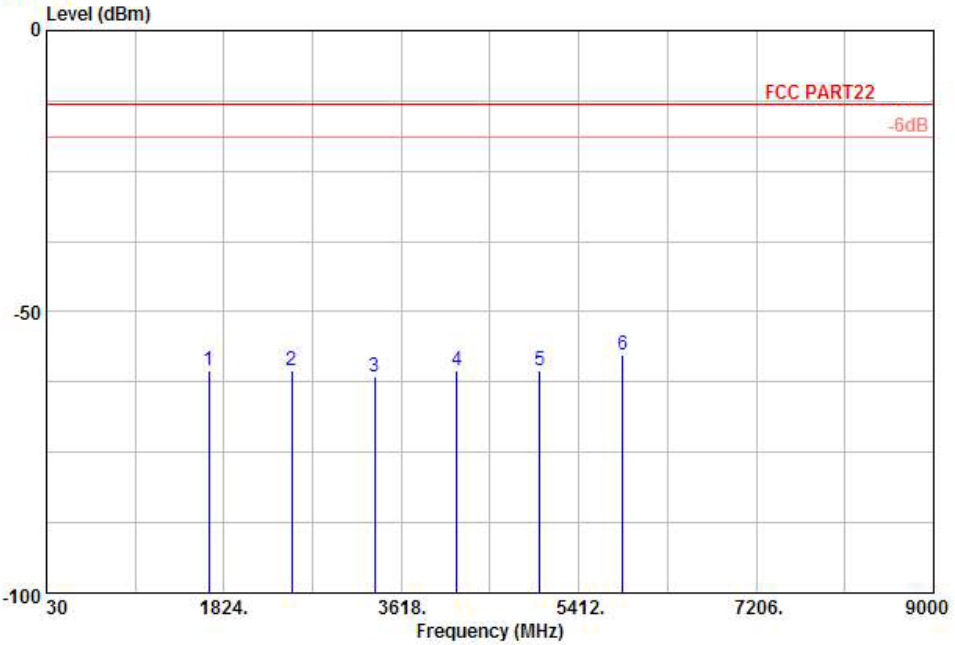
Band :	CDMA2000 BC0	**Temperature :**	21~22°C
Test Mode :	1xEV-DO Rev. A_RTAP 153.6K	**Relative Humidity :**	47~48%
Test Engineer :	Chenmy Cheng	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 HF EIRP FACTOR-09020 HORIZONTAL
Project : (FG) 252204-01

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1674	-58.36	-13	-45.36	-54.79	-59.01	0.57	3.37	H	Pass
2509	-59.46	-13	-46.46	-61.71	-61.69	0.78	5.16	H	Pass
3345	-61.12	-13	-48.12	-63.06	-64.76	0.87	6.66	H	Pass
4182	-62.74	-13	-49.74	-65.48	-67.33	0.97	7.71	H	Pass
5018	-59.04	-13	-46.04	-65.24	-64.71	1.09	8.91	H	Pass
5854	-56.12	-13	-43.12	-64.83	-62.56	1.22	9.81	H	Pass

Band :	CDMA2000 BC0	Temperature :	21~22°C
Test Mode :	1xEV-DO Rev. A_RTAP 153.6K	Relative Humidity :	47~48%
Test Engineer :	Chenmy Cheng	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 HF EIRP FACTOR-09020 VERTICAL
Project : (FG) 252204-01

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-60.53	-13	-47.53	-56.18	-61.18	0.57	3.37	V	Pass
2509	-60.41	-13	-47.41	-63.52	-62.64	0.78	5.16	V	Pass
3345	-61.69	-13	-48.69	-63.67	-65.33	0.87	6.66	V	Pass
4182	-60.53	-13	-47.53	-64.37	-65.12	0.97	7.71	V	Pass
5018	-60.57	-13	-47.57	-65.51	-66.24	1.09	8.91	V	Pass
5854	-57.55	-13	-44.55	-65.54	-63.99	1.22	9.81	V	Pass

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 30, 2011	Jul. 12, 2012	Dec. 29, 2012	Conducted (TH01-KS)
DC Power Supply	GWINSTEK	GPS-3030D	E1884515	N/A	Aug. 23, 2011	Jul. 12, 2012	Aug. 22, 2012	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 09, 2011	Jul. 11, 2012	Nov. 08, 2012	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Jul. 11, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 08, 2011	Jul. 11, 2012	Dec. 07, 2012	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2012	Jul. 11, 2012	Jan. 05, 2013	Radiation (03CH01-KS)
Amplifier	Wireless	FPA-6592G	060007	30MHz~2GHz	Dec. 30, 2011	Jul. 11, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 30, 2011	Jul. 11, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
SHE-EHF Horn	Schwarzbeck	BBHA9170	BBHA170249	15GHz-40GHz	Oct. 11, 2011	Jul. 11, 2012	Oct. 10, 2012	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/00	9kHz~30 MHz	Jul. 28, 2011	Jul. 11, 2012	Jul. 27, 2012	Radiation (03CH01-KS)
System Simulator	R&S	CMU200	116456	Full-Band	Sep. 20, 2011	Jul. 11, 2012	Sep. 19, 2012	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 EP252204-01 as below.

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District,Shenzhen, Guangdong, 518057, P.R.China
Tel: +86-755-86360734 ; Fax: +86-755-86360734

Date: July 19, 2012

Product Equality Declaration

We, ZTE CORPORATION**,** declare on our sole responsibility for the product of **AC2787_V3** below:

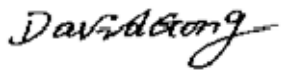
The differences between previous and current model of **AC2787_V3** are as below:

1. Change the shell.
2. In the part of DC-DC power chip, AC2787_V3 make a compatible design on the basis of AC2787_V2, remove the diode in ensure consistent performance for reduce costs.
3. In the part of power inductors, the performance is exactly the same just different appearance, should be of different brands under the same code.

Except listings above, the others are all the same as previous version.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,



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E-mail: Gong.bolin1@zte.com.cn

Appendix C. Product Equality Declaration

Appendix D. Original Report

Please refer to Sporton report number FG252204 as below.