

FCC PART 22 TYPE APPROVAL

EMI MEASUREMENT AND TEST REPORT

For
ZTE Corporation

ZTE Plaza, Hi-tech Park, Nanshan District, Shenzhen, Guangdong, China

FCC ID: Q78-CBTSI28C

Jan 22, 2008

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: CDMA2000 Compact Base Transceiver Station-I2
Test Engineer: Liu Fang <i>Liu Fang</i>	
Report No.: RSZ07110100 Rev.1	
Test Date: Oct 20, 2007-Jan 22, 2008	
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Note: The test report is specially limited to the above company and this particular sample only. It may not be duplicated without prior written consent of ZTE Corporation. This report **must not** be used by the client to claim product certification, approval, or endorsement by any agency of the US Government.

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The ZTE Corporation's product, model number: ZXC10 CBTS I28C or the "EUT" as referred to in this report is a CDMA2000 Compact Base Transceiver Station-I2. The EUT is measured approximately 85.0 cm L x 60.0cmW x 60.0cmH, rated input voltage: DC -48 V.

** The test data gathered are from production sample, serial number: 061053.*

Objective

This Type approval report is prepared on behalf of ZTE Corporation in accordance with Part 2, Subpart J and Part 22 Subpart G of the Federal Communication Commissions rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

Part 22 Subpart G – Air-Ground Radiotelephone Service.

Applicable Standards: TIA EIA 137-A, TIA EIA 97-D, TIA/EIA 603-B, Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

Test Facility

The Test site used by ZTE Corporation to collect test data is located in the ZTE Plaza, Hi-tech Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. of China, Tel: +86-755-26770000, Fax: +86-755-26771999.

Test site at ZTE Corporation has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.:373926. The test site has been approved by the FCC for public use and is listed in the FCC Public Access

Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

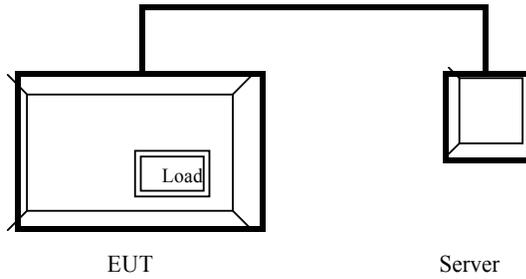
Equipment Modifications

ZTE Corporation has not done any modification on the EUT.

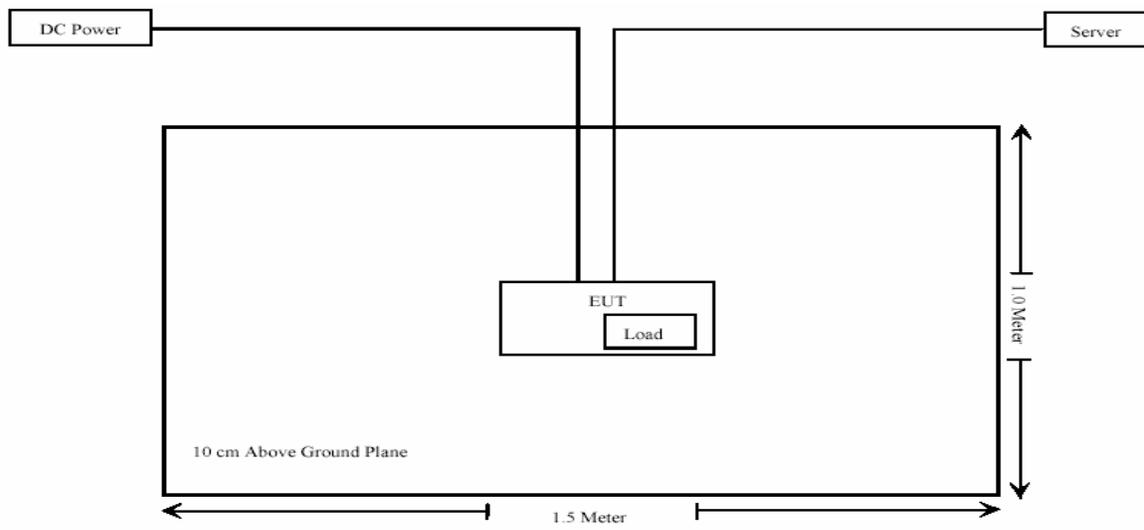
External I/O Cable

Cable Description	Length (M)	From/Port	To
Unshielded Undetachable DC Power Cable	3.0	EUT	DC POWER

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§2.1046, §22.867	RF Power	Compliant
§ 2.1091	RF Exposure	Compliant
§2.1047	Modulation characteristic	Compliant
§2.1053	Spurious Radiated Emissions	Compliant
§2.1051, §22.861	Spurious Emissions AT Antenna Terminals	Compliant
§2.1049 §22.861 §22.857	Occupied Bandwidth	Compliant
§22.861	Band Edge	Compliant
§ 2.1055 (a) § 2.1055 (d) § 22.863	Frequency Stability	Compliant

§2.1091 – RF EXPOSURE

Limit

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated. Limits for Maximum Permissible Exposure (MPE)

Limits for Occupational/Controlled Exposure

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	6
1.34-30	1824/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6

f = frequency in MHz

* = Plane-wave equivalent power density

Test Data

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

Where: S = power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal: 47.78 (dBm) Maximum peak output power at antenna input terminals: 60(W)

Prediction distance: 400 (cm)

Predication frequency: 850 (MHz)

Antenna Gain (typical): 13 (dBi)

Power density at predication frequency at 400 cm: 0.6 (mW/cm²)

MPE limit for uncontrolled exposure at prediction frequency: 2.833 (mW/cm²)

Test Result: Comply at 4m distance; please refer to the instruction manual.

§2.1046, §22.867 - EFFECTIVE RADIATED POWER

Applicable Standard

According to FCC §2.1046 and §22.867, the ERP of ground station transmitters must not exceed 100 Watts.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PSA Series Spectrum Analyzer	E4445A	MY44300451	2007-3-24	2008-3-24
	DTS100- 40dB Attenuator	DTS100- 40dB-N	N/A	N/A	N/A
Hewlett Packard	Hewlett Packard RF Cable	8120-6192	01428251	N/A	N/A

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

REMARKS:

1. Conducted level (dBm) = Measurement Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Attenuator loss (dB) + Cable Loss (dB).
3. Attenuator loss (dB) = 40dB, Cable Loss (dB) = 1.5dB.

Test Data Environmental Conditions

Temperature:	18 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

The testing was performed by Liu Fang on Jan 22, 2008.

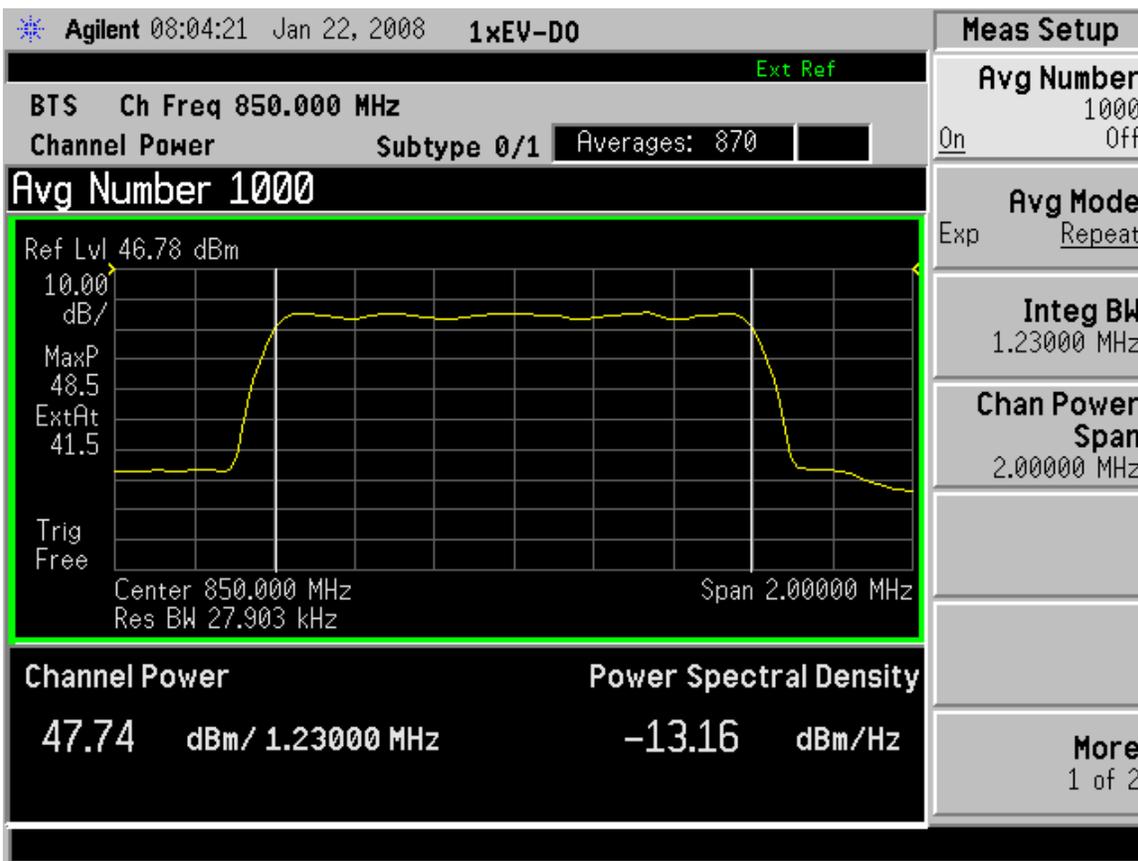
Test Result: Pass

Test Mode: Transmitting/CDMA2000 EV-DO

Test Data

40 CH

Frequency (MHz)	Conducted Total Power in (dBm)	Total Power in (Watt)	Limit in (Watt)
850	47.74	59.43	100



§2.1047- MODULATION CHARACTERISTIC

Applicable Standard

Requirement: §2.1047.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PSA Series Spectrum Analyzer	E4445A	MY44300451	2007-3-24	2008-3-24

Test Procedure

CDMA digital mode is used by EUT.

Test Data Environmental Conditions

Temperature:	18 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

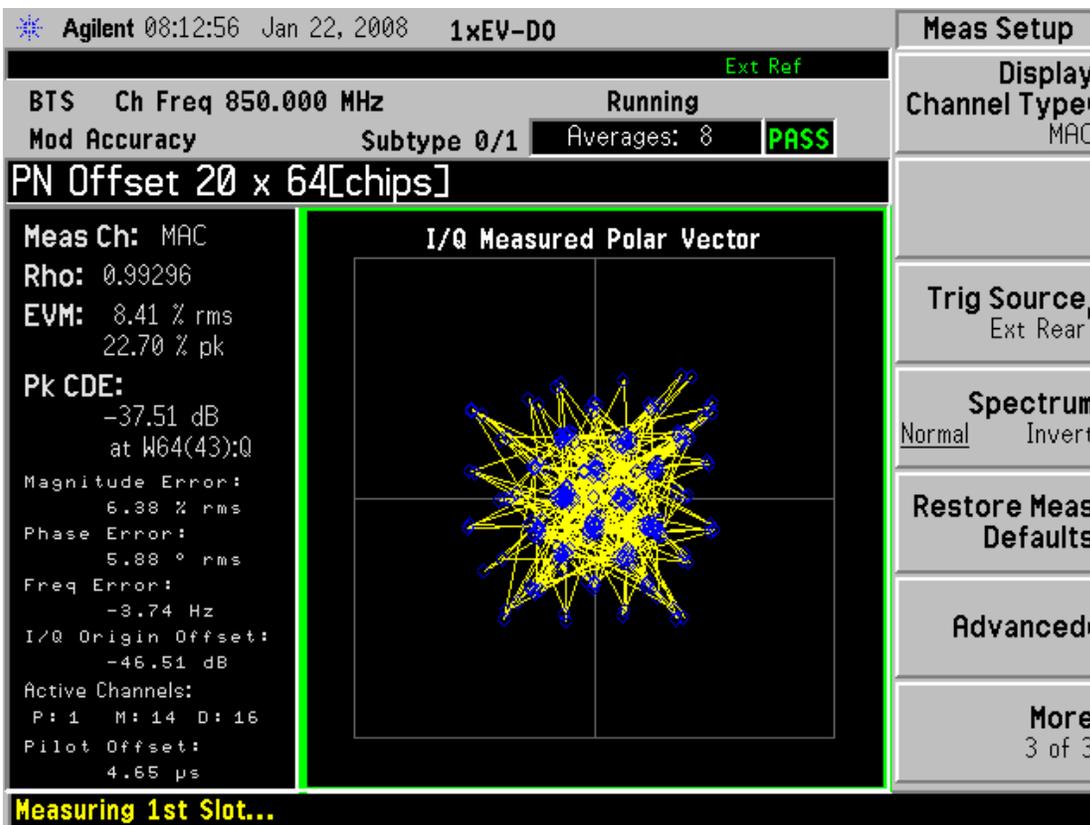
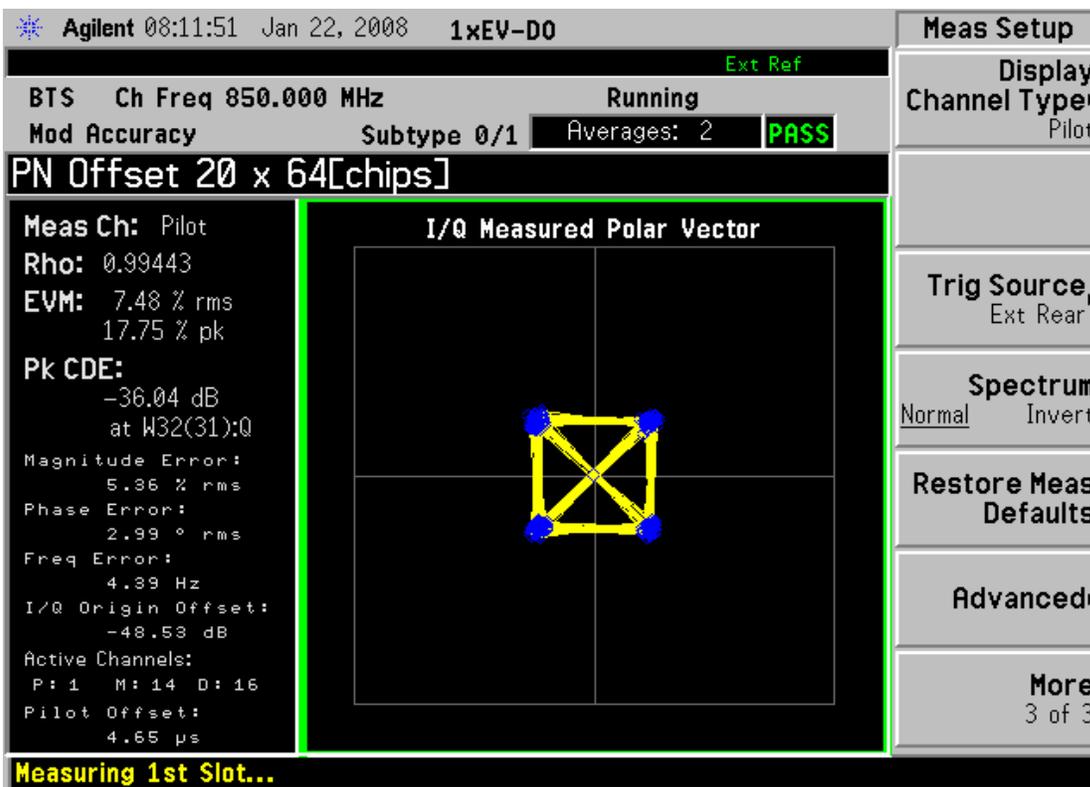
The testing was performed by Liu Fang on *Jan 22, 2008*.

Test Result: Pass

Test Mode: Transmitting/CDMA 2000 EV-DO

Test Data:

Channel	Frequency (MHz)	Rho
Channel 40	850	0.994(Pilot)
		0.993(MAC)
		0.991(DATA)
		0.990(Preamble)
		0.992(Overall1)
		0.991(Overall2)

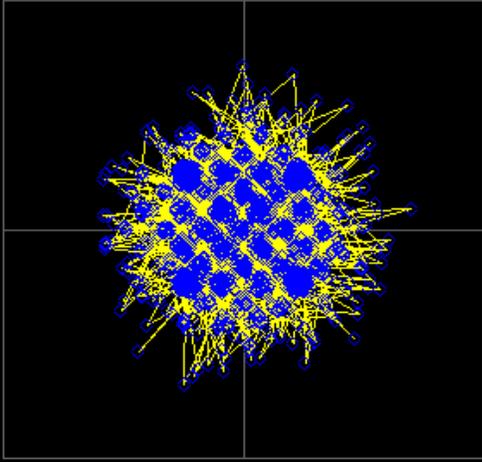


Agilent 08:13:37 Jan 22, 2008 1xEV-DO Ext Ref

BTS Ch Freq 850.000 MHz Running
Mod Accuracy Subtype 0/1 Averages: 9 **PASS**

PN Offset 20 x 64[chips]

Meas Ch: Data
Rho: 0.99057
EVM: 9.75 % rms 96.50 % pk
Pk CDE: -32.88 dB at W16(15):Q
Magnitude Error: 7.41 % rms
Phase Error: 11.93 ° rms
Freq Error: -1.89 Hz
I/Q Origin Offset: -48.46 dB
Active Channels: P: 1 M: 14 D: 16
Pilot Offset: 4.65 μs

I/Q Measured Polar Vector


Preparing calculation...

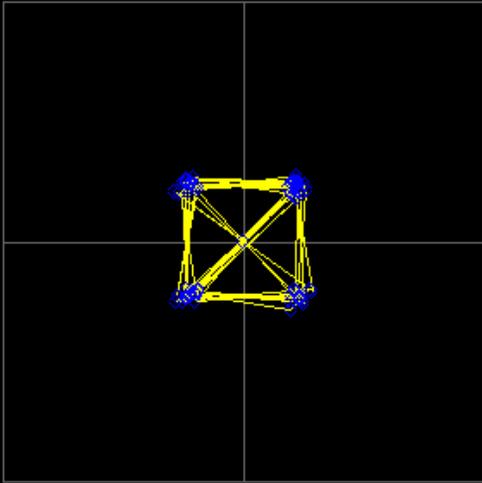
Meas Setup
Display Channel Type▶
Data
Trig Source▶
Ext Rear▶
Spectrum
Normal Invert
Restore Meas Defaults
Advanced▶
More
3 of 3

Agilent 08:14:16 Jan 22, 2008 1xEV-DO Ext Ref

BTS Ch Freq 850.000 MHz Running
Mod Accuracy Subtype 0/1 Averages: 8 **PASS**

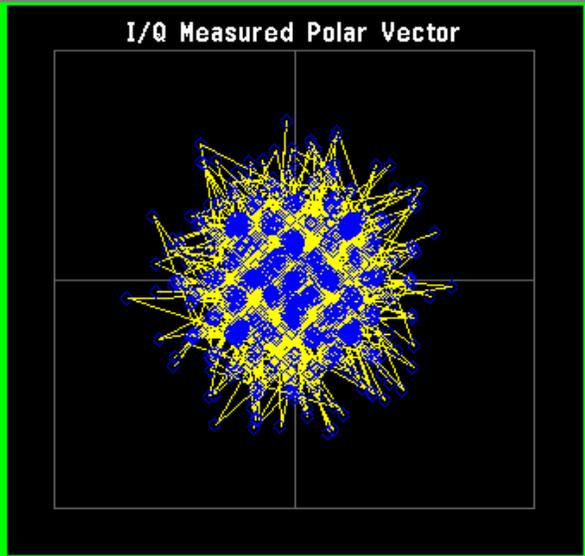
PN Offset 20 x 64[chips]

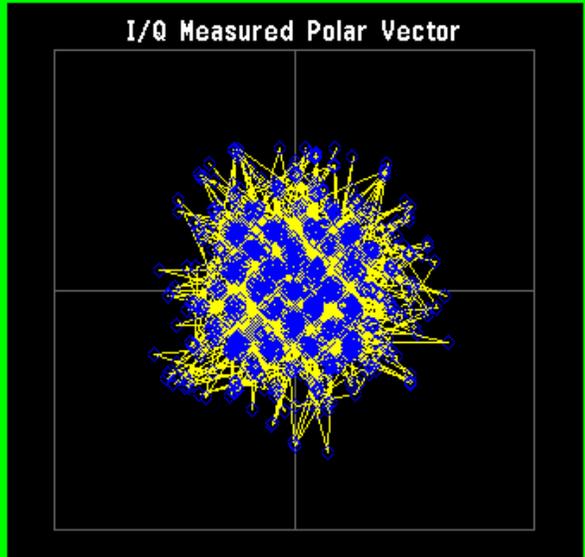
Meas Ch: Preamble
Rho: 0.99014
EVM: 9.98 % rms 20.08 % pk
Pk CDE: -31.91 dB at W32(7):Q
Magnitude Error: 6.92 % rms
Phase Error: 4.08 ° rms
Freq Error: -0.38 Hz
I/Q Origin Offset: -46.98 dB
Active Channels: P: 1 M: 14 D: 16
Pilot Offset: 4.65 μs

I/Q Measured Polar Vector


Measuring 1st Slot...

Meas Setup
Display Channel Type▶
Preamble
Trig Source▶
Ext Rear▶
Spectrum
Normal Invert
Restore Meas Defaults
Advanced▶
More
3 of 3

<p>Agilent 08:15:36 Jan 22, 2008 1xEV-DO</p>		<p>Meas Setup</p>	
<p>BTS Ch Freq 850.000 MHz Running</p>		<p>Display Channel Type> Overall1</p>	
<p>Mod Accuracy Subtype 0/1 Averages: 9 PASS</p>		<p>Trig Source, Ext Rear</p>	
<p>PN Offset 20 x 64[chips]</p>		<p>Spectrum Normal Invert</p>	
<p>Meas Ch: Overall 1</p> <p>Rho: 0.99181</p> <p>EVM: 9.09 % rms 56.79 % pk</p> <p>Pk CDE: 0.00 dB at ---</p> <p>Magnitude Error: 7.19 % rms</p> <p>Phase Error: 19.01 ° rms</p> <p>Freq Error: 0.74 Hz</p> <p>I/Q Origin Offset: -47.36 dB</p> <p>Active Channels: P: 1 M: 14 D: 16</p> <p>Pilot Offset: 4.65 μs</p>		<p>Restore Meas Defaults</p>	
		<p>Advanced></p>	
		<p>More 3 of 3</p>	

<p>Agilent 08:16:06 Jan 22, 2008 1xEV-DO</p>		<p>Meas Setup</p>	
<p>BTS Ch Freq 850.000 MHz Running</p>		<p>Display Channel Type> Overall2</p>	
<p>Mod Accuracy Subtype 0/1 Averages: 7 PASS</p>		<p>Trig Source, Ext Rear</p>	
<p>PN Offset 20 x 64[chips]</p>		<p>Spectrum Normal Invert</p>	
<p>Meas Ch: Overall 2</p> <p>Rho: 0.99112</p> <p>EVM: 9.47 % rms 78.17 % pk</p> <p>Pk CDE: 0.00 dB at ---</p> <p>Magnitude Error: 7.34 % rms</p> <p>Phase Error: 17.02 ° rms</p> <p>Freq Error: -0.39 Hz</p> <p>I/Q Origin Offset: -47.88 dB</p> <p>Active Channels: P: 1 M: 14 D: 16</p> <p>Pilot Offset: 4.65 μs</p>		<p>Restore Meas Defaults</p>	
		<p>Advanced></p>	
<p>Preparing calculation...</p>		<p>More 3 of 3</p>	

§2.1053-SPURIOUS RADIATED EMISSIONS

Applicable Standard

Requirements CFR 47, §2.1053

Test Equipment List and Details

Item	Equipment	Manufacturer	Mode	Serial	Last Cal.	Cal. Interval
1	EMI Test Receiver	R&S	ESI26	100058	2007-10-16	1 Year
2	Ultra Broadband Antenna	R&S	HL562	100022	2006-3-6	3 Years
3	Double-Ridged Waveguide Horn Antenna	R&S	HF906	100032	2007-10-10	3 Years
4	Anechoic Chamber	Albatross	3m Site	N/A	2005-7-15	3 Year
5	Cable Set	R&S	RE Cable	N/A	2007-8-17	1Year
6	Cable set II	R&S	Substitution Tx Cable	N/A	2007-8-17	1Year
7	Cable set III	R&S	Hi-freq RX Antenna Cable	N/A	2007-8-17	1Year
8	Software	R&S	ES-K1	N/A	N/A	N/A
9	Double-Ridged Waveguide Horn Antenna	R&S	HF906	100013	2007-1-31	3 Years
10	VHF-UHF Broad band Antenna	SCHWARZBECK	VUBA 9117	SB3174	2005-11-17	3 Years
11	Signal Generator	R&S	SMR20	100098	2007-12-17	1Year

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Test Results Summary

31.4dB at 2911.8236MHz in the Vertical polarization.

Test Data Environmental Conditions

Temperature:	26 °C
Relative Humidity:	53 %
ATM Pressure:	1015 mbar

The testing was performed by Guan Bin on 2007-10-23, and the data were only for unintentional radiator and be subjected to verification

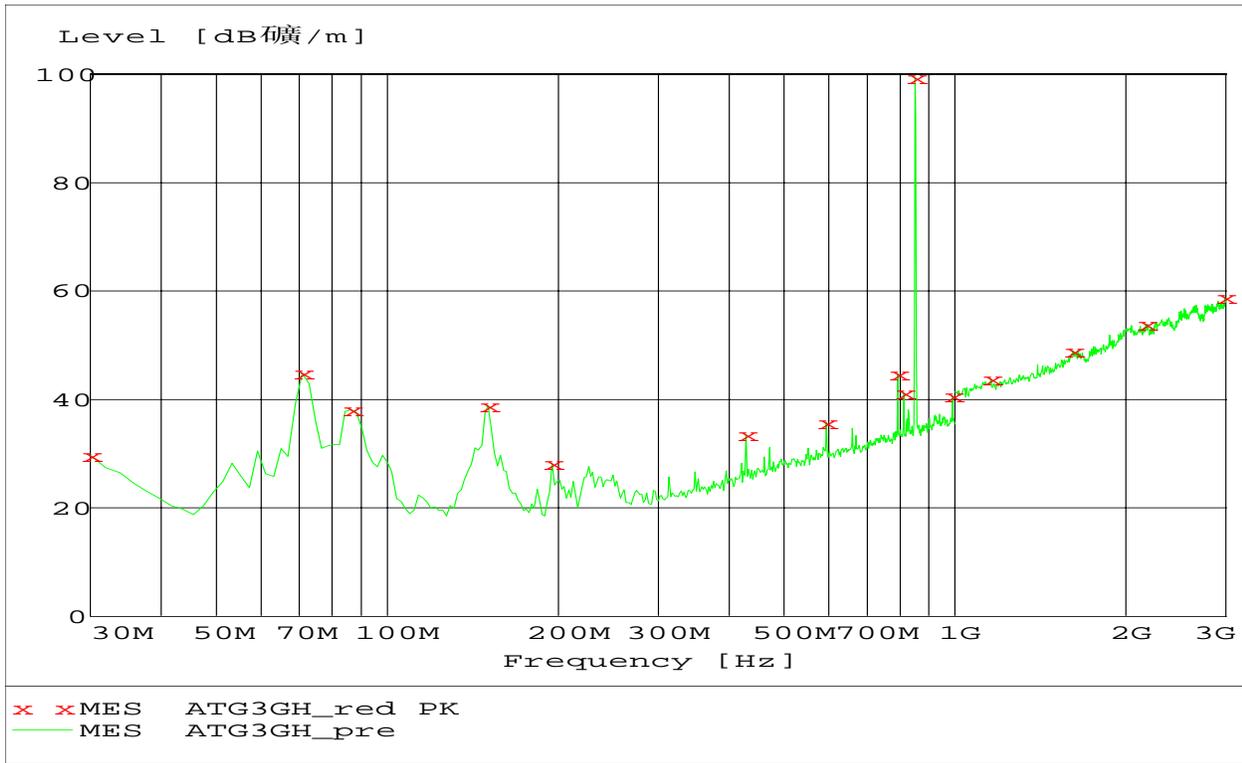
Test Mode: Transmitting/CDMA2000 EV-DO

Plot(s) of Test Data

1 Carrier: 40channel
 Plot(s) of Test Data is presented hereinafter as reference.
 EUT: ZXC10 CBTSI2
 Manufacturer: ZTE Corporation
 Operating Condition: Running
 Test Site: ZTE EMC Lab.
 Operator: guan bin
 Test Specification: CFR 47
 Comment: 30MHz~3GHz for Horizontal
 Start of Test: 2007-10-23 / 4:53:45PM

SCAN TABLE: "EN 55022 Field fin"

Short Description:		EN 55022 Field Strength fin				
Start	Stop	Step	Detector	Meas.	IF	Transducer
Frequency	Frequency	Width		Time	Bandw.	
30.0 MHz	1.0 GHz	100.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562-22dBuV/m

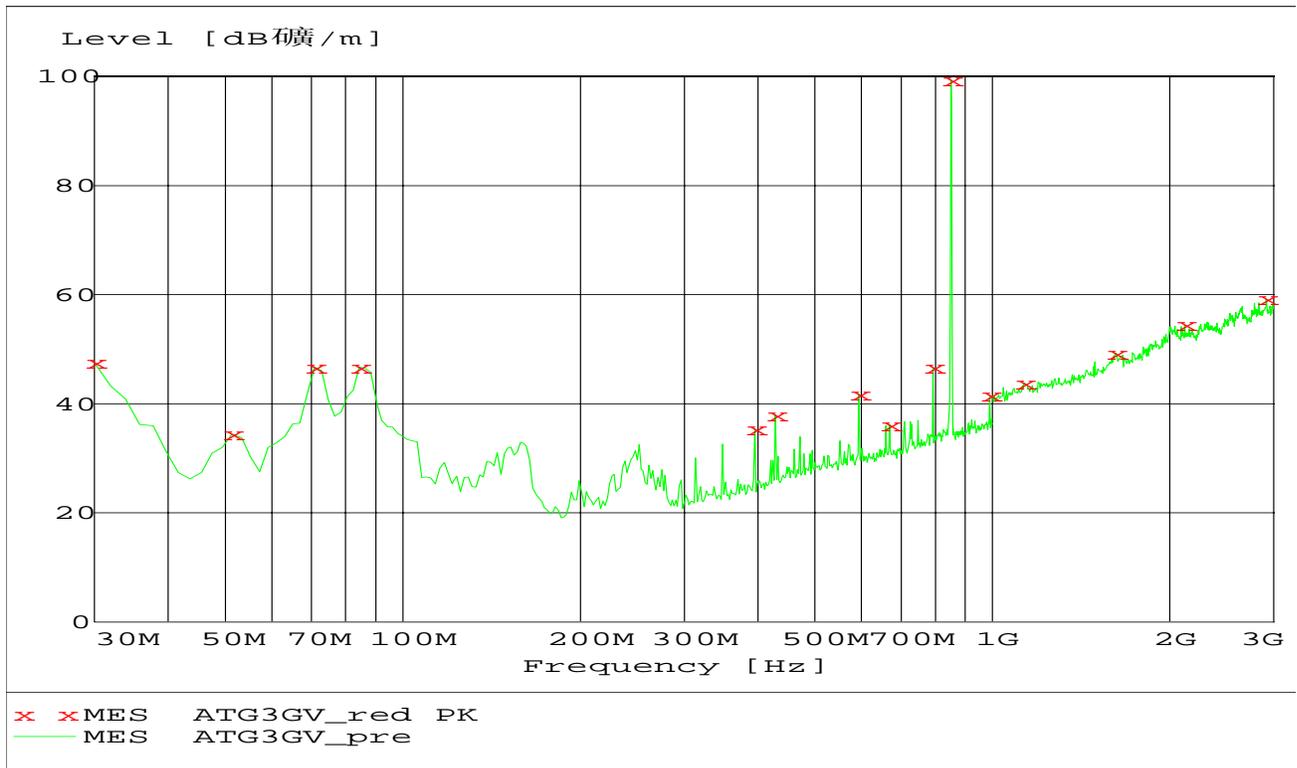


Frequency (MHz)	Field Strength (dBmV/m)	Output power of Signal Generator (dBm)	Cable Loss (dB)	Isotropic Gain of Substitution Antenna (dBi)	Measurement Result ERP (dBm)	Limit ERP (dBm)	Margin (dB)
30	29.64	-23.1	0.3	-43.49	-69.04	-10	59.04
70.821643	44.87	-29.68	0.6	-23.56	-55.99	-10	45.99
86.372745	38.14	-42.17	0.8	-19.65	-64.77	-10	54.77
150.52104	38.88	-53.16	1	-5.7	-62.01	-10	52.01
195.23046	28.27	-71.12	1.1	0.35	-74.02	-10	64.02
428.49699	33.5	-61.48	1.7	-0.99	-66.32	-10	57.32
593.72746	35.83	-60.82	2	-1.21	-66.18	-10	56.18
792.00401	44.79	-52.86	2.4	-0.73	-58.14	-10	48.14
813.38677	41.12	-56.53	2.4	-1.13	-62.21	-10	52.21
990.28056	40.66	-51.34	2.7	-2.59	-58.78	-10	48.78
1156.3126	43.84	-62.36	2.8	4.25	-63.06	-10	53.06
1613.2265	48.96	-61.07	3.4	6.55	-60.07	-10	50.07
2166.3327	53.94	-51.26	3.9	7.05	-50.26	-10	40.26
2987.976	58.95	-45.16	4.6	7.95	-43.96	-10	33.96

EUT: ZXC10 CBTSI2
 Manufacturer: ZTE Corporation
 Operating Condition: Running
 Test Site: ZTE EMC Lab.
 Operator: guan bin
 Test Specification: CFR 47
 Comment: 30MHz~3GHz for Vertical
 Start of Test: 2007-10-23 / 4:48:59PM

SCAN TABLE: "RSE Field 30-1G fin"

Short Description: EN 55022 Field Strength fin
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 30.0 MHz 1.0 GHz 100.0 kHz MaxPeak 1.0 s 120 kHz HL562-22dBuV/m

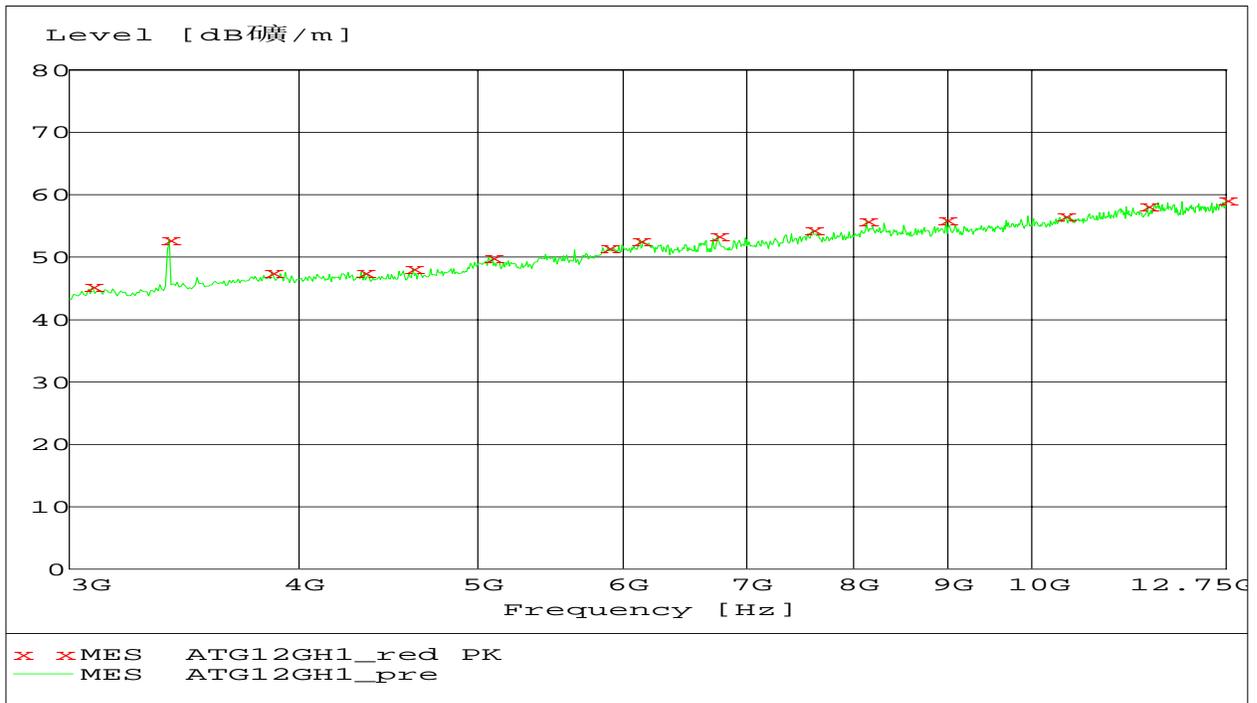


Frequency (MHz)	Field Strength (dBmV/m)	Output power of Signal Generator (dBm)	Cable Loss (dB)	Isotropic Gain of Substitution Antenna (dBi)	Measurement Result ERP (dBm)	Limit ERP (dBm)	Margin (dB)
30	47.52	-12.86	0.3	-43.49	-58.8	-10	48.8
51.382766	34.45	-32.1	0.5	-31.63	-66.38	-10	56.38
70.821643	46.72	-29.18	0.6	-23.56	-55.49	-10	45.49
84.428858	46.78	-30.6	0.6	-21.42	-54.77	-10	44.77
395.4509	35.5	-59.01	1.7	-0.85	-63.71	-10	53.71
428.49699	37.99	-56.52	1.7	-0.99	-61.36	-10	51.36
593.72746	41.78	-54.21	2	-1.21	-59.57	-10	49.57
669.53908	36.18	-59.92	2.2	-1.23	-65.5	-10	55.5
792.00401	46.57	-51.26	2.4	-0.73	-56.54	-10	46.54
990.28056	41.59	-54.52	2.7	-2.59	-61.96	-10	51.96
1132.2645	43.77	-63.34	2.9	4.25	-64.14	-10	54.14
1617.2345	49.31	-58.56	3.4	6.55	-57.56	-10	47.56
2118.2365	54.5	-46.98	3.9	7.05	-45.98	-10	35.98
2911.8236	59.14	-42.6	4.6	7.95	-41.4	-10	31.4

EUT: ZXC10 CBTSI2
 Manufacturer: ZTE Corporation
 Operating Condition: Running
 Test Site: ZTE EMC Lab.
 Operator: guan bin
 Test Specification: CFR 47
 Comment: 3GHz~20GHz for Horizontal
 Start of Test: 2007-10-23 / 4:37:29PM

SCAN TABLE: "RSE Field 1-12G max"

Short Description:		EN 55022 Field Strength max				
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	7.0 GHz	100.0 kHz	MaxPeak	1.0 s	1 MHz	HF906-32dBuV/m
7.0 GHz	12.8 GHz	100.0 kHz	MaxPeak	1.0 s	1 MHz	HF906-32dBuV/m

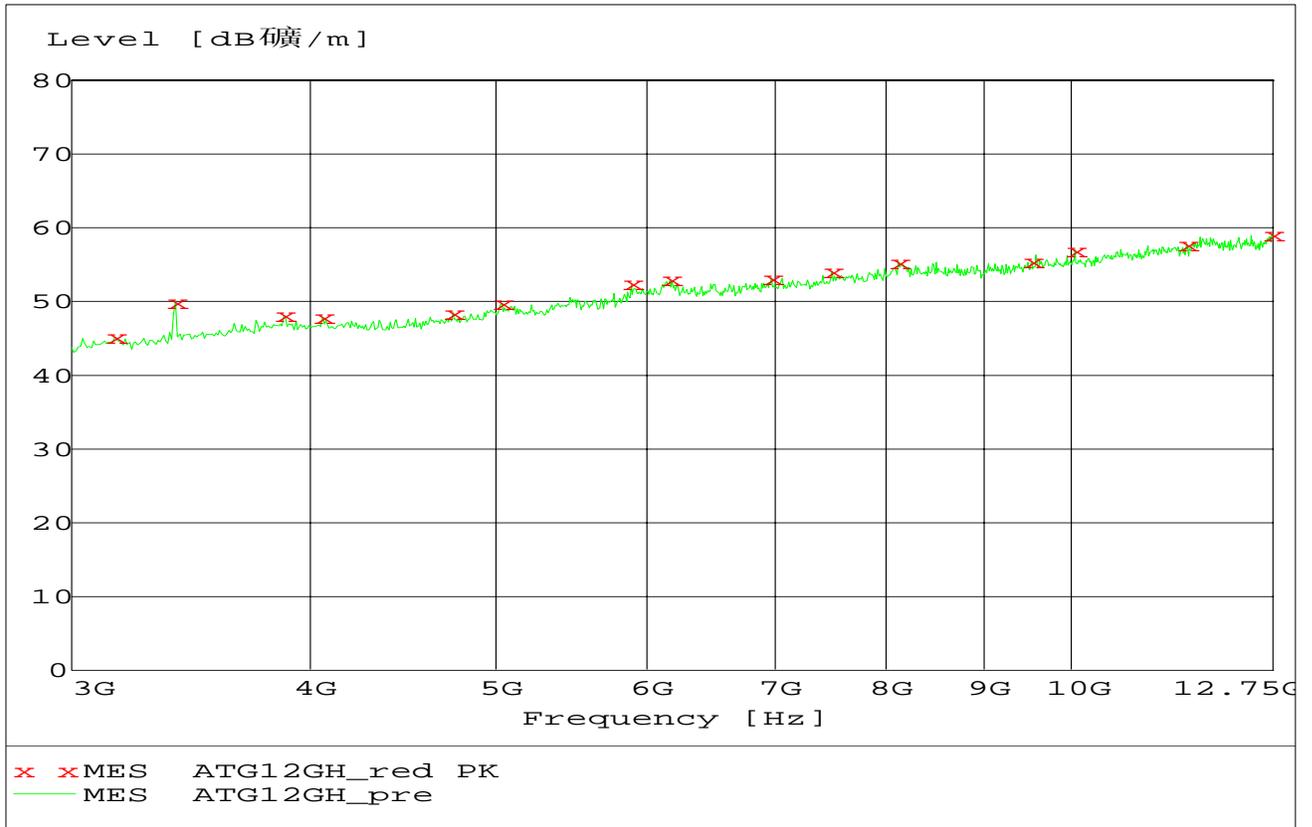


Frequency (MHz)	Field Strength (dBmV/m)	Output power of Signal Generator (dBm)	Cable Loss (dB)	Isotropic Gain of Substitution Antenna (dBi)	Measurement Result ERP (dBm)	Limit ERP (dBm)	Margin (dB)
3088.1764	45.34	-58.77	4.7	7.75	-57.87	-10	47.87
3400.8016	52.9	-50.36	4.9	7.75	-49.66	-10	39.66
3865.7315	47.68	-53.88	5.2	7.75	-53.48	-10	43.48
4338.6774	47.62	-55.81	5.6	7.95	-55.61	-10	45.61
4611.2224	48.22	-55.21	5.8	9.15	-54.01	-10	44.01
5092.1844	50.03	-50.87	6.1	8.55	-50.57	-10	40.57
5885.7715	51.61	-47	6.6	9.05	-46.7	-10	36.7
6126.2525	52.75	-50.64	6.8	9.05	-50.54	-10	40.54
6751.503	53.42	-48.35	7.2	9.25	-48.45	-10	38.45
7599.1984	54.43	-54.2	7.8	9.25	-54.9	-10	44.9
8129.2585	55.94	-53.2	8	9.45	-53.9	-10	43.9
8981.9639	55.99	-51.98	8.4	9.65	-52.88	-10	42.88
10422.345	56.65	-52.29	9.1	11.35	-52.19	-10	42.19
11551.603	58.29	-47.34	9.5	11.85	-47.14	-10	37.14
12750	59.26	-50.48	9.9	12.15	-50.38	-10	40.38

EUT: ZXC10 CBTSI2
 Manufacturer: ZTE Corporation
 Operating Condition: Running
 Test Site: ZTE EMC Lab.
 Operator: guan bin
 Test Specification: CFR 47
 Comment: 3GHz~20GHz for Vertical
 Start of Test: 2007-10-23 / 4:29:00PM

SCAN TABLE: "RSE Field 1-12G max"

Short Description:		EN 55022 Field Strength max				
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	7.0 GHz	100.0 kHz	MaxPeak	1.0 s	1 MHz	HF906-32dBuV/m
7.0 GHz	12.8 GHz	100.0 kHz	MaxPeak	1.0 s	1 MHz	HF906-32dBuV/m



Frequency (MHz)	Field Strength (dBm V/m)	Output power of Signal Generator (dBm)	Cable Loss (dB)	Isotropic Gain of Substitution Antenna (dBi)	Measurement Result ERP (dBm)	Limit ERP (dBm)	Margin (dB)
3160.3206	45.2	-55.77	4.8	7.75	-54.97	-10	44.97
3400.8016	49.94	-51.03	4.9	7.75	-50.33	-10	40.33
3873.7475	48.13	-57.52	5.2	7.75	-57.12	-10	47.12
4058.1162	47.9	-58.19	5.3	7.95	-57.69	-10	47.69
4747.495	48.45	-59.15	5.9	9.15	-58.05	-10	48.05
5036.0721	49.74	-56.89	6.1	8.55	-56.59	-10	46.59
5885.7715	52.41	-51.07	6.6	9.05	-50.77	-10	40.77
6166.3327	52.99	-54.48	6.9	9.05	-54.48	-10	44.48
6967.9359	53.16	-55.01	7.3	9.25	-55.21	-10	45.21
7495.491	54.13	-58.22	7.6	9.15	-58.82	-10	48.82
8117.7355	55.4	-45.52	8	9.45	-46.22	-10	36.22
9535.0701	55.48	-53.34	8.6	9.95	-54.14	-10	44.14
10042.084	56.98	-51.84	8.8	11.35	-51.44	-10	41.44
11493.988	57.81	-50.42	9.5	11.75	-50.32	-10	40.32
12738.477	59.13	-51.84	9.9	12.15	-51.74	-10	41.74

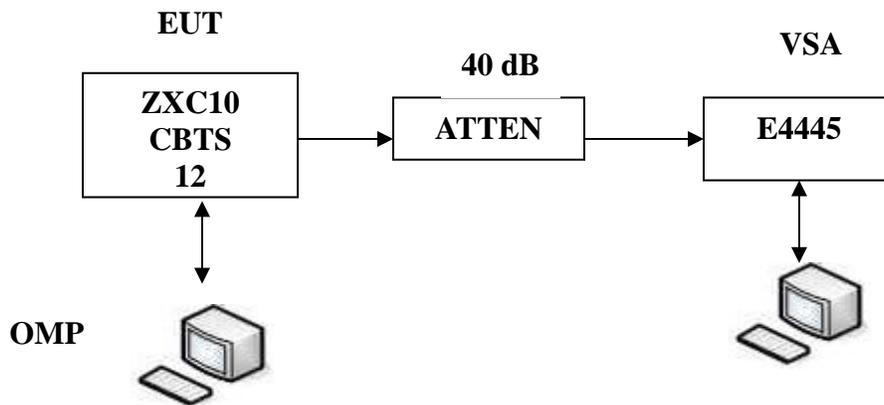
§2.1051, §22.861-SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standard

Requirements: CFR 47§2.1051, §22.861

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in §2.1051.

EUT Setup



REMARKS:

1. Conducted level (dBm) = Measurement Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Attenuator loss (dB) + Cable Loss (dB).
3. Attenuator loss (dB) = 40dB, Cable Loss (dB)=1.5dB.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PSA Series Spectrum Analyzer	E4445A	MY44300451	2007-3-24	2008-3-24
	DTS100- 40dB Attenuator	DTS100-40dB-N	N/A	N/A	N/A
Hewlett Packard	Hewlett Packard RF Cable	8120-6192	01428251	N/A	N/A

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

Test Data Environmental Conditions

Temperature:	18 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

The testing was performed by Liii Fang on Jan 23, 2008

Test Result: Pass

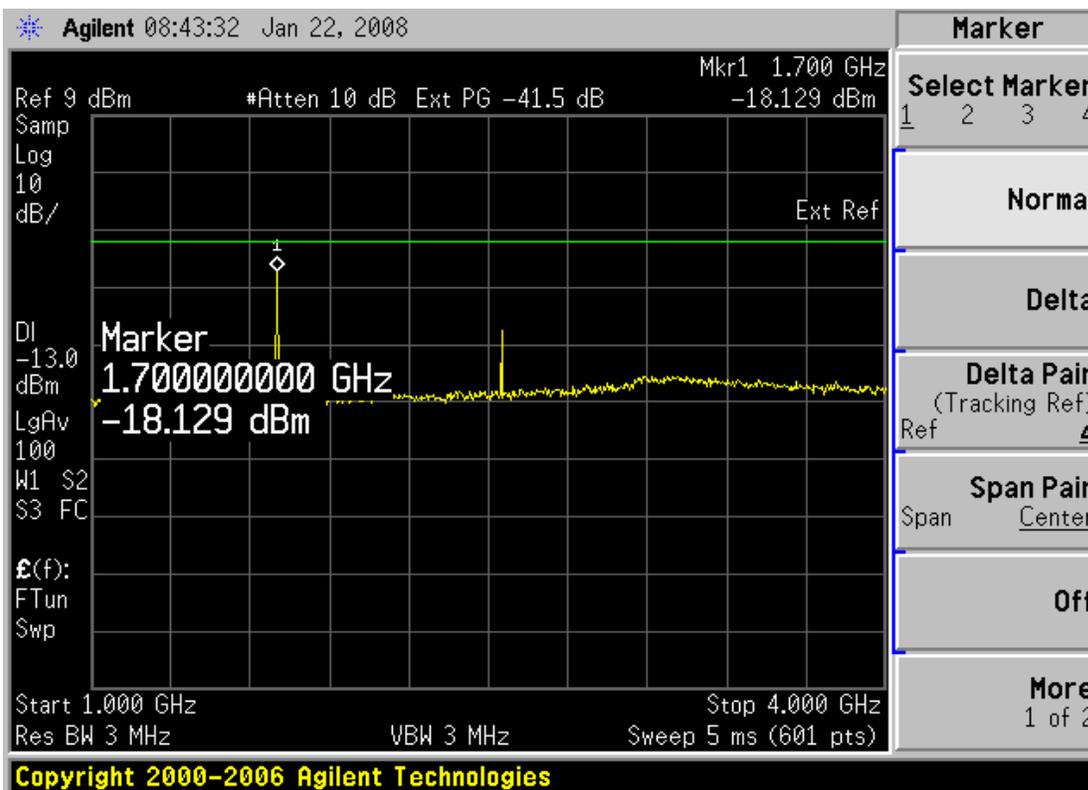
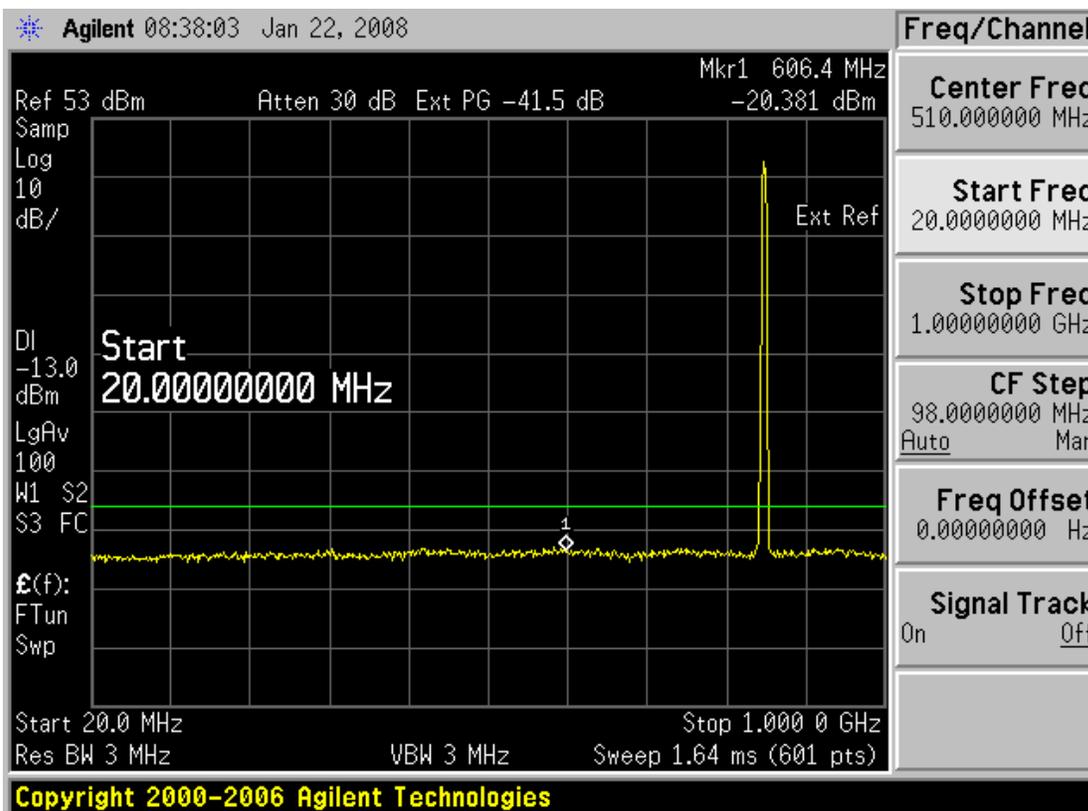
Test Mode: Transmitting /CDMA 2000 EV-DO

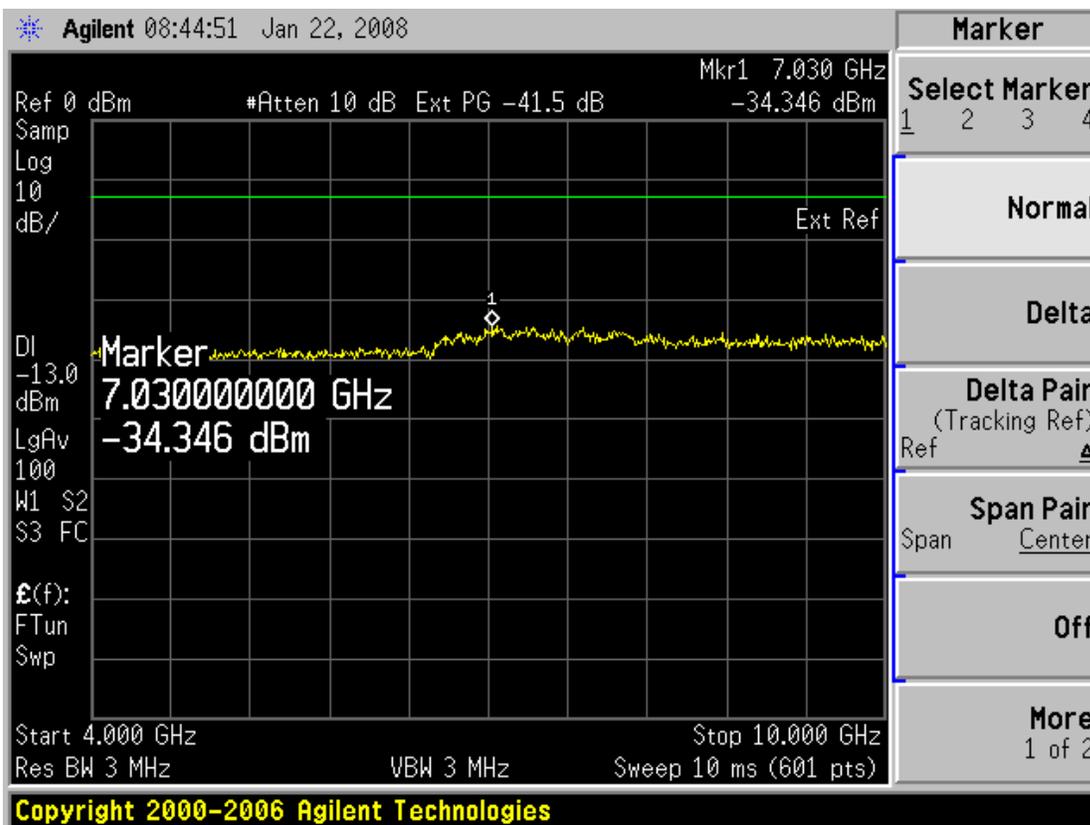
Test Data:

1 Carrier: 40 channel

Frequency Range	Attenuator Loss (dB)	Cable Loss (dB)	Conducted Level (dBm)	Limit (dBm)	Margin (dB)
80kHz-30MHz	40	1.5	-20.38	-10	10.38
30MHz-1GHz	40	1.5	-18.13	-10	8.13
1GHz-10GHz	40	1.5	-34.34	-10	14.34

Please refer to the following plots.





§2.1049, §22.861, §22.857 -OCCUPIED BANDWIDTH

Applicable Standard

Requirements: CFR 47, Section 2.1049, Section 22.857 and Section 22.861.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PSA Series Spectrum Analyzer	E4445A	MY44300451	2007-3-24	2008-3-24
	DTS100- 40dB Attenuator	DTS100- 40dB-N	N/A	N/A	N/A
Hewlett Packard	Hewlett Packard RF Cable	8120-6192	01428251	N/A	N/A

Test Procedure

The RF out of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 30 kHz and 99%Power bandwidth was recorded.

Test Data Environmental Conditions

Temperature:	18 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

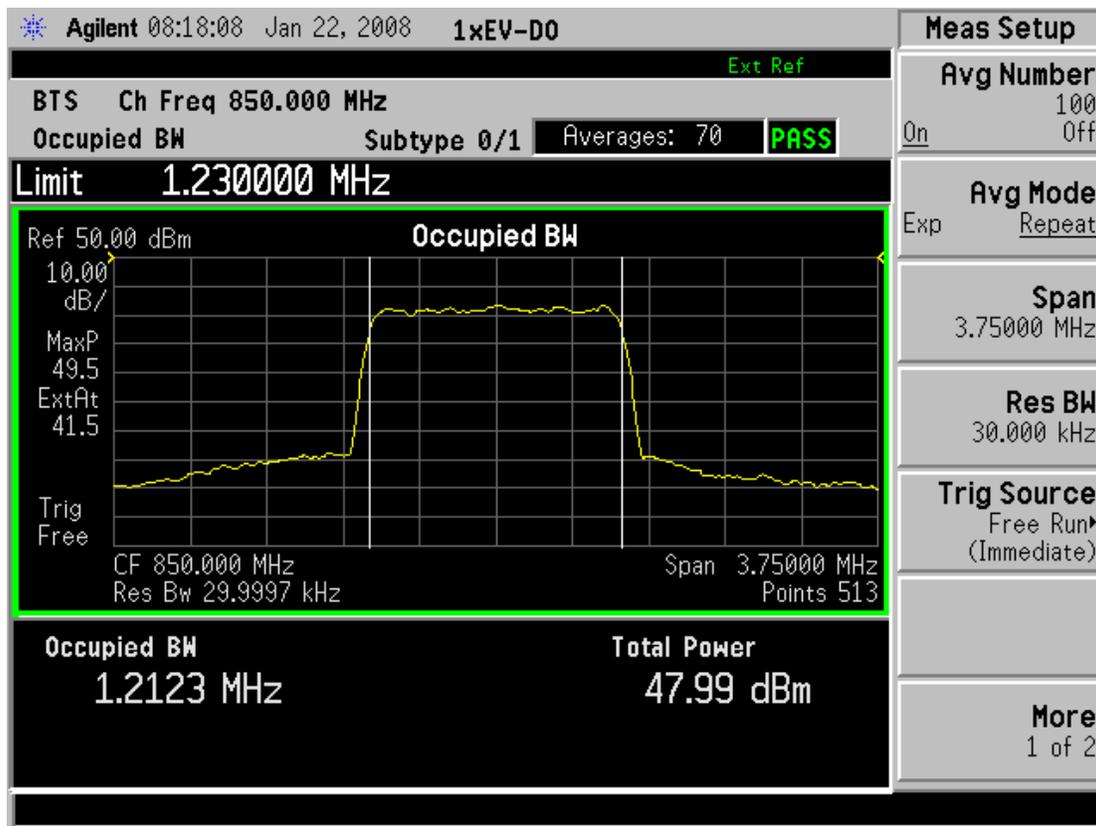
The testing was performed by Liu Fang on Jan 22, 2008.

Test Result: Pass

Test Mode: Transmitting /CDMA 2000 EV-DO

Test Data

Channel frequency (MHz)	99% Power Bandwidth (MHz)
850	1.2123



§22.861- BAND EDGES

Applicable Standard

According to §22.861, the effective radiated power (ERP) of any emission outside of the frequency range set forth in §22.857 must not exceed -13 dBm.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PSA Series Spectrum Analyzer	E4445A	MY44300451	2007-3-24	2008-3-24
	DTS100- 40dB Attenuator	DTS100-40dB-N	N/A	N/A	N/A
Hewlett Packard	Hewlett Packard RF Cable	8120-6192	01428251	N/A	N/A

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency, RBW set to near about 30 kHz.

Test Data Environmental Conditions

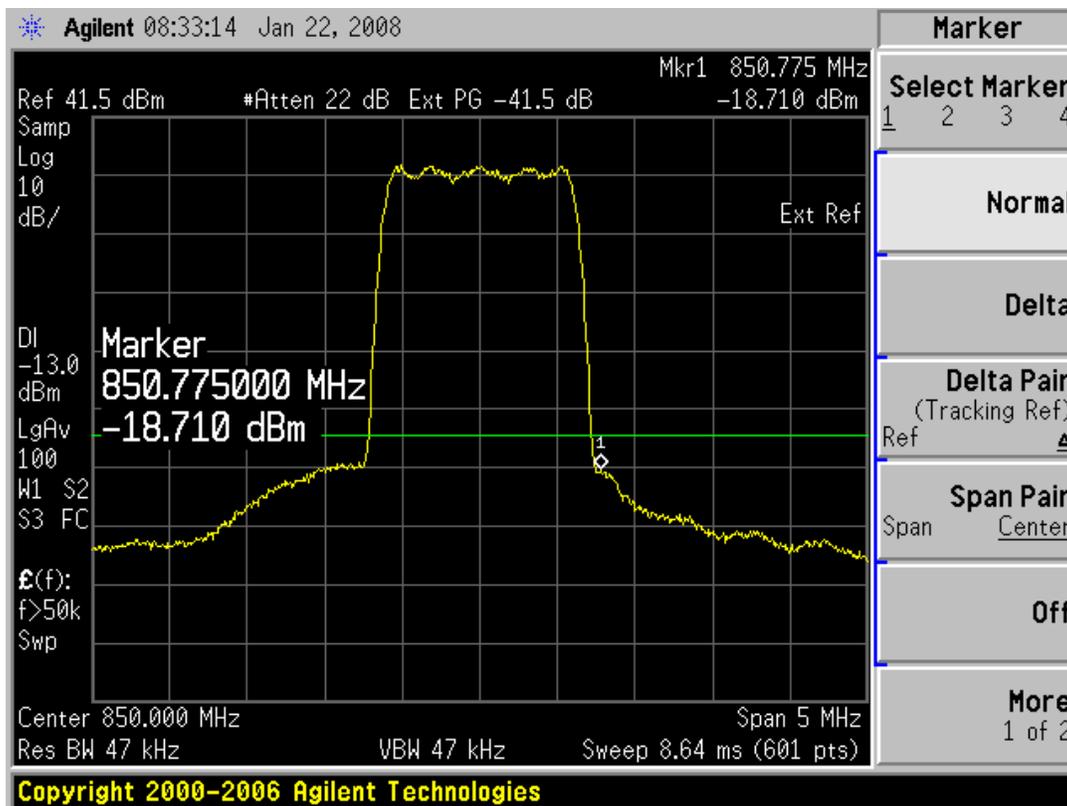
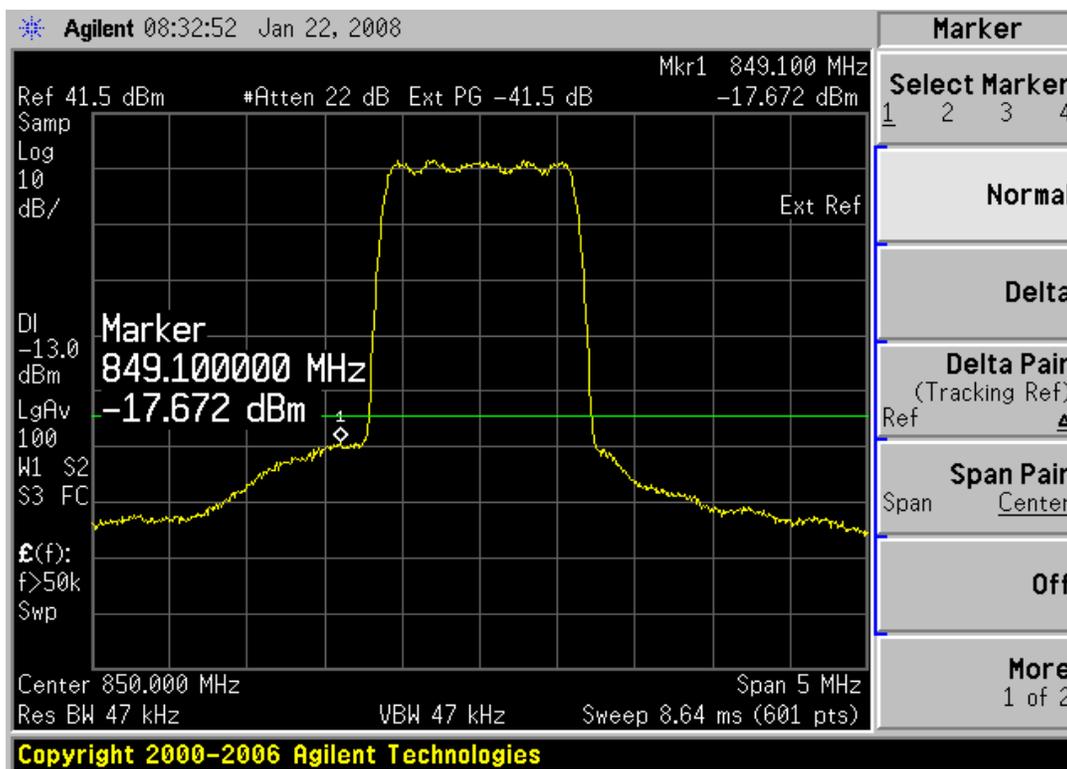
Temperature:	18 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

The testing was performed by Liu Fang on Jan 22, 2008.

Test Result: Pass.

Please refer to the plots.

Test Mode: Transmitting /CDMA2000 EV-DO



§2.1055 (a), §2.1055 (d), §22.863 - FREQUENCY STABILITY

Applicable Standard

Requirements: FCC § 2.1055 (a), § 2.1055 (d) & following:

According to §22.863, The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	PSA Spectrum Analyzer	E4445A	MY44300451	2006-11-24	2007-11-24
GZ-ESPEC	Temperature Chamber	GRW-120	00020268	2006-12-8	2007-12-8

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a f Spectrum Analyzer via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Spectrum Analyzer.

Frequency Stability vs. Voltage: An external variable DC power supply Source. The voltage was set to 101% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the end point. The output frequency was recorded for each voltage.

Test Data Environmental Conditions

Temperature:	20° C
Relative Humidity:	49%
ATM Pressure:	1011 mbar

The testing was performed by Liu Fang on Nov 10, 2007.

Test Result: Pass.

Please refer to the table.

Test Mode: Transmitting /CDMA 2000 EV-DO

Frequency Stability versus Temperature

Frequency Stability vs. Temperature				
Temperature °C	Power Supplied Vdc	Frequency Measure Error Hz	Error ppm	Limit ppm
CH40 f=850MHz				
-5	-48	-0.10	0.000115	0.1
5	-48	-0.15	0.000173	0.1
15	-48	-0.76	0.000872	0.1
25	-48	-0.36	0.000413	0.1
35	-48	-0.98	0.001125	0.1
45	-48	0.30	0.000344	0.1

Frequency Stability versus Voltage

Frequency Stability vs. Temperature				
Temperature °C	Power Supplied Vdc	Frequency Measure Error Hz	Error ppm	Limit ppm
CH40 f=850MHz				
-42	20	1.22	0.001401	0.1
-46	20	-0.59	0.000677	0.1
-48	20	-1.28	0.001469	0.1
-50	20	-2.99	0.003432	0.1
-54	20	0.98	0.001125	0.1
-58	20	0.05	0.000057	0.1

******* END OF REPORT *******