

Tejet

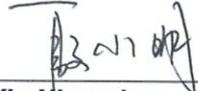


Report No. 2012SAR294

MPE REPORT

Report No. 2012SAR294

FCC ID: Q78-ZTEZTEWP658
Applicant: ZTE Corporation
Product: GSM wireless phone
Model: ZTE WP658
HW Version: fd9d
SW Version: DS_STD_CH_WP657+V1.0.0B02
Issue Date: 2012-08-23

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Reviewed by: 
Xue Jianguo

Approved by: 
Wang Jianrong



Remark: This report details the results of the testing carried out on the samples specified in this report, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. The report shall be reproduced except in full, without written approval of the Company.

Applicable Standard	FCC RULES 47 CFR2.1091: Radiofrequency radiation exposure evaluation: mobile device
	OET65C-97-01: Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
Test Results	Pass

Change History

Version	Change Contents	Author	Date
V1.0	First edition	Yin xiaoming	2012-08-08
V2.0	Page 7 , change the Tx frequency.	Yin xiaoming	2012-08-23

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1. Test Laboratory

1.1 Testing Location:

Company: Shanghai Tejet Communications Technology Co., Ltd Testing Center.
Address: Room 6205-6208, Building 6, No.399 Cailun Rd. Zhangjiang Hi-Tech Park,
Shanghai, China
Post Code : 210203
Tel: +86-21-61650880
Fax: +86-21-61650881
Website: www.tejet.cn

1.2 Laboratory Environment

Temperature 20° C~ 25 ° C
Relative humidity 20%~70%

1.3 Testing date

Test Date: 2012-08-07

2. Client Information

2.1 Applicant information

Company Name: ZTE Corporation
Address: ZTE Plaza ,Keji Road South ,Hi-Tech Industrial Park ,Nanshan
District, Shenzhen, Guangdong,518057,P.R.China
Post Code : 518057
Country: China
Tel: 021-68897541
Fax: 021-50801070

2.2 Manufacturer Information

Company Name: ZTE Corporation
Address: ZTE Plaza ,Keji Road South ,Hi-Tech Industrial Park ,Nanshan
District, Shenzhen, Guangdong,518057,P.R.China
Post Code : 518057
Country: China
Tel: 021-68897541
Fax: 021-50801070

3. Equipment Under Test (EUT) and Accessory Equipment (AE)

3.1 Information of EUT

Device type	Portable device	
Product name	GSM wireless phone	
Device operation configuration:		
IMEI or S/N	869444004476669	
Operating mode(s):	GSM850	
	GSM1900	
Test modulation	(GSM)GMSK	
Rated output power	GSM 850:33dBm	
	GSM1900: 30dBm	
Operating frequency range(s):	Band	Tx(MHz)
	GSM850	824.2~848.8
	GSM1900	1850.2~1909.8
Power class	GSM850: 4, test with power level 5	
	GSM1900: 1, test with power level 0	

3.2 Information Of AE

AE ID*	Description
AE1	Power supply
AE2	Battery

AE1

Model	STC-A22O50C35-C
Manufacture	ZTE CORPORATION

AE2

Model	Ni3612T30P3S534416
Manufacture	ZTE CORPORATION
Capacitance	800mAh

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1 Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
OET65C	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields	1997-01

4.2 RF Exposure Limit

According to OET65C: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation .

Table 1. *FCC Limits for Maximum Permissible Exposure (MPE)*

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

*Plane-wave equivalent power density

5. Friis Formula

Friis transmission formula : $P_d = (P_{out} * G) * DutyFactor / (4 * \pi * r^2)$

where

P_d = power density in **mW/cm²**

P_{out} = output power to antenna in **mW**

G = gain of antenna in linear scale

π = **3.1416**

R = distance between observation point and center of the radiator in **cm**

P_d is the limit of MPE. If we know the maximum Gain of the antenna and the total power input to the antenna, through the calculation, we will know the MPE value at distance 20cm.

Of GSM Duty Factor=1: 8.3.

6. Classification

The antennas of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as Mobile Device.

7. Test Results

7.1 The maximum antenna gain

The maximum antenna gain for antenna is

GSM 850: 3.51dBi

GSM1900: 4.17dBi

7.2 Output Power Into Antenna & RF Exposure value at distance 20cm

Frequency band	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Duty fator	The maximum sourced based time-averaged transmit power(mW)	Calculated RF Exposure	Limit (mW/cm ²)
GSM850	3.51	2.24	31.97	1573.98	0.12	189.64	0.085	0.55
GSM1900	4.17	2.61	29.43	877.00	0.12	105.66	0.055	1

So the limit is kept.

ANNEX A: EUT Photograph



EUT



Battery



POWER SUPPLY

ANNEX B: Test Instruments

No.	Name	Type	S/N	Calibration Date	Valid Period
01	BTS	CMU200	121464	Oct 14 st , 2011	One year

ANNEX C: Measurement Uncertainty

Expanded uncertainty (confidence interval of 95 %) (k=2)	0.4 dB
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