



Test Report No.: SA160908W001



# RF EXPOSURE REPORT

**Product:** WCDMA Module

**Model Name:** MW3650

**FCC ID:** SRQ-MW3650

**Applicant:** ZTE Corporation

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

**Manufacturer:** ZTE Corporation

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

**Prepared by:** Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch

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**Report No.:** SA160908W001

**Received Date:** Sep. 08, 2016

**Test Date:** Sep. 09, 2016 ~ Sep. 17, 2016

**Issued Date:** Sep. 18, 2016

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**BUREAU**  
**VERITAS**

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA160908W001	Original release	Sep. 18, 2016

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## 1 CERTIFICATION

**PRODUCT:** WCDMA Module  
**BRAND NAME:** ZTE  
**MODEL NAME:** MW3650  
**APPLICANT:** ZTE Corporation  
**TESTED:** Sep. 09, 2016 ~ Sep. 17, 2016  
**TEST SAMPLE:** Identical Prototype  
**STANDARDS:** **FCC Part 2 (Section 2.1091)**  
**FCC OET Bulletin 65, Supplement C (01-01)**  
IEEE C95.1

The above equipment has been tested by **Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :** Yuqiang Yin, **DATE:** Sep. 18, 2016  
(Yuqiang Yin/ Engineer)

**APPROVED BY :** Bill Yao, **DATE:** Sep. 18, 2016  
( Bill Yao / Manager)



## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	WCDMA Module	
<b>MODEL NAME</b>	MW3650	
<b>NOMINAL VOLTAGE</b>	3.8Vdc (host equipment)	
<b>OPERATING TEMPERATURE RANGE</b>	-35 ~ 75°C	
<b>MODULATION TYPE</b>	<b>GSM/GPRS/EDGE</b>	GMSK, 8PSK
	<b>WCDMA</b>	BPSK/QPSK
<b>OPERATING FREQUENCY</b>	<b>GSM/GPRS/EDGE</b>	824.2MHz ~ 848.8MHz (FOR GSM 850) 1850.2MHz ~ 1909.8MHz (FOR PCS 1900)
	<b>WCDMA</b>	1852.4MHz ~ 1907.6MHz (FOR WCDMA 1900) 826.4MHz ~ 846.6MHz (FOR WCDMA 850)
<b>ANTENNA TYPE</b>	Other Antenna	
<b>ANTENNA GAIN</b>	1.3dBi gain For GSM 850 / WCDMA 850 1.6dBi gain For PCS 1900 / WCDMA 1900	
<b>HW VERSION</b>	MW3650MB_B	
<b>SW VERSION</b>	BD_MW3650V1.0.0B01	
<b>I/O PORTS</b>	Refer to user's manual	

**NOTE:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.



### 3 RF EXPOSURE

#### 3.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm <sup>2</sup> )	AVERAGE TIME (minutes)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

#### 3.2 MPE CALCULATION FORMULA

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

#### 3.3 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Module Approval**.



### 3.4 CONDUCTED POWER

Band	GSM850		
Channel	128	190	251
Frequency (MHz)	824.2	836.6	848.8
GPRS 8	32.08	32.35	<b>32.64</b>
GPRS 10	32.06	32.32	32.61
EDGE 8 (MCS9)	28.09	28.35	28.64
EDGE 10 (MCS9)	28.07	28.33	28.62
EDGE 11 (MCS9)	28.03	28.29	28.58
EDGE 12 (MCS9)	27.47	27.73	28.02

Band	GSM1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8
GPRS 8	29.70	29.81	<b>30.16</b>
GPRS 10	29.68	29.78	30.12
EDGE 8 (MCS9)	25.71	25.81	26.15
EDGE 10 (MCS9)	25.69	25.79	26.13
EDGE 11 (MCS9)	25.65	25.75	26.09
EDGE 12 (MCS9)	25.09	25.19	25.53

Band	WCDMA V		
Channel	4132	4182	4233
Frequency (MHz)	826.4	836.4	846.6
RMC 12.2K	22.11	<b>22.30</b>	22.08
HSPA			
HSDPA Subtest-1	22.10	22.29	22.07
HSDPA Subtest-2	22.08	22.27	22.05
HSDPA Subtest-3	22.05	22.24	22.02
HSDPA Subtest-4	22.03	22.22	22.00

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC 12.2K	22.01	<b>22.46</b>	22.38
HSPA			
HSDPA Subtest-1	22.00	22.45	22.37
HSDPA Subtest-2	21.98	22.43	22.35
HSDPA Subtest-3	21.95	22.40	22.32
HSDPA Subtest-4	21.93	22.38	22.30



### 3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

#### GSM

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Conducted Time Average Power (dBm)	E.I.R.P Power (mW)/8	Power Density (mW/cm <sup>2</sup> )	limit (mW/cm <sup>2</sup> )	PASS / FAIL
GSM850	848.8	GPRS12	1.3	32.64	309.678	0.062	0.57	PASS
PCS1900	1909.8	GPRS12	1.6	30.16	187.461	0.037	1.00	PASS

#### WCDMA

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Conducted Time Average Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm <sup>2</sup> )	limit (mW/cm <sup>2</sup> )	PASS / FAIL
WCDMA V	836.4	GPRS12	1.3	22.30	229.087	0.046	0.56	PASS
WCDMA II	1880	GPRS12	1.6	22.46	254.683	0.051	1.00	PASS