



Test Report No.: SA160226W001



# RF EXPOSURE REPORT

**Product:** Outdoor CPE

**Model Name:** WF820

**FCC ID:** SRQ-WF820

**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.:** SA160226W001

**Received Date:** Mar. 26, 2016

**Test Date:** Apr. 06, 2016 ~ Apr. 20, 2016

**Issued Date:** Apr. 21, 2016

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA160226W001	Original release	Apr. 21, 2016



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# 1 CERTIFICATION

**PRODUCT:** Outdoor CPE  
**BRAND NAME:** ZTE  
**MODEL NAME:** WF820  
**APPLICANT:** ZTE Corporation  
**TESTED:** Apr. 06, 2016 ~ Apr. 20, 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 :** , **DATE:** Apr. 21, 2016  
( Amyee Qian / Engineer)

**APPROVED BY :** , **DATE:** Apr. 21, 2016  
( William Chung / Manager)



## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	Outdoor CPE	
<b>BRAND NAME</b>	ZTE	
<b>MODEL NAME</b>	WF820	
<b>PRODUCT TYPE</b>	Fixed Station	
<b>POWER SUPPLY</b>	48Vdc (POE adapter)	
<b>MODULATION TECHNOLOGY</b>	LTE Band 43, QPSK, 16QAM	
<b>FREQUENCY RANGE</b>	<b>LTE Band 43 (Channel Bandwidth: 5MHz)</b>	3652.5MHz ~ 3697.5MHz
	<b>LTE Band 43 (Channel Bandwidth: 10MHz)</b>	3655.0MHz ~ 3695.0MHz
	<b>LTE Band 43 (Channel Bandwidth: 15MHz)</b>	3657.5MHz ~ 3692.5MHz
	<b>LTE Band 43 (Channel Bandwidth: 20MHz)</b>	3660.0MHz ~ 3690.0MHz
<b>ANTENNA TYPE</b>	Fixed Internal antenna with 13dBi gain	
<b>HW VERSION</b>	B1	
<b>SW VERSION</b>	WF820V2.0.0B02	
<b>DATA CABLE</b>	N/A	
<b>I/O PORTS</b>	Refer to user's manual	

**NOTE:**

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT was powered by the following adapter:

<b>POE ADAPTER</b>	
<b>BRAND:</b>	N/A
<b>MODEL:</b>	N/A
<b>INPUT:</b>	AC 100-240V, 1000mA
<b>OUTPUT:</b>	DC 48V, 320mA

- 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 80cm away from the body of the user. So, this device is classified as **Fixed Station**.



**3.4 CONDUCTED POWER**

Band/BW	Modulation	RB Size	RB Offset	CH 44115	CH 44340	CH 44565	MPR
				3652.5 MHz	3675.0 MHz	3697.5 MHz	
43 / 5	QPSK	1	0	27.89	27.55	27.88	0
		1	12	27.64	27.38	27.75	0
		1	24	27.34	27.08	27.31	0
		12	0	26.59	26.50	26.68	1
		12	6	26.43	26.49	26.57	1
		12	13	26.30	26.28	26.38	1
		25	0	26.47	26.37	26.48	1
	16QAM	1	0	26.49	26.85	26.79	1
		1	12	26.40	26.57	26.70	1
		1	24	26.29	26.07	26.48	1
		12	0	25.57	25.60	25.65	2
		12	6	25.48	25.48	25.59	2
		12	13	25.37	25.35	25.31	2
		25	0	25.45	25.47	25.49	2

Band/BW	Modulation	RB Size	RB Offset	CH 44140	CH 44340	CH 44540	MPR
				3655.0 MHz	3675.0 MHz	3695.0 MHz	
43 / 10	QPSK	1	0	27.93	27.59	27.92	0
		1	24	27.68	27.42	27.79	0
		1	49	27.38	27.12	27.35	0
		25	0	26.63	26.54	26.72	1
		25	12	26.47	26.53	26.61	1
		25	25	26.34	26.32	26.42	1
		50	0	26.51	26.41	26.52	1
	16QAM	1	0	26.53	26.89	26.83	1
		1	24	26.44	26.61	26.74	1
		1	49	26.33	26.11	26.52	1
		25	0	25.61	25.64	25.69	2
		25	12	25.52	25.52	25.63	2
		25	25	25.41	25.39	25.35	2
		50	0	25.49	25.51	25.53	2



Band/BW	Modulation	RB Size	RB Offset	CH 44165	CH 44340	CH 44515	MPR
				3657.5 MHz	3675.0 MHz	3692.5 MHz	
43 / 15	QPSK	1	0	27.99	27.65	27.98	0
		1	37	27.74	27.48	27.85	0
		1	74	27.44	27.18	27.41	0
		36	0	26.69	26.60	26.78	1
		36	19	26.53	26.59	26.67	1
		36	39	26.40	26.38	26.48	1
		75	0	26.57	26.47	26.58	1
	16QAM	1	0	26.59	26.95	26.89	1
		1	37	26.50	26.67	26.80	1
		1	74	26.39	26.17	26.58	1
		36	0	25.67	25.70	25.75	2
		36	19	25.58	25.58	25.69	2
		36	39	25.47	25.45	25.41	2
		75	0	25.55	25.57	25.59	2

Band/BW	Modulation	RB Size	RB Offset	CH 44190	CH 44340	CH 44490	MPR
				3660.0 MHz	3675.0 MHz	3690.0 MHz	
43 / 20	QPSK	1	0	28.02	27.68	28.01	0
		1	50	27.77	27.51	27.88	0
		1	99	27.47	27.21	27.44	0
		50	0	26.72	26.63	26.81	1
		50	25	26.56	26.62	26.70	1
		50	50	26.43	26.41	26.51	1
		100	0	26.60	26.50	26.61	1
	16QAM	1	0	26.62	26.98	26.92	1
		1	50	26.53	26.70	26.83	1
		1	99	26.42	26.20	26.61	1
		50	0	25.70	25.73	25.78	2
		50	25	25.61	25.61	25.72	2
		50	50	25.50	25.48	25.44	2
		100	0	25.58	25.60	25.62	2



### 3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

#### LTE

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
<b>Band43</b>	3660.0	QPSK	13	28.02	12647.363	0.157	1.00	PASS