



Test Report No.: SA160620W003



# RF EXPOSURE REPORT

**Product:** Outdoor CPE

**Model Name:** WF824

**FCC ID:** SRQ-WF824

**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

**Lab Location:** No. 34, Chenwulu Section, Guantai Rd., Houjie Town,  
Dongguan City, Guangdong 523942, China

**TEL:** +86 769 8593 5656

**FAX:** +86 769 8593 1080

**E-MAIL:** [customerservice.dg@cn.bureauveritas.com](mailto:customerservice.dg@cn.bureauveritas.com)

**Report No.:** RF160620W003

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

**Test Date:** Sep. 18, 2016 ~ Oct. 24, 2016

**Issued Date:** Oct. 26, 2016

This report should not be used by the client to claim product certification, approval, or endorsement by A2LA or any government agencies.

Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.

**Bureau Veritas Shenzhen Co., Ltd.**  
Dongguan Branch

No. 34, Chenwulu Section, Guantai Rd., Houjie  
Town, Dongguan City, Guangdong 523942, China

Tel: +86 769 8593 5656  
Fax: +86 769 8593 1080  
Email: [customerservice.dg@cn.bureauveritas.com](mailto:customerservice.dg@cn.bureauveritas.com)



## TABLE OF CONTENTS

|   |          |
|---|----------|
| <b>RF EXPOSURE REPORT</b> .....                         | <b>1</b> |
| <b>RELEASE CONTROL RECORD</b> .....                     | <b>3</b> |
| <b>1 CERTIFICATION</b> .....                            | <b>4</b> |
| <b>2 GENERAL INFORMATION</b> .....                      | <b>5</b> |
| 2.1 GENERAL DESCRIPTION OF EUT .....                    | 5        |
| <b>3 RF EXPOSURE</b> .....                              | <b>6</b> |
| 3.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) ..... | 6        |
| 3.2 MPE CALCULATION FORMULA.....                        | 6        |
| 3.3 CLASSIFICATION .....                                | 6        |
| 3.4 CONDUCTED POWER .....                               | 7        |
| 3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER ..... | 7        |



Test Report No.: SA160620W003

## RELEASE CONTROL RECORD

| ISSUE NO.    | REASON FOR CHANGE | DATE ISSUED   |
|--------------|-------------------|---------------|
| SA160620W003 | Original release  | Oct. 26, 2016 |



Test Report No.: SA160620W003

## 1 CERTIFICATION

**PRODUCT:** Outdoor CPE  
**BRAND NAME:** ZTE  
**MODEL NAME:** WF824  
**APPLICANT:** ZTE Corporation  
**TESTED:** Sep. 18, 2016 ~ Oct. 24, 2016  
**TEST SAMPLE:** Production Unit  
**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:** Oct. 26, 2016  
( Yuqiang Yin / Engineer)

**APPROVED BY:** Bill Yao, **DATE:** Oct. 26, 2016  
( Bill Yao / Manager)



## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                              |                                |
|------------------------------|--------------------------------|
| <b>EUT</b>                   | Outdoor CPE                    |
| <b>MODEL NO.</b>             | WF824                          |
| <b>POWER SUPPLY</b>          | 48Vdc (POE adapter)            |
| <b>MODULATION TYPE</b>       | 16QAM, QPSK                    |
| <b>MODULATION TECHNOLOGY</b> | OFDM                           |
| <b>OPERATING FREQUENCY</b>   | 5180 ~ 5240MHz                 |
| <b>NUMBER OF CHANNEL</b>     | 4                              |
| <b>AVERAGE POWER</b>         | 51.286mW for 5180 ~ 5240MHz    |
| <b>ANTENNA TYPE</b>          | Fixed Internal with 15dBi gain |
| <b>I/O PORTS</b>             | Refer to user's manual         |
| <b>CABLE SUPPLIED</b>        | N/A                            |

**NOTE:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. The EUT was powered by the following adapter:

| <b>POE ADAPTER</b> |  |
|--------------------|--|
| <b>BRAND:</b>      | SHEN ZHEN GOSPELL DIGITAL TECHNOLOGY CO.,LTD |
| <b>MODEL:</b>      | G0549-480-032                                |
| <b>INPUT:</b>      | AC 100-240V, 500mA                           |
| <b>OUTPUT:</b>     | DC 48V, 320mA                                |

3. 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 **Fixed Station**.



### 3.4 CONDUCTED POWER

#### OUTPUT POWER:

| QPSK    |                         |                    |                     |                   |           |
|---------|-------------------------|--------------------|---------------------|-------------------|-----------|
| CHANNEL | CHANNEL FREQUENCY (MHz) | AVERAGE POWER (mW) | AVERAGE POWER (dBm) | POWER LIMIT (dBm) | PASS/FAIL |
| 36      | 5180                    | 42.364             | 16.27               | 30                | PASS      |
| 42      | 5210                    | 47.315             | 16.75               | 30                | PASS      |
| 48      | 5240                    | 51.286             | 17.10               | 30                | PASS      |

| 16QAM   |                         |                    |                     |                   |           |
|---------|-------------------------|--------------------|---------------------|-------------------|-----------|
| CHANNEL | CHANNEL FREQUENCY (MHz) | AVERAGE POWER (mW) | AVERAGE POWER (dBm) | POWER LIMIT (dBm) | PASS/FAIL |
| 36      | 5180                    | 42.170             | 16.25               | 30                | PASS      |
| 42      | 5210                    | 47.424             | 16.76               | 30                | PASS      |
| 48      | 5240                    | 51.050             | 17.08               | 30                | PASS      |

### 3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

| OPERATING BAND(MHz) | Output Power (dBm) | Output Power E.I.R.P. (dBm) | Output Power E.I.R.P. (mW) | Power Density (mW/cm <sup>2</sup> ) | limit (mW/cm <sup>2</sup> ) | PASS / FAIL |
|---------------------|--------------------|-----------------------------|----------------------------|-------------------------------------|-----------------------------|-------------|
| 5180 ~ 5240         | 17.10              | 32.10                       | 1621.81                    | 0.323                               | 1.00                        | PASS        |