RF Exposure Evaluation Report

APPLICANT	**:**	**ZTE CORPORATION**
EQUIPMENT	**:**	**Wireless Access Terminal**
BRAND NAME	**:**	**ZTE**
MODEL NAME	**:**	**WF723CA**
FCC ID	**:**	**SRQ-Z723EL**
STANDARD	**:**	**47 CFR Part 2.1091**

We, Sporton International (Kunshan) Inc., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Mark Qu

Approved by: Mark Qu / Manager

NVLAP TESTING
NVLAP LAB CODE 600155-0

Sporton International (Kunshan) Inc.
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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA710507-04	Rev. 01	Initial issue of report	Feb. 09, 2017

1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	Sporton International (Kunshan) Inc.
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958

Applicant	
Company Name	ZTE CORPORATION
Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

Manufacturer	
Company Name	ZTE CORPORATION
Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Wireless Access Terminal
Brand Name	ZTE
Model Name	WF723CA
FCC ID	SRQ-Z723EL
IMEI Code	866625030001322
Wireless Technology and Frequency Range	WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz
Mode	AMR/RMC 12.2Kbps HSDPA HSUPA HSPA+ (uplink is not supported) LTE: QPSK / 16QAM
Antenna Type	Fixed External Antenna
HW Version	Z723ELHWV1.0
SW Version	WF723CAV1.0.0B02
EUT Stage	Identical Prototype

Remark:
1. There are two antennas for EUT, one is Tx/Rx function, another is Rx function only.
2. The report is in accordance with C2PC rule and the product equality declaration as Appendix A. Based on the similarity between current and previous project, enabled LTE band 2/4/5/12/13, LTE Band 5 was for full test, WCDMA Band 2/4/5 were performed on original report which can be referred to Sporton Report Number FA710507-01, and other LTE bands test cases were performed on original report which can be referred to Sporton Report Number FA710507.

3. Maximum RF average output power among production units

<WCDMA>

Mode	Average Power (dBm)		
	WCDMA Band V	WCDMA Band II	WCDMA Band IV
AMR 12.2Kbps	25.0	23.0	24.5
RMC 12.2Kbps	25.0	23.0	24.5
HSDPA Subtest-1	24.0	22.0	23.5
HSDPA Subtest-2	24.0	22.0	23.5
HSDPA Subtest-3	23.5	21.5	23.0
HSDPA Subtest-4	23.5	21.5	23.0
HSUPA Subtest-1	23.5	22.0	23.5
HSUPA Subtest-2	23.0	20.0	22.5
HSUPA Subtest-3	23.0	21.0	22.5
HSUPA Subtest-4	23.5	20.0	23.0
HSUPA Subtest-5	24.5	22.0	23.5

<LTE>

Average Power (dBm)								
Modulation	BW (MHz)	RB Size	Target MPR	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 12	LTE Band 13
QPSK	20	≤ 18	0	23.5	23.5	-	-	-
QPSK	20	> 18	0-1	22.5	22.5	-	-	-
16QAM	20	≤ 18	0-1	22.5	22.5	-	-	-
16QAM	20	> 18	0-2	21.5	21.5	-	-	-
QPSK	15	≤ 16	0	23.5	23.5	-	-	-
QPSK	15	> 16	0-1	22.5	22.5	-	-	-
16QAM	15	≤ 16	0-1	22.5	22.5	-	-	-
16QAM	15	> 16	0-2	21.5	21.5	-	-	-
QPSK	10	≤ 12	0	23.5	23.5	23.5	23.5	23.5
QPSK	10	> 12	0-1	22.5	22.5	22.5	22.5	22.5
16QAM	10	≤ 12	0-1	22.5	22.5	22.5	22.5	22.5
16QAM	10	> 12	0-2	21.5	21.5	21.5	21.5	21.5
QPSK	5	≤ 8	0	23.5	23.5	23.5	23.5	23.5
QPSK	5	> 8	0-1	22.5	22.5	22.5	22.5	22.5
16QAM	5	≤ 8	0-1	22.5	22.5	22.5	22.5	22.5
16QAM	5	> 8	0-2	21.5	21.5	21.5	21.5	21.5
QPSK	3	≤ 4	0	23.5	23.5	23.5	23.5	-
QPSK	3	> 4	0-1	22.5	22.5	22.5	22.5	-
16QAM	3	≤ 4	0-1	22.5	22.5	22.5	22.5	-
16QAM	3	> 4	0-2	21.5	21.5	21.5	21.5	-
QPSK	1.4	≤ 5	0	23.5	23.5	23.5	23.5	-
QPSK	1.4	> 5	0-1	22.5	22.5	22.5	22.5	-
16QAM	1.4	≤ 5	0-1	22.5	22.5	22.5	22.5	-
16QAM	1.4	> 5	0-2	21.5	21.5	21.5	21.5	-

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>SRQ-Z723EL</td></tr>
<tr><td>EUT</td><td>Wireless Access Terminal</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 2: 1850.7 MHz ~ 1909.3 MHz
LTE Band 4: 1710.7 MHz ~ 1754.3 MHz
LTE Band 5: 824.7 MHz ~ 848.3 MHz
LTE Band 12: 699.7 MHz ~ 715.3 MHz
LTE Band 13: 779.5 MHz ~ 784.5 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 13: 5MHz, 10MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK, and 16QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
</table>

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
WCDMA Band II	1852.4	1.00	23.00	24.00	0.25	251.19	0.05	1.00
WCDMA Band IV	1712.4	-0.50	24.50	24.00	0.25	251.19	0.05	1.00
WCDMA Band V	826.4	-1.30	25.00	23.70	0.23	234.42	0.05	0.55
LTE Band 2	1850.7	1.00	23.50	24.50	0.28	281.84	0.06	1.00
LTE Band 4	1710.7	-0.50	23.50	23.00	0.20	199.53	0.04	1.00
LTE Band 5	824.7	-1.30	23.50	22.20	0.17	165.96	0.03	0.55
LTE Band 12	699.7	-1.60	23.50	21.90	0.15	154.88	0.03	0.47
LTE Band 13	779.5	-1.80	23.50	21.70	0.15	147.91	0.03	0.52

Note:
1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. All licensed modes share the same antenna part and cannot transmit simultaneously.

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

Appendix A .Product Equality Declaration

ZTE CORPORATION

Product Change Description

As the applicant of the below model, [ZTE Corporation] declares that the product,

[WF723CA]

[ZTE Corporation]

is the variant of the initial certified product,

[Z723EL]

[ZTE Corporation]

[Project Number:17ZTE303]

SOFTWARE MODIFICATIONS:

Protocol Stack changes: NO

MMS/STK changes: NO

JAVA changes: NO

Other changes detailed: add the LTE Band 5, WCDMA Band 2/4/5

HARDWARE MODIFICATION:

Band changes: NO

Power Amplifier changes: NO

Antenna changes: NO

PCB Layout changes: NO

Components on PCB changes: NO

LCD changes: NO

Speaker changes: NO

Camera changes: NO

Vibrator changes: NO

Bluetooth changes: NO

FM changes: NO

Other changes: NO

MECHANICAL MODIFICATIONS:

Use new metal front/back cover or keypad: NO

Mechanical shell changes: NO

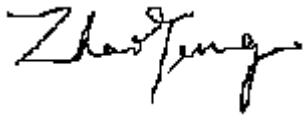
Other changes detailed: NO

ACCESSORY MODIFICATIONS:

Battery changes:

AC Adaptor changes:

Earphone changes:



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