RF EXPOSURE REPORT

Report No.: 16070814-FCC-H2

Supersede Report No.: N/A

Applicant	Worldex International Ltd
Product Name	NEOS400
Model No.	400
Serial No.	N/A
Test Standard	FCC 2.1093:2015
Test Date	July 08 to 21, 2016
Issue Date	July 22, 2016
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Loren Luo	David Huang	
Loren Luo Test Engineer	David Huang Checked By	

This test report may be reproduced in full only

Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

This page has been left blank intentionally.

CONTENTS

1. Report Revision History

Report No.	Report Version	Description	Issue Date
16070814-FCC-H2	NONE	Original	July 22, 2016

2. Customer information

Applicant Name	Worldex International Ltd
Applicant Add	3A-8A, Mont Orchid Riverlet, Gongye 3rd Road, Nanshan, Shenzhen, China
Manufacturer	Shenzhen Fortuneship Technology Co., Ltd
Manufacturer Add	6/F, Kanghesheng Building, No.1 Chuangsheng Road, Nanshan District, Shenzhen,Guangdong, China

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	NEOS400
Main Model:	400
Serial Model:	N/A
Date EUT received:	July 07, 2016
Test Date(s):	July 08 to 21, 2016
Antenna Gain:	GSM850: 0.2dBi PCS1900: 0.5dBi UMTS-FDD Band V: 0.5dBi UMTS-FDD Band II: 0.5dBi Bluetooth/BLE/WIFI: 0dBi GPS: 0dBi
Antenna Type:	FPC antenna
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK UMTS-FDD: QPSK 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK BLE: GFSK GPS:BPSK
RF Operating Frequency (ies):	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz; RX: 1932.4 ~ 1987.6 MHz WIFI: 802.11b/g/n(20M): 2412-2462 MHz WIFI: 802.11n(40M): 2422-2452 MHz Bluetooth& BLE: 2402-2480 MHz GPS: 1575.42 MHz

Number of Channels:	GSM 850: 124CH PCS1900: 299CH UMTS-FDD Band 5: 102CH UMTS-FDD Band 2: 277CH WIFI :802.11b/g/n(20M): 11CH WIFI :802.11n(40M): 7CH Bluetooth: 79CH BLE: 40CH GPS:1CH
Port:	Power Port, Earphone Port, USB Port
Input Power:	Adapter: Model: TPA - 90C050050UU Input: AC100-240V~50/60Hz;0.2A Output: DC 5.0V,0.5A Battery: Model: 385258AR Spec: 3.7V,1300mAh(4.81Wh) Charge limited voltage: 4.2V
Trade Name :	NEOS
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	2ACZ2-400

5. FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable devices.

5.1 RF Exposure

Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission' s guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[16] where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

result = $P\sqrt{F}/D$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

5.2 Test Result

Bluetooth Mode:

Modulation	CH	Frequency (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	2.837	2.5±1	3.5	2.239	0.69	3
	Mid	2441	2.336	2.5±1	3.5	2.239	0.70	3
	High	2480	2.486	2.5±1	3.5	2.239	0.71	3
π /4 DQPSK	Low	2402	2.756	2.5±1	3.5	2.239	0.69	3
	Mid	2441	2.240	2.5±1	3.5	2.239	0.70	3
	High	2480	2.365	2.5±1	3.5	2.239	0.71	3
8-DPSK	Low	2402	**2.886**	2.5±1	3.5	2.239	0.69	3
	Mid	2441	2.367	2.5±1	3.5	2.239	0.70	3
	High	2480	2.475	2.5±1	3.5	2.239	0.71	3

WIFI Mode:

Modulation	CH	Frequency (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
802.11b	Low	2412	8.75	8.5±1	9.5	8.913	2.77	3
	Mid	2442	8.61	8.5±1	9.5	8.913	2.78	3
	High	2472	**8.76**	8.5±1	9.5	8.913	2.80	3
802.11g	Low	2412	8.61	8.5±1	9.5	8.913	2.77	3
	Mid	2442	**8.79**	8.5±1	9.5	8.913	2.78	3
	High	2472	8.53	8.5±1	9.5	8.913	2.80	3
802.11n (20M)	Low	2412	8.54	8.5±1	9.5	8.913	2.77	3
	Mid	2442	8.46	8.5±1	9.5	8.913	2.78	3
	High	2472	**8.55**	8.5±1	9.5	8.913	2.80	3
802.11n (40M)	Low	2422	8.73	8.5±1	9.5	8.913	2.77	3
	Mid	2442	8.37	8.5±1	9.5	8.913	2.78	3
	High	2462	**8.75**	8.5±1	9.5	8.913	2.79	3

BLE Mode:

Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	**-4.844**	-5±1	-4	0.398	0.12	3
	Mid	2440	-5.135	-5±1	-4	0.398	0.12	3
	High	2480	-5.031	-5±1	-4	0.398	0.13	3

Result: Compliance

No SAR measurement is required.