

RF EXPOSURE REPORT



Report No.: 17070855-FCC-H2

Supersede Report No.: N/A

Applicant	i.safe MOBILE GmbH	
Product Name	WCDMA DIGITAL MOBILE PHONE	
Model No.	IS320.1	
Serial No.	N/A	
Test Standard	FCC 2.1093:2016	
Test Date	September 07 to 24, 2017	
Issue Date	September 25, 2017	
Test Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Equipment complied with the specification <input checked="" type="checkbox"/>		
Equipment did not comply with the specification <input type="checkbox"/>		
		
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

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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

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
17070855-FCC-H2	NONE	Original	September 25, 2017

2. Customer information

Applicant Name	i.safe MOBILE GmbH
Applicant Add	I_PARK TAUBERFRANKEN 10 97922 Lauda-Koenigshofen Germany
Manufacturer	i.safe MOBILE GmbH
Manufacturer Add	I_PARK TAUBERFRANKEN 10 97922 Lauda-Koenigshofen Germany

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.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT: WCDMA DIGITAL MOBILE PHONE

Main Model: IS320.1

Serial Model: N/A

Date EUT received: September 06, 2017

Test Date(s): September 07 to 24, 2017

	GSM850: -0.9dBi
	PCS1900: 0.72dBi
	UMTS-FDD Band V: -0.9dBi
Antenna Gain:	UMTS-FDD Band II: 0.72dBi
	WIFI: 1.14dBi
	Bluetooth/BLE: 1.14dBi
	GPS: 15dBi

Antenna Type: PIFA antenna

Type of Modulation:	GSM / GPRS: GMSK
	EGPRS: GMSK, 8PSK
	UMTS-FDD: QPSK
	802.11b/g/n: DSSS, OFDM
	Bluetooth: GFSK, $\pi/4$ DQPSK, 8DPSK
	BLE: GFSK
	GPS: BPSK
	RFID: ASK

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 RFID: 13.56MHz
	GSM 850: 124CH PCS1900: 299CH UMTS-FDD Band V: 102CH UMTS-FDD Band II: 277CH WIFI :802.11b/g/n(20M): 11CH WIFI :802.11n(40M): 7CH Bluetooth: 79CH BLE: 40CH GPS:1CH RFID: 1CH (ASK)
Number of Channels:	
Port:	USB Port, Earphone Port
	Adapter: Model: ICP12-050-2000B Input: AC100-240V~50/60Hz,0.3A
Input Power:	Output: DC 6.0V,2000mA Battery: Spec: 3.7V, 1900mAh, 7.03Wh Voltage: 4.2V
Trade Name :	N/A
GPRS/ EGPRS Multi-slot class	8/10/11/12
FCC ID:	2AACZ-IS3201

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:

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

- $f_{\text{(GHz)}}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation¹⁷
- 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.

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

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	6.922	7±1	8	6.310	1.96	3
	Mid	2441	7.277	7±1	8	6.310	1.97	3
	High	2480	7.112	7±1	8	6.310	1.99	3
π /4 DQPSK	Low	2402	6.750	7±1	8	6.310	1.96	3
	Mid	2441	7.036	7±1	8	6.310	1.97	3
	High	2480	6.900	7±1	8	6.310	1.99	3
8-DPSK	Low	2402	6.757	7±1	8	6.310	1.96	3
	Mid	2441	7.057	7±1	8	6.310	1.97	3
	High	2480	6.941	7±1	8	6.310	1.99	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	-0.652	-0.5±1	0.5	1.122	0.35	3
	Mid	2440	-0.518	-0.5±1	0.5	1.122	0.35	3
	High	2480	-0.850	-0.5±1	0.5	1.122	0.35	3

Result: Compliance

No SAR measurement is required.