RF EXPOSURE REPORT



Report No.: 17070023-FCC-H2
Supersede Report No.: N/A

Applicant	Anda Technologies S.A.C			
Product Name	Anda Watc	Anda Watch		
Model No.	W010R1			
Serial No.	N/A			
Test Standard	FCC 2.109	3:2016		
Test Date	January 13	to February (05, 2017	
Issue Date	February 0	6, 2017		
Test Result	Pass Fail			
Equipment compl	Equipment complied with the specification			
Equipment did not comply with the specification				
Loven	Luo	Dewiol	Huang	
Loren Luo Test Engineer			Huang ked By	

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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
17070023-FCC-H2	NONE	Original	February 06, 2017

2. Customer information

Applicant Name	Anda Technologies S.A.C	
Applicant Add	Avenida Santa Cruz No. 888, Piso 4, Miraflores, Lima, Peru	
Manufacturer	Borqs Beijing Ltd.	
Manufacturer Add	Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road,	
	Chaoyang District Beijing, 100015 China	

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
Lab Address	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 of	Dediated Emission Drawara To Chamban v2.0
Radiated Emission	Radiated Emission Program-To Shenzhen v2.0
Test Software of	E7 FMC(ver len 0244)
Conducted Emission	EZ-EMC(ver.lcp-03A1)



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4. Equipment under Test (EUT) Information

Description of EUT: Anda Watch

Main Model: W010R1

Serial Model: N/A

Date EUT received: January 12, 2017

Test Date(s): January 13 to February 05, 2017

GSM850: -5.00dBi PCS1900: 1.4dBi

UMTS-FDD Band V: -5.00dBi UMTS-FDD Band IV: 0.84dBi UMTS-FDD Band II: 1.4dBi

Antenna Gain:

LTE Band II:1.41dBi

LTE Band IV: 0.84dBi

WIFI: -1.5dBi

Bluetooth/BLE: -1.5dBi

GPS: 0.48dBi

Antenna Type: PIFA antenna

GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK

Type of Modulation: LTE Band: QPSK, 16QAM

802.11b/g/n: DSSS, OFDM

Bluetooth: GFSK, π /4DQPSK, 8DPSK

BLE: GFSK GPS:BPSK

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

RF Operating Frequency (ies): UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz

UMTS-FDD Band IV TX:1712.4 ~ 1752.6 MHz;



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RX: 2112.4 ~ 2152.6 MHz

UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;

RX: 1932.4 ~ 1987.6 MHz

LTE Band II TX: $1850.7 \sim 1909.3 MHz$; RX : $1930.7 \sim 1989.3 MHz$ LTE Band IV TX: $1710.7 \sim 1754.3 MHz$; RX : $2110.7 \sim 2154.3 MHz$

WIFI: 802.11b/g/n(20M): 2412-2462 MHz

Bluetooth& BLE: 2402-2480 MHz

GPS: 1575.42 MHz

GSM 850: 124CH PCS1900: 299CH

UMTS-FDD Band V: 102CH UMTS-FDD Band IV: 202CH

Number of Channels: UMTS-FDD Band II: 277CH

WIFI:802.11b/g/n(20M): 11CH

Bluetooth: 79CH

BLE: 40CH GPS:1CH

Port: Data and charging Port

Adapter:

Model: ASUC37a-050100

Input: AC100-240V~50/60Hz,0.3A

Input Power:
Output: DC 5.0V,1.0A

Battery:

Spec: 4.35V,400mAh

Trade Name: Anda Watch

GPRS/EGPRS Multi-slot class 8/10/12

FCC ID: 2ALJB-W010R1



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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)] $\cdot \sqrt{f_{(GHz)}} \le 3.0$ 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 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.

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

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm



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5.2 Test Result

Bluetooth Mode:

Modulation	СН	Freque ncy	Conducted Power	Tune Up Power	Max Tune Up Power	Max Tune Up Power	Result	Limit
		(MHz)	(dBm)	(dBm)	(dBm)	(mW)		
GFSK	Low	2402	6.470	6±1	7	5.012	1.55	3
	Mid	2441	6.728	6±1	7	5.012	1.57	3
	High	2480	6.731	6±1	7	5.012	1.58	3
π /4 DQPSK	Low	2402	7.323	7±1	8	6.310	1.96	3
	Mid	2441	7.370	7±1	8	6.310	1.97	3
	High	2480	7.576	7±1	8	6.310	1.99	3
8-DPSK	Low	2402	7.513	7±1	8	6.310	1.96	3
	Mid	2441	7.487	7±1	8	6.310	1.97	3
	High	2480	7.645	7±1	8	6.310	1.99	3

BLE Mode:

Modulation	СН	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	-2.740	-3±1	-2	0.631	0.20	3
	Mid	2440	-2.926	-3±1	-2	0.631	0.20	3
	High	2480	-2.407	-3±1	-2	0.631	0.20	3

Result: Compliance

No SAR measurement is required.