

Borqs BeiJing Ltd.

Presto

Main Model: A2
Serial Model: N/A

December 04, 2013
Report No.: 13070507-FCC-H1



(This report supersedes none)

Modifications made to the product : None

This Test Report is Issued Under the Authority of:

Ray Zhao Compliance Engineer	Alex Liu Technical Manager	

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

SIEMIC, INC. RF Exposure Evaluation Report
FCC Part 15.247: 2013, Part 2.1093

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Laboratory 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 through out 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 , Telecom
Canada	EMC, RF/Wireless , Telecom
Taiwan	EMC, RF, Telecom , Safety
Hong Kong	RF/Wireless ,Telecom
Australia	EMC, RF, Telecom , Safety
Korea	EMI, EMS, RF , Telecom, Safety
Japan	EMI, RF/Wireless, Telecom
Singapore	EMC , RF , Telecom
Europe	EMC, RF, Telecom , Safety



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1 EXECUTIVE SUMMARY & EUT INFORMATION

The purpose of this test programme was to demonstrate compliance of the Borqs BeiJing Ltd., Presto and model: A2 against the current Stipulated Standards. The Presto has demonstrated compliance with the FCC Part 15.247: 2013, Part 2.1093.

EUT Information

EUT Description	Presto
Main Model	A2
Serial Model	N/A
Antenna Gain	Bluetooth & WIFI: 2dBi NFC: 2dBi
Input Power	Li-ion polymer: Model: PR-696876 Spec: 3.7 Vdc, 11100 mAh Limited charger voltage: 4.2V
Classification Per Stipulated Test Standard	FCC Part 15.247: 2013, Part 2.1093

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2 TECHNICAL DETAILS

Purpose	Compliance testing of Presto with stipulated standard
Applicant / Client	Borqs BeiJing Ltd. Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road, Chaoyang District Beijing, 100015 China
Manufacturer	Borqs BeiJing Ltd. Tower A, Building B23, Universal Business Park, No. 10 Jiuxianqiao Road, Chaoyang District Beijing, 100015 China
Laboratory performing the tests	SIEMIC (Nanjing-China) Laboratories NO.2-1, Longcang Dadao, Yuhua Economic Development Zone, Nanjing, China Tel: +86(25)86730128/86730129 Fax: +86(25)86730127 Email: China@siemic.com.cn
Test report reference number	13070507-FCC-H1
Date EUT received	November 05, 2013
Standard applied	FCC Part 15.247: 2013, Part 2.1093
Dates of test (from – to)	November 21 to November 29, 2013
No of Units :	#1
Equipment Category :	Spread Spectrum System/Device
Trade Name :	N/A
RF Operating Frequency (ies)	802.11b/g/n: 2412-2462 MHz Bluetooth: 2402-2480 MHz NFC: 13.56 MHz
Number of Channels	Bluetooth: 79CH 802.11b/g/n: 11CH NFC: 1CH
Modulation	802.11b/g/n: CCK/OFDM Bluetooth: GFSK NFC: ASK
FCC ID	2ABDKPRESTOA211
Port	USB Port



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3 MODIFICATION

NONE

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4 TEST SUMMARY

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

Test Results Summary

FCC Rules	Description of Test	Result
§15.247 (i), §2.1093	RF Exposure	Compliance



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5 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 §15.247 (i) and §2.1093/ – 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:

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

- $f_{(\text{GHz})}$ 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.

GFSK Mode:

One antenna is available for the EUT (BT antenna). The minimum separation distances is 5 mm.

The maximum average output power(turn-up power) in low channel of BT is 0.48 dBm=1.11 mW

The calculation results= $1.11/5^* \sqrt{2.402}=0.34<3$

The maximum average output power(turn-up power) in middle channel of BT is 2.04 dBm=1.60 mW

The calculation results= $1.60/5^* \sqrt{2.441}=0.50<3$

The maximum average output power(turn-up power) in high channel of BT is 0.84 dBm=1.21 mW

The calculation results= $1.21/5^* \sqrt{2.480}=0.38<3$

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required .

$\pi/4$ -DQPSK Mode:

One antenna is available for the EUT (BT antenna). The minimum separation distances is 5 mm.

The maximum average output power(turn-up power) in low channel of BT is 0.51 dBm=1.12mW

The calculation results= $1.12/5^* \sqrt{2.402}=0.35<3$

The maximum average output power(turn-up power) in middle channel of BT is 2.09 dBm=1.62 mW

The calculation results= $1.62/5^* \sqrt{2.441}=0.51<3$

The maximum average output power(turn-up power) in high channel of BT is 0.93 dBm=1.24 mW

The calculation results= $1.24/5^* \sqrt{2.480}=0.39<3$

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required .

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8DPSK Mode:

One antenna is available for the EUT (BT antenna). The minimum separation distances is 5 mm.

The maximum average output power(turn-up power) in low channel of BT is 1.13 dBm=1.30 mW

The calculation results= $1.30/5 \times \sqrt{2.402} = 0.40 < 3$

The maximum average output power(turn-up power) in middle channel of BT is 2.76 dBm=1.89 mW

The calculation results= $1.89/5 \times \sqrt{2.441} = 0.59 < 3$

The maximum average output power(turn-up power) in high channel of BT is 1.52 dBm=1.42 mW

The calculation results= $1.42/5 \times \sqrt{2.480} = 0.45 < 3$

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required .

Test Result: Pass