

Beijing Jia An Electronics Technology Co., Ltd

Smart Key Finder

Main Model: KF-4A

Serial Model: N/A

September 24, 2013


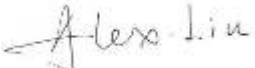

Report No.: 13020804-FCC-H



(This report supersedes none)

Modifications made to the product : None

This Test Report is Issued Under the Authority of:

| | | |
|---|---|---|
|  |  |  |
| William Long Compliance Engineer | Alex Liu Technical Manager | |

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

SIEEPC
RF Exposure Evaluation Report

FCC Part 15.247: 2012, Part 2.1093

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| Country/Region | Accreditation Body | Scope |
|----------------|--------------------|-----------------------|
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1 EXECUTIVE SUMMARY & EUT INFORMATION

The purpose of this test programme was to demonstrate compliance of the Beijing Jia An Electronics Technology Co., Ltd, Smart Key Finder and model: KF-4A against the current Stipulated Standards. The Smart Key Finder has demonstrated compliance with the FCC Part 15.247: 2012, Part 2.1093.

EUT Information

EUT Description : Smart Key Finder

Main Model : KF-4A

Serial Model : N/A

Antenna Gain : BLE: -1dBi

Input Power : 2*1.5V Battery Operated

Classification Per Stipulated Test Standard : FCC Part 15.247: 2012, Part 2.1093

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2 TECHNICAL DETAILS

| | |
|--|---|
| Purpose | Compliance testing of Smart Key Finder with stipulated standard |
| Applicant / Client | Beijing Jia An Electronics Technology Co., Ltd No.19 GuCheng West Street, Shi Jing Shan District, Beijing 100043,CHINA |
| Manufacturer | Beijing Jia An Electronics Technology Co., Ltd No.19 GuCheng West Street, Shi Jing Shan District, Beijing 100043,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 | 13020804-FCC-H |
| Date EUT received | September 11, 2013 |
| Standard applied | FCC Part 15.247: 2012, Part 2.1093 |
| No of Units : | #1 |
| Equipment Category : | Spread Spectrum System/Device |
| Trade Name : | N/A |
| RF Operating Frequency (ies) | BLE: 2402-2480 MHz |
| Number of Channels | BLE: 40CH |
| Modulation | BLE: GFSK |
| FCC ID | VVJ-KF4A |



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3 MODIFICATION

NONE

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 |

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.

One antennas are 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 -3.83 dBm=0.41 mW
 The calculation results= 0. 41 / 5 * $\sqrt{2402}$ = 0. 13 < 3
 The maximum average output power(turn-up power) in middle channel of BT is -3.33 dBm=0.46 mW
 The calculation results= 0. 46 / 5 * $\sqrt{2440}$ = 0. 15 < 3
 The maximum average output power(turn-up power) in high channel of BT is -3.67 dBm=0.43 mW
 The calculation results= 0. 43 / 5 * $\sqrt{2480}$ = 0. 14 < 3
 According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required .

Test Result: Pass