SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

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SAR Evaluation Report

Application No.:	SZEM1708008380CR
Applicant:	Proxy 42
Address of Applicant:	c/o Orrick Herrington & Sutcliffe, LLP, 405 Howard Street, San Francisco, CA, United States 94105
Manufacturer:	IDT Electronics (ShenZhen) Co., Ltd.
Address of Manufacturer:	2F, Block 33, Chentian, Industrial Estate, Xixiang Town, BaoAn County, Shenzhen, Guangdong, P.R. China
Factory:	IDT Electronics (ShenZhen) Co., Ltd.
Address of Factory:	2F, Block 33, Chentian, Industrial Estate, Xixiang Town, BaoAn County, Shenzhen, Guangdong, P.R. China
Equipment Under Test (EUT):	
EUT Name:	Inceptor
Model No.:	BS1535U
Trade mark:	FatherIO
FCC ID:	2ANCP-BS1535U
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2017-08-09
Date of Test:	2017-08-29 to 2017-09-12
Date of Issue:	2017-11-17
Test Result :	**PASS***

* In the configuration tested, the EUT complied with the standards specified above

This report supersedes our previous report SZEM170800838003, issued on 2017-09-22, which is hereby deemed null and void.

Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2017-09-22		Original
02		2017-11-17		New

Authorized for issue by:				
				
		Leo Li /Project Engineer		
				
		Eric Fu /Reviewer		

3 Contents

4 General Information

4.1 General Description of EUT

Power supply:	DC 5V from USB adapter input AC 120V/50Hz
Test voltage	AC 120V/60Hz
BLE:	
Frequency Range:	2402MHz to 2480MHz
Bluetooth Version:	4.0 BT Signal mode
Modulation Type:	GFSK
Number of Channels:	40
Antenna Type:	Chip Antenna
Antenna Gain:	2dBi
915MHz SRD:	
Frequency Range:	915MHz
Modulation Type:	FSK
Number of Channels:	1
Antenna Type:	Chip Antenna
Antenna Gain:	-1.8dBi

4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

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)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, 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

5.1.3 EUT RF Exposure

For BLE:

The Max Conducted Peak Output Power is	3.00	dBm on the lowest channel	2.48	GHz
3.00 dBm logarithmic terms convert to numeric result is nearly 2.00 mW				
According to the formula. calculate the test exclusion thresholds:				
[(max. power of channel, including tune-up tolerance, mW)/				
(min. test separation distance, mm)] · [√f(GHz)]				
General RF Exposure = (2.00 mW / 5 mm) x √2.48 GHz = 0.63			(1)	
SAR requirement:				
S = 3.0			(2)	
(1) < (2)				
So the SAR report is not required.				

For 915MHz SRD:

Refer to the report number SZEM170800838002, the highest field strength of the 915MHz is 90.86dBuV/m. According to KDB 412172, eirp = p_t x g_t = (E x d)^2/30, thus p_t = (E x d)^2/30/g_t.

Pt = 0.554mW = -2.569dBm.

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m,

d = measurement distance in meters (m).

The Max Conducted Peak Output Power is	-2.57	dBm on the lowest channel	0.915	GHz
-2.57 dBm logarithmic terms convert to numeric result is nearly 0.55 mW				
According to the formula. calculate the test exclusion thresholds:				
[(max. power of channel, including tune-up tolerance, mW)/				
(min. test separation distance, mm)] · [√f(GHz)]				
General RF Exposure = (0.55 mW / 5 mm) x √0.915 GHz = 0.11			(1)	
SAR requirement:				
S = 3.0			(2)	
(1) < (2)				
So the SAR report is not required.				

According to KDB 447498 Section 4.3.2, Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration.

The sum of 1-g SAR of the BLE and 915MHz SRD = 0.63+0.11 = 0.74 < 3.

Thus the device comply with the SAR test exclusion requirement.