

FCC SAR Report

Report No. : SESF1601042
Client : Somaxis Electronics Tech Ltd.
Address : A402,BID 4, SISPARK, NO.328 Xinghu Street, SIP,Suzhou City.
Manufacturer : Suzhou Chaoku Electric Science Technology Co., Ltd.
Address : A402,BID 4, SISPARK, NO.328 Xinghu Street, SIP,Suzhou City.
JiangSu province, china
Product : Cricket
Model : cricket_C001
FCC ID : 2AHKFCRICKET2016DLE
Standards : FCC 47 CFR Part 2 (2.1093)/ IEEE C95.1:2005/ IEEE 1528-2013/
KDB 447498 D01 v06
Test Date : March 1st, 2016

Statement of Compliance:

The SAR values measured for the test sample are below the maximum recommended level of 1.6W/kg averaged over any 1g tissue according to FCC Knowledge Data Base/ FCC 47CFR Part 2 (2.1093) / IEEE Std.1528-2013.

The test result only corresponds to the tested sample. It is not permitted to copy this report, in part or in full, without the permission of the test laboratory.

The testing described in this report has been carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care. This certification is not intended to relieve the sellers from their legal and/or contractual obligations.

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Approved By: Miro Chueh
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Release Version

Report No.	Issue Date	Description
SESF1601042	2016-03-02	Initial release



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1. Summary of Maximum SAR Value

Equipment Class	Highest Reported SAR _{1-g} (W/kg)
BLE	0.0052



2. Description of Equipment under Test

EUT Type	cricket_C001
BT Specification	BT 4.0
BT Frequency	2402~2480MHz
BT Channel Number	40
BT Channel Separation	2MHz
BT Type of Modulation	GFSK
BT Data Rate	1Mbps(GFSK)
Channel Control	Auto
Antenna Gain	1.9dBi

Note: There's no simultaneous transmission condition, due to EUT only contains BLE module.



3. General Information

Our Lab,

Test Site	Cerpass Technology (Suzhou) Co., Ltd.
Test Site Location	No.66, Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China



4. Basic restrictions and Standards

4.1. Test Standards

1. IEEE 1528-2013
2. FCC KDB Publication 447498 D01 General RF Exposure Guidance v06



5. Bluetooth SAR Exclusion and Results

5.1. Maximum Conducted Average Power

Channel	Frequency(MHz)	BLE (dBm)	Max. Tune-up Power
00	2402	-9.59	-9.0
19	2440	-11.41	-11.0
39	2480	-13.23	-13.0

5.2. SAR exclusion

Per FCC KDB 447498 D01v06 for 100MHz~6GHz:

1) The 1g-SAR exclusion threshold for distances<50mm is defined by the following equation:

$$\frac{\text{Max Power of Channel}(mW)}{\text{Test Separation Distance}(mm)} \times \sqrt{\text{Frequency}(GHz)} \leq 3.0$$

5mm Test Separation

Test Mode	Frq.(MHz)	Test Separations	Thresholds (mW)	Max. Power(dBm)	Max. Power(mW)	SAR Test(Y/N)
BLE	2402	5	10	-9.0	0.13	N

5.3. Estimated SAR

This device contains transmitters that may operate simultaneously. Therefore simultaneous transmission analysis is required. Per FCC KDB 447498 D01v06, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is $\leq 1.6\text{W/kg}$. When standalone SAR is not required to be measured, per FCC KDB 447498 D01v06 4.3.2 2, the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

$$\text{Estimated SAR} = \frac{\sqrt{f(\text{GHz})}}{7.5} * \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation, mm}}$$

Bluetooth

Test Position	Test Mode	Frq.(MHz)	Test Separations	Max. Tune-up Power(dBm)	Max. Tune-up Power(mW)	Estimated SAR(W/kg)
Back/Edges	Bluetooth LE	2402	5	-9.0	0.13	0.0052

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