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SAR Evaluation Report

Report No. : CQASZ170901450EW-02

Applicant: GoBone Inc.

Address of Applicant: 2737 N Fitzhugh Ave #2312, Dallas, TX, USA

Manufacturer: GoBone Inc.

Address of Manufacturer: 2737 N Fitzhugh Ave #2312, Dallas, TX, USA

Factory: GoBone Inc.

Address of Factory: 2737 N Fitzhugh Ave #2312, Dallas, TX, USA

Equipment Under Test (EUT):

Product: GoBone

Model No.: GB12

Brand Name: GoBone

FCC ID: 2AODU-GB02

Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06

Date of Test: 2018-01-08 to 2018-01-11

Date of Issue: 2018-01-11

Test Result : PASS*

Tested By:

(Aaron Ma)

Reviewed By:

(Owen Zhou)

Approved By:

(Jack Ai)



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

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ170901450EW-02	Rev.01	Initial report	2018-01-11

3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION	2
3 CONTENTS	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT	4
5 SAR EVALUATION	5
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT	5
5.1.1 <i>Standard Requirement</i>	5
5.1.2 <i>Limits</i>	5
5.1.3 <i>EUT RF Exposure</i>	5

4 General Information

4.1 Client Information

Applicant:	GoBone Inc.
Address of Applicant:	2737 N Fitzhugh Ave #2312, Dallas, TX, USA
Manufacturer:	GoBone Inc.
Address of Manufacturer:	2737 N Fitzhugh Ave #2312, Dallas, TX, USA
Factory:	GoBone Inc.
Address of Factory:	2737 N Fitzhugh Ave #2312, Dallas, TX, USA

4.2 General Description of EUT

Product Name:	GoBone
Model No.:	GB12
Trade Mark:	GoBone
Hardware Version:	v2.1
Software Version:	v1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.1
Modulation Type:	GFSK
Number of Channel:	40
Sample Type:	Portable production
Test Software of EUT:	Nordic Semiconductor Radio Test Software (Manufacturer provide)
Antenna Type:	Ceramic Antenna
Antenna Gain:	0.5dBi
Power Supply:	Rechargeable li-ion battery: DC3.7V 800mA Charge by USB

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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{[\sqrt{f(\text{GHz})}]} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where} \right.$$

$f(\text{GHz})$ 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

5.1.3 EUT RF Exposure

For BLE:

Measurement Data

GFSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-6.73
Middle	-6.47
Highest	-6.56

The Max Conducted Peak Output Power is -6.47dBm in Middle channel(2.440GHz);

The best case gain of the antenna is 0.5dBi.

EIRP= -6.47dBm +0.5dBi = -5.97dBm

-5.97dBm logarithmic terms convert to numeric result is nearly 0.253mW

According to the formula. calculate the EIRP test result:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

General RF Exposure = $(0.253\text{mW} / 5 \text{ mm}) \times \sqrt{2.440\text{GHz}} = 0.079$ ①

SAR requirement:

S= 3.0

② ;

① < ②.

So the SAR report is not required.

Remark: The Max Conducted Peak Output Power data refer to report CQASZ170901450EW-01