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RF Exposure Evaluation Report

Report No. :	CQASZ20180800085E-02
Applicant:	Shenzhen elikang technology co., ltd.
Address of Applicant:	4F, Bainianjia Industrial Zone, Shangxue Science Park, Buji, Longgang, Shenzhen, China
Manufacturer:	Shenzhen elikang technology co., ltd.
Address of Manufacturer:	4F, Bainianjia Industrial Zone, Shangxue Science Park, Buji, Longgang, Shenzhen, China
Equipment Under Test (EUT):	
Product:	EAR PODS
All Model No.:	D01,D02, D03, D04, D05, CA01, CA02, CA03, CA04, CA05, CA06
Test Model No.:	D02
Brand Name:	Calogy
FCC ID:	2APXF-D02
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2018-08-23 to 2018-08-27
Date of Issue:	2018-08-27
Test Result :	**PASS***

Tested By: Tiny You

(Tiny You)

Reviewed By: Aaron Ma

(Aaron Ma)

Approved By: Jack Ai

(Jack Ai)

SHENZHEN HUAXIA TESTING TECHNOLOGY CO.,LTD 华夏准测 APPROVED

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

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20180800085E-02	Rev.01	Initial report	2018-08-27

3 Contents

4 General Information

4.1 Client Information

Applicant:	Shenzhen elikang technology co., ltd.
Address of Applicant:	4F, Bainianjia Industrial Zone, Shangxue Science Park, Buji, Longgang, Shenzhen, China
Manufacturer:	Shenzhen elikang technology co., ltd.
Address of Manufacturer:	4F, Bainianjia Industrial Zone, Shangxue Science Park, Buji, Longgang, Shenzhen, China

4.2 General Description of EUT

Product Name:	EAR PODS
All Model No.:	D01, D02, D03, D04, D05, CA01, CA02, CA03, CA04, CA05, CA06
Test Model No.:	D02
Trade Mark:	Calogy
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.2
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Transfer Rate:	1Mbps/2Mbps/3Mbps
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Test Software of EUT:	Blue test 1.0 (manufacturer declare)
Antenna Type:	Integral antenna
Antenna Gain:	0dBi
Power Supply:	lithium battery: DC3.7V, 50mAh, Charge by DC5.0V

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 BT:

Measurement Data

GFSK mode	
Test channel	Peak Output Power (dBm)
Lowest	0.300
Middle	-0.070
Highest	0.250
π/4DQPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	0.710
Middle	0.330
Highest	0.600
8DPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	1.490
Middle	1.030
Highest	1.230

The Max Conducted Peak Output Power is 1.49dBm in lowest channel(2.402GHz);

The best case gain of the antenna is 0dBi.

EIRP=1.49dBm + 0dBi = 1.49dBm

1.49dBm logarithmic terms convert to numeric result is nearly 1.41mW

According to the formula. calculate the EIRP test result:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)]

General RF Exposure = (1.41mW / 5 mm) x √2.402GHz = 0.44 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 Report No.: CQASZ20180800085E-01