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SAR Evaluation Report

Applicant: Shenzhen Okbuynow E-commerce Co., Ltd.

Address of Applicant: RM A10C2, Bank of China Bldg., 5015 Caitian Rd., Shenzhen, China

Manufacturer: Shenzhen Fenda Technology Co., Ltd.

Address of Manufacturer: Fenda Hi-Tech Park, Zhoushi Road, Shiyan, Baoan, Shenzhen, China

Factory: Shenzhen Fenda Technology Co., Ltd.

Address of Factory: Fenda Hi-Tech Park, Zhoushi Road, Shiyan, Baoan, Shenzhen, China

Equipment Under Test (EUT):

Product: Speakers

Model No.: T-180BT

Brand Name: LuguLake

FCC ID: 2ANY4T-180BT

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

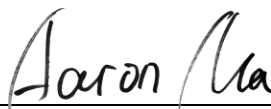
Date of Test: 2017-10-10 to 2017-10-30

Date of Issue: 2017-10-30

Report No. : CQASZ170901474EW-02

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.

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ170901474EW-02	Rev.01	Initial report	2017-10-30

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Okbuynow E-commerce Co., Ltd.
Address of Applicant:	RM A10C2, Bank of China Bldg., 5015 Caitian Rd., Shenzhen, China
Manufacturer:	Shenzhen Fenda Technology Co., Ltd.
Address of Manufacturer:	Fenda Hi-Tech Park, Zhoushi Road, Shiyan, Baoan, Shenzhen, China
Factory:	Shenzhen Fenda Technology Co., Ltd.
Address of Factory:	Fenda Hi-Tech Park, Zhoushi Road, Shiyan, Baoan, Shenzhen, China

4.2 General Description of EUT

Product Name:	Speakers
Model No.:	T-180BT
Trade Mark:	LuguLake
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V3.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	portable production
Test Software of EUT:	RF test (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Power Supply:	Input:AC120~240V 50/60Hz

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 BT:

Measurement Data

GFSK mode		
Test channel	Peak Output Power (dBm)	Result
Lowest	-1.62	Pass
Middle	1.07	Pass
Highest	1.05	Pass
$\pi/4$ DQPSK mode		
Test channel	Peak Output Power (dBm)	Result
Lowest	-4.43	Pass
Middle	-1.73	Pass
Highest	-1.83	Pass
8DPSK mode		
Test channel	Peak Output Power (dBm)	Result
Lowest	-3.83	Pass
Middle	-1.19	Pass
Highest	-1.29	Pass

The Max Conducted Peak Output Power is 1.07dBm in highest channel(2.441GHz);

The best case gain of the antenna is 0dBi.

EIRP= 1.07dBm + 0dBi = 1.07dBm

1.07dBm logarithmic terms convert to numeric result is nearly 1.28mW

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 = $(1.28\text{mW} / 5 \text{ mm}) \times \sqrt{2.441\text{GHz}} = 0.4$ 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.: CQASZ170901474EW-01