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RF Exposure Evaluation Report

Report No.: CQASZ20210701061E-02
Applicant: Yibai Science & Technology (Shenzhen) Co., Ltd.
Address of Applicant: No. 1112, Building 5A, Tusincere Technology Park. Huanggekeng Community Longcheng Street, Longgang District. Shenzhen, China
Equipment Under Test (EUT):
EUT Name: Ultra thin TWS earphone
Test Model No.: Card20 Pro, Cardbuds, NexiGo Air T2
Model No.: Card20 Pro
Brand Name: Yobybo
FCC ID: 2AVYG-CARD20PRO
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2021-07-15
Date of Test: 2021-07-15 to 2021-07-29
Date of Issue: 2021-07-29
Test Result: **PASS***

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

Tested By: Lewis Zhou

(Lewis Zhou)

Reviewed By: Rook Huang

(Rook Huang)

Approved By: Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20210701061E-02	Rev.01	Initial report	2021-07-29

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3 General Information

3.1 Client Information

Applicant:	Yibai Science & Technology (Shenzhen) Co., Ltd.
Address of Applicant:	No. 1112, Building 5A, Tusincere Technology Park.Huanggekeng Community Longcheng Street,Longgang District.Shenzhen,China
Manufacturer:	Yibai Science & Technology (Shenzhen) Co., Ltd.
Address of Manufacturer:	No. 1112, Building 5A, Tusincere Technology Park.Huanggekeng Community Longcheng Street,Longgang District.Shenzhen,China
Factory:	Guangdong Mingyang Intelligent Technology Co., Ltd.
Address of Factory:	413, Hongdu Commercial Building, Building A, Anle Industrial Park, Haile Community, Xin'an Street, Bao'an District, Shenzhen

3.2 General Description of EUT

Product Name:	Ultra thin TWS earphone
Model No.:	Card20 Pro, Cardbuds, NexiGo Air T2
Test Model No	Card20 Pro
Trade Mark:	Yobybo
EUT Supports Radios application:	Bluetooth mode 2402-2480MHz
Hardware Version:	Card20MAX_V1.0
Software Version:	Card20NEX_SC7A20_V1.0
Sample Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Power Supply:	Li-ion battery: DC 3.7V 45mAh, Charge by DC 5.0V

3.3 General Description of BT

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps/3Mbps
Hopping Channel Type:	Adaptive Frequency Hopping systems
Test Software of EUT:	Blue Test3
Antenna Type:	Chip antenna
Antenna Gain:	2.25dBi

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 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.

4.1.2 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:

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

$f(\text{GHz})$ 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

4.1.3 EUT RF Exposure

1) For BT

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	2.320	1.5±1	2.5	1.778
Middle(2441MHz)	2.840	2.0±1	3.0	1.995
Highest(2480MHz)	3.630	2.8±1	3.8	2.399
π/4DQPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	1.960	1.0±1	2.0	1.585
Middle(2441MHz)	2.460	1.5±1	2.5	1.778
Highest(2480MHz)	3.180	2.5±1	3.5	2.239
8DPSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	2.460	1.5±1	2.5	1.778
Middle(2441MHz)	2.980	2.0±1	3.0	1.995
Highest(2480MHz)	3.800	3.0±1	4.0	2.512

Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	2.460	1.5±1	2.5	1.778	0.551	3.0
Middle (2441MHz)	2.980	2.0±1	3.0	1.995	0.623	
Highest (2480MHz)	3.800	3.0±1	4.0	2.512	0.791	

Conclusion: the calculated value ≤3.0, SAR is exempted.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20210701061E-01