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RF Exposure Evaluation Report

Report No. :	CQASZ20180900020E-03
Applicant:	Shenzhen Times Innovation Technology Co.,Ltd
Address of Applicant:	Room 3, 6/F, Building 3, WINLEAD, Fada Road, Bantian Street, Longgang District, Shenzhen, China.
Manufacturer:	Shenzhen Times Innovation Technology Co.,Ltd
Address of Manufacturer:	Room 3, 6/F, Building 3, WINLEAD, Fada Road, Bantian Street, Longgang District, Shenzhen, China.

Equipment Under Test (EUT):

Product:	Baseus Magnetic Blue-tooth Earphone
All Model No.:	NGCX-01, NGCX-02, NGCX-03
Test Model No.:	NGCX-02
Brand Name:	Baseus
FCC ID:	2AN7Y- NGCX
Standards:	47 CFR Part 1.1307
	47 CFR Part 2.1093
	KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2018-09-11 to 2018-09-13
Date of Issue:	2018-09-13
Test Result :	**PASS***

Tested By: *Martin Lee*

(*Martin Lee*)

Reviewed By: *Aaron Ma*

(*Aaron Ma*)

Approved By:

(*Jack Ai*)

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* 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
CQASZ20180900020E-03	Rev.01	Initial report	2018-09-13

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Times Innovation Technology Co.,Ltd
Address of Applicant:	Room 3, 6/F, Building 3, WINLEAD, Fada Road, Bantian Street, Longgang District, Shenzhen, China.
Manufacturer:	Shenzhen Times Innovation Technology Co.,Ltd
Address of Manufacturer:	Room 3, 6/F, Building 3, WINLEAD, Fada Road, Bantian Street, Longgang District, Shenzhen, China.

4.2 General Description of EUT

Product Name:	Baseus Magnetic Blue-tooth Earphone
All Model No.:	NGCX-01, NGCX-02, NGCX-03
Test Model No.:	NGCX-02
Trade Mark:	Baseus
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.1
Modulation Type:	BT classic: GFSK, π/4DQPSK, 8DPSK BLE: GFSK
Number of Channel:	BT classic:79 BLE:40
Sample Type:	portable production
Test Software of EUT:	Blue test 3(manufacturer declare)
Antenna Type:	Ceramic antenna
Antenna Gain:	0dBi
Power Supply:	lithium battery:DC3.7V 50mAh, Charge by DC5.0V

Note:

All model: NGCX-01, NGCX-02, NGCX-03

Only the model NGCX-02 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and model name.

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	-0.120
Middle	2.080
Highest	2.760
π/4DQPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-2.610
Middle	-0.040
Highest	0.600
8DPSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-2.250
Middle	0.330
Highest	0.980

Remark: The Conducted Peak Output Power data refer to report Report No.: CQASZ20180900020E-01

For BLE:

Measurement Data

GFSK mode	
Test channel	Peak Output Power (dBm)
Lowest	1.66
Middle	3.33
Highest	3.98

Remark: The Conducted Peak Output Power data refer to report Report No.: CQASZ20180900020E-02

BDR, EDR and BLE can not simultaneous transmitting at same time.

    The worst case data: GFSK_highest channel

    The Max Conducted Peak Output Power is 3.98dBm in highest channel(2.480GHz);

    The best case gain of the antenna is 0dBi.

    EIRP= 3.98dBm + 0dBm= 3.98dBm

    3.98dBm logarithmic terms convert to numeric result is nearly 2.5mW

    According to the formula. calculate the EIRP test result:

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

    General RF Exposure = (2.5mW / 5 mm) x $\sqrt{2.480GHz}$ = 0.787   ①

    SAR requirement:

    S= 3.0   ② ;

    ① < ②.

    So the SAR report is not required.