

Shenzhen Most Technology Service Co., Ltd.

No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.

RF Exposure Evaluation Report

Report Reference No...... MTEB23060011-H FCC ID...... 2BBBQ-STG6816KB

Compiled by

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Date of issue...... Jnu.01,2023

Representative Laboratory Name.: Shenzhen Most Technology Service Co., Ltd.

Nanshan, Shenzhen, Guangdong, China.

Applicant's name...... NINGBO AMIBA INTERNATIONAL TRADE CO.,LTD

Address...... 2-2,No.247, Wangshan Road,Jiangbei District, Ningbo,China

Test specification/ Standard.....: 47 CFR Part 1.1307

47 CFR Part 1.1310

KDB447498D01 General RF Exposure Guidance v06

TRF Originator...... Shenzhen Most Technology Service Co., Ltd.

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Test item description.....: LED Laser Light Galaxy Speaker

Trade Mark..... N/A

Model/Type reference..... STG-6816-KB

Listed Models: N/A

Modulation Type...... : GFSK, π /4DQPSK, 8DPSK Operation Frequency..... : From 2402MHz to 2480MHz

Rating...... DC 5V (by USB)

Result..... PASS

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TEST REPORT

Equipment under Test : LED Laser Light Galaxy Speaker

Model /Type : STG-6816-KB

Listed Models : N/A

Remark N/A

Applicant : NINGBO AMIBA INTERNATIONAL TRADE CO.,LTD

Address : 2-2,No.247, Wangshan Road, Jiangbei District, Ningbo, China

Manufacturer : NINGBO AMIBA INTERNATIONAL TRADE CO.,LTD

Address : 2-2,No.247, Wangshan Road,Jiangbei District, Ningbo,China

Test Result: PASS

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2023.06.01	Initial Issue	Alisa Luo

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2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 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.

2.1.2 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
(A) Lim	its for Occupational	/Controlled Exposure	es	
0.3–3.0 3.0–30 30–300 300–1500 1500–100,000	614 1842/ī 61.4	1.63 4.89/f 0.163	*(100) *(900/12) 1.0 f/300	6 6 6 6
***		on/Uncontrolled Exp	ASREEM.	
0.3–1.34 1.34–30	614 824/f	1.63 2.19/f	*(100) *(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500 1500–100,000			f/1500 1.0	30 30

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4* Pi * R 2) Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

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2.1.3 EUT RF Exposure

Antenna Gain: 0dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.4 in linear scale. Output

Power Into Antenna & RF Exposure Evaluation Distance:

BT classic

Di diaddic				
GFSK				
Test channel	Peak Output Power	Tune up tolerance	Maximum tune-up Power	
	(dBm)	(dBm)	(dBm)	
Lowest(2402MHz)	0.689	0.689±1	1.689	
Middle(2440MHz)	1.233	1.233±1	2.233	
Highest(2480MHz)	2.298	2.298±1	3.298	

π /4DQPSK				
Test channel	Peak Output Power	Tune up tolerance	Maximum tune-up Power	
	(dBm)	(dBm)	(dBm)	
Lowest(2402MHz)	1.583	1.583±1	2.583	
Middle(2440MHz)	2.082	2.082±1	3.082	
Highest(2480MHz)	3.043	3.043±1	4.043	

8DPSK				
Test channel	Peak Output Power	Tune up tolerance	Maximum tune-up Power	
	(dBm)	(dBm)	(dBm)	
Lowest(2402MHz)	1.991	1.991±1	2.991	
Middle(2440MHz)	2.473	2.473±1	3.473	
Highest(2480MHz)	3.339	3.339±1	4.339	

Worst case:8DPSK						
Channel	Maximum tune-up Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Limit	Result
Highest(2480MHz)	4.339	2.72	1.3	0.00073	1.0	Pass

Note: 1) Refer to report MTEB23060011-R1 for EUT test Max Conducted average Output Power value.

Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(2.72*1.35)/(4*3.1416*20²)=0.00073

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