SAR Evaluation Report

Applicant:	First Audio Manufacturing (Guangzhou) Ltd.
Address of Applicant:	Tanbu Fidek Industrial Zone, Huadu District, Guangzhou, China
Manufacturer:	First Audio Manufacturing (Guangzhou) Ltd.
Address of Manufacturer:	Tanbu Fidek Industrial Zone, Huadu District, Guangzhou, China
Product name:	Portable Wireless PA System
Model:	TNT-3
Rating(s):	For Adapter: I/P: 100V-240V～, 50/60Hz, 0.6A; O/P: 13.5Vdc, 1.48A For Main Unit: I/P: 13.5Vdc, 1.48A
Trademark:	iDance
Standards:	47 CFR Part 1.1307 (2017) 47 CFR Part 2.1093 (2017) KDB447498D01 General RF Exposure Guidance v06
FCC ID:	2AE4I-TNT-3
Date of Receipt:	2017-05-26
Date of Test:	2017-05-26~2017-06-15
Date of Issue:	2017-06-15
Test Result	**Pass***

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

Authorized Signature:

Jun.15, 2017 Galen Xiao Galen Xiao

Project Manager

Date *Name/Position* *Signature*

Possible test case verdicts:

test case does not apply to the test object ..:	N/A
test object does meet the requirement .....:	P (Pass)
test object does not meet the requirement ..:	F (Fail)

Testing Laboratory information:

Testing Laboratory Name ..... :		I-Test Laboratory
Address.....:		1-2 floor, South Block, Building A2 , No 3 Keyan Lu, Science City, Guangzhou, Guangdong Province, P.R. China
Testing location	:	Same as above
Tel	:	0086-20-32209330
Fax	:	0086-20-62824387
E-mail	:	itl@i-testlab.com

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report would be invalid test report without all the signatures of testing technician and approver.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

General product information:

AC Adapter:

Model: NBS18C135148HU

Input: 100-240V~, 50/60Hz, 0.6A; Output: 13.5Vdc, 1.48A

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2 General Information

2.1 Client Information

Applicant:	First Audio Manufacturing (Guangzhou) Ltd.
Address of Applicant:	Tanbu Fidek Industrial Zone, Huadu District, Guangzhou, China

2.2 General Description of E.U.T.

Name:	Portable Wireless PA System
Model No.:	TNT-3
Trade Mark:	iDance
Operating Frequency:	Bluetooth: 2402 MHz to 2480 MHz
Channels:	Bluetooth: 79 channels with 1MHz step for Classic mode,
Bluetooth Version:	V2.1 + EDR
Modulation Technique:	Frequency Hopping Spread Spectrum (FHSS)
Type of Modulation:	GFSK, (π/4) DQPSK
Antenna Reference	PCB Layout antenna with -0.68dBi peak gain
Function:	Bluetooth speaker

2.3 Details of E.U.T.

EUT Power Supply:	AC power or Lithium battery
Rated power:	100-240V~ 50/60Hz, 0.5A (For AC adapter); 3.7V 5000mAh (For Lithium battery)
Test mode for Bluetooth:	The program used to control the EUT for staying in continuous transmitting and receiving mode is programmed. Channel lowest (2402MHz), middle (2441MHz) and highest (2480MHz) are chosen for Bluetooth full testing. Normal mode: the Bluetooth has been tested on the Modulation of GFSK; EDR mode: the Bluetooth has been tested on the Modulation of (π/4)DQPSK
Power cord:	1.5m for DC input cable

2.4 Description of Support Units

The EUT has been tested as an independent unit for fixed frequency by testing lab.

2.5 Test Location

All tests were performed at:

I-Test Laboratory

1-2 floor, South Block, Building A2 , No 3 Keyan Lu, Science City, Guangzhou, Guangdong Province, P.R. China

0086-20-32209330

itl@i-testlab.com

No tests were sub-contracted.

2.6 Deviation from Standards

Biconical and log periodic antennas were used instead of dipole antennas.

2.7 Abnormalities from Standard Conditions

None.

2.8 Other Information Requested by the Customer

None.

2.9 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS(Lab code:L4957)**
- **FCC (Registration No.:935596)**
- **IC (Registration NO.:8368A)**

3 SAR Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 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.

3.1.2 Limits

1. 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,

So,

Numeric Threshold= (max. power of channel) / (Min Test separation Distance) × [√ f(GHz)]

max. power of channel= (Numeric Threshold)×(Min Test separation Distance) / [√ f(GHz)]

Where,

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

2. For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

{[Power allowed at numeric threshold for 50 mm in step 1)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

3.1.3 EUT RF Exposure

For 2.1 (classic mode):

The Max Conducted peak Output Power is -2.223dBm in high channel (2.480 GHz);

The best case gain of the antenna is -0.68 dBi

EIRP=-2.223dBm + (-0.68dBi) =-2.903dBm

-2.903dBm logarithmic terms convert to numeric result is nearly 0.00051W

EIRP= 0.5 mW

According to the formula, calculate the EIRP test result:

{[Power allowed at numeric threshold for 50 mm)] + [(test separation distance – 50 mm)·10]}

SAR Exclusion Threshold = (3.0×50) / √2.480+[(200-50)×10] = 1595.25mW