

RF Exposure Evaluation Report

Product : Bluetooth Speaker
Trade mark : N/A
Model/Type reference : Q1
Serial Number : N/A
Report Number : EED32L00379302
FCC ID : 2AJP3-Q1
Date of Issue : Jan. 10, 2020
Test Standards : 47 CFR Part 1.1307(2015)
47 CFR Part 1.1310(2015)
KDB447498D01v06
Test result : PASS

Prepared for:

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Gushu, Xixiang, Baoan Dist., Shenzhen, China

Prepared by:

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Date:

Jan. 10, 2020

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2 Version

Version No.	Date	Description
00	Jan. 10, 2020	Original

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Betnew Technology Co., Ltd
Address of Applicant:	Room 313, Building C, Hongwan Business center, Gushu, Xixiang, Baoan Dist.,Shenzhen, China
Manufacturer:	Shenzhen Betnew Technology Co., Ltd
Address of Manufacturer:	Room 313, Building C, Hongwan Business center, Gushu, Xixiang, Baoan Dist.,Shenzhen, China
Factory:	Dongguan Qualitronic Industrial Co., Ltd
Address of Factory:	Building 2, Pengtai industrial park, No. 49 Ludong road, Humen town, Dongguan

4.2 General Description of EUT

Product Name:	Bluetooth Speaker
Model No.(EUT):	Q1
Trade Mark:	N/A
EUT Supports Radios application	BT 5.0 Single mode, 2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz to 2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK
Number of Channels:	79
Test Power Grade:	DH5:10 ; 2DH5:10
Test Software of EUT:	FCCAssist 2.4
Antenna Type:	PCB Antenna
Antenna Specification	Bluetooth : Antenna Gain : -0.50 dBi (Numeric gain: 0.89)
Maximum tune up power	Bluetooth: 5.00 dBm (3.162 mW)
Power Supply:	DC 5V/500mA, 3W
Sample Received Date:	Dec. 16, 2019
Sample tested Date:	Dec. 16, 2019 to Dec. 30, 2019
The tested sample(s) and the sample information are provided by the client.	

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4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

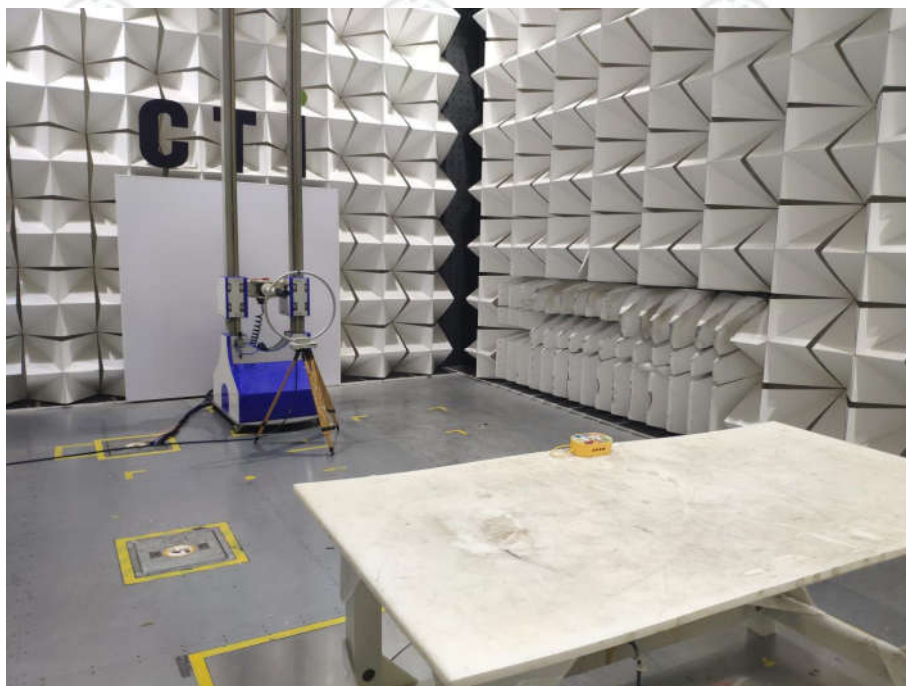
S = Power density in mW / cm²

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
39	2441	3.162	0.89	20	0.0006	1

PHOTOGRAPHS OF TEST SETUP

Test mode No:Q1



Radiated spurious emission Test Setup-1 (Below 30MHz)



Radiated spurious emission Test Setup-2 (Below 1GHz)



Radiated spurious emission Test Setup-3(Above 1GHz)



Radiated spurious emission Test Setup-4(Above 1GHz)
There are absorbing materials under the ground.



Conducted Emissions Test Setup

PHOTOGRAPHS OF EUT Constructional Details

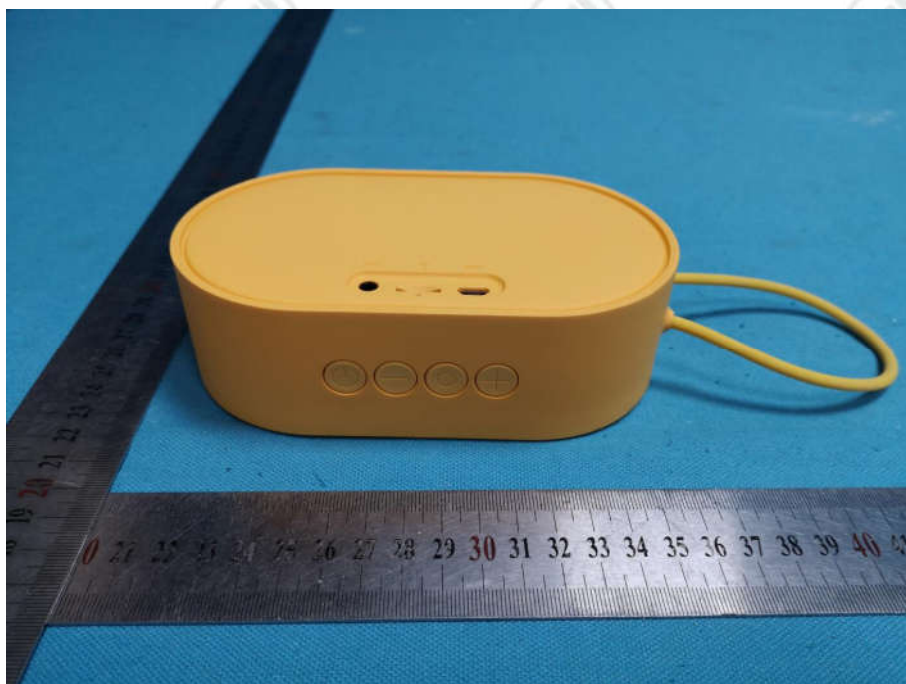
Test model No.: Q1



View of Product-1



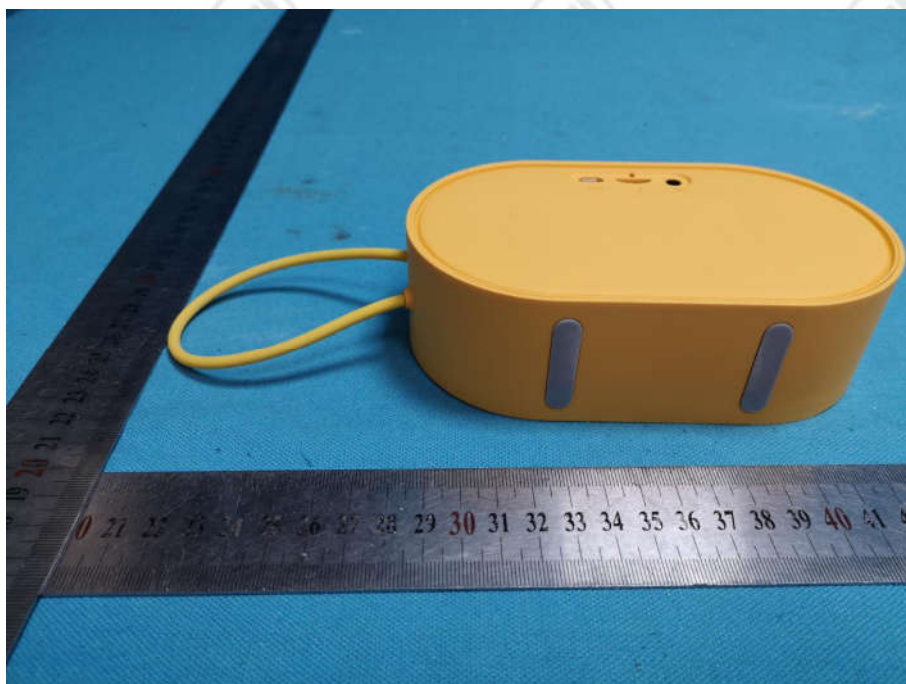
View of Product-2



View of Product-3



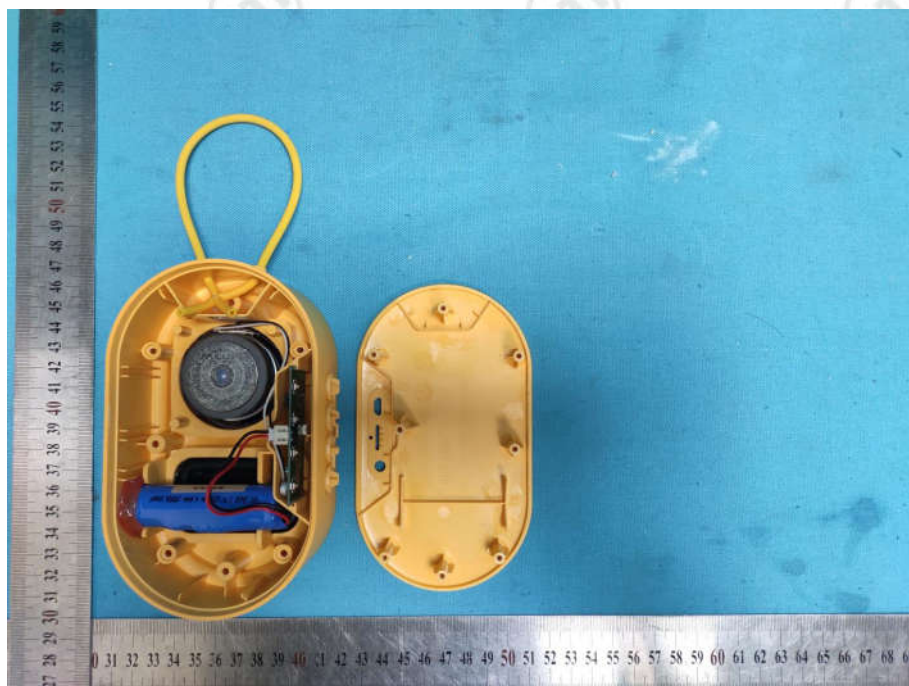
View of Product-4



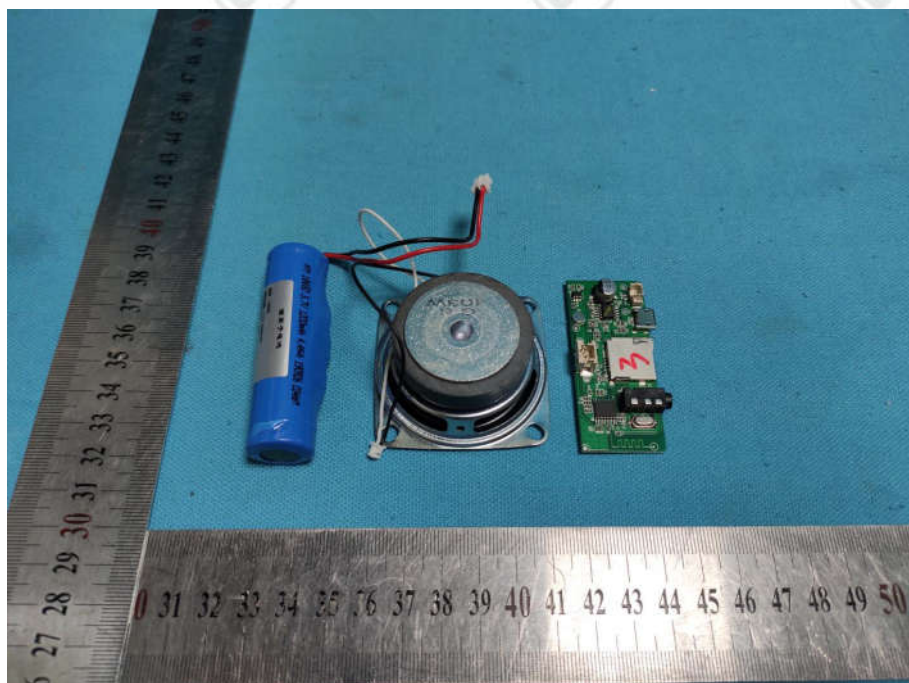
View of Product-5



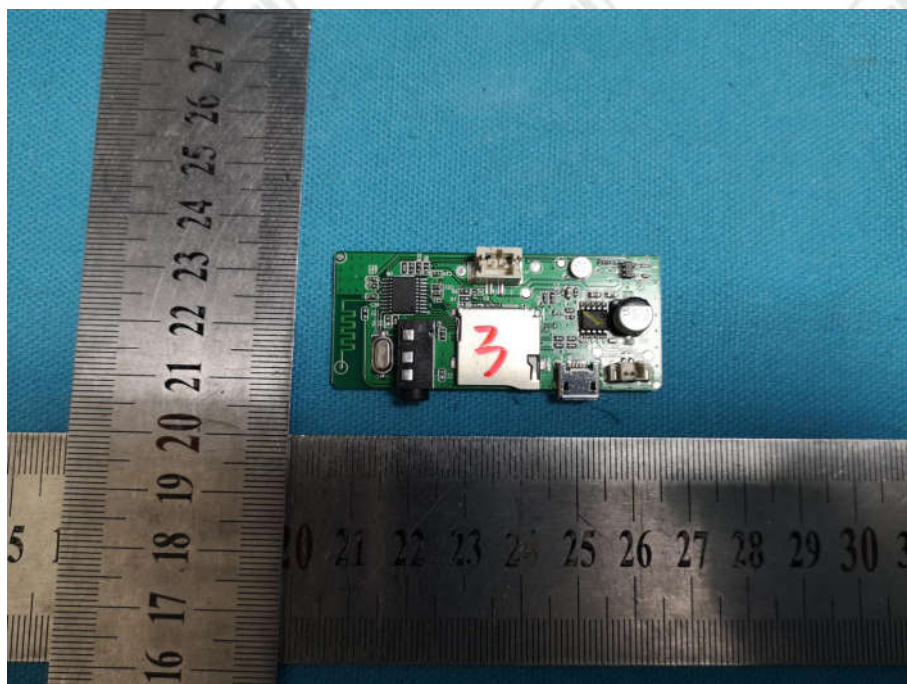
View of Product-6



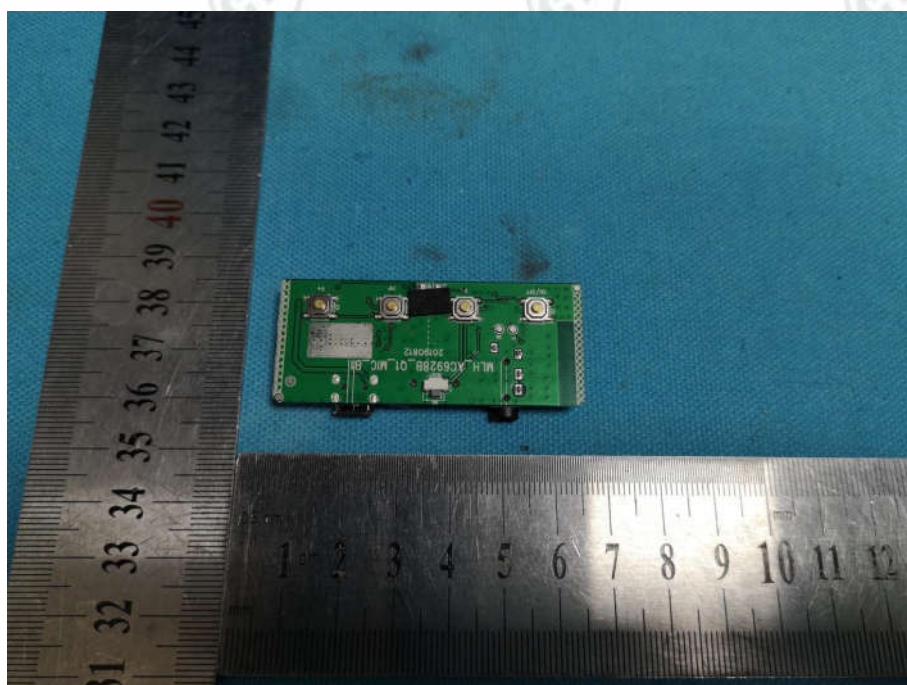
View of Product-7



View of Product-8



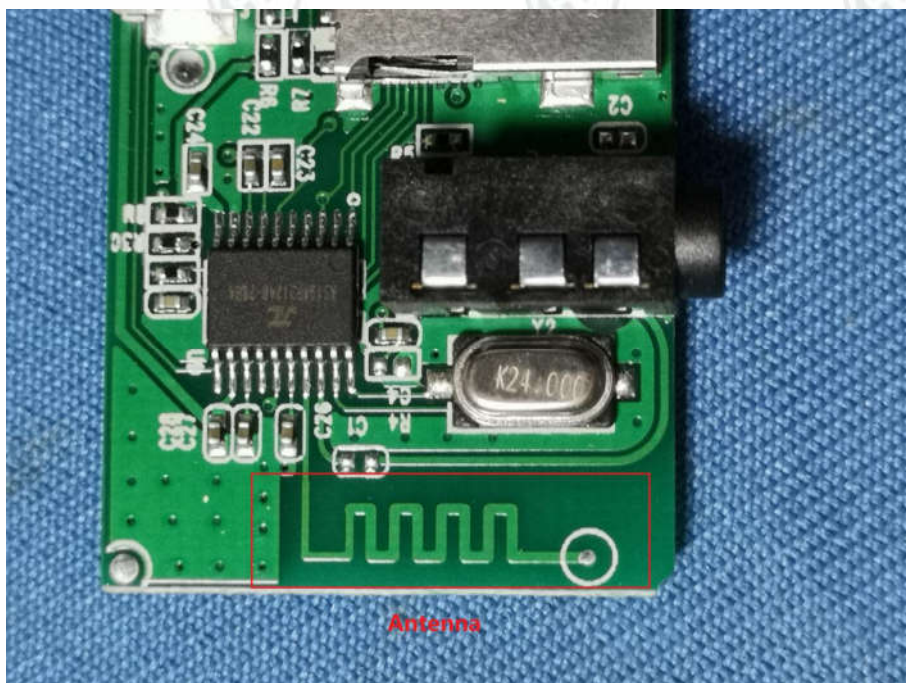
View of Product-9



View of Product-10



View of Product-11



View of Product-12

*** End of Report ***

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