

RF Exposure Evaluation Report

Product : Mini bluetooth speaker
Trade mark : UNIQLO
Model/Type reference : A01
Serial Number : N/A
Report Number : EED32L00316802
FCC ID : 2AU2BA01
Date of Issue : Dec. 12, 2019
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498D01v06
Test result : PASS

Prepared for:

Shenzhen tongsheng precision technology co. LTD
F3, buildA, zhuaodonghua second industry zone,
xixiang street, baoan, shenzhen

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Dec. 12, 2019

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2 Version

Version No.	Date	Description
00	Dec. 12, 2019	Original

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4 General Information

4.1 Client Information

Applicant:	Shenzhen tongsheng precision technology co. LTD
Address of Applicant:	F3, build A, zhuaodonghua second industry zone, xixiang street, baoan, shenzhen
Manufacturer:	Shenzhen tongsheng precision technology co. LTD
Address of Manufacturer:	F3, build A, zhuaodonghua second industry zone, xixiang street, baoan, shenzhen
Factory:	Shenzhen tongsheng precision technology co. LTD
Address of Factory:	F3, buildA, zhuaodonghua second industry zone, xixiang street, baoan, shenzhen

4.2 General Description of EUT

Product Name:	Mini bluetooth speaker
Model No.(EUT):	A01
Trade mark:	UNIQLO
EUT Supports Radios application:	BT V2.1 + EDR Single mode 2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz to 2480MHz						
Modulation Type:	GFSK, $\pi/4$ DQPSK						
Test Power Grade:	GFSK:10 $\pi/4$ DQPSK:10						
Test Software of EUT:	FCCAssist						
Antenna Type:	PCB Antenna						
Antenna Specification	<table><tr><td>Bluetooth :</td><td>Antenna Gain :</td><td>0.00 dBi</td><td>(Numeric gain: 1.00)</td></tr></table>			Bluetooth :	Antenna Gain :	0.00 dBi	(Numeric gain: 1.00)
Bluetooth :	Antenna Gain :	0.00 dBi	(Numeric gain: 1.00)				
Maximum tune up power	<table><tr><td>Bluetooth:</td><td>4.00 dBm</td><td>(2.512 mW)</td></tr></table>			Bluetooth:	4.00 dBm	(2.512 mW)	
Bluetooth:	4.00 dBm	(2.512 mW)					
Power Supply:	DC 3.7V Battery						
Sample Received Date:	Oct. 30, 2019						
Sample tested Date:	Oct. 30, 2019 to Dec. 09, 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)
78	2480	2.897	1	20	0.0006	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00316801 for EUT external and internal photos.

*** End of Report ***

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