UVC-LED

TOOTHBRUSH STERILIZER

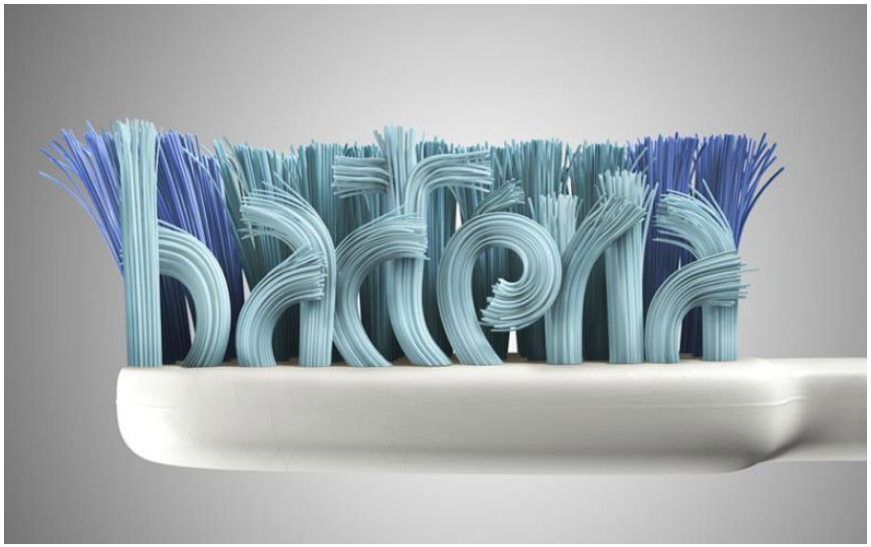
U L T R A W A V E

INDEX

# 01 Market Background	Why do we need toothbrush sterilizer? UV-C LED vs UV-A LED / UV Lamp
# 02 Product Introduction	Portable Toothbrush Sterilizer TS-02 Home Toothbrush Sterilizer TS-04 Home Toothbrush Sterilizer for 2 people TS-22 Test Report and certificate
# 03 Marketing Status	Domestic marketing status Overseas marketing status

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

Why do we need toothbrush sterilizer?



Toothbrushes are bacteria's playground

✓ Whenever you flush the toilet, microscopic particles disperse up and around your bathroom. This toilet plume shoots up feces into the air and onto your bathroom surface, including your toothbrush.

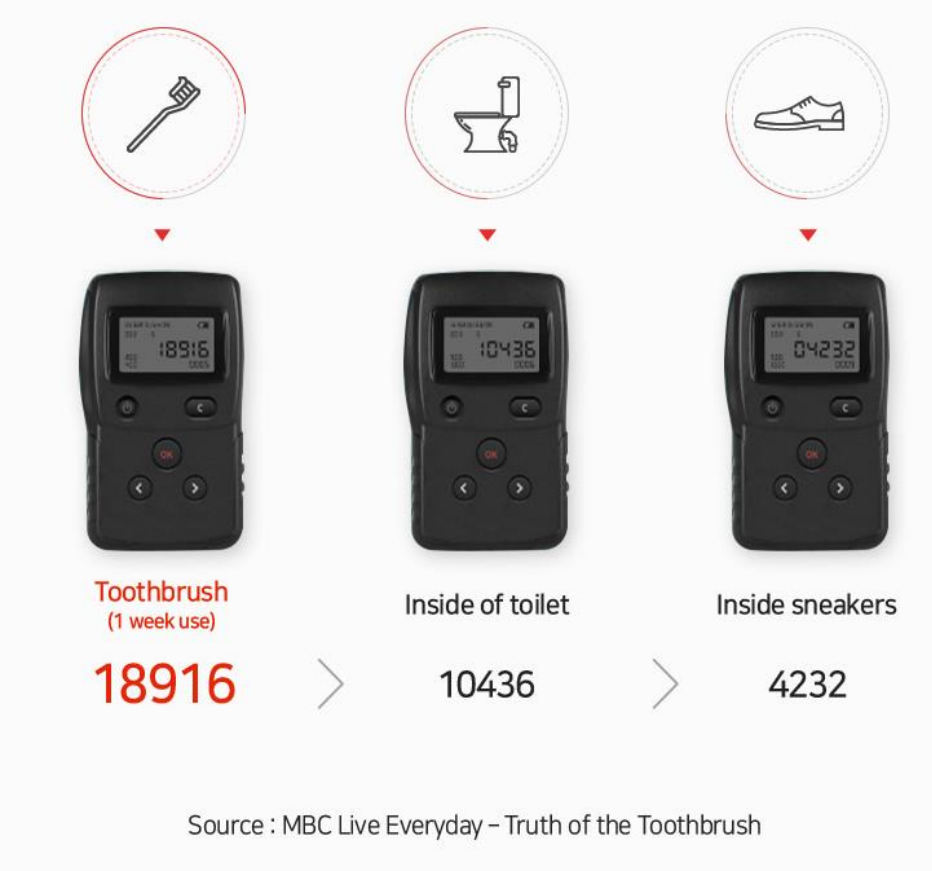
✓ Toothbrushes are the main playground of bacteria because of spoiled food pieces and humid habitat. Especially, bacteria is multiplying quickly in the bathroom.

✓ The importance of sterilizing toothbrush is growing in both daily and outside-life.

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.
COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED

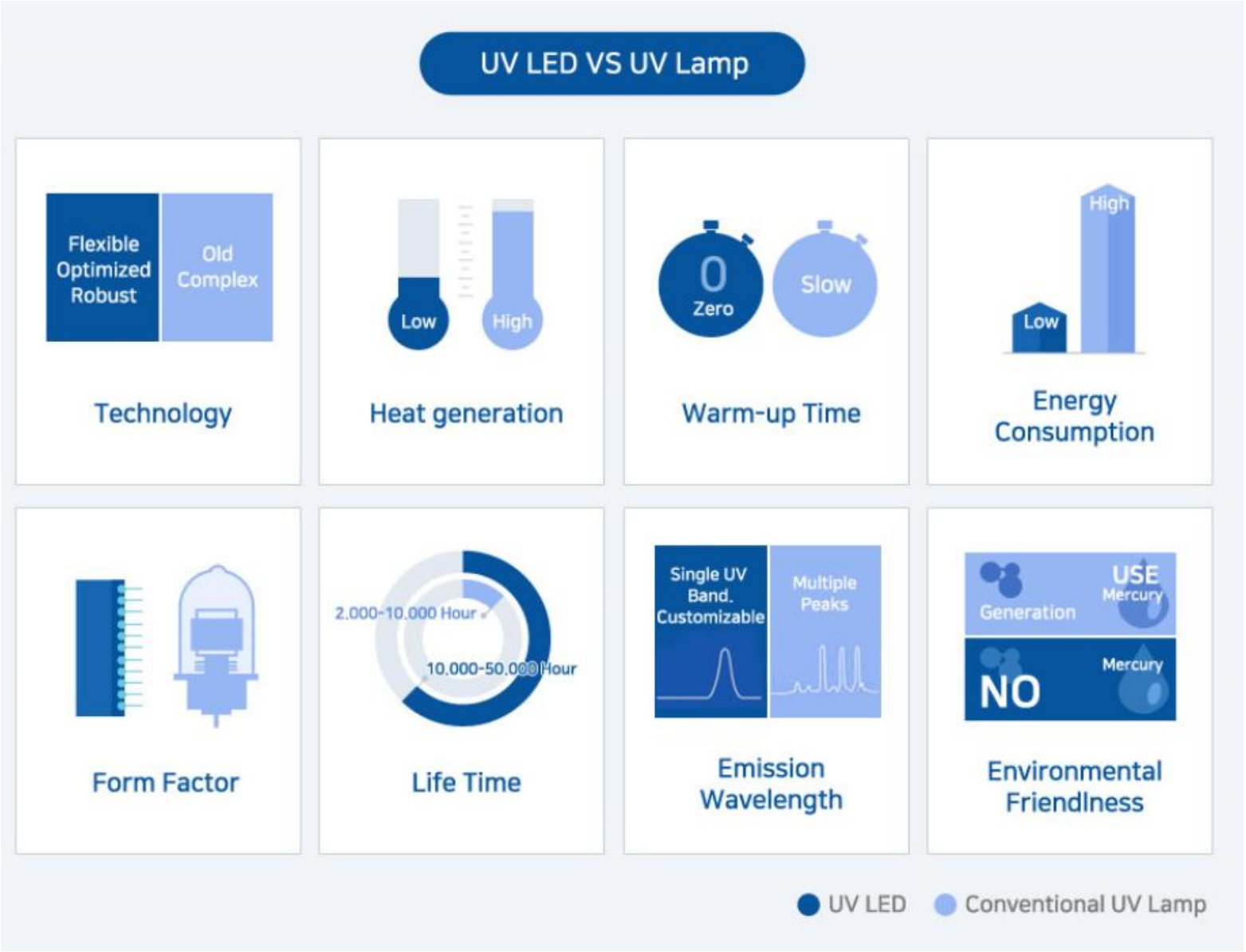
#1. Market Background

Why do we need toothbrush sterilizer?



#1. Market Background

The features of UV LED



COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

UV-C LED vs UV Lamp

	UV C LED	UV LAMP		
	TS-02	UTS-1500	TBS-100	HK-PS01
Sterilization System	**UV-C LED**	**UV Lamp + Ozone**	**UV Lamp + Ozone**	**UV Lamp + Ozone**
Battery	Lithium polymer 120mAh	Lithium polymer 500mAh	AA * 2	AA * 2
Size (mm)	45 * 45 * 20	77 * 54 * 30	214 * 52 * 29	210 * 50 * 25
Weight	22g	50g	100g	100g
Operating Duration	More than 5 years	About 6 months		
Sterilizing Time	2-5 mins	More than 10 mins		
Product Reliability	Eco-friendly components	Eco regulation to restrict mercury will start this year.		
Lamp Life-time	20,000 hours	4~5,000 hours		
Design	Minimal size, special design	Medium size, standardized		

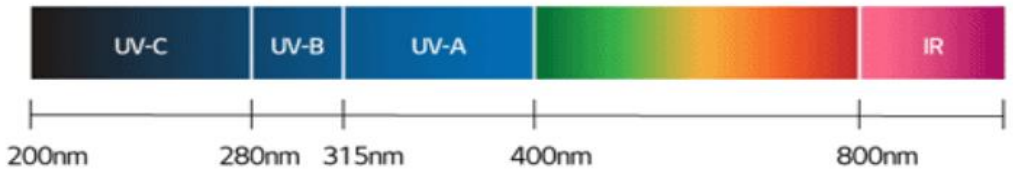
TS RESERVED.

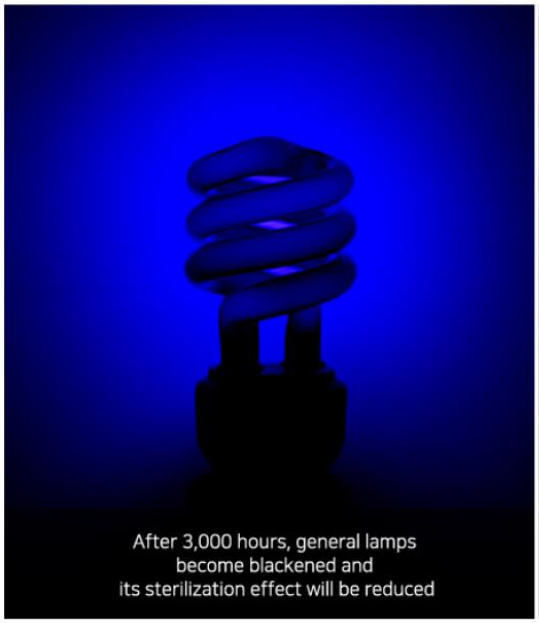
UV-C LED vs UV-A LED

	UV C LED	UV A LED	
	TS-02	PA-TS700N	LC-100
Sterilization System	**UV-C LED (275nm)**	**UV-A LED (405nm)**	**UV-A LED (405nm)**
Battery	Lithium polymer 120mAh	AAA *2	AAA *2
Size (mm)	45 * 45 * 20	223 * 51 * 25	214 * 52 * 29
Weight	22g	140g	110g
Operating Duration	Lasting a month after full charge	Periodic AAA battery change	
Sterilization Power	Strong	Weak	
Design	Minimal size, special design	Medium size, standardized (pencil case shape)	

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

What is UV-C LED?





ULTRAWAVE

ULTRAWAVE uses
Korean-made UV-C LED
applying high technology

What is UV-C LED?

The UV LED is an eco-friendly light material, not emitting Ozone or Mercury. Especially, the UV-C's wavelength range (200-280nm) is most efficient to sterilize. It is semi-permanent, representing the lifespan of 50,000 hours.

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

#2. Product Introduction

Why

ULTRAWAVE

1 Korean-made UV-C LED

2 99.9% Sterilization in 3 mins

3 Exclusive design utilizing UV tech

4 Excellent durability

5 Guaranteed by FCC, CE, RoHs, FDA

www.ultrawave.co.kr

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

#2. Product Introduction

Portable toothbrush sterilizer

TS-02

1 Wide window

2 The smallest and lightest toothbrush sterilizer

3 Pastel-colored and minimalism design

4 Lasting 30 days on a single charge

5 Magnetic attachment

Home toothbrush sterilizer

TS-04

1 The lightest home toothbrush sterilizer

2 Individual operation with separated flips

3 Additional tray for the razor

4 Applied 3M’s double-sided tape (pressing type)

5 Lasting 30 days on a single charge

#2. Product Introduction

Home toothbrush sterilizer for 2 people

TS-22

1 Designed for 1-2 person household

2 Additional tray for the razor

3 Applied 3M’s double-sided tape (pressing type)

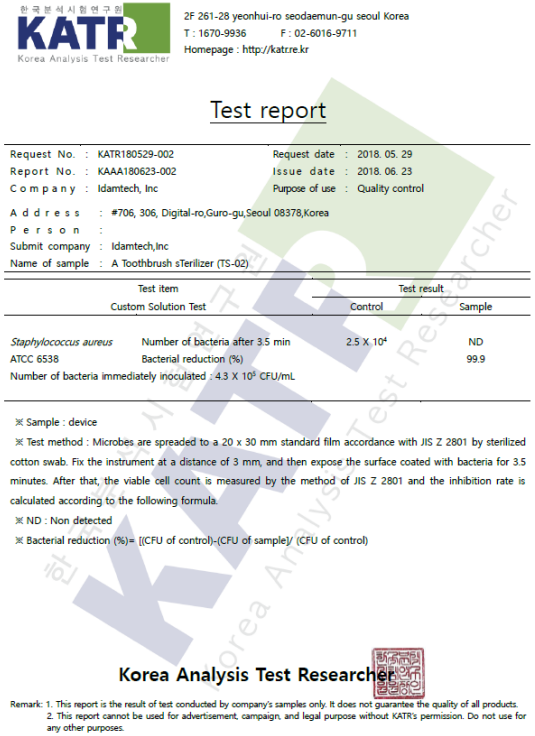
4 1회 충전으로 약 30일 사용 가능

#2. Product Introduction

National certified
KATR's test report
(**Korea Analysis Test Researcher**)
verify 99.9% sterilization
for Mutans, Colon bacteria,
Pseudomonas bacteria,
Staphylococcus aureus.

국가공인KATR(한국분석시험연구원)에서 칫솔살균기 살균테스트 결과

뮤탄스.대장균.녹농균.황생포도상구균의 3분살균에 99.9% 살균력을 검증하였습니다.



한국분석시험연구원 KATR Korea Analysis Test Researcher
2F 261-28 yeonhui-ro seodaemun-gu seoul Korea
T : 1670-9936 F : 02-6016-9711
Homepage : http://katr.re.kr

Test report

Request No. : KATR180529-002 Request date : 2018. 05. 29
Report No. : KAAA180623-002 Issue date : 2018. 06. 23
Company : Idamtech, Inc Purpose of use : Quality control
Address : #706, 306, Digital-ro,Guro-gu,Seoul 08378,Korea
Person :
Submit company : Idamtech,Inc
Name of sample : A Toothbrush sTerilizer (TS-02)

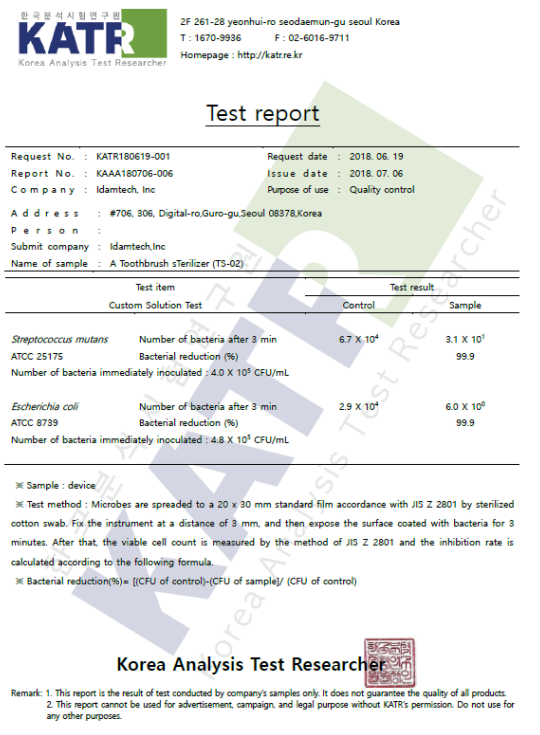
Test item		Test result	
Custom Solution Test		Control	Sample
Staphylococcus aureus ATCC 6538	Number of bacteria after 3.5 min	2.5 X 10^4	ND
	Bacterial reduction (%)		99.9

Number of bacteria immediately inoculated : 4.3 X 10^5 CFU/mL

※ Sample : device
※ Test method : Microbes are spreaded to a 20 x 30 mm standard film accordance with JIS Z 2801 by sterilized cotton swab. Fix the instrument at a distance of 3 mm, and then expose the surface coated with bacteria for 3.5 minutes. After that, the viable cell count is measured by the method of JIS Z 2801 and the inhibition rate is calculated according to the following formula.
※ ND : Non detected
※ Bacterial reduction (%)= [(CFU of control)-(CFU of sample)/ (CFU of control)

Korea Analysis Test Researcher

Remark: 1. This report is the result of test conducted by company's samples only. It does not guarantee the quality of all products.
2. This report cannot be used for advertisement, campaign, and legal purpose without KATR's permission. Do not use for any other purposes.



한국분석시험연구원 KATR Korea Analysis Test Researcher
2F 261-28 yeonhui-ro seodaemun-gu seoul Korea
T : 1670-9936 F : 02-6016-9711
Homepage : http://katr.re.kr

Test report

Request No. : KATR180619-001 Request date : 2018. 06. 19
Report No. : KAAA180706-006 Issue date : 2018. 07. 06
Company : Idamtech, Inc Purpose of use : Quality control
Address : #706, 306, Digital-ro,Guro-gu,Seoul 08378,Korea
Person :
Submit company : Idamtech,Inc
Name of sample : A Toothbrush sTerilizer (TS-02)

Test item		Test result	
Custom Solution Test		Control	Sample
Streptococcus mutans ATCC 25175	Number of bacteria after 3 min	6.7 X 10^4	3.1 X 10^1
	Bacterial reduction (%)		99.9
Escherichia coli ATCC 8739	Number of bacteria after 3 min	2.9 X 10^4	6.0 X 10^0
	Bacterial reduction (%)		99.9

Number of bacteria immediately inoculated : 4.0 X 10^5 CFU/mL
Number of bacteria immediately inoculated : 4.8 X 10^5 CFU/mL

※ Sample : device
※ Test method : Microbes are spreaded to a 20 x 30 mm standard film accordance with JIS Z 2801 by sterilized cotton swab. Fix the instrument at a distance of 3 mm, and then expose the surface coated with bacteria for 3 minutes. After that, the viable cell count is measured by the method of JIS Z 2801 and the inhibition rate is calculated according to the following formula.
※ Bacterial reduction(%)= [(CFU of control)-(CFU of sample)/ (CFU of control)

Korea Analysis Test Researcher

Remark: 1. This report is the result of test conducted by company's samples only. It does not guarantee the quality of all products.
2. This report cannot be used for advertisement, campaign, and legal purpose without KATR's permission. Do not use for any other purposes.

#2. Product Introduction

Overseas certificates:

FDA FCC, CE, RoHs

TEST REPORT

CTK Co., Ltd.

1. Client
2. Manufacturer
3. Use of Report : For FCC SDoC Report
4. Test Sample / Model: PET EAR MANAGE / EARPET
5. Date of Test : 2019-05-14 to 2019-05-19
6. Test Standard(method) used : FCC Part 15 Subpart B
7. Testing Environment: refer to 10 pages to 16 pages
8. Test Results : refer to 11 pages to 16 pages

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full.

Affirmation | Tested by: Park Insu, EMC Test Engineer | Approved by: Lee Eunwon, Technical Manager

2019-06-10

Republic of KOREA CTK Co., Ltd.

FCC SDoC

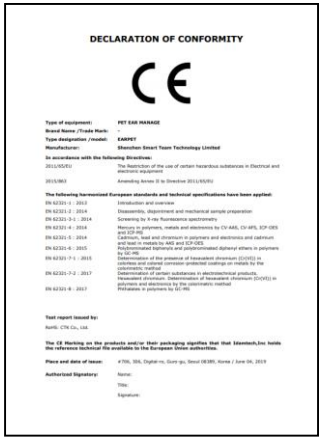
According to FCC Part 15

Applicant Name : 3damtech,Inc
Address : #706, 306, Digital-ro, Guro-gu, Seoul 08378, Korea
Telephone : +82-70-4266-5533
Declares that Product : PET EAR MANAGE
Model Name : EARPET
Report Number : CTK-2019-02079

This device complies with Part 15 of the FCC rules. Operations is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Test Laboratory:
CTK Co., Ltd.
(Ho-dong), 113, Yoyk-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Designation Number : KR0028
Test Firm Registration Number : 886671
Tel : +82-31-339-8970
Fax : +82-31-424-9801

Responsible Party:
Company Name :
Company Address :
Phone :
Fax :
Name :
Signature :


DECLARATION OF CONFORMITY

CE

Type of equipment: PET EAR MANAGE
Brand Name /Trade Mark:
Type designation / model: EARPET
Manufacturer: Shenzhen Smart Team Technology Limited

In accordance with the following Directives:

2011/65/EU — The Restriction of the use of certain hazardous substances in Electrical and electronic equipment
2015/863 — Amending Annex II to Directive 2011/65/EU

The following harmonised European standards and technical specifications have been applied:

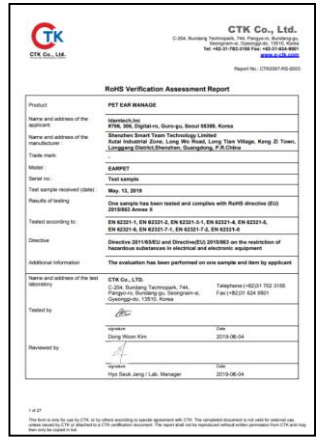
EN 62321-1 : 2013 — Introduction and overview
EN 62321-2 : 2014 — Disassembly, disjointment and mechanical sample preparation
EN 62321-3-1 : 2014 — Screening by X-ray fluorescence spectrometry
EN 62321-4 : 2014 — Mercury in polymers, metals and electronics by CV AAS, CV AFS, ICP-OES and ICP-MS
EN 62321-5 : 2014 — Cadmium, lead and chromium in polymers and electronics and cadmium and lead in metals by CV AAS, ICP-OES and ICP-MS
EN 62321-6 : 2015 — Polychlorinated biphenyls and polychlorinated diphenyl ethers in polymers by GC-MS
EN 62321-7-1 : 2015 — Determination of the presence of hexavalent chromium (Cr(VI)) in colorless and colored corrosion-protected coatings on metals by the colorimetric method
EN 62321-7-2 : 2017 — Determination of hexavalent chromium in electrotechnical products. Hexavalent chromium. Determination of hexavalent chromium (Cr(VI)) in polymers and electronics by the colorimetric method
EN 62321-8 : 2017 — Phthalates in polymers by GC-MS

Test report issued by: RoHS CTK Co., Ltd.

The CE Marking on the products and/or their packaging signifies that that 3damtech,Inc holds the reference technical file available to the European Union authorities.

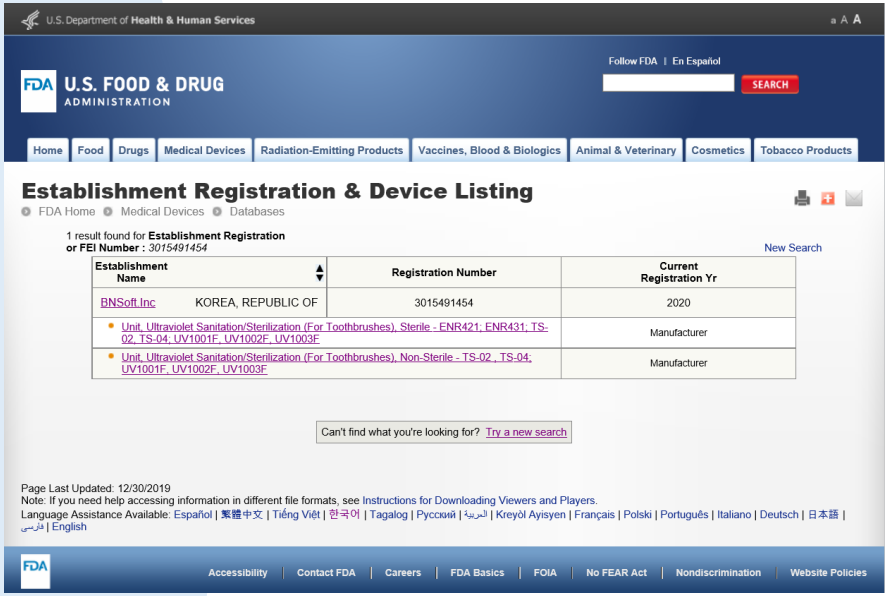
Place and date of issue: #706, 306, Digital-ro, Guro-gu, Seoul 08389, Korea / June 04, 2019

Authorized Signatory: Name: Title: Signature:


CTK Co., Ltd.

RoHS Verification Assessment Report

Product	PET EAR MANAGE
Name and address of the applicant	3damtech,Inc #706, 306, Digital-ro, Guro-gu, Seoul 08389, Korea
Name and address of the manufacturer	Shenzhen Smart Team Technology Limited Xutai Industrial Zone, Long Wo Road, Long Tian Village, Keng Zi Town, Longgang District,Shenzhen, Guangdong, P.R.China
Trade mark	-
Model	EARPET
Serial no.	Test sample
Test sample received (date)	May. 13, 2019
Results of testing	One sample has been tested and complies with RoHS directive (EU) 2015/863 Annex II
Tested according to	EN 62321-1, EN 62321-2, EN 62321-3-1, EN 62321-4, EN 62321-5, EN 62321-6, EN 62321-7-1, EN 62321-7-2, EN 62321-8
Directive	Directive 2011/65/EU and Directive(EU) 2015/863 on the restriction of hazardous substances in electrical and electronic equipment
Additional information	The evaluation has been performed on one sample and item by applicant
Name and address of the test laboratory	CTK Co., LTD. C-204, Bundang Technopark, 744, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, 13510, Korea Telephone (+82)31 702 2055 Fax (+82)31 624 9901
Tested by	signature: Date: 2019-06-04 Dong Woon Kim
Reviewed by	signature: Date: 2019-06-04 Hyo Seuk Jang / Lab. Manager


U.S. Department of Health & Human Services

FDA U.S. FOOD & DRUG ADMINISTRATION

Follow FDA | En Español

SEARCH

Home | Food | Drugs | Medical Devices | Radiation-Emitting Products | Vaccines, Blood & Biologics | Animal & Veterinary | Cosmetics | Tobacco Products

Establishment Registration & Device Listing

FDA Home > Medical Devices > Databases

1 result found for **Establishment Registration or FEI Number :** *3015491454*

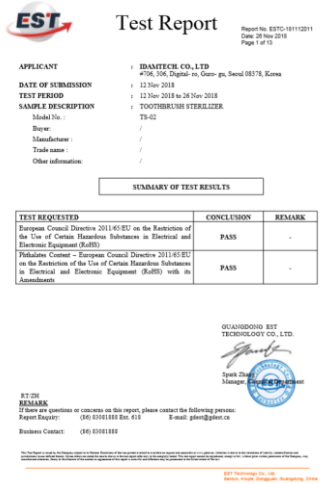
New Search

Establishment Name		Registration Number	Current Registration Yr
BNSoft Inc	KOREA, REPUBLIC OF	3015491454	2020
• Unit, Ultraviolet Sanitation/Sterilization (For Toothbrushes), Sterile - ENR421, ENR431; TS-02, TS-04; UV1001F, UV1002F, UV1003F			Manufacturer
• Unit, Ultraviolet Sanitation/Sterilization (For Toothbrushes), Non-Sterile - TS-02 , TS-04; UV1001F, UV1002F, UV1003F			Manufacturer

Can't find what you're looking for? Try a new search

Page Last Updated: 12/30/2019
Note: If you need help accessing information in different file formats, see Instructions for Downloading Viewers and Players.
Language Assistance Available: Español | 繁體中文 | Tiếng Việt | 한국어 | Tagalog | Русский | العربية | Kreyòl Ayisyen | Français | Polski | Português | Italiano | Deutsch | 日本語 | فارسی | English

FDA | Accessibility | Contact FDA | Careers | FDA Basics | FOIA | No FEAR Act | Nondiscrimination | Website Policies


EST Test Report

Report No. ESTC-181112011
Date: 28 Nov 2018
Page 1 of 10

APPLICANT : 3DAMTECH. CO., LTD #706, 306, Digital- ro, Guro- gu, Seoul 08378, Korea
DATE OF SUBMISSION : 12 Nov 2018
TEST PERIOD : 12 Nov 2018 to 26 Nov 2018
SAMPLE DESCRIPTION : TOOTHBRUSH STERILIZER
Model No. : TS-02
Buyer: /
Manufacturer : /
Trade name : /
Other information: /

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)	PASS	-
Phthalates Content – European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments	PASS	-

GUANGDONG EST TECHNOLOGY CO., LTD.

Spark Zhang, Manager

RT/IM

REMARK
If there are questions or concerns on this report, please contact the following persons:
Report Enquiry: (86) 83081888 Ext. 618 E-mail: gdest@gdest.cn
Business Contact: (86) 83081888

EST Technology Co., Ltd.
Bahuan, Huadu, Guangzhou, Guangdong, China

#3. Marketing Status

Domestic marketing

Hi-mart's 300 off-line stores
Electro-mart 43 branches
40 LOHB's stores
Shilla Duty-free (ICN airport)
Shinsegae Duty-free
Korean Air In-flight Duty-free

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

2019 CES in USA (19.01.08~01.11)

2019 Gift show in Japan

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

#3. Marketing Status

Overseas marketing

Successfully launched in Japanese cloud funding **Makuake** with 1,879 participants and achieved 8,747,975円!

2019 年 09 月 17 日
朝日新聞夕刊(全国紙)に充電式歯ブラシ除菌キャップが掲載されました。

▣歯ブラシを除菌するキャップ

MEDIK（メディク）が、「充電式歯ブラシ除菌キャップ」（4.5cm四方×高さ2cm、22g、4480円）を読者12人に。深紫外線LEDを発生させ、ブラシに付着した細菌を除菌する歯ブラシ用のキャップ。内部に施した鏡面に紫外線が反射することでブラシの隅々まで照射し、約3分間で99.9%の除菌効果が期待できるという。充電池内蔵式でUSB充電ケーブル付き。2時間の充電で約60回の使用が可能。

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.

THANK YOU

COPYRIGHT © 2020 BNSOFT INC. ALL RIGHTS RESERVED.