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Report No.: SHEM180300207703  
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## 1 Cover Page

# RF Exposure Evaluation Report

Application No.:	SHEM1803002077CR
Applicant:	Ningbo Yilin Aquatech Co., Ltd.
FCC ID:	2APCKBTT-10X
Equipment Under Test (EUT):	
NOTE:	The following sample(s) submitted was/were identified on behalf of the client as
Product Name:	Water Timer
Model No.:	BTT-10X
Standards:	FCC Rules 47 CFR §2.1093 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2018-03-21
Date of Test:	2018-03-27 to 2018-03-29
Date of Issue:	2018-03-31
Test Result:	Pass*

\* In the configuration tested, the EUT complied with the standards specified above.

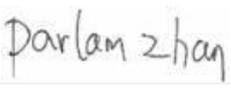


Parlam Zhan  
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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Revision Record			
Version	Description	Date	Remark
00	Original	2018-03-31	/

<b>Authorized for issue by:</b>			
			
		<hr/> <b>Vincent Zhu /Project Engineer</b>	
			
		<hr/> <b>Parlam Zhan /Reviewer</b>	

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### 3 General Information

#### 3.1 Client Information

Applicant:	Ningbo Yilin Aquatech Co., Ltd.
Address of Applicant:	NO. 158, Duantang West Road, Ningbo China
Manufacturer:	Ningbo Yilin Aquatech Co., Ltd.
Address of Manufacturer:	NO. 158, Duantang West Road, Ningbo China
Factory:	Ningbo Yilin Aquatech Co., Ltd.
Address of Factory:	NO. 158, Duantang West Road, Ningbo China

#### 3.2 General Description of E.U.T.

Power supply:	DC 3V, 2* AA size batteries
Test voltage:	DC 3V

#### 3.3 Details of E.U.T.

Antenna Gain	0 dBi
Antenna Type	Ceramic Antenna
Channel Spacing	2MHz
Modulation Type	GFSK
Number of Channels	40
Operation Frequency	2402MHz to 2480MHz

### 3.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

### 3.5 Test Facility

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

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (Certificate No. 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). Certificate No. 201034-0.

- **FCC –Designation Number: CN5033**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN5033. Test Firm Registration Number: 479755.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868,C-4336,T-12221,G-10830 respectively.

## 4 Test Standards and Limits

### 4.1 FCC Radiofrequency radiation exposure limits:

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in KDB447498 D01 section 4.3.1 must be applied to determine SAR test exclusion.

MHz	5	10	15	20	25	30	35	40	45	50	mm
150	39	77	116	155	194	232	271	310	349	387	(mW)
300	27	55	82	110	137	164	192	219	246	274	
450	22	45	67	89	112	134	157	179	201	224	
835	16	33	49	66	82	98	115	131	148	164	
900	16	32	47	63	79	95	111	126	142	158	
1500	12	24	37	49	61	73	86	98	110	122	
1900	11	22	33	44	54	65	76	87	98	109	
2450	<b>10</b>	19	29	38	48	57	67	77	86	96	
3600	8	16	24	32	40	47	55	63	71	79	
5200	7	13	20	26	33	39	46	53	59	66	
5400	6	13	19	26	32	39	45	52	58	65	
5800	6	12	19	25	31	37	44	50	56	62	

## 5 Measurement and Calculation

### 5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM180300207702

Test mode	Channel	Peak Power (dBm)	Peak Power (mW)
BLE	2402	-4.37	0.37
	2440	-4.64	0.34
	2480	-5.74	0.27

## 5.2 MPE Calculation

The Max Conducted Peak Output Power is 0.37mW;

The best case gain of the antenna is 0dBi. 0dB logarithmic terms convert to numeric result is nearly 1

For FCC:

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 0.37 \text{ mW} \times 1.0 = 0.37\text{mW} < 10\text{mW}$$

So the device is exclusion from SAR test.

**--End of the Report--**