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Report No.: SHEM161200795804
Page: 1 of 8

1 Cover Page

RF Exposure REPORT

Application No.:	SHEM1612007958CR
Applicant:	Siemens Shanghai Medical Equipment Ltd.
FCC ID:	2AK5E-11061360
IC:	22421-11061360
Equipment Under Test (EUT): NOTE: The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	Remote control wireless
Model No.(EUT):	11061360
Standards:	FCC Rules 47 CFR §2.1093 RSS-102 Issue 5: 2015 KDB 447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2016-12-14
Date of Test:	2016-12-16 to 2017-01-07
Date of Issue:	2017-02-08
Test Result:	Pass*

**In the configuration tested, the EUT detailed in this report complied with the standards specified above.





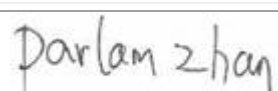
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	2017-02-08	/	Original

Authorized for issue by:			
Engineer	Eddy Zong		
	Print Name		
Clerk	Vincent Zhu		
	Print Name		
Reviewer	Parlam Zhan		
	Print Name		

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4 General Information

4.1 Client Information

Applicant:	Siemens Shanghai Medical Equipment Ltd.
Address of Applicant:	278 Zhou Zhu Road, Shanghai,China
Manufacturer:	Siemens Shanghai Medical Equipment Ltd.
Address of Manufacturer:	278 Zhou Zhu Road, Shanghai,China
Factory:	Shenyang Torch-Bigtide Digital Technology Co.,Ltd
Address of Factory:	No.18-6B, Yaoyang Road, Huishan Economic Development Area, Shenbei New District, Shenyang, China

4.2 General Description of E.U.T.

Product Description:	Portable product with BT function
Battery:	DC 2 * 1.2 V, 2* AAA size rechargeable Ni-MH batteries

4.3 Details of E.U.T.

Operation Frequency:	2402-2480MHz
Bluetooth Version:	BT4.0 single mode
Modulation Type:	GFSK
Number of Channel:	40
Antenna Type	PIFA antenna
Antenna Gain	5.3 dBi

4.4 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

4.5 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. Date of expiry: 2017-07-14.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2017-09-16.

- **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. Expiry Date: 2017-06-18.

- **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-2221, G-830 respectively. Date of Expiry: 2017-11-16.

5 Test Standards and Limits

5.1 FCC Radiofrequency radiation exposure limits

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:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 3.0 \cdot D_{\text{min}} / \sqrt{f} = 3.0 \cdot 5 / \sqrt{2.480} = 9.525 \text{ mW}$$

5.2 IC Radiofrequency radiation exposure limits

According to RSS-102 section 2.5.1, SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance

MHz	5	10	15	20	25	30	35	40	45	50	mm
≤300	71	101	132	162	193	223	254	284	315	345	mW
450	52	70	88	106	123	141	159	177	195	213	
835	17	30	42	55	67	80	92	105	117	130	
1900	7	10	18	34	60	99	153	225	316	431	
2450	4	7	15	30	52	83	123	173	235	309	
3500	2	6	16	32	55	86	124	170	225	290	
5800	1	6	15	27	41	56	71	85	97	106	

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

The practical use condition for this device is as a limb-worn accessories. So the applicable limit is 10-g extremity SAR

For 2.4G band device, the limit is $P_{\max} \leq 2.5 \times 4 = 10\text{mW}$

6 Measurement and Calculation

6.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM161200795803.

Test Data:

Test mode	Channel	Peak Power (dBm)	Peak Power (mW)
GFSK	2402	2.16	1.64
	2440	1.87	1.54
	2480	1.49	1.41

6.2 RF Exposure Calculation

The Max Conducted Peak Output Power is 1.64mW. The best case gain of the antenna is 5.3dBi.

5.3dBi logarithmic terms convert to numeric result is nearly 3.39

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 1.64 \text{ mW} \times 3.39 = 5.5596\text{mW} < 9.525\text{mW} < 10\text{mW}$$

So the SAR report is not required.

7 EUT Constructional Details

Refer to the < 11061360 _External Photos > & < 11061360 _Internal Photos>.

--End of the Report--