



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

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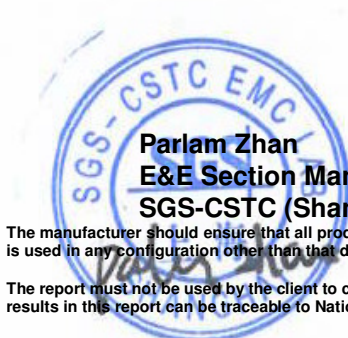
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## 1 Cover Page

# RF Exposure REPORT

Application No.:	SHEM1512004526CR
Applicant:	Hansong (Nanjing) Technology Ltd.
FCC ID:	XCO-ROPES
IC:	7756A-ROPES
<b>Equipment Under Test (EUT):</b> <b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	ROPES WIRELESS EARPHONES
Model No.(EUT):	ROPES WIRELESS
Standards:	FCC Rules 47 CFR §2.1093 KDB 447498 D01 General RF Exposure Guidance v06 RSS-102 Issue 5 (March 2015)
Date of Receipt:	December 07, 2015
Date of Test:	December 14, 2015 to December 29, 2015
Date of Issue:	March 16, 2016
Test Result:	<b>Pass*</b>

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



Parlam Zhan  
E&E Section Manager  
SGS-CSTC (Shanghai) Co., Ltd.


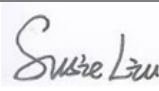
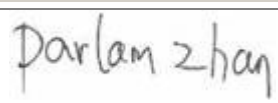
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant 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	/	March 16, 2016	/	Original

Authorized for issue by:				
Engineer		Eddy Zong		
		Print Name		
Clerk		Susie Liu		
		Print Name		
Reviewer		Parlam Zhan		
		Print Name		

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## 4 General Information

### 4.1 Client Information

Applicant:	Hansong (Nanjing) Technology Ltd.
Address of Applicant:	8th Kangping Road, Jiangning Economy and Technology Development Zone, Nanjing, 211106, China
Manufacturer:	ROAM Inc.
Address of Manufacturer:	1877 Centro West, Tiburon, CA 94920 US
Factory:	Hansong (Nanjing) Technology Ltd.
Address of Factory:	8th Kangping Road, Jiangning Economy and Technology Development Zone, Nanjing, 211106, China

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

Product Description:	Portable product with BT function
Brand Name:	
Rechargeable Batteries:	DC 3.7V Li-ion Rechargeable Battery, 270mAh Supply the EUT with fully charged battery during the testing.
Charging Voltage:	DC 5V 1A

### 4.3 Technical Specifications

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	BT 4.0 Classic mode BT 4.0 BLE mode
Modulation Technique:	FHSS(GFSK, $\pi/4$ DQPSK, 8DPSK) GFSK
Number of Channel:	79
Antenna Type	Integral
Antenna Gain	2 dBi

#### 4.4 Test Location

All tests were performed at:

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

No.588 West Jindu Road, Songjiang District, Shanghai, China.201612.

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:

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	10	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	

## 5.2 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.

For medical implants devices, the exemption limit for routine evaluation is set at 1 mW. The output power of a medical implants device is defined as the higher of the conducted or e.i.r.p to determine whether the device is exempt from the SAR evaluation.

## 6 Measurement and Calculation

### 6.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM151200452603 & SHEM151200452604.

**Test Data:**

**For BT 4.0 Classic mode**

Test mode	Channel	Peak Power (dBm)	Peak Power (mW)
GFSK	2402	0.26	1.06
	2441	0.0	1.00
	2480	0.28	1.07
$\pi/4$ DQPSK	2402	0.47	1.11
	2441	0.28	1.07
	2480	0.33	1.08
8DPSK	2402	0.81	1.21
	2441	0.58	1.14
	2480	-0.10	0.98

**For BT 4.0 Classic mode**

Test mode	Channel	Peak Power (dBm)	Peak Power (mW)
GFSK	2402	0.69	1.17
	2440	1.94	1.56
	2480	1.36	1.37

### 6.2 RF Exposure Calculation

The Max Conducted Peak Output Power is 1.56mW. The best case gain of the antenna is 2dBi. 2dBi logarithmic terms convert to numeric result is nearly 1.58

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 1.56 \text{ mW} \times 1.58 = 2.46\text{mW} < 4\text{mW} < 10\text{mW}$$

So the SAR report is not required.

## 7 EUT Constructional Details

Refer to the < ROPES WIRELESS \_External Photos > & < ROPES WIRELESS \_Internal Photos >.

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