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Report No.: SZEM151100690602

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RF Exposure Evaluation Report

Application No.: SZEM1511006906CR

Applicant: Minut, Inc.

Manufacturer: Spheris Industry Ltd
Factory Spheris Industry Ltd

Product Name: Point Smart Home Monitor

Model No.(EUT): Point
Trade Mark: Minut

FCC ID: 2AFXO-P1-1000

Standards: 47 CFR Part 1.1307 (2014)

47 CFR Part 1.1310 (2014)

 Date of Receipt:
 2015-11-11

 Date of Test:
 2015-11-27

 Date of Issue:
 2015-12-14

Test Result : PASS*

Authorized Signature:



Jack Zhang EMC Laboratory 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.

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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^{*} In the configuration tested, the EUT complied with the standards specified above.



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2 Version

Revision Record						
Version	Chapter	Date	Modifier	Remark		
00		2015-12-14		Original		

Authorized for issue by:		
	Benson Wang	2015-11-27
Tested By	(Benson Wang) /Project Engineer	Date
	Link Liang	2015-12-14
Prepared By	(Link Liang) /Clerk	Date
	Eric Fu	2015-12-14
Checked By	(Eric Fu) /Reviewer	Date

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4 General Information

4.1 Client Information

Applicant:	Minut, Inc.		
Address of Applicant:	Bredgatan 4, Malmo, 21130 Sweden.		
Manufacturer:	Spheris Industry Ltd		
Address of Manufacturer:	Flat B, 18/F, Two Chinachem Plaza 68 Connaught Road, Central, Hor Kong		
Factory:	Spheris Industry Ltd		
Address of Factory:	No.609 Guangming Road, Gaoxin Technology Industry Development Area, Xinyu, Jiangxi, 338004		

4.2 General Description of EUT

Product Name:	Point Smart Home Monitor
Model No.:	Point
Trade Mark:	Minut
Type of Modulation:	IEEE for 802.11b: DSSS (CCK, DQPSK, DBPSK)
	IEEE for 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)
	IEEE for 802.11n (HT20): OFDM (64QAM, 16QAM, QPSK, BPSK)
Operating Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Channel Number:	IEEE 802.11b/g, IEEE 802.11n(HT20): 11 Channels
Sample Type:	Fixed production
Antenna Type:	MIFA
Antenna Gain:	1.6dBi
Battery:	DC 6.0V (4X1.5V AA Batteries)

4.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

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4.4 Test Facility

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

CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

Industry Canada (IC)

The 3m Semi-anechoic chambers and the 10m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-2, 4620C-3.

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.



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5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)			
(A) Limits for Occupational/Controlled Exposures							
0.3–3.0	614	1.63	*(100)	6			
3.0–30	1842/f	4.89/f	*(900/f ²)	6			
30–300	61.4	0.163	1.0	6			
300-1500			f/300	6			
1500–100,000			5	6			
(B) Limits	for General Populati	on/Uncontrolled Exp	oosure				
0.3–1.34	614	1.63	*(100)	30			
1.34–30	824/f	2.19/f	*(180/f ²)	30			
30–300	27.5	0.073	0.2	30			
300-1500			f/1500	30			
1500-100,000			1.0	30			

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4* Pi * R 2)

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

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4.1.3 EUT RF Exposure Evaluation

Antenna Gain: 1.6dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.45 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency	Max Conducted	Output Power	Power Density	Limit	Result
	(MHz)	Peak Output	to Antenna	at R = 20 cm		
		Power (dBm)	(mW)	(mW/cm²)		
Lowest	2402	19.57	90.57	0.029	1.0	PASS

Note: Refer to report No. SZEM151100690601 for EUT test Max Conducted Peak Output Power value. The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.