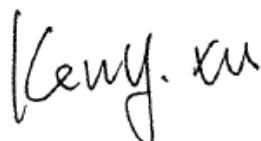


SAR Evaluation Report

Application No.: SZEM1903012057CR
Applicant: Shenzhen Pano Technology Co., Ltd
Address of Applicant: 3/F of No.3, Yuanhu Industrial Zone, Xinlian Community, Longcheng Sub-District, Longgang Dist. Shenzhen, China
Manufacturer / Factory: Shenzhen Pano Technology Co., Ltd
Address of Manufacturer / Factory: 3/F of No.3, Yuanhu Industrial Zone, Xinlian Community, Longcheng Sub-District, Longgang Dist. Shenzhen, China
Equipment Under Test (EUT):
EUT Name: Bluetooth FM transmitter
Model No.: CBT3348A, MBT3348A ♣
 ♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade mark: Craig, Magnavox
FCC ID: 2ASVW3348A
Standards: 47 CFR Part 1.1307
 47 CFR Part 2.1093
 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2019-03-25
Date of Test: 2019-03-27 to 2019-04-23
Date of Issue: 2019-04-26

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.





Keny Xu
 EMC Laboratory Manager



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Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-04-26		Original

Authorized for issue by:			
			
		Powell Bao /Project Engineer	
			
		Eric Fu /Reviewer	



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4 General Information

4.1 General Description of EUT

Power supply:	Input: DC12-24V Output: DC5V, 2.1A
For Bluetooth	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK
Number of Channels:	79
Channel Spacing:	1MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	-0.58dbi
For FM:	
Operation Frequency:	88MHz-108MHz
Modulation Type:	FM
Antenna Type:	Helical Antenna
Antenna Gain:	0dBi

Remark:

Model No.: CBT3348A, MBT3348A

Only the model CBT3348A was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model No..



4.2 Test Location

All tests were performed at:

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

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.

4.3 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 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.



4.4 Deviation from Standards

None.

4.5 Abnormalities from Standard Conditions

None.

4.6 Other Information Requested by the Customer

None.



5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.2. Simultaneous transmission SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 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:

$$[(\text{max. power of channel, including tune-up tolerance, } mW) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}/x] \text{ W/kg, for test separation distances } \leq 50 \text{ mm};$$

where $x = 7.5$ for 1-g SAR and $x = 18.75$ for 10-g SAR.

where

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

BT:

The Max. power (including tune-up tolerance) is -5.04 dBm on the lowest channel 2.48 GHz (*)

-5.04 dBm logarithmic terms convert to numeric result is nearly 0.31 mW

According to the formula. calculate the test exclusion thresholds:

$$[(\text{max. power of channel, including tune-up tolerance, } mW) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}/x] \text{ W/kg, for test separation distances } \leq 50 \text{ mm};$$

where $x = 7.5$ for 1-g SAR and $x = 18.75$ for 10-g SAR.

$$\text{General RF Exposure} = 0.31\text{mW} / 5\text{mm} \times (\sqrt{2.48} / 7.5) = 0.013 \text{ W/kg} \quad (1)$$

$$\text{SAR requirement: } < 1.6\text{W/kg} \quad (2)$$

$$(1) < (2)$$

So the SAR report is not required.

(*) Max power refer to Report No.: SZEM190301205702



FM(107.9MHz):

The Max. power (including tune-up tolerance) is -50.8 dBm on the lowest channel 0.1079 GHz (*)
-50.8 dBm logarithmic terms convert to numeric result is nearly 0.0 mW

According to the formula. calculate the test exclusion thresholds:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{GHz}}/x}] \text{ W/kg, for test separation distances } \leq 50 \text{ mm};$$

where $x = 7.5$ for 1-g SAR and $x = 18.75$ for 10-g SAR.

General RF Exposure = 0.0mW / 5mm x ($\sqrt{0.1079/ 7.5}$) = 0.0 W/kg (1)

SAR requirement: <1.6W/kg (2)

(1) < (2)

So the SAR report is not required.

(*) Max power refer to Report No.: SZEM190301205703

Simultaneous transmission:

General RF Exposure = 0.013 W/kg + 0.00 W/kg = 0.013 W/kg (1)

SAR requirement: <1.6W/kg (2)

(1) < (2)

So the SAR report is not required

- End of the Report -

