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

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SAR Evaluation Report

Application No.:	SZEM1711011824CR
Applicant:	TEAC Corporation
Address of Applicant:	1-47 Ochiai, Tama-shi, Tokyo, 206-8530, Japan
Manufacturer:	TEAC Corporation
Address of Manufacturer:	1-47 Ochiai, Tama-shi, Tokyo, 206-8530, Japan
Factory:	Dongguan TEAC Electronics CO., LTD.
Address of Factory:	Shang-sha, Chang-an District Dongguan City, Guangdong, P.R.China
Equipment Under Test (EUT):	
EUT Name:	USB DAC/NETWORK PLAYER
Model No.:	NT-5050
FCC ID:	XEG-NT505
Trade mark:	TEAC
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2017-11-23
Date of Test:	2017-12-06 to 2018-01-11
Date of Issue:	2018-01-15
Test Result :	**PASS***

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

Authorized Signature:

Keny Xu
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.

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2018-01-15		Original

Authorized for issue by:				
				
		Leo Lai /Project Engineer		
				
		Eric Fu /Reviewer		

3 Contents

4 General Information

4.1 General Description of EUT

Power supply:	AC 120V/60Hz
BLE:	
Frequency Range:	2402MHz to 2480MHz
Bluetooth Version:	4.2 BT Dual mode
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB Pattern Antenna
Antenna Gain:	-3.0 dBi
BT Classic:	
Frequency Range:	2402MHz to 2480MHz
Bluetooth Version:	4.2 BT Dual mode
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Channel Spacing:	1MHz
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channels:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Antenna Type:	PCB Pattern Antenna
Antenna Gain:	-3.0 dBi

4.2 Test Location

All tests were performed at:

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

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber 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-1, 4620C-2, 4620C-3.

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

4.3.1. Standalone 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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation[17]
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 Conducted Peak Output Power is	8.05	dBm on the lowest channel	2.48	GHz
8.05 dBm logarithmic terms convert to numeric result is nearly 6.38 mW				
According to the formula. calculate the test exclusion thresholds:				
[(max. power of channel, including tune-up tolerance, mW)/				
(min. test separation distance, mm)] · [√f(GHz)]				
General RF Exposure = (6.38 mW / 5 mm) x √2.48 GHz = 2.01			(1)	
SAR requirement:				
S = 3.0			(2)	
(1) < (2)				
So the SAR report is not required.				

BLE:

The Max Conducted Peak Output Power is	6.31	dBm on the lowest channel	2.44	GHz
6.31 dBm logarithmic terms convert to numeric result is nearly 4.28 mW				
According to the formula. calculate the test exclusion thresholds:				
[(max. power of channel, including tune-up tolerance, mW)/				
(min. test separation distance, mm)] · [√f(GHz)]				
General RF Exposure = (4.28 mW / 5 mm) x √2.44 GHz = 1.34			(1)	
SAR requirement:				
S = 3.0			(2)	
(1) < (2)				
So the SAR report is not required.				

Remark: All of the results of the Max Conducted Output Power is including tune-up tolerance.