

# TEST REPORT

**Product Name : USB DAC AMPLIFIER**  
**Model Number : AI-303**  
**FCC ID : XEG-AI303**

Prepared for : TEAC Corporation  
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## 1. TEST RESULT CERTIFICATION

Applicant : TEAC Corporation  
 Address : 1-47 Ochiai, Tama-shi, Tokyo, Japan  
 Manufacturer : Hotel Technologies Inc.  
 Address : 1-47 Ochiai, Tama-shi, Tokyo, Japan  
 Factory : Dongguan TEAC Electronics Co.,Ltd.  
 Address : Building D 5-6 floors No.1 Shangxing Lu Shangjiao Chang-an Town,Dongguan City,Guangdong,Province ,523878  
 EUT : USB DAC AMPLIFIER  
 Model Name : AI-303  
 Trademark : TEAC

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 1.1310: §1.1307(b)	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC 1.1310: §1.1307(b).

The test results of this report relate only to the tested sample identified in this report

Date of Test : October 08, 2022 to November 16, 2022

Prepared by :   
 Xia Yang /Editor

Reviewer :   
 Tim Dong/ Supervisor

Approve & Authorized Signer :    
 Sam Lv / Manager

## Modified History

Version	Report No.	Revision Date	Summary
	EDG2209280018E00202R	November 16, 2022	Original Report



## 2. EUT Specification

Characteristics	Description
<b>Product:</b>	USB DAC AMPLIFIER
<b>Model Number:</b>	AI-303
<b>Sample:</b>	1#
<b>Device Type:</b>	Bluetooth V4.2
<b>Data Rate:</b>	1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation
<b>Modulation:</b>	GFSK, $\pi/4$ -DQPSK, 8DPSK
<b>Operating Frequency Range(s) :</b>	2402-2480MHz
<b>Number of Channels:</b>	79 channels
<b>Transmit Power Max:</b>	7.16 dBm(0.005200W)
<b>Antenna Type:</b>	PCB Antenna
<b>Antenna Gain:</b>	1.54 dBi
<b>Power supply:</b>	AC 100-240V 50/60Hz
<b>Evaluation applied:</b>	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

### 3. Test Requirement:

## RF EXPOSURE EVALUATION

According to FCC 1.1310: 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 §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm <sup>2</sup> )	Average Time
<b>(A) Limits for Occupational/Control Exposures</b>				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

### Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

$P_d$ = Power density in mW/cm<sup>2</sup>

$P_{out}$ =output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

$\pi$ =3.1416

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

$P_d$  the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

## 4. Measurement Result

Antenna gain:1.54 dBi

Mode	Frequency (MHz)	Output Power (dBm)	Target Power W/tolerance (dBm)	Max tune up power tolerance (dBm)	Max tune up power tolerance (mW)	Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Verdict
GFSK	2402	6.81	6±1	7	5.01	0.001421	1	PASS
	2441	6.41	6±1	7	5.01	0.001421	1	PASS
	2480	7.16	7±1	8	6.31	0.001789	1	PASS
pi/4-DQPSK	2402	5.41	5±1	6	3.98	0.001129	1	PASS
	2441	5.44	5±1	6	3.98	0.001129	1	PASS
	2480	6.41	6±1	7	5.01	0.001421	1	PASS
8-DPSK	2402	5.72	5±1	6	3.98	0.001129	1	PASS
	2441	5.70	5±1	6	3.98	0.001129	1	PASS
	2480	6.59	6±1	7	5.01	0.001421	1	PASS

\*\*\* End of Report \*\*\*