

TEST REPORT

Product Name : USB DAC/HEADPHONE AMPLIFIER
Model Number : UD-507
FCC ID : XEG-UD507

Prepared for : TEAC CORPORATION
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1. TEST RESULT CERTIFICATION

Applicant : TEAC CORPORATION
Address : 1-47 Ochiai, Tama-shi, Tokyo, Japan
Manufacturer : TEAC CORPORATION
Address : 1-47 Ochiai, Tama-shi, Tokyo, Japan
EUT : USB DAC/HEADPHONE AMPLIFIER
Model Name : UD-507
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 : March 18, 2024 to April 03, 2024

Prepared by : Warren Deng

Warren Deng /Editor

Reviewer : Tim Dong

Tim Dong /Supervisor

Approve & Authorized Signer : Sam Lv 

Modified History

Version	Report No.	Revision Date	Summary
	EDG2401310238E01002R	January 18, 2024	Original Report



2. EUT Specification

Characteristics	Description
Product:	USB DAC/HEADPHONE AMPLIFIER
Model Number:	UD-507
Sample:	1#
Device Type:	Bluetooth V4.2
Data Rate:	1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation
Modulation:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	79 channels
Transmit Power Max:	3.05 dBm(0.002018 W)
Antenna Gain:	1.54 dBi
Power supply:	120V~60Hz
Evaluation applied:	☒ MPE Evaluation ☐ 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 ²)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
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/cm²

P_{out} =output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π =3.1416

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

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the nd 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)	E.I.R.P (dBm)	Target Power W/tolerance (dBm)	Max tune up power tolerance (dBm)	Max tune up power tolerance (mW)	Power Density at R=20cm (mW/cm2)	Limit (mW/cm2)	Verdict
GFSK	2402	0.63	2.17	2±1	3	2.00	0.000566	1	PASS
	2441	2.1	3.64	3±1	4	2.51	0.000712	1	PASS
	2480	2.28	3.82	3±1	4	2.51	0.000712	1	PASS
pi/4-DQ PSK	2402	0.97	2.51	2±1	3	2.00	0.000566	1	PASS
	2441	2.18	3.72	3±1	4	2.51	0.000712	1	PASS
	2480	2.49	4.03	4±1	5	3.16	0.000897	1	PASS
8-DPSK	2402	1.44	2.98	2±1	3	2.00	0.000566	1	PASS
	2441	2.72	4.26	4±1	5	3.16	0.000897	1	PASS
	2480	3.05	4.59	4±1	5	3.16	0.000897	1	PASS

*** End of Report ***