RADIO TEST REPORT

Test Report No. 15742591H-A-R1

Customer	**AlphaTheta Corporation**
Description of EUT	**DJ Mixer**
Model Number of EUT	**DJM-V5**
FCC ID	**2AM73-0005**
Test Regulation	**FCC Part 15 Subpart C**
Test Result	**Complied**
Issue Date	**August 20, 2025**
Remarks	**Frequency Tolerance test only**

Representative test engineer	Approved by
Ken Fujita	Takayuki Shimada
Engineer	Leader

CERTIFICATE 5107.02

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan, Inc.
☒ There is no testing item of "Non-accreditation".

Report Cover Page - Form-ULID-003532 (DCS:13-EM-F0429) Issue# 24.0

ANNOUNCEMENT

- This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
- The results in this report apply only to the sample tested. (Laboratory was not involved in sampling.)
- This sample tested is in compliance with the limits of the above regulation.
- The test results in this test report are traceable to the national or international standards.
- This test report must not be used by the customer to claim product certification, approval, or endorsement by the A2LA accreditation body.
- This test report covers Radio technical requirements.
  It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
- The all test items in this test report are conducted by UL Japan, Inc. Ise EMC Lab.
- The opinions and the interpretations to the result of the description in this report are outside scopes where
  UL Japan, Inc. has been accredited.
- The information provided by the customer for this report is identified in SECTION 1.
- The laboratory is not responsible for information provided by the customer which can impact the validity of the results.
- For test report(s) referred in this report, the latest version (including any revisions) is always referred.

REVISION HISTORY

Original Test Report No. 15742591H-A

This report is a revised version of 15742591H-A. 15742591H-A is replaced with this report.

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	15742591H-A	May 16, 2025	-
1	15742591H-A-R1	August 20, 2025	**SECTION 3: Test Summary** **FCC Part 15.31 (e)** -Modified below sentence. The stable voltage was supplied by the end product which was required to have a power supply regulator. Therefore, the EUT complies with the requirement. → This EUT provides the stable voltage constantly to RF Part regardless of inputvoltage. Therefore, this EUT complies with the requirement. **SECTION 4: Operation of EUT during testing** -Added below software information. (Date: 2025.04.11, Storage location: EUT memory)

Reference: Abbreviations (Including words undescribed in this report)

A2LA	The American Association for Laboratory Accreditation	ICES	Interference-Causing Equipment Standard
AC	Alternating Current	IEC	International Electrotechnical Commission
AFH	Adaptive Frequency Hopping	IEEE	Institute of Electrical and Electronics Engineers
AM	Amplitude Modulation	IF	Intermediate Frequency
Amp, AMP	Amplifier	ILAC	International Laboratory Accreditation Conference
ANSI	American National Standards Institute	ISED	Innovation, Science and Economic Development Canada
Ant, ANT	Antenna	ISO	International Organization for Standardization
AP	Access Point	JAB	Japan Accreditation Board
ASK	Amplitude Shift Keying	LAN	Local Area Network
Atten., ATT	Attenuator	LIMS	Laboratory Information Management System
AV	Average	MCS	Modulation and Coding Scheme
BPSK	Binary Phase-Shift Keying	MRA	Mutual Recognition Arrangement
BR	Bluetooth Basic Rate	N/A	Not Applicable
BT	Bluetooth	NIST	National Institute of Standards and Technology
BT LE	Bluetooth Low Energy	NS	No signal detect.
BW	BandWidth	NSA	Normalized Site Attenuation
Cal Int	Calibration Interval	NVLAP	National Voluntary Laboratory Accreditation Program
CCK	Complementary Code Keying	OBW	Occupied Band Width
Ch., CH	Channel	OFDM	Orthogonal Frequency Division Multiplexing
CISPR	Comite International Special des Perturbations Radioelectriques	P/M	Power meter
CW	Continuous Wave	PCB	Printed Circuit Board
DBPSK	Differential BPSK	PER	Packet Error Rate
DC	Direct Current	PHY	Physical Layer
D-factor	Distance factor	PK	Peak
DFS	Dynamic Frequency Selection	PN	Pseudo random Noise
DQPSK	Differential QPSK	PRBS	Pseudo-Random Bit Sequence
DSSS	Direct Sequence Spread Spectrum	PSD	Power Spectral Density
EDR	Enhanced Data Rate	QAM	Quadrature Amplitude Modulation
EIRP, e.i.r.p.	Equivalent Isotropically Radiated Power	QP	Quasi-Peak
EMC	ElectroMagnetic Compatibility	QPSK	Quadri-Phase Shift Keying
EMI	ElectroMagnetic Interference	RBW	Resolution Band Width
EN	European Norm	RDS	Radio Data System
ERP, e.r.p.	Effective Radiated Power	RE	Radio Equipment
EU	European Union	RF	Radio Frequency
EUT	Equipment Under Test	RMS	Root Mean Square
Fac.	Factor	RSS	Radio Standards Specifications
FCC	Federal Communications Commission	Rx	Receiving
FHSS	Frequency Hopping Spread Spectrum	SA, S/A	Spectrum Analyzer
FM	Frequency Modulation	SG	Signal Generator
Freq.	Frequency	SVSWR	Site-Voltage Standing Wave Ratio
FSK	Frequency Shift Keying	TR	Test Receiver
GFSK	Gaussian Frequency-Shift Keying	Tx	Transmitting
GNSS	Global Navigation Satellite System	VBW	Video BandWidth
GPS	Global Positioning System	Vert.	Vertical
Hori.	Horizontal	WLAN	Wireless LAN

CONTENTS PAGE

SECTION 1: Customer Information

Company Name	AlphaTheta Corporation
Address	6F, Yokohama i-Mark Place, 4-4-5 Minatomirai, Nishi-ku, Yokohama, 220-0012 Kanagawa, Japan
Telephone Number	+81-70-3367-4439
Contact Person	Yoshifumi Iketani

The information provided by the customer is as follows;
- Customer, Description of EUT, Model Number of EUT, FCC ID on the cover and other relevant pages
- Operating/Test Mode(s) (Mode(s)) on all the relevant pages
- SECTION 1: Customer Information
- SECTION 2: Equipment Under Test (EUT) other than the Receipt Date and Test Date
- SECTION 4: Operation of EUT during testing

SECTION 2: Equipment Under Test (EUT)

2.1 Identification of EUT

Description	DJ Mixer
Model Number	DJM-V5
Serial Number	Refer to SECTION 4.2
Condition	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	April 14, 2025
Test Date	April 15, 2025

2.2 Product Description

General Specification

Rating	AC 110 to AC 240 V
Operating Temperature	5 deg. C to 35 deg. C

Radio Specification

Equipment Type	Transceiver
Frequency of Operation	13.56 MHz
Type of Modulation	ASK

SECTION 3: Test Summary

3.1 Test Specification

Test Specification	FCC Part 15 Subpart C The latest version on the first day of the testing period
Title	FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits Section 15.225 Operation within the band 13.110-14.010 MHz.

* Also the EUT complies with FCC Part 15 Subpart B.

3.2 Reference Standards

ANSI/USEMCSC C63.2-2023
ANSI C63.4-2014+C63.4a-2017
ANSI C63.5-2017
ANSI C63.10-2013
ANSI C63.25.1-2018
RSS-Gen Issue 5/Amendment 1/Amendment 2 for ISED

3.3 Summary of Test Results

Item	Specification	Worst margin	Results	Remarks
Frequency Tolerance	<FCC> Section 15.225(e)	See data	Complied	Radiated
	<ISED> RSS-210 B.6 (b)			
Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593.				

FCC Part 15.31 (e)
This EUT provides the stable voltage constantly to RF Part regardless of input voltage.
Therefore, this EUT complies with the requirement.
However, the supply voltage was varied and tested at 85 % and 115 % of the nominal rated supply voltage during frequency tolerance test according to Section 15.225(e).

FCC Part 15.203/212 Antenna requirement
It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT.
Therefore, the equipment complies with the antenna requirement of Section 15.203/212.

3.4 Addition to standard

No addition, exclusion nor deviation has been made from the standard.

3.5 Uncertainty

Measurement uncertainty is not taken into account when stating conformity with a specified requirement.
Note: When margins obtained from test results are less than the measurement uncertainty, the test results may exceed the limit.

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor *k* = 2.

Antenna Terminal Conducted

Item	Unit	Calculated Uncertainty (+/-)
Antenna terminated conducted emission / Power density / Burst power	dB	3.50
Adjacent channel power (ACP)	dB	2.32
Bandwidth (OBW)	%	0.96
Time readout (time span upto 100 msec)	%	0.11
Time readout (time span upto 1000 msec)	%	0.11
Time readout (time span upto 60 sec)	%	0.02
Power measurement (Power meter < 8 GHz)	dB	1.43
Power measurement (Call box < 6 GHz)	dB	1.89
Frequency readout (Frequency counter)	ppm	0.67
Frequency readout (Spectrum analyzer frequency readout function)	ppm	2.13
Temperature (constant temperature bath)	deg. C	0.69
Humidity (constant temperature bath)	%RH	2.98
Modulation characteristics	%	6.93
Frequency for mobile	ppm	0.08
Contention-based protocol	dB	2.97

3.6 Test Location

UL Japan, Inc. Ise EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 Japan
Telephone: +81-596-24-8999
*A2LA Certificate Number: 5107.02 / FCC Test Firm Registration Number: 884919
ISED Lab Company Number: 2973C / CAB identifier: JP0002

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms	Maximum measurement distance
No.1 semi-anechoic chamber	19.2 x 11.2 x 7.7	7.0 x 6.0	No.1 Power source room	10 m
No.2 semi-anechoic chamber	7.5 x 5.8 x 5.2	4.0 x 4.0	-	3 m
No.3 semi-anechoic chamber	12.0 x 8.5 x 5.9	6.8 x 5.75	No.3 Preparation room	3 m
No.3 shielded room	4.0 x 6.0 x 2.7	N/A	-	-
No.4 semi-anechoic chamber	12.0 x 8.5 x 5.9	6.8 x 5.75	No.4 Preparation room	3 m
No.4 shielded room	4.0 x 6.0 x 2.7	N/A	-	-
No.5 semi-anechoic chamber	6.0 x 6.0 x 3.9	6.0 x 6.0	-	-
No.5 measurement room	6.4 x 6.4 x 3.0	6.4 x 6.4	-	-
No.6 shielded room	4.0 x 4.5 x 2.7	4.0 x 4.5	-	-
No.6 measurement room	4.75 x 5.4 x 3.0	4.75 x 4.15	-	-
No.7 shielded room	4.7 x 7.5 x 2.7	4.7 x 7.5	-	-
No.8 measurement room	3.1 x 5.0 x 2.7	3.1 x 5.0	-	-
No.9 measurement room	8.8 x 4.6 x 2.8	2.4 x 2.4	-	-
No.10 shielded room	3.8 x 2.8 x 2.8	3.8 x 2.8	-	-
No.11 measurement room	4.0 x 3.4 x 2.5	N/A	-	-
No.12 measurement room	2.6 x 3.4 x 2.5	N/A	-	-
Large Chamber	16.9 x 22.1 x 10.17	16.9 x 22.1	-	10 m
Small Chamber	5.3 x 6.69 x 3.59	5.3 x 6.69	-	-

3.7 Test data, Test instruments, and Test set up

Refer to APPENDIX.

SECTION 4: Operation of EUT during testing

4.1 Operating Mode(s)

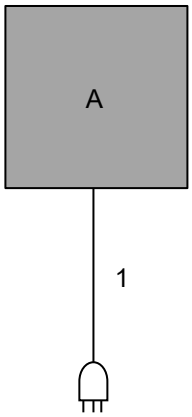
The mode is used:

Test mode	Remarks
1) Transmitting mode (Tx) Mod off	-
*Power of the EUT was set by the software as follows; Software: Version 9.411 (Date: 2025.04.11, Storage location: EUT memory) *This setting of software is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.	
Justification: The system was configured in typical fashion (as a user would normally use it) for testing.	

Test Item	Operating mode*
Frequency Tolerance	Mode1

Frequency Tolerance	
Temperature	-20 deg. C to +50 deg. C (Step 10 deg. C)
Voltage	Normal Voltage AC 120 V / 60Hz Maximum Voltage AC 276 V / 60Hz Minimum Voltage AC 93.5 V / 60Hz
*This EUT provides stable voltage constantly to RF Part regardless of input voltage	

4.2 Configuration and peripherals



AC 120 V / 60 Hz

* Cabling and setup were taken into consideration and test data was taken under worse case conditions.

Description of EUT and Support Equipment

No.	Item	Model number	Serial Number	Manufacturer	Remark
A	DJ Mixer	DJM-V5	EBMP000077DP	AlphaTheta Corporation	EUT

List of Cables Used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	AC Cable	1.8	Unshielded	Unshielded	-

SECTION 5: Frequency Tolerance

Test Procedure

The test was made with below setting.

Span	RBW	VBW	Sweep	Detector	Trace	Instrument used
-	-	-	-	-	-	Spectrum Analyzer

Test data : APPENDIX
Test result : Pass

APPENDIX 1: Test data

Frequency Tolerance

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.6
Date	April 15, 2025
Temperature / Humidity	24 deg. C / 33 % RH
Engineer	Ken Fujita
Mode	Mode 1

Test condition		Tested	Measured	Frequency	Result		Limit
Temp. [deg. C]	Voltage [V]	timing	frequency [MHz]	error [MHz]	[%]	[ppm]	[+/- %]
50	120	Power on	13.559938	-0.000062	-0.00046	-4.6	0.01
		+ 2 min.	13.559937	-0.000063	-0.00046	-4.6	0.01
		+ 5 min.	13.559936	-0.000064	-0.00047	-4.7	0.01
		+ 10 min.	13.559938	-0.000062	-0.00046	-4.6	0.01
40	120	Power on	13.559938	-0.000062	-0.00046	-4.6	0.01
		+ 2 min.	13.559937	-0.000063	-0.00046	-4.6	0.01
		+ 5 min.	13.559937	-0.000063	-0.00047	-4.7	0.01
		+ 10 min.	13.559935	-0.000065	-0.00048	-4.8	0.01
30	120	Power on	13.559938	-0.000062	-0.00046	-4.6	0.01
		+ 2 min.	13.559938	-0.000062	-0.00046	-4.6	0.01
		+ 5 min.	13.559936	-0.000064	-0.00047	-4.7	0.01
		+ 10 min.	13.559936	-0.000064	-0.00047	-4.7	0.01
20	120	Power on	13.559938	-0.000062	-0.00046	-4.6	0.01
		+ 2 min.	13.559937	-0.000063	-0.00046	-4.6	0.01
		+ 5 min.	13.559937	-0.000063	-0.00046	-4.6	0.01
		+ 10 min.	13.559937	-0.000063	-0.00047	-4.7	0.01
20	93.5 (110V -15%)	Power on	13.559991	-0.000009	-0.00006	-0.6	0.01
		+ 2 min.	13.559988	-0.000012	-0.00009	-0.9	0.01
		+ 5 min.	13.559987	-0.000013	-0.00010	-1.0	0.01
		+ 10 min.	13.559997	-0.000003	-0.00002	-0.2	0.01
20	276 (240V +15%)	Power on	13.559991	-0.000009	-0.00006	-0.6	0.01
		+ 2 min.	13.559992	-0.000008	-0.00006	-0.6	0.01
		+ 5 min.	13.559992	-0.000008	-0.00006	-0.6	0.01
		+ 10 min.	13.559993	-0.000007	-0.00006	-0.6	0.01
10	120	Power on	13.559999	-0.000001	-0.00001	-0.1	0.01
		+ 2 min.	13.560002	0.000002	0.00002	0.2	0.01
		+ 5 min.	13.560005	0.000005	0.00004	0.4	0.01
		+ 10 min.	13.560009	0.000009	0.00006	0.6	0.01
0	120	Power on	13.559999	-0.000001	-0.00001	-0.1	0.01
		+ 2 min.	13.560002	0.000002	0.00002	0.2	0.01
		+ 5 min.	13.560006	0.000006	0.00004	0.4	0.01
		+ 10 min.	13.560008	0.000008	0.00006	0.6	0.01
-10	120	Power on	13.560019	0.000019	0.00014	1.4	0.01
		+ 2 min.	13.560018	0.000018	0.00014	1.4	0.01
		+ 5 min.	13.560019	0.000019	0.00014	1.4	0.01
		+ 10 min.	13.560020	0.000020	0.00014	1.4	0.01
-20	120	Power on	13.560020	0.000020	0.00014	1.4	0.01
		+ 2 min.	13.560019	0.000019	0.00014	1.4	0.01
		+ 5 min.	13.560019	0.000019	0.00014	1.4	0.01
		+ 10 min.	13.560012	0.000012	0.00009	0.9	0.01

Calculation formula: Frequency error = Measured frequency - Tested frequency
Result [%] = Frequency error / Tested frequency * 100

Tested frequency: 13.56 MHz
Limit (+/-): 0.01 % (+/- 100ppm)

*The test was begun from 50 deg. C and the temperature was lowered each 10 deg. C.

APPENDIX 2: Test instruments

Test Equipment

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
FT	141429	Temperature and Humidity Chamber	Espec	PL-2KP	14015723	08/23/2024	12
FT	141558	Digital Tester (TRUE RMS MULTIMETER)	Fluke Corporation	115	17930030	05/17/2024	12
FT	141903	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46186390	01/30/2025	12
FT	142225	Tape Measure	ASKUL	-	-	-	-
FT	142645	Loop Antenna	UL-ISE	-	-	-	-
FT	244712	Thermo-Hygrometer	HIOKI E. E. CORPORATION	LR5001	231202106	01/19/2025	12

***Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.**

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

Test item:
FT: Frequency Tolerance