

RADIO TEST REPORT

Test Report No. 16212816S-F

Customer	AlphaTheta Corporation
Description of EUT	DJ Mixer
Model Number of EUT	DJM-A7
FCC ID	2AM73-0008
Test Regulation	FCC Part 15 Subpart C
Test Result	Complied
Issue Date	May 13, 2026
Remarks	-

Representative test engineerKouki Yamada
Engineer**Approved by**Akio Hayashi
Leader

CERTIFICATE 1266.03

- ☐ 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".

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REVISION HISTORY

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	16212816S-F	May 13, 2026	-

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	5
SECTION 2: Equipment Under Test (EUT).....	5
SECTION 3: Test Summary	6
SECTION 4: Operation of EUT during testing	9
SECTION 5: Conducted Emission.....	12
SECTION 6: Radiated Emission (Fundamental, Spurious Emission and Spectrum Mask)	13
SECTION 7: Other tests.....	16
APPENDIX 1: Test data	17
Conducted Emission	17
Fundamental Emission and Spectrum Mask	19
Spurious Emission	20
20 dB Bandwidth and 99% Occupied Bandwidth.....	22
Frequency Tolerance	23
APPENDIX 2: Test instruments	24
APPENDIX 3: Photographs of test setup.....	25
Conducted Emission	25
Radiated Emission	26
Frequency Tolerance	28

SECTION 1: Customer Information

Company Name	AlphaTheta Corporation
Address	6F, Yokohama i-Mark Place, 4-4-5 Minatomirai, Nishi-ku, Yokohama, Kanagawa 220-0012 Japan
Telephone Number	+81-45-522-5397
Contact Person	Naoki Ishigaki

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-A7
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	March 9, 2026
Test Date	March 12 to 17, 2026

2.2 Product Description

General Specification

Rating	AC 110 V to 240 V, 0.4 A to 0.7 A, 50 / 60 Hz
Operating Temperature	5 deg. C to 35 deg. C

Radio Specification

RFID

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 C63.10-2020
ANSI/USEMCSC C63.10/Cor 1-2023
ANSI/USEMCSC C63.10a-2024 (incl. Errata) for ISED
ANSI C63.25.1-2018

3.3 Summary of Test Results

Item	Specification	Results	Remarks
Conducted Emission	<FCC> Section 15.207 ----- <ISED> RSS-Gen 8.8	Complied	-
Electric Field Strength of Fundamental Emission	<FCC> Section 15.225(a) ----- <ISED> RSS-210 B.6 (a)	Complied	Radiated
Spectrum Mask	<FCC> Section 15.225(b)(c) ----- <ISED> RSS-210 B.6 (a)	Complied	Radiated
20 dB Bandwidth	<FCC> Section15.215(c) ----- <ISED> -	Complied	Radiated
Electric Field Strength of Spurious Emission	<FCC> Section 15.209, Section 15.225 (d) ----- <ISED> RSS-210 B.6 (a) RSS-Gen 8.9	Complied	Radiated
Frequency Tolerance	<FCC> Section 15.225(e) ----- <ISED> RSS-210 B.6 (b)	Complied	Radiated
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, the 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 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.

3.4 Addition to standard

Item	Test Procedure	Results	Remarks
99% emission bandwidth	<ISED>RSS-Gen 6.7	-	Radiated
Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593.			

Other than above, 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 $k = 2$.

Item	Frequency range	Uncertainty (+/-)
Conducted Emission (AC Mains) LISN	150 kHz to 30 MHz	3.2 dB
Radiated Emission (Measurement distance: 3 m)	9 kHz to 30 MHz	3.4 dB
	30 MHz to 200 MHz	4.8 dB
	200 MHz to 1 GHz	6.0 dB
	1 GHz to 6 GHz	4.7 dB
	6 GHz to 18 GHz	5.3 dB
	18 GHz to 40 GHz	5.4 dB

Other test	Uncertainty (+/-)
Frequency Measurement (13.56 MHz)	1.4×10^{-7}
Bandwidth Measurement	0.012 %
Temperature	0.94 deg.C.
Humidity	3.2 %
Voltage	0.92 %

3.6 Test Location

UL Japan, Inc. Shonan EMC Lab.

1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone: +81-463-50-6400

A2LA Certificate Number: 1266.03

(FCC test firm registration number: 626366, ISED lab company number: 2973D / CAB identifier: JP0001)

Test room	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber (SAC1)	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber (SAC2)	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber (SAC3)	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber (SAC4)	8.1 x 5.1 x 3.55	8.1 x 5.1	-
Wireless anechoic chamber 1 (WAC1)	9.5 x 6.0 x 5.4	9.5 x 6.0	3 m
Wireless anechoic chamber 2 (WAC2)	9.5 x 6.0 x 5.4	9.5 x 6.0	3 m
No.1 Shielded room	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.2 Shielded room	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.3 Shielded room	6.3 x 4.7 x 2.7	6.3 x 4.7	-
No.4 Shielded room	4.4 x 4.7 x 2.7	4.4 x 4.7	-
No.5 Shielded room	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.6 Shielded room	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.8 Shielded room	3.45 x 5.5 x 2.4	3.45 x 5.5	-
No.1 Measurement room	2.55 x 4.1 x 2.5	-	-
No.2 Measurement room	4.5 x 3.5 x 2.5	-	-
Wireless shielded room 1	3.0 x 4.5 x 2.7	3.0 x 4.5	-
Wireless shielded room 2	3.0 x 4.5 x 2.7	3.0 x 4.5	-

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) (13.56 MHz)	The EUT Transmits and Receives at the same time and there is no receiving mode.
The EUT was operated in a manner similar to typical use during the tests.	
*Power of the EUT was set by the software as follows; Software: EUT Firmware Version: 0.65 (Date: 2026.03.12, 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.	

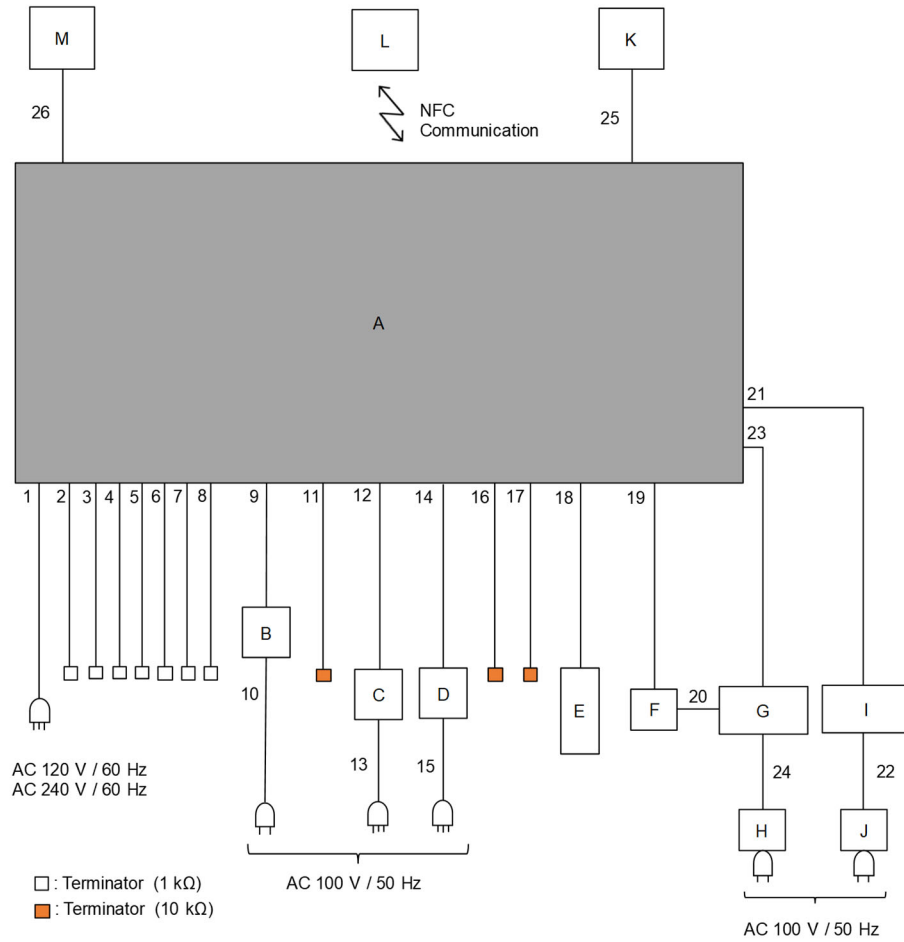
Test Item	Operating mode*
Conducted Emission	Tx, with Tag
Electric Field Strength of Fundamental Emission	Tx, without Tag
Spectrum Mask	Tx, without Tag
20 dB Bandwidth and 99 % Occupied Bandwidth	Tx, with Tag
Electric Field Strength of Spurious Emission	Tx, with Tag
Frequency Tolerance	Tx, without Tag

* After the comparison of the test data between with Tag and without Tag, the tests were performed with the worst case.

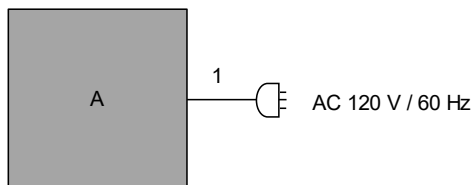
Frequency Tolerance	
Temperature	-20 deg. C to +50 deg.C Step 10 deg. C
Voltage	Normal Voltage AC 120 V / 60 Hz Maximum Voltage AC 276 V (AC 240 V +15 %) / 60 Hz Minimum Voltage AC 93.5 V (AC 110 V -15 %) / 60 Hz
*This EUT provides stable voltage constantly to RF Part regardless of input voltage.	

4.2 Configuration and peripherals

Other than Frequency Tolerance Test



Frequency Tolerance Test



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

*As a result of comparing AC 120 V and AC 240 V at pre-check, conducted emission test was performed with AC 240 V of the worst voltage as representative.

Description of EUT and Support Equipment

No.	Item	Model number	Serial Number	Manufacturer	Remark
A	DJ Mixer	DJM-A7	ES-14129	AlphaTheta	EUT
B	MULTI PLAYER	CDJ-900	IHMP000013UC	PioneerDJ	-
C	SPEAKER	SMS-1P	223026	SONY	Rch
D	SPEAKER	SMS-1P	223028	SONY	Lch
E	MIC	PGA48	-	SHURE	-
F	USB-C to Ethernet Adaptor	F2CU040	No.3	belkin	-
G	MacBook Pro 13-inch	A2251	ES-08292	Apple	-
H	AC Adapter	-	ES-08292	Apple	-
I	MacBook Pro 13-inch	A2251	ES-08291	Apple	-
J	AC Adapter	-	ES-08290	Apple	-
K	HEADPHONE	SE-M360	-	Pioneer	-
L	NFC TAG	-	No.2	-	-
M	iPad mini	A2567	ES-08263	Apple	-

List of Cables Used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	AC	2.0	Unshielded	Unshielded	-
2	CH4 PHONO L/R (RCA)	1.5	Shielded	Shielded	-
3	CH4 LINE L/R (RCA)	1.5	Shielded	Shielded	-
4	CH3 PHONO L/R (RCA)	1.5	Shielded	Shielded	-
5	CH3 LINE L/R (RCA)	1.5	Shielded	Shielded	-
6	CH2 PHONO L/R (RCA)	1.5	Shielded	Shielded	-
7	CH2 LINE L/R (RCA)	1.5	Shielded	Shielded	-
8	CH1 PHONO L/R (RCA)	1.5	Shielded	Shielded	-
9	CH1 LINE L/R (RCA)	1.5	Shielded	Shielded	-
10	AC	2.0	Unshielded	Unshielded	-
11	REC OUT L/R (RCA)	1.5	Shielded	Shielded	-
12	MASTER R (XLR)	3.0	Shielded	Shielded	-
13	AC	2.0	Unshielded	Unshielded	-
14	MASTER L (XLR)	3.0	Shielded	Shielded	-
15	AC	2.0	Unshielded	Unshielded	-
16	BOOTH R (TRS)	1.5	Shielded	Shielded	-
17	BOOTH L (TRS)	1.5	Shielded	Shielded	-
18	MIC (XLR)	3.0	Shielded	Shielded	-
19	LAN (Cat.5e)	3.0	Shielded	Shielded	-
20	USB (Type-C)	0.1	Shielded	Shielded	-
21	PC A (USB Type-C)	3.0	Shielded	Shielded	-
22	DC	2.0	Shielded	Shielded	-
23	PC B (USB Type-C)	3.0	Shielded	Shielded	-
24	DC	2.0	Shielded	Shielded	-
25	HEADPHONE	3.0	Shielded	Shielded	-
26	MULTI I/O (USB Type-C)	1.0	Shielded	Shielded	-

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on the platform of nominal size 1.0 m by 2.0 m, raised 0.8 m above the conducting ground plane.

The rear of the platform was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of the platform. All other surfaces of the platform were at least 80 cm from any other grounded conducting surface. EUT was located 80 cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

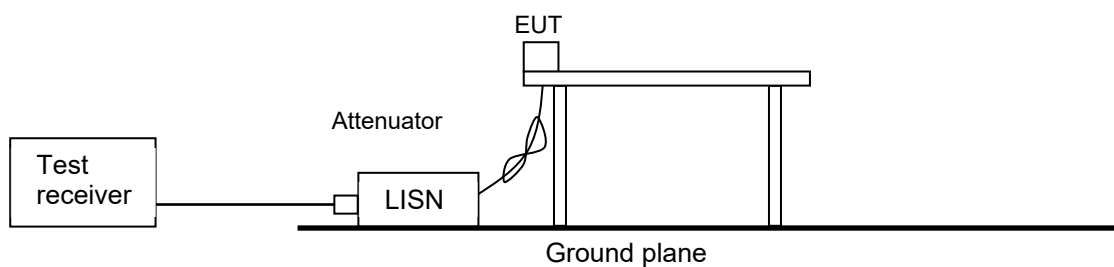
I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. All unused 50 ohm connectors of the LISN (AMN) were resistivity terminated in 50 ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Shielded Room.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

Figure 1: Test Setup



The test results and limit are rounded off to one decimal place, so some differences might be observed.

Detector	: QP and CISPR AV
Measurement range	: 0.15 MHz to 30 MHz
Test data	: APPENDIX
Test result	: Pass

SECTION 6: Radiated Emission (Fundamental, Spurious Emission and Spectrum Mask)

Test Procedure

EUT was placed on the platform of nominal size, 1.0 m by 2.0 m, raised 0.8 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

[Limit conversion]

The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 Ohms. For example, the measurement at frequency 9 kHz resulted in a level of 45.5 dBuV/m, which is equivalent to $45.5 - 51.5 = -6.0$ dBuA/m, which has the same margin, 3 dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

[Frequency: From 9 kHz to 30 MHz]

The loop antenna is oriented vertically, and its center point is positioned 1 m above ground level. The field strength radiated from the EUT is measured using a loop antenna connected to a measurement receiver as below procedures.

- 1) With the loop antenna set at vertical-axis angles of 0 deg., 45 deg., 90 deg., 135 deg., and the horizontal position, the EUT is rotated through 360 deg. to detect the maximum noise level. (The horizontal position has no rotation angle; therefore, the result obtained in Procedure 1 is used as the final data.)
- 2) The EUT is rotated through 360 deg. at two antenna angles: the angle that produced the maximum noise level in Procedure 1, and the angle that is reversed by 180 deg. from that angle. The noise levels from these two patterns are compared.
- 3) The EUT is rotated through 360 deg. at three antenna angles: the angle that produced the maximum noise level in Procedure 2, and the angles shifted by +15 deg. and -15 deg. from that angle. The noise levels from these three patterns are compared.
- 4) The EUT and antenna are set to the worst angle identified in Procedure 3, and point data is recorded. This data constitutes the final test result.

Refer to Figure 3 for the definition of the loop antenna angles.

The measurement bandwidth and detector type of the receiver are configured as shown in the table below.

Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open field test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

These tests were performed in semi anechoic chamber. Therefore the measured level of emissions may be higher than if measurements were made without a ground plane. However test results were confirmed to pass against standard limit.

[Frequency: From 30 MHz to 1 GHz]

The measuring antenna height varied between 1 and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization.

[Test instruments and test settings]

Frequency	Below 30 MHz	30 MHz to 200 MHz	200 MHz to 1 GHz
Antenna Type	Loop	Biconical	Logperiodic

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

Frequency	From 9 kHz to 90 kHz and From 110 kHz to 150 kHz	From 90 kHz to 110 kHz	From 150 kHz to 490 kHz	From 490 kHz to 30 MHz	From 30 MHz to 1 GHz
Instrument used	Test Receiver				
Detector	PK / AV	QP	PK / AV	QP	QP
IF Bandwidth	200 Hz	200 Hz	9 kHz	9 kHz	120 kHz
Test Distance	3 m *1)	3 m *1)	3 m *1)	3 m *2)	3 m

*1) Distance Factor: $40 \times \log (3 \text{ m} / 300 \text{ m}) = -80 \text{ dB}$

*2) Distance Factor: $40 \times \log (3 \text{ m} / 30 \text{ m}) = -40 \text{ dB}$

Figure 2: Test Setup

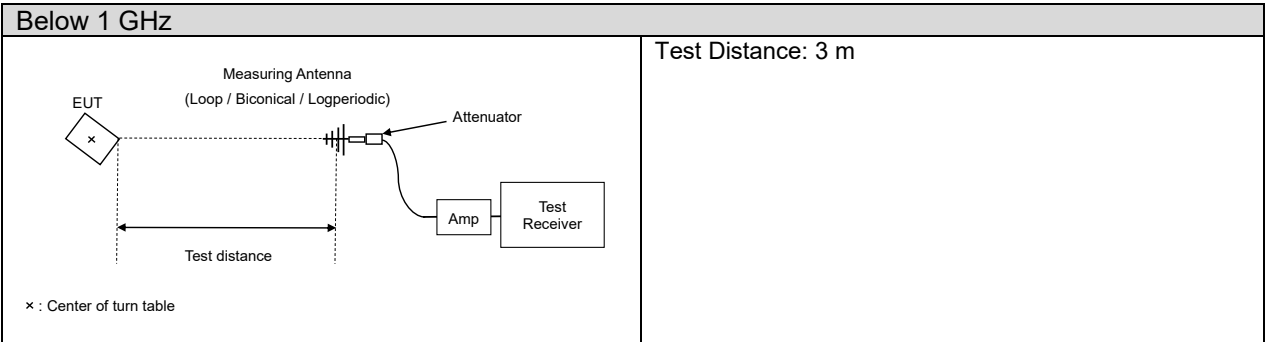
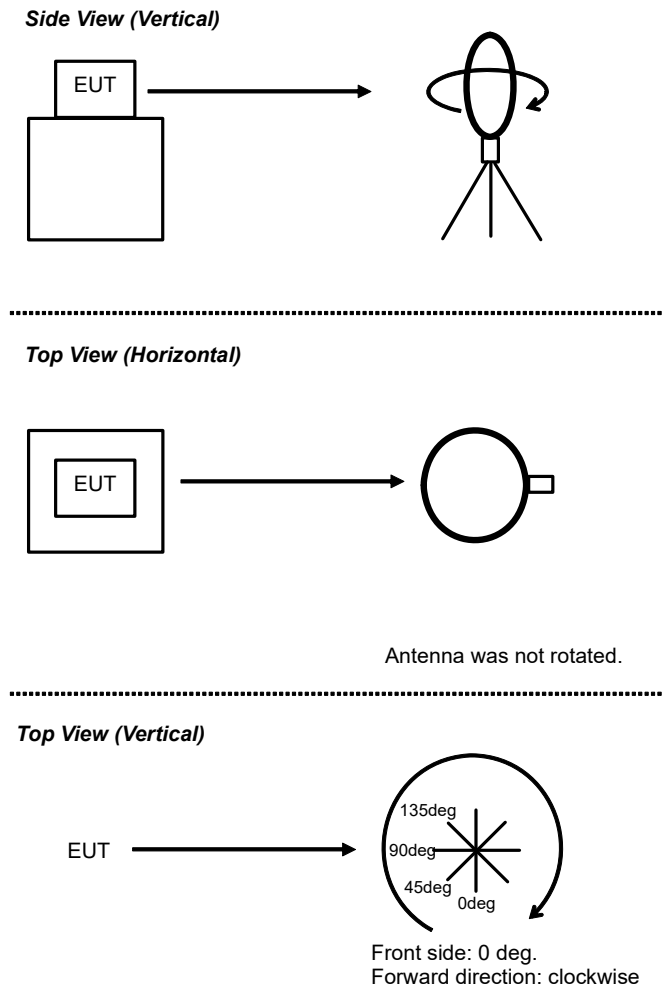


Figure 3: Direction of the Loop Antenna



The rotation angles of the loop antenna are defined in the above figure.

The test was made on EUT at the normal use position.

The test results and limit are rounded off to one decimal place, so some differences might be observed.

Measurement range : 9 kHz to 1 GHz
Test data : APPENDIX
Test result : Pass

SECTION 7: Other tests

Test	Span	RBW	VBW	Sweep	Detector	Trace	Instrument used
20 dB Bandwidth	500 kHz	3 kHz	9.1 kHz	Auto	Peak	Max Hold	Spectrum Analyzer
99 % Occupied Bandwidth	Enough width to display emission skirts	1 to 5 % of OBW	Three times of RBW	Auto	Peak *1)	Max Hold *1)	Spectrum Analyzer
Frequency Tolerance	-	-	-	-	-	-	Spectrum Analyzer *2)
*1) The measurement was performed with Peak detector, Max Hold since the duty cycle was not 100 %. Peak hold was applied as Worst-case measurement.							
*2) The measurement was performed with Marker Frequency Counter Function.							

Test data : APPENDIX
Test result : Pass

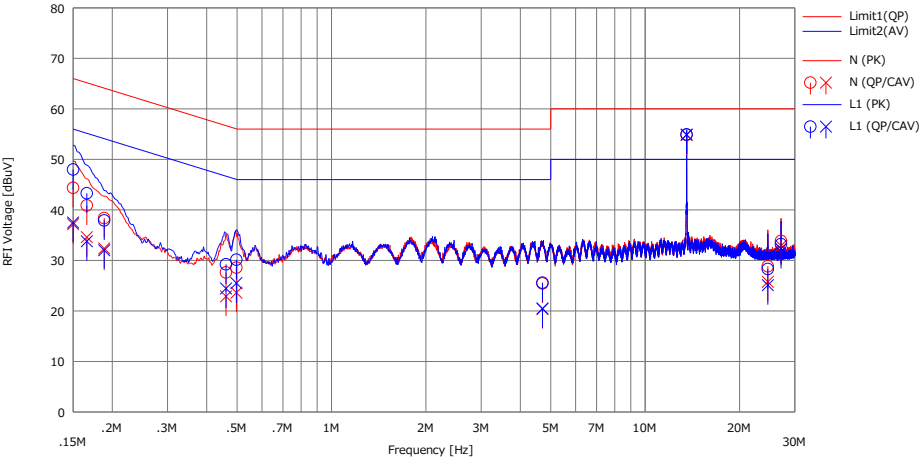
APPENDIX 1: Test data

Conducted Emission

Mode	Transmitting 13.56 MHz			
Date	Test site	Temperature	Humidity	Engineer
March 12, 2026	SR3	21 deg. C	47 % RH	Kouki Yamada

Power : AC 240 V / 60 Hz

Limit : FCC_Part 15 Subpart C(15.207)



No.	Freq.	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP>	<CAV>		<QP>	<CAV>	<QP>	<AV>	<QP>	<AV>		
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	28.98	21.75	15.40	44.38	37.15	66.00	56.00	21.6	18.8	N	
2	0.16590	25.49	19.21	15.40	40.89	34.61	65.16	55.16	24.2	20.5	N	
3	0.18850	22.97	16.97	15.41	38.38	32.38	64.10	54.10	25.7	21.7	N	
4	0.46100	12.16	7.42	15.45	27.61	22.87	56.67	46.67	29.0	23.8	N	
5	0.49760	13.10	8.16	15.46	28.56	23.62	56.04	46.04	27.4	22.4	N	
6	4.70620	9.77	4.71	15.67	25.44	20.38	56.00	46.00	30.5	25.6	N	
7	13.56000	38.76	38.75	16.07	54.83	54.82	60.00	50.00	5.1	-4.9	N	Carrier, Ref
8	24.61340	12.33	9.26	16.50	28.83	25.76	60.00	50.00	31.1	24.2	N	
9	27.12000	17.26	16.33	16.59	33.85	32.92	60.00	50.00	26.1	17.0	N	
10	0.15000	32.59	22.10	15.41	48.00	37.51	66.00	56.00	18.0	18.4	L1	
11	0.16590	27.87	18.37	15.41	43.28	33.78	65.16	55.16	21.8	21.3	L1	
12	0.18850	22.52	16.61	15.40	37.92	32.01	64.10	54.10	26.1	22.0	L1	
13	0.46100	13.77	8.99	15.46	29.23	24.45	56.67	46.67	27.4	22.2	L1	
14	0.49760	14.67	10.04	15.47	30.14	25.51	56.04	46.04	25.9	20.5	L1	
15	4.70620	9.90	4.80	15.69	25.59	20.49	56.00	46.00	30.4	25.5	L1	
16	13.56000	38.97	38.96	15.96	54.93	54.92	60.00	50.00	5.0	-5.0	L1	Carrier, Ref
17	24.61340	12.11	8.92	16.19	28.30	25.11	60.00	50.00	31.7	24.8	L1	
18	27.12000	17.00	16.06	16.23	33.23	32.29	60.00	50.00	26.7	17.7	L1	

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(LISN(AMN)+Cable+ATT)[dB]
LISN(AMN)=LIMS ID 145542

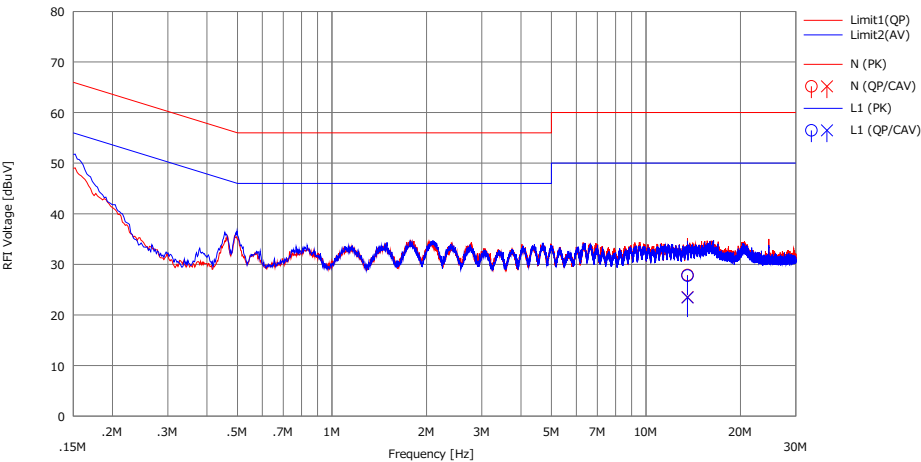
Except for the above table: adequate margin data below the limits.

Conducted Emission

Mode	Transmitting 13.56 MHz, Antenna Terminated			
Date	Test site	Temperature	Humidity	Engineer
March 12, 2026	SR3	21 deg. C	47 % RH	Kouki Yamada

Power : AC 240 V / 60 Hz

Limit : FCC_Part 15 Subpart C(15.207)



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		[QP] [dBuV]	[CAV] [dBuV]		[QP] [dBuV]	[CAV] [dBuV]	[QP] [dBuV]	[AV] [dBuV]	[QP] [dB]	[AV] [dB]		
1	13.56000	11.82	7.42	16.07	27.89	23.49	60.00	50.00	32.1	26.5	N	Carrier
2	13.56000	11.82	7.50	15.96	27.78	23.46	60.00	50.00	32.2	26.5	L1	Carrier

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(LISN(AMN)+Cable+ATT)[dB]
LISN(AMN)=LIMS ID 145542

Except for the above table: adequate margin data below the limits.

Fundamental Emission and Spectrum Mask

Mode	Transmitting 13.56 MHz
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Date	Test site	Temperature	Humidity	Engineer
March 13, 2026	SAC3	21 deg. C	27 % RH	Kouki Yamada

Remarks	without Tag, Vertical polarization (antenna angle) of the worst case: 0 deg
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Fundamental emission

No.	FREQ [MHz]	Test Receiver Reading		Antenna Factor [dB/m]	Loss [dB]	AMP GAIN [dB]	Distance factor [dB]	RESULT		LIMIT (30 m) [dBuV/m]	MARGIN	
		Hor [dBuV]	Ver [dBuV]					Hor [dBuV/m]	Ver [dBuV/m]		Hor [dB]	Ver [dB]
1	13.560	59.0	64.8	9.44	6.47	32.24	-40.0	2.67	8.47	83.9	81.2	75.4

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant. Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]+Distance factor[dB]
Distance factor: $40 \times \log(3 \text{ m} / 30 \text{ m}) = -40 \text{ dB}$

Spurious emission within the band

No.	FREQ [MHz]	Test Receiver Reading		Antenna Factor [dB/m]	Loss [dB]	AMP GAIN [dB]	Distance factor [dB]	RESULT		LIMIT (30 m) [dBuV/m]	MARGIN	
		Hor [dBuV]	Ver [dBuV]					Hor [dBuV/m]	Ver [dBuV/m]		Hor [dB]	Ver [dB]
1	13.110	28.6	28.7	9.51	6.47	32.24	-40.0	-27.66	-27.56	29.5	57.2	57.1
2	13.403	28.6	29.4	9.47	6.47	32.24	-40.0	-27.70	-26.90	40.5	68.2	67.4
3	13.410	28.7	29.0	9.47	6.47	32.24	-40.0	-27.60	-27.30	40.5	68.1	67.8
4	13.553	45.3	50.8	9.44	6.47	32.24	-40.0	-11.03	-5.53	50.4	61.4	55.9
5	13.567	43.6	49.1	9.44	6.47	32.24	-40.0	-12.73	-7.23	50.4	63.1	57.6
6	13.710	28.9	29.1	9.42	6.48	32.24	-40.0	-27.44	-27.24	40.5	67.9	67.7
7	13.720	28.9	30.8	9.42	6.48	32.24	-40.0	-27.44	-25.54	40.5	67.9	66.0
8	14.010	28.3	28.2	9.39	6.48	32.24	-40.0	-28.07	-28.17	29.5	57.6	57.7

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant. Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]+Distance factor[dB]
Distance factor: $40 \times \log(3 \text{ m} / 30 \text{ m}) = -40 \text{ dB}$

Outside filed strength frequencies

- Fc±7 kHz: 13.553 MHz to 13.567 MHz
- Fc±150 kHz: 13.410 MHz to 13.710 MHz
- Fc±450 kHz: 13.110 MHz to 14.010 MHz

Fc = 13.56 MHz

Spurious Emission

Mode	Transmitting 13.56 MHz
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Date	Test site	Temperature	Humidity	Engineer
March 13, 2026	SAC3	21 deg. C	27 % RH	Kouki Yamada

Remarks	with Tag, Vertical polarization (antenna angle) of the worst case: 270 deg (Below 30 MHz)
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Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	27.120	QP	30.5	6.95	6.76	32.22	-40.0	-28.01	29.5	57.5	-	284	* Limit: 30 m
Hori.	73.906	QP	47.6	6.28	7.28	32.20	0.0	28.96	40.0	11.0	400	275	
Hori.	101.609	QP	42.3	10.50	7.54	32.18	0.0	28.16	43.5	15.3	306	301	
Hori.	158.796	QP	41.4	15.09	8.13	32.12	0.0	32.50	43.5	11.0	221	315	
Hori.	180.737	QP	38.2	16.00	8.12	32.11	0.0	30.21	43.5	13.3	180	3	
Hori.	540.678	QP	39.8	17.72	10.22	32.07	0.0	35.67	46.0	10.3	100	186	
Vert.	27.120	QP	35.0	6.95	6.76	32.22	-40.0	-23.51	29.5	53.0	-	343	* Limit: 30 m
Vert.	54.166	QP	42.1	9.76	6.90	32.21	0.0	26.55	40.0	13.5	100	277	
Vert.	56.926	QP	44.2	8.94	6.82	32.21	0.0	27.75	40.0	12.3	100	257	
Vert.	59.083	QP	43.5	8.38	6.74	32.20	0.0	26.42	40.0	13.6	100	269	
Vert.	68.922	QP	45.7	6.66	6.88	32.20	0.0	27.04	40.0	13.0	100	210	
Vert.	78.911	QP	46.7	6.34	7.67	32.19	0.0	28.52	40.0	11.5	102	212	
Vert.	101.611	QP	43.2	10.50	7.54	32.18	0.0	29.06	43.5	14.4	100	205	
Vert.	688.132	QP	33.3	19.66	10.83	31.98	0.0	31.81	46.0	14.2	100	4	
Vert.	831.60	QP	31.4	21.01	11.34	31.54	0.0	32.21	46.0	13.8	100	352	
Vert.	914.93	QP	32.5	22.04	11.63	31.03	0.0	35.14	46.0	10.9	100	74	

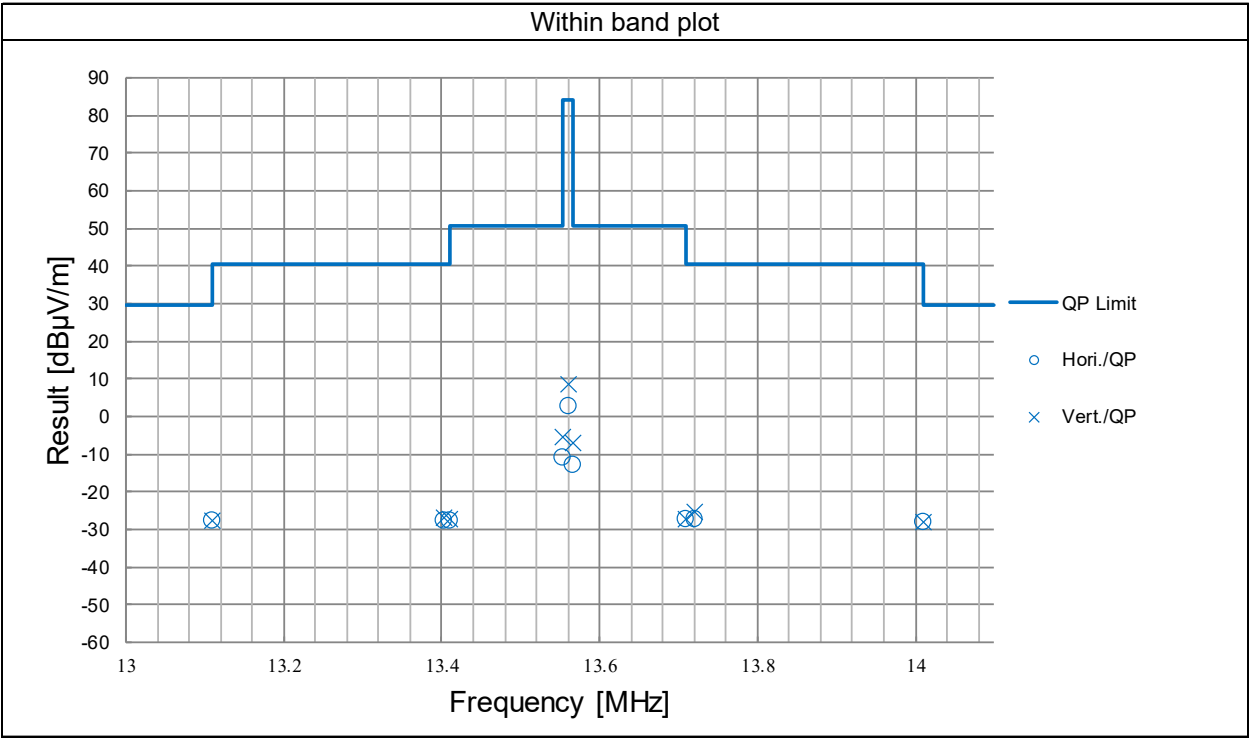
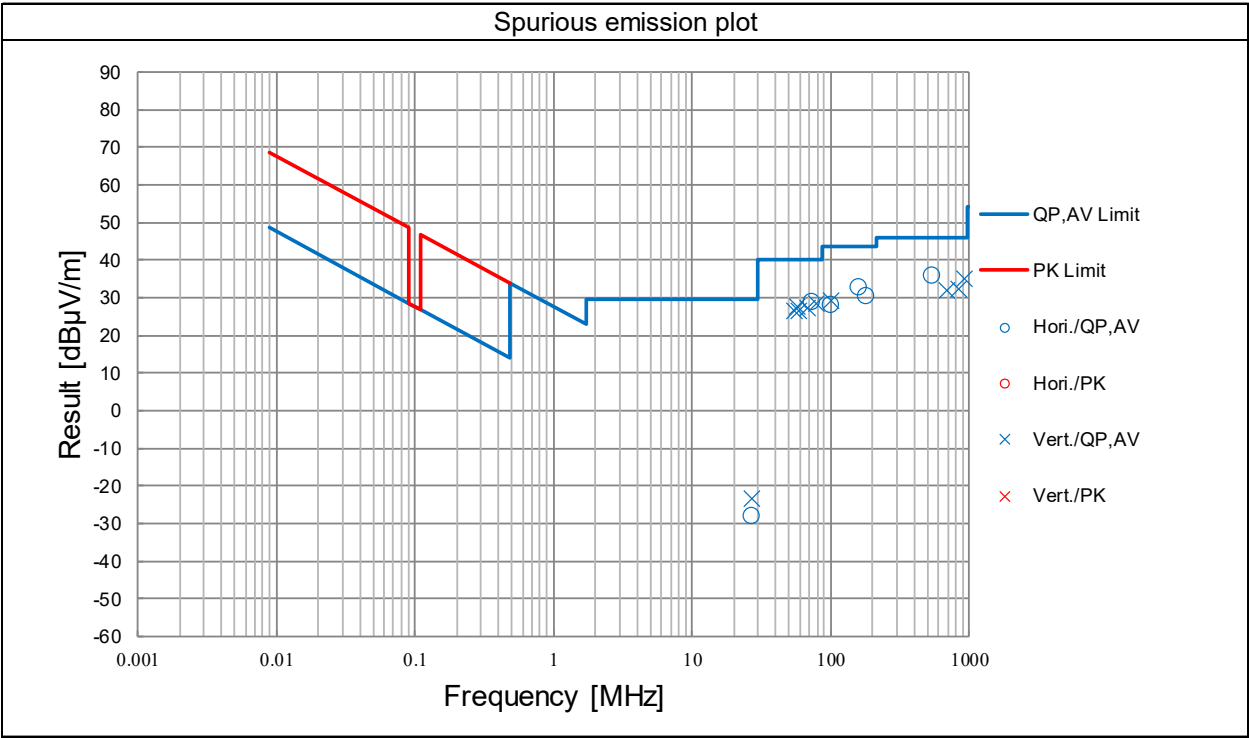
Result = Reading + Ant Factor + Loss (Cable+ATT+ΔAF(above 30 MHz)) - Gain(Amplifier) + Distance factor(below 30 MHz)

* Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

* Carrier level (Result at 3 m): Hor= 42.7 dBuV/m, Ver= 48.5 dBuV/m

Radiated Spurious Emission
(Plot data, Worst case for Spurious Emission)

Mode	Transmitting 13.56 MHz			
Date	Test site	Temperature	Humidity	Engineer
March 13, 2026	SAC3	21 deg. C	27 % RH	Kouki Yamada

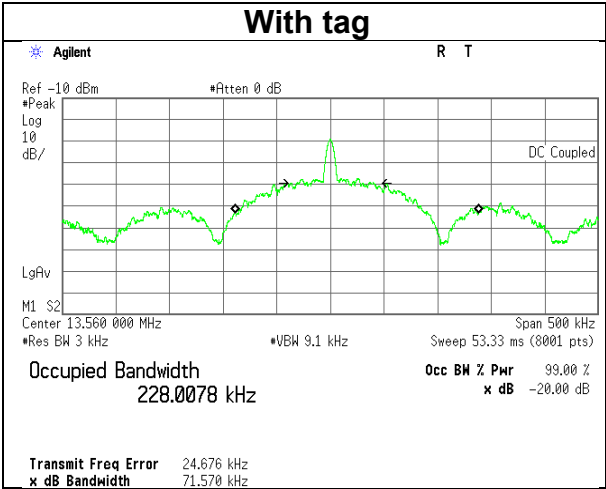


*These plots data contains sufficient number to show the trend of characteristic features for EUT.

20 dB Bandwidth and 99% Occupied Bandwidth

Mode	Transmitting 13.56 MHz			
Date	Test site	Temperature	Humidity	Engineer
March 13, 2026	SAC3	21 deg. C	27 % RH	Kouki Yamada

FREQ [MHz]	Mode	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	With Tag	71.570	228.0078



Frequency Tolerance

Mode	Transmitting 13.56 MHz Unmodulated
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Date	Test site	Temperature	Humidity	Engineer
March 17, 2026	SR5	24 deg. C	40 % RH	Makoto Hosaka

Test condition Temp. [deg. C]	Voltage [V]	Tested timing	Measured frequency [MHz]	Frequency error [MHz]	Result		Limit [+/- %]
					[%]	[ppm]	
50	120	Power on	13.559859	-0.000141	-0.00104	-10.4	0.01
		+ 2 min.	13.559858	-0.000142	-0.00104	-10.4	0.01
		+ 5 min.	13.559858	-0.000142	-0.00104	-10.4	0.01
		+ 10 min.	13.559858	-0.000142	-0.00104	-10.4	0.01
40	120	Power on	13.559875	-0.000125	-0.00092	-9.2	0.01
		+ 2 min.	13.559871	-0.000129	-0.00095	-9.5	0.01
		+ 5 min.	13.559869	-0.000131	-0.00096	-9.6	0.01
		+ 10 min.	13.559868	-0.000132	-0.00097	-9.7	0.01
30	120	Power on	13.559900	-0.000100	-0.00074	-7.4	0.01
		+ 2 min.	13.559896	-0.000104	-0.00077	-7.7	0.01
		+ 5 min.	13.559893	-0.000107	-0.00079	-7.9	0.01
		+ 10 min.	13.559891	-0.000109	-0.00080	-8.0	0.01
20	120	Power on	13.559928	-0.000072	-0.00053	-5.3	0.01
		+ 2 min.	13.559923	-0.000077	-0.00057	-5.7	0.01
		+ 5 min.	13.559920	-0.000080	-0.00059	-5.9	0.01
		+ 10 min.	13.559918	-0.000082	-0.00060	-6.0	0.01
20	93.5 (110 V-15 %)	Power on	13.559923	-0.000077	-0.00057	-5.7	0.01
		+ 2 min.	13.559919	-0.000081	-0.00060	-6.0	0.01
		+ 5 min.	13.559917	-0.000083	-0.00061	-6.1	0.01
		+ 10 min.	13.559916	-0.000084	-0.00062	-6.2	0.01
20	276 (240 V+15 %)	Power on	13.559925	-0.000075	-0.00055	-5.5	0.01
		+ 2 min.	13.559921	-0.000079	-0.00059	-5.9	0.01
		+ 5 min.	13.559918	-0.000082	-0.00060	-6.0	0.01
		+ 10 min.	13.559917	-0.000083	-0.00061	-6.1	0.01
10	120	Power on	13.559950	-0.000050	-0.00037	-3.7	0.01
		+ 2 min.	13.559946	-0.000054	-0.00040	-4.0	0.01
		+ 5 min.	13.559944	-0.000056	-0.00042	-4.2	0.01
		+ 10 min.	13.559942	-0.000058	-0.00043	-4.3	0.01
0	120	Power on	13.559959	-0.000041	-0.00030	-3.0	0.01
		+ 2 min.	13.559958	-0.000042	-0.00031	-3.1	0.01
		+ 5 min.	13.559958	-0.000042	-0.00031	-3.1	0.01
		+ 10 min.	13.559957	-0.000043	-0.00032	-3.2	0.01
-10	120	Power on	13.559942	-0.000058	-0.00043	-4.3	0.01
		+ 2 min.	13.559949	-0.000051	-0.00038	-3.8	0.01
		+ 5 min.	13.559950	-0.000050	-0.00037	-3.7	0.01
		+ 10 min.	13.559951	-0.000049	-0.00036	-3.6	0.01
-20	120	Power on	13.559897	-0.000103	-0.00076	-7.6	0.01
		+ 2 min.	13.559913	-0.000087	-0.00064	-6.4	0.01
		+ 5 min.	13.559916	-0.000084	-0.00062	-6.2	0.01
		+ 10 min.	13.559919	-0.000081	-0.00060	-6.0	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
CE	199786	Attenuator	JFW	50HF-006N	-	2025/06/04	12
CE	145036	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS 4906	-/0901-271(RF Selector)	2025/04/05	12
CE	145541	LISN	Rohde & Schwarz	ENV216	100514	2026/02/06	12
CE	145542	LISN	Rohde & Schwarz	ENV216	100516	2026/02/06	12
CE	146188	Terminator	TME	CT-01 BP	-	2025/11/12	12
CE	150463	Test Receiver	Rohde & Schwarz	ESW44	101581	2025/08/29	12
CE	259711	Thermo-Hygrometer	CUSTOM. Inc	CTH-230	-	2025/04/11	12
CE,RE	146210	Digital Hitester	HIOKI E. E. CORPORATION	3805-50	80997823	2025/09/10	12
CE,RE	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	Ver 3.1.0612	-	-
CE,RE	146432	Tape Measure	TAJIMA	GL19-55	-	-	-
FT	160495	Attenuator	Weinschel Corp.	54A-20	86752	2025/12/07	12
FT	179109	Coaxial Cable	Junkosha	MWX241-03000KMSKMS/B	1901Q034-R	2025/04/15	12
FT	145801	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250152	2025/09/11	12
FT	145200	Temperature and Humidity Chamber	Espec	PL-1KT	14020837	2025/04/10	12
FT	259713	Thermo-Hygrometer	CUSTOM. Inc	CTH-230	-	2025/04/11	12
RE, BW	167096	Attenuator	JFW	50HF-006N	-	2026/02/18	12
RE	264093	Attenuator	JFW	50HF-006N	-	2025/06/10	12
RE	145023	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	BBA9106	91032666	2025/05/16	12
RE, BW	194601	Coaxial Cable	Fjikura	5D-2W	-	2025/11/12	12
RE, BW	253628	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	5D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	2025/04/05	12
RE	145529	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	196	2025/05/16	12
RE, BW	245074	Loop(Active) Antenna	ETS-Lindgren	6502	00262458	2025/04/09	12
RE, BW	145126	Pre Amplifier	SONOMA	310N	290213	2026/02/17	12
RE, BW	145568	Semi Anechoic Chamber(ME)	TDK	Semi Anechoic Chamber 3m/10m	1, 2, 3	2024/10/12	24
RE	145565	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	2025/04/07	12
BW	150461	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46186392	2025/08/07	12
RE	146209	Test Receiver	Rohde & Schwarz	ESU26	100484	2025/09/09	12
RE, BW	175822	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	-	2025/08/15	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:

CE: Conducted Emission

RE: Radiated Emission

FT: Frequency Tolerance

BW: Bandwidth