

RADIO TEST REPORT

Test Report No. 15802972M-A-R1

Customer	Yoshikawakogyo RF Semicon Co., Ltd.
Description of EUT	12ch RW
Model Number of EUT	YRQLSG57
FCC ID	2BK24YRQLSG57
Test Regulation	FCC Part 15 Subpart C
Test Result	Complied
Issue Date	September 29, 2025
Remarks	-

Representative test engineer	Approved by
	
Kazuhiro Ando Engineer	Kenichi Suda Manager
 	
CERTIFICATE 1266.01	
☐ 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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- For any test report referred in this report, the latest version (including any revisions) is always referred to.
- If the latest version is a revision, it replaces the previous version. See the table below for revisions and versions.

REVISION HISTORY

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	15802972M-A	September 4, 2025	-
1	15802972M-A-R1	September 29, 2025	P4, Updated the page number.
1	15802972M-A-R1	September 29, 2025	P5, Updated the test date due to retest.
1	15802972M-A-R1	September 29, 2025	P7, Corrected from ANSI C63.10-2013 to ANSI C63.10-2020.
1	15802972M-A-R1	September 29, 2025	P9, Added the measured channels for 20 dB Bandwidth and 99 % Occupied Bandwidth. Added ch2 to Dealer Antenna. Added ch1, ch4, and ch7 to Player Antenna. Divided the Electric Field Strength of Spurious Emission into below 30 MHz and above 30 MHz.
1	15802972M-A-R1	September 29, 2025	P15, Added the antenna angle. +180 degrees that has the maximum noise level.
1	15802972M-A-R1	September 29, 2025	P96 - P100, Added the measured data for 20 dB Bandwidth and 99 % Occupied Bandwidth. Added ch2 to Dealer Antenna. Added ch1, ch4, and ch7 to Player Antenna.

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

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SECTION 1: Customer Information

Company Name	Yoshikawakogyo RF Semicon Co., Ltd.
Address	Shinjuku Kifu Bldg.8F, 7-2-4, Nishi-Shinjuku, Shinjuku-ku, Tokyo, 160-0023 Japan
Telephone Number	+81-3-6906-8861
Contact Person	Hayato Ishii

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	12ch RW
Model Number	YRQLSG57
Serial Number	Refer to SECTION 4.2
Condition	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	July 31, 2025
Test Date	July 31 to September 26, 2025

2.2 Product Description

General Specification

Rating	DC 12 V $\pm$ 10 %
Operating Temperature	0 deg. C to 30 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.

* The customer has declared that the EUT has complies with FCC Part 15 Subpart B as SDoC.

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
RSS-Gen Issue 5/Amendment 1/Amendment 2 for ISED

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)

The test was carried out with minimum and maximum rating of the product specification according to ANSI C63.10-2020, 5.13 b) because the rating range of the EUT is -10 % to +10 %.

FCC Part 15.203 Antenna requirement

The EUT has a unique coupling/antenna connector (Reverse SMA). Therefore the equipment complies with the requirement of 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 $k = 2$.

Conducted emission

Item	Frequency range	Unit	Calculated Uncertainty (+/-)
AMN (LISN)	0.15 MHz to 30 MHz	dB	3.3

Radiated emission

Measurement distance	Frequency range	Unit	Calculated Uncertainty (+/-)
3 m	9 kHz to 30 MHz	dB	3.3
	30 MHz to 200 MHz	dB	6.2
	200 MHz to 1000 MHz	dB	6.3

Antenna Terminal test

Item	Unit	Calculated Uncertainty (+/-)
Frequency Tolerance	-	2.3×10^{-7}
20 dB Bandwidth / 99 % Occupied Bandwidth	%	0.012

3.6 Test Location

UL Japan, Inc. Kashima EMC Lab.

1614 Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone: +81-478-88-6500

A2LA Certificate Number: 1266.01 / FCC Test Firm Registration Number: 910230

ISED Lab Company Number: 4659A / CAB identifier: JP0006

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Open site	6.0 x 5.5 x 2.5	20 x 40	10 m
No.5 Open site	8.6 x 7.1 x 2.4	18 x 23	10 m
No.1 Shielded room	5.4 x 4.5 x 2.3	-	-
No.5 Shielded Room	4.2 x 3.1 x 2.5	-	-
No.9 Shielded Room	6.1 x 3.6 x 2.8	-	-
No.6 Semi-anechoic Chamber	8.5 x 5.5 x 5.2	-	3 m
No.10 Semi-anechoic Chamber	18.4 x 9.9 x 7.7	-	10 m
No.11 Semi-anechoic Chamber	9.0 x 6.5 x 5.2	-	3 m
No.1 Measurement room	5.0 x 3.7 x 2.6	-	-
No.2 Measurement room	4.3 x 4.4 x 2.7	-	-

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) - with Tag (ISO15693) - with Tag (ICODE ILT-M (ISO18000-3M3)) - without Tag (ISO15693) - without Tag (ICODE ILT-M (ISO18000-3M3))	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; Power Setting: ch1 - ch4: 1F ch5 - ch11: 6(ISO15693), 8(ICODE ILT-M (ISO18000-3M3)) Software: SEGA Casino Evaluation App Version: 3.31 (Date: 2025.07 31, Storage location: Driven by connected PC) *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	Dealer Antenna	Player Antenna*
Conducted Emission	Tx Mod on, with Tag / without Tag	ch1, ch2	ch1, ch4, ch8
Electric Field Strength of Fundamental Emission	Tx Mod on, with Tag / without Tag	ch1, ch2	ch1, ch4, ch7
Spectrum Mask	Tx Mod on, with Tag / without Tag	ch1, ch2	ch1, ch4, ch7
20 dB Bandwidth and 99 % Occupied Bandwidth	Tx Mod on, with Tag / without Tag	ch1, ch2	ch1, ch4, ch7
Electric Field Strength of Spurious Emission (below 30 MHz)	Tx Mod on, with Tag / without Tag	ch1, ch2	ch1, ch4, ch7
Electric Field Strength of Spurious Emission (above 30 MHz)	Tx Mod on, with Tag / without Tag	ch1, ch2	ch1, ch3, ch11
Frequency Tolerance	Tx Mod off, without Tag	ch1	-

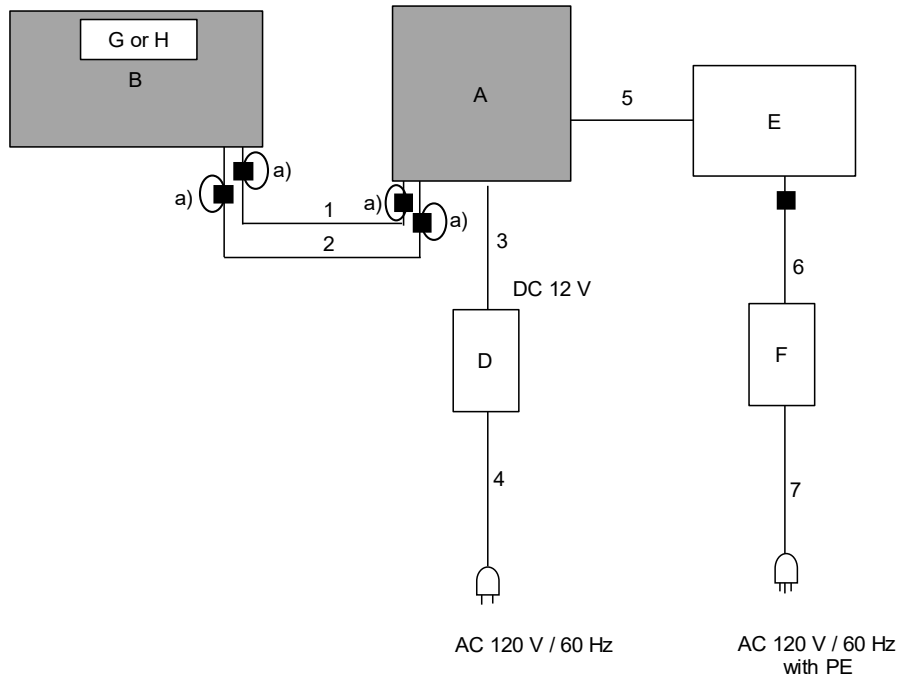
* After the comparison between channels 1 to 11 of the Player Antenna, the tests were performed with the worst case for each antenna size.

* 20 dB Bandwidth and 99% Occupied Bandwidth were measured using the antenna with the highest Electric Field Strength of Fundamental Emission.

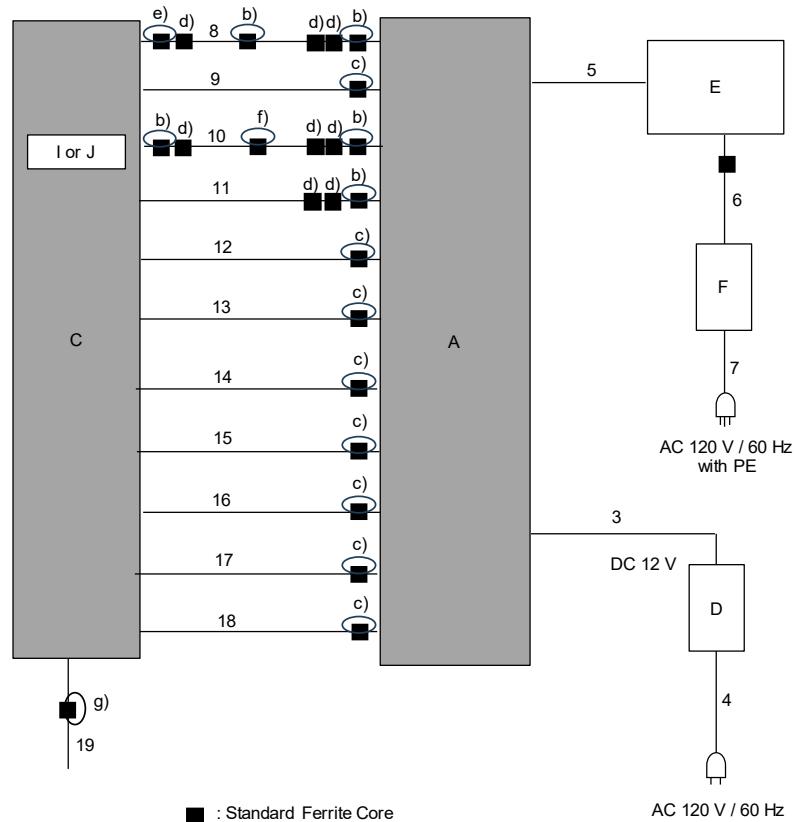
Frequency Tolerance	
Temperature	-20 deg. C to +50 deg. C Step 10 deg. C
Voltage	Normal Voltage DC 12 V Maximum Voltage DC 13.2 V (DC 12 V +10 %*1)) Minimum Voltage DC 10.8 V (DC 12 V -10 %*1))
*1) The specification of this EUT is DC 12 V -10 % to +10 %.	

4.2 Configuration and peripherals

Dealer Antenna

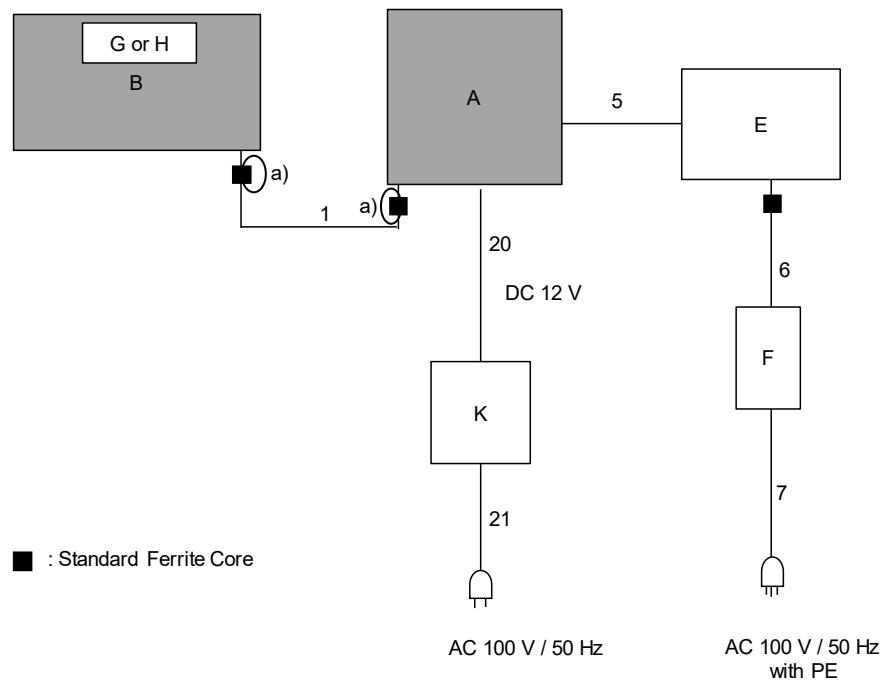


Player Antenna



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

Frequency Tolerance test only



Description of EUT and Support Equipment

No.	Item	Model number	Serial Number	Manufacturer	Remark
A	12ch RW	YRQLSG57	SN0532	Yoshikawakogyo RF Semicon Co., Ltd.	EUT
B	Dealer Antenna	-	-	Yoshikawakogyo RF Semicon Co., Ltd.	EUT
C	Player Antenna	-	-	Yoshikawakogyo RF Semicon Co., Ltd.	EUT
D	AC Adapter	AD-A120P500	2225	Xiamen UME Electronics Co., Ltd.	-
E	Laptop PC	Vostro 3590	14XDC33	DELL	-
F	AC Adapter	HA45NM140	CN-00285K-CH200-03H-0MGU-A07	DELL	-
G	Tag (ISO15693)	YRS-ADT240001	-	Yoshikawakogyo RF Semicon Co., Ltd.	20 tags x 5 (Big Antenna) 20 tags x 2 (Small Antenna)
H	Tag (ICODE ILT-M)	NSS-01	-	NIHON CARD CREATION	20 tags x 5 (Big Antenna) 20 tags x 2 (Small Antenna)
I	Tag (ISO15693)	YRS-ADT240001	-	Yoshikawakogyo RF Semicon Co., Ltd.	20 tags x 2 (Big Antenna) 15 tags x 2 (Middle Antenna) 10 tags x 1 (Small Antenna)
J	Tag (ICODE ILT-M)	NSS-01	-	NIHON CARD CREATION	20 tags x 2 (Big Antenna) 15 tags x 2 (Middle Antenna) 10 tags x 1 (Small Antenna)
K	DC Power Supply	GSV3000	1708192899	DIAMOND ANTENNA	-

List of Cables Used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	1ch Antenna Cable	1.54	Shielded	Shielded	Dealer Antenna
2	2ch Antenna Cable	1.54	Shielded	Shielded	Dealer Antenna
3	DC Cable	1.0	Unshielded	Unshielded	-
4	AC Cable	1.2	Unshielded	Unshielded	-
5	LAN Cable	2.0	Shielded	Shielded	-
6	DC Cable	1.8	Unshielded	Unshielded	-
7	AC Cable	0.9	Unshielded	Unshielded	-
8	1ch Antenna Cable	2.0	Shielded	Shielded	Player Antenna
9	2ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
10	3ch Antenna Cable	2.0	Shielded	Shielded	Player Antenna
11	4ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
12	5ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
13	6ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
14	7ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
15	8ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
16	9ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
17	10ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
18	11ch Antenna Cable	1.7	Shielded	Shielded	Player Antenna
19	DC Cable	0.2	Unshielded	Unshielded	-
20	DC Cable	1.5	Unshielded	Unshielded	-
21	AC Cable	1.9	Unshielded	Unshielded	-

Notes for Ferrite core(s)

No.	Model number	Manufacturer	Turn(s)	Remarks
a	ZCAT2132-1130	TDK	5	-
b	ZCAT2235-1030	TDK	2	-
c	ZCAT2017-0930	TDK	3	-
d	ZCAT1325-0530	TDK	1	-
e	ZCAT2235-1030	TDK	3	-
f	ZCAT2017-0930	TDK	2	-
g	ZCAT3035-1330	TDK	2	-

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.

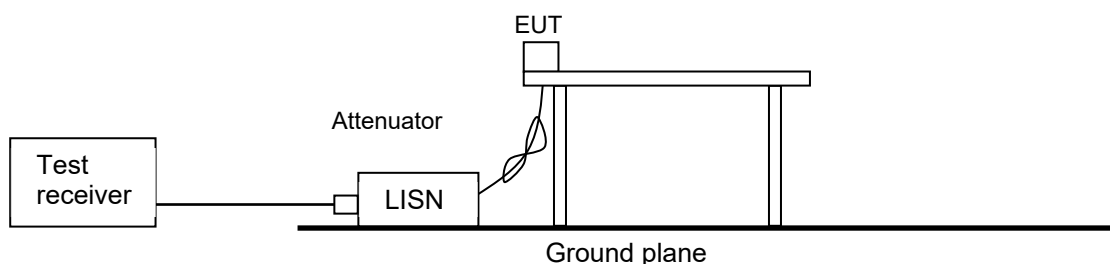
I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. All unused 50 ohm connectors of the LISN (AMN) were resistivity terminated in 50 ohm when not connected 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 1.5 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 EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for vertical polarization (antenna angle: 0 deg., 45 deg., 90 deg., 135 deg., and +180 degrees that has the maximum noise level.) and horizontal polarization.

*Refer to Figure 3 about Direction of the Loop Antenna.

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 1 GHz
Antenna Type	Loop	Hybrid

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

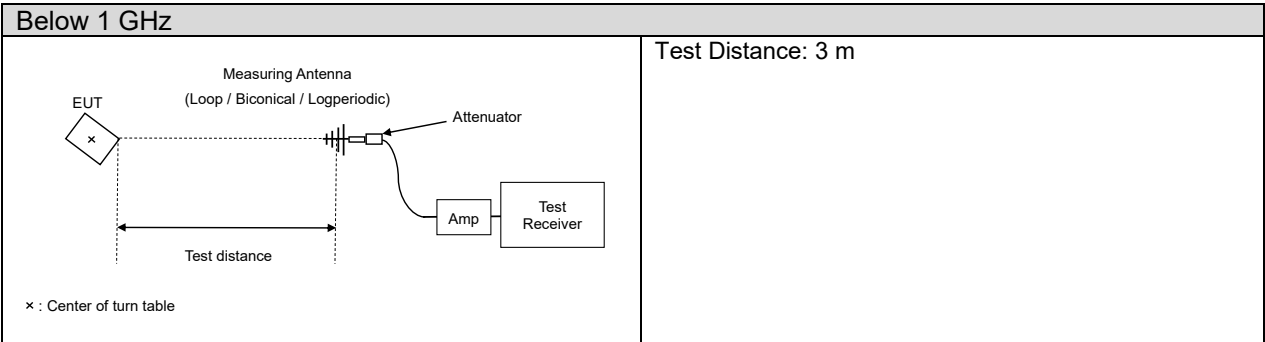
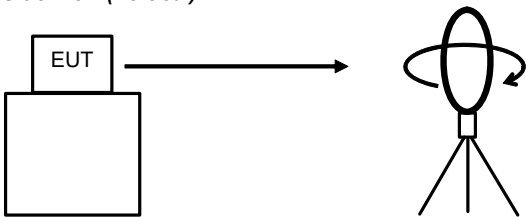
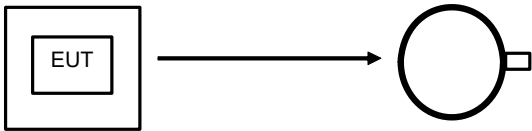


Figure 3: Direction of the Loop Antenna

Side View (Vertical)

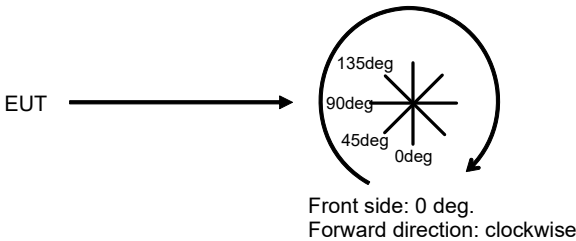


Top View (Horizontal)



Antenna was not rotated.

Top View (Vertical)



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	10 kHz	1 kHz	3 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 *2)	-	-	-	-	-	-	Frequency counter

*1) The measurement was performed with Max Hold since the duty cycle was not 100 %.

Peak hold was applied as Worst-case measurement.

*2) The temperature test was started after the temperature stabilization time of 30 minutes.

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

Test data : APPENDIX
Test result : Pass

APPENDIX 1: Test data

Conducted Emission
(Dealer Antenna, 1ch, ISO15693, without Tag)

DATA OF CONDUCTED EMISSION TEST

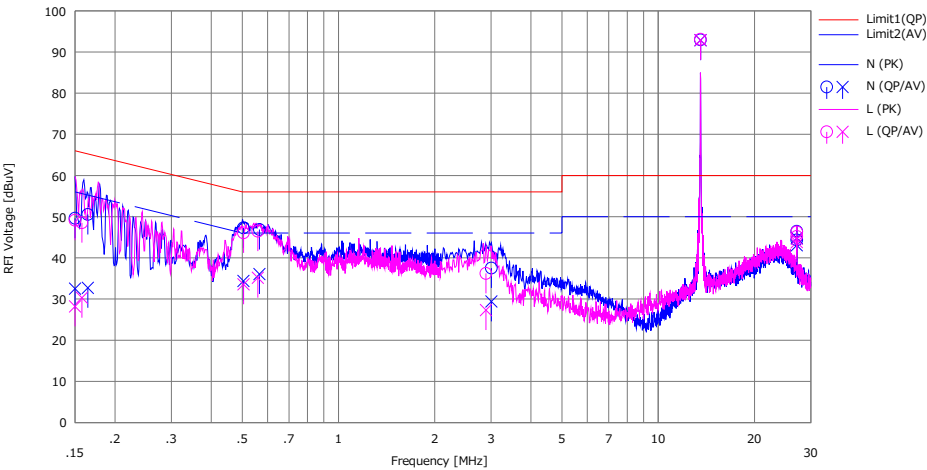
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/18

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Dealer Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP) [dBuV]	(AV) [dBuV]		(QP) [dBuV]	(AV) [dBuV]	(QP) [dBuV]	(AV) [dBuV]	(QP) [dB]	(AV) [dB]		
1	0.15000	39.40	22.30	10.22	49.62	32.52	66.00	56.00	16.3	23.4	N	
2	0.16453	40.30	22.50	10.22	50.52	32.72	65.23	55.23	14.7	22.5	N	
3	0.50425	37.00	24.10	10.27	47.27	34.37	56.00	46.00	8.7	11.6	N	
4	0.56625	36.60	25.80	10.28	46.88	36.08	56.00	46.00	9.1	9.9	N	
5	3.00723	27.00	18.90	10.51	37.51	29.41	56.00	46.00	18.4	16.5	N	
6	13.56000	81.60	81.50	11.32	92.92	92.82	60.00	50.00	-33.0	-42.9	N	Carrier
7	27.12000	34.10	32.50	12.35	46.45	44.85	60.00	50.00	13.5	5.1	N	
8	27.12000	32.00	30.70	12.35	44.35	43.05	60.00	50.00	15.6	6.9	N	with Tag
9	0.15000	38.90	18.00	10.22	49.12	28.22	66.00	56.00	16.8	27.7	L	
10	0.15758	38.30	20.10	10.22	48.52	30.32	65.59	55.59	17.0	25.2	L	
11	0.50468	35.80	23.30	10.27	46.07	33.57	56.00	46.00	9.9	12.4	L	
12	0.55952	36.20	24.90	10.28	46.48	35.18	56.00	46.00	9.5	10.8	L	
13	2.89281	25.70	16.80	10.51	36.21	27.31	56.00	46.00	19.7	18.6	L	
14	13.56000	81.70	81.50	11.38	93.08	92.88	60.00	50.00	-33.1	-42.9	L	Carrier
15	27.12000	34.10	32.40	12.21	46.31	44.61	60.00	50.00	13.6	5.3	L	
16	27.12000	33.00	31.60	12.21	45.21	43.81	60.00	50.00	14.7	6.1	L	with Tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Dealer Antenna, 1ch, ICODE ILT-M, without Tag)

DATA OF CONDUCTED EMISSION TEST

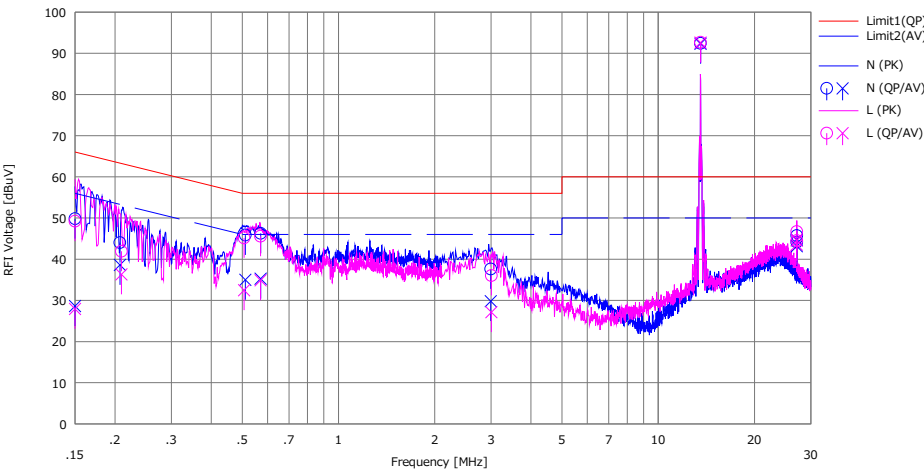
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/18

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Dealer Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	39.60	18.40	10.22	49.82	28.62	66.00	56.00	16.1	27.3	N	
2	0.20723	33.80	28.40	10.22	44.02	38.62	63.32	53.32	19.3	14.7	N	
3	0.51125	35.60	24.70	10.27	45.87	34.97	56.00	46.00	10.1	11.0	N	
4	0.57082	36.00	25.00	10.28	46.28	35.28	56.00	46.00	9.7	10.7	N	
5	2.99490	27.10	19.30	10.51	37.61	29.81	56.00	46.00	18.3	16.1	N	
6	13.56000	81.10	81.00	11.32	92.42	92.32	60.00	50.00	-32.5	-42.4	N	Carrier
7	27.12000	33.40	32.40	12.35	45.75	44.75	60.00	50.00	14.2	5.2	N	
8	27.12000	31.80	30.80	12.35	44.15	43.15	60.00	50.00	15.8	6.8	N	with Tag
9	0.15000	39.00	17.70	10.22	49.22	27.92	66.00	56.00	16.7	28.0	L	
10	0.20957	31.70	26.10	10.22	41.92	36.32	63.22	53.22	21.3	16.9	L	
11	0.50661	34.90	22.20	10.27	45.17	32.47	56.00	46.00	10.8	13.5	L	
12	0.57058	35.30	24.60	10.28	45.58	34.88	56.00	46.00	10.4	11.1	L	
13	3.00830	25.50	16.60	10.52	36.02	27.12	56.00	46.00	19.9	18.8	L	
14	13.56000	81.30	81.20	11.38	92.68	92.58	60.00	50.00	-32.7	-42.6	L	Carrier
15	27.12000	34.50	32.30	12.21	46.71	44.51	60.00	50.00	13.2	5.4	L	
16	27.12000	32.30	31.30	12.21	44.51	43.51	60.00	50.00	15.4	6.4	L	with Tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Dealer Antenna, 2ch, ISO15693, without Tag)

DATA OF CONDUCTED EMISSION TEST

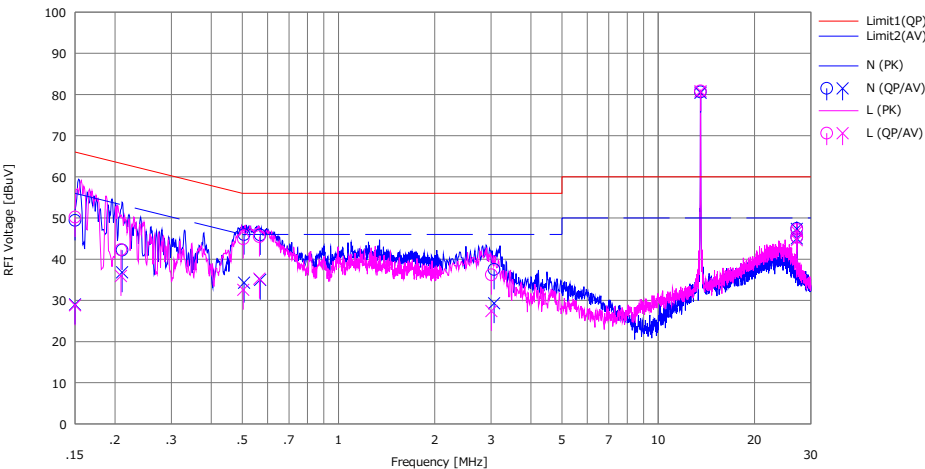
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/18

Mode : 2ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Dealer Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	39.20	18.80	10.22	49.42	29.02	66.00	56.00	16.5	26.9	N	
2	0.21062	32.00	26.60	10.22	42.22	36.82	63.18	53.18	20.9	16.3	N	
3	0.50656	35.70	24.00	10.27	45.97	34.27	56.00	46.00	10.0	11.7	N	
4	0.56888	35.60	24.70	10.28	45.88	34.98	56.00	46.00	10.1	11.0	N	
5	3.06512	27.00	18.80	10.51	37.51	29.31	56.00	46.00	18.4	16.6	N	
6	13.56000	69.30	69.10	11.32	80.62	80.42	60.00	50.00	-20.7	-30.5	N	Carrier
7	27.12000	35.10	35.00	12.35	47.45	47.35	60.00	50.00	12.5	2.6	N	
8	27.12000	33.00	32.70	12.35	45.35	45.05	60.00	50.00	14.6	4.9	N	with Tag
9	0.15000	40.00	18.60	10.22	50.22	28.82	66.00	56.00	15.7	27.1	L	
10	0.20877	32.10	25.70	10.22	42.32	35.92	63.25	53.25	20.9	17.3	L	
11	0.50349	34.70	22.30	10.27	44.97	32.57	56.00	46.00	11.0	13.4	L	
12	0.56570	35.20	25.00	10.28	45.48	35.28	56.00	46.00	10.5	10.7	L	
13	3.00675	25.70	16.90	10.52	36.22	27.42	56.00	46.00	19.7	18.5	L	
14	13.56000	69.50	69.40	11.38	80.88	80.78	60.00	50.00	-20.9	-30.8	L	Carrier
15	27.12000	35.00	34.50	12.21	47.21	46.71	60.00	50.00	12.7	3.2	L	
16	27.12000	33.10	32.40	12.21	45.31	44.61	60.00	50.00	14.6	5.3	L	with Tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Dealer Antenna, 2ch, ICODE ILT-M, without Tag)

DATA OF CONDUCTED EMISSION TEST

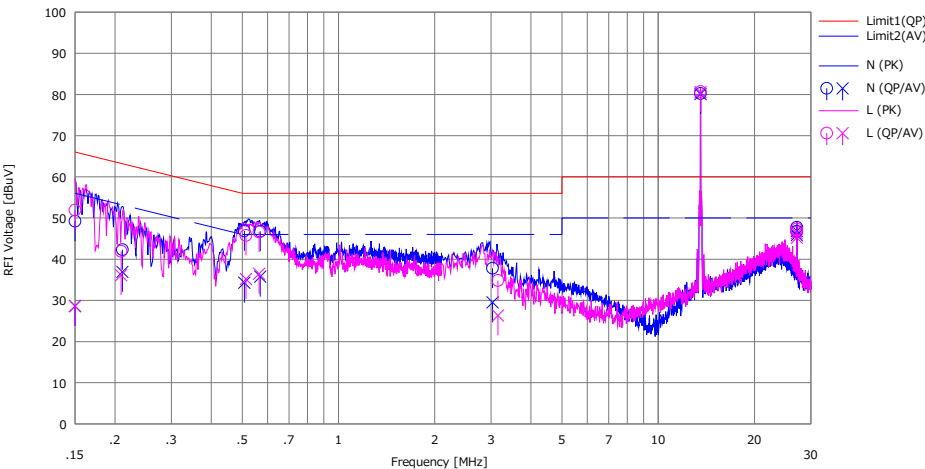
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/18

Mode : 2ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 56 %RH

Remarks : Dealer Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	39.00	18.40	10.22	49.22	28.62	66.00	56.00	16.7	27.3	N	
2	0.21102	32.10	26.70	10.22	42.32	36.92	63.17	53.17	20.8	16.2	N	
3	0.50750	36.60	24.00	10.27	46.87	34.27	56.00	46.00	9.1	11.7	N	
4	0.56948	36.50	25.50	10.28	46.78	35.78	56.00	46.00	9.2	10.2	N	
5	3.03264	27.30	19.00	10.51	37.81	29.51	56.00	46.00	18.1	16.4	N	
6	13.56000	68.90	68.80	11.32	80.22	80.12	60.00	50.00	-20.3	-30.2	N	Carrier
7	27.12000	35.40	34.50	12.35	47.75	46.85	60.00	50.00	12.2	3.1	N	
8	27.12000	34.40	33.50	12.35	46.75	45.85	60.00	50.00	13.2	4.1	N	with Tag
9	0.15000	41.70	18.40	10.22	51.92	28.62	66.00	56.00	14.0	27.3	L	
10	0.20904	31.70	25.90	10.22	41.92	36.12	63.24	53.24	21.3	17.1	L	
11	0.51375	35.50	24.90	10.27	45.77	35.17	56.00	46.00	10.2	10.8	L	
12	0.56505	36.30	26.20	10.28	46.58	36.48	56.00	46.00	9.4	9.5	L	
13	3.15140	24.30	15.80	10.53	34.83	26.33	56.00	46.00	21.1	19.6	L	
14	13.56000	69.30	69.20	11.38	80.68	80.58	60.00	50.00	-20.7	-30.6	L	Carrier
15	27.12000	35.10	34.10	12.21	47.31	46.31	60.00	50.00	12.6	3.6	L	
16	27.12000	34.30	33.00	12.21	46.51	45.21	60.00	50.00	13.4	4.7	L	with Tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Player Antenna, 1ch, ISO15693, without Tag)

DATA OF CONDUCTED EMISSION TEST

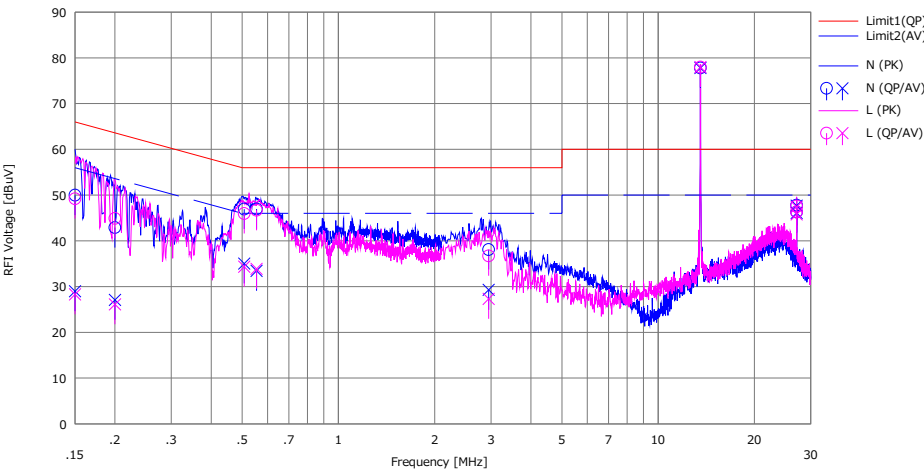
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/07/31

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 59 %RH

Remarks : Player Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Kazuhiro Ando



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	39.80	18.80	10.18	49.98	28.98	66.00	56.00	16.0	27.0	N	
2	0.20000	32.70	16.90	10.19	42.89	27.09	63.61	53.61	20.7	26.5	N	
3	0.50710	36.70	24.80	10.24	46.94	35.04	56.00	46.00	9.0	10.9	N	
4	0.55470	36.70	23.20	10.25	46.95	33.45	56.00	46.00	9.0	12.5	N	
5	2.94960	27.60	18.80	10.48	38.08	29.28	56.00	46.00	17.9	16.7	N	
6	13.56000	66.50	66.50	11.28	77.78	77.78	60.00	50.00	-17.8	-27.8	N	Carrier
7	27.12000	35.50	35.40	12.28	47.78	47.68	60.00	50.00	12.2	2.3	N	
8	27.12000	34.00	33.80	12.28	46.28	46.08	60.00	50.00	13.7	3.9	N	with tag
9	0.15000	39.00	18.10	10.19	49.19	28.29	66.00	56.00	16.8	27.7	L	
10	0.20000	34.70	15.90	10.20	44.90	26.10	63.61	53.61	18.7	27.5	L	
11	0.50710	35.70	24.10	10.25	45.95	34.35	56.00	46.00	10.0	11.6	L	
12	0.55470	36.40	23.60	10.27	46.67	33.87	56.00	46.00	9.3	12.1	L	
13	2.94960	26.20	16.80	10.50	36.70	27.30	56.00	46.00	19.3	18.7	L	
14	13.56000	66.60	66.60	11.37	77.97	77.97	60.00	50.00	-18.0	-28.0	L	Carrier
15	27.12000	35.40	35.20	12.19	47.59	47.39	60.00	50.00	12.4	2.6	L	
16	27.12000	34.10	33.60	12.19	46.29	45.79	60.00	50.00	13.7	4.2	L	with tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Player Antenna, 1ch, ICODE ILT-M, without Tag)

DATA OF CONDUCTED EMISSION TEST

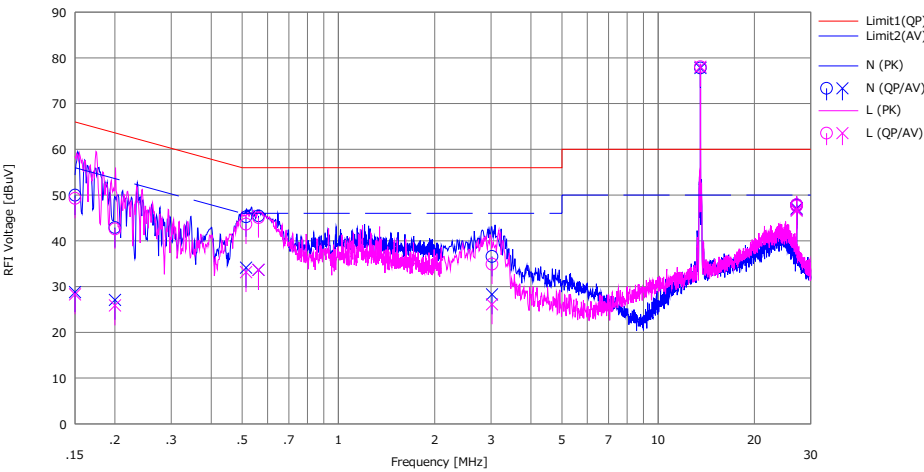
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/07/31

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 59 %RH

Remarks : Player Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Kazuhiro Ando



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	39.80	18.60	10.18	49.98	28.78	66.00	56.00	16.0	27.2	N	
2	0.20000	32.70	16.90	10.19	42.89	27.09	63.61	53.61	20.7	26.5	N	
3	0.51420	35.00	23.90	10.24	45.24	34.14	56.00	46.00	10.7	11.8	N	
4	0.56230	35.20	23.40	10.25	45.45	33.65	56.00	46.00	10.5	12.3	N	
5	3.02250	26.10	17.80	10.48	36.58	28.28	56.00	46.00	19.4	17.7	N	
6	13.56000	66.50	66.50	11.28	77.78	77.78	60.00	50.00	-17.8	-27.8	N	Carrier
7	27.12000	35.60	34.80	12.28	47.88	47.08	60.00	50.00	12.1	2.9	N	
8	27.12000	35.50	34.60	12.28	47.78	46.88	60.00	50.00	12.2	3.1	N	with tag
9	0.15000	39.10	18.10	10.19	49.29	28.29	66.00	56.00	16.7	27.7	L	
10	0.20000	32.40	15.70	10.20	42.60	25.90	63.61	53.61	21.0	27.7	L	
11	0.51420	33.40	22.90	10.25	43.65	33.15	56.00	46.00	12.3	12.8	L	
12	0.56230	34.80	23.40	10.27	45.07	33.67	56.00	46.00	10.9	12.3	L	
13	3.02250	24.40	15.60	10.50	34.90	26.10	56.00	46.00	21.1	19.9	L	
14	13.56000	66.70	66.70	11.37	78.07	78.07	60.00	50.00	-18.1	-28.1	L	Carrier
15	27.12000	35.70	34.70	12.19	47.89	46.89	60.00	50.00	12.1	3.1	L	
16	27.12000	35.40	34.40	12.19	47.59	46.59	60.00	50.00	12.4	3.4	L	with tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Player Antenna, 4ch, ISO15693, without Tag)

DATA OF CONDUCTED EMISSION TEST

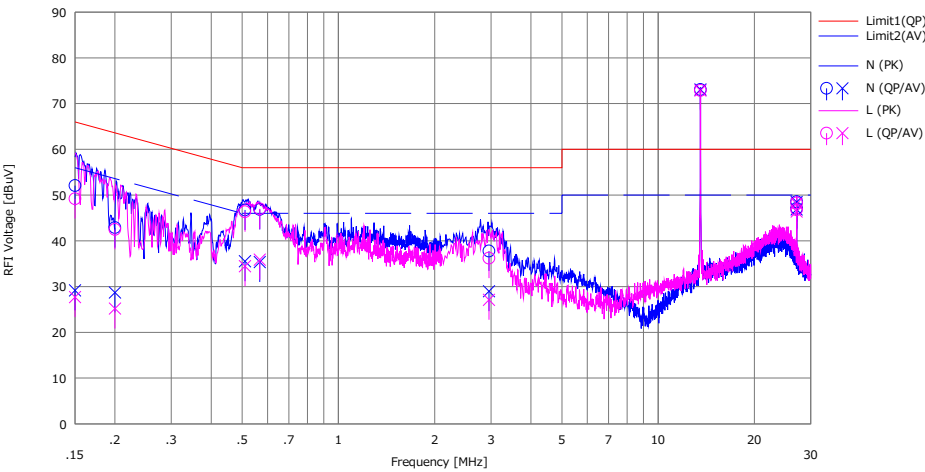
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/07/31

Mode : 4ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 59 %RH

Remarks : Player Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Kazuhiro Ando



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	41.90	19.00	10.18	52.08	29.18	66.00	56.00	13.9	26.8	N	
2	0.20000	32.70	18.50	10.19	42.89	28.69	63.61	53.61	20.7	24.9	N	
3	0.51018	36.50	25.30	10.24	46.74	35.54	56.00	46.00	9.2	10.4	N	
4	0.56713	36.60	25.10	10.25	46.85	35.35	56.00	46.00	9.1	10.6	N	
5	2.95600	27.30	18.50	10.48	37.78	28.98	56.00	46.00	18.2	17.0	N	
6	13.56000	61.80	61.80	11.28	73.08	73.08	60.00	50.00	-13.1	-23.1	N	Carrier
7	27.12000	36.30	36.20	12.28	48.58	48.48	60.00	50.00	11.4	1.5	N	
8	27.12000	34.80	34.60	12.28	47.08	46.88	60.00	50.00	12.9	3.1	N	with tag
9	0.15000	39.00	17.50	10.19	49.19	27.69	66.00	56.00	16.8	28.3	L	
10	0.20000	32.30	15.00	10.20	42.50	25.20	63.61	53.61	21.1	28.4	L	
11	0.51018	36.10	24.20	10.25	46.35	34.45	56.00	46.00	9.6	11.5	L	
12	0.56713	36.70	25.60	10.27	46.97	35.87	56.00	46.00	9.0	10.1	L	
13	2.95600	25.70	16.60	10.50	36.20	27.10	56.00	46.00	19.8	18.9	L	
14	13.56000	61.50	61.50	11.37	72.87	72.87	60.00	50.00	-12.9	-22.9	L	Carrier
15	27.12000	36.10	35.90	12.19	48.29	48.09	60.00	50.00	11.7	1.9	L	
16	27.12000	34.60	34.20	12.19	46.79	46.39	60.00	50.00	13.2	3.6	L	with tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Player Antenna, 4ch, ICODE ILT-M, without Tag)

DATA OF CONDUCTED EMISSION TEST

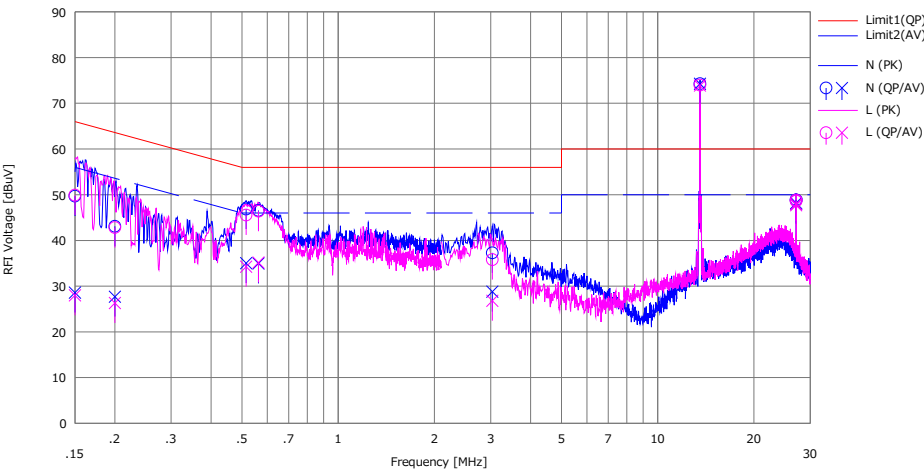
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/07/31

Mode : 4ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 59 %RH

Remarks : Player Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Kazuhiro Ando



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	39.50	18.40	10.18	49.68	28.58	66.00	56.00	16.3	27.4	N	
2	0.20000	32.90	17.50	10.19	43.09	27.69	63.61	53.61	20.5	25.9	N	
3	0.51510	36.60	24.80	10.24	46.84	35.04	56.00	46.00	9.1	10.9	N	
4	0.56330	36.30	24.70	10.25	46.55	34.95	56.00	46.00	9.4	11.0	N	
5	3.03705	26.80	18.30	10.48	37.28	28.78	56.00	46.00	18.7	17.2	N	
6	13.56000	63.00	63.00	11.28	74.28	74.28	60.00	50.00	-14.3	-24.3	N	Carrier
7	27.12000	36.60	35.90	12.28	48.88	48.18	60.00	50.00	11.1	1.8	N	
8	27.12000	36.50	35.70	12.28	48.78	47.98	60.00	50.00	11.2	2.0	N	with tag
9	0.15000	39.70	17.80	10.19	49.89	27.99	66.00	56.00	16.1	28.0	L	
10	0.20000	32.60	16.10	10.20	42.80	26.30	63.61	53.61	20.8	27.3	L	
11	0.51510	35.30	24.00	10.25	45.55	34.25	56.00	46.00	10.4	11.7	L	
12	0.56330	36.10	24.90	10.27	46.37	35.17	56.00	46.00	9.6	10.8	L	
13	3.03705	25.30	16.30	10.50	35.80	26.80	56.00	46.00	20.2	19.2	L	
14	13.56000	62.60	62.50	11.37	73.97	73.87	60.00	50.00	-14.0	-23.9	L	Carrier
15	27.12000	36.60	35.80	12.19	48.79	47.99	60.00	50.00	11.2	2.0	L	
16	27.12000	36.40	35.50	12.19	48.59	47.69	60.00	50.00	11.4	2.3	L	with tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Player Antenna, 8ch, ISO15693, without Tag)

DATA OF CONDUCTED EMISSION TEST

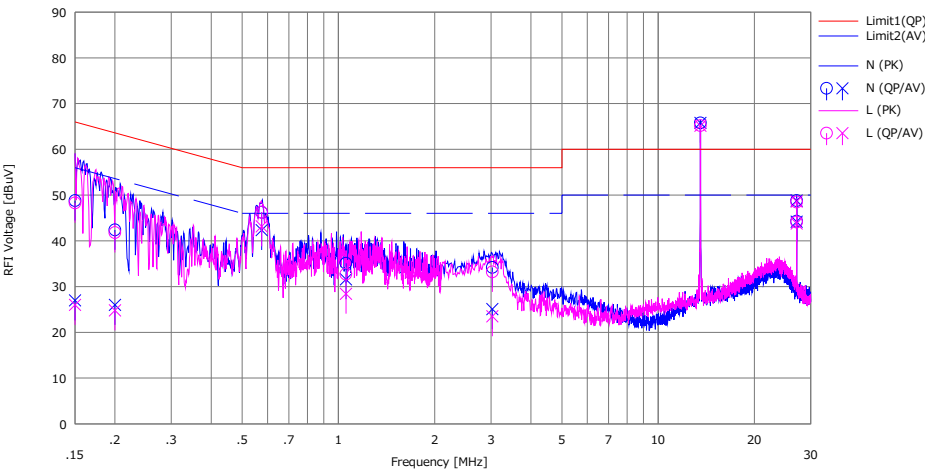
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/07/31

Mode : 8ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 59 %RH

Remarks : Player Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Kazuhiro Ando



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	38.60	16.80	10.18	48.78	26.98	66.00	56.00	17.2	29.0	N	
2	0.20000	32.20	15.80	10.19	42.39	25.99	63.61	53.61	21.2	27.6	N	
3	0.57533	36.00	32.10	10.25	46.25	42.35	56.00	46.00	9.7	3.6	N	
4	1.05540	24.80	21.30	10.30	35.10	31.60	56.00	46.00	20.9	14.4	N	
5	3.02840	23.70	14.60	10.48	34.18	25.08	56.00	46.00	21.8	20.9	N	
6	13.56000	54.50	54.50	11.28	65.78	65.78	60.00	50.00	-5.8	-15.8	N	Carrier
7	27.12000	36.50	36.50	12.28	48.78	48.78	60.00	50.00	11.2	1.2	N	
8	27.12000	32.00	31.90	12.28	44.28	44.18	60.00	50.00	15.7	5.8	N	with tag
9	0.15000	38.10	15.80	10.19	48.29	25.99	66.00	56.00	17.7	30.0	L	
10	0.20000	31.60	14.60	10.20	41.80	24.80	63.61	53.61	21.8	28.8	L	
11	0.57533	36.00	32.90	10.27	46.27	43.17	56.00	46.00	9.7	2.8	L	
12	1.05540	22.40	18.10	10.32	32.72	28.42	56.00	46.00	23.2	17.5	L	
13	3.02840	22.70	13.00	10.50	33.20	23.50	56.00	46.00	22.8	22.5	L	
14	13.56000	53.80	53.80	11.37	65.17	65.17	60.00	50.00	-5.2	-15.2	L	Carrier
15	27.12000	36.30	36.40	12.19	48.49	48.59	60.00	50.00	11.5	1.4	L	
16	27.12000	31.90	31.60	12.19	44.09	43.79	60.00	50.00	15.9	6.2	L	with tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(Player Antenna, 8ch, ICODE ILT-M, without Tag)

DATA OF CONDUCTED EMISSION TEST

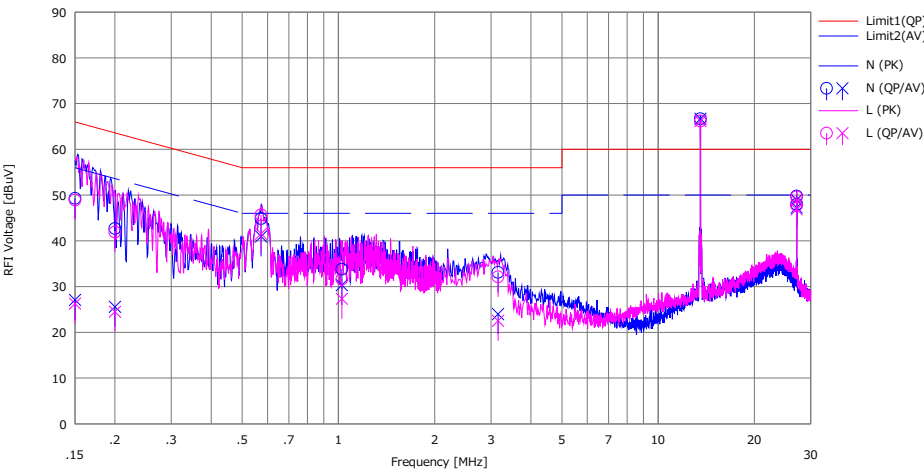
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/07/31

Mode : 8ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 25 deg.C / 59 %RH

Remarks : Player Antenna

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Kazuhiro Ando



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	39.10	16.90	10.18	49.28	27.08	66.00	56.00	16.7	28.9	N	
2	0.20000	32.50	15.40	10.19	42.69	25.59	63.61	53.61	20.9	28.0	N	
3	0.57319	34.60	30.70	10.25	44.85	40.95	56.00	46.00	11.1	5.0	N	
4	1.02555	23.50	20.00	10.30	33.80	30.30	56.00	46.00	22.2	15.7	N	
5	3.15760	22.60	13.50	10.49	33.09	23.99	56.00	46.00	22.9	22.0	N	
6	13.56000	55.40	55.40	11.28	66.68	66.68	60.00	50.00	-6.7	-16.7	N	Carrier
7	27.12000	37.50	36.70	12.28	49.78	48.98	60.00	50.00	10.2	1.0	N	
8	27.12000	36.70	35.00	12.28	47.98	47.28	60.00	50.00	12.0	2.7	N	with tag
9	0.15000	38.70	16.10	10.19	48.89	26.29	66.00	56.00	17.1	29.7	L	
10	0.20000	31.70	14.30	10.20	41.90	24.50	63.61	53.61	21.7	29.1	L	
11	0.57319	35.40	31.30	10.27	45.67	41.57	56.00	46.00	10.3	4.4	L	
12	1.02555	21.30	17.00	10.32	31.62	27.32	56.00	46.00	24.3	18.6	L	
13	3.15760	21.60	12.00	10.52	32.12	22.52	56.00	46.00	23.8	23.4	L	
14	13.56000	54.80	54.80	11.37	66.17	66.17	60.00	50.00	-6.2	-16.2	L	Carrier
15	27.12000	37.40	36.60	12.19	49.59	48.79	60.00	50.00	10.4	1.2	L	
16	27.12000	35.50	34.70	12.19	47.69	46.89	60.00	50.00	12.3	3.1	L	with tag

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(1ch, ISO15693, Antenna Terminated)

DATA OF CONDUCTED EMISSION TEST

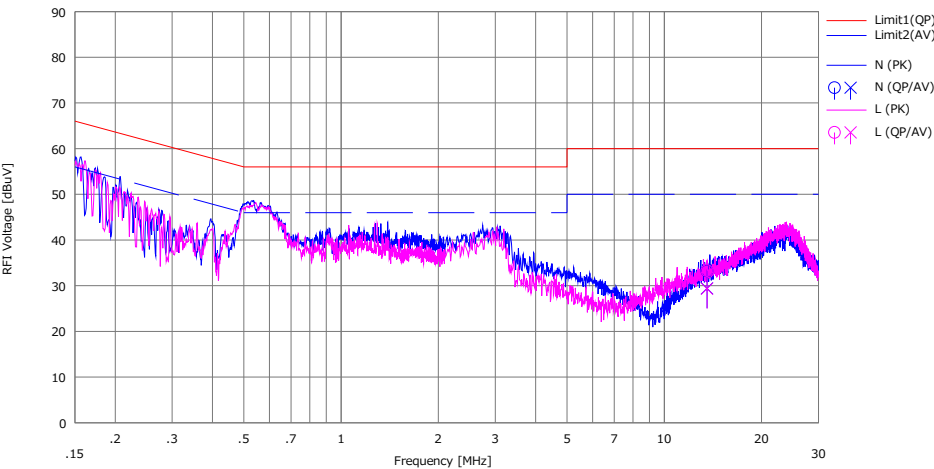
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/07

Mode : 1ch ISO15693
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 63 %RH

Remarks : Antenna Terminated

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP) [dBuV]	(AV) [dBuV]		(QP) [dBuV]	(AV) [dBuV]	(QP) [dBuV]	(AV) [dBuV]	(QP) [dB]	(AV) [dB]		
1	13.56000	21.90	18.10	11.32	33.22	29.42	60.00	50.00	26.7	20.5	N	
2	13.56000	21.90	18.00	11.38	33.28	29.38	60.00	50.00	26.7	20.6	L	

Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(1ch, ICODE ILT-M, Antenna Terminated)

DATA OF CONDUCTED EMISSION TEST

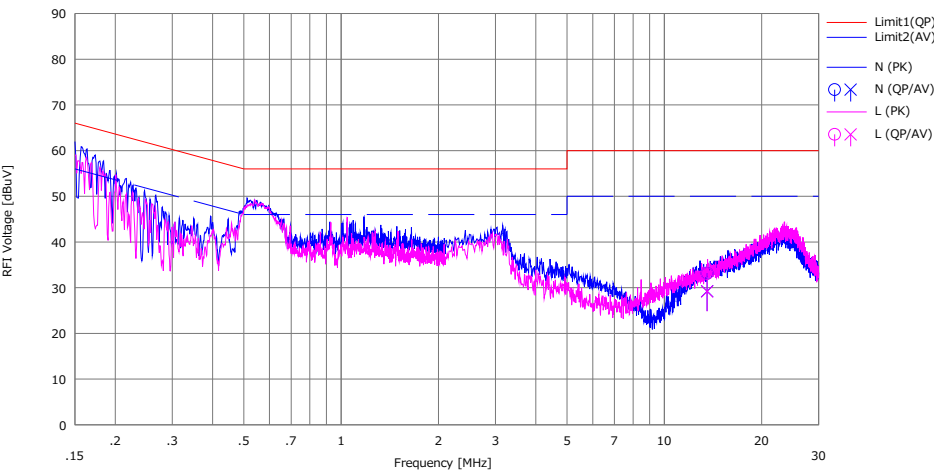
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/07

Mode : 1ch ICODE ILT-M
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 63 %RH

Remarks : Antenna Terminated

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP) [dBuV]	(AV) [dBuV]		(QP) [dBuV]	(AV) [dBuV]	(QP) [dBuV]	(AV) [dBuV]	(QP) [dB]	(AV) [dB]		
1	13.56000	21.80	17.90	11.32	33.12	29.22	60.00	50.00	26.8	20.7	N	
2	13.56000	21.70	17.80	11.38	33.08	29.18	60.00	50.00	26.9	20.8	L	

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(2ch, ISO15693, Antenna Terminated)

DATA OF CONDUCTED EMISSION TEST

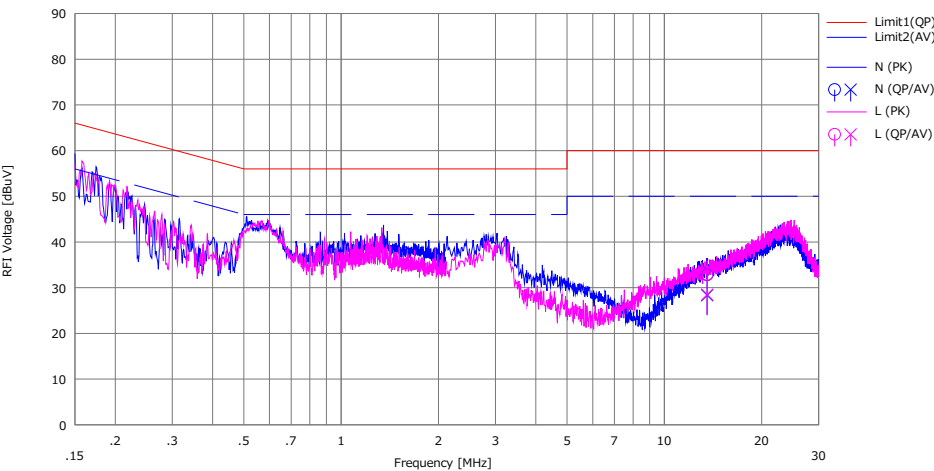
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/07

Mode : 2ch ISO15693
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 63 %RH

Remarks : Antenna Terminated

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP) [dBuV]	(AV) [dBuV]		(QP) [dBuV]	(AV) [dBuV]	(QP) [dBuV]	(AV) [dBuV]	(QP) [dB]	(AV) [dB]		
1	13.56000	21.50	17.00	11.32	32.82	28.32	60.00	50.00	27.1	21.6	N	
2	13.56000	21.50	17.10	11.38	32.88	28.48	60.00	50.00	27.1	21.5	L	

Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(2ch, ICODE ILT-M, Antenna Terminated)

DATA OF CONDUCTED EMISSION TEST

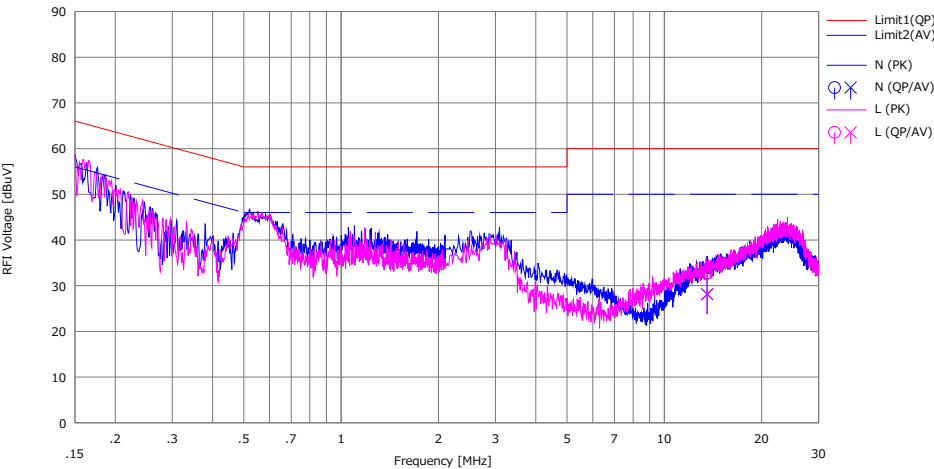
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/07

Mode : 2ch ICODE ILT-M
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 63 %RH

Remarks : Antenna Terminated

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Tomoyuki Watanabe



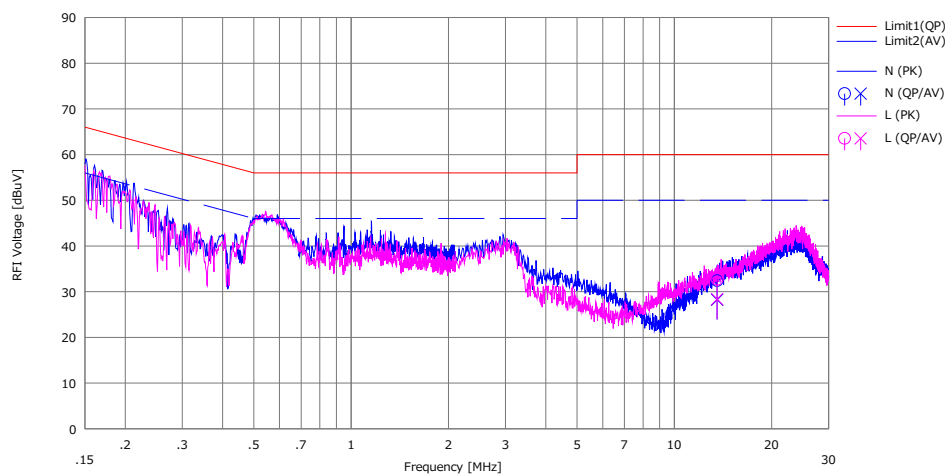
No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	13.56000	21.40	16.80	11.32	32.72	28.12	60.00	50.00	27.2	21.8	N	
2	13.56000	21.30	16.80	11.38	32.68	28.18	60.00	50.00	27.3	21.8	L	

Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

DATA OF CONDUCTED EMISSION TEST

Remarks : Antenna Terminated

Tested by : Tomoyuki Watanabe

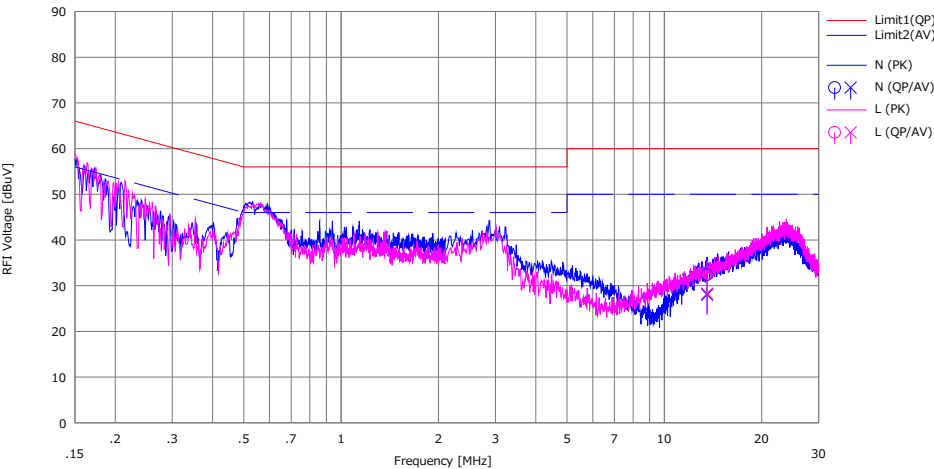
[illegible]

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

DATA OF CONDUCTED EMISSION TEST

Remarks : Antenna Terminated

Tested by : Tomoyuki Watanabe

[illegible]

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(8ch, ISO15693, Antenna Terminated)

DATA OF CONDUCTED EMISSION TEST

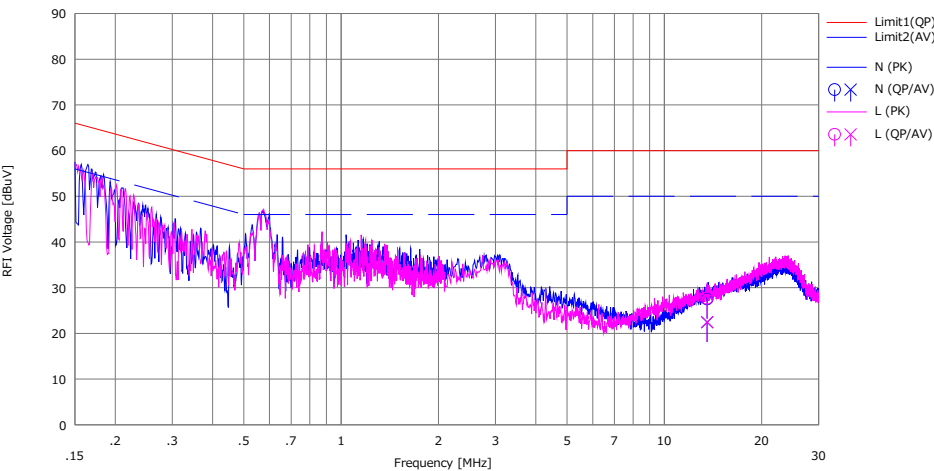
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/07

Mode : 8ch ISO15693
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 63 %RH

Remarks : Antenna Terminated

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)		(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	13.56000	16.20	11.10	11.32	27.52	22.42	60.00	50.00	32.4	27.5	N	
2	13.56000	16.30	11.10	11.38	27.68	22.48	60.00	50.00	32.3	27.5	L	

Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Conducted Emission
(8ch, ICODE ILT-M, Antenna Terminated)

DATA OF CONDUCTED EMISSION TEST

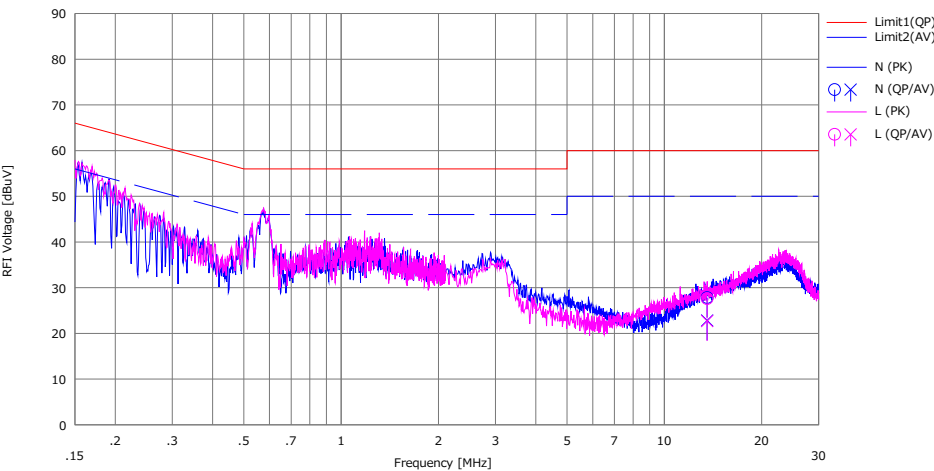
UL Japan, Inc. Kashima EMC Lab. No.5 Shielded room
Date : 2025/08/07

Mode : 8ch ICODE ILT-M
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 63 %RH

Remarks : Antenna Terminated

Limit : FCC_Part 15 Subpart C(15.207)

Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		(QP) [dBuV]	(AV) [dBuV]		(QP) [dBuV]	(AV) [dBuV]	(QP) [dBuV]	(AV) [dBuV]	(QP) [dB]	(AV) [dB]		
1	13.56000	16.50	11.50	11.32	27.82	22.82	60.00	50.00	32.1	27.1	N	
2	13.56000	16.20	11.30	11.38	27.58	22.68	60.00	50.00	32.4	27.3	L	

Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AMN+Cable+ATT)[dB]
AMN: 143499

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 1ch, ISO15693, without Tag)

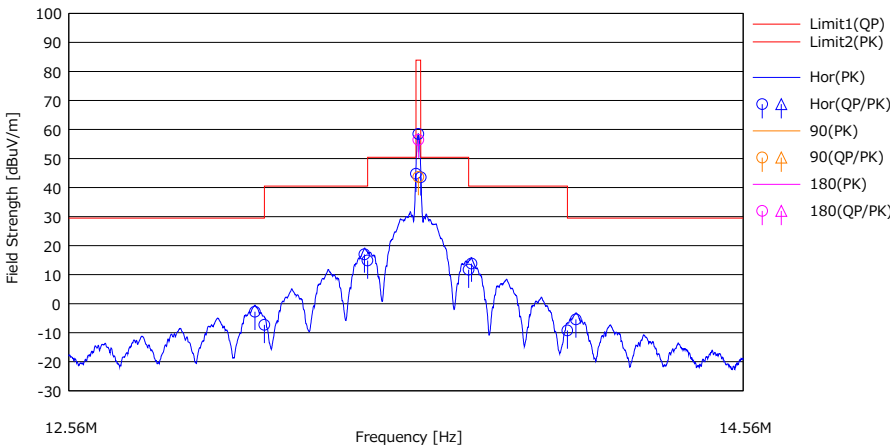
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.08311	45.00	---	9.68	-33.26	24.21	-2.79	---	29.50	---	32.2	---	Hor	135	
2	13.11000	40.50	---	9.68	-33.26	24.21	-7.29	---	29.50	---	36.7	---	Hor	135	
3	13.40098	64.80	---	9.64	-33.24	24.22	16.98	---	40.50	---	23.5	---	Hor	135	
4	13.41000	62.70	---	9.64	-33.24	24.22	14.88	---	40.50	---	25.6	---	Hor	135	
5	13.55300	92.60	---	9.62	-33.24	24.23	44.75	---	50.40	---	5.6	---	Hor	135	
6	13.56000	106.30	---	9.62	-33.24	24.23	58.45	---	83.90	---	25.4	---	Hor	135	
7	13.56700	91.40	---	9.62	-33.24	24.23	43.55	---	50.40	---	6.8	---	Hor	135	
8	13.71000	59.60	---	9.60	-33.24	24.23	11.73	---	40.50	---	28.7	---	Hor	135	
9	13.71878	61.70	---	9.60	-33.24	24.24	13.82	---	40.50	---	26.6	---	Hor	135	
10	14.01000	38.70	---	9.56	-33.23	24.25	-9.22	---	29.50	---	38.7	---	Hor	135	
11	14.03654	42.50	---	9.56	-33.23	24.25	-5.42	---	29.50	---	34.9	---	Hor	135	
12	13.56000	91.50	---	9.62	-33.24	24.23	43.65	---	83.90	---	40.2	---	90	75	
13	13.56000	104.30	---	9.62	-33.24	24.23	56.45	---	83.90	---	27.4	---	180	155	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	106.30	9.62	6.76	24.23	-	98.45	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 1ch, ISO15693, with Tag)

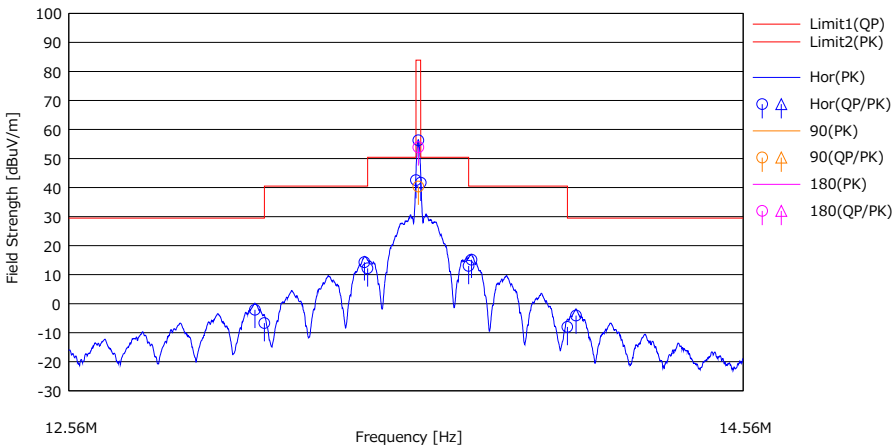
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[dBP]	[PK]				[dBP]	[dBuV/m]	[dBP]	[PK]	[dBP]	[PK]			
1	13.08321	45.70	---	9.68	-33.26	24.21	-2.09	---	29.50	---	31.5	---	Hor	130	
2	13.11000	41.10	---	9.68	-33.26	24.21	-6.69	---	29.50	---	36.1	---	Hor	130	
3	13.40098	62.10	---	9.64	-33.24	24.22	14.28	---	40.50	---	26.2	---	Hor	130	
4	13.41000	60.00	---	9.64	-33.24	24.22	12.18	---	40.50	---	28.3	---	Hor	130	
5	13.55300	90.40	---	9.62	-33.24	24.23	42.55	---	50.40	---	7.8	---	Hor	130	
6	13.56000	104.10	---	9.62	-33.24	24.23	56.25	---	83.90	---	27.6	---	Hor	130	
7	13.56700	89.50	---	9.62	-33.24	24.23	41.65	---	50.40	---	8.7	---	Hor	130	
8	13.71000	60.90	---	9.60	-33.24	24.23	13.03	---	40.50	---	27.4	---	Hor	130	
9	13.71871	63.00	---	9.60	-33.24	24.24	15.12	---	40.50	---	25.3	---	Hor	130	
10	14.01000	39.90	---	9.56	-33.23	24.25	-8.02	---	29.50	---	37.5	---	Hor	130	
11	14.03667	43.80	---	9.56	-33.23	24.25	-4.12	---	29.50	---	33.6	---	Hor	130	
12	13.56000	88.20	---	9.62	-33.24	24.23	40.35	---	83.90	---	43.5	---	90	90	
13	13.56000	101.70	---	9.62	-33.24	24.23	53.85	---	83.90	---	30.0	---	180	160	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	104.10	9.62	6.76	24.23	-	96.25	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 1ch, ICODE ILT-M, without Tag)

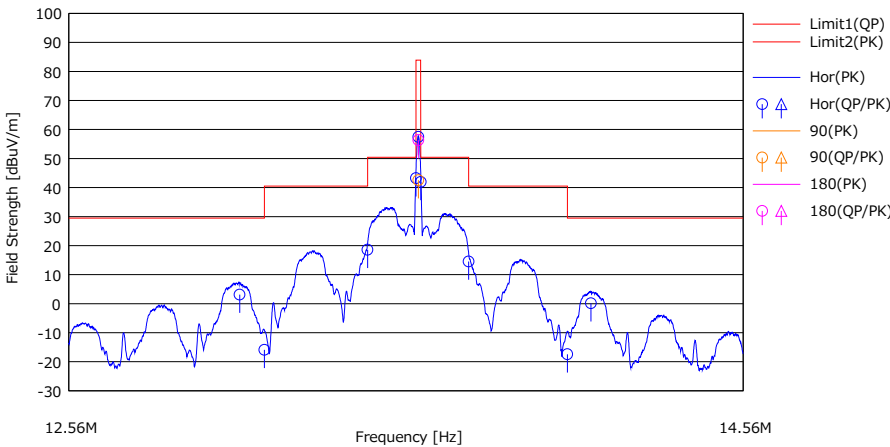
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.03934	50.90	---	9.69	-33.26	24.21	3.12	---	29.50	---	26.3	---	Hor	125	
2	13.11000	31.90	---	9.68	-33.26	24.21	-15.89	---	29.50	---	45.3	---	Hor	125	
3	13.41000	66.40	---	9.64	-33.24	24.22	18.58	---	40.50	---	21.9	---	Hor	125	
4	13.55300	91.10	---	9.62	-33.24	24.23	43.25	---	50.40	---	7.1	---	Hor	125	
5	13.56000	105.30	---	9.62	-33.24	24.23	57.45	---	83.90	---	26.4	---	Hor	125	
6	13.56700	89.80	---	9.62	-33.24	24.23	41.95	---	50.40	---	8.4	---	Hor	125	
7	13.71000	62.40	---	9.60	-33.24	24.23	14.53	---	40.50	---	25.9	---	Hor	125	
8	14.01000	30.50	---	9.56	-33.23	24.25	-17.42	---	29.50	---	46.9	---	Hor	125	
9	14.08254	48.10	---	9.56	-33.23	24.25	0.18	---	29.50	---	29.3	---	Hor	125	
10	13.56000	90.40	---	9.62	-33.24	24.23	42.55	---	83.90	---	41.3	---	90	75	
11	13.56000	104.20	---	9.62	-33.24	24.23	56.35	---	83.90	---	27.5	---	180	160	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor
QP

Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	105.30	9.62	6.76	24.23	-	97.45	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 1ch, ICODE ILT-M, with Tag)

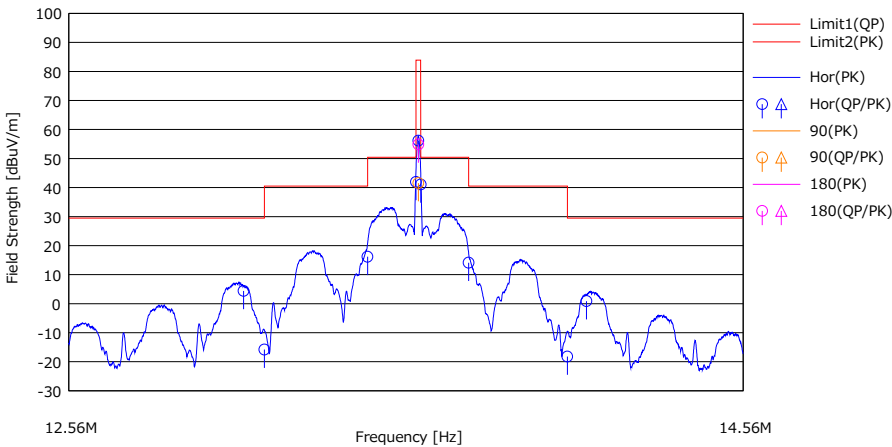
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	13.05090	52.20	---	9.69	-33.26	24.21	4.42	---	29.50	---	25.0	---	Hor	125	
2	13.11000	32.00	---	9.68	-33.26	24.21	-15.79	---	29.50	---	45.2	---	Hor	125	
3	13.41000	64.00	---	9.64	-33.24	24.22	16.18	---	40.50	---	24.3	---	Hor	125	
4	13.55300	89.80	---	9.62	-33.24	24.23	41.95	---	50.40	---	8.4	---	Hor	125	
5	13.56000	104.00	---	9.62	-33.24	24.23	56.15	---	83.90	---	27.7	---	Hor	125	
6	13.56700	88.90	---	9.62	-33.24	24.23	41.05	---	50.40	---	9.3	---	Hor	125	
7	13.71000	62.00	---	9.60	-33.24	24.23	14.13	---	40.50	---	26.3	---	Hor	125	
8	14.01000	29.70	---	9.56	-33.23	24.25	-18.22	---	29.50	---	47.7	---	Hor	125	
9	14.06860	48.80	---	9.56	-33.23	24.25	0.88	---	29.50	---	28.6	---	Hor	125	
10	13.56000	89.40	---	9.62	-33.24	24.23	41.55	---	83.90	---	42.3	---	90	78	
11	13.56000	102.70	---	9.62	-33.24	24.23	54.85	---	83.90	---	29.0	---	180	157	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	104.00	9.62	6.76	24.23	-	96.15	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 2ch, ISO15693, without Tag)

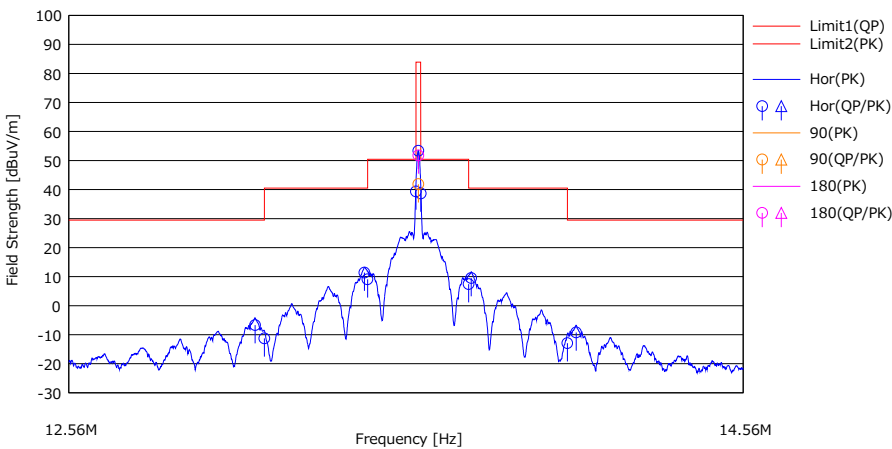
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[dBUV]	[PK]				[QP]	[PK]	[QP]	[PK]	[QP]	[PK]			
1	13.08380	41.10	---	9.68	-33.26	24.21	-6.69	---	29.50	---	36.1	---	Hor	102	
2	13.11000	36.50	---	9.68	-33.26	24.21	-11.29	---	29.50	---	40.7	---	Hor	102	
3	13.40090	59.20	---	9.64	-33.24	24.22	11.38	---	40.50	---	29.1	---	Hor	102	
4	13.41000	56.90	---	9.64	-33.24	24.22	9.08	---	40.50	---	31.4	---	Hor	102	
5	13.55300	87.20	---	9.62	-33.24	24.23	39.35	---	50.40	---	11.0	---	Hor	102	
6	13.56000	101.20	---	9.62	-33.24	24.23	53.35	---	83.90	---	30.5	---	Hor	102	
7	13.56700	86.50	---	9.62	-33.24	24.23	38.65	---	50.40	---	11.7	---	Hor	102	
8	13.71000	55.30	---	9.60	-33.24	24.23	7.43	---	40.50	---	33.0	---	Hor	102	
9	13.71800	57.40	---	9.60	-33.24	24.24	9.52	---	40.50	---	30.9	---	Hor	102	
10	14.01000	35.00	---	9.56	-33.23	24.25	-12.92	---	29.50	---	42.4	---	Hor	102	
11	14.03690	38.70	---	9.56	-33.23	24.25	-9.22	---	29.50	---	38.7	---	Hor	102	
12	13.56000	89.70	---	9.62	-33.24	24.23	41.85	---	83.90	---	42.0	---	90	170	
13	13.56000	99.60	---	9.62	-33.24	24.23	51.75	---	83.90	---	32.1	---	180	107	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBUV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	101.20	9.62	6.76	24.23	-	93.35	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 2ch, ISO15693, with Tag)

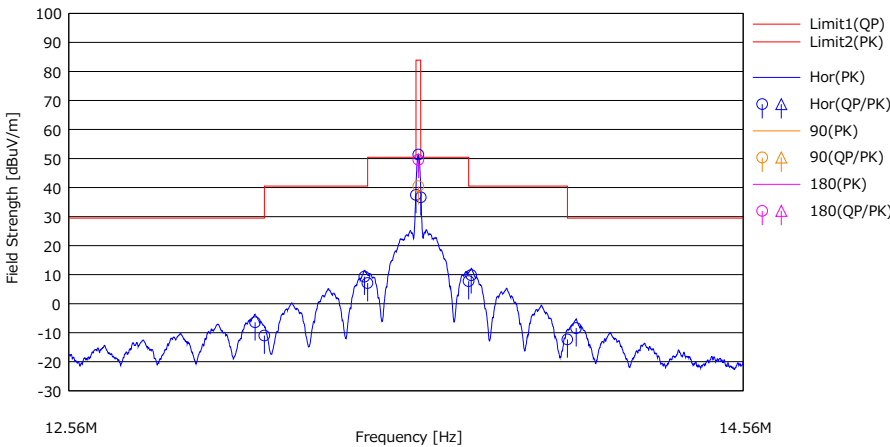
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.08380	41.40	---	9.68	-33.26	24.21	-6.39	---	29.50	---	35.8	---	Hor	102	
2	13.11000	36.80	---	9.68	-33.26	24.21	-10.99	---	29.50	---	40.4	---	Hor	102	
3	13.40090	57.10	---	9.64	-33.24	24.22	9.28	---	40.50	---	31.2	---	Hor	102	
4	13.41000	54.90	---	9.64	-33.24	24.22	7.08	---	40.50	---	33.4	---	Hor	102	
5	13.55300	85.30	---	9.62	-33.24	24.23	37.45	---	50.40	---	12.9	---	Hor	102	
6	13.56000	99.20	---	9.62	-33.24	24.23	51.35	---	83.90	---	32.5	---	Hor	102	
7	13.56700	84.50	---	9.62	-33.24	24.23	36.65	---	50.40	---	13.7	---	Hor	102	
8	13.71000	55.60	---	9.60	-33.24	24.23	7.73	---	40.50	---	32.7	---	Hor	102	
9	13.71800	57.70	---	9.60	-33.24	24.24	9.82	---	40.50	---	30.6	---	Hor	102	
10	14.01000	35.60	---	9.56	-33.23	24.25	-12.32	---	29.50	---	41.8	---	Hor	102	
11	14.03690	39.50	---	9.56	-33.23	24.25	-8.42	---	29.50	---	37.9	---	Hor	102	
12	13.56000	88.30	---	9.62	-33.24	24.23	40.45	---	83.90	---	43.4	---	90	169	
13	13.56000	97.40	---	9.62	-33.24	24.23	49.55	---	83.90	---	34.3	---	180	104	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency	Detector	Reading	Ant Factor	Loss	Gain	Duty Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hor	13.56000	QP	99.20	9.62	6.76	24.23	-	91.35	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 2ch, ICODE ILT-M, without Tag)

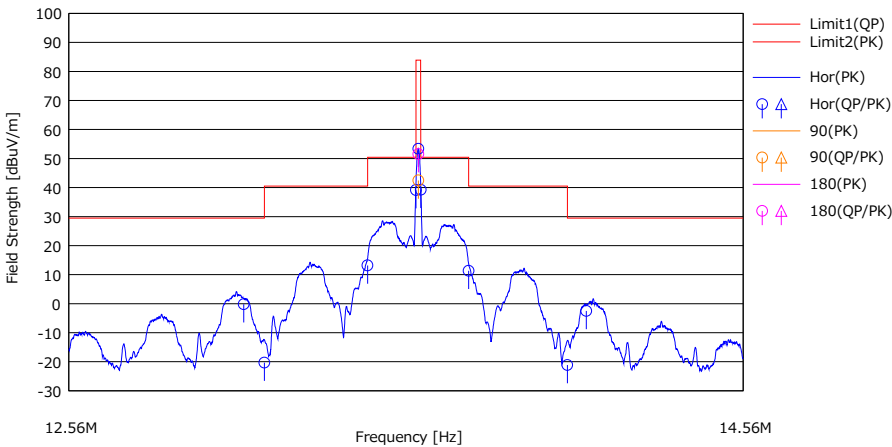
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[QP] [dBuV]	[PK] [dBuV]				[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dB]	[PK] [dB]			
1	13.05100	47.60	---	9.69	-33.26	24.21	-0.18	---	29.50	---	29.6	---	Hor	103	
2	13.11000	27.50	---	9.68	-33.26	24.21	-20.29	---	29.50	---	49.7	---	Hor	103	
3	13.41000	61.00	---	9.64	-33.24	24.22	13.18	---	40.50	---	27.3	---	Hor	103	
4	13.55300	87.00	---	9.62	-33.24	24.23	39.15	---	50.40	---	11.2	---	Hor	103	
5	13.56000	101.20	---	9.62	-33.24	24.23	53.35	---	83.90	---	30.5	---	Hor	103	
6	13.56700	87.10	---	9.62	-33.24	24.23	39.25	---	50.40	---	11.1	---	Hor	103	
7	13.71000	59.20	---	9.60	-33.24	24.23	11.33	---	40.50	---	29.1	---	Hor	103	
8	14.01000	26.80	---	9.56	-33.23	24.25	-21.12	---	29.50	---	50.6	---	Hor	103	
9	14.06820	45.40	---	9.56	-33.23	24.25	-2.52	---	29.50	---	32.0	---	Hor	103	
10	13.56000	90.30	---	9.62	-33.24	24.23	42.45	---	83.90	---	41.4	---	90	164	
11	13.56000	99.40	---	9.62	-33.24	24.23	51.55	---	83.90	---	32.3	---	180	104	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	101.20	9.62	6.76	24.23	-	93.35	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Dealer Antenna, 2ch, ICODE ILT-M, with Tag)

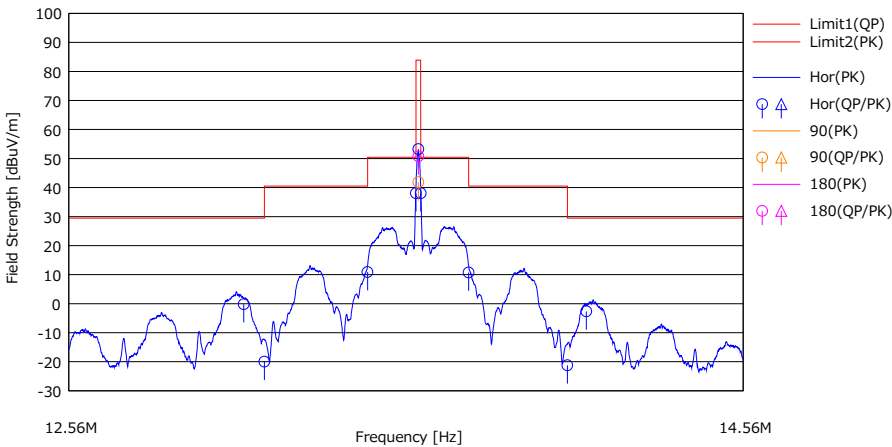
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.05100	47.60	---	9.69	-33.26	24.21	-0.18	---	29.50	---	29.6	---	Hor	101	
2	13.11000	27.80	---	9.68	-33.26	24.21	-19.99	---	29.50	---	49.4	---	Hor	101	
3	13.41000	58.70	---	9.64	-33.24	24.22	10.88	---	40.50	---	29.6	---	Hor	101	
4	13.55300	85.90	---	9.62	-33.24	24.23	38.05	---	50.40	---	12.3	---	Hor	101	
5	13.56000	101.10	---	9.62	-33.24	24.23	53.25	---	83.90	---	30.6	---	Hor	101	
6	13.56700	85.90	---	9.62	-33.24	24.23	38.05	---	50.40	---	12.3	---	Hor	101	
7	13.71000	58.60	---	9.60	-33.24	24.23	10.73	---	40.50	---	29.7	---	Hor	101	
8	14.01000	26.70	---	9.56	-33.23	24.25	-21.22	---	29.50	---	50.7	---	Hor	101	
9	14.06820	45.30	---	9.56	-33.23	24.25	-2.62	---	29.50	---	32.1	---	Hor	101	
10	13.56000	89.70	---	9.62	-33.24	24.23	41.85	---	83.90	---	42.0	---	90	161	
11	13.56000	98.60	---	9.62	-33.24	24.23	50.75	---	83.90	---	33.1	---	180	101	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	101.10	9.62	6.76	24.23	-	93.25	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 1ch, ISO15693, without Tag)

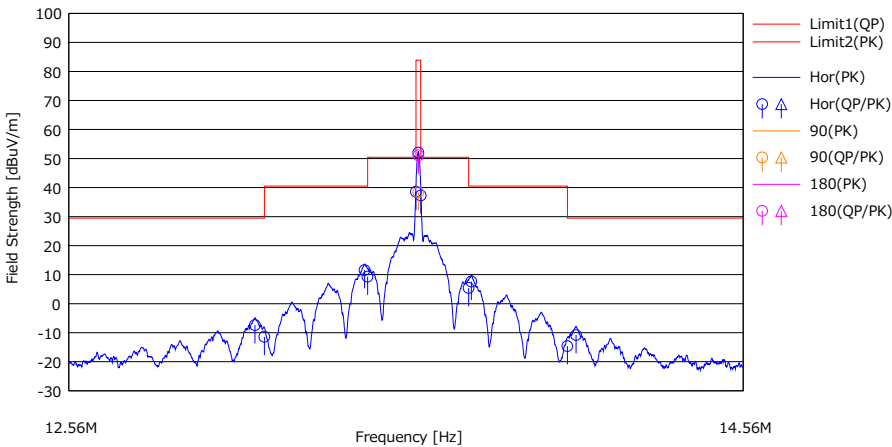
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.08300	40.40	---	9.68	-33.26	24.21	-7.39	---	29.50	---	36.8	---	Hor	43	
2	13.11000	36.40	---	9.68	-33.26	24.21	-11.39	---	29.50	---	40.8	---	Hor	43	
3	13.40100	59.40	---	9.64	-33.24	24.22	11.58	---	40.50	---	28.9	---	Hor	43	
4	13.41000	57.10	---	9.64	-33.24	24.22	9.28	---	40.50	---	31.2	---	Hor	43	
5	13.55300	86.40	---	9.62	-33.24	24.23	38.55	---	50.40	---	11.8	---	Hor	43	
6	13.56000	99.90	---	9.62	-33.24	24.23	52.05	---	83.90	---	31.8	---	Hor	43	
7	13.56700	85.10	---	9.62	-33.24	24.23	37.25	---	50.40	---	13.1	---	Hor	43	
8	13.71000	53.30	---	9.60	-33.24	24.23	5.43	---	40.50	---	35.0	---	Hor	43	
9	13.71860	55.50	---	9.60	-33.24	24.24	7.62	---	40.50	---	32.8	---	Hor	43	
10	14.01000	33.30	---	9.56	-33.23	24.25	-14.62	---	29.50	---	44.1	---	Hor	43	
11	14.03662	37.10	---	9.56	-33.23	24.25	-10.82	---	29.50	---	40.3	---	Hor	43	
12	13.56000	86.20	---	9.62	-33.24	24.23	38.35	---	83.90	---	45.5	---	90	87	
13	13.56000	98.90	---	9.62	-33.24	24.23	51.05	---	83.90	---	32.8	---	180	31	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	99.90	9.62	6.76	24.23	-	92.05	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 1ch, ISO15693, with Tag)

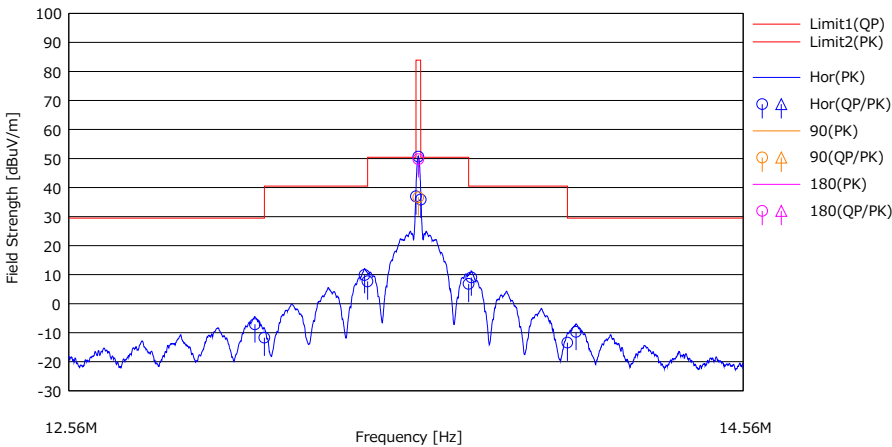
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[QP] [dBuV]	[PK] [dBuV]				[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dB]	[PK] [dB]			
1	13.08300	40.70	---	9.68	-33.26	24.21	-7.09	---	29.50	---	36.5	---	Hor	58	
2	13.11000	36.10	---	9.68	-33.26	24.21	-11.69	---	29.50	---	41.1	---	Hor	58	
3	13.40100	57.70	---	9.64	-33.24	24.22	9.88	---	40.50	---	30.6	---	Hor	58	
4	13.41000	55.50	---	9.64	-33.24	24.22	7.68	---	40.50	---	32.8	---	Hor	58	
5	13.55300	84.80	---	9.62	-33.24	24.23	36.95	---	50.40	---	13.4	---	Hor	58	
6	13.56000	98.50	---	9.62	-33.24	24.23	50.65	---	83.90	---	33.2	---	Hor	58	
7	13.56700	83.70	---	9.62	-33.24	24.23	35.85	---	50.40	---	14.5	---	Hor	58	
8	13.71000	54.70	---	9.60	-33.24	24.23	6.83	---	40.50	---	33.6	---	Hor	58	
9	13.71860	56.90	---	9.60	-33.24	24.24	9.02	---	40.50	---	31.4	---	Hor	58	
10	14.01000	34.50	---	9.56	-33.23	24.25	-13.42	---	29.50	---	42.9	---	Hor	58	
11	14.03662	38.20	---	9.56	-33.23	24.25	-9.72	---	29.50	---	39.2	---	Hor	58	
12	13.56000	84.50	---	9.62	-33.24	24.23	36.65	---	83.90	---	47.2	---	90	88	
13	13.56000	97.60	---	9.62	-33.24	24.23	49.75	---	83.90	---	34.1	---	180	33	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	98.50	9.62	6.76	24.23	-	90.65	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask

(Player Antenna, 1ch, ICODE ILT-M, without Tag)

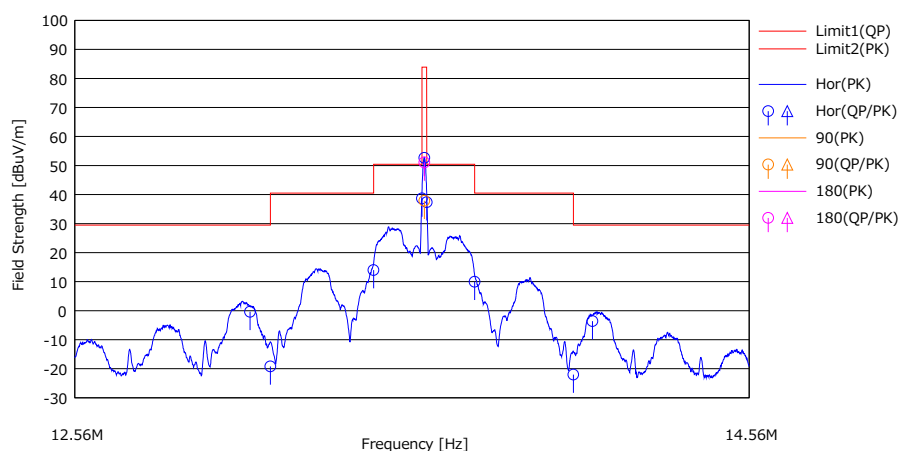
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[QP] [dBuV]	[PK] [dBuV]				[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dB]	[PK] [dB]			
1	13.05210	47.40	---	9.69	-33.26	24.21	-0.38	---	29.50	---	29.8	---	Hor	53	
2	13.11000	28.60	---	9.68	-33.26	24.21	-19.19	---	29.50	---	48.6	---	Hor	53	
3	13.41000	61.80	---	9.64	-33.24	24.22	13.98	---	40.50	---	26.5	---	Hor	53	
4	13.55300	86.50	---	9.62	-33.24	24.23	38.65	---	50.40	---	11.7	---	Hor	53	
5	13.56000	100.50	---	9.62	-33.24	24.23	52.65	---	83.90	---	31.2	---	Hor	53	
6	13.56700	85.20	---	9.62	-33.24	24.23	37.35	---	50.40	---	13.0	---	Hor	53	
7	13.71000	57.80	---	9.60	-33.24	24.23	9.93	---	40.50	---	30.5	---	Hor	53	
8	14.01000	25.90	---	9.56	-33.23	24.25	-22.02	---	29.50	---	51.5	---	Hor	53	
9	14.06860	44.30	---	9.56	-33.23	24.25	-3.62	---	29.50	---	33.1	---	Hor	53	
10	13.56000	85.70	---	9.62	-33.24	24.23	37.85	---	83.90	---	46.0	---	90	326	
11	13.56000	98.90	---	9.62	-33.24	24.23	51.05	---	83.90	---	32.8	---	180	24	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	100.50	9.62	6.76	24.23	-	92.65	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 1ch, ICODE ILT-M, with Tag)

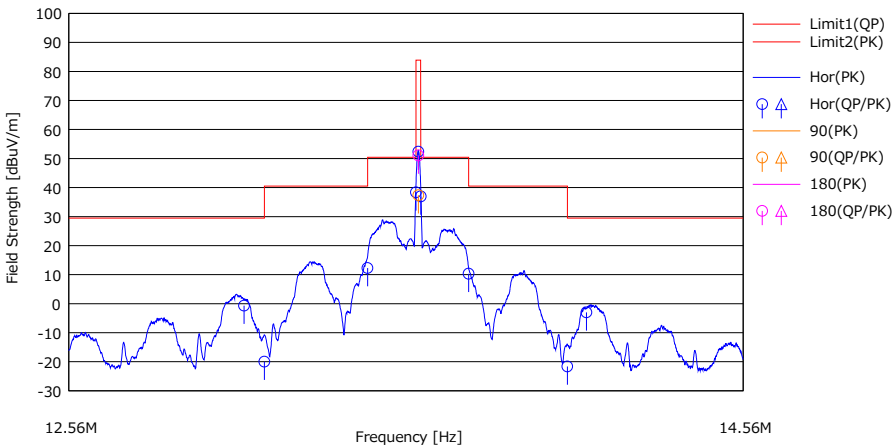
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[QP]	[PK]				[QP]	[PK]	[QP]	[PK]	[QP]	[PK]			
1	13.05210	47.10	---	9.69	-33.26	24.21	-0.68	---	29.50	---	30.1	---	Hor	52	
2	13.11000	27.80	---	9.68	-33.26	24.21	-19.99	---	29.50	---	49.4	---	Hor	52	
3	13.41000	60.10	---	9.64	-33.24	24.22	12.28	---	40.50	---	28.2	---	Hor	52	
4	13.55300	86.20	---	9.62	-33.24	24.23	38.35	---	50.40	---	12.0	---	Hor	52	
5	13.56000	100.20	---	9.62	-33.24	24.23	52.35	---	83.90	---	31.5	---	Hor	52	
6	13.56700	84.80	---	9.62	-33.24	24.23	36.95	---	50.40	---	13.4	---	Hor	52	
7	13.71000	58.20	---	9.60	-33.24	24.23	10.33	---	40.50	---	30.1	---	Hor	52	
8	14.01000	26.30	---	9.56	-33.23	24.25	-21.62	---	29.50	---	51.1	---	Hor	52	
9	14.06860	44.90	---	9.56	-33.23	24.25	-3.02	---	29.50	---	32.5	---	Hor	52	
10	13.56000	85.20	---	9.62	-33.24	24.23	37.35	---	83.90	---	46.5	---	90	95	
11	13.56000	98.90	---	9.62	-33.24	24.23	51.05	---	83.90	---	32.8	---	180	33	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	100.20	9.62	6.76	24.23	-	92.35	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 4ch, ISO15693, without Tag)

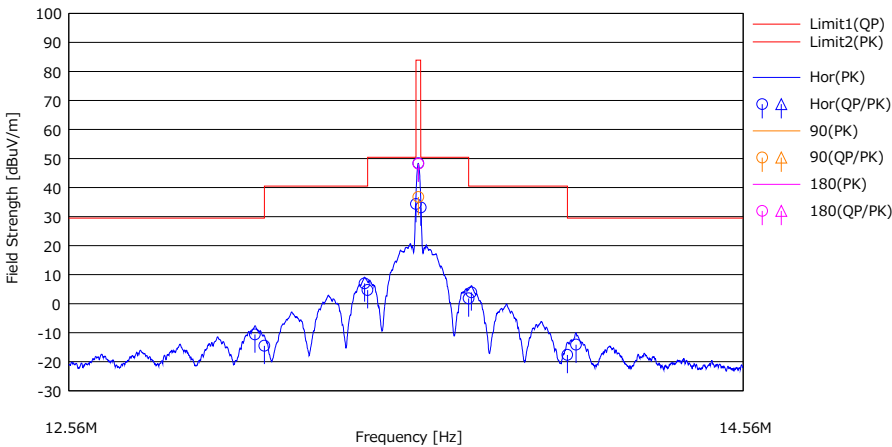
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 4ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[QP] [dBuV]	[PK] [dBuV]				[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dB]	[PK] [dB]			
1	13.08300	37.20	---	9.68	-33.26	24.21	-10.59	---	29.50	---	40.0	---	Hor	71	
2	13.11000	33.30	---	9.68	-33.26	24.21	-14.49	---	29.50	---	43.9	---	Hor	71	
3	13.40100	54.80	---	9.64	-33.24	24.22	6.98	---	40.50	---	33.5	---	Hor	71	
4	13.41000	52.50	---	9.64	-33.24	24.22	4.68	---	40.50	---	35.8	---	Hor	71	
5	13.55300	82.20	---	9.62	-33.24	24.23	34.35	---	50.40	---	16.0	---	Hor	71	
6	13.56000	96.20	---	9.62	-33.24	24.23	48.35	---	83.90	---	35.5	---	Hor	71	
7	13.56700	81.00	---	9.62	-33.24	24.23	33.15	---	50.40	---	17.2	---	Hor	71	
8	13.71000	49.70	---	9.60	-33.24	24.23	1.83	---	40.50	---	38.6	---	Hor	71	
9	13.71860	51.80	---	9.60	-33.24	24.24	3.92	---	40.50	---	36.5	---	Hor	71	
10	14.01000	30.30	---	9.56	-33.23	24.25	-17.62	---	29.50	---	47.1	---	Hor	71	
11	14.03662	33.80	---	9.56	-33.23	24.25	-14.12	---	29.50	---	43.6	---	Hor	71	
12	13.56000	84.60	---	9.62	-33.24	24.23	36.75	---	83.90	---	47.1	---	90	6	
13	13.56000	96.10	---	9.62	-33.24	24.23	48.25	---	83.90	---	35.6	---	180	86	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	96.20	9.62	6.76	24.23	-	88.35	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 4ch, ISO15693, with Tag)

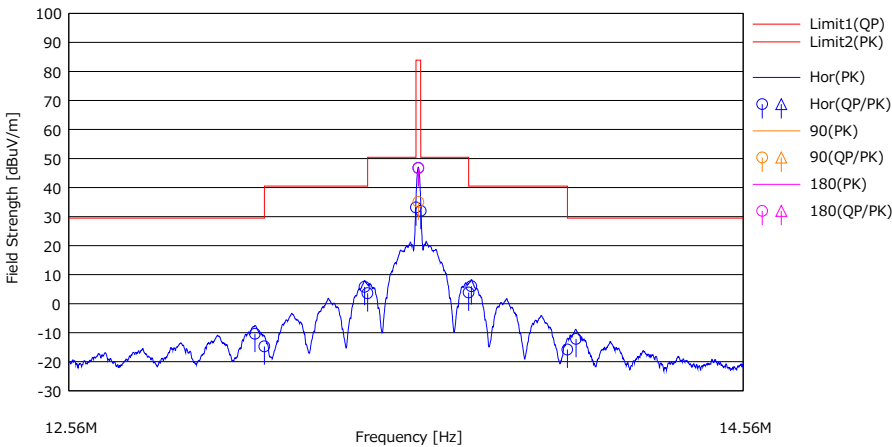
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 4ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.08300	37.40	---	9.68	-33.26	24.21	-10.39	---	29.50	---	39.8	---	Hor	84	
2	13.11000	33.10	---	9.68	-33.26	24.21	-14.69	---	29.50	---	44.1	---	Hor	84	
3	13.40100	53.60	---	9.64	-33.24	24.22	5.78	---	40.50	---	34.7	---	Hor	84	
4	13.41000	51.40	---	9.64	-33.24	24.22	3.58	---	40.50	---	36.9	---	Hor	84	
5	13.55300	81.00	---	9.62	-33.24	24.23	33.15	---	50.40	---	17.2	---	Hor	84	
6	13.56000	94.60	---	9.62	-33.24	24.23	46.75	---	83.90	---	37.1	---	Hor	84	
7	13.56700	79.80	---	9.62	-33.24	24.23	31.95	---	50.40	---	18.4	---	Hor	84	
8	13.71000	51.70	---	9.60	-33.24	24.23	3.83	---	40.50	---	36.6	---	Hor	84	
9	13.71860	53.90	---	9.60	-33.24	24.24	6.02	---	40.50	---	34.4	---	Hor	84	
10	14.01000	32.10	---	9.56	-33.23	24.25	-15.82	---	29.50	---	45.3	---	Hor	84	
11	14.03662	35.80	---	9.56	-33.23	24.25	-12.12	---	29.50	---	41.6	---	Hor	84	
12	13.56000	82.90	---	9.62	-33.24	24.23	35.05	---	83.90	---	48.8	---	90	7	
13	13.56000	94.50	---	9.62	-33.24	24.23	46.65	---	83.90	---	37.2	---	180	93	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	94.60	9.62	6.76	24.23	-	86.75	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 4ch, ICODE ILT-M, without Tag)

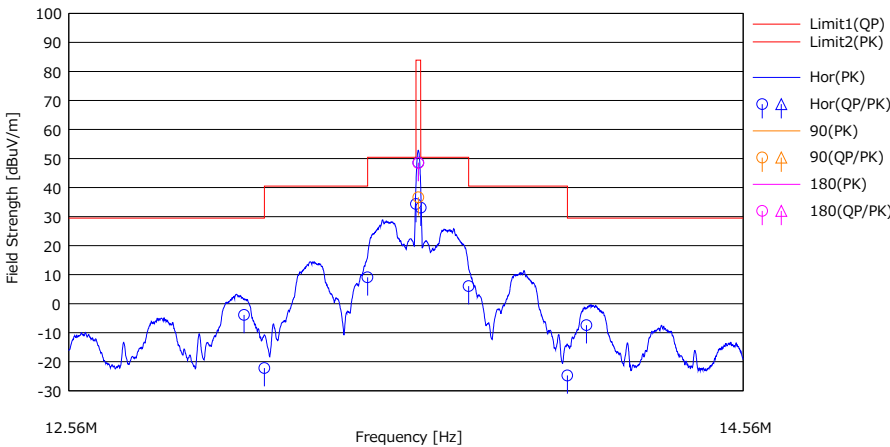
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 4ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[QP] [dBuV]	[PK] [dBuV]				[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dBuV/m]	[PK] [dBuV/m]	[QP] [dB]	[PK] [dB]			
1	13.05210	43.90	---	9.69	-33.26	24.21	-3.88	---	29.50	---	33.3	---	Hor	86	
2	13.11000	25.60	---	9.68	-33.26	24.21	-22.19	---	29.50	---	51.6	---	Hor	86	
3	13.41000	56.90	---	9.64	-33.24	24.22	9.08	---	40.50	---	31.4	---	Hor	86	
4	13.55300	82.20	---	9.62	-33.24	24.23	34.35	---	50.40	---	16.0	---	Hor	86	
5	13.56000	96.40	---	9.62	-33.24	24.23	48.55	---	83.90	---	35.3	---	Hor	86	
6	13.56700	80.90	---	9.62	-33.24	24.23	33.05	---	50.40	---	17.3	---	Hor	86	
7	13.71000	53.90	---	9.60	-33.24	24.23	6.03	---	40.50	---	34.4	---	Hor	86	
8	14.01000	23.20	---	9.56	-33.23	24.25	-24.72	---	29.50	---	54.2	---	Hor	86	
9	14.06860	40.50	---	9.56	-33.23	24.25	-7.42	---	29.50	---	36.9	---	Hor	86	
10	13.56000	84.50	---	9.62	-33.24	24.23	36.65	---	83.90	---	47.2	---	90	15	
11	13.56000	96.30	---	9.62	-33.24	24.23	48.45	---	83.90	---	35.4	---	180	90	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	96.40	9.62	6.76	24.23	-	88.55	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 4ch, ICODE ILT-M, with Tag)

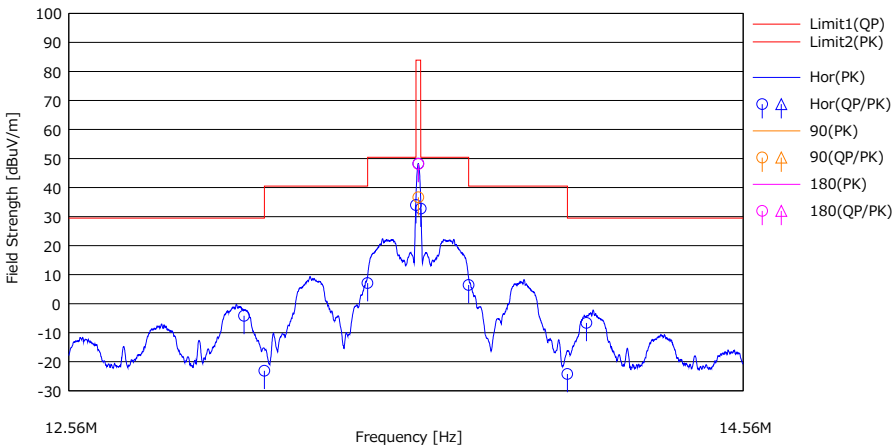
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 4ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[QP]	[PK]				[QP]	[PK]	[QP]	[PK]	[QP]	[PK]			
1	13.05210	43.60	---	9.69	-33.26	24.21	-4.18	---	29.50	---	33.6	---	Hor	94	
2	13.11000	24.70	---	9.68	-33.26	24.21	-23.09	---	29.50	---	52.5	---	Hor	94	
3	13.41000	54.90	---	9.64	-33.24	24.22	7.08	---	40.50	---	33.4	---	Hor	94	
4	13.55300	81.80	---	9.62	-33.24	24.23	33.95	---	50.40	---	16.4	---	Hor	94	
5	13.56000	96.10	---	9.62	-33.24	24.23	48.25	---	83.90	---	35.6	---	Hor	94	
6	13.56700	80.60	---	9.62	-33.24	24.23	32.75	---	50.40	---	17.6	---	Hor	94	
7	13.71000	54.30	---	9.60	-33.24	24.23	6.43	---	40.50	---	34.0	---	Hor	94	
8	14.01000	23.70	---	9.56	-33.23	24.25	-24.22	---	29.50	---	53.7	---	Hor	94	
9	14.06860	41.30	---	9.56	-33.23	24.25	-6.62	---	29.50	---	36.1	---	Hor	94	
10	13.56000	84.50	---	9.62	-33.24	24.23	36.65	---	83.90	---	47.2	---	90	8	
11	13.56000	96.00	---	9.62	-33.24	24.23	48.15	---	83.90	---	35.7	---	180	89	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	96.10	9.62	6.76	24.23	-	88.25	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 7ch, ISO15693, without Tag)

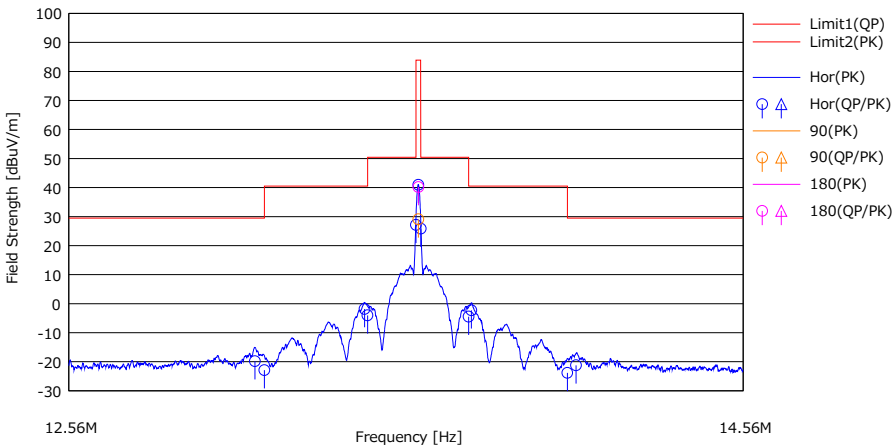
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.08300	28.00	---	9.68	-33.26	24.21	-19.79	---	29.50	---	49.2	---	Hor	91	
2	13.11000	24.90	---	9.68	-33.26	24.21	-22.89	---	29.50	---	52.3	---	Hor	91	
3	13.40100	46.00	---	9.64	-33.24	24.22	-1.82	---	40.50	---	42.3	---	Hor	91	
4	13.41000	43.80	---	9.64	-33.24	24.22	-4.02	---	40.50	---	44.5	---	Hor	91	
5	13.55300	75.00	---	9.62	-33.24	24.23	27.15	---	50.40	---	23.2	---	Hor	91	
6	13.56000	88.80	---	9.62	-33.24	24.23	40.95	---	83.90	---	42.9	---	Hor	91	
7	13.56700	73.70	---	9.62	-33.24	24.23	25.85	---	50.40	---	24.5	---	Hor	91	
8	13.71000	43.40	---	9.60	-33.24	24.23	-4.47	---	40.50	---	44.9	---	Hor	91	
9	13.71860	45.60	---	9.60	-33.24	24.24	-2.28	---	40.50	---	42.7	---	Hor	91	
10	14.01000	24.10	---	9.56	-33.23	24.25	-23.82	---	29.50	---	53.3	---	Hor	91	
11	14.03662	26.70	---	9.56	-33.23	24.25	-21.22	---	29.50	---	50.7	---	Hor	91	
12	13.56000	76.90	---	9.62	-33.24	24.23	29.05	---	83.90	---	54.8	---	90	300	
13	13.56000	88.00	---	9.62	-33.24	24.23	40.15	---	83.90	---	43.7	---	180	36	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	88.80	9.62	6.76	24.23	-	80.95	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 7ch, ISO15693, with Tag)

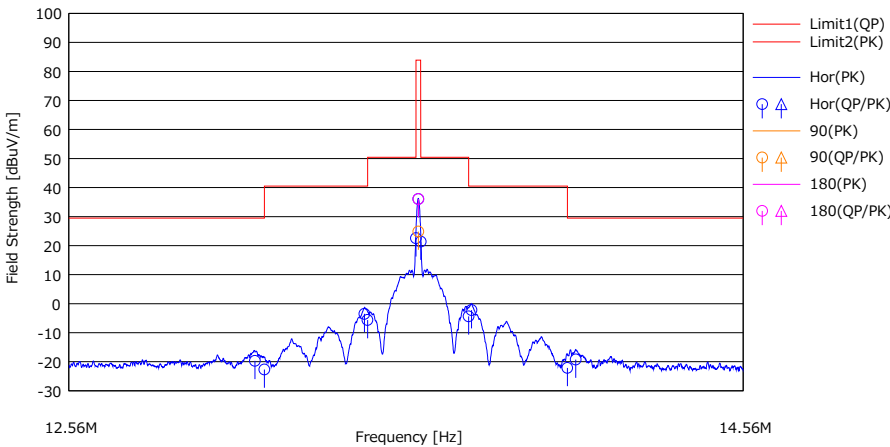
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[dBP]	[PK]				[dBP]	[PK]	[dBP]	[PK]	[dBP]	[PK]			
1	13.08312	28.10	---	9.68	-33.26	24.21	-19.69	---	29.50	---	49.1	---	Hor	75	
2	13.11000	25.10	---	9.68	-33.26	24.21	-22.69	---	29.50	---	52.1	---	Hor	75	
3	13.40087	44.30	---	9.64	-33.24	24.22	-3.52	---	40.50	---	44.0	---	Hor	75	
4	13.41000	42.20	---	9.64	-33.24	24.22	-5.62	---	40.50	---	46.1	---	Hor	75	
5	13.55300	70.40	---	9.62	-33.24	24.23	22.55	---	50.40	---	27.8	---	Hor	75	
6	13.56000	83.90	---	9.62	-33.24	24.23	36.05	---	83.90	---	47.8	---	Hor	75	
7	13.56700	69.20	---	9.62	-33.24	24.23	21.35	---	50.40	---	29.0	---	Hor	75	
8	13.71000	43.50	---	9.60	-33.24	24.23	-4.37	---	40.50	---	44.8	---	Hor	75	
9	13.71868	45.70	---	9.60	-33.24	24.24	-2.18	---	40.50	---	42.6	---	Hor	75	
10	14.01000	25.80	---	9.56	-33.23	24.25	-22.12	---	29.50	---	51.6	---	Hor	75	
11	14.03579	28.70	---	9.56	-33.23	24.25	-19.22	---	29.50	---	48.7	---	Hor	75	
12	13.56000	72.70	---	9.62	-33.24	24.23	24.85	---	83.90	---	59.0	---	90	290	
13	13.56000	83.90	---	9.62	-33.24	24.23	36.05	---	83.90	---	47.8	---	180	30	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	83.90	9.62	6.76	24.23	-	76.05	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask

(Player Antenna, 7ch, ICODE ILT-M, without Tag)

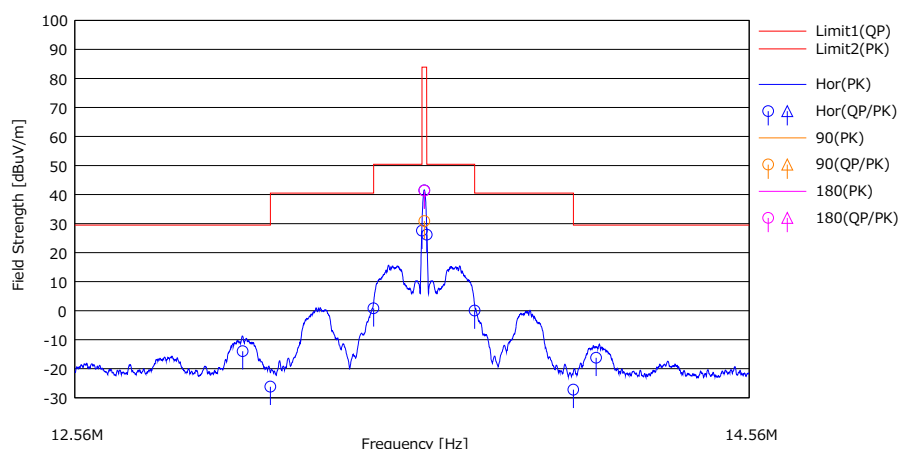
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[dBUV]	[dBUV]				[dBUV/m]	[dBUV/m]	[dBUV/m]	[dBUV/m]	[dB]	[dB]			
1	13.03090	33.80	---	9.69	-33.26	24.21	-13.98	---	29.50	---	43.4	---	Hor	75	
2	13.11000	21.60	---	9.68	-33.26	24.21	-26.19	---	29.50	---	55.6	---	Hor	75	
3	13.41000	48.60	---	9.64	-33.24	24.22	0.78	---	40.50	---	39.7	---	Hor	75	
4	13.55300	75.40	---	9.62	-33.24	24.23	27.55	---	50.40	---	22.8	---	Hor	75	
5	13.56000	89.30	---	9.62	-33.24	24.23	41.45	---	83.90	---	42.4	---	Hor	75	
6	13.56700	74.00	---	9.62	-33.24	24.23	26.15	---	50.40	---	24.2	---	Hor	75	
7	13.71000	47.90	---	9.60	-33.24	24.23	0.03	---	40.50	---	40.4	---	Hor	75	
8	14.01000	20.70	---	9.56	-33.23	24.25	-27.22	---	29.50	---	56.7	---	Hor	75	
9	14.08034	31.70	---	9.56	-33.23	24.25	-16.22	---	29.50	---	45.7	---	Hor	75	
10	13.56000	78.70	---	9.62	-33.24	24.23	30.85	---	83.90	---	53.0	---	90	290	
11	13.56000	89.20	---	9.62	-33.24	24.23	41.35	---	83.90	---	42.5	---	180	40	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBUV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBUV/m]	Limit [dBUV/m]	Margin [dB]	Remark
Hor	13.56000	QP	89.30	9.62	6.76	24.23	-	81.45	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Fundamental Emission and Spectrum Mask
(Player Antenna, 7ch, ICODE ILT-M, with Tag)

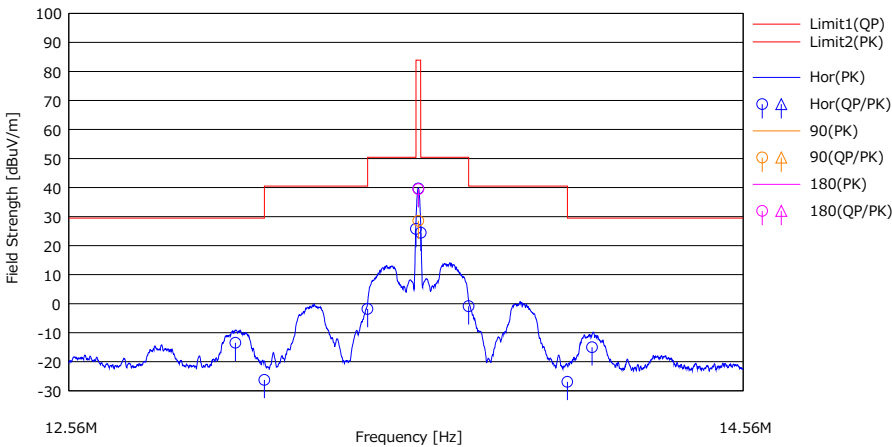
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table	Comment
		[QP]	[PK]				[QP]	[PK]	[QP]	[PK]	[QP]	[PK]			
1	13.02750	34.30	---	9.69	-33.26	24.21	-13.48	---	29.50	---	42.9	---	Hor	70	
2	13.11000	21.50	---	9.68	-33.26	24.21	-26.29	---	29.50	---	55.7	---	Hor	70	
3	13.41000	46.00	---	9.64	-33.24	24.22	-1.82	---	40.50	---	42.3	---	Hor	70	
4	13.55300	73.60	---	9.62	-33.24	24.23	25.75	---	50.40	---	24.6	---	Hor	70	
5	13.56000	87.50	---	9.62	-33.24	24.23	39.65	---	83.90	---	44.2	---	Hor	70	
6	13.56700	72.30	---	9.62	-33.24	24.23	24.45	---	50.40	---	25.9	---	Hor	70	
7	13.71000	47.00	---	9.60	-33.24	24.23	-0.87	---	40.50	---	41.3	---	Hor	70	
8	14.01000	21.00	---	9.56	-33.23	24.25	-26.92	---	29.50	---	56.4	---	Hor	70	
9	14.08633	32.90	---	9.56	-33.23	24.25	-15.02	---	29.50	---	44.5	---	Hor	70	
10	13.56000	76.40	---	9.62	-33.24	24.23	28.55	---	83.90	---	55.3	---	90	300	
11	13.56000	87.30	---	9.62	-33.24	24.23	39.45	---	83.90	---	44.4	---	180	35	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP:Loop Antenna

Result of the fundamental Emission at 3 m without Distance factor

QP											
Ant Deg [deg]	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hor	13.56000	QP	87.50	9.62	6.76	24.23	-	79.65	-	-	Fundamental

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

Spurious Emission
(Dealer Antenna, 1ch, ISO15693, without Tag)

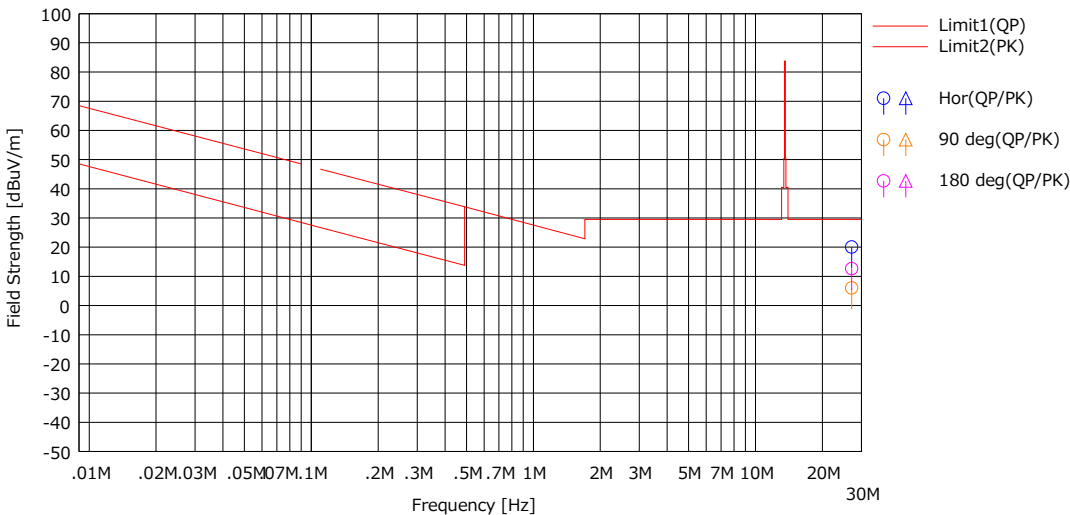
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	70.50	---	6.85	-32.89	24.42	20.04	---	29.50	---	9.4	---	Hor	30	
2	27.12000	56.50	---	6.85	-32.89	24.42	6.04	---	29.50	---	23.4	---	90 deg	65	
3	27.12000	63.10	---	6.85	-32.89	24.42	12.64	---	29.50	---	16.8	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 1ch, ISO15693, with Tag)

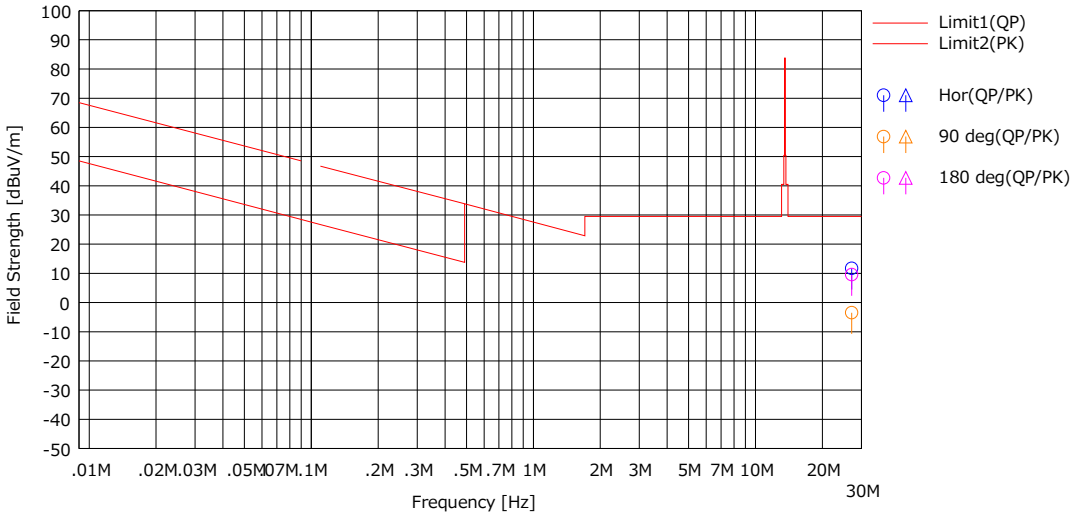
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	62.20	---	6.85	-32.89	24.42	11.74	---	29.50	---	17.7	---	Hor	50	
2	27.12000	47.00	---	6.85	-32.89	24.42	-3.46	---	29.50	---	32.9	---	90 deg	75	
3	27.12000	60.00	---	6.85	-32.89	24.42	9.54	---	29.50	---	19.9	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 1ch, ICODE ILT-M, without Tag)

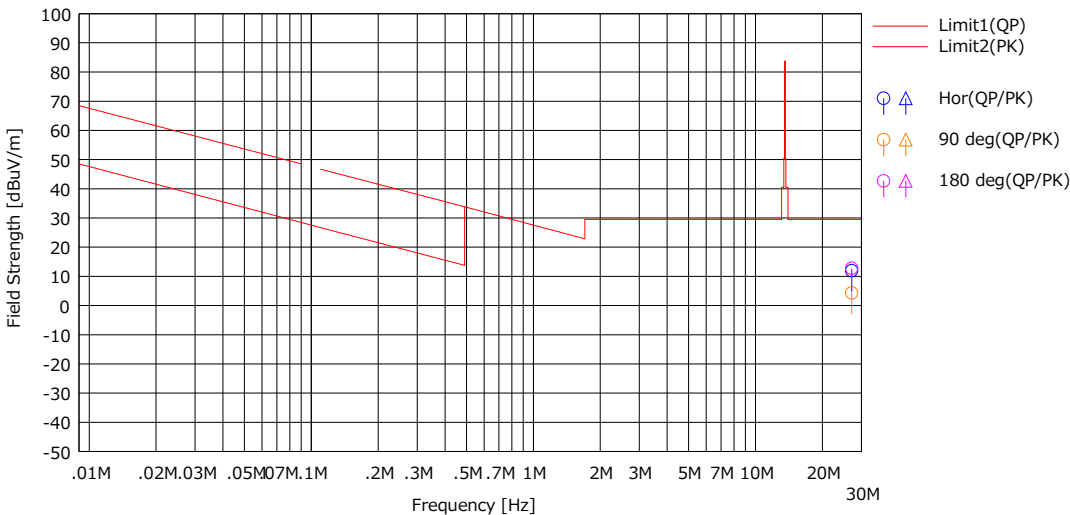
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	62.40	---	6.85	-32.89	24.42	11.94	---	29.50	---	17.5	---	Hor	90	
2	27.12000	54.80	---	6.85	-32.89	24.42	4.34	---	29.50	---	25.1	---	90 deg	70	
3	27.12000	63.20	---	6.85	-32.89	24.42	12.74	---	29.50	---	16.7	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 1ch, ICODE ILT-M, with Tag)

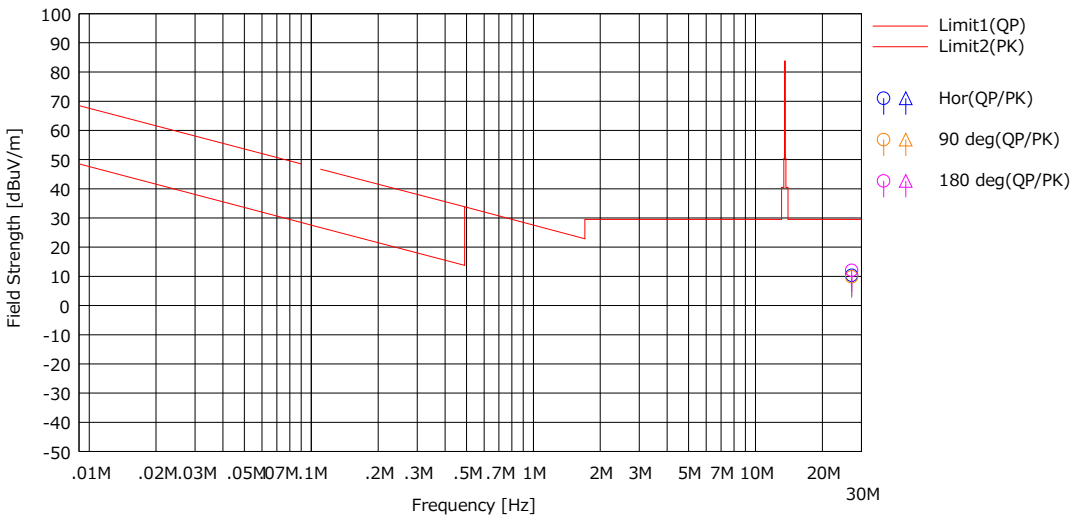
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 1ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	60.80	---	6.85	-32.89	24.42	10.34	---	29.50	---	19.1	---	Hor	39	
2	27.12000	60.30	---	6.85	-32.89	24.42	9.84	---	29.50	---	19.6	---	90 deg	100	
3	27.12000	62.50	---	6.85	-32.89	24.42	12.04	---	29.50	---	17.4	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 2ch, ISO15693, without Tag)

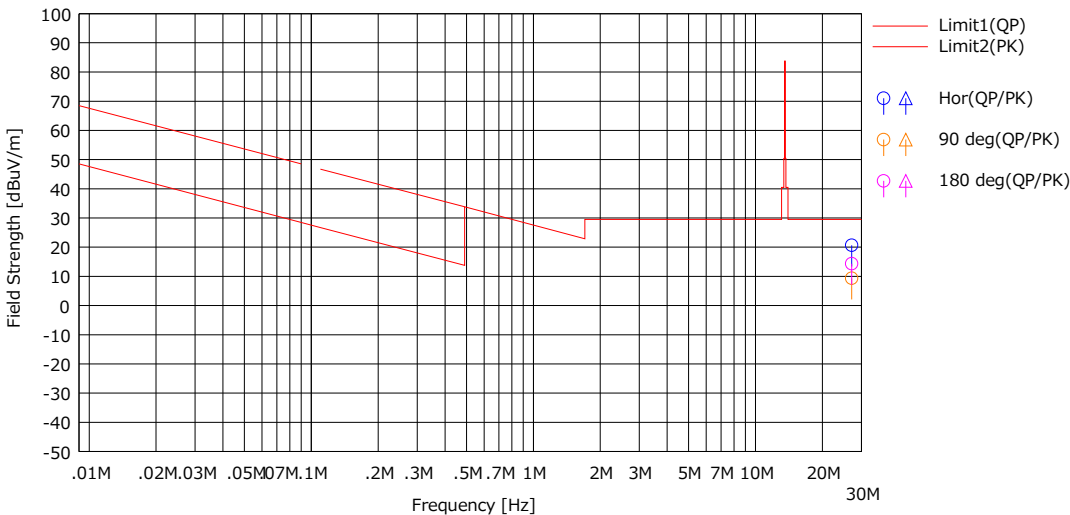
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	71.10	---	6.85	-32.89	24.42	20.64	---	29.50	---	8.8	---	Hor	69	
2	27.12000	59.80	---	6.85	-32.89	24.42	9.34	---	29.50	---	20.1	---	90 deg	94	
3	27.12000	64.80	---	6.85	-32.89	24.42	14.34	---	29.50	---	15.1	---	180 deg	47	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 2ch, ISO15693, with Tag)

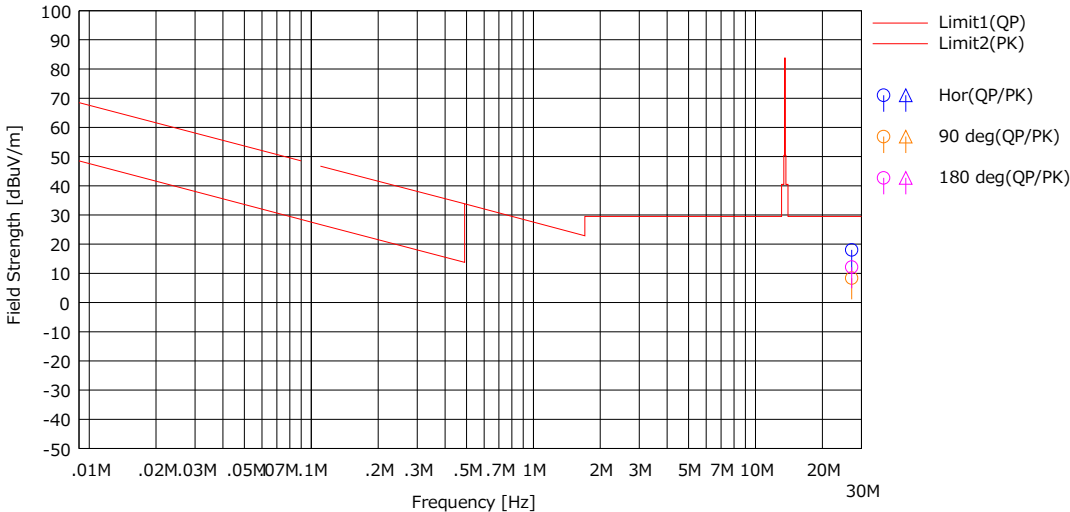
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	68.50	---	6.85	-32.89	24.42	18.04	---	29.50	---	11.4	---	Hor	90	
2	27.12000	58.80	---	6.85	-32.89	24.42	8.34	---	29.50	---	21.1	---	90 deg	100	
3	27.12000	62.60	---	6.85	-32.89	24.42	12.14	---	29.50	---	17.3	---	180 deg	47	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 2ch, ICODE ILT-M, without Tag)

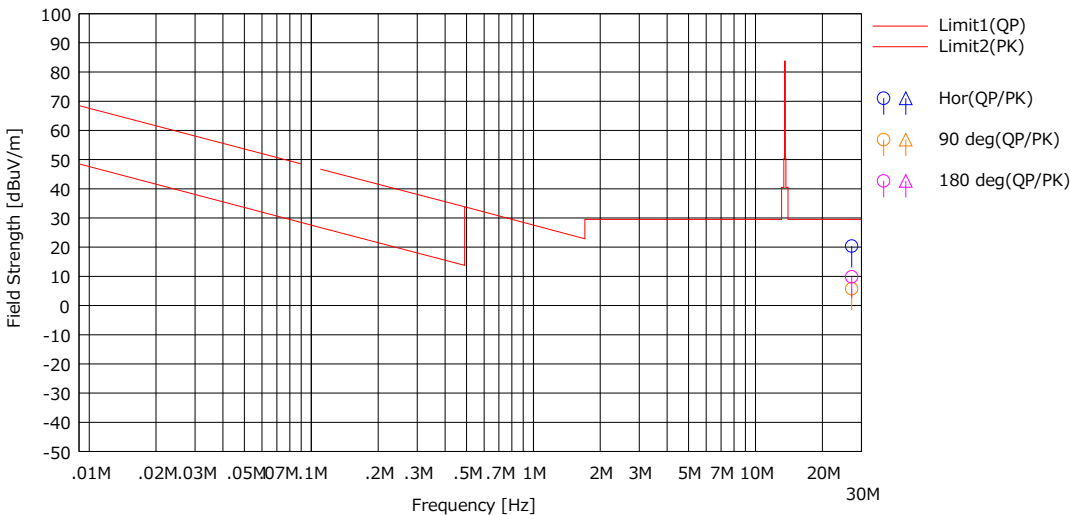
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	70.80	---	6.85	-32.89	24.42	20.34	---	29.50	---	9.1	---	Hor	98	
2	27.12000	56.20	---	6.85	-32.89	24.42	5.74	---	29.50	---	23.7	---	90 deg	251	
3	27.12000	60.30	---	6.85	-32.89	24.42	9.84	---	29.50	---	19.6	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 2ch, ICODE ILT-M, with Tag)

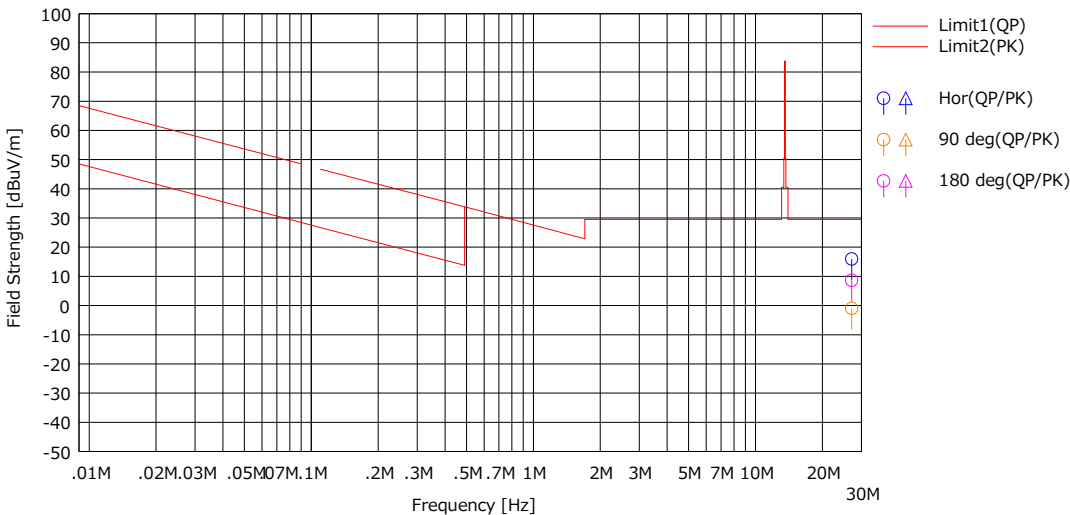
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 2ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Dealer Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	66.40	---	6.85	-32.89	24.42	15.94	---	29.50	---	13.5	---	Hor	72	
2	27.12000	49.50	---	6.85	-32.89	24.42	-0.96	---	29.50	---	30.4	---	90 deg	248	
3	27.12000	59.10	---	6.85	-32.89	24.42	8.64	---	29.50	---	20.8	---	180 deg	349	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 1ch, ISO15693, without Tag)

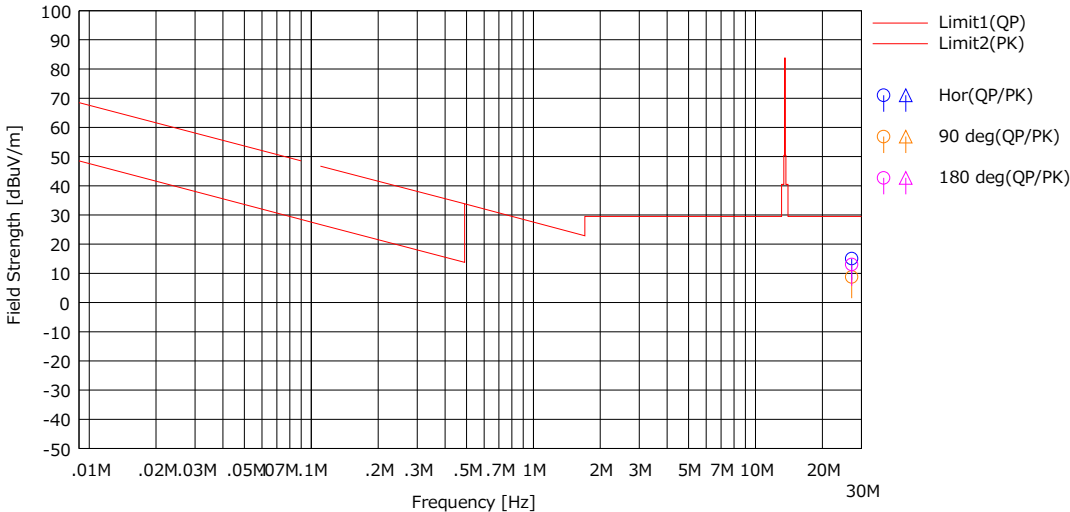
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	65.50	---	6.85	-32.89	24.42	15.04	---	29.50	---	14.4	---	Hor	90	
2	27.12000	59.20	---	6.85	-32.89	24.42	8.74	---	29.50	---	20.7	---	90 deg	111	
3	27.12000	63.50	---	6.85	-32.89	24.42	13.04	---	29.50	---	16.4	---	180 deg	355	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 1ch, ISO15693, with Tag)

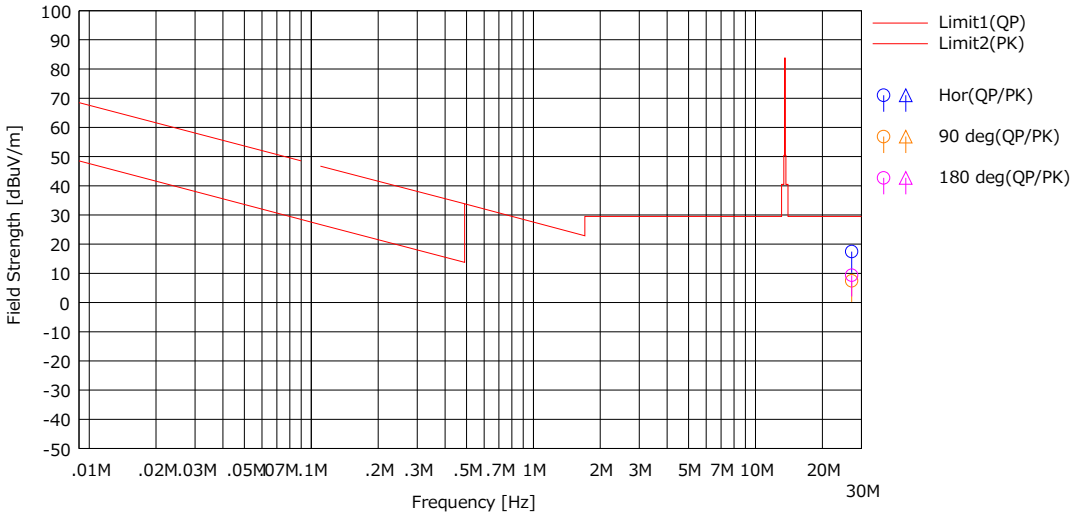
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	67.90	---	6.85	-32.89	24.42	17.44	---	29.50	---	12.0	---	Hor	34	
2	27.12000	57.90	---	6.85	-32.89	24.42	7.44	---	29.50	---	22.0	---	90 deg	120	
3	27.12000	59.80	---	6.85	-32.89	24.42	9.34	---	29.50	---	20.1	---	180 deg	337	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 1ch, ICODE ILT-M, without Tag)

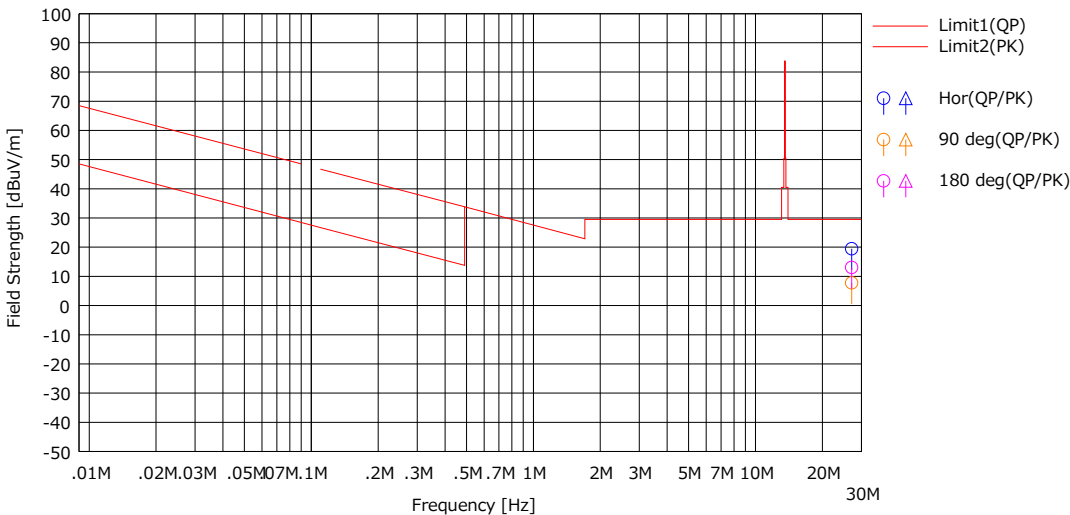
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	69.90	---	6.85	-32.89	24.42	19.44	---	29.50	---	10.0	---	Hor	33	
2	27.12000	58.20	---	6.85	-32.89	24.42	7.74	---	29.50	---	21.7	---	90 deg	82	
3	27.12000	63.50	---	6.85	-32.89	24.42	13.04	---	29.50	---	16.4	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 1ch, ICODE ILT-M, with Tag)

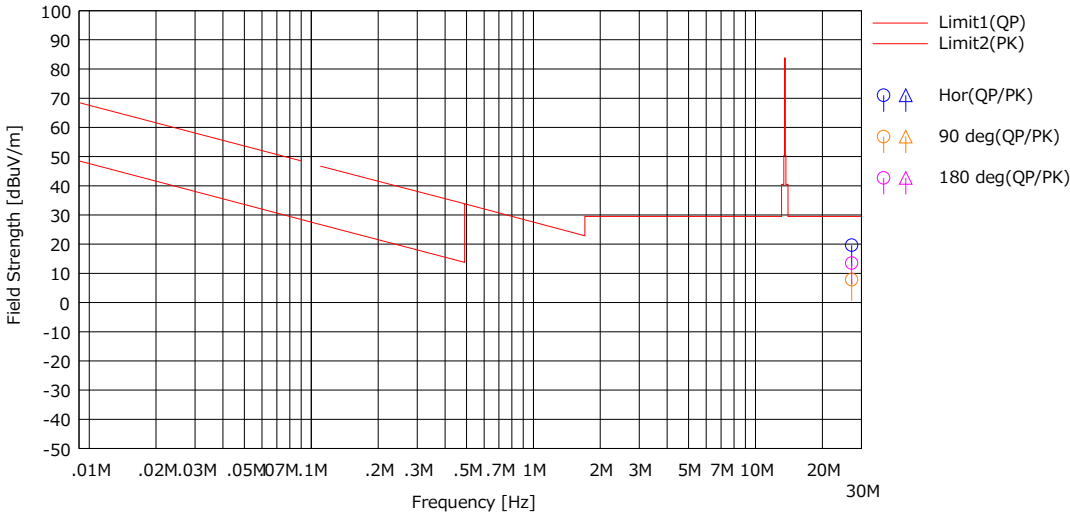
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	70.10	---	6.85	-32.89	24.42	19.64	---	29.50	---	9.8	---	Hor	38	
2	27.12000	58.30	---	6.85	-32.89	24.42	7.84	---	29.50	---	21.6	---	90 deg	110	
3	27.12000	64.00	---	6.85	-32.89	24.42	13.54	---	29.50	---	15.9	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 4ch, ISO15693, without Tag)

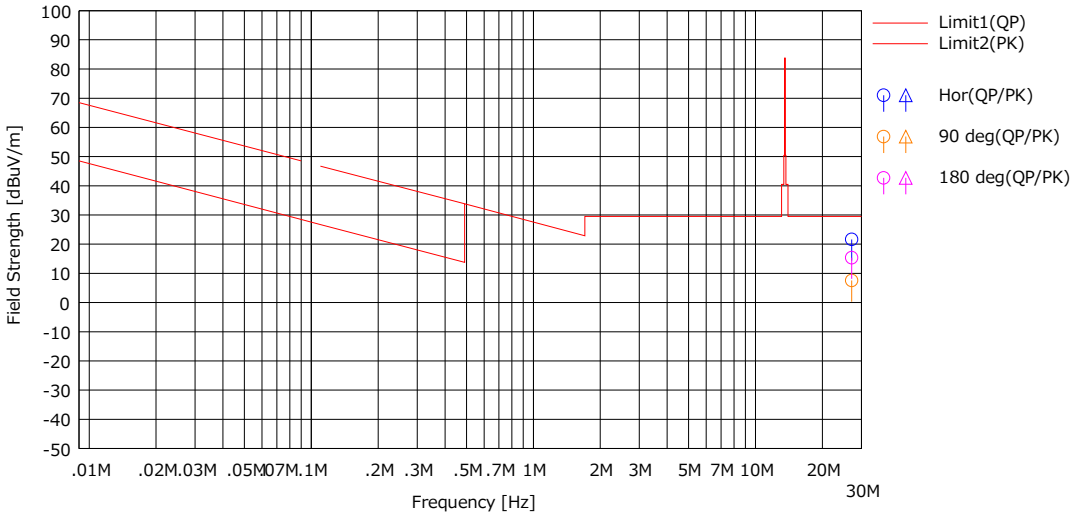
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 4ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	72.10	---	6.85	-32.89	24.42	21.64	---	29.50	---	7.8	---	Hor	80	
2	27.12000	58.00	---	6.85	-32.89	24.42	7.54	---	29.50	---	21.9	---	90 deg	85	
3	27.12000	65.80	---	6.85	-32.89	24.42	15.34	---	29.50	---	14.1	---	180 deg	346	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 4ch, ISO15693, with Tag)

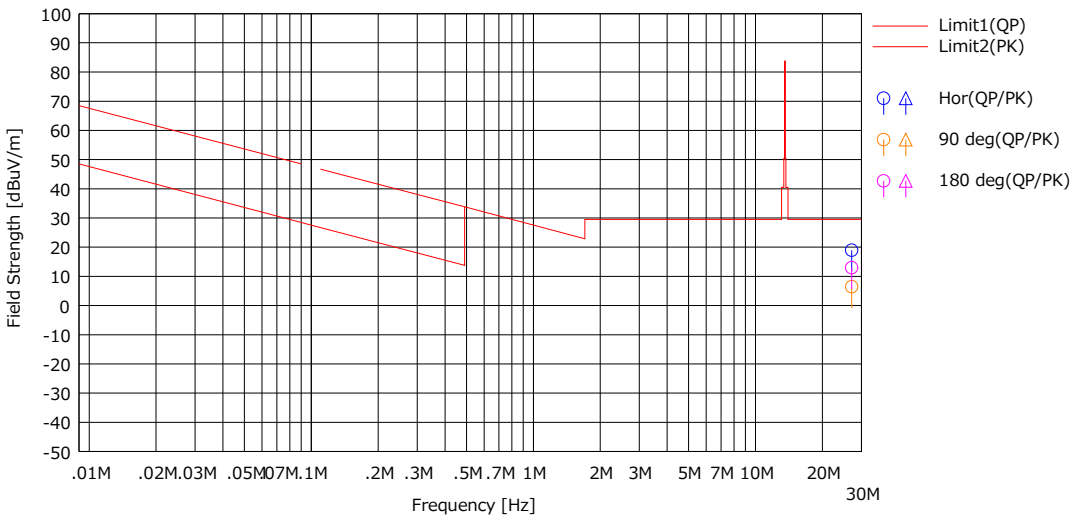
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 4ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg.]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	69.40	---	6.85	-32.89	24.42	18.94	---	29.50	---	10.5	---	Hor	90	
2	27.12000	56.90	---	6.85	-32.89	24.42	6.44	---	29.50	---	23.0	---	90 deg	82	
3	27.12000	63.40	---	6.85	-32.89	24.42	12.94	---	29.50	---	16.5	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 4ch, ICODE ILT-M, without Tag)

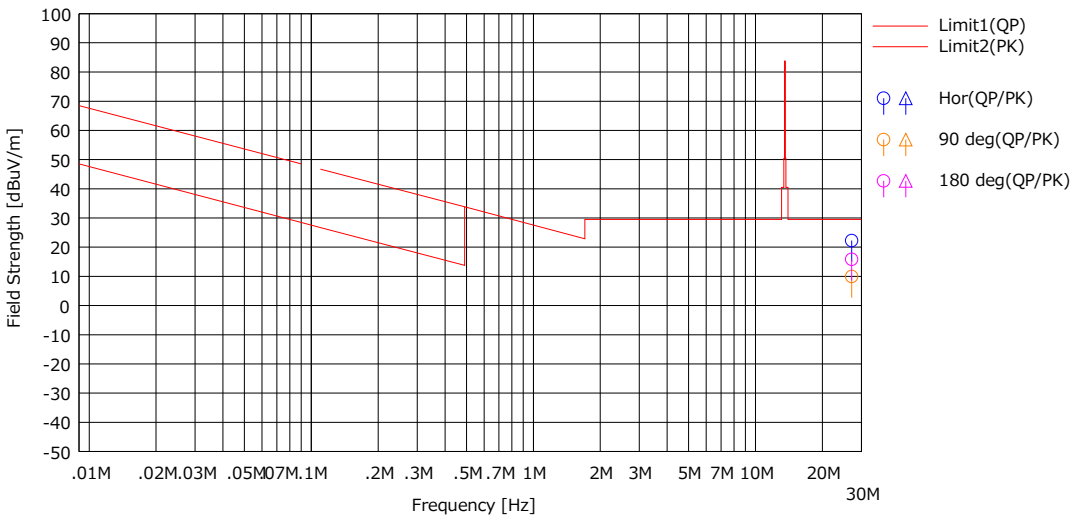
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 4ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	72.70	---	6.85	-32.89	24.42	22.24	---	29.50	---	7.2	---	Hor	70	
2	27.12000	60.40	---	6.85	-32.89	24.42	9.94	---	29.50	---	19.5	---	90 deg	100	
3	27.12000	66.30	---	6.85	-32.89	24.42	15.84	---	29.50	---	13.6	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 4ch, ICODE ILT-M, with Tag)

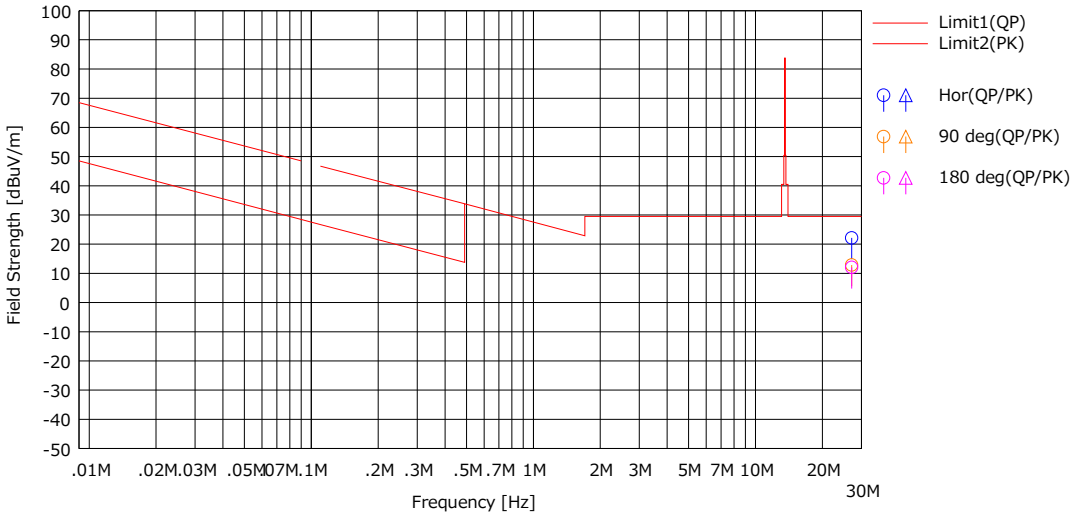
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 4ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	72.60	---	6.85	-32.89	24.42	22.14	---	29.50	---	7.3	---	Hor	73	
2	27.12000	63.30	---	6.85	-32.89	24.42	12.84	---	29.50	---	16.6	---	90 deg	87	
3	27.12000	62.50	---	6.85	-32.89	24.42	12.04	---	29.50	---	17.4	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 7ch, ISO15693, without Tag)

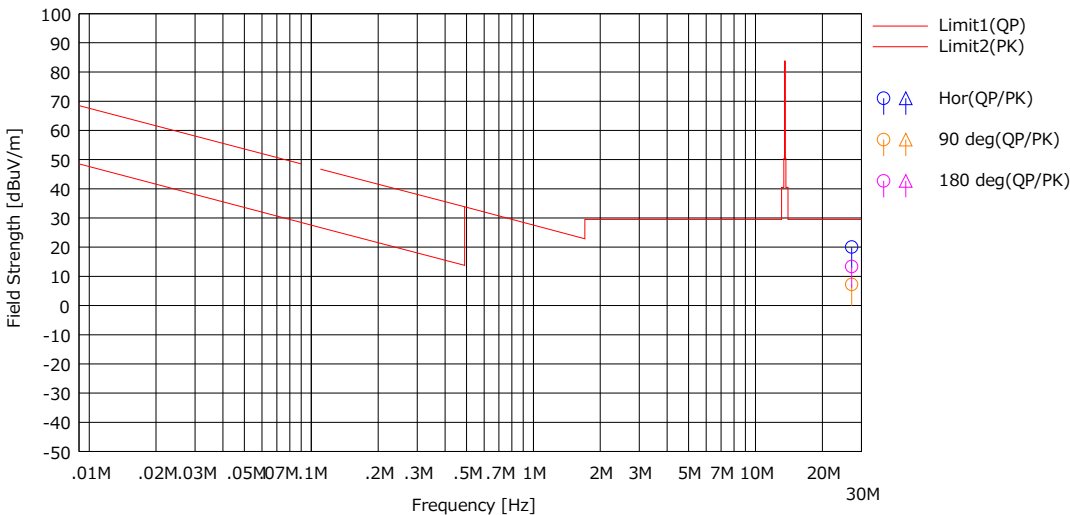
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	70.50	---	6.85	-32.89	24.42	20.04	---	29.50	---	9.4	---	Hor	113	
2	27.12000	57.70	---	6.85	-32.89	24.42	7.24	---	29.50	---	22.2	---	90 deg	104	
3	27.12000	63.80	---	6.85	-32.89	24.42	13.34	---	29.50	---	16.1	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 7ch, ISO15693, with Tag)

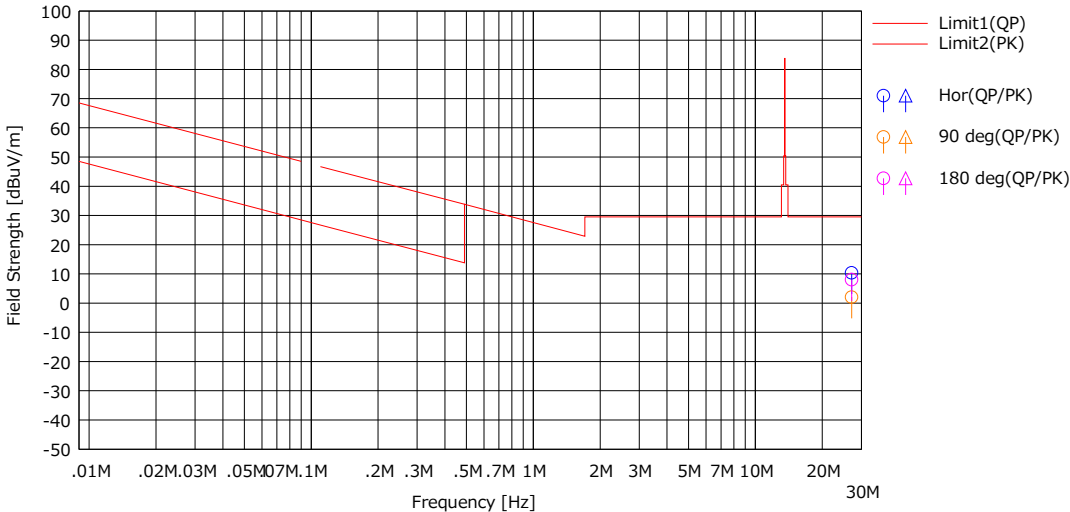
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP> [dBuV]	<PK> [dBuV]				<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dBuV/m]	<PK> [dBuV/m]	<QP> [dB]	<PK> [dB]			
1	27.12000	60.80	---	6.85	-32.89	24.42	10.34	---	29.50	---	19.1	---	Hor	112	
2	27.12000	52.50	---	6.85	-32.89	24.42	2.04	---	29.50	---	27.4	---	90 deg	250	
3	27.12000	58.50	---	6.85	-32.89	24.42	8.04	---	29.50	---	21.4	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 7ch, ICODE ILT-M, without Tag)

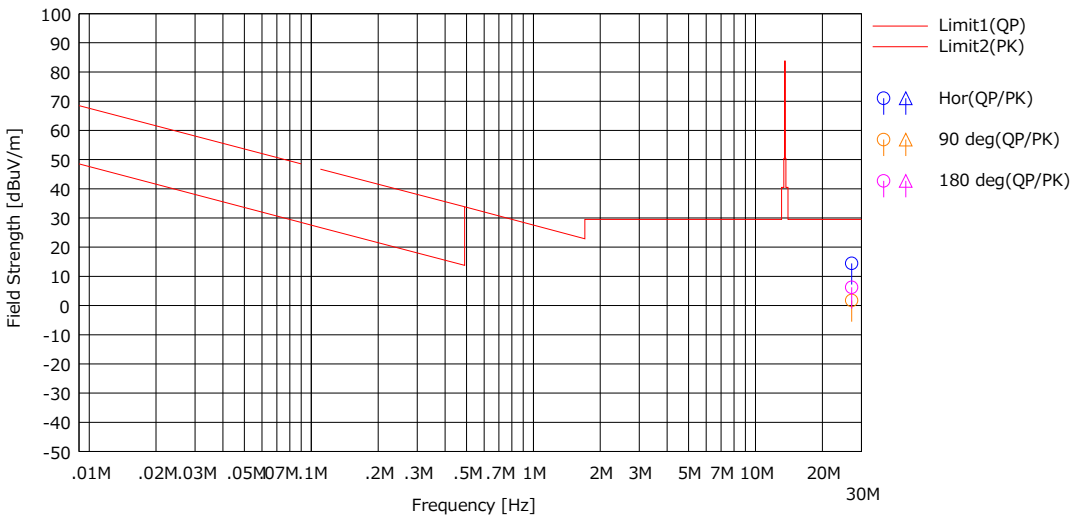
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	64.90	---	6.85	-32.89	24.42	14.44	---	29.50	---	15.0	---	Hor	80	
2	27.12000	52.20	---	6.85	-32.89	24.42	1.74	---	29.50	---	27.7	---	90 deg	250	
3	27.12000	56.70	---	6.85	-32.89	24.42	6.24	---	29.50	---	23.2	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Player Antenna, 7ch, ICODE ILT-M, with Tag)

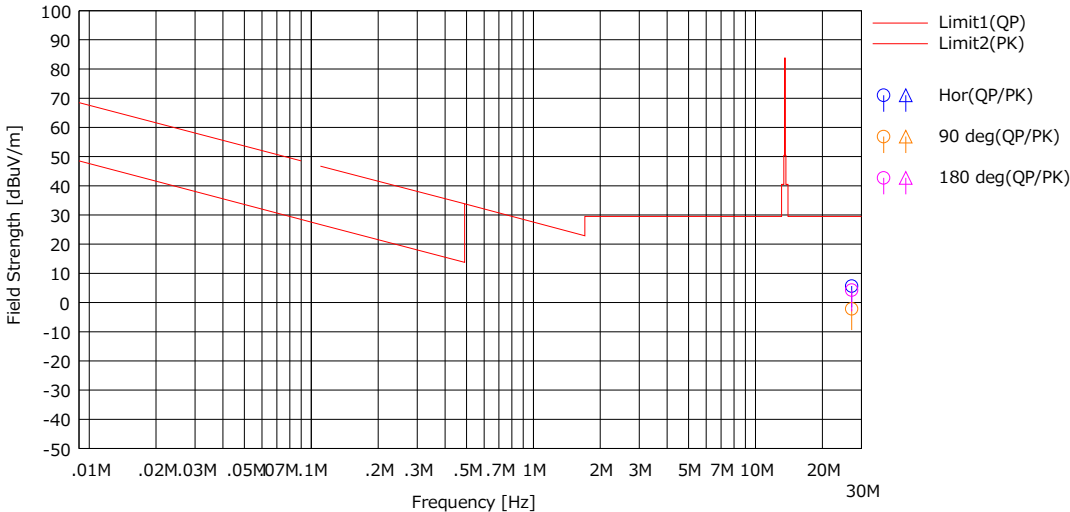
DATA OF RADIATED EMISSION(below 30MHz) TEST

UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/22

Mode : 7ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 22 deg.C / 54 %RH

Remarks : Player Antenna

Limit : FCC15.225,PK/AV/QP,9-90 kHz:PK/AV,110-490 kHz:PK/AV,other:QP(<490 kHz:300 m,>490 kHz:30 m)
Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Antenna	Table [deg.]	Comment
		<QP>	<PK>				<QP>	<PK>	<QP>	<PK>	<QP>	<PK>			
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]			
1	27.12000	56.10	---	6.85	-32.89	24.42	5.64	---	29.50	---	23.8	---	Hor	70	
2	27.12000	48.30	---	6.85	-32.89	24.42	-2.16	---	29.50	---	31.6	---	90 deg	245	
3	27.12000	54.70	---	6.85	-32.89	24.42	4.24	---	29.50	---	25.2	---	180 deg	0	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT+D.Fac)[dB]-Gain(AMP)[dB]
Ant.Type=LOOP: Loop Antenna

Spurious Emission
(Dealer Antenna, 1ch, ISO15693, without Tag)

DATA OF RADIATED EMISSION TEST

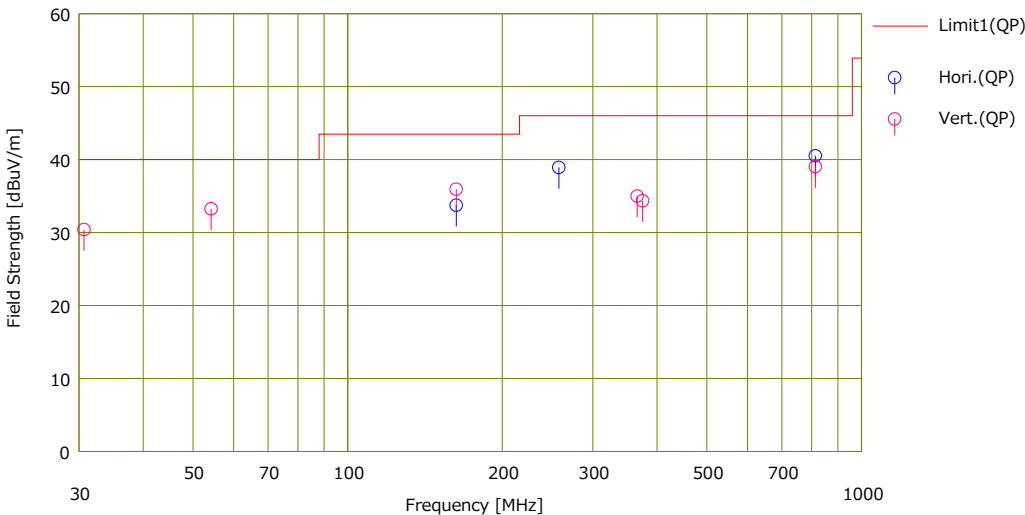
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/19

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Hiromitsu Tanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margn	Pola	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	162.720	45.60	13.32	6.86	32.05	33.73	43.50	9.7	Hori.	198	332	HB	
2	257.640	51.40	12.04	7.44	31.95	38.93	46.00	7.0	Hori.	100	149	HB	
3	813.600	40.00	22.57	9.70	31.75	40.52	46.00	5.4	Hori.	100	284	HB	
4	30.684	44.40	12.48	5.69	32.17	30.40	40.00	9.6	Vert.	100	130	HB	
5	54.240	45.50	13.93	5.97	32.15	33.25	40.00	6.7	Vert.	100	74	HB	
6	162.720	47.80	13.32	6.86	32.05	35.93	43.50	7.5	Vert.	100	78	HB	
7	366.120	44.00	14.89	7.99	31.89	34.99	46.00	11.0	Vert.	100	204	HB	
8	375.000	43.00	15.21	8.03	31.89	34.35	46.00	11.6	Vert.	100	33	HB	
9	813.600	38.50	22.57	9.70	31.75	39.02	46.00	6.9	Vert.	100	331	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Dealer Antenna, 1ch, ISO15693, with Tag)

DATA OF RADIATED EMISSION TEST

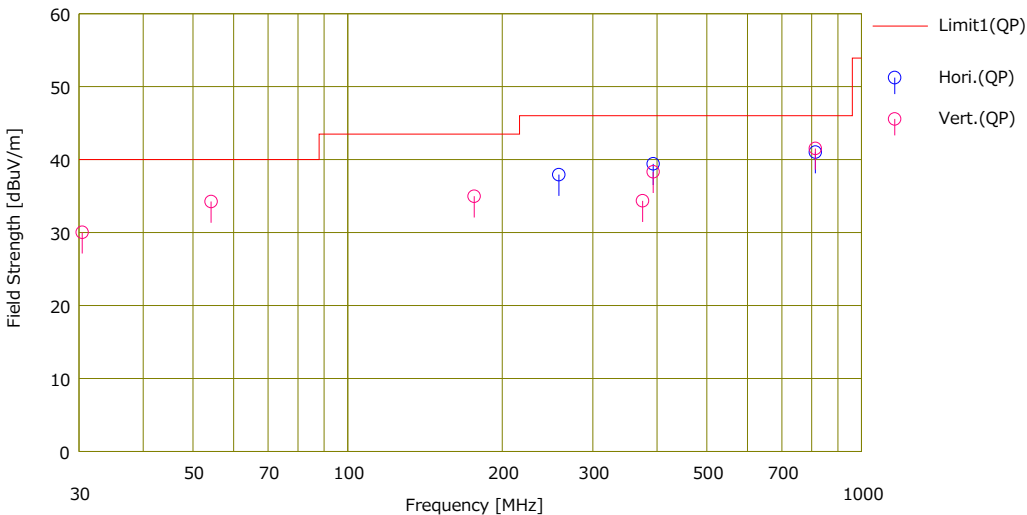
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Hiromitsu Tanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	257.640	50.40	12.04	7.44	31.95	37.93	46.00	8.0	Hori.	119	134	HB	
2	393.240	47.70	15.51	8.11	31.90	39.42	46.00	6.5	Hori.	100	131	HB	
3	813.600	40.50	22.57	9.70	31.75	41.02	46.00	4.9	Hori.	100	250	HB	
4	30.434	44.00	12.51	5.69	32.17	30.03	40.00	9.9	Vert.	100	80	HB	
5	54.240	46.50	13.93	5.97	32.15	34.25	40.00	5.7	Vert.	100	165	HB	
6	176.280	48.10	11.95	6.96	32.03	34.98	43.50	8.5	Vert.	100	103	HB	
7	375.000	43.00	15.21	8.03	31.89	34.35	46.00	11.6	Vert.	100	33	HB	
8	393.240	46.60	15.51	8.11	31.90	38.32	46.00	7.6	Vert.	149	214	HB	
9	813.600	41.00	22.57	9.70	31.75	41.52	46.00	4.4	Vert.	100	49	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Dealer Antenna, 1ch, ICODE ILT-M, without Tag)

DATA OF RADIATED EMISSION TEST

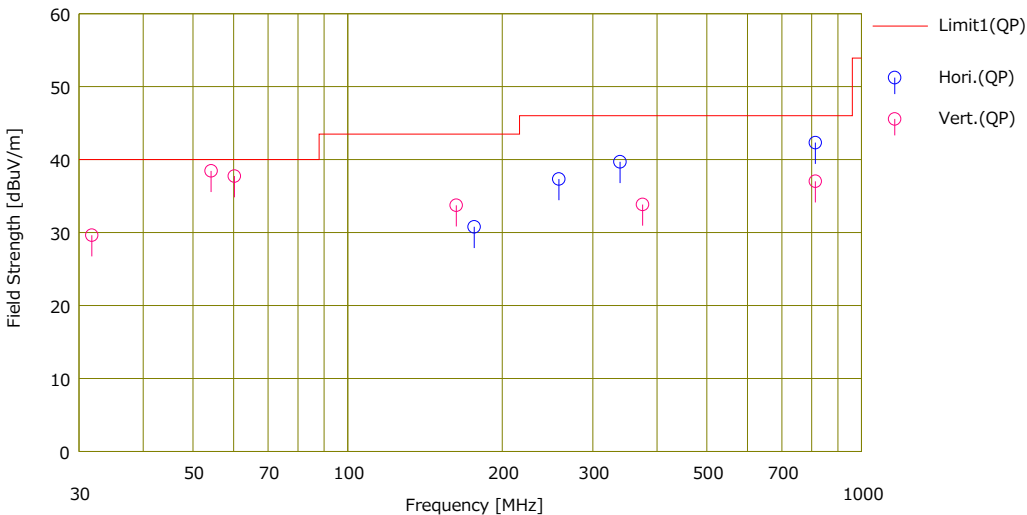
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/18

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Dealer Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	176.280	43.90	11.95	6.96	32.03	30.78	43.50	12.7	Hori.	155	320	HB	
2	257.640	49.80	12.04	7.44	31.95	37.33	46.00	8.6	Hori.	129	289	HB	
3	339.000	49.50	14.24	7.86	31.90	39.70	46.00	6.3	Hori.	100	258	HB	
4	813.600	41.80	22.57	9.70	31.75	42.32	46.00	3.6	Hori.	100	263	HB	
5	31.776	43.60	12.50	5.70	32.17	29.63	40.00	10.3	Vert.	100	19	HB	
6	54.240	50.70	13.93	5.97	32.15	38.45	40.00	1.5	Vert.	100	253	HB	
7	60.184	50.60	13.25	6.04	32.15	37.74	40.00	2.2	Vert.	100	237	HB	
8	162.720	45.60	13.32	6.86	32.05	33.73	43.50	9.7	Vert.	100	130	HB	
9	375.000	42.50	15.21	8.03	31.89	33.85	46.00	12.1	Vert.	144	283	HB	
10	813.600	36.50	22.57	9.70	31.75	37.02	46.00	8.9	Vert.	151	269	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Dealer Antenna, 1ch, ICODE ILT-M, with Tag)

DATA OF RADIATED EMISSION TEST

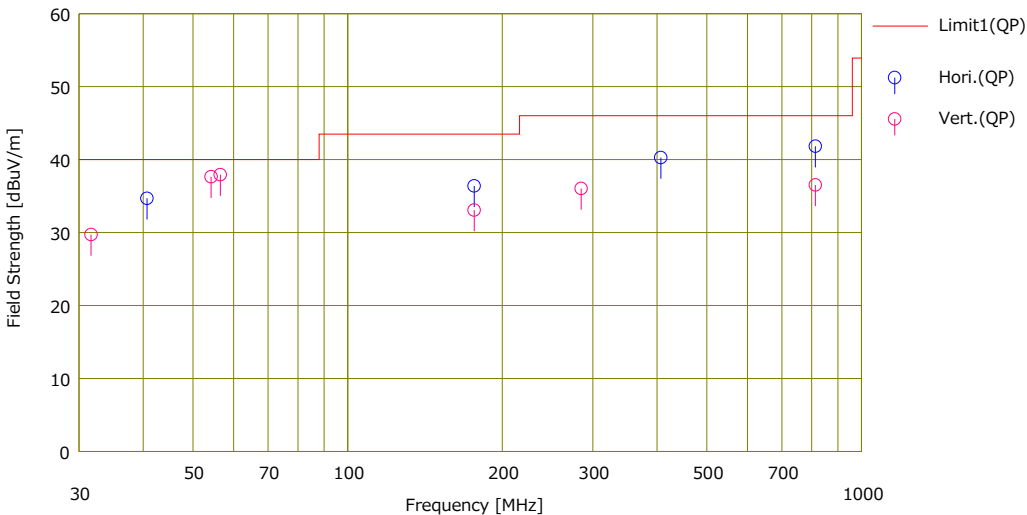
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/18

Mode : 1ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Dealer Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	40.680	47.70	13.33	5.82	32.16	34.69	40.00	5.3	Hori.	262	139	HB	
2	176.280	49.50	11.95	6.96	32.03	36.38	43.50	7.1	Hori.	167	183	HB	
3	406.800	48.30	15.70	8.17	31.89	40.28	46.00	5.7	Hori.	100	62	HB	
4	813.600	41.30	22.57	9.70	31.75	41.82	46.00	4.1	Hori.	100	265	HB	
5	31.673	43.70	12.50	5.70	32.17	29.73	40.00	10.2	Vert.	100	46	HB	
6	54.240	49.90	13.93	5.97	32.15	37.65	40.00	2.3	Vert.	100	227	HB	
7	56.501	50.40	13.69	6.00	32.15	37.94	40.00	2.0	Vert.	100	265	HB	
8	176.280	46.20	11.95	6.96	32.03	33.08	43.50	10.4	Vert.	100	98	HB	
9	284.760	47.30	13.08	7.58	31.93	36.03	46.00	9.9	Vert.	100	183	HB	
10	813.600	36.00	22.57	9.70	31.75	36.52	46.00	9.4	Vert.	152	265	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Dealer Antenna, 2ch, ISO15693, without Tag)

DATA OF RADIATED EMISSION TEST

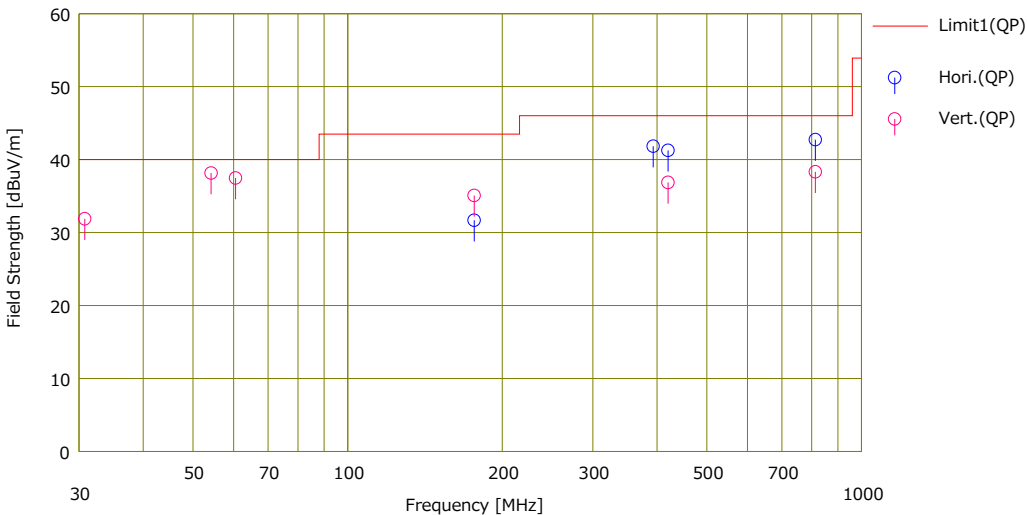
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/18

Mode : 2ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Dealer Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Hiromitsu Tanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg.]	Type	
1	176.278	44.80	11.95	6.96	32.03	31.68	43.50	11.8	Hori.	135	316	HB	
2	393.236	50.10	15.51	8.11	31.90	41.82	46.00	4.1	Hori.	100	66	HB	
3	420.355	48.80	16.13	8.23	31.90	41.26	46.00	4.7	Hori.	251	241	HB	
4	813.600	42.20	22.57	9.70	31.75	42.72	46.00	3.2	Hori.	100	255	HB	
5	30.788	45.90	12.47	5.69	32.17	31.89	40.00	8.1	Vert.	100	0	HB	
6	54.240	50.40	13.93	5.97	32.15	38.15	40.00	1.8	Vert.	100	240	HB	
7	60.511	50.40	13.17	6.05	32.15	37.47	40.00	2.5	Vert.	100	245	HB	
8	176.278	48.20	11.95	6.96	32.03	35.08	43.50	8.4	Vert.	100	80	HB	
9	420.354	44.40	16.13	8.23	31.90	36.86	46.00	9.1	Vert.	100	178	HB	
10	813.600	37.80	22.57	9.70	31.75	38.32	46.00	7.6	Vert.	100	151	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Dealer Antenna, 2ch, ISO15693, with Tag)

DATA OF RADIATED EMISSION TEST

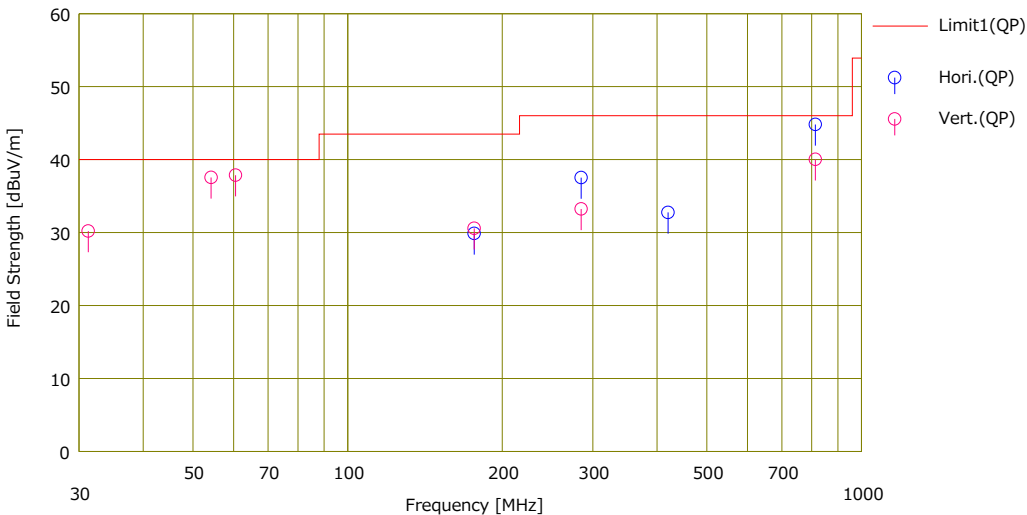
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/18

Mode : 2ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Dealer Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	176.280	43.00	11.95	6.96	32.03	29.88	43.50	13.6	Hori.	170	338	HB	
2	284.760	48.80	13.08	7.58	31.93	37.53	46.00	8.4	Hori.	115	173	HB	
3	420.360	40.30	16.13	8.23	31.90	32.76	46.00	13.2	Hori.	100	45	HB	
4	813.600	44.30	22.57	9.70	31.75	44.82	46.00	1.1	Hori.	100	257	HB	
5	31.261	44.20	12.47	5.70	32.17	30.20	40.00	9.8	Vert.	100	79	HB	
6	54.240	49.80	13.93	5.97	32.15	37.55	40.00	2.4	Vert.	100	248	HB	
7	60.505	50.80	13.17	6.05	32.15	37.87	40.00	2.1	Vert.	100	245	HB	
8	176.280	43.70	11.95	6.96	32.03	30.58	43.50	12.9	Vert.	100	80	HB	
9	284.760	44.50	13.08	7.58	31.93	33.23	46.00	12.7	Vert.	100	252	HB	
10	813.600	39.50	22.57	9.70	31.75	40.02	46.00	5.9	Vert.	100	275	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Dealer Antenna, 2ch, ICODE ILT-M, without Tag)

DATA OF RADIATED EMISSION TEST

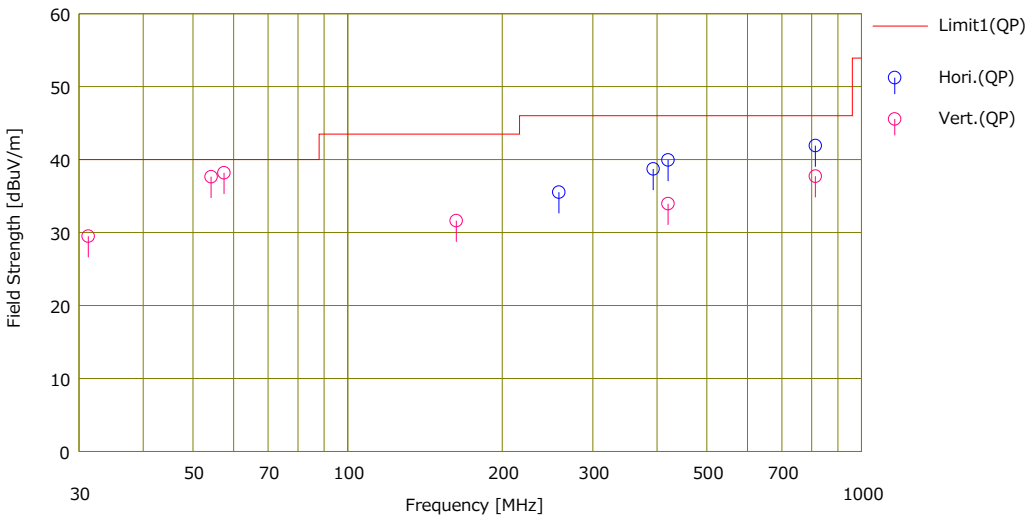
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/18

Mode : 2ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Dealer Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	257.640	48.00	12.04	7.44	31.95	35.53	46.00	10.4	Hori.	105	110	HB	
2	393.240	47.00	15.51	8.11	31.90	38.72	46.00	7.2	Hori.	100	63	HB	
3	420.360	47.50	16.13	8.23	31.90	39.96	46.00	6.0	Hori.	100	63	HB	
4	813.600	41.40	22.57	9.70	31.75	41.92	46.00	4.0	Hori.	100	262	HB	
5	31.269	43.50	12.47	5.70	32.17	29.50	40.00	10.5	Vert.	100	45	HB	
6	54.240	49.90	13.93	5.97	32.15	37.65	40.00	2.3	Vert.	100	264	HB	
7	57.452	50.70	13.63	6.01	32.15	38.19	40.00	1.8	Vert.	100	224	HB	
8	162.720	43.50	13.32	6.86	32.05	31.63	43.50	11.8	Vert.	100	23	HB	
9	420.360	41.50	16.13	8.23	31.90	33.96	46.00	12.0	Vert.	133	0	HB	
10	813.600	37.20	22.57	9.70	31.75	37.72	46.00	8.2	Vert.	153	265	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Dealer Antenna, 2ch, ICODE ILT-M, with Tag)

DATA OF RADIATED EMISSION TEST

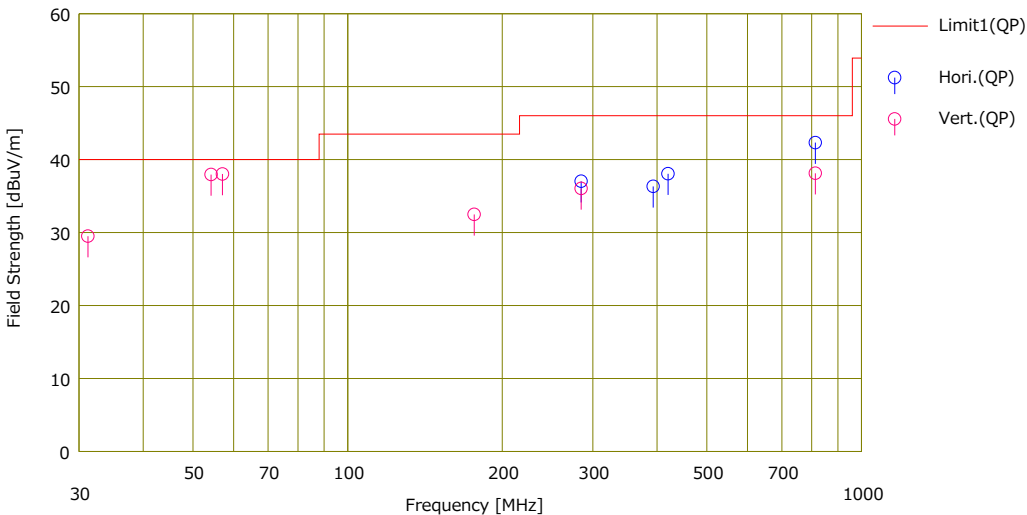
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/18

Mode : 2ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Dealer Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	284.760	48.30	13.08	7.58	31.93	37.03	46.00	8.9	Hori.	118	49	HB	
2	393.240	44.60	15.51	8.11	31.90	36.32	46.00	9.6	Hori.	100	67	HB	
3	420.360	45.60	16.13	8.23	31.90	38.06	46.00	7.9	Hori.	100	67	HB	
4	813.600	41.80	22.57	9.70	31.75	42.32	46.00	3.6	Hori.	100	265	HB	
5	31.221	43.50	12.47	5.70	32.17	29.50	40.00	10.5	Vert.	100	45	HB	
6	54.240	50.20	13.93	5.97	32.15	37.95	40.00	2.0	Vert.	100	223	HB	
7	57.069	50.50	13.67	6.01	32.15	38.03	40.00	1.9	Vert.	100	284	HB	
8	176.280	45.60	11.95	6.96	32.03	32.48	43.50	11.0	Vert.	100	121	HB	
9	284.760	47.30	13.08	7.58	31.93	36.03	46.00	9.9	Vert.	100	253	HB	
10	813.600	37.60	22.57	9.70	31.75	38.12	46.00	7.8	Vert.	161	267	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 1ch, ISO15693, without Tag)

DATA OF RADIATED EMISSION TEST

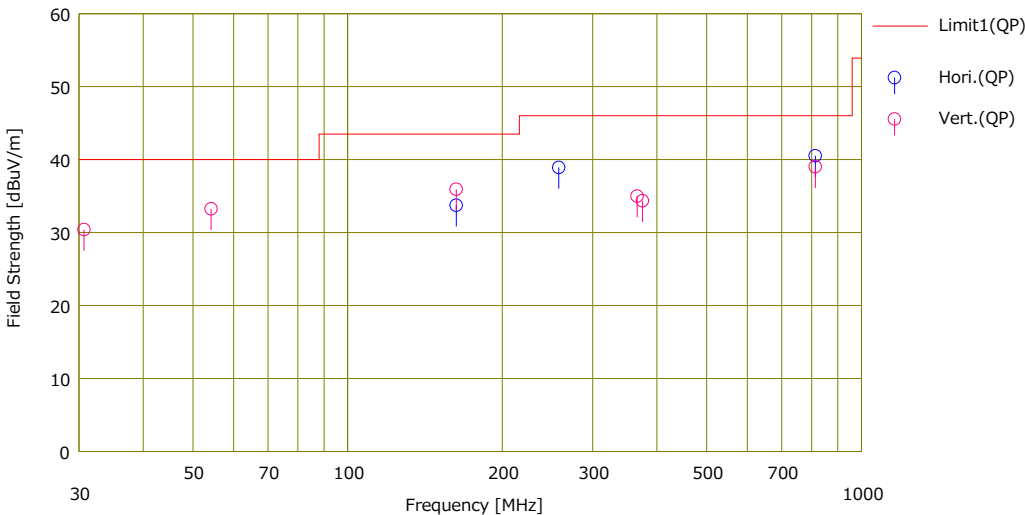
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/19

Mode : 1ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Hiromitsu Tanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	162.720	45.60	13.32	6.86	32.05	33.73	43.50	9.7	Hori.	198	332	HB	
2	257.640	51.40	12.04	7.44	31.95	38.93	46.00	7.0	Hori.	100	149	HB	
3	813.600	40.00	22.57	9.70	31.75	40.52	46.00	5.4	Hori.	100	284	HB	
4	30.684	44.40	12.48	5.69	32.17	30.40	40.00	9.6	Vert.	100	130	HB	
5	54.240	45.50	13.93	5.97	32.15	33.25	40.00	6.7	Vert.	100	74	HB	
6	162.720	47.80	13.32	6.86	32.05	35.93	43.50	7.5	Vert.	100	78	HB	
7	366.120	44.00	14.89	7.99	31.89	34.99	46.00	11.0	Vert.	100	204	HB	
8	375.000	43.00	15.21	8.03	31.89	34.35	46.00	11.6	Vert.	100	33	HB	
9	813.600	38.50	22.57	9.70	31.75	39.02	46.00	6.9	Vert.	100	331	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 1ch, ISO15693, with Tag)

DATA OF RADIATED EMISSION TEST

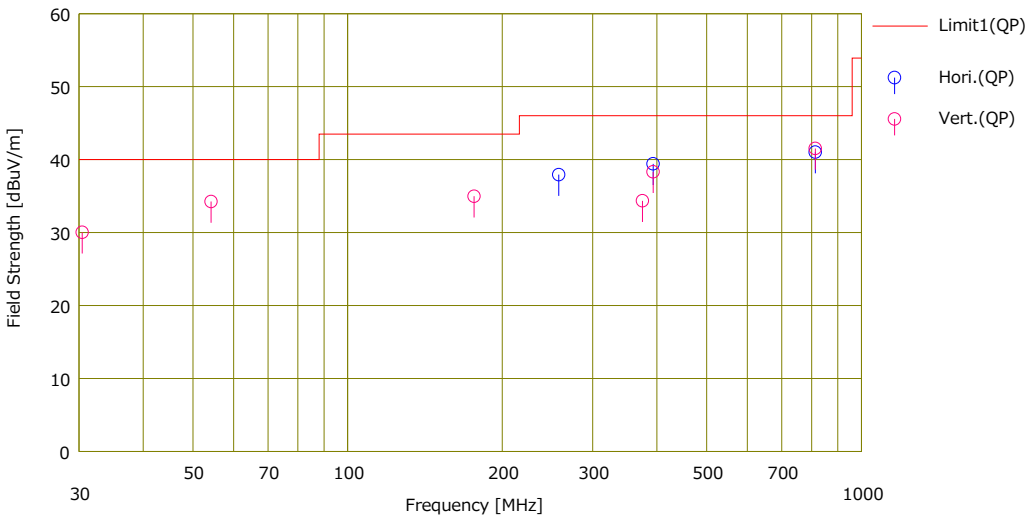
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Hiromitsu Tanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	257.640	50.40	12.04	7.44	31.95	37.93	46.00	8.0	Hori.	119	134	HB	
2	393.240	47.70	15.51	8.11	31.90	39.42	46.00	6.5	Hori.	100	131	HB	
3	813.600	40.50	22.57	9.70	31.75	41.02	46.00	4.9	Hori.	100	250	HB	
4	30.434	44.00	12.51	5.69	32.17	30.03	40.00	9.9	Vert.	100	80	HB	
5	54.240	46.50	13.93	5.97	32.15	34.25	40.00	5.7	Vert.	100	165	HB	
6	176.280	48.10	11.95	6.96	32.03	34.98	43.50	8.5	Vert.	100	103	HB	
7	375.000	43.00	15.21	8.03	31.89	34.35	46.00	11.6	Vert.	100	33	HB	
8	393.240	46.60	15.51	8.11	31.90	38.32	46.00	7.6	Vert.	149	214	HB	
9	813.600	41.00	22.57	9.70	31.75	41.52	46.00	4.4	Vert.	100	49	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 1ch, ICODE ILT-M, without Tag)

DATA OF RADIATED EMISSION TEST

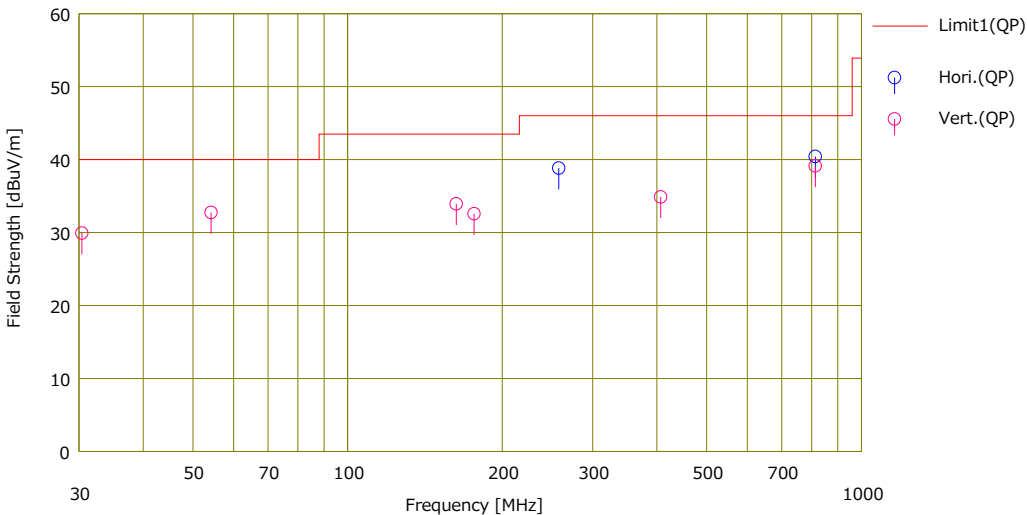
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading (QP)	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result (QP)	Limit (QP)	Margin (QP)	Pola [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		[dBuV]				[dBuV/m]	[dBuV/m]						
1	257.640	51.30	12.04	7.44	31.95	38.83	46.00	7.1	Hori.	126	162	HB	
2	813.600	39.90	22.57	9.70	31.75	40.42	46.00	5.5	Hori.	100	249	HB	
3	30.391	43.90	12.51	5.69	32.17	29.93	40.00	10.0	Vert.	100	87	HB	
4	54.240	45.00	13.93	5.97	32.15	32.75	40.00	7.2	Vert.	100	69	HB	
5	162.720	45.80	13.32	6.86	32.05	33.93	43.50	9.5	Vert.	100	150	HB	
6	176.280	45.70	11.95	6.96	32.03	32.58	43.50	10.9	Vert.	100	98	HB	
7	406.800	42.90	15.70	8.17	31.89	34.88	46.00	11.1	Vert.	128	221	HB	
8	813.600	38.60	22.57	9.70	31.75	39.12	46.00	6.8	Vert.	100	185	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 1ch, ICODE ILT-M, with Tag)

DATA OF RADIATED EMISSION TEST

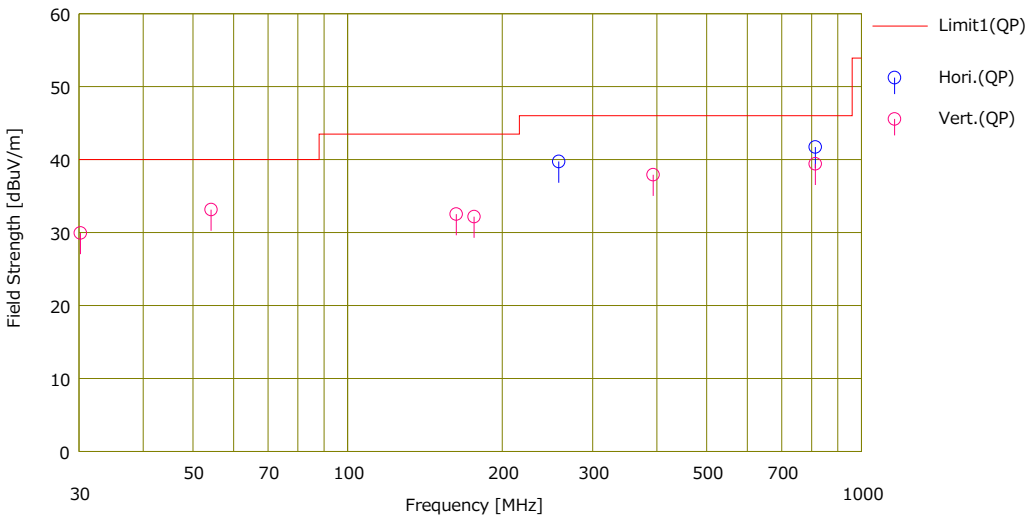
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 1ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 21 deg.C / 58 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Hiromitsu Tanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	257.640	52.20	12.04	7.44	31.95	39.73	46.00	6.2	Hori.	125	151	HB	
2	813.600	41.20	22.57	9.70	31.75	41.72	46.00	4.2	Hori.	100	251	HB	
3	30.189	43.90	12.53	5.68	32.17	29.94	40.00	10.0	Vert.	100	82	HB	
4	54.240	45.40	13.93	5.97	32.15	33.15	40.00	6.8	Vert.	100	129	HB	
5	162.720	44.40	13.32	6.86	32.05	32.53	43.50	10.9	Vert.	100	157	HB	
6	176.280	45.30	11.95	6.96	32.03	32.18	43.50	11.3	Vert.	100	93	HB	
7	393.240	46.20	15.51	8.11	31.90	37.92	46.00	8.0	Vert.	147	223	HB	
8	813.600	38.90	22.57	9.70	31.75	39.42	46.00	6.5	Vert.	100	181	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 3ch, ISO15693, without Tag)

DATA OF RADIATED EMISSION TEST

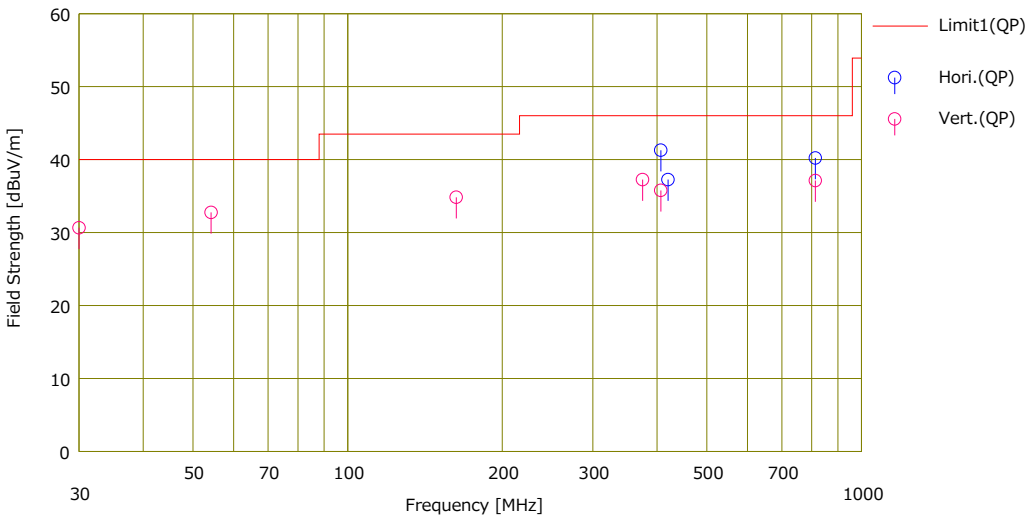
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/19

Mode : 3ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 26 deg.C / 57 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margan	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	406.800	49.30	15.70	8.17	31.89	41.28	46.00	4.7	Hori.	100	42	HB	
2	420.360	44.80	16.13	8.23	31.90	37.26	46.00	8.7	Hori.	100	105	HB	
3	813.600	39.70	22.57	9.70	31.75	40.22	46.00	5.7	Hori.	105	254	HB	
4	30.001	44.60	12.55	5.68	32.17	30.66	40.00	9.3	Vert.	100	107	HB	
5	54.240	45.00	13.93	5.97	32.15	32.75	40.00	7.2	Vert.	100	75	HB	
6	162.720	46.70	13.32	6.86	32.05	34.83	43.50	8.6	Vert.	100	70	HB	
7	375.000	45.90	15.21	8.03	31.89	37.25	46.00	8.7	Vert.	100	315	HB	
8	406.800	43.80	15.70	8.17	31.89	35.78	46.00	10.2	Vert.	100	312	HB	
9	813.600	36.60	22.57	9.70	31.75	37.12	46.00	8.8	Vert.	100	65	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 3ch, ISO15693, with Tag)

DATA OF RADIATED EMISSION TEST

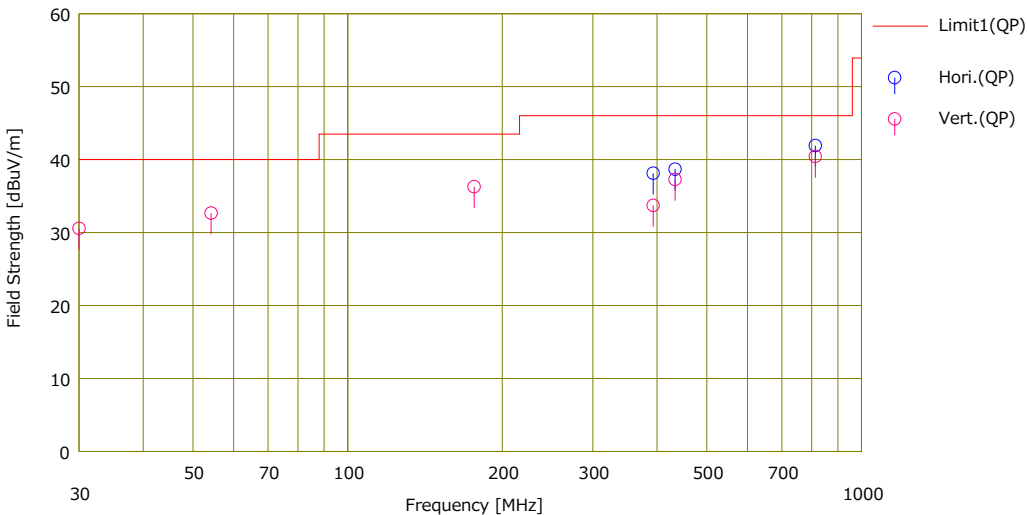
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 3ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 23 deg.C / 60 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margn	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	393.240	46.40	15.51	8.11	31.90	38.12	46.00	7.8	Hori.	100	114	HB	
2	433.920	45.60	16.67	8.30	31.90	38.67	46.00	7.3	Hori.	100	0	HB	
3	813.600	41.40	22.57	9.70	31.75	41.92	46.00	4.0	Hori.	105	258	HB	
4	30.001	44.50	12.55	5.68	32.17	30.56	40.00	9.4	Vert.	100	109	HB	
5	54.240	44.90	13.93	5.97	32.15	32.65	40.00	7.3	Vert.	100	140	HB	
6	176.280	49.40	11.95	6.96	32.03	36.28	43.50	7.2	Vert.	100	128	HB	
7	393.240	42.00	15.51	8.11	31.90	33.72	46.00	12.2	Vert.	100	55	HB	
8	433.920	44.20	16.67	8.30	31.90	37.27	46.00	8.7	Vert.	100	315	HB	
9	813.600	39.90	22.57	9.70	31.75	40.42	46.00	5.5	Vert.	100	15	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 3ch, ICODE ILT-M, without Tag)

DATA OF RADIATED EMISSION TEST

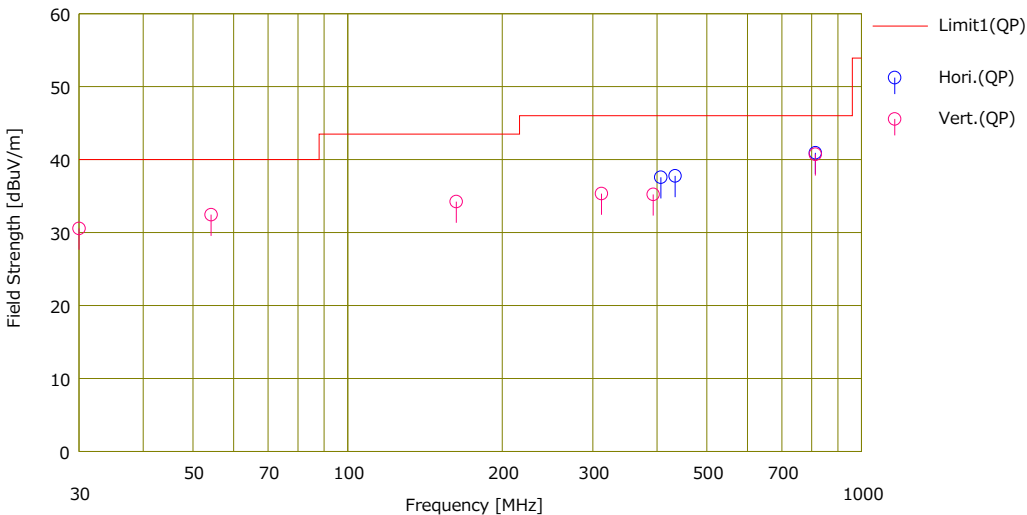
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 3ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 23 deg.C / 60 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading (QP)	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result (QP)	Limit (QP)	Margan (QP)	Pola [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		[dBuV]				[dBuV/m]	[dBuV/m]	[dB]					
1	406.800	45.60	15.70	8.17	31.89	37.58	46.00	8.4	Hori.	100	44	HB	
2	433.920	44.70	16.67	8.30	31.90	37.77	46.00	8.2	Hori.	100	355	HB	
3	813.600	40.40	22.57	9.70	31.75	40.92	46.00	5.0	Hori.	100	264	HB	
4	30.001	44.50	12.55	5.68	32.17	30.56	40.00	9.4	Vert.	100	108	HB	
5	54.240	44.70	13.93	5.97	32.15	32.45	40.00	7.5	Vert.	100	83	HB	
6	162.720	46.10	13.32	6.86	32.05	34.23	43.50	9.2	Vert.	100	123	HB	
7	311.880	45.70	13.85	7.71	31.92	35.34	46.00	10.6	Vert.	136	186	HB	
8	393.240	43.50	15.51	8.11	31.90	35.22	46.00	10.7	Vert.	100	206	HB	
9	813.600	40.20	22.57	9.70	31.75	40.72	46.00	5.2	Vert.	100	62	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 3ch, ICODE ILT-M, with Tag)

DATA OF RADIATED EMISSION TEST

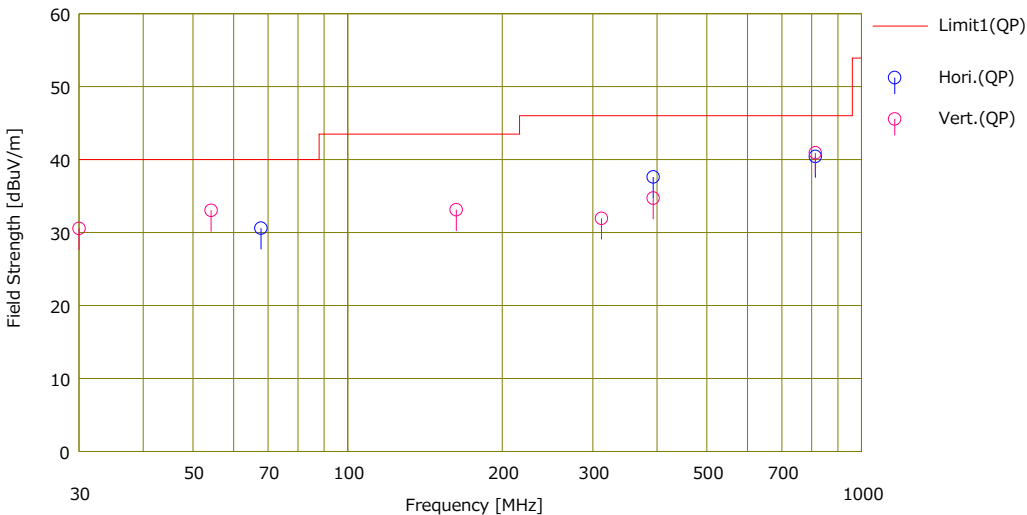
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/21

Mode : 3ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 23 deg.C / 60 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola	Height	Angle	Ant. Type	Comment
		(QP)				(QP)	(QP)						
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]		
1	67.800	44.80	11.81	6.12	32.14	30.59	40.00	9.4	Hori.	361	316	HB	
2	393.240	45.90	15.51	8.11	31.90	37.62	46.00	8.3	Hori.	100	63	HB	
3	813.600	39.90	22.57	9.70	31.75	40.42	46.00	5.5	Hori.	108	264	HB	
4	30.001	44.50	12.55	5.68	32.17	30.56	40.00	9.4	Vert.	100	105	HB	
5	54.240	45.30	13.93	5.97	32.15	33.05	40.00	6.9	Vert.	100	123	HB	
6	162.720	45.00	13.32	6.86	32.05	33.13	43.50	10.3	Vert.	100	127	HB	
7	311.880	42.30	13.85	7.71	31.92	31.94	46.00	14.0	Vert.	151	187	HB	
8	393.240	43.00	15.51	8.11	31.90	34.72	46.00	11.2	Vert.	100	190	HB	
9	813.600	40.40	22.57	9.70	31.75	40.92	46.00	5.0	Vert.	100	62	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 11ch, ISO15693, without Tag)

DATA OF RADIATED EMISSION TEST

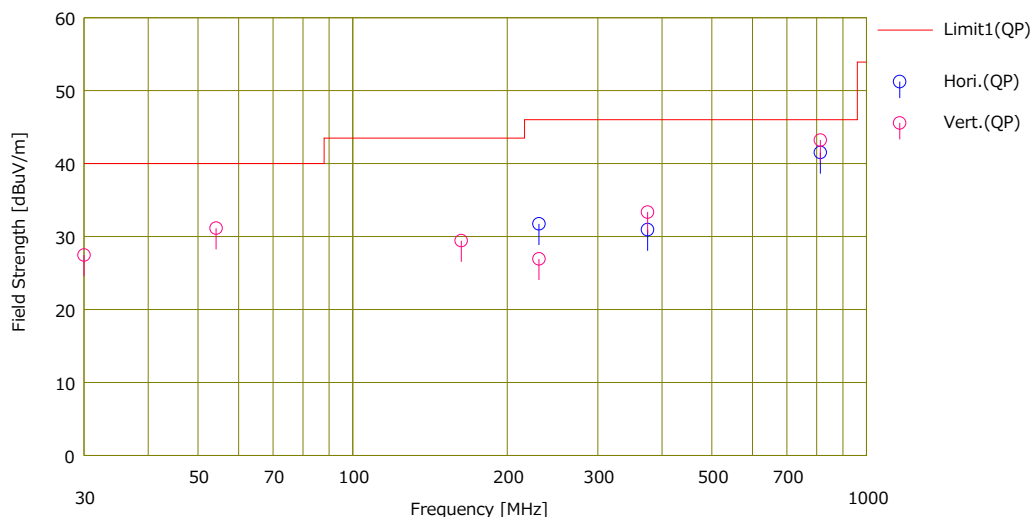
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/20

Mode : 11ch ISO15693 without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 23 deg.C / 60 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:OP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe

[illegible]

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 11ch, ISO15693, with Tag)

DATA OF RADIATED EMISSION TEST

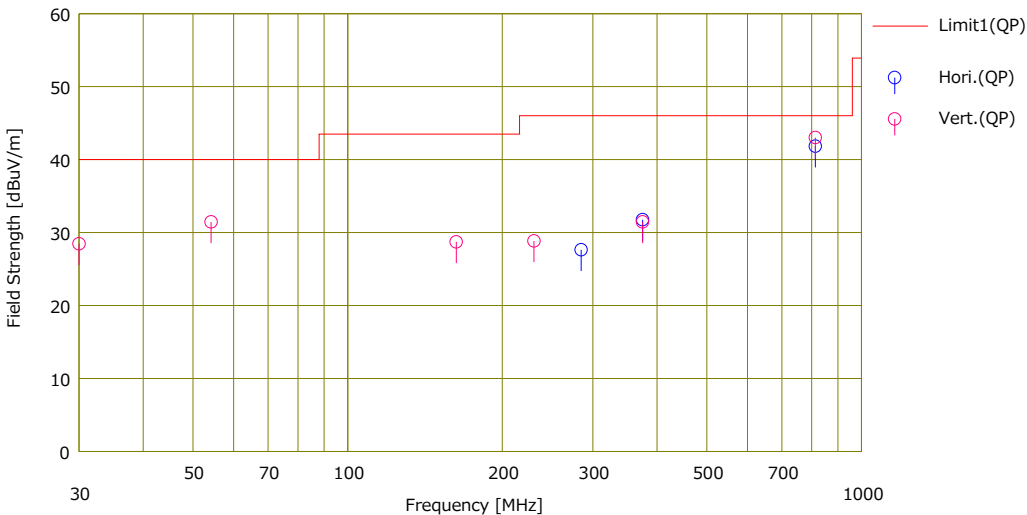
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/20

Mode : 11ch ISO15693 with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 23 deg.C / 60 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq. [MHz]	Reading (QP)	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result (QP)	Limit (QP)	Margn (QP)	Pola [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		[dBuV]				[dBuV/m]	[dBuV/m]	[dB]					
1	284.760	38.90	13.08	7.58	31.93	27.63	46.00	18.3	Hori.	100	78	HB	
2	375.000	40.40	15.21	8.03	31.89	31.75	46.00	14.2	Hori.	100	79	HB	
3	813.600	41.30	22.57	9.70	31.75	41.82	46.00	4.1	Hori.	128	249	HB	
4	30.001	42.40	12.55	5.68	32.17	28.46	40.00	11.5	Vert.	100	112	HB	
5	54.240	43.70	13.93	5.97	32.15	31.45	40.00	8.5	Vert.	100	153	HB	
6	162.720	40.60	13.32	6.86	32.05	28.73	43.50	14.7	Vert.	100	97	HB	
7	230.520	43.10	10.43	7.28	31.97	28.84	46.00	17.1	Vert.	100	137	HB	
8	375.000	40.10	15.21	8.03	31.89	31.45	46.00	14.5	Vert.	100	203	HB	
9	813.600	42.50	22.57	9.70	31.75	43.02	46.00	2.9	Vert.	100	53	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 11ch, ICODE ILT-M, without Tag)

DATA OF RADIATED EMISSION TEST

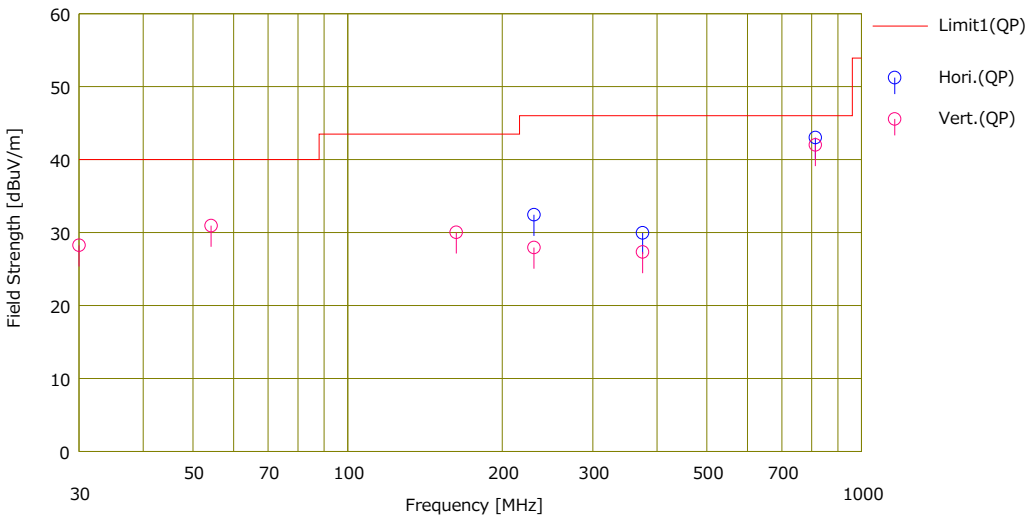
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/20

Mode : 11ch ICODE ILT-M without Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 23 deg.C / 60 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margn	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	230.520	46.70	10.43	7.28	31.97	32.44	46.00	13.5	Hori.	147	195	HB	
2	375.000	38.60	15.21	8.03	31.89	29.95	46.00	16.0	Hori.	100	271	HB	
3	813.600	42.50	22.57	9.70	31.75	43.02	46.00	2.9	Hori.	112	251	HB	
4	30.001	42.20	12.55	5.68	32.17	28.26	40.00	11.7	Vert.	100	115	HB	
5	54.240	43.20	13.93	5.97	32.15	30.95	40.00	9.0	Vert.	100	139	HB	
6	162.720	41.90	13.32	6.86	32.05	30.03	43.50	13.4	Vert.	100	136	HB	
7	230.520	42.20	10.43	7.28	31.97	27.94	46.00	18.0	Vert.	100	109	HB	
8	375.000	36.00	15.21	8.03	31.89	27.35	46.00	18.6	Vert.	100	55	HB	
9	813.600	41.50	22.57	9.70	31.75	42.02	46.00	3.9	Vert.	100	49	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

Spurious Emission
(Player Antenna, 11ch, ICODE ILT-M, with Tag)

DATA OF RADIATED EMISSION TEST

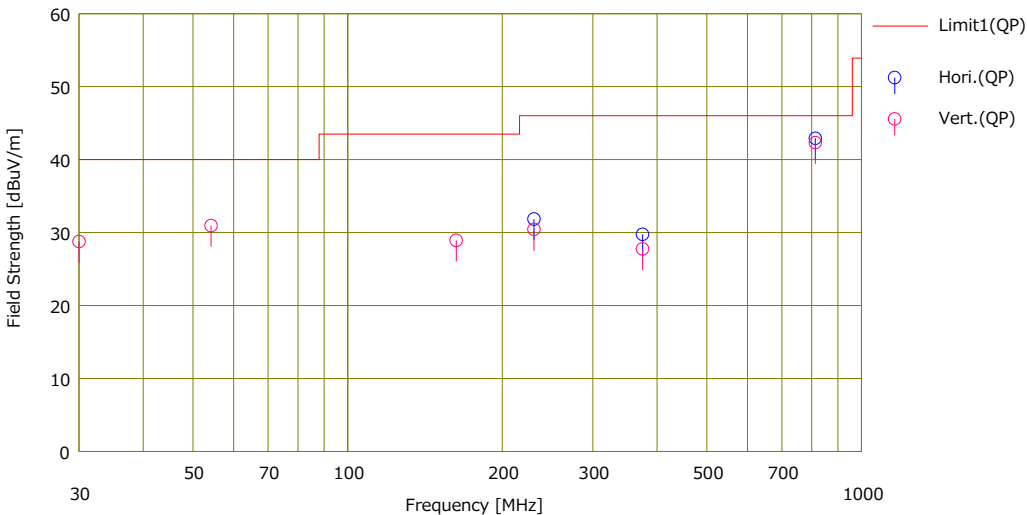
UL Japan, Inc. Kashima EMC Lab. No.11 Semi-Anechoic Chamber
Date : 2025/08/20

Mode : 11ch ICODE ILT-M with Tag
Order No. : 15802972
Power : DC 12 V(AC 120 V / 60 Hz)
Temp./Humi. : 23 deg.C / 60 %RH

Remarks : Player Antenna

Limit : FCC15.209 3 m, below 1 GHz:QP, above 1 GHz:AV/PK

Tested by : Tomoyuki Watanabe



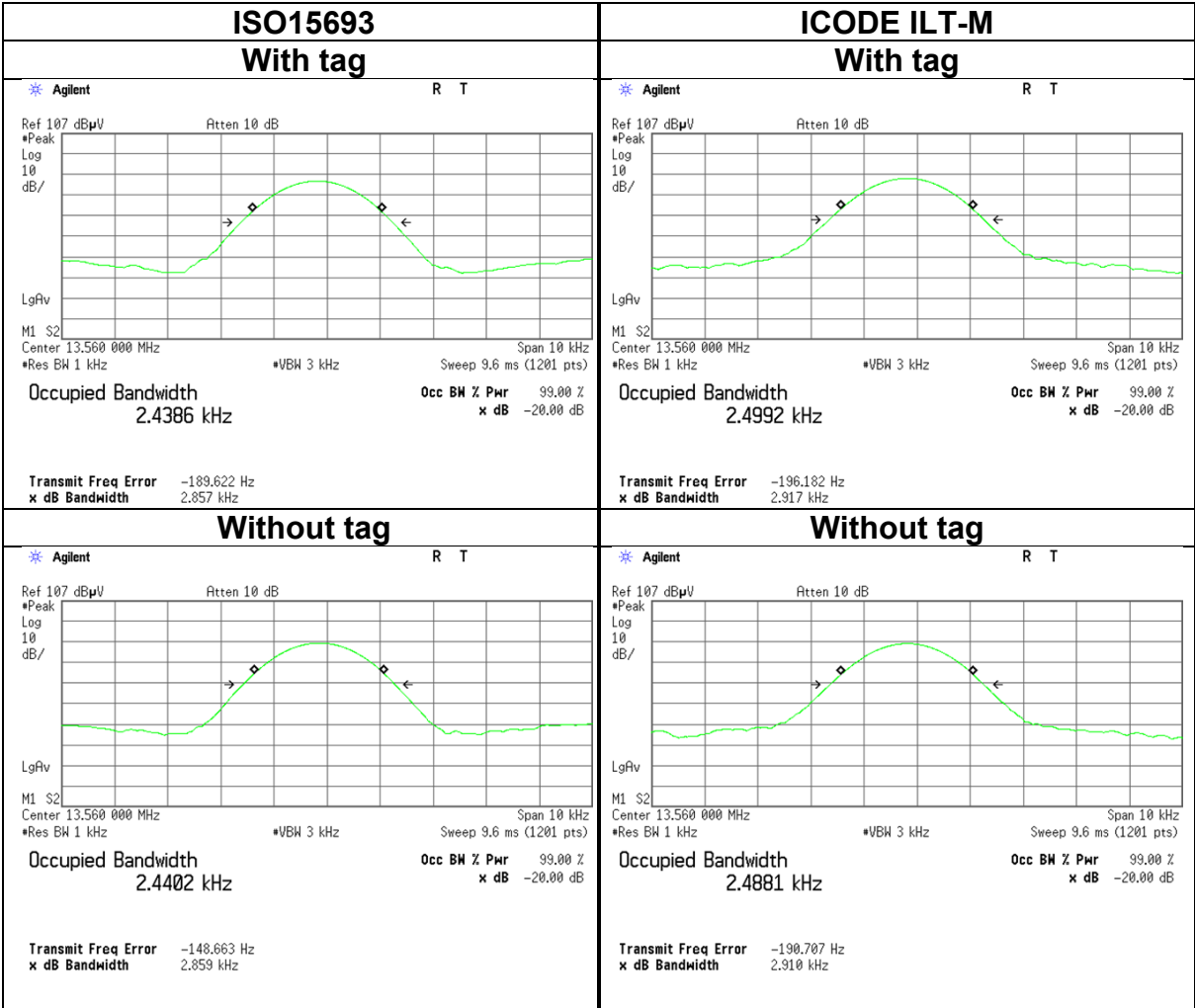
No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margn	Pola	Height	Angle	Ant.	Comment
	[MHz]	[dBuV]	[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[H/V]	[cm]	[deg]	Type	
1	230.520	46.10	10.43	7.28	31.97	31.84	46.00	14.1	Hori.	138	199	HB	
2	375.000	38.40	15.21	8.03	31.89	29.75	46.00	16.2	Hori.	100	267	HB	
3	813.600	42.40	22.57	9.70	31.75	42.92	46.00	3.0	Hori.	113	252	HB	
4	30.001	42.70	12.55	5.68	32.17	28.76	40.00	11.2	Vert.	100	112	HB	
5	54.240	43.20	13.93	5.97	32.15	30.95	40.00	9.0	Vert.	100	142	HB	
6	162.720	40.80	13.32	6.86	32.05	28.93	43.50	14.5	Vert.	100	118	HB	
7	230.520	44.70	10.43	7.28	31.97	30.44	46.00	15.5	Vert.	100	113	HB	
8	375.000	36.40	15.21	8.03	31.89	27.75	46.00	18.2	Vert.	100	56	HB	
9	813.600	41.80	22.57	9.70	31.75	42.32	46.00	3.6	Vert.	100	53	HB	

Calculation: Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

20 dB Bandwidth and 99% Occupied Bandwidth

Mode	Dealer Antenna, 1ch			
Date	Test site	Temperature	Humidity	Engineer
August 27, 2025	MR2	24 deg. C	48 % RH	Hiromitsu Tanabe

FREQ [MHz]	Mode		20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	ISO 15693	With Tag	2.857	2.4386
		Without Tag	2.859	2.4402
	ICODE ILT-M	With Tag	2.917	2.4992
		Without Tag	2.910	2.4881

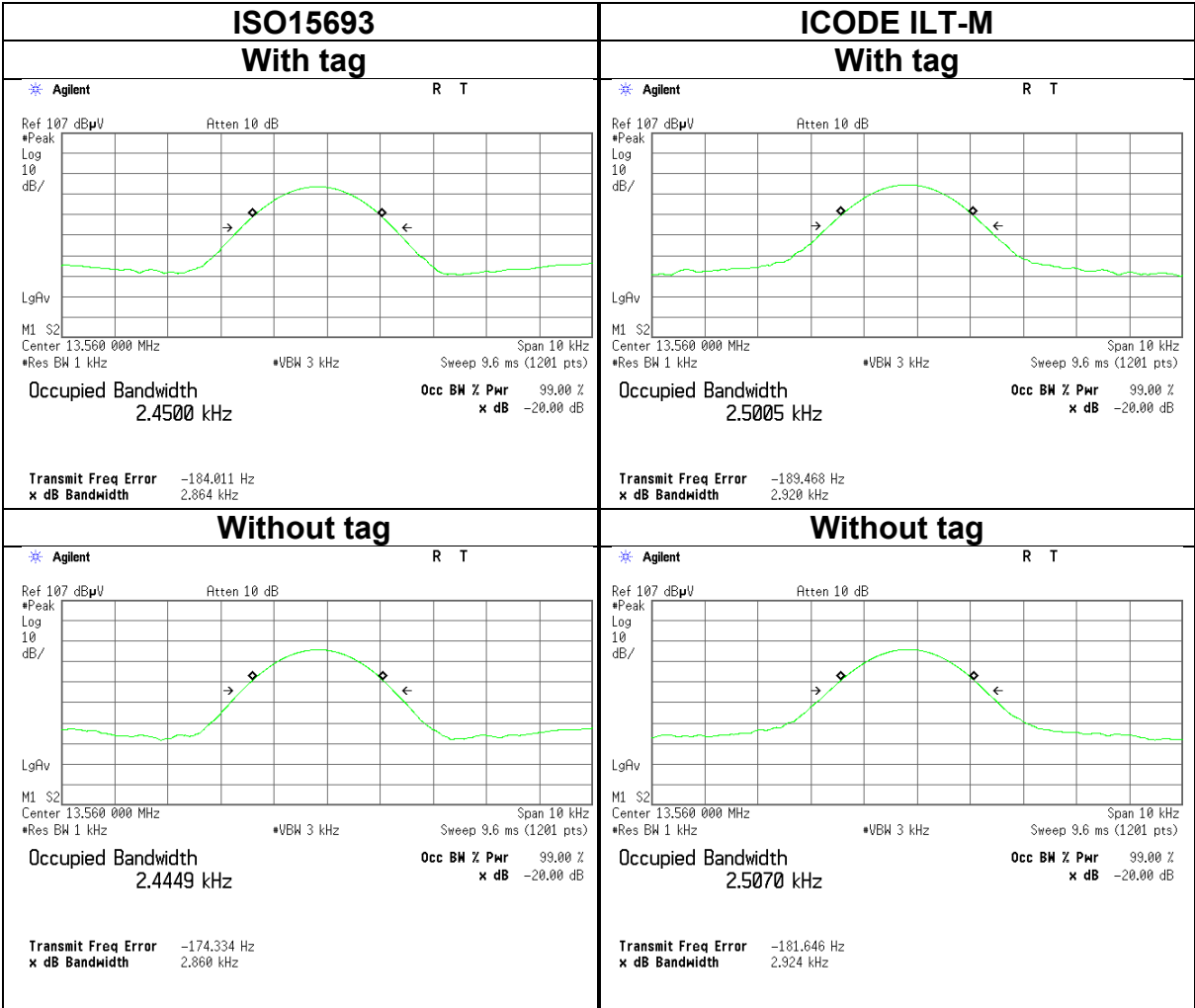


Since the transmitter signal is CW-like it is impractical to use a RBW setting of 1 – 5% of the emission bandwidth since the emission bandwidth will be proportional to the RBW.

20 dB Bandwidth and 99% Occupied Bandwidth

Mode	Dealer Antenna, 2ch			
Date	Test site	Temperature	Humidity	Engineer
September 26, 2025	MR2	23 deg. C	50 % RH	Hiromitsu Tanabe

FREQ [MHz]	Mode		20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	ISO 15693	With Tag	2.864	2.4500
		Without Tag	2.860	2.4449
	ICODE ILT-M	With Tag	2.920	2.5005
		Without Tag	2.924	2.5070



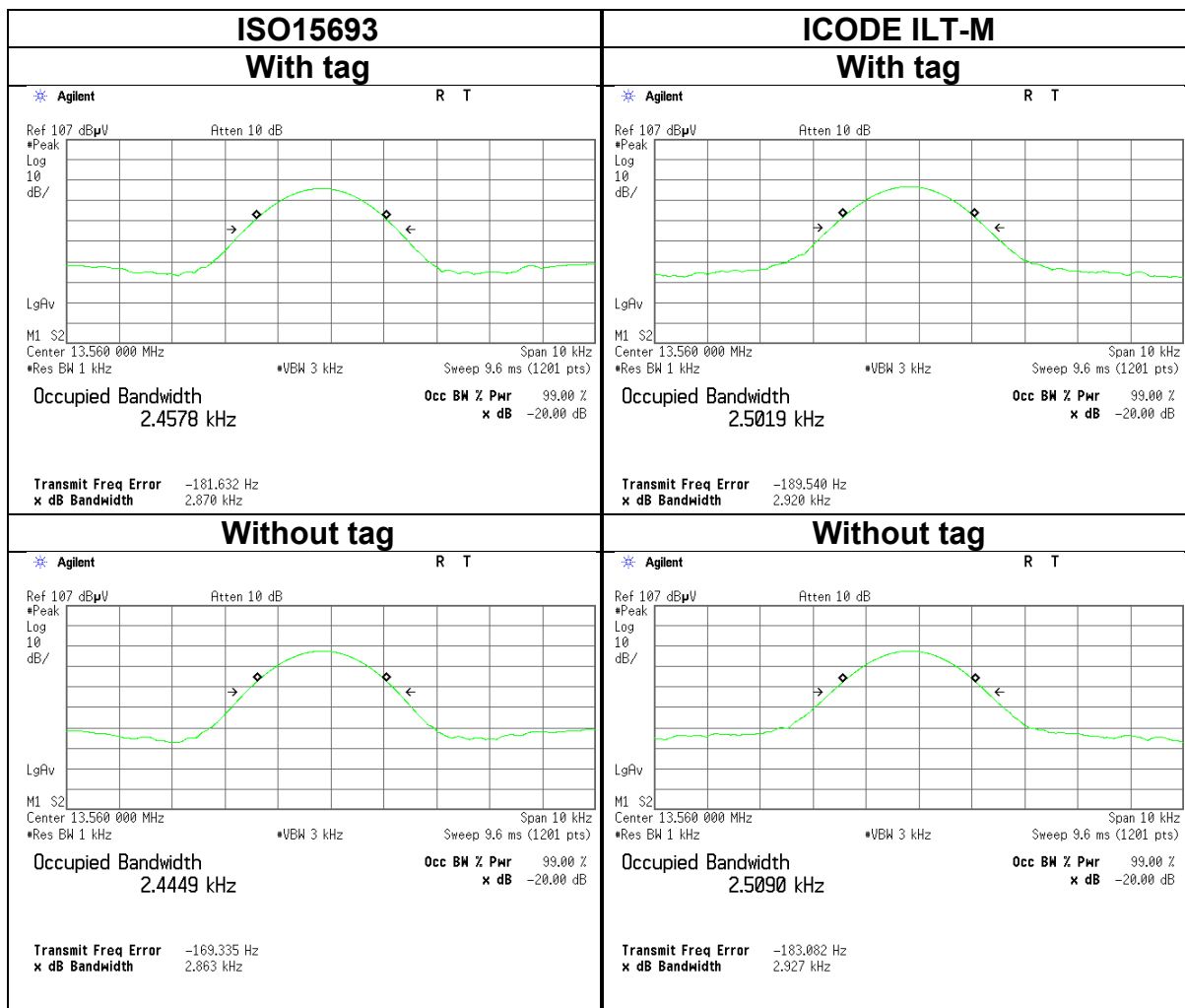
Since the transmitter signal is CW-like it is impractical to use a RBW setting of 1 – 5% of the emission bandwidth since the emission bandwidth will be proportional to the RBW.

20 dB Bandwidth and 99% Occupied Bandwidth

Mode	Player Antenna, 1ch
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Date	Test site	Temperature	Humidity	Engineer
September 26, 2025	MR2	23 deg. C	50 % RH	Hiromitsu Tanabe

FREQ [MHz]	Mode	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	ISO 15693	With Tag	2.4578
		Without Tag	2.4449
	ICODE ILT-M	With Tag	2.5019
		Without Tag	2.5090



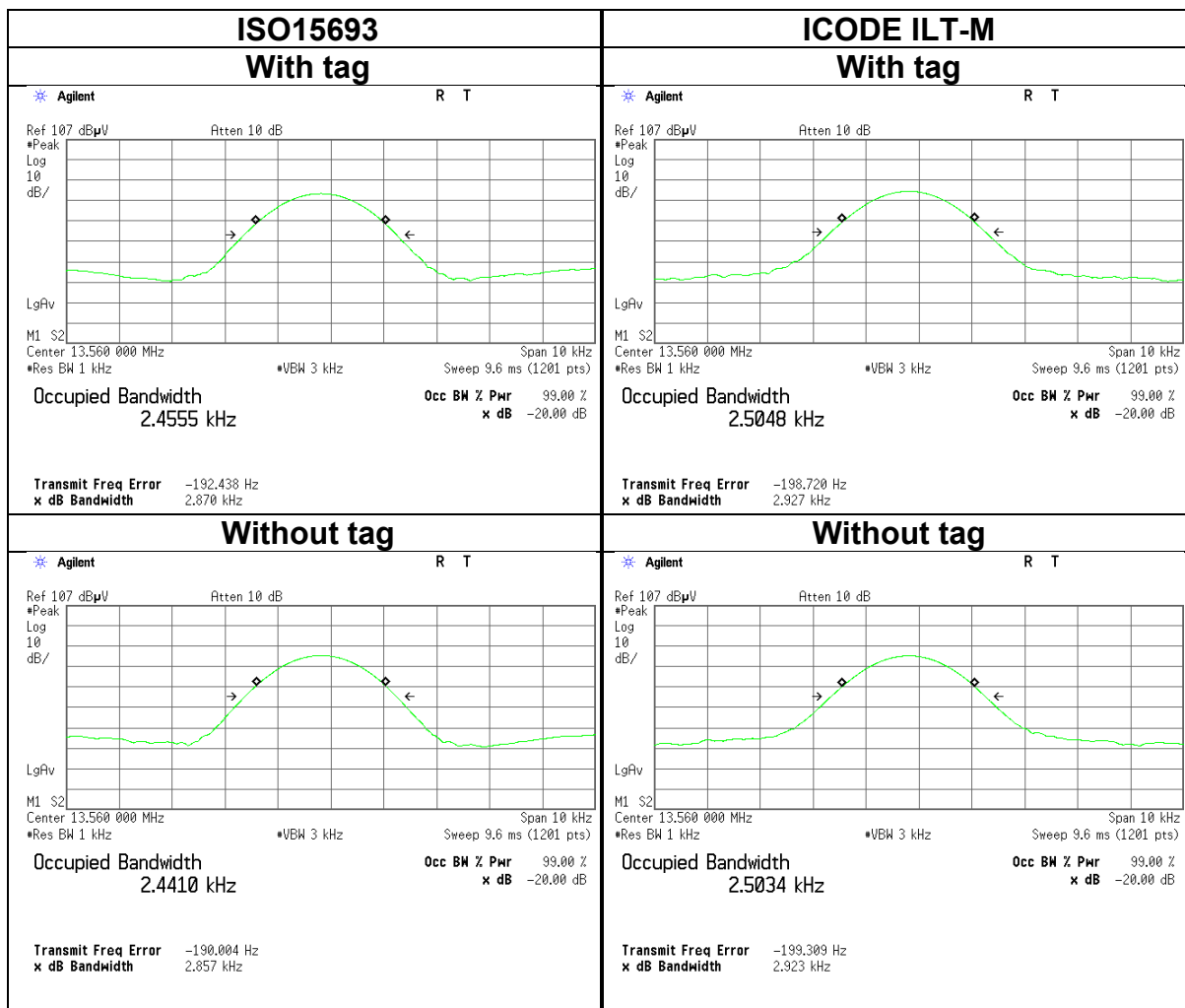
Since the transmitter signal is CW-like it is impractical to use a RBW setting of 1 – 5% of the emission bandwidth since the emission bandwidth will be proportional to the RBW.

20 dB Bandwidth and 99% Occupied Bandwidth

Mode	Player Antenna, 4ch			
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Date	Test site	Temperature	Humidity	Engineer
September 26, 2025	MR2	23 deg. C	50 % RH	Hiromitsu Tanabe

FREQ [MHz]	Mode	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	ISO 15693	With Tag	2.4555
		Without Tag	2.4410
	ICODE ILT-M	With Tag	2.5048
		Without Tag	2.5034

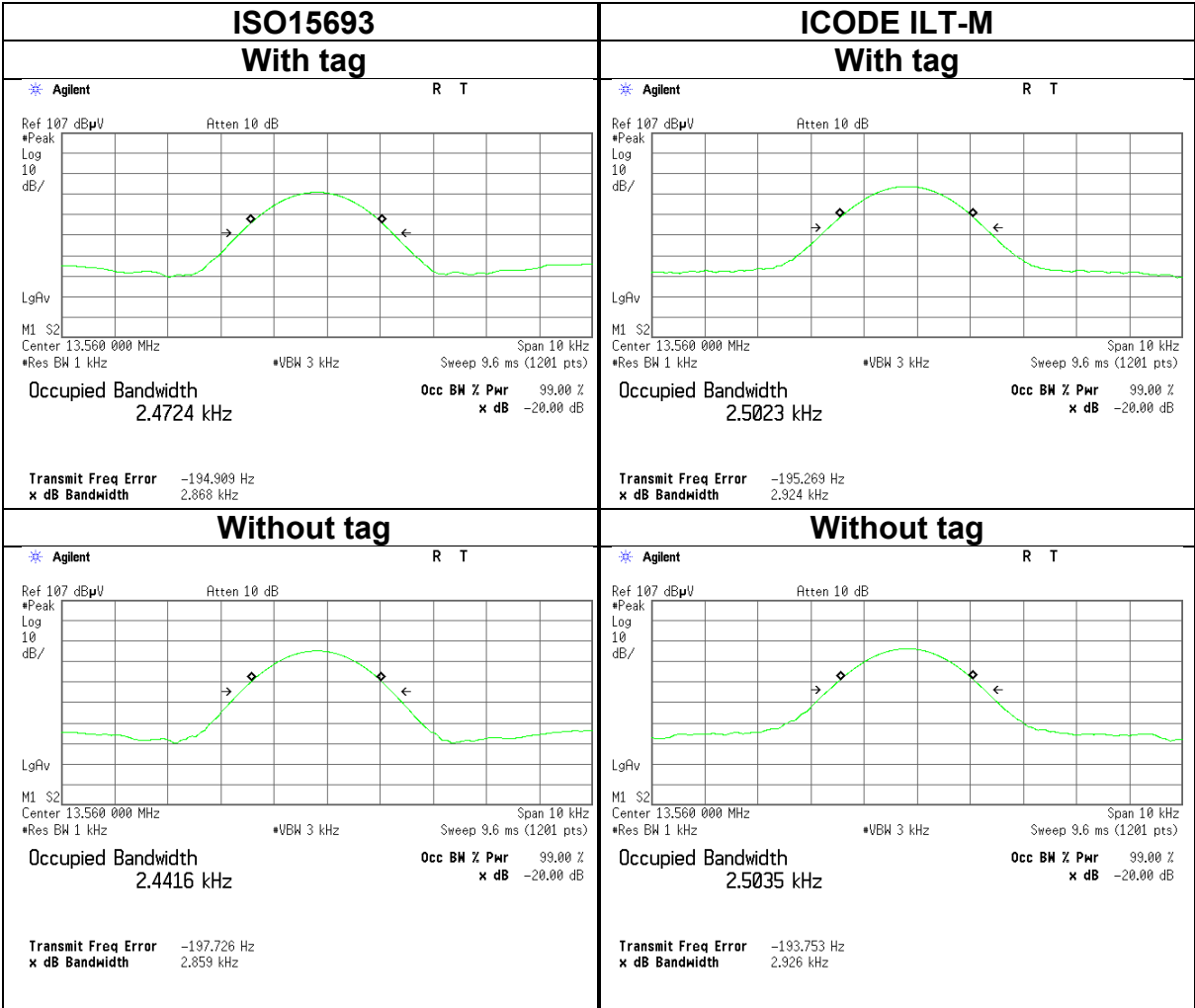


Since the transmitter signal is CW-like it is impractical to use a RBW setting of 1 – 5% of the emission bandwidth since the emission bandwidth will be proportional to the RBW.

20 dB Bandwidth and 99% Occupied Bandwidth

Mode	Player Antenna, 7ch			
Date	Test site	Temperature	Humidity	Engineer
September 26, 2025	MR2	23 deg. C	50 % RH	Hiromitsu Tanabe

FREQ [MHz]	Mode		20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	ISO 15693	With Tag	2.868	2.4724
		Without Tag	2.859	2.4416
	ICODE ILT-M	With Tag	2.924	2.5023
		Without Tag	2.926	2.5035



Since the transmitter signal is CW-like it is impractical to use a RBW setting of 1 – 5% of the emission bandwidth since the emission bandwidth will be proportional to the RBW.

Frequency Tolerance

Date	Test site	Temperature	Humidity	Engineer
August 28, 2025	MR2	23 deg. C	59 % RH	Hiromitsu Tanabe

Test condition Temp. [deg. C]	Voltage [V]	Tested timing	Measured frequency [MHz]	Frequency error [MHz]	Result		Limit [+/- %]
					[%]	[ppm]	
50	12	Power on	13.559834	-0.000166	-0.00122	-12.2	0.01
		+ 2 min.	13.559827	-0.000173	-0.00128	-12.8	0.01
		+ 5 min.	13.559840	-0.000160	-0.00118	-11.8	0.01
		+ 10 min.	13.559870	-0.000130	-0.00096	-9.6	0.01
40	12	Power on	13.559855	-0.000145	-0.00107	-10.7	0.01
		+ 2 min.	13.559827	-0.000173	-0.00128	-12.8	0.01
		+ 5 min.	13.559825	-0.000175	-0.00129	-12.9	0.01
		+ 10 min.	13.559835	-0.000165	-0.00122	-12.2	0.01
30	12	Power on	13.559891	-0.000109	-0.00080	-8.0	0.01
		+ 2 min.	13.559845	-0.000155	-0.00114	-11.4	0.01
		+ 5 min.	13.559832	-0.000168	-0.00124	-12.4	0.01
		+ 10 min.	13.559825	-0.000175	-0.00129	-12.9	0.01
20	12	Power on	13.559931	-0.000069	-0.00051	-5.1	0.01
		+ 2 min.	13.559878	-0.000122	-0.00090	-9.0	0.01
		+ 5 min.	13.559857	-0.000143	-0.00105	-10.5	0.01
		+ 10 min.	13.559840	-0.000160	-0.00118	-11.8	0.01
20	10.8 (12V -10%)	Power on	13.559932	-0.000068	-0.00050	-5.0	0.01
		+ 2 min.	13.559879	-0.000121	-0.00089	-8.9	0.01
		+ 5 min.	13.559859	-0.000141	-0.00104	-10.4	0.01
		+ 10 min.	13.559843	-0.000157	-0.00116	-11.6	0.01
20	13.2 (12V +10%)	Power on	13.559930	-0.000070	-0.00052	-5.2	0.01
		+ 2 min.	13.559878	-0.000122	-0.00090	-9.0	0.01
		+ 5 min.	13.559858	-0.000142	-0.00105	-10.5	0.01
		+ 10 min.	13.559841	-0.000159	-0.00117	-11.7	0.01
10	12	Power on	13.559962	-0.000038	-0.00028	-2.8	0.01
		+ 2 min.	13.559913	-0.000087	-0.00064	-6.4	0.01
		+ 5 min.	13.559890	-0.000110	-0.00081	-8.1	0.01
		+ 10 min.	13.559869	-0.000131	-0.00097	-9.7	0.01
0	12	Power on	13.559982	-0.000018	-0.00013	-1.3	0.01
		+ 2 min.	13.559948	-0.000052	-0.00038	-3.8	0.01
		+ 5 min.	13.559927	-0.000073	-0.00054	-5.4	0.01
		+ 10 min.	13.559905	-0.000095	-0.00070	-7.0	0.01
-10	12	Power on	13.559981	-0.000019	-0.00014	-1.4	0.01
		+ 2 min.	13.559975	-0.000025	-0.00018	-1.8	0.01
		+ 5 min.	13.559959	-0.000041	-0.00030	-3.0	0.01
		+ 10 min.	13.559941	-0.000059	-0.00044	-4.4	0.01
-20	12	Power on	13.559948	-0.000052	-0.00038	-3.8	0.01
		+ 2 min.	13.559985	-0.000015	-0.00011	-1.1	0.01
		+ 5 min.	13.559981	-0.000019	-0.00014	-1.4	0.01
		+ 10 min.	13.559970	-0.000030	-0.00022	-2.2	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 specification of this EUT is DC 12 V -10 % to +10 %.

APPENDIX 2: Test instruments

Test Equipment

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
CE	143502	A.M.N.	Rohde & Schwarz	ESH3-Z5	847265/011	2025/07/01	12
CE	143499	A.M.N.	Rohde & Schwarz	ESH3-Z5	829567/010	2025/07/02	12
CE	143705	Terminator	Suhner	65_BNC-50-0-2/133_NE	none	2024/11/19	12
CE	143167	5 Site CE (SR) System	N/A	none(No.5 CE SR)	-	2025/07/11	12
CE	144195	Test Receiver	Rohde & Schwarz	ESCI	100053	2024/09/21	12
CE	222614	Measure	SHINWA RULES CO., LTD.	80862	none	-	-
CE	222854	Temperature & Humidity Logger	HIOKI E. E. CORPORATION	LR5001/LR9504	220820033/220899853	2025/07/11	12
CE	143133	Barometer	Sanoh Co., Ltd	SBR-151	001439	2023/03/10	36
CE	144211	Digital Multimeter	Fluke Corporation	112	89790194	2024/10/15	12
CE	178804	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	Ver 3.1.0546	-	-
RE	143169	11Site RE 3m System	N/A	none(No.11 RE)	none	2024/11/11	12
RE	143122	LOGBICON	Schwarzbeck Mess-Elektronik OHG	VULB 9168	508	2025/04/21	12
RE	178807	5dB Fixed Atten.	Pasternack Enterprises	PE7047-5	none	2025/04/21	12
RE	142936	Pre-Amplifier	SONOMA INSTRUMENT	310N	325015	2025/05/08	12
RE	250586	Test Receiver	Rohde & Schwarz	ESW8	103393	2025/06/04	12
RE	245073	Loop(Active) Antenna	ETS-Lindgren	6502	00262457	2025/04/04	12
RE	143161	Coaxial Cable	Fujikura,HP,Mini-Circuits,Fujikura	3D2W	none	2025/05/07	12
RE	144245	6dB Fixed Atten.	Suhner	6906.01.A	none	2025/07/01	12
RE	171927	Pre Amplifier	UL-KAS EMC	GALI-84+	001	2025/07/02	12
RE	143168	11Site CE System	N/A	none(No.11 CE)	none	2024/11/11	12
RE	222746	Measure	SHINWA RULES CO., LTD.	80862	none	-	-
RE	200033	Temperature & Humidity Logger	HIOKI E. E. CORPORATION	LR5001/LR9504	200636447/200699543	2025/07/11	12
RE	143133	Barometer	Sanoh Co., Ltd	SBR-151	001439	2023/03/10	36
RE	144215	Digital Multimeter	Fluke Corporation	FLK-83-V	14610320	2024/10/17	12
RE	178804	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	Ver 3.1.0546	-	-
BW/FT	143643	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY52490024	2024/10/17	12
BW/FT	143023	10dB Fixed Atten.	Weinschel - API Technologies Corp	54A-10	56251	-	-
BW/FT	143181	Temperature and Humidity Chamber	Espec	PL-1J	15004059	2024/10/08	12
BW/FT	143423	Frequency Counter	Keysight Technologies Inc	53151A	US40511823	2024/11/14	12
BW/FT	143942	Near Field Probe	Langer	LF-R400	02-0815	-	-
BW/FT	222747	Measure	SHINWA RULES CO., LTD.	80862	none	-	-
BW/FT	144210	Digital Multimeter	Fluke Corporation	112	89790193	2024/10/15	12
BW/FT	200034	Temperature & Humidity Logger	HIOKI E. E. CORPORATION	LR5001/LR9504	200636456/200699552	2025/07/11	12
BW/FT	143133	Barometer	Sanoh Co., Ltd	SBR-151	001439	2023/03/10	36

*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

BW: 20 dB Bandwidth and 99% Occupied Bandwidth

FT: Frequency Tolerance