



EMI TEST REPORT

Test Report No.: 14298319H

Customer	Panasonic Automotive Systems Co., Ltd.
Description of EUT	Wireless Charger
Model Number of EUT	AT2301
FCC ID	ACJ932AT2301
Test Regulation	FCC Part 18
Test Result	Complied (Refer to SECTION 3)
Issue Date	July 11, 2022
Remarks	-

Representative Test Engineer

Hiroyuki Furutaka
Engineer

Approved By

Tsubasa Takayama
Leader



CERTIFICATE 5107.02

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

ANNOUNCEMENT

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

REVISION HISTORY

Original Test Report No.: 14298319H

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	14298319H	July 11, 2022	-

Reference: Abbreviations (Including words undescribed in this report)

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

CONTENTS

PAGE

SECTION 1: Customer Information	5
SECTION 2: Equipment Under Test (EUT).....	5
SECTION 3: Test specification, procedures & results.....	6
SECTION 4: Operation of EUT during testing	8
SECTION 5: Radiated Emission.....	11
APPENDIX 1: Test data	14
Radiated Emission	14
APPENDIX 2: Test instruments	44
APPENDIX 3: Photographs of test setup	45
Radiated Emission.....	45
Worst Case Position	48

SECTION 1: Customer Information

Company Name	Panasonic Automotive Systems Co., Ltd. *1)
Address	4261, Ikonobe-cho, Tsuzuki-ku, Yokohama-shi, Kanagawa-ken 224-8520, Japan
Telephone Number	+81-80-3444-7148
Contact Person	Takahisa Sakai

*1) The Grantee name in the FCC application is “Panasonic Corporation of North America”.

The information provided from 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

* The laboratory is exempted from liability of any test results affected from the above information in SECTION 2 and 4.

SECTION 2: Equipment Under Test (EUT)

2.1 Identification of EUT

Description	Wireless Charger
Model Number	AT2301
Serial Number	Refer to SECTION 4.2
Condition	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	April 25, 2022
Test Date	May 24 to 27, 2022

2.2 Product Description

General Specification

Rating	DC +10.5 V to +16 V (Typ: +12 V)
Feature of EUT	Use the ACC KEY of the car to turn the Wireless charger power ON/OFF. Place the charging side of the portable device (etc. mobile phone) down. When charging, the operation indicator light (orange) comes on. If charging is not occurring, try placing the portable device as close to the center of the charging area as possible When charging is complete, the operation indicator light (green) comes on.

Radio Specification

Frequency Band	120.3 kHz / 127.0 kHz / 127.5 kHz / 116.4 kHz to 132.2 kHz
Rated Output Power	5 W / 15 W
Coil system	Single Coil
Charging distance	Contact

SECTION 3: Test specification, procedures & results

3.1 Test specification

Test Specification	FCC Part 18 2020, final revised on June 26, 2020 and effective July 27, 2020
Title	FCC 47CFR Part18 Industrial, scientific, and medical equipment

3.2 Procedures and results

Item	Test Procedure & Limits	Deviation	Worst margin	Results	Remarks
Radiated emission	Section 18.305 FCC/OET MP-5	N/A	15.5 dB, 0.3810 MHz, 0 deg. <Mode 2>	Complied a)	-
Conducted emission	Section 18.307 FCC/OET MP-5	N/A	N/A	N/A	*1)

* Note: UL Japan, Inc.'s EMI Work Procedure: Work Instructions-ULID-003591.

*1) The test is not applicable since the EUT is not the device that is designed to be connected to the public utility (AC) power line.

a) Refer to APPENDIX 1 (data of Radiated emission)

Symbols:

Complied The data of this test item has enough margin, more than the measurement uncertainty.

Complied# The data of this test item meets the limits unless the measurement uncertainty is taken into consideration

3.3 Addition to standard

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

3.4 Uncertainty

EMI

There is no applicable rule of uncertainty in this applied standard. Therefore, the results are derived depending on whether or not laboratory uncertainty is applied.

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

Radiated emission

Measurement distance	Frequency range		Uncertainty (+/-)
3 m	30 MHz to 200 MHz	Horizontal	4.8 dB
		Vertical	5.0 dB
	200 MHz to 1000 MHz	Horizontal	5.1 dB
		Vertical	6.2 dB
10 m	30 MHz to 200 MHz	Horizontal	4.8 dB
		Vertical	4.8 dB
	200 MHz to 1000 MHz	Horizontal	5.0 dB
		Vertical	5.0 dB

3.5 Test Location

UL Japan, Inc. Ise EMC Lab.

*A2LA Certificate Number: 5107.02 / FCC Test Firm Registration Number: 884919

ISED Lab Company Number: 2973C / CAB identifier: JP0002

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 Japan

Telephone: +81-596-24-8999

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

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

SECTION 4: Operation of EUT during testing

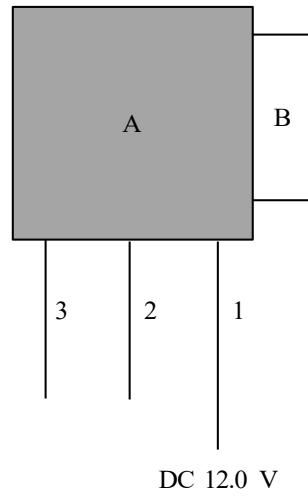
4.1 Operating mode(s)

The mode is used :

Test mode	Remarks
1) Normal Operating mode (120.3 kHz / BPP 5 W)	Mode 1
2) Normal Operating mode (127.0 kHz / BPP 5 W)	Mode 2
3) Normal Operating mode (127.5 kHz / BPP 5 W)	Mode 3
4) Normal Operating mode (120.3 kHz / EPP 15 W)	Mode 4
5) Normal Operating mode (127.0 kHz / EPP 15 W)	Mode 5
6) Normal Operating mode (127.5 kHz / EPP 15 W)	Mode 6
7) Normal Operating mode (116.4 kHz / EPP 15 W)	Mode 7
8) Normal Operating mode (119.4 kHz / EPP 15 W)	Mode 8
9) Normal Operating mode (124.5 kHz / EPP 15 W)	Mode 9
10) Normal Operating mode (122.6 kHz / EPP 15 W)	Mode 10
11) Normal Operating mode (126.0 kHz / EPP 15 W)	Mode 11
12) Normal Operating mode (131.7 kHz / EPP 15 W)	Mode 12
13) Normal Operating mode (123.1 kHz / EPP 15 W)	Mode 13
14) Normal Operating mode (126.5 kHz / EPP 15 W)	Mode 14
15) Normal Operating mode (132.2 kHz / EPP 15 W)	Mode 15

4.2 Configuration and peripherals

[Mode 1 to 6]



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

Description of EUT and Support equipment

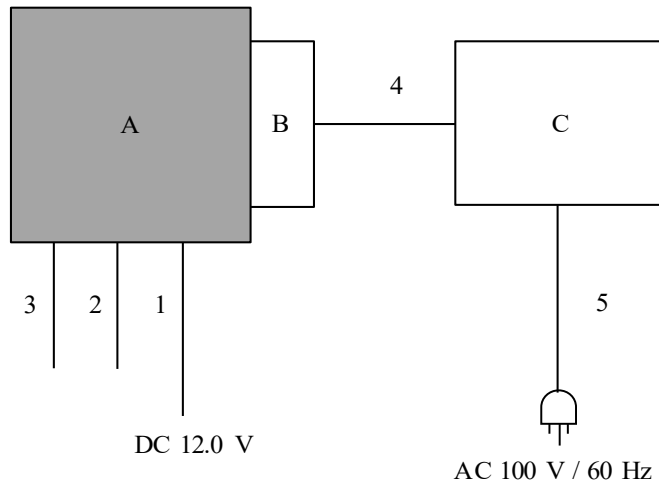
No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Wireless Charger	AT2301	3T-20220421-008	Panasonic Automotive Systems Co., Ltd.	EUT
B	Test Jig	PAS-J003 for BPP PAS-JS100 for EPP	015 for BPP 102 for EPP	Panasonic Automotive Systems Co., Ltd.	-

*A and B communicates and charges via air interface.

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	DC Cable	2.0	Unshielded	Unshielded	-
2	CAN Cable	4.0	Unshielded	Unshielded	-
3	Signal Cable	2.0	Unshielded	Unshielded	-

[Mode 7 to 15]



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

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Wireless Charger	AT2301	3T-20220421-008	Panasonic Automotive Systems Co., Ltd.	EUT
B	Reference Receiver	TPR#MP1B	001	Nok9	-
C	Qi Reference Tester	LP/MP/FOD	200134-1807	Nok9	-

*A and B communicates and charges via air interface.

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	DC Cable	2.0	Unshielded	Unshielded	-
2	CAN Cable	4.0	Unshielded	Unshielded	-
3	Signal Cable	2.0	Unshielded	Unshielded	-
4	Communication Cable	0.6	Unshielded	Unshielded	-
5	AC Cable	1.5	Unshielded	Unshielded	-

The measurement result was calculated by the following formula:

[Frequency at which the signal was confirmed at both 10 m and 3 m]

Result = Reading + ANT Factor + Cable loss + Atten loss + Extrapolation Factor - AMP gain

Extrapolation Factor = decade * Log (Test distance (3 m) / Separate distance (300 m))

decade = (10 m reading - 3 m reading) / (log 3 m - log 10 m)

*Refer to Part 18 Section 305 Notes 2 and KDB 629601.

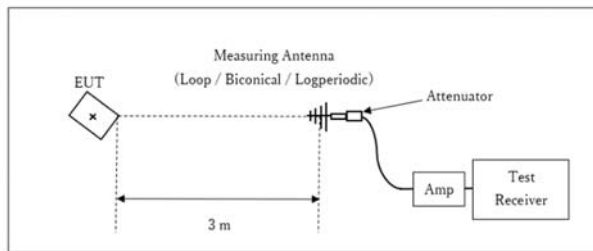
[Other Frequency]

Result = Reading + ANT Factor + Cable loss + Atten loss + Extrapolation Factor - AMP gain

Extrapolation Factor = 20 * Log (Test distance (3 m) / Separate distance (300 m))

<Test Setup>

Below 400 MHz



Test Distance: 3 m

× : Center of turn table

- The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

5.5 Test result

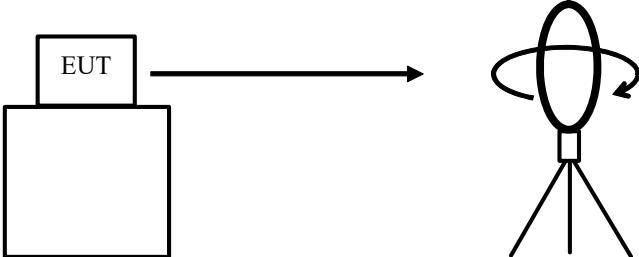
Summary of the test results: Pass

Date: May 24, 25 and 26, 2022 (Day)
May 24, 25 and 26, 2022 (Night)
May 27, 2022

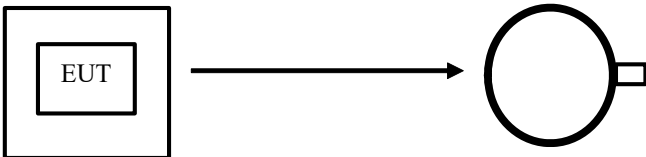
Test engineer: Hiroyuki Furutaka
Takafumi Noguchi
Hiroki Numata

Figure 1: Direction of the Loop Antenna

Side View (Vertical)

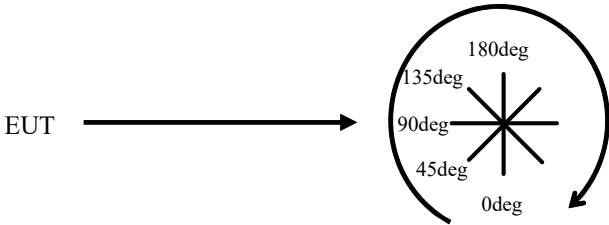


Top View (Horizontal)



Antenna was not rotated.

Top View (Vertical)



Front side: 0 deg.
Forward direction: clockwise

APPENDIX 1: Test data

Radiated Emission (Below 30 MHz)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.1
Date	May 24, 2022
Temperature / Humidity	21 deg. C / 41 % RH
Engineer	Hiroyuki Furutaka
Mode	Mode 1

FREQ [MHz]	Reading (3m) [dB μ V]	Reading (10m) [dB μ V]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dB μ V/m]	Limit (300 m) [dB μ V/m]	Margin [dB]	Antenna [deg]
0.1203	88.6	60.5	19.6	6.0	32.2	-107.5	-25.5	23.5	49.0	0
0.1203	87.7	59.9	19.6	6.0	32.2	-106.3	-25.2	23.5	48.7	45
0.1203	85.8	59.5	19.6	6.0	32.2	-100.6	-21.4	23.5	44.9	90
0.1203	86.7	60.3	19.6	6.0	32.2	-101.0	-20.9	23.5	44.4	135
0.1203	88.5	60.4	19.6	6.0	32.2	-107.5	-25.6	23.5	49.1	180
0.1203	85.8	51.9	19.6	6.0	32.2	-129.7	-50.5	23.5	74.0	Horizontal
0.2406	49.7	NS	19.6	6.0	32.2	-40.0	3.1	23.5	20.4	0
0.3609	46.1	NS	19.5	6.1	32.2	-40.0	-0.5	23.5	24.0	0
0.4812	35.2	NS	19.5	6.1	32.1	-40.0	-11.4	23.5	34.9	0
0.6015	37.8	NS	19.4	6.1	32.1	-40.0	-8.8	23.5	32.3	0
0.7218	28.3	NS	19.4	6.1	32.2	-40.0	-18.3	23.5	41.8	0
0.8421	32.8	NS	19.4	6.2	32.2	-40.0	-13.8	23.5	37.3	0
1.0827	29.9	NS	19.4	6.2	32.2	-40.0	-16.7	23.5	40.2	0

NS : No-Signal

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

Radiated emission
(Below 30 MHz)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.1
Date	May 24, 2022
Temperature / Humidity	21 deg. C / 41 % RH
Engineer	Hiroyuki Furutaka
Mode	Mode 2

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1270	89.6	57.5	19.6	6.0	32.2	-122.8	-39.8	23.5	63.3	0
0.1270	88.3	57.1	19.6	6.0	32.2	-119.3	-37.6	23.5	61.1	45
0.1270	86.0	56.7	19.6	6.0	32.2	-112.1	-32.6	23.5	56.1	90
0.1270	87.8	57.0	19.6	6.0	32.2	-117.8	-36.6	23.5	60.1	135
0.1270	89.5	57.4	19.6	6.0	32.2	-122.8	-39.9	23.5	63.4	180
0.1270	85.4	48.8	19.6	6.0	32.2	-140.0	-61.2	23.5	84.7	Horizontal
0.2540	49.9	NS	19.6	6.0	32.2	-40.0	3.3	23.5	20.2	0
0.3810	54.6	NS	19.5	6.1	32.2	-40.0	8.0	23.5	15.5	0
0.5080	33.3	NS	19.5	6.1	32.1	-40.0	-13.3	25.5	38.8	0
0.6350	42.5	NS	19.4	6.1	32.1	-40.0	-4.1	23.5	27.6	0
0.7620	27.2	NS	19.4	6.1	32.2	-40.0	-19.4	23.5	42.9	0
0.8890	34.8	NS	19.4	6.2	32.2	-40.0	-11.8	23.5	35.3	0
1.0160	26.7	NS	19.4	6.2	32.2	-40.0	-19.9	23.5	43.4	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 24, 2022
Temperature / Humidity 21 deg. C / 41 % RH
Engineer Hiroyuki Furutaka
Mode Mode 3

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1275	88.7	60.1	19.6	6.0	32.2	-109.4	-27.3	23.5	50.8	0
0.1275	87.8	59.5	19.6	6.0	32.2	-108.2	-27.0	23.5	50.5	45
0.1275	86.0	59.2	19.6	6.0	32.2	-102.5	-23.1	23.5	46.6	90
0.1275	87.2	59.7	19.6	6.0	32.2	-105.2	-24.6	23.5	48.1	135
0.1275	88.6	60.0	19.6	6.0	32.2	-109.4	-27.4	23.5	50.9	180
0.1275	86.2	51.6	19.6	6.0	32.2	-132.3	-52.7	23.5	76.2	Horizontal
0.2550	49.3	NS	19.6	6.0	32.2	-40.0	2.7	23.5	20.8	0
0.3825	51.4	NS	19.5	6.1	32.2	-40.0	4.8	23.5	18.7	0
0.5100	30.9	NS	19.5	6.1	32.1	-40.0	-15.7	25.5	41.2	0
0.6375	41.7	NS	19.4	6.1	32.1	-40.0	-4.9	23.5	28.4	0
0.7650	27.3	NS	19.4	6.1	32.2	-40.0	-19.3	23.5	42.8	0
0.8925	32.8	NS	19.4	6.2	32.2	-40.0	-13.8	23.5	37.3	0
1.1475	29.2	NS	19.4	6.2	32.2	-40.0	-17.4	23.5	40.9	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 24, 2022
Temperature / Humidity 23 deg. C / 54 % RH
Engineer Takafumi Noguchi
Mode Mode 4

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1203	94.5	66.3	19.6	6.0	32.2	-107.9	-20.0	23.5	43.5	0
0.1203	93.3	65.7	19.6	6.0	32.2	-105.6	-18.9	23.5	42.4	45
0.1203	91.4	65.3	19.6	6.0	32.2	-99.8	-15.0	23.5	38.5	90
0.1203	92.6	65.8	19.6	6.0	32.2	-102.5	-16.5	23.5	40.0	135
0.1203	94.4	66.2	19.6	6.0	32.2	-107.9	-20.1	23.5	43.6	180
0.1203	93.0	58.0	19.6	6.0	32.2	-133.9	-47.5	23.5	71.0	Horizontal
0.2406	49.5	NS	19.6	6.0	32.2	-40.0	2.9	23.5	20.6	0
0.3609	67.1	39.4	19.5	6.1	32.2	-106.0	-45.4	23.5	68.9	0
0.4812	37.2	NS	19.5	6.1	32.1	-40.0	-9.4	25.5	34.9	0
0.6015	58.5	32.0	19.4	6.1	32.1	-101.4	-49.5	23.5	73.0	0
0.7218	32.1	NS	19.4	6.1	32.2	-40.0	-14.5	23.5	38.0	0
0.8421	51.4	NS	19.4	6.2	32.2	-40.0	4.8	23.5	18.7	0
0.9624	29.9	NS	19.4	6.2	32.2	-40.0	-16.7	23.5	40.2	0
1.0827	46.8	NS	19.4	6.2	32.2	-40.0	0.2	23.5	23.3	0
1.2030	28.0	NS	19.4	6.2	32.2	-40.0	-18.6	23.5	42.1	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.1
Date	May 24, 2022
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Takafumi Noguchi
Mode	Mode 5

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1270	94.6	66.3	19.6	6.0	32.2	-108.2	-20.2	23.5	43.7	0
0.1270	93.4	65.6	19.6	6.0	32.2	-106.3	-19.5	23.5	43.0	45
0.1270	91.5	65.5	19.6	6.0	32.2	-99.4	-14.5	23.5	38.0	90
0.1270	92.7	65.9	19.6	6.0	32.2	-102.5	-16.4	23.5	39.9	135
0.1270	94.5	66.2	19.6	6.0	32.2	-108.2	-20.3	23.5	43.8	180
0.1270	92.8	58.2	19.6	6.0	32.2	-132.3	-46.1	23.5	69.6	Horizontal
0.2540	48.5	NS	19.6	6.0	32.2	-40.0	1.9	23.5	21.6	0
0.3810	68.7	40.8	19.5	6.1	32.2	-106.7	-44.6	23.5	68.1	0
0.5080	37.7	NS	19.5	6.1	32.1	-40.0	-8.9	25.5	34.4	0
0.6350	59.5	32.5	19.4	6.1	32.1	-103.3	-50.4	23.5	73.9	0
0.7620	33.0	NS	19.4	6.1	32.2	-40.0	-13.6	23.5	37.1	0
0.8890	53.3	NS	19.4	6.2	32.2	-40.0	6.7	23.5	16.8	0
1.0160	30.3	NS	19.4	6.2	32.2	-40.0	-16.3	23.5	39.8	0
1.1430	48.4	NS	19.4	6.2	32.2	-40.0	1.8	23.5	21.7	0
1.2700	28.5	NS	19.4	6.2	32.2	-40.0	-18.0	23.5	41.5	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 24, 2022
Temperature / Humidity 23 deg. C / 54 % RH
Engineer Takafumi Noguchi
Mode Mode 6

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1275	93.9	65.8	19.6	6.0	32.2	-107.5	-20.2	23.5	43.7	0
0.1275	92.6	65.2	19.6	6.0	32.2	-104.8	-18.8	23.5	42.3	45
0.1275	90.9	65.0	19.6	6.0	32.2	-99.1	-14.7	23.5	38.2	90
0.1275	92.2	65.4	19.6	6.0	32.2	-102.5	-16.9	23.5	40.4	135
0.1275	93.8	65.7	19.6	6.0	32.2	-107.5	-20.3	23.5	43.8	180
0.1275	92.4	57.6	19.6	6.0	32.2	-133.1	-47.3	23.5	70.8	Horizontal
0.2550	50.4	NS	19.6	6.0	32.2	-40.0	3.8	23.5	19.7	0
0.3825	66.9	39.4	19.5	6.1	32.2	-105.2	-44.9	23.5	68.4	0
0.5100	37.3	NS	19.5	6.1	32.1	-40.0	-9.3	25.5	34.8	0
0.6375	58.5	31.9	19.4	6.1	32.1	-101.7	-49.8	23.5	73.3	0
0.7650	33.6	NS	19.4	6.1	32.2	-40.0	-13.0	23.5	36.5	0
0.8925	52.7	NS	19.4	6.2	32.2	-40.0	6.1	23.5	17.4	0
1.0200	31.1	NS	19.4	6.2	32.2	-40.0	-15.5	23.5	39.0	0
1.1475	47.8	NS	19.4	6.2	32.2	-40.0	1.2	23.5	22.3	0
1.2750	29.3	NS	19.4	6.2	32.2	-40.0	-17.2	23.5	40.7	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 25, 2022
Temperature / Humidity 21 deg. C / 40 % RH
Engineer Hiroyuki Furutaka
Mode Mode 7

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1164	98.0	69.6	19.6	6.0	32.2	-108.6	-17.2	23.5	40.7	0
0.1164	96.5	68.5	19.6	6.0	32.2	-107.1	-17.2	23.5	40.7	45
0.1164	94.3	68.4	19.6	6.0	32.2	-99.1	-11.4	23.5	34.9	90
0.1164	96.4	68.9	19.6	6.0	32.2	-105.2	-15.4	23.5	38.9	135
0.1164	97.9	69.5	19.6	6.0	32.2	-108.6	-17.3	23.5	40.8	180
0.1164	97.8	62.0	19.6	6.0	32.2	-136.9	-45.7	23.5	69.2	Horizontal
0.2327	51.6	NS	19.6	6.0	32.2	-40.0	5.0	23.5	18.5	0
0.3491	63.6	36.4	19.5	6.1	32.2	-104.0	-47.0	23.5	70.5	0
0.4654	41.4	NS	19.5	6.1	32.1	-40.0	-5.2	23.5	28.7	0
0.5818	55.5	30.1	19.4	6.1	32.1	-97.2	-48.3	23.5	71.8	0
0.6981	33.5	NS	19.4	6.1	32.2	-40.0	-13.1	23.5	36.6	0
0.8145	49.3	NS	19.4	6.2	32.2	-40.0	2.7	23.5	20.8	0
0.9308	28.9	NS	19.4	6.2	32.2	-40.0	-17.7	23.5	41.2	0
1.0472	44.8	NS	19.4	6.2	32.2	-40.0	-1.8	25.5	27.3	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 25, 2022
Temperature / Humidity 21 deg. C / 40 % RH
Engineer Hiroyuki Furutaka
Mode Mode 8

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1194	97.8	69.7	19.6	6.0	32.2	-107.5	-16.3	23.5	39.8	0
0.1194	96.7	69.1	19.6	6.0	32.2	-105.6	-15.5	23.5	39.0	45
0.1194	94.4	68.3	19.6	6.0	32.2	-99.8	-12.0	23.5	35.5	90
0.1194	95.8	69.2	19.6	6.0	32.2	-101.7	-12.5	23.5	36.0	135
0.1194	97.7	69.5	19.6	6.0	32.2	-107.9	-16.8	23.5	40.3	180
0.1194	97.6	62.0	19.6	6.0	32.2	-136.2	-45.2	23.5	68.7	Horizontal
0.2388	51.2	NS	19.6	6.0	32.2	-40.0	4.6	23.5	18.9	0
0.3582	63.7	36.6	19.5	6.1	32.2	-103.7	-46.5	23.5	70.0	0
0.4776	41.1	NS	19.5	6.1	32.1	-40.0	-5.5	23.5	29.0	0
0.5970	55.5	30.1	19.4	6.1	32.1	-97.2	-48.3	23.5	71.8	0
0.7163	33.5	NS	19.4	6.1	32.2	-40.0	-13.1	23.5	36.6	0
0.8357	49.3	NS	19.4	6.2	32.2	-40.0	2.7	23.5	20.8	0
0.9551	28.5	NS	19.4	6.2	32.2	-40.0	-18.1	23.5	41.6	0
1.0745	44.6	NS	19.4	6.2	32.2	-40.0	-2.0	25.5	27.5	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 25, 2022
Temperature / Humidity 21 deg. C / 40 % RH
Engineer Hiroyuki Furutaka
Mode Mode 9

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1245	97.7	69.9	19.6	6.0	32.2	-106.3	-15.2	23.5	38.7	0
0.1245	96.8	69.3	19.6	6.0	32.2	-105.2	-15.0	23.5	38.5	45
0.1245	94.3	68.5	19.6	6.0	32.2	-98.7	-11.0	23.5	34.5	90
0.1245	95.9	69.4	19.6	6.0	32.2	-101.4	-12.1	23.5	35.6	135
0.1245	97.6	69.6	19.6	6.0	32.2	-107.2	-16.2	23.5	39.7	180
0.1245	97.5	62.2	19.6	6.0	32.2	-135.0	-44.1	23.5	67.6	Horizontal
0.2490	49.9	NS	19.6	6.0	32.2	-40.0	3.3	23.5	20.2	0
0.3736	63.8	36.5	19.5	6.1	32.2	-104.4	-47.2	23.5	70.7	0
0.4981	41.1	NS	19.5	6.1	32.1	-40.0	-5.5	23.5	29.0	0
0.6226	55.3	30.1	19.4	6.1	32.1	-96.4	-47.7	23.5	71.2	0
0.7471	33.1	NS	19.4	6.1	32.2	-40.0	-13.5	23.5	37.0	0
0.8716	49.3	NS	19.4	6.2	32.2	-40.0	2.7	23.5	20.8	0
0.9962	28.6	NS	19.4	6.2	32.2	-40.0	-18.0	23.5	41.5	0
1.1207	44.6	NS	19.4	6.2	32.2	-40.0	-2.0	25.5	27.5	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 25, 2022
Temperature / Humidity 21 deg. C / 40 % RH
Engineer Hiroyuki Furutaka
Mode Mode 10

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1226	96.0	67.6	19.6	6.0	32.2	-108.6	-19.2	23.5	42.7	0
0.1226	94.5	67.1	19.6	6.0	32.2	-104.8	-16.9	23.5	40.4	45
0.1226	92.1	66.1	19.6	6.0	32.2	-99.4	-13.9	23.5	37.4	90
0.1226	93.9	66.8	19.6	6.0	32.2	-103.7	-16.3	23.5	39.8	135
0.1226	95.9	67.5	19.6	6.0	32.2	-108.6	-19.3	23.5	42.8	180
0.1226	95.7	60.9	19.6	6.0	32.2	-133.1	-44.0	23.5	67.5	Horizontal
0.2452	51.4	NS	19.6	6.0	32.2	-40.0	4.8	23.5	18.7	0
0.3678	65.2	36.7	19.5	6.1	32.2	-109.0	-50.4	23.5	73.9	0
0.4904	41.8	NS	19.5	6.1	32.1	-40.0	-4.8	23.5	28.3	0
0.6130	55.1	29.2	19.4	6.1	32.1	-99.1	-50.6	23.5	74.1	0
0.7356	30.3	NS	19.4	6.1	32.2	-40.0	-16.3	23.5	39.8	0
0.8582	48.5	NS	19.4	6.2	32.2	-40.0	1.9	23.5	21.6	0
0.9808	27.9	NS	19.4	6.2	32.2	-40.0	-18.7	23.5	42.2	0
1.1034	43.5	NS	19.4	6.2	32.2	-40.0	-3.1	25.5	28.6	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.1
Date	May 25, 2022
Temperature / Humidity	23 deg. C / 42 % RH
Engineer	Takafumi Noguchi
Mode	Mode 11

FREQ [MHz]	Reading (3m) [dB μ V]	Reading (10m) [dB μ V]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dB μ V/m]	Limit (300 m) [dB μ V/m]	Margin [dB]	Antenna [deg]
0.1260	95.9	68.1	19.6	6.0	32.2	-106.3	-17.0	23.5	40.5	0
0.1260	94.7	67.4	19.6	6.0	32.2	-104.4	-16.3	23.5	39.8	45
0.1260	92.0	66.4	19.6	6.0	32.2	-97.9	-12.5	23.5	36.0	90
0.1260	93.9	67.3	19.6	6.0	32.2	-101.7	-14.4	23.5	37.9	135
0.1260	95.8	68.0	19.6	6.0	32.2	-106.3	-17.1	23.5	40.6	180
0.1260	95.6	61.4	19.6	6.0	32.2	-130.8	-41.8	23.5	65.3	Horizontal
0.2520	51.2	NS	19.6	6.0	32.2	-40.0	4.6	23.5	18.9	0
0.3779	65.0	37.8	19.5	6.1	32.2	-104.0	-45.6	23.5	69.1	0
0.5039	41.6	NS	19.5	6.1	32.1	-40.0	-5.0	25.5	30.5	0
0.6299	55.0	29.9	19.4	6.1	32.1	-96.0	-47.6	23.5	71.1	0
0.7559	30.5	NS	19.4	6.1	32.2	-40.0	-16.1	23.5	39.6	0
0.8819	48.4	NS	19.4	6.2	32.2	-40.0	1.8	23.5	21.7	0
1.0078	28.2	NS	19.4	6.2	32.2	-40.0	-18.4	23.5	41.9	0
1.1338	43.3	NS	19.4	6.2	32.2	-40.0	-3.3	23.5	26.8	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 25, 2022
Temperature / Humidity 23 deg. C / 42 % RH
Engineer Takafumi Noguchi
Mode Mode 12

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna [deg]
0.1317	95.8	68.0	19.6	6.0	32.2	-106.3	-17.1	23.5	40.6	0
0.1317	94.7	67.2	19.6	6.0	32.2	-105.2	-17.1	23.5	40.6	45
0.1317	92.0	66.3	19.6	6.0	32.2	-98.3	-12.9	23.5	36.4	90
0.1317	93.9	67.4	19.6	6.0	32.2	-101.4	-14.0	23.5	37.5	135
0.1317	95.7	67.9	19.6	6.0	32.2	-106.3	-17.2	23.5	40.7	180
0.1317	95.6	61.4	19.6	6.0	32.2	-130.8	-41.8	23.5	65.3	Horizontal
0.2634	51.2	NS	19.6	6.0	32.2	-40.0	4.6	23.5	18.9	0
0.3951	64.9	37.2	19.5	6.1	32.2	-106.0	-47.6	23.5	71.1	0
0.5268	41.6	NS	19.5	6.1	32.1	-40.0	-5.0	25.5	30.5	0
0.6586	55.0	29.6	19.4	6.1	32.1	-97.2	-48.7	23.5	72.2	0
0.7903	30.6	NS	19.4	6.1	32.2	-40.0	-16.0	23.5	39.5	0
0.9220	48.4	NS	19.4	6.2	32.2	-40.0	1.8	23.5	21.7	0
1.0537	28.1	NS	19.4	6.2	32.2	-40.0	-18.5	23.5	42.0	0
1.1854	43.3	NS	19.4	6.2	32.2	-40.0	-3.3	23.5	26.8	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 25, 2022
Temperature / Humidity 23 deg. C / 42 % RH
Engineer Takafumi Noguchi
Mode Mode 13

FREQ [MHz]	Reading (3m) [dB μ V]	Reading (10m) [dB μ V]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dB μ V/m]	Limit (300 m) [dB μ V/m]	Margin [dB]	Antenna [deg]
0.1231	96.7	68.7	19.6	6.0	32.2	-107.1	-17.0	23.5	40.5	0
0.1231	95.1	68.2	19.6	6.0	32.2	-102.9	-14.4	23.5	37.9	45
0.1231	92.8	67.1	19.6	6.0	32.2	-98.3	-12.1	23.5	35.6	90
0.1231	94.9	68.0	19.6	6.0	32.2	-102.9	-14.6	23.5	38.1	135
0.1231	96.6	68.6	19.6	6.0	32.2	-107.1	-17.1	23.5	40.6	180
0.1231	96.6	62.1	19.6	6.0	32.2	-132.0	-41.9	23.5	65.4	Horizontal
0.2461	52.3	NS	19.6	6.0	32.2	-40.0	5.7	23.5	17.8	0
0.3692	66.1	38.8	19.5	6.1	32.2	-104.4	-44.9	23.5	68.4	0
0.4923	42.8	NS	19.5	6.1	32.1	-40.0	-3.8	25.5	29.3	0
0.6154	55.2	30.1	19.4	6.1	32.1	-96.0	-47.4	23.5	70.9	0
0.7384	30.6	NS	19.4	6.1	32.2	-40.0	-16.0	23.5	39.5	0
0.8615	48.2	NS	19.4	6.2	32.2	-40.0	1.6	23.5	21.9	0
0.9846	27.6	NS	19.4	6.2	32.2	-40.0	-19.0	23.5	42.5	0
1.1076	43.8	NS	19.4	6.2	32.2	-40.0	-2.8	23.5	26.3	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 25, 2022
Temperature / Humidity 23 deg. C / 42 % RH
Engineer Takafumi Noguchi
Mode Mode 14

FREQ [MHz]	Reading (3m) [dB μ V]	Reading (10m) [dB μ V]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dB μ V/m]	Limit (300 m) [dB μ V/m]	Margin [dB]	Antenna [deg]
0.1264	96.9	68.8	19.6	6.0	32.2	-107.5	-17.2	23.5	40.7	0
0.1264	95.5	68.1	19.6	6.0	32.2	-104.8	-15.9	23.5	39.4	45
0.1264	93.1	67.2	19.6	6.0	32.2	-99.1	-12.5	23.5	36.0	90
0.1264	95.2	68.0	19.6	6.0	32.2	-104.0	-15.4	23.5	38.9	135
0.1264	96.8	68.7	19.6	6.0	32.2	-107.5	-17.3	23.5	40.8	180
0.1264	96.8	62.1	19.6	6.0	32.2	-132.7	-42.5	23.5	66.0	Horizontal
0.2528	52.8	NS	19.6	6.0	32.2	-40.0	6.2	23.5	17.3	0
0.3792	66.4	38.8	19.5	6.1	32.2	-105.6	-45.8	23.5	69.3	0
0.5056	43.1	NS	19.5	6.1	32.1	-40.0	-3.5	25.5	29.0	0
0.6320	55.6	30.1	19.4	6.1	32.1	-97.5	-48.5	23.5	72.0	0
0.7584	30.6	NS	19.4	6.1	32.2	-40.0	-16.0	23.5	39.5	0
0.8848	48.5	NS	19.4	6.2	32.2	-40.0	1.9	23.5	21.6	0
1.0112	27.6	NS	19.4	6.2	32.2	-40.0	-19.0	23.5	42.5	0
1.1376	44.1	NS	19.4	6.2	32.2	-40.0	-2.5	23.5	26.0	0

NS : No-Signal

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

Radiated Emission
(Below 30 MHz)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.1
Date	May 25, 2022
Temperature / Humidity	23 deg. C / 42 % RH
Engineer	Takafumi Noguchi
Mode	Mode 15

FREQ [MHz]	Reading (3m) [dB μ V]	Reading (10m) [dB μ V]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP Gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dB μ V/m]	Limit (300 m) [dB μ V/m]	Margin [dB]	Antenna [deg]
0.1323	96.9	68.7	19.6	6.0	32.2	-107.9	-17.5	23.5	41.0	0
0.1323	95.5	68.1	19.6	6.0	32.2	-104.8	-15.9	23.5	39.4	45
0.1323	93.1	67.1	19.6	6.0	32.2	-99.4	-12.9	23.5	36.4	90
0.1323	95.1	68.1	19.6	6.0	32.2	-103.3	-14.7	23.5	38.2	135
0.1323	96.8	68.6	19.6	6.0	32.2	-107.9	-17.6	23.5	41.1	180
0.1323	96.8	62.0	19.6	6.0	32.2	-133.1	-42.9	23.5	66.4	Horizontal
0.2645	52.7	NS	19.6	6.0	32.2	-40.0	6.1	23.5	17.4	0
0.3968	66.4	38.7	19.5	6.1	32.2	-106.0	-46.1	23.5	69.6	0
0.5290	43.1	NS	19.5	6.1	32.1	-40.0	-3.5	25.5	29.0	0
0.6613	55.6	30.0	19.4	6.1	32.1	-97.9	-48.9	23.5	72.4	0
0.7935	30.6	NS	19.4	6.1	32.2	-40.0	-16.0	23.5	39.5	0
0.9258	48.5	NS	19.4	6.2	32.2	-40.0	1.9	23.5	21.6	0
1.0580	27.6	NS	19.4	6.2	32.2	-40.0	-19.0	23.5	42.5	0
1.1903	44.1	NS	19.4	6.2	32.2	-40.0	-2.5	23.5	26.0	0

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.1
Date	May 26, 2022
Temperature / Humidity	21 deg. C / 43 % RH
Engineer	Hiroyuki Furutaka
Mode	Mode 1

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
36.866	16.0	NS	12.1	7.4	32.1	-40.0	-36.7	23.5	60.2	Horizontal
63.893	16.5	NS	9.0	7.9	32.1	-40.0	-38.7	23.5	62.2	Horizontal
65.550	16.0	NS	9.0	7.9	32.1	-40.0	-39.2	23.5	62.7	Horizontal
76.000	16.2	NS	9.1	8.1	32.1	-40.0	-38.7	23.5	62.2	Horizontal
110.000	15.9	NS	10.1	8.5	32.1	-40.0	-37.5	23.5	61.0	Horizontal
211.000	15.8	NS	10.9	9.6	32.0	-40.0	-35.7	23.5	59.2	Horizontal
36.866	16.9	NS	12.1	7.4	32.1	-40.0	-35.8	23.5	59.3	Vertical
63.893	28.0	NS	9.0	7.9	32.1	-40.0	-27.2	23.5	50.7	Vertical
65.550	17.6	NS	9.0	7.9	32.1	-40.0	-37.6	23.5	61.1	Vertical
76.000	16.2	NS	9.1	8.1	32.1	-40.0	-38.7	23.5	62.2	Vertical
110.000	16.0	NS	10.1	8.5	32.1	-40.0	-37.4	23.5	60.9	Vertical
211.000	15.7	NS	10.9	9.6	32.0	-40.0	-35.8	23.5	59.3	Vertical

NS : No-Signal

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

Radiated Emission (Above 30 MHz)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.1
Date	May 26, 2022
Temperature / Humidity	21 deg. C / 43 % RH
Engineer	Hiroyuki Furutaka
Mode	Mode 2

FREQ [MHz]	Reading (3m) [dB μ V]	Reading (10m) [dB μ V]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dB μ V/m]	Limit (300 m) [dB μ V/m]	Margin [dB]	Antenna Polarization
36.051	16.9	NS	12.2	7.4	32.1	-40.0	-35.6	23.5	59.1	Horizontal
62.200	16.0	NS	9.0	7.8	32.1	-40.0	-39.2	23.5	62.7	Horizontal
63.893	16.1	NS	9.0	7.9	32.1	-40.0	-39.1	23.5	62.6	Horizontal
76.000	16.1	NS	9.1	8.1	32.1	-40.0	-38.8	23.5	62.3	Horizontal
126.000	16.0	NS	11.2	8.7	32.0	-40.0	-36.2	23.5	59.7	Horizontal
211.000	15.8	NS	10.9	9.6	32.0	-40.0	-35.7	23.5	59.2	Horizontal
36.051	20.6	NS	12.2	7.4	32.1	-40.0	-31.9	23.5	55.4	Vertical
42.926	23.5	NS	11.0	7.5	32.1	-40.0	-30.1	23.5	53.6	Vertical
62.200	21.8	NS	9.0	7.8	32.1	-40.0	-33.4	23.5	56.9	Vertical
76.000	16.2	NS	9.1	8.1	32.1	-40.0	-38.7	23.5	62.2	Vertical
120.000	16.0	NS	10.8	8.6	32.1	-40.0	-36.7	23.5	60.2	Vertical
211.000	15.7	NS	10.9	9.6	32.0	-40.0	-35.8	23.5	59.3	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 26, 2022
Temperature / Humidity 21 deg. C / 43 % RH
Engineer Hiroyuki Furutaka
Mode Mode 3

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
36.051	16.9	NS	12.2	7.4	32.1	-40.0	-35.6	23.5	59.1	Horizontal
62.200	16.0	NS	9.0	7.8	32.1	-40.0	-39.2	23.5	62.7	Horizontal
63.893	16.0	NS	9.0	7.9	32.1	-40.0	-39.2	23.5	62.7	Horizontal
76.000	16.1	NS	9.1	8.1	32.1	-40.0	-38.8	23.5	62.3	Horizontal
126.000	16.0	NS	11.2	8.7	32.0	-40.0	-36.2	23.5	59.7	Horizontal
211.000	16.0	NS	10.9	9.6	32.0	-40.0	-35.5	23.5	59.0	Horizontal
36.051	20.0	NS	12.2	7.4	32.1	-40.0	-32.5	23.5	56.0	Vertical
41.108	22.6	NS	11.3	7.5	32.1	-40.0	-30.8	23.5	54.3	Vertical
62.200	20.9	NS	9.0	7.8	32.1	-40.0	-34.3	23.5	57.8	Vertical
76.000	16.4	NS	9.1	8.1	32.1	-40.0	-38.5	23.5	62.0	Vertical
120.000	16.0	NS	10.8	8.6	32.1	-40.0	-36.7	23.5	60.2	Vertical
211.000	15.9	NS	10.9	9.6	32.0	-40.0	-35.6	23.5	59.1	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 26, 2022
Temperature / Humidity 21 deg. C / 43 % RH
Engineer Hiroyuki Furutaka
Mode Mode 4

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
42.000	16.7	NS	11.1	7.5	32.1	-40.0	-36.8	23.5	60.3	Horizontal
50.767	18.0	NS	9.9	7.6	32.1	-40.0	-36.6	23.5	60.1	Horizontal
54.064	18.4	NS	9.5	7.7	32.1	-40.0	-36.5	23.5	60.0	Horizontal
62.078	17.6	NS	9.0	7.8	32.1	-40.0	-37.7	23.5	61.2	Horizontal
111.517	16.1	NS	10.2	8.5	32.1	-40.0	-37.2	23.5	60.7	Horizontal
210.000	15.8	NS	10.9	9.6	32.0	-40.0	-35.7	23.5	59.2	Horizontal
42.000	28.5	NS	11.1	7.5	32.1	-40.0	-25.0	23.5	48.5	Vertical
50.767	38.3	NS	9.9	7.6	32.1	-40.0	-16.3	23.5	39.8	Vertical
54.064	37.5	NS	9.5	7.7	32.1	-40.0	-17.4	23.5	40.9	Vertical
62.078	37.5	NS	9.0	7.8	32.1	-40.0	-17.8	23.5	41.3	Vertical
111.517	23.2	NS	10.2	8.5	32.1	-40.0	-30.1	23.5	53.6	Vertical
210.000	16.0	NS	10.9	9.6	32.0	-40.0	-35.5	23.5	59.0	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 26, 2022
Temperature / Humidity 21 deg. C / 43 % RH
Engineer Takafumi Noguchi
Mode Mode 5

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
41.906	16.4	NS	11.1	7.5	32.1	-40.0	-37.1	23.5	60.6	Horizontal
50.796	18.4	NS	9.9	7.6	32.1	-40.0	-36.2	23.5	59.7	Horizontal
54.483	18.8	NS	9.5	7.7	32.1	-40.0	-36.1	23.5	59.6	Horizontal
61.973	17.4	NS	9.0	7.8	32.1	-40.0	-37.9	23.5	61.4	Horizontal
111.227	16.5	NS	10.2	8.5	32.1	-40.0	-36.8	23.5	60.3	Horizontal
210.000	16.0	NS	10.9	9.6	32.0	-40.0	-35.5	23.5	59.0	Horizontal
41.906	28.1	NS	11.1	7.5	32.1	-40.0	-25.4	23.5	48.9	Vertical
50.796	37.8	NS	9.9	7.6	32.1	-40.0	-16.8	23.5	40.3	Vertical
54.483	37.3	NS	9.5	7.7	32.1	-40.0	-17.6	23.5	41.1	Vertical
61.973	37.9	NS	9.0	7.8	32.1	-40.0	-17.4	23.5	40.9	Vertical
111.227	23.1	NS	10.2	8.5	32.1	-40.0	-30.2	23.5	53.7	Vertical
210.000	16.3	NS	10.9	9.6	32.0	-40.0	-35.2	23.5	58.7	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 26, 2022
Temperature / Humidity 21 deg. C / 43 % RH
Engineer Takafumi Noguchi
Mode Mode 6

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
41.907	17.1	NS	11.1	7.5	32.1	-40.0	-36.4	23.5	59.9	Horizontal
50.795	17.8	NS	9.9	7.6	32.1	-40.0	-36.8	23.5	60.3	Horizontal
54.479	18.1	NS	9.5	7.7	32.1	-40.0	-36.8	23.5	60.3	Horizontal
61.969	17.2	NS	9.0	7.8	32.1	-40.0	-38.1	23.5	61.6	Horizontal
111.248	16.3	NS	10.2	8.5	32.1	-40.0	-37.0	23.5	60.5	Horizontal
210.000	16.1	NS	10.9	9.6	32.0	-40.0	-35.4	23.5	58.9	Horizontal
41.907	29.0	NS	11.1	7.5	32.1	-40.0	-24.5	23.5	48.0	Vertical
50.795	37.8	NS	9.9	7.6	32.1	-40.0	-16.8	23.5	40.3	Vertical
54.479	38.0	NS	9.5	7.7	32.1	-40.0	-16.9	23.5	40.4	Vertical
61.969	37.3	NS	9.0	7.8	32.1	-40.0	-18.0	23.5	41.5	Vertical
111.248	23.0	NS	10.2	8.5	32.1	-40.0	-30.3	23.5	53.8	Vertical
210.000	16.1	NS	10.9	9.6	32.0	-40.0	-35.4	23.5	58.9	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 26, 2022
Temperature / Humidity 21 deg. C / 43 % RH
Engineer Takafumi Noguchi
Mode Mode 7

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.2	NS	13.4	7.3	32.1	-40.0	-27.3	23.5	50.8	Horizontal
32.367	20.2	NS	13.0	7.3	32.1	-40.0	-31.6	23.5	55.1	Horizontal
34.661	23.2	NS	12.5	7.3	32.1	-40.0	-29.1	23.5	52.6	Horizontal
112.093	33.8	NS	10.3	8.5	32.1	-40.0	-19.4	23.5	42.9	Horizontal
130.000	26.7	NS	11.4	8.8	32.0	-40.0	-25.2	23.5	48.7	Horizontal
290.000	34.7	NS	13.4	10.3	32.0	-40.0	-13.6	23.5	37.1	Horizontal
30.800	36.2	NS	13.4	7.3	32.1	-40.0	-15.3	23.5	38.8	Vertical
32.367	34.3	NS	13.0	7.3	32.1	-40.0	-17.5	23.5	41.0	Vertical
34.661	35.4	NS	12.5	7.3	32.1	-40.0	-16.9	23.5	40.4	Vertical
112.093	34.7	NS	10.3	8.5	32.1	-40.0	-18.5	23.5	42.0	Vertical
130.000	34.4	NS	11.4	8.8	32.0	-40.0	-17.5	23.5	41.0	Vertical
290.000	30.9	NS	13.4	10.3	32.0	-40.0	-17.4	23.5	40.9	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 26, 2022
Temperature / Humidity 21 deg. C / 43 % RH
Engineer Takafumi Noguchi
Mode Mode 8

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.7	NS	13.4	7.3	32.1	-40.0	-26.8	23.5	50.3	Horizontal
32.367	20.3	NS	13.0	7.3	32.1	-40.0	-31.5	23.5	55.0	Horizontal
34.661	23.2	NS	12.5	7.3	32.1	-40.0	-29.1	23.5	52.6	Horizontal
112.093	33.5	NS	10.3	8.5	32.1	-40.0	-19.7	23.5	43.2	Horizontal
130.000	26.9	NS	11.4	8.8	32.0	-40.0	-25.0	23.5	48.5	Horizontal
290.000	34.5	NS	13.4	10.3	32.0	-40.0	-13.8	23.5	37.3	Horizontal
30.800	36.0	NS	13.4	7.3	32.1	-40.0	-15.5	23.5	39.0	Vertical
32.367	34.1	NS	13.0	7.3	32.1	-40.0	-17.7	23.5	41.2	Vertical
34.661	35.1	NS	12.5	7.3	32.1	-40.0	-17.2	23.5	40.7	Vertical
112.093	35.1	NS	10.3	8.5	32.1	-40.0	-18.1	23.5	41.6	Vertical
130.000	34.5	NS	11.4	8.8	32.0	-40.0	-17.4	23.5	40.9	Vertical
290.000	30.8	NS	13.4	10.3	32.0	-40.0	-17.5	23.5	41.0	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 26, 2022
Temperature / Humidity 21 deg. C / 43 % RH
Engineer Takafumi Noguchi
Mode Mode 9

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	23.7	NS	13.4	7.3	32.1	-40.0	-27.8	23.5	51.3	Horizontal
32.367	20.2	NS	13.0	7.3	32.1	-40.0	-31.6	23.5	55.1	Horizontal
34.661	23.6	NS	12.5	7.3	32.1	-40.0	-28.7	23.5	52.2	Horizontal
112.093	33.6	NS	10.3	8.5	32.1	-40.0	-19.6	23.5	43.1	Horizontal
130.000	26.5	NS	11.4	8.8	32.0	-40.0	-25.4	23.5	48.9	Horizontal
290.000	35.1	NS	13.4	10.3	32.0	-40.0	-13.2	23.5	36.7	Horizontal
30.800	36.0	NS	13.4	7.3	32.1	-40.0	-15.5	23.5	39.0	Vertical
32.367	34.7	NS	13.0	7.3	32.1	-40.0	-17.1	23.5	40.6	Vertical
34.661	35.8	NS	12.5	7.3	32.1	-40.0	-16.5	23.5	40.0	Vertical
112.093	34.3	NS	10.3	8.5	32.1	-40.0	-18.9	23.5	42.4	Vertical
130.000	34.5	NS	11.4	8.8	32.0	-40.0	-17.4	23.5	40.9	Vertical
290.000	30.9	NS	13.4	10.3	32.0	-40.0	-17.4	23.5	40.9	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 27, 2022
Temperature / Humidity 20 deg. C / 59 % RH
Engineer Hiroki Numata
Mode Mode 10

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.2	NS	13.4	7.3	32.1	-40.0	-27.3	23.5	50.8	Horizontal
32.367	20.3	NS	13.0	7.3	32.1	-40.0	-31.5	23.5	55.0	Horizontal
34.661	23.4	NS	12.5	7.3	32.1	-40.0	-28.9	23.5	52.4	Horizontal
112.093	33.6	NS	10.3	8.5	32.1	-40.0	-19.6	23.5	43.1	Horizontal
130.000	26.6	NS	11.4	8.8	32.0	-40.0	-25.3	23.5	48.8	Horizontal
290.000	34.9	NS	13.4	10.3	32.0	-40.0	-13.4	23.5	36.9	Horizontal
30.800	36.1	NS	13.4	7.3	32.1	-40.0	-15.4	23.5	38.9	Vertical
32.367	34.2	NS	13.0	7.3	32.1	-40.0	-17.6	23.5	41.1	Vertical
34.661	35.5	NS	12.5	7.3	32.1	-40.0	-16.8	23.5	40.3	Vertical
112.093	34.6	NS	10.3	8.5	32.1	-40.0	-18.6	23.5	42.1	Vertical
130.000	34.5	NS	11.4	8.8	32.0	-40.0	-17.4	23.5	40.9	Vertical
290.000	30.8	NS	13.4	10.3	32.0	-40.0	-17.5	23.5	41.0	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 27, 2022
Temperature / Humidity 20 deg. C / 59 % RH
Engineer Hiroki Numata
Mode Mode 11

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.3	NS	13.4	7.3	32.1	-40.0	-27.2	23.5	50.7	Horizontal
32.367	20.4	NS	13.0	7.3	32.1	-40.0	-31.4	23.5	54.9	Horizontal
34.661	23.4	NS	12.5	7.3	32.1	-40.0	-28.9	23.5	52.4	Horizontal
112.093	33.7	NS	10.3	8.5	32.1	-40.0	-19.5	23.5	43.0	Horizontal
130.000	26.7	NS	11.4	8.8	32.0	-40.0	-25.2	23.5	48.7	Horizontal
290.000	34.8	NS	13.4	10.3	32.0	-40.0	-13.5	23.5	37.0	Horizontal
30.800	36.0	NS	13.4	7.3	32.1	-40.0	-15.5	23.5	39.0	Vertical
32.367	34.4	NS	13.0	7.3	32.1	-40.0	-17.4	23.5	40.9	Vertical
34.661	35.6	NS	12.5	7.3	32.1	-40.0	-16.7	23.5	40.2	Vertical
112.093	34.3	NS	10.3	8.5	32.1	-40.0	-18.9	23.5	42.4	Vertical
130.000	34.0	NS	11.4	8.8	32.0	-40.0	-17.9	23.5	41.4	Vertical
290.000	30.9	NS	13.4	10.3	32.0	-40.0	-17.4	23.5	40.9	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 27, 2022
Temperature / Humidity 20 deg. C / 59 % RH
Engineer Hiroki Numata
Mode Mode 12

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.5	NS	13.4	7.3	32.1	-40.0	-27.0	23.5	50.5	Horizontal
32.367	20.4	NS	13.0	7.3	32.1	-40.0	-31.4	23.5	54.9	Horizontal
34.661	23.4	NS	12.5	7.3	32.1	-40.0	-28.9	23.5	52.4	Horizontal
112.093	33.7	NS	10.3	8.5	32.1	-40.0	-19.5	23.5	43.0	Horizontal
130.000	26.8	NS	11.4	8.8	32.0	-40.0	-25.1	23.5	48.6	Horizontal
290.000	34.5	NS	13.4	10.3	32.0	-40.0	-13.8	23.5	37.3	Horizontal
30.800	36.2	NS	13.4	7.3	32.1	-40.0	-15.3	23.5	38.8	Vertical
32.367	34.1	NS	13.0	7.3	32.1	-40.0	-17.7	23.5	41.2	Vertical
34.661	35.5	NS	12.5	7.3	32.1	-40.0	-16.8	23.5	40.3	Vertical
112.093	34.5	NS	10.3	8.5	32.1	-40.0	-18.7	23.5	42.2	Vertical
130.000	34.3	NS	11.4	8.8	32.0	-40.0	-17.6	23.5	41.1	Vertical
290.000	30.9	NS	13.4	10.3	32.0	-40.0	-17.4	23.5	40.9	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 27, 2022
Temperature / Humidity 20 deg. C / 59 % RH
Engineer Hiroki Numata
Mode Mode 13

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.3	NS	13.4	7.3	32.1	-40.0	-27.2	23.5	50.7	Horizontal
32.367	20.3	NS	13.0	7.3	32.1	-40.0	-31.5	23.5	55.0	Horizontal
34.661	23.5	NS	12.5	7.3	32.1	-40.0	-28.8	23.5	52.3	Horizontal
112.093	33.6	NS	10.3	8.5	32.1	-40.0	-19.6	23.5	43.1	Horizontal
130.000	26.8	NS	11.4	8.8	32.0	-40.0	-25.1	23.5	48.6	Horizontal
290.000	34.6	NS	13.4	10.3	32.0	-40.0	-13.7	23.5	37.2	Horizontal
30.800	36.4	NS	13.4	7.3	32.1	-40.0	-15.1	23.5	38.6	Vertical
32.367	34.2	NS	13.0	7.3	32.1	-40.0	-17.6	23.5	41.1	Vertical
34.661	35.3	NS	12.5	7.3	32.1	-40.0	-17.0	23.5	40.5	Vertical
112.093	34.6	NS	10.3	8.5	32.1	-40.0	-18.6	23.5	42.1	Vertical
130.000	34.5	NS	11.4	8.8	32.0	-40.0	-17.4	23.5	40.9	Vertical
290.000	30.8	NS	13.4	10.3	32.0	-40.0	-17.5	23.5	41.0	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 27, 2022
Temperature / Humidity 20 deg. C / 59 % RH
Engineer Hiroki Numata
Mode Mode 14

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.3	NS	13.4	7.3	32.1	-40.0	-27.2	23.5	50.7	Horizontal
32.367	20.2	NS	13.0	7.3	32.1	-40.0	-31.6	23.5	55.1	Horizontal
34.661	23.4	NS	12.5	7.3	32.1	-40.0	-28.9	23.5	52.4	Horizontal
112.093	33.6	NS	10.3	8.5	32.1	-40.0	-19.6	23.5	43.1	Horizontal
130.000	26.7	NS	11.4	8.8	32.0	-40.0	-25.2	23.5	48.7	Horizontal
290.000	34.6	NS	13.4	10.3	32.0	-40.0	-13.7	23.5	37.2	Horizontal
30.800	36.3	NS	13.4	7.3	32.1	-40.0	-15.2	23.5	38.7	Vertical
32.367	34.2	NS	13.0	7.3	32.1	-40.0	-17.6	23.5	41.1	Vertical
34.661	35.2	NS	12.5	7.3	32.1	-40.0	-17.1	23.5	40.6	Vertical
112.093	34.6	NS	10.3	8.5	32.1	-40.0	-18.6	23.5	42.1	Vertical
130.000	34.5	NS	11.4	8.8	32.0	-40.0	-17.4	23.5	40.9	Vertical
290.000	30.8	NS	13.4	10.3	32.0	-40.0	-17.5	23.5	41.0	Vertical

NS : No-Signal

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

Radiated Emission
(Above 30 MHz)

Test place Ise EMC Lab.
Semi Anechoic Chamber No.1
Date May 27, 2022
Temperature / Humidity 20 deg. C / 59 % RH
Engineer Hiroki Numata
Mode Mode 15

FREQ [MHz]	Reading (3m) [dBμV]	Reading (10m) [dBμV]	ANT Factor [dB/m]	Atten + Cable loss [dB]	AMP gain [dB]	Extrapolation Factor [dB]	Result (300 m) [dBμV/m]	Limit (300 m) [dBμV/m]	Margin [dB]	Antenna Polarization
30.800	24.3	NS	13.4	7.3	32.1	-40.0	-27.2	23.5	50.7	Horizontal
32.367	20.4	NS	13.0	7.3	32.1	-40.0	-31.4	23.5	54.9	Horizontal
34.661	23.1	NS	12.5	7.3	32.1	-40.0	-29.2	23.5	52.7	Horizontal
112.093	33.9	NS	10.3	8.5	32.1	-40.0	-19.3	23.5	42.8	Horizontal
130.000	26.8	NS	11.4	8.8	32.0	-40.0	-25.1	23.5	48.6	Horizontal
290.000	34.7	NS	13.4	10.3	32.0	-40.0	-13.6	23.5	37.1	Horizontal
30.800	36.1	NS	13.4	7.3	32.1	-40.0	-15.4	23.5	38.9	Vertical
32.367	34.2	NS	13.0	7.3	32.1	-40.0	-17.6	23.5	41.1	Vertical
34.661	35.3	NS	12.5	7.3	32.1	-40.0	-17.0	23.5	40.5	Vertical
112.093	34.6	NS	10.3	8.5	32.1	-40.0	-18.6	23.5	42.1	Vertical
130.000	34.5	NS	11.4	8.8	32.0	-40.0	-17.4	23.5	40.9	Vertical
290.000	30.8	NS	13.4	10.3	32.0	-40.0	-17.5	23.5	41.0	Vertical

NS : No-Signal

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

APPENDIX 2: Test instruments

Test equipment

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	APANT08	146613	Loop Antenna	Rohde & Schwarz	HFH2-Z2	842906/011	10/06/2021	12
RE	COTS-MEMI-02	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
RE	LA-17	160924	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	225	11/13/2021	12
RE	MAEC-01	141998	AC1_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 10m	DA-06881	06/08/2020	24
RE	MAT-08	141213	Attenuator(6dB)	Weinschel Corp	2	BK7971	11/09/2021	12
RE	MCC-02	141350	Coaxial Cable	Suhner/storm/Agilent/TSJ	-	-	03/08/2022	12
RE	MCC-03	141215	Coaxial Cable	Fujikura/Suhner/TSJ	5D-2W/3D-2W/RG400u/RFM-E421(SW)	-/01068 (Switcher)	06/02/2021	12
RE	MCC-64	141327	Coaxial Cable	UL Japan	-	-	02/28/2022	12
RE	MJM-25	142226	Measure	KOMELON	KMC-36	-	-	-
RE	MMM-03	141530	Digital Tester	Fluke Corporation	FLUKE 26-3	78030621	08/10/2021	12
RE	MOS-27	141566	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	A08Q26	01/10/2022	12
RE	MPA-14	141583	Pre Amplifier	SONOMA INSTRUMENT	310	260833	04/04/2022	12
RE	MTR-09	141950	EMI Test Receiver	Rohde & Schwarz	ESU26	100412	10/14/2021	12
RE	YBA-03	197990	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	VHBB 9124 + BBA 9106	01365	11/13/2021	12

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

The expiration date of the calibration is the end of the expired month.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

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

Test item:

RE: Radiated emission