

RADIO TEST REPORT

Test Report No. 15832439H-B-R3

Customer	Z-Works, Inc.
Description of EUT	Z-Works 4G Gateway v4
Model Number of EUT	ZGW-ZW4100-B
FCC ID	2BSSDZW4100-B
Test Regulation	FCC Part 15 Subpart C
Test Result	Complied
Issue Date	July 1, 2026
Remarks	-

Representative test engineerHiroki Numata
Engineer**Approved by**Satofumi Matsuyama
Engineer

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".

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- The information provided by the customer for this report is identified in SECTION 1.
- The laboratory is not responsible for information provided by the customer which can impact the validity of the results.
- For 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)	15832439H-B	November 26, 2025	-
1	15832439H-B-R1	May 25, 2026	Following the additional conducted emission test performed on May 21, 2026, information has been added and updated in the following items: 1) 2.1 Identification of EUT - Added Receipt Date: March 11 and May 7, 2026 - Updated Test date: June 9 to October 12, 2025 → June 9, 2025 to May 21, 2026 2) 4.2 Configuration and Peripherals - Added note for test configuration: * The EUT is equipped with one of two AC adapter types ... both AC adapters were used. 3) APPENDIX 1: Test Data - Added Data for AC adapter with a ferrite core (Page 20 to 22) 4) APPENDIX 2: Test Instruments - Added Test equipment for CE (LIMS IDs: 141530, 141537, 141568, 141950, 142226, 182498)
2	15832439H-B-R2	June 5, 2026	2.2 Product Description Corrected the GSM and LTE Uplink of in Radio Specification below: - GSM 850: 824 MHz to 849 MHz → 824.2 MHz to 848.8 MHz - PCS 1900: 1850 MHz to 1910 MHz → 1850.2 MHz to 1909.8 MHz - FDD Band 26: 824 MHz to 849 MHz → 814.7 MHz to 823.3 MHz 4.2 Configuration and peripherals Updated the system configuration diagram, models, and cable list to include information about a core within the EUT.
3	15832439H-B-R3	July 1, 2026	APPENDIX 1: Test data Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission) - Deleted data of "Result of the fundamental emission at 3 m without Distance factor" (page 23 and 25) - Updated Measurement Range of Tx 908.4 MHz (9.6 kbps) mode: Above 1 GHz → Below 1 GHz (page 24)

Reference: Abbreviations (Including words undescribed in this report)

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

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SECTION 1: Customer information

Company Name	Z-Works, Inc.
Address	6th Floor, Mejiro Nakano Building, 2-17-22 Takada, Toshima City, Tokyo 171-0033 Japan
Telephone Number	81-3-5927-9641
Contact Person	Jeremy Lenoir

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	Z-Works 4G Gateway v4
Model Number	ZGW-ZW4100-B
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	May 22 and August 22, 2025, March 11 and May 7, 2026
Test Date	June 9, 2025 to May 21, 2026

2.2 Product Description

General Specification

Rating	AC 100 V to 240 V, 0.5 A, 50 / 60 Hz
Operating temperature	0 deg. C to 40 deg. C

Radio Specification

<Z-Wave Module>

Equipment Type	Transceiver		
Frequency of Operation	908.4 MHz (9.6 kbps)	908.4 MHz (40 kbps)	916.0 MHz (100 kbps)
Type of Modulation	FSK	FSK	GFSK

<WWAN Module>

Model: GLMM20A01 (FCC ID: 2AC88-GLMM20A01)

GSM

Equipment Type	Transceiver	
Frequency of Operation	[Uplink] GSM 850: 824.2 MHz to 848.8 MHz PCS 1900: 1850.2 MHz to 1909.8 MHz	[Downlink] GSM 850: 869 MHz to 894 MHz PCS 1900: 1930 MHz to 1990 MHz
Type of Modulation	GMSK for GSM/GPRS, 8PSK for EGPRS	

WCDMA

Equipment Type	Transceiver	
Frequency of Operation	[Uplink] Band II: 1852.4 MHz to 1907.6 MHz Band IV: 1712.4 MHz to 1752.6 MHz Band V: 826.4 MHz to 846.6 MHz	[Downlink] Band II: 1932.6 MHz to 1987.4 MHz Band IV: 2112.6 MHz to 2152.4 MHz Band V: 871.6 MHz to 1891.4 MHz
Type of Modulation	QPSK for WCDMA/HSUPA/HSDPA	

LTE

Equipment Type	Transceiver	
Frequency of Operation	[Uplink] FDD Band 2: 1850.7 MHz to 1909.3 MHz FDD Band 4: 1710.7 MHz to 1754.3 MHz FDD Band 5: 824.7 MHz to 848.3 MHz FDD Band 7: 2502.5 MHz to 2567.5 MHz FDD Band 12: 699.7 MHz to 715.3 MHz FDD Band 13: 779.5 MHz to 784.5 MHz FDD Band 17: 706.5 MHz to 713.5 MHz FDD Band 25: 1850.7 MHz to 1914.3 MHz FDD Band 26: 814.7 MHz to 823.3 MHz TDD Band 41: 2498.5 MHz to 2687.5 MHz FDD Band 66: 1710.7 MHz to 1779.3 MHz	[Downlink] FDD Band 2: 1930.7 MHz to 1989.3 MHz FDD Band 4: 2110.7 MHz to 2154.3 MHz FDD Band 5: 869.7 MHz to 893.3 MHz FDD Band 7: 2622.5 MHz to 2687.5 MHz FDD Band 12: 729.7 MHz to 745.3 MHz FDD Band 13: 748.5 MHz to 751.0 MHz FDD Band 17: 736.5 MHz to 743.5 MHz FDD Band 25: 1930.7 MHz to 1994.3 MHz FDD Band 26: 869 MHz to 894 MHz FDD Band 41: 2498.5 MHz to 2687.5 MHz FDD Band 66: 2110.7 MHz to 2179.3 MHz
Type of Modulation	QPSK, 16QAM	

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 15.249 Operation within the bands 902-928MHz, 2400-2483.5MHz, 5725-5875MHz and 24.0-24.25GHz

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

3.2 Reference Standards

ANSI/USEMCSC C63.2-2023
ANSI C63.4-2014/C63.4a-2017
ANSI C63.5-2017
ANSI C63.10-2020
ANSI/USEMCSC C63.10/Cor 1-2023
ANSI/USEMCSC C63.10a-2024 for ISED
ANSI C63.25.1-2018

3.3 Summary of Test Results

Item	Specification	Results	Deviation
Conducted Emission	Section 15.207(a)	Complied	-
Electric Field Strength of Fundamental Emission	Section 15.249(a)(c)(e)	Complied	-
Electric Field Strength of Spurious Emission	Section 15.205(a)(b)(d) Section 15.209(a) Section 15.249(a)(c)(d)(e)	Complied	-
20 dB Bandwidth	FCC 15.215	Complied	-
Frequency Tolerance	Section 15.249(b)	N/A	*1)
Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593. *1) The test is not required since this EUT does not operate with 24.05 GHz to 24.25 GHz.			

FCC Part 15.31 (e)

This EUT provides the stable voltage constantly to RF Part regardless of input voltage.
Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

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

3.4 Addition to standard

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
10 m			dB	3.1
3 m	30 MHz to 200 MHz	Horizontal	dB	5.0
		Vertical	dB	5.0
	200 MHz to 1000 MHz	Horizontal	dB	5.2
		Vertical	dB	6.2
10 m	30 MHz to 200 MHz	Horizontal	dB	5.5
		Vertical	dB	5.4
	200 MHz to 1000 MHz	Horizontal	dB	5.5
		Vertical	dB	5.5
3 m	1 GHz to 6 GHz		dB	5.1
	6 GHz to 18 GHz		dB	5.4
1 m	10 GHz to 18 GHz		dB	5.4
	18 GHz to 26.5 GHz		dB	5.3
	26.5 GHz to 40 GHz		dB	4.8
0.5 m	26.5 GHz to 40 GHz		dB	5.0
>= 0.5 m	40 GHz to 50 GHz		dB	4.3
>= 0.5 m	50 GHz to 75 GHz		dB	5.9
>= 0.5 m	75 GHz to 110 GHz		dB	5.7

3.6 Test Location

UL Japan, Inc. Ise EMC Lab.

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

Telephone: +81-596-24-8999

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

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

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms	Maximum measurement distance
No.1 semi-anechoic chamber (SAC1)	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 (SAC2)	7.5 x 5.8 x 5.2	4.0 x 4.0	-	3 m
No.3 semi-anechoic chamber (SAC3)	12.0 x 8.5 x 5.9	6.8 x 5.75	No.3 Preparation room (PR3)	3 m
No.3 shielded room (SR3)	4.0 x 6.0 x 2.7	N/A	-	-
No.4 semi-anechoic chamber (SAC4)	12.0 x 8.5 x 5.9	6.8 x 5.75	No.4 Preparation room (PR4)	3 m
No.4 shielded room (SR4)	4.0 x 6.0 x 2.7	N/A	-	-
No.5 semi-anechoic chamber (SAC5)	6.0 x 6.0 x 3.9	6.0 x 6.0	-	-
No.5 measurement room (MR5)	6.4 x 6.4 x 3.0	6.4 x 6.4	-	-
No.6 shielded room (SR6)	4.0 x 4.5 x 2.7	4.0 x 4.5	-	-
No.6 measurement room (MR6)	4.75 x 5.4 x 3.0	4.75 x 4.15	-	-
No.7 shielded room (SR7)	4.7 x 7.5 x 2.7	4.7 x 7.5	-	-
No.8 measurement room (MR8)	3.1 x 5.0 x 2.7	3.1 x 5.0	-	-
No.9 measurement room (MR9)	8.8 x 4.6 x 2.8	2.4 x 2.4	-	-
No.10 shielded room (SR10)	3.8 x 2.8 x 2.8	3.8 x 2.8	-	-
No.11 measurement room (MR11)	4.0 x 3.4 x 2.5	N/A	-	-
No.12 measurement room (MR12)	2.6 x 3.4 x 2.5	N/A	-	-
Large Chamber	16.9 x 22.1 x 10.17	16.9 x 22.1	-	10 m
Small Chamber	5.3 x 6.69 x 3.59	5.3 x 6.69	-	-

* Size of vertical conducting plane (for Conducted Emission test): 2.0 x 2.0 m for No.1, No.2, No.3, No.4, and No.5 semi-anechoic chambers and No.3 and No.4 shielded rooms.

3.7 Test data, Test instruments, and Test set up.

Refer to APPENDIX.

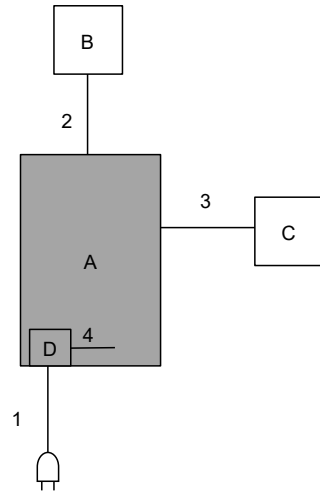
SECTION 4: Operation of EUT during testing

4.1 Operating Modes

Test Item	Mode	Tested frequency
Conducted Emission, 20 dB Bandwidth	Transmitting mode (Tx)	916.0 MHz (100 kbps) 908.4 MHz (9.6 kbps) 908.4 MHz (40 kbps)
Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission) *1)	Transmitting mode (Tx)	916.0 MHz (100 kbps) 908.4 MHz (9.6 kbps) 908.4 MHz (40 kbps)
The system was configured in typical fashion (as a customer would normally use it) for testing.		
*Power of the EUT was set by the software as follows; Power Setting: 155 (Conducted Emission) *2) 15 (Other tests) Software: Firmware 2.6.3 (Date: June 9, 2025, Storage location: EUT memory) *This setting of software is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.		
*1) For Radiated Emission at 908.4 MHz, the pre-check was conducted at data rates of 9.6 kbps and 40 kbps. The full test was conducted at the worst-case rate of 40 kbps. Additionally, a band-edge test was also conducted at the wider bandwidth rate of 9.6 kbps. *2) In accordance with the customer's request, the Conducted Emission test was conducted using a power setting of 155, which exceeds the specified maximum power output setting of 15.		

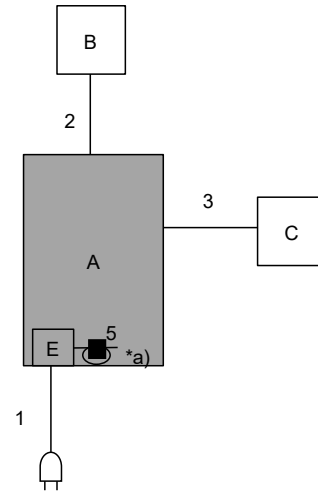
4.2 Configuration and peripherals

<EUT without a ferrite core>



AC 120 V / 60 Hz
AC 240 V / 60 Hz for CE only

<EUT with a ferrite core>



AC 120 V / 60 Hz
AC 240 V / 60 Hz for CE only

■ : Standard Ferrite Core

*a) Ferrite Core Model No. MRFC-8 (Manufacture KGS) 1.0 cm from Item E, 2 turns

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

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

* The EUT is equipped with one of two AC adapter types: with or without a ferrite core.

For the radiated emission test, both AC adapters were pre-checked, and the adapter without a ferrite core (worst case) was used. For the conducted emission test, both AC adapters were used.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Z-Works 4G Gateway v4	ZGW-ZW4100-B	gw2408004606	Z-Works, Inc.	EUT
B	Bedside call button	CB-NK1000	gw2408004606	Nakayo Co., Ltd.	-
C	Vital Sensor	PZ-ZW1002	gw2408004606	Z-Works, Inc.	-
D	Quick Charger	DNP202	*1)	DongGuan Dongnic Electronic Technology Co., Ltd	EUT
E	AC Adapter	UA310-0520	S03-0747927	UNIFIVE	EUT

*1) This item is controlled with A: Z-Works 4G Gateway v4.

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	AC Cable	3.00	Unshielded	Unshielded	-
2	Signal Cable	2.00	Unshielded	Unshielded	-
3	Signal Cable	2.40	Unshielded	Unshielded	-
4	DC Cable	0.15	Unshielded	Unshielded	-
5	DC Cable	0.10	Unshielded	Unshielded	-

SECTION 5: Conducted Emission

Test Procedure and conditions

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 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 tabletop 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.

For the tests on EUT with other peripherals (as a whole system)

I/O cable and AC 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.

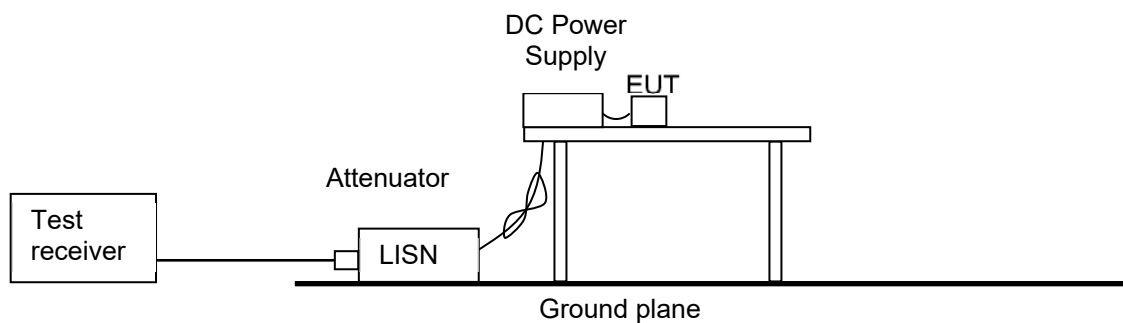
The AC Mains Terminal Continuous Disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber or a Measurement Room.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

Detector	: CISPR quasi-peak and average detector (IF BW 9 kHz)
Measurement range	: 0.15 MHz to 30 MHz
Test data	: APPENDIX
Test result	: Pass

Figure 1: Test Setup



SECTION 6: Radiated emission (Electric Field Strength of Fundamental and Spurious Emission)

Test Procedure and conditions

[For below 30 MHz]

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 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., and 135 deg.) and horizontal polarization.

*Refer to Figure 1 about Direction of the Loop Antenna.

[For below 1 GHz]

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.

[For above 1 GHz, up to 40 GHz]

EUT was placed on the platform of nominal size, 0.5 m by 0.5 m, raised 1.5 m above the conducting ground plane.

The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with absorbent materials lined on a ground plane.

The height of the measuring antenna varied between 1 m and 4 m (frequency range 9 kHz - 30 MHz: loop antenna was fixed height at 1.0 m) and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.

Test antenna was aimed at the EUT for receiving the maximum signal and always kept within the illumination area of the 3 dB beamwidth of the antenna.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.

The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear voltage average mode).

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.

Test Antennas are used as below;

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

Frequency	9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1 GHz	1 GHz to 40 GHz	
Instrument used	Test Receiver	Test Receiver	Test Receiver	Spectrum Analyzer	
Detector	QP, Average *1)	QP, Average *1)	QP	Peak	Average *2)
IF Bandwidth	BW 200 Hz	BW 9 kHz	BW 120 kHz	RBW: 1 MHz VBW: 3 MHz	RBW: 1 MHz VBW: 10 Hz

*1) 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.

*2) VBW was set to 10 Hz and linear voltage average mode was used.

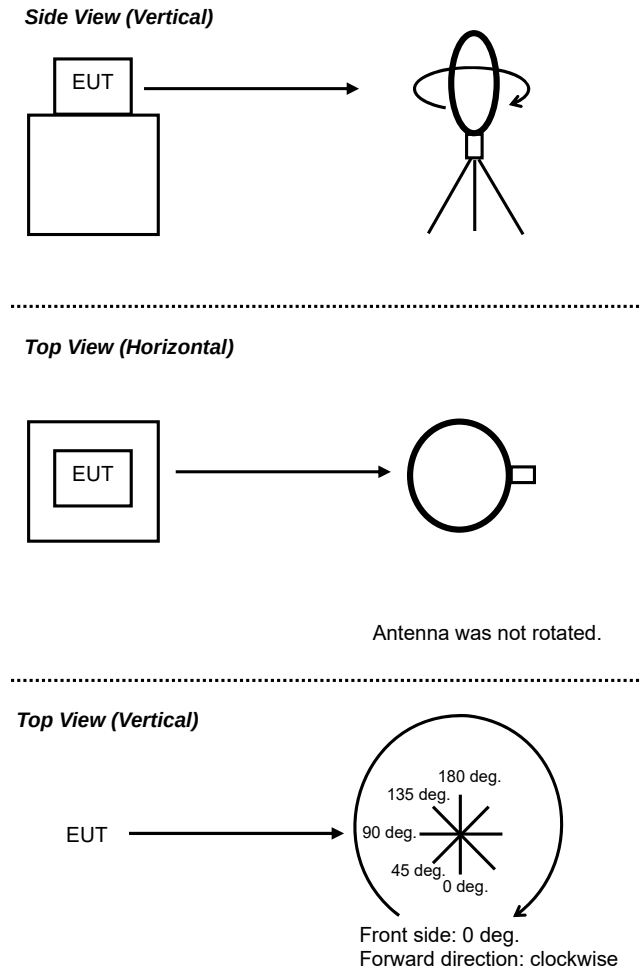
The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 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.

Figure 2: Test Setup

[Test setup]

Below 1 GHz	
× : Center of turn table	Test Distance: 3 m
1 GHz to 10 GHz	
× : Center of turn table	Test Distance: 3 m

Figure 3: Direction of the Loop Antenna



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.

*The result is rounded off to the second decimal place, so some differences might be observed.

Measurement range	: 0.009 MHz to 10 GHz
Test data	: APPENDIX 1
Test result	: Pass

SECTION 7: 20 dB Bandwidth

Test Procedure

The measurement was performed in the antenna height to gain the maximum of Electric field strength.

Test	Span	RBW	VBW	Sweep	Detector	Trace	Instrument used
-20 dB Bandwidth	Enough width to display emission skirts	1 to 5 % of OBW	Three times of RBW	Auto	Peak	Max Hold	Spectrum Analyzer

Test data : APPENDIX 1

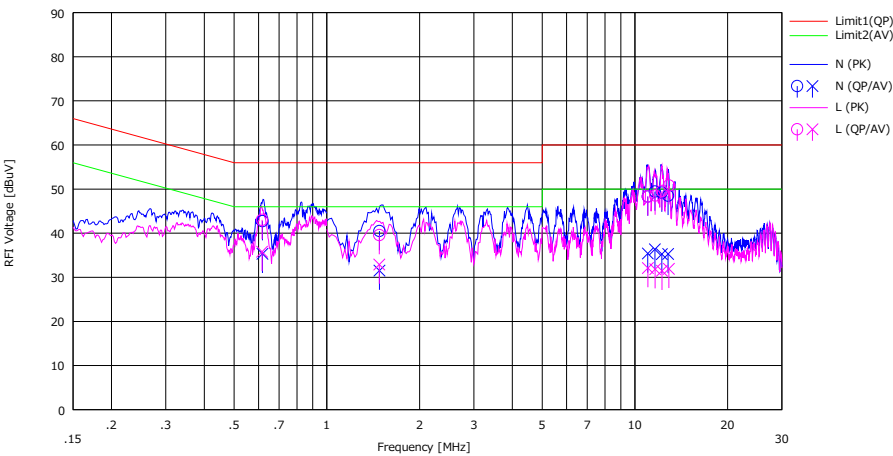
Test result : Pass

APPENDIX 1: Test data

Conducted Emission
(AC adapter without a ferrite core)

Mode	Transmitting mode (Tx) 916.0 MHz (100 kbps)			
Date	Test site	Temperature	Humidity	Engineer
June 9, 2025	SAC3	22 deg. C	55 % RH	Takeshi Hiyaji

Limit : FCC_Part 15 Subpart C(15.207)



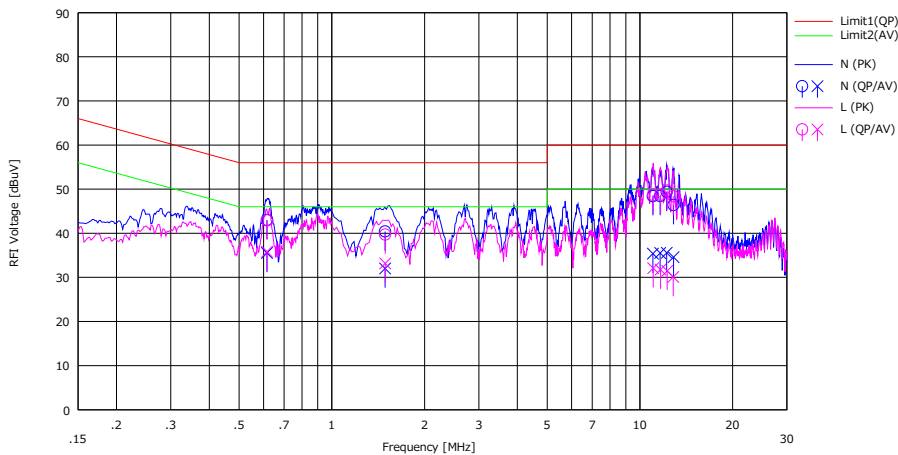
No.	Freq. [MHz]	Reading		USN [dB]	LOSS [dB]	Results		Limit		Margin		Phase	Comment
		(QP) [dBuV]	(AV) [dBuV]			(QP) [dBuV]	(AV) [dBuV]	(QP) [dBuV]	(AV) [dBuV]	(QP) [dB]	(AV) [dB]		
1	0.61800	29.50	22.10	0.06	13.17	42.73	35.33	56.00	46.00	13.27	10.67	N	
2	1.48100	27.20	18.20	0.07	13.23	40.50	31.50	56.00	46.00	15.50	14.50	N	
3	11.00800	34.40	21.50	0.28	13.62	48.30	35.40	60.00	50.00	11.70	14.60	N	
4	11.61200	35.50	22.40	0.30	13.63	49.43	36.33	60.00	50.00	10.57	13.67	N	
5	12.22800	35.20	21.30	0.32	13.65	49.17	35.27	60.00	50.00	10.83	14.73	N	
6	12.81600	34.50	21.30	0.33	13.66	48.49	35.29	60.00	50.00	11.51	14.71	N	
7	0.61640	29.80	22.60	0.04	13.17	43.01	35.81	56.00	46.00	12.99	10.19	L	
8	1.48000	26.30	19.60	0.06	13.23	39.59	32.89	56.00	46.00	16.41	13.11	L	
9	11.02000	34.40	18.20	0.28	13.62	48.30	32.10	60.00	50.00	11.70	17.90	L	
10	11.63200	34.60	17.90	0.31	13.63	48.54	31.84	60.00	50.00	11.46	18.16	L	
11	12.24800	35.60	17.50	0.33	13.65	49.58	31.48	60.00	50.00	10.42	18.52	L	
12	12.89200	36.80	17.90	0.34	13.67	50.81	31.91	60.00	50.00	9.19	18.09	L	

CHART: WITH FACTOR Peak hold data. CALCULATION : RESULT = READING + LISN + LOSS (CABLE + ATT)
Except for the above table: adequate margin data below the limits.

Conducted Emission
(AC adapter without a ferrite core)

Mode	Transmitting mode (Tx) 908.4 MHz (9.6 kbps)			
Date	Test site	Temperature	Humidity	Engineer
June 9, 2025	SAC3	22 deg. C	55 % RH	Takeshi Hiyaji

Limit : FCC_Part 15 Subpart C(15.207)



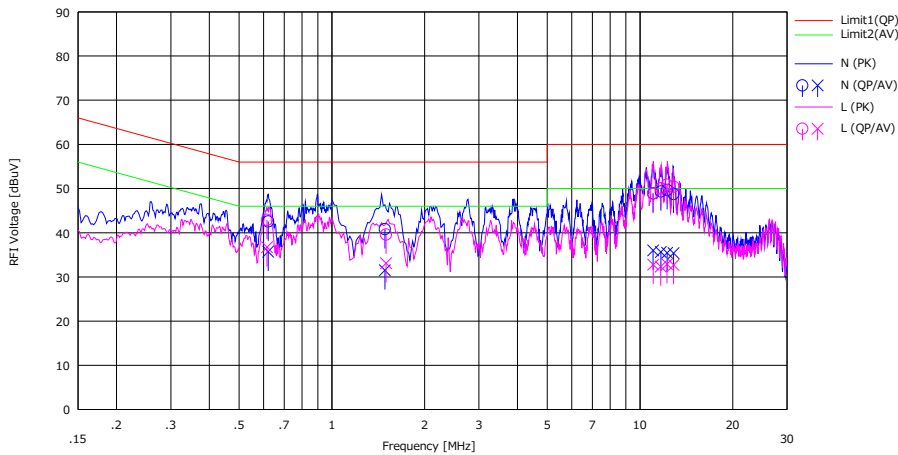
No.	Freq. [MHz]	Reading		LISN	LOSS	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]			<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.61580	29.80	22.30	0.06	13.17	43.03	35.53	56.00	46.00	12.97	10.47	N	
2	1.48900	27.10	18.70	0.07	13.23	40.40	32.00	56.00	46.00	15.60	14.00	N	
3	11.02200	34.50	21.50	0.28	13.62	48.40	35.40	60.00	50.00	11.60	14.60	N	
4	11.63600	34.50	21.60	0.30	13.63	48.43	35.53	60.00	50.00	11.57	14.47	N	
5	12.22000	35.40	21.60	0.32	13.65	49.37	35.57	60.00	50.00	10.63	14.43	N	
6	12.85000	32.40	20.60	0.33	13.66	46.39	34.59	60.00	50.00	13.61	15.41	N	
7	0.61640	29.70	22.60	0.04	13.17	42.91	35.81	56.00	46.00	13.09	10.19	L	
8	1.49000	26.40	19.90	0.06	13.23	39.69	33.19	56.00	46.00	16.31	12.81	L	
9	11.04600	34.80	18.20	0.28	13.62	48.70	32.10	60.00	50.00	11.30	17.90	L	
10	11.66600	34.80	17.80	0.31	13.63	48.74	31.74	60.00	50.00	11.26	18.26	L	
11	12.26400	35.70	17.50	0.33	13.65	49.68	31.48	60.00	50.00	10.32	18.52	L	
12	12.82400	34.40	16.10	0.34	13.66	48.40	30.10	60.00	50.00	11.60	19.90	L	

CHART: WITH FACTOR Peak hold data. CALCULATION : RESULT = READING + LISN + LOSS (CABLE + ATT)
Except for the above table: adequate margin data below the limits.

Conducted Emission
(AC adapter without a ferrite core)

Mode	Transmitting mode (Tx) 908.4 MHz (40 kbps)			
Date	Test site	Temperature	Humidity	Engineer
June 9, 2025	SAC3	22 deg. C	55 % RH	Takeshi Hiyaji

Limit : FCC_Part 15 Subpart C(15.207)



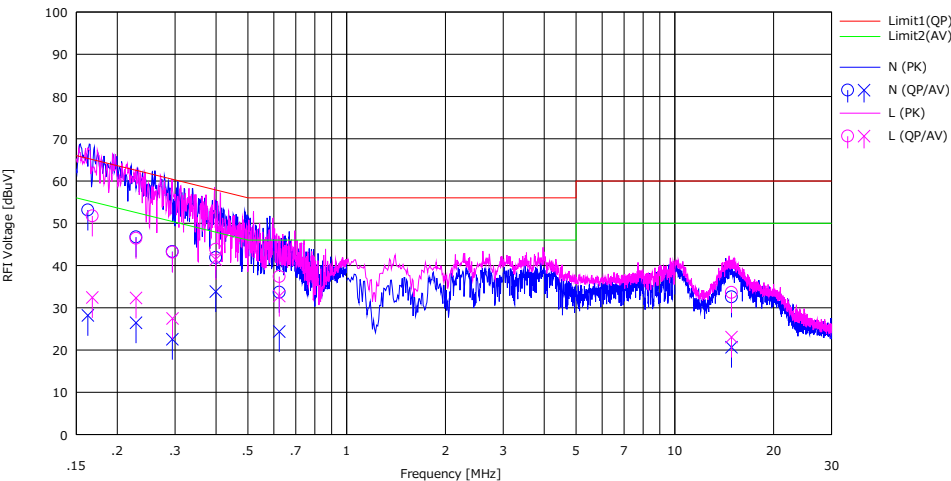
No.	Freq. [MHz]	Reading		LISN [dB]	LOSS [dB]	Results		Limit		Margin		Phase	Comment
		(QP)	(AV)			(QP)	(AV)	(QP)	(AV)	(QP)	(AV)		
		[dBuV]	[dBuV]			[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.62100	29.30	22.50	0.06	13.17	42.53	35.73	56.00	46.00	13.47	10.27	N	
2	1.48600	27.50	18.20	0.07	13.23	40.80	31.50	56.00	46.00	15.20	14.50	N	
3	11.02800	35.00	22.10	0.28	13.62	48.90	36.00	60.00	50.00	11.10	14.00	N	
4	11.68400	35.40	21.70	0.31	13.63	49.34	35.64	60.00	50.00	10.66	14.36	N	
5	12.24600	35.70	21.50	0.32	13.65	49.67	35.47	60.00	50.00	10.33	14.53	N	
6	12.84400	34.80	21.40	0.33	13.66	48.79	35.39	60.00	50.00	11.21	14.61	N	
7	0.61560	29.70	23.50	0.04	13.17	42.91	36.71	56.00	46.00	13.09	9.29	L	
8	1.49820	26.30	19.80	0.06	13.23	39.59	33.09	56.00	46.00	16.41	12.91	L	
9	11.03200	35.00	18.90	0.28	13.62	48.90	32.80	60.00	50.00	11.10	17.20	L	
10	11.67600	36.10	18.40	0.31	13.63	50.04	32.34	60.00	50.00	9.96	17.66	L	
11	12.24000	36.90	18.90	0.33	13.65	50.88	32.88	60.00	50.00	9.12	17.12	L	
12	12.85600	36.40	18.70	0.34	13.66	50.40	32.70	60.00	50.00	9.60	17.30	L	

CHART: WITH FACTOR Peak hold data. CALCULATION : RESULT = READING + LISN + LOSS (CABLE + ATT)
Except for the above table: adequate margin data below the limits.

Conducted Emission
(AC adapter with a ferrite core)

Mode	Transmitting mode (Tx) 916.0 MHz (100 kbps)			
Date	Test site	Temperature	Humidity	Engineer
May 21, 2026	SAC1	21 deg. C	59 % RH	Yuta Moriya

Limit : FCC_Part 15 Subpart C(15.207) / RSS-Gen 8.8



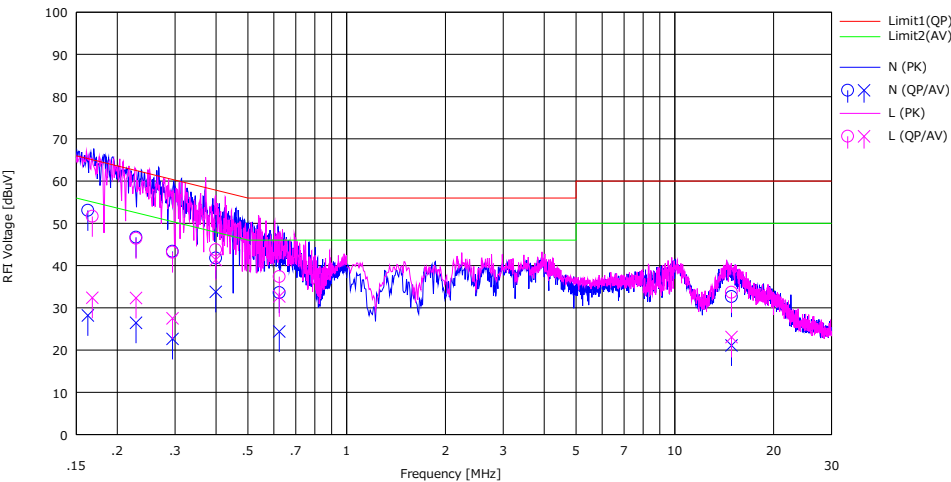
No.	Freq. [MHz]	Reading		LISN [dB]	LOSS [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]			<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
		[dBuV]	[dBuV]			[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.16280	39.94	15.00	0.05	13.13	53.12	28.18	65.32	55.32	12.20	27.14	N	
2	0.22821	33.53	13.24	0.05	13.15	46.73	26.44	62.51	52.51	15.78	26.07	N	
3	0.29445	30.07	9.34	0.05	13.16	43.28	22.55	60.40	50.40	17.12	27.85	N	
4	0.39913	28.63	20.59	0.05	13.18	41.86	33.82	57.87	47.87	16.01	14.05	N	
5	0.62320	20.37	11.09	0.05	13.22	33.64	24.36	56.00	46.00	22.36	21.64	N	
6	14.88000	18.02	6.10	0.33	14.22	32.57	20.65	60.00	50.00	27.43	29.35	N	
7	0.16790	38.54	19.23	0.05	13.13	51.72	32.41	65.06	55.06	13.34	22.65	L	
8	0.22821	33.20	19.11	0.05	13.15	46.40	32.31	62.51	52.51	16.11	20.20	L	
9	0.29450	29.94	14.25	0.05	13.16	43.15	27.46	60.40	50.40	17.25	22.94	L	
10	0.39913	30.59	28.19	0.05	13.18	43.82	41.42	57.87	47.87	14.05	6.45	L	
11	0.62320	24.10	19.48	0.05	13.22	37.37	32.75	56.00	46.00	18.63	13.25	L	
12	14.88000	19.03	8.50	0.35	14.22	33.60	23.07	60.00	50.00	26.40	26.93	L	

CHART: WITH FACTOR Peak hold data. CALCULATION : RESULT = READING + LISN + LOSS (CABLE + ATT)
Except for the above table: adequate margin data below the limits.

Conducted Emission
(AC adapter with a ferrite core)

Mode	Transmitting mode (Tx) 908.4 MHz (9.6 kbps)			
Date	Test site	Temperature	Humidity	Engineer
May 21, 2026	SAC1	21 deg. C	59 % RH	Yuta Moriya

Limit : FCC_Part 15 Subpart C(15.207) / RSS-Gen 8.8



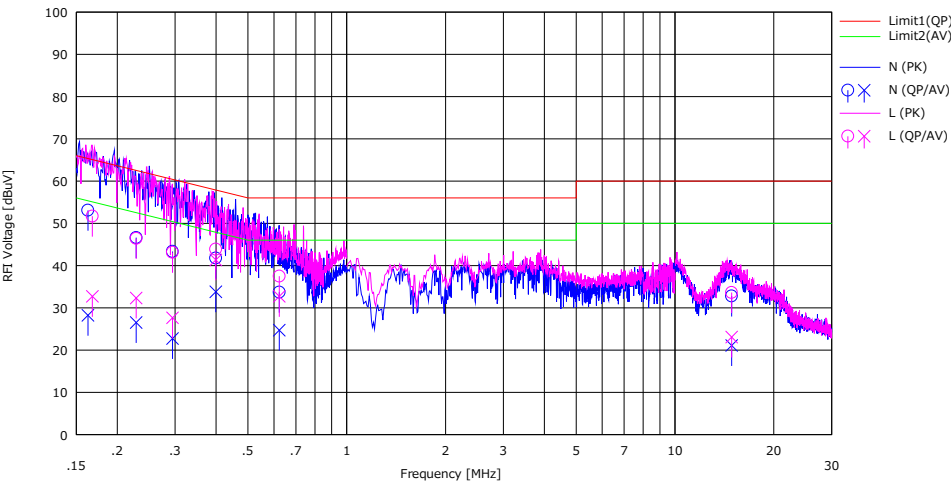
No.	Freq. [MHz]	Reading		LISN	LOSS	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]			<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.16280	39.89	15.02	0.05	13.13	53.07	28.20	65.32	55.32	12.25	27.12	N	
2	0.22822	33.51	13.26	0.05	13.15	46.71	26.46	62.51	52.51	15.80	26.05	N	
3	0.29452	30.13	9.43	0.05	13.16	43.34	22.64	60.40	50.40	17.06	27.76	N	
4	0.39915	28.55	20.56	0.05	13.18	41.78	33.79	57.87	47.87	16.09	14.08	N	
5	0.62320	20.32	11.13	0.05	13.22	33.59	24.40	56.00	46.00	22.41	21.60	N	
6	14.88000	18.12	6.56	0.33	14.22	32.67	21.11	60.00	50.00	27.33	28.89	N	
7	0.16790	38.46	19.22	0.05	13.13	51.64	32.40	65.06	55.06	13.42	22.66	L	
8	0.22822	33.22	19.13	0.05	13.15	46.42	32.33	62.51	52.51	16.09	20.18	L	
9	0.29452	29.94	14.32	0.05	13.16	43.15	27.53	60.40	50.40	17.25	22.87	L	
10	0.39914	30.52	28.11	0.05	13.18	43.75	41.34	57.87	47.87	14.12	6.53	L	
11	0.62320	24.11	19.43	0.05	13.22	37.38	32.70	56.00	46.00	18.62	13.30	L	
12	14.88000	19.11	8.52	0.35	14.22	33.68	23.09	60.00	50.00	26.32	26.91	L	

CHART: WITH FACTOR Peak hold data. CALCULATION : RESULT = READING + LISN + LOSS (CABLE + ATT)
Except for the above table: adequate margin data below the limits.

Conducted Emission
(AC adapter with a ferrite core)

Mode	Transmitting mode (Tx) 908.4 MHz (40 kbps)			
Date	Test site	Temperature	Humidity	Engineer
May 21, 2026	SAC1	21 deg. C	59 % RH	Yuta Moriya

Limit : FCC_Part 15 Subpart C(15.207) / RSS-Gen 8.8



No.	Freq. [MHz]	Reading		LISN	LOSS	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]			<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.16273	39.88	15.06	0.05	13.13	53.06	28.24	65.32	55.32	12.26	27.08	N	
2	0.22833	33.41	13.31	0.05	13.15	46.61	26.51	62.51	52.51	15.90	26.00	N	
3	0.29462	30.12	9.52	0.05	13.16	43.33	22.73	60.39	50.39	17.06	27.66	N	
4	0.39915	28.52	20.56	0.05	13.18	41.75	33.79	57.87	47.87	16.12	14.08	N	
5	0.62335	20.42	11.44	0.05	13.22	33.69	24.71	56.00	46.00	22.31	21.29	N	
6	14.88000	18.22	6.52	0.33	14.22	32.77	21.07	60.00	50.00	27.23	28.93	N	
7	0.16792	38.52	19.52	0.05	13.13	51.70	32.70	65.06	55.06	13.36	22.36	L	
8	0.22832	33.19	19.11	0.05	13.15	46.39	32.31	62.51	52.51	16.12	20.20	L	
9	0.29462	29.89	14.41	0.05	13.16	43.10	27.62	60.39	50.39	17.29	22.77	L	
10	0.39913	30.62	28.10	0.05	13.18	43.85	41.33	57.87	47.87	14.02	6.54	L	
11	0.62331	24.21	19.44	0.05	13.22	37.48	32.71	56.00	46.00	18.52	13.29	L	
12	14.88000	19.03	8.51	0.35	14.22	33.60	23.08	60.00	50.00	26.40	26.92	L	

CHART: WITH FACTOR Peak hold data. CALCULATION : RESULT = READING + LISN + LOSS (CABLE + ATT)
Except for the above table: adequate margin data below the limits.

Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission)

Mode	Transmitting mode (Tx) 916.0 MHz (100 kbps)
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
August 24, 2025	SAC3	21 deg. C	55 % RH	Hiroki Numata	Below 1 GHz
August 25, 2025	SAC3	21 deg. C	56 % RH	Hiroki Numata	Above 1 GHz

QP

Ant Deg [deg] or Polarity [Hori/Vert]	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
0deg	1.59840	QP	37.2	20.1	-33.9	32.3	-	-8.9	23.5	32.4	

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

QP or AV or PK

Frequency [MHz]	Detector	Reading [dBuV]		Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	
		Hor	Ver					Hor	Ver		Hor	Ver
32.036	QP	35.4	43.0	13.0	7.0	32.2	-	23.2	30.8	40.0	16.8	9.2
58.558	QP	36.0	51.5	9.3	7.4	32.2	-	20.5	36.0	40.0	19.5	4.0
116.228	QP	29.5	36.7	10.7	8.1	32.1	-	16.2	23.4	43.5	27.3	20.1
176.433	QP	36.5	33.9	13.3	8.7	32.1	-	26.4	23.8	43.5	17.1	19.7
300.066	QP	43.3	39.5	13.7	9.7	32.0	-	34.8	31.0	46.0	11.3	15.1
600.341	QP	42.0	39.0	19.3	11.5	32.0	-	40.8	37.8	46.0	5.2	8.2
700.423	QP	37.2	33.8	19.9	12.0	32.1	-	37.1	33.7	46.0	8.9	12.3
720.351	QP	28.0	24.2	20.1	12.1	31.9	-	28.3	24.5	46.0	17.7	21.5
900.010	QP	26.8	33.1	22.0	13.0	30.9	-	30.9	37.2	46.0	15.1	8.8
902.000	QP	22.4	21.6	22.0	13.0	30.9	-	26.5	25.7	46.0	19.5	20.3
916.000	QP	84.2	85.5	22.1	13.1	30.8	-	88.5	89.8	93.9	5.4	4.1
928.000	QP	22.3	21.3	22.1	13.2	30.8	-	26.7	25.7	46.0	19.3	20.3
1832.000	AV	33.9	34.1	25.5	2.3	32.6	-	29.1	29.3	53.9	24.8	24.6
2748.000	AV	33.2	33.1	28.3	2.7	31.9	-	32.3	32.2	53.9	21.6	21.7
3664.000	AV	32.8	32.7	29.3	3.1	31.5	-	33.7	33.6	53.9	20.2	20.3
4580.000	AV	32.5	31.8	30.9	3.4	31.0	-	35.8	35.1	53.9	18.1	18.8
5496.000	AV	31.9	31.7	31.9	3.8	30.9	-	36.7	36.5	53.9	17.2	17.4
6412.000	AV	31.9	31.9	33.7	4.0	31.3	-	38.3	38.3	53.9	15.6	15.6
7328.000	AV	33.3	33.7	36.3	4.3	31.9	-	42.0	42.3	53.9	11.9	11.6
8244.000	AV	33.9	33.9	36.5	4.6	32.2	-	42.7	42.7	53.9	11.2	11.2
9160.000	AV	33.7	33.3	38.4	4.9	32.2	-	44.7	44.3	53.9	9.2	9.6
1832.000	PK	44.3	42.2	25.5	2.3	32.6	-	39.5	37.4	73.9	34.4	36.5
2748.000	PK	41.6	41.5	28.3	2.7	31.9	-	40.7	40.6	73.9	33.2	33.3
3664.000	PK	41.4	41.2	29.3	3.1	31.5	-	42.3	42.1	73.9	31.6	31.8
4580.000	PK	40.6	41.1	30.9	3.4	31.0	-	44.0	44.4	73.9	29.9	29.5
5496.000	PK	40.1	40.6	31.9	3.8	30.9	-	44.9	45.5	73.9	29.0	28.4
6412.000	PK	40.7	41.2	33.7	4.0	31.3	-	47.2	47.6	73.9	26.8	26.3
7328.000	PK	41.8	42.5	36.3	4.3	31.9	-	50.5	51.1	73.9	23.4	22.8
8244.000	PK	42.4	42.6	36.5	4.6	32.2	-	51.2	51.5	73.9	22.7	22.4
9160.000	PK	41.9	42.0	38.4	4.9	32.2	-	53.0	53.1	73.9	20.9	20.8

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

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

*NS: No Signal

Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission)

Mode	Transmitting mode (Tx) 908.4 MHz (9.6 kbps)
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
October 12, 2025	SAC3	21 deg. C	52 % RH	Takumi Nishida	Below 1 GHz

QP or AV or PK

Frequency [MHz]	Detector	Reading [dBuV]		Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	
		Hor	Ver					Hor	Ver		Hor	Ver
902.000	QP	21.8	21.5	22.1	13.0	30.9	-	26.0	25.7	46.0	20.1	20.4
928.000	QP	21.2	21.2	22.0	13.1	30.8	-	25.6	25.6	46.0	20.4	20.4

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

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

*NS: No Signal

Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission)

Mode	Transmitting mode (Tx) 908.4 MHz (40 kbps)
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
August 24, 2025	SAC3	21 deg. C	55 % RH	Hiroki Numata	Below 1 GHz
August 25, 2025	SAC3	21 deg. C	56 % RH	Hiroki Numata	Above 1 GHz

QP

Ant Deg [deg] or Polarity [Hori/Vert]	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
0deg	2.03140	QP	37.2	20.1	-33.8	32.3	-	-8.8	29.5	38.3	

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

QP or AV or PK

Frequency [MHz]	Detector	Reading [dBuV]		Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	
		Hor	Ver					Hor	Ver		Hor	Ver
30.683	QP	NS	42.8	13.4	7.0	32.2	-	-	31.0	40.0	-	9.1
58.226	QP	35.8	51.1	9.3	7.4	32.2	-	20.3	35.6	40.0	19.7	4.4
76.631	QP	38.3	NS	9.0	7.7	32.2	-	22.8	-	40.0	17.2	-
80.928	QP	NS	37.9	9.1	7.7	32.2	-	-	22.5	40.0	-	17.5
173.409	QP	38.5	NS	13.1	8.7	32.1	-	28.2	-	43.5	15.3	-
300.003	QP	43.9	40.2	13.7	9.7	32.0	-	35.4	31.7	46.0	10.7	14.4
600.006	QP	42.0	38.9	19.3	11.5	32.0	-	40.8	37.7	46.0	5.2	8.3
720.008	QP	36.5	31.8	20.1	12.1	31.9	-	36.8	32.1	46.0	9.2	13.9
900.009	QP	34.0	33.3	22.0	13.0	30.9	-	38.1	37.4	46.0	7.9	8.6
902.000	QP	22.0	21.6	22.0	13.0	30.9	-	26.1	25.7	46.0	19.9	20.3
908.400	QP	84.3	86.6	22.0	13.1	30.9	-	88.5	90.8	93.9	5.4	3.1
928.000	QP	21.4	21.4	22.1	13.2	30.8	-	25.8	25.8	46.0	20.2	20.2
959.945	QP	30.0	32.8	22.2	13.3	30.6	-	34.9	37.7	46.0	11.1	8.3
1816.800	AV	35.1	33.7	25.5	2.3	32.6	-	30.2	28.8	53.9	23.7	25.1
2725.200	AV	33.5	33.2	28.2	2.7	31.9	-	32.5	32.2	53.9	21.4	21.7
3633.600	AV	32.6	32.8	29.3	3.1	31.5	-	33.5	33.7	53.9	20.4	20.2
4542.000	AV	32.0	32.0	30.8	3.4	31.0	-	35.2	35.3	53.9	18.7	18.6
5450.400	AV	32.2	32.1	31.9	3.8	30.9	-	37.0	36.9	53.9	17.0	17.1
6358.800	AV	32.4	32.5	33.4	4.0	31.3	-	38.6	38.7	53.9	15.3	15.2
7267.200	AV	33.1	33.1	36.2	4.3	31.9	-	41.7	41.7	53.9	12.2	12.2
8175.600	AV	34.3	33.9	36.7	4.6	32.2	-	43.3	43.0	53.9	10.6	11.0
9084.000	AV	33.3	33.6	38.0	4.8	32.2	-	44.1	44.3	53.9	9.8	9.6
1816.800	PK	45.0	42.7	25.5	2.3	32.6	-	40.1	37.8	73.9	33.8	36.1
2725.200	PK	42.1	41.3	28.2	2.7	31.9	-	41.1	40.2	73.9	32.9	33.7
3633.600	PK	40.7	42.5	29.3	3.1	31.5	-	41.6	43.4	73.9	32.3	30.5
4542.000	PK	39.7	41.1	30.8	3.4	31.0	-	42.9	44.4	73.9	31.0	29.6
5450.400	PK	40.5	39.8	31.9	3.8	30.9	-	45.3	44.6	73.9	28.6	29.3
6358.800	PK	40.7	40.8	33.4	4.0	31.3	-	46.9	47.0	73.9	27.0	27.0
7267.200	PK	41.7	41.2	36.2	4.3	31.9	-	50.3	49.8	73.9	23.6	24.1
8175.600	PK	41.9	42.7	36.7	4.6	32.2	-	50.9	51.7	73.9	23.0	22.2
9084.000	PK	42.8	41.1	38.0	4.8	32.2	-	53.5	51.8	73.9	20.4	22.1

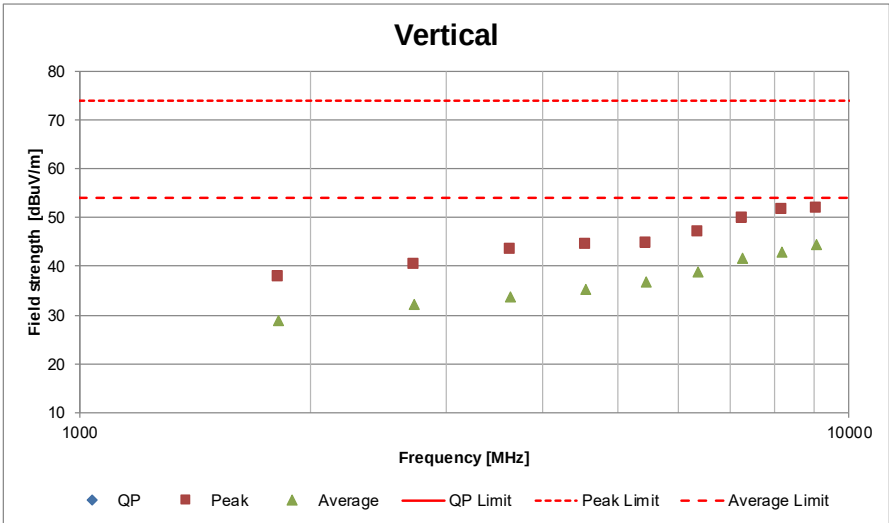
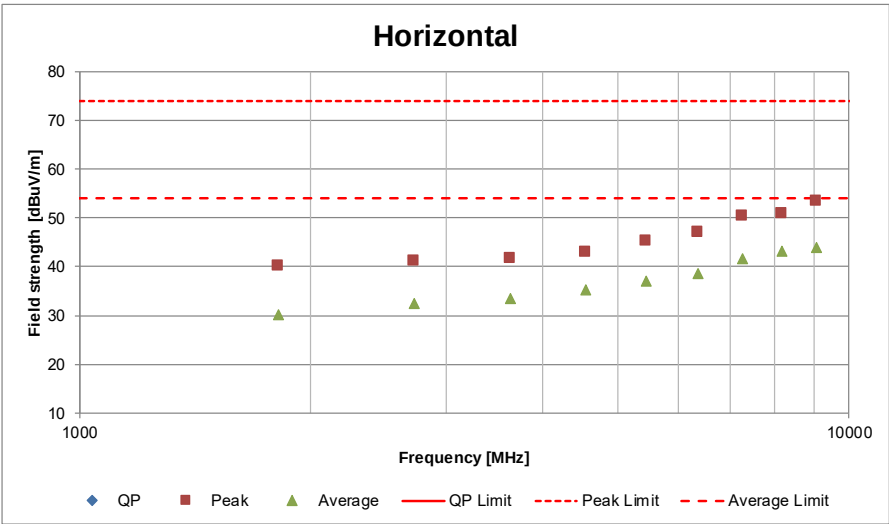
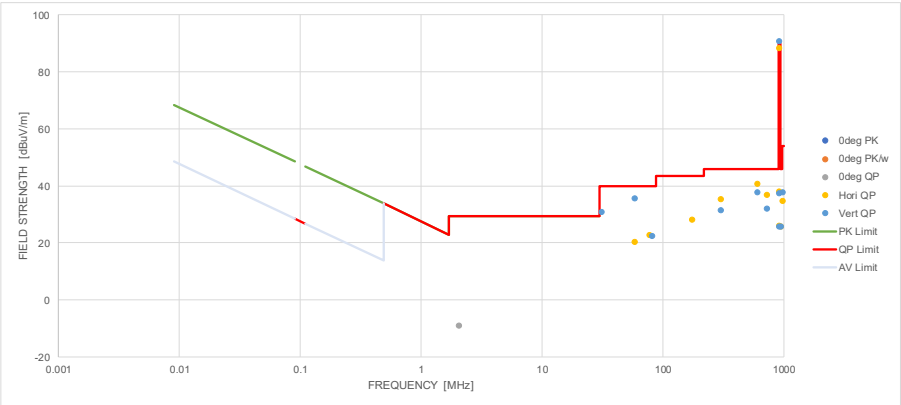
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

*NS: No Signal

Radiated Emission
(Electric Field Strength of Fundamental and Spurious Emission)
(Plot data, Worst case)

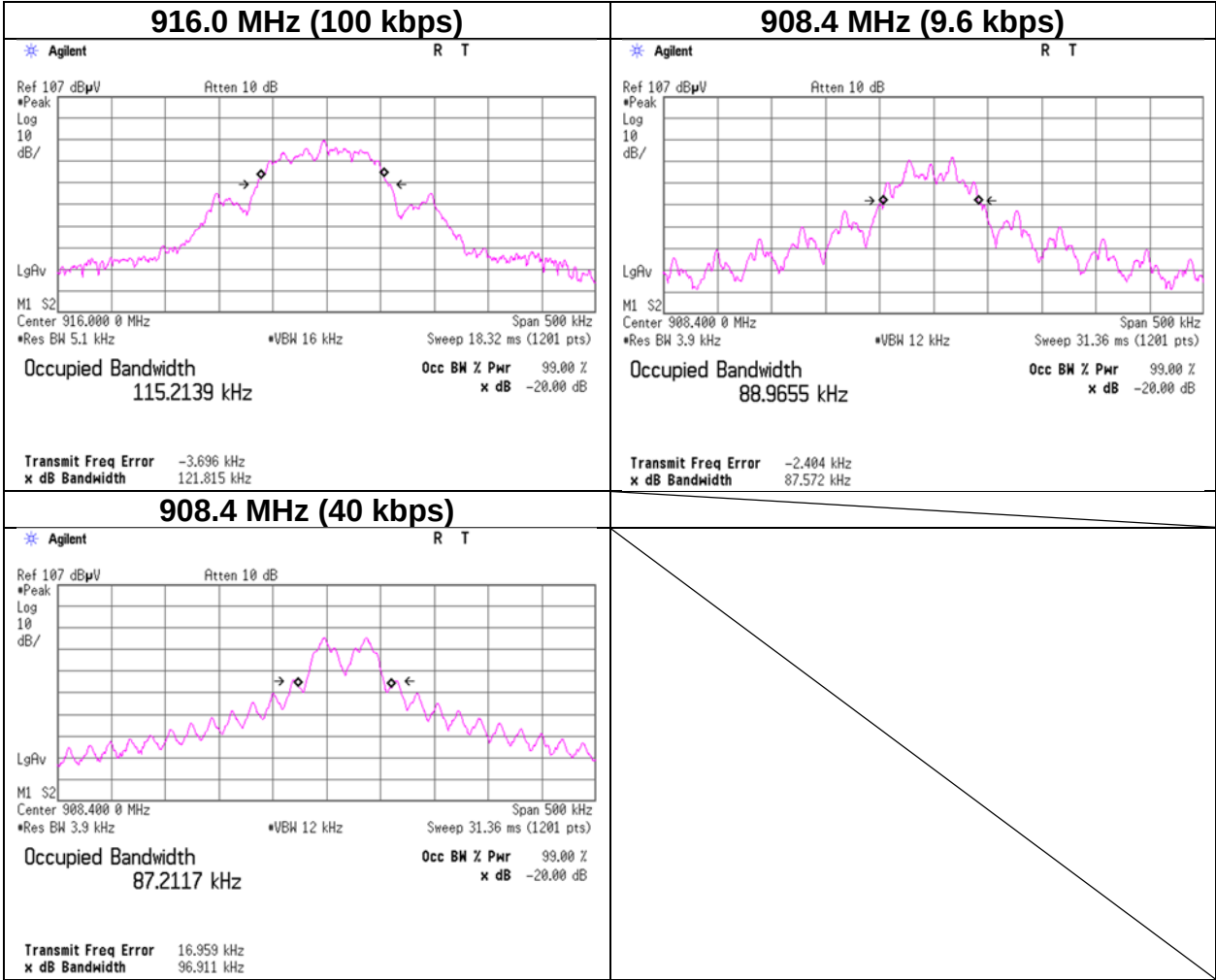
Mode	Transmitting mode (Tx) 908.4 MHz (40 kbps)				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
August 24, 2025	SAC3	21 deg. C	55 % RH	Hiroki Numata	Below 1 GHz
August 25, 2025	SAC3	21 deg. C	56 % RH	Hiroki Numata	Above 1 GHz



20 dB Bandwidth

Mode	Transmitting mode (Tx)			
Date	Test site	Temperature	Humidity	Engineer
August 24, 2025	SAC3	21 deg. C	55 % RH	Hiroki Numata

Frequency [MHz]	20 dB Bandwidth [kHz]	Limit [kHz]
916.0000	121.815	-
908.4000	87.572	-
908.4000	96.911	-



APPENDIX 2: Test instruments

Test equipment

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
CE	141216	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W/SFM14/ suciform141-PE/ 421-010/ RFM-E321(SW)	-/00640	07/04/2025	12
CE	141248	Attenuator	JFW Industries, Inc.	50FP-013H2 N	-	12/03/2024	12
CE	141358	LISN(AMN)	Schwarzbeck Mess- Elektronik OHG	NSLK8127	8127-730	07/03/2025	12
CE	141532	DIGITAL HiTESTER	HIOKI E. E. CORPORATION	3805	051201197	01/16/2025	12
CE	141949	Test Receiver	Rohde & Schwarz	ESCI	100767	06/30/2025	12
CE	142008	AC3_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	07/09/2025	24
CE	142183	Measure	KOMELON	KMC-36	-	10/21/2024	12
CE	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
CE	244709	Thermo-Hygrometer	HIOKI E. E. CORPORATION	LR5001	231202103	01/19/2025	12
CE	141530	Digital Tester	Fluke Corporation	FLUKE 26-3	78030621	02/05/2026	12
CE	141537	LISN(AMN)	Schwarzbeck Mess- Elektronik OHG	NSLK8127	8127-731	05/19/2026	12
CE	141568	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	2901	01/14/2026	12
CE	141950	EMI Test Receiver	Rohde & Schwarz	ESU26	100412	01/05/2026	12
CE	142226	Measure, Tape, Steel	KOMELON	KMC-36	-	-	-
CE	182498	Attenuator	JFW	50FP-013-H2	-	12/02/2025	12
RE	141216	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W/SFM14/ suciform141-PE/ 421-010/ RFM-E321(SW)	-/00640	07/04/2025	12
RE	141232	High Pass Filter 3.5-18.0GHz	UL-ISE	HPF SELECTOR	001	09/02/2025	12
RE	141266	Logperiodic Antenna (200-1000MHz)	Schwarzbeck Mess- Elektronik OHG	VUSLP9111B	9111B-191	08/14/2025	12
RE	141267	Logperiodic Antenna (200-1000MHz)	Schwarzbeck Mess- Elektronik OHG	VUSLP9111B	9111B-192	09/12/2025	12
RE	141323	Coaxial cable	UL-ISE	-	-	09/08/2025	12
RE	141507	Horn Antenna 1-18GHz	Schwarzbeck Mess- Elektronik OHG	BBHA9120D	258	11/11/2024	12
RE	141532	DIGITAL HiTESTER	HIOKI E. E. CORPORATION	3805	051201197	01/16/2025	12
RE	141580	MicroWave System Amplifier	Keysight Technologies Inc	83017A	MY39500779	03/24/2025	12
RE	141582	Pre Amplifier	SONOMA INSTRUMENT	310	260834	02/14/2025	12
RE	141901	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY48250080	02/04/2025	12
RE	141949	Test Receiver	Rohde & Schwarz	ESCI	100767	06/30/2025	12
RE	141951	EMI Test Receiver	Rohde & Schwarz	ESR26	101408	05/07/2025	12
RE	142008	AC3_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	07/09/2025	24
RE	142013	AC3_Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-10005	04/14/2025	24
RE	142152	Loop Antenna	Rohde & Schwarz	HFH2-Z2	836553/009	10/17/2023	12
RE	142183	Measure	KOMELON	KMC-36	-	10/21/2024	12
RE	142314	Attenuator	Pasternack Enterprises	PE7390-6	D/C 1504	06/24/2025	12
RE	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
RE	197990	Biconical Antenna	Schwarzbeck Mess- Elektronik OHG	VHBB 9124 + BBA 9106	01365	11/18/2024	12
RE	207745	Coaxial Cable	UL-ISE	-	-	03/19/2025	12
RE	242978	High Pass Filter 1-13 GHz	Pasternak	PE87FL1018	D.C. 2215	02/14/2025	12
RE	244709	Thermo-Hygrometer	HIOKI E. E. CORPORATION	LR5001	231202103	01/19/2025	12

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

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

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

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

Test item:

CE: Conducted emission

RE: Radiated emission, 20 dB bandwidth, Automatically deactivate and Duty cycle