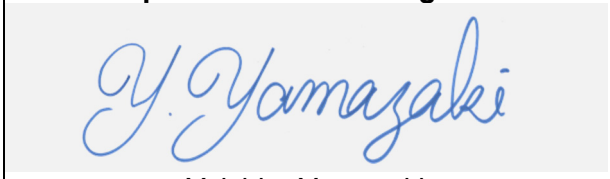
RADIO TEST REPORT

Test Report No. 15977069H-A-R1

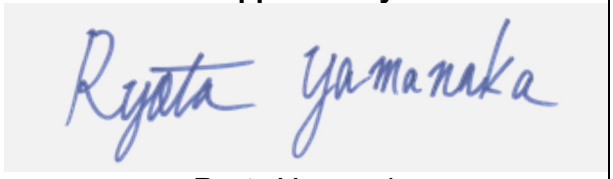
Customer	**Optex Co Ltd**
Description of EUT	**MMwave Motion/Presence Sensor**
Model Number of EUT	**VECTERA T(US) Black**
FCC ID	**DC9-VCMMWRM**
Test Regulation	**FCC Part 15 Subpart C**
Test Result	**Complied**
Issue Date	**April 17, 2026**
Remarks	**-**

Representative test engineer



Yuichiro Yamazaki
Engineer

Approved by



Ryota Yamanaka
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".

Report Cover Page - Form-ULID-003532 (DCS:13-EM-F0429) Issue# 26.0

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REVISION HISTORY

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	15977069H-A	April 3, 2026	-
1	15977069H-A-R1	April 17, 2026	Correction of the “FCC Part 15.31 (e)” in Clause 3.3. From “RF Module” to “RF Part”
			Change the following items on page 14 in Section 6: - Correction of the “Below 30 MHz” description by deleting “absorbent materials lined on” - Addition of “PK” and note *a) to the 1 GHz to 40 GHz detection in the Test Antenna table.
			Change the following data on Spurious Emissions (Below 40 GHz): - Replacement of the data to include PK detection. - Correction of the plot data accordingly.
			Addition of the Plot data for 9 kHz to 30 MHz in Spurious Emissions (Below 40 GHz).
			Changes due to Frequency Stability retesting: - Revision of the test date in Section 2.2: from "March 11 to 16, 2026" to "March 11 to April 16, 2026" - Replacement of test data (tested at 20 deg. C with the rated voltage set to -15 % and +15 % of the nominal value)

Reference: Abbreviations (Including words undescribed in this report)

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

CONTENTS PAGE

SECTION 1: Customer Information

Company Name	Optex Co Ltd
Address	5-8-12, Ogoto, Otsu, Shiga, 520-0101 Japan
Telephone Number	+81-77-579-8000
Contact Person	Hiroaki Nakamura

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	MMwave Motion/Presence Sensor
Model Number	VECTERA T(US) Black
Serial Number	Refer to SECTION 4.2
Condition	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	March 9, 2026
Test Date	March 11 to April 16, 2026

2.2 Product Description

General Specification

Rating	DC 12 V to 30 V
Operating temperature	-35 deg. C to +55 deg. C

Radio Specification

mm wave Radar

Equipment Type	Transceiver
Frequency of Operation	60.6 GHz (Center) (60.0 GHz to 61.2 GHz)
Bandwidth	1.2 GHz
Type of Modulation	Frequency modulation (FMCW)
Antenna Gain	Tx: 2.26 dBi, Rx: 2.72 dBi
Usage location	Field disturbance sensor

WLAN (IEEE802.11b/11g/11n-20/11n-40) *1)

Equipment Type	Transceiver
Frequency of Operation	2412 MHz to 2462 MHz
Type of Modulation	11b: DSSS (CCK, DQPSK, DBPSK)
	11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Gain	3.26 dBi

Bluetooth (Low Energy) *1)

Equipment Type	Transceiver
Frequency of Operation	2402 MHz to 2480 MHz
Type of Modulation	GFSK
Antenna Gain[a)]	3.26 dBi

*1) This is a FCC certificated module.
Model number: ESP32-S3-WROOM-1 (FCC ID: 2AC7Z-ESPS3WROOM1)

2.3 Variant model(s)

The tested model, VECTERA T(US) Black, has the following variant models.
The differences between these models are as follows.

Model Name	VECTERA T(US) Black (Tested model)	VECTERA T(US) Gray
Color	Black	Gray

SECTION 3: Test specification, procedures & results

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 15.255 Operation within the band 57-71 GHz.

*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+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
ANSI C63.25.1-2018
KDB 364244 D01 Meas 15_255 Radar v01

3.3 Summary of Test Results

Item	Test Procedure	Specification	Results	Remarks
Conducted Emission	**FCC:** ANSI C63.10 2020, 6. Standard test methods	**FCC:** Section 15.207	Complied	-
Duty cycle, Off Time Requirement	**FCC:** -	**FCC:** Section FCC 15.255 (c)(2)(ii)	Complied	Radiated
6dB Bandwidth	**FCC:** Section 15.255(e) (2) ANSI C63.10 2020, 9. Procedures for testing millimeter-wave systems	**FCC:** Section 15.255(e) (1)	N/A	*1)
99 % Occupied Bandwidth	**FCC:** ANSI C 63.10:2020, 9. Procedures for testing millimeter-wave systems	**FCC:** -	Complied	Radiated
EIRP (Peak)	**FCC:** ANSI C63.10 2020, 9. Procedures for testing millimeter-wave systems	**FCC:** Section 15.255 (c)(2)(ii)	Complied	Radiated
Spurious Emissions	**FCC:** ANSI C63.10 2020, 6. Standard test methods 9. Procedures for testing millimeter-wave systems	**FCC:** Section 15.255(d) Section 15.209	Complied	Radiated
Frequency Stability	**FCC:** ANSI C63.10 2020, 9. Procedures for testing millimeter-wave systems	**FCC:** Section 15.255(f)	Complied	Radiated
Group Installation	**FCC:** -	**FCC:** Section 15.255(h)	N/A	*2)

Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593.
*1) The test is not applicable since the application of Section 15.255(e) is unnecessary due to the application of Section 15.255(c)(2)(ii).
*2) The test is not applicable since there are no external phase-locking inputs in this EUT.

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
The antenna is not removable from the EUT.
Therefore, the equipment complies with the antenna requirement of Section 15.203.

3.3 Addition to standard

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

3.4 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	3.4

Radiated emission

Measurement distance	Frequency range		Unit	Calculated Uncertainty (+/-)
3 m	9 kHz to 30 MHz		dB	4.8
10 m			dB	4.7
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	5.5
1 m	6 GHz to 18 GHz		dB	5.5
	18 GHz to 26.5 GHz		dB	5.7
	26.5 GHz to 40 GHz		dB	4.8
0.5 m	18 GHz to 40 GHz		dB	5.8
>= 0.5 m	40 GHz to 50 GHz		dB	5.2
>= 0.5 m	50 GHz to 75 GHz		dB	5.0
>= 0.5 m	75 GHz to 110 GHz		dB	4.8
>= 3.8 cm	110 GHz to 170 GHz		dB	5.5
>= 2.5 cm	170 GHz to 260 GHz		dB	5.0

3.5 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 m × 2.0 m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

3.6 Test data, RF Exposure, Test instruments, and Test set up

Refer to APPENDIX.

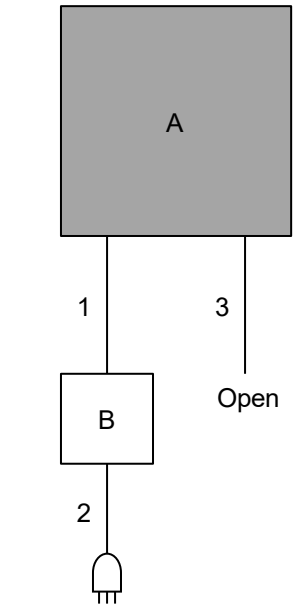
SECTION 4: Operation of EUT during testing

4.1 Operating Mode(s)

Mode	Test Item
1. Test mode (Tx)	Conducted emission, Duty Cycle and Off Time Requirement, 99 % Occupied Bandwidth, EIRP (Peak), Spurious Emissions, Frequency stability
*Power of the EUT was set by the software as follows; Power Setting: Gain step: -128 Software: Python MPR Version: 3.10.6 (Date: 2026.03.04, Storage location: Driven by connected PC)	
*This setting of software is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.	

4.2 Configuration and peripherals

Conducted Emission test



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

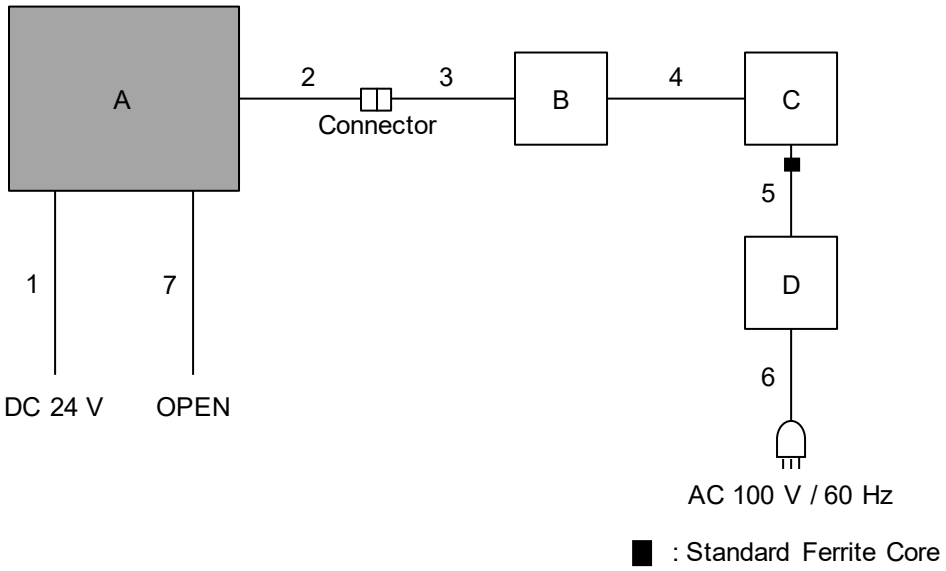
Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	MMwave Motion/ Presence Sensor	VECTERA T(US) Black	No.19	Optex Co Ltd	EUT
B	DC power supply	RPE-4323	824B168G2	RS COMPONENTS LTD	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC Cable	3.0	Unshielded	Unshielded	-
2	AC Cable	1.0	Unshielded	Unshielded	-
3	Signal Cable	3.0	Unshielded	Unshielded	-

Radiated Emission test



*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	MMwave Motion/ Presence Sensor	VECTERA T(US) Black	No.2	Optex Co Ltd	EUT
B	CAN/CAN FD to USB Interface	KVASER U100	01105681	KVASER	*1)
C	PC	ThinkCentre M710q	PC0PR84H	Lenovo	*1)
D	AC Adapter	ADP-65FD B	8SSA10J20135D1 SG78H0DJY	Lenovo	*1)

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC Cable	3.0	Unshielded	Unshielded	-
2	CAN Cable	0.5	Unshielded	Unshielded	*1)
3	CAN Cable	0.3	Shielded	Shielded	*1)
4	USB Cable	1.0	Shielded	Shielded	*1)
5	DC Cable	1.8	Unshielded	Unshielded	*1)
6	AC Cable	1.0	Unshielded	Unshielded	*1)
7	Signal Cable	3.0	Unshielded	Unshielded	-

*1) Used for EIRP (Peak) and Frequency stability tests only.

SECTION 5: Conducted Emission

Test Procedure and Conditions

EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane.
The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. 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.

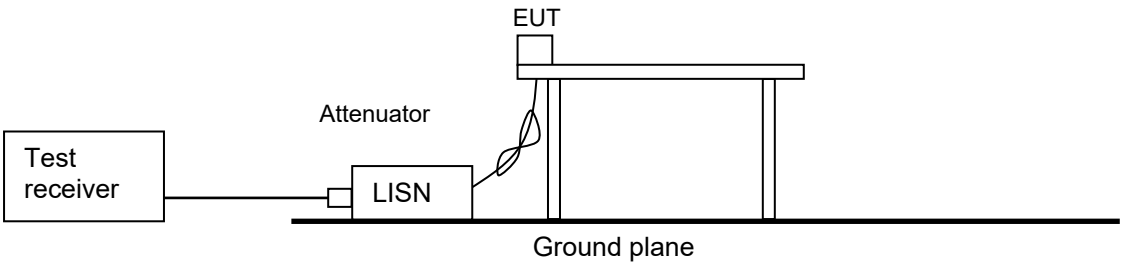
I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. All unused 50 ohm connectors of the LISN (AMN) were resistivity terminated in 50 ohm when not connected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

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber.
The EUT was connected to a LISN (AMN).
An overview sweep with peak detection has been performed.

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

Detector : QP and CISPR AV
Measurement Range : 0.15 MHz to 30 MHz
Test Data : APPENDIX
Test Result : Pass

Figure 1: Test Setup



SECTION 6: Radiated Emissions

Test Procedure

[For below 30 MHz]

The EUT was placed on a urethane 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.
The loop antenna was fixed height at 1.0 m.
The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for vertical polarization (antenna angle: 0 deg., 45 deg., 90 deg., 135 deg., and 180 deg.) and horizontal polarization.
*Refer to Figure 1 about Direction of the Loop Antenna.

[For above 30 MHz, up to 1 GHz]

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

[For above 1 GHz, up to 40 GHz]

The EUT was placed on a urethane 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 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.
The test was made with the detector (RBW/VBW) in the following table.

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	From 9 kHz to 90 kHz and From 110 kHz to 150 kHz	From 90 kHz to 110 kHz	From 150 kHz to 490 kHz	From 490 kHz to 30 MHz	From 30 MHz to 1 GHz	From 1 GHz to 40 GHz	
Instrument used	Test Receiver					Spectrum Analyzer	
Detector	PK / AV	QP	PK / AV	QP	QP	PK *a)	AV
IF Bandwidth	200 Hz	200 Hz	9 kHz	9 kHz	120 kHz	RBW: 1 MHz VBW: 3 MHz	

*a) The Spectrum Analyzer was used in 3 dB resolution bandwidth.

[Test setup]

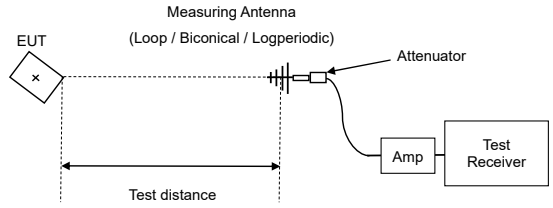
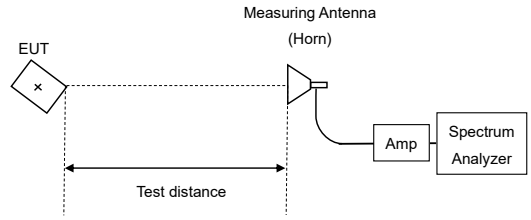
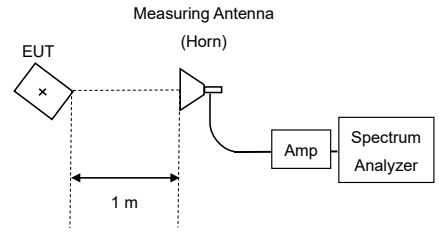
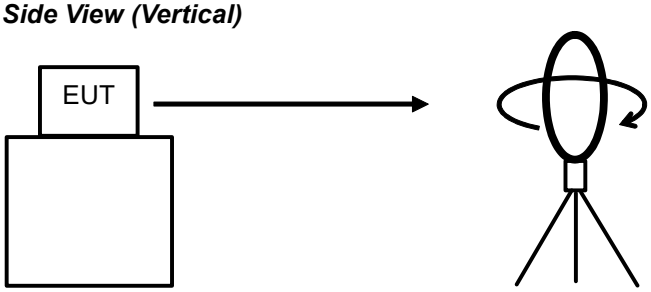
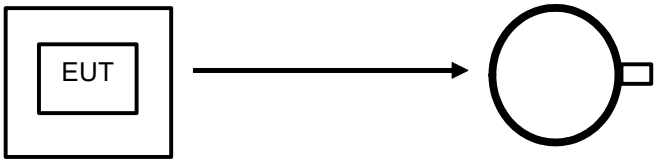
Below 1 GHz	
 × : Center of turn table	Test Distance: 3 m
1 GHz to 18 GHz	
 × : Center of turn table	Test Distance: 3 m
18 GHz to 40 GHz	
 × : Center of turn table	Distance Factor: 20 x log (1.0 m / 3.0 m) = -9.5 dB *Test Distance: 1 m

Figure 1: Direction of the Loop Antenna

Side View (Vertical)

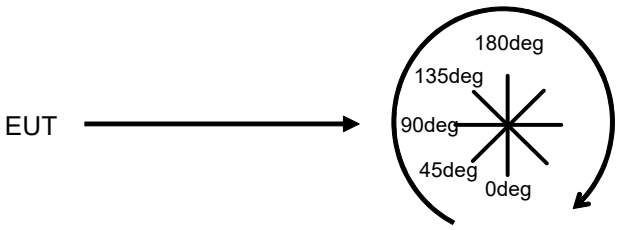


Top View (Horizontal)



Antenna was not rotated.

Top View (Vertical)



Front side: 0 deg.
Forward direction: clockwise

[Above 40 GHz]
The test was performed based on “Procedures for testing millimeter-wave systems” of ANSI C63.10-2020.
The EUT was placed on a urethane platform, raised 1.5 m above the conducting ground plane.
The measurements were performed on handheld method.

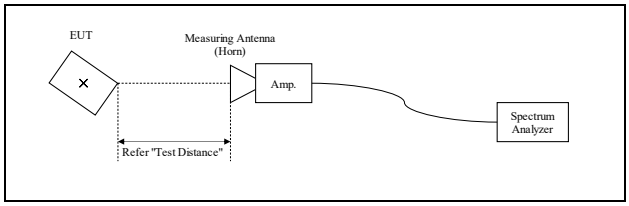
Set spectrum analyzer RBW, VBW, span, etc., to the proper values. Note these values. Enable two traces—one set to “clear write,” and the other set to “max hold.” Begin hand-held measurements with the test antenna (horn) at a distance of 1 m from the EUT in a horizontally polarized position. Slowly adjust its position, entirely covering the plane 1 m from the EUT. Observation of the two active traces on the spectrum analyzer will allow refined horn positioning at the point(s) of maximum field intensity. Repeat with the horn in a vertically polarized position. If the emission cannot be detected at 1 m, reduce the RBW to increase system sensitivity. Note the value. If the emission still cannot be detected, move the horn closer to the EUT, noting the distance at which a measurement is made.

Note the maximum level indicated on the spectrum analyzer. Adjust this level, if necessary, by the antenna gain, filter loss, conversion loss of the external mixer and gain of LNA used, at the frequency under investigation. Calculate the field strength of the emission at the measurement distance from the Friis’ transmission equation.

The final test was performed with a 1 MHz RMS detctor at the following distances;

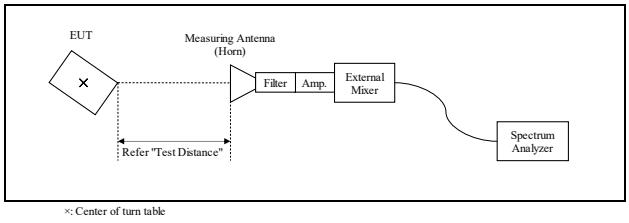
[Test setup]

40 GHz to 50 GHz



*Test Distance: 1.00 m

Above 50 GHz



*Test Distance:

50 GHz to 57 GHz	0.75 m
71 GHz to 83 GHz	0.75 m
83 GHz to 170 GHz	1.00 m
170 GHz to 200 GHz	0.005 m

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

The 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.

[About fundamental measurement]

Test Procedure
The test was performed based on “Procedures for testing millimeter-wave systems” of ANSI C63.10-2020 and KDB364244 D01 Meas 15.255 Radars v01.

The EUT was placed on a urethane platform, raised 1.5 m above the conducting ground plane.
The measurements were performed on handheld method.

The carrier levels were confirmed at maximum direction of transmission.
The maximum direction was searched under carefully since beam-widths are extremely narrow.

The carrier levels were measured in the far field. The distance of the far field was calculated from follow equation.

$$r = \frac{2D^2}{\lambda}$$

where

r is the distance from the radiating element of the EUT to the edge of the far field, in m
D is the largest dimension of both the radiating element and the test antenna (horn), in m
Lambda is the wavelength of the emission under investigation [300/f (MHz)], in m

Frequency	Wavelength	Maximum Dimension			Far Field Boundary	Tested Distance
		EUT	Test Antenna	Maximum		
	Lambda			*D*	*r*	
[GHz]	[mm]	[m]	[m]	[m]	[m]	[m]
61.2	4.9	0.05000	0.03759	0.05000	1.020	1.25

*The frequencies and test distances in the table are calculated at the Upper frequency of the Frequency of Operation.

In order to maximize the carrier level, the EUT, which has a horizontally polarized antenna, and the polarization plane of the measurement antenna were aligned for the test.

The Peak Power results was applied to the desensitization correction factor by KDB653005 4 (c) and 5.4 (d). The derivation of the FMCW Desensitization Factor is given in Keysight Application Note 5952 1039 Appendix B.

Desensitization factor was calculated from follow equation;

$$\alpha = \frac{1}{\sqrt[4]{1 + \left(\frac{2In(2)}{\pi}\right)^2 \left(\frac{Fs}{Ts\ B^2}\right)^2}}$$

and

FMCW Desensitization factor = 20 Log (α)

Where
*F*s is FMCW Sweep Width or Chirp Width, is used the actual measurement value.
*T*s is FMCW Sweep Time, is referred to the values in the specifications.
B is -3dB Bandwidth of Gaussian RBW Filter, is used the actual measurement value.

Mode	F_s [MHz]	T_s [us]	*B* [MHz]	α	FMCW Desensitization factor [dB]
Mode 1	1191.0000	12500.0	8.0	1.000	-0.01

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

Measurement range : 9 kHz to 200 GHz
Test data : APPENDIX
Test result : Pass

SECTION 7: Frequency Stability

Test Procedure
The block downconverter was placed in side of the temperature chamber's drain hole.

The power supply was set to nominal operating voltage (100 %), and the spectrum mask was measured at 20 deg. C. After that, EUT power supply was varied between 85 % and 115 % of nominal voltage and the frequency excursion of the EUT emission mask was recorded.

The EUT operating temperature was raised to 50 deg. C., and the frequency excursion of the EUT emission mask was recorded. Measurements were repeated at each 10 deg. C. decrement down to -20 deg. C.

Both lower and upper frequencies of the 99 % Occupied Bandwidth were recorded.

Test data : APPENDIX
Test result : Pass

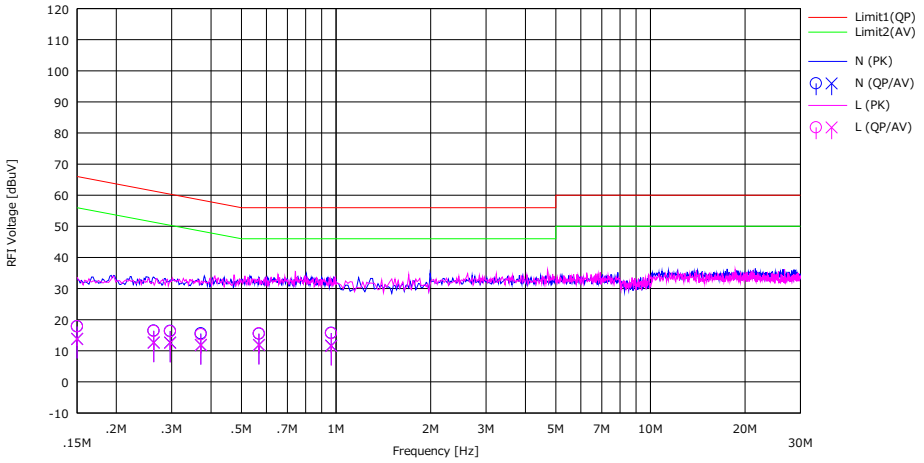
APPENDIX 1: Test data

Conducted Emission

Mode	1

Date	Test site	Temperature	Humidity	Engineer
March 16, 2026	SAC4	20 deg. C	38 % RH	Nachi Konegawa

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



No.	Freq.	Reading ⟨QP⟩	Reading ⟨AV⟩	LISN	LOSS	Results ⟨QP⟩	Results ⟨AV⟩	Limit ⟨QP⟩	Limit ⟨AV⟩	Margin ⟨QP⟩	Margin ⟨AV⟩	Phase	Comment
	[MHz]	[dBuV]	[dBuV]	[dB]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	4.60	0.60	0.05	13.18	17.83	13.83	66.00	56.00	48.17	42.17	N	
2	0.26310	3.20	-0.60	0.05	13.20	16.45	12.65	61.33	51.33	44.88	38.68	N	
3	0.29660	3.10	-0.60	0.05	13.21	16.36	12.66	60.34	50.34	43.98	37.68	N	
4	0.37150	2.30	-1.40	0.05	13.22	15.57	11.87	58.47	48.47	42.90	36.60	N	
5	0.56870	2.20	-1.40	0.05	13.24	15.49	11.89	56.00	46.00	40.51	34.11	N	
6	0.96510	2.40	-1.70	0.06	13.27	15.73	11.63	56.00	46.00	40.27	34.37	N	
7	0.15000	4.60	0.60	0.05	13.18	17.83	13.83	66.00	56.00	48.17	42.17	L	
8	0.26310	3.10	-0.60	0.05	13.20	16.35	12.65	61.33	51.33	44.98	38.68	L	
9	0.29660	3.00	-0.70	0.05	13.21	16.26	12.56	60.34	50.34	44.08	37.78	L	
10	0.37150	2.00	-1.40	0.05	13.22	15.27	11.87	58.47	48.47	43.20	36.60	L	
11	0.56870	2.30	-1.40	0.05	13.24	15.59	11.89	56.00	46.00	40.41	34.11	L	
12	0.96510	2.30	-1.80	0.06	13.27	15.63	11.53	56.00	46.00	40.37	34.47	L	

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

*The test result is rounded off to one or two decimal places, so some differences might be observed.

EIRP (Peak)

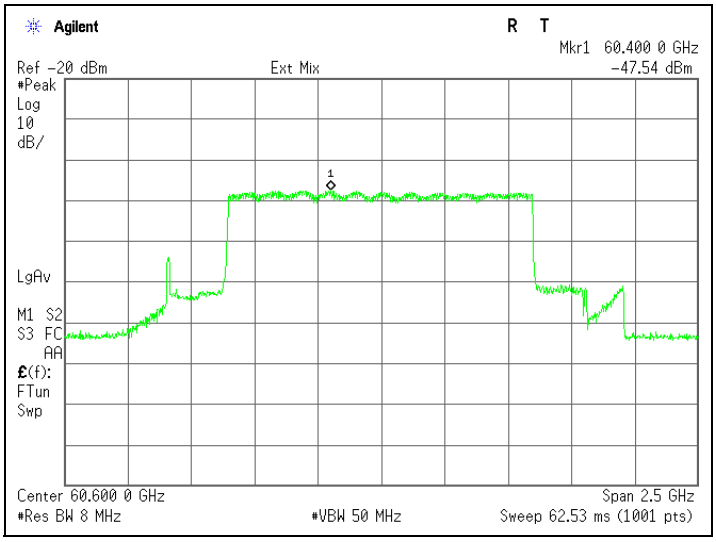
Mode	1

Date	Test site	Temperature	Humidity	Engineer
March 11, 2026	SAC2	22 deg. C	52 % RH	Junya Okuno

Frequency [GHz]	Reading (Peak) [dBm]	Rx Ant. Gain [dBi]	LNA Gain [dB]	Mixer Conv. Loss [dB]	Tested Distance [m]	FSL [dB]	FMCW Desensitization Factor [dB]	EIRP [dBm]	EIRP [mW]	Limit [dBm]	Margin [dB]
60.400	-47.54	23.72	25.20	46.08	1.25	70.00	-0.01	19.63	91.83	20	0.37

Calculating formula:
FSL (Free Space path Loss) = 10 * log10((4 * Pi * Tested Distance / Lambda) ^2)
EIRP = Reading - Rx Ant. Gain - LNA Gain + Mixer Conv. Loss + FSL - FMCW Desenstization Factor

[Data]



Duty Cycle and Off Time Requirement

Mode	1

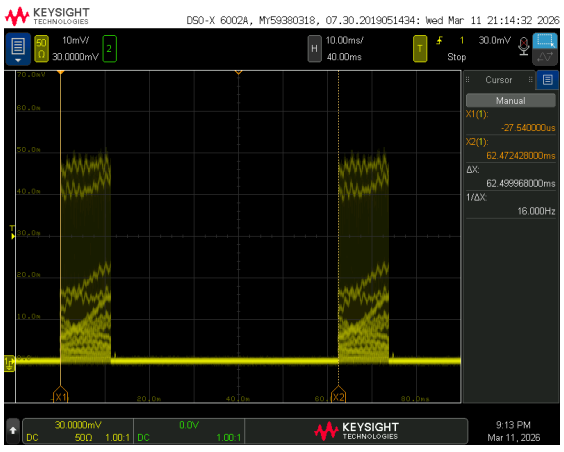
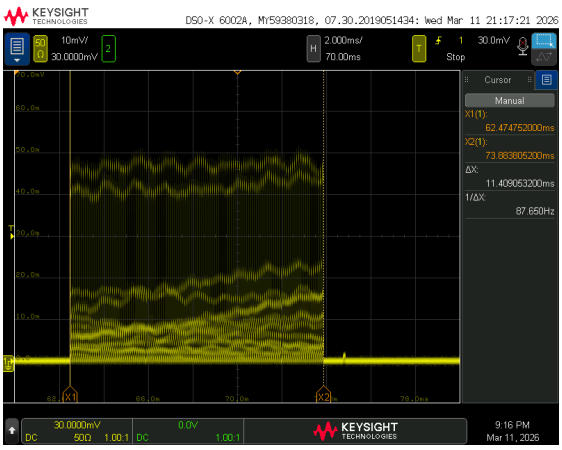
Date	Test site	Temperature	Humidity	Engineer
March 11, 2026	SAC2	21 deg. C	50 % RH	Yuichiro Yamazaki

Measured/ Declared	Tx ON+Tx OFF Time [ms]	Tx ON Time [ms]	Tx OFF Time [ms]	Duty [%]	Duty Factor [dB]	Tx OFF Time within 33 ms interval [ms]	Off Time Requirement Lower Limit [ms]	Off Time Requirement Result
Measured	62.500	11.409	51.091	18.3	7.39	21.59	16.50	Pass
Declared *	62.500	12.500	50.000	20.0	6.99	20.50	16.50	Pass

Calculating formula:

Tx OFF Time = Tx ON+Tx OFF Time - Tx ON Time
Duty = (Tx ON Time / Tx ON + Tx OFF Time) * 100
Duty Factor = 10 * log (Tx ON + Tx OFF Time / Tx ON Time)
Tx OFF Time within 33 ms interval = 33 [ms] - Tx ON Time

* See the application document.

Tx ON + Tx OFF Time	Tx ON Time
	

99 % Occupied Bandwidth

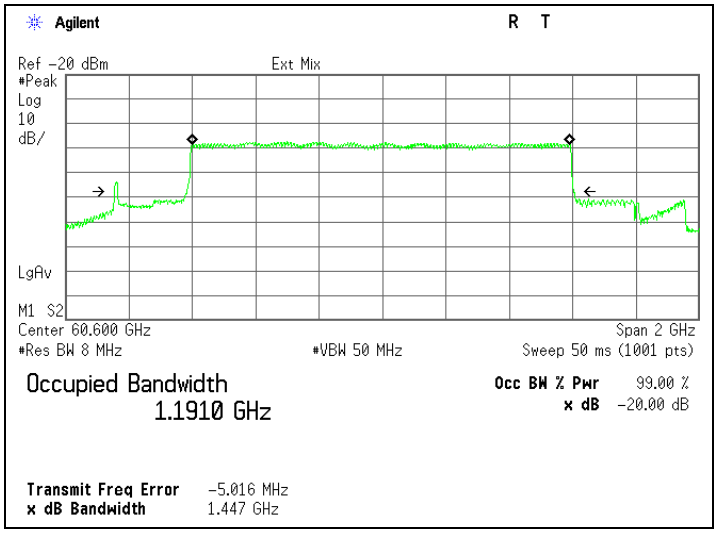
Mode	1

Date	Test site	Temperature	Humidity	Engineer
March 11, 2026	SAC2	22 deg. C	52 % RH	Junya Okuno

Center Frequency [GHz]	Frequency error [MHz]	99% OBW [MHz]	99 % OBW		Lower Limit [GHz]	Upper Limit [GHz]	Result
			The Lower frequency [GHz]	The Upper frequency [GHz]			
60.600	-5.016	1191.000	59.999	61.190	57.00	61.56	Pass

Calculation:
The Lower frequency = Center frequency + Frequency error – 99 % OBW / 2
The Upper frequency = Center frequency + Frequency error + 99 % OBW / 2

[Data]



The measurement was performed with Peak detector and Max Hold since the duty cycle was not 100 %.

Spurious Emissions
(Below 40 GHz)

Mode	1

Date	Test site	Temperature	Humidity	Engineer	Measurement Range
March 12, 2026	SAC2	20 deg. C	42 % RH	Yuichiro Yamazaki	18 GHz to 40 GHz
March 13, 2026	SAC2	20 deg. C	40 % RH	Junya Okuno	1 GHz to 18 GHz
March 16, 2026	SAC4	20 deg. C	38 % RH	Nachi Konegawa	Below 1 GHz

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	147.6	29.2	-	15.1	8.3	32.1	-	20.6	-	43.5	-	23.0	-	
Hori.	367.2	41.0	-	15.0	9.9	32.1	-	33.8	-	46.0	-	12.2	-	
Hori.	399.7	40.4	-	15.7	10.0	32.2	-	33.9	-	46.0	-	12.1	-	
Hori.	424.9	42.0	-	16.0	10.1	32.2	-	36.0	-	46.0	-	10.1	-	
Hori.	505.6	38.4	-	17.6	10.5	32.3	-	34.2	-	46.0	-	11.8	-	
Hori.	519.5	39.8	-	17.5	10.6	32.3	-	35.6	-	46.0	-	10.4	-	
Hori.	2240.0	49.1	38.0	28.2	2.3	35.2	-	44.4	33.3	73.9	53.9	29.5	20.6	
Hori.	3920.0	49.7	39.5	29.7	3.1	36.7	-	45.8	35.6	73.9	53.9	28.1	18.3	
Hori.	4480.1	52.7	47.6	30.7	3.3	37.2	-	49.6	44.5	73.9	53.9	24.4	9.4	
Hori.	30300.0	58.0	36.5	44.0	3.0	37.1	-	67.9	46.5	73.9	53.9	6.0	7.4	
Vert.	85.2	35.9	-	7.9	7.7	32.1	-	19.4	-	40.0	-	20.6	-	
Vert.	145.4	33.2	-	15.0	8.3	32.1	-	24.4	-	43.5	-	19.1	-	
Vert.	379.3	43.2	-	15.1	9.9	32.1	-	36.1	-	46.0	-	9.9	-	
Vert.	425.8	45.2	-	16.0	10.1	32.2	-	39.2	-	46.0	-	6.8	-	
Vert.	519.1	43.4	-	17.5	10.6	32.3	-	39.2	-	46.0	-	6.8	-	
Vert.	526.4	42.8	-	17.5	10.6	32.3	-	38.6	-	46.0	-	7.4	-	
Vert.	2240.0	49.7	39.3	28.2	2.3	35.2	-	45.1	34.7	73.9	53.9	28.9	19.3	
Vert.	3920.0	49.7	39.5	29.7	3.1	36.7	-	45.8	35.7	73.9	53.9	28.1	18.2	
Vert.	4480.1	51.0	45.0	30.7	3.3	37.2	-	47.9	41.9	73.9	53.9	26.0	12.0	
Vert.	30300.0	56.2	36.3	44.0	3.0	37.1	-	66.1	46.3	73.9	53.9	7.8	7.6	

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 18 GHz)) - Gain(Amplifier)
Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 18 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
*QP detector was used up to 1GHz.

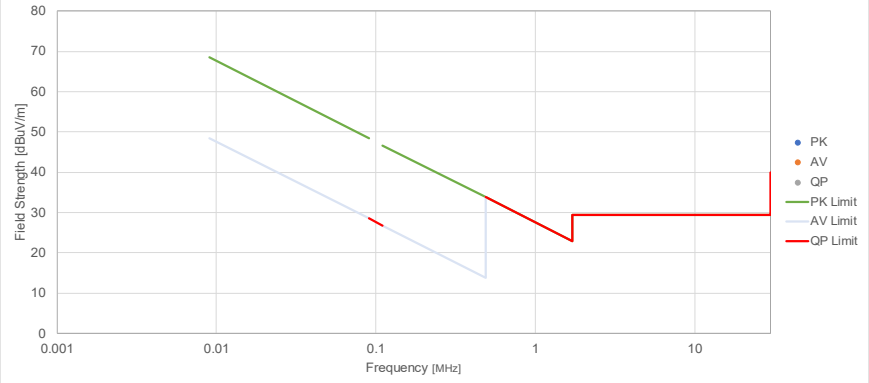
Distance factor: 18 GHz - 40 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Spurious Emissions
(Below 40 GHz)
(Plot data, Worst case)

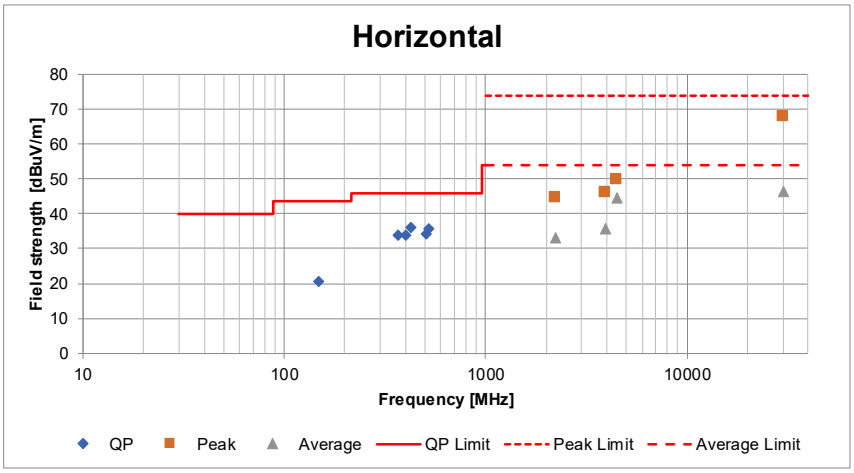
Mode	1

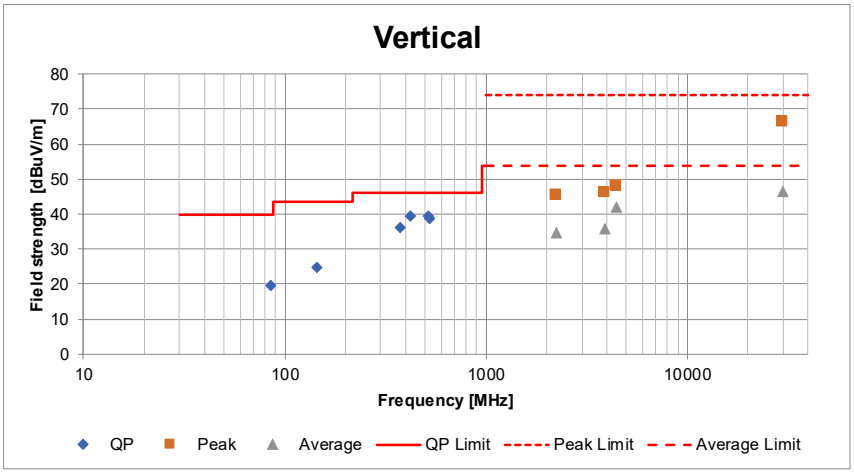
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
March 12, 2026	SAC2	20 deg. C	42 % RH	Yuichiro Yamazaki	18 GHz to 40 GHz
March 13, 2026	SAC2	20 deg. C	40 % RH	Junya Okuno	1 GHz to 18 GHz
March 16, 2026	SAC4	20 deg. C	38 % RH	Nachi Konegawa	Below 1 GHz

9 kHz to 30 MHz



30 MHz to 40 GHz





Spurious Emissions
(Above 40 GHz)

Mode	1

Date	Test site	Temperature	Humidity	Engineer	Measurement Range
March 11, 2026	SAC2	21 deg. C	50 % RH	Yuichiro Yamazaki	40 GHz to 57 GHz 71 GHz to 83 GHz Above 170 GHz
March 12, 2026	SAC2	22 deg. C	40 % RH	Junya Okuno	83 GHz to 110 GHz 110 GHz to 170 GHz

Freq. [GHz]	Reading (Average) [dBm]	Rx Ant. Gain [dBi]	Filter Loss [dB]	LNA Gain [dB]	Mixer Conv. Loss [dB]	IF Amp. Gain [dB]	IF Cable Loss [dB]	Test Distance *D* [m]	FSL [dB]	EIRP [dBm]	EIRP [mW]	Power density Result at 3 m (Average) [pW/cm^2]	Limit Average [pW/cm^2]	Margin Average [dB]	Remarks
44.552	-56.16	21.70	0.00	35.41	0.00	0.00	8.29	1.00	65.42	-39.56	0.000111	0.10	90	29.64	NS
49.531	-53.80	22.42	0.00	34.33	0.00	0.00	8.63	1.00	66.34	-35.58	0.000277	0.24	90	25.66	NS
51.083	-76.66	22.82	0.00	26.35	47.54	31.94	0.17	0.75	64.11	-45.96	0.000025	0.02	90	36.03	NS
73.825	-77.10	24.46	0.88	20.88	50.17	31.94	0.17	0.75	67.31	-35.85	0.000260	0.23	90	25.93	NS
81.649	-70.63	23.46	0.39	0.00	-12.29	0.00	3.39	0.75	68.18	-34.41	0.000362	0.32	90	24.49	NS
88.977	-63.13	23.86	0.29	33.02	42.36	31.94	0.17	1.00	71.43	-37.70	0.000170	0.15	90	27.78	NS
96.946	-61.66	24.34	0.22	34.86	43.07	31.94	0.17	1.00	72.17	-37.17	0.000192	0.17	90	27.24	NS
99.554	-61.51	24.45	0.15	32.98	44.02	31.94	0.17	1.00	72.40	-34.14	0.000386	0.34	90	24.22	NS
109.328	-62.01	24.86	1.18	20.57	45.46	31.94	0.17	1.00	73.22	-19.35	0.011605	10.26	90	9.43	NS
118.873	-87.92	22.60	0.00	19.02	11.43	0.00	0.66	1.00	73.94	-43.50	0.000045	0.04	90	33.58	NS
123.005	-95.87	22.74	0.00	20.10	11.85	0.00	0.66	1.00	74.24	-51.96	0.000006	0.01	90	42.04	NS
129.768	-87.35	22.94	0.00	19.76	12.78	0.00	0.66	1.00	74.71	-41.90	0.000065	0.06	90	31.98	NS
133.841	-87.75	23.05	0.00	18.93	12.33	0.00	0.66	1.00	74.97	-41.76	0.000067	0.06	90	31.84	NS
144.042	-88.79	23.26	0.00	18.30	10.82	0.00	0.66	1.00	75.61	-43.26	0.000047	0.04	90	33.34	NS
152.378	-89.46	23.35	0.00	17.24	11.61	0.00	0.66	1.00	76.10	-41.68	0.000068	0.06	90	31.76	NS
161.641	-91.04	23.40	0.00	15.75	11.64	0.00	0.66	1.00	76.61	-41.28	0.000075	0.07	90	31.35	NS
176.551	-88.58	22.55	0.00	0.00	60.04	0.00	0.00	0.005	31.36	-19.74	0.010628	9.40	90	9.81	NS
181.651	-89.11	22.67	0.00	0.00	59.71	0.00	0.00	0.005	31.61	-20.47	0.008978	7.94	90	10.55	NS
193.489	-88.18	22.91	0.00	0.00	58.12	0.00	0.00	0.005	32.15	-20.82	0.008284	7.32	90	10.89	NS
198.966	-89.79	23.00	0.00	0.00	58.96	0.00	0.00	0.005	32.40	-21.44	0.007186	6.35	90	11.51	NS

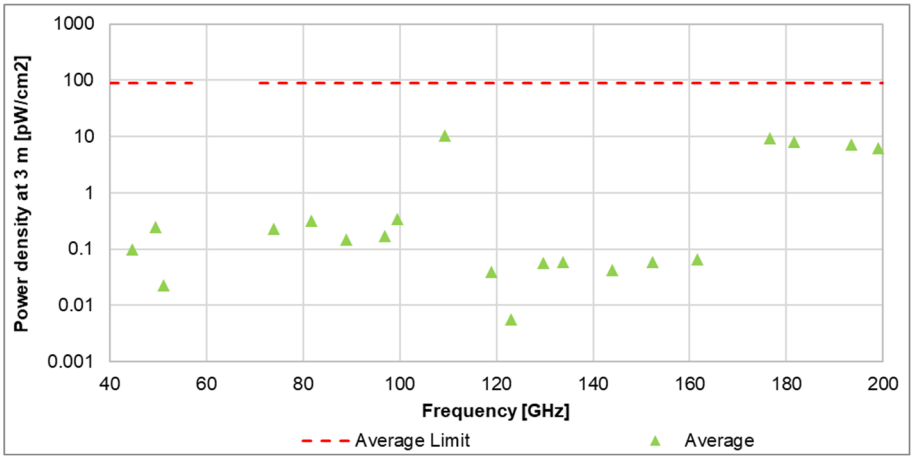
Calculation:
FSL (Free Space path Loss) = 10 * log ((4 * Pi * D / λ)^2)
EIRP = Reading - Rx Ant. gain + Filter loss - LNA gain + Mixer conversion loss - IF Amp. gain + IF Cable loss + FSL
Power density Result at 3 m = EIRP / (4 * Pi * 300^2)

These calculation results are same as results which were calculated with formulas described in the Section 9 of ANSI C63.10-2020.

The items whose factors are shown as 0 dB in the data sheet are due to one of the following reasons:
- The equipment was not used.
- The conversion loss is automatically corrected inside the mixer.
- The IF cable loss is included in the mixer loss.

NS: No signal detected.

[Plot data, Worst case]



Frequency Stability

Mode	1

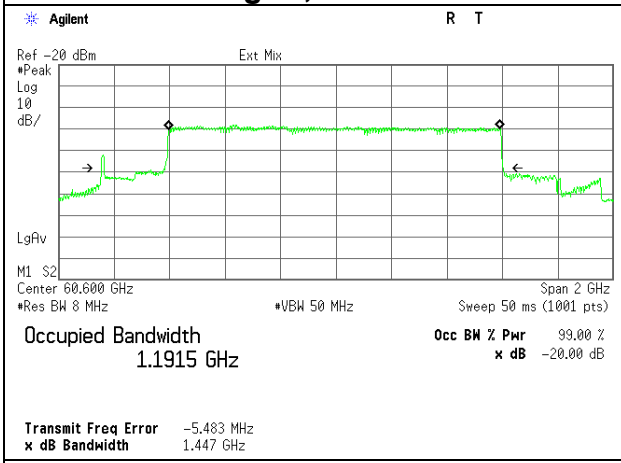
Date	Test site	Temperature	Humidity	Engineer
March 16, 2026	MR6	22 deg. C	42 % RH	Junki Nagatomi
April 16, 2026	MR6	20 deg. C	44 % RH	Junki Nagatomi

Test Condition		Center frequency	Frequency error	99 % OBW	99 % OBW		Remarks
Temperature [deg. C]	Power Supply [V]	[GHz]	[MHz]	[MHz]	The lower frequency [GHz]	The Upper frequency [GHz]	
50	24.00	60.60	-5.483	1191.5000	59.999	61.190	
40	24.00	60.60	-5.674	1191.4000	59.999	61.190	
30	24.00	60.60	-5.591	1189.4000	60.000	61.189	
20	24.00	60.60	-5.192	1190.3000	60.000	61.190	
20	10.20	60.60	-5.752	1190.5000	59.999	61.189	85% of the minimum rated voltage range
20	34.50	60.60	-5.782	1190.5000	59.999	61.189	115% of the maximum rated voltage range
10	24.00	60.60	-5.093	1190.7000	60.000	61.190	
0	24.00	60.60	-5.325	1190.5000	59.999	61.190	
-10	24.00	60.60	-5.087	1190.9000	59.999	61.190	
-20	24.00	60.60	-4.875	1191.8000	59.999	61.191	

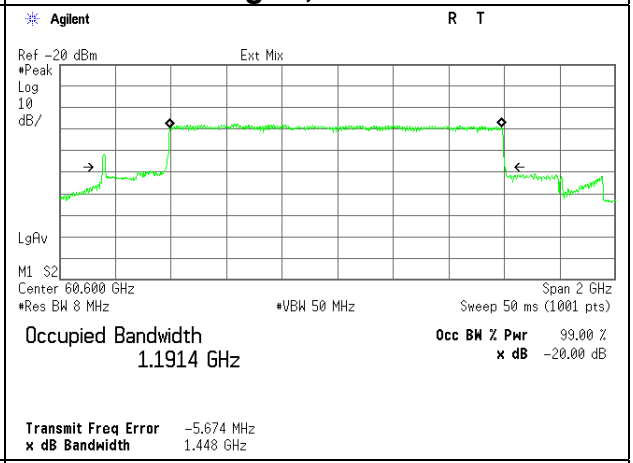
Calculation:
The Lower frequency = Center frequency + Frequency error – 99 % OBW / 2
The Upper frequency = Center frequency + Frequency error + 99 % OBW / 2
Fundamental emissions were contained within the frequency band 57 GHz to 61.56 GHz during all conditions of operation.

[Data]

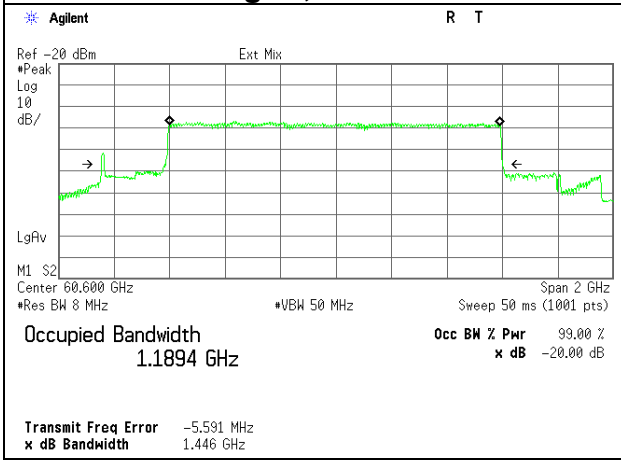
50 deg. C, DC 24.0 V



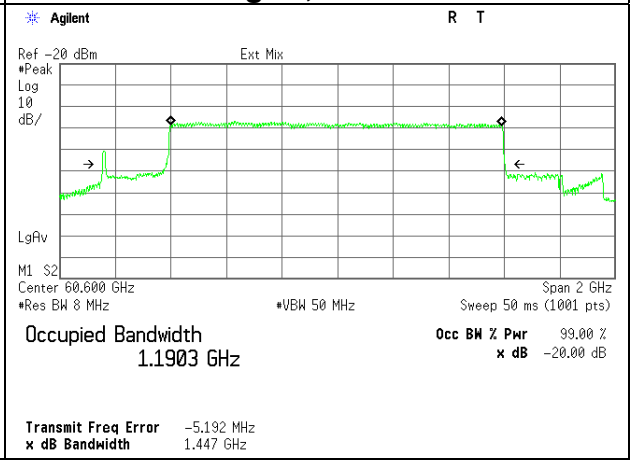
40 deg. C, DC 24.0 V



30 deg. C, DC 24.0 V

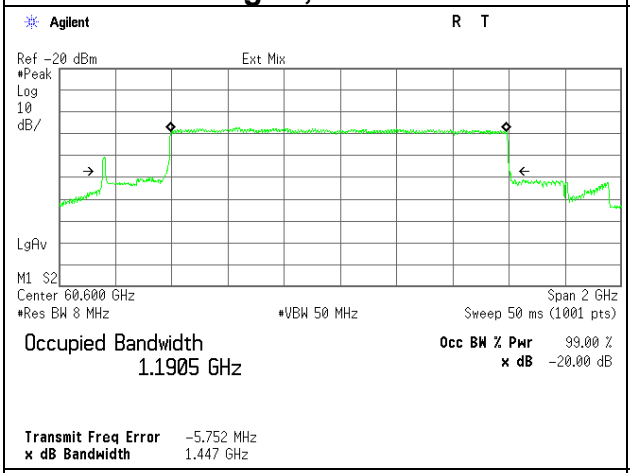


20 deg. C, DC 24.0 V

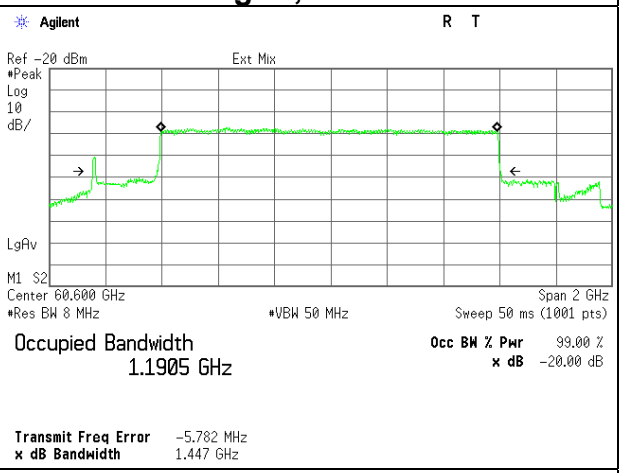


Frequency Stability

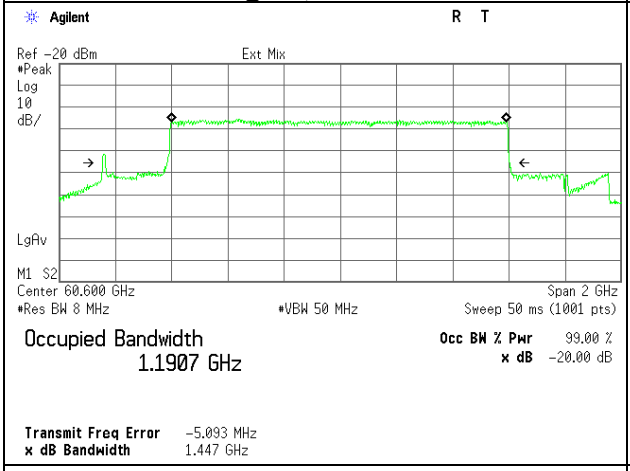
20 deg. C, DC 10.2 V



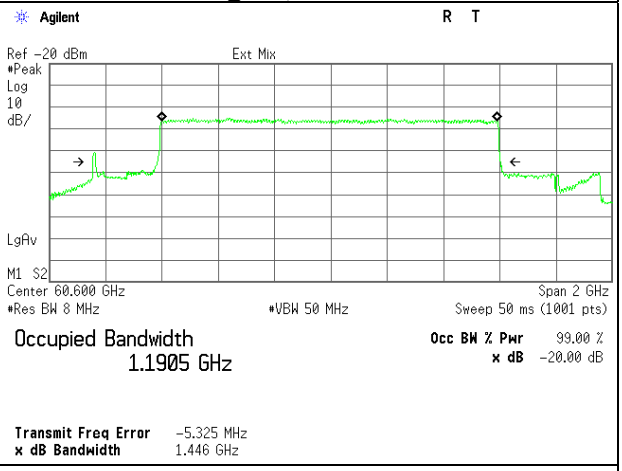
20 deg. C, DC 34.5 V



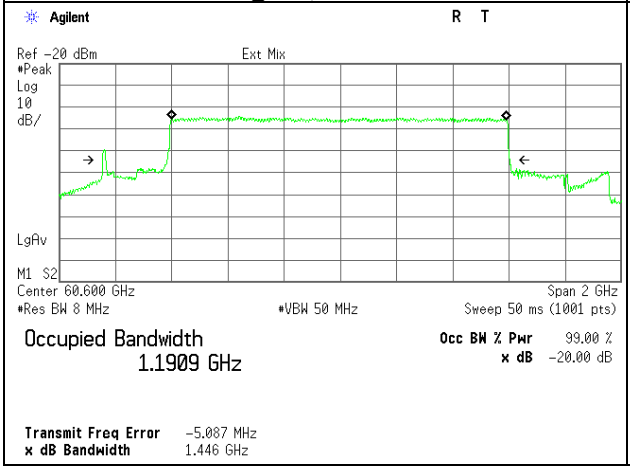
10 deg. C, DC 24.0 V



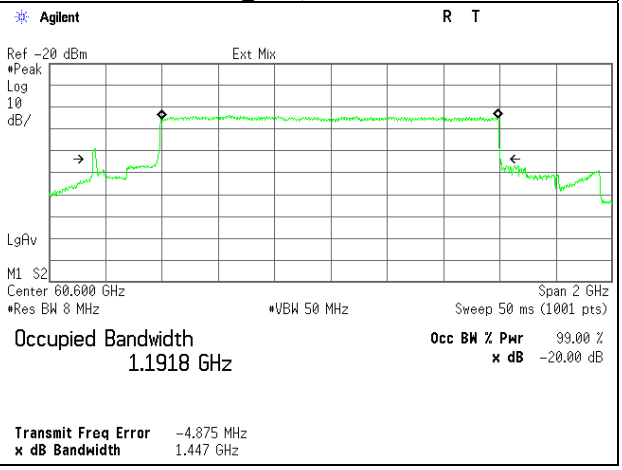
0 deg. C, DC 24.0 V



-10 deg. C, DC 24.0 V



-20 deg. C, DC 24.0 V



Group InstIlation

There are no external phase-locking inputs in this EUT.
Therefore, the EUT comply this requirement.

APPENDIX 2: Test instruments

Test equipment (1/2)

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
CE	141217	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W/SFM141/ 421-010/sucoform141-PE/ RFM-E121(SW)	-/04178	06/24/2025	12
CE	141248	Attenuator	JFW Industries, Inc.	50FP-013H2 N	-	12/03/2025	12
CE	141538	LISN(AMN)	Schwarzbeck Mess-Elektronik OHG	NSLK8127	8127-732	07/04/2025	12
CE	141949	Test Receiver	Rohde & Schwarz	ESCI	100767	06/30/2025	12
CE	142230	Measure, Tape, Steel	KOMELON	KMC-36	-	-	-
CE	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
CE	244710	Thermo-Hygrometer	HIOKI E. E. CORPORATION	LR5001	231202104	01/14/2026	12
CE	272098	DIGITAL MULTIMETER	HIOKI E. E. CORPORATION	DT4255	250902199	11/27/2025	12
RE	141217	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W/SFM141/ 421-010/sucoform141-PE/ RFM-E121(SW)	-/04178	06/24/2025	12
RE	141267	Logperiodic Antenna (200-1000MHz)	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	9111B-192	09/12/2025	12
RE	141397	Coaxial Cable	UL-ISE_EMC	-	-	11/12/2025	12
RE	141410	Microwave cable	Huber+Suhner	SUCOFLEX 102	37953/2	09/03/2025	12
RE	141425	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	VHA9103+BBA9106	VHA 91031302	08/14/2025	12
RE	141429	Temperature and Humidity Chamber	Espec	PL-2KP	14015723	08/28/2025	12
RE	141503	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	06/18/2025	12
RE	141504	Horn Antenna 26.5-40GHz	EMCO	3160-10	1150	09/19/2025	12
RE	141512	Horn Antenna 1-18GHz	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	254	10/20/2025	12
RE	141517	Horn Antenna 26.5-40GHz	ETS-Lindgren	3160-10	152399	11/14/2025	12
RE	141542	Digital Tester	Fluke Corporation	FLUKE 26-3	78030611	08/01/2025	12
RE	141558	Digital Tester(TRUE RMS MULTIMETER)	Fluke Corporation	115	17930030	05/13/2025	12
RE	141582	Pre Amplifier	SONOMA INSTRUMENT	310	260834	02/06/2026	12
RE	141583	Pre Amplifier	SONOMA INSTRUMENT	310	260833	04/02/2025	12
RE	141588	Pre Amplifier	L3 Narda-MITEQ	AMF-6F-2600400-33-8P / AMF-4F-2600400-33-8P	1871355 / 1871328	01/06/2026	12
RE	141884	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY44020357	05/15/2025	12
RE	141949	Test Receiver	Rohde & Schwarz	ESCI	100767	06/30/2025	12
RE	142004	AC2_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	07/08/2025	24
RE	142006	AC2_Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-06902	04/21/2025	24
RE	142011	AC4_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	07/10/2025	24
RE	142026	Diplexer	OML INC.	DPL26	-	-	-
RE	142032	Microwave Cable	Huber+Suhner	SUCOFLEX102	37511/2	-	-
RE	142036	Horn Antenna	Custom Microwave Inc.	HO6R	-	09/10/2025	12
RE	142039	Horn Antenna	Custom Microwave Inc.	HO4R	-	09/10/2025	12
RE	142041	Horn Antenna	Oshima Prototype Engineering Co.	A16-187	1	09/10/2025	12
RE	142047	Preselected Millimeter Mixer	Keysight Technologies Inc	11974V-E01	3001A00412	12/17/2025	12
RE	142048	Harmonic Mixer	Keysight Technologies Inc	11970W	2521 A01909	12/17/2025	12
RE	142050	Block Downconverter	Keysight Technologies Inc	PS-X30-W10117A	13715	12/19/2025	12

Test equipment (2/2)

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	142053	Harmonic Mixer	OML INC.	M04HWD	Y100709-1	12/25/2025	12
RE	142055	Power Amplifier	SAGE Millimeter, Inc.	SBP-5037532015-1515-N1	11599-01	12/17/2025	12
RE	142225	Tape Measure	ASKUL	-	-	-	-
RE	142228	Measure, Tape, Steel	KOMELON	KMC-36	-	-	-
RE	142230	Measure, Tape, Steel	KOMELON	KMC-36	-	-	-
RE	142528	Detector	Millitech	DET-15-RPFW0	34	-	-
RE	142592	Waveguide Isolator	Millitech	FBI-15-RSES0	1858	-	-
RE	151897	Microwave Cable	Huber+Suhner	SF101EA/11PC24/ 11PC24/2.5M	SN MY1726/ 1EA	03/06/2026	12
RE	160324	Coaxial Cable	Huber+Suhner	SUCOFLEX 102A	MY009/2A	10/21/2025	12
RE	176027	D-Band Low Noise Amplifier	SAGE Millimeter, Inc.	SBL-1141741860-0606-EI	15235-01	07/16/2025	12
RE	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
RE	180544	Horn Antenna	SAGE Millimeter, Inc.	SAZ-2410-10-S1	17343-01	06/24/2025	12
RE	180607	Power Amplifier	SAGE Millimeter, Inc.	SBP-7531142515-1010-E1	17343-01	09/15/2025	12
RE	180634	Horn Antenna	SAGE Millimeter, Inc.	SAZ-2410-15-S1	17343-01	06/24/2025	12
RE	182484	Signal Analyzer	Keysight Technologies Inc	N9030B	MY57143159	05/13/2025	12
RE	186079	Extension Module	Virginia Diodes, Inc.	SAX	SAX370	09/10/2025	12
RE	199856	WR-10 HighPass Filter	Oshima Prototype Engineering Co.	A20-110-A01	001	03/06/2025	12
RE	200415	WR-15 Band Elimination Filter 57-66GHz	Oshima Prototype Engineering Co.	A20-110-A02	001	08/27/2025	12
RE	207745	Coaxial Cable	UL-ISE	-	-	03/19/2025	12
RE	211944	Digital Storage Oscilloscope	Keysight Technologies Inc	DSOX6002A	MY59380318	12/09/2025	12
RE	220646	Attenuator	Huber+Suhner	6806_N-50-1	-	03/06/2026	12
RE	237927	Broadband Amplifier	ERAVANT	SBB-0115033218-2F2F-E3	27554-01	07/02/2025	12
RE	244707	Thermo-Hygrometer	HIOKI E. E. CORPORATION	LR5001	231202102	01/13/2026	12
RE	244710	Thermo-Hygrometer	HIOKI E. E. CORPORATION	LR5001	231202104	01/14/2026	12
RE	244712	Thermo-Hygrometer	HIOKI E. E. CORPORATION	LR5001	231202106	01/13/2026	12
RE	246778	Microwave Cable	Huber+Suhner	SF126E/11PC35/11PC35/ 2000MM	SN 537000/ 126E	-	-
RE	252514	Active Loop Antenna	Schwarzbeck Mess-Elektronik OHG	FMZB 1519-60 D	1519-60 D-067	10/14/2025	12
RE	252663	Microwave Cable	Huber+Suhner	SF126E/11PC35/11PC35/ 1000MM,5000MM	616276/126E / 616275/126E	09/03/2025	12
RE	254838	Microwave Cable	Huber+Suhner	SUCOFLEX102	2001316 /2	12/08/2025	12
RE	254845	Power Amplifier	ERAVANT	SBP-4035033018-2F2F-S1	38278-01	12/23/2025	12
RE	262629	Microwave Cable	Huber+Suhner	SF103/11PC3.5/11PC3.5/ 1000mm	800673	04/24/2025	12
RE	272098	DIGITAL MULTIMETER	HIOKI E. E. CORPORATION	DT4255	250902199	11/27/2025	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