

Report on the RF Testing of:

OMRON HEALTHCARE Co., Ltd.

Blood pressure monitor

Model: HEM-716BT2

Antenna Characteristics Test

Prepared for : OMRON HEALTHCARE Co., Ltd.
53 Kunotsubo, Terado-cho, Muko-shi, Kyoto,
617-0002 Japan



Japan

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Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	2023.07.20

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NAME	RESPONSIBLE FOR	SIGNATURE
Taiki Watanabe	Testing	

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1 Summary of Test

1.1 Modification history of the test report

Document Number	Modification History	Issue Date
JPD-TR-23071-0	First Issue	Refer to the cover page

1.2 Test method

Certification Regulations 2004 Ministry of Internal Affairs and Communications Notification No. 88
Appended Table 43 test method or test method equivalent to or better than this test method.

1.3 Test period

9-May-2023

2 Equipment Under Test

2.1 EUT information

Applicant	OMRON HEALTHCARE Co., Ltd. 53 Kunotsubo, Terado-cho, Muko-shi, Kyoto, 617-0002 Japan
Equipment Under Test (EUT)	Blood pressure monitor
Measurement frequency	2402 MHz, 2440 MHz, 2480 MHz

2.2 Modification to the EUT

The table below details modifications made to the EUT during the test project.

Modification State	Description of Modification	Modification fitted by	Date of Modification
Model: HEM-716BT2, Serial Number: HA-ANT-ES1			
0	As supplied by the applicant	Not Applicable	Not Applicable

3 Test Result

3.1 Test data

Date : 5-May-2023
Temperature : 21.6 [°C]
Humidity : 46.2 [%]
Test place : 3m Semi-anechoic chamber

Test engineer : Taiki Watanabe

3.2 Measurement result

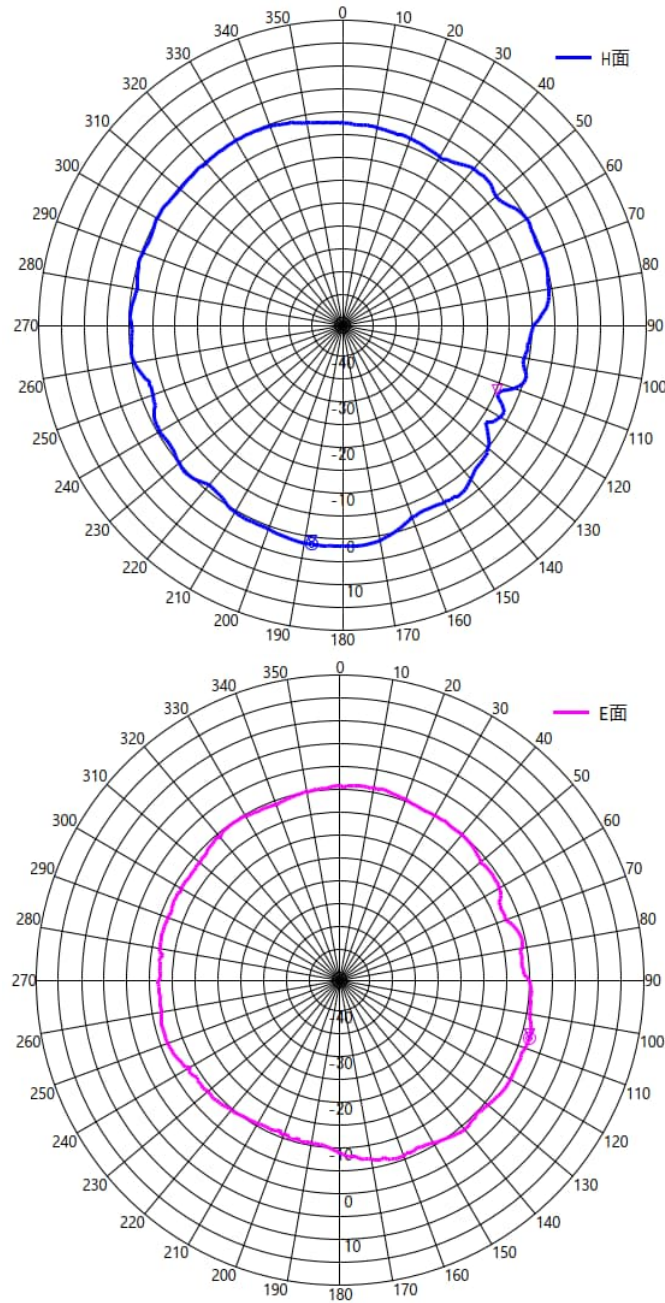
3.2.1 Antenna gain

Frequency	Position 1		Position 2		Position 3	
	Horizontal (H-Plane)	Vertical (E-Plane)	Horizontal (H-Plane)	Vertical (E-Plane)	Horizontal (H-Plane)	Vertical (E-Plane)
2402MHz	-3.40	-8.24	-4.77	-3.21	-4.13	-5.75
2440MHz	-5.39	-10.56	-6.20	-5.64	-6.37	-7.38
2480MHz	-7.18	-11.84	-7.56	-7.74	-8.52	-7.76

* Max Gain = -3.21 dBi

3.2.2 Antenna pattern Position 1

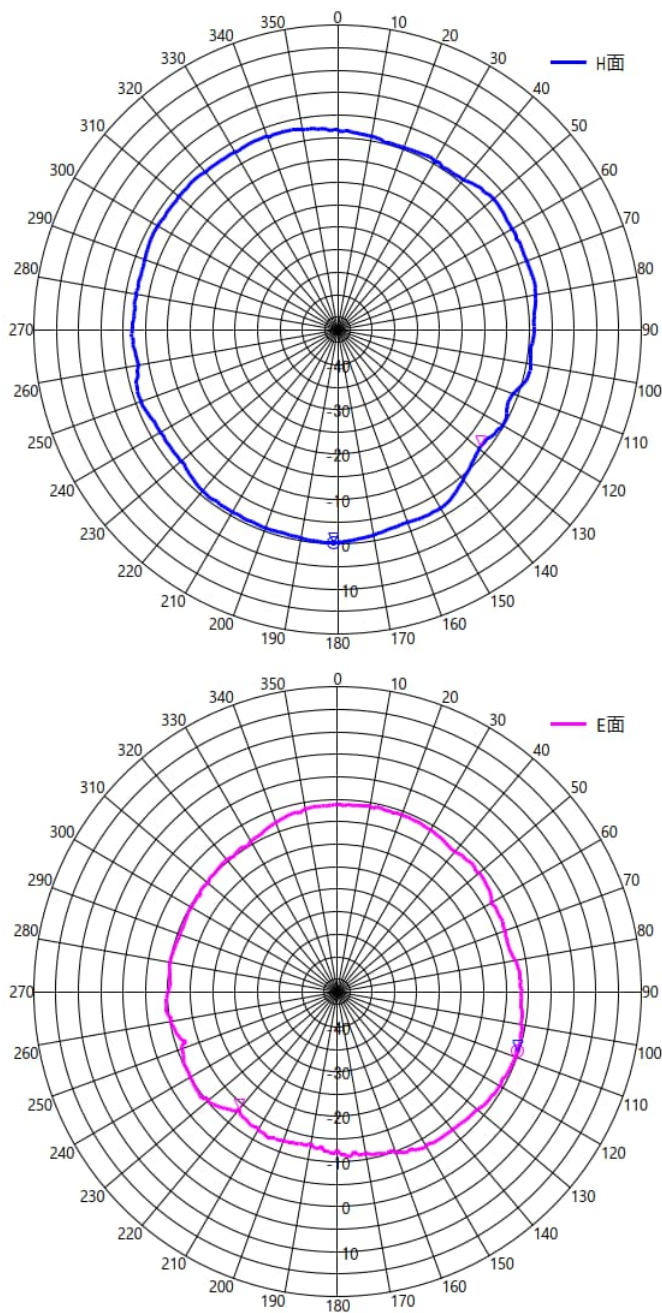
2402 MHz



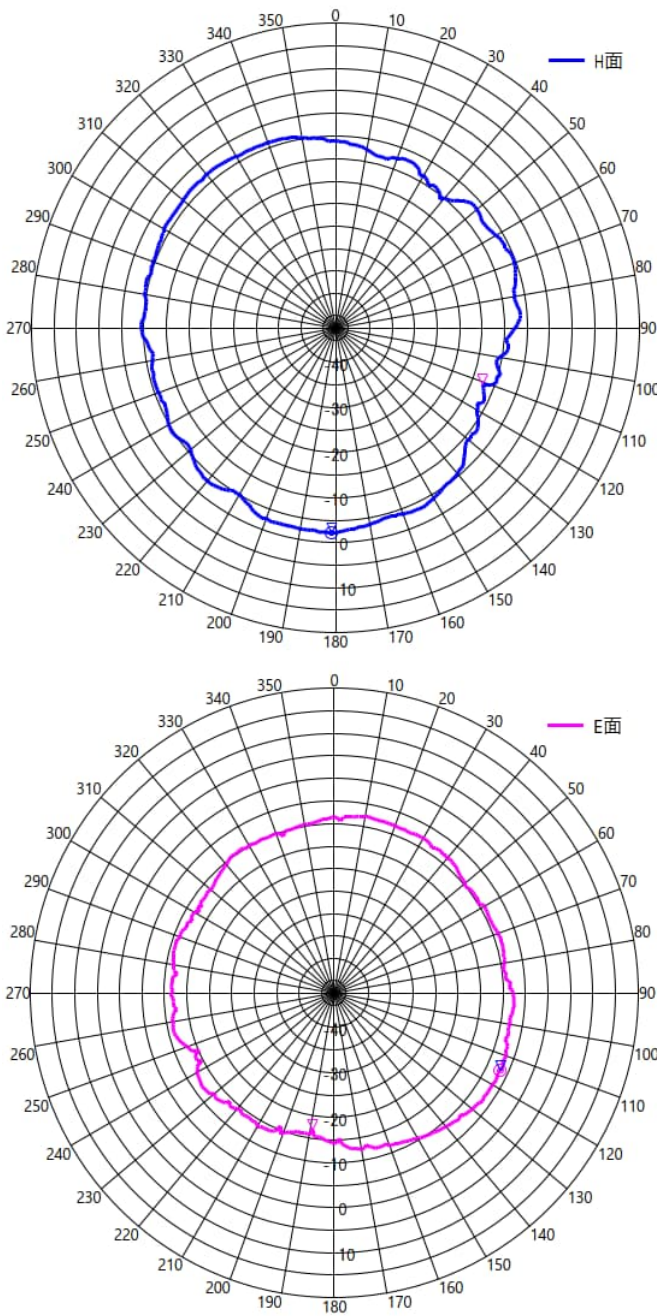


Japan

2440 MHz

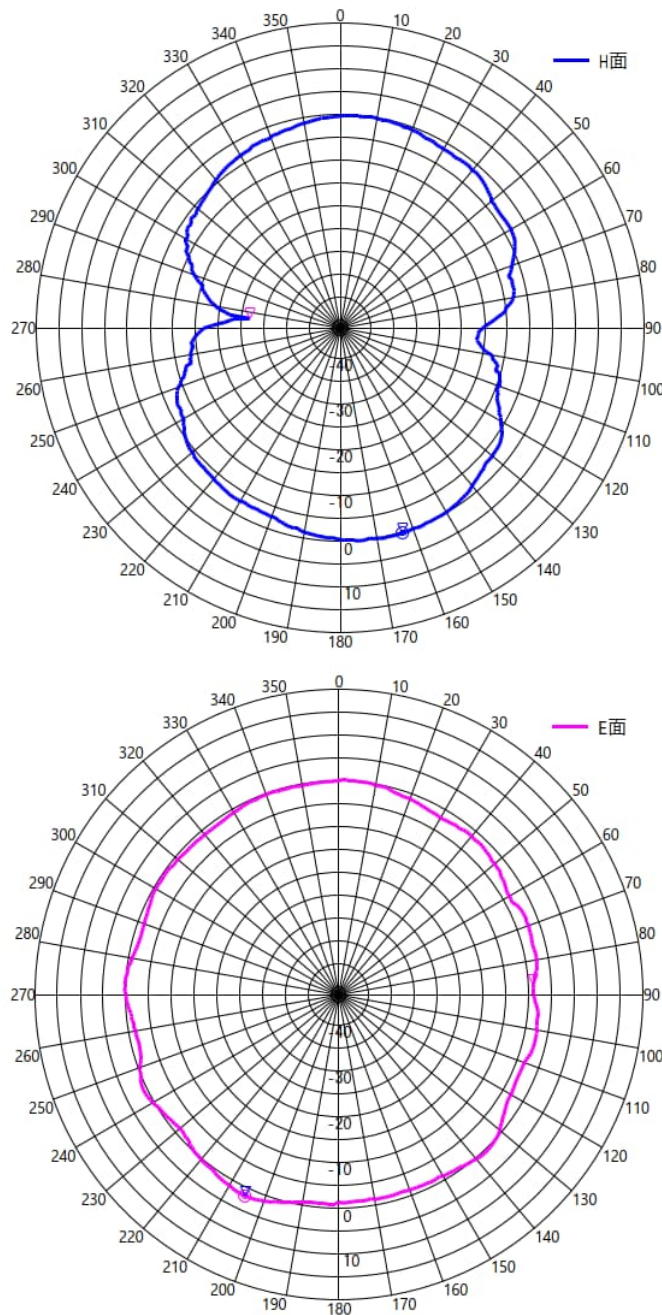


2480 MHz



3.2.3 Antenna pattern Position 2

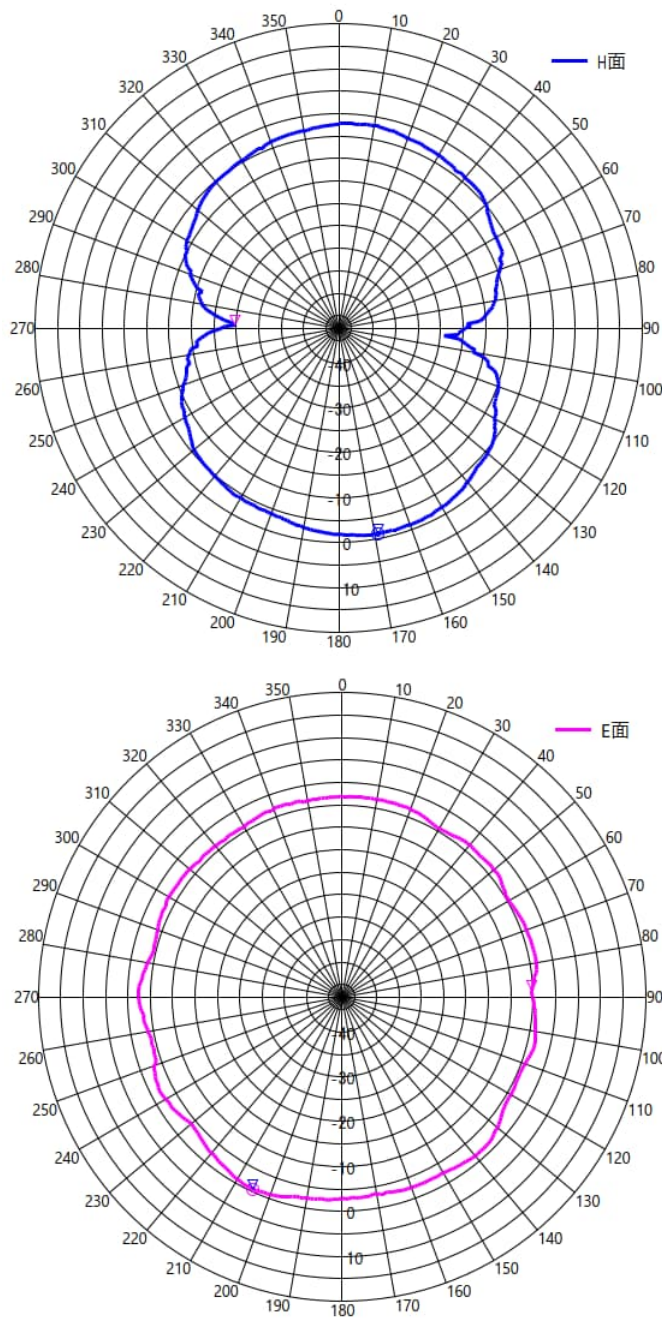
2402 MHz





Japan

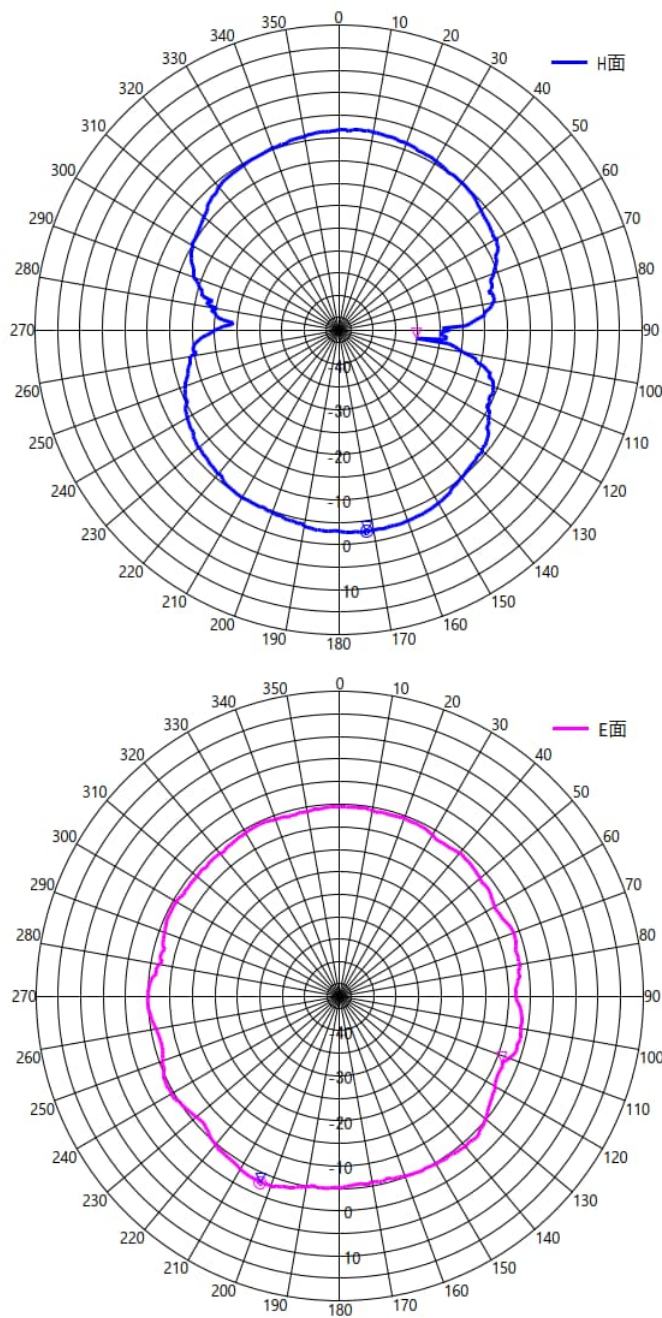
2440 MHz





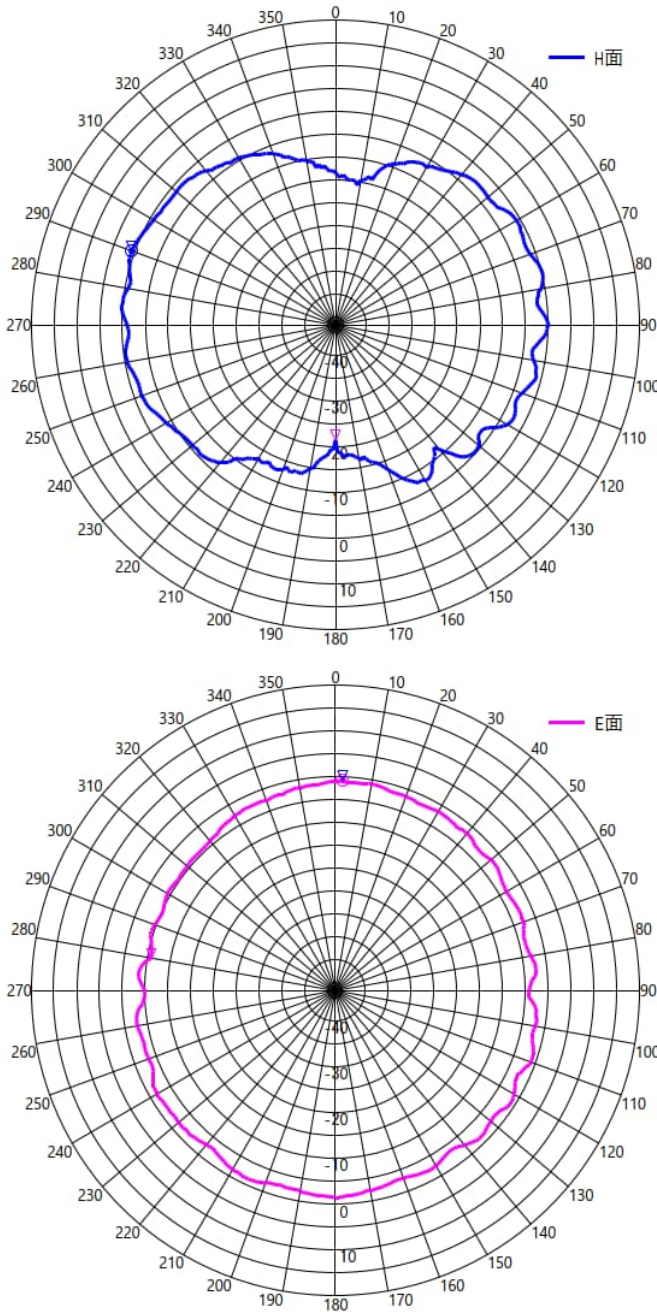
Japan

2480 MHz

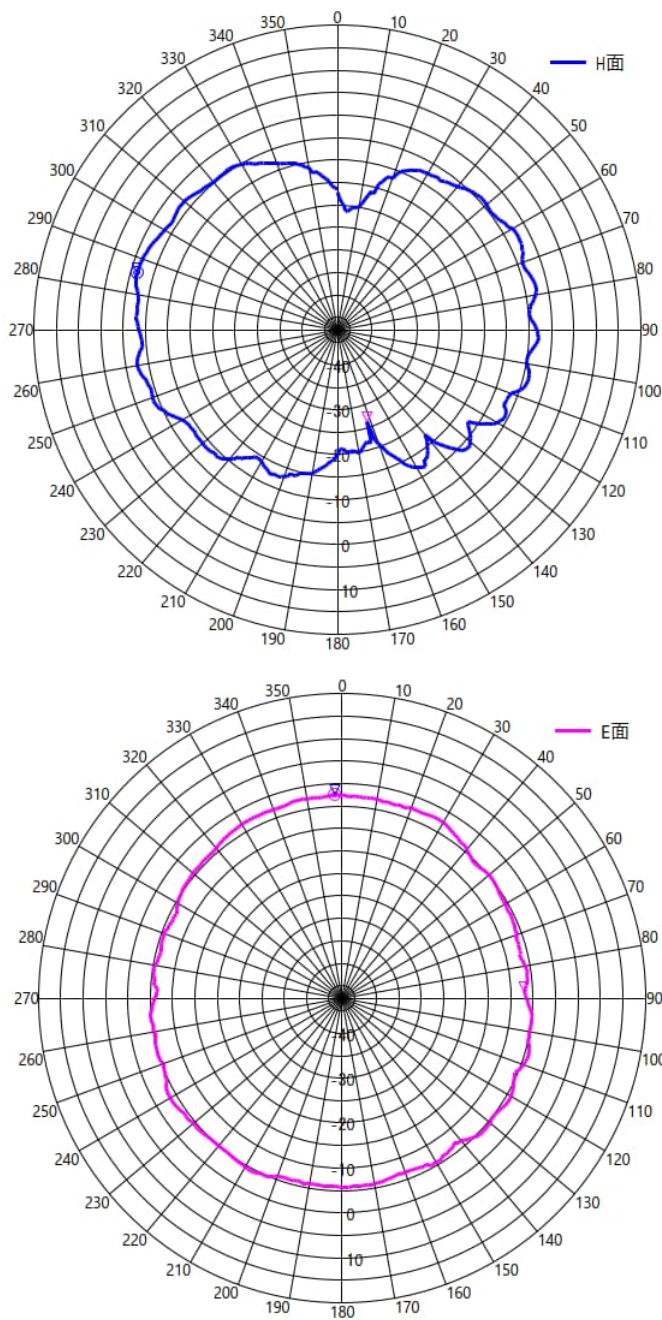


3.2.4 Antenna pattern Position 3

2402 MHz



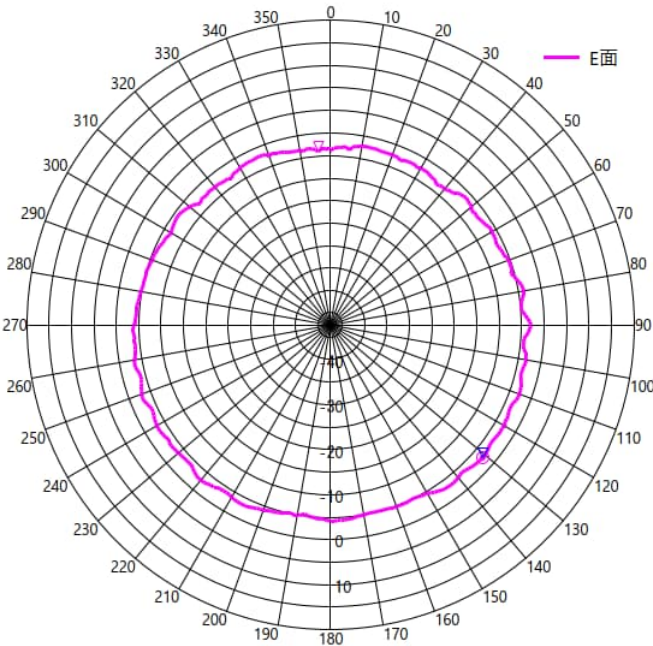
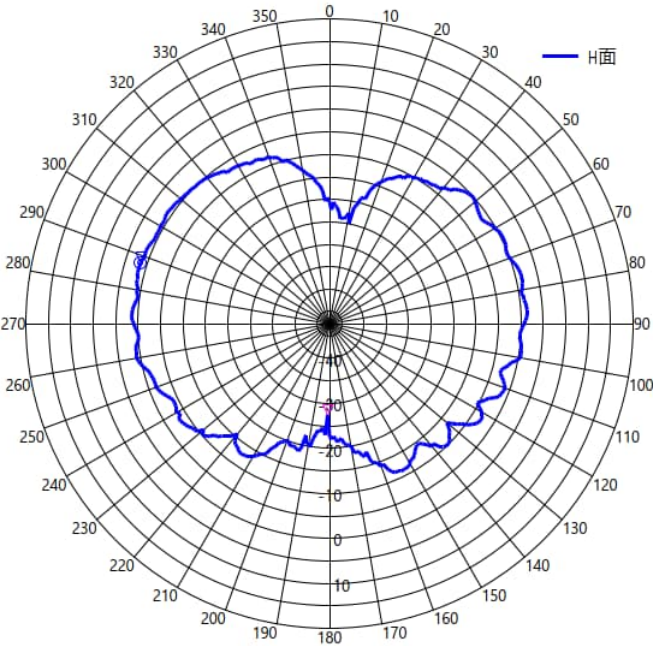
2440 MHz





Japan

2480 MHz



4 Test Equipment

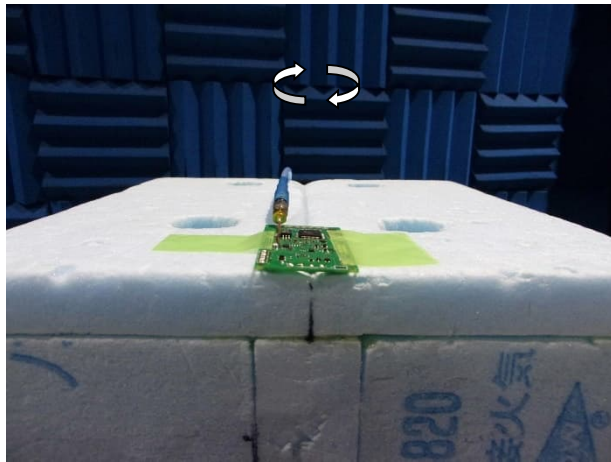
Equipment	Company	Model No.	Serial No.	Cal. Authority	Cal. Method	Cal. Date
Spectrum analyzer	ROHDE&SCHWARZ	FSV40	101732	ROHDE&SCHWARZ	(b)	07-Apr-2023
Dipole antenna	ANRITSU	MA5612 B4	6100245719	Intertek	(d)	08-Nov-2022
Double ridged guide antenna	ETS LINDGREN	3117	00052315	Intertek	(d)	22-Jun-2022
Preamplifier	TSJ	MLA-100M18-B02-40	1929118	Intertek	(d)	22-Dec-2022
Attenuator	HUBER+SUHNER	6803.17.B	N/A(2340)	Intertek	(d)	22-Dec-2022
Attenuator	AEROFLEX	26A-10	081217-08	Intertek	(d)	19-Dec-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/9m	2001099/4	Intertek	(d)	22-Dec-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/1m	MY32976/4	Intertek	(d)	22-Dec-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/2m	SN MY28404/4	Intertek	(d)	19-Dec-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX106/7m	41625/6	Intertek	(d)	22-Dec-2022
Attenuator	Weinschel	56-10	J4180	Intertek	(d)	14-Jul-2022
Microwave cable	HUBER SUNER	Sucoflex 102/2m	31648	Intertek	(d)	16-Mar-2023
Signal generator	ROHDE&SCHWARZ	SMB100A	177525	Intertek	(a)	16-Dec-2022
3m Semi an-echoic Chamber	TOKIN	N/A	N/A(9002-SVSWR)	Intertek	(d)	28-May-2022
Absorber	RIKEN	PPF30	N/A	N/A	N/A	N/A
PC	DELL	OPTIPLEX9010	00186-228-073-851	N/A	N/A	N/A
Software	Techno Science Japan	TEPTO-ANT	Version 1.3.0012	N/A	N/A	N/A

Calibration is due within one year from the month following the date of calibration.

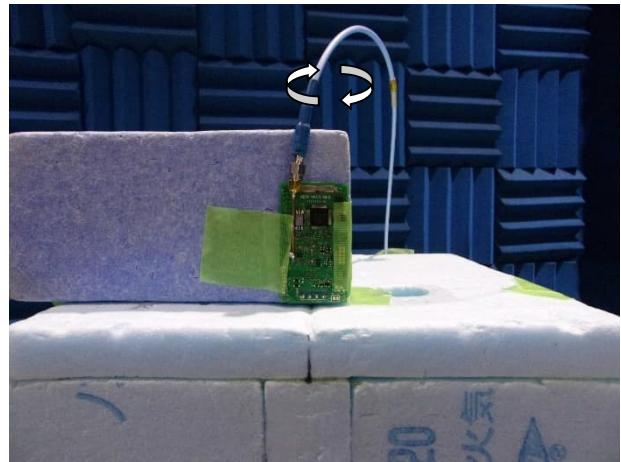
Cal.Method ...

- a) : Calibration conducted by the National Institute of Information and Communications Technology~NICT~ or a designated calibration agency under Article 102-18 paragraph (1)~ Telecom Engineering Center, Intertek Japan K.K., Keysight Technologies, Inc~.
- b) : Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)~Japan Calibration Service System~
- c) : Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)~ Telecom Engineering Center, Intertek Japan K.K.,
- d) : Calibration conducted by using other equipment that listed above from a) to c)

5 Antenna position



Position 1



Position 2



Position 3

*The measurement plane is relative to the receiving antenna.

*0° to 360° is clockwise to the receiving antenna.

6 Test Setup

