

Report on the EMC Testing of:

KYOCERA Corporation
Mobile Phone, Model: EB1146

In accordance with FCC Part 15 Subpart B Class B

Prepared for: KYOCERA Corporation
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SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Hiroaki Suzuki	Deputy Manager of RF Group	Approved Signatory	

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Japan Ltd. document control rules.

EXECUTIVE SUMMARY – Result: Complied

A sample of this product was tested and the result above was confirmed in accordance with FCC Part 15 Subpart B (excluding the deviations mentioned in section 1.4 of this document).



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**Additional signatures required by FCC 47 CFR Part 2, § 2.938 (b) (10)****Signatures of the individuals responsible for testing the product**

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC Part 15 Subpart B. The sample tested was found Complied compliant with the requirements defined in the applied rules.

NAME	RESPONSIBLE FOR	SIGNATURE
Nobuhiko Iwasawa	Testing	as proxy
Yoshiyuki Takahashi	Testing	
Mitsuhiro Takeda	Testing	
Satoshi Hosoya	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-22187-0	First Issue	Refer to the cover page

1.2 Standards

FCC Part 15 Subpart B

1.3 Measurement standards

ANSI C63.4 2014

1.4 Deviation from standards

None

1.5 List of applied test(s) of the EUT

Regarding judgment of conformance to Emission test, a value of measurement uncertainty was not taken in account.

Test Name	Classification of EUT	Test	Worst Point (Margin)	Result	Remarks
Conducted emission at mains port	Class B	Applied	MP4 + USB read with PC mode L2 0.150 MHz QP 8.0 dB	Pass	-
Radiated emission (below 1 GHz)	Class B	Applied	MP4 + USB read with PC mode V 65.548 MHz QP 8.8 dB	Pass	-
Radiated emission (above 1 GHz)	Class B	Applied	Wide Camera with ADP V 3068.006 MHz AV 18.0 dB	Pass	-

1.6 Test information

The following EMC test conditions were applied based on the conditions specified by the applicant.

- Tested supply voltage and supply frequency
- Operation mode

1.7 Test set up

Table-top

1.8 Test period

08-October-2022 - 12-October-2022

2 Equipment Under Test

All information in this chapter was provided by the applicant.

2.1 EUT information

Applicant	KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku, Yokohama-shi, Kanagawa, 224-8502 Japan Phone: +81-45-943-6253 Fax: +81-45-943-6314
Equipment Under Test (EUT)	Mobile Phone
Model number	EB1146
Serial number	354663600011172, 354663600011230
Trade name	KYOCERA
Authorization	JOYEB1146
Number of sample(s)	2
EUT condition	Pre-production
Maximum frequency	2200 MHz
Power rating	Battery: DC 3.87 V
Size	(W) 69 x (D) 153 x (H) 8.9 mm

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
EB1146, S/N: 354663600011172			
0	As supplied by the applicant	Not Applicable	Not Applicable
EB1146, S/N: 354663600011230			
0	As supplied by the applicant	Not Applicable	Not Applicable

2.3 Variation of family model(s)

2.3.1 List of family model(s)

Not applicable

2.3.2 Reason for selection of EUT

Not applicable



Japan

2.4 Operation mode

1. In Camera with ADP mode

- i) Power ON
- ii) Record

2. Out Camera with ADP mode

- i) Power ON
- ii) Record

3. Wide Camera with ADP mode

- i) Power ON
- ii) Record

4. MP4 with Earphone mode

- i) Power ON
- ii) Execution of Color Bar moving picture data

5. MP4 + USB Read with PC mode

- i) Power ON
- ii) EUT connects to PC via USB cable
- iii) Read / write of MP4 moving picture data
- iv) Execution of Color Bar moving picture data

3 Configuration of Equipment

Numbers assigned to equipment or cables in "3.1 Equipment(s) used" and "3.2 Cable(s) used" correspond to numbers in "3.3 System configuration".

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

3.1 Equipment used

No.	Equipment	Company	Model No.	Serial No.	Authorization	Remarks
EUT1	Mobile Phone	KYOCERA	EB1146	354663600011172	JOYEB1146	EUT, *1
				354663600011230	N/A	EUT, *2
AE1	AC adapter	KDDI	0602PQA	N/A	N/A	-
AE2	Earphone	N/A	N/A	N/A	N/A	-
AE3	Personal Computer	Lenovo	TYPE 7854-CTO	LR-0GDNF	DoC	*3
AE4	AC adapter	Lenovo	42T4418	11S42T4418ZGWG2 12MKX REV:H	N/A	*3

*1: EUT used in In Camera with ADP, Out Camera with ADP, Wide Camera with ADP, MP4 with Earphone mode.

*2: EUT used in MP4 + USB read with PC mode.

*3: The property of TÜV SÜD Japan was used.

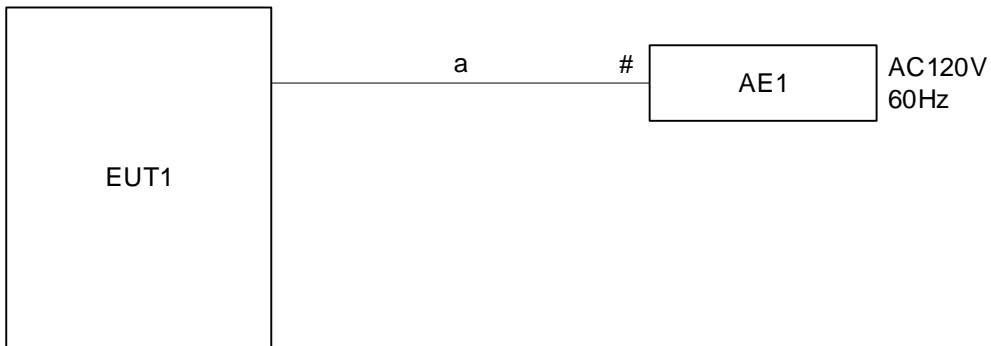
3.2 Cable(s) used

No.	Cable	Length (m)	Shield	EUT accessory Ferrite core	Remarks
a	USB type C cable	1.5	Yes	-	-
b	USB to AUDIO conversion cable	0.1	Yes	-	-
c	Earphone cable	0.8	No	-	-
d	USB type C cable	1.0	Yes	-	-
e	DC cable for PC AC adapter	1.8	No	-	*1
f	AC power cord for PC AC adapter	0.8	No	-	*1

*1: The property of TÜV SÜD Japan was used.

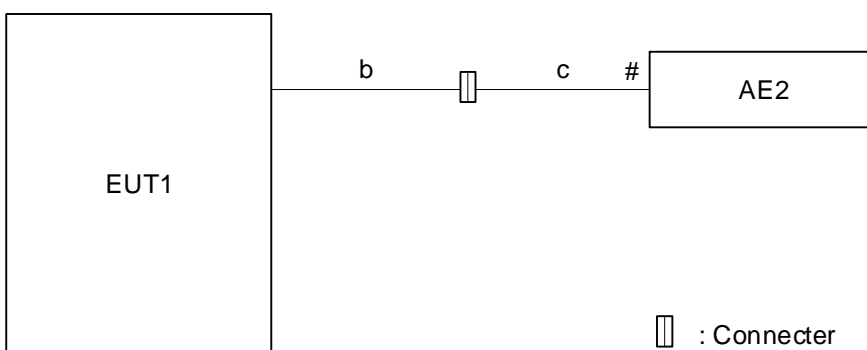
3.3 System configuration

1. In Camera with ADP mode
2. Out Camera with ADP mode
3. Wide Camera with ADP mode



: Un-detachable cable

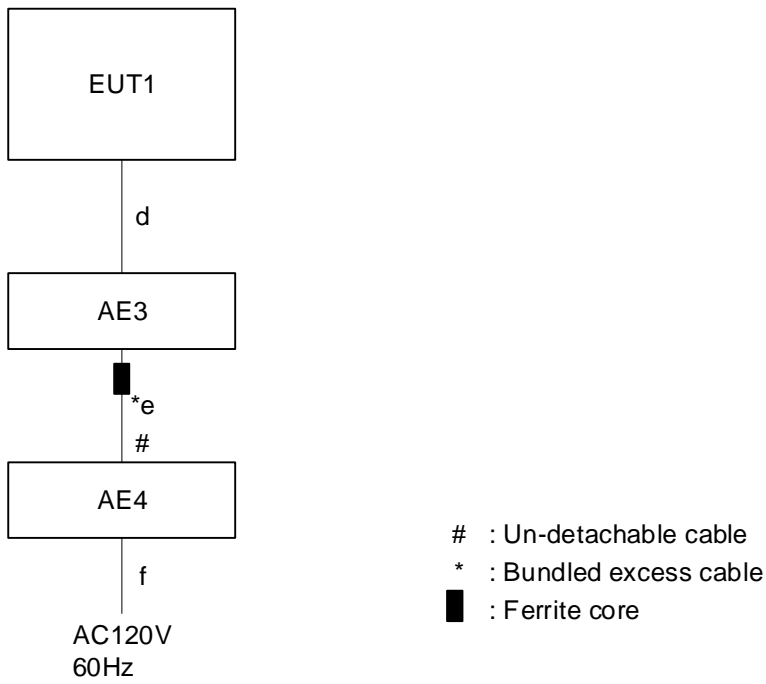
4. MP4 with Earphone mode



□ : Connector

: Un-detachable cable

5. MP4 + USB Read with PC mode



4 Test Result

4.1 Conducted emission at mains port

4.1.1 Measurement condition

Frequency range	0.15 MHz-30 MHz
Test place	10 m Semi-Anechoic Chamber No. 2
EUT was placed on	Styrene foam table (W) 2.0 × (D) 1.0 × (H) 0.8 m
Metal reference plane	Vertical
Test receiver setting	Detector: Quasi-peak, Average Bandwidth: 9 kHz
Line Impedance Stabilization Network (LISN)	Specification: 50 Ω/50 μH Distance from EUT: 0.8 m

EUT is placed on a non-conducting table for table-top equipment or on insulation material for a floor-standing equipment. In addition, a table-top equipment is located 0.4 m to a metal reference plane.

Line Impedance Stabilization Network (LISN) is placed 0.8 m away from the EUT. The power code of the EUT is connected to LISN and its excess part is bundled in the center. The length of bundling is 0.3-0.4 m.

A power code of a peripheral is connected to LISN and terminated into 50 Ω.

Excess cables between equipment are bundled in the center. The length of bundling is 0.3-0.4 m.

Where LISN cannot be applied, the test is performed using a voltage probe.

After overall frequency range is investigated with spectrum analyzer using peak detector, measurements are performed with test receiver in setting to the defined values.

4.1.2 Calculation method

Emission Level = Reading + Factor*

Margin = Limit – Emission Level

*Note: Factor = AMN factor + Cable system loss + ATT. loss

Example)

Limit @ 6.770 MHz: 60.0 dBμV (Quasi-peak)
50.0 dBμV (Average)

Quasi-peak Reading = 41.2 dBμV Factor = 10.3 dB
Emission level = 41.2 + 10.3 = 51.5 dBμV
Margin = 60.0 - 51.5 = 8.5 dB

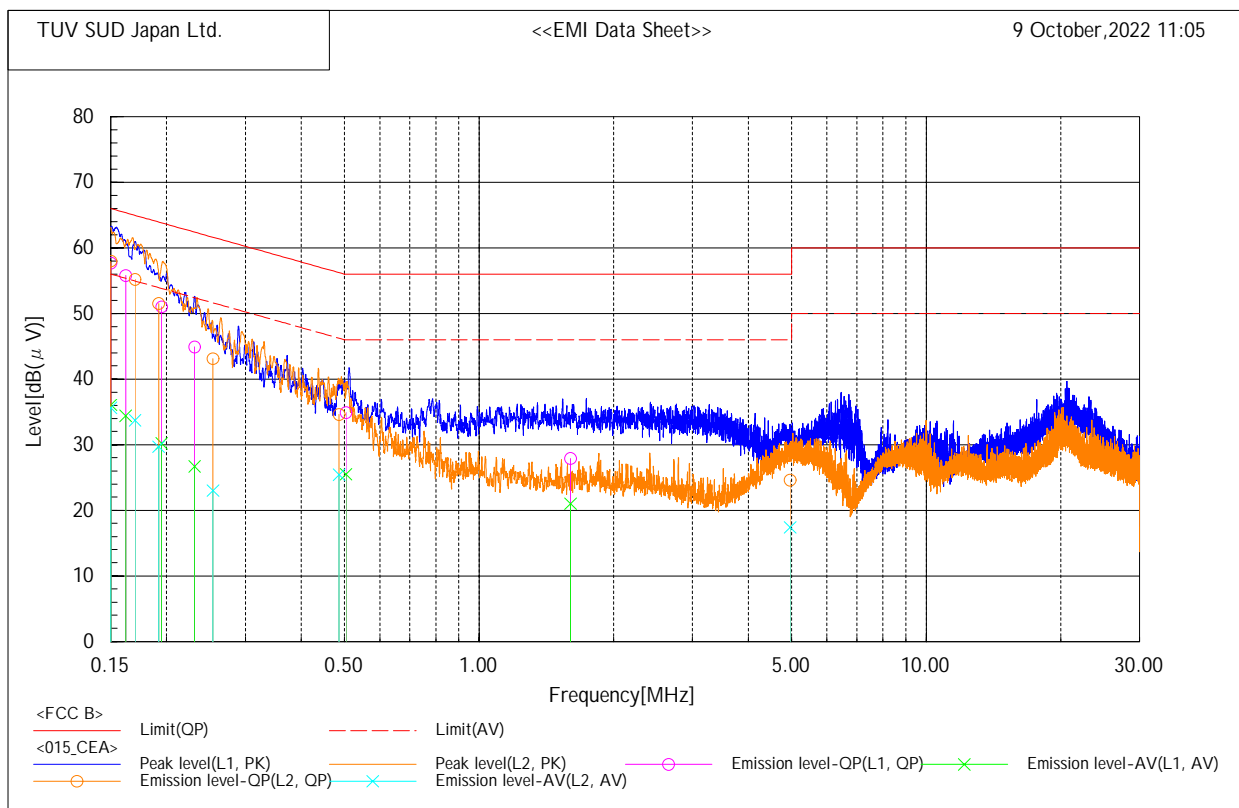
Average Reading = 35.0 dBμV Factor = 10.3 dB
Emission level = 35.0 + 10.3 = 45.3 dBμV
Margin = 50.0 - 45.3 = 4.7 dB

4.1.3 Test data and Configuration photographs

Operation mode	MP4 + USB Read with PC mode
EUT	EB1146, S/N: 354663600011230 - Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 9 October,2022 11:05
 Operator : Nobuhiko Iwasawa
 Temp, Hum, Atm : 18.7 [°C], 53.8 [%], 992 [hPa]
 Supply power : AC 120 V, 60 Hz, 1 phase

***** CONDUCTED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

Line	Frequency MHz	Reading dB(uV)		Factor dB	Level dB(uV)		Limit dB(uV)		Margin dB	
		QP	CAV		QP	CAV	QP	AV	QP	AV
		L1	0.150		47.2	25.6	10.5	57.7	36.1	66.0
L1	0.162	45.4	24.0	10.4	55.8	34.4	65.4	55.4	9.6	21.0
L1	0.195	40.6	19.8	10.4	51.0	30.2	63.8	53.8	12.8	23.6
L1	0.231	34.5	16.3	10.4	44.9	26.7	62.4	52.4	17.5	25.7
L1	0.504	24.6	15.2	10.3	34.9	25.5	56.0	46.0	21.1	20.5
L1	1.601	17.5	10.6	10.4	27.9	21.0	56.0	46.0	28.1	25.0
L2	0.150	47.5	25.1	10.5	58.0	35.6	66.0	56.0	8.0	20.4
L2	0.170	44.8	23.3	10.4	55.2	33.7	65.0	55.0	9.8	21.3
L2	0.192	41.1	19.3	10.4	51.5	29.7	63.9	53.9	12.4	24.2
L2	0.254	32.8	12.7	10.3	43.1	23.0	61.6	51.6	18.5	28.6
L2	0.486	24.3	15.1	10.3	34.6	25.4	56.2	46.2	21.6	20.8
L2	4.963	14.0	6.8	10.6	24.6	17.4	56.0	46.0	31.4	28.6

4.2 Radiated emission (below 1 GHz)

4.2.1 Measurement condition

Frequency range	30 MHz-1000 MHz
Test place	10 m Semi-Anechoic Chamber No. 2
EUT was placed on	Styrene foam table (W) 1.5 × (D) 1.0 × (H) 0.8 m
Axis	0°-360°
Antenna	Distance from EUT: 3 m Height: 1-4 m Polarity: Horizontal/Vertical
Test receiver setting	Detector: Quasi-peak Bandwidth: 120 kHz

EUT is placed on a non-conducting table for table-top equipment or on insulation material for a floor-standing equipment. The non-conducting table or the insulation material is placed on a rotating turn table.

Excess cables between equipment are bundled in the center. The length of bundling is 0.3-0.4 m.

An antenna is adjusted between 1-4 m in height and varied its polarization (horizontal and vertical), and the EUT azimuth is varied by the rotating turntable 0 to 360 degrees.

After overall frequency range is investigated with spectrum analyzer using peak detector, measurements are performed with test receiver in setting to the defined values.

4.2.2 Calculation method

Emission level = Reading + Factor*

Margin = Limit - Emission level

*Note: Factor = Antenna factor + Cable system loss + ATT. loss - Amplifier Gain

Example)

Limit @ 350.0 MHz: 37.0 dB μ V/m (Quasi-peak)

Quasi-peak Reading = 41.1 dB μ V Factor = -11.8 dB/m
Emission level = 41.1 - 11.8 = 29.3 dB μ V/m
Margin = 37.0 - 29.3 = 7.7 dB

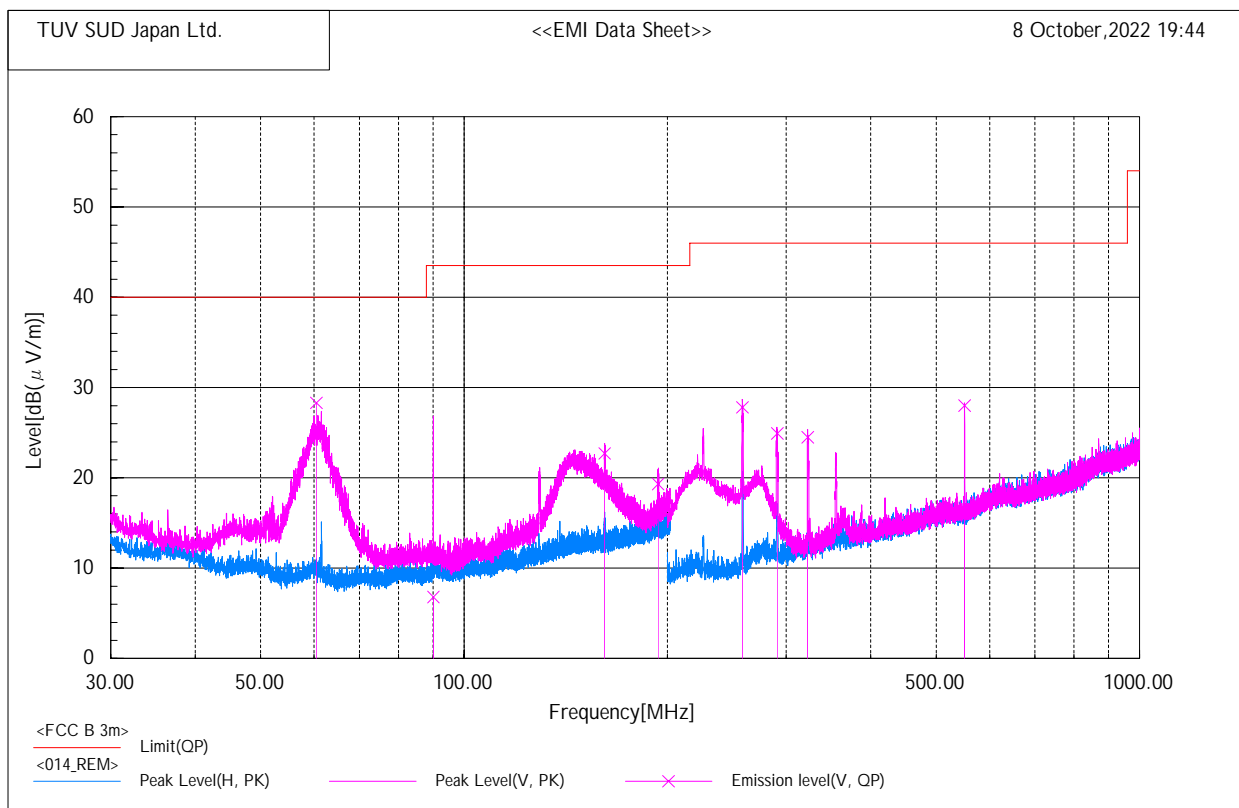


4.2.3 Test data and Configuration photographs

Operation mode	In Camera with ADP mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 8 October,2022 19:44
 Operator : Yoshiyuki Takahashi
 Temp, Hum, Atm : 19.1 [°C], 53.1 [%], 985 [hPa]
 Supply power : DC 5 V

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

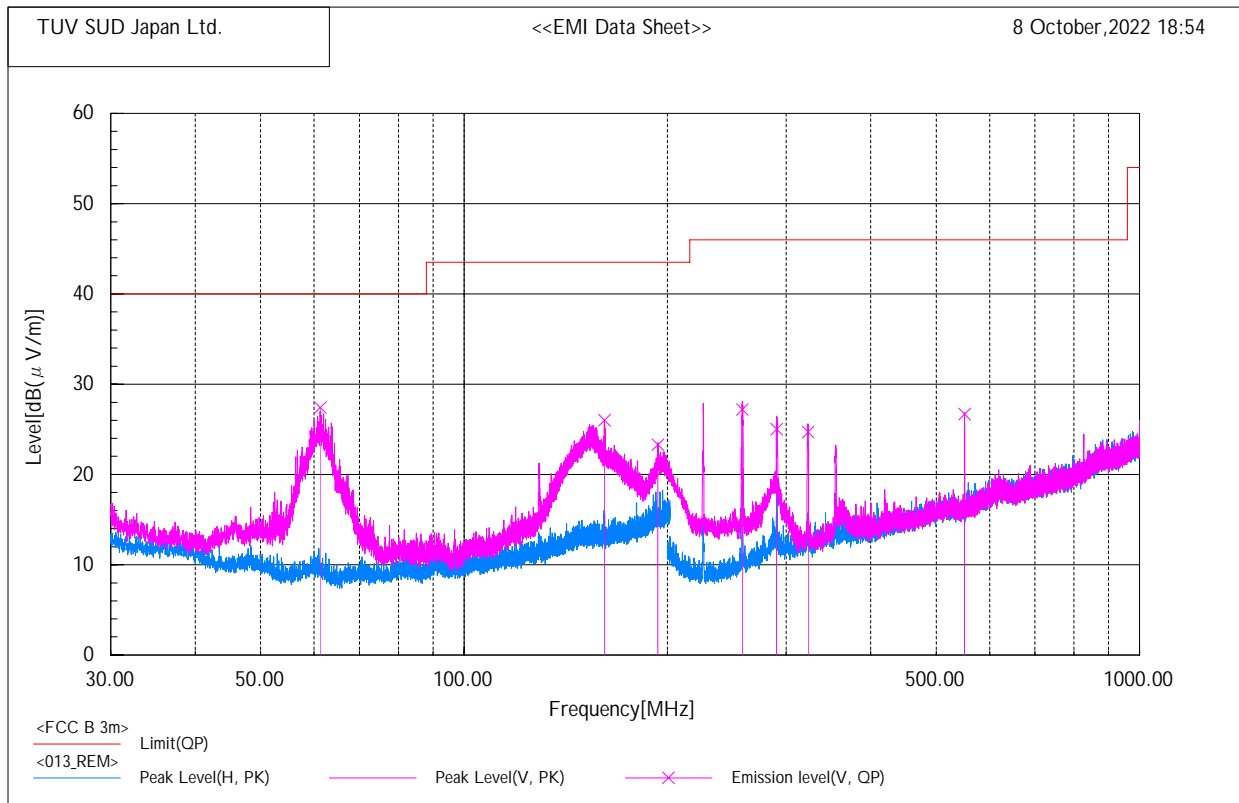
Frequency	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
MHz		dB(μV)	dB(1/m)	dB(μV/m)	dB(μV/m)	dB	cm	deg
60.452	V	45.4	-17.1	28.3	40.0	11.7	100.0	191.0
90.100	V	23.2	-16.4	6.8	43.5	36.7	400.0	14.0
161.471	V	35.7	-13.0	22.7	43.5	20.8	100.0	0.0
193.808	V	30.7	-11.4	19.3	43.5	24.2	100.0	224.0
258.418	V	43.5	-15.7	27.8	46.0	18.2	187.0	213.0
290.893	V	39.4	-14.5	24.9	46.0	21.1	100.0	283.0
322.787	V	38.0	-13.5	24.5	46.0	21.5	100.0	58.0
550.997	V	37.3	-9.3	28.0	46.0	18.0	128.0	12.0



Operation mode	Out Camera with ADP mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 8 October,2022 18:54
 Operator : Yoshiyuki Takahashi
 Temp, Hum, Atm : 19.1 [°C], 53.1 [%], 985 [hPa]
 Supply power : DC 5 V

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

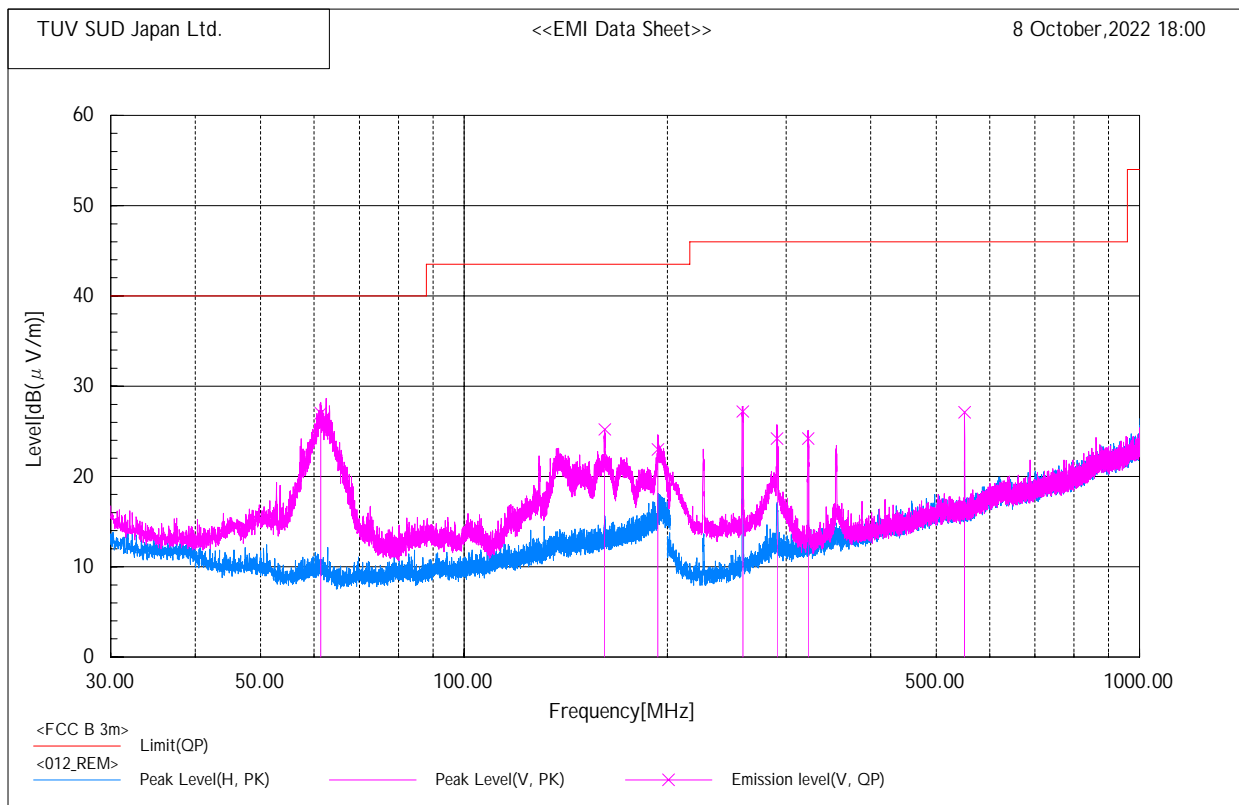
Frequency	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
MHz		dB(μV) QP		dB(1/m)				
61.247	V	44.6	-17.2	27.4	40.0	12.6	100.0	196.0
161.419	V	39.0	-13.0	26.0	43.5	17.5	100.0	0.0
193.747	V	34.7	-11.4	23.3	43.5	20.2	312.0	251.0
258.104	V	43.0	-15.8	27.2	46.0	18.8	138.0	213.0
290.395	V	39.5	-14.5	25.0	46.0	21.0	100.0	188.0
323.301	V	38.2	-13.5	24.7	46.0	21.3	100.0	253.0
550.995	V	36.0	-9.3	26.7	46.0	19.3	100.0	157.0



Operation mode	Wide Camera with ADP mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 8 October,2022 18:00
 Operator : Yoshiyuki Takahashi
 Temp, Hum, Atm : 19.1 [°C], 53.1 [%], 985 [hPa]
 Supply power : DC 5 V

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

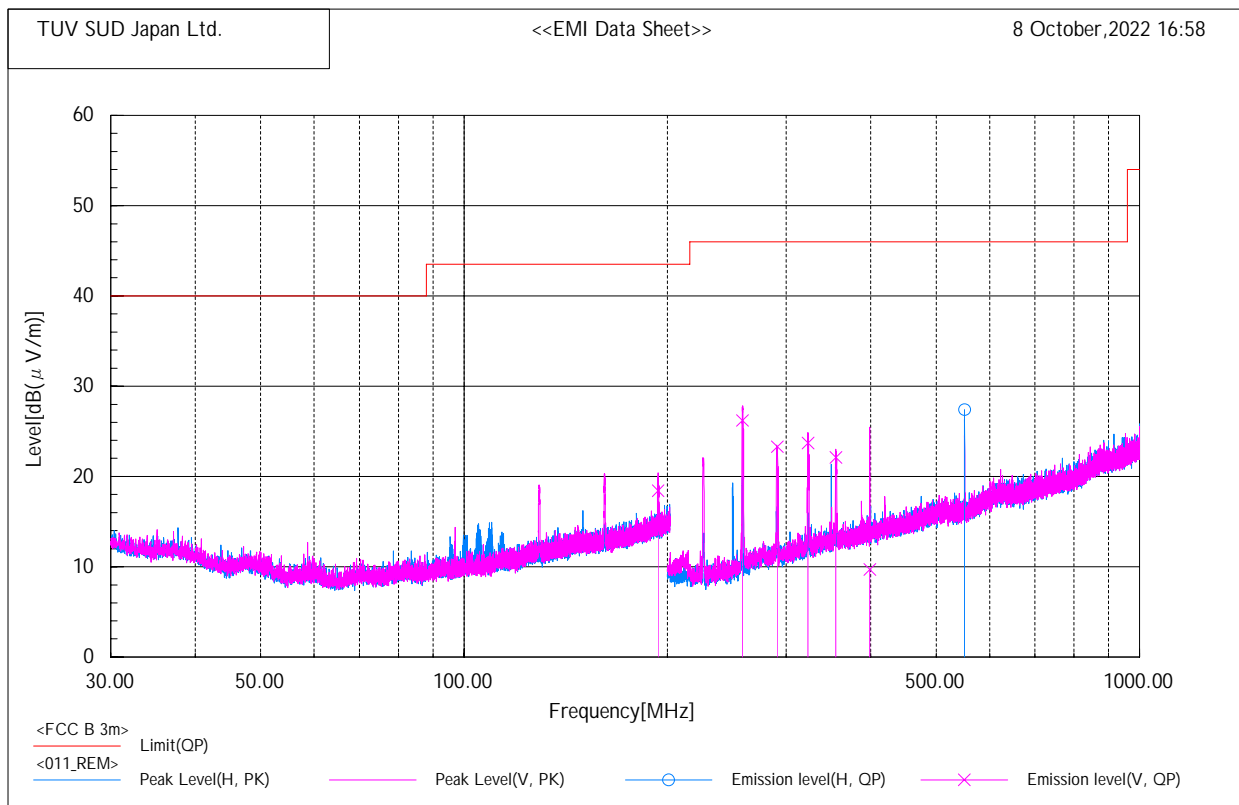
Frequency MHz	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
		dB(μV) QP	dB(1/m)	dB(μV/m) QP	dB(μV/m) QP	dB QP	cm	deg
61.358	V	44.2	-17.2	27.0	40.0	13.0	100.0	148.0
161.574	V	38.2	-13.0	25.2	43.5	18.3	100.0	187.0
193.749	V	34.4	-11.4	23.0	43.5	20.5	284.0	335.0
258.661	V	42.9	-15.7	27.2	46.0	18.8	100.0	190.0
290.738	V	38.7	-14.5	24.2	46.0	21.8	172.0	297.0
323.301	V	37.7	-13.5	24.2	46.0	21.8	100.0	85.0
550.995	V	36.4	-9.3	27.1	46.0	18.9	100.0	179.0



Operation mode	MP4 with Earphone mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 8 October,2022 16:58
 Operator : Yoshiyuki Takahashi
 Temp, Hum, Atm : 19.1 [°C], 53.1 [%], 985 [hPa]
 Supply power : DC 3.87 V

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



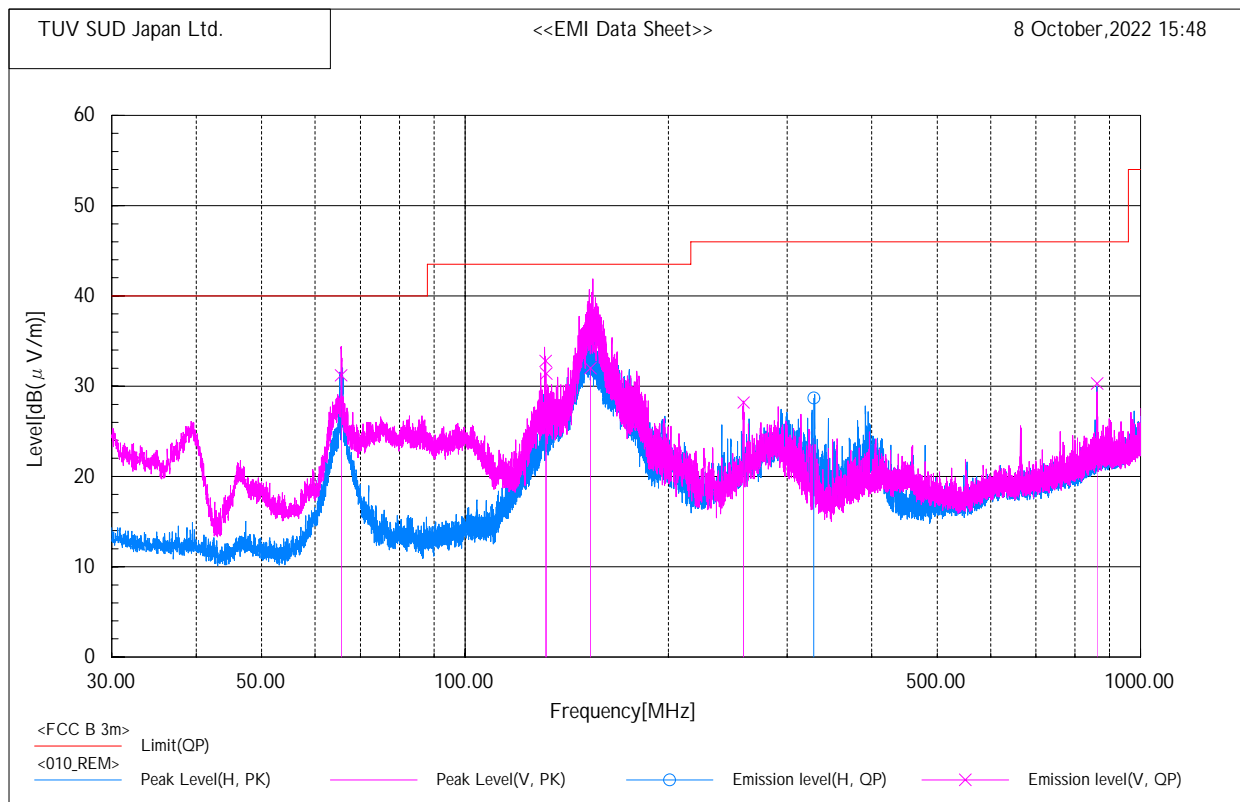
Final Result

Frequency	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
MHz		dB(μV) QP	dB(1/m)	dB(μV/m) QP	dB(μV/m) QP	dB QP	cm	deg
193.781	V	29.8	-11.4	18.4	43.5	25.1	100.0	94.0
258.372	V	41.9	-15.7	26.2	46.0	19.8	177.0	213.0
290.847	V	37.8	-14.5	23.3	46.0	22.7	100.0	55.0
323.169	V	37.2	-13.5	23.7	46.0	22.3	100.0	33.0
355.374	V	34.7	-12.6	22.1	46.0	23.9	100.0	52.0
398.930	V	21.5	-11.8	9.7	46.0	36.3	100.0	32.0
551.000	H	36.7	-9.3	27.4	46.0	18.6	238.0	287.0

Operation mode	MP4 + USB Read with PC mode
EUT	EB1146, S/N: 354663600011230 - Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 8 October,2022 15:48
 Operator : Yoshiyuki Takahashi
 Temp, Hum, Atm : 19.1 [°C], 53.1 [%], 985 [hPa]
 Supply power : AC 230 V, 50 Hz, 1 phase

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

Frequency	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
MHz		dB(μV) QP	dB(1/m)	dB(μV/m) QP	dB(μV/m) QP	dB QP	cm	deg
65.548	V	48.4	-17.2	31.2	40.0	8.8	100.0	178.0
131.661	V	47.0	-14.2	32.8	43.5	10.7	100.0	231.0
131.917	V	45.6	-14.2	31.4	43.5	12.1	100.0	229.0
153.319	V	45.2	-13.2	32.0	43.5	11.5	100.0	199.0
258.510	V	43.9	-15.7	28.2	46.0	17.8	100.0	2.0
328.292	H	42.0	-13.3	28.7	46.0	17.3	100.0	253.0
862.471	V	33.9	-3.6	30.3	46.0	15.7	100.0	24.0

4.3 Radiated emission (above 1 GHz)

4.3.1 Measurement condition

Frequency range	1000 MHz-11000 MHz
Test place	10 m Semi-Anechoic Chamber No. 2
EUT was placed on	Styrene foam table (W) 2.0 × (D) 1.0 × (H) 0.8 m
Axis	0°-360°
Antenna	Distance: 4.05 m, 3.87 m Height: 1-4 m Polarity: Horizontal/Vertical
Test receiver setting	Detector: Peak, Average Bandwidth: 1 MHz

EUT is placed on a styrene form table for table-top equipment or on insulation material for a floor-standing equipment. The styrene form table or the insulation material is placed on a rotating turn table.

Excess cables between equipment are bundled in the center. The length of bundling is 0.3-0.4 m.

Absorbers are placed between the EUT and an antenna.

The antenna is adjusted between 1-4 m in height and varied its polarization (horizontal and vertical), and the EUT azimuth is varied by the rotating turntable 0 to 360 degrees. Where height of the antenna is changed, its angle is also adjusted to the position of the EUT.

After overall frequency range is investigated with spectrum analyzer using peak detector, measurements are performed with test receiver in setting to the defined values.

The antenna is positioned from the test volume that was predetermined by the site VSWR measurement. Since this predetermined test volume is different from maximum circumference where the EUT and the peripheral devices are actually placed, the measurement distance conversion factor is added to the measurement data.

Antenna 3 dB beamwidth

Antenna: 3117

Frequency (GHz)	θ3 dB (°)	3 dB beamwidth w (m)
1.0	82	5.22
2.0	56	3.19
3.0	61	3.53
4.0	50	2.80
5.0	53	2.99
6.0	50	2.80

Measurement distance: $d = 3.0$ m

$W = 2 \times d \times \tan(0.5 \times \theta_{3\text{ dB}})$

4.3.2 Calculation method

Emission level = Reading + CF*

Margin = Limit - Emission level

*Note: CF (correction factor) = TF (Transducer Factor; Antenna factor)
+ PF (Path Factor; Cable system loss + ATT. loss - Amplifier Gain) +
DF (Distance correction Factor)

Example)

Limit @ 1100.0 MHz: 70.0 dB μ V/m (Peak)
50.0 dB μ V/m (Average)

Measurement distance: 3.25 m

Distance conversion Factor: $20 \log (3.25\text{m}/3.0\text{m}) = 0.7 \text{ dB}$

Peak Reading = 50.2 dB μ V CF = 2.4 dB
Emission level = 50.2 + 2.4 = 52.6 dB μ V/m
Margin = 70.0 - 52.6 = 17.4 dB

Average Reading = 32.0 dB μ V CF = 2.4 dB
Emission level = 32.0 + 2.4 = 34.4 dB μ V/m
Margin = 50.0 - 34.4 = 15.6 dB

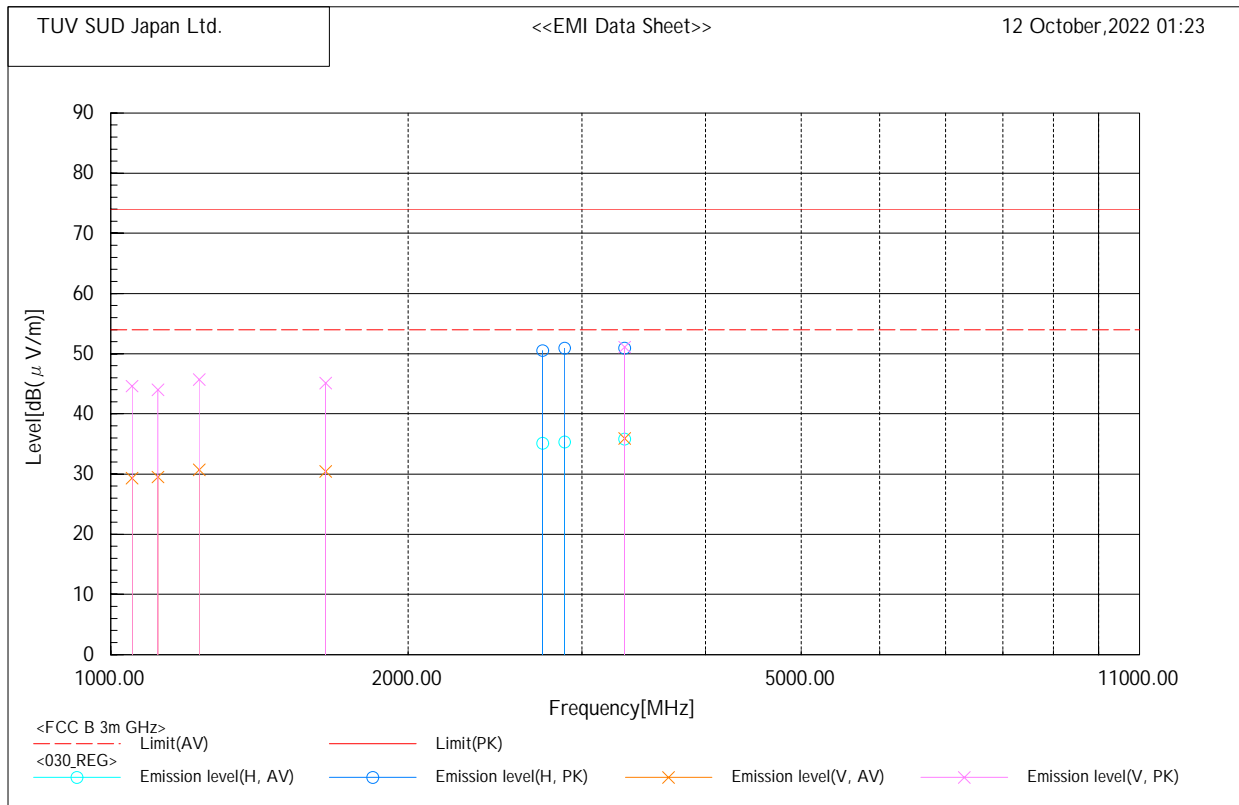


4.3.3 Test data and Configuration photographs

Operation mode	In Camera with ADP mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 12 October,2022 01:23
 Operator : Mitsuhiro Takeda
 Temp, Hum, Atm : 21.1 [°C], 53.4 [%], 985 [hPa]
 Supply power : DC 5 V
 Antenna distance : 4.05 m
 Antenna height : 1.00 m - 4.00 m

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

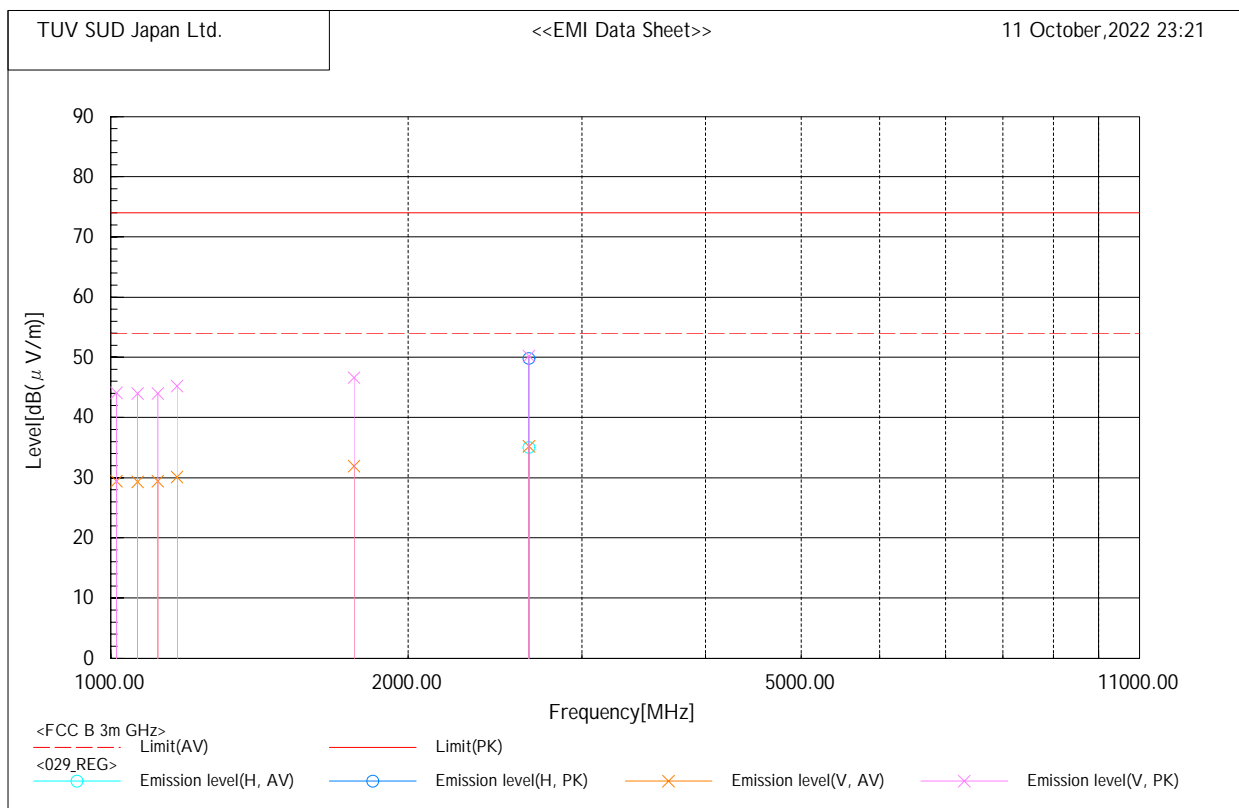
Frequency MHz	Pol.	Reading		Factor				Level		Limit		Margin		Height cm	Angle deg	Tilt deg
		AV	PK	CF	TF	PF	DF	AV	PK	AV	PK	AV	PK			
1050.813	V	37.9	53.2	-8.6	27.8	-39.0	2.6	29.3	44.6	54.0	74.0	24.7	29.4	133.0	256.0	6.2
1116.185	V	37.9	52.4	-8.4	27.8	-38.8	2.6	29.5	44.0	54.0	74.0	24.5	30.0	117.0	244.0	3.2
1228.739	V	37.5	52.5	-6.8	29.1	-38.5	2.6	30.7	45.7	54.0	74.0	23.3	28.3	135.0	3.0	6.6
1650.002	V	36.9	51.6	-6.5	28.5	-37.6	2.6	30.4	45.1	54.0	74.0	23.6	28.9	156.0	210.0	10.7
2736.008	H	35.6	51.0	-0.5	32.3	-35.4	2.6	35.1	50.5	54.0	74.0	18.9	23.5	184.0	66.0	15.4
2880.000	H	35.6	51.2	-0.3	32.3	-35.2	2.6	35.3	50.9	54.0	74.0	18.7	23.1	312.0	42.0	33.7
3312.010	V	34.8	50.0	1.1	32.9	-34.4	2.6	35.9	51.1	54.0	74.0	18.1	22.9	210.0	194.0	19.9
3312.010	H	34.7	49.8	1.1	32.9	-34.4	2.6	35.8	50.9	54.0	74.0	18.2	23.1	187.0	158.0	15.9



Operation mode	Out Camera with ADP mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 11 October,2022 23:21
 Operator : Mitsuhiro Takeda
 Temp, Hum, Atm : 21.1 [°C], 53.4 [%], 985 [hPa]
 Supply power : DC 5 V
 Antenna distance : 4.05 m
 Antenna height : 1.00 m - 4.00 m

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

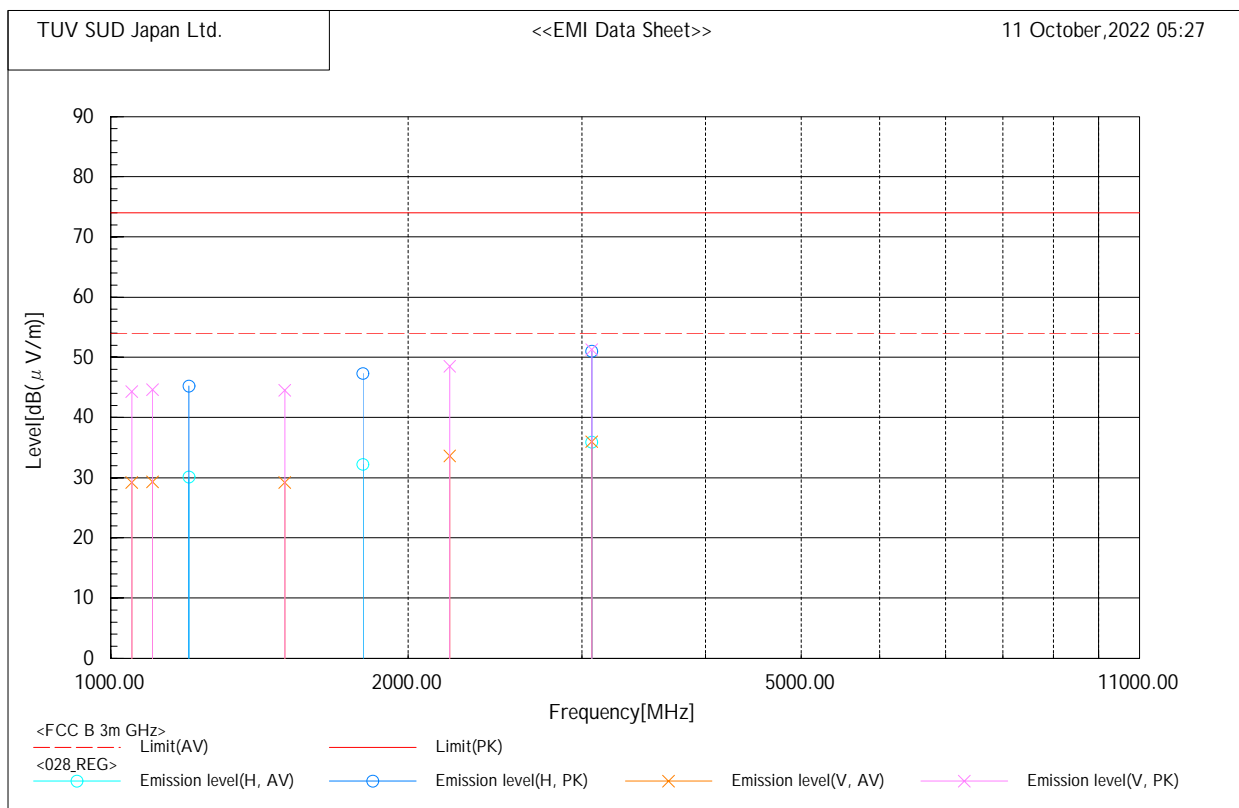
Frequency MHz	Pol.	Reading		Factor				Level		Limit		Margin		Height cm	Angle deg	Tilt deg
		dB(μV)		dB(1/m)				dB(μV/m)		dB(μV/m)		dB				
		AV	PK	CF	TF	PF	DF	AV	PK	AV	PK	AV	PK			
1013.682	V	37.9	52.6	-8.5	27.9	-39.0	2.6	29.4	44.1	54.0	74.0	24.6	29.9	137.0	77.0	7.0
1064.390	V	37.9	52.6	-8.6	27.7	-38.9	2.6	29.3	44.0	54.0	74.0	24.7	30.0	124.0	324.0	4.3
1115.882	V	37.8	52.4	-8.4	27.8	-38.8	2.6	29.4	44.0	54.0	74.0	24.6	30.0	130.0	36.0	5.8
1167.100	V	37.7	52.8	-7.6	28.5	-38.7	2.6	30.1	45.2	54.0	74.0	23.9	28.8	116.0	248.0	2.9
1763.388	V	36.8	51.5	-4.9	29.8	-37.3	2.6	31.9	46.6	54.0	74.0	22.1	27.4	142.0	24.0	7.9
2650.280	V	35.8	50.8	-0.6	32.3	-35.5	2.6	35.2	50.2	54.0	74.0	18.8	23.8	184.0	228.0	15.2
2650.280	H	35.6	50.4	-0.6	32.3	-35.5	2.6	35.0	49.8	54.0	74.0	19.0	24.2	246.0	66.0	25.2



Operation mode	Wide Camera with ADP mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 11 October,2022 05:27
 Operator : Satoshi Hosoya
 Temp, Hum, Atm : 20.9 [°C], 58.9 [%], 975 [hPa]
 Supply power : DC 5 V
 Antenna distance : 4.05 m
 Antenna height : 1.00 m - 4.00 m

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

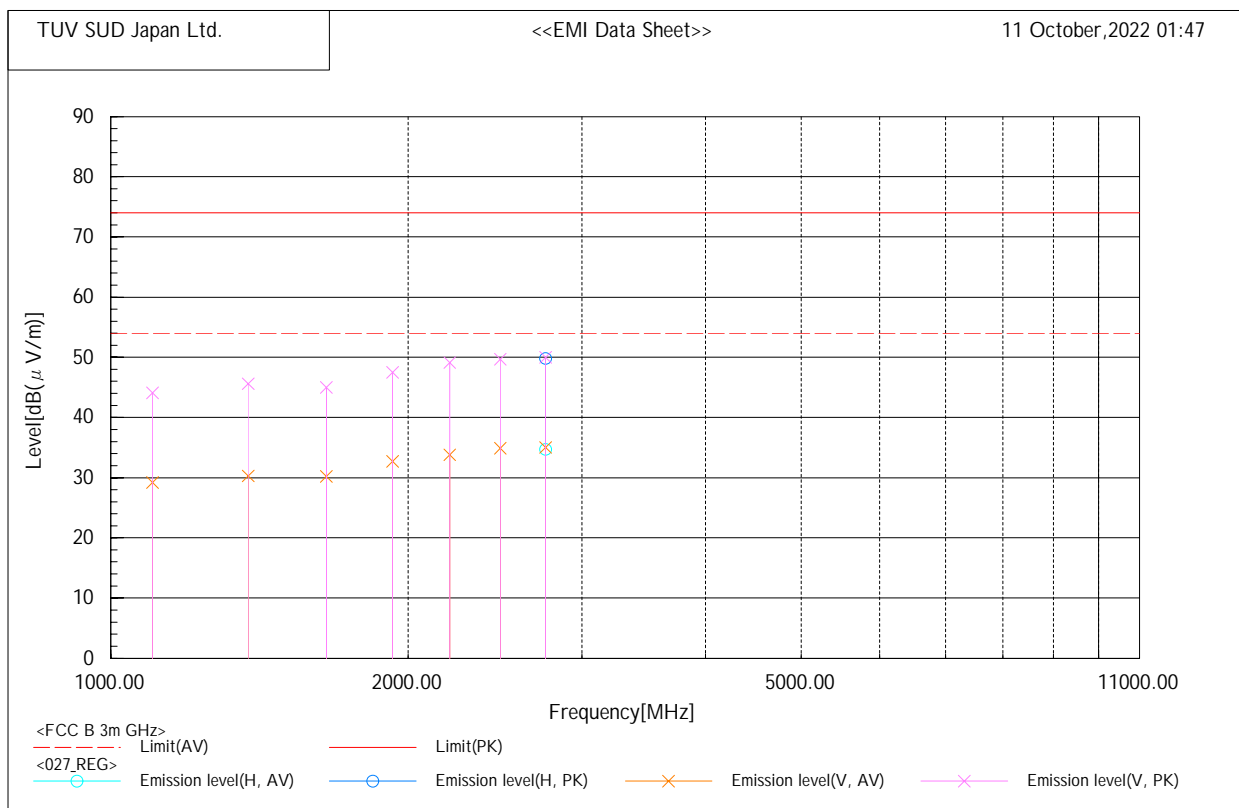
Frequency MHz	Pol.	Reading dB(μV)		Factor dB(1/m)				Level dB(μV/m)		Limit dB(μV/m)		Margin dB		Height cm	Angle deg	Tilt deg
		AV	PK	CF	TF	PF	DF	AV	PK	AV	PK	AV	PK			
1050.001	V	37.8	52.9	-8.6	27.8	-39.0	2.6	29.2	44.3	54.0	74.0	24.8	29.7	156.0	34.0	10.9
1102.003	V	37.9	53.2	-8.6	27.6	-38.8	2.6	29.3	44.6	54.0	74.0	24.7	29.4	344.0	178.0	36.0
1200.001	H	37.2	52.3	-7.1	28.9	-38.6	2.6	30.1	45.2	54.0	74.0	23.9	28.8	110.0	202.0	1.9
1500.002	V	36.8	52.1	-7.6	27.7	-37.9	2.6	29.2	44.5	54.0	74.0	24.8	29.5	186.0	234.0	15.6
1800.003	H	36.5	51.6	-4.3	30.3	-37.2	2.6	32.2	47.3	54.0	74.0	21.8	26.7	316.0	47.0	34.1
2204.005	V	35.8	50.7	-2.2	31.6	-36.4	2.6	33.6	48.5	54.0	74.0	20.4	25.5	341.0	5.0	36.0
3068.006	V	34.8	50.1	1.2	33.4	-34.8	2.6	36.0	51.3	54.0	74.0	18.0	22.7	124.0	304.0	4.6
3068.006	H	34.7	49.8	1.2	33.4	-34.8	2.6	35.9	51.0	54.0	74.0	18.1	23.0	332.0	45.0	35.9



Operation mode	MP4 with Earphone mode
EUT	EB1146, S/N: 354663600011172- Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 11 October,2022 01:47
 Operator : Satoshi Hosoya
 Temp, Hum, Atm : 20.9 [°C], 58.9 [%], 975 [hPa]
 Supply power : DC 3.87 V (Battery)
 Antenna distance : 4.05 m
 Antenna height : 1.00 m - 4.00 m

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



Final Result

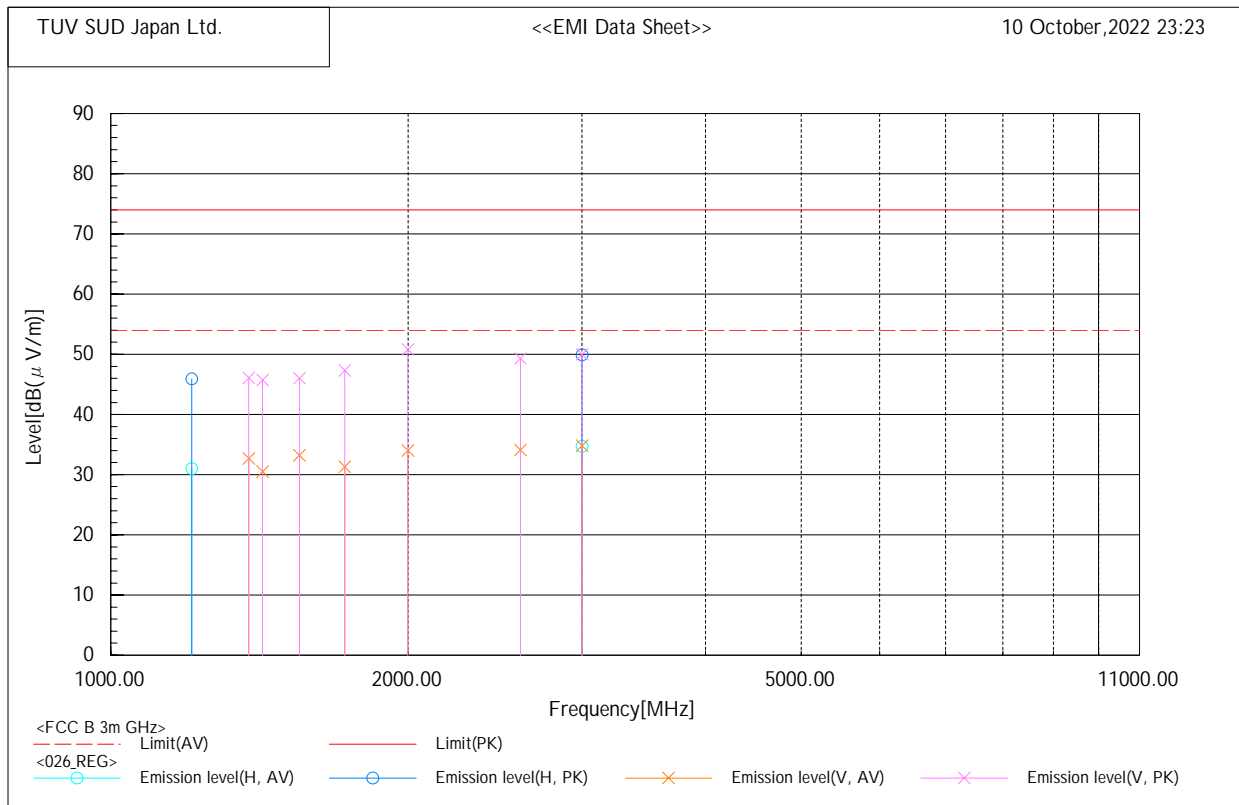
Frequency MHz	Pol.	Reading dB(μV)		Factor dB(1/m)				Level dB(μV/m)		Limit dB(μV/m)		Margin dB		Height cm	Angle deg	Tilt deg
		AV	PK	CF	TF	PF	DF	AV	PK	AV	PK	AV	PK			
1102.003	V	37.8	52.7	-8.6	27.6	-38.8	2.6	29.2	44.1	54.0	74.0	24.8	29.9	344.0	356.0	36.0
1377.503	V	37.1	52.4	-6.8	28.7	-38.1	2.6	30.3	45.6	54.0	74.0	23.7	28.4	318.0	7.0	34.4
1653.004	V	36.7	51.5	-6.5	28.5	-37.6	2.6	30.2	45.0	54.0	74.0	23.8	29.0	341.0	358.0	36.0
1928.504	V	36.4	51.2	-3.7	30.6	-36.9	2.6	32.7	47.5	54.0	74.0	21.3	26.5	335.0	352.0	36.0
2204.005	V	36.0	51.3	-2.2	31.6	-36.4	2.6	33.8	49.1	54.0	74.0	20.2	24.9	358.0	4.0	36.0
2479.506	V	35.7	50.5	-0.8	32.5	-35.9	2.6	34.9	49.7	54.0	74.0	19.1	24.3	185.0	108.0	15.6
2755.009	V	35.5	50.5	-0.5	32.3	-35.4	2.6	35.0	50.0	54.0	74.0	19.0	24.0	319.0	147.0	34.6
2755.009	H	35.2	50.3	-0.5	32.3	-35.4	2.6	34.7	49.8	54.0	74.0	19.3	24.2	378.0	182.0	36.0



Operation mode	MP4 + USB Read with PC mode
EUT	EB1146, S/N: 354663600011230 - Modification State 0

Standard : FCC Part 15 Class B
 Date of test : 10 October,2022 23:23
 Operator : Satoshi Hosoya
 Temp, Hum, Atm : 20.9 [°C], 58.9 [%], 975 [hPa]
 Supply power : AC 120 V, 60 Hz, 1 phase
 Antenna distance : 3.87 m
 Antenna height : 1.00 m - 4.00 m

***** RADIATED EMISSION *****
 [10m Semi-anechoic chamber #2]



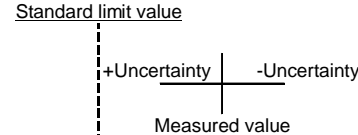

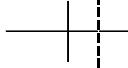

Final Result

Frequency MHz	Pol.	Reading dB(μV)		Factor dB(1/m)				Level dB(μV/m)		Limit dB(μV/m)		Margin dB		Height cm	Angle deg	Tilt deg
		AV	PK	CF	TF	PF	DF	AV	PK	AV	PK	AV	PK			
1207.454	H	38.4	53.3	-7.4	28.9	-38.5	2.2	31.0	45.9	54.0	74.0	23.0	28.1	342.0	12.0	36.6
1379.947	V	40.0	53.4	-7.3	28.7	-38.2	2.2	32.7	46.1	54.0	74.0	21.3	27.9	321.0	323.0	34.8
1424.946	V	38.1	53.3	-7.6	28.3	-38.1	2.2	30.5	45.7	54.0	74.0	23.5	28.3	292.0	326.0	31.9
1552.441	V	40.9	53.7	-7.7	27.9	-37.8	2.2	33.2	46.0	54.0	74.0	20.8	28.0	369.0	337.0	36.6
1724.934	V	37.3	53.3	-6.0	29.2	-37.4	2.2	31.3	47.3	54.0	74.0	22.7	26.7	120.0	174.0	4.3
1999.508	V	37.4	54.2	-3.4	31.2	-36.8	2.2	34.0	50.8	54.0	74.0	20.0	23.2	284.0	149.0	30.3
2598.287	V	35.2	50.4	-1.1	32.4	-35.7	2.2	34.1	49.3	54.0	74.0	19.9	24.7	266.0	227.0	28.0
2999.885	V	35.0	50.2	-0.2	32.6	-35.0	2.2	34.8	50.0	54.0	74.0	19.2	24.0	146.0	209.0	8.8
2999.885	H	34.9	50.1	-0.2	32.6	-35.0	2.2	34.7	49.9	54.0	74.0	19.3	24.1	346.0	242.0	36.6

5 Measurement Uncertainty

The reported measurement uncertainty is based on a value obtained by multiplying standard uncertainty by coverage factor of $k=2$, and a level of confidence becomes 95 %.

Item	Parameter	U_{lab}	U_{cispr}
Conducted Emission, V-AMN	9kHz to 150kHz	± 3.7 dB	± 3.8 dB
Conducted Emission, V-AMN	150kHz to 30MHz	± 3.3 dB	± 3.4 dB
Conducted Emission, Δ -AN	150kHz to 30MHz	± 4.9 dB	-
Conducted Emission, AN	150kHz to 30MHz	± 4.3 dB	-
Conducted Emission, AAN	150kHz to 30MHz	± 4.8 dB	± 5.0 dB
Conducted Emission, Voltage Probe	9kHz to 30MHz	± 2.8 dB	± 2.9 dB
Conducted Emission, Current Probe	150kHz to 30MHz	± 2.9 dB	± 2.9 dB
Disturbance Power	30MHz to 300MHz	± 3.8 dB	± 4.5 dB
Radiated Emission	30MHz to 1000MHz	± 5.5 dB	± 6.3 dB
Radiated Emission	1GHz to 6GHz	± 4.9 dB	± 5.2 dB
Radiated Emission	6GHz to 18GHz	± 4.7 dB	± 5.5 dB
Radiated Emission	9kHz to 30MHz	± 3.2 dB	-

Judge	Measured value and standard limit value	
PASS	<p>Case1</p> 	Even if it takes uncertainty into consideration, a standard limit value is fulfilled.
	<p>Case2</p> 	Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration.
FAIL	<p>Case3</p> 	Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration.
	<p>Case4</p> 	Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled.



Japan

6 Laboratory Information

Testing was performed and the report was issued at:

TÜV SÜD Japan Ltd. Yonezawa Testing Center

Address: 5-4149-7 Hachimanpara, Yonezawa-shi, Yamagata, 992-1128 Japan

Phone: +81-238-28-2881

Accreditation and Registration

A2LA

Certificate #3686.03

VLAC

Accreditation No.: VLAC-013

BSMI

Laboratory Code: SL2-IN-E-6018, SL2-A1-E-6018

Innovation, Science and Economic Development Canada

ISED#: 4224A

VCCI Council

Registration number: A-0166

Appendix A. Test Equipment

Conducted emission at mains port

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. Date
EMI receiver	ROHDE&SCHWARZ	ESR7	101742	31-Jan-2023	26-Jan-2022
Line impedance stabilization network	Kyoritsu Technology Corporation	TNW-407F2	12-17-110-1	30-Jun-2023	15-Jun-2022
Attenuator	HUBER+SUHNER	6810.01.A	N/A(S442)	28-Feb-2023	01-Feb-2022
Coaxial cable	FUJIKURA	5D-2W/5m	N/A(S336)	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX106/28m	501941/6	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/2m	MY15570/4	28-Feb-2023	02-Feb-2022
Software	TOYO Technica	ES10/CE-AJ	Ver.2021.10.001	N/A	N/A

Radiated emission (below 1 GHz)

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. date
EMI receiver	ROHDE&SCHWARZ	ESR7	101742	31-Jan-2023	26-Jan-2022
Biconical antenna	Schwarzbeck	VHBB9124/BBA9106	1333	31-Dec-2022	15-Dec-2021
Log-periodic antenna	Schwarzbeck	VUSLP9111B	345	31-Oct-2022	19-Oct-2021
Attenuator	TDC	TAT-43B-03	N/A(S396)	31-Oct-2022	28-Oct-2021
Attenuator	TOYO Connector	NA-PJ-6/6dB	N/A(S549)	30-Sep-2023	28-Sep-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/1m	SN MY20467/6	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/9m	811447/4	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX106/10m	501942/6	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/2m	MY34424/4	28-Feb-2023	02-Feb-2022
Preamplifier	SONOMA	310	400316	31-Mar-2023	03-Mar-2022
10m Semi-anechoic Chamber	TOKIN	N/A	N/A(9005-NSA3m/TT ϕ 3m)	31-Oct-2022	08-Oct-2021
Software	TOYO Technica	ES10/RE-AJ	Ver.2021.10.001	N/A	N/A

Radiated emission (above 1 GHz)

Equipment	Company	Model No.	Serial No.	Cal. due	Cal. date
Spectrum analyzer	ROHDE&SCHWARZ	FSV40	101732	31-Mar-2023	3-Mar-2022
Low Noise Pre Amplifier	tsj	MLA-0118-J02-40	19326	31-Dec-2022	23-Dec-2021
Double ridged guide antenna	ETS LINDGREN	3117	00224193	30-Apr-2023	27-Apr-2022
Attenuator	HUBER+SUHNER	6803.17.B	N/A(2341)	31-Dec-2022	23-Dec-2021
Microwave cable	HUBER+SUHNER	SUCOFLEX104/1m	MY38347/4	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/9m	811446/4	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX106/10m	501942/6	28-Feb-2023	02-Feb-2022
Microwave cable	HUBER+SUHNER	SUCOFLEX104/2m	MY34424/4	28-Feb-2023	02-Feb-2022
Absorber	NEC TOKIN	TFA	N/A	N/A	N/A
10m Semi-anechoic Chamber	TOKIN	N/A	N/A(9005-SVSWR/TT ϕ 3m)	31-Oct-2022	08-Oct-2021
Software	TOYO Technica	ES10/RE-AJ	Ver.2021.10.001	N/A	N/A