

RADIO TEST REPORT

(for Bluetooth classic)

Project No. : JB-Z0453-A
 Client : Sony Corporation
 Client's Address : 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
 Product Name : Linear PCM Recorder
 Model No. : PCM-D10
 FCC ID : AK8PCMD10
 Test Standard : 47 CFR Part 15 Subpart C
 Sample Receipt Date : September 20, 2018
 Test Date : September 26, 2018 to October 5, 2018
 Original Report Date : October 9, 2018
 Amend Report Date : October 29, 2018
 Test Result : Complied

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- * The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in Sony Global Manufacturing & Operations Corporation EMC/RF Test Laboratory.

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TESTING CERT #3203.01

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Note

- indicates that the listed condition, standard or equipment is applicable for this report.
-indicates that the listed condition, standard or equipment is not applicable for this report.

Revision History

Revision	Date	Overview	Page
JB-Z0453 (Original)	October 9, 2018	-	-
JB-Z0453-A	October 29, 2018	Changed the description of Supply voltage requirement.	P.4

1. General Information

1.1. Description of Equipment Under Test (EUT)

General Specification

Test Sample Condition : Prototype Pre-production Mass-production
 Product Name : Linear PCM Recorder
 Trade Name : SONY
 Model No. : PCM-D10
 Serial No. : 265, 269
 Power Rating of the EUT : DC 5V(USB) or DC 6V(Battery)

Similar model(s) to be covered by this report

Model No. : None

Radio Specification

Function of the Equipment : Transceiver
 Operating Frequency : 2402 - 2480 MHz
 Modulation Type : FHSS (GFSK, $\pi/4$ DQPSK, 8DPSK)
 Channel Spacing : 1 MHz
 Channel Bandwidth : 1 MHz
 Number of channels : 79
 Antenna Type : Chip antenna
 Antenna Connector Type : None
 Antenna Gain : 2.5 dBi
 Operating Temperature : +5 to +35 deg.C

1.2. Summary of Test Result

Test Item	Worst Margin	Results	Note
AC Power-line Conducted Emissions	29.0 dB (QP) 0.219 MHz L1	Complied	-
20dB Bandwidth	Refer to the test data	Complied	-
Carrier Frequency Separation	Refer to the test data	Complied	-
Number of Hopping Frequencies	Refer to the test data	Complied	-
Time of Occupancy (Dwell Time)	Refer to the test data	Complied	-
Maximum Peak Conducted Output Power	23.17 dB	Complied	-
Radiated Spurious Emissions	6.6 dB (AV) 4803.987 MHz Horizontal	Complied	-
	6.6 dB (AV) 4960.289 MHz Horizontal	Complied	-
Conducted Spurious Emissions for Band Edge	23.49 dB 2399.98 MHz	Complied	*1

Note

*1: Conducted Spurious Emissions measurement was tested for the only frequencies in the non-restricted carrier band edges, since the spurious emissions in other non-restricted band were complied with Radiated Spurious Emissions measurement.

Other requirements

Part 15.31(e) Supply voltage requirement

: Complied (The voltage supplied from USB or battery are convert to regulated DC voltage. by the built-in power circuit of the EUT.)

Part 15.203 / 212 Antenna requirement

: Complied (The EUT has an internal antenna which cannot be replaced by users.)

1.3. Tested Methodology

Test Standard : 47 CFR Part15 Subpart C
 Test Method : ANSI C63.10 - 2013
 KDB 558074 D01 15.247 Meas Guidance v05

Test Condition

AC Power-line Conducted Emissions

Dimensions of the EUT table : 0.8m height, 2m width and 1m depth.

Radiated Spurious Emissions

Test Distance : 3 m 10m (9 kHz to 30 MHz)
 3 m 10m (30 MHz to 1000 MHz)
 3 m (1 GHz to 26.5 GHz)
 Dimensions of the EUT table : 0.8 m (below 1 GHz) or 1.5 m (above 1 GHz) height, 1.5 m width and 1 m depth.

1.4. Measurement Procedures

We performed the measurements in accordance with NV3-12, available upon the request.

- No deviation
 Deviation from the above procedure

The summary of the above procedure is mentioned below

AC Power-line Conducted Emissions

- The non-conductive table (EUT table) made of (FRP, wood, other non-conductive material) was placed 0.4 m from its rear to the vertical reference ground plane.
- The EUT was placed on the center of tabletop and its rear was flush with the rear of the table, connected through a LISN to the input power mains.
- The LISN was placed in 80 cm from the nearest part of the EUT chassis.
- The excess length of the AC cable between the EUT and the LISN receptacle, or an adaptor or extension cable connected to and measured with LISN, was folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- The connection of the all other equipment to the second LISN was performed. The second LISN was terminated with a 50-ohm terminator.
- Interconnecting cables that hang closer than 40 cm to the horizontal reference ground plane was folded back and forth forming a bundle 30 to 40 cm long, hanging approximately in the middle between the horizontal reference ground plane and the tabletop.
- Find the worst mode and arrangement of the EUT according to the follows:
 - Connecting all peripherals and change the position of peripherals and cables.
 - Changing the all test operation modes of the EUT.
 - On every condition, exploring the highest emissions with the spectrum analyzer. (150 kHz to 30 MHz, peak detector, RBW: 10 kHz)
- On the worst condition of the EUT found in above, choose the six highest emissions on the spectrum data. The final measurements carried out on these emissions with EMI test receiver. (quasi-peak and average detector, RBW: 9 kHz)

Antenna-port Conducted Measurements

1. Antenna-port of the EUT was connected to the power sensor (Maximum Peak Conducted Output Power) or the spectrum analyzer. (other test items).
2. For each EUT operation mode, the Antenna-port Conducted Measurements were measured with the power sensor or the spectrum analyzer.

Test Item	Detector	RBW
Antenna-port Conducted Measurements		
20dB Bandwidth	Peak	30 kHz
Carrier Frequency Separation	Peak	100 kHz
Number of Hopping Frequencies	Peak	100 kHz
Time of Occupancy (Dwell Time)	Peak	1 MHz
Maximum Peak Conducted Output Power	Peak	-
Conducted Spurious Emissions for Band Edge	Peak	100 kHz

Radiated Spurious Emissions

1. The non-conductive table (EUT table) made of (FRP, Styrene Foam, other non-conductive material) was placed in the center of the turntable.
2. The EUT was placed on the center of the tabletop.
3. The test antenna was placed away from the EUT at test distance.
4. The limits were compensated the distance factor with follows:
 $9 \text{ kHz to } 490 \text{ kHz [Limit at 3 m]} = [\text{Limit at 300 m}] + 40\log(300[\text{m}] / 3[\text{m}])$
 $490 \text{ kHz to } 30 \text{ MHz [Limit at 3 m]} = [\text{Limit at 30 m}] + 40\log(30[\text{m}] / 3[\text{m}])$
5. Find the worst arrangement of the EUT according to follows:
 - Rotating the turntable and/or scanning the antenna.
 - On every condition, exploring the highest emissions with the spectrum analyzer. (9 kHz to 26.5 GHz, peak detector)
6. On the worst arrangement of the EUT found in above, choose the six highest harmonics or spurious emissions on the spectrum data.(*excluding carrier band edges)
 The final measurements of all test operating modes carried out on these emissions as follows:

The test antenna and the turntable were performed with follows:

	9 kHz to 30 MHz	30 MHz to 1000 MHz	1 GHz to 26.5 GHz
Antenna	Loop Antenna	Bi-conical Antenna, Log-periodic Antenna	Horn Antenna
Antenna scanning range	1 m, Vertical, 360 degrees	1 m to 4 m, Horizontal and Vertical	1 m to 4 m *, Horizontal and Vertical
Turntable rotating range	360 degrees	360 degrees	360 degrees

*: When the measurement frequencies above 1 GHz, final measurements are performed keeping the antenna in the "cone of radiation" from EUT area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.

Instruments settings were carried out with follows;

	9 kHz to 90 kHz 110 kHz to 490 kHz	90 kHz to 110 kHz 490 kHz to 30 MHz	30 MHz to 1000 MHz	1 GHz to 26.5 GHz
Detector	Peak / Average	Quasi-peak	Quasi-peak	Peak / Average
RBW	200 Hz (6 dB) or 9 kHz (6 dB) *1	200 Hz (6 dB) or 9 kHz (6 dB) *1	120 kHz (6 dB)	1 MHz (6 dB)
VBW	N/A	N/A	N/A	3 MHz (for peak) 10 kHz (for average) *2
Instrument	EMI test receiver	EMI test receiver	EMI test receiver	Spectrum analyzer

*1: When the measurement frequencies below 150 kHz, RBW: 200 Hz was used.

*2: VBW setting (for average) was higher than 1/T. (T is the minimum transmission duration)

7. If the final measurement result exceeded the limit in non-restricted band(excluding carrier band edges), the measurement is carried out additionally with follows:

Measurement points

- Fundamental Frequency
- Frequency that exceeded the limit in non-restricted band (excluding carrier band edges)

	9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 26.5 GHz
Detector	Peak	Peak	Peak
RBW	300 Hz (6 dB) *	10 kHz (6 dB) *	100 kHz (6 dB)
Instrument	Spectrum analyzer	Spectrum analyzer	Spectrum analyzer

*: Correction factor of RBW was compensated to a measurement result by the following formula.

$$\text{C.F. of RBW [dB]} = 10 * \log(100 \text{ kHz} / \text{used RBW})$$

8. Although these tests were performed other than open field area test site, adequate comparison measurements were confirmed against 30 m open field area 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 D01.

1.5. Test Location

Test Facility Name : Sony Global Manufacturing & Operations Corporation
EMC/RF Test Laboratory, Main Lab.
Address : Kisarazu Site 8-4 Shiomi Kisarazu-shi, Chiba, 292-0834 Japan
Phone : +81 438 37 2750

A2LA Certificate No. : 3203.01
Cert. Validated Date : Oct. 31, 2019

AC Power-line Conducted Emissions

Shielded Room

 4th Site EMC Site
Antenna-port Conducted Measurements

Shielded Room

 4th Site SR1
Radiated Spurious Emissions

Semi-Anechoic chamber

 4th Site EMC Site

1.6. Uncertainty

Test Item	Frequency	4th Site SR1
Maximum Conducted Output Power	1 GHz to 6 GHz	± 0.84 dB
Conducted Spurious Emissions	below 6 GHz	± 1.25 dB

Test Item	Frequency	Distance	4th Site
AC Power-line Conducted Emissions	150 kHz to 30 MHz	-	± 3.34 dB
Radiated Emissions	9 kHz to 30 MHz	3m	± 2.60 dB
	30 MHz to 300 MHz	3m	± 2.61 dB
	300 MHz to 1000 MHz	3m	± 2.59 dB
	1 GHz to 7 GHz	3m	± 2.84 dB
	7 GHz to 18 GHz	3m	± 2.84 dB
	18 GHz to 26.5 GHz	3m	± 2.84 dB

Test Item	Frequency	Distance	EMC Site
AC Power-line Conducted Emissions	150 kHz to 30 MHz	-	± 3.34 dB
Radiated Emissions	9 kHz to 30 MHz	3m	± 3.13 dB
	30 MHz to 300 MHz	3m	± 3.14 dB
	300 MHz to 1000 MHz	3m	± 3.12 dB
	1 GHz to 6 GHz	3m	± 3.33 dB
	6 GHz to 18 GHz	3m	± 3.33 dB
	18 GHz to 26.5 GHz	3m	± 3.33 dB

2. Test Specification

2.1. Validation

The system was configured for testing in a typical (as a customer would normally use it).
The tests were conducted with the worst case modes as follows.

2.2. Operating Condition

The tests have been carried out the following conditions.

[Transmitting mode]

Test Items	Test Channels	Packet Type *1 *2 *3
AC Power-line Conducted Emissions *4	2402 MHz	BDR : DH5
20dB Bandwidth, Maximum Peak Conducted Output Power, Radiated Spurious Emissions	2402 MHz 2441 MHz 2480 MHz	BDR : DH5 EDR : 3DH5
Carrier Frequency Separation, Number of Hopping Frequencies, Time of Occupancy (Dwell Time)	Hopping ON	BDR : DH5 EDR : 3DH5
Conducted Spurious Emissions for Band Edge	2402 MHz	BDR : DH5 EDR : 3DH5

Note

*1: Inquiry mode was not performed based on the result of pre-compliance testing.

*2: The worst packet type has been decided based on the result of maximum duty cycle and pre-compliance testing in the actual product specification.

*3: Packet type for EDR has been decided based on the result of Maximum Peak Conducted Output Power.

*4: The test was performed with the representative mode that had been found as the worst emissions while exploratory testing.

The Software for Operating Mode

Software Name : nmobile_icx0470
Software Version : 0.00.00

2.3. Special Accessories

Special accessories needed for connecting the EUT to achieve compliance:

Item	Manufacturer	Model No.	Serial No.	Remark
-	-	-	-	-

2.4. EUT Modifications

- No equipment modification to achieve compliance to the standard levels was done during the tests.
- Equipment was modified to achieve compliance to the standard level as below.

Responsible Party Signature

Typed/ Print Name :
Responsible Party :
Position :
Date :

2.5. Configuration of EUT System

AC Power-line Conducted Emissions

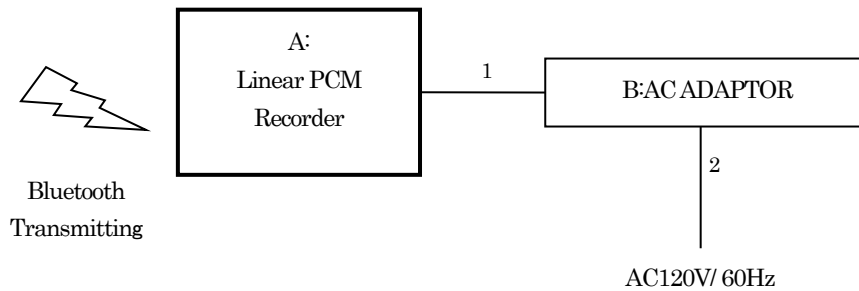
[EUT and Associated Equipment (AE)]

Symbol	EUT/ AE	Item	Manufacturer	Model No.	Serial No.
A	EUT	Linear PCM Recorder	SONY	PCM-D10	269
B	AE	AC ADAPTOR	SONY	AC-UD20	13096000163

[Type of Cable]

Symbol	Description	Identification (Manufacturer etc.)	Shielded Yes / No	Ferrite Core	Length (m)	Bundled
1	USB Cable	SONY	Yes	No	0.5	-
2	AC Cable	-	No	No	0.8	-

[Connecting Diagram]



Antenna-port Conducted Measurements

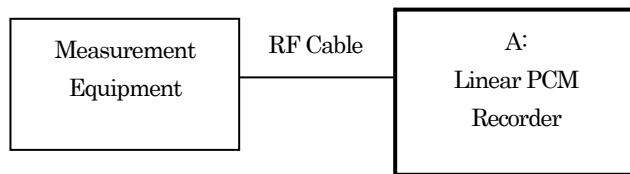
[EUT and Associated Equipment (AE)]

Symbol	EUT/ AE	Item	Manufacturer	Model No.	Serial No.
A	EUT	Linear PCM Recorder	SONY	PCM-D10	265

[Type of Cable]

Symbol	Description	Identification (Manufacturer etc.)	Shielded Yes / No	Ferrite Core	Length (m)	Bundled
-	-	-	-	-	-	-

[Connecting Diagram]



Radiated Spurious Emissions

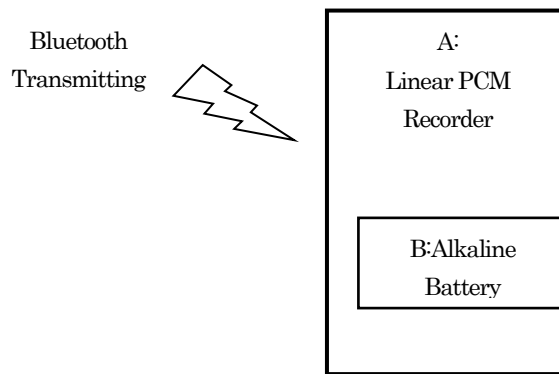
[EUT and Associated Equipment (AE)]

Symbol	EUT/AE	Item	Manufacturer	Model No.	Serial No.
A	EUT	Linear PCM Recorder	SONY	PCM-D10	269
B	AE	Alkaline Battery	-	-	-

[Type of Cable]

Symbol	Description	Identification (Manufacturer etc.)	Shielded Yes / No	Ferrite Core	Length (m)	Bundled
-	-	-	-	-	-	-

[Connecting Diagram]



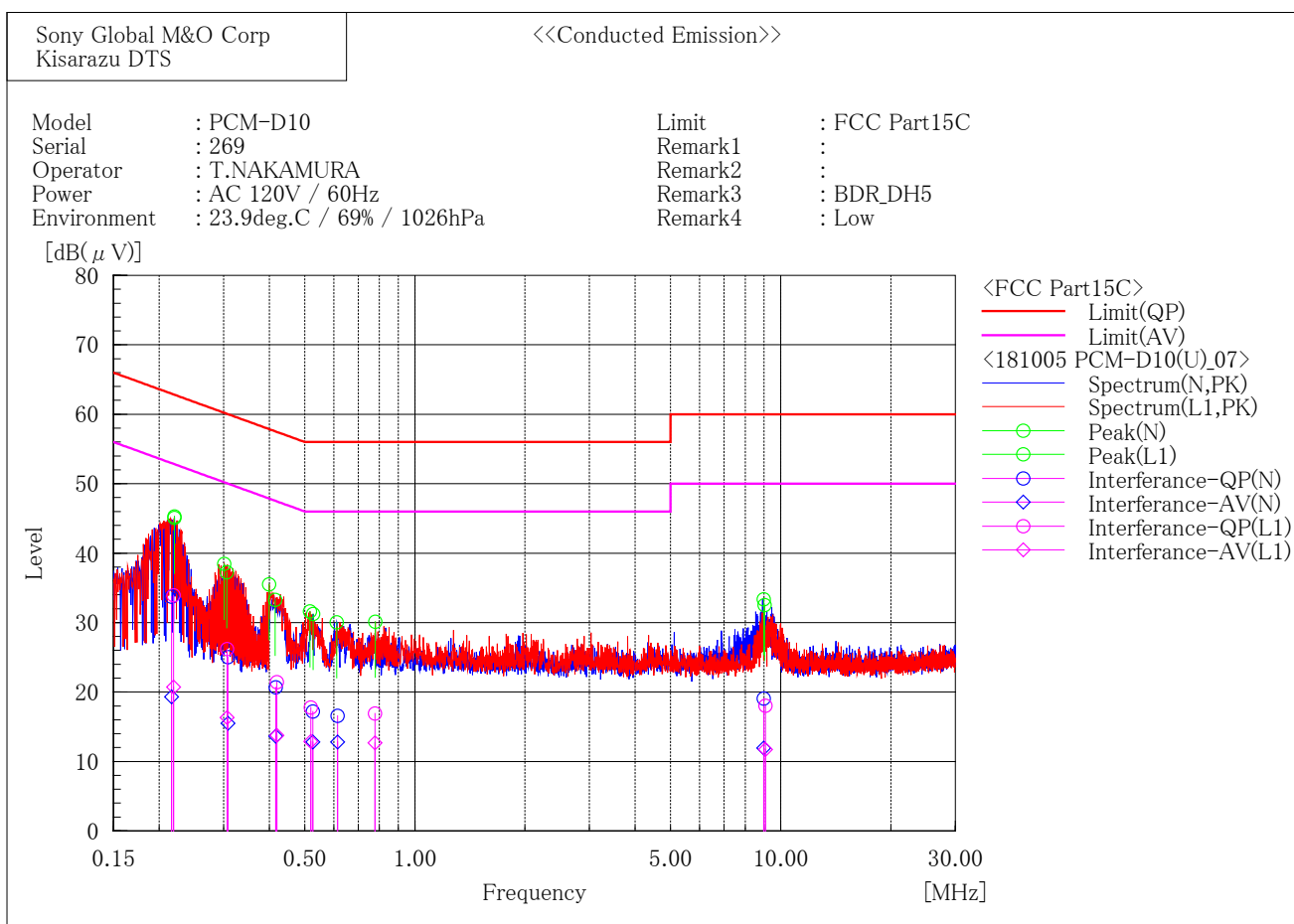
3. Test Data

3.1. AC Power-line Conducted Emissions

1) Date of measurement : October 5, 2018

The test data is mentioned as follows.

[BDR / 2402 MHz]



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.216	17.7	3.3	16.0	33.7	19.3	63.0	53.0	29.3	33.7
2	0.308	8.9	-0.6	16.1	25.0	15.5	60.0	50.0	35.0	34.5
3	0.417	4.4	-2.7	16.3	20.7	13.6	57.5	47.5	36.8	33.9
4	0.526	0.9	-3.5	16.3	17.2	12.8	56.0	46.0	38.8	33.2
5	0.615	0.3	-3.5	16.3	16.6	12.8	56.0	46.0	39.4	33.2
6	8.976	2.8	-4.4	16.3	19.1	11.9	60.0	50.0	40.9	38.1

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	0.219	17.9	4.7	16.0	33.9	20.7	62.9	52.9	29.0	32.2
2	0.307	10.1	0.2	16.1	26.2	16.3	60.1	50.1	33.9	33.8
3	0.420	5.1	-2.5	16.3	21.4	13.8	57.5	47.5	36.1	33.7
4	0.519	1.5	-3.4	16.3	17.8	12.9	56.0	46.0	38.2	33.1
5	0.778	0.7	-3.5	16.2	16.9	12.7	56.0	46.0	39.1	33.3
6	9.078	1.7	-4.6	16.3	18.0	11.7	60.0	50.0	42.0	38.3

3.2. 20dB Bandwidth

- 1) Ambient temperature : 22.0 deg.C
- 2) Relative humidity : 63.5 %
- 3) Date of measurement : September 27, 2018
- 4) Measured by : M.KOUGA
- 5) Operating mode : Transmitting mode

Mode		Channel [MHz]	Result [MHz]	Limit [MHz]
BDR	DH5	2402	0.954	-
		2441	0.955	-
		2480	0.953	-
EDR	3DH5	2402	1.292	-
		2441	1.300	-
		2480	1.292	-

[BDR / 2402 MHz]



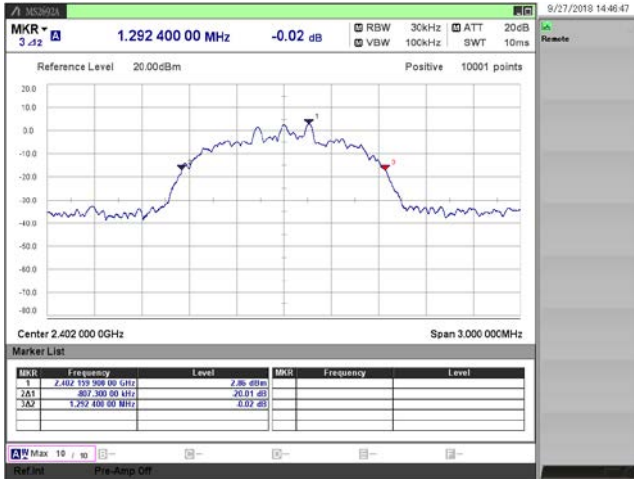
[BDR / 2441 MHz]



[BDR / 2480 MHz]



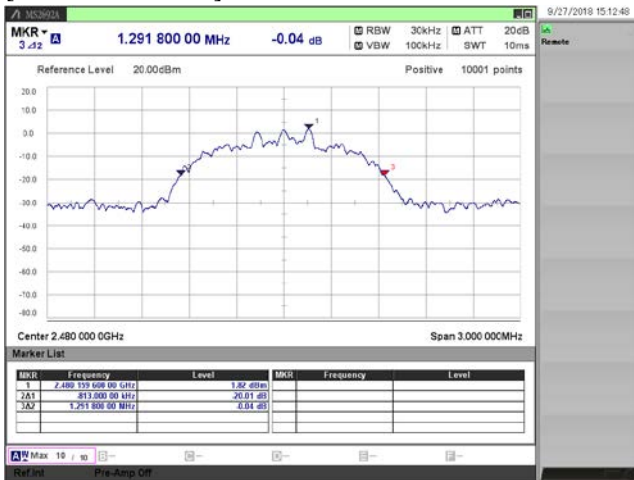
[EDR / 2402 MHz]



[EDR / 2441 MHz]



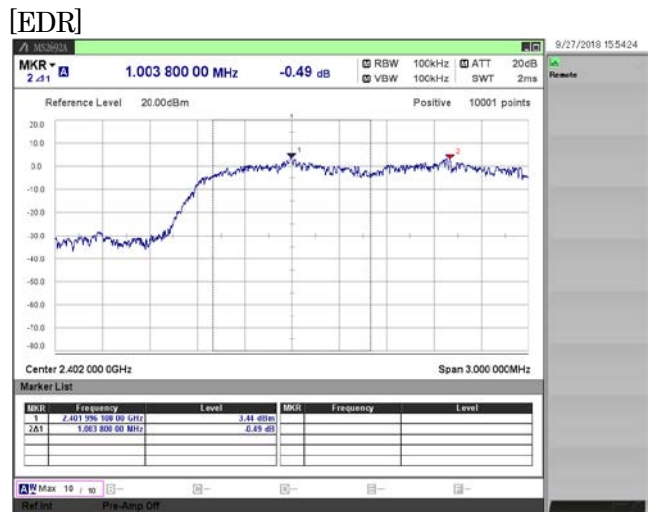
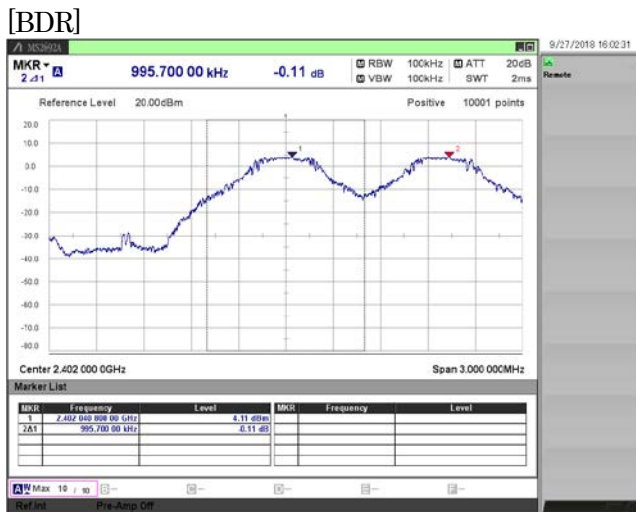
[EDR / 2480 MHz]



3.3. Carrier Frequency Separation

- 1) Ambient temperature : 22.0 deg.C
- 2) Relative humidity : 63.5 %
- 3) Date of measurement : September 27, 2018
- 4) Measured by : M.KOUGA
- 5) Operating mode : Transmitting mode

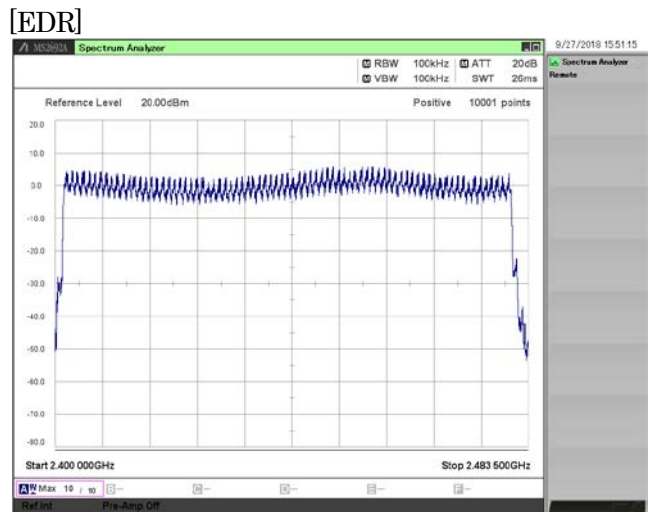
Mode		Reading [kHz]	Limit [kHz]
BDR	DH5	995.7	≥ 636.4
EDR	3DH5	1003.8	≥ 866.6



3.4. Number of Hopping Frequencies

- 1) Ambient temperature : 22.0 deg.C
- 2) Relative humidity : 63.5 %
- 3) Date of measurement : September 27, 2018
- 4) Measured by : M.KOUGA
- 5) Operating mode : Transmitting mode

Mode		Number [channel]	Limit [channel]
BDR	DH5	79	≥ 15
EDR	3DH5	79	≥ 15



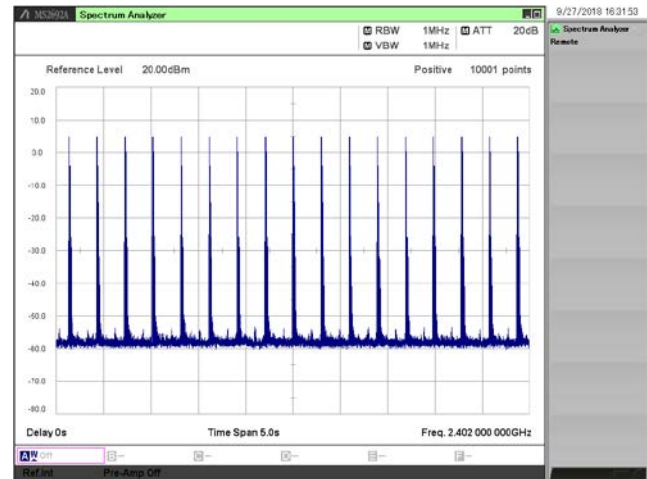
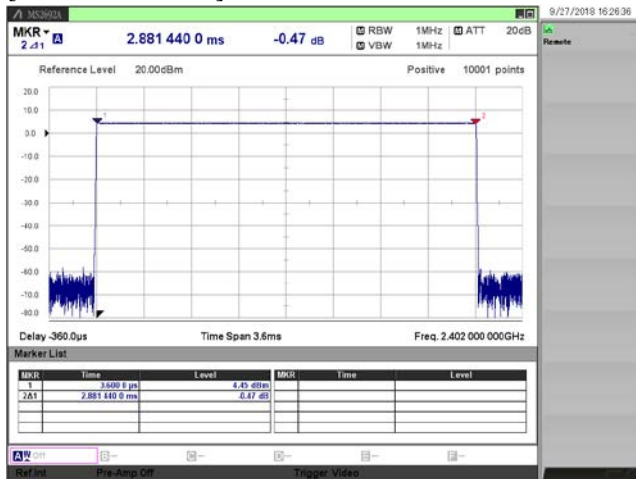
3.5. Time of Occupancy (Dwell Time)

- 1) Ambient temperature : 22.0 deg.C
- 2) Relative humidity : 63.5 %
- 3) Date of measurement : September 27, 2018
- 4) Measured by : M.KOUGA
- 5) Operating mode : Transmitting mode

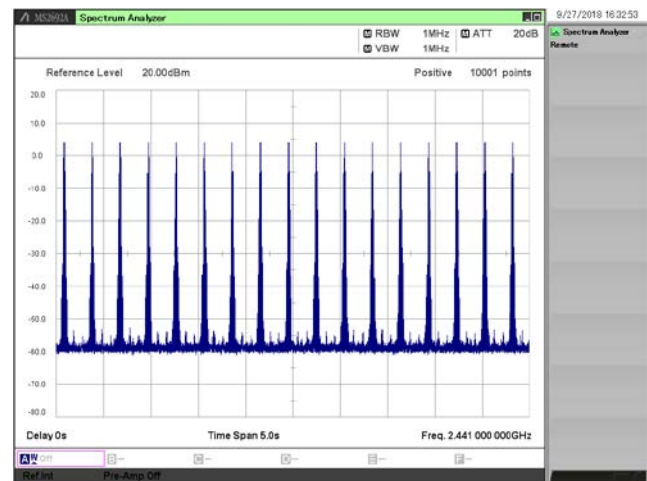
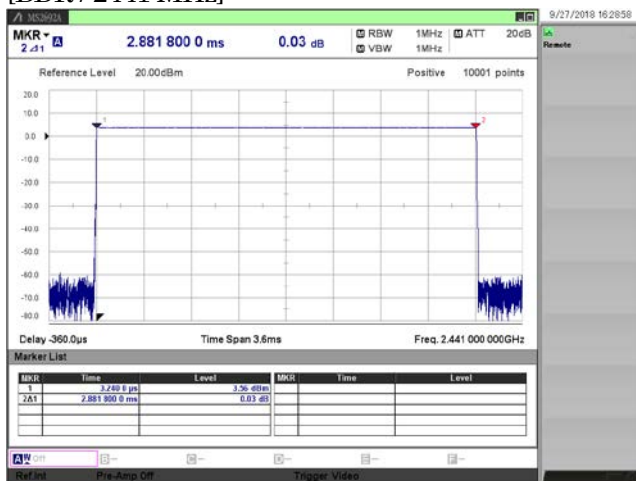
Mode		Channel [MHz]	Dwell Time [msec]
BDR	DH5	2402	2.88
		2441	2.88
		2480	2.88
EDR	3DH5	2402	2.89
		2441	2.89
		2480	2.89

Cycle [time]	Result [msec]	Limit [msec]
17.0	309.6	≤ 400.0
17.0	309.6	≤ 400.0
17.0	309.6	≤ 400.0
17.0	310.8	≤ 400.0
17.0	310.9	≤ 400.0
17.0	310.9	≤ 400.0

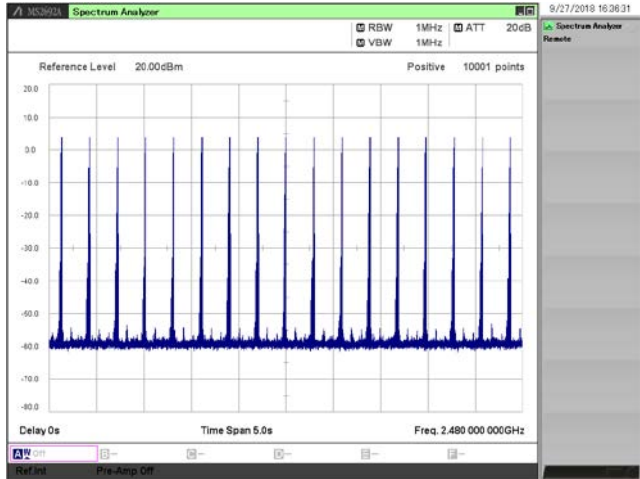
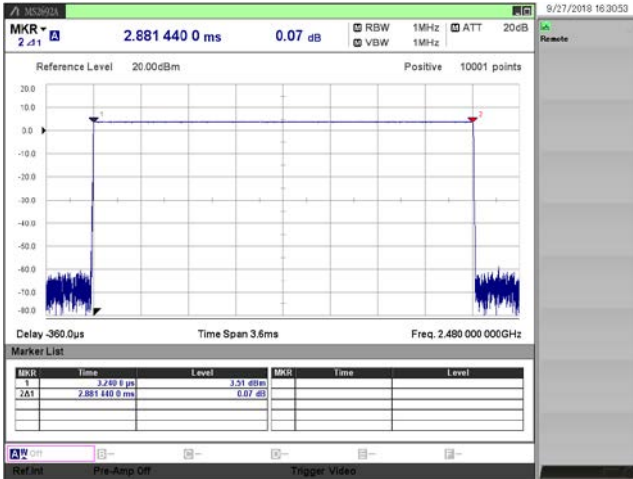
[BDR / 2402 MHz]



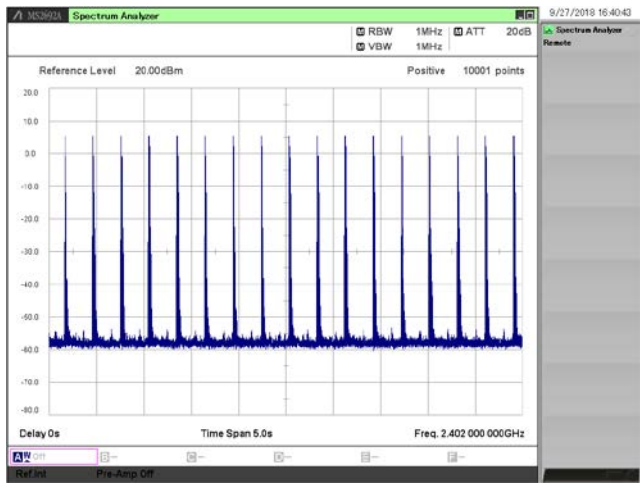
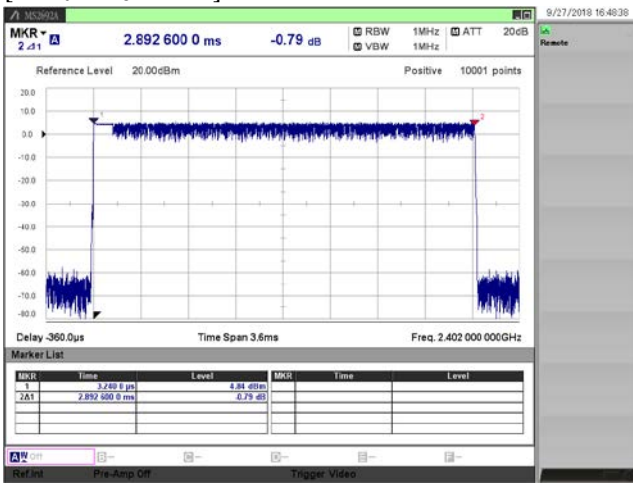
[BDR / 2441 MHz]



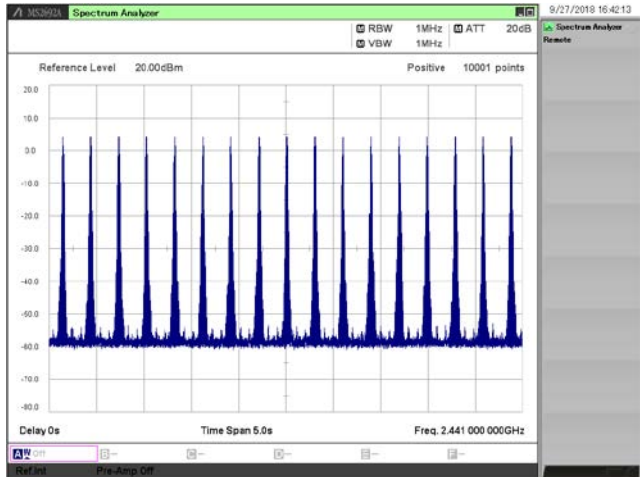
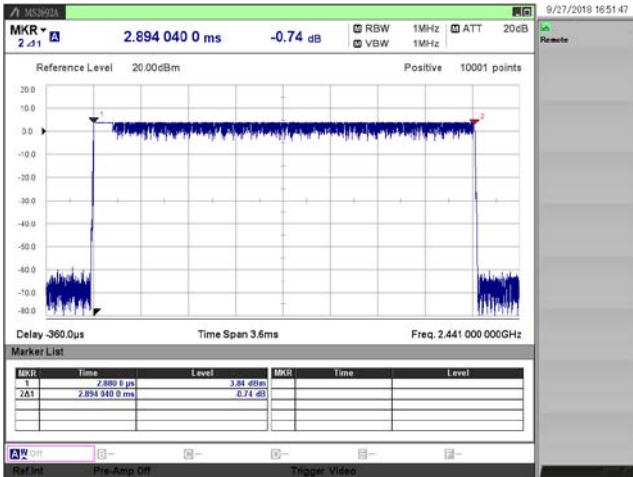
[BDR / 2480 MHz]



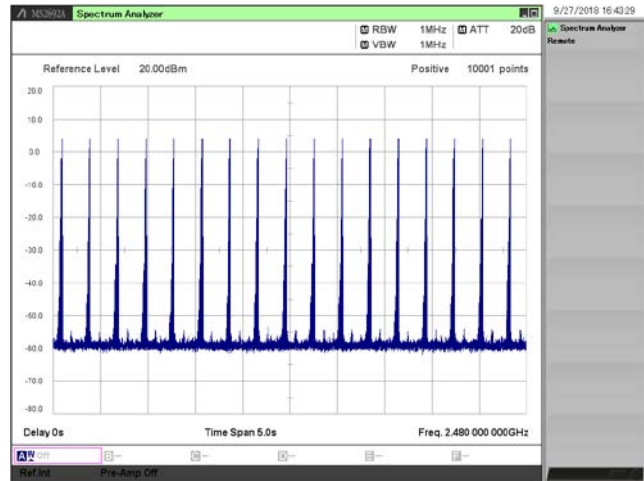
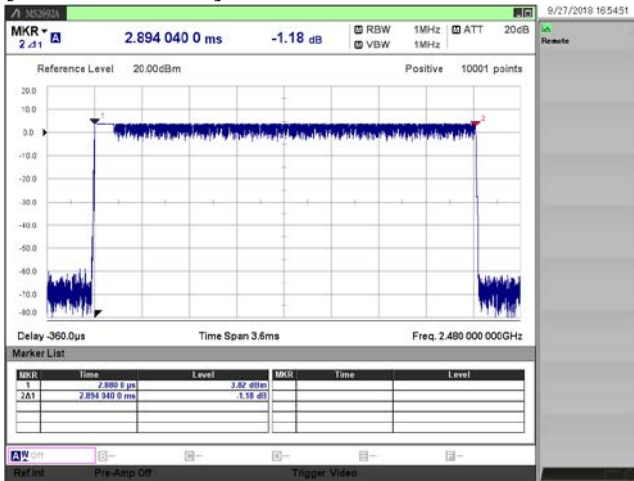
[EDR / 2402 MHz]



[EDR / 2441 MHz]



[EDR / 2480 MHz]



3.6. Maximum Peak Conducted Output Power

- 1) Ambient temperature : 22.0 deg.C
- 2) Relative humidity : 63.5 %
- 3) Date of measurement : September 27, 2018
- 4) Measured by : M.KOUGA
- 5) Operating mode : Transmitting mode

Maximum Peak Conducted Output Power

Mode		Channel [MHz]	Reading(PK) [dBm]	C.F. [dB]	Result(PK) [dBm]	Result(PK) [W]	Limit [dBm]	Limit [W]	Margin [dB]
BDR	DH5	2402	5.64	0.28	5.92	0.00391	30.0	1.0	24.08
		2441	4.37	0.28	4.65	0.00292	30.0	1.0	25.35
		2480	4.53	0.28	4.81	0.00303	30.0	1.0	25.19
EDR	2DH5	2402	6.32	0.28	6.60	0.00457	30.0	1.0	23.40
		2441	4.66	0.28	4.94	0.00312	30.0	1.0	25.06
		2480	4.89	0.28	5.17	0.00329	30.0	1.0	24.83
	3DH5	2402	6.55	0.28	6.83	0.00482	30.0	1.0	23.17
		2441	4.78	0.28	5.06	0.00321	30.0	1.0	24.94
		2480	5.03	0.28	5.31	0.00340	30.0	1.0	24.69

Maximum Average Conducted Output Power (for SAR measurement)

Mode		Channel [MHz]	Reading(AV) [dBm]	C.F. [dB]	Duty Factor [dB]	Result(AV) [dBm]	Result(AV) [W]
BDR	DH5	2402	4.14	0.28	1.15	5.57	0.00361
		2441	2.97	0.28	1.15	4.40	0.00275
		2480	3.13	0.28	1.15	4.56	0.00286
EDR	2DH5	2402	3.22	0.28	1.13	4.63	0.00290
		2441	2.21	0.28	1.13	3.62	0.00230
		2480	2.32	0.28	1.13	3.73	0.00236
	3DH5	2402	3.21	0.28	1.13	4.62	0.00290
		2441	2.21	0.28	1.13	3.62	0.00230
		2480	2.32	0.28	1.13	3.73	0.00236

Duty Cycle check

Mode		Channel [MHz]	T(on+off) [msec]	T(on) [msec]	Duty Cycle [%]
BDR	DH1	2441	1.250	0.377	30.13
	DH3	2441	2.500	1.634	65.34
	DH5	2441	3.749	2.879	76.80
EDR	2DH1	2441	1.250	0.393	31.47
	2DH3	2441	2.500	1.644	65.76
	2DH5	2441	3.750	2.892	77.11
	3DH1	2441	1.250	0.393	31.44
	3DH3	2441	2.500	1.642	65.68
	3DH5	2441	3.750	2.893	77.13

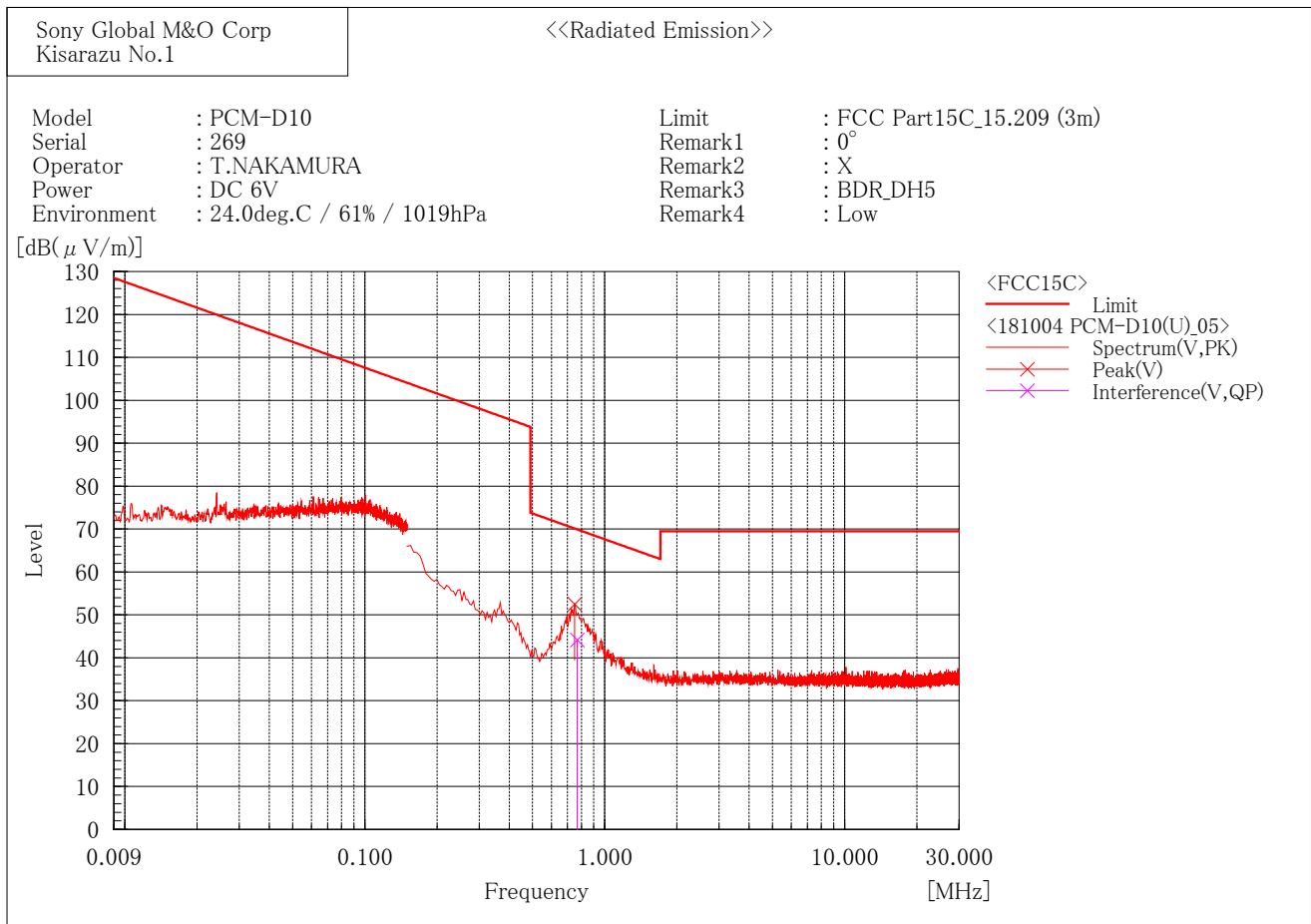
3.7. Radiated Spurious Emissions

1) Date of measurement

9 kHz to 30 MHz	: October 4, 2018
30 MHz to 1000 MHz	: October 2, 2018
1 GHz to 6 GHz	: September 26, 2018 to September 28, 2018
6 GHz to 18 GHz	: October 1, 2018
18 GHz to 26.5 GHz	: October 1, 2018

The test data is mentioned as follows.

9 kHz to 30 MHz
 [BDR / 2402 MHz]

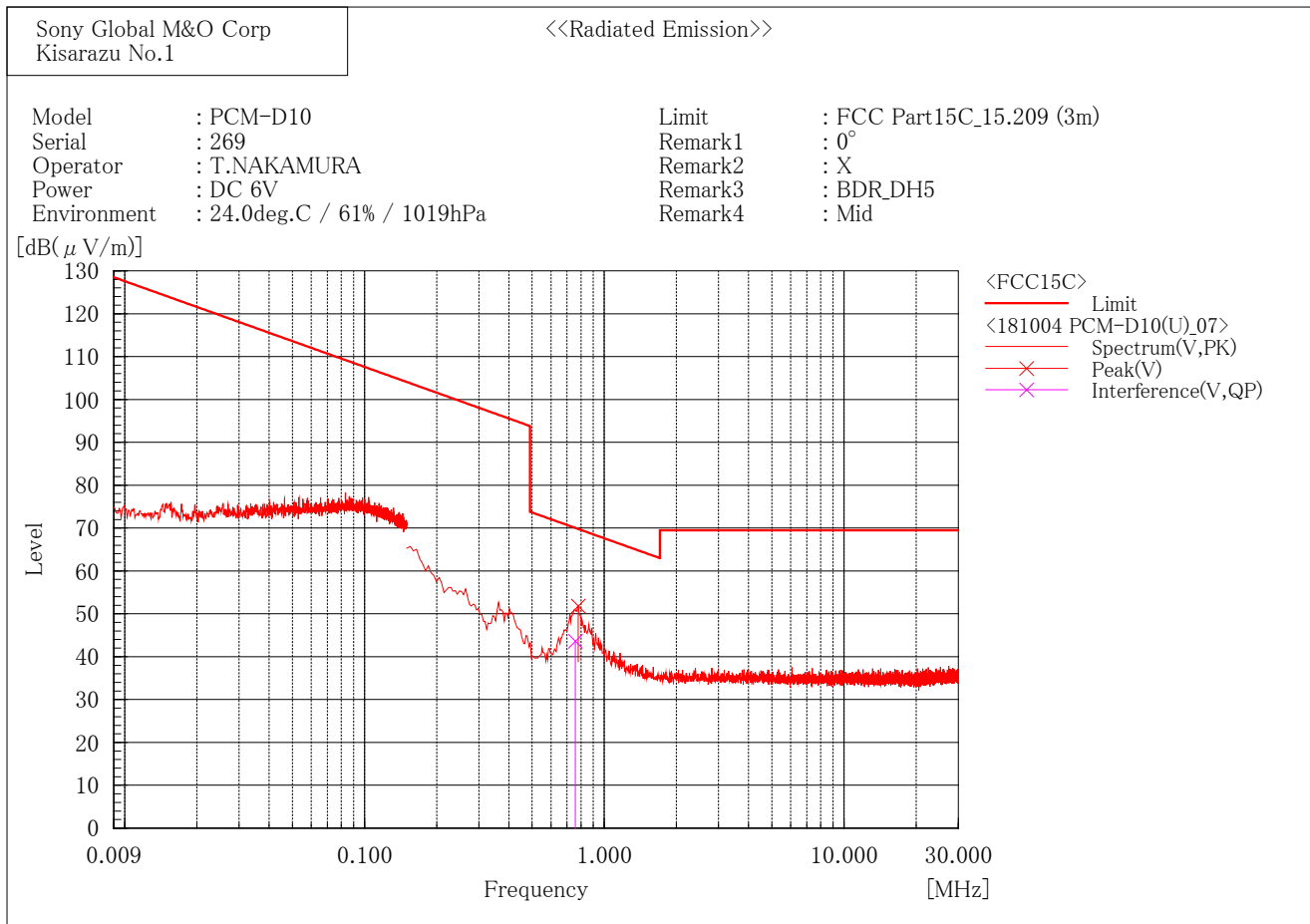


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	0.767	24.7	19.5	44.2	69.9	25.7	100.0	256.4

[BDR / 2441 MHz]

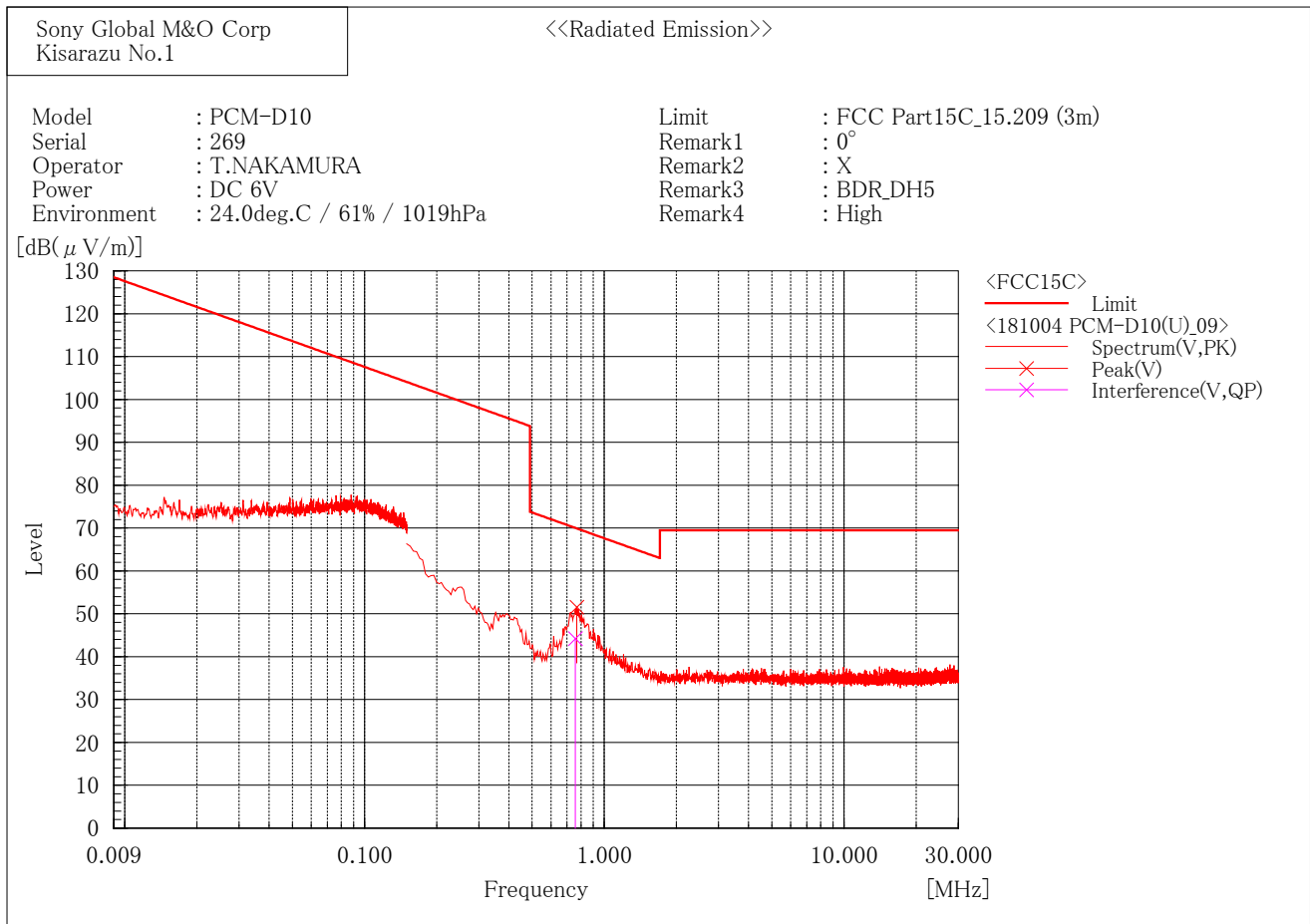


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	0.758	24.1	19.5	43.6	70.0	26.4	100.0	257.1

[BDR / 2480 MHz]

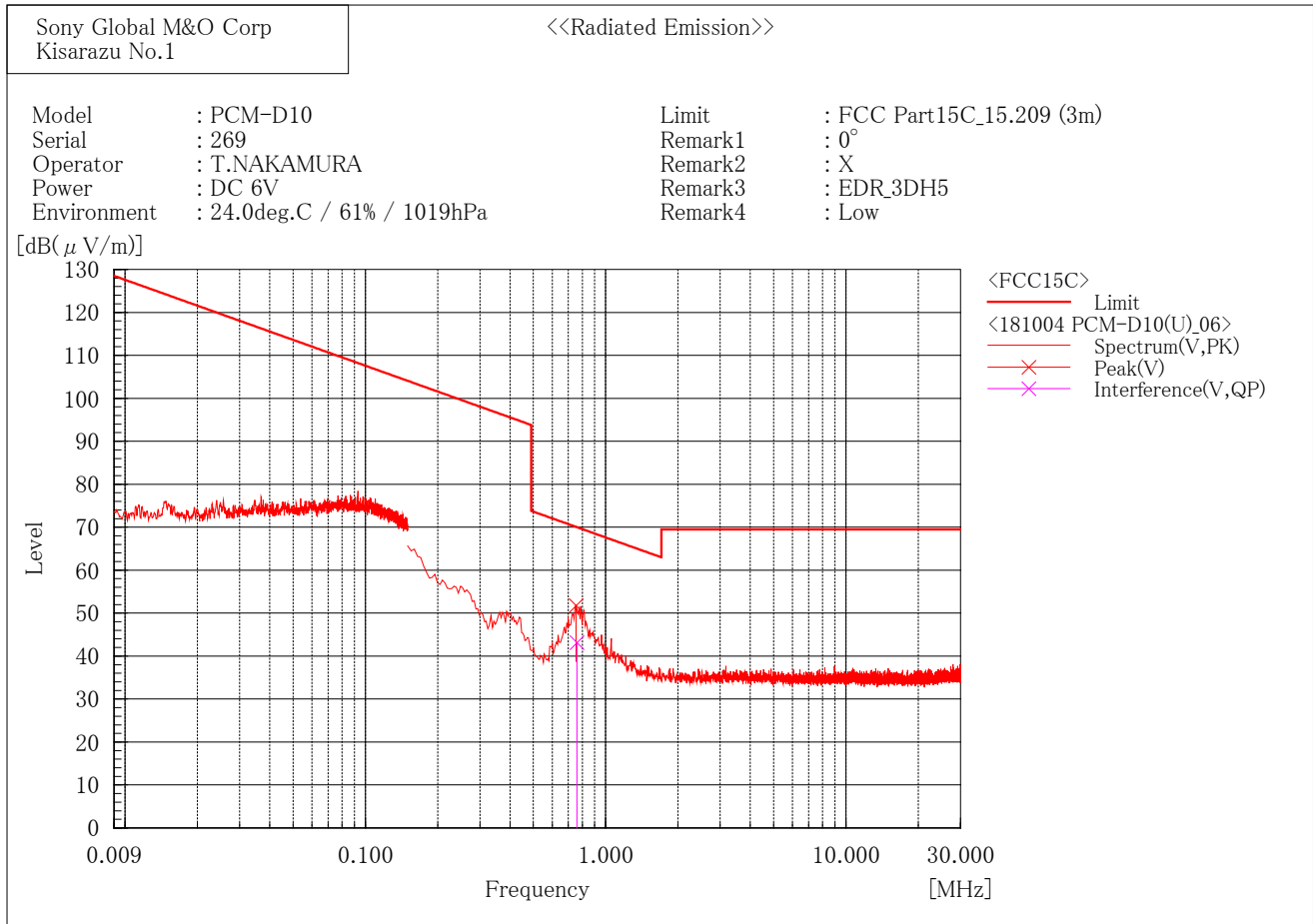


Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	0.757	24.7	19.5	44.2	70.0	25.8	100.0	350.9

[EDR / 2402 MHz]

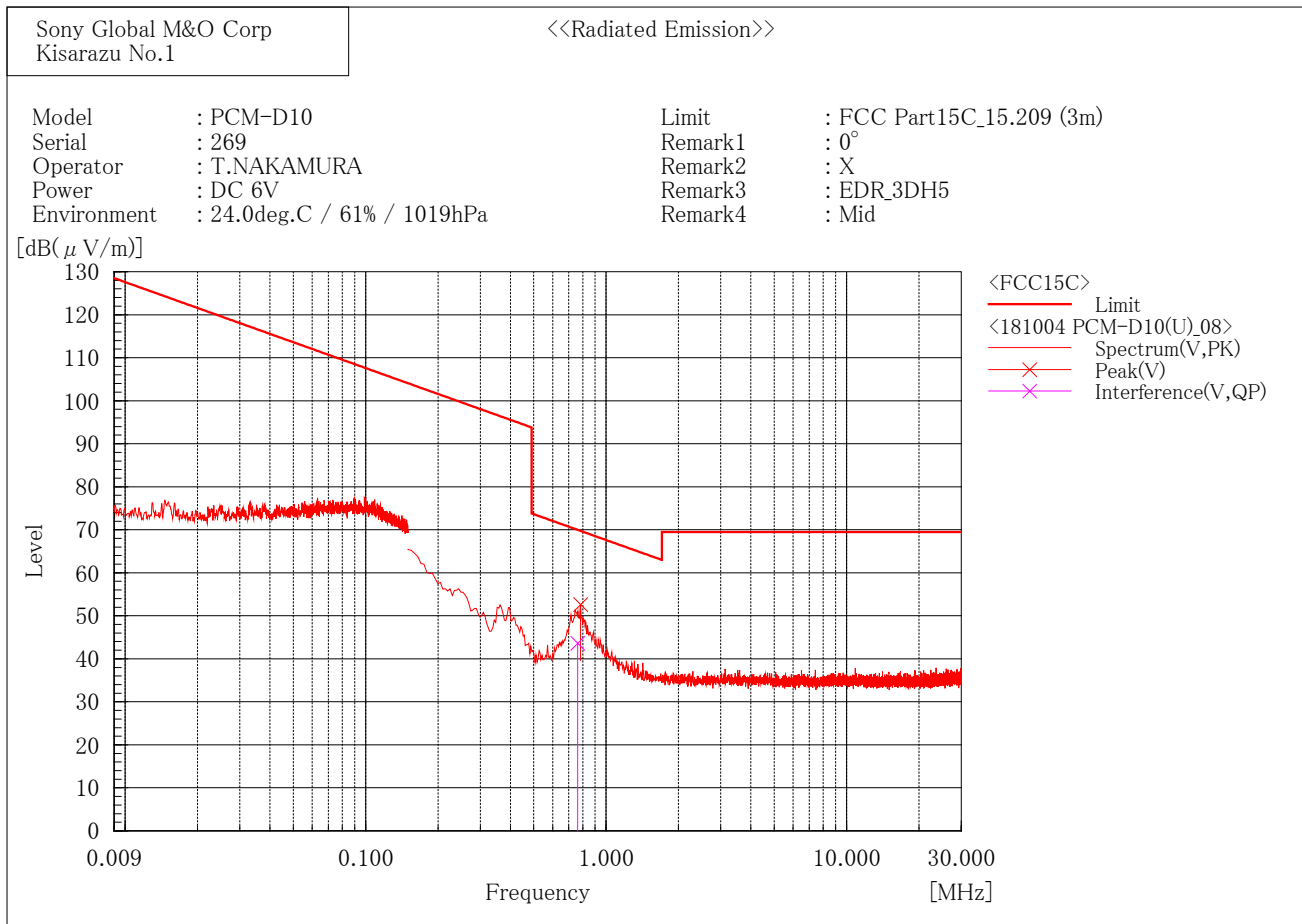


Final Result

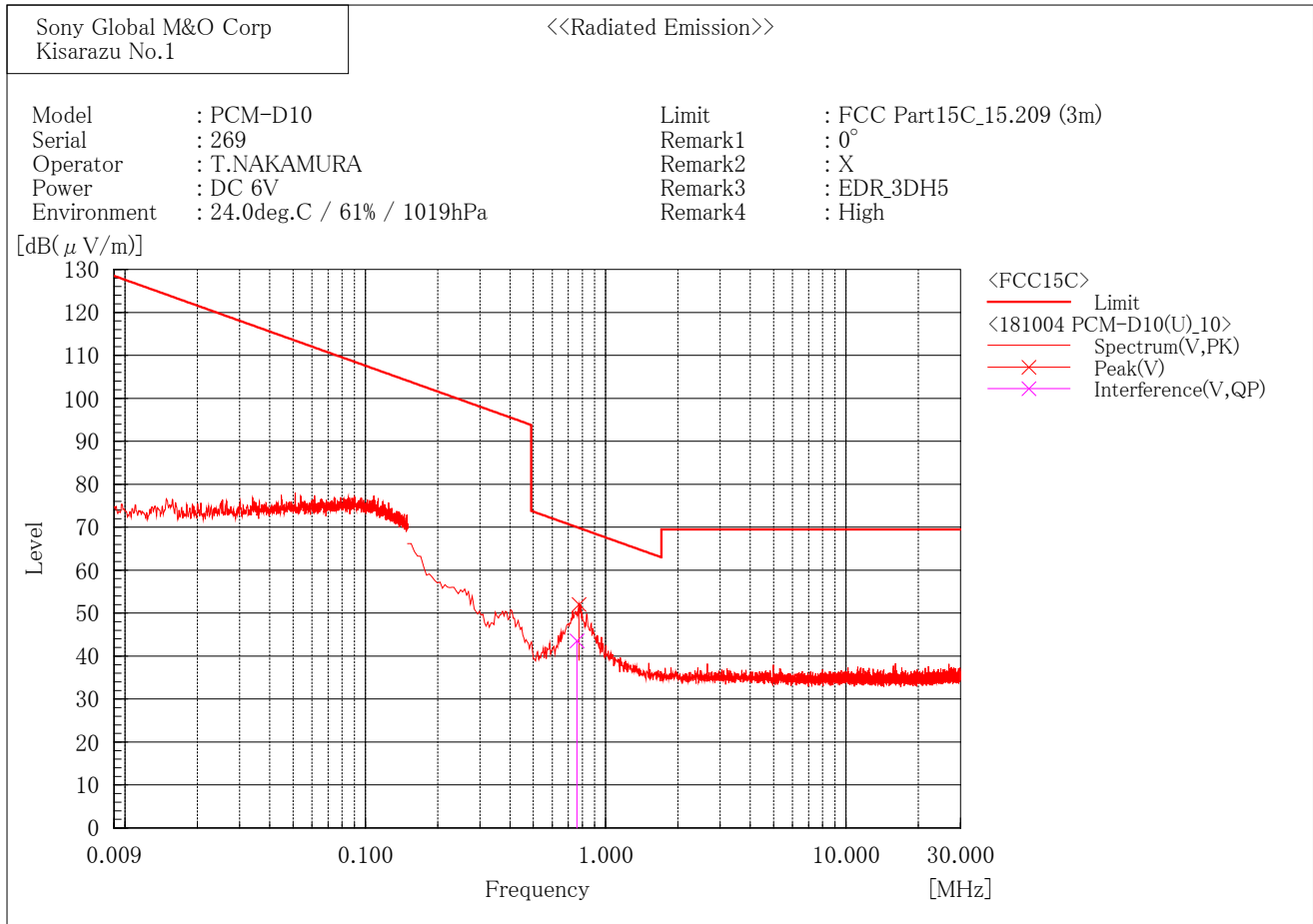
--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	0.759	23.6	19.5	43.1	70.0	26.9	100.0	257.8

[EDR / 2441 MHz]



[EDR / 2480 MHz]



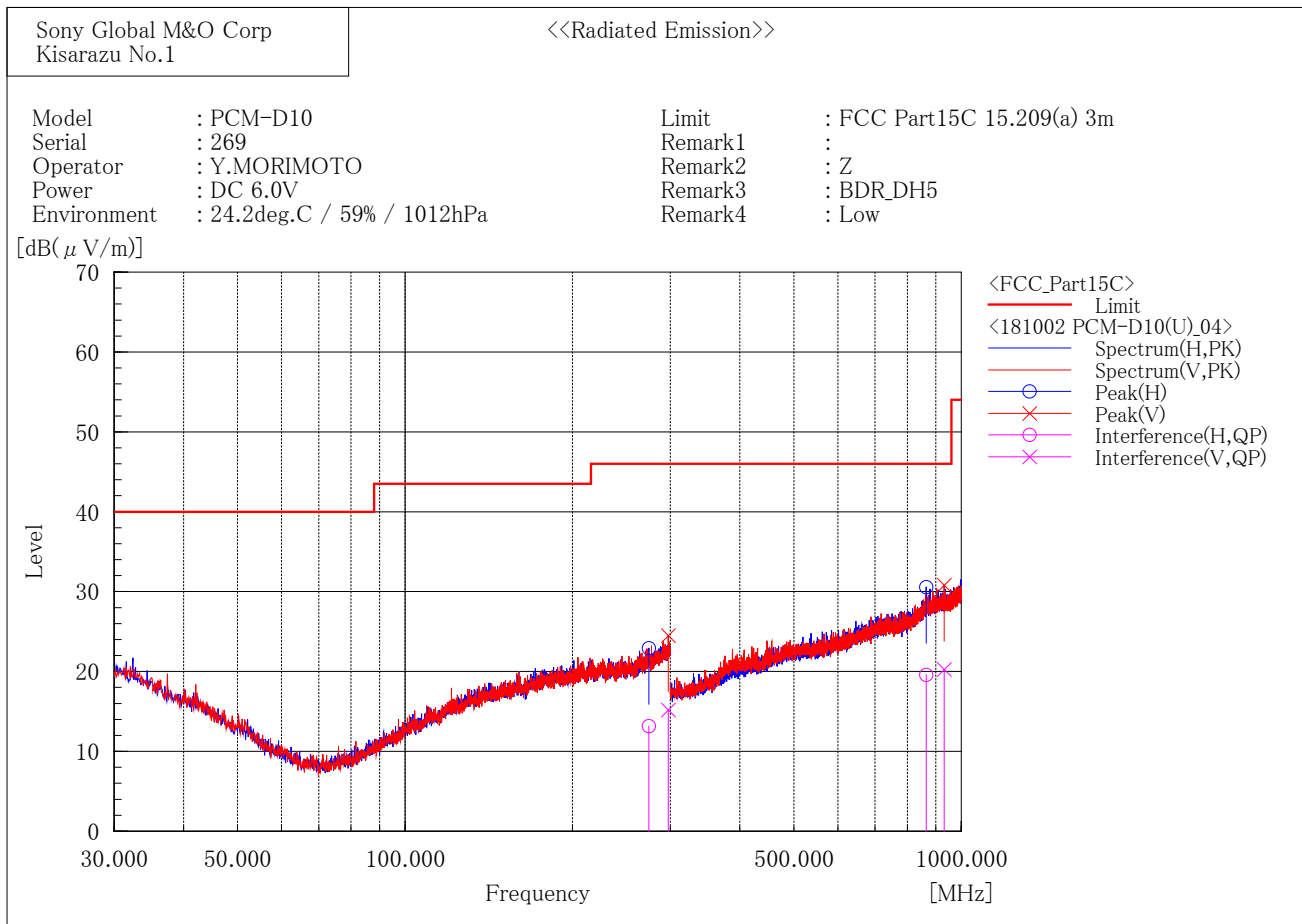
Final Result

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	0.759	24.0	19.5	43.5	70.0	26.5	100.0	333.5

30 MHz to 1000 MHz

[BDR / 2402 MHz]



Final Result

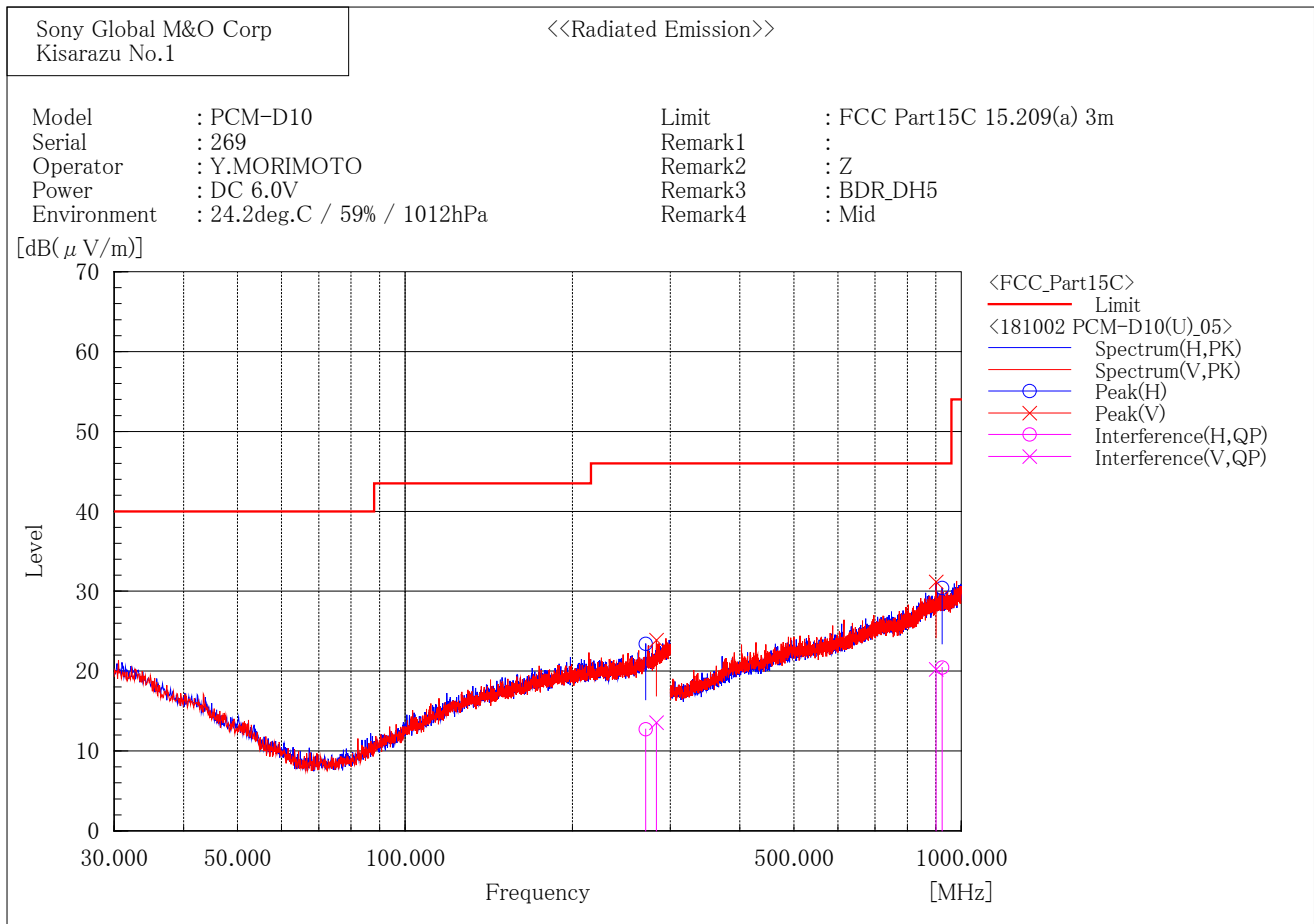
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	274.260	19.3	-6.1	13.2	46.0	32.8	105.1	169.4
2	865.133	19.8	-0.2	19.6	46.0	26.4	171.4	102.5

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	297.489	19.8	-4.6	15.2	46.0	30.8	400.0	27.6
2	931.867	19.7	0.6	20.3	46.0	25.7	100.7	60.9

[BDR / 2441 MHz]



Final Result

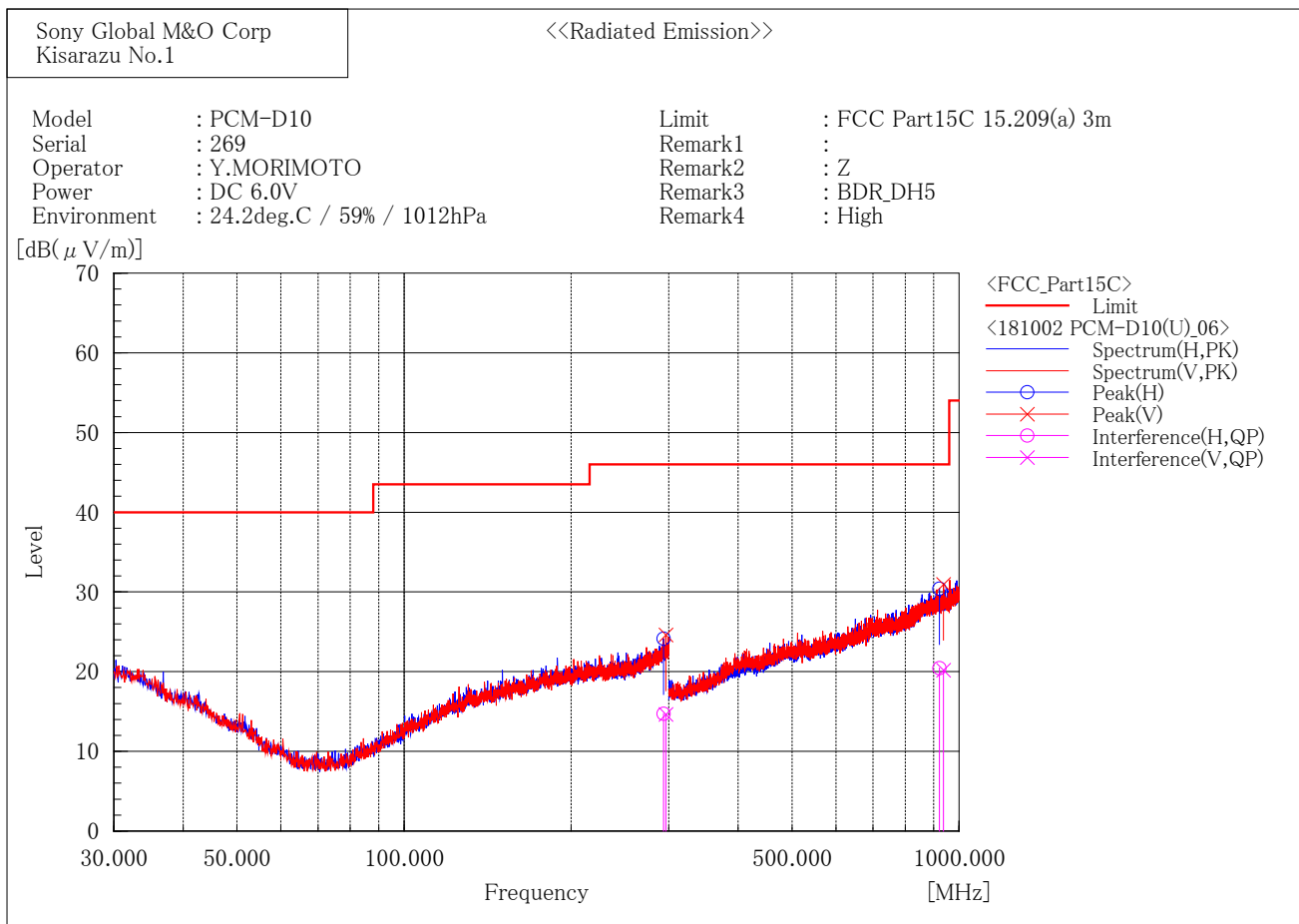
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	270.750	18.8	-6.1	12.7	46.0	33.3	259.7	6.3
2	923.467	19.8	0.6	20.4	46.0	25.6	194.5	111.2

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	283.170	19.2	-5.6	13.6	46.0	32.4	209.3	357.7
2	901.300	19.9	0.3	20.2	46.0	25.8	368.2	339.1

[BDR / 2480 MHz]



Final Result

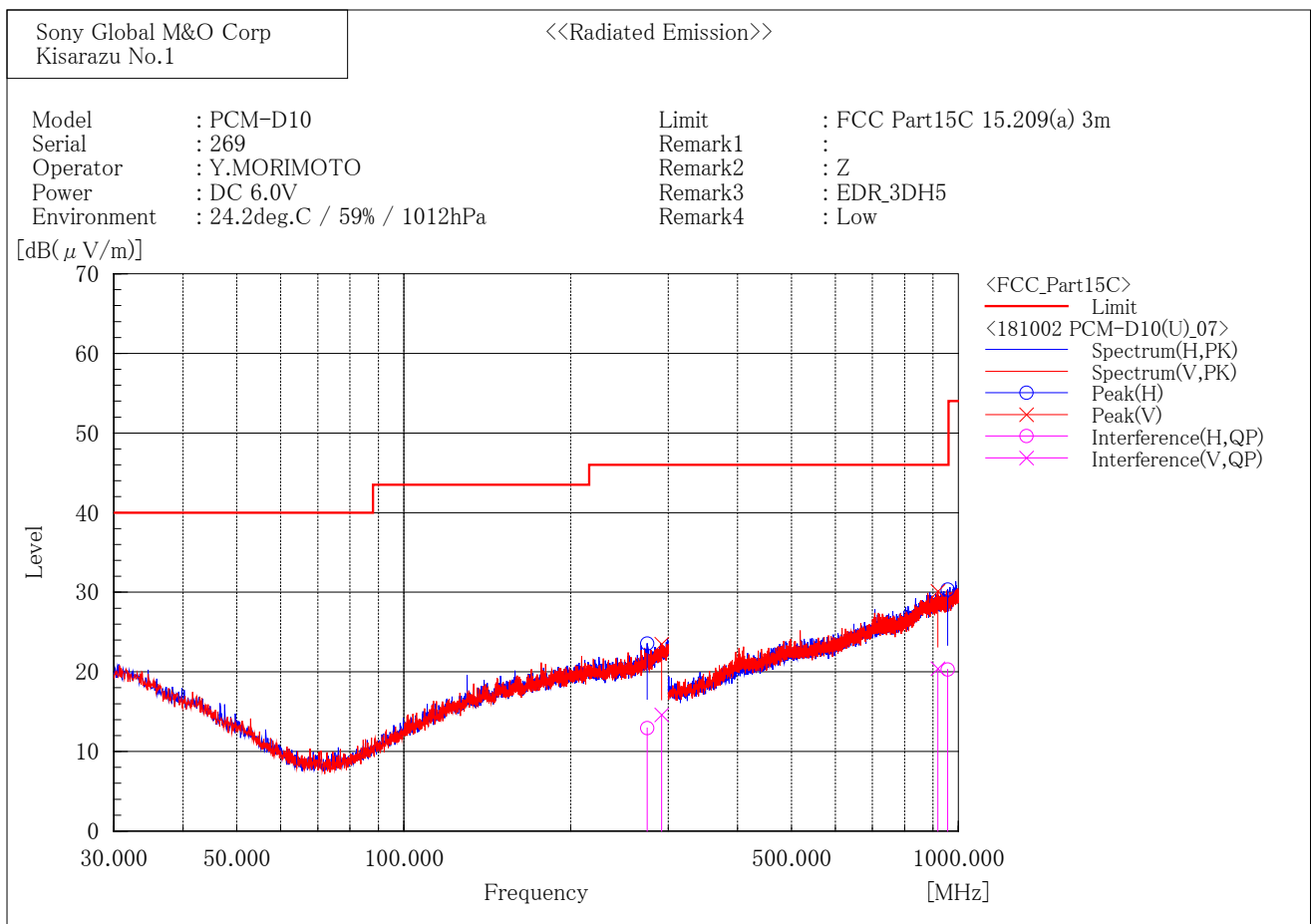
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	293.633	19.6	-4.9	14.7	46.0	31.3	187.5	246.8
2	921.600	19.8	0.6	20.4	46.0	25.6	333.8	245.1

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	296.232	19.3	-4.7	14.6	46.0	31.4	272.7	202.2
2	937.467	19.5	0.7	20.2	46.0	25.8	400.0	148.6

[EDR / 2402 MHz]



Final Result

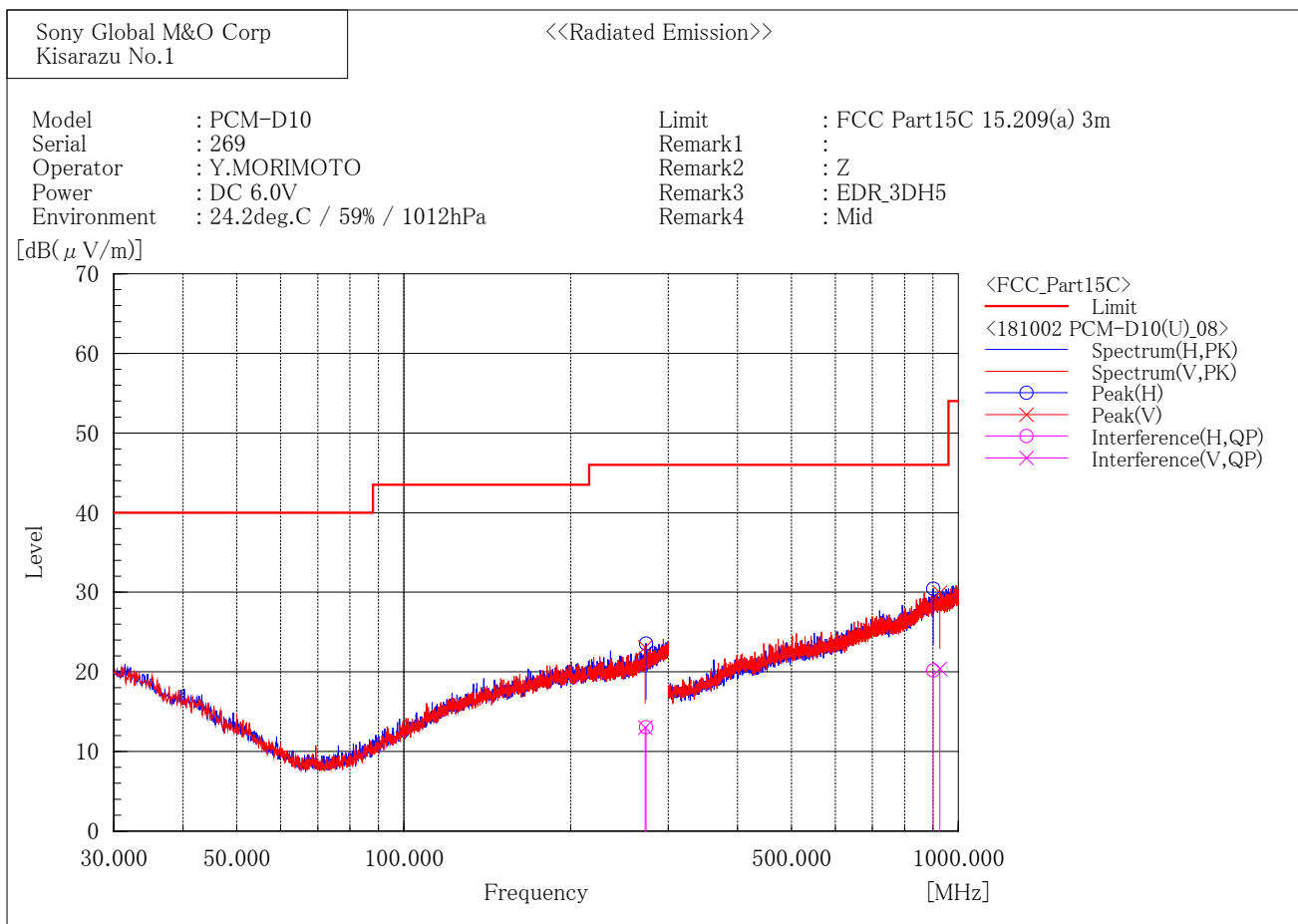
--- Horizontal Polarization (QP) ---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	274.890	19.1	-6.1	13.0	46.0	33.0	347.4	249.1
2	956.833	19.2	1.1	20.3	46.0	25.7	114.0	97.5

--- Vertical Polarization (QP) ---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	291.884	19.6	-5.0	14.6	46.0	31.4	292.8	115.4
2	918.800	19.9	0.5	20.4	46.0	25.6	356.6	155.1

[EDR / 2441 MHz]



Final Result

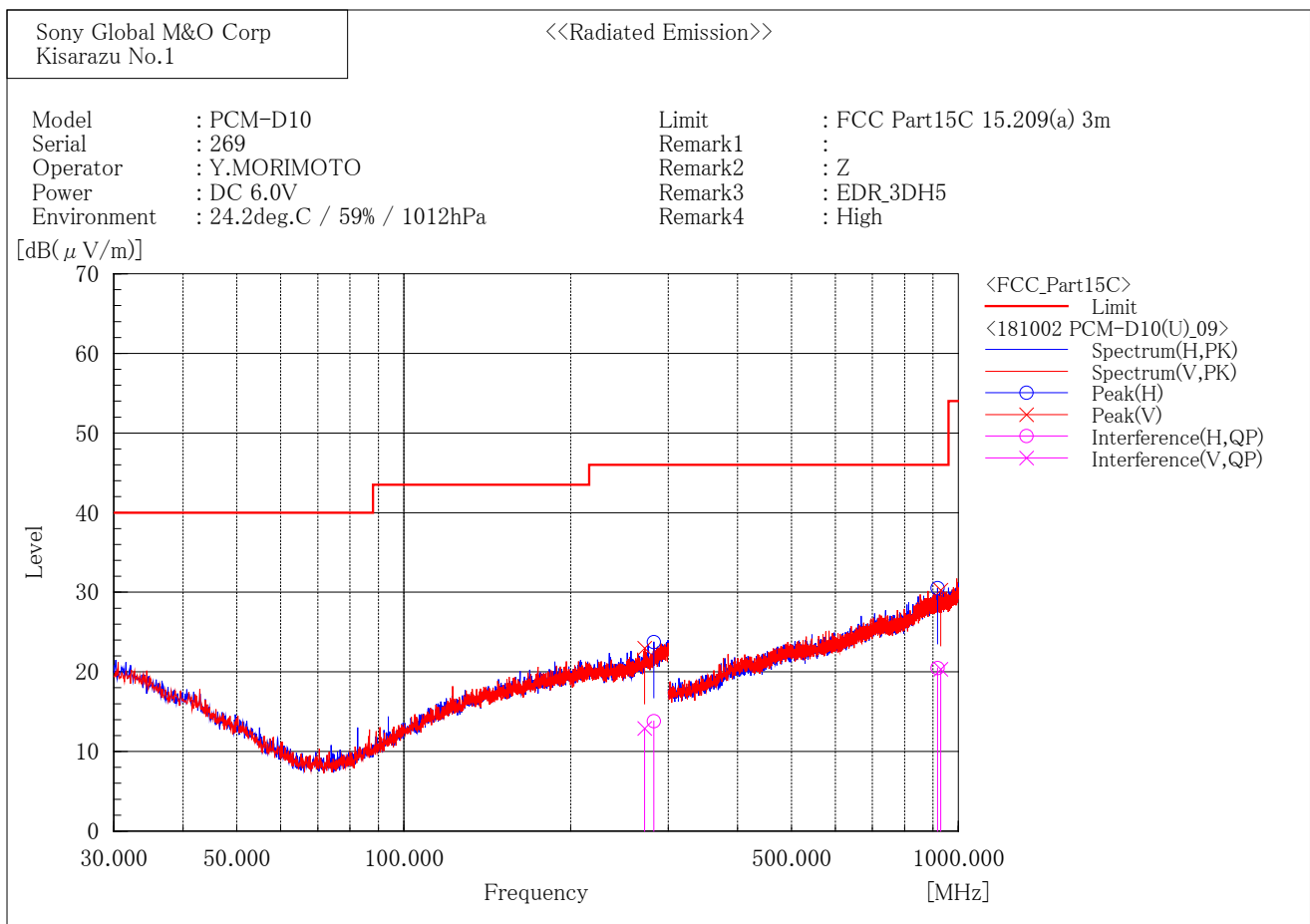
--- Horizontal Polarization (QP) ---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Height [cm]	Angle [°]
1	273.450	19.1	-6.1	13.0	46.0	33.0	342.5	94.3
2	901.067	19.9	0.3	20.2	46.0	25.8	400.0	319.5

--- Vertical Polarization (QP) ---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Height [cm]	Angle [°]
1	272.550	19.1	-6.1	13.0	46.0	33.0	108.4	72.4
2	925.800	19.8	0.6	20.4	46.0	25.6	400.0	133.7

[EDR / 2480 MHz]



Final Result

--- Horizontal Polarization (QP) ---

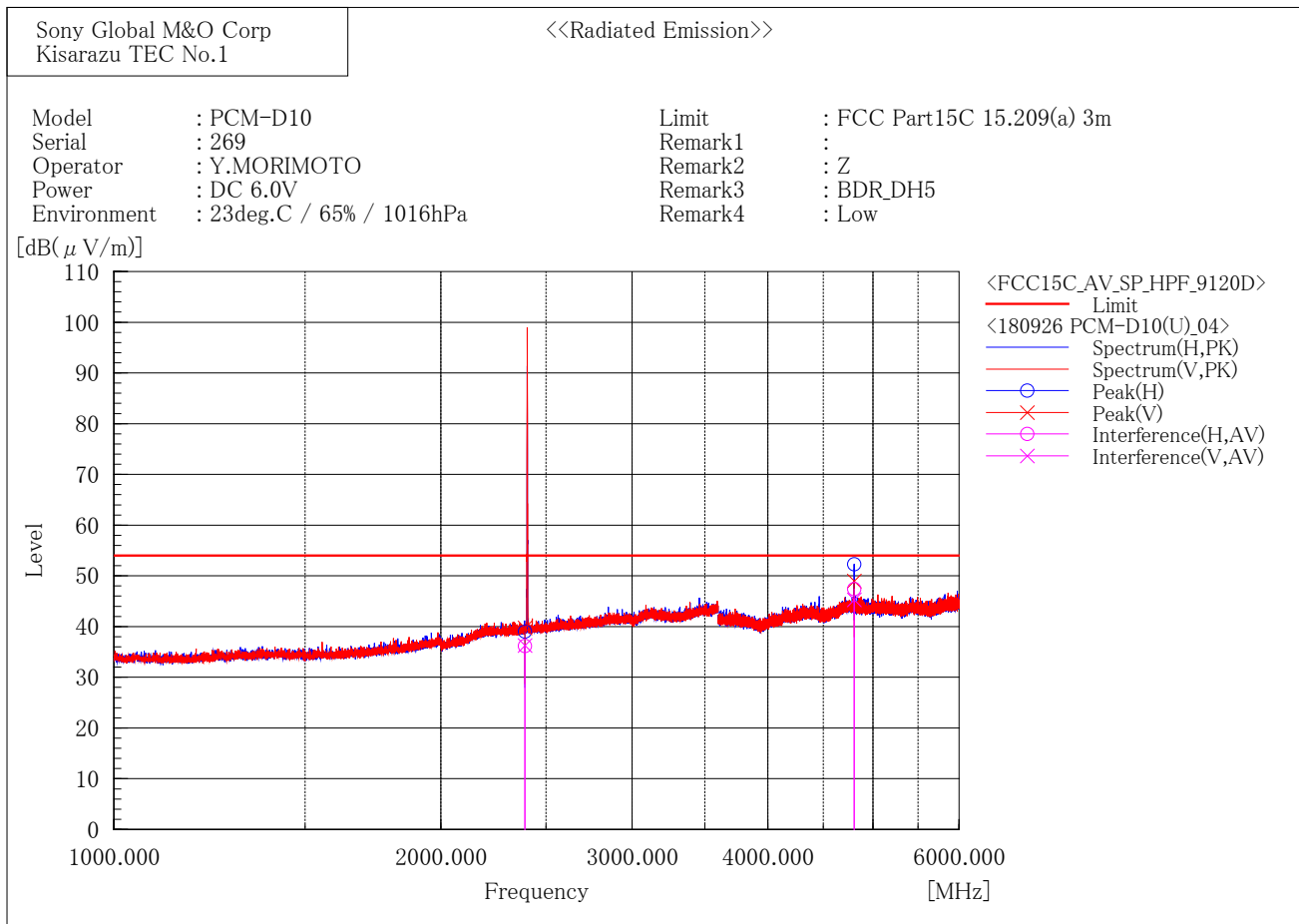
No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	282.360	19.4	-5.6	13.8	46.0	32.2	368.5	188.9
2	917.867	20.0	0.5	20.5	46.0	25.5	100.0	12.7

--- Vertical Polarization (QP) ---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	271.920	19.0	-6.1	12.9	46.0	33.1	340.5	156.8
2	929.533	19.8	0.6	20.4	46.0	25.6	137.6	138.3

1 GHz to 6 GHz

[BDR / 2402 MHz]



Final Result

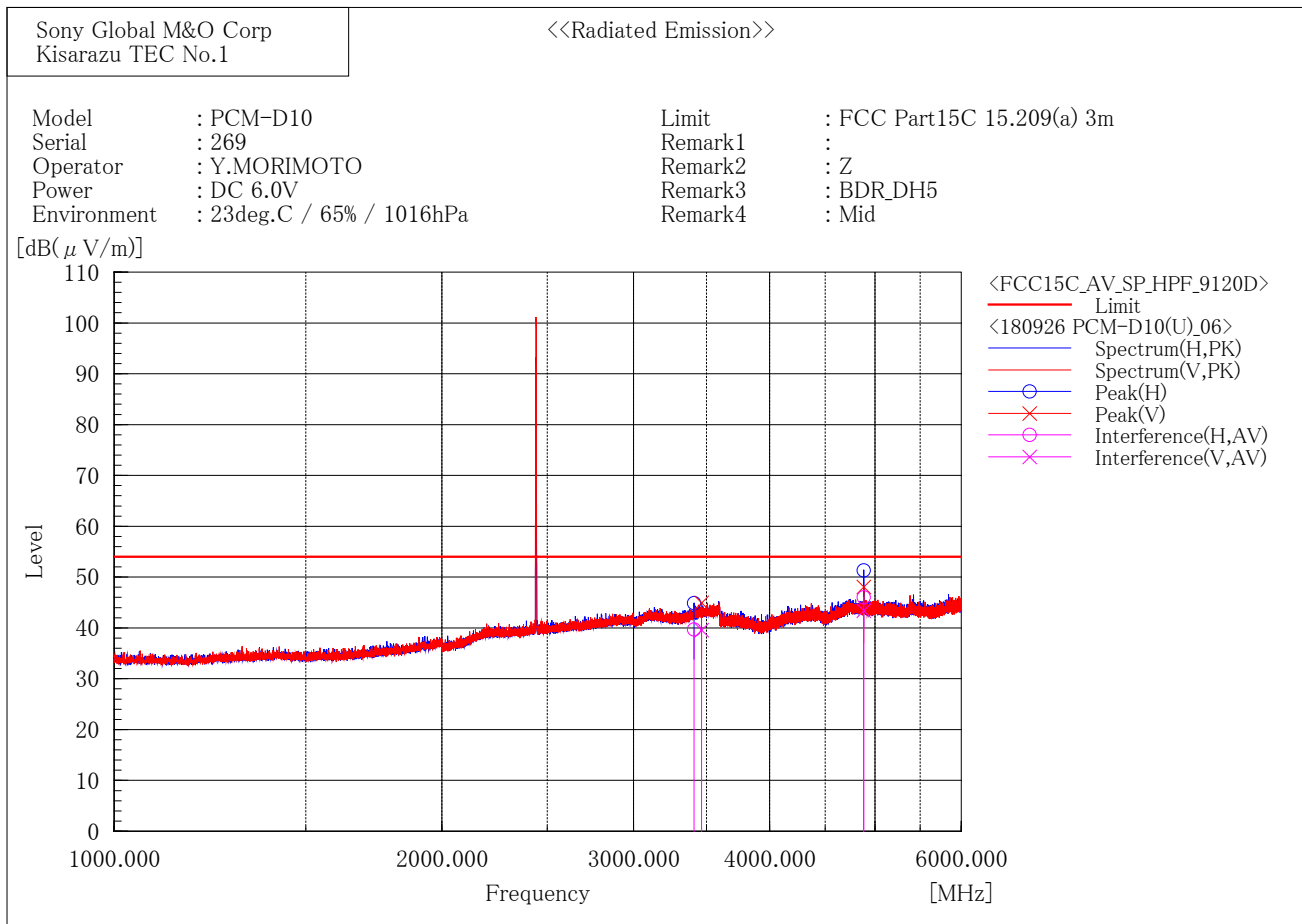
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	34.7	1.5	36.2	54.0	17.8	168.3	354.3
2	4803.987	36.4	11.0	47.4	54.0	6.6	152.4	10.9

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	34.8	1.5	36.3	54.0	17.7	158.6	130.1
2	4804.002	34.3	11.0	45.3	54.0	8.7	431.0	260.0

[BDR / 2441 MHz]



Final Result

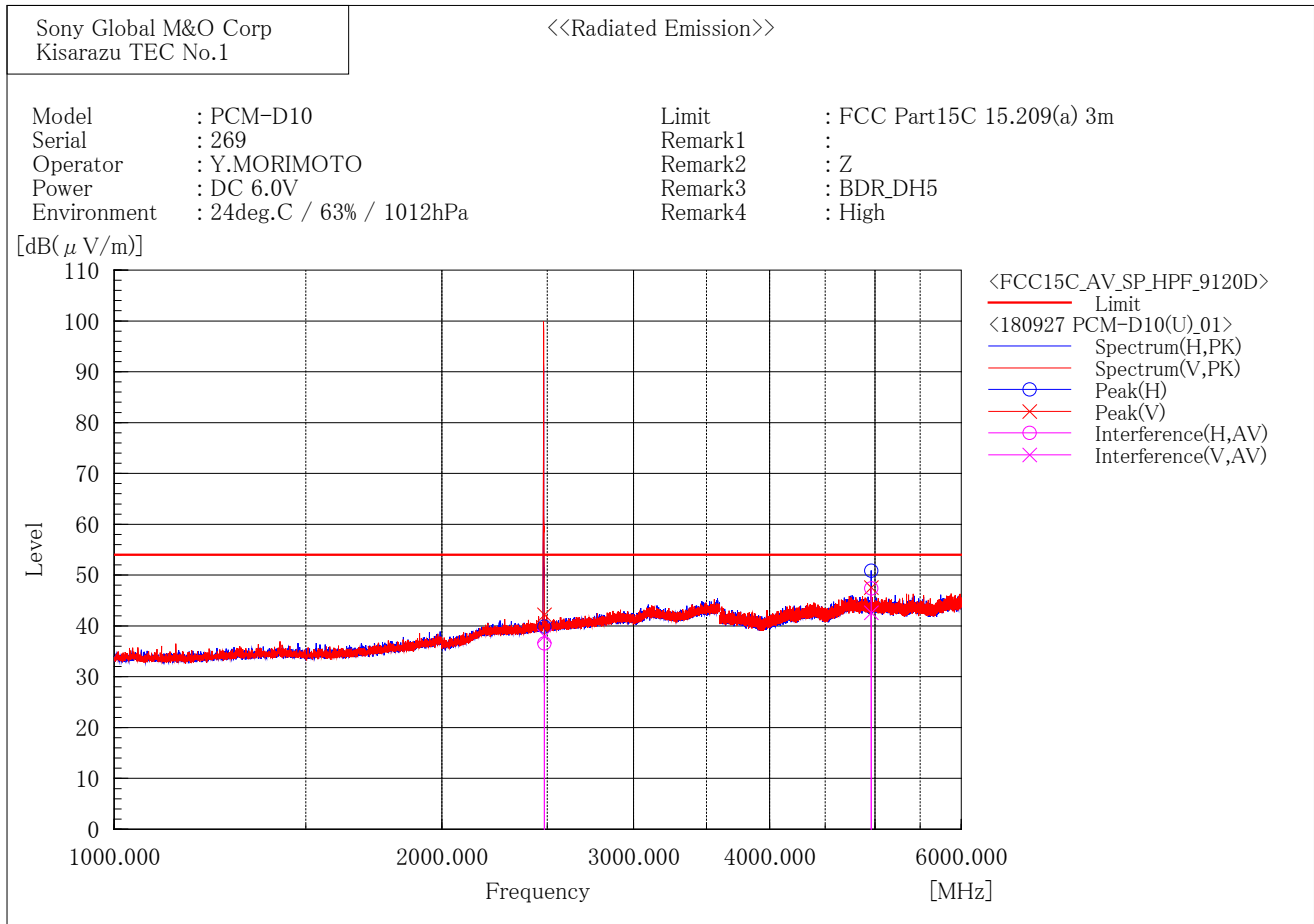
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3408.457	35.1	4.6	39.7	54.0	14.3	193.1	154.0
2	4881.940	35.3	10.7	46.0	54.0	8.0	100.1	355.7

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3463.429	34.7	4.9	39.6	54.0	14.4	297.2	1.1
2	4881.947	32.7	10.7	43.4	54.0	10.6	388.2	265.1

[BDR / 2480 MHz]



Final Result

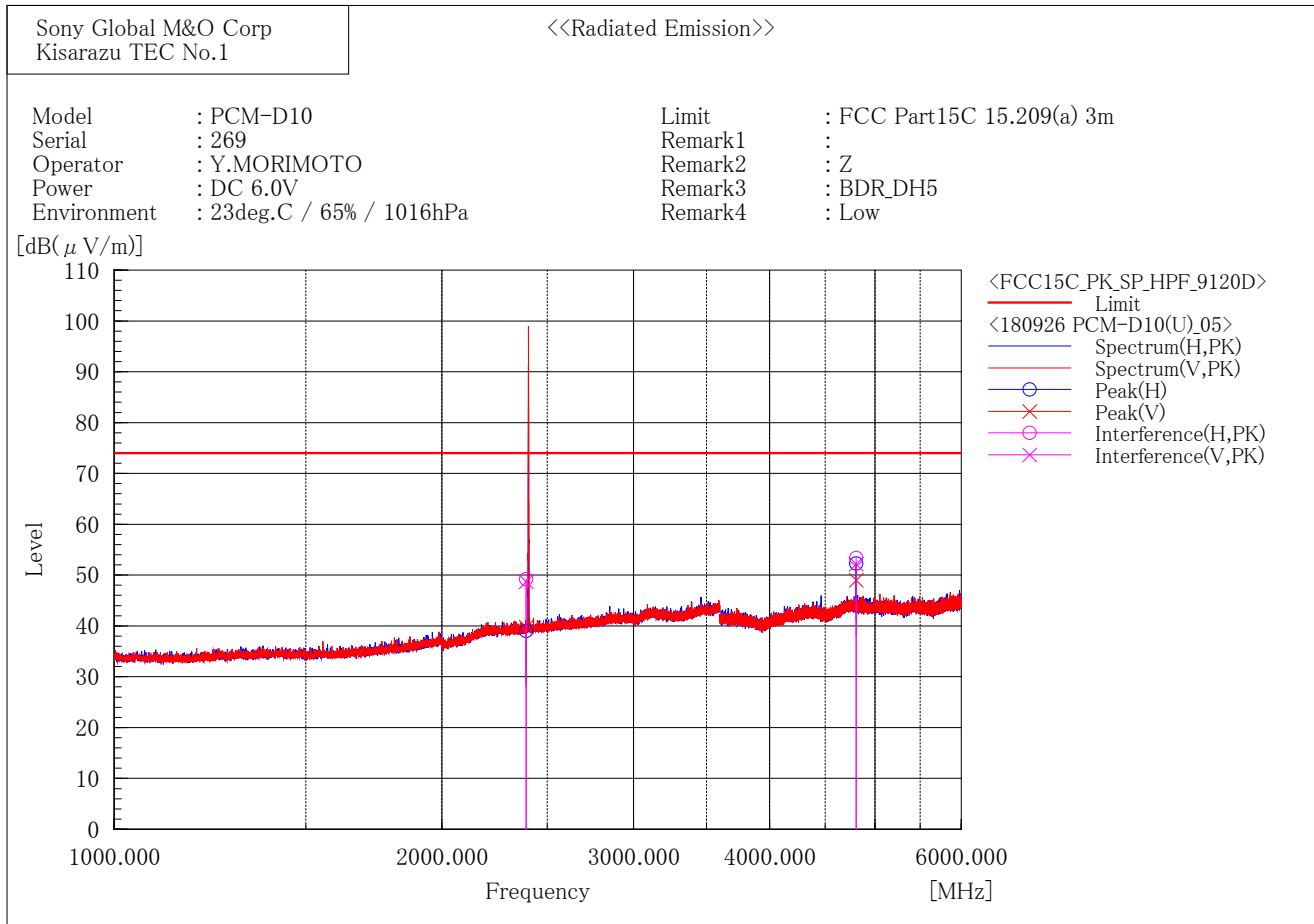
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	34.7	1.9	36.6	54.0	17.4	323.9	62.0
2	4960.289	36.4	11.0	47.4	54.0	6.6	123.6	353.0

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	36.1	1.9	38.0	54.0	16.0	270.5	54.5
2	4959.771	31.6	11.0	42.6	54.0	11.4	431.0	260.1

[BDR / 2402 MHz]



Final Result

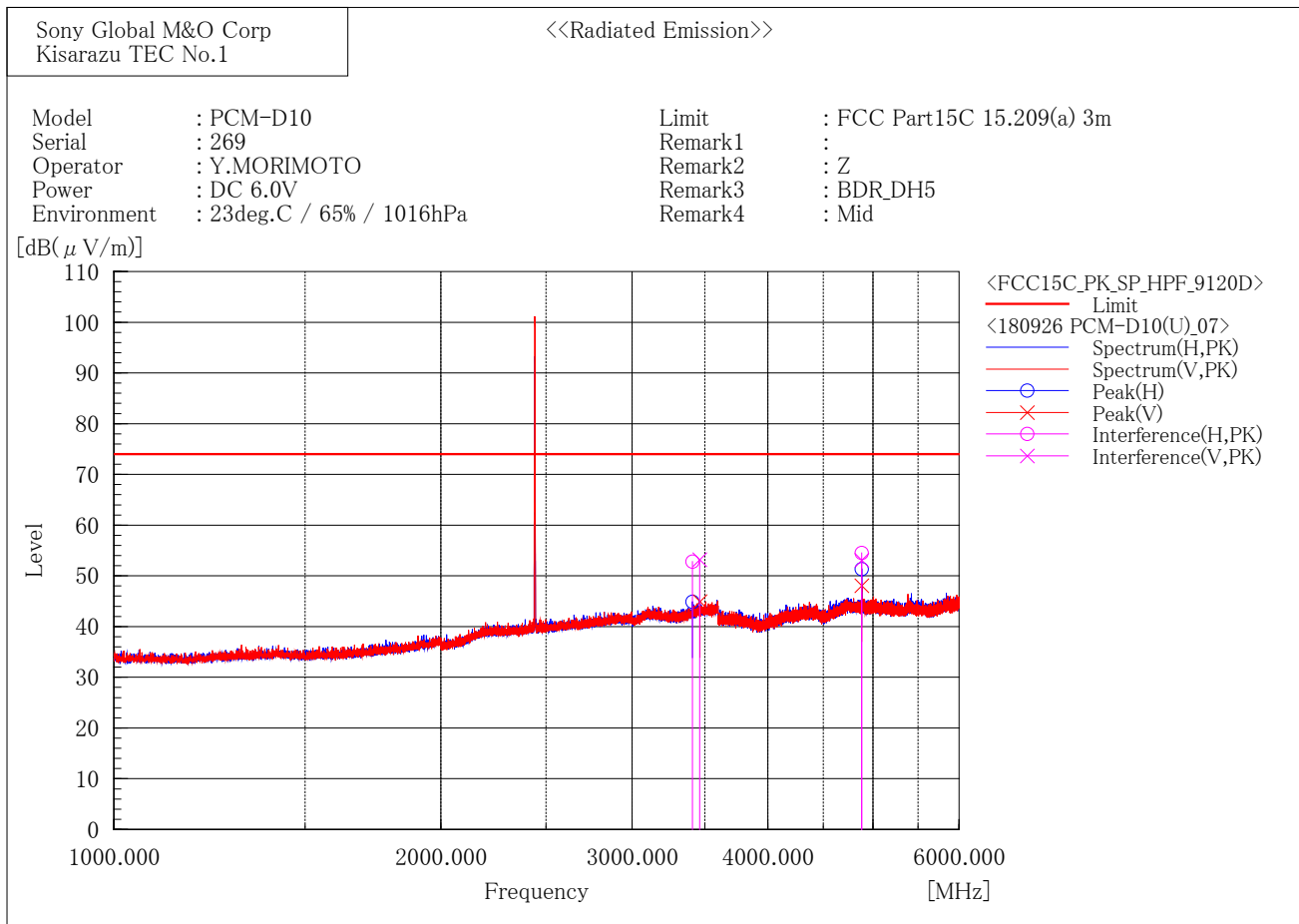
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	47.7	1.5	49.2	74.0	24.8	168.3	354.3
2	4803.823	42.4	11.0	53.4	74.0	20.6	152.4	9.1

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	47.2	1.5	48.7	74.0	25.3	158.6	132.1
2	4804.274	41.2	11.0	52.2	74.0	21.8	431.0	261.9

[BDR / 2441 MHz]



Final Result

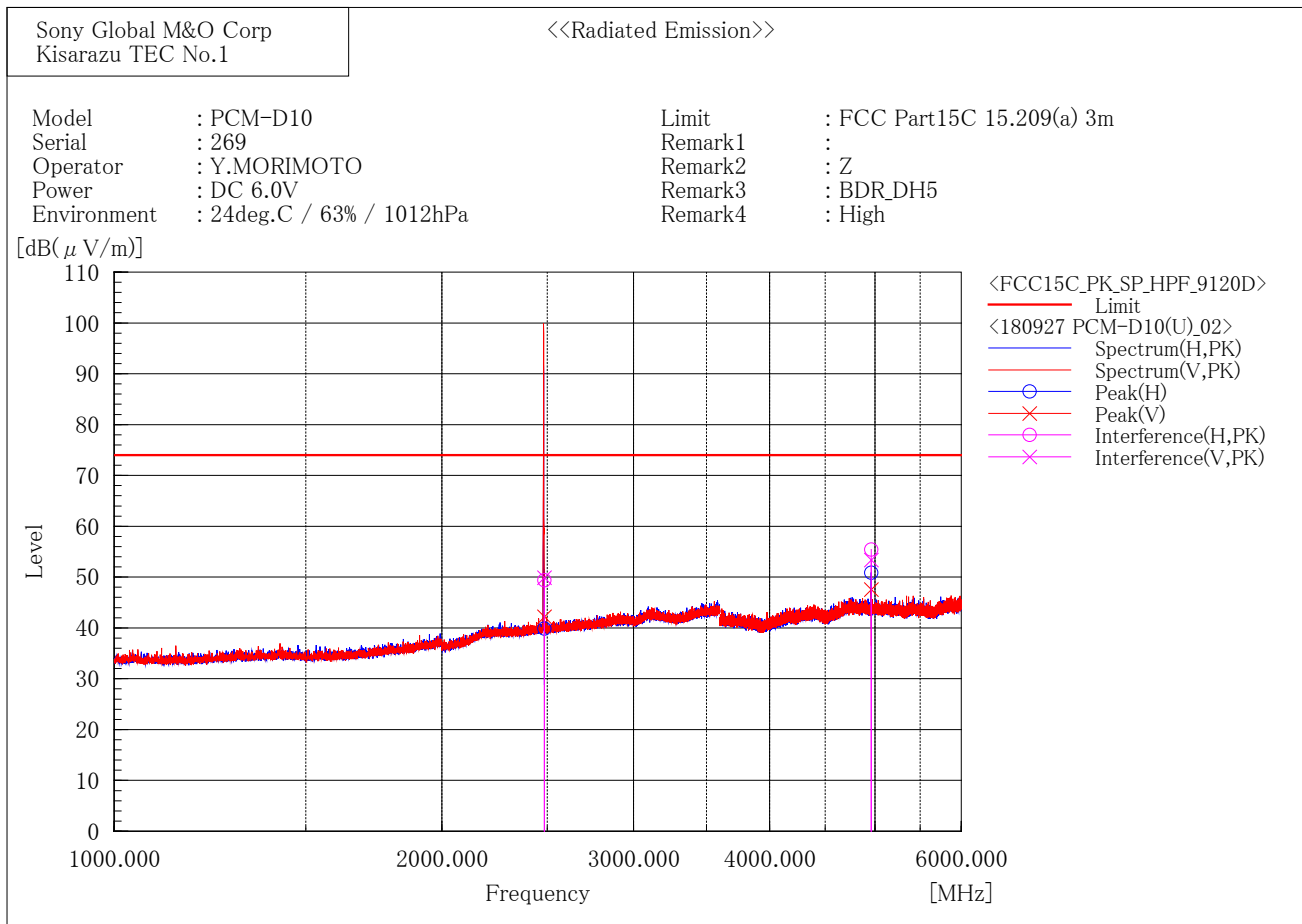
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3408.897	48.2	4.6	52.8	74.0	21.2	193.1	152.0
2	4881.693	43.8	10.7	54.5	74.0	19.5	100.1	353.7

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3462.928	48.3	4.9	53.2	74.0	20.8	297.2	1.1
2	4882.221	42.4	10.7	53.1	74.0	20.9	388.2	267.2

[BDR / 2480 MHz]



Final Result

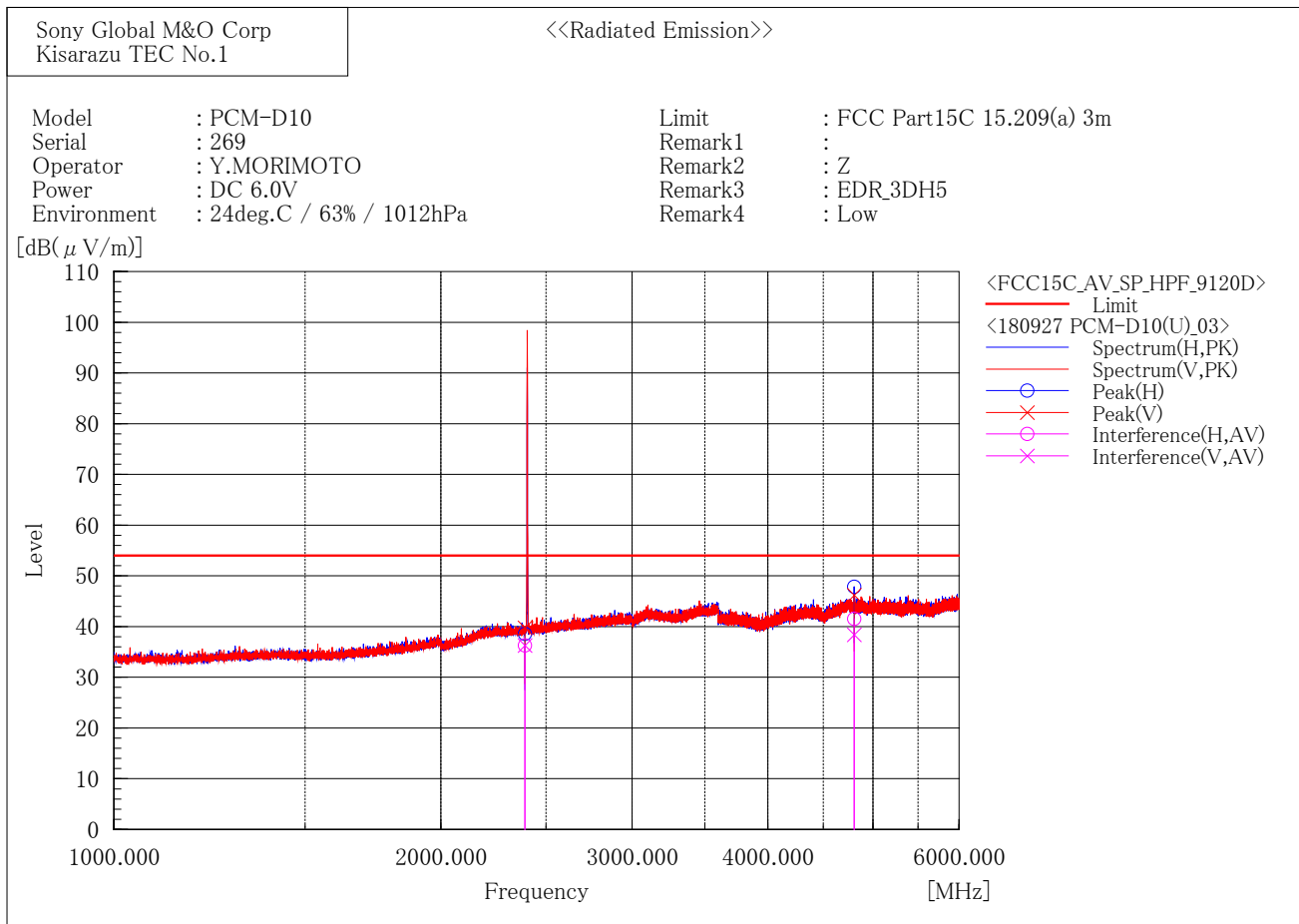
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	47.5	1.9	49.4	74.0	24.6	323.9	60.0
2	4959.775	44.4	11.0	55.4	74.0	18.6	123.9	352.1

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	48.0	1.9	49.9	74.0	24.1	431.0	262.0
2	4960.169	42.4	11.0	53.4	74.0	20.6	431.0	262.0

[EDR / 2402 MHz]



Final Result

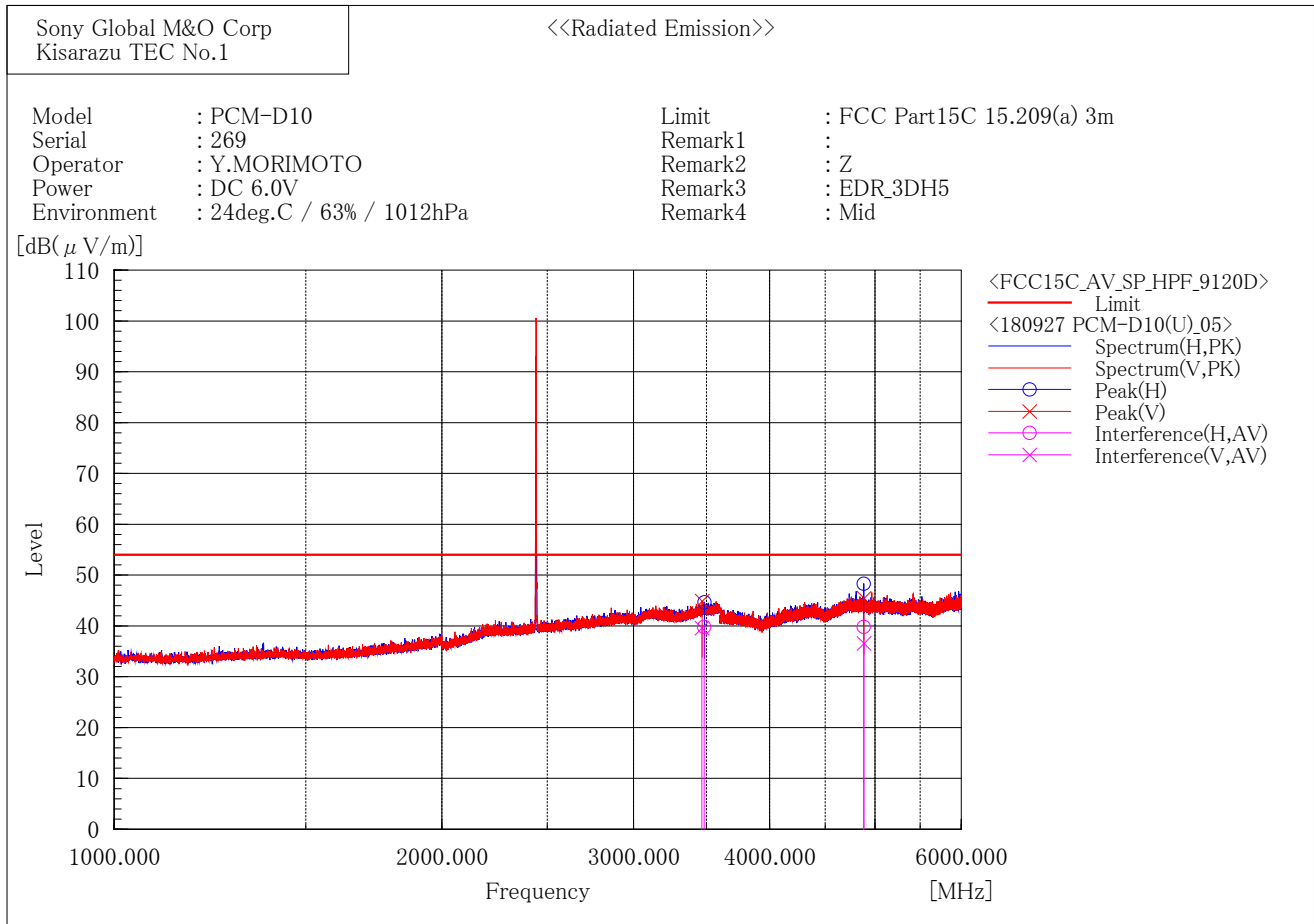
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	34.8	1.5	36.3	54.0	17.7	173.5	123.3
2	4804.011	30.5	11.0	41.5	54.0	12.5	175.5	348.8

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	34.8	1.5	36.3	54.0	17.7	157.6	157.3
2	4803.952	27.4	11.0	38.4	54.0	15.6	431.8	155.4

[EDR / 2441 MHz]



Final Result

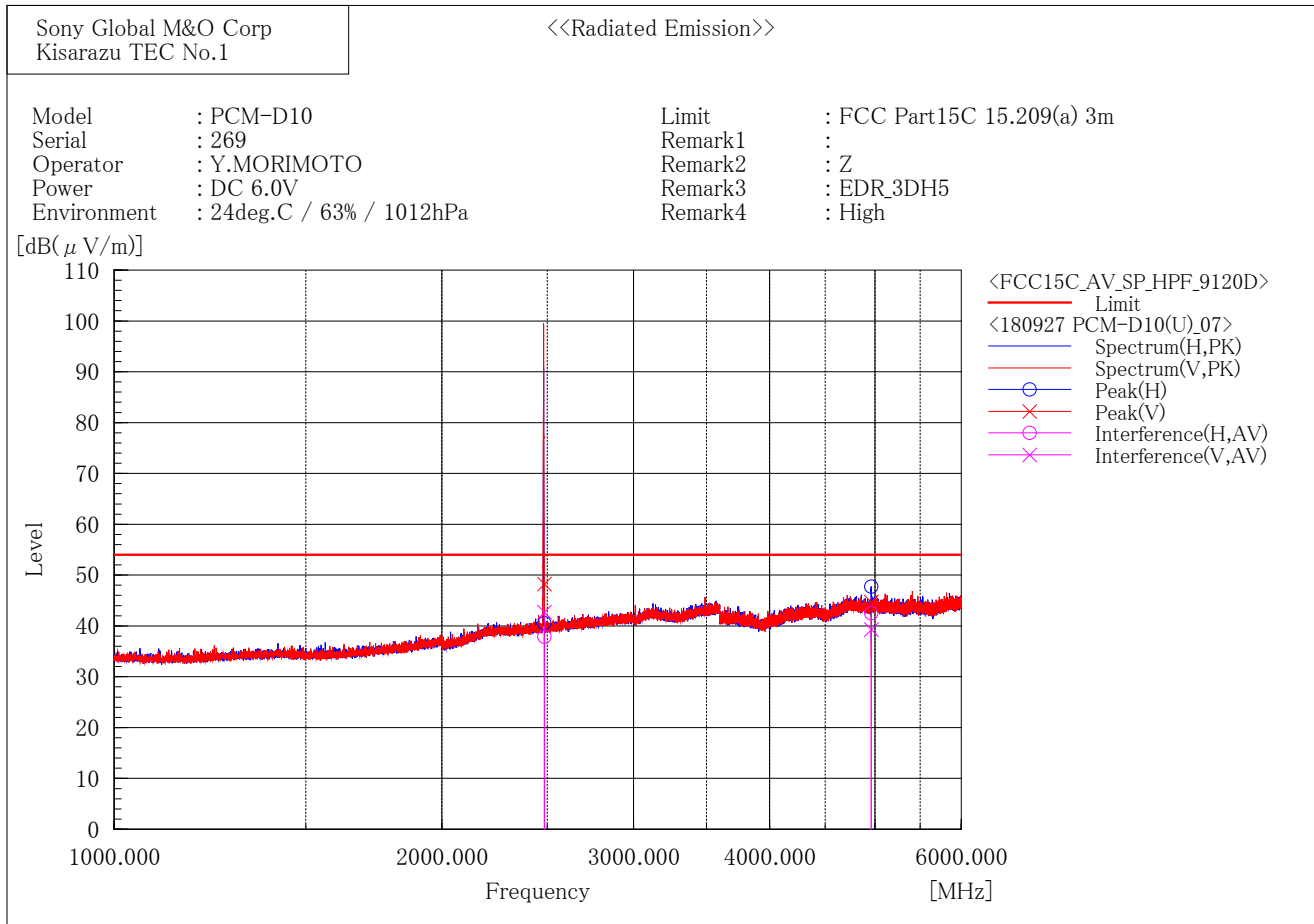
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3484.032	34.7	5.1	39.8	54.0	14.2	152.6	90.3
2	4881.902	29.1	10.7	39.8	54.0	14.2	135.4	28.0

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3467.143	34.7	4.9	39.6	54.0	14.4	137.7	261.9
2	4882.859	25.9	10.7	36.6	54.0	17.4	221.7	123.0

[EDR / 2480 MHz]



Final Result

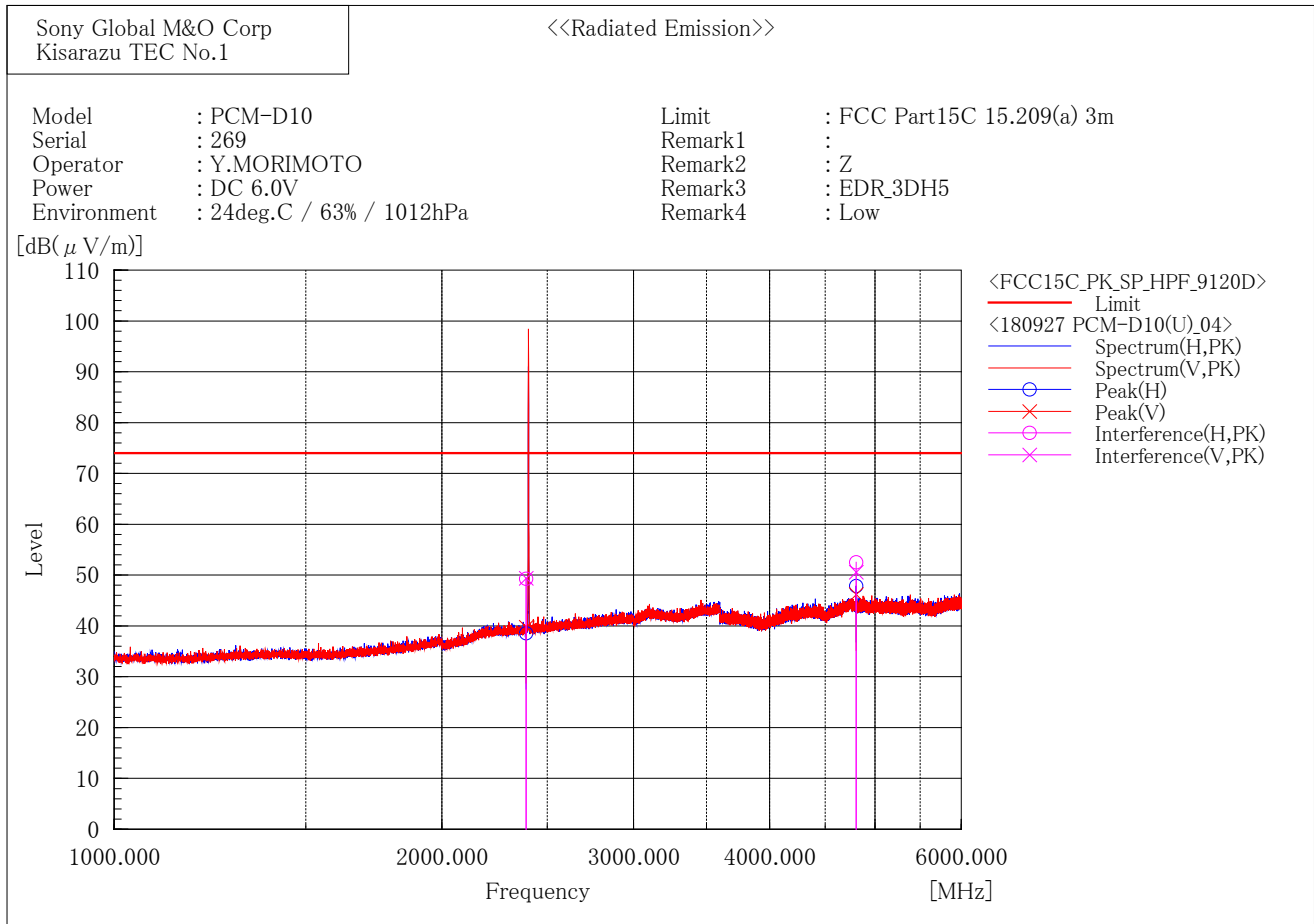
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	36.0	1.9	37.9	54.0	16.2	192.5	125.1
2	4959.942	31.5	11.0	42.5	54.0	11.5	100.0	6.0

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	40.8	1.9	42.7	54.0	11.3	217.7	37.2
2	4959.928	28.3	11.0	39.3	54.0	14.7	365.3	266.6

[EDR / 2402 MHz]



Final Result

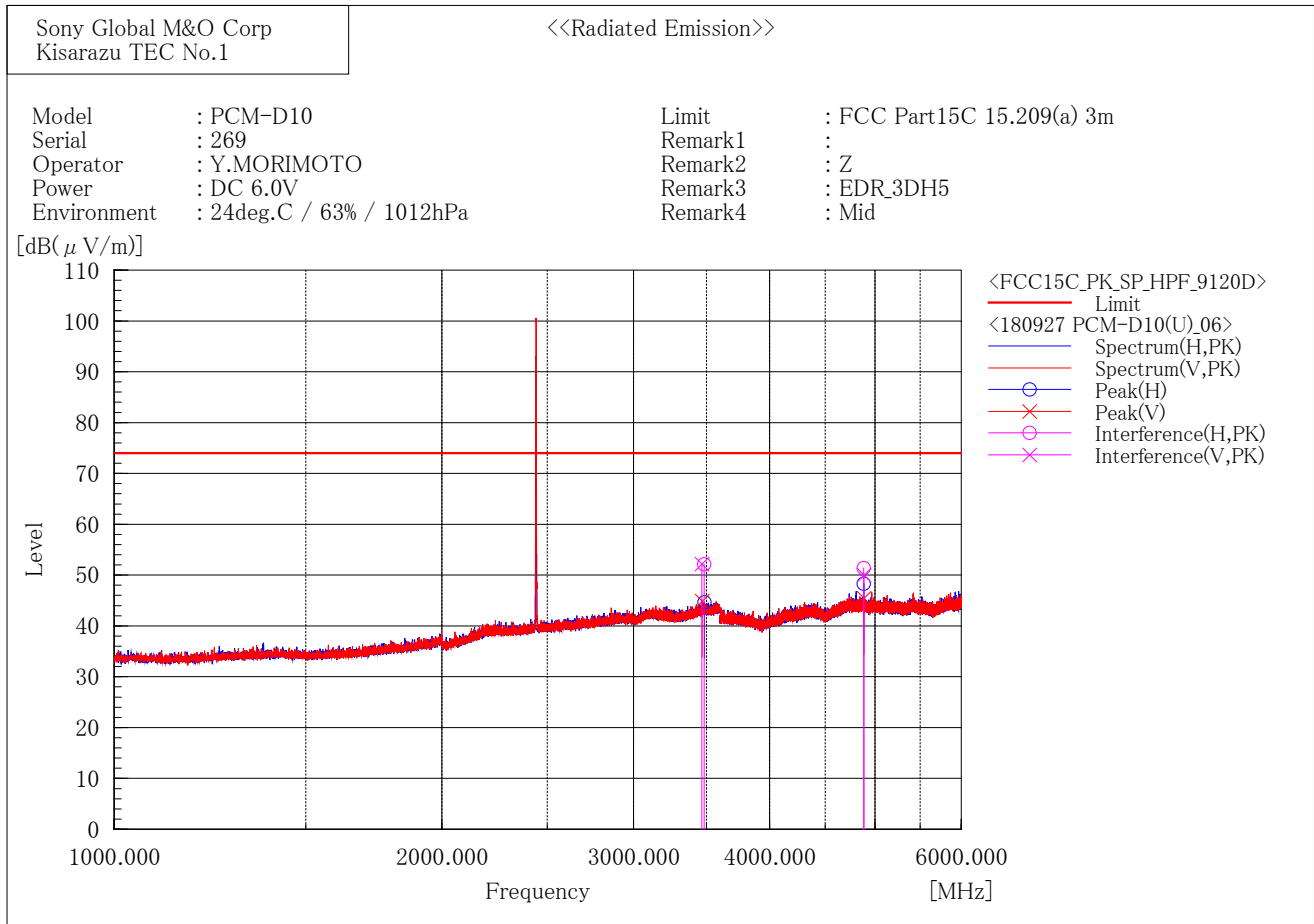
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	47.8	1.5	49.3	74.0	24.7	173.5	121.4
2	4803.839	41.5	11.0	52.5	74.0	21.5	175.5	350.9

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2390.000	47.9	1.5	49.4	74.0	24.6	157.6	155.4
2	4804.530	39.6	11.0	50.6	74.0	23.4	431.8	155.4

[EDR / 2441 MHz]



Final Result

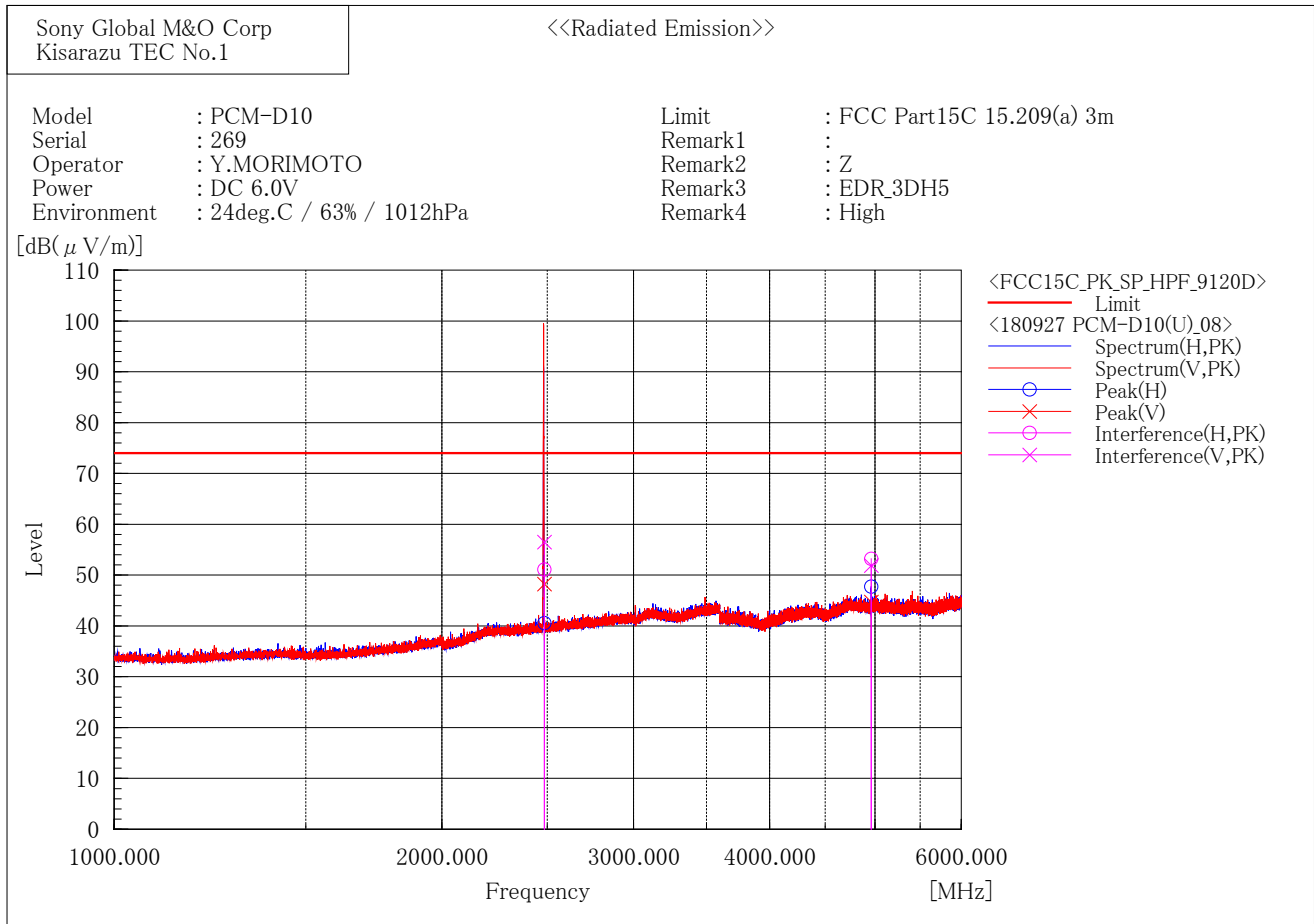
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3484.073	47.0	5.1	52.1	74.0	21.9	152.6	88.3
2	4881.806	40.7	10.7	51.4	74.0	22.6	135.4	28.0

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	3466.390	47.3	4.9	52.2	74.0	21.8	137.7	259.8
2	4883.483	39.3	10.7	50.0	74.0	24.0	221.7	125.0

[EDR / 2480 MHz]



Final Result

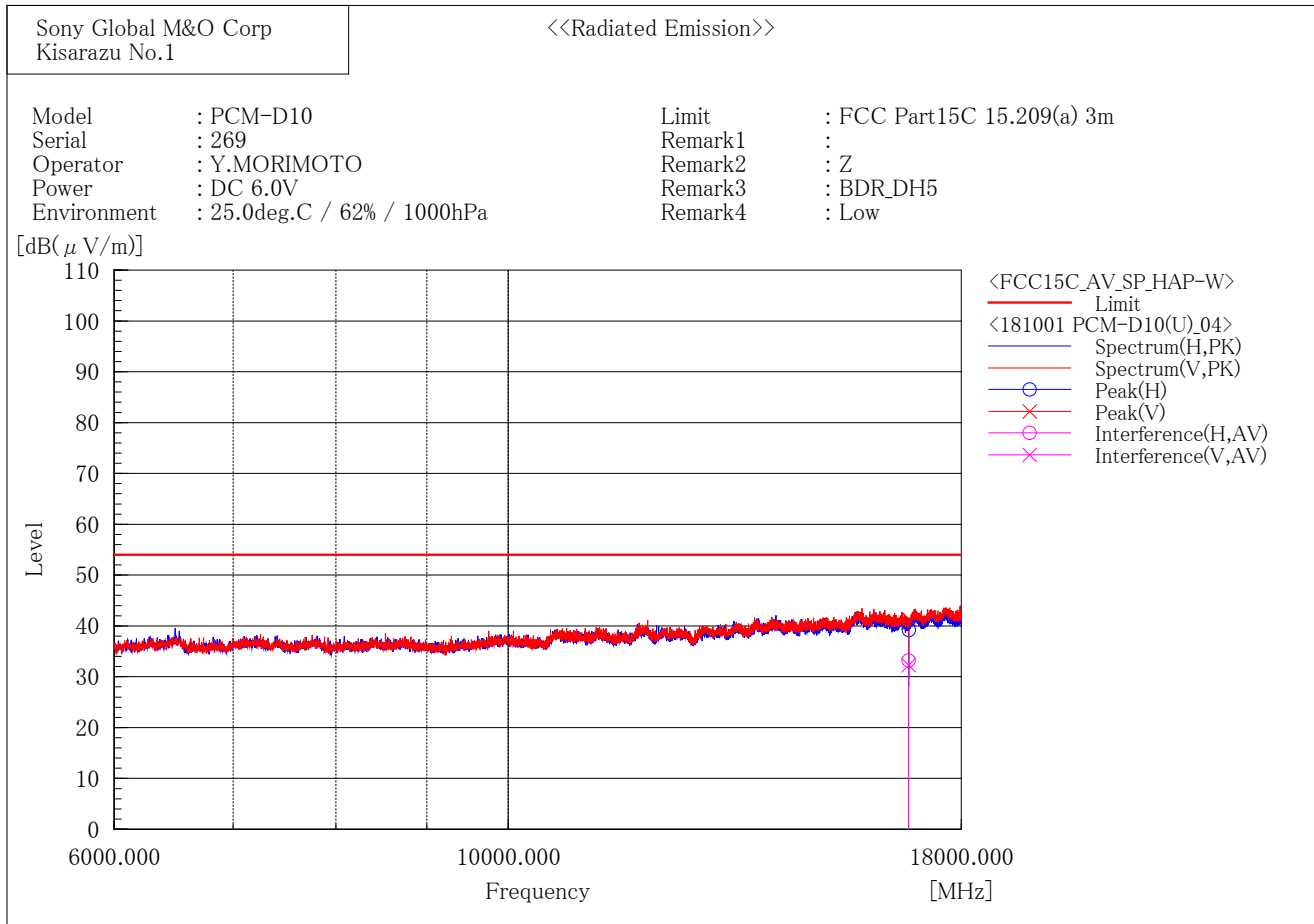
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	49.2	1.9	51.1	74.0	23.0	192.5	123.1
2	4959.933	42.2	11.0	53.2	74.0	20.8	100.0	7.9

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	2483.500	54.6	1.9	56.5	74.0	17.6	217.7	35.3
2	4959.416	40.9	11.0	51.9	74.0	22.1	365.3	266.6

6 GHz to 18 GHz
[BDR / 2402 MHz]



Final Result

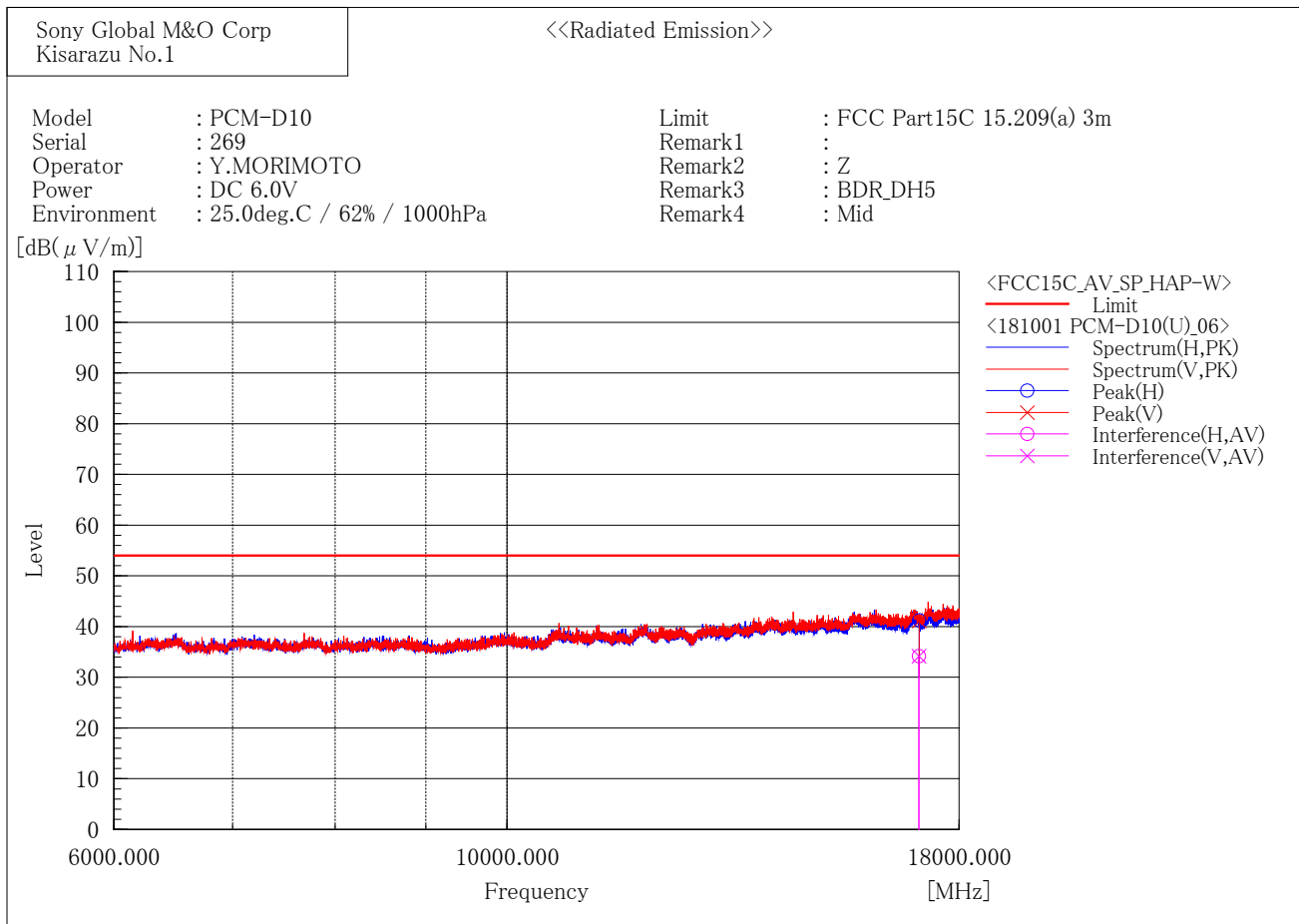
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	31.8	1.4	33.2	54.0	20.8	142.8	189.8

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	30.9	1.4	32.3	54.0	21.7	100.0	163.1

[BDR / 2441 MHz]



Final Result

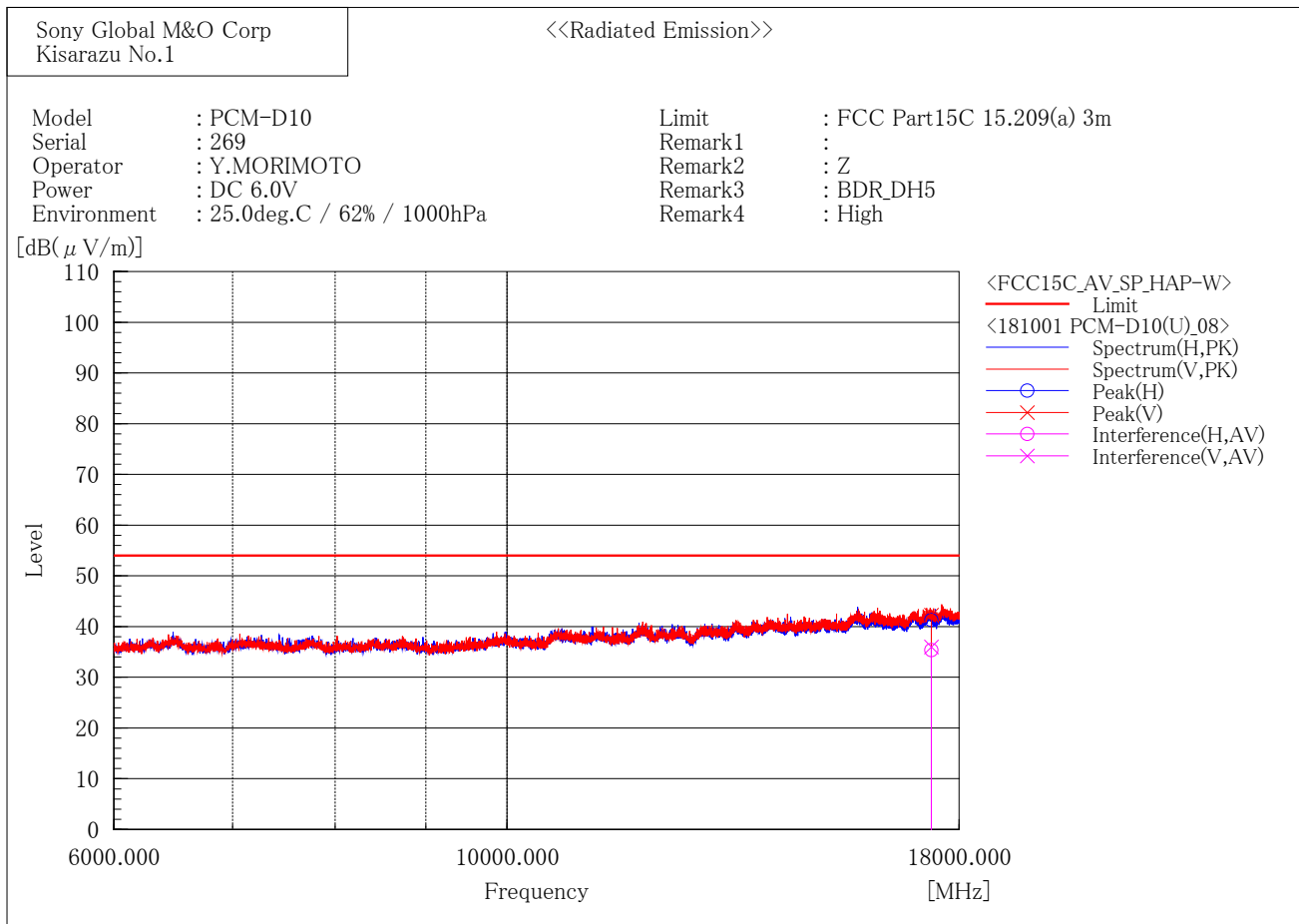
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	31.1	3.1	34.2	54.0	19.8	292.5	356.0

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	31.1	3.1	34.2	54.0	19.8	336.0	238.4

[BDR / 2480 MHz]



Final Result

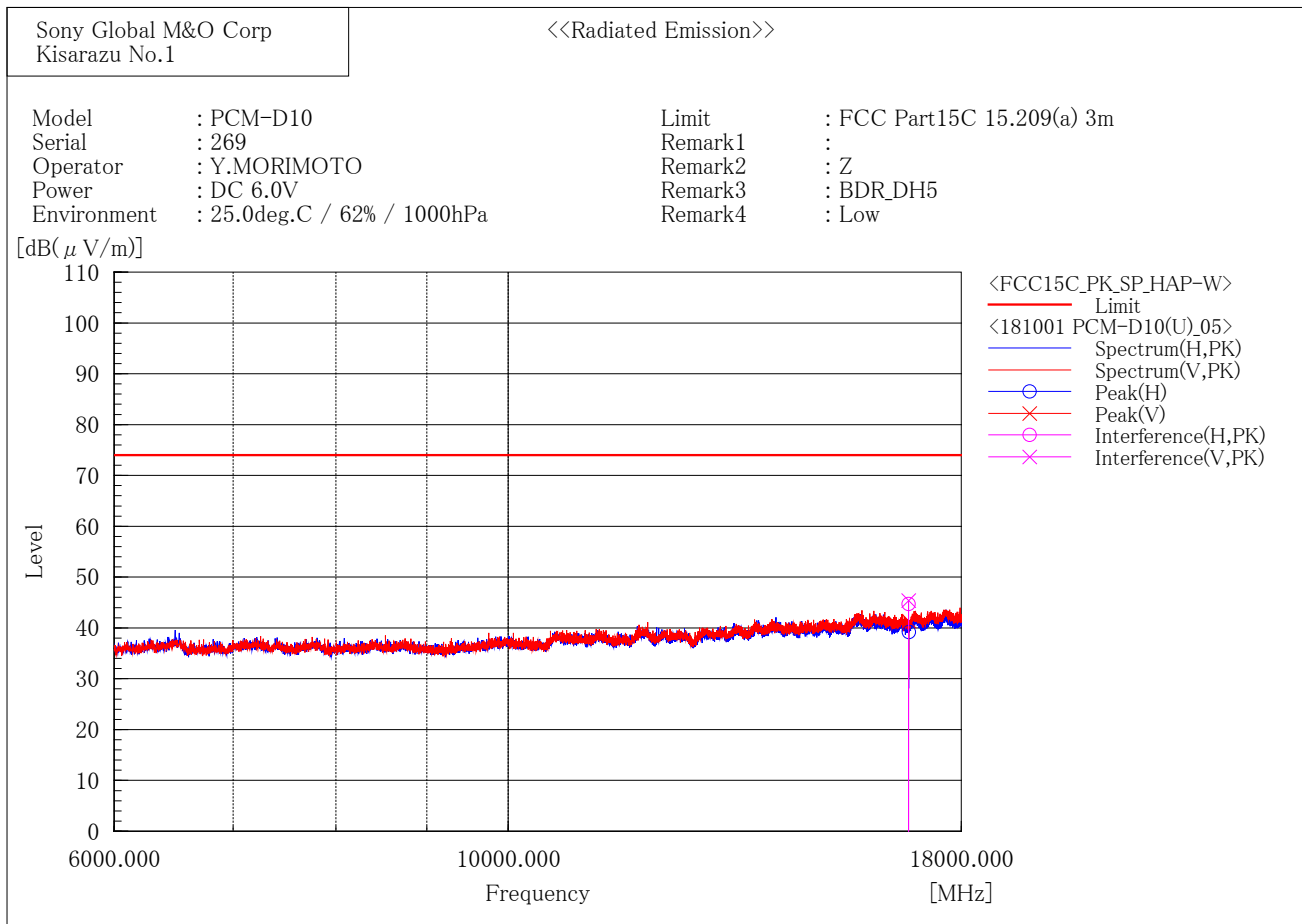
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	32.1	3.3	35.4	54.0	18.6	432.0	26.0

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	32.7	3.3	36.0	54.0	18.0	132.6	337.6

[BDR / 2402 MHz]



Final Result

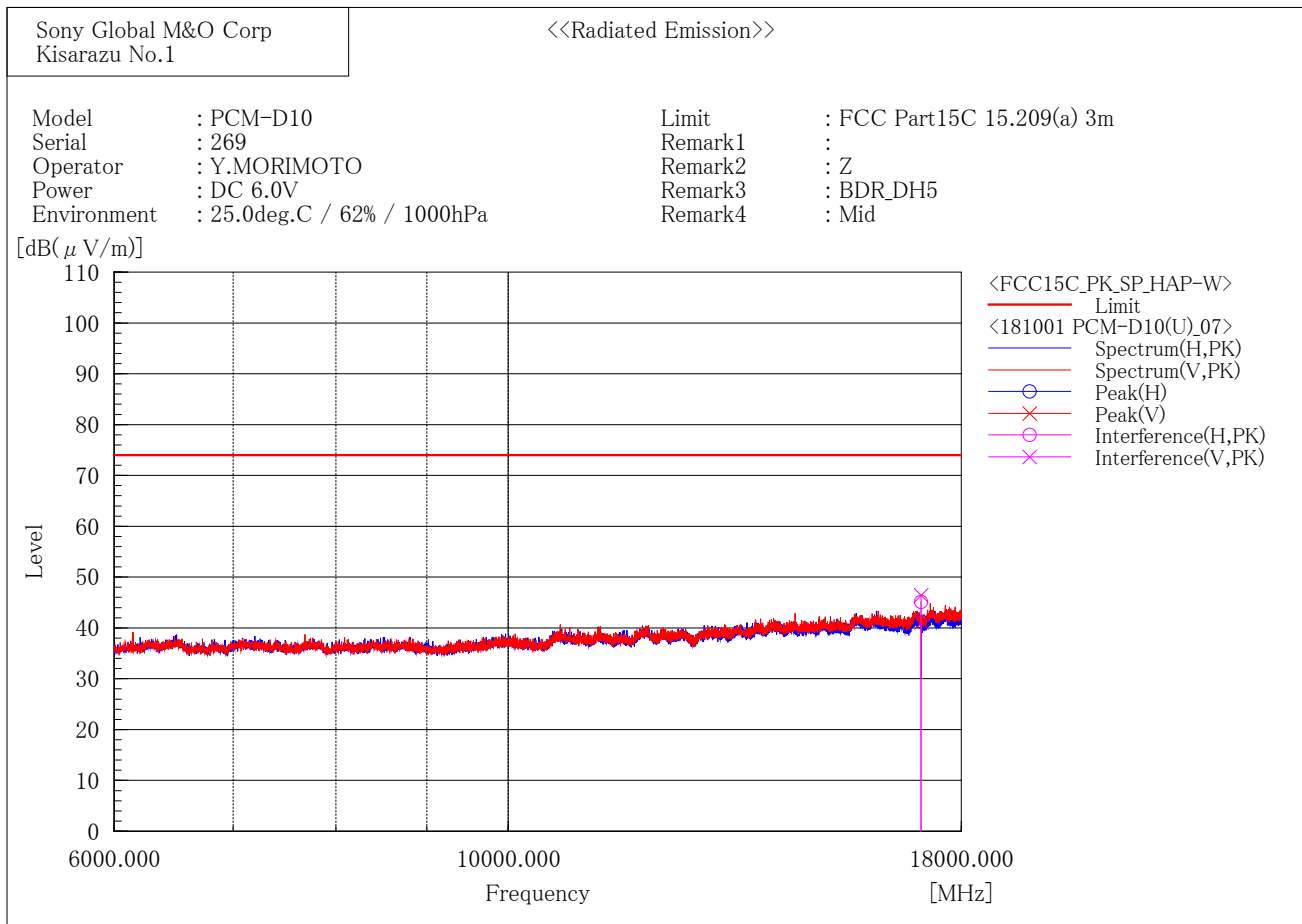
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	43.3	1.4	44.7	74.0	29.3	142.8	187.9

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	44.0	1.4	45.4	74.0	28.6	100.0	163.1

[BDR / 2441 MHz]



Final Result

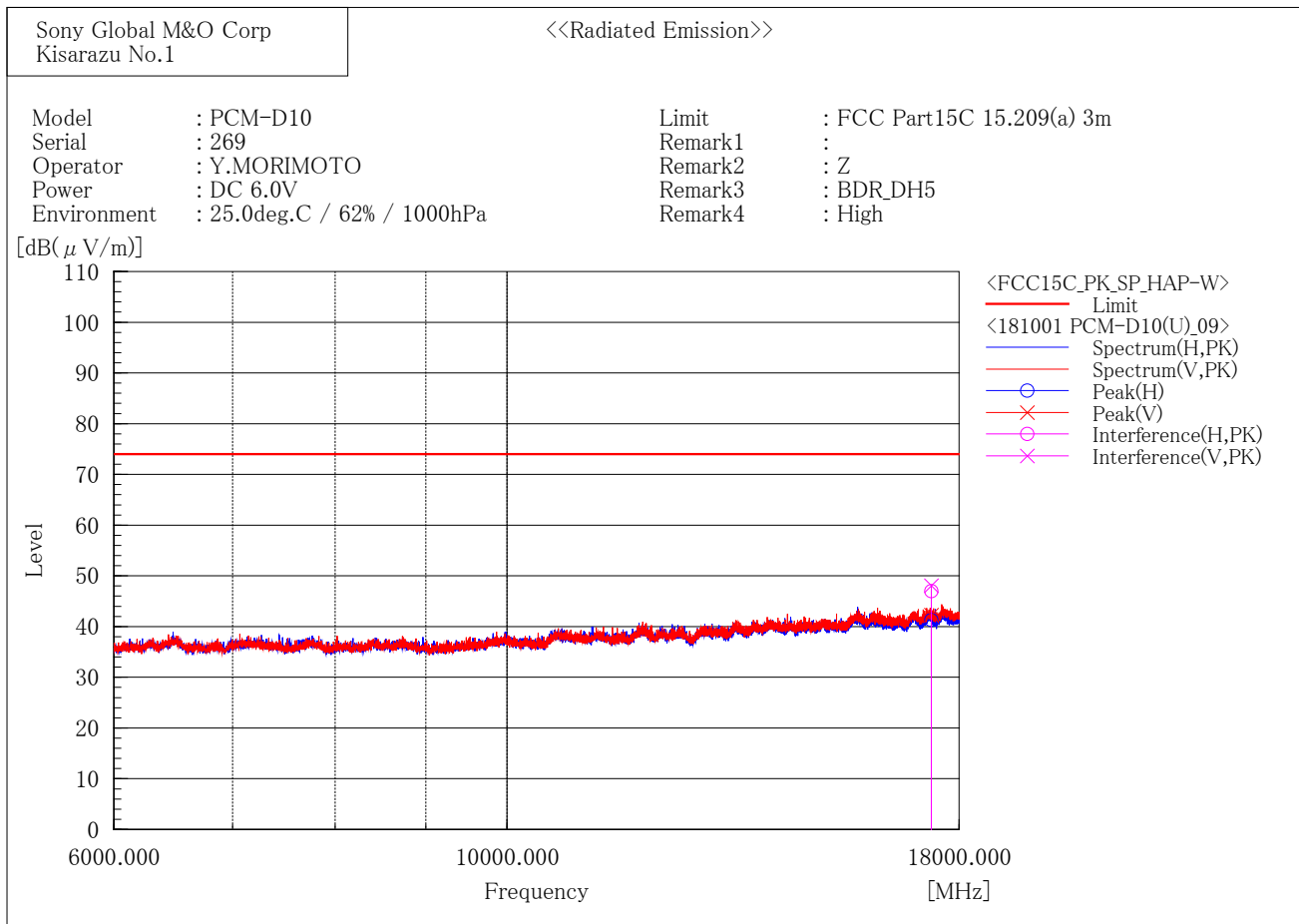
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	42.0	3.1	45.1	74.0	28.9	292.5	356.0

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	43.3	3.1	46.4	74.0	27.6	336.0	240.3

[BDR / 2480 MHz]



Final Result

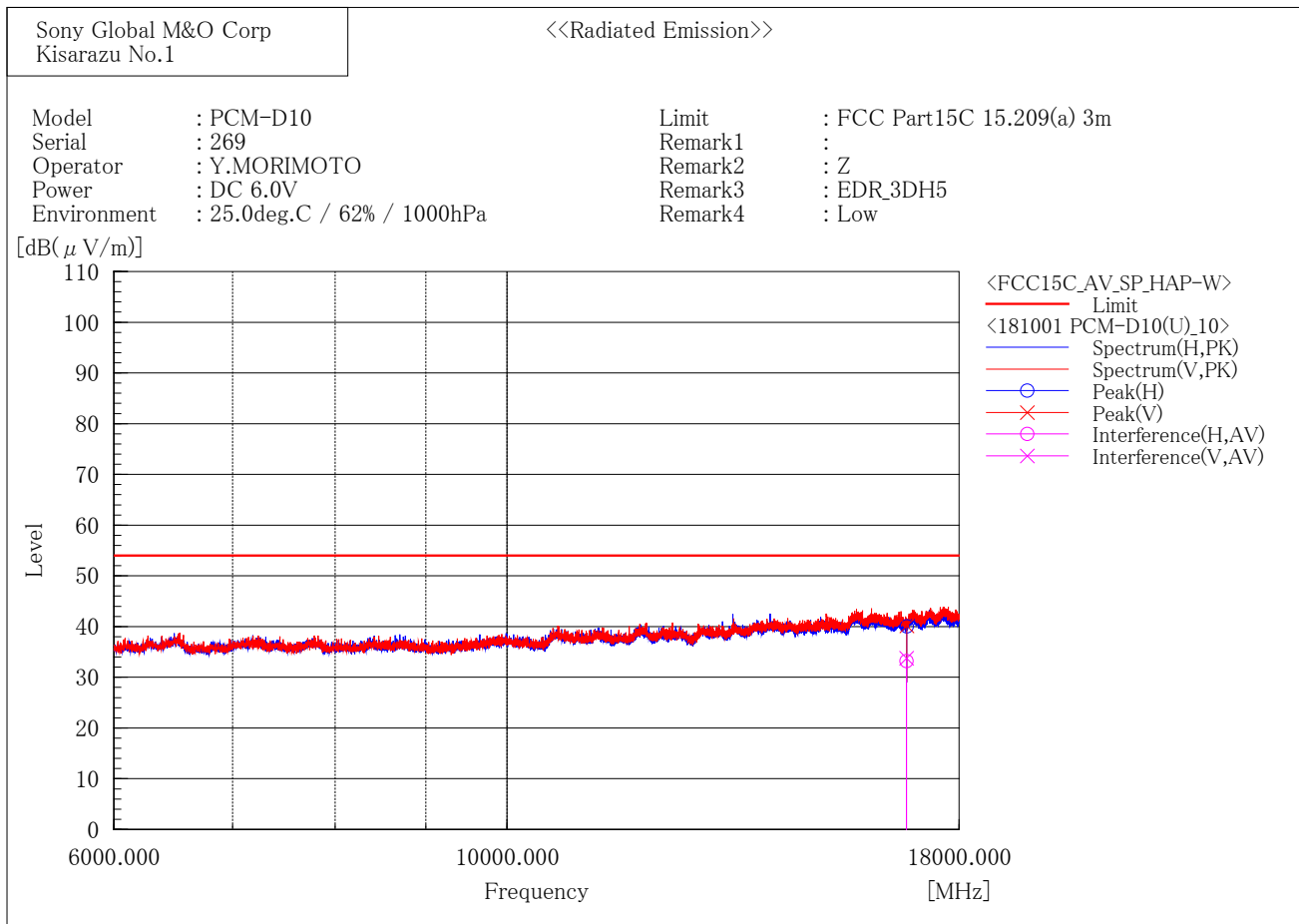
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	43.7	3.3	47.0	74.0	27.0	432.0	24.0

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	44.8	3.3	48.1	74.0	25.9	132.6	337.6

[EDR / 2402 MHz]



Final Result

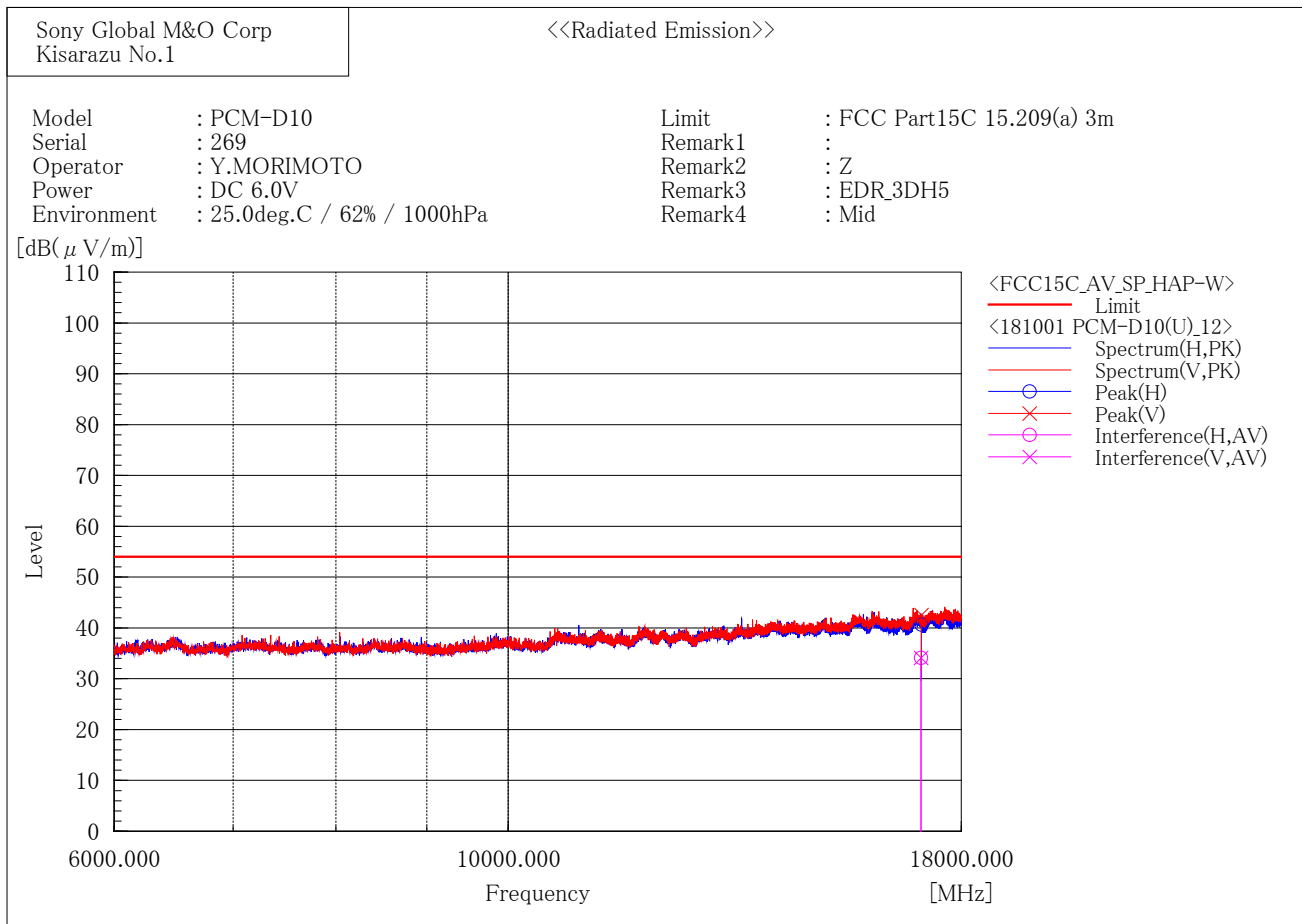
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	31.8	1.4	33.2	54.0	20.8	388.7	58.3

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	32.4	1.4	33.8	54.0	20.2	108.4	137.8

[EDR / 2441 MHz]



Final Result

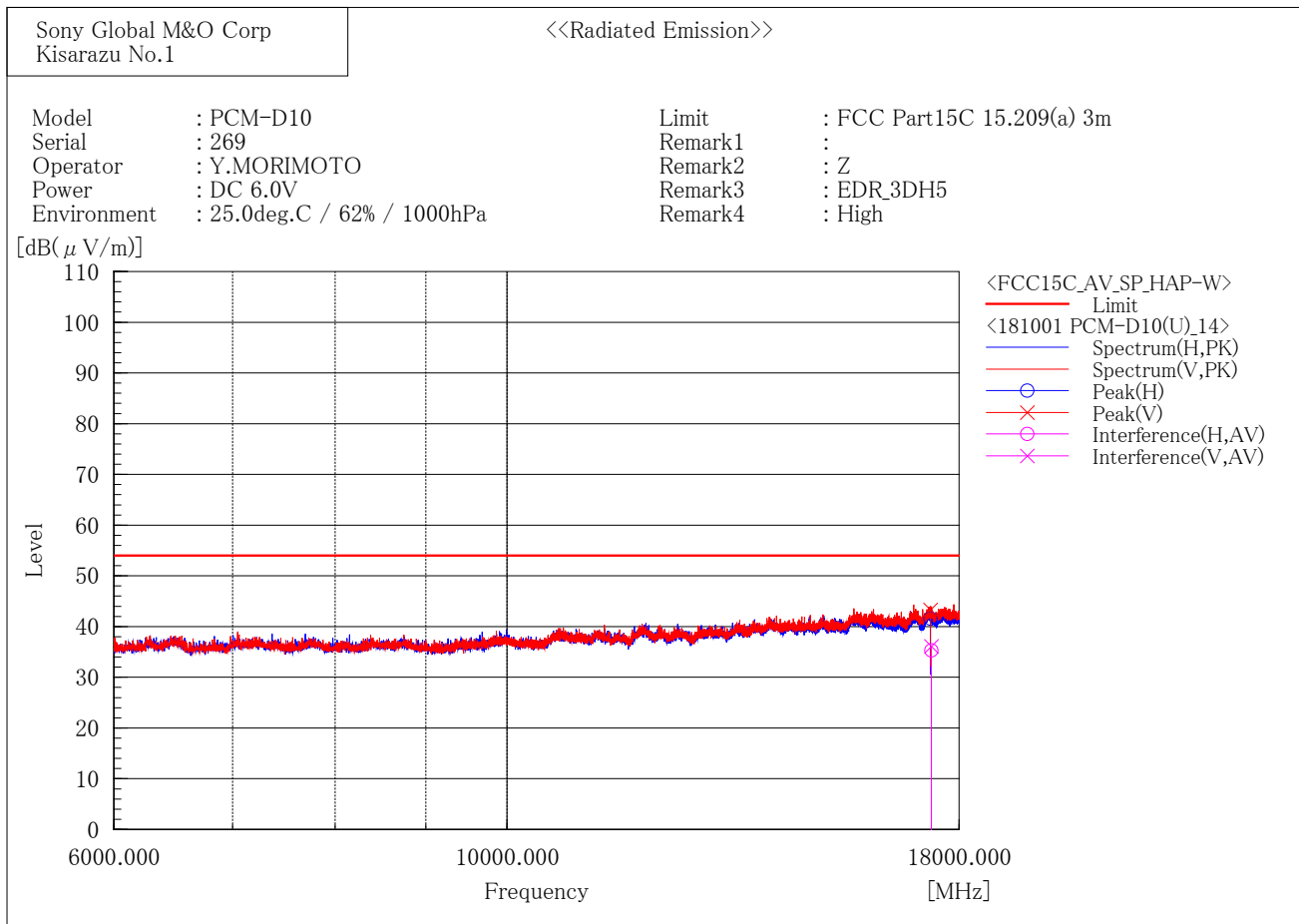
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	31.0	3.1	34.1	54.0	19.9	222.9	147.0

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	31.0	3.1	34.1	54.0	19.9	226.2	313.1

[EDR / 2480 MHz]



Final Result

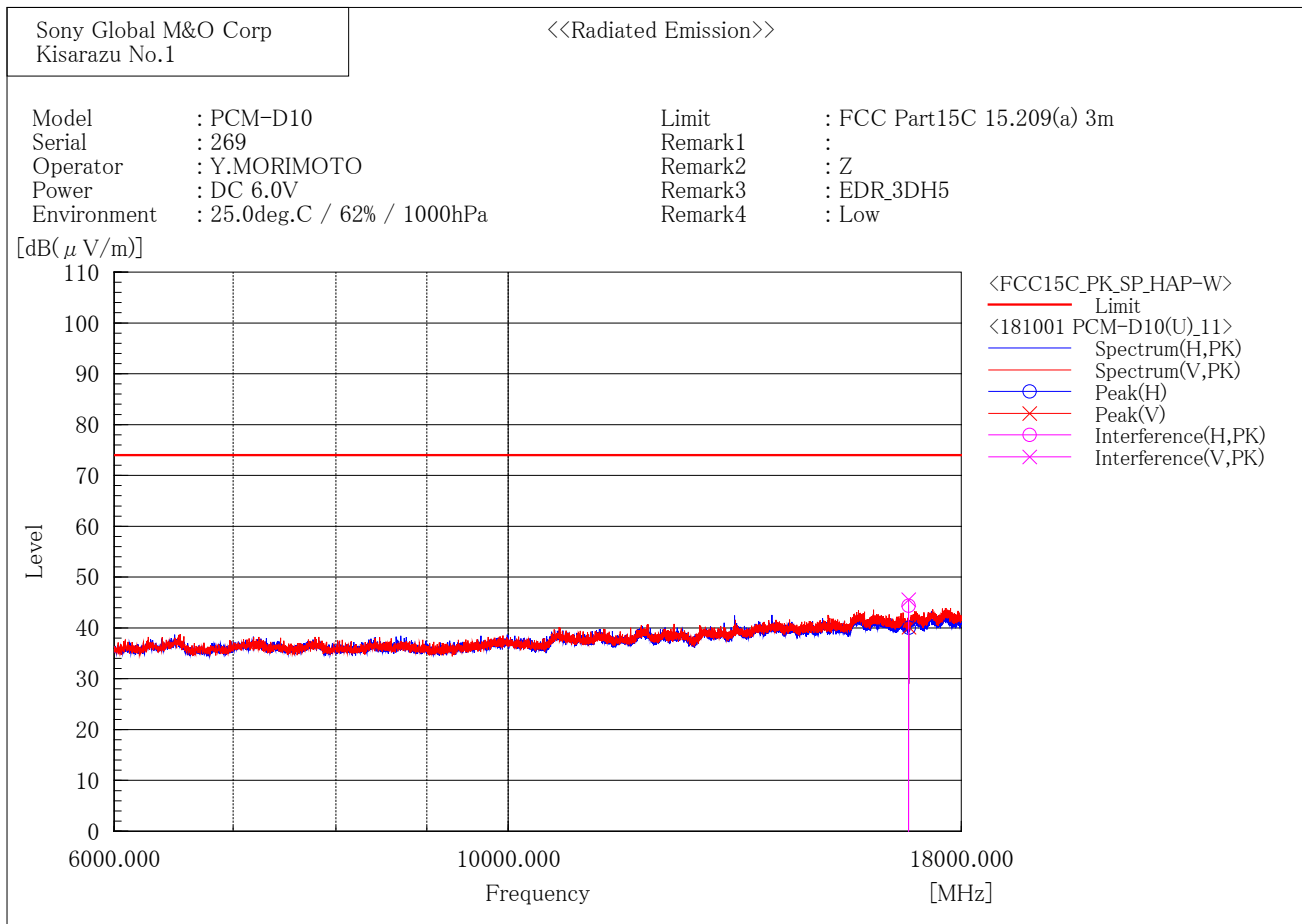
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	32.0	3.3	35.3	54.0	18.7	381.1	265.0

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	32.8	3.3	36.1	54.0	17.9	100.0	255.3

[EDR / 2402 MHz]



Final Result

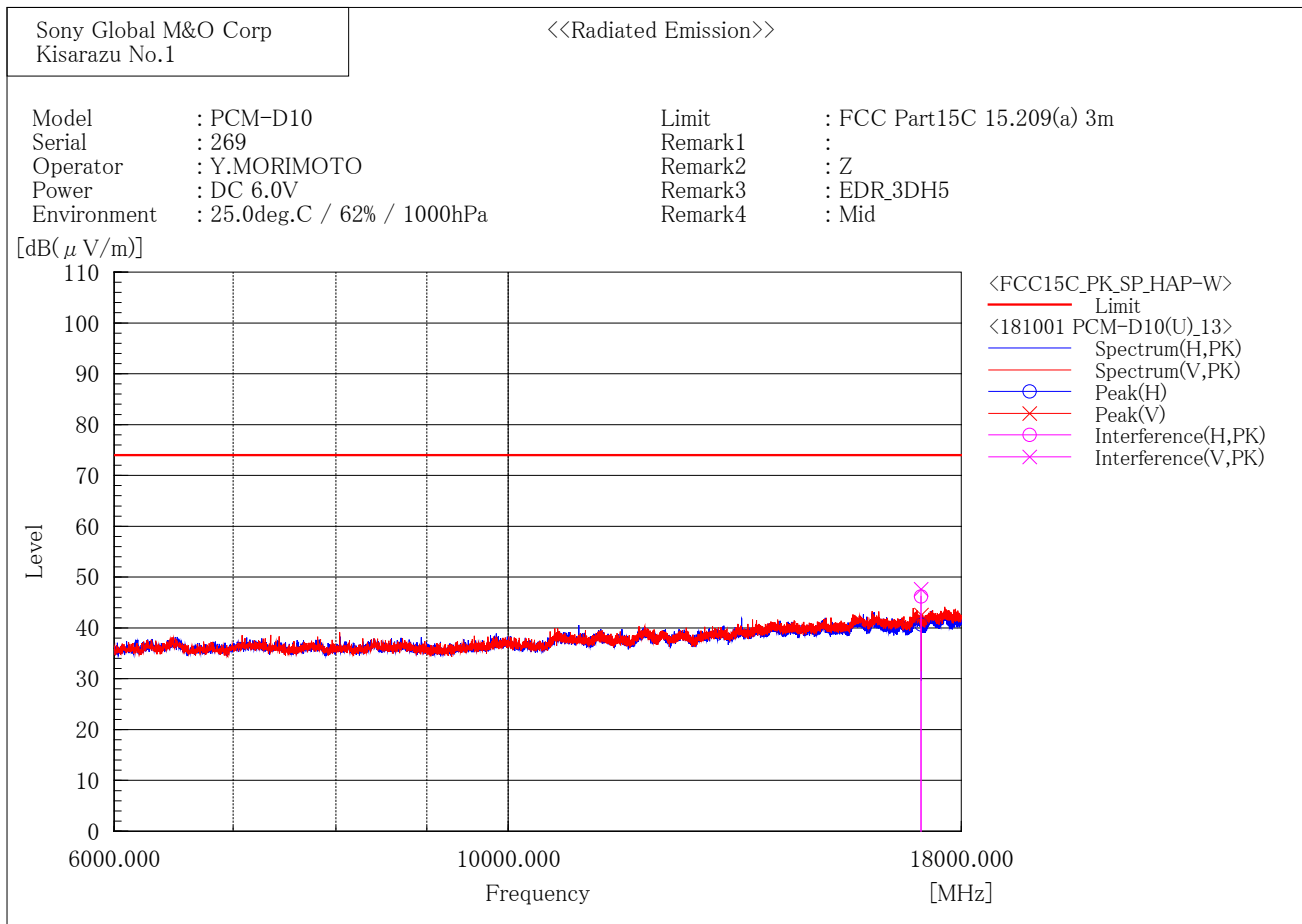
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	43.0	1.4	44.4	74.0	29.6	388.7	58.3

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	16814.000	44.2	1.4	45.6	74.0	28.4	108.4	135.7

[EDR / 2441 MHz]



Final Result

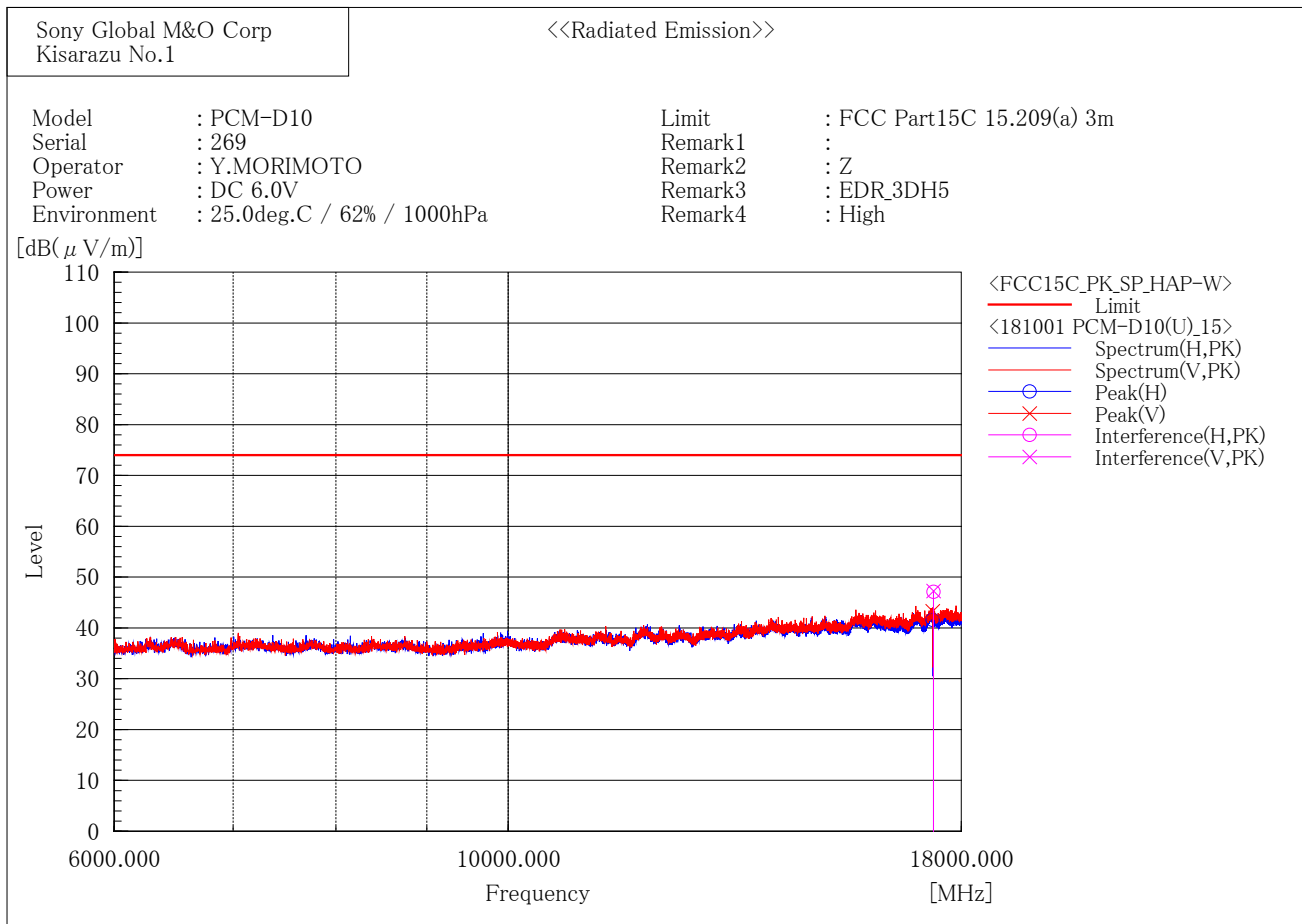
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	43.1	3.1	46.2	74.0	27.8	222.9	149.1

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17087.000	44.5	3.1	47.6	74.0	26.4	226.2	313.1

[EDR / 2480 MHz]



Final Result

--- Horizontal Polarization (PK)---

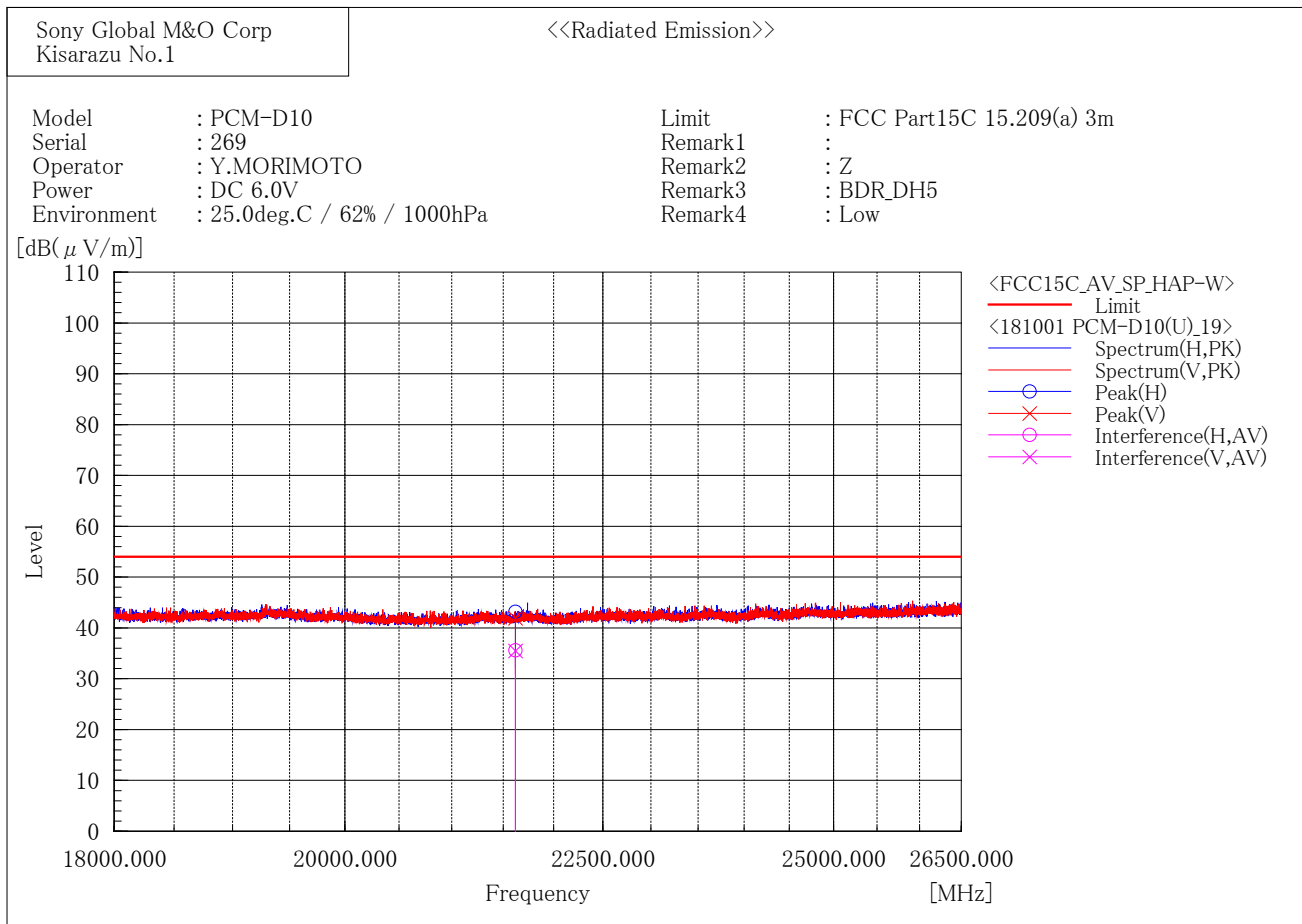
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	43.8	3.3	47.1	74.0	26.9	381.1	265.0

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	17360.000	44.0	3.3	47.3	74.0	26.7	100.0	257.1

18 GHz to 26.5 GHz

[BDR / 2402 MHz]



Final Result

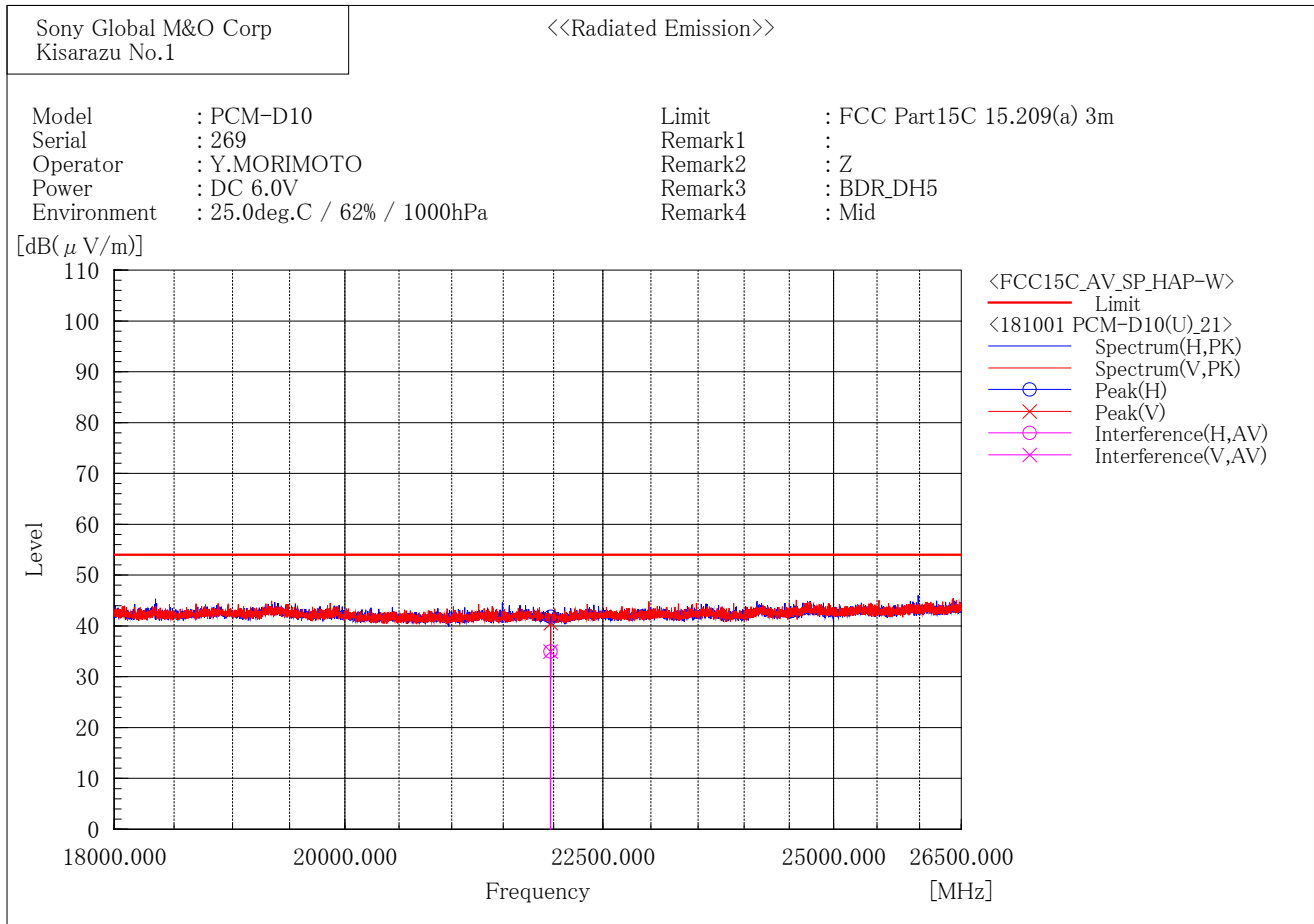
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21618.000	31.4	4.2	35.6	54.0	18.4	365.5	239.1

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21619.044	31.3	4.2	35.5	54.0	18.5	119.8	147.7

[BDR / 2441 MHz]



Final Result

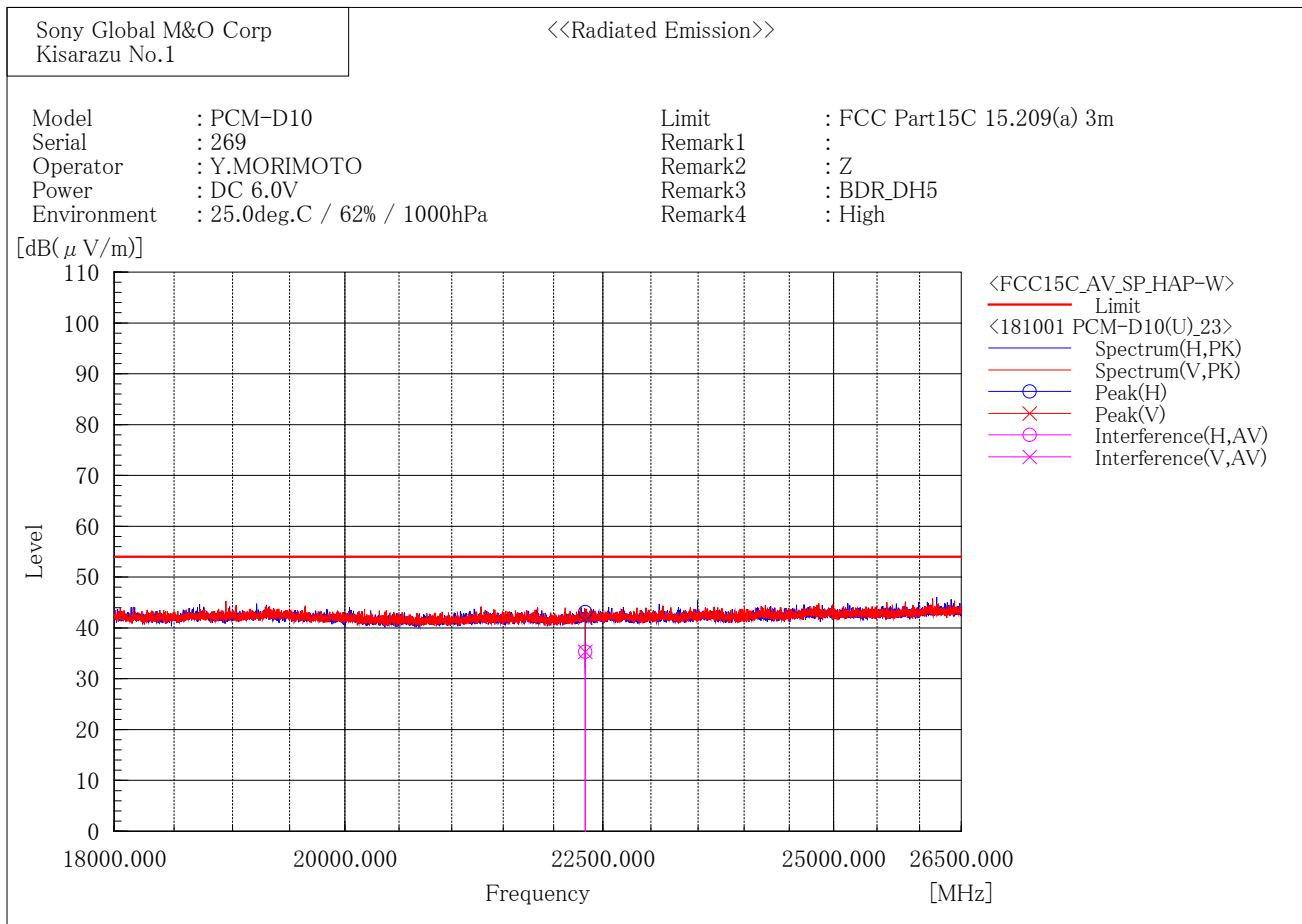
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	31.0	4.0	35.0	54.0	19.0	271.0	220.1

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	31.0	4.0	35.0	54.0	19.0	100.0	224.1

[BDR / 2480 MHz]



Final Result

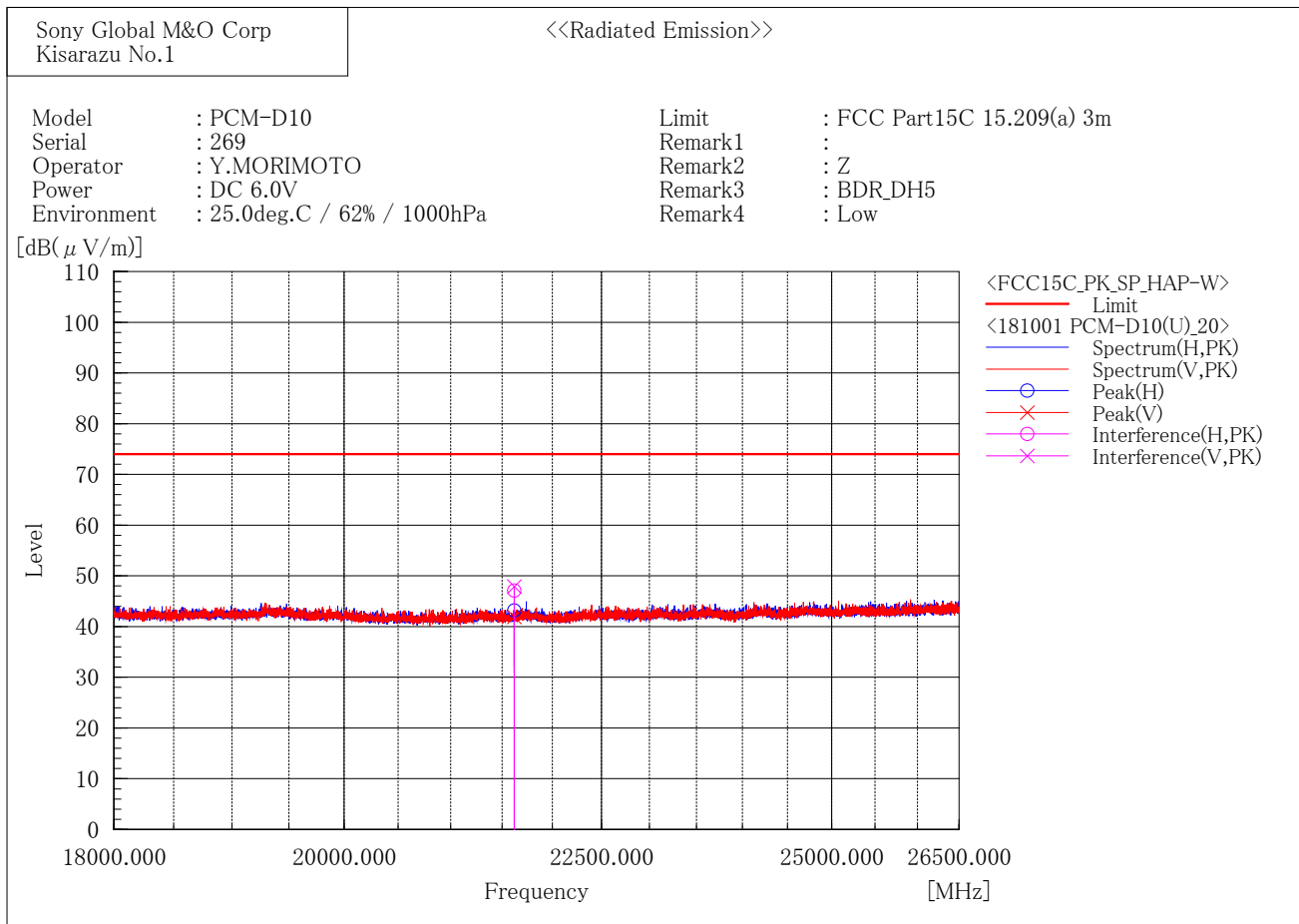
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	31.3	4.0	35.3	54.0	18.7	156.7	322.5

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	31.3	4.0	35.3	54.0	18.7	228.7	116.7

[BDR / 2402 MHz]



Final Result

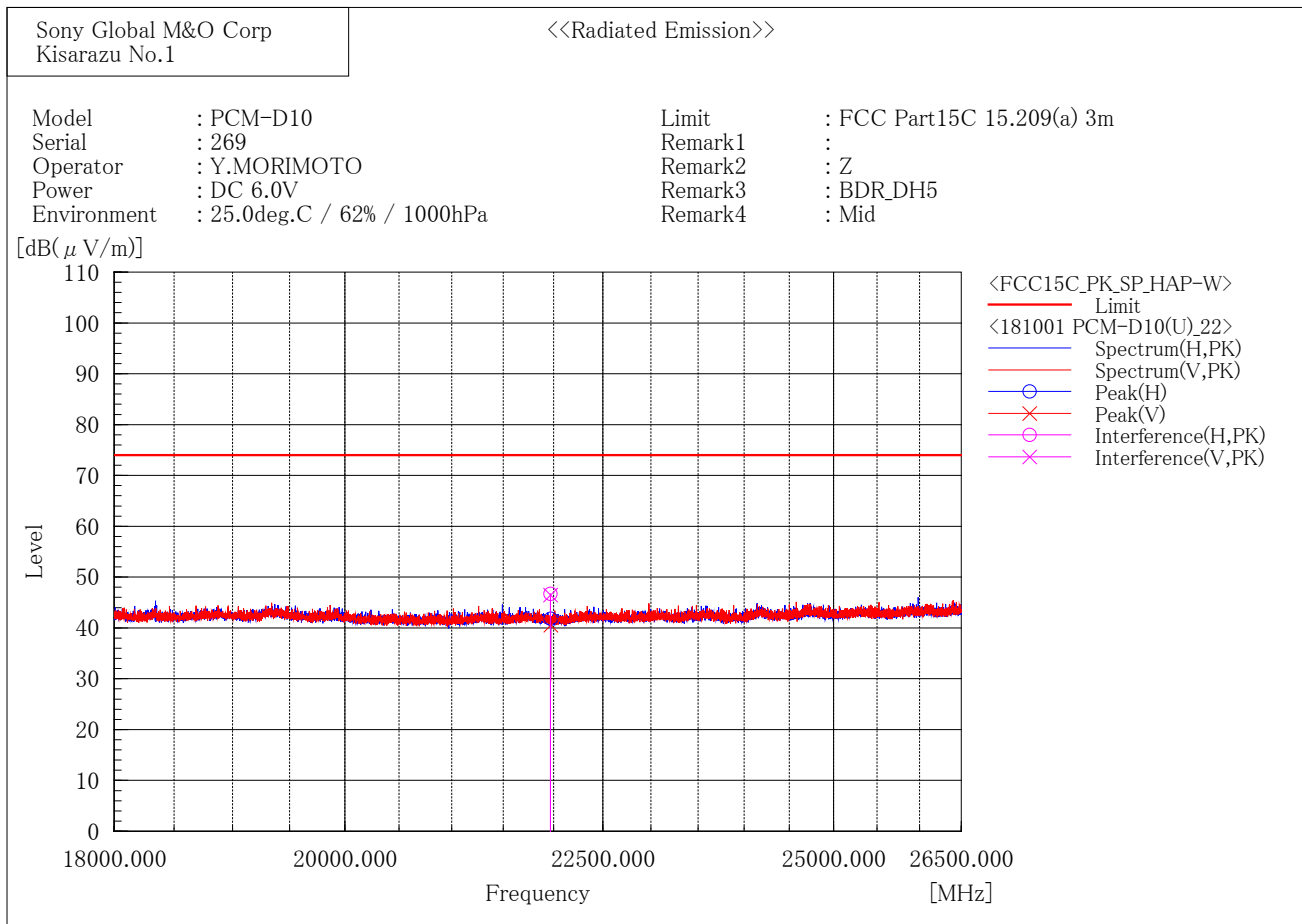
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21618.000	42.9	4.2	47.1	74.0	26.9	365.5	237.0

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21618.000	43.7	4.2	47.9	74.0	26.1	119.8	147.7

[BDR / 2441 MHz]



Final Result

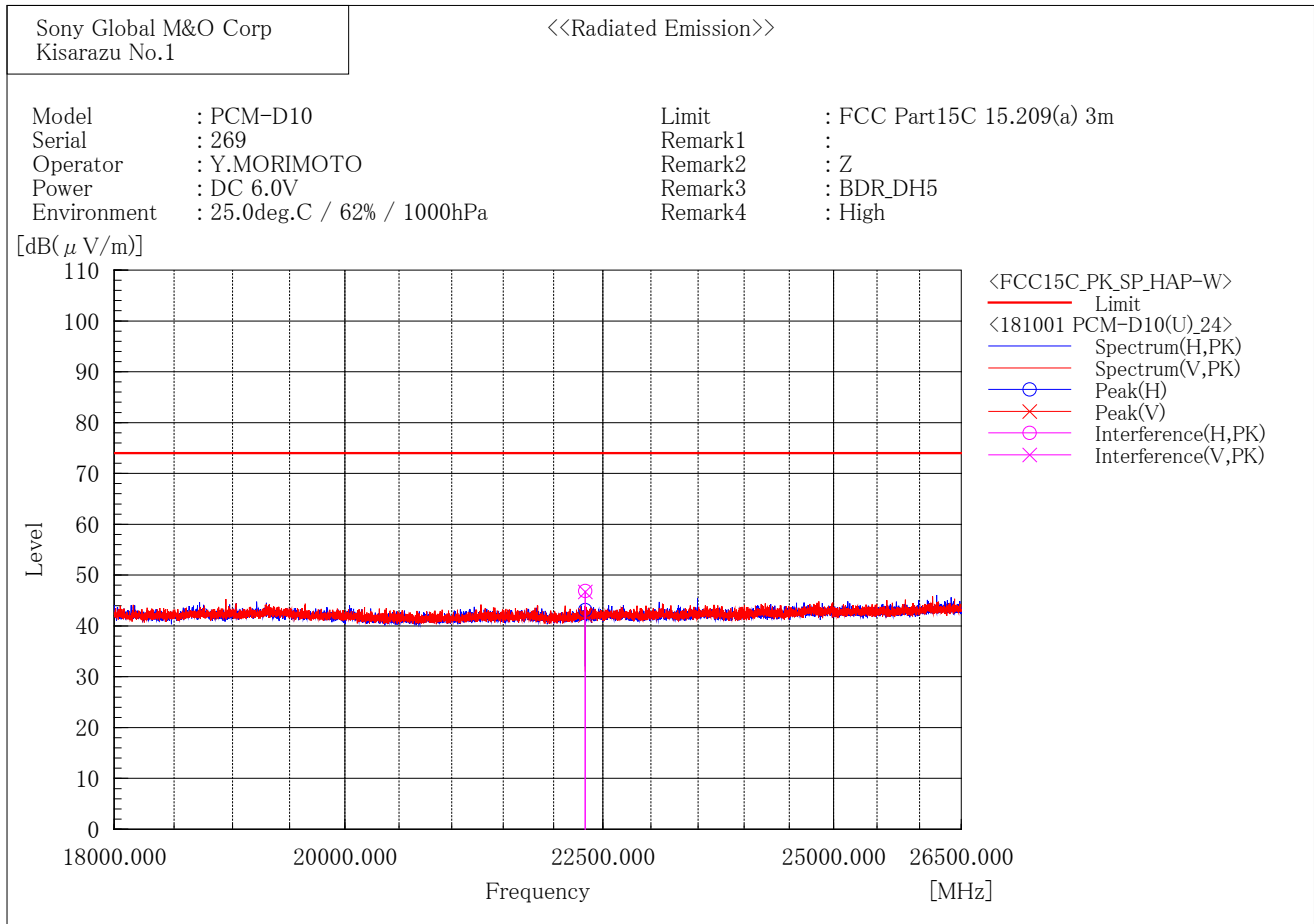
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	42.7	4.0	46.7	74.0	27.3	271.0	220.1

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	42.5	4.0	46.5	74.0	27.5	100.0	222.8

[BDR / 2480 MHz]



Final Result

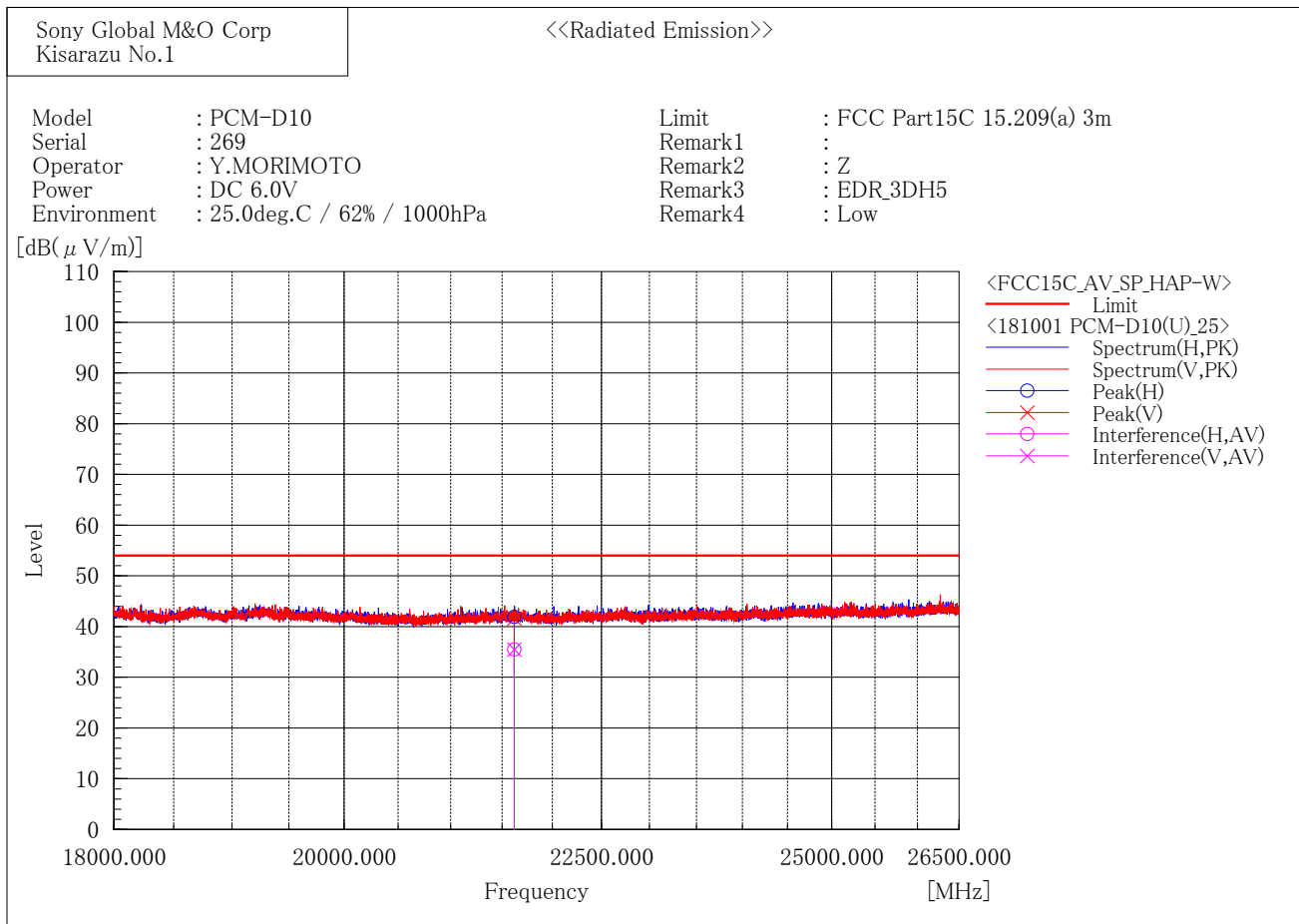
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	42.9	4.0	46.9	74.0	27.1	156.7	324.6

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	42.7	4.0	46.7	74.0	27.3	228.7	116.7

[EDR / 2402 MHz]



Final Result

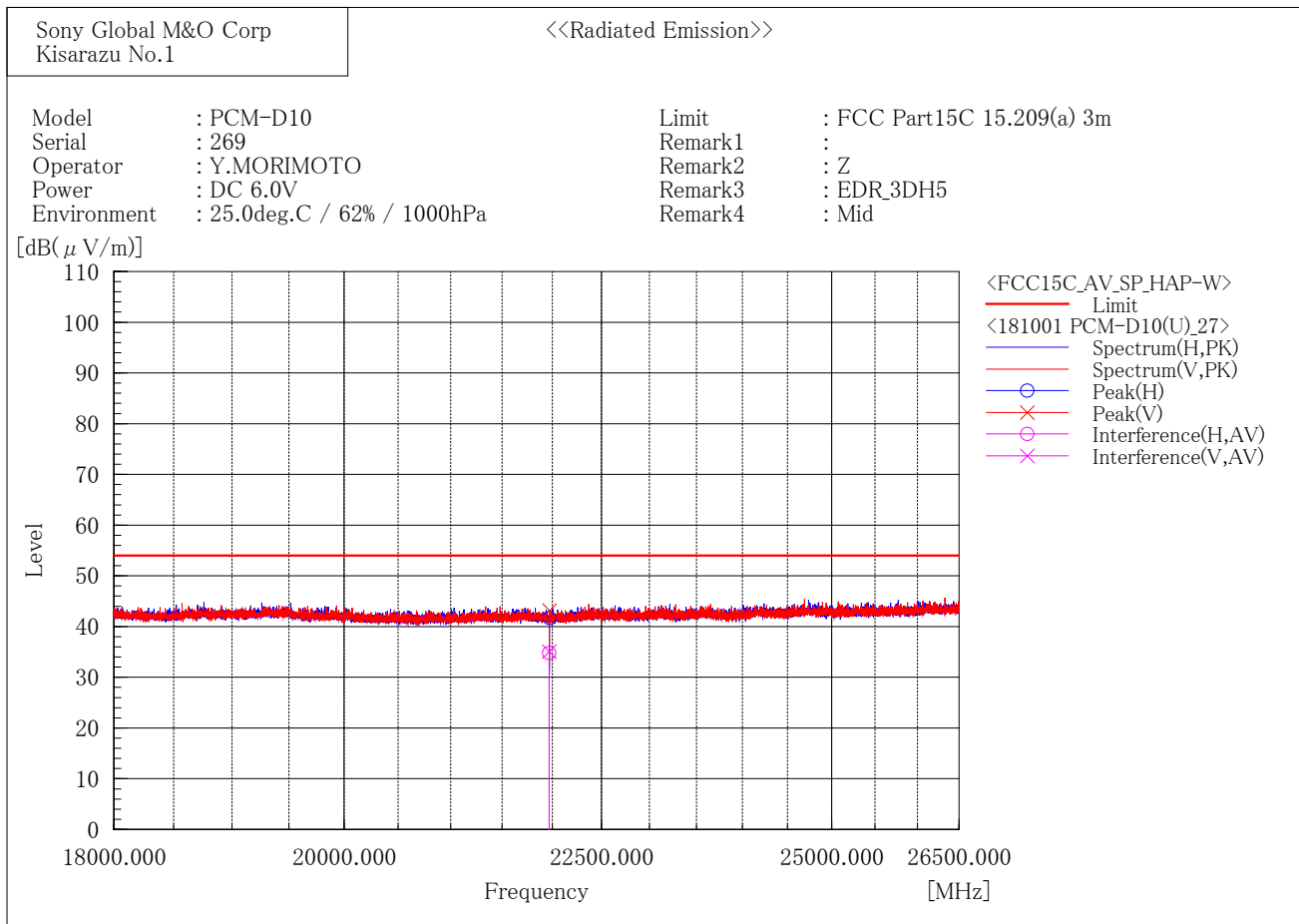
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21618.000	31.3	4.2	35.5	54.0	18.5	257.6	295.8

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21618.000	31.3	4.2	35.5	54.0	18.5	413.9	160.9

[EDR / 2441 MHz]



Final Result

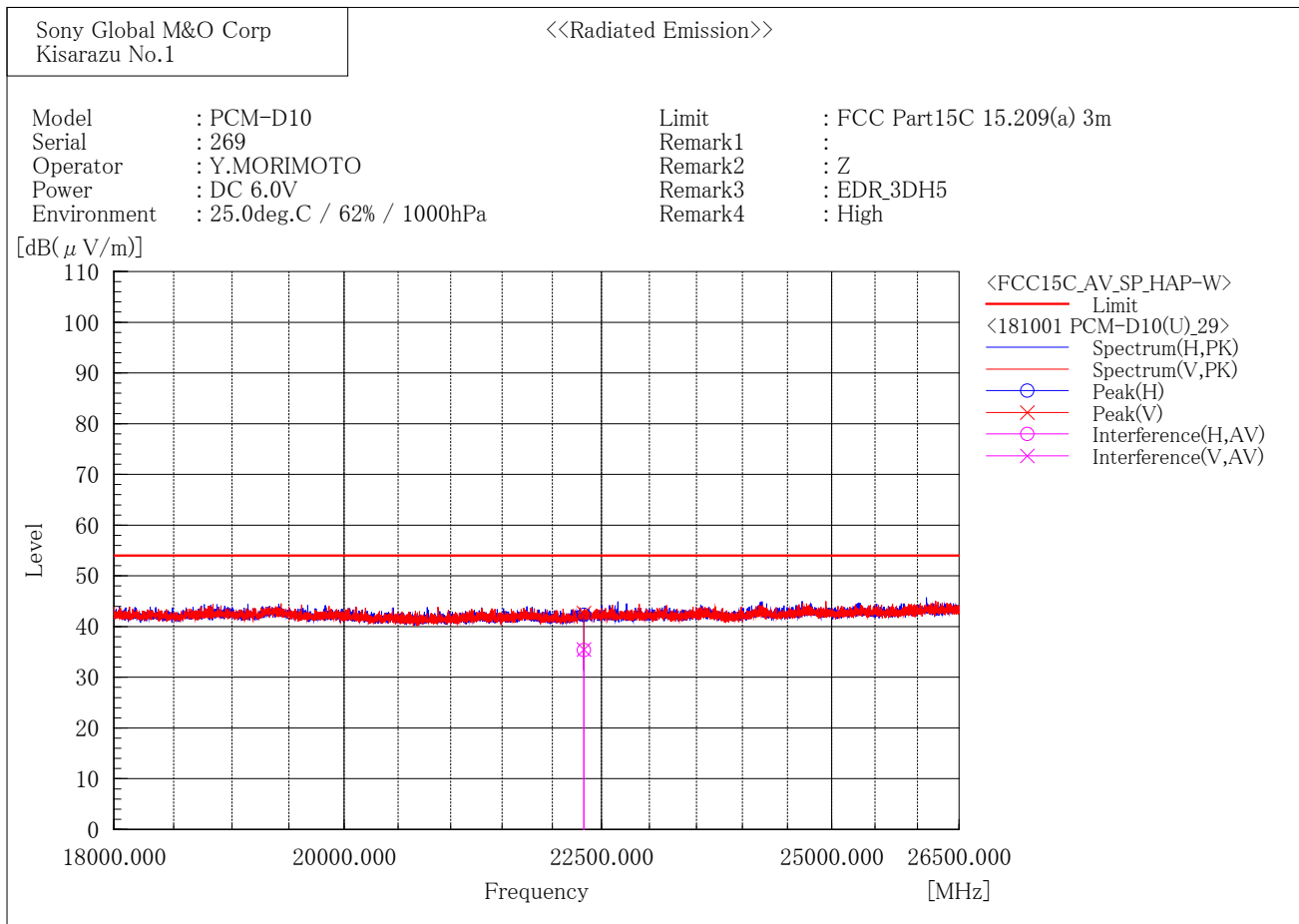
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	30.8	4.0	34.8	54.0	19.2	125.1	255.6

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	31.1	4.0	35.1	54.0	18.9	431.0	162.4

[EDR / 2480 MHz]



Final Result

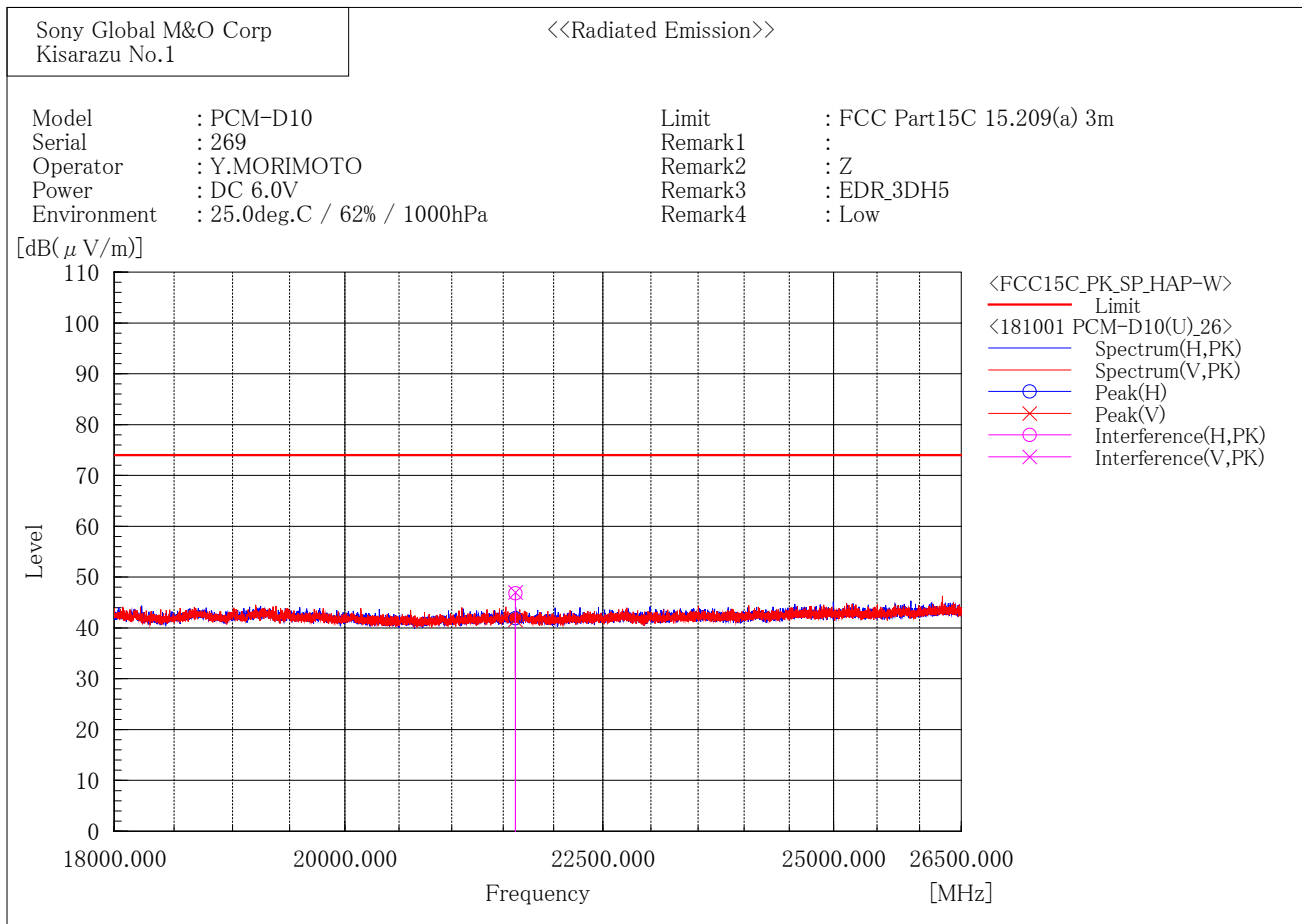
--- Horizontal Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	31.4	4.0	35.4	54.0	18.6	302.1	208.9

--- Vertical Polarization (AV)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	31.5	4.0	35.5	54.0	18.5	383.1	320.6

[EDR / 2402 MHz]



Final Result

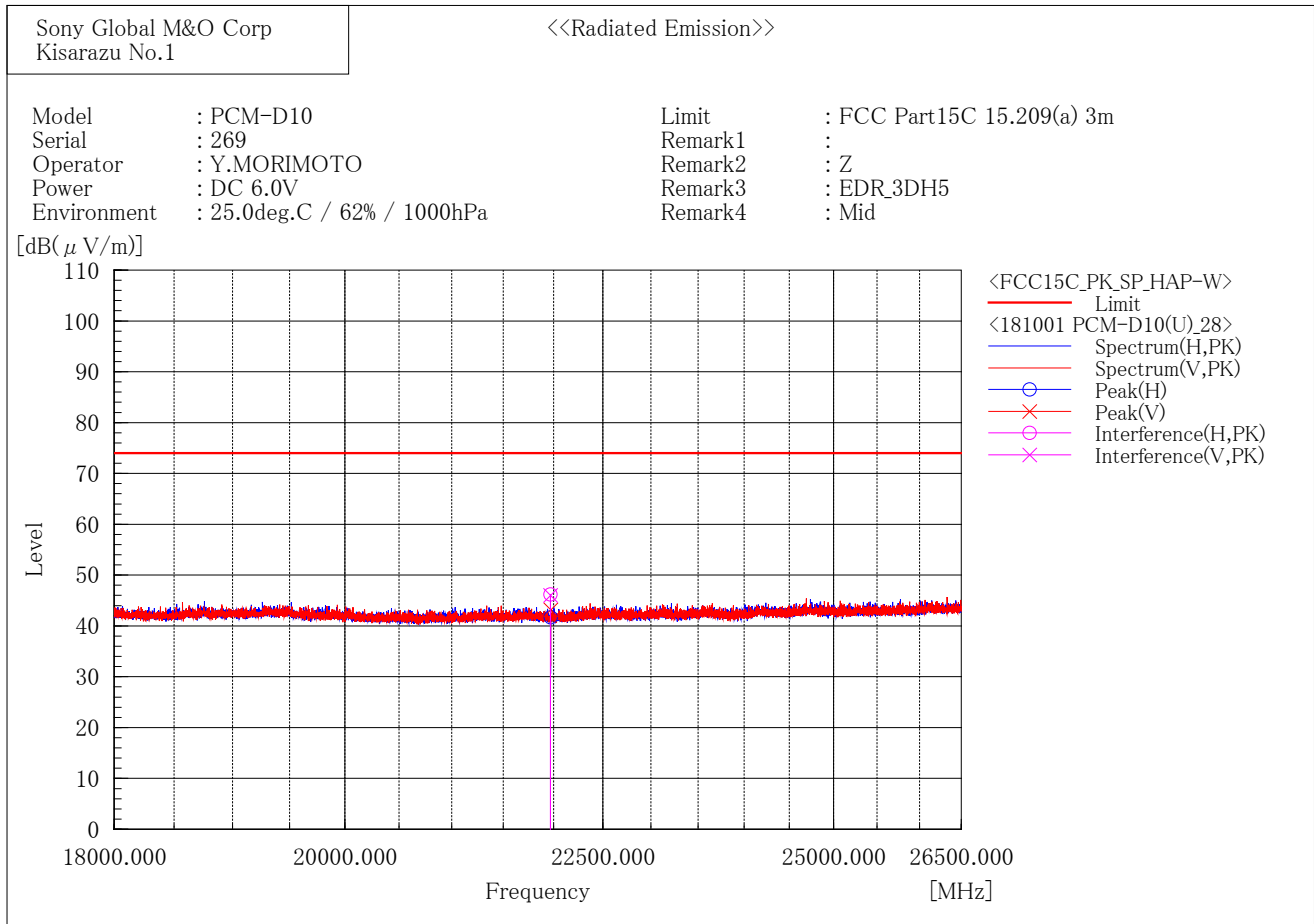
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21618.000	42.6	4.2	46.8	74.0	27.2	257.6	295.8

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21618.000	42.8	4.2	47.0	74.0	27.0	413.9	162.8

[EDR / 2441 MHz]



Final Result

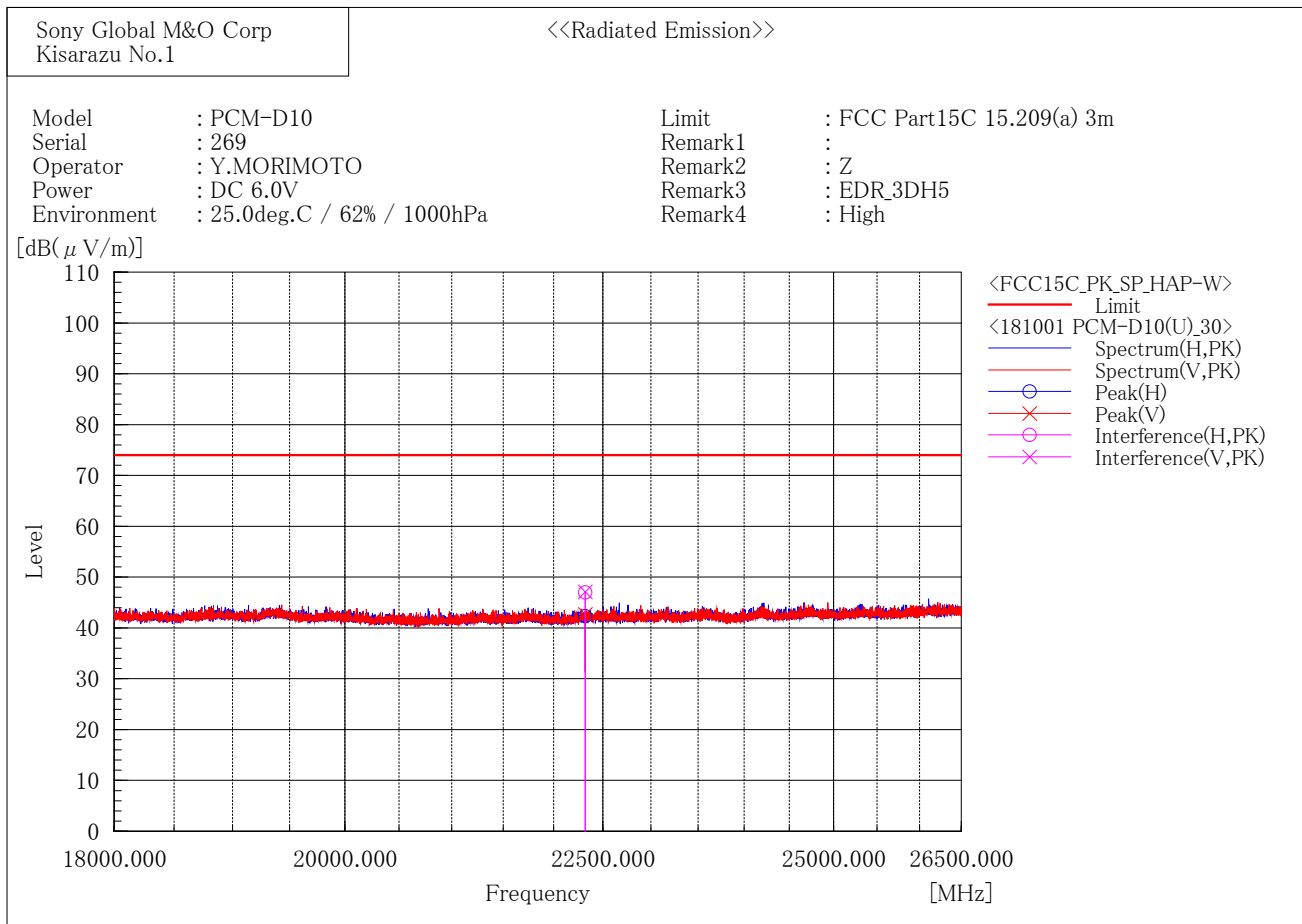
--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	42.2	4.0	46.2	74.0	27.8	125.1	253.5

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	21969.000	42.0	4.0	46.0	74.0	28.0	431.0	162.4

[EDR / 2480 MHz]



Final Result

--- Horizontal Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	43.0	4.0	47.0	74.0	27.0	302.1	208.9

--- Vertical Polarization (PK)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	22320.000	43.1	4.0	47.1	74.0	26.9	383.1	318.5

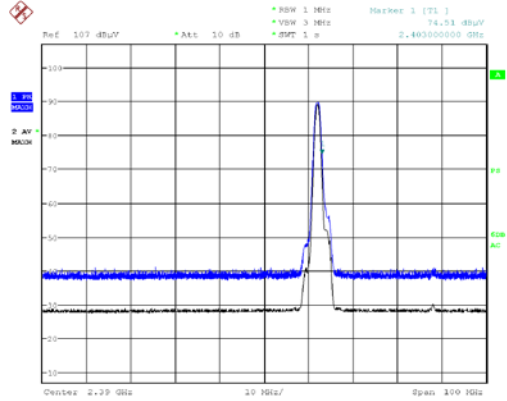
2.4 GHz Restricted-Band Edge (Plot data)

These plot data show peak (trace blue) and average (trace black) spectrum for worst case emissions in the restricted-band edges. (Restricted band edges: below 2390 MHz and above 2483.5 MHz)

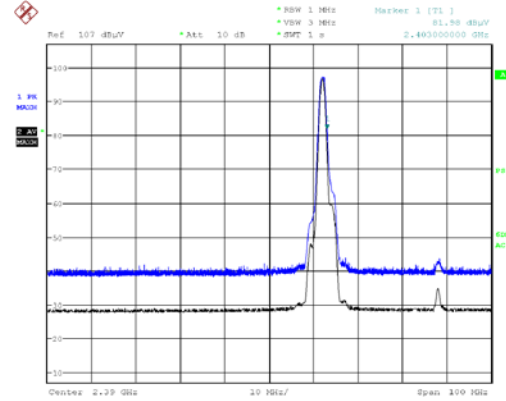
The result of the final radiated spurious emissions measurement refers in previous pages.

[BDR / 2402 MHz]

Horizontal

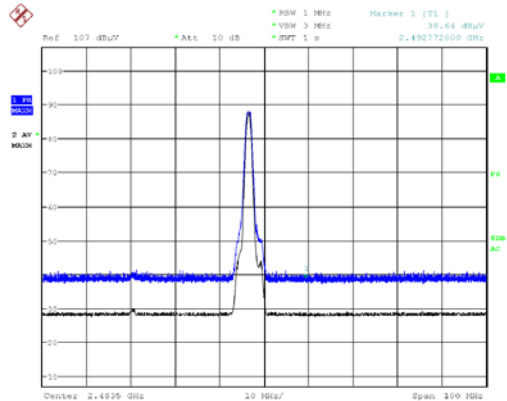


Vertical

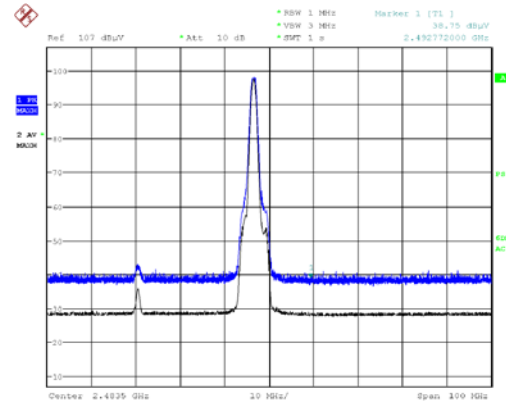


[BDR / 2480 MHz]

Horizontal

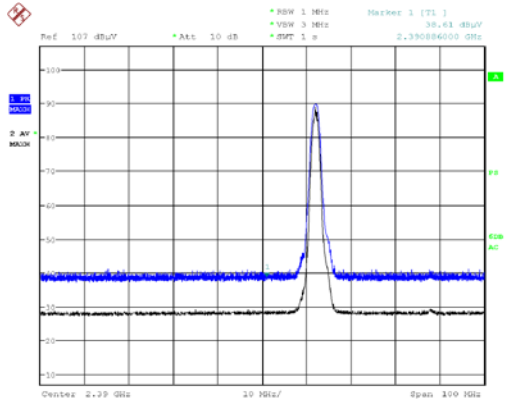


Vertical

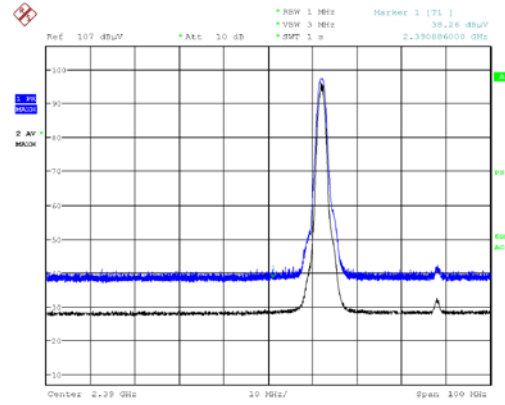


[EDR / 2402 MHz]

Horizontal

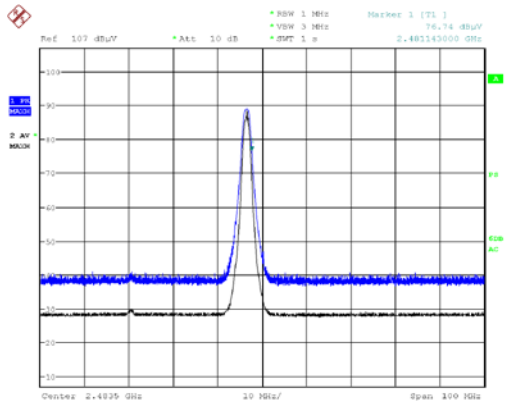


Vertical

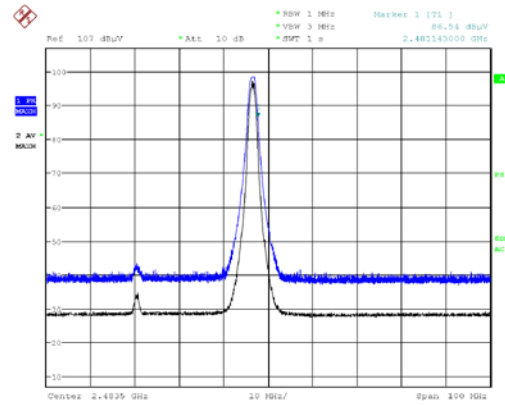


[EDR / 2480 MHz]

Horizontal



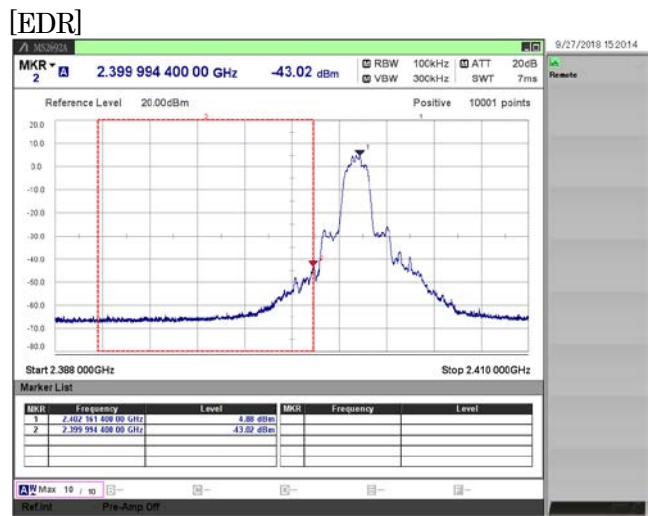
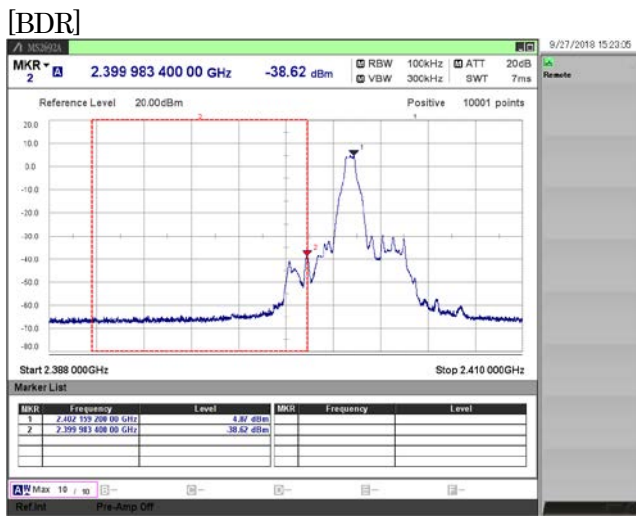
Vertical



3.8. Conducted Spurious Emissions for Band Edge

- 1) Ambient temperature : 22.0 deg.C
- 2) Relative humidity : 63.5 %
- 3) Date of measurement : September 27, 2018
- 4) Measured by : M.KOUGA
- 5) Operating mode : Transmitting mode

Mode		Channel [MHz]	Frequency [MHz]	Reading(PK) [dBm]	C.F. [dB]	Result(PK) [dBm]	Limit [dBm]	Margin [dB]
BDR	DH5	2402	2402.16	4.87	0.58	5.45	-	-
			2399.98	-38.62	0.58	-38.04	-14.6	23.49
EDR	3DH5	2402	2402.16	4.88	0.58	5.46	-	-
			2399.99	-43.02	0.58	-42.44	-14.5	27.90



4. Method of Calculation

4.1. AC Power-line Conducted Emissions

Method of calculation : Software
 Software Name : EP5/ CE
 Software Version : Ver5.0.0

Test Result [dBuV] = Meter Reading [dBuV] + C.F. [dB]

Note (a) Meter Reading : Reading of the EMI test receiver.
 (b) C.F. : System Loss + Correction Factor of LISN

4.2. Time of Occupancy (Dwell Time)

Method of calculation : Software
 Software Name : SW-0308
 Software Version : Ver.3.3

Test Result [msec] = Dwell Time [msec] * Cycle [time] * 31.6 [sec] / Sweep Time [sec]

Note (a) Dwell Time : Transmission duration of 1 hopping.
 (b) Cycle : Number of hopping appearances on the spectrum analyzer.
 (c) 31.6 : $0.4 [\text{sec}] * \text{Number of Hopping Frequencies (79)}$
 (d) Sweep Time : Sweep time settings on the spectrum analyzer.

4.3. Maximum Peak Conducted Output Power

Method of calculation : Software
 Software Name : SW-0308
 Software Version : Ver.3.3

Test Result (PK) [dBm] = Meter Reading [dBm] + C.F. [dB]

Test Result (AV) [dBm] = Meter Reading [dBm] + C.F. [dB] + Duty Factor [dB]

Duty Cycle [%] = $T (\text{Tx ON Time}) / T_{(\text{on+off})} (\text{Tx ON Time} + \text{Tx OFF Time}) * 100$

Note (a) Meter Reading : Reading of the power meter
 (b) C.F. : System Cable Loss + EUT Cable Loss
 (c) Duty Factor : $10 \log \{ (\text{Tx ON Time} + \text{Tx OFF Time}) / (\text{Tx ON Time}) \}$

4.4. Radiated Spurious Emissions

Method of calculation : Software
Software Name : V-Scan
Software Version : Ver.4.0.30

Test Result [dBuV/ m] = Meter Reading [dBuV] + C.F. [dB/ m]

Note (a) Meter Reading : Reading of the EMI test receiver or the spectrum analyzer.
(b) C.F. : Antenna Factor (including Balun Loss) + System GainLoss
: Antenna Factor (including Balun Loss) + System GainLoss + 20 log (3 m/ 10 m)

4.5. Conducted Spurious Emissions for Band Edge

Method of calculation : Software
Software Name : SW-0308
Software Version : Ver.3.3

Test Result [dBm] = Meter Reading [dBm] + C.F. [dB]

Note (a) Meter Reading : Reading of the spectrum analyzer.
(b) C.F. : System Cable Loss + EUT Cable Loss

5. List of Test Equipment

All test results are traceable to the national and/or international standards.

5.1. AC Power-line Conducted Emissions

	Ctrl.#	Equipment	Model No.	Serial No.	Manufacturer	Cal.Interval	Last Cal.
x	M0575	EMI Receiver	ESCI	100161	Rohde & Schwarz	12 months	18.04.18
x	CS0043	4th Site CE Cable SYSTEM	-	-	-	12 months	18.06.01
x	M0664	6dB Attenuator	6806.01A	N/A	HUBER+SUHNER AG	12 months	18.06.01
x	M0619	HIGH FREQUENCY FUSE	MP612A	N/A	Anritsu	12 months	18.06.01
x	M0514	LISN	ENV216	100424	Rohde & Schwarz	12 months	18.04.17
-	M0505	LISN	ENV216	100425	Rohde & Schwarz	12 months	18.04.17
-	M2289	LISN	KNW-407	8-1182-12	Kyoritsu	12 months	18.04.23
-	M2290	LISN	KNW-242C	8-1183-1	Kyoritsu	12 months	18.04.23
-	M0153	50 ohm Terminator	CT-01	N/A	TME	12 months	18.04.17
-	M0597	50 ohm Terminator	CT-01	N/A	TME	12 months	18.08.02
-	M2292	50 ohm Terminator	T1302	N/A	Stack	12 months	18.04.23
-	M2293	50 ohm Terminator	T1302	N/A	Stack	12 months	18.04.23
x	M0690	Thermometer	AD-5640A	201304	AND	12 months	17.11.14
x	M5061	Scientific Ambient Monitor	0560 6220	39515471/801	testo	12 months	18.07.17

5.2. Antenna-port Conducted Measurements

	Ctrl.#	Equipment	Model No.	Serial No.	Manufacturer	Cal.Interval	Last Cal.
-	W0140	Spectrum Analyzer	FSU26	200717	Rohde & Schwarz	12 months	18.04.24
x	W0100	Spectrum Analyzer	MS2692A	6201338954	Anritsu	12 months	18.09.01
x	W0006	Power Meter	N1911A	MY50000295	Keysight Technologies	12 months	18.10.06
x	W0007	Power Sensor	N1922A	MY50180022	Keysight Technologies	12 months	18.10.06
-	W0029	10dB Attenuator	8493C	76549	Keysight Technologies	12 months	18.09.01
-	WC0002	RF Cable	SUCOFLEX 102	34124/2	HUBER + SUHNER	12 months	18.09.01
-	WC0003	RF Cable	SUCOFLEX 102	34127/2	HUBER + SUHNER	12 months	18.09.01
-	WC0004	RF Cable	SUCOFLEX 102	34288/2	HUBER + SUHNER	12 months	18.09.01
x	WC0005	RF Cable	SUCOFLEX 102	34287/2	HUBER + SUHNER	12 months	18.09.01
-	WC0006	RF Cable	SUCOFLEX 102	34289/2	HUBER + SUHNER	12 months	18.09.01
-	WC0007	RF Cable	SUCOFLEX 102	34286/2	HUBER + SUHNER	12 months	18.09.01
x	M0719	Thermometer	TH-321	140053	AS ONE	12 months	18.04.11

5.3. Radiated Spurious Emissions

	Ctrl.#	Equipment	Model No.	Serial No.	Manufacturer	Cal.Interval	Last Cal.
x	M0115-N	EMC Chamber for NSAANSI	10m	-	TDK	12 months	18.07.20
x	M0115-S	EMC Chamber for S-VSWR	10m	-	TDK	12 months	18.06.01
x	M0686	EMI Receiver	N9038A	MY52260113	Keysight Technologies	12 months	17.11.20
-	M0562	EMI Receiver	ESU26	100068	Rohde & Schwarz	12 months	18.07.02
-	M0959	EMI Receiver	ESU40	100041	Rohde & Schwarz	12 months	18.01.31
x	A0073	Loop Antenna	HFH2-Z2	100171	Rohde & Schwarz	12 months	17.11.01
x	A0089	Biconical Antenna	BBA9106	VHA91032835	Schwarzbeck	12 months	17.12.15
x	A0088	Log periodic Antenna	UHALP9108A1	0649	Schwarzbeck	12 months	17.12.15
x	A0064	Horn Antenna	BBHA9120D	746	Schwarzbeck	12 months	17.11.18
x	A0078	Horn Antenna	HAP06-18W	00000070	TOYO Corporation	12 months	17.11.18
x	A0058	Horn Antenna	HAP18-26W	00000016	TOYO Corporation	12 months	17.12.01
x	CS0017	N-RE Cable SYSTEM 1	-	-	-	12 months	17.11.17
x	CS0018	N-RE Cable SYSTEM 2	-	-	-	12 months	17.11.17
x	CS0045	N-3m EMF Cable SYSTEM	-	-	-	12 months	17.11.17
x	CS0074/0075	N-RE Cable SYSTEM 4	-	-	-	12 months	17.11.17
x	M0126	Step Attenuator	8494H	3837M01144	Keysight Technologies	12 months	18.06.02
x	M0752	Pre Amplifier	310N	320621	SONOMA INSTRUMENT	12 months	17.11.17
x	M0128	3dB Attenuator	8491A	53541	Keysight Technologies	12 months	17.11.17
x	M0609	3dB Attenuator	8491B	MY39265960	Keysight Technologies	12 months	17.11.17
x	M0737	GHz Filter Box	FB-G1	001	Sony Global M&O	12 months	17.11.17
x	M0687	Thermo Meter	AD-5640A	201301	A&D	12 months	17.10.06
x	M5062	Scientific Ambient Monitor	0560 6220	39515563/802	testo	12 months	18.07.17
x	RM0038	EMI Receiver	ESU40	100273	Rohde & Schwarz	12 months	17.11.27

About calibration interval

Valid until the end of the month listed in "Cal. Int." column.