

RADIO TEST REPORT

(for Bluetooth classic)

Project No. : JB-Z0495
Client : Sony Corporation
Client's Address : 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Product Name : Wireless Noise Canceling Stereo Headset
Model No. : WF-1000XM3 (Left part:WF-1000XM3L, Right part:WF-1000XM3R)
FCC ID : AK8WF1000XM3
Test Standard : 47 CFR Part 15 Subpart C
Sample Receipt Date : January 10, 2019
Test Date : February 5, 2019 to March 06, 2019
Report Date : March 14, 2019
Test Result : Complied

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A2LA 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-Z0495 (Original)	March 14, 2019	-	-

1. General Information

1.1. Description of Equipment Under Test (EUT)

General Specification

Test Sample Condition : ☐ Prototype ☒ Pre-production ☐ Mass-production
Product Name : Wireless Noise Canceling Stereo Headset
Trade Name : SONY
Model No. : WF-1000XM3 (Left part:WF-1000XM3L, Right part:WF-1000XM3R)
Serial No. : R4, R5, R6
Power Rating of the EUT : DC 3.7 V (The EUT was supplied with the power from built-in battery)
Software Ver. : 1.00

Similar model(s) to be covered by this report

Model No. : WF-1000XM3L (Left part), WF-1000XM3R (Right part)
* RF characteristics of left and right part are the same.

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 : Dipole Pattern Antenna
Antenna Connector Type : None
Antenna Gain : -1.0 dBi
Operating Temperature : +0 to +40 deg.C

1.2. Summary of Test Result

Test Item	Worst Margin	Results	Note
AC Power-line Conducted Emissions	-	N/A	*2
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	11.79 dB	Complied	-
Radiated Spurious Emissions	1.5 dB (AV) 4959.956 MHz Horizontal	Complied	-
Conducted Spurious Emissions for Band Edge	28.77 dB 2399.77 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.
- *2: This item was not applied to the EUT since its transmission is stopped when the battery is being charged by the PC connected to AC Power-line.

Other requirements

Part 15.31(e) Supply voltage requirement

: Complied (The EUT was tested with a new battery.)

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 v05r01

Test Condition

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, 2 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

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

- The non-conductive table (EUT table) made of (☐ FRP, ☒ Styrene Foam, ☐ other non-conductive material) was placed in the center of the turntable.
- The EUT was placed on the center of the tabletop.
- The test antenna was placed away from the EUT at test distance.
- The limits were compensated the distance factor with follows:
 $9 \text{ kHz to } 490 \text{ kHz [Limit at 3 m]} = [\text{Limit at 300 m}] + 40\log(300[\text{m}] / 3[\text{m}])$
 $490 \text{ kHz to } 30 \text{ MHz [Limit at 3 m]} = [\text{Limit at 30 m}] + 40\log(30[\text{m}] / 3[\text{m}])$
- 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)
- 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)

- 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.

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

- 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 : 8-4 Shiomi Kisarazu-shi Chiba-ken, 292-0834, Japan
Phone : +81 438 37 2750

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

Antenna-port Conducted Measurements

Shielded Room

☒ 4th Site SR1Radiated 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	EMC Site
AC Power-line Conducted Emissions	150 kHz to 30 MHz	-	± 3.34 dB	± 3.35 dB
Radiated Emissions	9 kHz to 30 MHz	3m	± 2.60 dB	± 3.13 dB
	30 MHz to 1000 MHz	3m	± 4.96 dB	± 5.26 dB
	1 GHz to 18 GHz	3m	± 5.22 dB	± 5.50 dB
	18 GHz to 26.5 GHz	3m	± 5.36 dB	± 5.63 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
Radiated Spurious Emissions (below 1GHz) *4	2480 MHz	BDR : DH5
20dB Bandwidth, Maximum Peak Conducted Output Power, Radiated Spurious Emissions (above 1GHz)	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 : MT2811S_BT_Test

Software Version : V009

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

Antenna-port Conducted Measurements

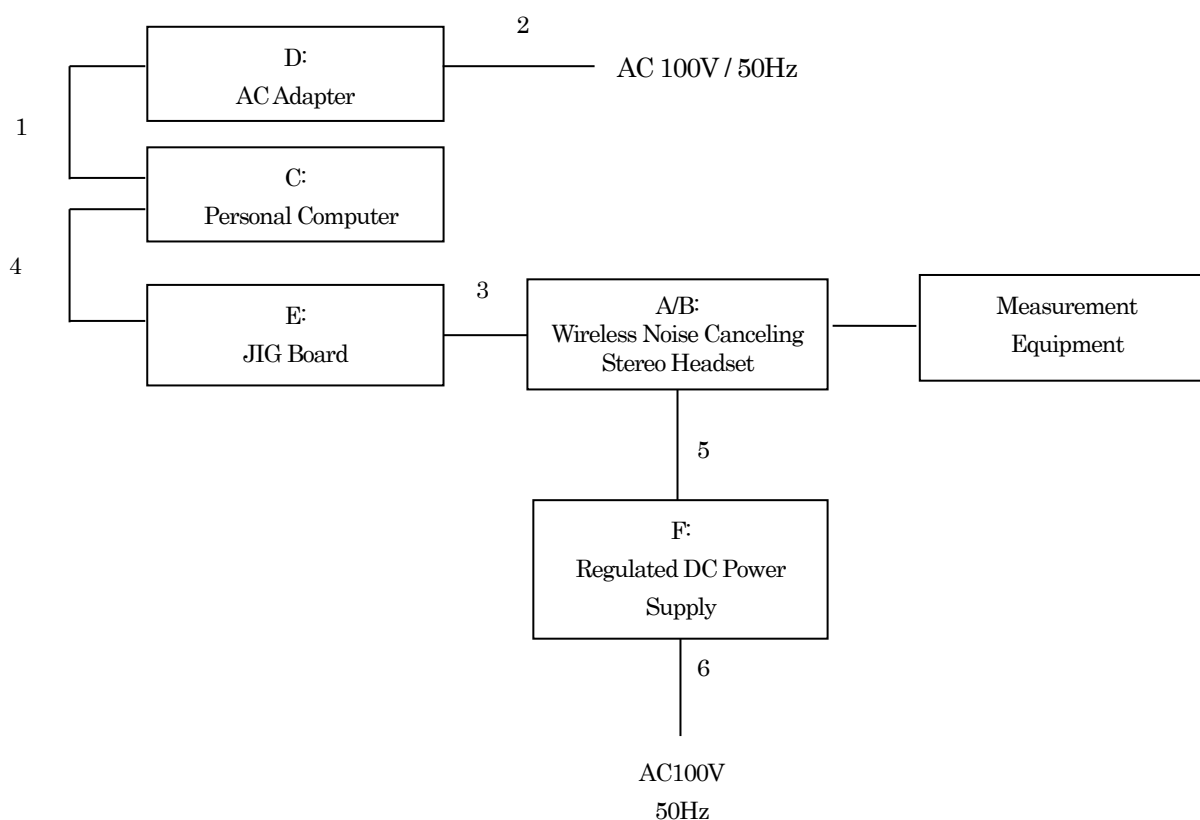
[EUT and Associated Equipment (AE)]

Symbol	EUT/ AE	Item	Manufacturer	Model No.	Serial No.
A	EUT	Wireless Noise Canceling Stereo Headset	SONY	WF-1000XM3R	R4
B	EUT	Wireless Noise Canceling Stereo Headset	SONY	WF-1000XM3R	R5
C	AE	Personal Computer	SONY	PCG-4121AN	27547114 1000852
D	AE	AC Adapter	SONY	VPG-AC19C37	0099484
E	AE	JIG Board	CSR	CNS10020V5A	343455
F	AE	Regulated DC Power Supply	KENWOOD	PW18-1.3AT	08046429

[Type of Cable]

Symbol	Description	Identification (Manufacturer etc.)	Shielded Yes / No	Ferrite Core	Length (m)	Bundled
1	DC Cable	-	No	No	1.8	-
2	AC Cable	-	No	No	0.8	-
3	JIG Cable	-	No	No	0.2	-
4	USB Cable	ELECOM	Yes	No	1.0	-
5	DC Cable	-	No	No	1.8	-
6	AC Cable	-	No	No	0.9	-

[Connecting Diagram]



Radiated Spurious Emissions

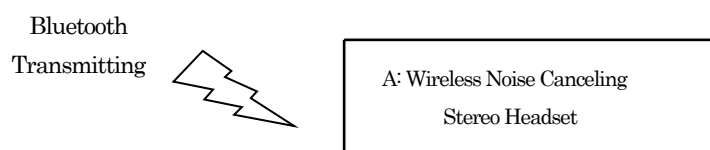
[EUT and Associated Equipment (AE)]

Symbol	EUT/ AE	Item	Manufacturer	Model No.	Serial No.
A	EUT	Wireless Noise Canceling Stereo Headset	SONY	WF-1000XM3R	R6

[Type of Cable]

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

[Connecting Diagram]



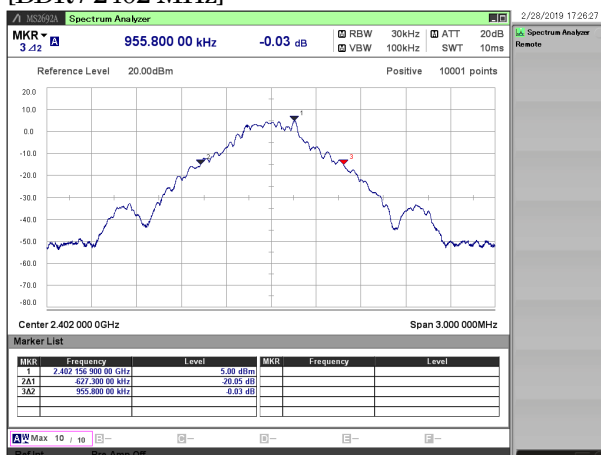
3. Test Data

3.1. 20dB Bandwidth

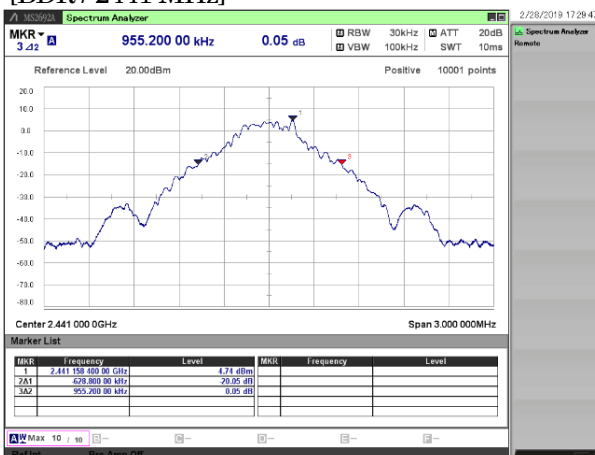
1) Ambient temperature	: 21.5 deg.C	22.7 deg.C
2) Relative humidity	: 43.2 %	43.3 %
3) Date of measurement	: February 28, 2019	March 1, 2019
4) Measured by	: M. KOUGA	M. KOUGA
5) Operating mode	: Transmitting mode	

Mode		Channel [MHz]	Result [MHz]	Limit [MHz]
BDR	DH5	2402	0.956	-
		2441	0.955	-
		2480	0.955	-
EDR	3DH5	2402	1.285	-
		2441	1.287	-
		2480	1.288	-

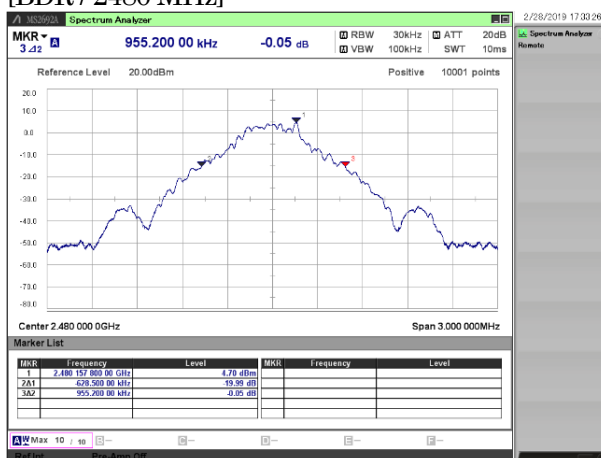
[BDR / 2402 MHz]



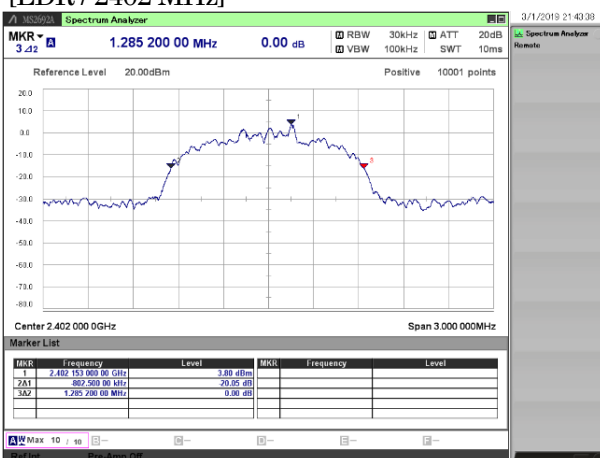
[BDR / 2441 MHz]



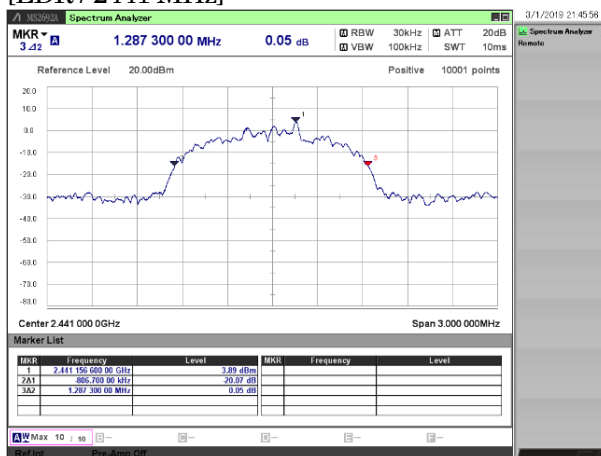
[BDR / 2480 MHz]



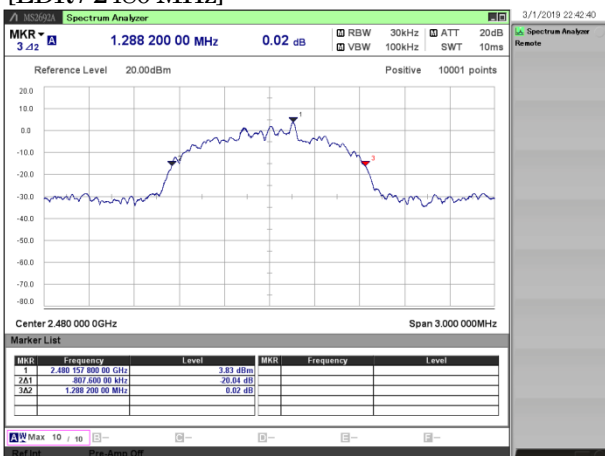
[EDR / 2402 MHz]



[EDR / 2441 MHz]



[EDR / 2480 MHz]



3.2. Carrier Frequency Separation

- 1) Ambient temperature

: 21.5 deg.C
- 2) Relative humidity

: 43.2 %
- 3) Date of measurement

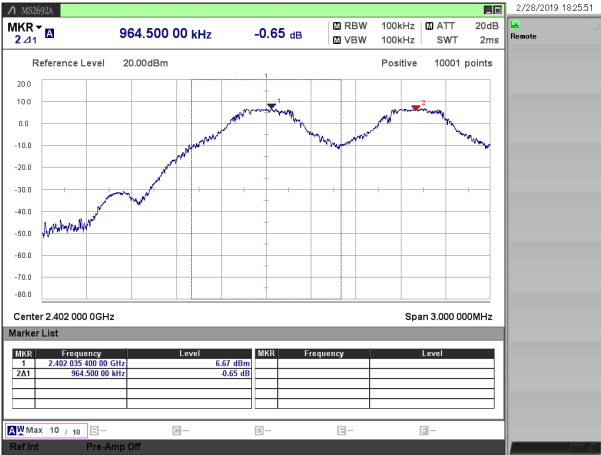
: February 28, 2019
- 4) Measured by

: M. KOUGA
- 5) Operating mode

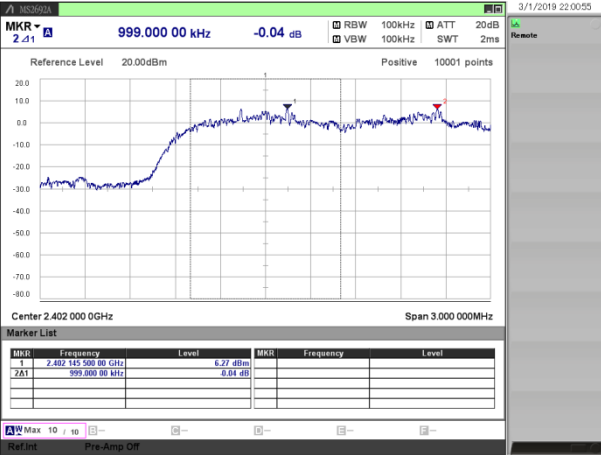
: Transmitting mode
- 22.7 deg.C
- 43.3 %
- March 1, 2019
- M. KOUGA

Mode		Reading [kHz]	Limit [kHz]
BDR	DH5	964.5	≥ 637.2
EDR	3DH5	999.0	≥ 858.8

[BDR]



[EDR]



3.3. Number of Hopping Frequencies

- 1) Ambient temperature

: 21.5 deg.C

22.7 deg.C
- 2) Relative humidity

: 43.2 %

43.3 %
- 3) Date of measurement

: February 28, 2019

March 1, 2019
- 4) Measured by

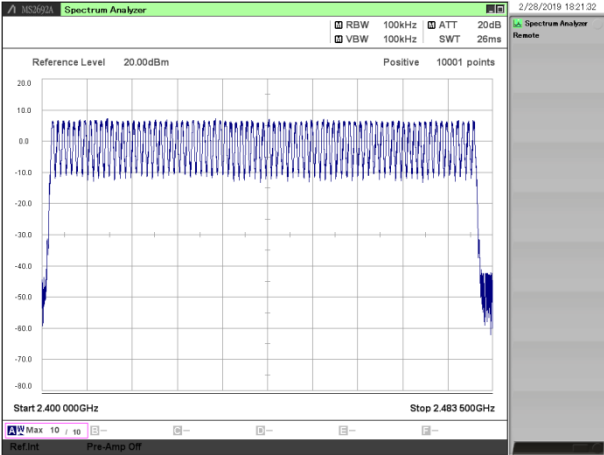
: M. KOUGA

M. KOUGA
- 5) Operating mode

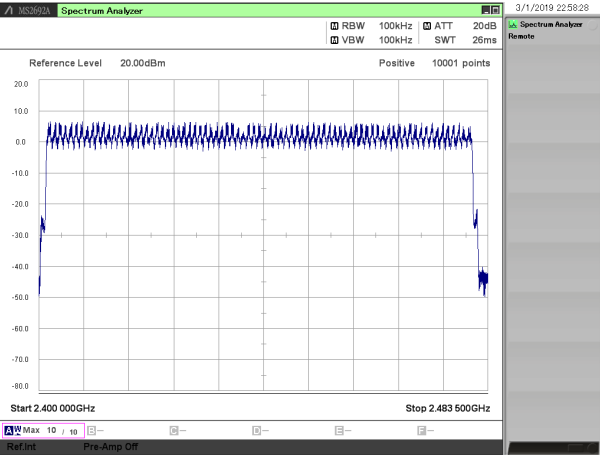
: Transmitting mode

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

[BDR]



[EDR]

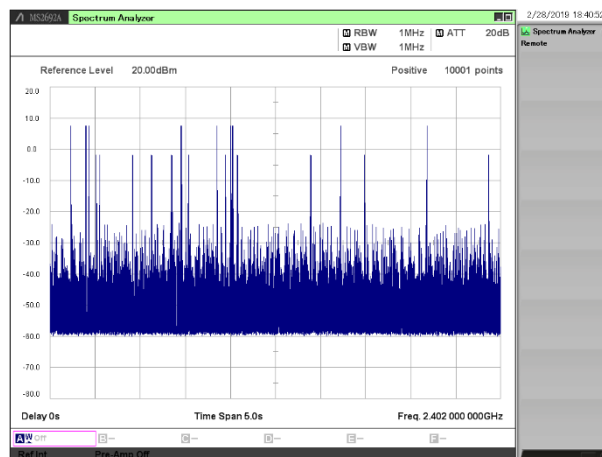
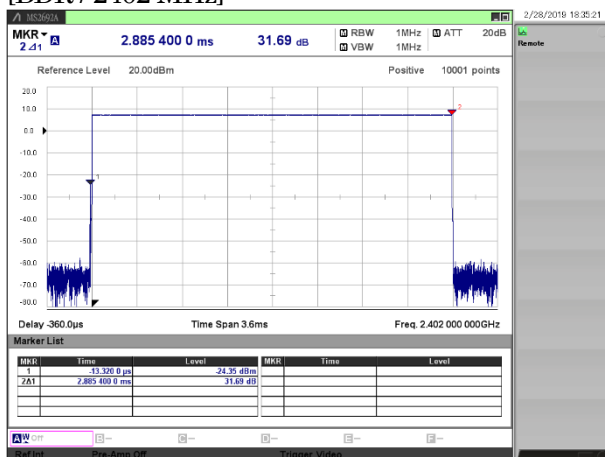


3.4. Time of Occupancy (Dwell Time)

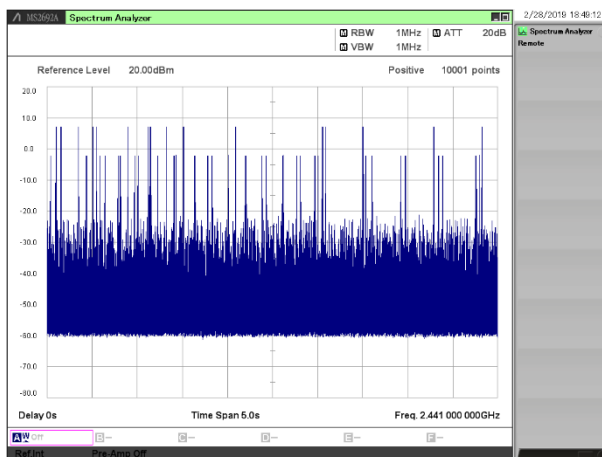
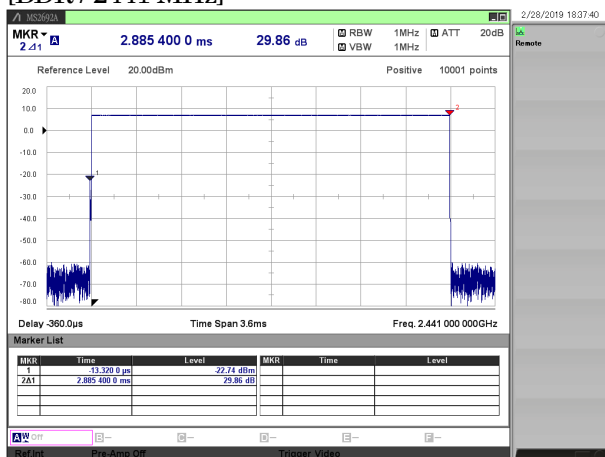
- | | | |
|------------------------|---------------------|---------------|
| 1) Ambient temperature | : 21.5 deg.C | 22.7 deg.C |
| 2) Relative humidity | : 43.2 % | 43.3 % |
| 3) Date of measurement | : February 28, 2019 | March 1, 2019 |
| 4) Measured by | : M. KOUGA | M. KOUGA |
| 5) Operating mode | : Transmitting mode | |

Mode		Channel [MHz]	Dwell Time [msec]	Cycle [time]	Result [msec]	Limit [msec]
BDR	DH5	2402	2.89	15.1	275.4	≤ 400.0
		2441	2.89	15.6	284.5	≤ 400.0
		2480	2.89	16.4	299.1	≤ 400.0
EDR	3DH5	2402	2.89	15.8	288.8	≤ 400.0
		2441	2.89	18.5	338.0	≤ 400.0
		2480	2.89	17.0	310.6	≤ 400.0

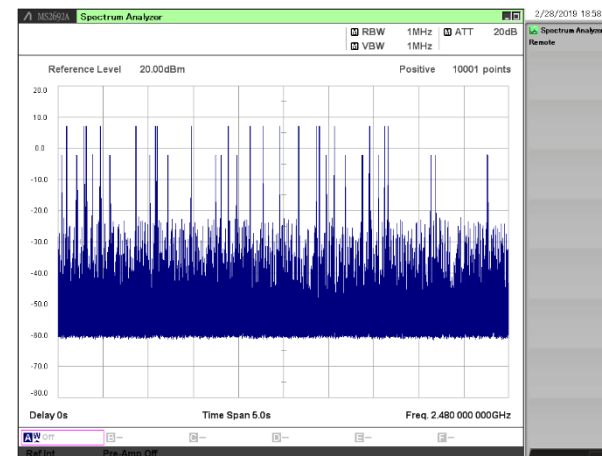
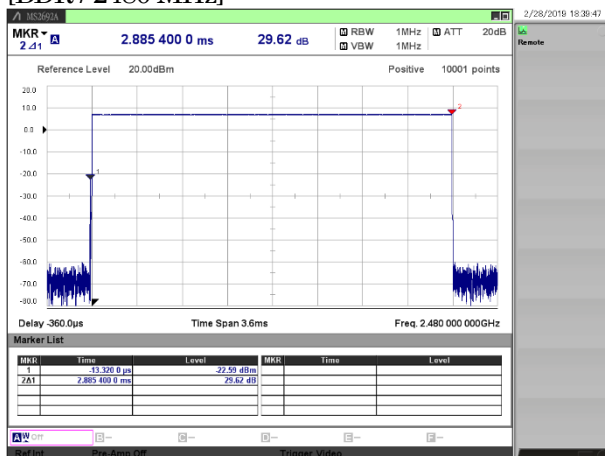
[BDR / 2402 MHz]



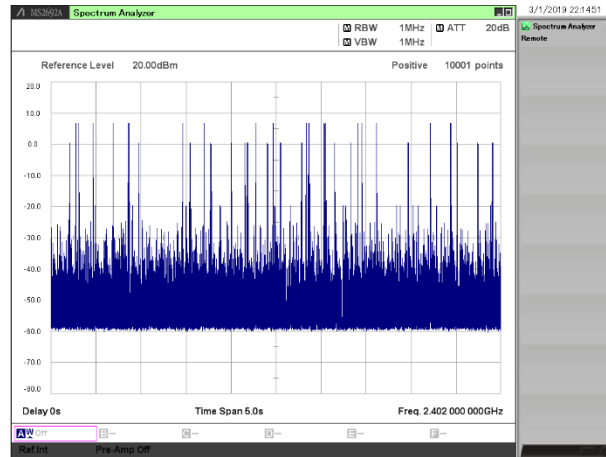
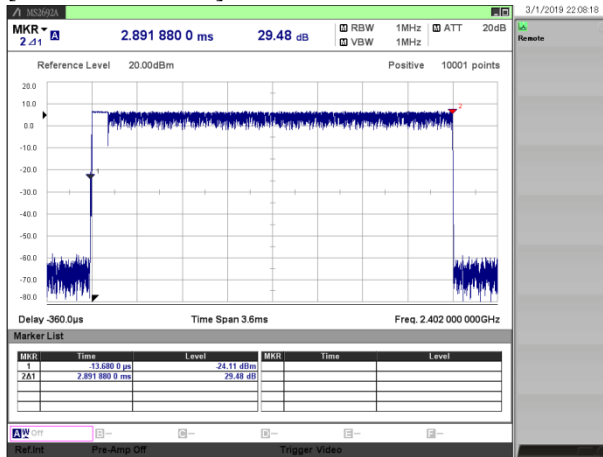
[BDR / 2441 MHz]



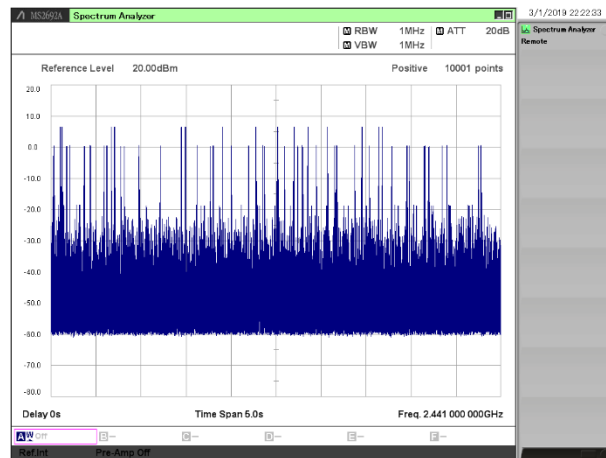
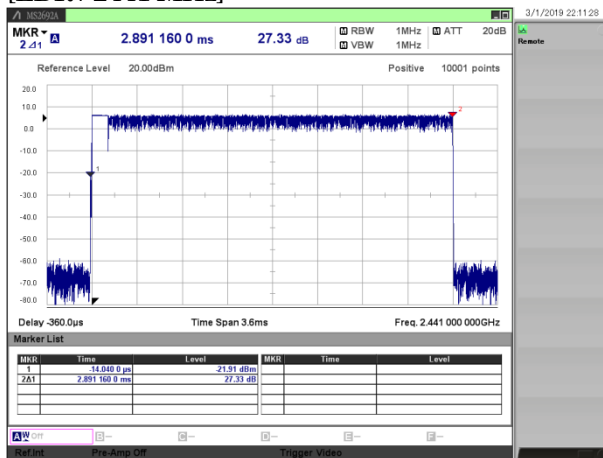
[BDR / 2480 MHz]



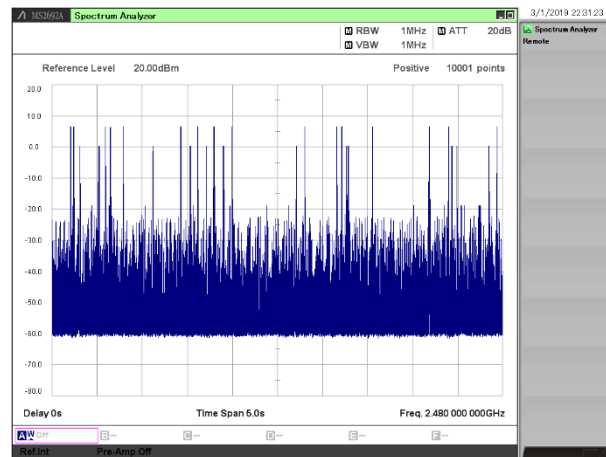
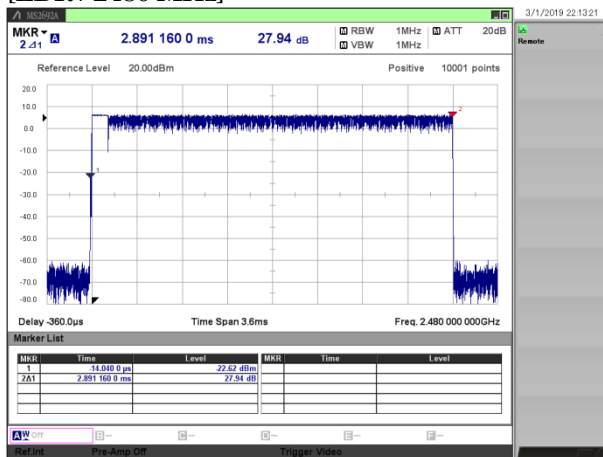
[EDR / 2402 MHz]



[EDR / 2441 MHz]



[EDR / 2480 MHz]



3.5. Maximum Peak Conducted Output Power

- 1) Ambient temperature : 22.2 deg.C
- 2) Relative humidity : 40.5 %
- 3) Date of measurement : February 5, 2019
- 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	8.17	1.00	9.17	0.00826	20.97	0.125	11.80
		2441	8.18	1.00	9.18	0.00828	20.97	0.125	11.79
		2480	7.87	1.00	8.87	0.00771	20.97	0.125	12.10
EDR	2DH5	2402	7.83	1.00	8.83	0.00764	20.97	0.125	12.14
		2441	7.84	1.00	8.84	0.00766	20.97	0.125	12.13
		2480	7.50	1.00	8.50	0.00708	20.97	0.125	12.47
	3DH5	2402	8.00	1.00	9.00	0.00794	20.97	0.125	11.97
		2441	8.00	1.00	9.00	0.00794	20.97	0.125	11.97
		2480	8.00	1.00	9.00	0.00794	20.97	0.125	11.97

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	6.87	1.00	1.14	9.01	0.00796
		2441	6.89	1.00	1.14	9.03	0.00800
		2480	6.55	1.00	1.14	8.69	0.00740
EDR	2DH5	2402	4.59	1.00	1.13	6.72	0.00470
		2441	4.62	1.00	1.13	6.75	0.00473
		2480	4.41	1.00	1.13	6.54	0.00451
	3DH5	2402	4.55	1.00	1.13	6.68	0.00466
		2441	4.58	1.00	1.13	6.71	0.00469
		2480	4.58	1.00	1.13	6.71	0.00469

Duty Cycle check

Mode		Channel [MHz]	T(on+off) [msec]	T(on) [msec]	Duty Cycle [%]
BDR	DH1	2441	1.250	0.382	30.58
	DH3	2441	2.500	1.638	65.51
	DH5	2441	3.750	2.886	76.96
EDR	2DH1	2441	1.250	0.391	31.25
	2DH3	2441	2.500	1.643	65.71
	2DH5	2441	3.750	2.889	77.04
	3DH1	2441	1.250	0.391	31.25
	3DH3	2441	2.500	1.642	65.67
	3DH5	2441	3.750	2.893	77.13

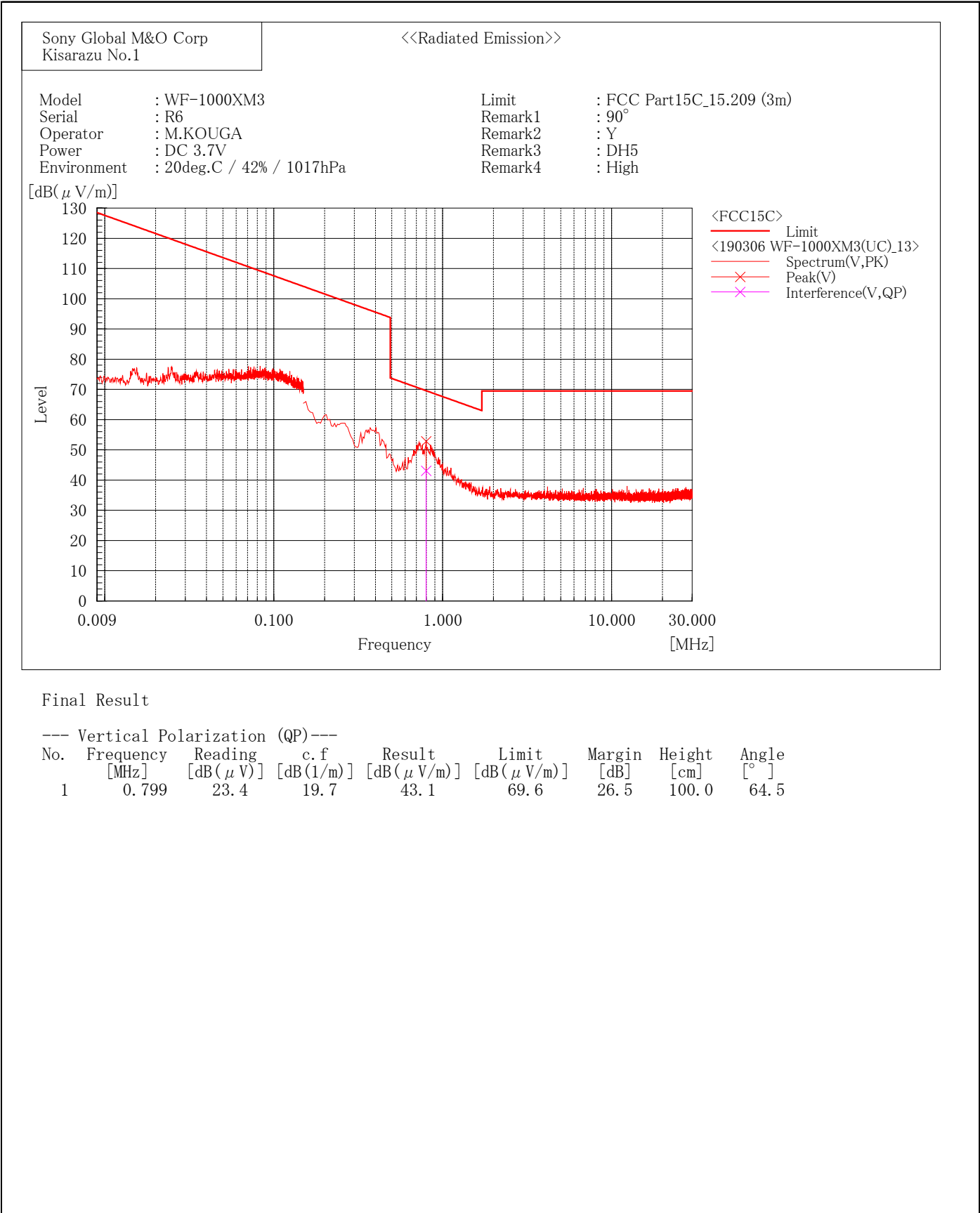
3.6. Radiated Spurious Emissions

1) Date of measurement

9 kHz to 30 MHz	: March 6, 2019	(all mode)	
30 MHz to 1000 MHz	: March 6, 2019	(all mode)	
1 GHz to 6 GHz	: March 4, 2019	(all mode)	
6 GHz to 18 GHz	: March 5, 2019	(all mode)	
18 GHz to 26.5 GHz	: March 5, 2019	(BDR 2402MHz)	March 6, 2019 (other mode)

The test data is mentioned as follows.

9 kHz to 30 MHz
[BDR / 2480 MHz]



30 MHz to 1000 MHz

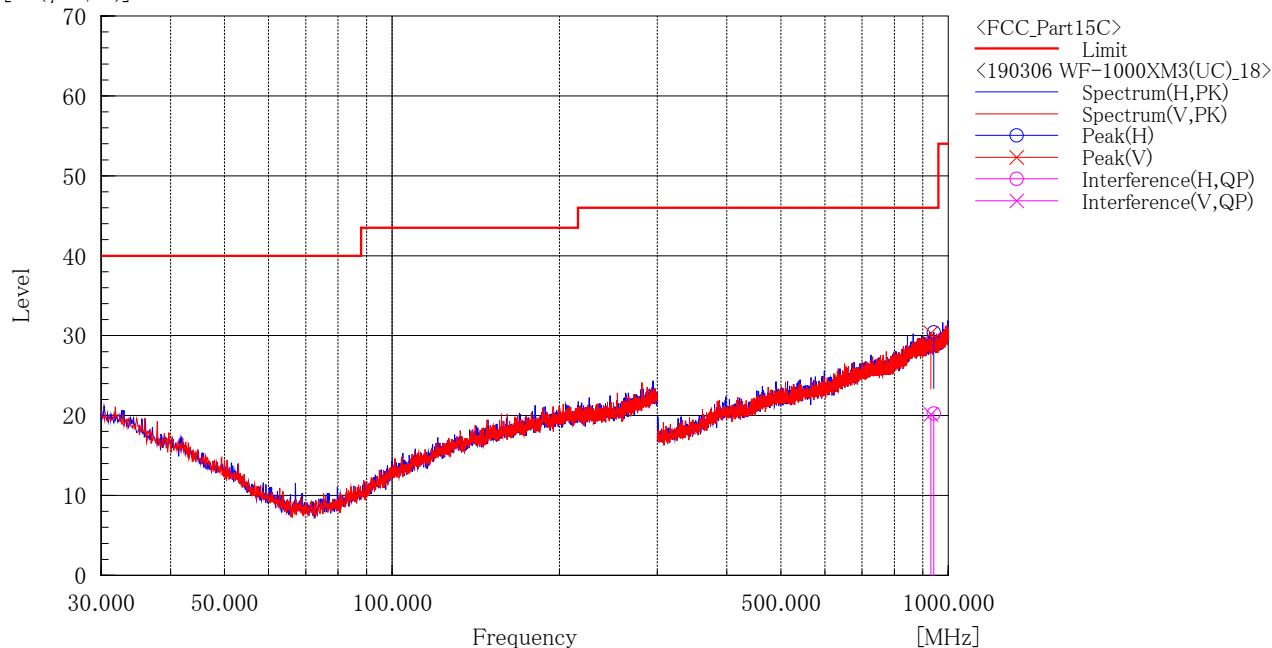
[BDR / 2480 MHz]

Sony Global M&O Corp
Kisarazu No.1

<<Radiated Emission>>

Model : WF-1000XM3
 Serial : R6
 Operator : M.KOUGA
 Power : DC 3.7V
 Environment : 20deg.C / 42% / 1017hPa

Limit : FCC Part15C 15.209(a) 3m
 Remark1 :
 Remark2 : Y
 Remark3 : DH5
 Remark4 : High

[dB(μ V/m)]

Final Result

--- Horizontal Polarization (QP)---

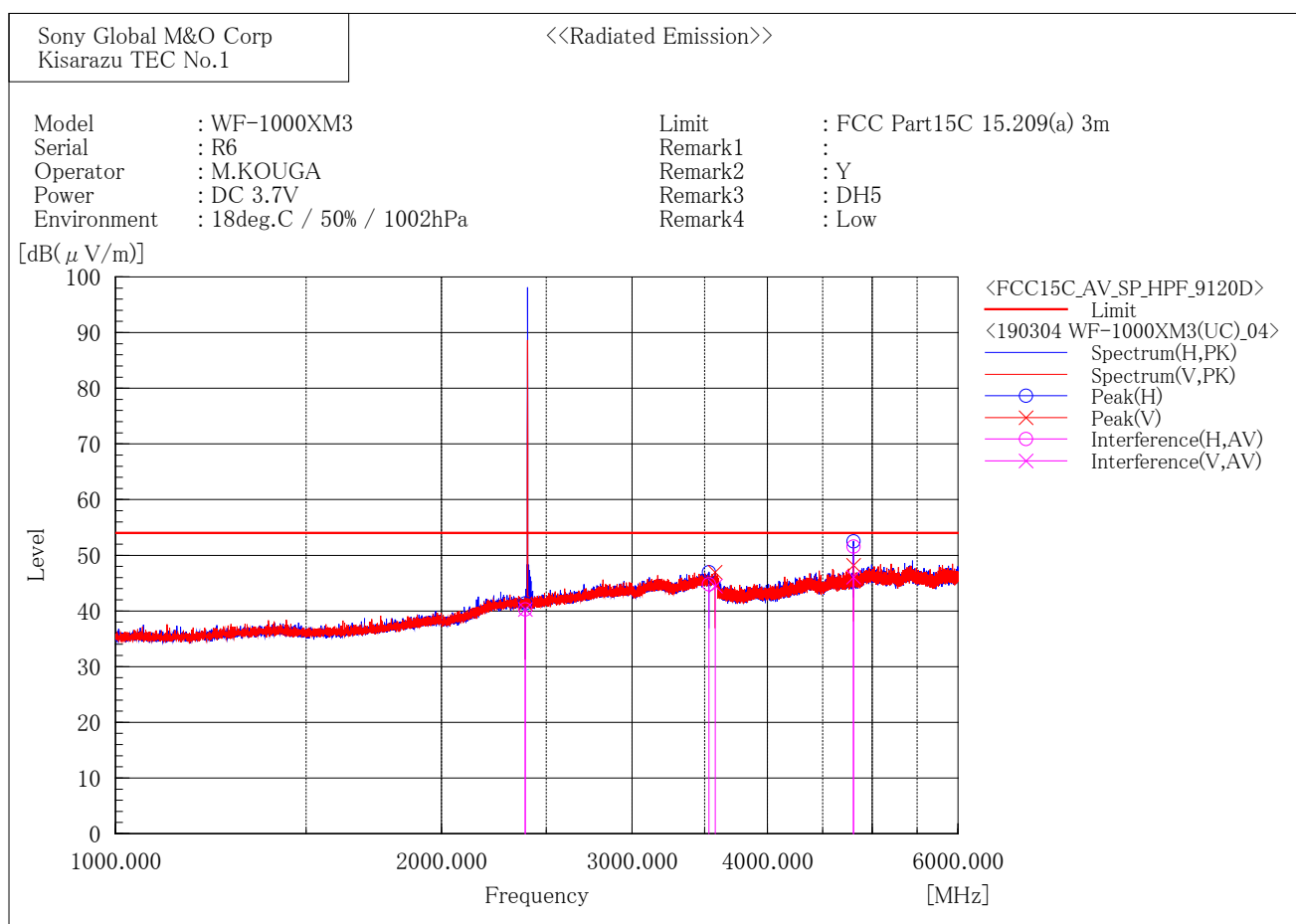
No.	Frequency [MHz]	Reading [dB(μ V)]	c.f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Height [cm]	Angle [°]
1	941.603	19.1	1.2	20.3	46.0	25.7	210.5	282.5

--- 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	930.613	19.2	1.0	20.2	46.0	25.8	144.0	223.0

1 GHz to 6 GHz

[BDR / 2402 MHz]



Final Result

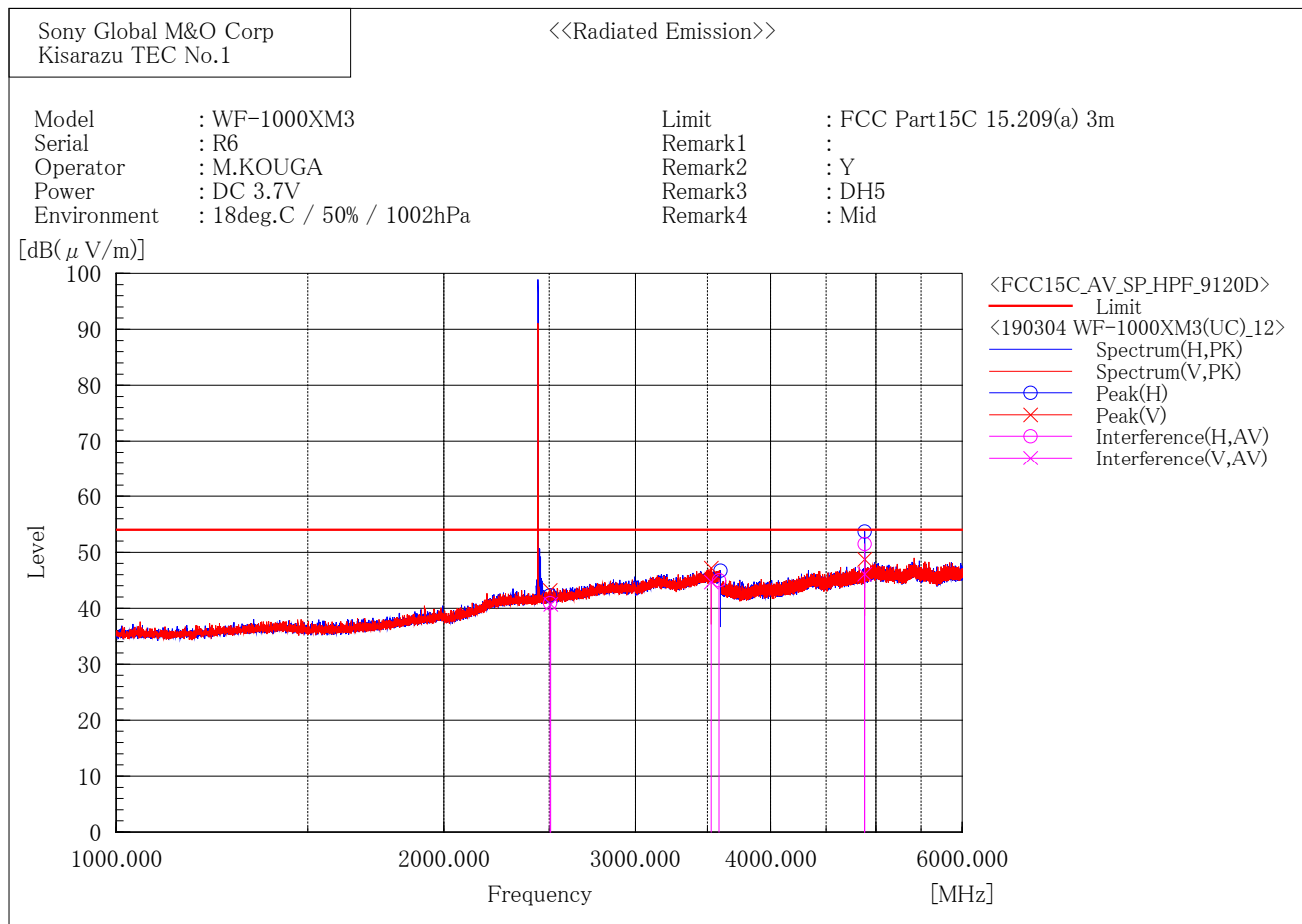
--- Horizontal Polarization (AV)---

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	2390.000	37.6	2.7	40.3	54.0	13.7	123.0	357.7
2	3533.603	37.7	7.1	44.8	54.0	9.2	100.0	278.3
3	4804.263	40.7	10.9	51.6	54.0	2.4	123.0	318.0

--- Vertical Polarization (AV)---

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	2390.000	37.6	2.7	40.3	54.0	13.7	100.0	220.2
2	3579.735	37.2	7.3	44.5	54.0	9.5	198.0	325.9
3	4804.074	35.2	10.9	46.1	54.0	7.9	110.0	188.0

[BDR / 2441 MHz]



Final Result

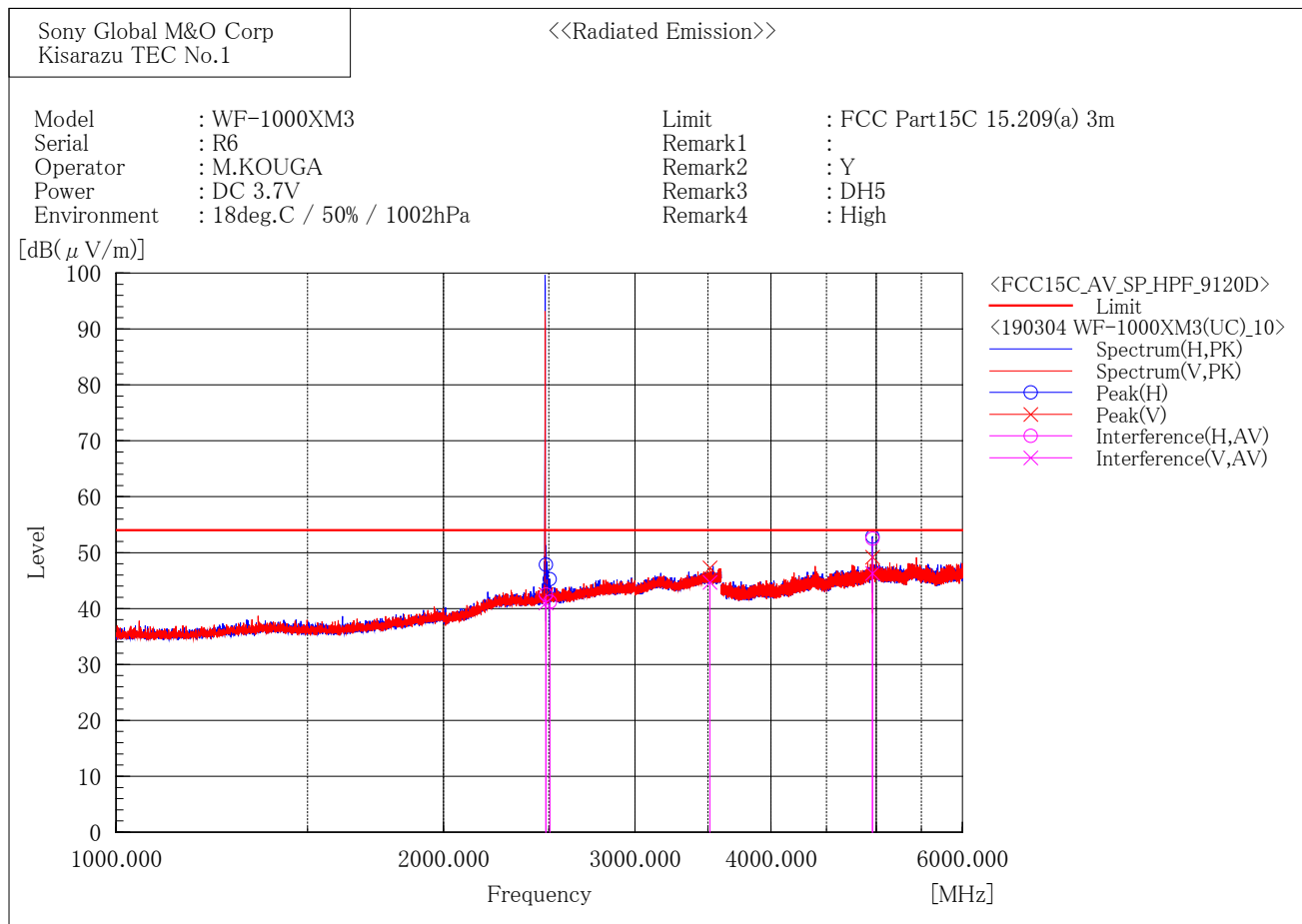
--- Horizontal Polarization (AV)---

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	2503.954	37.7	3.2	40.9	54.0	13.1	115.0	151.5
2	3586.865	37.7	7.3	45.0	54.0	9.0	157.0	77.3
3	4882.035	40.5	11.0	51.5	54.0	2.5	114.0	140.0

--- Vertical Polarization (AV)---

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	2506.478	37.5	3.2	40.7	54.0	13.3	100.0	50.0
2	3528.268	37.6	7.1	44.7	54.0	9.3	100.0	310.0
3	4881.922	35.1	11.0	46.1	54.0	7.9	100.0	167.0

[BDR / 2480 MHz]



Final Result

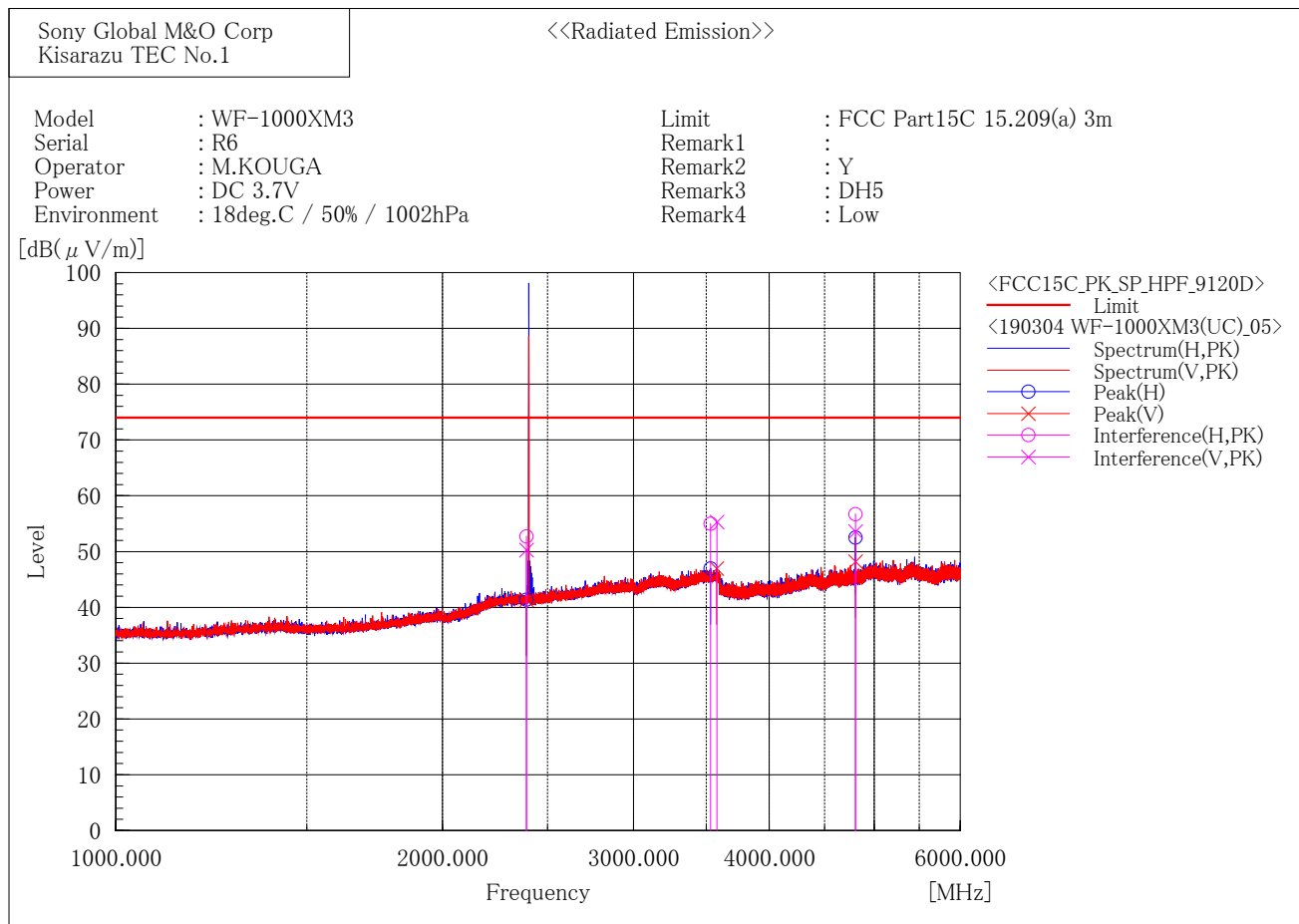
--- Horizontal Polarization (AV)---

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	2483.500	39.4	3.1	42.5	54.0	11.5	106.0	13.5
2	2505.975	38.0	3.2	41.2	54.0	12.8	100.0	24.9
3	4959.956	41.2	11.3	52.5	54.0	1.5	100.0	138.0

--- Vertical Polarization (AV)---

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	2483.500	37.9	3.1	41.0	54.0	13.0	186.0	142.0
2	3515.098	37.7	7.0	44.7	54.0	9.3	112.0	220.8
3	4959.966	35.0	11.3	46.3	54.0	7.7	100.0	195.0

[BDR / 2402 MHz]



Final Result

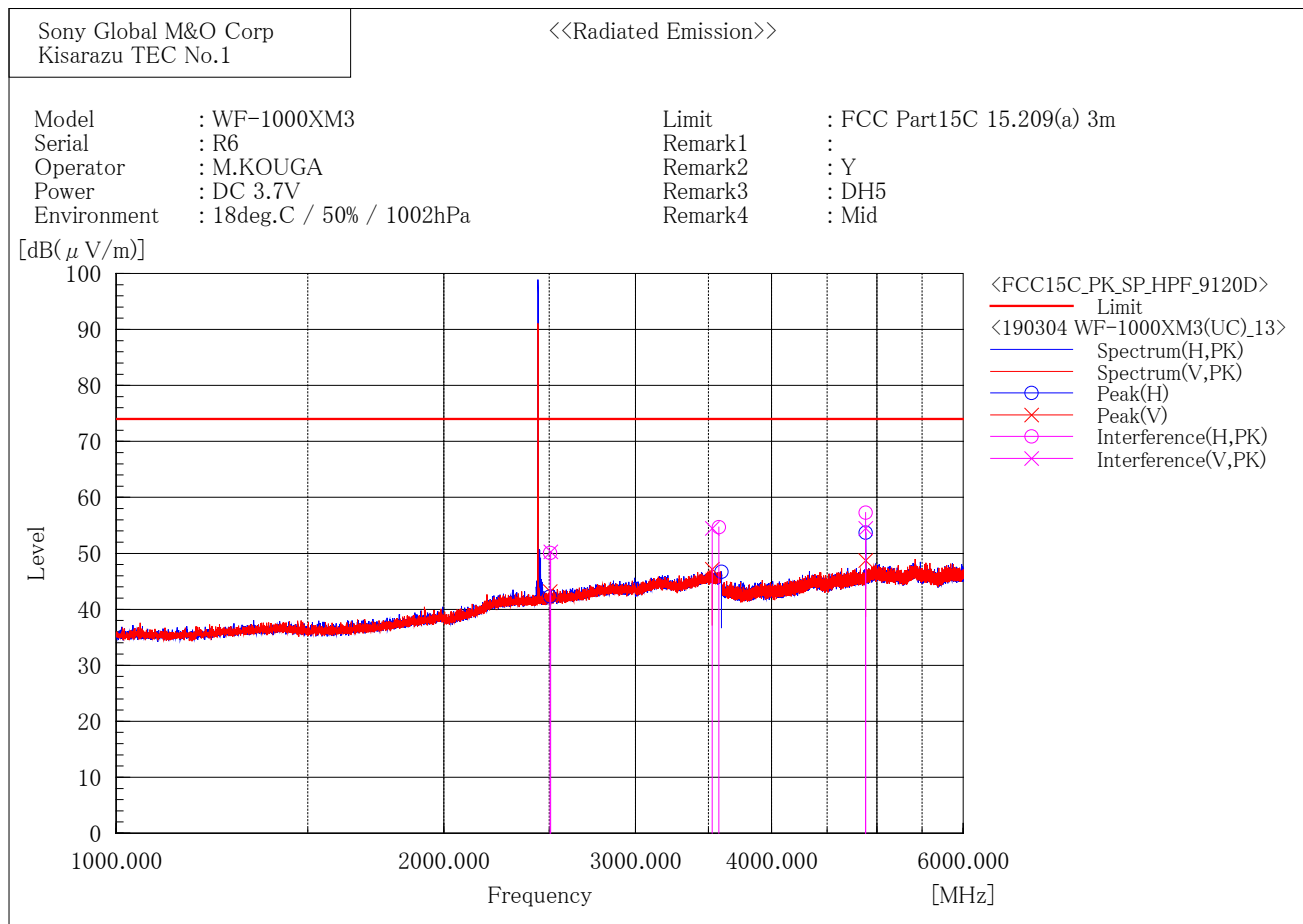
--- Horizontal Polarization (PK)---

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	2390.000	50.0	2.7	52.7	74.0	21.3	124.0	358.4
2	3532.741	47.9	7.1	55.0	74.0	19.0	100.0	280.0
3	4804.437	45.8	10.9	56.7	74.0	17.3	100.0	316.4

--- Vertical Polarization (PK)---

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	2390.000	47.6	2.7	50.3	74.0	23.7	109.0	230.4
2	3579.669	48.0	7.3	55.3	74.0	18.7	187.0	326.8
3	4804.140	42.7	10.9	53.6	74.0	20.4	110.0	186.8

[BDR / 2441 MHz]



Final Result

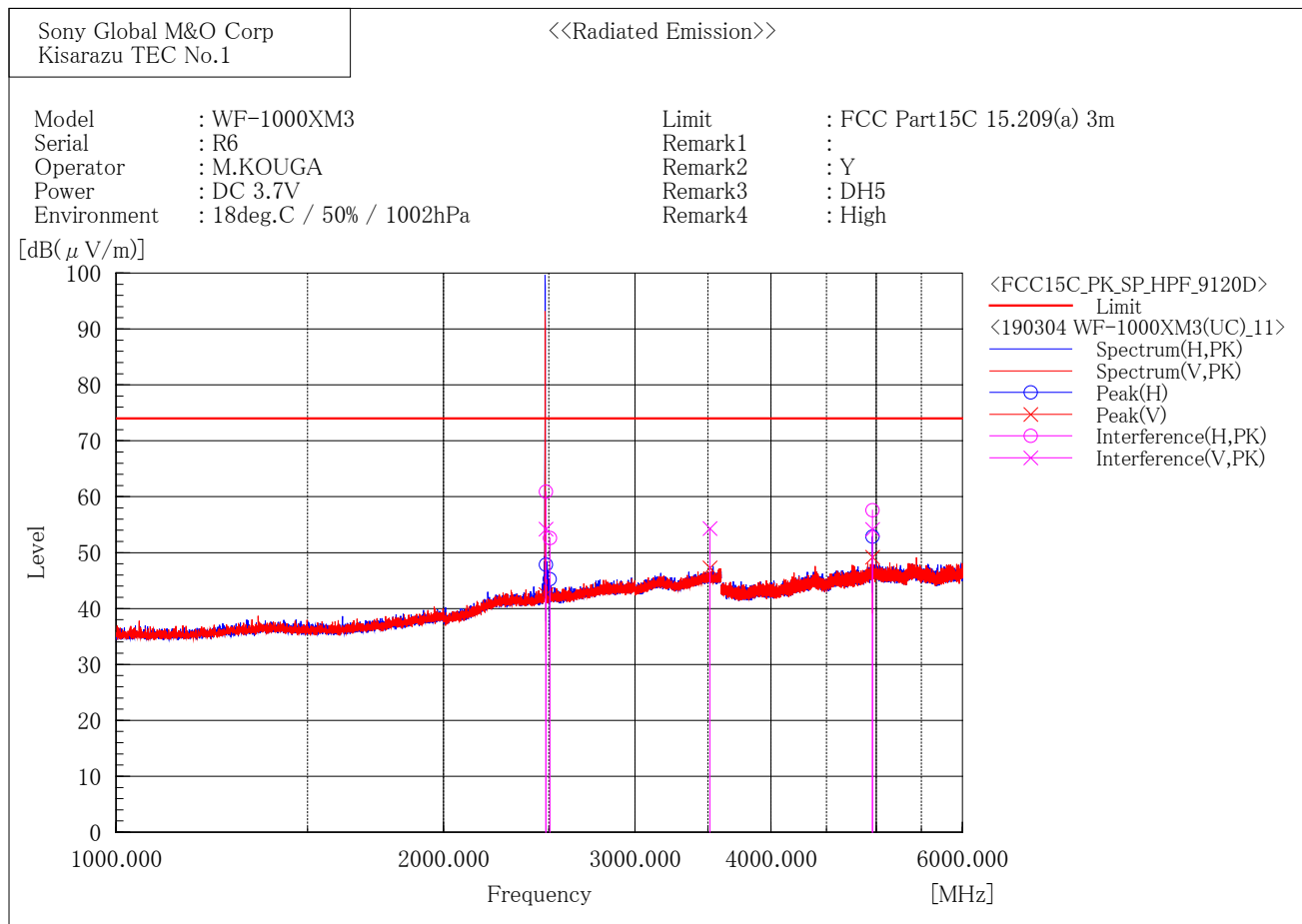
--- Horizontal Polarization (PK)---

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	2504.117	46.9	3.2	50.1	74.0	23.9	104.6	151.8
2	3577.862	47.4	7.3	54.7	74.0	19.3	157.0	77.3
3	4882.248	46.3	11.0	57.3	74.0	16.7	120.0	138.0

--- Vertical Polarization (PK)---

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	2507.241	47.1	3.2	50.3	74.0	23.7	100.0	60.9
2	3529.188	47.4	7.1	54.5	74.0	19.5	100.0	334.0
3	4882.210	43.5	11.0	54.5	74.0	19.5	100.0	188.5

[BDR / 2480 MHz]



Final Result

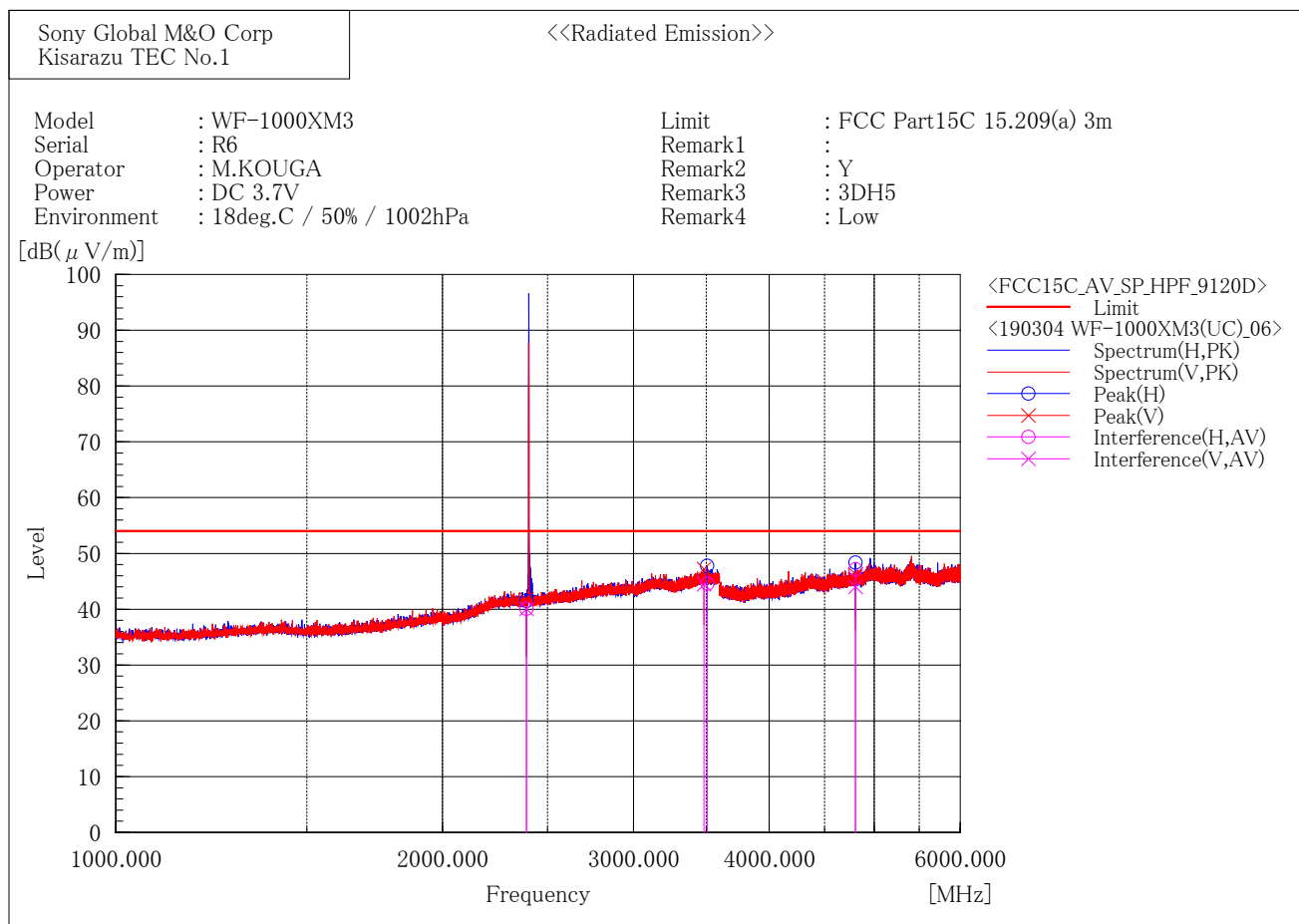
--- Horizontal Polarization (PK)---

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	2483.500	57.8	3.1	60.9	74.0	13.1	103.0	15.1
2	2505.053	49.4	3.2	52.6	74.0	21.4	100.0	26.3
3	4959.927	46.3	11.3	57.6	74.0	16.4	100.0	141.6

--- Vertical Polarization (PK)---

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	2483.500	51.1	3.1	54.2	74.0	19.8	185.0	140.7
2	3514.624	47.3	7.0	54.3	74.0	19.7	112.0	227.1
3	4959.523	42.9	11.3	54.2	74.0	19.8	100.0	193.4

[EDR / 2402 MHz]



Final Result

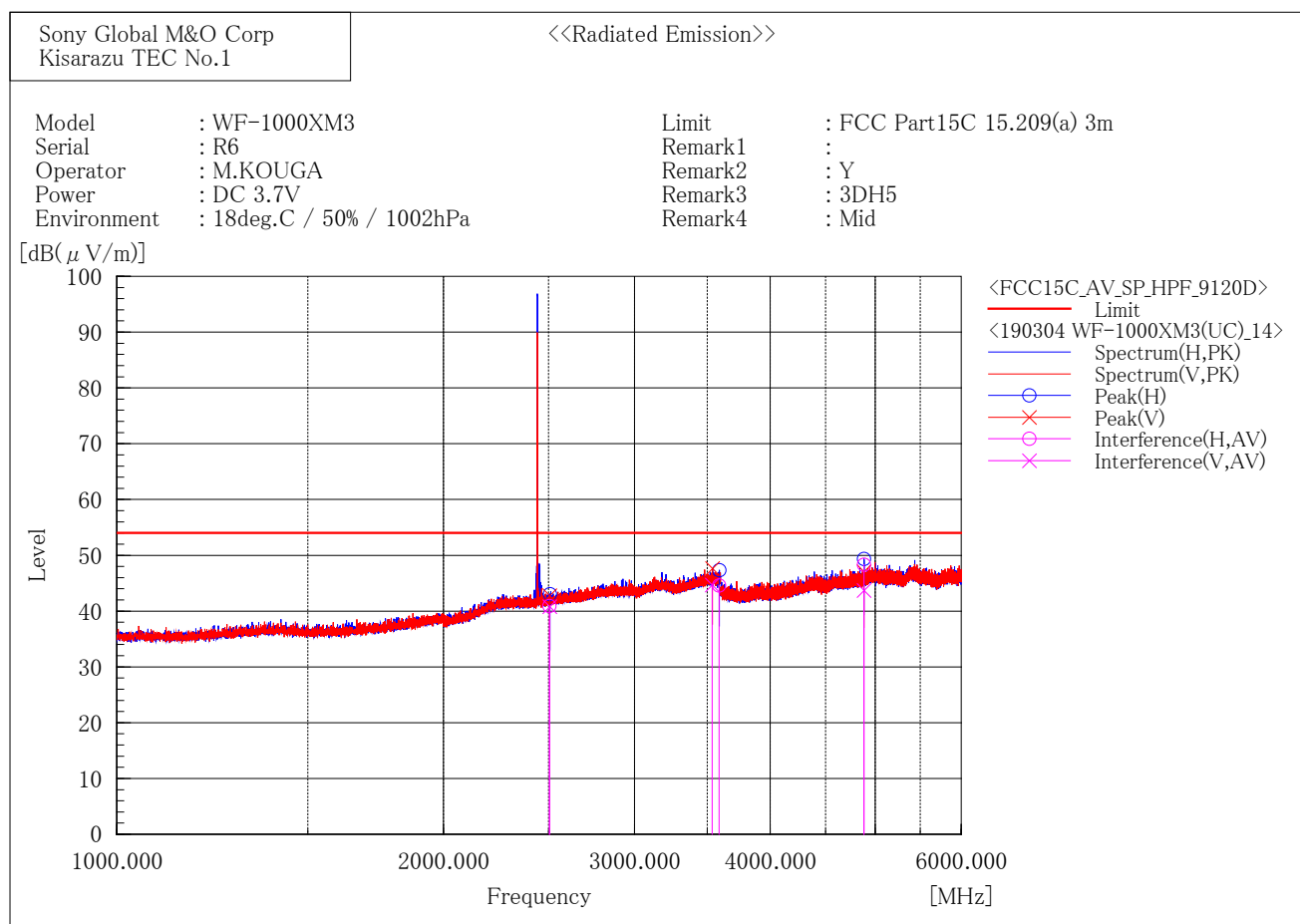
--- Horizontal Polarization (AV)---

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	2390.000	37.4	2.7	40.1	54.0	13.9	111.0	3.4
2	3507.957	37.6	7.0	44.6	54.0	9.4	100.0	5.4
3	4804.334	36.3	10.9	47.2	54.0	6.8	121.0	327.7

--- Vertical Polarization (AV)---

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	2390.000	37.4	2.7	40.1	54.0	13.9	100.0	236.3
2	3482.915	37.8	6.7	44.5	54.0	9.5	212.1	282.8
3	4804.181	33.1	10.9	44.0	54.0	10.0	110.1	171.0

[EDR / 2441 MHz]



Final Result

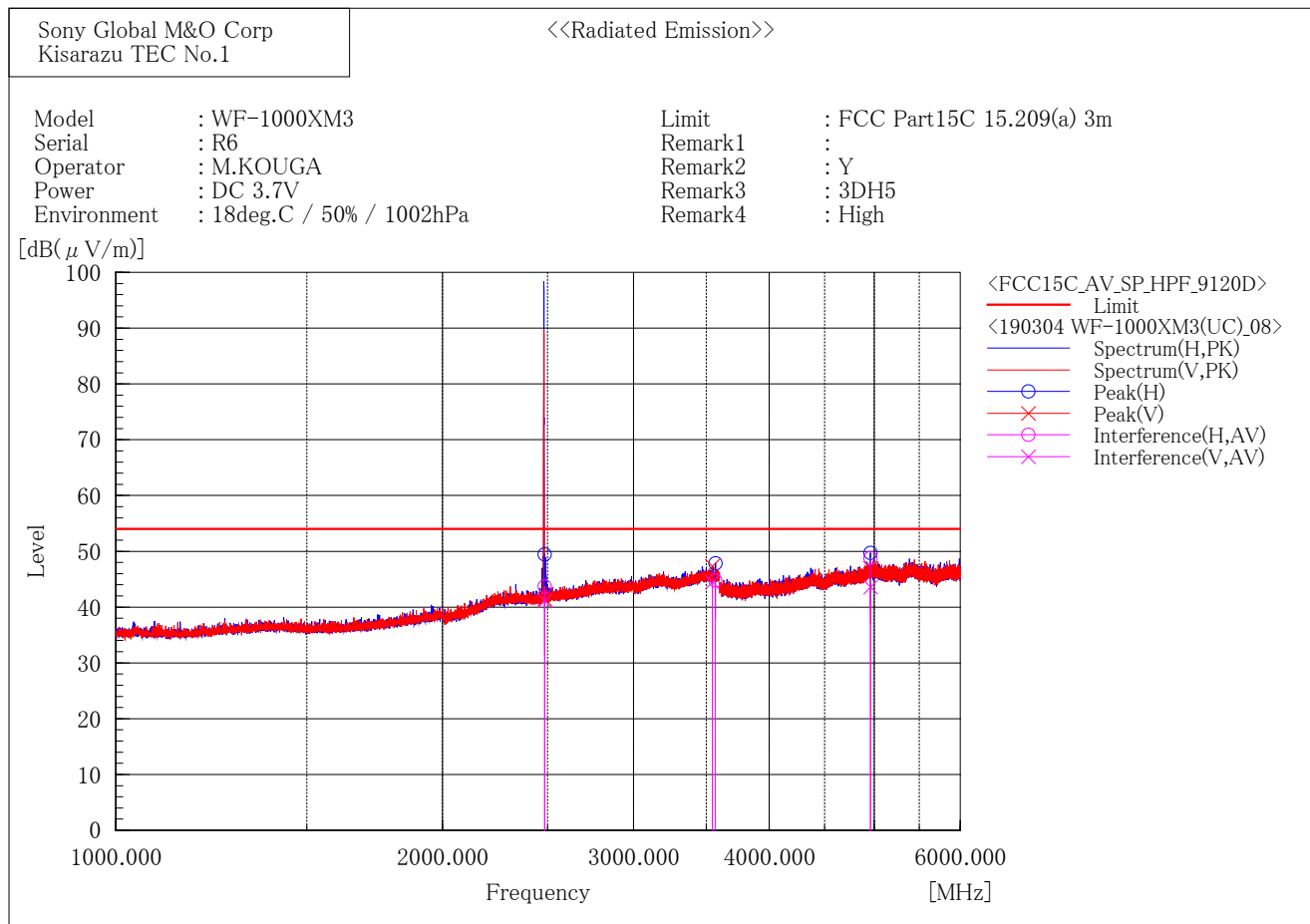
--- Horizontal Polarization (AV)---

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	2504.668	37.7	3.2	40.9	54.0	13.1	100.0	49.8
2	3588.904	37.3	7.3	44.6	54.0	9.4	100.0	115.5
3	4882.060	37.3	11.0	48.3	54.0	5.7	108.0	127.8

--- 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	2505.504	37.6	3.2	40.8	54.0	13.2	100.0	353.0
2	3537.845	37.5	7.2	44.7	54.0	9.3	188.0	85.8
3	4882.076	32.7	11.0	43.7	54.0	10.3	113.0	169.0

[EDR / 2480 MHz]



Final Result

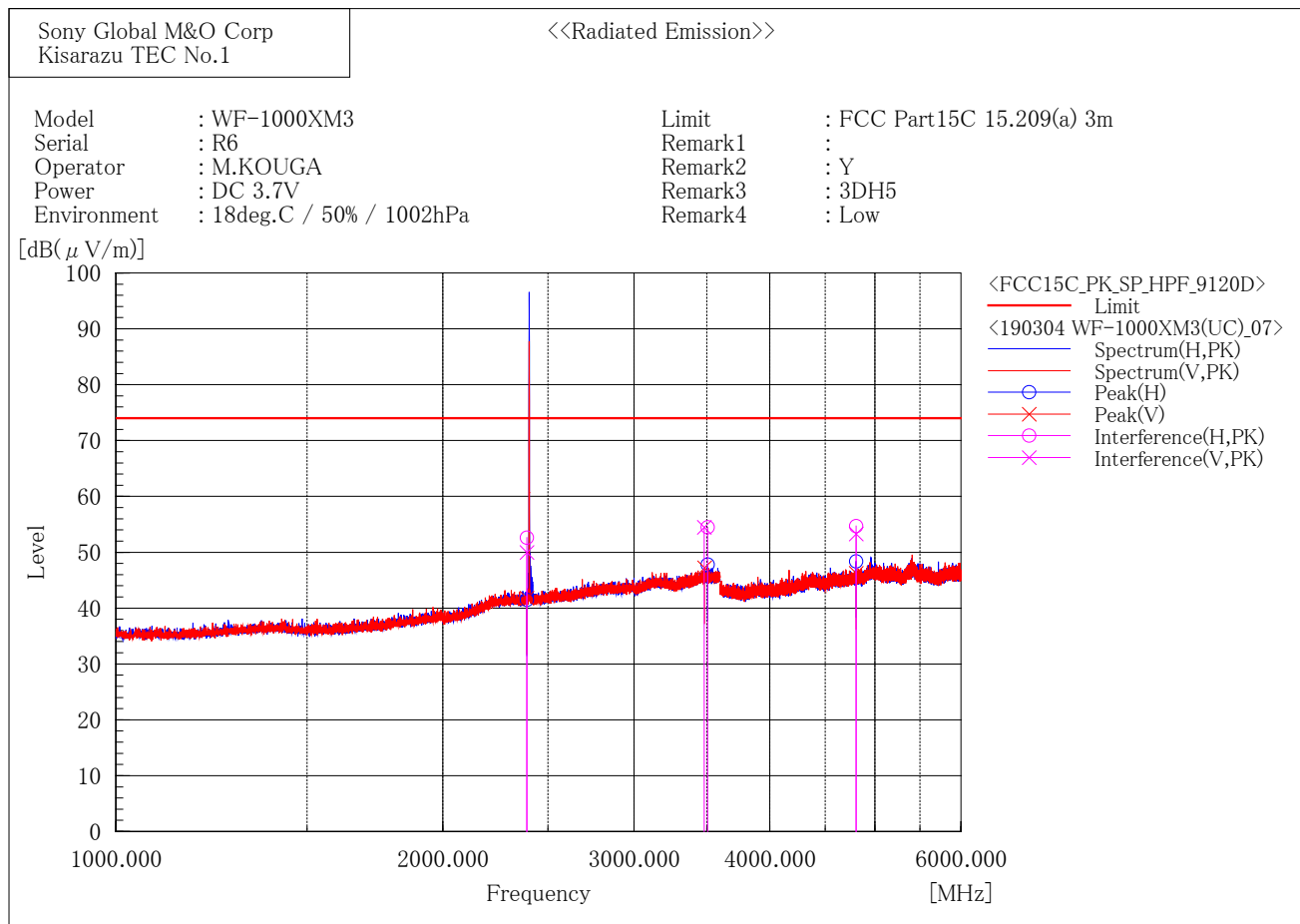
--- Horizontal Polarization (AV) ---

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	2483.500	40.6	3.1	43.7	54.0	10.3	100.0	5.1
2	3568.318	37.5	7.3	44.8	54.0	9.2	100.0	129.6
3	4959.950	37.5	11.3	48.8	54.0	5.2	126.0	134.0

--- Vertical Polarization (AV) ---

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	2483.500	38.0	3.1	41.1	54.0	12.9	100.0	198.3
2	3546.292	37.3	7.2	44.5	54.0	9.5	114.8	124.1
3	4959.948	32.3	11.3	43.6	54.0	10.4	117.0	179.3

[EDR / 2402 MHz]



Final Result

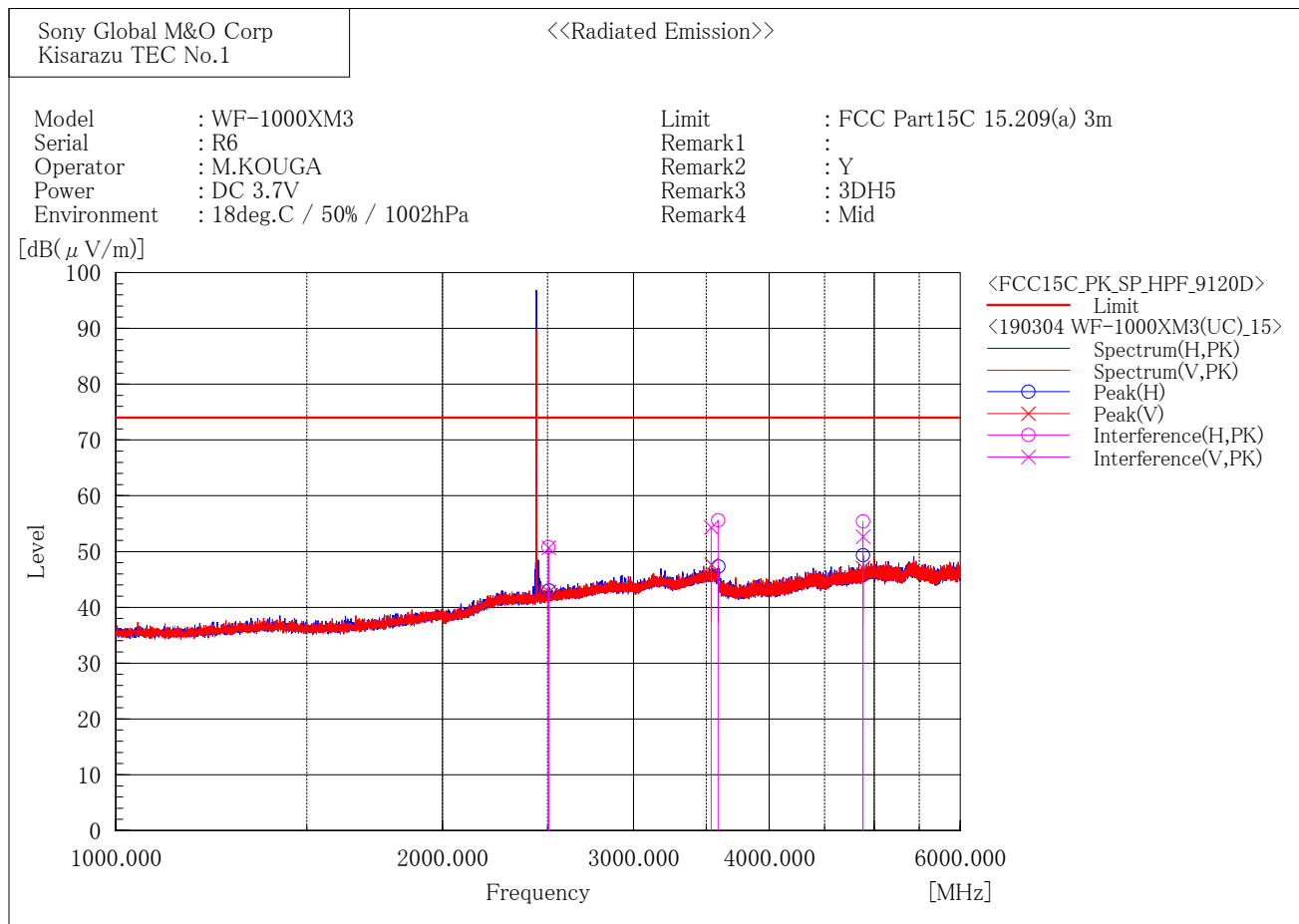
--- Horizontal Polarization (PK)---

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	2390.000	49.9	2.7	52.6	74.0	21.4	119.0	3.9
2	3507.610	47.5	7.0	54.5	74.0	19.5	100.0	3.6
3	4804.157	43.8	10.9	54.7	74.0	19.3	100.0	330.0

--- 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	2390.000	47.3	2.7	50.0	74.0	24.0	100.0	238.9
2	3482.141	47.8	6.7	54.5	74.0	19.5	212.1	281.9
3	4803.830	42.4	10.9	53.3	74.0	20.7	111.0	171.2

[EDR / 2441 MHz]



Final Result

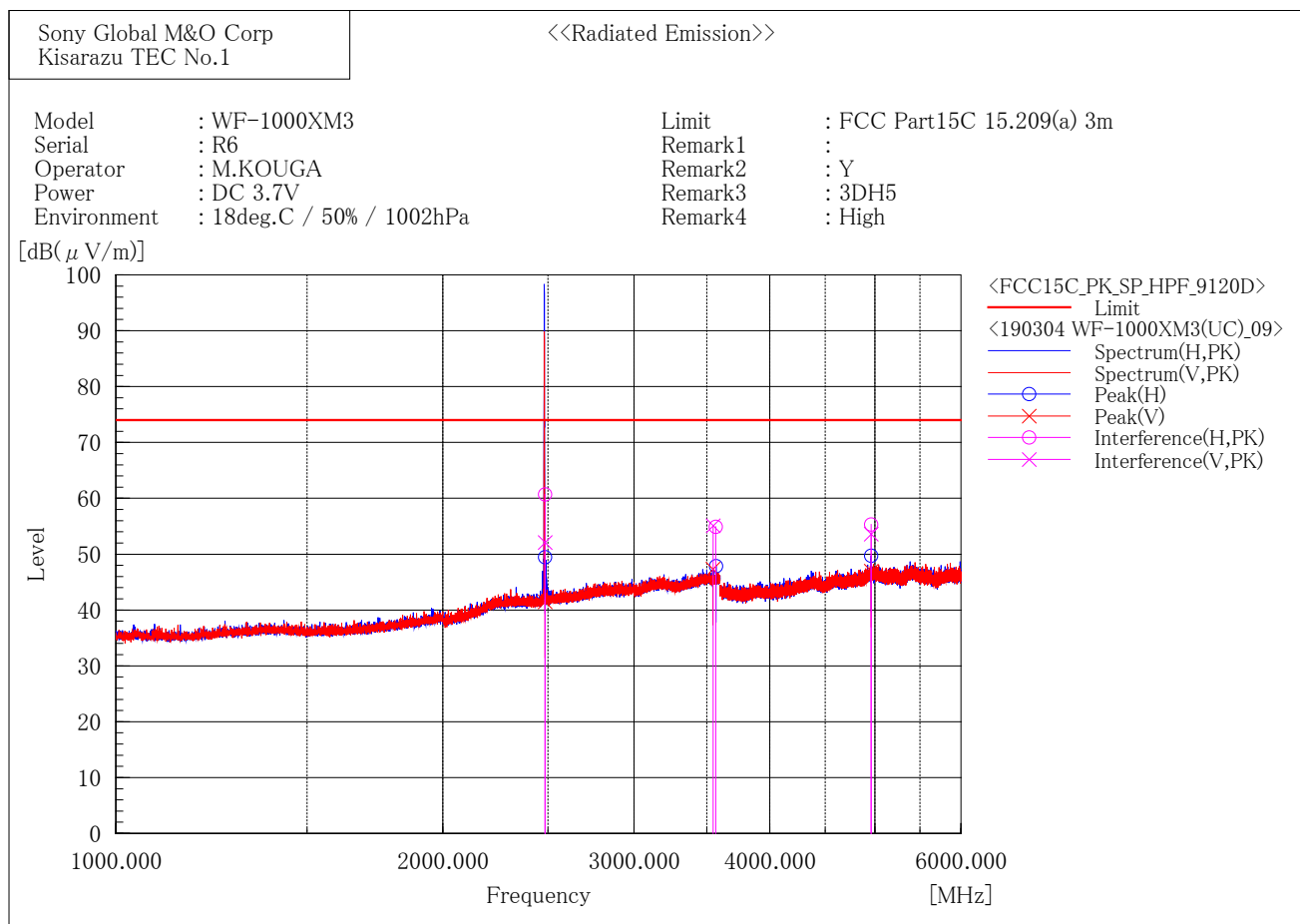
--- Horizontal Polarization (PK)---

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	2504.845	47.6	3.2	50.8	74.0	23.2	100.0	47.7
2	3588.839	48.3	7.3	55.6	74.0	18.4	100.0	116.2
3	4882.013	44.4	11.0	55.4	74.0	18.6	105.3	126.7

--- Vertical Polarization (PK)---

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	2505.159	47.5	3.2	50.7	74.0	23.3	100.0	357.8
2	3537.785	47.1	7.2	54.3	74.0	19.7	185.0	84.9
3	4882.165	41.7	11.0	52.7	74.0	21.3	113.0	170.1

[EDR / 2480 MHz]



Final Result

--- Horizontal Polarization (PK)---

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	2483.500	57.6	3.1	60.7	74.0	13.3	100.0	2.1
2	3567.457	47.6	7.3	54.9	74.0	19.1	100.0	128.7
3	4959.739	44.0	11.3	55.3	74.0	18.7	126.0	132.0

--- Vertical Polarization (PK)---

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	2483.500	49.0	3.1	52.1	74.0	21.9	100.0	199.8
2	3547.252	47.9	7.2	55.1	74.0	18.9	100.0	124.0
3	4960.669	42.3	11.3	53.6	74.0	20.4	116.0	181.7

6 GHz to 18 GHz

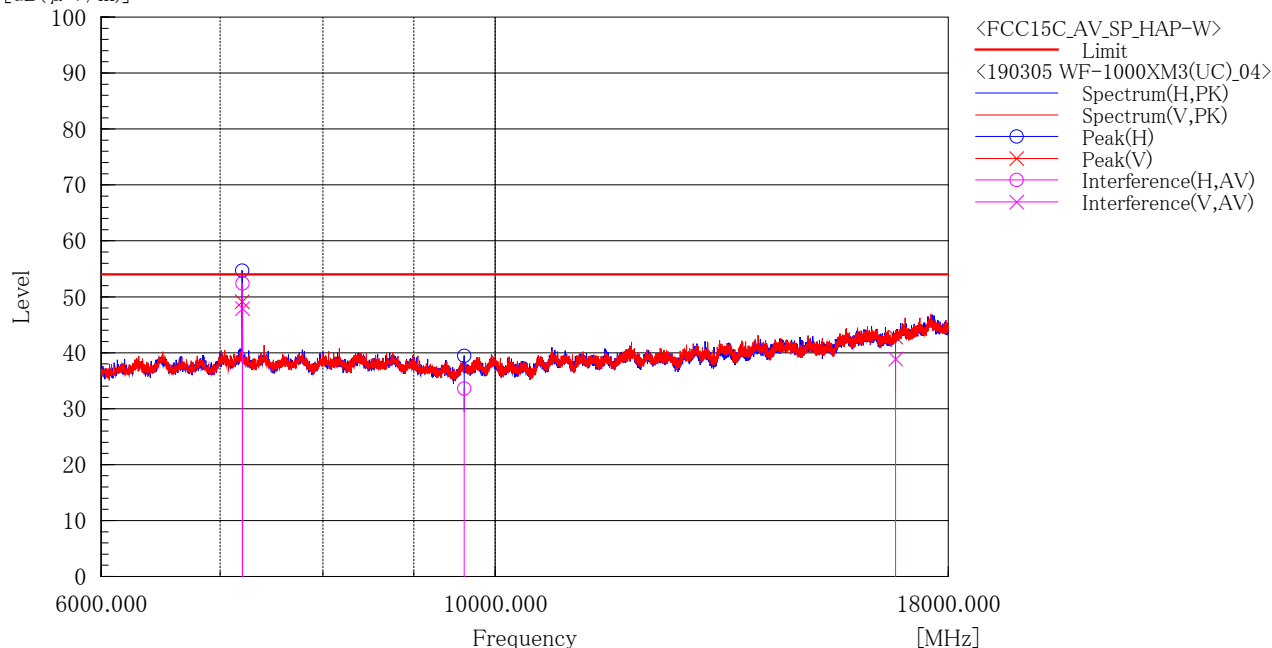
[BDR / 2402 MHz]

Sony Global M&O Corp
Kisarazu No.1

<<Radiated Emission>>

Model : WF-1000XM3
 Serial : R6
 Operator : M.KOUGA
 Power : DC 3.7V
 Environment : 20deg.C / 47% / 1018hPa

Limit : FCC Part15C 15.209(a) 3m
 Remark1 :
 Remark2 : Z
 Remark3 : DH5
 Remark4 : Low

[dB(μ V/m)]

Final Result

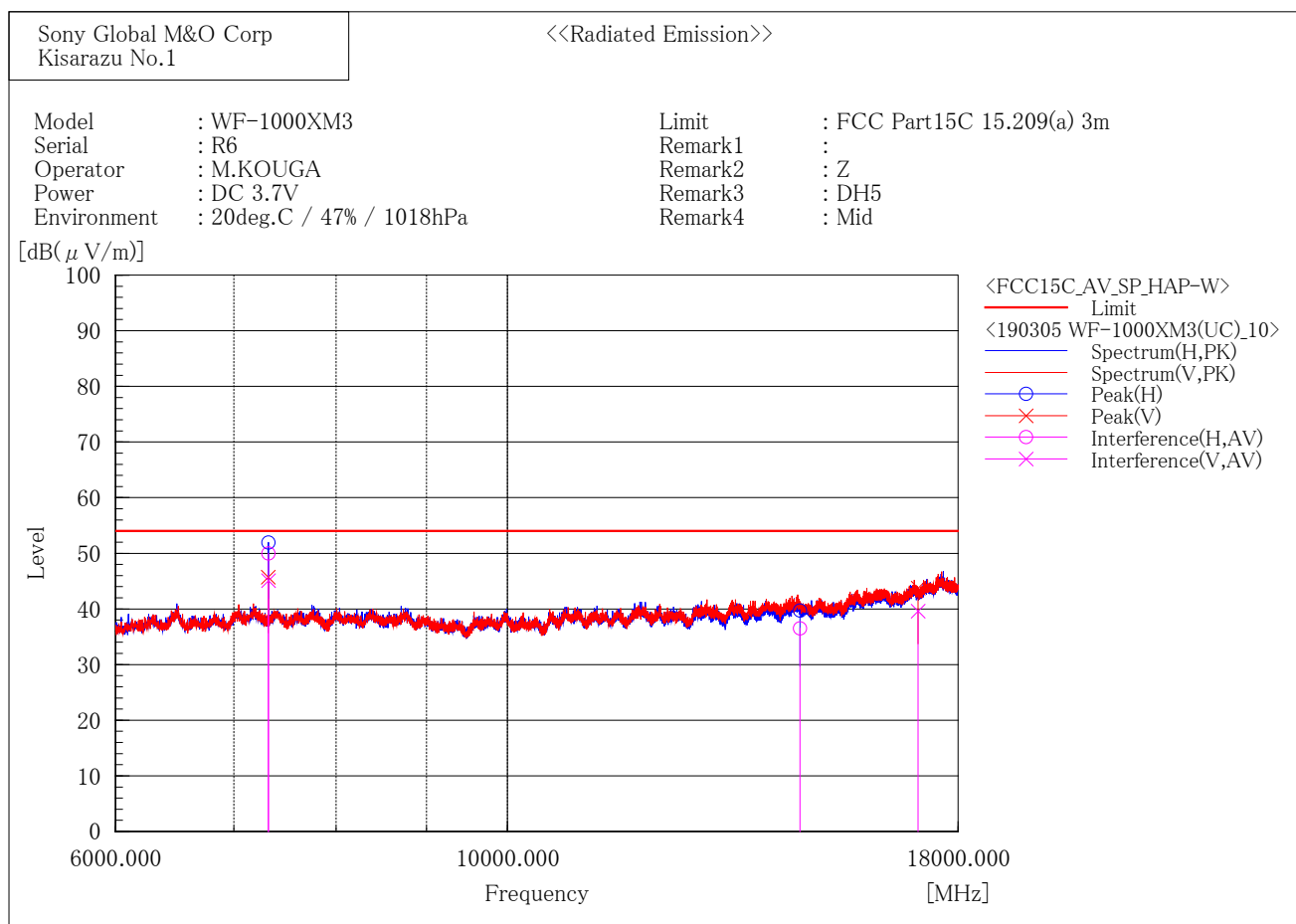
--- Horizontal Polarization (AV)---

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	7205.738	60.0	-7.6	52.4	54.0	1.6	113.8	328.1
2	9608.000	39.6	-6.0	33.6	54.0	20.4	241.0	291.0

--- Vertical Polarization (AV)---

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	7205.645	55.5	-7.6	47.9	54.0	6.1	431.0	277.0
2	16814.000	35.6	3.3	38.9	54.0	15.1	145.9	230.3

[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	7323.333	57.8	-7.8	50.0	54.0	4.0	129.0	322.9
2	14646.000	36.1	0.4	36.5	54.0	17.5	425.0	145.5

--- 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	7323.273	52.9	-7.8	45.1	54.0	8.9	431.0	291.2
2	17087.000	35.0	4.6	39.6	54.0	14.4	148.0	90.3

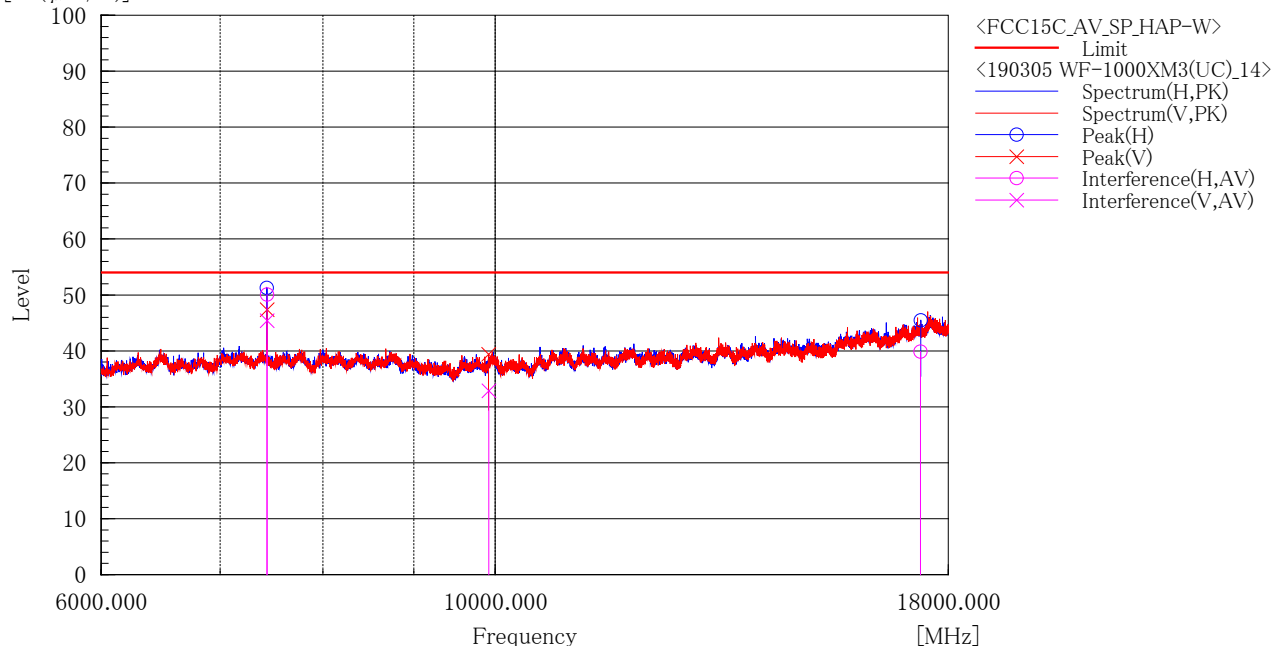
[BDR / 2480 MHz]

Sony Global M&O Corp
Kisarazu No.1

<<Radiated Emission>>

Model : WF-1000XM3
 Serial : R6
 Operator : M.KOUGA
 Power : DC 3.7V
 Environment : 20deg.C / 47% / 1018hPa

Limit : FCC Part15C 15.209(a) 3m
 Remark1 :
 Remark2 : Z
 Remark3 : DH5
 Remark4 : High

[dB(μ V/m)]

Final Result

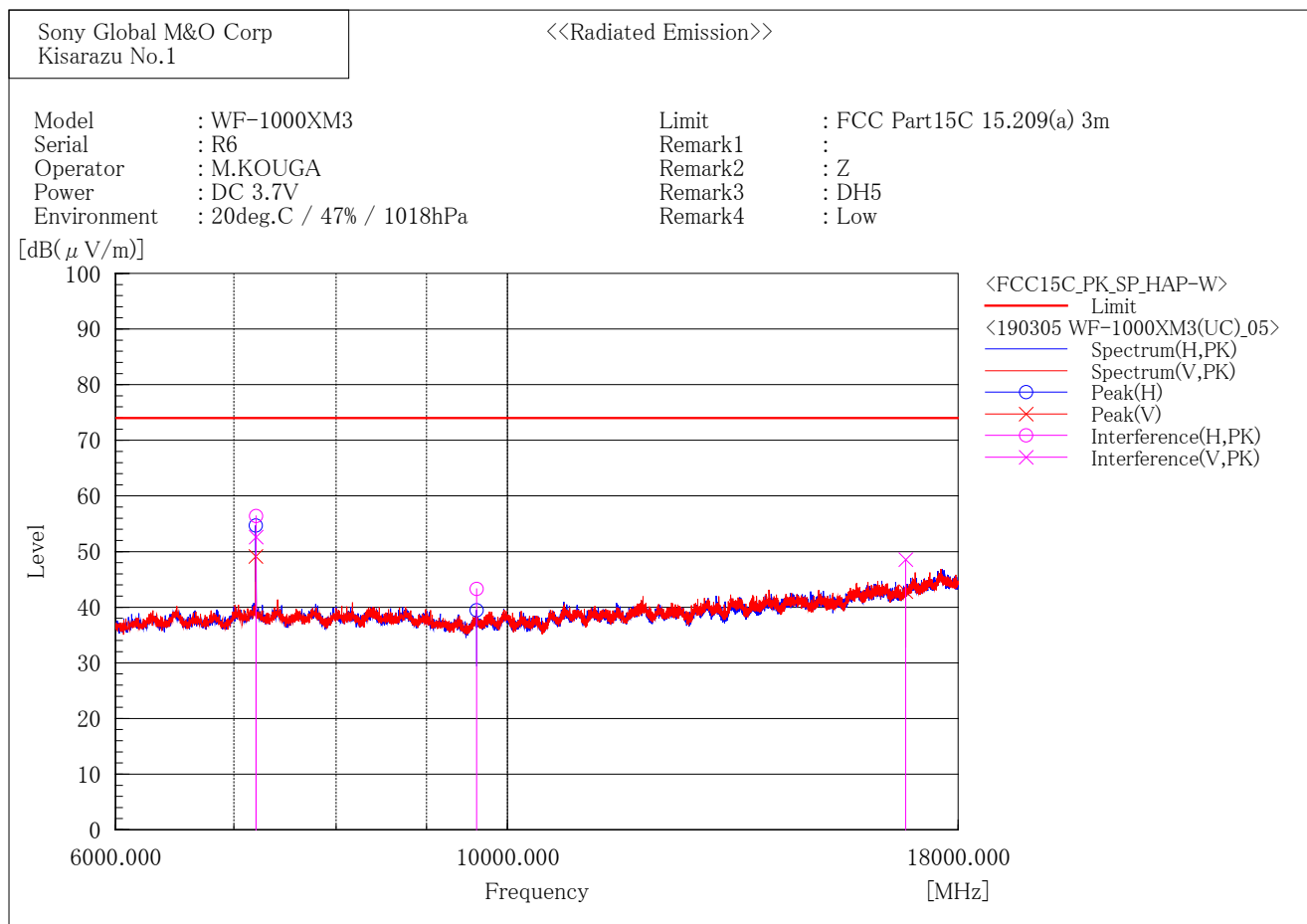
--- Horizontal Polarization (AV)---

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	7439.715	58.0	-7.9	50.1	54.0	3.9	114.0	325.0
2	17360.000	35.3	4.6	39.9	54.0	14.1	100.0	209.7

--- Vertical Polarization (AV)---

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	7439.622	53.3	-7.9	45.4	54.0	8.6	416.8	269.3
2	9920.000	37.7	-4.8	32.9	54.0	21.1	100.0	251.7

[BDR / 2402 MHz]



Final Result

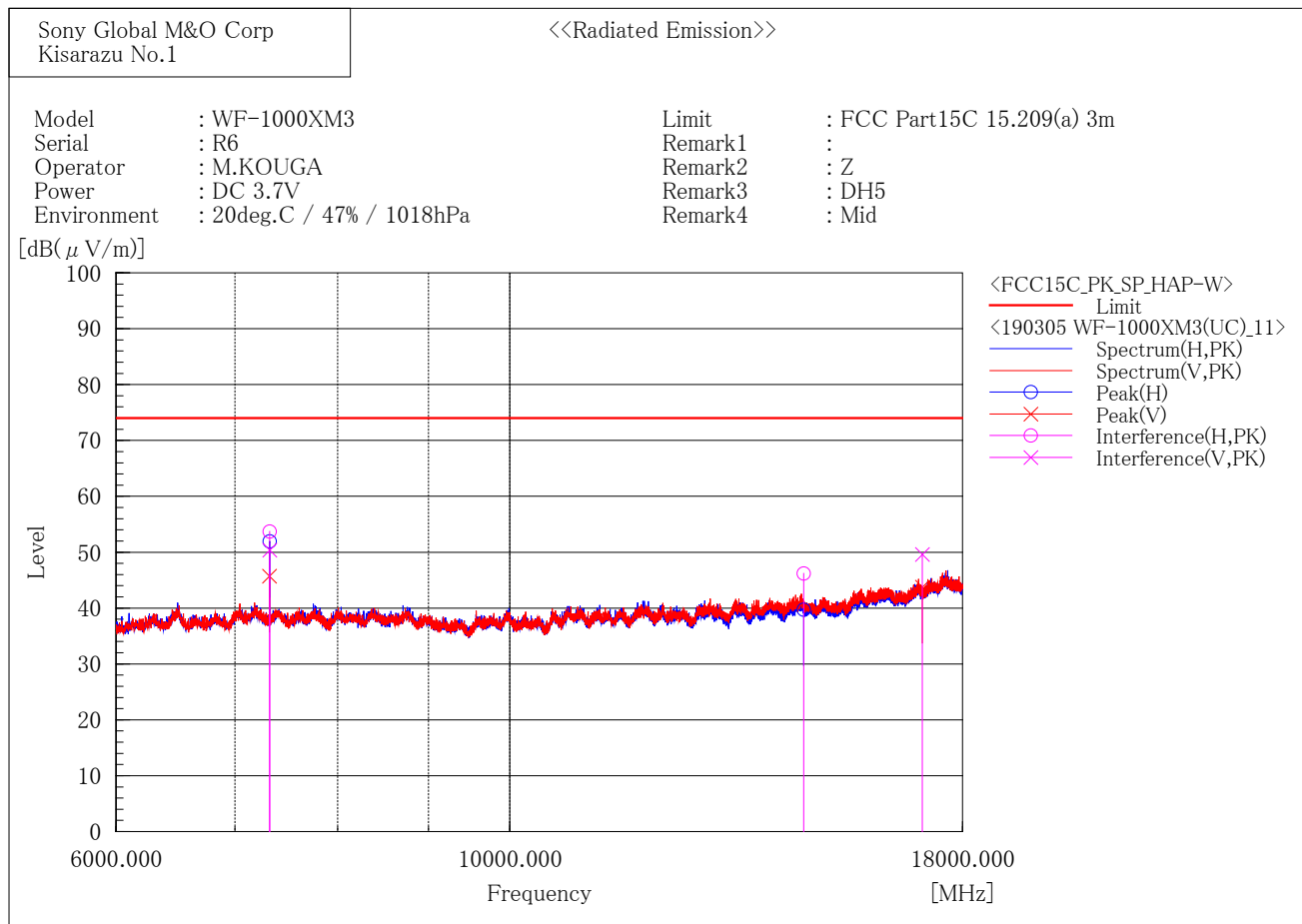
--- Horizontal Polarization (PK)---

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	7205.706	64.0	-7.6	56.4	74.0	17.6	114.0	328.5
2	9608.000	49.3	-6.0	43.3	74.0	30.7	242.0	287.9

--- 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	7205.684	60.2	-7.6	52.6	74.0	21.4	431.0	275.9
2	16814.000	45.3	3.3	48.6	74.0	25.4	147.0	227.1

[BDR / 2441 MHz]



Final Result

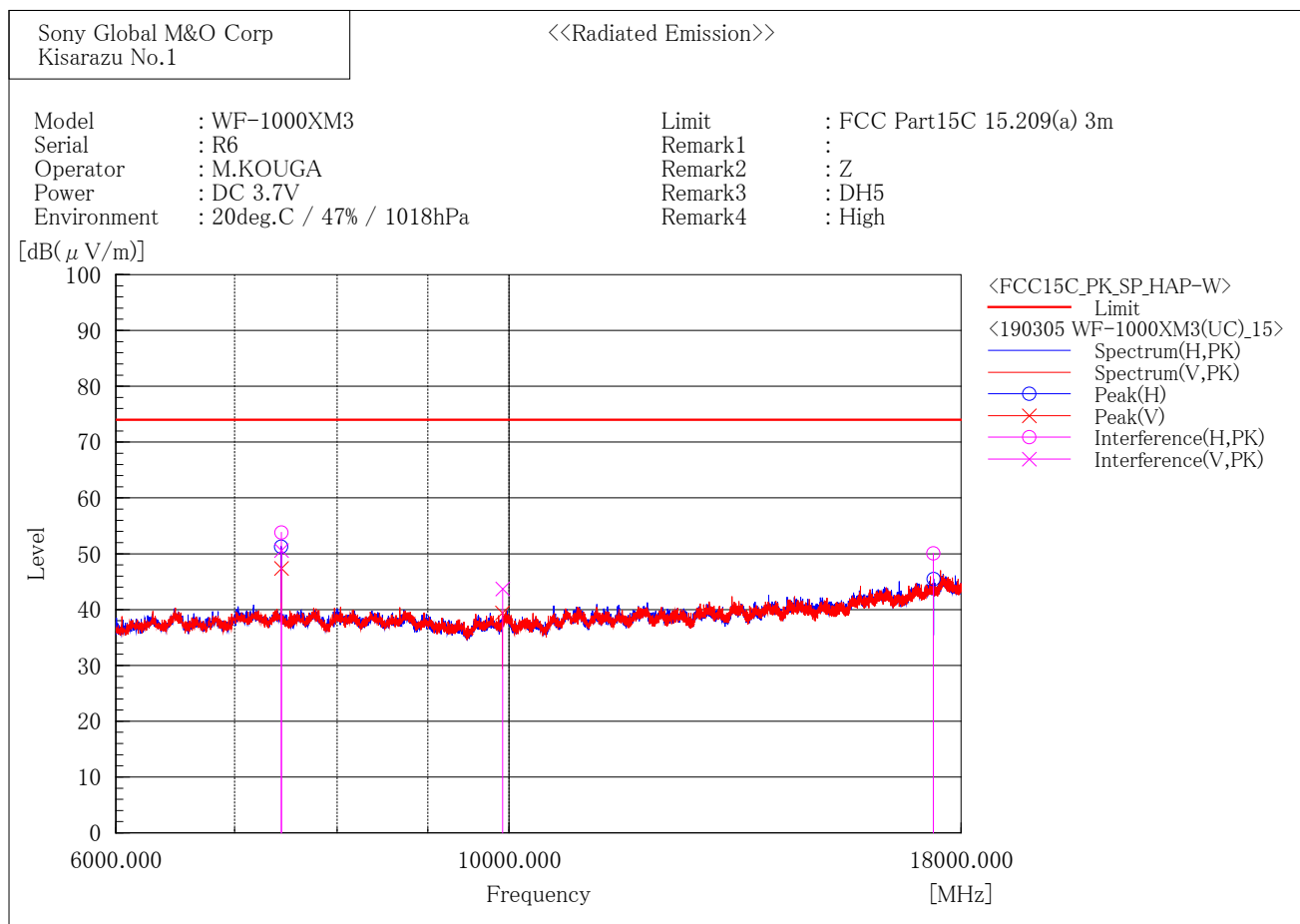
--- Horizontal Polarization (PK)---

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	7323.347	61.5	-7.8	53.7	74.0	20.3	127.0	323.3
2	14646.000	45.8	0.4	46.2	74.0	27.8	424.0	146.1

--- Vertical Polarization (PK)---

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	7323.509	58.2	-7.8	50.4	74.0	23.6	431.0	291.0
2	17086.940	45.0	4.6	49.6	74.0	24.4	148.0	93.1

[BDR / 2480 MHz]



Final Result

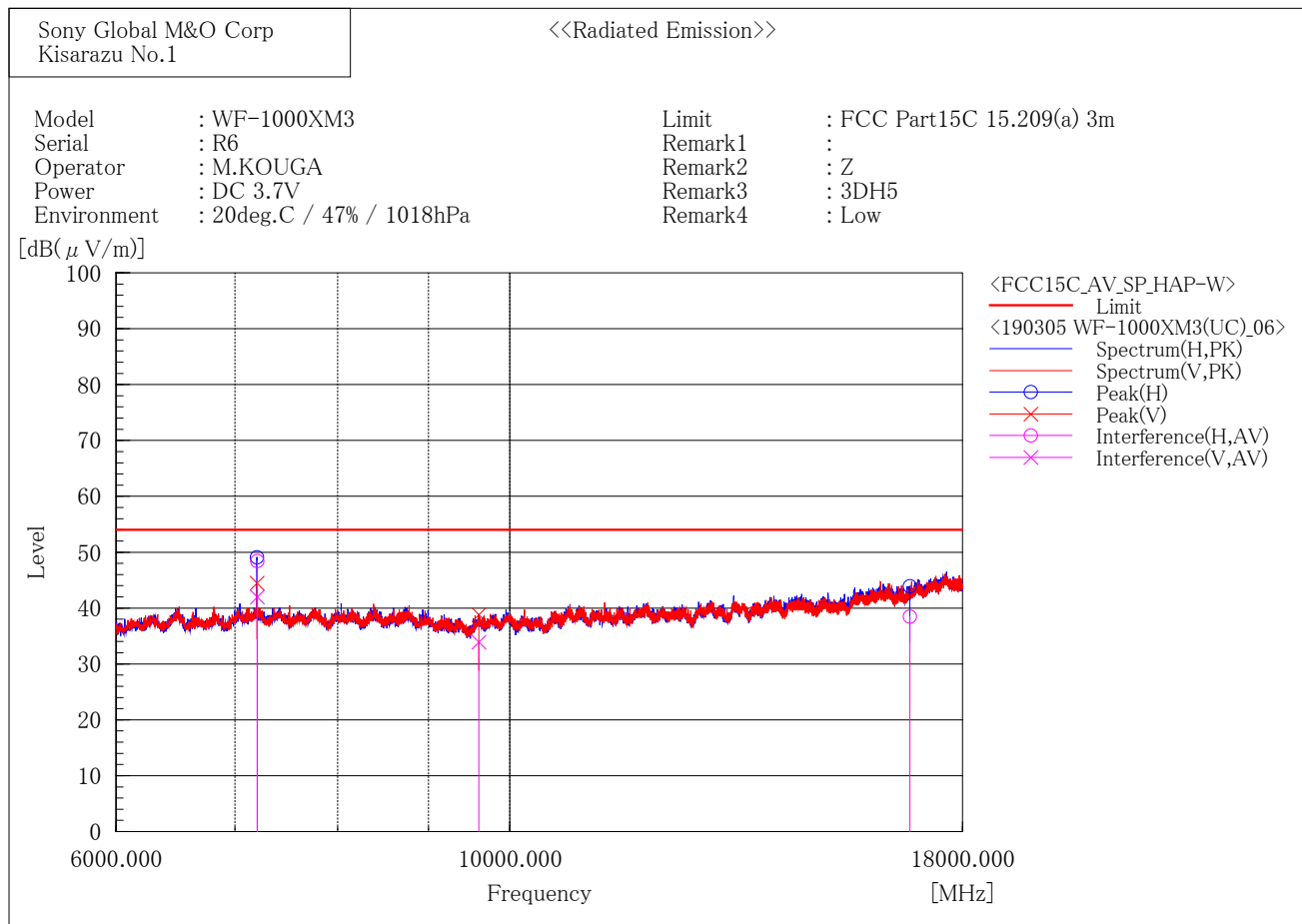
--- Horizontal Polarization (PK)---

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	7439.412	61.7	-7.9	53.8	74.0	20.2	100.0	326.4
2	17360.000	45.5	4.6	50.1	74.0	23.9	100.0	211.9

--- Vertical Polarization (PK)---

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	7440.363	58.5	-7.9	50.6	74.0	23.4	417.0	269.6
2	9920.000	48.5	-4.8	43.7	74.0	30.3	100.0	250.0

[EDR / 2402 MHz]



Final Result

--- Horizontal Polarization (AV)---

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	7206.353	56.0	-7.6	48.4	54.0	5.6	127.7	318.5
2	16814.000	35.2	3.3	38.5	54.0	15.5	243.0	19.2

--- Vertical Polarization (AV)---

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	7206.298	49.6	-7.6	42.0	54.0	12.0	421.9	226.1
2	9608.000	39.9	-6.0	33.9	54.0	20.1	263.1	163.6

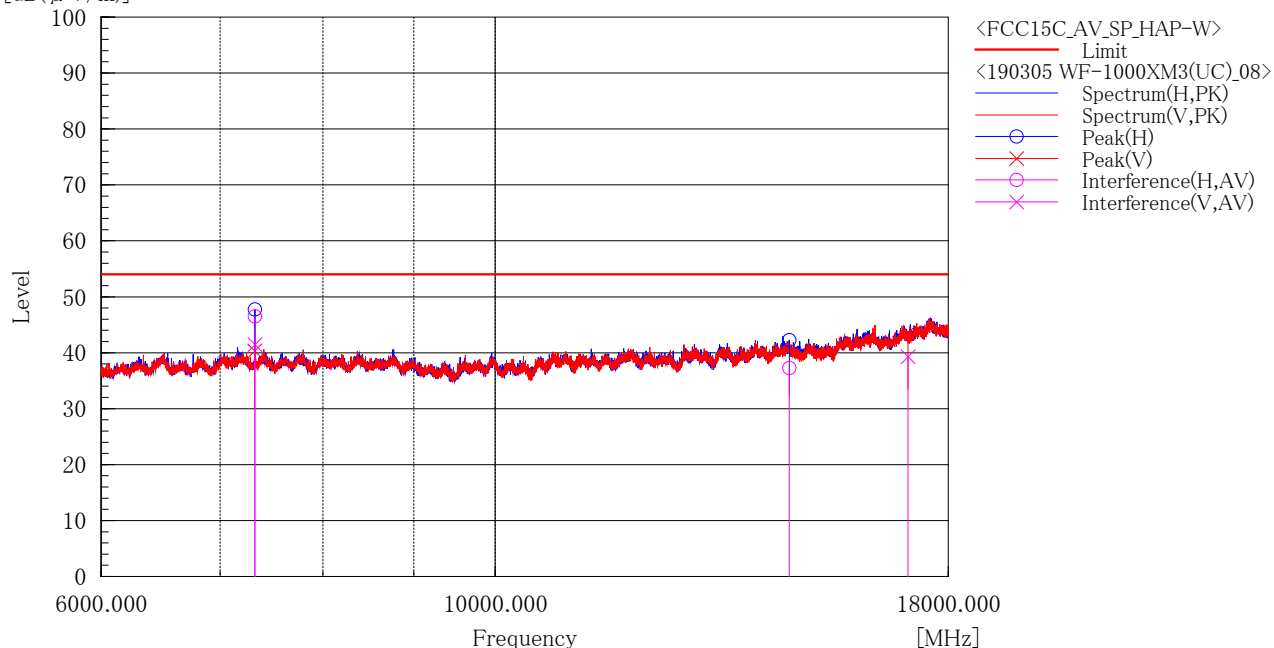
[EDR / 2441 MHz]

Sony Global M&O Corp
Kisarazu No.1

<<Radiated Emission>>

Model : WF-1000XM3
 Serial : R6
 Operator : M.KOUGA
 Power : DC 3.7V
 Environment : 20deg.C / 47% / 1018hPa

Limit : FCC Part15C 15.209(a) 3m
 Remark1 :
 Remark2 : Z
 Remark3 : 3DH5
 Remark4 : Mid

[dB(μ V/m)]

Final Result

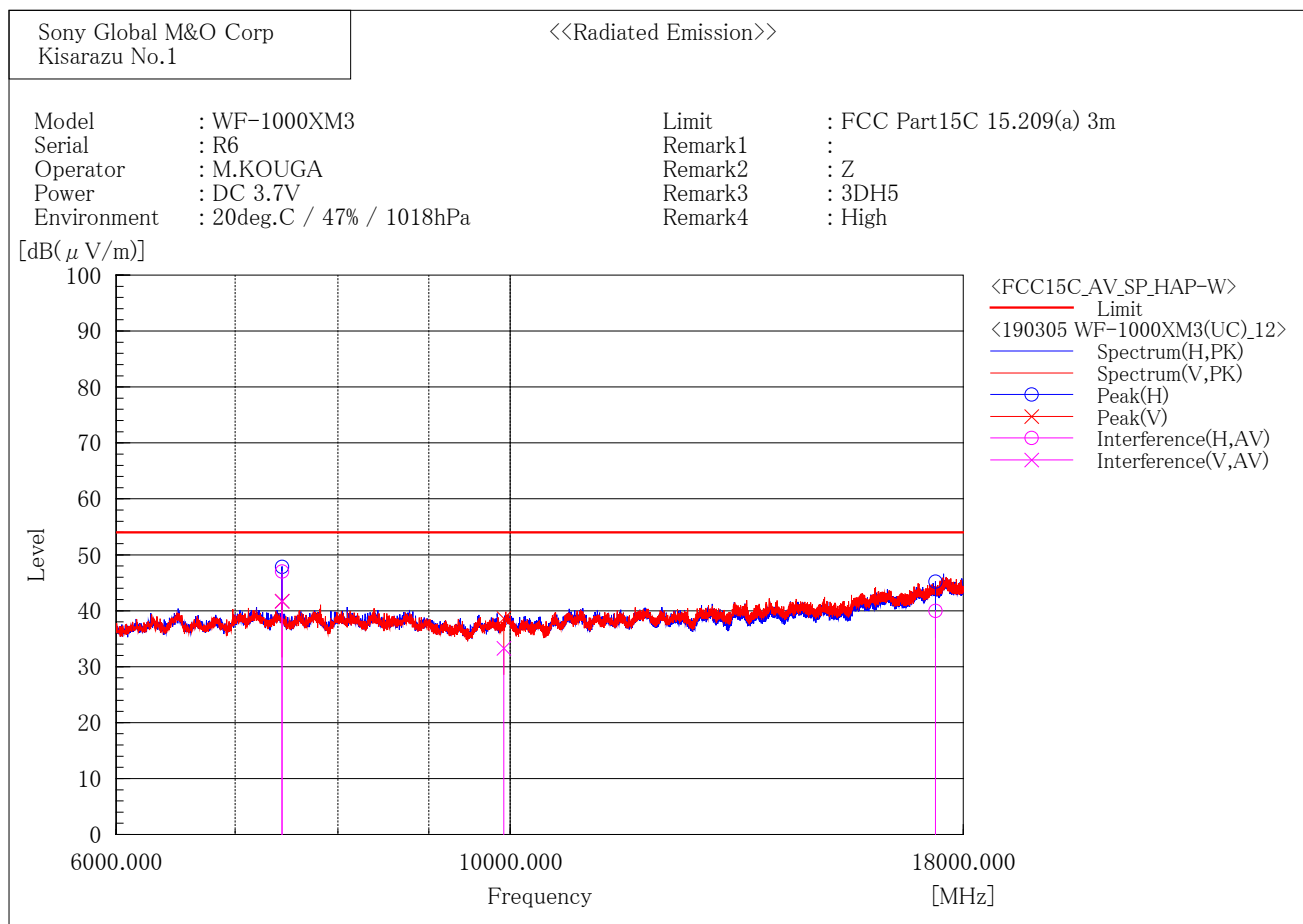
--- Horizontal Polarization (AV)---

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	7323.362	54.3	-7.8	46.5	54.0	7.5	130.0	325.8
2	14646.000	36.9	0.4	37.3	54.0	16.7	100.0	115.8

--- Vertical Polarization (AV)---

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	7323.426	49.3	-7.8	41.5	54.0	12.5	431.0	266.7
2	17087.000	34.7	4.6	39.3	54.0	14.7	100.0	200.0

[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	7440.381	54.9	-7.9	47.0	54.0	7.0	119.7	320.4
2	17360.000	35.4	4.6	40.0	54.0	14.0	150.0	310.9

--- 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	7440.338	49.6	-7.9	41.7	54.0	12.3	417.0	280.4
2	9920.000	38.1	-4.8	33.3	54.0	20.7	280.0	280.2

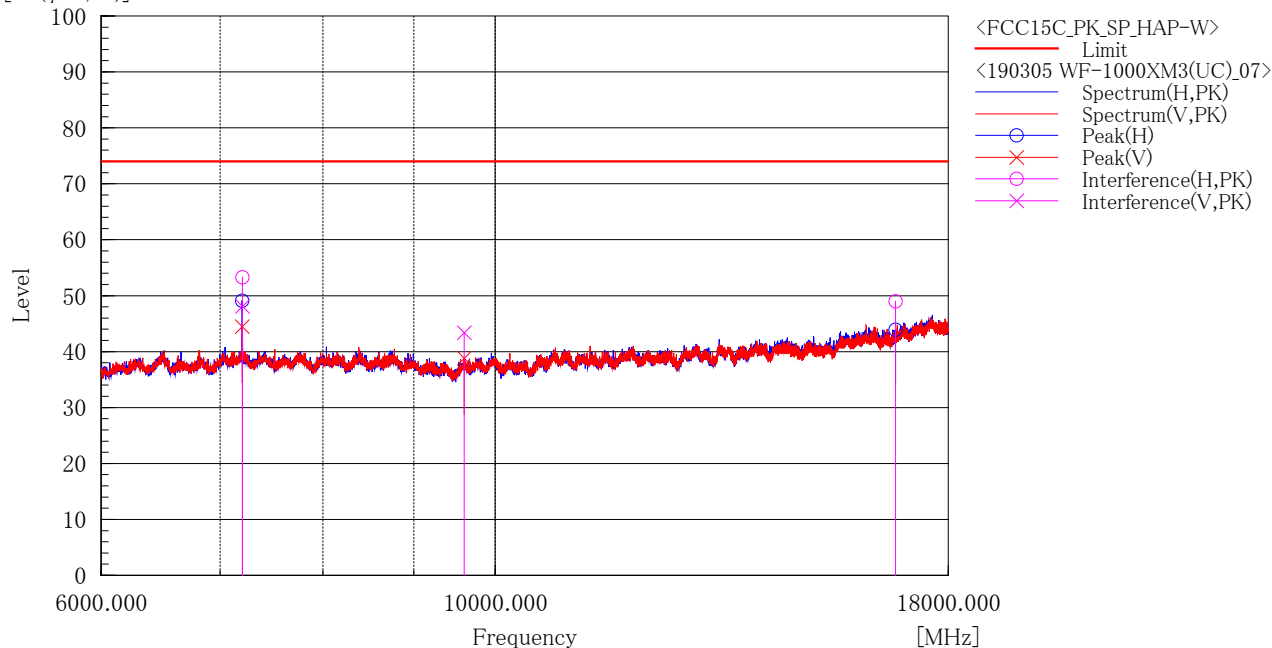
[EDR / 2402 MHz]

Sony Global M&O Corp
Kisarazu No.1

<<Radiated Emission>>

Model : WF-1000XM3
 Serial : R6
 Operator : M.KOUGA
 Power : DC 3.7V
 Environment : 20deg.C / 47% / 1018hPa

Limit : FCC Part15C 15.209(a) 3m
 Remark1 :
 Remark2 : Z
 Remark3 : 3DH5
 Remark4 : Low

[dB(μ V/m)]

Final Result

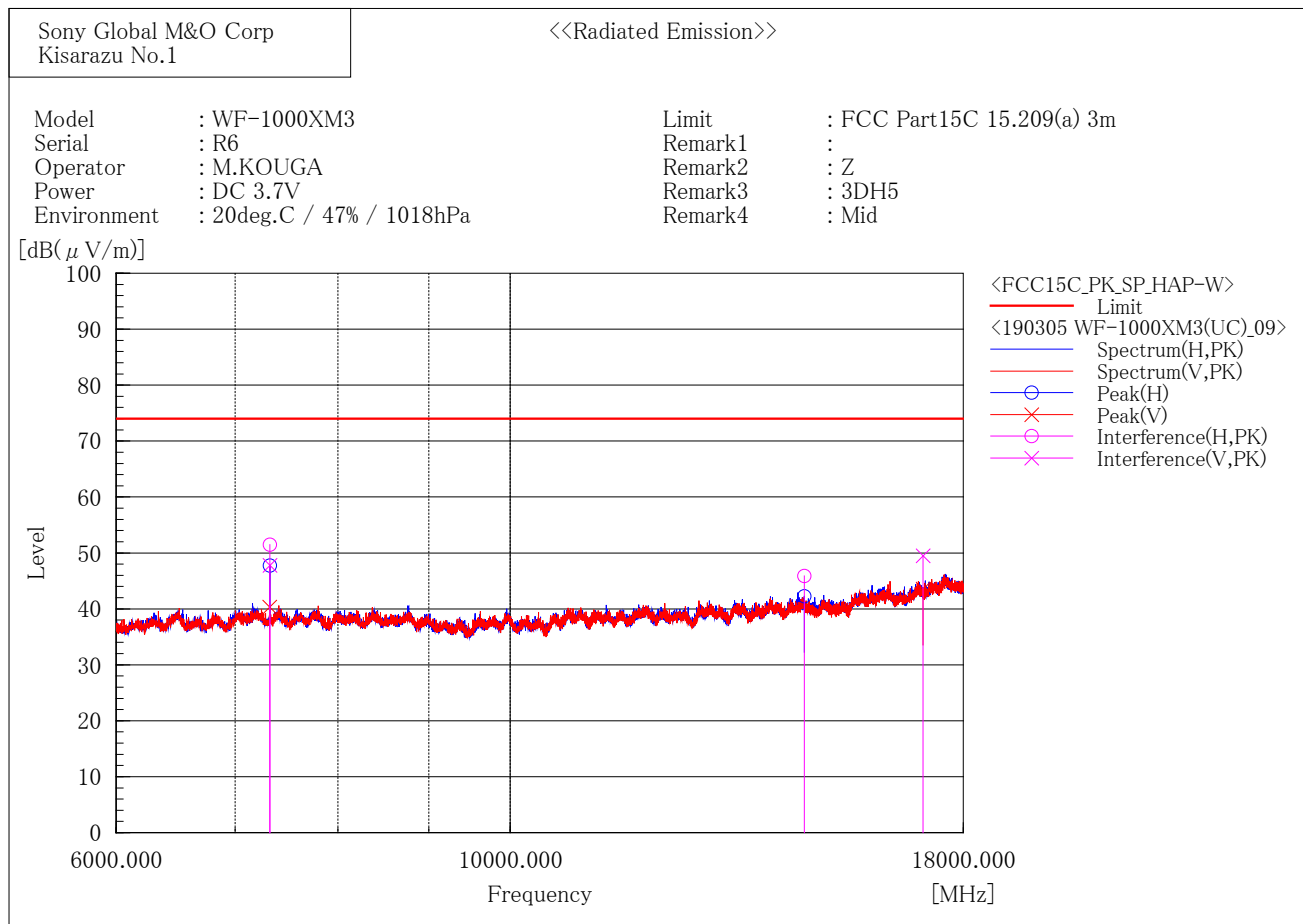
--- Horizontal Polarization (PK)---

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	7205.928	60.9	-7.6	53.3	74.0	20.7	128.0	318.9
2	16814.000	45.7	3.3	49.0	74.0	25.0	242.0	19.8

--- Vertical Polarization (PK)---

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	7206.111	55.7	-7.6	48.1	74.0	25.9	421.0	224.8
2	9608.000	49.4	-6.0	43.4	74.0	30.6	264.0	165.6

[EDR / 2441 MHz]



Final Result

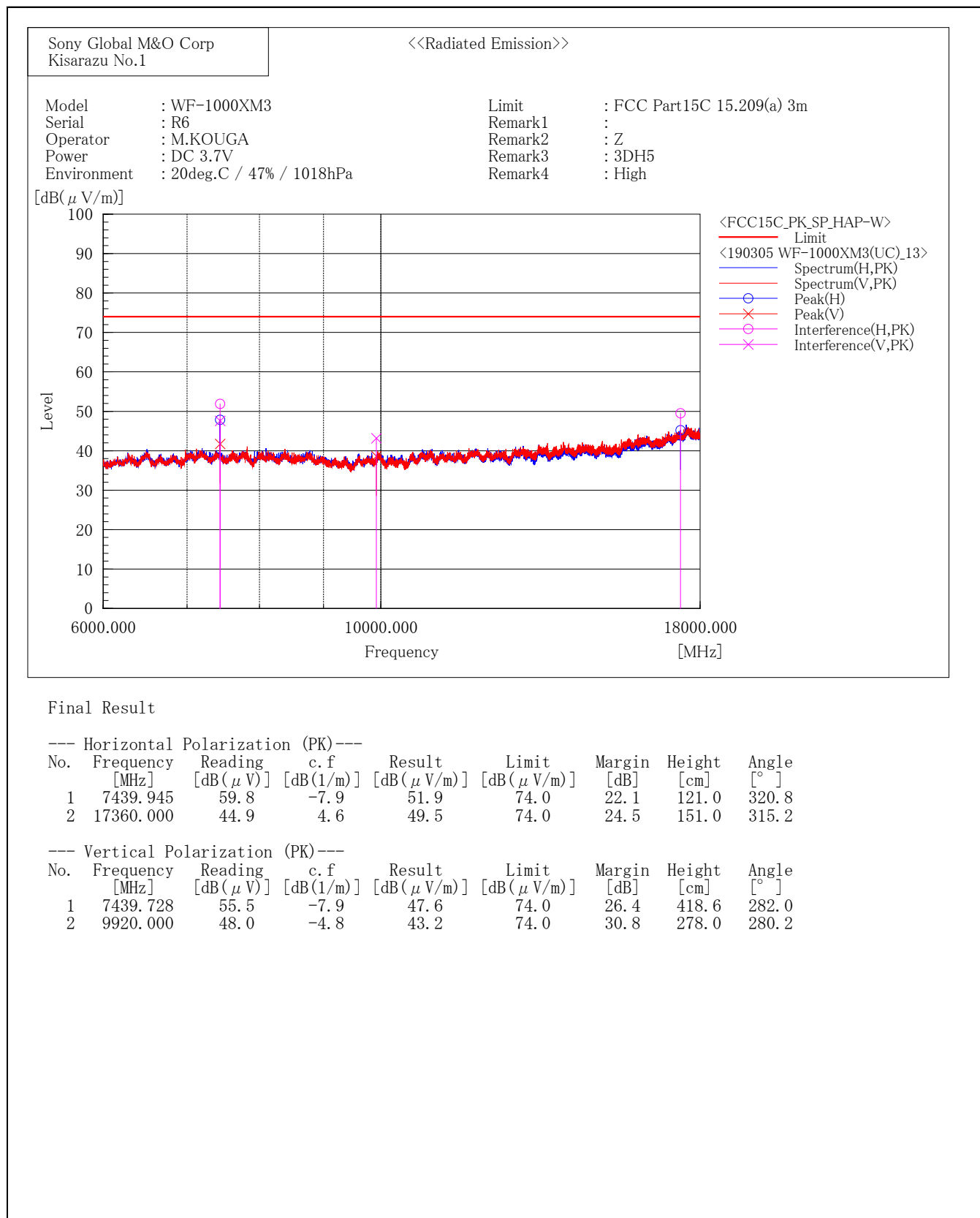
--- Horizontal Polarization (PK)---

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	7322.970	59.3	-7.8	51.5	74.0	22.5	129.0	325.0
2	14646.000	45.5	0.4	45.9	74.0	28.1	100.0	116.4

--- Vertical Polarization (PK)---

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	7323.080	55.6	-7.8	47.8	74.0	26.2	431.0	265.9
2	17087.000	44.9	4.6	49.5	74.0	24.5	100.0	201.9

[EDR / 2480 MHz]



18 GHz to 26.5 GHz

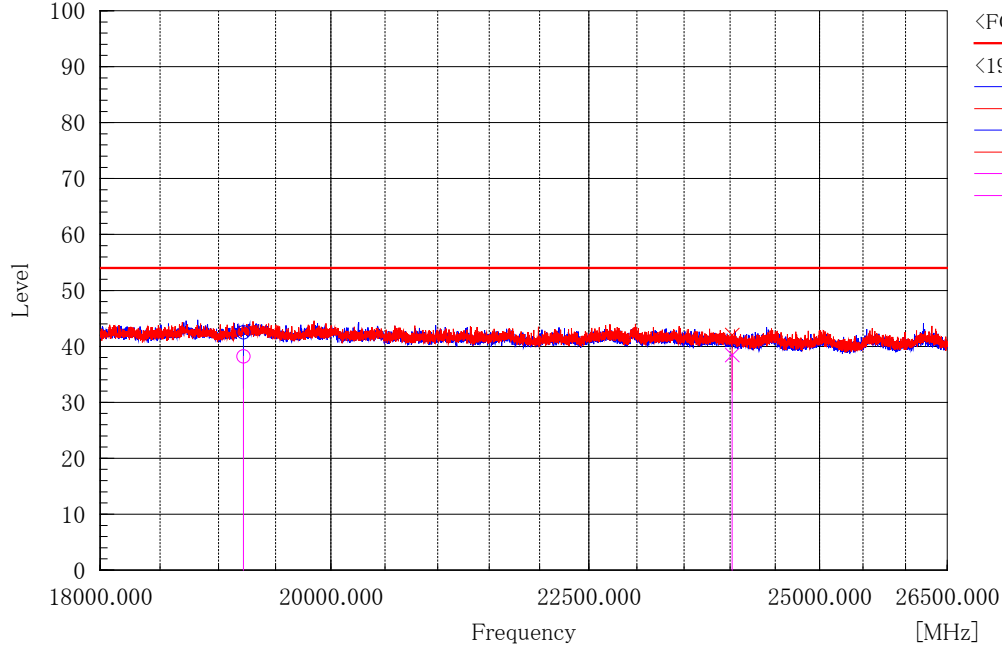
[BDR / 2402 MHz]

Sony Global M&O Corp
Kisarazu No.1

<<Radiated Emission>>

Model : WF-1000XM3
 Serial : R6
 Operator : M.KOUGA
 Power : DC 3.7V
 Environment : 20deg.C / 47% / 1018hPa

Limit : FCC Part15C 15.209(a) 3m
 Remark1 :
 Remark2 : Z
 Remark3 : DH5
 Remark4 : Low

[dB(μ V/m)]

<FCC15C_AV_SP_HAP-W>

Limit

<190305 WF-1000XM3(UC)_17>

Spectrum(H,PK)

Spectrum(V,PK)

Peak(H)

Peak(V)

Interference(H,AV)

Interference(V,AV)

Final Result

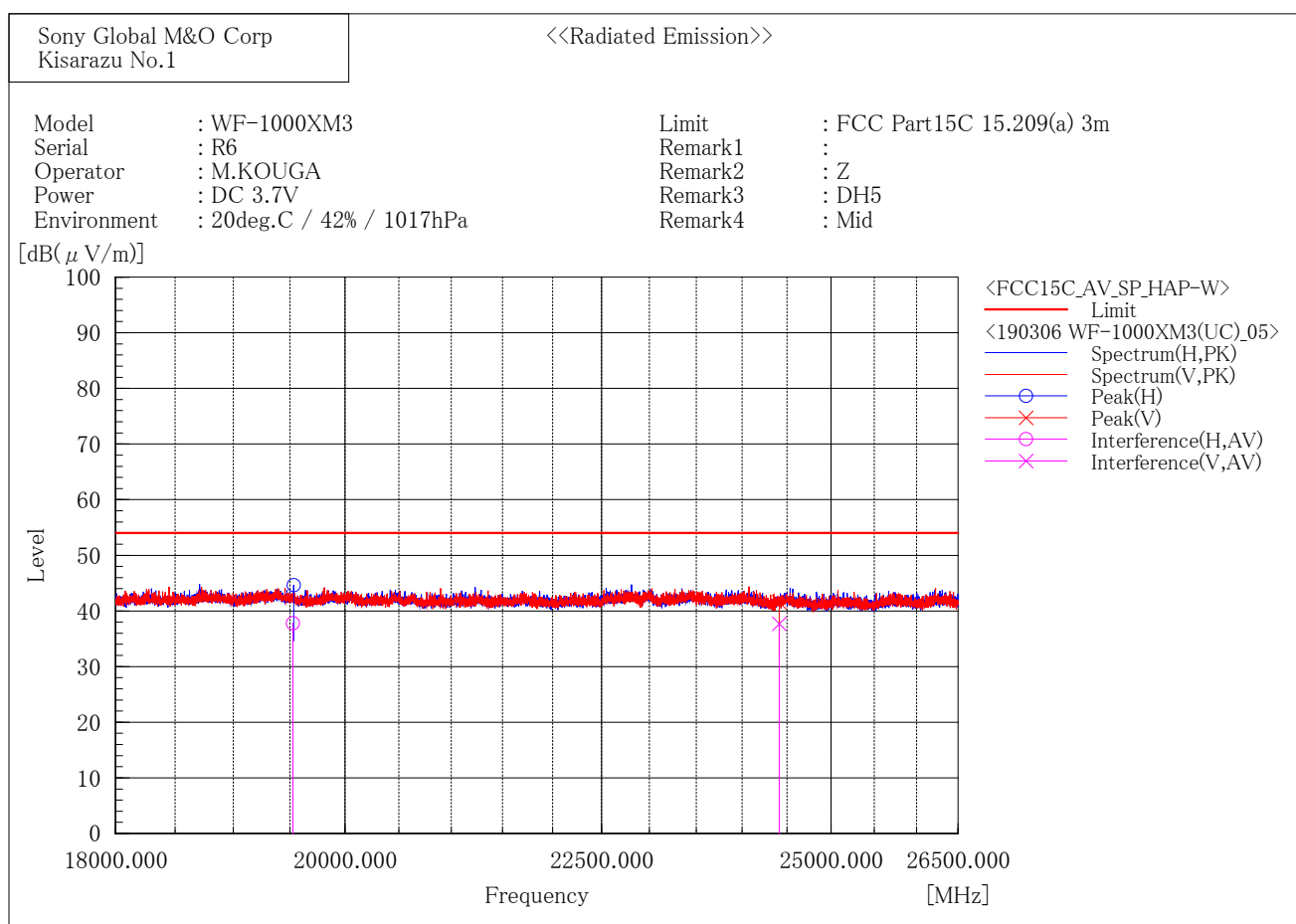
--- Horizontal Polarization (AV)---

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	19216.000	39.0	-0.8	38.2	54.0	15.8	124.7	317.8

--- Vertical Polarization (AV)---

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	24020.000	40.8	-2.3	38.5	54.0	15.5	272.1	5.1

[BDR / 2440 MHz]



Final Result

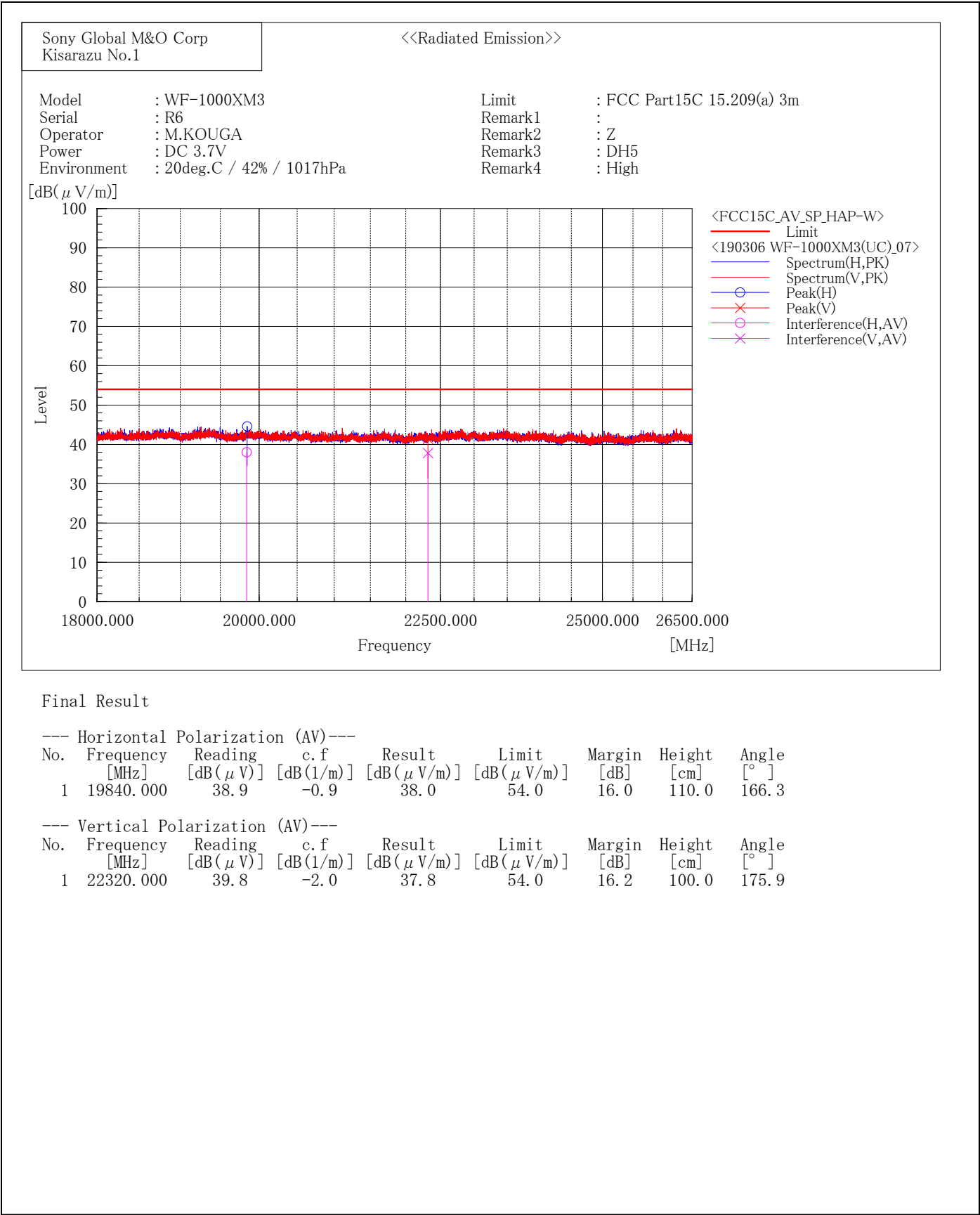
--- Horizontal Polarization (AV)---

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	19528.000	38.6	-0.8	37.8	54.0	16.2	108.1	124.8

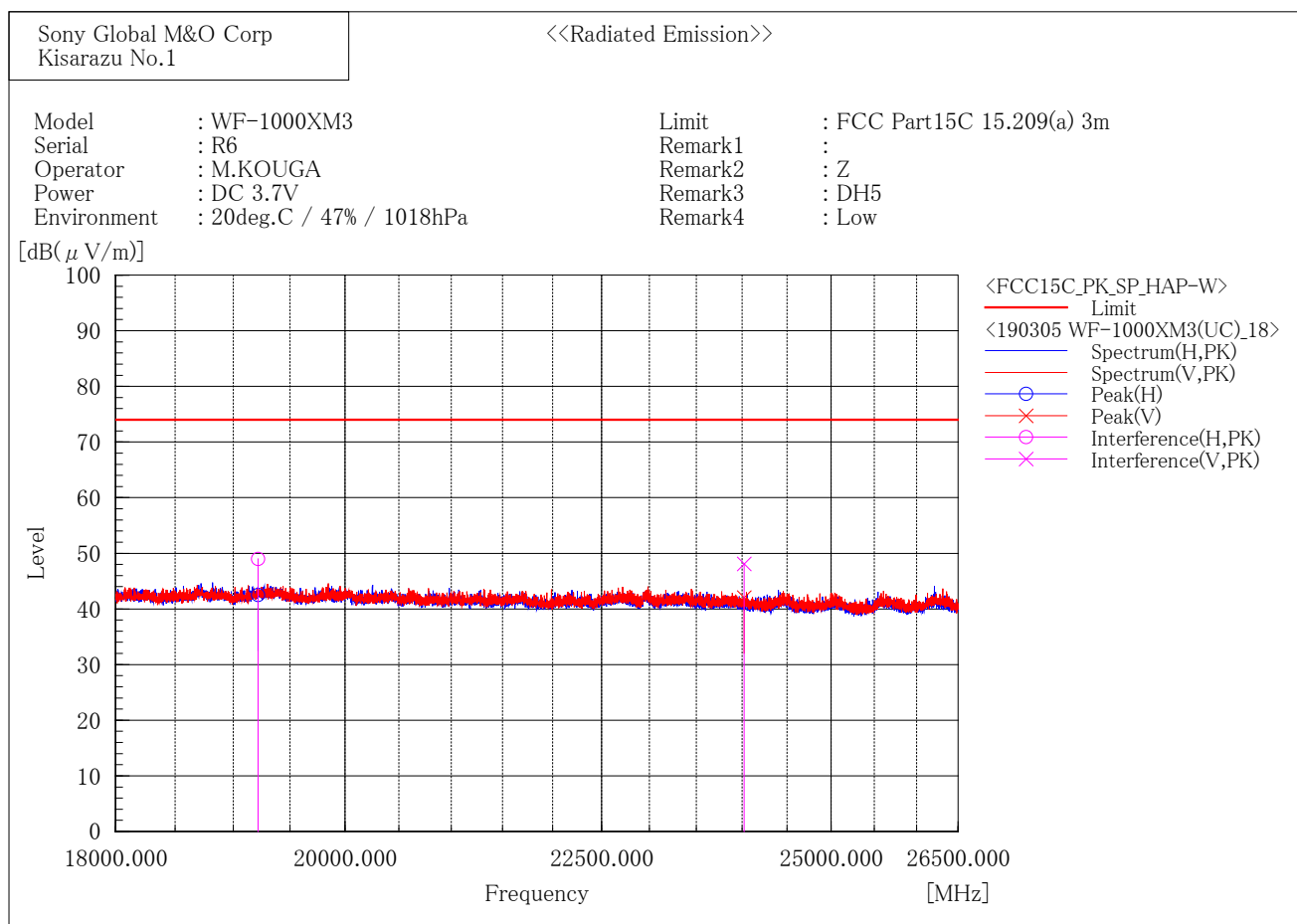
--- Vertical Polarization (AV)---

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	24410.000	40.3	-2.6	37.7	54.0	16.3	176.0	10.5

[BDR / 2480 MHz]



[BDR / 2402 MHz]



Final Result

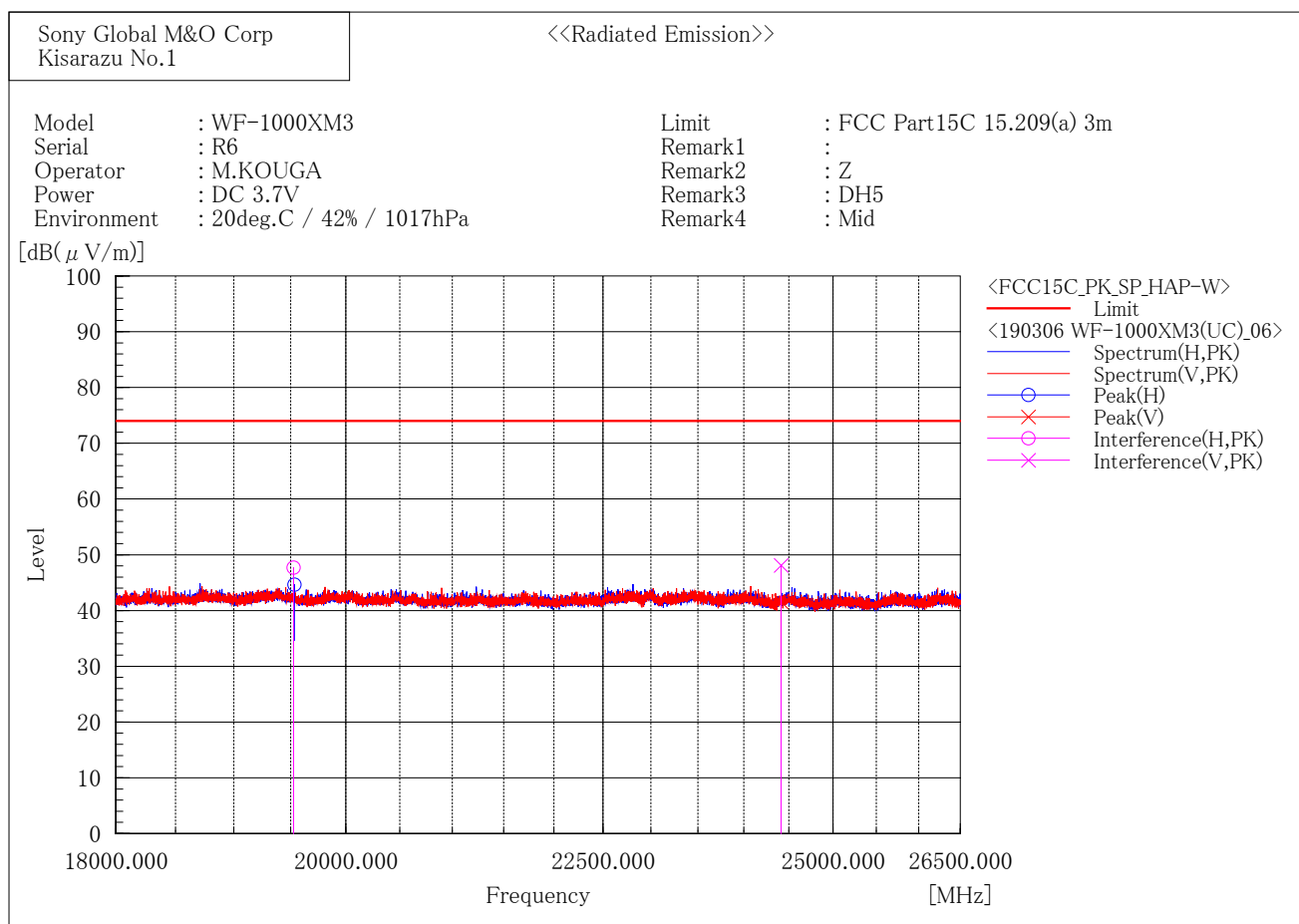
--- Horizontal Polarization (PK)---

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	19216.000	49.8	-0.8	49.0	74.0	25.0	126.0	319.9

--- Vertical Polarization (PK)---

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	24020.000	50.4	-2.3	48.1	74.0	25.9	272.0	0.0

[BDR / 2441 MHz]



Final Result

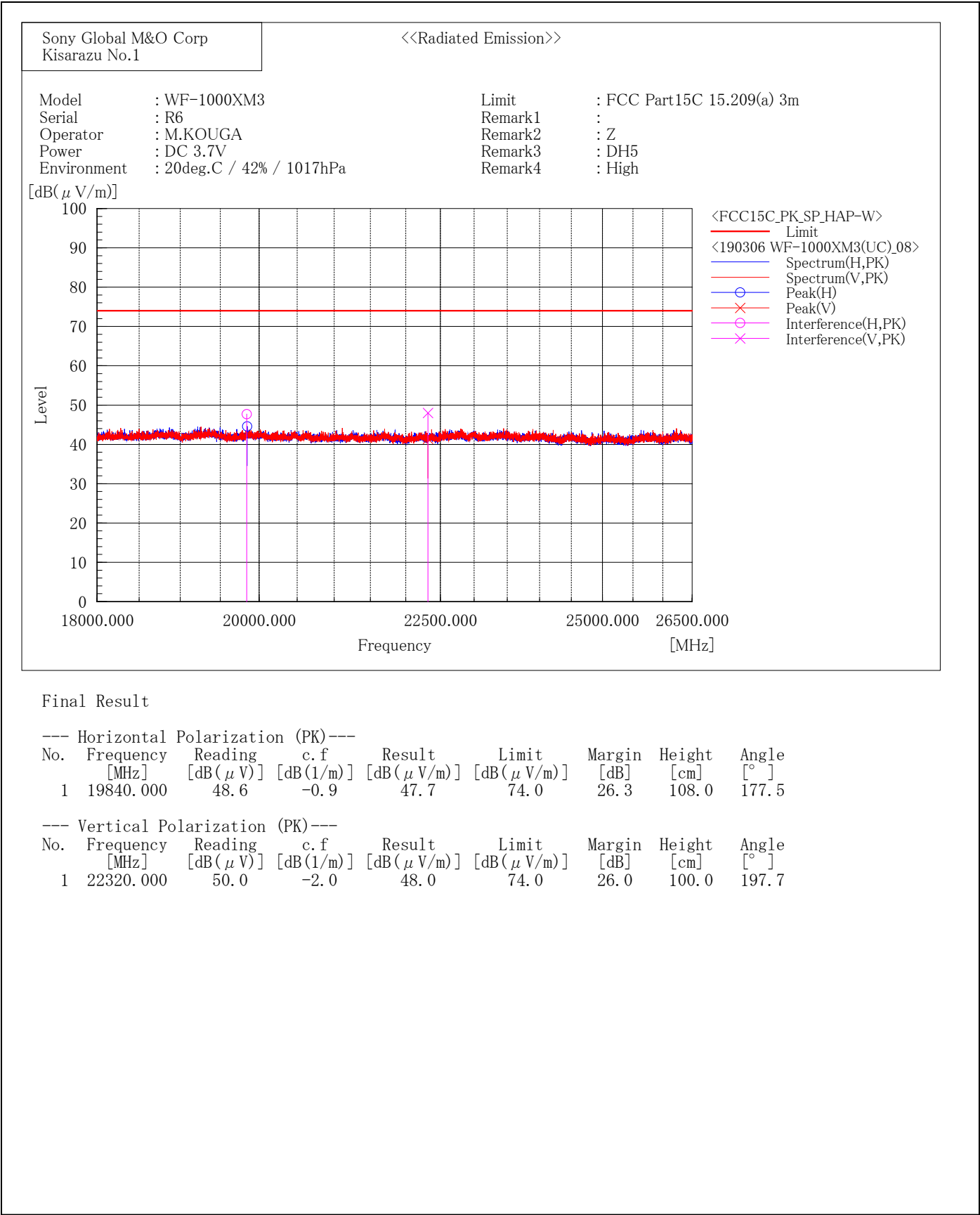
--- Horizontal Polarization (PK)---

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	19528.000	48.5	-0.8	47.7	74.0	26.3	110.0	129.3

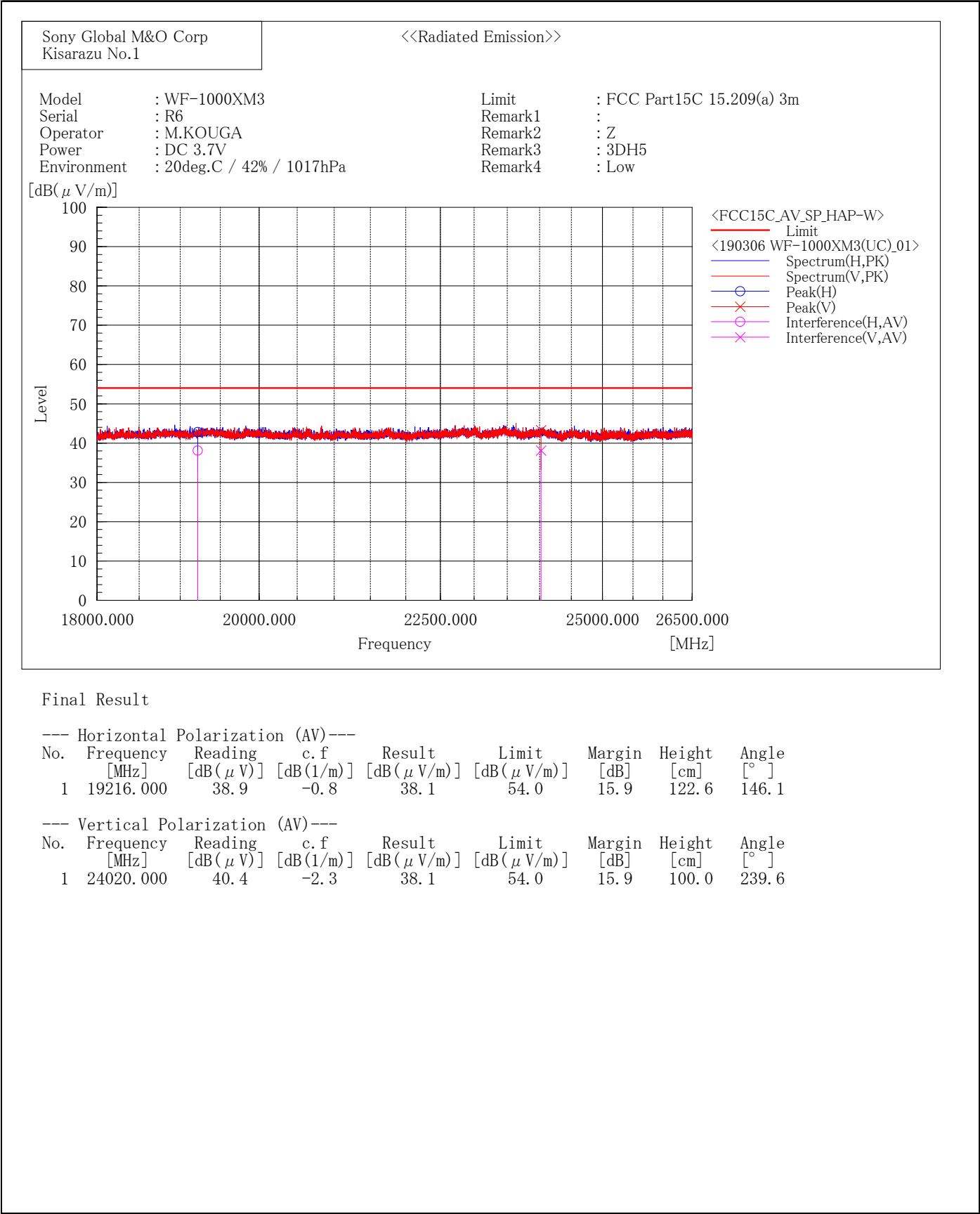
--- Vertical Polarization (PK)---

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	24410.000	50.7	-2.6	48.1	74.0	25.9	180.0	10.6

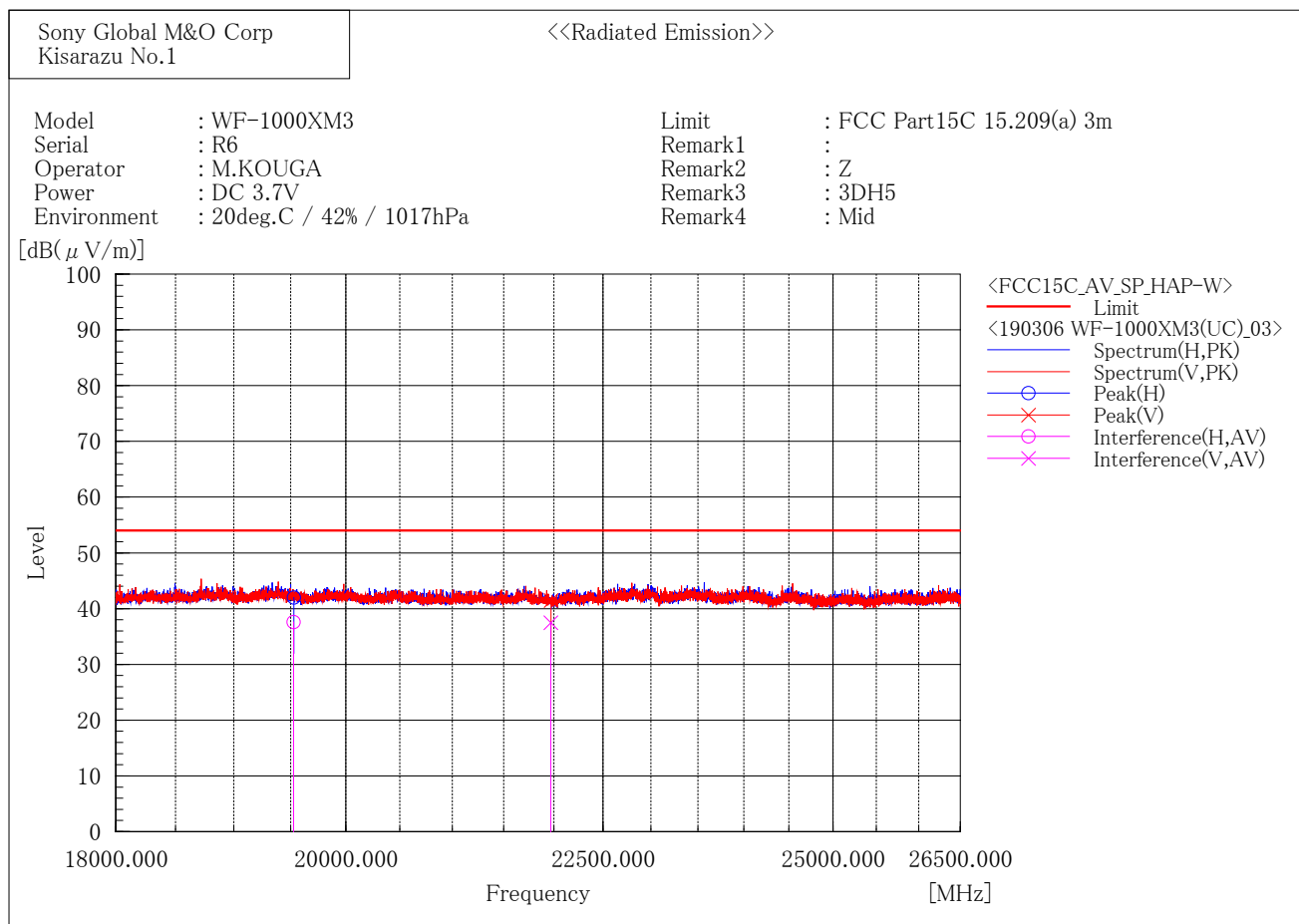
[BDR / 2480 MHz]



[EDR / 2402 MHz]



[EDR / 2441 MHz]



Final Result

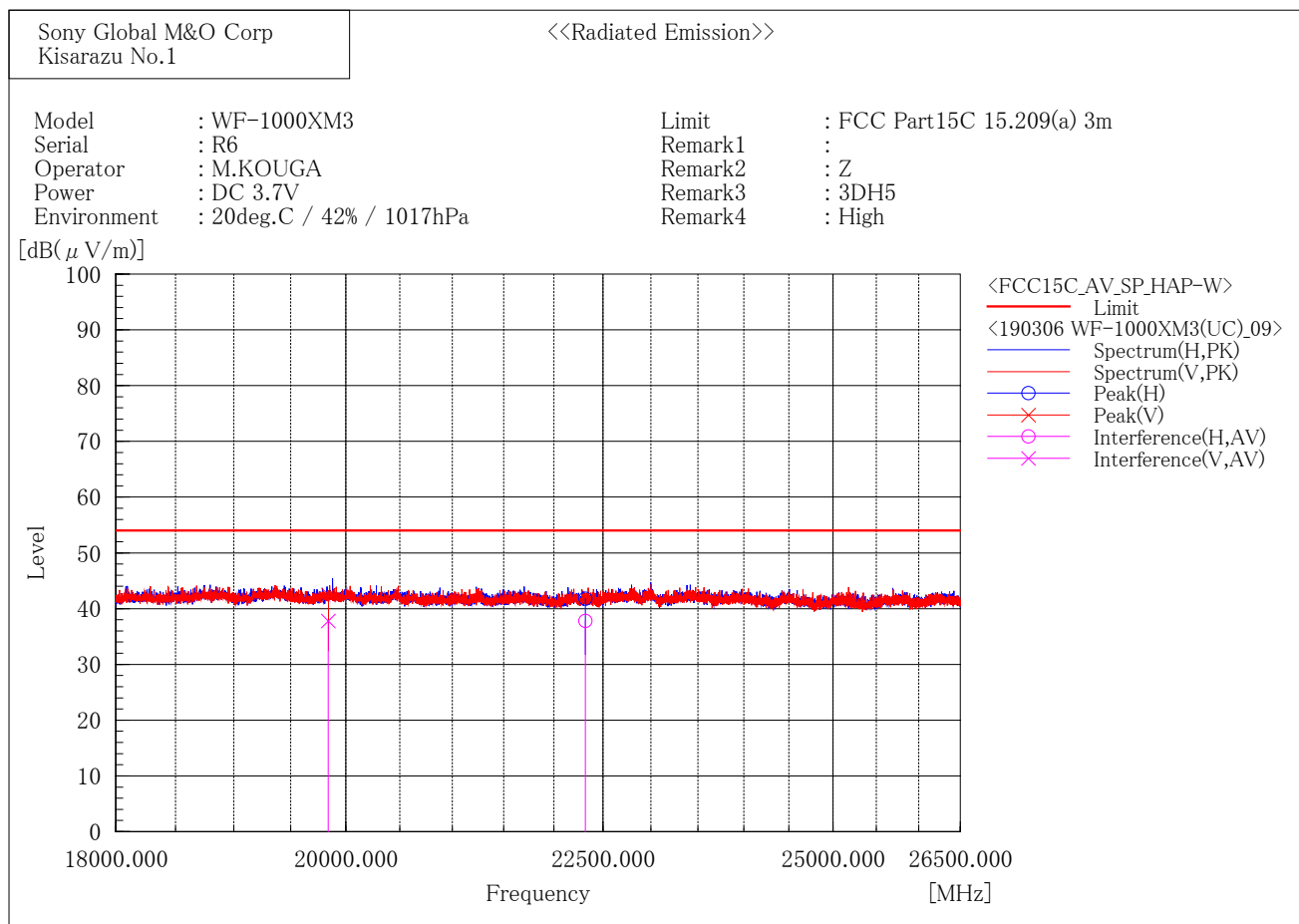
--- Horizontal Polarization (AV)---

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	19528.000	38.4	-0.8	37.6	54.0	16.4	155.8	180.0

--- Vertical Polarization (AV)---

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	21969.000	39.5	-2.0	37.5	54.0	16.5	195.3	168.0

[EDR / 2480 MHz]



Final Result

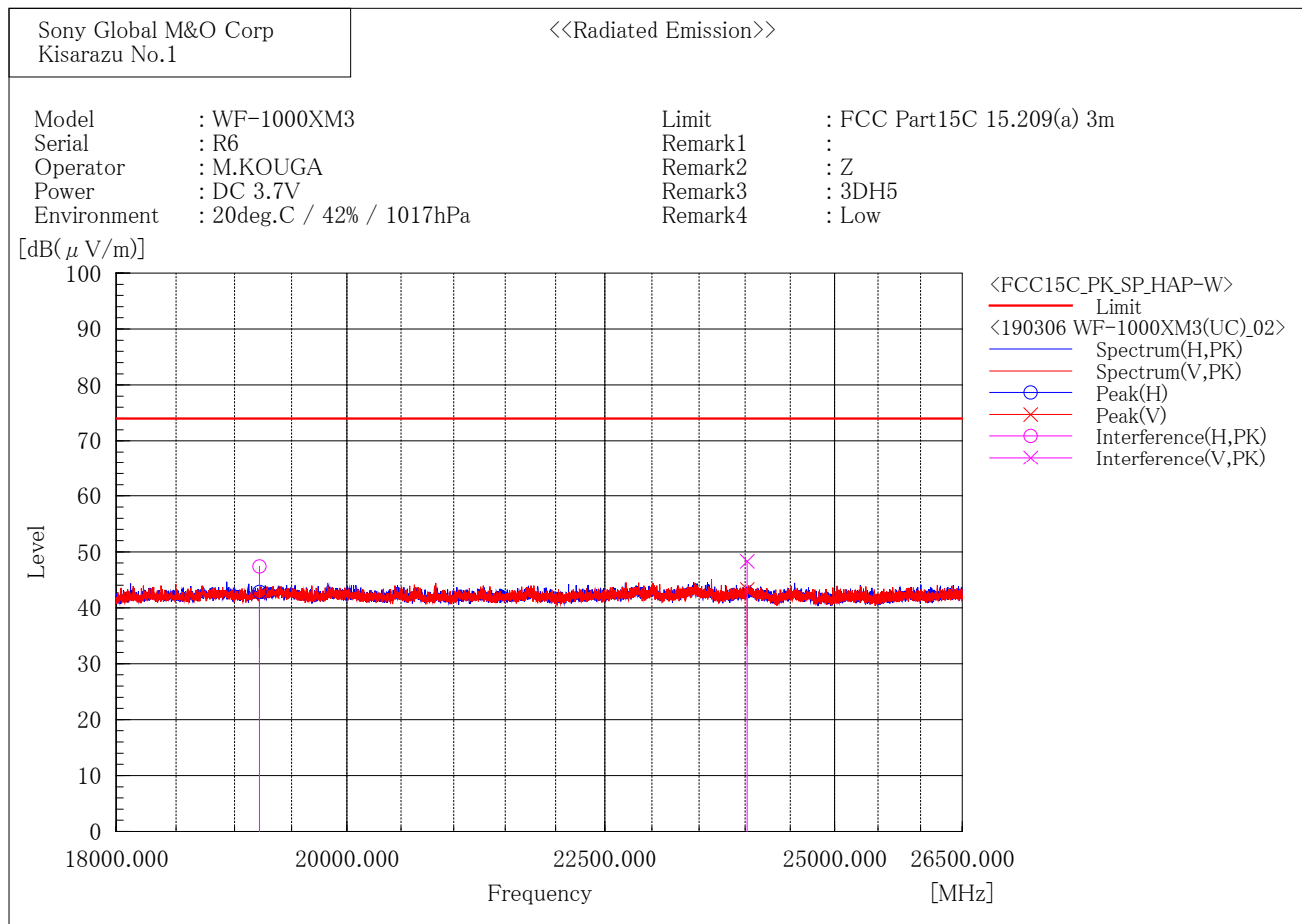
--- Horizontal Polarization (AV)---

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	22320.000	39.8	-2.0	37.8	54.0	16.2	179.9	115.5

--- Vertical Polarization (AV)---

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	19840.000	38.7	-0.9	37.8	54.0	16.2	100.0	227.0

[EDR / 2402 MHz]



Final Result

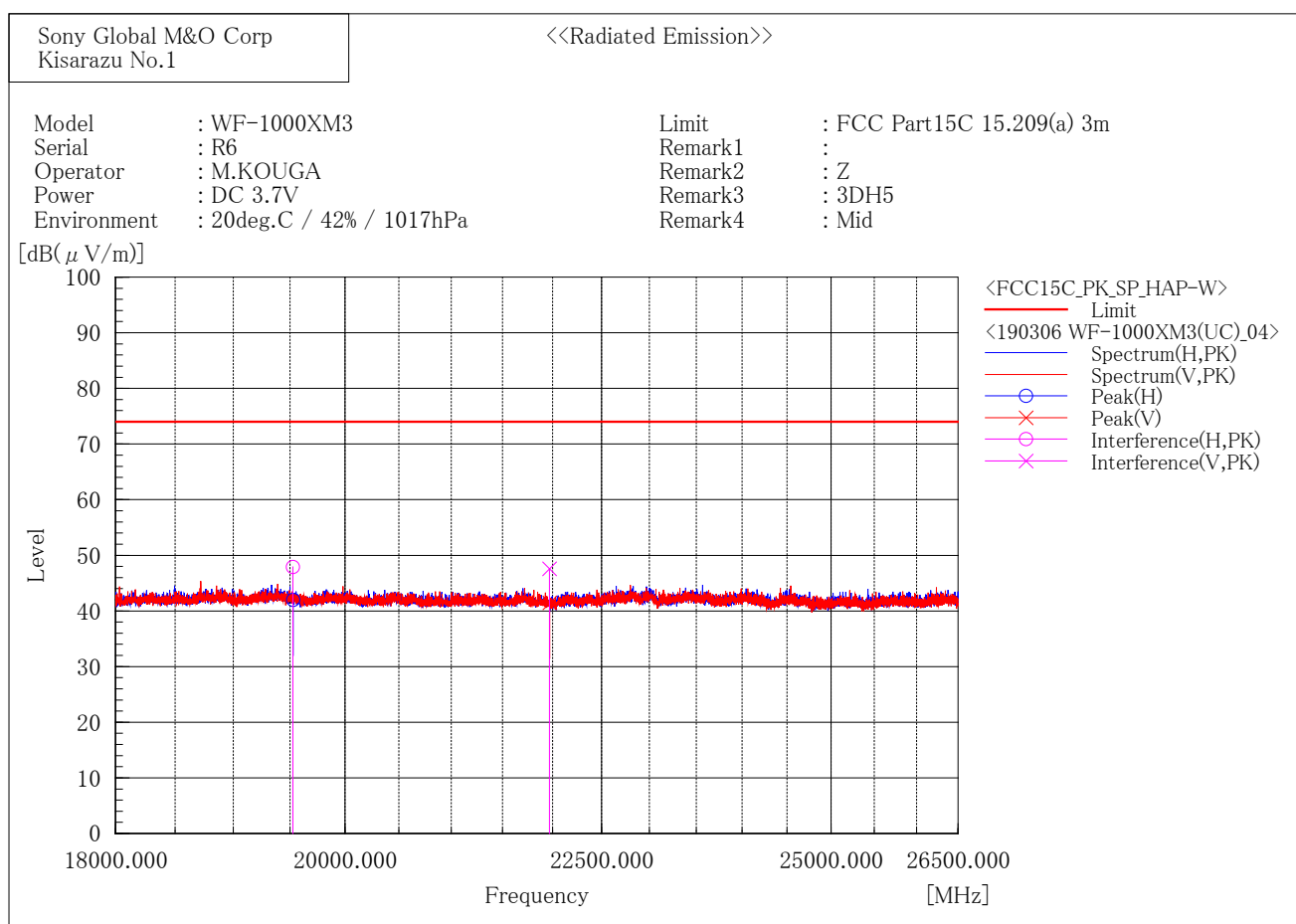
--- Horizontal Polarization (PK)---

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	19216.000	48.2	-0.8	47.4	74.0	26.6	122.0	144.0

--- Vertical Polarization (PK)---

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	24020.000	50.6	-2.3	48.3	74.0	25.7	100.0	239.8

[EDR / 2441 MHz]



Final Result

--- Horizontal Polarization (PK)---

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	19528.000	48.7	-0.8	47.9	74.0	26.1	158.0	178.1

--- Vertical Polarization (PK)---

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	21969.000	49.6	-2.0	47.6	74.0	26.4	200.0	167.9

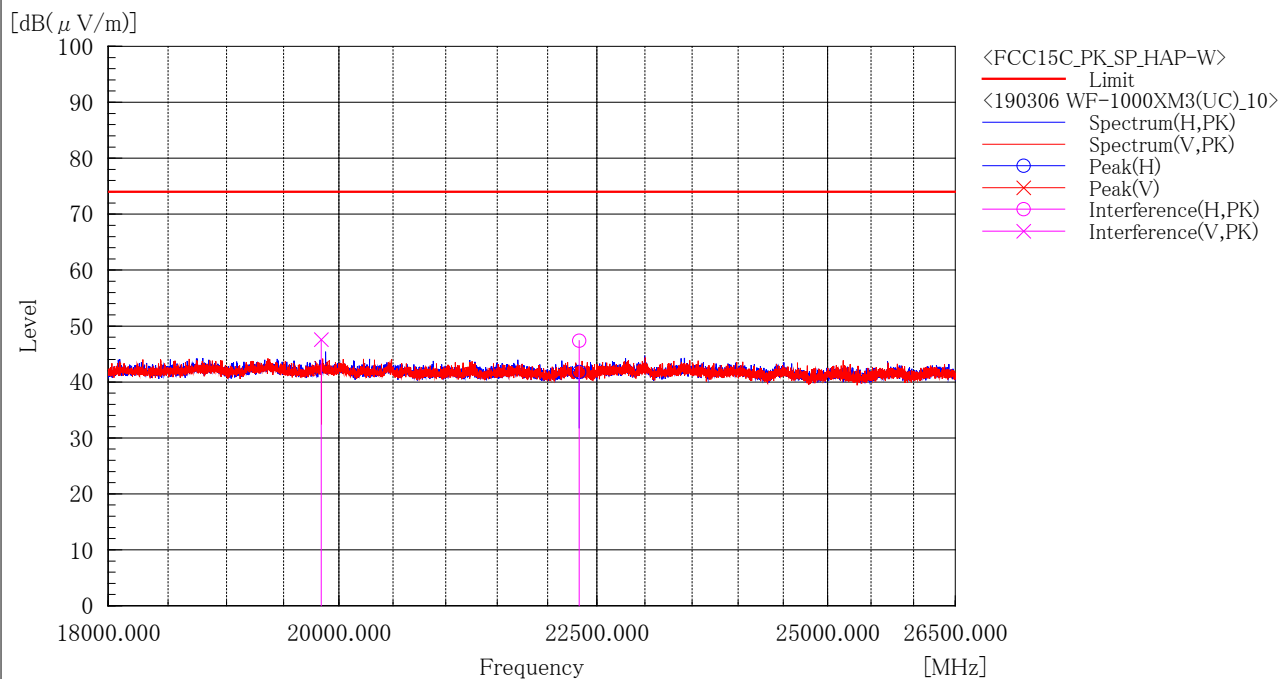
[EDR / 2480 MHz]

Sony Global M&O Corp
Kisarazu No.1

<<Radiated Emission>>

Model : WF-1000XM3
 Serial : R6
 Operator : M.KOUGA
 Power : DC 3.7V
 Environment : 20deg.C / 42% / 1017hPa

Limit : FCC Part15C 15.209(a) 3m
 Remark1 :
 Remark2 : Z
 Remark3 : 3DH5
 Remark4 : High



Final Result

--- Horizontal Polarization (PK)---

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	22320.000	49.4	-2.0	47.4	74.0	26.6	124.8	120.9

--- Vertical Polarization (PK)---

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	19840.000	48.5	-0.9	47.6	74.0	26.4	100.0	222.3

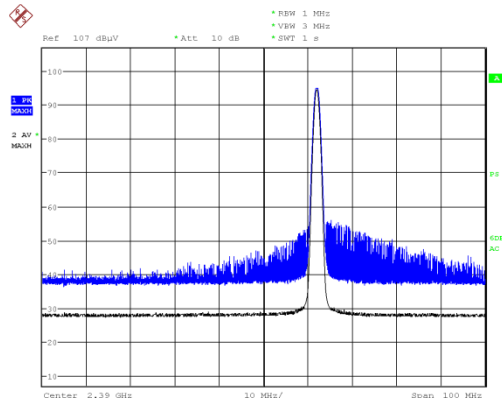
2.4 GHz Restricted-Band Edge (Plot data)

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.

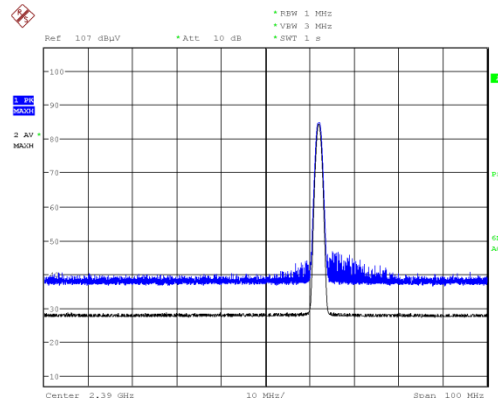
[BDR / 2402 MHz]

Horizontal



Date: 4.MAR.2019 13:52:11

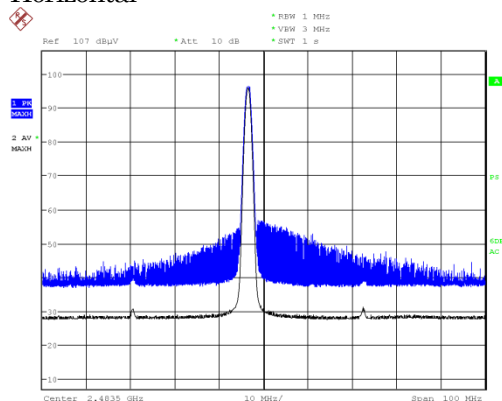
Vertical



Date: 4.MAR.2019 13:35:10

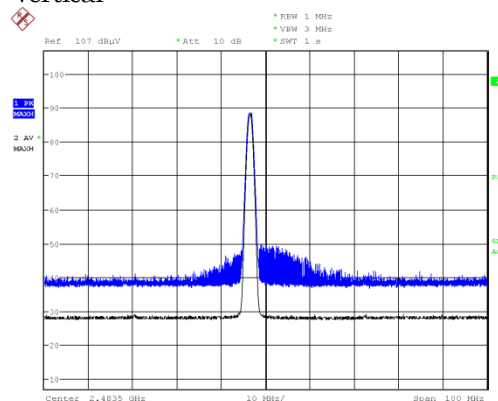
[BDR / 2480 MHz]

Horizontal



Date: 4.MAR.2019 17:25:07

Vertical



Date: 4.MAR.2019 17:35:20

Horizontal



Vertical



Horizontal



Vertical

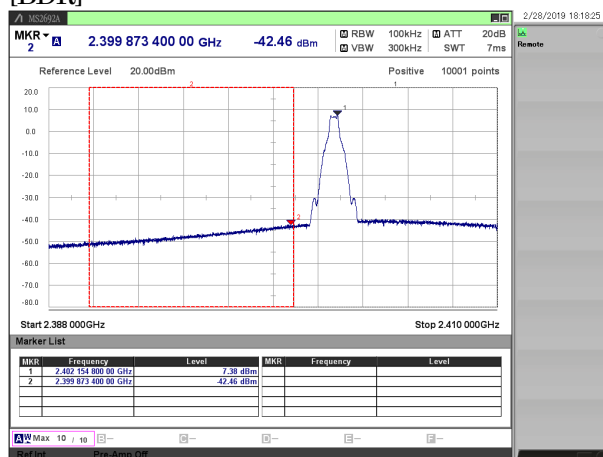


3.7. Conducted Spurious Emissions for Band Edge

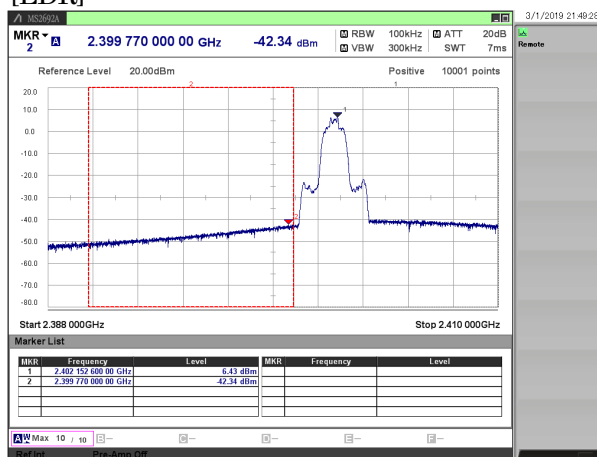
- | | | |
|------------------------|---------------------|---------------|
| 1) Ambient temperature | : 21.5 deg.C | 22.7 deg.C |
| 2) Relative humidity | : 43.2 % | 43.3 % |
| 3) Date of measurement | : February 28, 2019 | March 1, 2019 |
| 4) Measured by | : M. KOUGA | M. KOUGA |
| 5) Operating mode | : Transmitting mode | |

Mode		Channel [MHz]	Frequency [MHz]	Reading(PK) [dBm]	C.F. [dB]	Result(PK) [dBm]	Limit [dBm]	Margin [dB]
BDR	DH5	2402	2402.15	7.38	1.00	8.38	-	-
			2399.87	-42.46	1.00	-41.46	-11.6	29.84
EDR	3DH5	2402	2402.15	6.43	1.00	7.43	-	-
			2399.77	-42.34	1.00	-41.34	-12.6	28.77

[BDR]



[EDR]



4. Method of Calculation

4.1. Time of Occupancy (Dwell Time)

Method of calculation : Software
 Software Name : SW-0308
 Software Version : Ver.4

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.
 (The average of 5 measurements if it is random hopping equipment)
 (c) 31.6 : $0.4 \text{ [sec]} * \text{Number of Hopping Frequencies (79)}$
 (d) Sweep Time : Sweep time settings on the spectrum analyzer.

4.2. Maximum Peak Conducted Output Power

Method of calculation : Software
 Software Name : SW-0308
 Software Version : Ver.4

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

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

4.3. 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 + $20 \log (3 \text{ m} / 10 \text{ m})$

4.4. Conducted Spurious Emissions for Band Edge

Method of calculation : Software
Software Name : SW-0308
Software Version : Ver.4

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. Antenna-port Conducted Measurements

	Ctrl.#	Equipment	Model No.	Serial No.	Manufacturer	Cal. Interval	Last Cal.
-	W0140	Spectrum Analyzer	FSU26	200717	Rohde & Schwarz	12 months	18.09.01
x	W0100	Spectrum Analyzer	MS2692A	6201338954	Anritsu	12 months	18.04.03
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
-	M0720	Thermometer	TH-321	140036	AS ONE	12 months	18.07.20
x	M0719	Thermometer	TH-321	140053	AS ONE	12 months	18.04.11

5.2. Radiated Spurious Emissions

	Ctrl.#	Equipment	Model No.	Serial No.	Manufacturer	Cal. Interval	Last Cal.
x	M0686	EMI Receiver	N9038A	MY52260113	Agilent Technologies	12 months	18.11.13
x	M0486	EMI Receiver	ESU40	100050	Rohde & Schwarz	12 months	18.10.01
-	M0562	EMI Receiver	ESU26	100068	Rohde & Schwarz	12 months	18.07.25
x	A0073	Loop Antenna	HFH2-Z2	100171	Rohde & Schwarz	12 months	18.12.10
x	A0089	Biconical Antenna	BBA9106	VHA91032835	Schwarzbeck	12 months	18.12.03
x	A0088	Log periodic Antenna	UHALP9108A1	0649	Schwarzbeck	12 months	18.12.03
x	A0064	Horn Antenna	BBHA9120D	746	Schwarzbeck	12 months	18.11.04
x	A0078	Horn Antenna	HAP06-18W	00000070	Toyo Corporation	12 months	18.11.04
x	A0058	Horn Antenna	HAP18-26W	00000016	Toyo Corporation	12 months	18.12.01
x	CS0017	N-RE Cable System 1	-	-	-	12 months	18.11.04
x	CS0018	N-RE Cable System 2	-	-	-	12 months	18.11.04
x	CS0045	N-3m EMF Cable System	-	-	-	12 months	18.11.04
x	CS0074/0075	N-RE Cable SYSTEM 4	-	-	-	12 months	18.11.04
x	M0126	Step Attenuator	8494H	3837M01144	Agilent Technologies	12 months	18.11.04
x	M0752	Pre Amplifier	310N	320621	SONOMA INSTRUMENT	12 months	18.11.04
x	M0128	3dB Attenuator	8491A	53541	Agilent Technologies	12 months	18.11.04
x	M0609	3dB Attenuator	8491B	MY39265960	Agilent Technologies	12 months	18.11.04
x	M0737	GHz Filter Box	FB-G1	001	Sony EMCS	12 months	18.11.04
x	M5079	Temperature Meter	608-H2	41475953	testo	12 months	18.10.18
x	M5062	Scientific Ambient Monitor	0560 6220	39515563/802	testo	12 months	18.07.17

About calibration interval

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