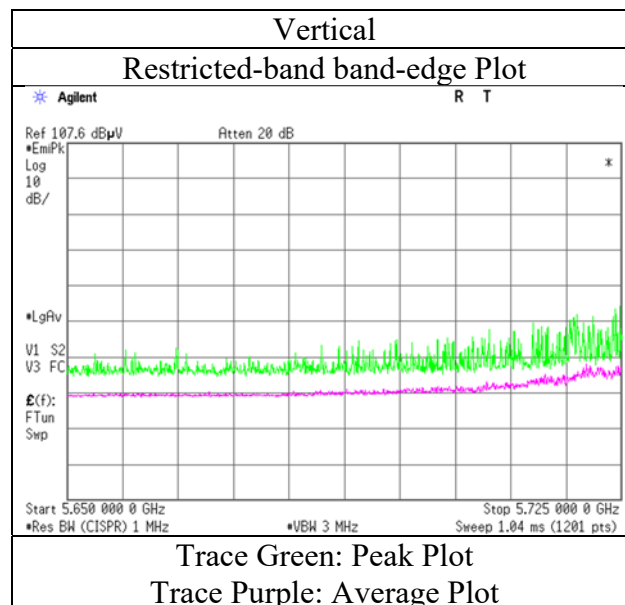
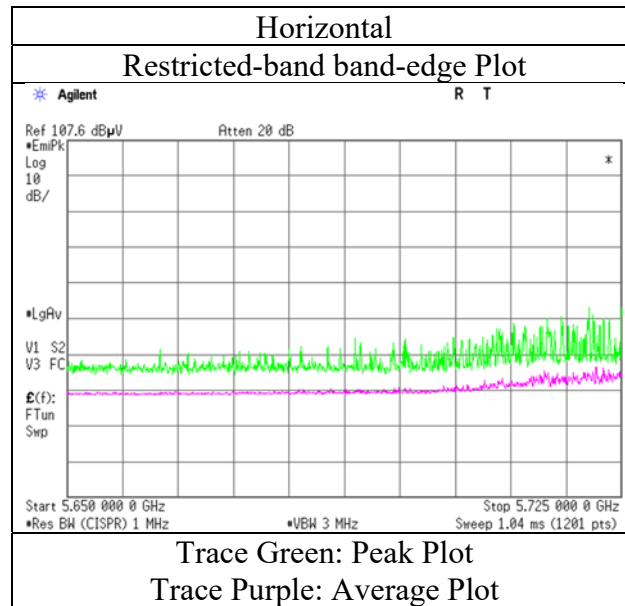


Radiated Spurious Emission

Report No.	13521383H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	October 27, 2020
Temperature / Humidity	23 deg. C / 42 % RH
Engineer	Hiroyuki Furutaka
	(1 GHz - 10 GHz)
Mode	Tx 11ac-40 5755 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Ise EMC Lab.

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Radiated Spurious Emission

Report No.	13521383H			
Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	October 27, 2020	October 31, 2020	November 1, 2020	November 2, 2020
Temperature / Humidity	23 deg. C / 42 % RH	22 deg. C / 37 % RH	22 deg. C / 45 % RH	20 deg. C / 42 % RH
Engineer	Hiroyuki Furutaka	Akihiko Maeda	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-40 5795 MHz			

Polarity	Frequency	Reading (QP) Reading (PK)	Reading (AV)	Ant. Factor	Loss	Gain	Duty Factor	Result (QP) Result (PK)	Result (AV)	Limit (QP) Limit (PK)	Limit (AV)	Margin (QP) Margin (PK)	Margin (AV)	Remark
[Hori/Vert]	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	
Hori.	5850.0	49.9	-	32.7	7.4	31.4	-	58.6	-	122.2	-	63.6	-	
Hori.	5855.0	50.4	-	32.7	7.4	31.4	-	59.1	-	110.8	-	51.7	-	
Hori.	5875.0	46.4	-	32.8	7.4	31.4	-	55.1	-	105.2	-	50.1	-	
Hori.	5925.0	43.0	-	32.9	7.4	31.4	-	51.9	-	68.2	-	16.3	-	
Hori.	11590.0	46.1	38.7	39.6	-2.2	33.0	-	50.5	43.1	73.9	53.9	23.4	10.8	
Hori.	17385.0	43.4	33.4	42.5	-0.7	32.6	-	52.6	42.6	73.9	53.9	21.3	11.3	Floor noise
Hori.	23180.0	48.3	-	38.6	-1.4	33.3	-	52.2	-	68.2	-	16.1	-	
Hori.	34770.0	69.6	-	43.5	4.2	76.2	-	41.1	-	68.2	-	27.1	-	
Vert.	5850.0	52.9	-	32.7	7.4	31.4	-	61.6	-	122.2	-	60.6	-	
Vert.	5855.0	52.1	-	32.7	7.4	31.4	-	60.8	-	110.8	-	50.0	-	
Vert.	5875.0	51.8	-	32.8	7.4	31.4	-	60.6	-	105.2	-	44.6	-	
Vert.	5925.0	44.8	-	32.9	7.4	31.4	-	53.7	-	68.2	-	14.5	-	
Vert.	11590.0	45.4	38.3	39.6	-2.2	33.0	-	49.8	42.6	73.9	53.9	24.1	11.3	
Vert.	17385.0	43.4	33.4	42.5	-0.7	32.6	-	52.6	42.6	73.9	53.9	21.3	11.3	Floor noise
Vert.	23180.0	47.9	-	38.6	-1.4	33.3	-	51.8	-	68.2	-	16.4	-	
Vert.	34770.0	69.8	-	43.5	4.2	76.2	-	41.3	-	68.2	-	26.9	-	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz 20log (4 m / 3.0 m) = 2.5 dB
 10 GHz - 40 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

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Ise EMC Lab.

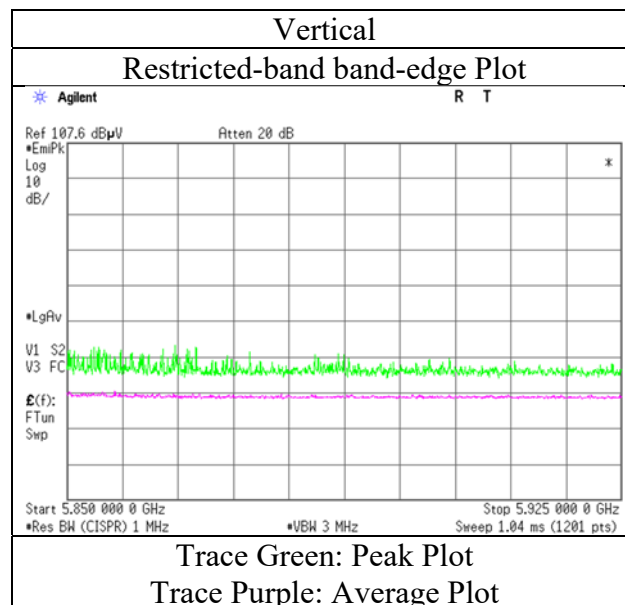
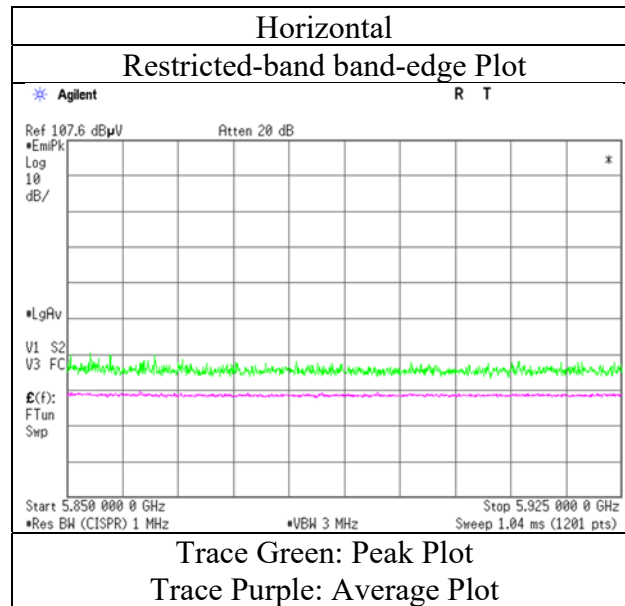
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Facsimile : +81 596 24 8124

Radiated Spurious Emission

Report No.	13521383H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	October 27, 2020
Temperature / Humidity	23 deg. C / 42 % RH
Engineer	Hiroyuki Furutaka
	(1 GHz - 10 GHz)
Mode	Tx 11ac-40 5795 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Ise EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Facsimile : +81 596 24 8124

Radiated Spurious Emission

Report No.	13521383H			
Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	October 29, 2020	October 31, 2020	November 1, 2020	November 2, 2020
Temperature / Humidity	20 deg. C / 49 % RH	22 deg. C / 37 % RH	22 deg. C / 45 % RH	20 deg. C / 42 % RH
Engineer	Yuta Moriya	Akihiko Maeda	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-80 5210 MHz			

Polarity	Frequency	Reading (QP) Reading (PK)	Reading (AV)	Ant. Factor	Loss	Gain	Duty Factor	Result (QP) Result (PK)	Result (AV)	Limit (QP) Limit (PK)	Limit (AV)	Margin (QP) Margin (PK)	Margin (AV)	Remark
[Hori/Vert]	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	
Hori.	5150.0	56.9	46.4	32.4	6.0	31.2	-	64.1	53.7	73.9	53.9	9.8	0.2	*1)
Hori.	10420.0	47.5	42.0	39.9	-2.5	33.0	-	51.9	46.4	73.9	53.9	22.0	7.5	
Hori.	15630.0	43.4	34.3	37.8	-1.2	32.5	-	47.5	38.4	73.9	53.9	26.4	15.5	Floor noise
Hori.	20840.0	50.1	43.8	38.0	-2.0	33.0	-	53.2	46.9	73.9	53.9	20.7	7.0	
Hori.	31260.0	67.5	60.3	43.5	3.3	75.6	-	38.7	31.5	73.9	53.9	35.2	22.4	
Vert.	5150.0	54.8	44.0	32.4	6.0	31.2	-	62.0	51.3	73.9	53.9	11.9	2.7	*1)
Vert.	10420.0	47.1	41.3	39.9	-2.5	33.0	-	51.6	45.8	73.9	53.9	22.3	8.2	
Vert.	15630.0	43.4	34.3	37.8	-1.2	32.5	-	47.5	38.4	73.9	53.9	26.4	15.5	Floor noise
Vert.	20840.0	48.8	43.8	38.0	-2.0	33.0	-	51.8	46.8	73.9	53.9	22.1	7.1	
Vert.	31260.0	68.2	60.8	43.5	3.3	75.6	-	39.4	32.1	73.9	53.9	34.5	21.8	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(4\text{ m} / 3.0\text{ m}) = 2.5\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

*1) Not Out of Band emission(Leakage Power)

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Ise EMC Lab.

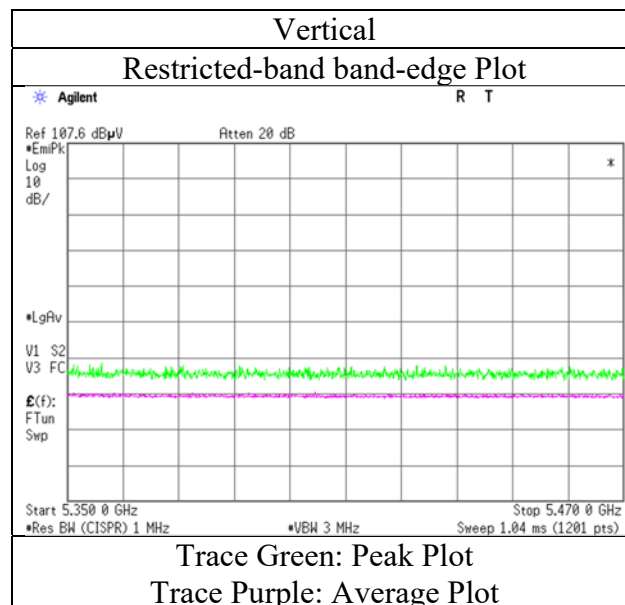
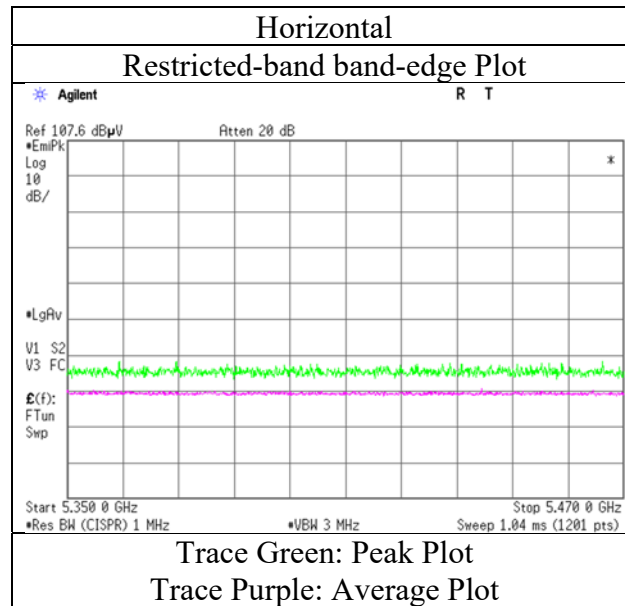
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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Radiated Spurious Emission

Report No.	13521383H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	October 29, 2020
Temperature / Humidity	20 deg. C / 49 % RH
Engineer	Yuta Moriya
	(1 GHz - 10 GHz)
Mode	Tx 11ac-80 5210 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Ise EMC Lab.

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Radiated Spurious Emission

Report No.	13521383H			
Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	October 29, 2020	October 31, 2020	November 1, 2020	November 2, 2020
Temperature / Humidity	20 deg. C / 49 % RH	22 deg. C / 37 % RH	22 deg. C / 45 % RH	20 deg. C / 42 % RH
Engineer	Yuta Moriya	Akihiko Maeda	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-80 5290 MHz			

Polarity	Frequency	Reading (QP) Reading (PK)	Reading (AV)	Ant. Factor	Loss	Gain	Duty Factor	Result (QP) Result (PK)	Result (AV)	Limit (QP) Limit (PK)	Limit (AV)	Margin (QP) Margin (PK)	Margin (AV)	Remark
[Hori/Vert]	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	
Hori.	5350.0	56.1	45.9	31.8	6.1	31.2	-	62.8	52.6	73.9	53.9	11.2	1.4	*1)
Hori.	10580.0	48.9	43.5	39.9	-2.4	33.0	-	53.4	47.9	73.9	53.9	20.6	6.0	
Hori.	15870.0	43.9	33.7	37.7	-1.2	32.5	-	47.9	37.7	73.9	53.9	26.1	16.2	Floor noise
Hori.	21160.0	48.9	42.2	38.2	-1.9	33.1	-	52.1	45.3	73.9	53.9	21.8	8.6	
Hori.	31740.0	66.2	58.3	43.7	3.4	74.7	-	38.6	30.8	73.9	53.9	35.3	23.1	
Vert.	5350.0	54.3	42.8	31.8	6.1	31.2	-	61.0	49.5	73.9	53.9	12.9	4.5	*1)
Vert.	10580.0	48.1	43.1	39.9	-2.4	33.0	-	52.6	47.6	73.9	53.9	21.3	6.3	
Vert.	15870.0	43.9	33.7	37.7	-1.2	32.5	-	47.9	37.7	73.9	53.9	26.1	16.2	Floor noise
Vert.	21160.0	48.0	40.0	38.2	-1.9	33.1	-	51.1	43.2	73.9	53.9	22.8	10.8	
Vert.	31740.0	66.2	57.6	43.7	3.4	74.7	-	38.6	30.1	73.9	53.9	35.3	23.8	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

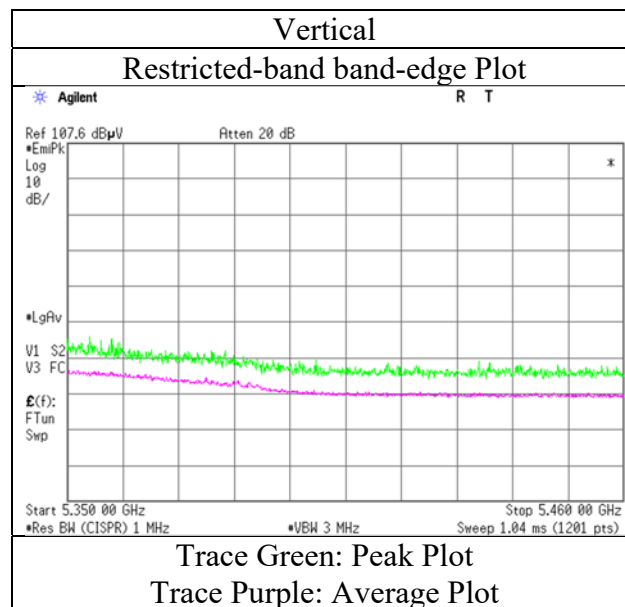
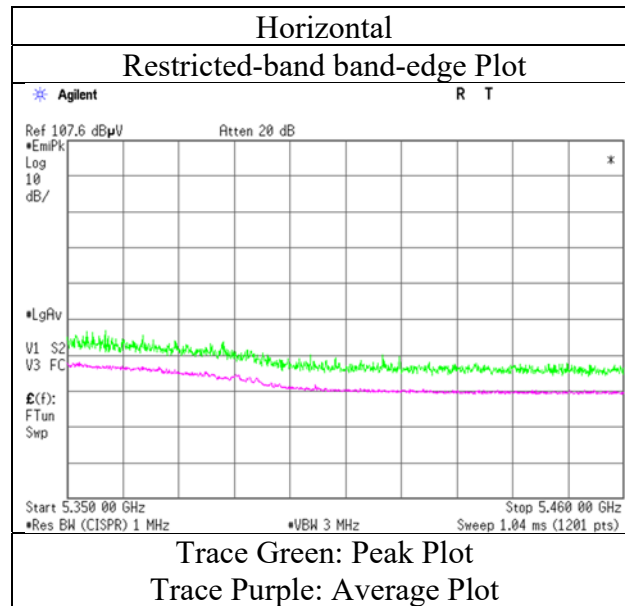
*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz 20log (4 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

*1) Not Out of Band emission(Leakage Power)

Radiated Spurious Emission

Report No.	13521383H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	October 29, 2020
Temperature / Humidity	20 deg. C / 49 % RH
Engineer	Yuta Moriya
	(1 GHz - 10 GHz)
Mode	Tx 11ac-80 5290 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

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Radiated Spurious Emission

Report No.	13521383H		
Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.4	No.4	No.4
Date	October 29, 2020	October 31, 2020	November 1, 2020
Temperature / Humidity	20 deg. C / 49 % RH	22 deg. C / 37 % RH	22 deg. C / 45 % RH
Engineer	Yuta Moriya	Akihiko Maeda	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx 11ac-80 5530 MHz		

Polarity	Frequency	Reading (QP) Reading (PK)	Reading (AV)	Ant. Factor	Loss	Gain	Duty Factor	Result (QP) Result (PK)	Result (AV)	Limit (QP) Limit (PK)	Limit (AV)	Margin (QP) Margin (PK)	Margin (AV)	Remark
[Hori/Vert]	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	
Hori.	3686.7	43.9	37.4	29.2	5.5	31.4	-	47.2	40.7	73.9	53.9	26.7	13.2	
Hori.	5460.0	55.5	45.8	32.1	6.1	31.3	-	62.4	52.8	68.2	53.9	5.8	1.1	*1)
Hori.	5470.0	56.5	-	32.1	6.1	31.3	-	63.4	-	68.2	-	4.8	-	*1)
Hori.	11060.0	53.3	43.9	39.8	-2.2	33.2	-	57.8	48.3	73.9	53.9	16.1	5.6	
Hori.	16590.0	43.4	33.4	40.2	-1.0	32.6	-	50.1	40.1	73.9	53.9	23.8	13.8	Floor noise
Hori.	22120.0	47.7	39.1	38.3	-1.7	33.1	-	51.1	42.5	73.9	53.9	22.9	11.5	
Hori.	33180.0	66.2	-	43.8	3.8	75.2	-	38.5	-	68.2	-	29.7	-	
Vert.	3686.7	44.8	39.1	29.2	5.5	31.4	-	48.1	42.4	73.9	53.9	25.9	11.5	
Vert.	5460.0	54.5	44.0	32.1	6.1	31.3	-	61.4	50.9	68.2	53.9	6.8	3.0	*1)
Vert.	5470.0	55.2	-	32.1	6.1	31.3	-	62.2	-	68.2	-	6.0	-	*1)
Vert.	11060.0	52.1	43.6	39.8	-2.2	33.2	-	56.5	48.0	73.9	53.9	17.4	5.9	
Vert.	16590.0	43.4	33.4	40.2	-1.0	32.6	-	50.1	40.1	73.9	53.9	23.8	13.8	Floor noise
Vert.	22120.0	47.7	39.1	38.3	-1.7	33.1	-	51.1	42.5	73.9	53.9	22.8	11.4	
Vert.	33180.0	65.8	-	43.8	3.8	75.2	-	38.2	-	68.2	-	30.0	-	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

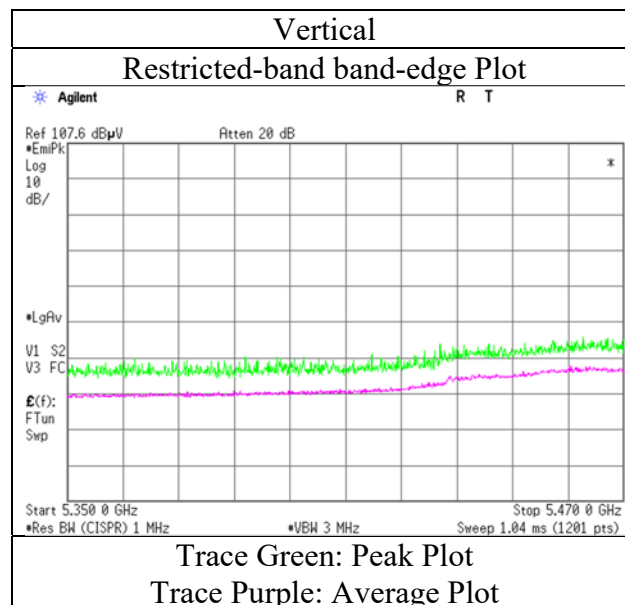
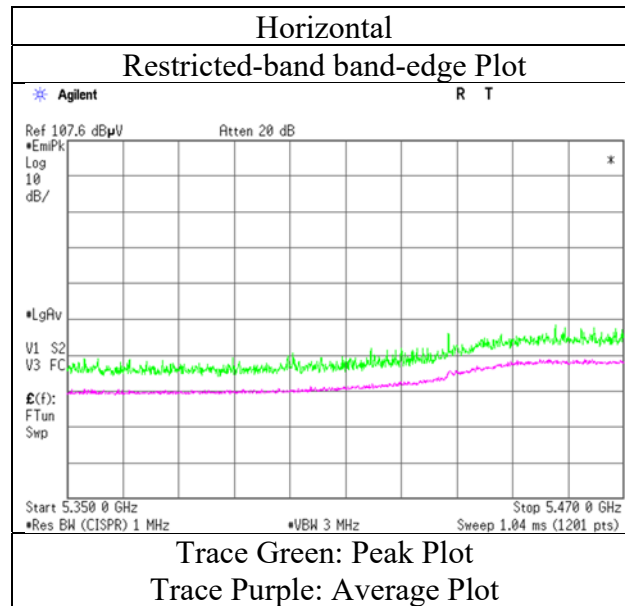
*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz 20log (4 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

*1) Not Out of Band emission(Leakage Power)

Radiated Spurious Emission

Report No.	13521383H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	October 29, 2020
Temperature / Humidity	20 deg. C / 49 % RH
Engineer	Yuta Moriya
	(1 GHz - 10 GHz)
Mode	Tx 11ac-80 5530 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Ise EMC Lab.

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Radiated Spurious Emission

Report No.	13521383H			
Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	October 27, 2020	October 31, 2020	November 1, 2020	November 2, 2020
Temperature / Humidity	21 deg. C / 46 % RH	22 deg. C / 37 % RH	22 deg. C / 45 % RH	20 deg. C / 42 % RH
Engineer	Junki Nagatomi	Akihiko Maeda	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-80 5610 MHz			

Polarity	Frequency	Reading (QP) Reading (PK)	Reading (AV)	Ant. Factor	Loss	Gain	Duty Factor	Result (QP) Result (PK)	Result (AV)	Limit (QP) Limit (PK)	Limit (AV)	Margin (QP) Margin (PK)	Margin (AV)	Remark
[Hori/Vert]	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	
Hori.	3739.9	43.8	37.2	29.3	5.5	31.4	-	47.2	40.6	73.9	53.9	26.7	13.3	Floor noise
Hori.	5725.0	48.9	-	32.5	6.2	31.3	-	56.3	-	68.2	-	11.9	-	
Hori.	11220.0	50.3	42.7	39.6	-2.2	33.1	-	54.5	46.9	73.9	53.9	19.4	7.0	
Hori.	16830.0	42.8	34.0	40.6	-0.9	32.6	-	49.9	41.0	73.9	53.9	24.1	12.9	
Hori.	22440.0	48.4	39.3	38.3	-1.6	33.2	-	51.9	42.8	73.9	53.9	22.0	11.1	
Hori.	33660.0	68.1	-	43.6	3.9	75.7	-	40.0	-	68.2	-	28.2	-	
Vert.	3739.9	44.1	38.3	29.3	5.5	31.4	-	47.5	41.7	73.9	53.9	26.4	12.2	Floor noise
Vert.	5725.0	48.6	-	32.5	6.2	31.3	-	56.0	-	68.2	-	12.3	-	
Vert.	11220.0	49.3	41.3	39.6	-2.2	33.1	-	53.5	45.6	73.9	53.9	20.4	8.3	
Vert.	16830.0	42.8	34.0	40.6	-0.9	32.6	-	49.9	41.0	73.9	53.9	24.1	12.9	
Vert.	22440.0	49.0	40.4	38.3	-1.6	33.2	-	52.4	43.9	73.9	53.9	21.5	10.0	
Vert.	33660.0	67.4	-	43.6	3.9	75.7	-	39.2	-	68.2	-	29.0	-	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

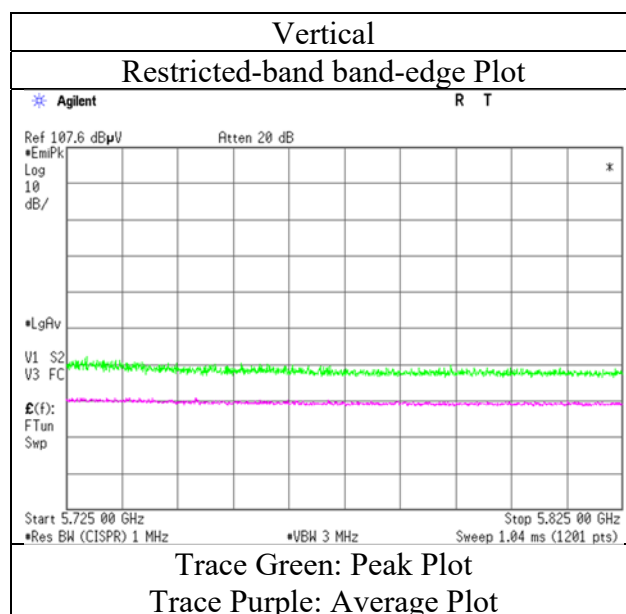
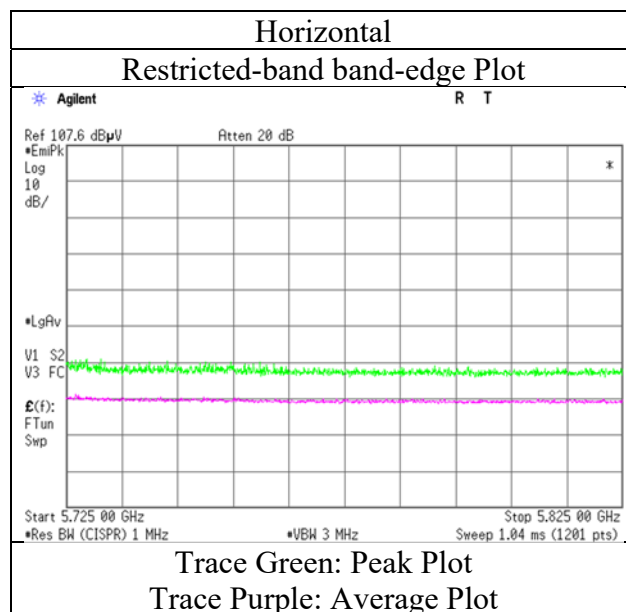
*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(4\text{ m} / 3.0\text{ m}) = 2.5\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

*1) Not Out of Band emission(Leakage Power)

Radiated Spurious Emission

Report No.	13521383H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	October 29, 2020
Temperature / Humidity	20 deg. C / 49 % RH
Engineer	Yuta Moriya
	(1 GHz - 10 GHz)
Mode	Tx 11ac-80 5610 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Ise EMC Lab.

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Radiated Spurious Emission

Report No.	13521383H			
Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	October 27, 2020	October 31, 2020	November 1, 2020	November 2, 2020
Temperature / Humidity	21 deg. C / 46 % RH	22 deg. C / 37 % RH	22 deg. C / 45 % RH	20 deg. C / 42 % RH
Engineer	Junki Nagatomi	Akihiko Maeda	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-80 5775 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP) Reading (PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP) Result (PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP) Limit (PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP) Margin (PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3850.0	43.5	36.1	29.7	5.5	31.4	-	47.4	40.0	73.9	53.9	26.5	13.9	
Hori.	5650.0	48.1	-	32.3	6.2	31.3	-	55.3	-	68.2	-	12.9	-	
Hori.	5700.0	56.7	-	32.4	6.2	31.3	-	63.9	-	105.2	-	41.3	-	
Hori.	5720.0	59.3	-	32.4	6.2	31.3	-	66.7	-	110.8	-	44.1	-	
Hori.	5725.0	62.0	-	32.5	6.2	31.3	-	69.4	-	122.2	-	52.8	-	*1)
Hori.	5850.0	60.1	-	32.7	6.3	31.4	-	67.8	-	122.2	-	54.5	-	
Hori.	5855.0	57.8	-	32.7	6.3	31.4	-	65.4	-	110.8	-	45.4	-	
Hori.	5875.0	50.9	-	32.8	6.3	31.4	-	58.6	-	105.2	-	46.6	-	
Hori.	5925.0	42.3	-	32.9	6.3	31.4	-	50.1	-	68.2	-	18.1	-	
Hori.	11550.0	45.5	38.8	39.8	-2.2	33.0	-	50.1	43.4	73.9	53.9	23.8	10.5	
Hori.	17325.0	43.9	33.9	42.1	-0.7	32.6	-	52.7	42.7	73.9	53.9	21.2	11.2	Floor noise
Hori.	23100.0	48.9	41.3	38.6	-1.5	33.3	-	52.7	45.1	73.9	53.9	21.2	8.8	
Hori.	34650.0	69.2	-	43.5	4.1	76.2	-	40.7	-	68.2	-	27.5	-	
Vert.	3850.0	43.8	37.3	29.7	5.5	31.4	-	47.7	41.2	73.9	53.9	26.3	12.8	
Vert.	5650.0	47.7	-	32.3	6.2	31.3	-	54.9	-	68.2	-	13.3	-	
Vert.	5700.0	55.8	-	32.4	6.2	31.3	-	63.1	-	105.2	-	42.1	-	
Vert.	5720.0	60.3	-	32.4	6.2	31.3	-	67.6	-	110.8	-	43.2	-	
Vert.	5725.0	62.4	-	32.5	6.2	31.3	-	69.8	-	122.2	-	52.4	-	*1)
Vert.	5850.0	59.6	-	32.7	6.3	31.4	-	67.2	-	122.2	-	55.0	-	
Vert.	5855.0	58.2	-	32.7	6.3	31.4	-	65.8	-	110.8	-	45.0	-	
Vert.	5875.0	51.4	-	32.8	6.3	31.4	-	59.1	-	105.2	-	46.1	-	
Vert.	5925.0	46.2	-	32.9	6.3	31.4	-	54.1	-	68.2	-	14.2	-	
Vert.	11550.0	44.9	37.7	39.8	-2.2	33.0	-	49.4	42.3	73.9	53.9	24.5	11.6	
Vert.	17325.0	43.9	33.9	42.1	-0.7	32.6	-	52.7	42.7	73.9	53.9	21.2	11.2	Floor noise
Vert.	23100.0	48.0	38.6	38.6	-1.5	33.3	-	51.8	42.4	73.9	53.9	22.1	11.5	
Vert.	34650.0	68.6	-	43.5	4.1	76.2	-	40.1	-	68.2	-	28.1	-	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz 20log (4 m / 3.0 m) = 2.5 dB
 10 GHz - 40 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

*1) Not Out of Band emission(Leakage Power)

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Ise EMC Lab.

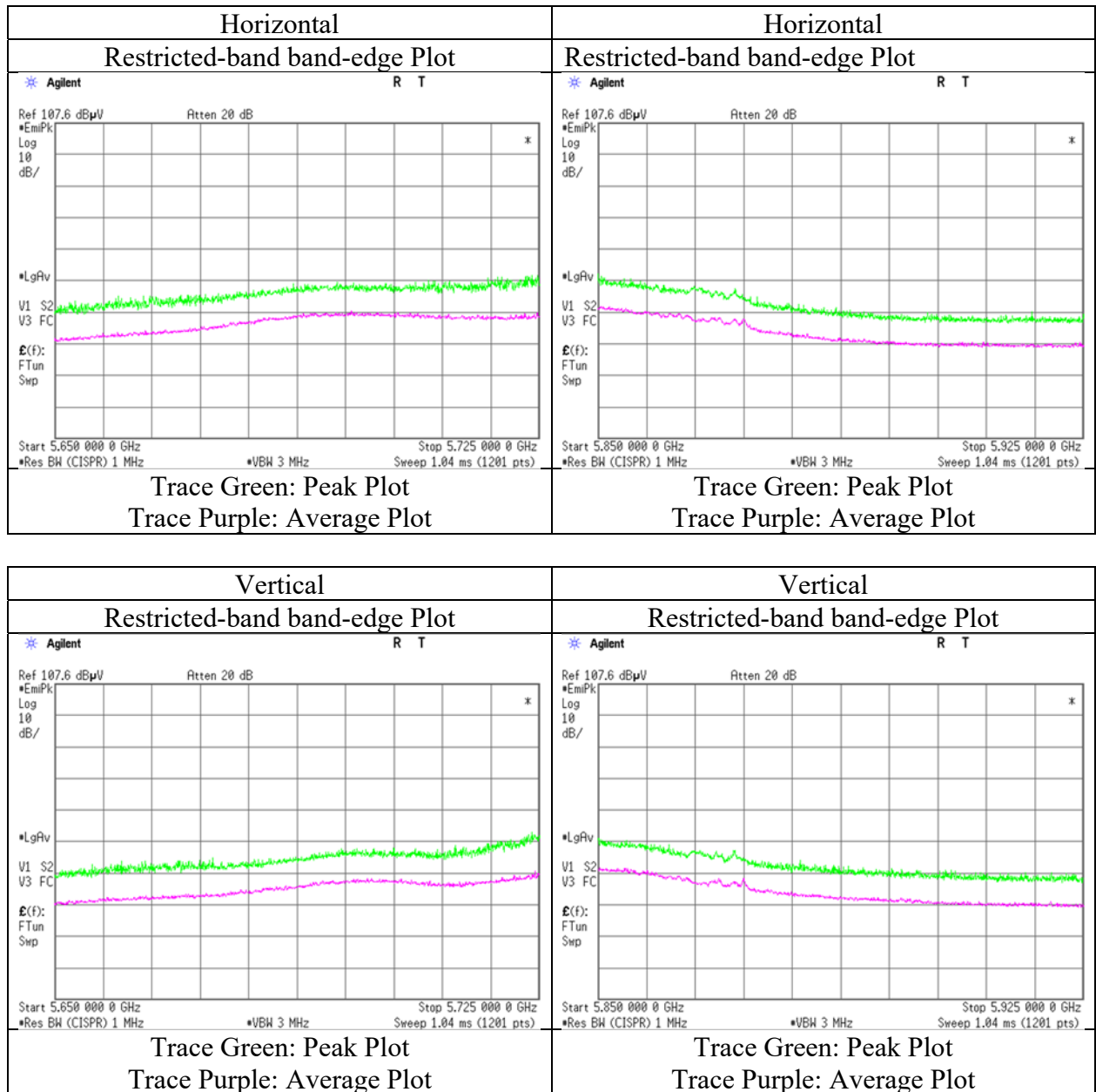
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Radiated Spurious Emission

Report No.	13521383H
Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	October 29, 2020
Temperature / Humidity	20 deg. C / 49 % RH
Engineer	Yuta Moriya
	(1 GHz - 10 GHz)
Mode	Tx 11ac-80 5775 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Ise EMC Lab.

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Radiated Spurious Emission

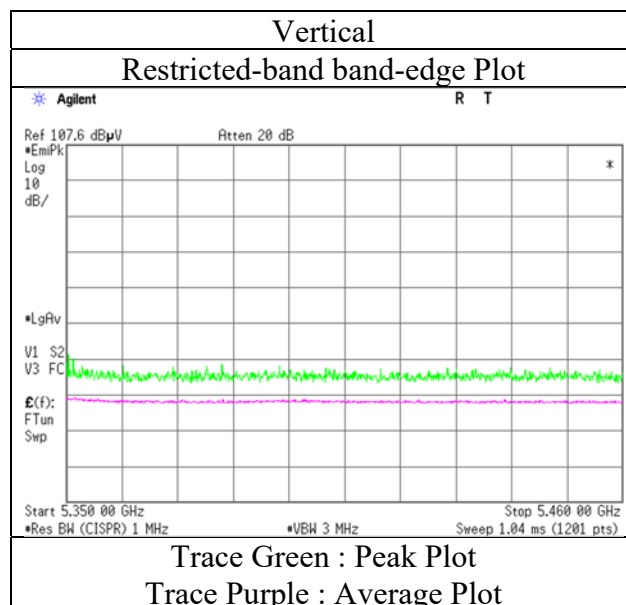
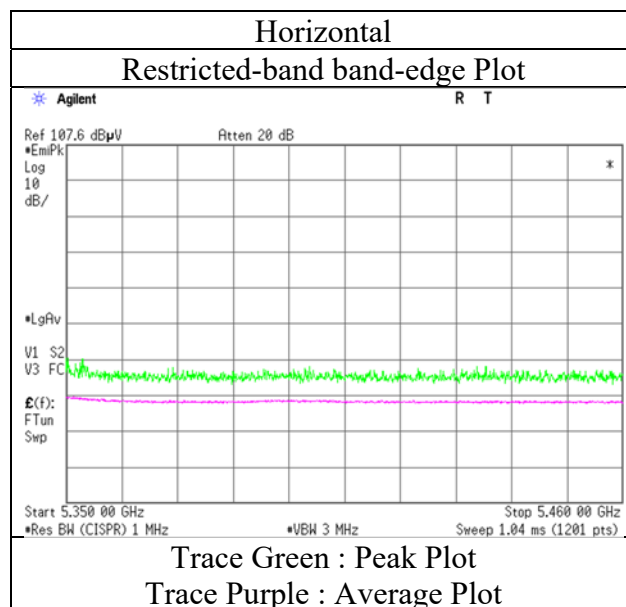
Report No.
Test place
Semi Anechoic Chamber
Date
Temperature / Humidity
Engineer
Mode

Ise EMC Lab.
No.3
February 17, 2021
23 deg. C / 39 % RH
Akihiko Maeda
Tx 11ac-20, 5300MHz + 3DH5, 2480 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	48.180	QP	22.5	11.9	7.6	32.2	-	9.7	40.0	30.3	
Hori.	107.091	QP	32.1	11.1	8.4	32.2	-	19.4	43.5	24.1	
Hori.	134.605	QP	33.0	14.3	8.7	32.2	-	23.8	43.5	19.7	
Hori.	193.322	QP	23.6	16.7	9.3	32.1	-	17.5	43.5	26.0	
Hori.	275.467	QP	35.7	13.2	10.0	32.0	-	26.8	46.0	19.2	
Hori.	423.046	QP	30.8	16.0	11.0	32.0	-	25.8	46.0	20.2	
Hori.	5350.000	PK	52.0	31.5	6.3	31.7	-	58.1	73.9	15.8	
Hori.	10600.000	PK	46.8	39.9	-3.0	33.6	-	50.1	73.9	23.8	
Hori.	15900.000	PK	43.7	36.6	-0.4	32.7	-	47.2	73.9	26.7	Floor noise
Hori.	21200.000	PK	46.4	38.0	-1.4	33.1	-	49.9	73.9	24.0	
Hori.	26500.000	PK	45.8	39.3	-0.4	30.6	-	54.1	73.9	19.8	Floor noise
Hori.	5350.000	AV	31.8	31.5	6.3	31.7	-	37.9	53.9	16.0	
Hori.	10600.000	AV	36.1	39.9	-3.0	33.6	-	39.4	53.9	14.5	
Hori.	15900.000	AV	31.1	36.6	-0.4	32.7	-	34.6	53.9	19.3	Floor noise
Hori.	21200.000	AV	35.8	38.0	-1.4	33.1	-	39.3	53.9	14.6	
Hori.	26500.000	AV	34.0	39.3	-0.4	30.6	-	42.3	53.9	11.6	Floor noise
Vert.	50.354	QP	33.0	11.0	7.6	32.2	-	19.4	40.0	20.6	
Vert.	106.931	QP	44.7	11.1	8.4	32.2	-	32.0	43.5	11.6	
Vert.	134.083	QP	37.8	14.2	8.7	32.2	-	28.5	43.5	15.0	
Vert.	193.322	QP	24.7	16.7	9.3	32.1	-	18.6	43.5	24.9	
Vert.	275.027	QP	31.3	13.2	10.0	32.0	-	22.4	46.0	23.6	
Vert.	423.046	QP	34.2	16.0	11.0	32.0	-	29.2	46.0	16.8	
Vert.	5350.000	PK	50.9	31.5	6.3	31.7	-	57.0	73.9	16.9	
Vert.	10600.000	PK	44.8	39.9	-3.0	33.6	-	48.1	73.9	25.8	
Vert.	15900.000	PK	43.7	36.6	-0.4	32.7	-	47.2	73.9	26.7	Floor noise
Vert.	21200.000	PK	46.0	38.0	-1.4	33.1	-	49.5	73.9	24.4	
Vert.	26500.000	PK	45.8	39.3	-0.4	30.6	-	54.1	73.9	19.8	Floor noise
Vert.	5350.000	AV	31.2	31.5	6.3	31.7	-	37.3	53.9	16.6	
Vert.	10600.000	AV	34.1	39.9	-3.0	33.6	-	37.4	53.9	16.5	
Vert.	15900.000	AV	31.1	36.6	-0.4	32.7	-	34.6	53.9	19.3	Floor noise
Vert.	21200.000	AV	35.0	38.0	-1.4	33.1	-	38.5	53.9	15.4	
Vert.	26500.000	AV	34.0	39.3	-0.4	30.6	-	42.3	53.9	11.6	Floor noise

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	Ise EMC Lab.
Test place	No.3
Semi Anechoic Chamber	February 17, 2021
Date	23 deg. C / 39 % RH
Temperature / Humidity	Akihiko Maeda
Engineer	Tx 11ac-20, 5300MHz + 3DH5, 2480 MHz
Mode	



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

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Radiated Spurious Emission

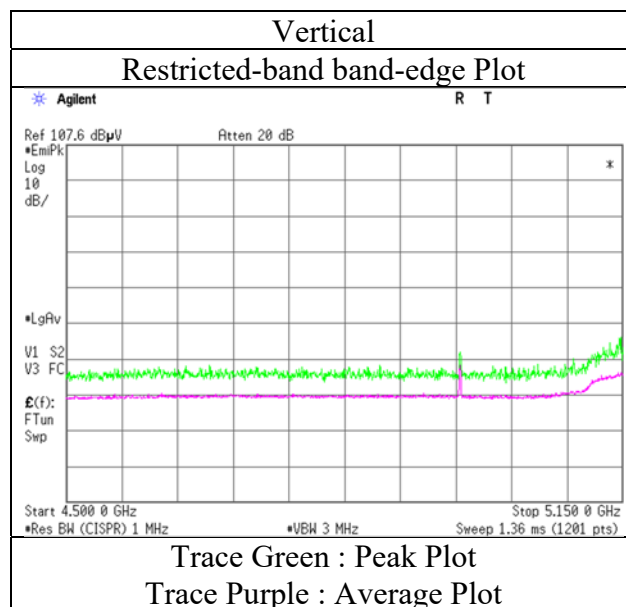
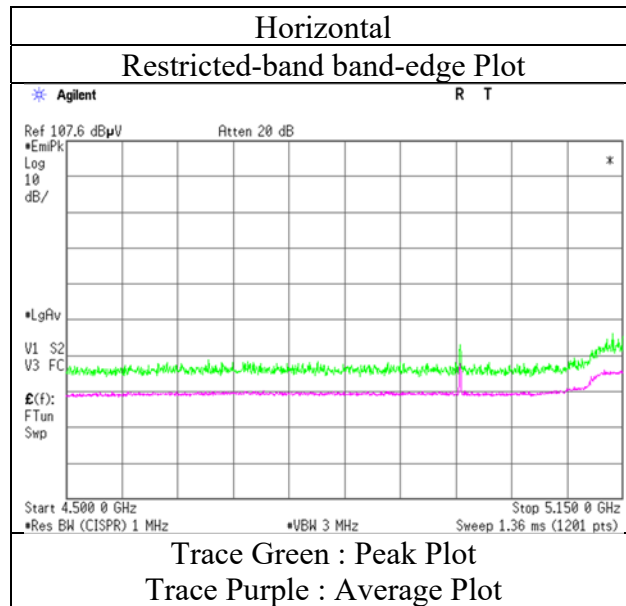
Report No.
Test place
Semi Anechoic Chamber
Date
Temperature / Humidity
Engineer
Mode

Ise EMC Lab.
No.3
February 17, 2021
23 deg. C / 39 % RH
Akihiko Maeda
Tx 11ac-80, 5210MHz + 3DH5, 2480 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	5150.000	PK	54.6	32.0	6.2	31.6	-	61.1	73.9	12.8	
Hori.	5150.000	AV	40.6	32.0	6.2	31.6	-	47.1	53.9	6.8	
Vert.	5150.000	PK	54.9	32.0	6.2	31.6	-	61.4	73.9	12.5	
Vert.	5150.000	AV	41.1	32.0	6.2	31.6	-	47.6	53.9	6.3	

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	Ise EMC Lab.
Test place	No.3
Semi Anechoic Chamber	February 17, 2021
Date	23 deg. C / 39 % RH
Temperature / Humidity	Akihiko Maeda
Engineer	Tx 11ac-80, 5210MHz + 3DH5, 2480 MHz
Mode	



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

UL Japan, Inc.

Ise EMC Lab.

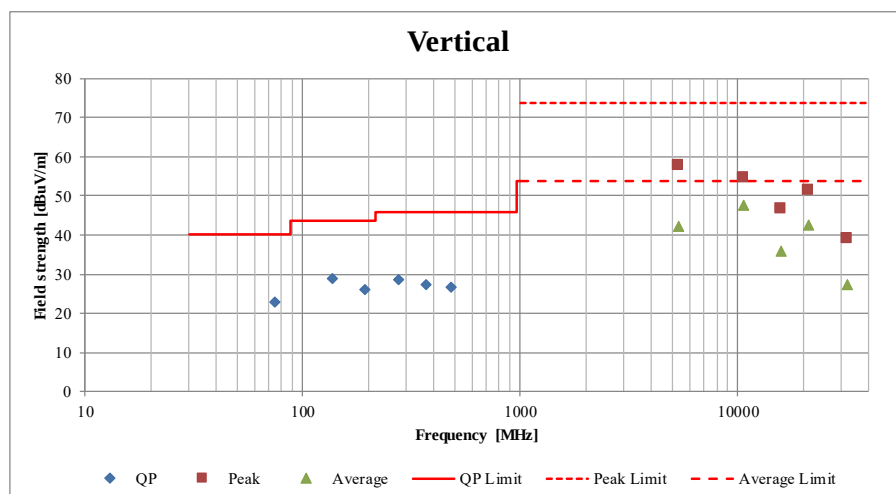
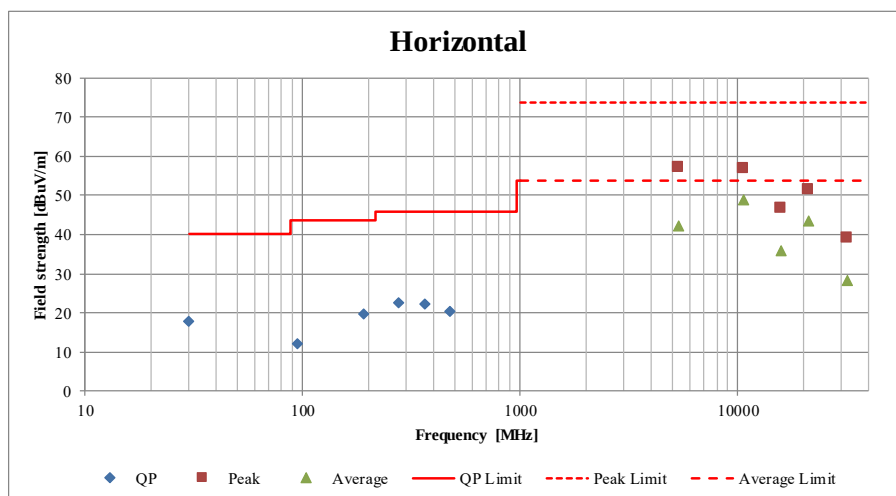
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Radiated Spurious Emission (Plot data, Worst case)

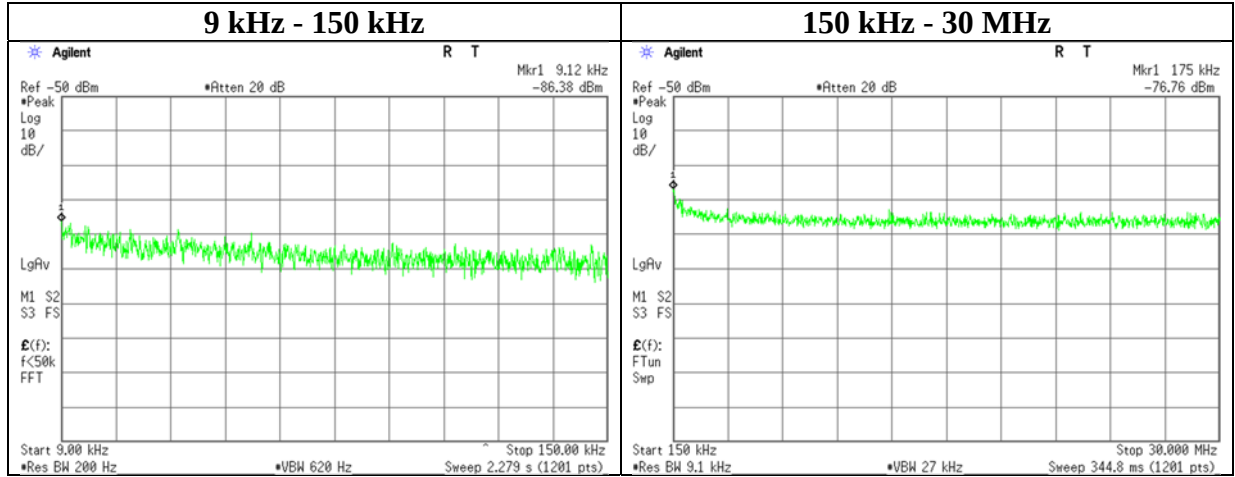
Report No.	13521383H				
Test place	Ise EMC Lab.				
Semi Anechoic Chamber	No.4	No.4	No.4	No.4	No.4
Date	October 25, 2020	October 31, 2020	November 1, 2020	November 2, 2020	November 3, 2020
Temperature / Humidity	23 deg. C / 42 % RH	22 deg. C / 37 % RH	18 deg. C / 43 % RH	20 deg. C / 45 % RH	20 deg. C / 40 % RH
Engineer	Junki Nagatomi (1 GHz - 10 GHz)	Akihiko Maeda (10 GHz - 18 GHz)	Hiroyuki Furutaka (18 GHz - 26.5 GHz)	Junki Nagatomi (26.5 GHz - 40 GHz)	Junya Okuno (Below 1GHz)
Mode	Tx 11ac-20 5300 MHz				



*These plots data contains sufficient number to show the trend of characteristic features for EUT.

Conducted Spurious Emission

Report No. 13521383H
Test place Ise EMC Lab. No.6 Measurement Room
Date October 22, 2020
Temperature / Humidity 20 deg. C / 54 % RH
Engineer Hiroyuki Furutaka
Mode Tx 11ac-20 5300 MHz



Frequency [kHz]	Reading [dBm]	Cable Loss [dB]	Attenuator [dB]	Antenna Gain* [dBi]	N (Number of Output)	EIRP [dBm]	Distance [m]	Ground bounce [dB]	E (field strength) [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
9.12	-86.4	0.00	9.87	3.0	1	-73.5	300	6.0	-12.3	48.4	60.7	
175.00	-76.8	0.01	9.85	3.0	1	-63.9	300	6.0	-2.6	22.7	25.3	

$E \text{ [dBuV/m]} = \text{EIRP [dBm]} - 20 \log (\text{Distance [m]}) + \text{Ground bounce [dB]} + 104.8 \text{ [dBuV/m]}$

$\text{EIRP [dBm]} = \text{Reading [dBm]} + \text{Cable loss [dB]} + \text{Attenuator Loss [dB]} + \text{Antenna gain [dBi]} + 10 * \log (N)$

N: Number of output

*2.0 dBi was applied to the test result based on KDB 789033 since antenna gain was less than 2.0 dBi.

APPENDIX 2: Test instruments

Test equipment (1/2)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
AT	MSA-10	141899	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY46180655	2020/08/04	12
AT	MPSE-17	141830	Power sensor	ANRITSU	MA2411B	738285	2020/05/07	12
AT	MPM-12	141809	Power Meter	ANRITSU	ML2495A	825002	2020/05/07	12
AT	MAT-88	141312	Attenuator	Weinschel Associates	WA56-10	56100304	2020/05/27	12
AT	MOS-24	90289	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	0005	2020/01/07	12
AT	MBM-10	141345	Barometer	Sunoh	SBR121	832	2019/12/11	36
AT	MMM-12	141547	DIGITAL HiTESTER	Hioki	3805	60500120	2020/02/03	12
AT	MSA-04	141885	Spectrum Analyzer	Keysight Technologies Inc	E4448A	US44300523	2020/11/09	12
AT	MAT-23	141361	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	2020/04/21	12
AT	MPM-16	141812	Power Meter	Keysight Technologies Inc	8990B	MY51000271	2020/08/20	12
AT	MPSE-23	141835	Power sensor	Keysight Technologies Inc	N1923A	MY54070004	2020/08/20	12
AT	MOS-24	90289	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	0005	2020/01/07	12
AT	MMM-12	141547	DIGITAL HiTESTER	Hioki	3805	60500120	2020/02/03	12
AT	MJM-24	142225	Measure	ASKUL	-	-	-	-
AT	MAT-10	141156	Attenuator(10dB)	Weinschel Corp	2	BL1173	2019/11/07	12
AT	MCC-64	141327	Coaxial Cable	UL Japan	-	-	2020/02/04	12
RE	MOS-15	141562	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	0010	2020/01/07	12
RE	MMM-10	141545	DIGITAL HiTESTER	Hioki	3805	51201148	2020/01/06	12
RE	MJM-29	142230	Measure	KOMELON	KMC-36	-	-	-
RE	COTS-MEMI-02	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
RE	MAEC-04-SVSWR	142017	AC4 Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-10005	2019/04/04	24
RE	MSA-03	141884	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY44020357	2020/03/04	12
RE	MHA-21	141508	Horn Antenna 1-18GHz	Schwarzbeck Mess - Elektronik	BBHA9120D	557	2020/05/22	12
RE	MPA-12	141581	MicroWave System Amplifier	Keysight Technologies Inc	83017A	00650	2020/10/19	12
RE	MCC-246	199563	Microwave Cable	HUBER+SUNER	SF126E/11PC35/11PC35/1000M,5000M	537061/126E / 537072/126E	2020/06/11	12
AT	MOS-14	141561	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	1401	2020/01/07	12
AT	MMM-12	141547	DIGITAL HiTESTER	Hioki	3805	60500120	2020/02/03	12
AT	MSA-13	141900	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46185823	2020/09/24	12
AT	MAT-88	141312	Attenuator	Weinschel Associates	WA56-10	56100304	2020/05/27	12
AT	MPM-18	141814	Power Meter	DARE!! Instruments	RPR3006W	14100048SNO082	2020/11/06	12
AT	COTS-MPM	141176	RPR3006W measurement software	DARE!! Instruments	RadiMation 2014.2.1	-	-	-
RE	MCC-178	141227	Microwave Cable	Junkosha	MMX221-00500DMSDMS	1502S305	2020/03/18	12
RE	MHF-23	141294	High Pass Filter 7-20GHz	TOKIMEC	TF37NCCC	603	2020/01/06	12
RE	MAEC-04	142011	AC4 Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	2020/05/25	24
RE	MCC-243	196430	Microwave Cable	Huber+Suhner	SF102D/11PC24/11PC24/1000mm	537059/126EA	-	-
RE	MHA-17	141506	Horn Antenna 15-40GHz	Schwarzbeck Mess - Elektronik	BBHA9170	BBHA9170307	2020/07/16	12
RE	MCC-141	141412	Microwave Cable	Junkosha	MWX221	1305S002R(1m) / 1405S146(5m)	-	-

UL Japan, Inc.

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Test equipment (2/2)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	MAT-34	141331	Attenuator(6dB)	TME	UFA-01	-	2020/02/05	12
RE	MBA-05	141425	Biconical Antenna	Schwarzbeck Mess - Elektronik	VHA9103+BBA9106	VHA 91031302	2020/08/31	12
RE	MCC-50	141397	Coaxial Cable	UL Japan	-	-	2020/11/06	12
RE	MLA-23	141267	Logperiodic Antenna(200-1000MHz)	Schwarzbeck Mess - Elektronik	VUSLP9111B	9111B-192	2020/09/02	12
RE	MPA-14	141583	Pre Amplifier	SONOMA INSTRUMENT	310	260833	2020/02/18	12
CE	MSA-03	141884	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY44020357	2020/03/04	12
CE	MTR-03	141942	Test Receiver	Rohde & Schwarz	ESCI	100300	2020/08/18	12
CE	MAEC-04	142011	AC4 Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	2020/05/25	24
CE	MOS-15	141562	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	0010	2020/01/07	12
CE	MMM-10	141545	DIGITAL HiTESTER	Hioki	3805	51201148	2020/01/06	12
CE	MJM-29	142230	Measure	KOMELON	KMC-36	-	-	-
CE	COTS-MEMI-02	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
CE	MLS-23	141357	LISN(AMN)	Schwarzbeck Mess - Elektronik	NSLK8127	8127-729	2020/07/22	12
CE	MLS-24	141358	LISN(AMN)	Schwarzbeck Mess - Elektronik	NSLK8127	8127-730	2020/07/22	12
CE	MAT-67	141248	Attenuator	JFW Industries, Inc.	50FP-013H2 N	-	2019/12/02	12
CE	MCC-113	141217	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W/SFM141/421-010/sucoform141-PE/RFM-E121(SW)	-/04178	2020/06/18	12
CE	MTA-54	141936	Terminator	TME	CT-01BP	-	2019/12/02	12
RE	MAEC-03	142008	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	05/22/2020	24
RE	MAEC-03-SVSWR	142013	Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-10005	04/08/2019	24
RE	MOS-13	141554	Thermo-Hygrometer	CUSTOM	CTH-180	1301	01/15/2021	12
RE	MMM-08	141532	DIGITAL HiTESTER	HIOKI	3805	51201197	01/07/2021	12
RE	MJM-16	142183	Measure	KOMELON	KMC-36	-	-	-
RE	MSA-10	141899	Spectrum Analyzer	AGILENT	E4448A	MY46180655	08/04/2020	12
RE	MPA-11	141580	MicroWave System Amplifier	AGILENT	83017A	MY39500779	03/24/2020	12
RE	MHA-20	141507	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	10/01/2020	12
RE	MCC-231	177964	Microwave Cable	Junkosha INC.	MMX221	1901S329(1m)/1902S579(5m)	03/02/2020	12
RE	MHF-06	141404	High Pass Filter 3.5-24GHz	TOKIMEC	TF323DCA	601	05/25/2020	12
RE	MHF-22	141293	High Pass Filter 7-20GHz	TOKIMEC	TF37NCCB	602	01/14/2021	12
RE	MHA-16	141513	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	BBHA9170306	05/21/2020	12
RE	MBA-03	141424	Biconical Antenna	Schwarzbeck	BBA9106	1915	08/13/2020	12
RE	MLA-22	141266	Logperiodic Antenna(200-1000MHz)	Schwarzbeck	VUSLP9111B	9111B-191	08/13/2020	12
RE	MAT-07	141203	Attenuator(6dB)	Weinschel Corp	2	BK7970	11/13/2020	12
RE	MCC-51	141323	Coaxial cable	UL Japan	-	-	07/06/2020	12
RE	MPA-13	141582	Pre Amplifier	SONOMA INSTRUMENT	11/5/1900	260834	02/03/2021	12
RE	MTR-03	141942	Test Receiver	Rohde & Schwarz	ESCI	100300	08/18/2020	12
RE	MHA-29	141517	Horn Antenna 26.5-40GHz	ETS LINDGREN	22190	152399	08/03/2020	12
RE	MPA-22	141588	Pre Amplifier	MITEQ, Inc	AMF-6F-2600400-33-8P / AMF-4F-2600400-33-8P	1871355 /1871328	09/07/2020	12
RE	MCC-224	160324	Coaxial Cable	Huber+Suhner	SUCOFLEX 102A	MY009/2A	11/17/2020	12

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***Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.**

The expiration date of the calibration is the end of the expired month.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

Test item:

CE: Conducted Emission

RE: Radiated Emission

AT: Antenna Terminal Conducted test