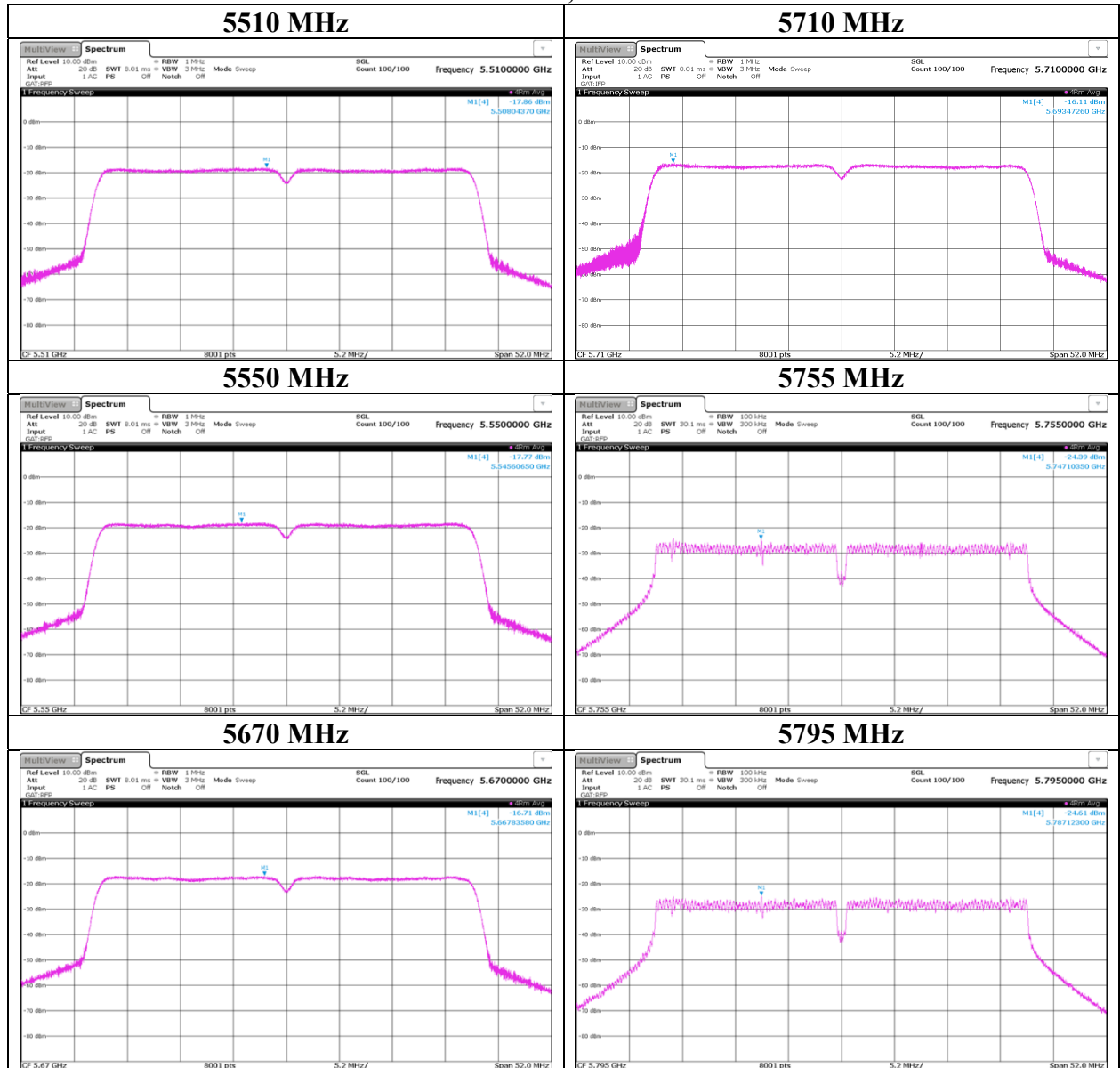


Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.3, 5 Shielded Room
Date October 30, 2020 November 24, 2020
Temperature / Humidity 26 deg. C / 37 % RH 22 deg. C / 44 % RH
Engineer Kazuya Noda Shiro Kobayashi
Mode Tx 11n-40

11n-40 , Ant 0



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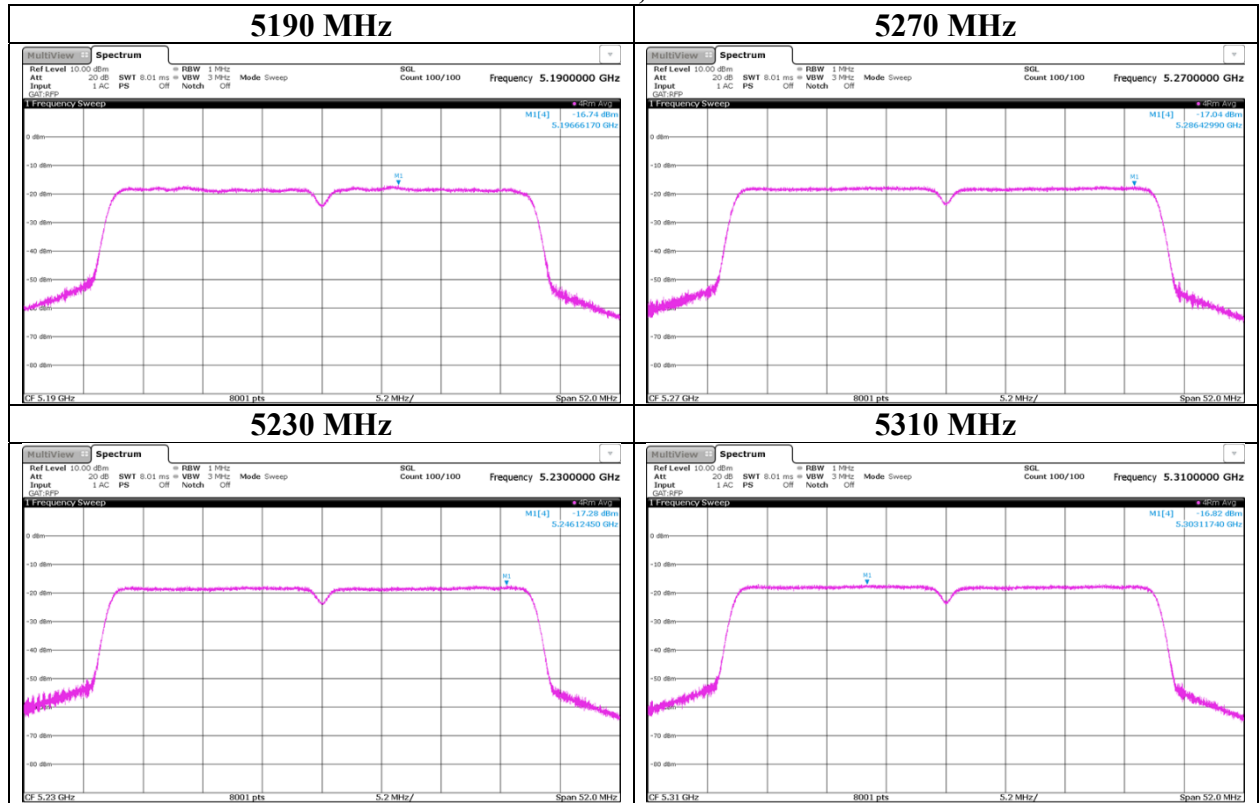
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.5 Shielded Room
Date October 30, 2020
Temperature / Humidity 26 deg. C / 37 % RH
Engineer Kazuya Noda
Mode Tx 11n-40

11n-40 , Ant 1



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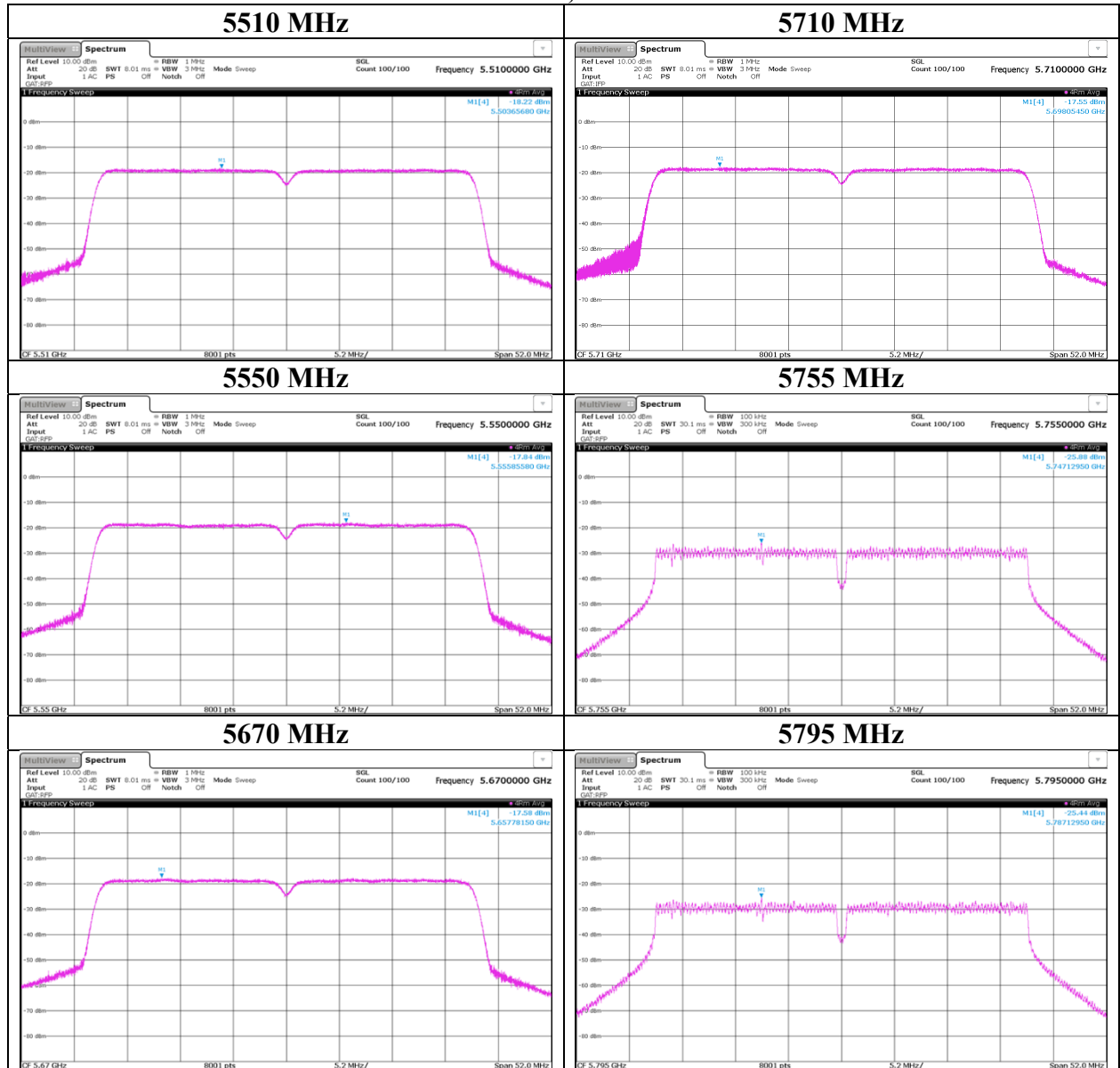
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.3, 5 Shielded Room
Date October 30, 2020 November 24, 2020
Temperature / Humidity 26 deg. C / 37 % RH 22 deg. C / 44 % RH
Engineer Kazuya Noda Shiro Kobayashi
Mode Tx 11n-40

11n-40 , Ant 1



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Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.3, 5 Shielded Room
Date October 30, 2020 November 24, 2020
Temperature / Humidity 26 deg. C / 37 % RH 22 deg. C / 44 % RH
Engineer Kazuya Noda Shiro Kobayashi
Mode Tx 11ac-40

ANT 0+1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)							PSD (e.i.r.p.)						
	Antenna			Result	Limit	Margin		Antenna			Result	Limit	Margin	
	ANT 0	ANT 1	Sum					ANT 0	ANT 1	Sum				
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]		[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	
5190	0.25	0.23	0.48	-3.16	11.00	14.16		0.59	0.88	1.47	1.67	17.00	15.33	
5230	0.27	0.25	0.52	-2.88	11.00	13.88		0.63	0.94	1.57	1.96	17.00	15.04	
5270	0.23	0.25	0.48	-3.17	11.00	14.17		0.42	0.95	1.37	1.37	17.00	15.63	
5310	0.28	0.26	0.54	-2.65	11.00	13.65		0.51	0.99	1.50	1.77	17.00	15.23	
5510	0.21	0.20	0.41	-3.84	11.00	14.84		0.38	0.65	1.03	0.12	17.00	16.88	
5550	0.23	0.20	0.44	-3.61	11.00	14.61		0.41	0.66	1.07	0.31	17.00	16.69	
5670	0.27	0.21	0.49	-3.14	11.00	14.14		0.69	0.69	1.18	0.70	17.00	16.30	
5710	0.31	0.22	0.53	-2.74	11.00	13.74		0.55	0.71	1.27	1.03	17.00	15.97	
5755	0.22	0.19	0.41	-3.85	30.00	33.85		0.46	0.49	0.94	-0.25	36.00	36.25	
5795	0.31	0.24	0.54	-2.65	30.00	32.65		0.63	0.61	1.24	0.93	36.00	35.07	

ANT 0										ANT 1						
Tested Frequency	Duty Factor *1)	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result			PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]		[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	
5190	0.00	0.00	-17.19	1.48	9.72	3.71	-5.99	-2.28		-17.56	1.48	9.72	5.79	-6.36	-0.57	
5230	0.00	0.00	-16.93	1.48	9.72	3.71	-5.73	-2.02		-17.25	1.48	9.72	5.79	-6.05	-0.26	
5270	0.00	0.00	-17.51	1.44	9.72	2.60	-6.35	-3.75		-17.17	1.44	9.72	5.79	-6.01	-0.22	
5310	0.00	0.00	-16.65	1.44	9.72	2.60	-5.49	-2.89		-17.00	1.44	9.72	5.79	-5.84	-0.05	
5510	0.00	0.00	-18.02	1.59	9.73	2.48	-6.70	-4.22		-18.32	1.59	9.73	5.12	-7.00	-1.88	
5550	0.00	0.00	-17.68	1.60	9.73	2.48	-6.35	-3.87		-18.23	1.60	9.73	5.12	-6.90	-1.78	
5670	0.00	0.00	-16.86	1.47	9.74	2.48	-5.65	-3.17		-17.92	1.47	9.74	5.12	-6.71	-1.59	
5710	0.00	0.00	-16.27	1.47	9.74	2.48	-5.06	-2.58		-17.79	1.47	9.74	5.12	-6.58	-1.46	
5755	0.00	6.99	-24.69	1.48	9.74	3.09	-6.48	-3.39		-25.48	1.48	9.74	4.13	-7.27	-3.14	
5795	0.00	6.99	-23.32	1.48	9.74	3.09	-5.11	-2.02		-24.49	1.48	9.74	4.13	-6.28	-2.15	

Sample Calculation:

(*1) PSD was measured with using the gate function of Spectrum analyzer.)

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)

PSD Result (Conducted) = Reading + Cable Loss + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

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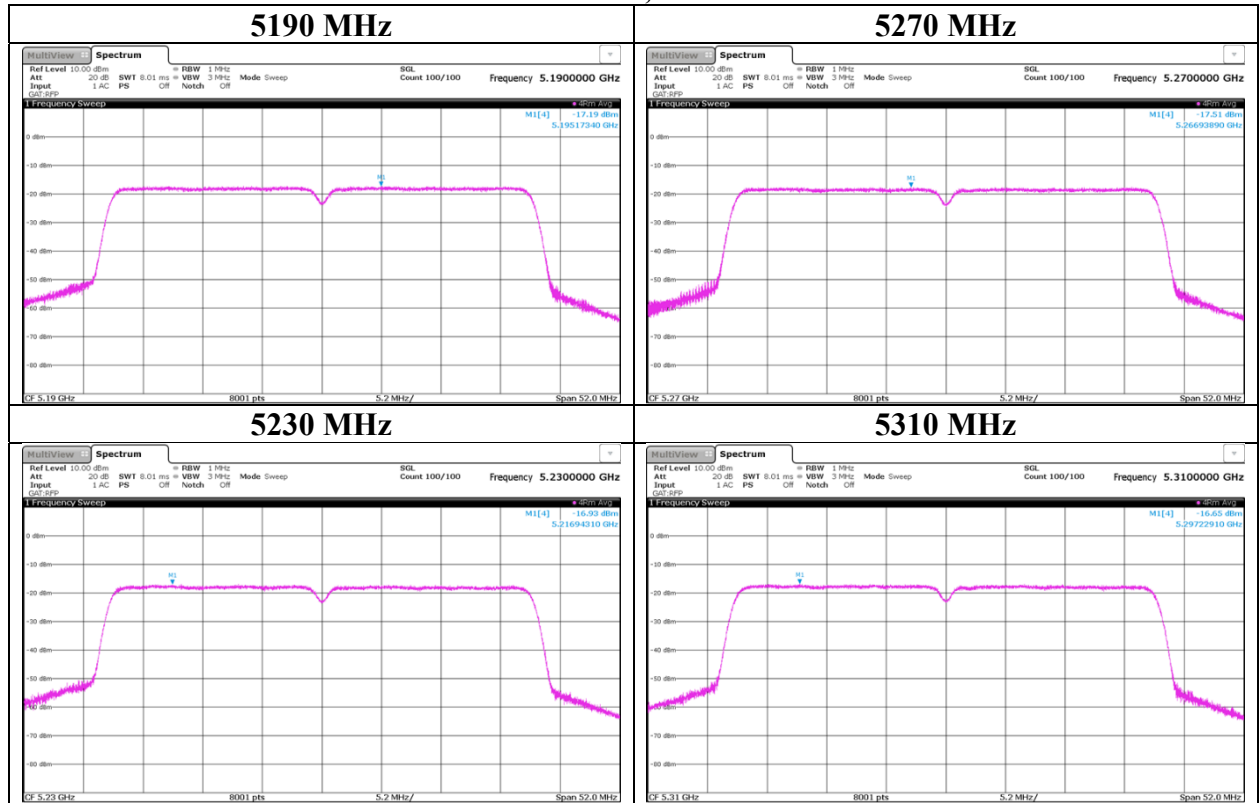
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.5 Shielded Room
Date October 30, 2020
Temperature / Humidity 26 deg. C / 37 % RH
Engineer Kazuya Noda
Mode Tx 11ac-40

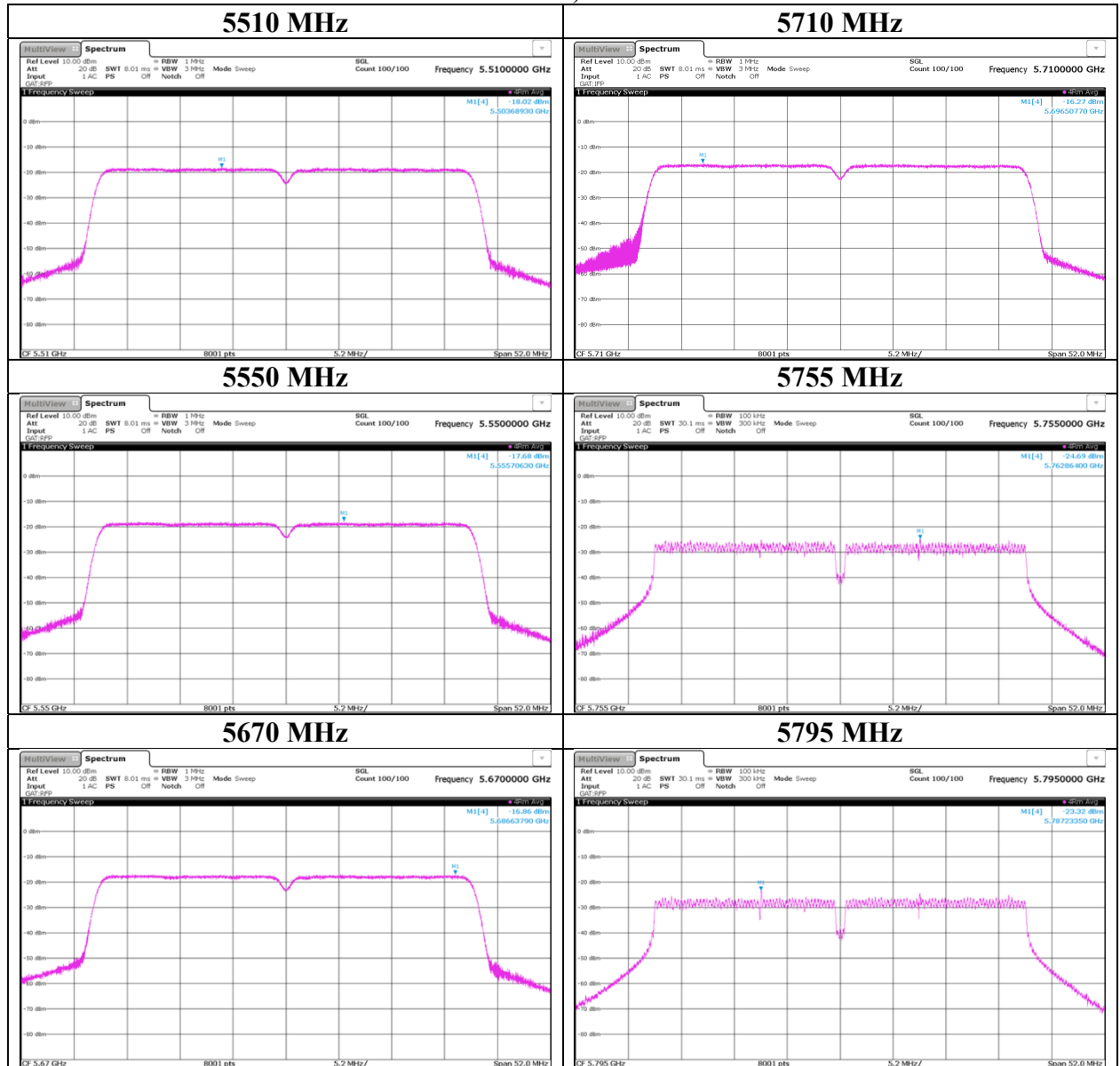
11ac-40 , Ant 0



Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.3, 5 Shielded Room
Date October 30, 2020 November 24, 2020
Temperature / Humidity 26 deg. C / 37 % RH 22 deg. C / 44 % RH
Engineer Kazuya Noda Shiro Kobayashi
Mode Tx 11ac-40

11ac-40 , Ant 0



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Shonan EMC Lab.

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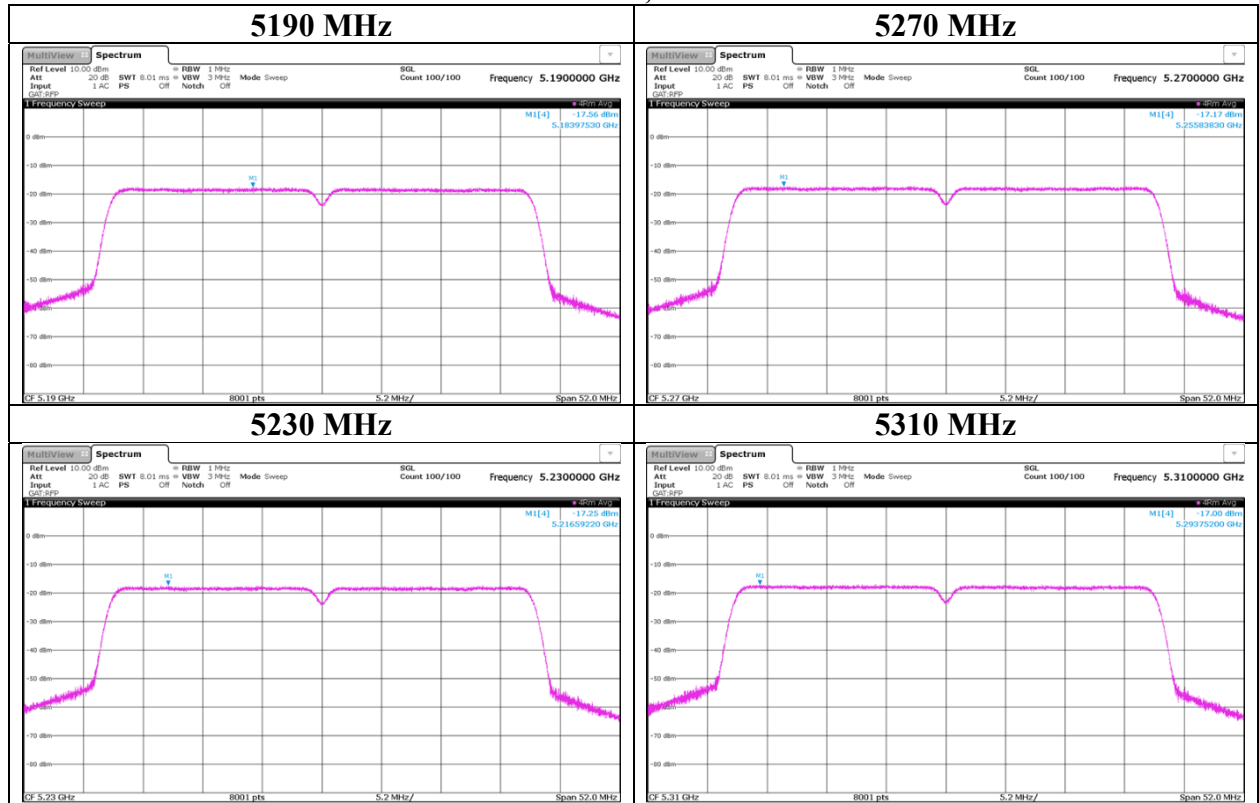
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.5 Shielded Room
Date October 30, 2020
Temperature / Humidity 26 deg. C / 37 % RH
Engineer Kazuya Noda
Mode Tx 11ac-40

11ac-40 , Ant 1



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Shonan EMC Lab.

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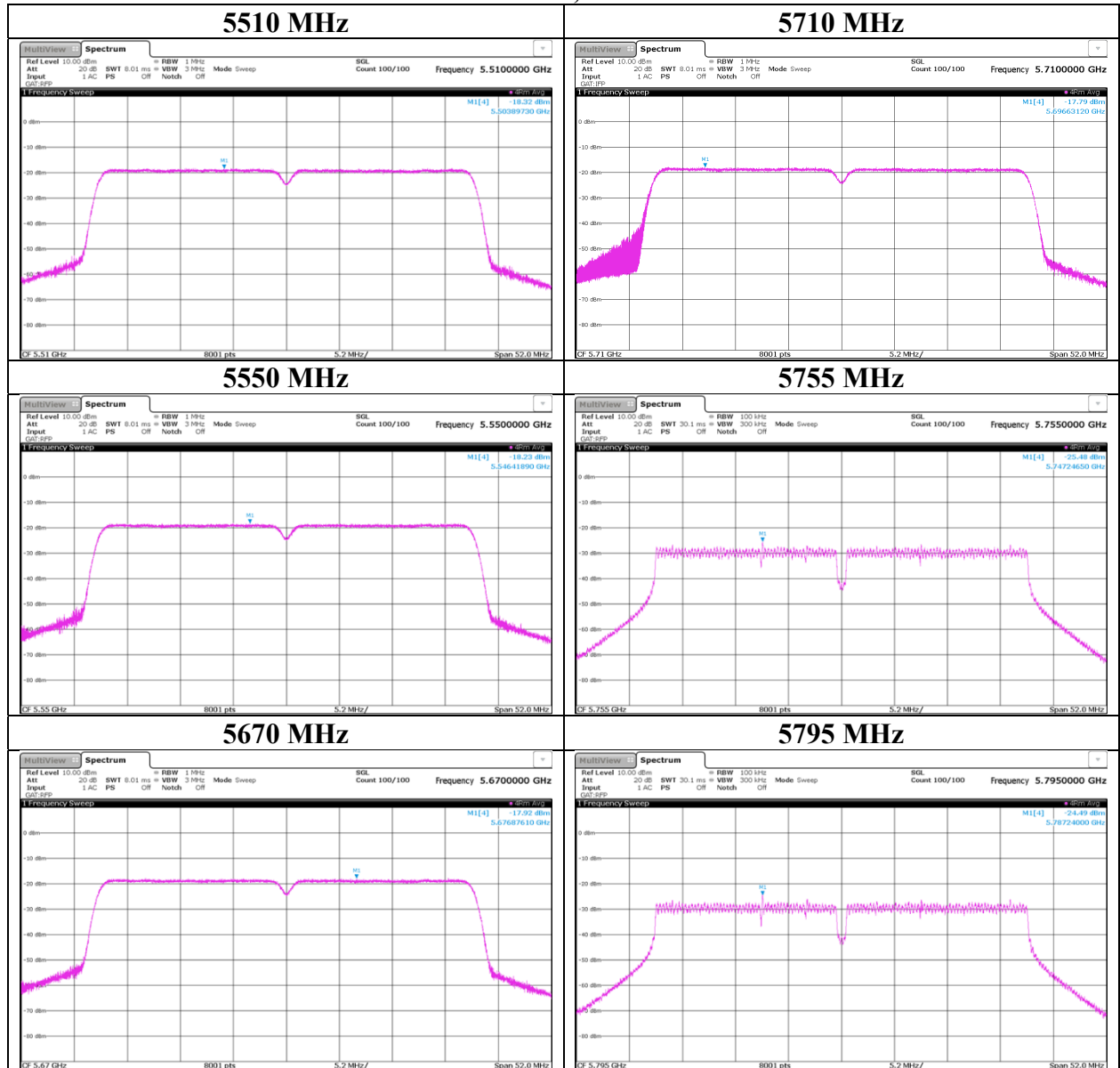
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.3, 5 Shielded Room
Date October 30, 2020 November 24, 2020
Temperature / Humidity 26 deg. C / 37 % RH 22 deg. C / 44 % RH
Engineer Kazuya Noda Shiro Kobayashi
Mode Tx 11ac-40

11ac-40 , Ant 1



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Shonan EMC Lab.

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Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.5 Shielded Room
Date November 2, 2020
Temperature / Humidity 25 deg. C / 52 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-80

ANT 0+1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	ANT 0	ANT 1	Sum				ANT 0	ANT 1	Sum			
[mW/MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5210	0.24	0.23	0.47	-3.29	11.00	14.29	0.56	0.87	1.43	1.56	17.00	15.44
5290	0.25	0.25	0.50	-3.03	11.00	14.03	0.45	0.95	1.40	1.46	17.00	15.54
5530	0.21	0.20	0.41	-3.87	11.00	14.87	0.36	0.66	1.03	0.12	17.00	16.88
5610	0.23	0.24	0.47	-3.27	11.00	14.27	0.41	0.77	1.18	0.73	17.00	16.27
5690	0.27	0.28	0.55	-2.59	11.00	13.59	0.49	0.90	1.38	1.40	17.00	15.60
5775	0.16	0.15	0.31	-5.06	30.00	35.06	0.33	0.38	0.72	-1.45	36.00	37.45

ANT 0								ANT 1							
Tested Frequency	Duty Factor *1)	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	
5210	0.00	0.00	-17.41	1.49	9.72	3.71	-6.20	-2.49	-17.75	1.47	9.87	5.79	-6.41	-0.62	
5290	0.00	0.00	-17.21	1.44	9.72	2.60	-6.05	-3.45	-17.37	1.46	9.88	5.79	-6.03	-0.24	
5530	0.00	0.00	-18.18	1.59	9.73	2.48	-6.86	-4.38	-18.38	1.60	9.88	5.12	-6.90	-1.78	
5610	0.00	0.00	-17.49	1.46	9.73	2.48	-6.30	-3.82	-17.61	1.46	9.88	5.12	-6.27	-1.15	
5690	0.00	0.00	-16.82	1.47	9.74	2.48	-5.61	-3.13	-16.96	1.47	9.89	5.12	-5.60	-0.48	
5775	0.00	6.99	-26.05	1.48	9.74	3.09	-7.84	-4.75	-26.69	1.49	9.89	4.13	-8.32	-4.19	

Sample Calculation:

(*1) PSD was measured with using the gate function of Spectrum analyzer.)

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log (\text{Specified bandwidth} / \text{Measured bandwidth})$

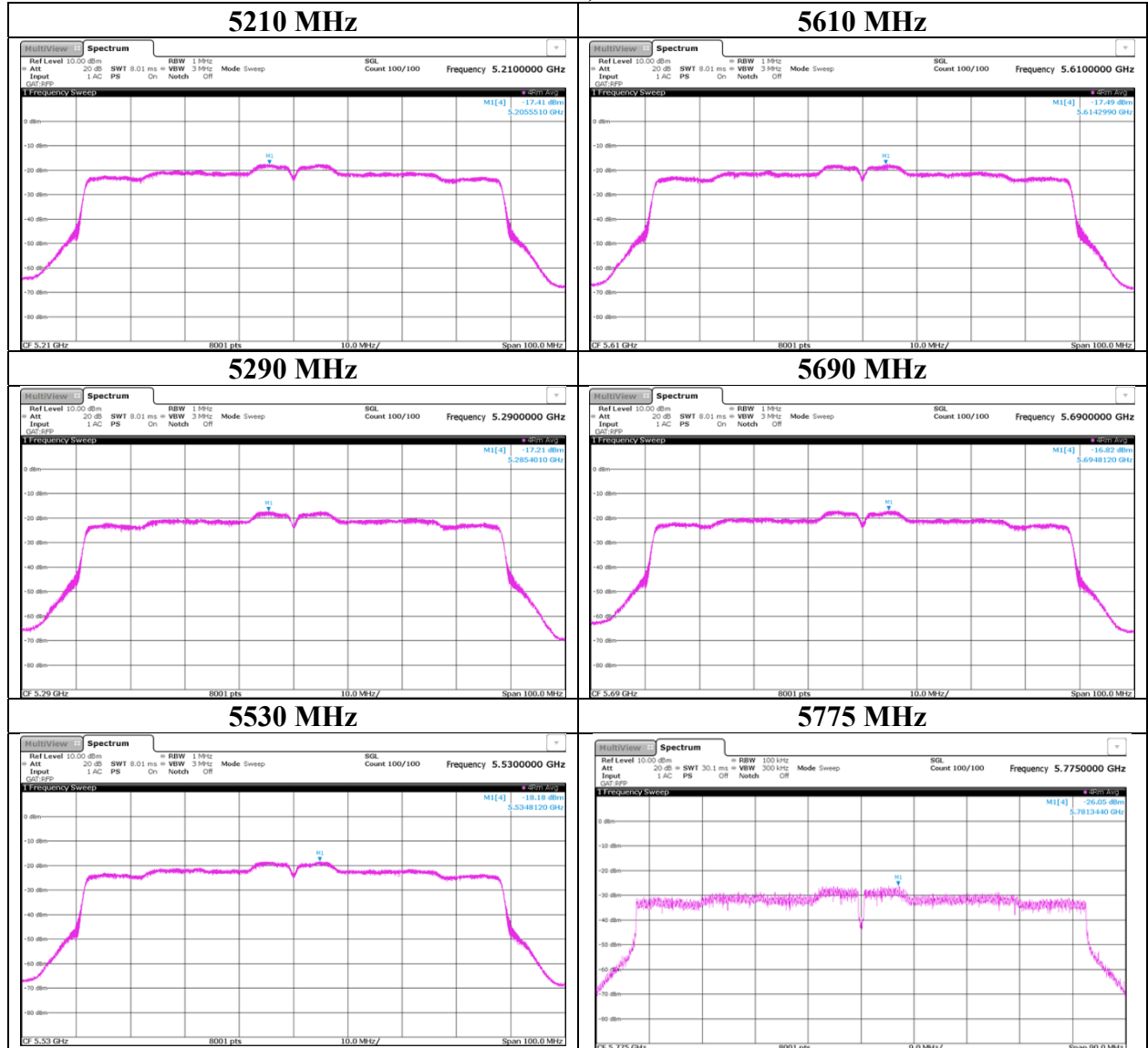
PSD Result (Conducted) = Reading + Cable Loss + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.3 Shielded Room
Date November 2, 2020
Temperature / Humidity 25 deg. C / 52 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-80

11ac-80 , Ant 0



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Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

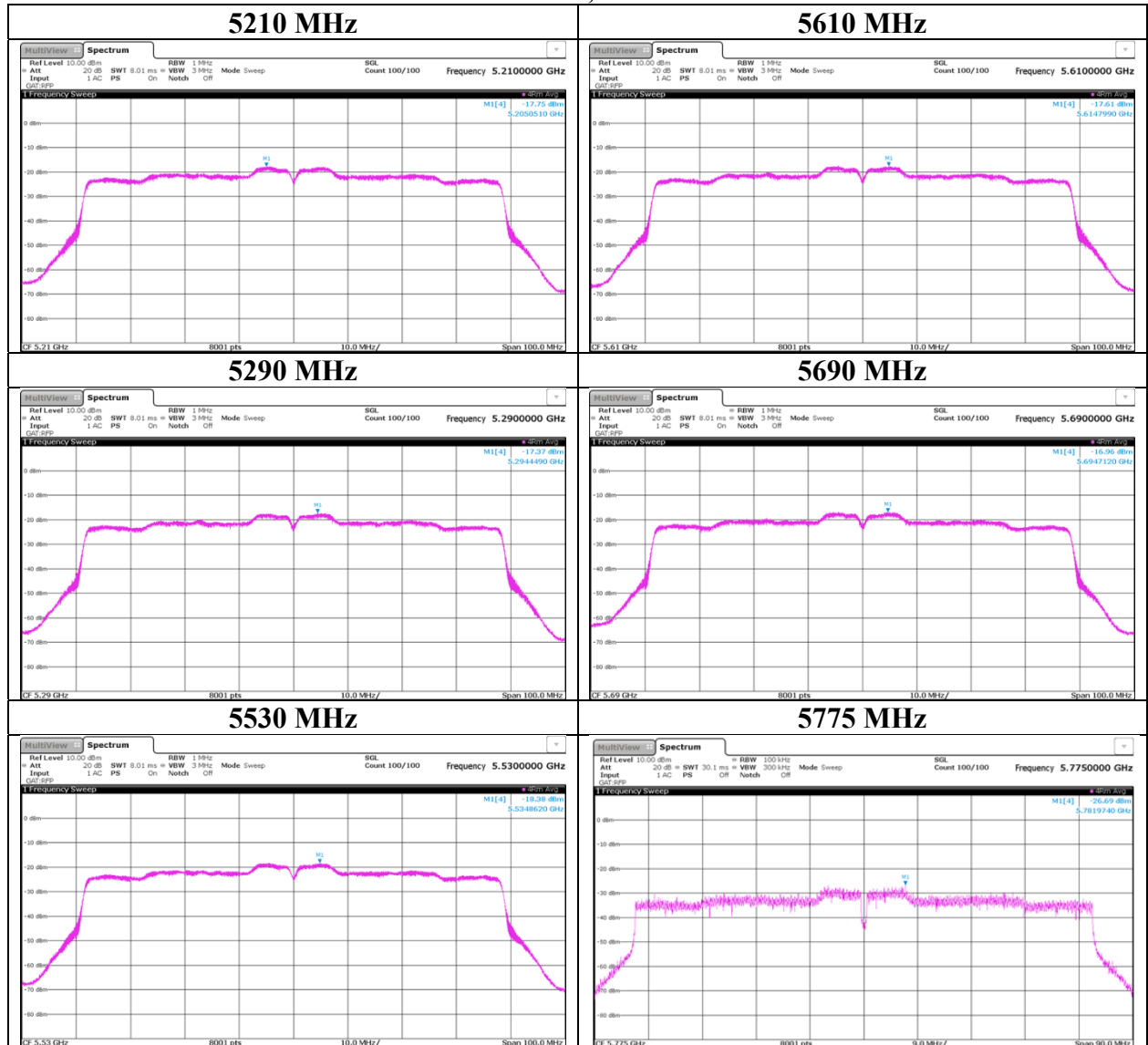
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13554183S-E-R1
Test place Shonan EMC Lab. No.3 Shielded Room
Date November 2, 2020
Temperature / Humidity 25 deg. C / 52 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-80

11ac-80 , Ant 1



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Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 25, 2020
Temperature / Humidity	23 deg.C, 58 %RH
Engineer	Toshinori Yamada
	(1 GHz -6.4 GHz)
Mode	Tx 11a 5180 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5081.122	PK	47.64	32.24	16.71	39.71	2.28	59.16	73.9	14.7	376	81	-
Hori.	5150.000	PK	47.83	32.25	16.76	39.72	2.28	59.40	73.9	14.5	376	81	-
Hori.	5081.122	AV	37.19	32.24	16.71	39.71	2.28	48.71	53.9	5.1	376	81	VBW:1.5 kHz
Hori.	5150.000	AV	36.20	32.25	16.76	39.72	2.28	47.77	53.9	6.1	376	81	VBW:1.5 kHz
Vert.	5081.122	PK	46.58	32.24	16.71	39.71	2.28	58.10	73.9	15.8	394	29	-
Vert.	5150.000	PK	47.57	32.25	16.76	39.72	2.28	59.14	73.9	14.7	394	29	-
Vert.	5081.122	AV	36.20	32.24	16.71	39.71	2.28	47.72	53.9	6.1	394	29	VBW:1.5 kHz
Vert.	5150.000	AV	35.50	32.25	16.76	39.72	2.28	47.07	53.9	6.8	394	29	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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Shonan EMC Lab.

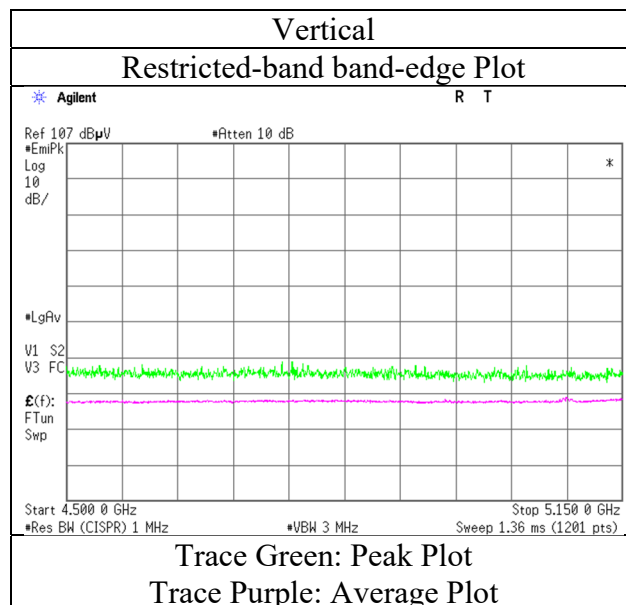
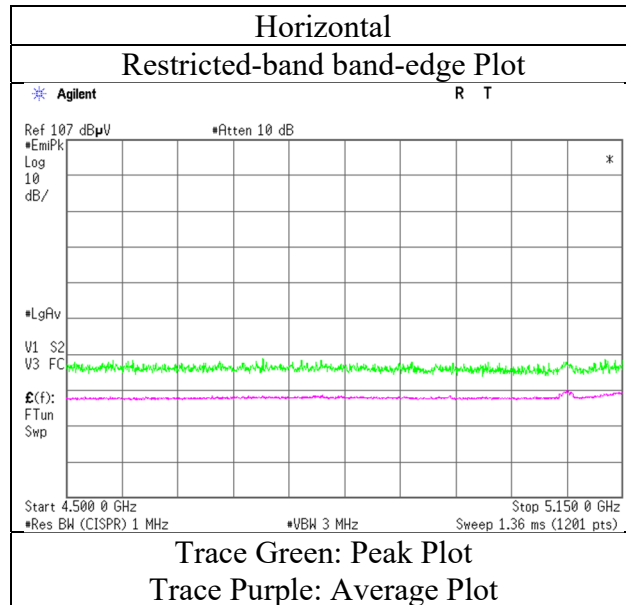
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 25, 2020
Temperature / Humidity 23 deg.C, 58 %RH
Engineer Toshinori Yamada
Mode Tx 11a 5180 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.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 25, 2020
Temperature / Humidity 23 deg.C, 58 %RH
Engineer Toshinori Yamada
(1 GHz -6.4 GHz)
Mode Tx 11a 5320 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	47.66	31.99	16.91	39.74	2.28	59.10	73.9	14.8	344	107	-
Hori.	5350.000	AV	36.67	31.99	16.91	39.74	2.28	48.11	53.9	5.7	344	107	VBW:1.5 kHz
Vert.	5350.000	PK	47.32	31.99	16.91	39.74	2.28	58.76	73.9	15.1	255	25	-
Vert.	5350.000	AV	35.36	31.99	16.91	39.74	2.28	46.80	53.9	7.1	255	25	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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Shonan EMC Lab.

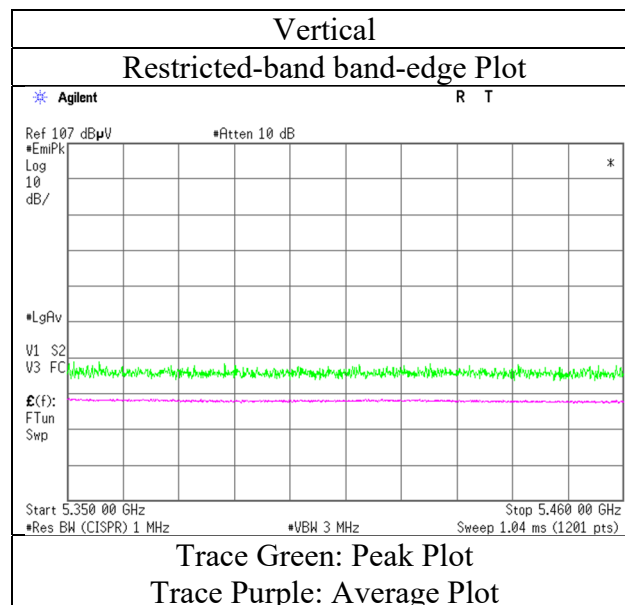
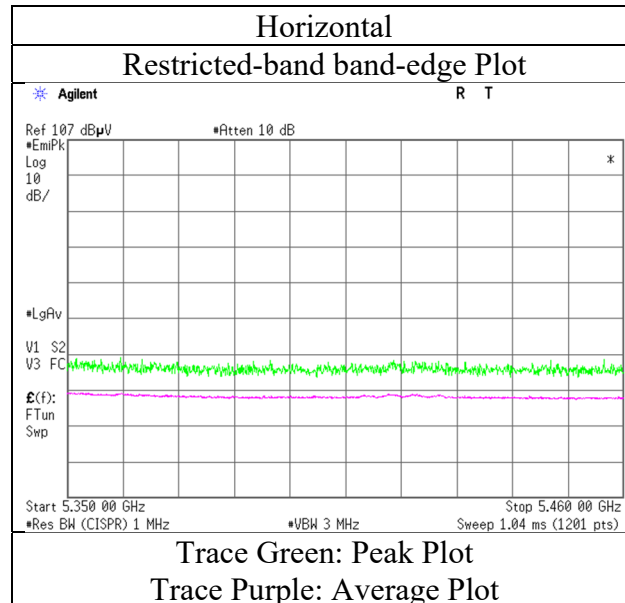
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 25, 2020
Temperature / Humidity 23 deg.C, 58 %RH
Engineer Toshinori Yamada
Mode Tx 11a 5320 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.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 25, 2020
Temperature / Humidity 23 deg.C, 58 %RH
Engineer Toshinori Yamada
(1 GHz -6.4 GHz)
Mode Tx 11a 5500 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5404.121	PK	47.98	32.11	16.95	39.74	2.28	59.58	73.9	14.3	400	102	-
Hori.	5460.000	PK	47.12	32.22	16.99	39.75	2.28	58.86	73.9	15.0	400	102	-
Hori.	5404.121	AV	37.82	32.11	16.95	39.74	2.28	49.42	53.9	4.4	400	102	VBW:1.5 kHz
Hori.	5460.000	AV	35.31	32.22	16.99	39.75	2.28	47.05	53.9	6.8	400	102	VBW:1.5 kHz
Vert.	5404.121	PK	47.98	32.11	16.95	39.74	2.28	59.58	73.9	14.3	100	261	-
Vert.	5460.000	PK	47.13	32.22	16.99	39.75	2.28	58.87	73.9	15.0	100	261	-
Vert.	5404.121	AV	36.43	32.11	16.95	39.74	2.28	48.03	53.9	5.8	100	261	VBW:1.5 kHz
Vert.	5460.000	AV	34.81	32.22	16.99	39.75	2.28	46.55	53.9	7.3	100	261	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	47.50	32.24	16.99	39.75	2.28	59.26	-35.97	-27.0	8.9	400	102	-
Vert.	5470.000	PK	46.76	32.24	16.99	39.75	2.28	58.52	-36.71	-27.0	9.7	100	261	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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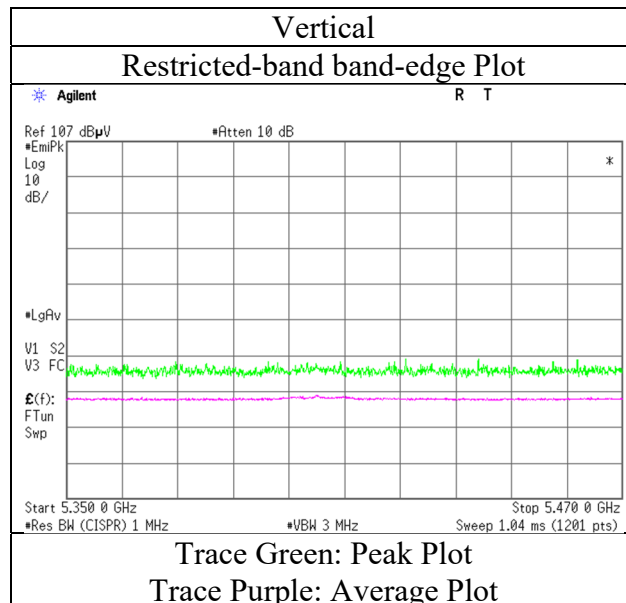
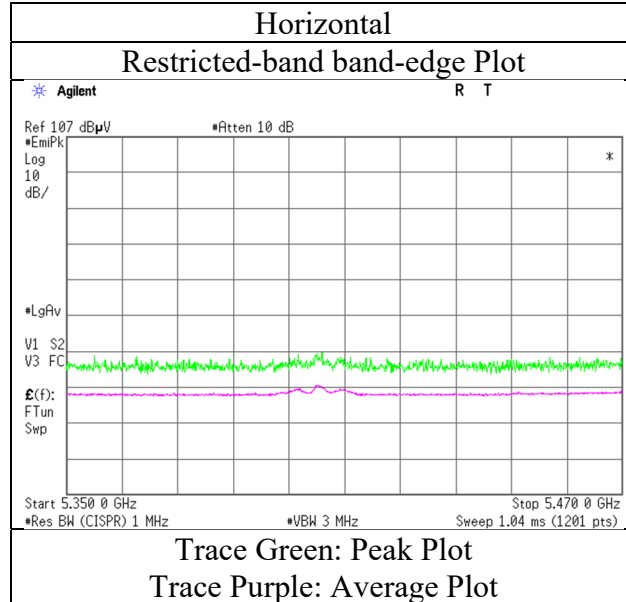
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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 25, 2020
Temperature / Humidity 23 deg.C, 58 %RH
Engineer Toshinori Yamada
Mode Tx 11a 5500 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. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 25, 2020
Temperature / Humidity 23 deg.C, 58 %RH
Engineer Toshinori Yamada
(1 GHz -6.4 GHz)
Mode Tx 11a 5700 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	48.32	32.64	17.16	39.92	2.28	60.48	-34.75	-27.0	7.7	395	89	-
Vert.	5725.000	PK	47.44	32.64	17.16	39.92	2.28	59.60	-35.63	-27.0	8.6	100	232	-
Vert.	5797.667	PK	47.12	32.82	17.20	39.98	2.28	59.44	-35.79	-27.0	8.7	100	232	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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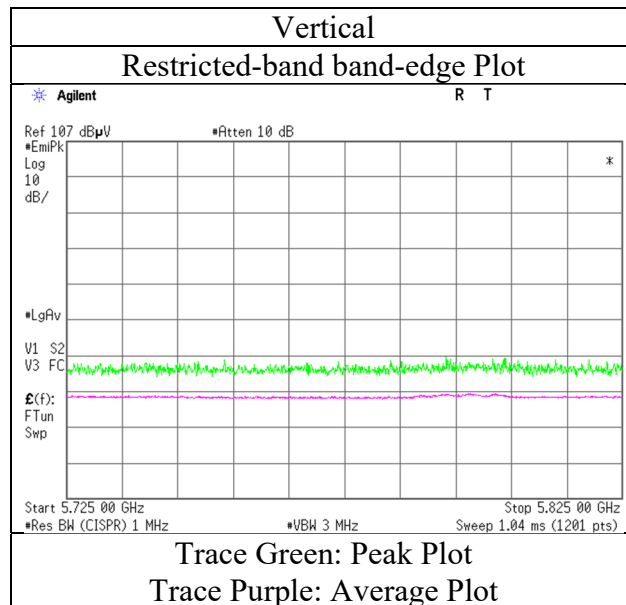
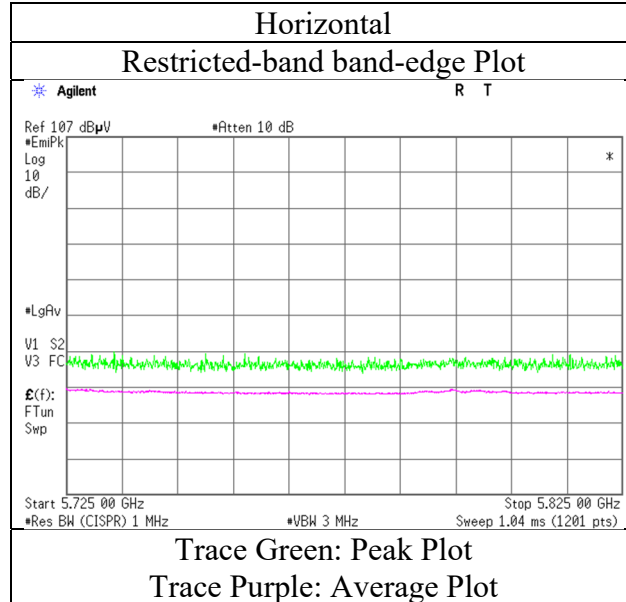
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 25, 2020
Temperature / Humidity 23 deg.C, 58 %RH
Engineer Toshinori Yamada
Mode Tx 11a 5700 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.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 26, 2020
Temperature / Humidity	22 deg.C, 52 %RH
Engineer	Toshinori Yamada
	(1 GHz -6.4 GHz)
Mode	Tx 11a 5745 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	47.67	32.44	17.11	39.86	2.28	59.64	-35.59	-27.0	8.5	325	80	-
Hori.	5651.750	PK	46.66	32.44	17.11	39.87	2.28	58.62	-36.61	-25.7	10.9	325	80	-
Hori.	5700.000	PK	46.65	32.56	17.14	39.90	2.28	58.73	-36.50	10.0	46.5	325	80	-
Hori.	5720.000	PK	47.99	32.62	17.15	39.92	2.28	60.12	-35.11	15.6	50.7	325	80	-
Hori.	5725.000	PK	48.11	32.64	17.16	39.92	2.28	60.27	-34.96	27.0	61.9	325	80	-
Vert.	5650.000	PK	47.89	32.44	17.11	39.86	2.28	59.86	-35.37	-27.0	8.3	109	234	-
Vert.	5655.080	PK	47.49	32.45	17.11	39.87	2.28	59.46	-35.77	-23.2	12.5	109	234	-
Vert.	5700.000	PK	46.52	32.56	17.14	39.90	2.28	58.60	-36.63	10.0	46.6	109	234	-
Vert.	5720.000	PK	48.03	32.62	17.15	39.92	2.28	60.16	-35.07	15.6	50.6	109	234	-
Vert.	5725.000	PK	47.73	32.64	17.16	39.92	2.28	59.89	-35.34	27.0	62.3	109	234	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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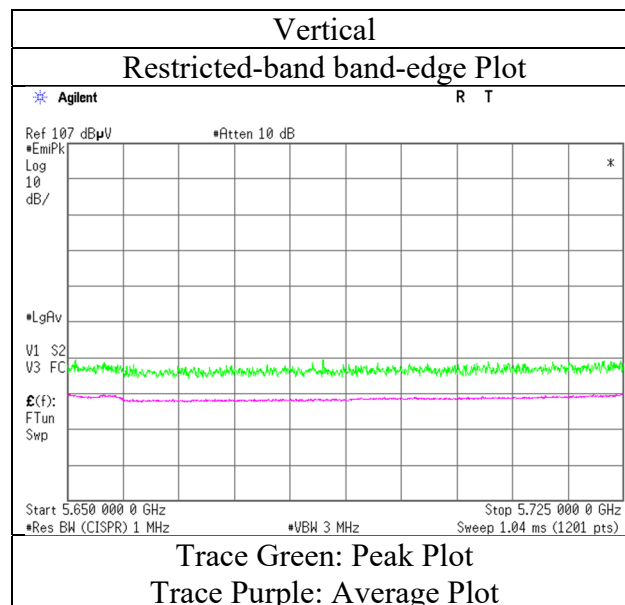
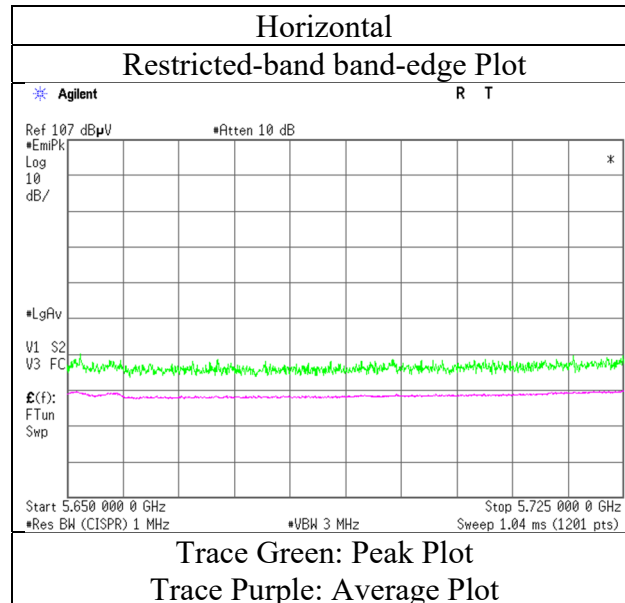
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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11a 5745 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. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
(1 GHz -6.4 GHz)
Mode Tx 11a 5825 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5104.995	PK	46.83	32.27	16.72	39.71	2.28	58.39	73.9	15.5	400	80	-
Hori.	5104.995	AV	38.18	32.27	16.72	39.71	2.28	49.74	53.9	4.1	400	80	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	48.23	32.91	17.24	40.02	2.28	60.64	-34.59	27.0	61.5	400	80	-
Hori.	5855.000	PK	47.39	32.92	17.24	40.02	2.28	59.81	-35.42	15.6	51.0	400	80	-
Hori.	5875.000	PK	48.19	32.95	17.27	40.04	2.28	60.65	-34.58	10.0	44.5	400	80	-
Hori.	5921.892	PK	47.78	32.99	17.29	40.07	2.28	60.27	-34.96	-24.7	10.2	400	80	-
Hori.	5925.000	PK	47.06	32.99	17.29	40.07	2.28	59.55	-35.68	-27.0	8.6	400	80	-
Vert.	5850.000	PK	47.48	32.91	17.24	40.02	2.28	59.89	-35.34	27.0	62.3	100	237	-
Vert.	5855.000	PK	46.75	32.92	17.24	40.02	2.28	59.17	-36.06	15.6	51.6	100	237	-
Vert.	5875.000	PK	46.67	32.95	17.27	40.04	2.28	59.13	-36.10	10.0	46.1	100	237	-
Vert.	5921.342	PK	46.31	32.99	17.29	40.07	2.28	58.80	-36.43	-24.2	12.2	100	237	-
Vert.	5925.000	PK	47.07	32.99	17.29	40.07	2.28	59.56	-35.67	-27.0	8.6	100	237	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

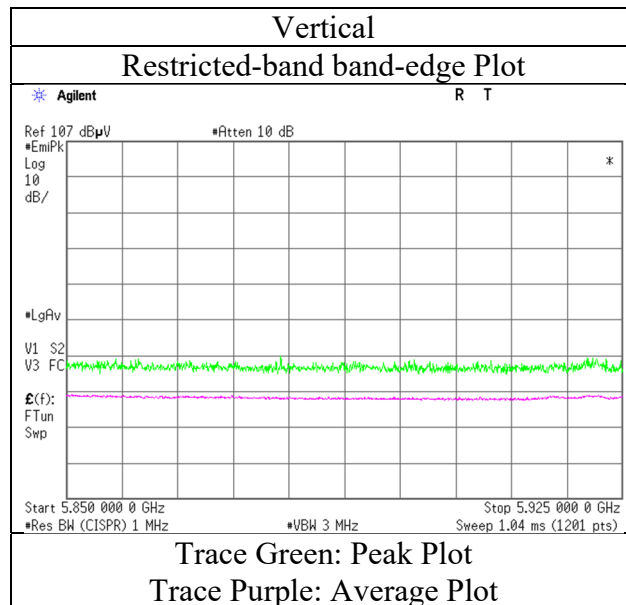
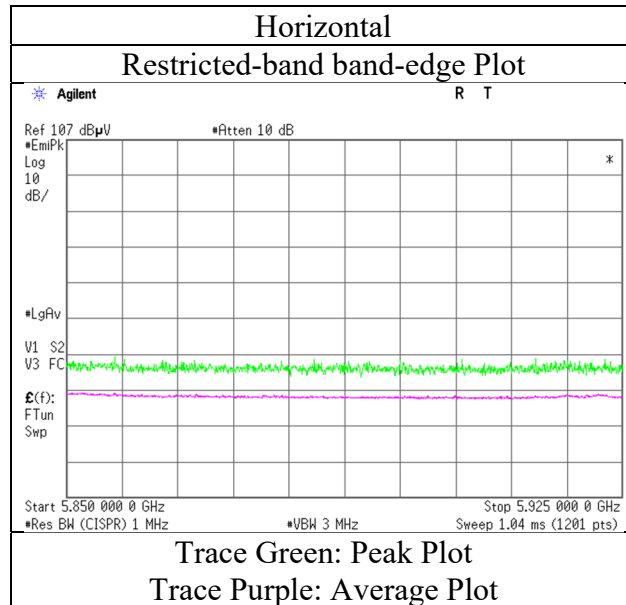
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11a 5825 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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Shonan EMC Lab.

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Radiated Spurious Emission

Report No.	13554183S-E-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	1	1	1	1
Date	Oct 26, 2020	Oct 26, 2020	Oct 27, 2020	Oct 29, 2020
Temperature / Humidity	22 deg.C, 52 %RH	22 deg.C, 52 %RH	23 deg.C, 51 %RH	22 deg.C, 50 %RH
Engineer	Toshinori Yamada	Yosuke Murakami	Toshinori Yamada	Toshinori Yamada
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5180 MHz			

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5090.500	PK	47.60	32.26	16.71	39.71	2.28	59.14	73.9	14.7	387	87	-
Hori.	5150.000	PK	48.74	32.25	16.76	39.72	2.28	60.31	73.9	13.5	387	87	-
Hori.	15540.000	PK	45.27	39.60	12.67	39.13	-9.54	48.87	73.9	25.0	100	0	-
Hori.	5090.500	AV	37.01	32.26	16.71	39.71	2.28	48.55	53.9	5.3	387	87	VBW:1.5 kHz
Hori.	5150.000	AV	36.19	32.25	16.76	39.72	2.28	47.76	53.9	6.1	387	87	VBW:1.5 kHz
Hori.	15540.000	AV	34.17	39.60	12.67	39.13	-9.54	37.77	53.9	16.1	100	0	VBW:1.5 kHz
Vert.	5091.700	PK	46.32	32.26	16.71	39.71	2.28	57.86	73.9	16.0	390	19	-
Vert.	5150.000	PK	46.71	32.25	16.76	39.72	2.28	58.28	73.9	15.6	390	19	-
Vert.	15540.000	PK	44.76	39.60	12.67	39.13	-9.54	48.36	73.9	25.5	100	0	-
Vert.	5091.700	AV	35.37	32.26	16.71	39.71	2.28	46.91	53.9	6.9	390	19	VBW:1.5 kHz
Vert.	5150.000	AV	35.22	32.25	16.76	39.72	2.28	46.79	53.9	7.1	390	19	VBW:1.5 kHz
Vert.	15540.000	AV	33.86	39.60	12.67	39.13	-9.54	37.46	53.9	16.4	100	0	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10360.000	PK	50.97	36.57	9.99	39.88	-9.54	48.11	-47.12	-27.0	20.1	198	237	-
Vert.	10360.000	PK	52.26	36.57	9.99	39.88	-9.54	49.40	-45.83	-27.0	18.8	210	271	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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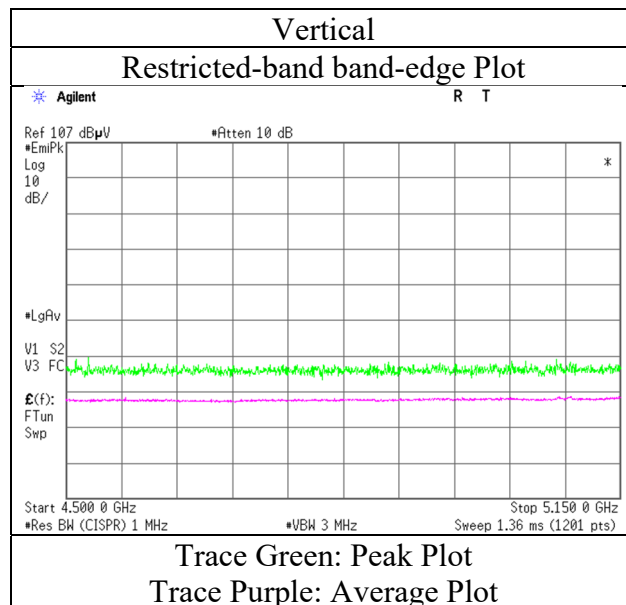
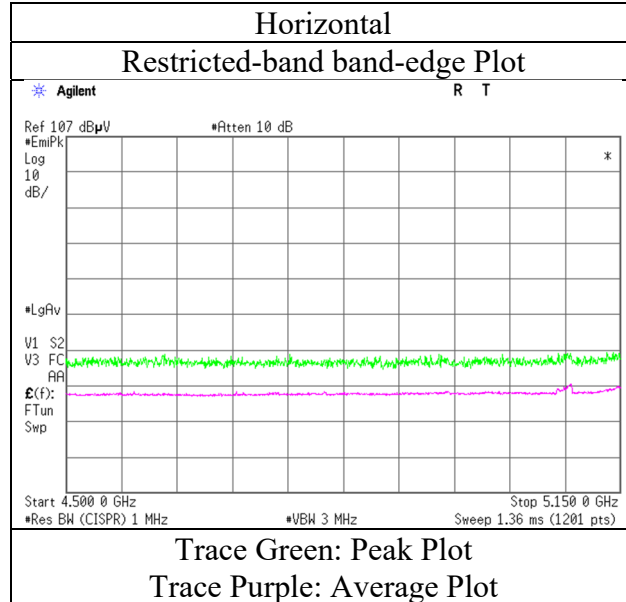
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11n-20 5180 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.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No.	13554183S-E-R1		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	1	1	1
Date	Oct 27, 2020	Oct 26, 2020	Oct 29, 2020
Temperature / Humidity	23 deg.C, 51 %RH	22 deg.C, 52 %RH	22 deg.C, 50 %RH
Engineer	Toshinori Yamada	Yosuke Murakami	Toshinori Yamada
	(1 GHz -6.4 GHz, 10 GHz -18 GHz)	(6.4 GHz -10 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5240 MHz		

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5149.917	PK	47.65	32.25	16.75	39.71	2.28	59.22	73.9	14.6	300	107	-
Hori.	15720.000	PK	44.70	39.85	12.65	39.37	-9.54	48.29	73.9	25.6	100	0	-
Hori.	5149.917	AV	37.23	32.25	16.75	39.71	2.28	48.80	53.9	5.1	300	107	VBW:1.5 kHz
Hori.	15720.000	AV	33.96	39.85	12.65	39.37	-9.54	37.55	53.9	16.3	100	0	VBW:1.5kHz
Vert.	5144.000	PK	46.83	32.26	16.75	39.71	2.28	58.41	73.9	15.4	368	39	-
Vert.	15720.000	PK	44.22	39.85	12.65	39.37	-9.54	47.81	73.9	26.0	100	0	-
Vert.	5144.000	AV	36.82	32.26	16.75	39.71	2.28	48.40	53.9	5.5	368	39	VBW:1.5 kHz
Vert.	15720.000	AV	34.08	39.85	12.65	39.37	-9.54	37.67	53.9	16.2	100	0	VBW:1.5kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10480.000	PK	52.01	36.73	10.03	40.11	-9.54	49.12	-46.11	-27.0	19.1	200	239	-
Vert.	10480.000	PK	54.27	36.73	10.03	40.11	-9.54	51.38	-43.85	-27.0	16.8	204	271	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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Shonan EMC Lab.

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1 1 1 1 1
Date Nov 02, 2020 Oct 26, 2020 Oct 26, 2020 Oct 27, 2020 Oct 29, 2020
Temperature / Humidity 20 deg.C, 44 %RH 22 deg.C, 52 %RH 22 deg.C, 52 %RH 23 deg.C, 51 %RH 22 deg.C, 50 %RH
Engineer Yasumasa Owaki Toshinori Yamada Yosuke Murakami Toshinori Yamada Toshinori Yamada
(30 MHz -1 GHz) (1 GHz -6.4 GHz) (6.4 GHz -10 GHz) (10 GHz -18 GHz) (18 GHz -40 GHz)
Mode Tx 11n-20 5320 MHz

(below 1 GHz and above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	811.006	QP	37.60	20.82	9.24	31.96	0.00	35.70	46.0	10.3	108	122	-
Hori.	840.006	QP	35.10	21.27	9.38	31.79	0.00	33.96	46.0	12.0	100	305	-
Hori.	860.158	QP	37.30	21.71	9.47	31.68	0.00	36.80	46.0	9.2	100	17	-
Hori.	909.310	QP	35.50	22.07	9.67	31.42	0.00	35.82	46.0	10.1	100	14	-
Hori.	933.885	QP	34.70	21.98	9.76	31.24	0.00	35.20	46.0	10.8	100	13	-
Hori.	958.458	QP	38.00	22.16	9.85	31.03	0.00	38.98	46.0	7.0	100	12	-
Hori.	4840.058	PK	46.96	31.49	16.53	39.73	2.28	57.53	73.9	16.3	369	95	-
Hori.	5350.000	PK	48.30	31.99	16.91	39.74	2.28	59.74	73.9	14.1	369	95	-
Hori.	10640.000	PK	51.38	37.39	10.12	40.02	-9.54	49.33	73.9	24.5	210	236	-
Hori.	15960.000	PK	45.89	40.19	12.62	39.70	-9.54	49.46	73.9	24.4	100	0	-
Hori.	4840.058	AV	37.39	31.49	16.53	39.73	2.28	47.96	53.9	5.9	369	95	VBW:1.5 kHz
Hori.	5350.000	AV	36.49	31.99	16.91	39.74	2.28	47.93	53.9	5.9	369	95	VBW:1.5 kHz
Hori.	10640.000	AV	41.58	37.39	10.12	40.02	-9.54	39.53	53.9	14.3	210	236	VBW:1.5 kHz
Hori.	15960.000	AV	35.16	40.19	12.62	39.70	-9.54	38.73	53.9	15.1	100	0	VBW:1.5 kHz
Vert.	39.754	QP	37.50	14.95	7.27	31.83	0.00	27.89	40.0	12.1	100	358	-
Vert.	45.614	QP	44.70	12.79	7.41	31.83	0.00	33.07	40.0	6.9	100	240	-
Vert.	48.113	QP	44.50	11.86	7.44	31.83	0.00	31.97	40.0	8.0	100	272	-
Vert.	53.569	QP	40.90	9.98	7.45	31.83	0.00	26.50	40.0	13.5	100	178	-
Vert.	958.461	QP	33.20	22.16	9.85	31.03	0.00	34.18	46.0	11.8	100	170	-
Vert.	5350.000	PK	47.37	31.99	16.91	39.74	2.28	58.81	73.9	15.0	389	15	-
Vert.	10640.000	PK	54.34	37.39	10.12	40.02	-9.54	52.29	73.9	21.6	215	265	-
Vert.	15960.000	PK	45.36	40.19	12.62	39.70	-9.54	48.93	73.9	24.9	100	0	-
Vert.	5350.000	AV	35.53	31.99	16.91	39.74	2.28	46.97	53.9	6.9	389	15	VBW:1.5 kHz
Vert.	10640.000	AV	43.96	37.39	10.12	40.02	-9.54	41.91	53.9	11.9	215	265	VBW:1.5 kHz
Vert.	15960.000	AV	35.33	40.19	12.62	39.70	-9.54	38.90	53.9	15.0	100	0	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz: $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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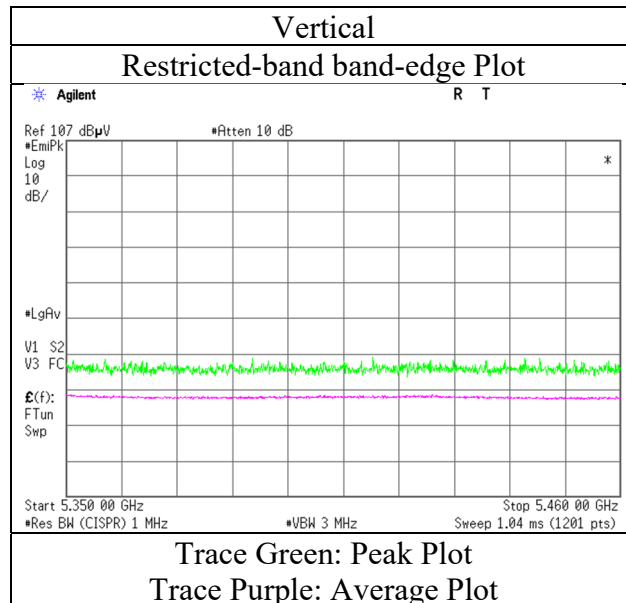
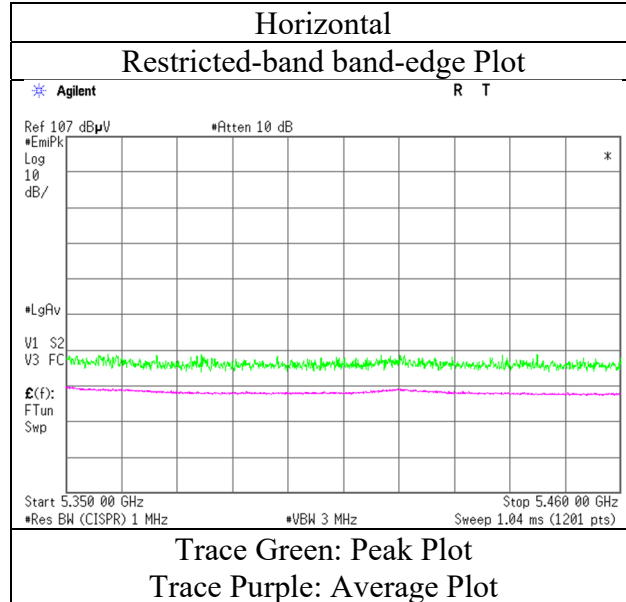
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Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 26, 2020
Temperature / Humidity	22 deg.C, 52 %RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 5320 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.

Radiated Spurious Emission

Report No.	13554183S-E-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	1	1	1	1
Date	Oct 26, 2020	Oct 26, 2020	Oct 27, 2020	Oct 29, 2020
Temperature / Humidity	22 deg.C, 52 %RH	22 deg.C, 52 %RH	23 deg.C, 51 %RH	22 deg.C, 50 %RH
Engineer	Toshinori Yamada	Yosuke Murakami	Toshinori Yamada	Toshinori Yamada
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5500 MHz			

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5020.125	PK	46.30	31.97	16.66	39.70	2.28	57.51	73.9	16.3	343	101	-
Hori.	5404.100	PK	49.30	32.11	16.95	39.74	2.28	60.90	73.9	13.0	343	101	-
Hori.	5460.000	PK	46.97	32.22	16.99	39.75	2.28	58.71	73.9	15.1	343	101	-
Hori.	11000.000	PK	50.76	37.63	10.32	39.68	-9.54	49.49	73.9	24.4	227	243	-
Hori.	5020.125	AV	37.10	31.97	16.66	39.70	2.28	48.31	53.9	5.5	343	101	VBW:1.5 kHz
Hori.	5404.100	AV	38.56	32.11	16.95	39.74	2.28	50.16	53.9	3.7	343	101	VBW:1.5 kHz
Hori.	5460.000	AV	35.00	32.22	16.99	39.75	2.28	46.74	53.9	7.1	343	101	VBW:1.5 kHz
Hori.	11000.000	AV	40.84	37.63	10.32	39.68	-9.54	39.57	53.9	14.3	227	243	VBW:1.5 kHz
Vert.	5404.083	PK	47.60	32.11	16.95	39.74	2.28	59.20	73.9	14.7	100	261	-
Vert.	5460.000	PK	46.60	32.22	16.99	39.75	2.28	58.34	73.9	15.5	100	261	-
Vert.	11000.000	PK	55.28	37.63	10.32	39.68	-9.54	54.01	73.9	19.8	205	262	-
Vert.	5404.083	AV	36.34	32.11	16.95	39.74	2.28	47.94	53.9	5.9	100	261	VBW:1.5 kHz
Vert.	5460.000	AV	34.75	32.22	16.99	39.75	2.28	46.49	53.9	7.4	100	261	VBW:1.5 kHz
Vert.	11000.000	AV	45.04	37.63	10.32	39.68	-9.54	43.77	53.9	10.1	205	262	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	47.77	32.24	16.99	39.75	2.28	59.53	-35.70	-27.0	8.7	343	101	-
Hori.	16500.000	PK	44.70	40.10	13.34	40.47	-9.54	48.13	-47.10	-27.0	20.1	100	0	-
Vert.	5470.000	PK	46.98	32.24	16.99	39.75	2.28	58.74	-36.49	-27.0	9.4	100	261	-
Vert.	16500.000	PK	44.75	40.10	13.34	40.47	-9.54	48.18	-47.05	-27.0	20.0	100	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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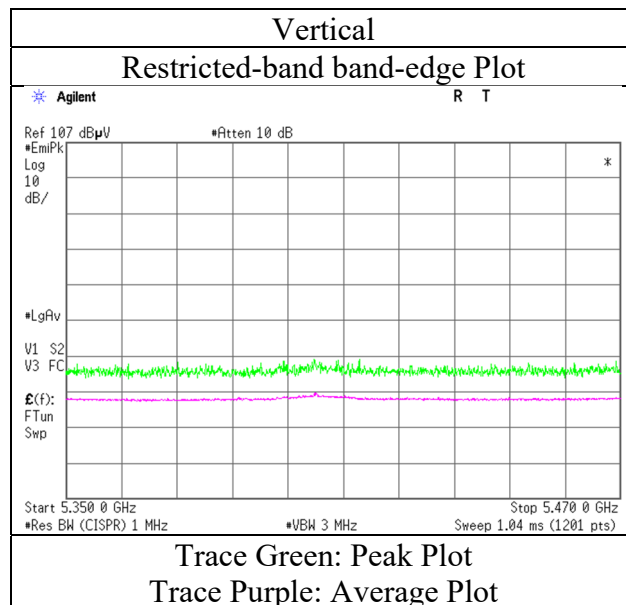
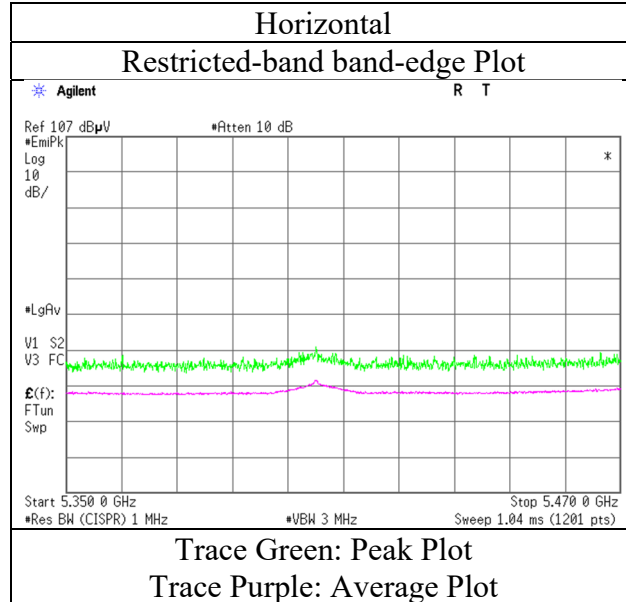
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11n-20 5500 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.	13554183S-E-R1		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	1	1	1
Date	Oct 27, 2020	Oct 26, 2020	Oct 29, 2020
Temperature / Humidity	23 deg.C, 51 %RH	22 deg.C, 52 %RH	22 deg.C, 50 %RH
Engineer	Toshinori Yamada	Yosuke Murakami	Toshinori Yamada
	(1 GHz -6.4 GHz, 10 GHz -18 GHz)	(6.4 GHz -10 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5580 MHz		

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11160.000	PK	50.30	37.52	10.39	39.61	-9.54	49.06	73.9	24.8	223	304	-
Hori.	11160.000	AV	40.13	37.52	10.39	39.61	-9.54	38.89	53.9	15.0	223	304	VBW:1.5 kHz
Vert.	11160.000	PK	52.74	37.52	10.39	39.61	-9.54	51.50	73.9	22.4	146	253	-
Vert.	11160.000	AV	43.10	37.52	10.39	39.61	-9.54	41.86	53.9	12.0	146	253	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16740.000	PK	44.66	39.75	13.40	40.11	-9.54	48.16	-47.07	-27.0	20.0	100	0	-
Vert.	16740.000	PK	44.19	39.75	13.40	40.11	-9.54	47.69	-47.54	-27.0	20.5	100	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3 [\text{m}]^{\wedge}2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission

Report No.	13554183S-E-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	1	1	1	1
Date	Oct 26, 2020	Oct 26, 2020	Oct 27, 2020	Oct 29, 2020
Temperature / Humidity	22 deg.C, 52 %RH	22 deg.C, 52 %RH	23 deg.C, 51 %RH	22 deg.C, 50 %RH
Engineer	Toshinori Yamada	Yosuke Murakami	Toshinori Yamada	Toshinori Yamada
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5700 MHz			

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	4980.075	PK	46.49	31.78	16.64	39.70	2.28	57.49	73.9	16.4	297	90	-
Hori.	11400.000	PK	47.33	38.10	10.53	39.50	-9.54	46.92	73.9	26.9	237	304	-
Hori.	4980.075	AV	35.94	31.78	16.64	39.70	2.28	46.94	53.9	6.9	297	90	VBW:1.5 kHz
Hori.	11400.000	AV	37.60	38.10	10.53	39.50	-9.54	37.19	53.9	16.7	237	304	VBW:1.5 kHz
Vert.	11400.000	PK	49.67	38.10	10.52	39.51	-9.54	49.24	73.9	24.6	185	350	-
Vert.	11400.000	AV	39.01	38.10	10.52	39.51	-9.54	38.58	53.9	15.3	185	350	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	47.83	32.64	17.16	39.92	2.28	59.99	-35.24	-27.0	8.2	297	89	-
Hori.	17100.000	PK	44.51	39.90	13.51	39.41	-9.54	48.97	-46.26	-27.0	19.2	100	0	-
Vert.	5725.000	PK	47.79	32.64	17.16	39.92	2.28	59.95	-35.28	-27.0	8.2	100	237	-
Vert.	5803.333	PK	48.80	32.83	17.21	39.98	2.28	61.14	-34.09	-27.0	7.0	100	237	-
Vert.	17100.000	PK	43.87	39.90	13.51	39.41	-9.54	48.33	-46.90	-27.0	19.9	100	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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Shonan EMC Lab.

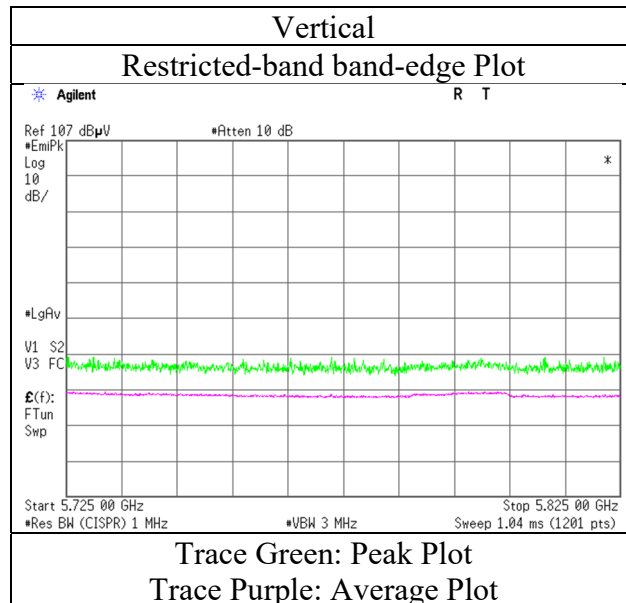
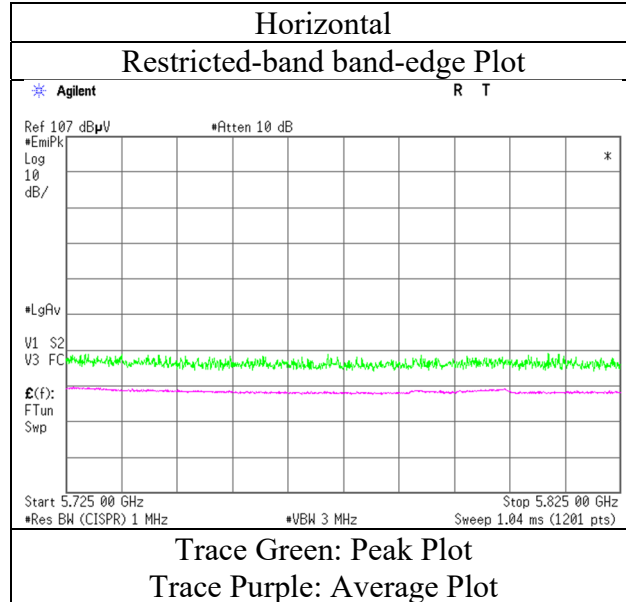
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Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 26, 2020
Temperature / Humidity	22 deg.C, 52 %RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 5700 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.

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Radiated Spurious Emission

Report No.	13554183S-E-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	1	1	1	1
Date	Oct 26, 2020	Oct 26, 2020	Oct 27, 2020	Oct 29, 2020
Temperature / Humidity	22 deg.C, 52 %RH	22 deg.C, 52 %RH	23 deg.C, 51 %RH	22 deg.C, 50 %RH
Engineer	Toshinori Yamada	Yosuke Murakami	Toshinori Yamada	Toshinori Yamada
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5745 MHz			

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5024.993	PK	47.46	31.99	16.66	39.70	2.28	58.69	73.9	15.2	367	93	-
Hori.	11490.000	PK	46.69	38.26	10.58	39.46	-9.54	46.53	73.9	27.3	242	303	-
Hori.	5024.993	AV	37.61	31.99	16.66	39.70	2.28	48.84	53.9	5.0	367	93	VBW:1.5 kHz
Hori.	11490.000	AV	35.98	38.26	10.58	39.46	-9.54	35.82	53.9	18.0	242	303	VBW:1.5 kHz
Vert.	11490.000	PK	47.33	38.26	10.58	39.47	-9.54	47.16	73.9	26.7	187	349	-
Vert.	11490.000	AV	36.94	38.26	10.58	39.47	-9.54	36.77	53.9	17.1	187	349	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	48.40	32.44	17.11	39.86	2.28	60.37	-34.86	-27.0	7.8	367	93	-
Hori.	5700.000	PK	46.83	32.56	17.14	39.90	2.28	58.91	-36.32	10.0	46.3	217	93	-
Hori.	5720.000	PK	48.64	32.62	17.15	39.92	2.28	60.77	-34.46	15.6	50.0	217	93	-
Hori.	5725.000	PK	49.02	32.64	17.16	39.92	2.28	61.18	-34.05	27.0	61.0	217	93	-
Hori.	17235.000	PK	43.24	40.18	13.57	39.01	-9.54	48.44	-46.79	-27.0	19.7	100	0	-
Vert.	5650.000	PK	48.61	32.44	17.11	39.86	2.28	60.58	-34.65	-27.0	7.6	103	236	-
Vert.	5700.000	PK	46.97	32.56	17.14	39.90	2.28	59.05	-36.18	10.0	46.1	103	232	-
Vert.	5720.000	PK	48.33	32.62	17.15	39.92	2.28	60.46	-34.77	15.6	50.3	103	236	-
Vert.	5725.000	PK	49.07	32.64	17.16	39.92	2.28	61.23	-34.00	27.0	61.0	103	236	-
Vert.	17235.000	PK	43.58	40.18	13.57	39.01	-9.54	48.78	-46.45	-27.0	19.4	100	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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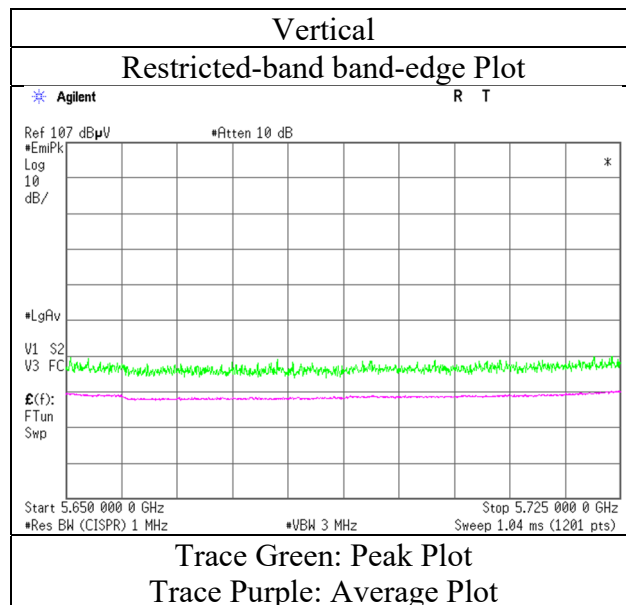
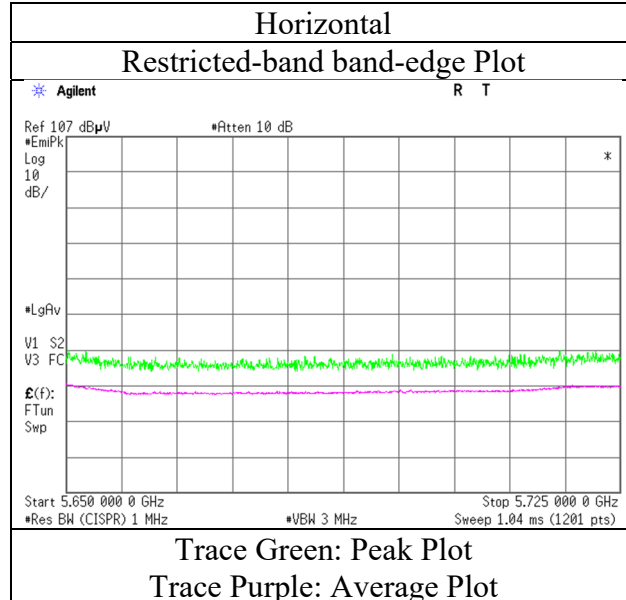
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11n-20 5745 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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Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1 1 1
Date Oct 27, 2020 Oct 26, 2020 Oct 29, 2020
Temperature / Humidity 23 deg.C, 51 %RH 22 deg.C, 52 %RH 22 deg.C, 50 %RH
Engineer Toshinori Yamada Yosuke Murakami Toshinori Yamada
(1 GHz -6.4 GHz, (6.4 GHz -10 GHz) (18 GHz -40 GHz)
10 GHz -18 GHz)
Mode Tx 11n-20 5785 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5065.007	PK	46.88	32.18	16.70	39.71	2.28	58.33	73.9	15.5	307	90	-
Hori.	11570.000	PK	45.93	38.31	10.62	39.41	-9.54	45.91	73.9	27.9	240	191	-
Hori.	5065.007	AV	37.53	32.18	16.70	39.71	2.28	48.98	53.9	4.9	307	90	VBW:1.5 kHz
Hori.	11570.000	AV	35.44	38.31	10.62	39.41	-9.54	35.42	53.9	18.4	240	191	VBW:1.5 kHz
Vert.	11570.000	PK	45.83	38.31	10.62	39.41	-9.54	45.81	73.9	28.0	207	307	-
Vert.	11570.000	AV	35.75	38.31	10.62	39.41	-9.54	35.73	53.9	18.1	207	307	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	44.25	40.39	13.61	38.65	-9.54	50.06	-45.17	-27.0	18.1	100	0	-
Vert.	17355.000	PK	43.64	40.39	13.61	38.65	-9.54	49.45	-45.78	-27.0	18.7	100	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6) * \text{Distance : 3 [m]}^{\wedge}2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission

Report No.	13554183S-E-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	1	1	1	1
Date	Oct 26, 2020	Oct 26, 2020	Oct 27, 2020	Oct 29, 2020
Temperature / Humidity	22 deg.C, 52 %RH	22 deg.C, 52 %RH	23 deg.C, 51 %RH	22 deg.C, 50 %RH
Engineer	Toshinori Yamada	Yosuke Murakami	Toshinori Yamada	Toshinori Yamada
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5825 MHz			

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5105.042	PK	47.13	32.28	16.72	39.71	2.28	58.70	73.9	15.2	382	80	-
Hori.	11650.000	PK	44.60	38.35	10.68	39.34	-9.54	44.75	73.9	29.1	210	203	-
Hori.	5105.042	AV	38.54	32.28	16.72	39.71	2.28	50.11	53.9	3.7	382	80	VBW:1.5 kHz
Hori.	11650.000	AV	34.67	38.35	10.68	39.34	-9.54	34.82	53.9	19.0	210	203	VBW:1.5 kHz
Vert.	11650.000	PK	45.79	38.35	10.68	39.34	-9.54	45.94	73.9	27.9	223	232	-
Vert.	11650.000	AV	35.71	38.35	10.68	39.34	-9.54	35.86	53.9	18.0	223	232	VBW:1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	48.14	32.91	17.24	40.02	2.28	60.55	-34.68	27.0	61.6	382	80	-
Hori.	5855.000	PK	47.45	32.92	17.24	40.02	2.28	59.87	-35.36	15.6	50.9	382	80	-
Hori.	5875.000	PK	46.63	32.95	17.27	40.04	2.28	59.09	-36.14	10.0	46.1	382	80	-
Hori.	5925.000	PK	46.92	32.99	17.29	40.07	2.28	59.41	-35.82	-27.0	8.8	382	80	-
Hori.	17475.000	PK	44.25	40.51	13.66	38.29	-9.54	50.59	-44.64	-27.0	17.6	100	0	-
Vert.	5850.000	PK	47.80	32.91	17.24	40.02	2.28	60.21	-35.02	27.0	62.0	102	237	-
Vert.	5855.000	PK	47.22	32.92	17.24	40.02	2.28	59.64	-35.59	15.6	51.1	102	237	-
Vert.	5875.000	PK	46.86	32.95	17.27	40.04	2.28	59.32	-35.91	10.0	45.9	102	237	-
Vert.	5925.000	PK	46.53	32.99	17.29	40.07	2.28	59.02	-36.21	-27.0	9.2	102	237	-
Vert.	17475.000	PK	44.06	40.51	13.66	38.29	-9.54	50.40	-44.83	-27.0	17.8	100	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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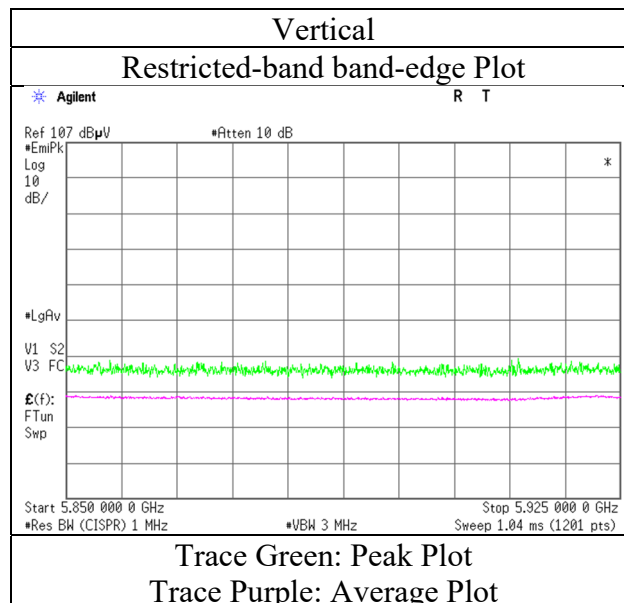
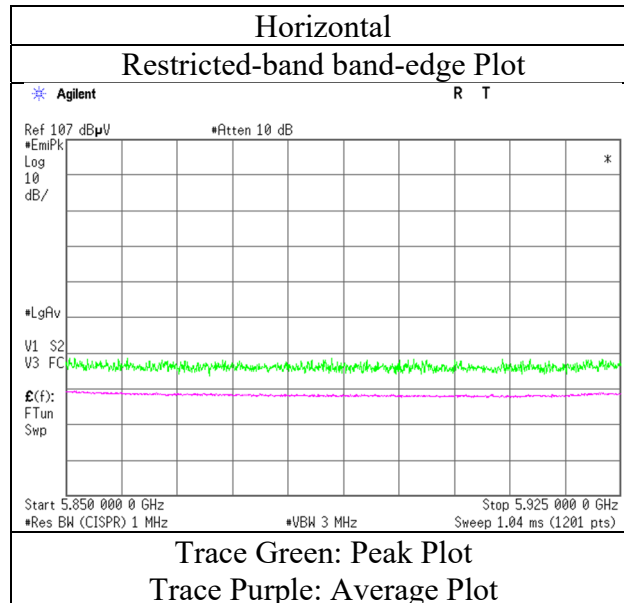
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 26, 2020
Temperature / Humidity	22 deg.C, 52 %RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 5825 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.

Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 26, 2020
Temperature / Humidity	22 deg.C, 52 %RH
Engineer	Toshinori Yamada
	(1 GHz -6.4 GHz)
Mode	Tx 11ac-20 5180 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5085.050	PK	47.90	32.25	16.71	39.71	2.28	59.43	73.9	14.4	350	94	-
Hori.	5150.000	PK	47.40	32.25	16.76	39.72	2.28	58.97	73.9	14.9	350	94	-
Hori.	5085.050	AV	37.56	32.25	16.71	39.71	2.28	49.09	53.9	4.8	350	94	VBW:3.6 kHz
Hori.	5150.000	AV	37.12	32.25	16.76	39.72	2.28	48.69	53.9	5.2	350	94	VBW:3.6 kHz
Vert.	5150.000	PK	46.40	32.25	16.76	39.72	2.28	57.97	73.9	15.9	100	306	-
Vert.	5150.000	AV	36.00	32.25	16.76	39.72	2.28	47.57	53.9	6.3	100	306	VBW:3.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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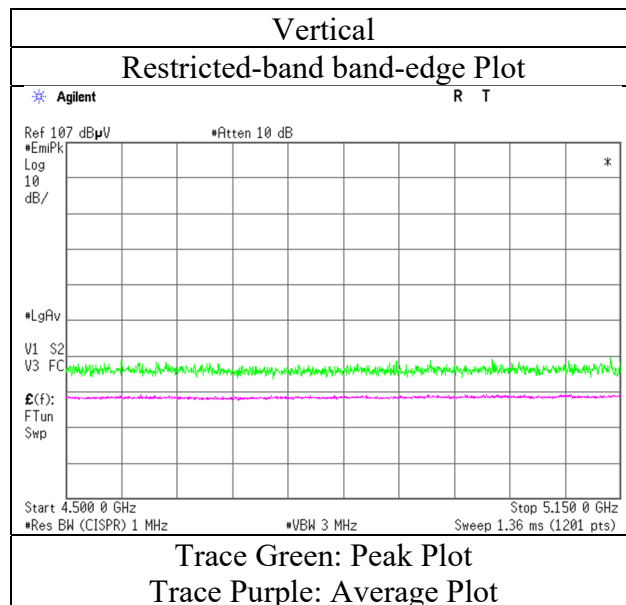
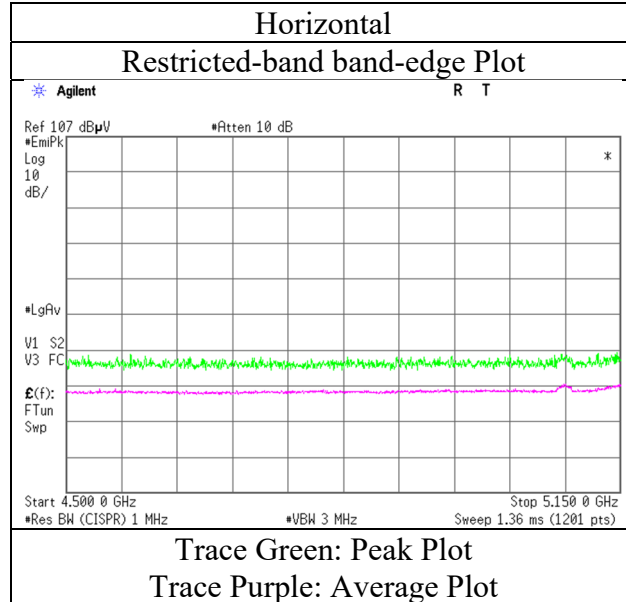
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11ac-20 5180 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.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 26, 2020
Temperature / Humidity	22 deg.C, 52 %RH
Engineer	Toshinori Yamada
	(1 GHz -6.4 GHz)
Mode	Tx 11ac-20 5320 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	48.25	31.99	16.91	39.74	2.28	59.69	73.9	14.2	345	101	-
Hori.	5350.000	AV	37.81	31.99	16.91	39.74	2.28	49.25	53.9	4.6	345	101	VBW:3.6 kHz
Vert.	5350.000	PK	46.66	31.99	16.91	39.74	2.28	58.10	73.9	15.8	143	245	-
Vert.	5350.000	AV	35.79	31.99	16.91	39.74	2.28	47.23	53.9	6.6	143	245	VBW:3.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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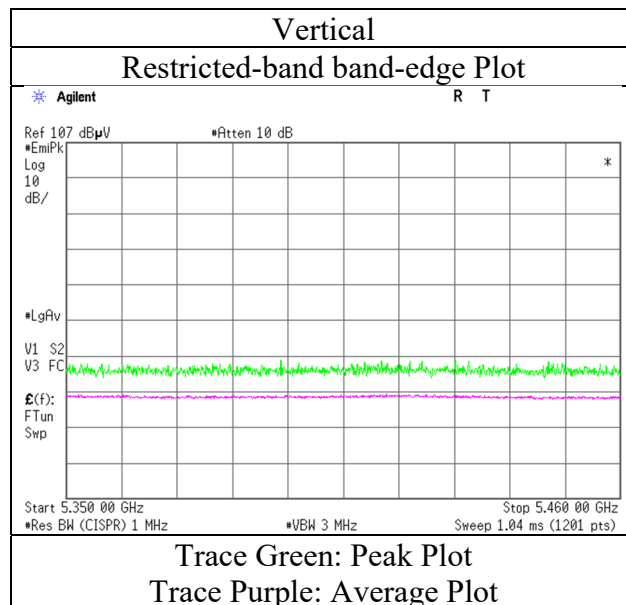
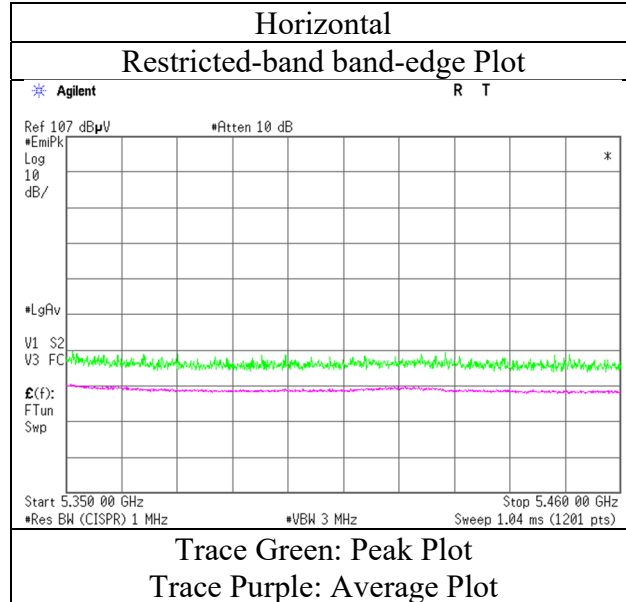
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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11ac-20 5320 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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Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
(1 GHz -6.4 GHz)
Mode Tx 11ac-20 5500 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	46.65	32.22	16.99	39.75	2.28	58.39	73.9	15.5	298	90	-
Hori.	5460.000	AV	36.00	32.22	16.99	39.75	2.28	47.74	53.9	6.1	298	90	VBW:3.6 kHz
Vert.	5460.000	PK	46.51	32.22	16.99	39.75	2.28	58.25	73.9	15.6	139	226	-
Vert.	5460.000	AV	35.56	32.22	16.99	39.75	2.28	47.30	53.9	6.6	139	226	VBW:3.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	47.16	32.24	16.99	39.75	2.28	58.92	-36.31	-27.0	9.3	298	90	-
Vert.	5470.000	PK	47.60	32.24	16.99	39.75	2.28	59.36	-35.87	-27.0	8.8	139	226	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6) * \text{Distance : } 3\text{ [m]})^{\wedge}2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.90\text{ m} / 3.0\text{ m}) = 2.28\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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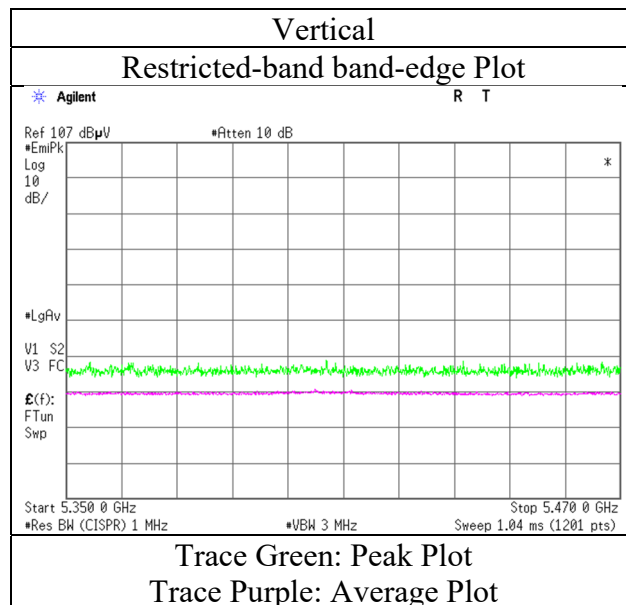
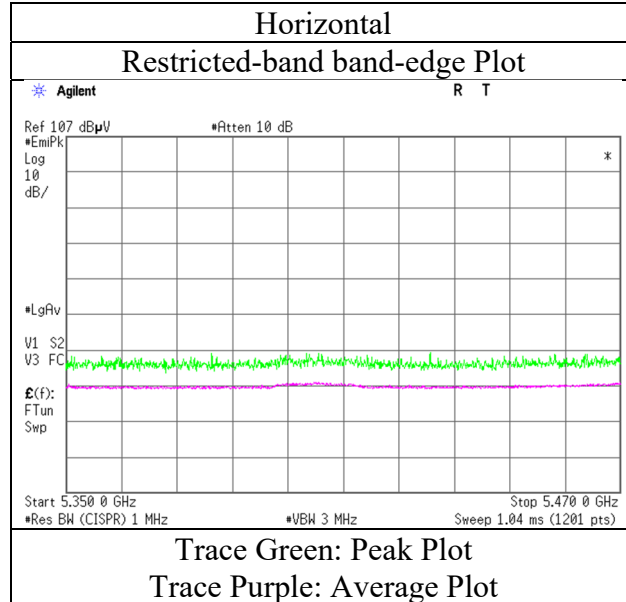
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 26, 2020
Temperature / Humidity 22 deg.C, 52 %RH
Engineer Toshinori Yamada
Mode Tx 11ac-20 5500 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.

Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 24, 2020
Temperature / Humidity 21 deg.C, 63 %RH
Engineer Kazuya Noda
(1 GHz -6.4 GHz)
Mode Tx 11ac-20 5700 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	47.56	32.64	17.16	39.92	2.28	59.72	-35.51	-27.0	8.5	372	95	-
Vert.	5725.000	PK	47.86	32.64	17.16	39.92	2.28	60.02	-35.21	-27.0	8.2	103	239	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance : 3 [m]})^{\wedge}2 / 30 * 10^{\wedge}3)$

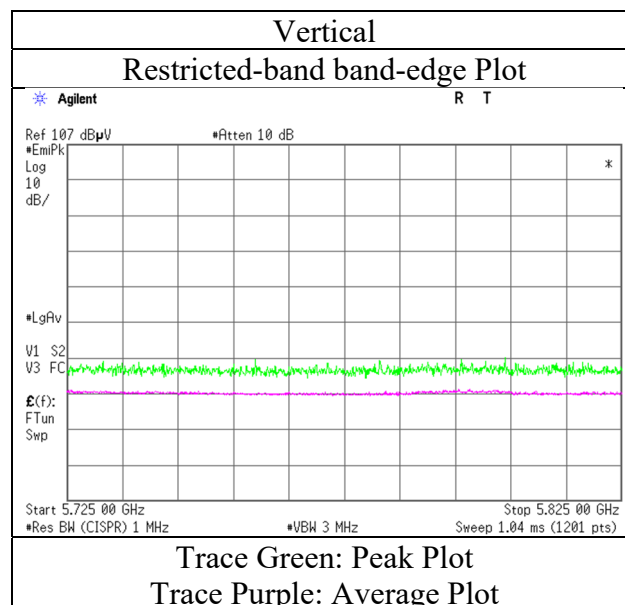
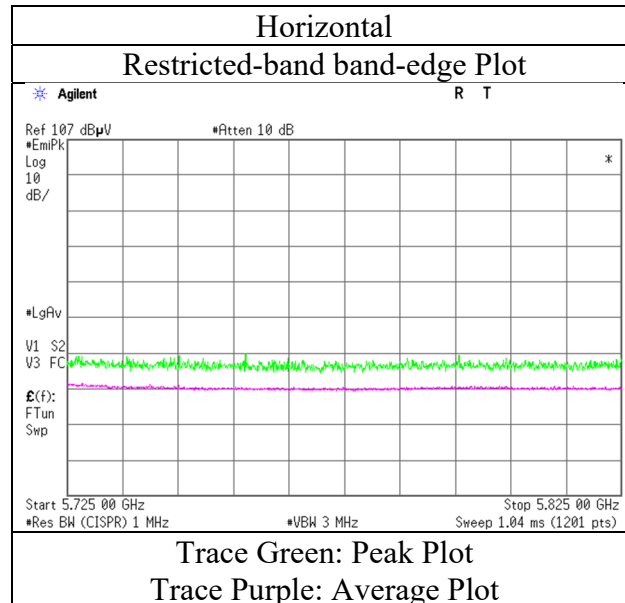
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : $20\text{log}(3.90 \text{ m} / 3.0 \text{ m}) = 2.28 \text{ dB}$

10 GHz - 40 GHz : $20\text{log}(1.0 \text{ m} / 3.0 \text{ m}) = -9.54 \text{ dB}$

Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 24, 2020
Temperature / Humidity	21 deg.C, 63 %RH
Engineer	Kazuya Noda
Mode	Tx 11ac-20 5700 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.

Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 24, 2020
Temperature / Humidity 21 deg.C, 63 %RH
Engineer Kazuya Noda
(1 GHz -6.4 GHz)
Mode Tx 11ac-20 5745 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	47.32	32.44	17.11	39.86	2.28	59.29	-35.94	-27.0	8.9	391	76	-
Hori.	5700.000	PK	46.38	32.56	17.14	39.90	2.28	58.46	-36.77	10.0	46.7	391	76	-
Hori.	5720.000	PK	47.30	32.62	17.15	39.92	2.28	59.43	-35.80	15.6	51.4	391	76	-
Hori.	5725.000	PK	48.13	32.64	17.16	39.92	2.28	60.29	-34.94	27.0	61.9	391	76	-
Vert.	5650.000	PK	48.06	32.44	17.11	39.86	2.28	60.03	-35.20	-27.0	8.2	104	232	-
Vert.	5700.000	PK	47.21	32.56	17.14	39.90	2.28	59.29	-35.94	10.0	45.9	104	232	-
Vert.	5720.000	PK	47.10	32.62	17.15	39.92	2.28	59.23	-36.00	15.6	51.6	104	232	-
Vert.	5725.000	PK	48.30	32.64	17.16	39.92	2.28	60.46	-34.77	27.0	61.7	104	232	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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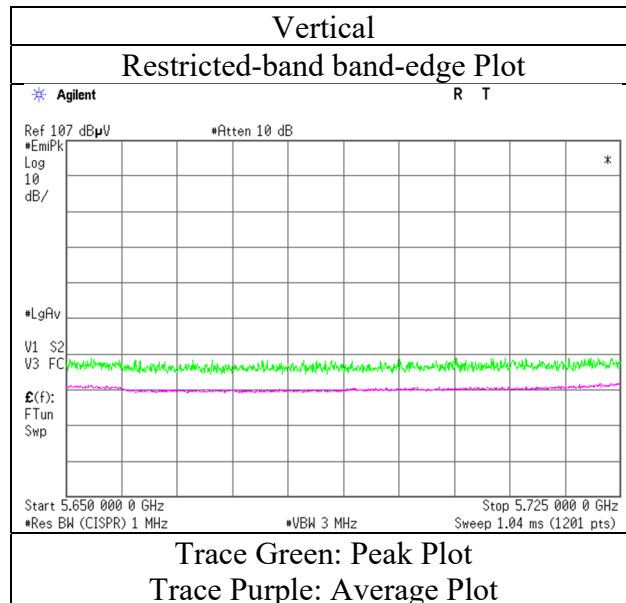
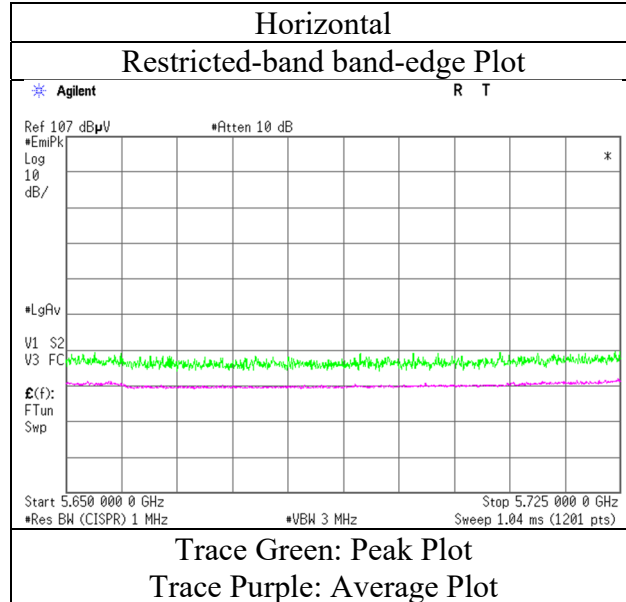
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No.	13554183S-E-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	1
Date	Oct 24, 2020
Temperature / Humidity	21 deg.C, 63 %RH
Engineer	Kazuya Noda
Mode	Tx 11ac-20 5745 MHz



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Radiated Spurious Emission

Report No. 13554183S-E-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 1
Date Oct 24, 2020
Temperature / Humidity 21 deg.C, 63 %RH
Engineer Kazuya Noda
(1 GHz -6.4 GHz)
Mode Tx 11ac-20 5825 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	47.35	32.91	17.24	40.02	2.28	59.76	-35.47	27.0	62.4	397	85	-
Hori.	5855.000	PK	46.93	32.92	17.24	40.02	2.28	59.35	-35.88	15.6	51.4	397	85	-
Hori.	5875.000	PK	47.58	32.95	17.27	40.04	2.28	60.04	-35.19	10.0	45.1	397	85	-
Hori.	5925.000	PK	46.79	32.99	17.29	40.07	2.28	59.28	-35.95	-27.0	8.9	397	85	-
Vert.	5850.000	PK	47.31	32.91	17.24	40.02	2.28	59.72	-35.51	27.0	62.5	103	239	-
Vert.	5855.000	PK	46.30	32.92	17.24	40.02	2.28	58.72	-36.51	15.6	52.1	103	239	-
Vert.	5875.000	PK	47.06	32.95	17.27	40.04	2.28	59.52	-35.71	10.0	45.7	103	239	-
Vert.	5925.000	PK	46.92	32.99	17.29	40.07	2.28	59.41	-35.82	-27.0	8.8	103	239	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.90 m / 3.0 m) = 2.28 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

UL Japan, Inc.

Shonan EMC Lab.

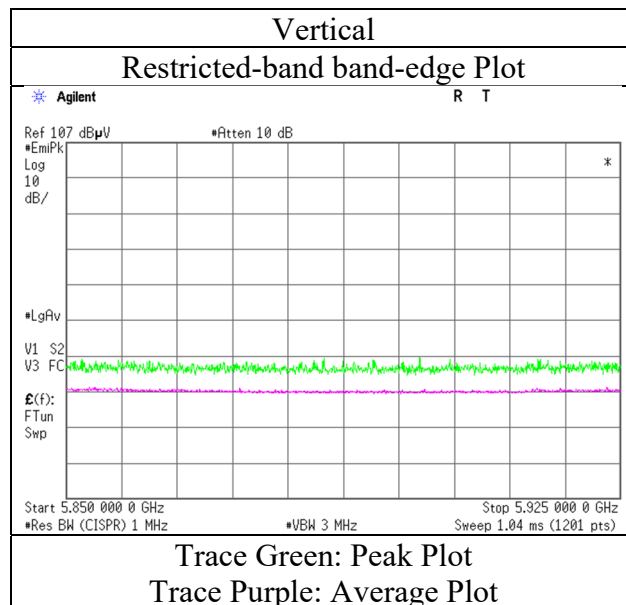
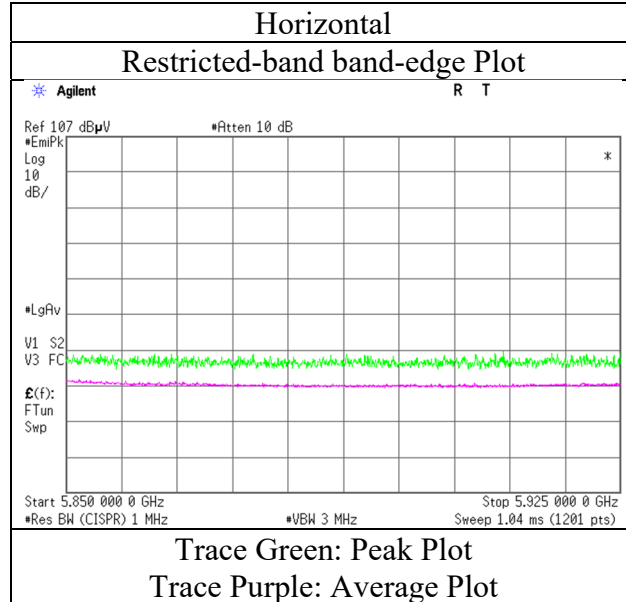
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