

## Maximum Power Spectral Density

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	January 8, 2021	
Temperature / Humidity	23 deg.C , 40 %RH	
Engineer	Kenichi Adachi	
Mode	Tx, IEEE802.11a, PN9,	antenna :          0    worst data mode :          48 Mbps

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-19.32	2.97	9.94	1.74	4.04	0.00	-4.67	11.00	15.67	-0.63	17.00	17.63
5220	-18.93	2.97	9.94	1.74	4.04	0.00	-4.28	11.00	15.28	-0.24	17.00	17.24
5240	-19.20	2.97	9.94	1.74	4.04	0.00	-4.55	11.00	15.55	-0.51	17.00	17.51
5260	-19.07	2.97	9.94	1.74	4.04	0.00	-4.42	11.00	15.42	-0.38	17.00	17.38
5300	-19.15	2.98	9.94	1.74	4.04	0.00	-4.49	11.00	15.49	-0.45	17.00	17.45
5320	-18.64	2.98	9.94	1.74	4.04	0.00	-3.98	11.00	14.98	0.06	17.00	16.94
5500	-19.34	3.00	9.94	1.74	4.04	0.00	-4.66	11.00	15.66	-0.62	17.00	17.62
5580	-18.76	3.00	9.94	1.74	4.04	0.00	-4.08	11.00	15.08	-0.04	17.00	17.04
5700	-19.42	3.01	9.94	1.74	4.04	0.00	-4.73	11.00	15.73	-0.69	17.00	17.69
5745	-27.62	3.02	9.94	1.74	4.04	6.99	-5.93	30.00	35.93	-1.89	36.00	37.89
5785	-27.60	3.02	9.94	1.74	4.04	6.99	-5.91	30.00	35.91	-1.87	36.00	37.87
5825	-26.77	3.02	9.94	1.74	4.04	6.99	-5.08	30.00	35.08	-1.04	36.00	37.04

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor =  $10 \times \log ( 500 \text{ [kHz]} / 100 \text{ [kHz]} )$

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

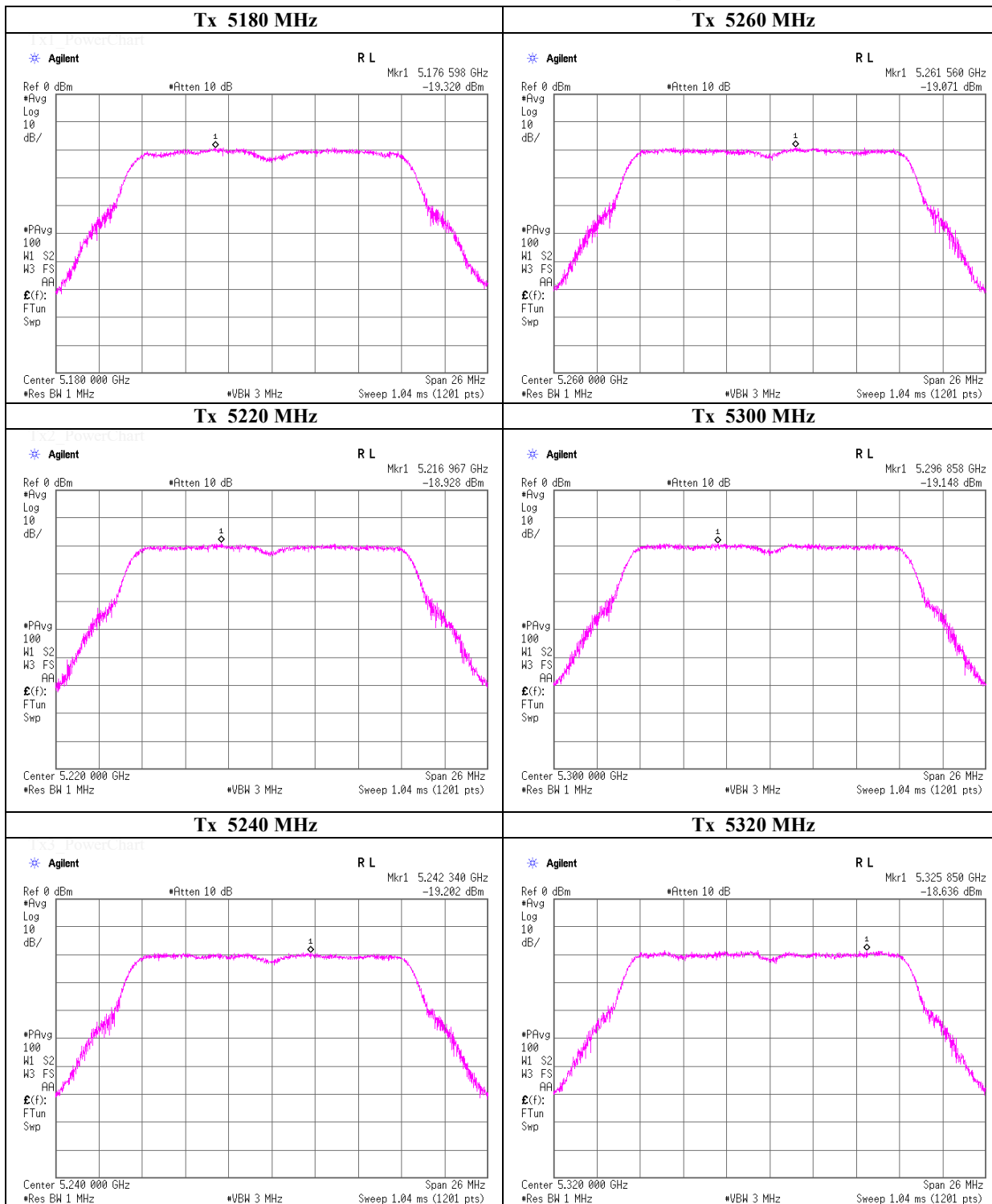
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**Facsimile : +81 463 50 6401**

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 Engineer             Kenichi Adachi

### Maximum Power Spectral Density

Tx, IEEE802.11a, PN9, antenna :0, worst data mode :48 Mbps



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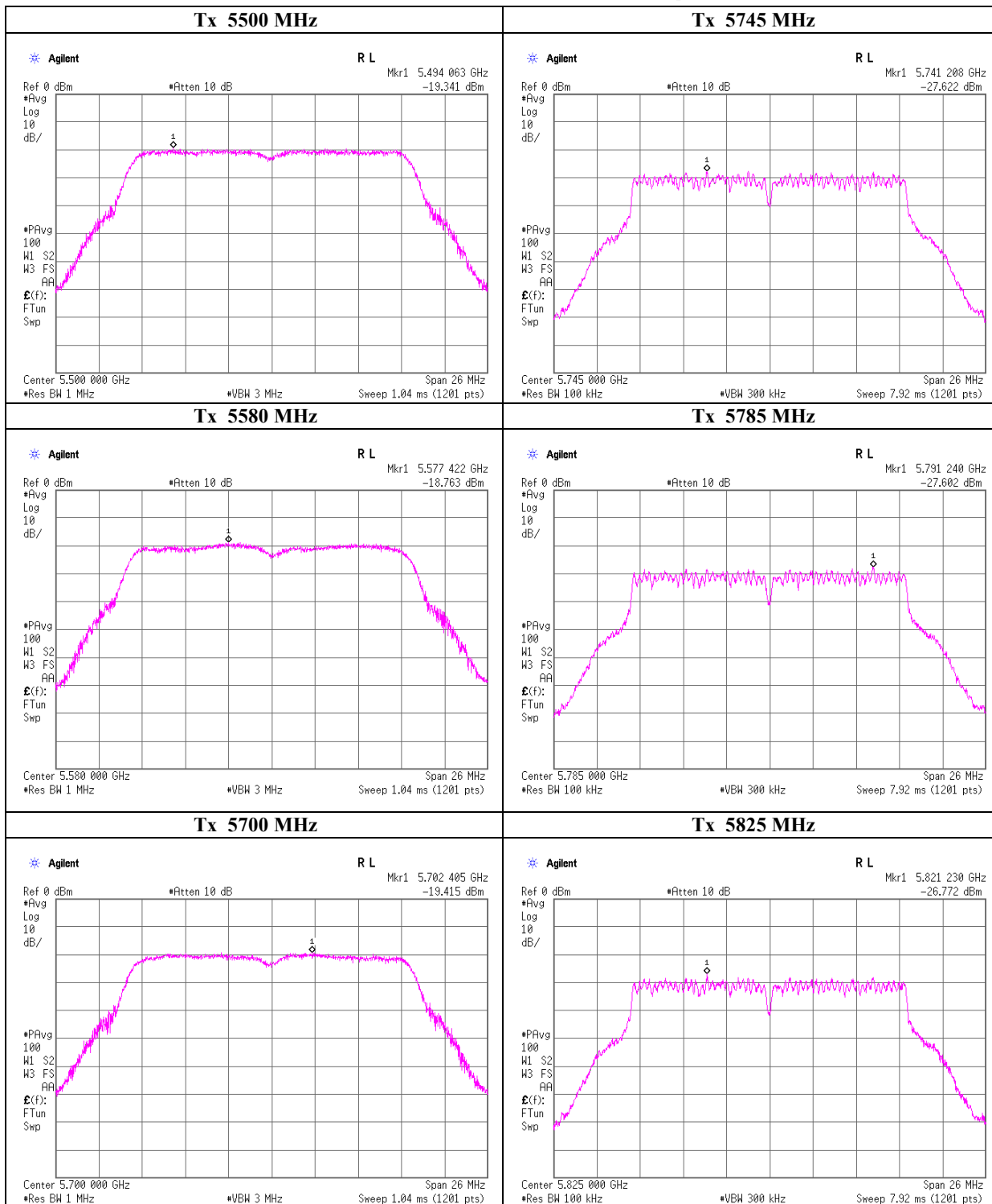
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Test place            UL Japan, Inc. Shonan EMC Lab.  
Date                  January 8, 2021  
Temperature / Humidity 23 deg.C , 40 %RH  
Engineer            Kenichi Adachi  
Mode                  Tx, IEEE802.11a, PN9,

No.1 Measurement Room

antenna :            1    worst data mode :        48 Mbps

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-18.54	2.97	9.94	1.74	2.51	0.00	-3.89	11.00	14.89	-1.38	17.00	18.38
5220	-18.55	2.97	9.94	1.74	2.51	0.00	-3.90	11.00	14.90	-1.39	17.00	18.39
5240	-18.95	2.97	9.94	1.74	2.51	0.00	-4.30	11.00	15.30	-1.79	17.00	18.79
5260	-18.59	2.97	9.94	1.74	2.51	0.00	-3.94	11.00	14.94	-1.43	17.00	18.43
5300	-18.50	2.98	9.94	1.74	2.51	0.00	-3.84	11.00	14.84	-1.33	17.00	18.33
5320	-18.55	2.98	9.94	1.74	2.51	0.00	-3.89	11.00	14.89	-1.38	17.00	18.38
5500	-18.70	3.00	9.94	1.74	2.51	0.00	-4.02	11.00	15.02	-1.51	17.00	18.51
5580	-17.98	3.00	9.94	1.74	2.51	0.00	-3.30	11.00	14.30	-0.79	17.00	17.79
5700	-18.45	3.01	9.94	1.74	2.51	0.00	-3.76	11.00	14.76	-1.25	17.00	18.25
5745	-26.97	3.02	9.94	1.74	2.51	6.99	-5.28	30.00	35.28	-2.77	36.00	38.77
5785	-27.28	3.02	9.94	1.74	2.51	6.99	-5.59	30.00	35.59	-3.08	36.00	39.08
5825	-26.48	3.02	9.94	1.74	2.51	6.99	-4.79	30.00	34.79	-2.28	36.00	38.28

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor =  $10 \times \log ( 500 \text{ [kHz]} / 100 \text{ [kHz]} )$

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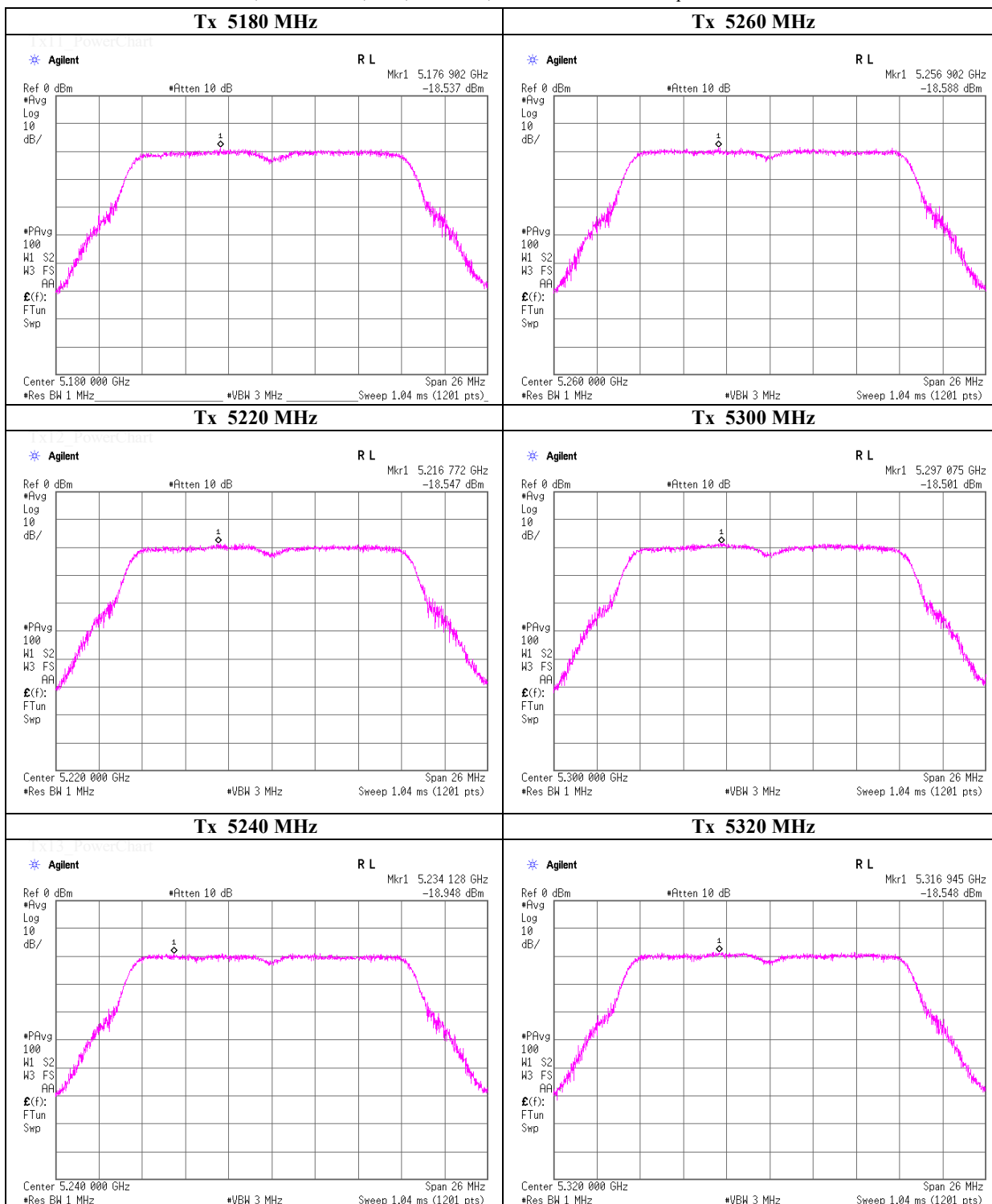
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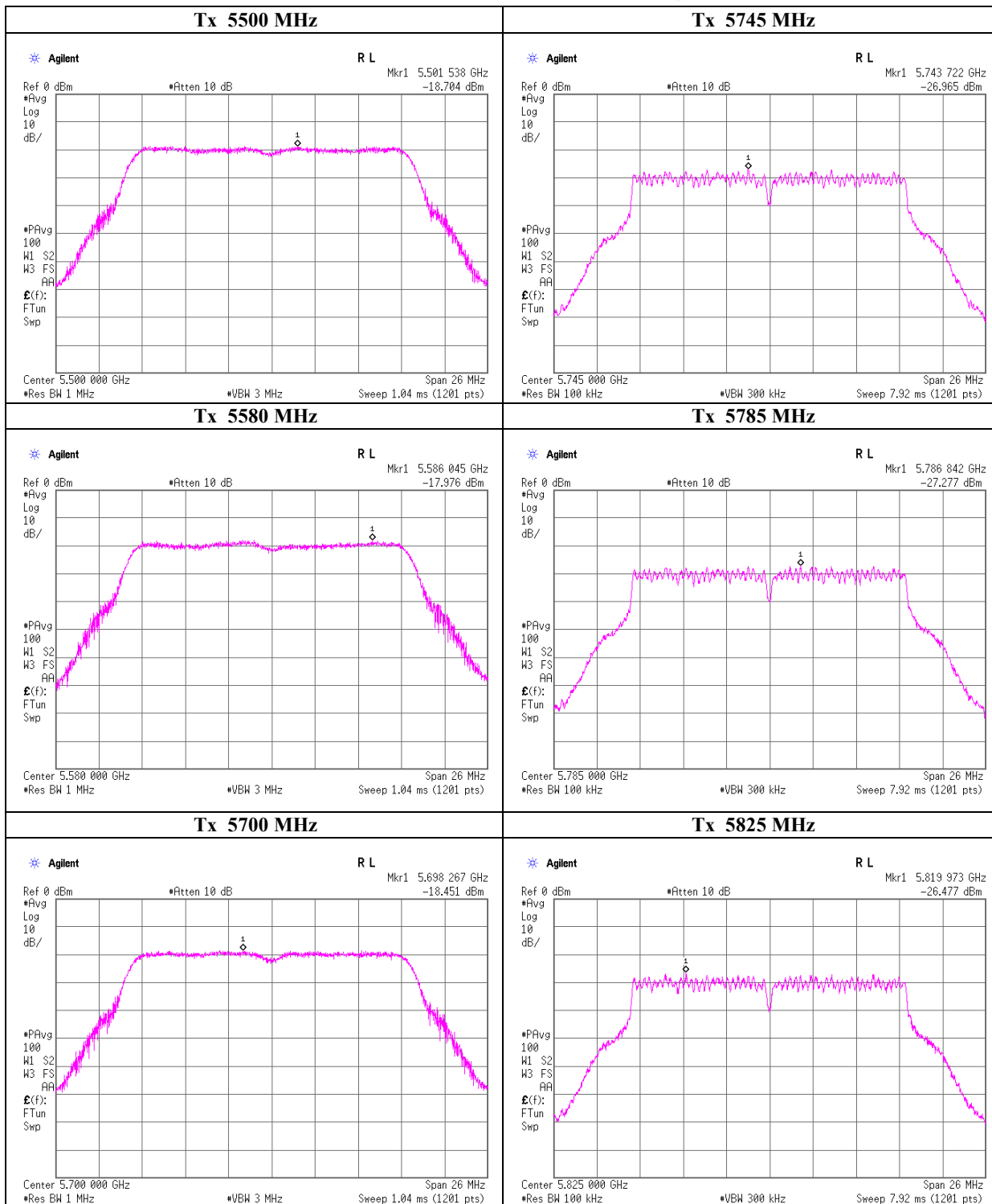
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## Maximum Power Spectral Density

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	January 12, 2021	
Temperature / Humidity	23 deg.C , 30 %RH	
Engineer	Takahiro Kawakami	
Mode	Tx, IEEE802.11n-20 (SISO), PN9,	antenna : 0    worst data mode : 6 (MCS)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-19.56	2.97	9.94	1.84	4.04	0.00	-4.81	11.00	15.81	-0.77	17.00	17.77
5220	-18.99	2.97	9.94	1.84	4.04	0.00	-4.24	11.00	15.24	-0.20	17.00	17.20
5240	-19.48	2.97	9.94	1.84	4.04	0.00	-4.73	11.00	15.73	-0.69	17.00	17.69
5260	-18.77	2.97	9.94	1.84	4.04	0.00	-4.02	11.00	15.02	0.02	17.00	16.98
5300	-19.01	2.98	9.94	1.84	4.04	0.00	-4.25	11.00	15.25	-0.21	17.00	17.21
5320	-18.97	2.98	9.94	1.84	4.04	0.00	-4.21	11.00	15.21	-0.17	17.00	17.17
5500	-19.52	3.00	9.94	1.84	4.04	0.00	-4.74	11.00	15.74	-0.70	17.00	17.70
5580	-19.65	3.00	9.94	1.84	4.04	0.00	-4.87	11.00	15.87	-0.83	17.00	17.83
5700	-19.42	3.01	9.94	1.84	4.04	0.00	-4.63	11.00	15.63	-0.59	17.00	17.59
5745	-27.15	3.02	9.94	1.84	4.04	6.99	-5.36	30.00	35.36	-1.32	36.00	37.32
5785	-27.74	3.02	9.94	1.84	4.04	6.99	-5.95	30.00	35.95	-1.91	36.00	37.91
5825	-27.56	3.02	9.94	1.84	4.04	6.99	-5.77	30.00	35.77	-1.73	36.00	37.73

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor +RBW Correction Factor

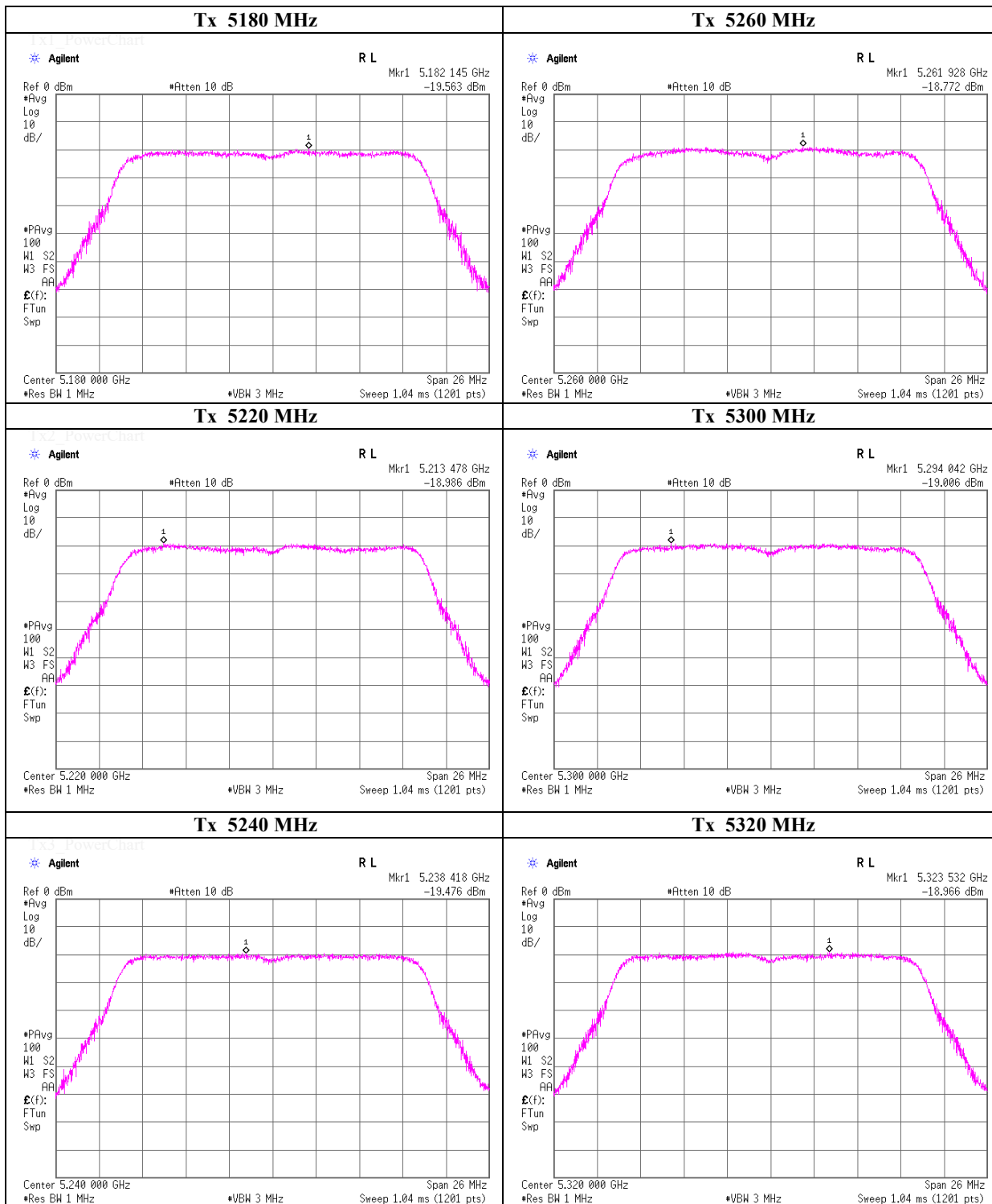
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

RBW Correction Factor = 10 x log ( 500 [kHz] / 100 [kHz] )

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### Maximum Power Spectral Density

Tx, IEEE802.11n-20 (SISO), PN9, worst antenna :0, worst data mode :6 (MCS)



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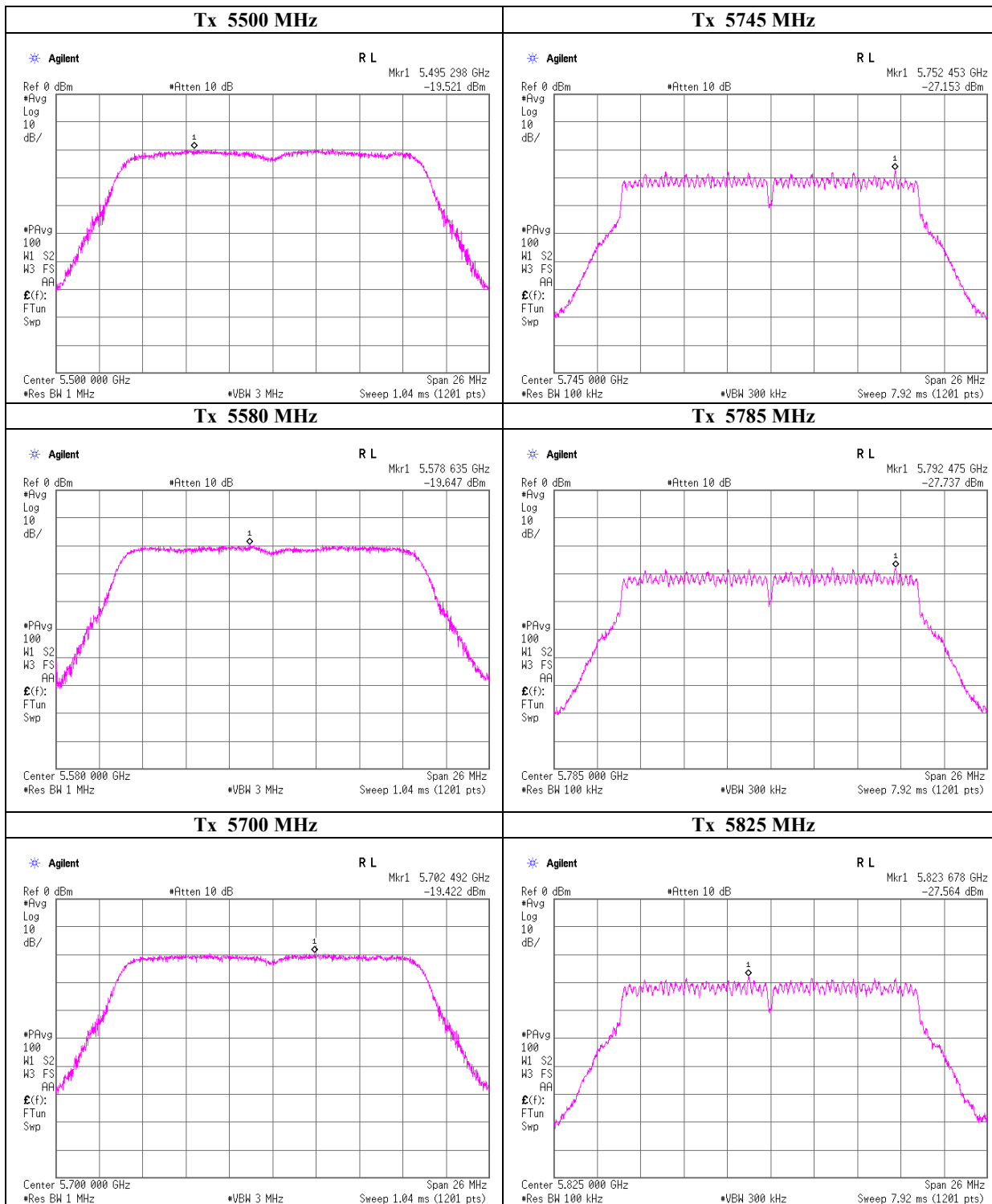
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Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-19.64	2.97	9.94	1.84	2.51	0.00	-4.89	11.00	15.89	-2.38	17.00	19.38
5220	-18.69	2.97	9.94	1.84	2.51	0.00	-3.94	11.00	14.94	-1.43	17.00	18.43
5240	-18.86	2.97	9.94	1.84	2.51	0.00	-4.11	11.00	15.11	-1.60	17.00	18.60
5260	-18.59	2.97	9.94	1.84	2.51	0.00	-3.84	11.00	14.84	-1.33	17.00	18.33
5300	-18.75	2.98	9.94	1.84	2.51	0.00	-3.99	11.00	14.99	-1.48	17.00	18.48
5320	-18.50	2.98	9.94	1.84	2.51	0.00	-3.74	11.00	14.74	-1.23	17.00	18.23
5500	-18.74	3.00	9.94	1.84	2.51	0.00	-3.96	11.00	14.96	-1.45	17.00	18.45
5580	-18.42	3.00	9.94	1.84	2.51	0.00	-3.64	11.00	14.64	-1.13	17.00	18.13
5700	-18.70	3.01	9.94	1.84	2.51	0.00	-3.91	11.00	14.91	-1.40	17.00	18.40
5745	-26.74	3.02	9.94	1.84	2.51	6.99	-4.95	30.00	34.95	-2.44	36.00	38.44
5785	-26.00	3.02	9.94	1.84	2.51	6.99	-4.21	30.00	34.21	-1.70	36.00	37.70
5825	-26.89	3.02	9.94	1.84	2.51	6.99	-5.10	30.00	35.10	-2.59	36.00	38.59

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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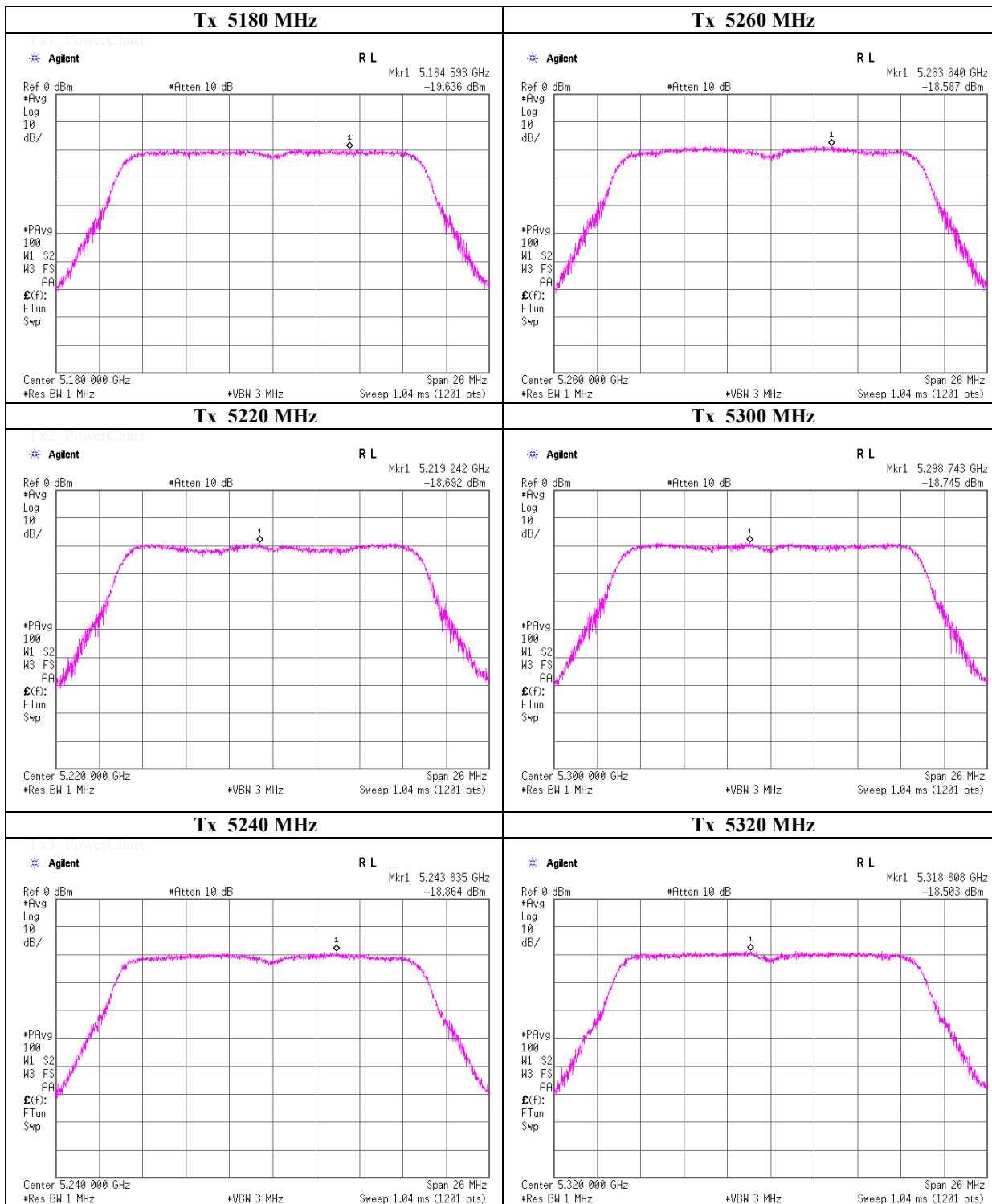
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 Temperature / Humidity   23 degC     , 30 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11n-20 (SISO), PN9, worst antenna :1, worst data mode :6 (MCS)



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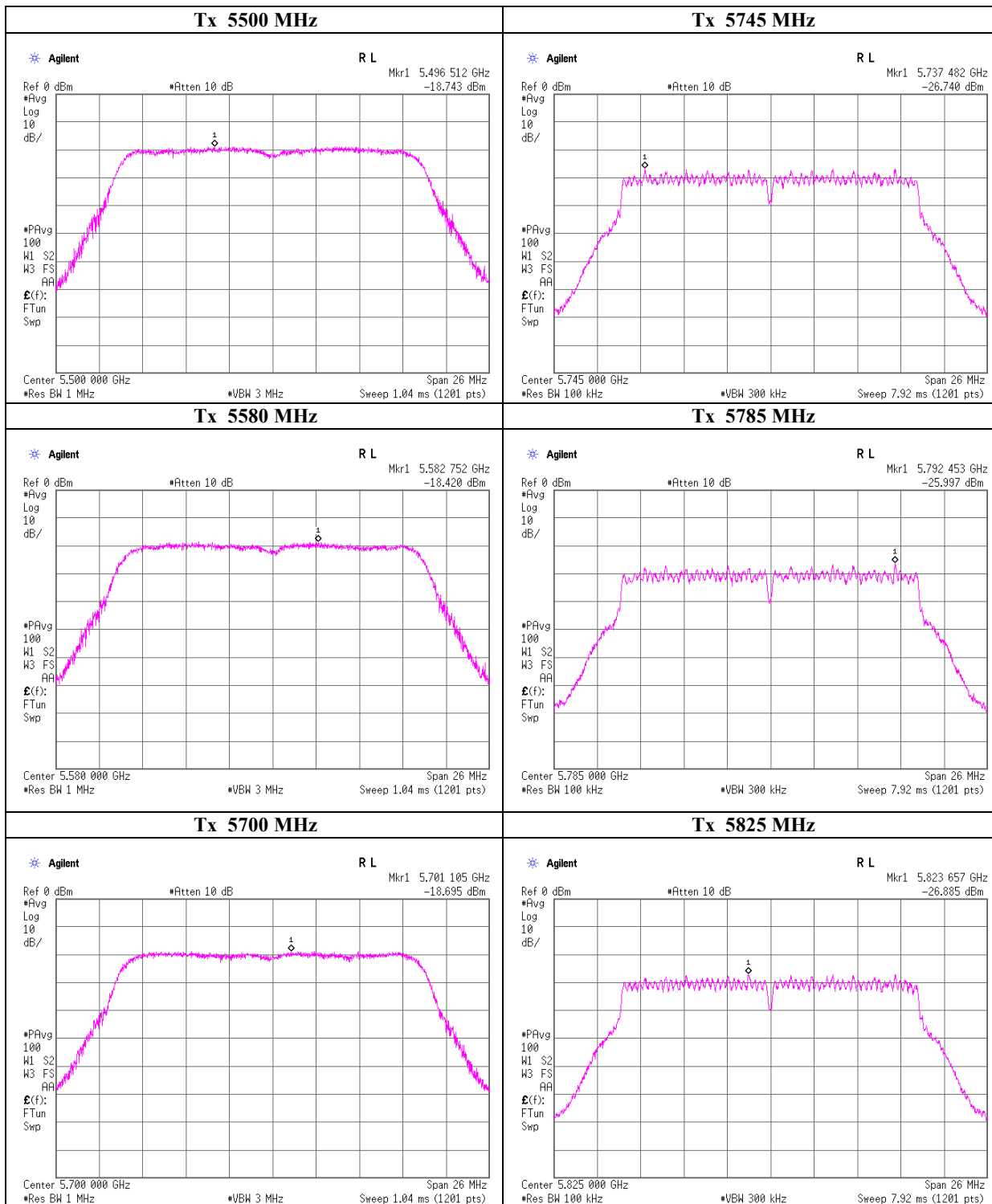
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 Mode: Tx, IEEE802.11ac-20 (SISO), PN9, antenna : 0 worst data mode : 6 (MCS)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
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5220	-19.44	2.97	9.94	1.79	4.04	0.00	-4.74	11.00	15.74	-0.70	17.00	17.70
5240	-19.46	2.97	9.94	1.79	4.04	0.00	-4.76	11.00	15.76	-0.72	17.00	17.72
5260	-19.09	2.97	9.94	1.79	4.04	0.00	-4.39	11.00	15.39	-0.35	17.00	17.35
5300	-18.53	2.98	9.94	1.79	4.04	0.00	-3.82	11.00	14.82	0.22	17.00	16.78
5320	-18.57	2.98	9.94	1.79	4.04	0.00	-3.86	11.00	14.86	0.18	17.00	16.82
5500	-19.02	3.00	9.94	1.79	4.04	0.00	-4.29	11.00	15.29	-0.25	17.00	17.25
5580	-19.52	3.00	9.94	1.79	4.04	0.00	-4.79	11.00	15.79	-0.75	17.00	17.75
5700	-19.74	3.01	9.94	1.79	4.04	0.00	-5.00	11.00	16.00	-0.96	17.00	17.96
5745	-27.85	3.02	9.94	1.79	4.04	6.99	-6.11	30.00	36.11	-2.07	36.00	38.07
5785	-27.74	3.02	9.94	1.79	4.04	6.99	-6.00	30.00	36.00	-1.96	36.00	37.96
5825	-27.71	3.02	9.94	1.79	4.04	6.99	-5.97	30.00	35.97	-1.93	36.00	37.93

Sample Calculation:

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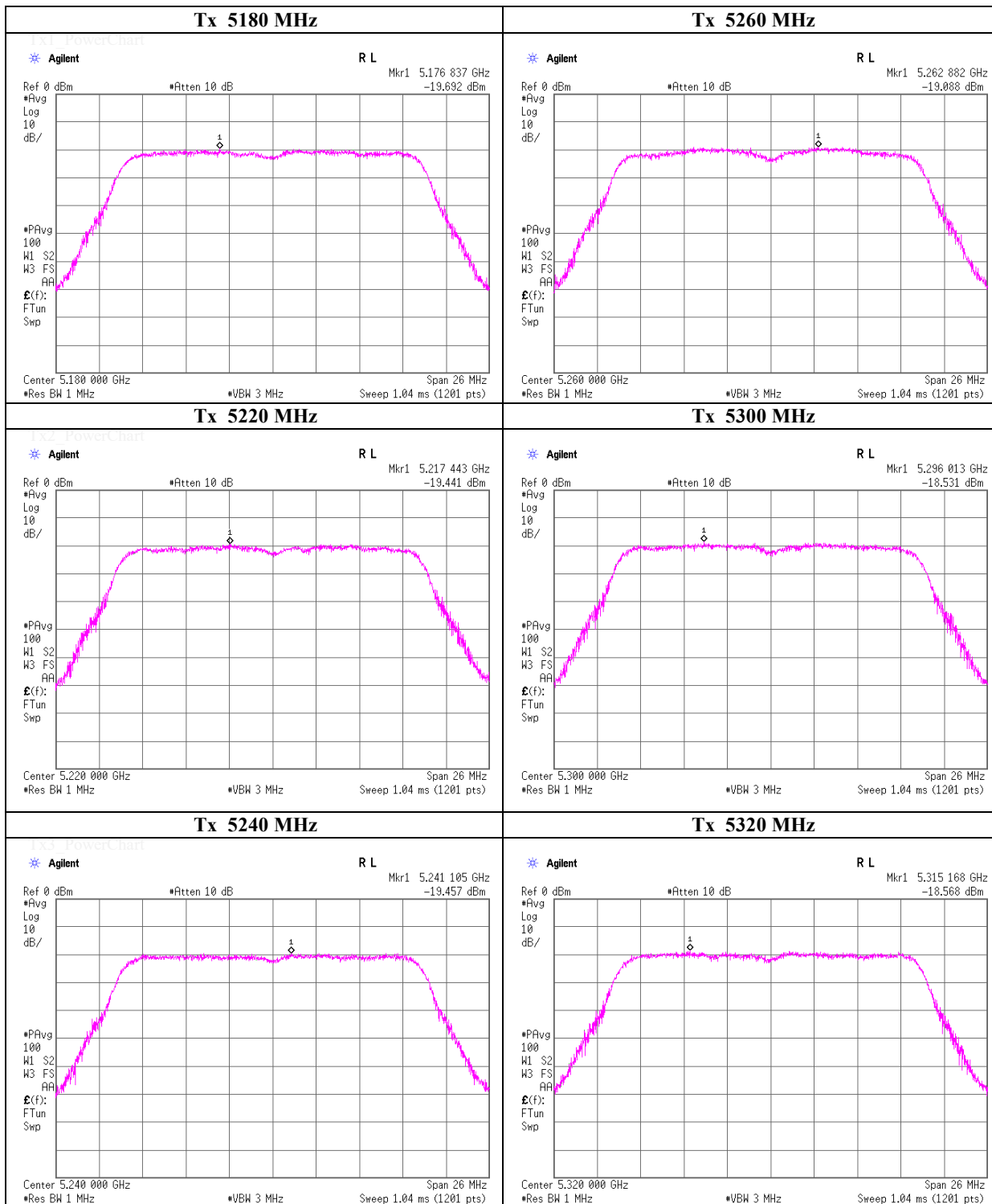
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 Engineer             Takahiro Kawakami

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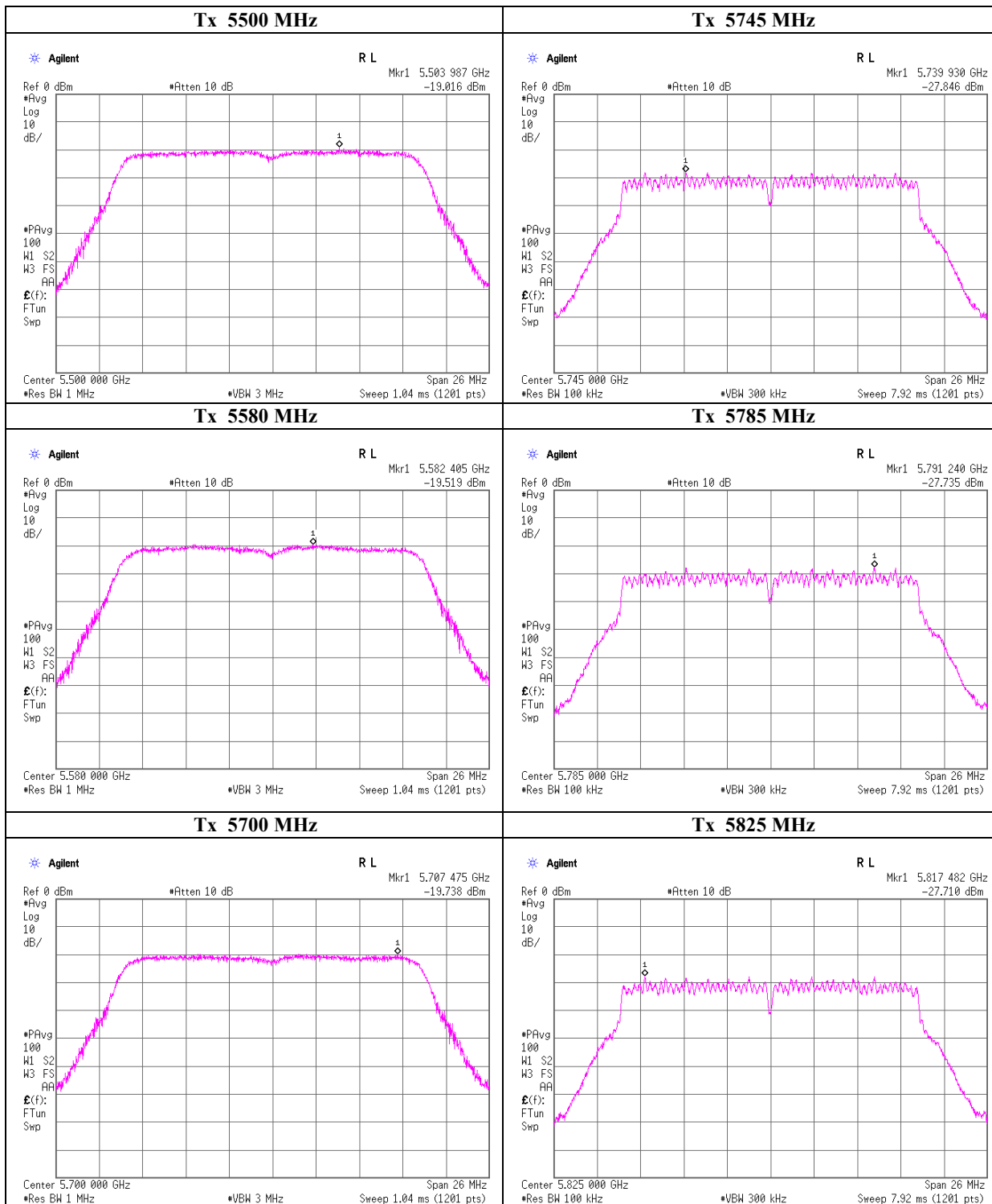
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 Temperature / Humidity: 23 deg.C , 30 %RH  
 Engineer: Takahiro Kawakami  
 Mode: Tx, IEEE802.11ac-20 (SISO), PN9, antenna : 1 worst data mode : 3 (MCS)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-18.79	2.97	9.94	1.02	2.51	0.00	-4.86	11.00	15.86	-2.35	17.00	19.35
5220	-18.62	2.97	9.94	1.02	2.51	0.00	-4.69	11.00	15.69	-2.18	17.00	19.18
5240	-18.23	2.97	9.94	1.02	2.51	0.00	-4.30	11.00	15.30	-1.79	17.00	18.79
5260	-18.23	2.97	9.94	1.02	2.51	0.00	-4.30	11.00	15.30	-1.79	17.00	18.79
5300	-18.21	2.98	9.94	1.02	2.51	0.00	-4.27	11.00	15.27	-1.76	17.00	18.76
5320	-18.22	2.98	9.94	1.02	2.51	0.00	-4.28	11.00	15.28	-1.77	17.00	18.77
5500	-17.97	3.00	9.94	1.02	2.51	0.00	-4.01	11.00	15.01	-1.50	17.00	18.50
5580	-18.23	3.00	9.94	1.02	2.51	0.00	-4.27	11.00	15.27	-1.76	17.00	18.76
5700	-17.91	3.01	9.94	1.02	2.51	0.00	-3.94	11.00	14.94	-1.43	17.00	18.43
5745	-26.95	3.02	9.94	1.02	2.51	6.99	-5.98	30.00	35.98	-3.47	36.00	39.47
5785	-26.84	3.02	9.94	1.02	2.51	6.99	-5.87	30.00	35.87	-3.36	36.00	39.36
5825	-26.84	3.02	9.94	1.02	2.51	6.99	-5.87	30.00	35.87	-3.36	36.00	39.36

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor +RBW Correction Factor

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

RBW Correction Factor =  $10 \times \log(500 \text{ [kHz]} / 100 \text{ [kHz]})$

**UL Japan, Inc.**

**Shonan EMC Lab.**

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Telephone : +81 463 50 6400

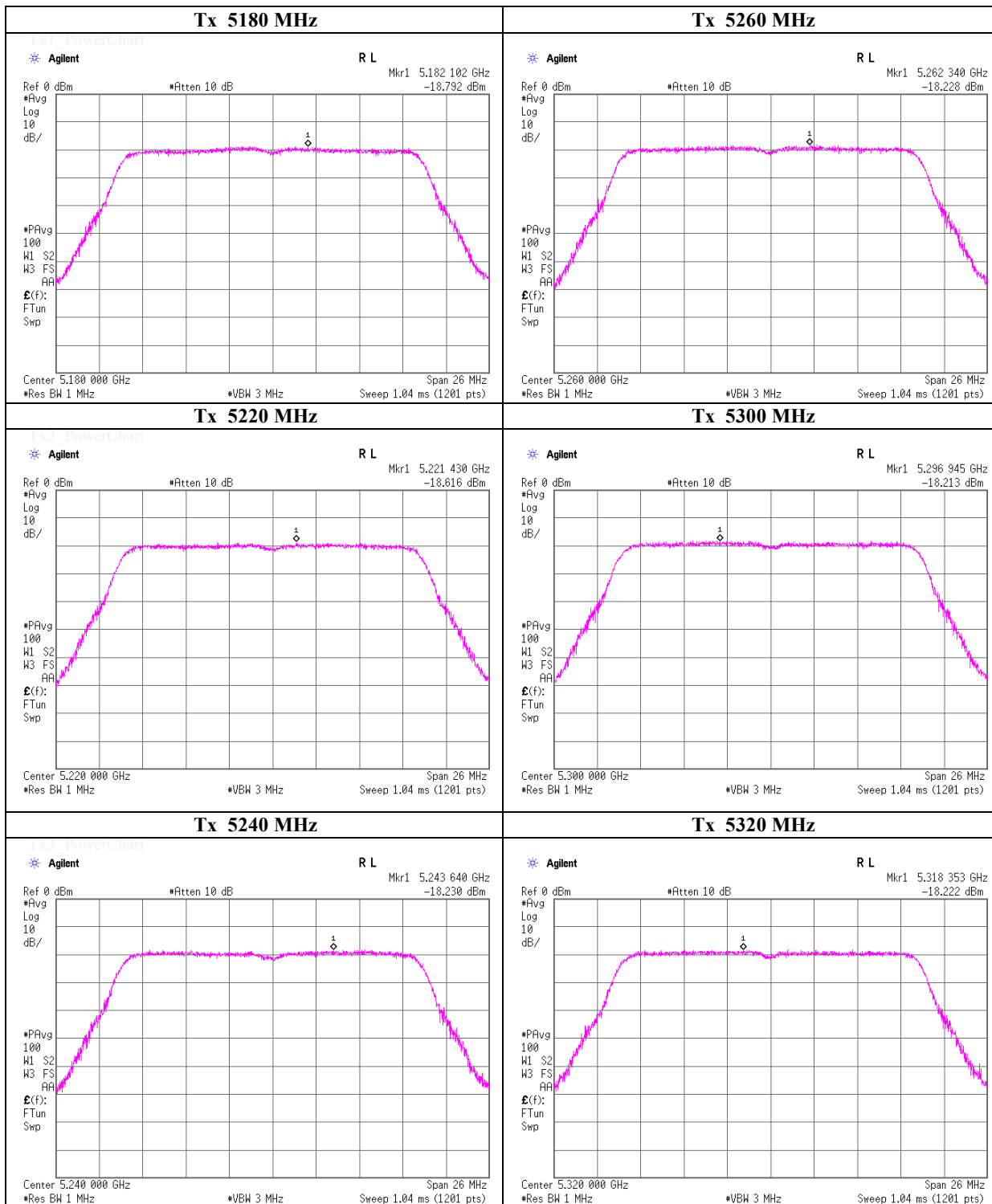
Facsimile : +81 463 50 6401



Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 12, 2021  
 Temperature / Humidity   23 degC     , 30 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

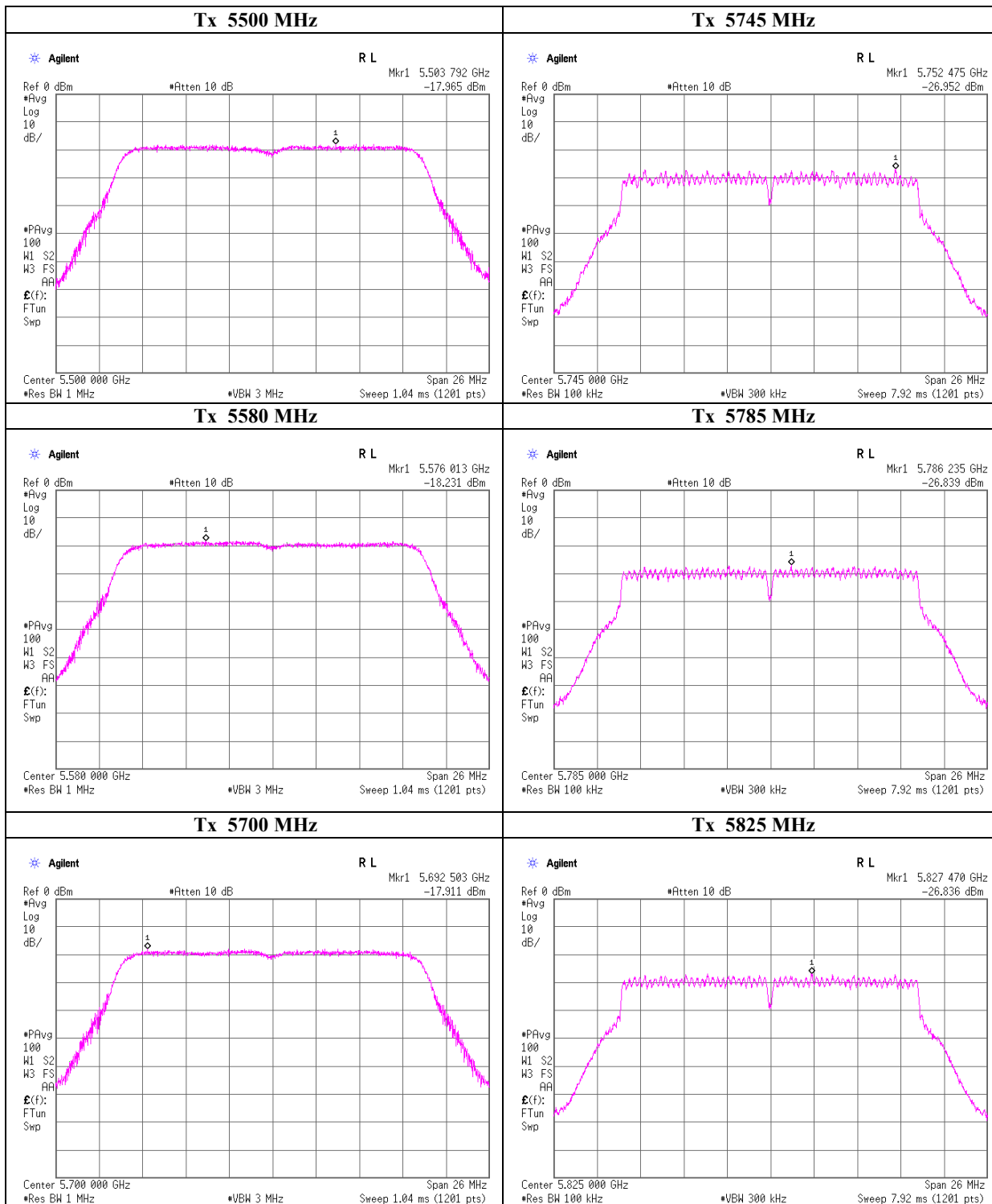
Tx, IEEE802.11ac-20 (SISO), PN9, antenna :1, worst data mode :3 (MCS)



Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 12, 2021  
 Temperature / Humidity   23 degC     , 30 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11ac-20 (SISO), PN9, antenna :1, worst data mode :3 (MCS)



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## Maximum Power Spectral Density

Test place                      UL Japan, Inc. Shonan EMC Lab.                      No.1 Measurement Room  
 Date                              January 13, 2021  
 Temperature / Humidity      24 deg.C , 41 %RH  
 Engineer                        Takahiro Kawakami  
 Mode                              Tx, IEEE802.11n-20 (MIMO), PN9,                      worst data mode :                      13 (MCS)

**Antenna: 0 + 1**

Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)							PSD (e.i.r.p.)						
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin		
	1	2	Sum				1	2	Sum					
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]		
5180	0.34	0.41	0.74	-1.29	11.00	12.29	0.86	0.72	1.58	1.98	17.00	15.02		
5220	0.32	0.34	0.66	-1.78	11.00	12.78	0.82	0.61	1.43	1.54	17.00	15.46		
5240	0.34	0.42	0.76	-1.17	11.00	12.17	0.86	0.76	1.61	2.08	17.00	14.92		
5260	0.39	0.40	0.79	-1.03	11.00	12.03	1.00	0.70	1.70	2.31	17.00	14.69		
5300	0.35	0.38	0.73	-1.37	11.00	12.37	0.89	0.67	1.57	1.95	17.00	15.05		
5320	0.42	0.42	0.83	-0.79	11.00	11.79	1.05	0.75	1.80	2.55	17.00	14.45		
5500	0.37	0.39	0.76	-1.22	11.00	12.22	0.94	0.69	1.63	2.11	17.00	14.89		
5580	0.32	0.41	0.74	-1.33	11.00	12.33	0.82	0.74	1.56	1.92	17.00	15.08		
5700	0.32	0.38	0.71	-1.51	11.00	12.51	0.82	0.68	1.50	1.76	17.00	15.24		
5745	0.27	0.48	0.76	-1.22	30.00	31.22	0.69	0.86	1.55	1.91	36.00	34.09		
5785	0.32	0.43	0.75	-1.27	30.00	31.27	0.80	0.76	1.57	1.95	36.00	34.05		
5825	0.33	0.40	0.73	-1.37	30.00	31.37	0.83	0.71	1.55	1.89	36.00	34.11		

**Antenna: 0****Antenna: 1**

Tested Frequency	Duty Factor	RBW Correction Factor	Antenna: 0				Antenna: 1				PSD Result			
			PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	Cond.	e.i.r.p.		
			[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]		
5180	2.50	0.00	-20.12	2.97	9.94	4.04	-4.71	-0.67	-19.33	2.97	9.94	2.51	-3.92	-1.41
5220	2.50	0.00	-20.31	2.97	9.94	4.04	-4.90	-0.86	-20.10	2.97	9.94	2.51	-4.69	-2.18
5240	2.50	0.00	-20.11	2.97	9.94	4.04	-4.70	-0.66	-19.13	2.97	9.94	2.51	-3.72	-1.21
5260	2.50	0.00	-19.45	2.97	9.94	4.04	-4.04	0.00	-19.44	2.97	9.94	2.51	-4.03	-1.52
5300	2.50	0.00	-19.96	2.98	9.94	4.04	-4.54	-0.50	-19.64	2.98	9.94	2.51	-4.22	-1.71
5320	2.50	0.00	-19.24	2.98	9.94	4.04	-3.82	0.22	-19.20	2.98	9.94	2.51	-3.78	-1.27
5500	2.50	0.00	-19.76	3.00	9.94	4.04	-4.32	-0.27	-19.58	3.00	9.94	2.51	-4.14	-1.63
5580	2.50	0.00	-20.33	3.00	9.94	4.04	-4.89	-0.85	-19.28	3.00	9.94	2.51	-3.84	-1.33
5700	2.50	0.00	-20.37	3.01	9.94	4.04	-4.92	-0.88	-19.61	3.01	9.94	2.51	-4.16	-1.65
5745	2.50	6.99	-28.12	3.02	9.94	4.04	-5.67	-1.63	-25.60	3.02	9.94	2.51	-3.15	-0.64
5785	2.50	6.99	-27.44	3.02	9.94	4.04	-4.99	-0.95	-26.13	3.02	9.94	2.51	-3.68	-1.17
5825	2.50	6.99	-27.29	3.02	9.94	4.04	-4.84	-0.80	-26.42	3.02	9.94	2.51	-3.97	-1.46

## Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor =  $10 \times \log(500 \text{ [kHz]} / 100 \text{ [kHz]})$ **UL Japan, Inc.****Shonan EMC Lab.**

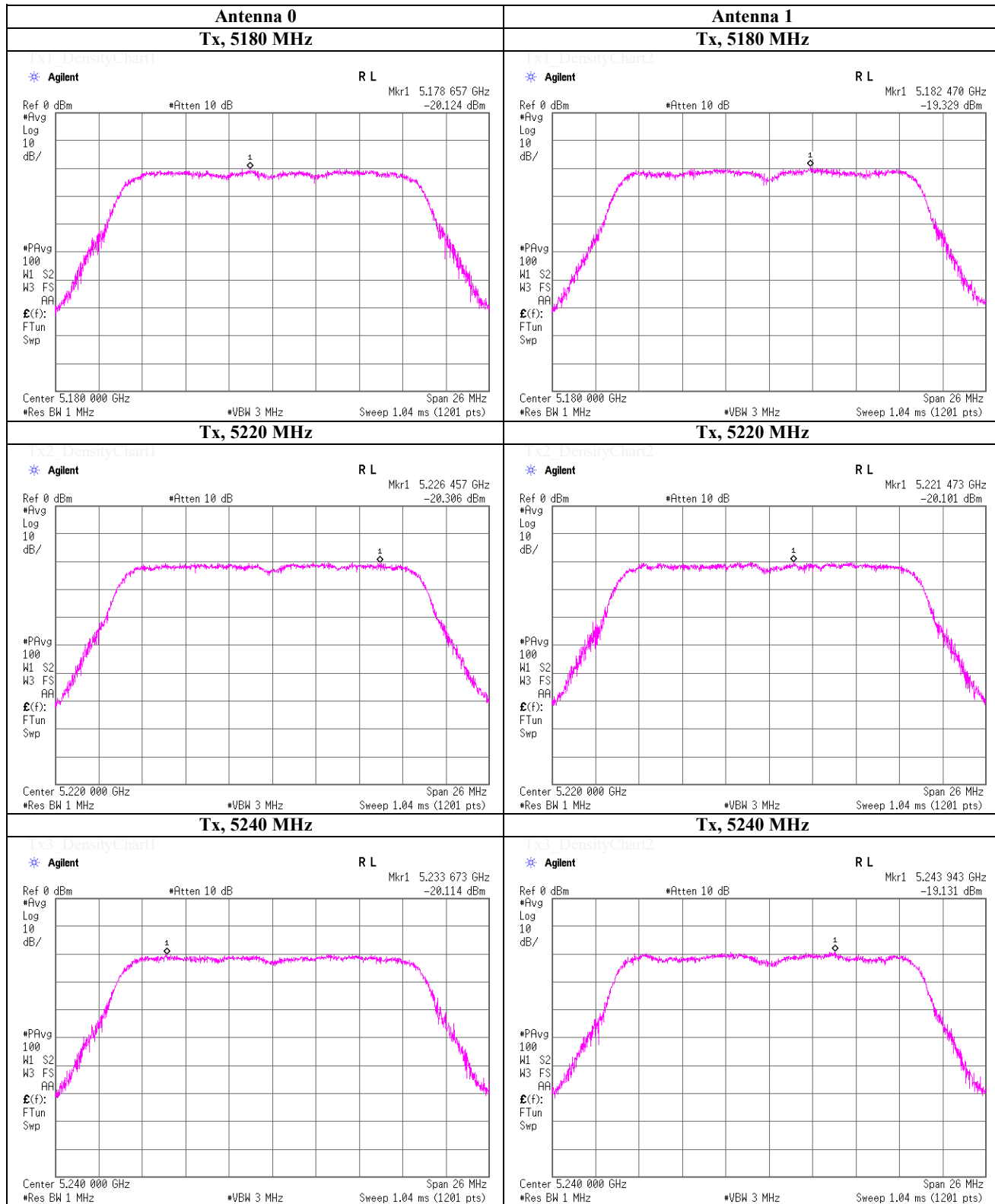
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 13, 2021  
 Temperature / Humidity 24 deg.C , 41 %RH  
 Engineer Takahiro Kawakami

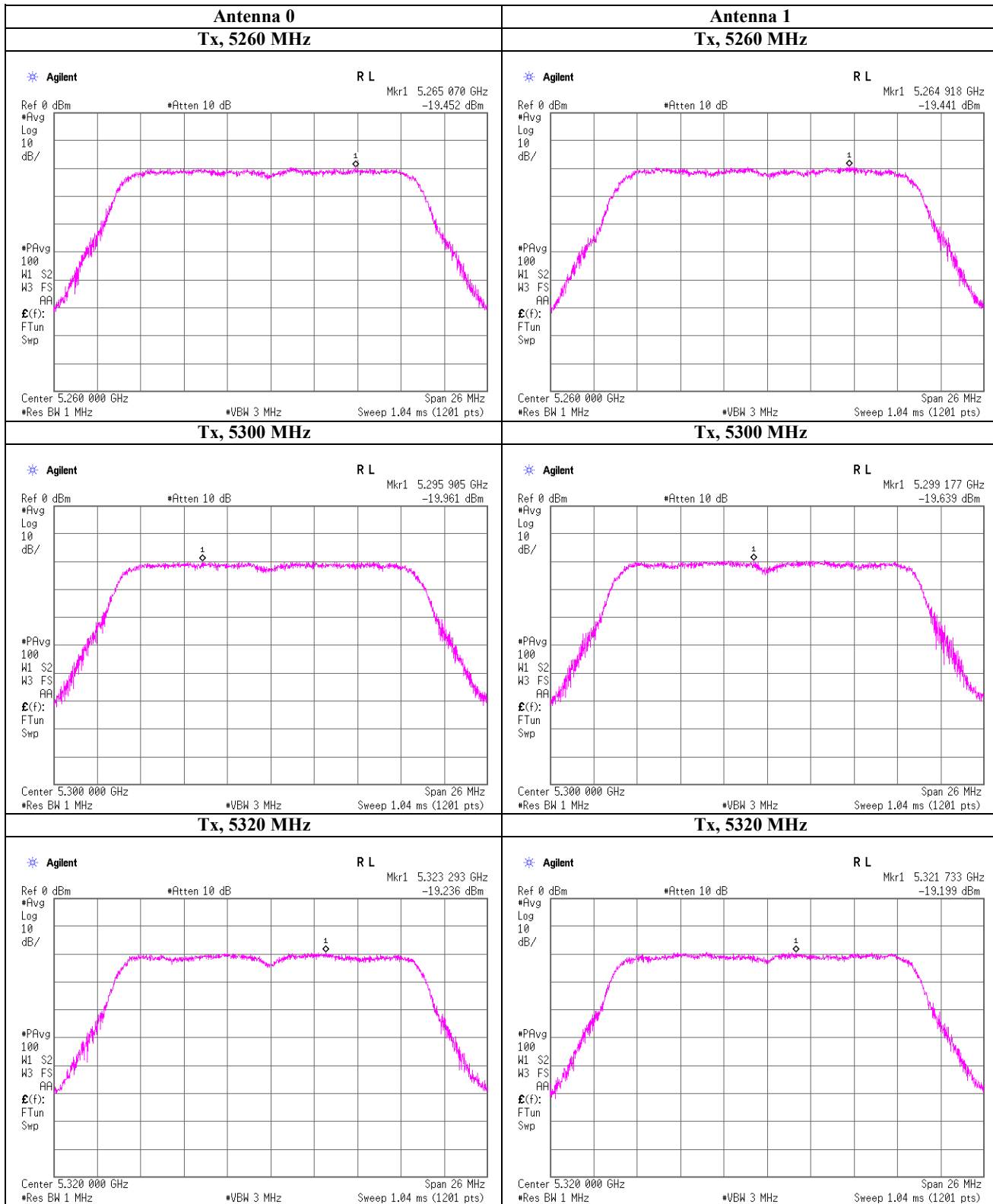
### Maximum Power Spectral Density



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**Shonan EMC Lab.**  
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 Engineer Takahiro Kawakami

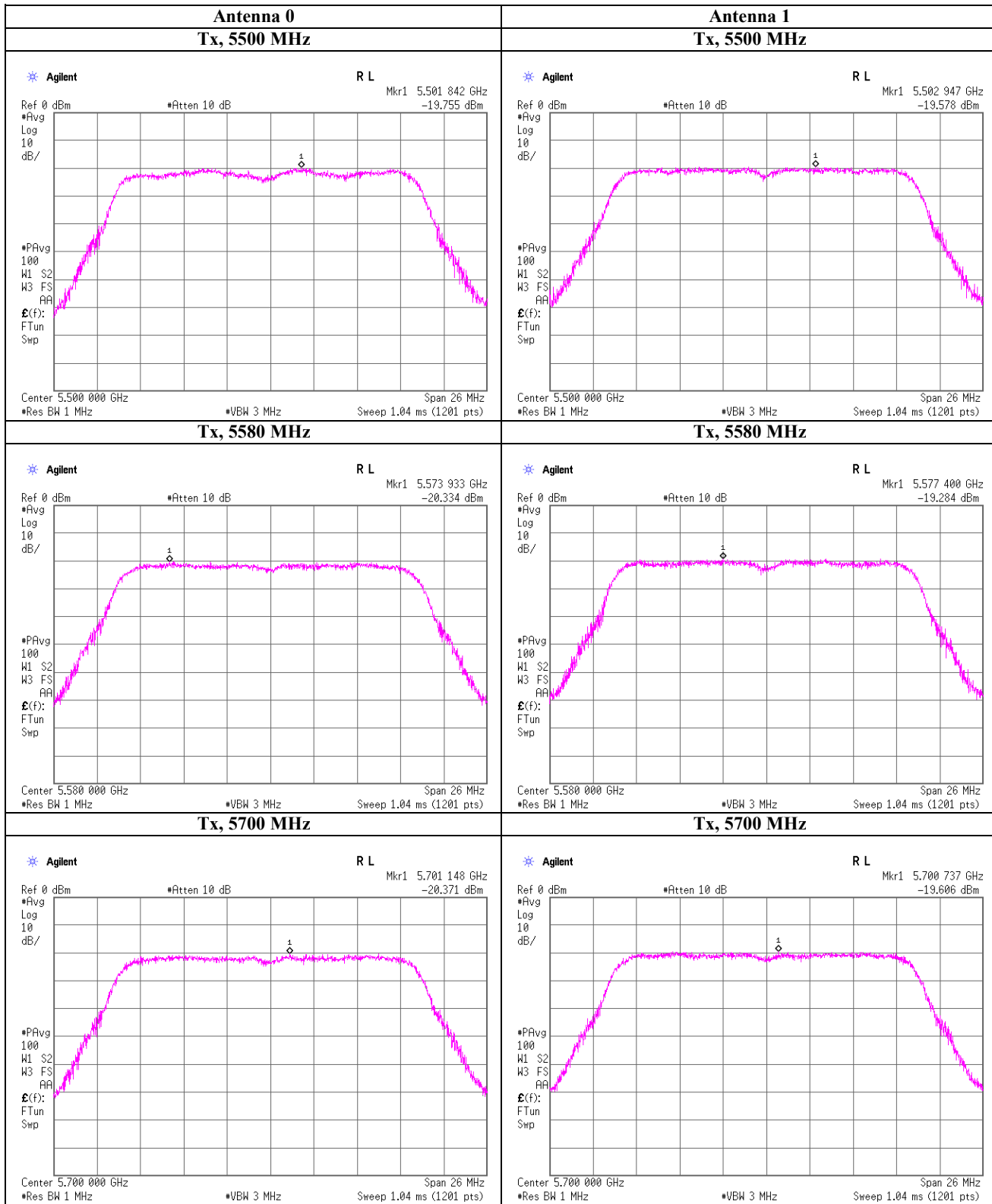
### Maximum Power Spectral Density



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Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 13, 2021  
 Temperature / Humidity   24 deg.C     , 41 %RH  
 Engineer             Takahiro Kawakami

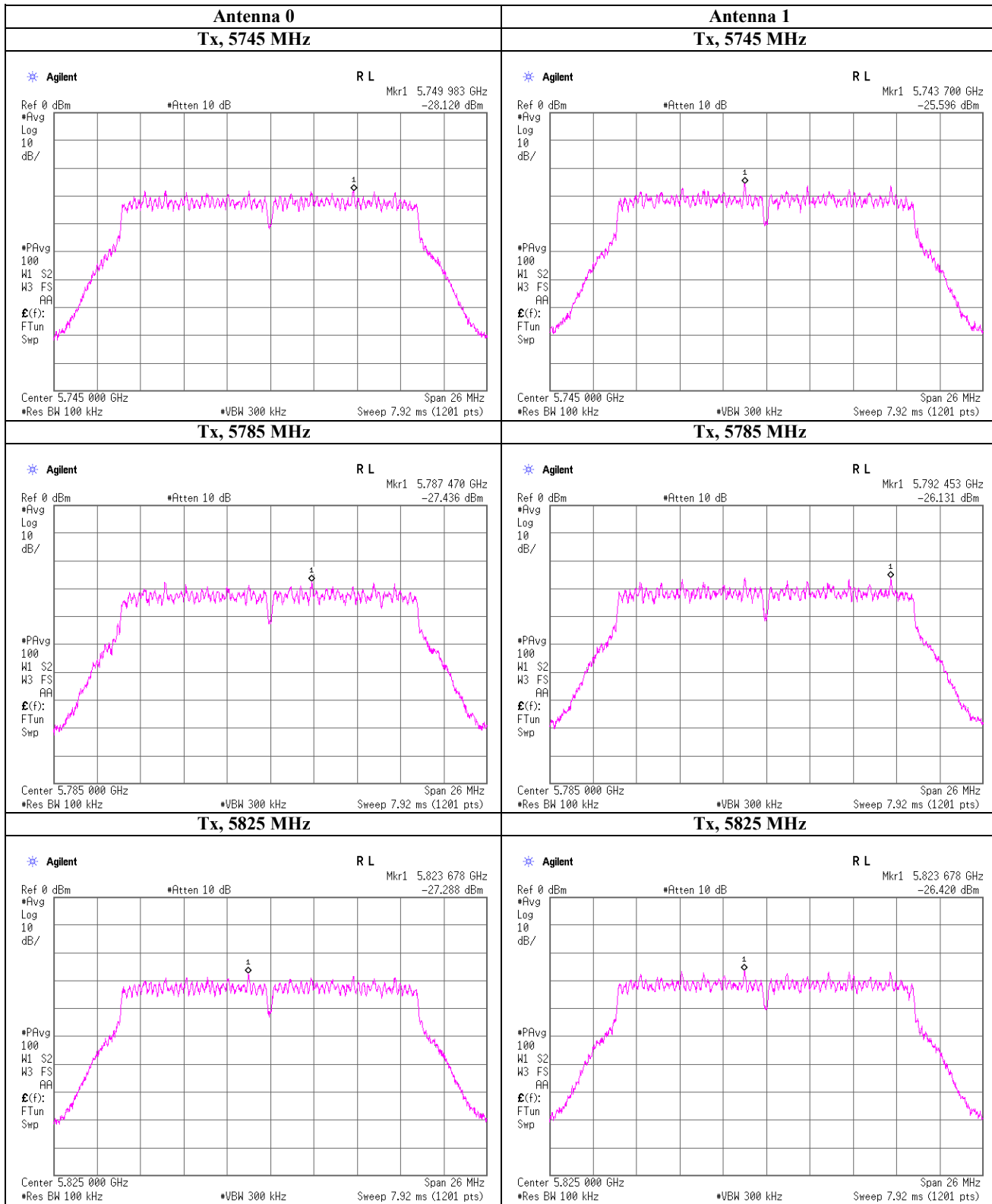
### Maximum Power Spectral Density



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 Temperature / Humidity 24 deg.C , 41 %RH  
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### Maximum Power Spectral Density



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## Maximum Power Spectral Density

Test place                      UL Japan, Inc. Shonan EMC Lab.                      No.1 Measurement Room  
 Date                              January 13, 2021  
 Temperature / Humidity      24 deg.C , 41 %RH  
 Engineer                        Takahiro Kawakami  
 Mode                              Tx, IEEE802.11ac-20 (MIMO), PN9, worst data mode :                      8 (MCS)

**Antenna: 0 + 1** Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna		Sum	Result	Limit	Margin	Antenna		Sum	Result	Limit	Margin
	1	2	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	1	2	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.34	0.38	0.73	-1.39	11.00	12.39	0.87	0.68	1.55	1.91	17.00	15.09
5220	0.33	0.36	0.69	-1.64	11.00	12.64	0.83	0.64	1.47	1.67	17.00	15.33
5240	0.35	0.38	0.73	-1.36	11.00	12.36	0.89	0.67	1.57	1.96	17.00	15.04
5260	0.37	0.39	0.77	-1.16	11.00	12.16	0.94	0.70	1.64	2.16	17.00	14.84
5300	0.38	0.43	0.82	-0.87	11.00	11.87	0.97	0.77	1.75	2.43	17.00	14.57
5320	0.37	0.42	0.79	-1.02	11.00	12.02	0.94	0.75	1.69	2.28	17.00	14.72
5500	0.34	0.44	0.78	-1.06	11.00	12.06	0.86	0.79	1.65	2.18	17.00	14.82
5580	0.39	0.39	0.78	-1.08	11.00	12.08	0.98	0.70	1.68	2.26	17.00	14.74
5700	0.32	0.45	0.78	-1.09	11.00	12.09	0.82	0.81	1.63	2.12	17.00	14.88
5745	0.33	0.50	0.83	-0.80	30.00	30.80	0.83	0.89	1.73	2.38	36.00	33.62
5785	0.31	0.46	0.77	-1.13	30.00	31.13	0.80	0.81	1.61	2.07	36.00	33.93
5825	0.30	0.50	0.80	-0.99	30.00	30.99	0.75	0.89	1.64	2.16	36.00	33.84

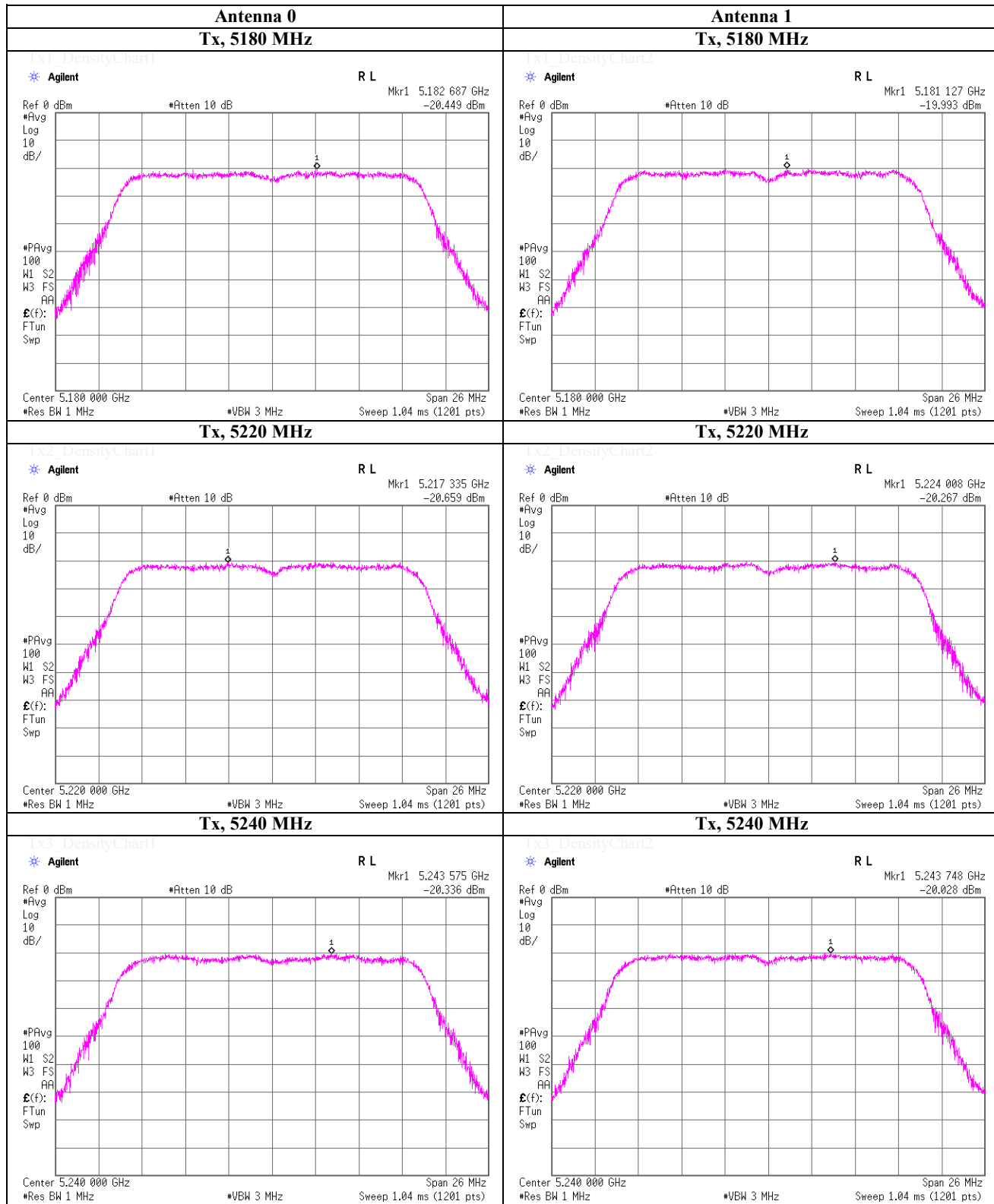
Tested Frequency [MHz]	Duty Factor [dB]	RBW Correction Factor [dB]	Antenna: 0				Antenna: 1				PSD Result			
			PSD Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	PSD Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Cond.	e.i.r.p.		
5180	2.90	0.00	-20.45	2.97	9.94	4.04	-4.64	-0.60	-19.99	2.97	9.94	2.51	-4.18	-1.67
5220	2.90	0.00	-20.66	2.97	9.94	4.04	-4.85	-0.81	-20.27	2.97	9.94	2.51	-4.46	-1.95
5240	2.90	0.00	-20.34	2.97	9.94	4.04	-4.53	-0.49	-20.03	2.97	9.94	2.51	-4.22	-1.71
5260	2.90	0.00	-20.12	2.97	9.94	4.04	-4.31	-0.27	-19.85	2.97	9.94	2.51	-4.04	-1.53
5300	2.90	0.00	-19.97	2.98	9.94	4.04	-4.15	-0.11	-19.44	2.98	9.94	2.51	-3.62	-1.11
5320	2.90	0.00	-20.11	2.98	9.94	4.04	-4.29	-0.25	-19.60	2.98	9.94	2.51	-3.78	-1.27
5500	2.90	0.00	-20.54	3.00	9.94	4.04	-4.70	-0.66	-19.37	3.00	9.94	2.51	-3.53	-1.02
5580	2.90	0.00	-19.96	3.00	9.94	4.04	-4.12	-0.07	-19.91	3.00	9.94	2.51	-4.07	-1.56
5700	2.90	0.00	-20.74	3.01	9.94	4.04	-4.89	-0.85	-19.28	3.01	9.94	2.51	-3.43	-0.92
5745	2.90	6.99	-27.68	3.02	9.94	4.04	-4.83	-0.79	-25.84	3.02	9.94	2.51	-2.99	-0.48
5785	2.90	6.99	-27.88	3.02	9.94	4.04	-5.03	-0.99	-26.25	3.02	9.94	2.51	-3.40	-0.89
5825	2.90	6.99	-28.14	3.02	9.94	4.04	-5.29	-1.25	-25.85	3.02	9.94	2.51	-3.00	-0.49

Sample Calculation:  
 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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor  
 PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain  
  
 RBW Correction Factor = 10 x log ( 500 [kHz] / 100 [kHz] )



Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 13, 2021  
 Temperature / Humidity   24 deg.C     , 41 %RH  
 Engineer             Takahiro Kawakami

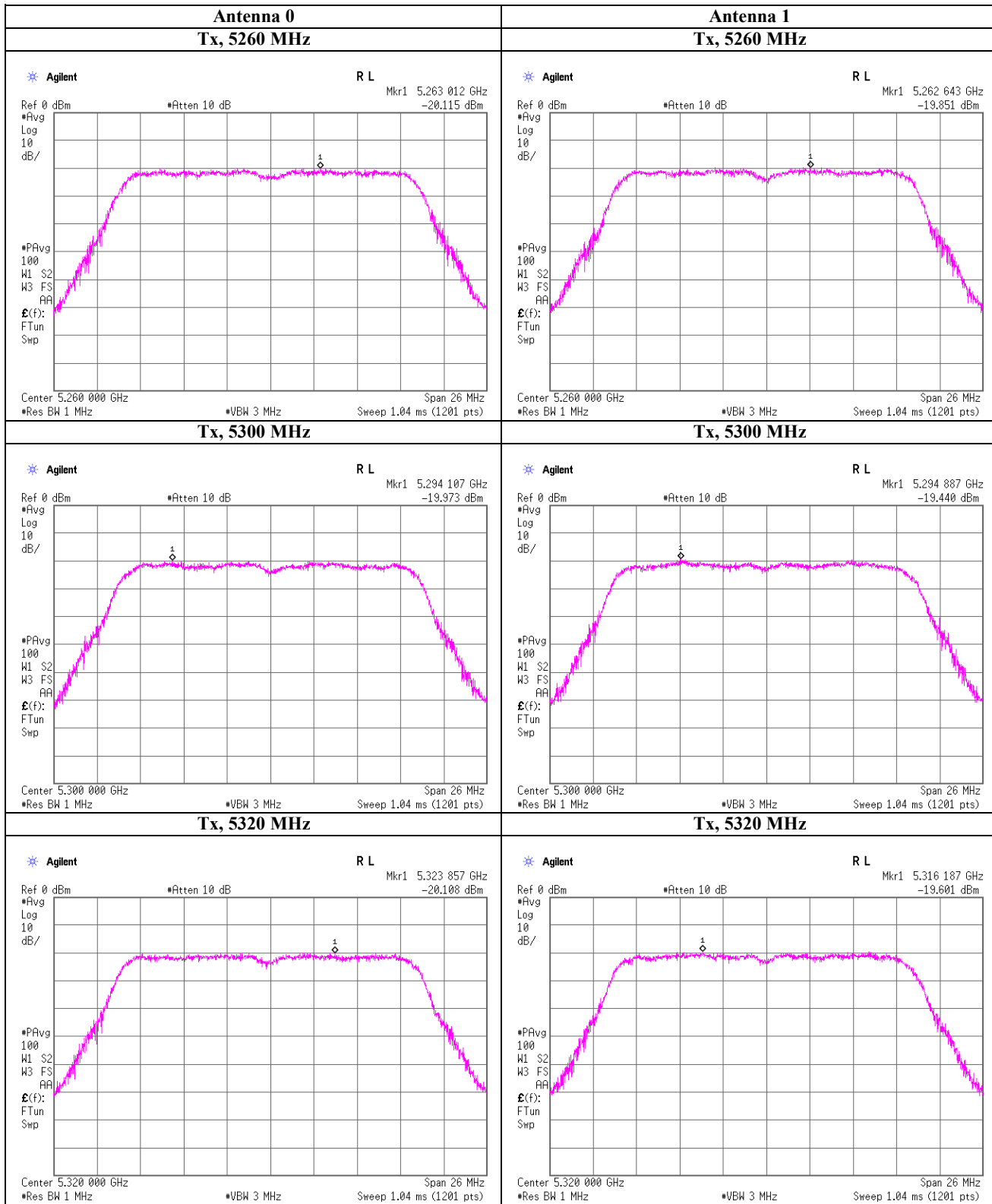
### Maximum Power Spectral Density



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 Facsimile    : +81 463 50 6401

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 13, 2021  
 Temperature / Humidity 24 deg.C , 41 %RH  
 Engineer Takahiro Kawakami

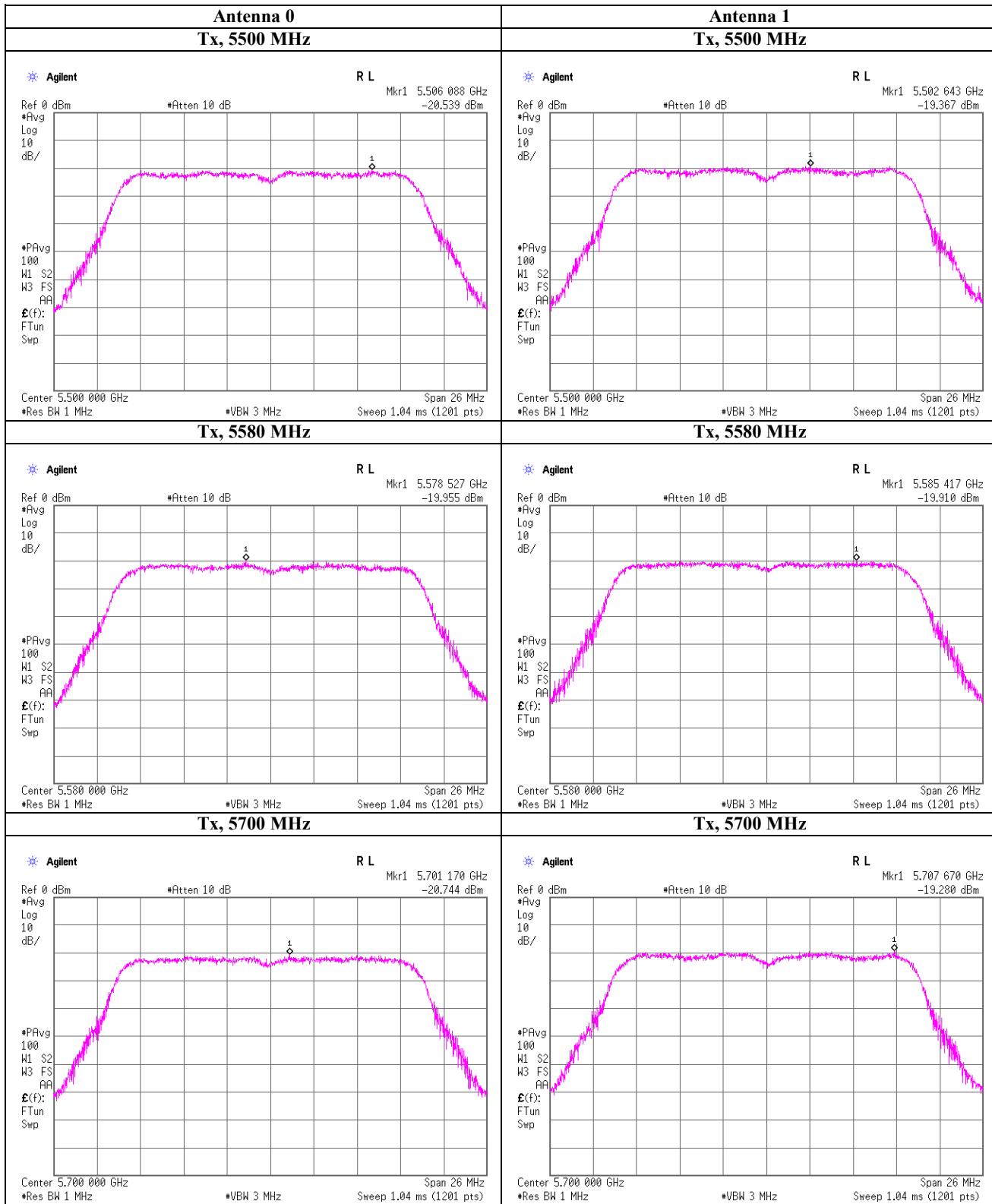
### Maximum Power Spectral Density



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Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 13, 2021  
 Temperature / Humidity 24 deg.C , 41 %RH  
 Engineer Takahiro Kawakami

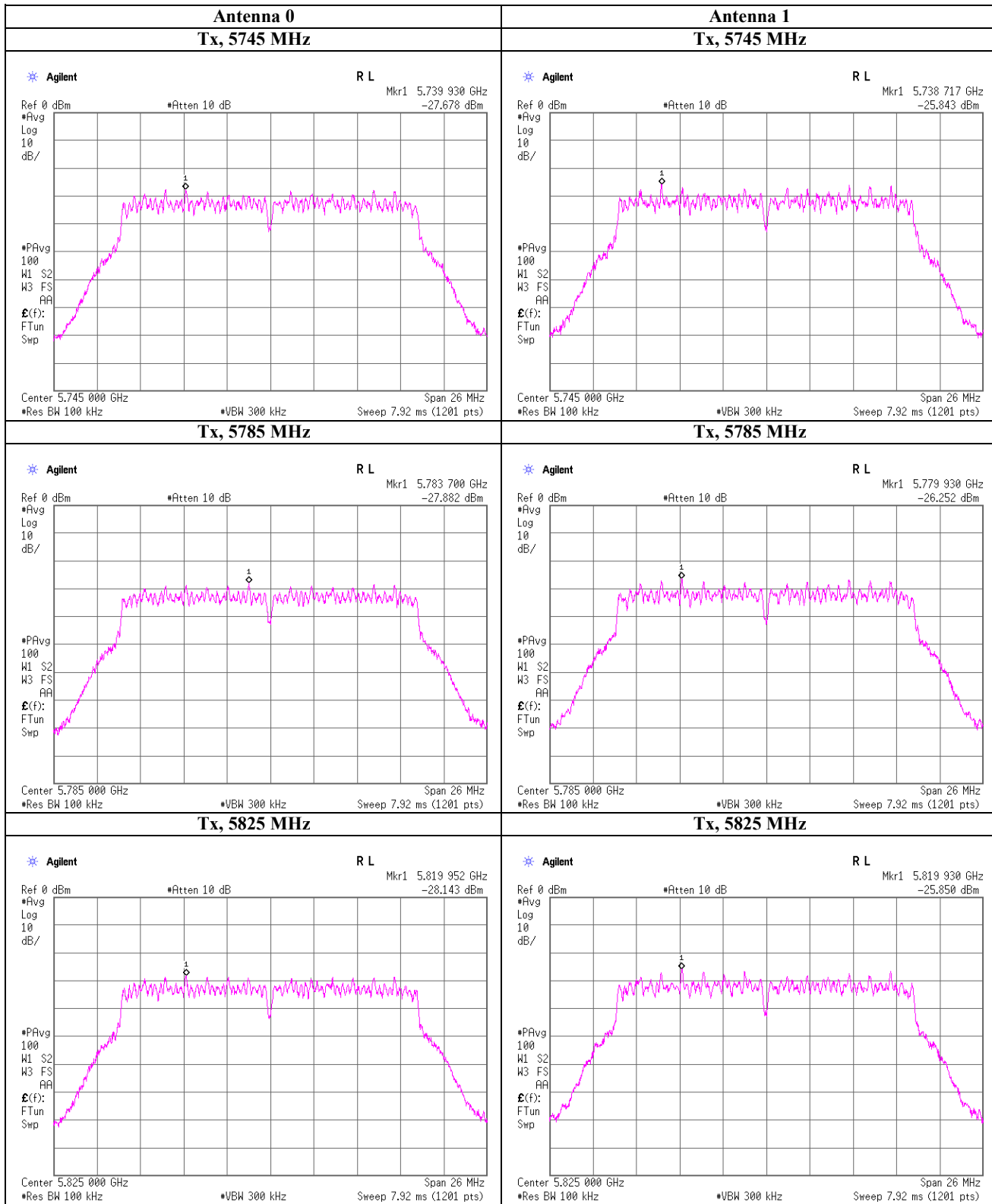
### Maximum Power Spectral Density



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Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 13, 2021  
 Temperature / Humidity  24 deg.C     , 41 %RH  
 Engineer            Takahiro Kawakami

### Maximum Power Spectral Density



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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

Test place                    UL Japan, Inc. Shonan EMC Lab.                    No.1 Measurement Room  
Date                            January 19, 2021  
Temperature / Humidity    25 deg.C , 40 %RH  
Engineer                      Takahiro Kawakami  
Mode                            Tx, IEEE802.11n-40 (SISO), PN9,                    antenna :            0    worst data mode :            3 (MCS)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-22.66	2.97	9.94	1.72	4.04	0.00	-8.03	11.00	19.03	-3.99	17.00	20.99
-	-	-	-	-	-	-	-	-	-	-	-	-
5230	-22.21	2.97	9.94	1.72	4.04	0.00	-7.58	11.00	18.58	-3.54	17.00	20.54
5270	-22.40	2.98	9.94	1.72	4.04	0.00	-7.76	11.00	18.76	-3.72	17.00	20.72
-	-	-	-	-	-	-	-	-	-	-	-	-
5310	-21.93	2.98	9.94	1.72	4.04	0.00	-7.29	11.00	18.29	-3.25	17.00	20.25
5510	-22.59	3.00	9.94	1.72	4.04	0.00	-7.93	11.00	18.93	-3.89	17.00	20.89
5550	-22.70	3.00	9.94	1.72	4.04	0.00	-8.04	11.00	19.04	-4.00	17.00	21.00
5670	-22.93	3.01	9.94	1.72	4.04	0.00	-8.26	11.00	19.26	-4.22	17.00	21.22
5755	-30.81	3.02	9.94	1.72	4.04	6.99	-9.14	30.00	39.14	-5.10	36.00	41.10
-	-	-	-	-	-	-	-	-	-	-	-	-
5795	-31.33	3.02	9.94	1.72	4.04	6.99	-9.66	30.00	39.66	-5.62	36.00	41.62

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor =  $10 * \log ( 500 \text{ [kHz]} / 100 \text{ [kHz]} )$

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

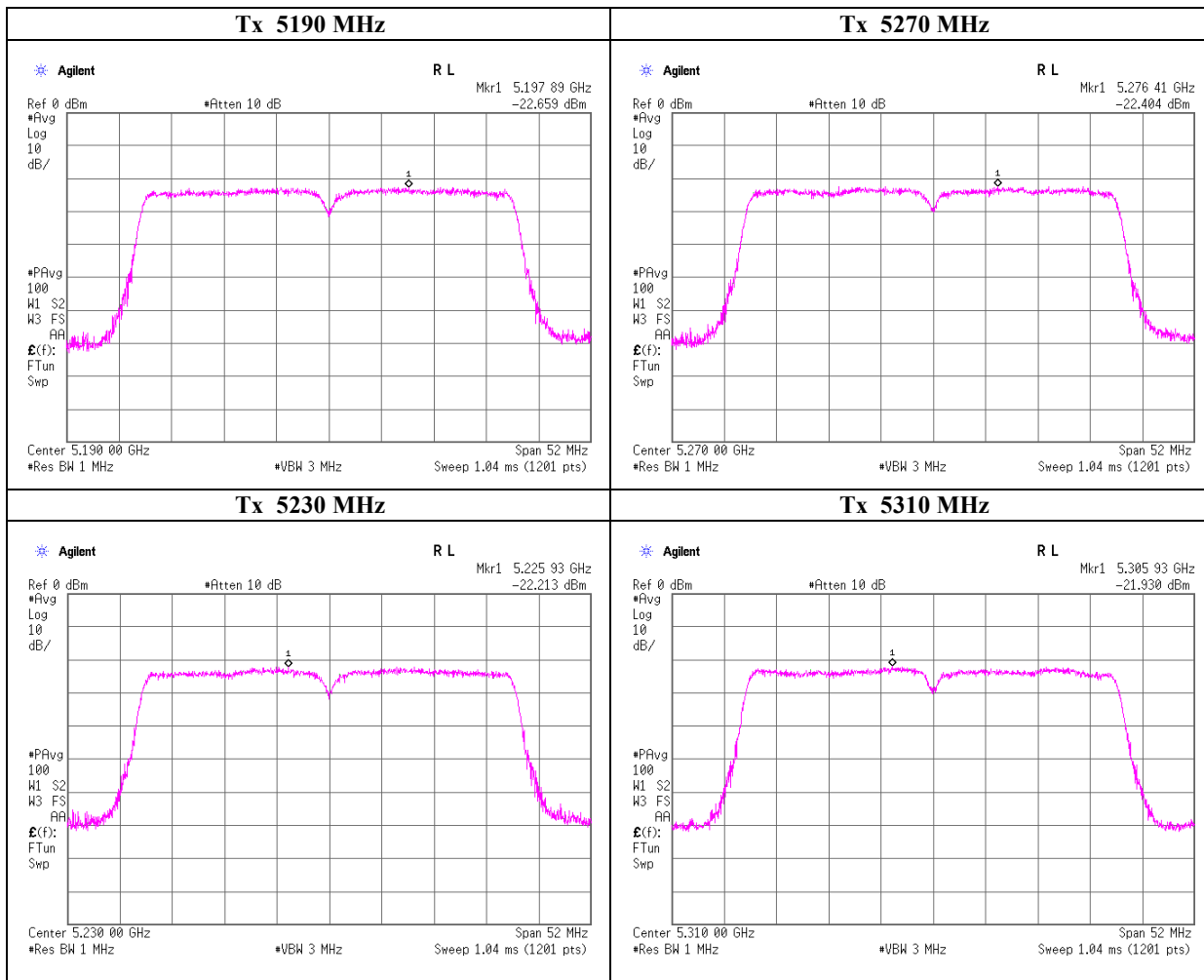
Telephone           : +81 463 50 6400

Facsimile           : +81 463 50 6401

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 19, 2021  
 Temperature / Humidity 25 degC , 40 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11n HT40 (SISO), PN9, antenna :0, worst data mode :3 (MCS)



**UL Japan, Inc.**

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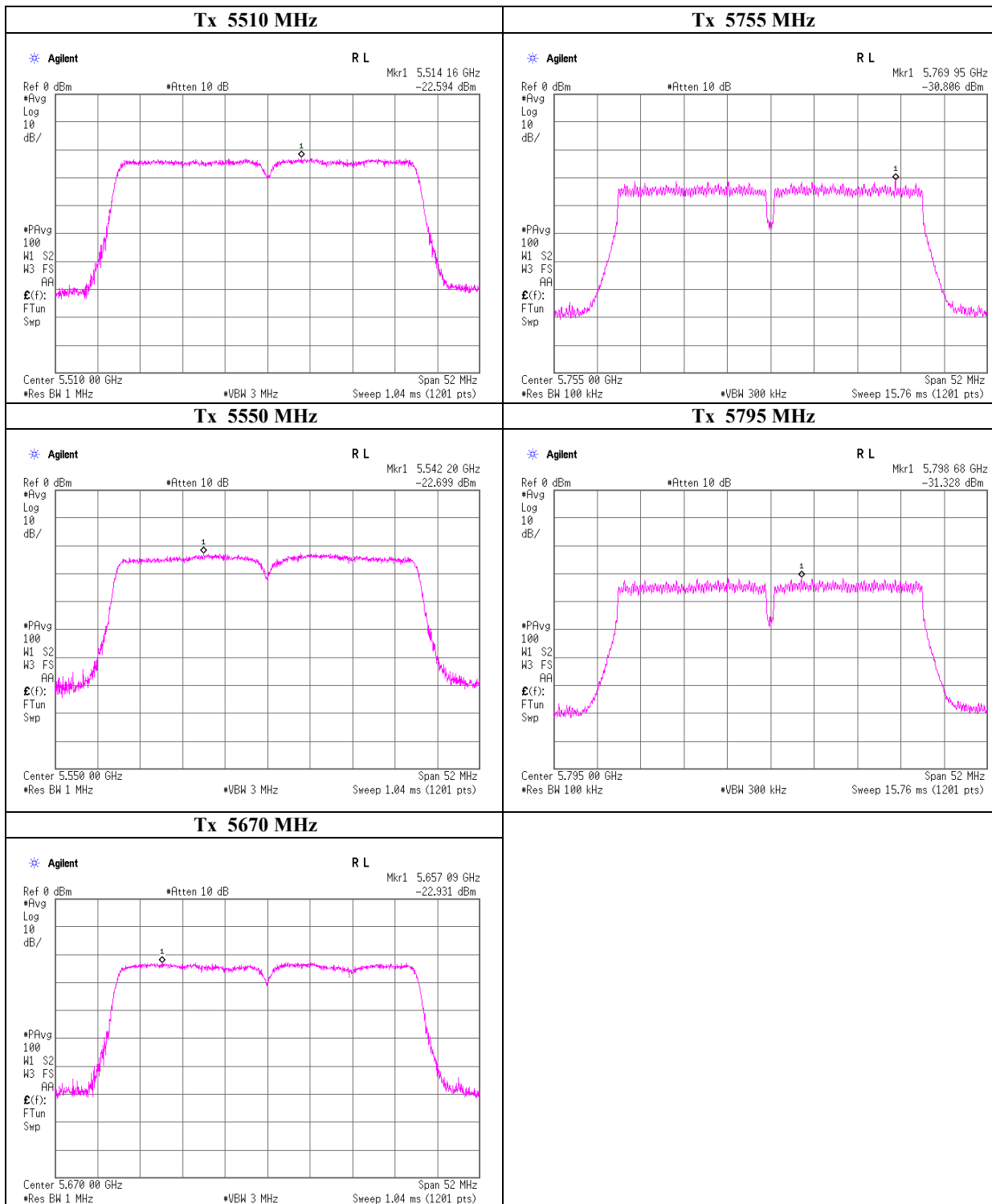
Telephone : +81 463 50 6400

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Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 19, 2021  
 Temperature / Humidity 25 degC , 40 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11n HT40 (SISO), PN9, antenna :0, worst data mode :3 (MCS)



**UL Japan, Inc.**

**Shonan EMC Lab.**

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

Telephone : +81 463 50 6400

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## Maximum Power Spectral Density

Test place                    UL Japan, Inc. Shonan EMC Lab.                    No.1 Measurement Room  
Date                            January 19, 2021  
Temperature / Humidity    25 deg.C , 40 %RH  
Engineer                     Takahiro Kawakami  
Mode                         Tx, IEEE802.11n-40 (SISO), PN9,                    antenna :                    1    worst data mode :                    3 (MCS)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-22.33	2.97	9.94	1.72	2.51	0.00	-7.70	11.00	18.70	-5.19	17.00	22.19
-	-	-	-	-	-	-	-	-	-	-	-	-
5230	-22.31	2.97	9.94	1.72	2.51	0.00	-7.68	11.00	18.68	-5.17	17.00	22.17
5270	-22.22	2.98	9.94	1.72	2.51	0.00	-7.58	11.00	18.58	-5.07	17.00	22.07
-	-	-	-	-	-	-	-	-	-	-	-	-
5310	-22.17	2.98	9.94	1.72	2.51	0.00	-7.53	11.00	18.53	-5.02	17.00	22.02
5510	-21.77	3.00	9.94	1.72	2.51	0.00	-7.11	11.00	18.11	-4.60	17.00	21.60
5550	-21.71	3.00	9.94	1.72	2.51	0.00	-7.05	11.00	18.05	-4.54	17.00	21.54
5670	-21.88	3.01	9.94	1.72	2.51	0.00	-7.21	11.00	18.21	-4.70	17.00	21.70
5755	-30.51	3.02	9.94	1.72	2.51	6.99	-8.84	30.00	38.84	-6.33	36.00	42.33
-	-	-	-	-	-	-	-	-	-	-	-	-
5795	-29.77	3.02	9.94	1.72	2.51	6.99	-8.10	30.00	38.10	-5.59	36.00	41.59

Sample Calculation:

PSD: Power Spectral Density

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

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

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

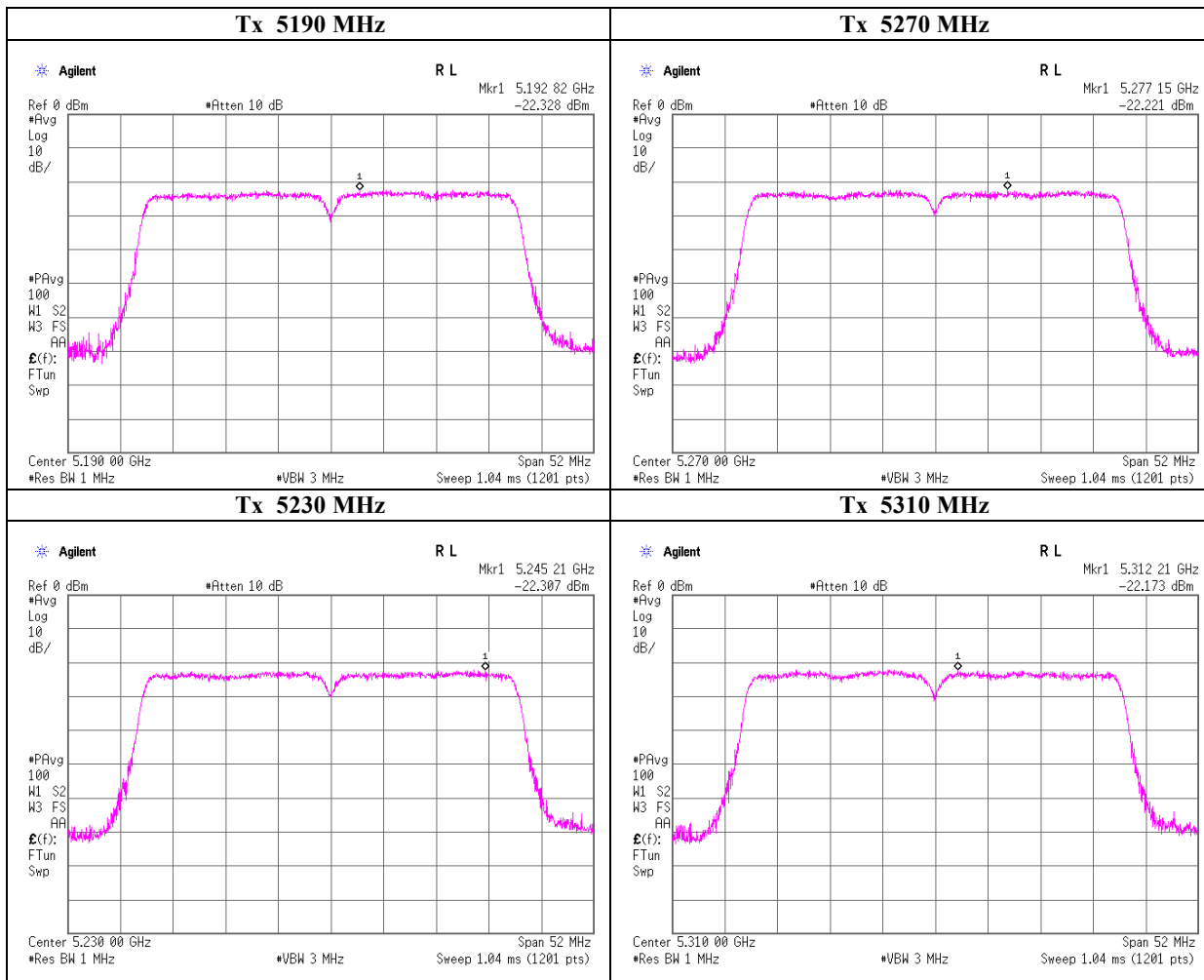
RBW Correction Factor =  $10 \cdot \log(500 \text{ [kHz]} / 100 \text{ [kHz]})$



Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 19, 2021  
 Temperature / Humidity 25 degC , 40 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11n HT40 (SISO), PN9, antenna :1, worst data mode :3 (MCS)



**UL Japan, Inc.**

**Shonan EMC Lab.**

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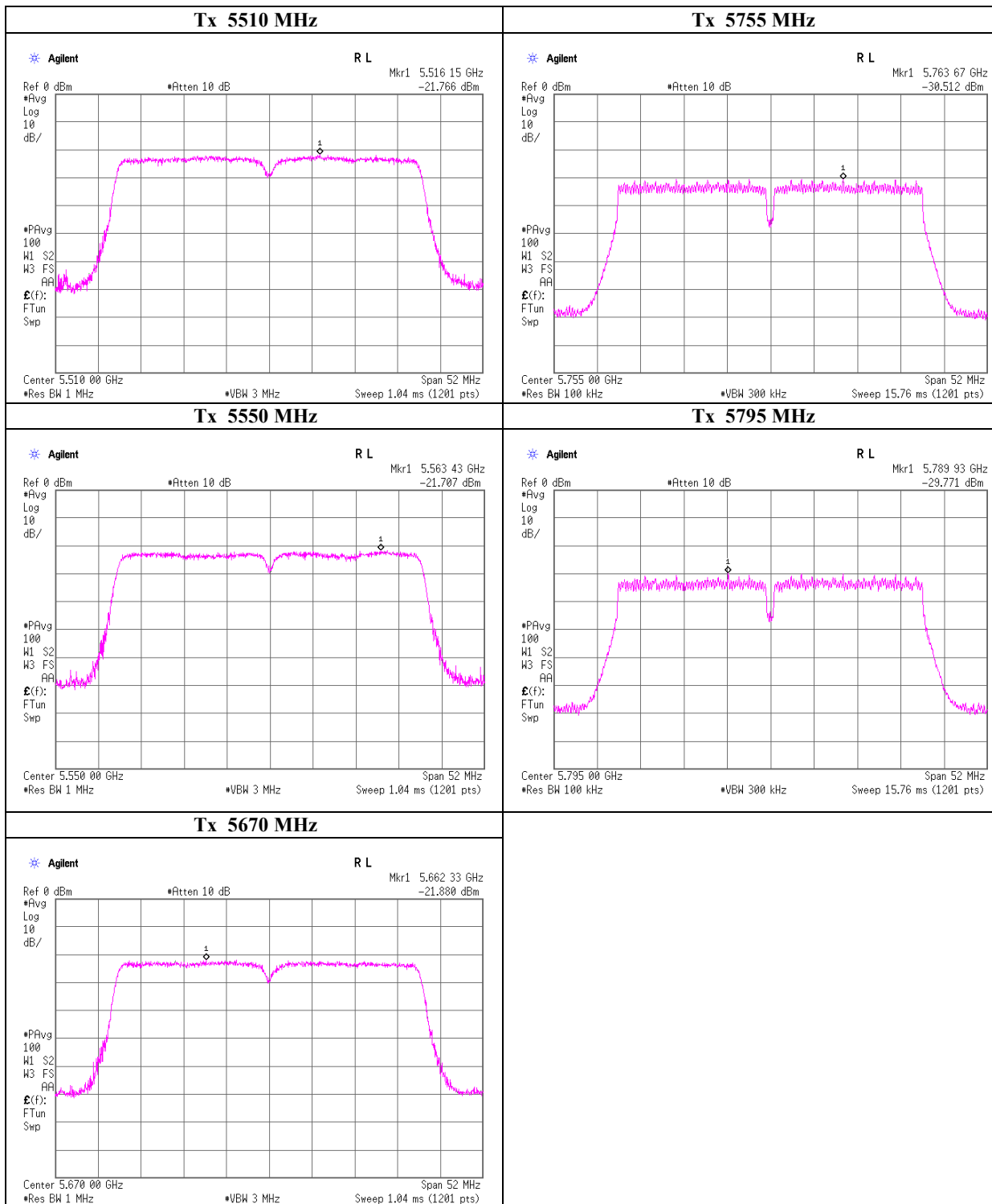
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 19, 2021  
 Temperature / Humidity   25 degC     , 40 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11n HT40 (SISO), PN9, antenna :1, worst data mode :3 (MCS)



UL Japan, Inc.

Shonan EMC Lab.

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Facsimile : +81 463 50 6401

## Maximum Power Spectral Density

Test place                    UL Japan, Inc. Shonan EMC Lab.                    No.1 Measurement Room  
 Date                         January 19, 2021  
 Temperature / Humidity    25 deg.C , 40 %RH  
 Engineer                    Takahiro Kawakami  
 Mode                        Tx, IEEE802.11ac-40 (SISO), PN9,                    antenna :                    0    worst data mode :                    4 (MCS)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-22.34	2.97	9.94	2.15	4.04	0.00	-7.28	11.00	18.28	-3.24	17.00	20.24
-	-	-	-	-	-	-	-	-	-	-	-	-
5230	-22.18	2.97	9.94	2.15	4.04	0.00	-7.12	11.00	18.12	-3.08	17.00	20.08
5270	-22.54	2.98	9.94	2.15	4.04	0.00	-7.47	11.00	18.47	-3.43	17.00	20.43
-	-	-	-	-	-	-	-	-	-	-	-	-
5310	-22.43	2.98	9.94	2.15	4.04	0.00	-7.36	11.00	18.36	-3.32	17.00	20.32
5510	-22.53	3.00	9.94	2.15	4.04	0.00	-7.44	11.00	18.44	-3.40	17.00	20.40
5550	-22.23	3.00	9.94	2.15	4.04	0.00	-7.14	11.00	18.14	-3.10	17.00	20.10
5670	-22.19	3.01	9.94	2.15	4.04	0.00	-7.09	11.00	18.09	-3.05	17.00	20.05
5755	-30.86	3.02	9.94	2.15	4.04	6.99	-8.76	30.00	38.76	-4.72	36.00	40.72
-	-	-	-	-	-	-	-	-	-	-	-	-
5795	-30.81	3.02	9.94	2.15	4.04	6.99	-8.71	30.00	38.71	-4.67	36.00	40.67

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor =  $10 \times \log ( 500 \text{ [kHz]} / 100 \text{ [kHz]} )$

**UL Japan, Inc.**

**Shonan EMC Lab.**

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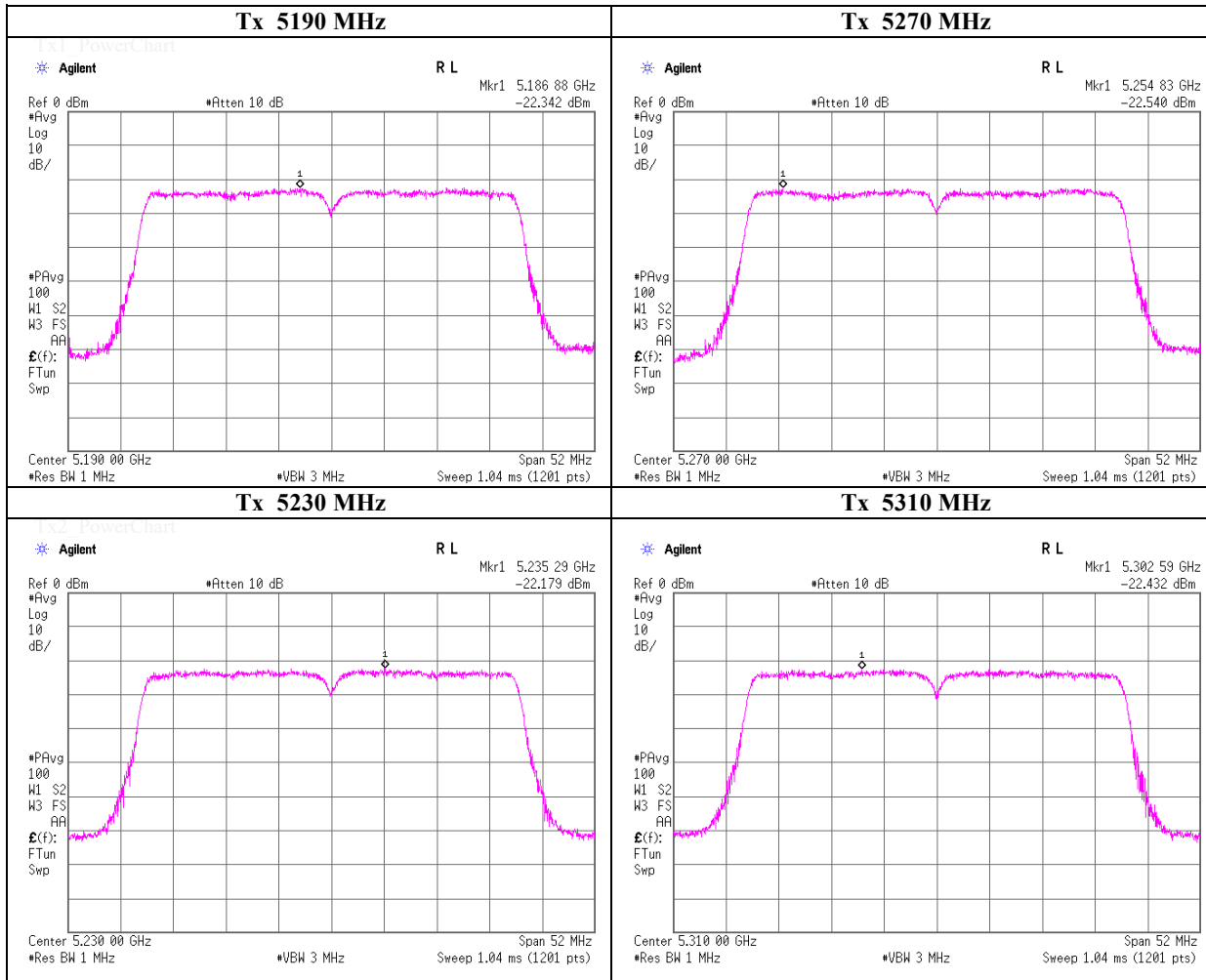
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 19, 2021  
 Temperature / Humidity   25 degC     , 40 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11ac VHT40 (SISO), PN9, antenna :0, worst data mode :4 (MCS)



**UL Japan, Inc.**

**Shonan EMC Lab.**

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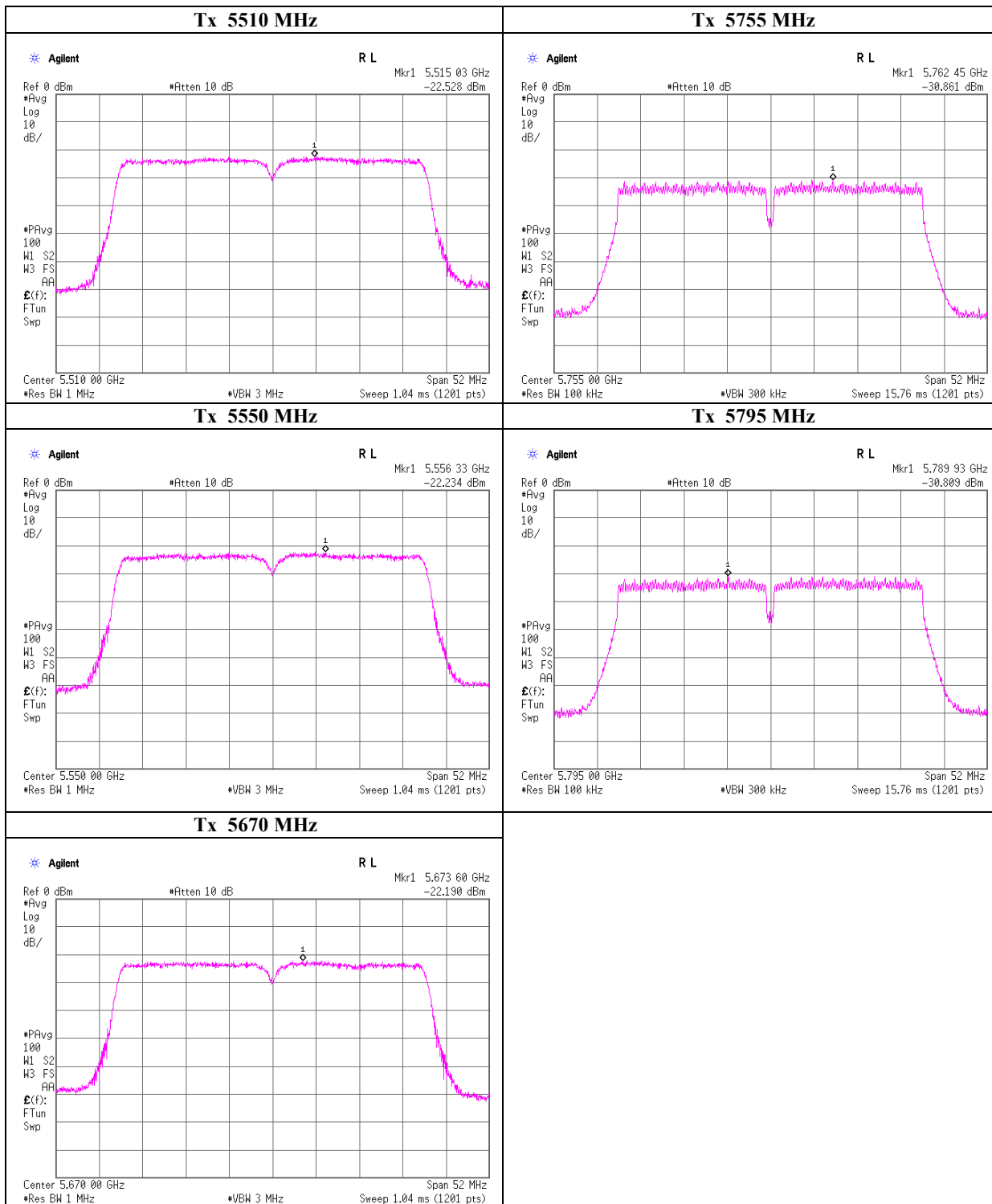
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place            UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                    January 19, 2021  
 Temperature / Humidity    25 degC    , 40 %RH  
 Engineer                Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11ac VHT40 (SISO), PN9, antenna :0, worst data mode :4 (MCS)



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## Maximum Power Spectral Density

Test place                   UL Japan, Inc. Shonan EMC Lab.                   No.1 Measurement Room  
 Date                            January 19, 2021  
 Temperature / Humidity   25 deg.C , 40 %RH  
 Engineer                    Takahiro Kawakami  
 Mode                         Tx, IEEE802.11ac-40 (SISO), PN9,                   antenna :           1    worst data mode :           3 (MCS)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-22.50	2.97	9.94	1.70	2.51	0.00	-7.89	11.00	18.89	-5.38	17.00	22.38
-	-	-	-	-	-	-	-	-	-	-	-	-
5230	-21.74	2.97	9.94	1.70	2.51	0.00	-7.13	11.00	18.13	-4.62	17.00	21.62
5270	-21.90	2.98	9.94	1.70	2.51	0.00	-7.28	11.00	18.28	-4.77	17.00	21.77
-	-	-	-	-	-	-	-	-	-	-	-	-
5310	-22.30	2.98	9.94	1.70	2.51	0.00	-7.68	11.00	18.68	-5.17	17.00	22.17
5510	-21.56	3.00	9.94	1.70	2.51	0.00	-6.92	11.00	17.92	-4.41	17.00	21.41
5550	-21.44	3.00	9.94	1.70	2.51	0.00	-6.80	11.00	17.80	-4.29	17.00	21.29
5670	-21.60	3.01	9.94	1.70	2.51	0.00	-6.95	11.00	17.95	-4.44	17.00	21.44
5755	-29.76	3.02	9.94	1.70	2.51	6.99	-8.11	30.00	38.11	-5.60	36.00	41.60
-	-	-	-	-	-	-	-	-	-	-	-	-
5795	-29.83	3.02	9.94	1.70	2.51	6.99	-8.18	30.00	38.18	-5.67	36.00	41.67

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor =  $10 * \log ( 500 [\text{kHz}] / 100 [\text{kHz}] )$

**UL Japan, Inc.**

**Shonan EMC Lab.**

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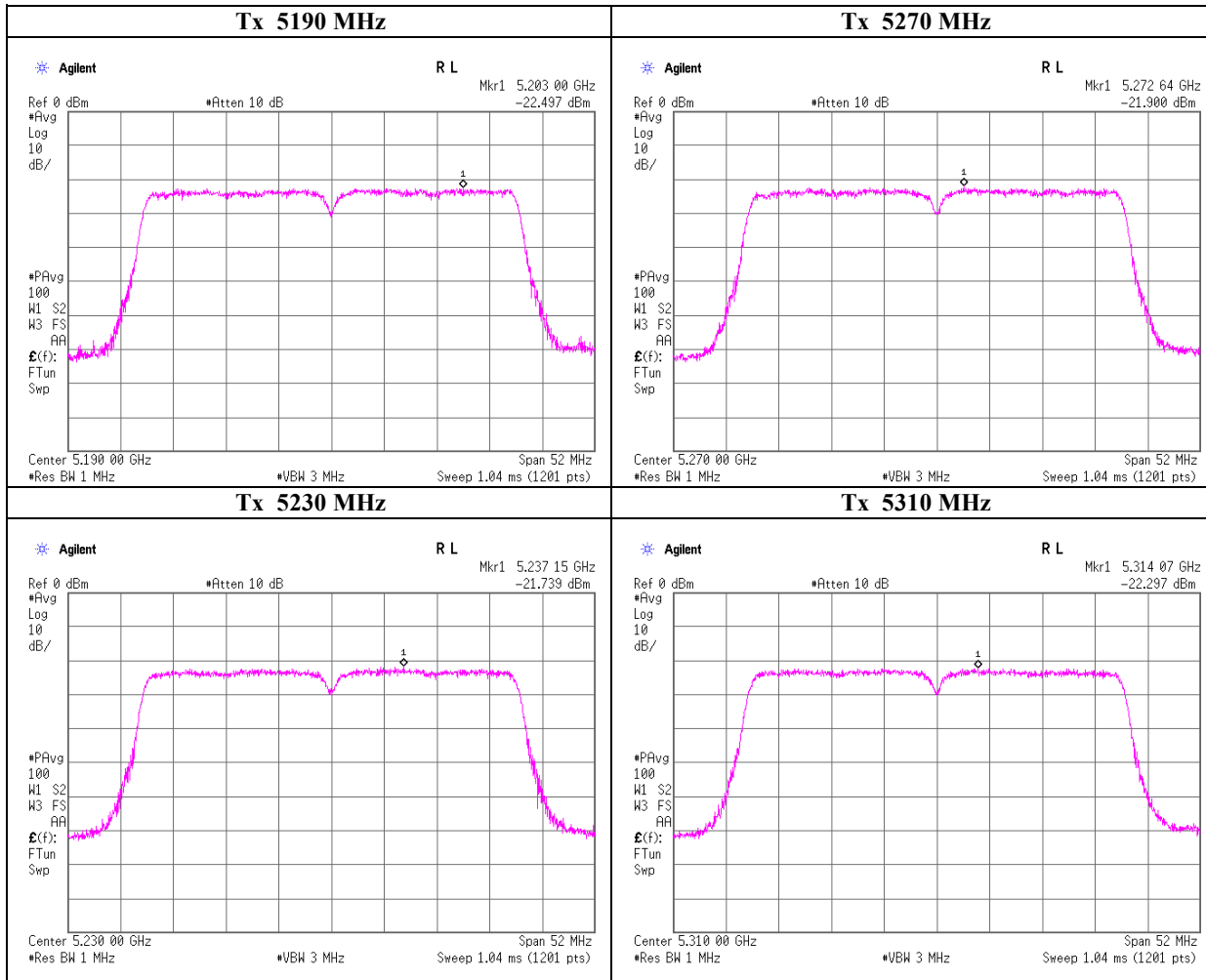
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 19, 2021  
 Temperature / Humidity   25 degC     , 40 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11ac VHT40 (SISO), PN9, antenna :1, worst data mode :3 (MCS)



**UL Japan, Inc.**

**Shonan EMC Lab.**

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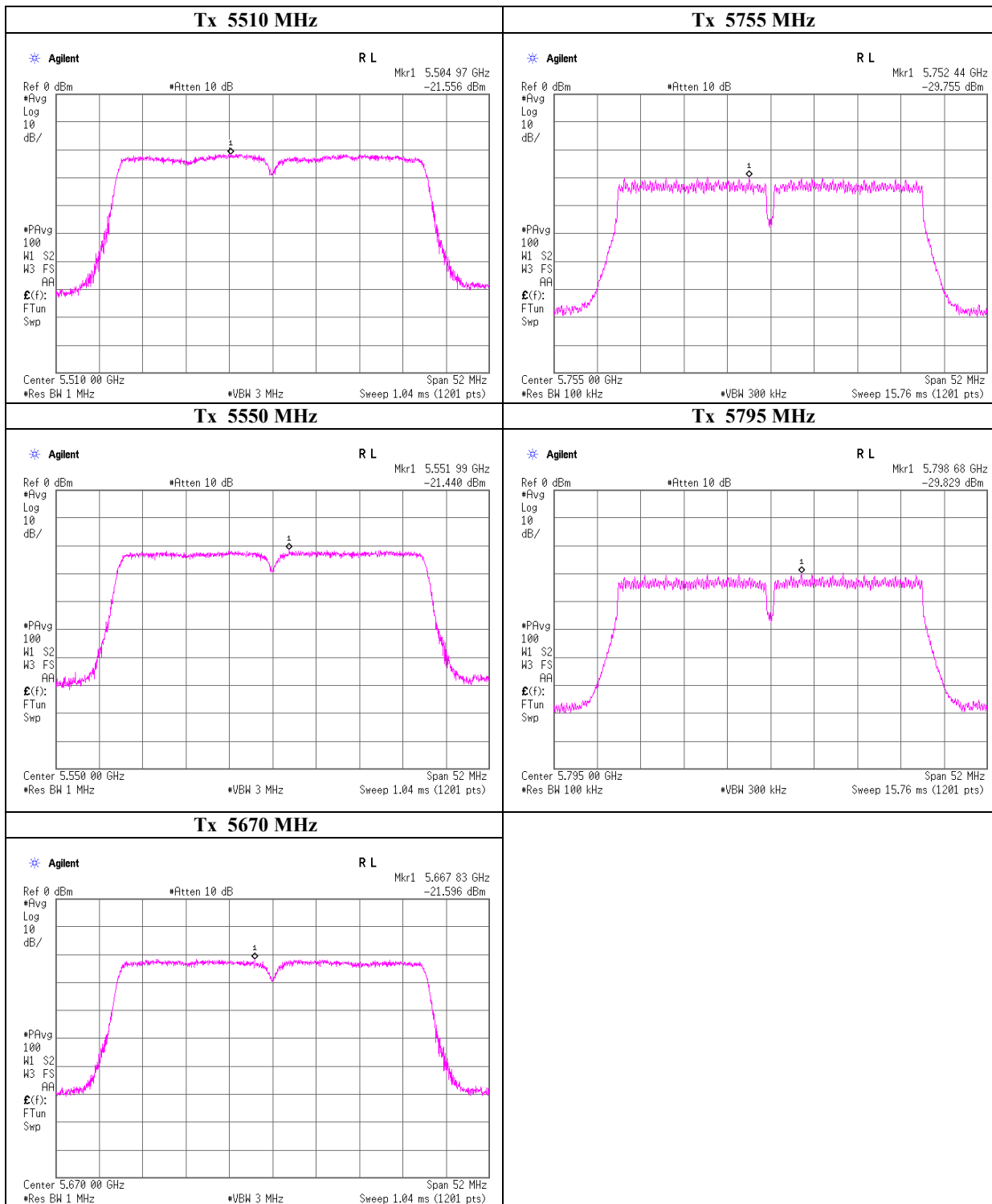
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 19, 2021  
 Temperature / Humidity   25 degC     , 40 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11ac VHT40 (SISO), PN9, antenna :1, worst data mode :3 (MCS)



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**Shonan EMC Lab.**

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## Maximum Power Spectral Density

Test place: UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date: January 19, 2021  
 Temperature / Humidity: 25 deg.C , 40 %RH  
 Engineer: Takahiro Kawakami  
 Mode: Tx, IEEE802.11n-40 (MIMO), PN9 worst data mode : 14 (MCS)

**Antenna: 0 + 1**

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	1 [mW/MHz]	Antenna 2 [mW/MHz]	Sum [mW/MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]	1 [mW/MHz]	Antenna 2 [mW/MHz]	Sum [mW/MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5190	0.17	0.19	0.36	-4.49	11.00	15.49	0.43	0.33	0.76	-1.18	17.00	18.18
-	-	-	-	-	-	-	-	-	-	-	-	-
5230	0.18	0.15	0.33	-4.86	11.00	15.86	0.46	0.26	0.72	-1.44	17.00	18.44
5270	0.19	0.21	0.40	-3.95	11.00	14.95	0.48	0.38	0.86	-0.65	17.00	17.65
-	-	-	-	-	-	-	-	-	-	-	-	-
5310	0.18	0.21	0.40	-4.02	11.00	15.02	0.47	0.38	0.84	-0.73	17.00	17.73
5510	0.15	0.24	0.39	-4.14	11.00	15.14	0.38	0.42	0.80	-0.97	17.00	17.97
5550	0.18	0.22	0.40	-3.97	11.00	14.97	0.46	0.39	0.85	-0.70	17.00	17.70
5670	0.15	0.23	0.38	-4.15	11.00	15.15	0.39	0.41	0.80	-0.97	17.00	17.97
5755	0.16	0.20	0.36	-4.47	30.00	34.47	0.40	0.36	0.76	-1.22	36.00	37.22
-	-	-	-	-	-	-	-	-	-	-	-	-
5795	0.15	0.23	0.38	-4.17	30.00	34.17	0.39	0.41	0.80	-0.98	36.00	36.98

Tested Frequency [MHz]	Duty Factor [dB]	RBW Correction Factor [dB]	Antenna: 0				Antenna: 1				PSD Result			
			PSD Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	PSD Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Cond. [dBm/MHz]	e.i.r.p. [dBm/MHz]		
5190	3.51	0.00	-24.13	2.97	9.94	4.04	-7.71	-3.67	-23.72	2.97	9.94	2.51	-7.30	-4.79
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5230	3.51	0.00	-23.84	2.97	9.94	4.04	-7.42	-3.38	-24.80	2.97	9.94	2.51	-8.38	-5.87
5270	3.51	0.00	-23.67	2.98	9.94	4.04	-7.24	-3.20	-23.12	2.98	9.94	2.51	-6.69	-4.18
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5310	3.51	0.00	-23.78	2.98	9.94	4.04	-7.35	-3.31	-23.17	2.98	9.94	2.51	-6.74	-4.23
5510	3.51	0.00	-24.69	3.00	9.94	4.04	-8.24	-4.20	-22.73	3.00	9.94	2.51	-6.28	-3.77
5550	3.51	0.00	-23.87	3.00	9.94	4.04	-7.42	-3.38	-23.03	3.00	9.94	2.51	-6.58	-4.07
5670	3.51	0.00	-24.64	3.01	9.94	4.04	-8.18	-4.14	-22.80	3.01	9.94	2.51	-6.34	-3.83
5755	3.51	6.99	-31.51	3.02	9.94	4.04	-8.05	-4.01	-30.43	3.02	9.94	2.51	-6.97	-4.46
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5795	3.51	6.99	-31.58	3.02	9.94	4.04	-8.12	-4.08	-29.87	3.02	9.94	2.51	-6.41	-3.90

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor = 10 x log ( 500 [kHz] / 100 [kHz] )

**UL Japan, Inc.**

**Shonan EMC Lab.**

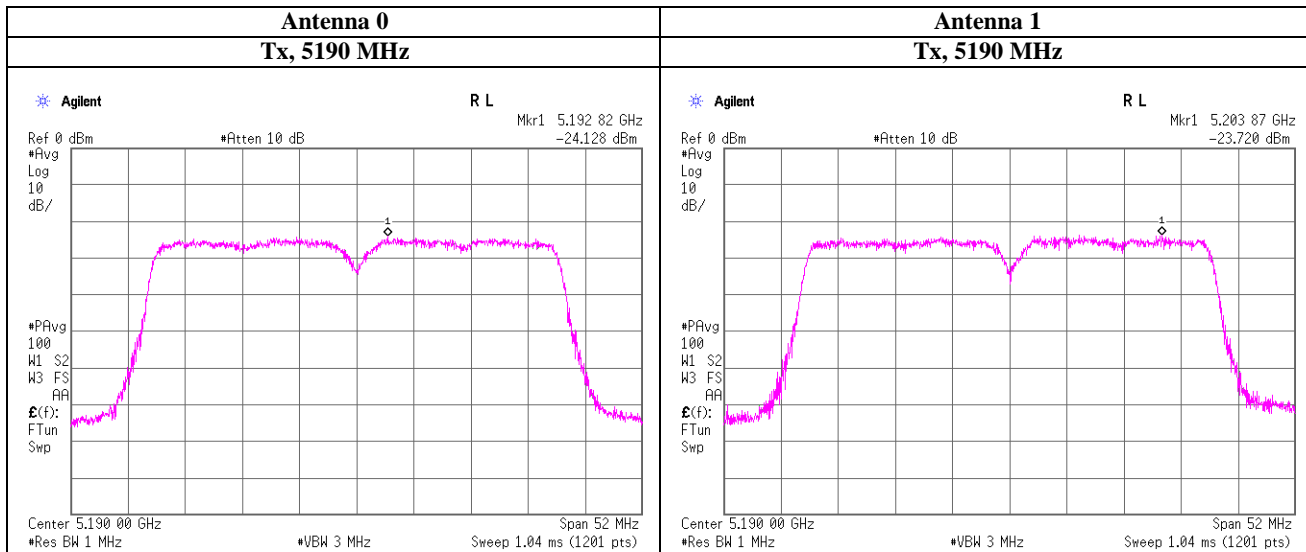
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

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Facsimile : +81 463 50 6401

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 19, 2021  
 Temperature / Humidity 25 deg.C , 40 %RH  
 Engineer Takahiro Kawakami

**Maximum Power Spectral Density**



**UL Japan, Inc.**

**Shonan EMC Lab.**

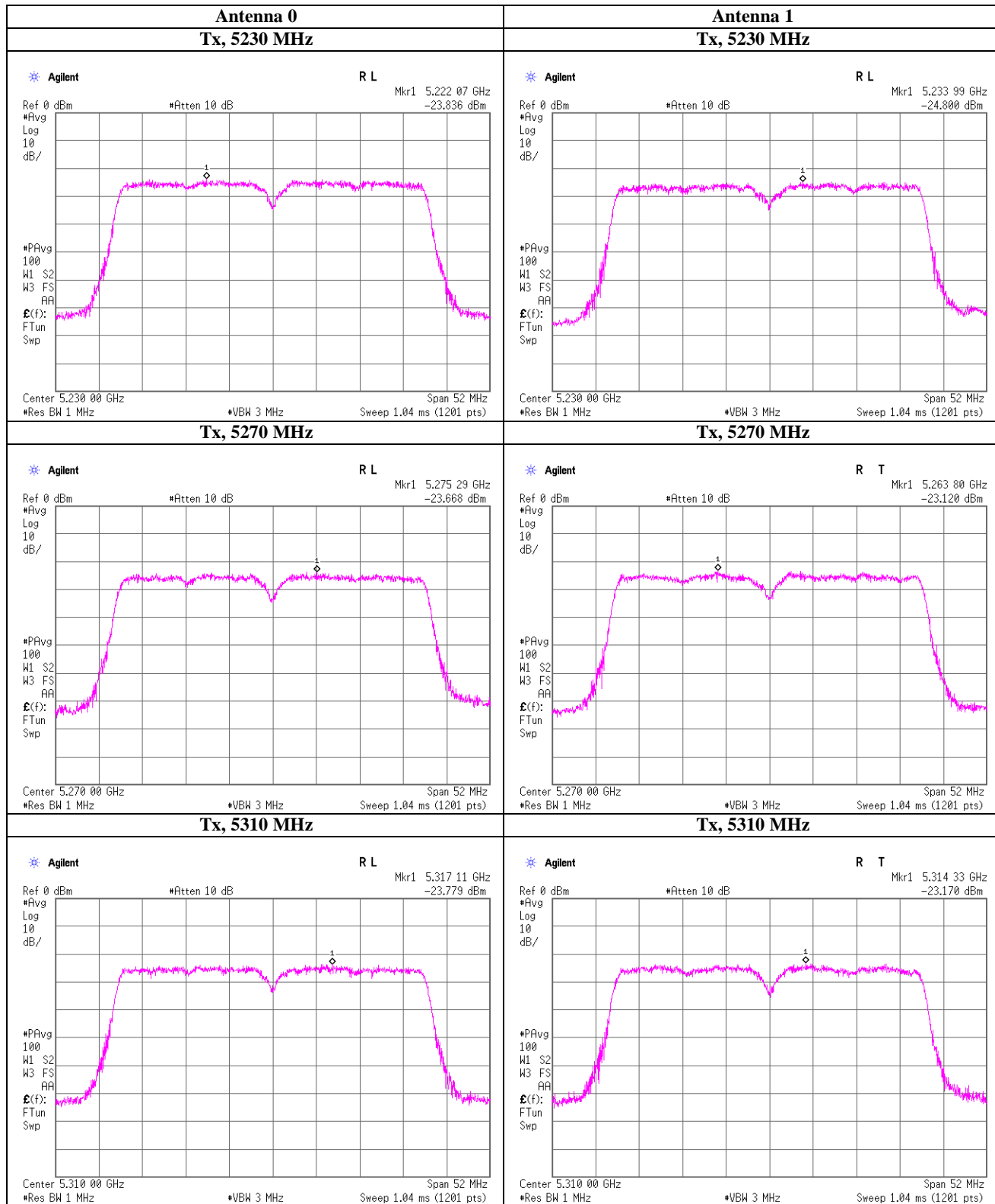
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Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
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 Temperature / Humidity   25 deg.C     , 40 %RH  
 Engineer             Takahiro Kawakami

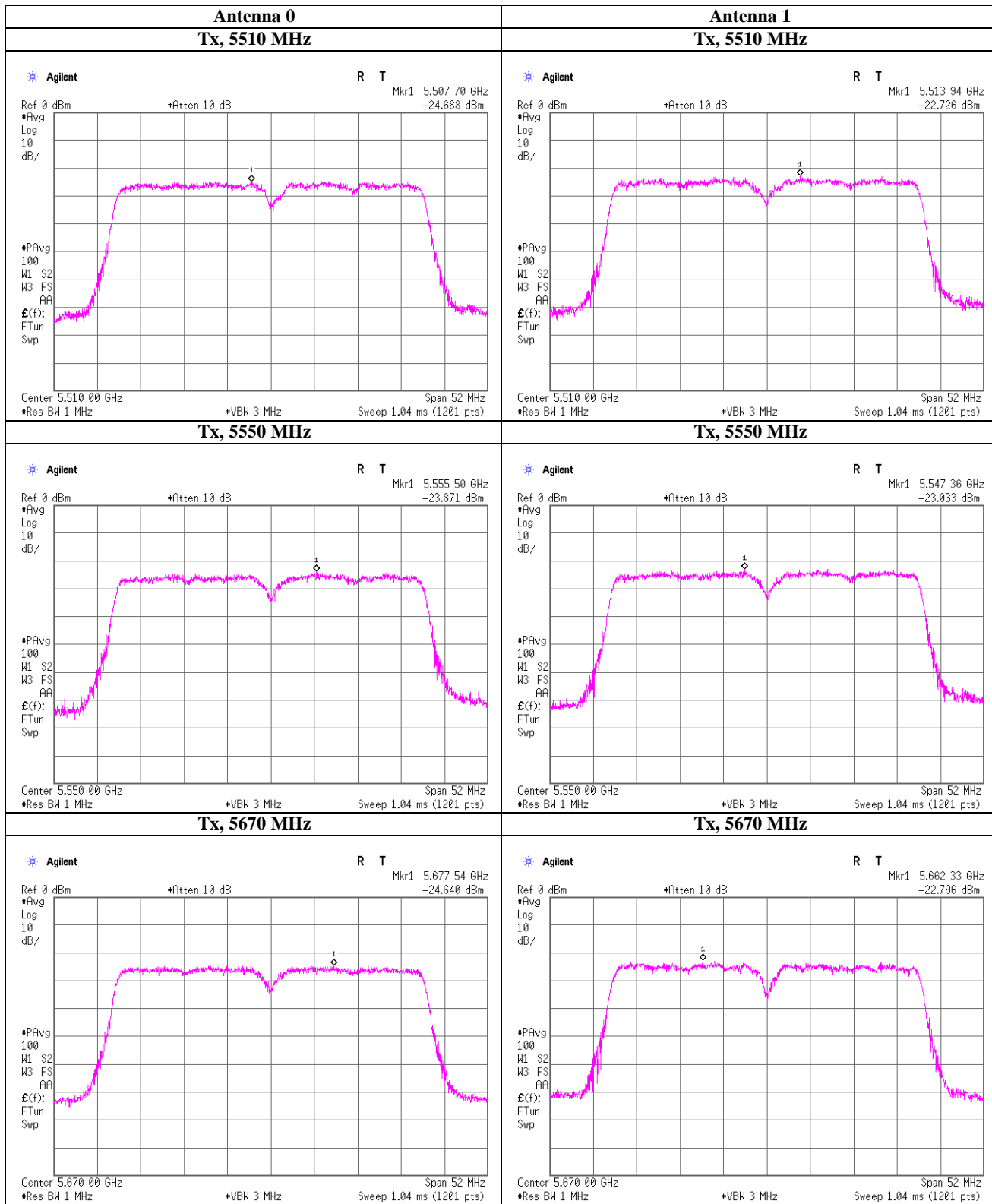
### Maximum Power Spectral Density



**UL Japan, Inc.**  
**Shonan EMC Lab.**  
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 Temperature / Humidity 25 deg.C , 40 %RH  
 Engineer Takahiro Kawakami

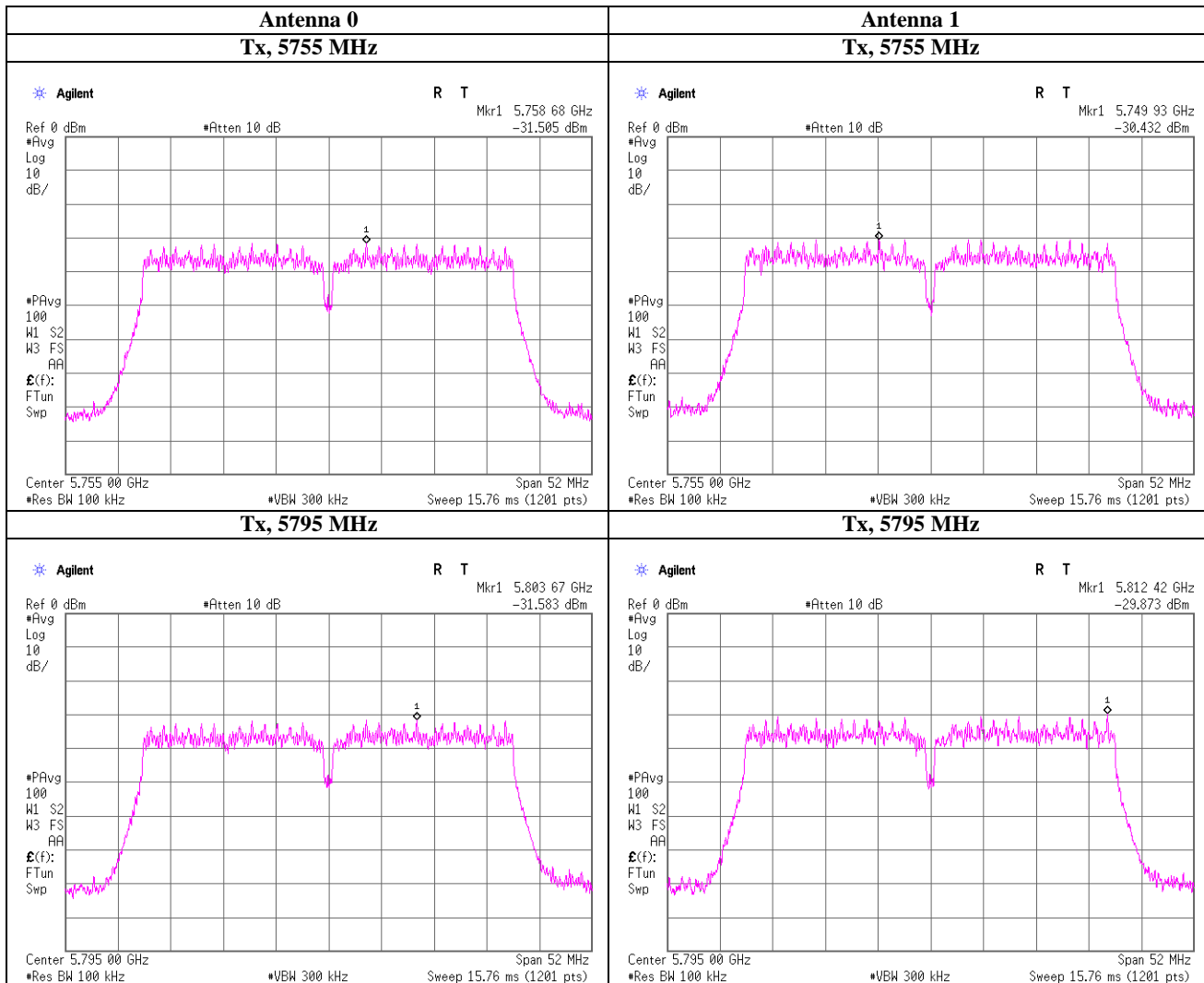
### Maximum Power Spectral Density



**UL Japan, Inc.**  
**Shonan EMC Lab.**  
 1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN  
 Telephone : +81 463 50 6400  
 Facsimile : +81 463 50 6401

Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 19, 2021  
 Temperature / Humidity 25 deg.C , 40 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density



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### Maximum Power Spectral Density

Test place: UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room
Date: January 19, 2021
Temperature / Humidity: 25 deg.C, 40 %RH
Engineer: Takahiro Kawakami
Mode: Tx, IEEE802.11ac-40 (MIMO), PN9, worst data mode : 5 (MCS)

Antenna: 0 + 1

Applied limit: 15.407, mobile and portable client device

Table with columns: Tested Frequency, Antenna 1, Antenna 2, Sum, Result, Limit, Margin for PSD (Conducted) and PSD (e.i.r.p.). Rows include frequencies from 5190 to 5795 MHz.

Antenna: 0

Antenna: 1

Detailed table showing PSD Reading, Cable Loss, Atten. Loss, Antenna Gain, and PSD Result (Cond. and e.i.r.p.) for Antenna 0 and Antenna 1 across various frequencies.

Sample Calculation:

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 (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

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

RBW Correction Factor = 10 x log ( 500 [kHz] / 100 [kHz] )

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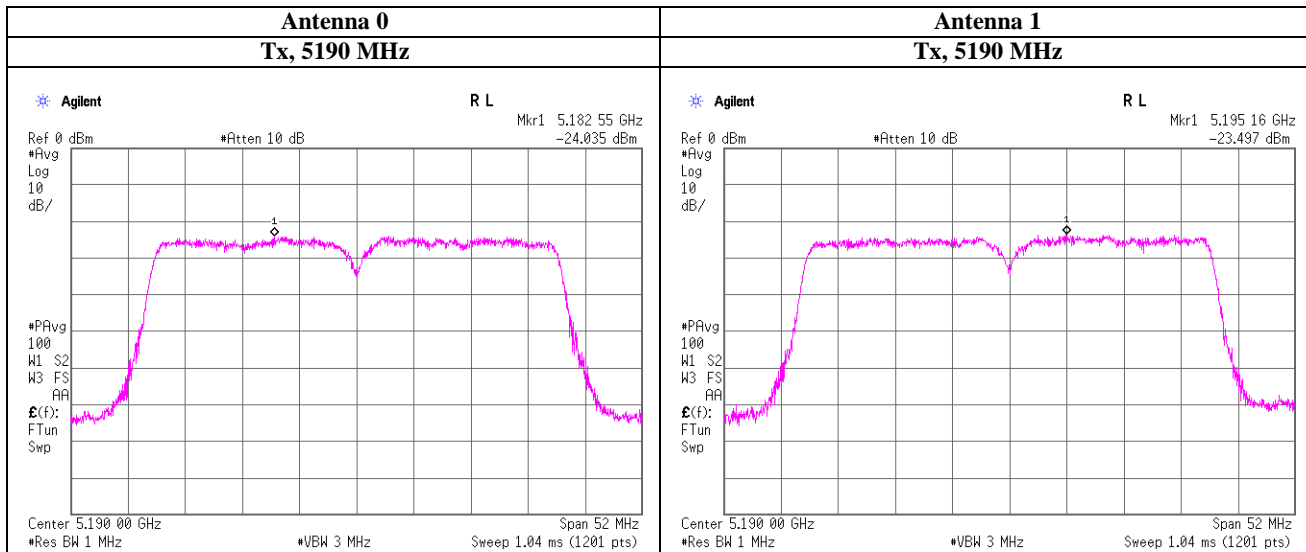
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

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Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 19, 2021  
 Temperature / Humidity 25 deg.C , 40 %RH  
 Engineer Takahiro Kawakami

**Maximum Power Spectral Density**



Tx2\_DensityChart1

Tx2\_Densitychart2

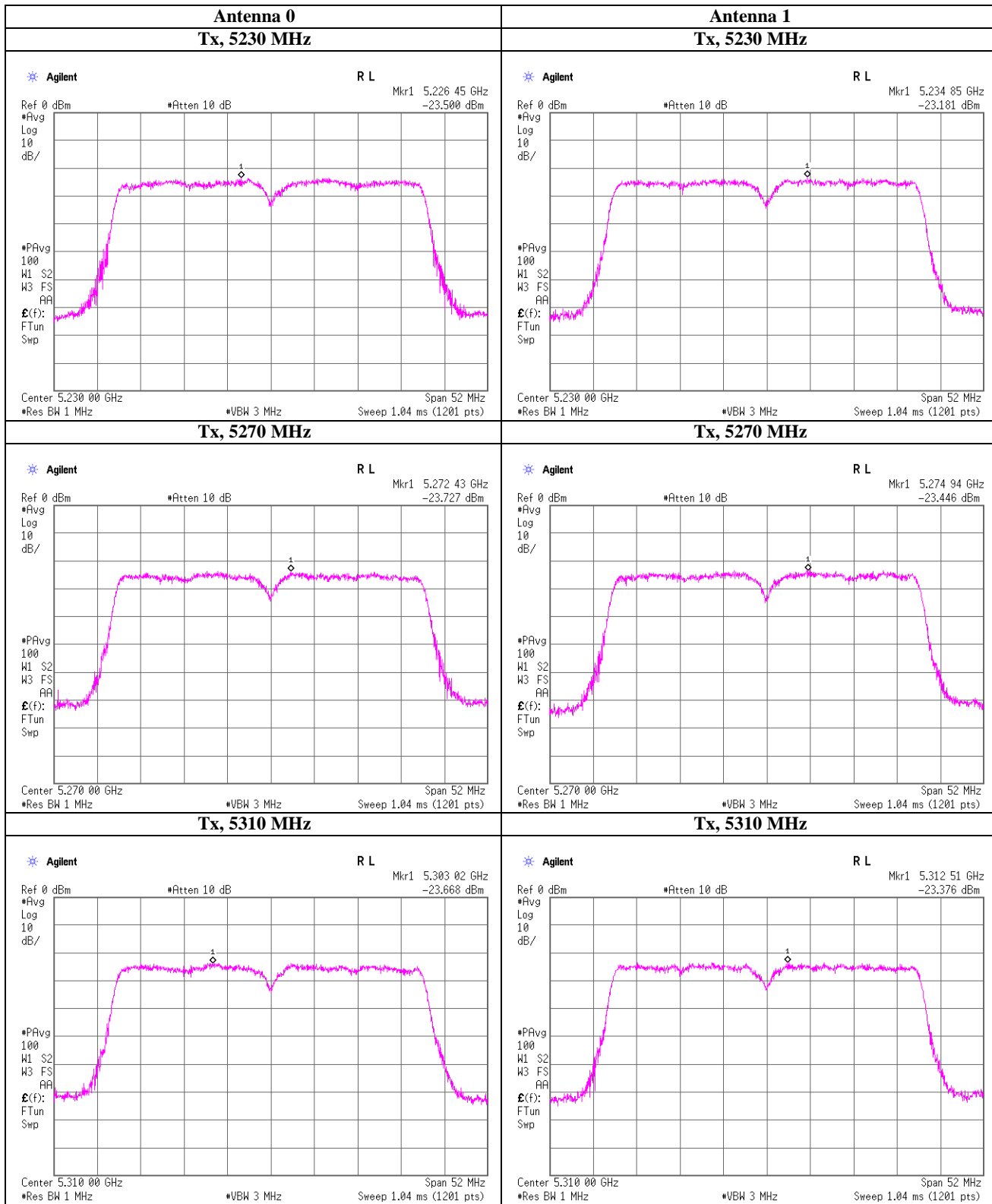
Tx3\_DensityChart1

Tx3\_DensityChart2

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Test place           UL Japan, Inc. Shonan EMC Lab.    No.1 Measurement Room  
 Date                 January 19, 2021  
 Temperature / Humidity   25 deg.C     , 40 %RH  
 Engineer             Takahiro Kawakami

### Maximum Power Spectral Density

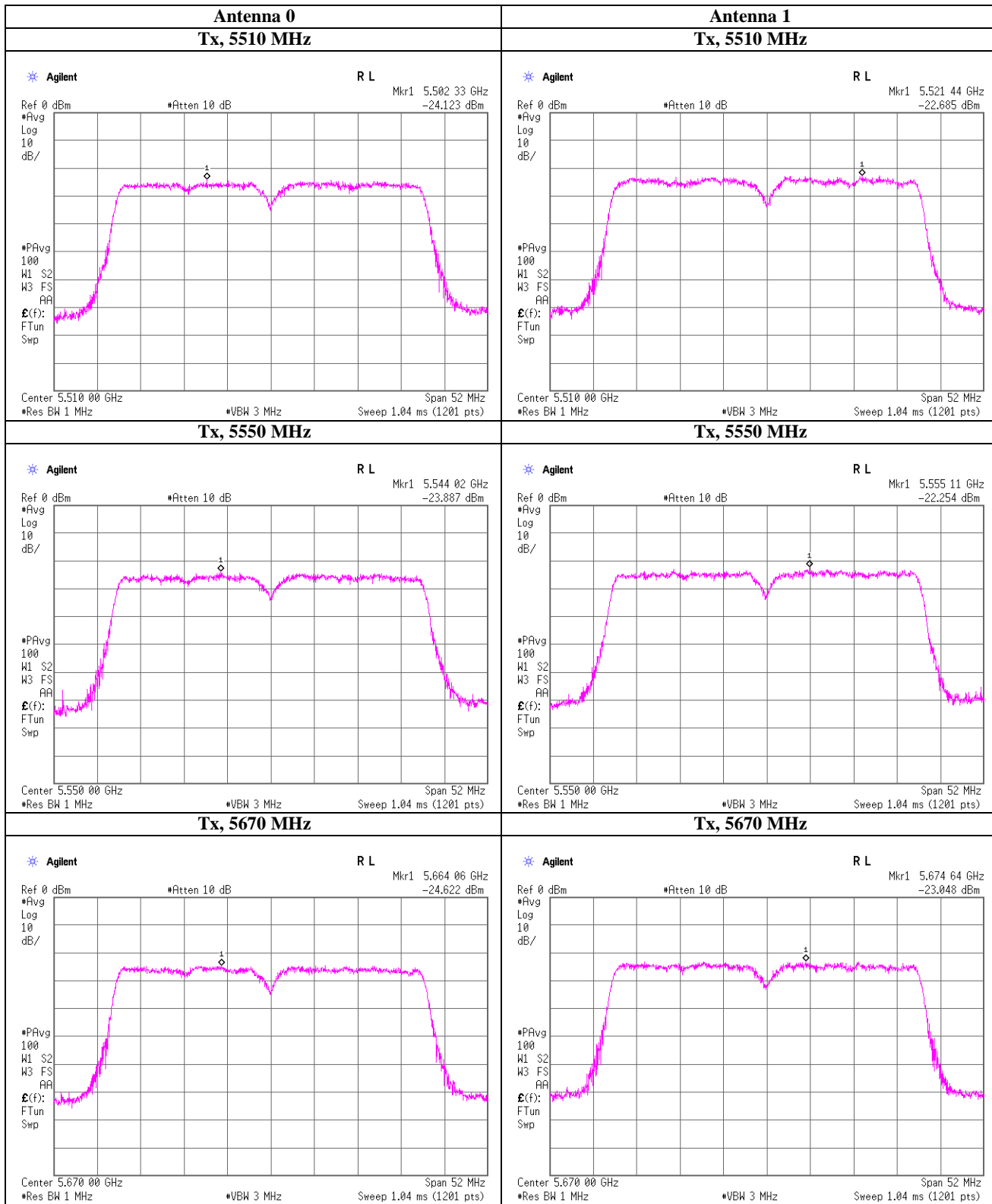


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Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
Date January 19, 2021  
Temperature / Humidity 25 deg.C , 40 %RH  
Engineer Takahiro Kawakami

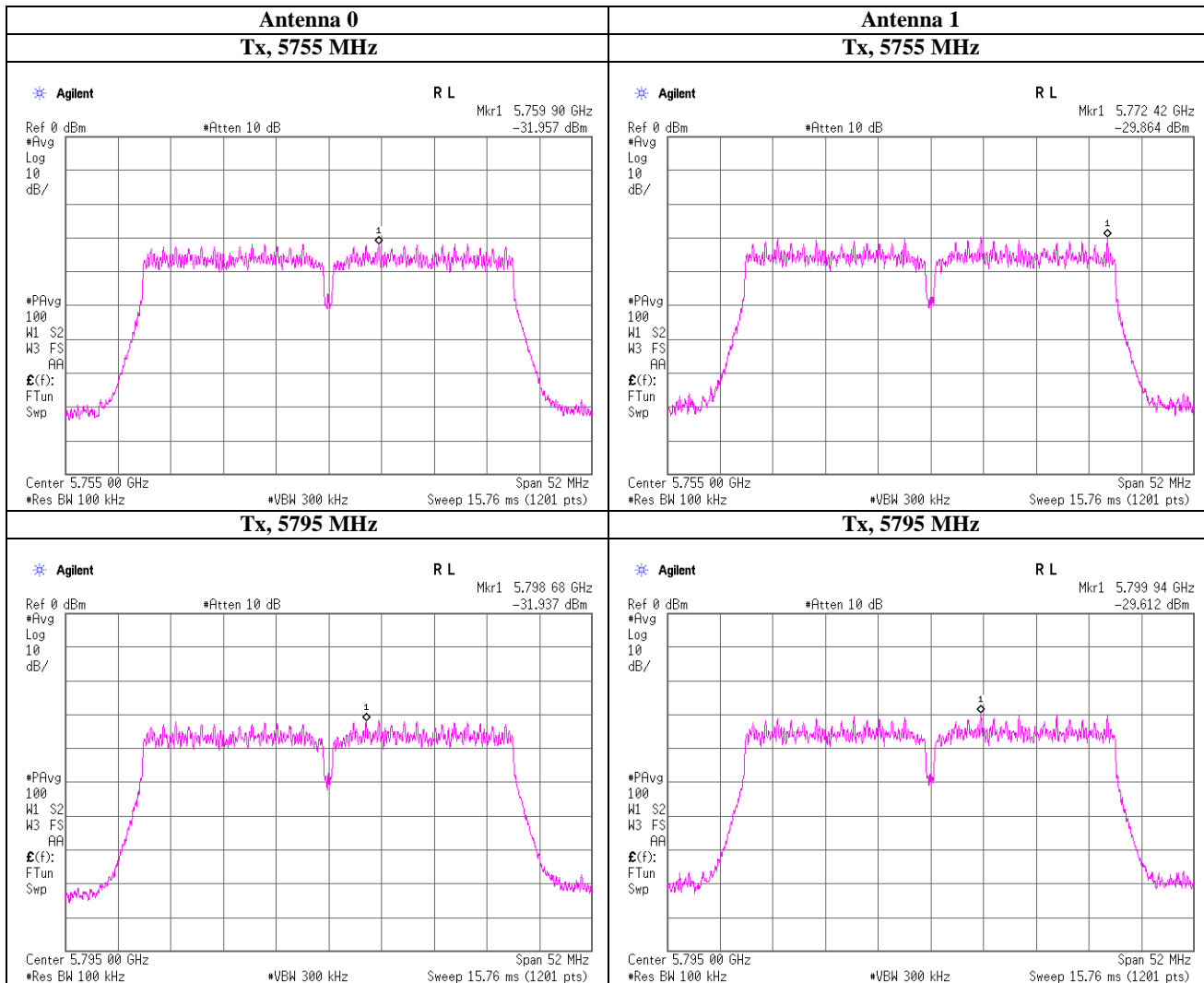
### Maximum Power Spectral Density



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Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 19, 2021  
 Temperature / Humidity 25 deg.C , 40 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density



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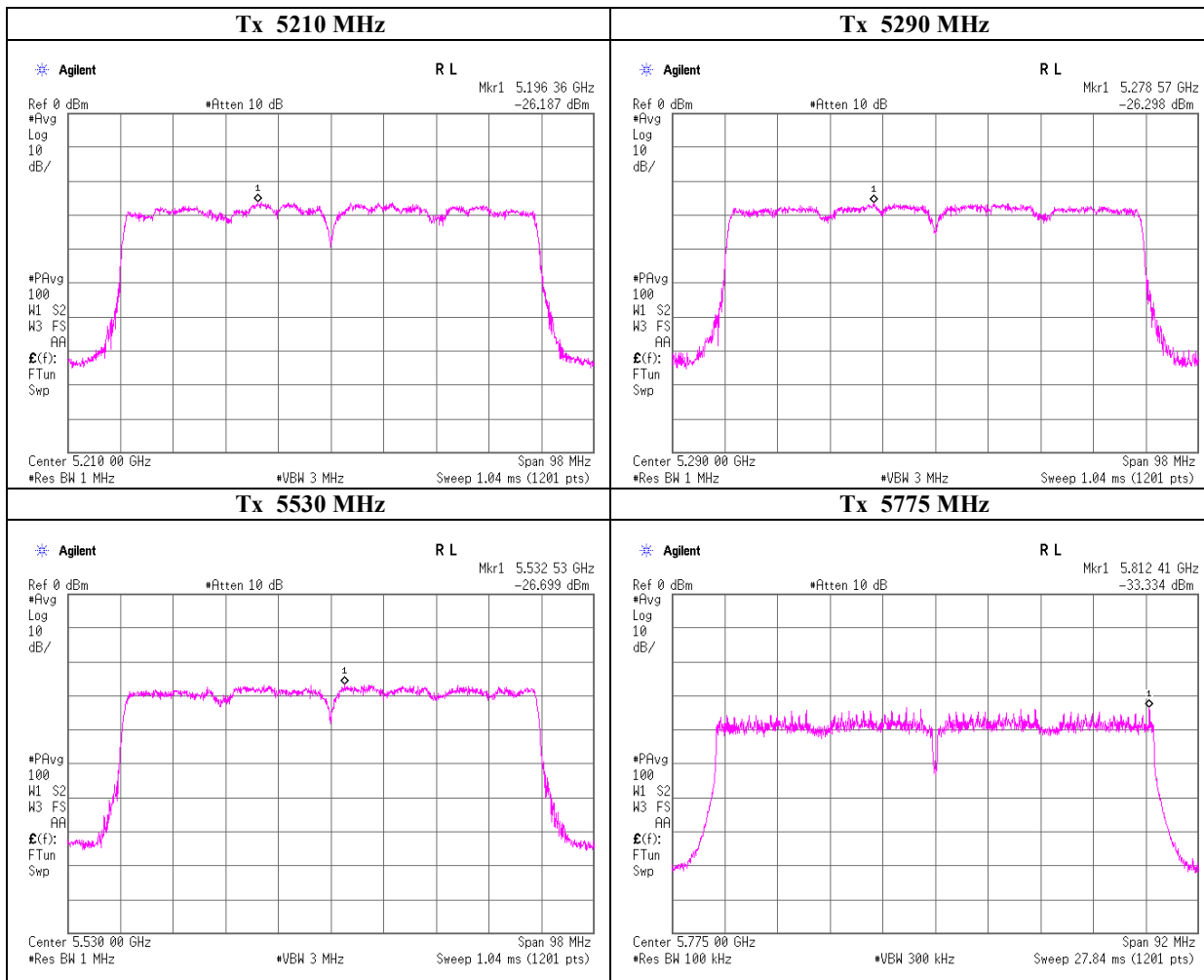
Facsimile : +81 463 50 6401



Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 20, 2021  
 Temperature / Humidity 23 deg.C , 39 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11ac-80 (SISO), PN9, antenna :0, worst data mode :4 (MCS)



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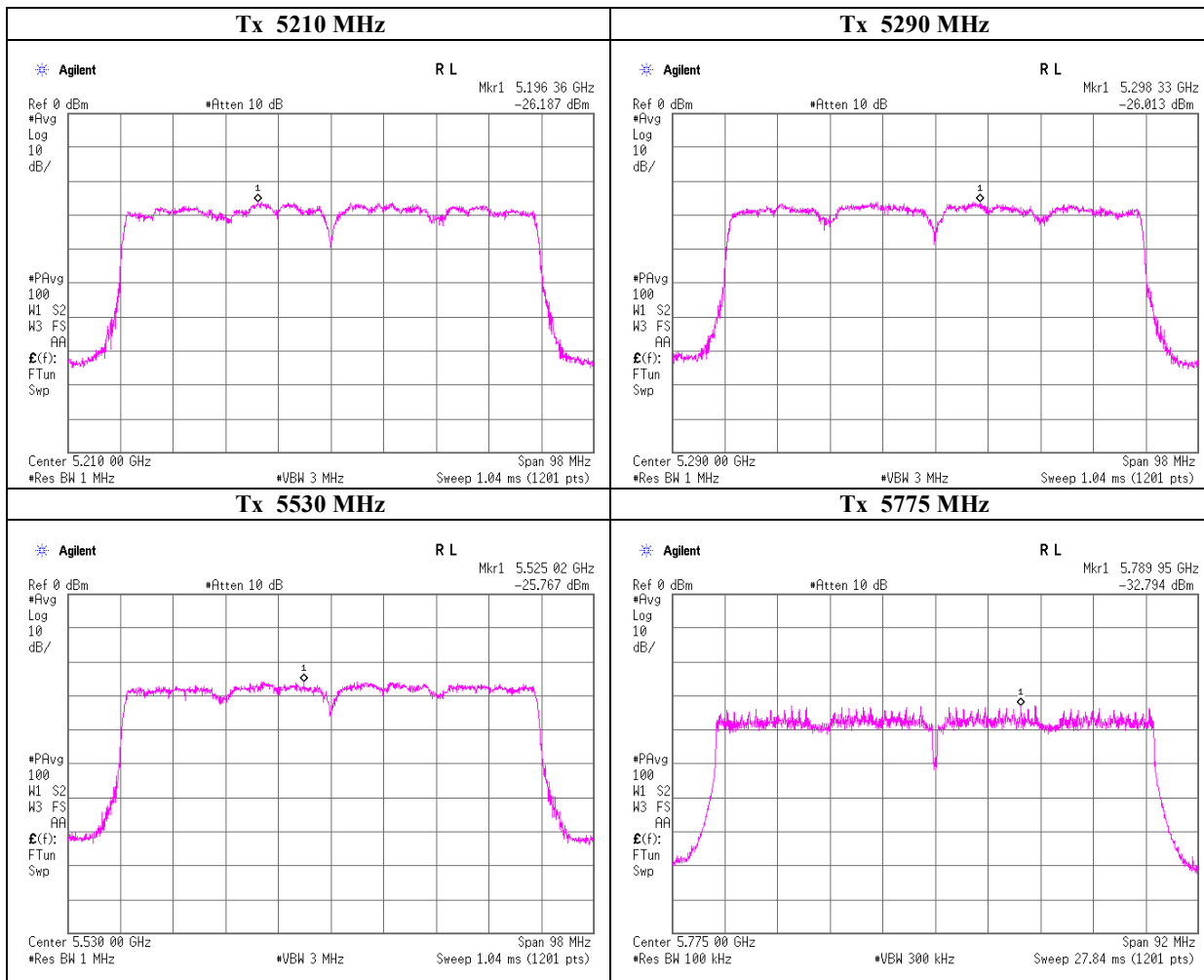
Facsimile : +81 463 50 6401



Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 20, 2021  
 Temperature / Humidity 23 deg.C , 39 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density

Tx, IEEE802.11ac-80 (SISO), PN9, antenna :1, worst data mode :4 (MCS)



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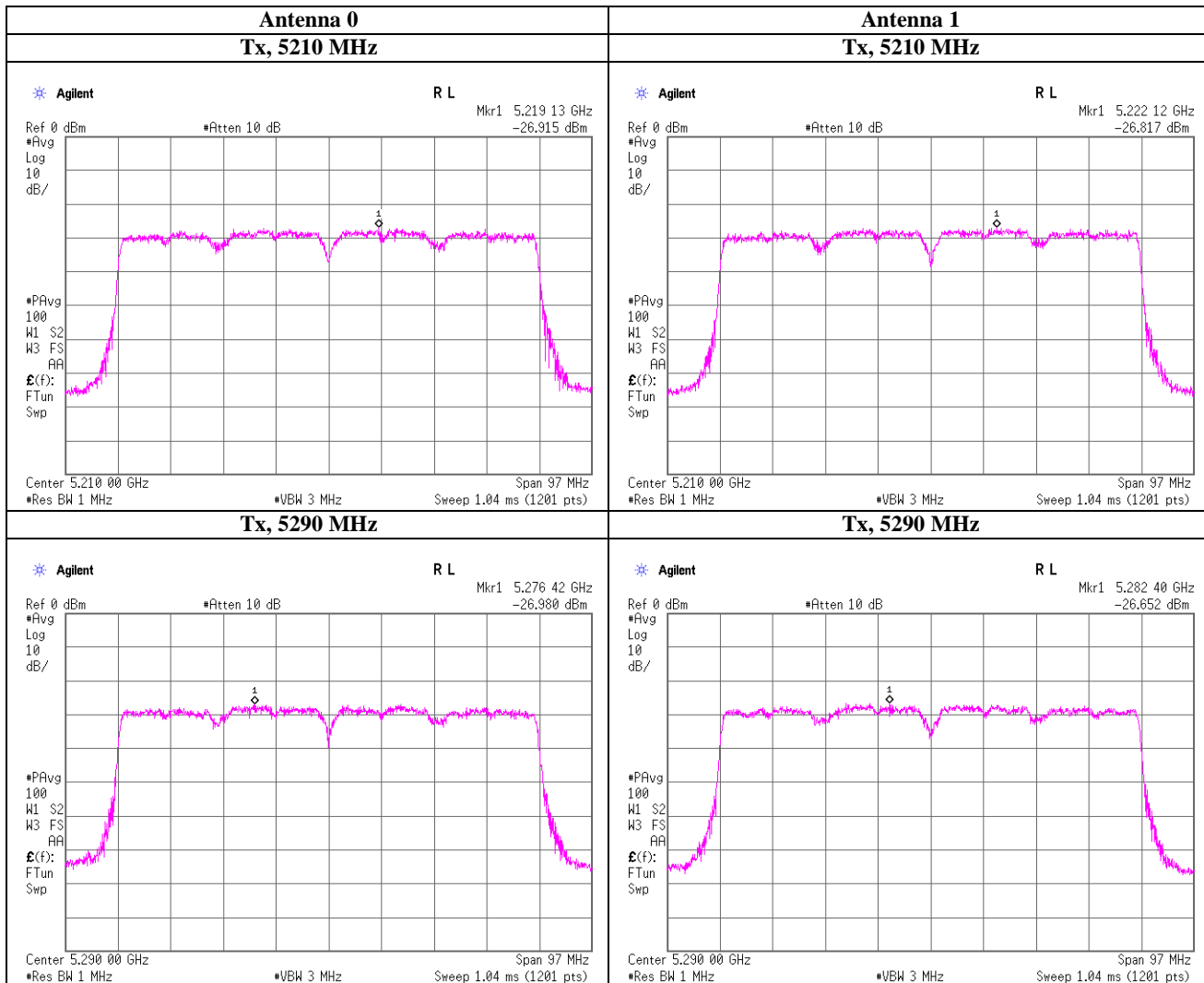
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401



Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 20, 2021  
 Temperature / Humidity 23 deg.C , 39 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density

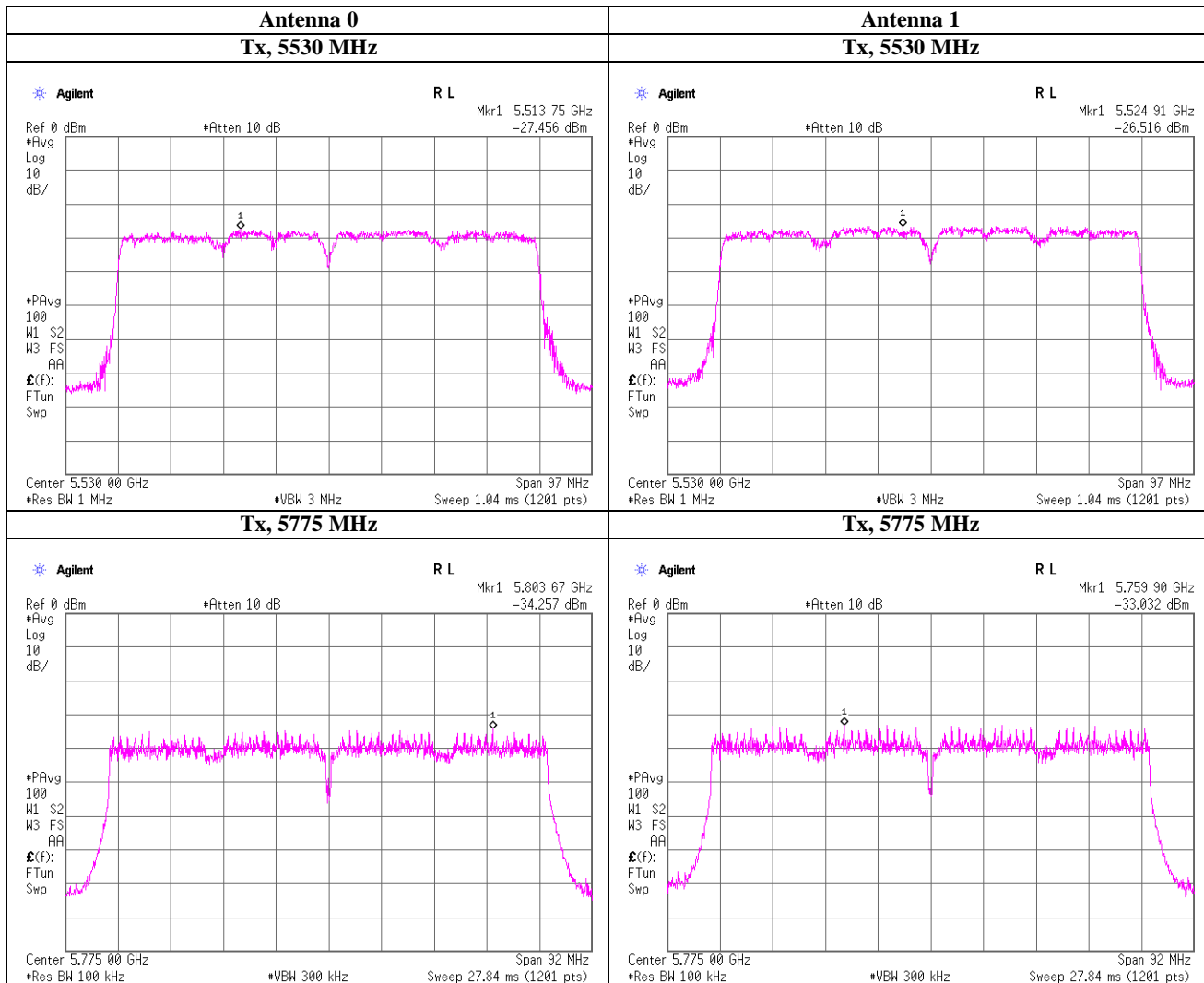


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Test place UL Japan, Inc. Shonan EMC Lab. No.1 Measurement Room  
 Date January 20, 2021  
 Temperature / Humidity 23 deg.C , 39 %RH  
 Engineer Takahiro Kawakami

### Maximum Power Spectral Density



**UL Japan, Inc.**

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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-20 (SISO) 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.	5150.000	PK	48.61	32.12	16.64	43.11	2.28	56.54	73.9	17.3	151	199	-
Hori.	5150.000	AV	39.29	32.12	16.64	43.11	2.28	47.22	53.9	<b>6.6</b>	151	199	VBW:5.6 kHz
Vert.	5150.000	PK	48.91	32.12	16.64	43.11	2.28	56.84	73.9	17.0	160	266	-
Vert.	5150.000	AV	39.21	32.12	16.64	43.11	2.28	47.14	53.9	6.7	160	266	VBW:5.6 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 :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

**UL Japan, Inc.**

**Shonan EMC Lab.**

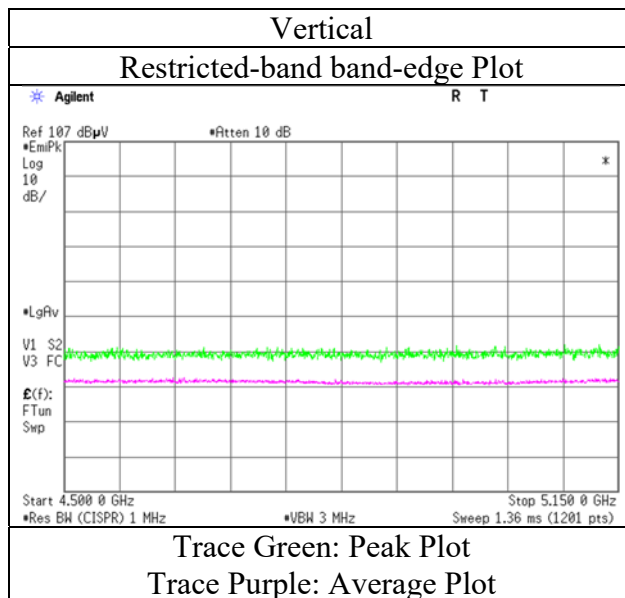
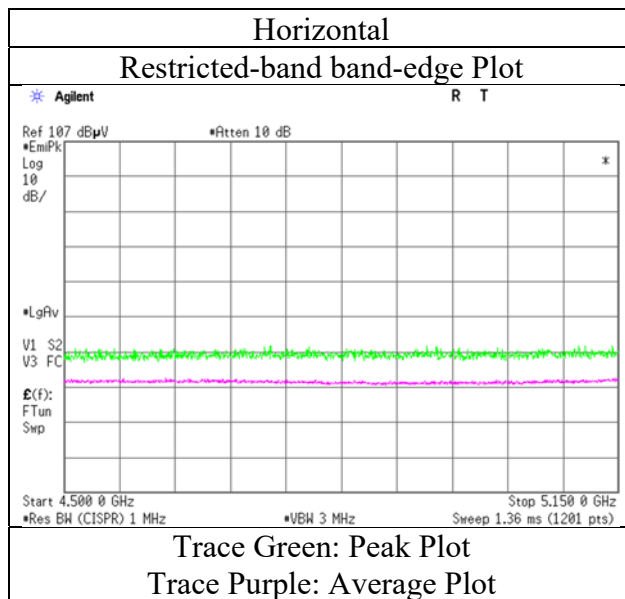
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 4, 2021
Temperature / Humidity	24 deg.C, 34 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (SISO) 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.

## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-20 (SISO) 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	50.11	31.83	16.76	43.33	2.28	57.65	73.9	16.2	141	201	-
Hori.	5350.000	AV	39.65	31.83	16.76	43.33	2.28	47.19	53.9	6.7	141	201	VBW:5.6 kHz
Vert.	5350.000	PK	50.05	31.83	16.76	43.33	2.28	57.59	73.9	16.3	138	264	-
Vert.	5350.000	AV	39.73	31.83	16.76	43.33	2.28	47.27	53.9	<b>6.6</b>	138	264	VBW:5.6 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:  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

**UL Japan, Inc.**

**Shonan EMC Lab.**

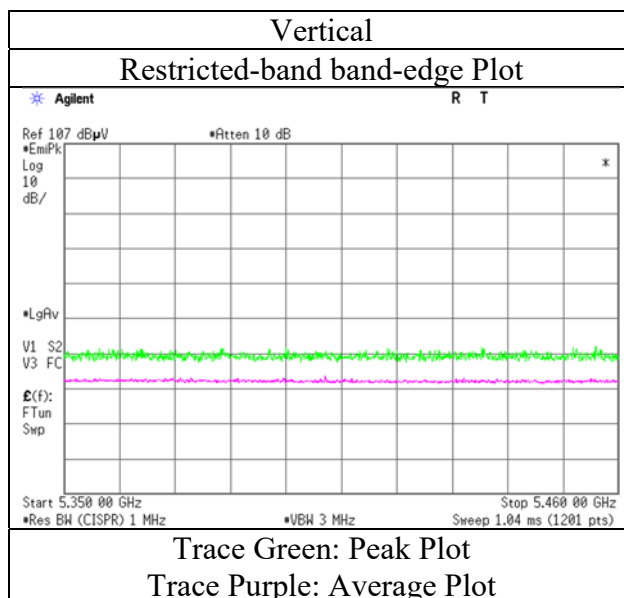
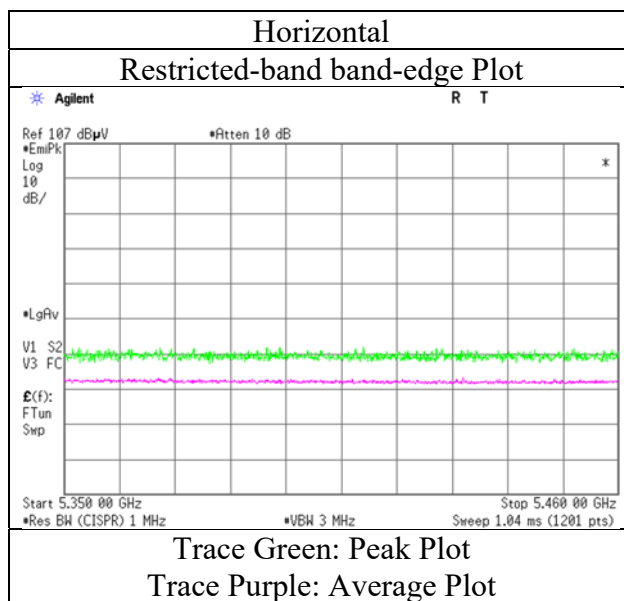
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 4, 2021
Temperature / Humidity	24 deg.C, 34 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (SISO) 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.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	23 deg.C, 30 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-20 (MIMO) 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.	5150.000	PK	49.51	32.12	16.41	43.11	2.28	57.21	73.9	16.6	107	242	-
Hori.	15540.000	PK	46.89	39.58	11.66	40.42	-9.54	48.17	73.9	25.7	150	0	-
Hori.	20720.000	PK	44.62	40.25	14.27	47.24	-9.54	42.36	73.9	31.5	153	288	-
Hori.	5150.000	AV	40.05	32.12	16.41	43.11	2.28	47.75	53.9	<b>6.1</b>	107	242	VBW:8.2 kHz
Hori.	15540.000	AV	38.02	39.58	11.66	40.42	-9.54	39.30	53.9	14.6	150	0	VBW:8.2 kHz
Hori.	20720.000	AV	36.80	40.25	14.27	47.24	-9.54	34.54	53.9	19.3	153	288	VBW:8.2 kHz
Vert.	5150.000	PK	49.72	32.12	16.41	43.11	2.28	57.42	73.9	16.4	243	265	-
Vert.	15540.000	PK	46.93	39.58	11.66	40.42	-9.54	48.21	73.9	25.6	150	0	-
Vert.	20720.000	PK	45.68	40.25	14.27	47.24	-9.54	43.42	73.9	30.4	138	13	-
Vert.	5150.000	AV	39.96	32.12	16.41	43.11	2.28	47.66	53.9	6.2	243	265	VBW:8.2 kHz
Vert.	15540.000	AV	38.19	39.58	11.66	40.42	-9.54	39.47	53.9	14.4	150	0	VBW:8.2 kHz
Vert.	20720.000	AV	38.69	40.25	14.27	47.24	-9.54	36.43	53.9	17.4	138	13	VBW:8.2 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	47.93	36.39	9.28	42.70	-9.54	41.36	-53.87	-27.0	26.8	150	0	-
Vert.	10360.000	PK	47.64	36.39	9.28	42.70	-9.54	41.07	-54.16	-27.0	27.1	150	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

**UL Japan, Inc.**

**Shonan EMC Lab.**

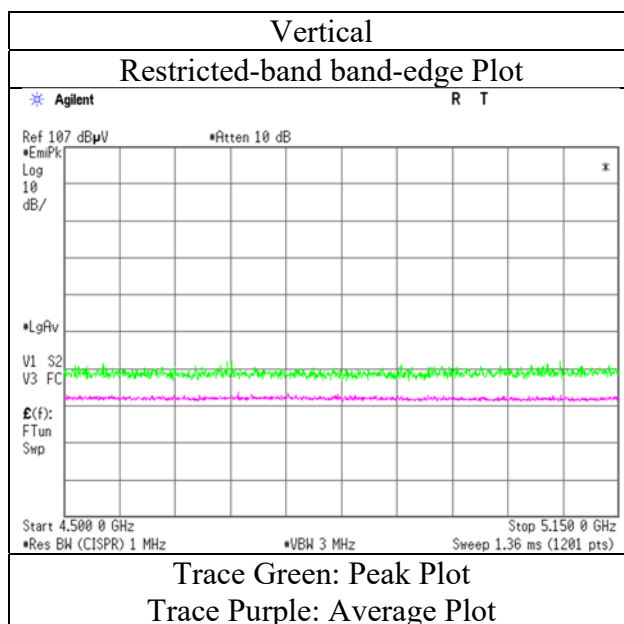
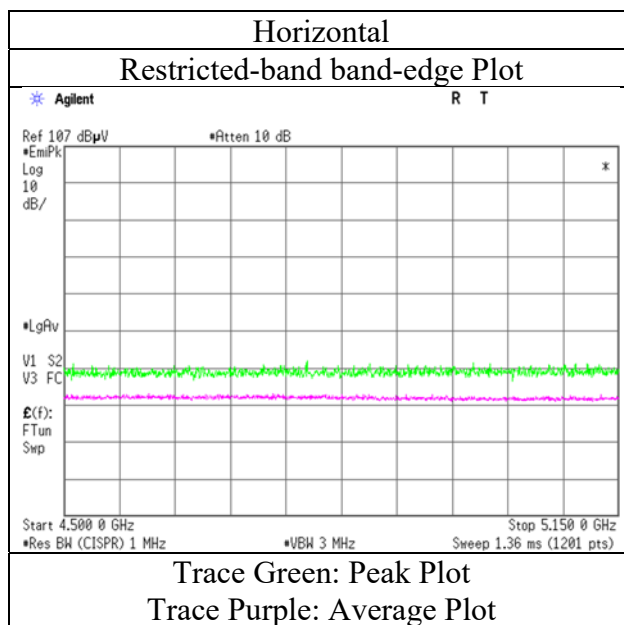
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	23 deg.C, 30 %RH
Engineer	Takahiro Kawakami ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (MIMO) 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.

## Radiated Spurious Emission

Report No.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	23 deg.C, 30 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-20 (MIMO) 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.	15720.000	PK	46.35	39.84	11.63	40.35	-9.54	47.93	73.9	25.9	150	0	-
Hori.	20960.000	PK	44.42	40.22	14.34	47.21	-9.54	42.23	73.9	31.6	144	220	-
Hori.	15720.000	AV	37.19	39.84	11.63	40.35	-9.54	38.77	53.9	<b>15.1</b>	150	0	VBW:8.2 kHz
Hori.	20960.000	AV	35.77	40.22	14.34	47.21	-9.54	33.58	53.9	20.3	144	220	VBW:8.2 kHz
Vert.	15720.000	PK	46.21	39.84	11.63	40.35	-9.54	47.79	73.9	26.1	150	0	-
Vert.	20960.000	PK	45.14	40.22	14.34	47.21	-9.54	42.95	73.9	30.9	137	12	-
Vert.	15720.000	AV	37.21	39.84	11.63	40.35	-9.54	38.79	53.9	<b>15.1</b>	150	0	VBW:8.2 kHz
Vert.	20960.000	AV	37.76	40.22	14.34	47.21	-9.54	35.57	53.9	18.3	137	12	VBW:8.2 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.	10480.000	PK	47.65	36.55	9.31	42.70	-9.54	41.27	-53.96	-27.0	26.9	150	0	-
Vert.	10480.000	PK	47.86	36.55	9.31	42.70	-9.54	41.48	-53.75	-27.0	26.7	150	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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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3 3 3 3 3  
 Date February 11, 2021 December 18, 2020 December 21, 2020 January 5, 2021 January 7, 2021  
 Temperature / Humidity 22 deg.C, 32 %RH 23 deg.C, 30 %RH 21 deg.C, 33 %RH 20 deg.C, 33 %RH 22 deg.C, 30 %RH  
 Engineer Takahiro Kawakami Takahiro Kawakami Yusuke Tanikawara Yusuke Tanikawara Yusuke Tanikawara  
 (30 MHz -1 GHz) (1 GHz -6.4 GHz) (6.4 GHz -18 GHz) (18 GHz -26.5 GHz) (26.5 GHz -40 GHz)  
 Mode Tx 11n-20 (MIMO) 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.	124.997	QP	42.87	13.52	7.29	32.11	0.00	31.57	43.5	11.9	324	345	-
Hori.	249.991	QP	52.02	11.77	8.26	31.99	0.00	40.06	46.0	5.9	118	255	-
Hori.	959.203	QP	30.37	22.15	11.01	30.55	0.00	32.98	46.0	13.0	165	137	-
Hori.	5350.000	PK	52.18	31.83	16.55	43.33	2.28	59.51	73.9	14.3	100	245	-
Hori.	10640.000	PK	47.60	37.21	9.38	42.76	-9.54	41.89	73.9	32.0	150	0	-
Hori.	15960.000	PK	45.39	40.36	11.58	40.25	-9.54	47.54	73.9	26.3	150	0	-
Hori.	21280.000	PK	43.08	40.23	14.50	47.20	-9.54	41.07	73.9	32.8	151	245	-
Hori.	5350.000	AV	40.26	31.83	16.55	43.33	2.28	47.59	53.9	6.3	100	245	VBW:8.2 kHz
Hori.	10640.000	AV	38.77	37.21	9.38	42.76	-9.54	33.06	53.9	20.8	150	0	VBW:8.2 kHz
Hori.	15960.000	AV	36.46	40.36	11.58	40.25	-9.54	38.61	53.9	15.2	150	0	VBW:8.2 kHz
Hori.	21280.000	AV	35.11	40.23	14.50	47.20	-9.54	33.10	53.9	20.8	151	245	VBW:8.2 kHz
Vert.	50.001	QP	36.40	11.18	6.78	32.16	0.00	22.20	40.0	17.8	100	142	-
Vert.	85.648	QP	39.71	7.29	7.58	32.15	0.00	22.43	40.0	17.5	100	262	-
Vert.	124.988	QP	42.20	13.52	7.29	32.11	0.00	30.90	43.5	12.6	100	337	-
Vert.	175.002	QP	34.56	15.73	7.81	32.06	0.00	26.04	43.5	17.4	100	160	-
Vert.	250.000	QP	49.31	11.77	8.26	31.99	0.00	37.35	46.0	8.6	100	204	-
Vert.	499.993	QP	35.08	17.77	9.41	31.92	0.00	30.34	46.0	15.6	100	299	-
Vert.	952.345	QP	25.95	22.10	10.99	30.62	0.00	28.42	46.0	17.5	100	35	-
Vert.	5350.000	PK	51.66	31.83	16.55	43.33	2.28	58.99	73.9	14.9	357	265	-
Vert.	10640.000	PK	47.67	37.21	9.38	42.76	-9.54	41.96	73.9	31.9	150	0	-
Vert.	15960.000	PK	45.54	40.36	11.58	40.25	-9.54	47.69	73.9	26.2	150	0	-
Vert.	21280.000	PK	44.29	40.23	14.50	47.20	-9.54	42.28	73.9	31.6	140	31	-
Vert.	5350.000	AV	40.70	31.83	16.55	43.33	2.28	48.03	53.9	5.8	357	265	VBW:8.2 kHz
Vert.	10640.000	AV	38.91	37.21	9.38	42.76	-9.54	33.20	53.9	20.7	150	0	VBW:8.2 kHz
Vert.	15960.000	AV	36.52	40.36	11.58	40.25	-9.54	38.67	53.9	15.2	150	0	VBW:8.2 kHz
Vert.	21280.000	AV	37.00	40.23	14.50	47.20	-9.54	34.99	53.9	18.9	140	31	VBW:8.2 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

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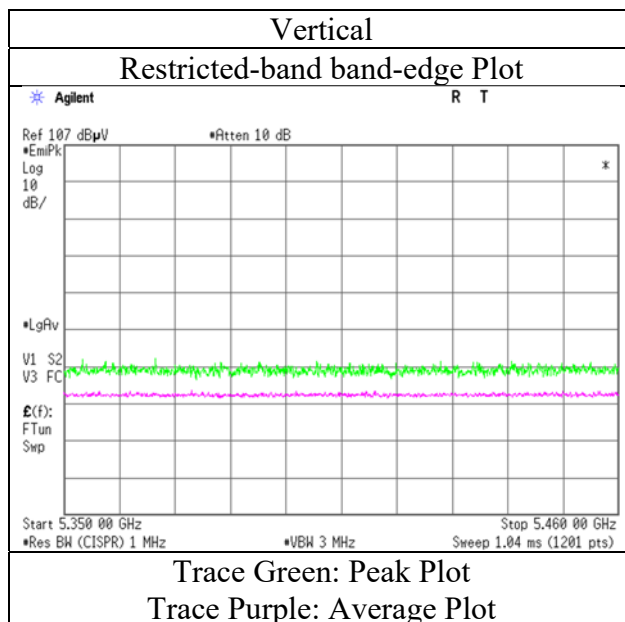
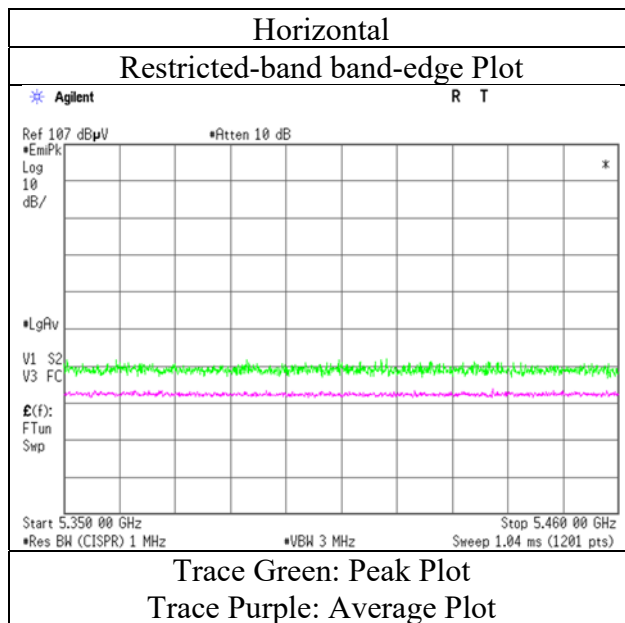
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	23 deg.C, 30 %RH
Engineer	Takahiro Kawakami ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (MIMO) 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. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-40 (SISO) 5190 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.	5150.000	PK	51.84	32.12	16.64	43.11	2.28	59.77	73.9	14.1	200	216	-
Hori.	5150.000	AV	39.96	32.12	16.64	43.11	2.28	47.89	53.9	<b>6.0</b>	200	216	VBW:5.1 kHz
Vert.	5150.000	PK	50.30	32.12	16.64	43.11	2.28	58.23	73.9	15.6	153	269	-
Vert.	5150.000	AV	39.85	32.12	16.64	43.11	2.28	47.78	53.9	6.1	153	269	VBW:5.1 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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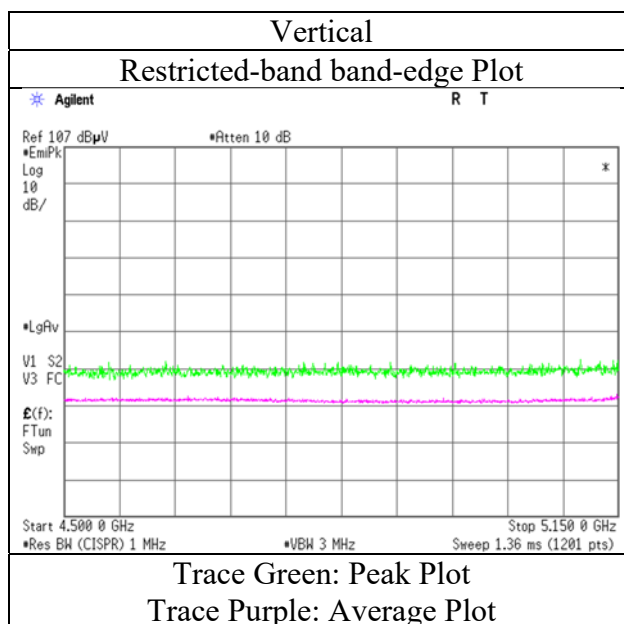
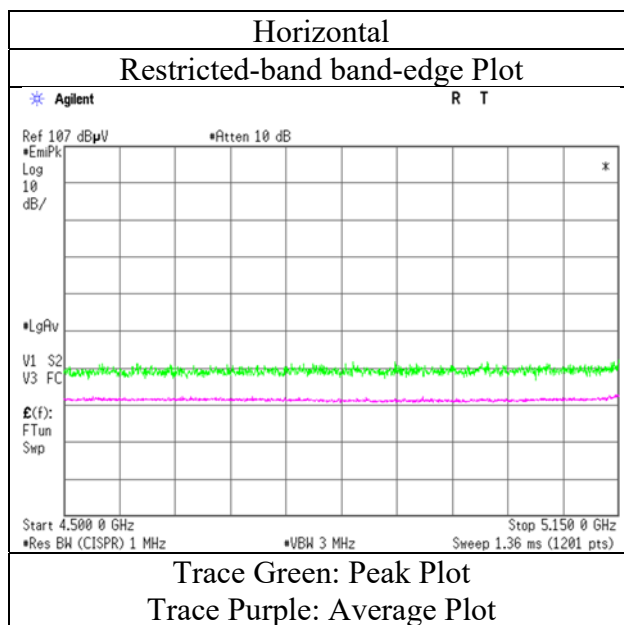
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 4, 2021
Temperature / Humidity	24 deg.C, 34 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (SISO) 5190 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. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-40 (SISO) 5310 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	50.41	31.83	16.76	43.33	2.28	57.95	73.9	15.9	122	200	-
Hori.	5350.000	AV	40.20	31.83	16.76	43.33	2.28	47.74	53.9	<b>6.1</b>	122	200	VBW:5.1 kHz
Vert.	5350.000	PK	50.56	31.83	16.76	43.33	2.28	58.10	73.9	15.8	141	268	-
Vert.	5350.000	AV	40.04	31.83	16.76	43.33	2.28	47.58	53.9	6.3	141	268	VBW:5.1 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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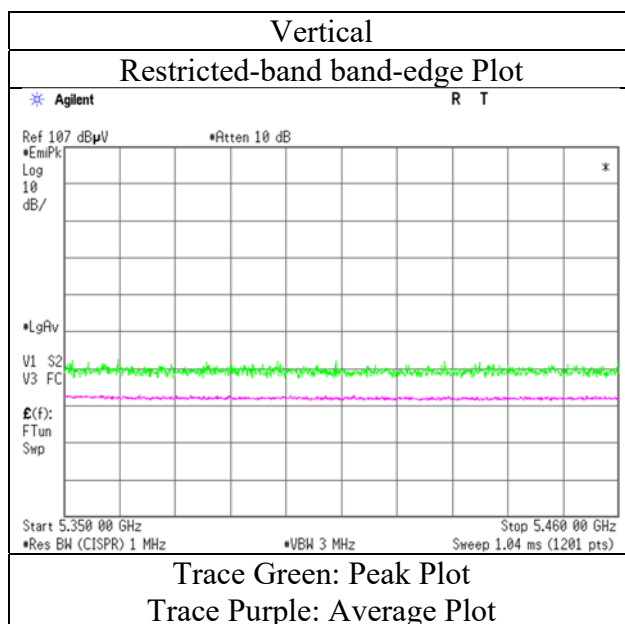
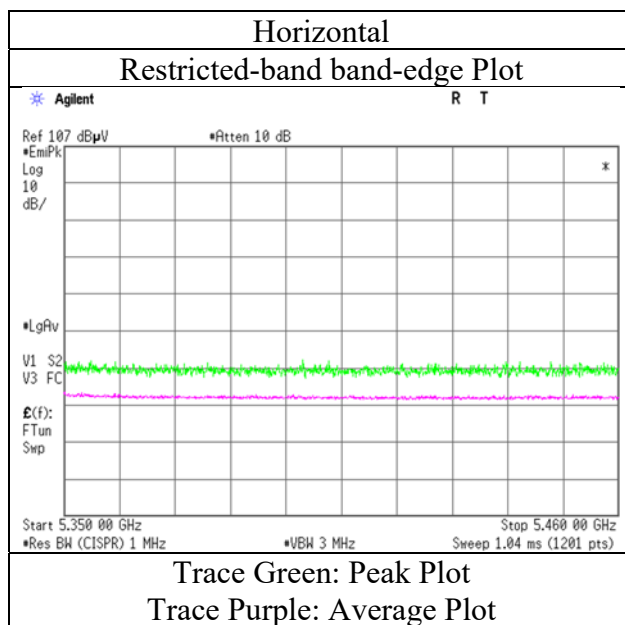
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 4, 2021
Temperature / Humidity	24 deg.C, 34 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (SISO) 5310 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.	13456926S-I-R2				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-40 (MIMO) 5190 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.	5150.000	PK	50.84	32.12	16.41	43.11	2.28	58.54	73.9	15.3	111	252	-
Hori.	15570.000	PK	47.69	39.60	11.65	40.41	-9.54	48.99	73.9	24.9	150	0	-
Hori.	20760.000	PK	45.12	40.25	14.28	47.24	-9.54	42.87	73.9	31.0	147	291	-
Hori.	5150.000	AV	41.15	32.12	16.41	43.11	2.28	48.85	53.9	5.0	111	252	VBW:13 kHz
Hori.	15570.000	AV	38.85	39.60	11.65	40.41	-9.54	40.15	53.9	13.7	150	0	VBW:13 kHz
Hori.	20760.000	AV	37.08	40.25	14.28	47.24	-9.54	34.83	53.9	19.0	147	291	VBW:13 kHz
Vert.	5150.000	PK	50.37	32.12	16.41	43.11	2.28	58.07	73.9	15.8	387	249	-
Vert.	15570.000	PK	47.34	39.60	11.65	40.41	-9.54	48.64	73.9	25.2	150	0	-
Vert.	20760.000	PK	45.62	40.25	14.28	47.24	-9.54	43.37	73.9	30.5	140	15	-
Vert.	5150.000	AV	41.03	32.12	16.41	43.11	2.28	48.73	53.9	5.1	387	249	VBW:13 kHz
Vert.	15570.000	AV	38.61	39.60	11.65	40.41	-9.54	39.91	53.9	13.9	150	0	VBW:13 kHz
Vert.	20760.000	AV	38.37	40.25	14.28	47.24	-9.54	36.12	53.9	17.7	140	15	VBW:13 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.	10380.000	PK	50.12	36.40	9.29	42.70	-9.54	43.57	-51.66	-27.0	24.6	150	0	-
Vert.	10380.000	PK	49.25	36.40	9.29	42.70	-9.54	42.70	-52.53	-27.0	25.5	150	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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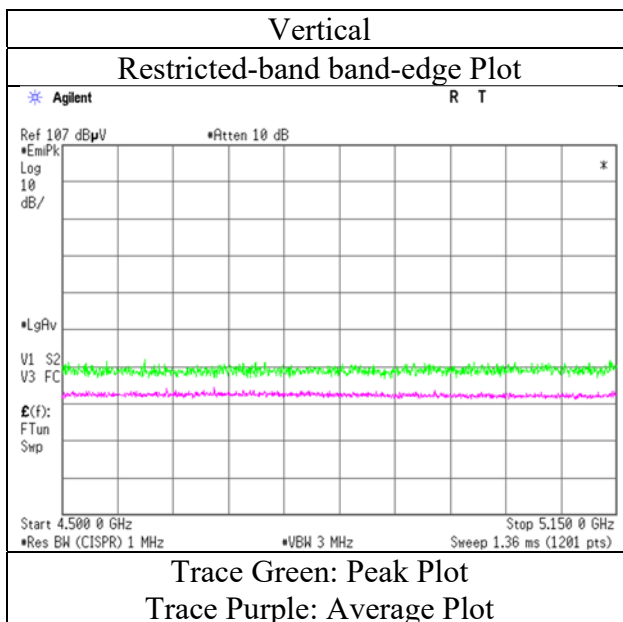
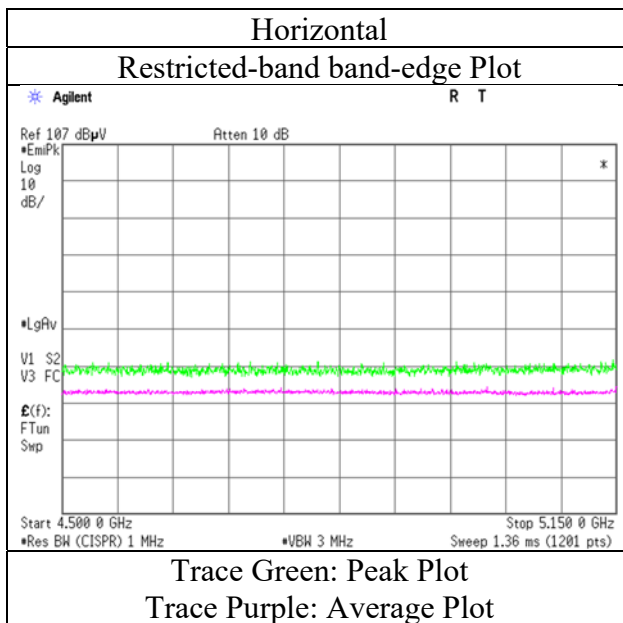
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda
	( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (MIMO) 5190 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.	13456926S-I-R2				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-40 (MIMO) 5230 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.	15690.000	PK	47.82	39.81	11.64	40.36	-9.54	49.37	73.9	24.5	150	0	-
Hori.	20920.000	PK	44.53	40.23	14.32	47.22	-9.54	42.32	73.9	31.5	147	290	-
Hori.	15690.000	AV	38.83	39.81	11.64	40.36	-9.54	40.38	53.9	<b>13.5</b>	150	0	VBW:13 kHz
Hori.	20920.000	AV	36.03	40.23	14.32	47.22	-9.54	33.82	53.9	20.0	147	290	VBW:13 kHz
Vert.	15690.000	PK	46.70	39.81	11.64	40.36	-9.54	48.25	73.9	25.6	150	0	-
Vert.	20920.000	PK	45.12	40.23	14.32	47.22	-9.54	42.91	73.9	30.9	136	15	-
Vert.	15690.000	AV	37.91	39.81	11.64	40.36	-9.54	39.46	53.9	14.4	150	0	VBW:13 kHz
Vert.	20920.000	AV	38.19	40.23	14.32	47.22	-9.54	35.98	53.9	17.9	136	15	VBW:13 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.	10460.000	PK	49.57	36.50	9.31	42.70	-9.54	43.14	-52.09	-27.0	25.0	150	0	-
Vert.	10460.000	PK	48.99	36.50	9.31	42.70	-9.54	42.56	-52.67	-27.0	25.6	150	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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## Radiated Spurious Emission

Report No.	13456926S-I-R2				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-40 (MIMO) 5310 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	53.41	31.83	16.55	43.33	2.28	60.74	73.9	13.1	115	253	-
Hori.	10620.000	PK	49.48	37.11	9.36	42.76	-9.54	43.65	73.9	30.2	150	0	-
Hori.	15930.000	PK	46.89	40.35	11.59	40.26	-9.54	49.03	73.9	24.8	150	0	-
Hori.	21240.000	PK	43.27	40.22	14.48	47.20	-9.54	41.23	73.9	32.6	151	289	-
Hori.	5350.000	AV	41.96	31.83	16.55	43.33	2.28	49.29	53.9	4.6	115	253	VBW:13 kHz
Hori.	10620.000	AV	39.62	37.11	9.36	42.76	-9.54	33.79	53.9	20.1	150	0	VBW:13 kHz
Hori.	15930.000	AV	37.73	40.35	11.59	40.26	-9.54	39.87	53.9	14.0	150	0	VBW:13 kHz
Hori.	21240.000	AV	36.01	40.22	14.48	47.20	-9.54	33.97	53.9	19.9	151	289	VBW:13 kHz
Vert.	5350.000	PK	51.04	31.83	16.55	43.33	2.28	58.37	73.9	15.5	381	269	-
Vert.	10620.000	PK	48.10	37.11	9.36	42.76	-9.54	42.27	73.9	31.6	150	0	-
Vert.	15930.000	PK	47.28	40.35	11.59	40.26	-9.54	49.42	73.9	24.4	150	0	-
Vert.	21240.000	PK	44.18	40.22	14.48	47.20	-9.54	42.14	73.9	31.7	138	31	-
Vert.	5350.000	AV	41.12	31.83	16.55	43.33	2.28	48.45	53.9	5.4	381	269	-
Vert.	10620.000	AV	39.13	37.11	9.36	42.76	-9.54	33.30	53.9	20.6	150	0	VBW:13 kHz
Vert.	15930.000	AV	37.78	40.35	11.59	40.26	-9.54	39.92	53.9	13.9	150	0	VBW:13 kHz
Vert.	21240.000	AV	38.02	40.22	14.48	47.20	-9.54	35.98	53.9	17.9	138	31	VBW:13 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.**

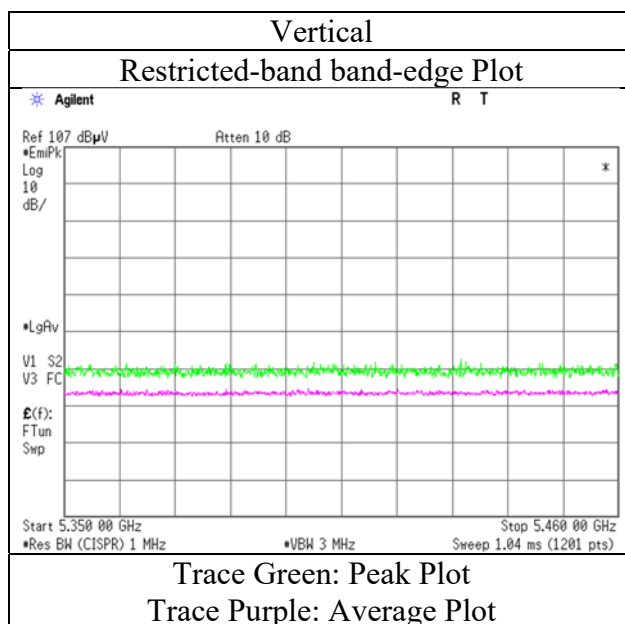
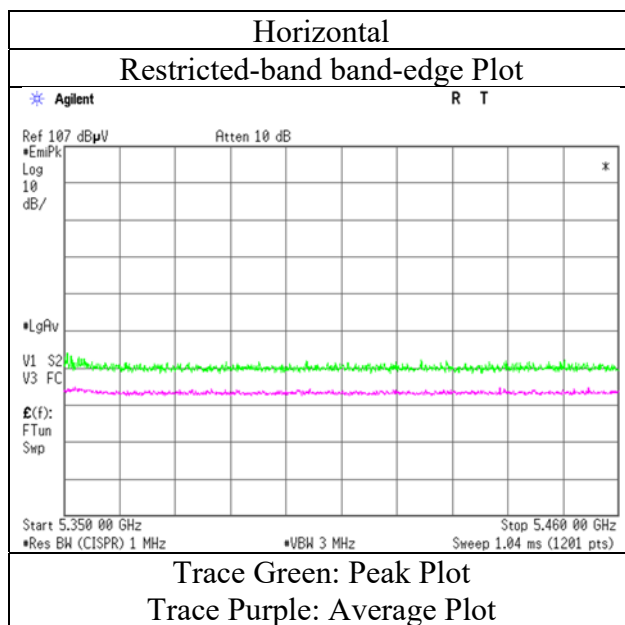
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda
	( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (MIMO) 5310 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. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11ac-80 (SISO) 5210 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.	5150.000	PK	50.65	32.12	16.64	43.11	2.28	58.58	73.9	15.3	176	206	-
Hori.	5150.000	AV	41.31	32.12	16.64	43.11	2.28	49.24	53.9	4.6	176	206	VBW:11 kHz
Vert.	5150.000	PK	49.19	32.12	16.64	43.11	2.28	57.12	73.9	16.7	133	265	-
Vert.	5150.000	AV	40.37	32.12	16.64	43.11	2.28	48.30	53.9	5.6	133	265	VBW:11 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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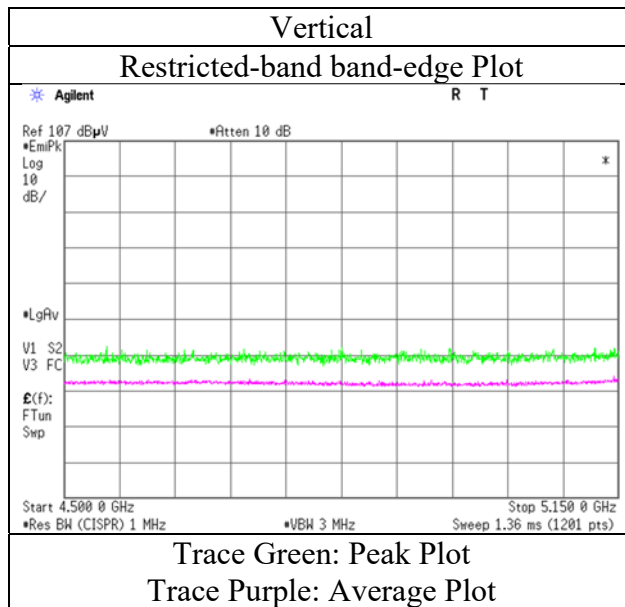
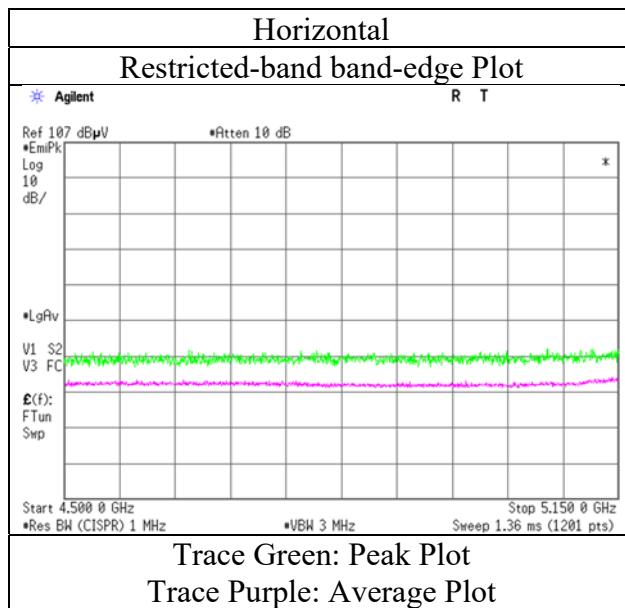
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (SISO) 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.

## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11ac-80 (SISO) 5290 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	51.34	31.83	16.76	43.33	2.28	58.88	73.9	15.0	146	202	-
Hori.	5350.000	AV	41.33	31.83	16.76	43.33	2.28	48.87	53.9	<b>5.0</b>	146	202	VBW:11 kHz
Vert.	5350.000	PK	50.89	31.83	16.76	43.33	2.28	58.43	73.9	15.4	151	265	-
Vert.	5350.000	AV	40.91	31.83	16.76	43.33	2.28	48.45	53.9	5.4	151	265	VBW:11 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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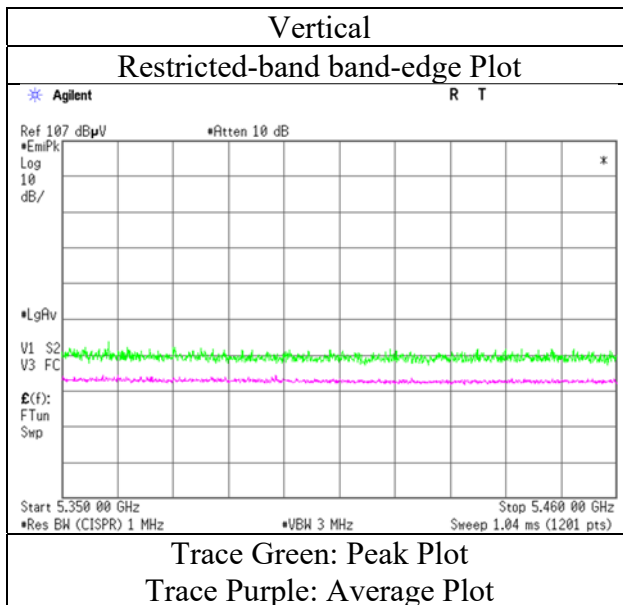
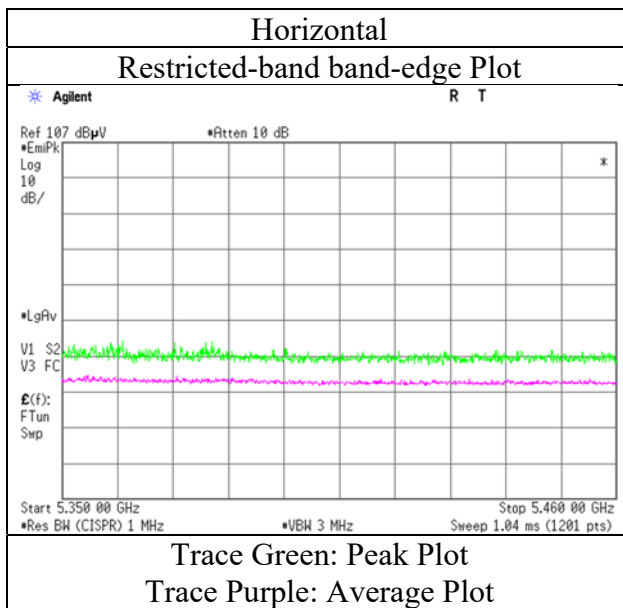
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (SISO) 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.

## Radiated Spurious Emission

Report No.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -40 GHz )
Mode	Tx 11ac-80 (MIMO) 5210 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.	5150.000	PK	49.85	32.12	16.41	43.11	2.28	57.55	73.9	16.3	118	254	-
Hori.	15630.000	PK	48.39	39.66	11.65	40.39	-9.54	49.77	73.9	24.1	150	0	-
Hori.	20840.000	PK	43.92	40.24	14.31	47.23	-9.54	41.70	73.9	32.2	142	253	-
Hori.	5150.000	AV	41.04	32.12	16.41	43.11	2.28	48.74	53.9	5.1	118	254	VBW:15 kHz
Hori.	15630.000	AV	39.55	39.66	11.65	40.39	-9.54	40.93	53.9	12.9	150	0	VBW:15 kHz
Hori.	20840.000	AV	35.99	40.24	14.31	47.23	-9.54	33.77	53.9	20.1	142	253	VBW:15 kHz
Vert.	5150.000	PK	49.51	32.12	16.41	43.11	2.28	57.21	73.9	16.6	380	255	-
Vert.	15630.000	PK	48.65	39.66	11.65	40.39	-9.54	50.03	73.9	23.8	150	0	-
Vert.	20840.000	PK	45.21	40.24	14.31	47.23	-9.54	42.99	73.9	30.9	131	30	-
Vert.	5150.000	AV	40.88	32.12	16.41	43.11	2.28	48.58	53.9	5.3	380	255	VBW:15 kHz
Vert.	15630.000	AV	39.79	39.66	11.65	40.39	-9.54	41.17	53.9	12.7	150	0	VBW:15 kHz
Vert.	20840.000	AV	38.83	40.24	14.31	47.23	-9.54	36.61	53.9	17.2	131	30	VBW:15 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.	10420.000	PK	50.07	36.44	9.31	42.70	-9.54	43.58	-51.65	-27.0	24.6	150	0	-
Vert.	10420.000	PK	49.57	36.44	9.31	42.70	-9.54	43.08	-52.15	-27.0	25.1	150	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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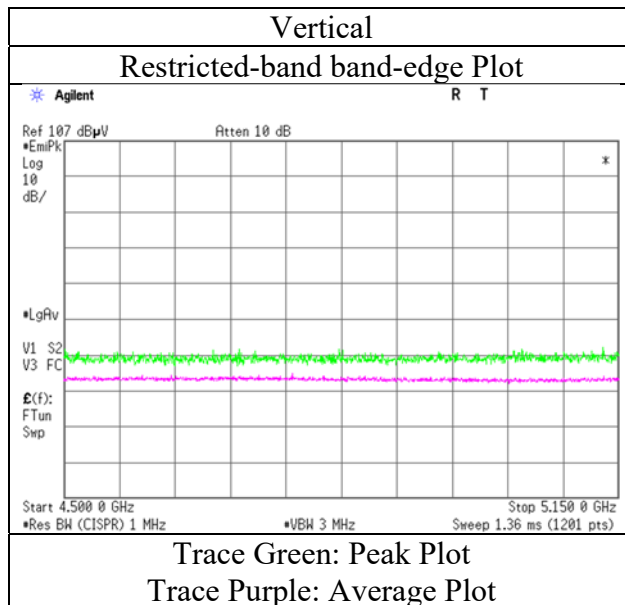
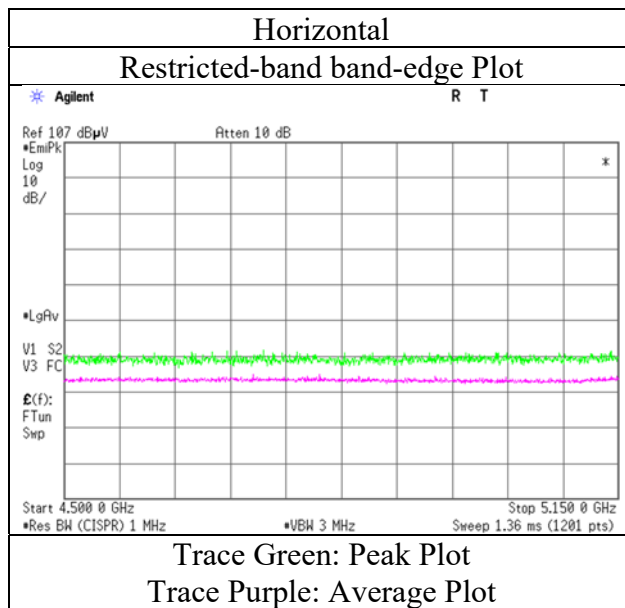
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401



## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda ( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (MIMO) 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.

## Radiated Spurious Emission

Report No.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -40 GHz )
Mode	Tx 11ac-80 (MIMO) 5290 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	52.32	31.83	16.55	43.33	2.28	59.65	73.9	14.2	113	248	-
Hori.	15870.000	PK	46.75	40.24	11.59	40.28	-9.54	48.76	73.9	25.1	150	0	-
Hori.	21160.000	PK	44.11	40.21	14.44	47.20	-9.54	42.02	73.9	31.8	143	244	-
Hori.	5350.000	AV	41.89	31.83	16.55	43.33	2.28	49.22	53.9	4.6	113	248	VBW:15 kHz
Hori.	15870.000	AV	38.23	40.24	11.59	40.28	-9.54	40.24	53.9	13.6	150	0	VBW:15 kHz
Hori.	21160.000	AV	36.43	40.21	14.44	47.20	-9.54	34.34	53.9	19.5	143	244	VBW:15 kHz
Vert.	5350.000	PK	51.93	31.83	16.55	43.33	2.28	59.26	73.9	14.6	364	267	-
Vert.	15870.000	PK	47.30	40.24	11.59	40.28	-9.54	49.31	73.9	24.5	150	0	-
Vert.	21160.000	PK	45.01	40.21	14.44	47.20	-9.54	42.92	73.9	30.9	133	43	-
Vert.	5350.000	AV	41.56	31.83	16.55	43.33	2.28	48.89	53.9	5.0	364	267	VBW:15 kHz
Vert.	15870.000	AV	38.28	40.24	11.59	40.28	-9.54	40.29	53.9	13.6	150	0	VBW:15 kHz
Vert.	21160.000	AV	38.44	40.21	14.44	47.20	-9.54	36.35	53.9	17.5	133	43	VBW:15 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.	10580.000	PK	48.71	36.93	9.35	42.74	-9.54	42.71	-52.52	-27.0	25.5	150	0	-
Vert.	10580.000	PK	49.08	36.93	9.35	42.74	-9.54	43.08	-52.15	-27.0	25.1	150	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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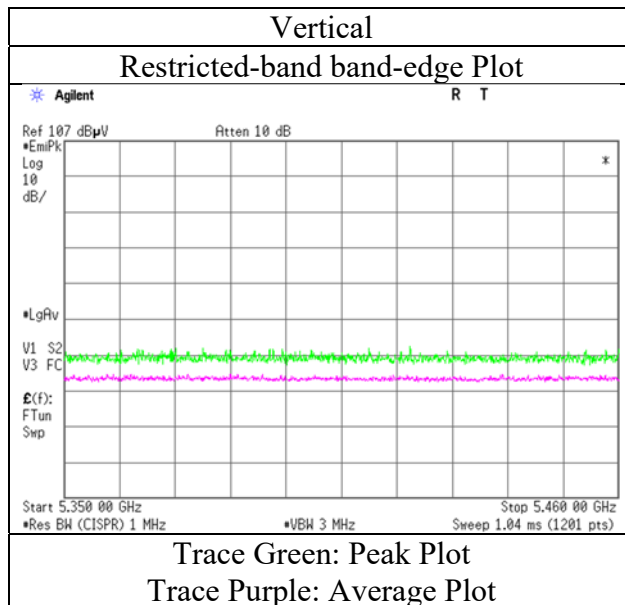
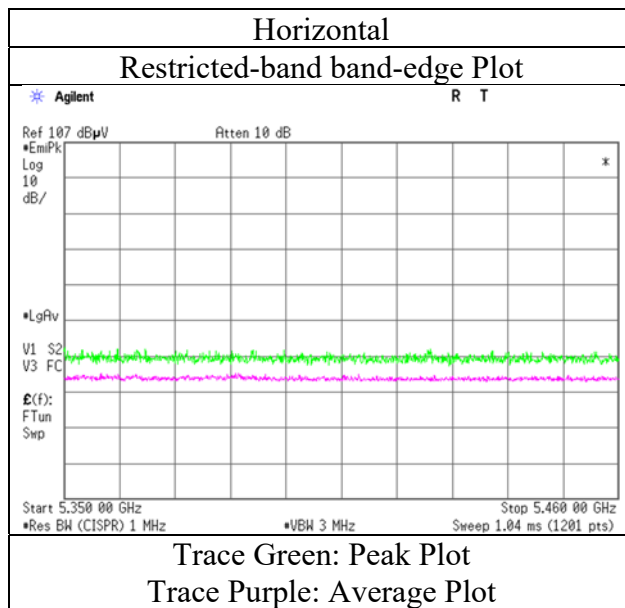
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda ( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (MIMO) 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.

## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-20 (SISO) 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	49.38	32.30	16.84	43.45	2.28	57.35	73.9	16.5	236	212	-
Hori.	5460.000	AV	39.52	32.30	16.84	43.45	2.28	47.49	53.9	<b>6.4</b>	236	212	VBW:5.6 kHz
Vert.	5460.000	PK	49.85	32.30	16.84	43.45	2.28	57.82	73.9	16.0	132	264	-
Vert.	5460.000	AV	39.49	32.30	16.84	43.45	2.28	47.46	53.9	<b>6.4</b>	132	264	VBW:5.6 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 : 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	49.84	32.33	16.84	43.46	2.28	57.83	-37.40	-27.0	10.4	236	212	-
Vert.	5470.000	PK	49.65	32.33	16.84	43.46	2.28	57.64	-37.59	-27.0	10.5	132	264	-

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.**

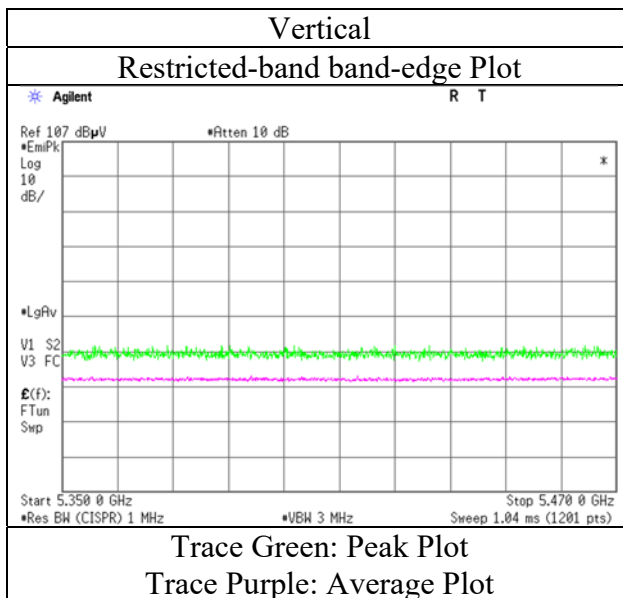
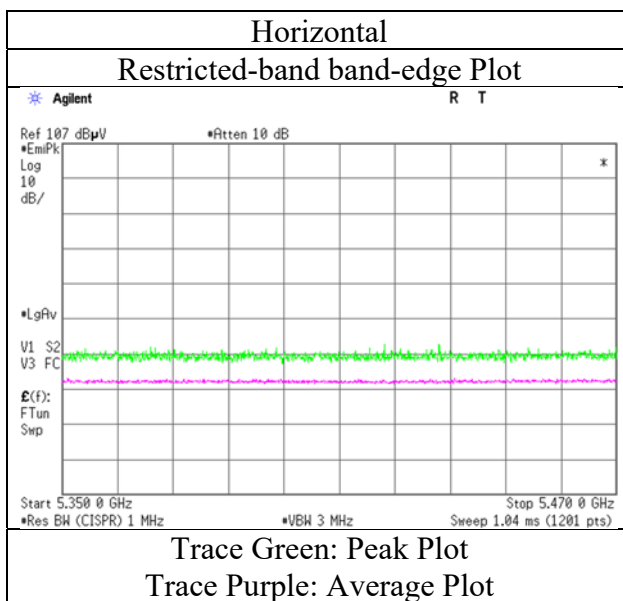
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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date February 4, 2021  
Temperature / Humidity 24 deg.C, 34 %RH  
Engineer Yusuke Tanikawara  
( 1 GHz -6.4 GHz )  
Mode Tx 11n-20 (SISO) 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.

## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-20 (SISO) 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	48.98	32.68	17.00	43.44	2.28	57.50	-37.73	-27.0	<b>10.7</b>	156	204	-
Vert.	5725.000	PK	48.87	32.68	17.00	43.44	2.28	57.39	-37.84	-27.0	10.8	107	292	-

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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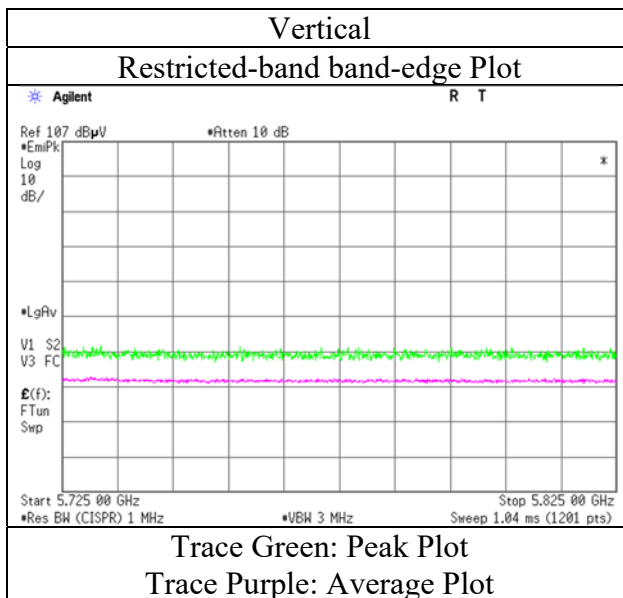
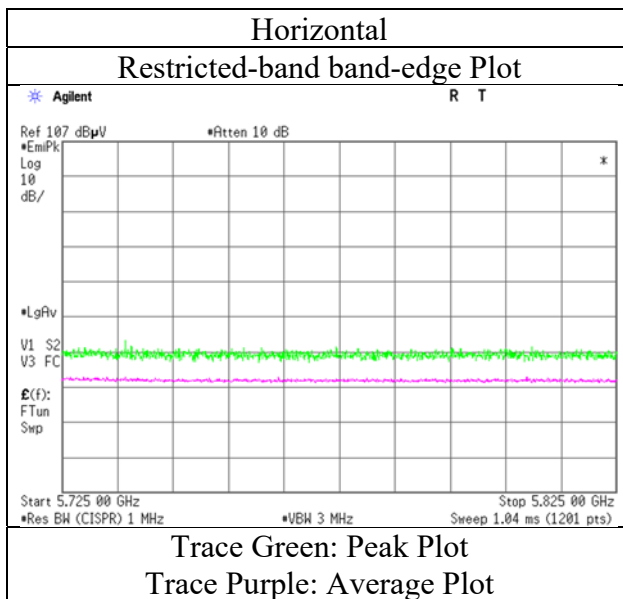
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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date February 4, 2021  
Temperature / Humidity 24 deg.C, 34 %RH  
Engineer Yusuke Tanikawara  
( 1 GHz -6.4 GHz )  
Mode Tx 11n-20 (SISO) 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.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	23 deg.C, 30 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-20 (MIMO) 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	50.28	32.30	16.63	43.45	2.28	58.04	73.9	15.8	109	256	-
Hori.	11000.000	PK	47.47	37.43	9.53	42.93	-9.54	41.96	73.9	31.9	150	0	-
Hori.	5460.000	AV	40.29	32.30	16.63	43.45	2.28	48.05	53.9	<b>5.8</b>	109	256	VBW:8.2 kHz
Hori.	11000.000	AV	39.05	37.43	9.53	42.93	-9.54	33.54	53.9	20.3	150	0	VBW:8.2 kHz
Vert.	5460.000	PK	49.49	32.30	16.63	43.45	2.28	57.25	73.9	16.6	329	257	-
Vert.	11000.000	PK	47.62	37.43	9.53	42.93	-9.54	42.11	73.9	31.7	150	0	-
Vert.	5460.000	AV	40.23	32.30	16.63	43.45	2.28	47.99	53.9	5.9	329	257	VBW:8.2 kHz
Vert.	11000.000	AV	39.03	37.43	9.53	42.93	-9.54	33.52	53.9	20.3	150	0	VBW:8.2 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	51.13	32.33	16.63	43.46	2.28	58.91	-36.32	-27.0	9.3	109	256	-
Hori.	16500.000	PK	45.61	40.07	12.32	40.11	-9.54	48.35	-46.88	-27.0	19.8	150	0	-
Hori.	22000.000	PK	47.40	40.43	14.80	47.66	-9.54	45.43	-49.80	-27.0	22.8	148	358	-
Vert.	5470.000	PK	50.27	32.33	16.63	43.46	2.28	58.05	-37.18	-27.0	10.1	329	257	-
Vert.	16500.000	PK	45.29	40.07	12.32	40.11	-9.54	48.03	-47.20	-27.0	20.2	150	0	-
Vert.	22000.000	PK	50.15	40.43	14.80	47.66	-9.54	48.18	-47.05	-27.0	20.0	138	35	-

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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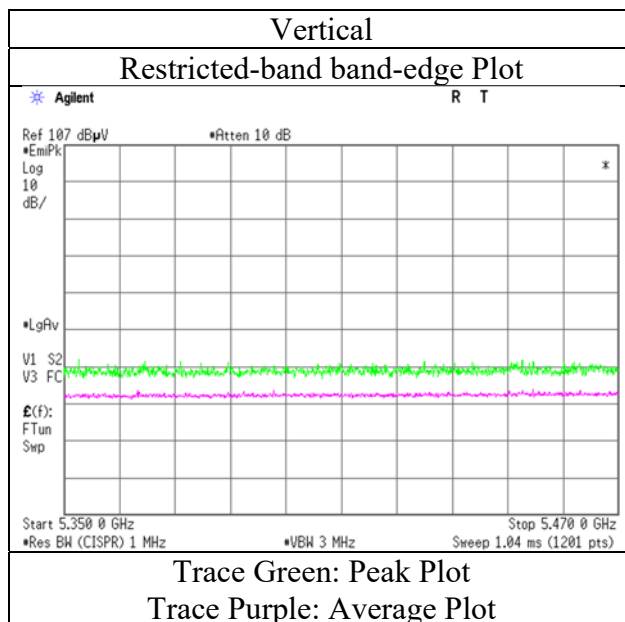
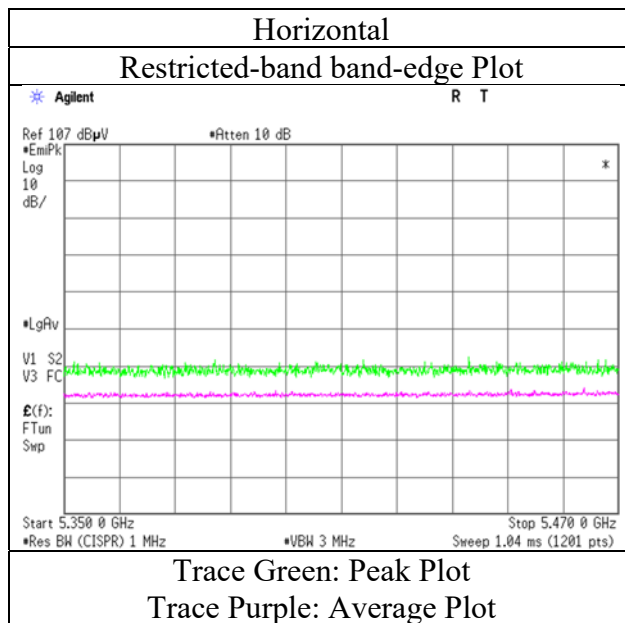
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Facsimile : +81 463 50 6401



## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	23 deg.C, 30 %RH
Engineer	Takahiro Kawakami ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (MIMO) 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.

## Radiated Spurious Emission

Report No.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	23 deg.C, 30 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-20 (MIMO) 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	47.53	37.28	9.63	42.83	-9.54	42.07	73.9	31.8	150	0	-
Hori.	22320.000	PK	46.02	40.44	14.90	48.02	-9.54	43.80	73.9	30.1	146	357	-
Hori.	11160.000	AV	38.87	37.28	9.63	42.83	-9.54	33.41	53.9	20.4	150	0	VBW:8.2 kHz
Hori.	22320.000	AV	39.32	40.44	14.90	48.02	-9.54	37.10	53.9	16.8	146	357	VBW:8.2 kHz
Vert.	11160.000	PK	47.65	37.28	9.63	42.83	-9.54	42.19	73.9	31.7	150	0	-
Vert.	22320.000	PK	49.49	40.44	14.90	48.02	-9.54	47.27	73.9	26.6	136	33	-
Vert.	11160.000	AV	38.72	37.28	9.63	42.83	-9.54	33.26	53.9	20.6	150	0	VBW:8.2 kHz
Vert.	22320.000	AV	45.86	40.44	14.90	48.02	-9.54	43.64	53.9	<b>10.2</b>	136	33	VBW:8.2 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.	16740.000	PK	45.31	39.58	12.43	40.23	-9.54	47.55	-47.68	-27.0	20.6	150	0	-
Vert.	16740.000	PK	45.57	39.58	12.43	40.23	-9.54	47.81	-47.42	-27.0	20.4	150	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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## Radiated Spurious Emission

Report No.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	23 deg.C, 30 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-20 (MIMO) 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.	11400.000	PK	46.81	37.84	9.77	42.68	-9.54	42.20	73.9	31.7	150	0	-
Hori.	22800.000	PK	42.50	40.31	15.04	47.89	-9.54	40.42	73.9	33.4	141	253	-
Hori.	11400.000	AV	38.13	37.84	9.77	42.68	-9.54	33.52	53.9	20.3	150	0	VBW:8.2 kHz
Hori.	22800.000	AV	34.03	40.31	15.04	47.89	-9.54	31.95	53.9	21.9	141	253	VBW:8.2 kHz
Vert.	11400.000	PK	46.65	37.84	9.77	42.68	-9.54	42.04	73.9	31.8	150	0	-
Vert.	22800.000	PK	44.39	40.31	15.04	47.89	-9.54	42.31	73.9	31.5	138	38	-
Vert.	11400.000	AV	38.15	37.84	9.77	42.68	-9.54	33.54	53.9	20.3	150	0	VBW:8.2 kHz
Vert.	22800.000	AV	37.11	40.31	15.04	47.89	-9.54	35.03	53.9	18.8	138	38	VBW:8.2 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	50.25	32.68	16.81	43.44	2.28	58.58	-36.65	-27.0	9.6	111	223	-
Hori.	17100.000	PK	45.76	39.75	12.56	40.34	-9.54	48.19	-47.04	-27.0	20.0	150	0	-
Vert.	5725.000	PK	49.59	32.68	16.81	43.44	2.28	57.92	-37.31	-27.0	10.3	100	270	-
Vert.	17100.000	PK	45.38	39.75	12.56	40.34	-9.54	47.81	-47.42	-27.0	20.4	150	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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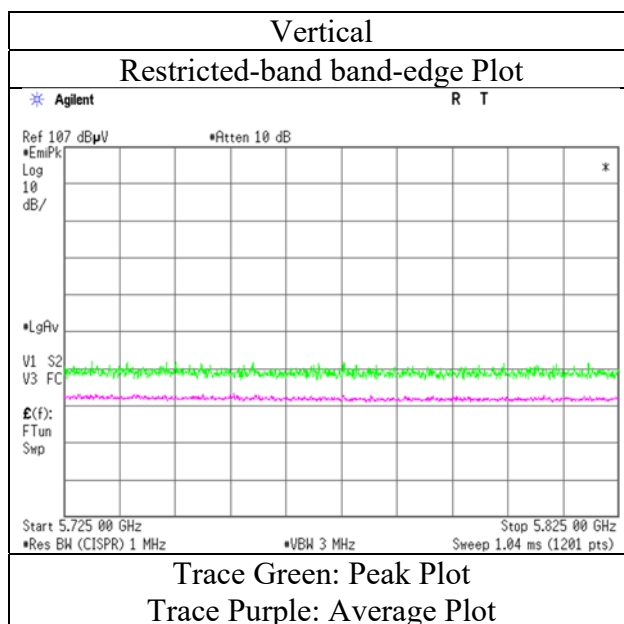
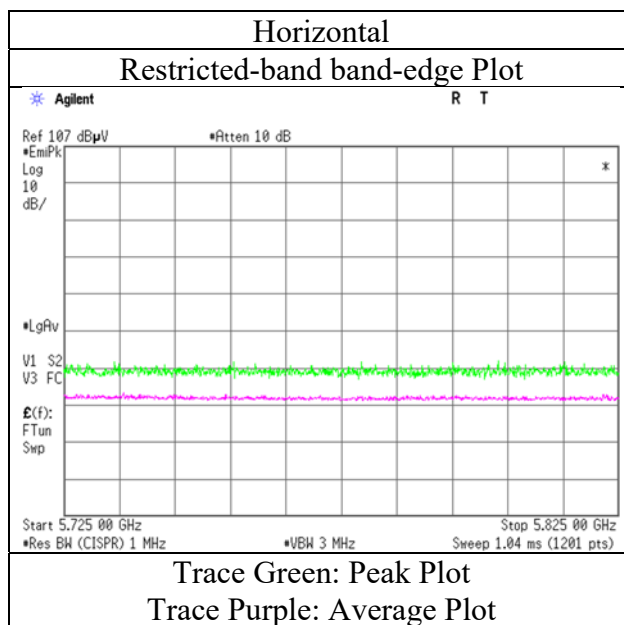
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	23 deg.C, 30 %RH
Engineer	Takahiro Kawakami ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (MIMO) 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. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-40 (SISO) 5510 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	49.67	32.30	16.84	43.45	2.28	57.64	73.9	16.2	207	211	-
Hori.	5460.000	AV	39.64	32.30	16.84	43.45	2.28	47.61	53.9	<b>6.2</b>	207	211	VBW:5.1 kHz
Vert.	5460.000	PK	49.22	32.30	16.84	43.45	2.28	57.19	73.9	16.7	120	267	-
Vert.	5460.000	AV	39.54	32.30	16.84	43.45	2.28	47.51	53.9	6.3	120	267	VBW:5.1 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	52.24	32.33	16.84	43.46	2.28	60.23	-35.00	-27.0	8.0	207	211	-
Vert.	5470.000	PK	51.68	32.33	16.84	43.46	2.28	59.67	-35.56	-27.0	8.5	120	267	-

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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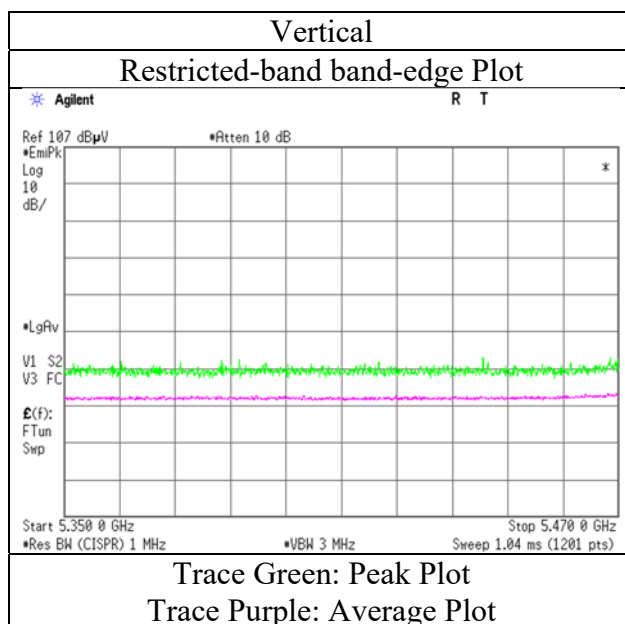
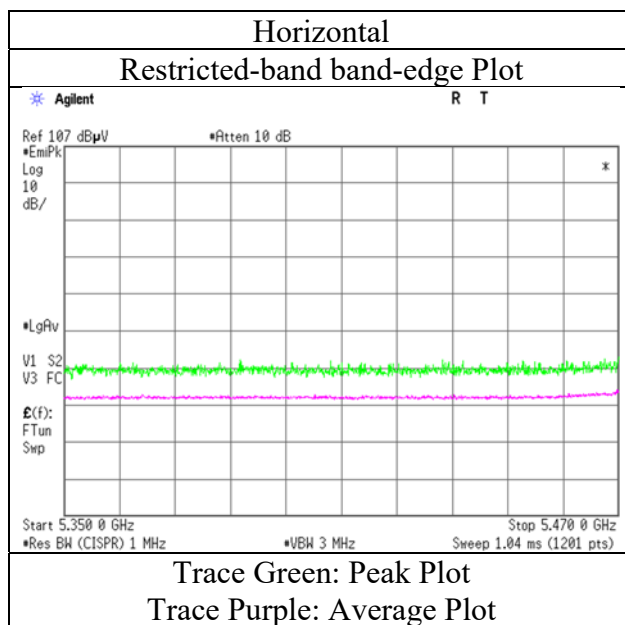
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (SISO) 5510 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. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-40 (SISO) 5670 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	49.73	32.68	17.00	43.44	2.28	58.25	-36.98	-27.0	<b>9.9</b>	166	206	-
Vert.	5725.000	PK	49.16	32.68	17.00	43.44	2.28	57.68	-37.55	-27.0	10.5	103	286	-

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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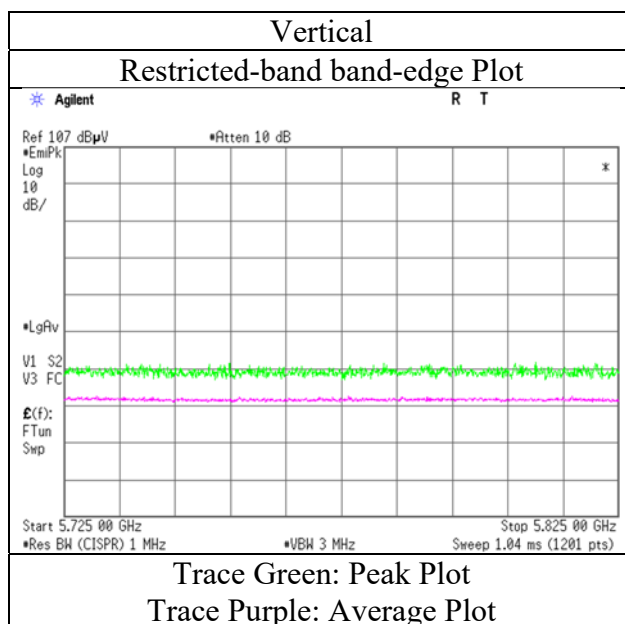
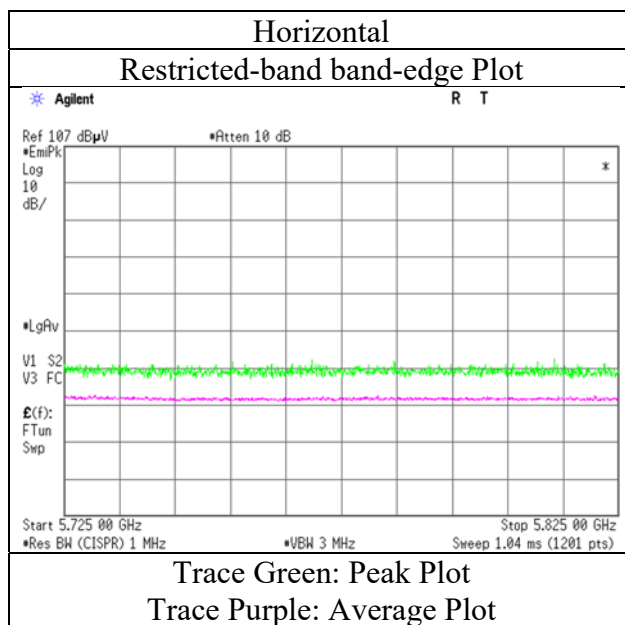
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (SISO) 5670 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.	13456926S-I-R2				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-40 (MIMO) 5510 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	50.37	32.30	16.63	43.45	2.28	58.13	73.9	15.7	221	250	-
Hori.	11020.000	PK	48.37	37.38	9.54	42.92	-9.54	42.83	73.9	31.0	150	0	-
Hori.	22040.000	PK	46.76	40.44	14.81	47.71	-9.54	44.76	73.9	29.1	148	1	-
Hori.	5460.000	AV	41.21	32.30	16.63	43.45	2.28	48.97	53.9	4.9	221	250	VBW:13 kHz
Hori.	11020.000	AV	39.63	37.38	9.54	42.92	-9.54	34.09	53.9	19.8	150	0	VBW:13 kHz
Hori.	22040.000	AV	41.46	40.44	14.81	47.71	-9.54	39.46	53.9	14.4	148	1	VBW:13 kHz
Vert.	5460.000	PK	50.51	32.30	16.63	43.45	2.28	58.27	73.9	15.6	120	261	-
Vert.	11020.000	PK	48.85	37.38	9.54	42.92	-9.54	43.31	73.9	30.5	150	0	-
Vert.	22040.000	PK	50.48	40.44	14.81	47.71	-9.54	48.48	73.9	25.4	136	36	-
Vert.	5460.000	AV	41.26	32.30	16.63	43.45	2.28	49.02	53.9	4.8	120	261	VBW:13 kHz
Vert.	11020.000	AV	39.58	37.38	9.54	42.92	-9.54	34.04	53.9	19.8	150	0	VBW:13 kHz
Vert.	22040.000	AV	47.32	40.44	14.81	47.71	-9.54	45.32	53.9	8.5	136	36	VBW:13 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	51.26	32.33	16.63	43.46	2.28	59.04	-36.19	-27.0	9.1	221	250	-
Hori.	16530.000	PK	45.70	39.96	12.33	40.13	-9.54	48.32	-46.91	-27.0	19.9	150	0	-
Vert.	5470.000	PK	50.55	32.33	16.63	43.46	2.28	58.33	-36.90	-27.0	9.9	120	261	-
Vert.	16530.000	PK	45.92	39.96	12.33	40.13	-9.54	48.54	-46.69	-27.0	19.6	150	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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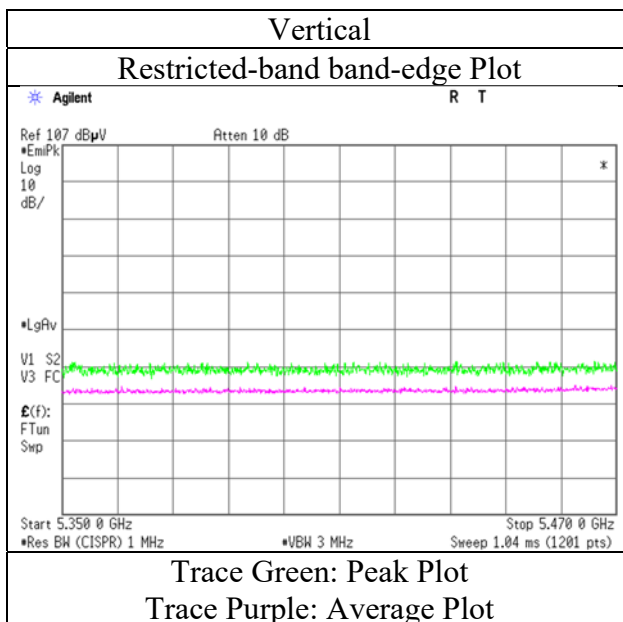
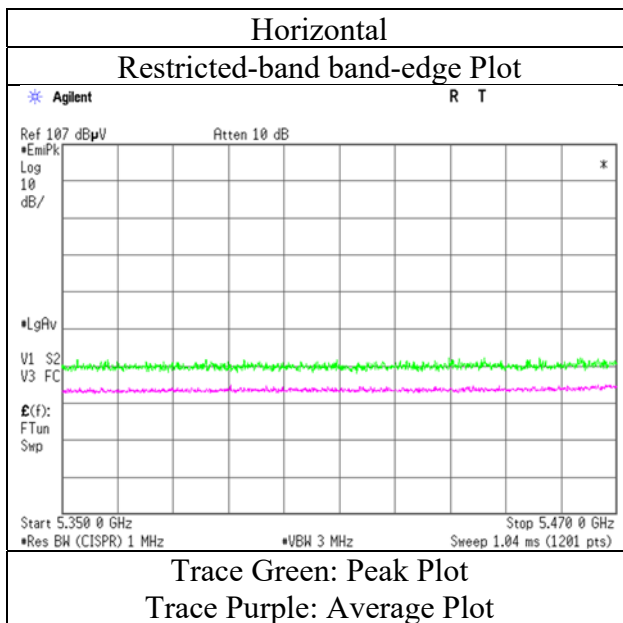
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### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda
	( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (MIMO) 5510 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.	13456926S-I-R2				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
Mode	Tx 11n-40 (MIMO) 5550 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.	11100.000	PK	49.17	37.28	9.60	42.87	-9.54	43.64	73.9	30.2	150	0	-
Hori.	22200.000	PK	45.93	40.44	14.86	47.89	-9.54	43.80	73.9	30.1	146	1	-
Hori.	11100.000	AV	40.19	37.28	9.60	42.87	-9.54	34.66	53.9	19.2	150	0	VBW:13 kHz
Hori.	22200.000	AV	41.10	40.44	14.86	47.89	-9.54	38.97	53.9	14.9	146	1	VBW:13 kHz
Vert.	11100.000	PK	48.61	37.28	9.60	42.87	-9.54	43.08	73.9	30.8	150	0	-
Vert.	22200.000	PK	50.54	40.44	14.86	47.89	-9.54	48.41	73.9	25.4	133	36	-
Vert.	11100.000	AV	39.86	37.28	9.60	42.87	-9.54	34.33	53.9	19.5	150	0	VBW:13 kHz
Vert.	22200.000	AV	47.62	40.44	14.86	47.89	-9.54	45.49	53.9	<b>8.4</b>	133	36	VBW:13 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.	16650.000	PK	47.22	39.69	12.40	40.19	-9.54	49.58	-45.65	-27.0	18.6	150	0	-
Vert.	16650.000	PK	46.64	39.69	12.40	40.19	-9.54	49.00	-46.23	-27.0	19.2	150	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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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3 3 3 3 3  
 Date December 18, 2020 December 21, 2020 December 21, 2020 January 5, 2021 January 7, 2021  
 Temperature / Humidity 24 deg.C, 30 %RH 21 deg.C, 33 %RH 21 deg.C, 33 %RH 20 deg.C, 33 %RH 22 deg.C, 30 %RH  
 Engineer Kazuya Noda Yusuke Tanikawara Takahiro Kawakami Yusuke Tanikawara Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz ) ( 6.4 GHz -10 GHz ) ( 10 GHz -18 GHz ) ( 18 GHz -26.5 GHz ) ( 26.5 GHz -40 GHz )  
 Mode Tx 11n-40 (MIMO) 5670 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.	11340.000	PK	48.22	37.71	9.74	42.72	-9.54	43.41	73.9	30.4	150	0	-
Hori.	22680.000	PK	44.11	40.34	15.00	48.03	-9.54	41.88	73.9	32.0	151	357	-
Hori.	11340.000	AV	39.68	37.71	9.74	42.72	-9.54	34.87	53.9	19.0	150	0	VBW:13 kHz
Hori.	22680.000	AV	36.33	40.34	15.00	48.03	-9.54	34.10	53.9	19.8	151	357	VBW:13 kHz
Vert.	11340.000	PK	48.78	37.71	9.74	42.72	-9.54	43.97	73.9	29.9	150	0	-
Vert.	22680.000	PK	46.54	40.34	15.00	48.03	-9.54	44.31	73.9	29.5	134	32	-
Vert.	11340.000	AV	39.48	37.71	9.74	42.72	-9.54	34.67	53.9	19.2	150	0	VBW:13 kHz
Vert.	22680.000	AV	40.91	40.34	15.00	48.03	-9.54	38.68	53.9	15.2	134	32	VBW:13 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	49.69	32.68	16.81	43.44	2.28	58.02	-37.21	-27.0	10.2	212	249	-
Hori.	17010.000	PK	46.35	39.59	12.55	40.36	-9.54	48.59	-46.64	-27.0	19.6	150	0	-
Vert.	5725.000	PK	49.48	32.68	16.81	43.44	2.28	57.81	-37.42	-27.0	10.4	100	263	-
Vert.	17010.000	PK	46.38	39.59	12.55	40.36	-9.54	48.62	-46.61	-27.0	19.6	150	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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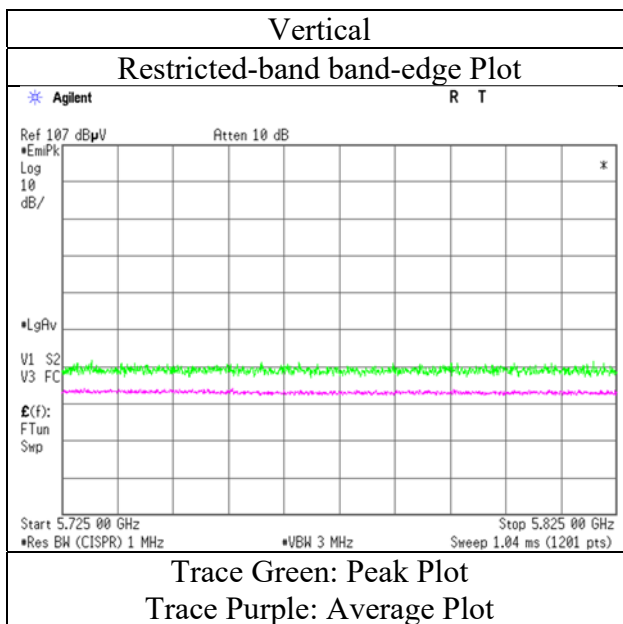
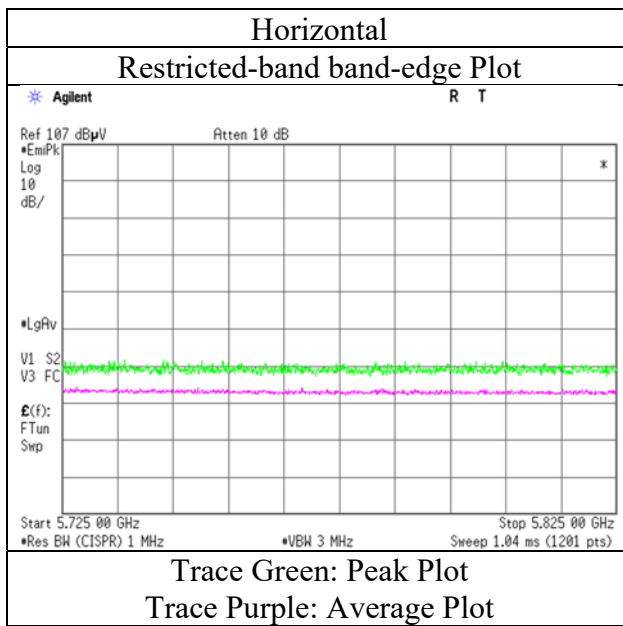
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### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda
	( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (MIMO) 5670 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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1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11ac-80 (SISO) 5530 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	52.14	32.30	16.84	43.45	2.28	60.11	73.9	13.7	175	211	-
Hori.	5460.000	AV	41.46	32.30	16.84	43.45	2.28	49.43	53.9	4.4	175	211	VBW:11 kHz
Vert.	5460.000	PK	49.49	32.30	16.84	43.45	2.28	57.46	73.9	16.4	105	282	-
Vert.	5460.000	AV	40.73	32.30	16.84	43.45	2.28	48.70	53.9	5.2	105	282	VBW:11 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	51.74	32.33	16.84	43.46	2.28	59.73	-35.50	-27.0	8.5	175	211	-
Hori.	5725.000	PK	48.84	32.68	17.00	43.44	2.28	57.36	-37.87	-27.0	10.8	175	211	-
Vert.	5470.000	PK	50.22	32.33	16.84	43.46	2.28	58.21	-37.02	-27.0	10.0	105	282	-
Vert.	5725.000	PK	49.02	32.68	17.00	43.44	2.28	57.54	-37.69	-27.0	10.6	105	282	-

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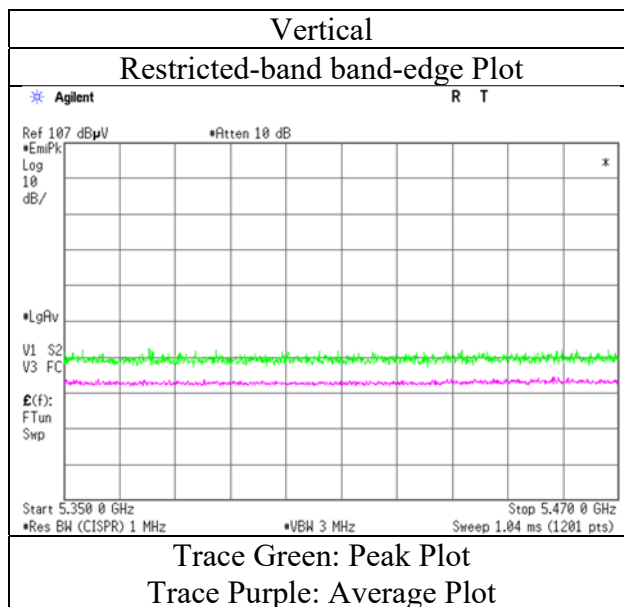
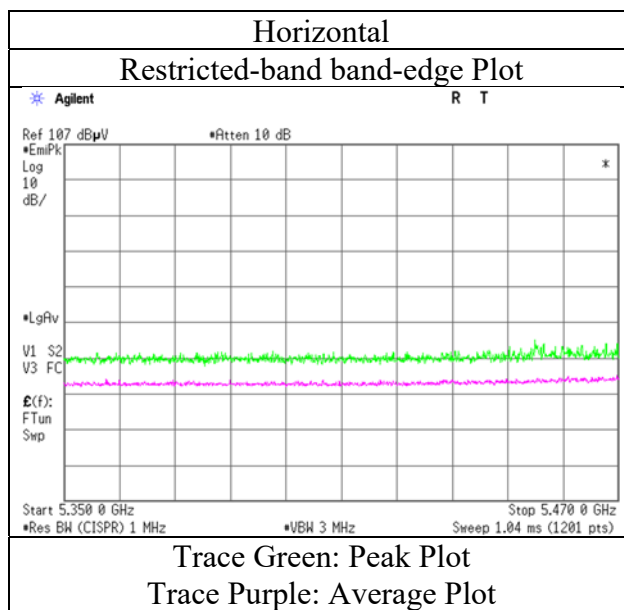
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (SISO) 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.

## Radiated Spurious Emission

Report No.	13456926S-I-R2			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 7, 2021
Temperature / Humidity	24 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Kazuya Noda	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara
	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -40 GHz )
Mode	Tx 11ac-80 (MIMO) 5530 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	49.65	32.30	16.63	43.45	2.28	57.41	73.9	16.4	229	249	-
Hori.	11060.000	PK	49.63	37.31	9.56	42.89	-9.54	44.07	73.9	29.8	150	0	-
Hori.	22120.000	PK	45.54	40.45	14.84	47.80	-9.54	43.49	73.9	30.4	123	355	-
Hori.	5460.000	AV	41.52	32.30	16.63	43.45	2.28	49.28	53.9	4.6	229	249	VBW:15 kHz
Hori.	11060.000	AV	40.68	37.31	9.56	42.89	-9.54	35.12	53.9	18.7	150	0	VBW:15 kHz
Hori.	22120.000	AV	40.74	40.45	14.84	47.80	-9.54	38.69	53.9	15.2	123	355	VBW:15 kHz
Vert.	5460.000	PK	49.81	32.30	16.63	43.45	2.28	57.57	73.9	16.3	122	272	-
Vert.	11060.000	PK	49.08	37.31	9.56	42.89	-9.54	43.52	73.9	30.3	150	0	-
Vert.	22120.000	PK	48.64	40.45	14.84	47.80	-9.54	46.59	73.9	27.3	132	28	-
Vert.	5460.000	AV	41.66	32.30	16.63	43.45	2.28	49.42	53.9	4.4	122	272	VBW:15 kHz
Vert.	11060.000	AV	40.76	37.31	9.56	42.89	-9.54	35.20	53.9	18.7	150	0	VBW:15 kHz
Vert.	22120.000	AV	45.43	40.45	14.84	47.80	-9.54	43.38	53.9	10.5	132	28	VBW:15 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	49.67	32.33	16.63	43.46	2.28	57.45	-37.78	-27.0	10.7	229	249	-
Hori.	5725.000	PK	49.12	32.68	16.81	43.44	2.28	57.45	-37.78	-27.0	10.7	229	249	-
Hori.	16590.000	PK	47.27	39.87	12.36	40.16	-9.54	49.80	-45.43	-27.0	18.4	150	0	-
Vert.	5470.000	PK	50.34	32.33	16.63	43.46	2.28	58.12	-37.11	-27.0	10.1	122	272	-
Vert.	5725.000	PK	49.24	32.68	16.81	43.44	2.28	57.57	-37.66	-27.0	10.6	122	272	-
Vert.	16590.000	PK	46.98	39.87	12.36	40.16	-9.54	49.51	-45.72	-27.0	18.7	150	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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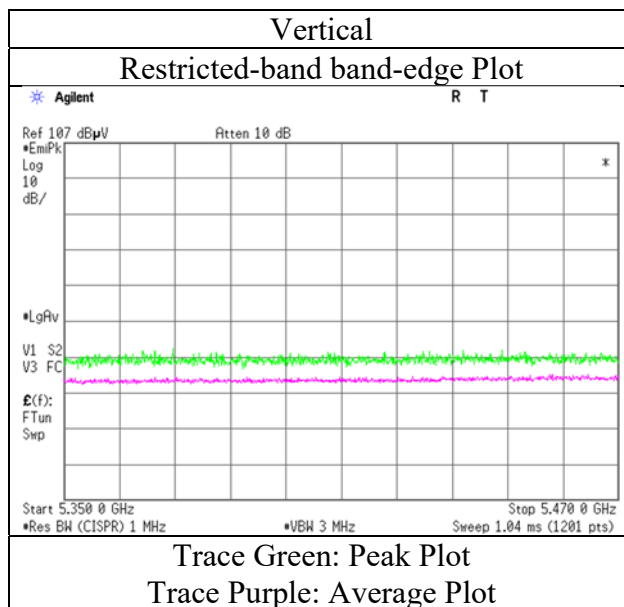
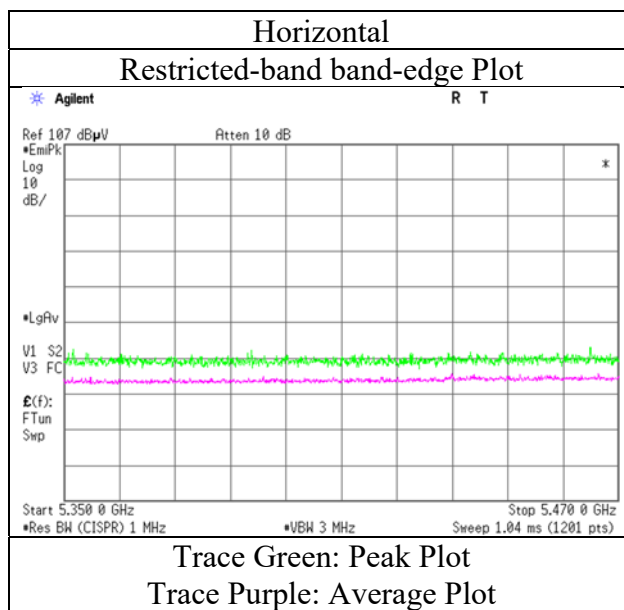
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Facsimile : +81 463 50 6401



## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda ( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (MIMO) 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.

## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-20 (SISO) 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	48.86	32.49	16.96	43.46	2.28	57.13	-38.10	-27.0	11.1	156	207	-
Hori.	5700.000	PK	49.32	32.60	16.98	43.45	2.28	57.73	-37.50	10.0	47.5	156	207	-
Hori.	5720.000	PK	49.36	32.66	16.99	43.44	2.28	57.85	-37.38	15.6	52.9	156	207	-
Hori.	5725.000	PK	49.67	32.68	17.00	43.44	2.28	58.19	-37.04	27.0	64.0	156	207	-
Vert.	5650.000	PK	49.43	32.49	16.96	43.46	2.28	57.70	-37.53	-27.0	<b>10.5</b>	104	277	-
Vert.	5700.000	PK	48.93	32.60	16.98	43.45	2.28	57.34	-37.89	10.0	47.8	104	277	-
Vert.	5720.000	PK	49.50	32.66	16.99	43.44	2.28	57.99	-37.24	15.6	52.8	104	277	-
Vert.	5725.000	PK	51.54	32.68	17.00	43.44	2.28	60.06	-35.17	27.0	62.1	104	277	-

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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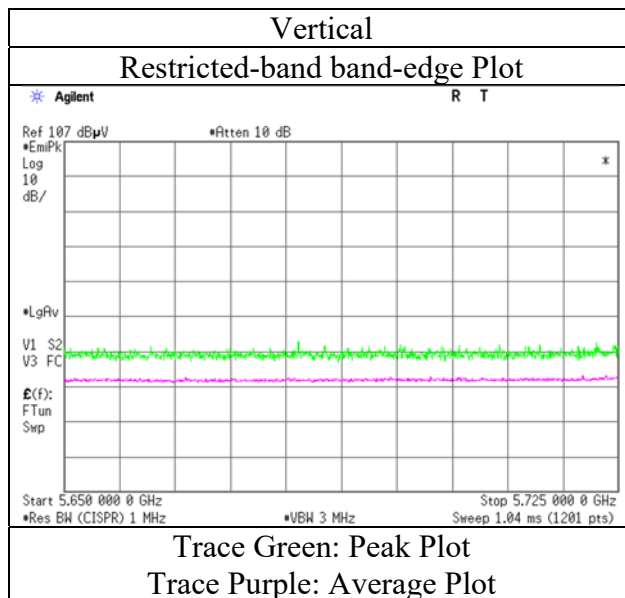
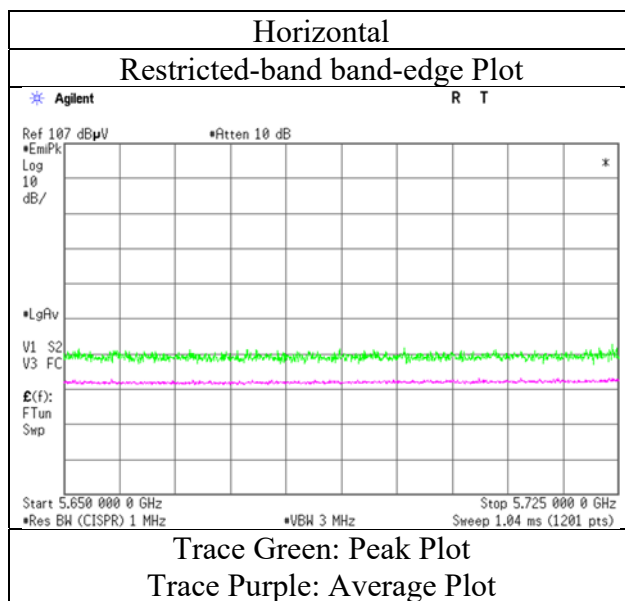
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 4, 2021
Temperature / Humidity	24 deg.C, 34 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (SISO) 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.

## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 4, 2021  
 Temperature / Humidity 24 deg.C, 34 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-20 (SISO) 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	48.86	33.07	17.07	43.41	2.28	57.87	-37.36	27.0	64.3	188	205	-
Hori.	5855.000	PK	48.52	33.08	17.07	43.41	2.28	57.54	-37.69	15.6	53.2	188	205	-
Hori.	5875.000	PK	48.97	33.12	17.11	43.41	2.28	58.07	-37.16	10.0	47.1	188	205	-
Hori.	5925.000	PK	48.78	33.21	17.13	43.40	2.28	58.00	-37.23	-27.0	<b>10.2</b>	188	205	-
Vert.	5850.000	PK	49.02	33.07	17.07	43.41	2.28	58.03	-37.20	27.0	64.2	152	246	-
Vert.	5855.000	PK	48.95	33.08	17.07	43.41	2.28	57.97	-37.26	15.6	52.8	152	246	-
Vert.	5875.000	PK	48.69	33.12	17.11	43.41	2.28	57.79	-37.44	10.0	47.4	152	246	-
Vert.	5925.000	PK	48.74	33.21	17.13	43.40	2.28	57.96	-37.27	-27.0	<b>10.2</b>	152	246	-

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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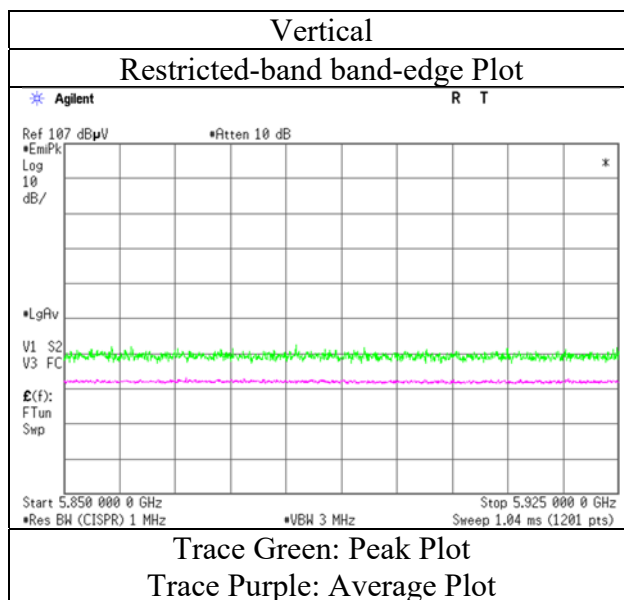
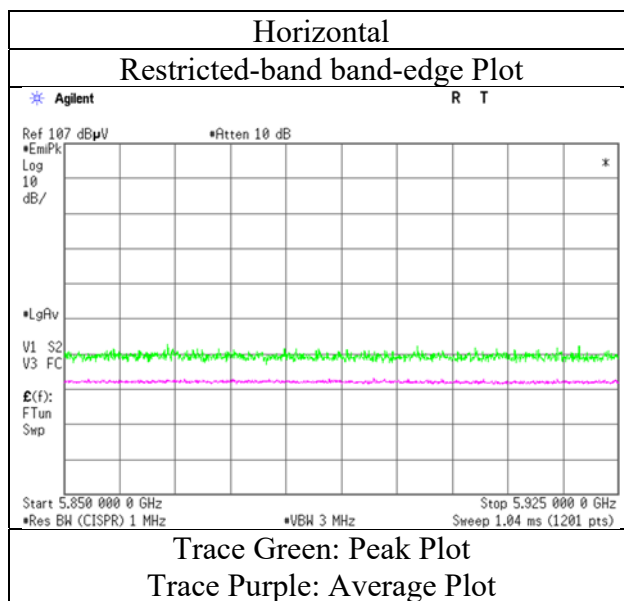
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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 4, 2021
Temperature / Humidity	24 deg.C, 34 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (SISO) 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. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3 3 3 3 3  
 Date December 18, 2020 December 21, 2020 December 21, 2020 January 5, 2021 January 7, 2021  
 Temperature / Humidity 23 deg.C, 30 %RH 21 deg.C, 33 %RH 21 deg.C, 33 %RH 20 deg.C, 33 %RH 22 deg.C, 30 %RH  
 Engineer Takahiro Kawakami Yusuke Tanikawara Takahiro Kawakami Yusuke Tanikawara Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz ) ( 6.4 GHz -10 GHz ) ( 10 GHz -18 GHz ) ( 18 GHz -26.5 GHz ) ( 26.5 GHz -40 GHz )  
 Mode Tx 11n-20 (MIMO) 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.	11490.000	PK	46.16	38.01	9.84	42.63	-9.54	41.84	73.9	32.0	150	0	-
Hori.	22980.000	PK	43.59	40.24	15.10	47.69	-9.54	41.70	73.9	32.2	146	270	-
Hori.	11490.000	AV	37.10	38.01	9.84	42.63	-9.54	32.78	53.9	21.1	150	0	VBW:8.2 kHz
Hori.	22980.000	AV	34.89	40.24	15.10	47.69	-9.54	33.00	53.9	20.9	146	270	VBW:8.2 kHz
Vert.	11490.000	PK	48.12	38.01	9.84	42.63	-9.54	43.80	73.9	30.1	150	0	-
Vert.	22980.000	PK	44.61	40.24	15.10	47.69	-9.54	42.72	73.9	31.1	138	32	-
Vert.	11490.000	AV	38.15	38.01	9.84	42.63	-9.54	33.83	53.9	20.0	150	0	VBW:8.2 kHz
Vert.	22980.000	AV	36.18	40.24	15.10	47.69	-9.54	34.29	53.9	19.6	138	32	VBW:8.2 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	49.05	32.49	16.76	43.46	2.28	57.12	-38.11	-27.0	11.1	386	211	-
Hori.	5700.000	PK	49.36	32.60	16.79	43.45	2.28	57.58	-37.65	10.0	47.6	386	211	-
Hori.	5720.000	PK	49.65	32.66	16.80	43.44	2.28	57.95	-37.28	15.6	52.8	386	211	-
Hori.	5725.000	PK	50.42	32.68	16.81	43.44	2.28	58.75	-36.48	27.0	63.4	386	211	-
Hori.	17235.000	PK	47.10	40.02	12.58	40.31	-9.54	49.85	-45.38	-27.0	18.3	150	0	-
Vert.	5650.000	PK	49.71	32.49	16.76	43.46	2.28	57.78	-37.45	-27.0	<b>10.4</b>	100	273	-
Vert.	5700.000	PK	50.00	32.60	16.79	43.45	2.28	58.22	-37.01	10.0	47.0	100	273	-
Vert.	5720.000	PK	50.67	32.66	16.80	43.44	2.28	58.97	-36.26	15.6	51.8	100	273	-
Vert.	5725.000	PK	50.74	32.68	16.81	43.44	2.28	59.07	-36.16	27.0	63.1	100	273	-
Vert.	17235.000	PK	47.23	40.02	12.58	40.31	-9.54	49.98	-45.25	-27.0	18.2	150	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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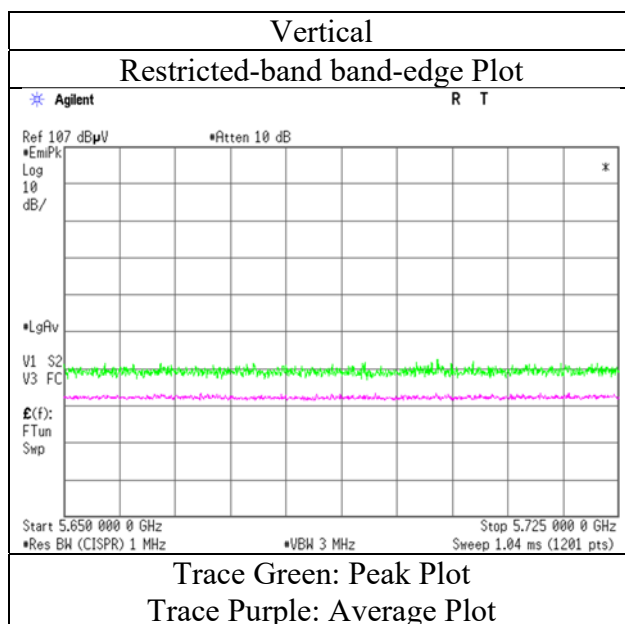
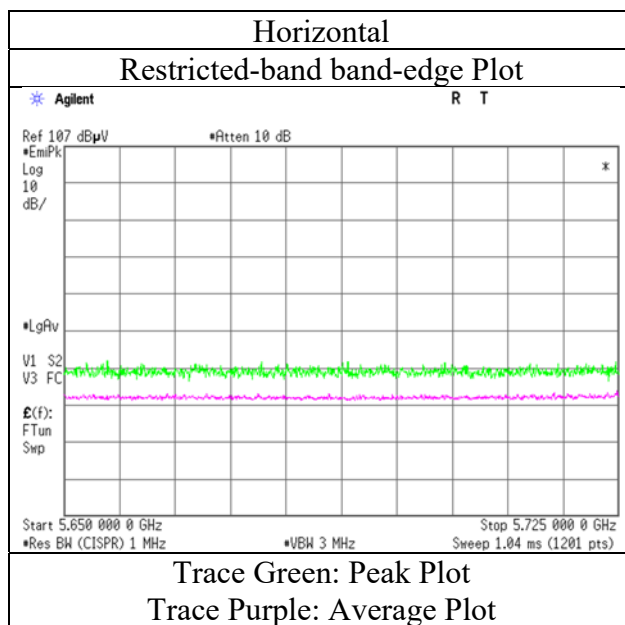
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	23 deg.C, 30 %RH
Engineer	Takahiro Kawakami ( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (MIMO) 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.

## Radiated Spurious Emission

Report No.	13456926S-I-R2				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	3	3
Date	December 18, 2020	December 21, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	23 deg.C, 30 %RH	21 deg.C, 33 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Takahiro Kawakami	Yusuke Tanikawara	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara
Mode	( 1 GHz -6.4 GHz )	( 6.4 GHz -10 GHz )	( 10 GHz -18 GHz )	( 18 GHz -26.5 GHz )	( 26.5 GHz -40 GHz )
	Tx 11n-20 (MIMO) 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.	11570.000	PK	46.90	38.10	9.88	42.62	-9.54	42.72	73.9	31.1	150	0	-
Hori.	11570.000	AV	37.65	38.10	9.88	42.62	-9.54	33.47	53.9	20.4	150	0	VBW:8.2 kHz
Vert.	11570.000	PK	45.78	38.10	9.88	42.62	-9.54	41.60	73.9	32.3	150	0	-
Vert.	11570.000	AV	37.13	38.10	9.88	42.62	-9.54	32.95	53.9	20.9	150	0	VBW:8.2 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.	17355.000	PK	47.09	40.26	12.58	40.28	-9.54	50.11	-45.12	-27.0	18.1	150	0	-
Hori.	23140.000	PK	42.99	40.19	15.15	47.57	-9.54	41.22	-54.01	-27.0	27.0	142	270	-
Vert.	17355.000	PK	46.90	40.26	12.58	40.28	-9.54	49.92	-45.31	-27.0	18.3	150	0	-
Vert.	23140.000	PK	43.44	40.19	15.15	47.57	-9.54	41.67	-53.56	-27.0	26.5	137	19	-

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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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3 3 3 3 3  
 Date December 18, 2020 December 21, 2020 December 21, 2020 January 5, 2021 January 7, 2021  
 Temperature / Humidity 23 deg.C, 30 %RH 21 deg.C, 33 %RH 21 deg.C, 33 %RH 20 deg.C, 33 %RH 22 deg.C, 30 %RH  
 Engineer Takahiro Kawakami Yusuke Tanikawara Takahiro Kawakami Yusuke Tanikawara Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz ) ( 6.4 GHz -10 GHz ) ( 10 GHz -18 GHz ) ( 18 GHz -26.5 GHz ) ( 26.5 GHz -40 GHz )  
 Mode Tx 11n-20 (MIMO) 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.	11650.000	PK	47.42	38.16	9.95	42.61	-9.54	43.38	73.9	30.5	150	0	-
Hori.	11650.000	AV	38.16	38.16	9.95	42.61	-9.54	34.12	53.9	19.7	150	0	VBW:8.2 kHz
Vert.	11650.000	PK	47.80	38.16	9.95	42.61	-9.54	43.76	73.9	30.1	150	0	-
Vert.	11650.000	AV	38.20	38.16	9.95	42.61	-9.54	34.16	53.9	19.7	150	0	VBW:8.2 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	49.12	33.07	16.88	43.41	2.28	57.94	-37.29	27.0	64.2	116	225	-
Hori.	5855.000	PK	49.42	33.08	16.88	43.41	2.28	58.25	-36.98	15.6	52.5	116	225	-
Hori.	5875.000	PK	49.70	33.12	16.92	43.41	2.28	58.61	-36.62	10.0	46.6	116	225	-
Hori.	5925.000	PK	49.06	33.21	16.94	43.40	2.28	58.09	-37.14	-27.0	10.1	116	225	-
Hori.	17475.000	PK	46.14	40.46	12.61	40.26	-9.54	49.41	-45.82	-27.0	18.8	150	0	-
Hori.	23300.000	PK	43.27	40.18	15.22	47.47	-9.54	41.66	-53.57	-27.0	26.5	142	284	-
Vert.	5850.000	PK	50.23	33.07	16.88	43.41	2.28	59.05	-36.18	27.0	63.1	100	278	-
Vert.	5855.000	PK	50.11	33.08	16.88	43.41	2.28	58.94	-36.29	15.6	51.8	100	278	-
Vert.	5875.000	PK	50.08	33.12	16.92	43.41	2.28	58.99	-36.24	10.0	46.2	100	278	-
Vert.	5925.000	PK	49.48	33.21	16.94	43.40	2.28	58.51	-36.72	-27.0	<b>9.7</b>	100	278	-
Vert.	17475.000	PK	46.23	40.46	12.61	40.26	-9.54	49.50	-45.73	-27.0	18.7	150	0	-
Vert.	23300.000	PK	44.77	40.18	15.22	47.47	-9.54	43.16	-52.07	-27.0	25.0	139	45	-

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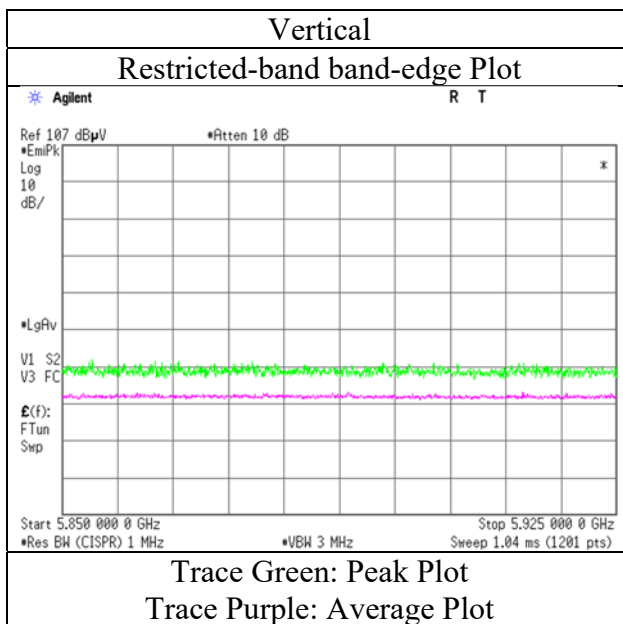
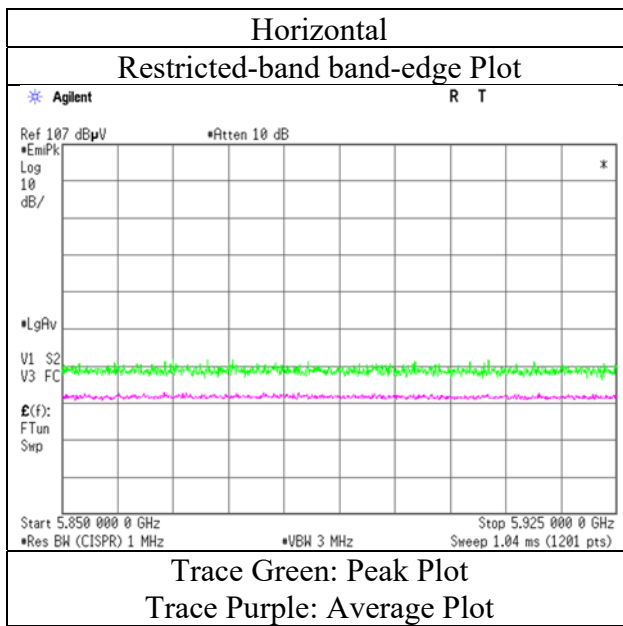
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	23 deg.C, 30 %RH
Engineer	Takahiro Kawakami
	( 1 GHz -6.4 GHz )
Mode	Tx 11n-20 (MIMO) 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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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-40 (SISO) 5755 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	48.94	32.49	16.96	43.46	2.28	57.21	-38.02	-27.0	11.0	167	211	-
Hori.	5700.000	PK	49.22	32.60	16.98	43.45	2.28	57.63	-37.60	10.0	47.6	167	211	-
Hori.	5720.000	PK	53.03	32.66	16.99	43.44	2.28	61.52	-33.71	15.6	49.3	167	211	-
Hori.	5725.000	PK	53.24	32.68	17.00	43.44	2.28	61.76	-33.47	27.0	60.4	167	211	-
Vert.	5650.000	PK	49.09	32.49	16.96	43.46	2.28	57.36	-37.87	-27.0	<b>10.8</b>	153	243	-
Vert.	5700.000	PK	49.06	32.60	16.98	43.45	2.28	57.47	-37.76	10.0	47.7	153	243	-
Vert.	5720.000	PK	52.47	32.66	16.99	43.44	2.28	60.96	-34.27	15.6	49.8	153	243	-
Vert.	5725.000	PK	51.09	32.68	17.00	43.44	2.28	59.61	-35.62	27.0	62.6	153	243	-

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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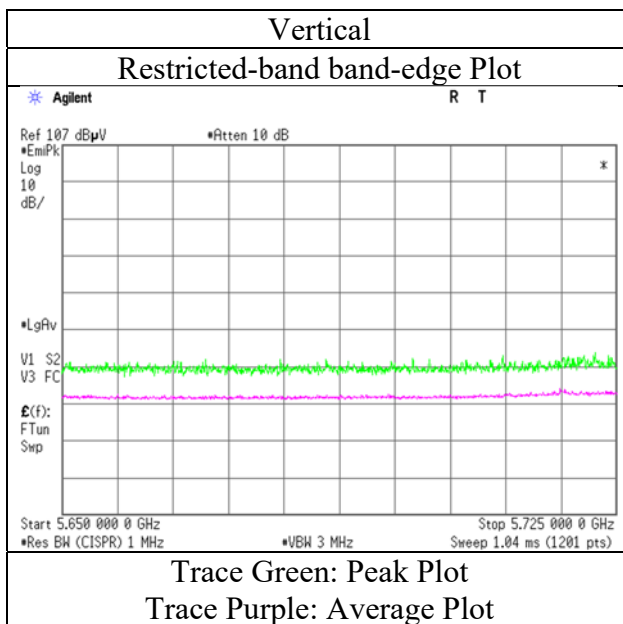
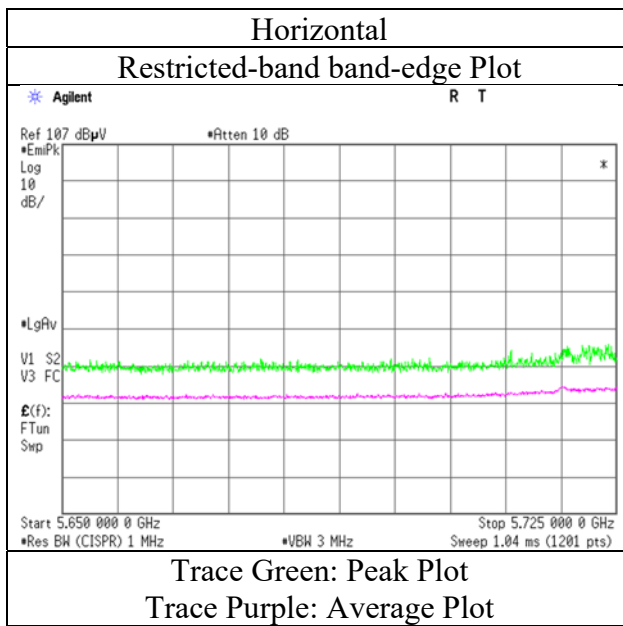
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### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (SISO) 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.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11n-40 (SISO) 5795 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	49.01	33.07	17.07	43.41	2.28	58.02	-37.21	27.0	64.2	172	214	-
Hori.	5855.000	PK	49.12	33.08	17.07	43.41	2.28	58.14	-37.09	15.6	52.6	172	214	-
Hori.	5875.000	PK	49.21	33.12	17.11	43.41	2.28	58.31	-36.92	10.0	46.9	172	214	-
Hori.	5925.000	PK	48.87	33.21	17.13	43.40	2.28	58.09	-37.14	-27.0	<b>10.1</b>	172	214	-
Vert.	5850.000	PK	49.03	33.07	17.07	43.41	2.28	58.04	-37.19	27.0	64.1	107	277	-
Vert.	5855.000	PK	49.10	33.08	17.07	43.41	2.28	58.12	-37.11	15.6	52.7	107	277	-
Vert.	5875.000	PK	48.89	33.12	17.11	43.41	2.28	57.99	-37.24	10.0	47.2	107	277	-
Vert.	5925.000	PK	48.80	33.21	17.13	43.40	2.28	58.02	-37.21	-27.0	10.2	107	277	-

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.**

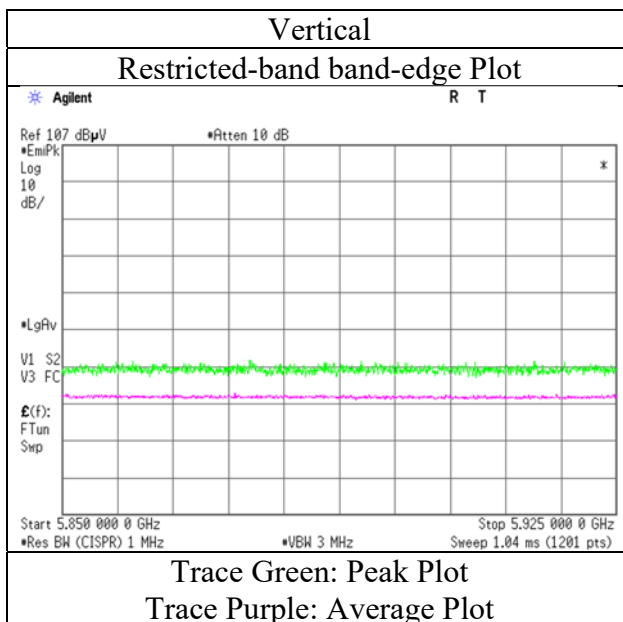
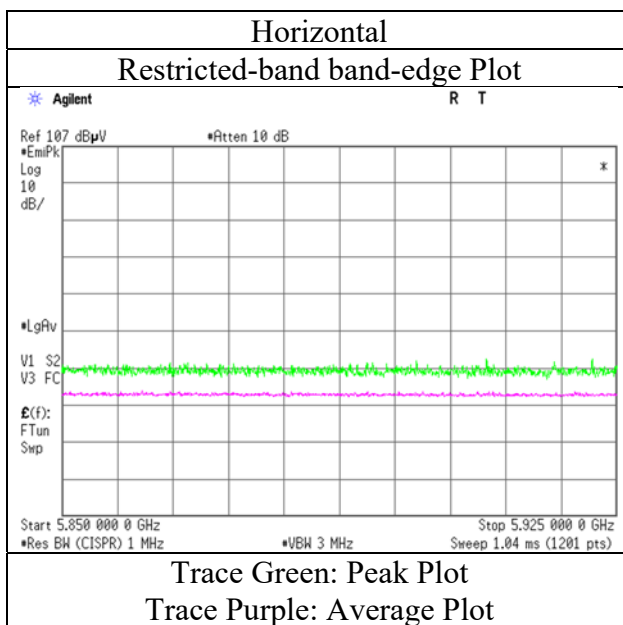
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### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (SISO) 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.**

**Shonan EMC Lab.**

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

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### Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3 3 3 3 3  
 Date December 18, 2020 December 21, 2020 December 21, 2020 January 5, 2021 January 7, 2021  
 Temperature / Humidity 24 deg.C, 30 %RH 21 deg.C, 33 %RH 21 deg.C, 33 %RH 20 deg.C, 33 %RH 22 deg.C, 30 %RH  
 Engineer Kazuya Noda Yusuke Tanikawara Takahiro Kawakami Yusuke Tanikawara Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz ) ( 6.4 GHz -10 GHz ) ( 10 GHz -18 GHz ) ( 18 GHz -26.5 GHz ) ( 26.5 GHz -40 GHz )  
 Mode Tx 11n-40 (MIMO) 5755 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.	11510.000	PK	47.30	38.03	9.84	42.62	-9.54	43.01	73.9	30.8	150	0	-
Hori.	23020.000	PK	43.36	40.23	15.11	47.66	-9.54	41.50	73.9	32.4	145	271	-
Hori.	11510.000	AV	38.22	38.03	9.84	42.62	-9.54	33.93	53.9	19.9	150	0	VBW:13 kHz
Hori.	23020.000	AV	35.54	40.23	15.11	47.66	-9.54	33.68	53.9	20.2	145	271	VBW:13 kHz
Vert.	11510.000	PK	46.87	38.03	9.84	42.62	-9.54	42.58	73.9	31.3	150	0	-
Vert.	23020.000	PK	44.85	40.23	15.11	47.66	-9.54	42.99	73.9	30.9	138	38	-
Vert.	11510.000	AV	37.41	38.03	9.84	42.62	-9.54	33.12	53.9	20.7	150	0	VBW:13 kHz
Vert.	23020.000	AV	37.12	40.23	15.11	47.66	-9.54	35.26	53.9	18.6	138	38	VBW:13 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	49.25	32.49	16.76	43.46	2.28	57.32	-37.91	-27.0	10.9	203	247	-
Hori.	5700.000	PK	49.41	32.60	16.79	43.45	2.28	57.63	-37.60	10.0	47.6	203	247	-
Hori.	5718.828	PK	55.77	32.66	16.80	43.44	2.28	64.07	-31.16	15.3	46.4	203	247	-
Hori.	5720.000	PK	51.87	32.66	16.80	43.44	2.28	60.17	-35.06	15.6	50.6	203	247	-
Hori.	5725.000	PK	52.16	32.68	16.81	43.44	2.28	60.49	-34.74	27.0	61.7	203	247	-
Hori.	17265.000	PK	48.00	40.10	12.58	40.30	-9.54	50.84	-44.39	-27.0	17.3	150	0	-
Vert.	5650.000	PK	49.55	32.49	16.76	43.46	2.28	57.62	-37.61	-27.0	<b>10.6</b>	100	269	-
Vert.	5700.000	PK	49.67	32.60	16.79	43.45	2.28	57.89	-37.34	10.0	47.3	100	269	-
Vert.	5718.837	PK	54.85	32.66	16.80	43.44	2.28	63.15	-32.08	15.3	47.3	100	269	-
Vert.	5720.000	PK	52.24	32.66	16.80	43.44	2.28	60.54	-34.69	15.6	50.2	100	269	-
Vert.	5725.000	PK	54.01	32.68	16.81	43.44	2.28	62.34	-32.89	27.0	59.8	100	269	-
Vert.	17265.000	PK	47.19	40.10	12.58	40.30	-9.54	50.03	-45.20	-27.0	18.2	150	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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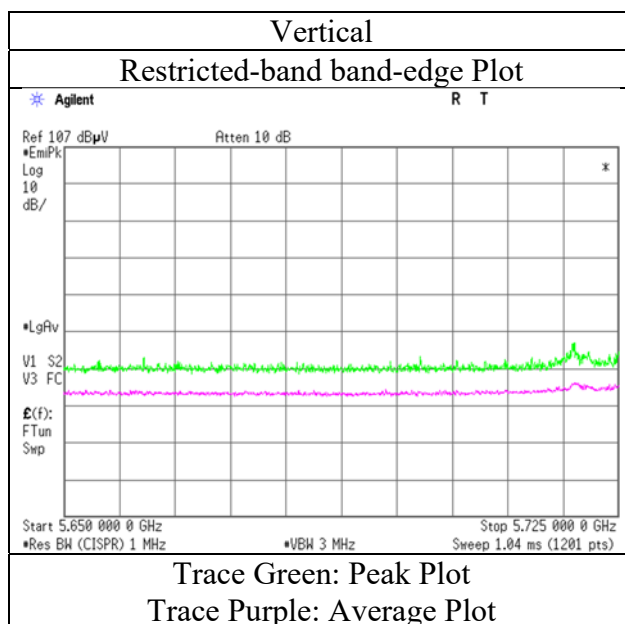
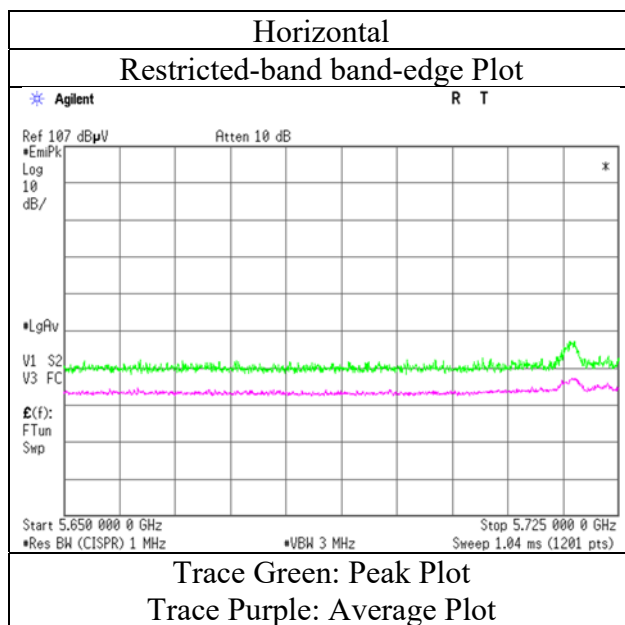
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda ( 1 GHz -6.4 GHz )
Mode	Tx 11n-40 (MIMO) 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.



## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3 3 3 3 3  
 Date December 18, 2020 December 21, 2020 December 21, 2020 January 5, 2021 January 7, 2021  
 Temperature / Humidity 24 deg.C, 30 %RH 21 deg.C, 33 %RH 21 deg.C, 33 %RH 20 deg.C, 33 %RH 22 deg.C, 30 %RH  
 Engineer Kazuya Noda Yusuke Tanikawara Takahiro Kawakami Yusuke Tanikawara Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz ) ( 6.4 GHz -10 GHz ) ( 10 GHz -18 GHz ) ( 18 GHz -26.5 GHz ) ( 26.5 GHz -40 GHz )  
 Mode Tx 11n-40 (MIMO) 5795 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.	11590.000	PK	47.01	38.12	9.90	42.62	-9.54	42.87	73.9	31.0	150	0	-
Hori.	11590.000	AV	38.24	38.12	9.90	42.62	-9.54	34.10	53.9	19.8	150	0	VBW:13 kHz
Vert.	11590.000	PK	47.53	38.12	9.90	42.62	-9.54	43.39	73.9	30.5	150	0	-
Vert.	11590.000	AV	38.13	38.12	9.90	42.62	-9.54	33.99	53.9	19.9	150	0	VBW:13 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	49.11	33.07	16.88	43.41	2.28	57.93	-37.30	27.0	64.3	227	244	-
Hori.	5855.000	PK	49.06	33.08	16.88	43.41	2.28	57.89	-37.34	15.6	52.9	227	244	-
Hori.	5875.000	PK	49.12	33.12	16.92	43.41	2.28	58.03	-37.20	10.0	47.2	227	244	-
Hori.	5925.000	PK	48.90	33.21	16.94	43.40	2.28	57.93	-37.30	-27.0	<b>10.3</b>	227	244	-
Hori.	17385.000	PK	46.38	40.35	12.61	40.28	-9.54	49.52	-45.71	-27.0	18.7	150	0	-
Hori.	23180.000	PK	43.03	40.19	15.17	47.55	-9.54	41.30	-53.93	-27.0	26.9	142	356	-
Vert.	5850.000	PK	49.21	33.07	16.88	43.41	2.28	58.03	-37.20	27.0	64.2	100	271	-
Vert.	5855.000	PK	49.17	33.08	16.88	43.41	2.28	58.00	-37.23	15.6	52.8	100	271	-
Vert.	5875.000	PK	49.15	33.12	16.92	43.41	2.28	58.06	-37.17	10.0	47.1	100	271	-
Vert.	5925.000	PK	48.89	33.21	16.94	43.40	2.28	57.92	-37.31	-27.0	<b>10.3</b>	100	271	-
Vert.	17385.000	PK	47.75	40.35	12.61	40.28	-9.54	50.89	-44.34	-27.0	17.3	150	0	-
Vert.	23180.000	PK	43.74	40.19	15.17	47.55	-9.54	42.01	-53.22	-27.0	26.2	135	38	-

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.**

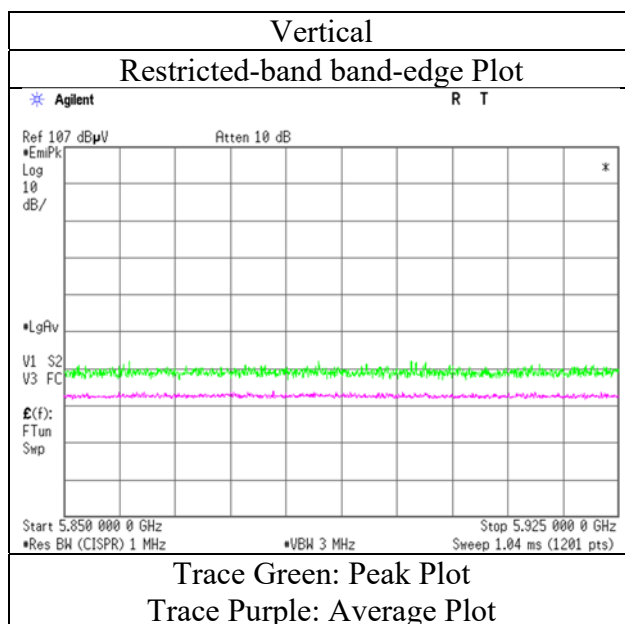
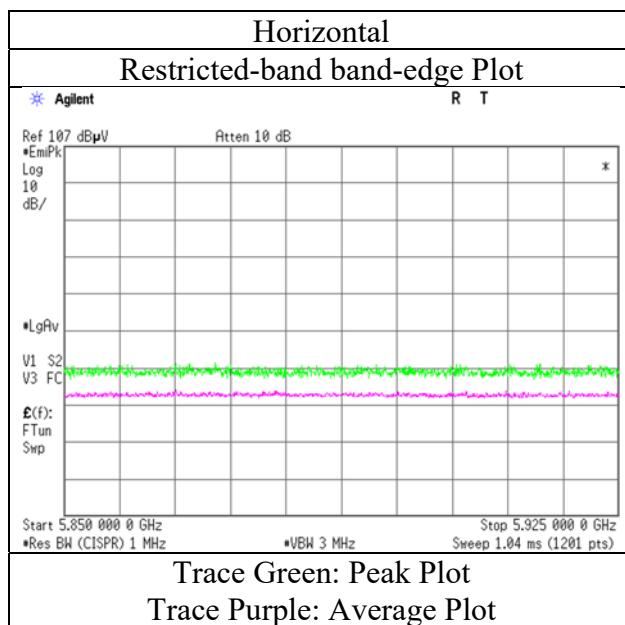
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### Radiated Spurious Emission

Report No. 13456926S-I-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date December 18, 2020  
Temperature / Humidity 24 deg.C, 30 %RH  
Engineer Kazuya Noda  
( 1 GHz -6.4 GHz )  
Mode Tx 11n-40 (MIMO) 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.

## Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3  
 Date February 5, 2021  
 Temperature / Humidity 21 deg.C, 30 %RH  
 Engineer Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz )  
 Mode Tx 11ac-80 (SISO) 5775 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	48.73	32.49	16.96	43.46	2.28	57.00	-38.23	-27.0	11.2	196	219	-
Hori.	5700.000	PK	49.50	32.60	16.98	43.45	2.28	57.91	-37.32	10.0	47.3	196	219	-
Hori.	5720.000	PK	50.54	32.66	16.99	43.44	2.28	59.03	-36.20	15.6	51.8	196	219	-
Hori.	5725.000	PK	52.65	32.68	17.00	43.44	2.28	61.17	-34.06	27.0	61.0	196	219	-
Hori.	5850.000	PK	50.05	33.07	17.07	43.41	2.28	59.06	-36.17	27.0	63.1	196	219	-
Hori.	5855.000	PK	49.74	33.08	17.07	43.41	2.28	58.76	-36.47	15.6	52.0	196	219	-
Hori.	5875.000	PK	48.96	33.12	17.11	43.41	2.28	58.06	-37.17	10.0	47.1	196	219	-
Hori.	5925.000	PK	48.66	33.21	17.13	43.40	2.28	57.88	-37.35	-27.0	10.3	196	219	-
Vert.	5650.000	PK	48.85	32.49	16.96	43.46	2.28	57.12	-38.11	-27.0	11.1	105	271	-
Vert.	5700.000	PK	49.15	32.60	16.98	43.45	2.28	57.56	-37.67	10.0	47.6	105	271	-
Vert.	5720.000	PK	50.02	32.66	16.99	43.44	2.28	58.51	-36.72	15.6	52.3	105	271	-
Vert.	5725.000	PK	51.68	32.68	17.00	43.44	2.28	60.20	-35.03	27.0	62.0	105	271	-
Vert.	5850.000	PK	50.49	33.07	17.07	43.41	2.28	59.50	-35.73	27.0	62.7	105	271	-
Vert.	5855.000	PK	49.81	33.08	17.07	43.41	2.28	58.83	-36.40	15.6	52.0	105	271	-
Vert.	5875.000	PK	49.42	33.12	17.11	43.41	2.28	58.52	-36.71	10.0	46.7	105	271	-
Vert.	5925.000	PK	48.82	33.21	17.13	43.40	2.28	58.04	-37.19	-27.0	<b>10.1</b>	105	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

**UL Japan, Inc.**

**Shonan EMC Lab.**

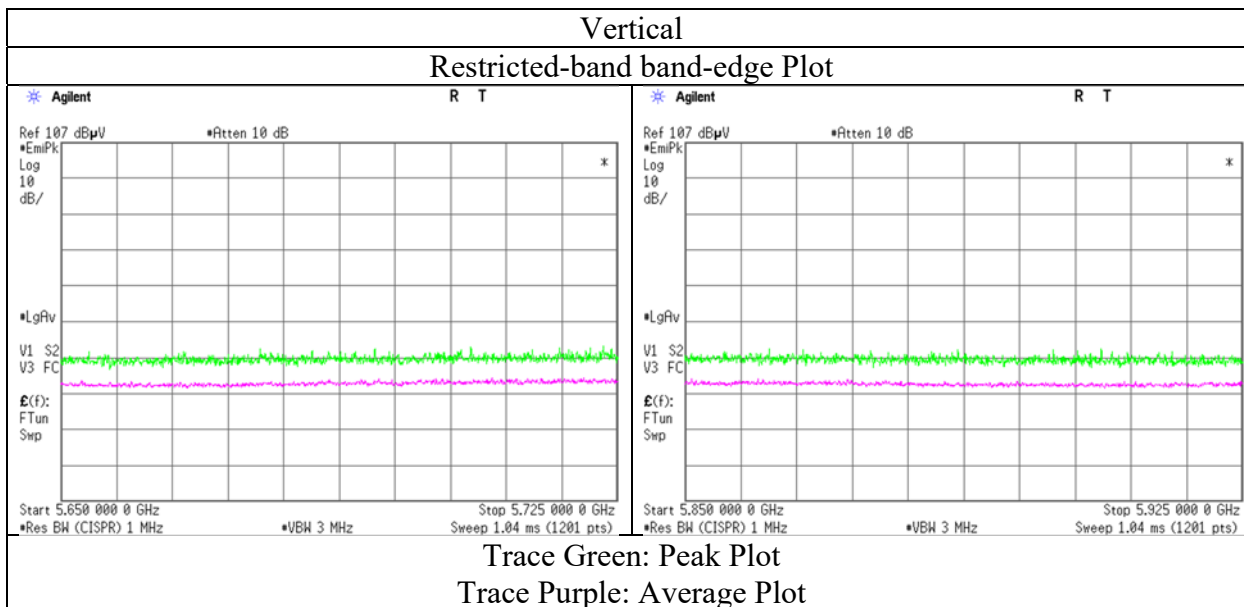
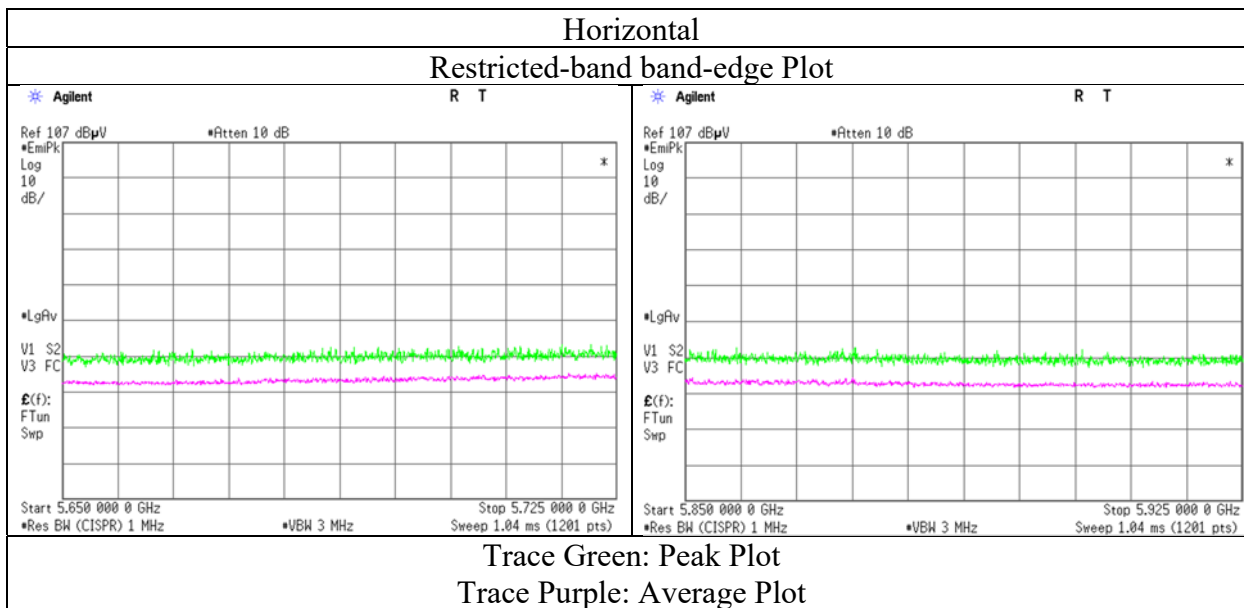
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### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	February 5, 2021
Temperature / Humidity	21 deg.C, 30 %RH
Engineer	Yusuke Tanikawara ( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (SISO) 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.

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### Radiated Spurious Emission

Report No. 13456926S-I-R2  
 Test place Shonan EMC Lab.  
 Semi Anechoic Chamber 3 3 3 3  
 Date December 18, 2020 December 21, 2020 December 21, 2020 January 7, 2021  
 Temperature / Humidity 24 deg.C, 30 %RH 21 deg.C, 33 %RH 21 deg.C, 33 %RH 22 deg.C, 30 %RH  
 Engineer Kazuya Noda Yusuke Tanikawara Takahiro Kawakami Yusuke Tanikawara  
 ( 1 GHz -6.4 GHz ) ( 6.4 GHz -10 GHz ) ( 10 GHz -18 GHz ) ( 18 GHz -40 GHz )  
 Mode Tx 11ac-80 (MIMO) 5775 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.	11550.000	PK	47.21	38.08	9.87	42.62	-9.54	43.00	73.9	30.9	150	0	-
Hori.	23100.000	PK	43.11	40.21	15.14	47.60	-9.54	41.32	73.9	32.5	138	278	-
Hori.	11550.000	AV	38.31	38.08	9.87	42.62	-9.54	34.10	53.9	19.8	150	0	VBW:15 kHz
Hori.	23100.000	AV	35.66	40.21	15.14	47.60	-9.54	33.87	53.9	20.0	138	278	VBW:15 kHz
Vert.	11550.000	PK	47.40	38.08	9.87	42.62	-9.54	43.19	73.9	30.7	150	0	-
Vert.	23100.000	PK	43.09	40.21	15.14	47.60	-9.54	41.30	73.9	32.6	133	33	-
Vert.	11550.000	AV	38.40	38.08	9.87	42.62	-9.54	34.19	53.9	19.7	150	0	VBW:15 kHz
Vert.	23100.000	AV	36.56	40.21	15.14	47.60	-9.54	34.77	53.9	19.1	133	33	VBW:15 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	49.98	32.49	16.76	43.46	2.28	58.05	-37.18	-27.0	10.1	211	246	-
Hori.	5700.000	PK	50.41	32.60	16.79	43.45	2.28	58.63	-36.60	10.0	46.6	211	246	-
Hori.	5720.000	PK	50.48	32.66	16.80	43.44	2.28	58.78	-36.45	15.6	52.0	211	246	-
Hori.	5725.000	PK	50.77	32.68	16.81	43.44	2.28	59.10	-36.13	27.0	63.1	211	246	-
Hori.	5850.000	PK	49.76	33.07	16.88	43.41	2.28	58.58	-36.65	27.0	63.6	211	246	-
Hori.	5855.000	PK	49.57	33.08	16.88	43.41	2.28	58.40	-36.83	15.6	52.4	211	246	-
Hori.	5875.000	PK	49.32	33.12	16.92	43.41	2.28	58.23	-37.00	10.0	47.0	211	246	-
Hori.	5925.000	PK	49.33	33.21	16.94	43.40	2.28	58.36	-36.87	-27.0	<b>9.8</b>	211	246	-
Hori.	17325.000	PK	47.28	40.22	12.58	40.29	-9.54	50.25	-44.98	-27.0	17.9	150	0	-
Vert.	5650.000	PK	50.14	32.49	16.76	43.46	2.28	58.21	-37.02	-27.0	10.0	100	272	-
Vert.	5700.000	PK	50.21	32.60	16.79	43.45	2.28	58.43	-36.80	10.0	46.8	100	272	-
Vert.	5720.000	PK	50.39	32.66	16.80	43.44	2.28	58.69	-36.54	15.6	52.1	100	272	-
Vert.	5725.000	PK	50.98	32.68	16.81	43.44	2.28	59.31	-35.92	27.0	62.9	100	272	-
Vert.	5850.000	PK	49.88	33.07	16.88	43.41	2.28	58.70	-36.53	27.0	63.5	100	272	-
Vert.	5855.000	PK	49.53	33.08	16.88	43.41	2.28	58.36	-36.87	15.6	52.4	100	272	-
Vert.	5875.000	PK	49.24	33.12	16.92	43.41	2.28	58.15	-37.08	10.0	47.0	100	272	-
Vert.	5925.000	PK	49.35	33.21	16.94	43.40	2.28	58.38	-36.85	-27.0	<b>9.8</b>	100	272	-
Vert.	17325.000	PK	47.48	40.22	12.58	40.29	-9.54	50.45	-44.78	-27.0	17.7	150	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

**UL Japan, Inc.**

**Shonan EMC Lab.**

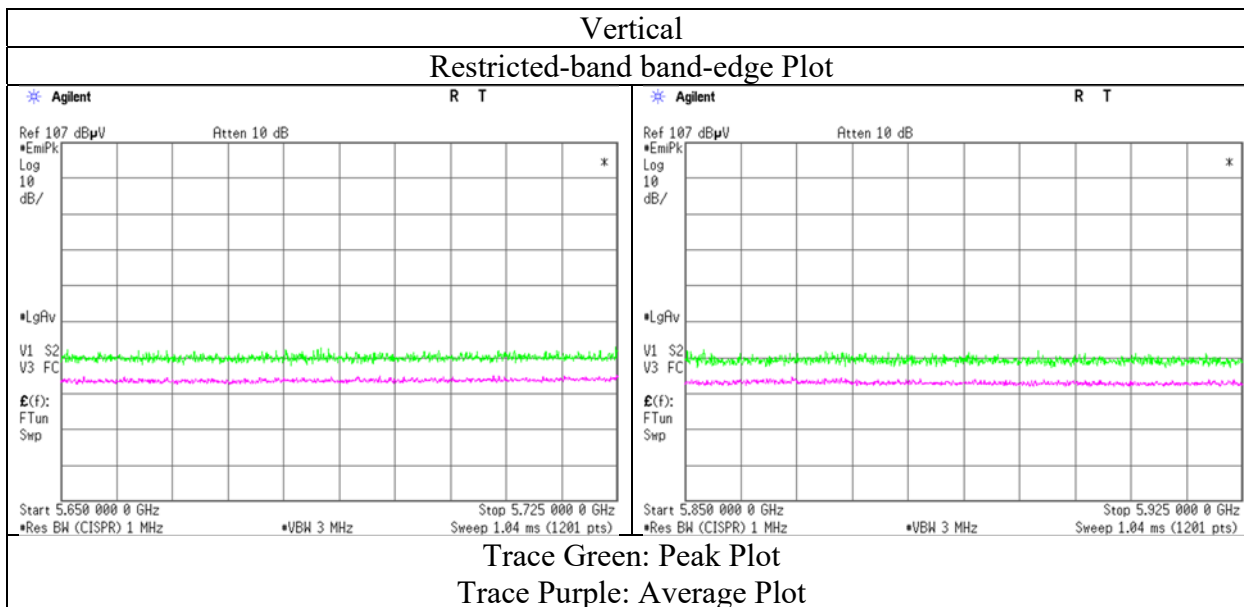
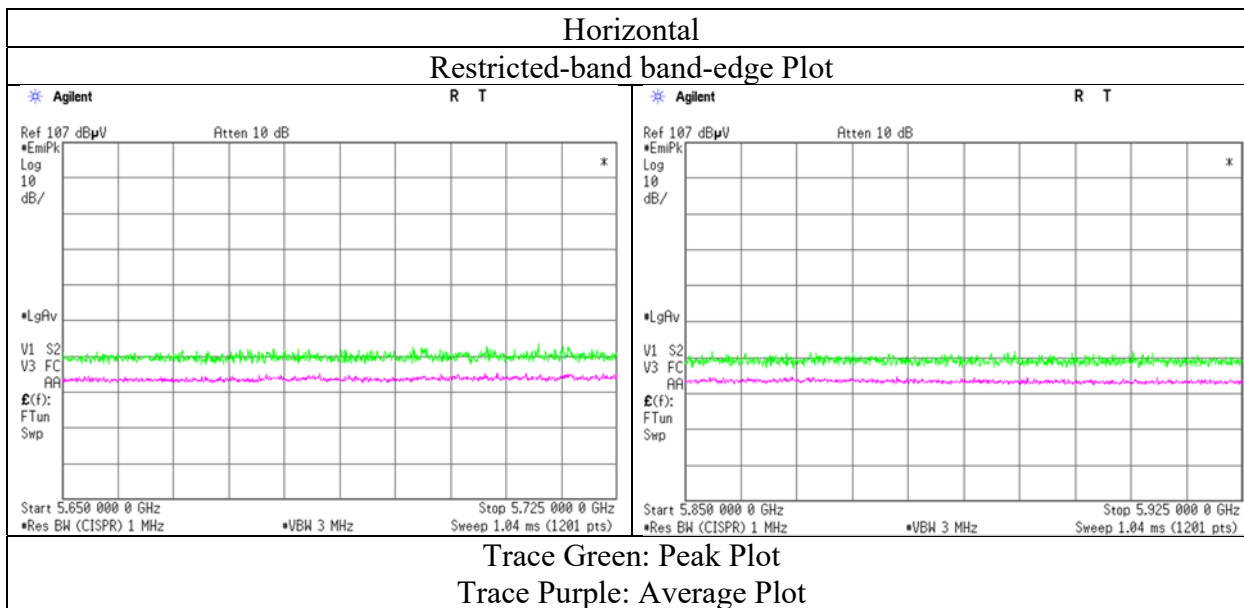
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### Radiated Spurious Emission

Report No.	13456926S-I-R2
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	December 18, 2020
Temperature / Humidity	24 deg.C, 30 %RH
Engineer	Kazuya Noda
	( 1 GHz -6.4 GHz )
Mode	Tx 11ac-80 (MIMO) 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.**

**Shonan EMC Lab.**

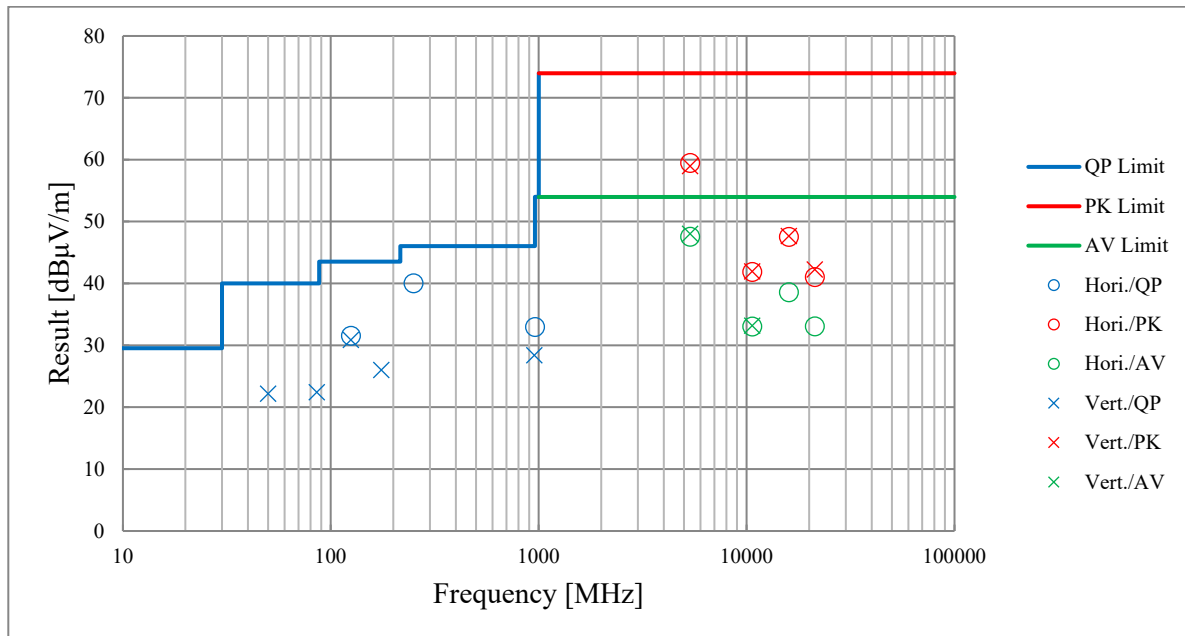
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## Radiated Spurious Emission (Plot data, Worst case)

Report No.	13456926S-I-R2				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	3	3
Date	February 11, 2021	December 18, 2020	December 21, 2020	January 5, 2021	January 7, 2021
Temperature / Humidity	22 deg.C, 32 %RH	23 deg.C, 30 %RH	21 deg.C, 33 %RH	20 deg.C, 33 %RH	22 deg.C, 30 %RH
Engineer	Takahiro Kawakami	Takahiro Kawakami	Yusuke Tanikawara	Yusuke Tanikawara	Yusuke Tanikawara
Mode	(30 MHz -1 GHz) Tx 11n-20 (MIMO) 5320 MHz	(1 GHz -6.4 GHz)	(6.4 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)



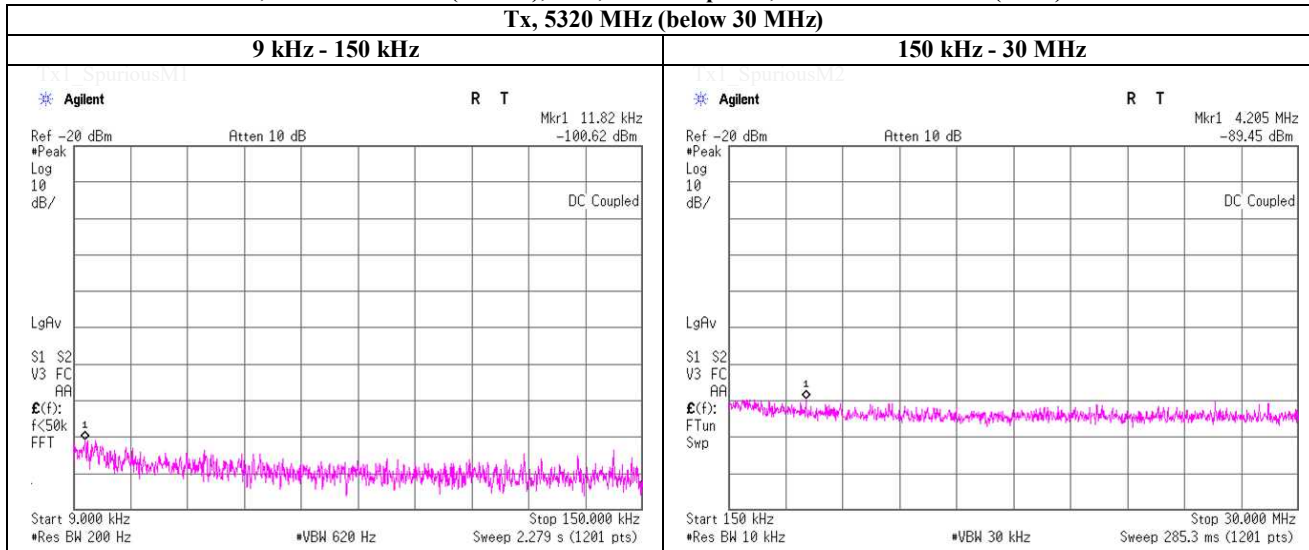
\*These plots data contains sufficient number to show the trend of characteristic features for EUT.

Test place           UL Japan, Inc. Shonan EMC Lab.     No.1 Measurement Room  
 Date                 January 13, 2021  
 Temperature / Humidity   24 deg.C     , 41 %RH  
 Engineer             Takahiro Kawakami

**Spurious emission (Conducted)**

**Tx, IEEE802.11n-20 (MIMO), PN9, Antenna port 1, worst data mode 13 (MCS)**

**Tx, 5320 MHz (below 30 MHz)**



FREQ [kHz]	Reading [dBm]	Cable Loss [dB]	Anttenuator Loss [dB]	Antenna Gain	N (Number of output)	EIRP [dBm]	Distance [m]	Ground bounce [dB]	E (field Strength) [dBuV/m]	Limit [dBuV/m]	Margin [dB]
11.82	-100.62	2.01	9.83	4.04	2	-81.74	300.00	6.00	-20.5	46.1	66.6
4205	-89.45	2.01	9.83	4.04	2	-70.56	30.00	6.00	10.7	29.5	18.8

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

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

N: Number of output port

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**APPENDIX 2: Test instruments****Test equipment (1/2)**

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
CE	SCC-C9/C10/SRSE-03	145036	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-271(RF Selector)	2021/04/12	12
CE	SLS-02	145539	LISN	Rohde & Schwarz	ENV216	100512	2021/02/24	12
CE	SLS-05	145542	LISN	Rohde & Schwarz	ENV216	100516	2021/02/12	12
CE	SOS-24	191841	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/10/01	12
CE	STM-02	145746	Terminator	TME	CT-01 BP	-	2020/12/07	12
RE	KSA-08	145089	Spectrum Analyzer	Keysight Technologies Inc	E4446A	MY46180525	2020/11/24	12
RE	SAEC-03(NSA)	145565	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	2021/04/27	12
RE	SAEC-03(SVSWR)	145566	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	2021/05/21	12
RE	SAF-03	145126	Pre Amplifier	SONOMA	310N	290213	2021/02/10	12
RE	SAF-06	145005	Pre Amplifier	Toyo Corporation	TPA0118-36	1440491	2021/02/08	12
RE	SAF-08	145007	Pre Amplifier	Toyo Corporation	HAP18-26W	19	2021/03/01	12
RE	SAF-10	145129	Pre Amplifier	Toyo Corporation	HAP26-40W	10	2021/03/01	12
RE	SAT10-05	145136	Attenuator	Keysight Technologies Inc	8493C-010	74864	2020/10/05	12
RE	SAT6-13	167094	Attenuator	JFW	50HF-006N	-	2021/02/10	12
RE	SBA-03	145023	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	BBA9106	91032666	2021/05/15	12
RE	SCC-C1/C2/C3/C4/C5/C10/SRSE-03	145171	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	2021/04/12	12
RE	SCC-G15	145176	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	2021/03/01	12
RE	SCC-G40	166491	Coaxial Cable	Junkosha	MWX221-01000NFSNMS/B	1612S005	2021/01/19	12
RE	SCC-G43	156380	Coaxial Cable	Huber+Suhner	SUCOFLEX_104_E	SN MY 13406/4E	2021/05/17	12
RE	SCC-G57	179540	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	802815/2	2021/05/18	12
RE	SCC-G58	183047	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	800287/4A	2021/05/17	12
RE	SCC-G70	200010	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	575618/4	2020/07/07	12
RE	SFL-02	145301	Highpass Filter	MICRO-TRONICS	HPM50111	51	2020/10/05	12
RE	SFL-03	145377	Highpass Filter	MICRO-TRONICS	HPM50112	28	2020/10/05	12
RE	SHA-03	145501	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	9120D-739	2020/06/15	12
RE	SHA-04	145512	Horn Antenna	ETS-Lindgren	3160-09	00094868	2020/06/15	12
RE	SHA-06	145514	Horn Antenna	ETS-Lindgren	3160-10	00092383	2020/07/16	12
RE	SHA-10	194685	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	711	2021/03/03	12
RE	SLA-07	145529	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	196	2021/05/15	12
RE	SSA-02	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2021/04/13	12
RE,CE	COTS-SEMI-5	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	-	-	-
RE,CE	KJM-02	146432	Measure	TAJIMA	GL19-55	-	-	-
RE,CE	SOS-23	191840	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/09/28	12
RE,CE	STR-08	150463	Test Receiver	Rohde & Schwarz	ESW44	101581	2020/12/02	12
RE,CE	STS-03	146210	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997823	2020/10/19	12

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**Test equipment (2/2)**

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
AT	SAT10-12	151609	Attenuator	Weinschel Corp.	54A-10	81601	2021/03/01	12
AT	SOS-13	146321	Humidity Indicator	CUSTOM. Inc	CTH-202	Q.C.17	-	-
AT	SOS-28	191846	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/09/29	12
AT	SPM-13	169910	Power Meter	Keysight Technologies Inc	8990B	MY51000448	2021/01/25	12
AT	SPSS-06	169911	Power sensor	Keysight Technologies Inc	N1923A	MY57270004	2021/01/25	12
AT	STM-G8	171615	Terminator	Weinschel - API Technologies Corp	M1459A	88997	2021/05/17	12
AT	STM-G9	171616	Terminator	Weinschel - API Technologies Corp	M1459A	89025	2021/05/18	12
AT	KTS-08	145095	Digital Tester	SANWA	PC500	7019224	2021/04/26	12
AT	SCC-G64	196945	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	803414/2	2021/03/01	12
AT	SRENT-09	150461	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46186392	2021/02/22	12

\*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: RE: Radiated Emission test  
AT: Antenna Terminal Conducted test

**UL Japan, Inc.**

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