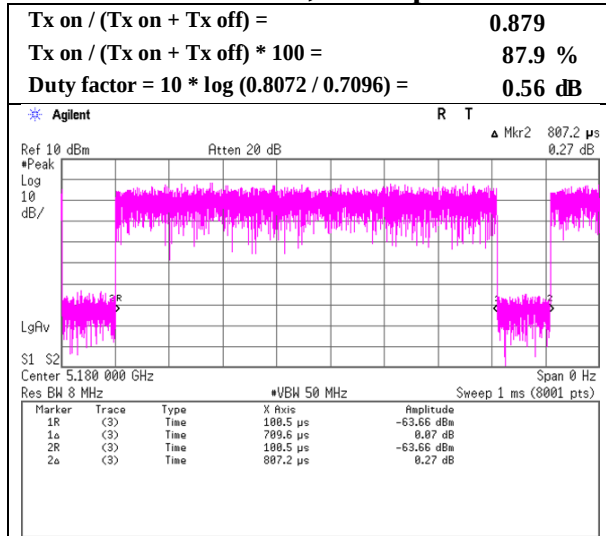


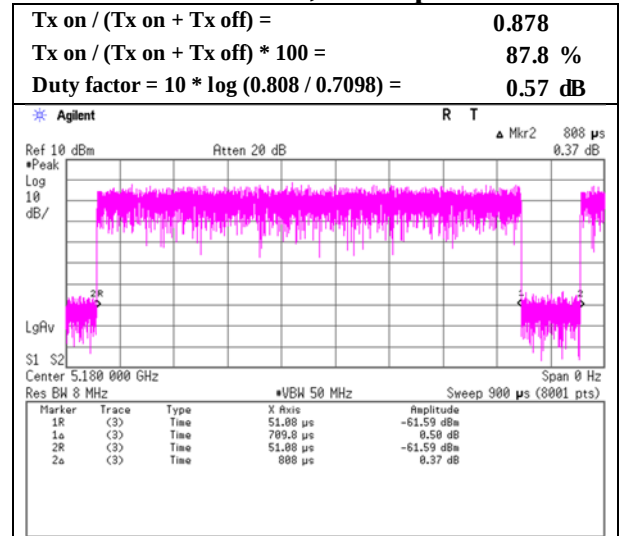
Burst rate confirmation

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 1, 2020
Temperature / Humidity 23 deg. C / 50 % RH
Engineer Shiro Kobayashi
Mode Tx Toshinori Yamada

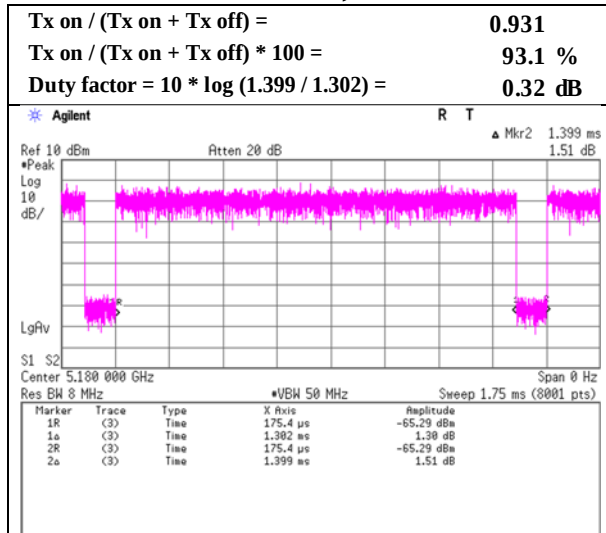
11a SISO, 12 Mbps



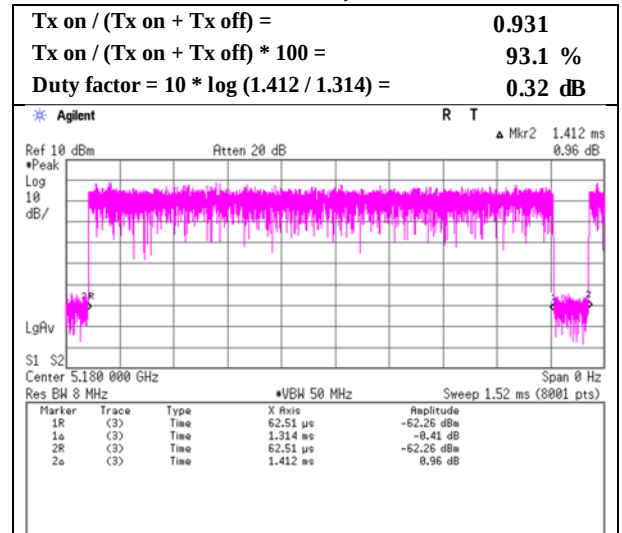
11a CDD, 12 Mbps



11n-20 SISO, MCS 0



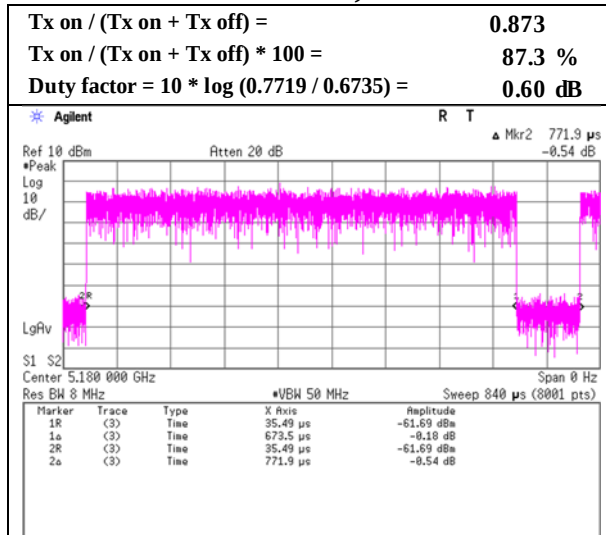
11n-20 CDD, MCS 0



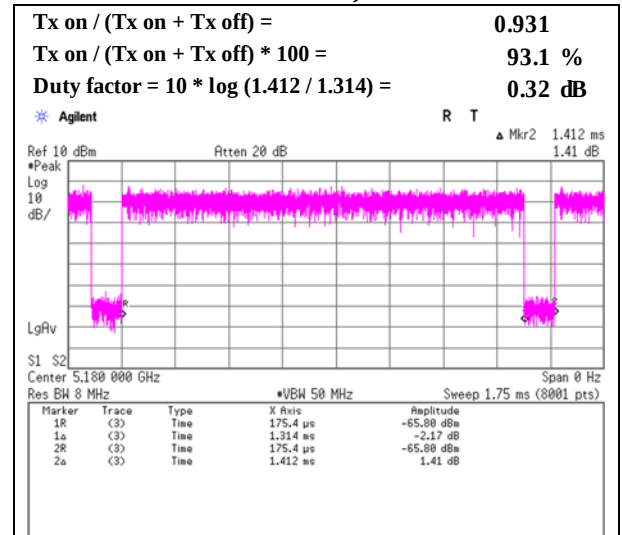
Burst rate confirmation

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 1, 2020
Temperature / Humidity 24 deg. C / 50 % RH
Engineer Shiro Kobayashi
Mode Tx Toshinori Yamada

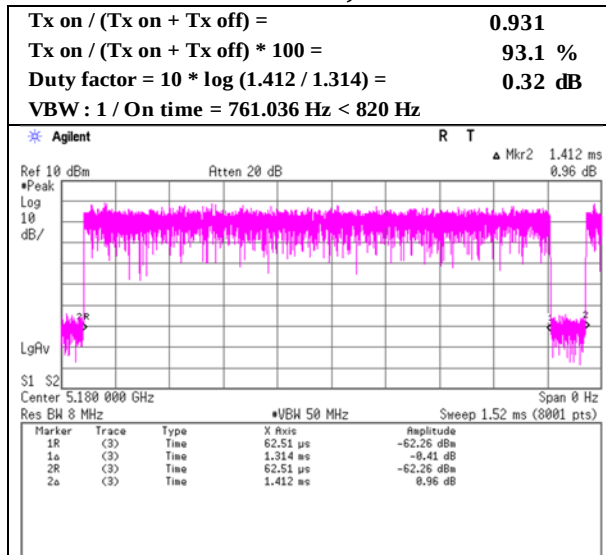
11n-20 MIMO, MCS 8



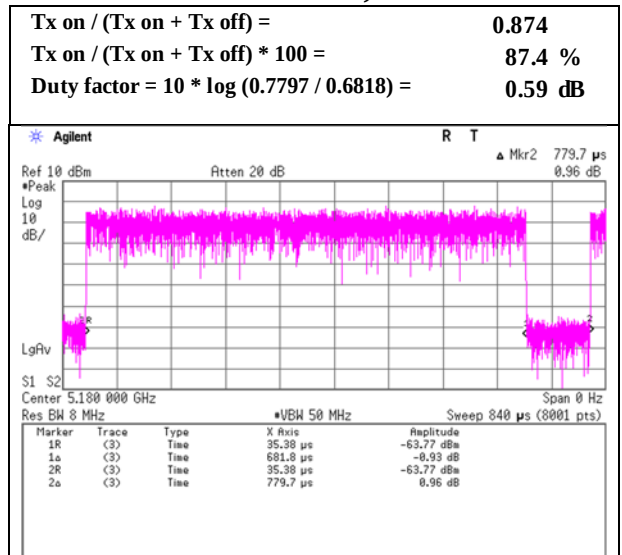
11ac-20 SISO, MCS 0



11ac-20 CDD, MCS 0



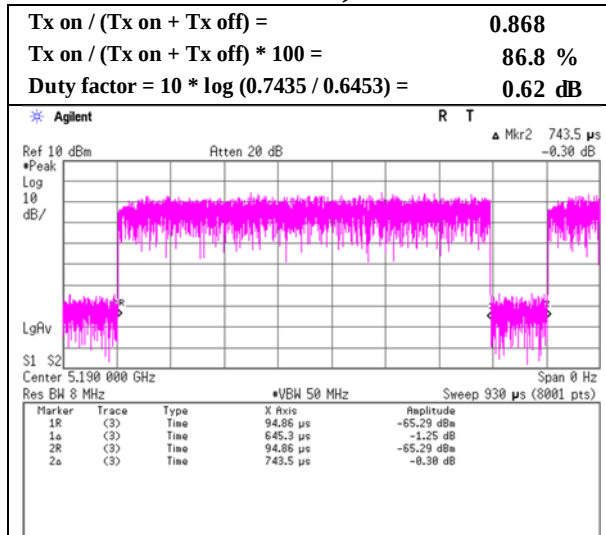
11ac-20 MIMO, MCS 0



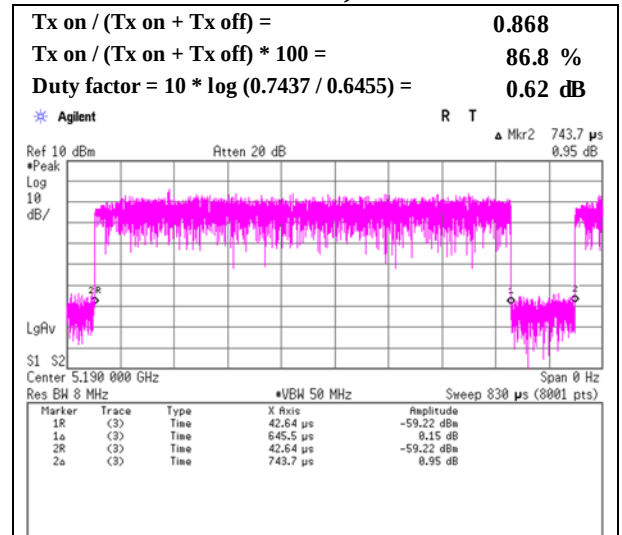
Burst rate confirmation

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 1, 2020
Temperature / Humidity 24 deg. C / 50 % RH
Engineer Shiro Kobayashi
Mode Tx Toshinori Yamada

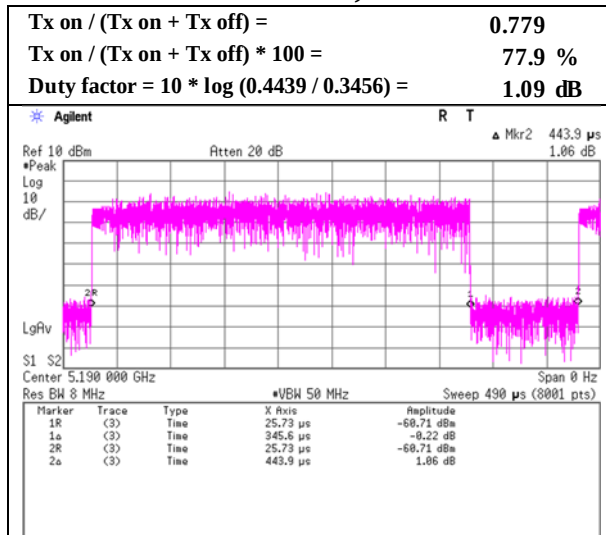
11n-40 SISO, MCS 0



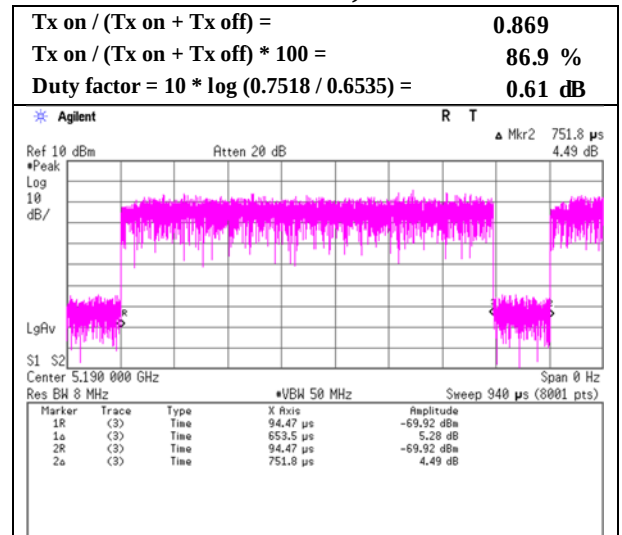
11n-40 CDD, MCS 0



11n-40 MIMO, MCS 8



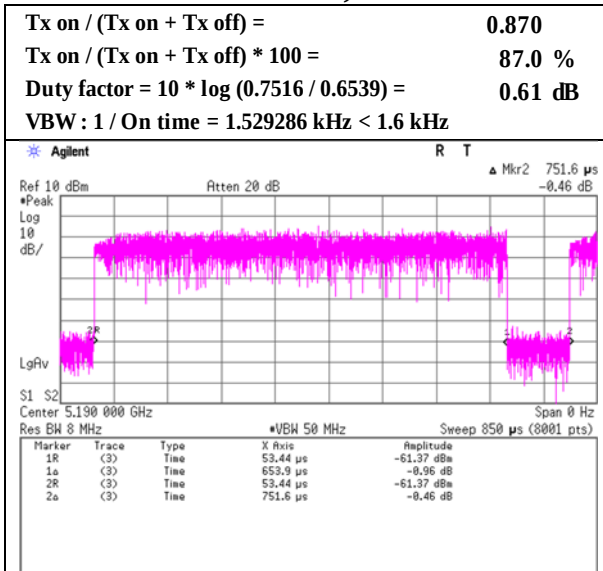
11ac-40 SISO, MCS 0



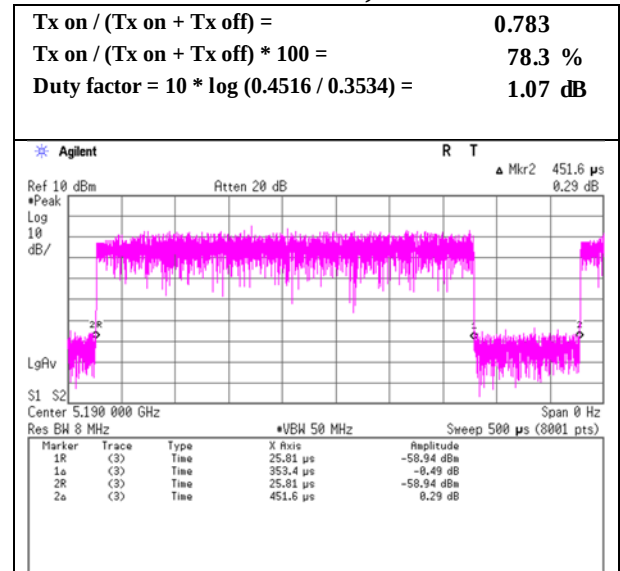
Burst rate confirmation

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 1, 2020 September 2, 2020
Temperature / Humidity 24 deg. C / 50 % RH 23 deg. C / 52 % RH
Engineer Shiro Kobayashi Toshinori Yamada
Mode Tx

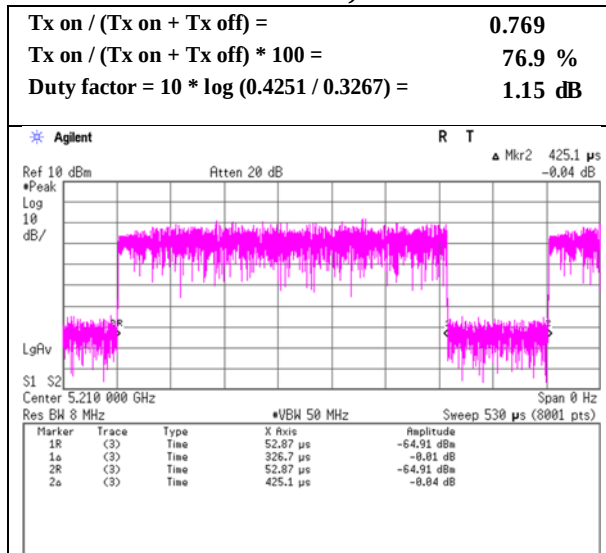
11ac-40 CDD, MCS 7



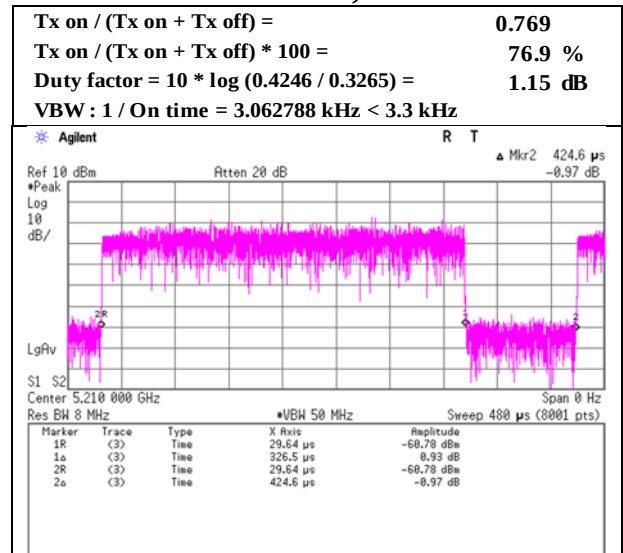
11ac-40 MIMO, MCS 7



11ac-80 SISO, MCS 9



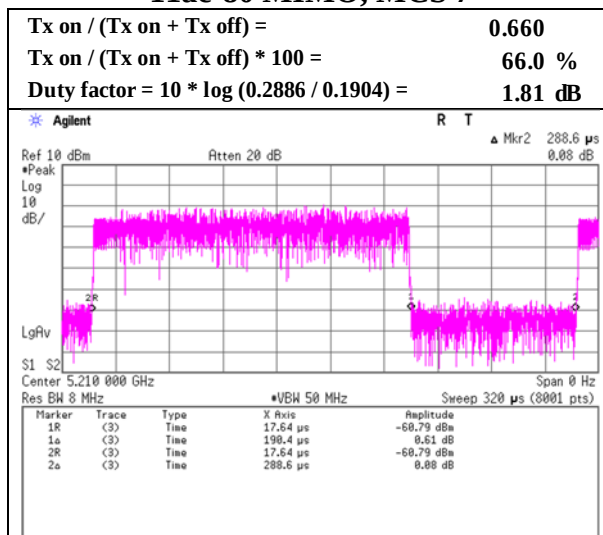
11ac-80 CDD, MCS 9



Burst rate confirmation

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 1, 2020
Temperature / Humidity 24 deg. C / 50 % RH
Engineer Shiro Kobayashi
Mode Tx

11ac-80 MIMO, MCS 7



Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato

11a SISO, RF0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-19.70	3.35	9.87	0.56	-1.25	0.00	-5.92	11.00	16.92	-7.17	17.00	24.17
5220	-19.27	3.36	9.87	0.56	-1.25	0.00	-5.48	11.00	16.48	-6.73	17.00	23.73
5240	-18.87	3.36	9.88	0.56	-1.25	0.00	-5.07	11.00	16.07	-6.32	17.00	23.32
5745	-31.42	3.59	9.89	0.56	0.24	6.99	-10.39	30.00	40.39	-10.15	36.00	46.15
5785	-31.49	3.60	9.89	0.56	0.24	6.99	-10.45	30.00	40.45	-10.21	36.00	46.21
5825	-31.85	3.61	9.89	0.56	0.24	6.99	-10.80	30.00	40.80	-10.56	36.00	46.56

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

11a SISO, RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-21.17	3.36	9.93	0.56	0.33	0.00	-7.32	11.00	18.32	-6.99	17.00	23.99
5220	-19.74	3.37	9.93	0.56	0.33	0.00	-5.88	11.00	16.88	-5.55	17.00	22.55
5240	-20.43	3.37	9.93	0.56	0.33	0.00	-6.57	11.00	17.57	-6.24	17.00	23.24
5745	-28.95	3.60	9.93	0.56	0.01	6.99	-7.87	30.00	37.87	-7.86	36.00	43.86
5785	-29.18	3.61	9.93	0.56	0.01	6.99	-8.09	30.00	38.09	-8.08	36.00	44.08
5825	-29.86	3.61	9.93	0.56	0.01	6.99	-8.77	30.00	38.77	-8.76	36.00	44.76

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

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Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 9, 2020
Temperature / Humidity 24 deg. C / 57 % RH
Engineer Shiro Kobayashi
Mode Tx 11a CDD

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.27	0.20	0.48	-3.19	11.00	14.19	0.59	0.44	1.04	0.15	17.00	16.85
5220	0.29	0.24	0.53	-2.78	11.00	13.78	0.62	0.52	1.14	0.56	17.00	16.44
5240	0.33	0.25	0.58	-2.36	11.00	13.36	0.71	0.54	1.25	0.98	17.00	16.02
5745	0.09	0.17	0.26	-5.82	30.00	35.82	0.19	0.36	0.55	-2.57	36.00	38.57
5785	0.09	0.16	0.26	-5.91	30.00	35.91	0.20	0.34	0.54	-2.66	36.00	38.66
5825	0.08	0.14	0.23	-6.41	30.00	36.41	0.18	0.31	0.48	-3.16	36.00	39.16

			RF0						RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.
5180	0.57	0.00	-19.40	3.35	9.87	3.34	-5.61	-2.27	-20.74	3.36	9.93	3.34	-6.88	-3.54
5220	0.57	0.00	-19.22	3.36	9.87	3.34	-5.42	-2.08	-20.05	3.37	9.93	3.34	-6.18	-2.84
5240	0.57	0.00	-18.62	3.36	9.88	3.34	-4.81	-1.47	-19.87	3.37	9.93	3.34	-6.00	-2.66
5745	0.57	6.99	-31.42	3.59	9.89	3.25	-10.38	-7.13	-28.78	3.60	9.93	3.25	-7.69	-4.44
5785	0.57	6.99	-31.28	3.60	9.89	3.25	-10.23	-6.97	-29.02	3.61	9.93	3.25	-7.92	-4.67
5825	0.57	6.99	-31.84	3.61	9.89	3.25	-10.78	-7.52	-29.49	3.61	9.93	3.25	-8.39	-5.14

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 + Directional Gain

Directional Gain = G_{ANT} (Antenna Gain) + Array Gain

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB.

N_{ANT} = number of transmit antennas = 2

N_{SS} = number of spatial streams = 1

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11n-20 SISO

11n-20 SISO, RF0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-20.01	3.35	9.87	0.32	-1.25	0.00	-6.47	11.00	17.47	-7.72	17.00	24.72
5220	-19.41	3.36	9.87	0.32	-1.25	0.00	-5.86	11.00	16.86	-7.11	17.00	24.11
5240	-19.40	3.36	9.88	0.32	-1.25	0.00	-5.84	11.00	16.84	-7.09	17.00	24.09
5745	-31.61	3.59	9.89	0.32	0.24	6.99	-10.82	30.00	40.82	-10.58	36.00	46.58
5785	-31.67	3.60	9.89	0.32	0.24	6.99	-10.87	30.00	40.87	-10.63	36.00	46.63
5825	-31.89	3.61	9.89	0.32	0.24	6.99	-11.08	30.00	41.08	-10.84	36.00	46.84

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

11n-20 SISO, RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-20.87	3.36	9.93	0.32	0.33	0.00	-7.26	11.00	18.26	-6.93	17.00	23.93
5220	-20.50	3.37	9.93	0.32	0.33	0.00	-6.88	11.00	17.88	-6.55	17.00	23.55
5240	-20.39	3.37	9.93	0.32	0.33	0.00	-6.77	11.00	17.77	-6.44	17.00	23.44
5745	-28.48	3.60	9.93	0.32	0.01	6.99	-7.64	30.00	37.64	-7.63	36.00	43.63
5785	-29.31	3.61	9.93	0.32	0.01	6.99	-8.46	30.00	38.46	-8.45	36.00	44.45
5825	-29.63	3.61	9.93	0.32	0.01	6.99	-8.78	30.00	38.78	-8.77	36.00	44.77

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

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

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 9, 2020
Temperature / Humidity 24 deg. C / 57 % RH
Engineer Shiro Kobayashi
Mode Tx 11n-20 CDD

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
[mW/MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.24	0.22	0.46	-3.35	11.00	14.35	0.53	0.47	1.00	-0.01	17.00	17.01
5220	0.26	0.21	0.47	-3.26	11.00	14.26	0.56	0.46	1.02	0.08	17.00	16.92
5240	0.31	0.22	0.53	-2.72	11.00	13.72	0.68	0.48	1.15	0.62	17.00	16.38
5745	0.08	0.15	0.23	-6.42	30.00	36.42	0.16	0.32	0.48	-3.17	36.00	39.17
5785	0.08	0.14	0.22	-6.53	30.00	36.53	0.17	0.30	0.47	-3.28	36.00	39.28
5825	0.07	0.12	0.19	-7.13	30.00	37.13	0.16	0.25	0.41	-3.88	36.00	39.88

			RF0						RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.
5180	0.32	0.00	-19.66	3.35	9.87	3.34	-6.12	-2.78	-20.23	3.36	9.93	3.34	-6.62	-3.28
5220	0.32	0.00	-19.43	3.36	9.87	3.34	-5.88	-2.54	-20.32	3.37	9.93	3.34	-6.70	-3.36
5240	0.32	0.00	-18.60	3.36	9.88	3.34	-5.04	-1.69	-20.18	3.37	9.93	3.34	-6.56	-3.22
5745	0.32	6.99	-32.04	3.59	9.89	3.25	-11.25	-8.00	-28.99	3.60	9.93	3.25	-8.15	-4.90
5785	0.32	6.99	-31.73	3.60	9.89	3.25	-10.93	-7.68	-29.35	3.61	9.93	3.25	-8.50	-5.24
5825	0.32	6.99	-32.09	3.61	9.89	3.25	-11.28	-8.03	-30.09	3.61	9.93	3.25	-9.24	-5.99

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 + Directional Gain

Directional Gain = $G_{\text{ANT}}(\text{Antenna Gain}^{*1}) + \text{Array Gain}$

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB.

N_{ANT} = number of transmit antennas = 2

N_{SS} = number of spatial streams = 1

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11n-20 MIMO

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.27	0.21	0.48	-3.16	11.00	14.16	0.20	0.23	0.43	-3.64	17.00	20.64
5220	0.28	0.21	0.49	-3.06	11.00	14.06	0.21	0.23	0.44	-3.56	17.00	20.56
5240	0.29	0.23	0.52	-2.84	11.00	13.84	0.22	0.25	0.47	-3.32	17.00	20.32
5745	0.08	0.17	0.26	-5.88	30.00	35.88	0.09	0.18	0.26	-5.79	36.00	41.79
5785	0.08	0.15	0.24	-6.26	30.00	36.26	0.09	0.15	0.24	-6.16	36.00	42.16
5825	0.08	0.13	0.21	-6.71	30.00	36.71	0.09	0.13	0.22	-6.61	36.00	42.61

Tested Frequency [MHz]	Duty Factor [dB]	RBW Correction Factor [dB]	RF0						RF1					
			Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
			[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.
5180	0.60	0.00	-19.51	3.35	9.87	-1.25	-5.69	-6.94	-20.61	3.36	9.93	0.33	-6.72	-6.39
5220	0.60	0.00	-19.31	3.36	9.87	-1.25	-5.48	-6.73	-20.65	3.37	9.93	0.33	-6.75	-6.42
5240	0.60	0.00	-19.19	3.36	9.88	-1.25	-5.35	-6.60	-20.31	3.37	9.93	0.33	-6.41	-6.08
5745	0.60	6.99	-31.84	3.59	9.89	0.24	-10.77	-10.53	-28.70	3.60	9.93	0.01	-7.58	-7.57
5785	0.60	6.99	-31.89	3.60	9.89	0.24	-10.81	-10.57	-29.26	3.61	9.93	0.01	-8.13	-8.12
5825	0.60	6.99	-31.88	3.61	9.89	0.24	-10.79	-10.55	-29.99	3.61	9.93	0.01	-8.86	-8.85

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

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-20 SISO

11ac-20 SISO, RF0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-19.81	3.35	9.87	0.32	-1.25	0.00	-6.27	11.00	17.27	-7.52	17.00	24.52
5220	-19.21	3.36	9.87	0.32	-1.25	0.00	-5.66	11.00	16.66	-6.91	17.00	23.91
5240	-19.13	3.36	9.88	0.32	-1.25	0.00	-5.57	11.00	16.57	-6.82	17.00	23.82
5745	-31.30	3.59	9.89	0.32	0.24	6.99	-10.51	30.00	40.51	-10.27	36.00	46.27
5785	-31.57	3.60	9.89	0.32	0.24	6.99	-10.77	30.00	40.77	-10.53	36.00	46.53
5825	-32.17	3.61	9.89	0.32	0.24	6.99	-11.36	30.00	41.36	-11.12	36.00	47.12

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

11ac-20 SISO, RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-20.71	3.36	9.93	0.32	0.33	0.00	-7.10	11.00	18.10	-6.77	17.00	23.77
5220	-20.24	3.37	9.93	0.32	0.33	0.00	-6.62	11.00	17.62	-6.29	17.00	23.29
5240	-20.32	3.37	9.93	0.32	0.33	0.00	-6.70	11.00	17.70	-6.37	17.00	23.37
5745	-28.42	3.60	9.93	0.32	0.01	6.99	-7.58	30.00	37.58	-7.57	36.00	43.57
5785	-29.48	3.61	9.93	0.32	0.01	6.99	-8.63	30.00	38.63	-8.62	36.00	44.62
5825	-30.28	3.61	9.93	0.32	0.01	6.99	-9.43	30.00	39.43	-9.42	36.00	45.42

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

UL Japan, Inc.

Shonan EMC Lab.

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Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 9, 2020
Temperature / Humidity 24 deg. C / 57 % RH
Engineer Shiro Kobayashi
Mode Tx 11ac-20 CDD

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.24	0.20	0.44	-3.60	11.00	14.60	0.52	0.42	0.94	-0.26	17.00	17.26
5220	0.26	0.22	0.48	-3.20	11.00	14.20	0.55	0.48	1.03	0.14	17.00	16.86
5240	0.28	0.23	0.51	-2.92	11.00	13.92	0.61	0.49	1.10	0.42	17.00	16.58
5745	0.08	0.18	0.27	-5.75	30.00	35.75	0.18	0.38	0.56	-2.50	36.00	38.50
5785	0.08	0.15	0.23	-6.40	30.00	36.40	0.17	0.31	0.48	-3.15	36.00	39.15
5825	0.10	0.12	0.22	-6.50	30.00	36.50	0.21	0.26	0.47	-3.25	36.00	39.25

			RF0						RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.
5180	0.32	0.00	-19.71	3.35	9.87	3.34	-6.17	-2.83	-20.71	3.36	9.93	3.34	-7.10	-3.76
5220	0.32	0.00	-19.46	3.36	9.87	3.34	-5.91	-2.57	-20.16	3.37	9.93	3.34	-6.54	-3.20
5240	0.32	0.00	-19.08	3.36	9.88	3.34	-5.52	-2.18	-20.02	3.37	9.93	3.34	-6.40	-3.06
5745	0.32	6.99	-31.50	3.59	9.89	3.25	-10.71	-7.46	-28.26	3.60	9.93	3.25	-7.42	-4.17
5785	0.32	6.99	-31.66	3.60	9.89	3.25	-10.86	-7.61	-29.18	3.61	9.93	3.25	-8.33	-5.08
5825	0.32	6.99	-30.78	3.61	9.89	3.25	-9.97	-6.72	-29.94	3.61	9.93	3.25	-9.09	-5.84

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 + Directional Gain

Directional Gain = $G_{\text{ANT}}(\text{Antenna Gain}) + \text{Array Gain}$

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB.

N_{ANT} = number of transmit antennas = 2

N_{SS} = number of spatial streams = 1

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-20 MIMO

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.24	0.21	0.45	-3.45	11.00	14.45	0.18	0.23	0.41	-3.90	17.00	20.90
5220	0.28	0.24	0.52	-2.87	11.00	13.87	0.21	0.26	0.47	-3.32	17.00	20.32
5240	0.30	0.21	0.51	-2.91	11.00	13.91	0.23	0.23	0.45	-3.44	17.00	20.44
5745	0.08	0.16	0.24	-6.22	30.00	36.22	0.09	0.16	0.24	-6.13	36.00	42.13
5785	0.08	0.14	0.22	-6.57	30.00	36.57	0.09	0.14	0.23	-6.47	36.00	42.47
5825	0.08	0.14	0.22	-6.64	30.00	36.64	0.08	0.14	0.22	-6.55	36.00	42.55

RF0										RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result			Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.		[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.
5180	0.59	0.00	-19.98	3.35	9.87	-1.25	-6.17	-7.42	-20.66	3.36	9.93	0.33	-6.78	-6.45	
5220	0.59	0.00	-19.36	3.36	9.87	-1.25	-5.54	-6.79	-20.13	3.37	9.93	0.33	-6.24	-5.91	
5240	0.59	0.00	-19.05	3.36	9.88	-1.25	-5.22	-6.47	-20.66	3.37	9.93	0.33	-6.77	-6.44	
5745	0.59	6.99	-31.93	3.59	9.89	0.24	-10.87	-10.63	-29.16	3.60	9.93	0.01	-8.05	-8.04	
5785	0.59	6.99	-31.98	3.60	9.89	0.24	-10.91	-10.67	-29.68	3.61	9.93	0.01	-8.56	-8.55	
5825	0.59	6.99	-32.19	3.61	9.89	0.24	-11.11	-10.87	-29.68	3.61	9.93	0.01	-8.56	-8.55	

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

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11n-40 SISO

11n-40 SISO, RF0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-23.05	3.35	9.87	0.62	-1.25	0.00	-9.21	11.00	20.21	-10.46	17.00	27.46
5230	-22.33	3.36	9.87	0.62	-1.25	0.00	-8.48	11.00	19.48	-9.73	17.00	26.73
5755	-35.21	3.60	9.89	0.62	0.24	6.99	-14.11	30.00	44.11	-13.87	36.00	49.87
5795	-35.12	3.60	9.89	0.62	0.24	6.99	-14.02	30.00	44.02	-13.78	36.00	49.78

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

11n-40 SISO, RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-23.90	3.36	9.93	0.62	0.33	0.00	-9.99	11.00	20.99	-9.66	17.00	26.66
5230	-23.44	3.37	9.93	0.62	0.33	0.00	-9.52	11.00	20.52	-9.19	17.00	26.19
5755	-32.58	3.60	9.93	0.62	0.01	6.99	-11.44	30.00	41.44	-11.43	36.00	47.43
5795	-32.61	3.61	9.93	0.62	0.01	6.99	-11.46	30.00	41.46	-11.45	36.00	47.45

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

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Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 9, 2020
Temperature / Humidity 24 deg. C / 57 % RH
Engineer Shiro Kobayashi
Mode Tx 11n-40 CDD

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.12	0.10	0.23	-6.48	11.00	17.48	0.26	0.22	0.49	-3.13	17.00	20.13
5230	0.14	0.11	0.25	-6.10	11.00	17.10	0.30	0.23	0.53	-2.76	17.00	19.76
5755	0.04	0.09	0.13	-8.97	30.00	38.97	0.08	0.18	0.27	-5.72	36.00	41.72
5795	0.04	0.07	0.11	-9.69	30.00	39.69	0.09	0.14	0.23	-6.44	36.00	42.44

Tested Frequency [MHz]	Duty Factor [dB]	RBW Correction Factor [dB]	RF0						RF1					
			Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
			[dBm/MHz]	[dB]	[dB]	[dBi]	Cond.	e.i.r.p.	[dBm/MHz]	[dB]	[dB]	[dBi]	Cond.	e.i.r.p.
5190	0.62	0.00	-22.99	3.35	9.87	3.34	-9.15	-5.81	-23.76	3.36	9.93	3.34	-9.85	-6.51
5230	0.62	0.00	-22.42	3.36	9.87	3.34	-8.57	-5.23	-23.64	3.37	9.93	3.34	-9.72	-6.38
5755	0.62	6.99	-35.08	3.60	9.89	3.25	-13.98	-10.73	-31.75	3.60	9.93	3.25	-10.61	-7.36
5795	0.62	6.99	-35.03	3.60	9.89	3.25	-13.93	-10.68	-32.90	3.61	9.93	3.25	-11.75	-8.50

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 + Directional Gain

Directional Gain = G_{ANT} (Antenna Gain) + Array Gain

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB.

N_{ANT} = number of transmit antennas = 2

N_{SS} = number of spatial streams = 1

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11n-40 MIMO

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.13	0.10	0.23	-6.35	11.00	17.35	0.10	0.11	0.21	-6.83	17.00	23.83
5230	0.15	0.12	0.27	-5.68	11.00	16.68	0.11	0.13	0.24	-6.14	17.00	23.14
5755	0.05	0.08	0.13	-8.83	30.00	38.83	0.05	0.08	0.13	-8.74	36.00	44.74
5795	0.05	0.08	0.12	-9.09	30.00	39.09	0.05	0.08	0.13	-8.99	36.00	44.99

			RF0						RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5190	1.09	0.00	-23.21	3.35	9.87	-1.25	-8.90	-10.15	-24.25	3.36	9.93	0.33	-9.87	-9.54
5230	1.09	0.00	-22.64	3.36	9.87	-1.25	-8.32	-9.57	-23.49	3.37	9.93	0.33	-9.10	-8.77
5755	1.09	6.99	-34.82	3.60	9.89	0.24	-13.25	-13.01	-32.39	3.60	9.93	0.01	-10.78	-10.77
5795	1.09	6.99	-34.97	3.60	9.89	0.24	-13.40	-13.16	-32.72	3.61	9.93	0.01	-11.10	-11.09

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

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-40 SISO

11ac-40 SISO, RF0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-23.08	3.35	9.87	0.61	-1.25	0.00	-9.25	11.00	20.25	-10.50	17.00	27.50
5230	-22.55	3.36	9.87	0.61	-1.25	0.00	-8.71	11.00	19.71	-9.96	17.00	26.96
5755	-35.01	3.60	9.89	0.61	0.24	6.99	-13.92	30.00	43.92	-13.68	36.00	49.68
5795	-35.12	3.60	9.89	0.61	0.24	6.99	-14.03	30.00	44.03	-13.79	36.00	49.79

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

11ac-40 SISO, RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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	-24.15	3.36	9.93	0.61	0.33	0.00	-10.25	11.00	21.25	-9.92	17.00	26.92
5230	-23.79	3.37	9.93	0.61	0.33	0.00	-9.88	11.00	20.88	-9.55	17.00	26.55
5755	-31.92	3.60	9.93	0.61	0.01	6.99	-10.79	30.00	40.79	-10.78	36.00	46.78
5795	-32.94	3.61	9.93	0.61	0.01	6.99	-11.80	30.00	41.80	-11.79	36.00	47.79

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

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Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 9, 2020
Temperature / Humidity 24 deg. C / 57 % RH
Engineer Shiro Kobayashi
Mode Tx 11ac-40 CDD

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.13	0.10	0.23	-6.46	11.00	17.46	0.27	0.22	0.49	-3.12	17.00	20.12
5230	0.13	0.11	0.25	-6.09	11.00	17.09	0.28	0.25	0.53	-2.75	17.00	19.75
5755	0.04	0.08	0.12	-9.34	30.00	39.34	0.09	0.16	0.25	-6.09	36.00	42.09
5795	0.04	0.07	0.11	-9.57	30.00	39.57	0.08	0.15	0.23	-6.32	36.00	42.32

Tested Frequency [MHz]	Duty Factor [dB]	RBW Correction Factor [dB]	RF0						RF1					
			Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
			[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5190	0.61	0.00	-22.84	3.35	9.87	3.34	-9.01	-5.67	-23.89	3.36	9.93	3.34	-9.99	-6.65
5230	0.61	0.00	-22.65	3.36	9.87	3.34	-8.81	-5.47	-23.32	3.37	9.93	3.34	-9.41	-6.07
5755	0.61	6.99	-34.96	3.60	9.89	3.25	-13.87	-10.62	-32.36	3.60	9.93	3.25	-11.23	-7.98
5795	0.61	6.99	-35.12	3.60	9.89	3.25	-14.03	-10.78	-32.64	3.61	9.93	3.25	-11.50	-8.24

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 + Directional Gain

Directional Gain = G_{ANT} (Antenna Gain) + Array Gain

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB.

N_{ANT} = number of transmit antennas = 2

N_{SS} = number of spatial streams = 1

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-40 MIMO

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.13	0.12	0.25	-6.06	11.00	17.06	0.10	0.13	0.23	-6.48	17.00	23.48
5230	0.14	0.12	0.26	-5.85	11.00	16.85	0.11	0.13	0.23	-6.32	17.00	23.32
5755	0.05	0.08	0.13	-8.87	30.00	38.87	0.05	0.08	0.13	-8.78	36.00	44.78
5795	0.04	0.08	0.12	-9.20	30.00	39.20	0.04	0.08	0.12	-9.11	36.00	45.11

			RF0						RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5190	1.07	0.00	-23.21	3.35	9.87	-1.25	-8.92	-10.17	-23.59	3.36	9.93	0.33	-9.23	-8.90
5230	1.07	0.00	-22.73	3.36	9.87	-1.25	-8.43	-9.68	-23.71	3.37	9.93	0.33	-9.34	-9.01
5755	1.07	6.99	-34.97	3.60	9.89	0.24	-13.42	-13.18	-32.34	3.60	9.93	0.01	-10.75	-10.74
5795	1.07	6.99	-35.35	3.60	9.89	0.24	-13.80	-13.56	-32.66	3.61	9.93	0.01	-11.06	-11.05

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

Maximum Power Spectral Density

Report No. 13462774S-C-R2
Test place Shonan EMC Lab. No.5 Shielded Room
Date September 8, 2020
Temperature / Humidity 22 deg. C / 51 % RH
Engineer Hiromasa Sato
Mode Tx 11ac-80 SISO

11ac-80 SISO, RF0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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]
5210	-26.45	3.36	9.87	1.15	-1.25	0.00	-12.07	11.00	23.07	-13.32	17.00	30.32
5775	-38.72	3.60	9.89	1.15	0.24	6.99	-17.09	30.00	47.09	-16.85	36.00	52.85

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

11ac-80 SISO, RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	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]
5210	-27.81	3.37	9.93	1.15	0.33	0.00	-13.36	11.00	24.36	-13.03	17.00	30.03
5775	-36.20	3.61	9.93	1.15	0.01	6.99	-14.52	30.00	44.52	-14.51	36.00	50.51

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

Maximum Power Spectral Density

Report No.	13462774S-C-R2
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	September 9, 2020
Temperature / Humidity	24 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-80 CDD

RF0 + RF1 Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5210	0.06	0.05	0.11	-9.55	11.00	20.55	0.13	0.11	0.24	-6.21	17.00	23.21
5775	0.02	0.04	0.06	-12.58	30.00	42.58	0.04	0.08	0.12	-9.33	36.00	45.33

			RF0						RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5210	1.15	0.00	-26.54	3.36	9.87	3.34	-12.16	-8.82	-27.45	3.37	9.93	3.34	-13.00	-9.66
5775	1.15	6.99	-38.84	3.60	9.89	3.25	-17.21	-13.96	-36.09	3.61	9.93	3.25	-14.41	-11.16

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 + Directional Gain

Directional Gain = $G_{\text{ANT}}(\text{Antenna Gain}) + \text{Array Gain}$

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB.

N_{ANT} = number of transmit antennas = 2

N_{SS} = number of spatial streams = 1

Maximum Power Spectral Density

Report No.	13462774S-C-R2
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	September 8, 2020
Temperature / Humidity	22 deg. C / 51 % RH
Engineer	Hiromasa Sato
Mode	Tx 11ac-80 MIMO

RF0 + RF1

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	RF0	RF1	Sum				RF0	RF1	Sum			
	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5210	0.06	0.05	0.11	-9.42	11.00	20.42	0.05	0.05	0.10	-9.91	17.00	26.91
5775	0.02	0.04	0.06	-12.00	30.00	42.00	0.02	0.04	0.06	-11.92	36.00	47.92

			RF0						RF1					
Tested Frequency	Duty Factor	RBW Correction Factor	Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	e.i.r.p.
5210	1.81	0.00	-26.92	3.36	9.87	-1.25	-11.88	-13.13	-28.17	3.37	9.93	0.33	-13.06	-12.73
5775	1.81	6.99	-39.18	3.60	9.89	0.24	-16.89	-16.65	-36.05	3.61	9.93	0.01	-13.71	-13.70

Sample Calculation:

PSD: Power Spectral Density

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

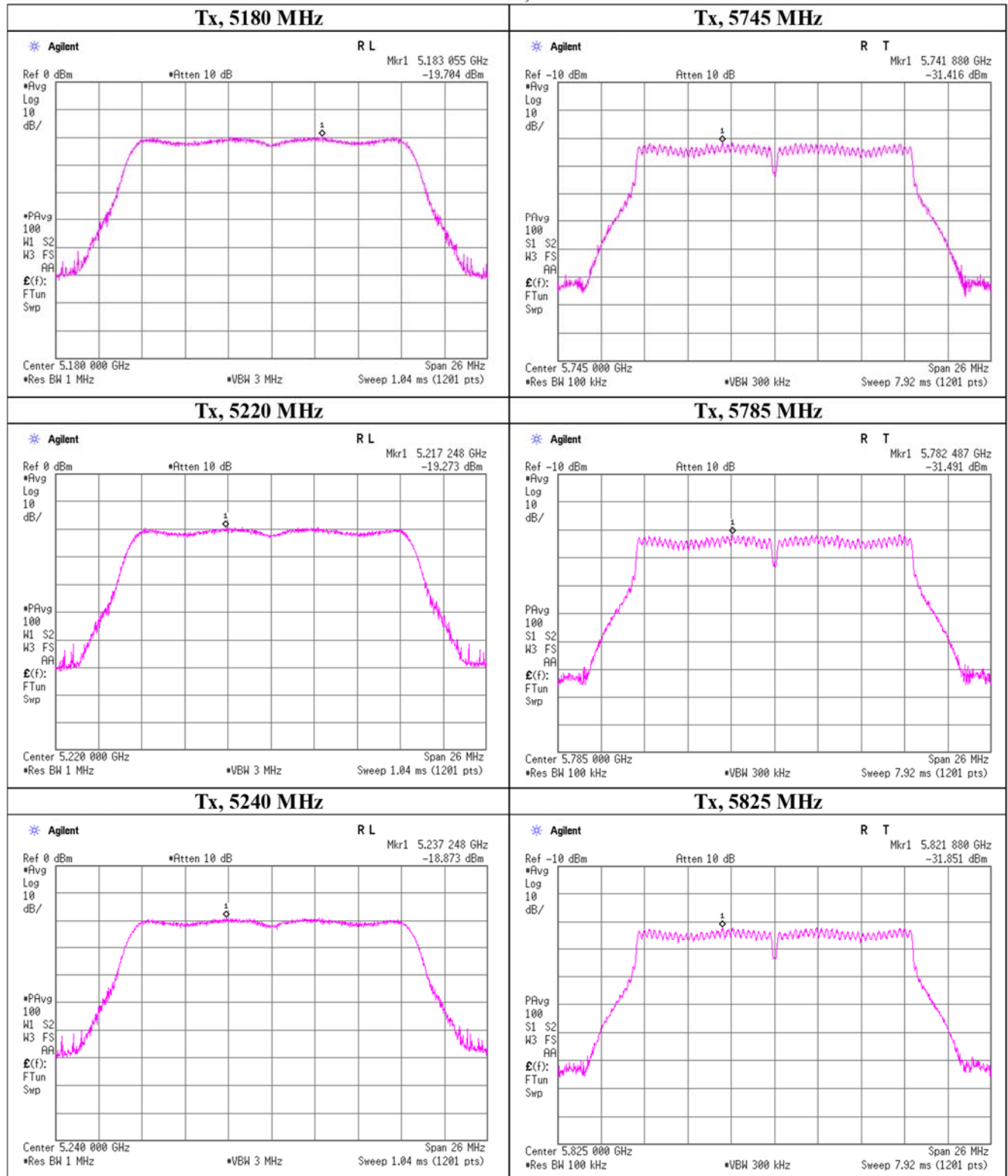
RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

Maximum Power Spectral Density

11a SISO, RF0



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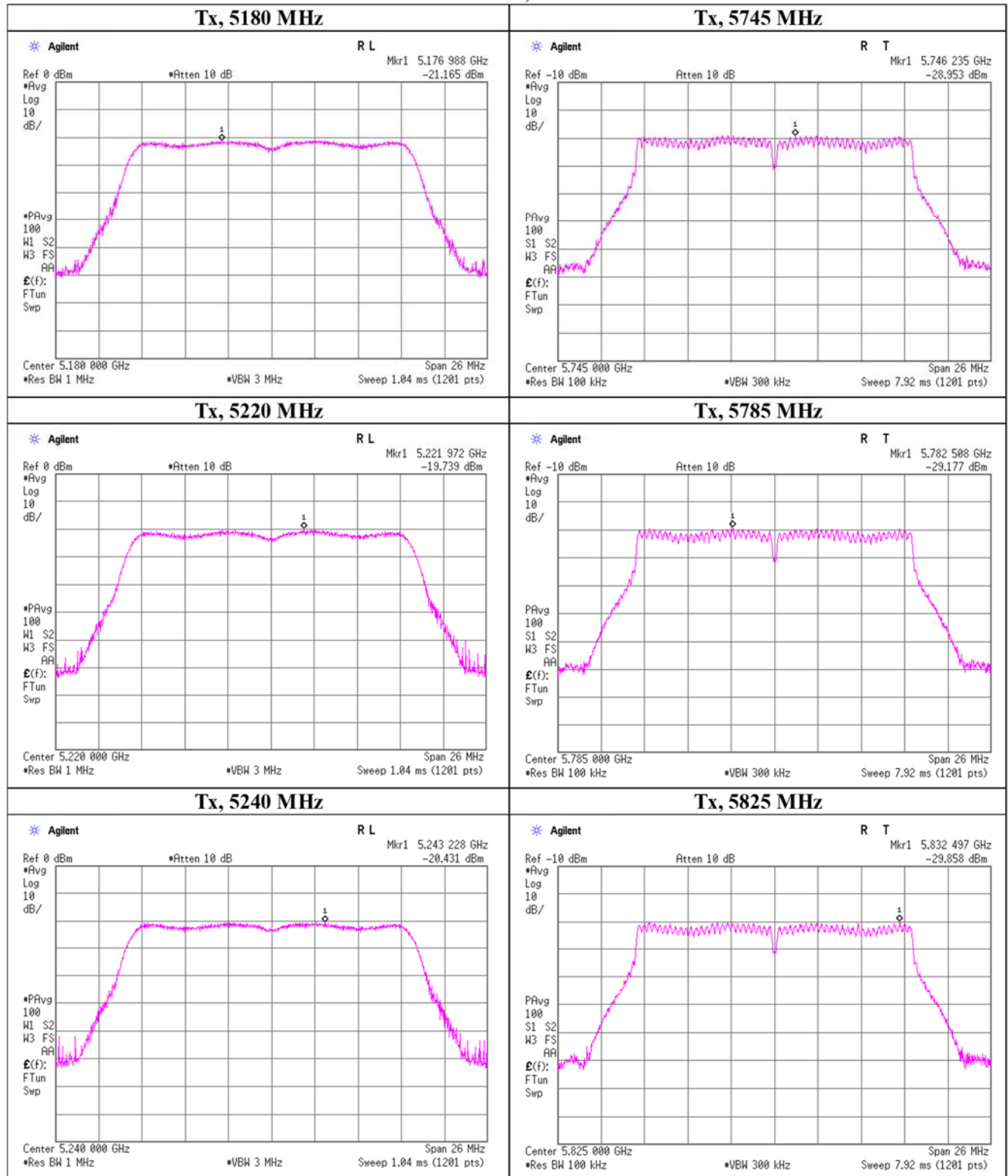
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Maximum Power Spectral Density

11a SISO, RF1



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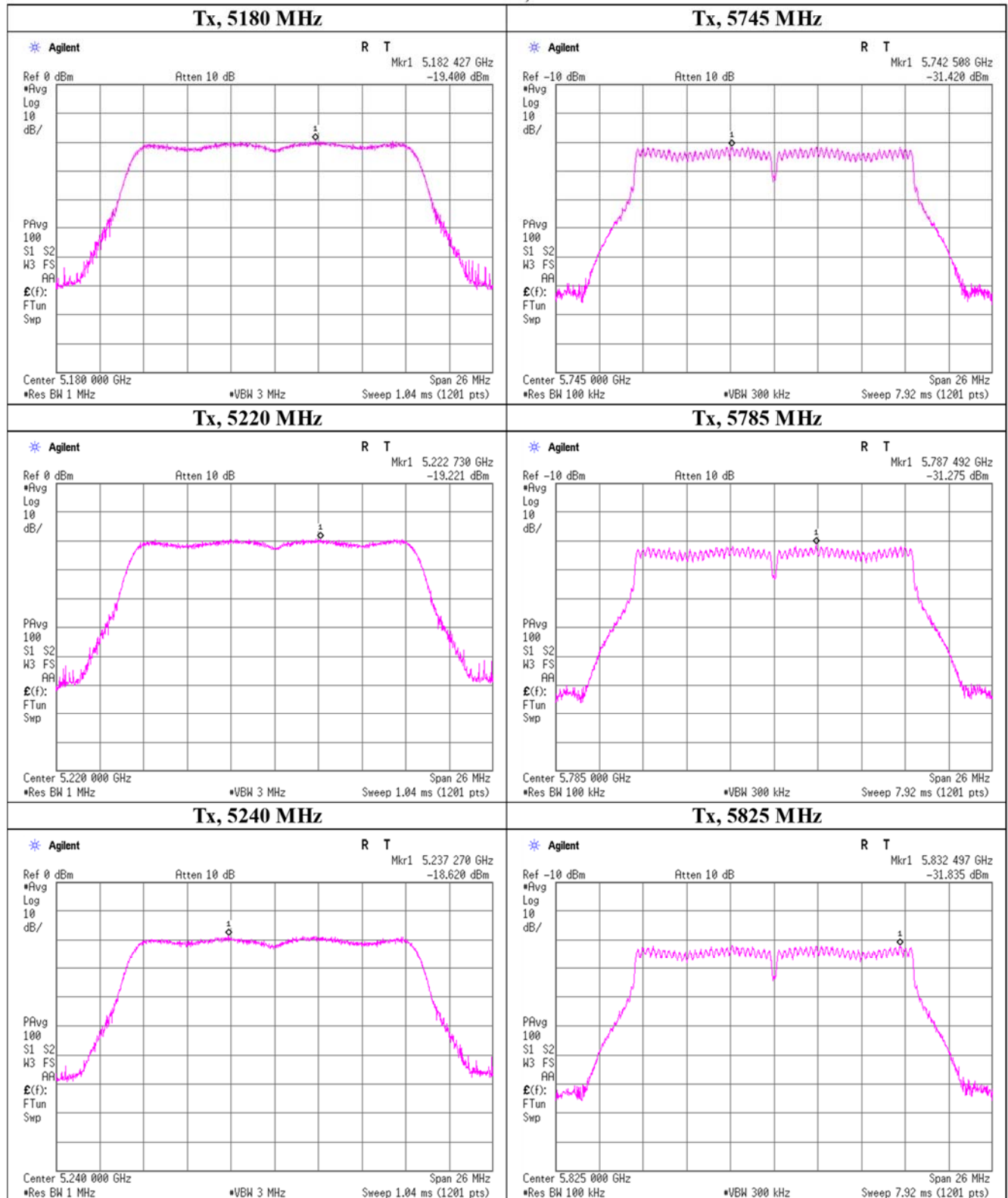
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Maximum Power Spectral Density

11a CDD, RF0



UL Japan, Inc.

Shonan EMC Lab.

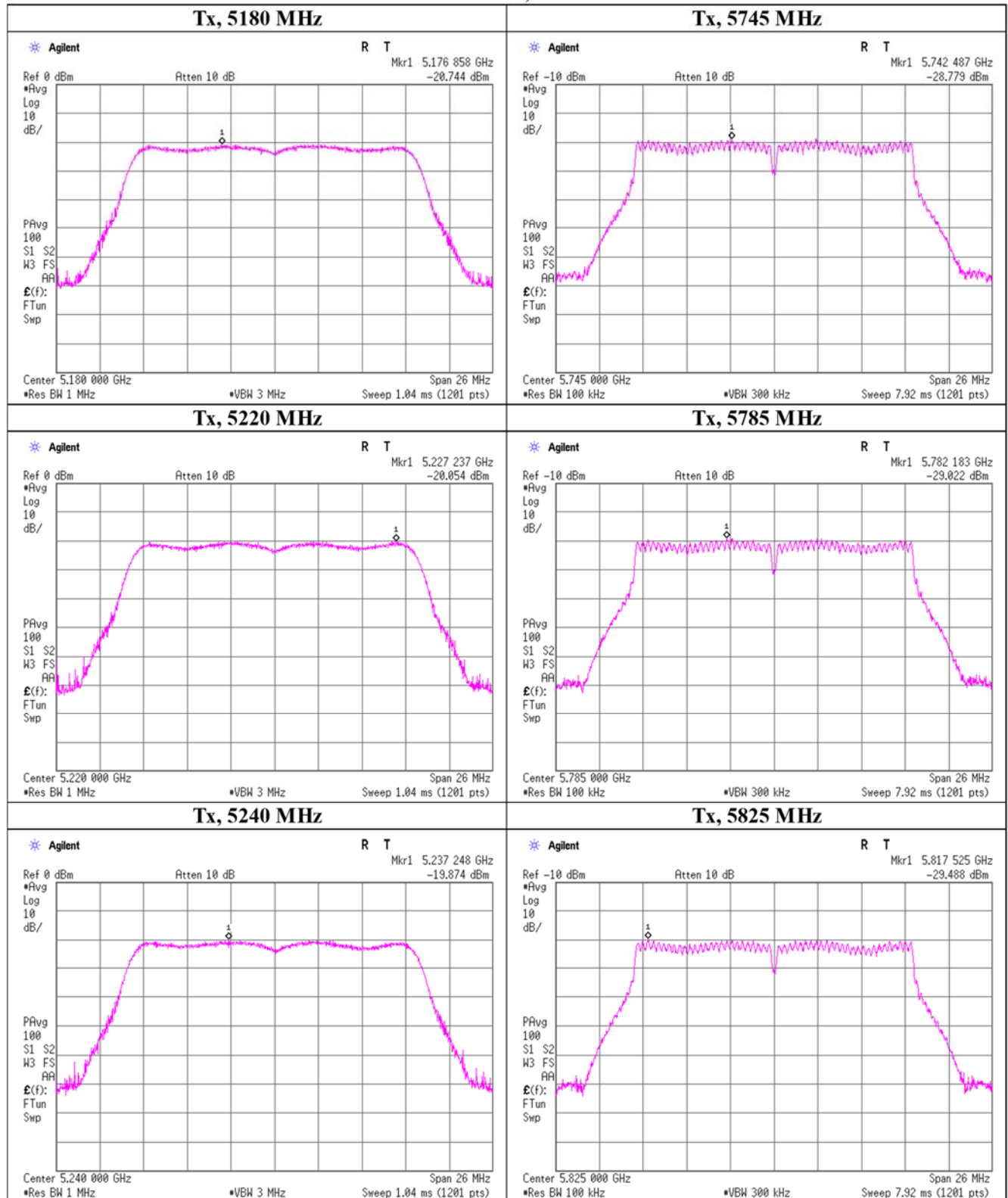
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Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

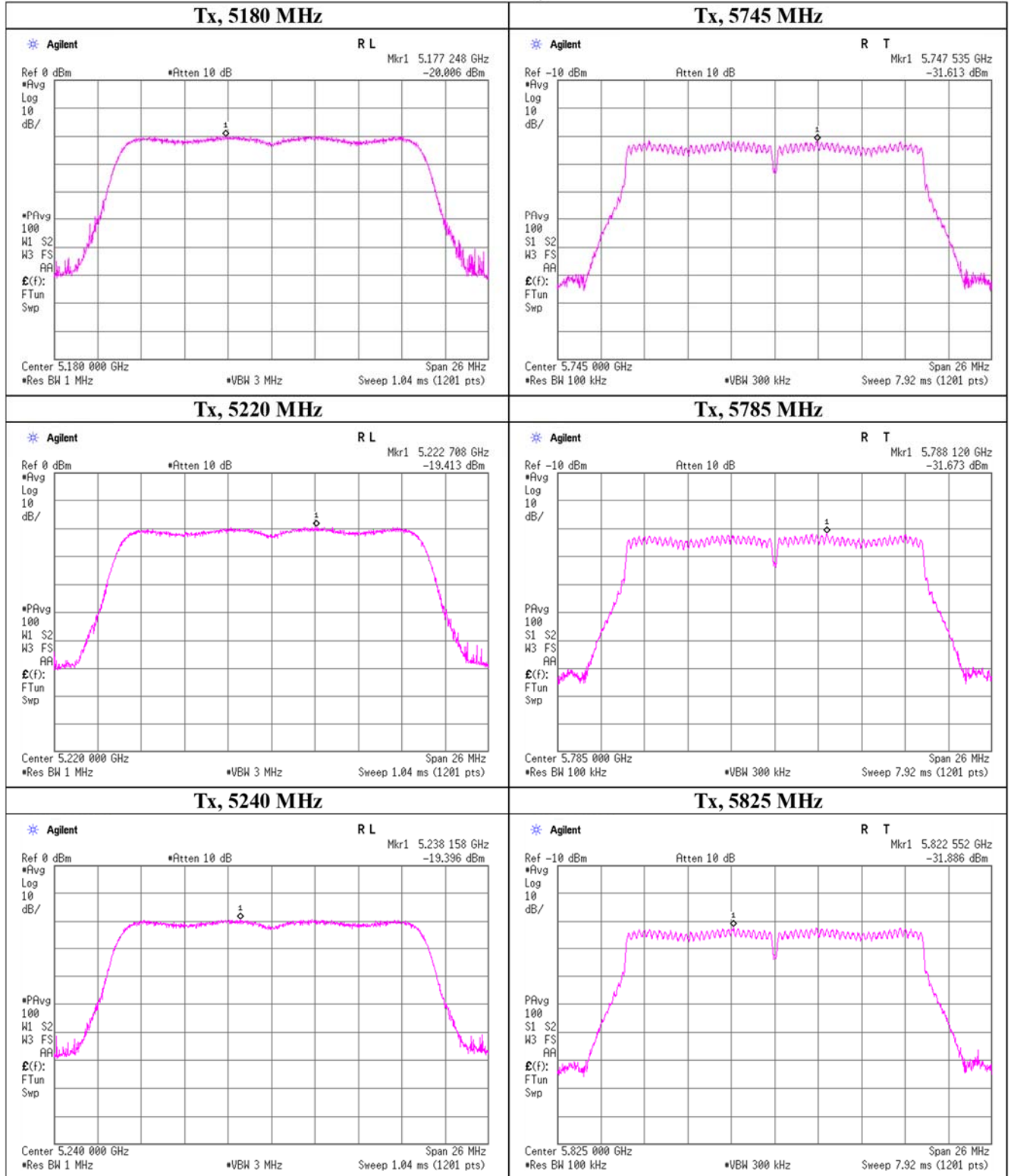
Maximum Power Spectral Density

11a CDD, RF1



Maximum Power Spectral Density

11n-20 SISO, RF0



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Shonan EMC Lab.

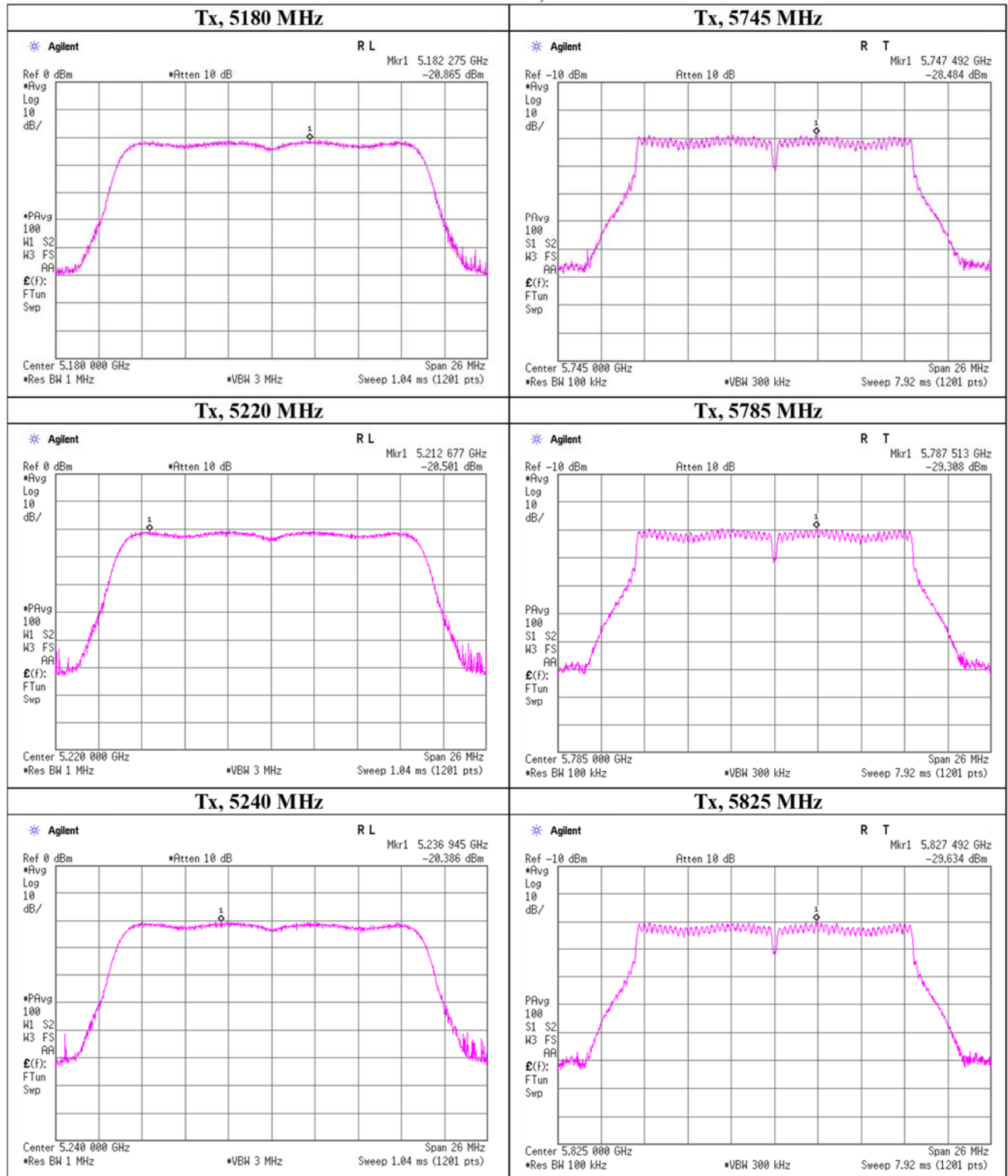
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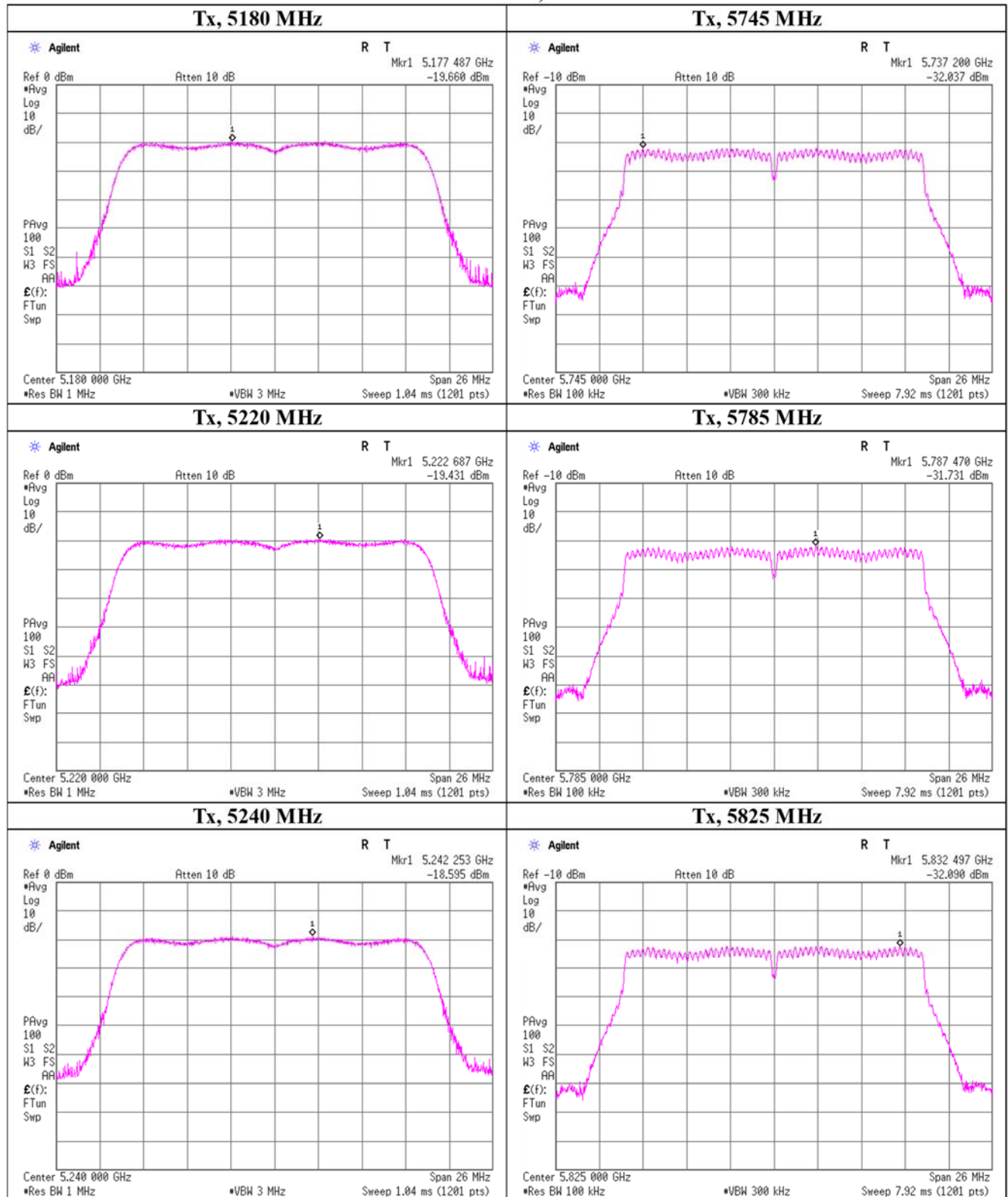
Maximum Power Spectral Density

11n-20 SISO, RF1



Maximum Power Spectral Density

11n-20 CDD, RF0



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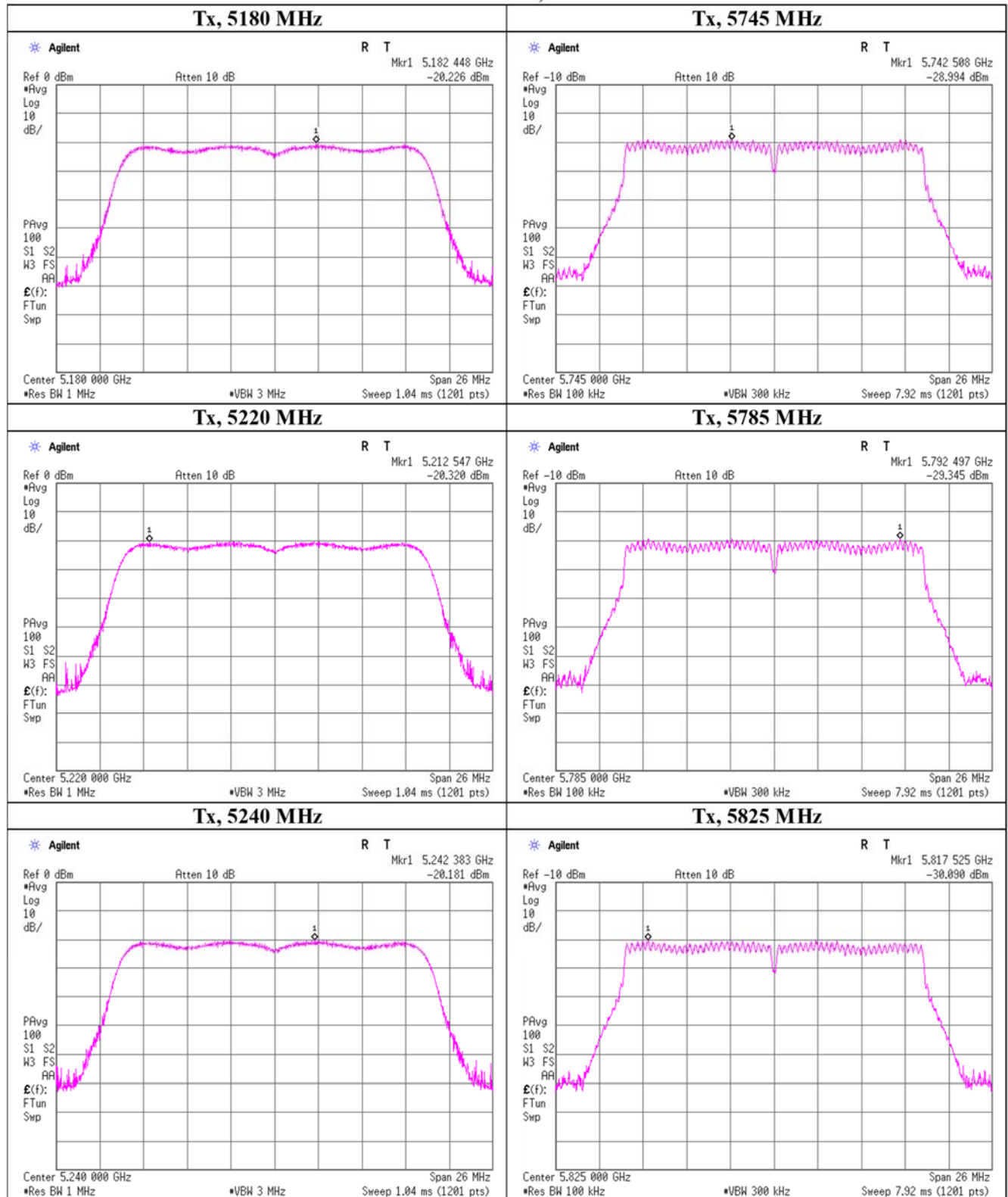
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Maximum Power Spectral Density

11n-20 CDD, RF1



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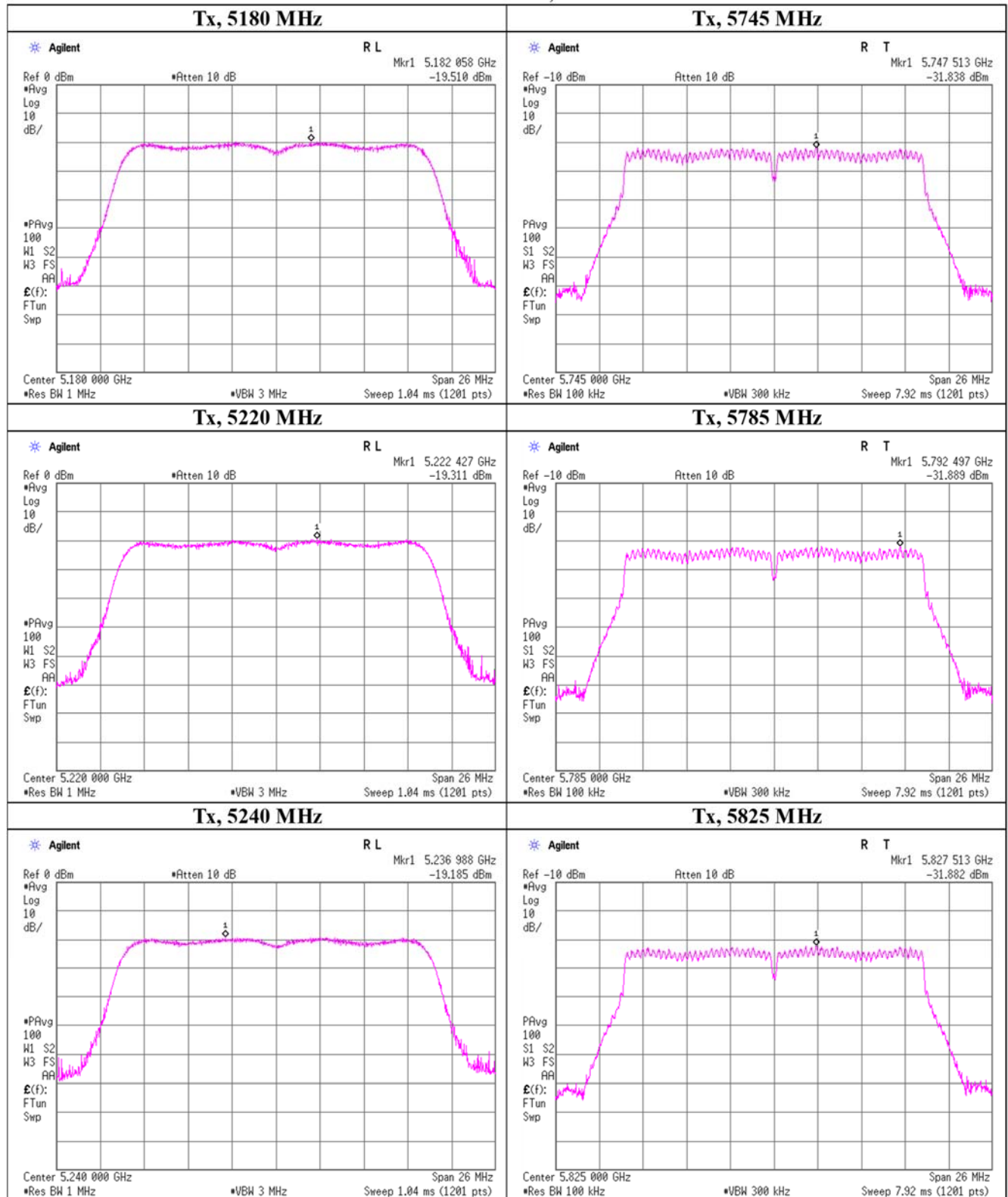
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Facsimile : +81 463 50 6401

Maximum Power Spectral Density

11n-20 MIMO, RF0



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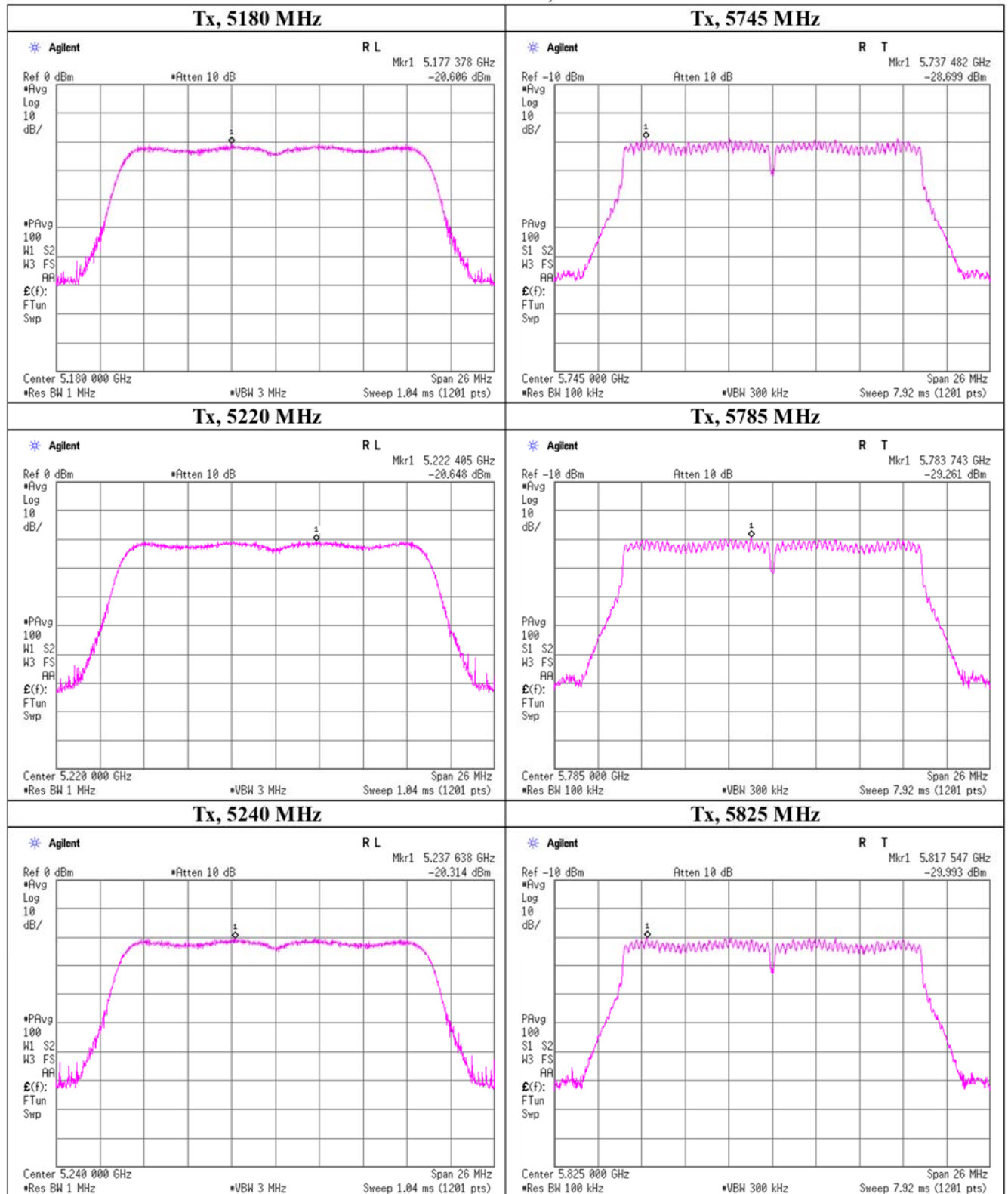
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Maximum Power Spectral Density

11n-20 MIMO, RF1



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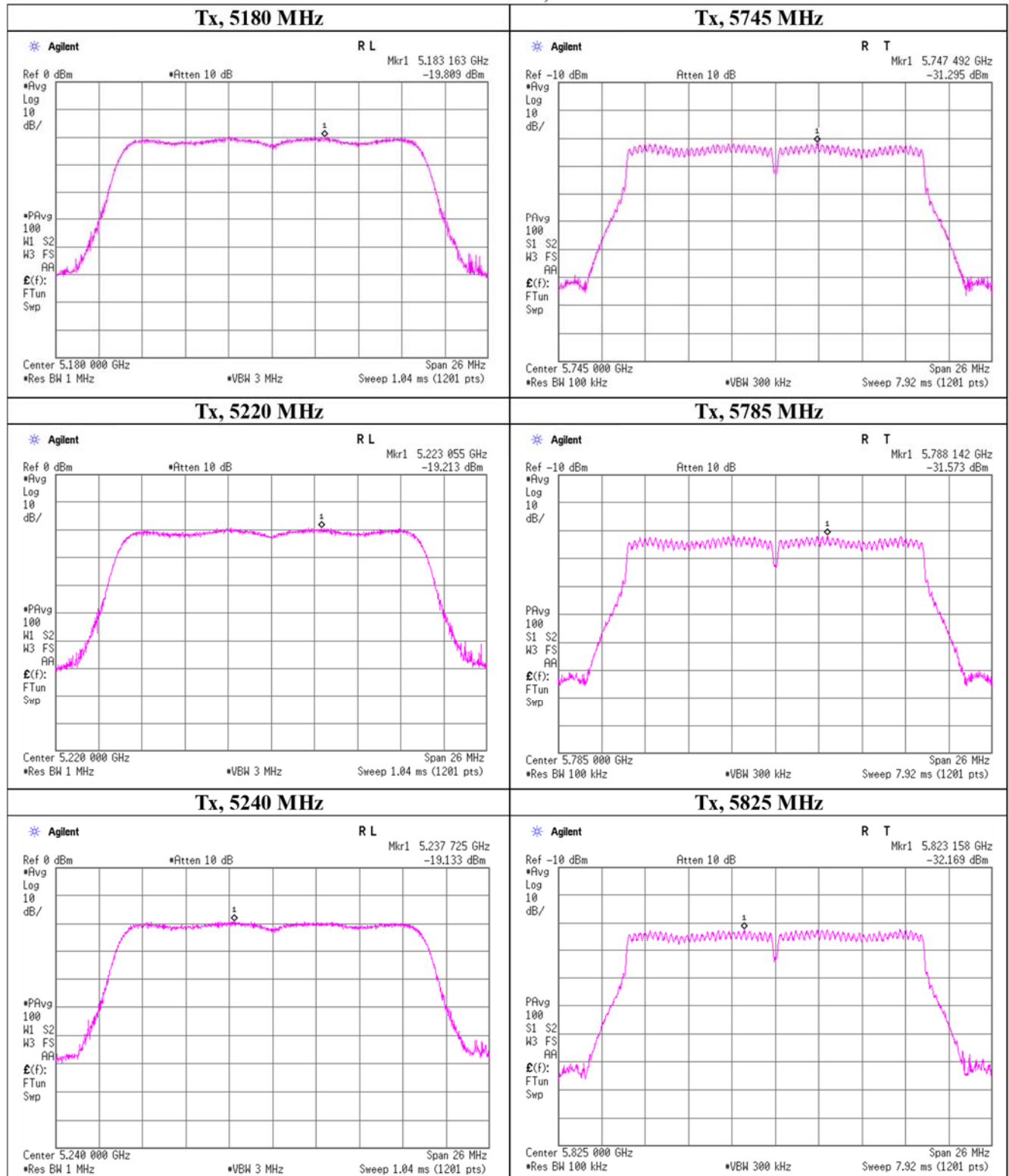
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Maximum Power Spectral Density

11ac-20 SISO, RF0



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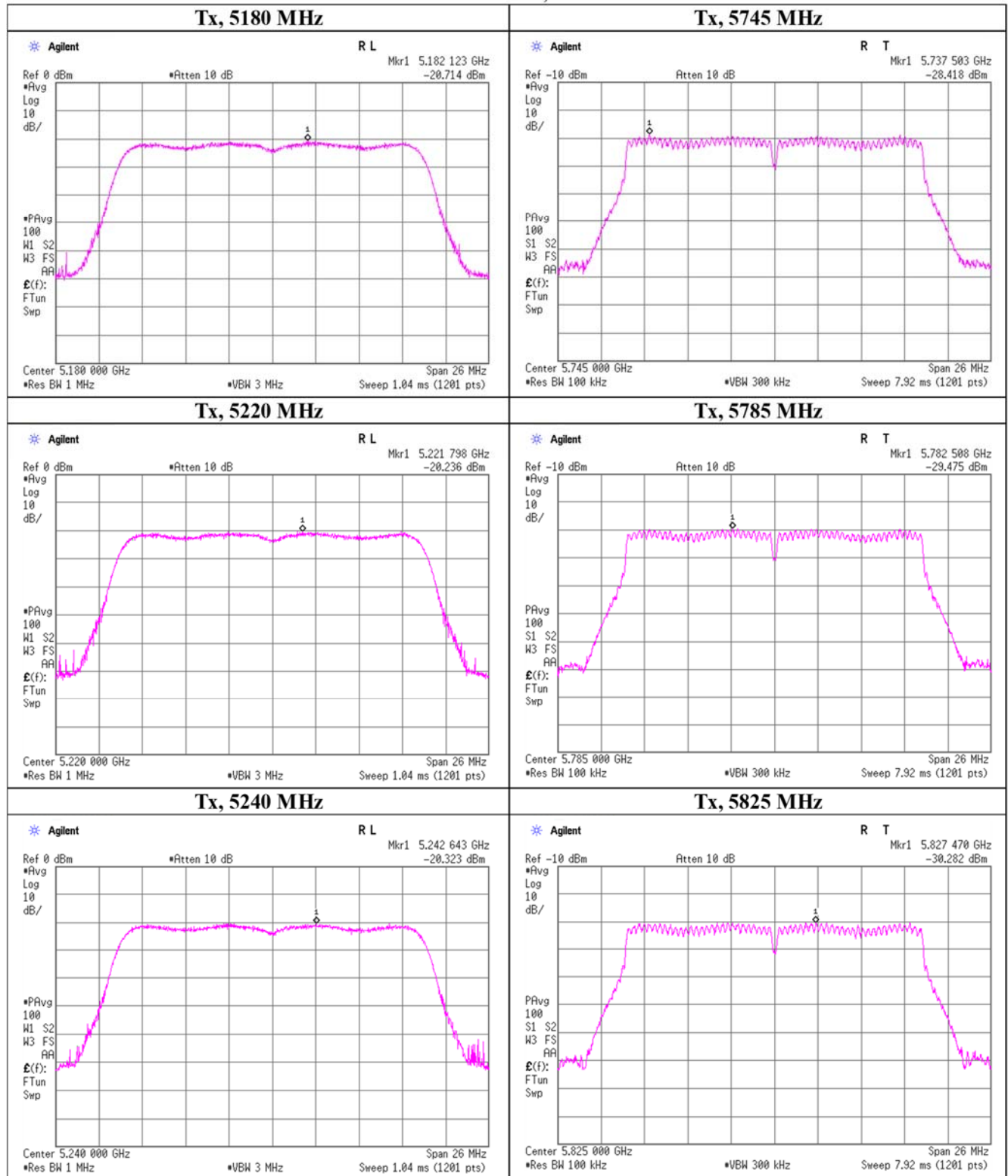
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Maximum Power Spectral Density

11ac-20 SISO, RF1



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Shonan EMC Lab.

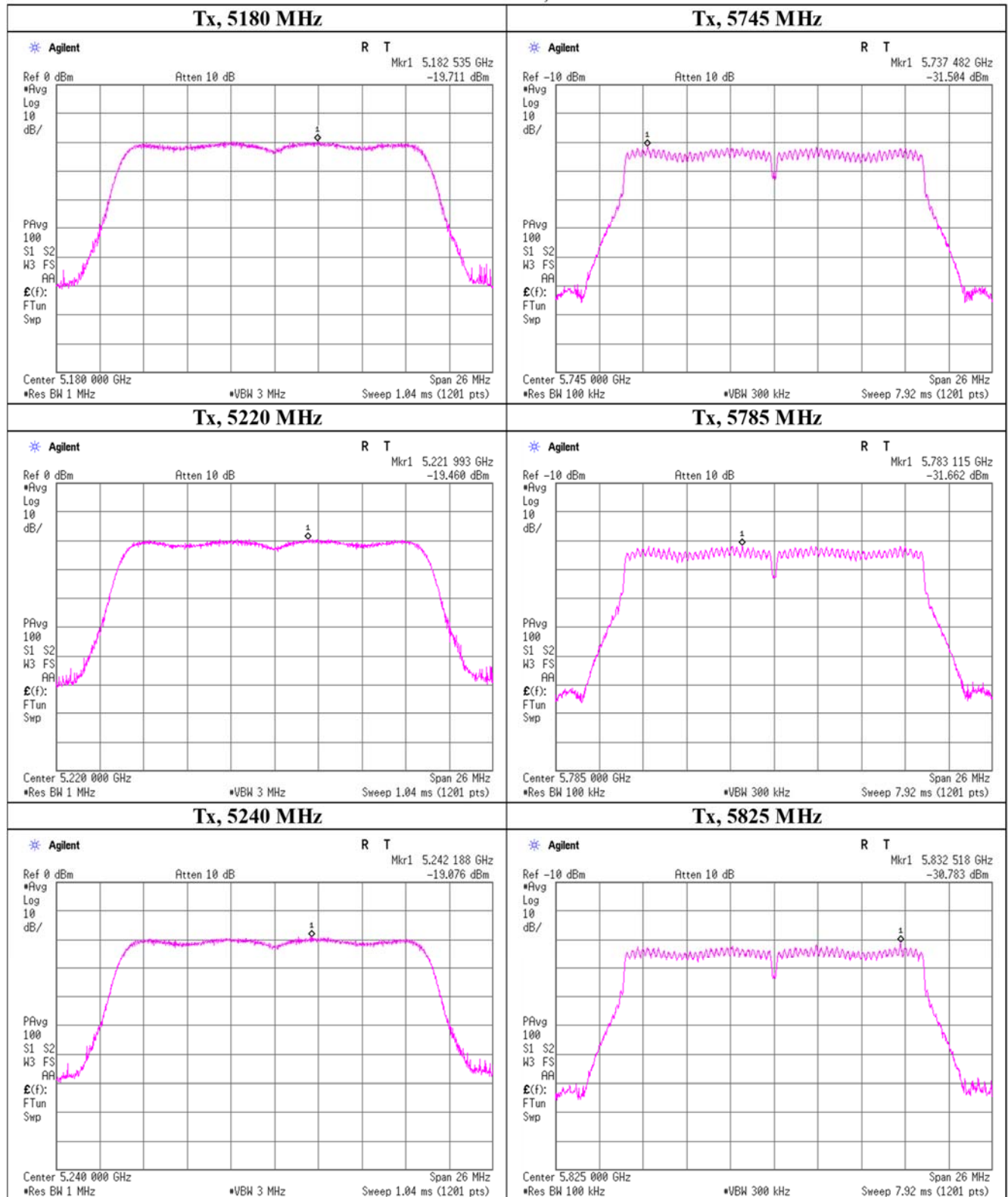
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Maximum Power Spectral Density

11ac-20 CDD, RF0



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Shonan EMC Lab.

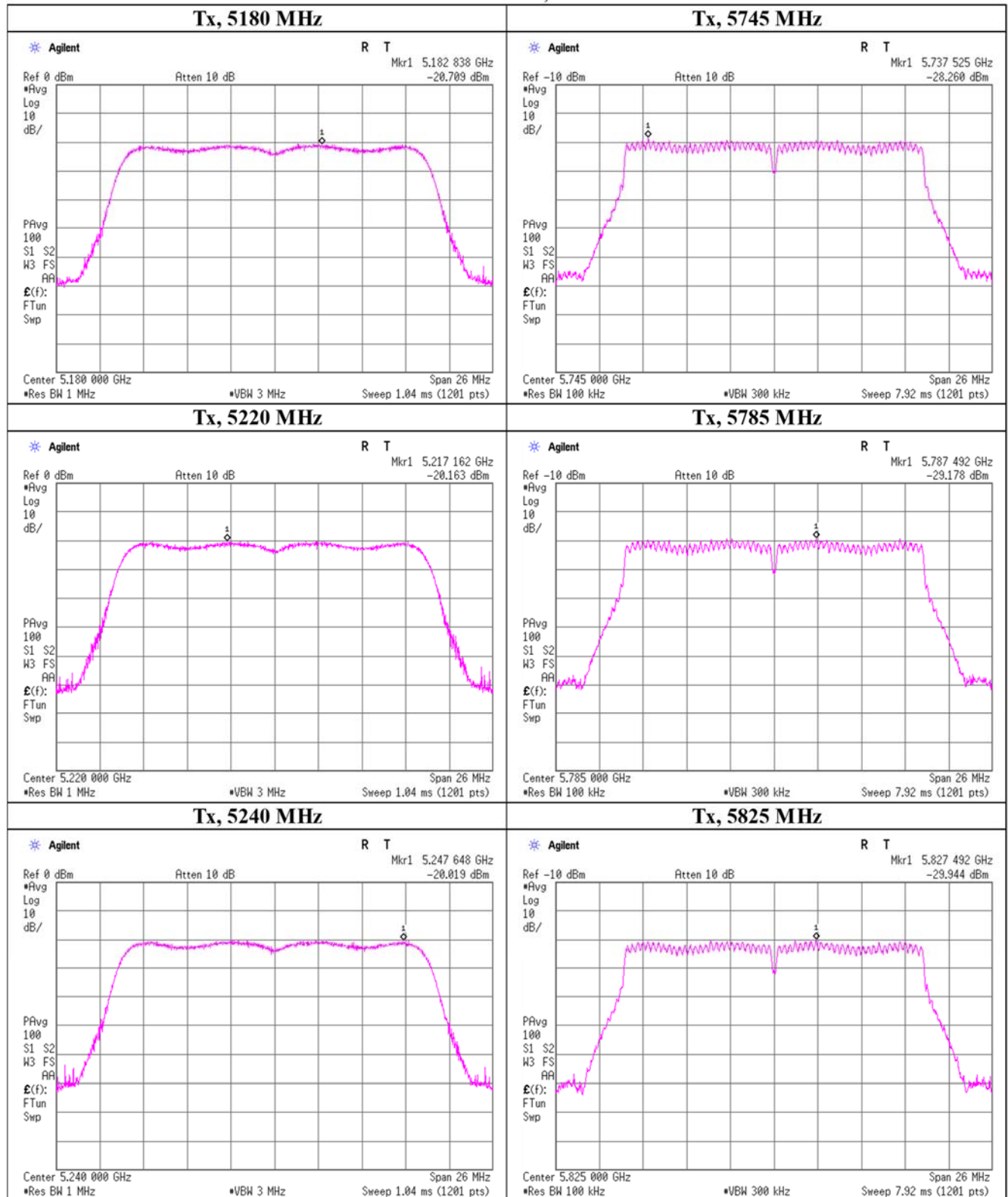
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Maximum Power Spectral Density

11ac-20 CDD, RF1



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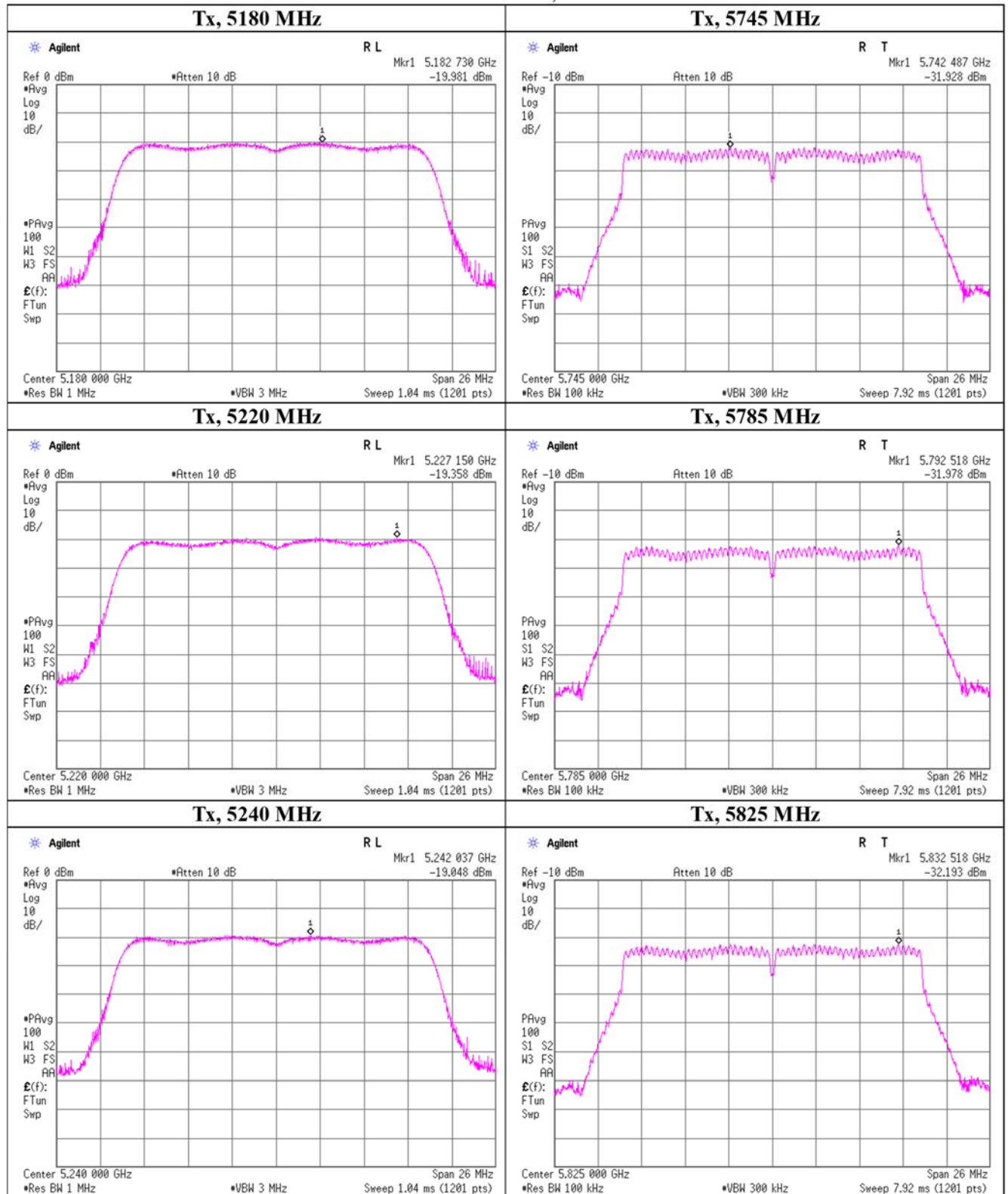
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Maximum Power Spectral Density

11ac-20 MIMO, RF0



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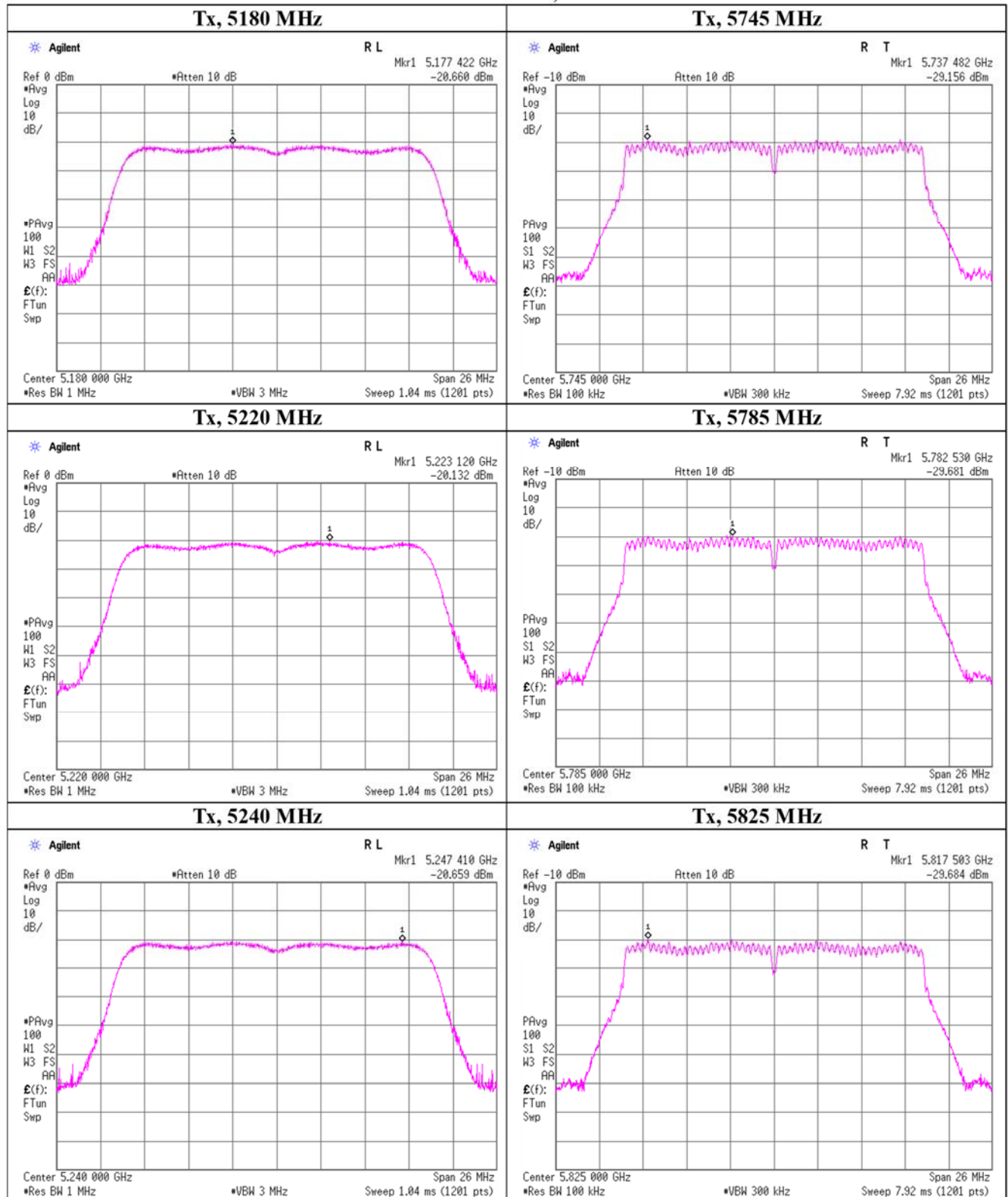
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Maximum Power Spectral Density

11ac-20 MIMO, RF1



UL Japan, Inc.

Shonan EMC Lab.

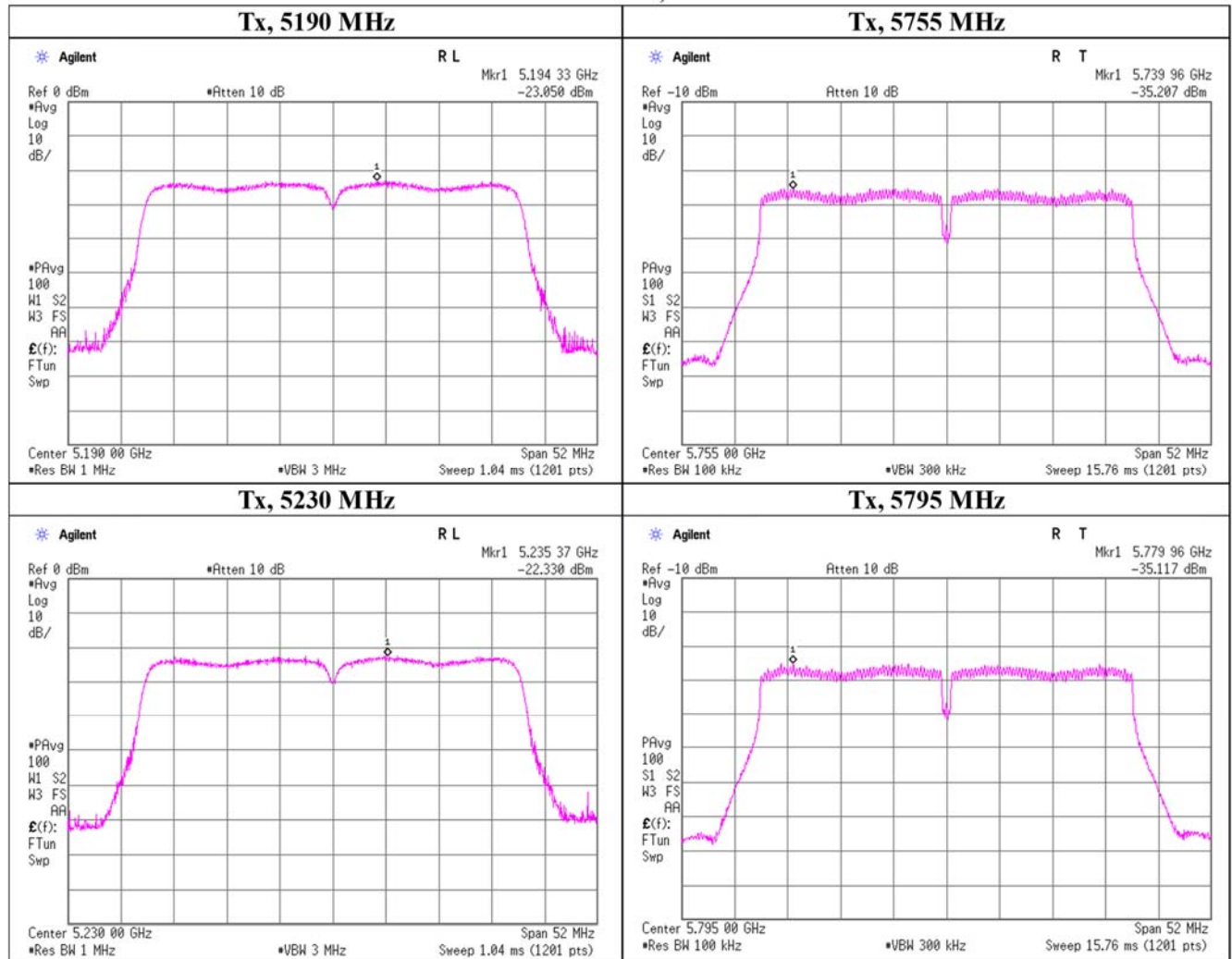
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Maximum Power Spectral Density

11n-40 SISO, RF0



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Shonan EMC Lab.

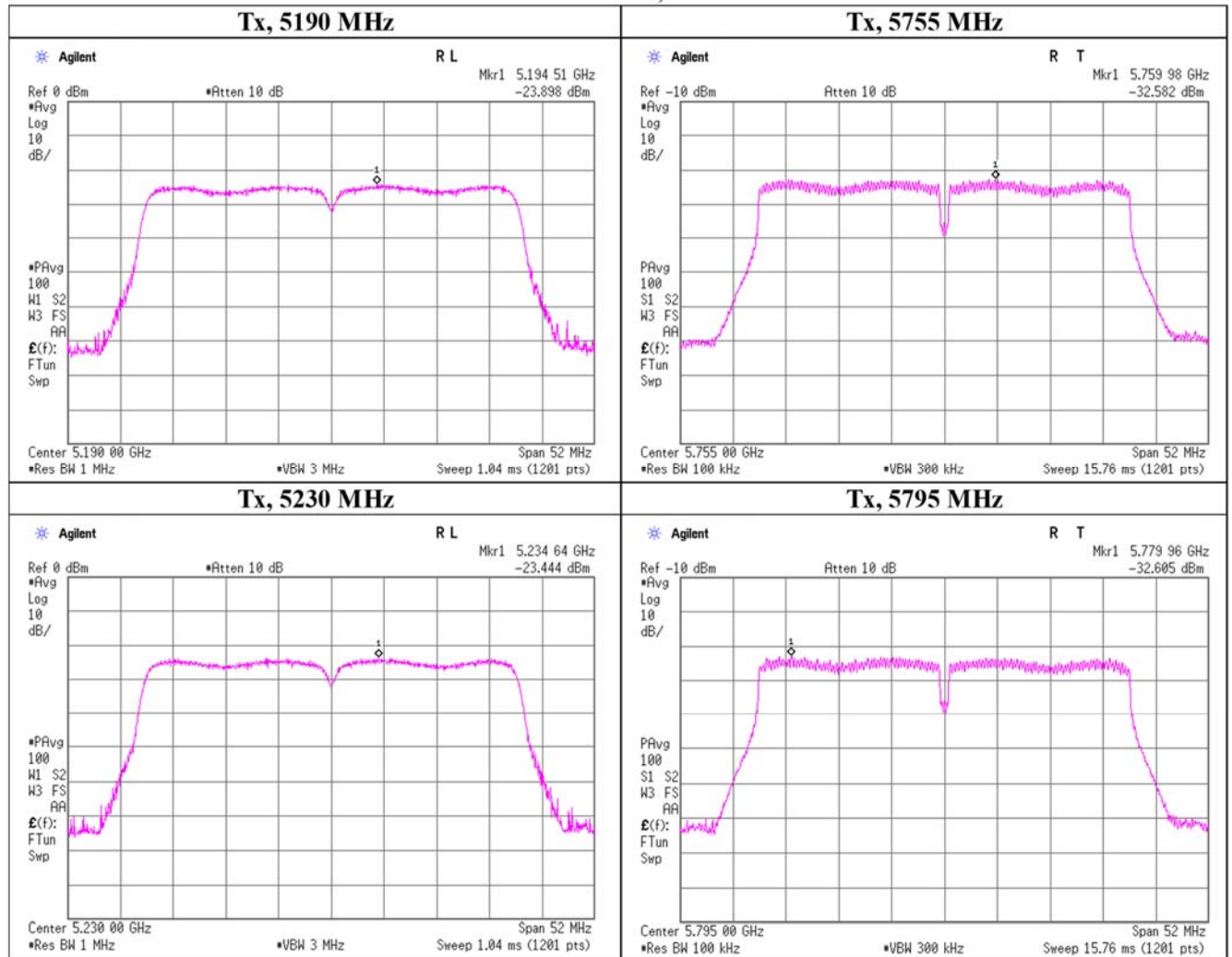
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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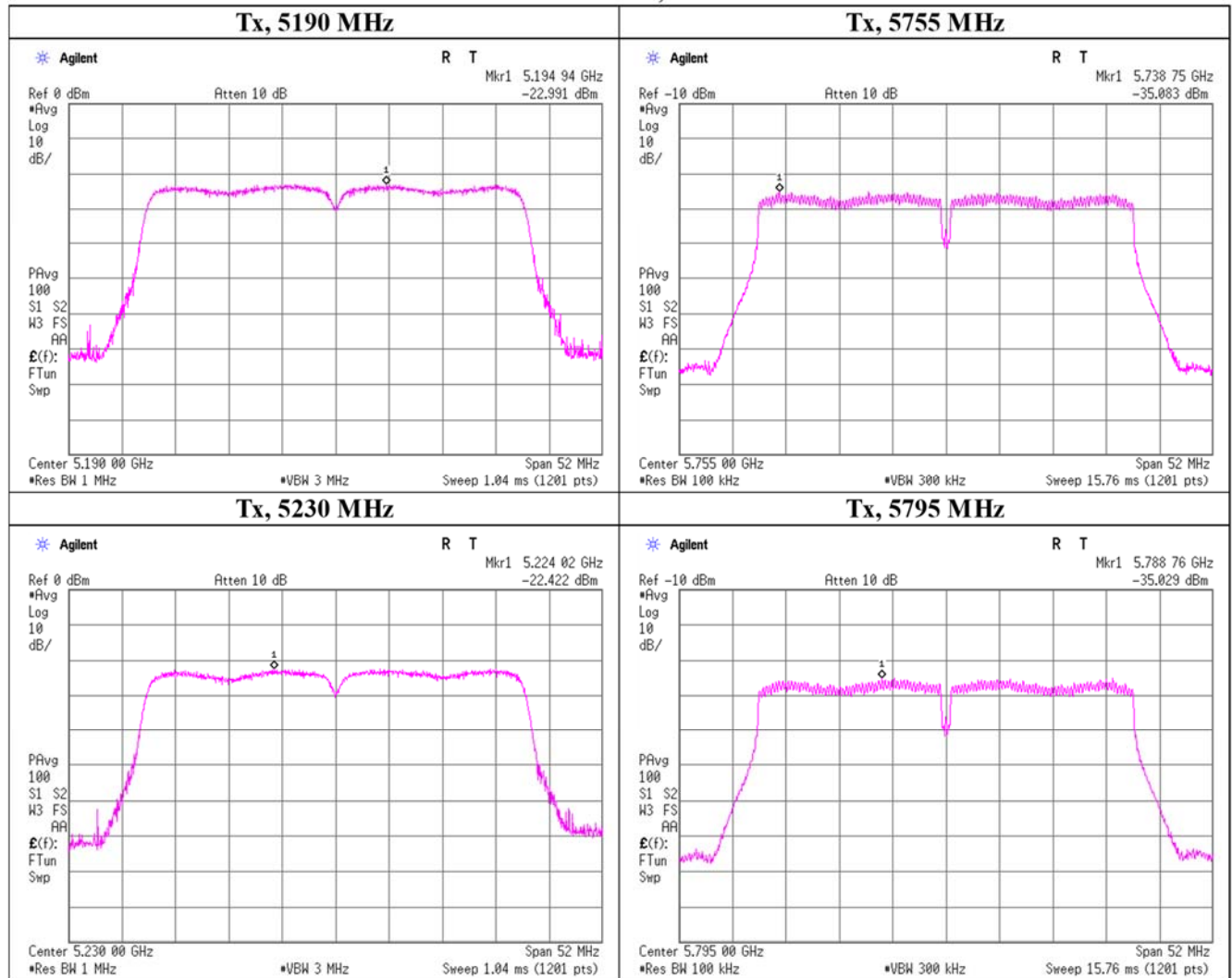
Maximum Power Spectral Density

11n-40 SISO, RF1



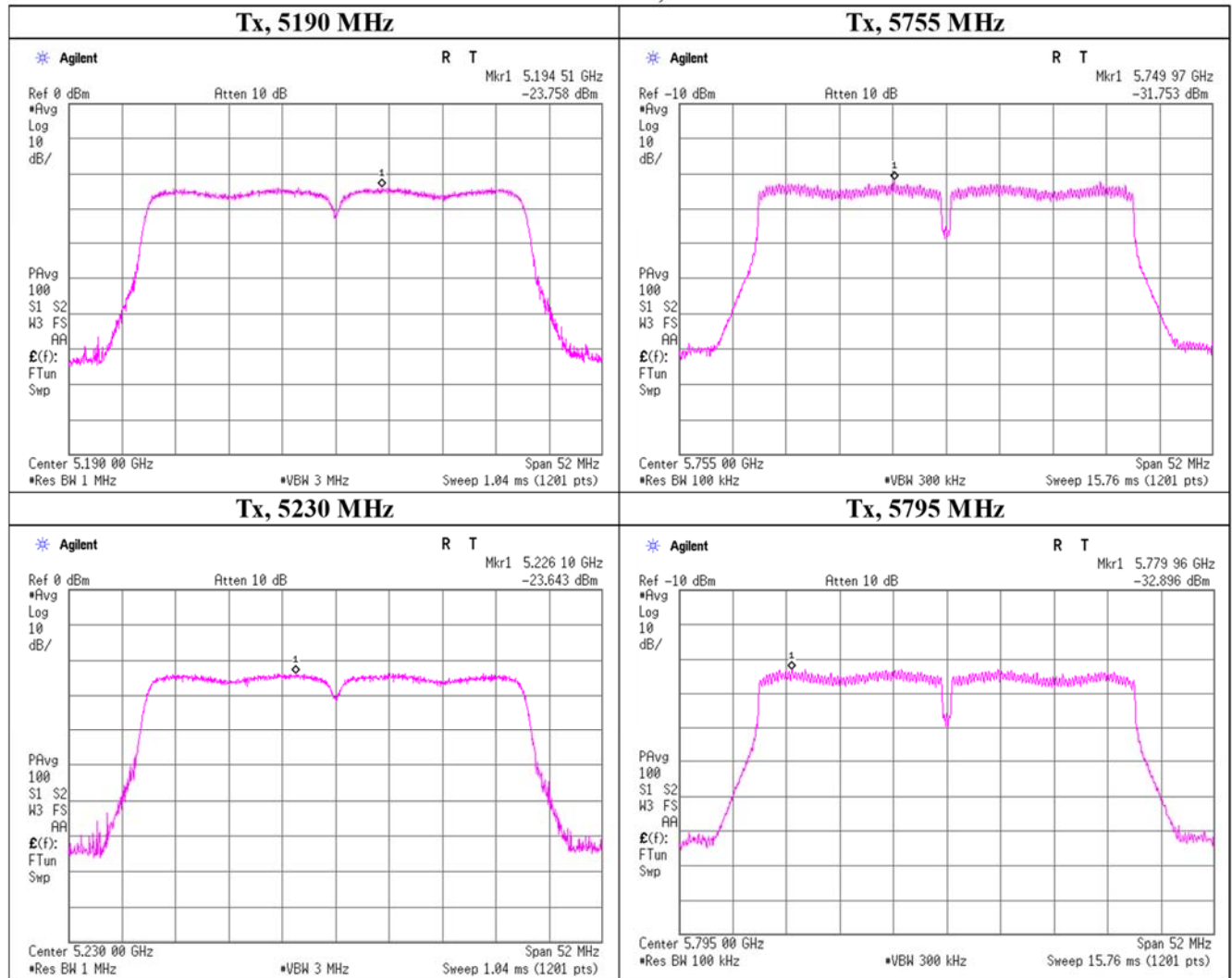
Maximum Power Spectral Density

11n-40 CDD, RF0



Maximum Power Spectral Density

11n-40 CDD, RF1



Maximum Power Spectral Density

11n-40 MIMO, RF0

