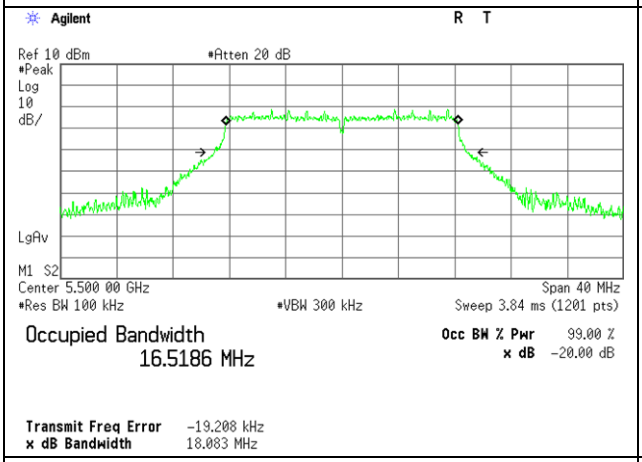
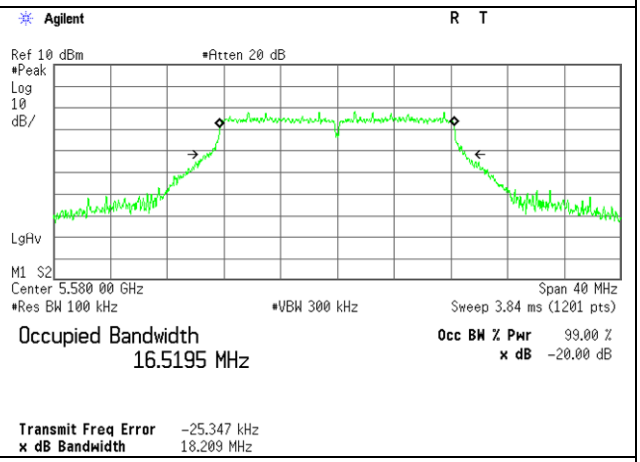
20dB Bandwidth

11a

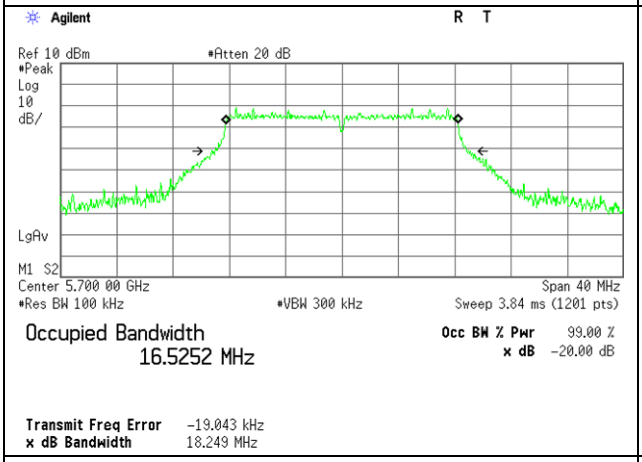
5500MHz



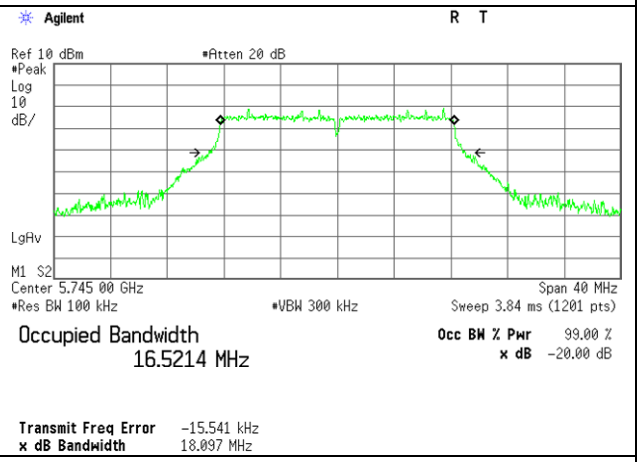
5580MHz



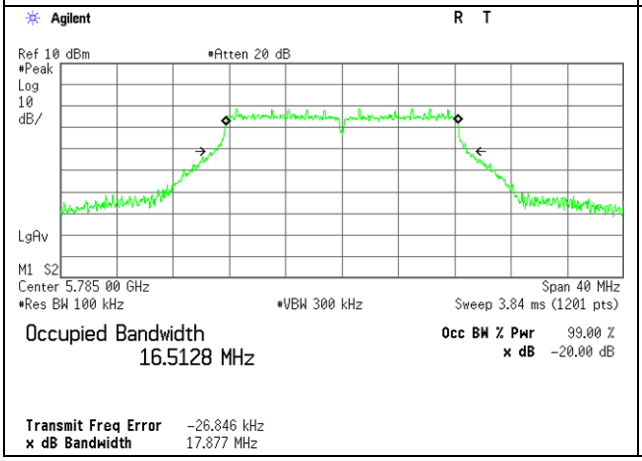
5700MHz



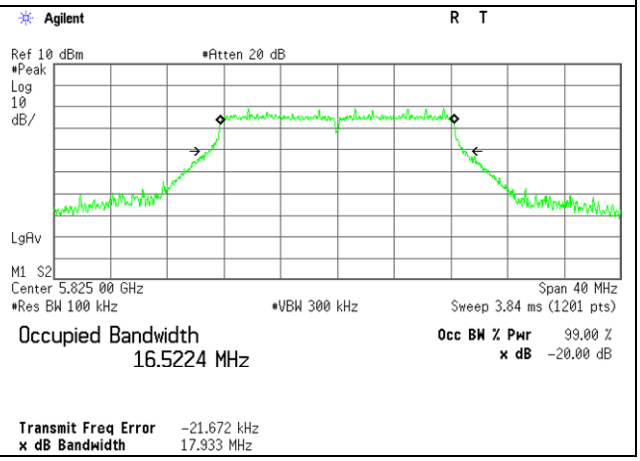
5745MHz



5785MHz



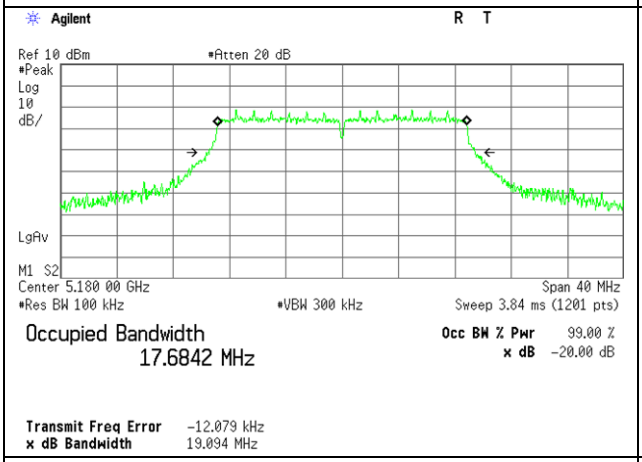
5825MHz



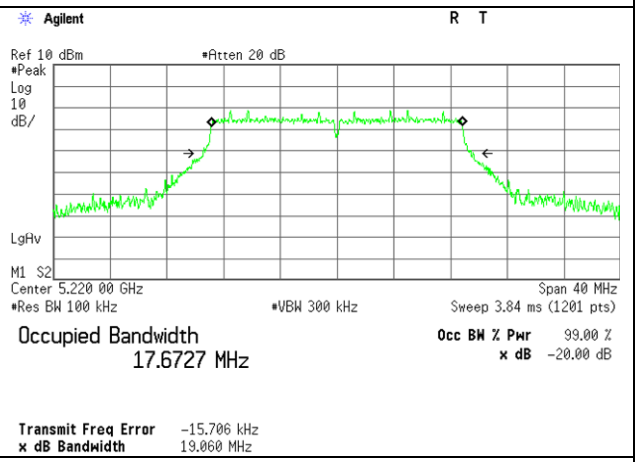
20dB Bandwidth

11n-20

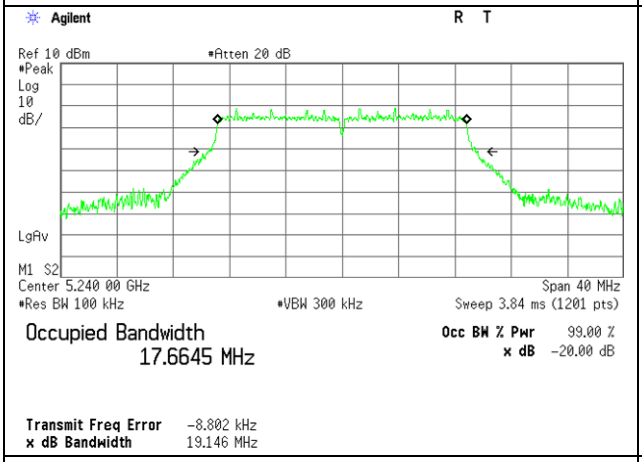
5180MHz



5220MHz



5240MHz



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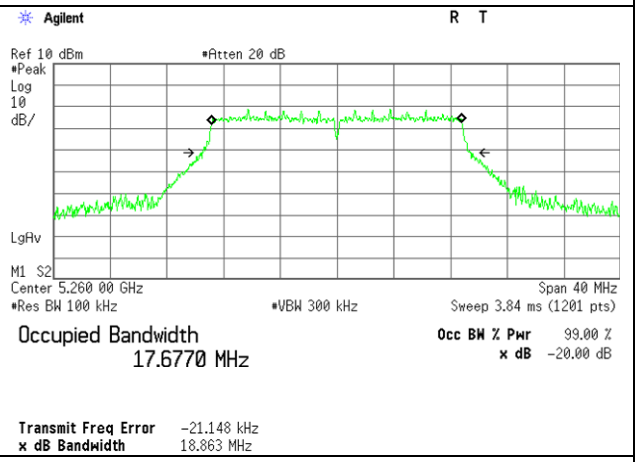
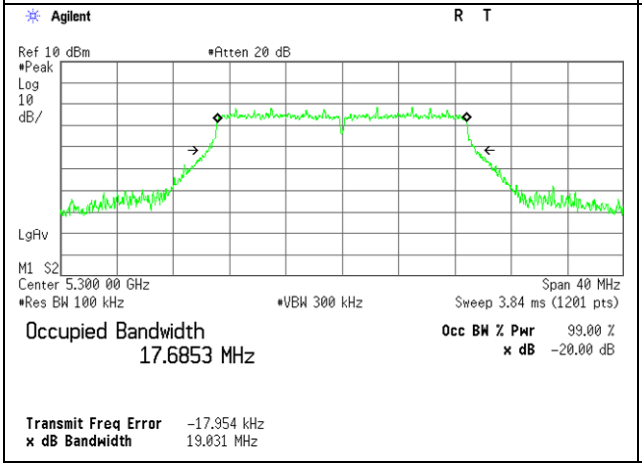
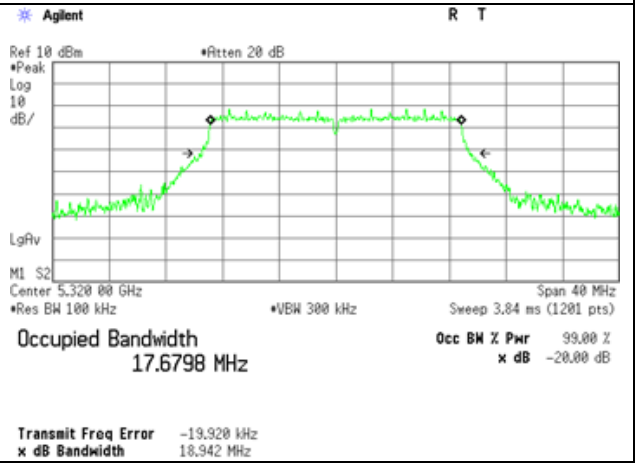


5300MHz



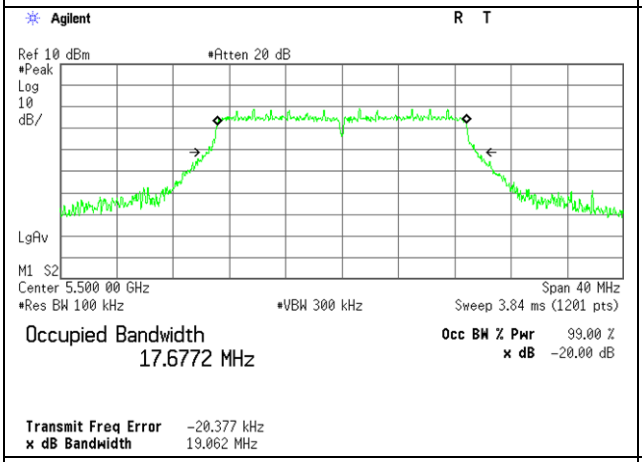
5320MHz



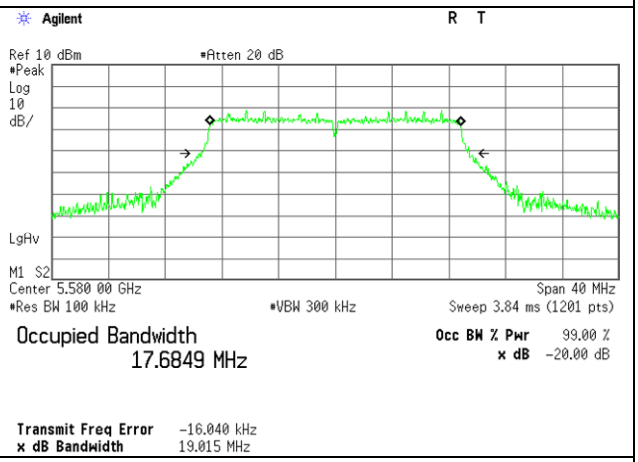
20dB Bandwidth

11n-20

5500MHz



5580MHz



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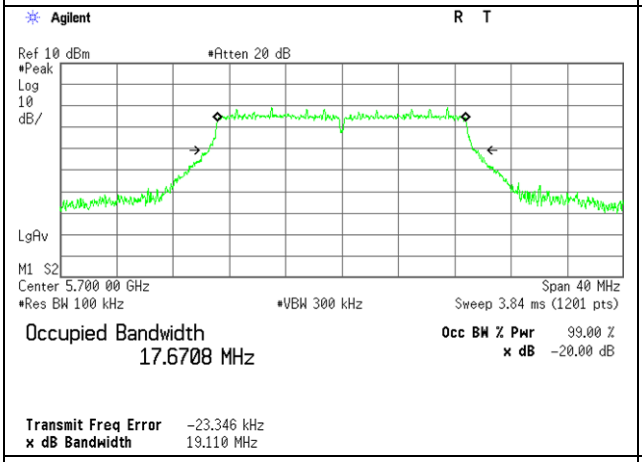
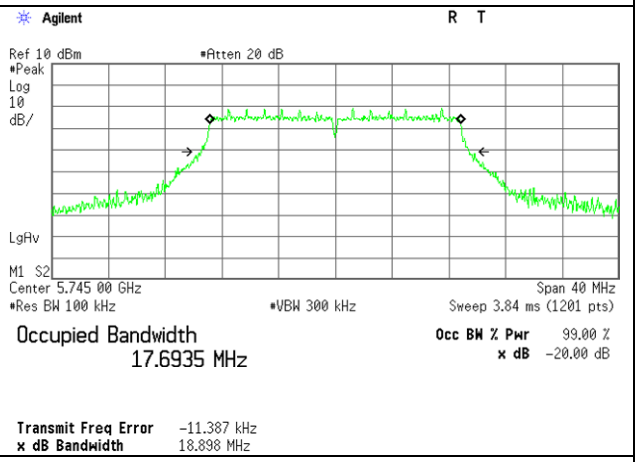


5745MHz



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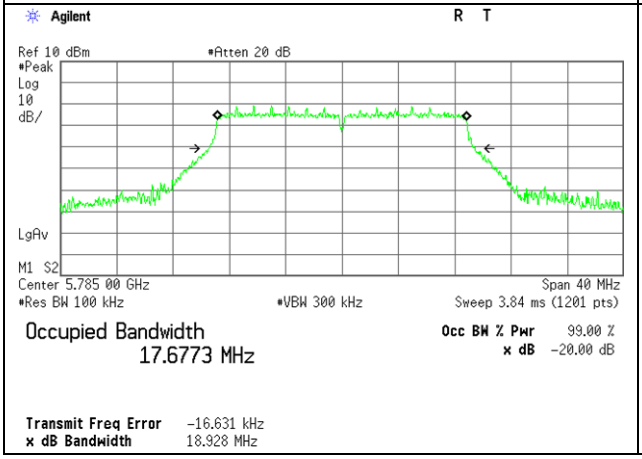
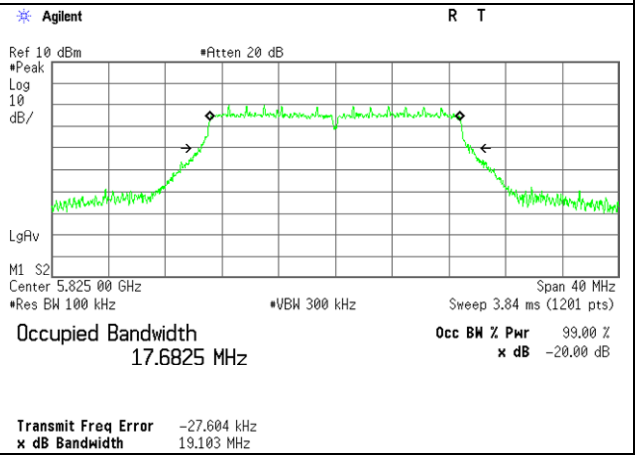


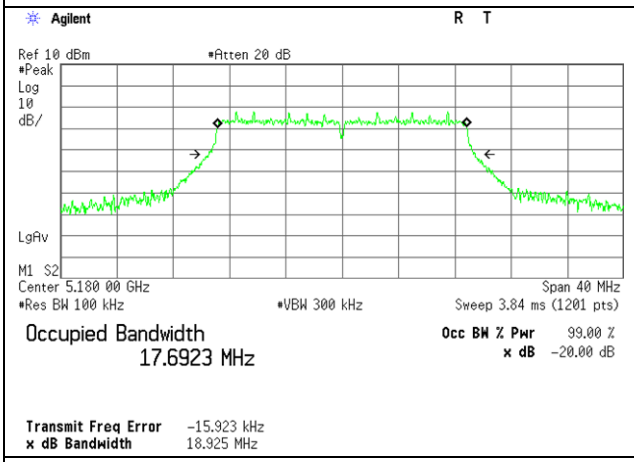
5825MHz



20dB Bandwidth

11ac-20

5180MHz



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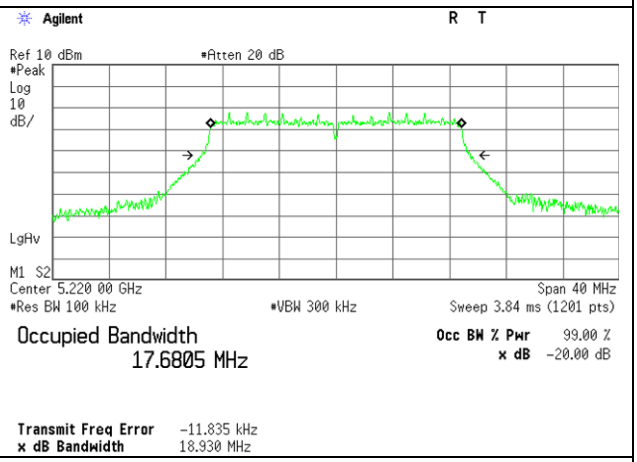

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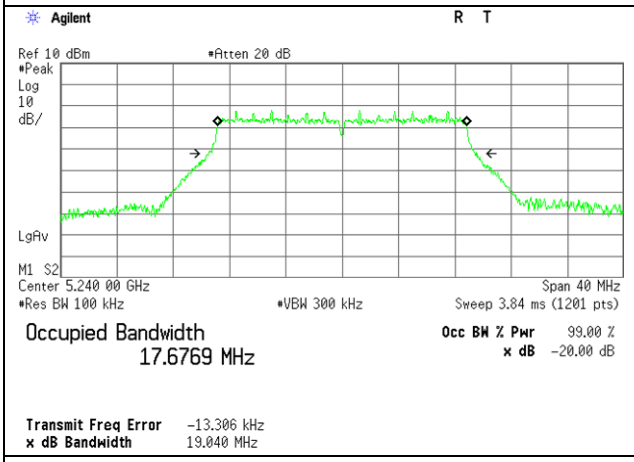
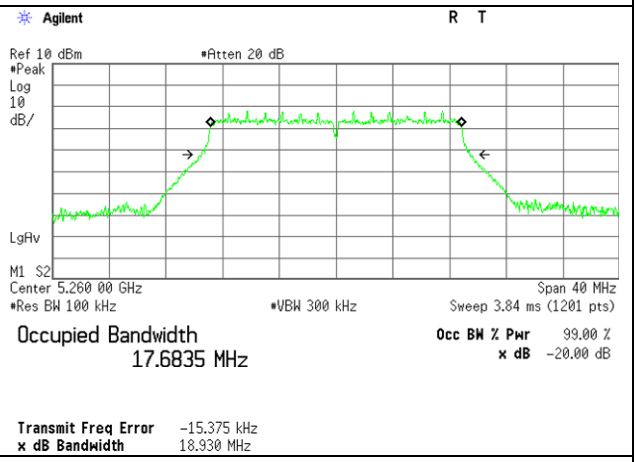


5260MHz



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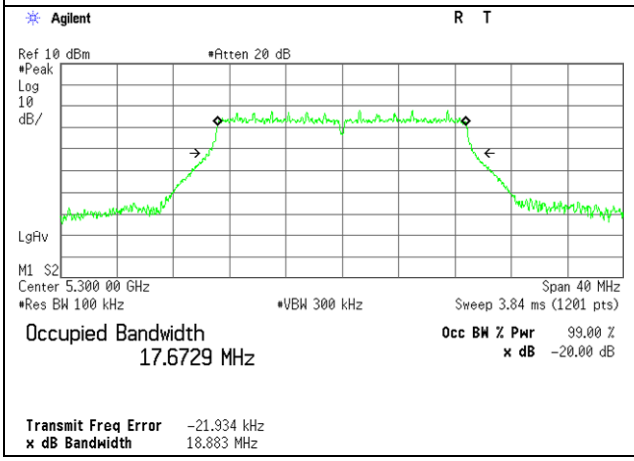

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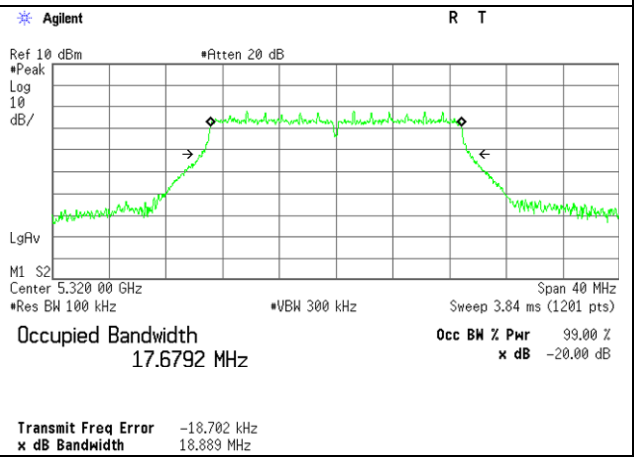
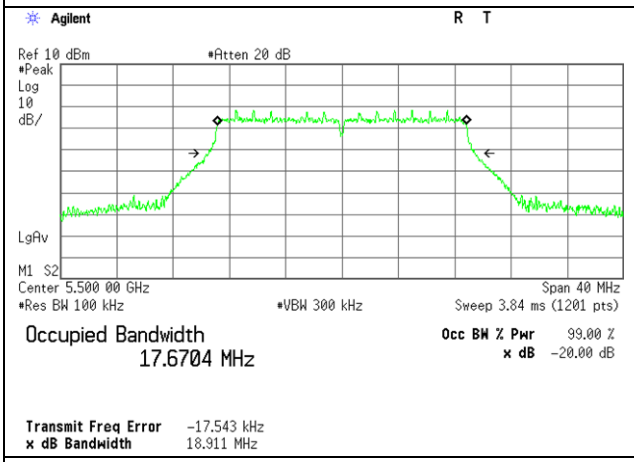


20dB Bandwidth

11ac-20

5500MHz



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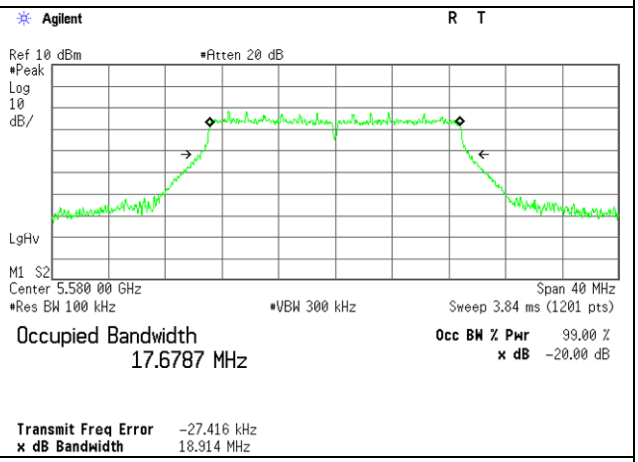
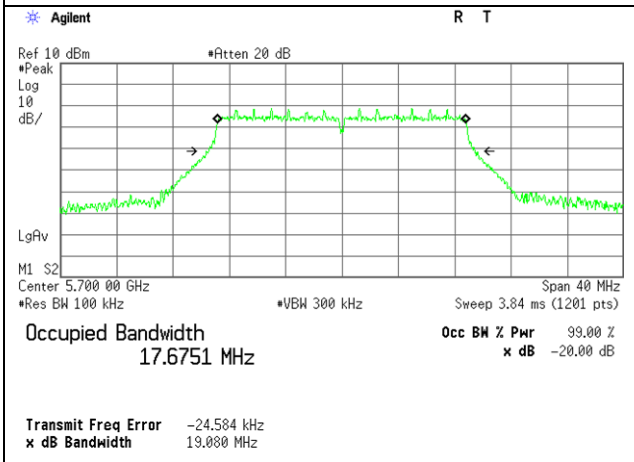


5700MHz



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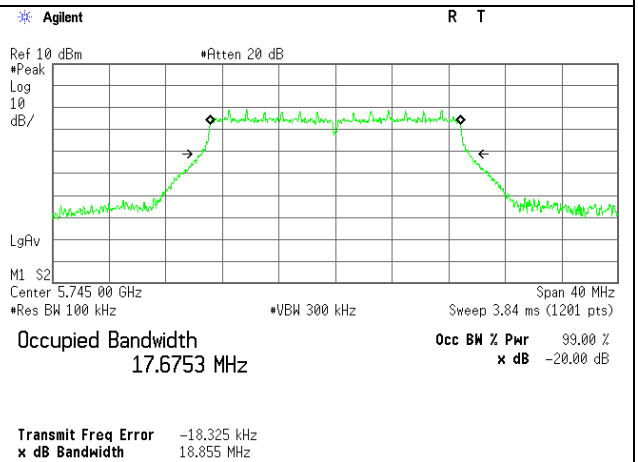

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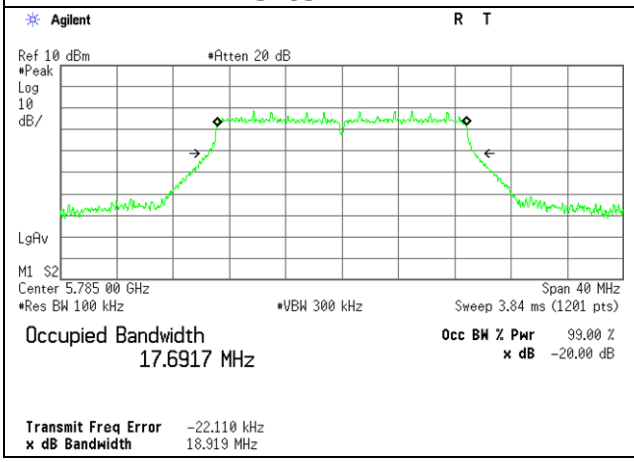
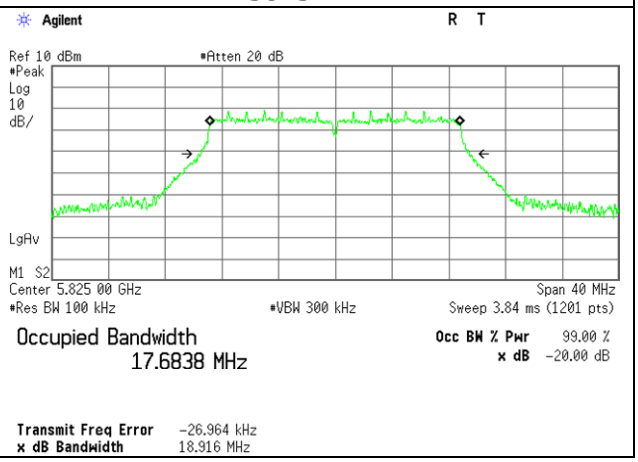


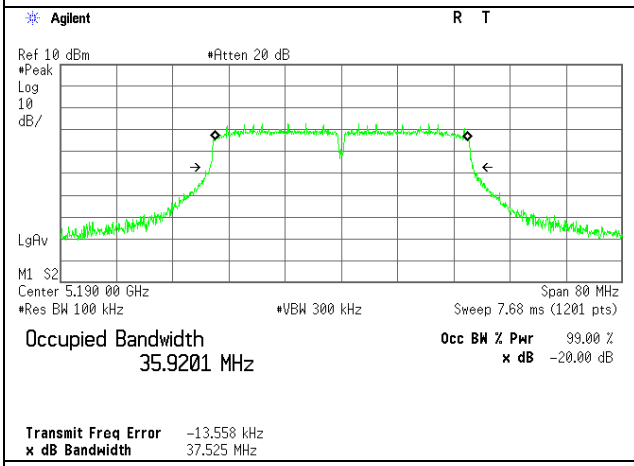
5825MHz



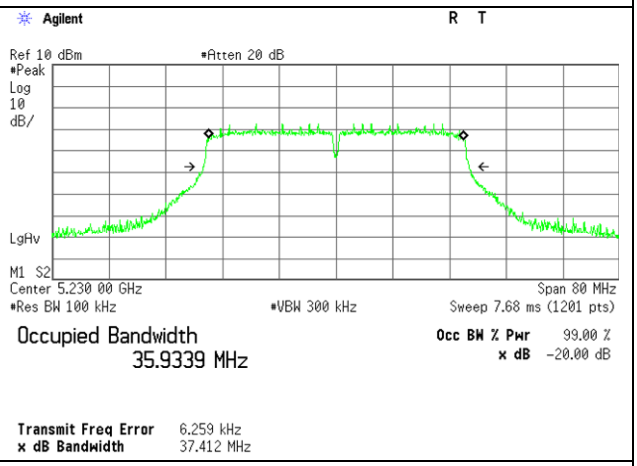
20dB Bandwidth

11n-40

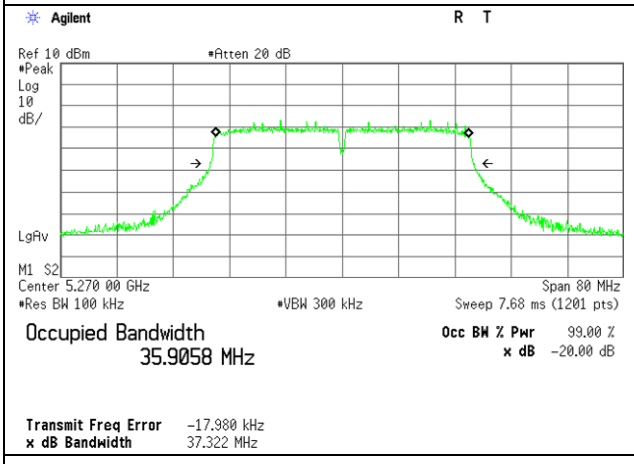
5190MHz



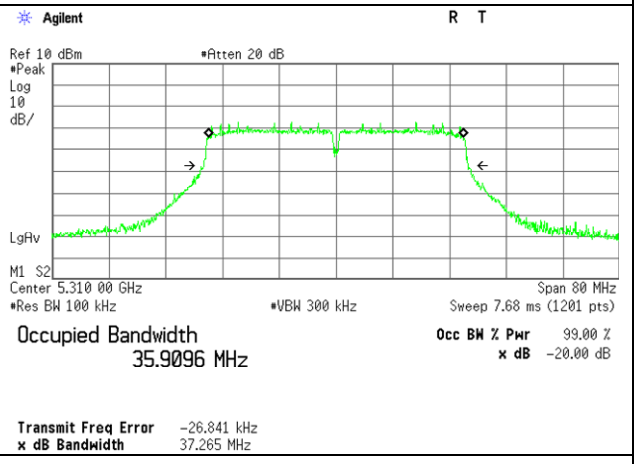
5230MHz



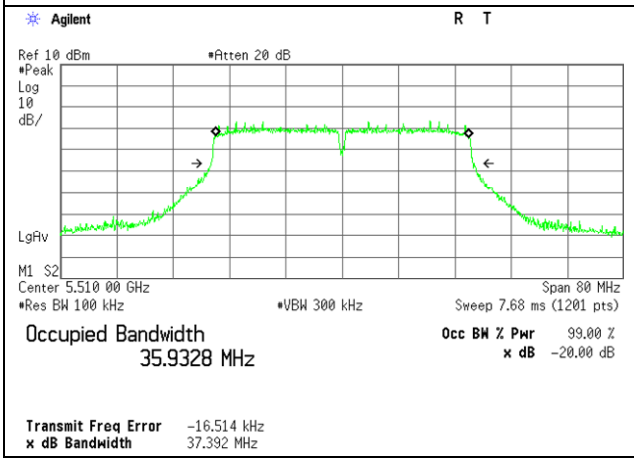
5270MHz



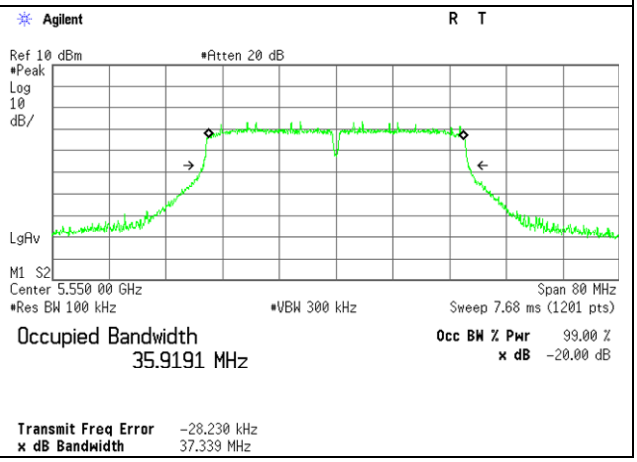
5310MHz



5510MHz



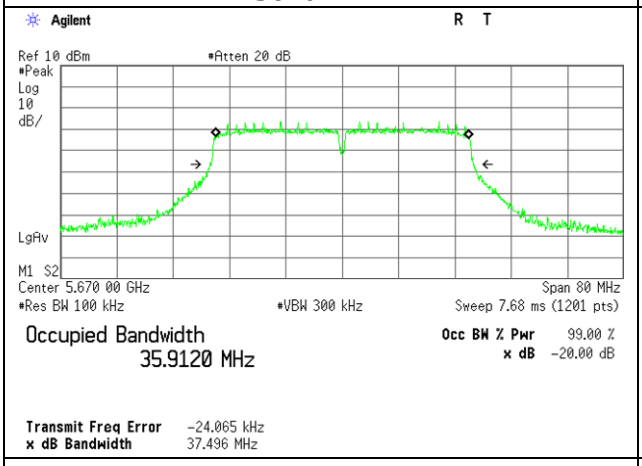
5550MHz



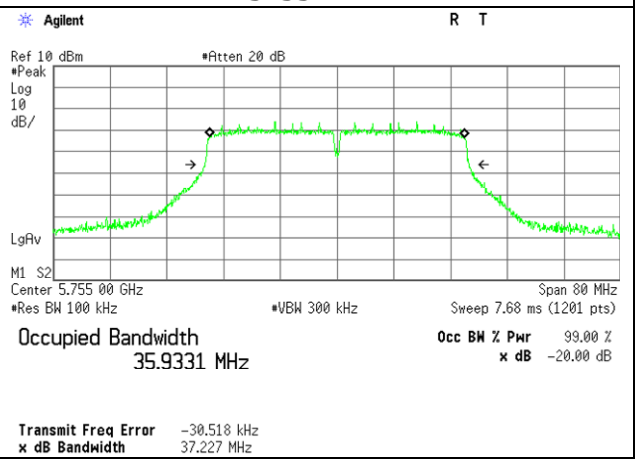
20dB Bandwidth

11n-40

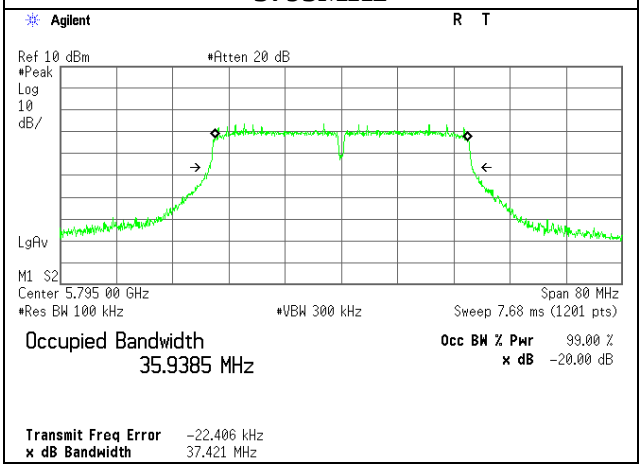
5670MHz



5755MHz



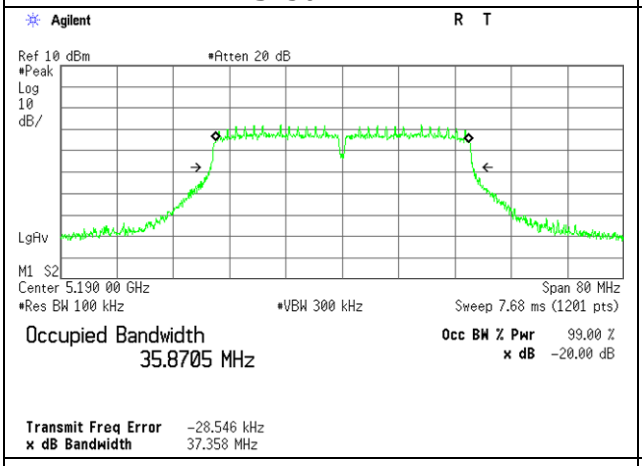
5795MHz



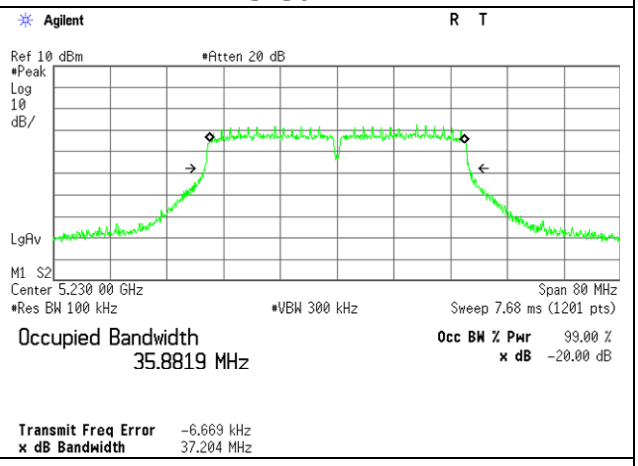
20dB Bandwidth

11ac-40

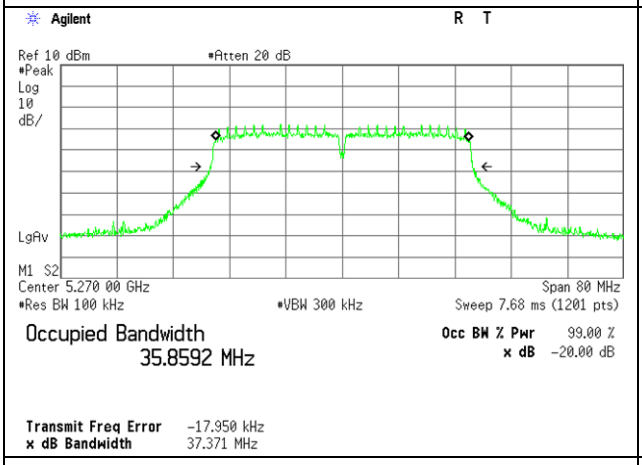
5190MHz



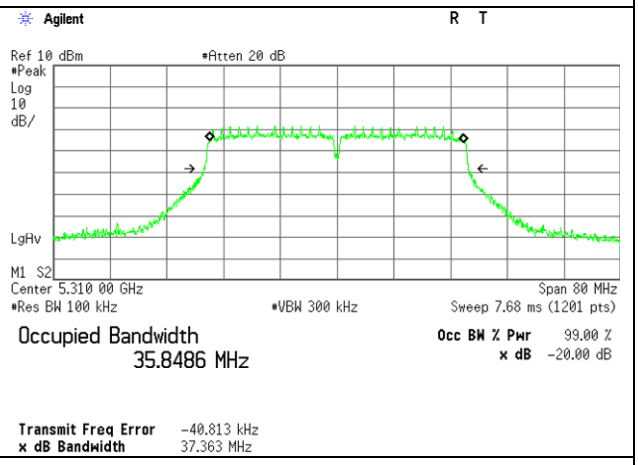
5230MHz



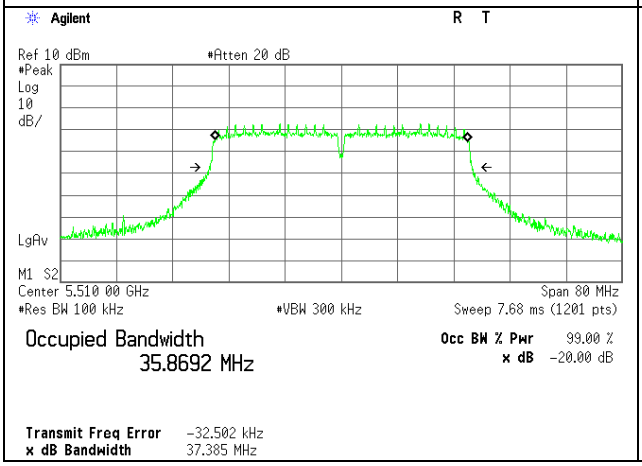
5270MHz



5310MHz



5510MHz



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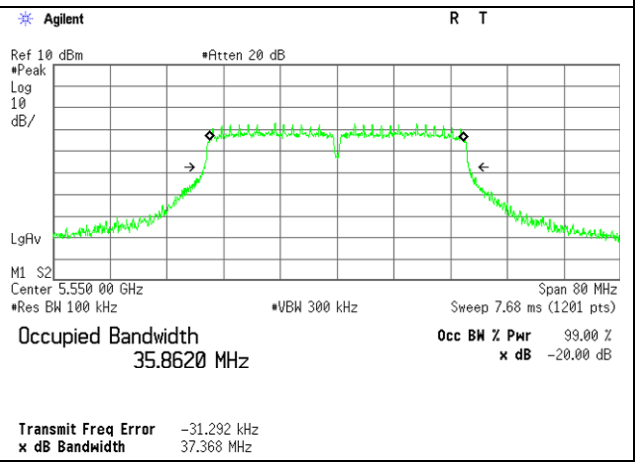
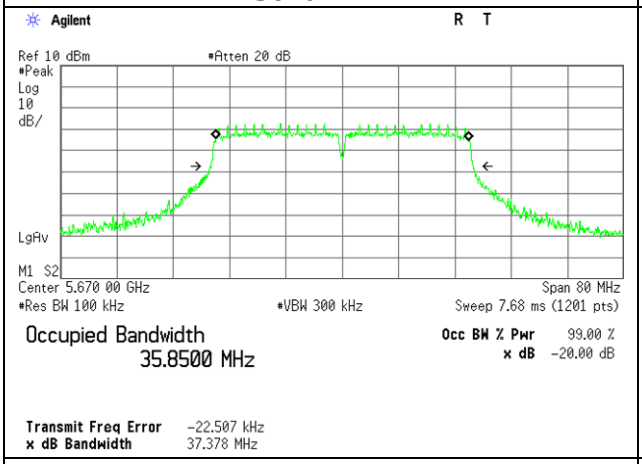


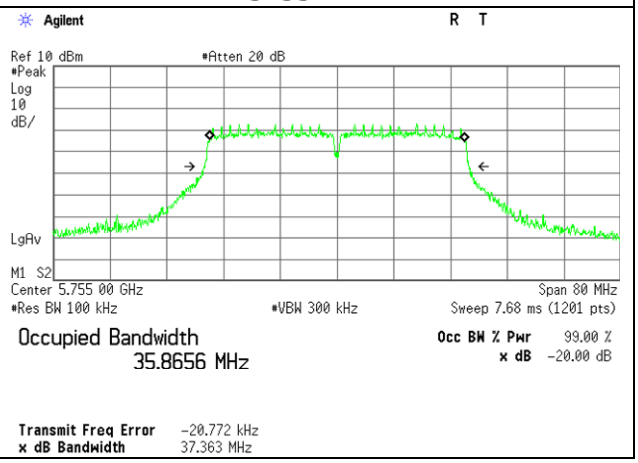
20dB Bandwidth

11ac-40

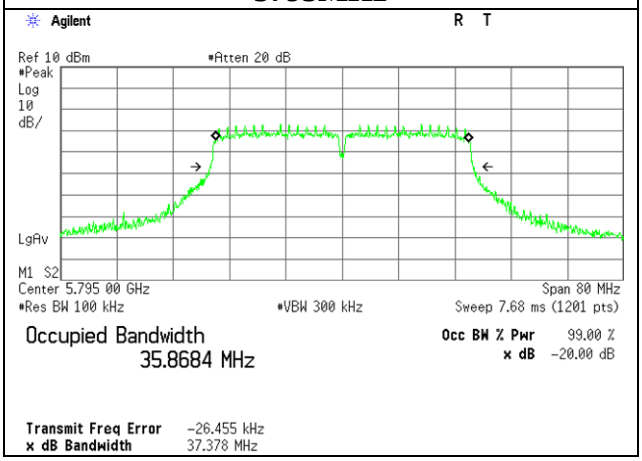
5670MHz



5755MHz



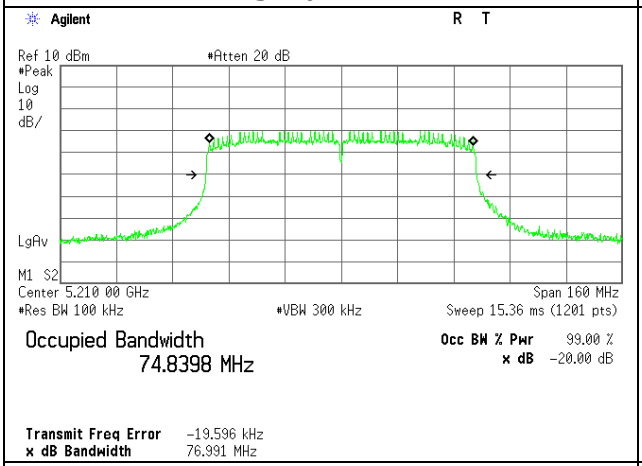
5795MHz



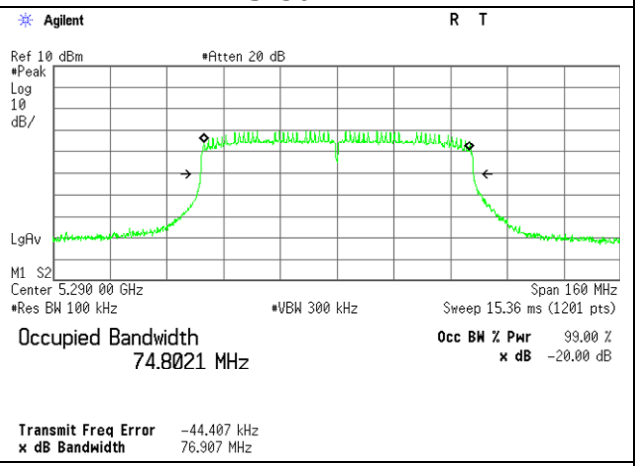
20dB Bandwidth

11ac-80

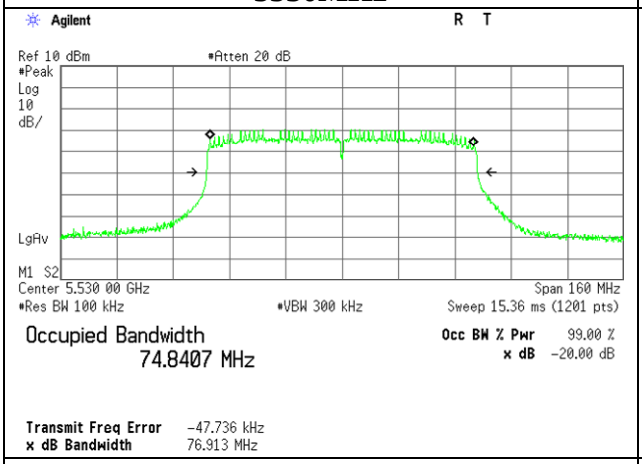
5210MHz



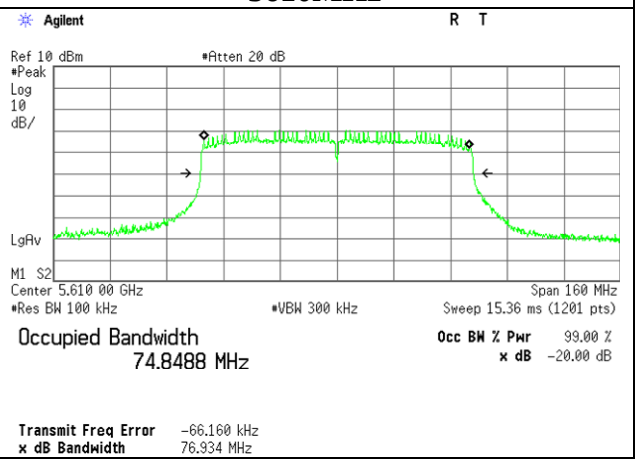
5290MHz



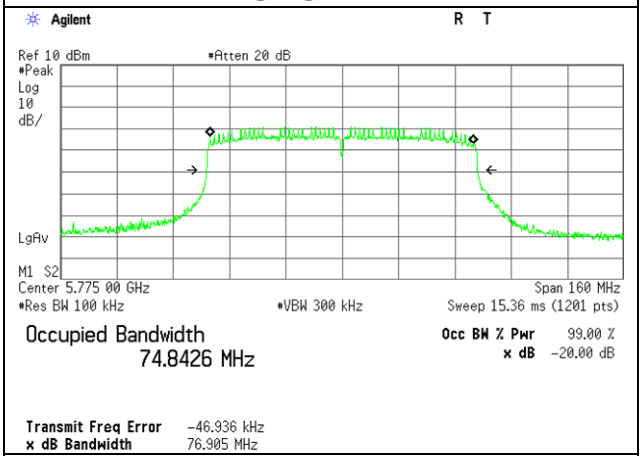
5530MHz



5610MHz



5775MHz



6dB Bandwidth

Test place	Ise EMC Lab. No.3 Measurement Room
Report No.	10636726H
Date	01/30/2015
Temperature/ Humidity	25deg. C / 30% RH
Engineer	Shinichi Miyazono
Mode	Tx

11a

Frequency [MHz]	20dB Bandwidth [MHz]	Limit [kHz]
5745	16.431	> 500
5785	16.427	> 500
5825	16.422	> 500

11n-20

Frequency [MHz]	20dB Bandwidth [MHz]	Limit [kHz]
5745	17.634	> 500
5785	17.628	> 500
5825	17.628	> 500

11ac-20

Frequency [MHz]	20dB Bandwidth [MHz]	Limit [kHz]
5745	17.603	> 500
5785	17.624	> 500
5825	17.611	> 500

11n-40

Frequency [MHz]	20dB Bandwidth [MHz]	Limit [kHz]
5755	35.162	> 500
5795	35.913	> 500

11ac-40

Frequency [MHz]	20dB Bandwidth [MHz]	Limit [kHz]
5755	35.196	> 500
5795	35.185	> 500

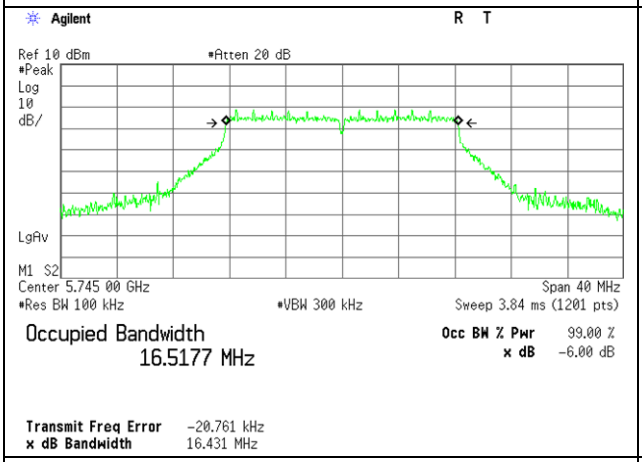
11ac-80

Frequency [MHz]	20dB Bandwidth [MHz]	Limit [kHz]
5775	75.195	> 500

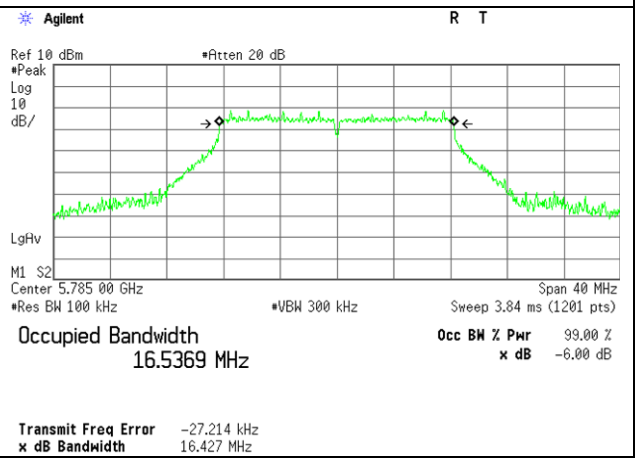
6dB Bandwidth

11a

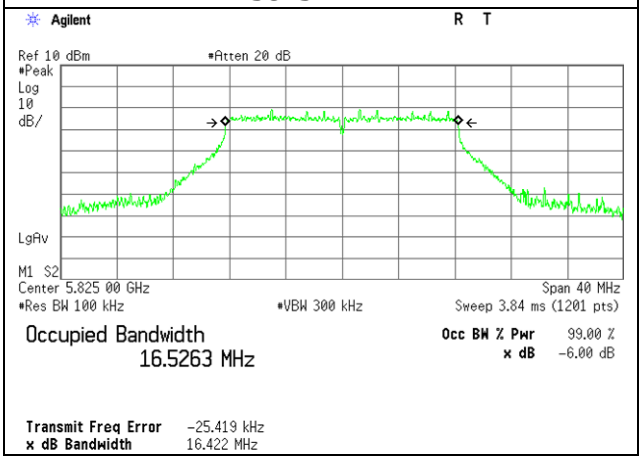
5745MHz



5785MHz



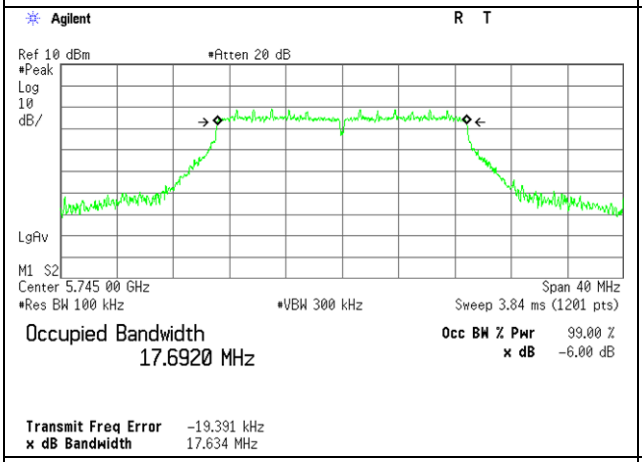
5825MHZ



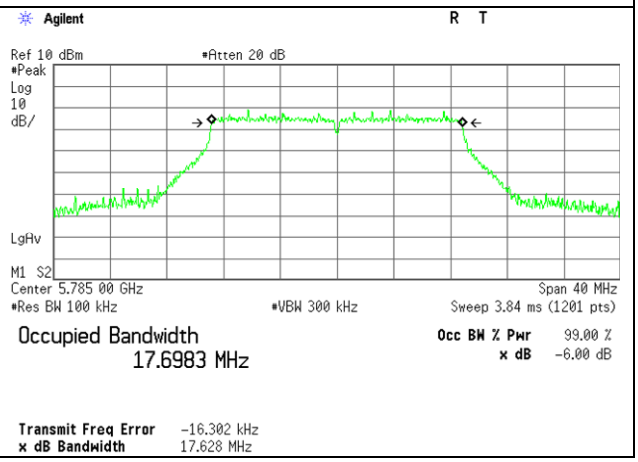
6dB Bandwidth

11n-20

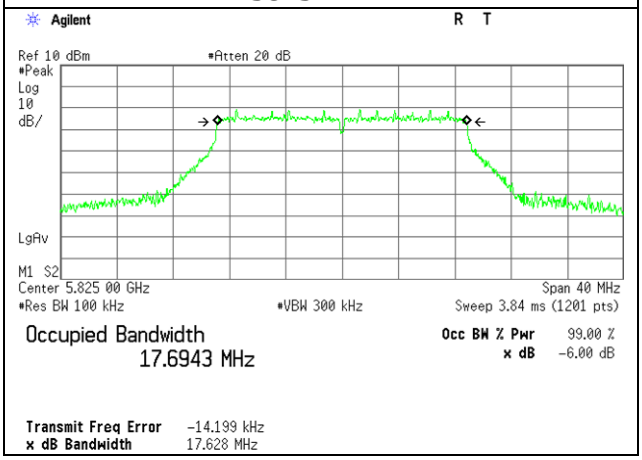
5745MHz



5785MHz



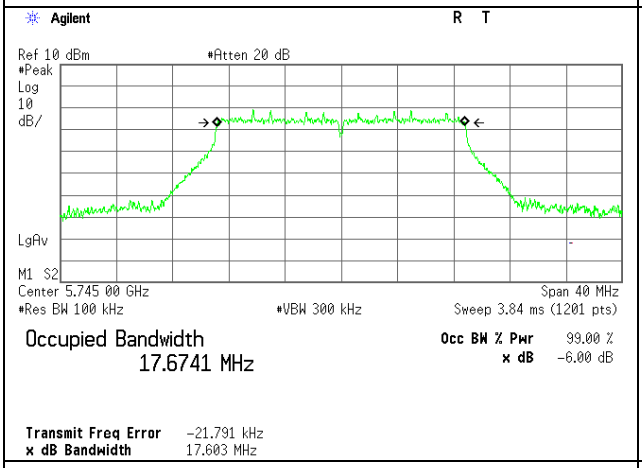
5825MHZ



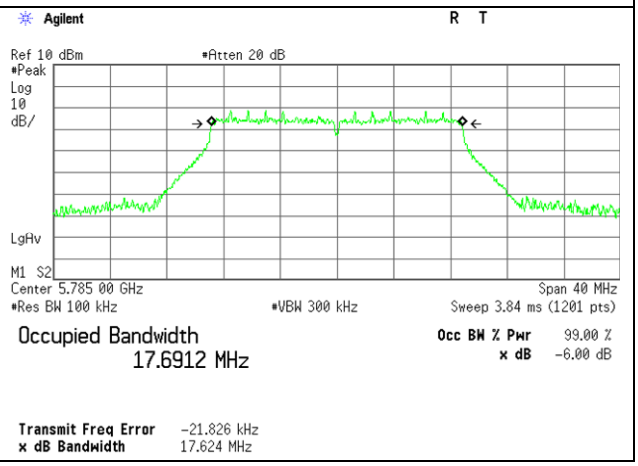
6dB Bandwidth

11ac-20

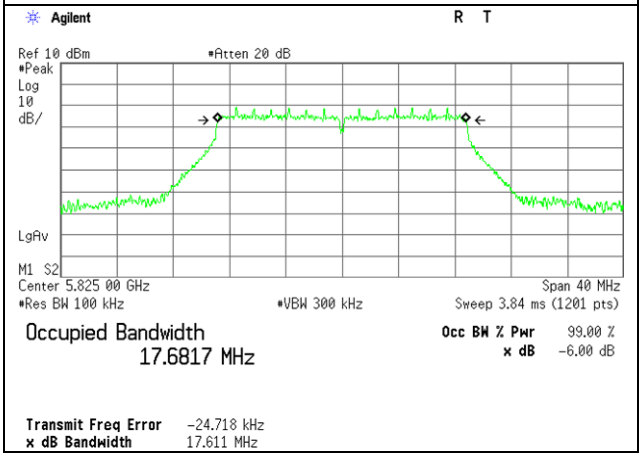
5745MHz



5785MHz



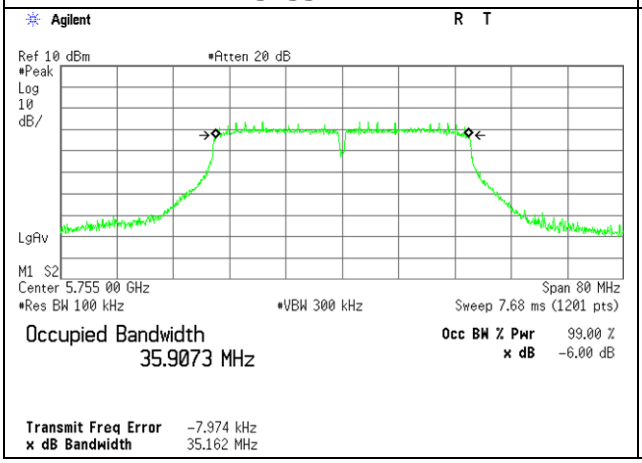
5825MHZ



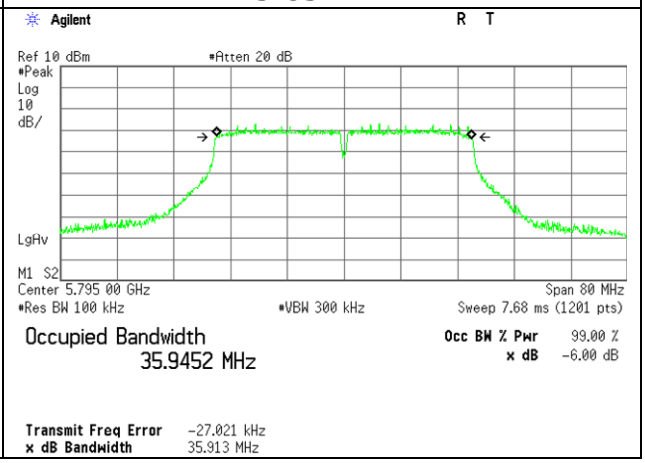
6dB Bandwidth

11n-40

5755MHz

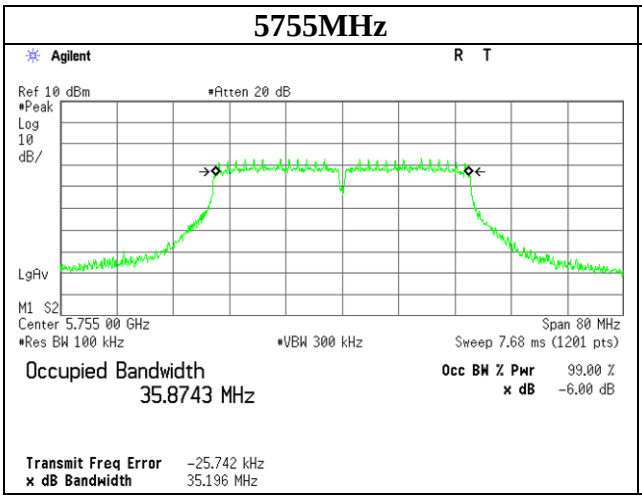


5795MHz

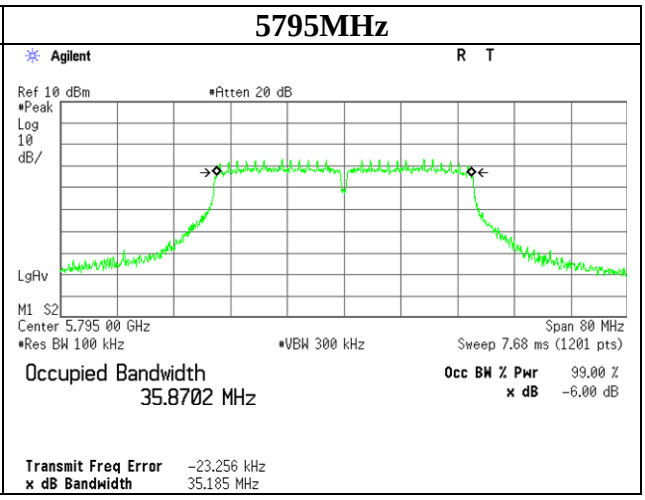


11ac-40

5755MHz

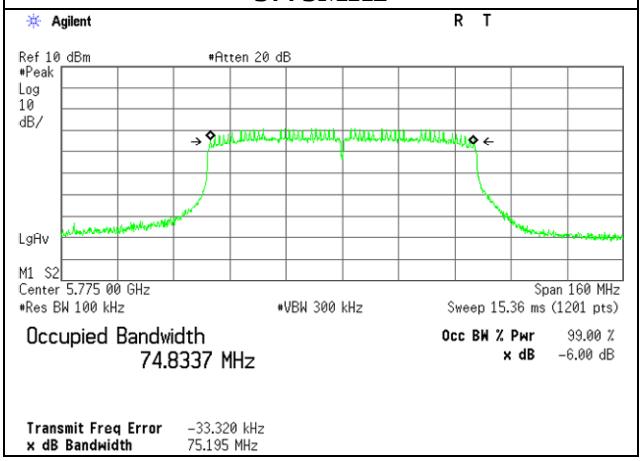


5795MHz



11ac-80

5775MHz



Maximum Conducted Output Power

Test place Ise EMC Lab. No.4 Measurement Room
Report No. 10636726H
Date 01/14/2015
Temperature/ Humidity 22deg.C. / 32%
Engineer Tsubasa Takayama
Mode 11a/n-20/ac-20 Tx

11a

Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Cond.) [dBm]	Limit (Cond.) [dBm]	Margin (Cond.) [dB]
5180.0	1.50	0.57	10.09	12.16	23.97	11.81
5220.0	1.43	0.57	10.09	12.09	23.97	11.88
5240.0	1.49	0.57	10.09	12.15	23.97	11.82
5260.0	1.53	0.58	10.09	12.20	23.97	11.77
5300.0	1.55	0.58	10.09	12.22	23.97	11.75
5320.0	1.48	0.58	10.09	12.15	23.97	11.82
5500.0	1.45	0.59	10.09	12.13	23.97	11.84
5580.0	1.24	0.59	10.09	11.92	23.97	12.05
5700.0	1.31	0.59	10.09	11.99	23.97	11.98
5745.0	1.20	0.60	10.08	11.88	30.00	18.12
5785.0	1.21	0.60	10.08	11.89	30.00	18.11
5825.0	1.45	0.60	10.08	12.13	30.00	17.87

Result(Cond.) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss
15.407(a)(1)(iv) Limit(Cond.) = 23.97dBm(250mW)
15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm
15.407(a)(3) Limit(Cond.) = 30dBm(1W)

11n-20

Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Cond.) [dBm]	Limit (Cond.) [dBm]	Margin (Cond.) [dB]
5180.0	1.48	0.57	10.09	12.14	23.97	11.83
5220.0	1.39	0.57	10.09	12.05	23.97	11.92
5240.0	1.50	0.57	10.09	12.16	23.97	11.81
5260.0	1.52	0.58	10.09	12.19	23.97	11.78
5300.0	1.46	0.58	10.09	12.13	23.97	11.84
5320.0	1.45	0.58	10.09	12.12	23.97	11.85
5500.0	1.43	0.59	10.09	12.11	23.97	11.86
5580.0	1.24	0.59	10.09	11.92	23.97	12.05
5700.0	1.31	0.59	10.09	11.99	23.97	11.98
5745.0	1.21	0.60	10.08	11.89	30.00	18.11
5785.0	1.20	0.60	10.08	11.88	30.00	18.12
5825.0	1.41	0.60	10.08	12.09	30.00	17.91

Result(Cond.) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss
15.407(a)(1)(iv) Limit(Cond.) = 23.97dBm(250mW)
15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm
15.407(a)(3) Limit(Cond.) = 30dBm(1W)

11ac-20

Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Cond.) [dBm]	Limit (Cond.) [dBm]	Margin (Cond.) [dB]
5180.0	1.34	0.57	10.09	12.00	23.97	11.97
5220.0	1.33	0.57	10.09	11.99	23.97	11.98
5240.0	1.28	0.57	10.09	11.94	23.97	12.03
5260.0	1.31	0.58	10.09	11.98	23.97	11.99
5300.0	1.31	0.58	10.09	11.98	23.97	11.99
5320.0	1.29	0.58	10.09	11.96	23.97	12.01
5500.0	1.28	0.59	10.09	11.96	23.97	12.01
5580.0	1.14	0.59	10.09	11.82	23.97	12.15
5700.0	1.29	0.59	10.09	11.97	23.97	12.00
5745.0	1.19	0.60	10.08	11.87	30.00	18.13
5785.0	1.22	0.60	10.08	11.90	30.00	18.10
5825.0	1.32	0.60	10.08	12.00	30.00	18.00

Result(Cond.) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss
15.407(a)(1)(iv) Limit(Cond.) = 23.97dBm(250mW)
15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm
15.407(a)(3) Limit(Cond.) = 30dBm(1W)

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.4 Measurement Room
Report No.	10636726H
Date	01/14/2015
Temperature/ Humidity	22deg.C. / 32%
Engineer	Tsubasa Takayama
Mode	11n-40/ac-40/ac-80 Tx

11n-40

Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Cond.) [dBm]	Limit (Cond.) [dBm]	Margin (Cond.) [dB]
5190.0	-0.82	0.57	10.09	9.84	23.97	14.13
5230.0	-0.81	0.57	10.09	9.85	23.97	14.12
5270.0	-0.80	0.58	10.09	9.87	23.97	14.10
5310.0	-0.79	0.58	10.09	9.88	23.97	14.09
5510.0	-0.83	0.59	10.09	9.85	23.97	14.12
5550.0	-0.83	0.59	10.09	9.85	23.97	14.12
5670.0	-1.17	0.59	10.09	9.51	23.97	14.46
5755.0	-1.11	0.60	10.08	9.57	30.00	20.43
5795.0	-1.12	0.60	10.08	9.56	30.00	20.44

Result(Cond.) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss
15.407(a)(1)(iv) Limit(Cond.) = 23.97dBm(250mW)
15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm
15.407(a)(3) Limit(Cond.) = 30dBm(1W)

11ac-40

Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Cond.) [dBm]	Limit (Cond.) [dBm]	Margin (Cond.) [dB]
5190.0	-2.06	0.57	10.09	8.60	23.97	15.37
5230.0	-2.11	0.57	10.09	8.55	23.97	15.42
5270.0	-2.07	0.58	10.09	8.60	23.97	15.37
5310.0	-2.09	0.58	10.09	8.58	23.97	15.39
5510.0	-2.11	0.59	10.09	8.57	23.97	15.40
5550.0	-2.08	0.59	10.09	8.60	23.97	15.37
5670.0	-2.17	0.59	10.09	8.51	23.97	15.46
5755.0	-2.12	0.60	10.08	8.56	30.00	21.44
5795.0	-2.11	0.60	10.08	8.57	30.00	21.43

Result(Cond.) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss
15.407(a)(1)(iv) Limit(Cond.) = 23.97dBm(250mW)
15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm
15.407(a)(3) Limit(Cond.) = 30dBm(1W)

11ac-80

Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Cond.) [dBm]	Limit (Cond.) [dBm]	Margin (Cond.) [dB]
5210.0	-2.06	0.57	10.09	8.60	23.97	15.37
5290.0	-2.08	0.58	10.09	8.59	23.97	15.38
5530.0	-2.00	0.59	10.09	8.68	23.97	15.29
5610.0	-2.01	0.59	10.09	8.67	23.97	15.30
5775.0	-1.99	0.60	10.08	8.69	30.00	21.31

Result(Cond.) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss
15.407(a)(1)(iv) Limit(Cond.) = 23.97dBm(250mW)
15.407(a)(2) Limit(Cond.) = 23.97dBm(250mW) or 11 + 10log(26dB BW) dBm
15.407(a)(3) Limit(Cond.) = 30dBm(1W)

Maximum Conducted Output Power & Maximum Power Spectral Density
(Reference data)

Test place	Ise EMC Lab. No.4 Measurement Room
Report No.	10636726H
Date	01/14/2015
Temperature/ Humidity	22deg.C. / 32%
Engineer	Tsubasa Takayama
Mode	11a/n-20/ac-20 Tx

11a, 5220MHz

Data Rate [Mbps]	Reading [dBm]	Remark
6	1.43	*
9	1.41	
12	1.38	
18	1.39	
24	1.38	
36	1.38	
48	1.39	
54	1.38	

* Worst Rate
All comparisons were carried out on same frequency and measurement factors.

11n-20, 5220MHz

MCS Number	Reading [dBm]	Remark
0	1.39	*
1	1.38	
2	1.38	
3	1.38	
4	1.37	
5	1.37	
6	1.38	
7	1.37	

* Worst Rate
All comparisons were carried out on same frequency and measurement factors.

11ac-20, 5220MHz

MCS Number	Reading [dBm]	Remark
0	1.33	*
1	1.32	
2	1.32	
3	1.32	
4	1.32	
5	1.32	
6	1.31	
7	1.31	
8	1.30	

* Worst Rate
All comparisons were carried out on same frequency and measurement factors.

Maximum Conducted Output Power & Maximum Power Spectral Density
(Reference data)

Test place	Ise EMC Lab. No.4 Measurement Room
Report No.	10636726H
Date	01/14/2015
Temperature/ Humidity	22deg.C. / 32%
Engineer	Tsubasa Takayama
Mode	11n-40/ac-40/ac-80 Tx

11n-40, 5190MHz

MCS Number	Reading [dBm]	Remark
0	-0.82	*
1	-0.84	
2	-0.86	
3	-0.93	
4	-0.95	
5	-0.94	
6	-0.90	
7	-0.92	

* Worst Rate
All comparisons were carried out on same frequency and measurement factors.

11ac-40, 5190MHz

MCS Number	Reading [dBm]	Remark
0	-2.06	*
1	-2.09	
2	-2.13	
3	-2.12	
4	-2.12	
5	-2.13	
6	-2.10	
7	-2.11	
8	-2.10	
9	-2.08	

* Worst Rate
All comparisons were carried out on same frequency and measurement factors.

11ac-80, 5210MHz

MCS Number	Reading [dBm]	Remark
0	-2.06	*
1	-2.09	
2	-2.09	
3	-2.08	
4	-2.07	
5	-2.09	
6	-2.10	
7	-2.10	
8	-2.09	
9	-2.09	

* Worst Rate
All comparisons were carried out on same frequency and measurement factors.

Maximum Power Spectral Density

Test place	Ise EMC Lab. No.3 Measurement Room
Report No.	10636726H
Date	01/30/2015
Temperature/ Humidity	25deg. C / 30% RH
Engineer	Shinichi Miyazono
Mode	11a/ n-20/ ac-20 Tx

11a

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Correction factor [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0	-11.80	0.57	10.12	0.00	0.00	-1.11	11.00	12.11
5220.0	-11.94	0.57	10.12	0.00	0.00	-1.25	11.00	12.25
5240.0	-11.76	0.57	10.12	0.00	0.00	-1.07	11.00	12.07
5260.0	-11.69	0.58	10.12	0.00	0.00	-0.99	11.00	11.99
5300.0	-11.93	0.58	10.12	0.00	0.00	-1.23	11.00	12.23
5320.0	-11.98	0.58	10.12	0.00	0.00	-1.28	11.00	12.28
5500.0	-11.44	0.59	10.12	0.00	0.00	-0.73	11.00	11.73
5580.0	-11.47	0.59	10.12	0.00	0.00	-0.76	11.00	11.76
5700.0	-10.80	0.60	10.12	0.00	0.00	-0.08	11.00	11.08
5745.0	-14.29	0.60	10.12	0.00	0.27	-3.30	30.00	33.30
5785.0	-14.40	0.60	10.12	0.00	0.27	-3.41	30.00	33.41
5825.0	-13.87	0.60	10.12	0.00	0.27	-2.88	30.00	32.88

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator + Duty factor + Correction factor

11n-20

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Correction factor [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0	-12.10	0.57	10.12	0.00	0.00	-1.41	11.00	12.41
5220.0	-11.93	0.57	10.12	0.00	0.00	-1.24	11.00	12.24
5240.0	-12.05	0.57	10.12	0.00	0.00	-1.36	11.00	12.36
5260.0	-11.94	0.58	10.12	0.00	0.00	-1.24	11.00	12.24
5300.0	-12.11	0.58	10.12	0.00	0.00	-1.41	11.00	12.41
5320.0	-12.15	0.58	10.12	0.00	0.00	-1.45	11.00	12.45
5500.0	-11.56	0.59	10.12	0.00	0.00	-0.85	11.00	11.85
5580.0	-11.79	0.59	10.12	0.00	0.00	-1.08	11.00	12.08
5700.0	-11.40	0.60	10.12	0.00	0.00	-0.68	11.00	11.68
5745.0	-14.46	0.60	10.12	0.00	0.27	-3.47	30.00	33.47
5785.0	-14.56	0.60	10.12	0.00	0.27	-3.57	30.00	33.57
5825.0	-14.24	0.60	10.12	0.00	0.27	-3.25	30.00	33.25

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator + Duty factor + Correction factor

11ac-20

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Correction factor [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5180.0	-12.19	0.57	10.12	0.01	0.00	-1.49	11.00	12.49
5220.0	-12.03	0.57	10.12	0.01	0.00	-1.33	11.00	12.33
5240.0	-11.77	0.57	10.12	0.01	0.00	-1.07	11.00	12.07
5260.0	-12.05	0.58	10.12	0.01	0.00	-1.34	11.00	12.34
5300.0	-12.21	0.58	10.12	0.01	0.00	-1.50	11.00	12.50
5320.0	-12.20	0.58	10.12	0.01	0.00	-1.49	11.00	12.49
5500.0	-11.64	0.59	10.12	0.01	0.00	-0.92	11.00	11.92
5580.0	-11.67	0.59	10.12	0.01	0.00	-0.95	11.00	11.95
5700.0	-11.35	0.60	10.12	0.01	0.00	-0.62	11.00	11.62
5745.0	-14.41	0.60	10.12	0.01	0.27	-3.41	30.00	33.41
5785.0	-14.36	0.60	10.12	0.01	0.27	-3.36	30.00	33.36
5825.0	-14.10	0.60	10.12	0.01	0.27	-3.10	30.00	33.10

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator + Duty factor + Correction factor

Maximum Power Spectral Density

Test place	Ise EMC Lab. No.3 Measurement Room
Report No.	10636726H
Date	01/30/2015
Temperature/ Humidity	25deg. C / 30% RH
Engineer	Shinichi Miyazono
Mode	11n-40/ac-40/ac-80 Tx

11n-40

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Correction factor [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0	-17.35	0.57	10.12	0.01	0.00	-6.65	11.00	17.65
5230.0	-16.97	0.57	10.12	0.01	0.00	-6.27	11.00	17.27
5270.0	-17.11	0.58	10.12	0.01	0.00	-6.40	11.00	17.40
5310.0	-17.50	0.58	10.12	0.01	0.00	-6.79	11.00	17.79
5510.0	-16.79	0.59	10.12	0.01	0.00	-6.07	11.00	17.07
5550.0	-16.84	0.59	10.12	0.01	0.00	-6.12	11.00	17.12
5670.0	-16.69	0.59	10.12	0.01	0.00	-5.97	11.00	16.97
5755.0	-19.57	0.60	10.12	0.01	0.27	-8.57	30.00	38.57
5795.0	-19.71	0.60	10.12	0.01	0.27	-8.71	30.00	38.71

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator + Duty factor + Correction factor

11ac-40

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Correction factor [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5190.0	-18.49	0.57	10.12	0.07	0.00	-7.73	11.00	18.73
5230.0	-18.26	0.57	10.12	0.07	0.00	-7.50	11.00	18.50
5270.0	-18.69	0.58	10.12	0.07	0.00	-7.92	11.00	18.92
5310.0	-18.57	0.58	10.12	0.07	0.00	-7.80	11.00	18.80
5510.0	-17.64	0.59	10.12	0.07	0.00	-6.86	11.00	17.86
5550.0	-17.51	0.59	10.12	0.07	0.00	-6.73	11.00	17.73
5670.0	-17.69	0.59	10.12	0.07	0.00	-6.91	11.00	17.91
5755.0	-20.50	0.60	10.12	0.07	0.27	-9.44	30.00	39.44
5795.0	-20.66	0.60	10.12	0.07	0.27	-9.60	30.00	39.60

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator + Duty factor + Correction factor

11ac-80

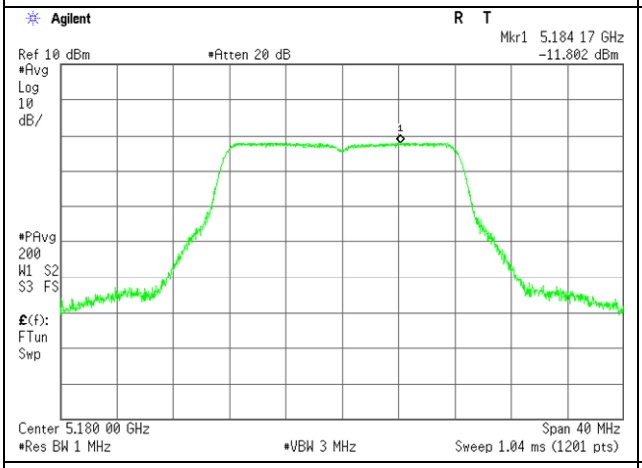
Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Correction factor [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
5210.0	-20.69	0.57	10.12	0.15	0.00	-9.85	11.00	20.85
5290.0	-20.78	0.58	10.12	0.15	0.00	-9.93	11.00	20.93
5530.0	-20.04	0.59	10.12	0.15	0.00	-9.18	11.00	20.18
5610.0	-20.10	0.59	10.12	0.15	0.00	-9.24	11.00	20.24
5775.0	-22.81	0.60	10.12	0.15	0.27	-11.67	30.00	41.67

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator + Duty factor + Correction factor

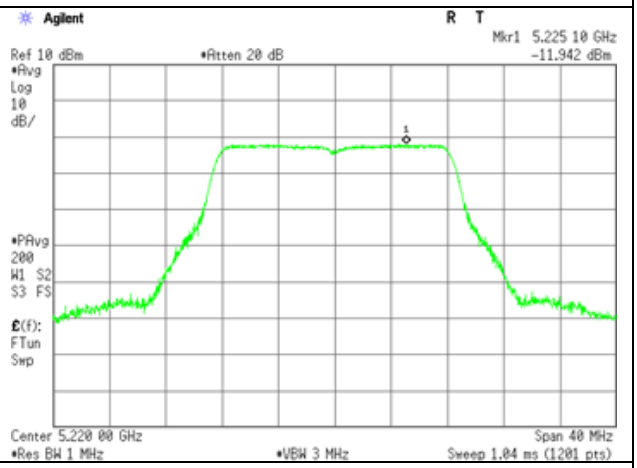
Maximum Power Spectral Density

11a

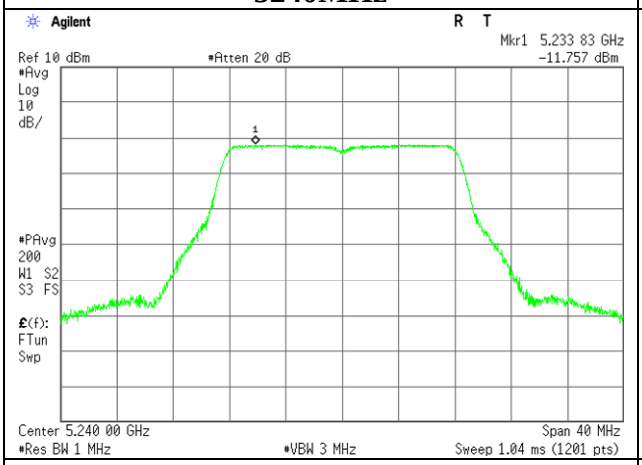
5180MHz



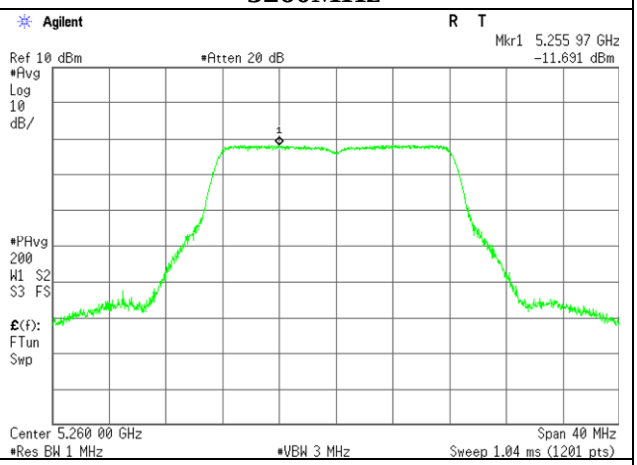
5220MHz



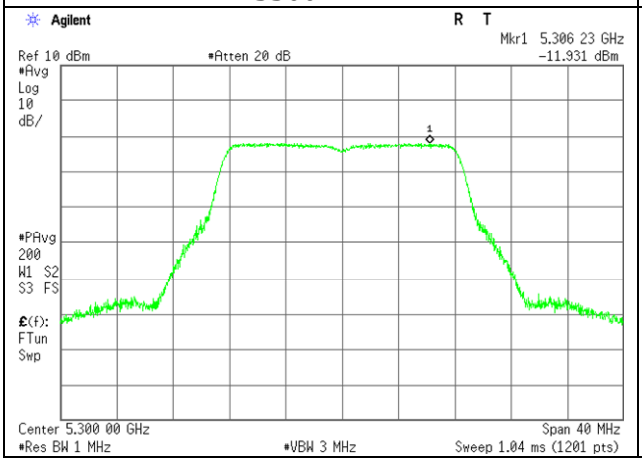
5240MHz



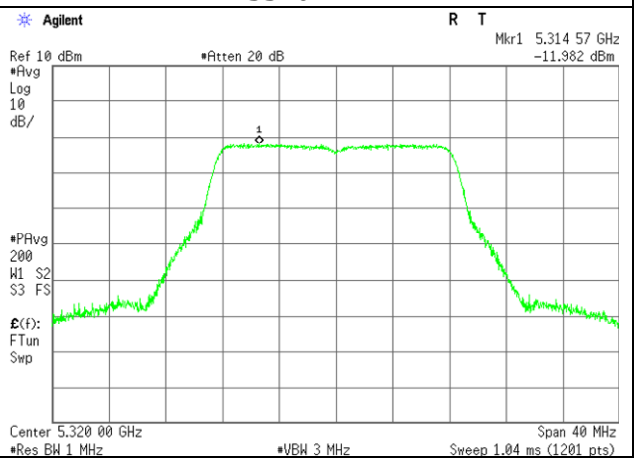
5260MHz



5300MHz



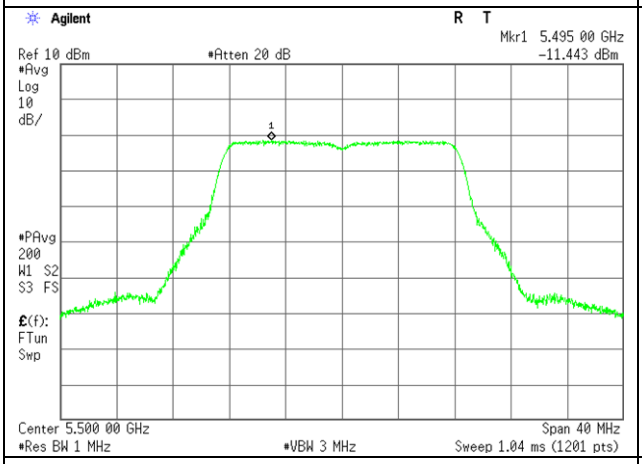
5320MHz



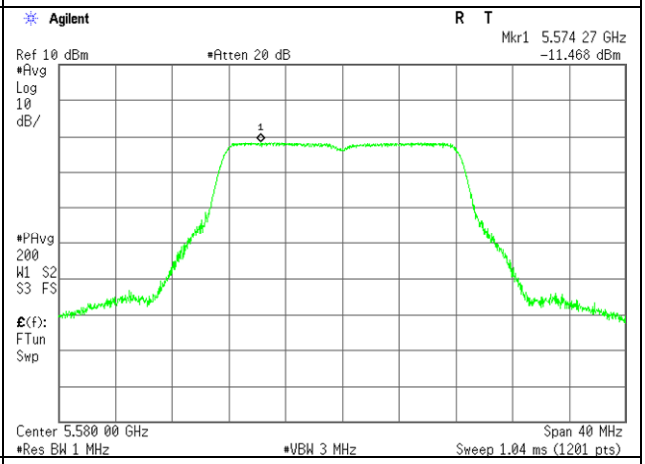
Maximum Power Spectral Density

11a

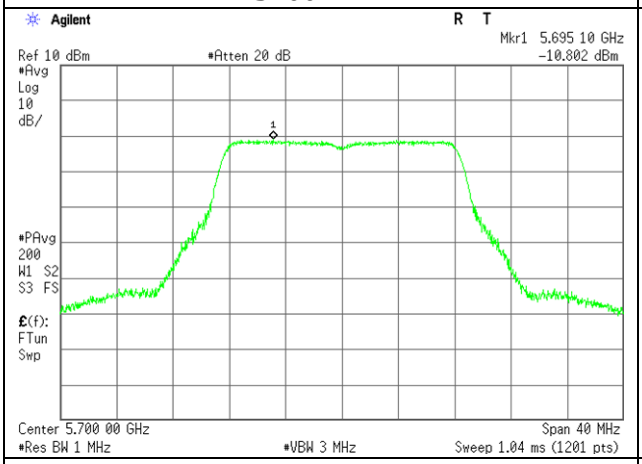
5500MHz



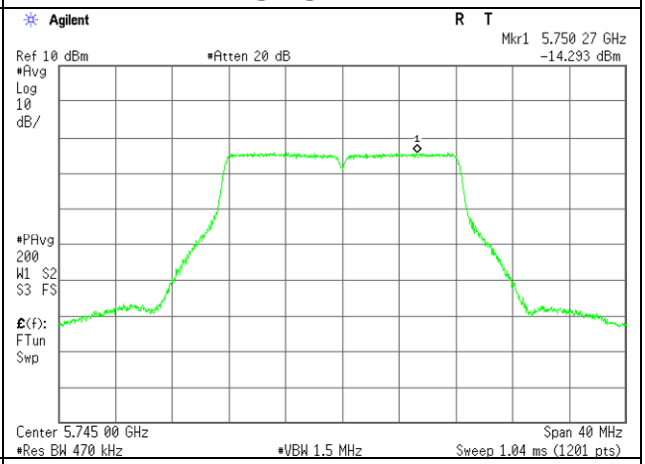
5580MHz



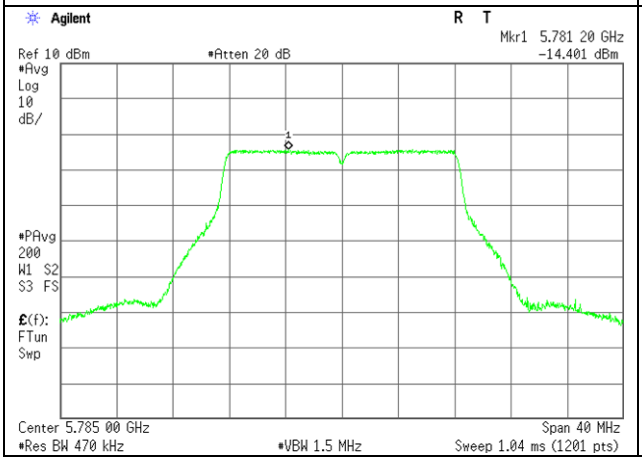
5700MHz



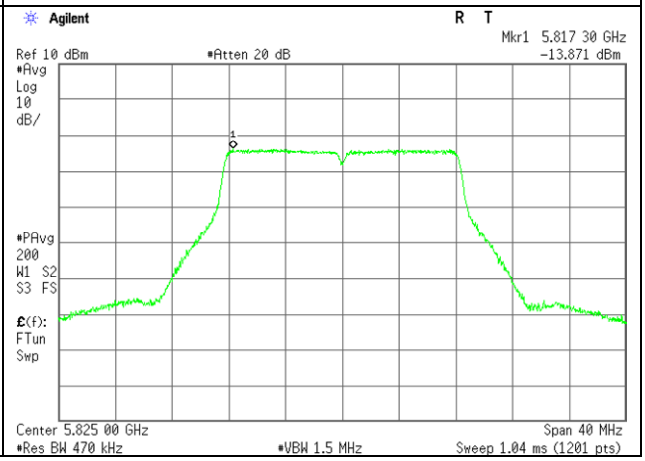
5745MHz



5785MHz



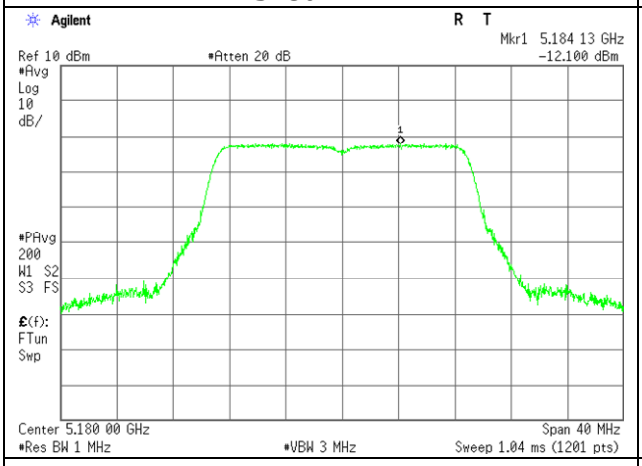
5825MHz



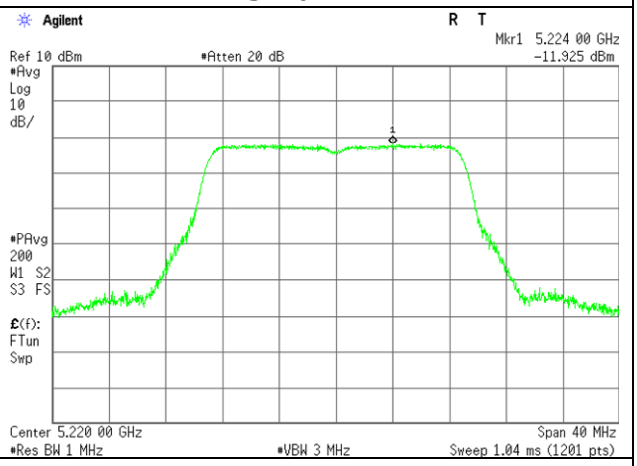
Maximum Power Spectral Density

11n-20

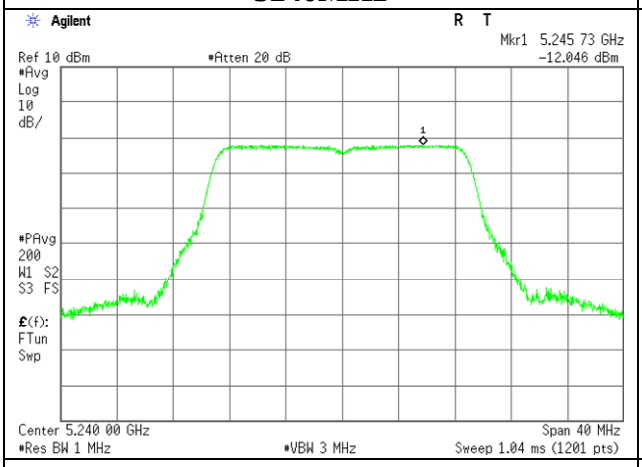
5180MHz



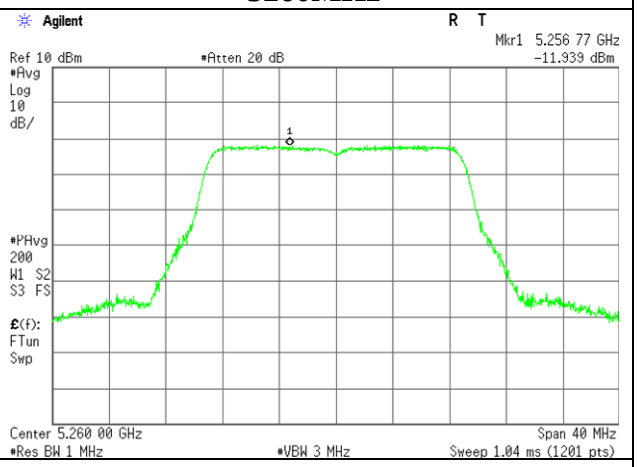
5220MHz



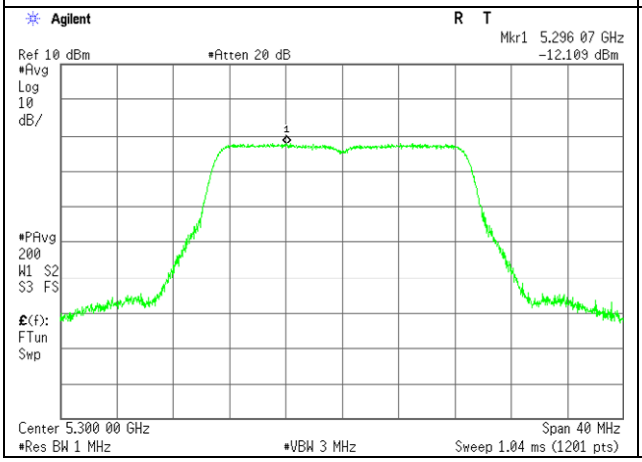
5240MHz



5260MHz



5300MHz



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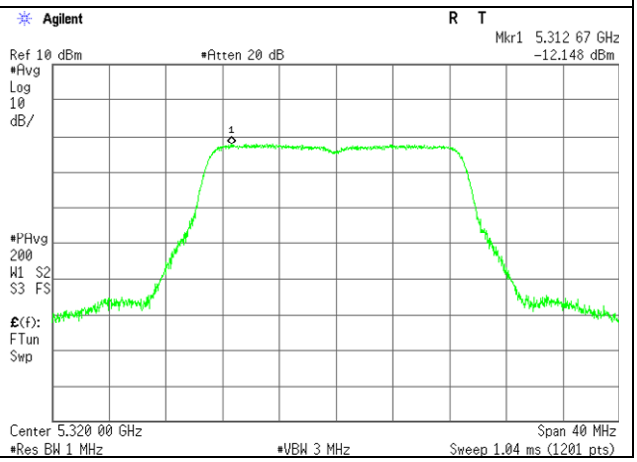
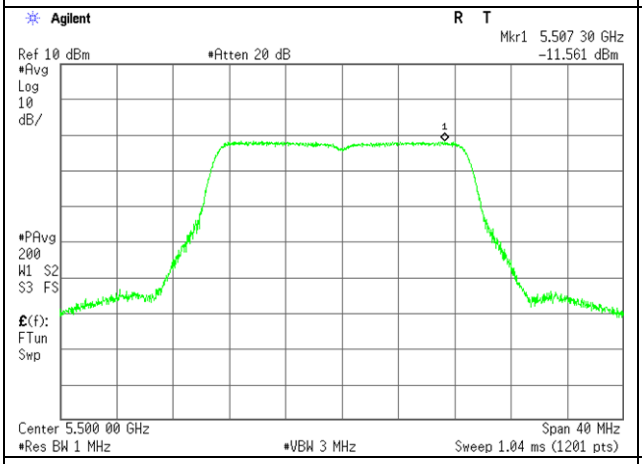


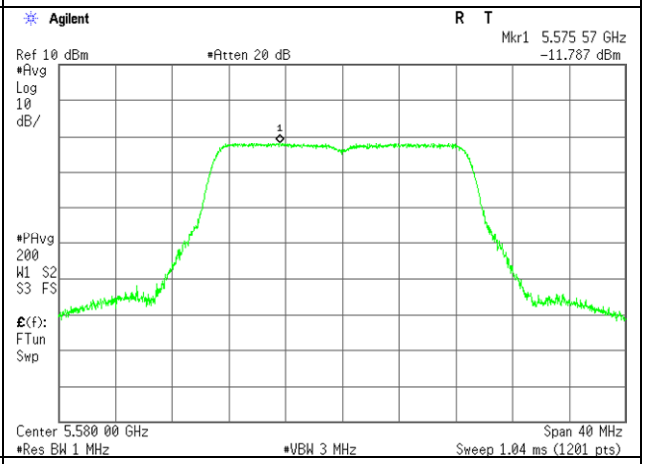
Maximum Power Spectral Density

11n-20

5500MHz



5580MHz



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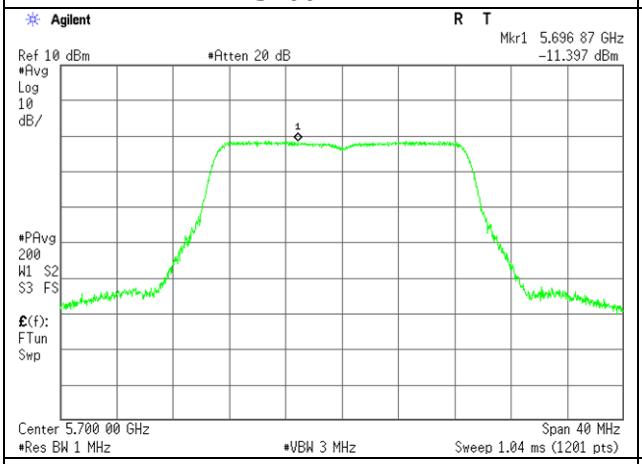
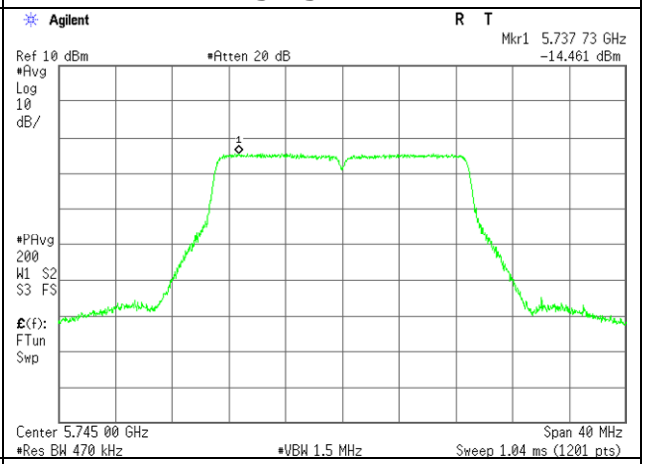
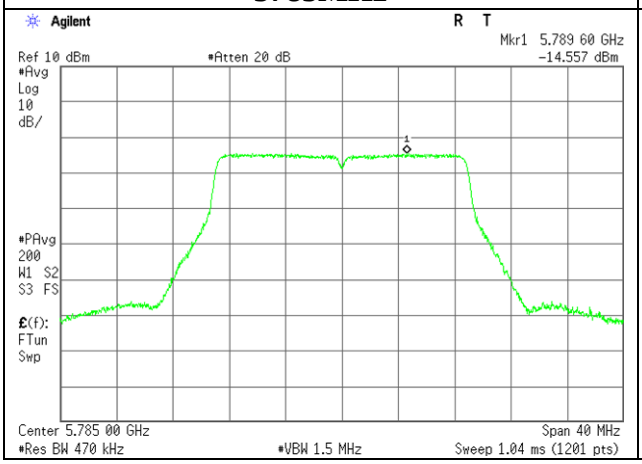
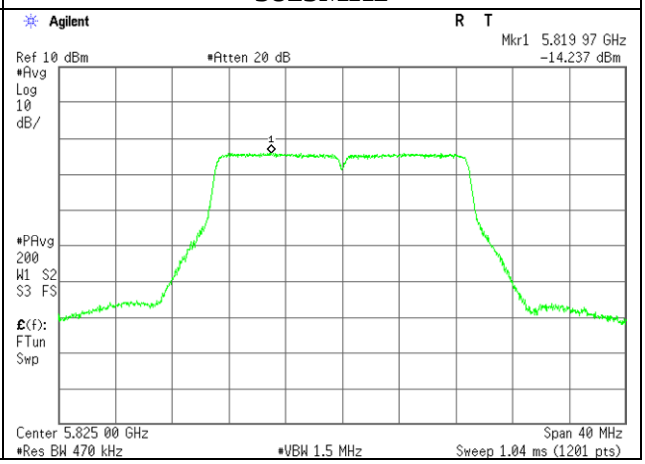


5745MHz



5785MHz



5825MHz