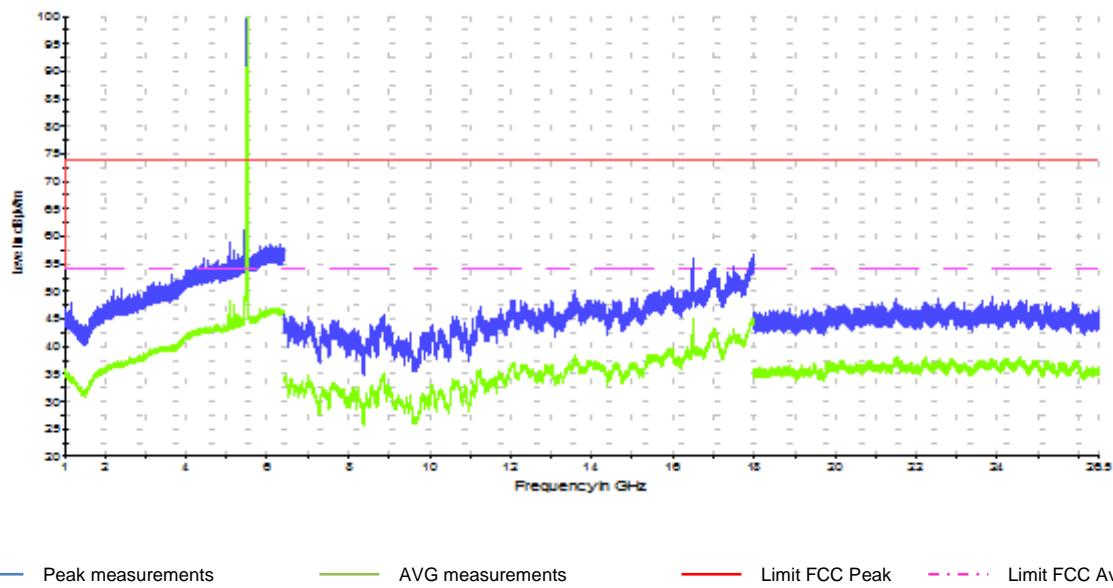
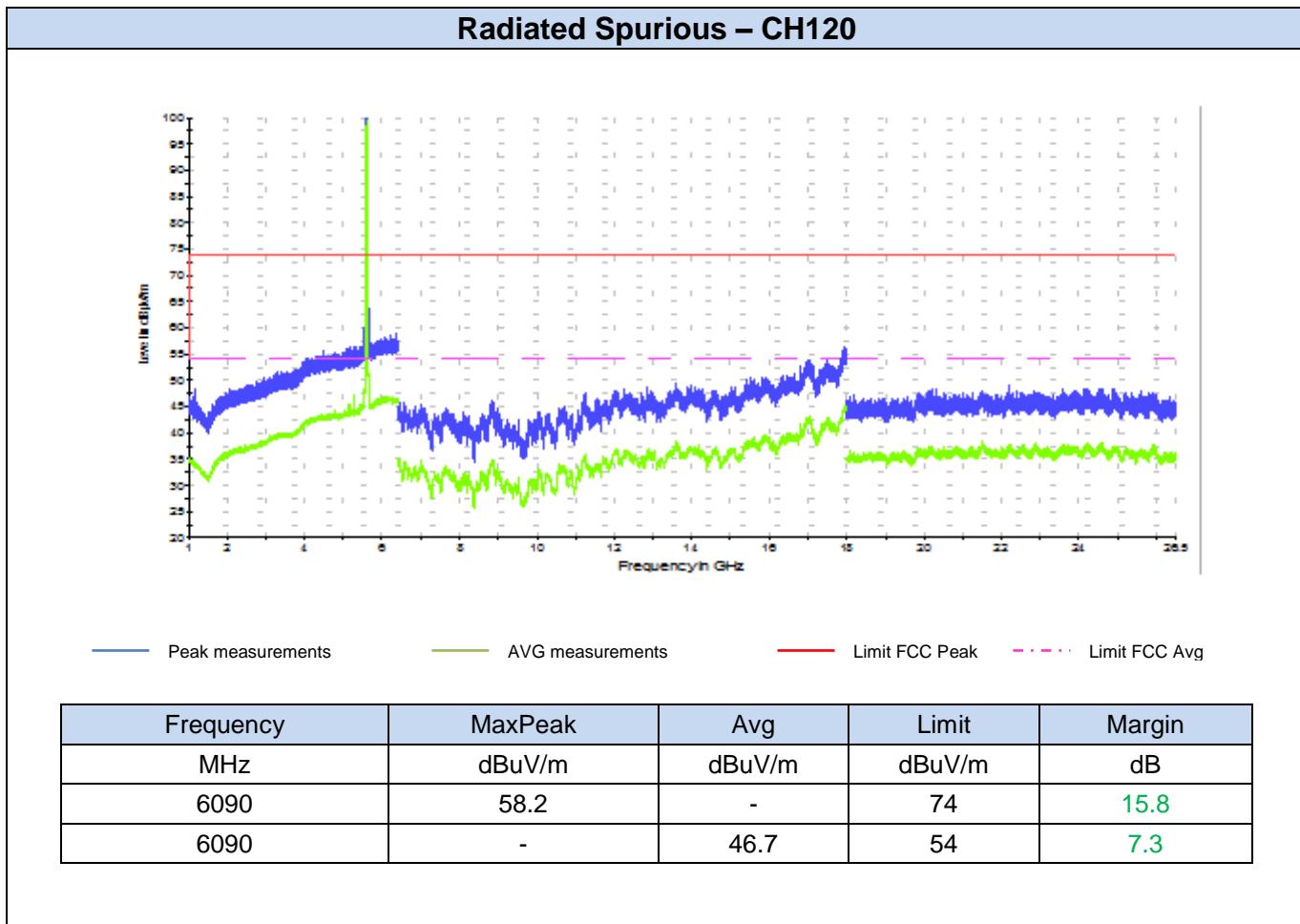
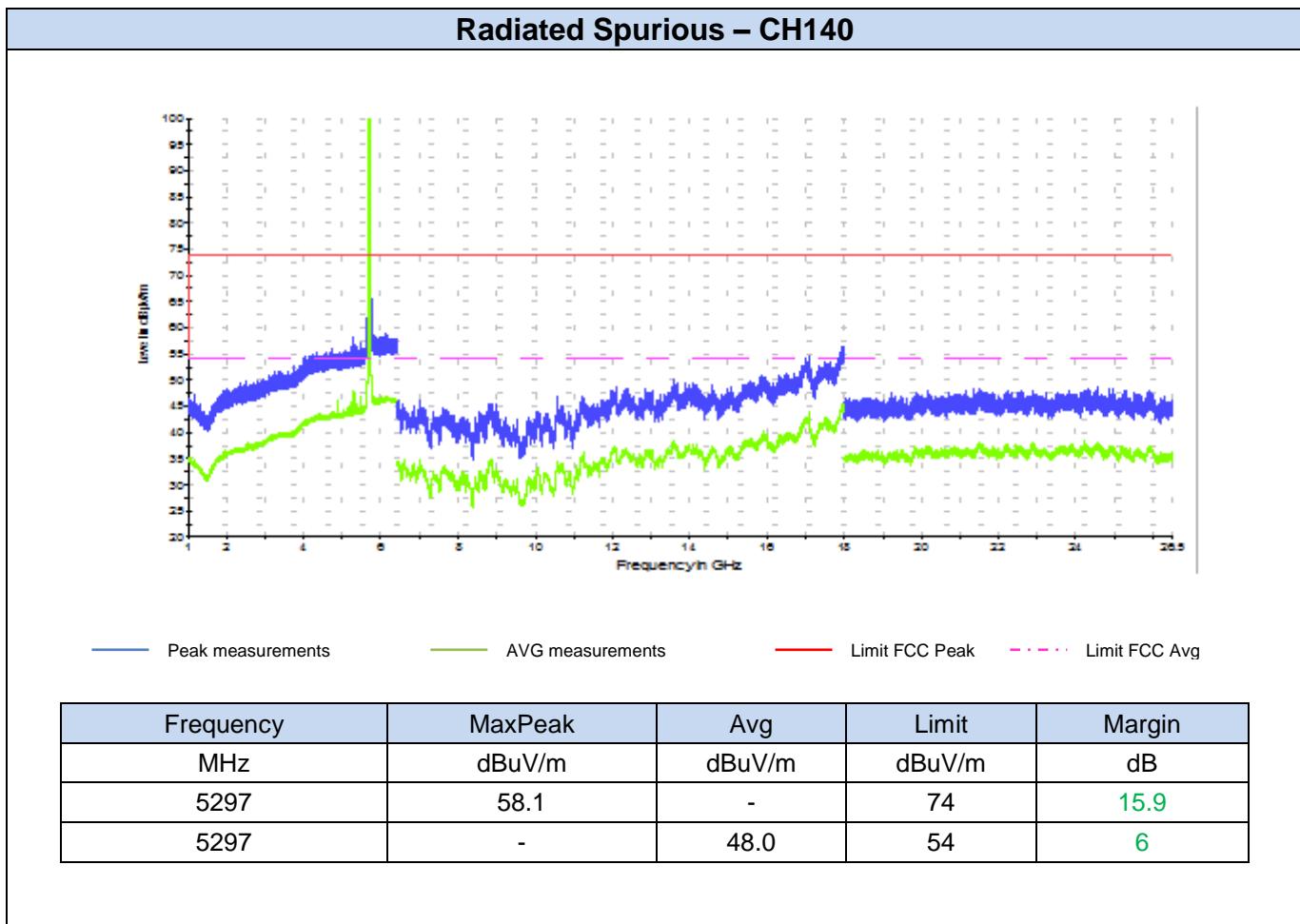
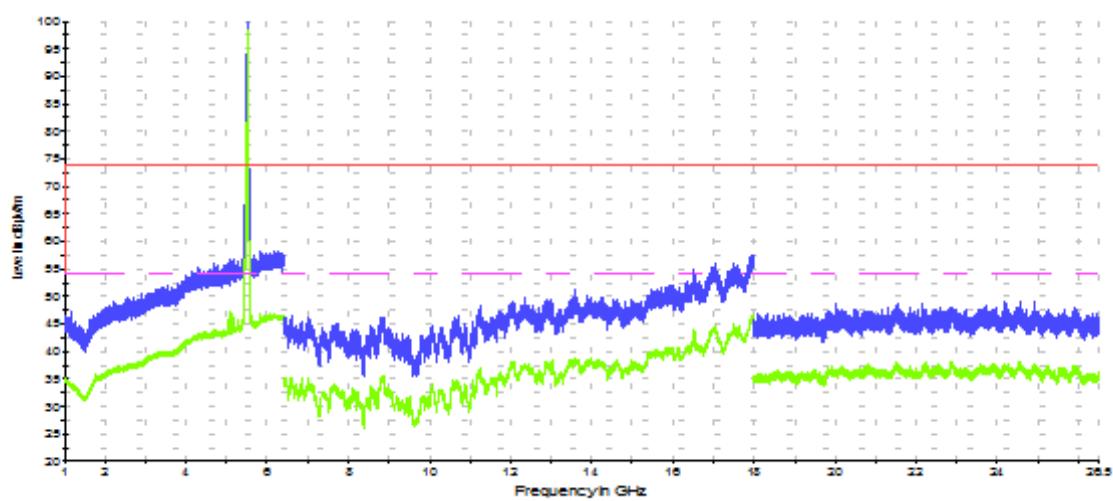


1 GHz – 26.5GHz, 802.11n20, Chain A+B**Radiated Spurious – CH100**

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
5098	59.2	-	74	14.8
5098	-	48.2	54	5.8
16500	59.5	-	74	14.4
16500	-	48.3	54	5.7

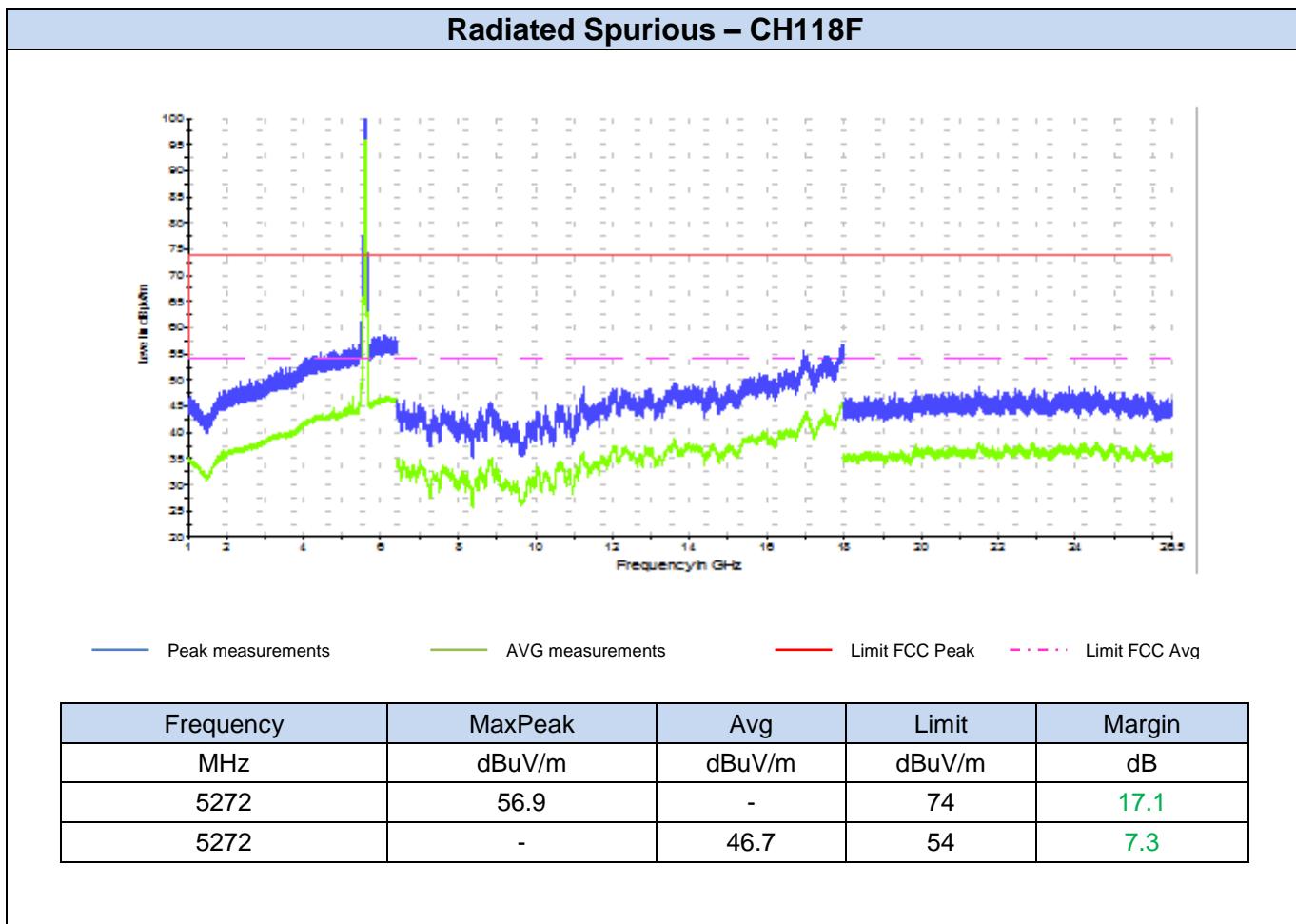


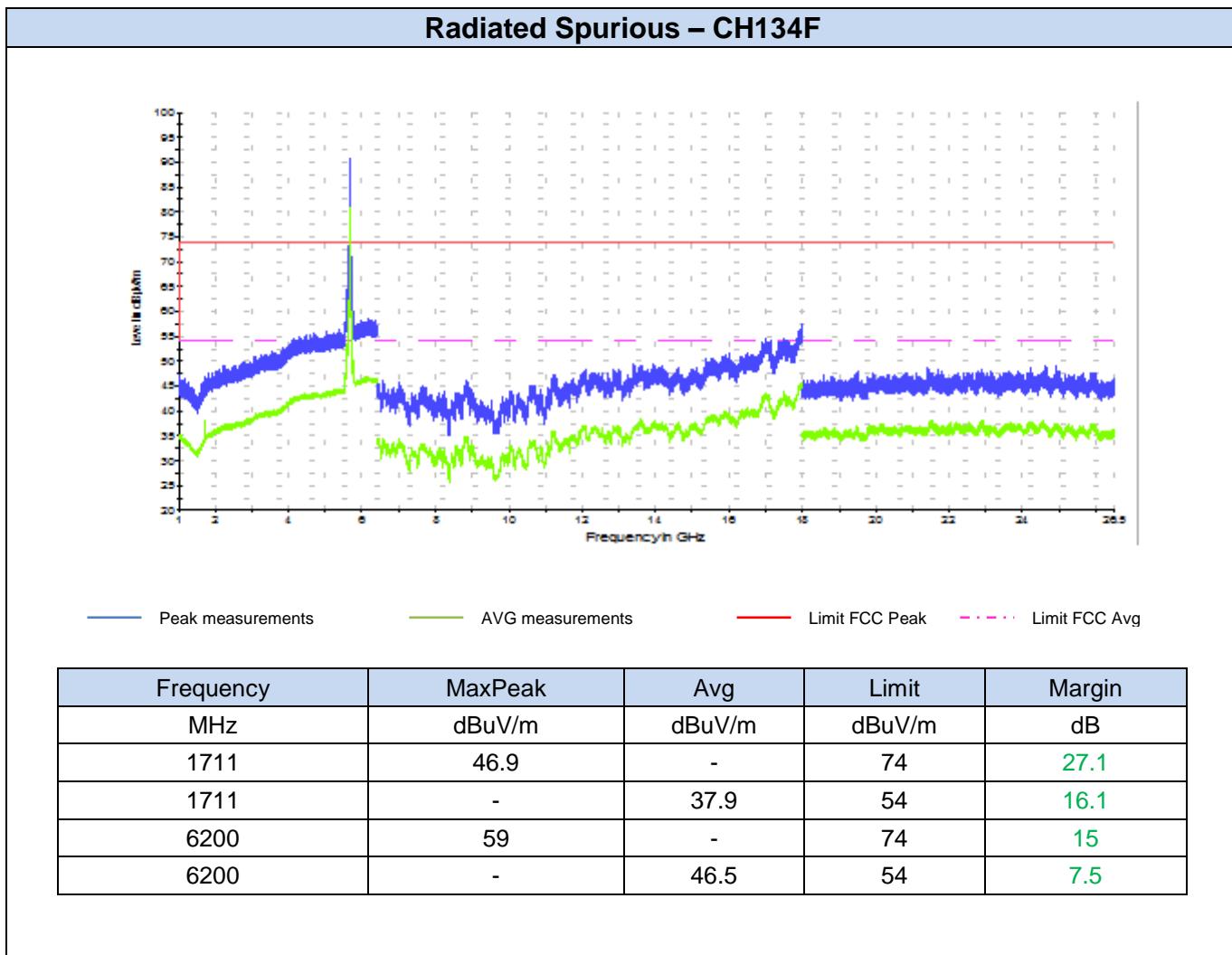


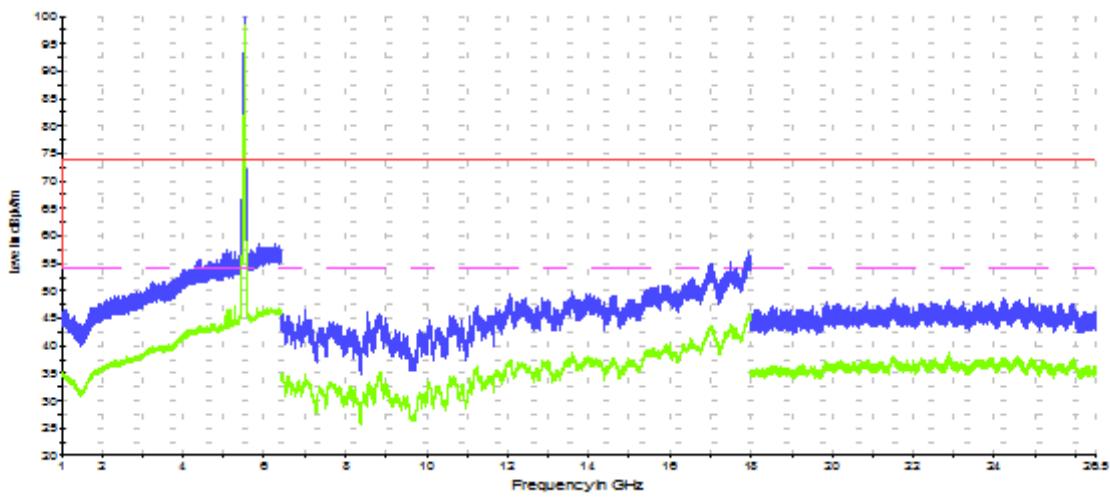
1 GHz – 26.5GHz, 802.11n40, Chain A**Radiated Spurious – CH102F**

— Peak measurements — AVG measurements — Limit FCC Peak - - - Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
5100	56.7	-	74	17.3
5100	-	47.3	54	6.7

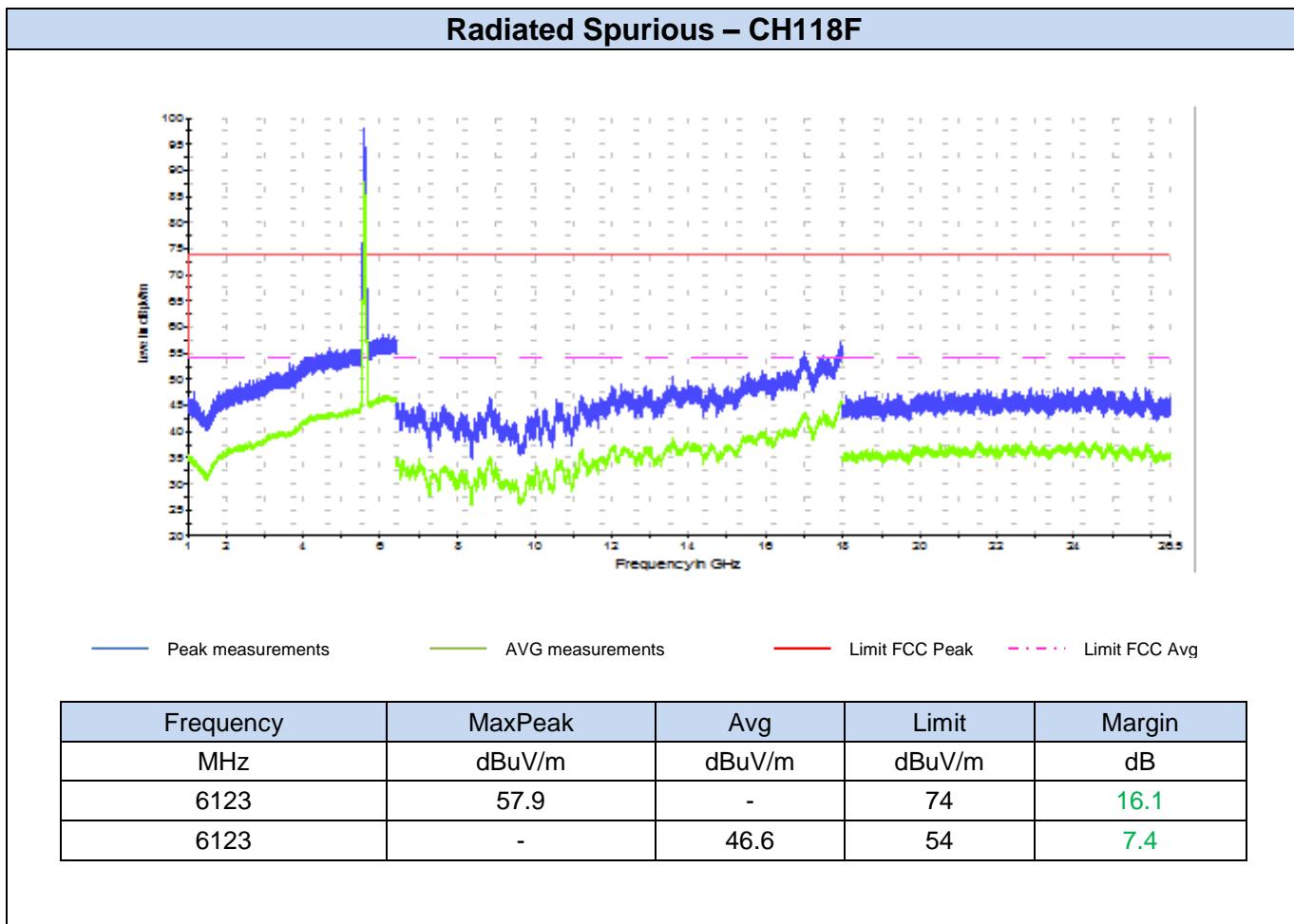


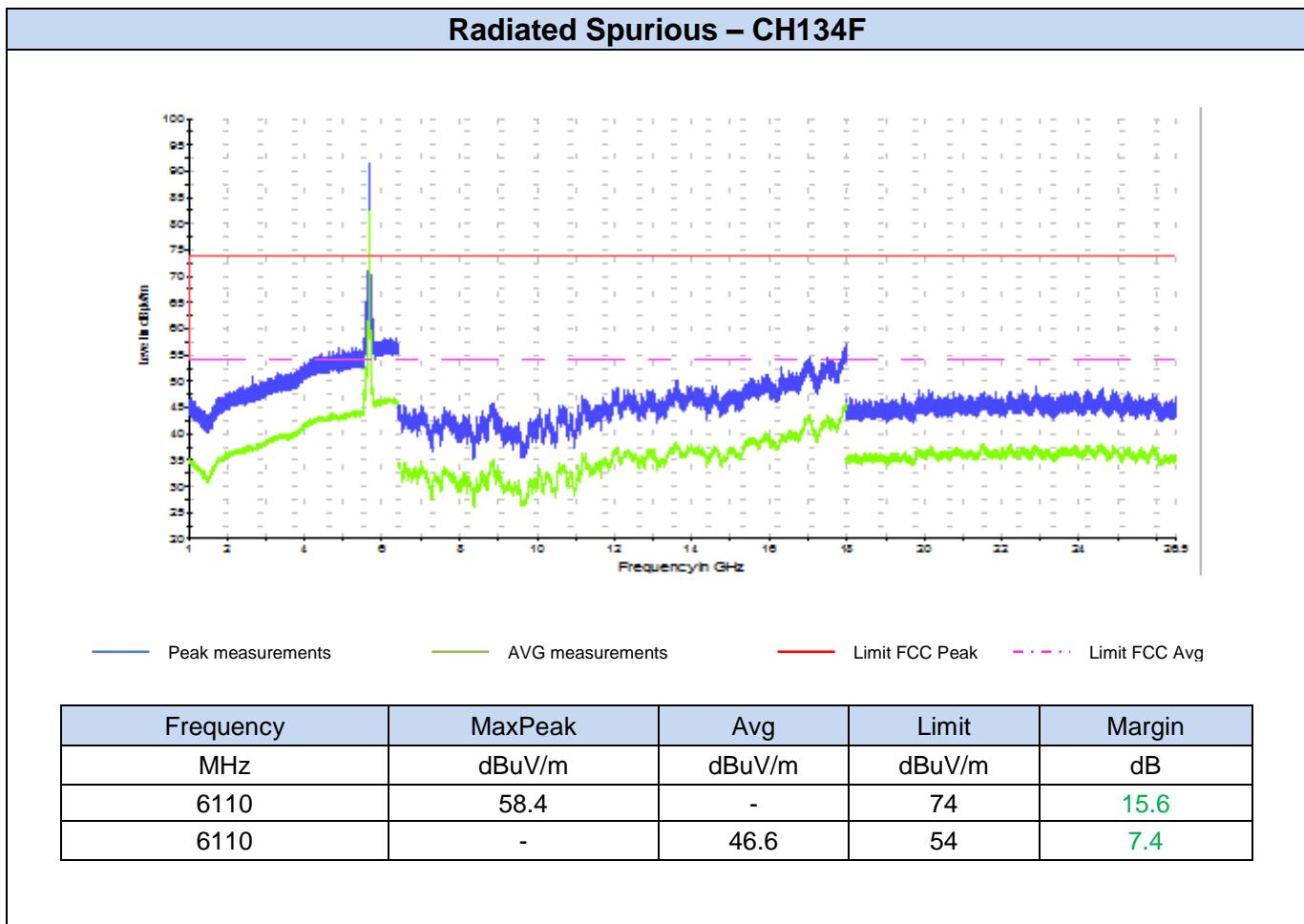


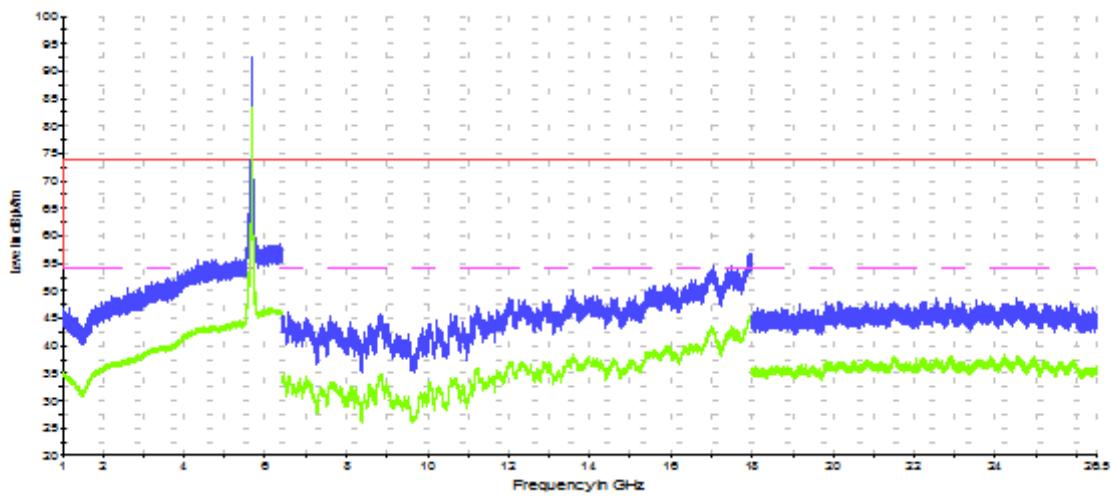
1 GHz – 26.5GHz, 802.11n40, Chain B**Radiated Spurious – CH102F**

— Peak measurements — AVG measurements — Limit FCC Peak - - - Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
5104	57.7	-	74	16.3
5104	-	46.8	54	7.2

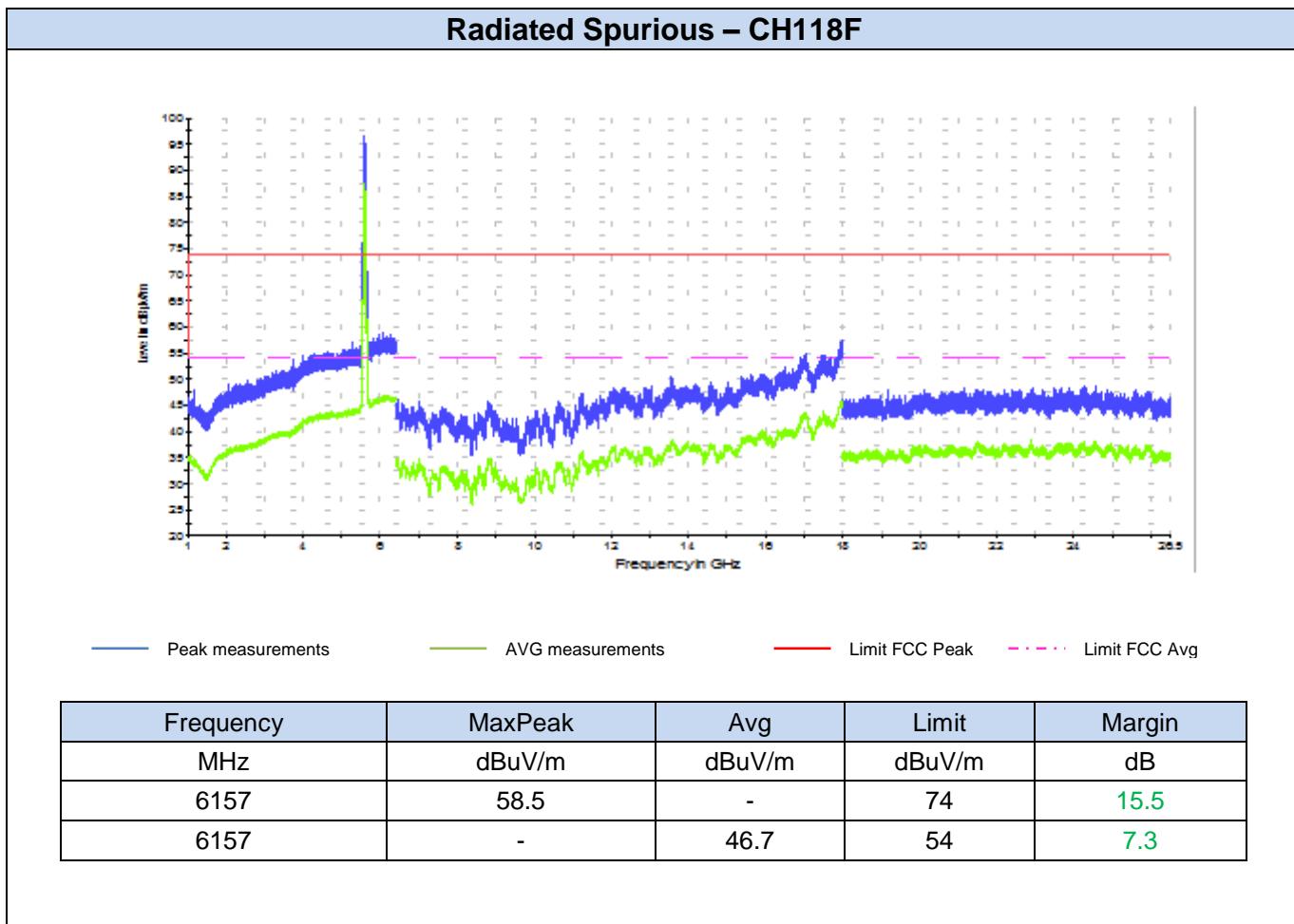


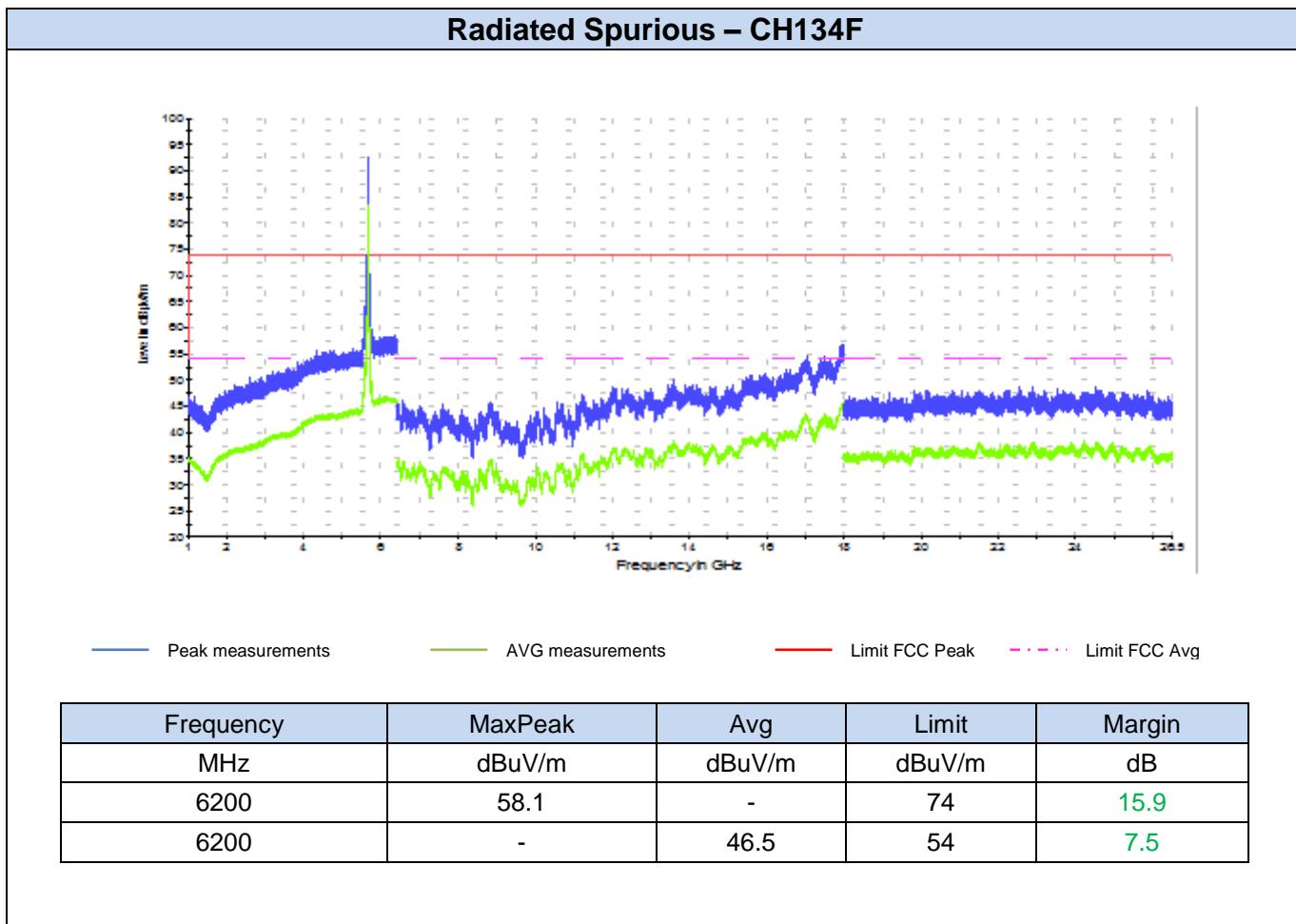


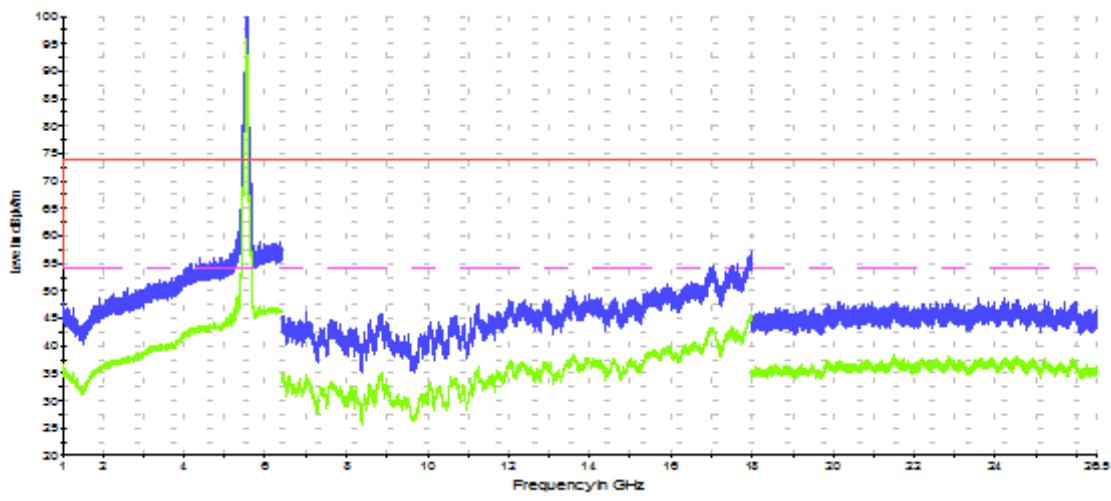
1 GHz – 26.5GHz, 802.11n40, Chain A+B**Radiated Spurious – CH102F**

— Peak measurements — AVG measurements — Limit FCC Peak - - - Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
5100	57.8	-	74	16.2
5100	-	47.0	54	7

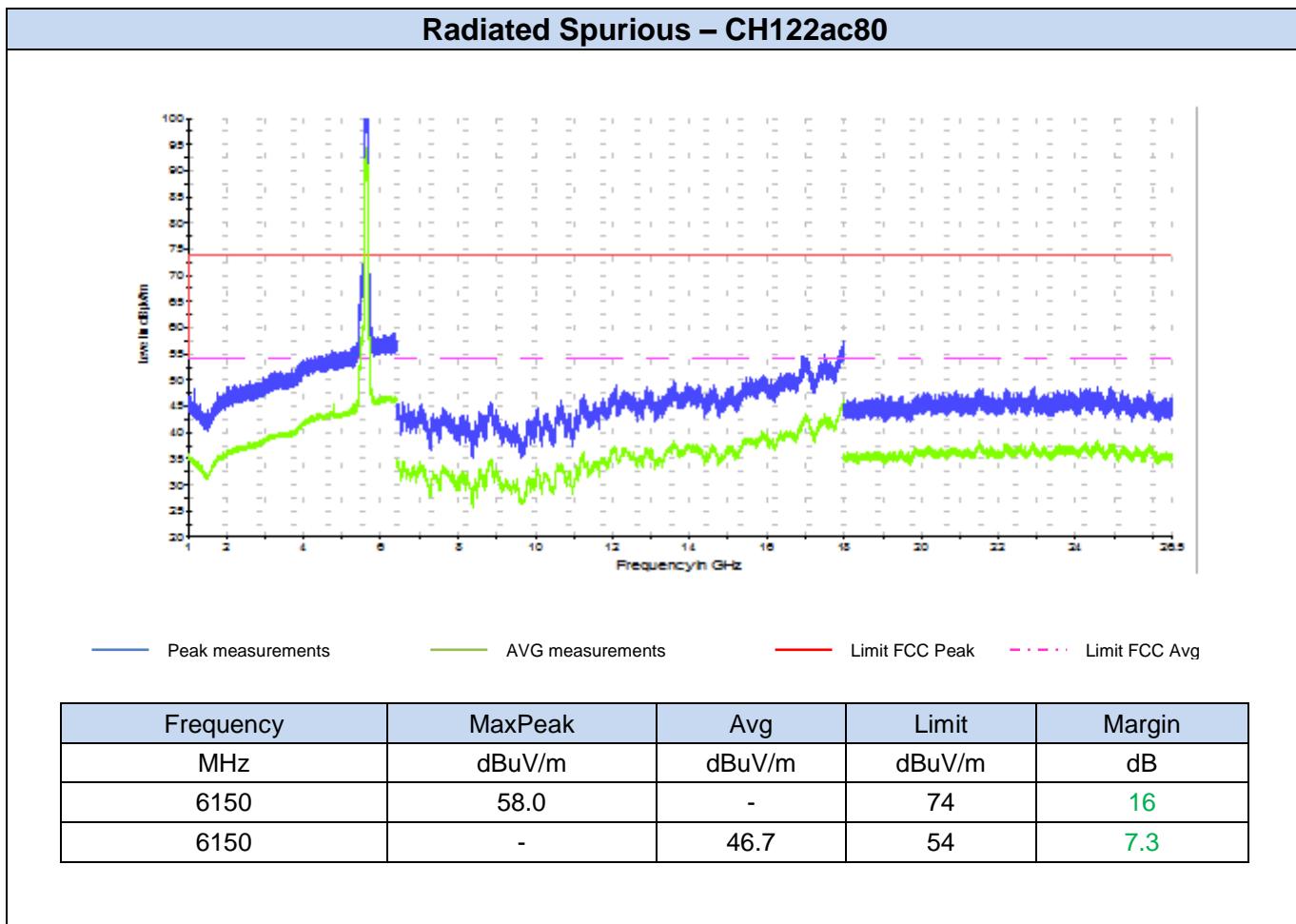


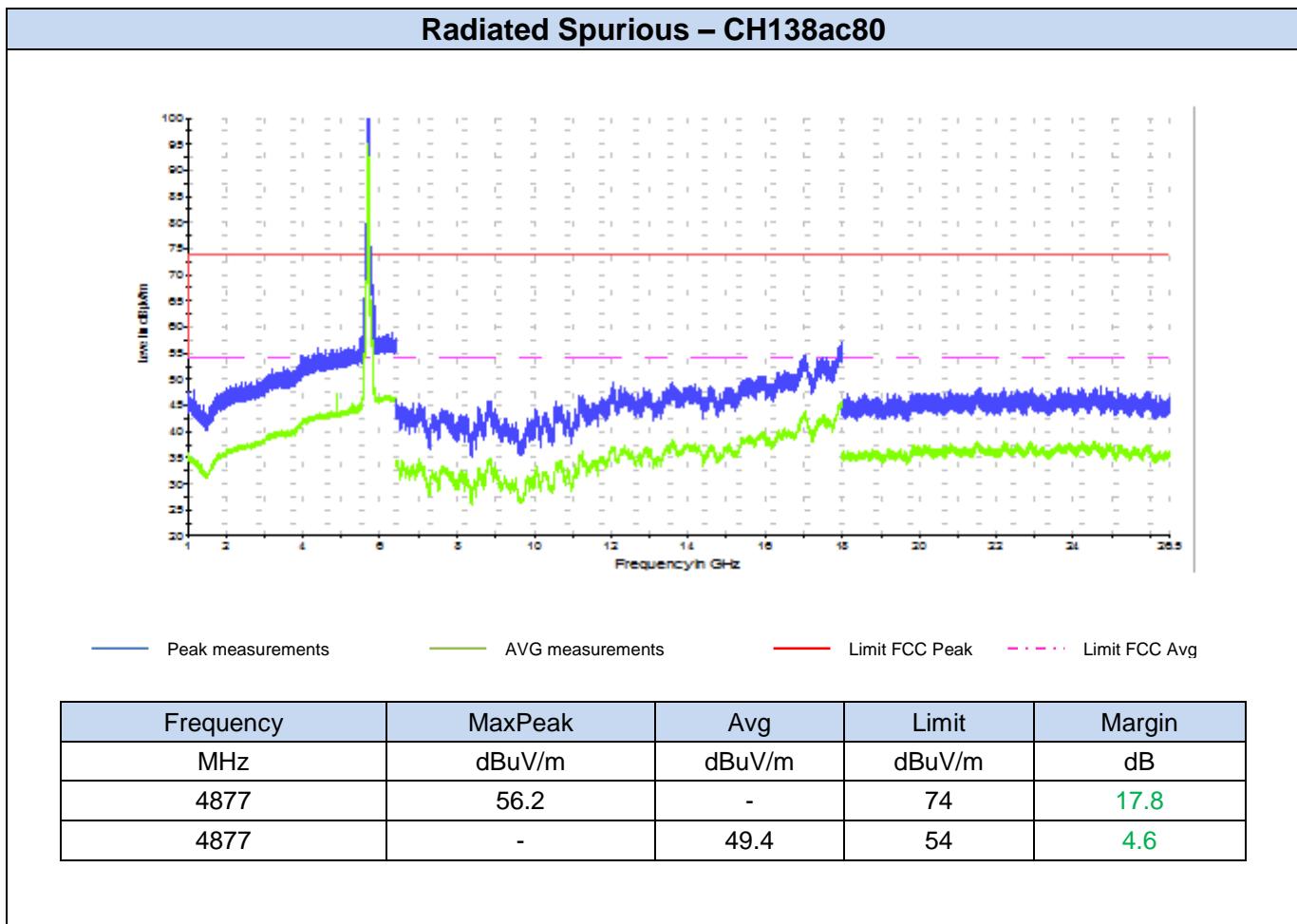


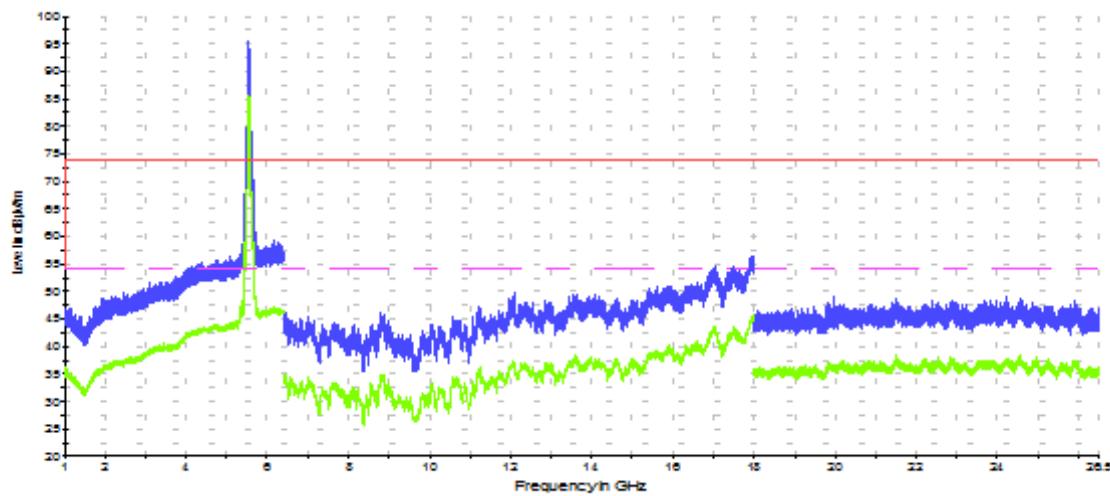
1 GHz – 26.5GHz, 802.11ac80, Chain A**Radiated Spurious – CH106ac80**

— Peak measurements — AVG measurements — Limit FCC Peak - - - Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
6210	58.0	-	74	16
6210	-	47.0	54	7

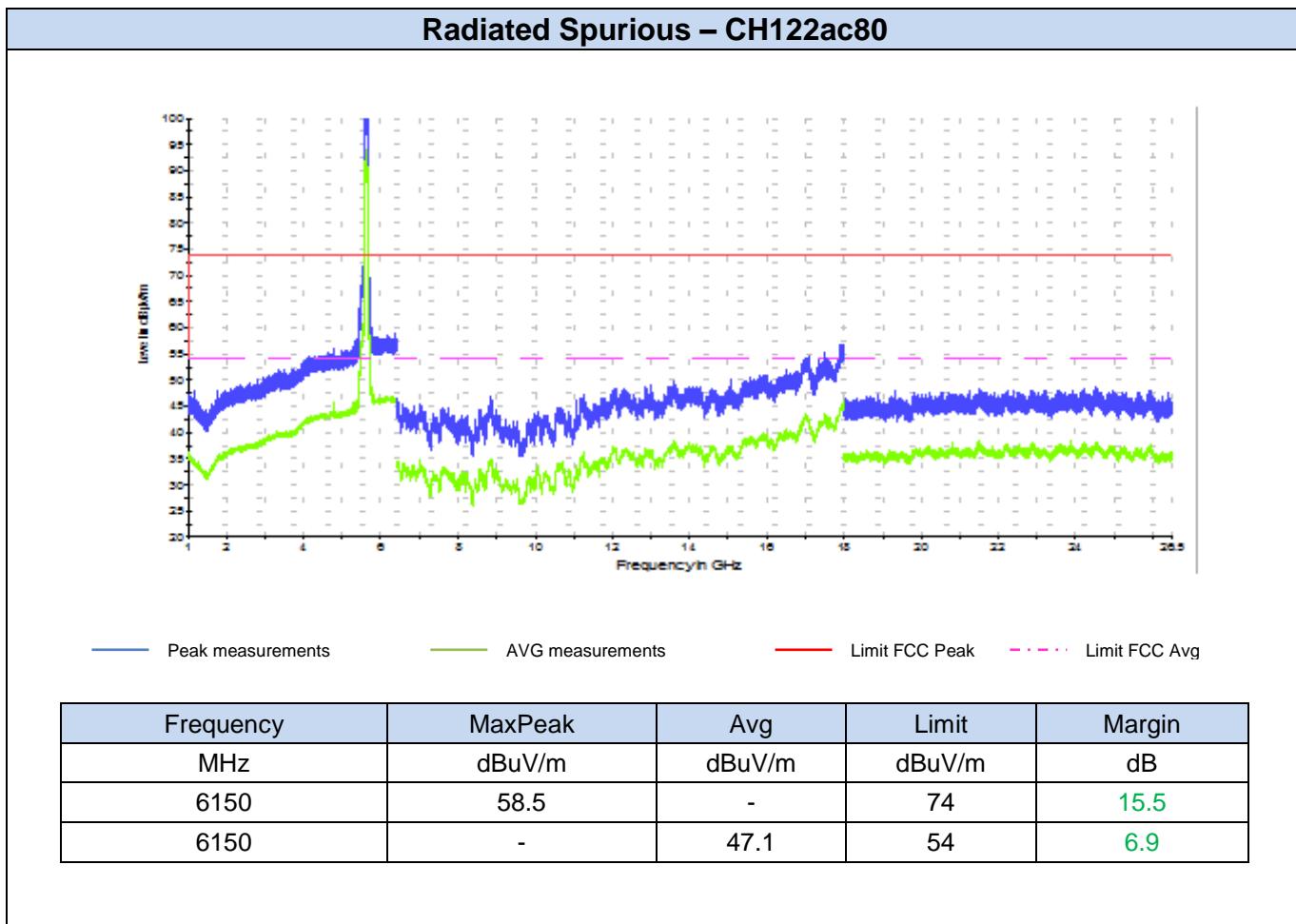


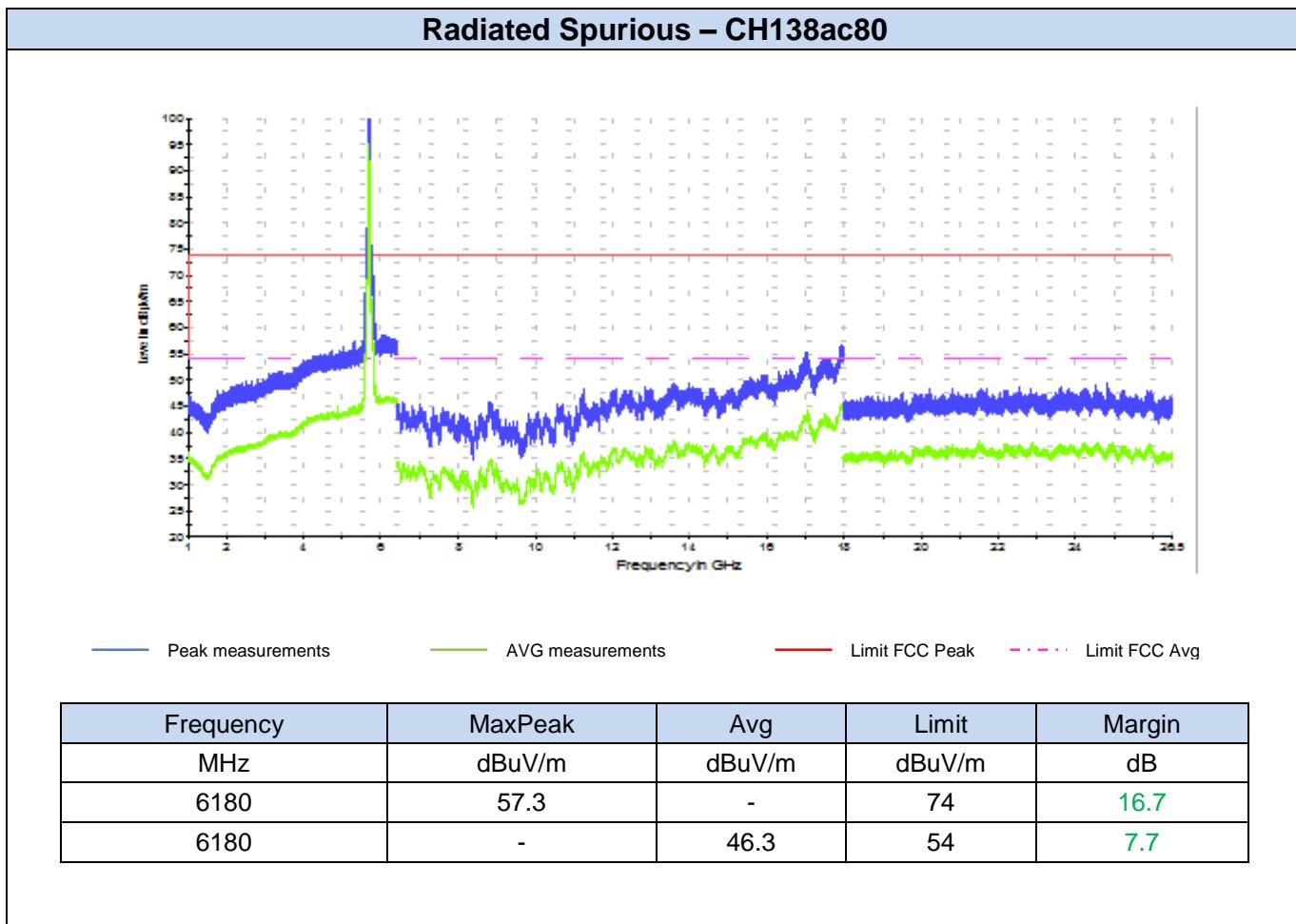


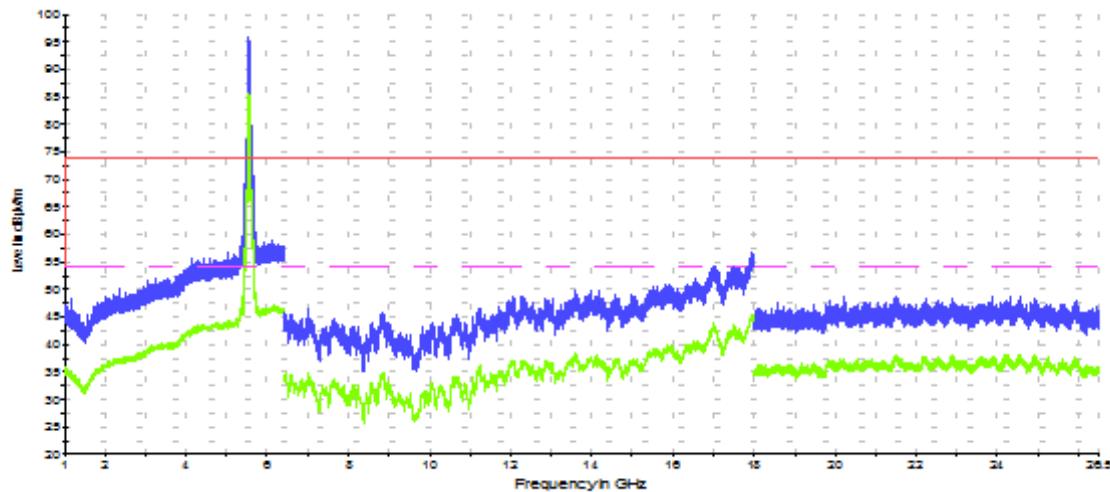
1 GHz – 26.5GHz, 802.11ac80, Chain B**Radiated Spurious – CH106ac80**

— Peak measurements — AVG measurements — Limit FCC Peak - - - Limit FCC Avg

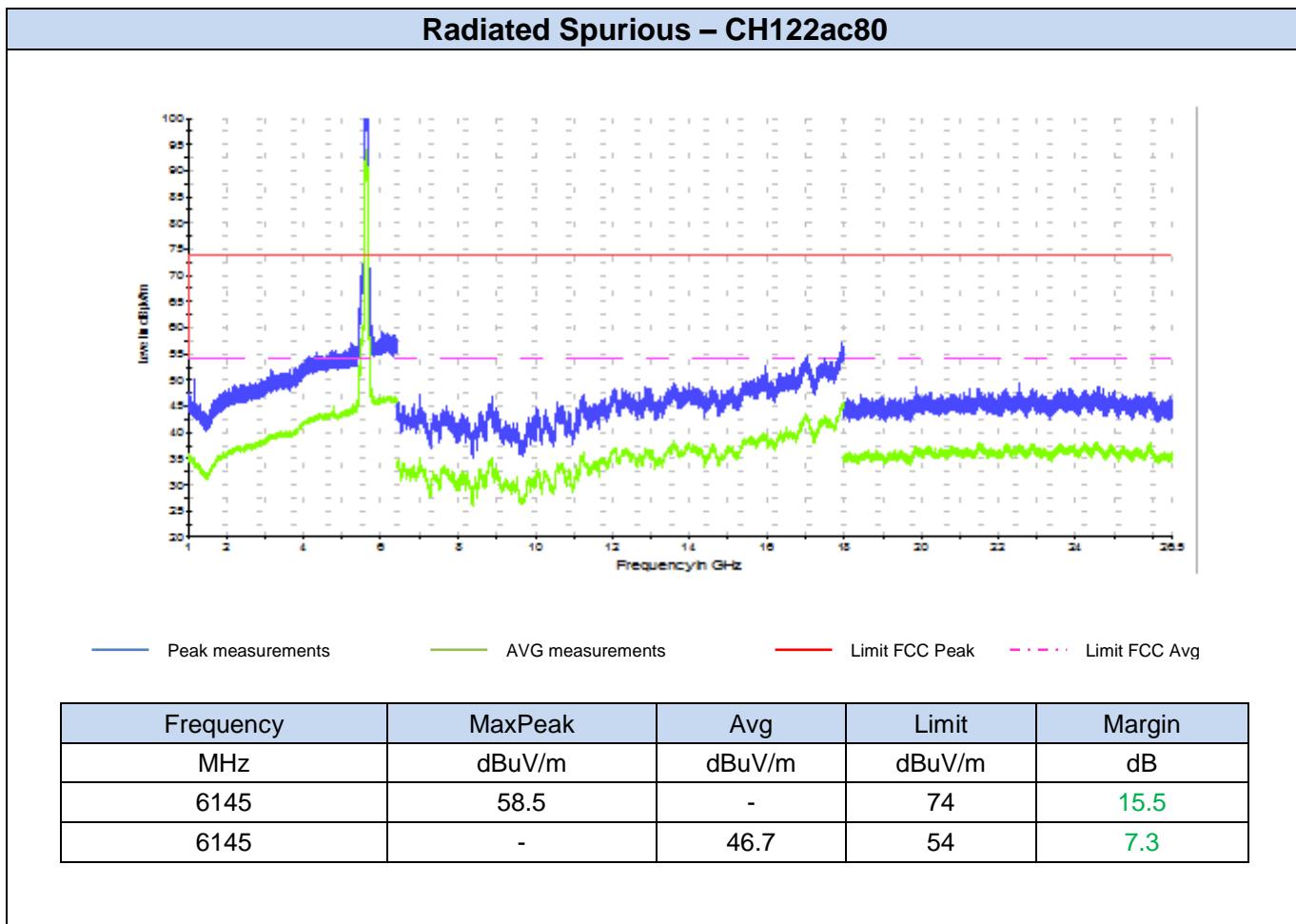
Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
6160	59.2	-	74	14.8
6160	-	46.2	54	7.8

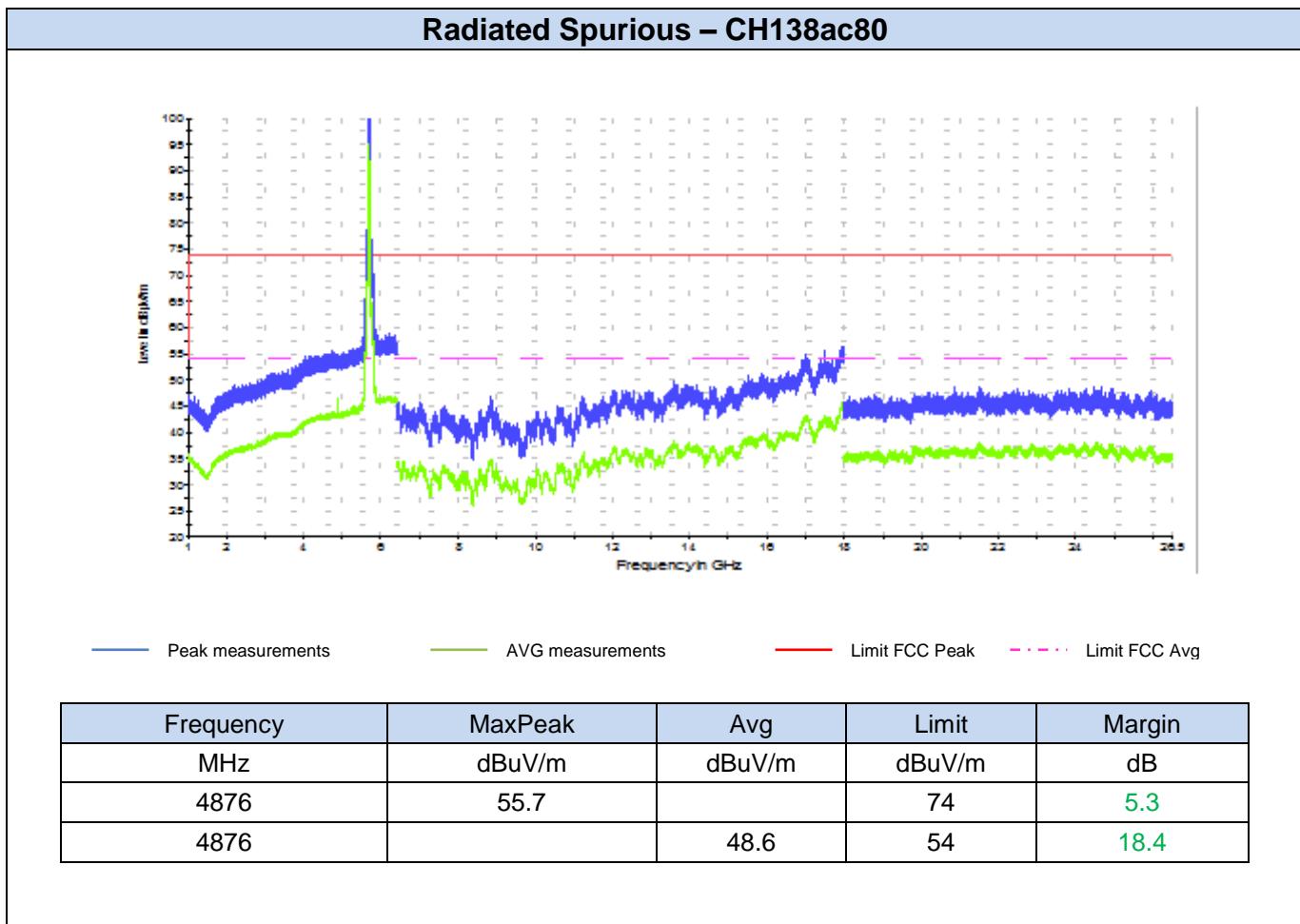


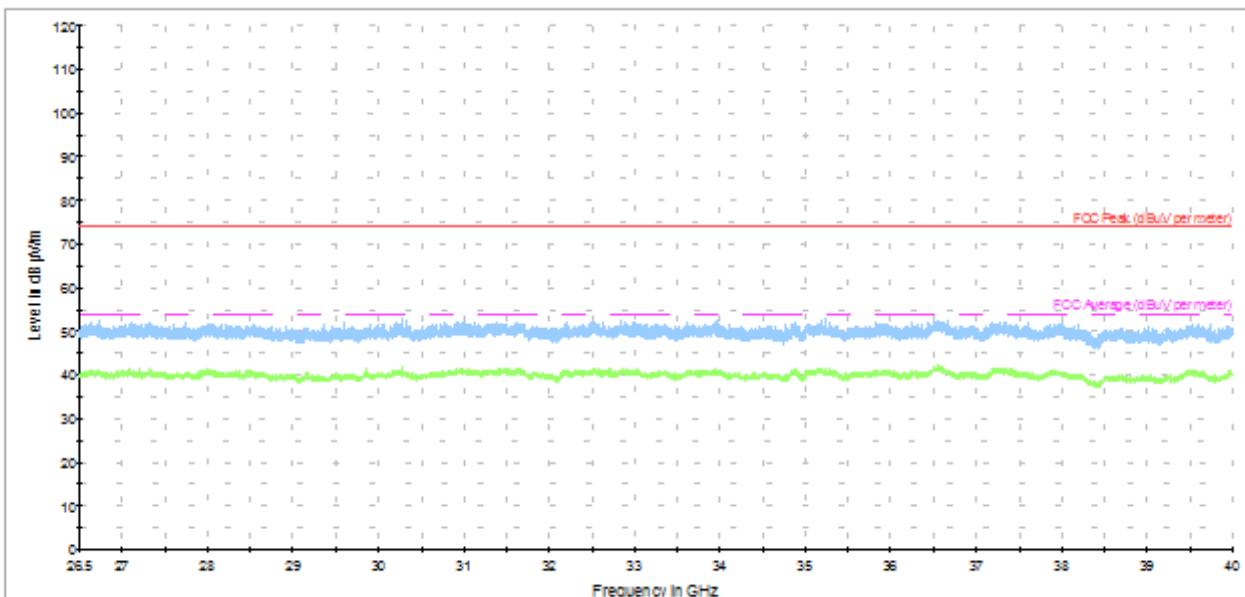


1 GHz – 26.5GHz, 802.11ac80, Chain A+B**Radiated Spurious – CH106ac80**

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
6125	58.1	-	74	15.9
6125	-	46.7	54	7.3





26.5 GHz – 40GHz**Radiated Spurious – All modes**

— Peak measurements — AVG measurements — Limit FCC Peak - - - Limit FCC Avg

Frequency	MaxPeak	Avg	Limit	Margin
MHz	dBuV/m	dBuV/m	dBuV/m	dB
36556.05	52.28		74	21.72
36553.16		42.22	54	11.78

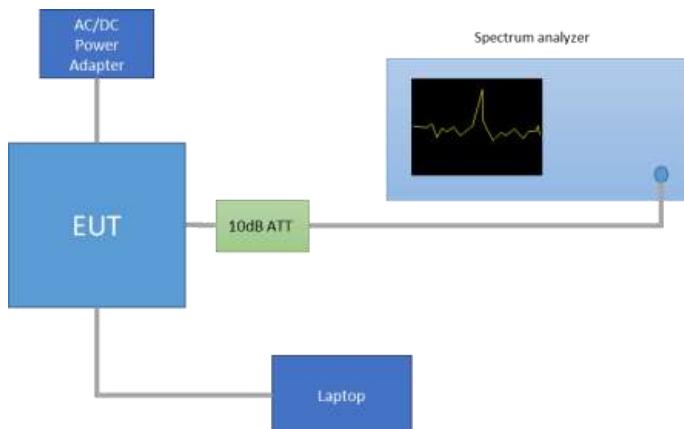
Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.

Annex E. Test Results U-NII-3

E.1 6dB & 99% Bandwidth

Test procedure:

The setup below was used to measure the 6dB & 99% Bandwidth. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.



For the overlapped channels between U-NII-2C and U-NII-3, and according to FCC KDB 644545 D03, the boundary frequency between the bands is used as one edge for defining the portion of the 6dB BW that falls within a particular U-NII band. This rule is only applicable for the 6dB BW and for those channels marked as overlapped.

Results tables:

Mode	Rate	Antenna	Channel	Frequency [MHz]	6dB BW [MHz]	99% BW [MHz]
802.11a	6Mbps	SISO CHAIN A	149	5745	15.13	18.88
			157	5785	15.67	19.52
			165	5825	15.63	20.00
		SISO CHAIN B	149	5745	15.44	19.76
			157	5785	15.68	20.00
			165	5825	15.33	19.84
802.11n20	HT0	SISO CHAIN A	144*	5720	3.38	18.12
			149	5745	15.95	19.44
			157	5785	16.73	19.48
			165	5825	15.94	19.44
		SISO CHAIN B	144*	5720	3.40	19.28
			149	5745	16.25	20.44
			157	5785	15.13	20.12
			165	5825	16.24	20.28

* Overlapped channels between U-NII-2C and U-NII-3

Max Value

Mode	Rate	Antenna	Channel	Frequency [MHz]	6dB BW [MHz]	99% BW [MHz]
802.11n20	HT8	MIMO CHAIN A	144*	5720	3.13	19.68
			149	5745	16.00	19.64
			157	5785	15.75	19.96
			165	5825	16.13	20.36
		MIMO CHAIN B	144*	5720	3.75	21.92
			149	5745	17.50	21.80
			157	5785	17.52	22.92
			165	5825	16.92	23.04
802.11n40	HT0	SISO CHAIN A	142F*	5710	3.18	37.04
			151F	5755	35.07	37.44
			159F	5795	35.08	37.20
		SISO CHAIN B	142F*	5710	3.22	37.60
			151F	5755	35.08	37.60
			159F	5795	35.07	37.76
	HT8	MIMO CHAIN A	142F*	5710	3.19	37.60
			151F	5755	35.07	36.48
			159F	5795	35.06	38.00
		MIMO CHAIN B	142F*	5710	3.18	37.12
			151F	5755	35.08	36.40
			159F	5795	35.65	41.12
802.11ac80	VHT0	SISO CHAIN A	138ac80*	5690	3.18	75.72
			155ac80	5775	75.45	75.12
		SISO CHAIN B	138ac80*	5690	3.16	75.48
			155ac80	5775	68.81	75.00
	VHT0	MIMO CHAIN A	138ac80*	5690	3.19	75.84
			155ac80	5775	75.04	75.00
		MIMO CHAIN B	138ac80*	5690	3.17	75.60
			155ac80	5775	72.53	75.00

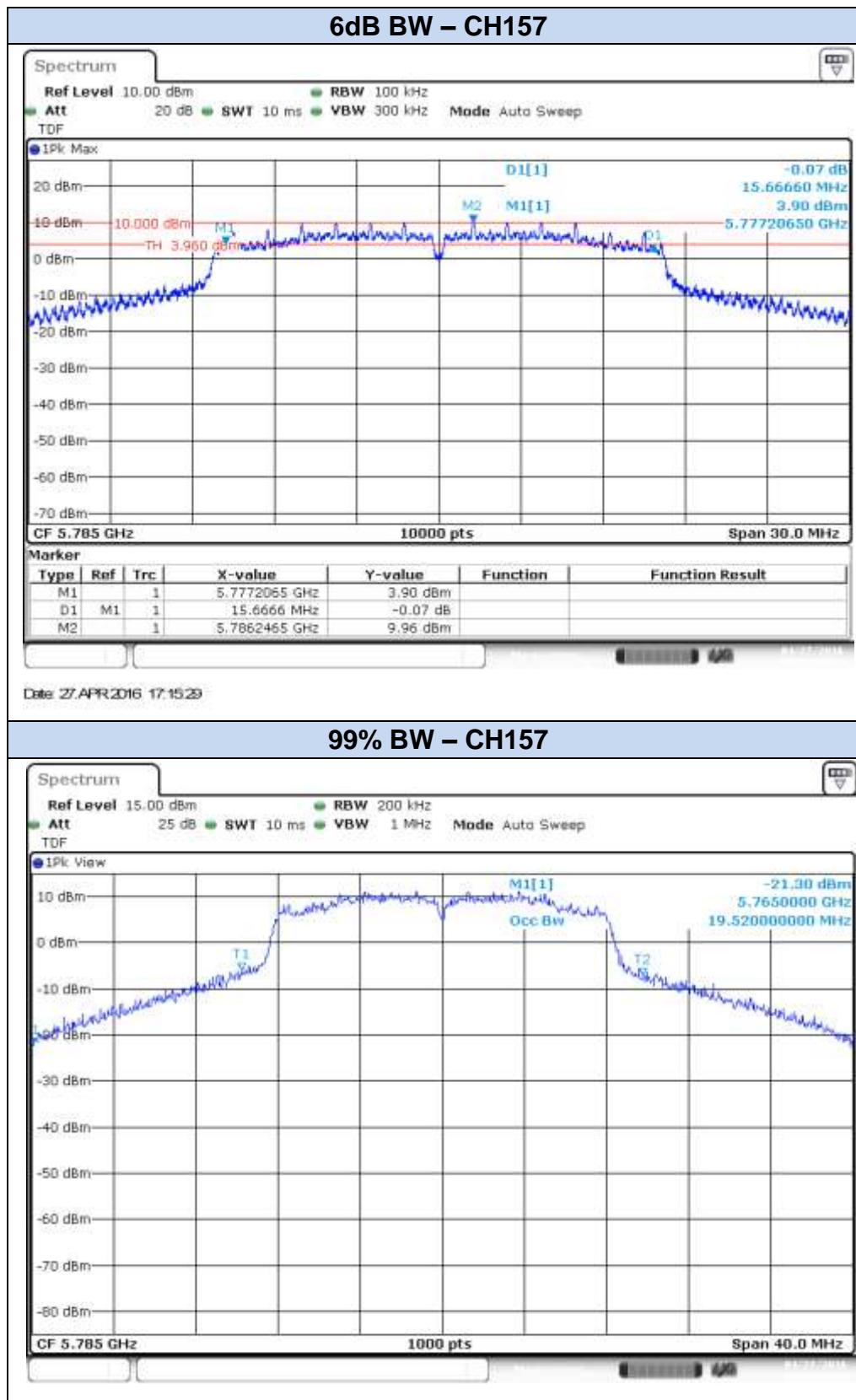
* Overlapped channels between U-NII-2C and U-NII-3

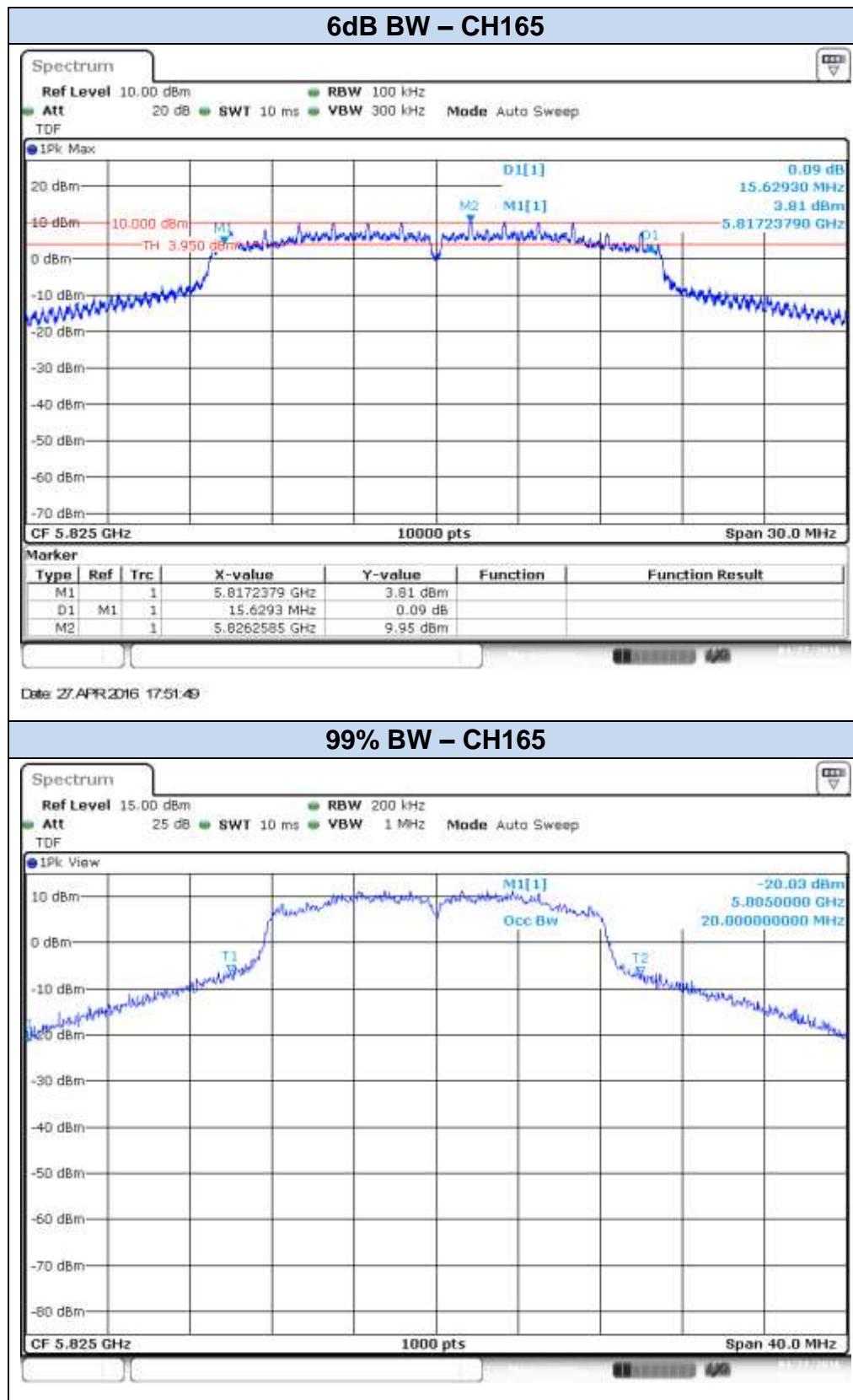
Max Value

In addition, the below table shows the 26dB bandwidth results for the **overlapped channels** falling in U-NII-3 band. These values were used to measure the maximum output power in the U-NII-3 band in chapter E.2.

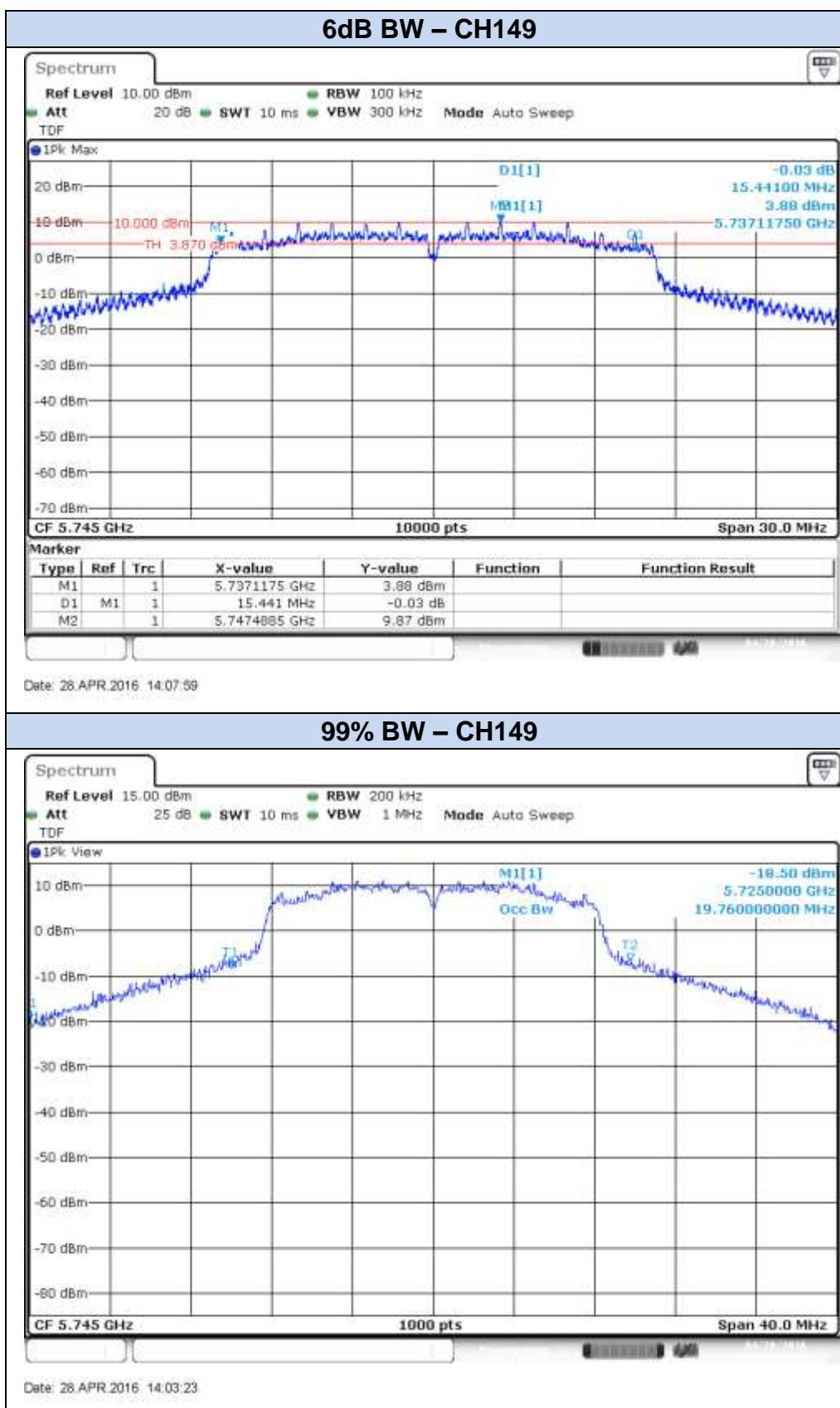
Mode	Rate	Antenna	Channel	Frequency [MHz]	26dB BW in UNII-3 band [MHz]
802.11n20	HT0	SISO CHAIN A	144	5720	9.68
		SISO CHAIN B	144	5720	11.53
	HT8	MIMO CHAIN A	144	5720	11.78
		MIMO CHAIN B	144	5720	12.33
802.11n40	HT0	SISO CHAIN A	142F	5710	12.13
		SISO CHAIN B	142F	5710	16.46
	HT8	MIMO CHAIN A	142F	5710	17.00
		MIMO CHAIN B	142F	5710	12.76
802.11ac80	VHT0	SISO CHAIN A	138ac80	5690	38.63
		SISO CHAIN B	138ac80	5690	20.77
	VHT0	MIMO CHAIN A	138ac80	5690	43.38
		MIMO CHAIN B	138ac80	5690	29.51

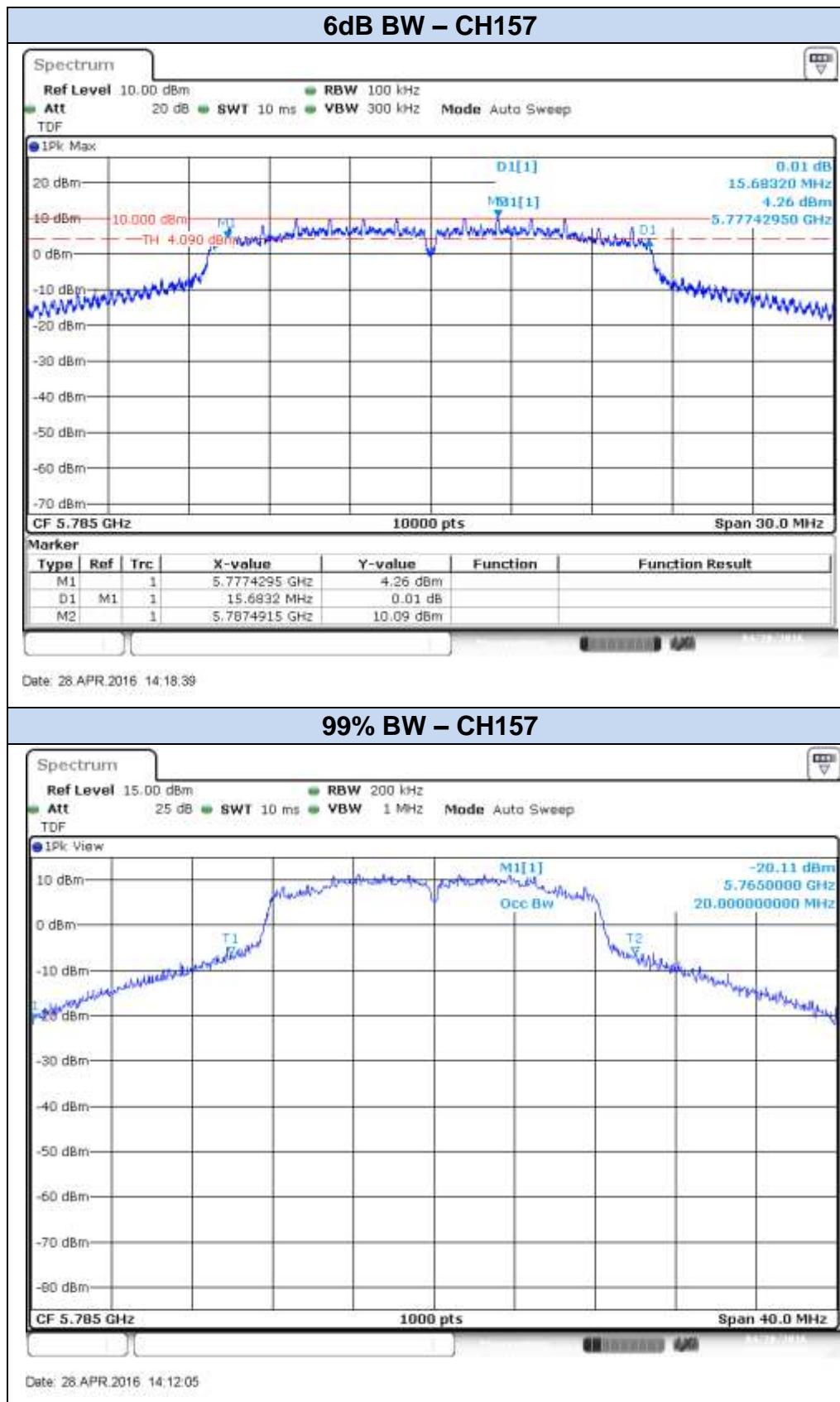
Results screenshot:**802.11a, 6Mbps – Chain A**

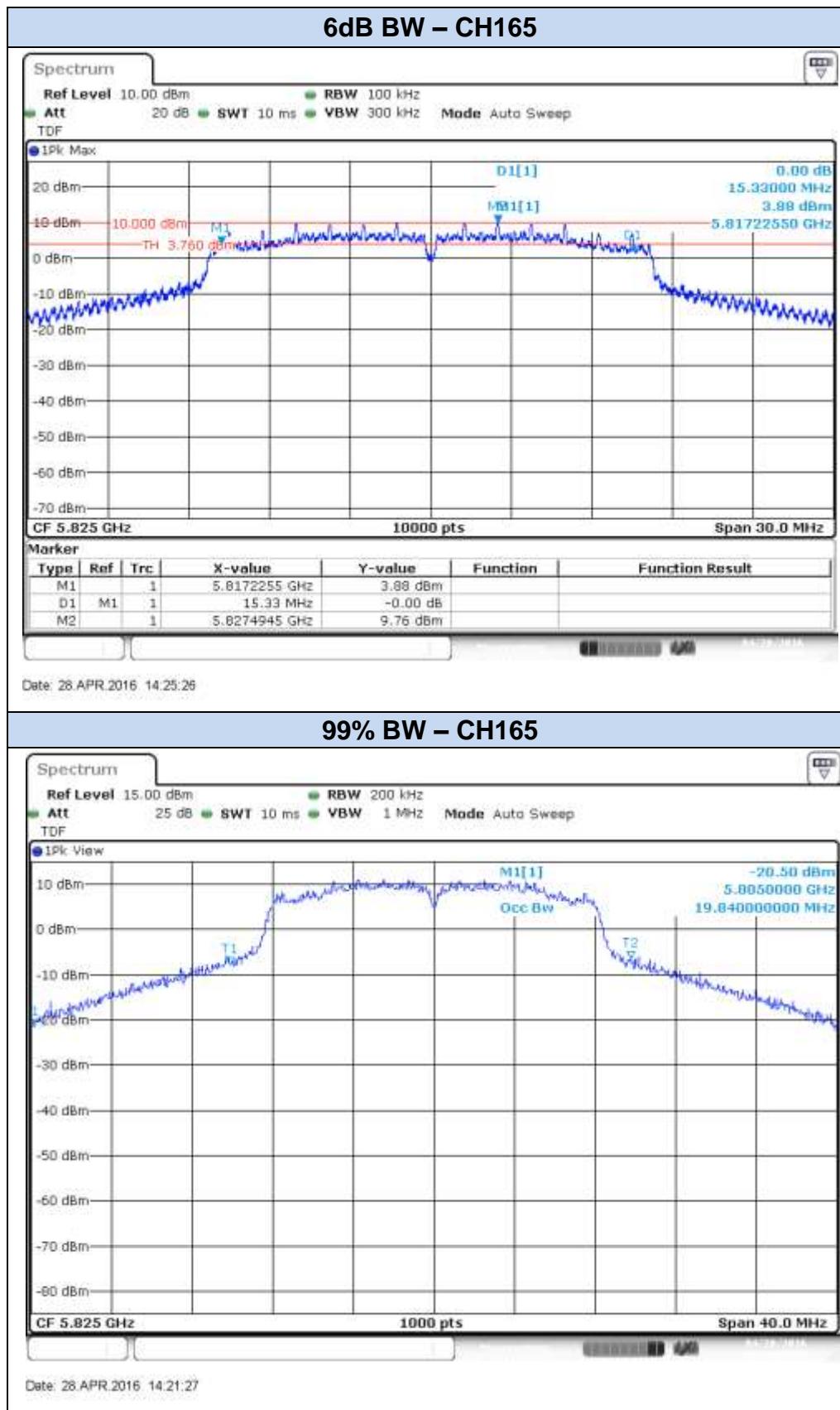




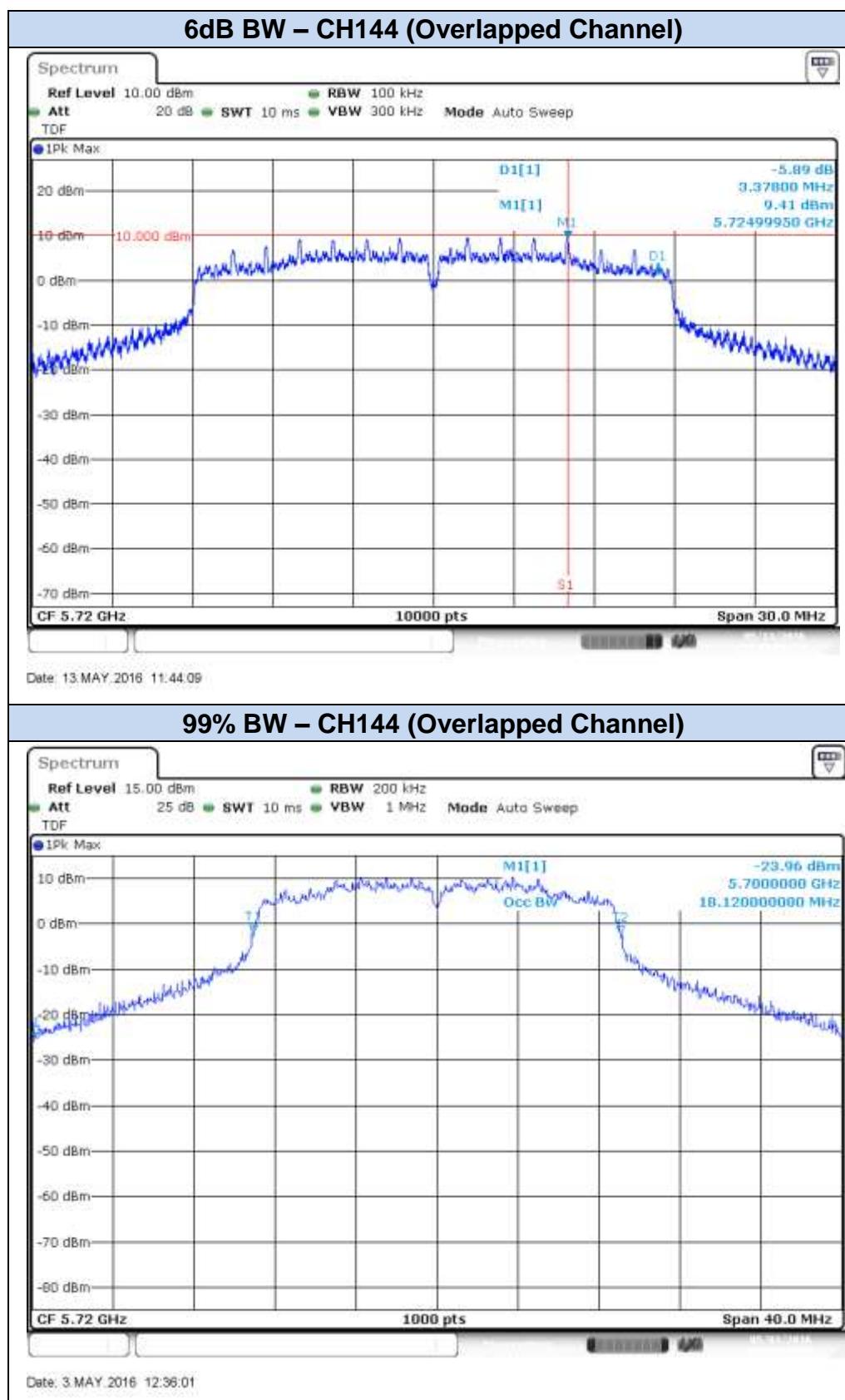
802.11a, 6Mbps – Chain B

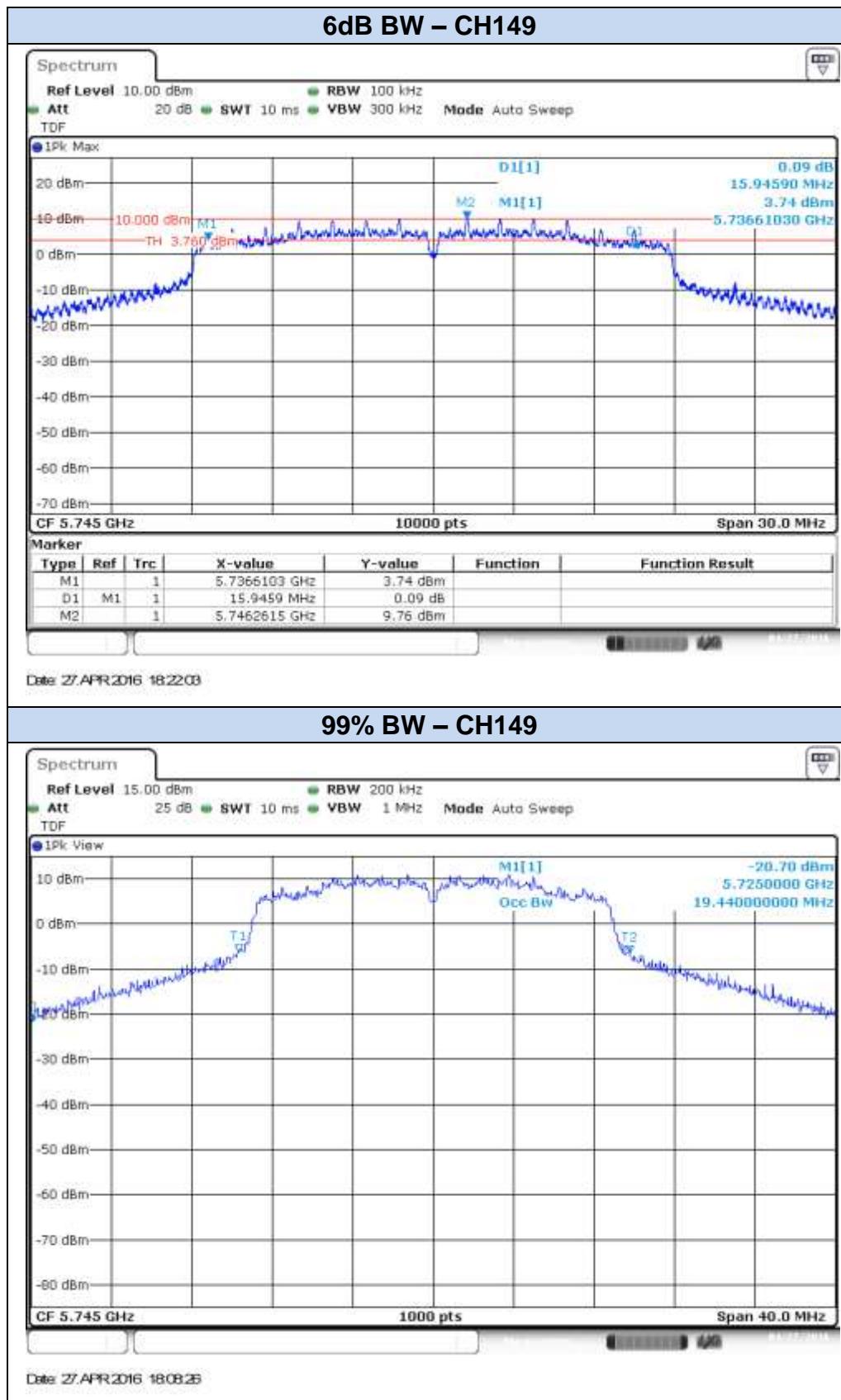


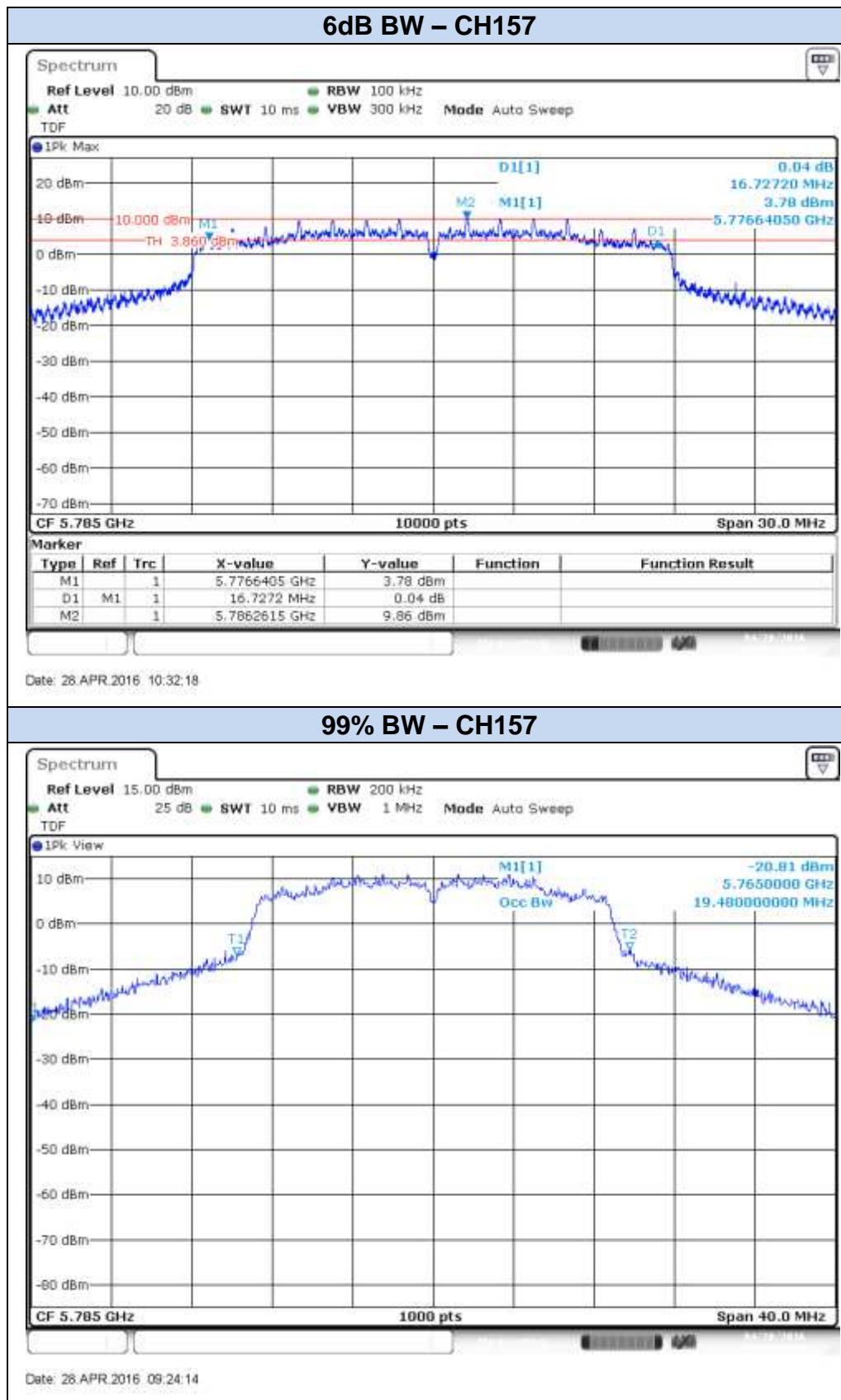


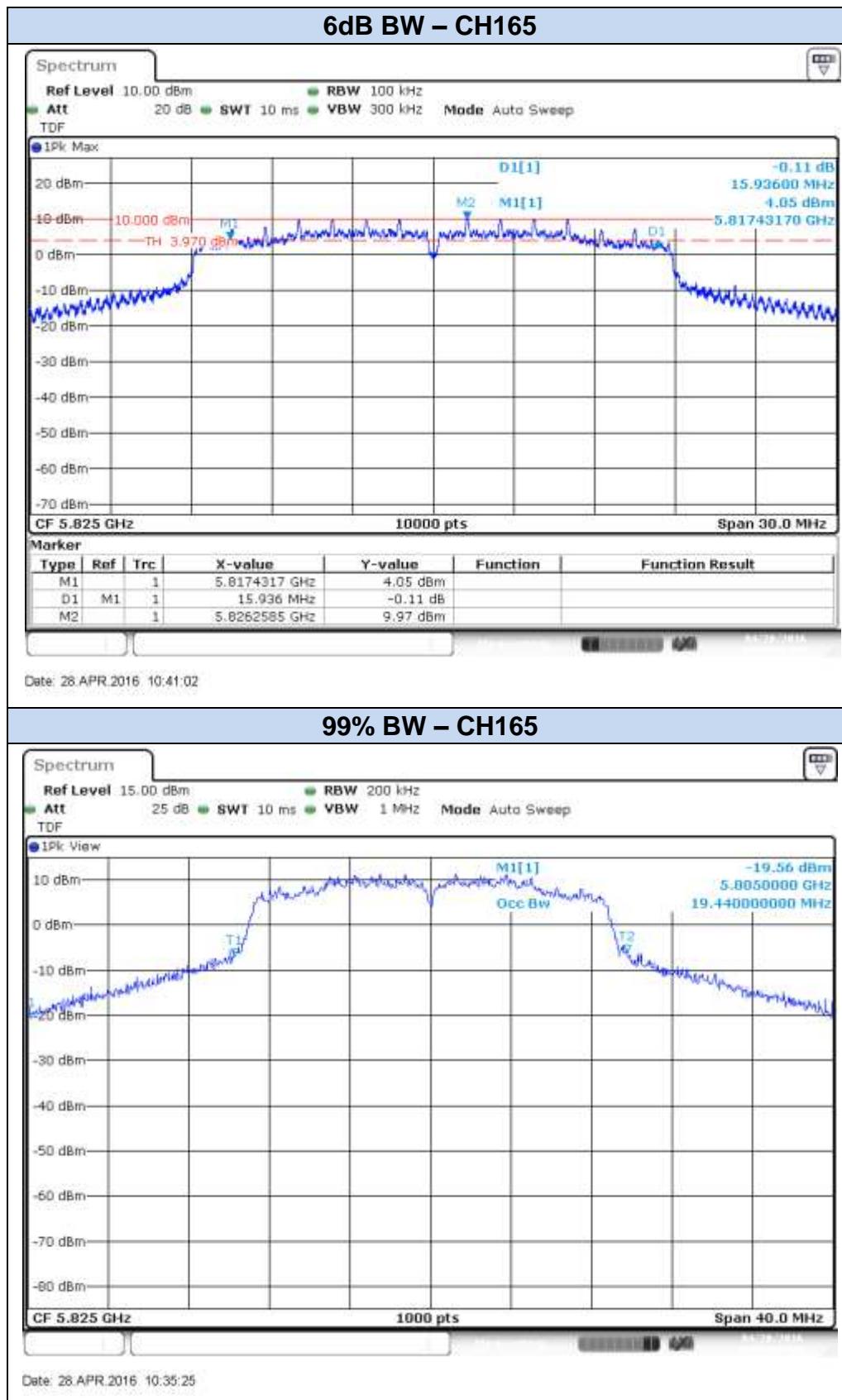


802.11n20, HT0 (SISO) – Chain A

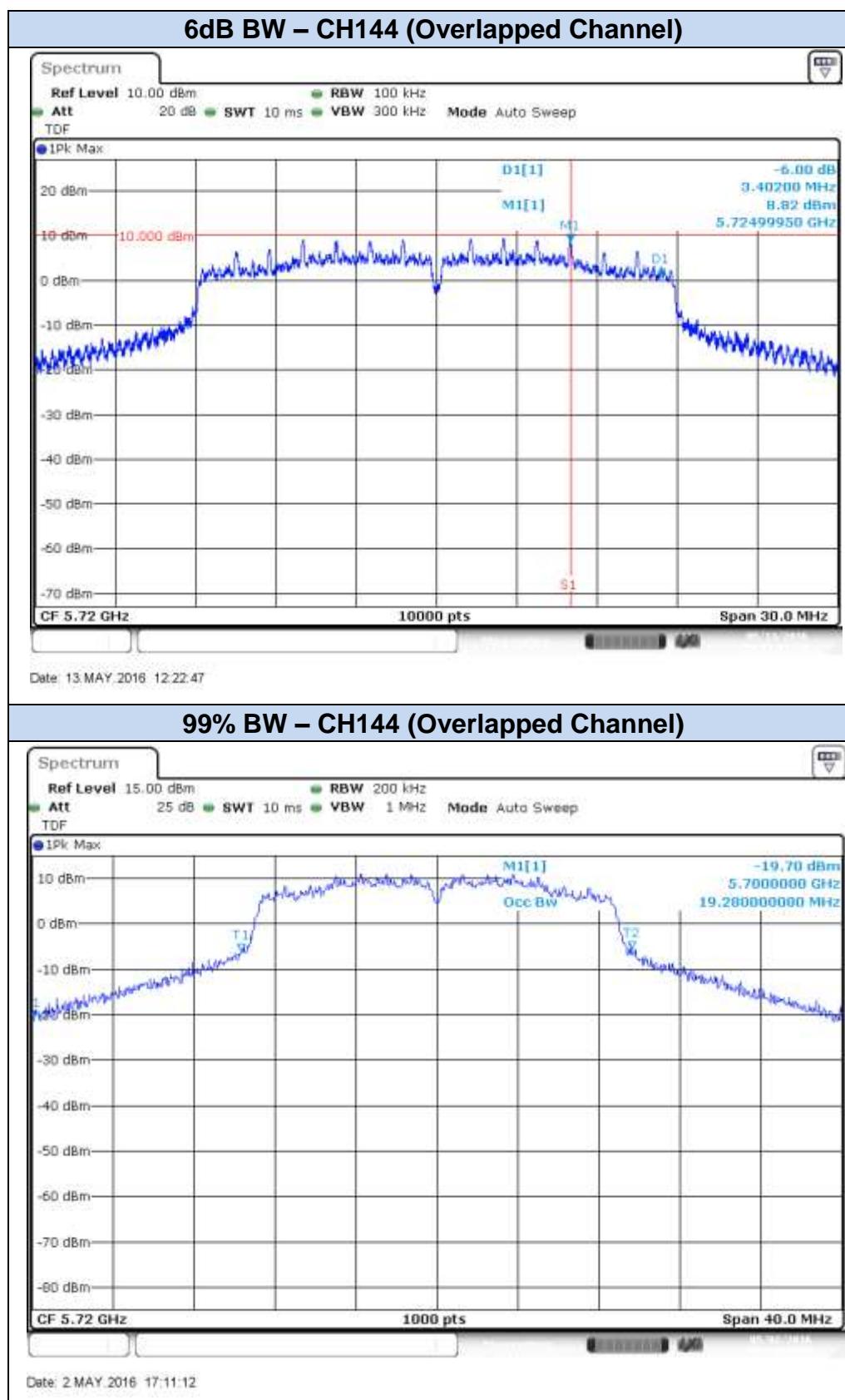


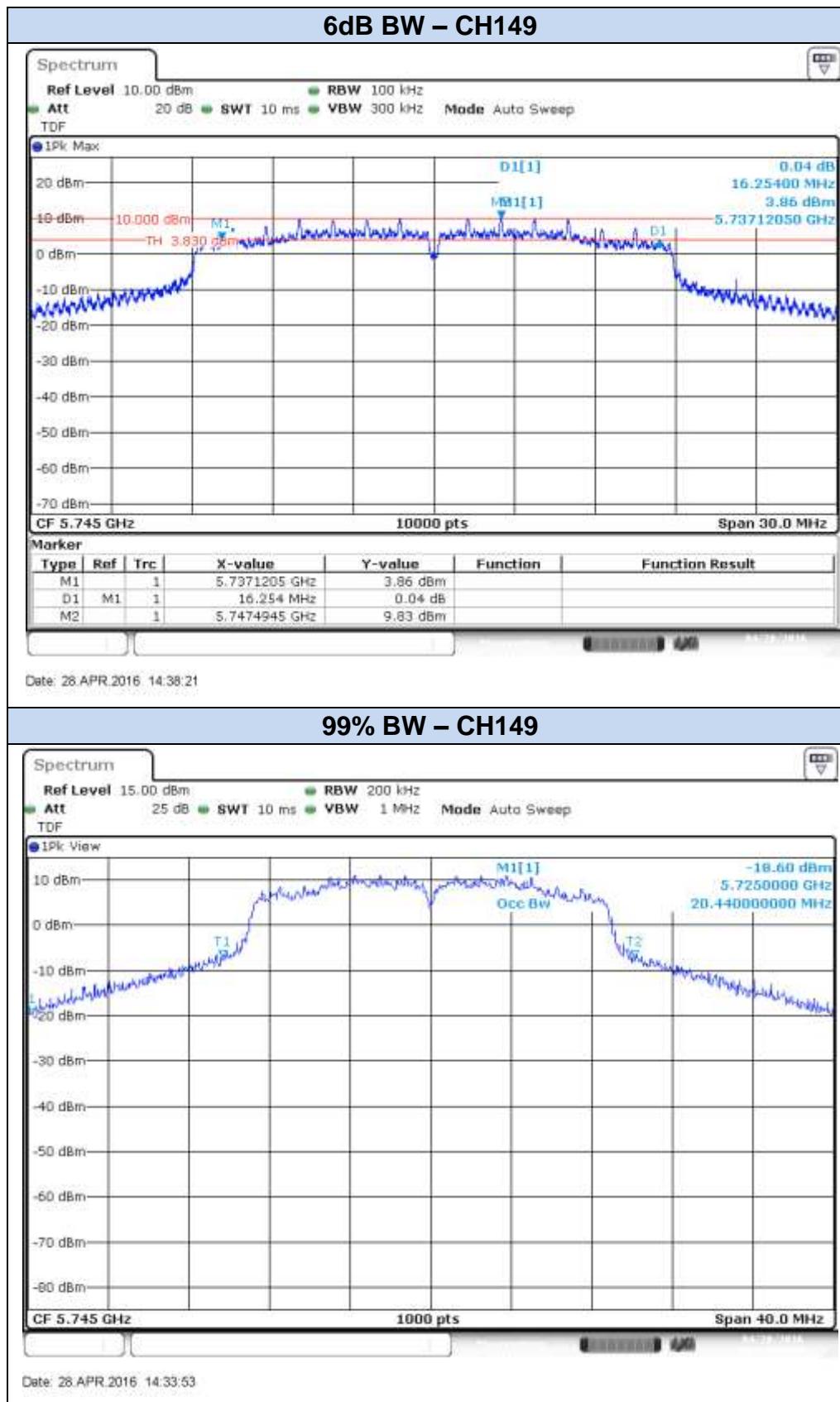


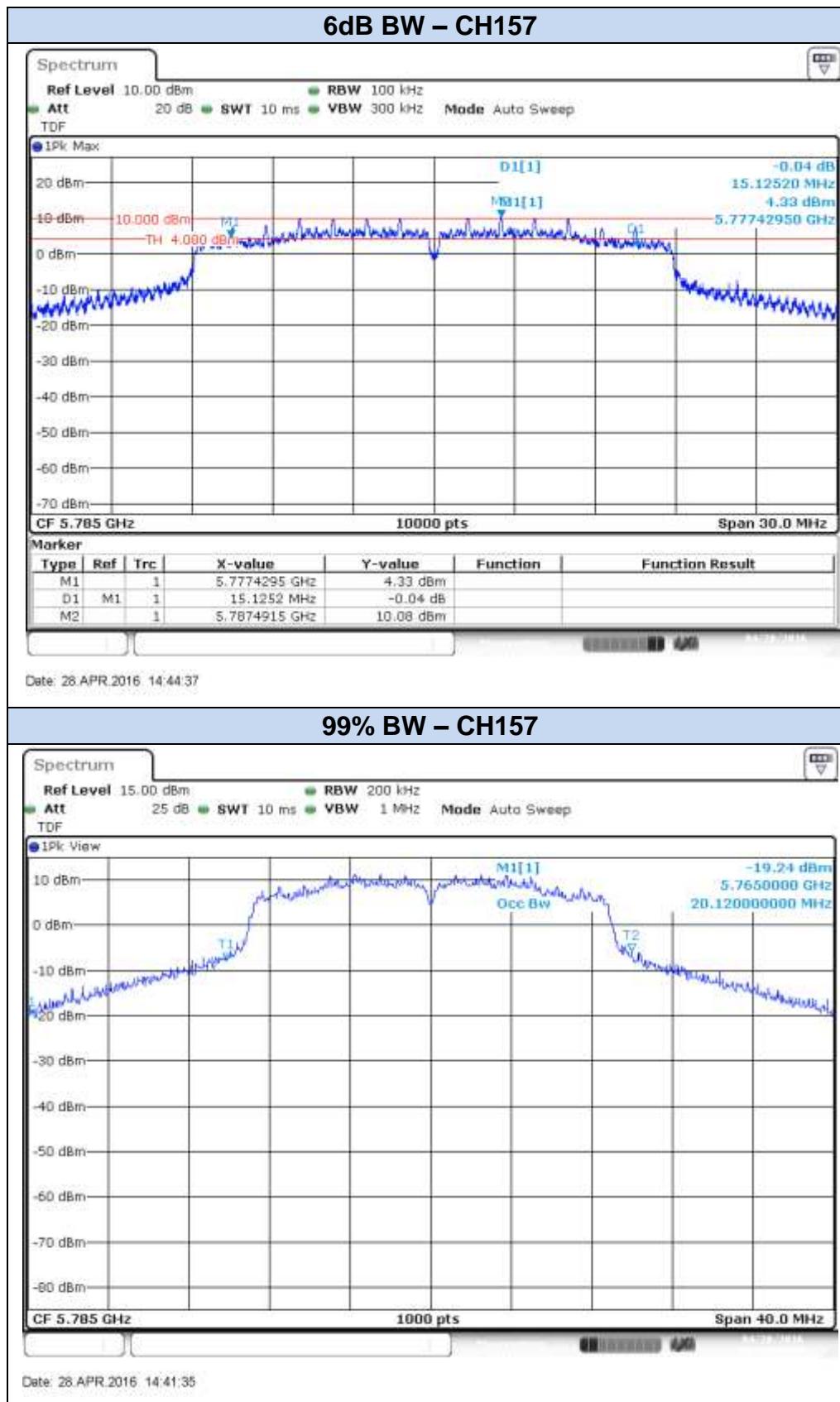


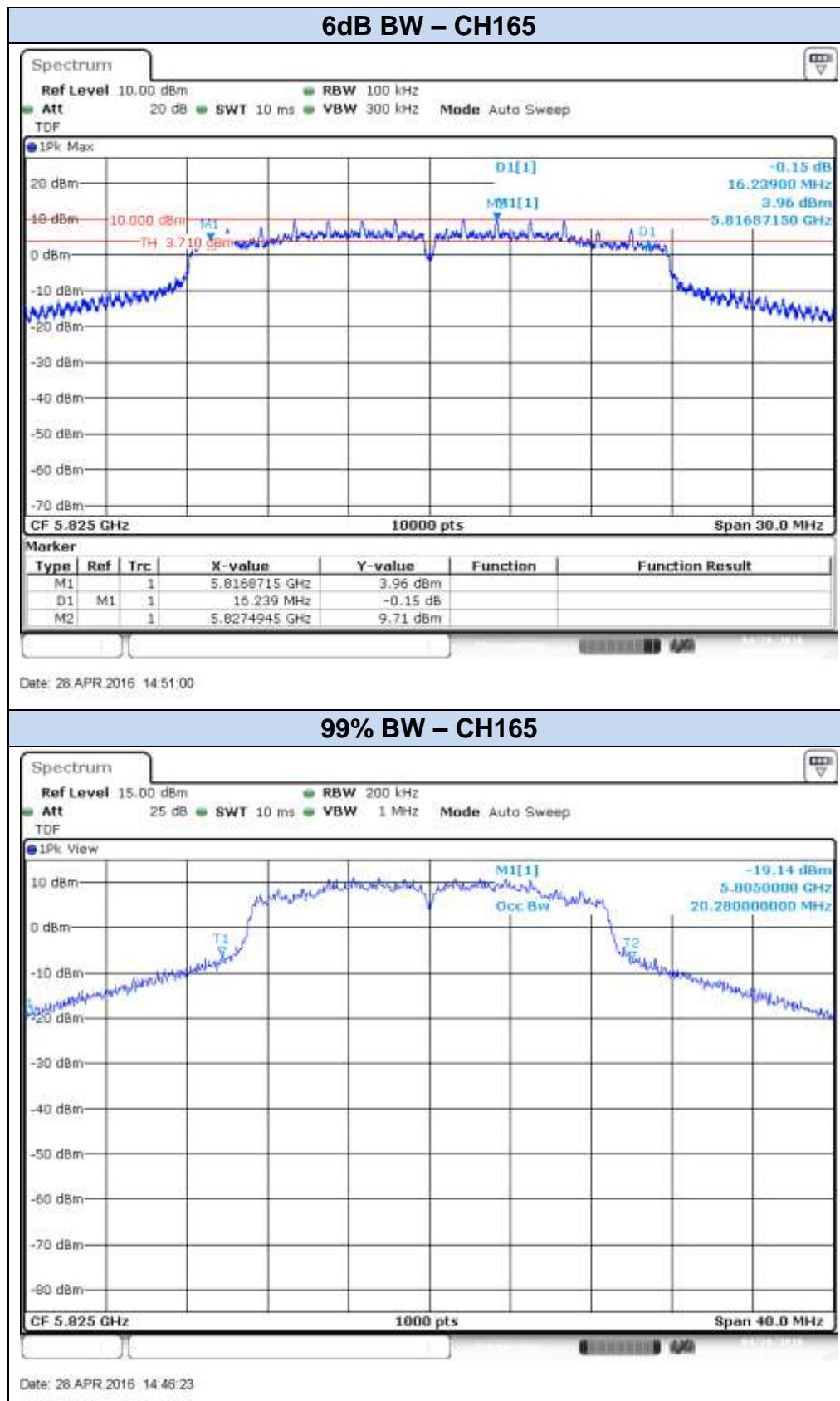


802.11n20, HT0 (SISO) – Chain B

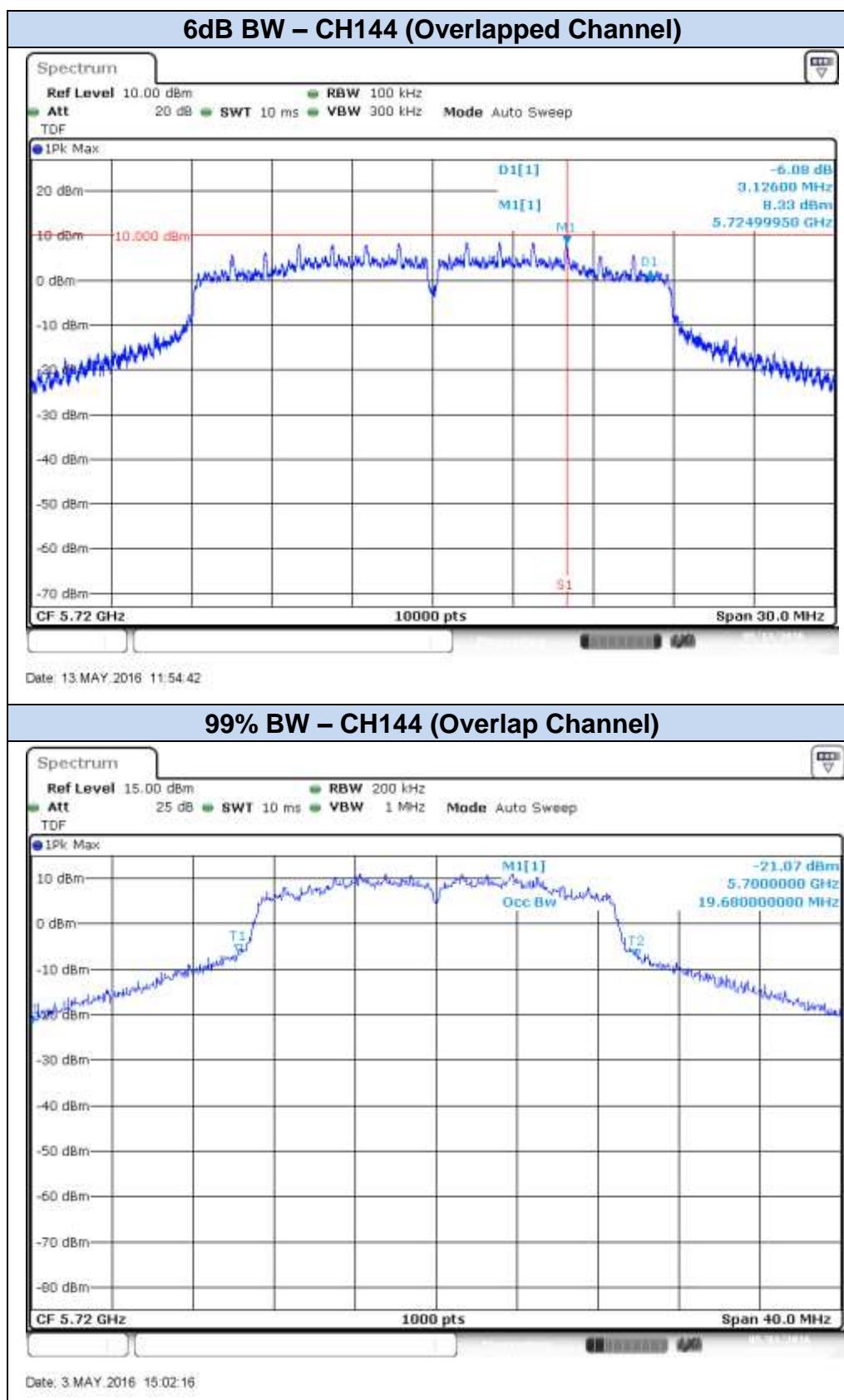


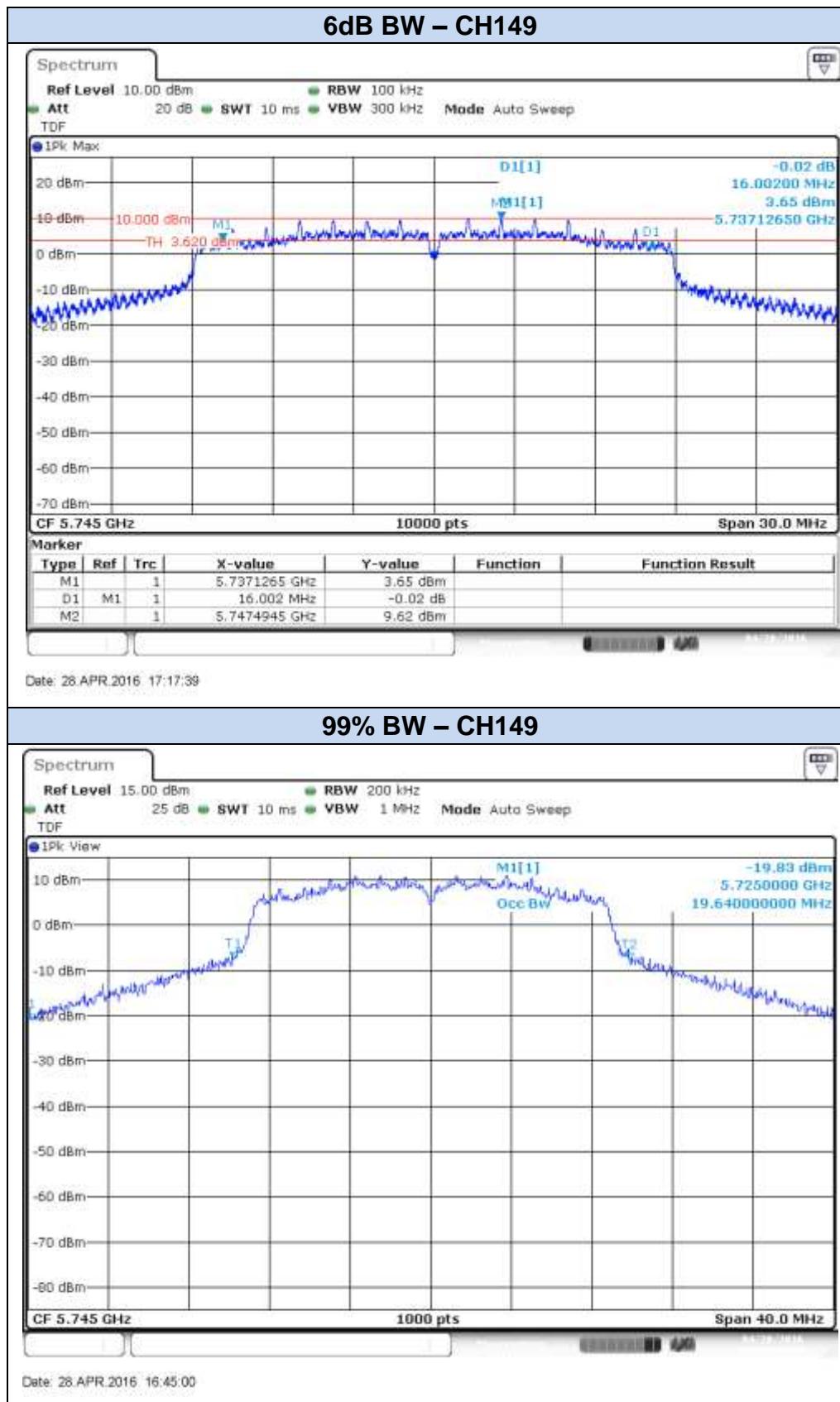


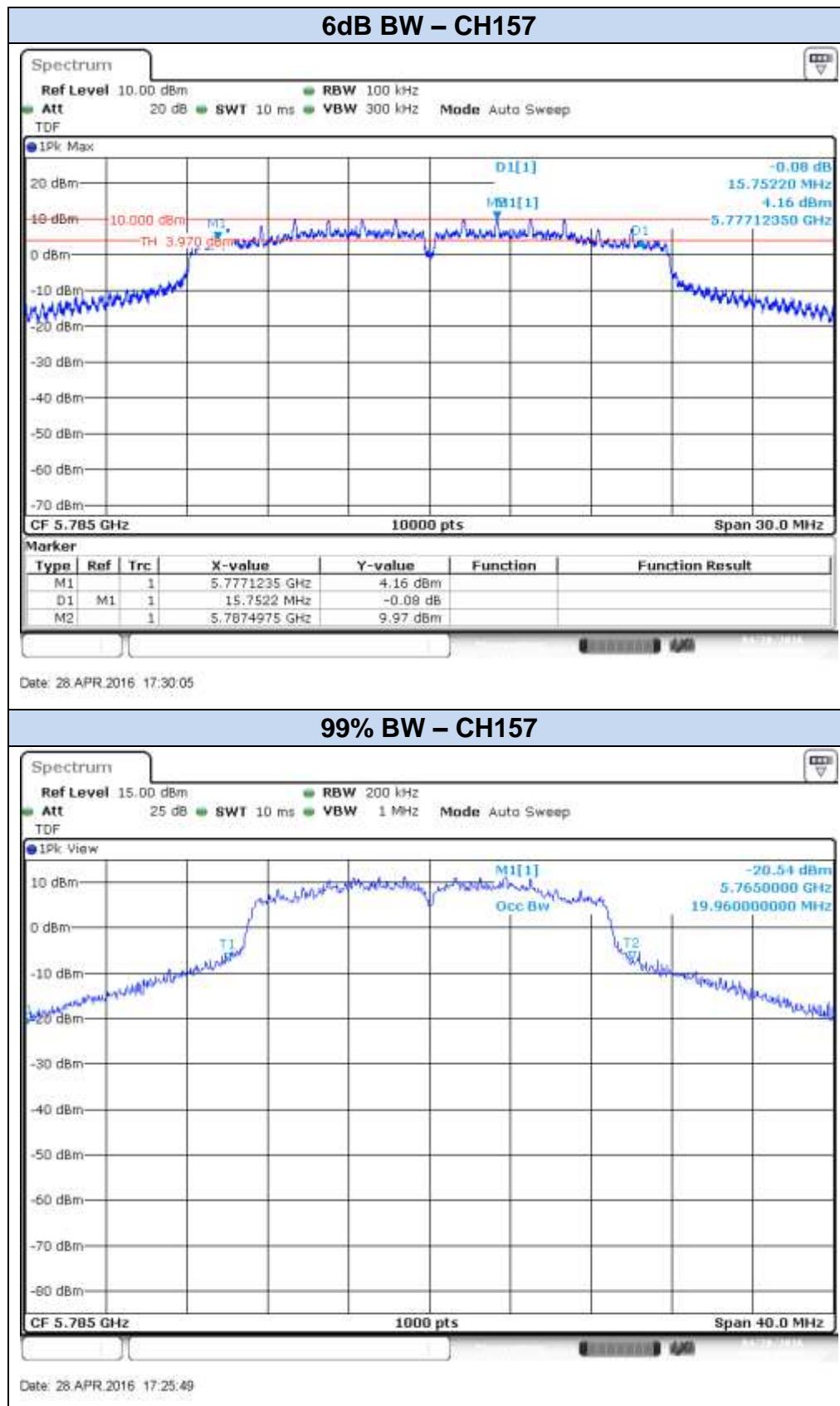


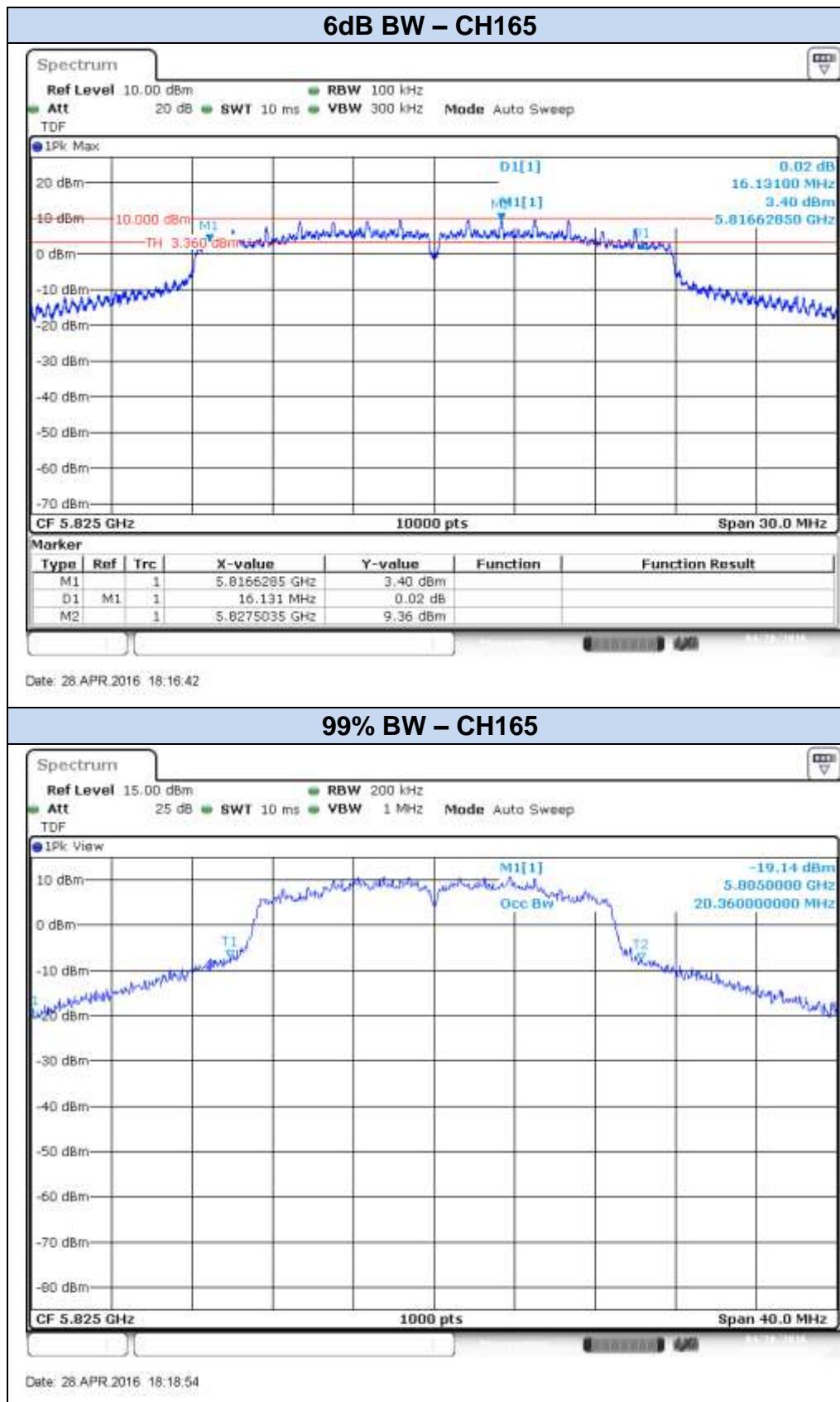


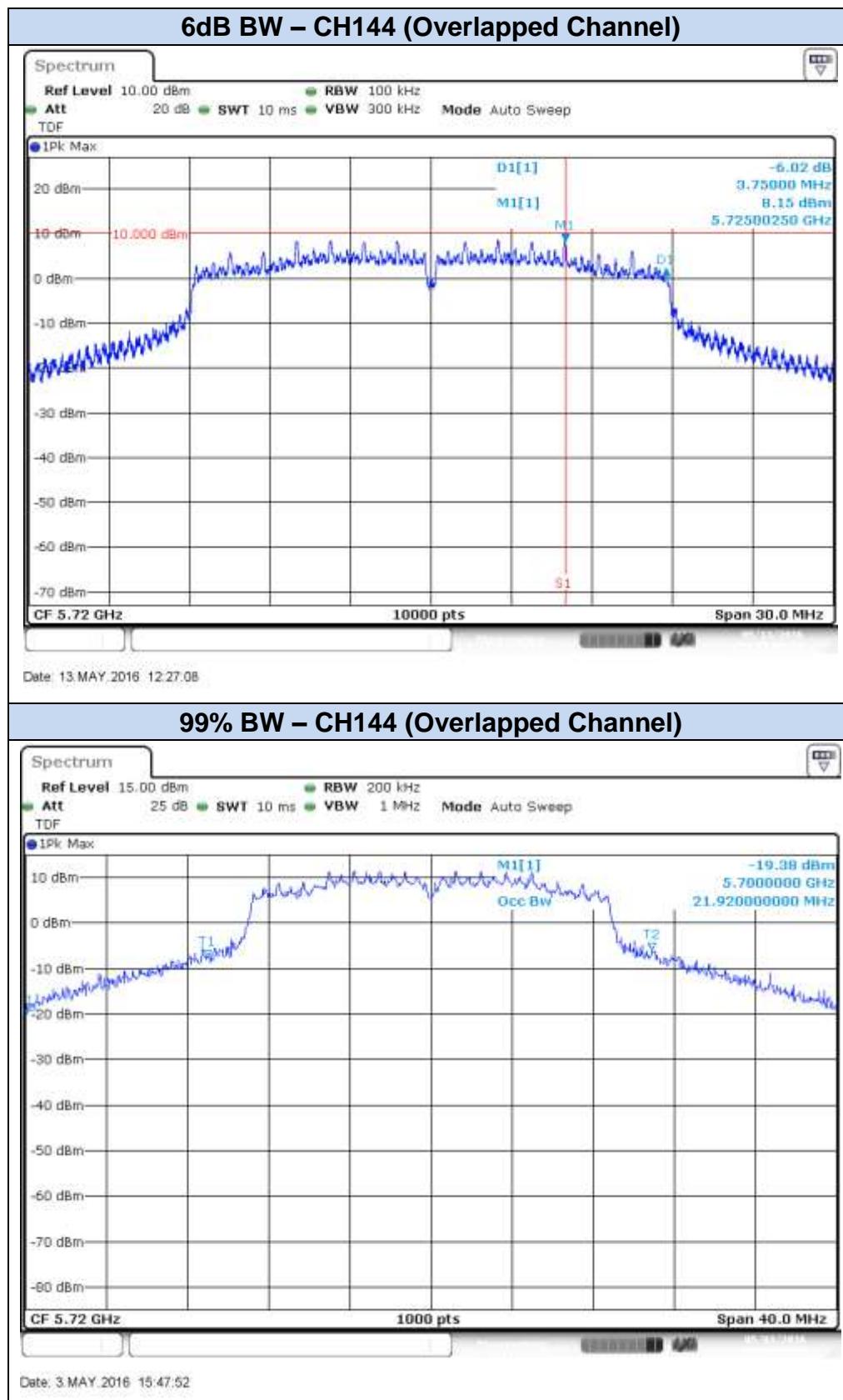
802.11n20, HT8 (MIMO) – Chain A

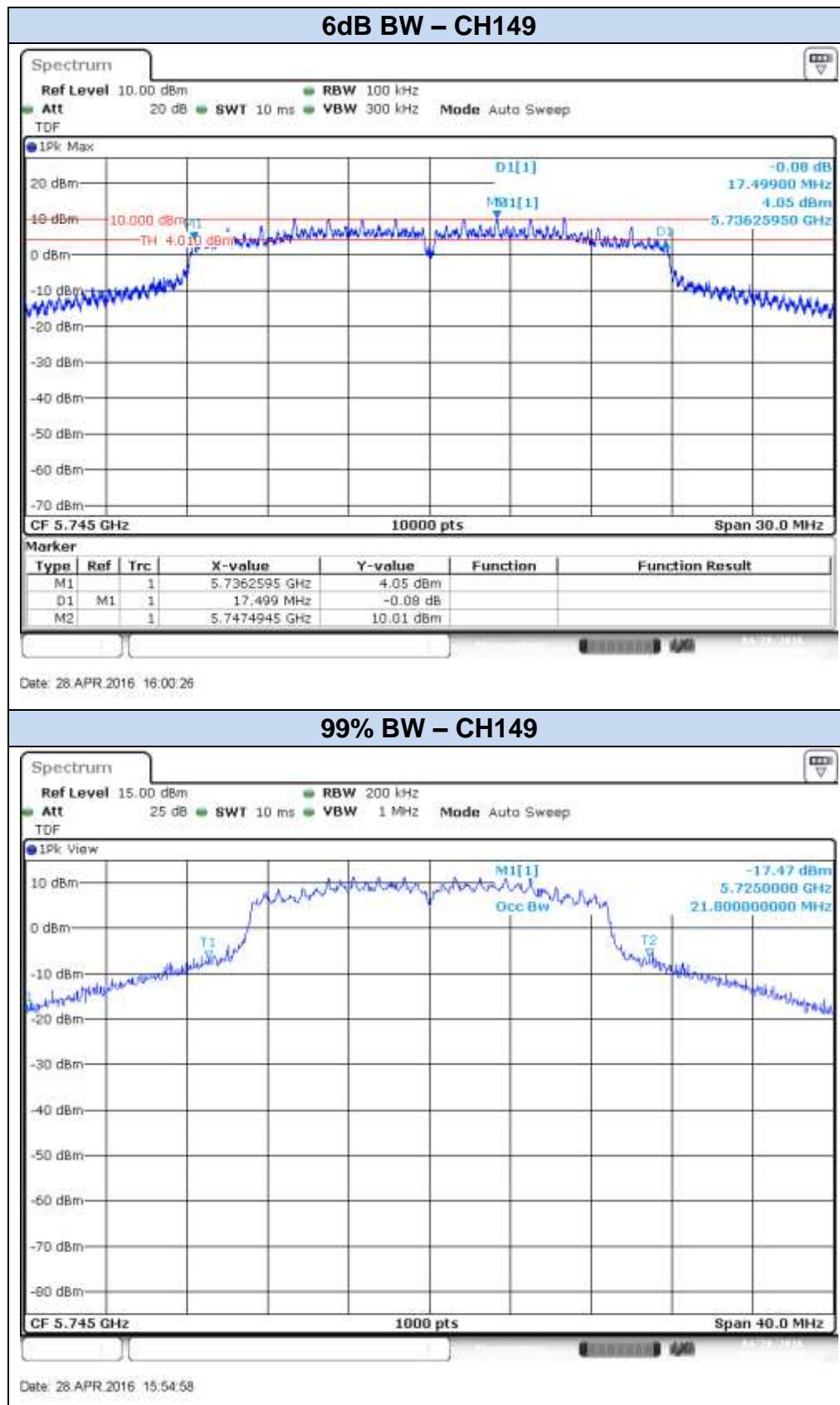


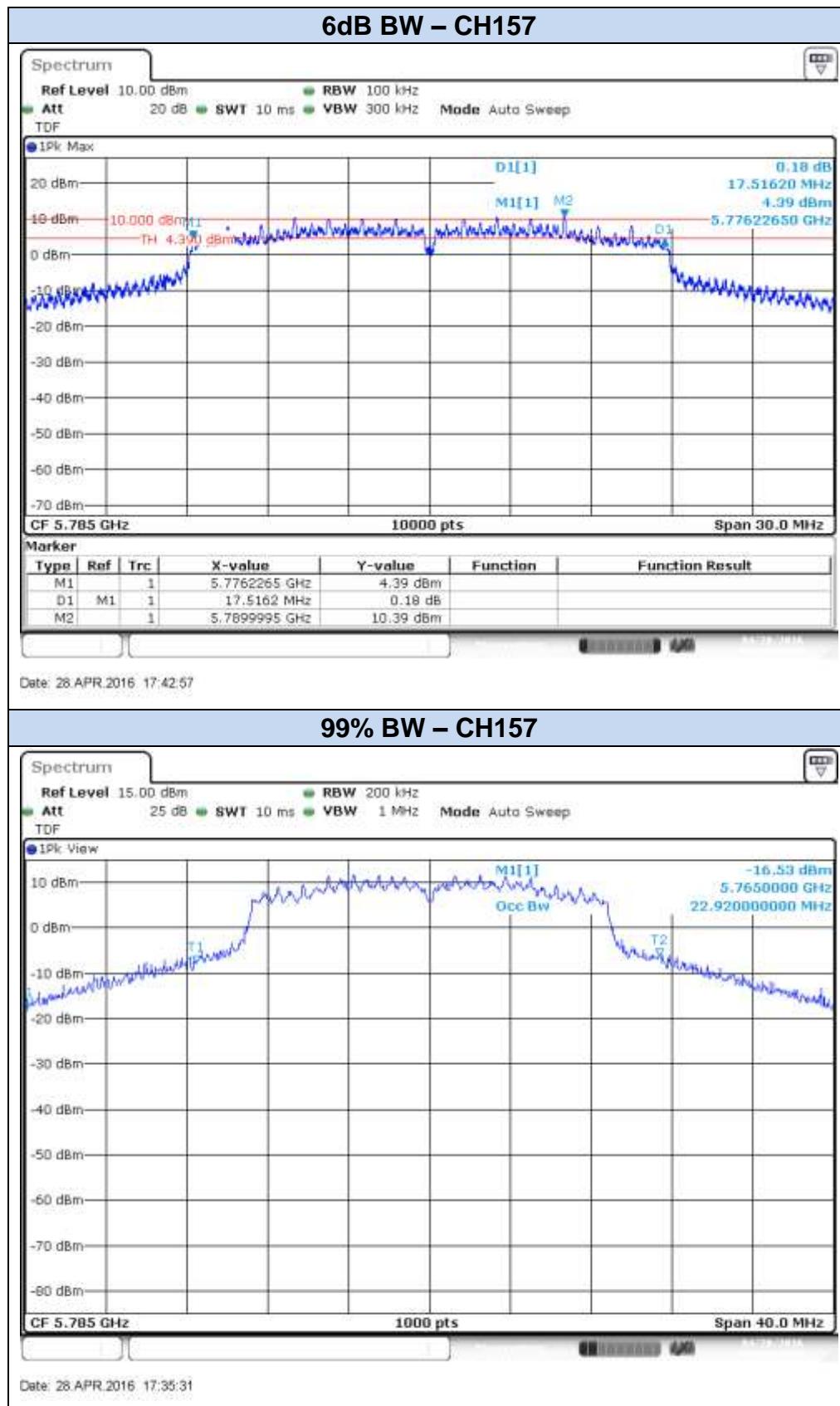


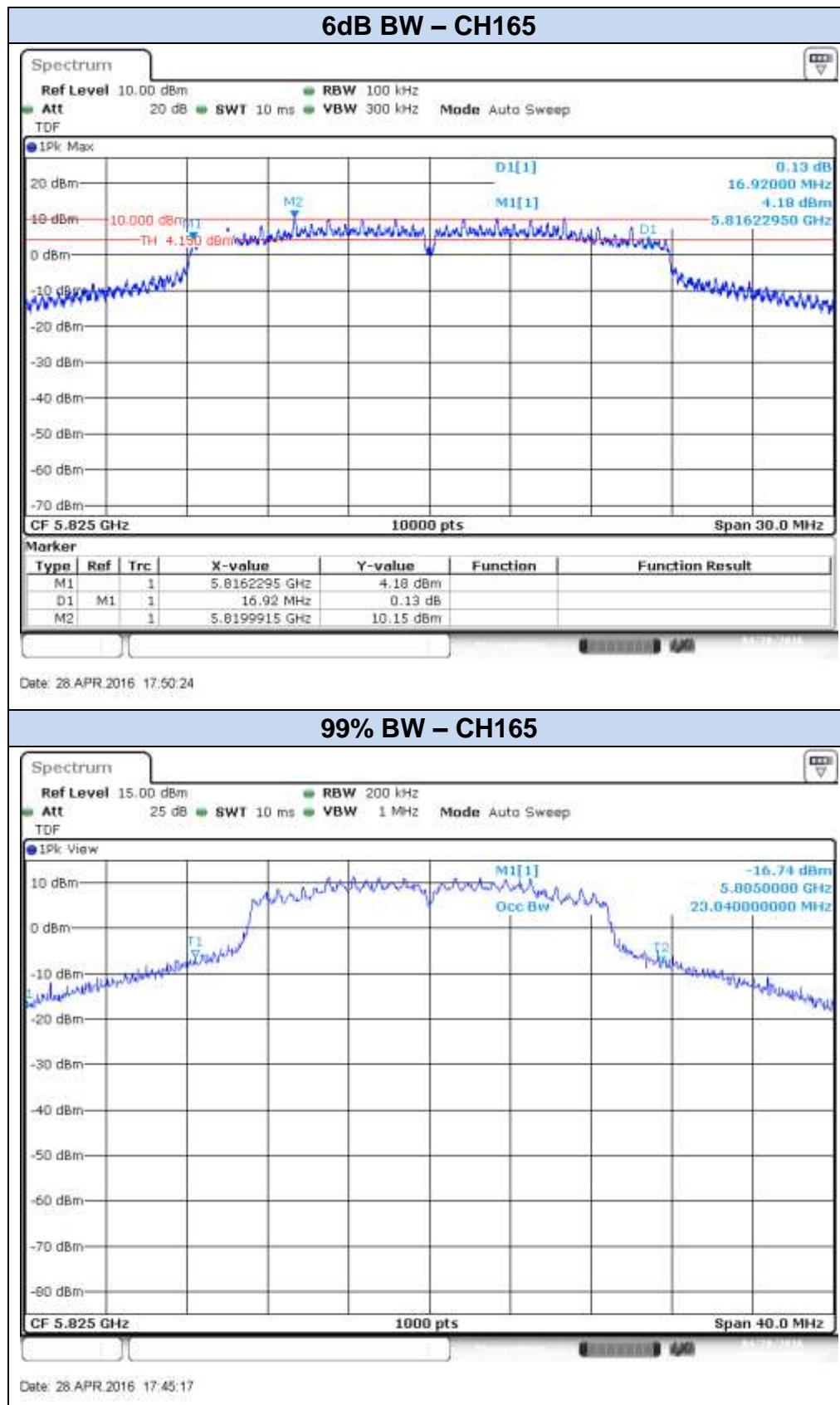


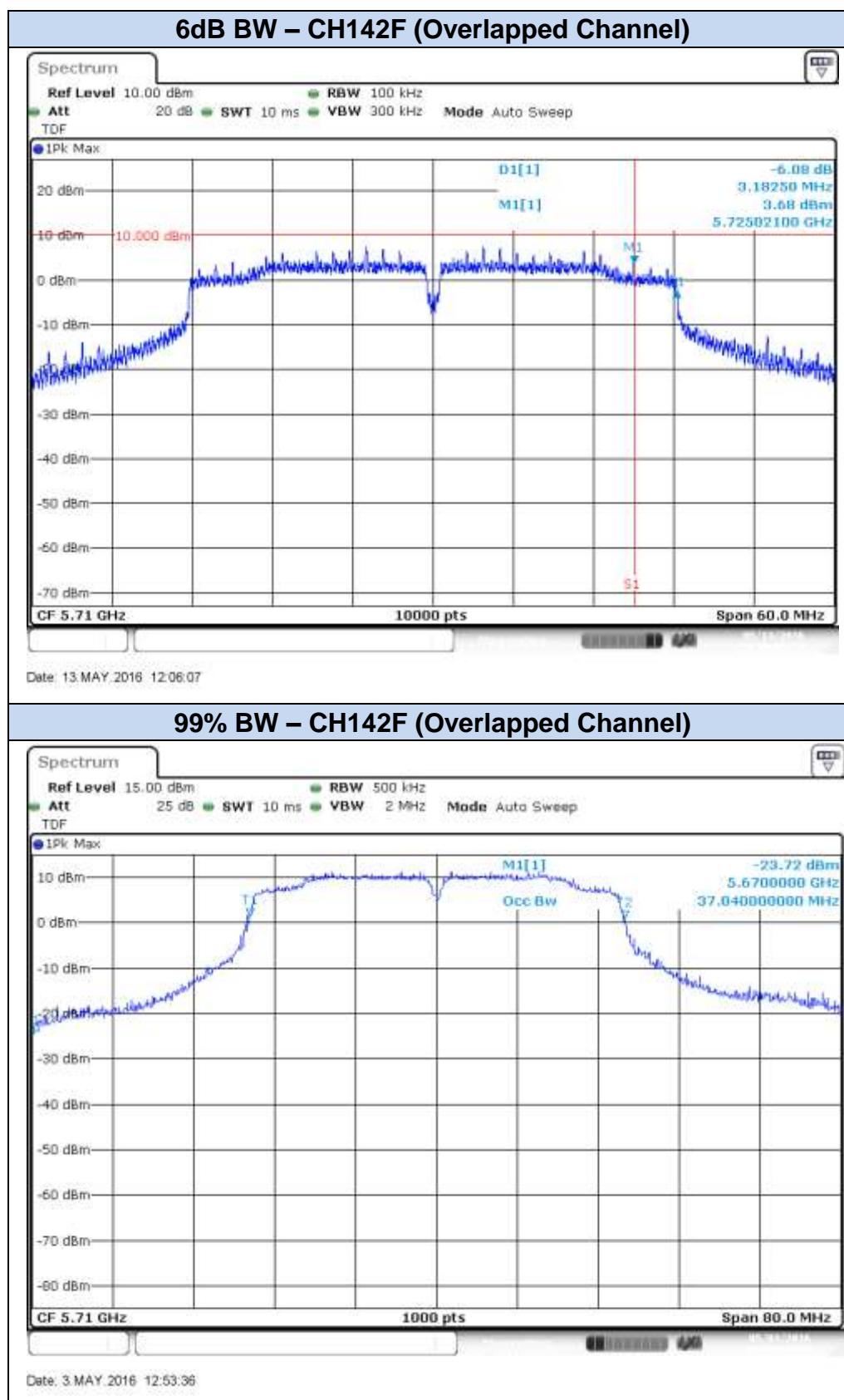


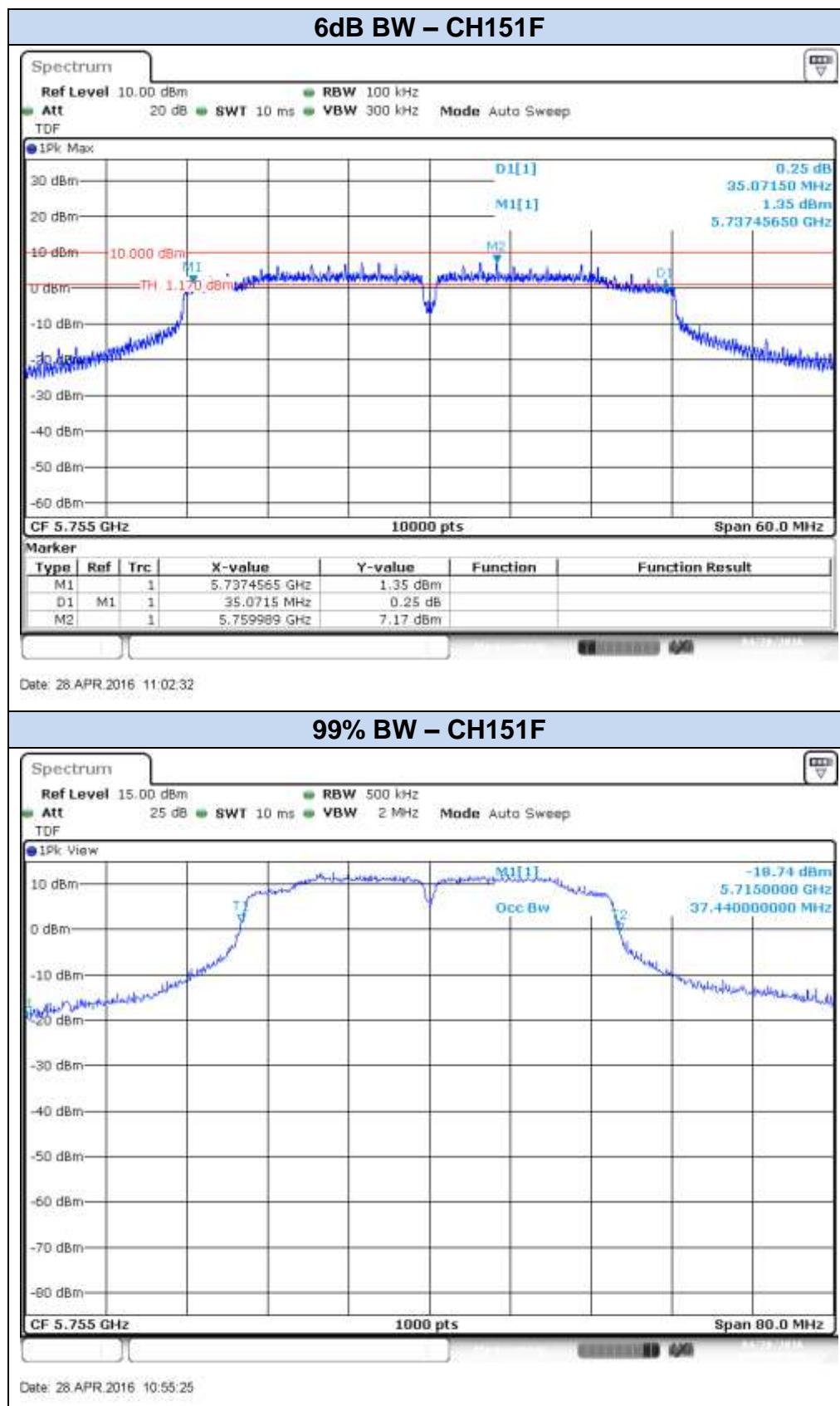
802.11n20, HT8 (MIMO) – Chain B

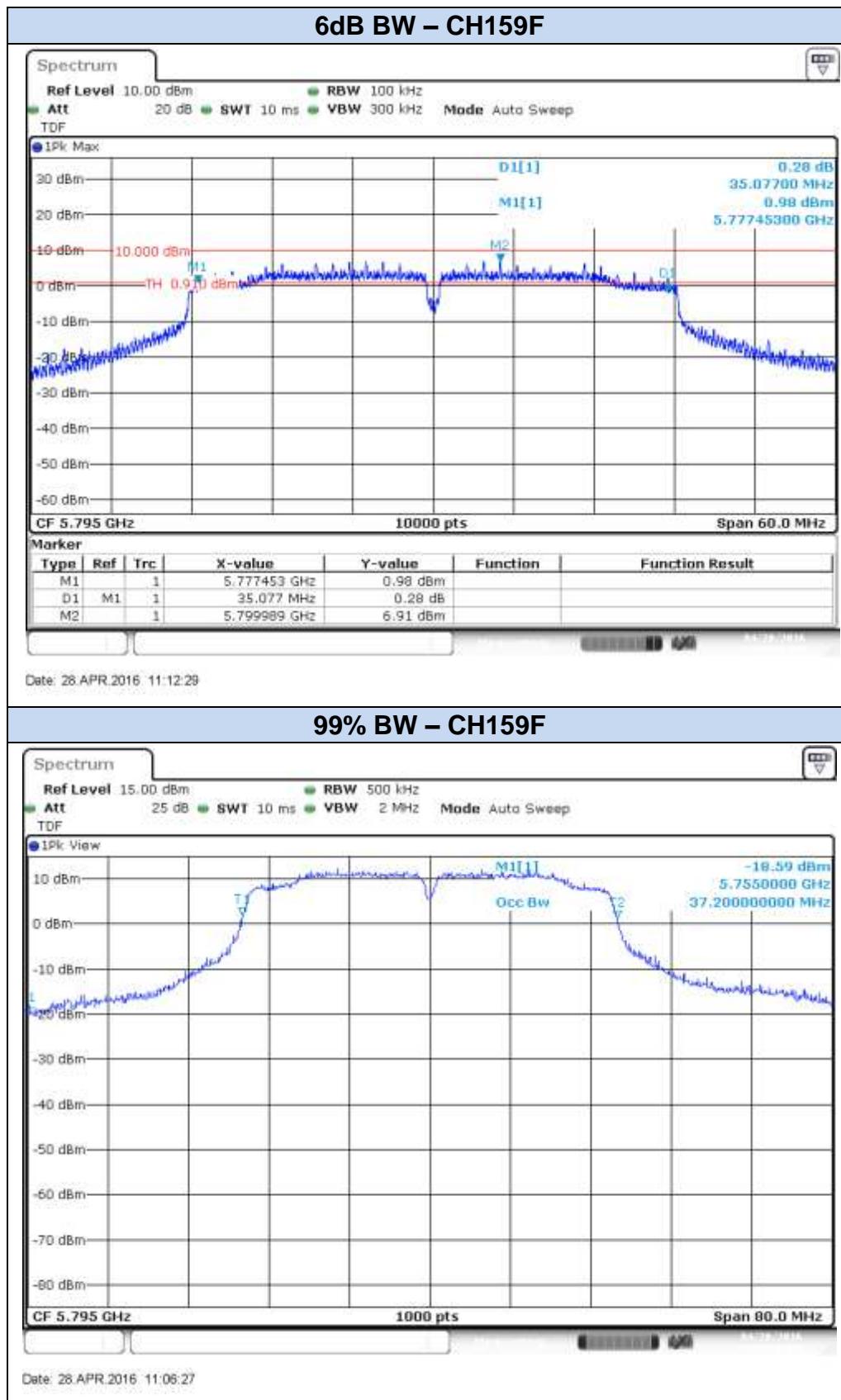


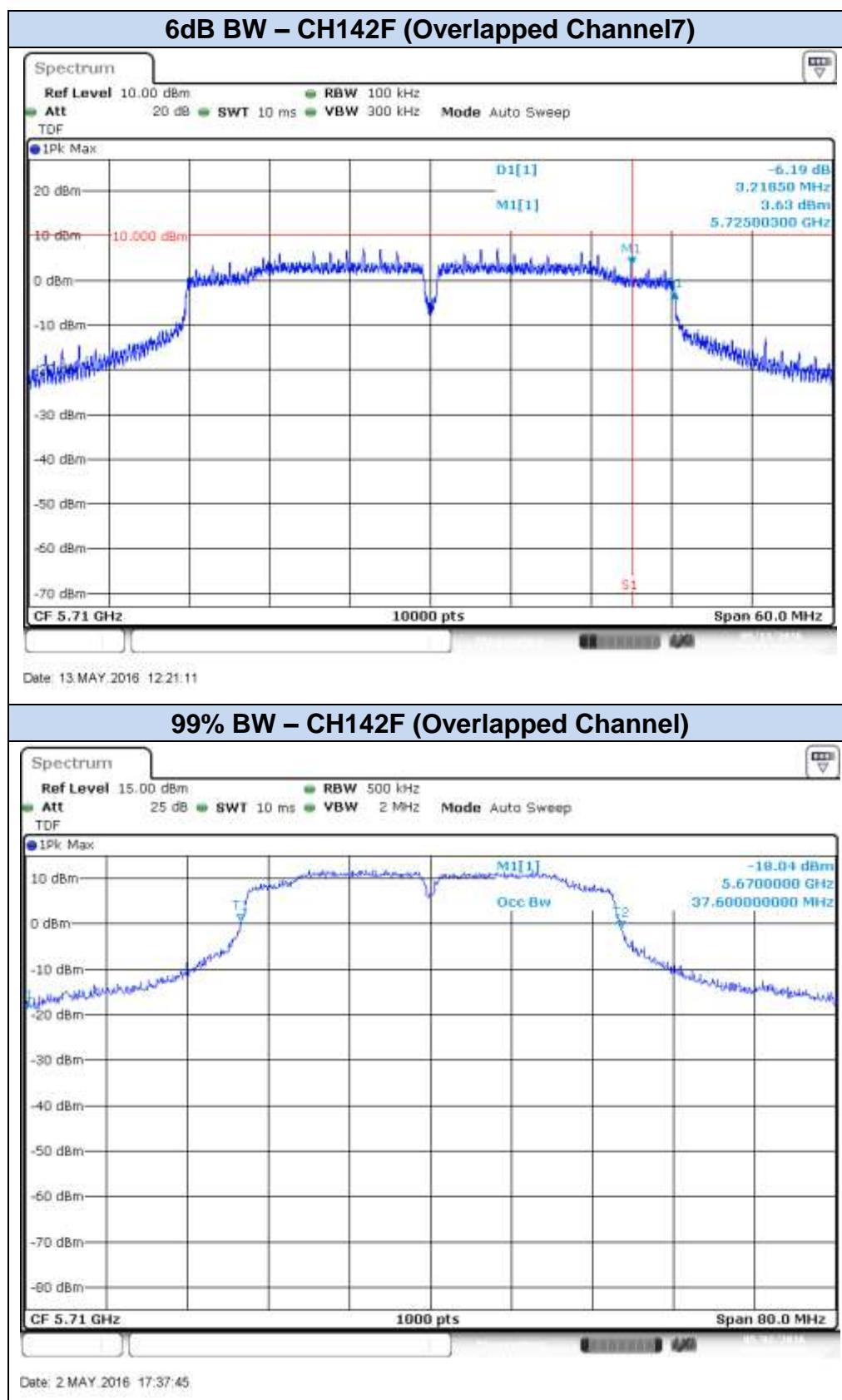


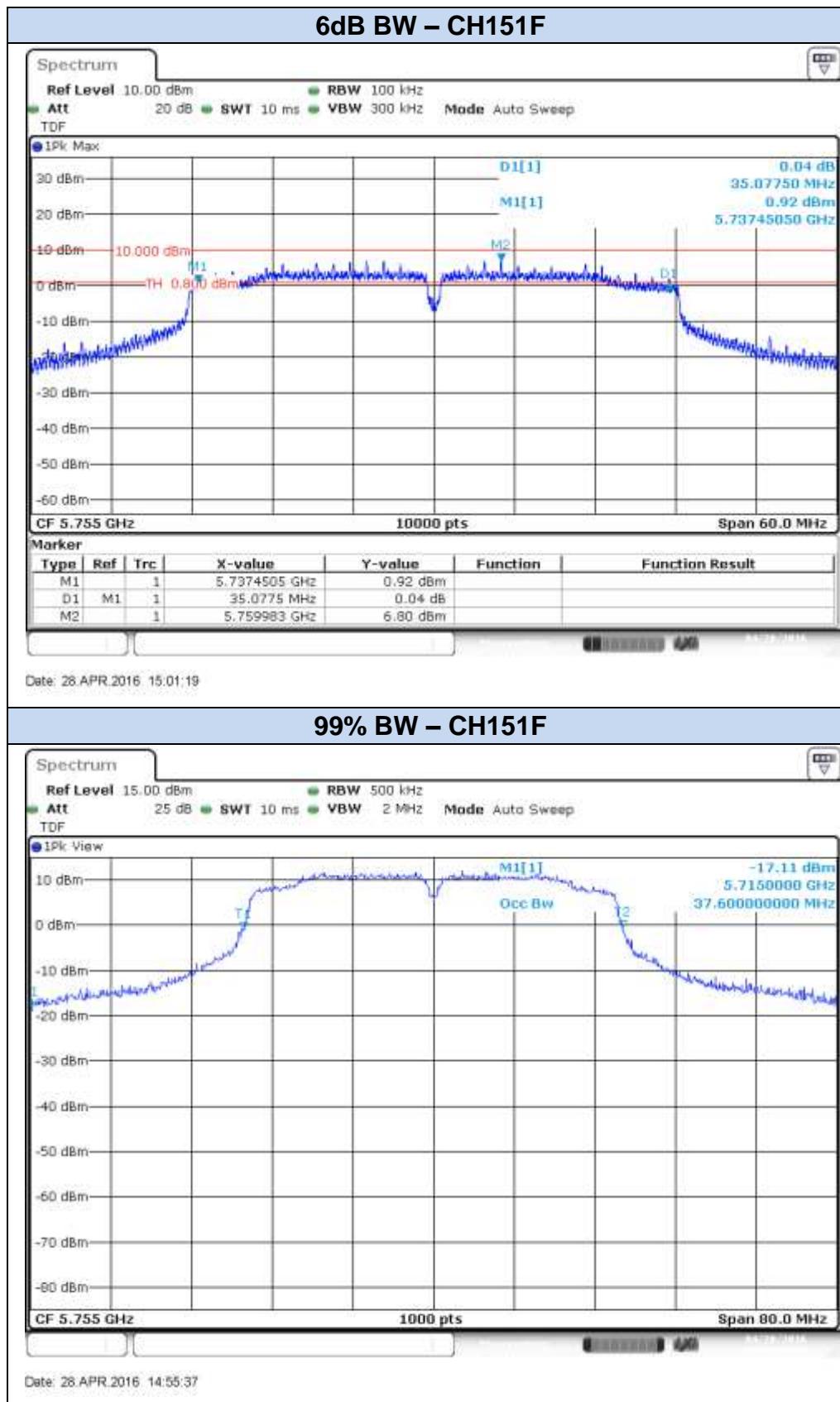


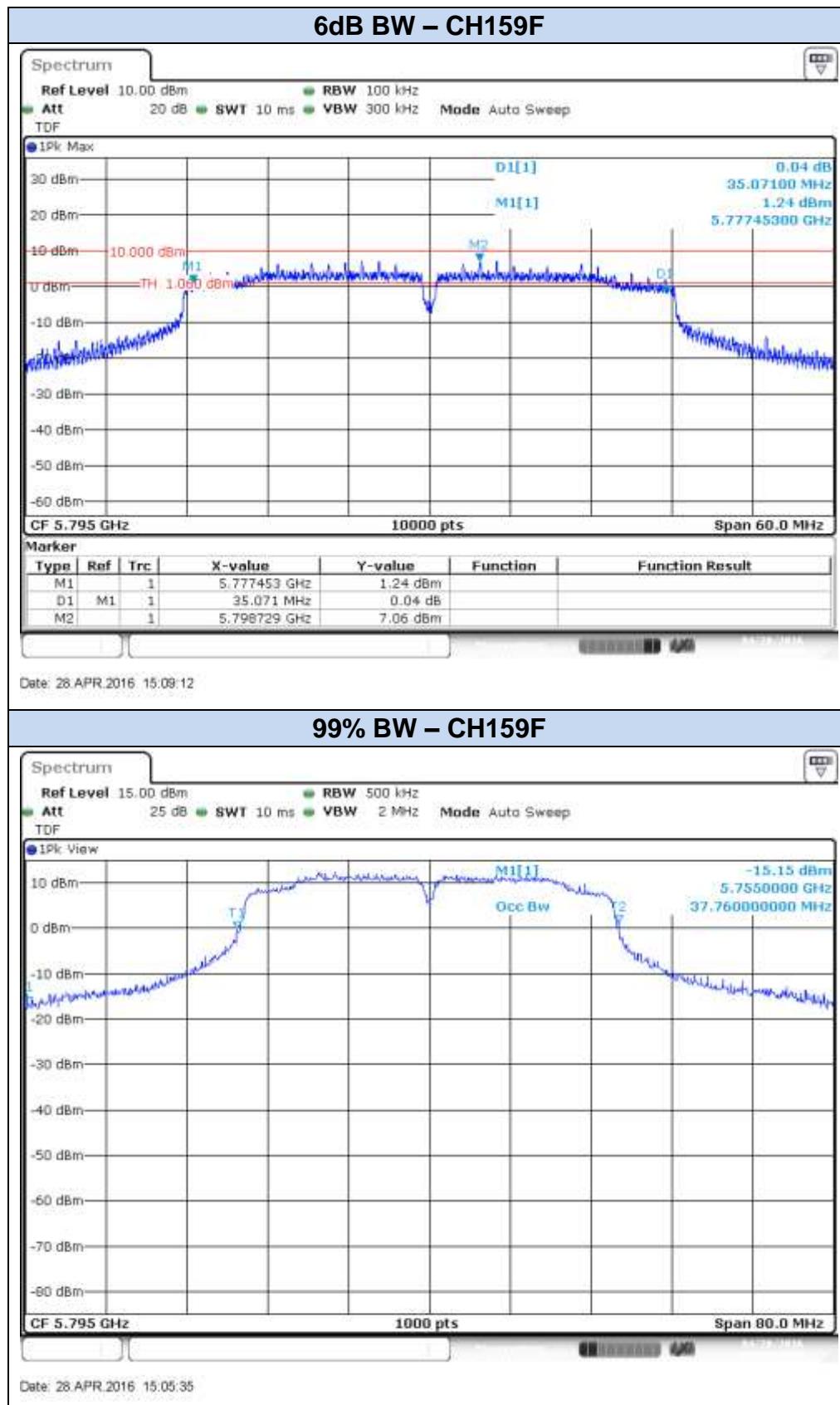
802.11n40, HT0 (SISO) – Chain A

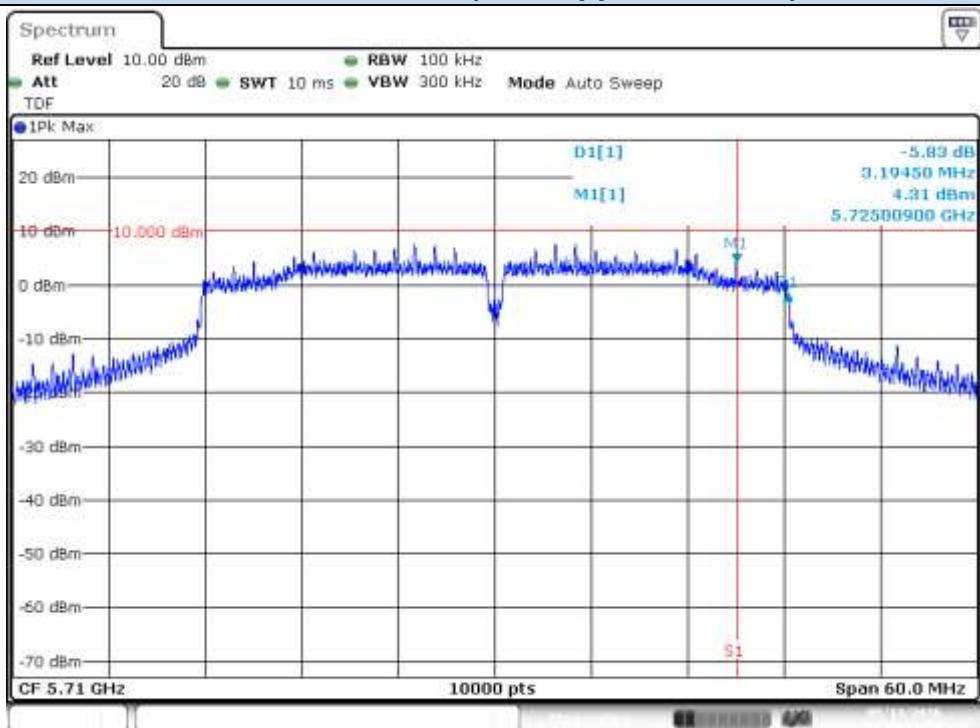




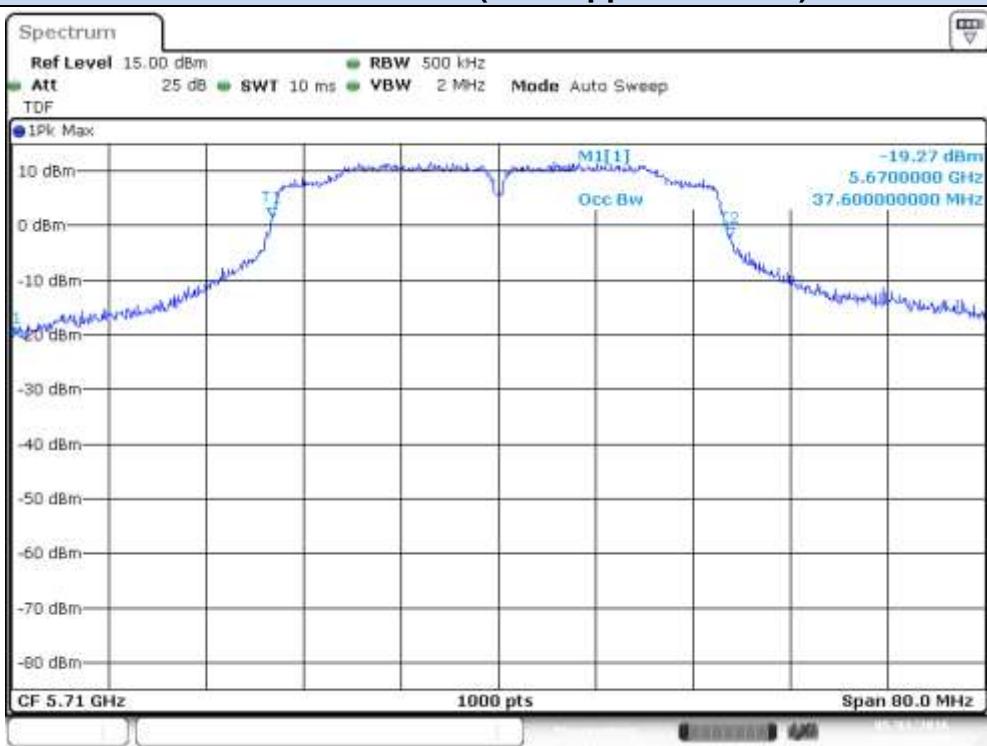
802.11n40, HT0 (SISO) – Chain B



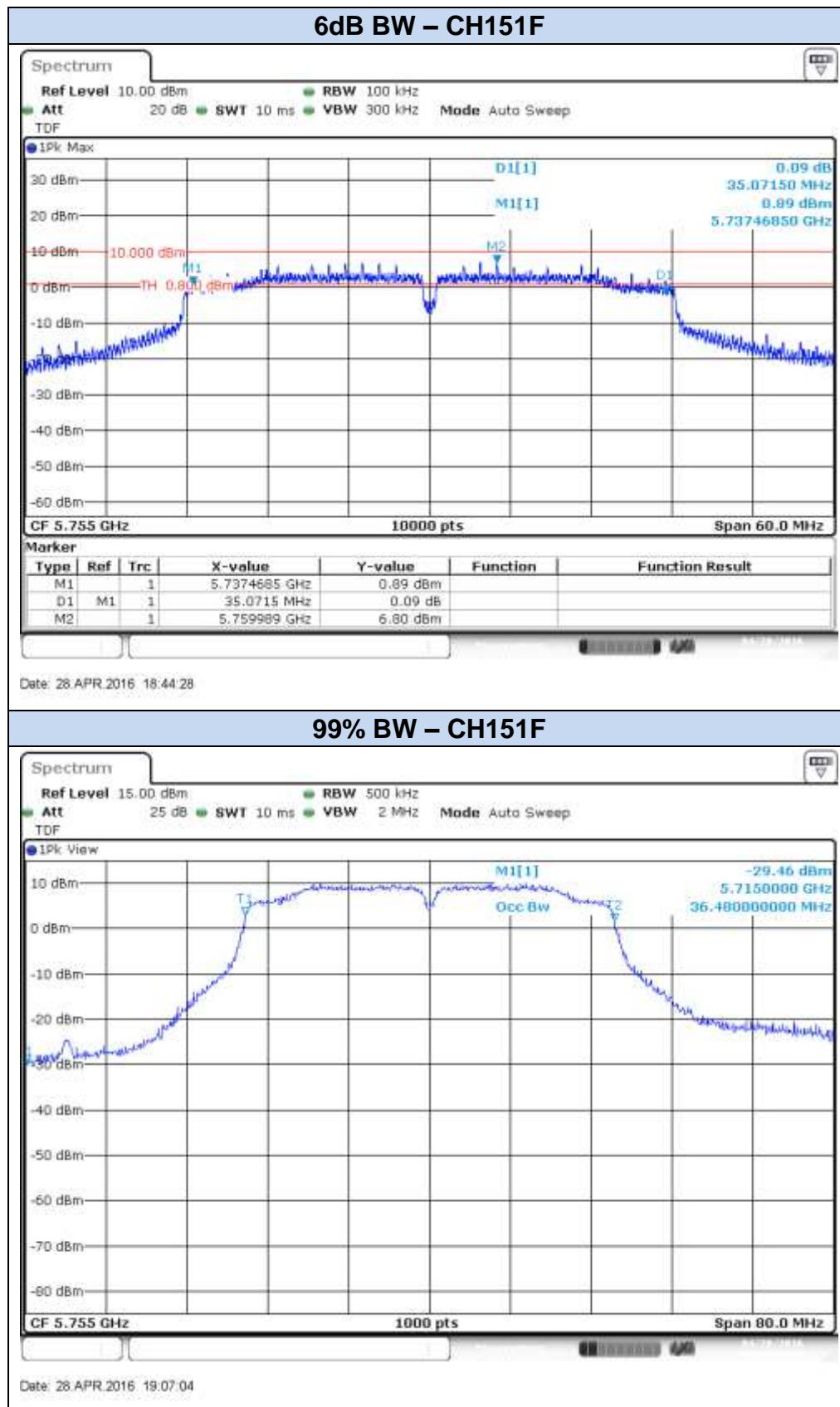


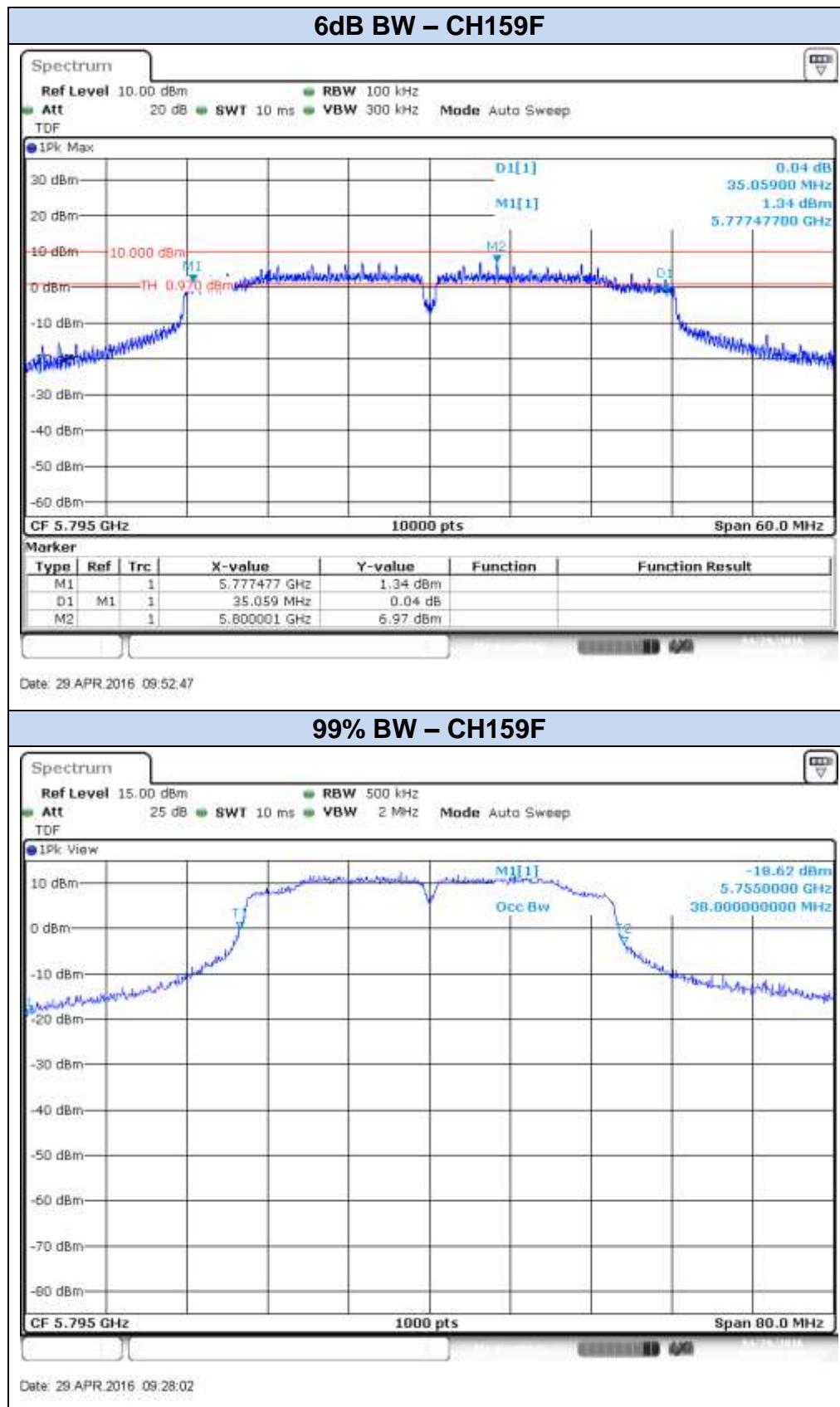
802.11n40, HT8 (MIMO) – Chain A**6dB BW – CH142F (Overlapped Channel)**

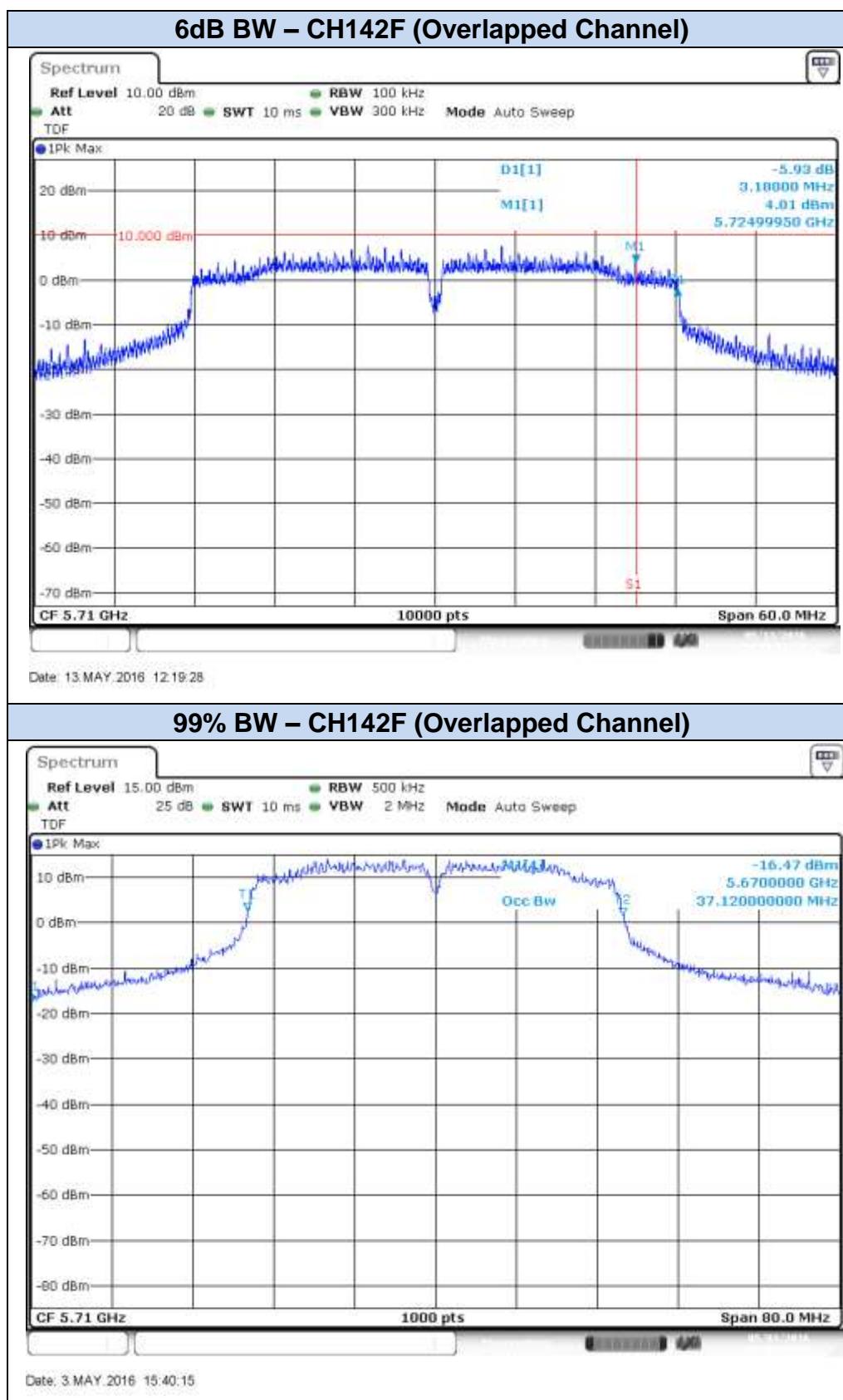
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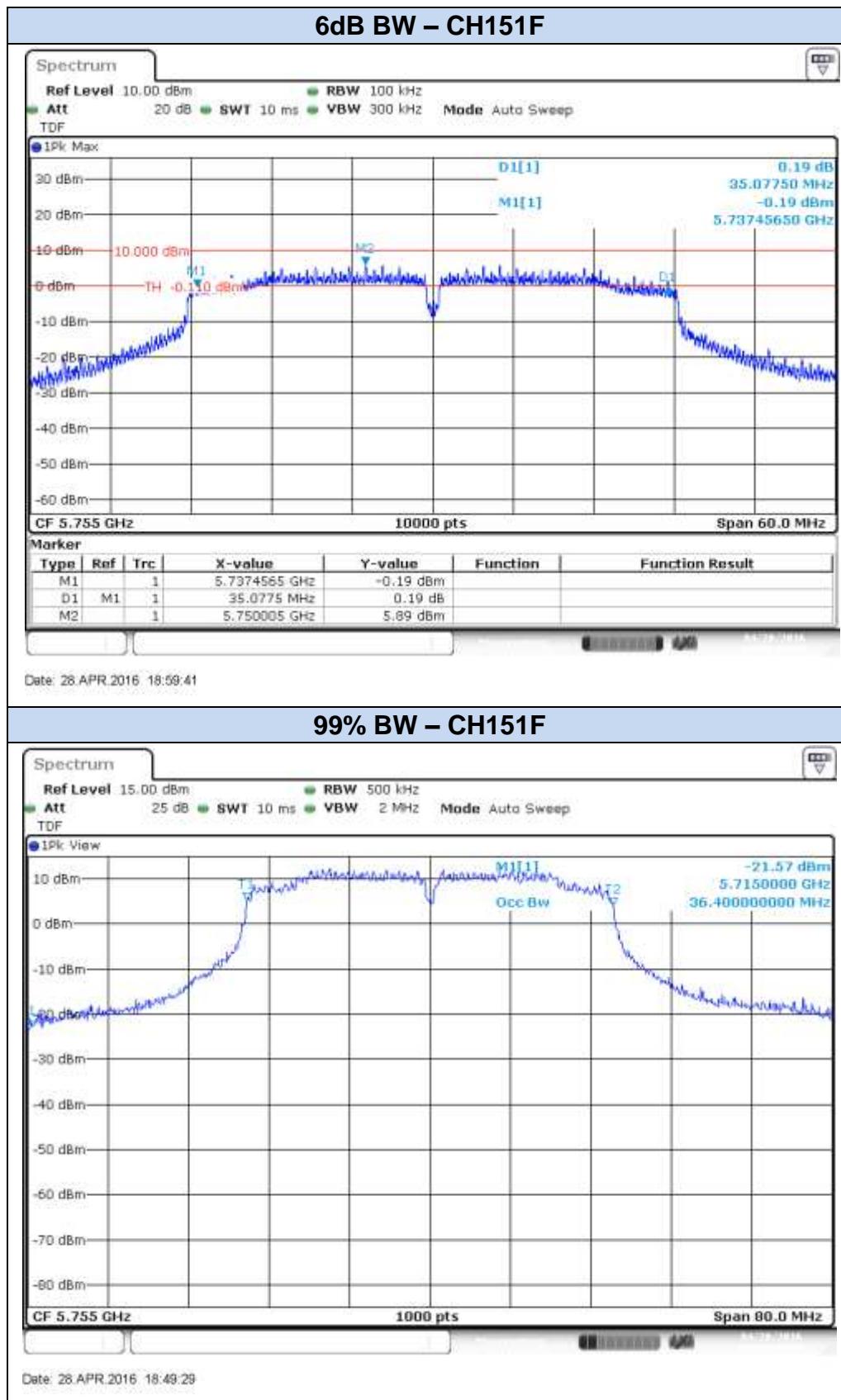
99% BW – CH142F (Overlapped Channel)

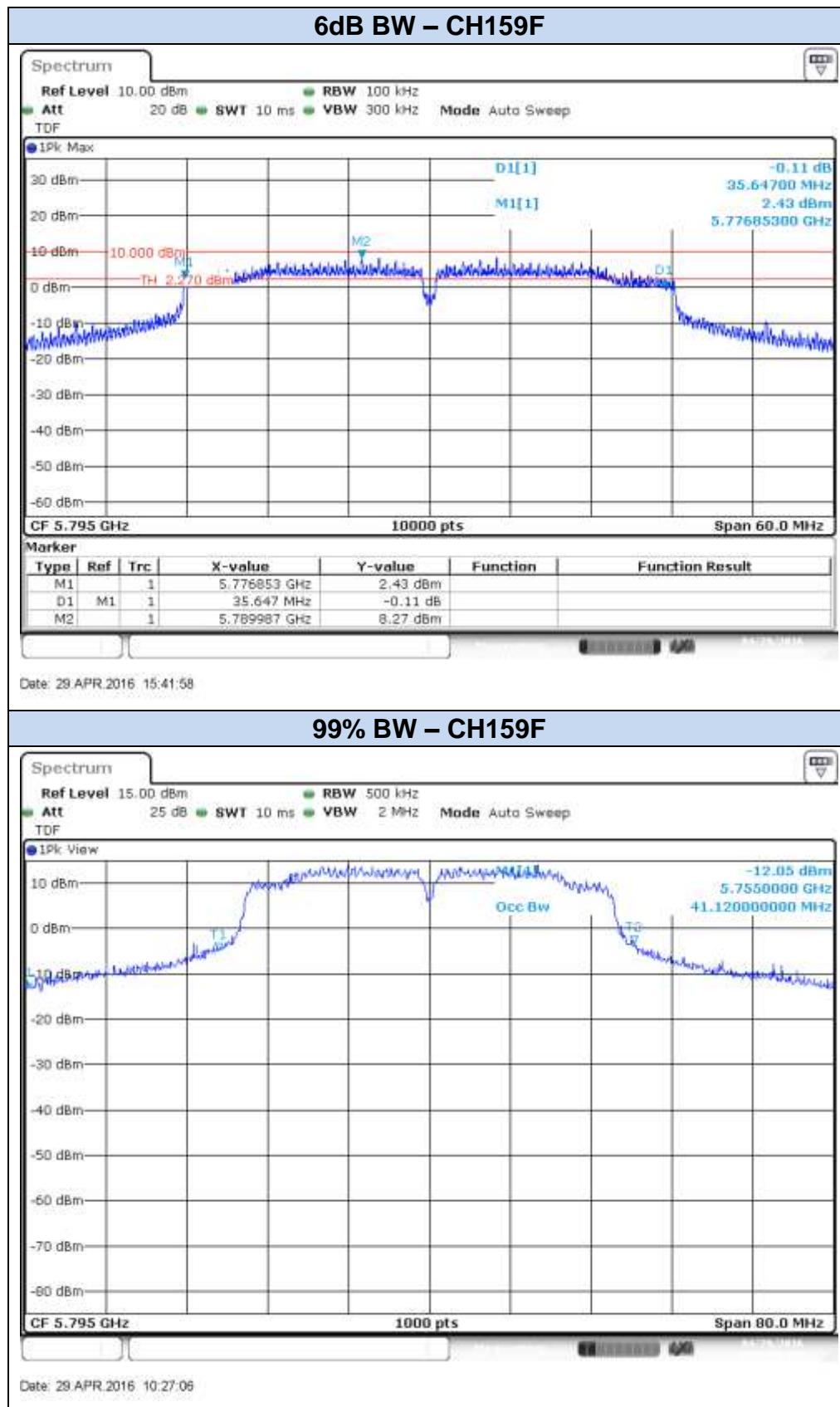
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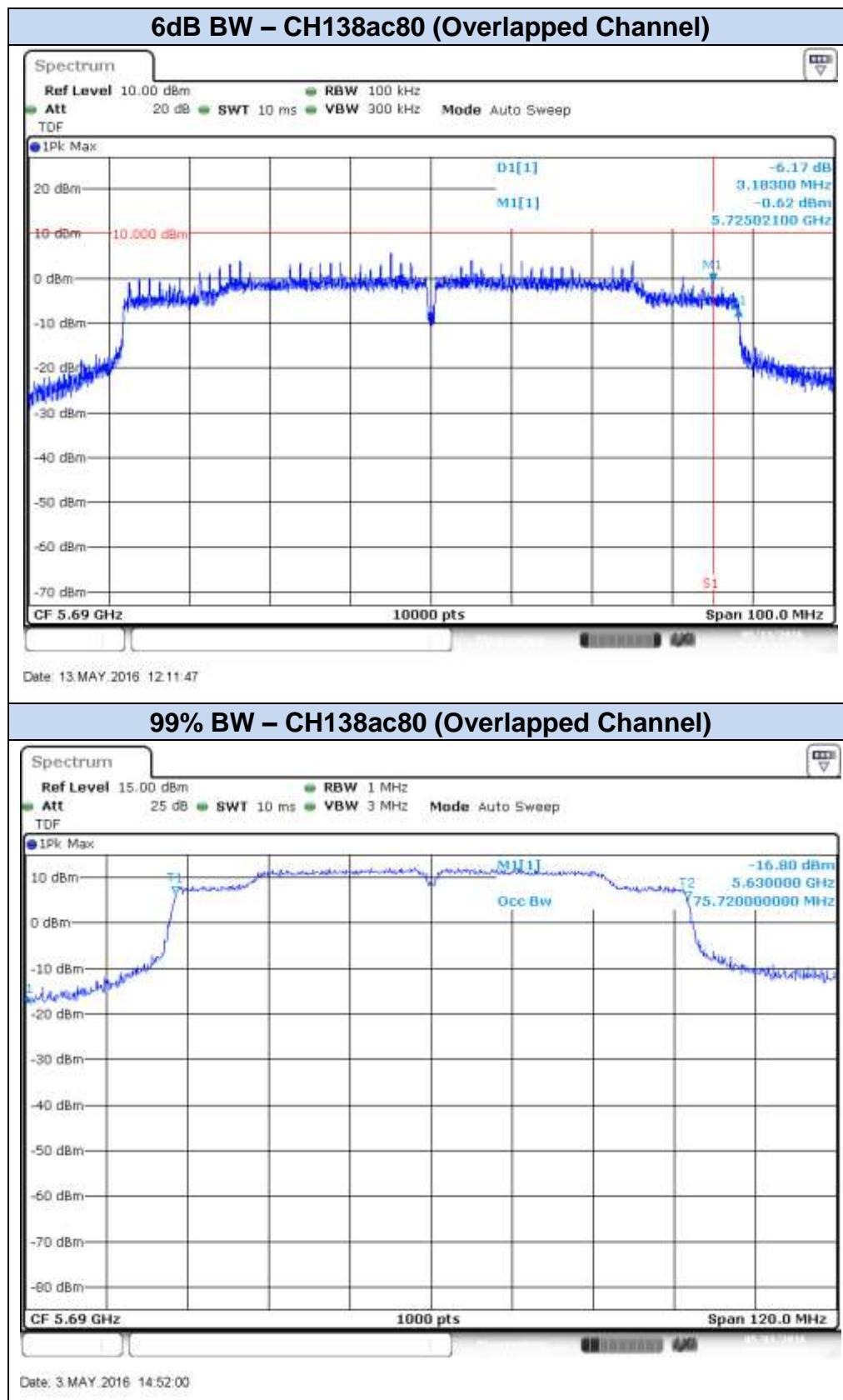


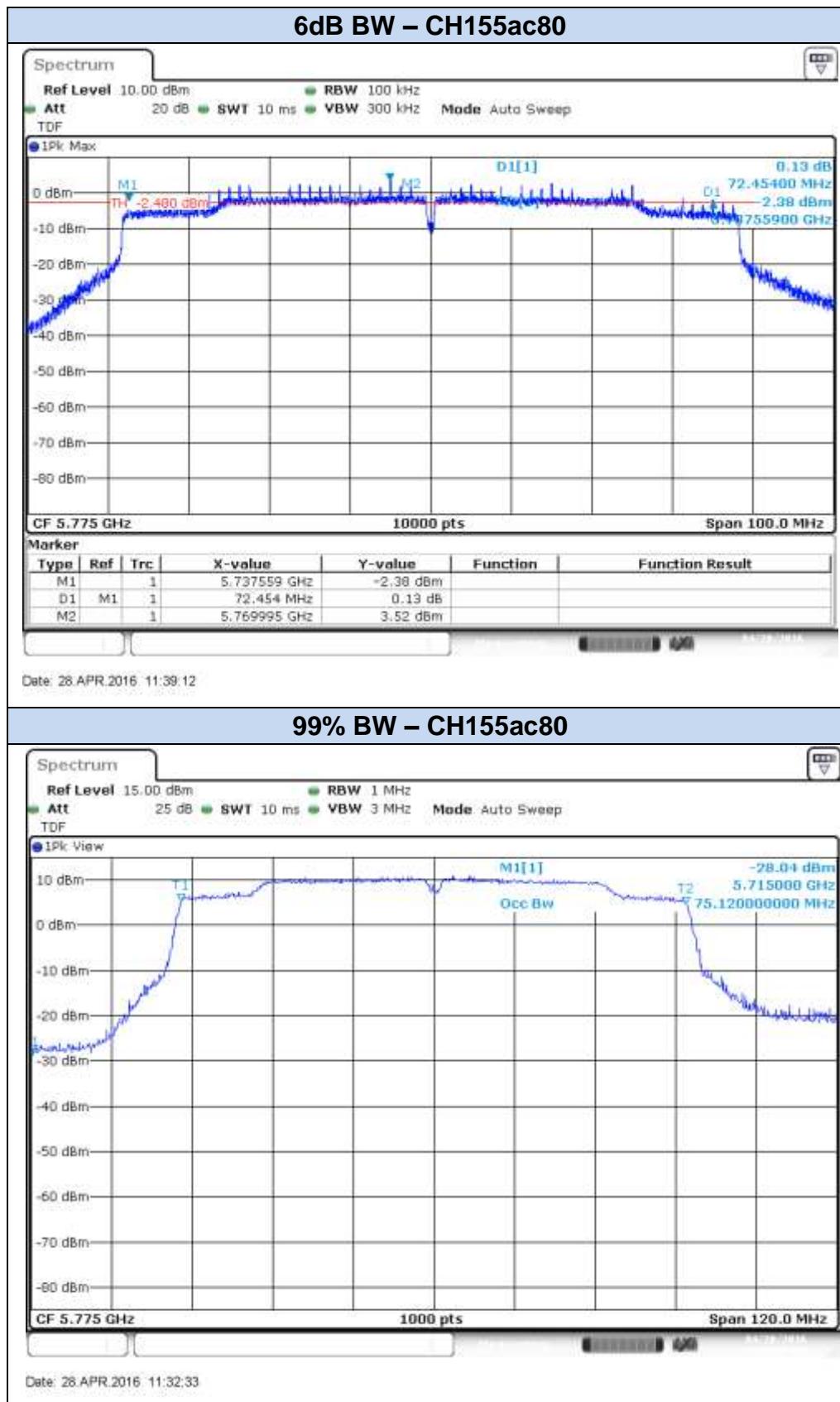


802.11n40, HT8 (MIMO) – Chain B

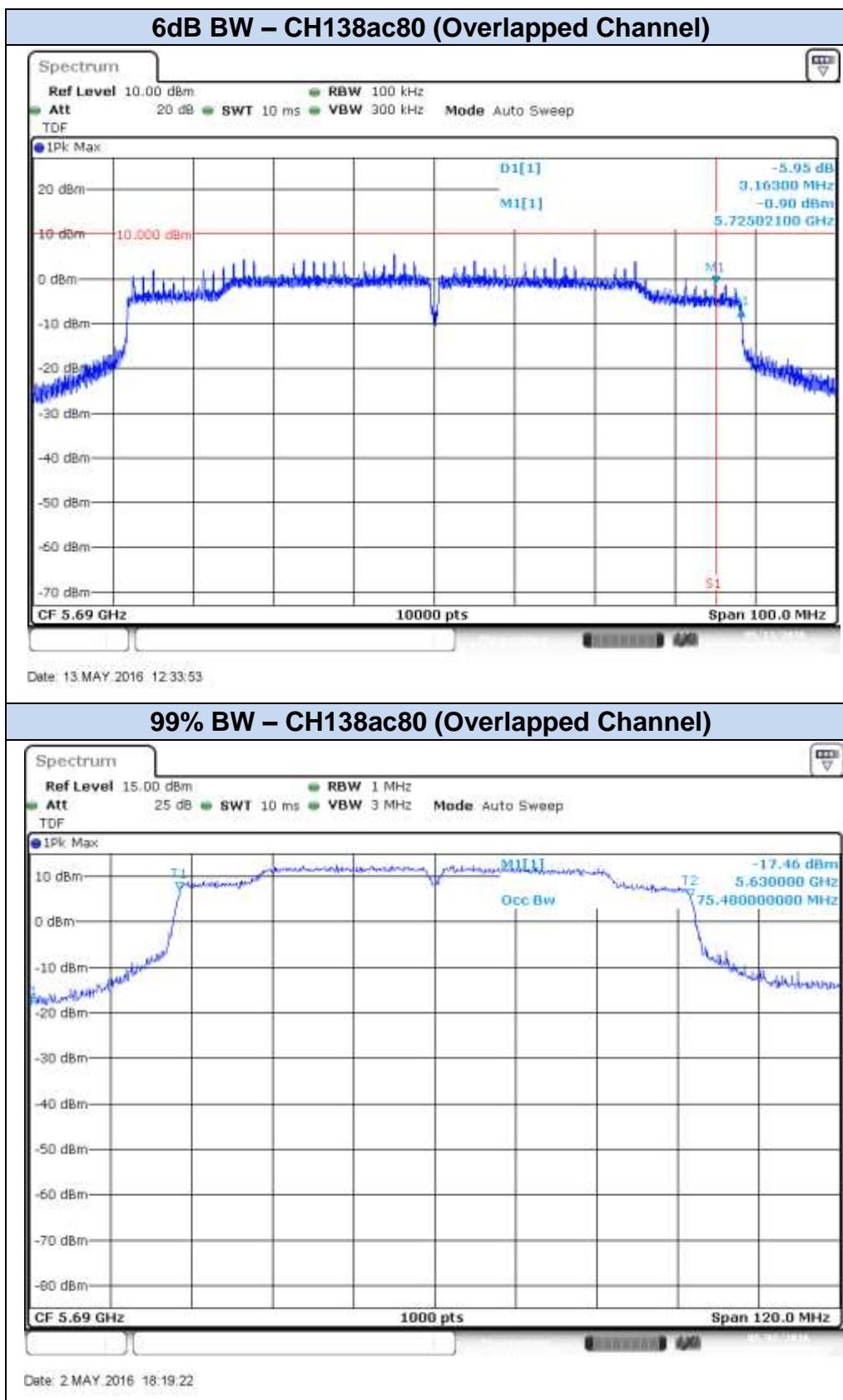


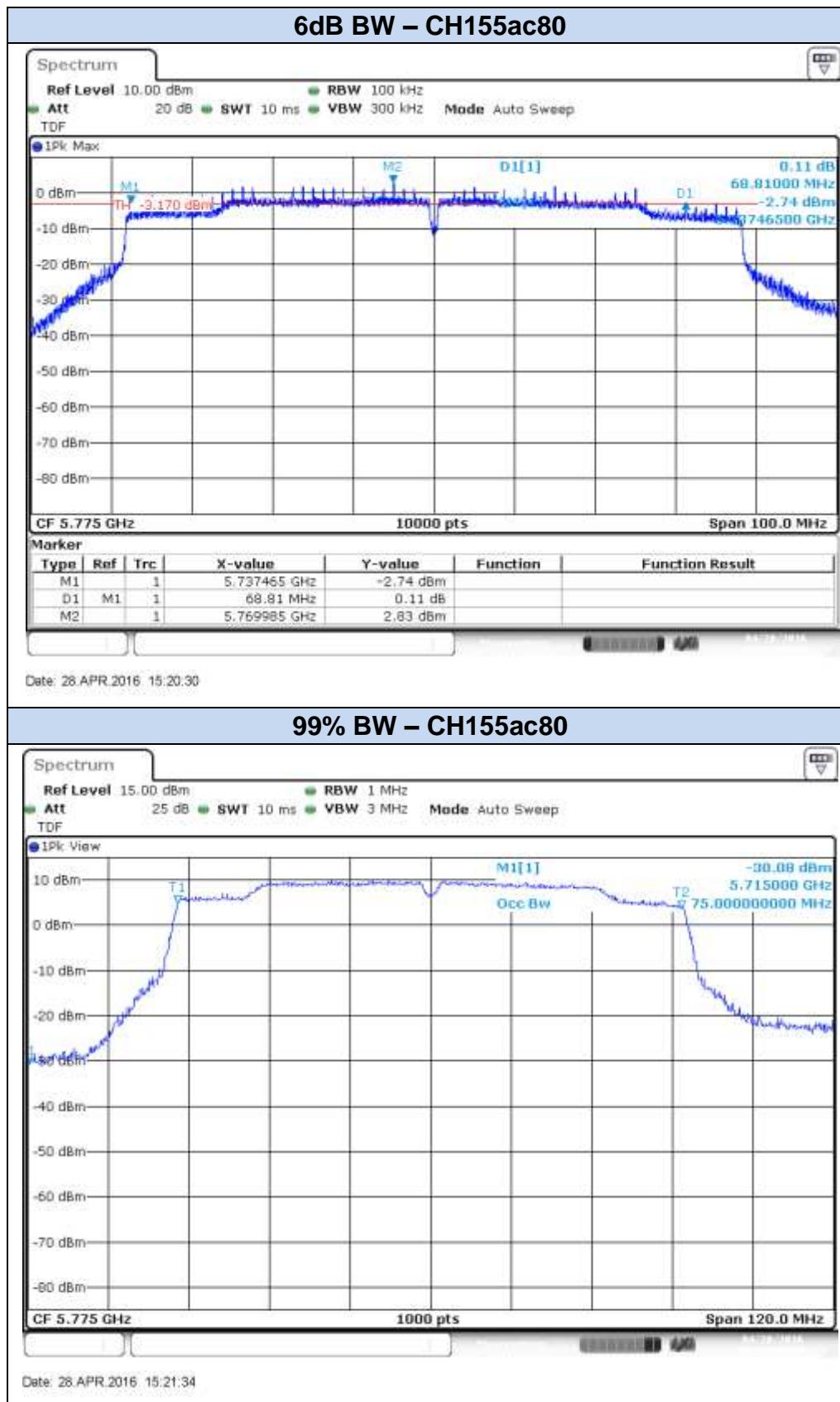


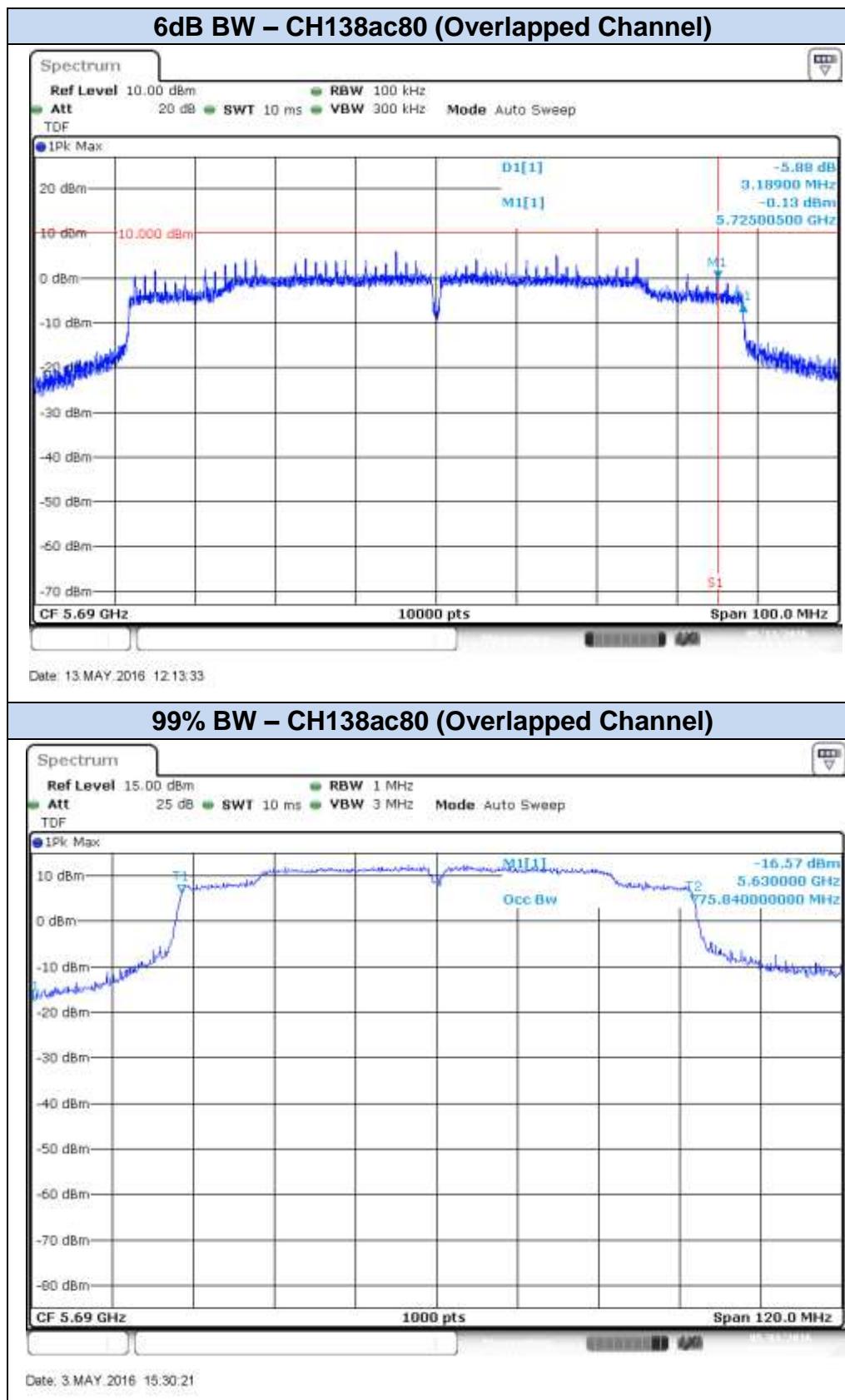
802.11ac80, VHT0 (SISO) – Chain A

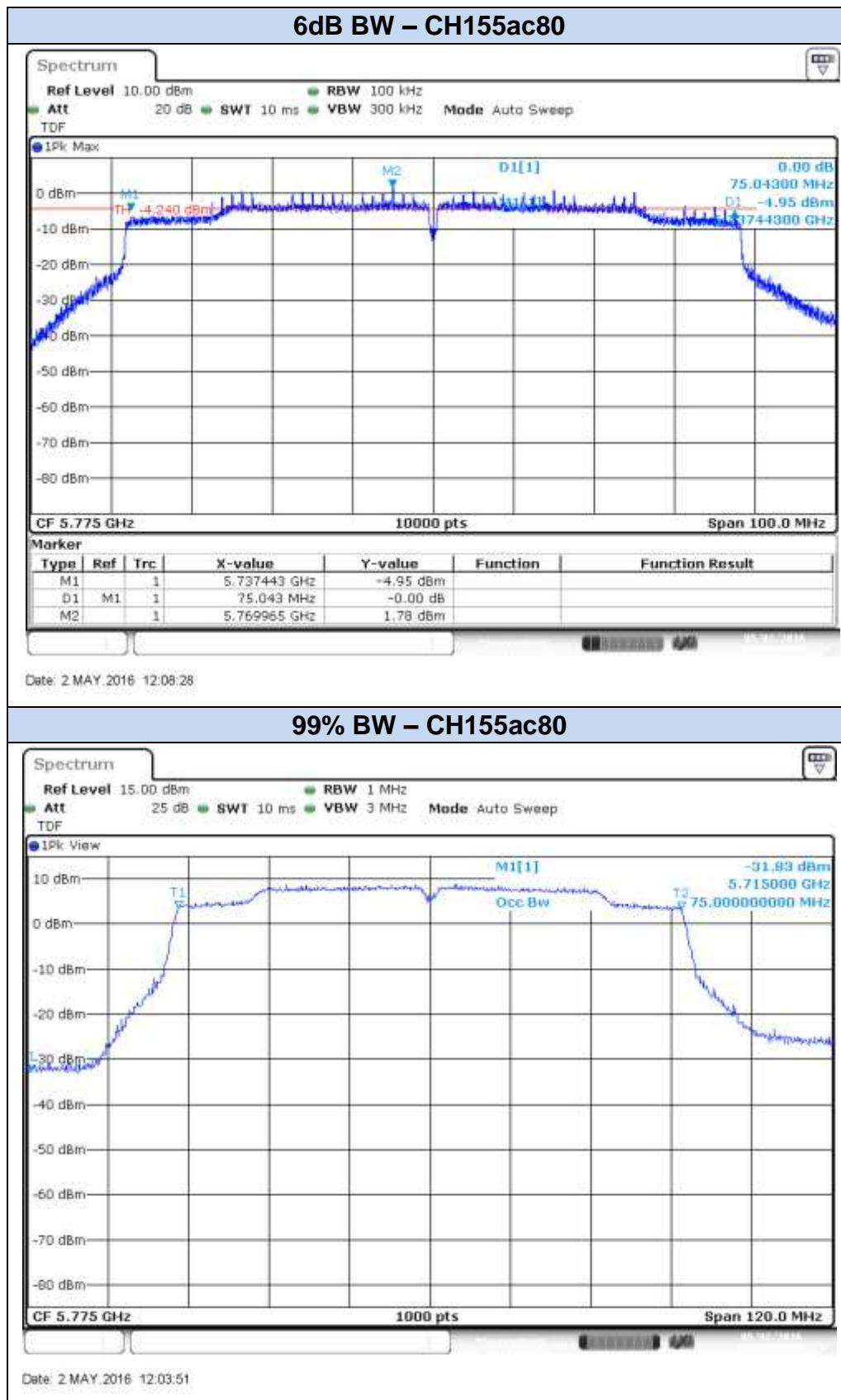


802.11ac80, VHT0 (SISO) – Chain B

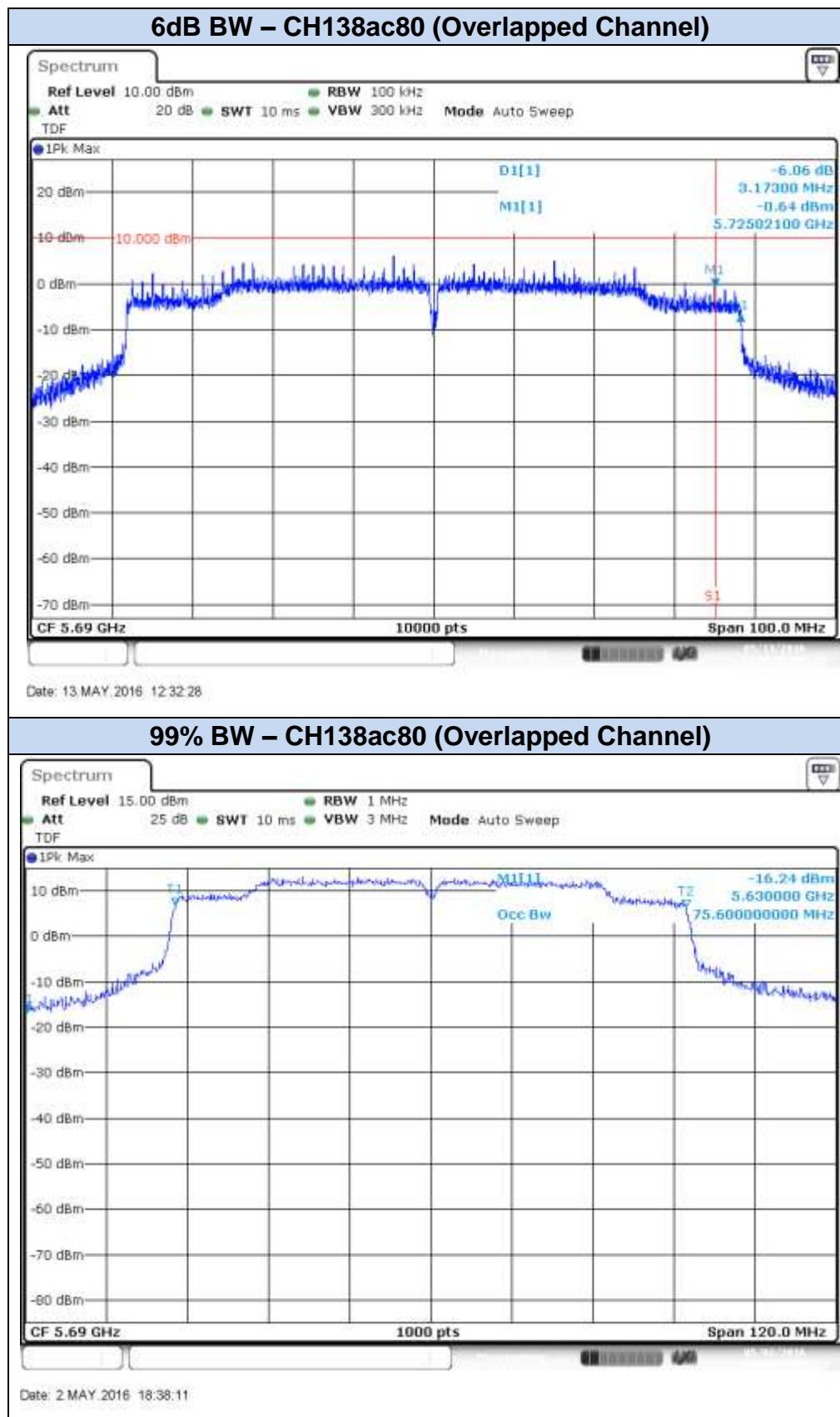


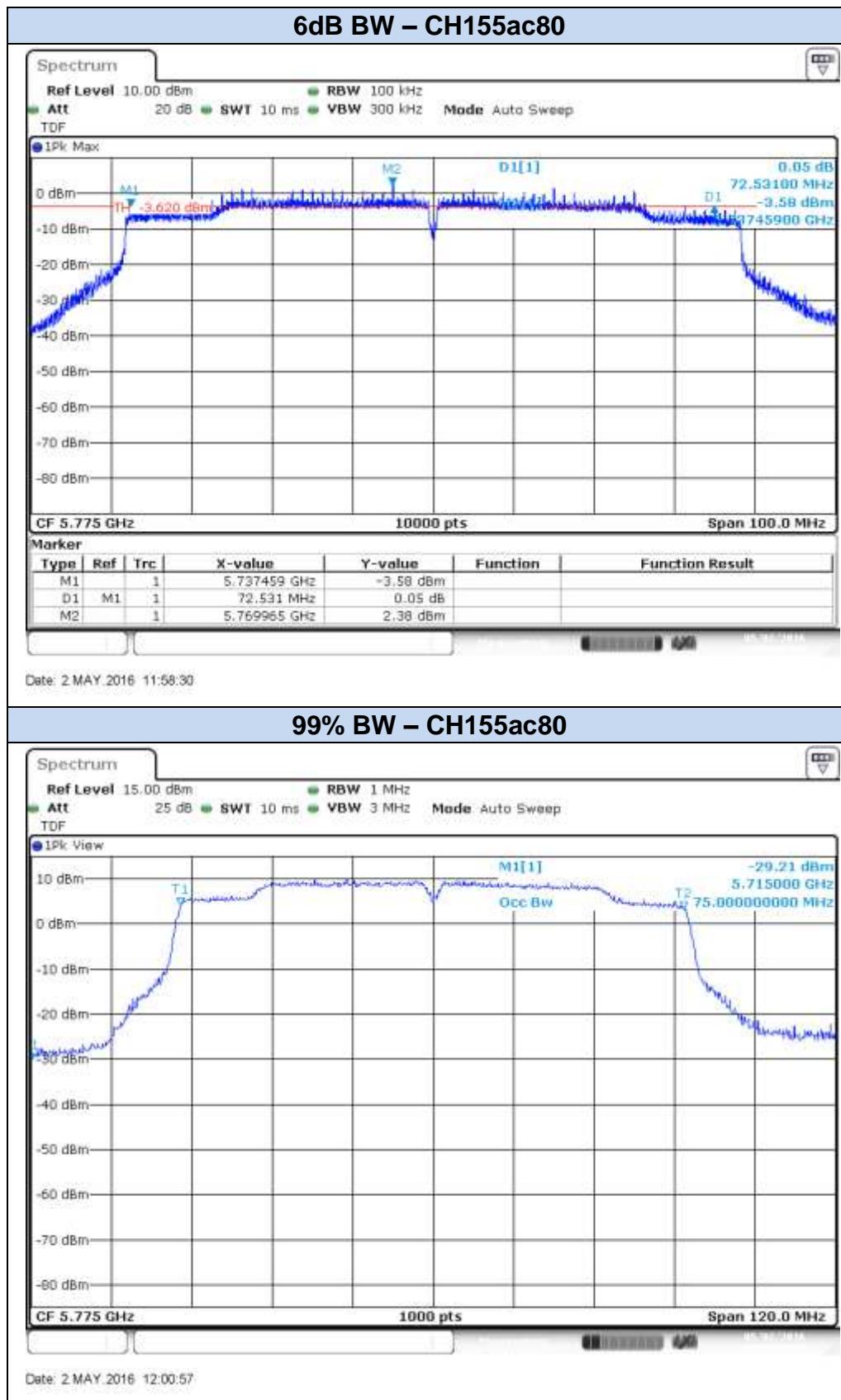


802.11ac80, VHT0 (MIMO) – Chain A



802.11ac80, VHT0 (MIMO) – Chain B





E.2 Power Limits. Maximum Output power & Peak power spectral density

Test limits:

FCC part	Limits
15.407 (a) (3)	For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band

Test procedure:

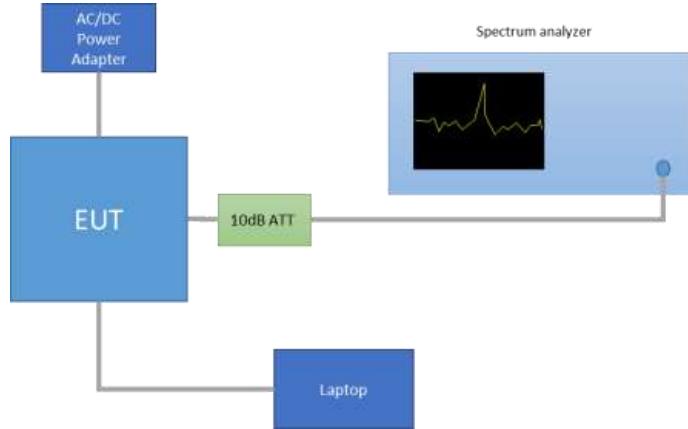
The Maximum Conducted Output Power was measured using the channel integration method according to point E) 2) e) (Method SA-2 Alternative) of KDB 789033 D02.

The maximum power spectral density (PSD) was measured using the method according to point F) (Method SA-2) of KDB 789033 D02.

In the measure-and-sum approach for MIMO mode, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically in linear power units to determine the total emission level from the device.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

The setup below was used to measure the maximum conducted output power and power spectral density. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.



The declared maximum antenna gain is 5dBi.

For the overlapped channels between U-NII-2C and U-NII-3, and according to FCC KDB 644545 D03, the power is computed based on the portion of the emission bandwidth (26dB down) contained within that band. This rule is only applicable for those channels marked as overlapped.

Results tables:

Mode	Rate	Meas. Duty Cycle [%]	CH	Freq. [MHz]	Antenna	Power RMS [dBm]				Power RMS [mW]
						Meas. Cond RMS	Duty cycle Compensated	EIRP	PSD Compensated	
802.11a	6Mbps	97.98	149	5745	SISO CHAIN A	20.07	20.16	25.16	5.94	103.72
					SISO CHAIN B	20.28	20.37	25.37	6.47	108.86
			157	5785	SISO CHAIN A	20.28	20.37	25.37	6.46	108.86
					SISO CHAIN B	20.42	20.51	25.51	6.64	112.43
			165	5825	SISO CHAIN A	20.28	20.37	25.37	6.43	108.86
					SISO CHAIN B	20.09	20.18	25.18	6.33	104.20
	HT0	98.10	144*	5720	SISO CHAIN A	11.26	11.34	16.34	4.58	13.63
					SISO CHAIN B	11.93	12.01	17.01	5.15	15.90
			149	5745	SISO CHAIN A	19.99	20.07	25.07	5.99	101.71
					SISO CHAIN B	20.12	20.20	25.20	6.14	104.80
			157	5785	SISO CHAIN A	20.04	20.12	25.12	6.03	102.89
					SISO CHAIN B	20.24	20.32	25.32	6.25	107.73
			165	5825	SISO CHAIN A	20.13	20.21	25.21	6.15	105.04
					SISO CHAIN B	20.02	20.10	25.10	6.01	102.41
802.11n20	HT8	97.65	144*	5720	MIMO CHAIN A	10.79	10.89	10.79	4.01	12.28
					MIMO CHAIN B	10.81	10.91	10.81	4.12	12.34
			149	5745	MIMO CHAIN A	19.92	20.02	25.02	5.97	100.54
					MIMO CHAIN B	20.32	20.42	25.42	6.38	110.24
			159	5785	MIMO CHAIN A	20.22	20.32	25.32	6.23	107.73
					MIMO CHAIN B	20.67	20.77	25.77	6.61	119.49
			165	5825	MIMO CHAIN A	19.61	19.71	24.71	5.55	93.61
					MIMO CHAIN B	20.29	20.39	25.39	6.30	109.48
802.11n40	HT0	98.10	142F*	5710	SISO CHAIN A	7.24	7.32	12.32	-0.73	5.40
					SISO CHAIN B	7.71	7.79	12.79	-0.09	6.02
			151F	5755	SISO CHAIN A	20.60	20.68	25.68	3.26	117.04
					SISO CHAIN B	20.27	20.35	25.35	2.98	108.48
			159F	5795	SISO CHAIN A	20.39	20.47	25.47	3.09	111.52
					SISO CHAIN B	20.50	20.58	25.58	3.25	114.38
	HT8	97.60	142F*	5710	MIMO CHAIN A	7.12	7.23	12.23	-0.87	5.28
					MIMO CHAIN B	7.78	7.89	12.89	-0.04	6.15
			151F	5755	MIMO CHAIN A	18.54	18.65	23.65	0.11	73.21
					MIMO CHAIN B	19.00	19.11	24.11	1.81	81.39
			159F	5795	MIMO CHAIN A	20.20	20.31	25.31	2.93	107.29
					MIMO CHAIN B	20.68	20.79	25.79	3.54	119.83

(Continued)

SISO modes (Continued)

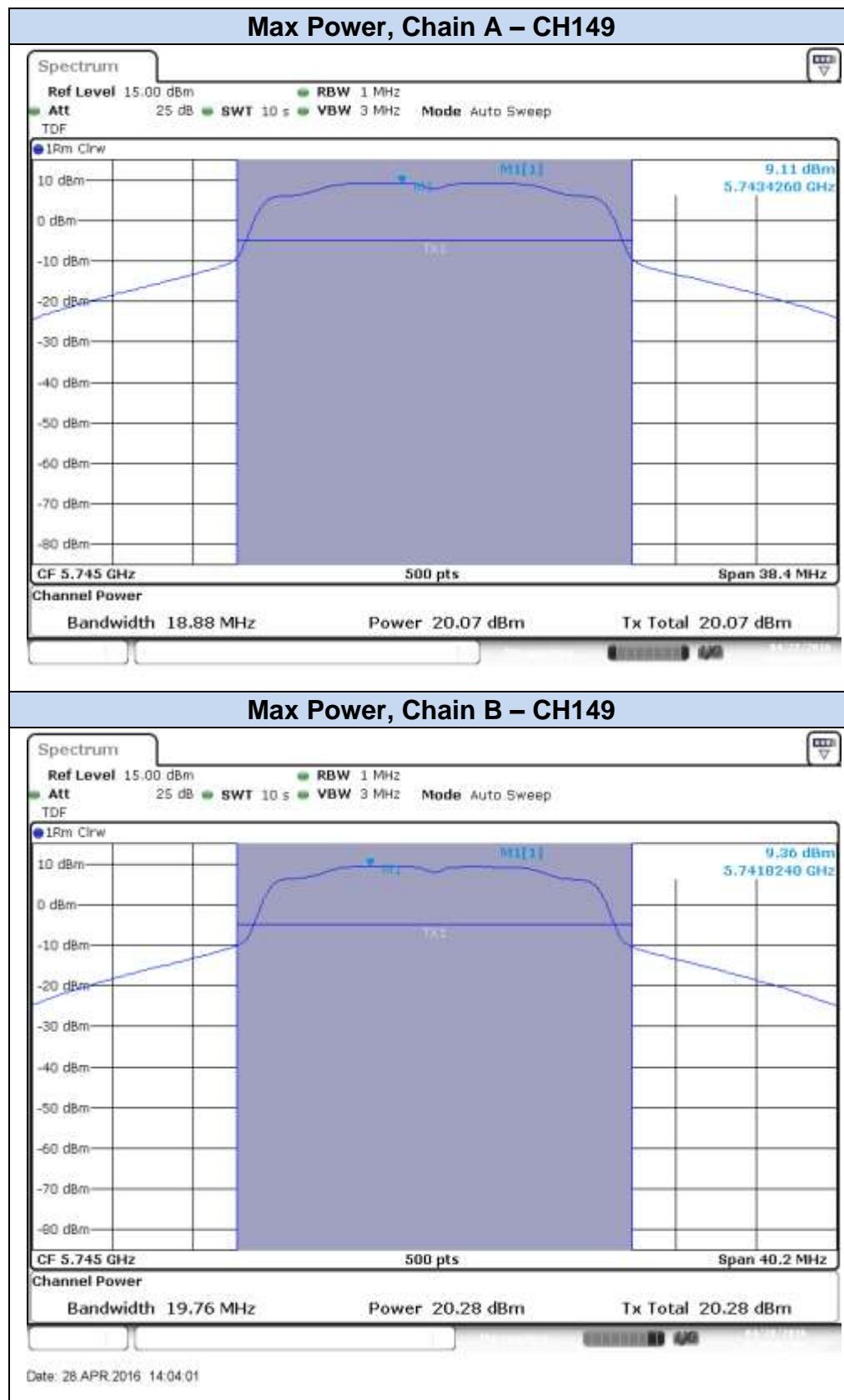
Mode	Rate	Meas. Duty Cycle [%]	CH	Freq. [MHz]	Antenna	Power RMS [dBm]				Power RMS [mW]
						Meas. Cond RMS	Duty cycle Compensated	EIRP	PSD Compensated	
802.11ac80	VHT0	98.10	138ac80*	5690	SISO CHAIN A	2.96	3.04	8.04	-4.60	2.02
					SISO CHAIN B	3.10	3.18	8.18	-4.76	2.08
		97.55	155ac80	5775	SISO CHAIN A	18.31	18.39	23.39	-1.74	69.08
					SISO CHAIN B	17.55	17.63	22.63	-2.53	57.99
	VHT0	98.10	138ac80*	5690	MIMO CHAIN A	3.45	3.56	8.56	-4.63	2.27
					MIMO CHAIN B	3.36	3.47	8.47	-4.50	2.22
		97.55	155ac80	5775	MIMO CHAIN A	16.24	16.35	21.35	-3.70	43.13
					MIMO CHAIN B	16.82	16.93	21.93	-3.27	49.29

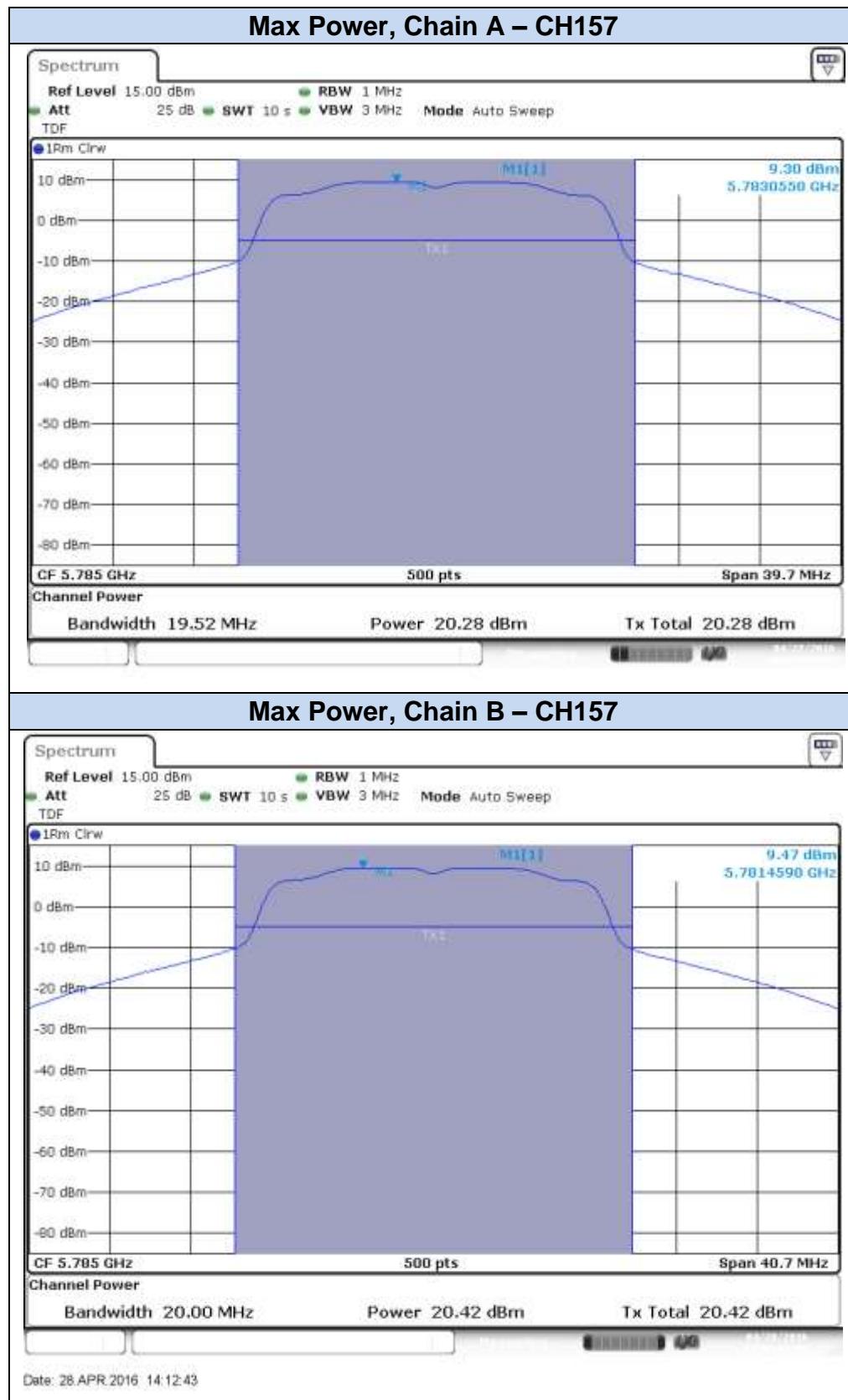
Max Value**Min Value****MIMO modes – Combined results**

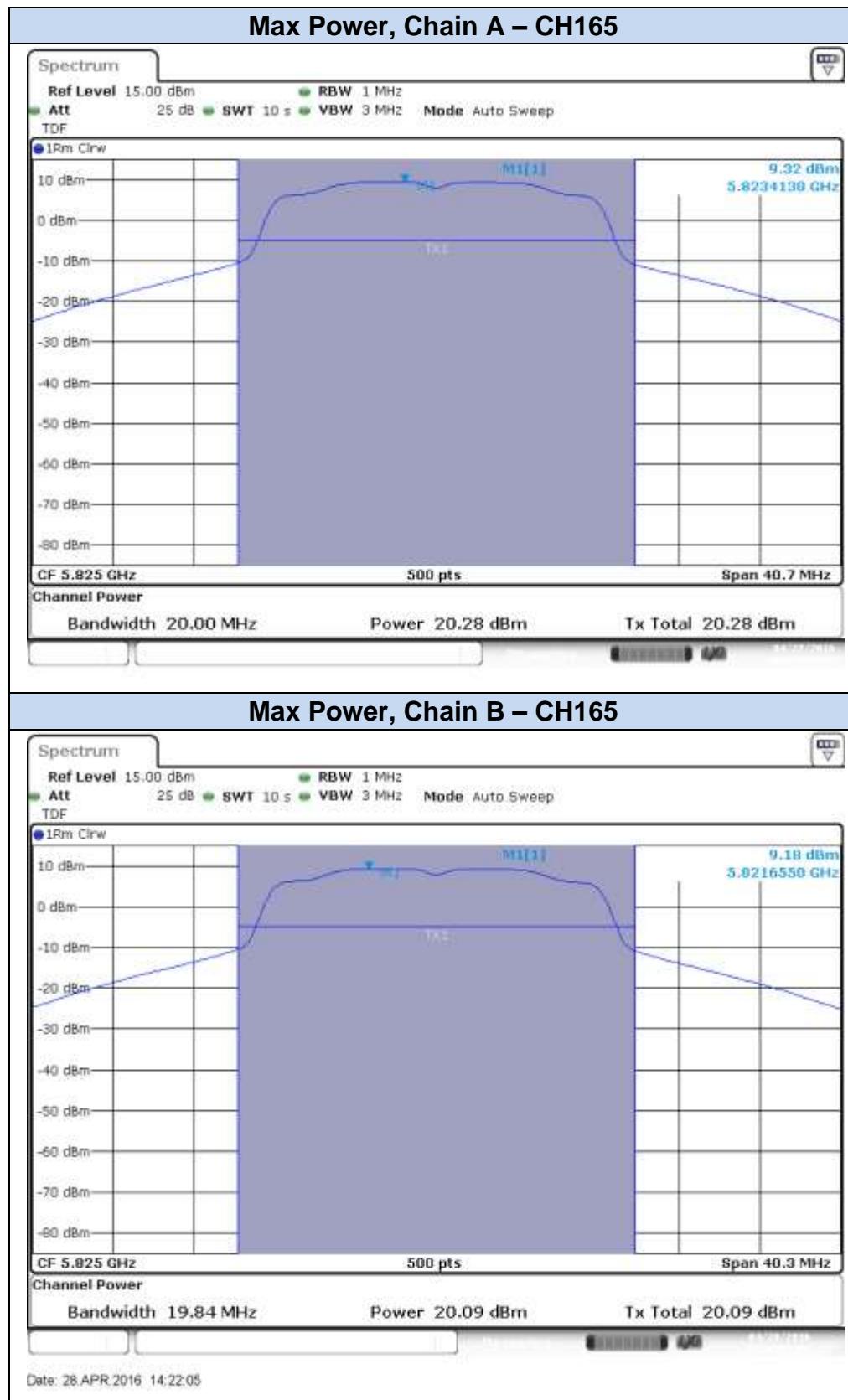
Mode	Rate	Channel	Frequency (MHz)	Antenna	Combined, Duty Cycle compensated	EIRP	Combined PSD	Power Combined [mW]
802.11n20	HT8	144*	5720	MIMO CHAIN A + CHAIN B	13.91	18.91	7.08	24.63
		149	5745		23.24	28.24	9.19	210.78
		157	5785		23.56	28.56	9.44	227.23
		165	5825		23.08	28.08	8.95	203.10
	HT8	142F*	5710		10.58	15.58	-0.87	11.42
		151F	5755		21.89	26.89	4.05	154.59
		159F	5795		23.56	28.56	6.25	227.11
		138ac80*	5690		6.52	11.52	-1.56	4.49
802.11ac80	VHT0	155ac80	5775		19.66	24.66	-0.47	92.43

Max Value**Min Value**

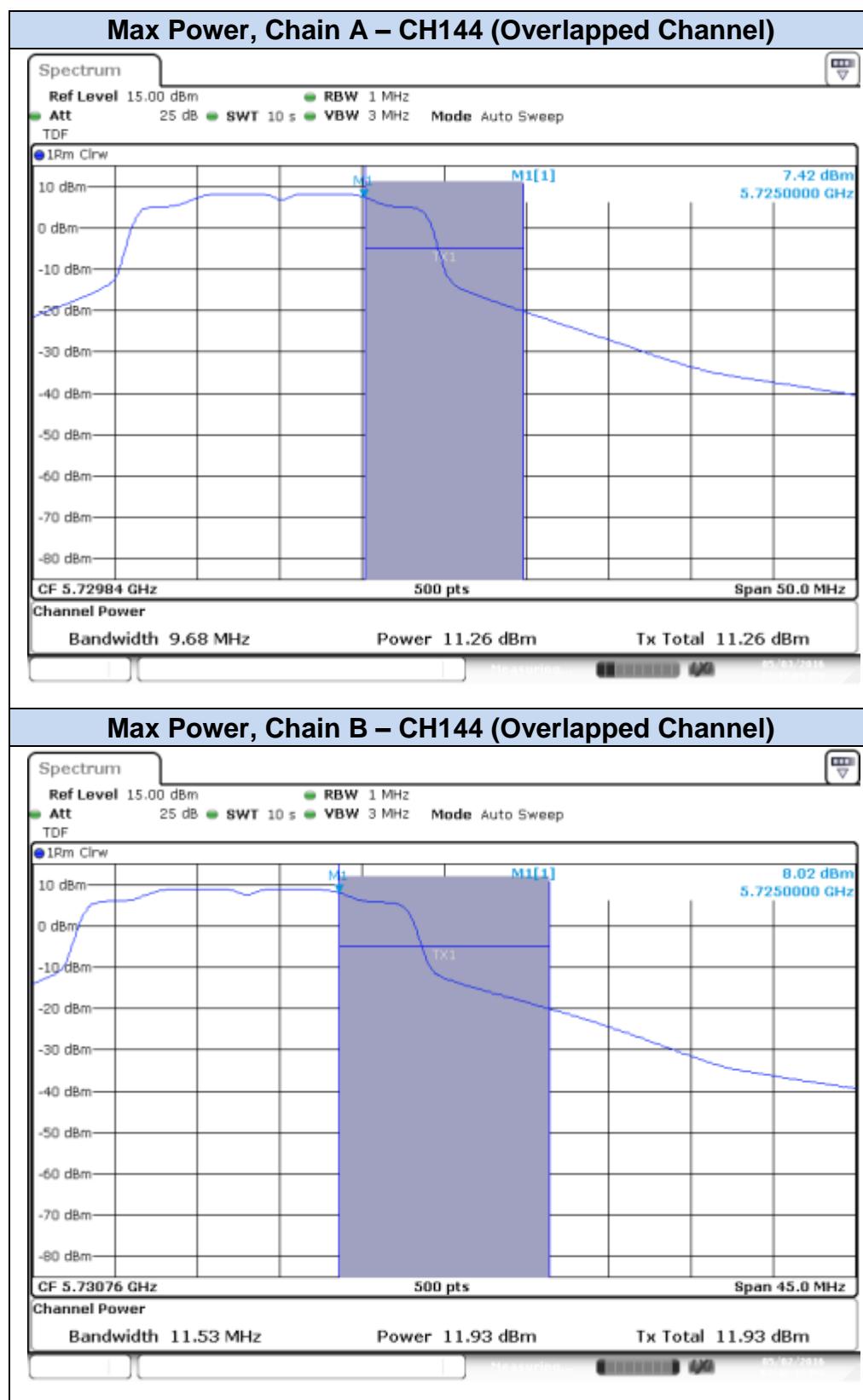
* Overlapped channels between U-NII-2C and U-NII-3

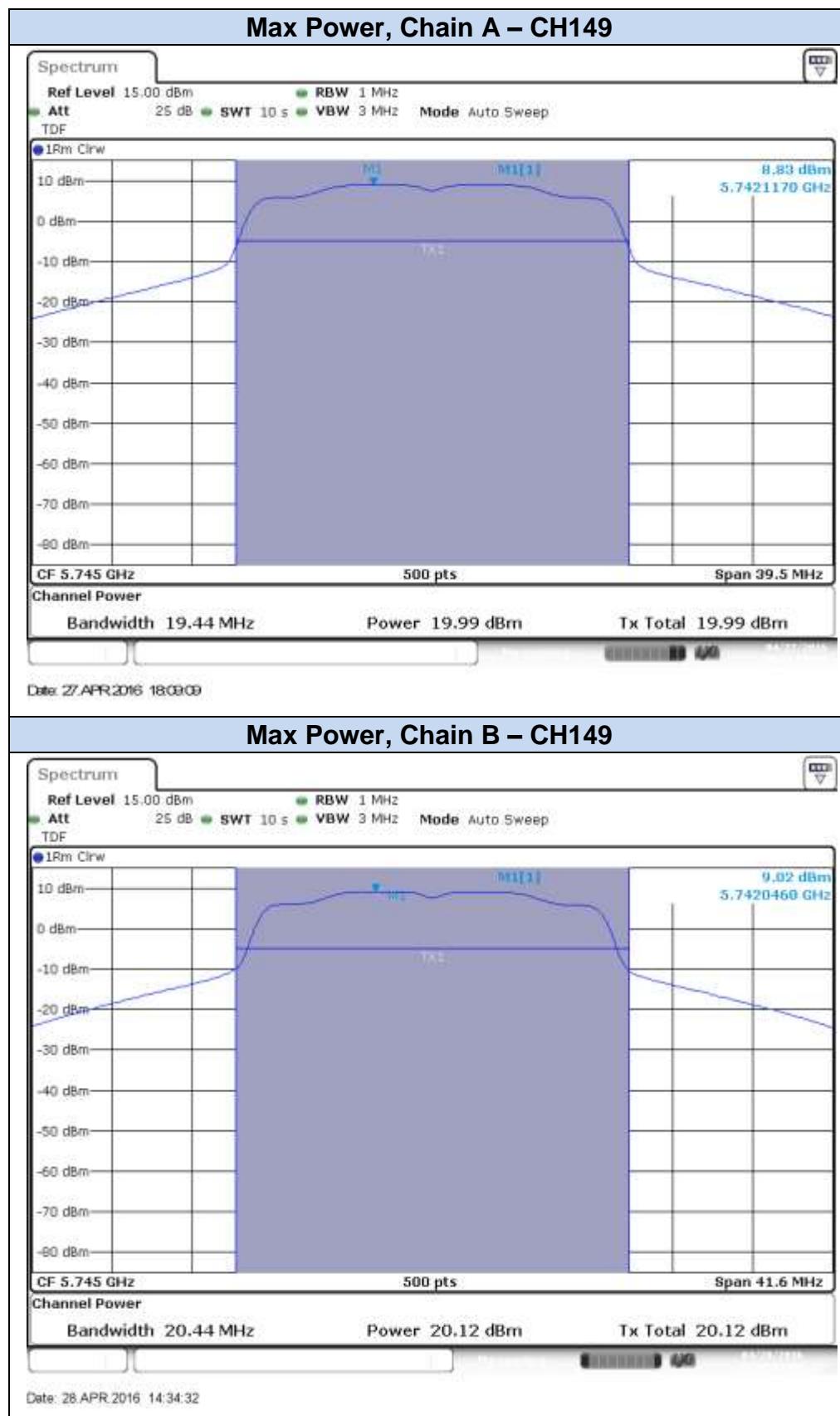
Results screenshot:**802.11a, 6Mbps**

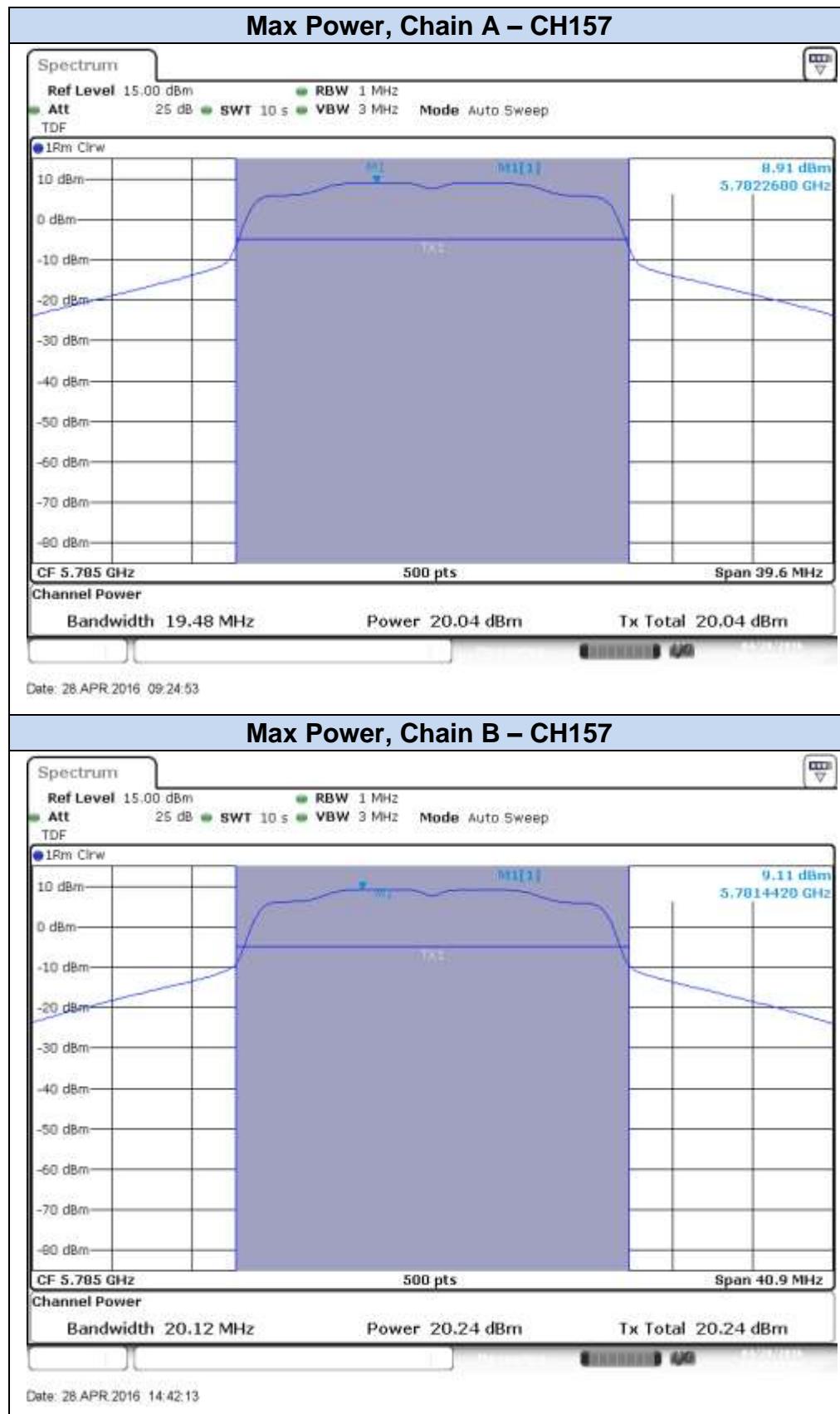


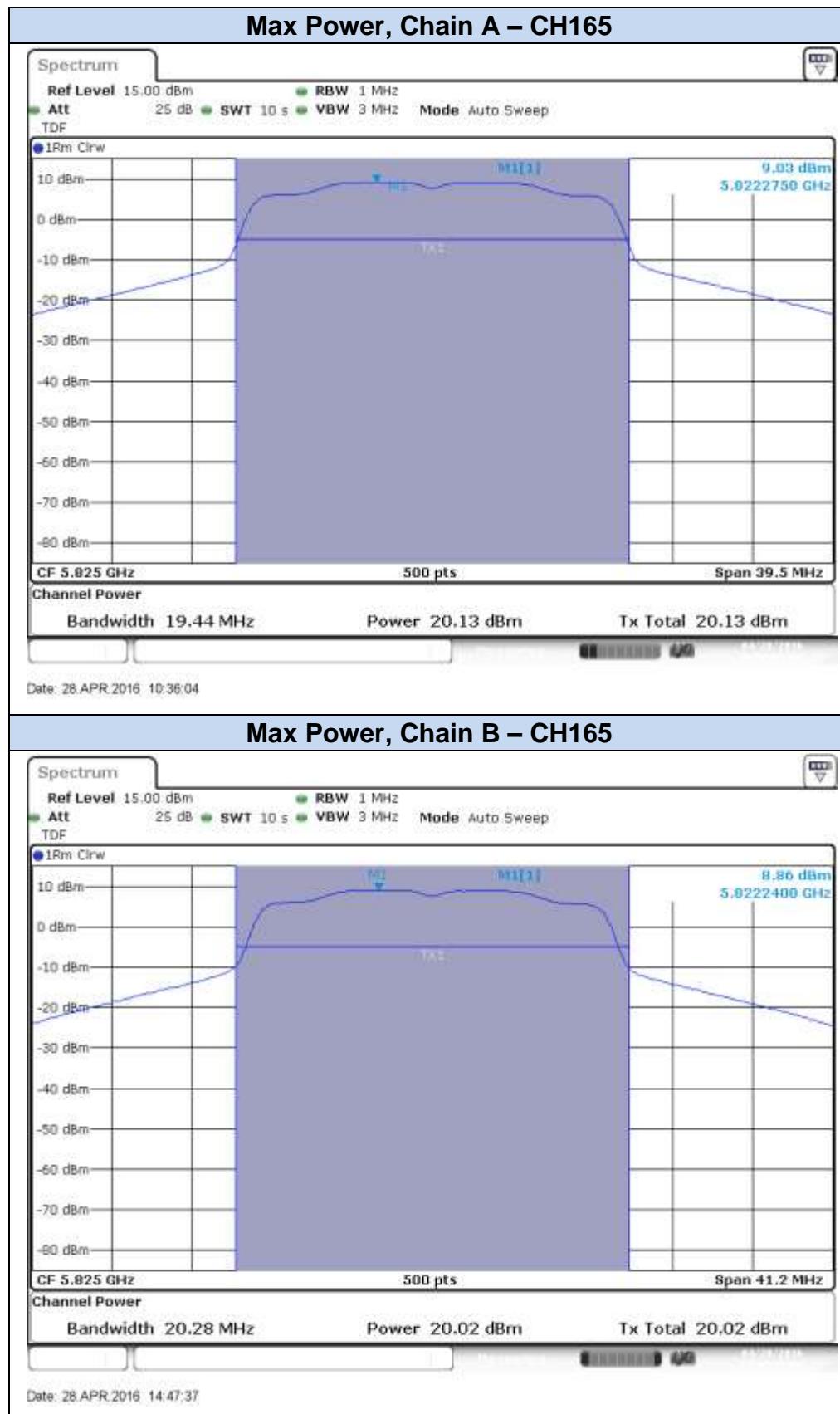


802.11n20, HT0 (SISO)

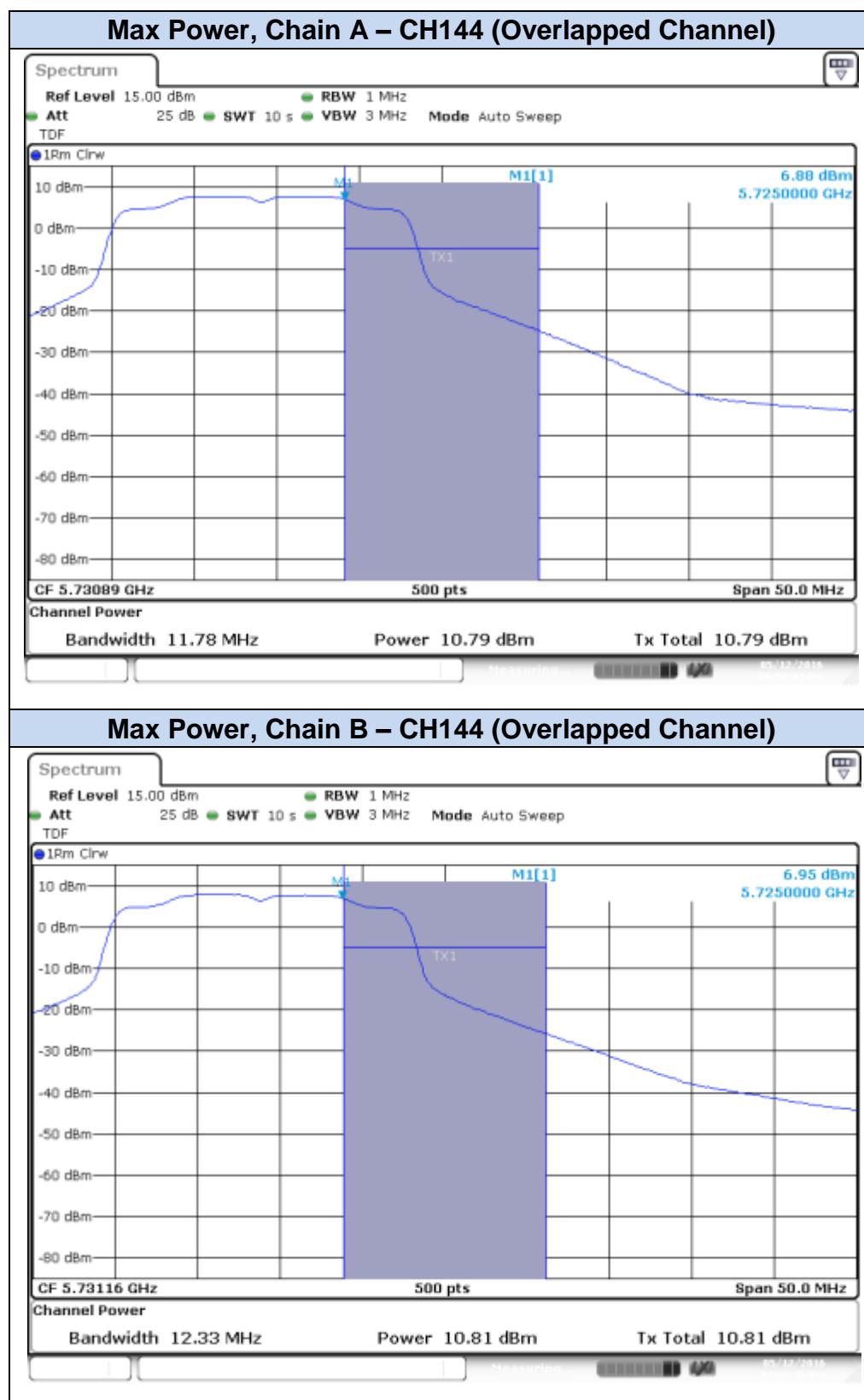


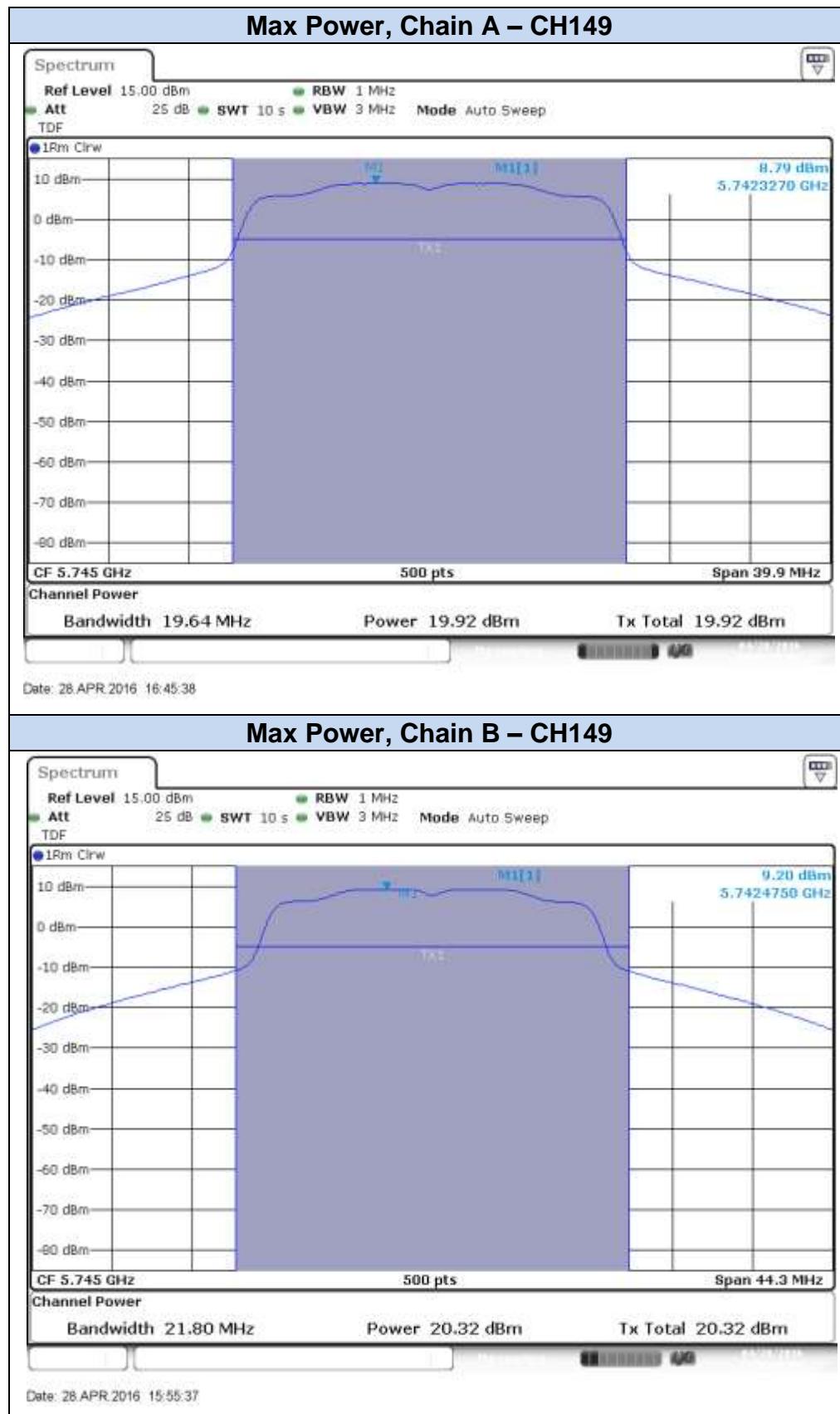


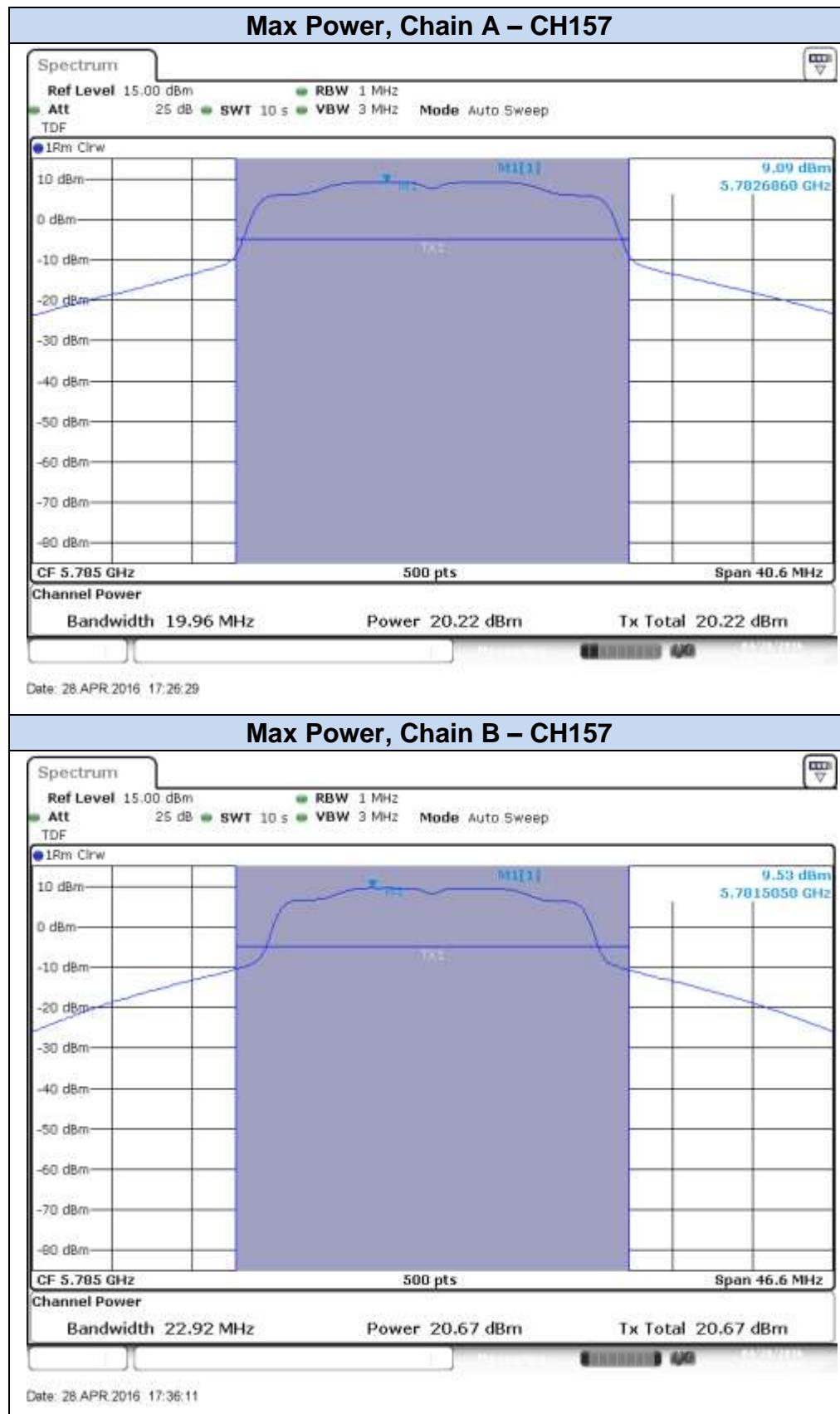


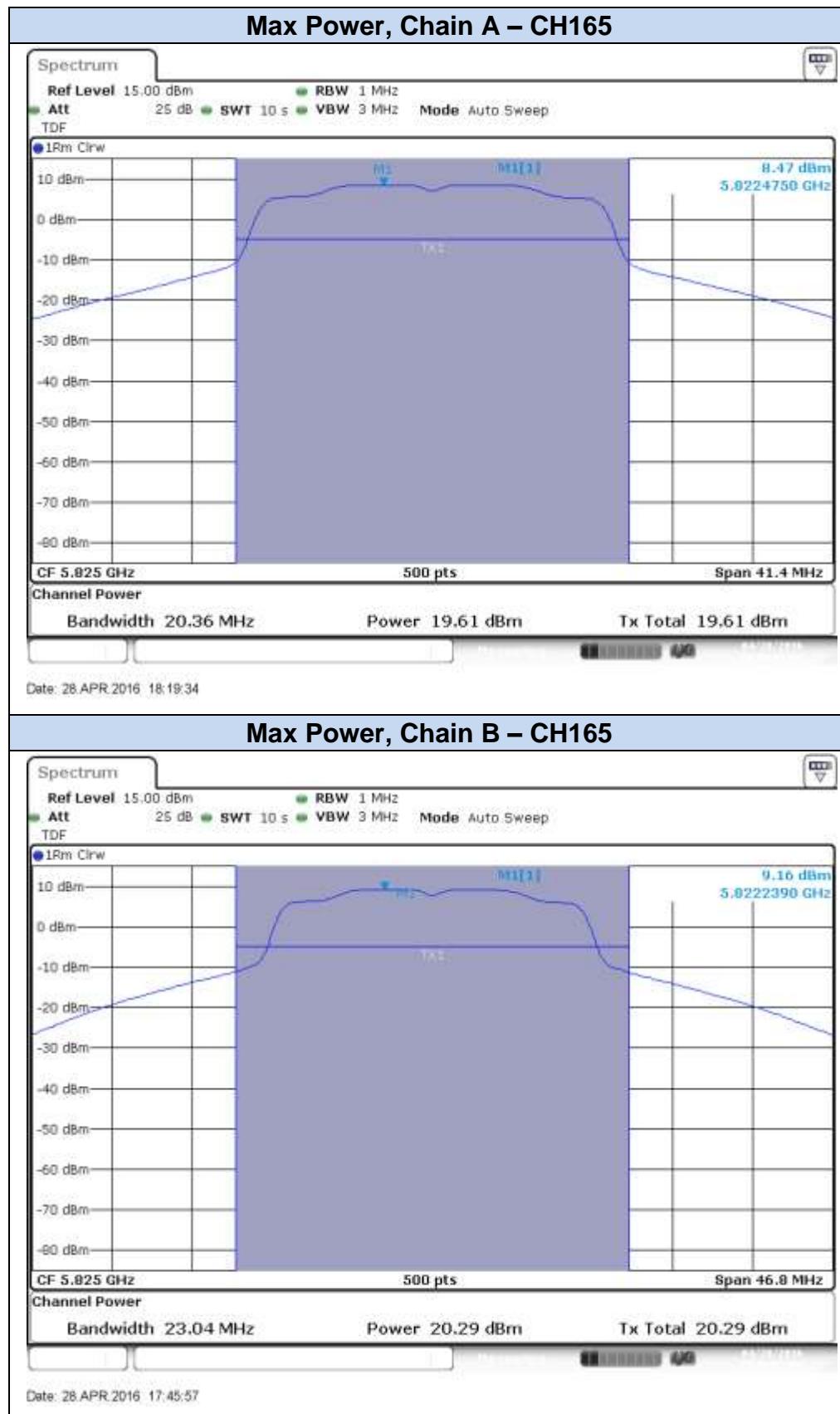


802.11n20, HT8 (MIMO)

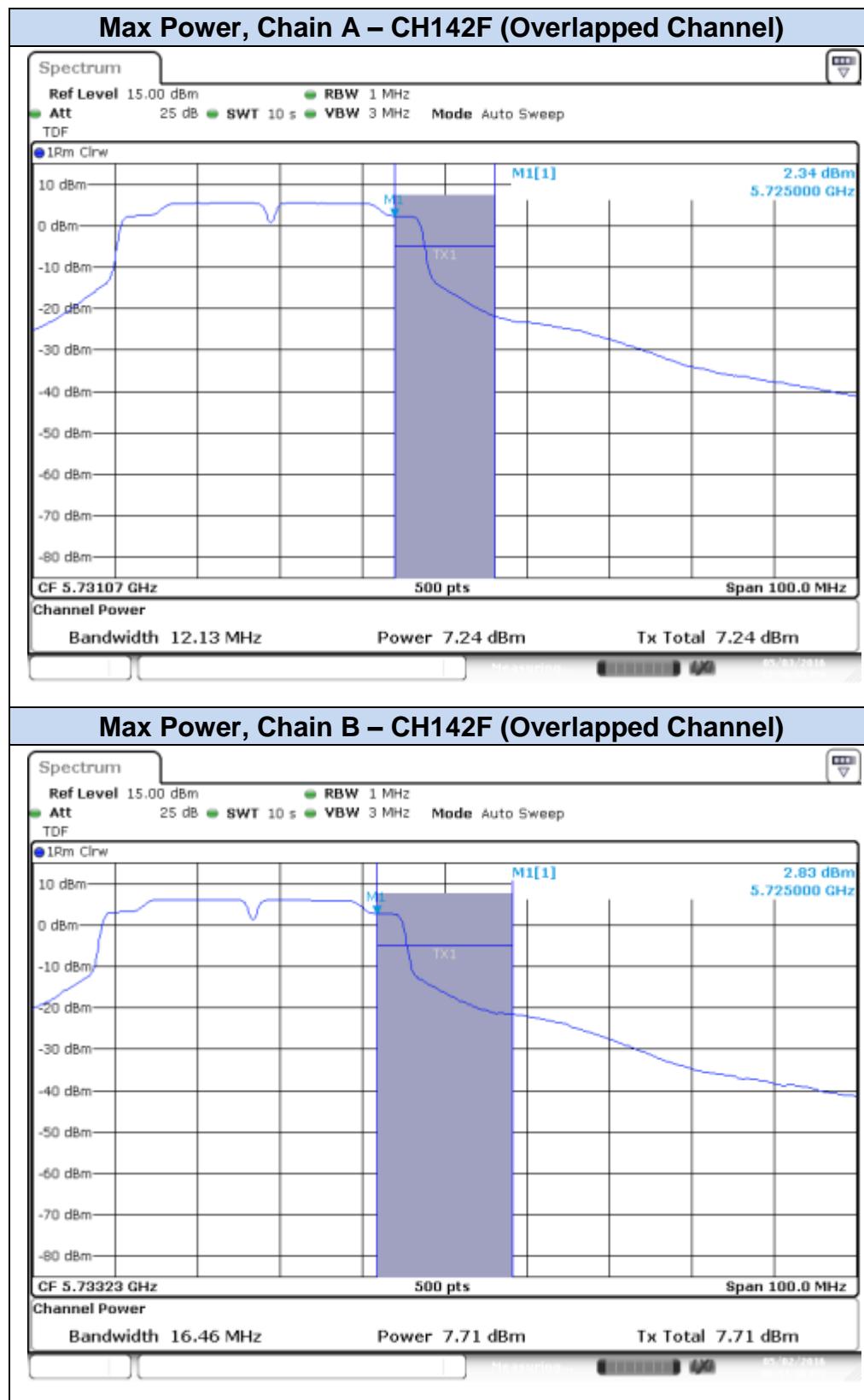


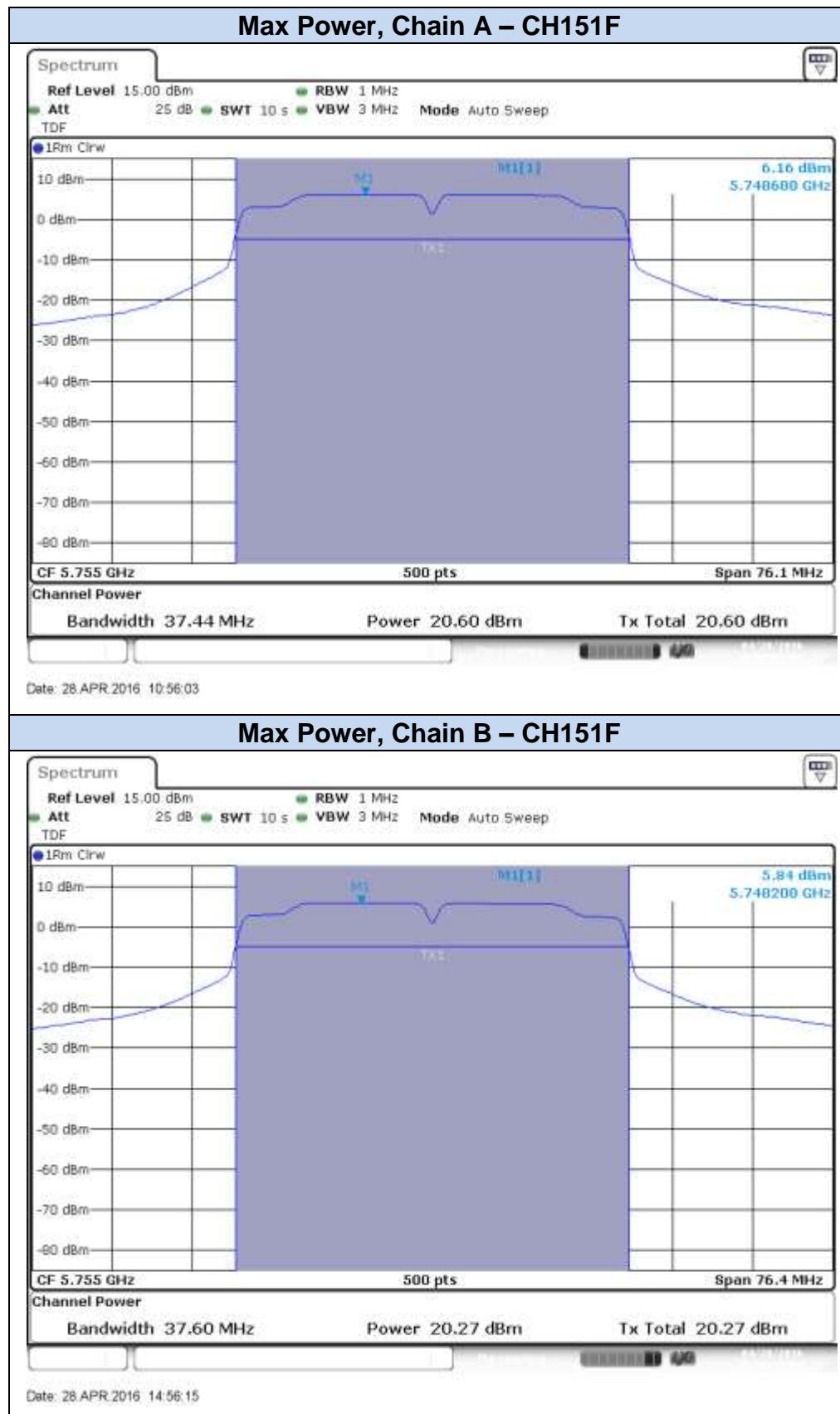


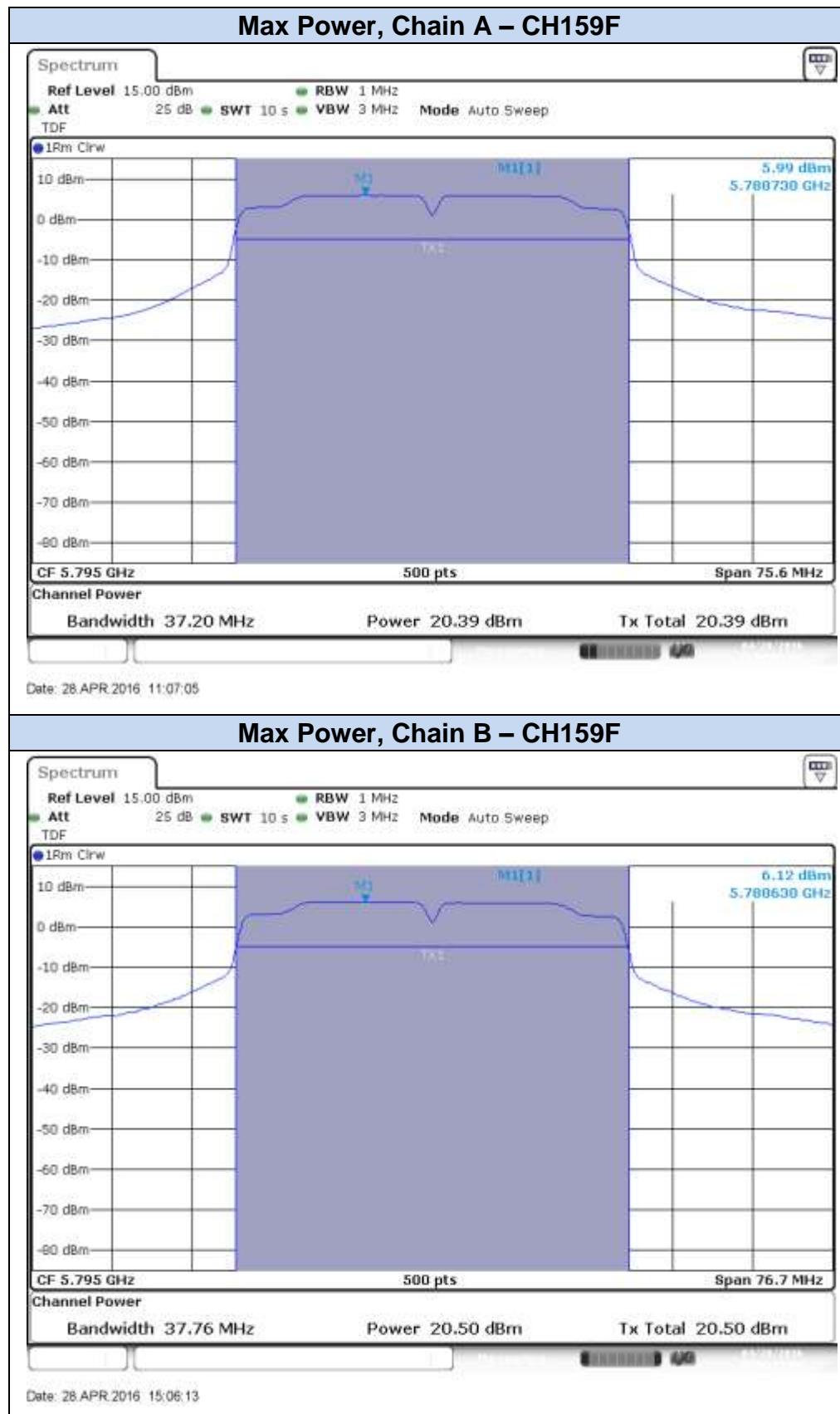


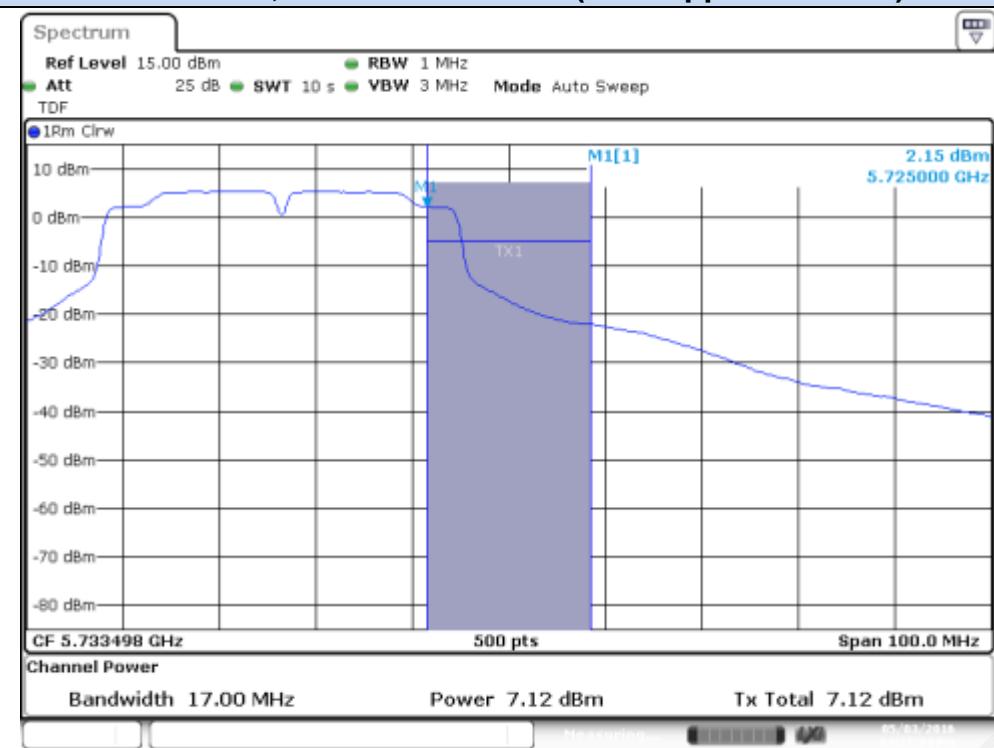
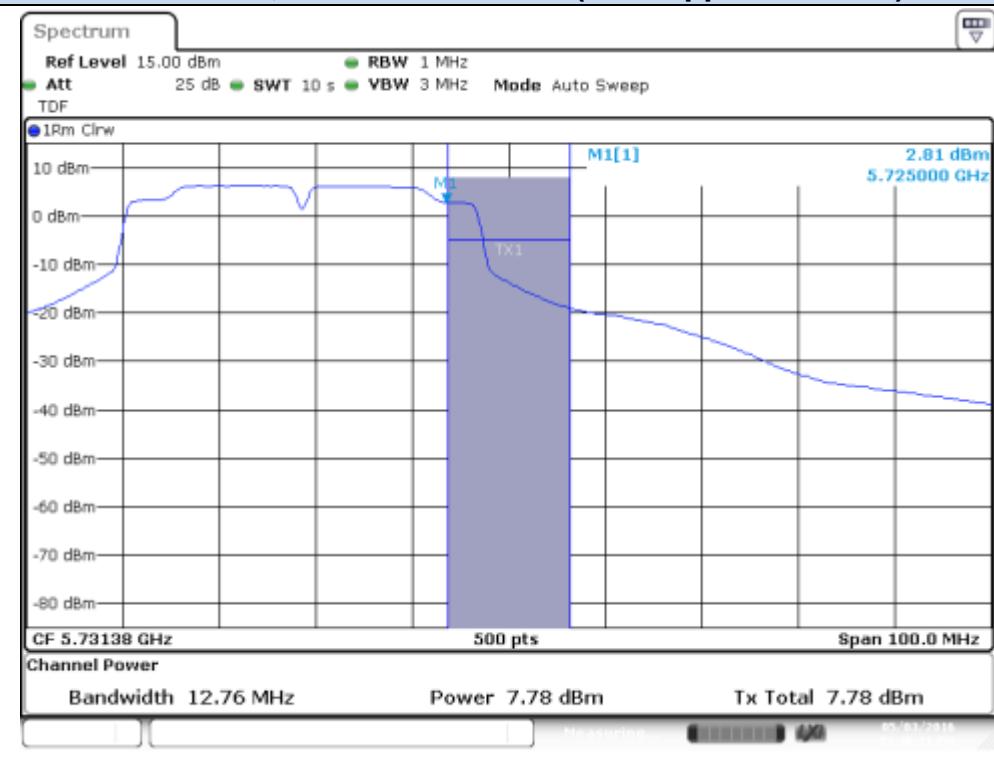


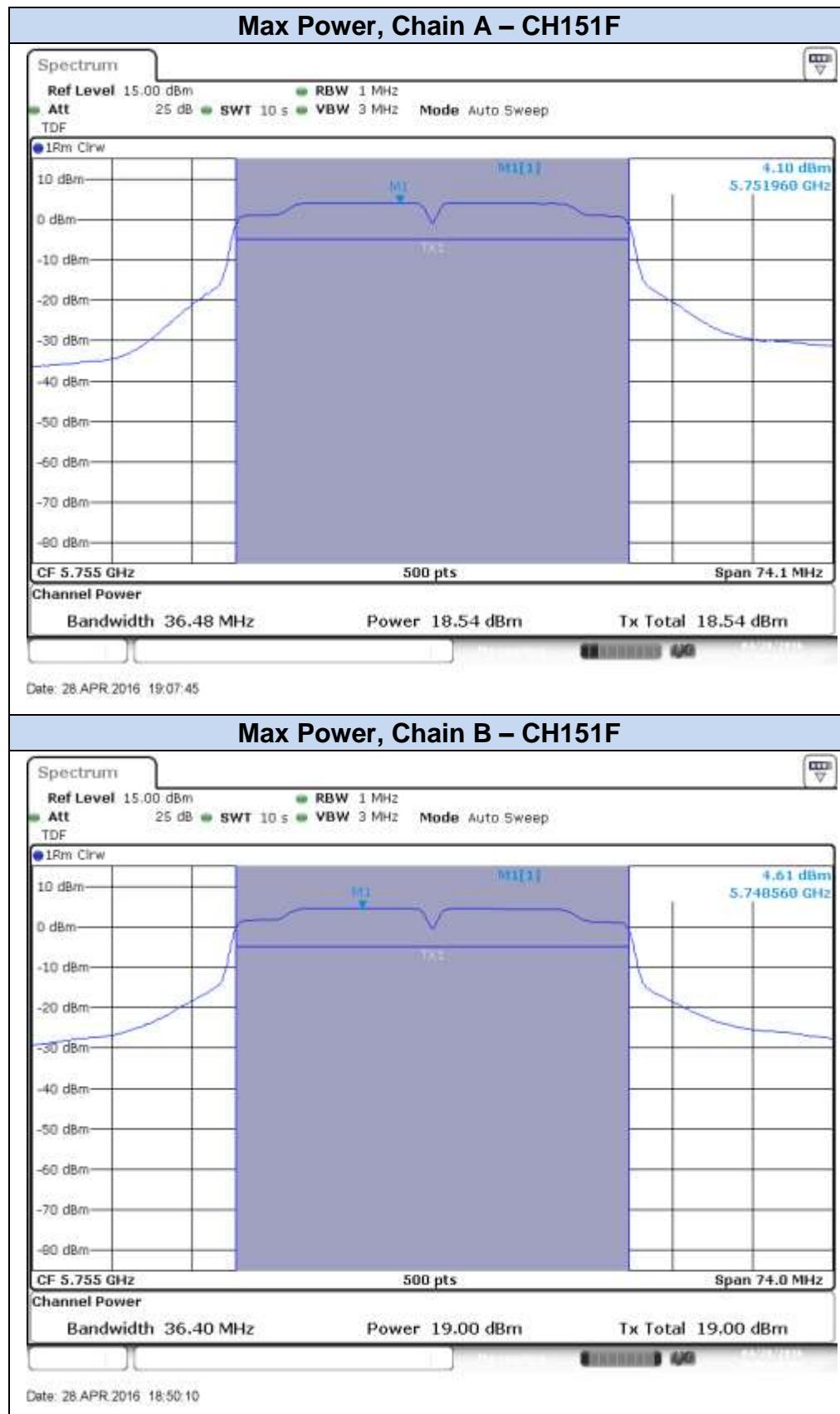
802.11n40, HT0 (SISO)

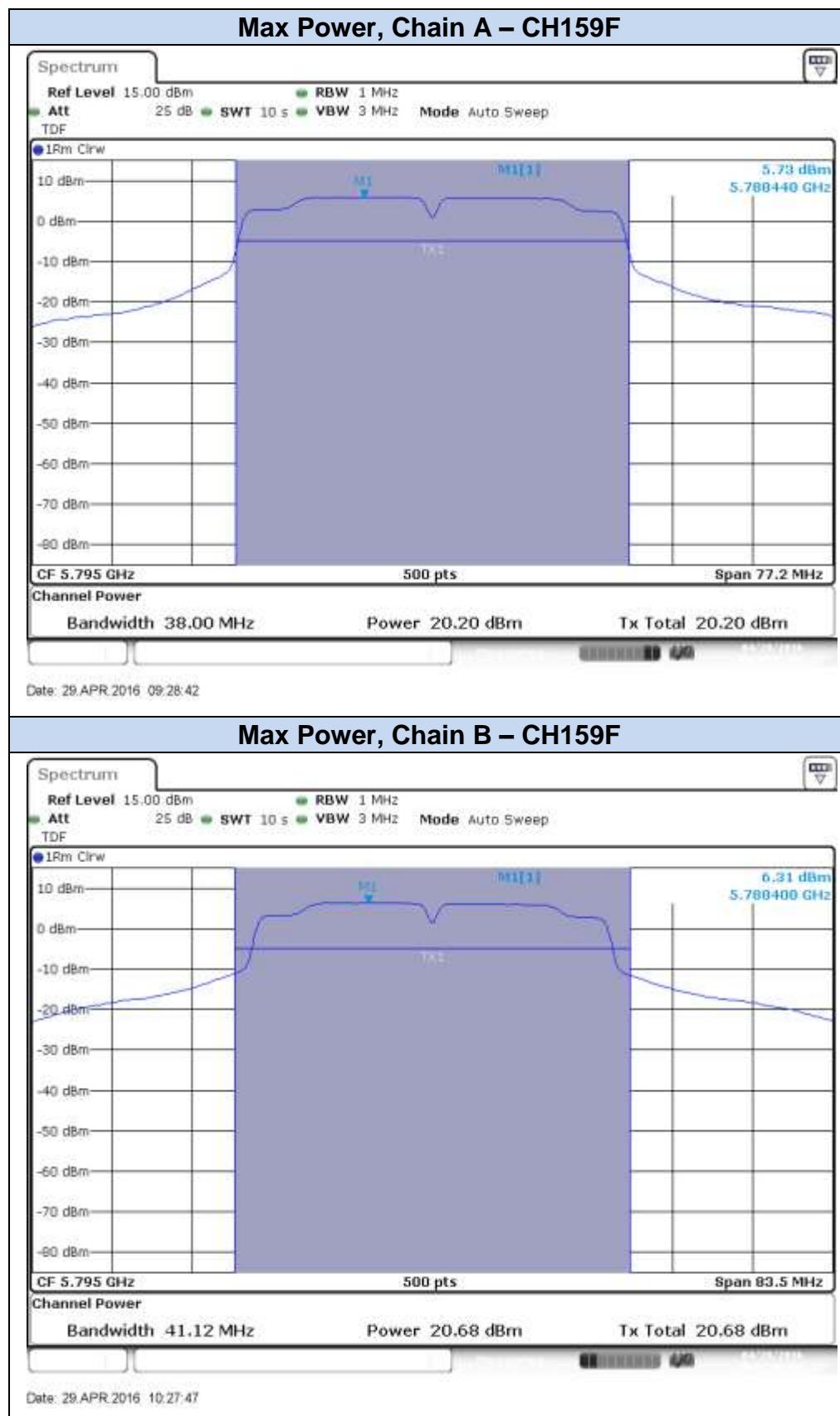




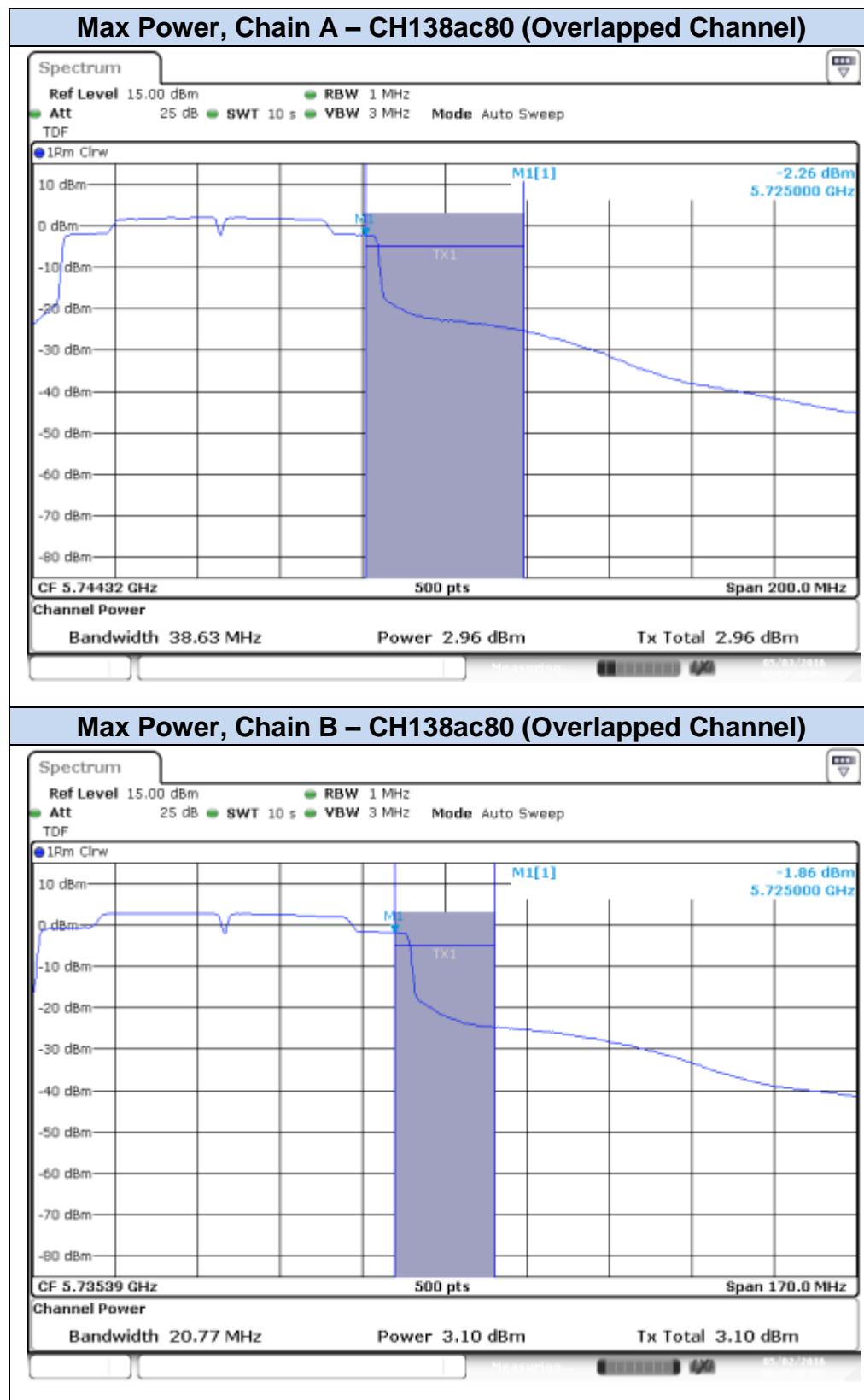


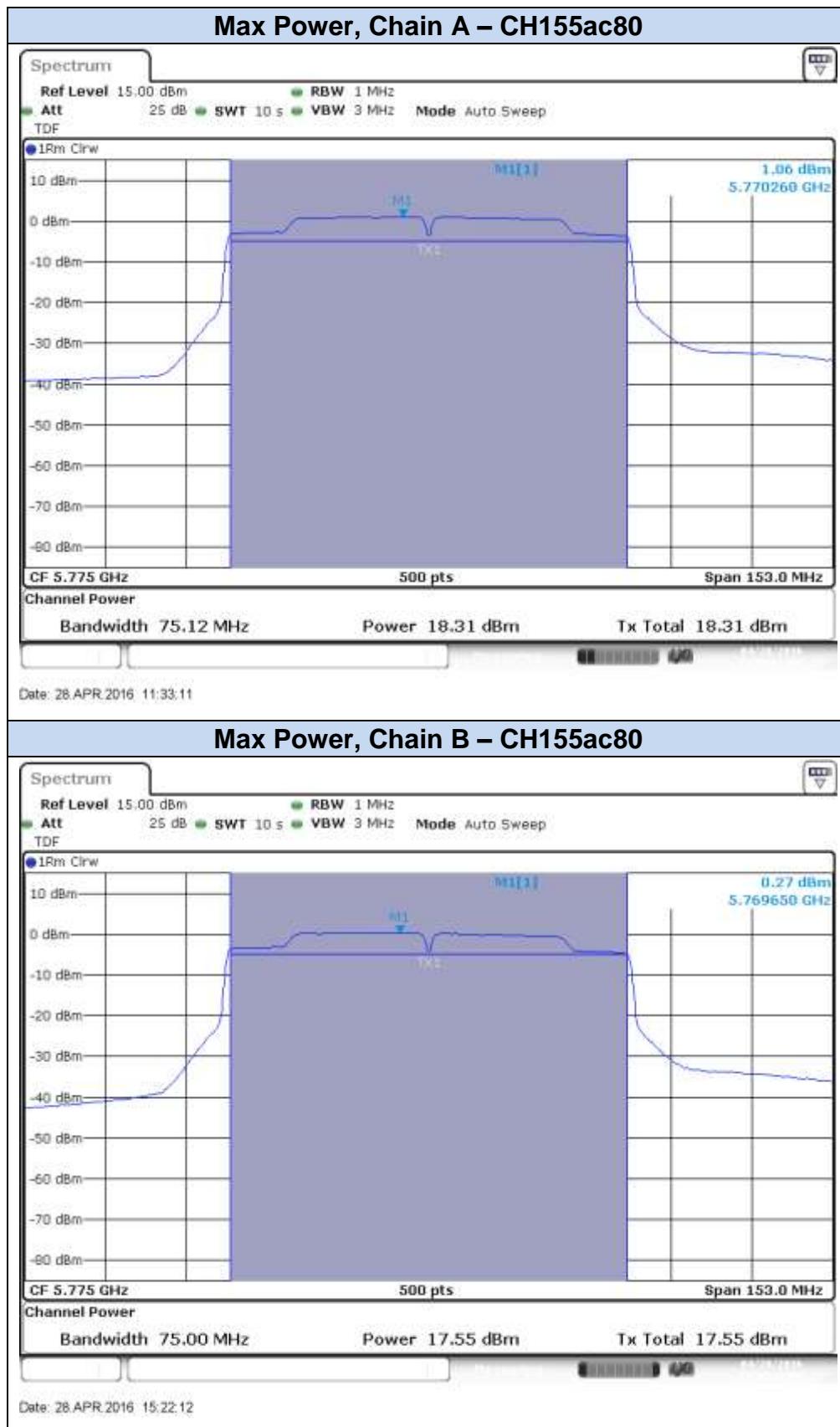
802.11n40, HT8 (MIMO)**Max Power, Chain A – CH142F (Overlapped Channel)****Max Power, Chain B – CH142F (Overlapped Channel)**



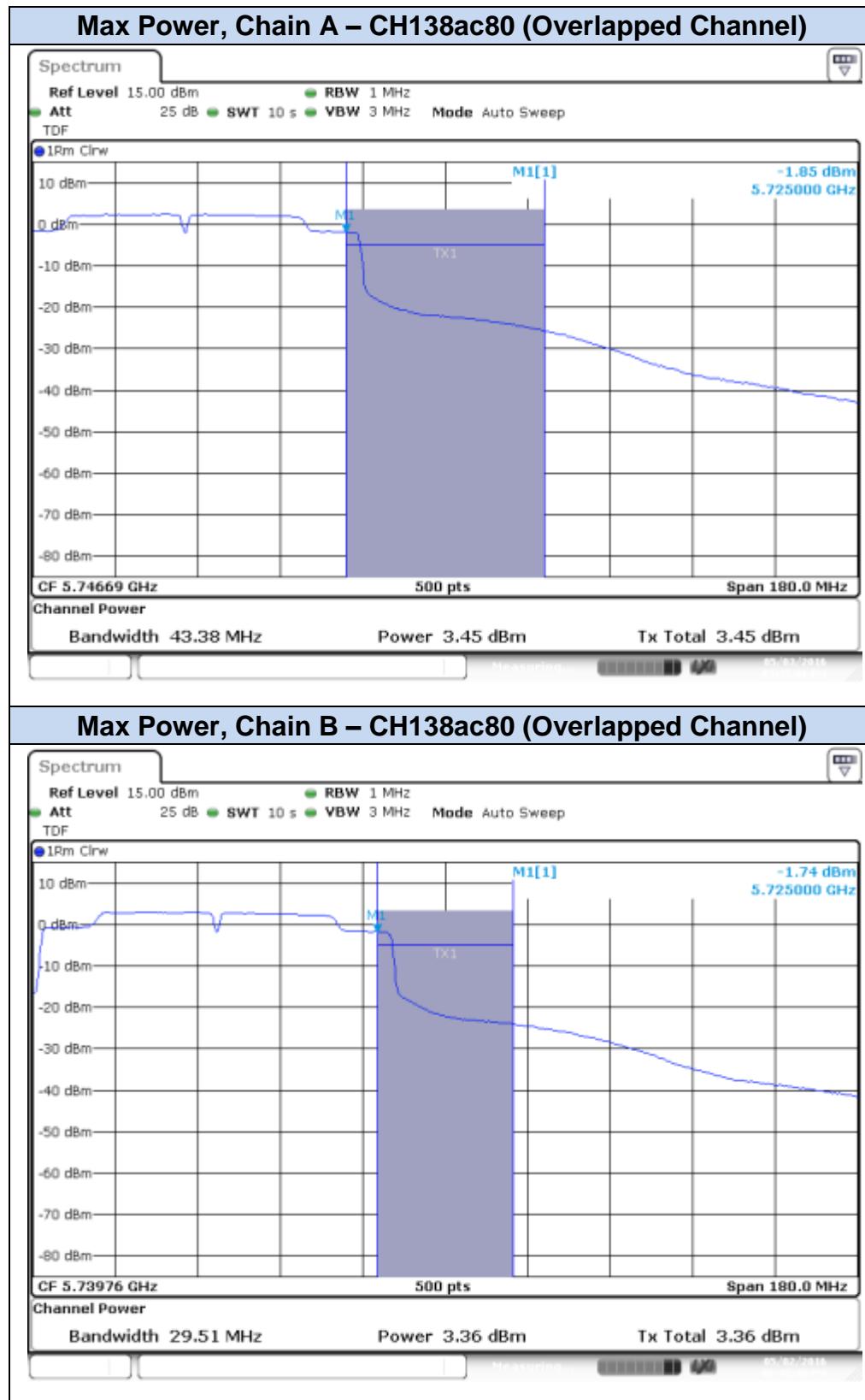


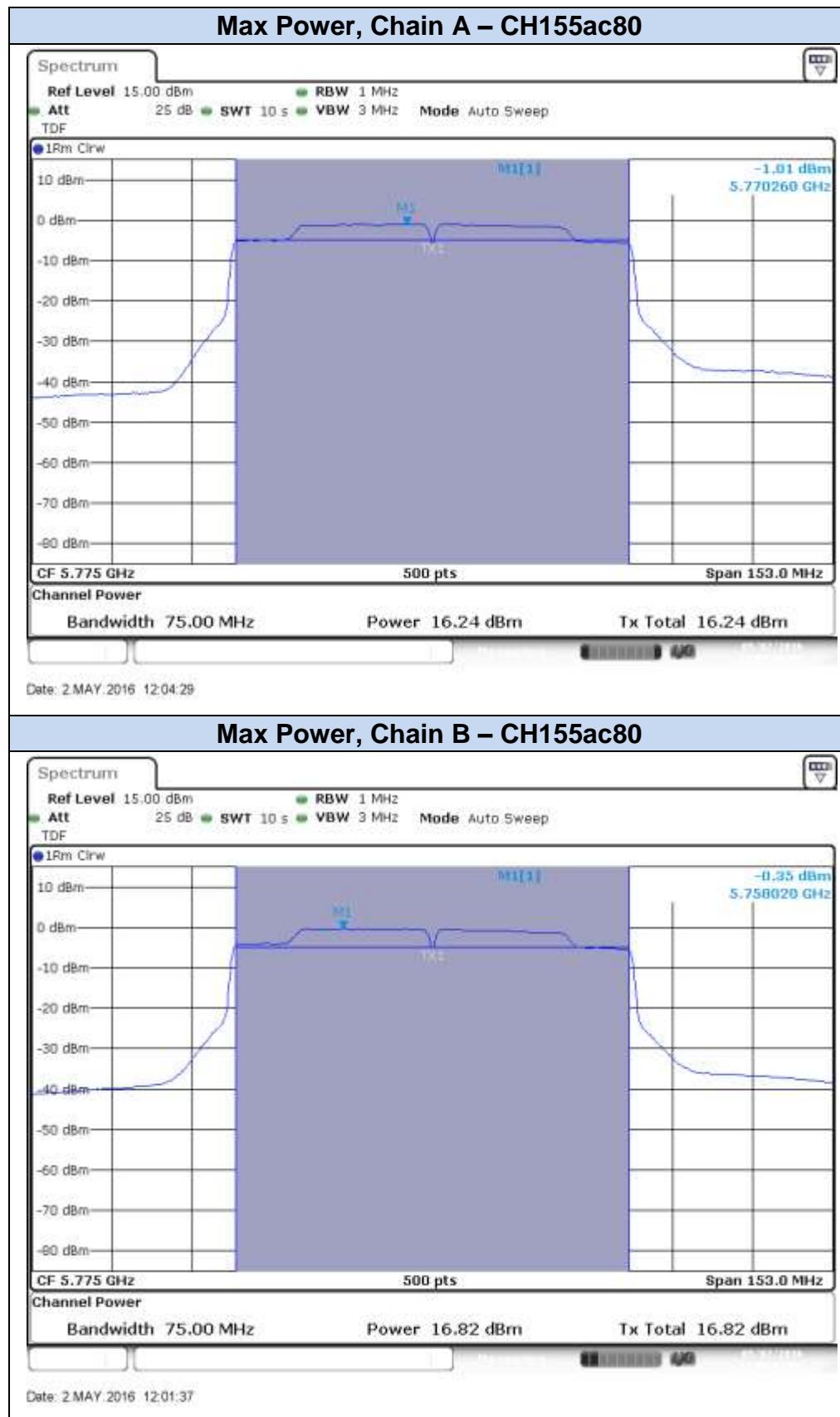
802.11ac80, VHT0 (SISO)

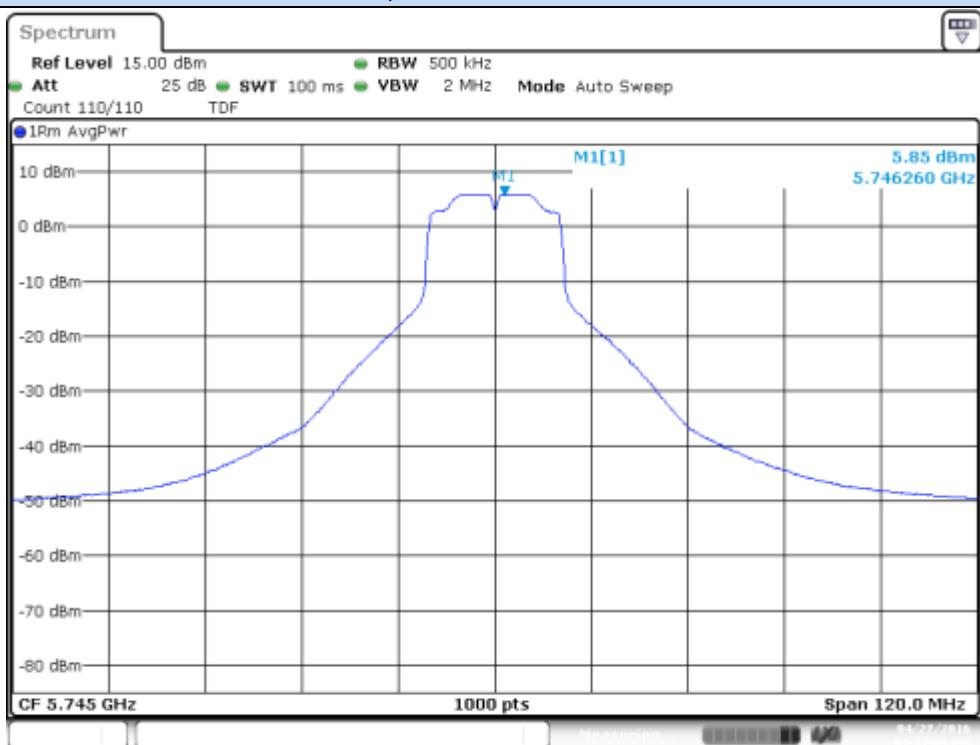
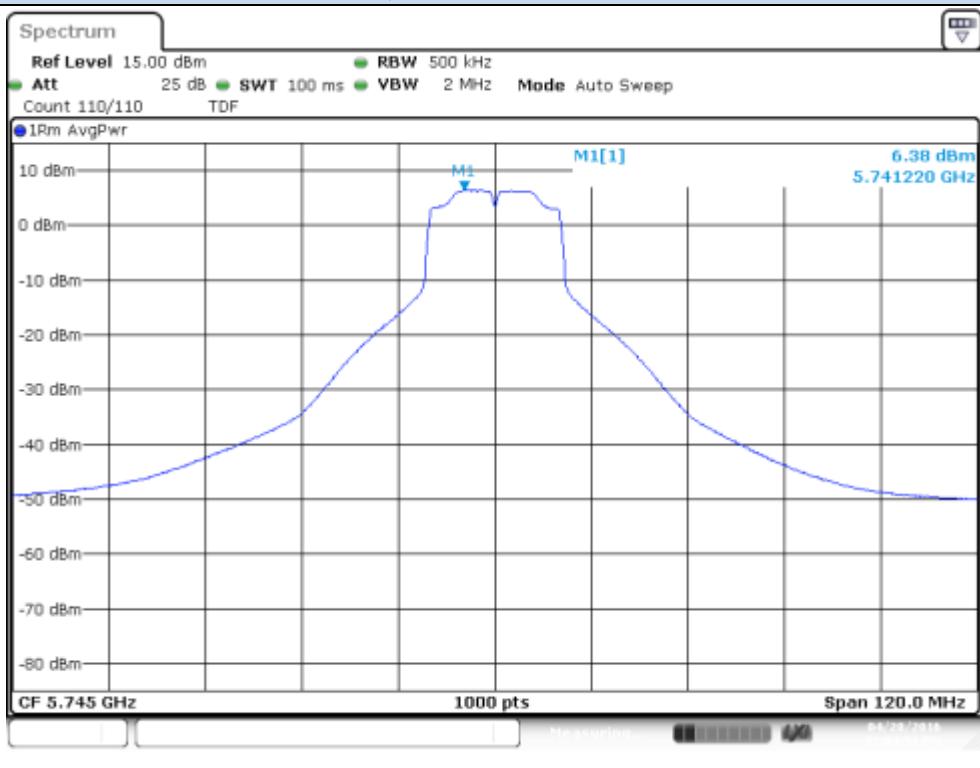


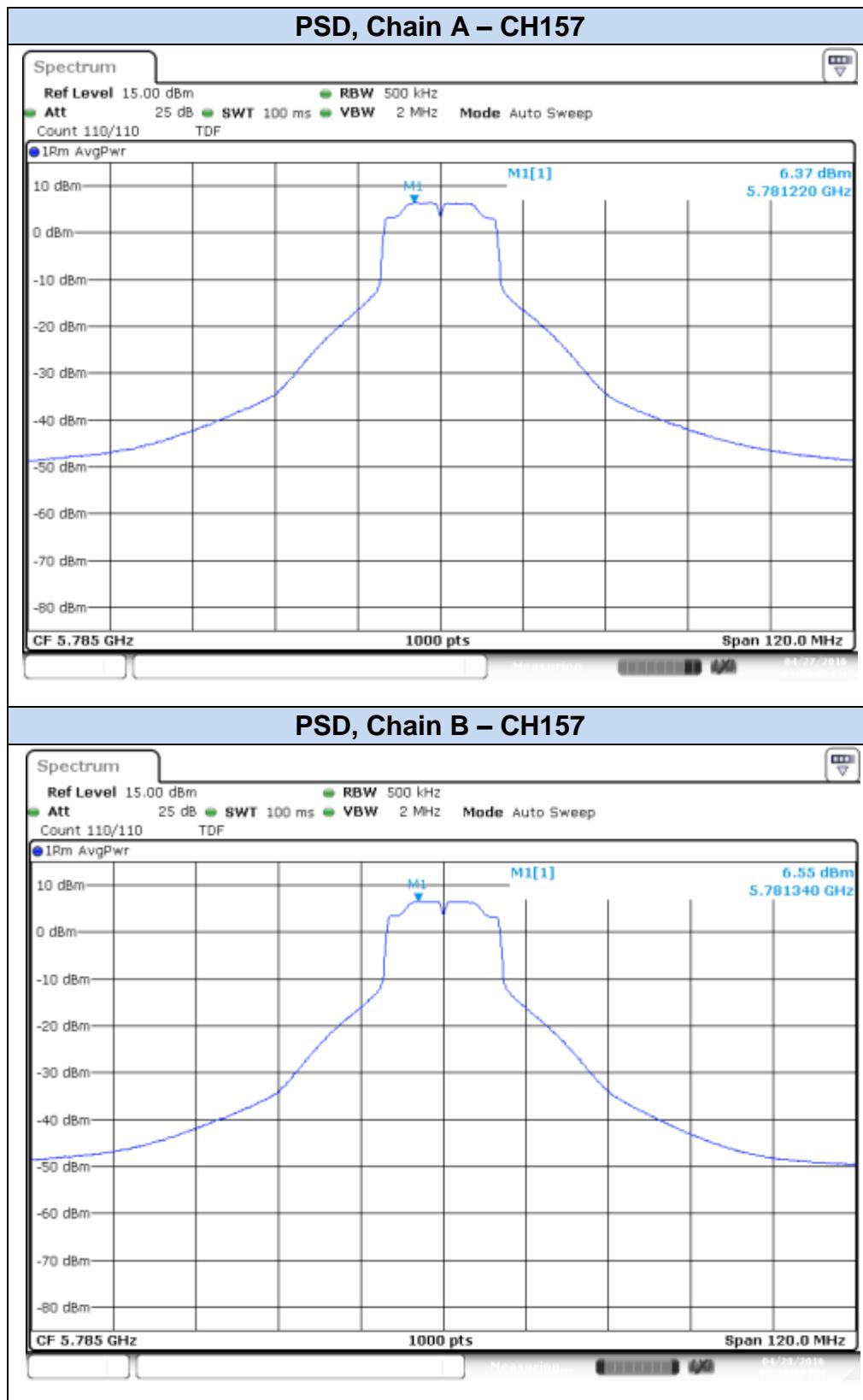


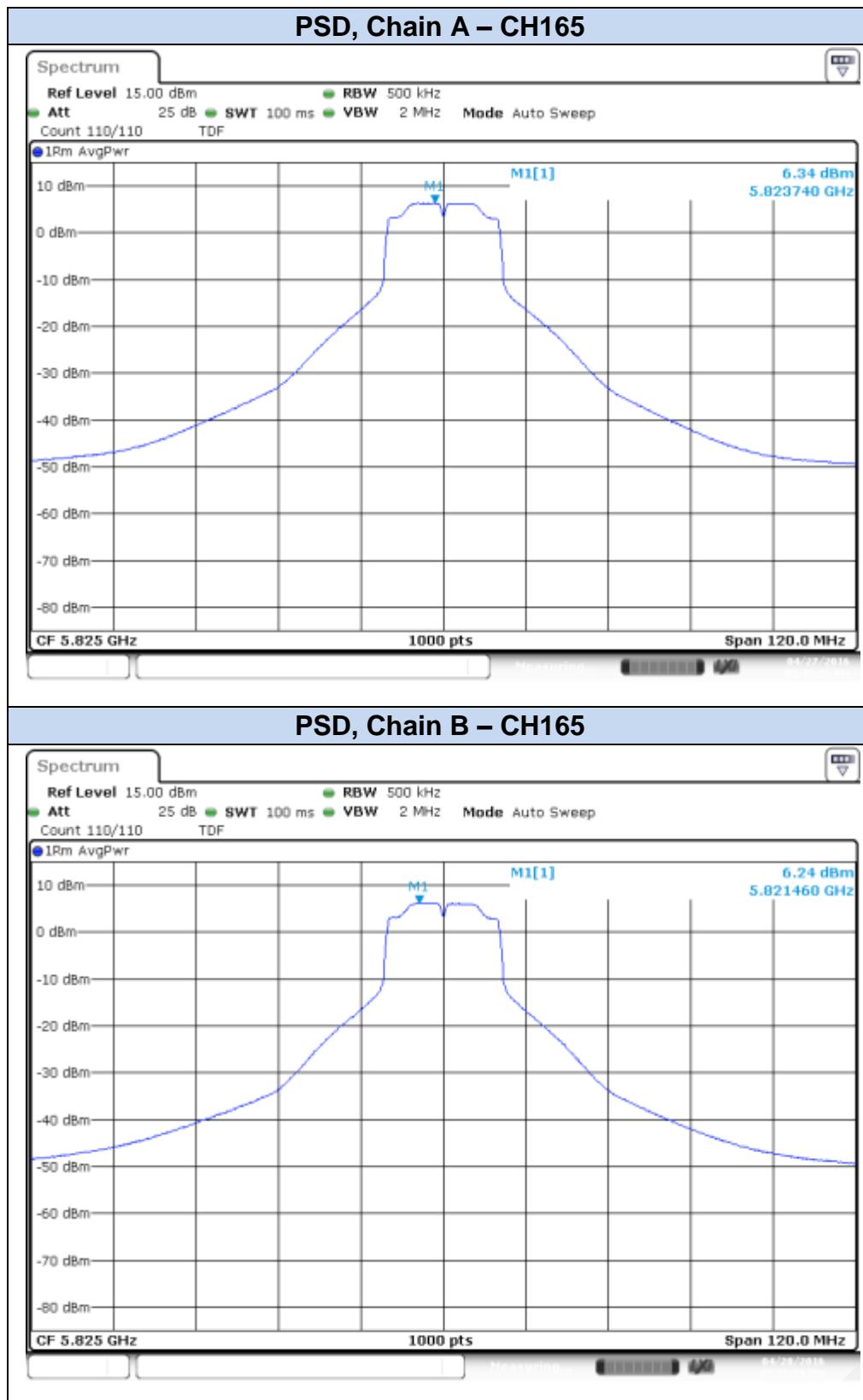
802.11ac80, VHT0 (MIMO)





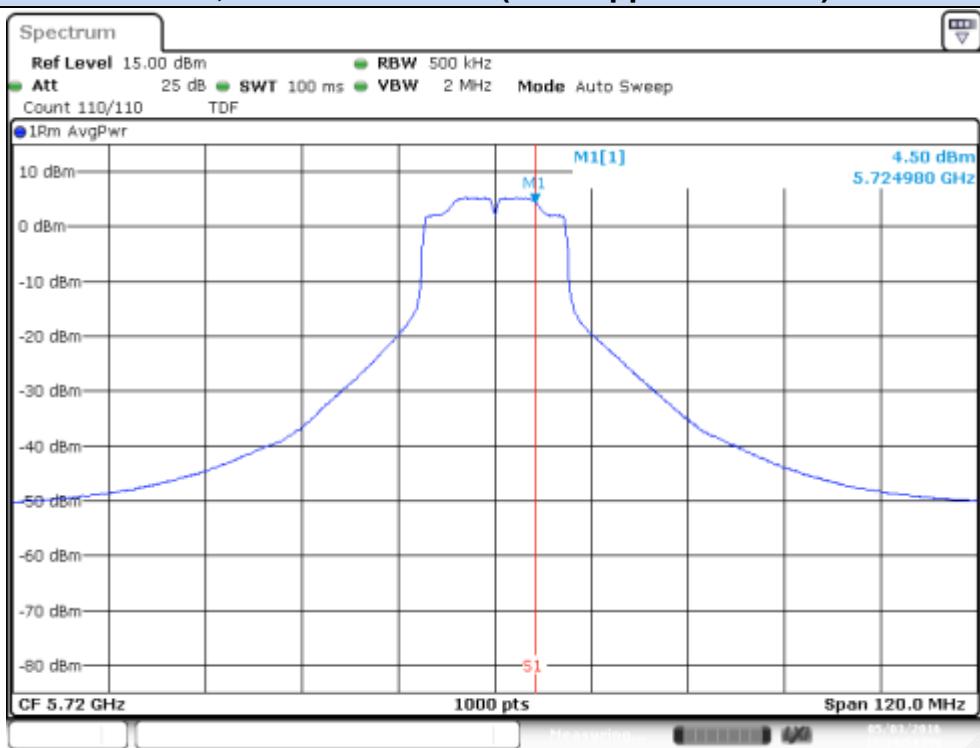
802.11a, 6Mbps**PSD, Chain A – CH149****PSD, Chain B – CH149**



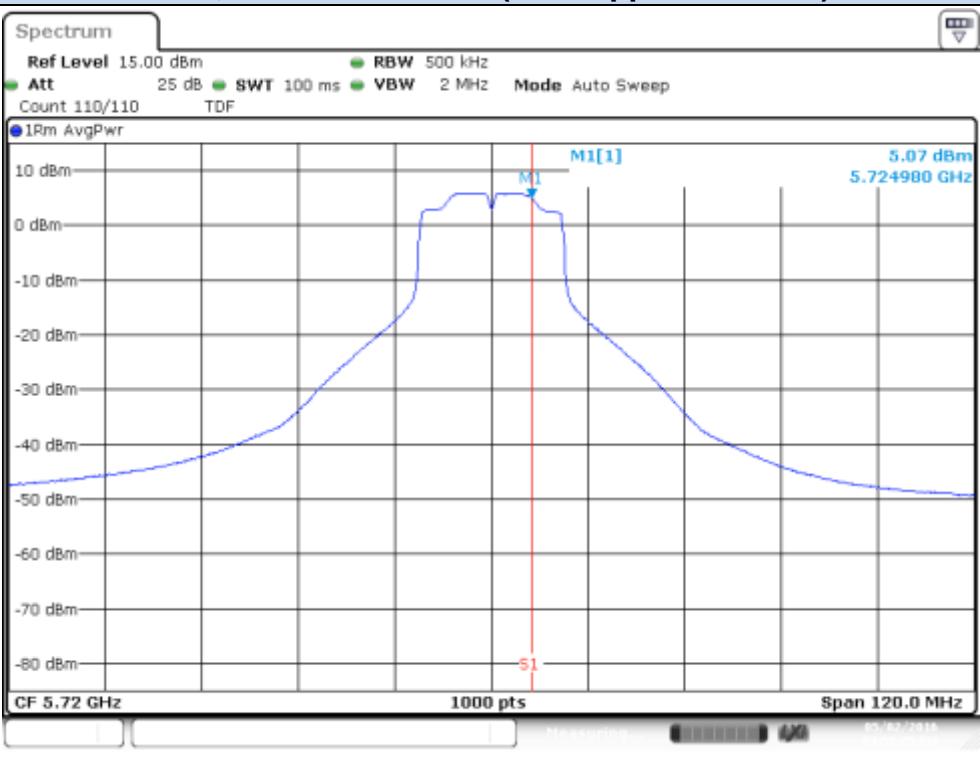


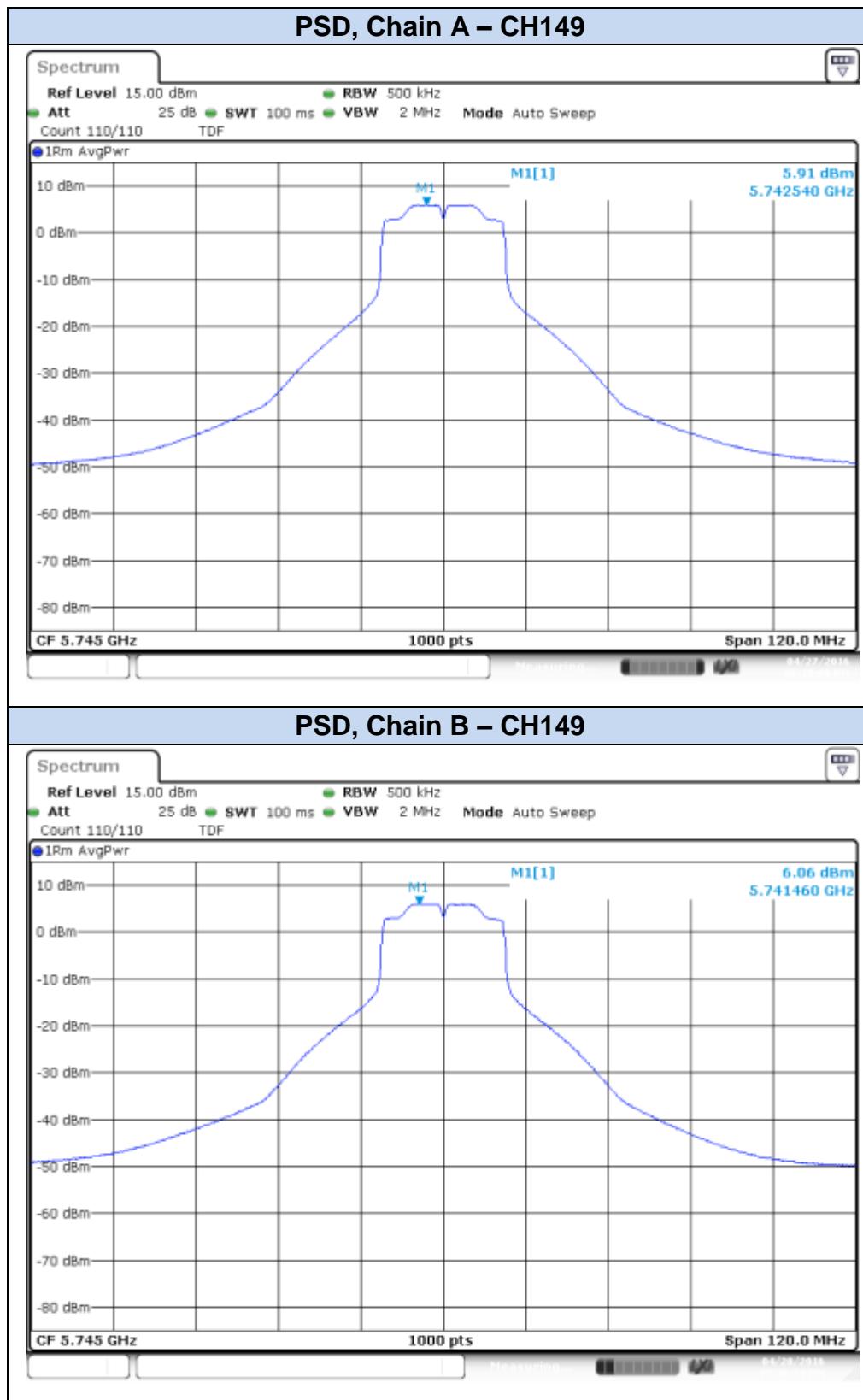
802.11n20, HT0 (SISO)

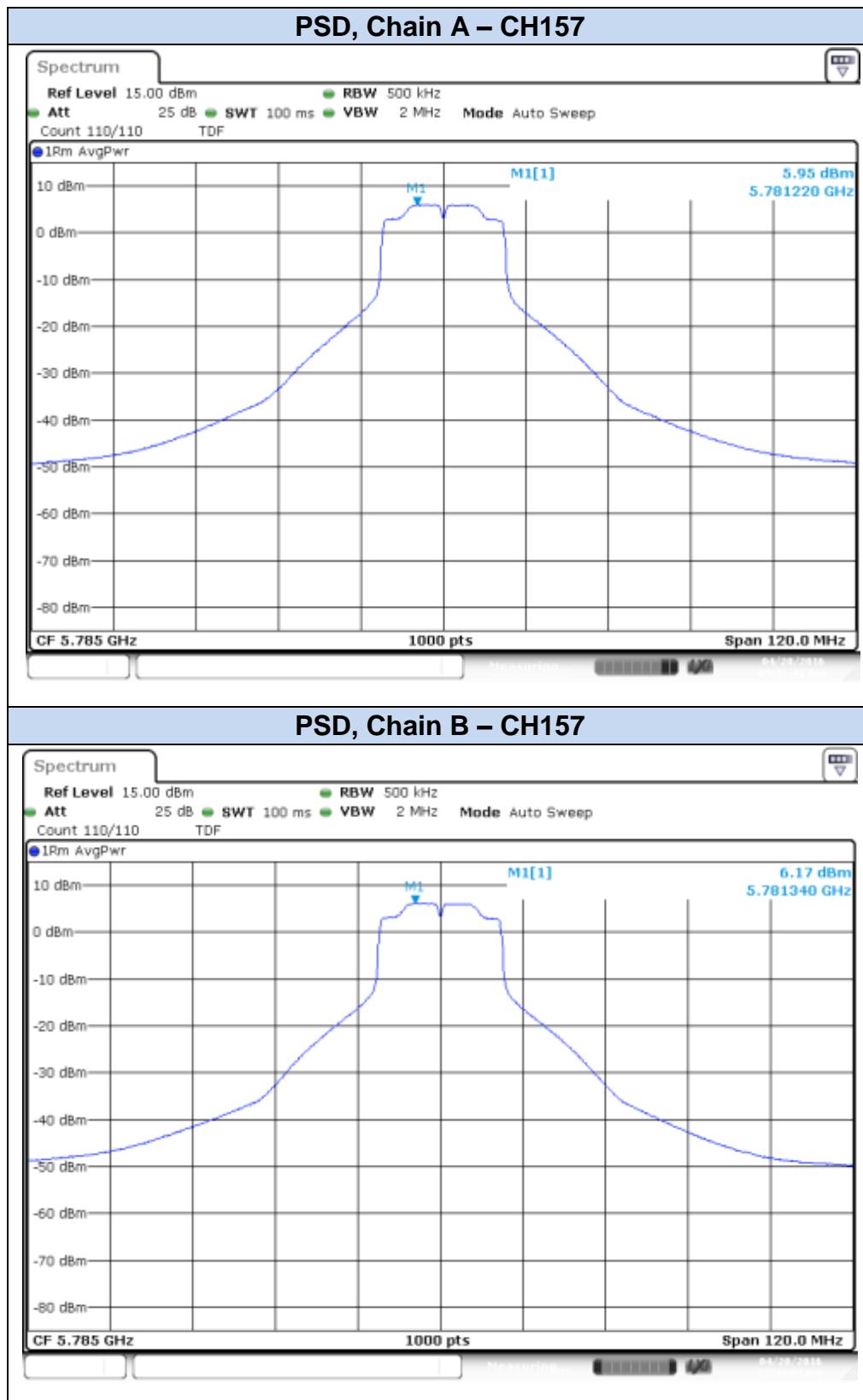
PSD, Chain A – CH144 (Overlapped Channel)

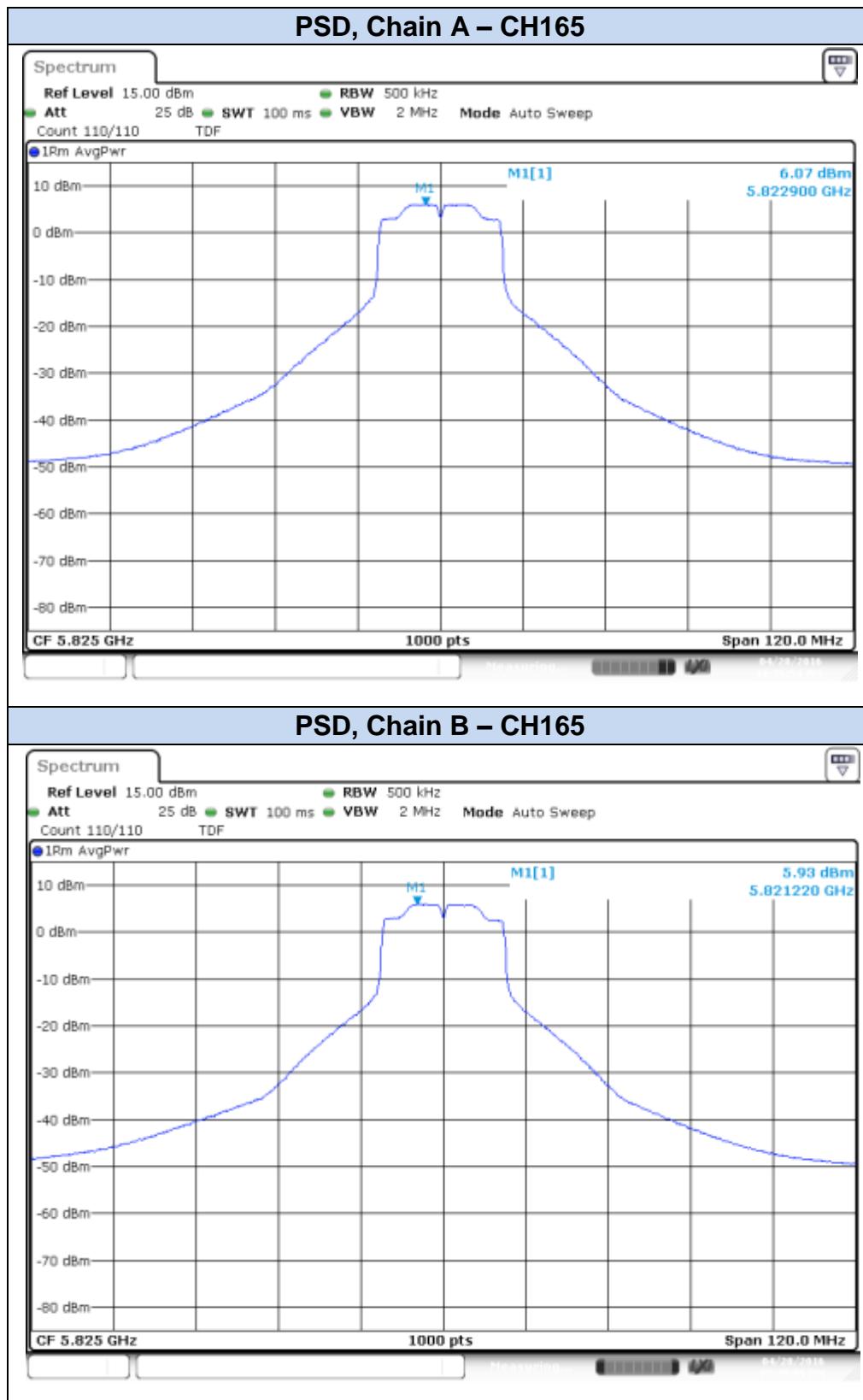


PSD, Chain B – CH144 (Overlapped Channel)

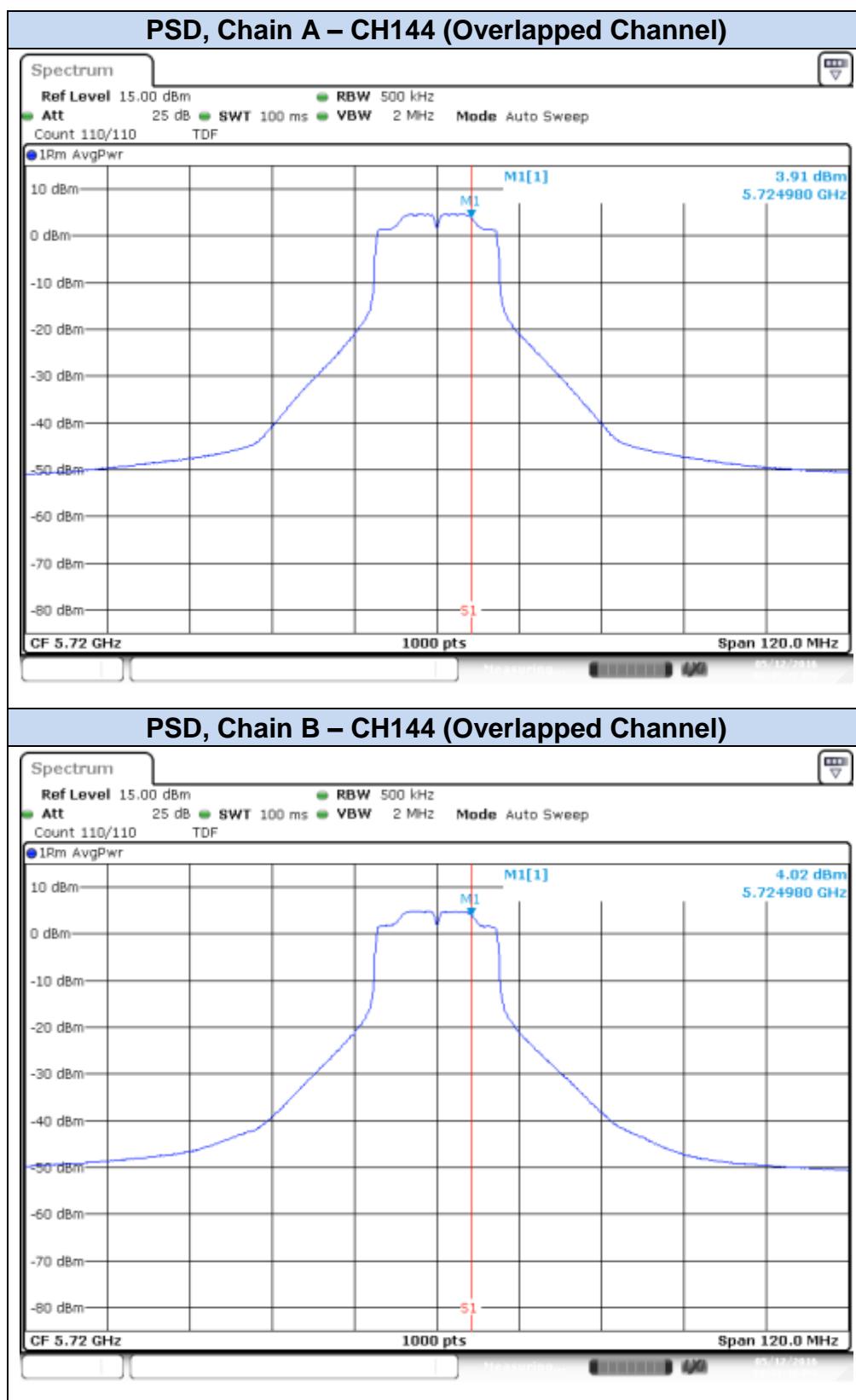


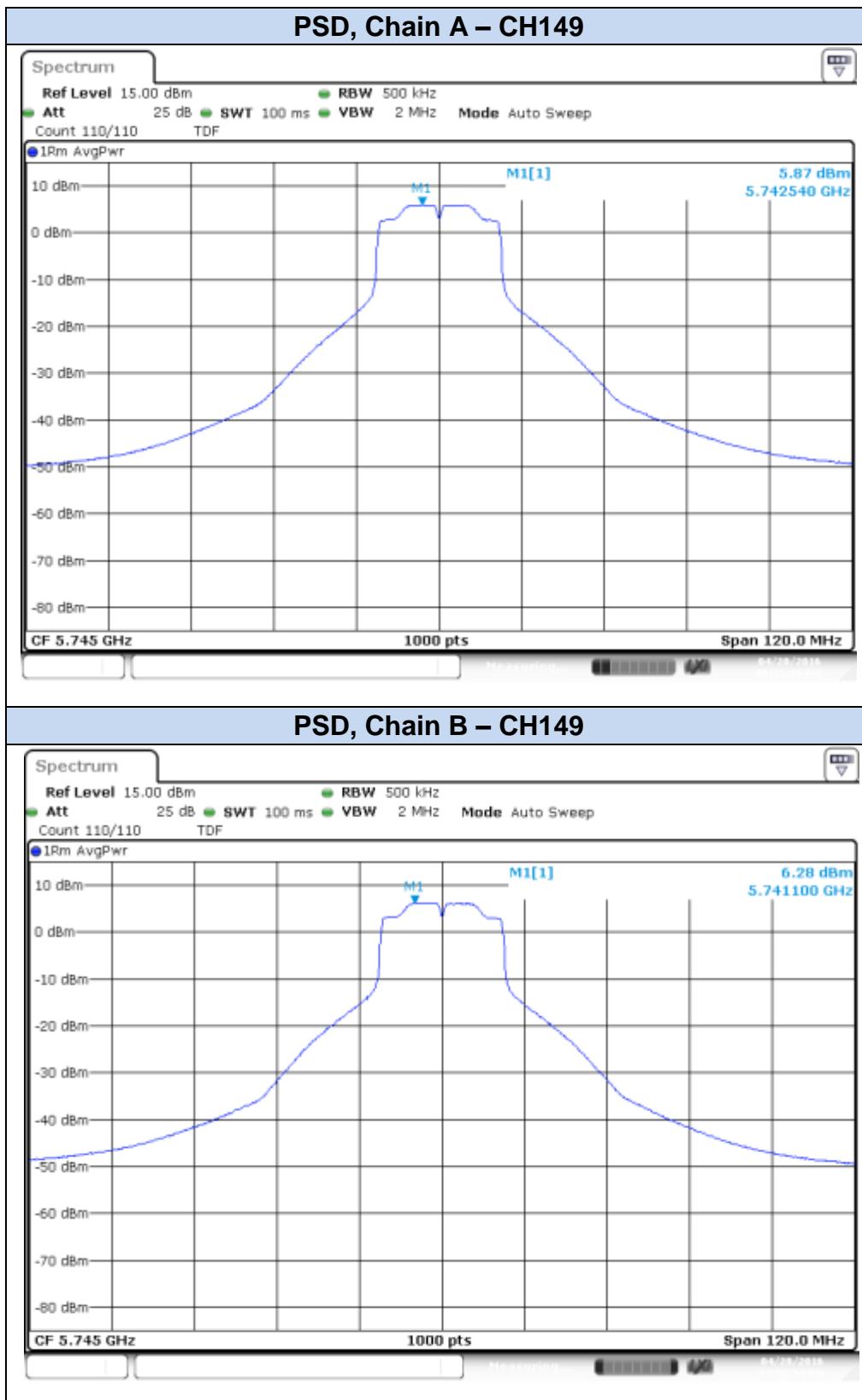


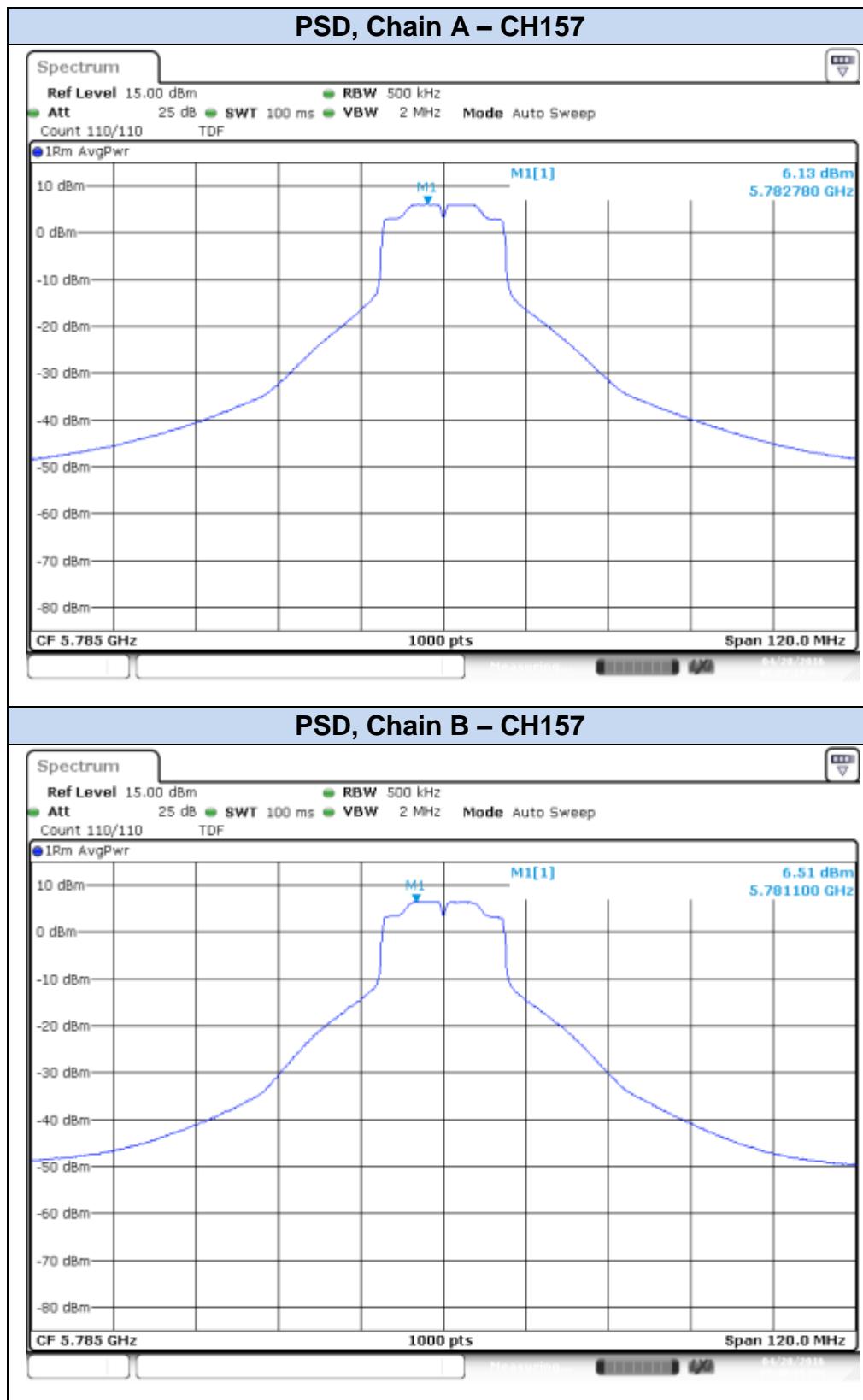


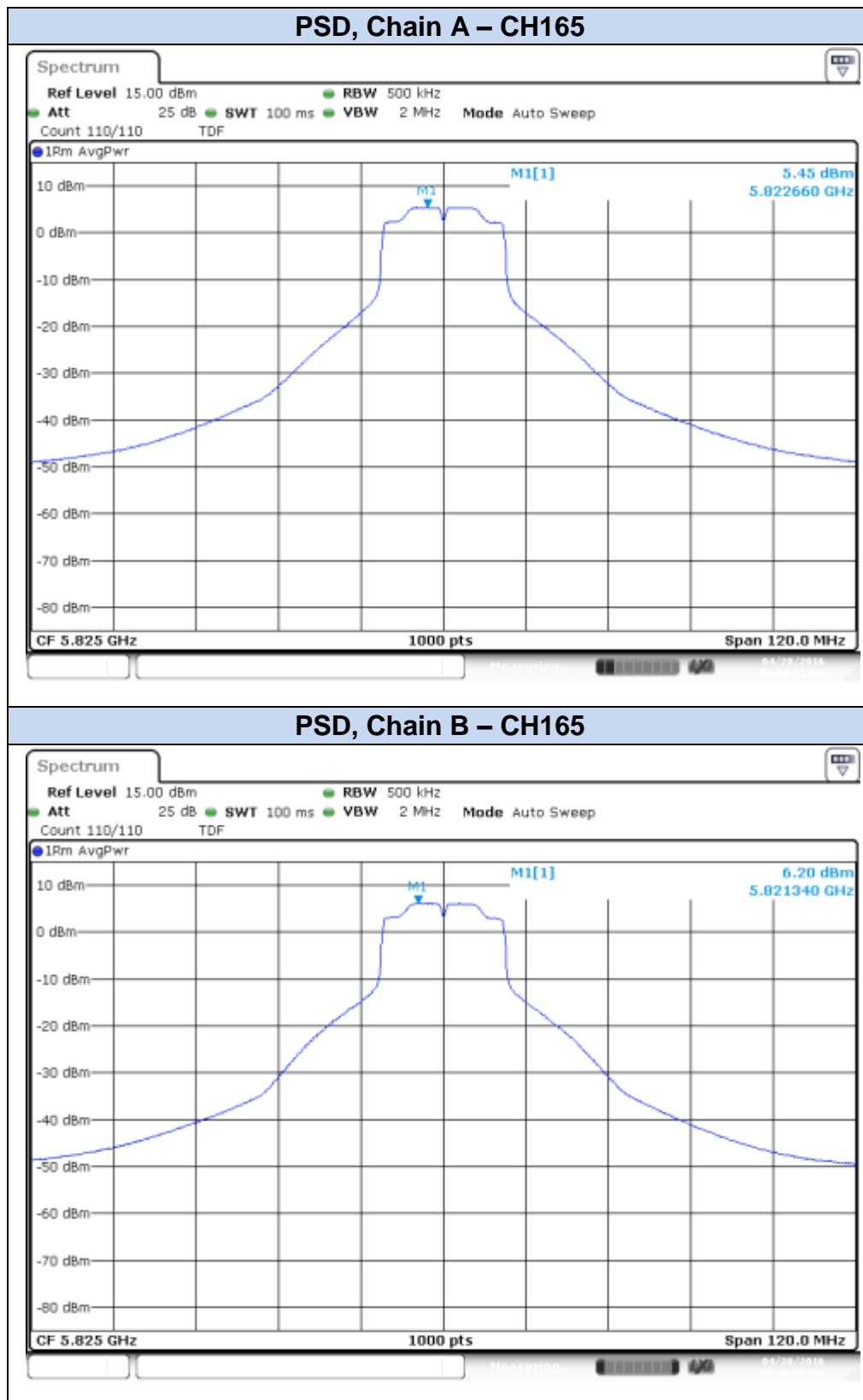


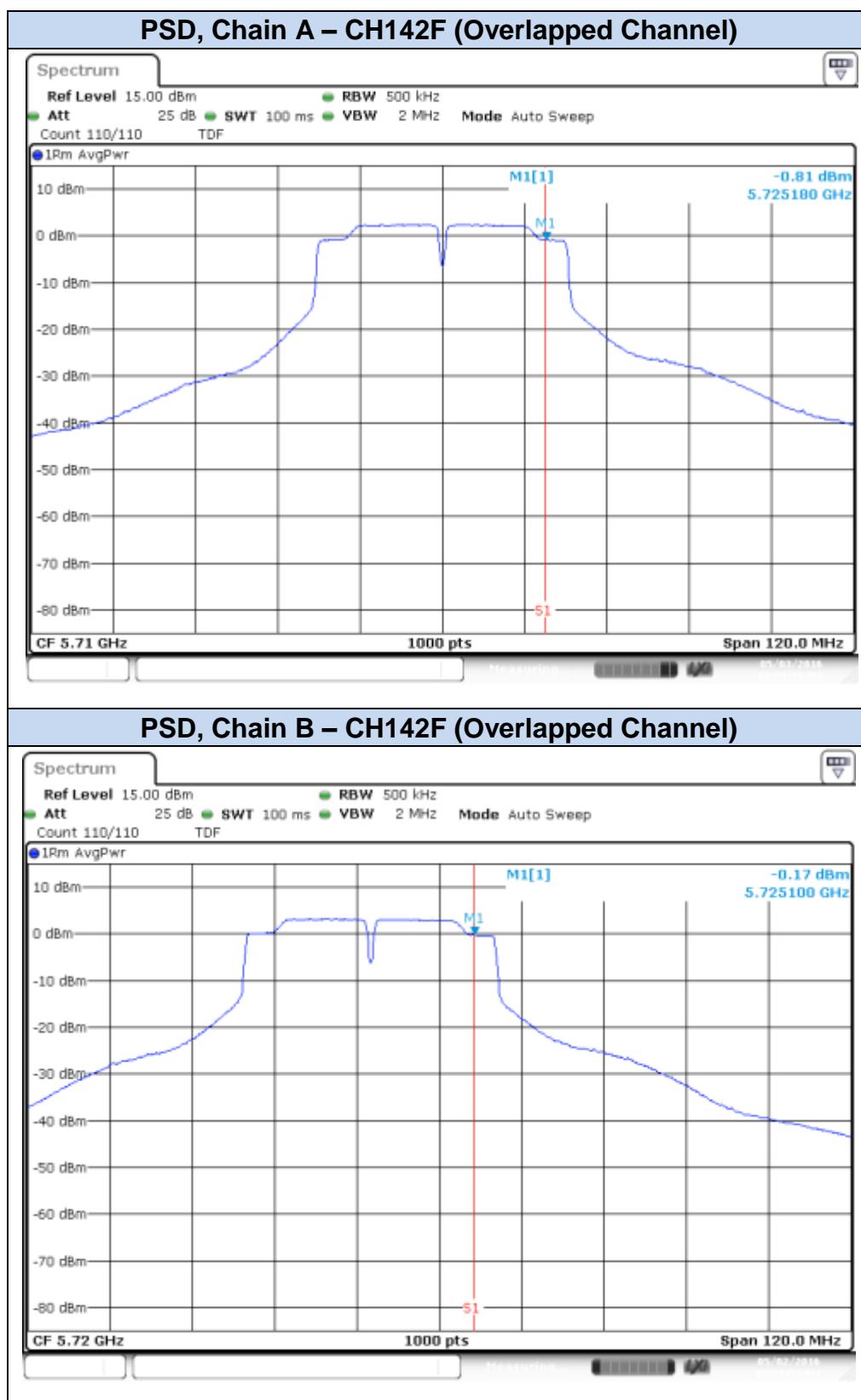
802.11n20, HT8 (MIMO)

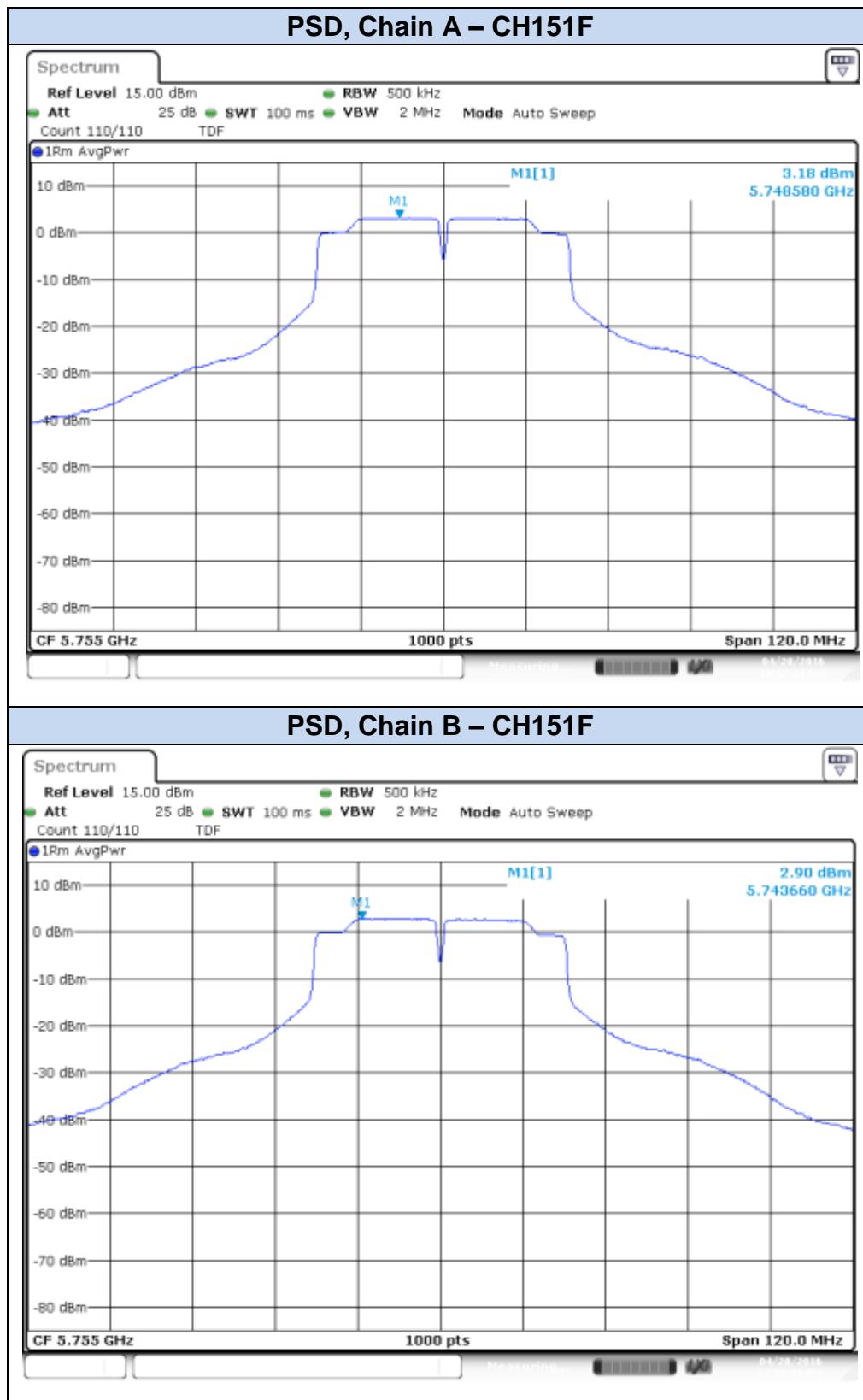


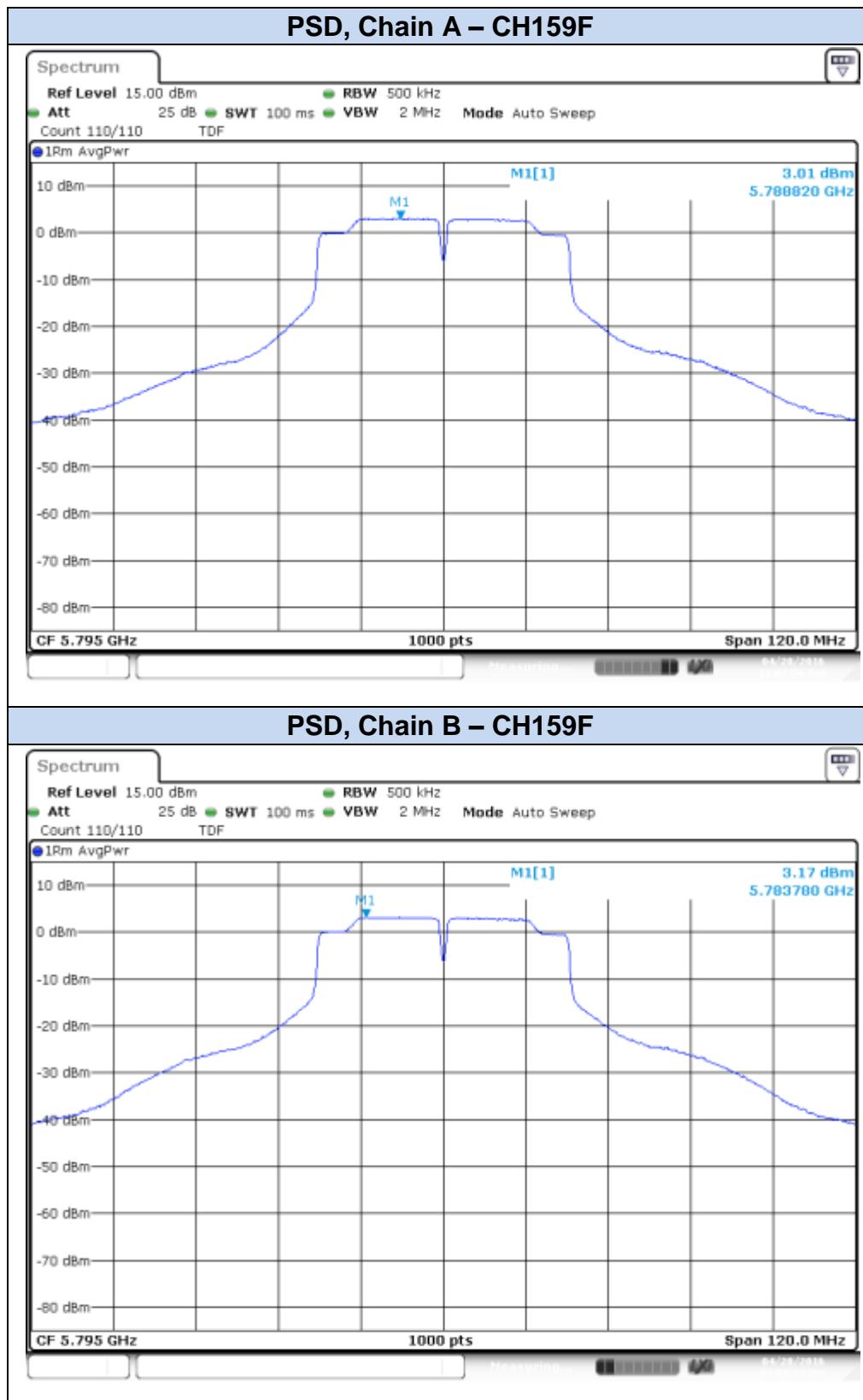




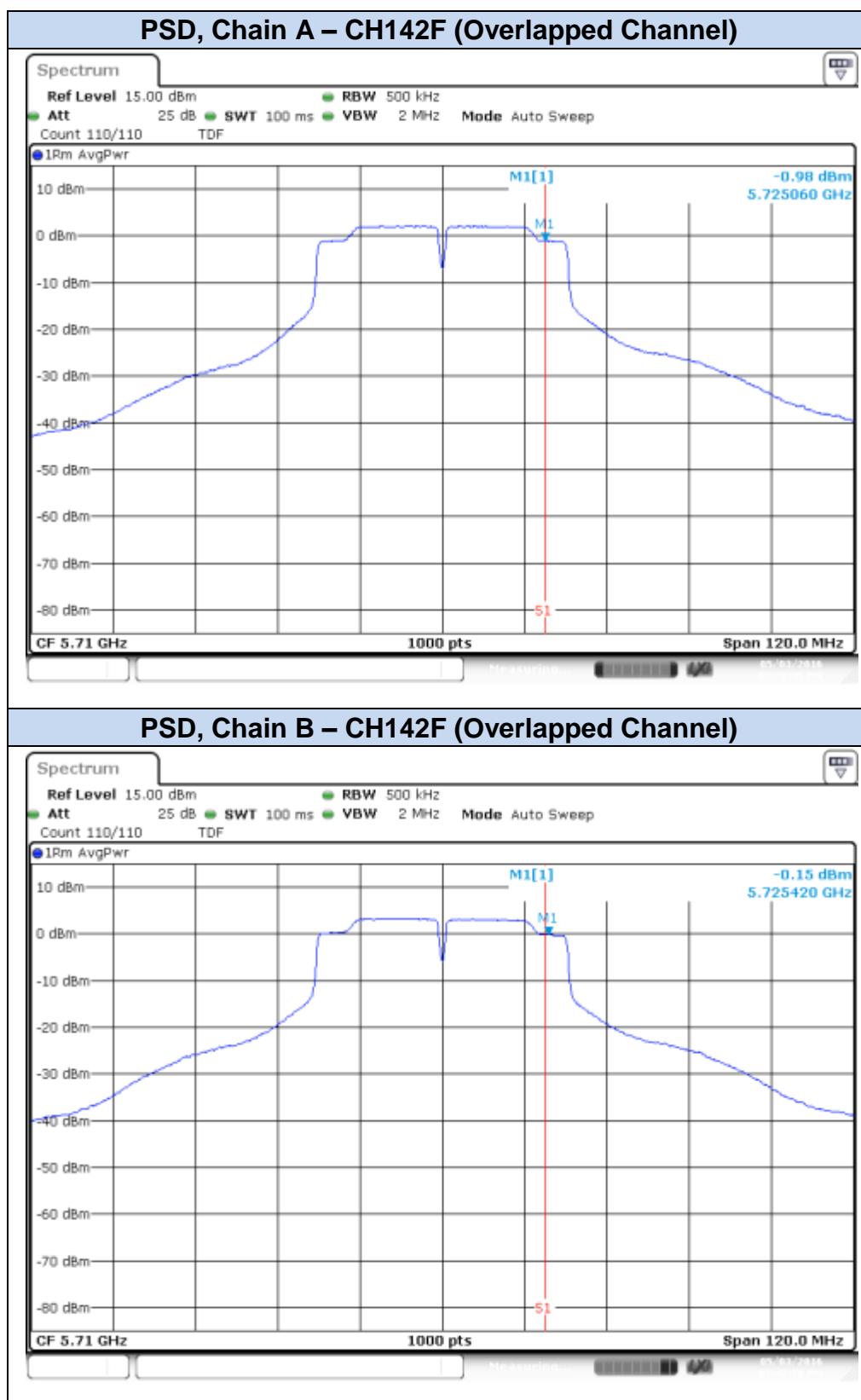


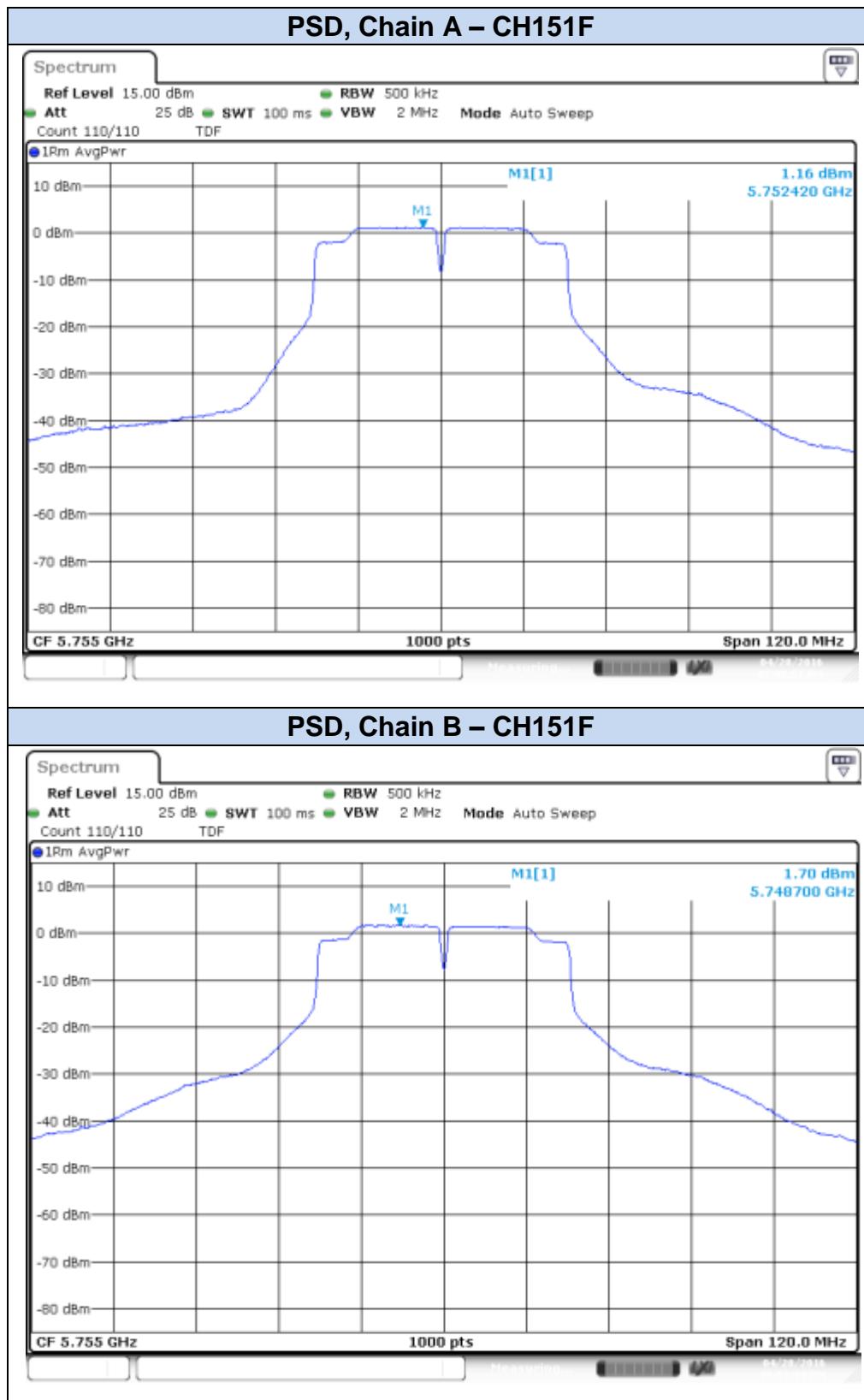
802.11n40, HT0 (SISO)

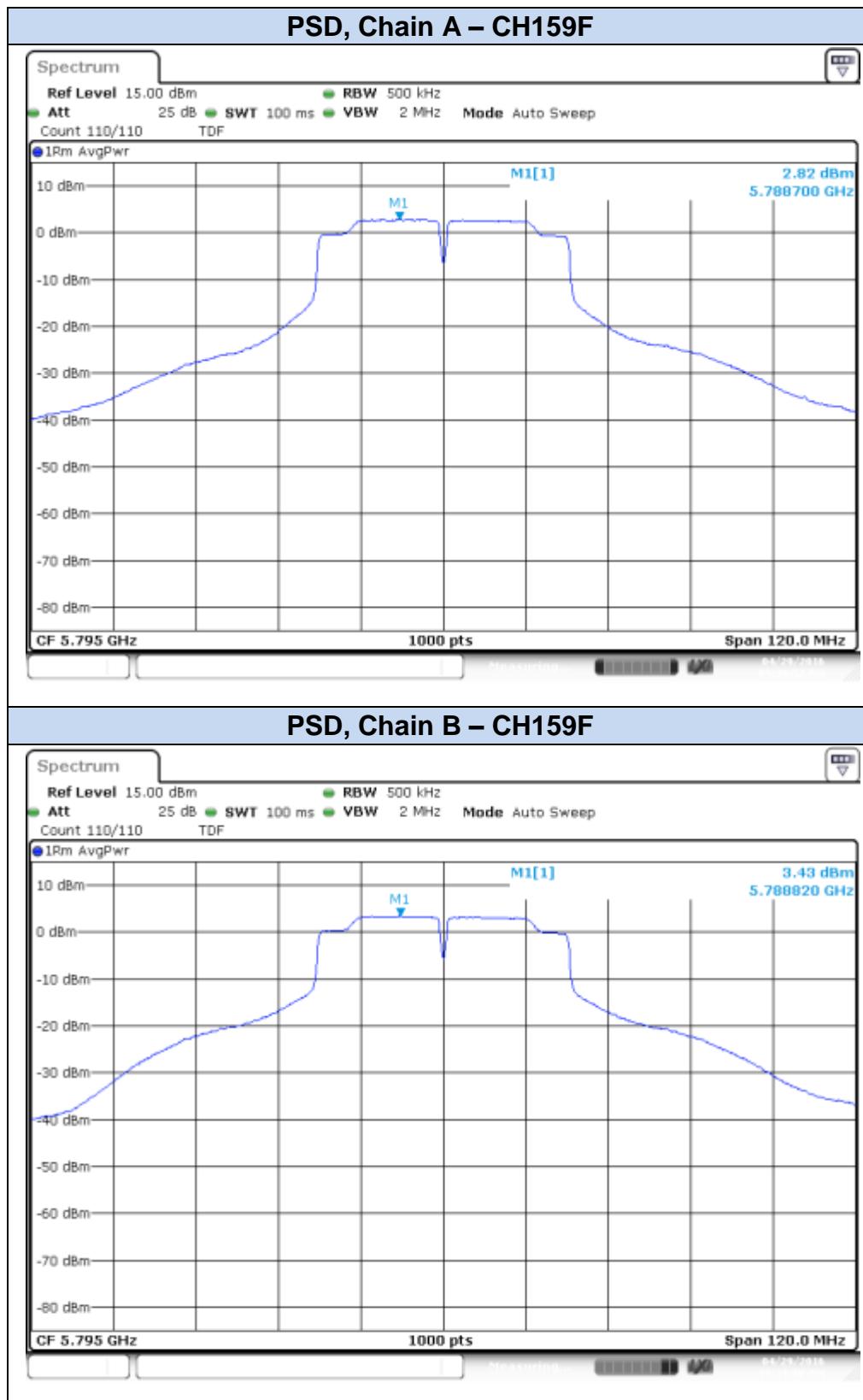




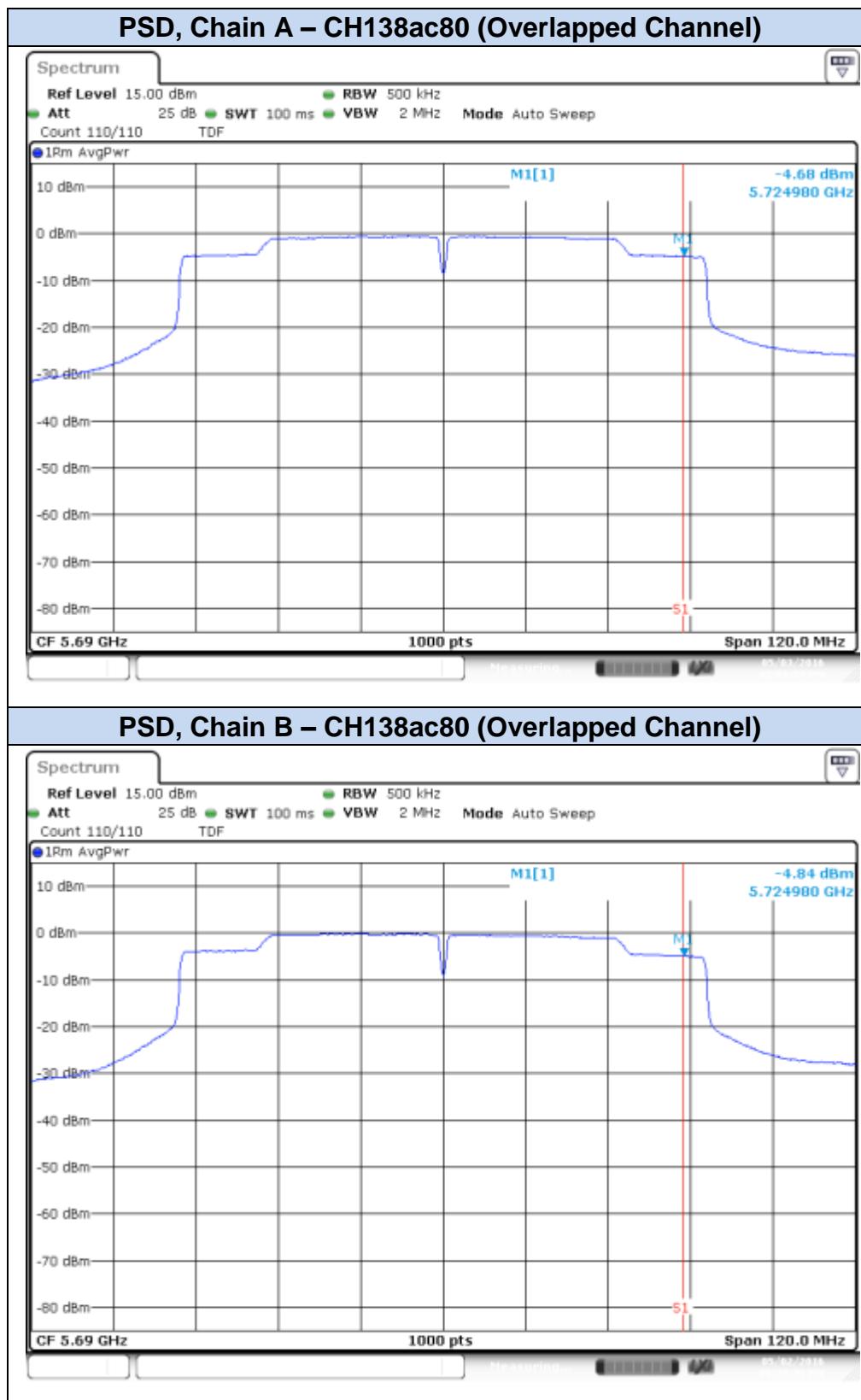
802.11n40, HT8 (MIMO)

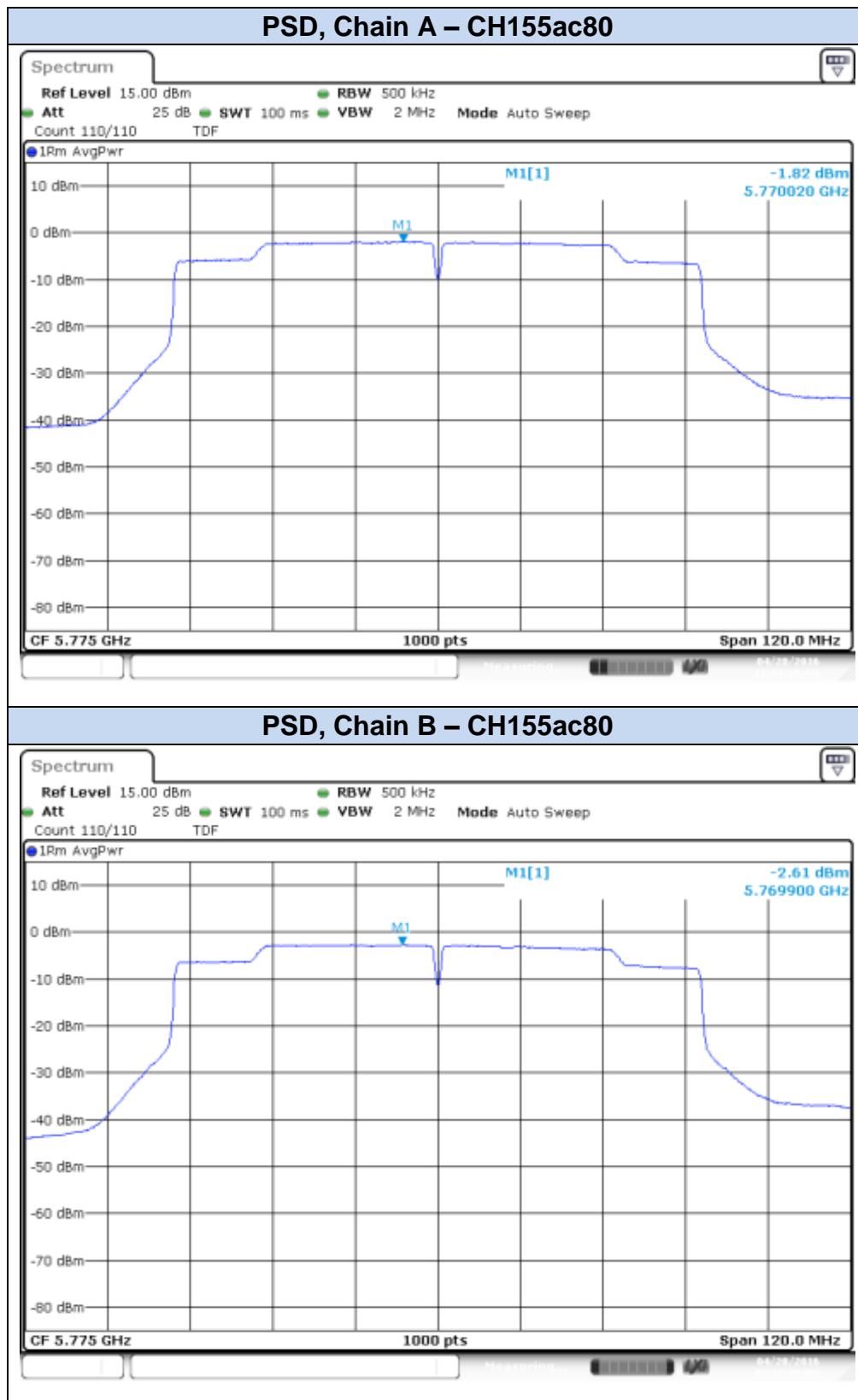






802.11ac80, VHT0 (SISO)





802.11ac80, VHT0 (MIMO)

