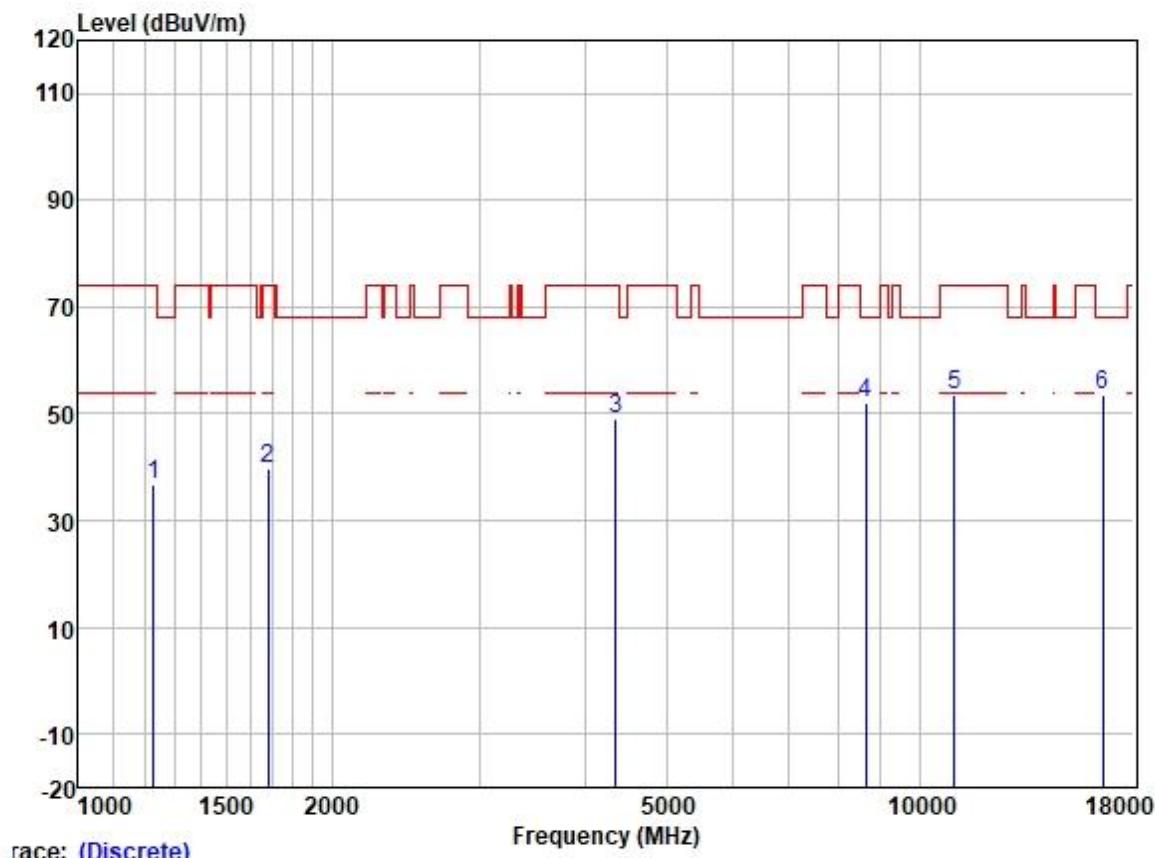


Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1227.791	48.11	24.88	2.31	38.37	36.93	74.00	-37.07	VERTICAL		Peak		
2	1682.477	49.00	25.68	2.80	37.91	39.57	74.00	-34.43	VERTICAL		Peak		
3	4354.454	50.62	30.59	4.68	36.81	49.08	74.00	-24.92	VERTICAL		Peak		
4	8638.399	45.36	37.26	6.92	37.55	51.99	68.20	-16.21	VERTICAL		Peak		
5	11000.000	42.83	40.10	7.71	37.25	53.39	74.00	-20.61	VERTICAL		Peak		
6	16500.000	39.90	39.60	9.44	35.38	53.56	68.20	-14.64	VERTICAL		Peak		

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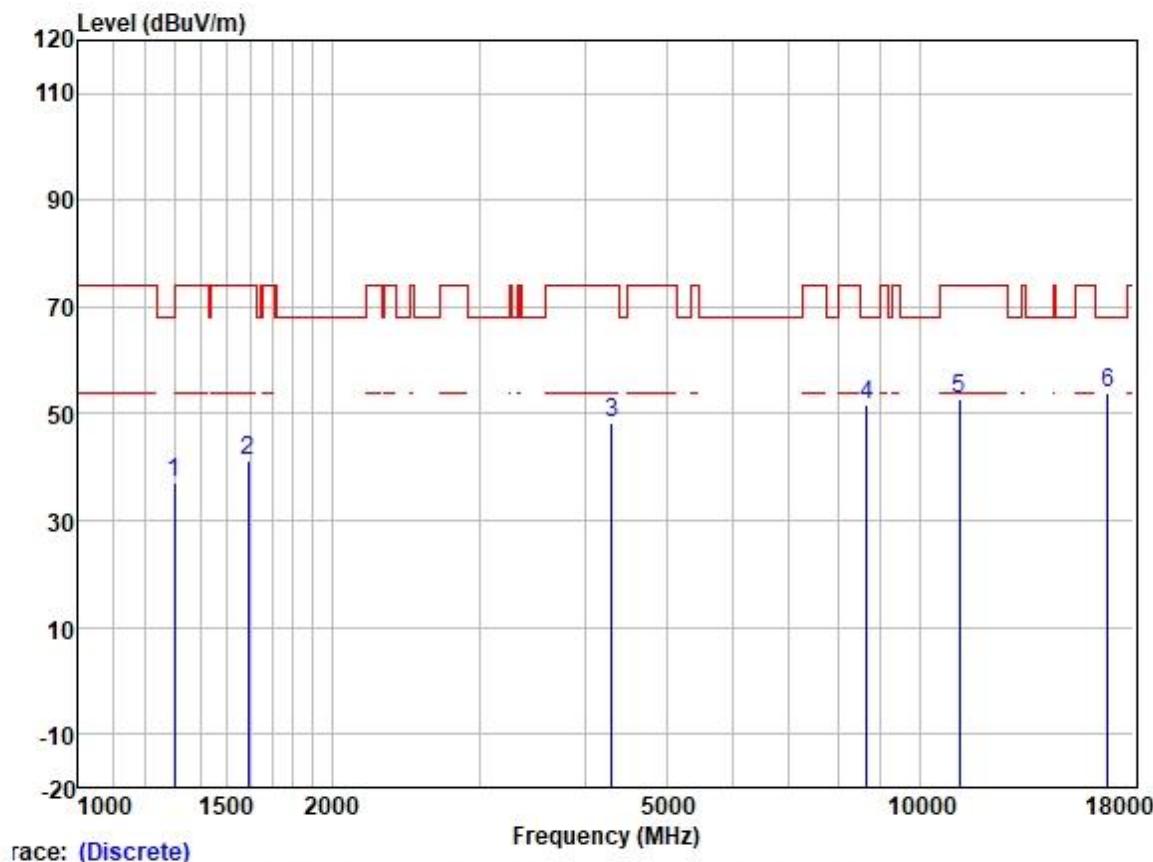
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Test Mode: 12; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Index	Freq	ReadAntenna		Cable		Preamp	Limit	Over	Limit	Pol/Phase	Remark
		MHz	Level	Factor	Loss						
			dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1300.858	47.58	25.20	2.60	38.31	37.07	74.00	-36.93	HORIZONTAL	Peak	
2	1592.571	50.72	25.57	2.80	37.98	41.11	74.00	-32.89	HORIZONTAL	Peak	
3	4304.400	50.12	30.48	4.65	36.81	48.44	74.00	-25.56	HORIZONTAL	Peak	
4	8663.404	45.04	37.27	6.97	37.55	51.73	68.20	-16.47	HORIZONTAL	Peak	
5	11160.000	42.16	40.04	7.90	37.21	52.89	74.00	-21.11	HORIZONTAL	Peak	
6	16740.000	39.47	40.49	9.41	35.37	54.00	68.20	-14.20	HORIZONTAL	Peak	

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Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle

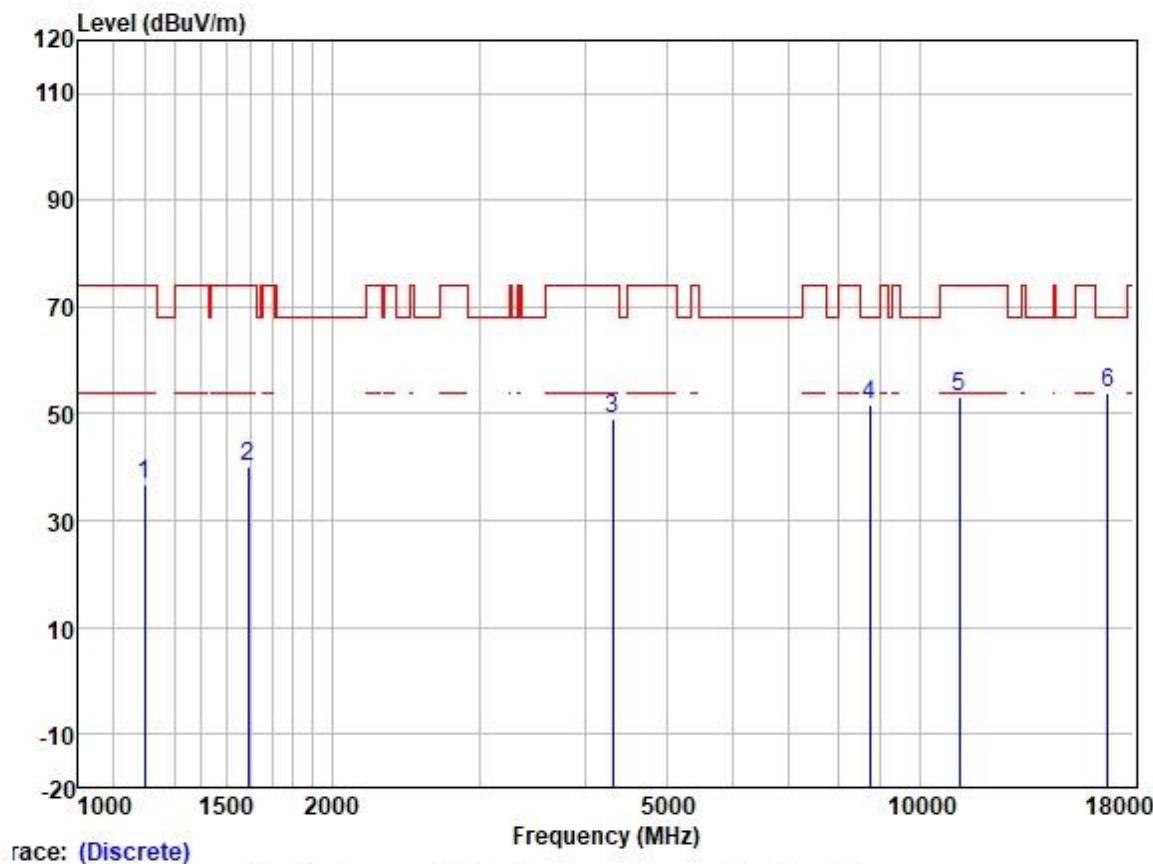


Table: Emission Data

Table showing the emission data for each band:

Band	Center Frequency (MHz)	ReadAntenna Freq (MHz)	Antenna Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Line Level (dBuV/m)	Line Limit (dBuV/m)	Over Line (dB)	Pol/Phase	Remark
1	1199.726	1199.726	48.29	24.68	2.34	38.39	36.92	74.00	-37.08	VERTICAL	Peak
2	1592.571	1592.571	49.71	25.57	2.80	37.98	40.10	74.00	-33.90	VERTICAL	Peak
3	4316.859	4316.859	50.68	30.51	4.66	36.81	49.04	74.00	-24.96	VERTICAL	Peak
4	8738.852	8738.852	44.69	37.31	7.13	37.54	51.59	68.20	-16.61	VERTICAL	Peak
5	11160.000	11160.000	42.29	40.04	7.90	37.21	53.02	74.00	-20.98	VERTICAL	Peak
6	16740.000	16740.000	39.41	40.49	9.41	35.37	53.94	68.20	-14.26	VERTICAL	Peak

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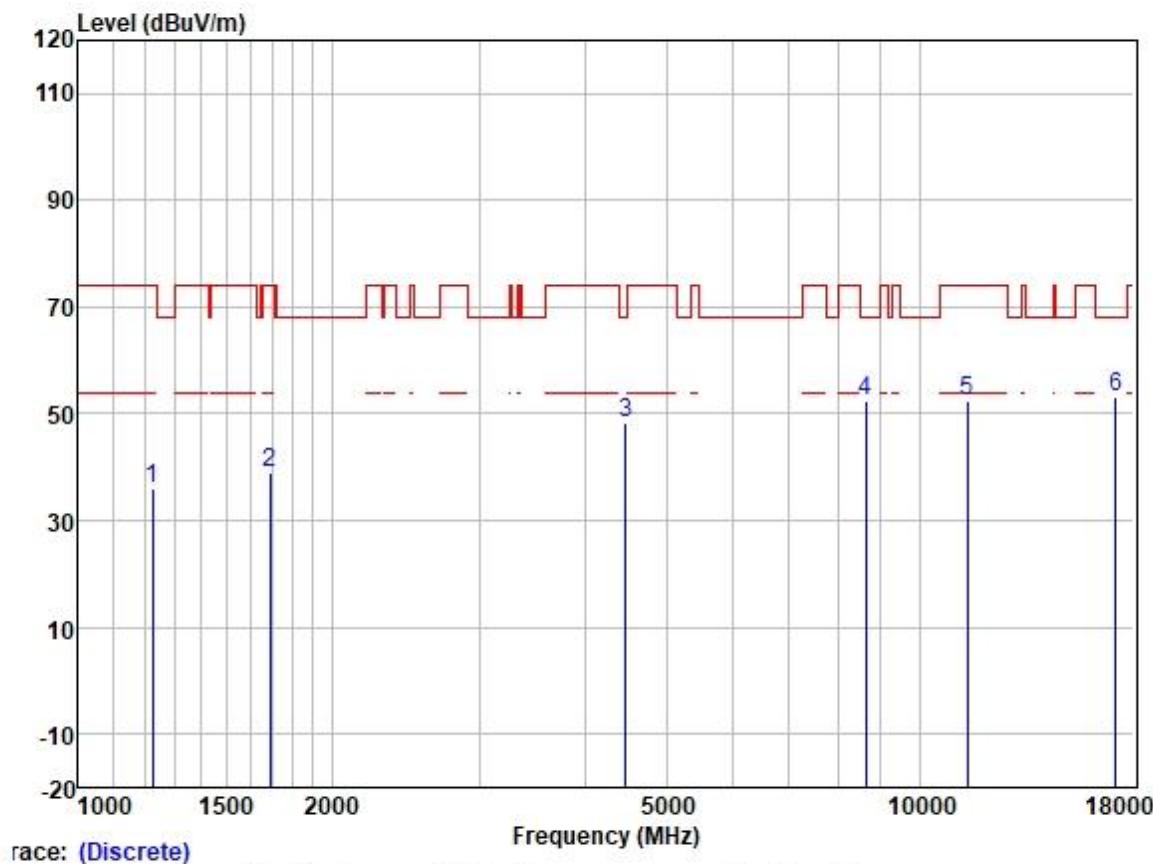
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Test Mode: 12; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Rate: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1224.247	47.35	24.85	2.31	38.37	36.14	74.00	-37.86	HORIZONTAL	Peak			
2	1692.231	48.40	25.70	2.80	37.89	39.01	74.00	-34.99	HORIZONTAL	Peak			
3	4469.214	49.55	30.77	4.93	36.81	48.44	68.20	-19.76	HORIZONTAL	Peak			
4	8638.399	45.61	37.26	6.92	37.55	52.24	68.20	-15.96	HORIZONTAL	Peak			
5	11400.000	41.46	39.94	8.28	37.16	52.52	74.00	-21.48	HORIZONTAL	Peak			
6	17100.000	36.62	42.32	9.63	35.34	53.23	68.20	-14.97	HORIZONTAL	Peak			

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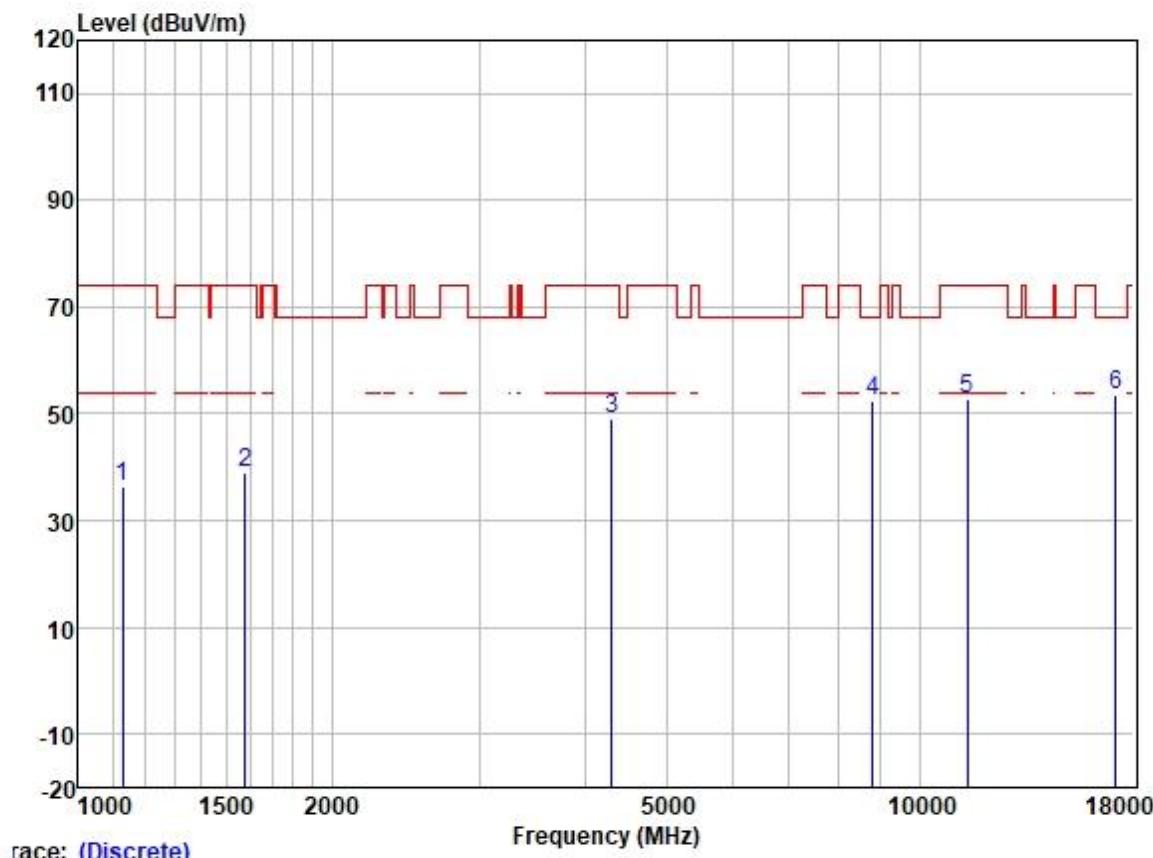
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Test Mode: 12; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Rate: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1129.072	48.26	24.43	2.20	38.43	36.46	74.00	-37.54	VERTICAL	Peak			
2	1578.822	48.65	25.56	2.80	38.00	39.01	74.00	-34.99	VERTICAL	Peak			
3	4304.400	50.80	30.48	4.65	36.81	49.12	74.00	-24.88	VERTICAL	Peak			
4	8789.516	45.33	37.33	7.24	37.54	52.36	68.20	-15.84	VERTICAL	Peak			
5	11400.000	41.82	39.94	8.28	37.16	52.88	74.00	-21.12	VERTICAL	Peak			
6	17100.000	36.94	42.32	9.63	35.34	53.55	68.20	-14.65	VERTICAL	Peak			

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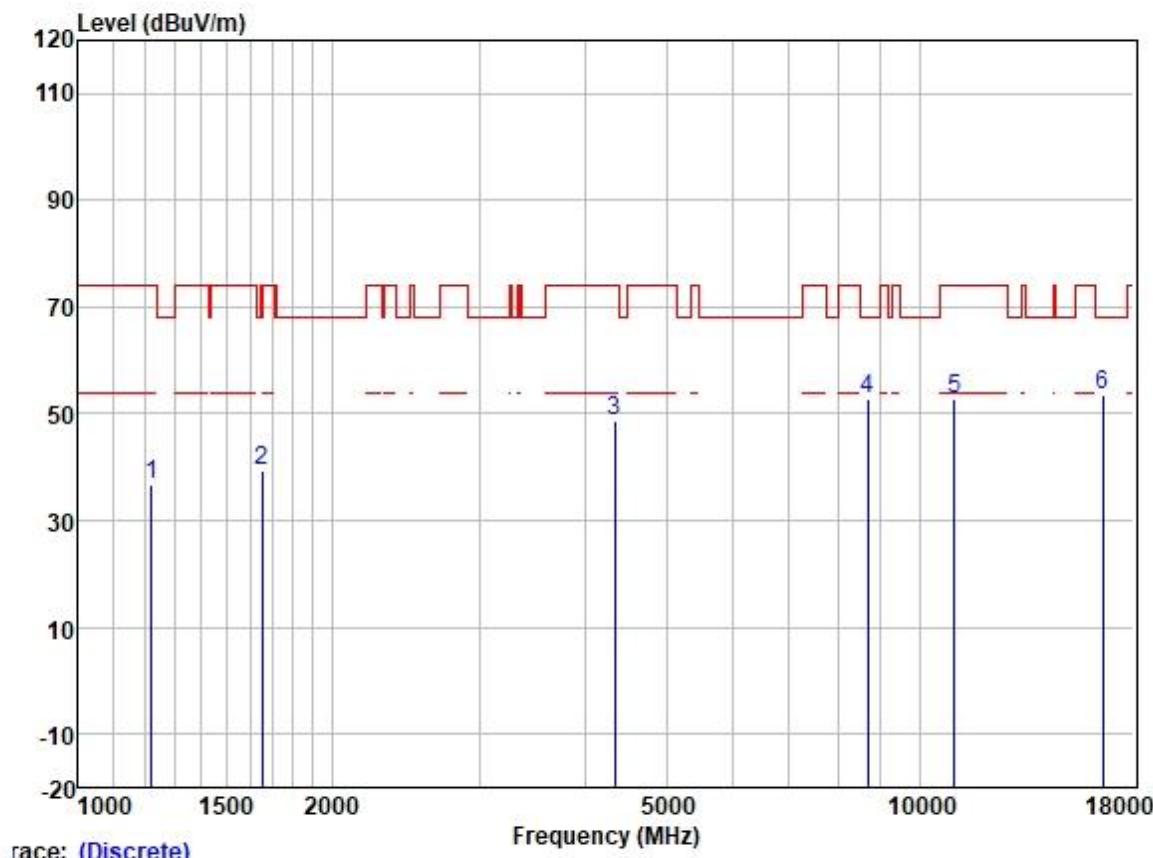
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Test Mode: 12; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Factor	Loss	dB	dB	dBuV/m	dBuV/m
1	1220.714	48.01	24.82	2.32	38.37	36.78	74.00	-37.22 HORIZONTAL Peak
2	1653.550	48.99	25.64	2.80	37.93	39.50	68.20	-28.70 HORIZONTAL Peak
3	4341.886	50.29	30.57	4.67	36.81	48.72	74.00	-25.28 HORIZONTAL Peak
4	8688.480	46.20	37.28	7.02	37.55	52.95	68.20	-15.25 HORIZONTAL Peak
5	11000.000	42.32	40.10	7.71	37.25	52.88	74.00	-21.12 HORIZONTAL Peak
6	16500.000	39.71	39.60	9.44	35.38	53.37	68.20	-14.83 HORIZONTAL Peak

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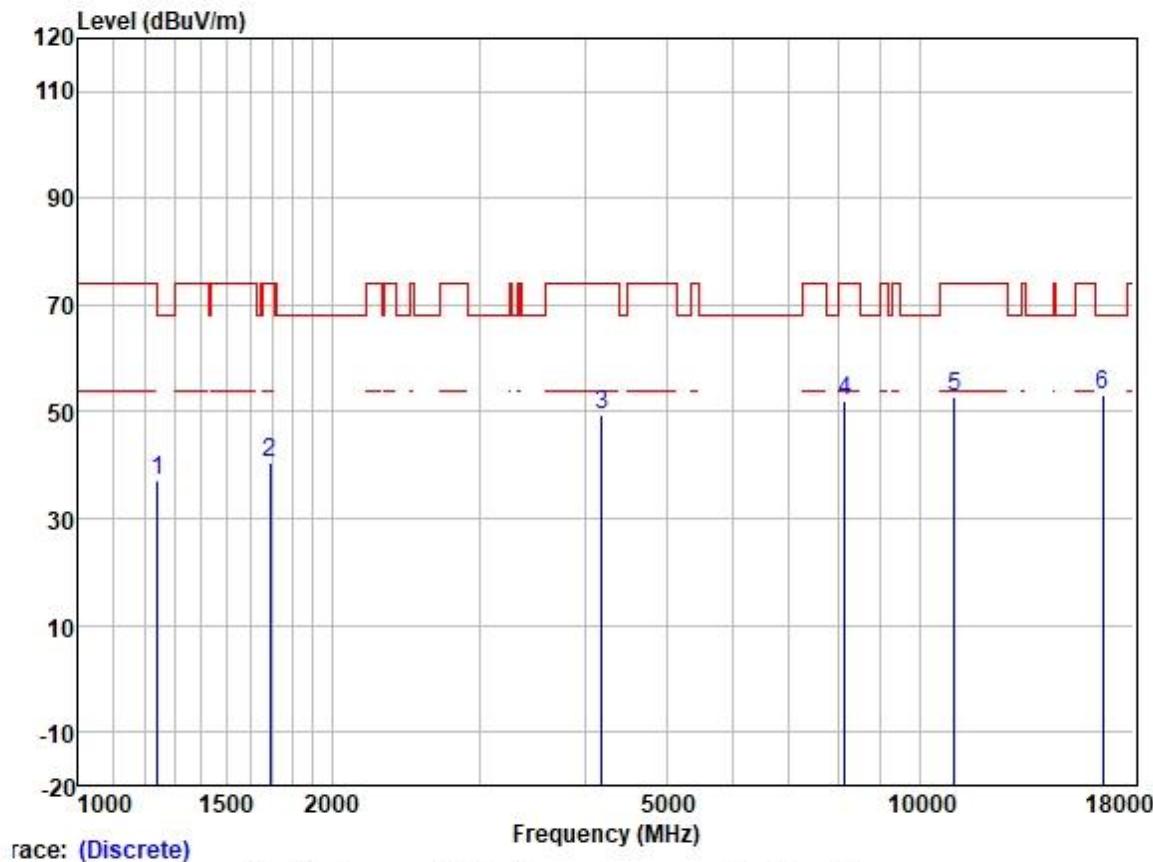
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Test Mode: 12; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Mode: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	Level	Factor	Loss							
	dBuV	dB/m		dB	dBuV/m	dBuV/m	dB				
1	1242.068	48.08	24.98	2.31	38.35	37.02	68.20	-31.18	VERTICAL	Peak	
2	1692.231	49.82	25.70	2.80	37.89	40.43	74.00	-33.57	VERTICAL	Peak	
3	4193.872	51.36	30.15	4.60	36.81	49.30	74.00	-24.70	VERTICAL	Peak	
4	8153.195	46.41	36.96	6.30	37.59	52.08	74.00	-21.92	VERTICAL	Peak	
5	11000.000	42.27	40.10	7.71	37.25	52.83	74.00	-21.17	VERTICAL	Peak	
6	16500.000	39.37	39.60	9.44	35.38	53.03	68.20	-15.17	VERTICAL	Peak	

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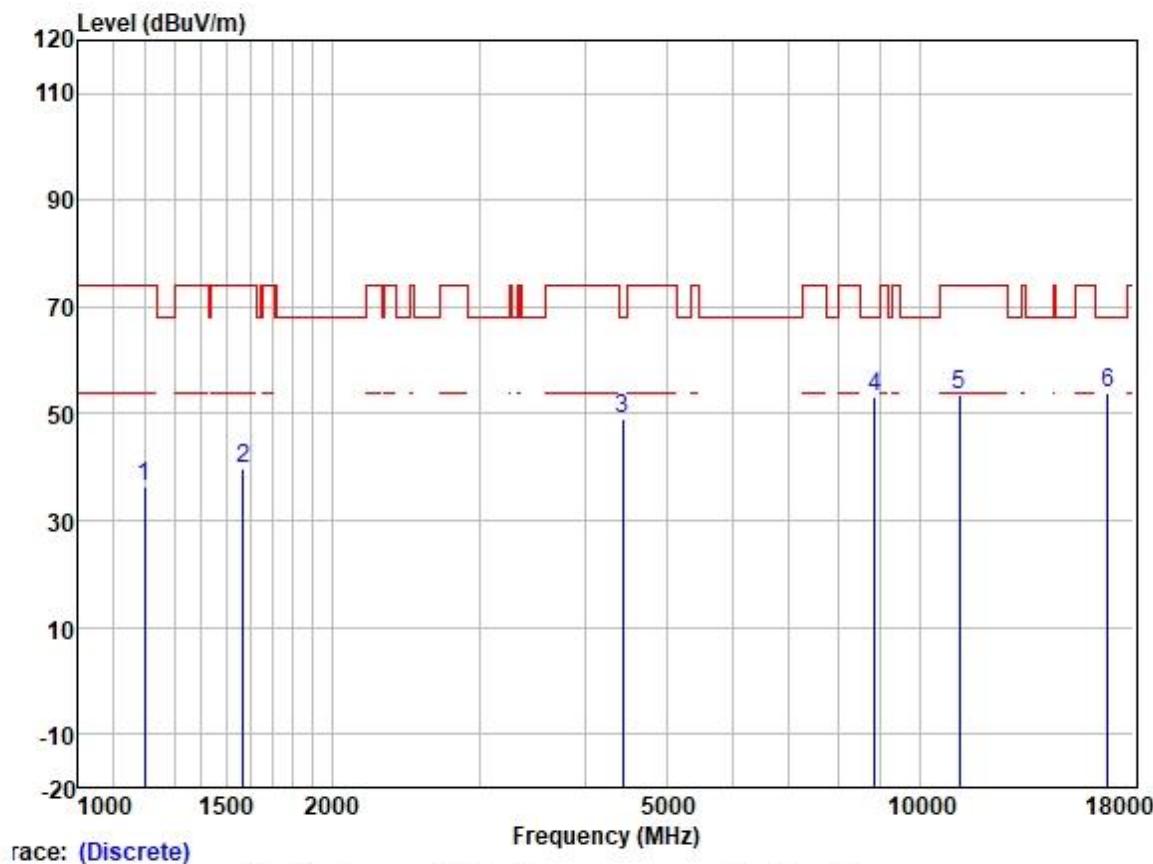
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Test Mode: 12; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Index	Freq	ReadAntenna		Cable		Preamp	Limit	Over	Limit	Pol/Phase	Remark
		MHz	Level	Factor	Loss						
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	1199.726	47.65	24.68	2.34	38.39	36.28	74.00	-37.72	HORIZONTAL	Peak	
2	1569.721	49.40	25.55	2.80	38.00	39.75	74.00	-34.25	HORIZONTAL	Peak	
3	4443.453	50.41	30.73	4.83	36.81	49.16	68.20	-19.04	HORIZONTAL	Peak	
4	8840.473	45.83	37.35	7.34	37.53	52.99	68.20	-15.21	HORIZONTAL	Peak	
5	11160.000	42.75	40.04	7.90	37.21	53.48	74.00	-20.52	HORIZONTAL	Peak	
6	16740.000	39.26	40.49	9.41	35.37	53.79	68.20	-14.41	HORIZONTAL	Peak	

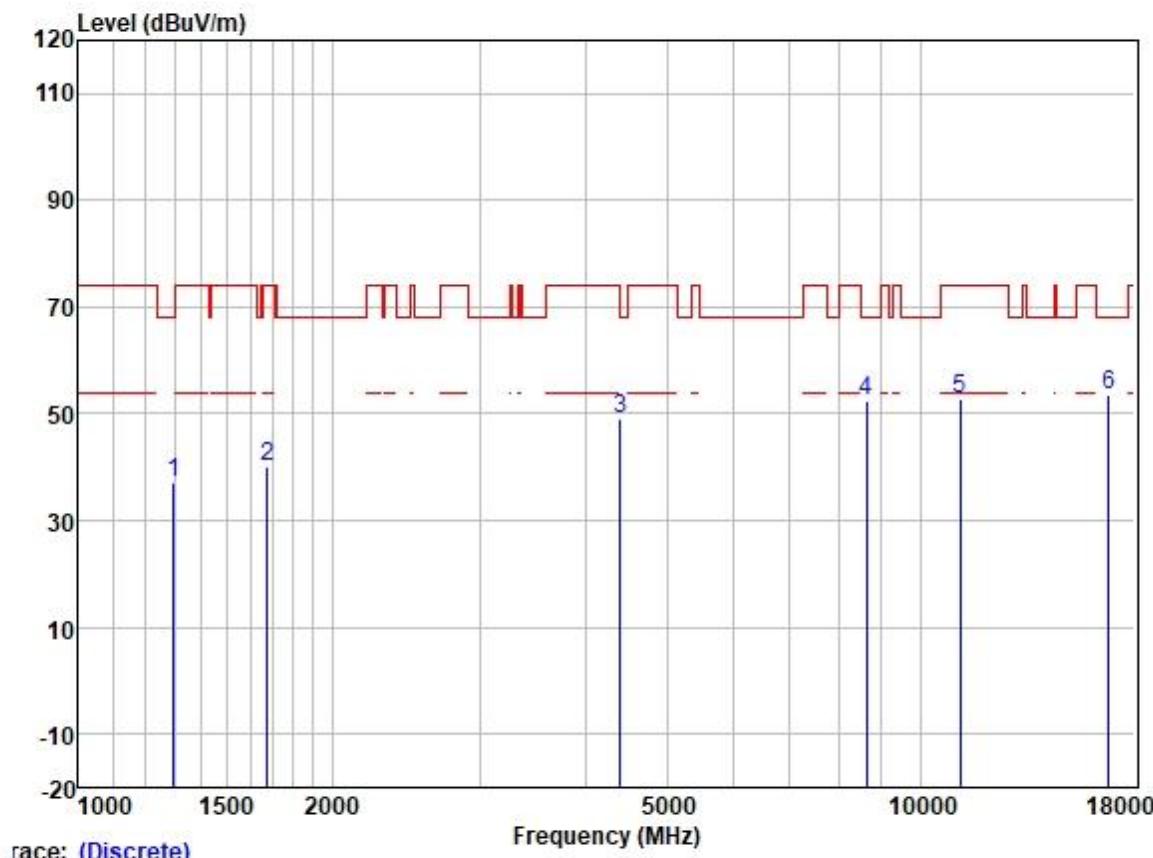
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Test Mode: 12; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss Factor	Level	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	dBuV	Factor	dB									
1	1297.103	47.64	25.19	2.58	38.31	37.10	68.20	-31.10	VERTICAL			Peak	
2	1677.621	49.58	25.68	2.80	37.91	40.15	74.00	-33.85	VERTICAL			Peak	
3	4405.090	50.43	30.68	4.70	36.81	49.00	68.20	-19.20	VERTICAL			Peak	
4	8638.399	45.79	37.26	6.92	37.55	52.42	68.20	-15.78	VERTICAL			Peak	
5	11160.000	42.16	40.04	7.90	37.21	52.89	74.00	-21.11	VERTICAL			Peak	
6	16740.000	39.20	40.49	9.41	35.37	53.73	68.20	-14.47	VERTICAL			Peak	

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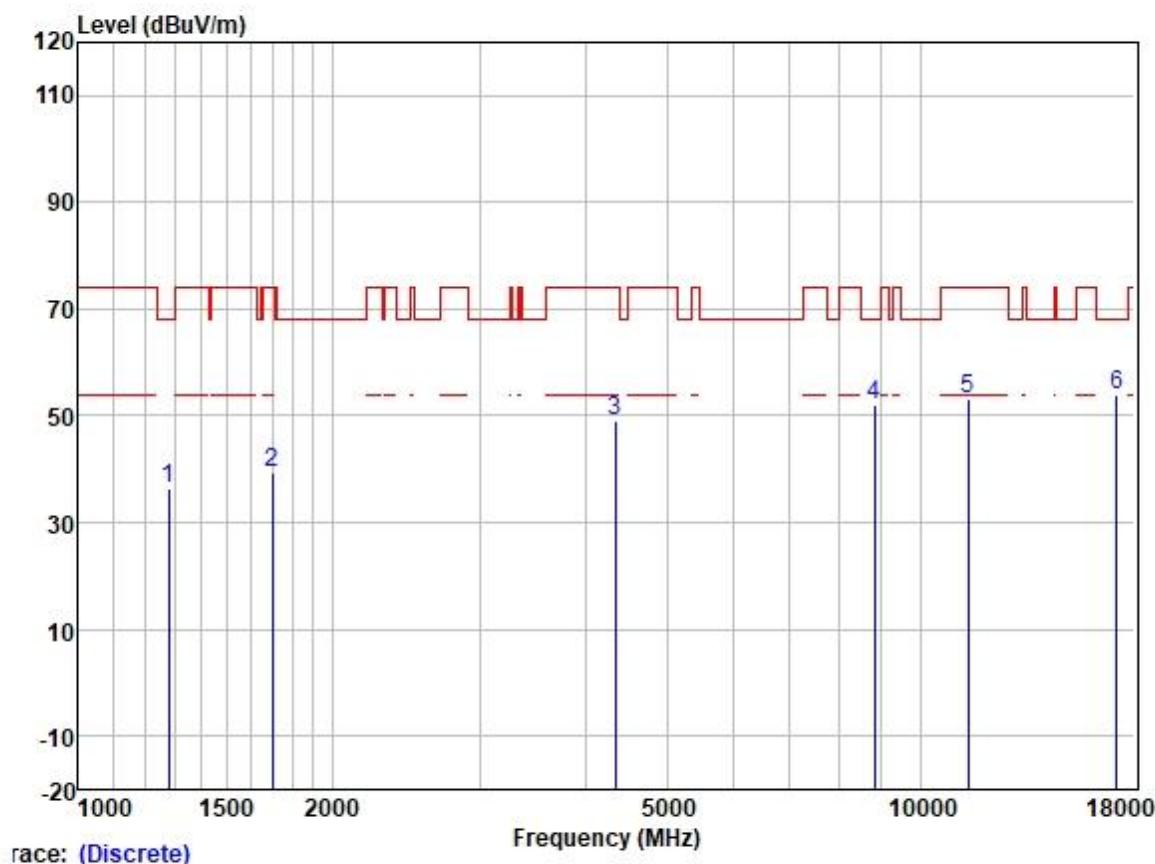
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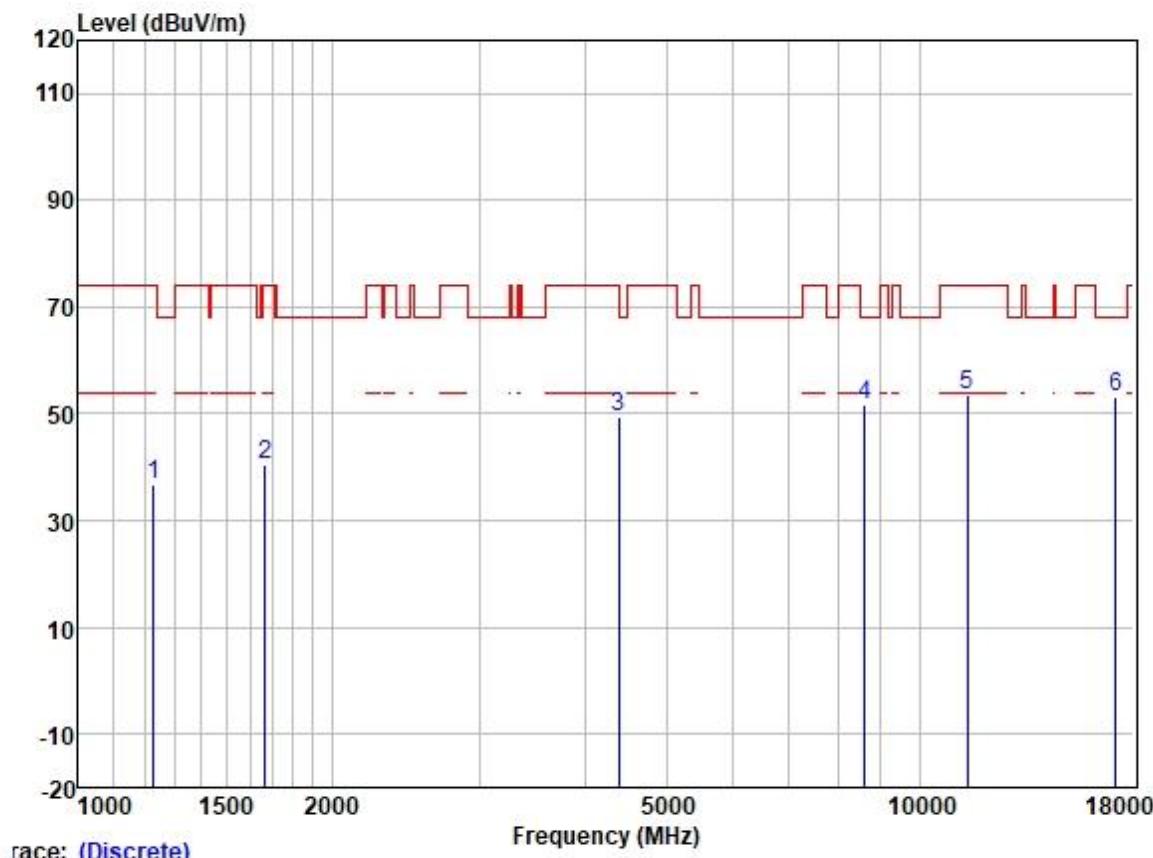
Test Mode: 12; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



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Test Mode: 12; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	dB/m	dB				
1	1227.791	48.02	24.88	2.31	38.37	36.84	74.00	-37.16 VERTICAL Peak
2	1667.951	49.97	25.66	2.80	37.91	40.52	74.00	-33.48 VERTICAL Peak
3	4392.376	50.73	30.66	4.70	36.81	49.28	74.00	-24.72 VERTICAL Peak
4	8613.468	45.15	37.24	6.88	37.56	51.71	68.20	-16.49 VERTICAL Peak
5	11400.000	42.46	39.94	8.28	37.16	53.52	74.00	-20.48 VERTICAL Peak
6	17100.000	36.48	42.32	9.63	35.34	53.09	68.20	-15.11 VERTICAL Peak

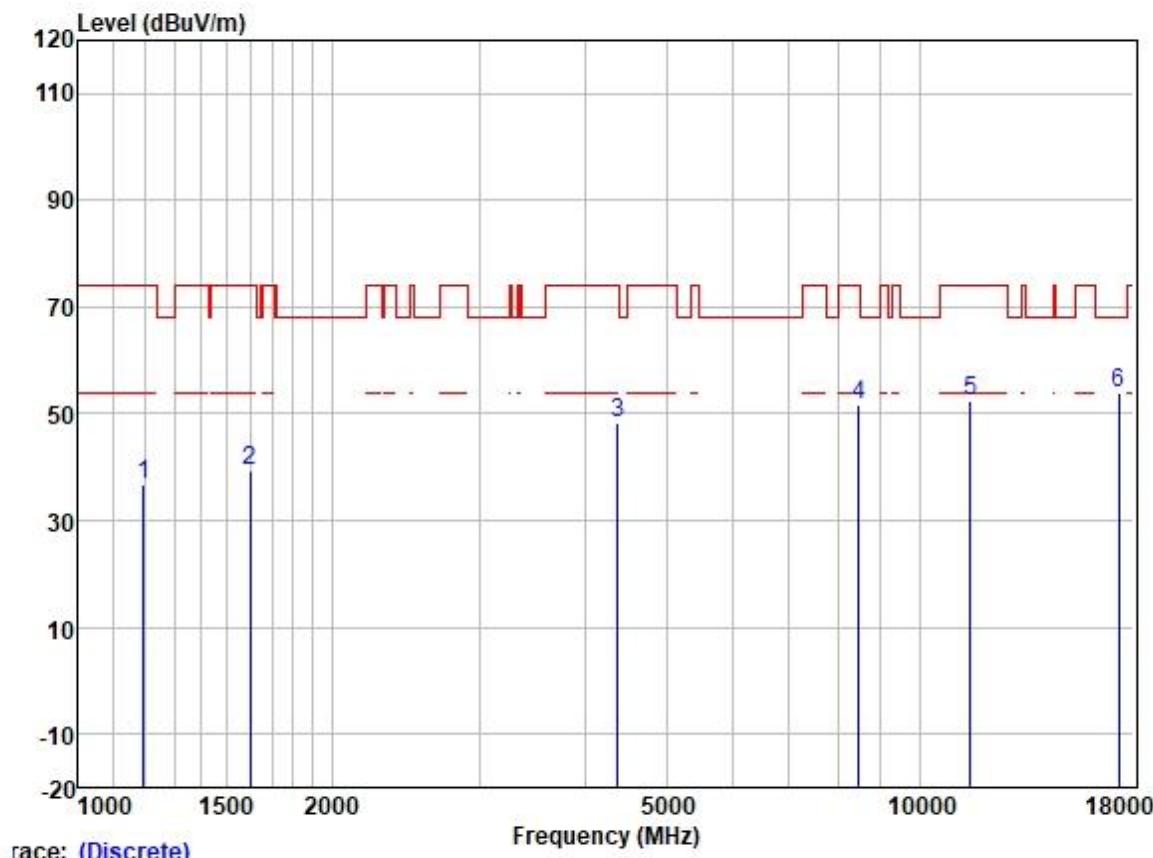
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Test Mode: 13; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Mode: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	Level	Factor	Loss	Factor					
	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	1196.264	48.02	24.67	2.35	38.39	36.65	74.00	-37.35	HORIZONTAL	Peak
2	1601.804	48.96	25.58	2.80	37.98	39.36	74.00	-34.64	HORIZONTAL	Peak
3	4379.699	49.86	30.64	4.69	36.81	48.38	74.00	-25.62	HORIZONTAL	Peak
4	8465.379	45.30	37.13	6.68	37.57	51.54	74.00	-22.46	HORIZONTAL	Peak
5	11490.000	41.36	39.90	8.41	37.15	52.52	74.00	-21.48	HORIZONTAL	Peak
6	17235.000	36.10	43.01	10.08	35.33	53.86	68.20	-14.34	HORIZONTAL	Peak

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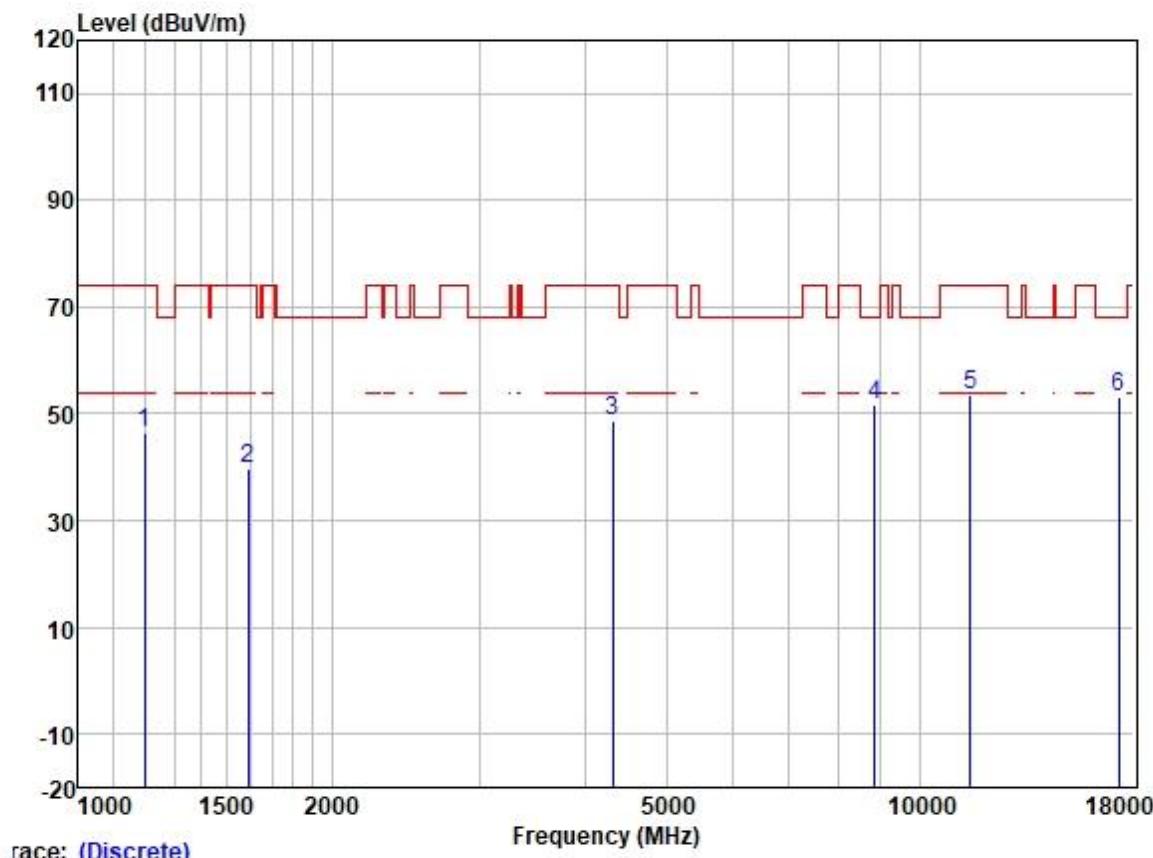
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Test Mode: 13; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	Level	Factor	Loss							
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	1199.726	57.78	24.68	2.34	38.39	46.41	74.00	-27.59	VERTICAL	Peak	
2	1592.571	49.20	25.57	2.80	37.98	39.59	74.00	-34.41	VERTICAL	Peak	
3	4316.859	50.28	30.51	4.66	36.81	48.64	74.00	-25.36	VERTICAL	Peak	
4	8840.473	44.42	37.35	7.34	37.53	51.58	68.20	-16.62	VERTICAL	Peak	
5	11490.000	42.44	39.90	8.41	37.15	53.60	74.00	-20.40	VERTICAL	Peak	
6	17235.000	35.56	43.01	10.08	35.33	53.32	68.20	-14.88	VERTICAL	Peak	

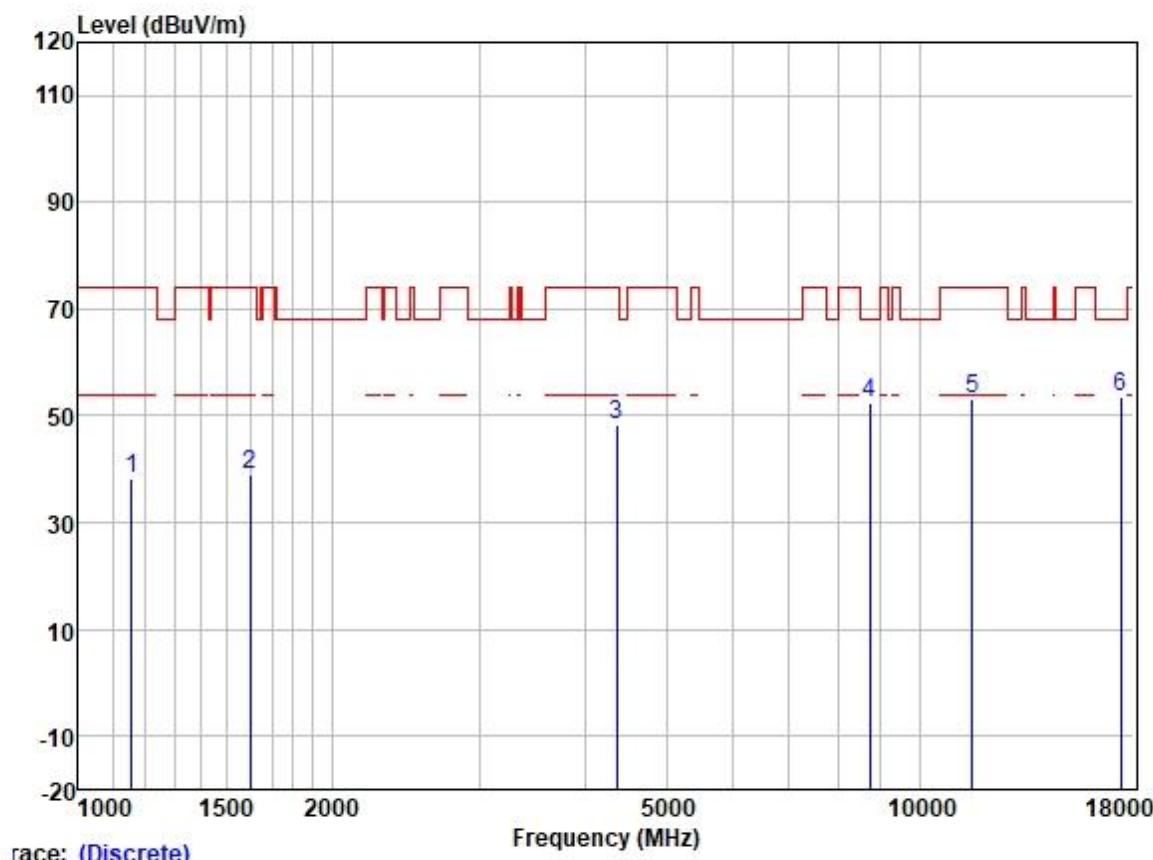
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Test Mode: 13; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1155.483	49.68	24.51	2.38	38.42	38.15	74.00	-35.85	HORIZONTAL	Peak			
2	1601.804	48.53	25.58	2.80	37.98	38.93	74.00	-35.07	HORIZONTAL	Peak			
3	4367.058	49.91	30.62	4.68	36.81	48.40	74.00	-25.60	HORIZONTAL	Peak			
4	8738.852	45.62	37.31	7.13	37.54	52.52	68.20	-15.68	HORIZONTAL	Peak			
5	11570.000	41.99	39.78	8.38	37.14	53.01	74.00	-20.99	HORIZONTAL	Peak			
6	17355.000	35.25	43.40	10.39	35.32	53.72	68.20	-14.48	HORIZONTAL	Peak			

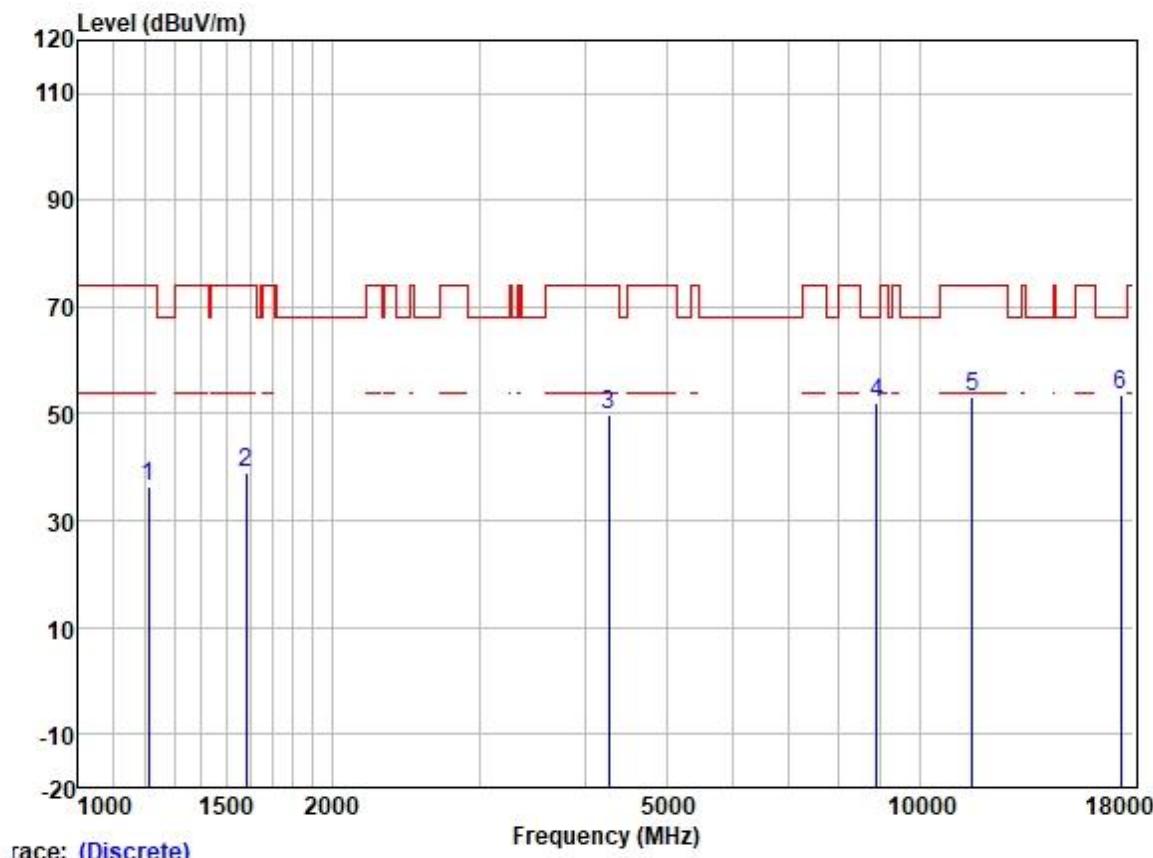
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Test Mode: 13; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



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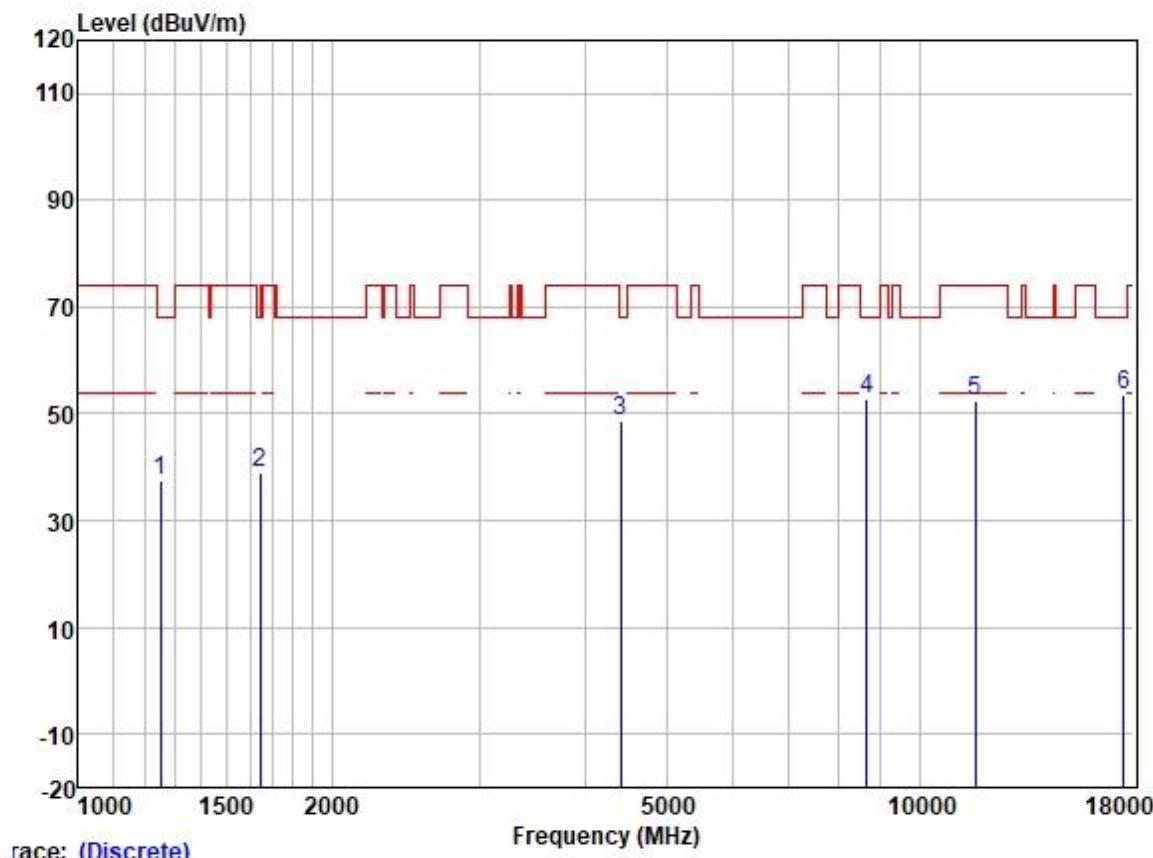
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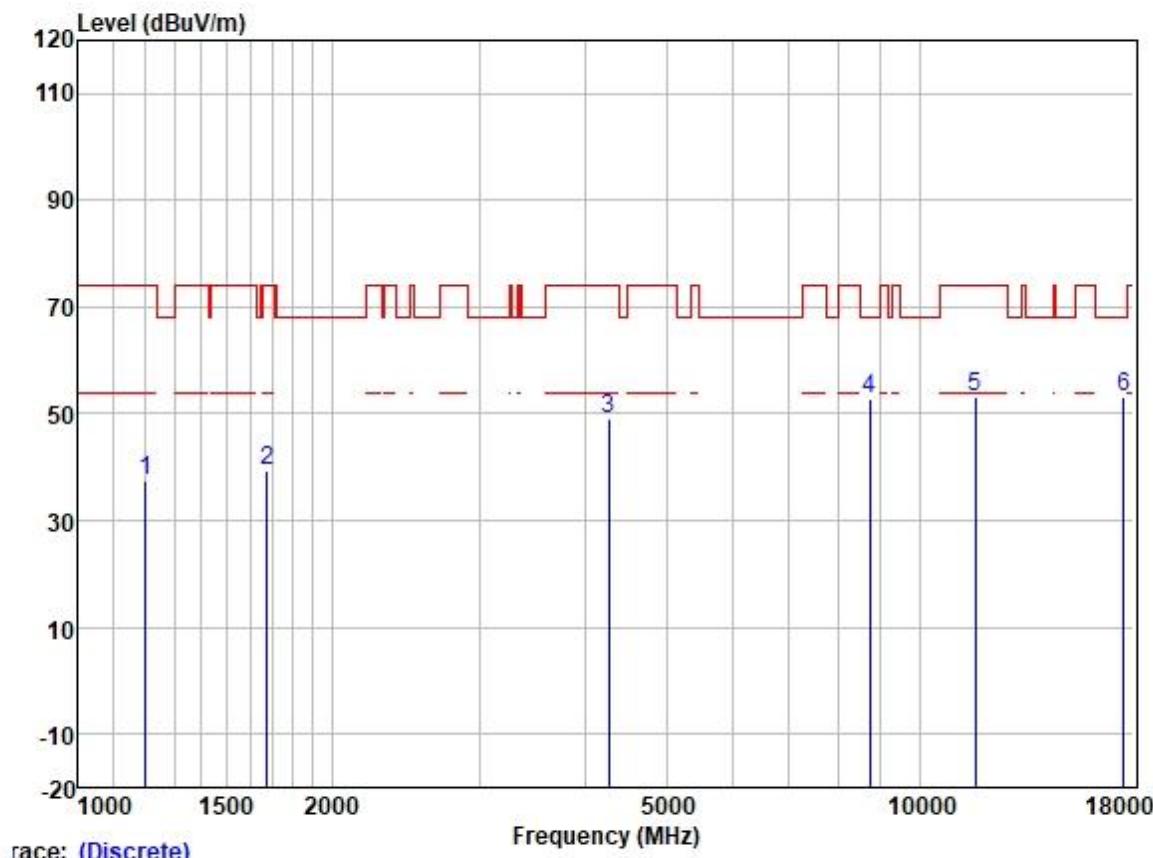
Test Mode: 13; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



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Test Mode: 13; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



Mode: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1203.199	49.02	24.70	2.34	38.39	37.67	74.00	-36.33	VERTICAL		Peak		
2	1677.621	48.70	25.68	2.80	37.91	39.27	74.00	-34.73	VERTICAL		Peak		
3	4267.237	50.72	30.38	4.63	36.81	48.92	74.00	-25.08	VERTICAL		Peak		
4	8738.852	45.83	37.31	7.13	37.54	52.73	68.20	-15.47	VERTICAL		Peak		
5	11650.000	42.42	39.65	8.35	37.13	53.29	74.00	-20.71	VERTICAL		Peak		
6	17475.000	33.97	43.90	10.77	35.32	53.32	68.20	-14.88	VERTICAL		Peak		

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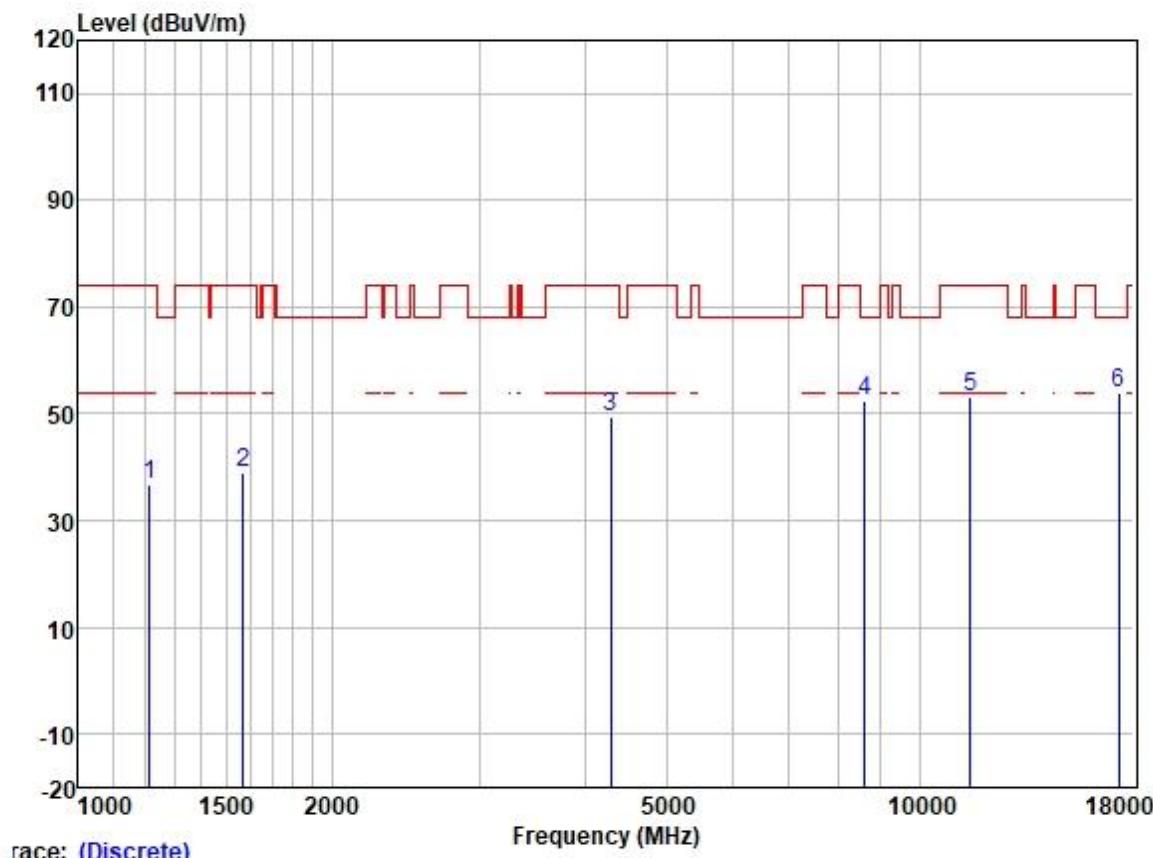
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Test Mode: 13; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1213.677	48.01	24.77	2.32	38.37	36.73	74.00	-37.27	HORIZONTAL	Peak			
2	1569.721	48.82	25.55	2.80	38.00	39.17	74.00	-34.83	HORIZONTAL	Peak			
3	4291.977	51.17	30.45	4.64	36.81	49.45	74.00	-24.55	HORIZONTAL	Peak			
4	8613.468	45.97	37.24	6.88	37.56	52.53	68.20	-15.67	HORIZONTAL	Peak			
5	11490.000	42.13	39.90	8.41	37.15	53.29	74.00	-20.71	HORIZONTAL	Peak			
6	17235.000	36.24	43.01	10.08	35.33	54.00	68.20	-14.20	HORIZONTAL	Peak			

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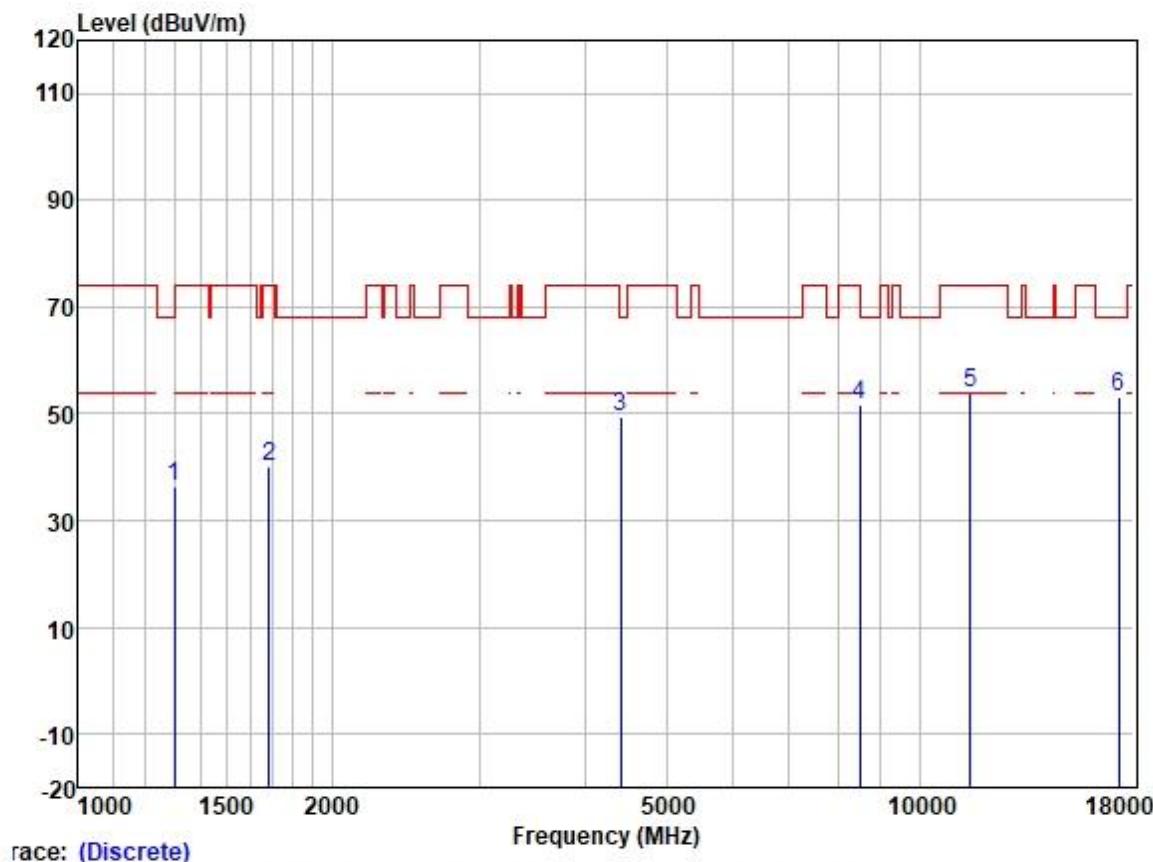
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Test Mode: 13; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:Low



Mode: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Line	Limit	Pol/Phase	Remark
	MHz	Level	Factor	Loss	Factor						
1	1300.858	46.88	25.20	2.60	38.31	36.37	74.00	-37.63	VERTICAL	Peak	
2	1687.347	49.56	25.69	2.80	37.91	40.14	74.00	-33.86	VERTICAL	Peak	
3	4417.841	50.85	30.70	4.74	36.81	49.48	68.20	-18.72	VERTICAL	Peak	
4	8489.882	45.46	37.15	6.70	37.57	51.74	74.00	-22.26	VERTICAL	Peak	
5	11490.000	42.61	39.90	8.41	37.15	53.77	74.00	-20.23	VERTICAL	Peak	
6	17235.000	35.49	43.01	10.08	35.33	53.25	68.20	-14.95	VERTICAL	Peak	

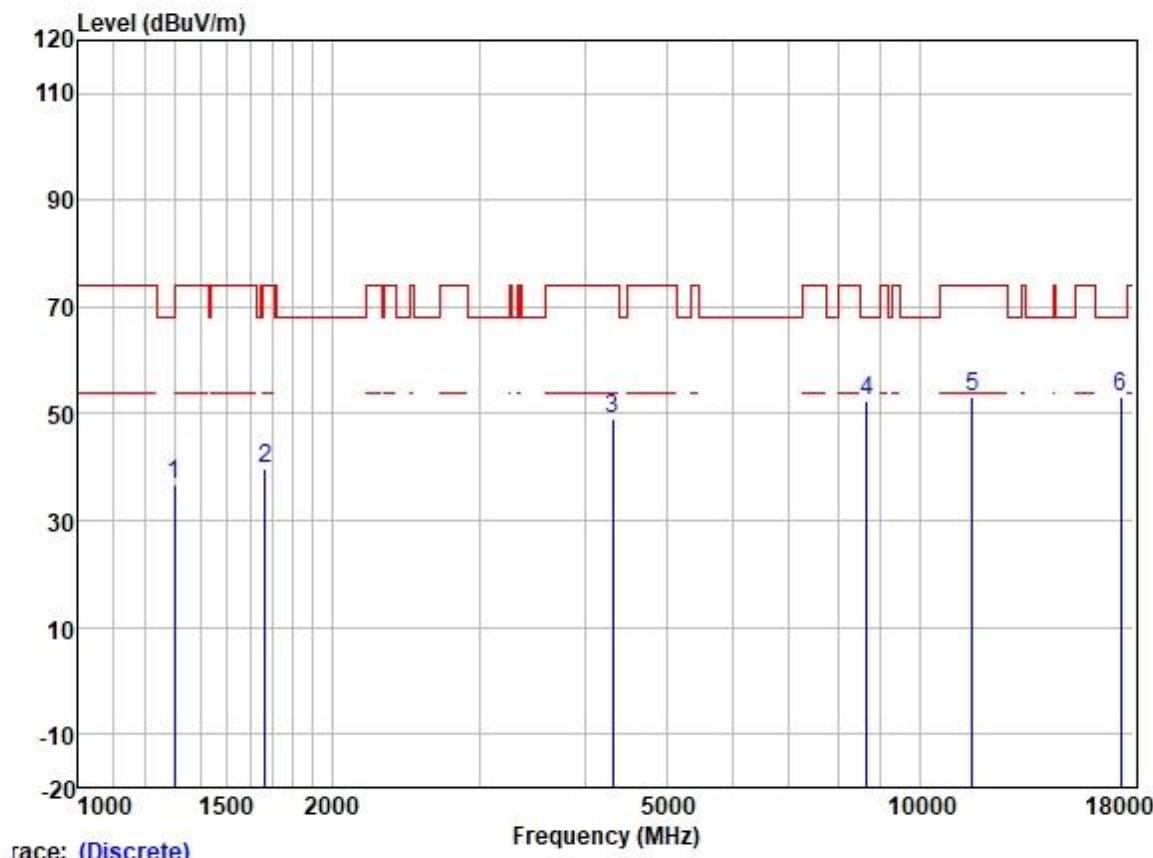
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Test Mode: 13; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1300.858	47.30	25.20	2.60	38.31	36.79	74.00	-37.21	HORIZONTAL	Peak			
2	1667.951	49.12	25.66	2.80	37.91	39.67	74.00	-34.33	HORIZONTAL	Peak			
3	4316.859	50.76	30.51	4.66	36.81	49.12	74.00	-24.88	HORIZONTAL	Peak			
4	8663.404	45.86	37.27	6.97	37.55	52.55	68.20	-15.65	HORIZONTAL	Peak			
5	11570.000	42.13	39.78	8.38	37.14	53.15	74.00	-20.85	HORIZONTAL	Peak			
6	17355.000	34.52	43.40	10.39	35.32	52.99	68.20	-15.21	HORIZONTAL	Peak			

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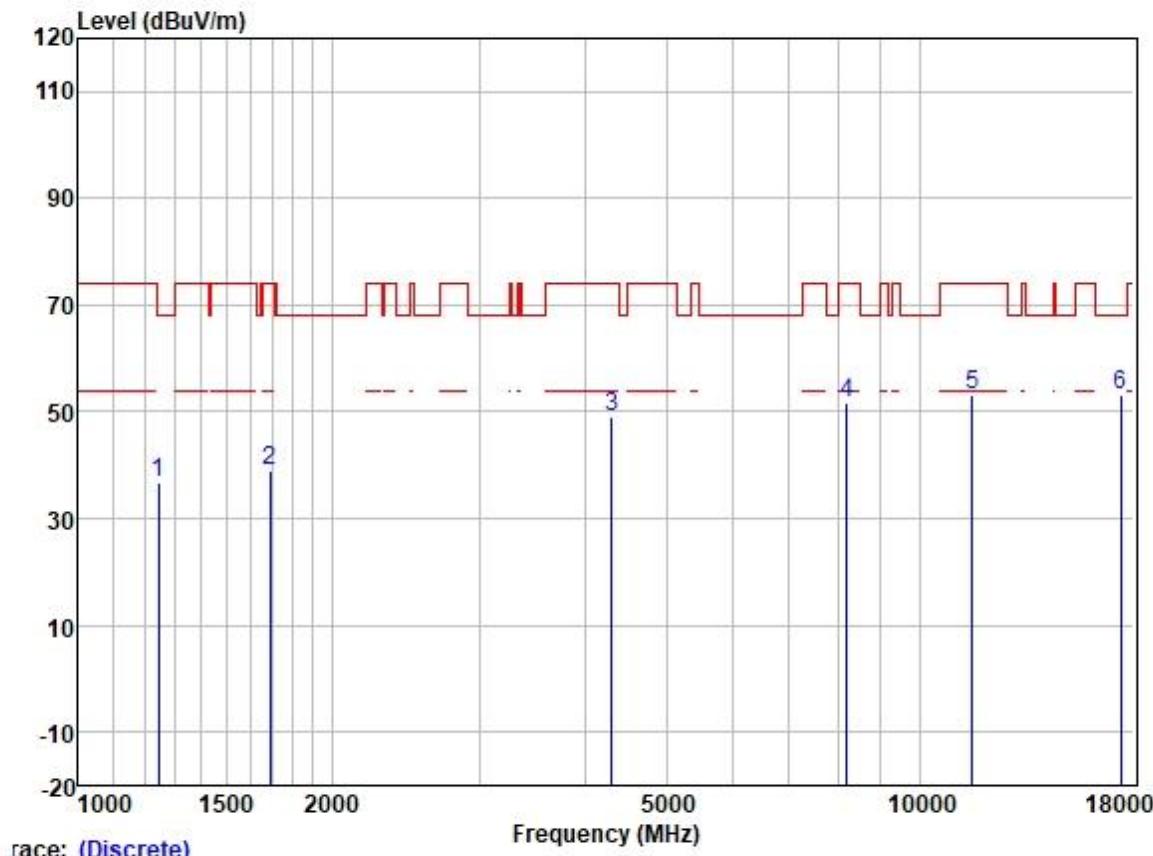
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Test Mode: 13; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:middle



Race: (Discrete)

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Limit Pol/Phase	Remark
	MHz	dBuV	Level Factor	Cable Loss	Preamp Factor			
1	1245.663	47.95	25.00	2.33	38.35	36.93	68.20	-31.27 VERTICAL Peak
2	1692.231	48.37	25.70	2.80	37.89	38.98	74.00	-35.02 VERTICAL Peak
3	4304.400	50.71	30.48	4.65	36.81	49.03	74.00	-24.97 VERTICAL Peak
4	8200.463	46.08	36.98	6.36	37.59	51.83	74.00	-22.17 VERTICAL Peak
5	11570.000	42.26	39.78	8.38	37.14	53.28	74.00	-20.72 VERTICAL Peak
6	17355.000	34.55	43.40	10.39	35.32	53.02	68.20	-15.18 VERTICAL Peak

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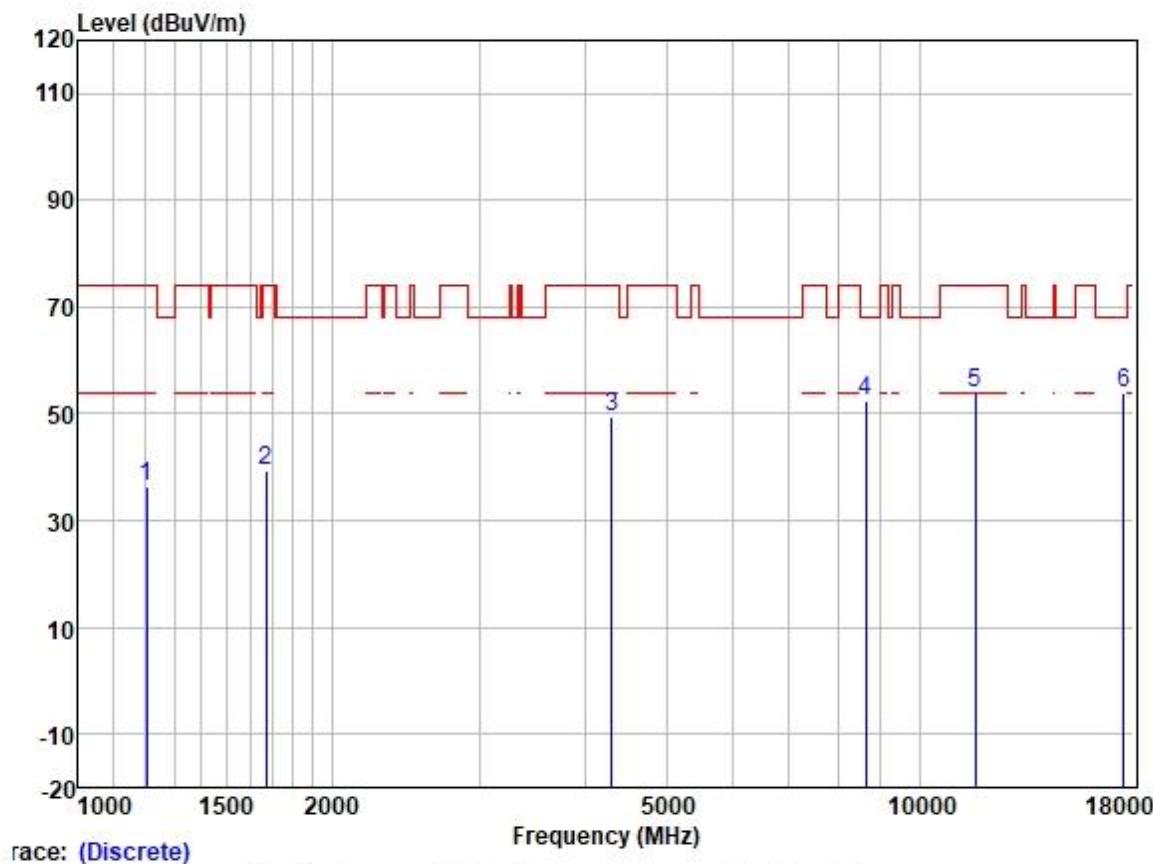
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Test Mode: 13; Polarity: Horizontal; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Race: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1206.682	47.67	24.72	2.33	38.39	36.33	74.00	-37.67	HORIZONTAL	Peak			
2	1672.779	48.83	25.67	2.80	37.91	39.39	74.00	-34.61	HORIZONTAL	Peak			
3	4304.400	51.24	30.48	4.65	36.81	49.56	74.00	-24.44	HORIZONTAL	Peak			
4	8638.399	45.87	37.26	6.92	37.55	52.50	68.20	-15.70	HORIZONTAL	Peak			
5	11650.000	43.05	39.65	8.35	37.13	53.92	74.00	-20.08	HORIZONTAL	Peak			
6	17475.000	34.65	43.90	10.77	35.32	54.00	68.20	-14.20	HORIZONTAL	Peak			

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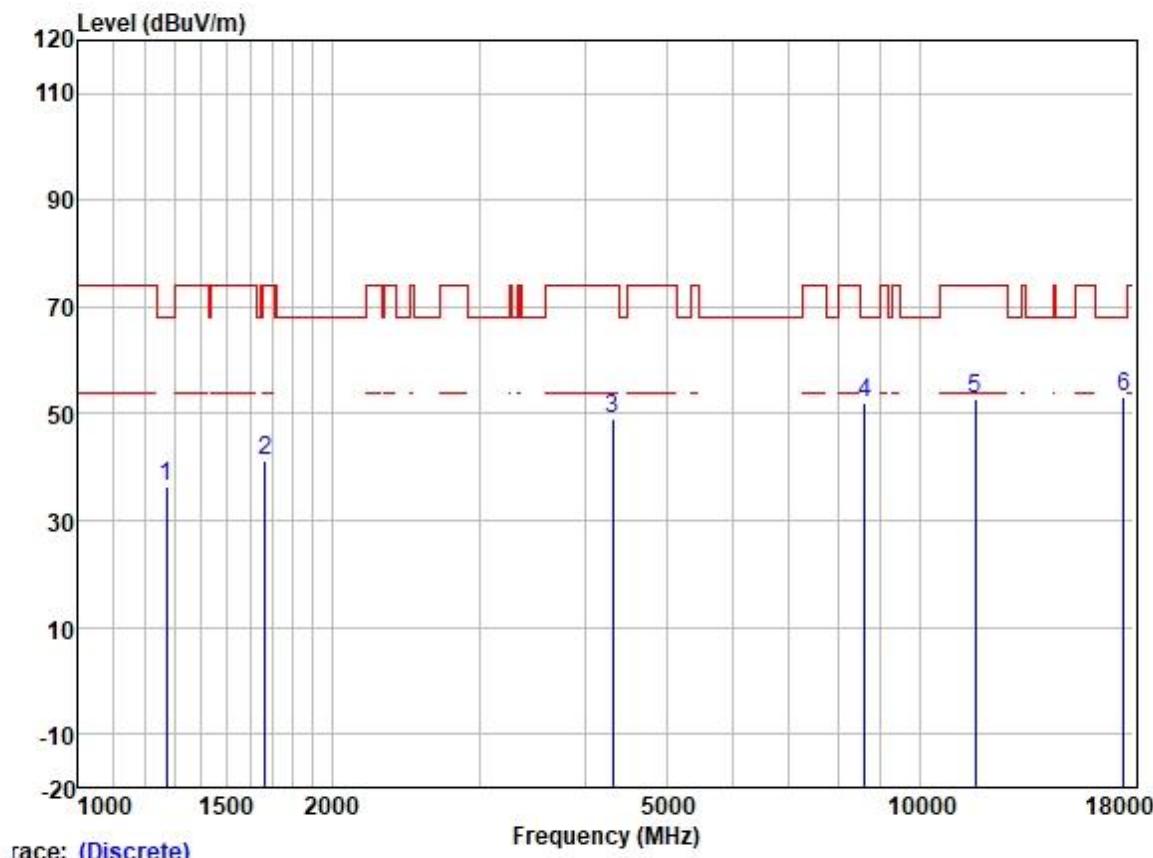
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Test Mode: 13; Polarity: Vertical; Modulation:802.11n; Bandwidth:20MHz; Channel:High



Rate: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Loss	Factor	Limit	Line	Over	Limit	Pol/Phase	Remark
	MHz	dBuV	Level	Factor									
1	1271.123	47.29	25.11	2.46	38.33	36.53	68.20	-31.67	VERTICAL		Peak		
2	1667.951	50.72	25.66	2.80	37.91	41.27	74.00	-32.73	VERTICAL		Peak		
3	4316.859	50.85	30.51	4.66	36.81	49.21	74.00	-24.79	VERTICAL		Peak		
4	8613.468	45.39	37.24	6.88	37.56	51.95	68.20	-16.25	VERTICAL		Peak		
5	11650.000	41.88	39.65	8.35	37.13	52.75	74.00	-21.25	VERTICAL		Peak		
6	17475.000	33.83	43.90	10.77	35.32	53.18	68.20	-15.02	VERTICAL		Peak		

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7.11 Frequency Stability

Test Requirement 47 CFR Part 15, Subpart C 15.407 (g)
Test Method: ANSI C63.10 (2013) Section 6.8

7.11.1 E.U.T. Operation

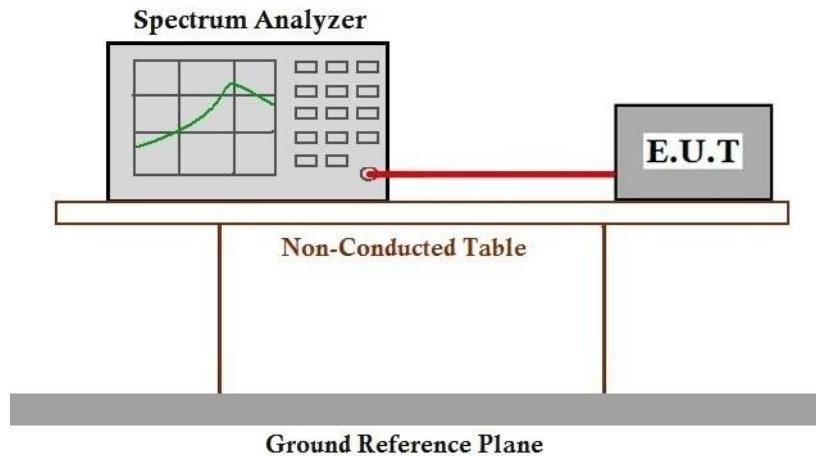
Operating Environment:

Temperature: 22.8 °C Humidity: 53.5 % RH Atmospheric Pressure: 1003 mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (Band 1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20).
Final test	07	TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20).
Final test	08	TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20).
Final test	09	TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20).



7.11.3 Test Setup Diagram**7.11.4 Measurement Procedure and Data**

The applicant declares that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual and meets Section 15.407(g) requirements.

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7.12 Non-occupancy period

Test Requirement KDB 905462 D02 Section 5.1

Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required
<p>Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.</p> <p>Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.</p> <p>Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.</p>			

7.12.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C

Humidity: 53.5 % RH

Atmospheric Pressure: 1003 mbar



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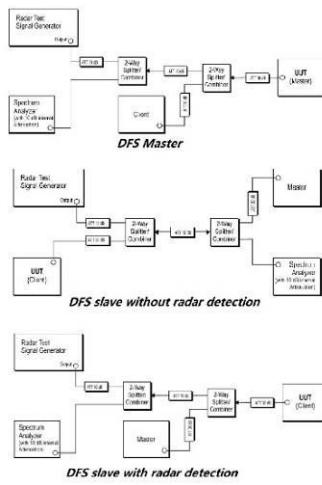
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7.12.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Normal operating_Keep the EUT communication with the companion device.

7.12.3 Test Setup Diagram

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7.12.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) = S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms) = N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details



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7.13 Channel Move Time

Test Requirement KDB 905462 D02 Section 5.1

Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required
<p>Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.</p> <p>Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.</p> <p>Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.</p>			

7.13.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C

Humidity: 53.5 % RH

Atmospheric Pressure: 1003 mbar



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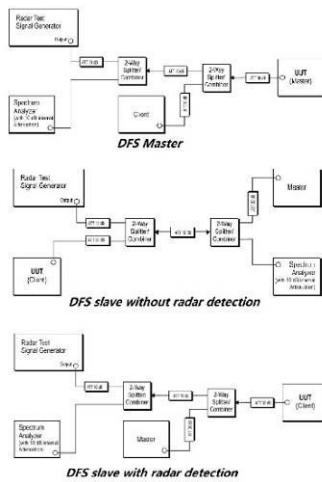
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7.13.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Normal operating_Keep the EUT communication with the companion device.

7.13.3 Test Setup Diagram

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7.13.4 Measurement Procedure and Data

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) = S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms) = N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details



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7.14 Channel Closing Transmission Time

Test Requirement KDB 905462 D02 Section 5.1

Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required
<p>Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.</p> <p>Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.</p> <p>Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.</p>			

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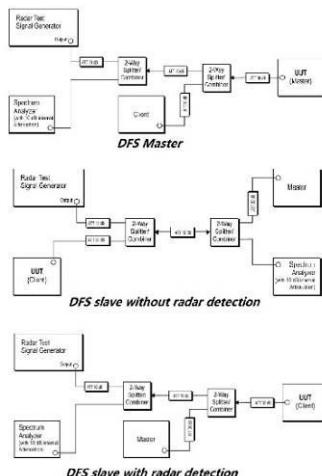
7.14.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C Humidity: 53.5 % RH Atmospheric Pressure: 1003 mbar

7.14.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	14	Normal operating_Keep the EUT communication with the companion device.

7.14.3 Test Setup Diagram

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7.14.4 Measurement Procedure and Data

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- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
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- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details



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8 Test Setup Photo

Refer to Appendix - Test Setup Photo for GZCR2211001556AT

9 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for GZCR2211001556AT

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10 Appendix

1. Duty Cycle

1.1 Ant1

1.1.1 Test Result

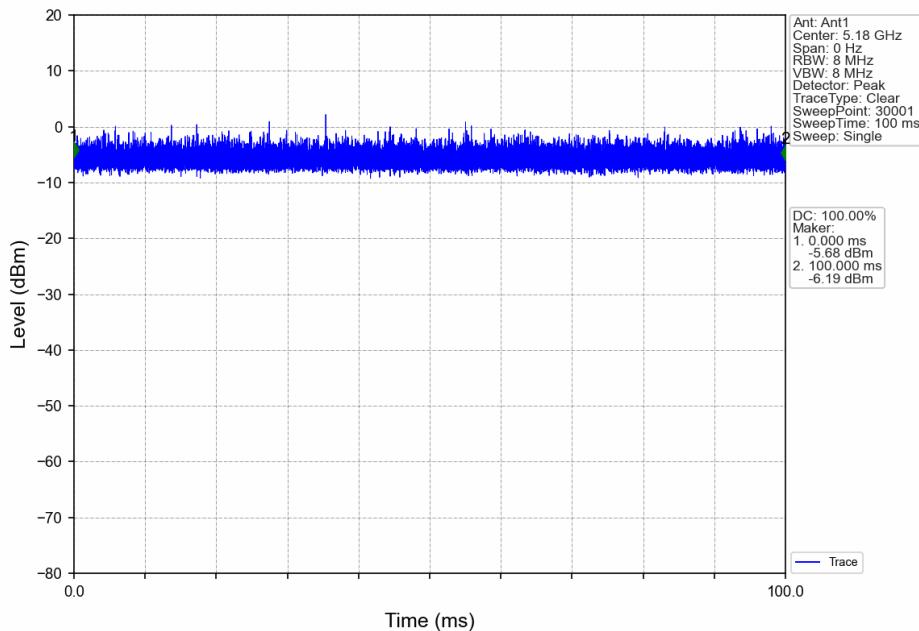
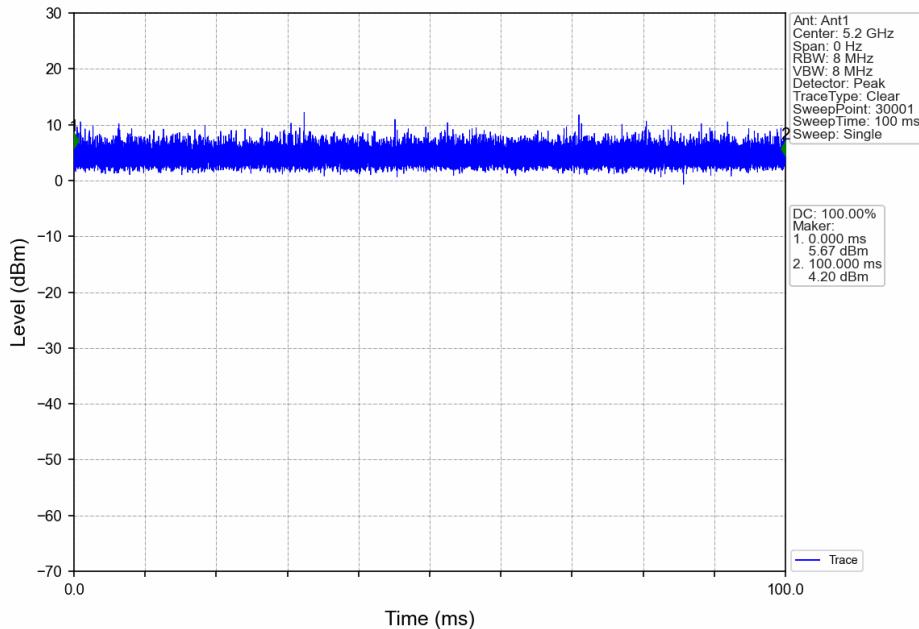
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	100.000	100.000	100.00	0.00	0.00
		5200	100.000	100.000	100.00	0.00	0.00
		5240	100.000	100.000	100.00	0.00	0.00
		5260	100.000	100.000	100.00	0.00	0.00
		5300	100.000	100.000	100.00	0.00	0.00
		5320	100.000	100.000	100.00	0.00	0.00
		5500	100.000	100.000	100.00	0.00	0.00
		5580	100.000	100.000	100.00	0.00	0.00
		5700	100.000	100.000	100.00	0.00	0.00
		5745	100.000	100.000	100.00	0.00	0.00
		5785	100.000	100.000	100.00	0.00	0.00
		5825	100.000	100.000	100.00	0.00	0.00
802.11n (HT20)	SISO	5180	100.000	100.000	100.00	0.00	0.00
		5200	100.000	100.000	100.00	0.00	0.00
		5240	100.000	100.000	100.00	0.00	0.00
		5260	100.000	100.000	100.00	0.00	0.00
		5300	100.000	100.000	100.00	0.00	0.00
		5320	100.000	100.000	100.00	0.00	0.00
		5500	100.000	100.000	100.00	0.00	0.00
		5580	100.000	100.000	100.00	0.00	0.00
		5700	100.000	100.000	100.00	0.00	0.00
		5745	100.000	100.000	100.00	0.00	0.00
		5785	100.000	100.000	100.00	0.00	0.00
		5825	100.000	100.000	100.00	0.00	0.00

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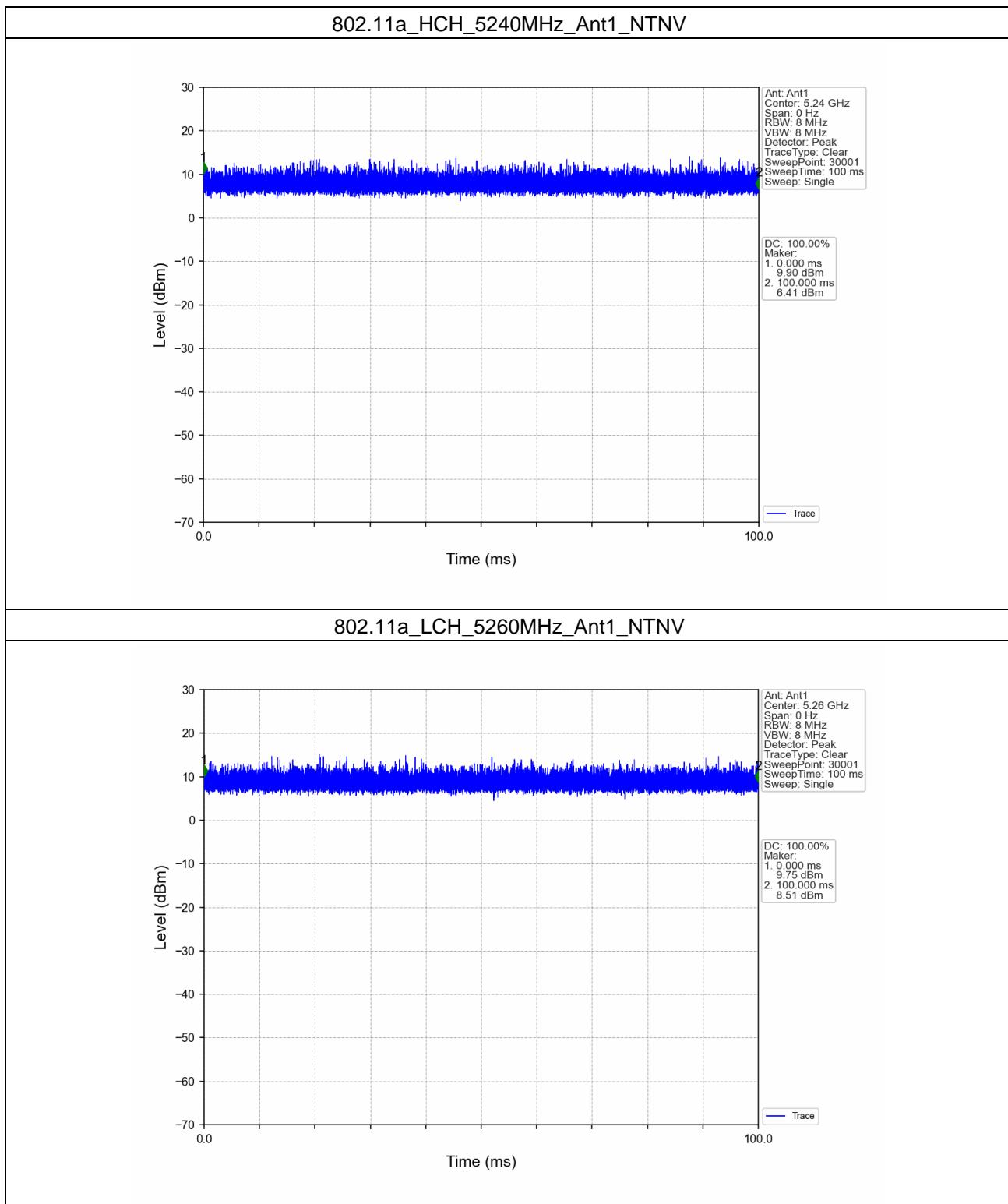
1.1.2 Test Graph**802.11a_LCH_5180MHz_Ant1_NTNV****802.11a_MCH_5200MHz_Ant1_NTNV**

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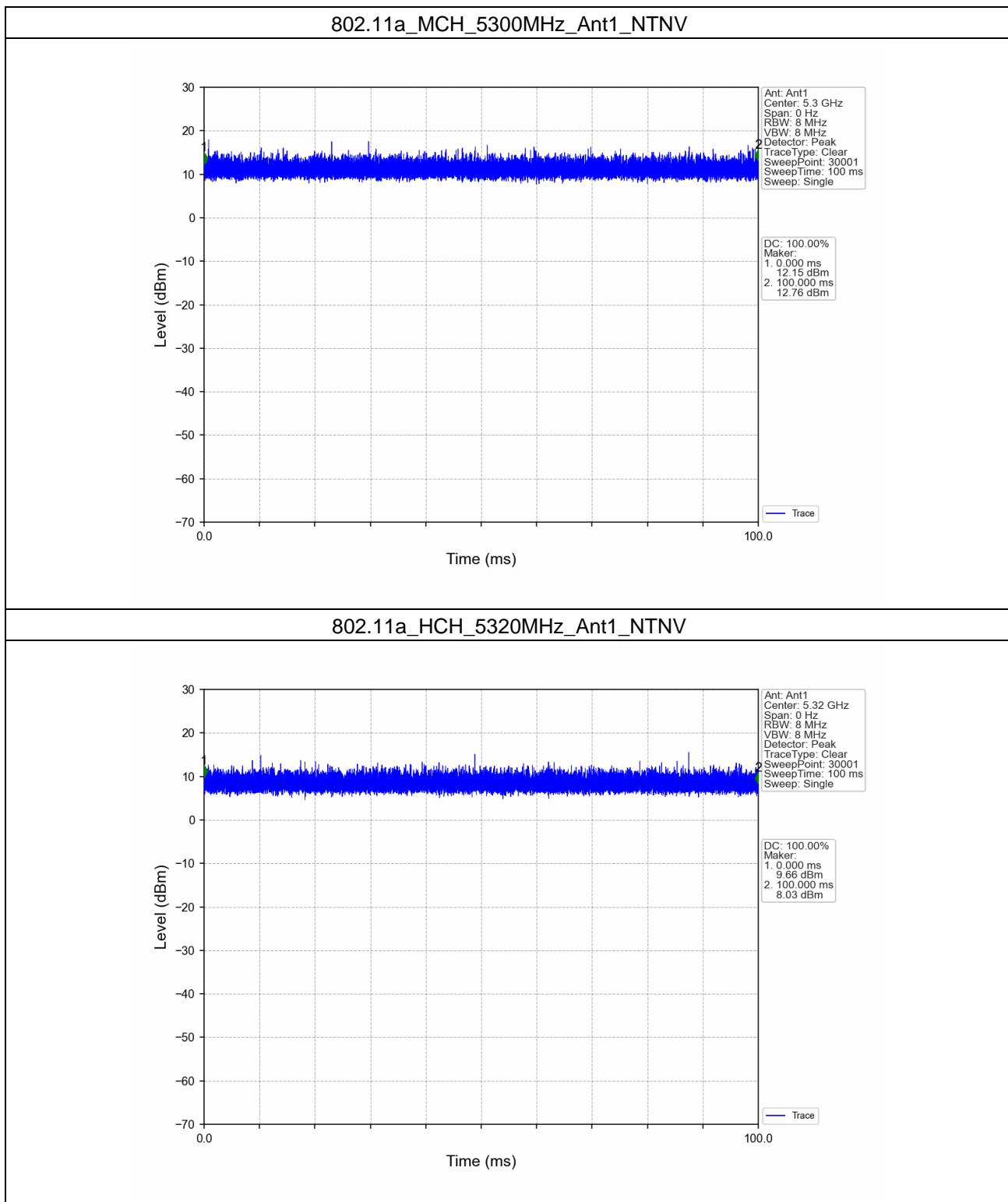


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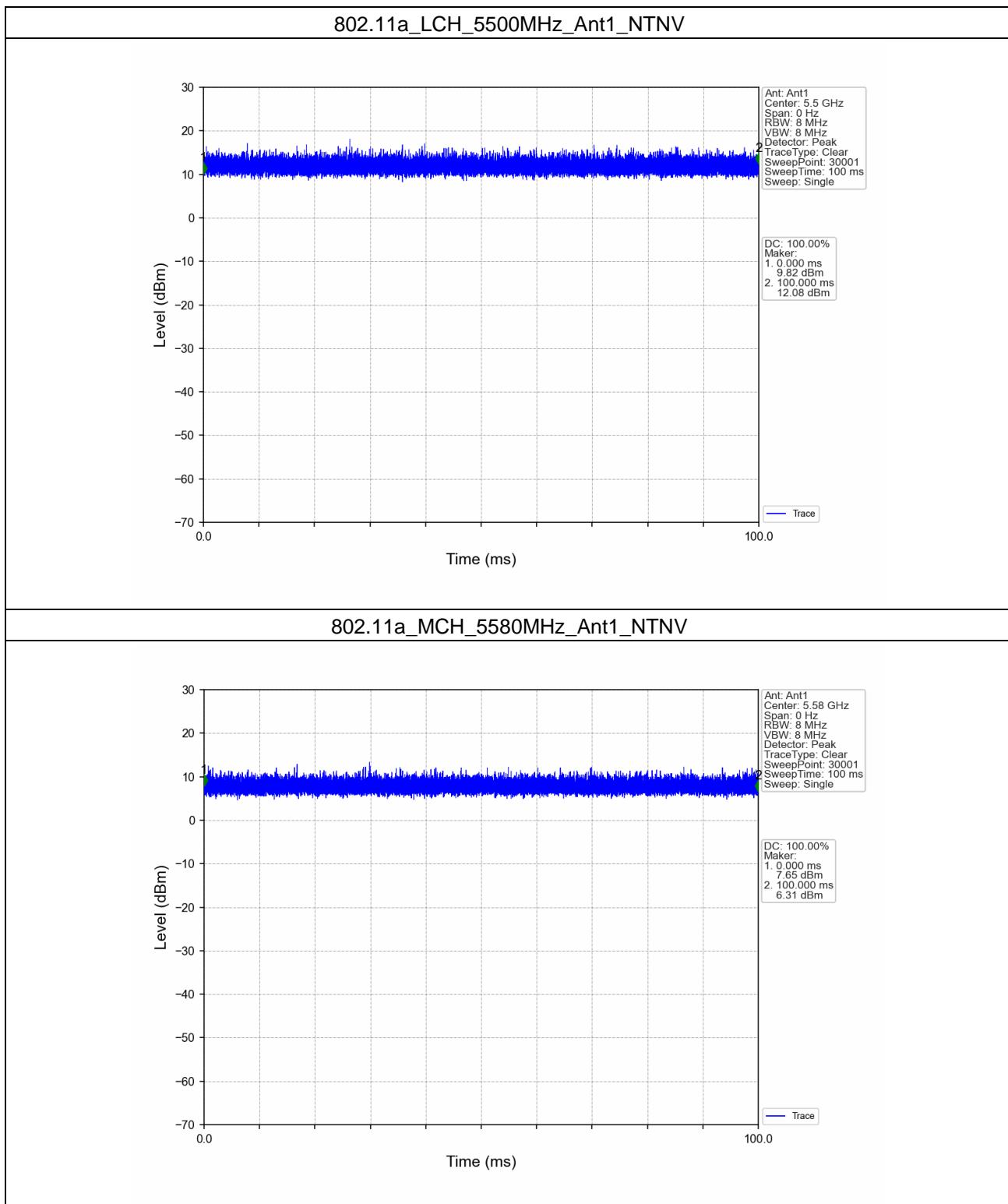
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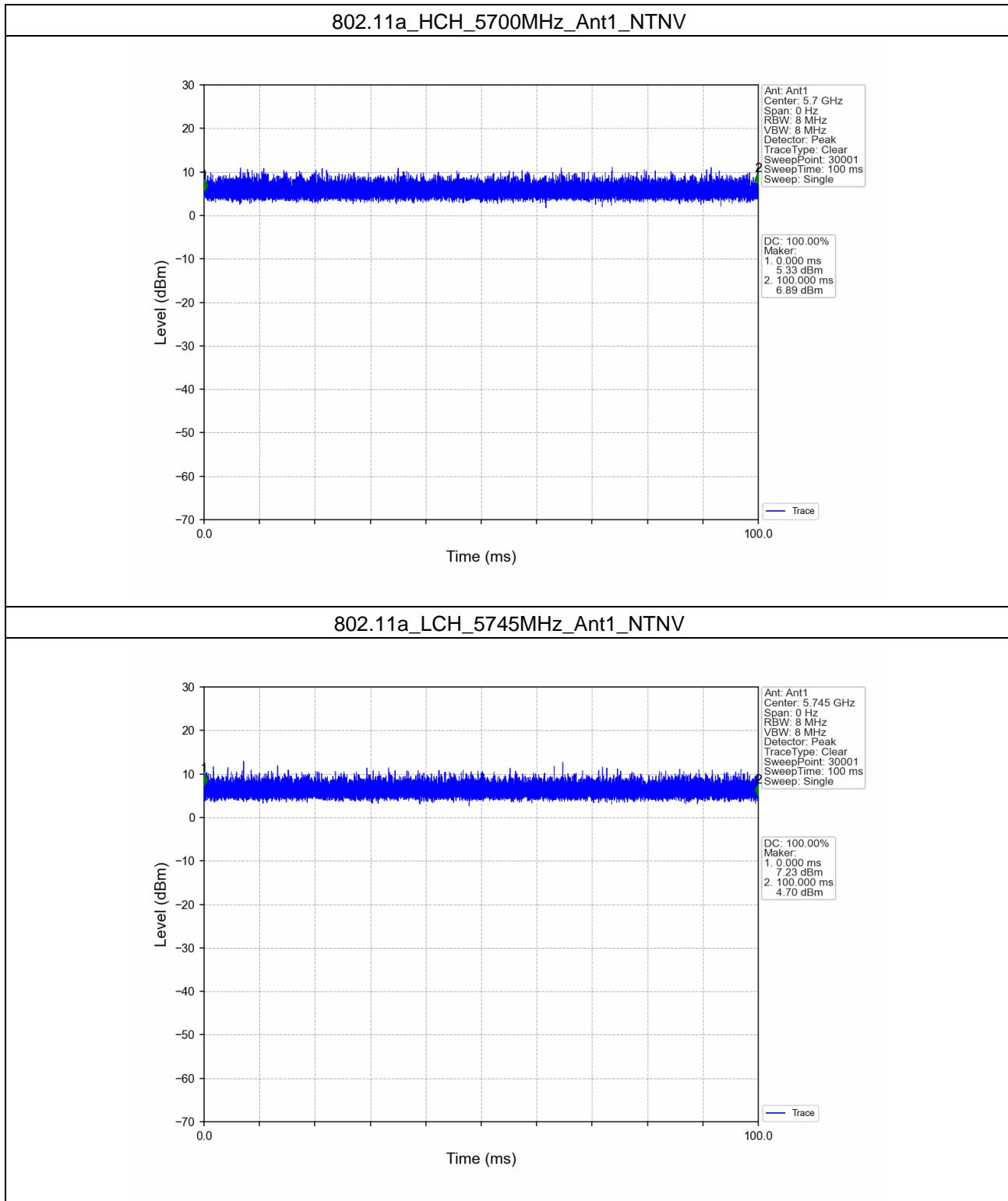
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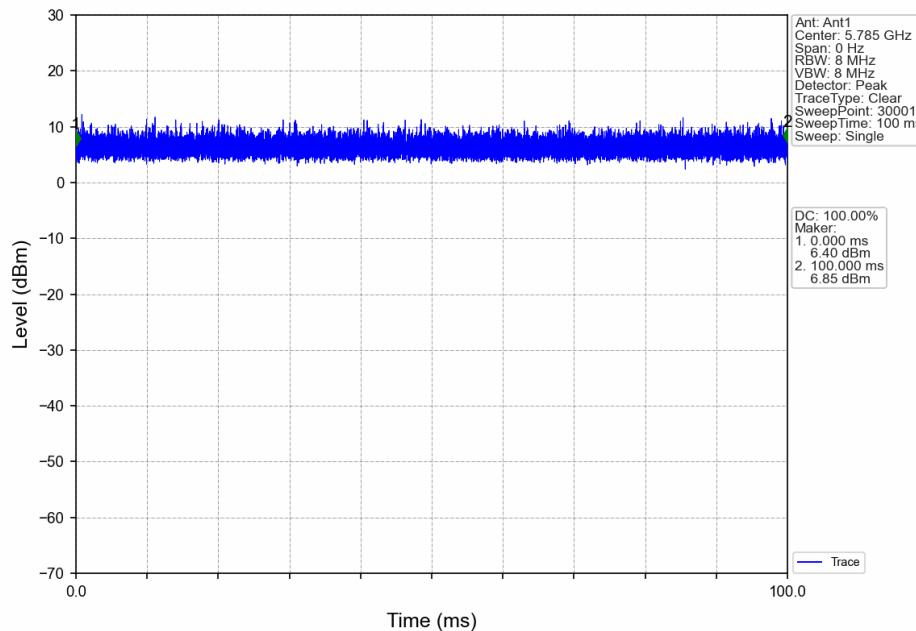
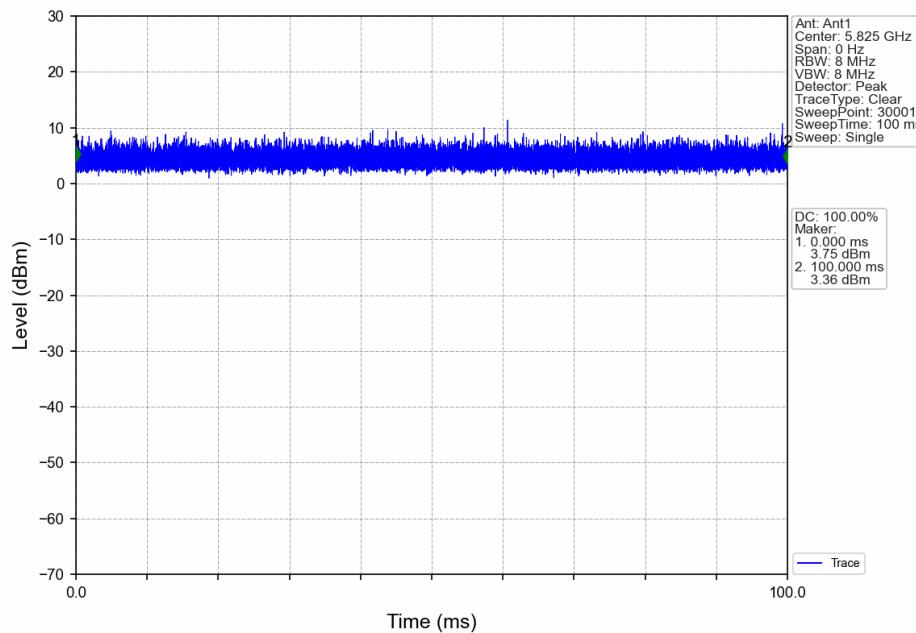
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802.11a_MCH_5785MHz_Ant1_NTNV**802.11a_HCH_5825MHz_Ant1_NTNV**

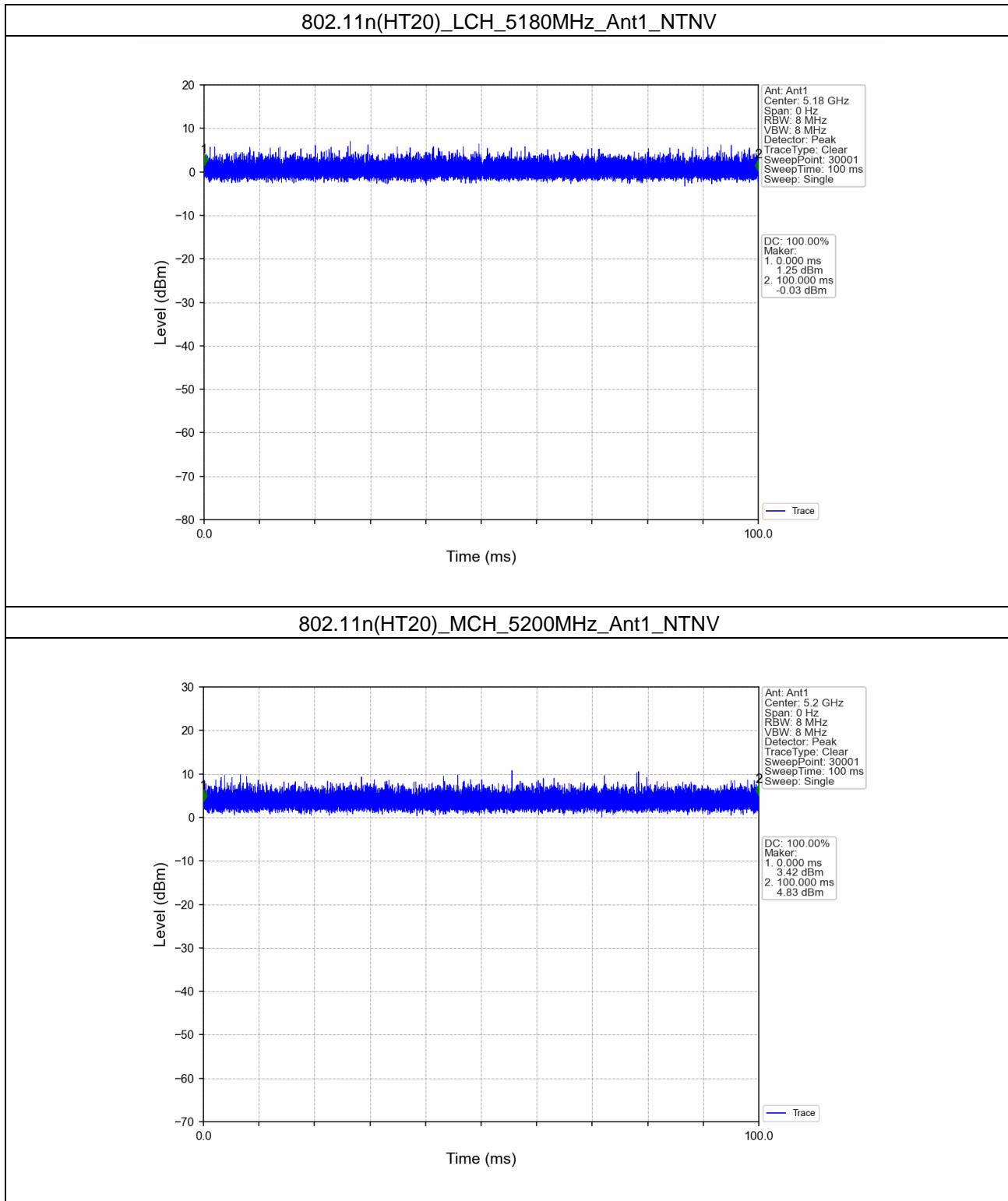
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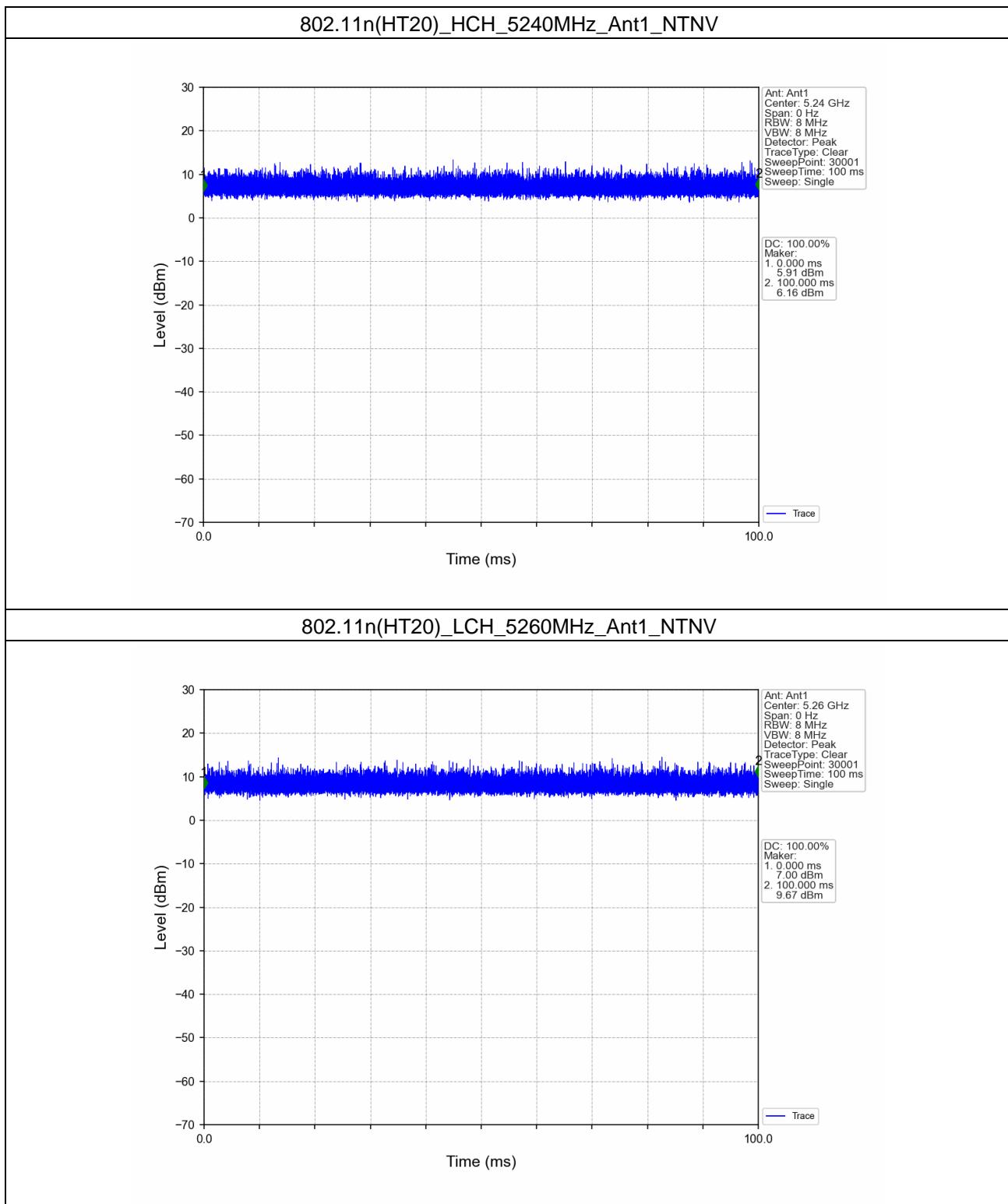


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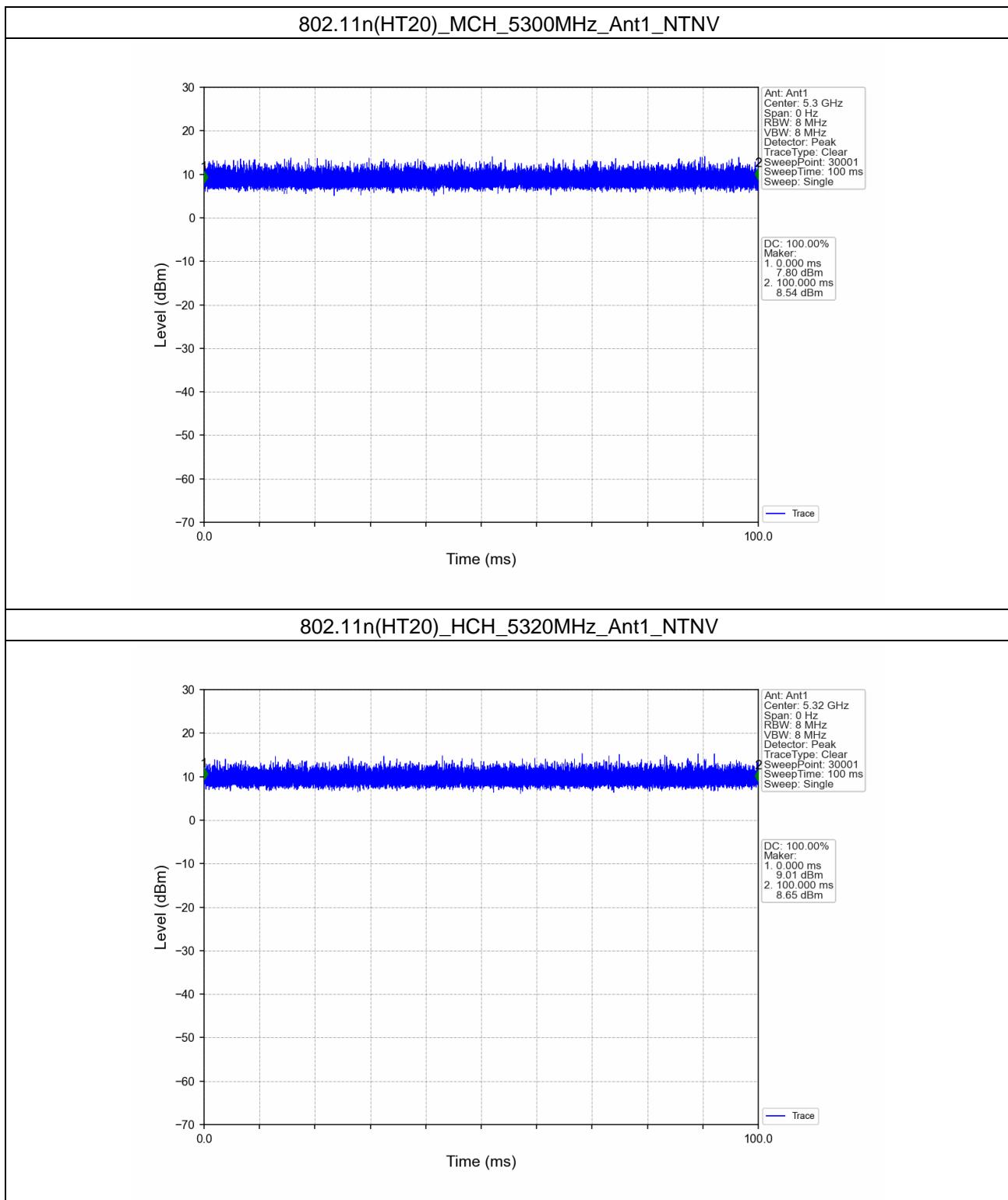


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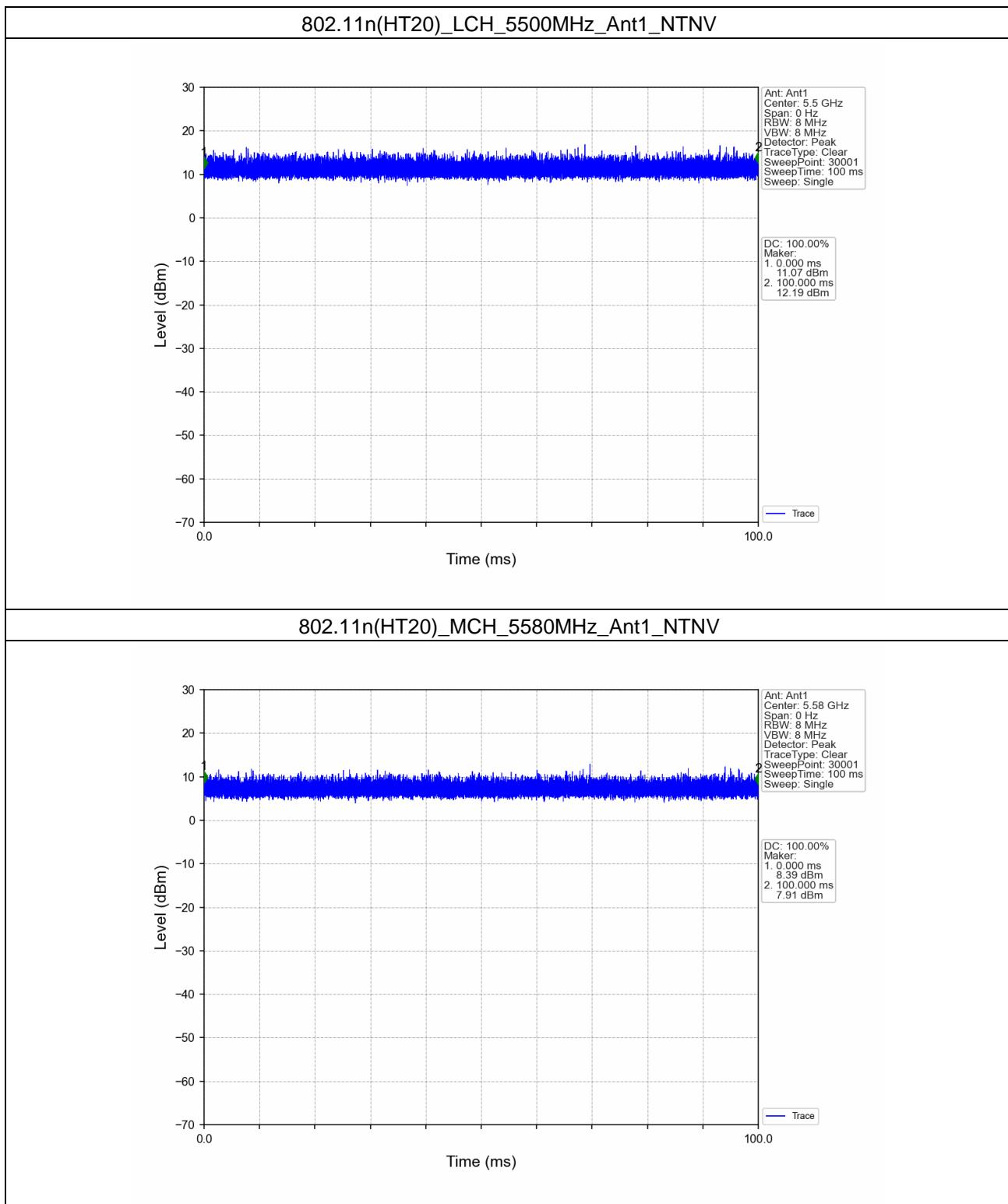
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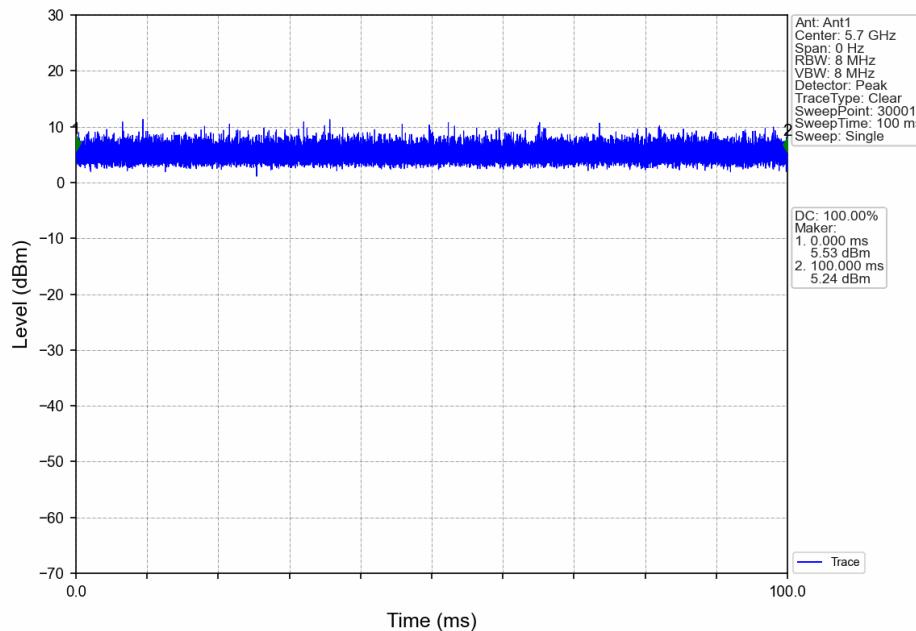
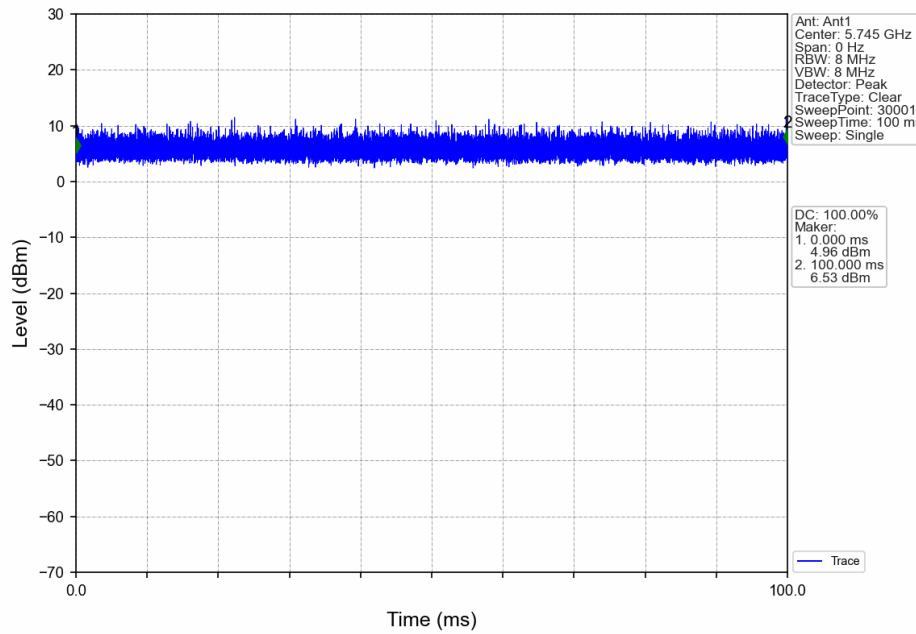
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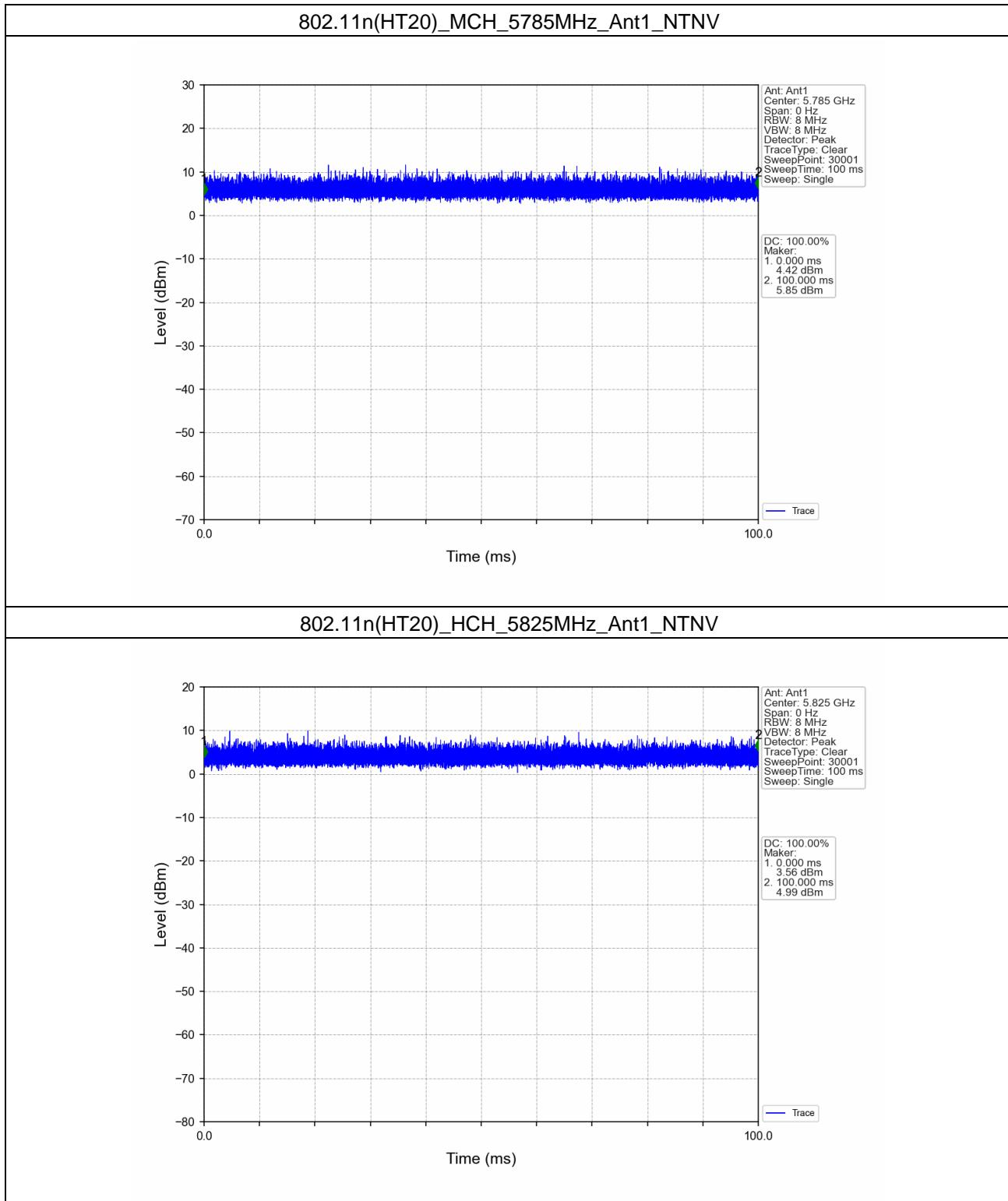
802.11n(HT20)_HCH_5700MHz_Ant1_NTNV**802.11n(HT20)_LCH_5745MHz_Ant1_NTNV**

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2. Bandwidth

2.1 OBW

2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5180	1	17.933	Pass
		5200	1	17.955	Pass
		5240	1	18.015	Pass
		5260	1	17.900	Pass
		5300	1	18.448	Pass
		5320	1	18.176	Pass
		5500	1	18.951	Pass
		5580	1	19.501	Pass
		5700	1	17.942	Pass
		5745	1	17.925	Pass
		5785	1	17.863	Pass
		5825	1	17.921	Pass
802.11n (HT20)	SISO	5180	1	18.809	Pass
		5200	1	18.842	Pass
		5240	1	18.895	Pass
		5260	1	18.931	Pass
		5300	1	18.953	Pass
		5320	1	19.263	Pass
		5500	1	19.551	Pass
		5580	1	20.285	Pass
		5700	1	18.894	Pass
		5745	1	18.881	Pass
		5785	1	18.881	Pass
		5825	1	18.807	Pass

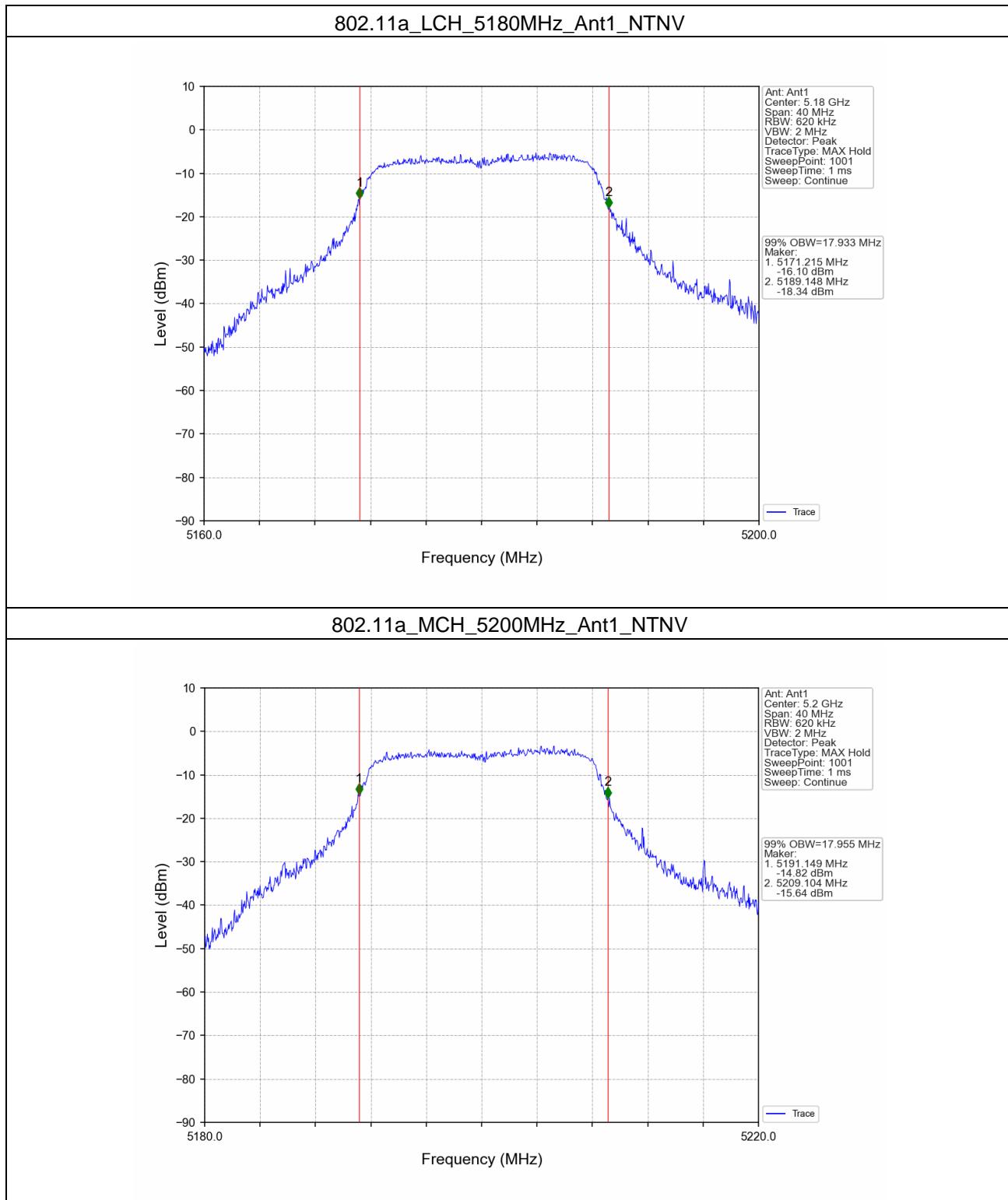
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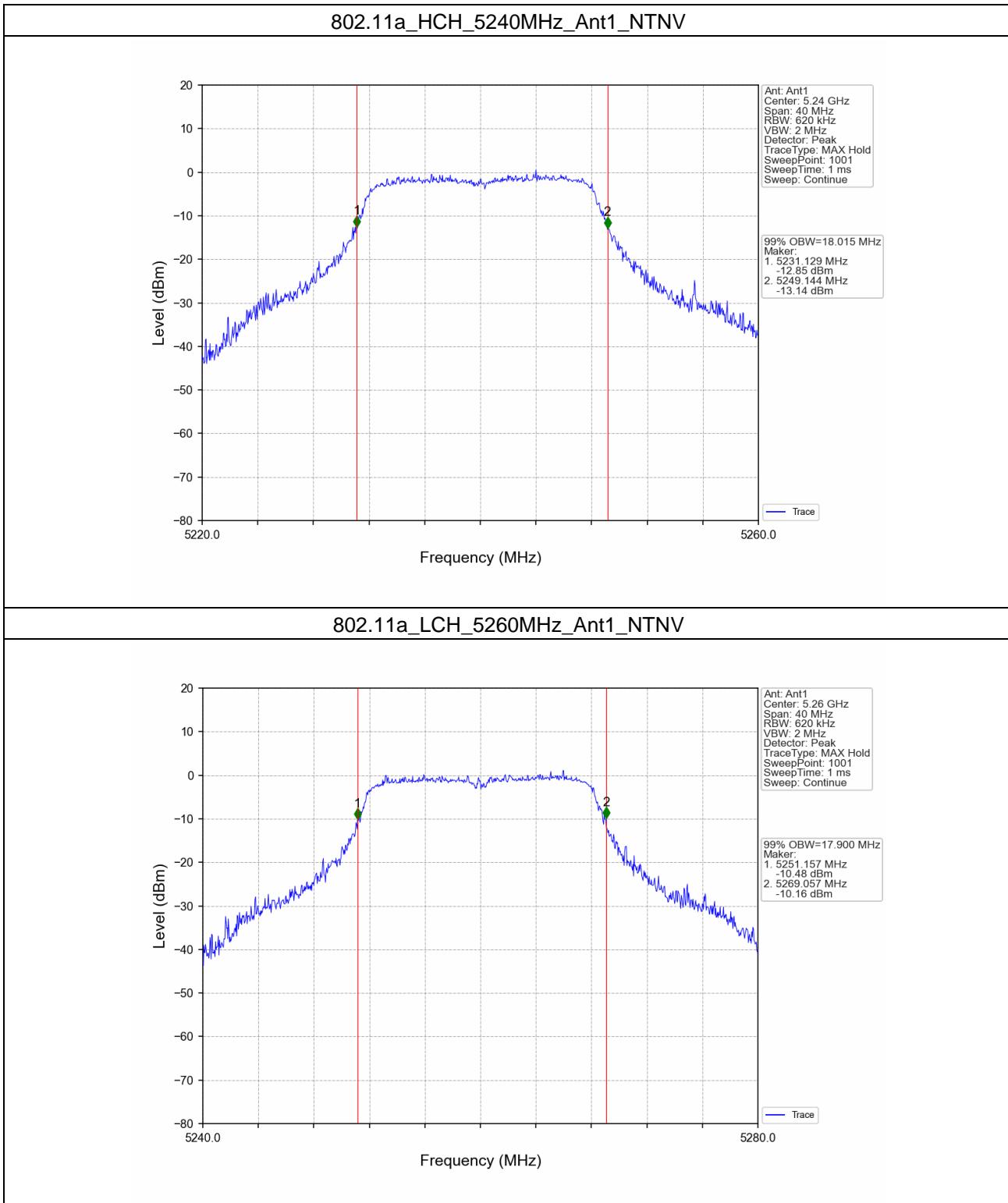
2.1.2 Test Graph



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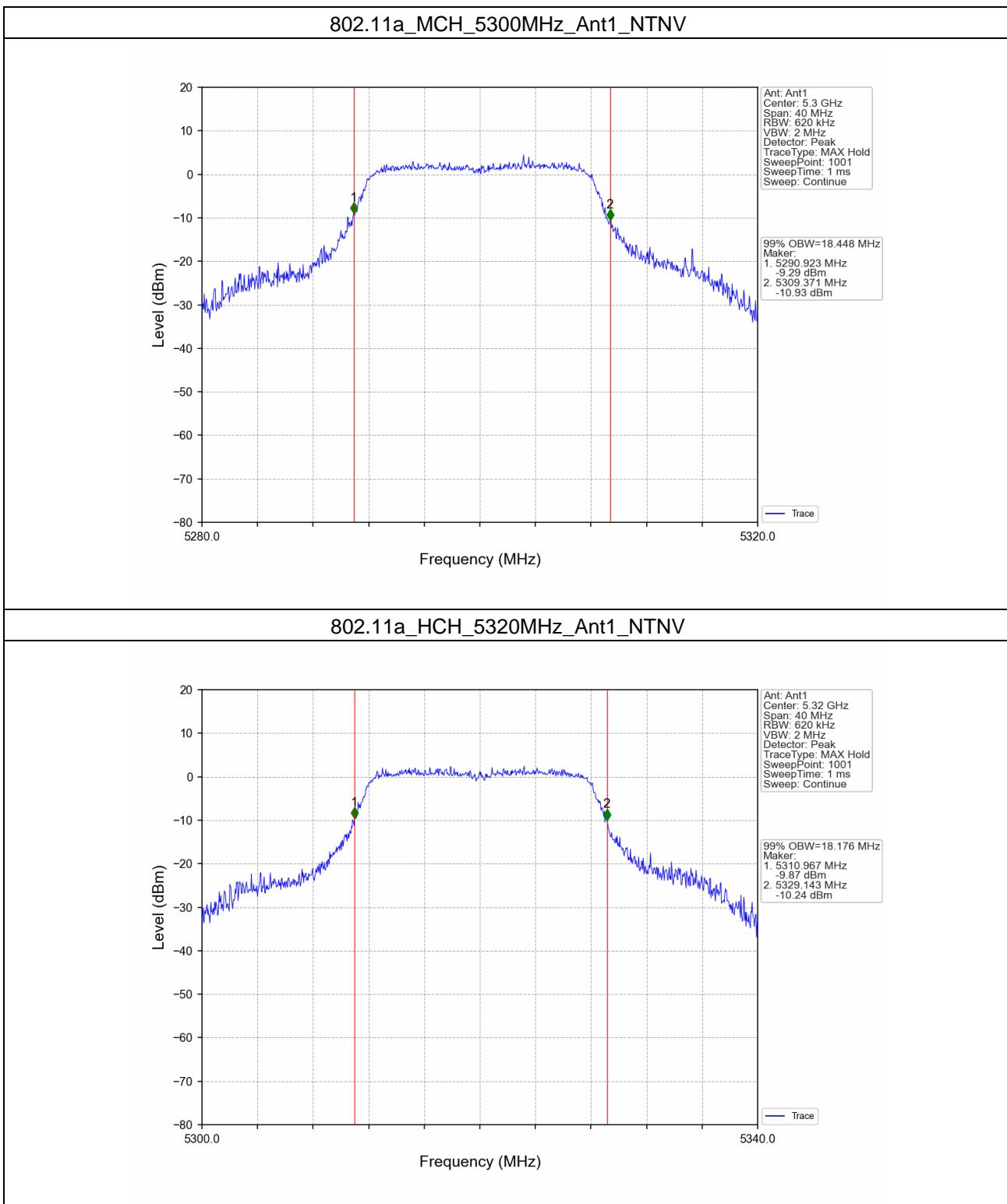




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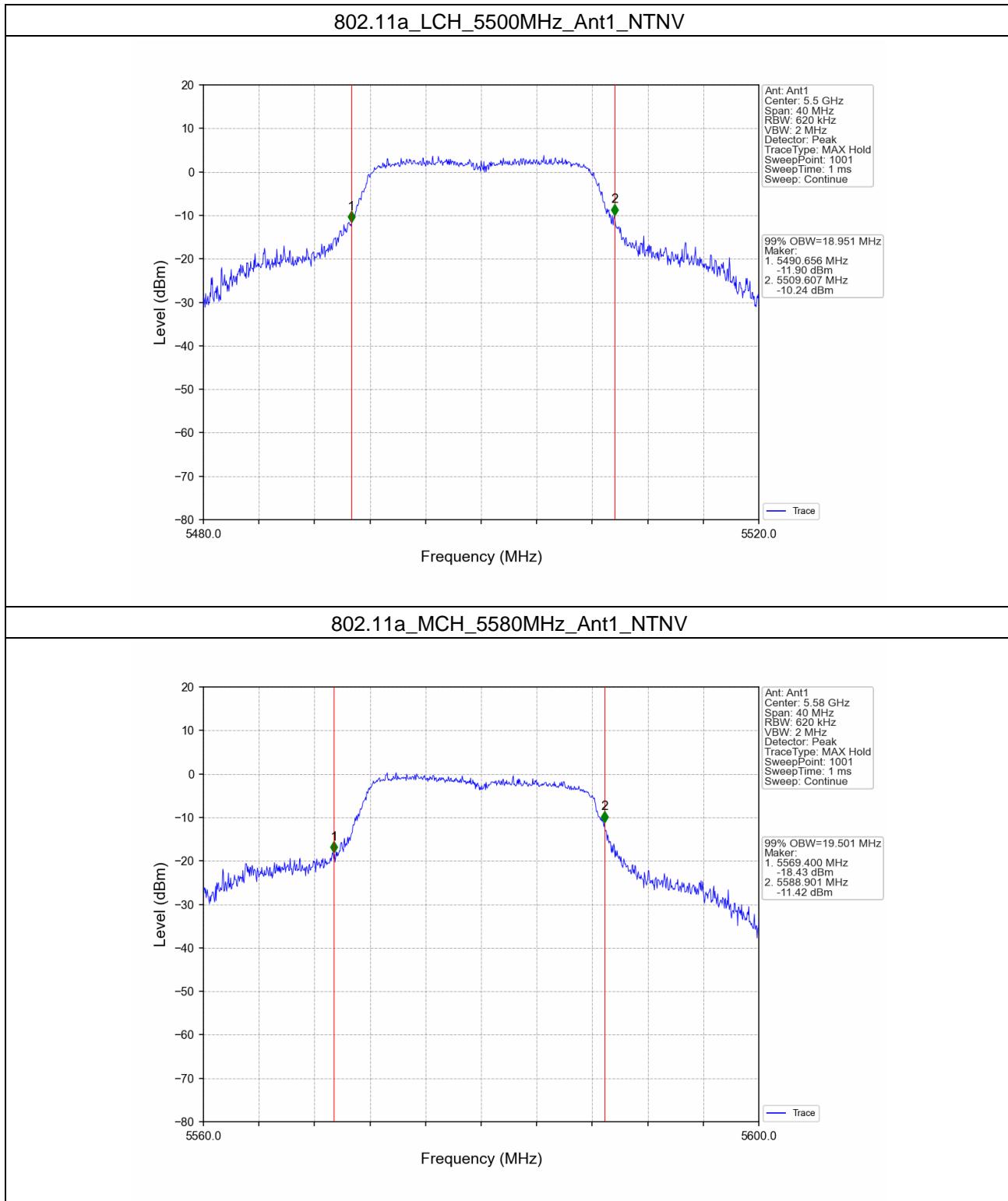


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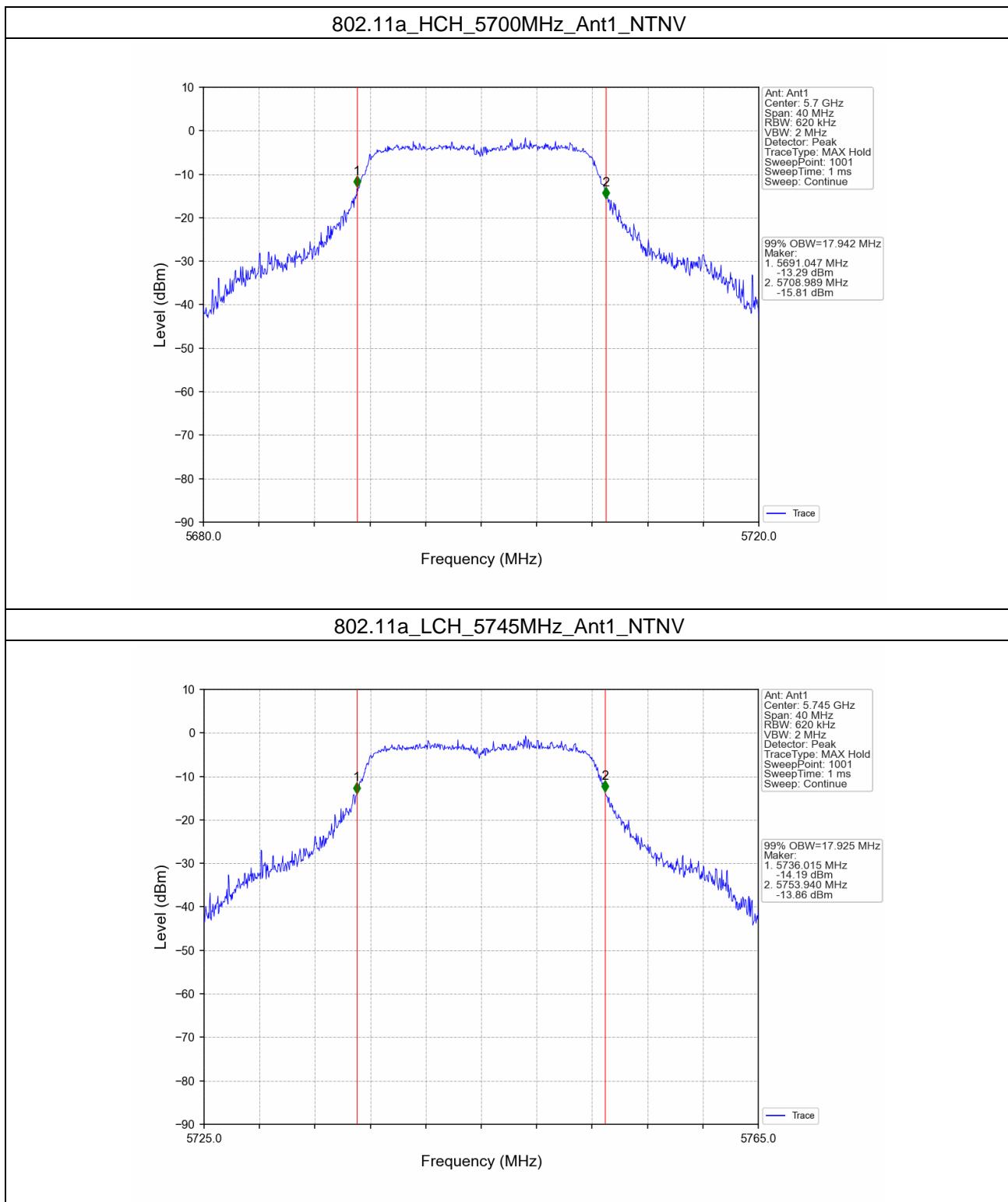


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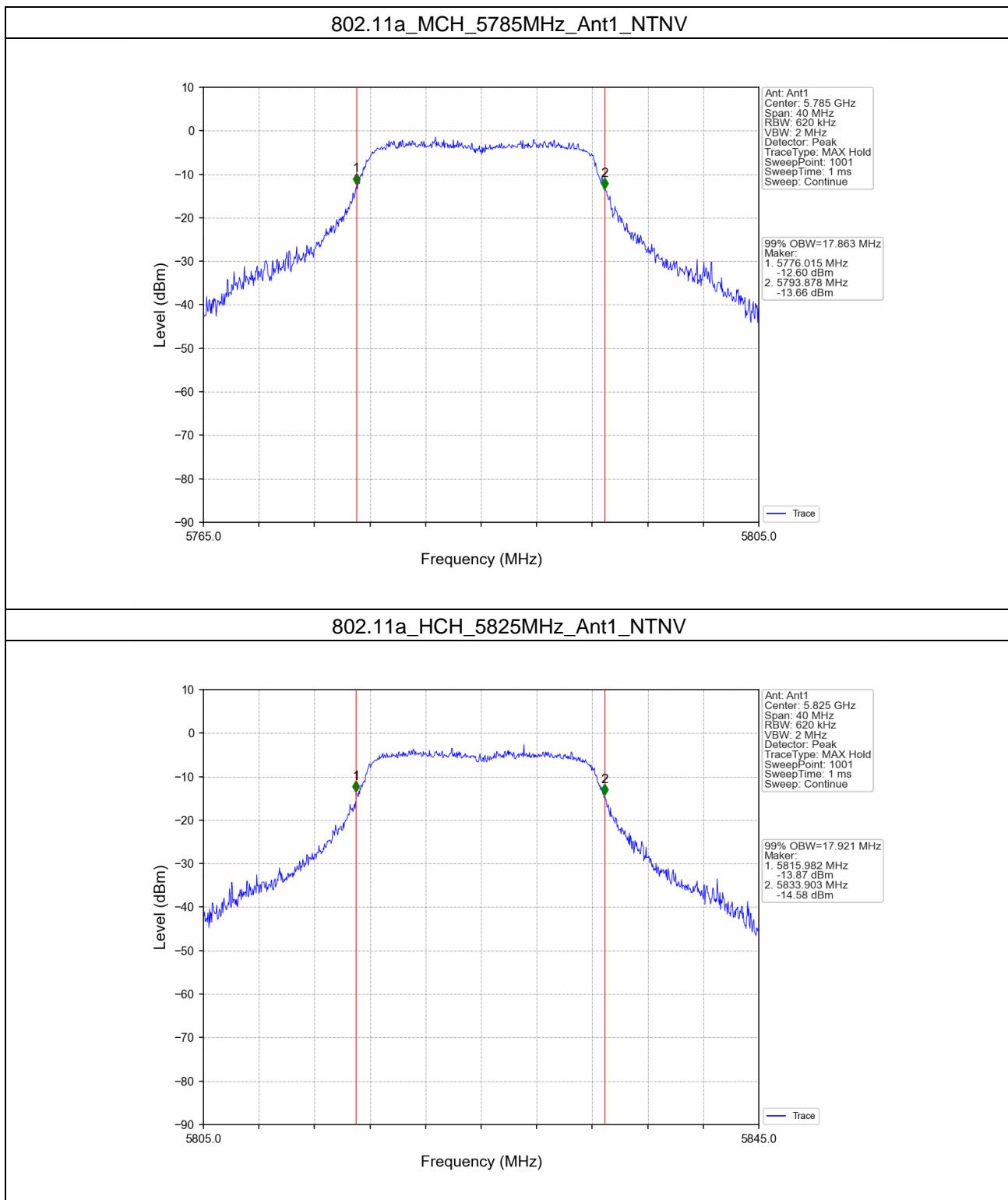


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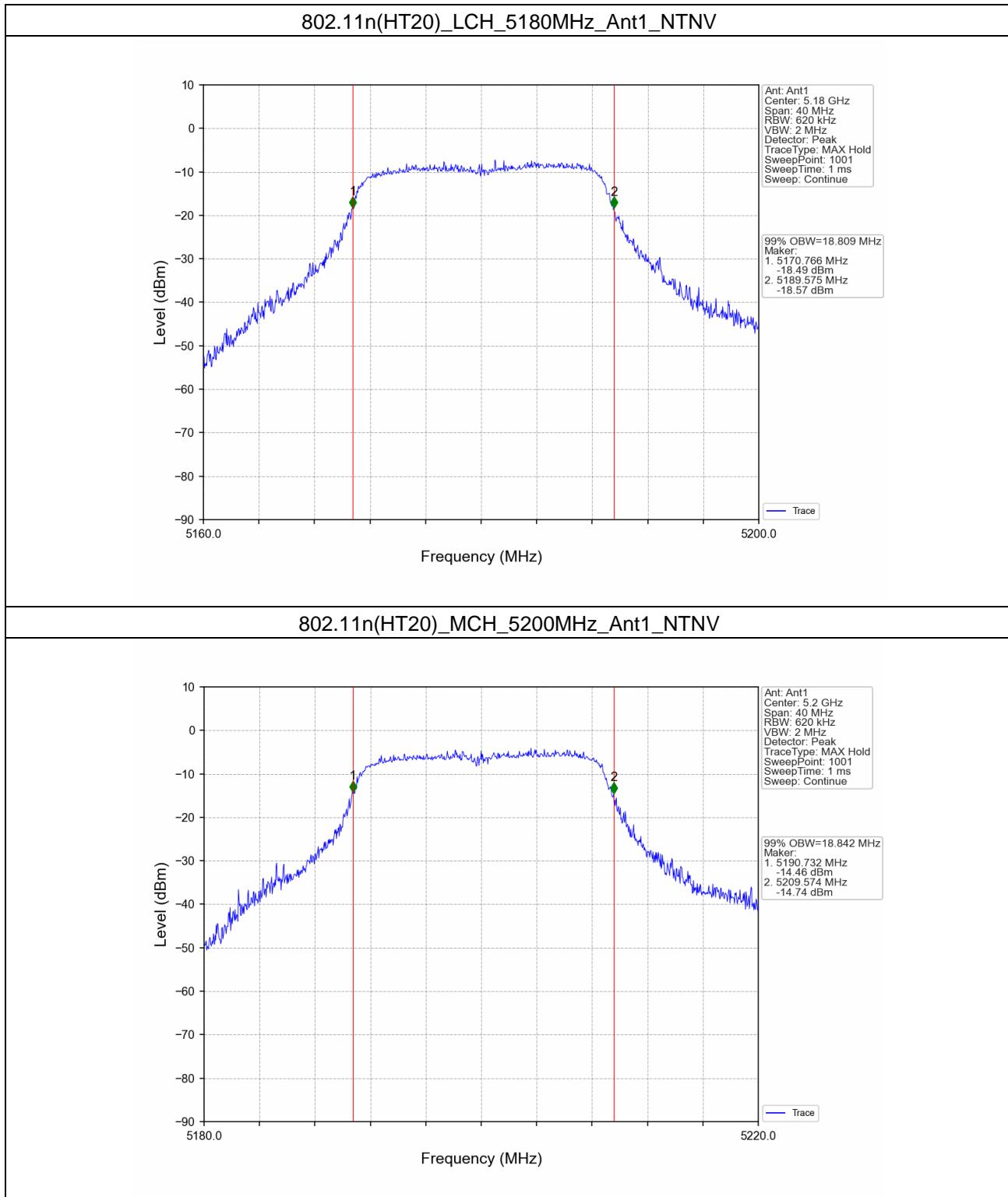


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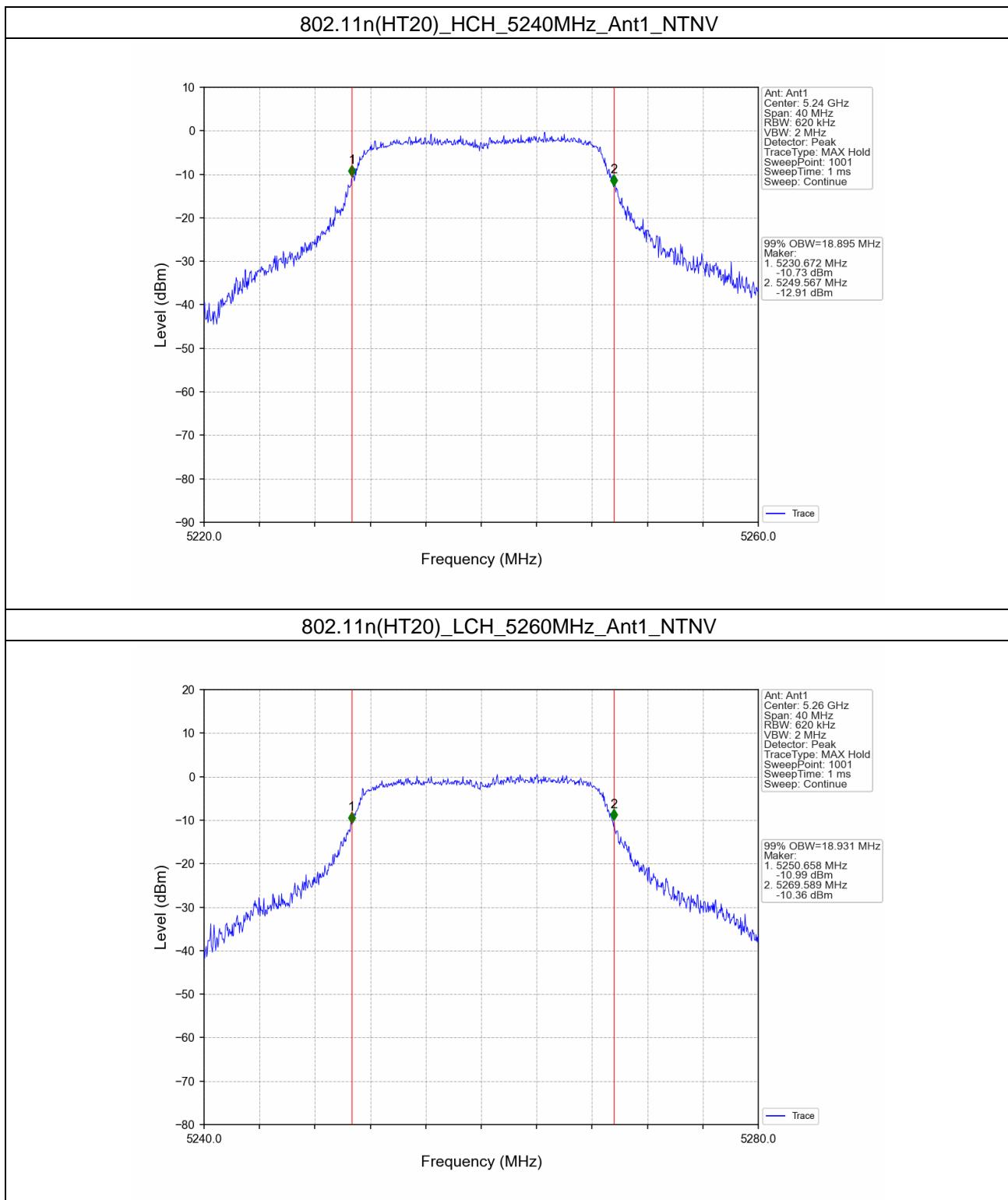


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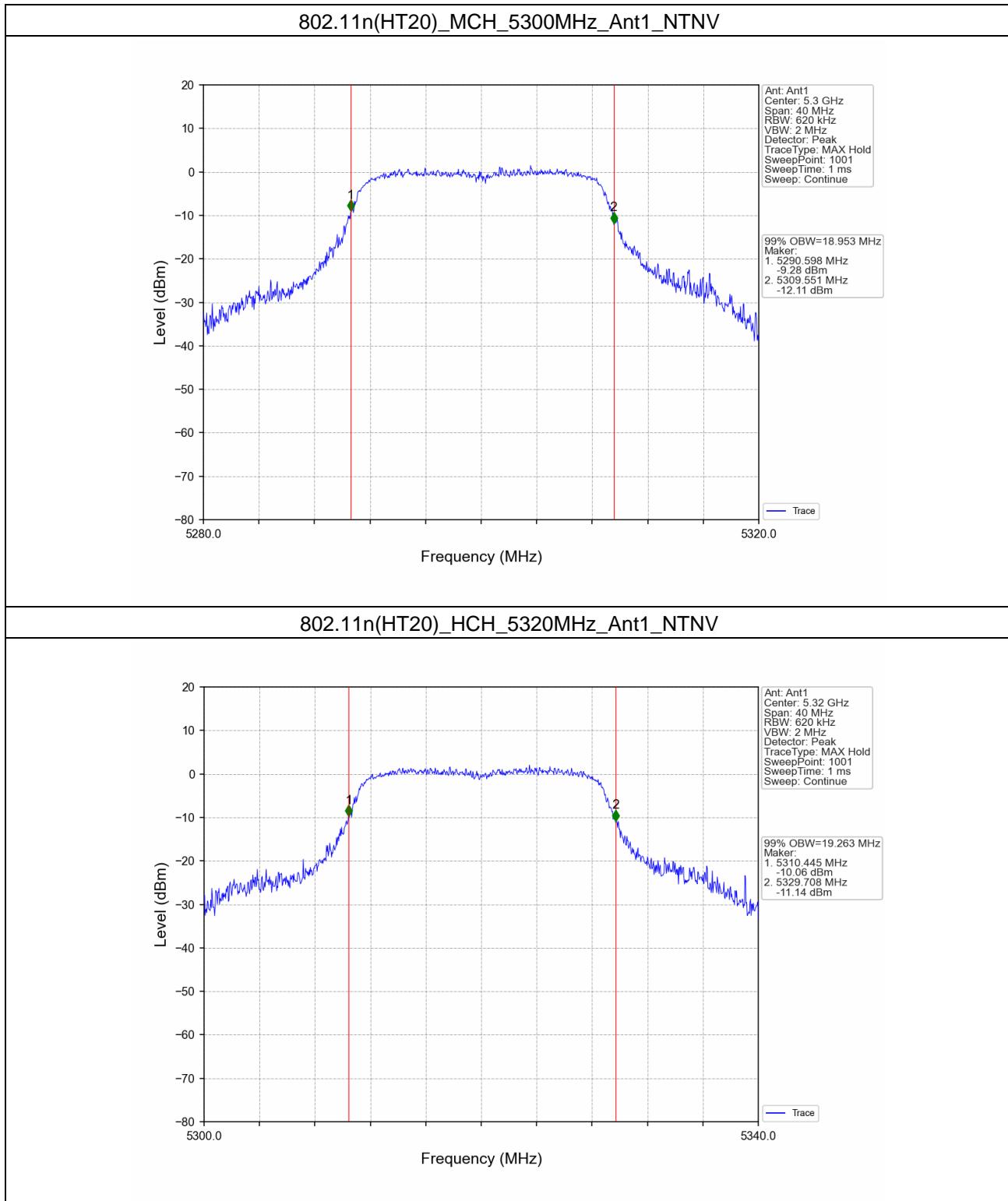


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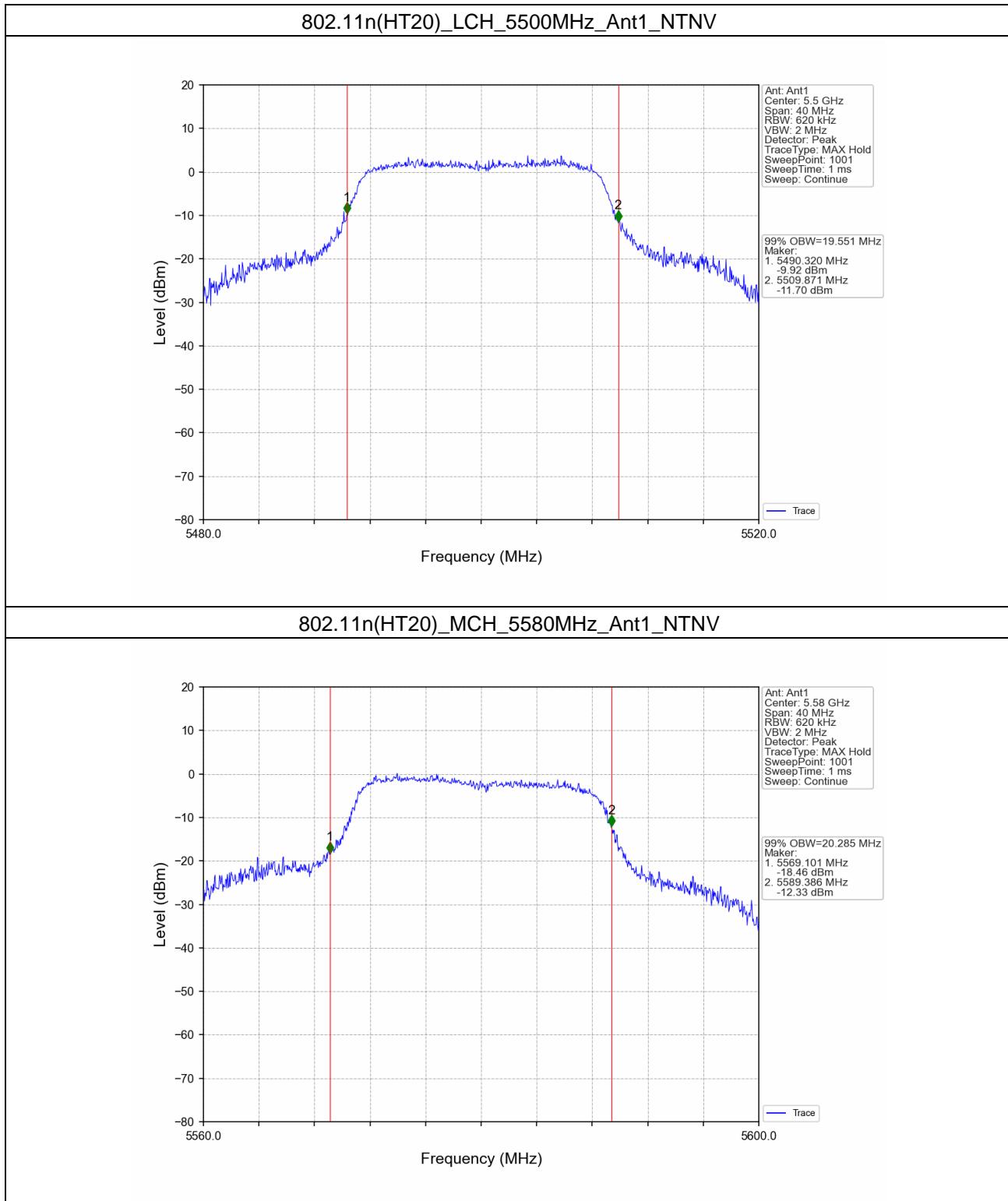


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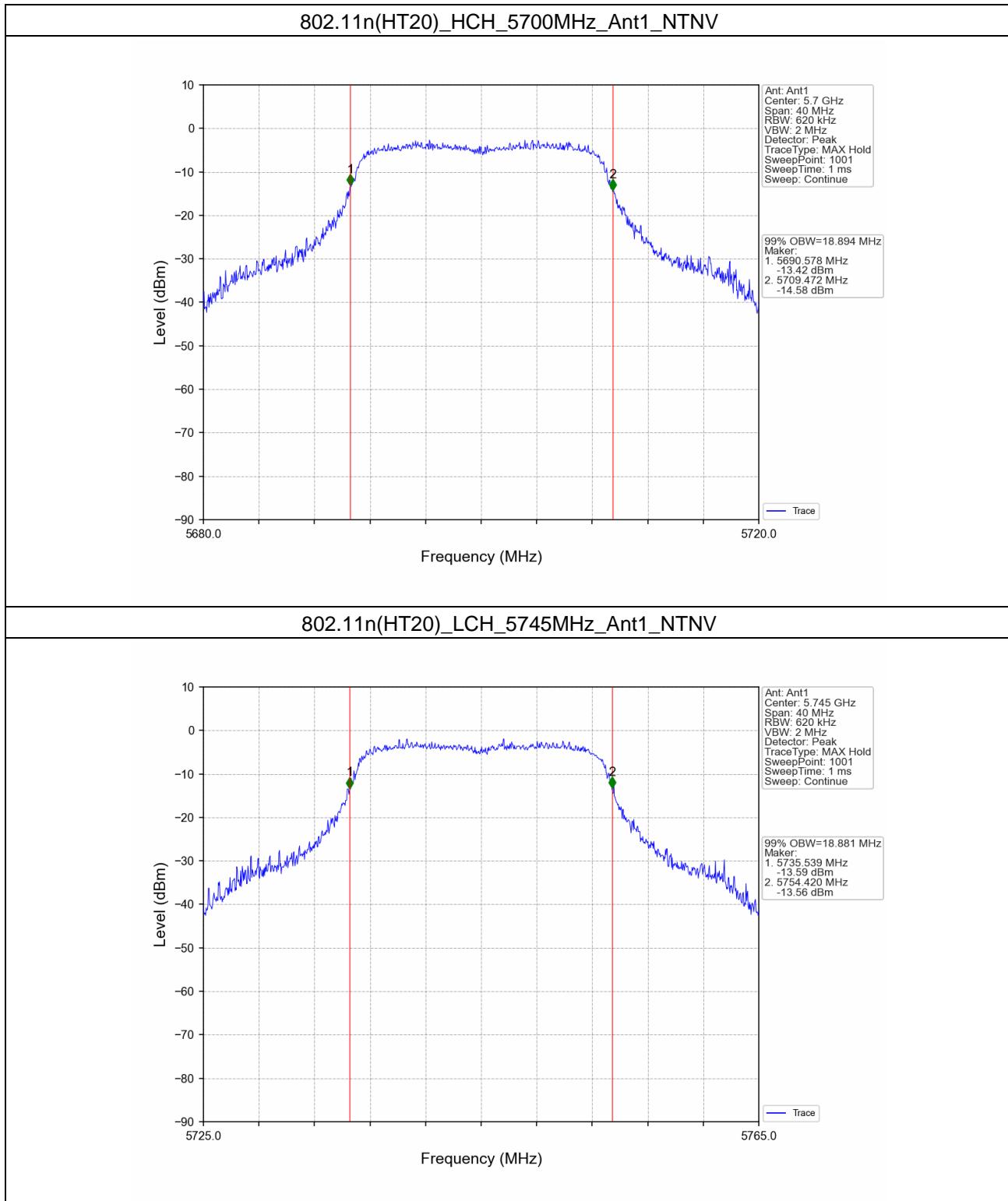
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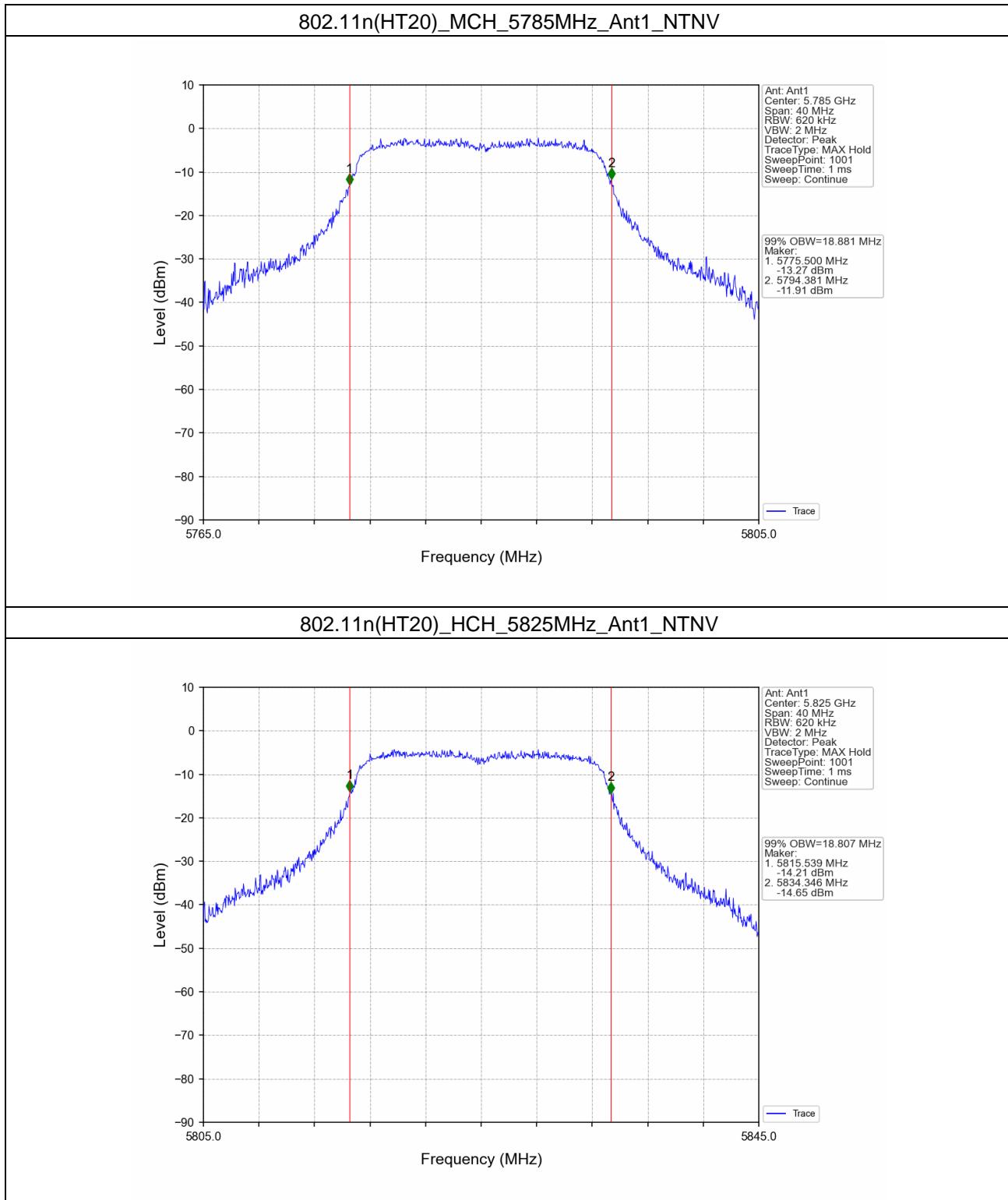


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2.2 6dB BW

2.2.1 Test Result

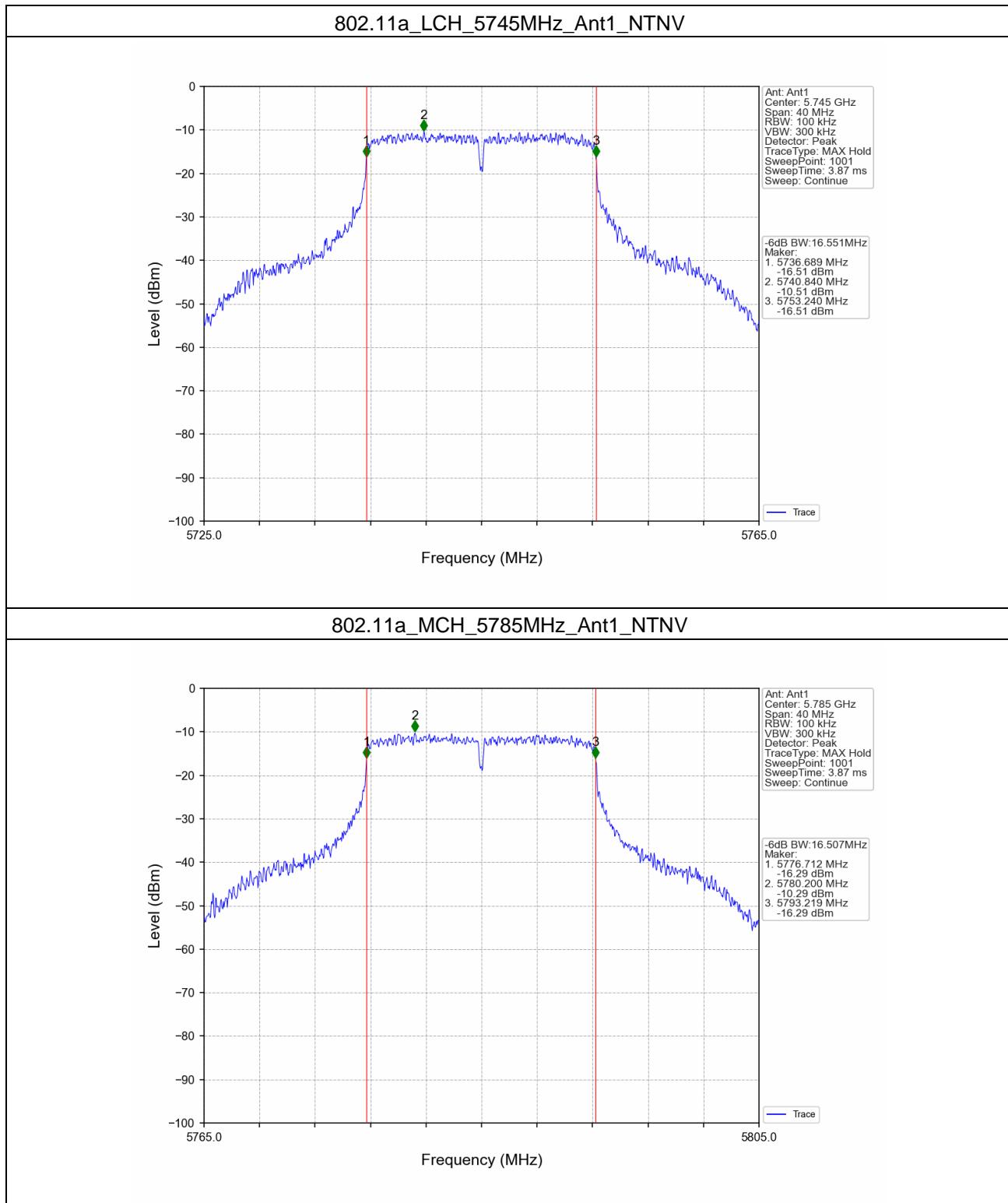
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	1	16.551	>=0.5	Pass
		5785	1	16.507	>=0.5	Pass
		5825	1	16.550	>=0.5	Pass
802.11n (HT20)	SISO	5745	1	17.714	>=0.5	Pass
		5785	1	17.728	>=0.5	Pass
		5825	1	17.750	>=0.5	Pass

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2.2.2 Test Graph

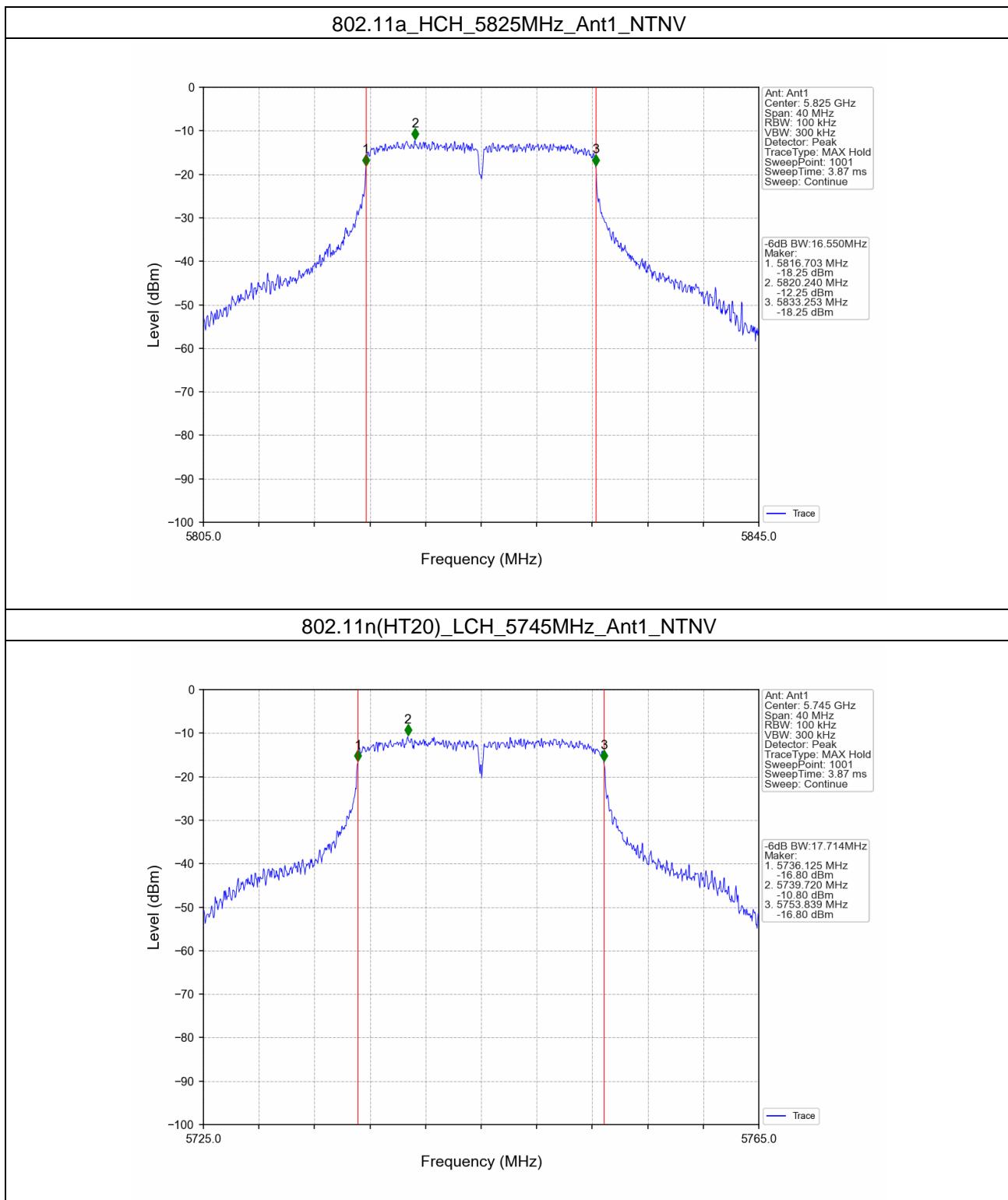
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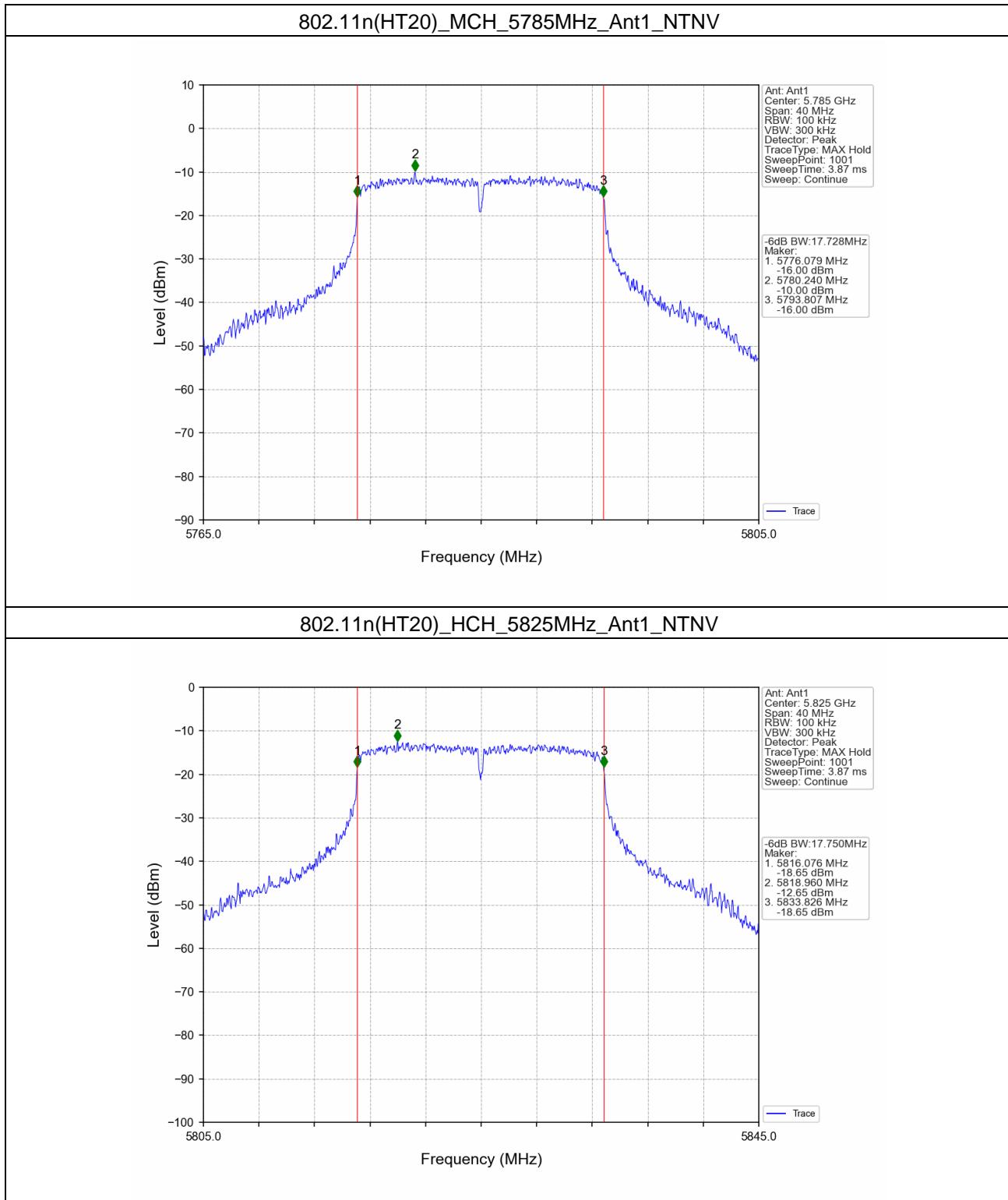


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2.3 26dB BW**2.3.1 Test Result**

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5180	1	22.783	Pass
		5200	1	23.346	Pass
		5240	1	23.298	Pass
		5260	1	22.375	Pass
		5300	1	27.598	Pass
		5320	1	26.582	Pass
		5500	1	31.254	Pass
		5580	1	29.900	Pass
		5700	1	23.258	Pass
802.11n (HT20)	SISO	5180	1	22.828	Pass
		5200	1	23.552	Pass
		5240	1	23.631	Pass
		5260	1	23.473	Pass
		5300	1	24.062	Pass
		5320	1	28.874	Pass
		5500	1	31.162	Pass
		5580	1	30.684	Pass
		5700	1	23.350	Pass

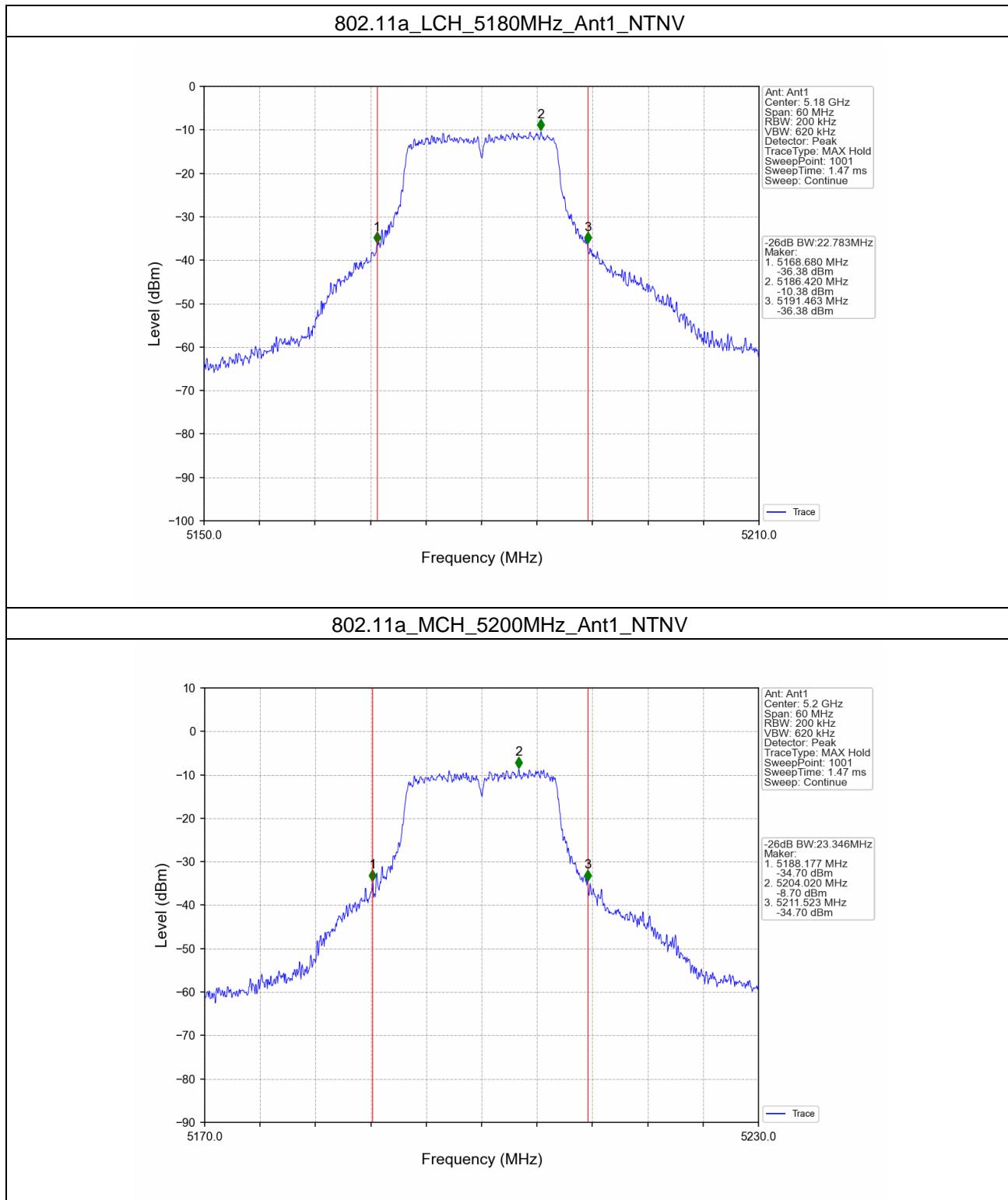
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2.3.2 Test Graph



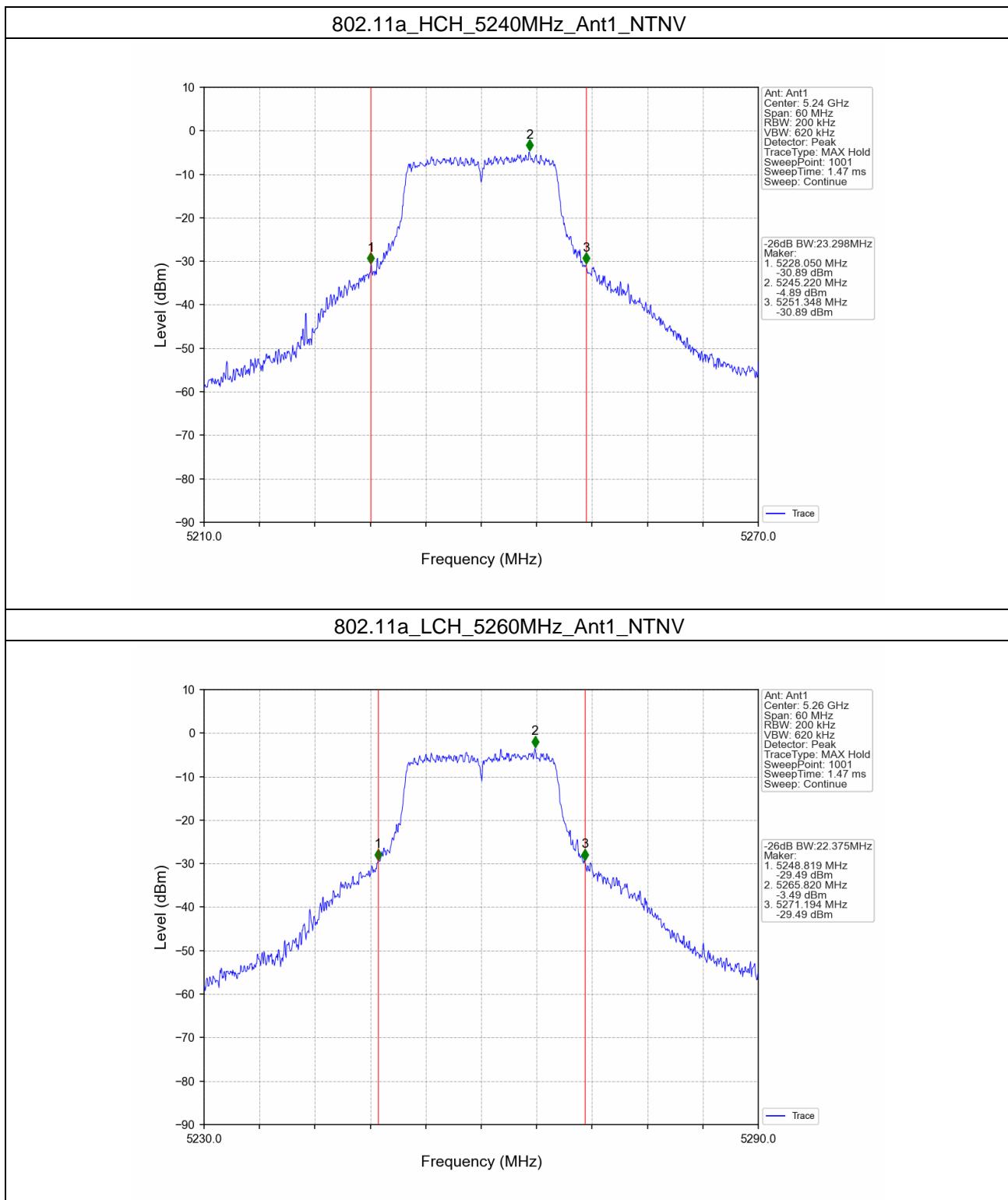
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