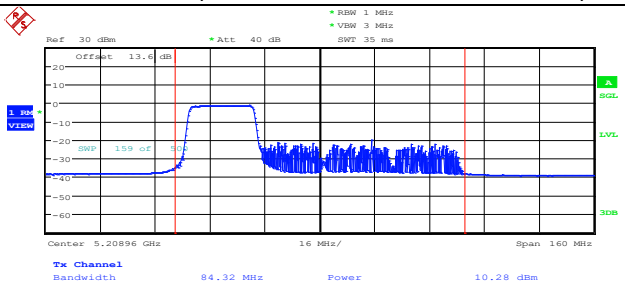
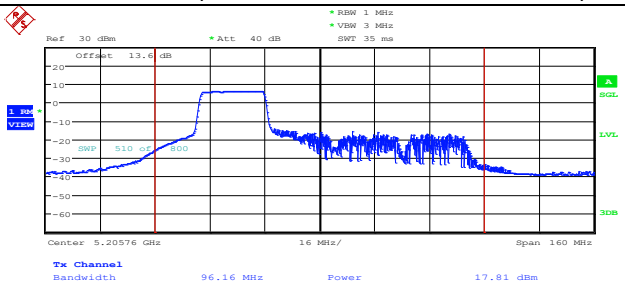
Channel 42, 802.11ax HEW80 RU242,ANT 0



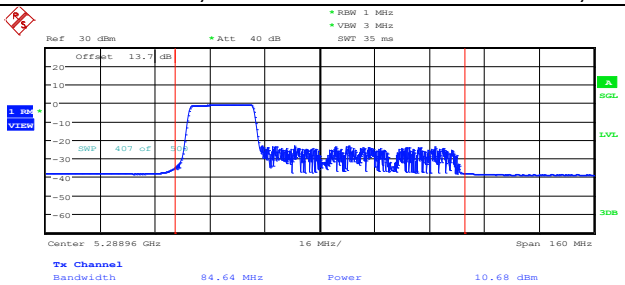
Date: 30.SEP.2021 22:15:10

Channel 42, 802.11ax HEW80 RU242,ANT 1



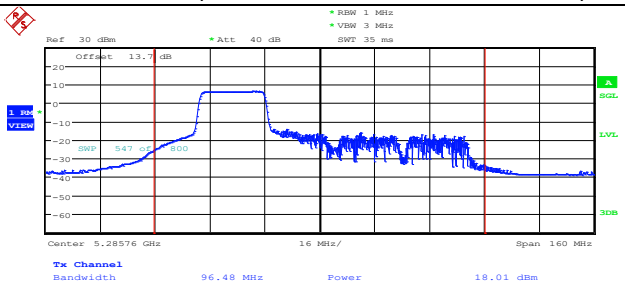
Date: 8.OCT.2021 11:59:04

Channel 58, 802.11ax HEW80 RU242,ANT 0



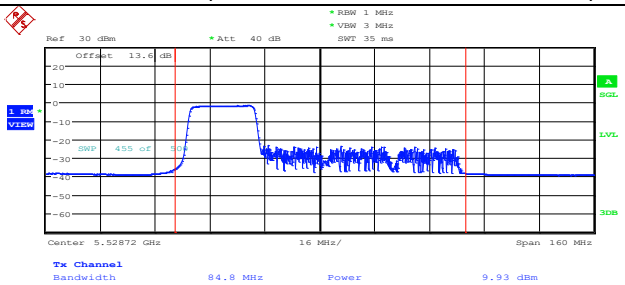
Date: 30.SEP.2021 22:18:46

Channel 58, 802.11ax HEW80 RU242,ANT 1



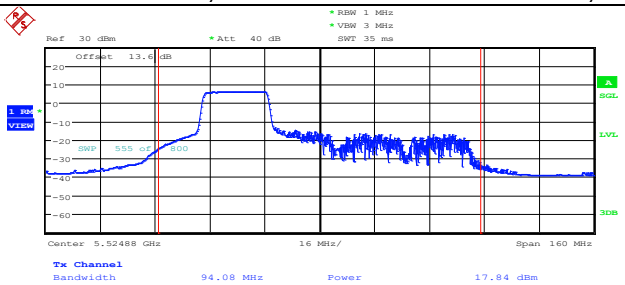
Date: 8.OCT.2021 12:04:09

Channel 106, 802.11ax HEW80 RU242,ANT 0



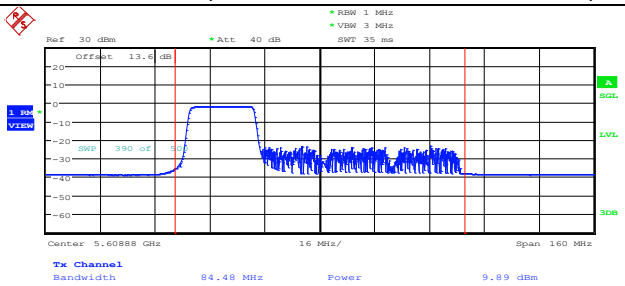
Date: 30.SEP.2021 22:22:01

Channel 106, 802.11ax HEW80 RU242,ANT 1



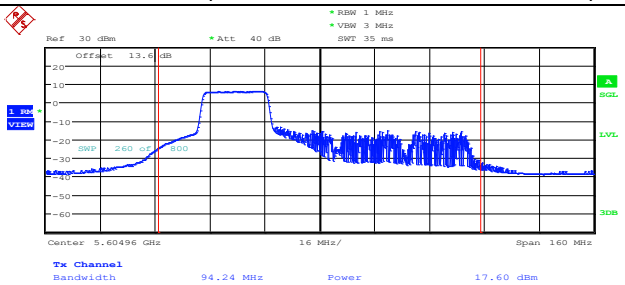
Date: 8.OCT.2021 12:09:12

Channel 122, 802.11ax HEW80 RU242,ANT 0



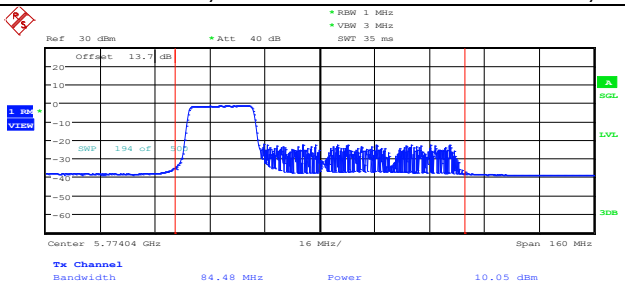
Date: 30.SEP.2021 22:24:55

Channel 122, 802.11ax HEW80 RU242,ANT 1



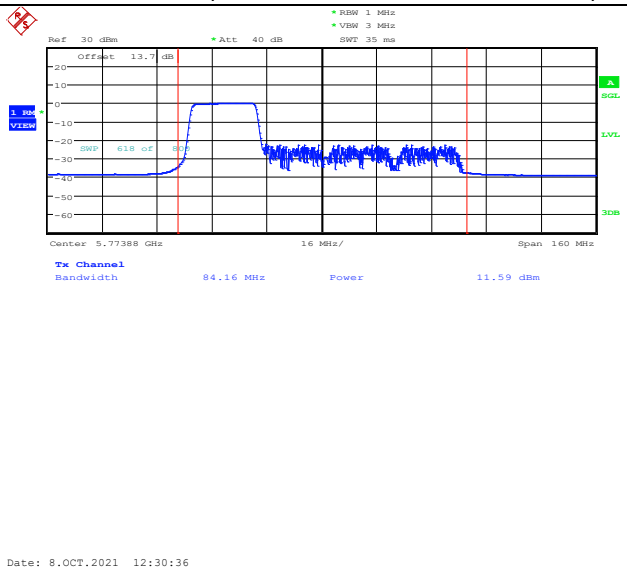
Date: 8.OCT.2021 12:13:32

Channel 155, 802.11ax HEW80 RU242,ANT 0



Date: 30.SEP.2021 22:29:00

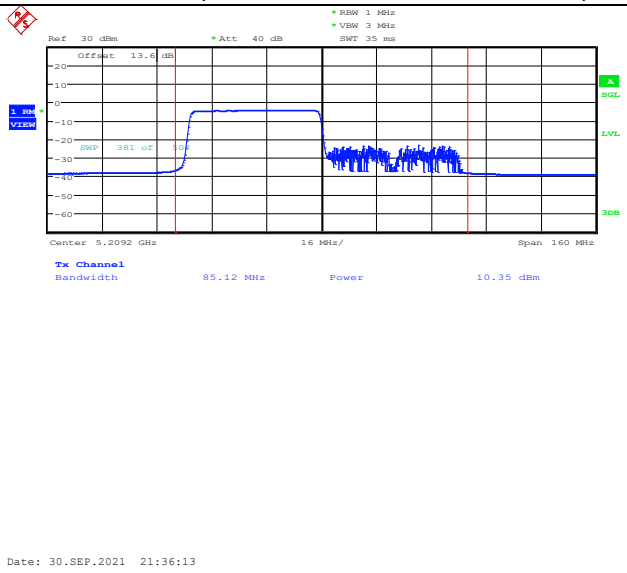
Channel 155, 802.11ax HEW80 RU242,ANT 1



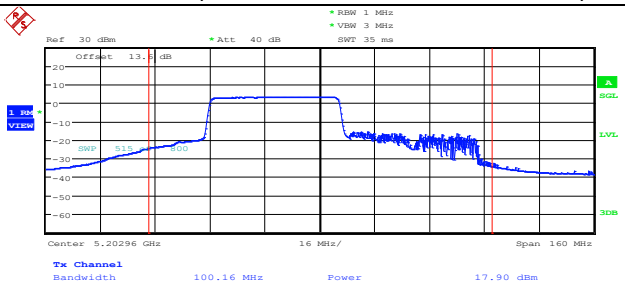
802.11ax HEW80 RU484 Mode

Channel	Frequency (MHz)	Measured		Duty Factor	Total Power with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	10.35	17.90	0.02	18.62	<=23.98	PASS
58	5290	10.78	18.07	0.02	18.83	<=23.98	PASS
106	5530	10.11	17.89	0.02	18.58	<=23.98	PASS
122	5610	11.30	17.54	0.02	18.49	<=23.98	PASS
155	5775	10.17	11.70	0.02	14.03	<=30	PASS

Channel 42, 802.11ax HEW80 RU484,ANT 0

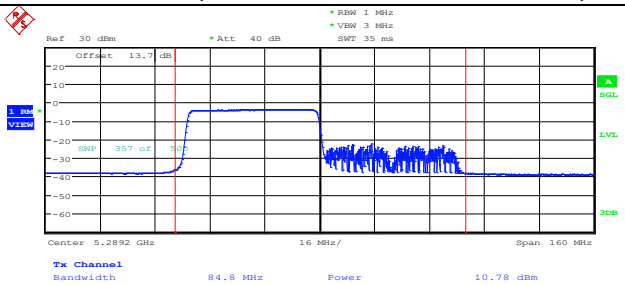


Channel 42, 802.11ax HEW80 RU484,ANT 1



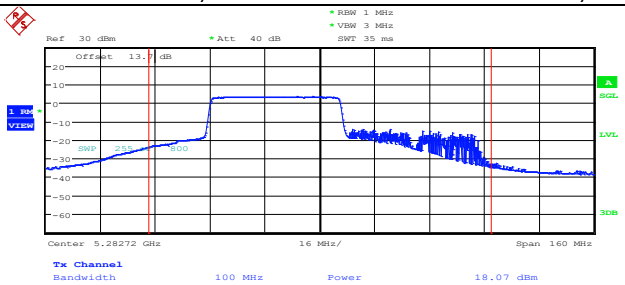
Date: 8.OCT.2021 10:42:01

Channel 58, 802.11ax HEW80 RU484,ANT 0



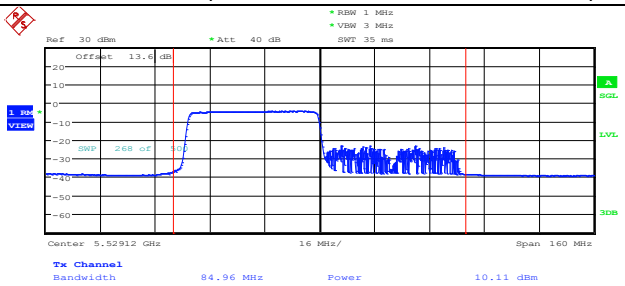
Date: 30.SEP.2021 21:39:11

Channel 58, 802.11ax HEW80 RU484,ANT 1



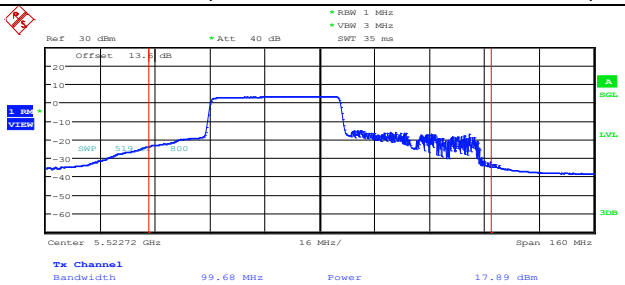
Date: 8.OCT.2021 10:50:06

Channel 106, 802.11ax HEW80 RU484,ANT 0



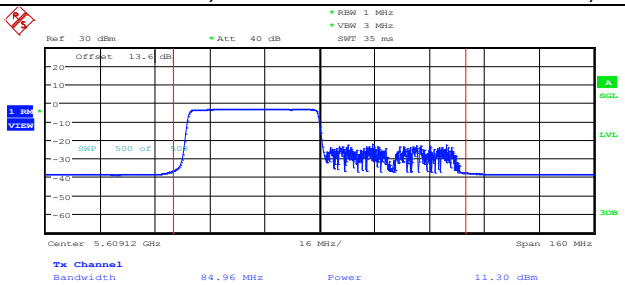
Date: 30.SEP.2021 21:42:28

Channel 106, 802.11ax HEW80 RU484,ANT 1



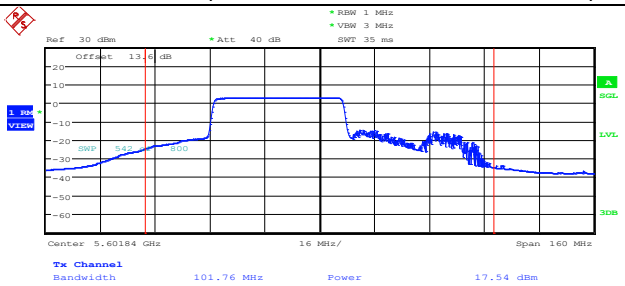
Date: 8.OCT.2021 11:00:00

Channel 122, 802.11ax HEW80 RU484,ANT 0



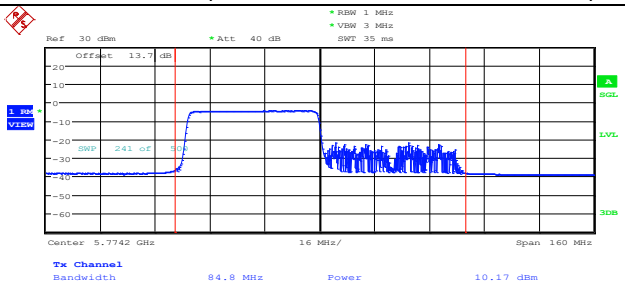
Date: 9.OCT.2021 09:53:07

Channel 122, 802.11ax HEW80 RU484,ANT 1



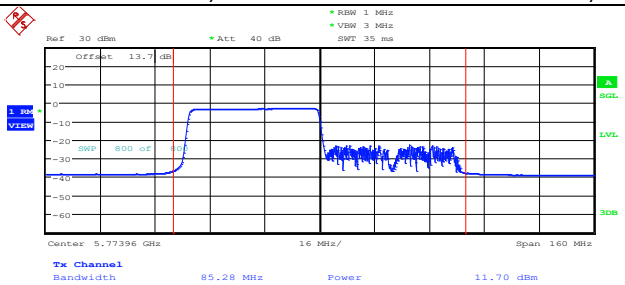
Date: 8.OCT.2021 11:11:43

Channel 155, 802.11ax HEW80 RU484,ANT 0



Date: 30.SEP.2021 21:45:57

Channel 155, 802.11ax HEW80 RU484,ANT 1

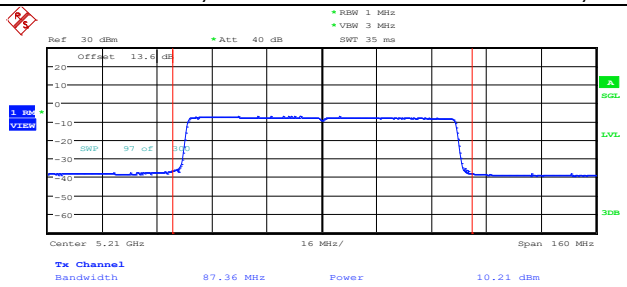


Date: 8.OCT.2021 11:19:04

802.11ax HEW80 RU996 Mode

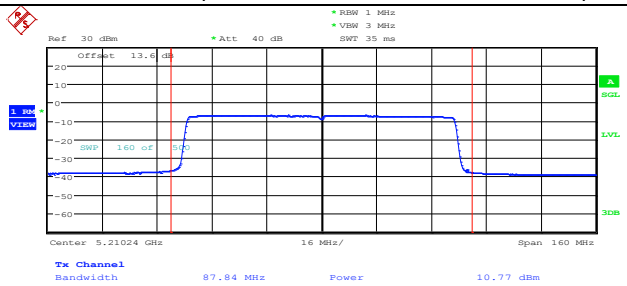
Channel	Frequency (MHz)	Measured		Duty Factor	Total Power with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	10.21	10.77	0.02	13.53	<=23.98	PASS
58	5290	10.62	10.97	0.02	13.83	<=23.98	PASS
106	5530	9.99	10.79	0.02	13.44	<=23.98	PASS
122	5610	9.84	10.64	0.02	13.29	<=23.98	PASS
155	5775	10.12	10.58	0.02	13.39	<=30	PASS

Channel 42, 802.11ax HEW80 RU996,ANT 0



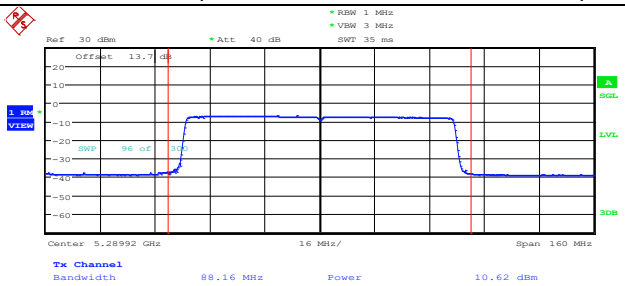
Date: 30.SEP.2021 21:09:10

Channel 42, 802.11ax HEW80 RU996,ANT 1



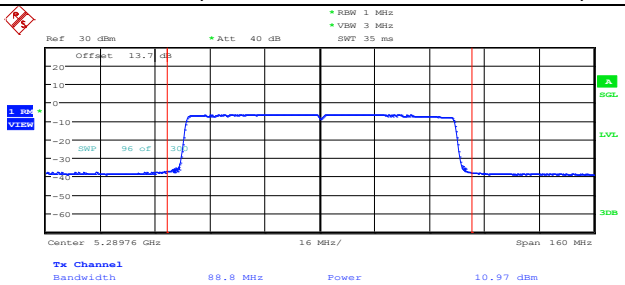
Date: 30.SEP.2021 22:51:41

Channel 58, 802.11ax HEW80 RU996,ANT 0



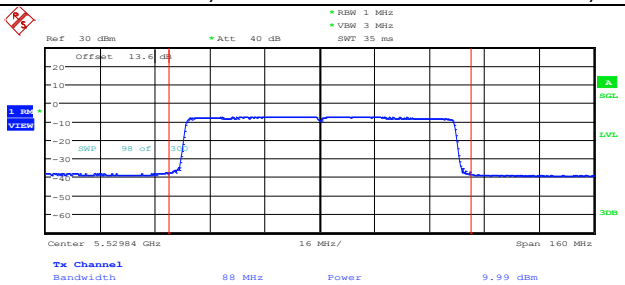
Date: 30.SEP.2021 21:10:55

Channel 58, 802.11ax HEW80 RU996,ANT 1



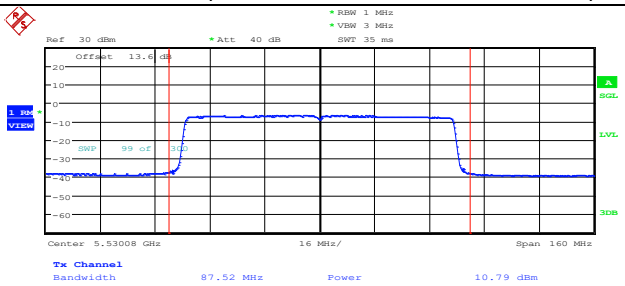
Date: 30.SEP.2021 22:53:30

Channel 106, 802.11ax HEW80 RU996,ANT 0



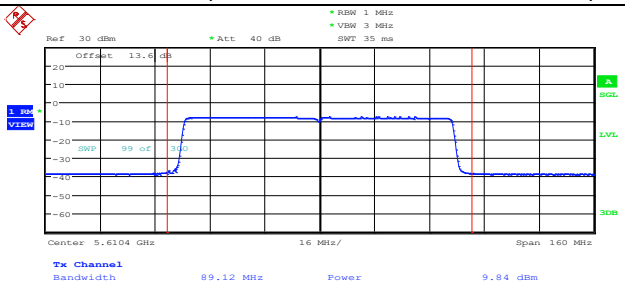
Date: 30.SEP.2021 21:12:51

Channel 106, 802.11ax HEW80 RU996,ANT 1



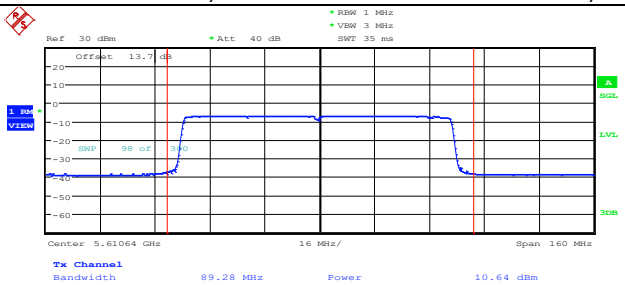
Date: 30.SEP.2021 22:54:57

Channel 122, 802.11ax HEW80 RU996,ANT 0



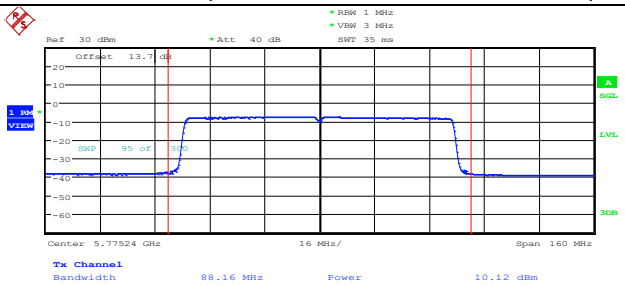
Date: 30.SEP.2021 21:14:30

Channel 122, 802.11ax HEW80 RU996,ANT 1



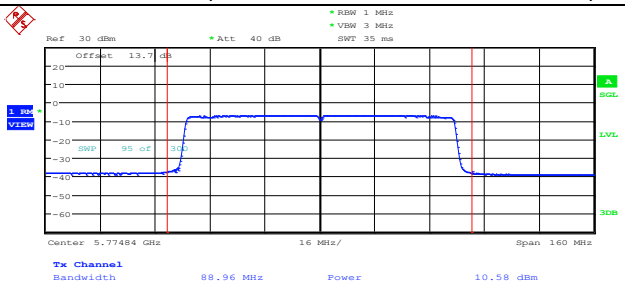
Date: 30.SEP.2021 22:56:40

Channel 155, 802.11ax HEW80 RU996,ANT 0



Date: 30.SEP.2021 21:18:50

Channel 155, 802.11ax HEW80 RU996,ANT 1



Date: 30.SEP.2021 22:58:43

9. MAXIMUM POWER SPECTRAL DENSITY LEVEL MEASUREMENT

9.1. Limits of Maximum Power Spectral Density Level Measurement

CFR 47 (FCC) part 15.407 (a)

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

9.2. Test Procedure

1.Create an average power spectrum for the EUT operating mode being tested by following the instructions in section II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power….” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)

2. Use the peak search function on the instrument to find the peak of the spectrum and record its value.

3. Make the following adjustments to the peak value of the spectrum, if applicable:

a) If Method SA-2 or SA-2 Alternative was used, add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum.

b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.

4. The result is the Maximum PSD over 1 MHz reference bandwidth.

5. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may

need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and 789033 D02 General UNII Test Procedures New Rules v01r02 Page 10 integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

9.3. Test Data

Maximum Power Spectral Density Level

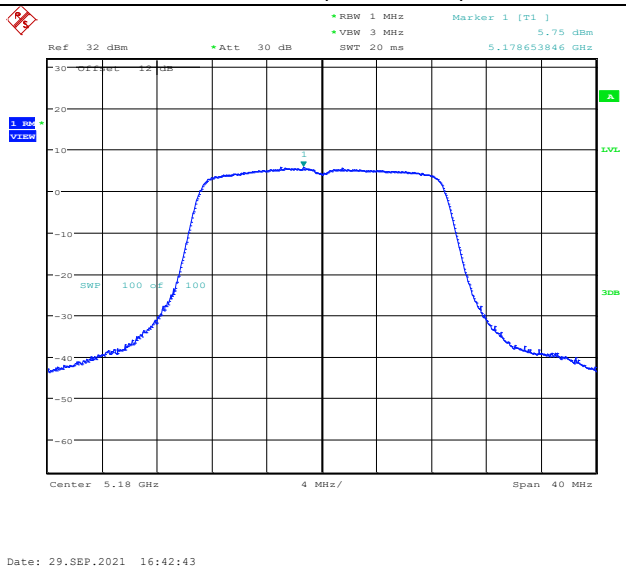
802.11a Mode

Channel	Frequency (MHz)	Measured ANT 0 dBm	Duty Factor	Total PSD with Duty Factor dBm	Limit dBm	Verdict
36	5180	5.75	0.04	5.79	<=11	PASS
40	5200	10.65	0.04	10.69	<=11	PASS
48	5240	10.69	0.04	10.73	<=11	PASS
52	5260	10.62	0.04	10.66	<=11	PASS
56	5280	10.24	0.04	10.28	<=11	PASS
64	5320	10.56	0.04	10.60	<=11	PASS
100	5500	10.01	0.04	10.05	<=11	PASS
116	5580	9.99	0.04	10.03	<=11	PASS
140	5700	9.79	0.04	9.83	<=11	PASS
149	5745	1.33	0.04	1.37	<=30	PASS
157	5785	2.09	0.04	2.13	<=30	PASS
165	5825	2.26	0.04	2.30	<=30	PASS

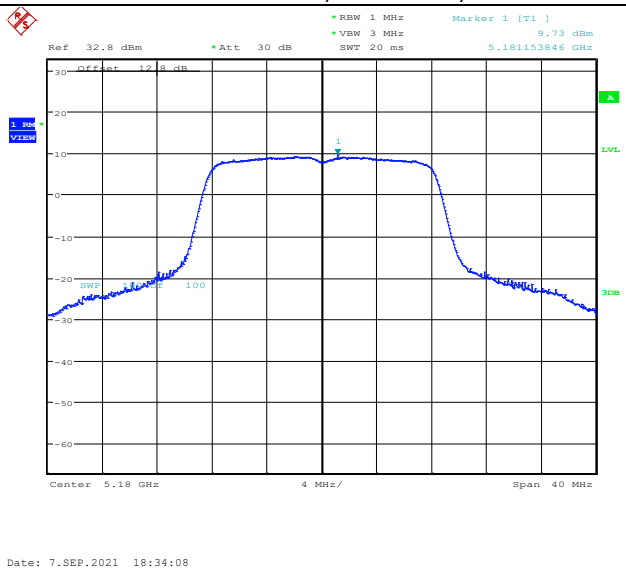
Channel	Frequency (MHz)	Measured ANT 1 dBm	Duty Factor	Total PSD with Duty Factor dBm	Limit dBm	Verdict
36	5180	9.73	0.04	9.77	<=11	PASS
40	5200	9.97	0.04	10.01	<=11	PASS
48	5240	9.66	0.04	9.70	<=11	PASS
52	5260	9.81	0.04	9.85	<=11	PASS
56	5280	9.94	0.04	9.98	<=11	PASS
64	5320	9.58	0.04	9.62	<=11	PASS

100	5500	9.62	0.04	9.66	<=11	PASS
116	5580	9.63	0.04	9.67	<=11	PASS
140	5700	9.42	0.04	9.46	<=11	PASS
149	5745	1.27	0.04	1.31	<=30	PASS
157	5785	1.88	0.04	1.92	<=30	PASS
165	5825	2.06	0.04	2.10	<=30	PASS

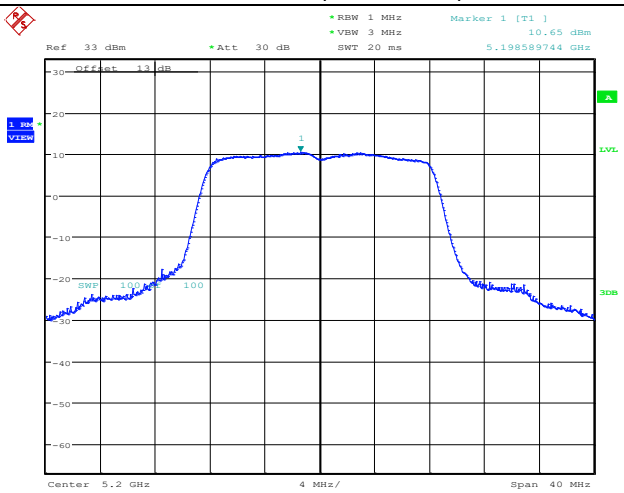
Channel 36, 802.11a,ANT 0



Channel 36, 802.11a,ANT 1

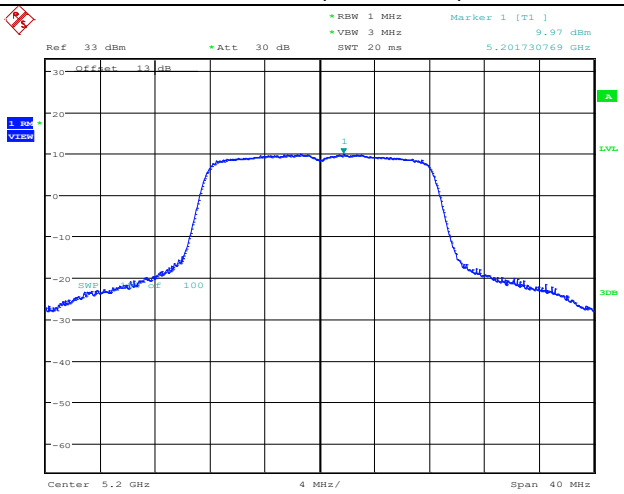


Channel 40, 802.11a,ANT 0



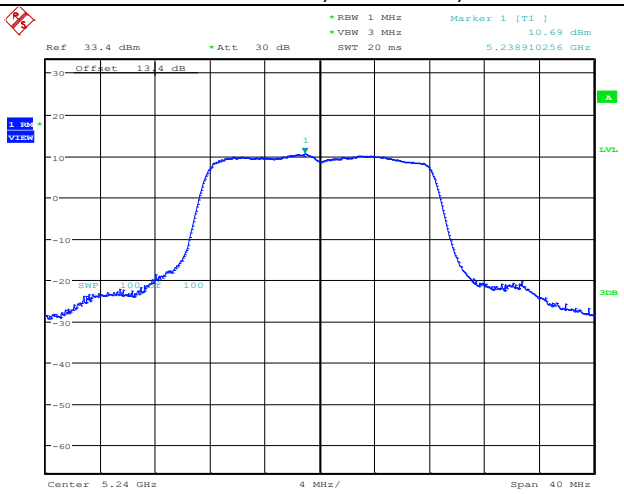
Date: 7.SEP.2021 11:14:49

Channel 40, 802.11a,ANT 1



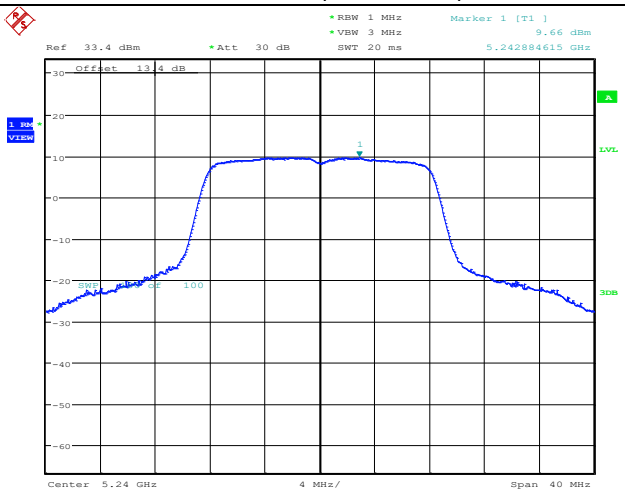
Date: 7.SEP.2021 18:35:55

Channel 48, 802.11a,ANT 0



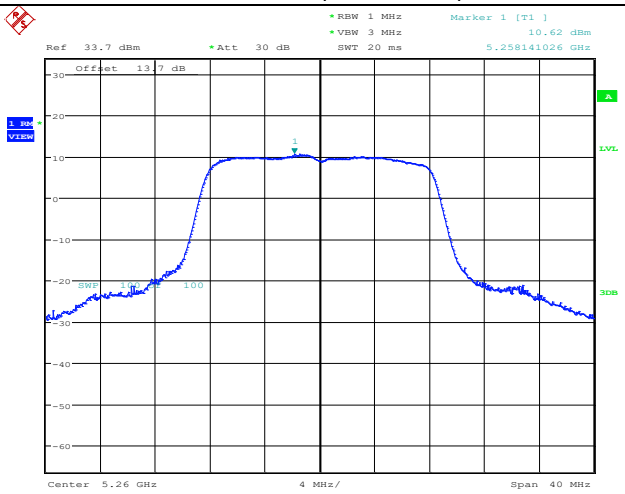
Date: 7.SEP.2021 11:22:51

Channel 48, 802.11a,ANT 1



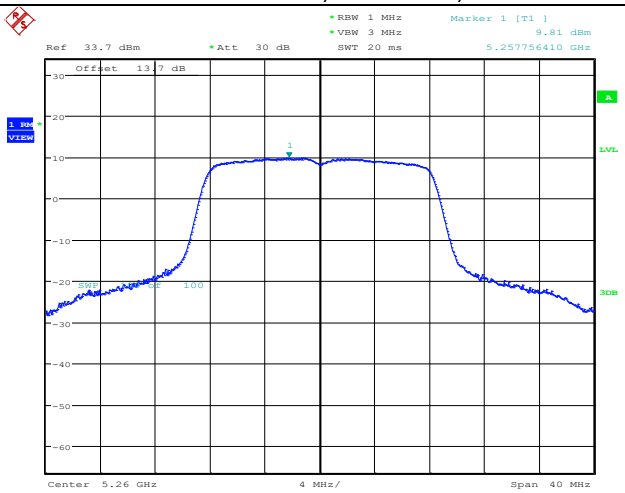
Date: 7.SEP.2021 18:38:34

Channel 52, 802.11a,ANT 0



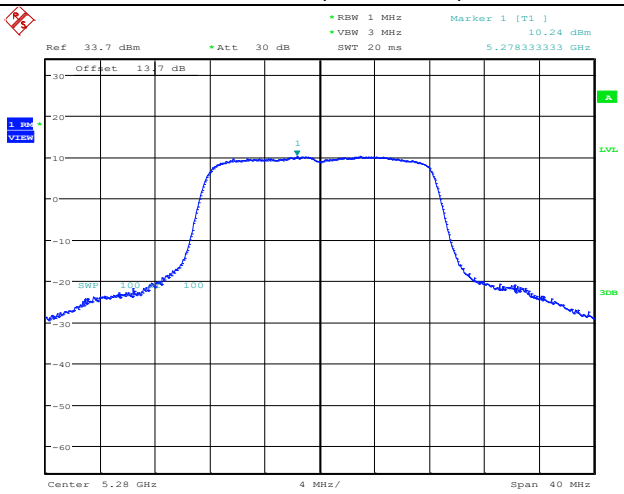
Date: 7.SEP.2021 11:24:49

Channel 52, 802.11a,ANT 1



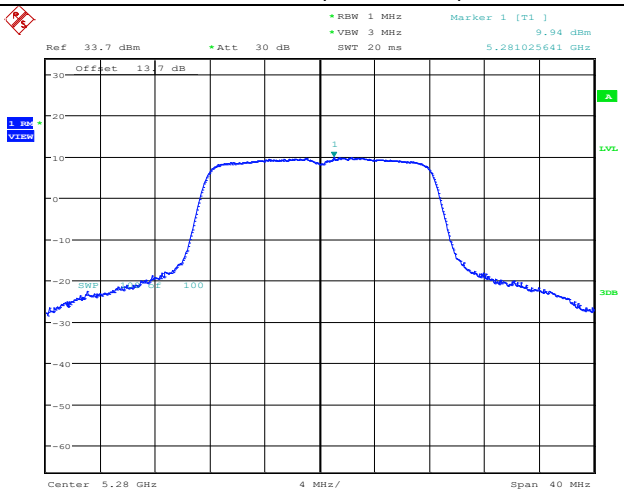
Date: 7.SEP.2021 18:40:34

Channel 56, 802.11a,ANT 0



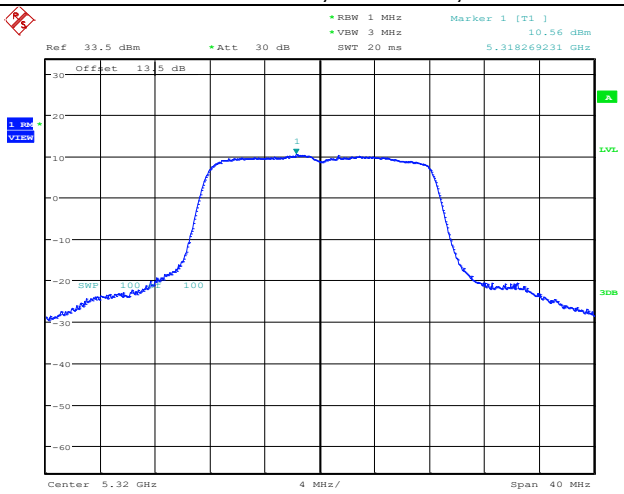
Date: 7.SEP.2021 11:27:29

Channel 56, 802.11a,ANT 1



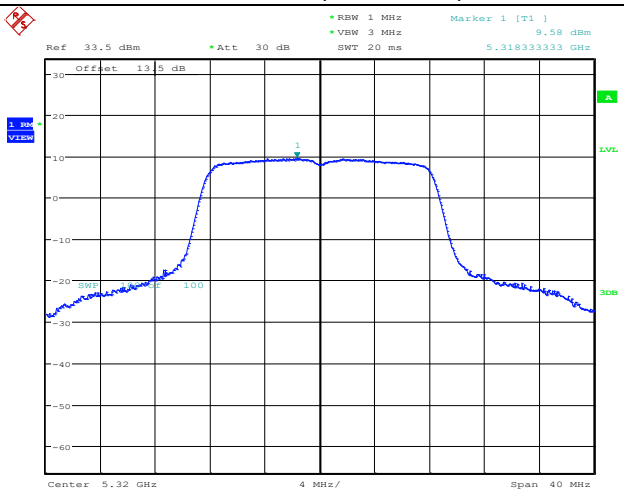
Date: 7.SEP.2021 18:42:44

Channel 64, 802.11a,ANT 0



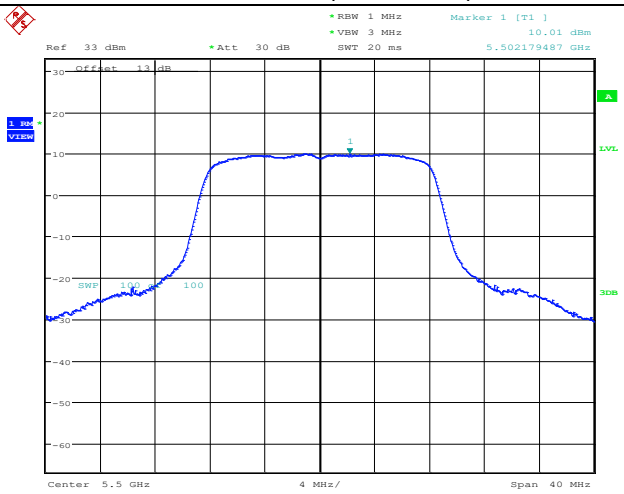
Date: 7.SEP.2021 11:29:14

Channel 64, 802.11a,ANT 1



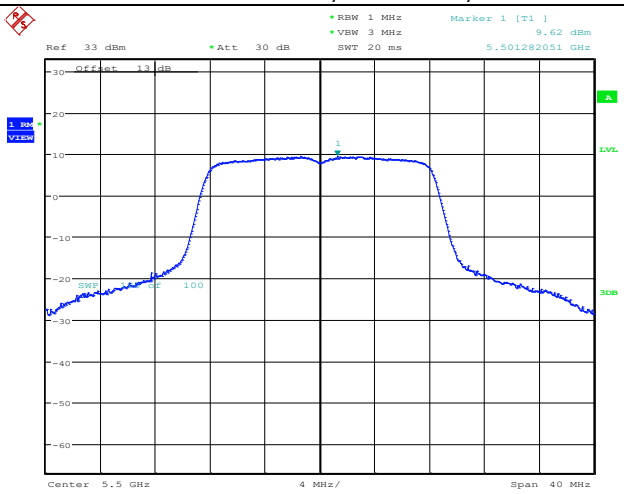
Date: 7.SEP.2021 18:45:53

Channel 100, 802.11a,ANT 0



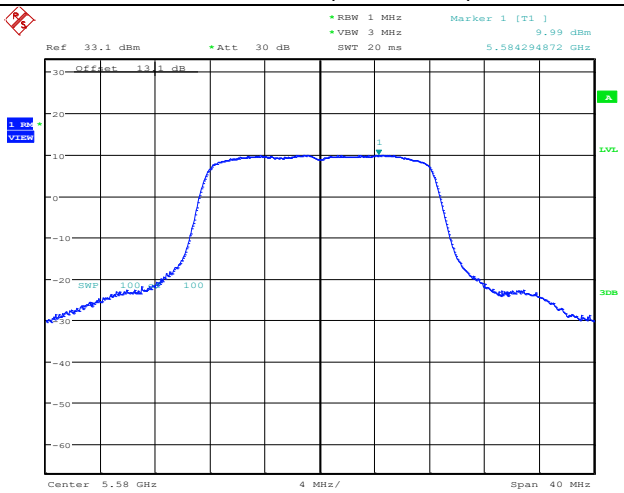
Date: 7.SEP.2021 11:33:43

Channel 100, 802.11a,ANT 1



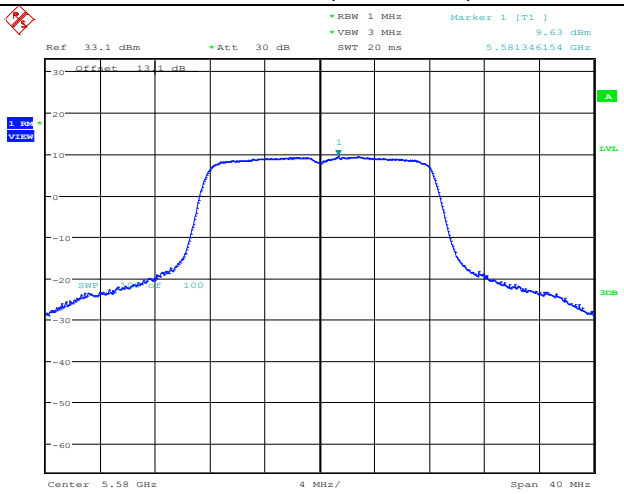
Date: 7.SEP.2021 18:47:39

Channel 116, 802.11a,ANT 0



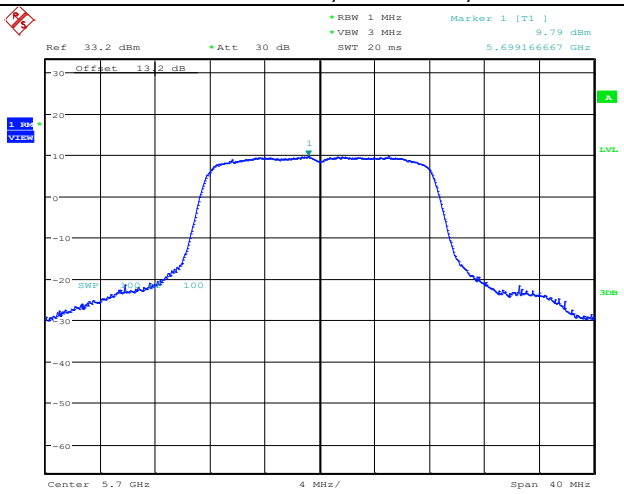
Date: 7.SEP.2021 11:38:07

Channel 116, 802.11a,ANT 1



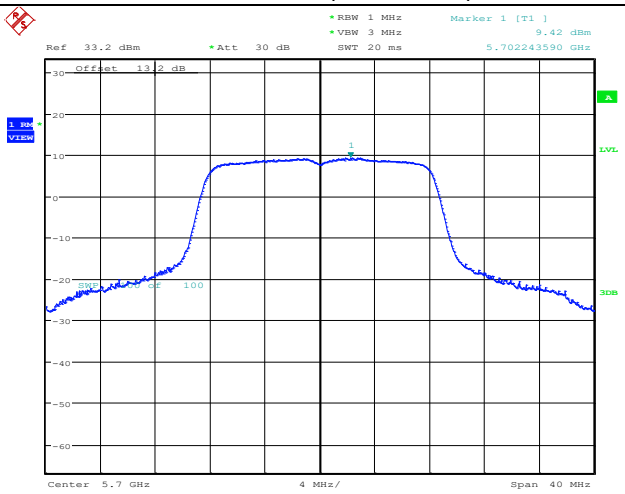
Date: 7.SEP.2021 18:49:33

Channel 140, 802.11a,ANT 0



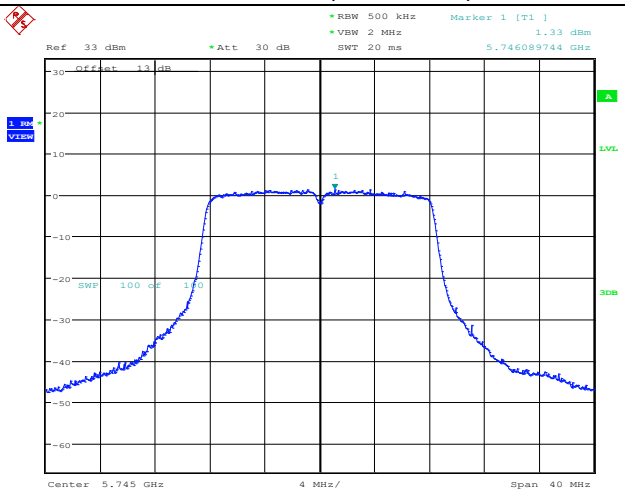
Date: 7.SEP.2021 11:39:56

Channel 140, 802.11a,ANT 1



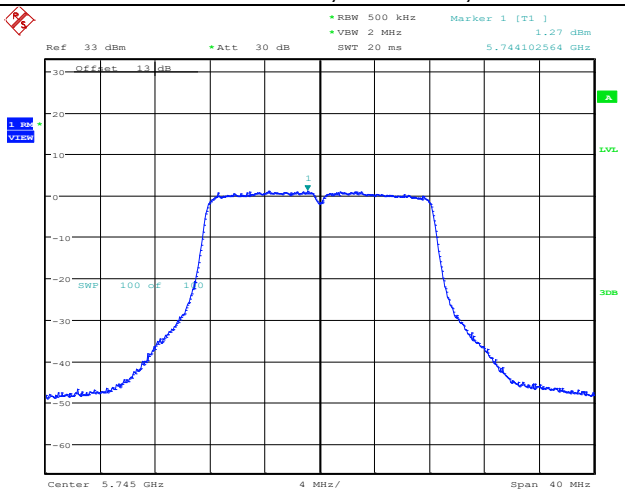
Date: 7.SEP.2021 18:51:40

Channel 149, 802.11a,ANT 0



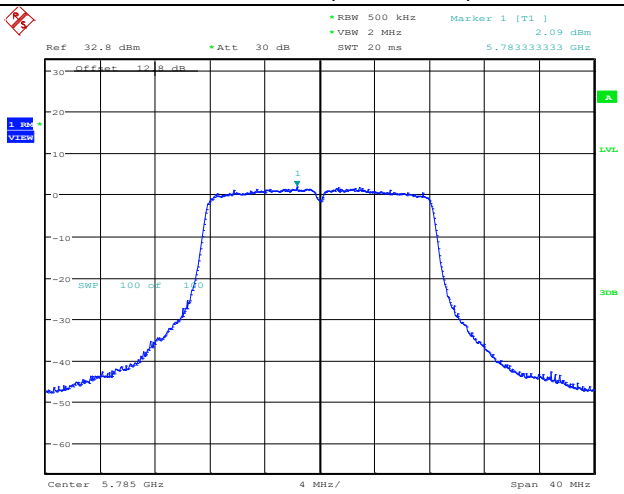
Date: 7.SEP.2021 16:02:45

Channel 149, 802.11a,ANT 1



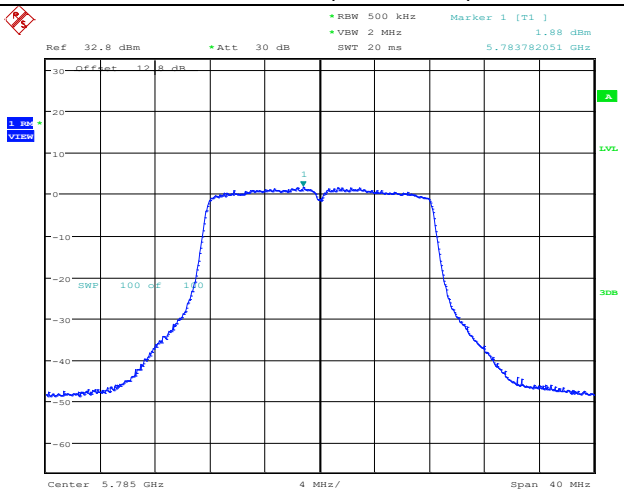
Date: 7.SEP.2021 20:36:46

Channel 157, 802.11a,ANT 0



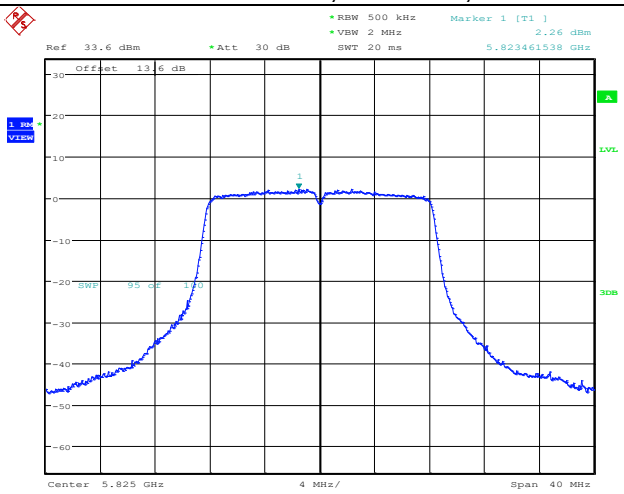
Date: 7.SEP.2021 16:05:01

Channel 157, 802.11a,ANT 1



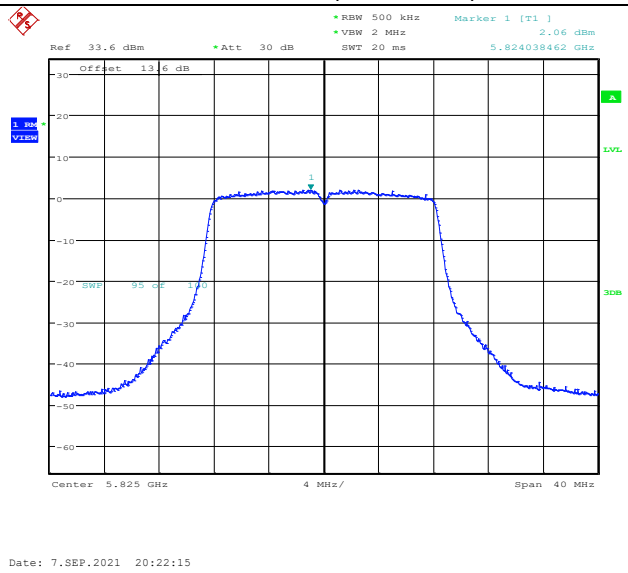
Date: 7.SEP.2021 20:19:27

Channel 165, 802.11a,ANT 0



Date: 7.SEP.2021 16:07:04

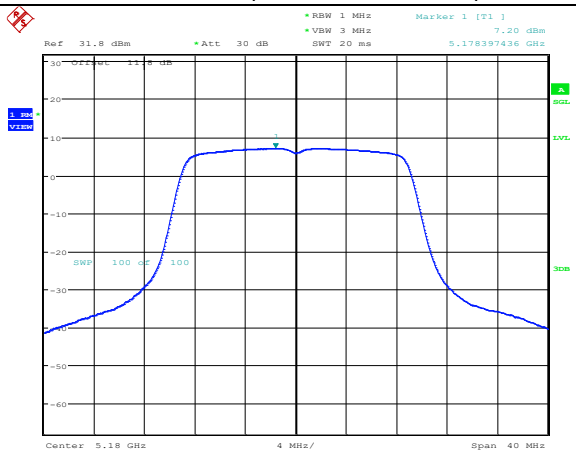
Channel 165, 802.11a,ANT 1



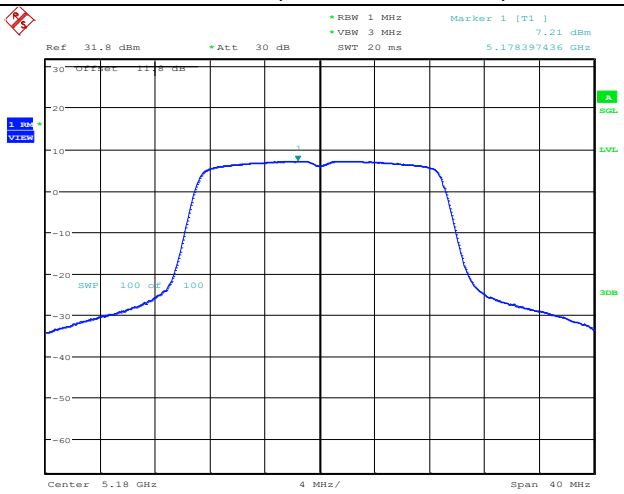
802.11n HT20 Mode

Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
36	5180	7.2	7.21	0	10.22	<=11	PASS
40	5200	7.64	7.84	0	10.75	<=11	PASS
48	5240	7.29	7.7	0	10.51	<=11	PASS
52	5260	7.07	7.41	0	10.25	<=11	PASS
56	5280	6.53	7	0	9.78	<=11	PASS
64	5320	6.68	6.92	0	9.81	<=11	PASS
100	5500	6.92	7.05	0	10.00	<=11	PASS
116	5580	7.27	7.55	0	10.42	<=11	PASS
140	5700	6.77	6.71	0	9.75	<=11	PASS
149	5745	1.34	1.14	0	4.25	<=30	PASS
157	5785	2.07	2	0	5.05	<=30	PASS
165	5825	2.34	2.34	0	5.35	<=30	PASS

Channel 36, 802.11n HT20,ANT 0

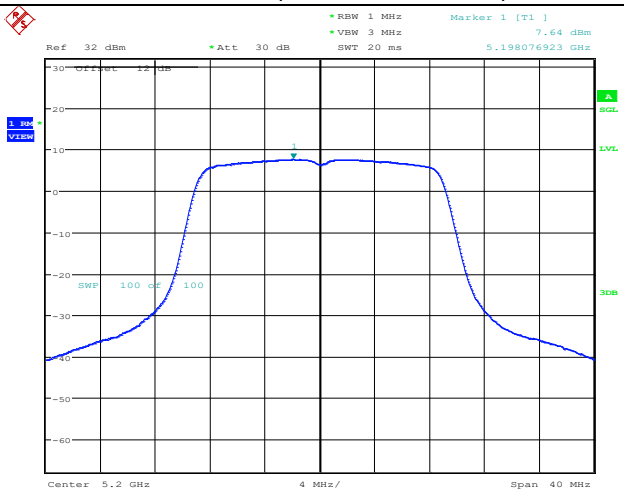


Channel 36, 802.11n HT20,ANT 1



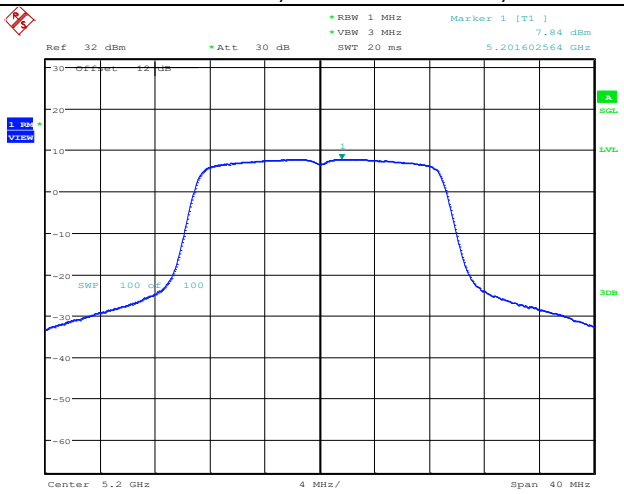
Date: 30.SEP.2021 10:57:57

Channel 40, 802.11n HT20,ANT 0



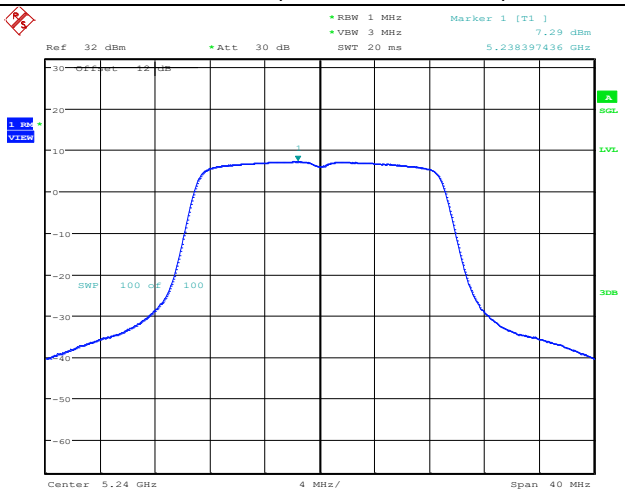
Date: 30.SEP.2021 09:38:17

Channel 40, 802.11n HT20,ANT 1



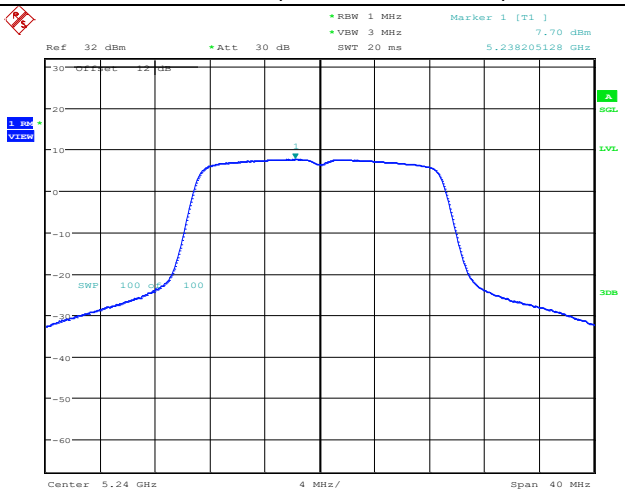
Date: 30.SEP.2021 11:03:43

Channel 48, 802.11n HT20,ANT 0



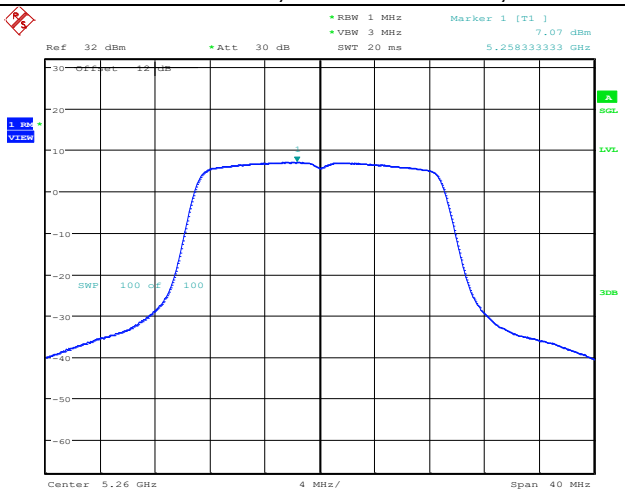
Date: 30.SEP.2021 09:39:34

Channel 48, 802.11n HT20,ANT 1



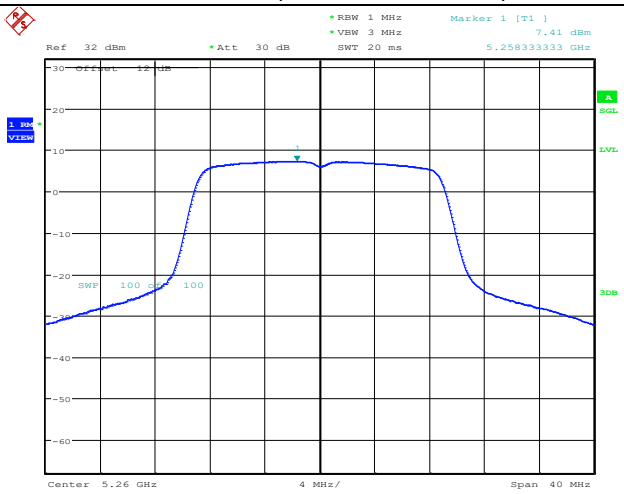
Date: 30.SEP.2021 11:05:36

Channel 52, 802.11n HT20,ANT 0



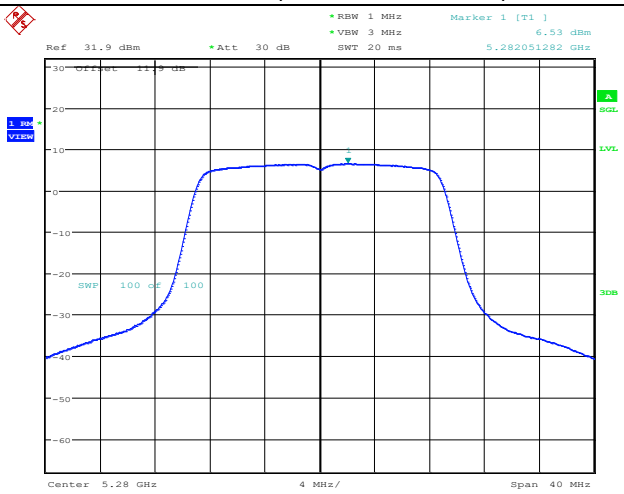
Date: 30.SEP.2021 09:40:46

Channel 52, 802.11n HT20,ANT 1



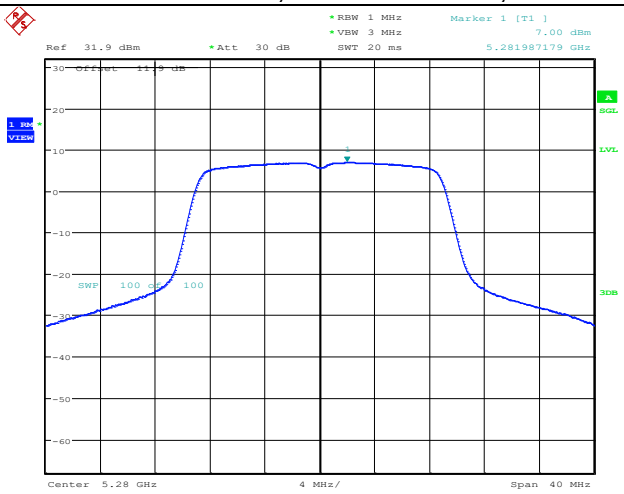
Date: 30.SEP.2021 11:10:05

Channel 56, 802.11n HT20,ANT 0



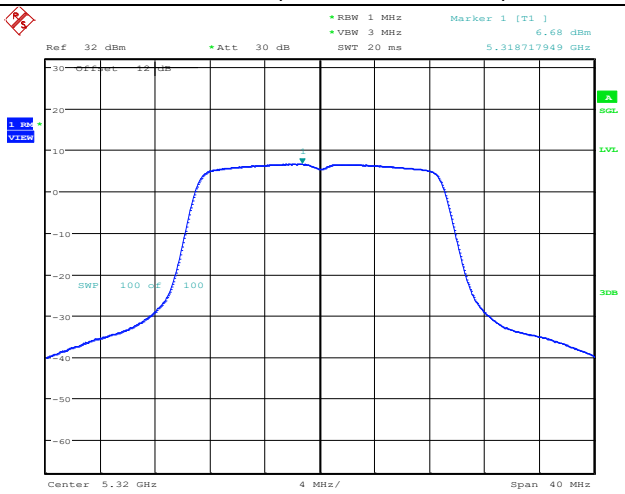
Date: 30.SEP.2021 09:41:46

Channel 56, 802.11n HT20,ANT 1



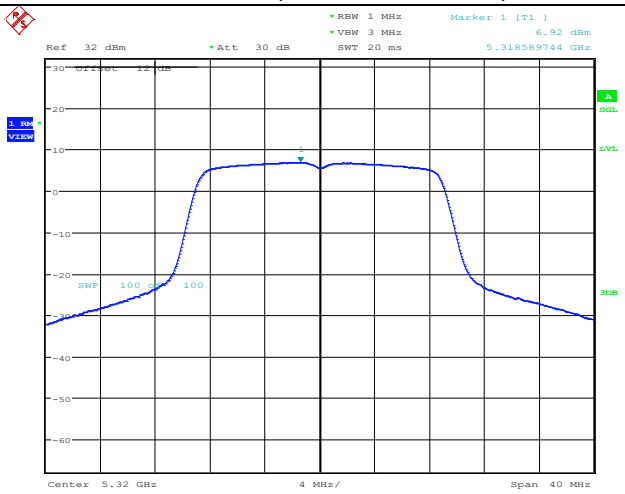
Date: 30.SEP.2021 11:13:59

Channel 64, 802.11n HT20,ANT 0



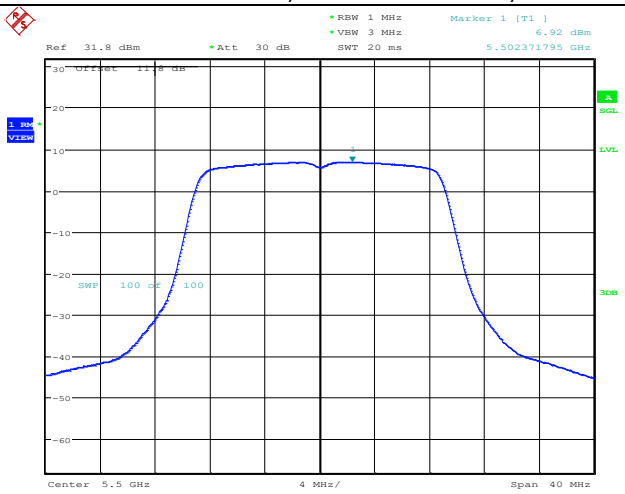
Date: 30.SEP.2021 09:42:58

Channel 64, 802.11n HT20,ANT 1



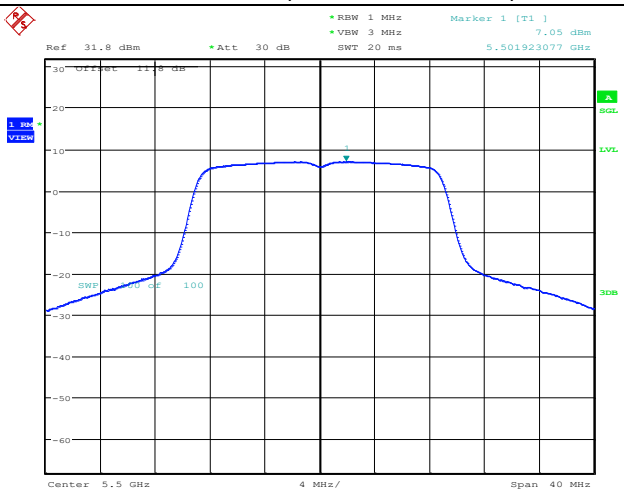
Date: 30.SEP.2021 11:16:43

Channel 100, 802.11n HT20,ANT 0



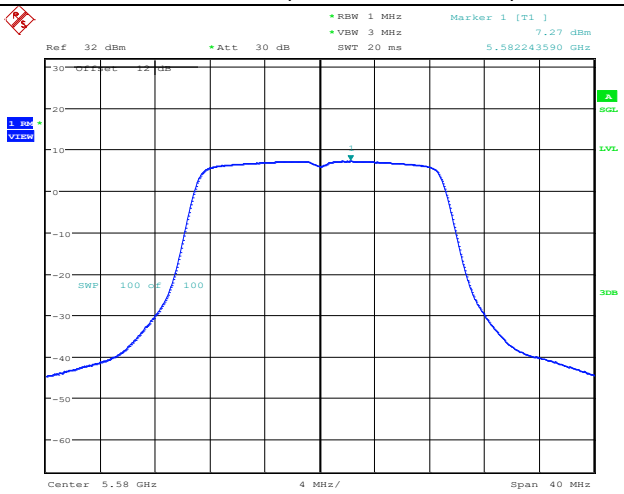
Date: 30.SEP.2021 09:43:53

Channel 100, 802.11n HT20,ANT 1



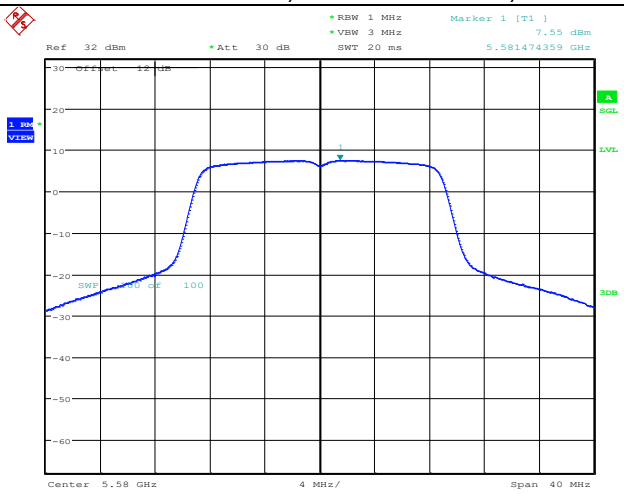
Date: 30.SEP.2021 11:17:48

Channel 116, 802.11n HT20,ANT 0



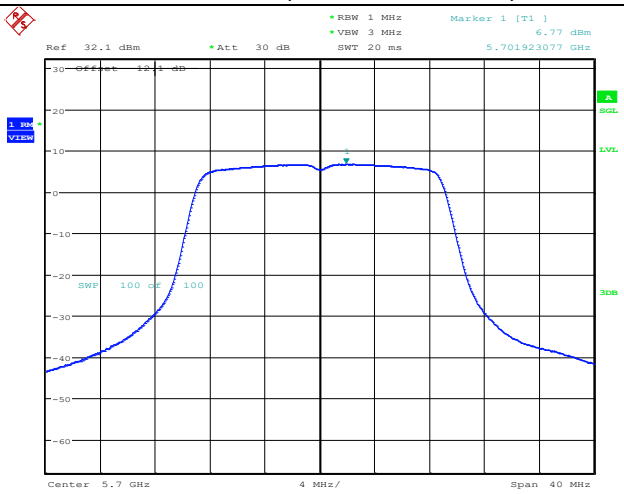
Date: 30.SEP.2021 09:46:45

Channel 116, 802.11n HT20,ANT 1



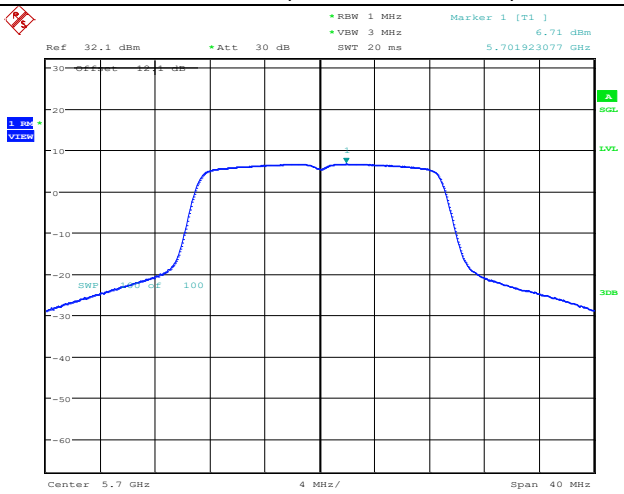
Date: 30.SEP.2021 11:18:54

Channel 140, 802.11n HT20,ANT 0



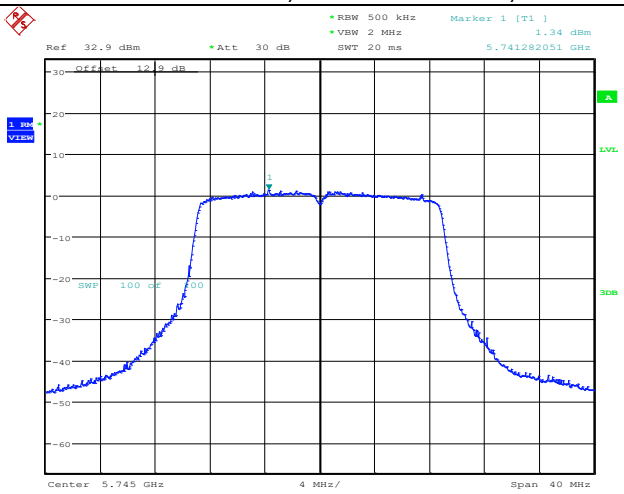
Date: 30.SEP.2021 09:48:14

Channel 140, 802.11n HT20,ANT 1



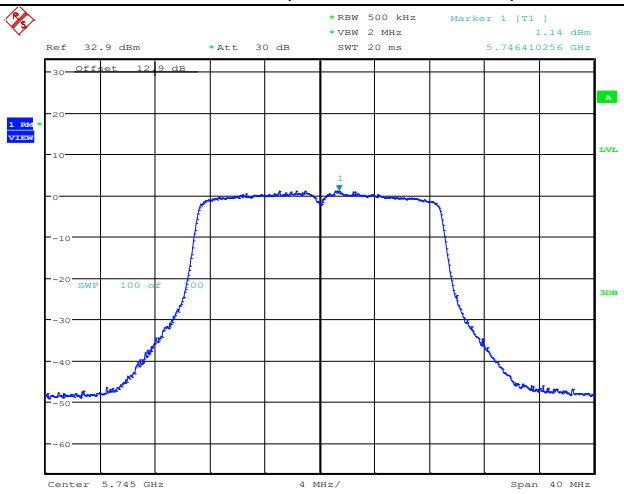
Date: 30.SEP.2021 11:19:57

Channel 149, 802.11n HT20,ANT 0



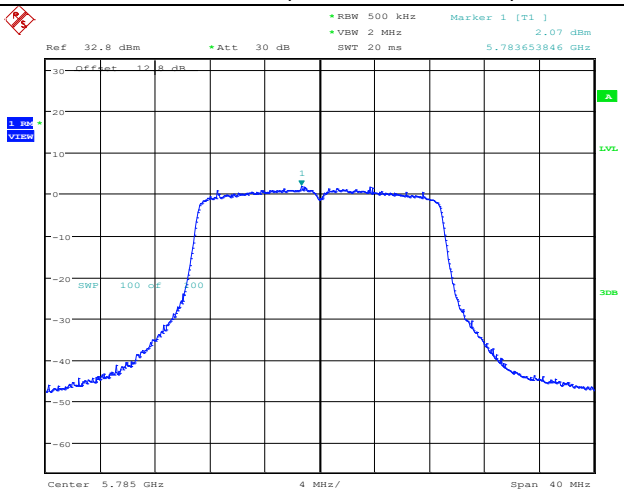
Date: 7.SEP.2021 16:09:42

Channel 149, 802.11n HT20,ANT 1



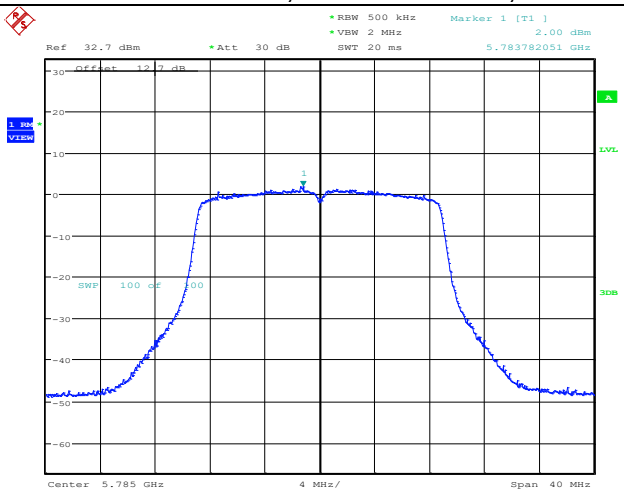
Date: 7.SEP.2021 20:14:04

Channel 157, 802.11n HT20,ANT 0



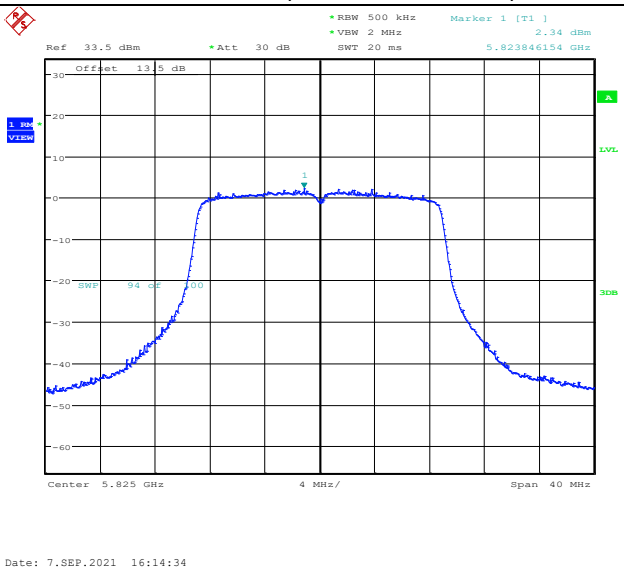
Date: 7.SEP.2021 16:12:22

Channel 157, 802.11n HT20,ANT 1

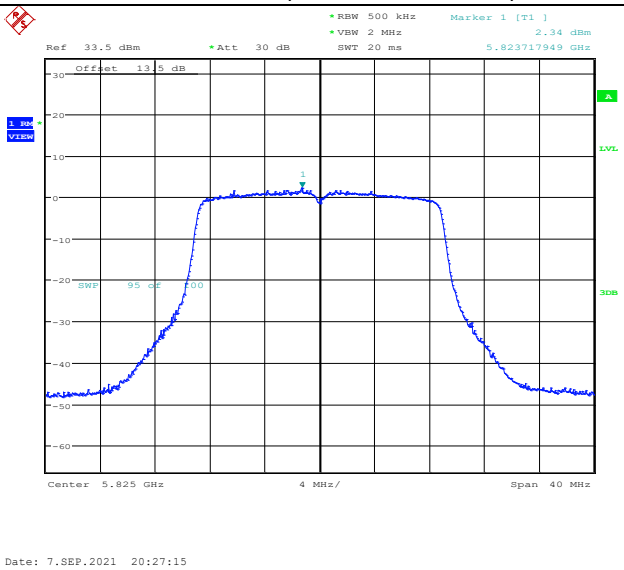


Date: 7.SEP.2021 20:24:56

Channel 165, 802.11n HT20,ANT 0



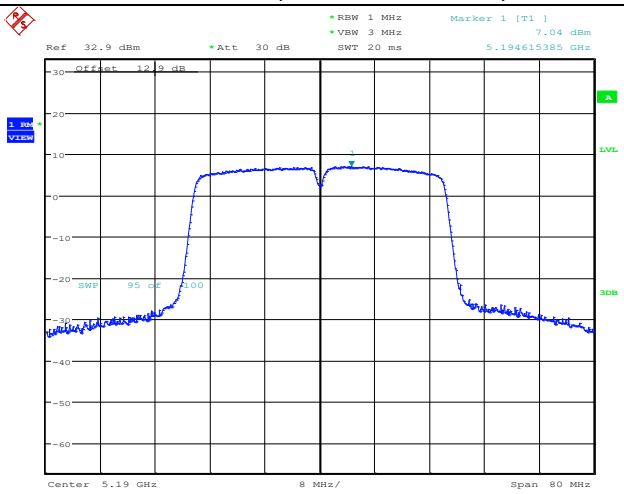
Channel 165, 802.11n HT20,ANT 1



802.11n HT40 Mode

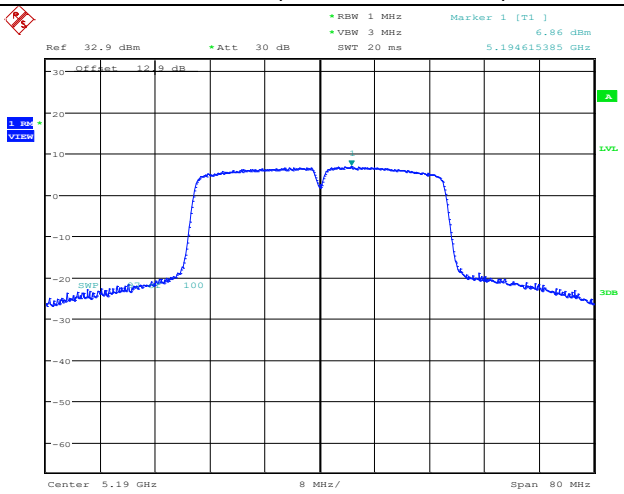
Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
38	5190	7.04	6.86	0.02	9.98	<=11	PASS
46	5230	6.86	7.02	0.02	9.97	<=11	PASS
54	5270	6.71	6.72	0.02	9.75	<=11	PASS
62	5310	7.05	6.71	0.02	9.91	<=11	PASS
102	5510	7.12	6.96	0.02	10.07	<=11	PASS
110	5550	6.82	6.66	0.02	9.77	<=11	PASS
134	5670	6.97	7.1	0.02	10.07	<=11	PASS
151	5755	-1.85	-1.82	0.02	1.20	<=30	PASS
159	5795	-0.91	-1.06	0.02	2.05	<=30	PASS

Channel 38, 802.11n HT40,ANT 0



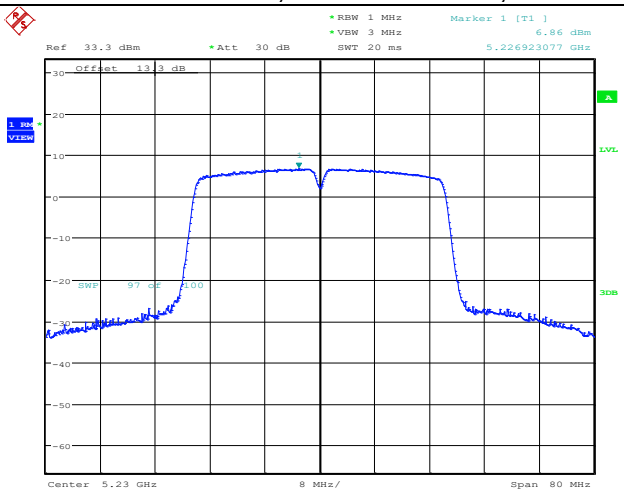
Date: 7.SEP.2021 14:04:31

Channel 38, 802.11n HT40,ANT 1



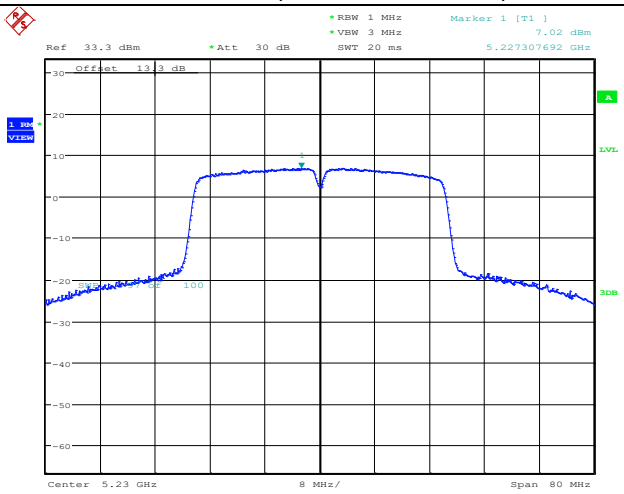
Date: 7.SEP.2021 20:40:51

Channel 46, 802.11n HT40,ANT 0



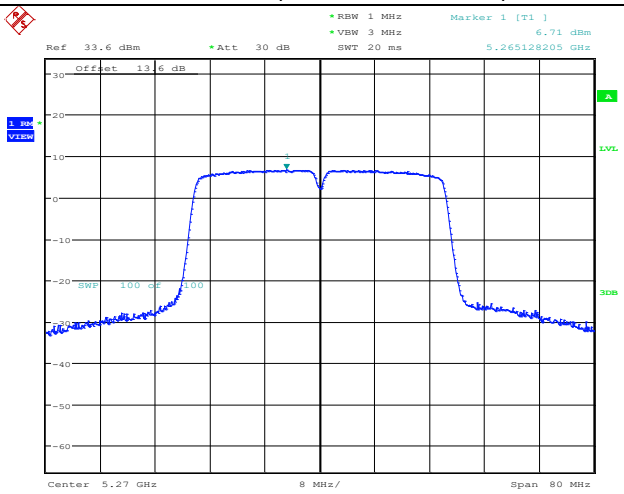
Date: 7.SEP.2021 14:07:10

Channel 46, 802.11n HT40,ANT 1



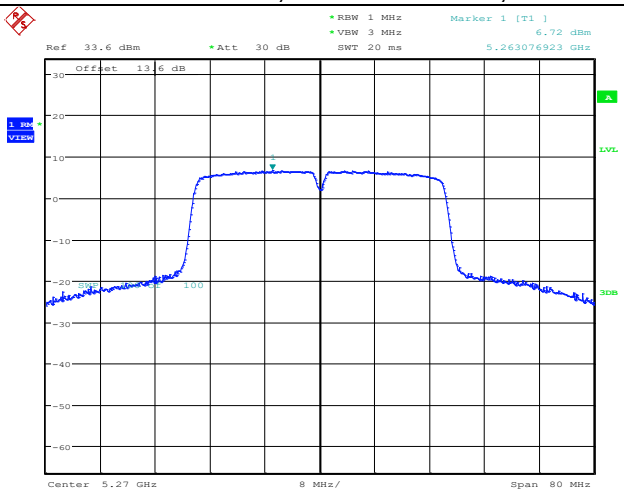
Date: 7.SEP.2021 20:44:45

Channel 54, 802.11n HT40,ANT 0



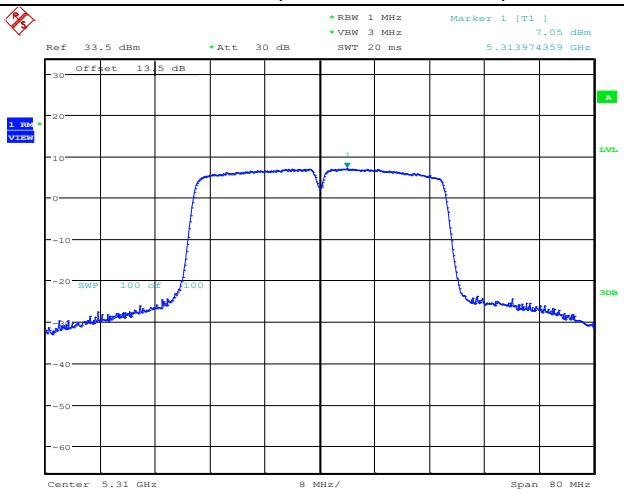
Date: 7.SEP.2021 14:09:25

Channel 54, 802.11n HT40,ANT 1



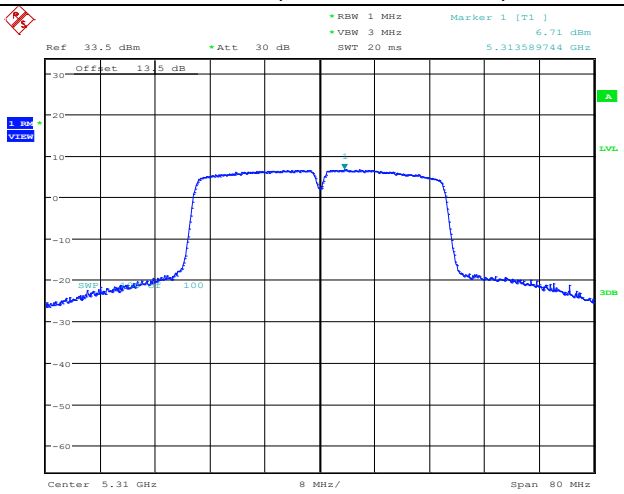
Date: 7.SEP.2021 20:46:31

Channel 62, 802.11n HT40,ANT 0



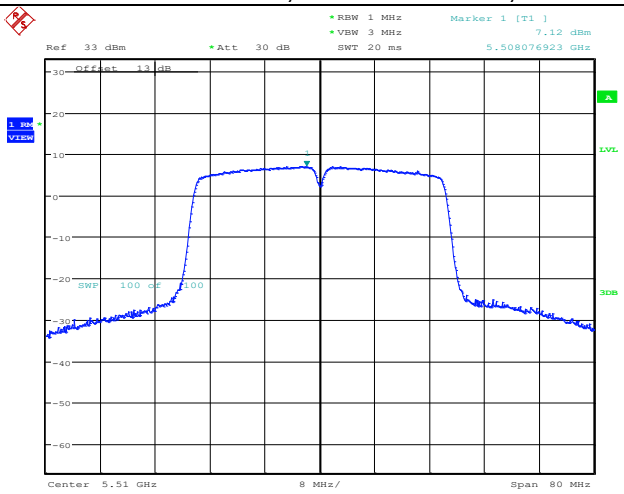
Date: 7.SEP.2021 14:11:37

Channel 62, 802.11n HT40,ANT 1



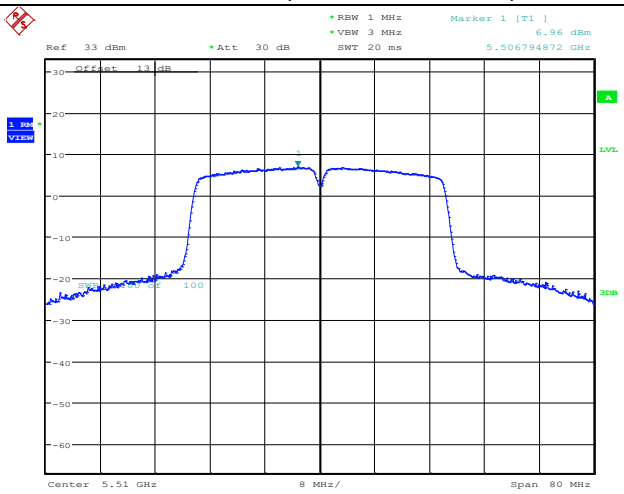
Date: 7.SEP.2021 20:48:16

Channel 102, 802.11n HT40,ANT 0



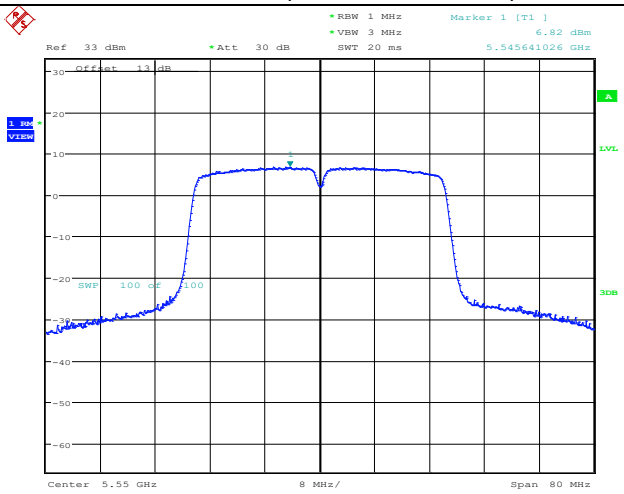
Date: 7.SEP.2021 14:13:35

Channel 102, 802.11n HT40,ANT 1



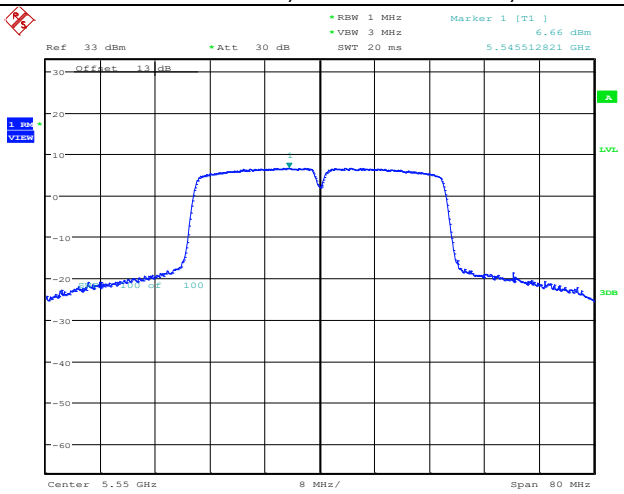
Date: 7.SEP.2021 20:50:12

Channel 110, 802.11n HT40,ANT 0



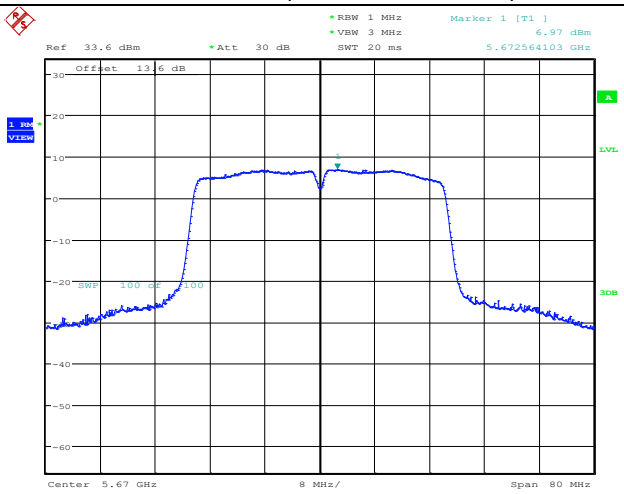
Date: 7.SEP.2021 14:16:17

Channel 110, 802.11n HT40,ANT 1



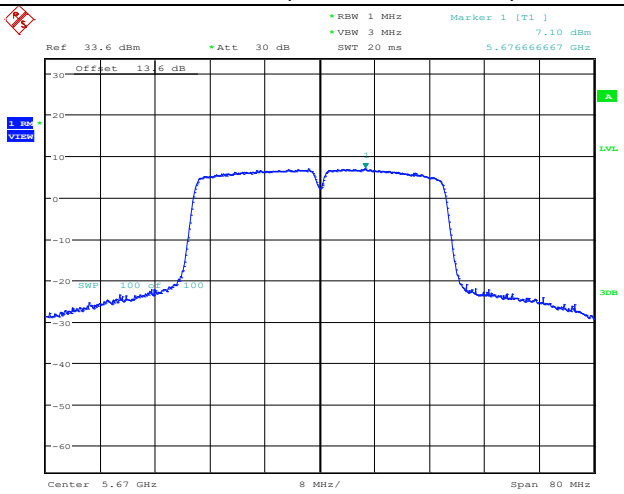
Date: 7.SEP.2021 20:52:00

Channel 134, 802.11n HT40,ANT 0



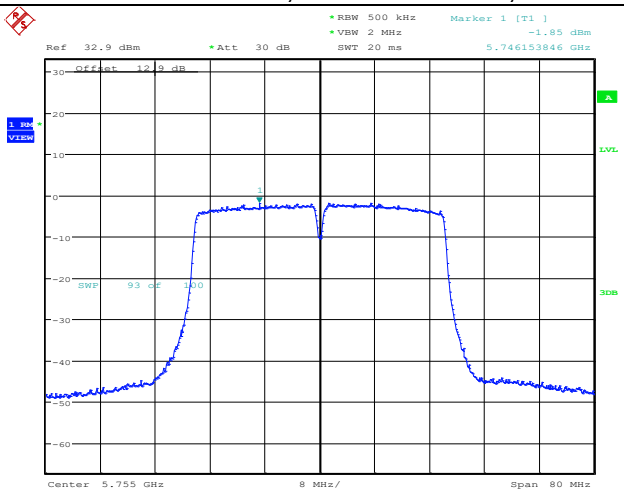
Date: 7.SEP.2021 18:03:53

Channel 134, 802.11n HT40,ANT 1



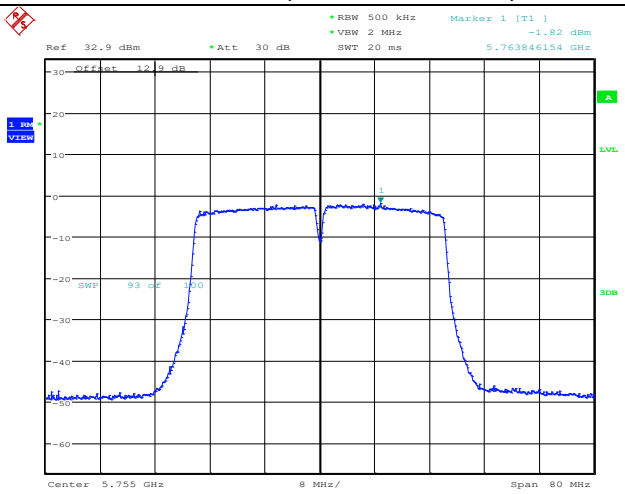
Date: 8.SEP.2021 08:30:09

Channel 151, 802.11n HT40,ANT 0



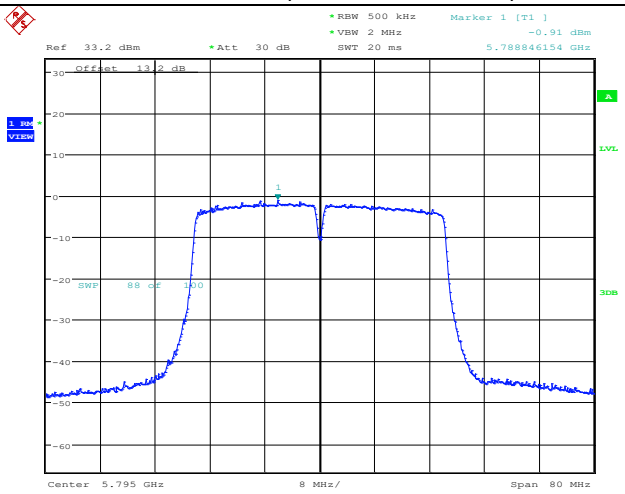
Date: 7.SEP.2021 16:17:04

Channel 151, 802.11n HT40,ANT 1



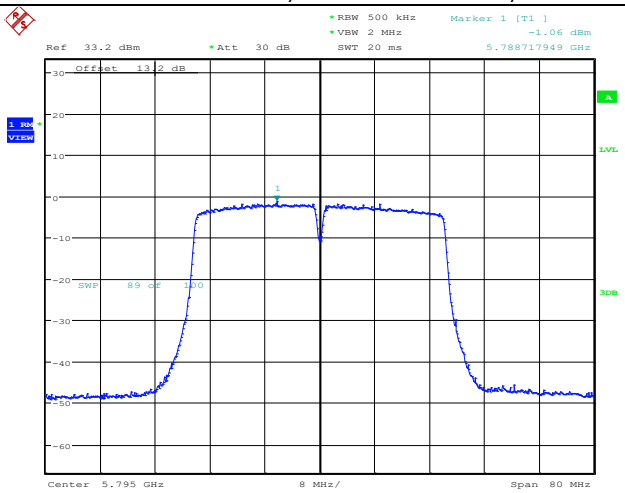
Date: 8.SEP.2021 08:54:16

Channel 159, 802.11n HT40,ANT 0



Date: 7.SEP.2021 16:28:24

Channel 159, 802.11n HT40,ANT 1

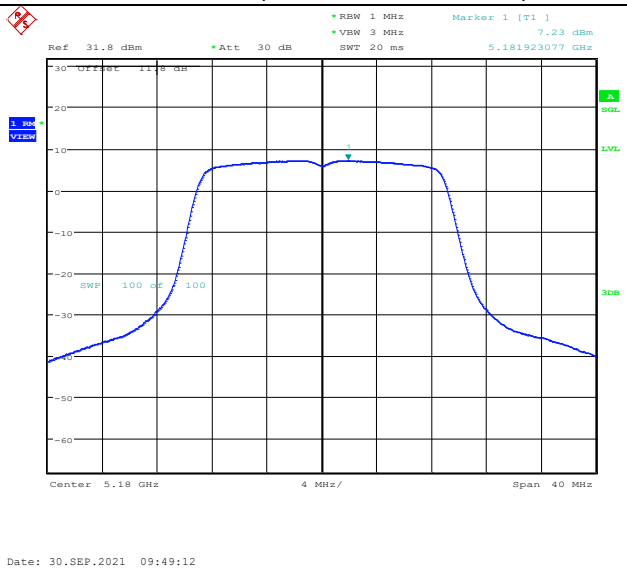


Date: 8.SEP.2021 08:56:45

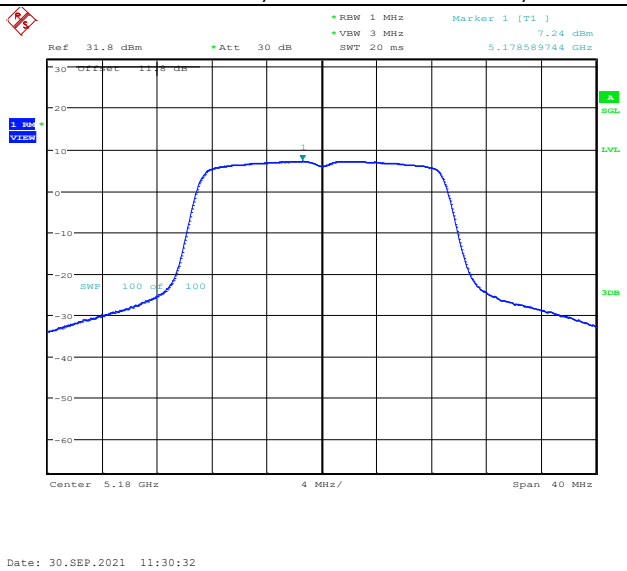
802.11ac VHT20 Mode

Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
36	5180	7.23	7.24	0	10.25	<=11	PASS
40	5200	7.74	7.81	0	10.79	<=11	PASS
48	5240	7.26	7.65	0	10.47	<=11	PASS
52	5260	7.13	7.36	0	10.26	<=11	PASS
56	5280	6.61	6.91	0	9.77	<=11	PASS
64	5320	6.57	6.95	0	9.77	<=11	PASS
100	5500	6.91	7.02	0	9.98	<=11	PASS
116	5580	7.18	7.1	0	10.15	<=11	PASS
140	5700	8.39	6.63	0	10.61	<=11	PASS
149	5745	1.11	1.56	0	4.35	<=30	PASS
157	5785	1.68	2.02	0	4.86	<=30	PASS
165	5825	2.2	0.7	0	4.52	<=30	PASS

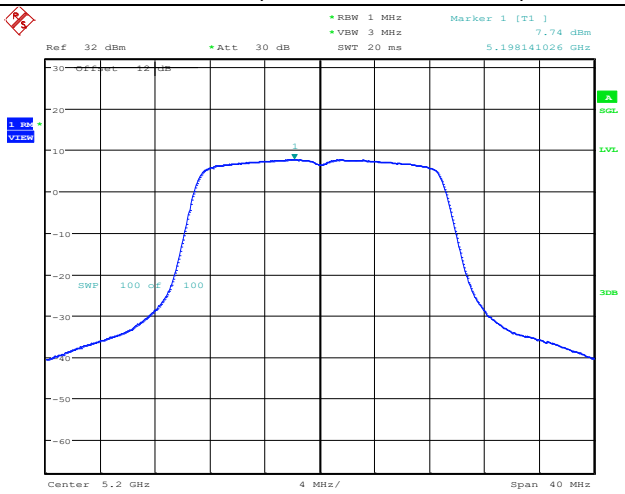
Channel 36, 802.11ac VHT20,ANT 0



Channel 36, 802.11ac VHT20,ANT 1

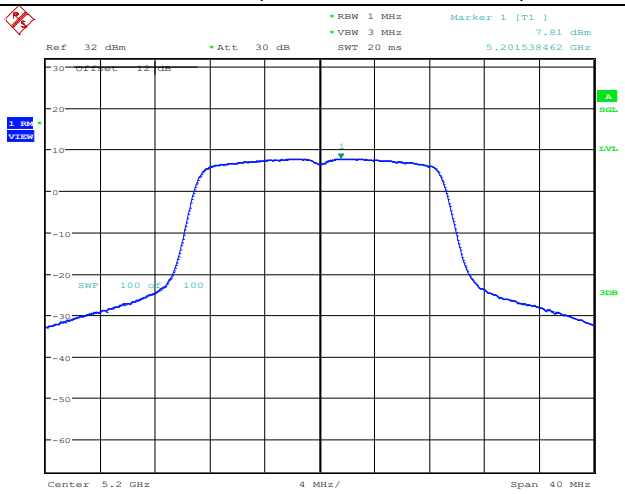


Channel 40, 802.11ac VHT20,ANT 0



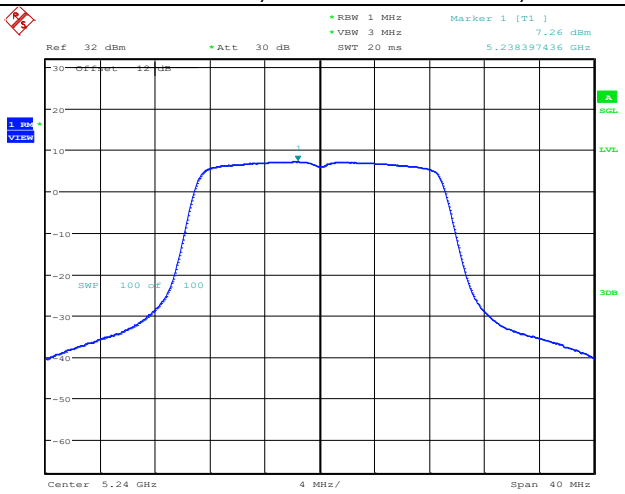
Date: 30.SEP.2021 09:50:45

Channel 40, 802.11ac VHT20,ANT 1



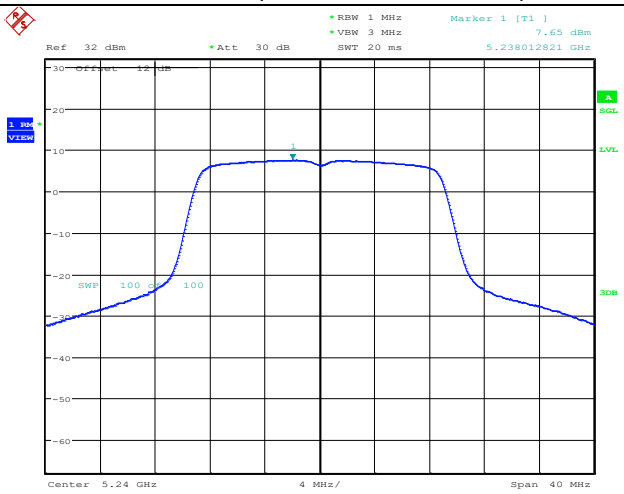
Date: 30.SEP.2021 11:31:38

Channel 48, 802.11ac VHT20,ANT 0



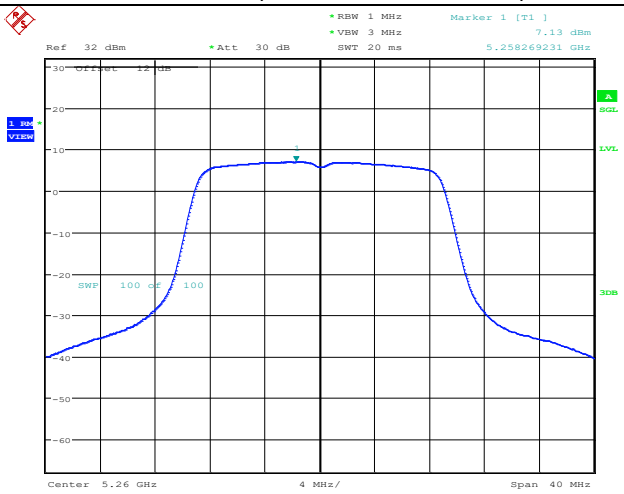
Date: 30.SEP.2021 09:57:21

Channel 48, 802.11ac VHT20,ANT 1



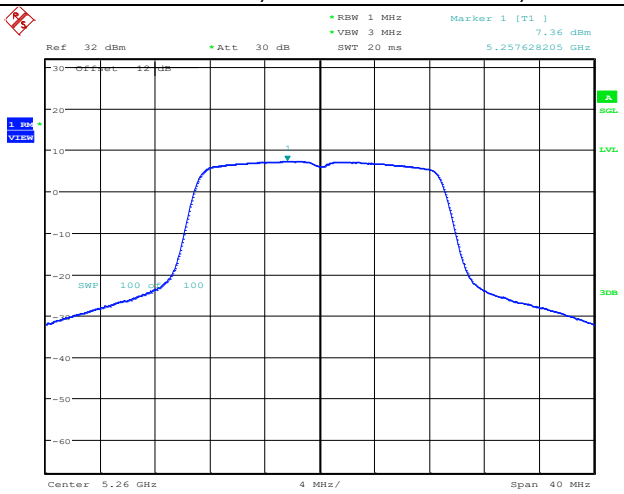
Date: 30.SEP.2021 11:32:44

Channel 52, 802.11ac VHT20,ANT 0



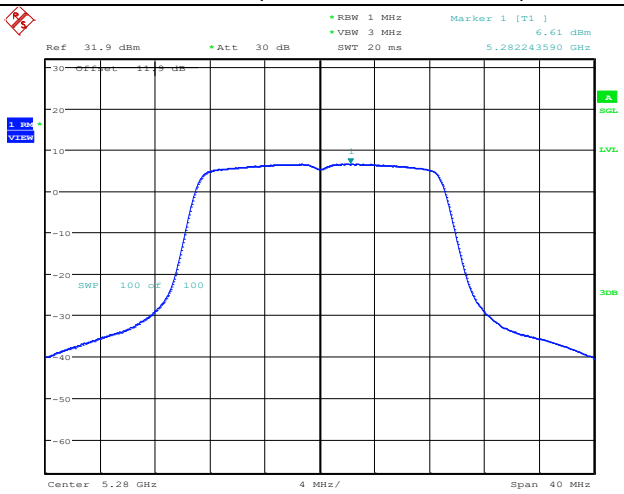
Date: 30.SEP.2021 09:58:12

Channel 52, 802.11ac VHT20,ANT 1



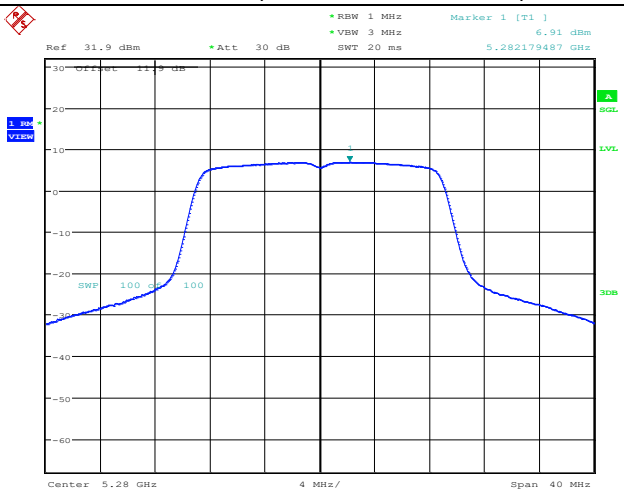
Date: 30.SEP.2021 11:34:05

Channel 56, 802.11ac VHT20,ANT 0



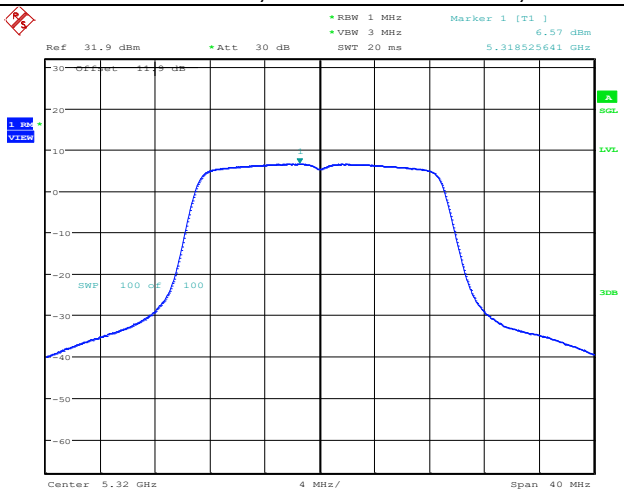
Date: 30.SEP.2021 09:59:27

Channel 56, 802.11ac VHT20,ANT 1



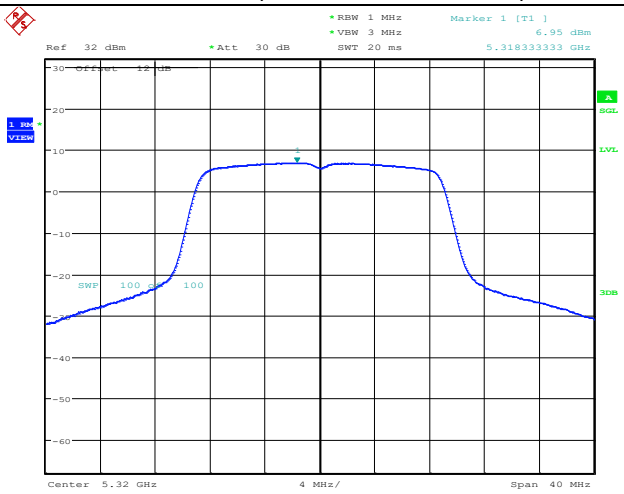
Date: 30.SEP.2021 11:36:00

Channel 64, 802.11ac VHT20,ANT 0



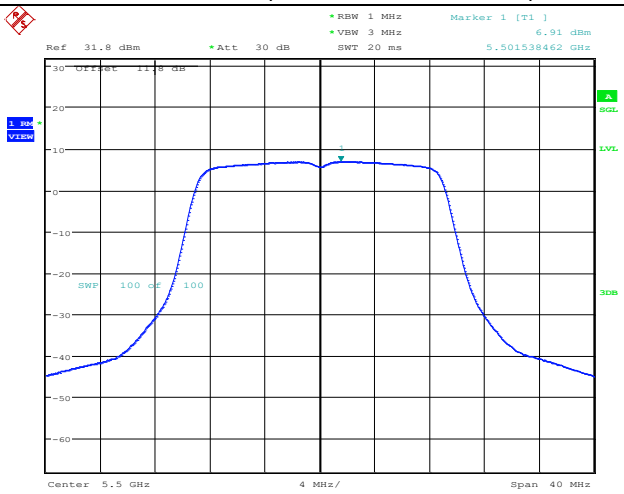
Date: 30.SEP.2021 10:12:36

Channel 64, 802.11ac VHT20,ANT 1



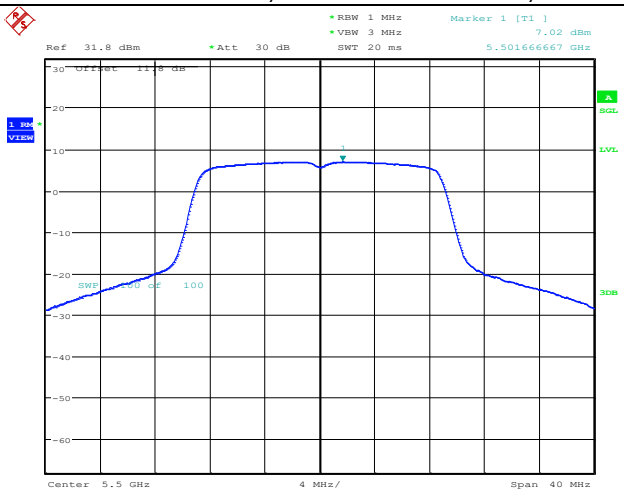
Date: 30.SEP.2021 11:37:05

Channel 100, 802.11ac VHT20,ANT 0



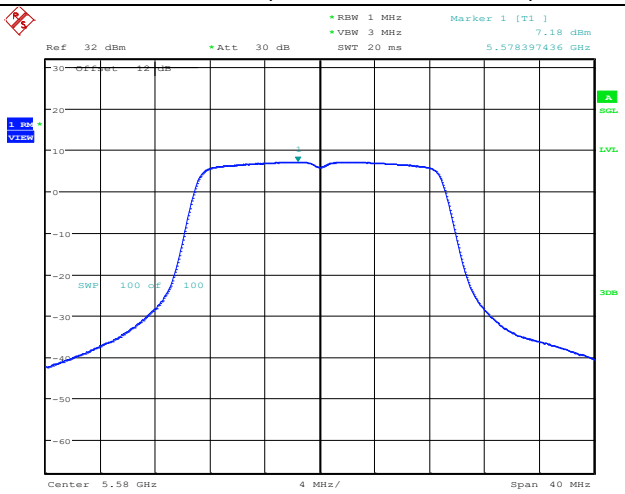
Date: 30.SEP.2021 10:14:46

Channel 100, 802.11ac VHT20,ANT 1



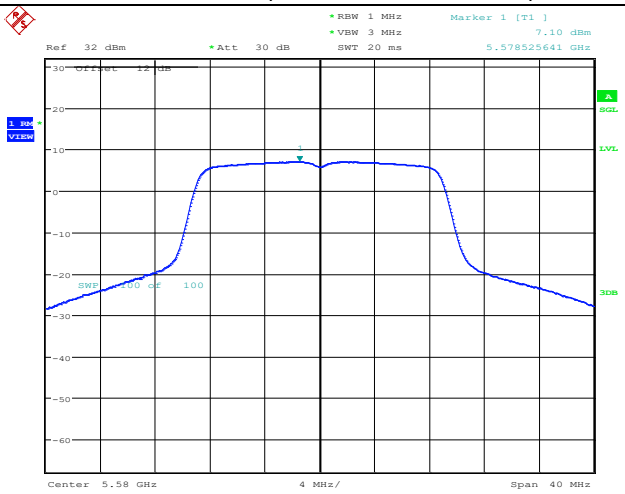
Date: 30.SEP.2021 11:38:02

Channel 116, 802.11ac VHT20,ANT 0



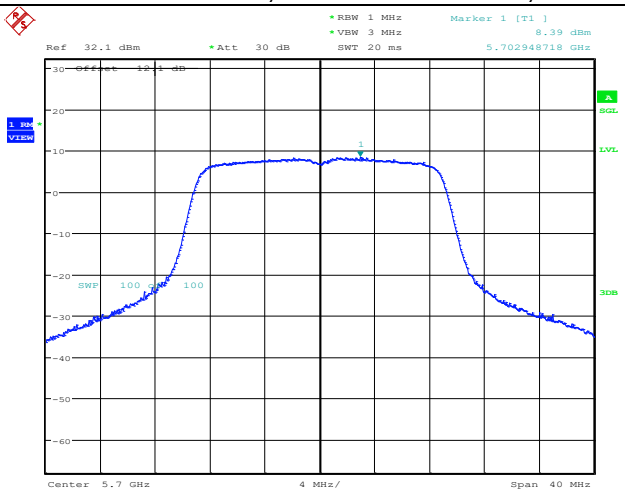
Date: 9.OCT.2021 13:15:35

Channel 116, 802.11ac VHT20,ANT 1



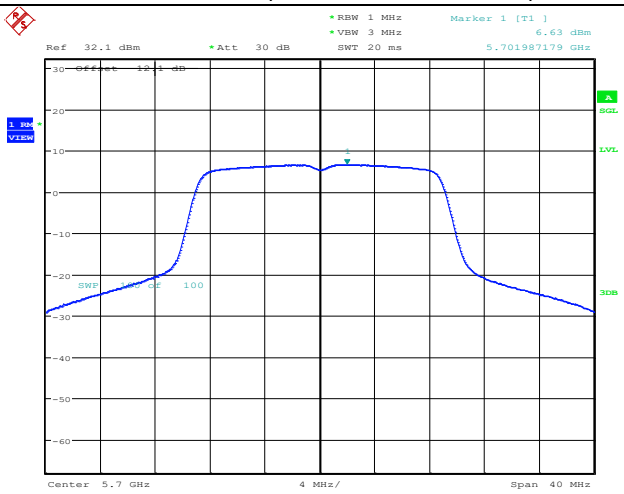
Date: 9.OCT.2021 13:09:40

Channel 140, 802.11ac VHT20,ANT 0



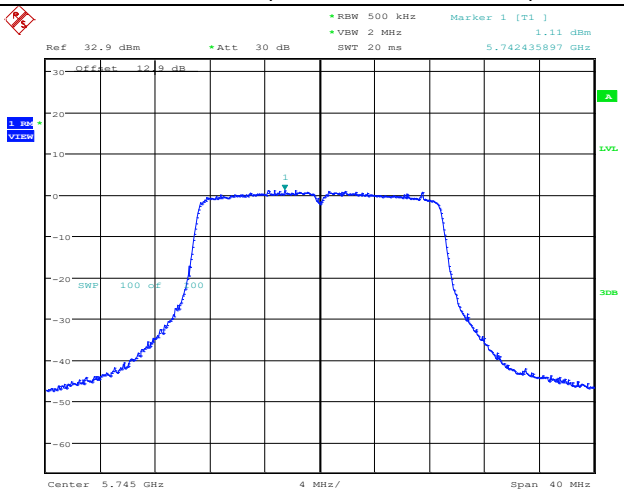
Date: 29.SEP.2021 20:35:24

Channel 140, 802.11ac VHT20,ANT 1



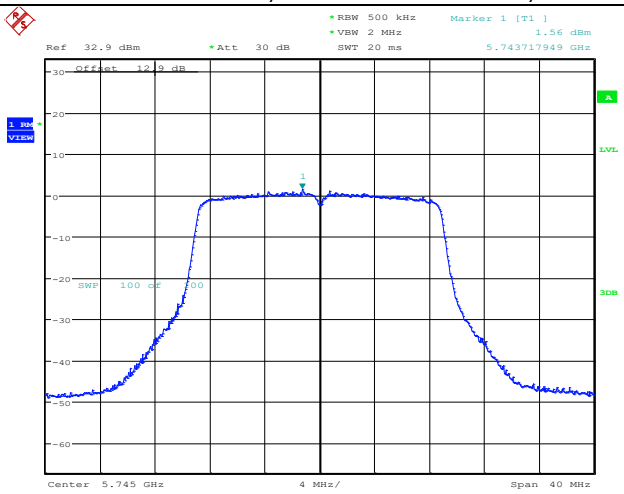
Date: 30.SEP.2021 11:40:24

Channel 149, 802.11ac VHT20,ANT 0



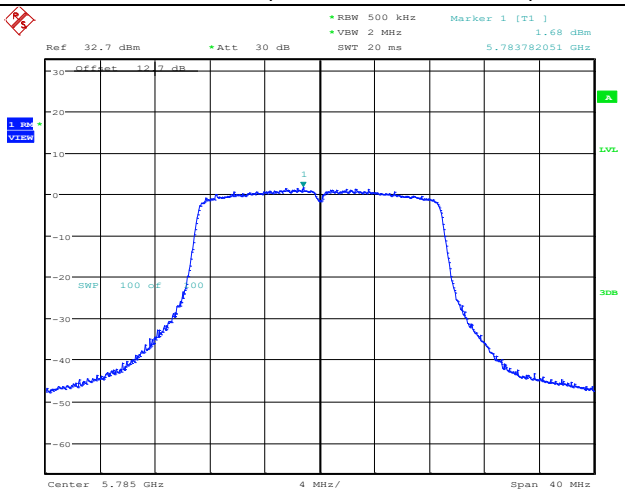
Date: 7.SEP.2021 16:43:13

Channel 149, 802.11ac VHT20,ANT 1



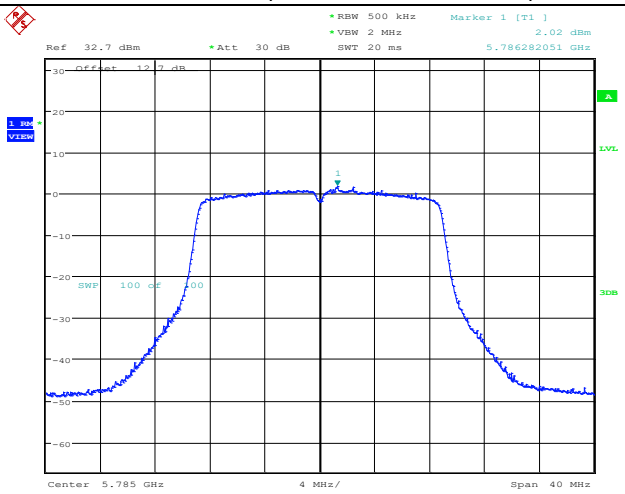
Date: 8.SEP.2021 09:19:46

Channel 157, 802.11ac VHT20,ANT 0



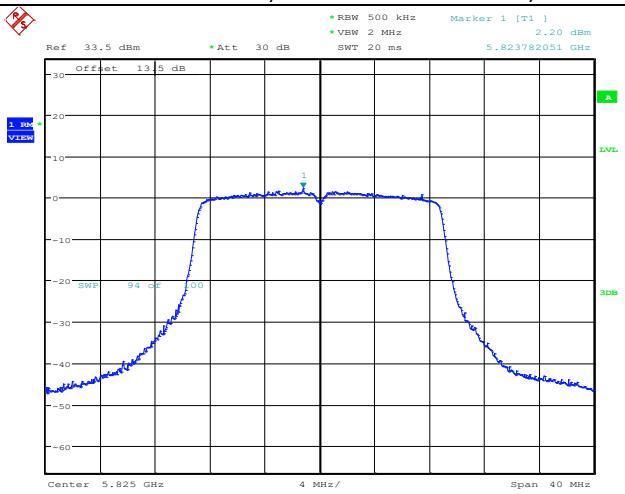
Date: 7.SEP.2021 16:45:31

Channel 157, 802.11ac VHT20,ANT 1



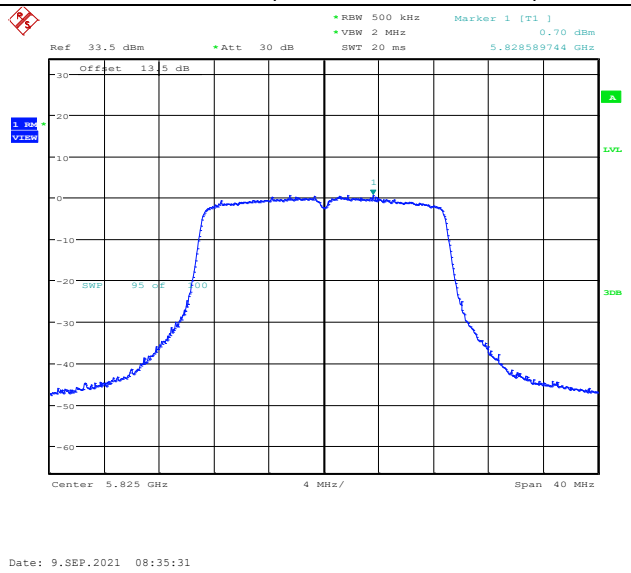
Date: 8.SEP.2021 09:24:38

Channel 165, 802.11ac VHT20,ANT 0



Date: 7.SEP.2021 16:47:49

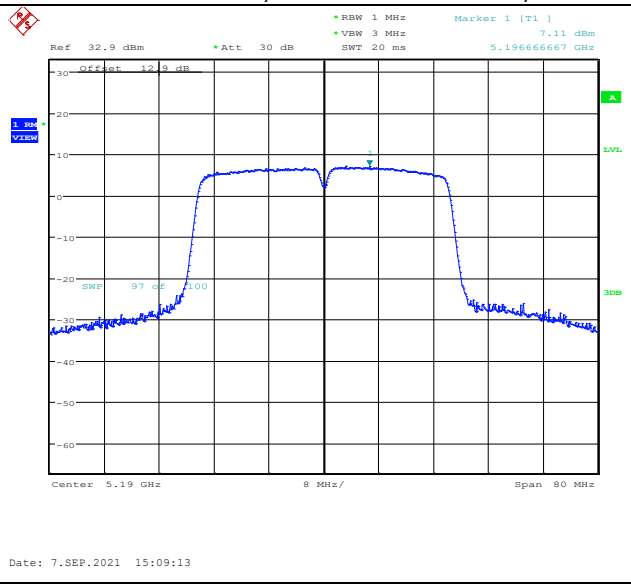
Channel 165, 802.11ac VHT20,ANT 1



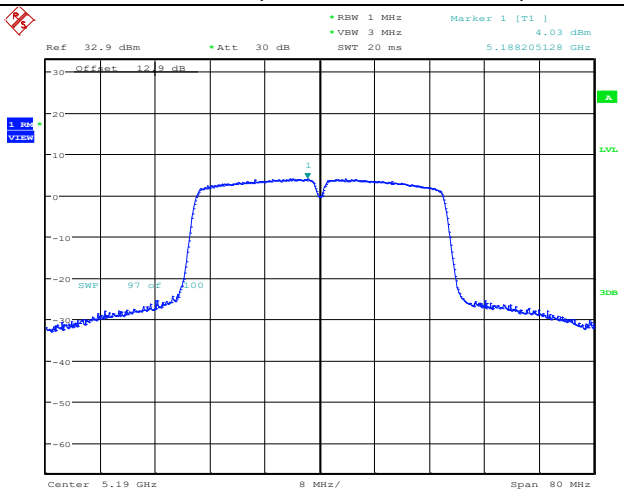
802.11ac VHT40 Mode

Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
38	5190	7.11	4.03	0	8.85	<=11	PASS
46	5230	6.86	3.83	0	8.61	<=11	PASS
54	5270	6.81	3.97	0	8.63	<=11	PASS
62	5310	7.09	3.82	0	8.77	<=11	PASS
102	5510	7.09	4.25	0	8.91	<=11	PASS
110	5550	6.74	4.53	0	8.78	<=11	PASS
134	5670	7.26	4.37	0	9.06	<=11	PASS
151	5755	-1.47	-3.91	0	0.49	<=30	PASS
159	5795	-1.53	-3.32	0	0.68	<=30	PASS

Channel 38, 802.11ac VHT40,ANT 0

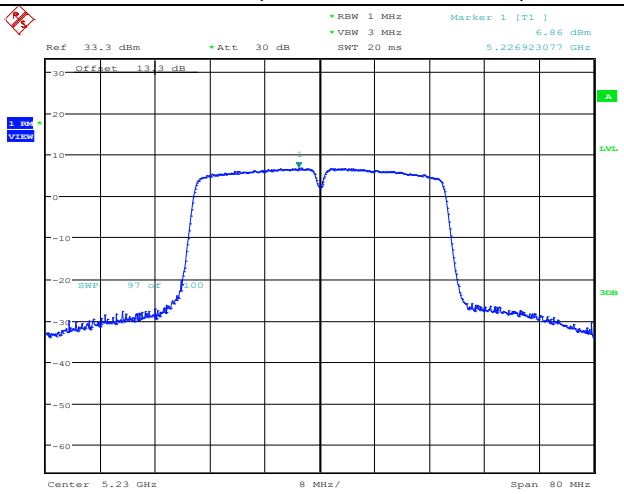


Channel 38, 802.11ac VHT40,ANT 1



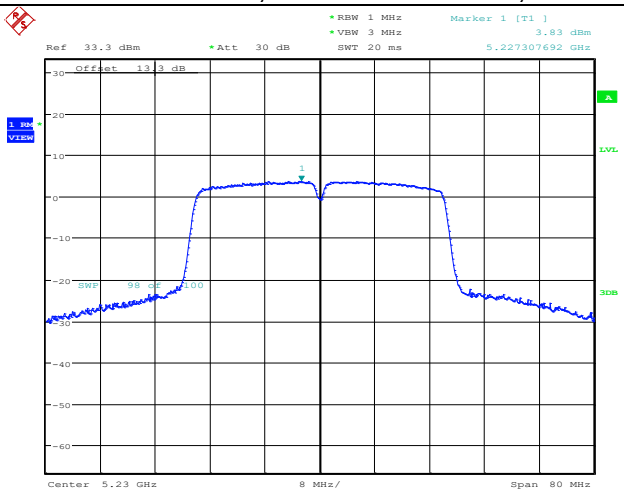
Date: 9.SEP.2021 08:40:08

Channel 46, 802.11ac VHT40,ANT 0



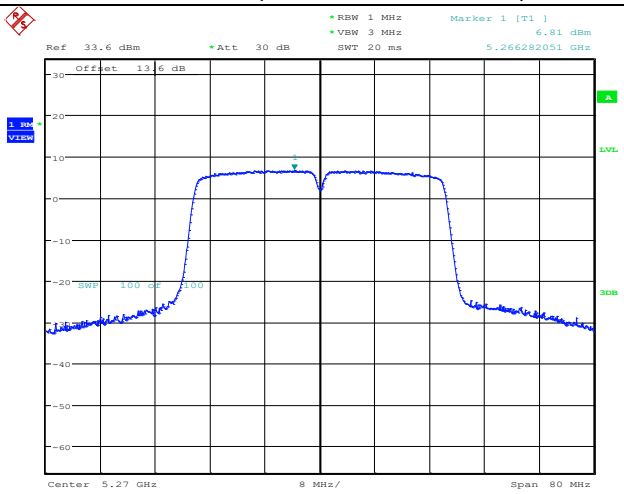
Date: 7.SEP.2021 15:12:16

Channel 46, 802.11ac VHT40,ANT 1



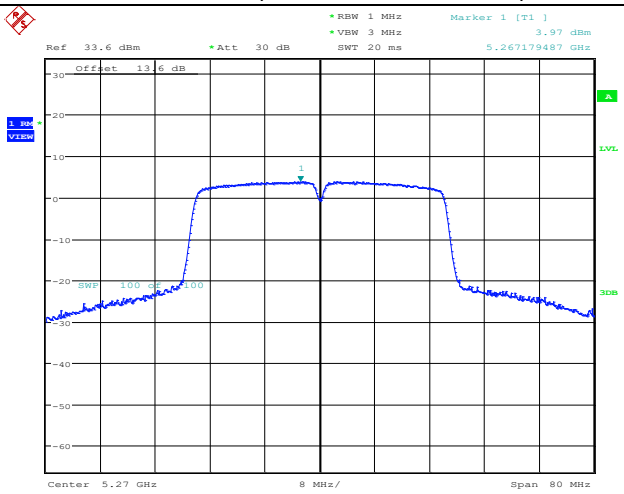
Date: 9.SEP.2021 08:42:34

Channel 54, 802.11ac VHT40,ANT 0



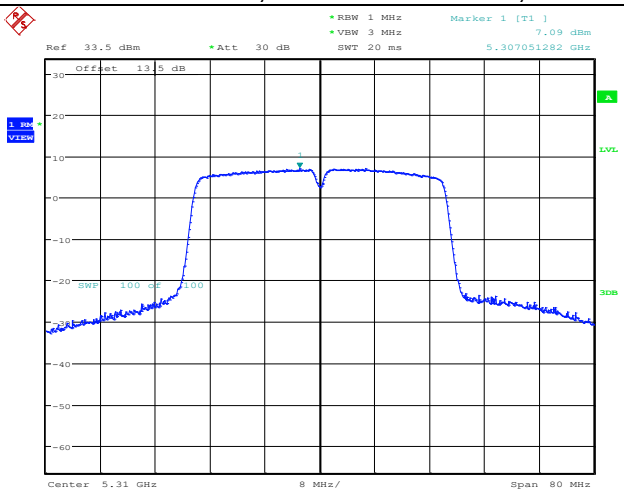
Date: 7.SEP.2021 15:14:38

Channel 54, 802.11ac VHT40,ANT 1



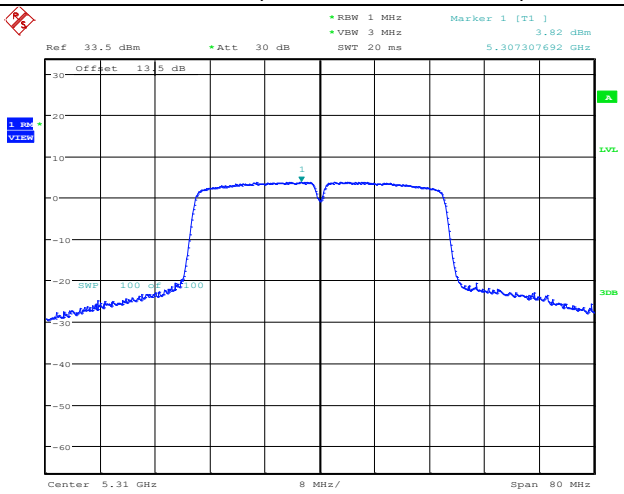
Date: 9.SEP.2021 08:45:08

Channel 62, 802.11ac VHT40,ANT 0



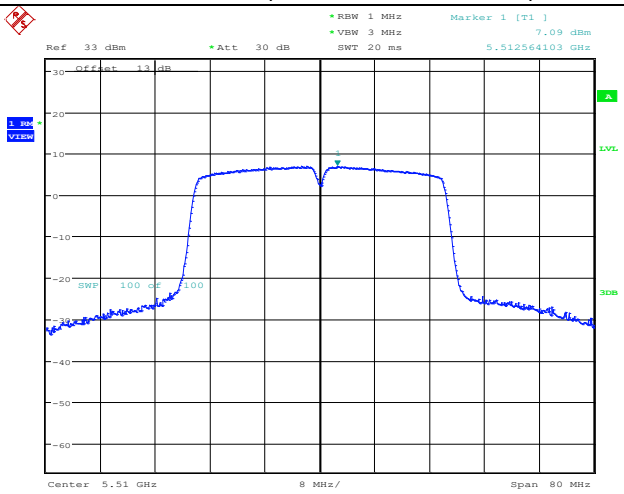
Date: 7.SEP.2021 15:16:14

Channel 62, 802.11ac VHT40,ANT 1



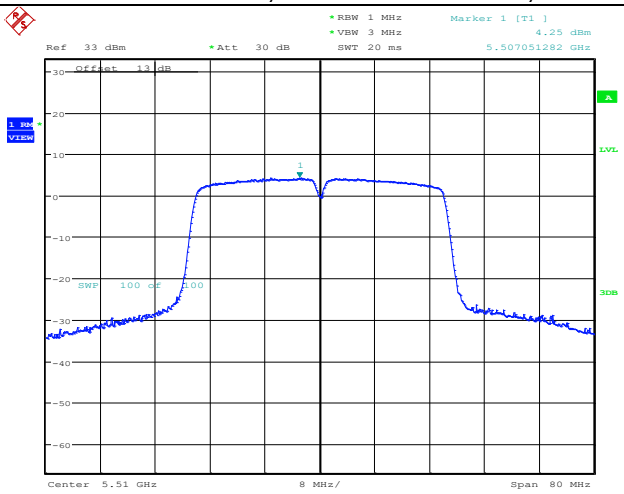
Date: 9.SEP.2021 08:47:26

Channel 102, 802.11ac VHT40,ANT 0



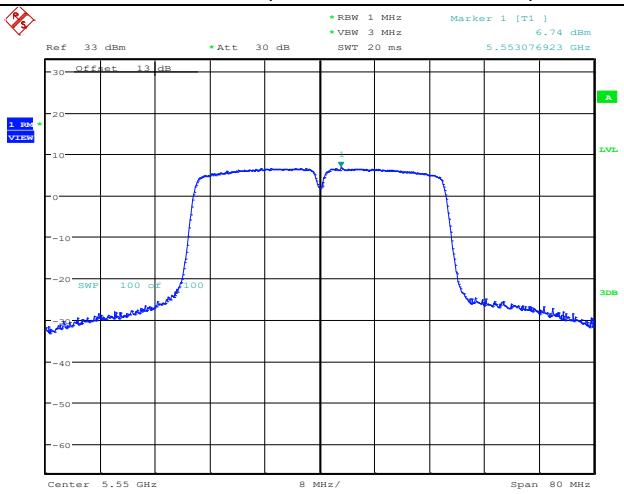
Date: 7.SEP.2021 15:19:01

Channel 102, 802.11ac VHT40,ANT 1



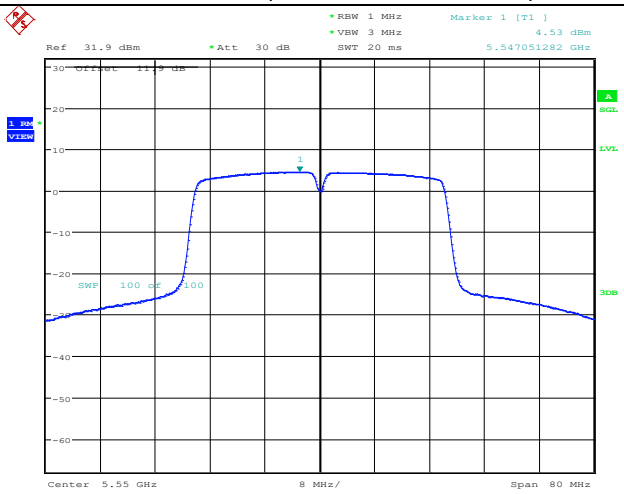
Date: 9.SEP.2021 08:49:43

Channel 110, 802.11ac VHT40,ANT 0



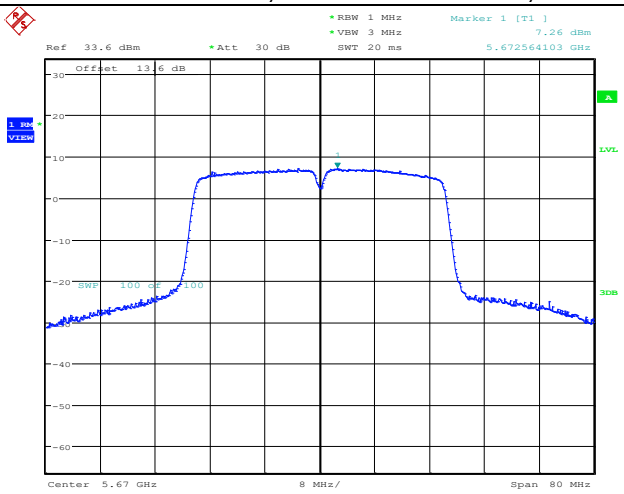
Date: 7.SEP.2021 15:21:06

Channel 110, 802.11ac VHT40,ANT 1



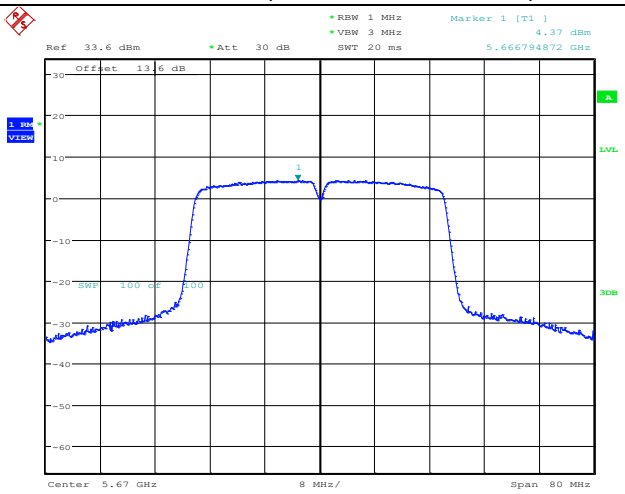
Date: 11.OCT.2021 13:35:26

Channel 134, 802.11ac VHT40,ANT 0



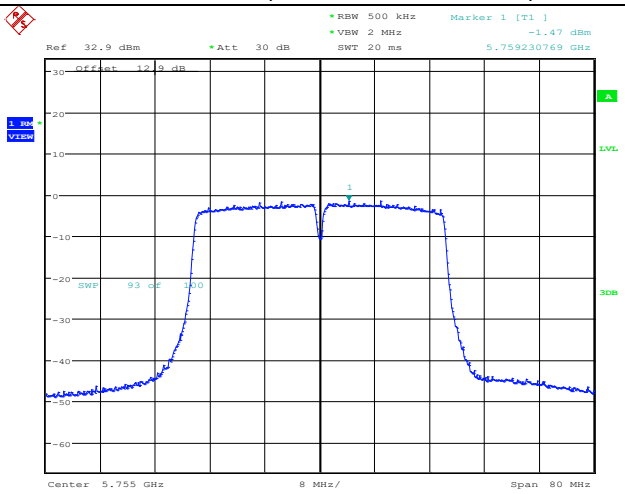
Date: 7.SEP.2021 15:22:52

Channel 134, 802.11ac VHT40,ANT 1



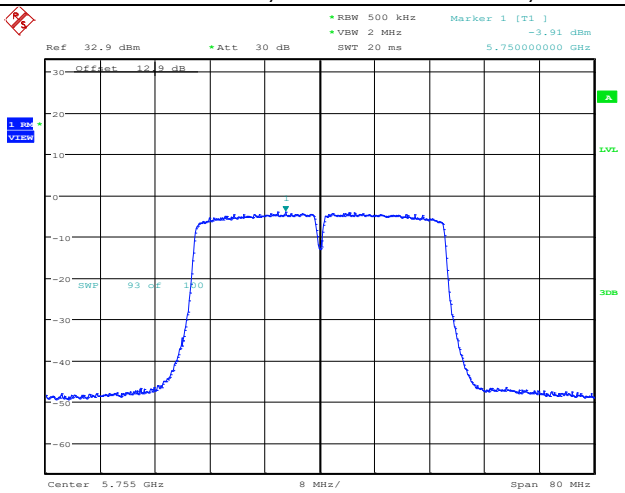
Date: 9.SEP.2021 08:53:41

Channel 151, 802.11ac VHT40,ANT 0



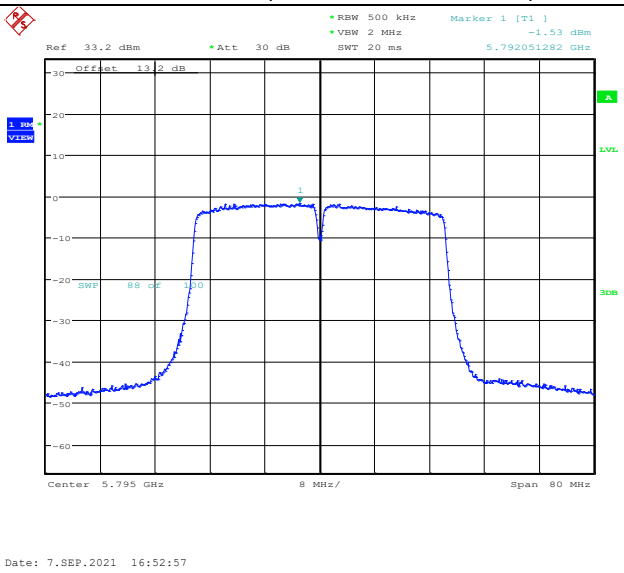
Date: 7.SEP.2021 16:50:25

Channel 151, 802.11ac VHT40,ANT 1

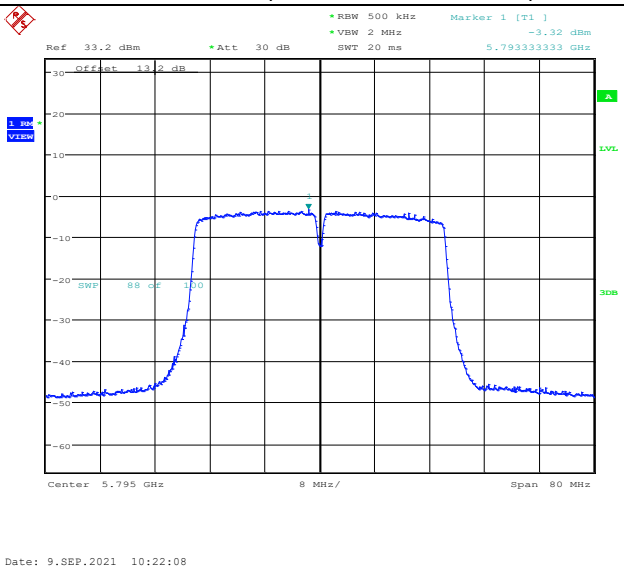


Date: 9.SEP.2021 10:18:07

Channel 159, 802.11ac VHT40,ANT 0



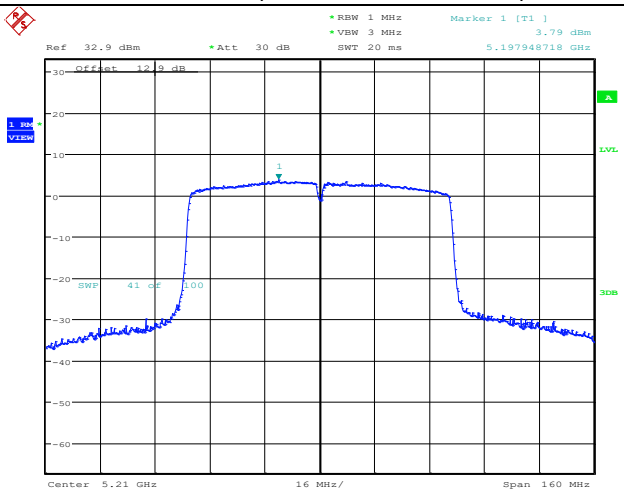
Channel 159, 802.11ac VHT40,ANT 1



802.11ac VHT80 Mode

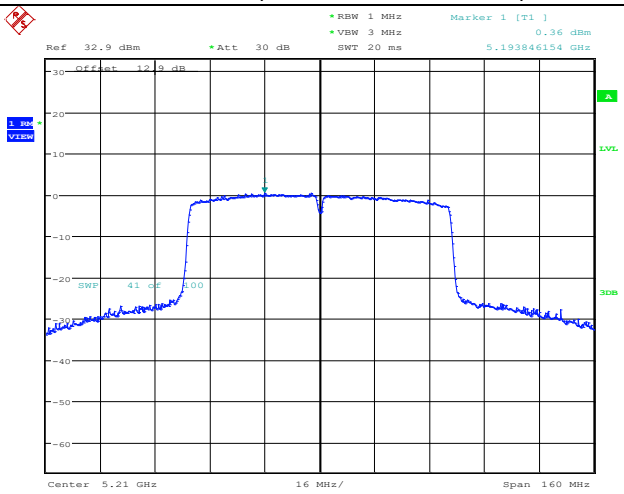
Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	3.79	0.36	0	5.42	<=11	PASS
58	5290	3.89	1.16	0	5.75	<=11	PASS
106	5530	3.39	1.55	0	5.58	<=11	PASS
122	5610	3.87	1.51	0	5.86	<=11	PASS
155	5775	-4.69	-6.93	0	-2.66	<=30	PASS

Channel 42, 802.11ac VHT80,ANT 0



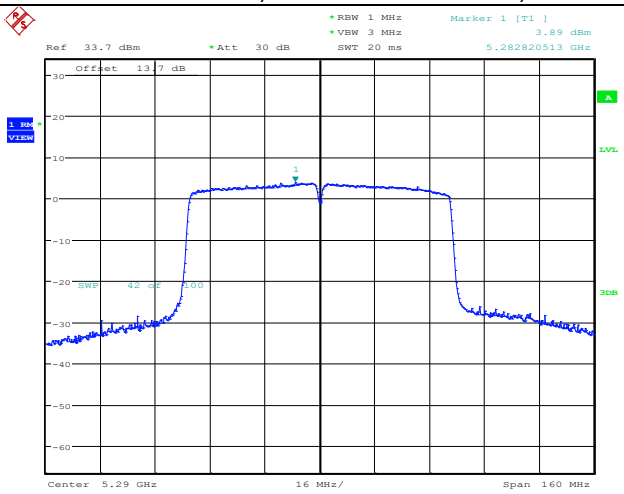
Date: 7.SEP.2021 15:35:26

Channel 42, 802.11ac VHT80,ANT 1



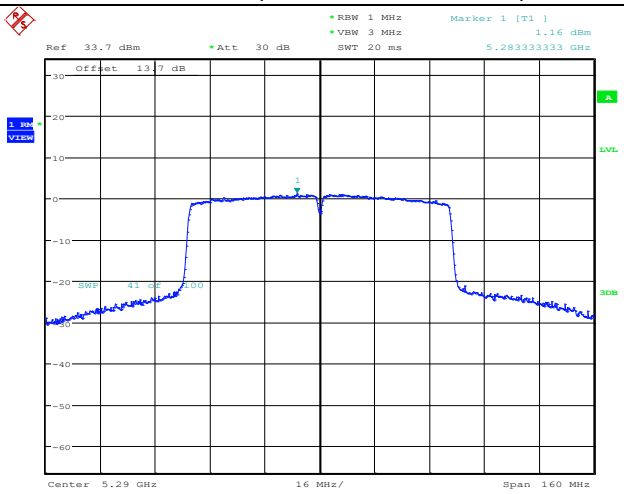
Date: 9.SEP.2021 10:25:01

Channel 58, 802.11ac VHT80,ANT 0



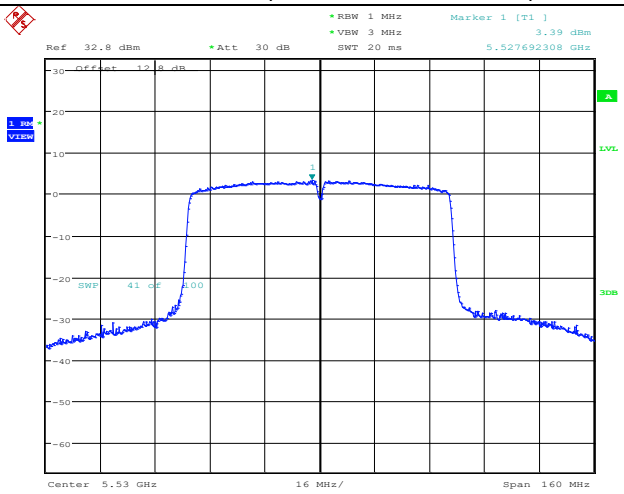
Date: 7.SEP.2021 15:37:37

Channel 58, 802.11ac VHT80,ANT 1



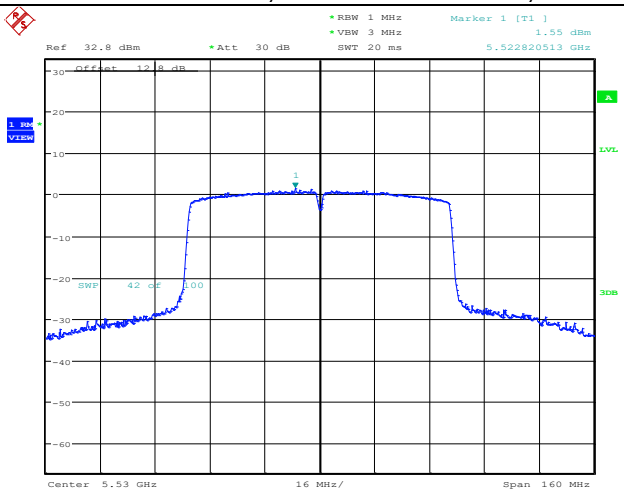
Date: 9.SEP.2021 10:35:57

Channel 106, 802.11ac VHT80,ANT 0



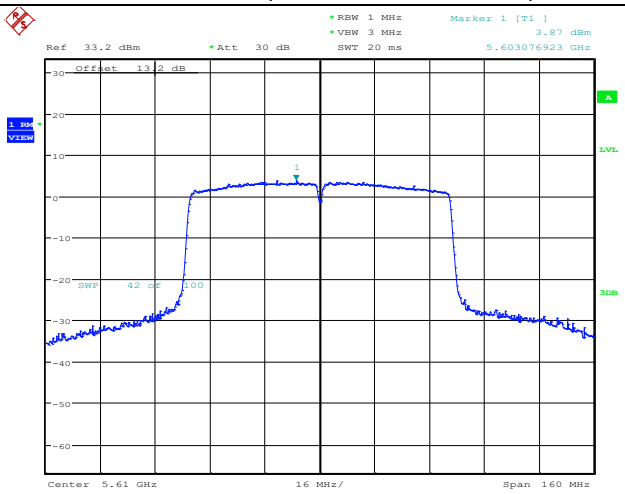
Date: 7.SEP.2021 15:39:58

Channel 106, 802.11ac VHT80,ANT 1



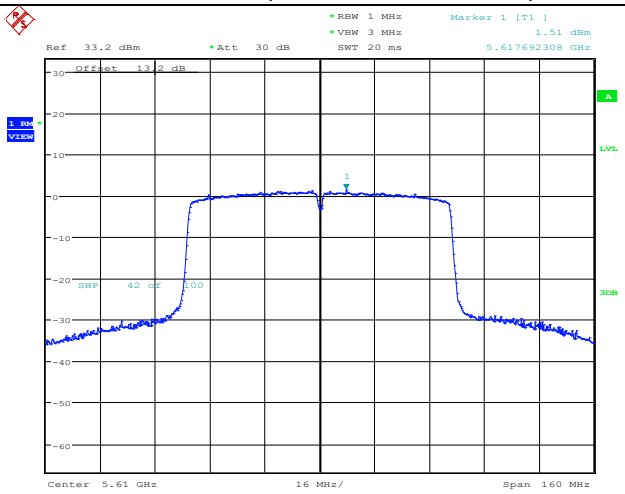
Date: 9.SEP.2021 11:10:59

Channel 122, 802.11ac VHT80,ANT 0



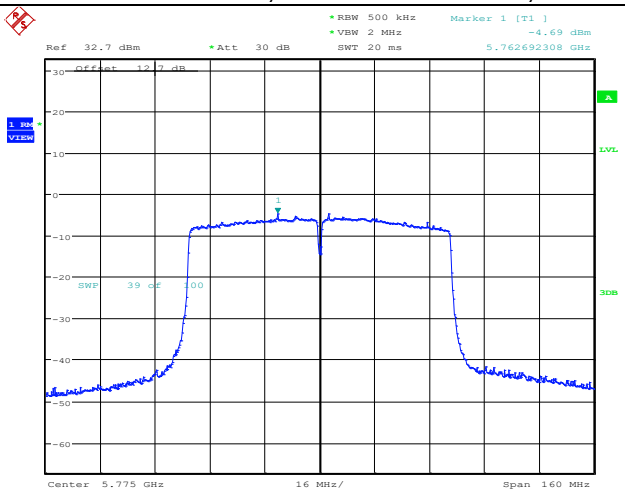
Date: 7.SEP.2021 15:45:26

Channel 122, 802.11ac VHT80,ANT 1



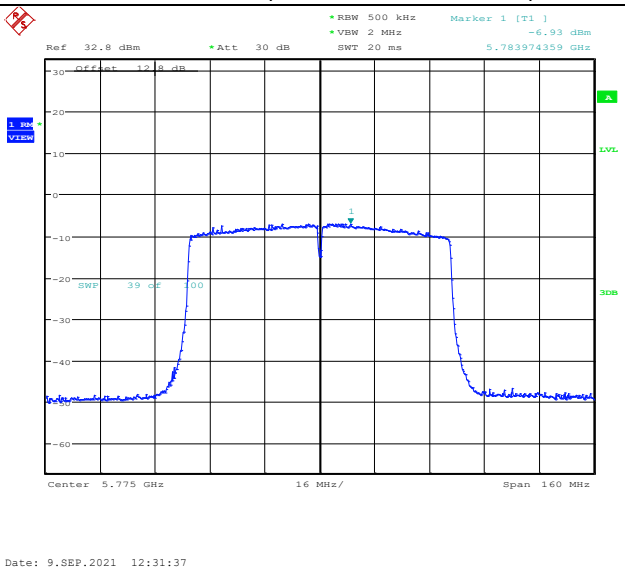
Date: 9.SEP.2021 12:25:11

Channel 155, 802.11ac VHT80,ANT 0



Date: 7.SEP.2021 17:23:11

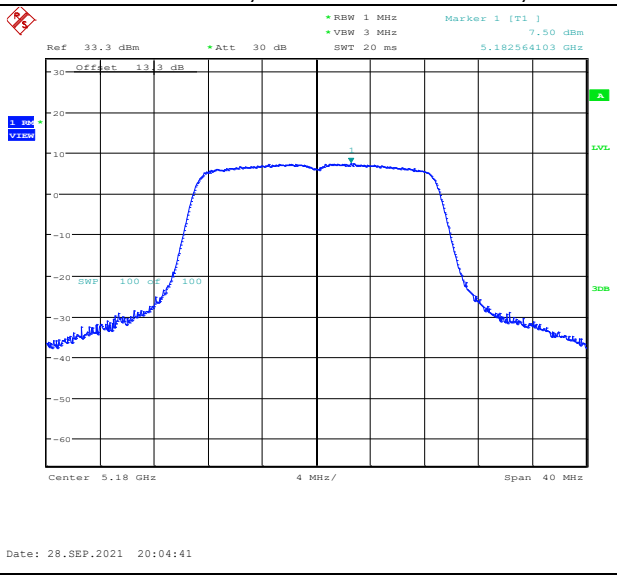
Channel 155, 802.11ac VHT80,ANT 1



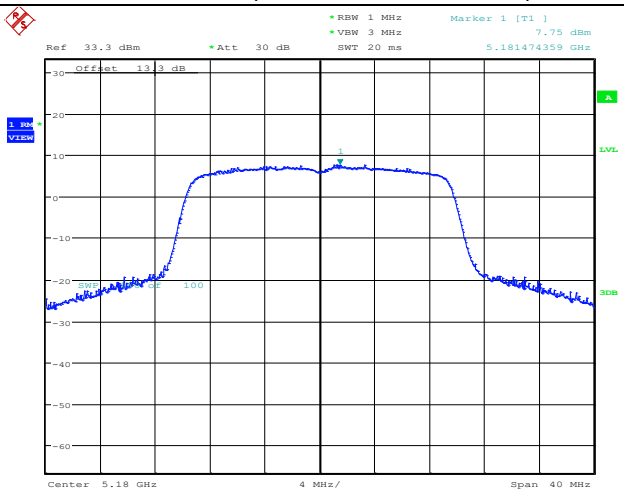
802.11ax HEW20 Mode

Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
36	5180	7.5	7.75	0.02	10.66	<=11	PASS
40	5200	7.93	6.58	0.02	10.34	<=11	PASS
48	5240	7.78	6.38	0.02	10.17	<=11	PASS
52	5260	7.95	6.31	0.02	10.24	<=11	PASS
56	5280	6.53	6.43	0.02	9.51	<=11	PASS
64	5320	6.79	6.52	0.02	9.69	<=11	PASS
100	5500	7.64	7.95	0.02	10.83	<=11	PASS
116	5580	7.16	7.18	0.02	10.02	<=11	PASS
140	5700	6.53	7.76	0.02	10.22	<=11	PASS
149	5745	-0.98	-0.82	0.02	2.13	<=30	PASS
157	5785	-0.64	-0.08	0.02	2.68	<=30	PASS
165	5825	-0.57	-0.45	0.02	2.52	<=30	PASS

Channel 36, 802.11ax HEW20,ANT 0

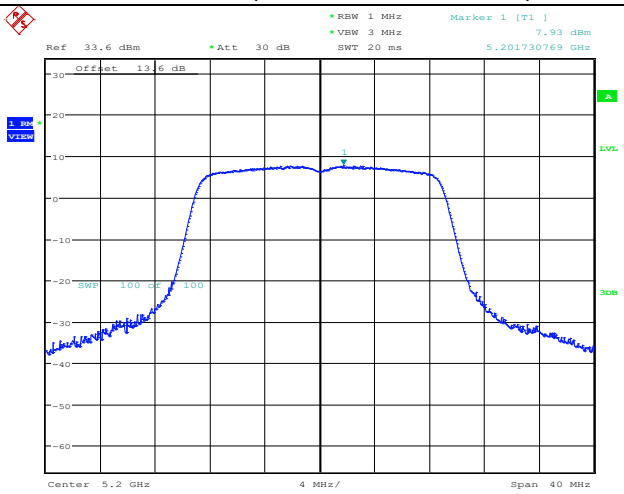


Channel 36, 802.11ax HEW20,ANT 1



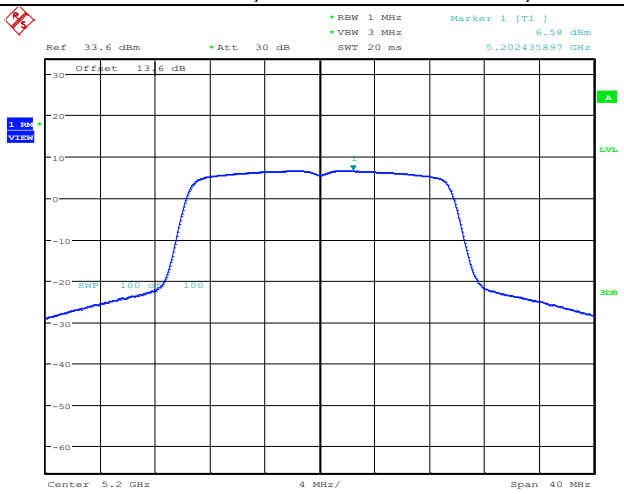
Date: 29.SEP.2021 09:43:57

Channel 40, 802.11ax HEW20,ANT 0



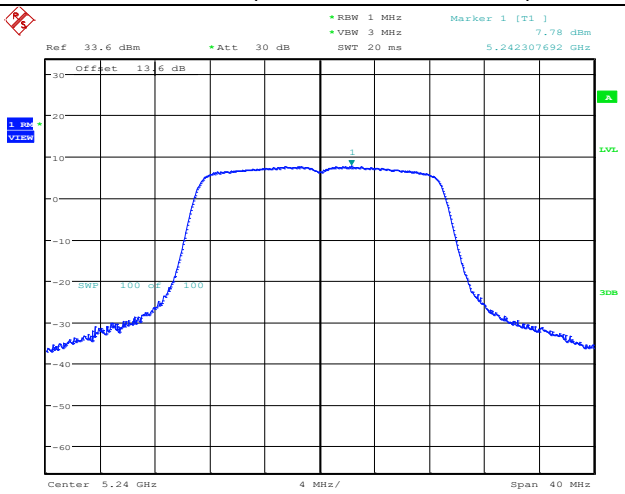
Date: 28.SEP.2021 20:09:53

Channel 40, 802.11ax HEW20,ANT 1



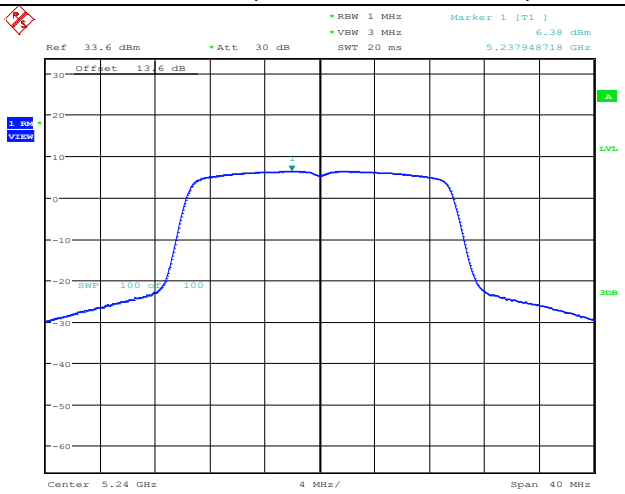
Date: 30.SEP.2021 09:25:28

Channel 48, 802.11ax HEW20,ANT 0



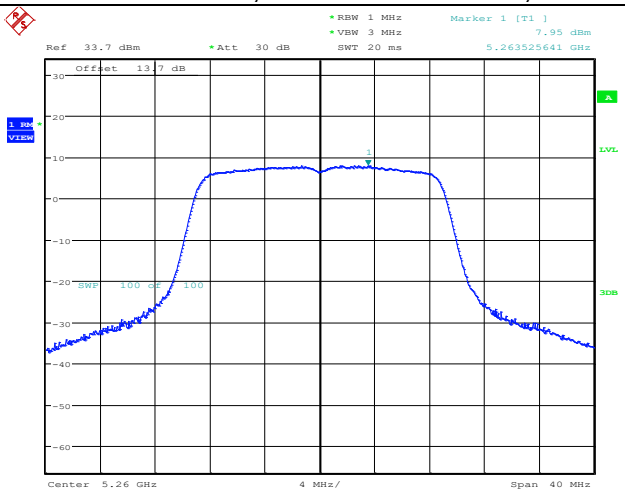
Date: 28.SEP.2021 20:13:04

Channel 48, 802.11ax HEW20,ANT 1



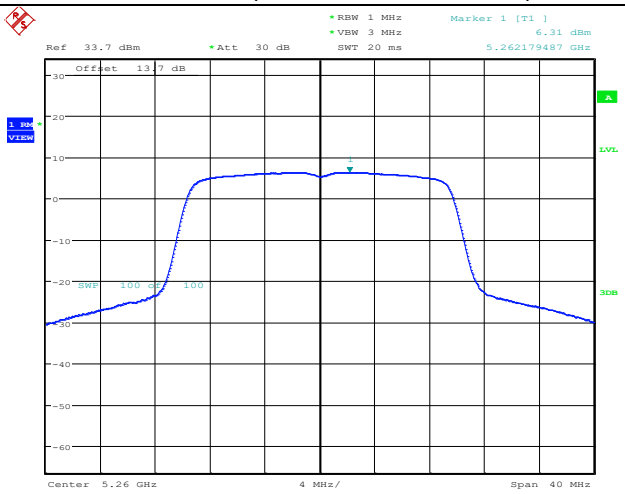
Date: 30.SEP.2021 09:26:39

Channel 52, 802.11ax HEW20,ANT 0



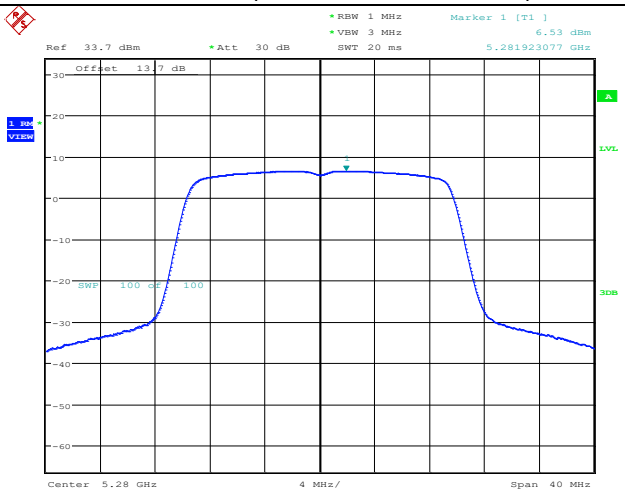
Date: 28.SEP.2021 20:20:44

Channel 52, 802.11ax HEW20,ANT 1



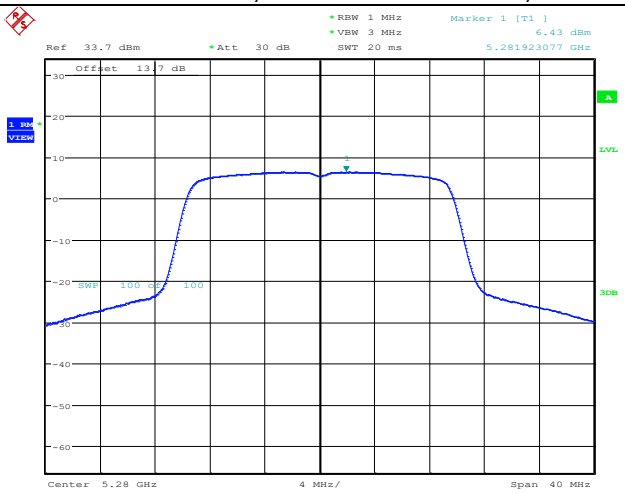
Date: 30.SEP.2021 09:27:48

Channel 56, 802.11ax HEW20,ANT 0



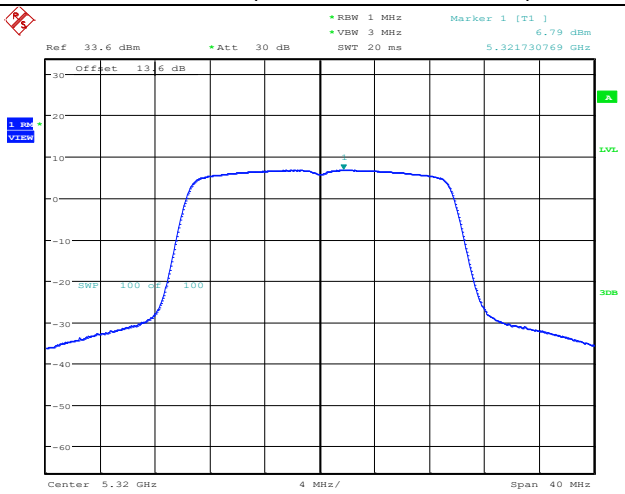
Date: 30.SEP.2021 09:18:01

Channel 56, 802.11ax HEW20,ANT 1



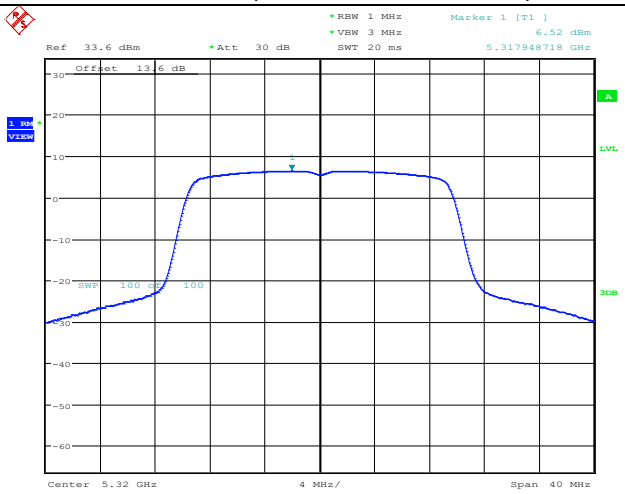
Date: 30.SEP.2021 09:29:07

Channel 64, 802.11ax HEW20,ANT 0



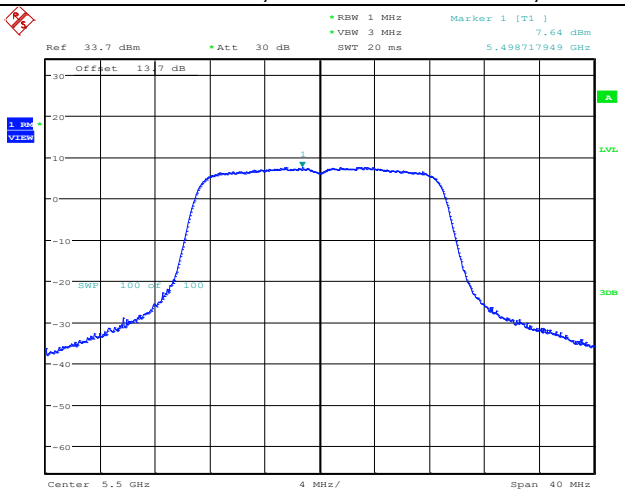
Date: 30.SEP.2021 09:19:19

Channel 64, 802.11ax HEW20,ANT 1



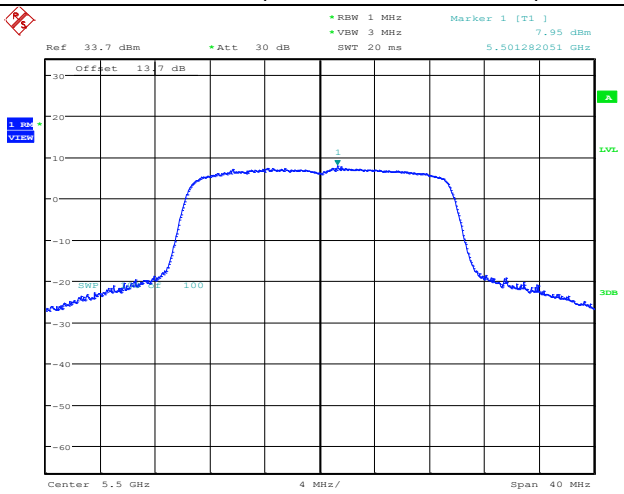
Date: 30.SEP.2021 09:30:16

Channel 100, 802.11ax HEW20,ANT 0



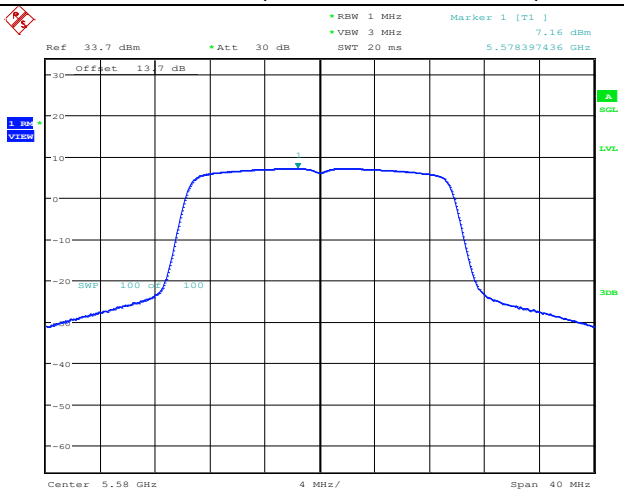
Date: 28.SEP.2021 20:28:54

Channel 100, 802.11ax HEW20,ANT 1



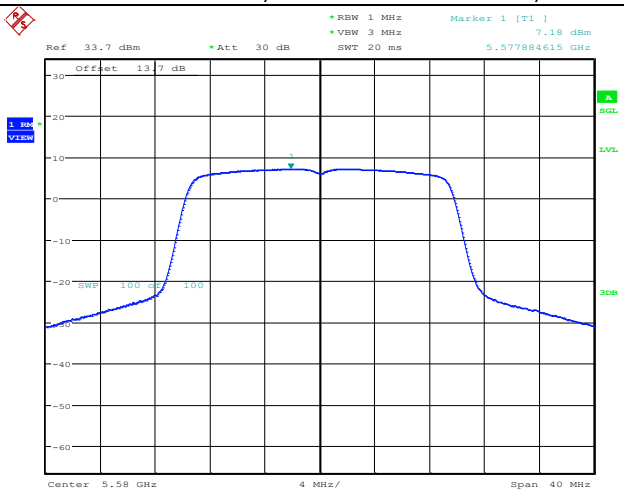
Date: 29.SEP.2021 10:02:43

Channel 116, 802.11ax HEW20,ANT 0



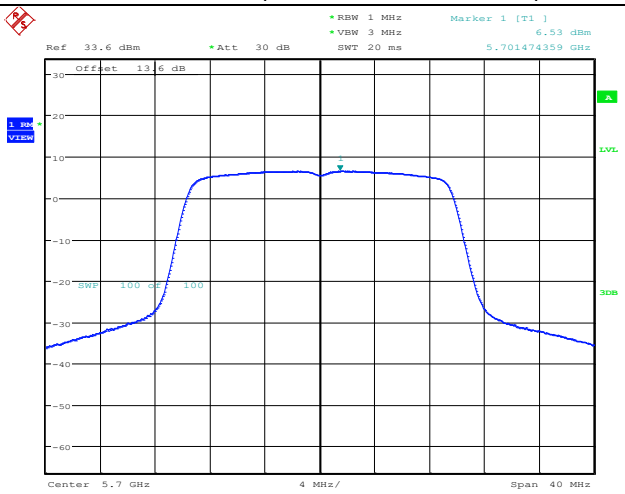
Date: 9.OCT.2021 10:16:52

Channel 116, 802.11ax HEW20,ANT 1



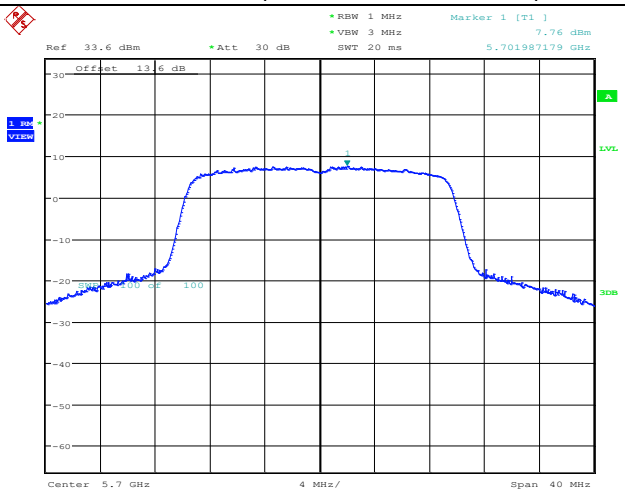
Date: 9.OCT.2021 10:23:10

Channel 140, 802.11ax HEW20,ANT 0



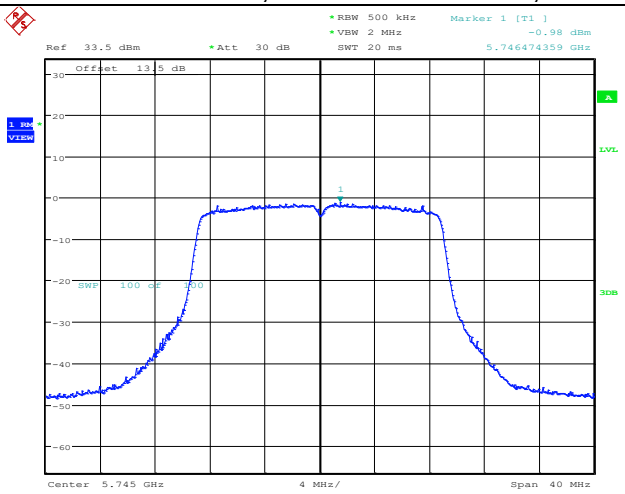
Date: 30.SEP.2021 09:21:12

Channel 140, 802.11ax HEW20,ANT 1



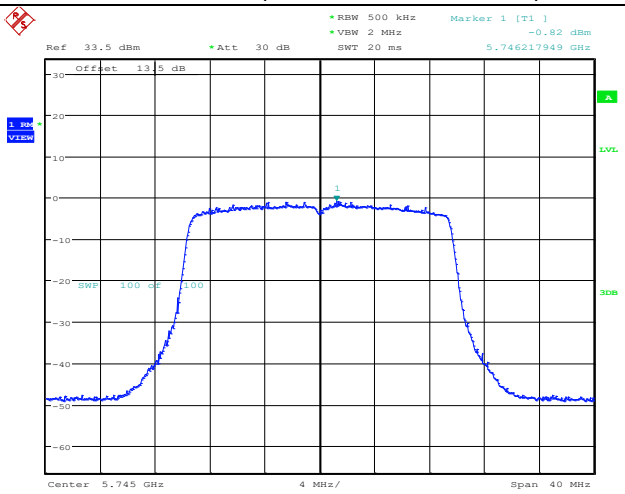
Date: 29.SEP.2021 10:07:04

Channel 149, 802.11ax HEW20,ANT 0



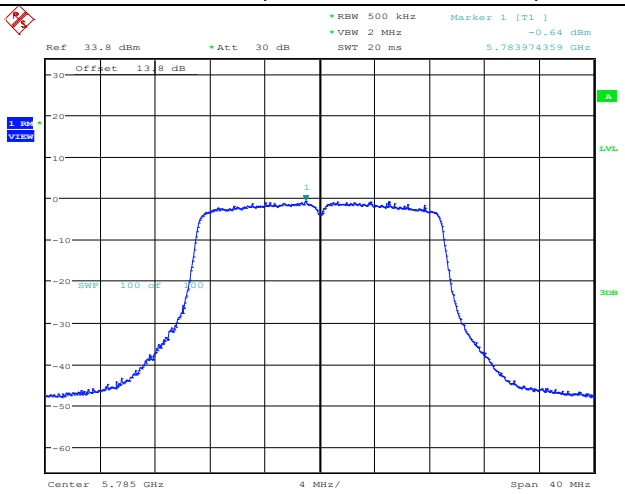
Date: 28.SEP.2021 20:40:42

Channel 149, 802.11ax HEW20,ANT 1



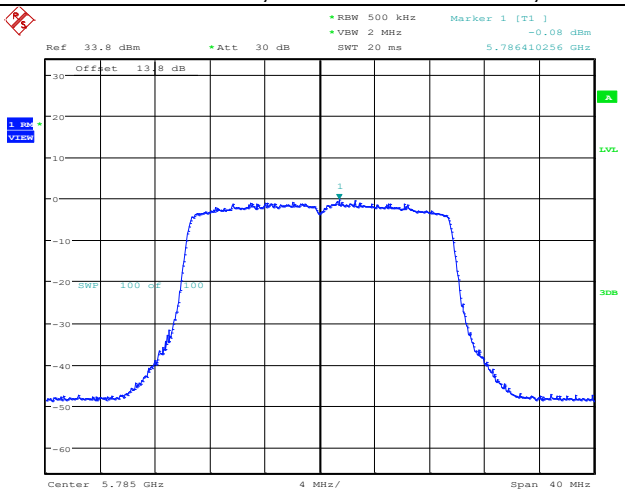
Date: 29.SEP.2021 10:09:49

Channel 157, 802.11ax HEW20,ANT 0



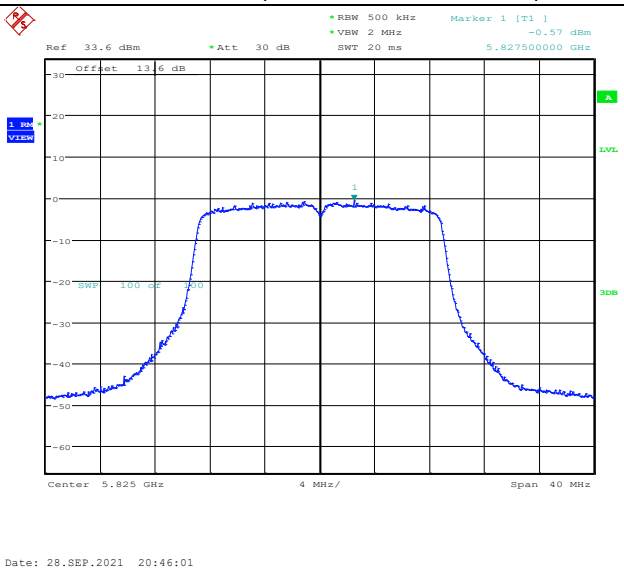
Date: 28.SEP.2021 20:43:38

Channel 157, 802.11ax HEW20,ANT 1

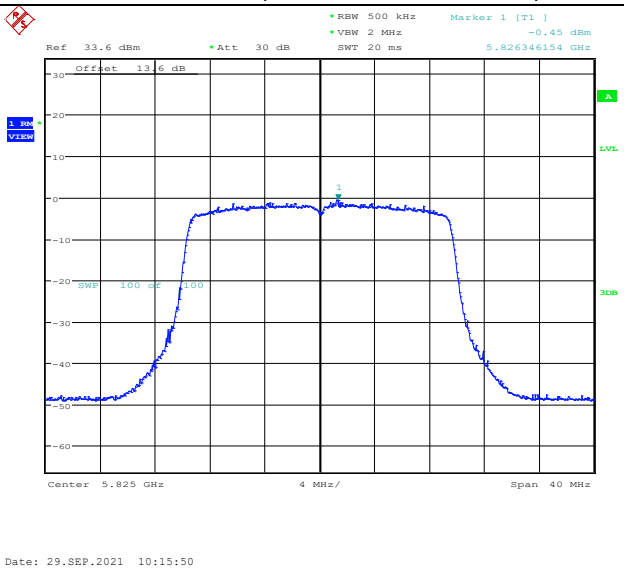


Date: 29.SEP.2021 10:13:26

Channel 165, 802.11ax HEW20,ANT 0



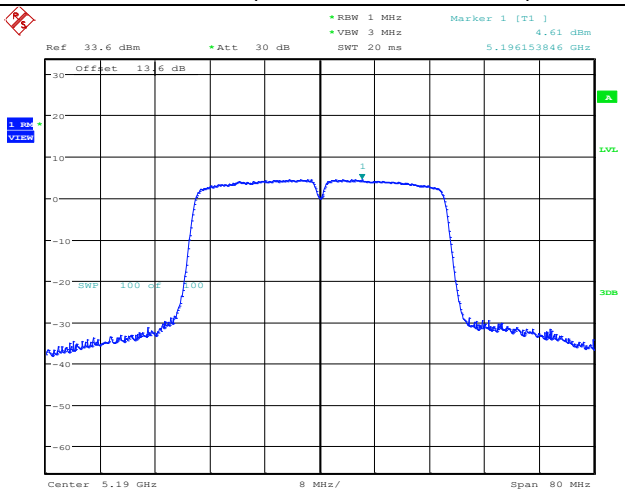
Channel 165, 802.11ax HEW20,ANT 1



802.11ax HEW40 Mode

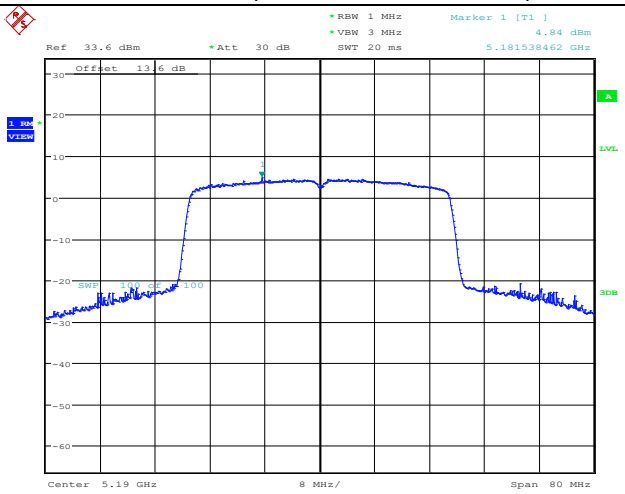
Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
38	5190	4.61	4.84	0.02	7.76	<=11	PASS
46	5230	4.63	4.5	0.02	7.60	<=11	PASS
54	5270	4.9	4.55	0.02	7.76	<=11	PASS
62	5310	4.99	4.66	0.02	7.86	<=11	PASS
102	5510	4.58	4.71	0.02	7.68	<=11	PASS
110	5550	3.13	4.17	0.02	6.71	<=11	PASS
134	5670	4.9	4.56	0.02	7.76	<=11	PASS
151	5755	-4.05	-3.94	0.02	-0.96	<=30	PASS
159	5795	-3.98	-4.04	0.02	-0.98	<=30	PASS

Channel 38, 802.11ax HEW40,ANT 0



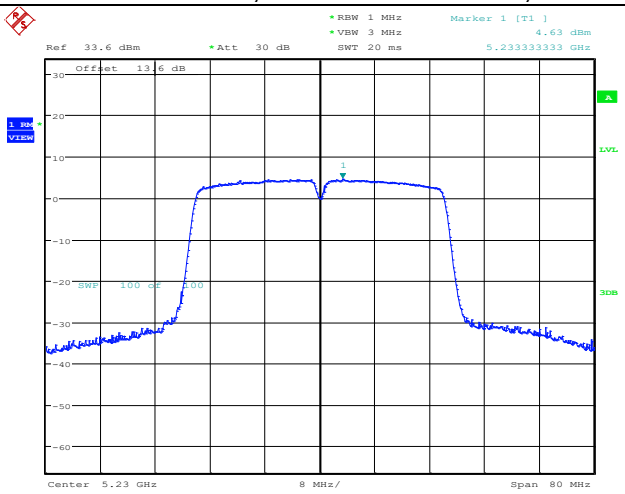
Date: 28.SEP.2021 20:50:23

Channel 38, 802.11ax HEW40,ANT 1



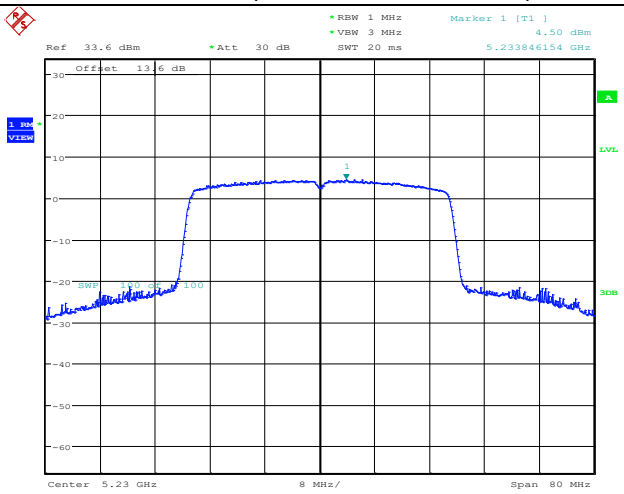
Date: 29.SEP.2021 10:20:15

Channel 46, 802.11ax HEW40,ANT 0



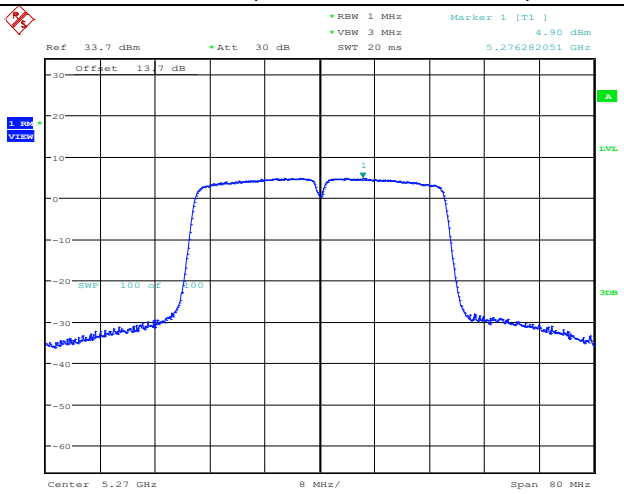
Date: 28.SEP.2021 20:53:47

Channel 46, 802.11ax HEW40,ANT 1



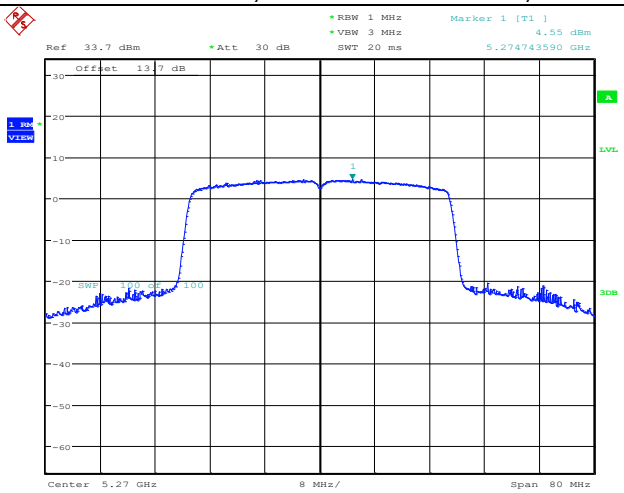
Date: 29.SEP.2021 10:24:56

Channel 54, 802.11ax HEW40,ANT 0



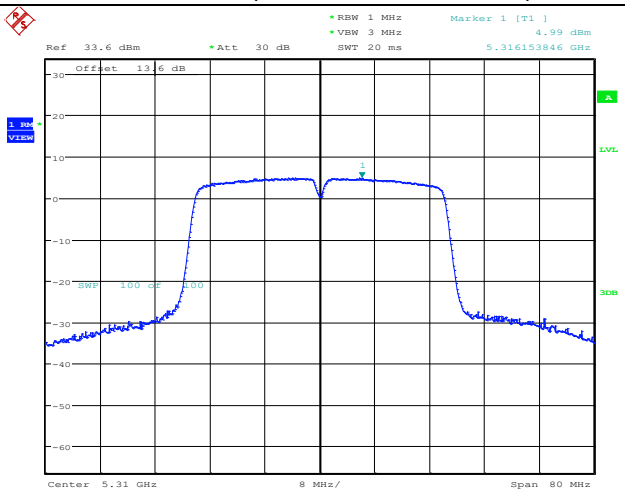
Date: 28.SEP.2021 20:56:11

Channel 54, 802.11ax HEW40,ANT 1



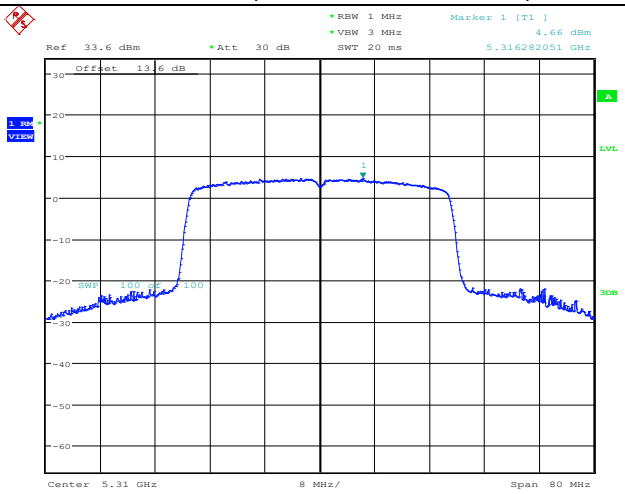
Date: 29.SEP.2021 10:27:01

Channel 62, 802.11ax HEW40,ANT 0



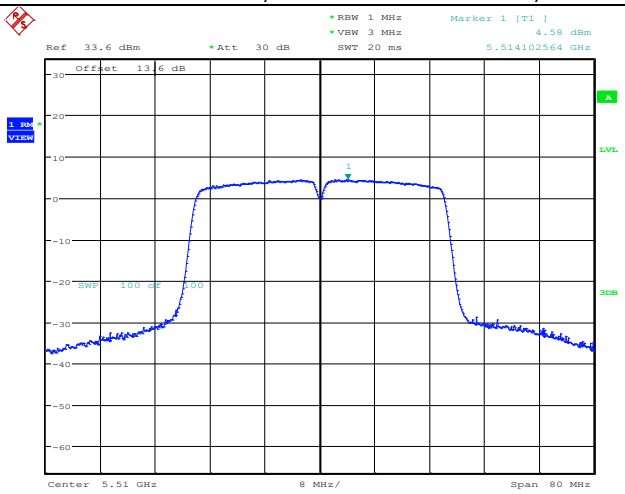
Date: 28.SEP.2021 21:00:28

Channel 62, 802.11ax HEW40,ANT 1



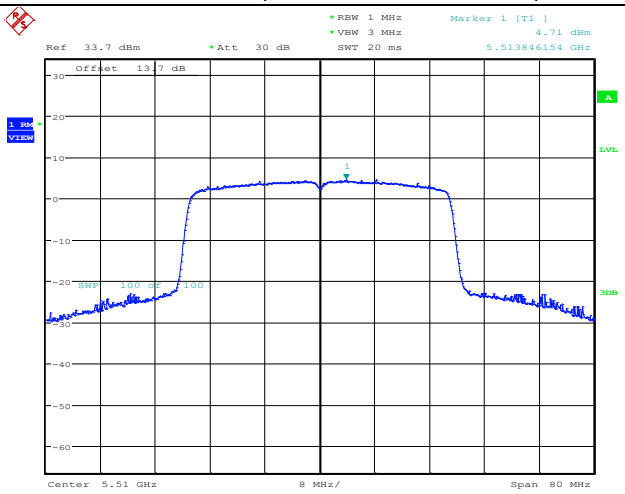
Date: 29.SEP.2021 10:29:06

Channel 102, 802.11ax HEW40,ANT 0



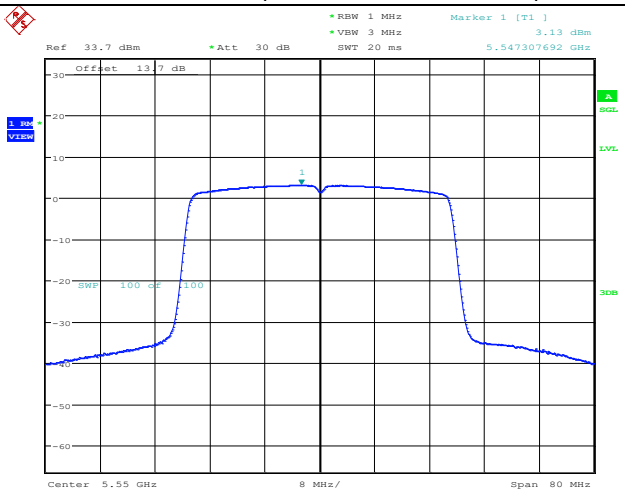
Date: 28.SEP.2021 21:02:48

Channel 102, 802.11ax HEW40,ANT 1



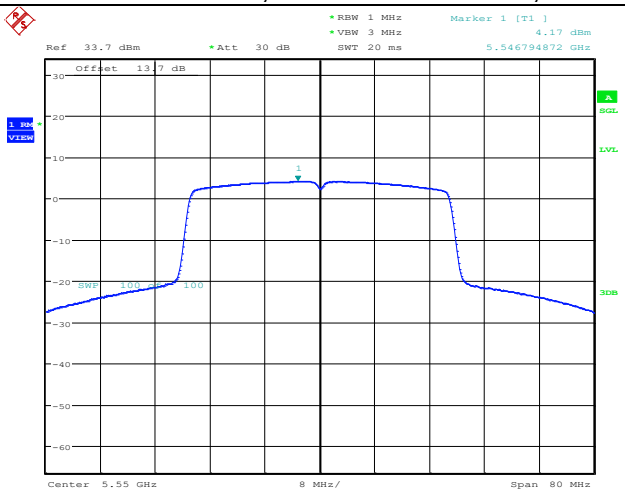
Date: 29.SEP.2021 10:33:32

Channel 110, 802.11ax HEW40,ANT 0



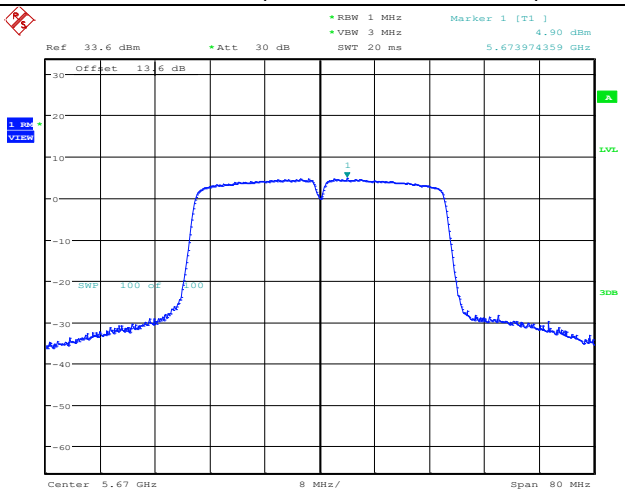
Date: 9.OCT.2021 14:32:50

Channel 110, 802.11ax HEW40,ANT 1



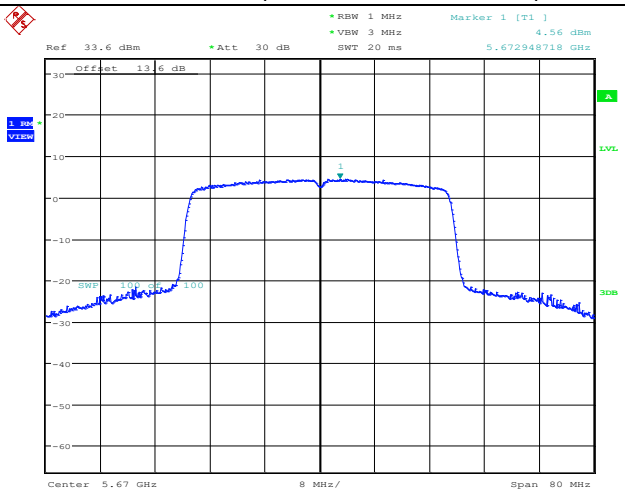
Date: 9.OCT.2021 10:27:19

Channel 134, 802.11ax HEW40,ANT 0



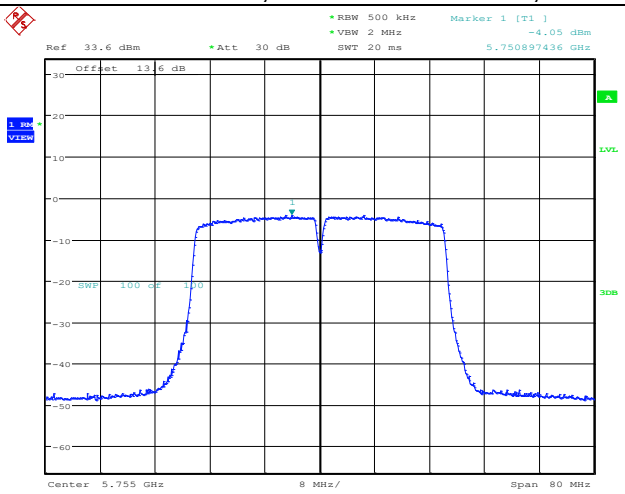
Date: 28.SEP.2021 21:07:27

Channel 134, 802.11ax HEW40,ANT 1



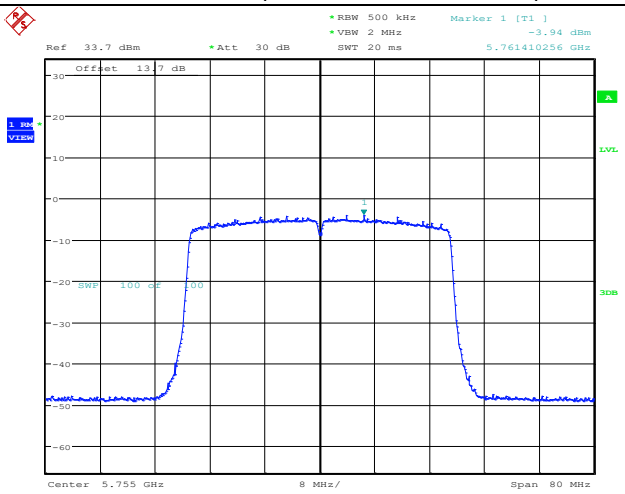
Date: 29.SEP.2021 10:42:06

Channel 151, 802.11ax HEW40,ANT 0



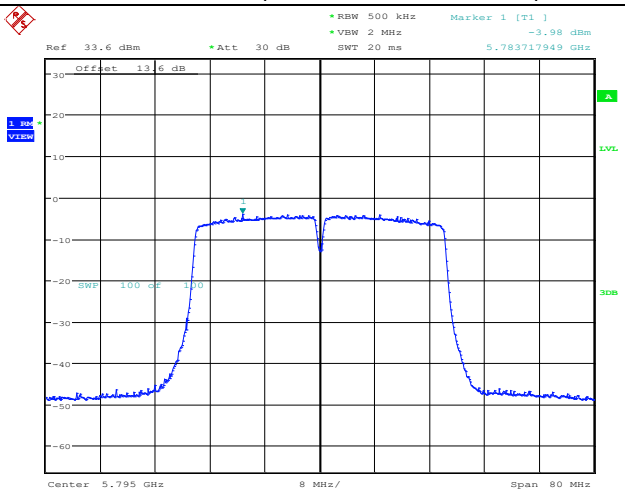
Date: 28.SEP.2021 21:11:30

Channel 151, 802.11ax HEW40,ANT 1



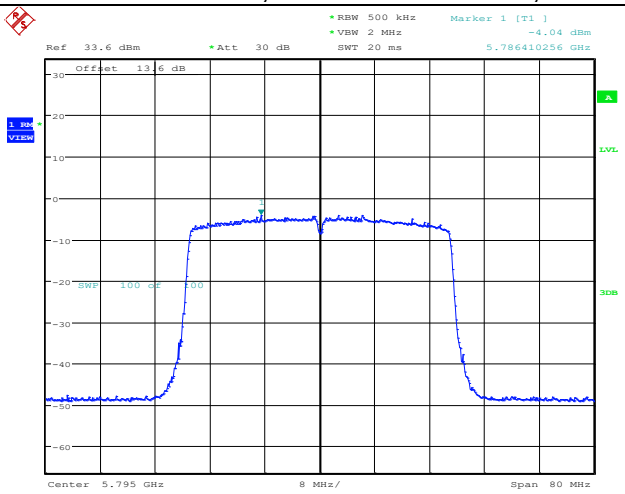
Date: 29.SEP.2021 10:44:54

Channel 159, 802.11ax HEW40,ANT 0



Date: 28.SEP.2021 21:14:07

Channel 159, 802.11ax HEW40,ANT 1

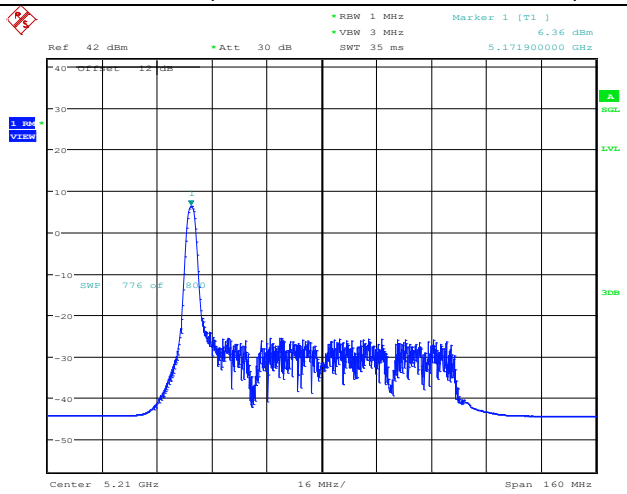


Date: 29.SEP.2021 10:47:46

802.11ax HEW80 RU26 Mode

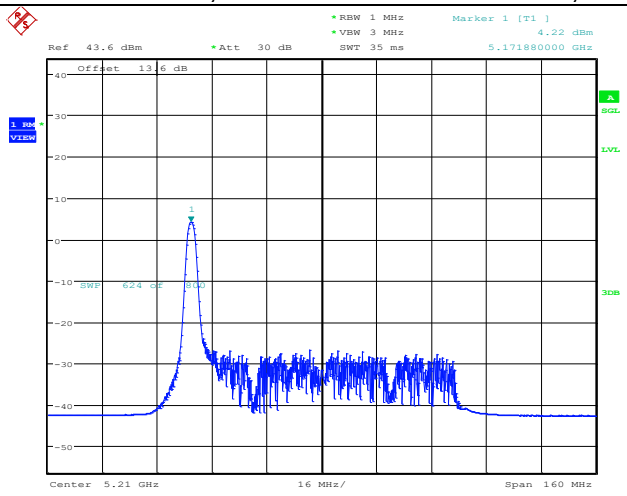
Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	6.36	4.22	0.02	8.45	<=11	PASS
58	5290	6.51	4.58	0.02	8.68	<=11	PASS
106	5530	6.03	4.24	0.02	8.26	<=11	PASS
122	5610	6.67	4.3	0.02	8.68	<=11	PASS
155	5775	3.56	1.55	0.02	5.70	<=30	PASS

Channel 42, 802.11ax HEW80 RU26,ANT 0



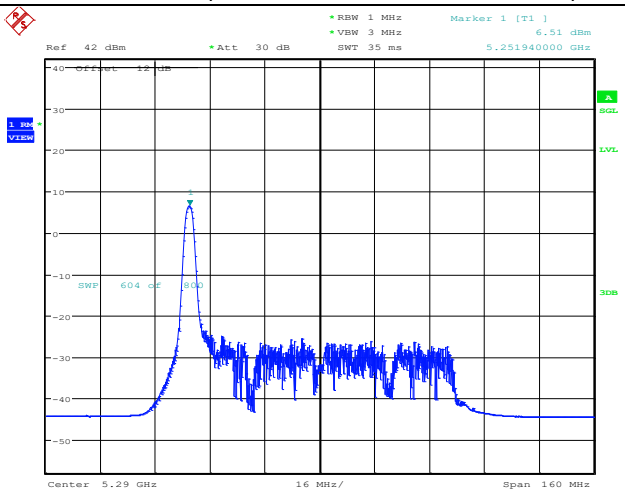
Date: 8.OCT.2021 14:04:43

Channel 42, 802.11ax HEW80 RU26,ANT 1



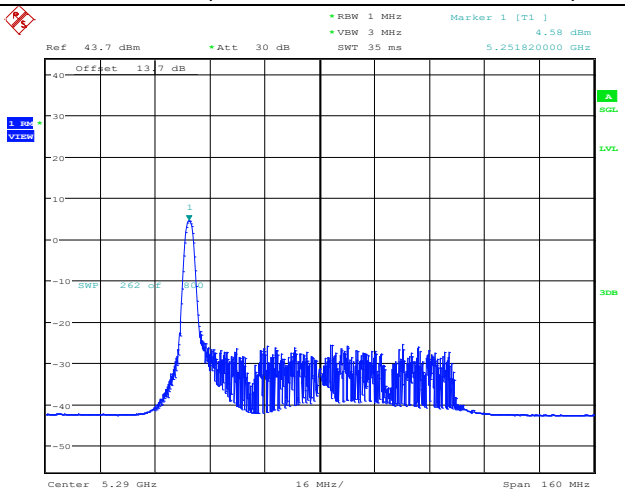
Date: 8.OCT.2021 11:31:03

Channel 58, 802.11ax HEW80 RU26,ANT 0



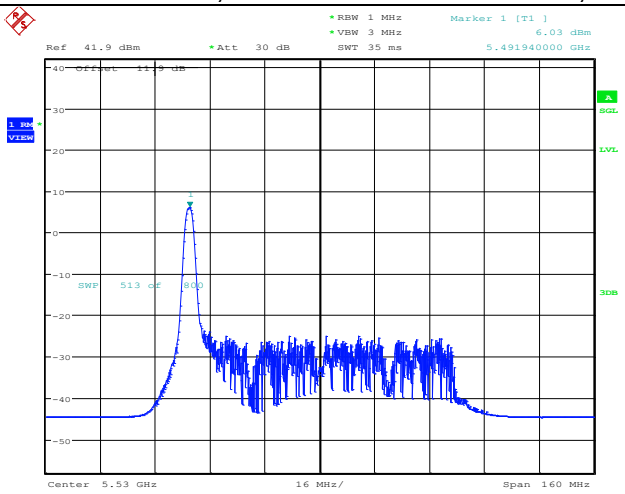
Date: 8.OCT.2021 14:12:17

Channel 58, 802.11ax HEW80 RU26,ANT 1



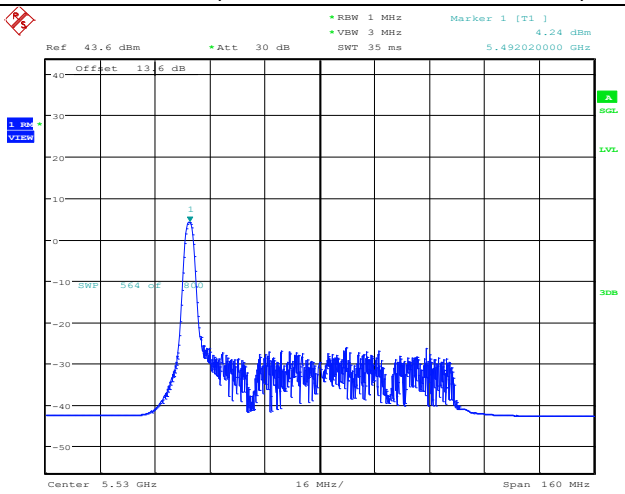
Date: 8.OCT.2021 11:34:47

Channel 106, 802.11ax HEW80 RU26,ANT 0



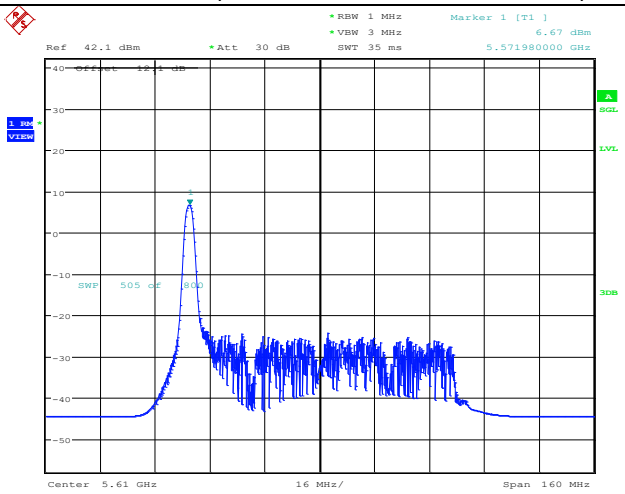
Date: 8.OCT.2021 14:19:09

Channel 106, 802.11ax HEW80 RU26,ANT 1



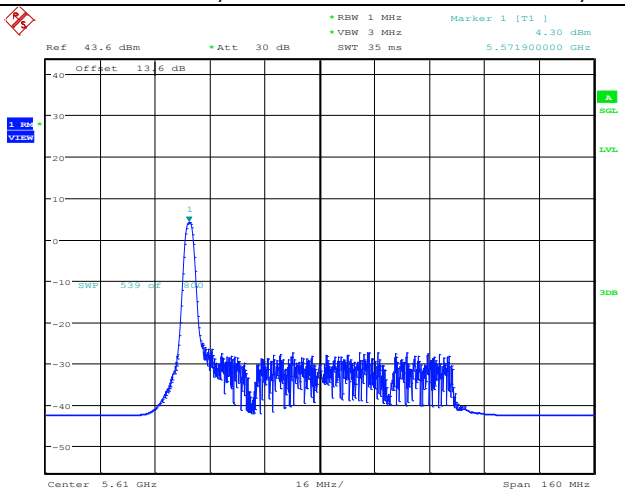
Date: 8.OCT.2021 11:41:37

Channel 122, 802.11ax HEW80 RU26,ANT 0



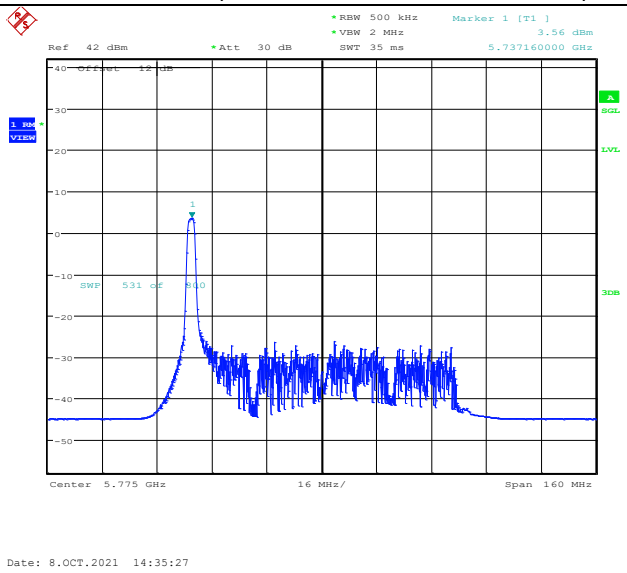
Date: 8.OCT.2021 14:26:01

Channel 122, 802.11ax HEW80 RU26,ANT 1

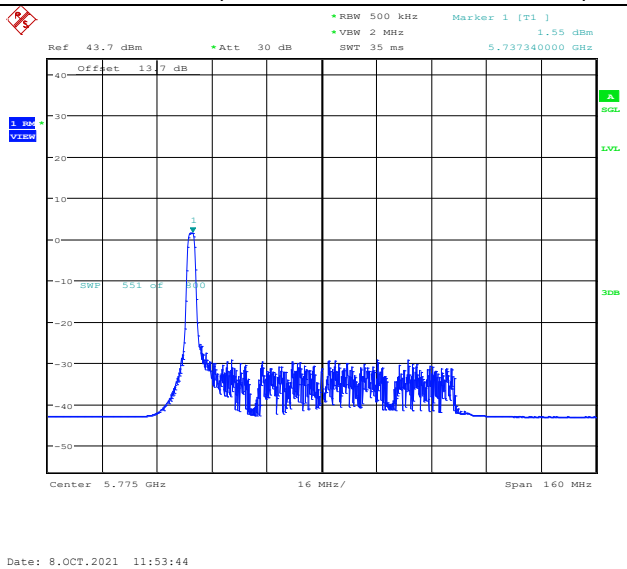


Date: 8.OCT.2021 11:47:47

Channel 155, 802.11ax HEW80 RU26,ANT 0



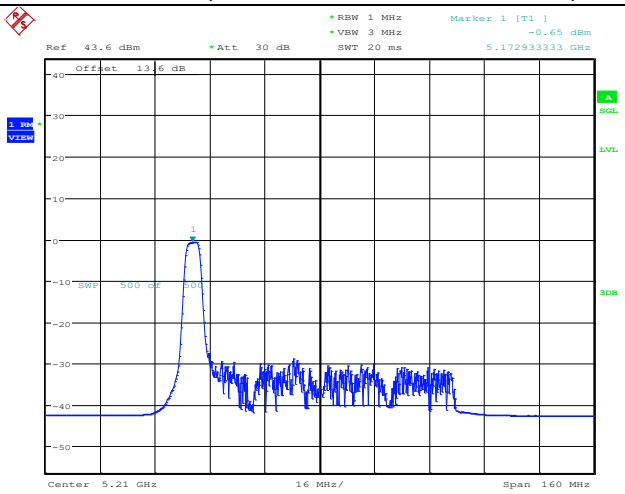
Channel 155, 802.11ax HEW80 RU26,ANT 1



802.11ax HEW80 RU52 Mode

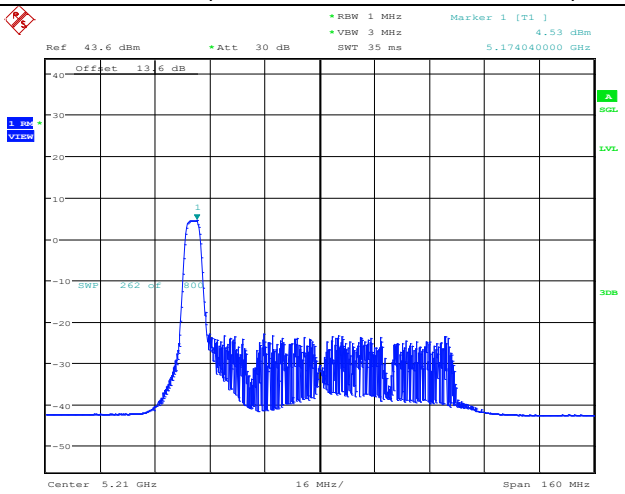
Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	-0.65	4.53	0.02	5.70	<=11	PASS
58	5290	-0.26	4.76	0.02	5.97	<=11	PASS
106	5530	-0.96	4.47	0.02	5.58	<=11	PASS
122	5610	-0.89	4.4	0.02	5.55	<=11	PASS
155	5775	-3.61	1.37	0.02	2.59	<=30	PASS

Channel 42, 802.11ax HEW80 RU52,ANT 0



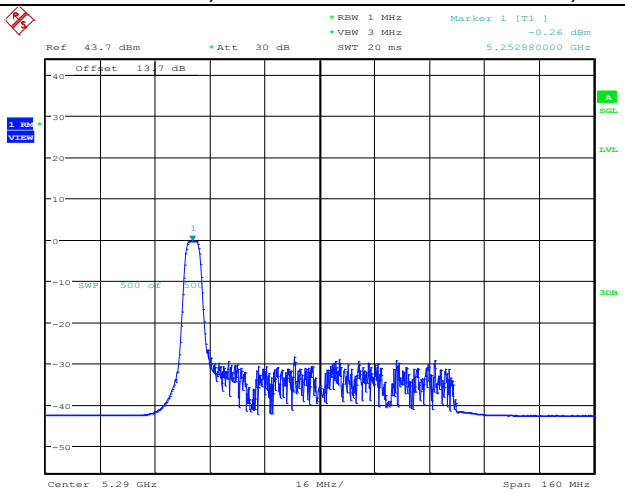
Date: 30.SEP.2021 22:34:07

Channel 42, 802.11ax HEW80 RU52,ANT 1



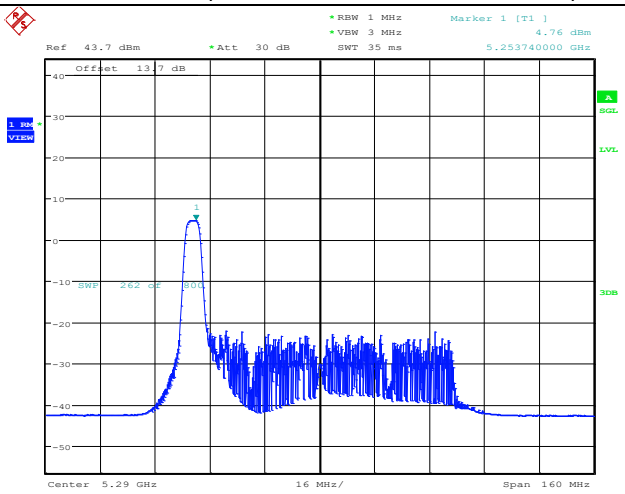
Date: 8.OCT.2021 10:08:02

Channel 58, 802.11ax HEW80 RU52,ANT 0



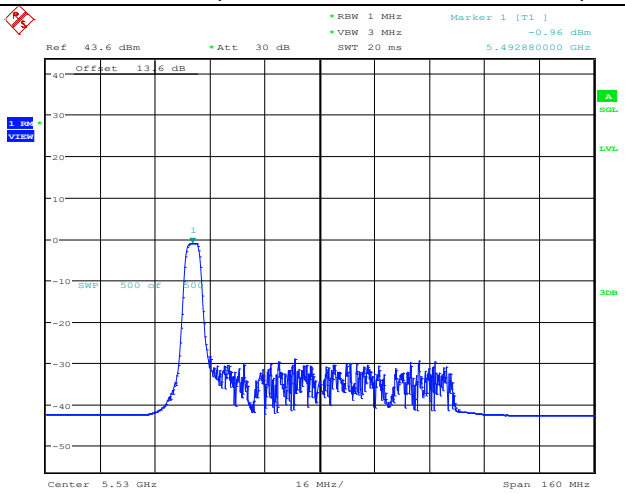
Date: 30.SEP.2021 22:37:59

Channel 58, 802.11ax HEW80 RU52,ANT 1



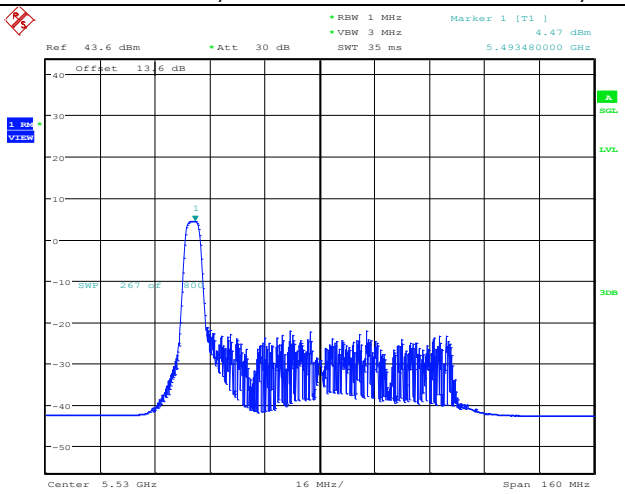
Date: 8.OCT.2021 10:16:04

Channel 106, 802.11ax HEW80 RU52,ANT 0



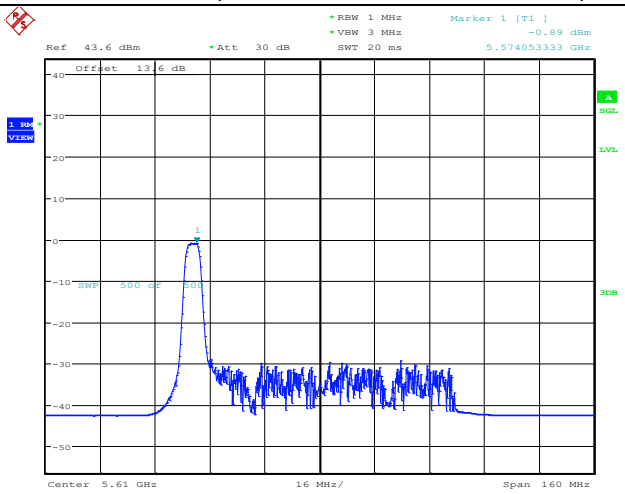
Date: 30.SEP.2021 22:40:54

Channel 106, 802.11ax HEW80 RU52,ANT 1



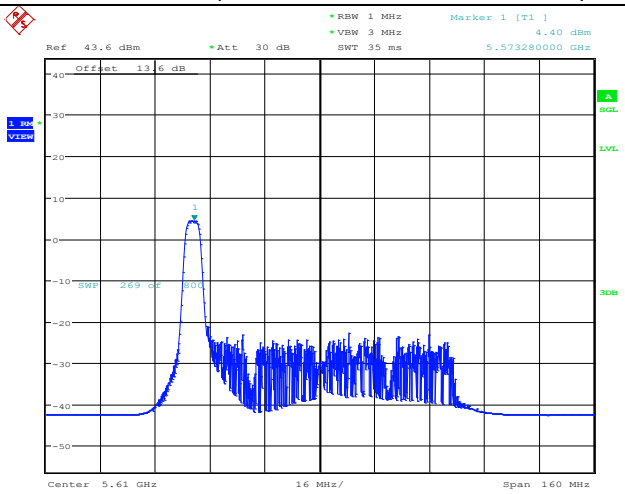
Date: 8.OCT.2021 10:21:30

Channel 122, 802.11ax HEW80 RU52,ANT 0



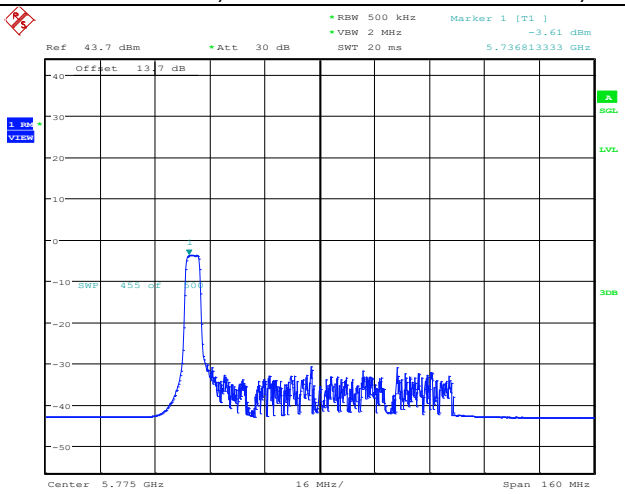
Date: 30.SEP.2021 22:43:53

Channel 122, 802.11ax HEW80 RU52,ANT 1



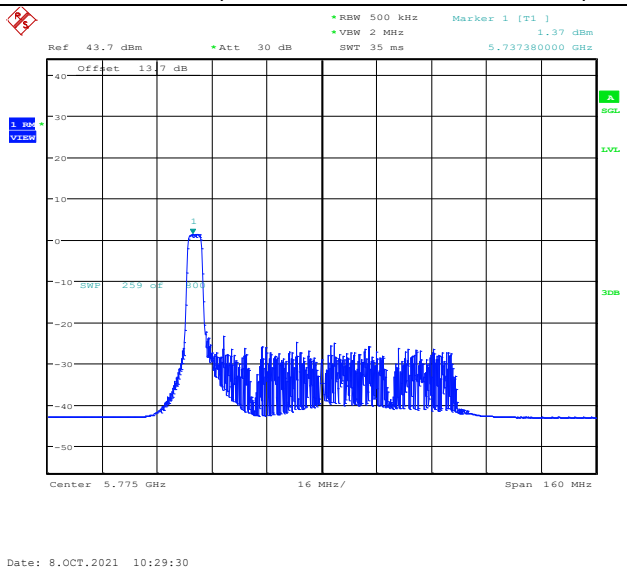
Date: 8.OCT.2021 10:25:18

Channel 155, 802.11ax HEW80 RU52,ANT 0



Date: 30.SEP.2021 22:48:44

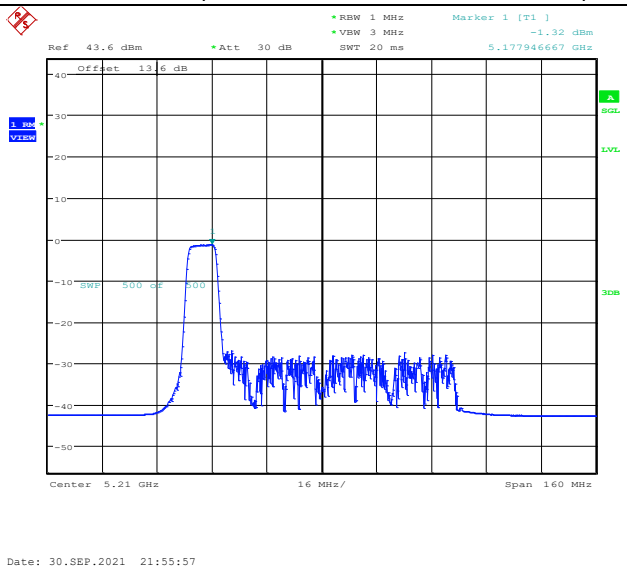
Channel 155, 802.11ax HEW80 RU52,ANT 1



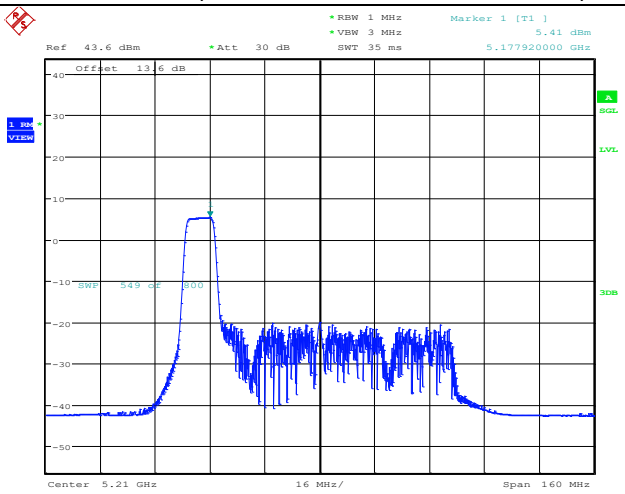
802.11ax HEW80 RU106 Mode

Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	-1.32	5.41	0.02	6.27	<=11	PASS
58	5290	-1.01	5.54	0.02	6.43	<=11	PASS
106	5530	-1.58	5.25	0.02	6.09	<=11	PASS
122	5610	-1.66	5.32	0.02	6.13	<=11	PASS
155	5775	-4.56	0.14	0.02	1.43	<=30	PASS

Channel 42, 802.11ax HEW80 RU106,ANT 0

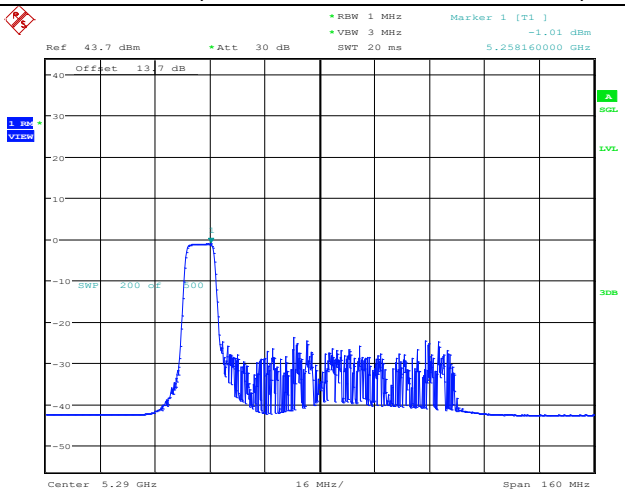


Channel 42, 802.11ax HEW80 RU106,ANT 1



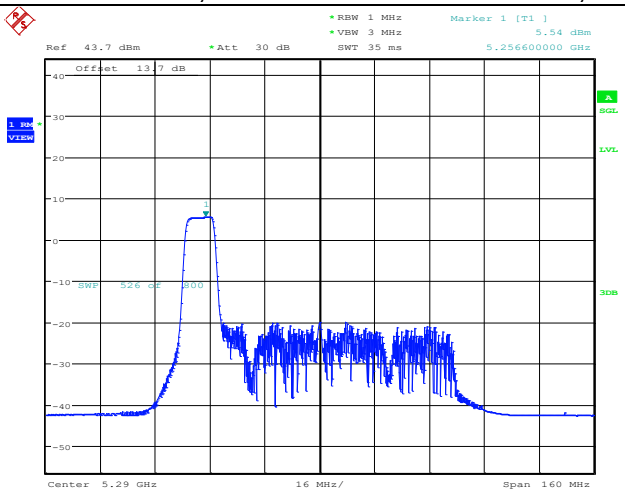
Date: 8.OCT.2021 12:38:10

Channel 58, 802.11ax HEW80 RU106,ANT 0



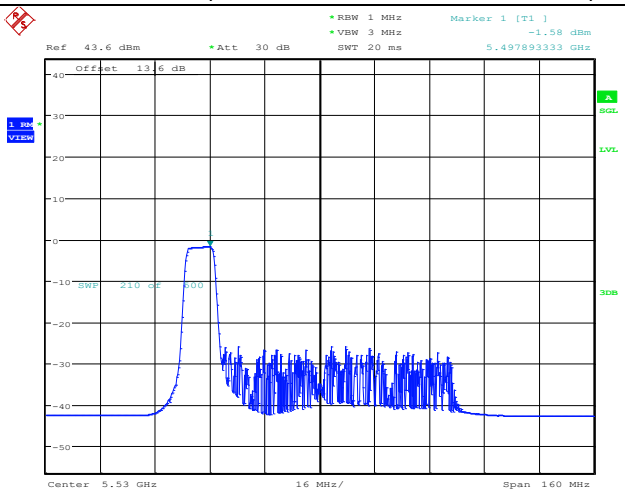
Date: 30.SEP.2021 21:58:58

Channel 58, 802.11ax HEW80 RU106,ANT 1



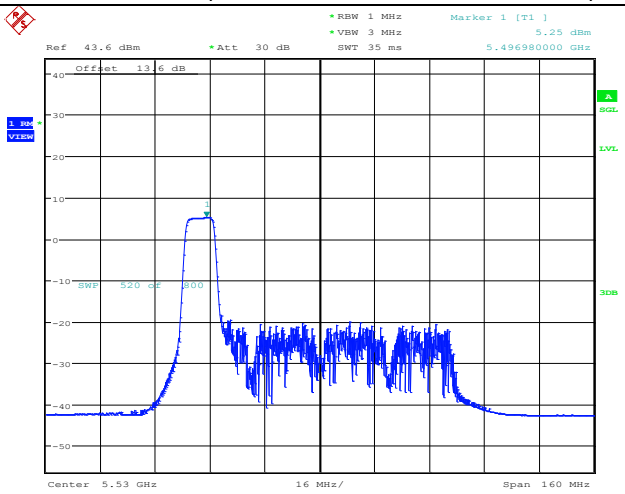
Date: 8.OCT.2021 12:43:31

Channel 106, 802.11ax HEW80 RU106,ANT 0



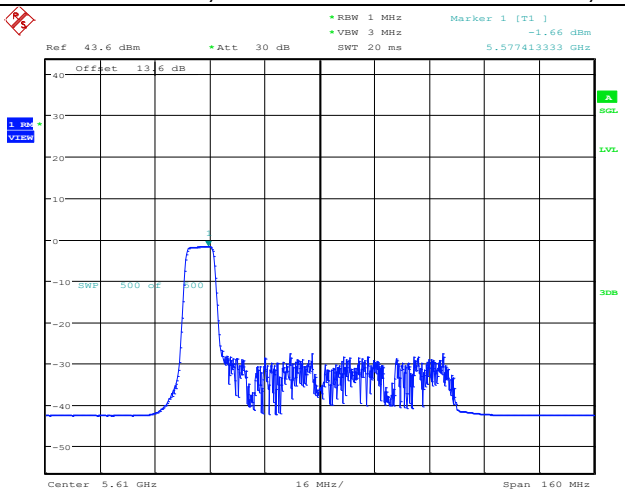
Date: 30.SEP.2021 22:02:49

Channel 106, 802.11ax HEW80 RU106,ANT 1



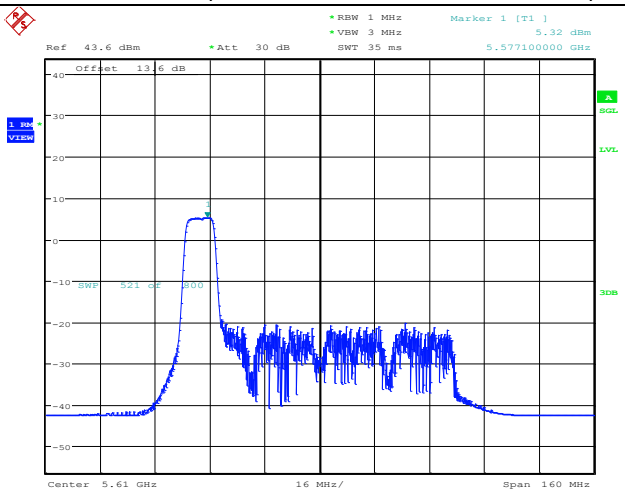
Date: 8.OCT.2021 12:48:28

Channel 122, 802.11ax HEW80 RU106,ANT 0



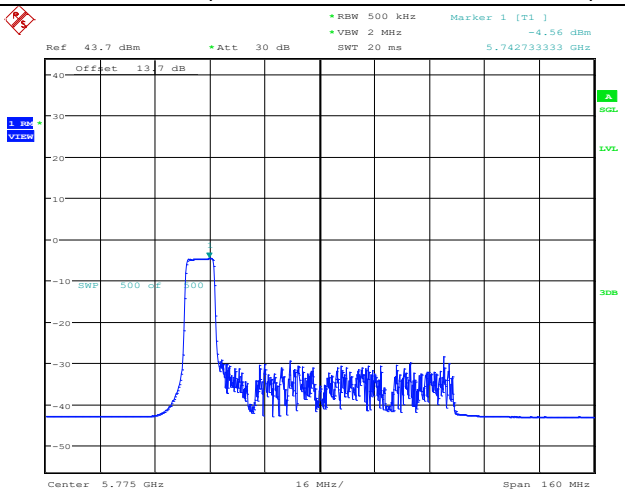
Date: 30.SEP.2021 22:06:34

Channel 122, 802.11ax HEW80 RU106,ANT 1



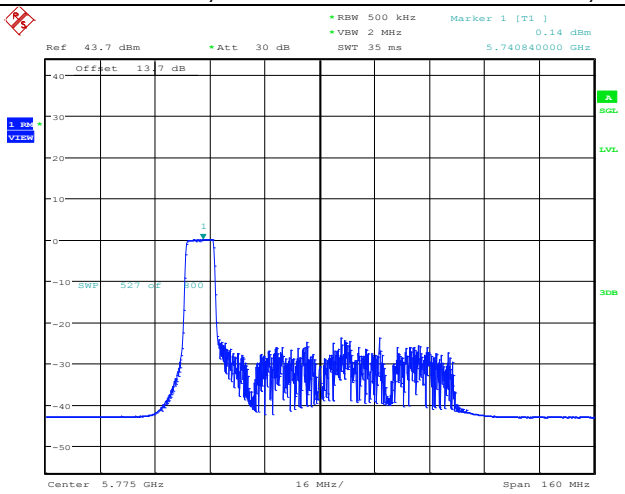
Date: 8.OCT.2021 12:53:40

Channel 155, 802.11ax HEW80 RU106,ANT 0



Date: 30.SEP.2021 22:12:46

Channel 155, 802.11ax HEW80 RU106,ANT 1

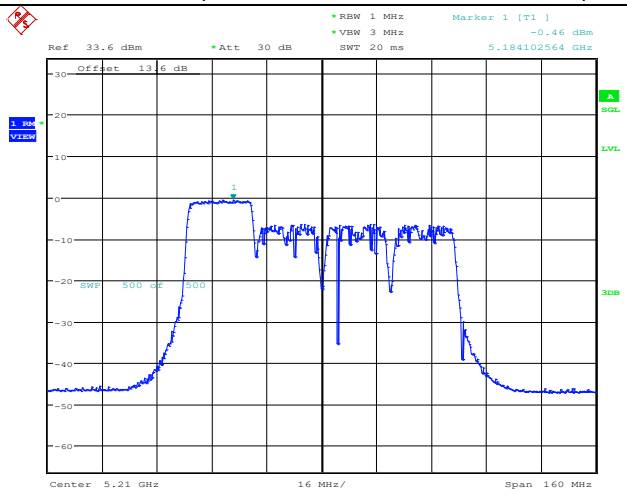


Date: 8.OCT.2021 13:01:59

802.11ax HEW80 RU242 Mode

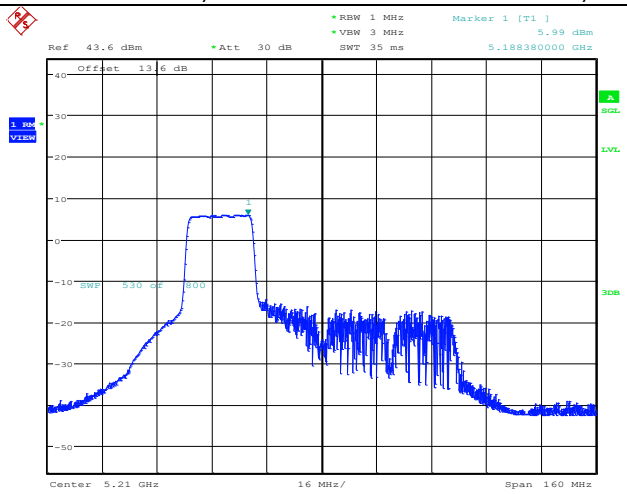
Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	-0.46	5.99	0.02	6.90	<=11	PASS
58	5290	-0.2	6.1	0.02	7.03	<=11	PASS
106	5530	-1.06	6	0.02	6.80	<=11	PASS
122	5610	-1.14	5.69	0.02	6.53	<=11	PASS
155	5775	-3.32	-3.18	0.02	-0.22	<=30	PASS

Channel 42, 802.11ax HEW80 RU242,ANT 0



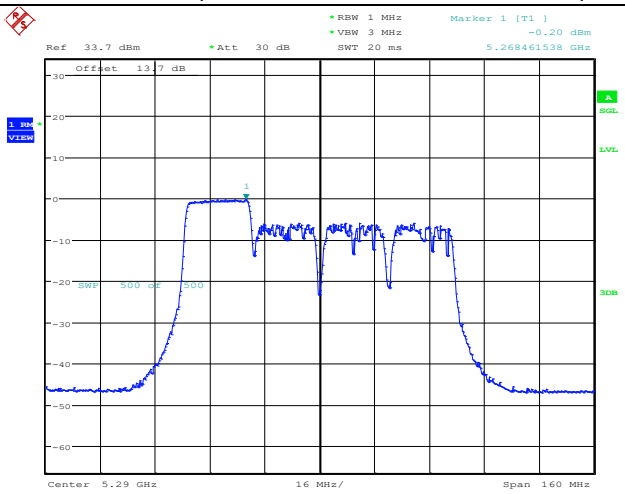
Date: 30.SEP.2021 22:16:22

Channel 42, 802.11ax HEW80 RU242,ANT 1



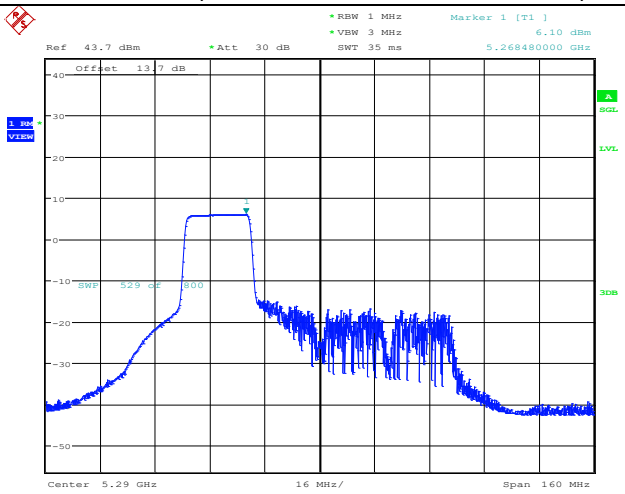
Date: 8.OCT.2021 12:00:26

Channel 58, 802.11ax HEW80 RU242,ANT 0



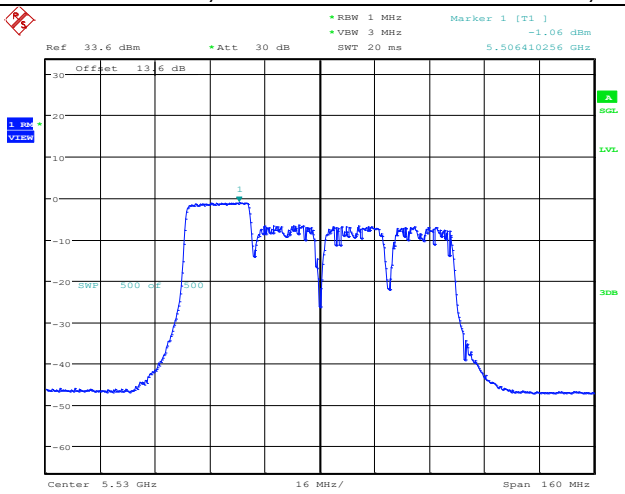
Date: 30.SEP.2021 22:19:38

Channel 58, 802.11ax HEW80 RU242,ANT 1



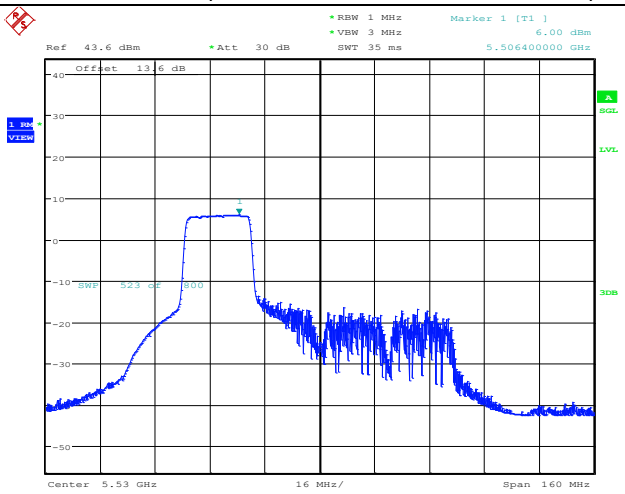
Date: 8.OCT.2021 12:05:30

Channel 106, 802.11ax HEW80 RU242,ANT 0



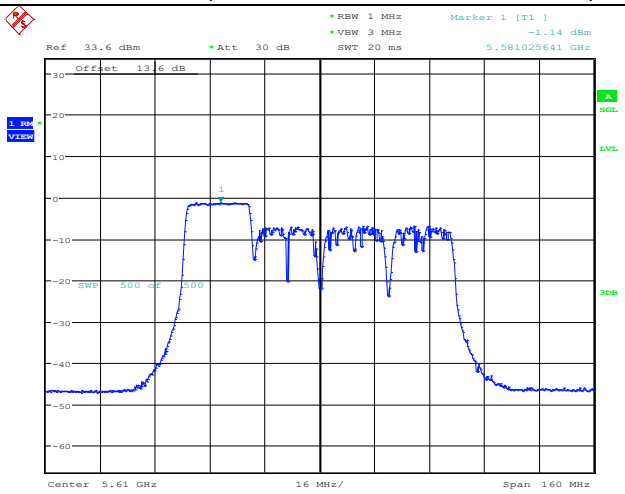
Date: 30.SEP.2021 22:22:50

Channel 106, 802.11ax HEW80 RU242,ANT 1



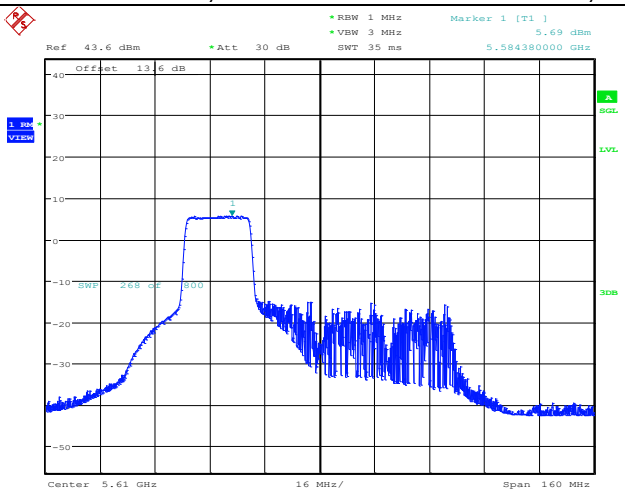
Date: 8.OCT.2021 12:10:31

Channel 122, 802.11ax HEW80 RU242,ANT 0



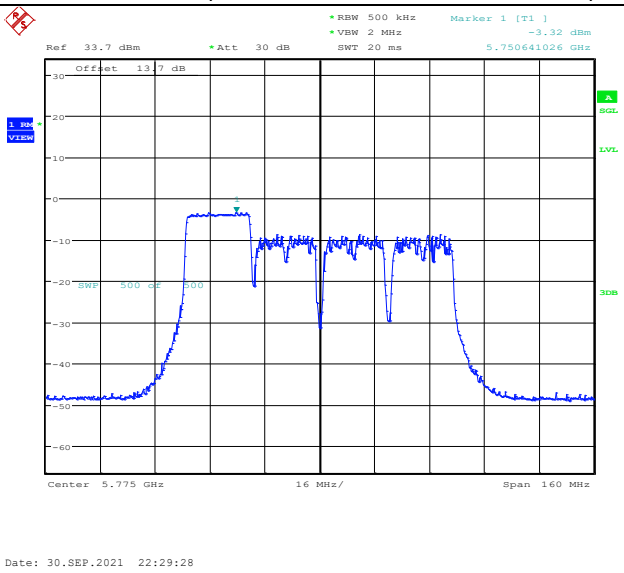
Date: 30.SEP.2021 22:25:39

Channel 122, 802.11ax HEW80 RU242,ANT 1

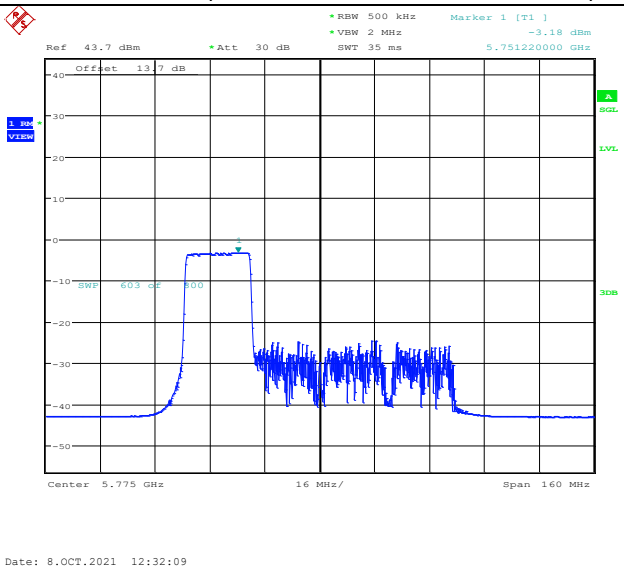


Date: 8.OCT.2021 12:14:16

Channel 155, 802.11ax HEW80 RU242,ANT 0



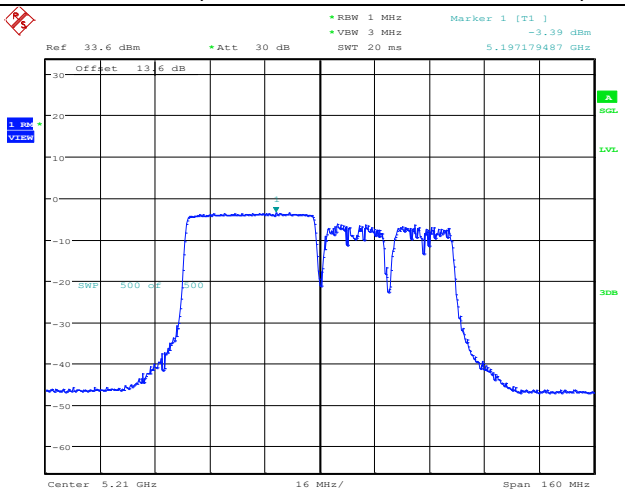
Channel 155, 802.11ax HEW80 RU242,ANT 1



802.11ax HEW80 RU484 Mode

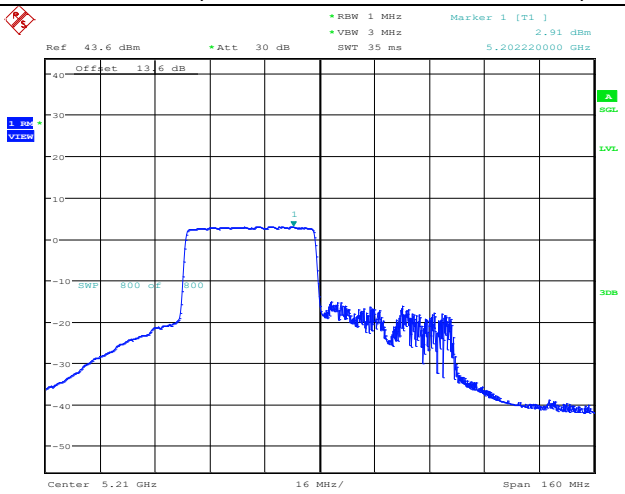
Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	-3.39	2.91	0.02	3.84	<=11	PASS
58	5290	-3.08	3.15	0.02	4.10	<=11	PASS
106	5530	-3.74	3.04	0.02	3.89	<=11	PASS
122	5610	-2.82	2.58	0.02	3.70	<=11	PASS
155	5775	-6.15	-6	0.02	-3.04	<=30	PASS

Channel 42, 802.11ax HEW80 RU484,ANT 0



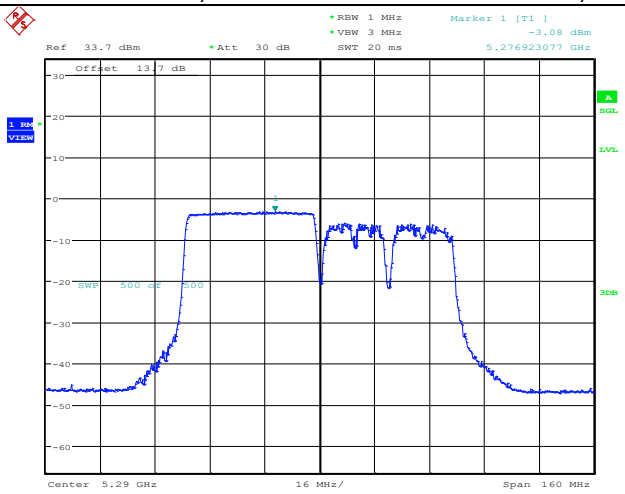
Date: 30.SEP.2021 21:36:40

Channel 42, 802.11ax HEW80 RU484,ANT 1



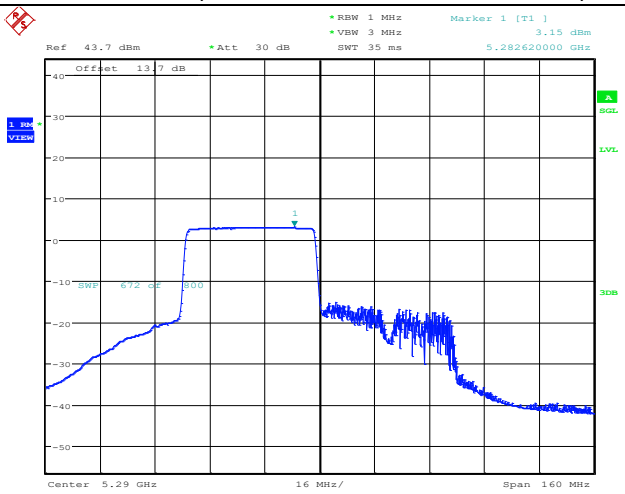
Date: 8.OCT.2021 10:45:07

Channel 58, 802.11ax HEW80 RU484,ANT 0



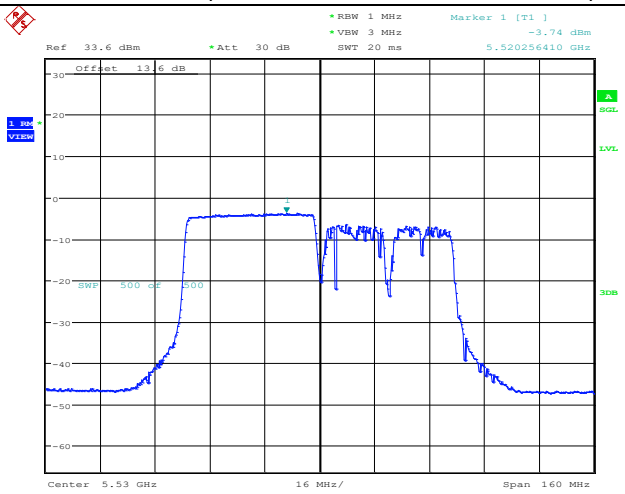
Date: 30.SEP.2021 21:39:36

Channel 58, 802.11ax HEW80 RU484,ANT 1



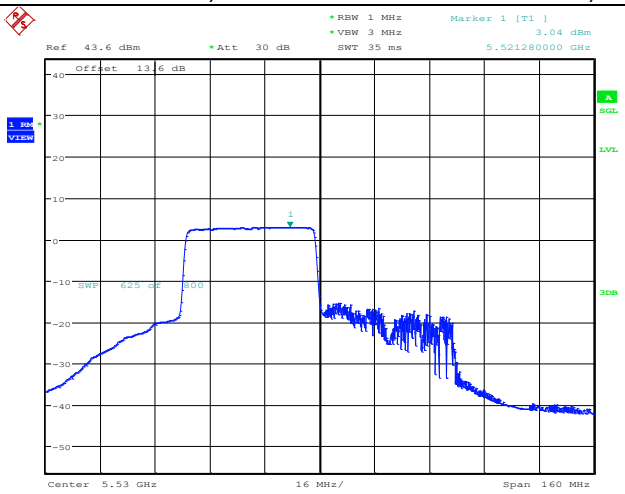
Date: 8.OCT.2021 10:54:53

Channel 106, 802.11ax HEW80 RU484,ANT 0



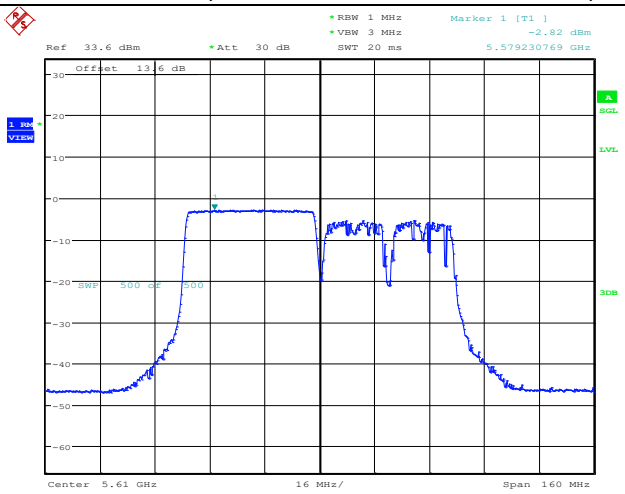
Date: 30.SEP.2021 21:42:53

Channel 106, 802.11ax HEW80 RU484,ANT 1



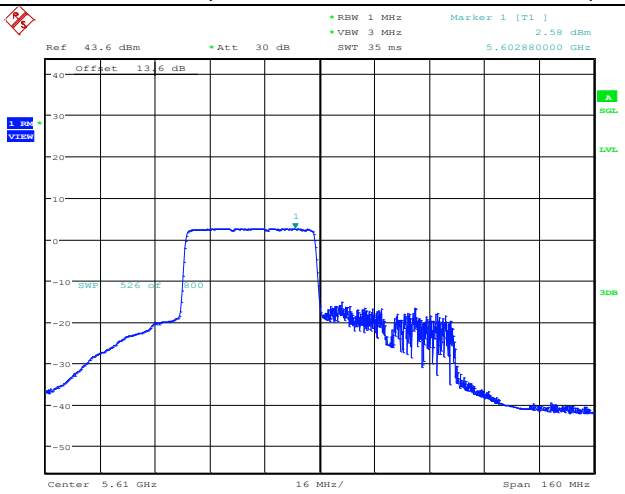
Date: 8.OCT.2021 11:01:33

Channel 122, 802.11ax HEW80 RU484,ANT 0



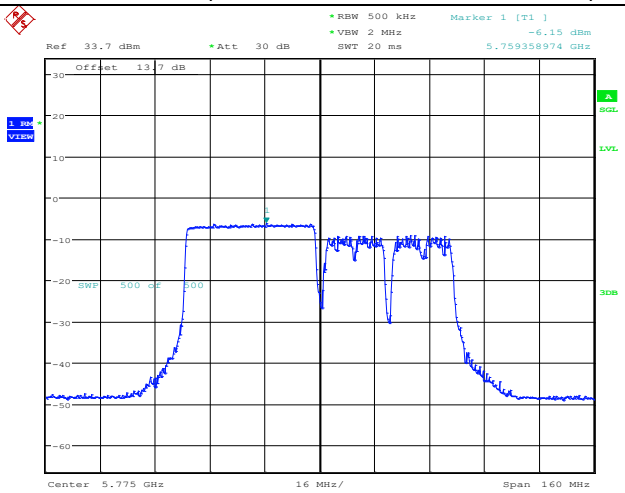
Date: 9.OCT.2021 09:53:39

Channel 122, 802.11ax HEW80 RU484,ANT 1



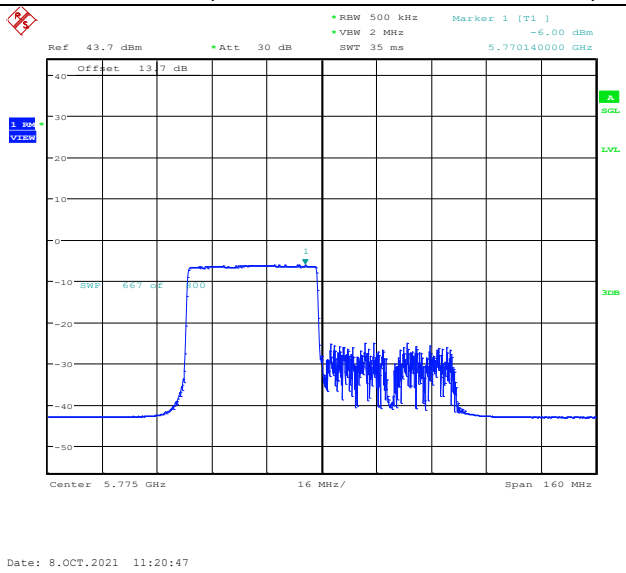
Date: 8.OCT.2021 11:13:02

Channel 155, 802.11ax HEW80 RU484,ANT 0



Date: 30.SEP.2021 21:46:53

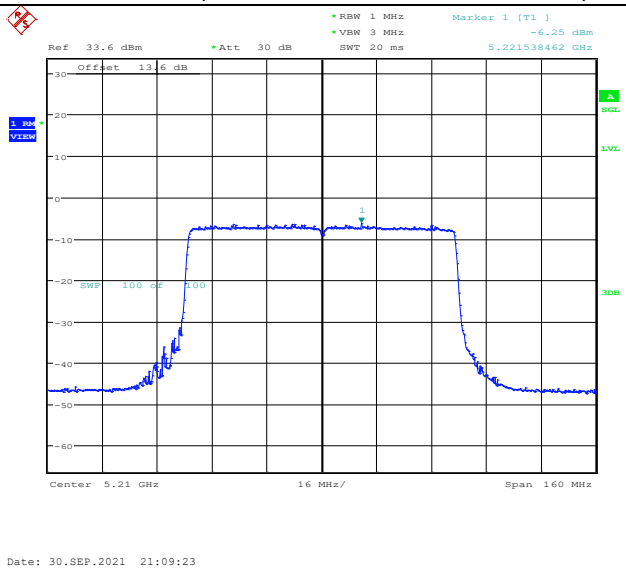
Channel 155, 802.11ax HEW80 RU484,ANT 1



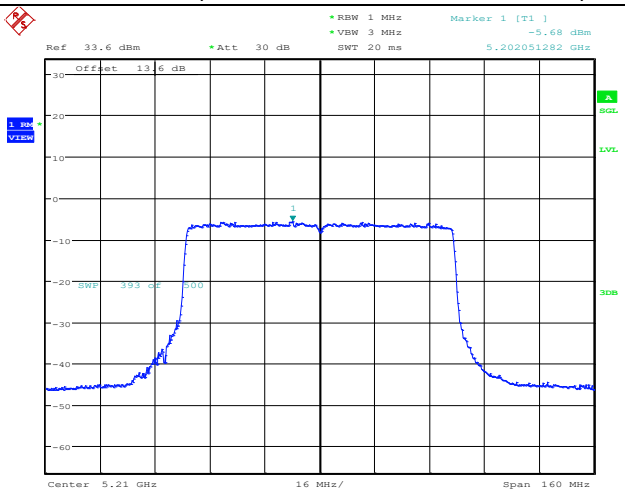
802.11ax HEW80 RU996 Mode

Channel	Frequency (MHz)	Measured		Duty Factor	Total PSD with Duty Factor	Limit	Verdict
		ANT 0	ANT 1				
		dBm	dBm		dBm	dBm	
42	5210	-6.25	-5.68	0.02	-2.93	<=11	PASS
58	5290	-5.62	-5.17	0.02	-2.36	<=11	PASS
106	5530	-6.52	-5.59	0.02	-3.00	<=11	PASS
122	5610	-6.65	-5.78	0.02	-3.16	<=11	PASS
155	5775	-8.76	-8.09	0.02	-5.38	<=30	PASS

Channel 42, 802.11ax HEW80 RU996,ANT 0

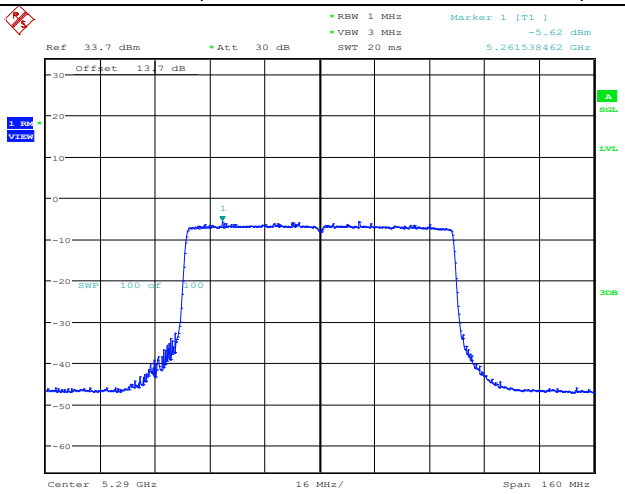


Channel 42, 802.11ax HEW80 RU996,ANT 1



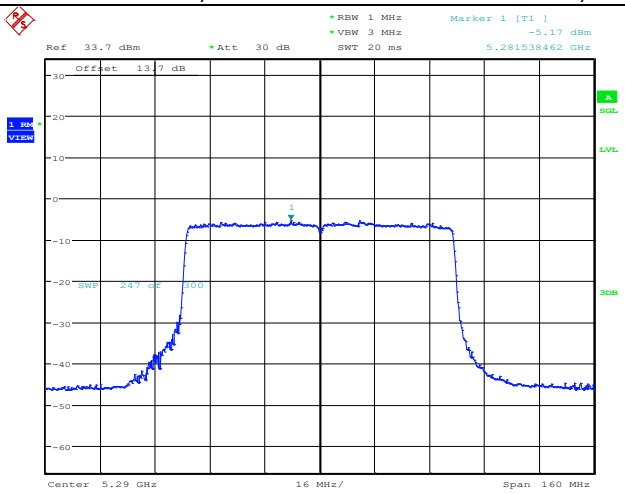
Date: 30.SEP.2021 22:52:01

Channel 58, 802.11ax HEW80 RU996,ANT 0



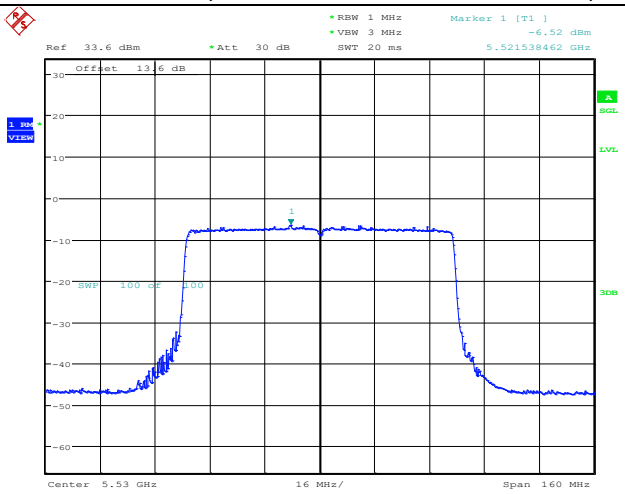
Date: 30.SEP.2021 21:11:07

Channel 58, 802.11ax HEW80 RU996,ANT 1



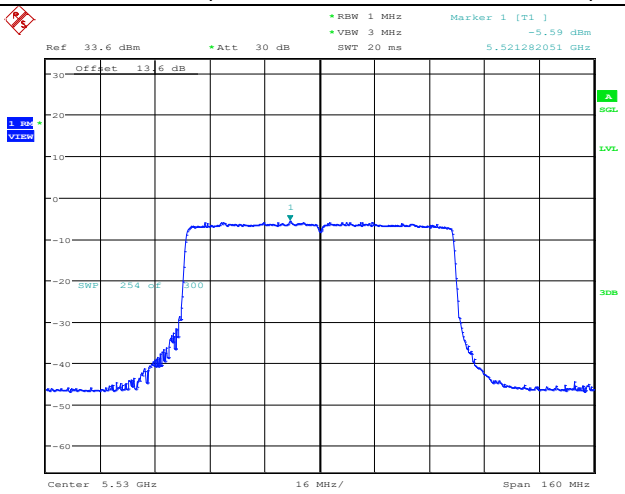
Date: 30.SEP.2021 22:53:45

Channel 106, 802.11ax HEW80 RU996,ANT 0



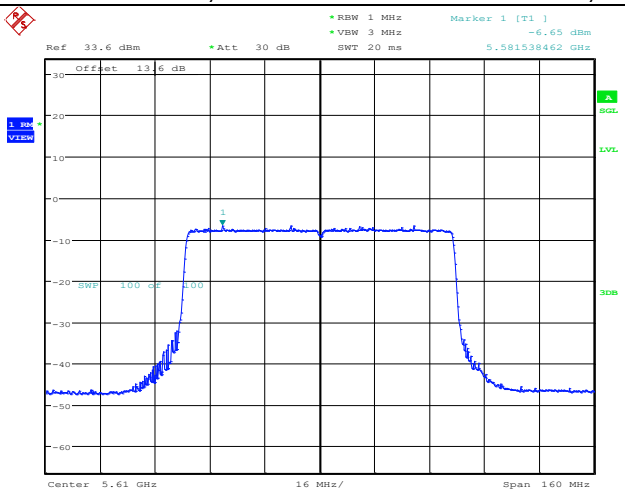
Date: 30.SEP.2021 21:13:04

Channel 106, 802.11ax HEW80 RU996,ANT 1



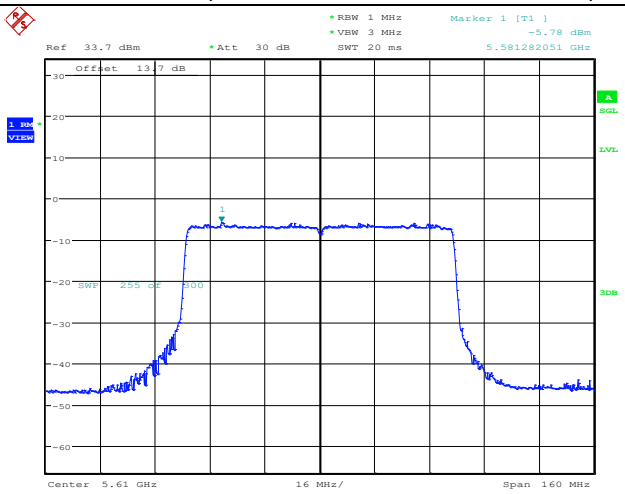
Date: 30.SEP.2021 22:55:13

Channel 122, 802.11ax HEW80 RU996,ANT 0



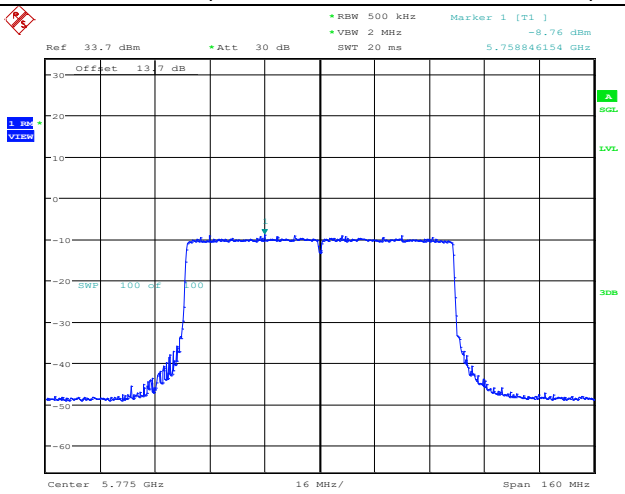
Date: 30.SEP.2021 21:14:42

Channel 122, 802.11ax HEW80 RU996,ANT 1



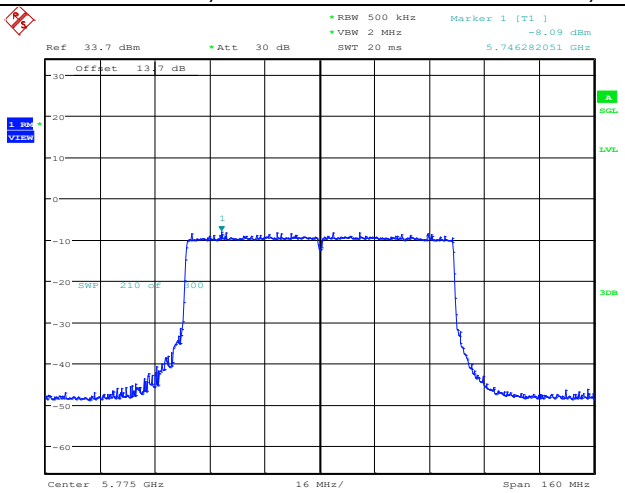
Date: 30.SEP.2021 22:57:09

Channel 155, 802.11ax HEW80 RU996,ANT 0



Date: 30.SEP.2021 21:19:02

Channel 155, 802.11ax HEW80 RU996,ANT 1



Date: 30.SEP.2021 22:58:58

10. RADIATED BANDEDGE AND SPURIOUS MEASUREMENT

10.1. LIMITS OF Radiated Bandedge and Spurious Measurement

FCC Part 15.205 and 15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

FCC Part 15.407(b)

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

10.2. TEST PROCEDURE

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. For measurement below 1GHz, the EUT was placed on a turntable with 0.8 meter,above ground. For measurement above 1 GHz, test at FAR, the EUT is placed on a non-conductive table, which is 1.5 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:

(1) Span shall wide enough to fully capture the emission being measured;

(2) Set RBW=100 kHz for f < 1 GHz; VBW >= RBW; Sweep = auto; Detector function = peak; Trace = max hold;

(3) Set RBW = 1 MHz, VBW= 3MHz for f > 1 GHz for peak measurement.

Set RBW = 1 MHz, and VBW= 1/T (on time) for average measurement.

10.3.TEST DATA

9 kHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

Table 9 Radiated Emission Test Data 9k Hz-30MHz

Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBμV/m)	Level (dBμV/m)	Polarity (Horizontal/ Vertical)	Limit (dBμV/m)	Margin (dB)	Note
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30MHz-1GHz

Worst case is shown below for 30MHz-1GHz only.

The emissions don't show in following result tables are more than 20dB below the limits.

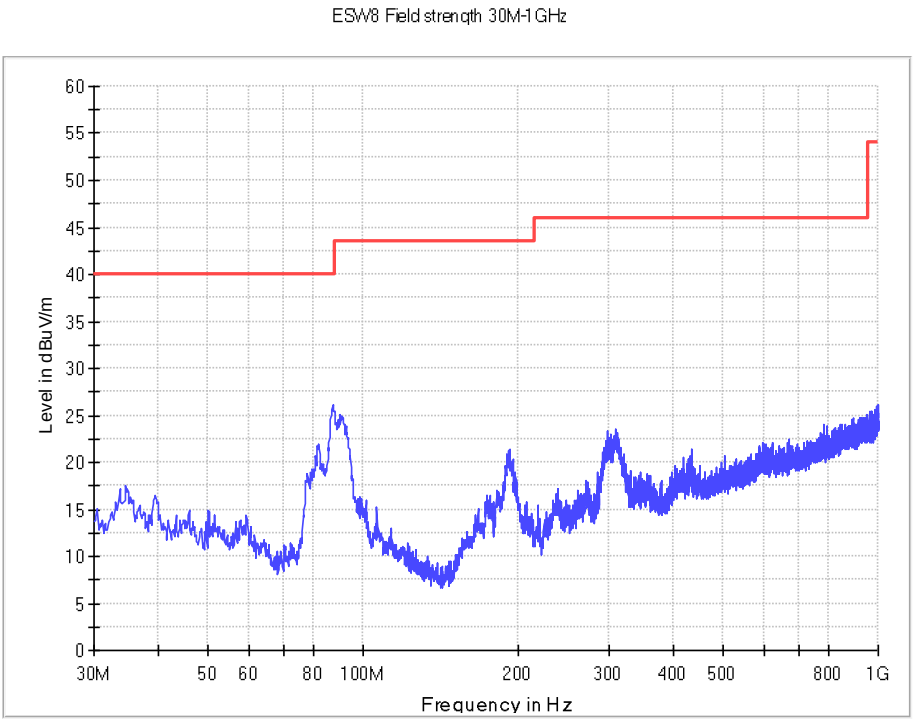
Table 10 Radiated Emission Test Data 30MHz-1GHz

Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBμV/m)	Level (dBμV/m)	Polarity (Horizontal/ Vertical)	Limit (dBμV/m)	Margin (dB)	Note
35.335	0.6	12.3	20.6	33.5	Vertical	40	6.5	QP
36.547	0.6	12.3	20.7	33.6	Vertical	40	6.4	QP
39.821	0.6	12.3	17.8	30.7	Vertical	40	9.3	QP
59.706	0.9	13.0	10.2	24.1	Vertical	40	15.9	QP
86.502	1.1	10.3	20.2	31.6	Vertical	40	8.4	QP
90.746	1.2	11.9	17.2	30.3	Vertical	43.5	13.2	QP
34.607	0.6	12.3	3.3	16.2	Horizontal	40	23.8	QP
78.015	1.1	7.8	8.4	17.3	Horizontal	40	22.7	QP
82.016	1.0	8.5	11.0	20.5	Horizontal	40	19.5	QP
87.230	1.1	10.3	14.3	25.7	Horizontal	40	14.3	QP
90.988	1.2	11.9	10.5	23.6	Horizontal	43.5	19.9	QP
192.111	1.6	10.6	7.5	19.7	Horizontal	43.5	23.8	QP

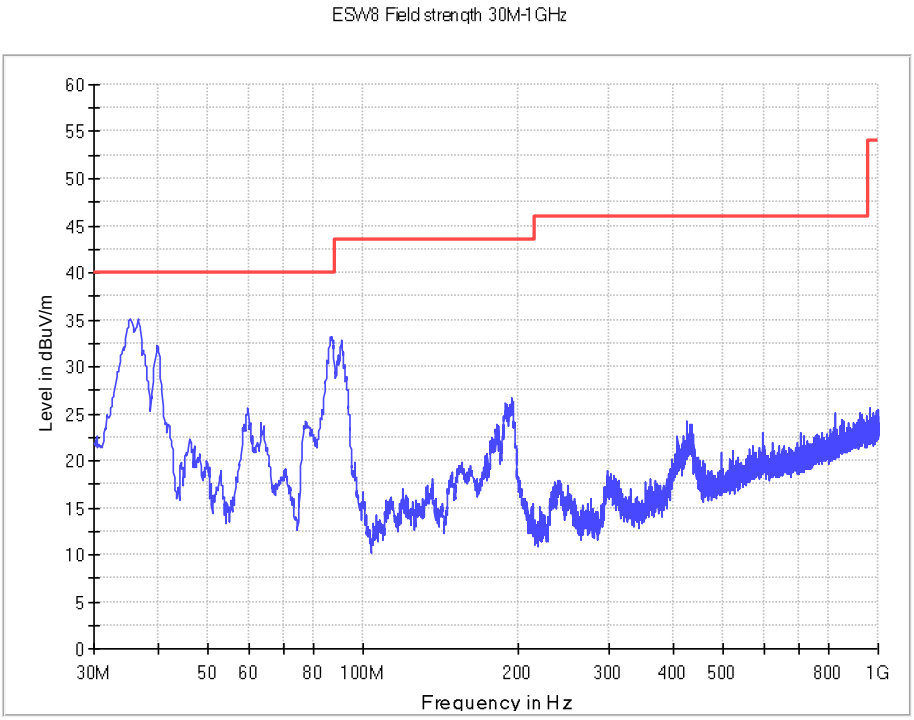
Remark: Emission level (dBμV)=Read Value(dBμV/m) + Antenna Factor(dB)+ Cable Loss +preamp(dB)

30MHz-1GHz

Horizontal



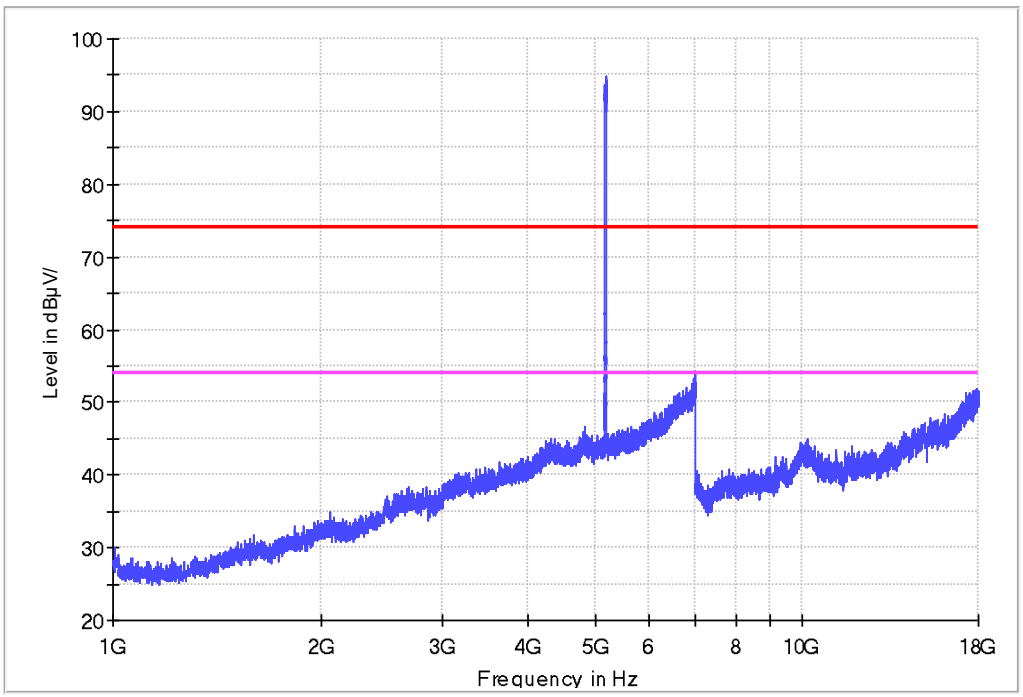
Vertical



1-18G

11a IN THE 5.2GHz BAND
CH36

Horizontal



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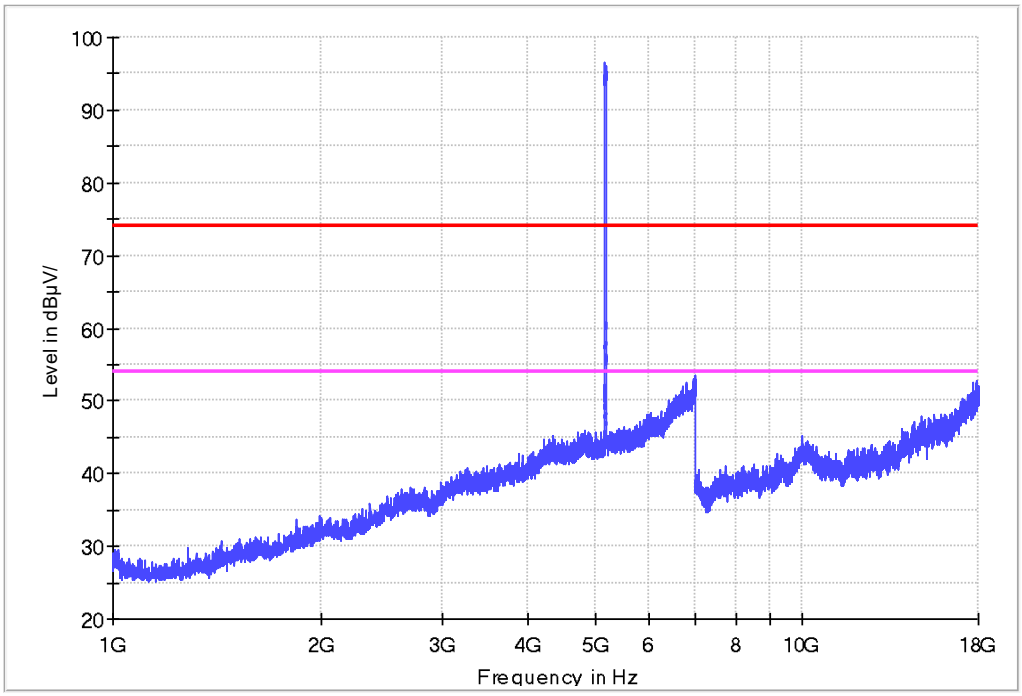
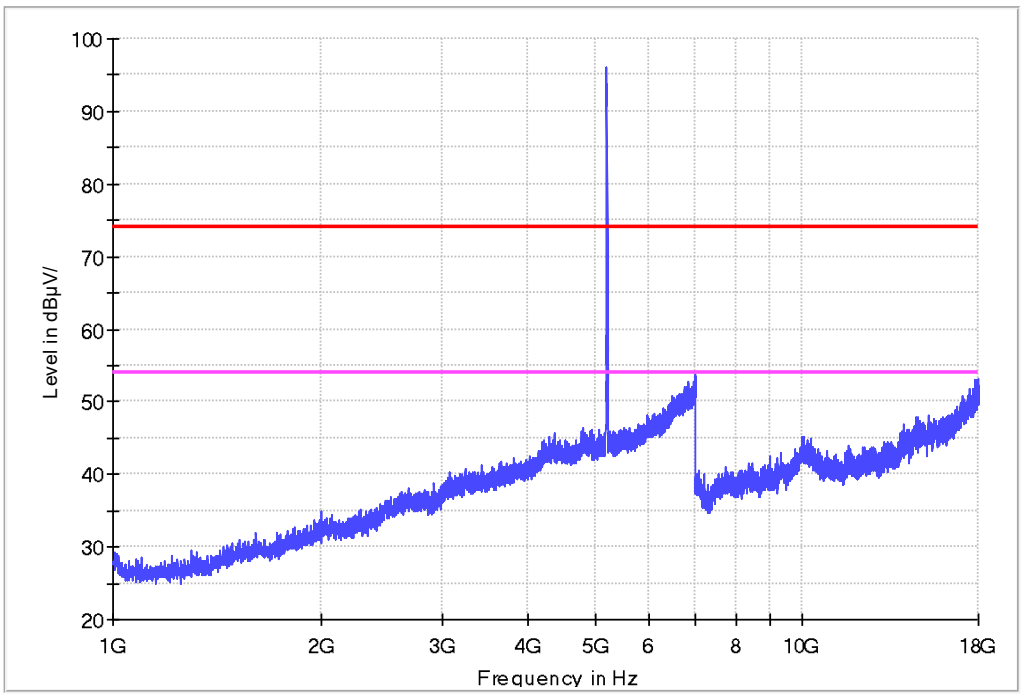


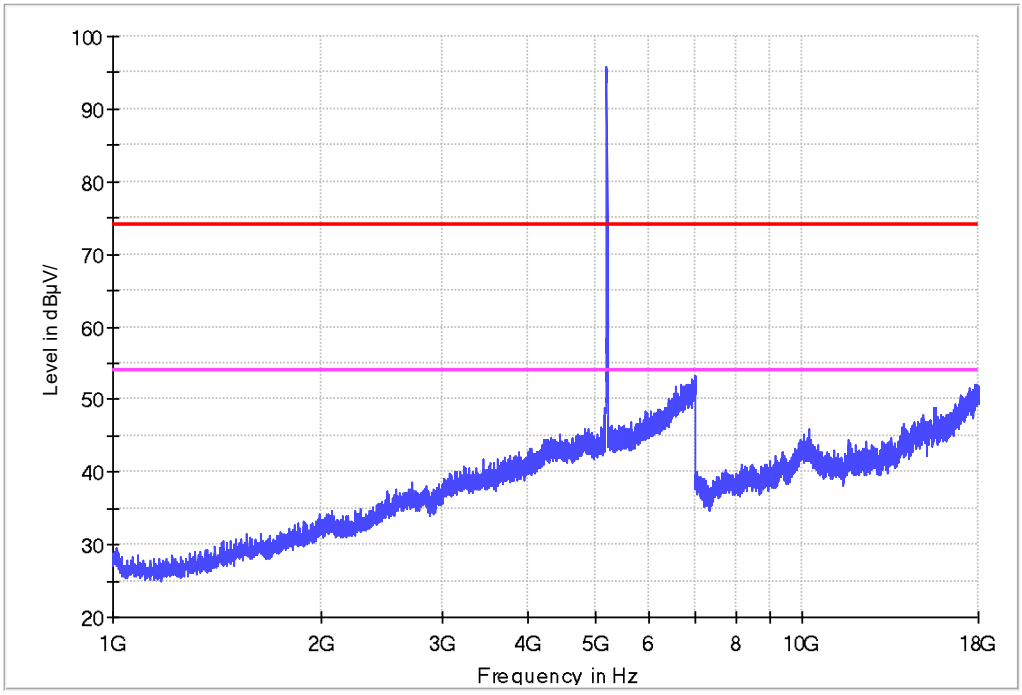
1-18G

11a IN THE 5.2GHz BAND
CH40

Horizontal



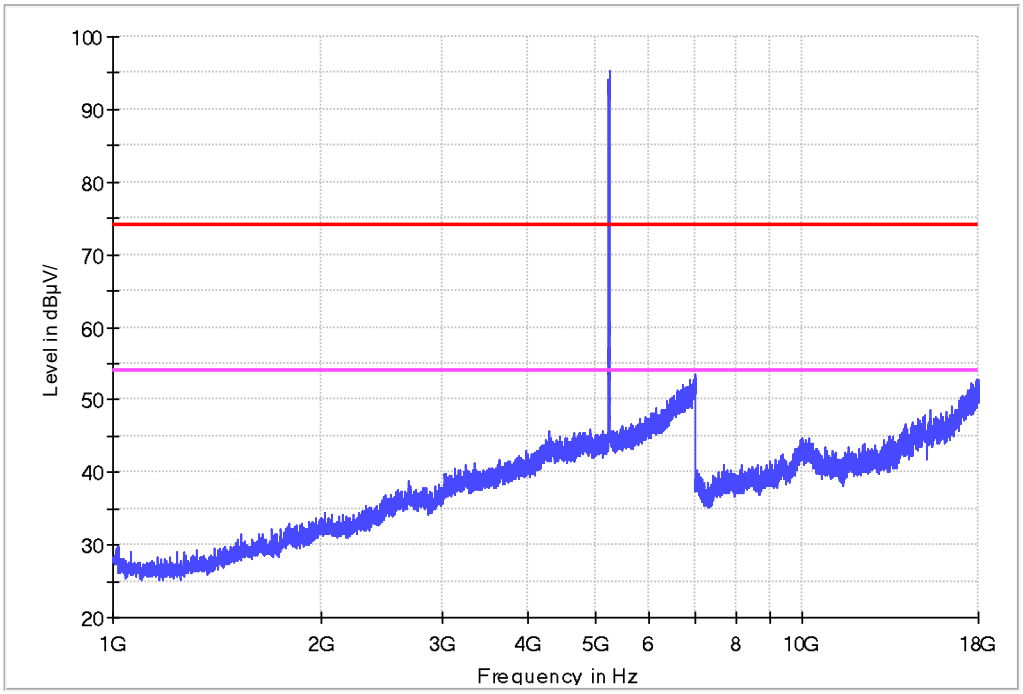
Vertical



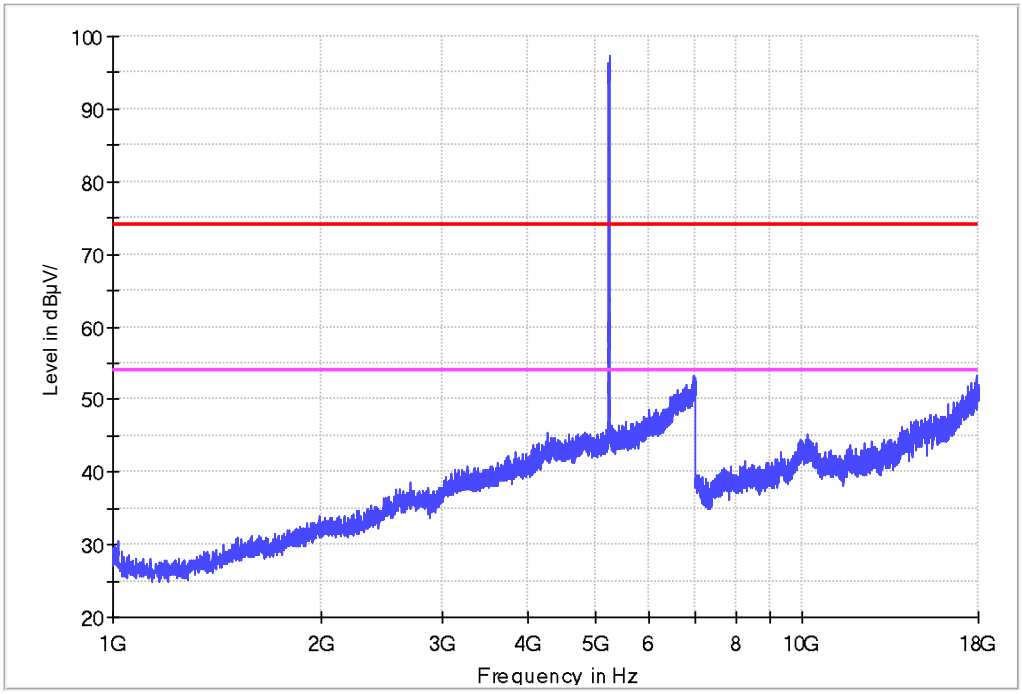
1-18G

11a IN THE 5.2GHz BAND
CH48

Horizontal



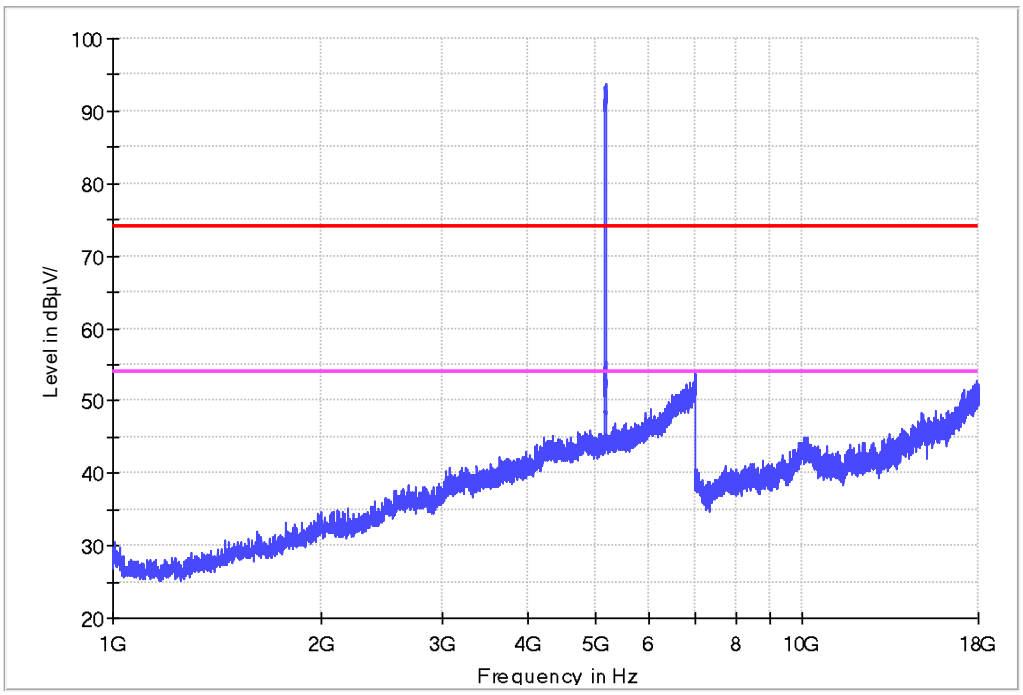
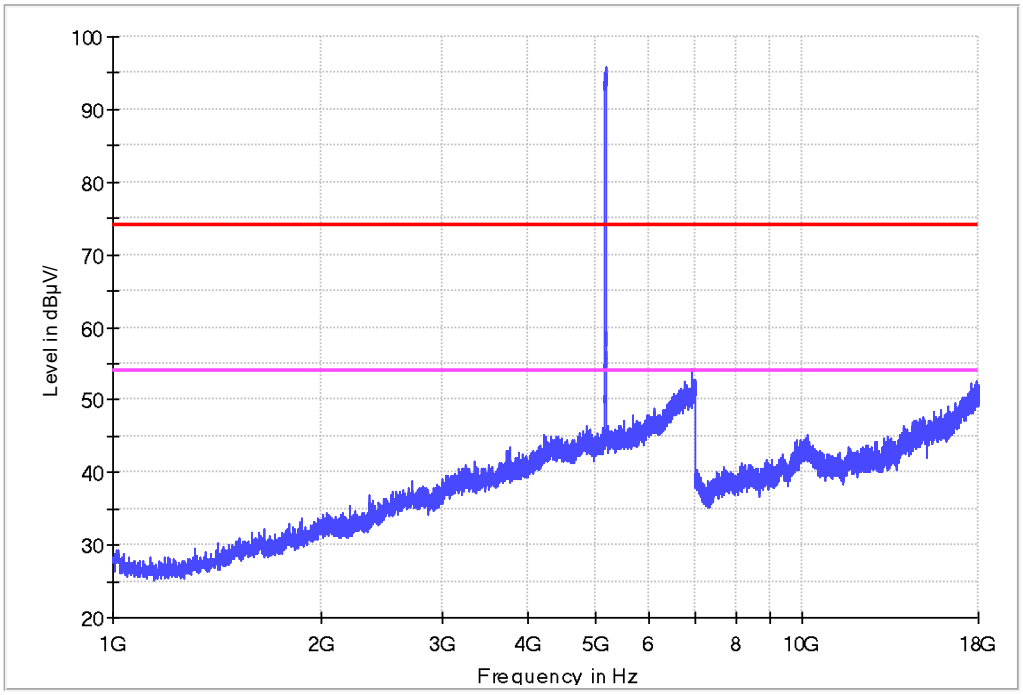
Vertical



1-18G

11n HT20 IN THE 5.2GHz BAND
CH36

Horizontal



Vertical