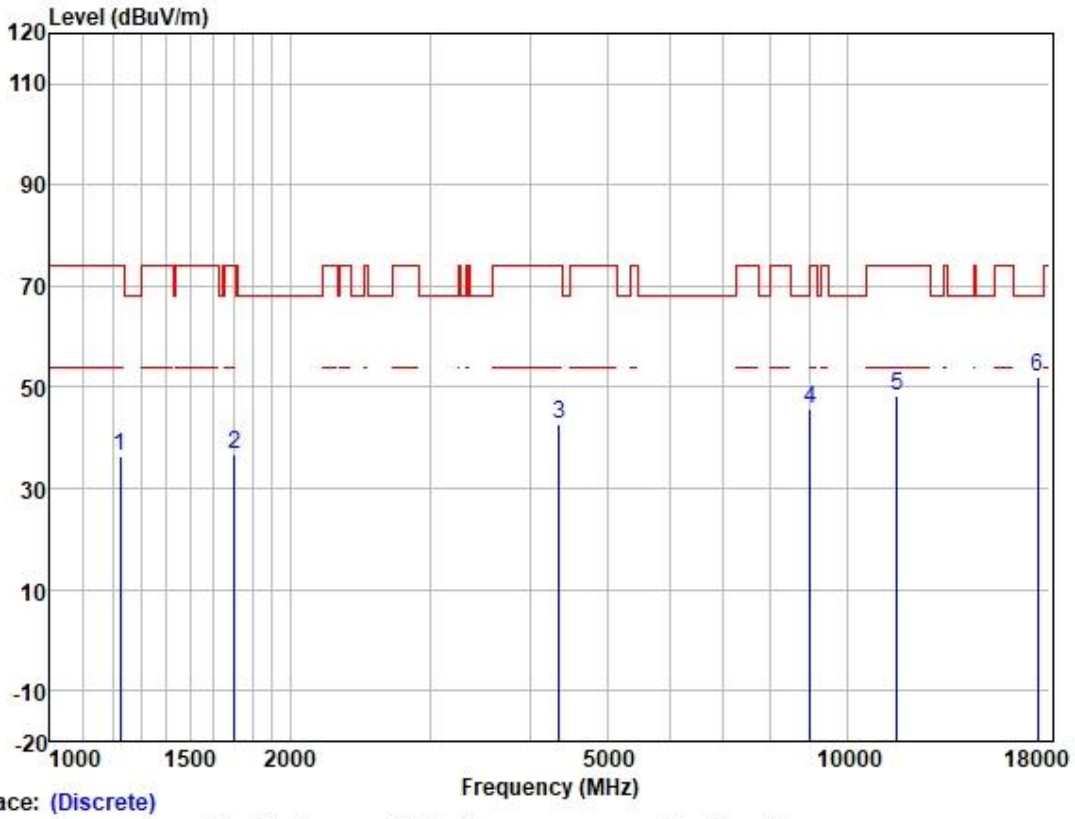
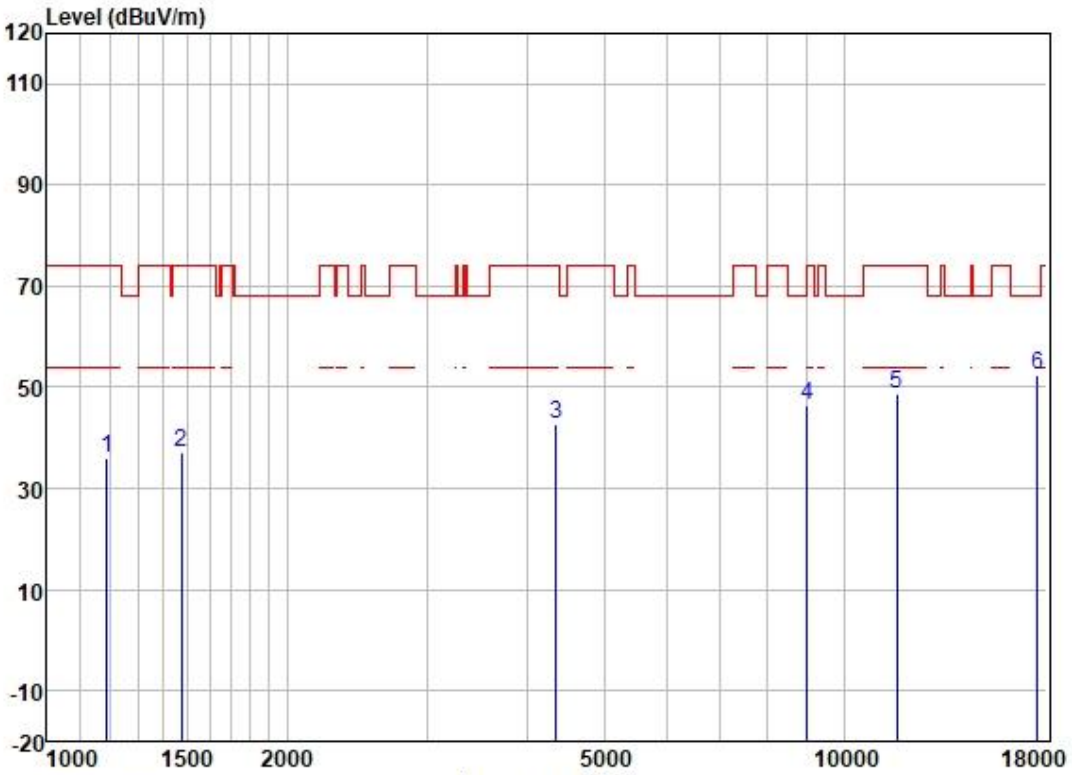
Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:middle



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1224.247	47.69	24.85	2.31	38.37	36.48	74.00	-37.52	HORIZONTAL	peak
2	1702.042	46.01	25.72	2.80	37.89	36.64	74.00	-37.36	HORIZONTAL	peak
3	4354.454	44.20	30.59	4.68	36.81	42.66	74.00	-31.34	HORIZONTAL	peak
4	8995.123	38.27	37.40	7.56	37.50	45.73	68.20	-22.47	HORIZONTAL	peak
5	11570.000	37.31	39.78	8.38	37.14	48.33	74.00	-25.67	HORIZONTAL	peak
6	17355.000	33.66	43.40	10.39	35.32	52.13	68.20	-16.07	HORIZONTAL	peak

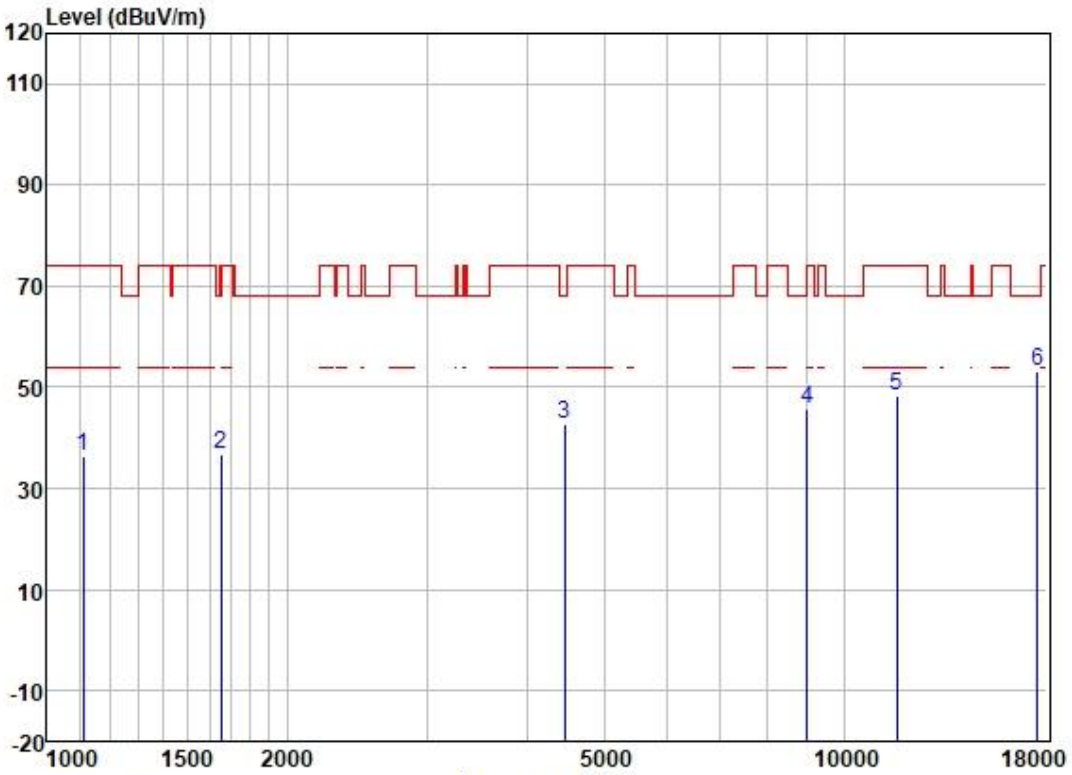
Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1189.368	47.47	24.63	2.36	38.39	36.07	74.00	-37.93	VERTICAL	peak
2	1473.013	47.11	25.48	2.76	38.13	37.22	74.00	-36.78	VERTICAL	peak
3	4354.454	44.44	30.59	4.68	36.81	42.90	74.00	-31.10	VERTICAL	peak
4	8995.123	39.14	37.40	7.56	37.50	46.60	68.20	-21.60	VERTICAL	peak
5	11650.000	37.75	39.65	8.35	37.13	48.62	74.00	-25.38	VERTICAL	peak
6	17475.000	33.22	43.90	10.77	35.32	52.57	68.20	-15.63	VERTICAL	peak

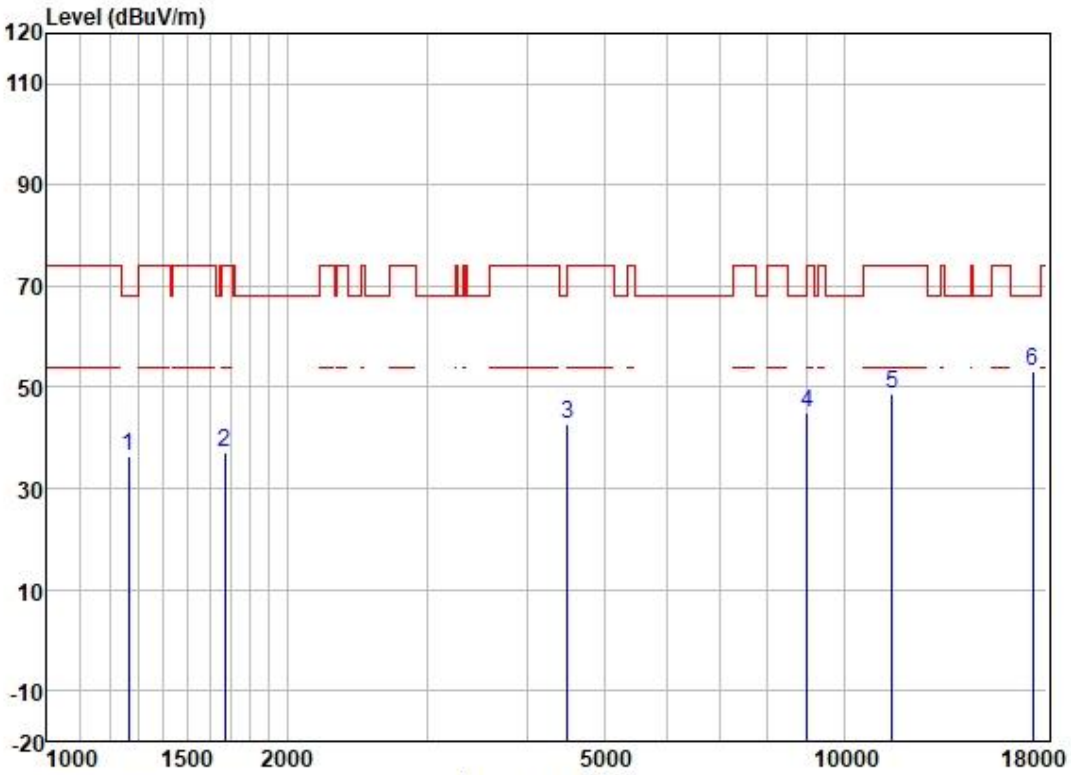
Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1109.660	48.02	24.39	2.27	38.45	36.23	74.00	-37.77	HORIZONTAL	peak
2	1653.550	46.32	25.64	2.80	37.93	36.83	68.20	-31.37	HORIZONTAL	peak
3	4456.315	44.07	30.75	4.88	36.81	42.89	68.20	-25.31	HORIZONTAL	peak
4	8995.123	38.42	37.40	7.56	37.50	45.88	68.20	-22.32	HORIZONTAL	peak
5	11650.000	37.42	39.65	8.35	37.13	48.29	74.00	-25.71	HORIZONTAL	peak
6	17475.000	33.86	43.90	10.77	35.32	53.21	68.20	-14.99	HORIZONTAL	peak

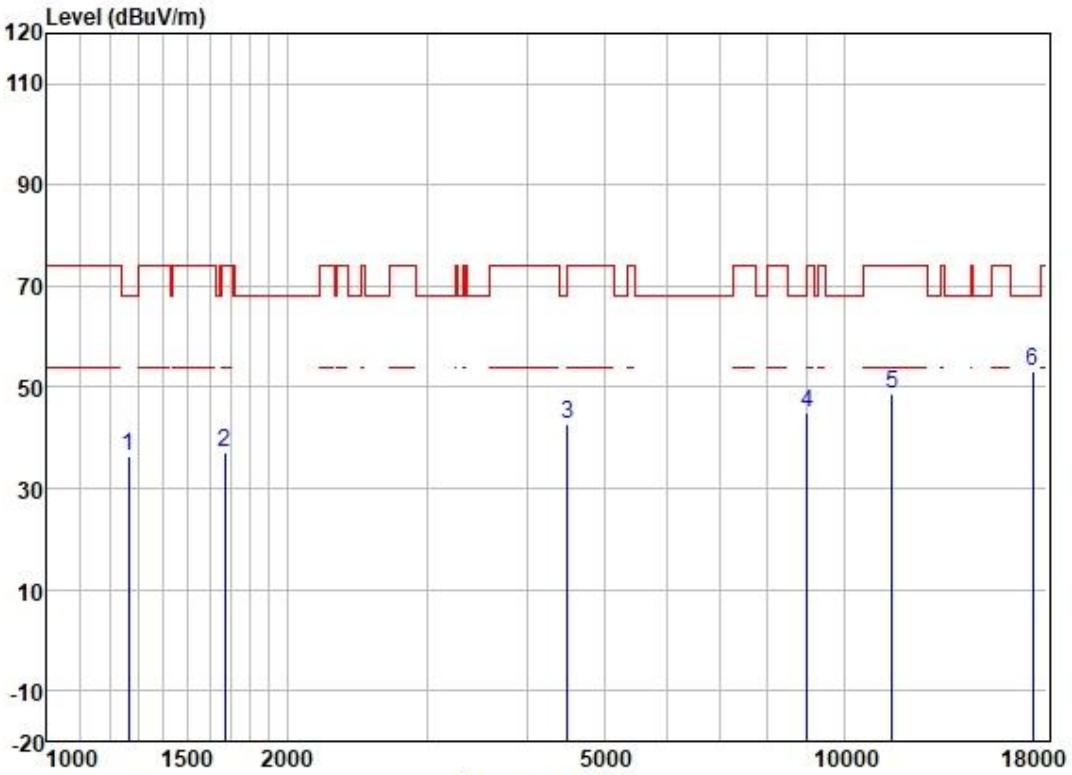
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1267.454	47.32	25.10	2.44	38.33	36.53	68.20	-31.67	VERTICAL	peak
2	1672.779	46.46	25.67	2.80	37.91	37.02	74.00	-36.98	VERTICAL	peak
3	4495.125	43.58	30.80	5.05	36.82	42.61	68.20	-25.59	VERTICAL	peak
4	8995.123	37.62	37.40	7.56	37.50	45.08	68.20	-23.12	VERTICAL	peak
5	11510.000	37.40	39.90	8.41	37.15	48.56	74.00	-25.44	VERTICAL	peak
6	17265.000	34.98	43.21	10.24	35.33	53.10	68.20	-15.10	VERTICAL	peak

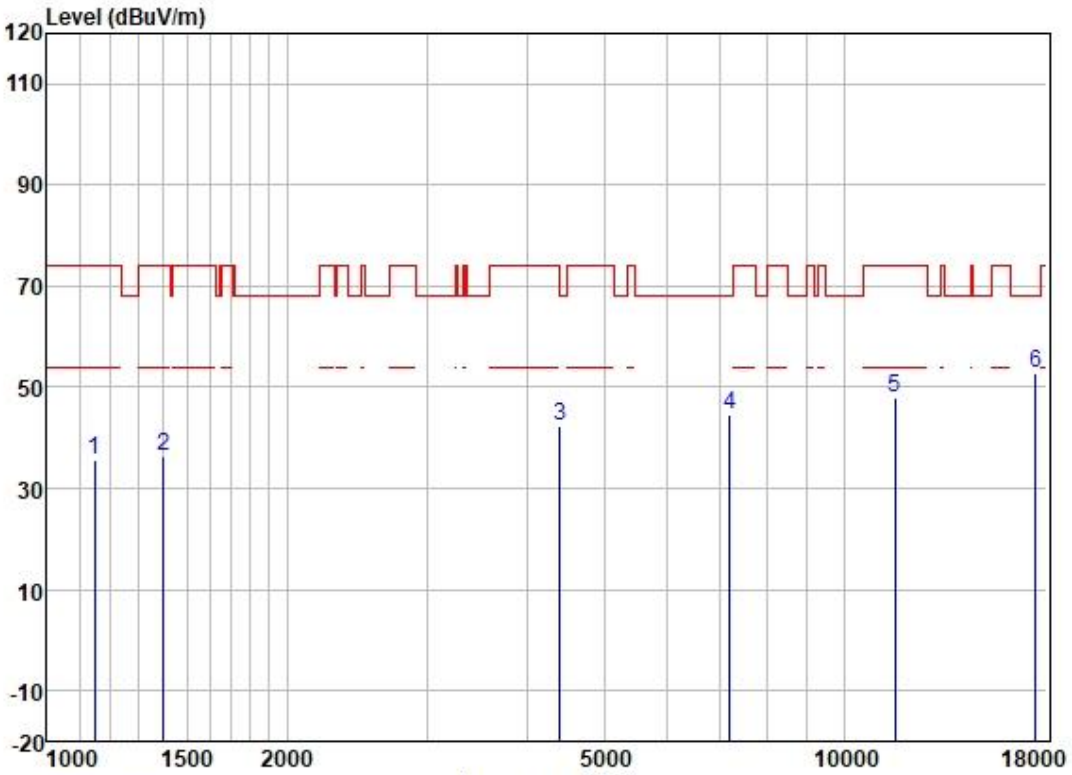
Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1267.454	47.32	25.10	2.44	38.33	36.53	68.20	-31.67	HORIZONTAL	peak
2	1672.779	46.46	25.67	2.80	37.91	37.02	74.00	-36.98	HORIZONTAL	peak
3	4495.125	43.58	30.80	5.05	36.82	42.61	68.20	-25.59	HORIZONTAL	peak
4	8995.123	37.62	37.40	7.56	37.50	45.08	68.20	-23.12	HORIZONTAL	peak
5	11510.000	37.40	39.90	8.41	37.15	48.56	74.00	-25.44	HORIZONTAL	peak
6	17265.000	34.98	43.21	10.24	35.33	53.10	68.20	-15.10	HORIZONTAL	peak

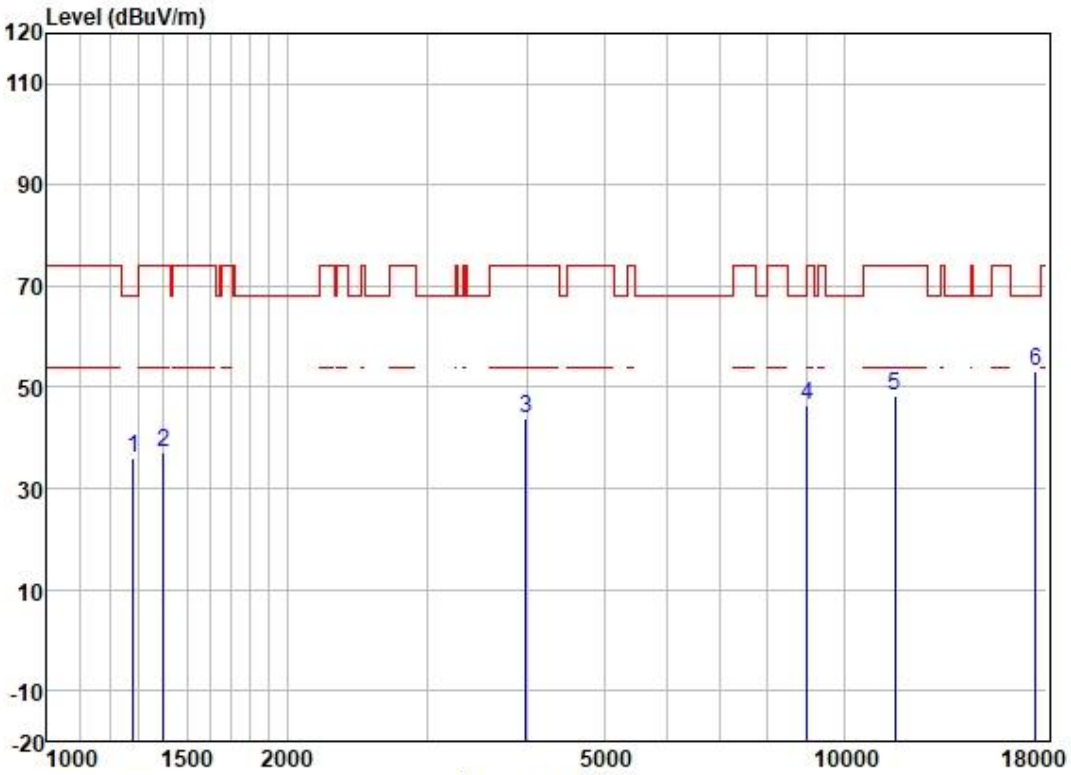
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1148.823	47.33	24.49	2.34	38.42	35.74	74.00	-38.26	VERTICAL	peak
2	1398.336	46.52	25.39	2.60	38.22	36.29	74.00	-37.71	VERTICAL	peak
3	4405.090	43.82	30.68	4.70	36.81	42.39	68.20	-25.81	VERTICAL	peak
4	7200.309	40.55	35.54	5.98	37.38	44.69	68.20	-23.51	VERTICAL	peak
5	11590.000	36.91	39.72	8.37	37.14	47.86	74.00	-26.14	VERTICAL	peak
6	17385.000	34.03	43.57	10.53	35.32	52.81	68.20	-15.39	VERTICAL	peak

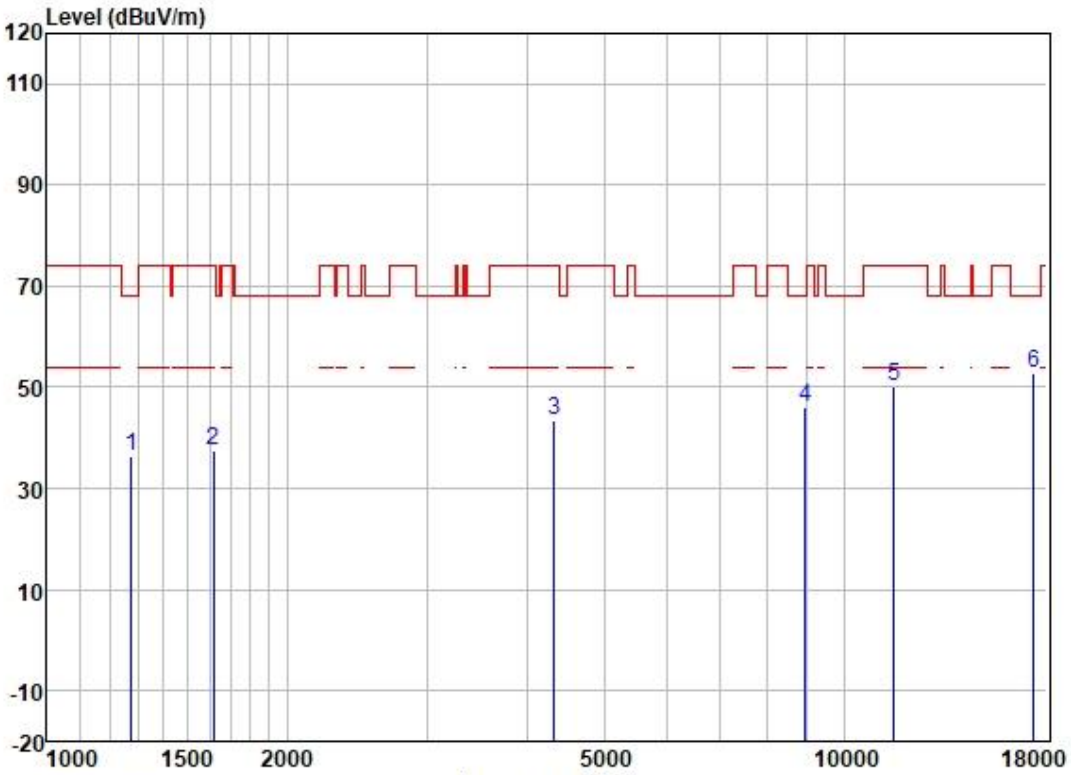
Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1282.193	46.60	25.15	2.52	38.33	35.94	68.20	-32.26	HORIZONTAL	peak
2	1398.336	47.37	25.39	2.60	38.22	37.14	74.00	-36.86	HORIZONTAL	peak
3	3992.781	46.13	29.79	4.60	36.80	43.72	74.00	-30.28	HORIZONTAL	peak
4	8995.123	38.91	37.40	7.56	37.50	46.37	68.20	-21.83	HORIZONTAL	peak
5	11590.000	37.54	39.72	8.37	37.14	48.49	74.00	-25.51	HORIZONTAL	peak
6	17385.000	34.42	43.57	10.53	35.32	53.20	68.20	-15.00	HORIZONTAL	peak

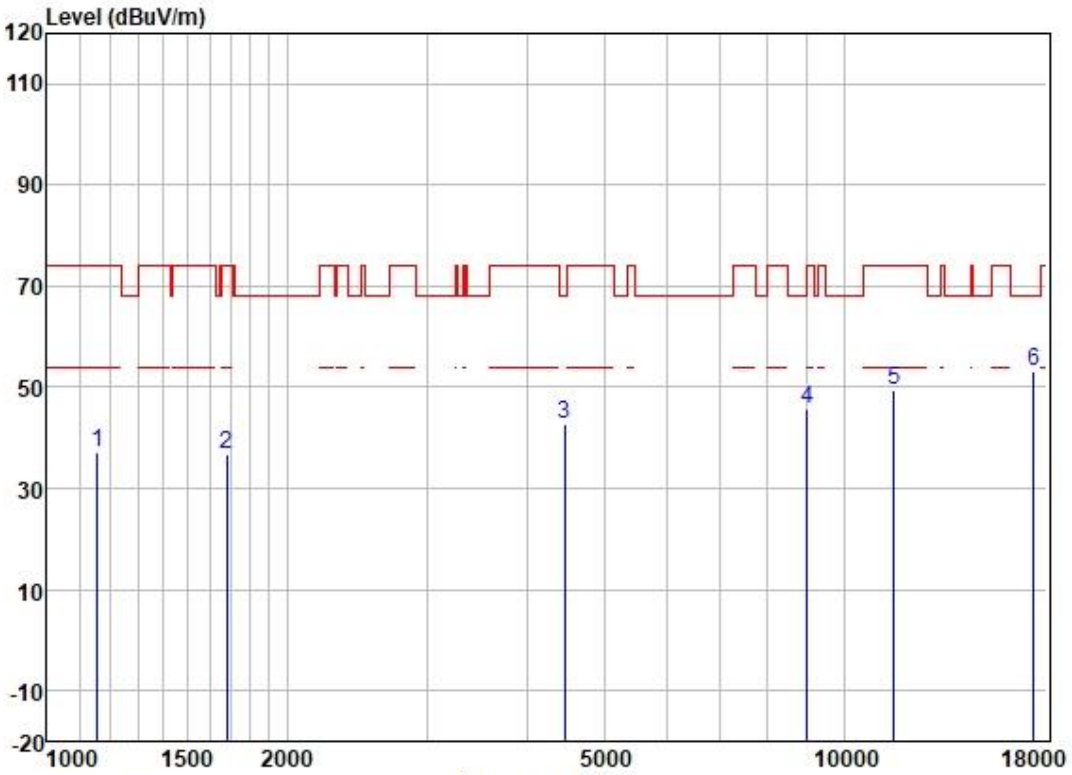
Test Mode: 07; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1274.802	47.28	25.12	2.48	38.33	36.55	68.20	-31.65	VERTICAL	peak
2	1615.754	46.97	25.60	2.80	37.95	37.42	74.00	-36.58	VERTICAL	peak
3	4329.354	44.89	30.54	4.67	36.81	43.29	74.00	-30.71	VERTICAL	peak
4	8943.274	38.80	37.38	7.49	37.51	46.16	68.20	-22.04	VERTICAL	peak
5	11550.000	39.23	39.84	8.40	37.14	50.33	74.00	-23.67	VERTICAL	peak
6	17325.000	34.46	43.40	10.39	35.32	52.93	68.20	-15.27	VERTICAL	peak

Test Mode: 07; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	1155.483	48.58	24.51	2.38	38.42	37.05	74.00	-36.95	HORIZONTAL	peak
2	1682.477	46.33	25.68	2.80	37.91	36.90	74.00	-37.10	HORIZONTAL	peak
3	4456.315	44.04	30.75	4.88	36.81	42.86	68.20	-25.34	HORIZONTAL	peak
4	8995.123	38.06	37.40	7.56	37.50	45.52	68.20	-22.68	HORIZONTAL	peak
5	11550.000	38.25	39.84	8.40	37.14	49.35	74.00	-24.65	HORIZONTAL	peak
6	17325.000	34.88	43.40	10.39	35.32	53.35	68.20	-14.85	HORIZONTAL	peak

7.9 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)

Test Method: KDB 789033 D02 II G

Limit:

Frequency (MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

*(1) 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.

(2) 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.

(3) 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.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) 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.

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.9.1 E.U.T. Operation

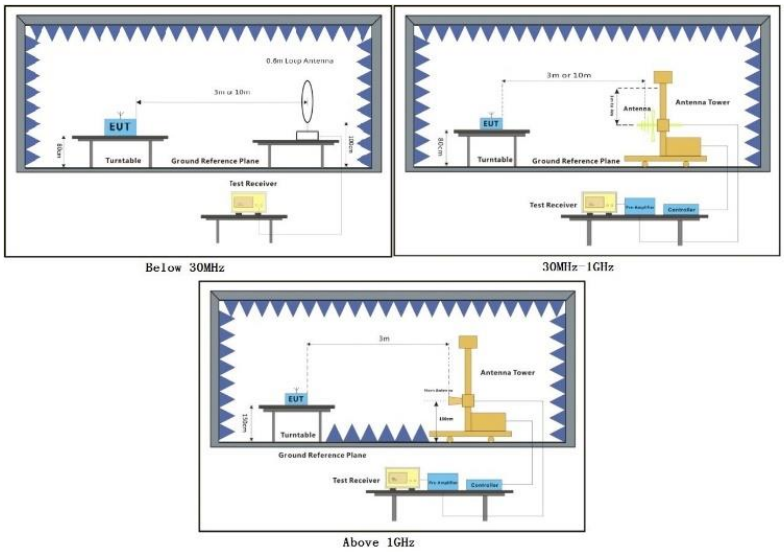
Operating Environment:

Temperature: 24.3 °C Humidity: 55.6 % RH Atmospheric Pressure: 1015 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	05	TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	06	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

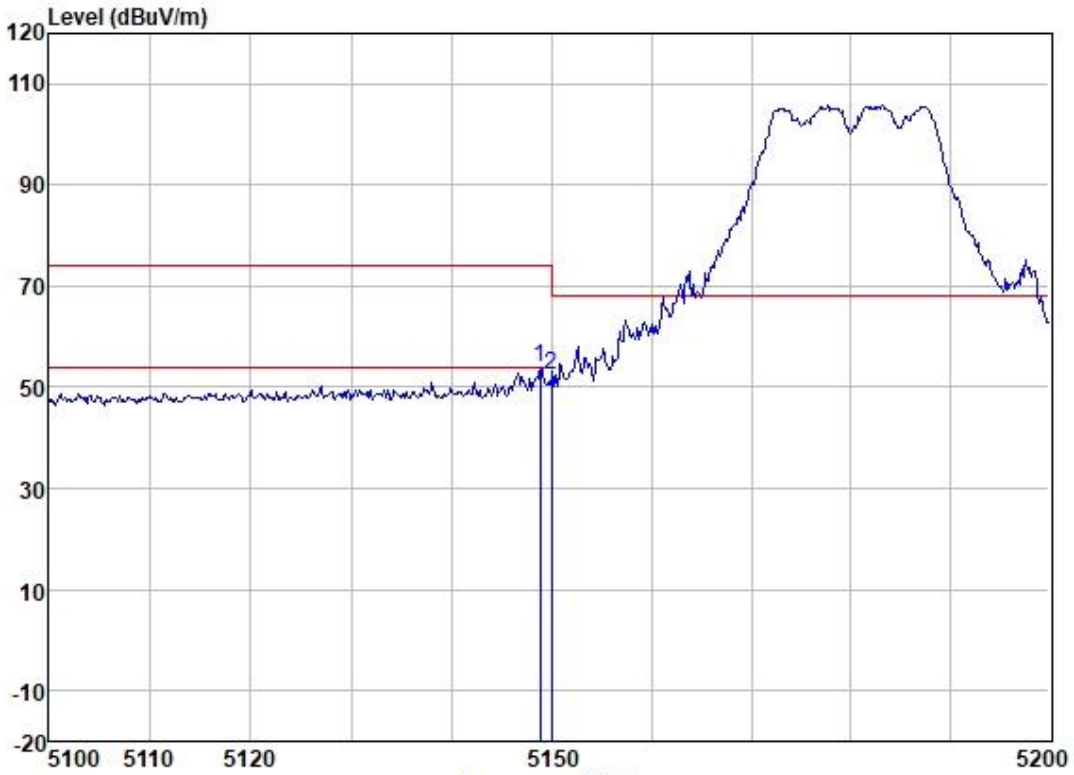
h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

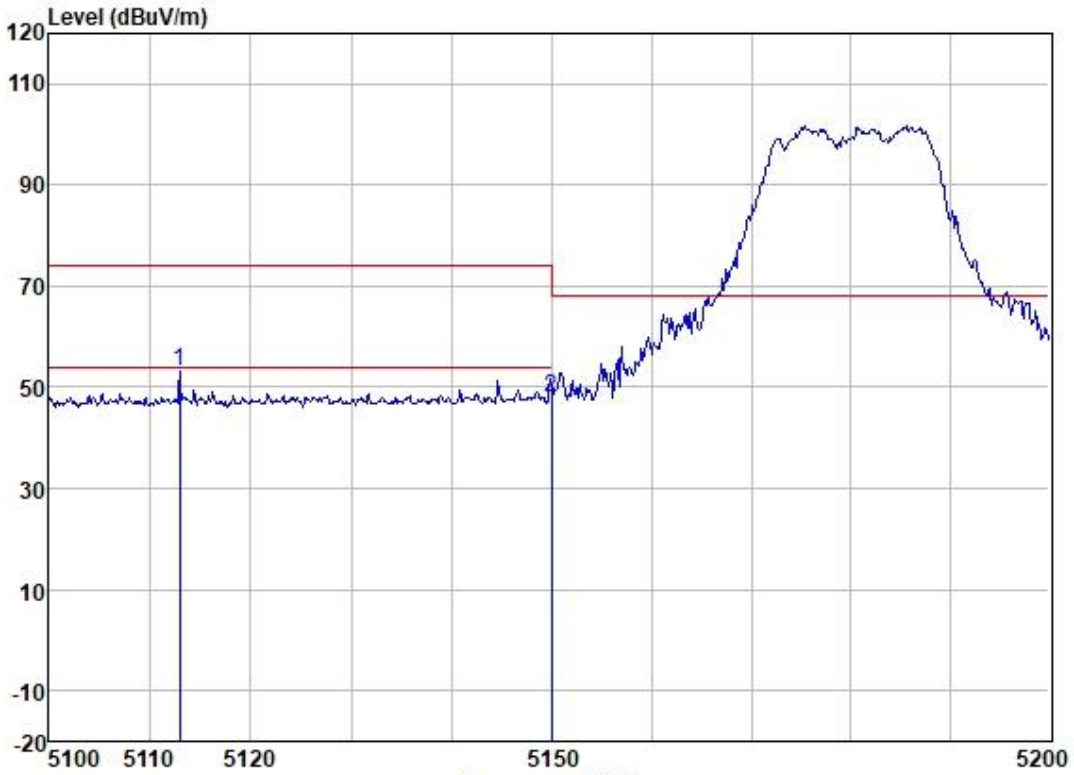
Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5148.857	52.10	33.18	5.36	36.66	53.98	74.00	-20.02	HORIZONTAL	Peak
2	5150.000	50.64	33.18	5.36	36.66	52.52	68.20	-15.68	HORIZONTAL	Peak

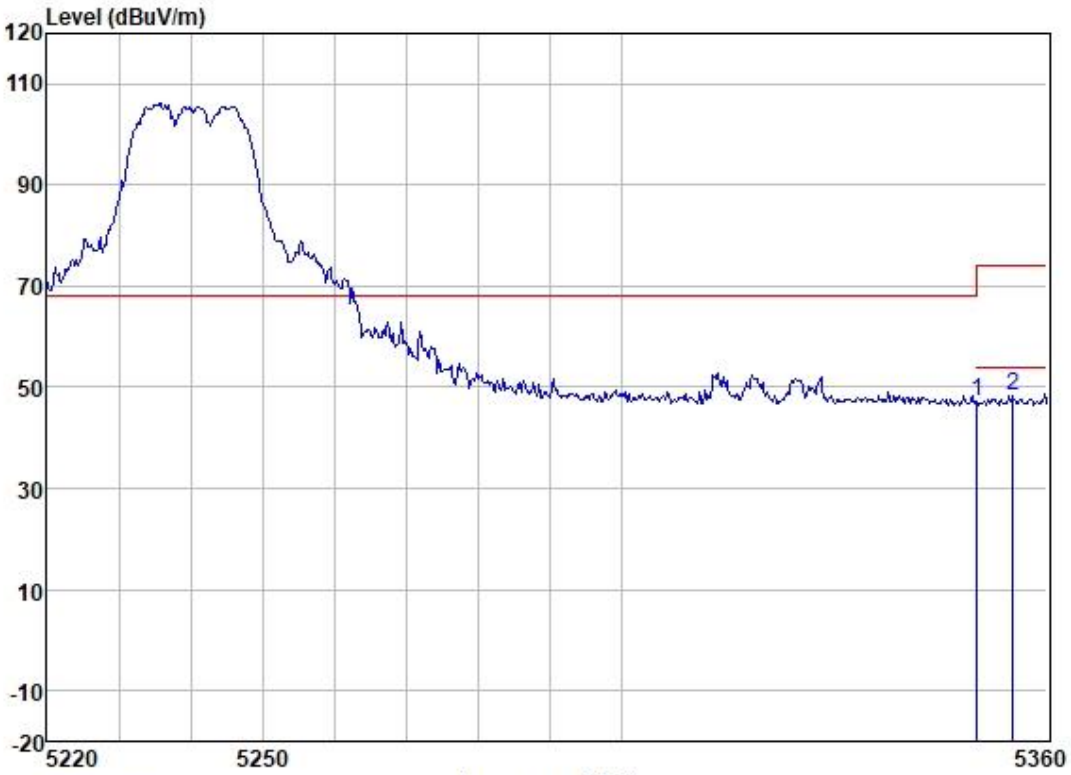
Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5112.990	51.08	33.21	5.40	36.66	53.03	74.00	-20.97	VERTICAL	Peak
2	5150.000	45.94	33.18	5.36	36.66	47.82	68.20	-20.38	VERTICAL	Peak

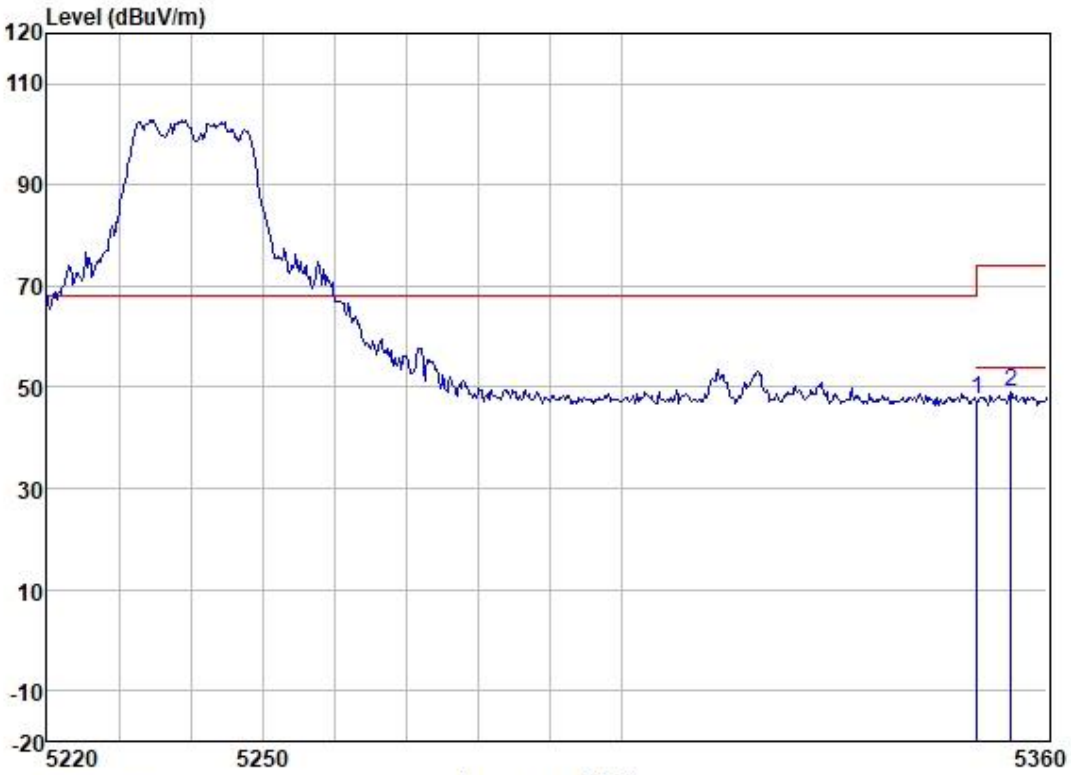
Test Mode: 04; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	45.20	33.04	5.53	36.68	47.09	68.20	-21.11	HORIZONTAL	Peak
2	5355.179	46.46	33.03	5.55	36.68	48.36	74.00	-25.64	HORIZONTAL	Peak

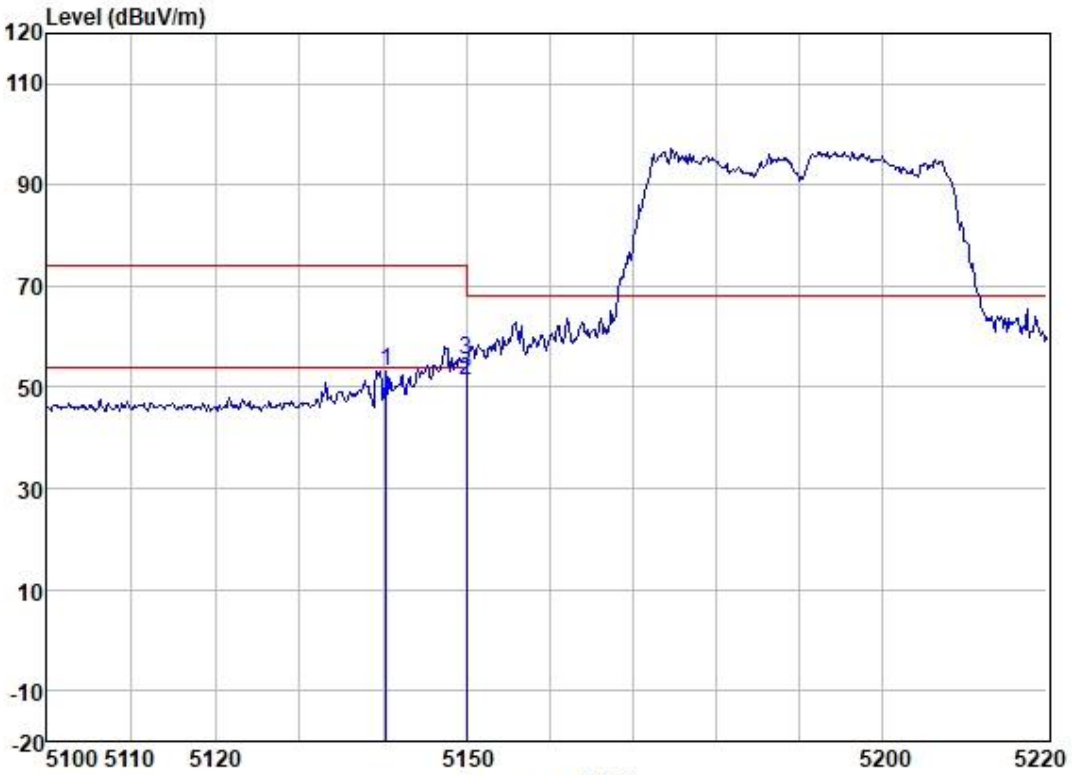
Test Mode: 04; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	45.70	33.04	5.53	36.68	47.59	68.20	-20.61	VERTICAL	Peak
2	5354.896	47.35	33.03	5.55	36.68	49.25	74.00	-24.75	VERTICAL	Peak

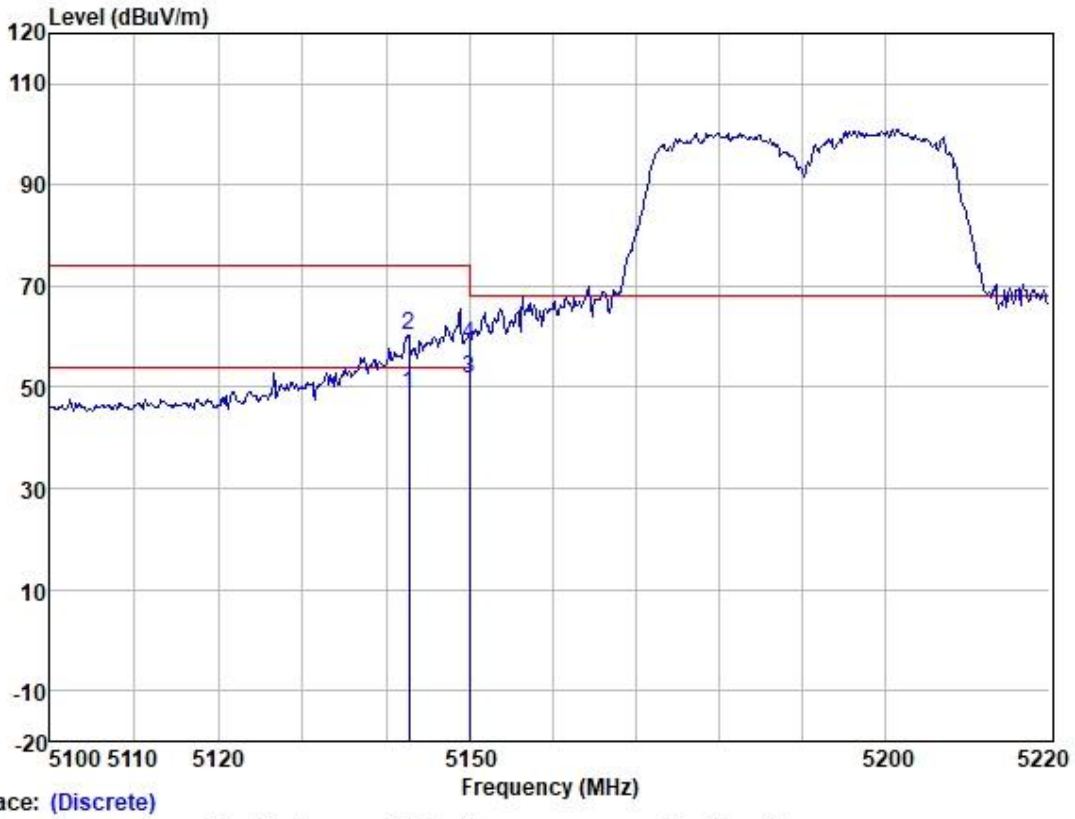
Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5140.368	51.37	33.19	5.38	36.66	53.28	74.00	-20.72	VERTICAL	Peak
2	5150.000	49.40	33.18	5.36	36.66	51.28	54.00	-2.72	VERTICAL	Average
3	5150.000	53.69	33.18	5.36	36.66	55.57	68.20	-12.63	VERTICAL	Peak

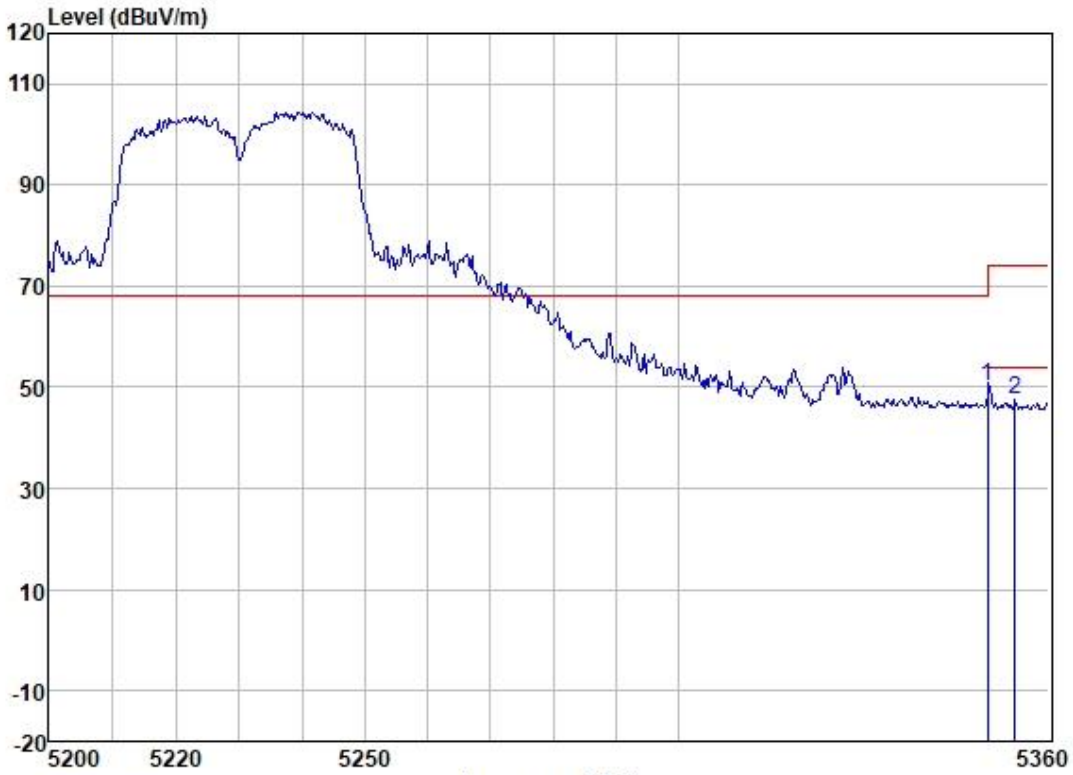
Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5142.759	46.78	33.18	5.36	36.66	48.66	54.00	-5.34	HORIZONTAL	Average
2	5142.759	58.42	33.18	5.36	36.66	60.30	74.00	-13.70	HORIZONTAL	Peak
3	5150.000	49.82	33.18	5.36	36.66	51.70	54.00	-2.30	HORIZONTAL	Average
4	5150.000	56.66	33.18	5.36	36.66	58.54	68.20	-9.66	HORIZONTAL	Peak

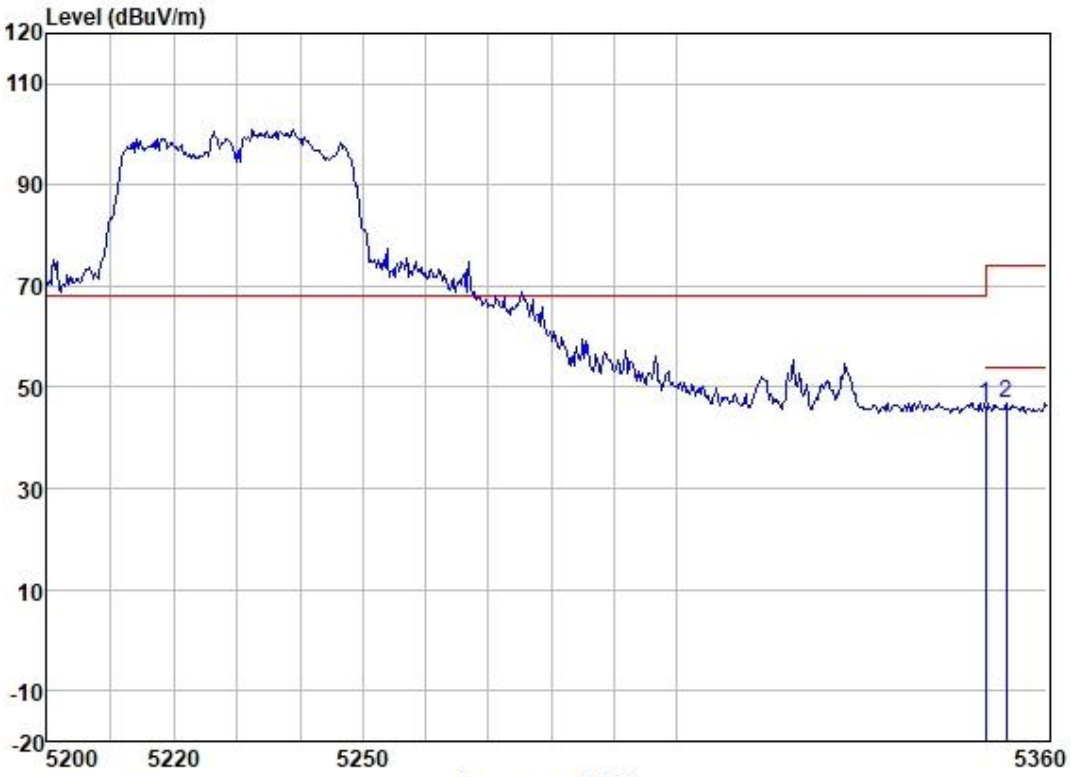
Test Mode: 04; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	48.36	33.04	5.53	36.68	50.25	68.20	-17.95	HORIZONTAL	Peak
2	5354.480	45.83	33.03	5.55	36.68	47.73	74.00	-26.27	HORIZONTAL	Peak

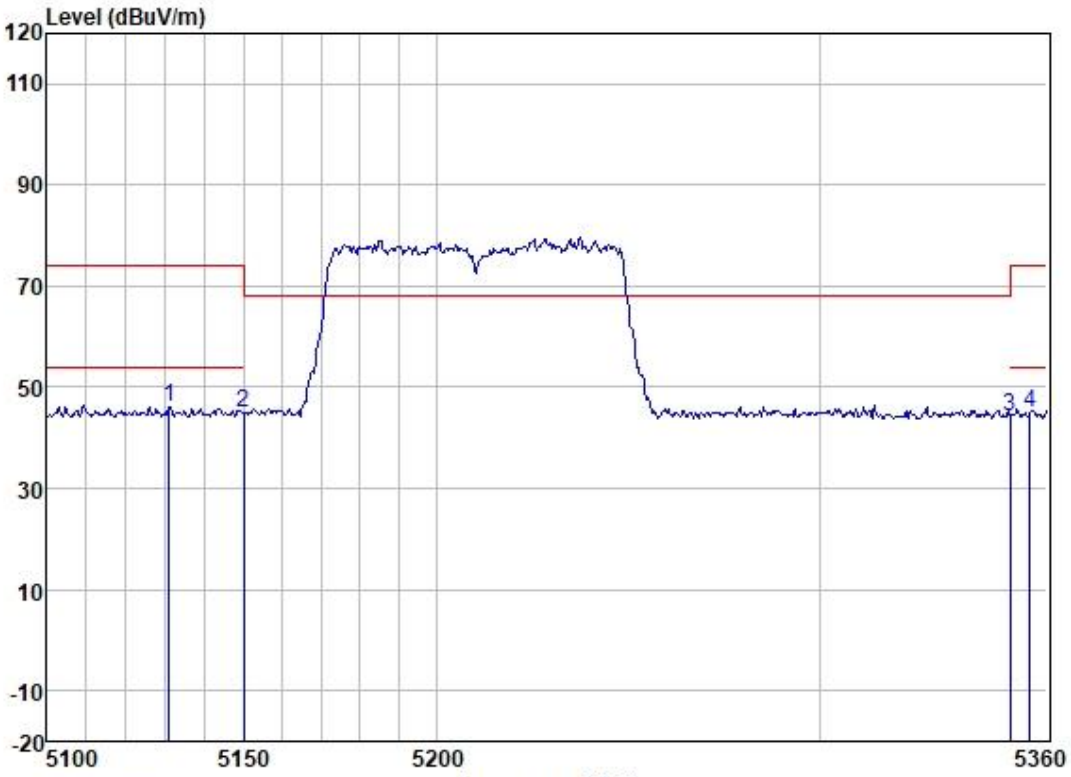
Test Mode: 04; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	44.64	33.04	5.53	36.68	46.53	68.20	-21.67	VERTICAL	Peak
2	5353.344	44.97	33.04	5.53	36.68	46.86	74.00	-27.14	VERTICAL	Peak

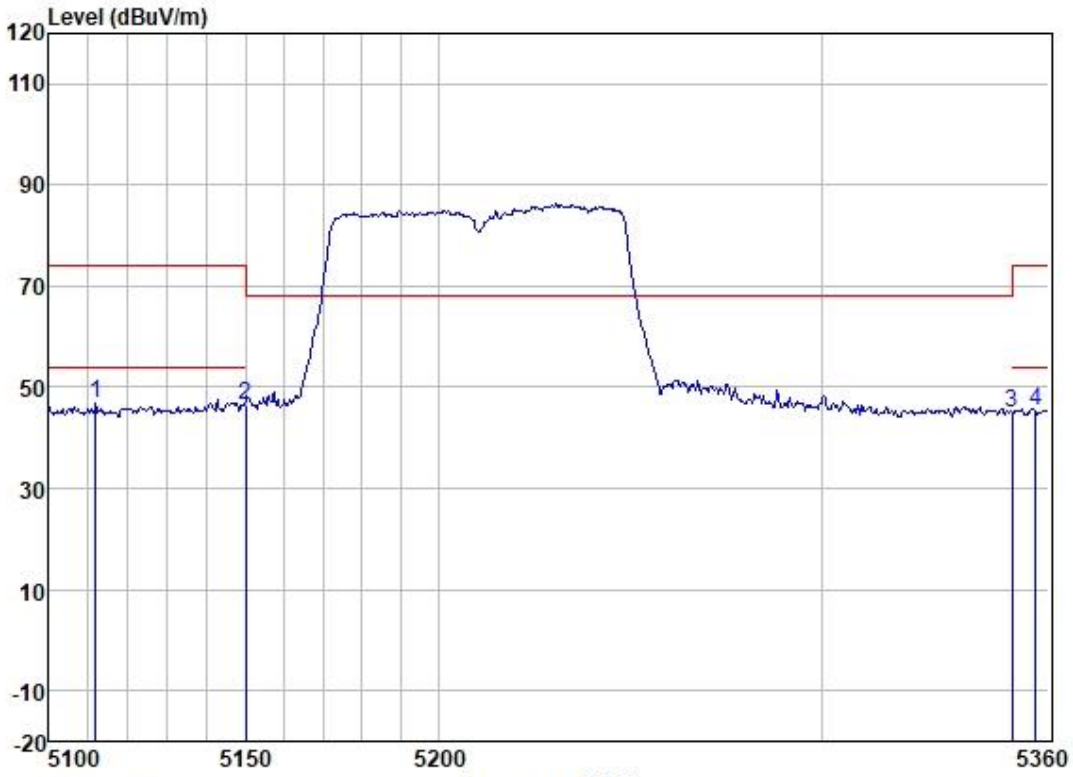
Test Mode: 04; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5131.032	44.06	33.19	5.38	36.66	45.97	74.00	-28.03	VERTICAL	Peak
2	5150.000	43.01	33.18	5.36	36.66	44.89	68.20	-23.31	VERTICAL	Peak
3	5350.000	42.33	33.04	5.53	36.68	44.22	68.20	-23.98	VERTICAL	Peak
4	5355.471	43.03	33.03	5.55	36.68	44.93	74.00	-29.07	VERTICAL	Peak

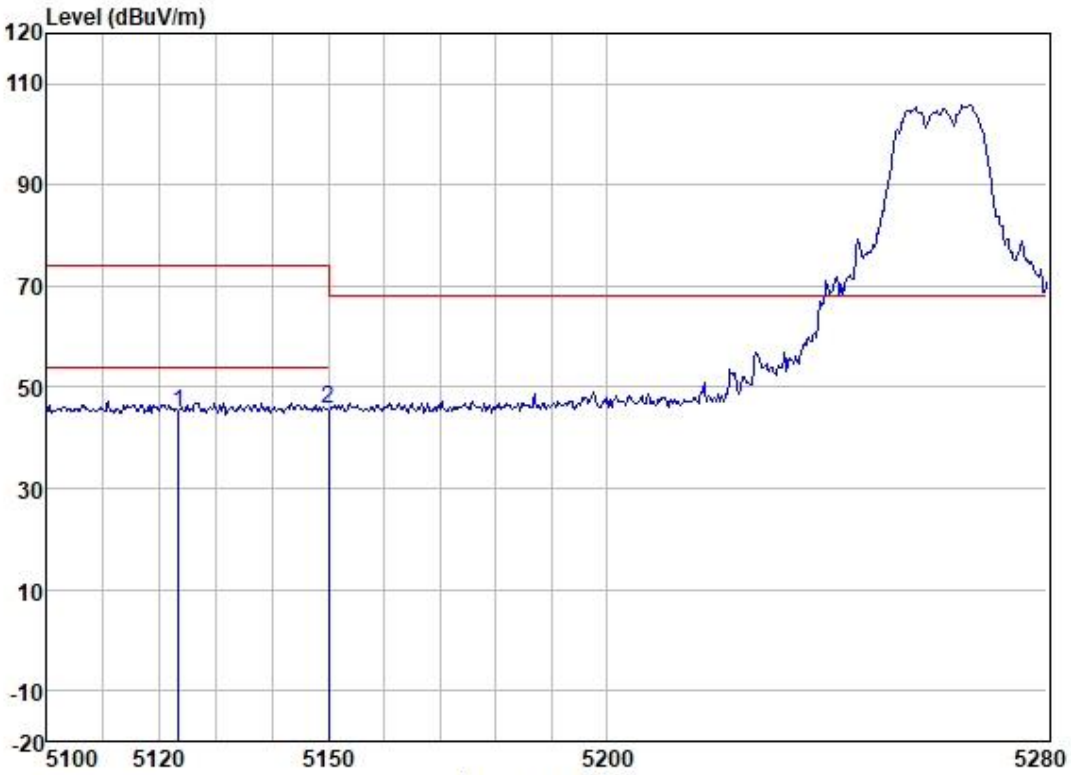
Test Mode: 04; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5111.933	44.83	33.22	5.43	36.66	46.82	74.00	-27.18	HORIZONTAL	Peak
2	5150.000	44.67	33.18	5.36	36.66	46.55	68.20	-21.65	HORIZONTAL	Peak
3	5350.000	43.20	33.04	5.53	36.68	45.09	68.20	-23.11	HORIZONTAL	Peak
4	5356.270	43.38	33.03	5.55	36.68	45.28	74.00	-28.72	HORIZONTAL	Peak

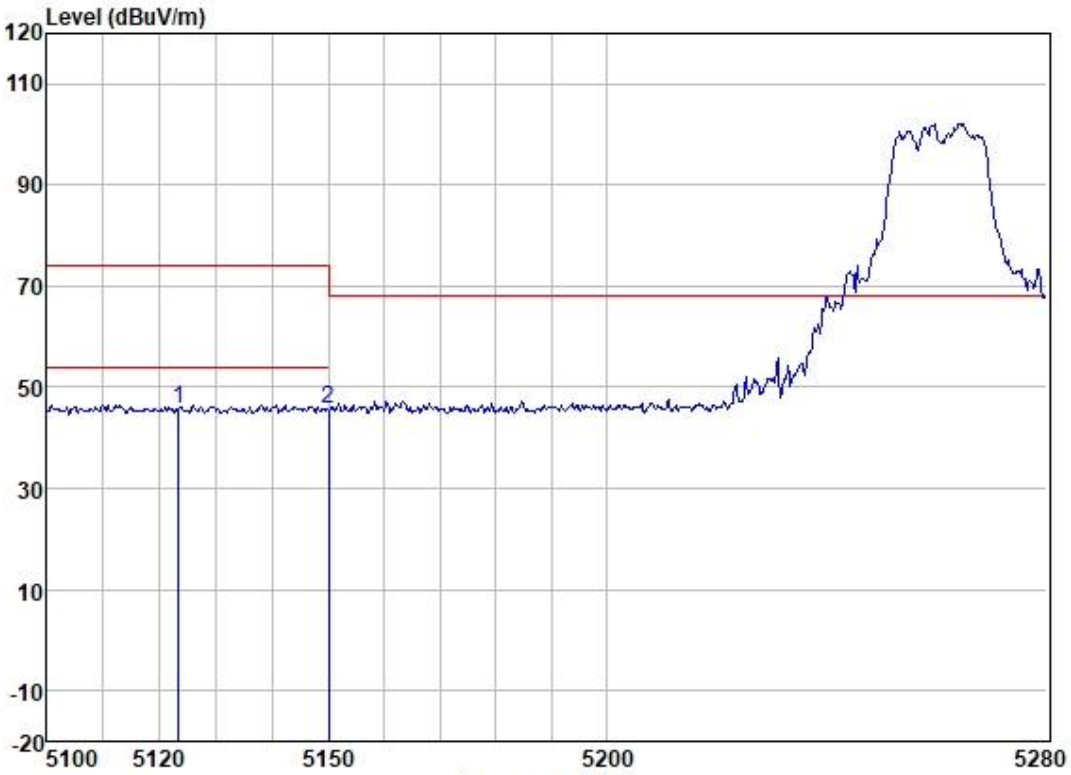
Test Mode: 05; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5123.404	43.13	33.21	5.40	36.66	45.08	74.00	-28.92	HORIZONTAL	Peak
2	5150.000	43.88	33.18	5.36	36.66	45.76	68.20	-22.44	HORIZONTAL	Peak

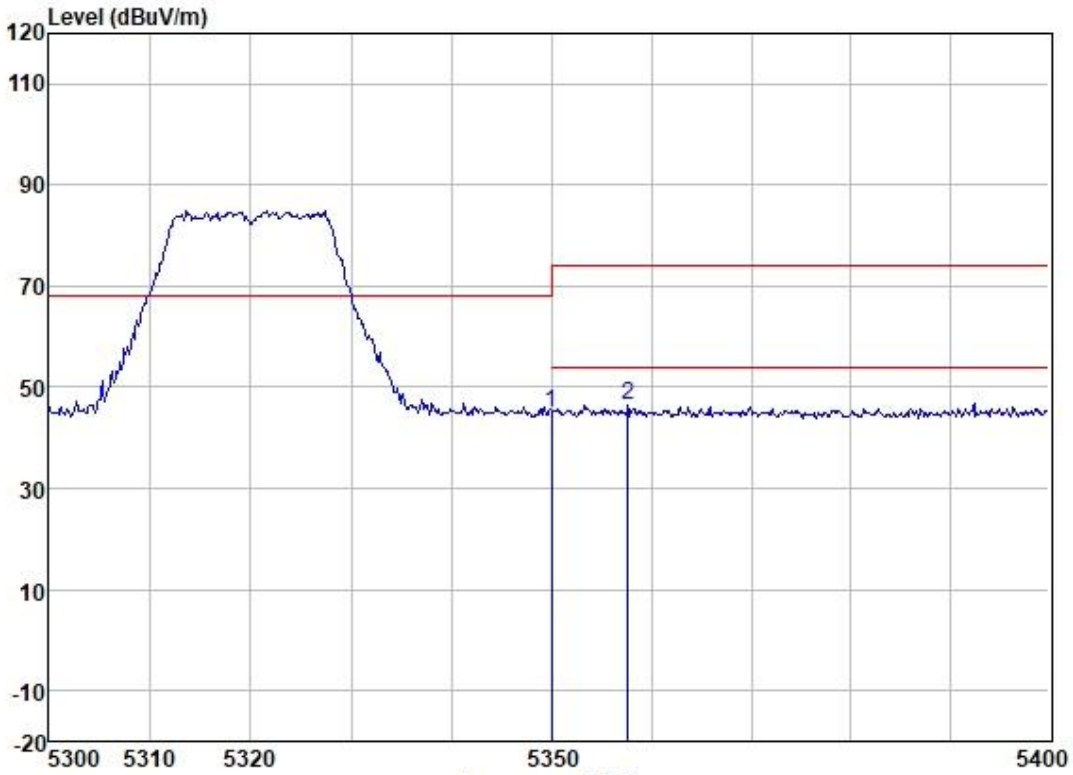
Test Mode: 05; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5123.404	43.77	33.21	5.40	36.66	45.72	74.00	-28.28	VERTICAL	Peak
2	5150.000	43.91	33.18	5.36	36.66	45.79	68.20	-22.41	VERTICAL	Peak

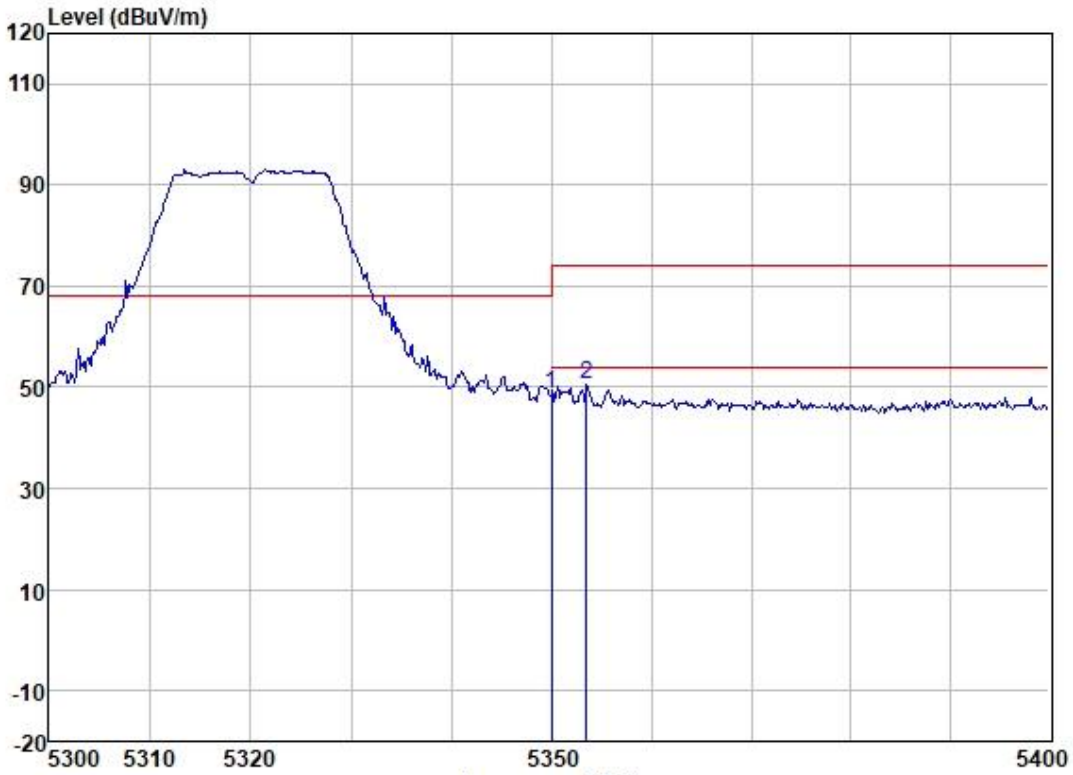
Test Mode: 05; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	43.11	33.04	5.53	36.68	45.00	68.20	-23.20	VERTICAL	Peak
2	5357.672	44.57	33.03	5.55	36.68	46.47	74.00	-27.53	VERTICAL	Peak

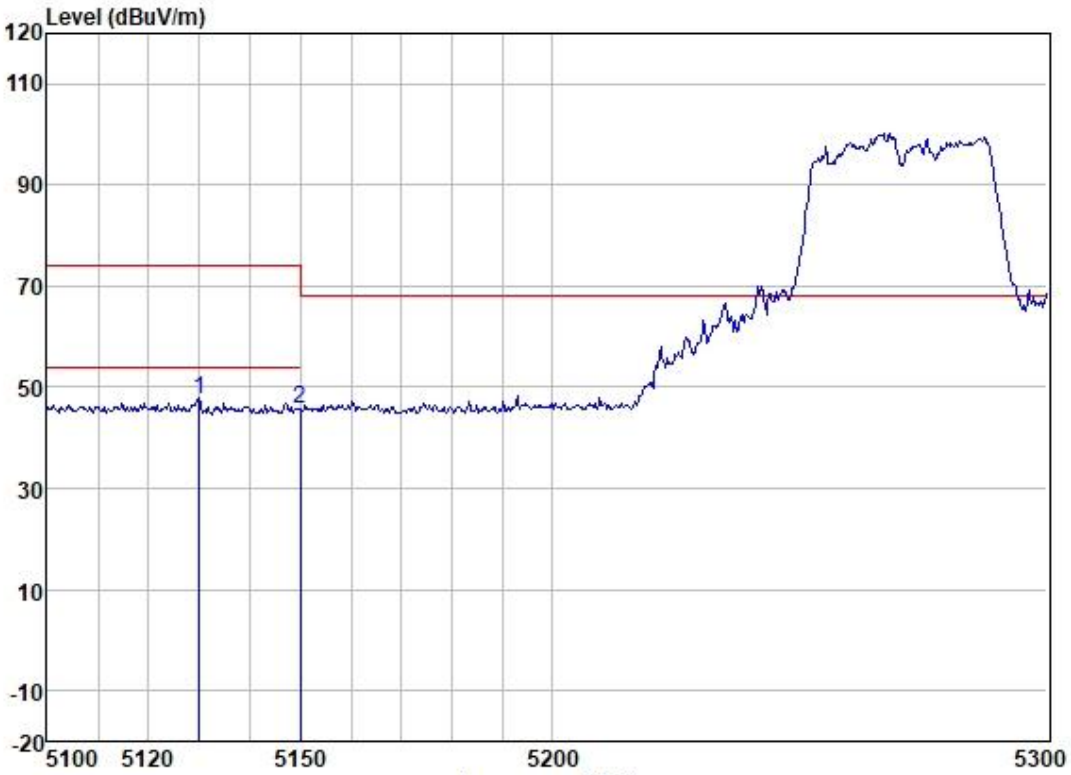
Test Mode: 05; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	46.90	33.04	5.53	36.68	48.79	68.20	-19.41	HORIZONTAL	Peak
2	5353.468	48.82	33.04	5.53	36.68	50.71	74.00	-23.29	HORIZONTAL	Peak

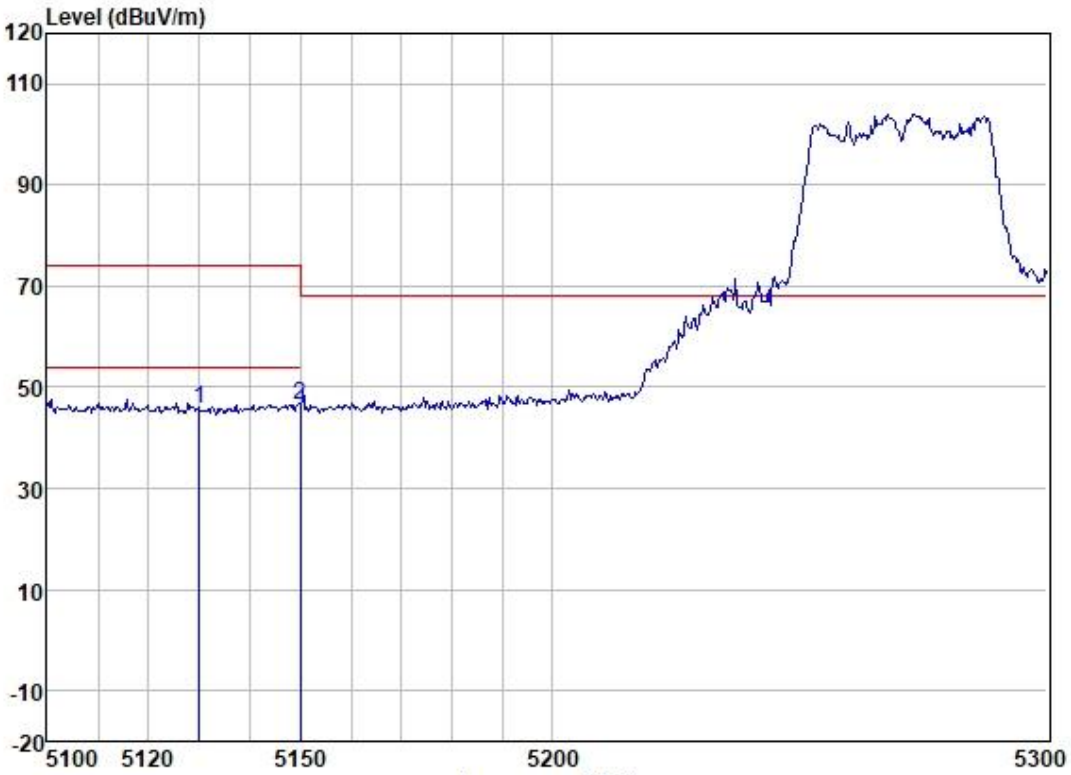
Test Mode: 05; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5129.906	45.53	33.19	5.38	36.66	47.44	74.00	-26.56	VERTICAL	Peak
2	5150.000	43.80	33.18	5.36	36.66	45.68	68.20	-22.52	VERTICAL	Peak

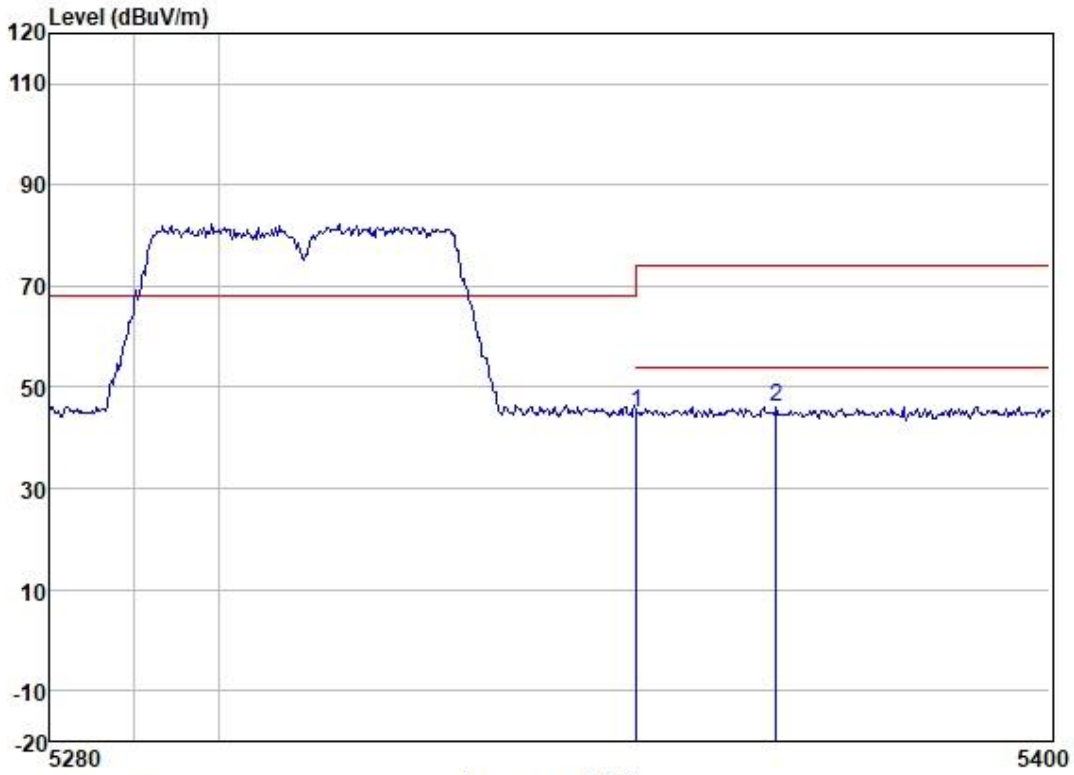
Test Mode: 05; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5129.906	43.94	33.19	5.38	36.66	45.85	74.00	-28.15	HORIZONTAL	Peak
2	5150.000	44.49	33.18	5.36	36.66	46.37	68.20	-21.83	HORIZONTAL	Peak

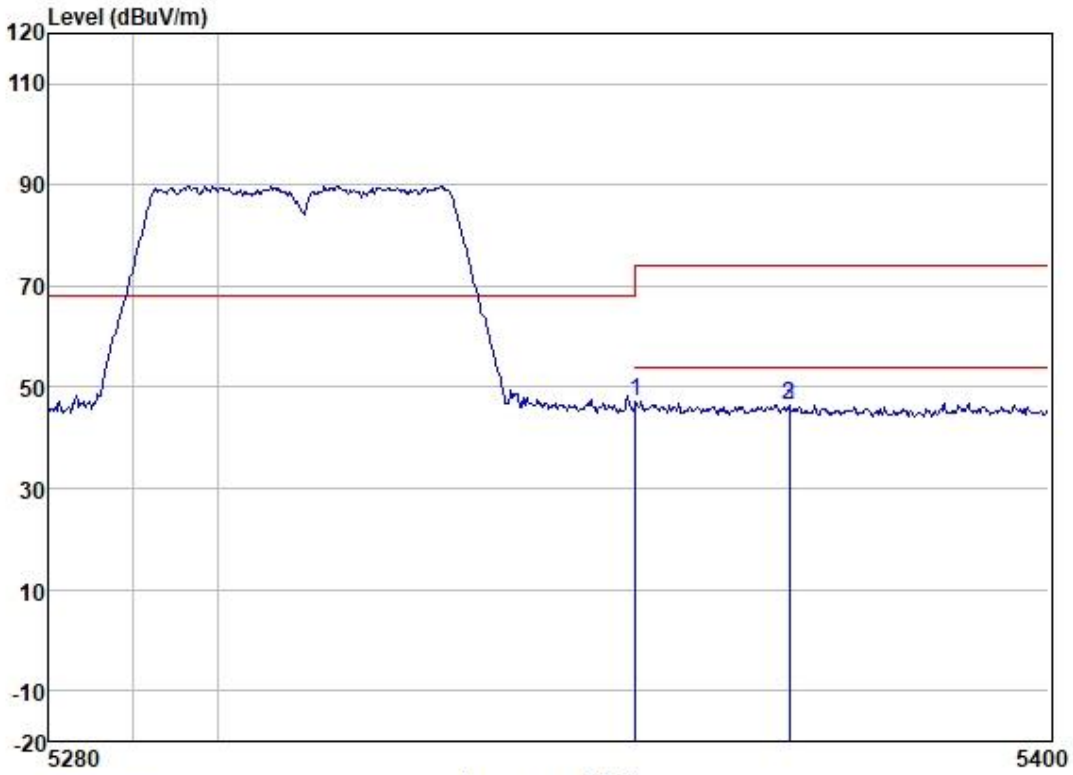
Test Mode: 05; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	43.08	33.04	5.53	36.68	44.97	68.20	-23.23	VERTICAL	Peak
2	5366.852	44.27	33.03	5.55	36.68	46.17	74.00	-27.83	VERTICAL	Peak

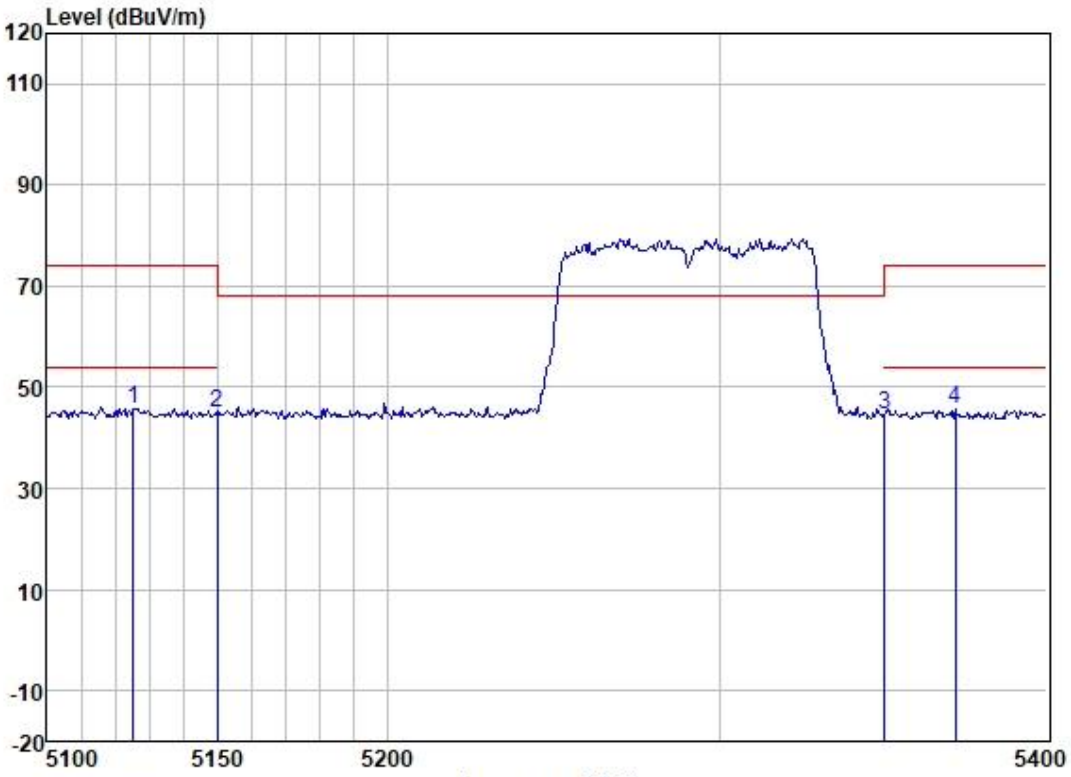
Test Mode: 05; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5350.000	45.34	33.04	5.53	36.68	47.23	68.20	-20.97	HORIZONTAL	Peak
2	5368.540	44.55	33.03	5.55	36.68	46.45	74.00	-27.55	HORIZONTAL	Peak
3	5368.540	44.55	33.03	5.55	36.68	46.45	74.00	-27.55	HORIZONTAL	Peak

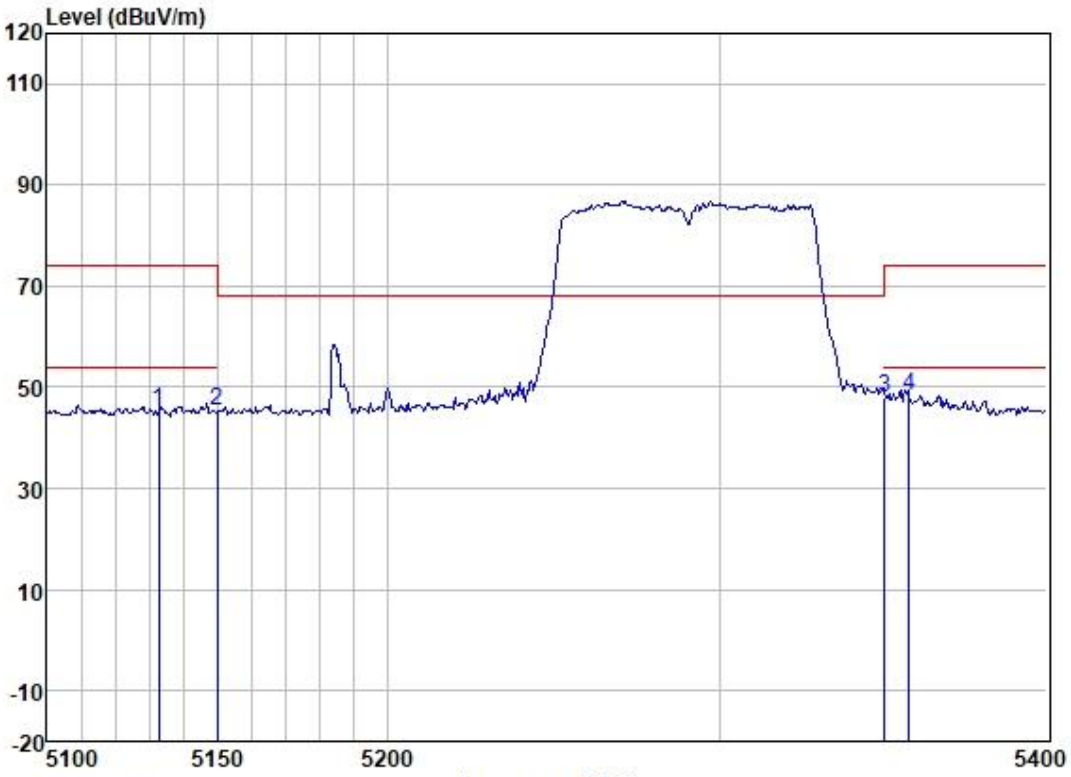
Test Mode: 05; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5125.131	43.88	33.21	5.40	36.66	45.83	74.00	-28.17	VERTICAL	Peak
2	5150.000	42.99	33.18	5.36	36.66	44.87	68.20	-23.33	VERTICAL	Peak
3	5350.000	42.82	33.04	5.53	36.68	44.71	68.20	-23.49	VERTICAL	Peak
4	5371.678	43.64	33.02	5.56	36.68	45.54	74.00	-28.46	VERTICAL	Peak

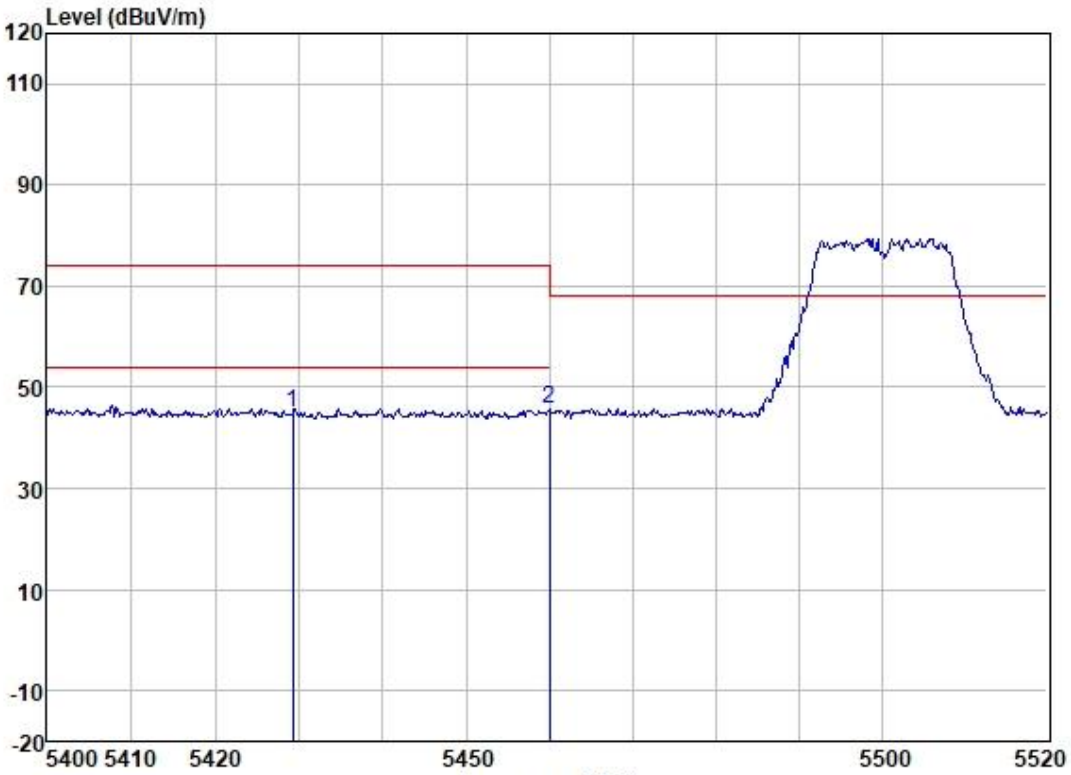
Test Mode: 05; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5132.753	43.60	33.19	5.38	36.66	45.51	74.00	-28.49	HORIZONTAL	Peak
2	5150.000	43.34	33.18	5.36	36.66	45.22	68.20	-22.98	HORIZONTAL	Peak
3	5350.000	46.19	33.04	5.53	36.68	48.08	68.20	-20.12	HORIZONTAL	Peak
4	5357.573	46.56	33.03	5.55	36.68	48.46	74.00	-25.54	HORIZONTAL	Peak

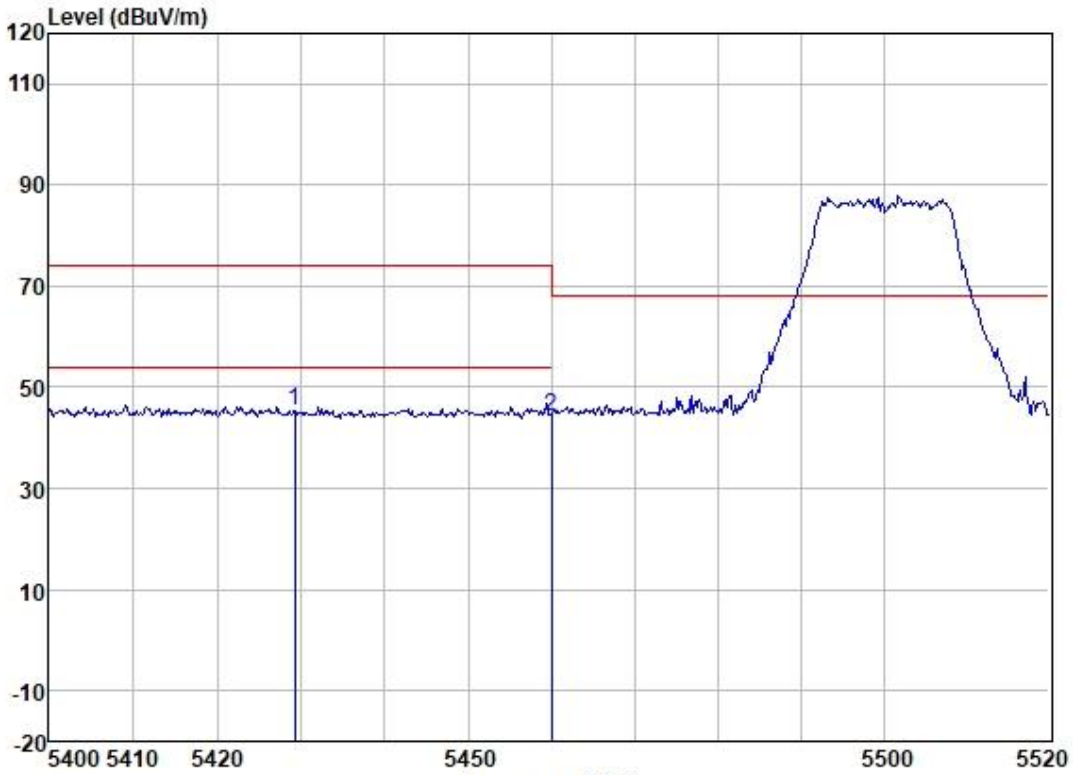
Test Mode: 06; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5429.276	43.19	33.02	5.61	36.68	45.14	74.00	-28.86	VERTICAL	Peak
2	5460.000	43.90	33.03	5.64	36.68	45.89	68.20	-22.31	VERTICAL	Peak

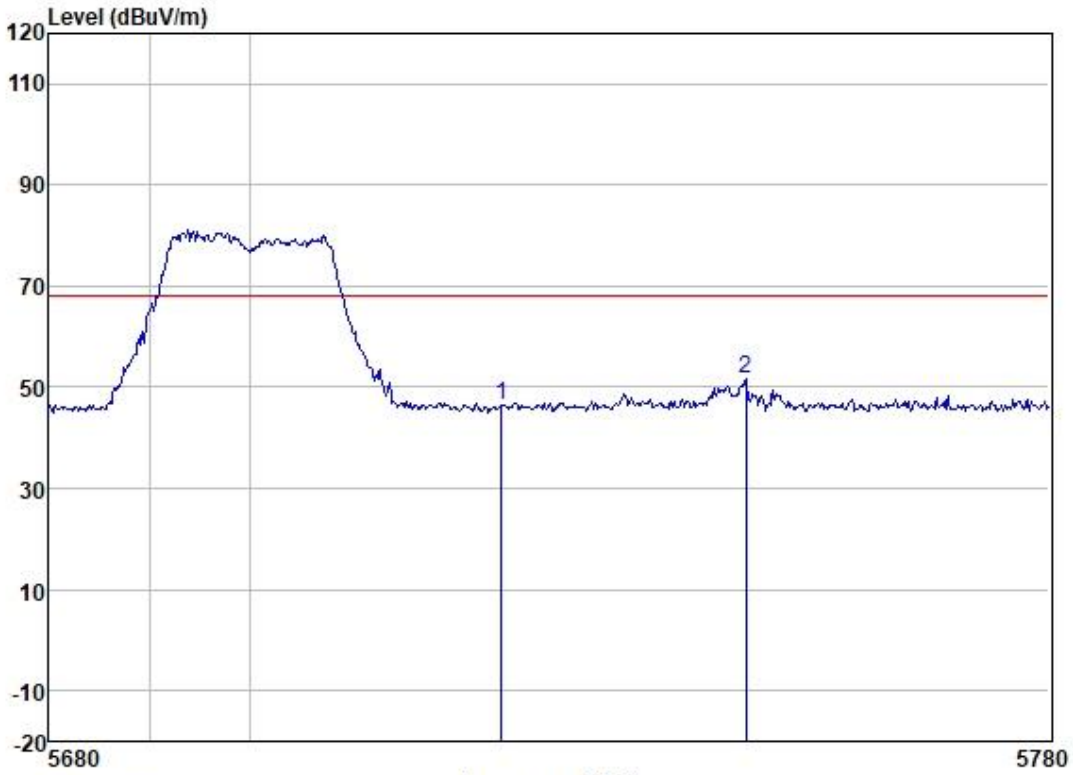
Test Mode: 06; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5429.276	43.26	33.02	5.61	36.68	45.21	74.00	-28.79	HORIZONTAL	Peak
2	5460.000	42.22	33.03	5.64	36.68	44.21	68.20	-23.99	HORIZONTAL	Peak

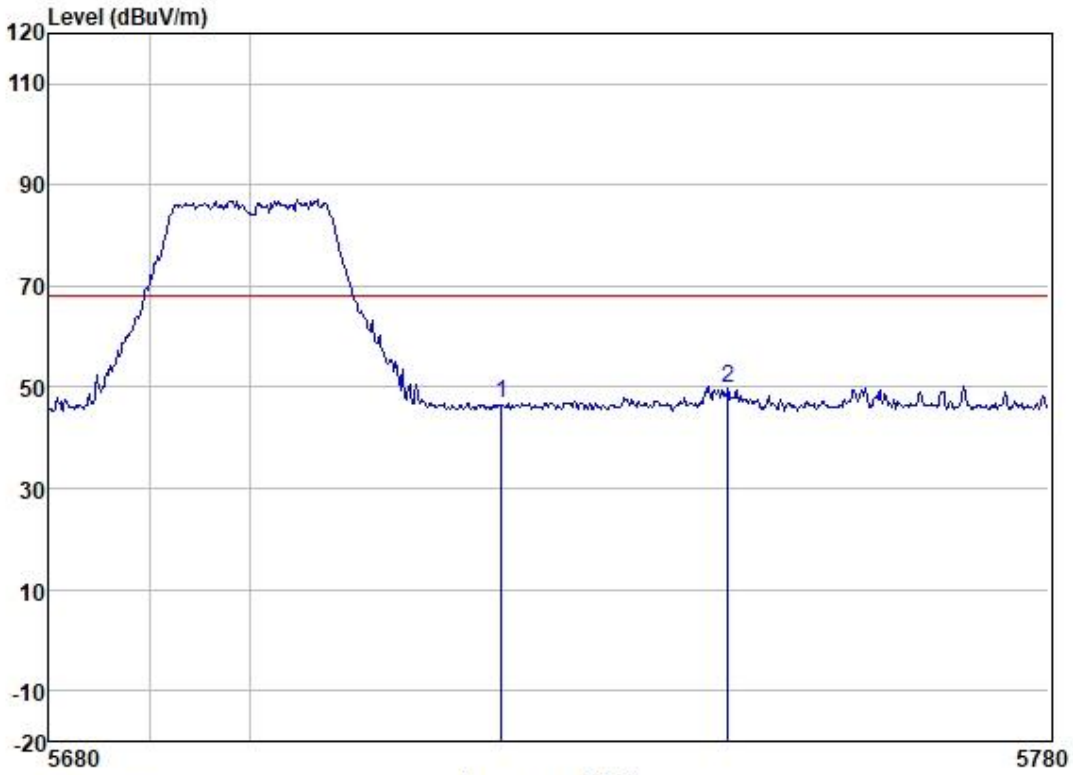
Test Mode: 06; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5725.000	43.81	33.79	5.71	36.69	46.62	68.20	-21.58	VERTICAL	Peak
2	5749.516	48.89	33.88	5.70	36.69	51.78	68.20	-16.42	VERTICAL	Peak

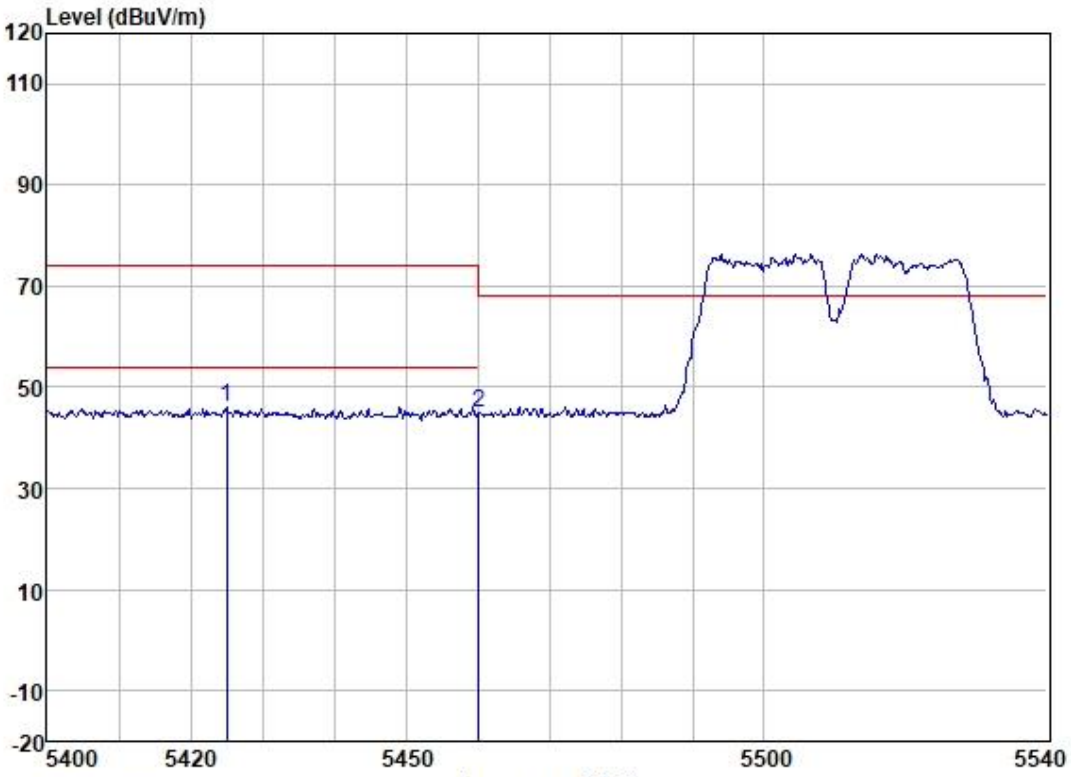
Test Mode: 06; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5725.000	43.96	33.79	5.71	36.69	46.77	68.20	-21.43	HORIZONTAL	Peak
2	5747.709	46.83	33.88	5.70	36.69	49.72	68.20	-18.48	HORIZONTAL	Peak

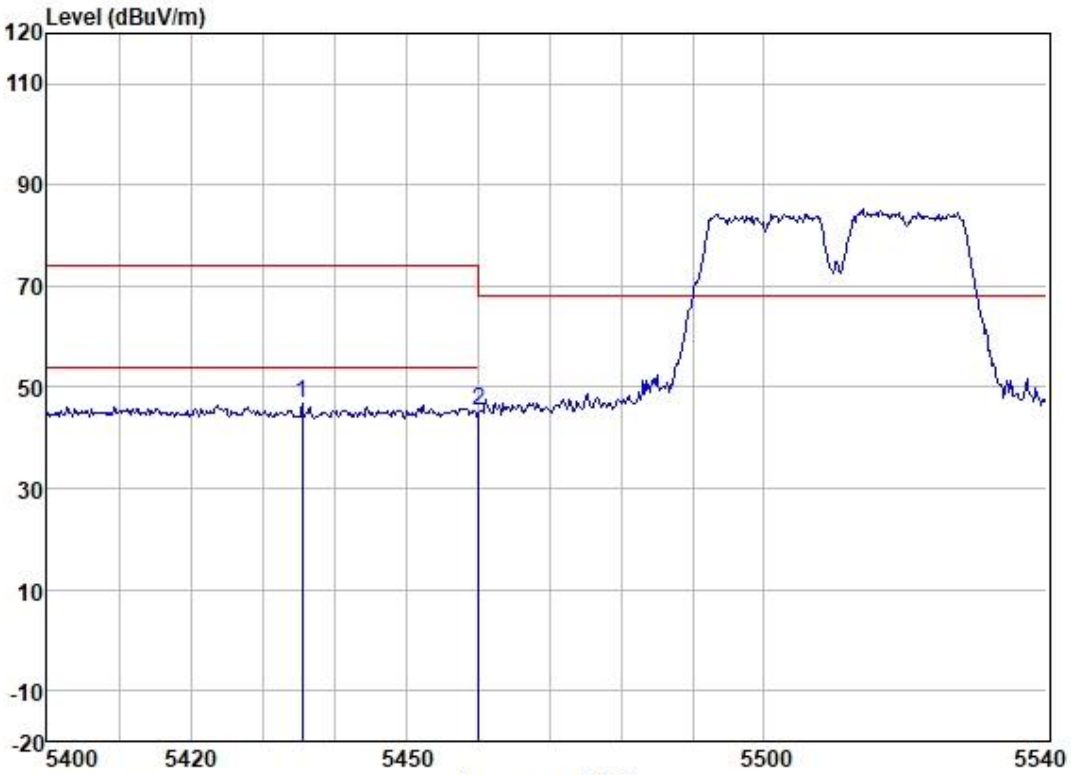
Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5424.936	43.98	33.02	5.61	36.68	45.93	74.00	-28.07	VERTICAL	Peak
2	5460.000	42.81	33.03	5.64	36.68	44.80	68.20	-23.40	VERTICAL	Peak

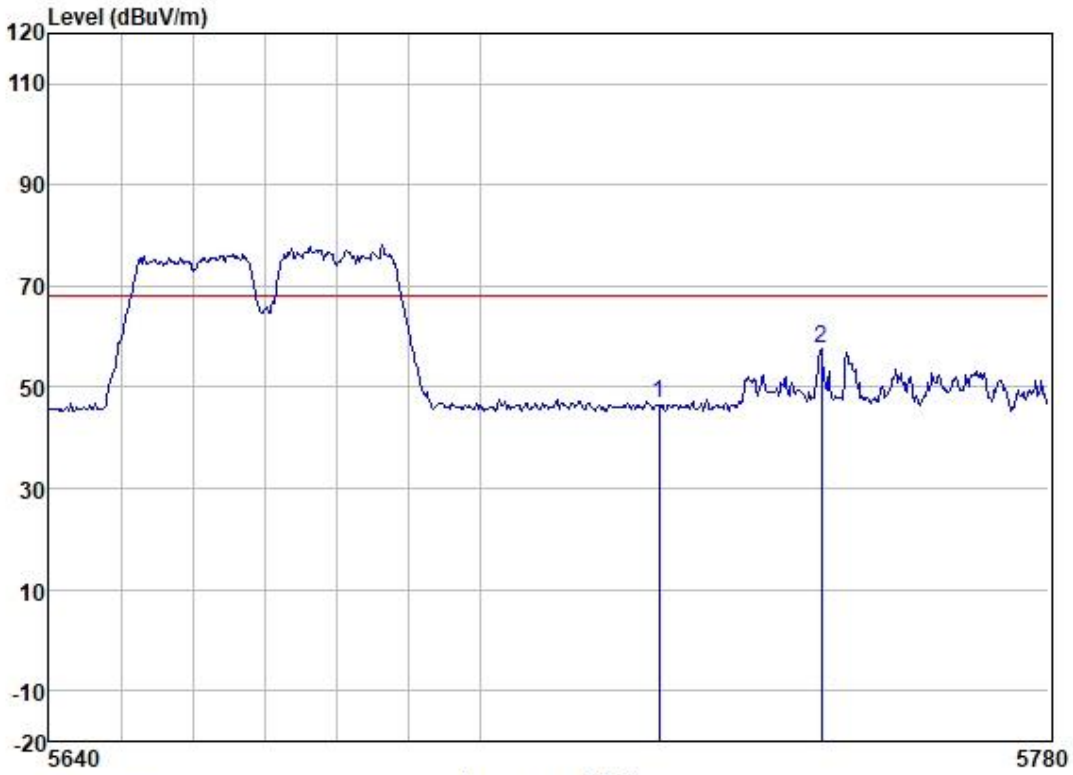
Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5435.360	44.75	33.03	5.62	36.68	46.72	74.00	-27.28	HORIZONTAL	Peak
2	5460.000	43.41	33.03	5.64	36.68	45.40	68.20	-22.80	HORIZONTAL	Peak

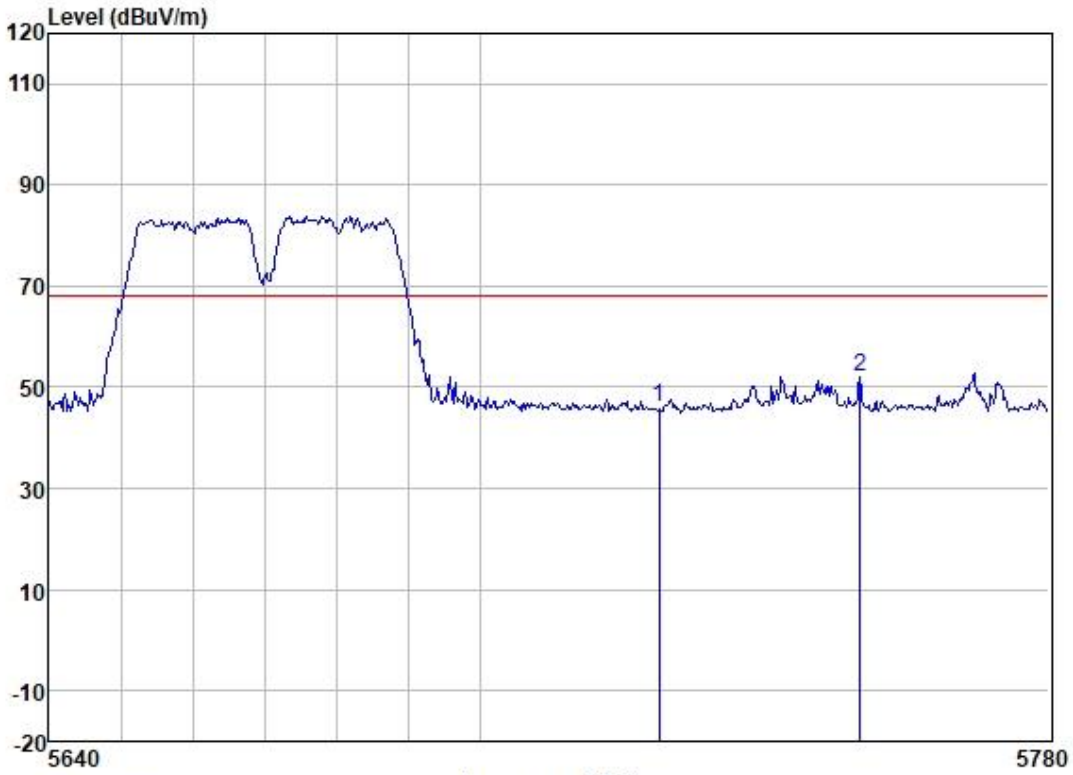
Test Mode: 06; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5725.000	44.16	33.79	5.71	36.69	46.97	68.20	-21.23	VERTICAL	Peak
2	5747.777	54.91	33.88	5.70	36.69	57.80	68.20	-10.40	VERTICAL	Peak

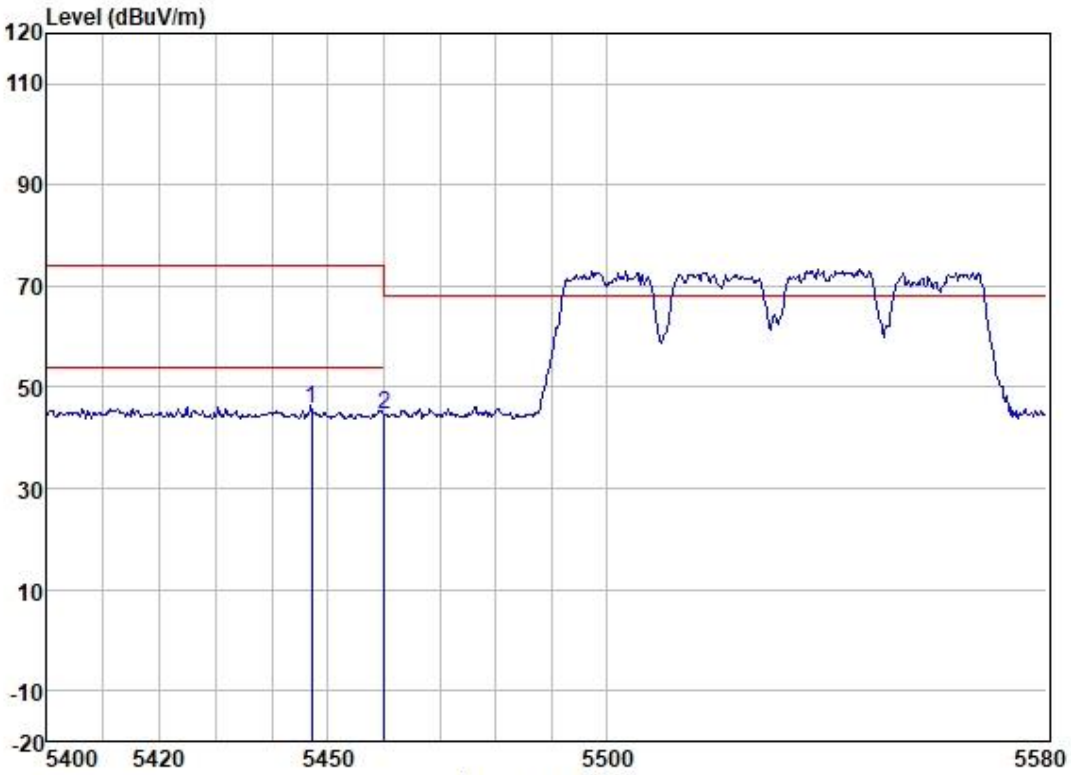
Test Mode: 06; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5725.000	43.23	33.79	5.71	36.69	46.04	68.20	-22.16	HORIZONTAL	Peak
2	5753.276	49.30	33.88	5.70	36.69	52.19	68.20	-16.01	HORIZONTAL	Peak

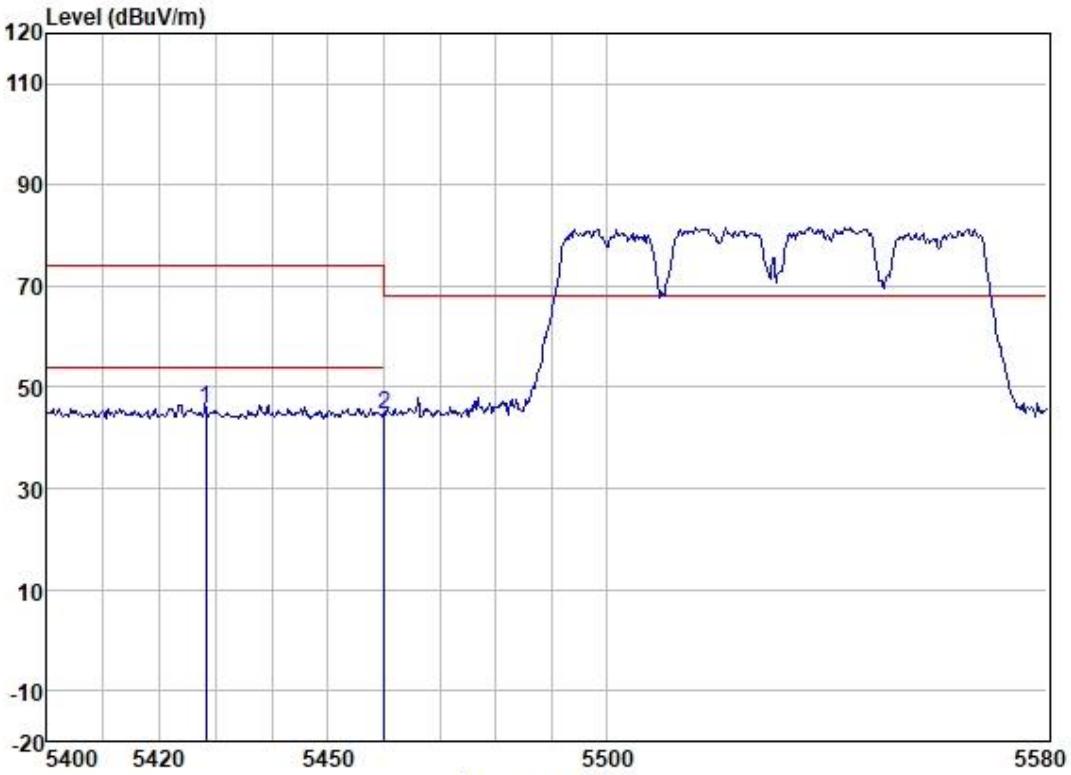
Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5447.126	43.80	33.03	5.62	36.68	45.77	74.00	-28.23	VERTICAL	Peak
2	5460.000	42.64	33.03	5.64	36.68	44.63	68.20	-23.57	VERTICAL	Peak

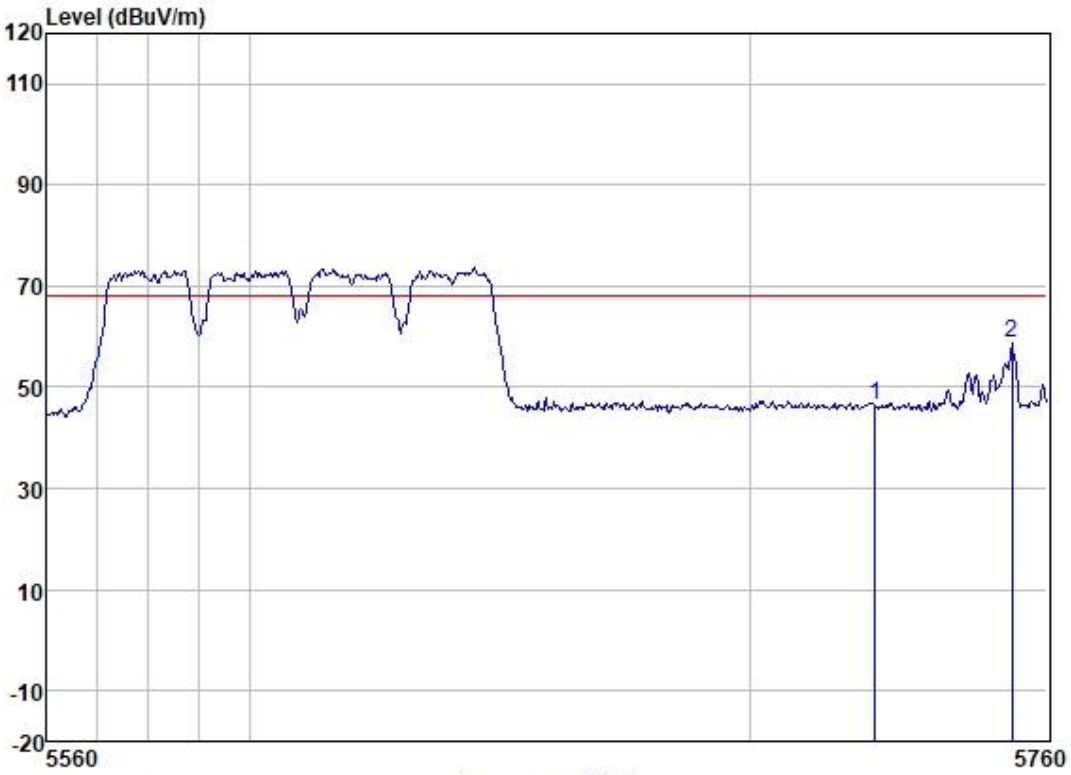
Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5428.227	43.93	33.02	5.61	36.68	45.88	74.00	-28.12	HORIZONTAL	Peak
2	5460.000	42.70	33.03	5.64	36.68	44.69	68.20	-23.51	HORIZONTAL	Peak

Test Mode: 06; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:High



race: (Discrete)

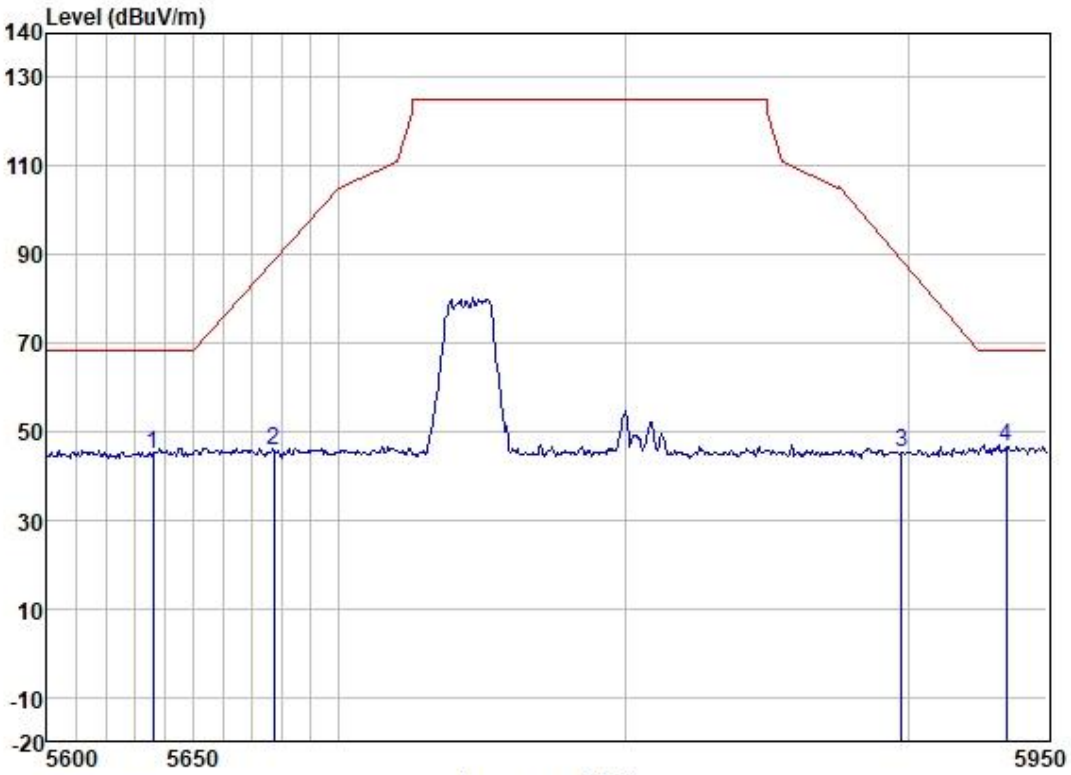
	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5725.000	43.62	33.79	5.71	36.69	46.43	68.20	-21.77	VERTICAL	Peak
2	5752.880	55.80	33.88	5.70	36.69	58.69	68.20	-9.51	VERTICAL	Peak

Test Mode: 06; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:High

race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5725.000	44.56	33.79	5.71	36.69	47.37	68.20	-20.83	HORIZONTAL	Peak
2	5745.972	45.45	33.88	5.70	36.69	48.34	68.20	-19.86	HORIZONTAL	Peak

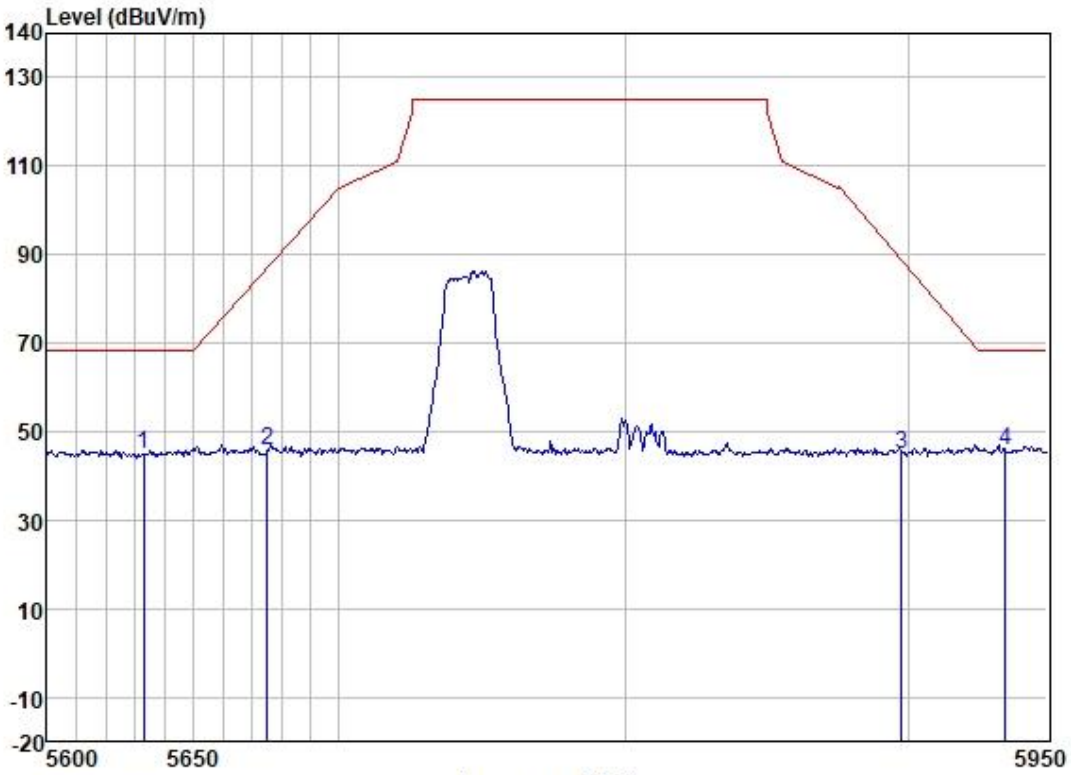
Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5636.103	42.62	31.93	6.33	36.17	44.71	68.20	-23.49	VERTICAL	Peak
2	5677.599	43.44	31.99	6.38	36.16	45.65	88.66	-43.01	VERTICAL	Peak
3	5897.568	42.98	32.31	5.90	36.12	45.07	88.50	-43.43	VERTICAL	Peak
4	5935.229	44.17	32.34	6.00	36.11	46.40	68.20	-21.80	VERTICAL	Peak

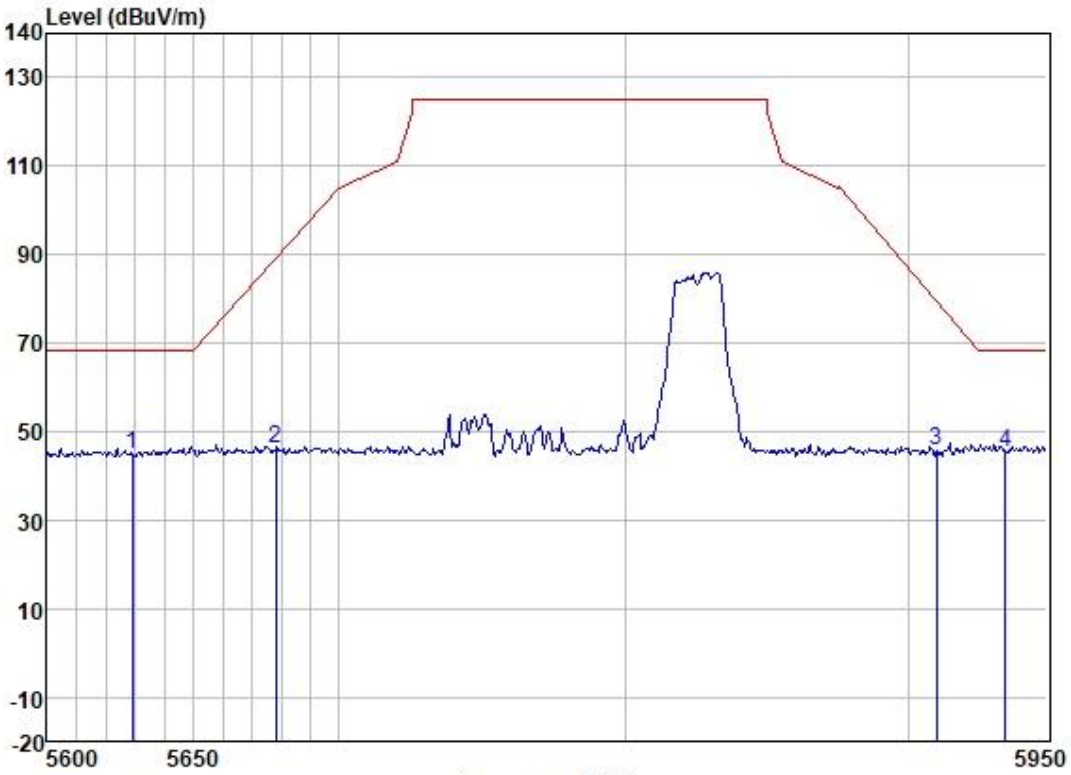
Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5633.028	42.89	31.93	6.33	36.17	44.98	68.20	-23.22	HORIZONTAL	Peak
2	5675.190	43.29	31.99	6.38	36.16	45.50	86.88	-41.38	HORIZONTAL	Peak
3	5897.568	42.59	32.31	5.90	36.12	44.68	88.50	-43.82	HORIZONTAL	Peak
4	5934.869	43.56	32.34	6.00	36.11	45.79	68.20	-22.41	HORIZONTAL	Peak

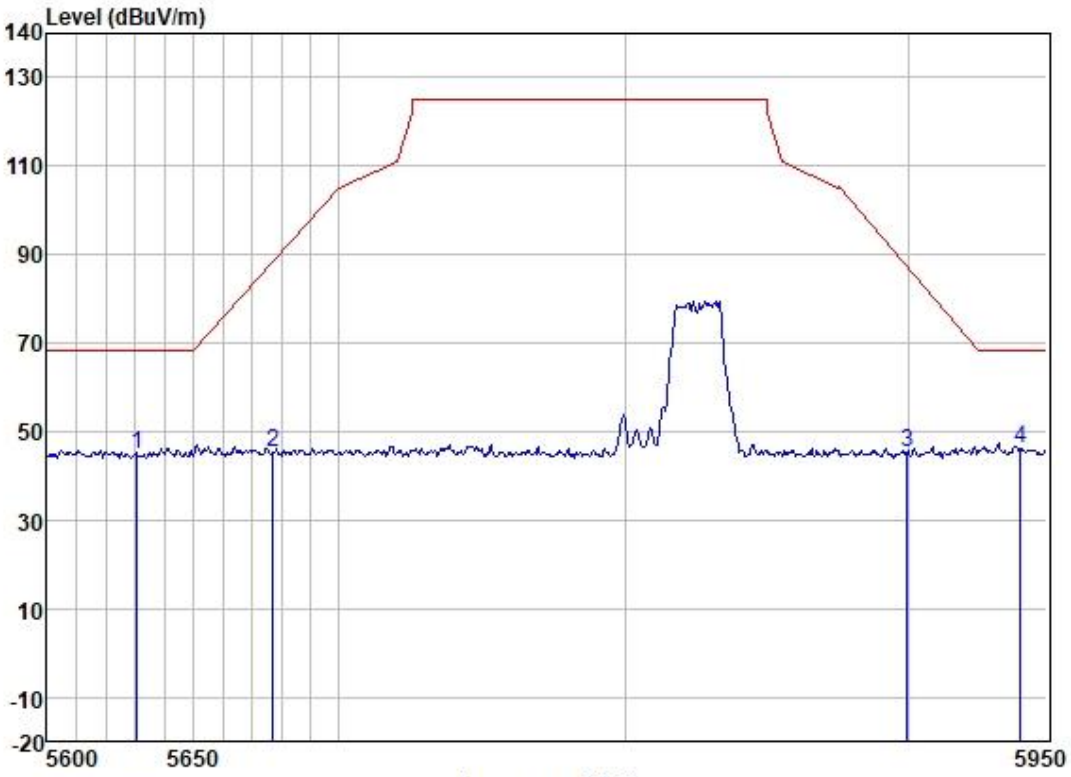
Test Mode: 07; Polarity: Vertical; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5628.932	42.88	31.93	6.33	36.17	44.97	68.20	-23.23	VERTICAL	Peak
2	5678.287	43.82	31.99	6.38	36.16	46.03	89.17	-43.14	VERTICAL	Peak
3	5910.095	43.61	32.33	5.95	36.12	45.77	79.22	-33.45	VERTICAL	Peak
4	5934.869	43.26	32.34	6.00	36.11	45.49	68.20	-22.71	VERTICAL	Peak

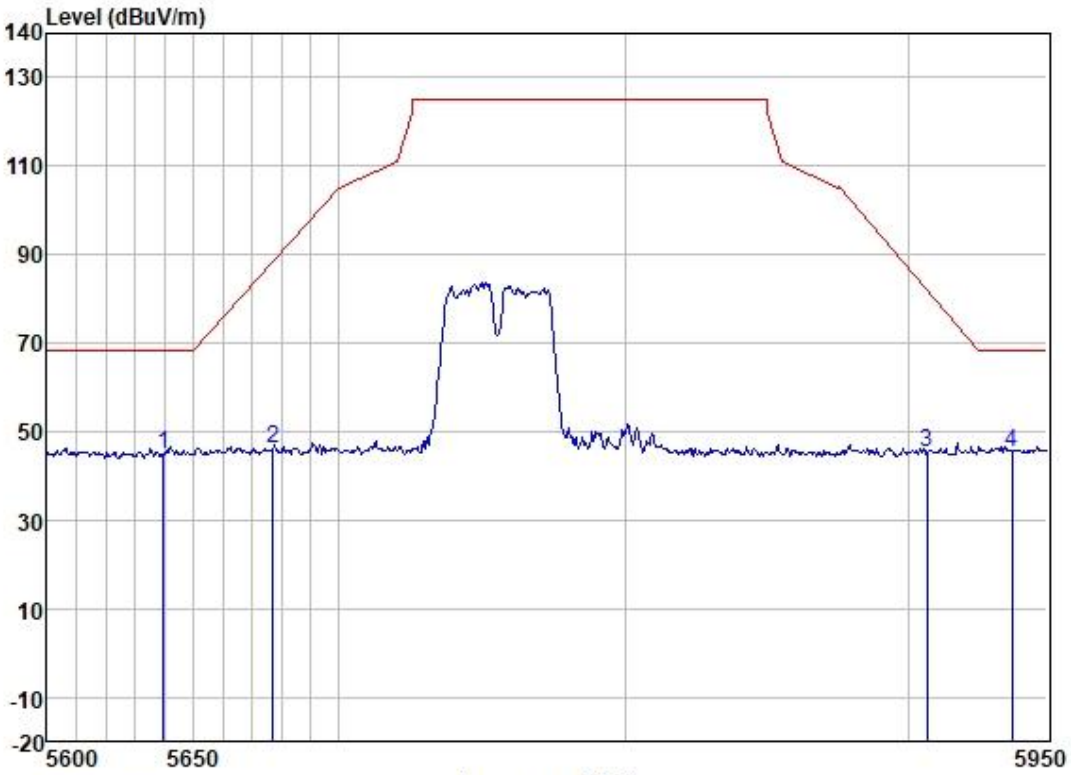
Test Mode: 07; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5630.638	42.82	31.93	6.33	36.17	44.91	68.20	-23.29	HORIZONTAL	Peak
2	5677.254	42.91	31.99	6.38	36.16	45.12	88.41	-43.29	HORIZONTAL	Peak
3	5899.713	43.13	32.31	5.90	36.12	45.22	86.91	-41.69	HORIZONTAL	Peak
4	5940.269	44.09	32.34	6.00	36.11	46.32	68.20	-21.88	HORIZONTAL	Peak

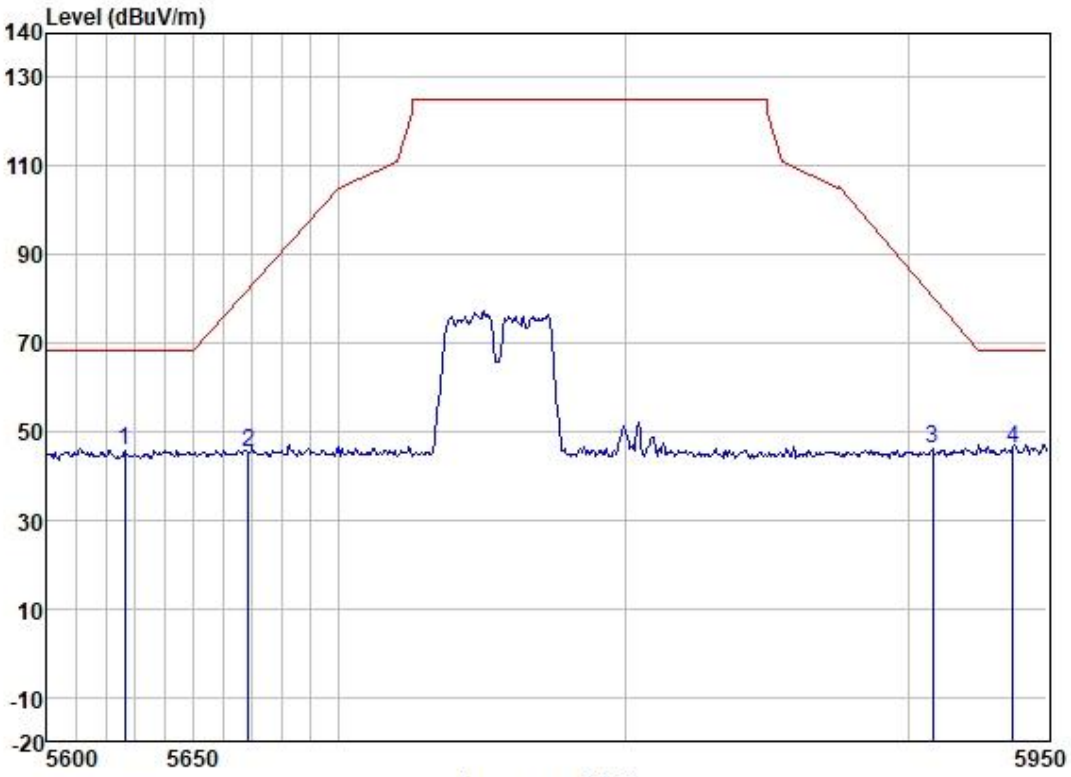
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5639.521	42.75	31.93	6.33	36.16	44.85	68.20	-23.35	VERTICAL	Peak
2	5677.254	44.02	31.99	6.38	36.16	46.23	88.41	-42.18	VERTICAL	Peak
3	5906.871	43.00	32.31	5.90	36.12	45.09	81.60	-36.51	VERTICAL	Peak
4	5937.388	43.24	32.34	6.00	36.11	45.47	68.20	-22.73	VERTICAL	Peak

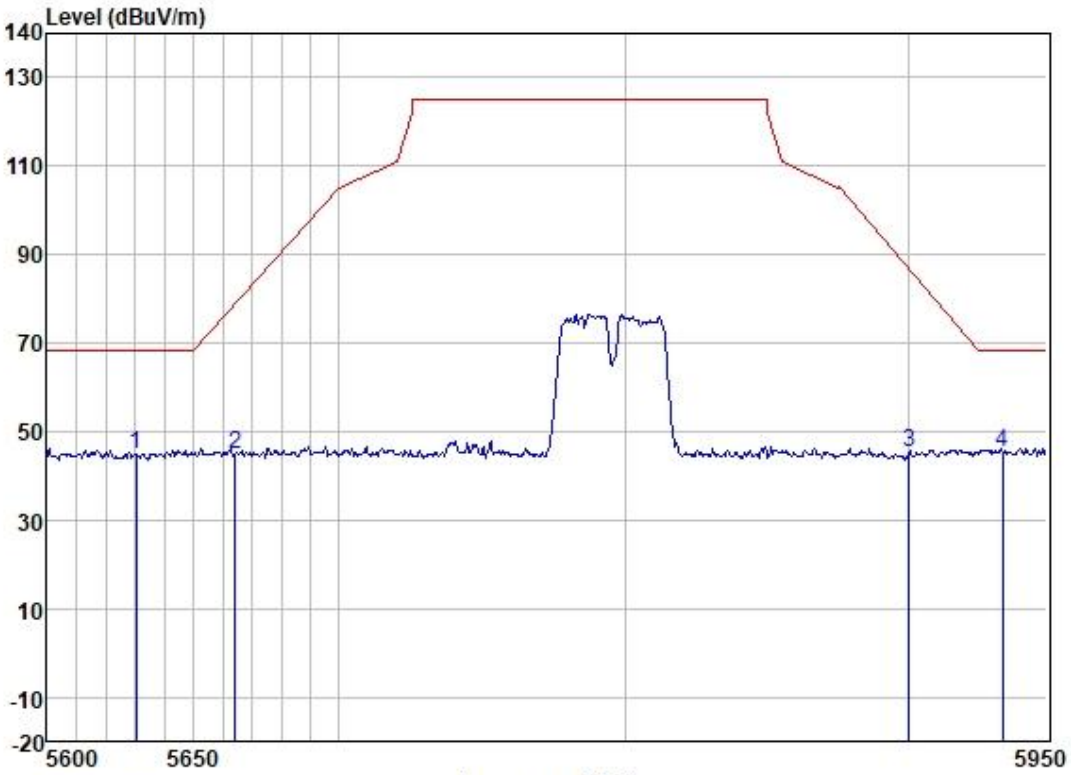
Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5626.543	43.49	31.93	6.33	36.17	45.58	68.20	-22.62	HORIZONTAL	Peak
2	5668.657	43.00	31.97	6.37	36.16	45.18	82.04	-36.86	HORIZONTAL	Peak
3	5908.662	44.04	32.33	5.95	36.12	46.20	80.28	-34.08	HORIZONTAL	Peak
4	5937.748	43.89	32.34	6.00	36.11	46.12	68.20	-22.08	HORIZONTAL	Peak

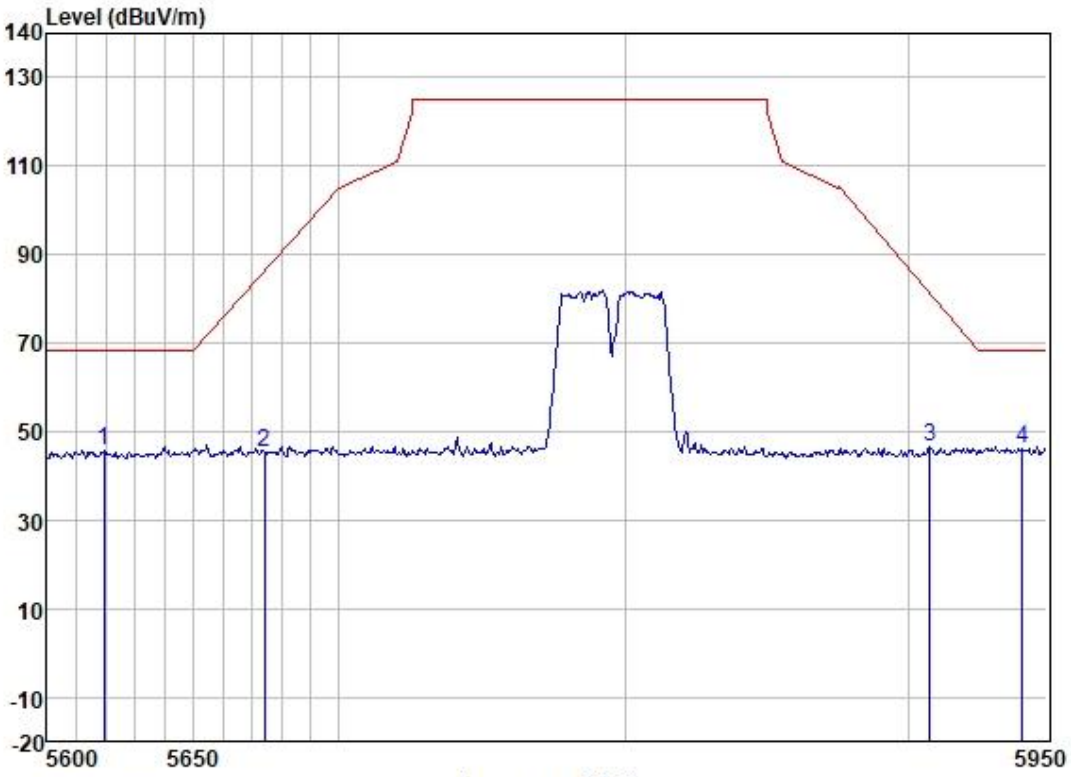
Test Mode: 07; Polarity: Vertical; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5630.297	42.86	31.93	6.33	36.17	44.95	68.20	-23.25	VERTICAL	Peak
2	5664.191	42.55	31.97	6.37	36.16	44.73	78.73	-34.00	VERTICAL	Peak
3	5900.429	43.16	32.31	5.90	36.12	45.25	86.38	-41.13	VERTICAL	Peak
4	5933.790	43.16	32.34	6.00	36.11	45.39	68.20	-22.81	VERTICAL	Peak

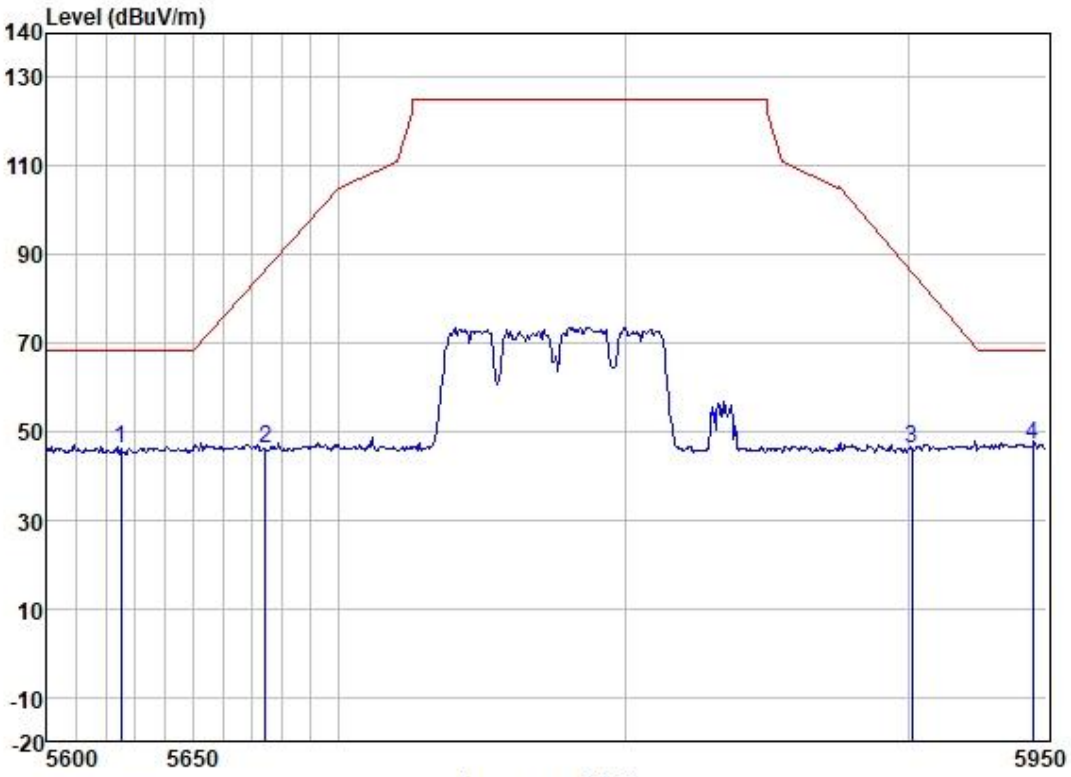
Test Mode: 07; Polarity: Horizontal; Modulation:802.11n; Bandwidth:40MHz; Channel:High



race: (Discrete)

	Freq	ReadLevel	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5619.385	43.44	31.91	6.32	36.17	45.50	68.20	-22.70	HORIZONTAL	Peak
2	5674.158	43.06	31.99	6.38	36.16	45.27	86.12	-40.85	HORIZONTAL	Peak
3	5907.945	44.24	32.33	5.95	36.12	46.40	80.81	-34.41	HORIZONTAL	Peak
4	5940.989	43.77	32.34	6.00	36.11	46.00	68.20	-22.20	HORIZONTAL	Peak

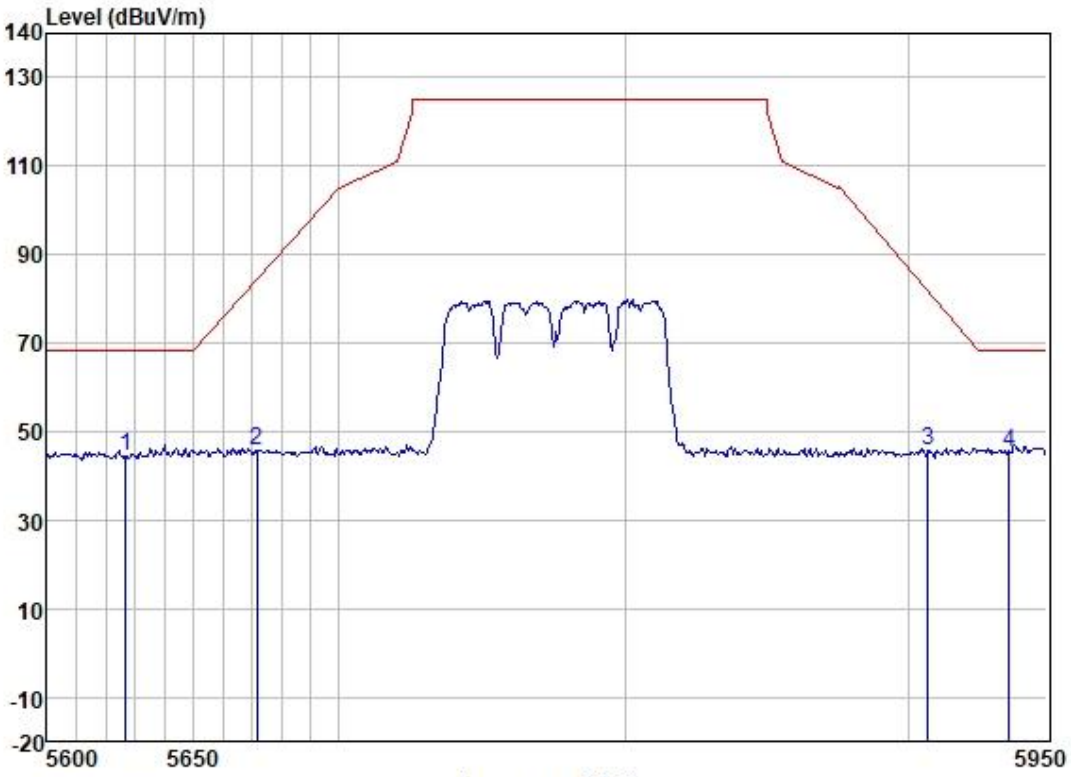
Test Mode: 07; Polarity: Vertical; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5625.179	44.26	31.93	6.33	36.17	46.35	68.20	-21.85	VERTICAL	Peak
2	5674.502	43.83	31.99	6.38	36.16	46.04	86.37	-40.33	VERTICAL	Peak
3	5901.502	44.01	32.31	5.90	36.12	46.10	85.58	-39.48	VERTICAL	Peak
4	5944.592	44.78	32.36	6.05	36.11	47.08	68.20	-21.12	VERTICAL	Peak

Test Mode: 07; Polarity: Horizontal; Modulation:802.11ac; Bandwidth:80MHz; Channel:Low



race: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	5626.885	42.20	31.93	6.33	36.17	44.29	68.20	-23.91	HORIZONTAL	Peak
2	5671.750	43.41	31.97	6.37	36.16	45.59	84.34	-38.75	HORIZONTAL	Peak
3	5907.229	43.58	32.33	5.95	36.12	45.74	81.34	-35.60	HORIZONTAL	Peak
4	5936.309	43.15	32.34	6.00	36.11	45.38	68.20	-22.82	HORIZONTAL	Peak

7.10 Frequency Stability

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

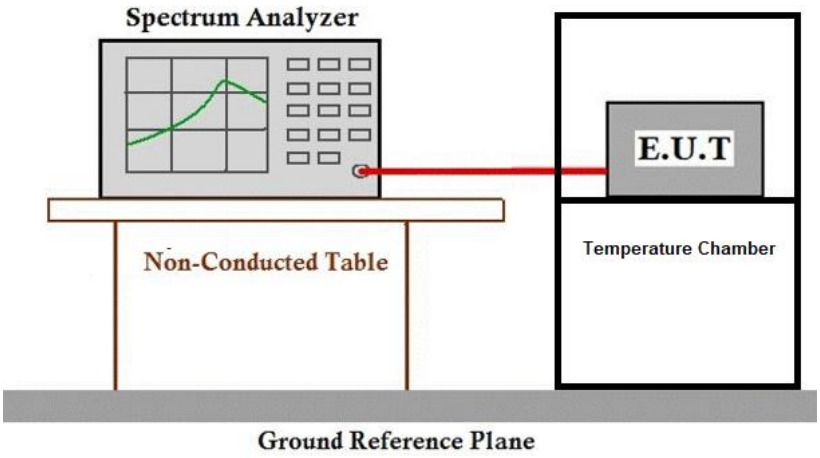
7.10.1 E.U.T. Operation

Operating Environment:
Temperature: 24 °C Humidity: 56 % RH Atmospheric Pressure: 1015 mbar

7.10.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	05	TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	06	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.10.3 Test Setup Diagram



7.10.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.11 Transmitter Power Control

Test Requirement 47 CFR Part 15, Subpart E 15.407 (h)(1)

Test Method: KDB 789033 D02 II E

Limit:

Able to lower EIRP below 24dBm when Max_EIRP ≥ 500 mW (27 dBm).

7.11.1 E.U.T. Operation

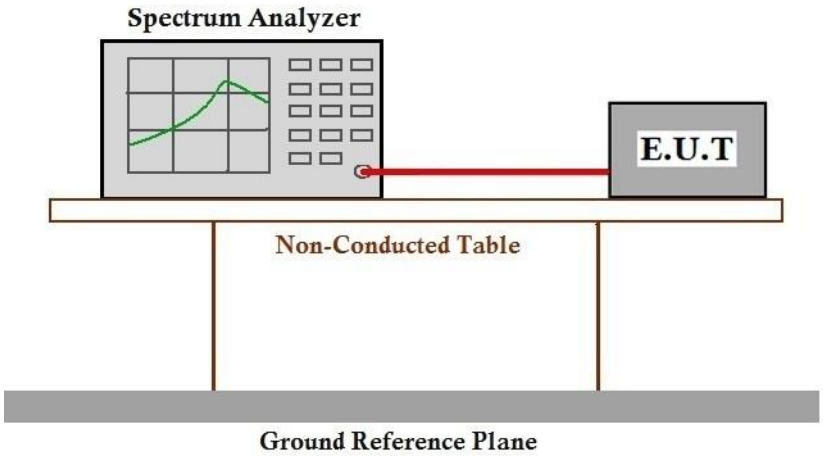
Operating Environment:

Temperature: 24 °C Humidity: 56 % RH Atmospheric Pressure: 1015 mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	06	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.11.3 Test Setup Diagram



7.11.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.12 Radiated Emissions (Below 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)

Test Method: KDB 789033 D02 II G

Test Distance: 3 m

Limit:

Frequency (MHz)	Field strength(microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

7.12.1 E.U.T. Operation

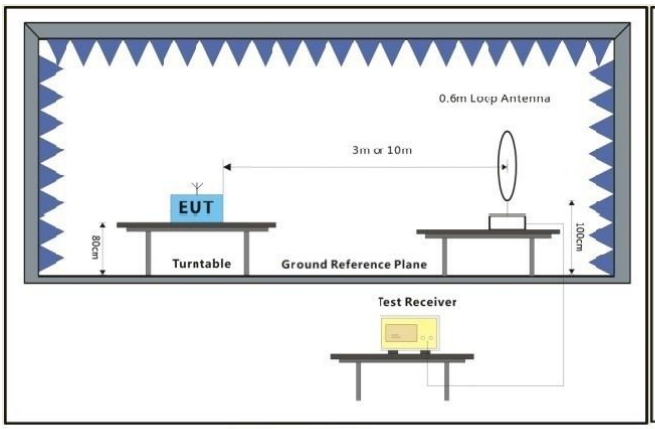
Operating Environment:

Temperature: 23.6 °C Humidity: 56.3 % RH Atmospheric Pressure: 1006 mbar

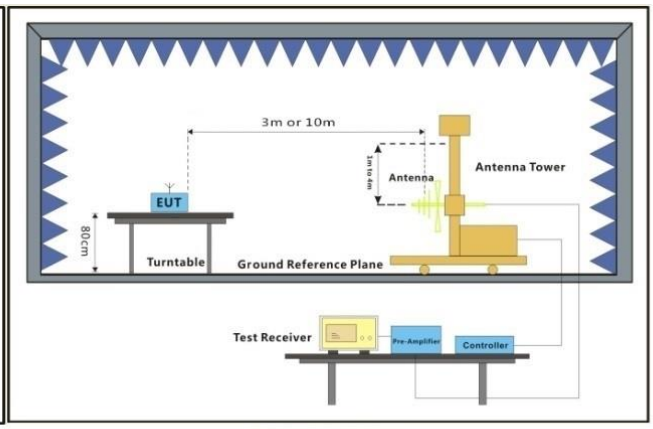
7.12.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	04	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	05	TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	06	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

7.12.3 Test Setup Diagram



Below 30MHz



30MHz-1GHz

7.12.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

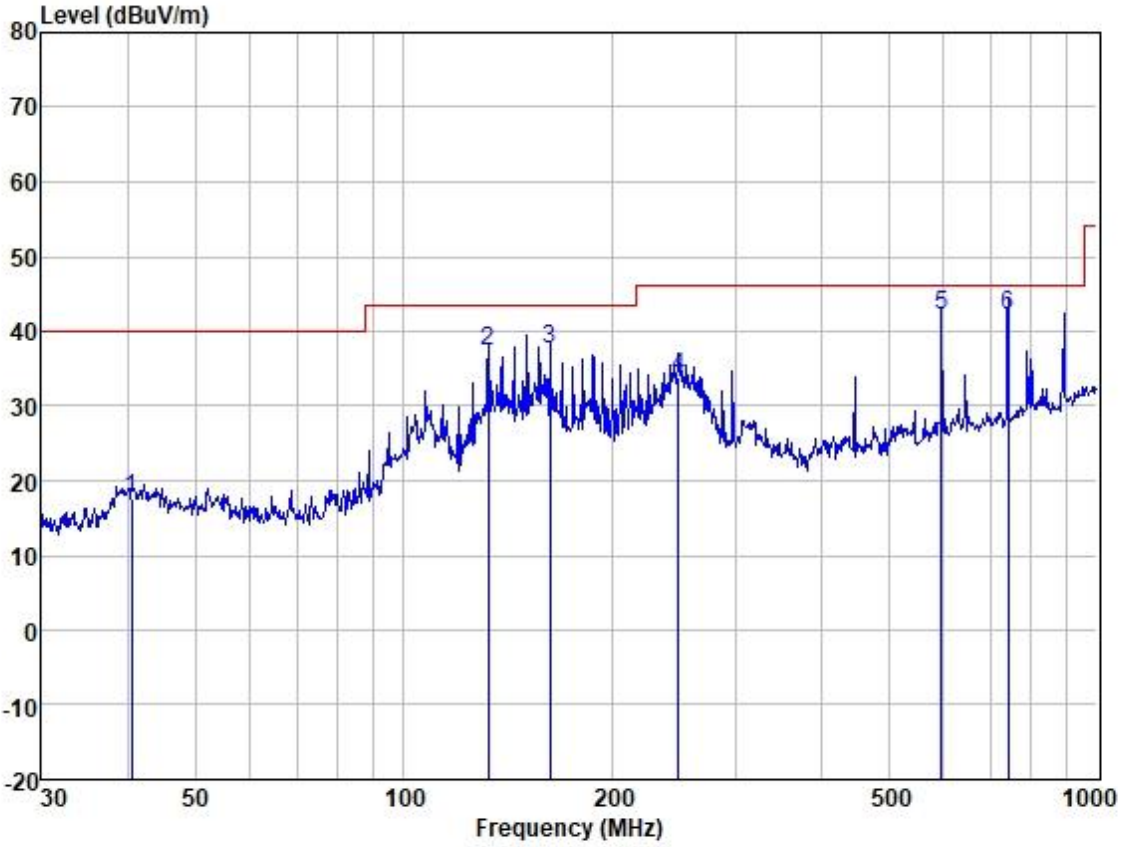
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.

3. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

4. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

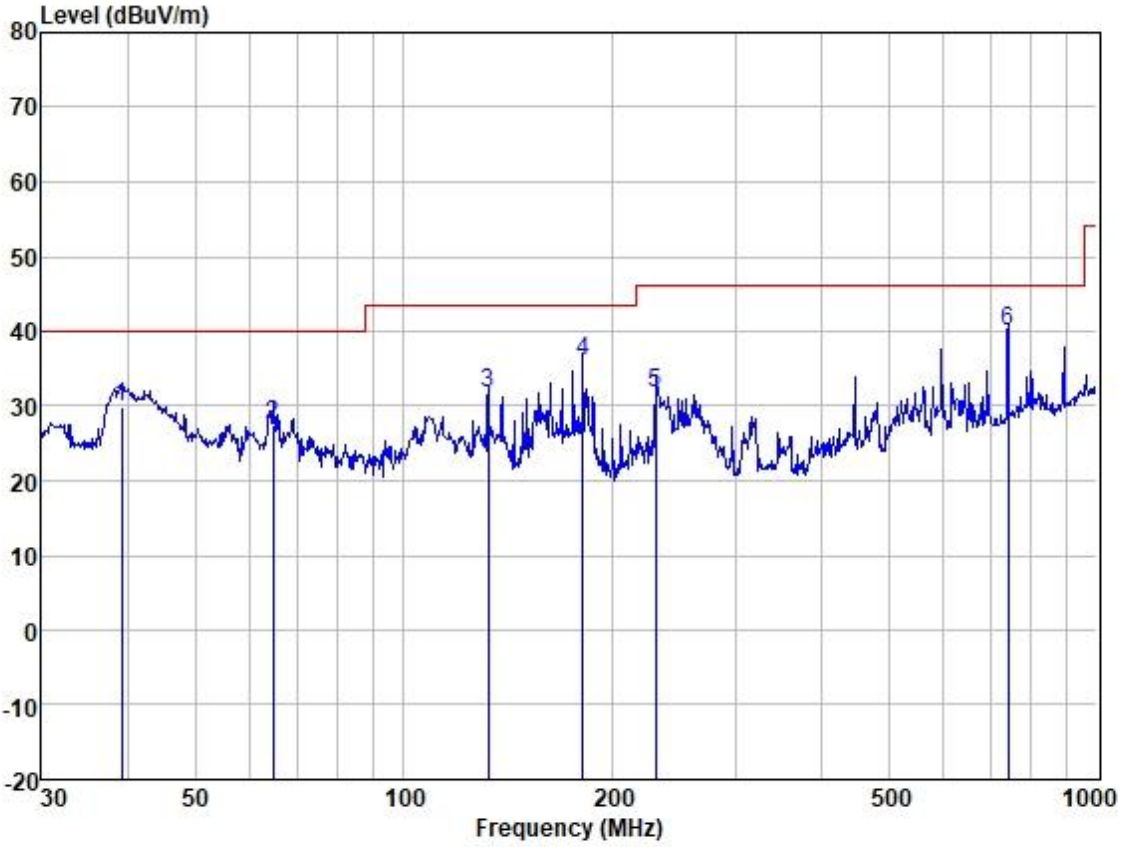
Test Mode: 04; Polarity: Horizontal



Site : SGS
Job :
Model :
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	40.417	30.42	13.58	1.09	27.61	17.48	40.00	-22.52	HORIZONTAL	QP
2	132.221	50.61	12.31	1.96	27.51	37.37	43.50	-6.13	HORIZONTAL	QP
3	162.611	49.15	13.52	2.35	27.35	37.67	43.50	-5.83	HORIZONTAL	QP
4	248.552	46.53	11.76	2.93	27.24	33.98	46.00	-12.02	HORIZONTAL	QP
5	595.133	46.04	20.04	4.95	28.79	42.24	46.00	-3.76	HORIZONTAL	QP
6	744.866	43.23	21.82	5.76	28.65	42.16	46.00	-3.84	HORIZONTAL	QP

Test Mode: 04; Polarity: Vertical



Site : SGS
Job :
Model :
Power :
Test Mode :

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	39.162	43.05	13.40	1.08	27.61	29.92	40.00	-10.08	VERTICAL	QP
2	64.659	41.10	12.59	1.33	27.60	27.42	40.00	-12.58	VERTICAL	QP
3	132.221	44.96	12.31	1.96	27.51	31.72	43.50	-11.78	VERTICAL	QP
4	181.283	48.64	12.28	2.45	27.32	36.05	43.50	-7.45	VERTICAL	QP
5	230.907	45.49	10.89	2.75	27.28	31.85	46.00	-14.15	VERTICAL	QP
6	744.866	41.18	21.82	5.76	28.65	40.11	46.00	-5.89	VERTICAL	QP

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for GZCR220600077605

9 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for GZCR2206000776AT

10 Appendix

1. Duty Cycle

1.1 Ant1

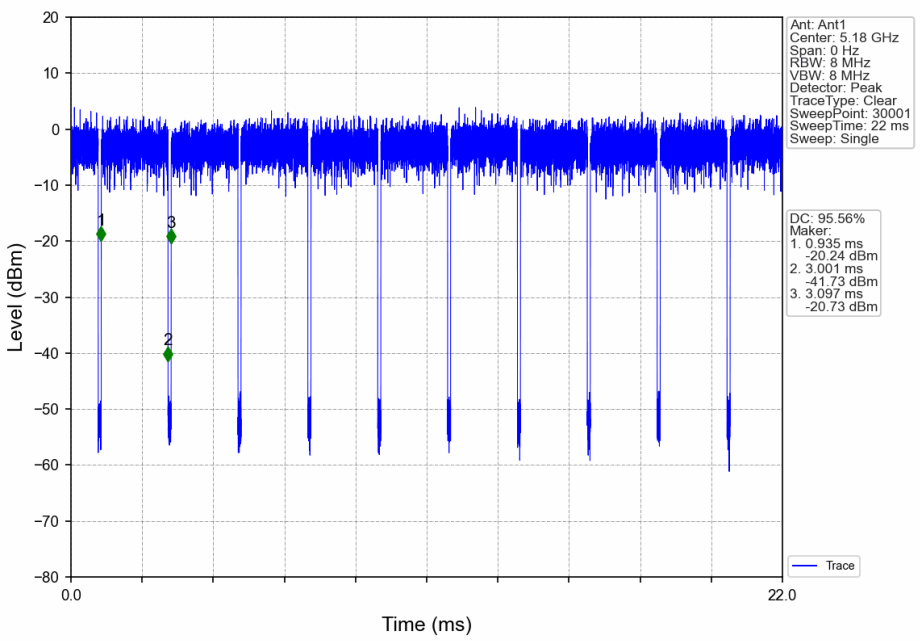
1.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	2.066	2.162	95.56	0.20	0.13
		5200	2.066	2.158	95.74	0.19	0.23
		5240	2.066	2.158	95.74	0.19	0.16
		5260	2.065	2.159	95.65	0.19	0.20
		5300	2.066	2.159	95.69	0.19	0.29
		5320	2.066	2.159	95.69	0.19	0.29
		5500	2.066	2.159	95.69	0.19	0.16
		5580	2.065	2.165	95.38	0.21	0.62
		5700	2.066	2.159	95.69	0.19	0.16
		5745	2.066	2.159	95.69	0.19	0.20
		5785	2.066	2.158	95.74	0.19	0.13
		5825	2.066	2.158	95.74	0.19	0.16
802.11n (HT20)	MIMO	5180	1.926	2.020	95.35	0.21	0.13
		5200	1.925	2.019	95.34	0.21	0.25
		5240	1.926	2.021	95.30	0.21	0.24
		5260	1.926	2.019	95.39	0.20	0.16
		5300	1.925	2.021	95.25	0.21	0.25
		5320	1.926	2.020	95.35	0.21	0.22
		5500	1.926	2.021	95.30	0.21	0.28
		5580	1.925	2.022	95.20	0.21	0.29
		5700	1.925	2.019	95.34	0.21	0.22
		5745	1.926	2.021	95.30	0.21	0.31
		5785	1.924	2.020	95.25	0.21	0.24
		5825	1.926	2.024	95.16	0.22	0.47
802.11n (HT40)	MIMO	5190	0.950	1.042	91.17	0.40	0.97
		5230	0.949	1.042	91.07	0.41	1.00
		5270	0.949	1.041	91.16	0.40	0.91
		5310	0.949	1.043	90.99	0.41	1.04
		5510	0.949	1.041	91.16	0.40	0.80
		5550	0.949	1.044	90.90	0.41	1.16

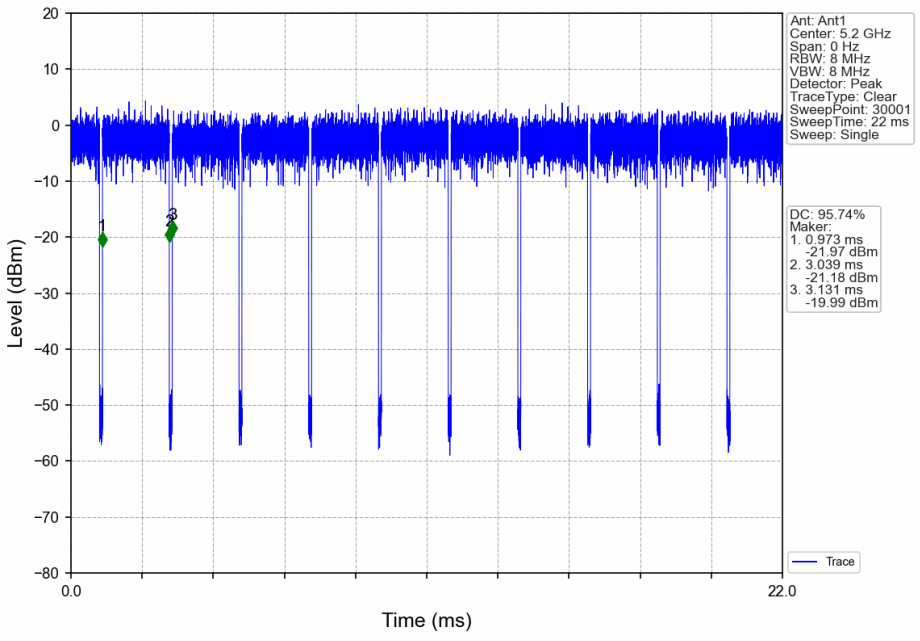
		5670	0.949	1.042	91.07	0.41	0.97
		5755	0.949	1.042	91.07	0.41	1.01
		5795	0.950	1.041	91.26	0.40	0.89
802.11ac (VHT20)	MIMO	5180	1.934	2.030	95.27	0.21	0.17
		5200	1.934	2.028	95.36	0.21	0.24
		5240	1.933	2.028	95.32	0.21	0.31
		5260	1.934	2.029	95.32	0.21	0.24
		5300	1.933	2.029	95.27	0.21	0.28
		5320	1.934	2.028	95.36	0.21	0.17
		5500	1.933	2.028	95.32	0.21	0.28
		5580	1.934	2.029	95.32	0.21	0.19
		5700	1.933	2.027	95.36	0.21	0.21
		5745	1.934	2.028	95.36	0.21	0.12
		5785	1.934	2.030	95.27	0.21	0.24
		5825	1.934	2.028	95.36	0.21	0.13
802.11ac (VHT40)	MIMO	5190	0.953	1.047	91.02	0.41	1.06
		5230	0.953	1.046	91.11	0.40	0.97
		5270	0.954	1.047	91.12	0.40	0.97
		5310	0.953	1.046	91.11	0.40	0.97
		5510	0.953	1.046	91.11	0.40	0.97
		5550	0.954	1.048	91.03	0.41	1.07
		5670	0.954	1.047	91.12	0.40	1.07
		5755	0.953	1.047	91.02	0.41	1.13
		5795	0.953	1.047	91.02	0.41	1.06
802.11ac (VHT80)	MIMO	5210	0.464	0.555	83.60	0.78	1.54
		5290	0.466	0.558	83.51	0.78	1.90
		5530	0.465	0.558	83.33	0.79	1.87
		5610	0.465	0.558	83.33	0.79	1.99
		5775	0.466	0.557	83.66	0.77	1.81

1.1.2 Test Graph

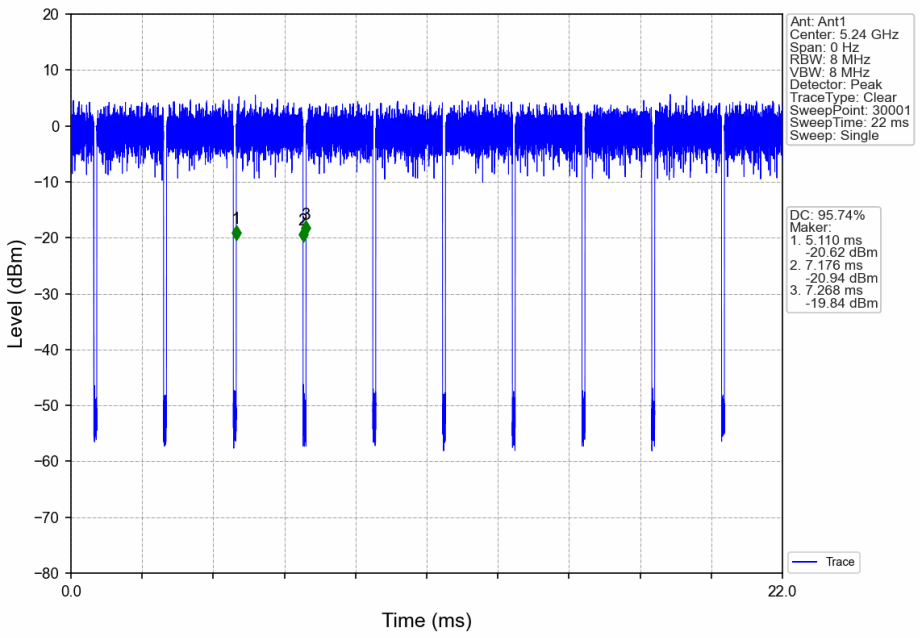
802.11a_LCH_5180MHz_Ant1_NTNV



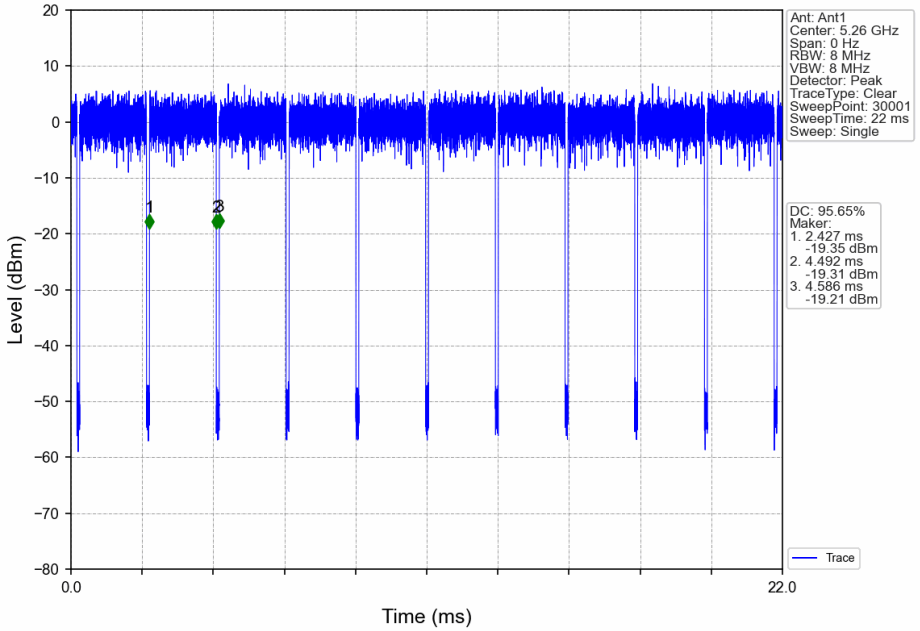
802.11a_MCH_5200MHz_Ant1_NTNV



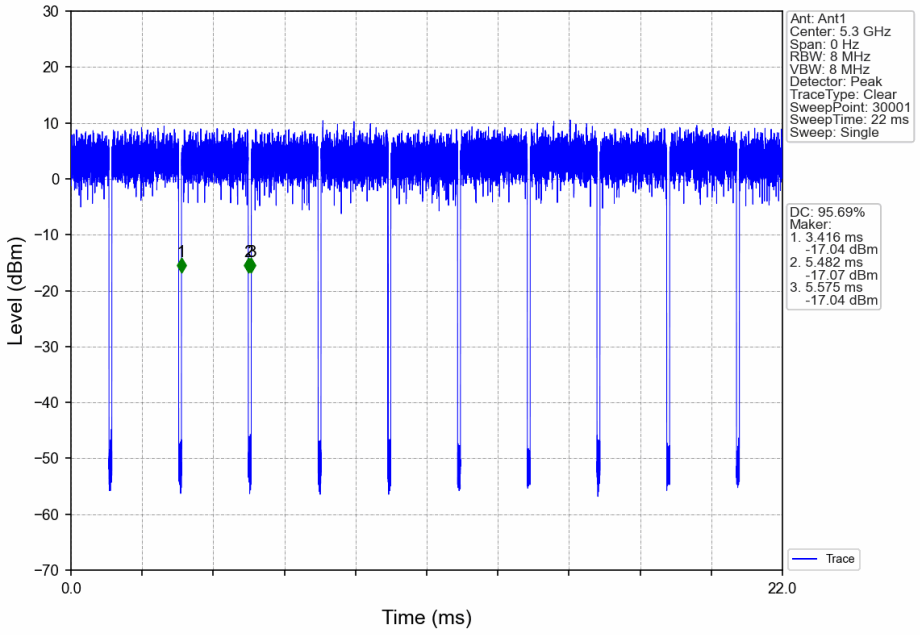
802.11a_HCH_5240MHz_Ant1_NTNV



802.11a_LCH_5260MHz_Ant1_NTNV



802.11a_MCH_5300MHz_Ant1_NTNV



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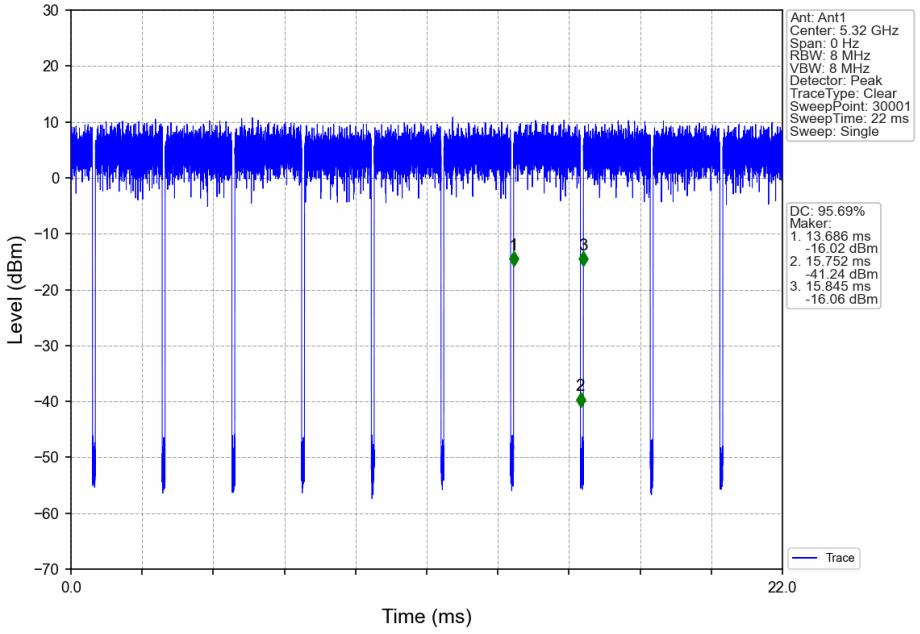
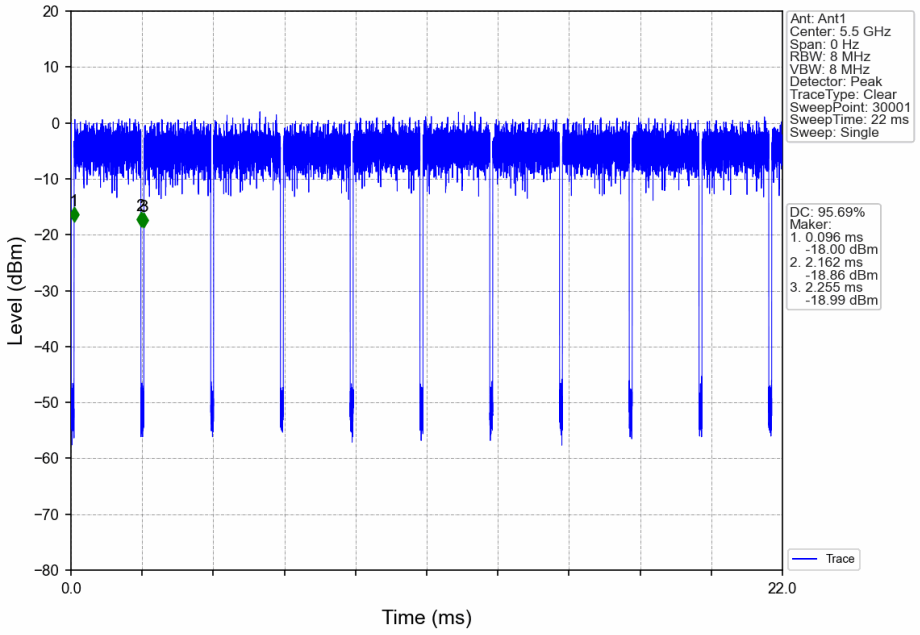


802.11a_LCH_5500MHz_Ant1_NTNV



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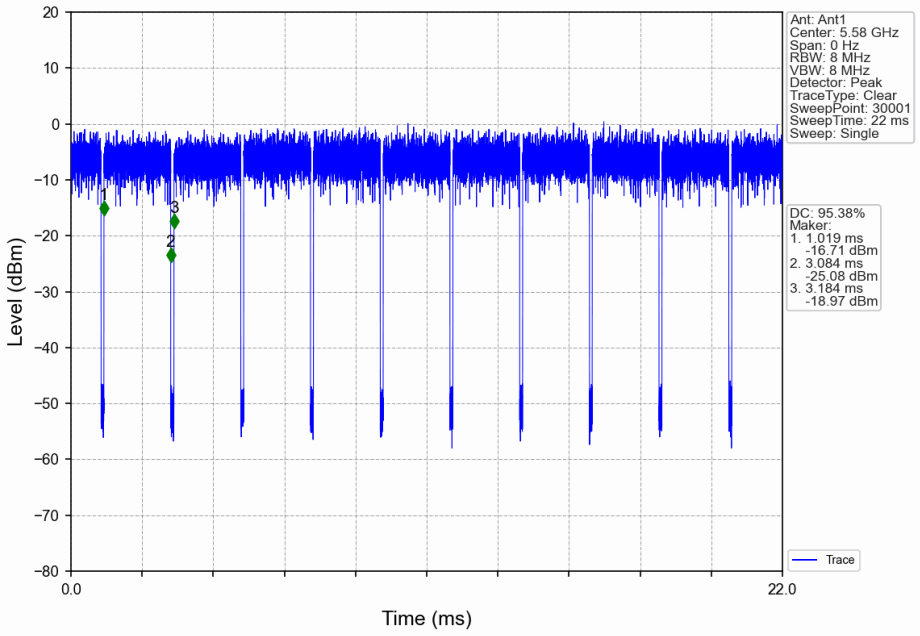
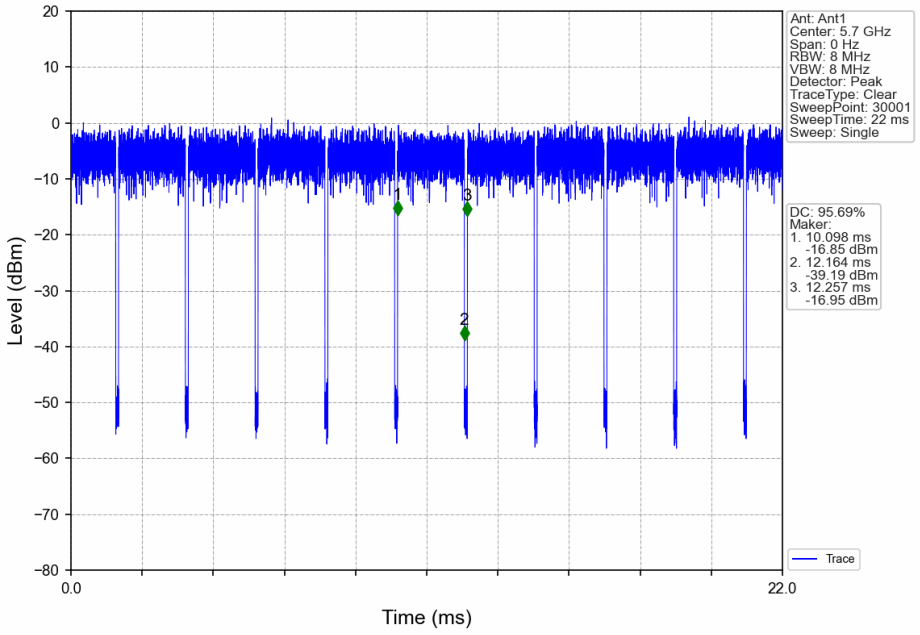


802.11a_HCH_5700MHz_Ant1_NTNV



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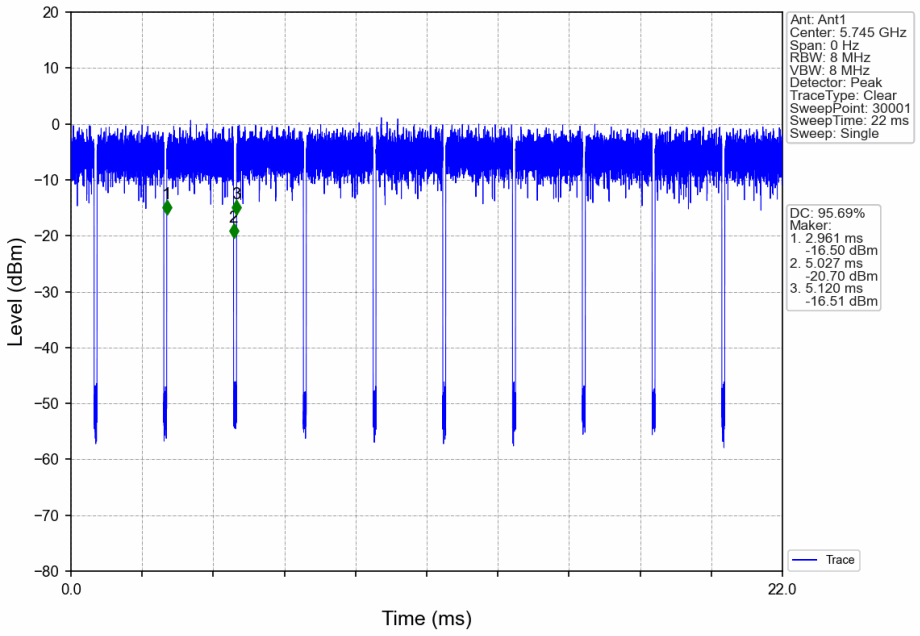

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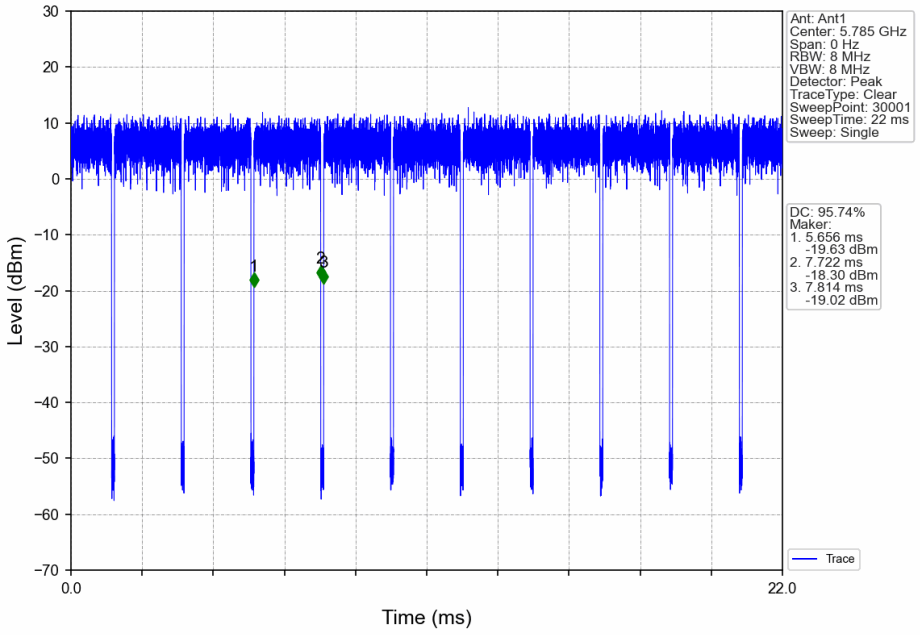
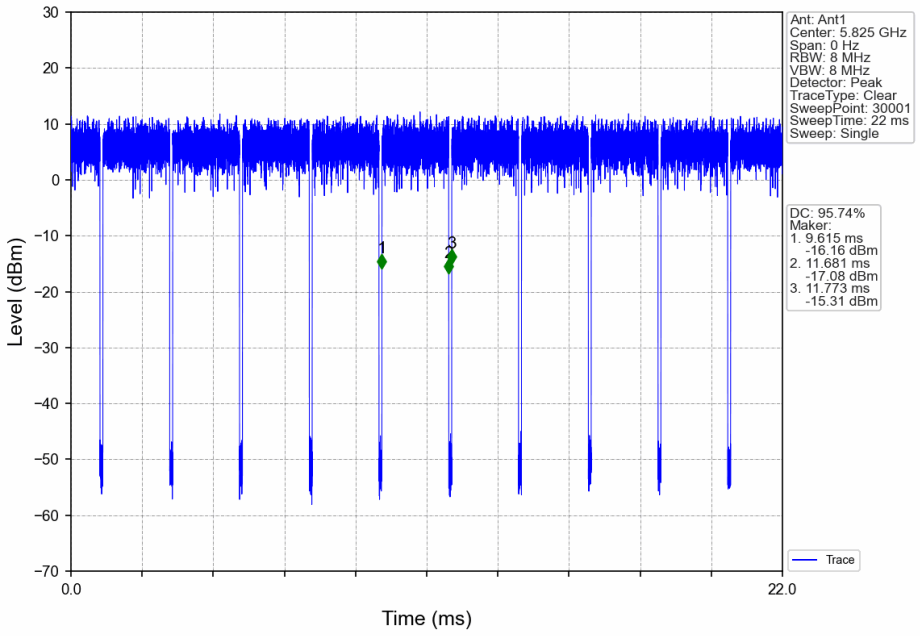
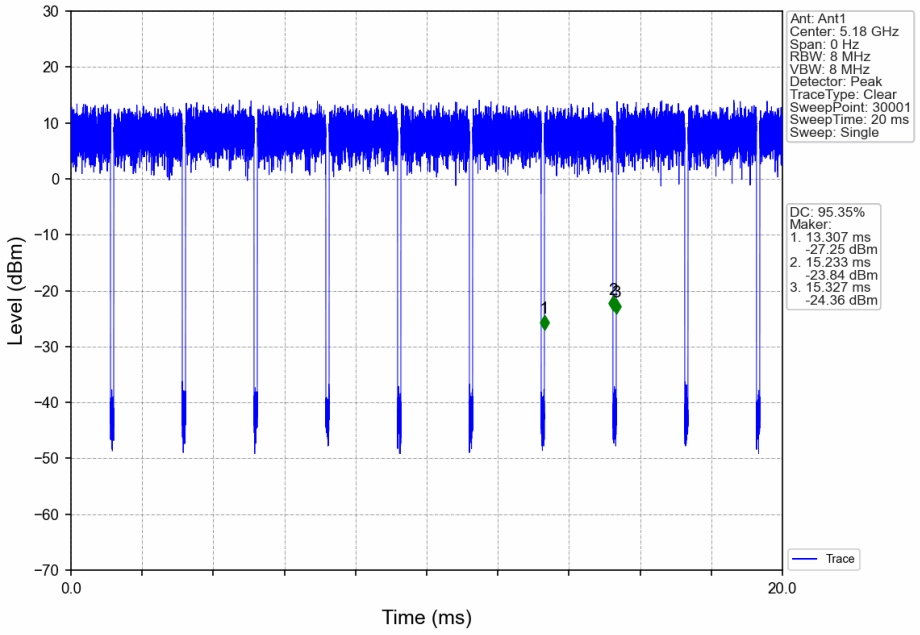


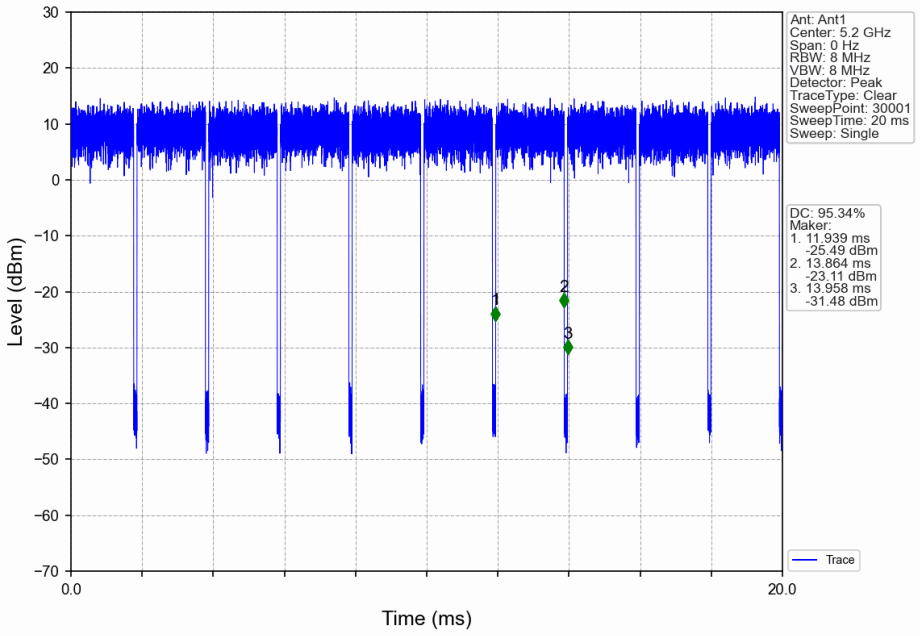
802.11a_HCH_5825MHz_Ant1_NTNV



802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



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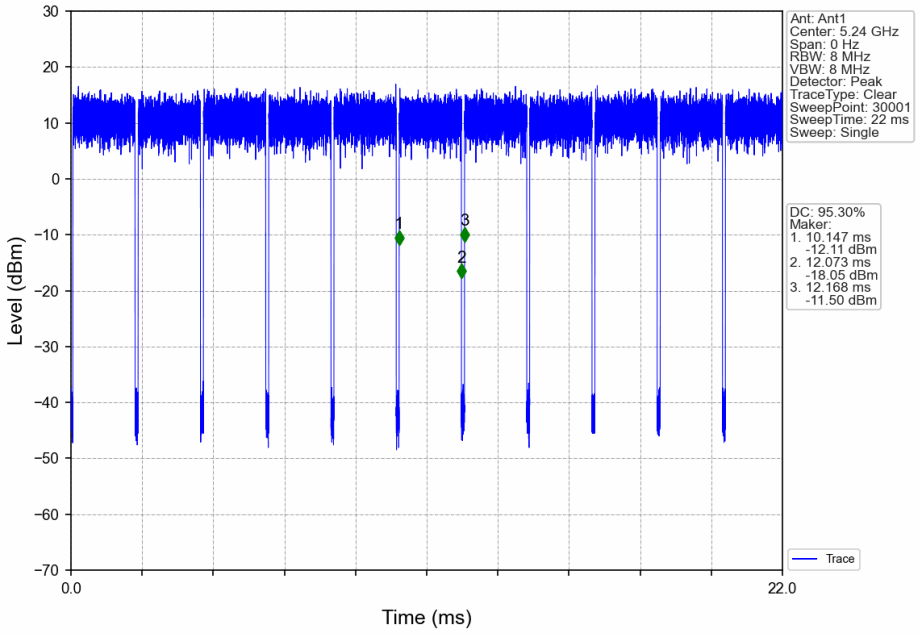
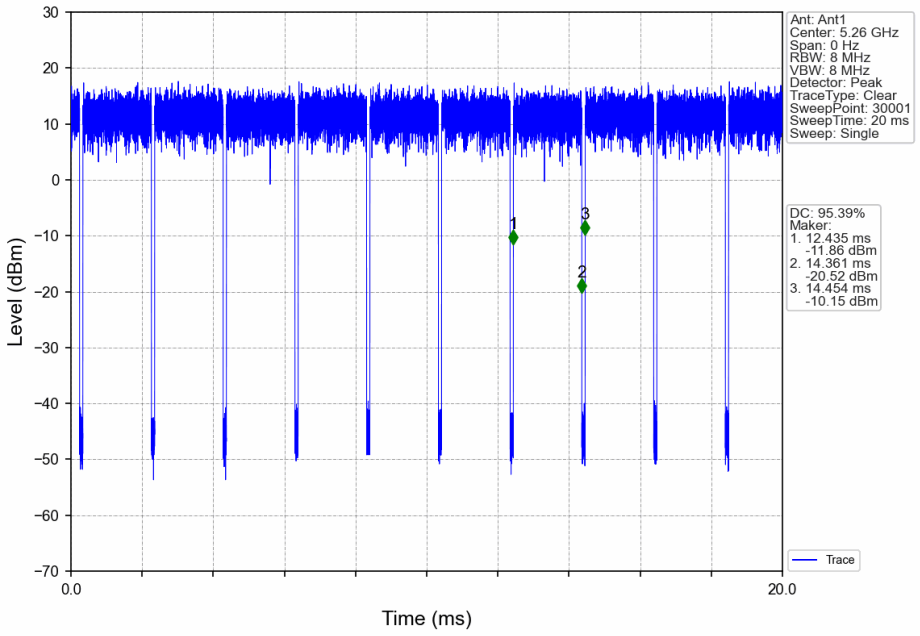
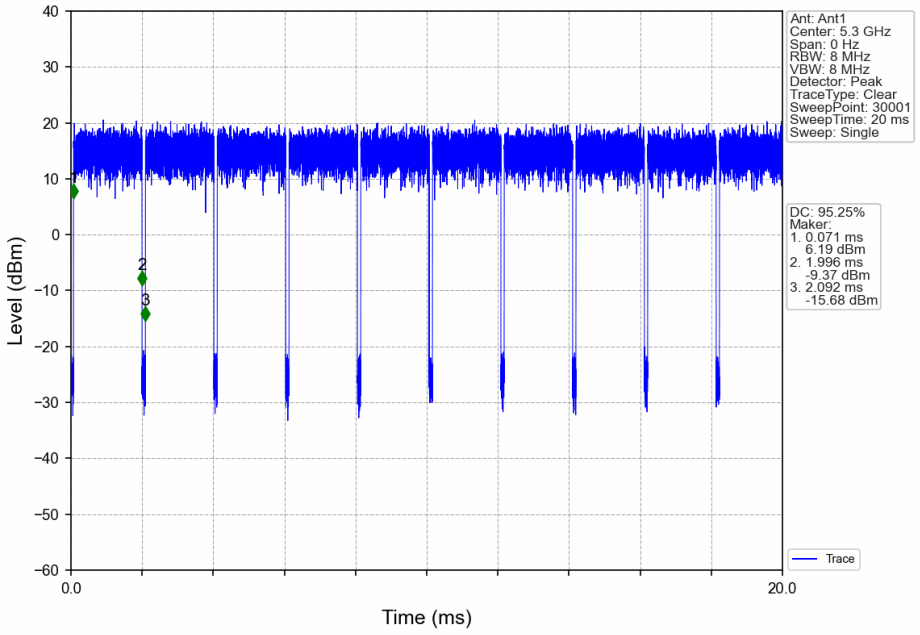


802.11n(HT20)_LCH_5260MHz_Ant1_NTNV



802.11n(HT20)_MCH_5300MHz_Ant1_NTNV



802.11n(HT20)_HCH_5320MHz_Ant1_NTNV