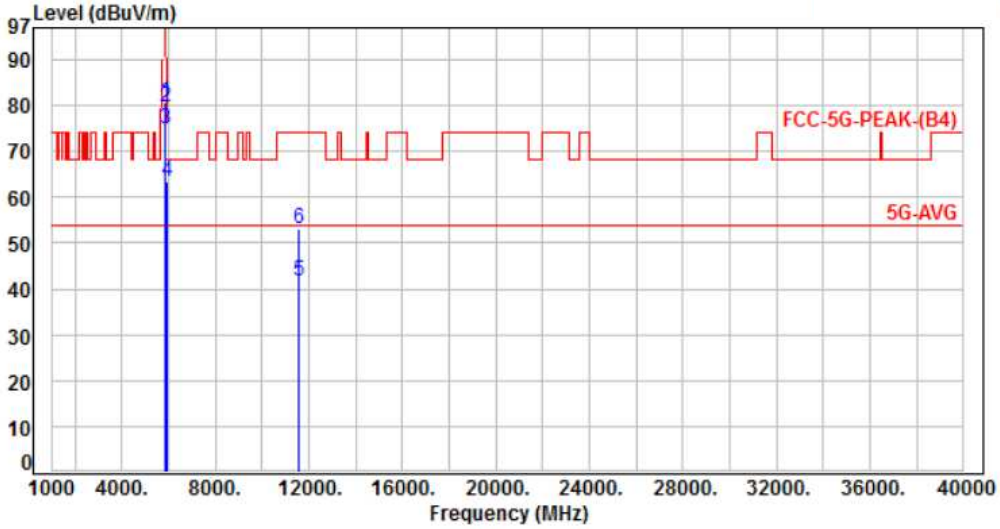
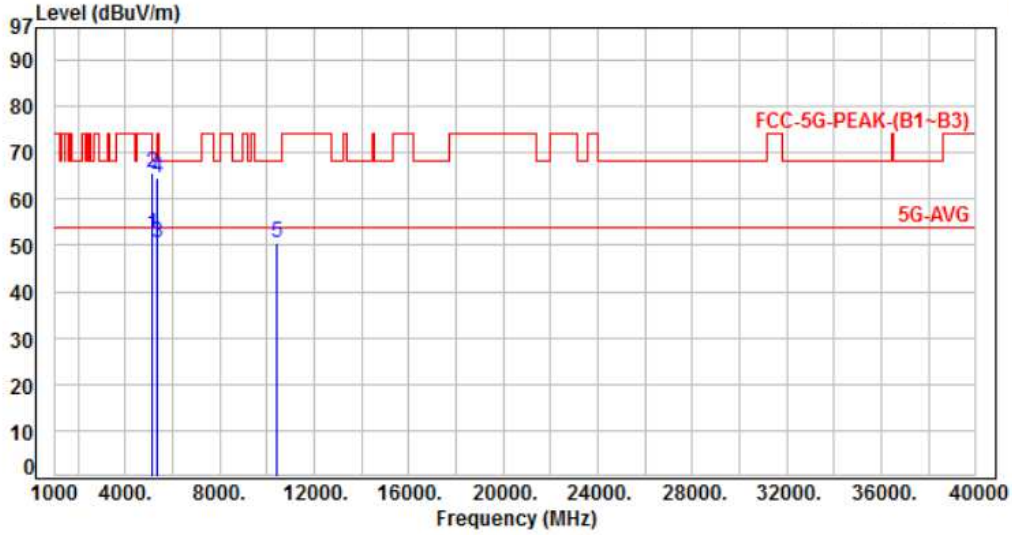
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, CH159	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-5.84	86.47	80.63	122.20	-41.57	Peak	125	224	P
2	5855.00	-5.84	85.33	79.49	110.80	-31.31	Peak	125	224	P
3	5875.00	-5.85	80.62	74.77	105.20	-30.43	Peak	125	224	P
4	5925.00	-5.87	69.44	63.57	68.20	-4.63	Peak	125	224	P
5	11590.00	2.10	39.63	41.73	54.00	-12.27	Average	100	289	P
6	11590.00	2.10	51.19	53.29	74.00	-20.71	Peak	100	289	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

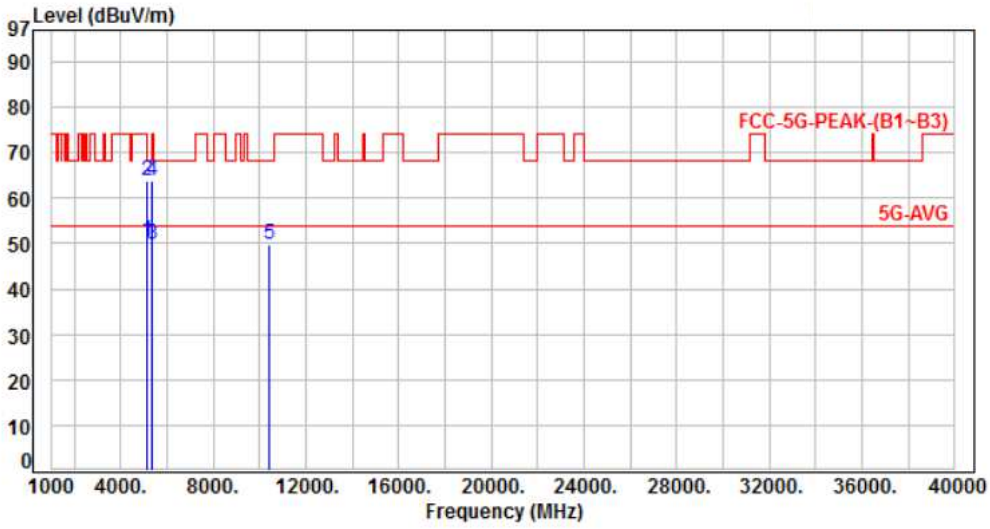
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6, CH42	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	58.87	52.33	54.00	-1.67	Average	400	212	P
2	5150.00	-6.54	72.10	65.56	74.00	-8.44	Peak	400	212	P
3	5350.00	-6.06	56.61	50.55	54.00	-3.45	Average	400	212	P
4	5350.00	-6.06	70.61	64.55	74.00	-9.45	Peak	400	212	P
5	10420.00	0.69	49.71	50.40	68.20	-17.80	Peak	107	347	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

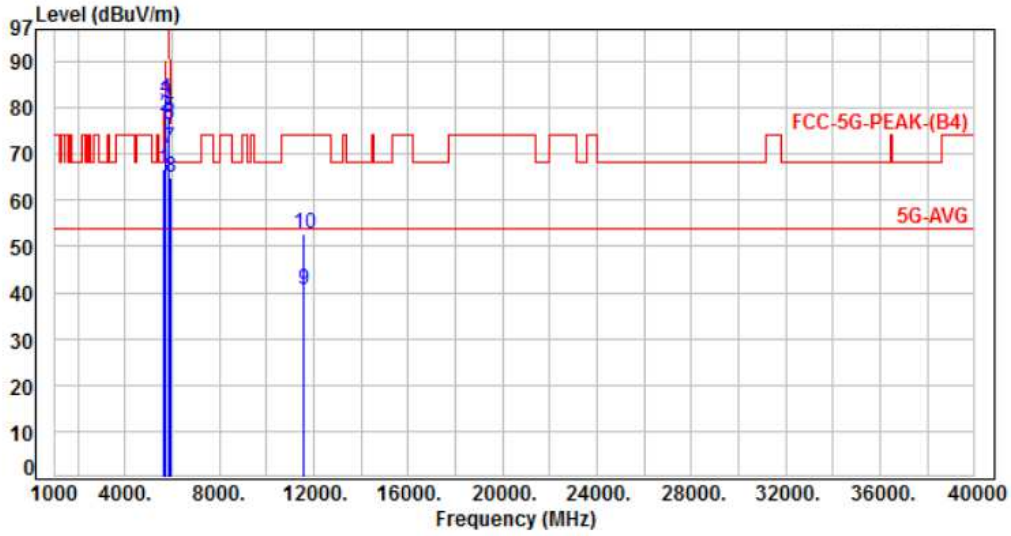
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 6, CH42	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	57.13	50.59	54.00	-3.41	Average	102	218	P
2	5150.00	-6.54	70.41	63.87	74.00	-10.13	Peak	102	218	P
3	5350.00	-6.06	55.97	49.91	54.00	-4.09	Average	102	218	P
4	5350.00	-6.06	69.82	63.76	74.00	-10.24	Peak	102	218	P
5	10420.00	0.69	49.25	49.94	68.20	-18.26	Peak	122	279	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

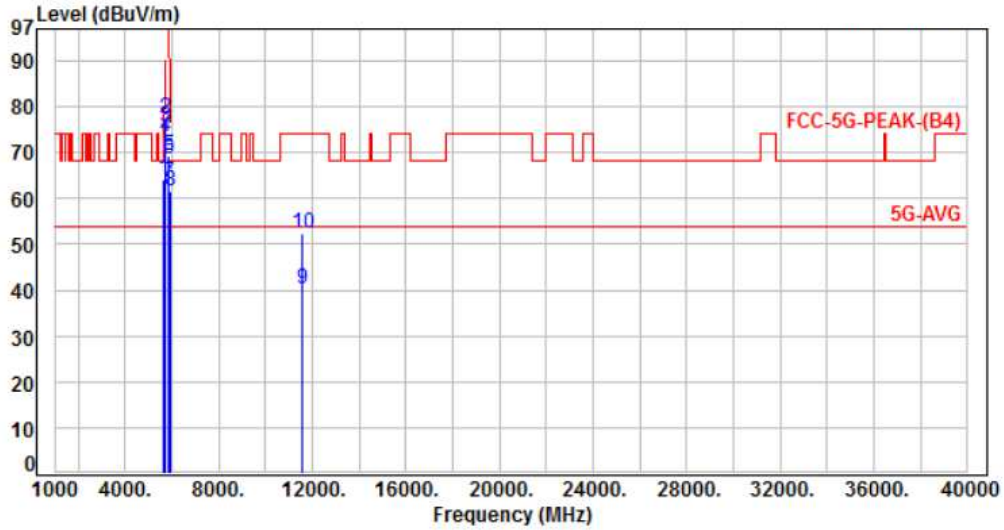
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6, CH155	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	72.46	66.69	68.20	-1.51	Peak	322	218	P
2	5700.00	-5.79	83.99	78.20	105.20	-27.00	Peak	322	218	P
3	5720.00	-5.80	87.02	81.22	110.80	-29.58	Peak	322	218	P
4	5725.00	-5.80	87.74	81.94	122.20	-40.26	Peak	322	218	P
5	5850.00	-5.84	83.62	77.78	122.20	-44.42	Peak	322	218	P
6	5855.00	-5.84	82.01	76.17	110.80	-34.63	Peak	322	218	P
7	5875.00	-5.85	77.08	71.23	105.20	-33.97	Peak	322	218	P
8	5925.00	-5.87	70.70	64.83	68.20	-3.37	Peak	322	218	P
9	11550.00	2.09	38.62	40.71	54.00	-13.29	Average	298	312	P
10	11550.00	2.09	50.83	52.92	74.00	-21.08	Peak	298	312	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 6, CH155	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%

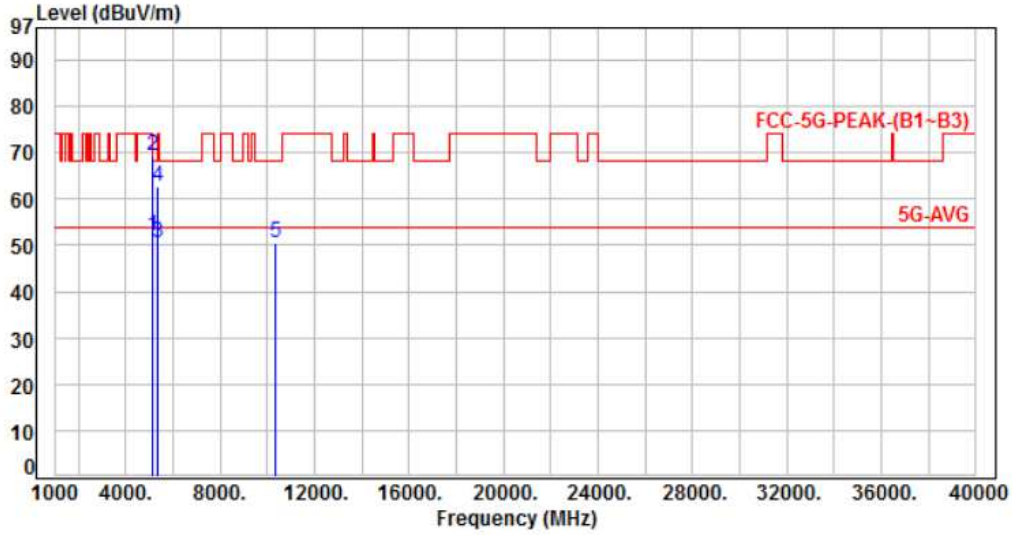


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	69.81	64.04	68.20	-4.16	Peak	118	249	P
2	5700.00	-5.79	83.13	77.34	105.20	-27.86	Peak	118	249	P
3	5720.00	-5.80	81.36	75.56	110.80	-35.24	Peak	118	249	P
4	5725.00	-5.80	79.35	73.55	122.20	-48.65	Peak	118	249	P
5	5850.00	-5.84	75.18	69.34	122.20	-52.86	Peak	118	249	P
6	5855.00	-5.84	74.52	68.68	110.80	-42.12	Peak	118	249	P
7	5875.00	-5.85	69.25	63.40	105.20	-41.80	Peak	118	249	P
8	5925.00	-5.87	67.34	61.47	68.20	-6.73	Peak	118	249	P
9	11550.00	2.09	38.19	40.28	54.00	-13.72	Average	102	265	P
10	11550.00	2.09	50.25	52.34	74.00	-21.66	Peak	102	265	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.6.2. Test Result and Data of Beamforming

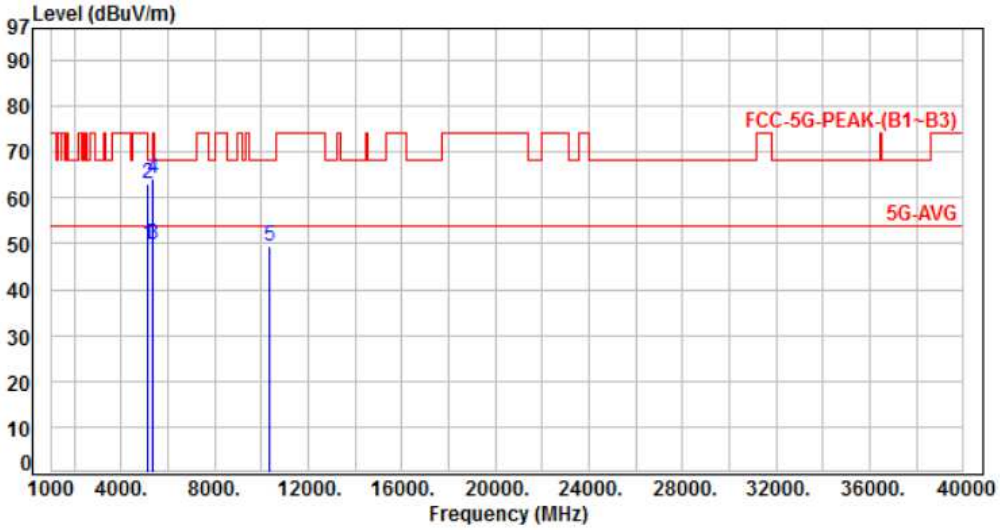
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH36	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	58.65	52.11	54.00	-1.89	Average	151	211	P
2	5150.00	-6.54	75.93	69.39	74.00	-4.61	Peak	151	211	P
3	5350.00	-6.06	56.46	50.40	54.00	-3.60	Average	151	211	P
4	5350.00	-6.06	68.93	62.87	74.00	-11.13	Peak	151	211	P
5	10360.00	0.66	49.87	50.53	68.20	-17.67	Peak	188	312	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

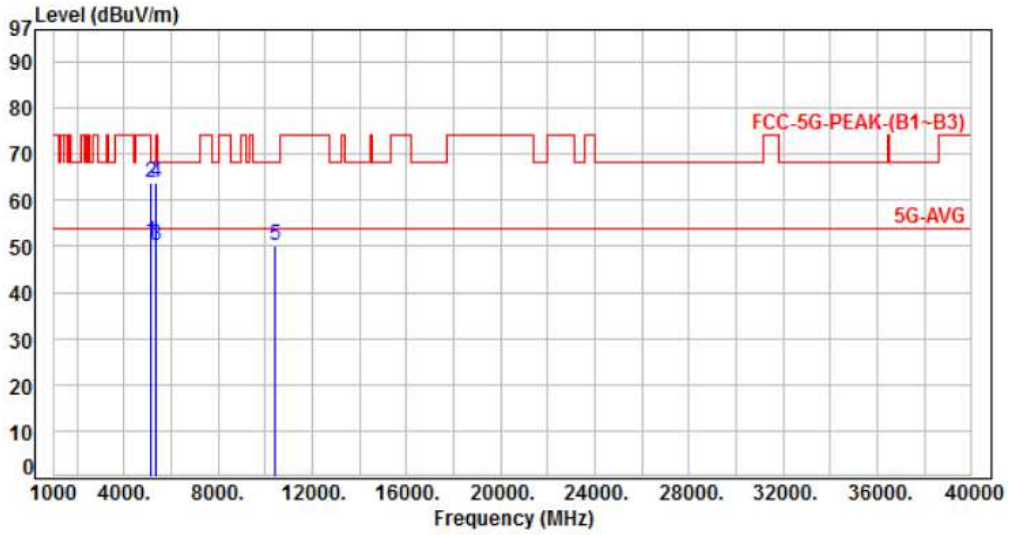
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH36	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	56.28	49.74	54.00	-4.26	Average	337	228	P
2	5150.00	-6.54	69.47	62.93	74.00	-11.07	Peak	337	228	P
3	5350.00	-6.06	55.89	49.83	54.00	-4.17	Average	337	228	P
4	5350.00	-6.06	70.12	64.06	74.00	-9.94	Peak	337	228	P
5	10360.00	0.66	48.61	49.27	68.20	-18.93	Peak	100	248	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

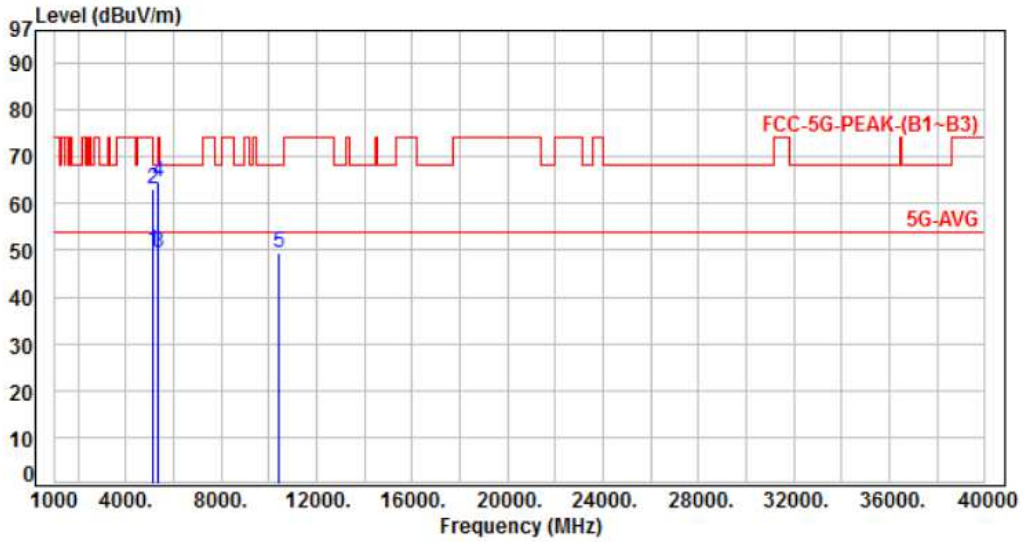
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH44	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	57.25	50.71	54.00	-3.29	Average	275	216	P
2	5150.00	-6.54	70.28	63.74	74.00	-10.26	Peak	216	275	P
3	5350.00	-6.06	56.10	50.04	54.00	-3.96	Average	216	275	P
4	5350.00	-6.06	69.89	63.83	74.00	-10.17	Peak	216	275	P
5	10440.00	0.70	49.60	50.30	68.20	-17.90	Peak	192	327	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

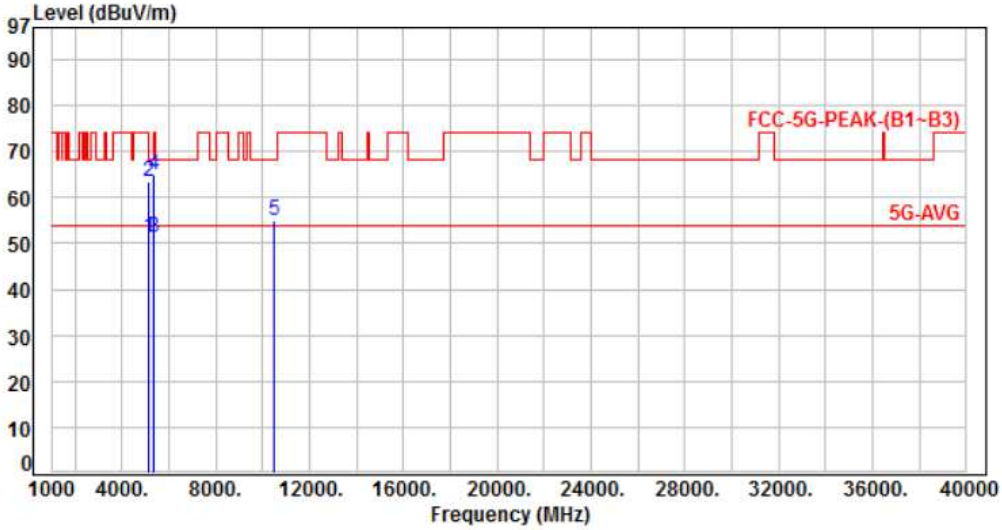
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH44	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	56.36	49.82	54.00	-4.18	Average	100	198	P
2	5150.00	-6.54	69.44	62.90	74.00	-11.10	Peak	100	198	P
3	5350.00	-6.06	55.36	49.30	54.00	-4.70	Average	100	198	P
4	5350.00	-6.06	70.62	64.56	74.00	-9.44	Peak	100	198	P
5	10440.00	0.70	48.73	49.43	68.20	-18.77	Peak	163	298	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

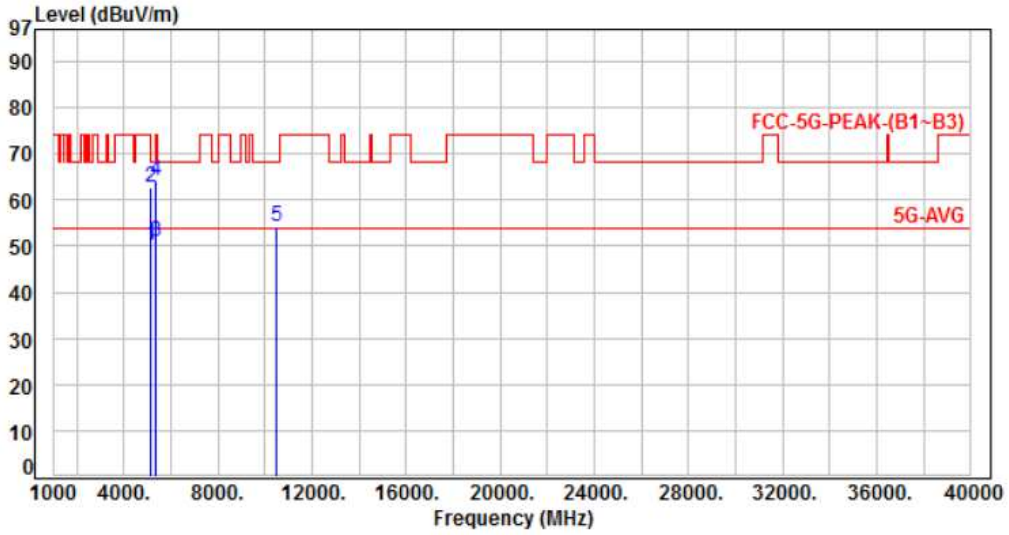
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH48	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	57.67	51.13	54.00	-2.87	Average	250	219	P
2	5150.00	-6.54	69.87	63.33	74.00	-10.67	Peak	250	219	P
3	5350.00	-6.06	57.50	51.44	54.00	-2.56	Average	250	219	P
4	5350.00	-6.06	70.84	64.78	74.00	-9.22	Peak	250	219	P
5	10480.00	0.73	54.31	55.04	68.20	-13.16	Peak	126	248	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

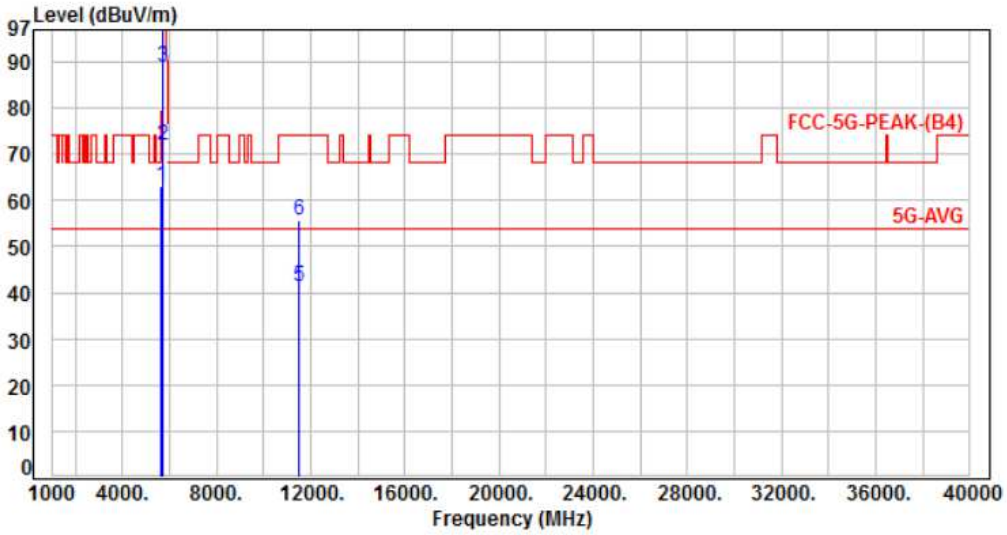
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH48	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	56.81	50.27	54.00	-3.73	Average	125	199	P
2	5150.00	-6.54	69.34	62.80	74.00	-11.20	Peak	125	199	P
3	5350.00	-6.06	56.78	50.72	54.00	-3.28	Average	125	199	P
4	5350.00	-6.06	70.15	64.09	74.00	-9.91	Peak	125	199	P
5	10480.00	0.73	53.51	54.24	68.20	-13.96	Peak	100	225	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

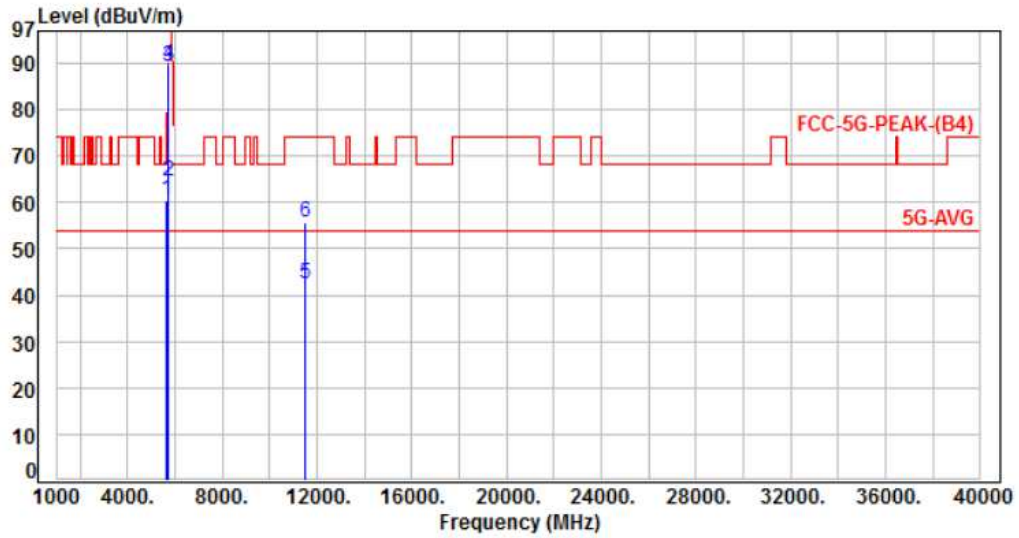
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH149	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	68.90	63.13	68.20	-5.07	Peak	326	197	P
2	5700.00	-5.79	77.60	71.81	105.20	-33.39	Peak	326	197	P
3	5720.00	-5.80	94.81	89.01	110.80	-21.79	Peak	326	197	P
4	5725.00	-5.80	102.80	97.00	122.20	-25.20	Peak	326	197	P
5	11490.00	2.06	39.30	41.36	54.00	-12.64	Average	100	152	P
6	11490.00	2.06	53.50	55.56	74.00	-18.44	Peak	100	152	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

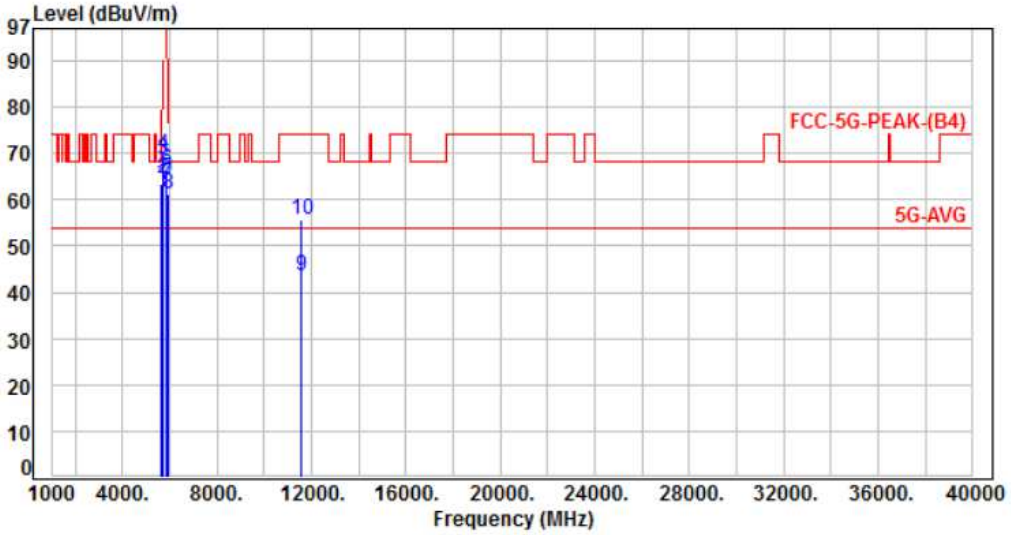
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH149	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	66.20	60.43	68.20	-7.77	Peak	134	207	P
2	5700.00	-5.79	70.20	64.41	105.20	-40.79	Peak	134	207	P
3	5720.00	-5.80	95.00	89.20	110.80	-21.60	Peak	134	207	P
4	5725.00	-5.80	95.60	89.80	122.20	-32.40	Peak	134	207	P
5	11490.00	2.06	40.20	42.26	54.00	-11.74	Average	248	301	P
6	11490.00	2.06	53.50	55.56	74.00	-18.44	Peak	248	301	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

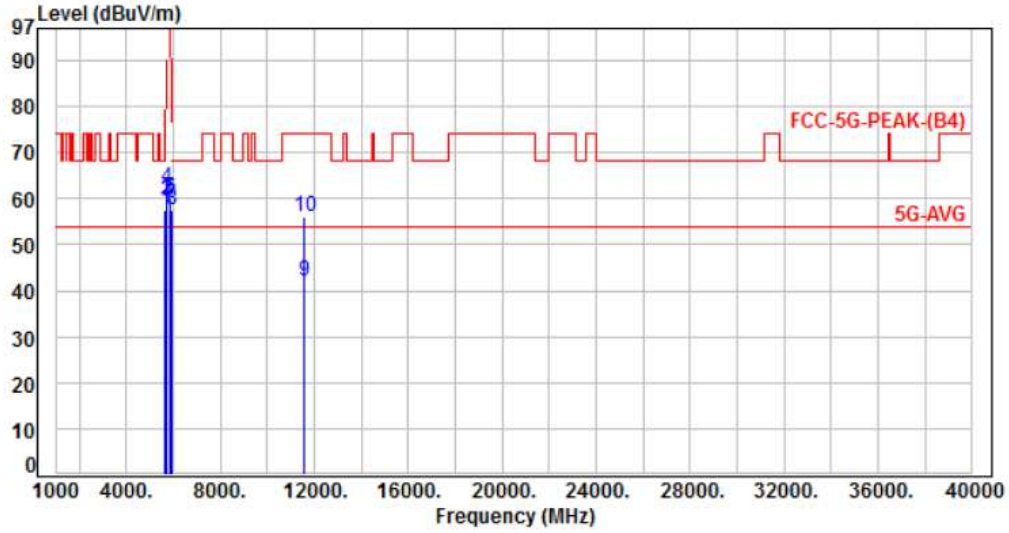
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH157	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	69.20	63.43	68.20	-4.77	Peak	127	148	P
2	5700.00	-5.79	70.20	64.41	105.20	-40.79	Peak	127	148	P
3	5720.00	-5.80	74.31	68.51	110.80	-42.29	Peak	127	148	P
4	5725.00	-5.80	75.40	69.60	122.20	-52.60	Peak	127	148	P
5	5850.00	-5.84	70.50	64.66	122.20	-57.54	Peak	127	148	P
6	5855.00	-5.84	72.34	66.50	110.80	-44.30	Peak	127	148	P
7	5875.00	-5.85	69.35	63.50	105.20	-41.70	Peak	127	148	P
8	5925.00	-5.87	67.10	61.23	68.20	-6.97	Peak	127	148	P
9	11570.00	2.09	41.40	43.49	54.00	-10.51	Average	323	328	P
10	11570.00	2.09	53.42	55.51	74.00	-18.49	Peak	323	328	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

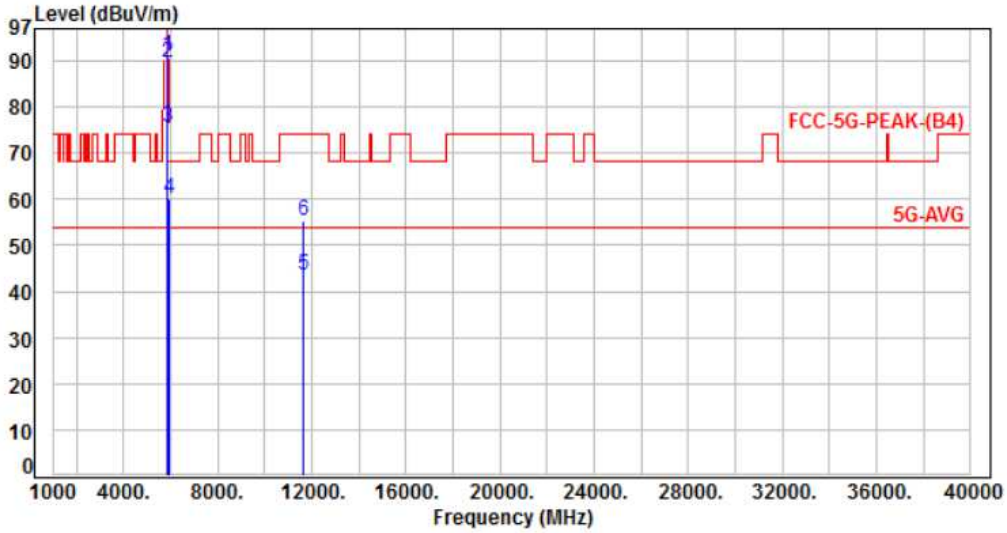
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH157	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	63.30	57.53	68.20	-10.67	Peak	147	130	P
2	5700.00	-5.79	65.50	59.71	105.20	-45.49	Peak	147	130	P
3	5720.00	-5.80	65.31	59.51	110.80	-51.29	Peak	147	130	P
4	5725.00	-5.80	68.30	62.50	122.20	-59.70	Peak	147	130	P
5	5850.00	-5.84	65.60	59.76	122.20	-62.44	Peak	147	130	P
6	5855.00	-5.84	66.10	60.26	110.80	-50.54	Peak	147	130	P
7	5875.00	-5.85	64.60	58.75	105.20	-46.45	Peak	147	130	P
8	5925.00	-5.87	63.31	57.44	68.20	-10.76	Peak	147	130	P
9	11570.00	2.09	39.90	41.99	54.00	-12.01	Average	163	180	P
10	11570.00	2.09	53.80	55.89	74.00	-18.11	Peak	163	180	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

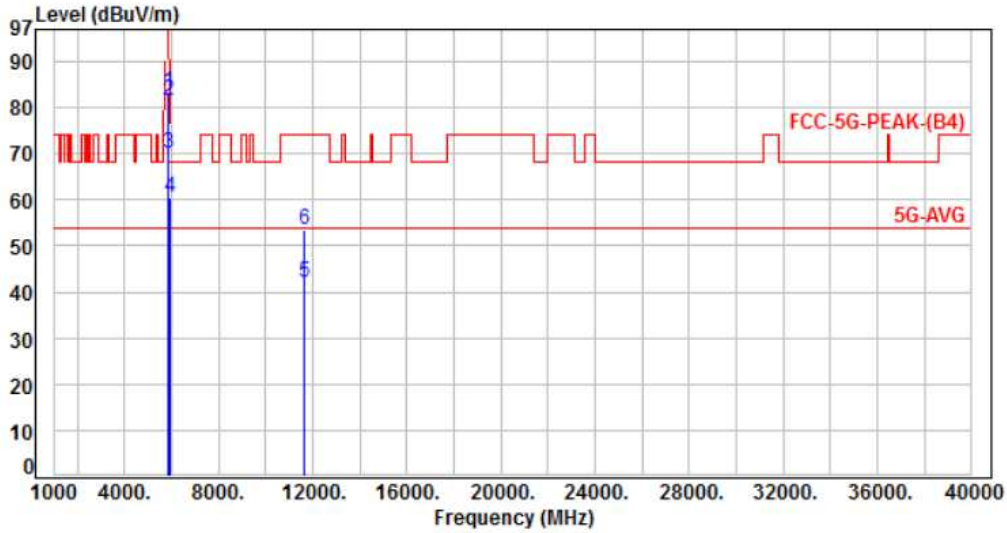
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH165	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-5.84	97.11	91.27	122.20	-30.93	Peak	100	233	P
2	5855.00	-5.84	95.30	89.46	110.80	-21.34	Peak	100	233	P
3	5875.00	-5.85	81.34	75.49	105.20	-29.71	Peak	100	233	P
4	5925.00	-5.87	65.95	60.08	68.20	-8.12	Peak	100	233	P
5	11650.00	2.12	41.50	43.62	54.00	-10.38	Average	335	330	P
6	11650.00	2.12	53.20	55.32	74.00	-18.68	Peak	335	330	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

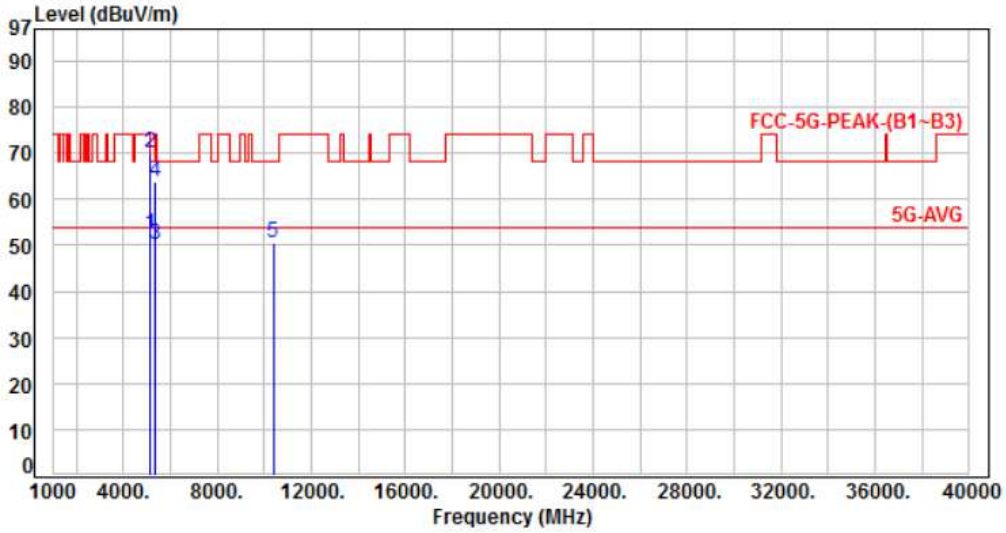
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH165	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-5.84	89.20	83.36	122.20	-38.84	Peak	120	128	P
2	5855.00	-5.84	87.30	81.46	110.80	-29.34	Peak	120	128	P
3	5875.00	-5.85	75.80	69.95	105.20	-35.25	Peak	120	128	P
4	5925.00	-5.87	66.20	60.33	68.20	-7.87	Peak	120	128	P
5	11650.00	2.12	39.76	41.88	54.00	-12.12	Average	106	318	P
6	11650.00	2.12	51.50	53.62	74.00	-20.38	Peak	106	318	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

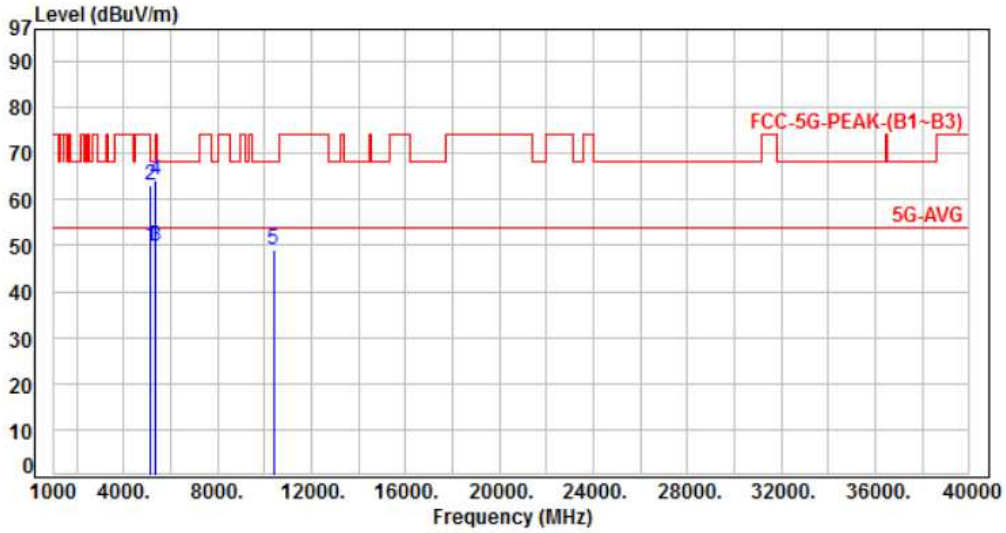
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, CH38	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	58.87	52.33	54.00	-1.67	Average	150	151	P
2	5150.00	-6.54	76.64	70.10	74.00	-3.90	Peak	150	151	P
3	5350.00	-6.06	56.29	50.23	54.00	-3.77	Average	150	151	P
4	5350.00	-6.06	69.86	63.80	74.00	-10.20	Peak	150	151	P
5	10380.00	0.68	49.91	50.59	68.20	-17.61	Peak	178	231	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

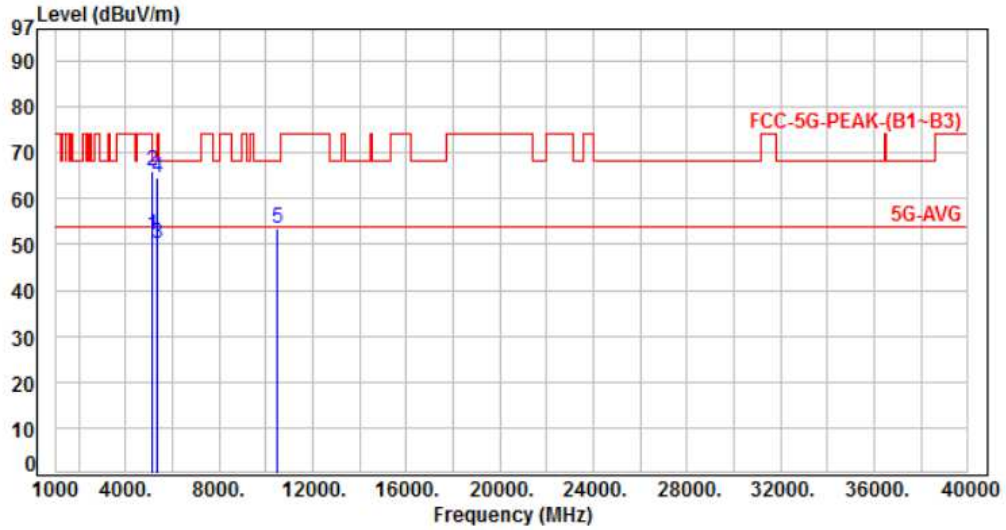
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, CH38	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	56.41	49.87	54.00	-4.13	Average	312	216	P
2	5150.00	-6.54	69.73	63.19	74.00	-10.81	Peak	312	216	P
3	5350.00	-6.06	55.96	49.90	54.00	-4.10	Average	312	216	P
4	5350.00	-6.06	70.28	64.22	74.00	-9.78	Peak	312	216	P
5	10380.00	0.68	48.35	49.03	68.20	-19.17	Peak	100	257	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

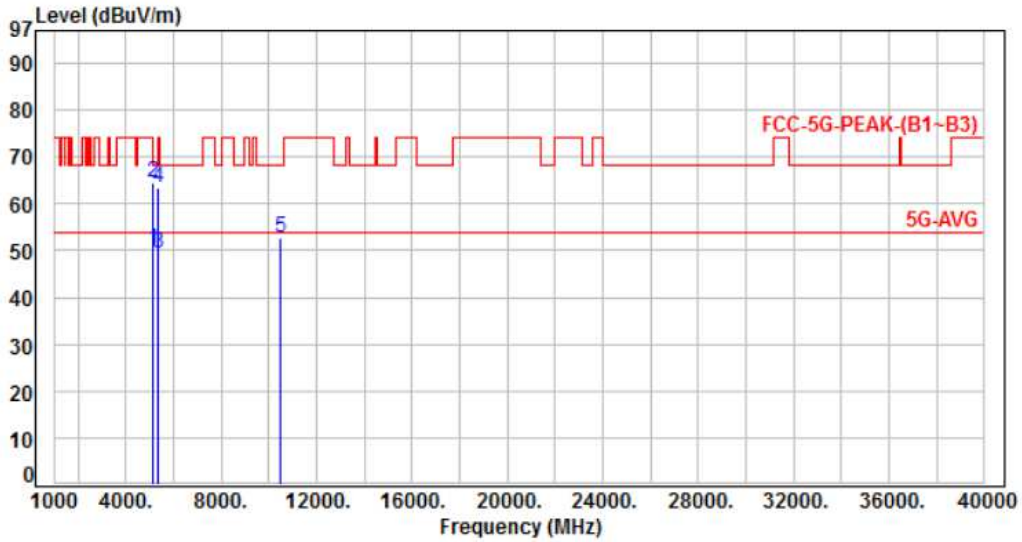
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, CH46	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	58.63	52.09	54.00	-1.91	Average	147	211	P
2	5150.00	-6.54	72.54	66.00	74.00	-8.00	Peak	147	211	P
3	5350.00	-6.06	56.27	50.21	54.00	-3.79	Average	147	211	P
4	5350.00	-6.06	70.47	64.41	74.00	-9.59	Peak	147	211	P
5	10460.00	0.72	52.89	53.61	68.20	-14.59	Peak	168	234	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

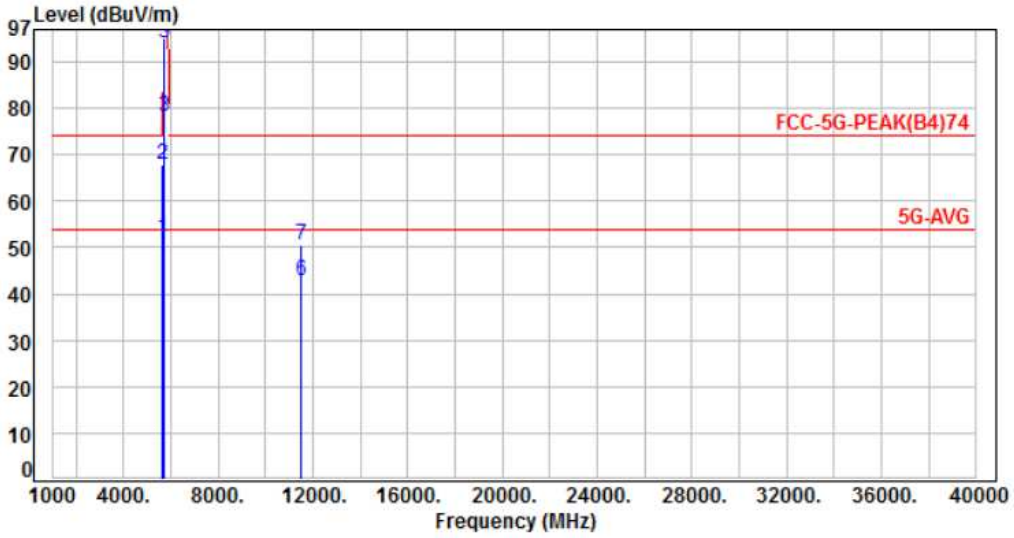
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, CH46	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	56.79	50.25	54.00	-3.75	Average	125	196	P
2	5150.00	-6.54	70.91	64.37	74.00	-9.63	Peak	125	196	P
3	5350.00	-6.06	55.44	49.38	54.00	-4.62	Average	125	196	P
4	5350.00	-6.06	69.61	63.55	74.00	-10.45	Peak	125	196	P
5	10460.00	0.72	51.93	52.65	68.20	-15.55	Peak	168	234	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

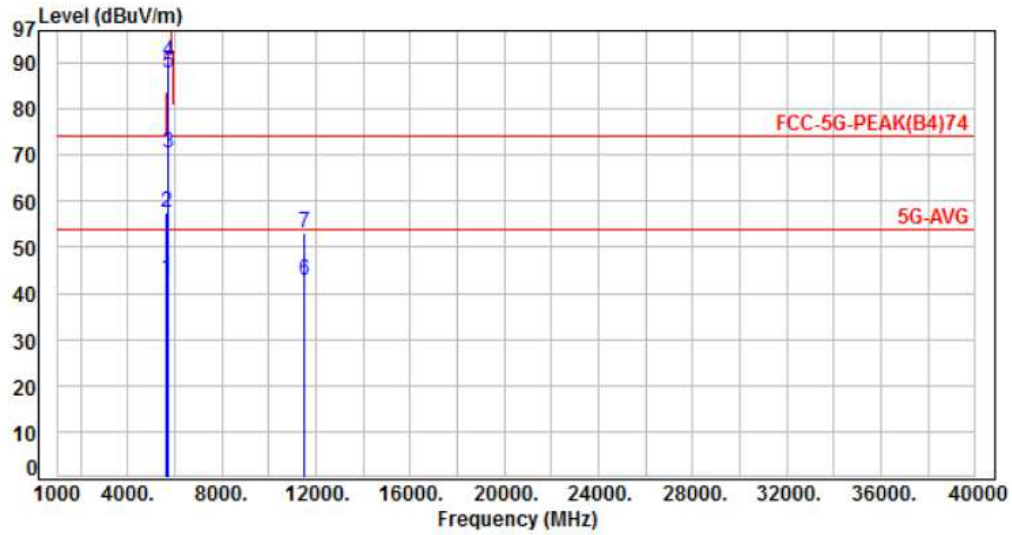
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, CH151	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	57.80	52.03	54.00	-1.97	Average	102	240	P
2	5650.00	-5.77	73.50	67.73	74.00	-6.27	Peak	102	240	P
3	5700.00	-5.79	84.12	78.33	105.20	-26.87	Peak	168	357	P
4	5720.00	-5.80	101.11	95.31	110.80	-15.49	Peak	102	240	P
5	5725.00	-5.80	99.90	94.10	122.20	-28.10	Peak	102	240	P
6	11510.00	2.07	40.60	42.67	54.00	-11.33	Average	168	357	P
7	11510.00	2.07	48.50	50.57	74.00	-23.43	Peak	168	357	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

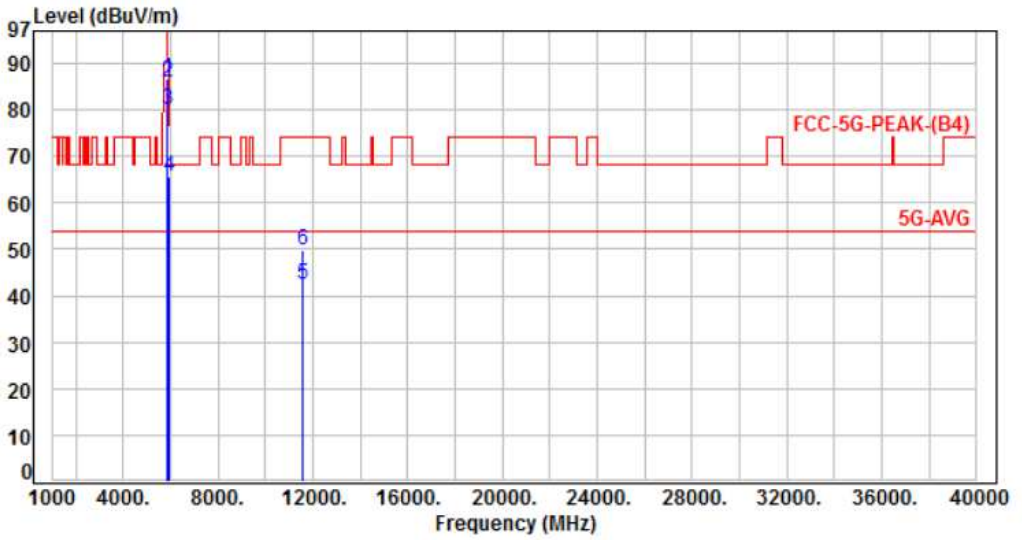
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, CH151	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	48.76	42.99	54.00	-11.01	Average	100	302	P
2	5650.00	-5.77	63.30	57.53	74.00	-16.47	Peak	106	125	P
3	5700.00	-5.79	76.40	70.61	105.20	-34.59	Peak	106	125	P
4	5720.00	-5.80	96.16	90.36	110.80	-20.44	Peak	100	302	P
5	5725.00	-5.80	93.50	87.70	122.20	-34.50	Peak	106	125	P
6	11510.00	2.07	40.70	42.77	54.00	-11.23	Average	100	302	P
7	11510.00	2.07	51.00	53.07	74.00	-20.93	Peak	100	302	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

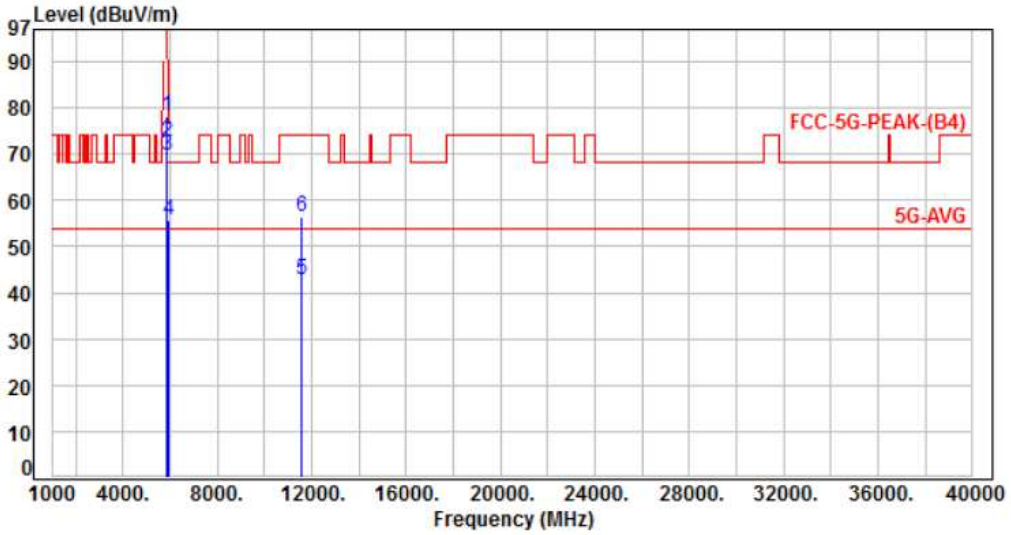
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, CH159	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-5.84	92.50	86.66	122.20	-35.54	Peak	108	197	P
2	5855.00	-5.84	91.60	85.76	110.80	-25.04	Peak	108	197	P
3	5875.00	-5.85	85.90	80.05	105.20	-25.15	Peak	108	197	P
4	5925.00	-5.87	71.60	65.73	68.20	-2.47	Peak	108	197	P
5	11590.00	2.10	40.45	42.55	54.00	-11.45	Average	150	325	P
6	11590.00	2.10	47.80	49.90	74.00	-24.10	Peak	150	325	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

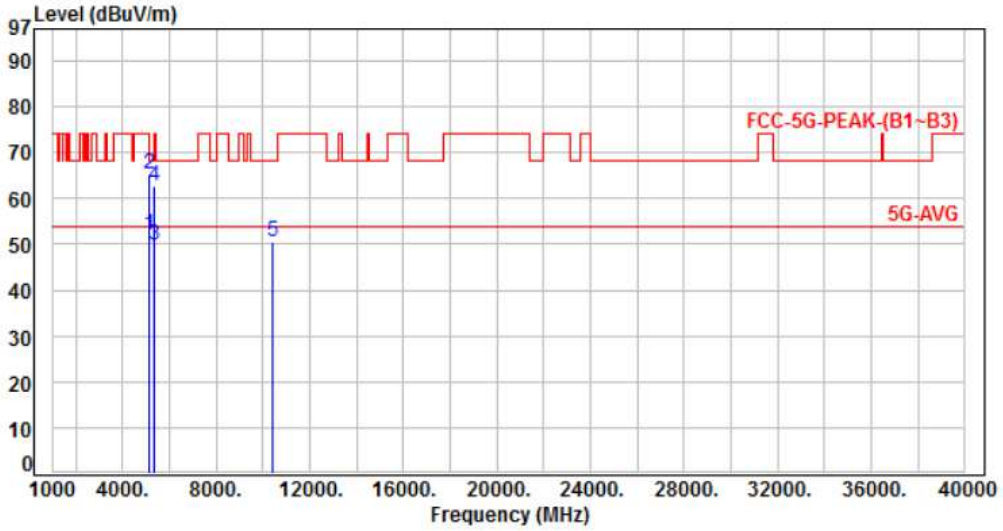
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, CH159	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-5.84	84.20	78.36	122.20	-43.84	Peak	103	130	P
2	5855.00	-5.84	78.40	72.56	110.80	-38.24	Peak	103	130	P
3	5875.00	-5.85	75.65	69.80	105.20	-35.40	Peak	103	130	P
4	5925.00	-5.87	61.50	55.63	68.20	-12.57	Peak	103	130	P
5	11590.00	2.10	40.80	42.90	54.00	-11.10	Average	259	298	P
6	11590.00	2.10	54.50	56.60	74.00	-17.40	Peak	259	298	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

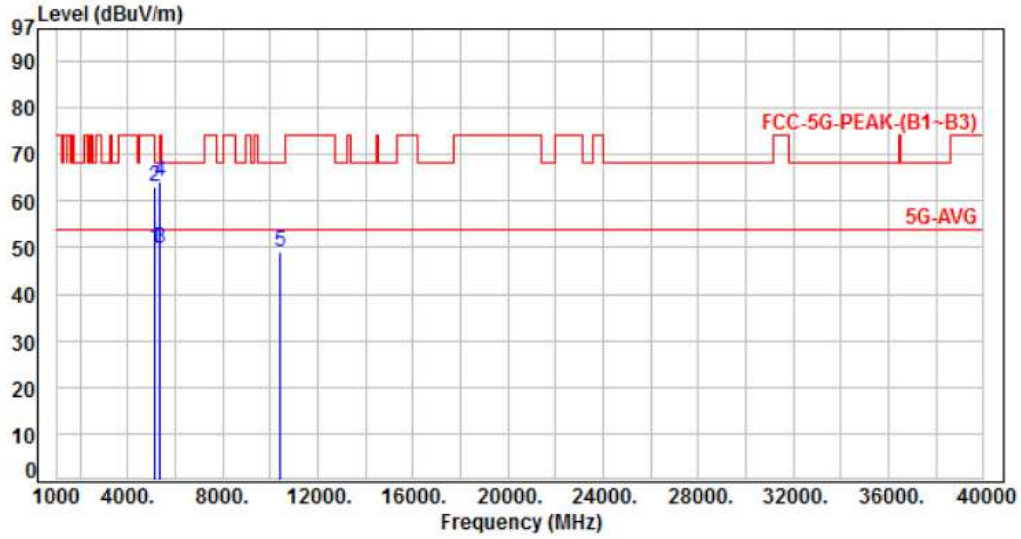
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6, CH42	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	58.63	52.09	54.00	-1.91	Average	148	212	P
2	5150.00	-6.54	71.94	65.40	74.00	-8.60	Peak	148	212	P
3	5350.00	-6.06	56.01	49.95	54.00	-4.05	Average	148	212	P
4	5350.00	-6.06	68.82	62.76	74.00	-11.24	Peak	148	212	P
5	10420.00	0.69	49.86	50.55	68.20	-17.65	Peak	152	243	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

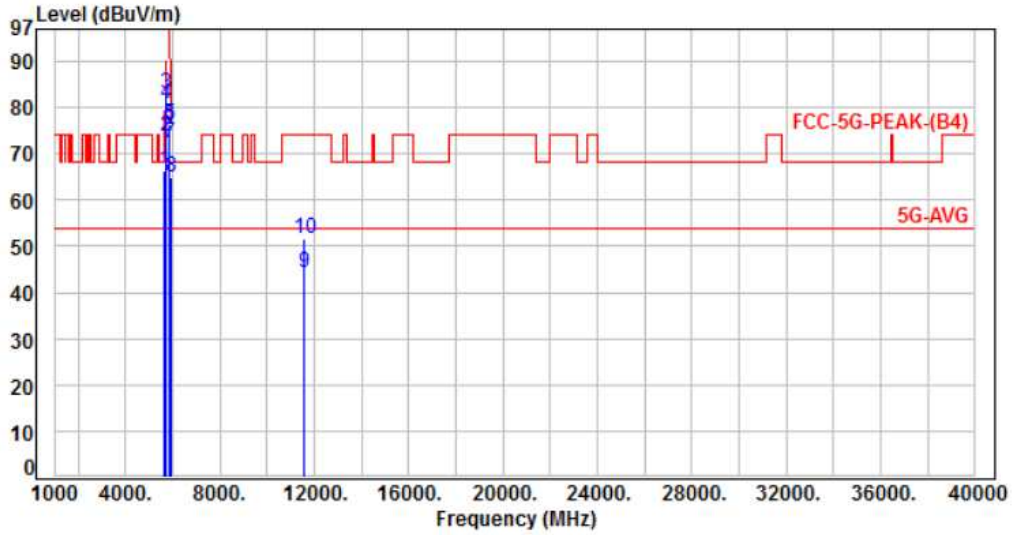
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 6, CH42	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-6.54	56.26	49.72	54.00	-4.28	Average	198	233	P
2	5150.00	-6.54	69.54	63.00	74.00	-11.00	Peak	198	233	P
3	5350.00	-6.06	55.77	49.71	54.00	-4.29	Average	198	233	P
4	5350.00	-6.06	70.12	64.06	74.00	-9.94	Peak	198	233	P
5	10420.00	0.69	48.45	49.14	68.20	-19.06	Peak	100	247	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

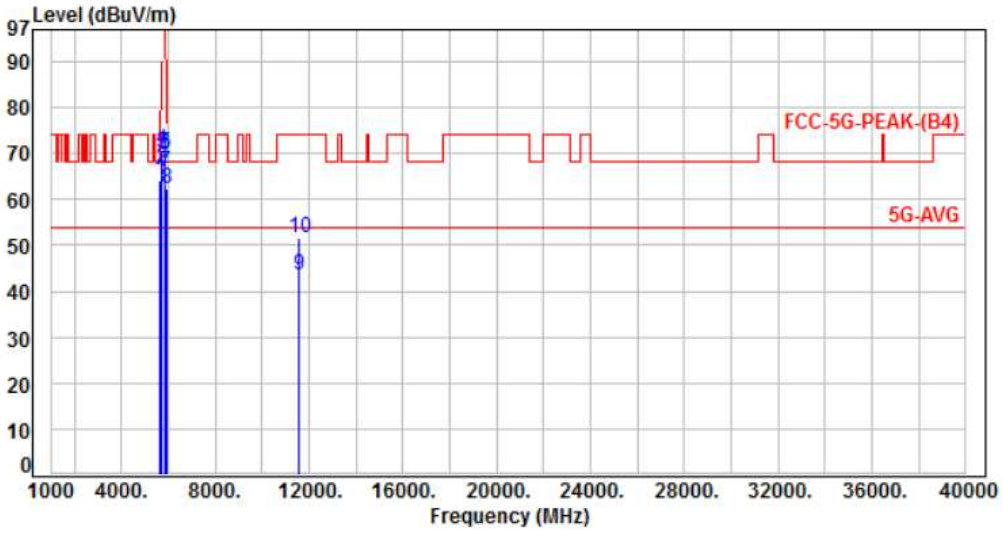
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6, CH155	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	71.98	66.21	68.20	-1.99	Peak	285	189	P
2	5700.00	-5.79	79.72	73.93	105.20	-31.27	Peak	285	189	P
3	5720.00	-5.80	88.73	82.93	110.80	-27.87	Peak	285	189	P
4	5725.00	-5.80	86.71	80.91	122.20	-41.29	Peak	285	189	P
5	5850.00	-5.84	82.37	76.53	122.20	-45.67	Peak	285	189	P
6	5855.00	-5.84	81.70	75.86	110.80	-34.94	Peak	285	189	P
7	5875.00	-5.85	78.19	72.34	105.20	-32.86	Peak	285	189	P
8	5925.00	-5.87	70.92	65.05	68.20	-3.15	Peak	285	189	P
9	11550.00	2.09	42.14	44.23	54.00	-9.77	Average	168	4	P
10	11550.00	2.09	49.69	51.78	74.00	-22.22	Peak	168	4	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 6, CH155	Temperature	:	25°C
Test Date	:	Mar. 20, 2017	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-5.77	70.11	64.34	68.20	-3.86	Peak	320	273	P
2	5700.00	-5.79	72.38	66.59	105.20	-38.61	Peak	320	273	P
3	5720.00	-5.80	76.02	70.22	110.80	-40.58	Peak	320	273	P
4	5725.00	-5.80	76.44	70.64	122.20	-51.56	Peak	320	273	P
5	5850.00	-5.84	76.06	70.22	122.20	-51.98	Peak	320	273	P
6	5855.00	-5.84	75.67	69.83	110.80	-40.97	Peak	320	273	P
7	5875.00	-5.85	71.70	65.85	105.20	-39.35	Peak	320	273	P
8	5925.00	-5.87	68.18	62.31	68.20	-5.89	Peak	320	273	P
9	11550.00	2.09	41.61	43.70	54.00	-10.30	Average	235	307	P
10	11550.00	2.09	49.40	51.49	74.00	-22.51	Peak	320	273	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.7. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.150
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

7. On Time, Duty Cycle and Measurement methods

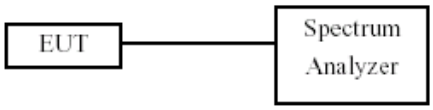
7.1. Test Limit

None; for reporting purposes only.

7.2. Test Procedure

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.3. Test Setup Layout



7.4. Test Result and Data

Temperature: 26°C Humidity: 61%

Test Date: Mar. 22, 2017

Non Beamforming

Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)	1/T Minimum VBW(Hz)	Duty Cycle correction Factor (dB)
802.11a	2.09	2.10	99.52%	478.47	0.02
802.11ac VHT20	1.96	1.97	99.49%	510.20	0.02
802.11ac VHT40	0.98	1.00	98.39%	1020.41	0.07
802.11ac VHT80	0.47	0.49	95.53%	2127.66	0.20

Beamforming

Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)	1/T Minimum VBW(Hz)	Duty Cycle correction Factor (dB)
802.11ac VHT20	4.24	4.66	90.99%	235.85	0.41
802.11ac VHT40	5.06	5.50	92.00%	197.63	0.36
802.11ac VHT80	5.20	5.69	91.32%	192.31	0.39

7.5. Measurement Methods

26 dB and 6dB Emission BW	KDB 789033 D02 v01, Section C
99% Occupied BW	KDB 789033 D02 v01, Section D
Conducted Output Power	KDB 789033 D02 v01, Section E.2.d and E.3.b (Method PM-G)
Power Spectral Density	KDB 789033 D02 v01, Section F
Unwanted emissions in restricted bands	KDB 789033 D02 v01, Sections G and H
Unwanted emissions in non-restricted bands	KDB 789033 D02 v01, Sections G and H

8. 6dB Bandwidth

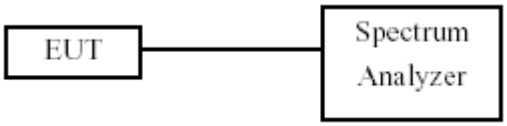
8.1. Test Limit

FCC §15.407
The minimum 6 dB bandwidth shall be at least 500 kHz.

8.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to100KHz, the VBW >= 3 x RBW, peak detector and max hold.

8.3. Test Setup Layout



8.4. Test Result and Data

Temperature: 26°C Humidity: 61%
Test Date: Mar. 22, 2017

Non Beamforming

In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)
			ANT 1	ANT 2	
802.11a	149	5745	16.40	16.30	0.50
	157	5785	16.30	16.40	0.50
	165	5825	16.40	16.20	0.50
802.11ac VHT20	149	5745	17.50	17.50	0.50
	157	5785	17.50	17.50	0.50
	165	5825	17.70	17.50	0.50
802.11ac VHT40	155	5755	36.60	36.40	0.50
	159	5795	36.20	36.40	0.50
802.11ac VHT80	155	5775	76.48	76.48	0.50

Beamforming

In the 5.8G Band

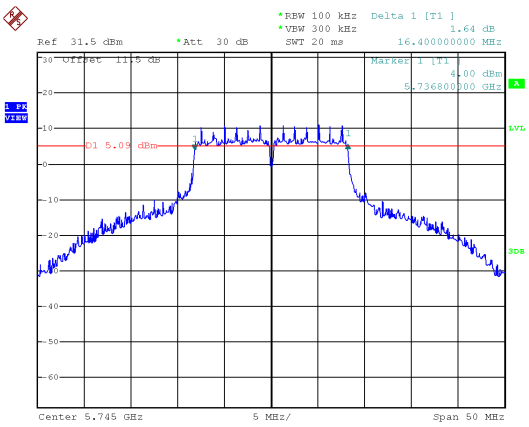
Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)
			ANT 1	ANT 2	
802.11ac VHT20	149	5745	17.60	17.80	0.50
	157	5785	17.60	17.70	0.50
	165	5825	17.30	17.70	0.50
802.11ac VHT40	155	5755	36.60	36.40	0.50
	159	5795	35.20	35.40	0.50
802.11ac VHT80	155	5775	75.20	76.16	0.50

Non Beamforming

ANT 1

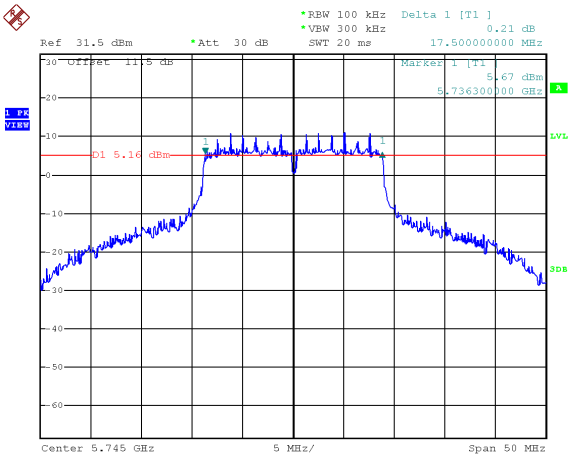
Modulation Standard: 802.11a (6Mbps)

CH149

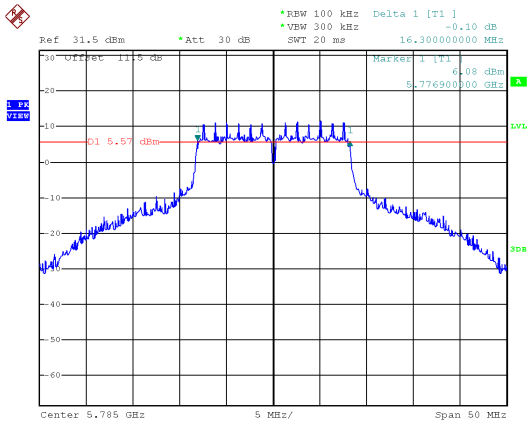


Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH149



CH157



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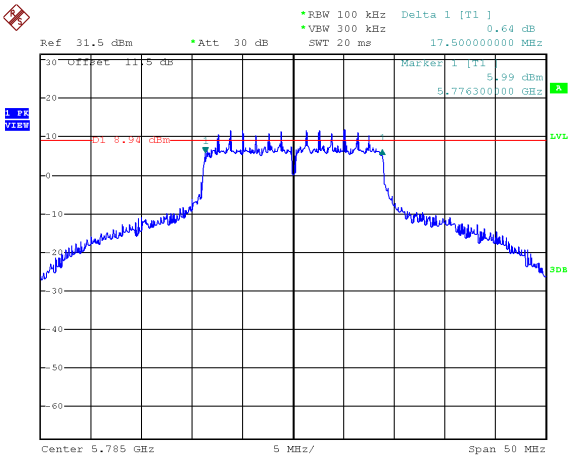
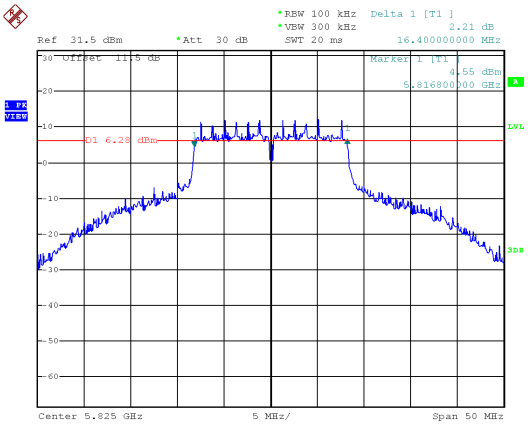


CH165



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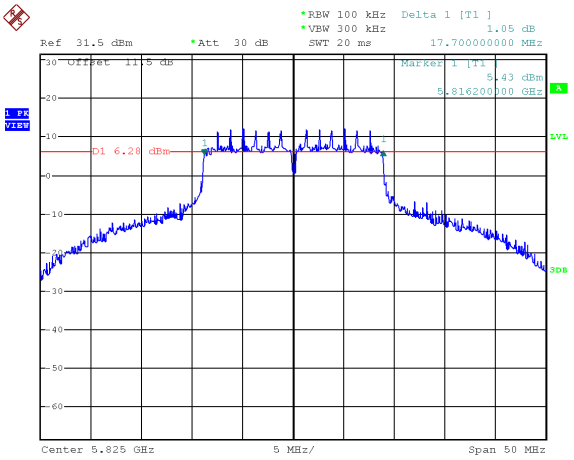
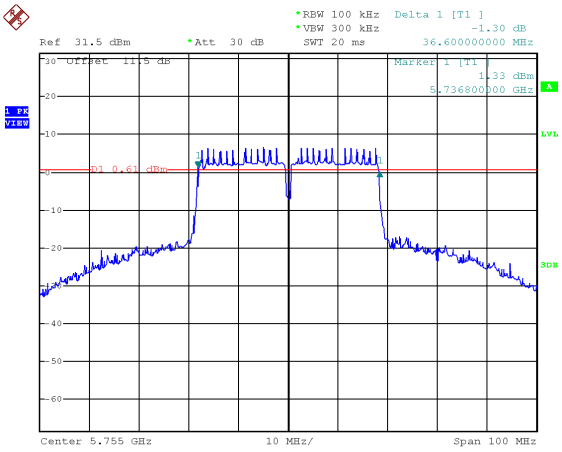


ANT 1

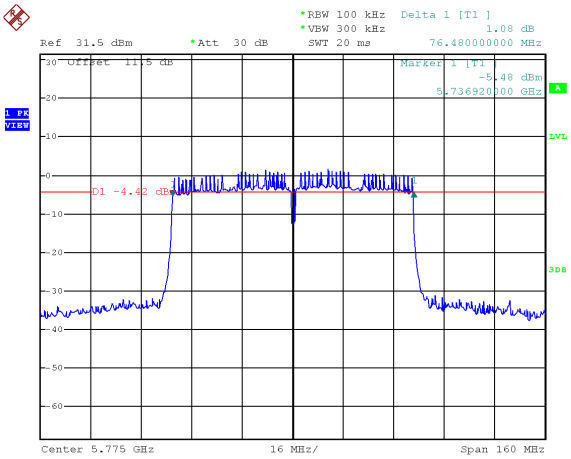
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151

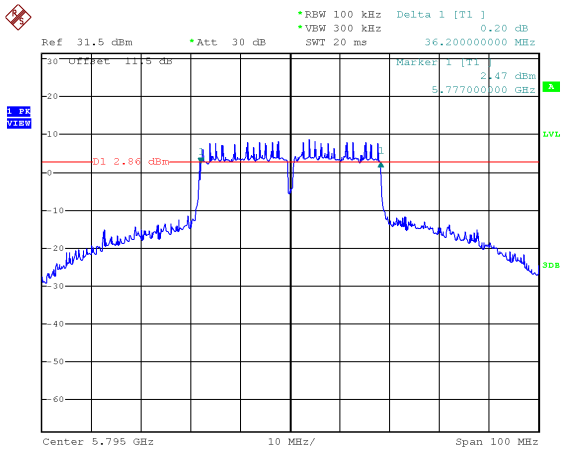


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

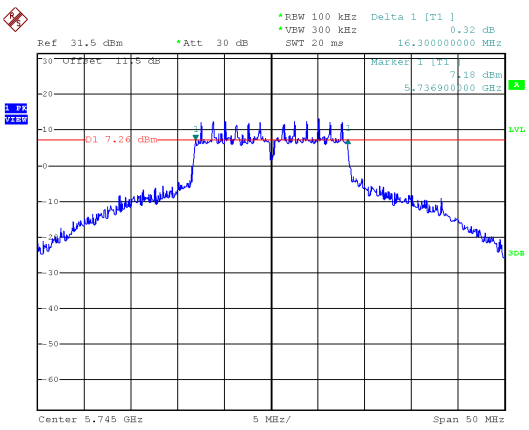
CH155



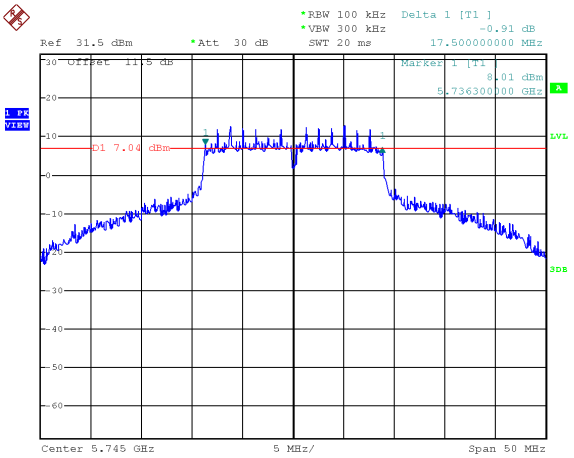
CH159



ANT 2
Modulation Standard: 802.11a (6Mbps)
CH149



Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



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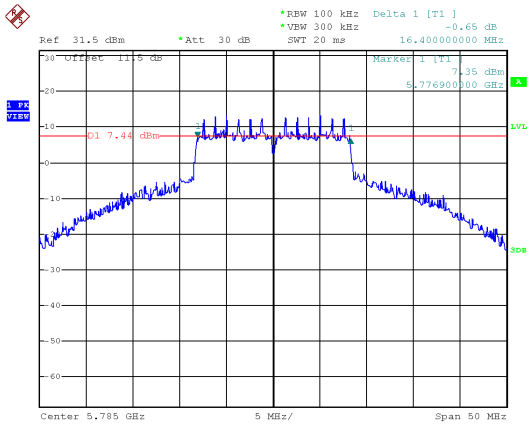
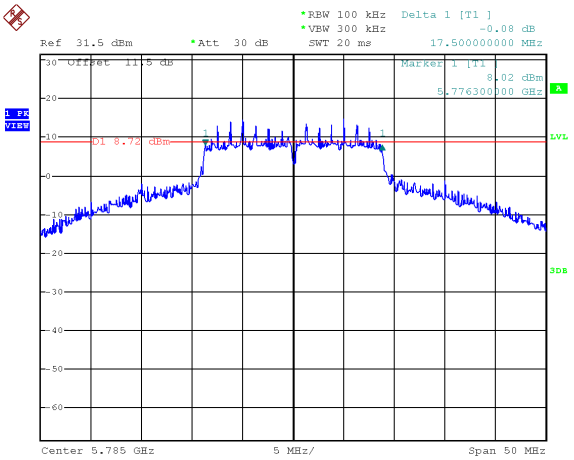
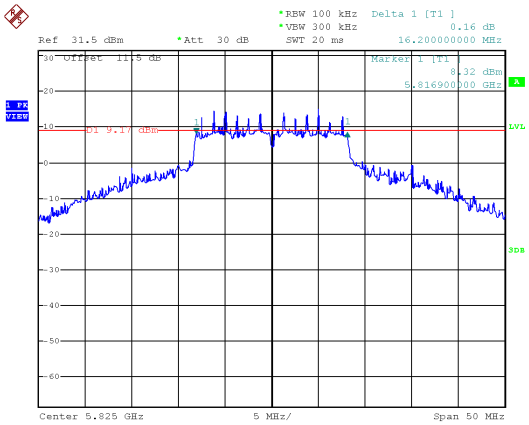


CH157



CH165



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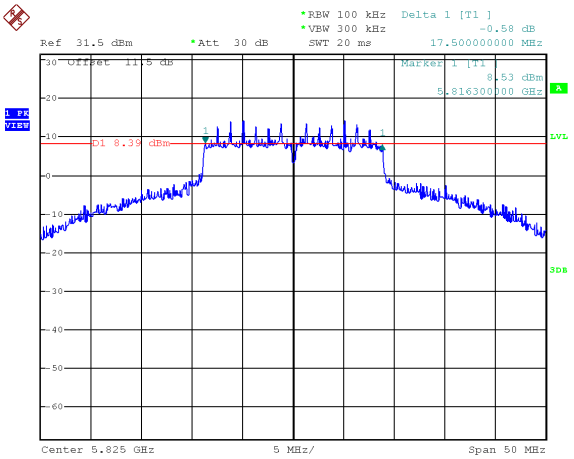
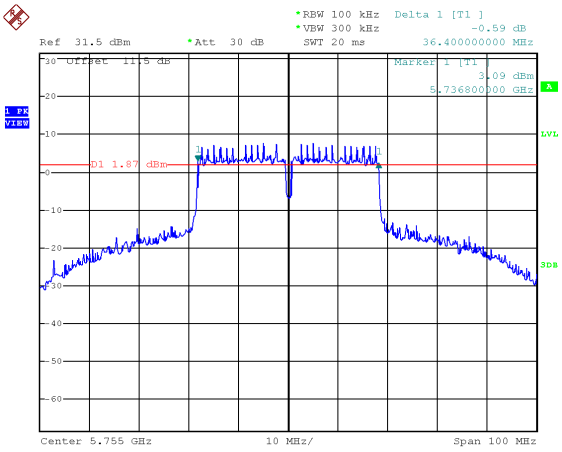


ANT 2

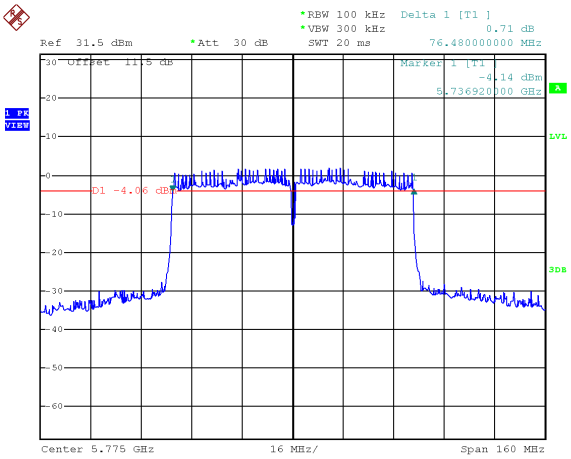
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151

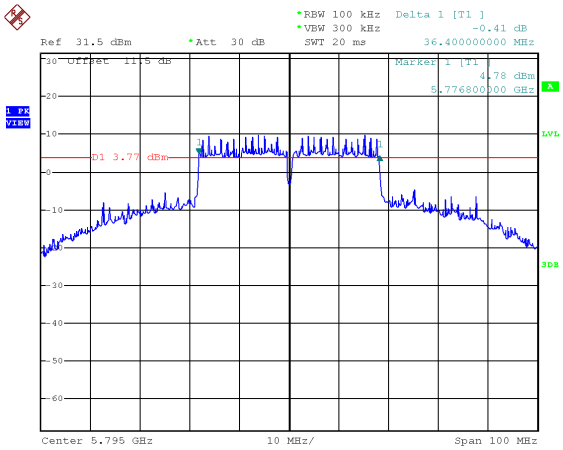


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155



CH159

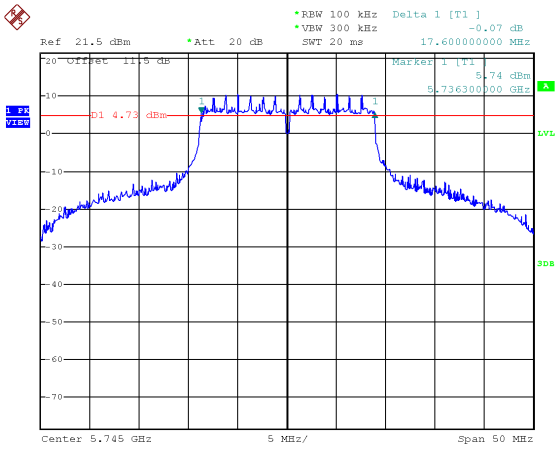


Beamforming

ANT 1

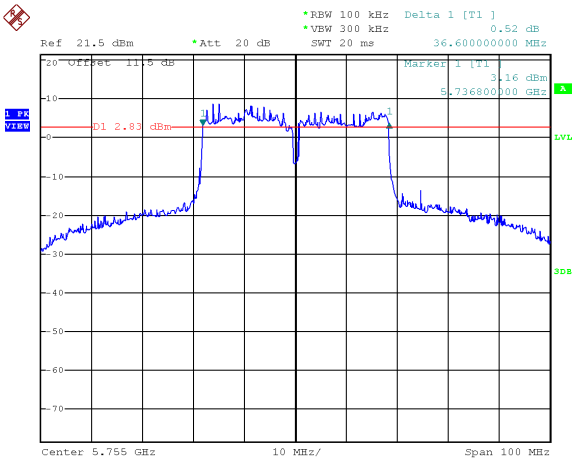
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH149



Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151



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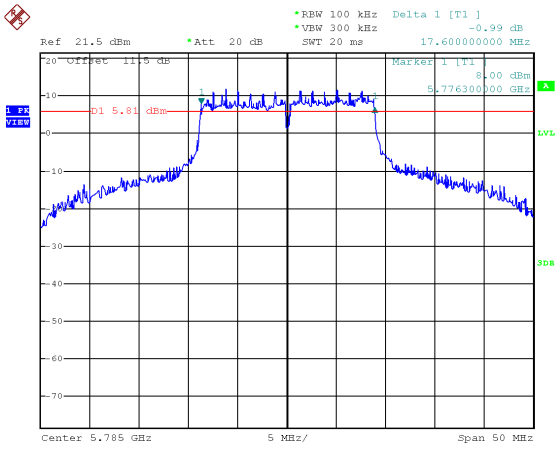

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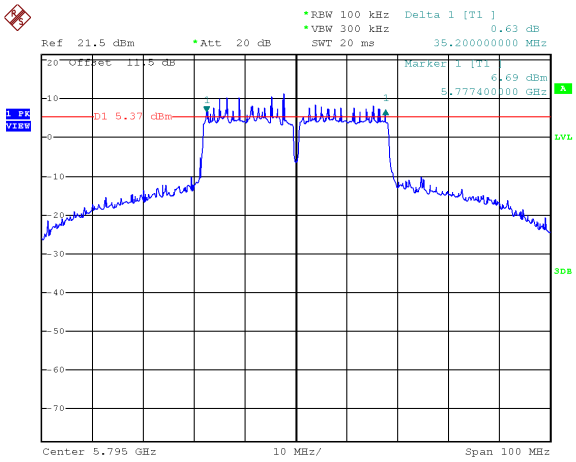
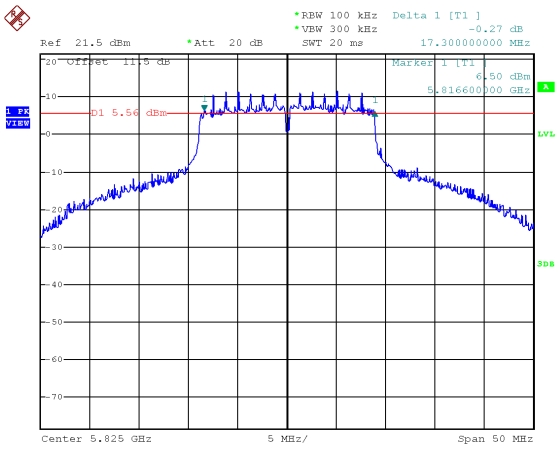
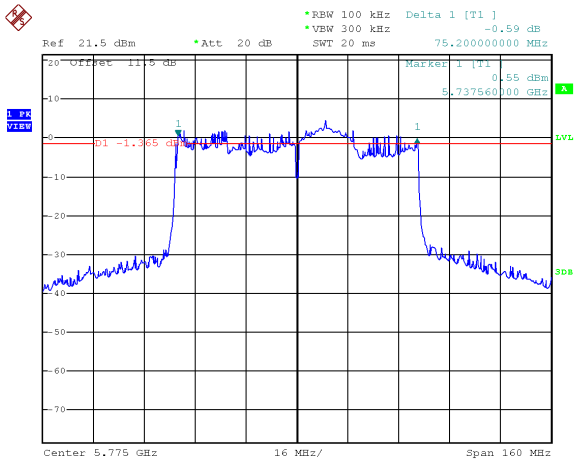


CH165



Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

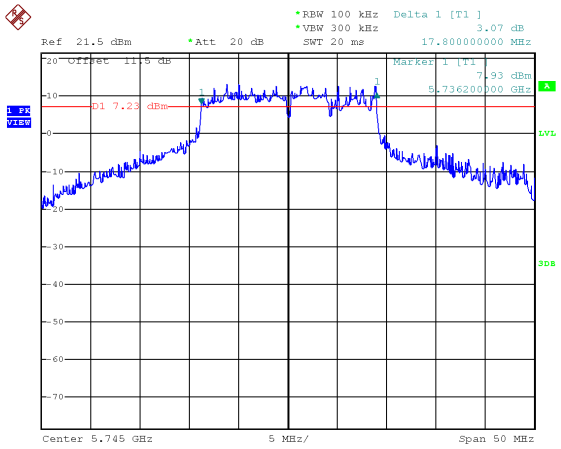
CH155



ANT 2

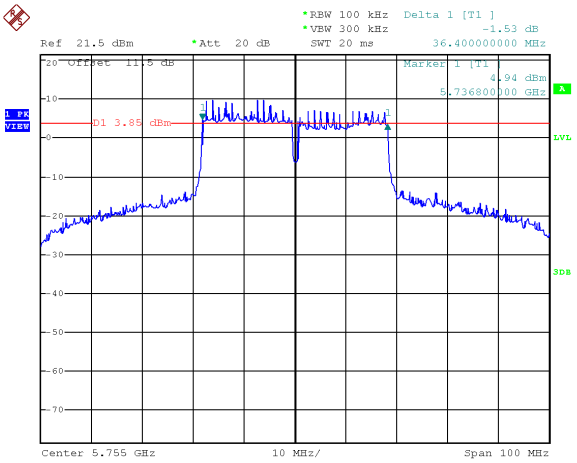
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH149



Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151



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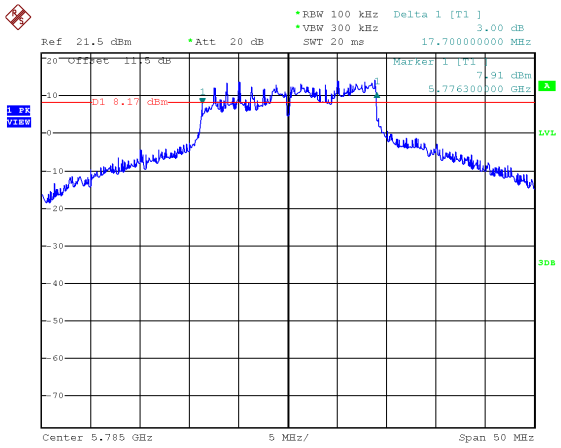

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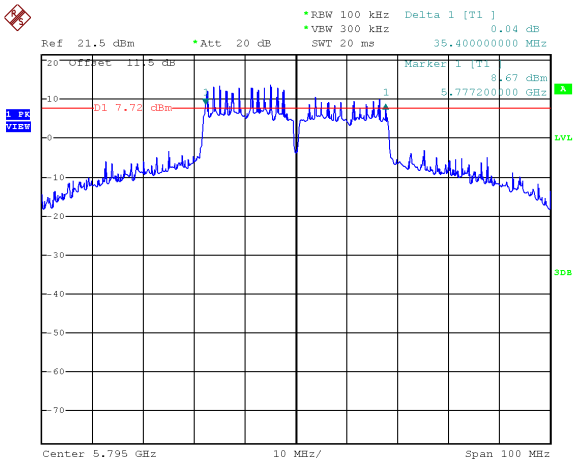

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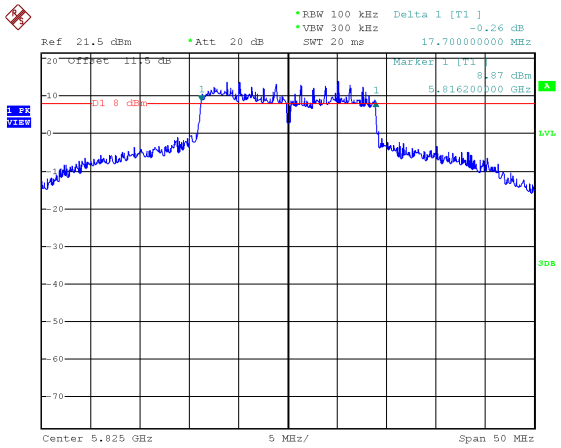
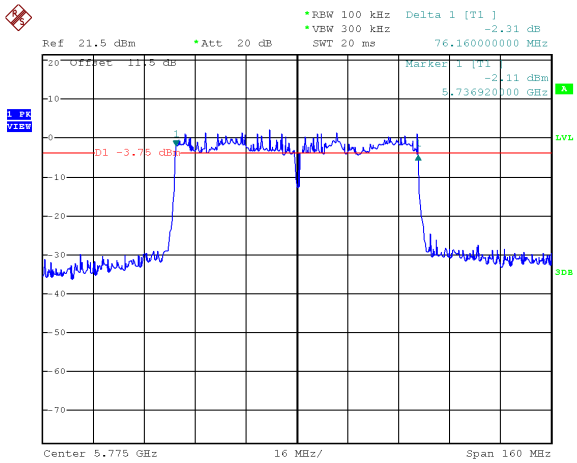


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155



9. 26dB Bandwidth

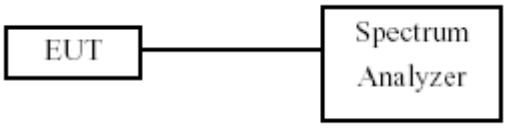
9.1. Test Limit

None; for reporting purposes only.

9.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW = approximately 1% of the emission bandwidth, the VBW >= 3 x RBW, peak detector and max hold.

9.3. Test Setup Layout



9.4. Test Result and Data

Temperature: 26°C Humidity: 61%

Test Date: Mar. 22, 2017

Non Beamforming

In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT 1	ANT 2
802.11a	36	5180	21.70	21.60
	44	5220	34.60	34.10
	48	5240	28.50	25.00
802.11ac VHT20	36	5180	22.30	21.80
	44	5220	35.60	33.50
	48	5240	36.50	29.60
802.11ac VHT40	38	5190	41.80	41.40
	46	5230	48.60	42.60
802.11ac VHT80	42	5210	82.56	82.24

Beamforming

In the 5.2G Band

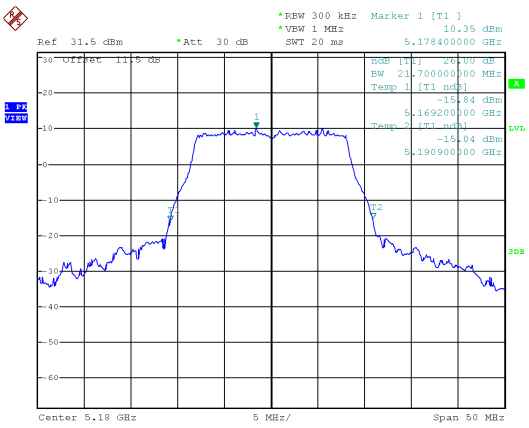
Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT 1	ANT 2
802.11ac VHT20	36	5180	21.60	22.00
	44	5220	22.30	21.90
	48	5240	44.90	38.50
802.11ac VHT40	38	5190	41.80	41.40
	46	5230	41.60	42.20
802.11ac VHT80	42	5210	82.56	82.24

Non Beamforming

ANT 1

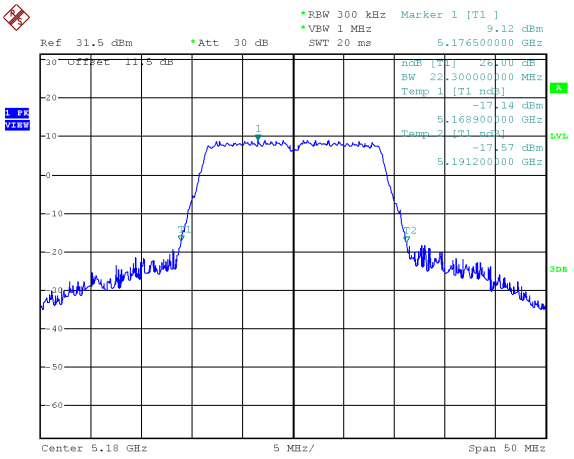
Modulation Standard: 802.11a (6Mbps)

CH36

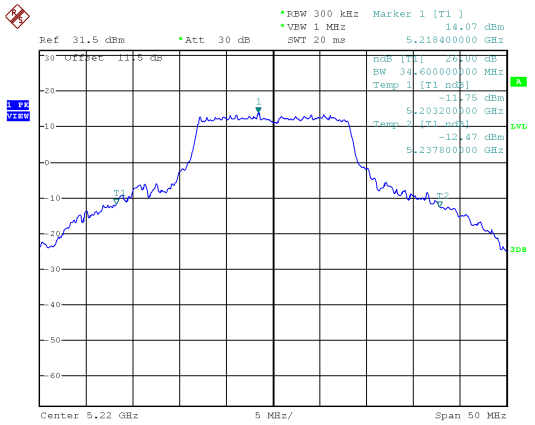


802.11ac VHT20 (6.5Mbps)

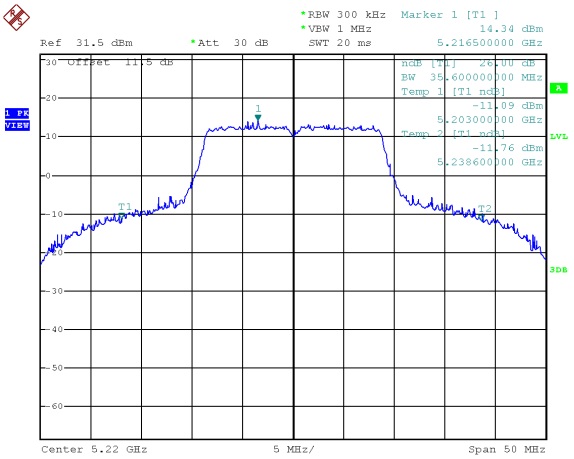
CH36



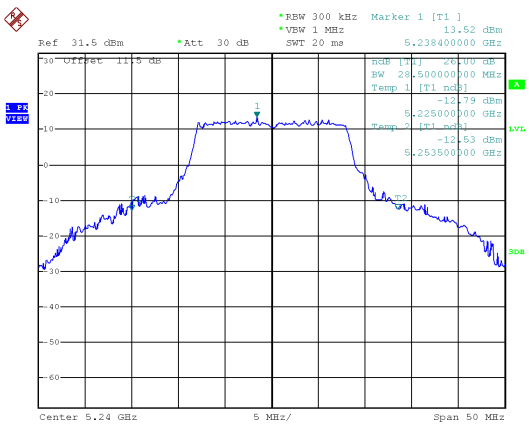
CH44



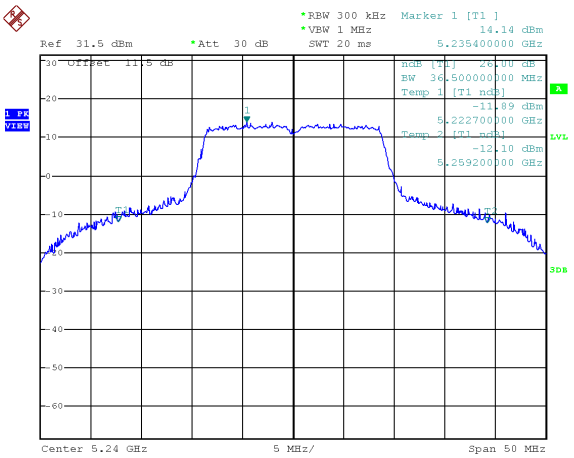
CH44



CH48



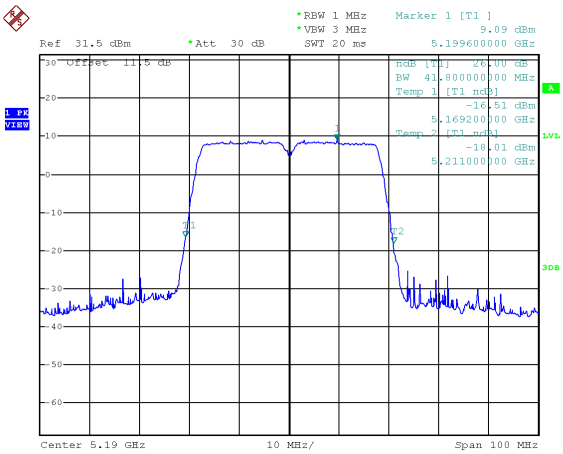
CH48



ANT 1

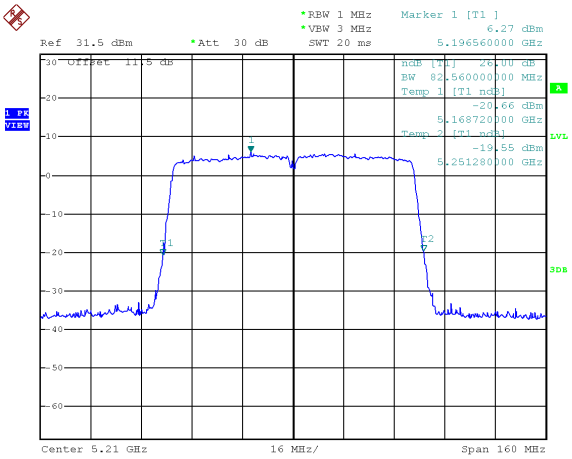
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

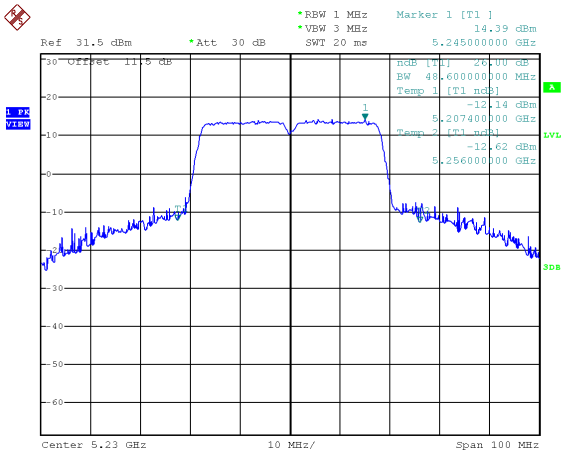


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



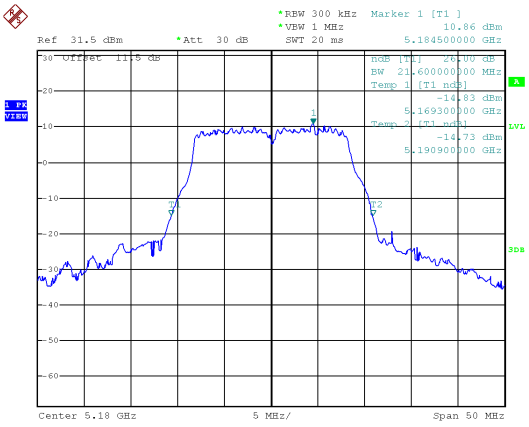
CH46



ANT 2

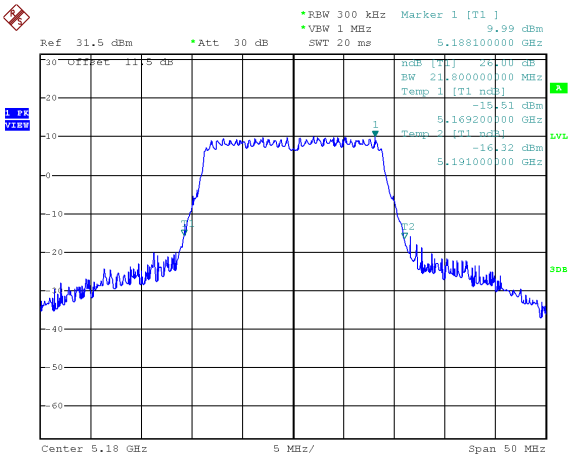
Modulation Standard: 802.11a (6Mbps)

CH36

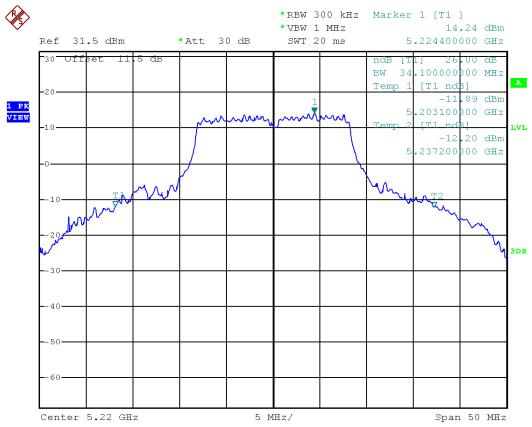


802.11ac VHT20 (6.5Mbps)

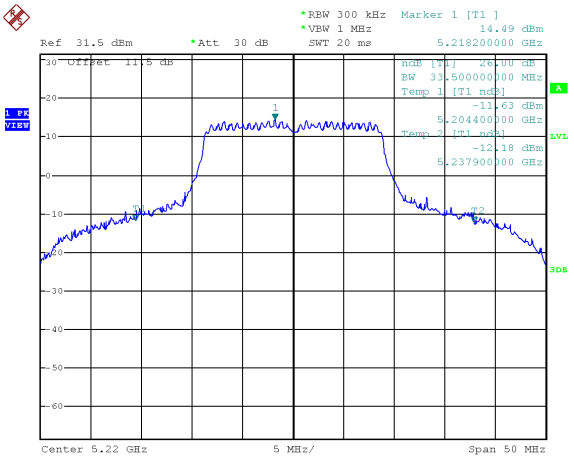
CH36



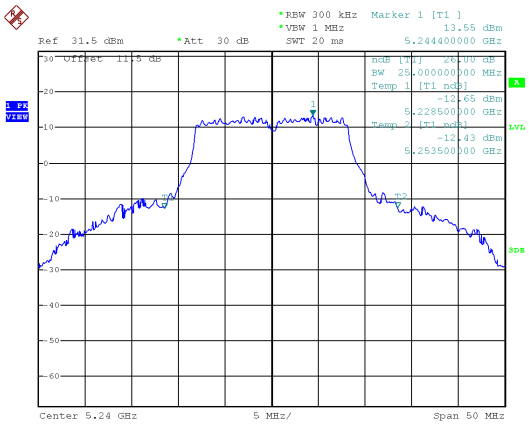
CH44



CH44



CH48



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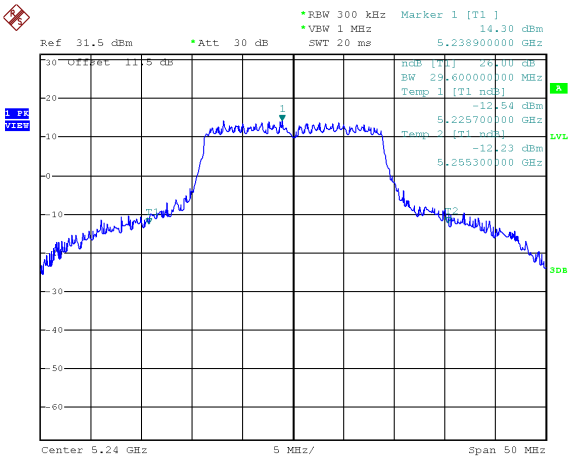
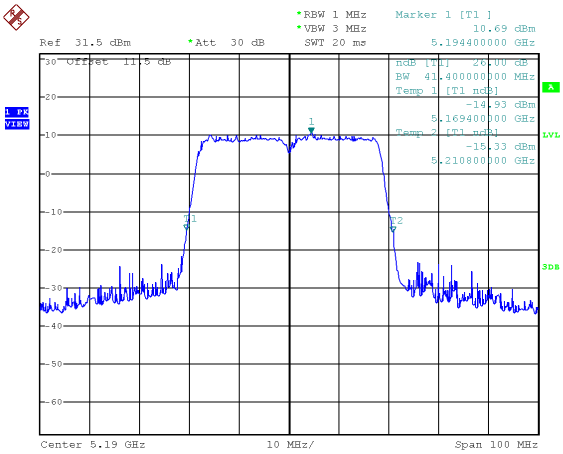


ANT 2

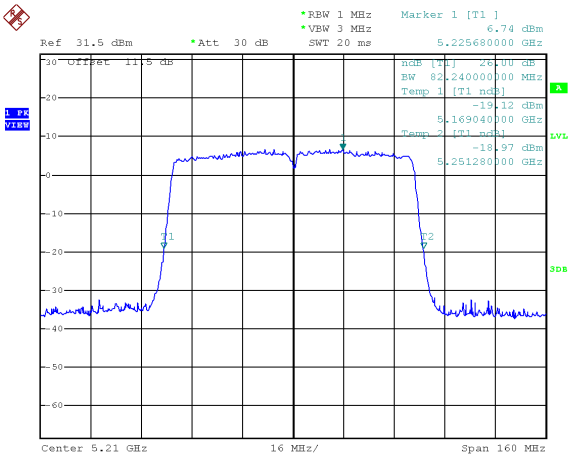
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38



Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



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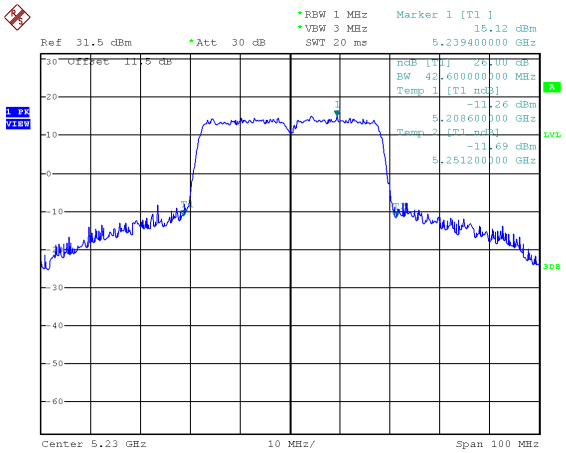
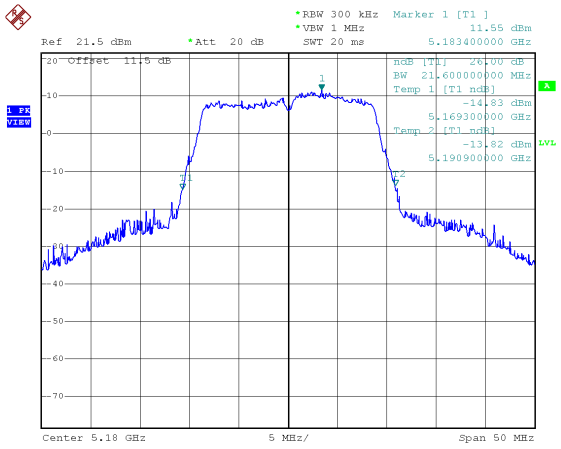


Beamforming

ANT 1

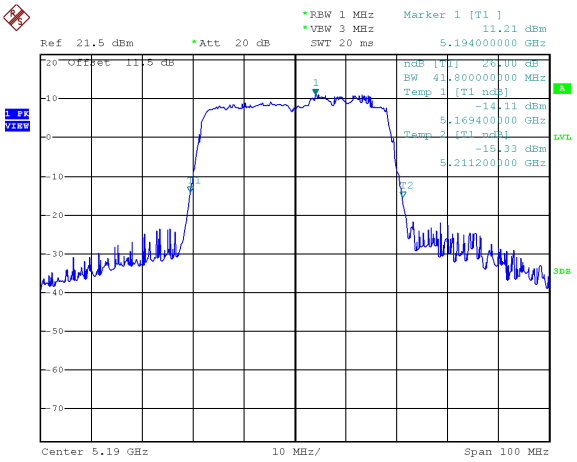
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH36



Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH38



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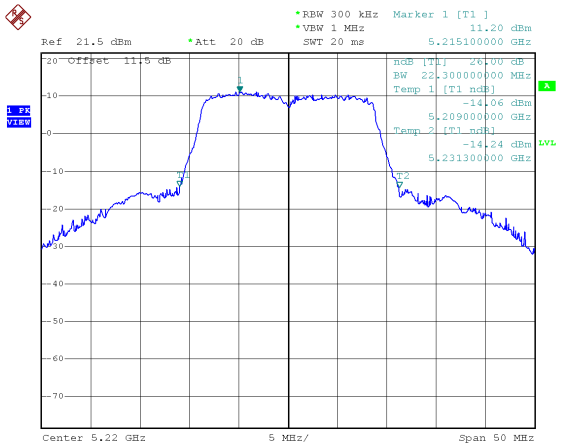

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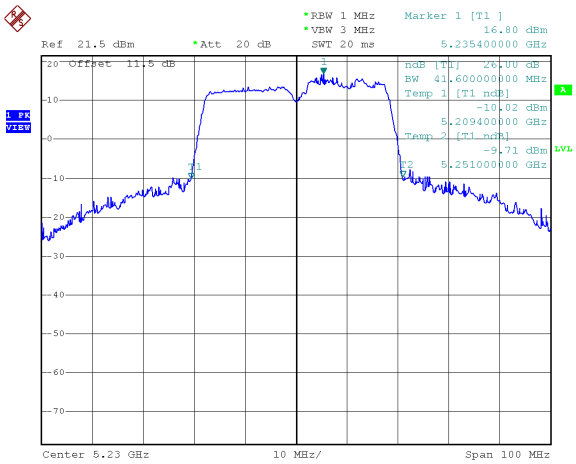

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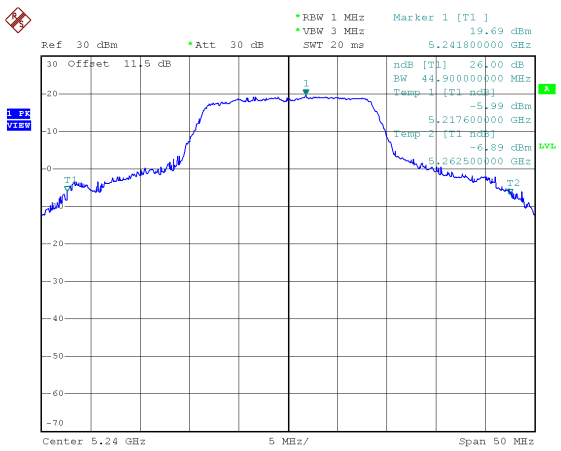
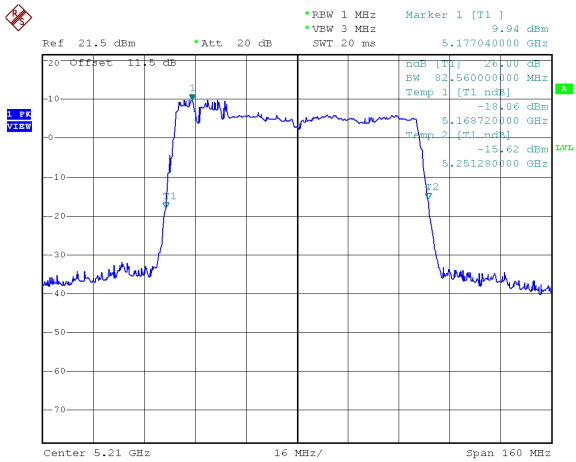


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

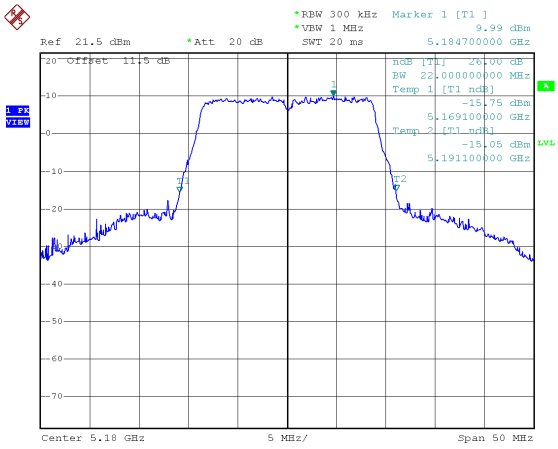
CH42



ANT 2

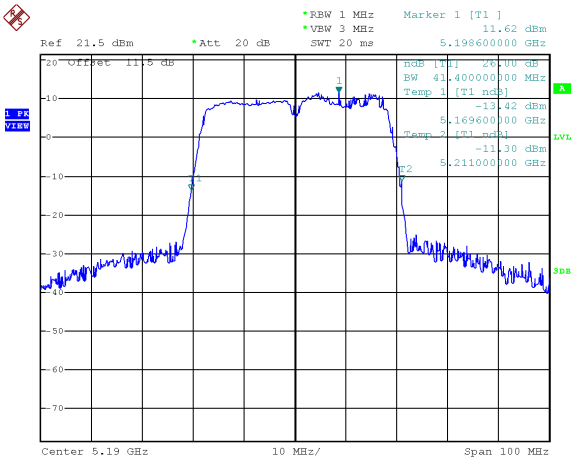
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH36



Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH38



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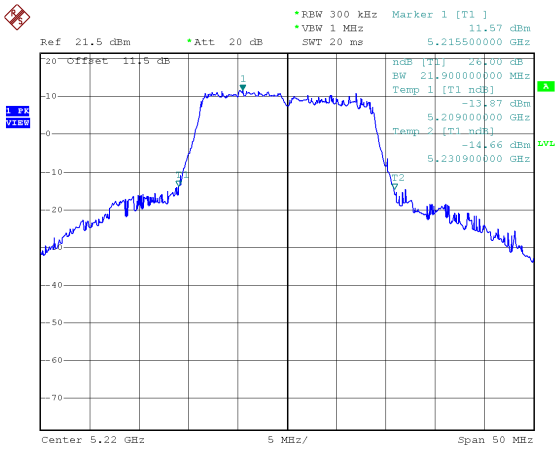

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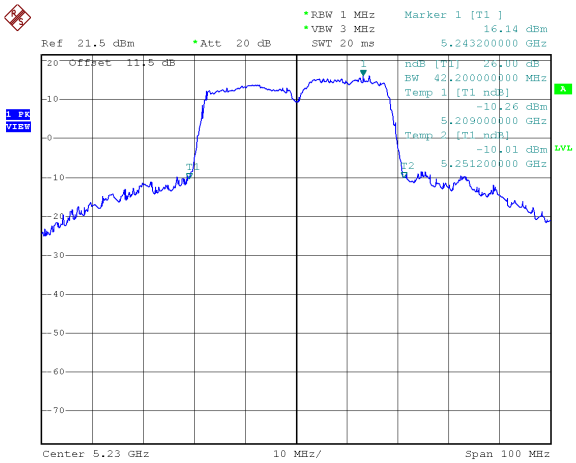

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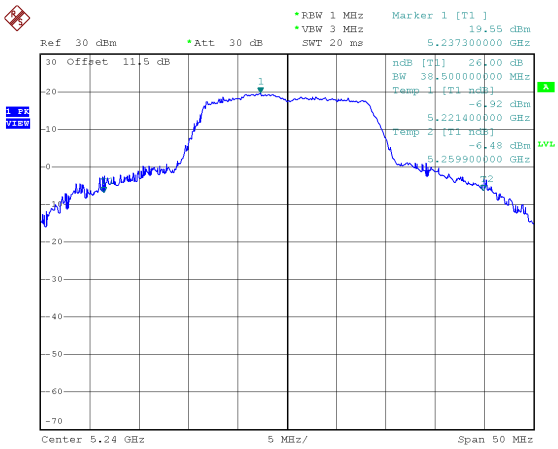
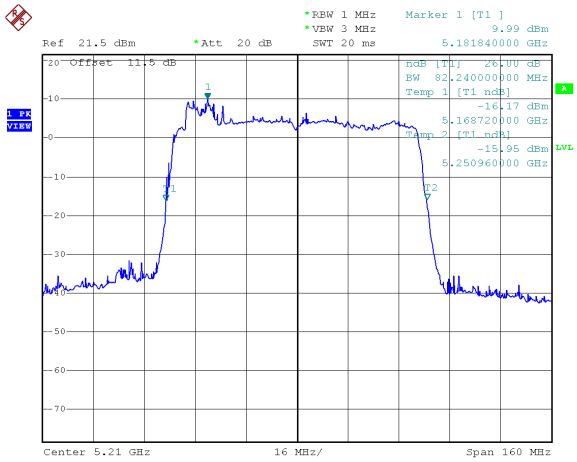


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH42



10. Average Power

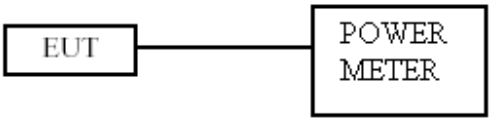
10.1. Test Limit

None; for reporting purposes only.

10.2. Test Procedure

The transmitter output is connected to a power meter.
The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

10.3. Test Setup Layout



10.4.Test Result and Data

Temperature: 26°C Humidity: 61%

Test Date: Mar. 22, 2017

Non Beamforming

In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT 1	ANT 2	A+B	A+B	
802.11a	36	5180	19.11	18.02	21.61	144.86	30.00
	44	5220	22.44	21.55	25.03	318.28	30.00
	48	5240	21.23	20.59	23.93	247.29	30.00
802.11an HT20	36	5180	17.49	17.61	20.56	113.78	30.00
	44	5220	21.68	21.27	24.49	281.20	30.00
	48	5240	21.75	21.25	24.52	282.98	30.00
802.11an HT40	38	5190	14.88	15.36	18.14	65.12	30.00
	46	5230	19.95	19.22	22.61	182.42	30.00
802.11ac VHT20	36	5180	17.53	17.66	20.61	114.97	30.00
	44	5220	21.76	21.36	24.57	286.74	30.00
	48	5240	21.83	21.32	24.59	287.92	30.00
802.11ac VHT40	38	5190	14.95	15.42	18.20	66.09	30.00
	46	5230	20.01	19.34	22.70	186.13	30.00
802.11ac VHT80	42	5210	13.88	14.25	17.08	51.04	30.00

In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT 1	ANT 2	A+B	A+B	
802.11a	149	5745	21.35	22.23	24.82	303.57	30.00
	157	5785	21.43	22.37	24.94	311.58	30.00
	165	5825	21.73	22.38	25.08	321.92	30.00
802.11an HT20	149	5745	21.59	22.28	24.96	313.26	30.00
	157	5785	21.75	22.57	25.19	330.34	30.00
	165	5825	21.96	22.43	25.21	332.02	30.00
802.11an HT40	151	5755	20.36	20.85	23.62	230.26	30.00
	159	5795	21.45	22.36	24.94	311.82	30.00
802.11ac VHT20	149	5745	21.67	22.35	25.03	318.68	30.00
	157	5785	21.8	22.62	25.24	334.17	30.00
	165	5825	22.03	22.52	25.29	338.24	30.00
802.11ac VHT40	151	5755	20.45	20.97	23.73	235.94	30.00
	159	5795	21.59	22.42	25.04	318.79	30.00
802.11ac VHT80	155	5775	18.25	18.54	21.41	138.28	30.00

Beamforming

In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT 1	ANT 2	A+B	A+B	
802.11ac VHT20	36	5180	17.36	17.59	20.49	111.86	28.99
	44	5220	19.11	19.53	22.34	171.21	28.99
	48	5240	22.11	21.78	24.96	313.22	28.99
802.11ac VHT40	38	5190	15.21	15.59	18.41	69.41	28.99
	46	5230	19.61	19.36	22.50	177.71	28.99
802.11ac VHT80	42	5210	14.01	14.32	17.18	52.22	28.99

In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT 1	ANT 2	A+B	A+B	
802.11ac VHT20	149	5745	21.81	22.01	24.92	310.56	28.99
	157	5785	22.29	22.48	25.40	346.44	28.99
	165	5825	22.47	22.27	25.38	345.26	28.99
802.11ac VHT40	151	5755	20.47	21.05	23.78	238.78	28.99
	159	5795	21.78	22.53	25.18	329.72	28.99
802.11ac VHT80	155	5775	18.77	18.85	21.82	152.07	28.99

11. Output Power and PPSD

11.1. Test Limit

Output Power:

Frequency Band			Limit
☒	5.15~5.25GHz		
	Operating Mode		
	☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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. The maximum e.i.r.p. at any elevation angle above 30degrees as measured from the horizon must not exceed125 mW (21 dBm).
	☒	Indoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.
	☐	Fixed point-to-point access points	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
	☐	Mobile and portable client devices	The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.

Frequency Band		Limit
☐	5.25-5.35 GHz	The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. 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.
☐	5.470-5.725 GHz	
☒	5.725~5.85 GHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.

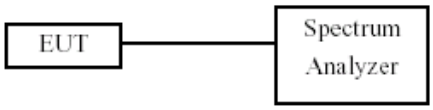
PSD:

Frequency Band			Limit
☒	5.15~5.25GHz		
	Operating Mode		
	☐	Outdoor access point	17 dBm/MHz
	☒	Indoor access point	17 dBm/MHz
	☐	Fixed point-to-point access points	17 dBm/MHz
	☐	Mobile and portable client devices	11 dBm/MHz
☐	5.725~5.85 GHz		11 dBm/MHz
☐	5.470-5.725 GHz		11 dBm/MHz
☒	5.725~5.85 GHz		30 dBm/500kHz

11.2.Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was Measured with an average power meter employing a video bandwidth greater than 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.
802.11an (BW≦ 40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)
Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)
802.11ac (BW=80MHz) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).
When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D01 section F) procedure is used for measurements.

11.3.Test Setup Layout



11.4. Test Result and Data

Temperature: 26°C Humidity: 61%

Test Date: Mar. 22, 2017

Non Beamforming

In the 5.2G Band

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT 1	ANT 2				
802.11a	36	5180	6.52	6.45	9.50	0.00	9.50	15.99
	44	5220	10.17	10.21	13.20	0.00	13.20	15.99
	48	5240	9.94	9.49	12.73	0.00	12.73	15.99
802.11ac VHT20	36	5180	5.39	5.54	8.48	0.00	8.48	15.99
	44	5220	9.97	9.57	12.78	0.00	12.78	15.99
	48	5240	10.02	9.46	12.76	0.00	12.76	15.99
802.11ac VHT40	38	5190	-0.21	0.17	2.99	0.00	2.99	15.99
	46	5230	5.15	5.01	8.09	0.00	8.09	15.99
802.11ac VHT80	42	5210	-3.90	-3.21	-0.53	0.20	-0.33	15.99

In the 5.8G Band

Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	10log(500KHz/RBW) CF (dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT 1	ANT 2					
802.11a	149	5745	9.92	10.70	13.34	0.00	-3.01	10.33	28.99
	157	5785	10.24	10.75	13.51	0.00	-3.01	10.50	28.99
	165	5825	10.57	11.28	13.95	0.00	-3.01	10.94	28.99
802.11ac VHT20	149	5745	9.80	10.26	13.05	0.00	-3.01	10.04	28.99
	157	5785	10.00	10.63	13.34	0.00	-3.01	10.33	28.99
	165	5825	10.44	10.68	13.57	0.00	-3.01	10.56	28.99
802.11ac VHT40	155	5755	5.67	6.29	9.00	0.00	-3.01	5.99	28.99
	159	5795	6.82	7.45	10.16	0.00	-3.01	7.15	28.99
802.11ac VHT80	155	5775	0.35	0.77	3.58	0.20	-3.01	0.77	28.99

Beamforming

In the 5.2G Band

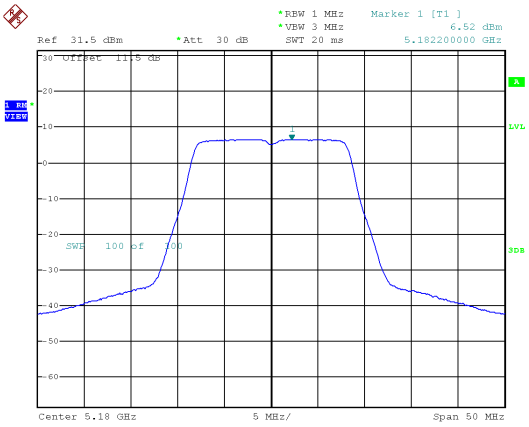
Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT 1	ANT 2				
802.11ac VHT20	36	5180	5.71	5.63	8.68	0.41	9.09	15.99
	44	5220	6.41	7.14	9.80	0.41	10.21	15.99
	48	5240	10.26	9.00	12.69	0.41	13.10	15.99
802.11ac VHT40	38	5190	-0.57	1.90	3.85	0.36	4.21	15.99
	46	5230	3.89	3.74	6.83	0.36	7.19	15.99
802.11ac VHT80	42	5210	-3.42	-3.72	-0.56	0.39	-0.17	15.99

In the 5.8G Band

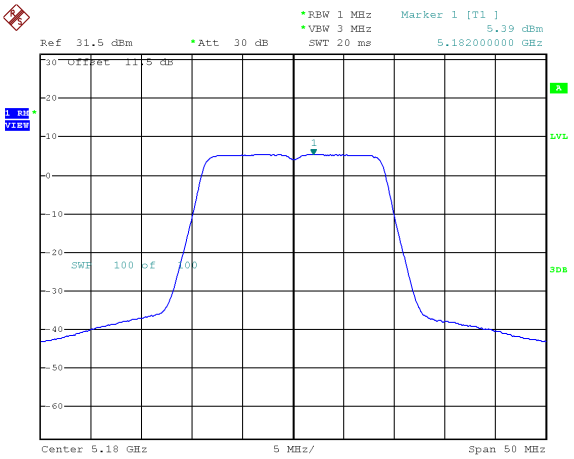
Modulation Type	CH	Freq. (MHz)	Meas PPSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	10log(500KHz/RBW) CF (dB)	Total Corr'd PPSD (dBm/MHz)	PPSD Limit (dBm/MHz)
			ANT 1	ANT 2					
802.11ac VHT20	149	5745	8.00	10.13	12.20	0.41	-3.01	9.60	28.99
	157	5785	8.29	9.70	12.06	0.41	-3.01	9.46	28.99
	165	5825	10.20	9.94	13.08	0.41	-3.01	10.48	28.99
802.11ac VHT40	155	5755	5.71	7.35	9.62	0.36	-3.01	6.97	28.99
	159	5795	7.05	6.53	9.81	0.36	-3.01	7.16	28.99
802.11ac VHT80	155	5775	-1.82	-0.17	2.09	0.39	-3.01	-0.53	28.99

Non Beamforming
5.2G Band
ANT 1

Modulation Standard: 802.11a (6Mbps)
CH36



Modulation Standard: 802.11ac VHT20 (6.5Mbps)
CH36



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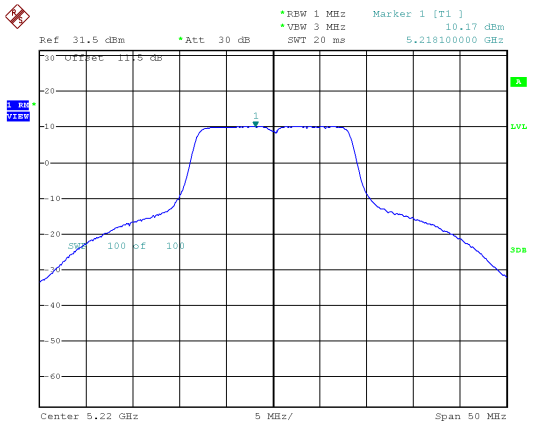
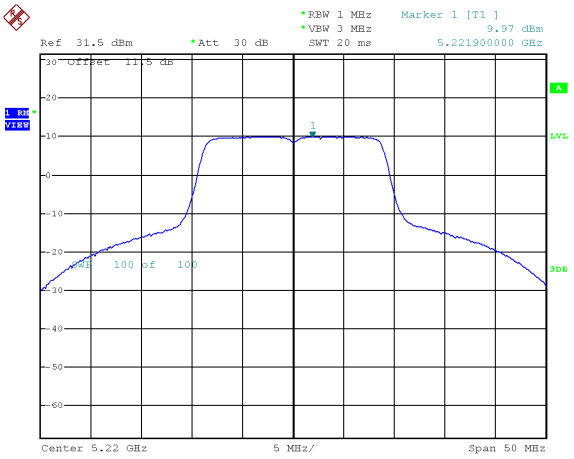
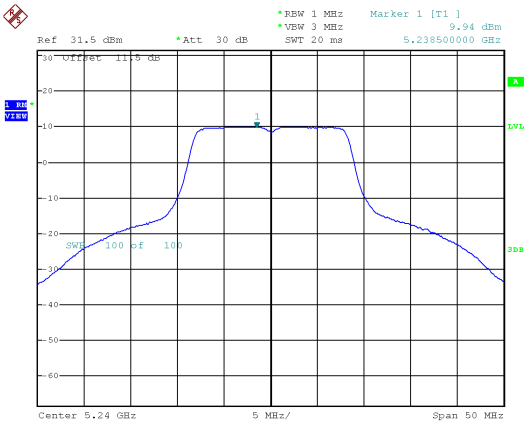


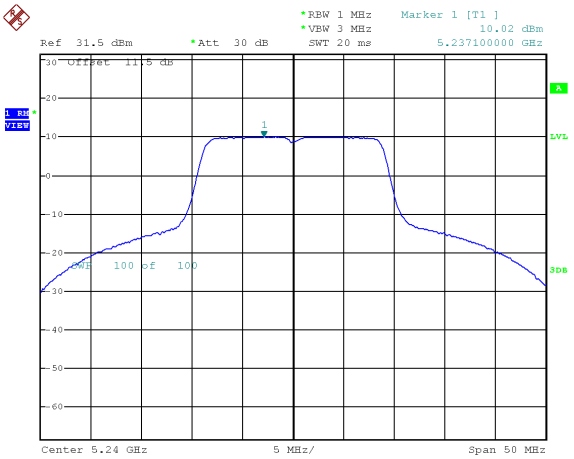
CH44



CH48



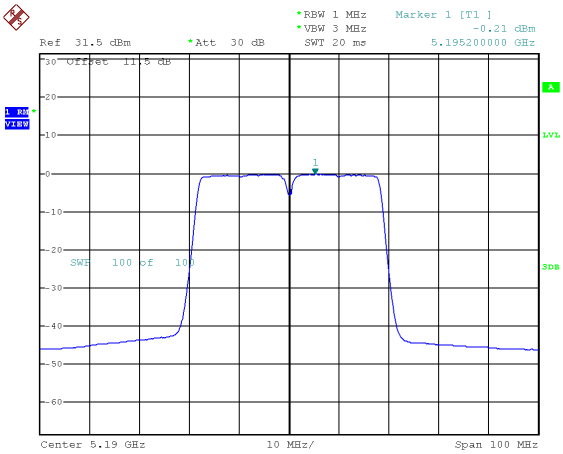
CH48



ANT 1

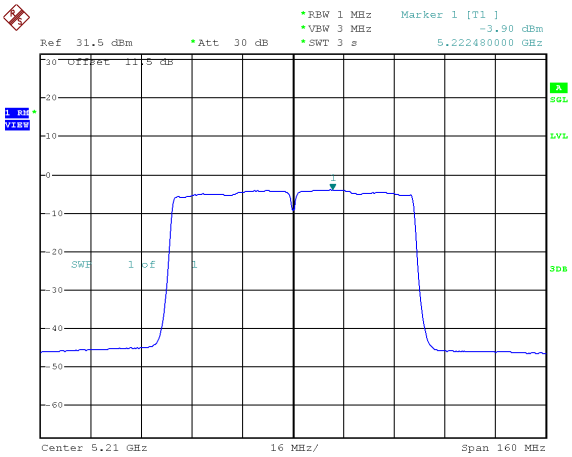
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

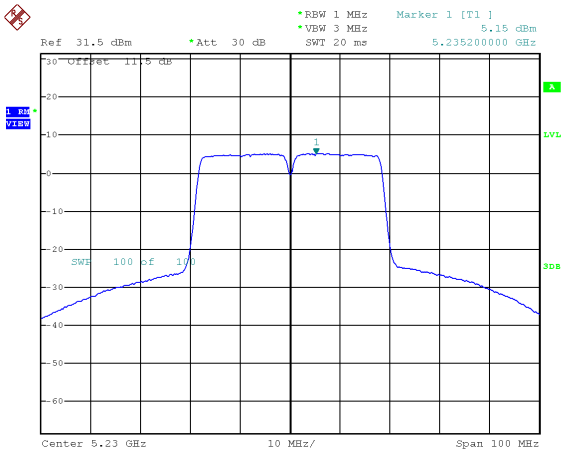


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



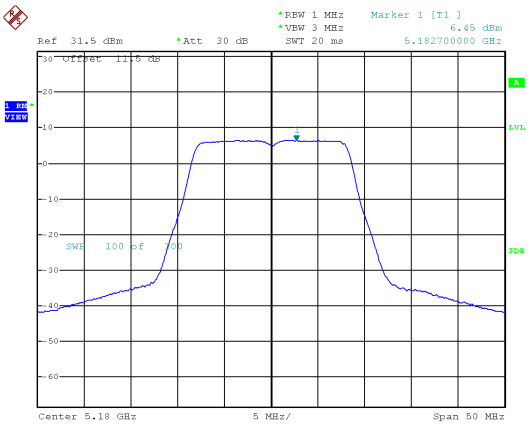
CH46



ANT 2

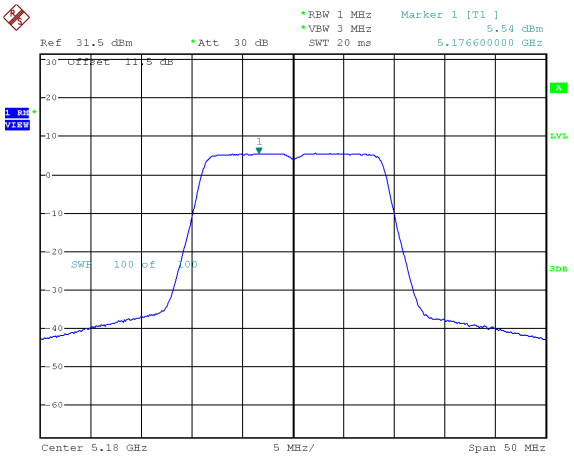
Modulation Standard: 802.11a (6Mbps)

CH36

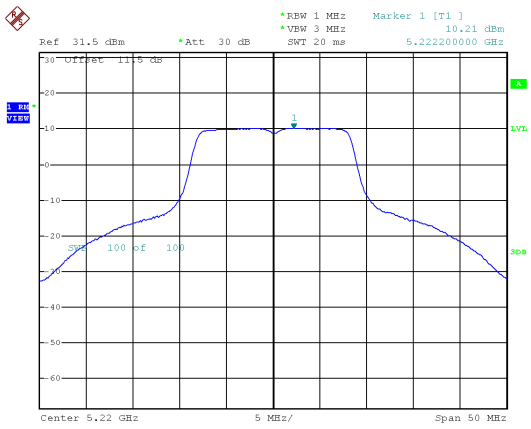


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

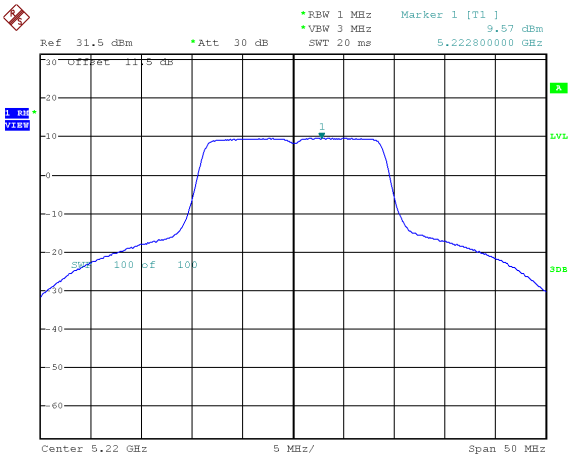
CH36



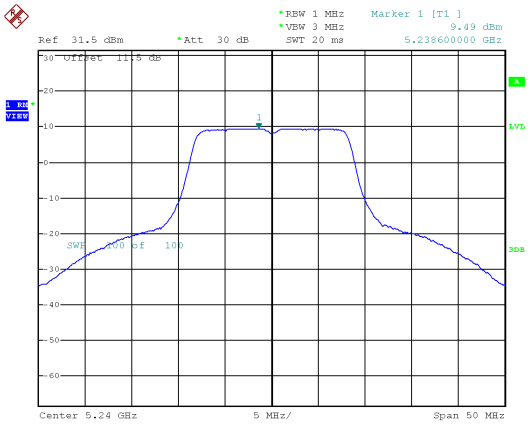
CH44



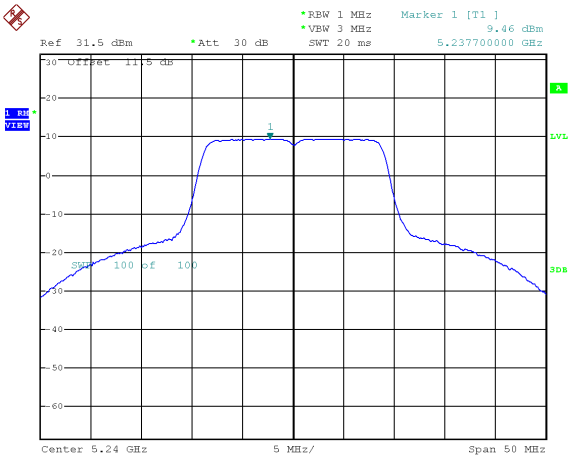
CH44



CH48



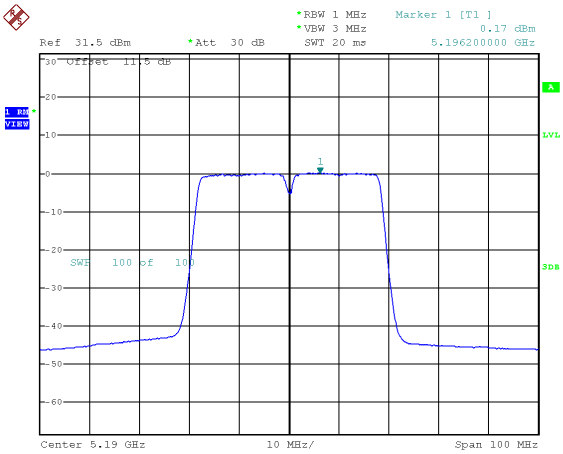
CH48



ANT 2

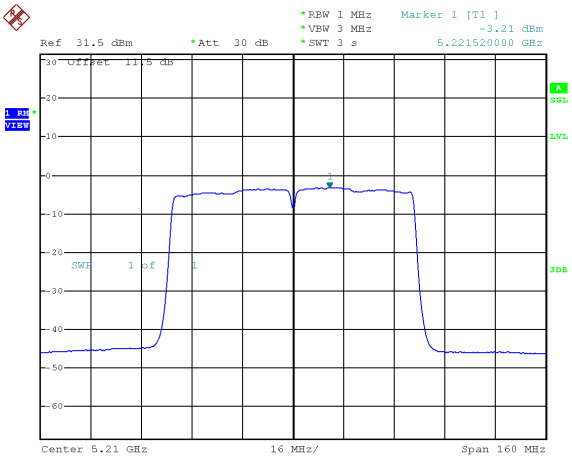
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

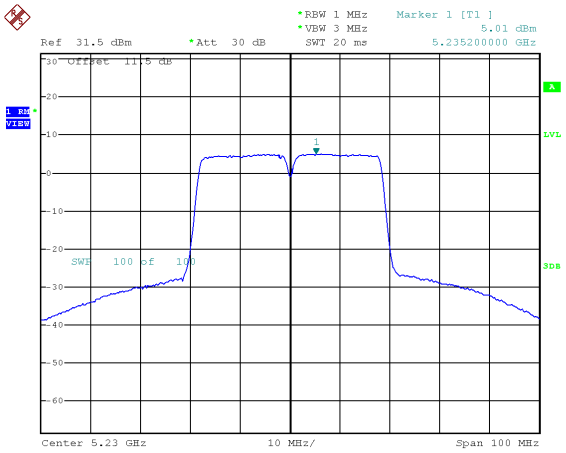


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

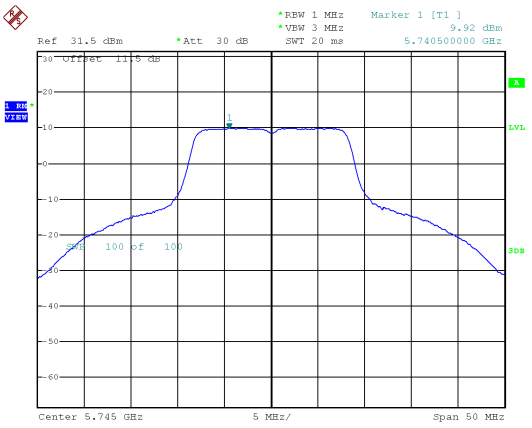
CH42



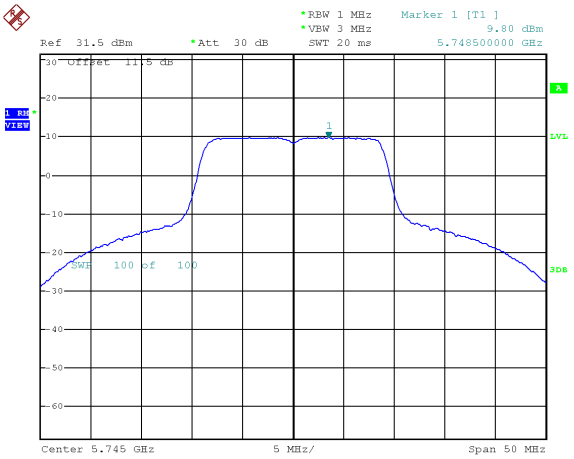
CH46



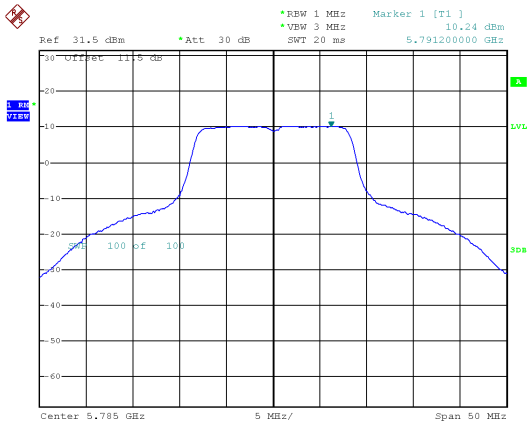
5.8G Band
ANT 1
Modulation Standard: 802.11a (6Mbps)
CH149



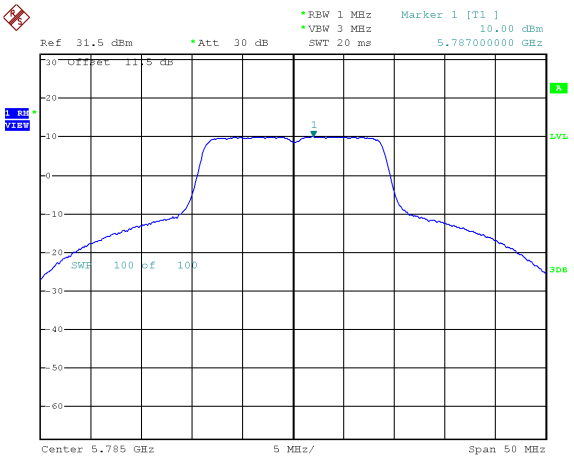
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



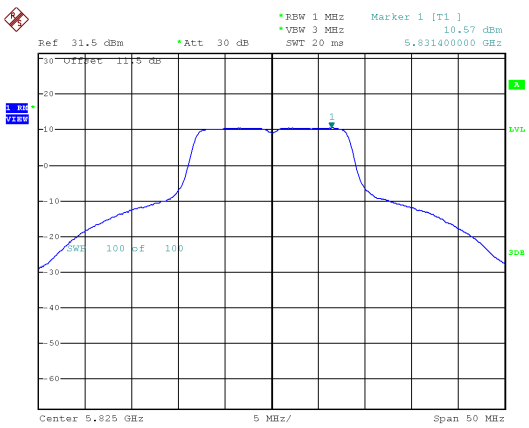
CH157



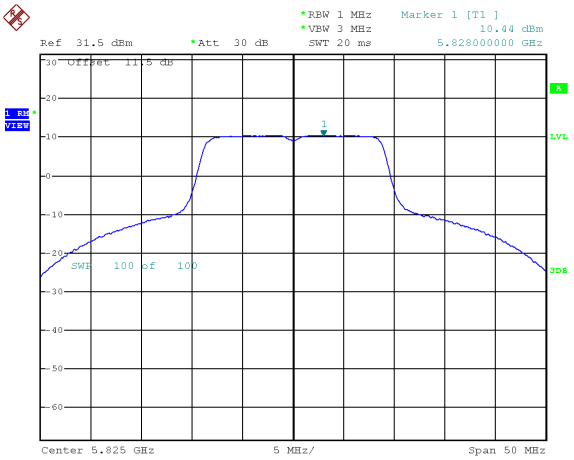
CH157



CH165



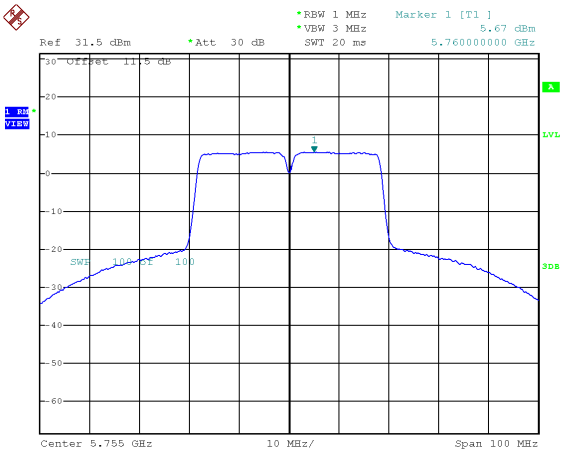
CH165



ANT 1

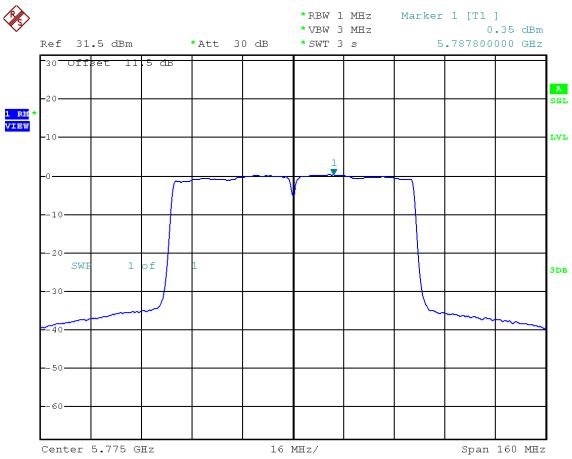
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151

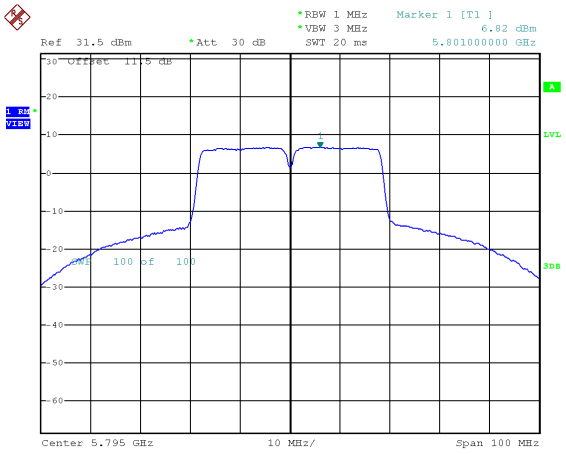


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

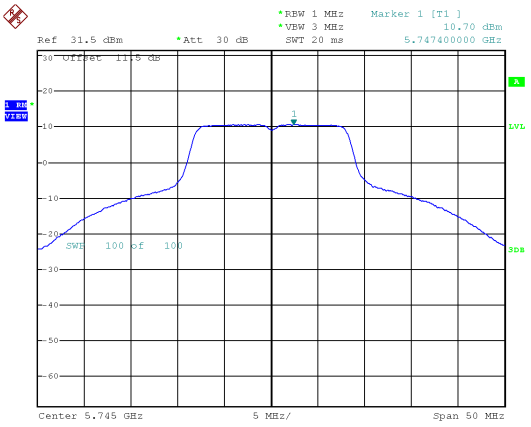
CH155



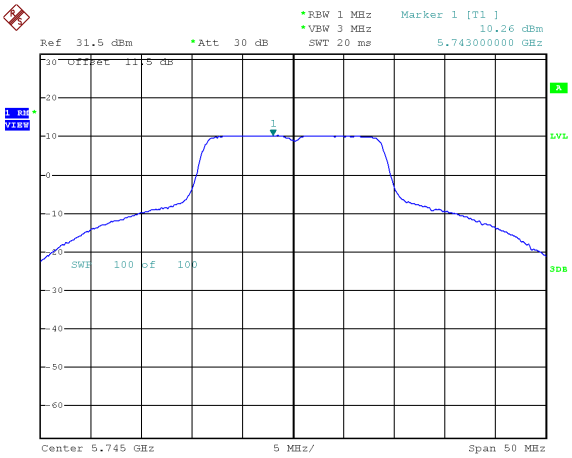
CH159



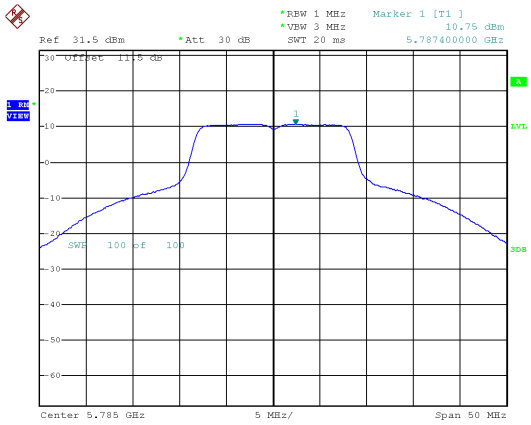
ANT 2
Modulation Standard: 802.11a (6Mbps)
CH149



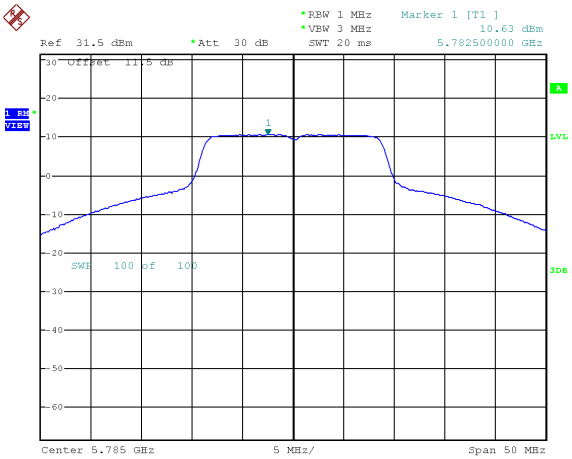
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



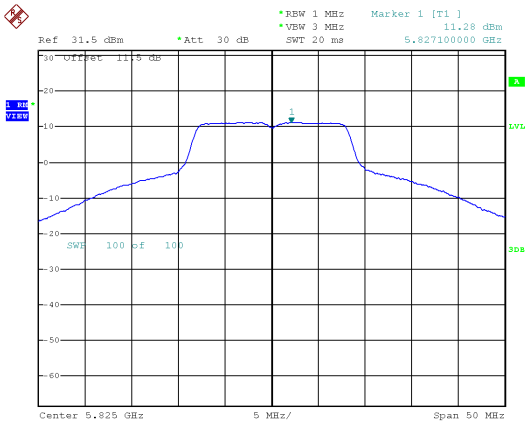
CH157



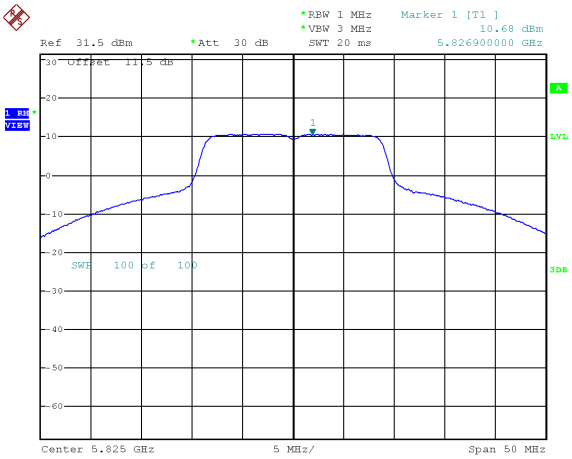
CH157



CH165



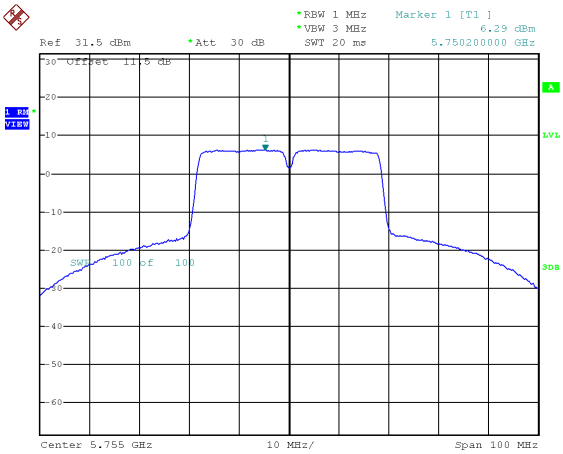
CH165



ANT 2

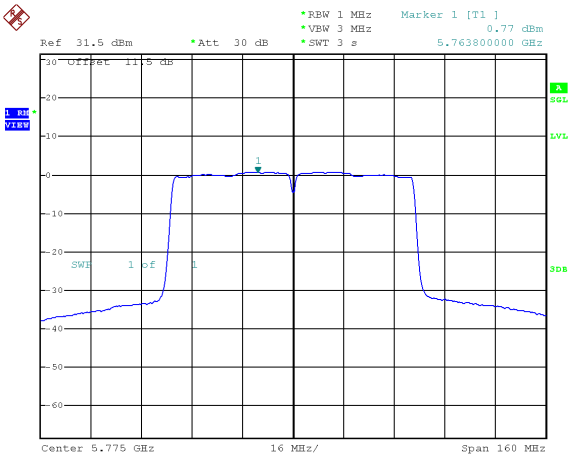
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151

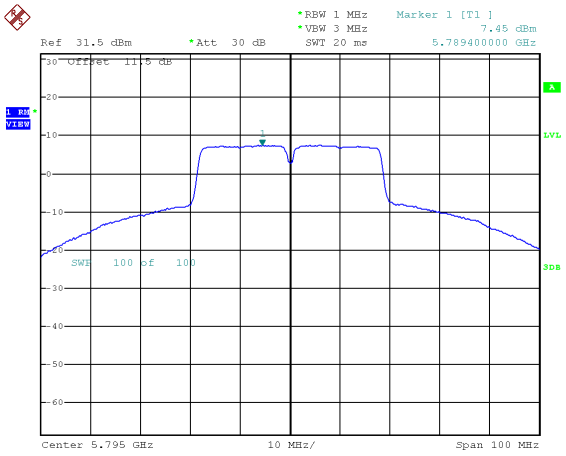


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155

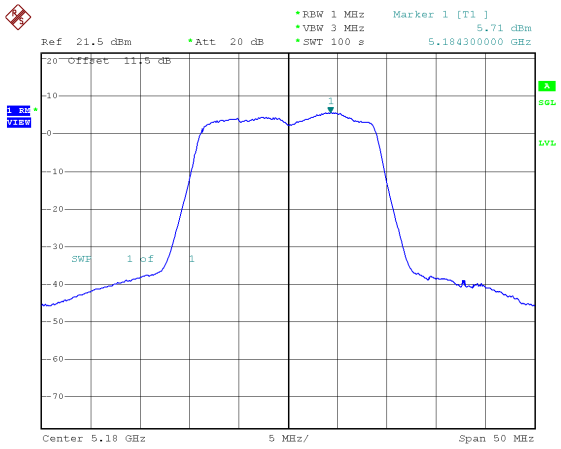


CH159

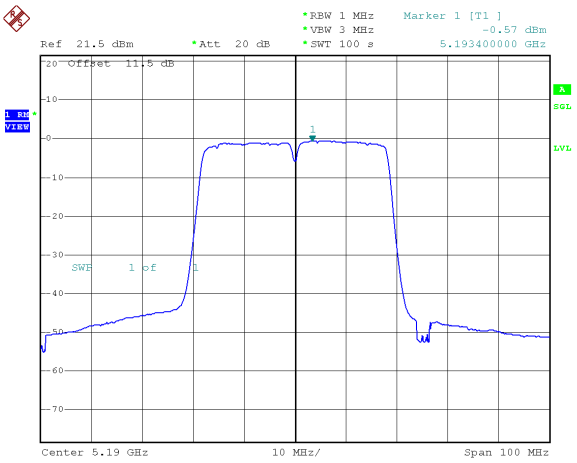


Beamforming
5.2G Band
ANT 1

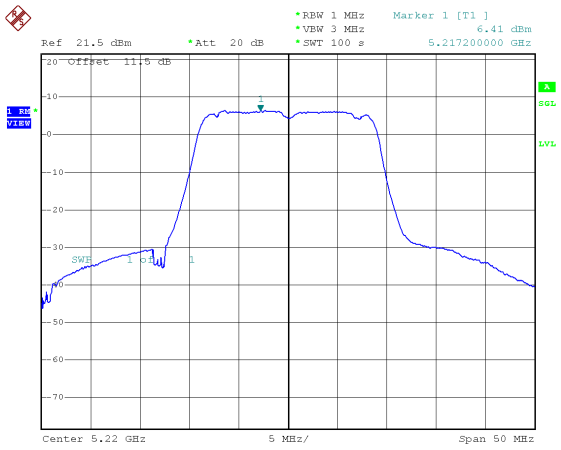
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH36



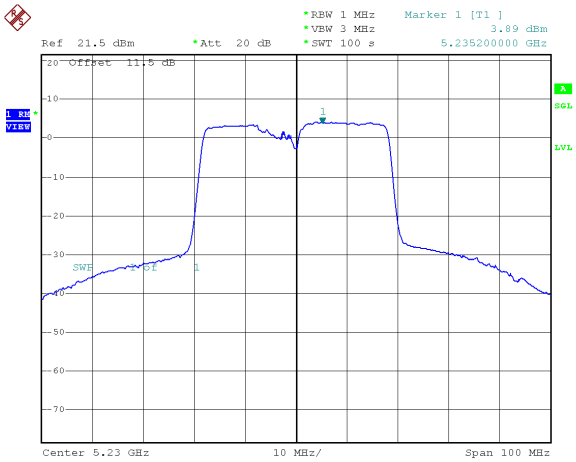
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)
CH38



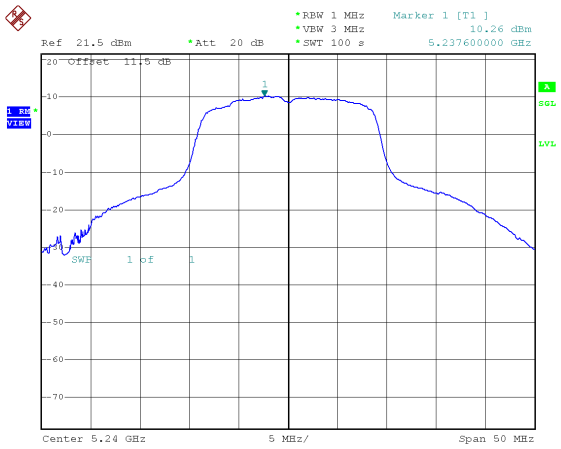
CH44



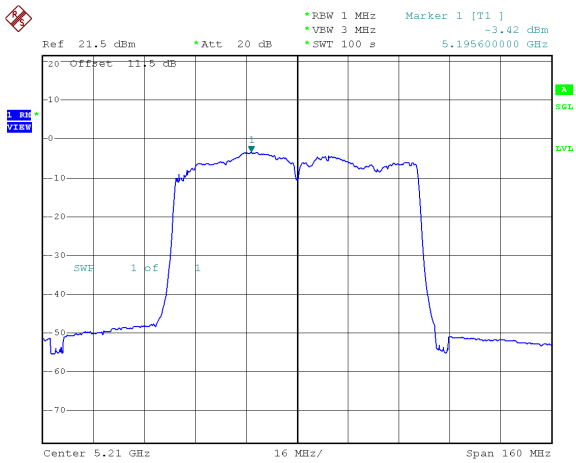
CH46



CH48



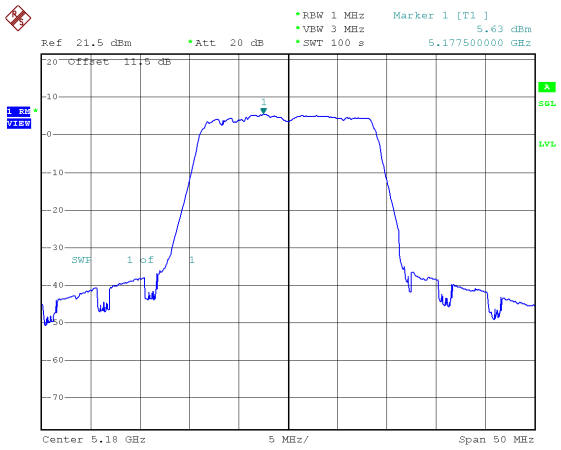
Modulation Standard: 802.11ac, VHT80 (29.3Mbps)
CH42



ANT 2

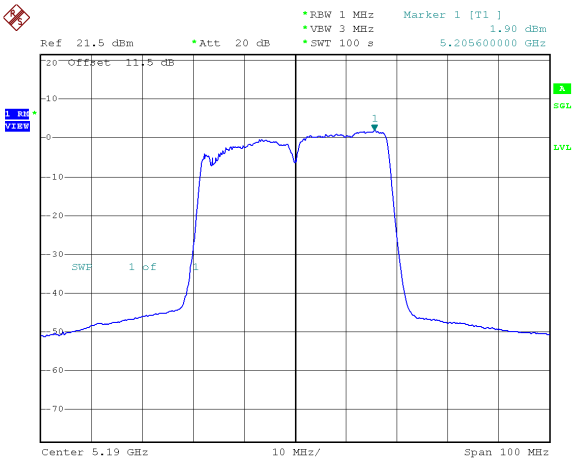
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH36

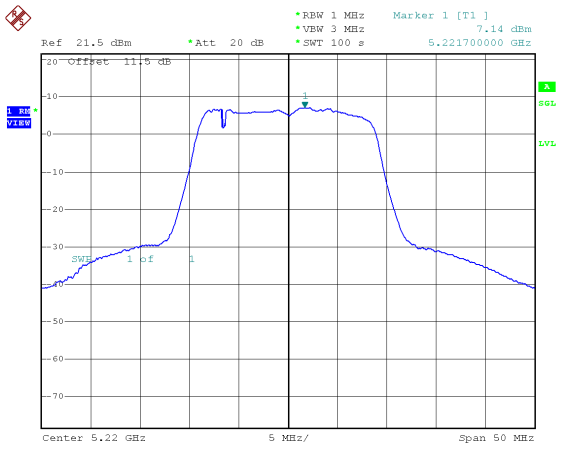


Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

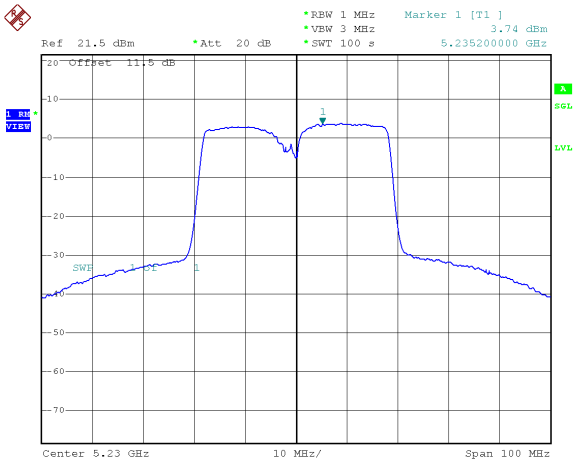
CH38



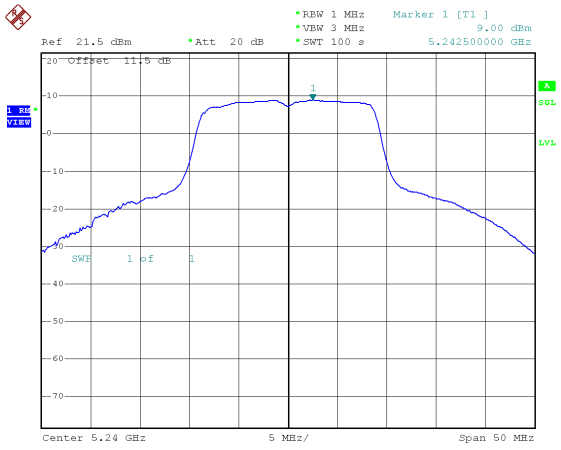
CH44



CH46

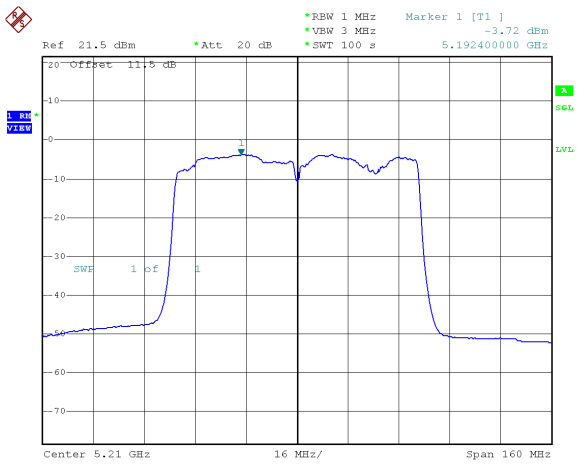


CH48



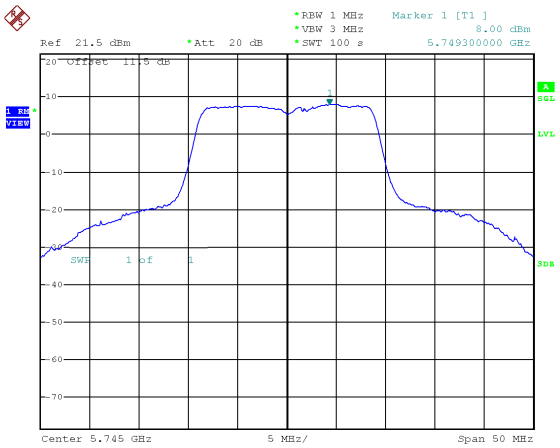
Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH42

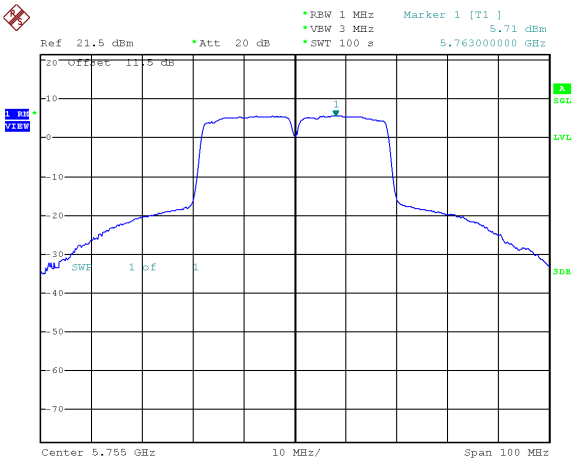


5.8G Band
ANT 1

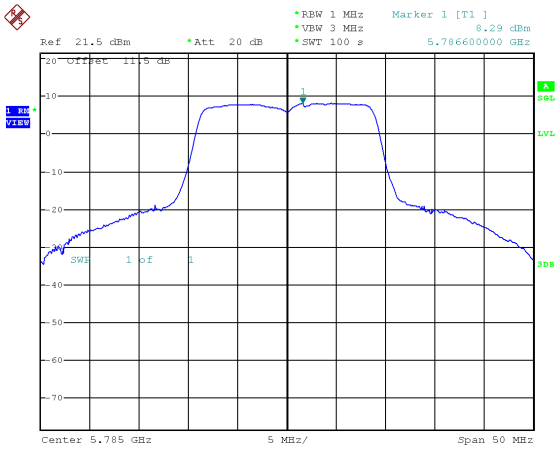
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



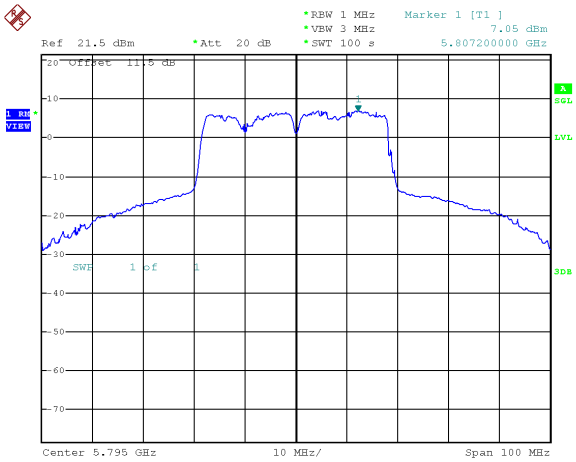
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)
CH151



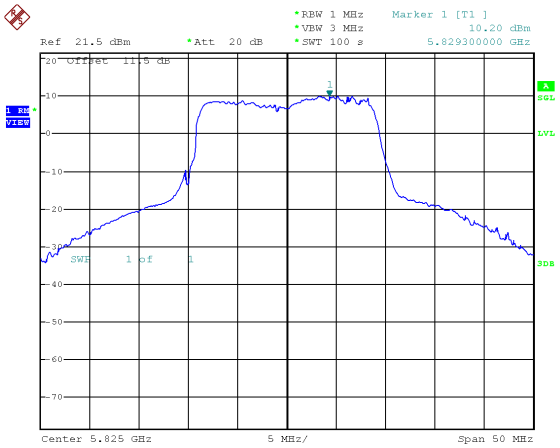
CH157



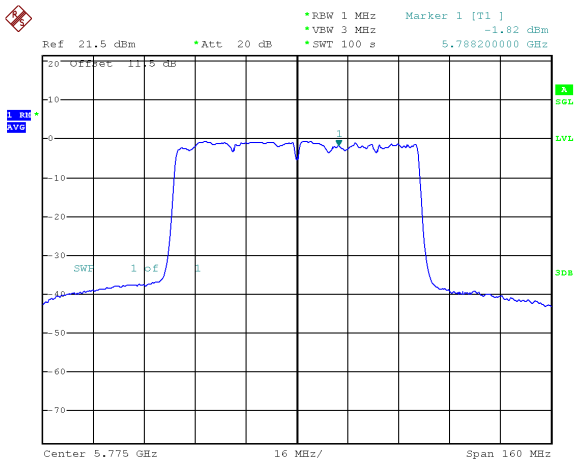
CH159



CH165



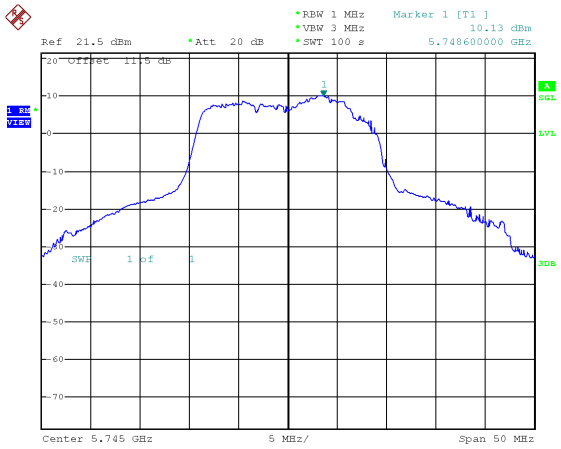
Modulation Standard: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT 2

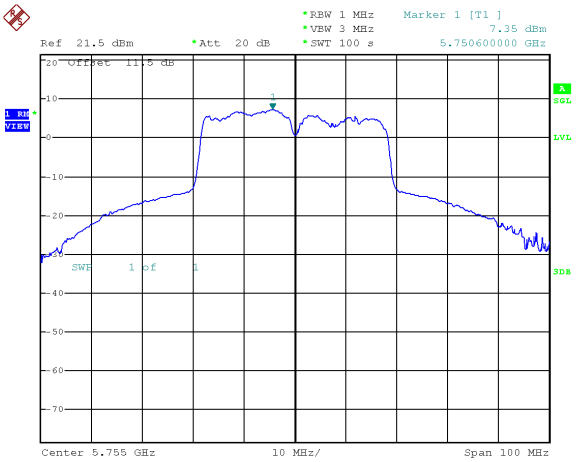
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH149

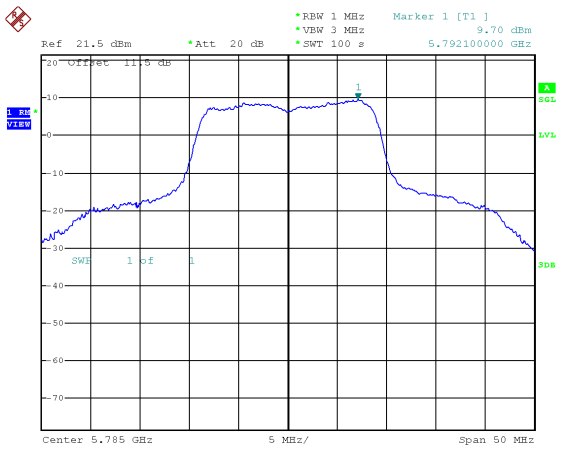


Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

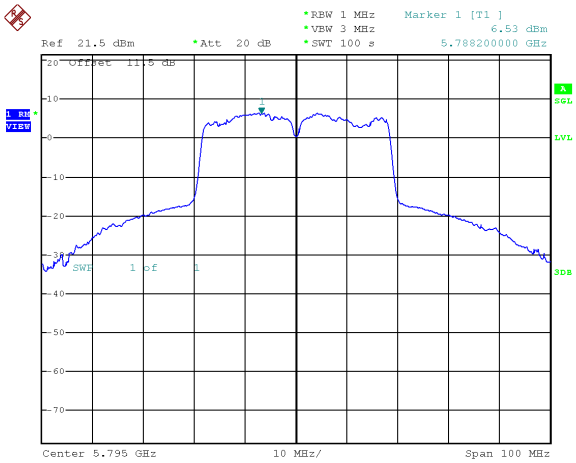
CH151



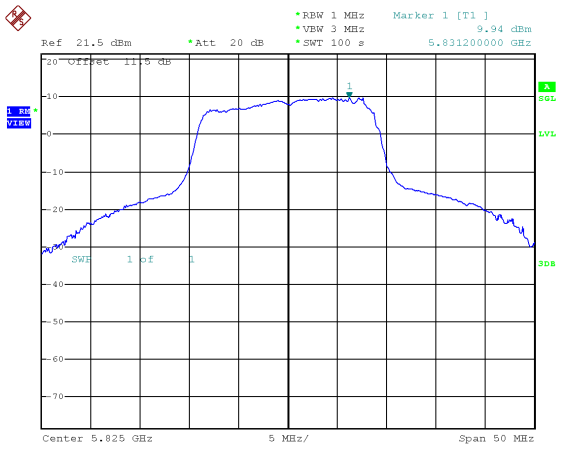
CH157



CH159

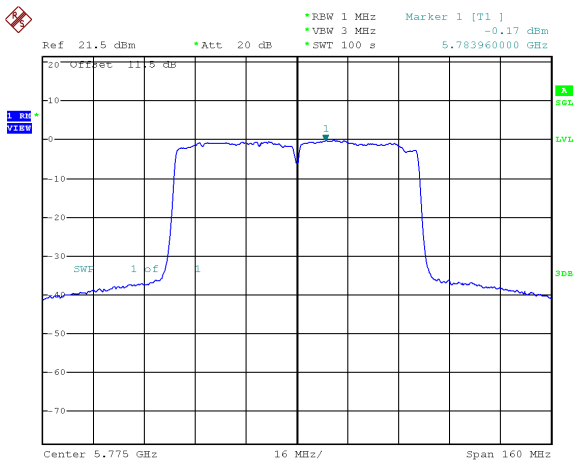


CH165



Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155

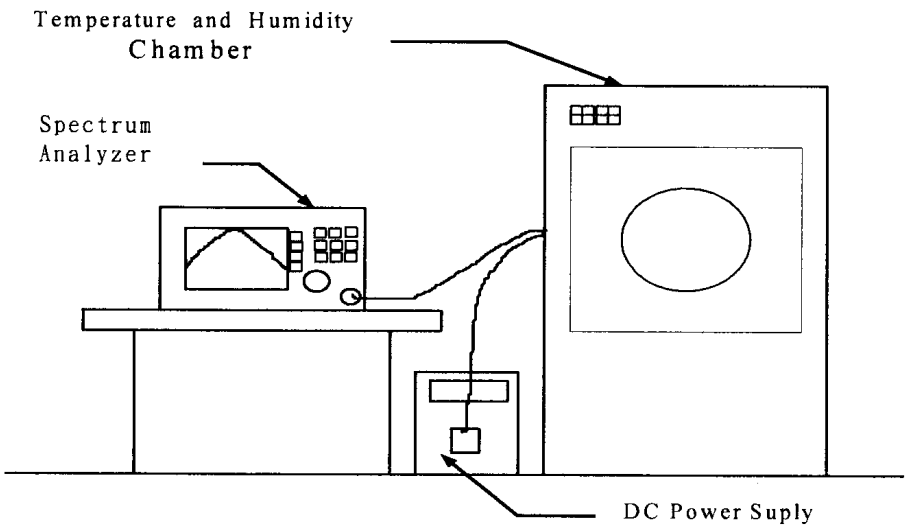


12. Frequency Stability

12.1.Test Procedure

1. The EUT was placed inside the Temperature and Humidity chamber.
2. The transmitter output was connected to spectrum analyzer.
3. Turn the EUT on and couple its output to a spectrum analyzer.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
6. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
7. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

12.2.Test Setup Layout



12.3.Test Result and Data

Temperature: 26°C Humidity: 61%

Test Date: Mar. 22, 2017

Operating frequency: 5220 MHz							
Temp	Power supply	2 minute		5 minute		10 minute	
(℃)	(V)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
55	102	5219.5633	-0.008366	5219.5471	-0.008676	5219.2392	-0.145738
	120	5219.9221	-0.001492	5219.5795	-0.008055	5219.1184	-0.168893
	138	5219.0317	-0.018549	5219.4598	-0.010348	5219.4688	-0.101754
40	102	5219.8828	-0.002244	5219.9879	-0.000231	5219.5743	-0.081544
	120	5219.4112	-0.011280	5219.6868	-0.006000	5219.9142	-0.016429
	138	5219.1394	-0.016487	5219.8900	-0.002108	5219.3854	-0.117732
30	102	5219.3288	-0.012858	5219.2090	-0.015154	5219.4376	-0.107742
	120	5219.7034	-0.005682	5219.1679	-0.015941	5219.6223	-0.072361
	138	5219.8291	-0.003275	5219.8638	-0.002609	5219.9694	-0.005856
20	102	5219.5924	-0.007809	5219.6314	-0.007062	5219.2041	-0.152469
	120	5219.3263	-0.012905	5219.7539	-0.004714	5219.7187	-0.053892
	138	5219.0484	-0.018231	5219.8441	-0.002986	5219.6510	-0.066849
10	102	5219.3978	-0.011536	5219.4778	-0.010004	5219.6494	-0.067166
	120	5219.3918	-0.011651	5219.7820	-0.004176	5219.0622	-0.179661
	138	5219.5461	-0.008694	5219.6691	-0.006339	5219.2803	-0.137872
0	102	5219.3964	-0.011563	5219.2231	-0.014883	5219.9641	-0.006871
	120	5219.3916	-0.011654	5219.8979	-0.001955	5219.2032	-0.152635
	138	5219.6053	-0.007562	5219.8696	-0.002497	5219.0979	-0.172821
-10	102	5219.0411	-0.018369	5219.7192	-0.005380	5219.9888	-0.002152
	120	5219.0128	-0.018912	5219.3358	-0.012724	5219.8839	-0.022250
	138	5219.1243	-0.016775	5219.4223	-0.011067	5219.8039	-0.037564
-20	102	5219.9848	-0.000291	5219.8681	-0.002527	5219.5178	-0.092382
	120	5219.1668	-0.015962	5219.9262	-0.001415	5219.7875	-0.040709
	138	5219.6917	-0.005906	5219.8051	-0.003733	5219.7915	-0.039951
-30	102	5219.3827	-0.011825	5219.0299	-0.018584	5219.5550	-0.085241
	120	5219.6974	-0.005797	5219.9084	-0.001755	5219.4251	-0.110138
	138	5219.8537	-0.002802	5219.3712	-0.012046	5219.3991	-0.115113

Limit:

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

13. Automatically Discontinue Transmission

13.1. Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

13.2. Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.