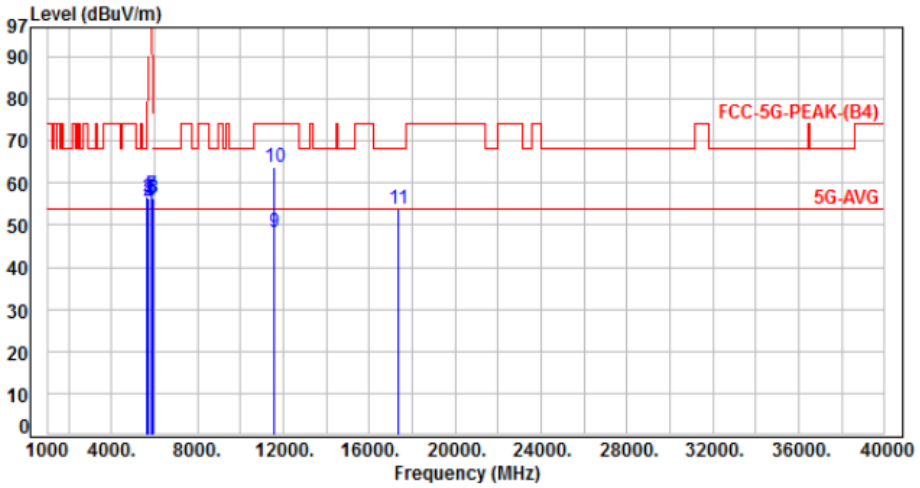
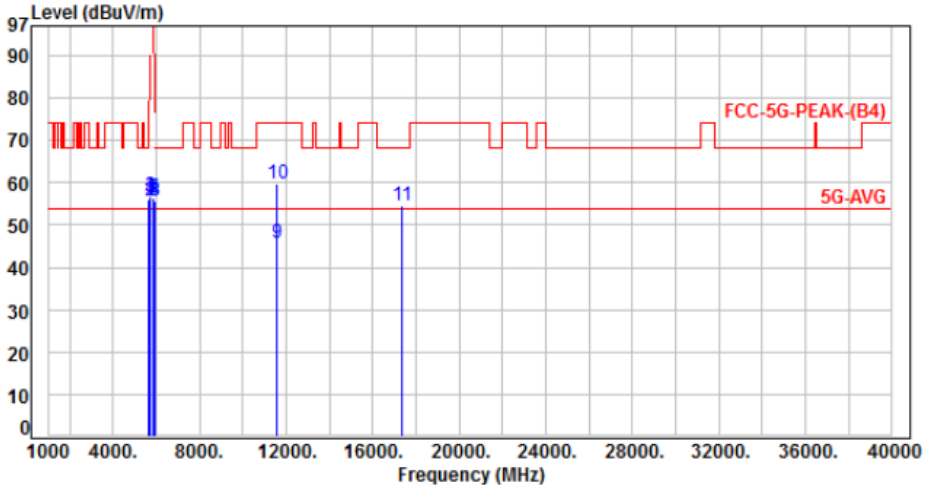
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH157, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	63.60	56.63	68.20	-11.57	Peak	112	314	P
2	5700.00	-6.95	62.80	55.85	105.20	-49.35	Peak	112	314	P
3	5720.00	-6.95	63.40	56.45	110.80	-54.35	Peak	112	314	P
4	5725.00	-6.95	62.91	55.96	122.20	-66.24	Peak	112	314	P
5	5850.00	-6.90	63.10	56.20	122.20	-66.00	Peak	112	314	P
6	5855.00	-6.90	63.43	56.53	110.80	-54.27	Peak	112	314	P
7	5875.00	-6.89	63.88	56.99	105.20	-48.21	Peak	112	314	P
8	5925.00	-6.88	63.19	56.31	68.20	-11.89	Peak	112	314	P
9	11570.00	1.28	46.99	48.27	54.00	-5.73	Average	100	318	P
10	11570.00	1.28	62.60	63.88	74.00	-10.12	Peak	100	318	P
11	17355.00	12.41	41.36	53.77	68.20	-14.43	Peak	100	92	P

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

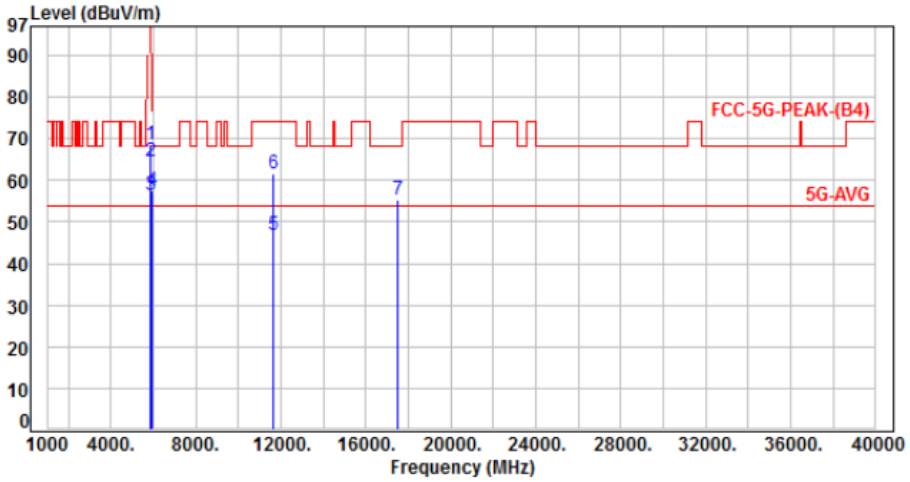
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH157, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	63.00	56.03	68.20	-12.17	Peak	100	231	P
2	5700.00	-6.95	62.80	55.85	105.20	-49.35	Peak	100	231	P
3	5720.00	-6.95	63.60	56.65	110.80	-54.15	Peak	100	231	P
4	5725.00	-6.95	63.11	56.16	122.20	-66.04	Peak	100	231	P
5	5850.00	-6.90	63.19	56.29	122.20	-65.91	Peak	100	231	P
6	5855.00	-6.90	62.70	55.80	110.80	-55.00	Peak	100	231	P
7	5875.00	-6.89	63.30	56.41	105.20	-48.79	Peak	100	231	P
8	5925.00	-6.88	62.40	55.52	68.20	-12.68	Peak	100	231	P
9	11570.00	1.28	44.50	45.78	54.00	-8.22	Average	100	225	P
10	11570.00	1.28	58.60	59.88	74.00	-14.12	Peak	100	225	P
11	17355.00	12.41	42.12	54.53	68.20	-13.67	Peak	100	315	P

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

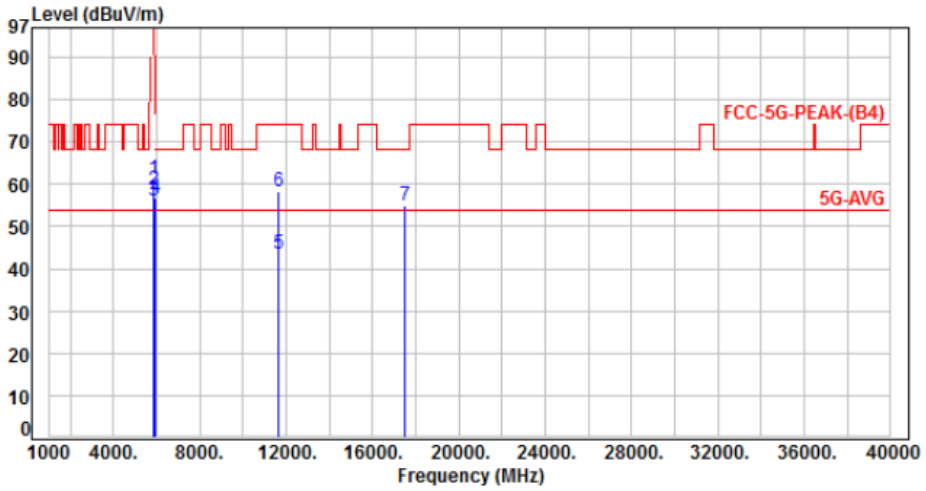
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH165, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	75.60	68.70	122.20	-53.50	Peak	100	321	P
2	5855.00	-6.90	71.30	64.40	110.80	-46.40	Peak	100	321	P
3	5875.00	-6.89	63.30	56.41	105.20	-48.79	Peak	100	321	P
4	5925.00	-6.88	64.50	57.62	68.20	-10.58	Peak	100	321	P
5	11650.00	1.37	45.30	46.67	54.00	-7.33	Average	100	315	P
6	11650.00	1.37	60.10	61.47	74.00	-12.53	Peak	100	315	P
7	17475.00	13.18	42.32	55.50	68.20	-12.70	Peak	100	106	P

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

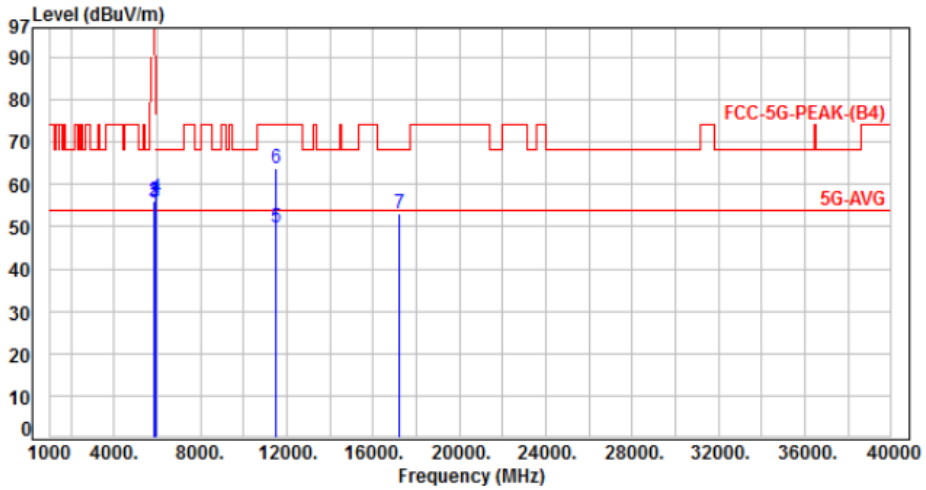
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH165, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	68.20	61.30	122.20	-60.90	Peak	100	222	P
2	5855.00	-6.90	65.60	58.70	110.80	-52.10	Peak	100	222	P
3	5875.00	-6.89	62.90	56.01	105.20	-49.19	Peak	100	222	P
4	5925.00	-6.88	63.70	56.82	68.20	-11.38	Peak	100	222	P
5	11650.00	1.37	42.10	43.47	54.00	-10.53	Average	100	225	P
6	11650.00	1.37	56.80	58.17	74.00	-15.83	Peak	100	225	P
7	17475.00	13.18	41.66	54.84	68.20	-13.36	Peak	100	293	P

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

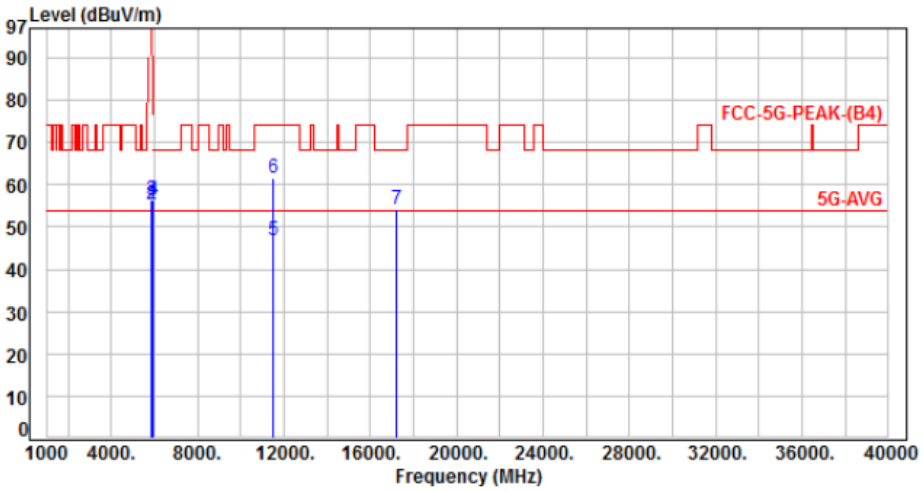
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH149, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	62.25	55.35	122.20	-66.85	Peak	100	300	P
2	5855.00	-6.90	62.90	56.00	110.80	-54.80	Peak	100	300	P
3	5875.00	-6.89	62.68	55.79	105.20	-49.41	Peak	100	300	P
4	5925.00	-6.88	63.60	56.72	68.20	-11.48	Peak	100	300	P
5	11490.00	1.18	48.57	49.75	54.00	-4.25	Average	100	314	P
6	11490.00	1.18	62.71	63.89	74.00	-10.11	Peak	100	314	P
7	17235.00	11.64	41.50	53.14	68.20	-15.06	Peak	100	86	P

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

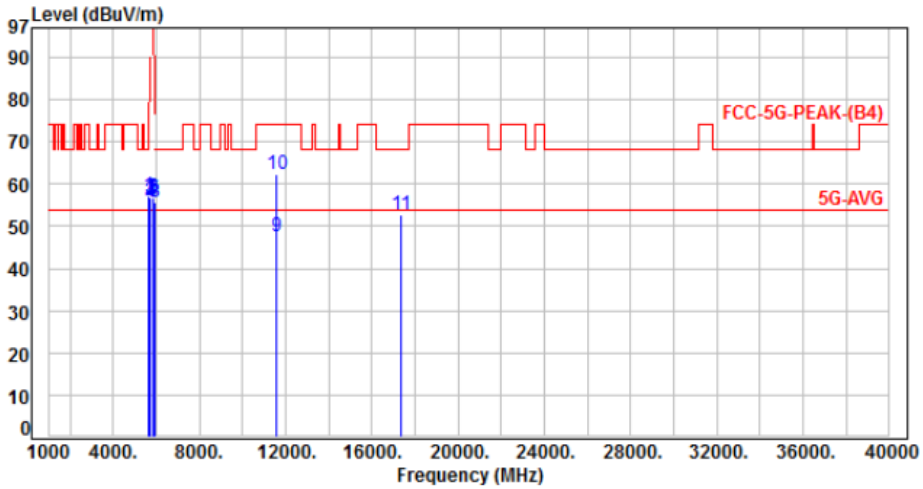
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH149, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	62.40	55.50	122.20	-66.70	Peak	100	215	P
2	5855.00	-6.90	62.30	55.40	110.80	-55.40	Peak	100	215	P
3	5875.00	-6.89	63.30	56.41	105.20	-48.79	Peak	100	215	P
4	5925.00	-6.88	63.35	56.47	68.20	-11.73	Peak	100	215	P
5	11490.00	1.18	45.81	46.99	54.00	-7.01	Average	100	226	P
6	11490.00	1.18	60.51	61.69	74.00	-12.31	Peak	100	226	P
7	17235.00	11.64	42.66	54.30	68.20	-13.90	Peak	100	345	P

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

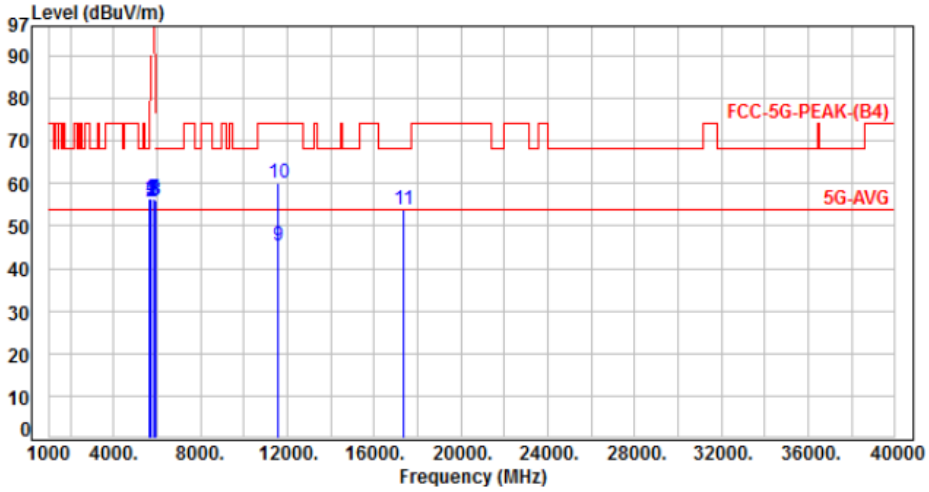
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH157, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	64.20	57.23	68.20	-10.97	Peak	100	312	P
2	5700.00	-6.95	62.99	56.04	105.20	-49.16	Peak	100	312	P
3	5720.00	-6.95	63.90	56.95	110.80	-53.85	Peak	100	312	P
4	5725.00	-6.95	62.81	55.86	122.20	-66.34	Peak	100	312	P
5	5850.00	-6.90	63.40	56.50	122.20	-65.70	Peak	100	312	P
6	5855.00	-6.90	63.69	56.79	110.80	-54.01	Peak	100	312	P
7	5875.00	-6.89	63.40	56.51	105.20	-48.69	Peak	100	312	P
8	5925.00	-6.88	62.70	55.82	68.20	-12.38	Peak	100	312	P
9	11570.00	1.28	46.30	47.58	54.00	-6.42	Average	100	311	P
10	11570.00	1.28	61.20	62.48	74.00	-11.52	Peak	100	311	P
11	17355.00	12.41	40.30	52.71	68.20	-15.49	Peak	100	105	P

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

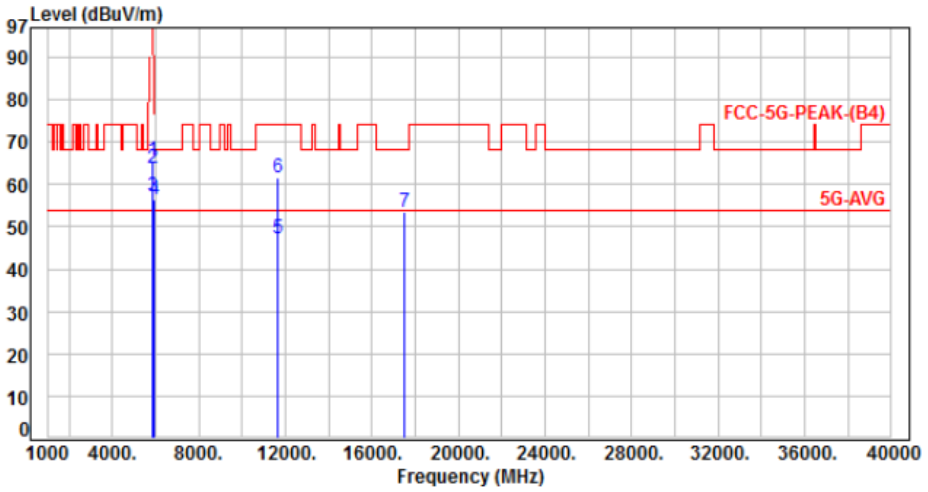
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH157, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	63.50	56.53	68.20	-11.67	Peak	100	233	P
2	5700.00	-6.95	62.80	55.85	105.20	-49.35	Peak	100	233	P
3	5720.00	-6.95	62.90	55.95	110.80	-54.85	Peak	100	233	P
4	5725.00	-6.95	63.31	56.36	122.20	-65.84	Peak	100	233	P
5	5850.00	-6.90	63.10	56.20	122.20	-66.00	Peak	100	233	P
6	5855.00	-6.90	62.70	55.80	110.80	-55.00	Peak	100	233	P
7	5875.00	-6.89	63.30	56.41	105.20	-48.79	Peak	100	233	P
8	5925.00	-6.88	62.90	56.02	68.20	-12.18	Peak	100	233	P
9	11570.00	1.28	44.26	45.54	54.00	-8.46	Average	100	226	P
10	11570.00	1.28	58.70	59.98	74.00	-14.02	Peak	100	226	P
11	17355.00	12.41	41.36	53.77	68.20	-14.43	Peak	100	298	P

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

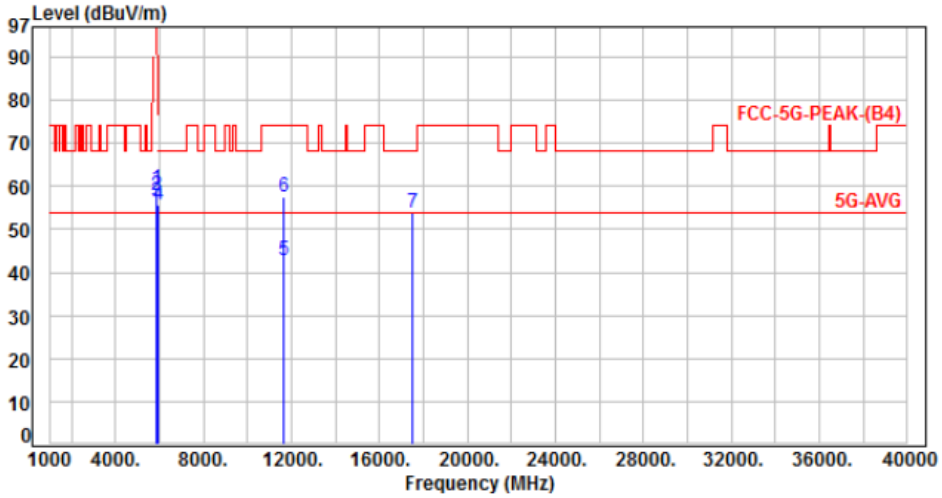
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH165, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	72.40	65.50	122.20	-56.70	Peak	100	320	P
2	5855.00	-6.90	70.60	63.70	110.80	-47.10	Peak	100	320	P
3	5875.00	-6.89	63.90	57.01	105.20	-48.19	Peak	100	320	P
4	5925.00	-6.88	63.30	56.42	68.20	-11.78	Peak	100	320	P
5	11650.00	1.37	45.90	47.27	54.00	-6.73	Average	103	310	P
6	11650.00	1.37	60.24	61.61	74.00	-12.39	Peak	103	310	P
7	17475.00	13.18	40.41	53.59	68.20	-14.61	Peak	100	65	P

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

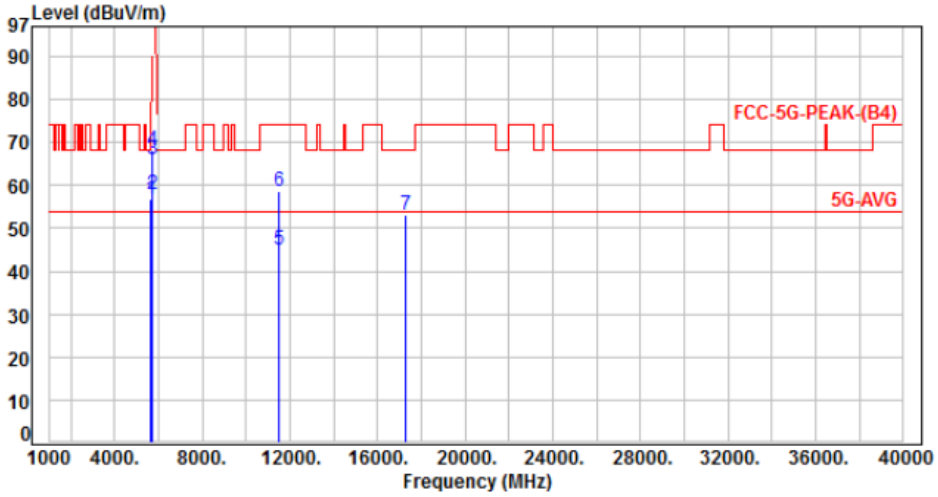
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH165, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-6.90	66.40	59.50	122.20	-62.70	Peak	100	221	P
2	5855.00	-6.90	64.90	58.00	110.80	-52.80	Peak	100	221	P
3	5875.00	-6.89	63.30	56.41	105.20	-48.79	Peak	100	221	P
4	5925.00	-6.88	62.60	55.72	68.20	-12.48	Peak	100	221	P
5	11650.00	1.37	41.33	42.70	54.00	-11.30	Average	100	225	P
6	11650.00	1.37	56.10	57.47	74.00	-16.53	Peak	100	225	P
7	17475.00	13.18	40.65	53.83	68.20	-14.37	Peak	100	346	P

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

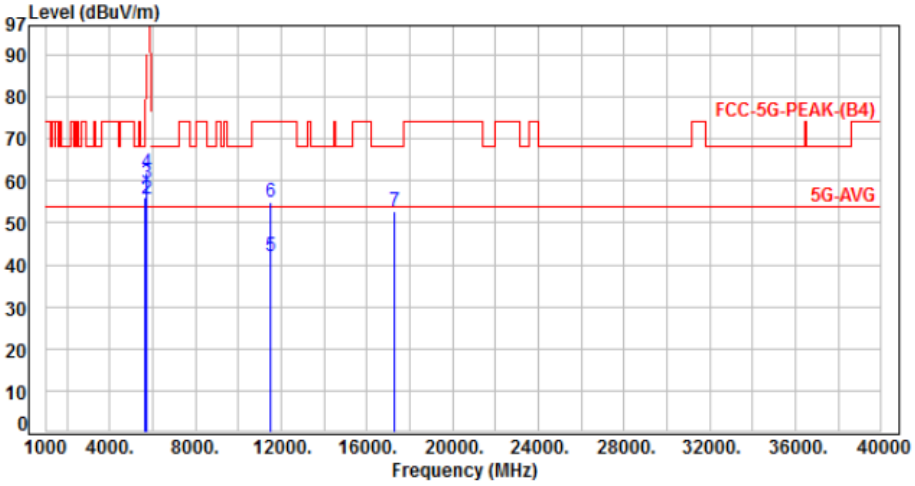
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH151, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	63.80	56.83	68.20	-11.37	Peak	100	310	P
2	5700.00	-6.95	64.70	57.75	105.20	-47.45	Peak	100	310	P
3	5720.00	-6.95	72.90	65.95	110.80	-44.85	Peak	100	310	P
4	5725.00	-6.95	75.31	68.36	122.20	-53.84	Peak	100	310	P
5	11510.00	1.22	43.89	45.11	54.00	-8.89	Average	100	312	P
6	11510.00	1.22	57.59	58.81	74.00	-15.19	Peak	100	312	P
7	17265.00	11.84	41.42	53.26	68.20	-14.94	Peak	100	113	P

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

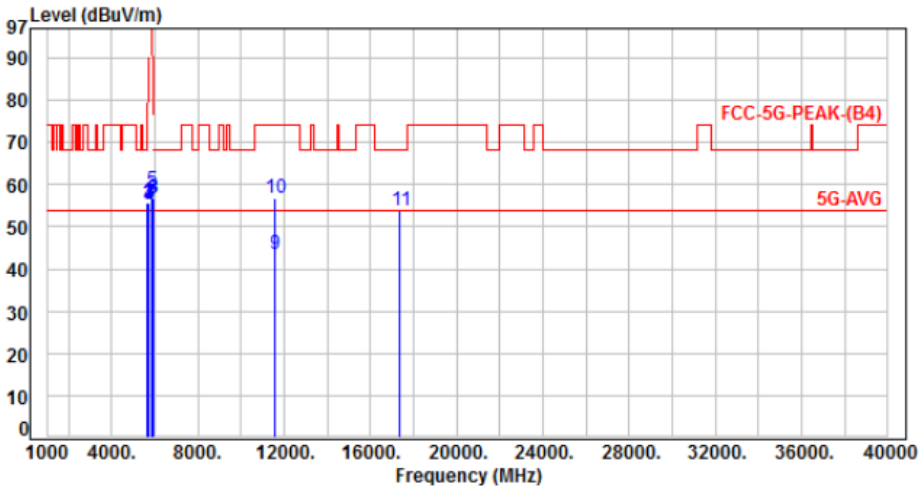
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH151, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	62.85	55.88	68.20	-12.32	Peak	107	224	P
2	5700.00	-6.95	62.80	55.85	105.20	-49.35	Peak	107	224	P
3	5720.00	-6.95	66.30	59.35	110.80	-51.45	Peak	107	224	P
4	5725.00	-6.95	68.91	61.96	122.20	-60.24	Peak	107	224	P
5	11510.00	1.22	40.79	42.01	54.00	-11.99	Average	100	225	P
6	11510.00	1.22	53.89	55.11	74.00	-18.89	Peak	100	225	P
7	17265.00	11.84	40.87	52.71	68.20	-15.49	Peak	100	326	P

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

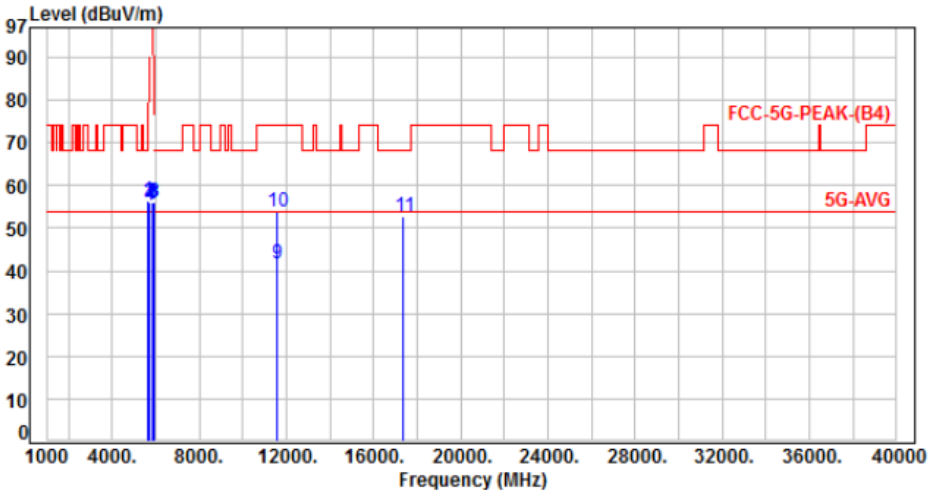
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH159, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	62.77	55.80	68.20	-12.40	Peak	100	320	P
2	5700.00	-6.95	62.80	55.85	105.20	-49.35	Peak	100	320	P
3	5720.00	-6.95	62.30	55.35	110.80	-55.45	Peak	100	320	P
4	5725.00	-6.95	62.37	55.42	122.20	-66.78	Peak	100	320	P
5	5850.00	-6.90	65.40	58.50	122.20	-63.70	Peak	100	320	P
6	5855.00	-6.90	63.46	56.56	110.80	-54.24	Peak	100	320	P
7	5875.00	-6.89	62.60	55.71	105.20	-49.49	Peak	100	320	P
8	5925.00	-6.88	63.50	56.62	68.20	-11.58	Peak	100	320	P
9	11590.00	1.29	42.41	43.70	54.00	-10.30	Average	100	316	P
10	11590.00	1.29	55.51	56.80	74.00	-17.20	Peak	100	316	P
11	17385.00	12.60	41.30	53.90	68.20	-14.30	Peak	100	92	P

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

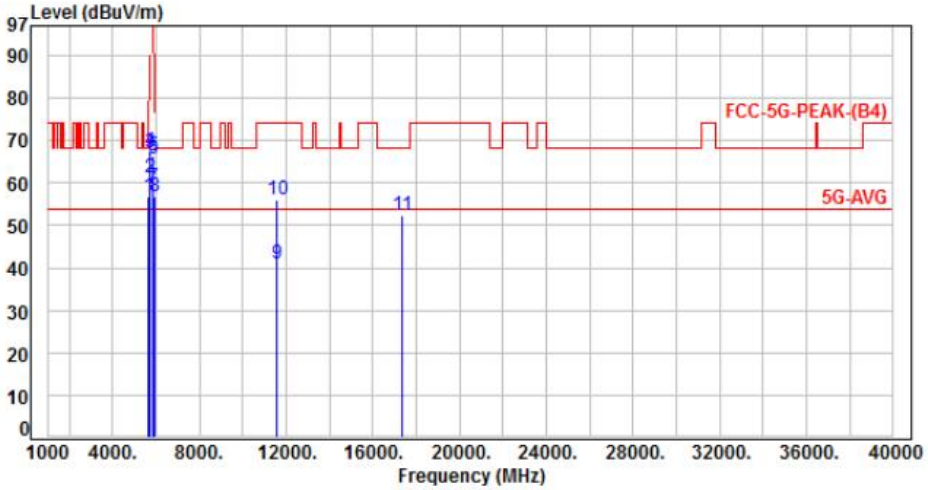
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH159, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	63.30	56.33	68.20	-11.87	Peak	105	225	P
2	5700.00	-6.95	62.99	56.04	105.20	-49.16	Peak	105	225	P
3	5720.00	-6.95	63.12	56.17	110.80	-54.63	Peak	105	225	P
4	5725.00	-6.95	62.51	55.56	122.20	-66.64	Peak	105	225	P
5	5850.00	-6.90	63.10	56.20	122.20	-66.00	Peak	105	225	P
6	5855.00	-6.90	62.60	55.70	110.80	-55.10	Peak	105	225	P
7	5875.00	-6.89	62.40	55.51	105.20	-49.69	Peak	105	225	P
8	5925.00	-6.88	63.10	56.22	68.20	-11.98	Peak	105	225	P
9	11590.00	1.29	40.21	41.50	54.00	-12.50	Average	100	223	P
10	11590.00	1.29	52.69	53.98	74.00	-20.02	Peak	100	223	P
11	17385.00	12.60	40.21	52.81	68.20	-15.39	Peak	100	328	P

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

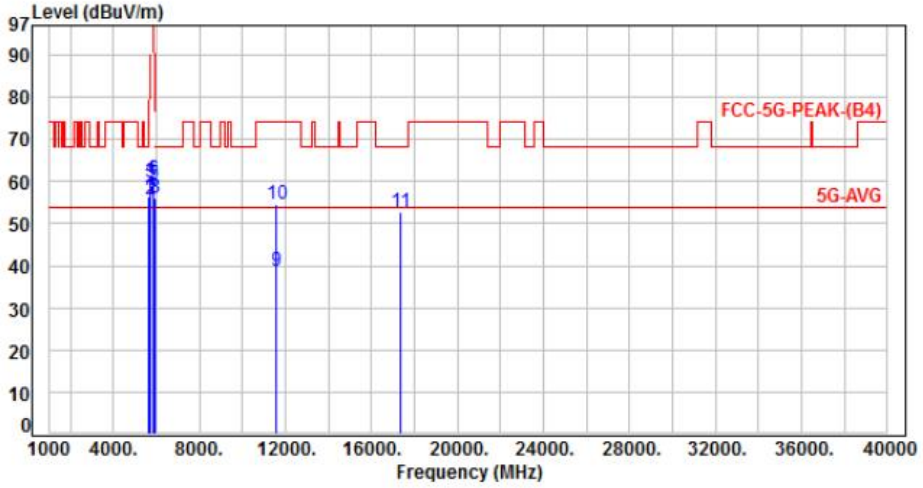
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH155, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	63.90	56.93	68.20	-11.27	Peak	142	330	P
2	5700.00	-6.95	68.30	61.35	105.20	-43.85	Peak	142	330	P
3	5720.00	-6.95	74.20	67.25	110.80	-43.55	Peak	142	330	P
4	5725.00	-6.95	74.61	67.66	122.20	-54.54	Peak	142	330	P
5	5850.00	-6.90	73.12	66.22	122.20	-55.98	Peak	142	330	P
6	5855.00	-6.90	72.60	65.70	110.80	-45.10	Peak	142	330	P
7	5875.00	-6.89	65.80	58.91	105.20	-46.29	Peak	142	330	P
8	5925.00	-6.88	63.50	56.62	68.20	-11.58	Peak	142	330	P
9	11550.00	1.26	39.60	40.86	54.00	-13.14	Average	100	312	P
10	11550.00	1.26	54.80	56.06	74.00	-17.94	Peak	100	312	P
11	17325.00	12.22	40.32	52.54	68.20	-15.66	Peak	100	89	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, CH155, Band 4	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-6.97	63.40	56.43	68.20	-11.77	Peak	100	224	P
2	5700.00	-6.95	62.80	55.85	105.20	-49.35	Peak	100	224	P
3	5720.00	-6.95	66.60	59.65	110.80	-51.15	Peak	100	224	P
4	5725.00	-6.95	67.41	60.46	122.20	-61.74	Peak	100	224	P
5	5850.00	-6.90	66.10	59.20	122.20	-63.00	Peak	100	224	P
6	5855.00	-6.90	67.30	60.40	110.80	-50.40	Peak	100	224	P
7	5875.00	-6.89	62.90	56.01	105.20	-49.19	Peak	100	224	P
8	5925.00	-6.88	63.12	56.24	68.20	-11.96	Peak	100	224	P
9	11550.00	1.26	37.42	38.68	54.00	-15.32	Average	100	227	P
10	11550.00	1.26	53.32	54.58	74.00	-19.42	Peak	100	227	P
11	17325.00	12.22	40.55	52.77	68.20	-15.43	Peak	100	309	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

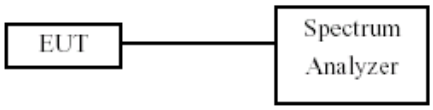
7.1. Test Limit

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

Test Date: Mar. 08, 2019 Temperature: 22°C

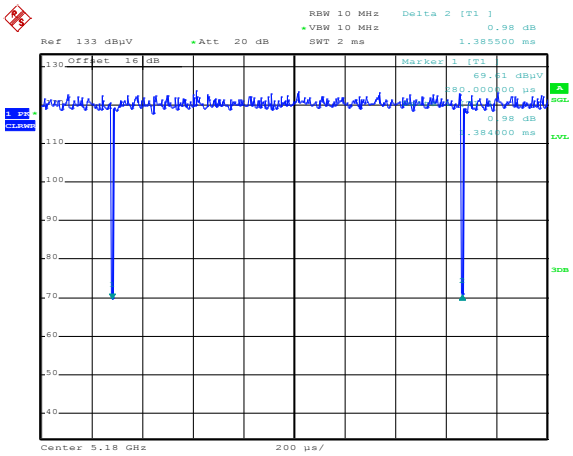
Humidity: 58%

Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)
802.11a, 6M	1.384	1.386	99.89%
802.11ac VHT20, M0	0.992	0.993	99.90%
802.11ac VHT40, M0	0.502	0.506	99.21%
802.11ac VHT80, M0	0.255	0.260	98.08%

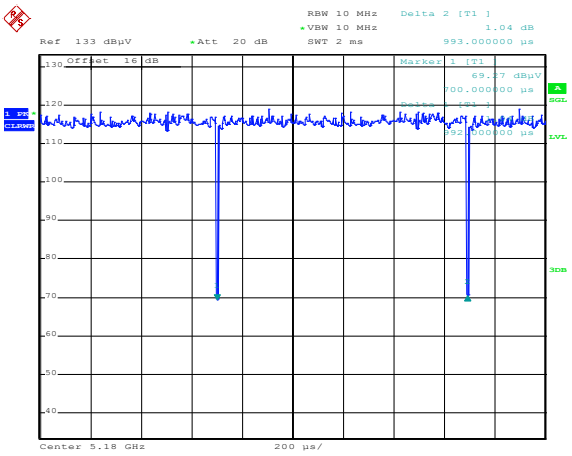
7.5. Measurement Methods

26 dB and 6dB Emission BW	KDB 789033 D02 v02r01, Section C
99% Occupied BW	KDB 789033 D02 v02r01, Section D
Conducted Output Power	KDB 789033 D02 v02r01, Section E.2.d and E.3.b (Method PM-G)
Power Spectral Density	KDB 789033 D02 v02r01, Section F
Unwanted emissions in restricted bands	KDB 789033 D02 v02r01, Sections G and H
Unwanted emissions in non-restricted bands	KDB 789033 D02 v02r01, Sections G and H

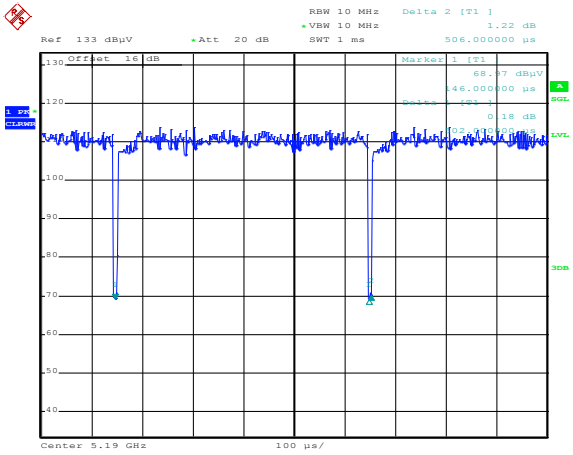
Modulation Standard: 802.11a (6Mbps)



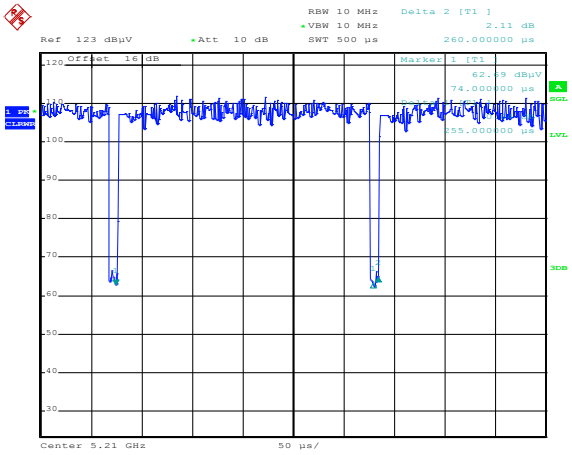
Modulation Standard: 802.11ac VHT20 (6.5Mbps)



Modulation Standard: 802.11ac VHT40 (13.5Mbps)



Modulation Standard: 802.11ac VHT80 (29.3Mbps)



8. 6dB Bandwidth & 99% Occupied Bandwidth

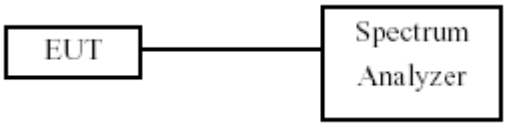
8.1. Test Limit

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 (6dB Bandwidth)

Test Date: May. 22, 2019 Temperature: 22°C

Humidity: 58%

In the 5.8G Band

Mode	Channel	Frequency (MHz)	6dB Bandwidth(MHz)	Minimum Limit (MHz)
802.11a	149	5745	16.30	0.50
	157	5785	16.30	0.50
	165	5825	16.30	0.50
802.11ac VHT20	149	5745	17.60	0.50
	157	5785	17.50	0.50
	165	5825	17.70	0.50
802.11ac VHT40	151	5755	35.50	0.50
	159	5795	35.20	0.50
802.11ac VHT80	155	5775	75.20	0.50

8.5. Test Result and Data (99% Occupied Bandwidth)

Test Date: May. 22, 2019 Temperature: 22°C

Humidity: 58%

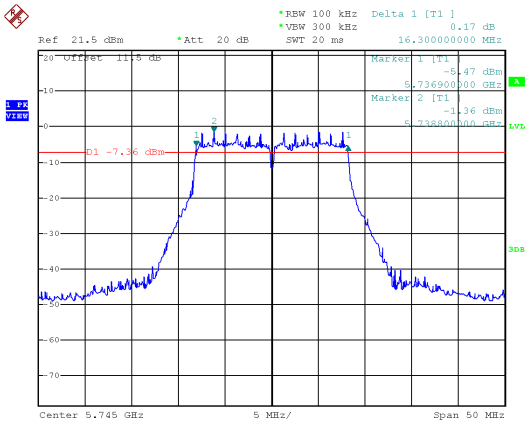
In the 5.8G Band

Mode	Channel	Frequency (MHz)	99% Bandwidth(MHz)
802.11a	149	5745	17.00
	157	5785	16.90
	165	5825	17.00
802.11ac VHT20	149	5745	18.00
	157	5785	18.10
	165	5825	17.90
802.11ac VHT40	151	5755	36.60
	159	5795	36.40
802.11ac VHT80	155	5775	74.88

6dB Bandwidth

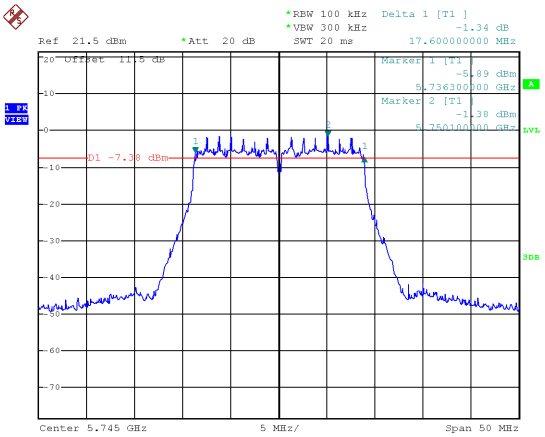
Modulation Standard: 802.11a (6Mbps)

CH149

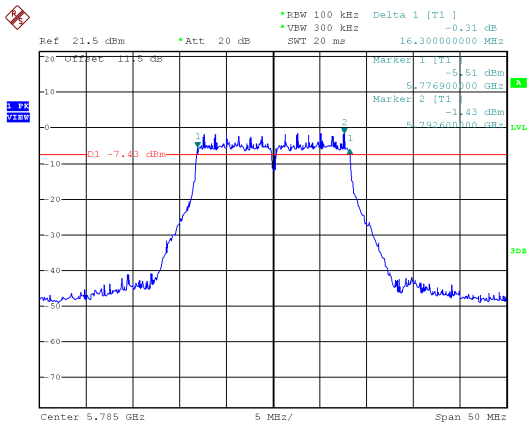


Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

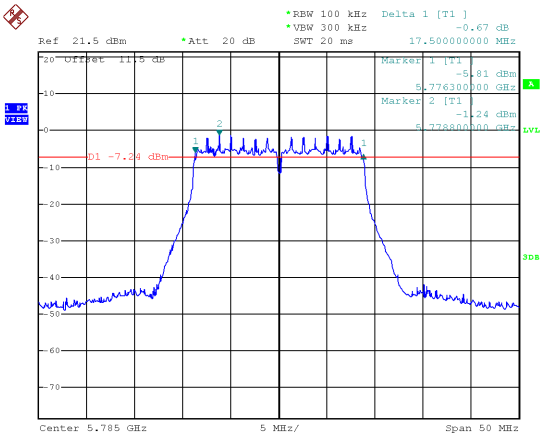
CH149



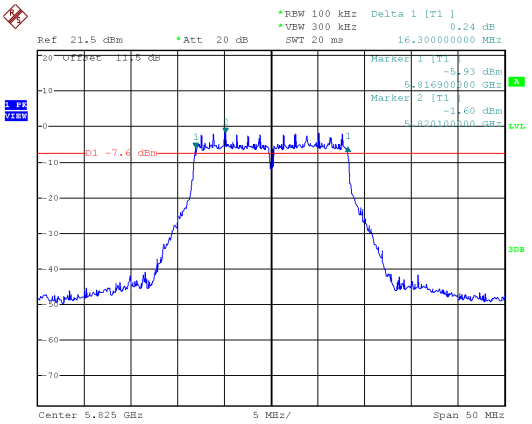
CH157



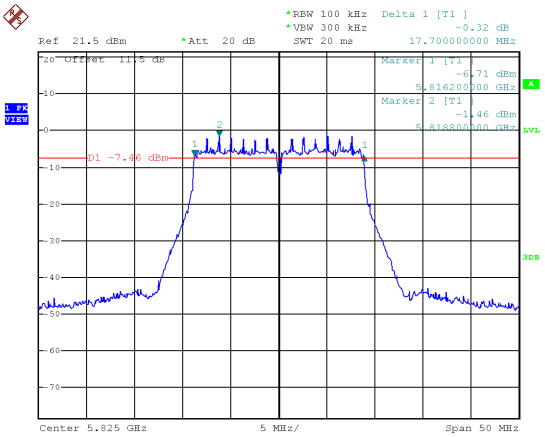
CH157



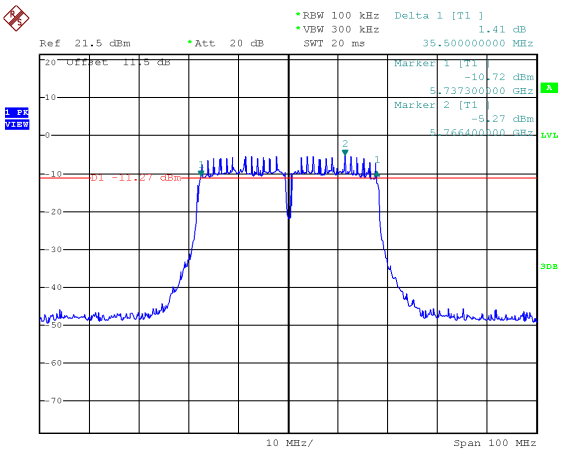
CH165



CH165

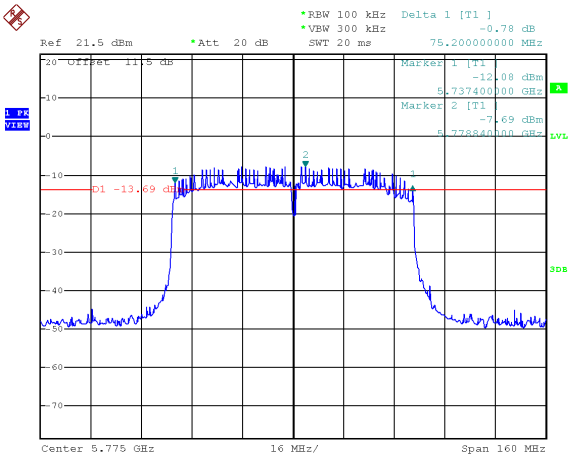


Modulation Standard: 802.11ac, VHT40 (13.5Mbps)
CH151

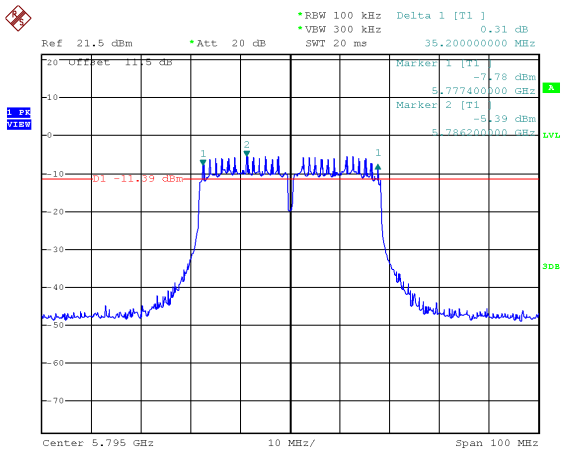


Date: 22.MAY.2019 13:44:40

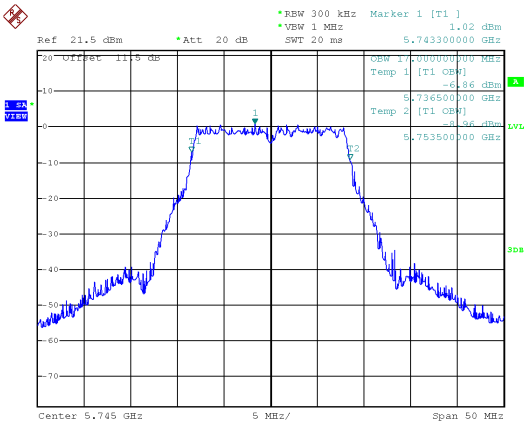
Modulation Standard: 802.11ac, VHT80 (29.3Mbps)
CH155



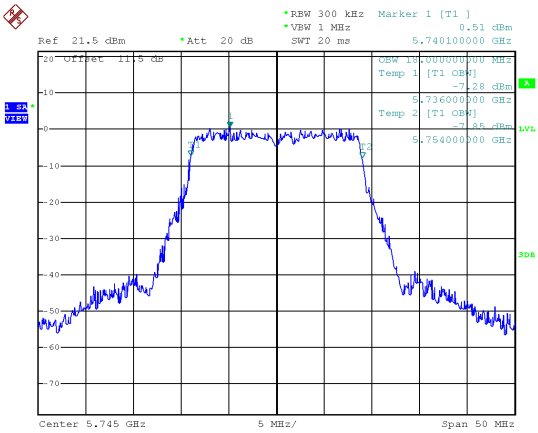
CH159



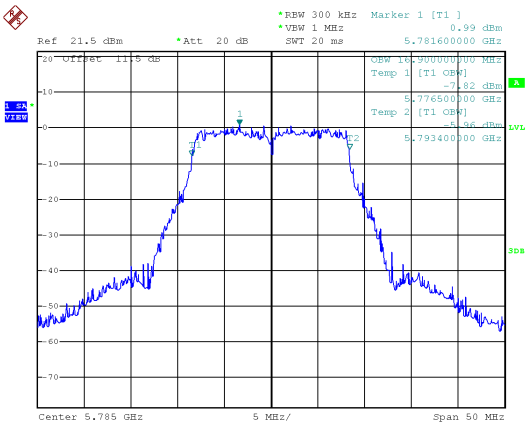
99% Occupied Bandwidth
Modulation Standard: 802.11a (6Mbps)
CH149



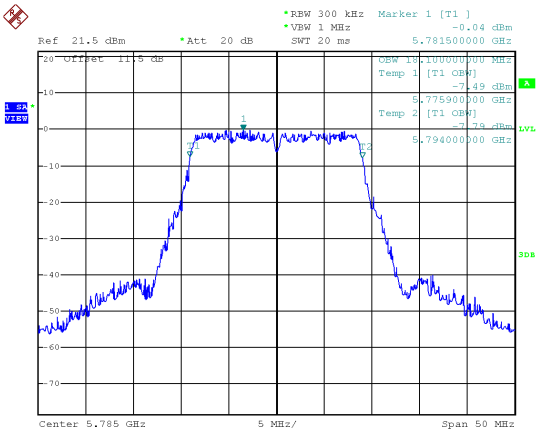
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



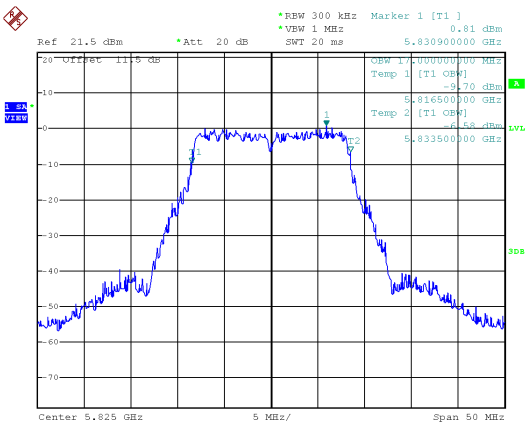
CH157



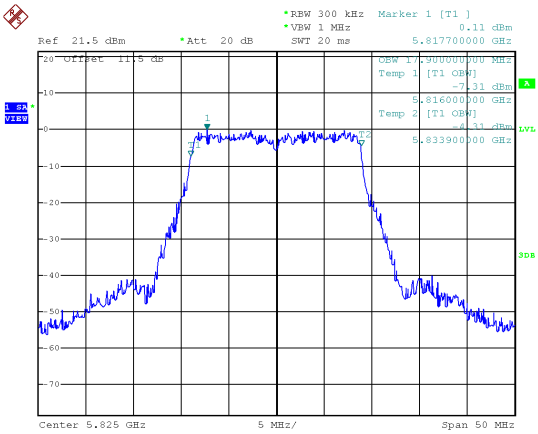
CH157



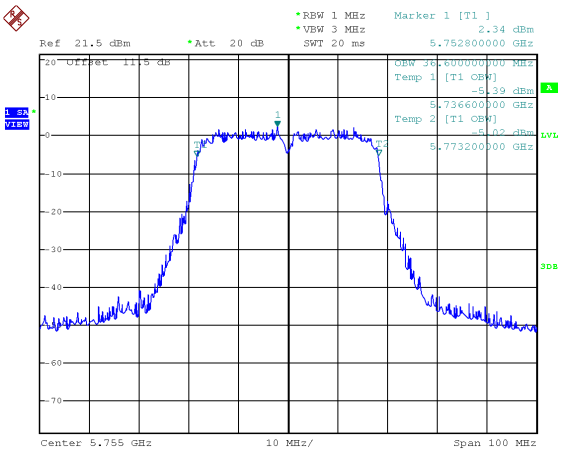
CH165



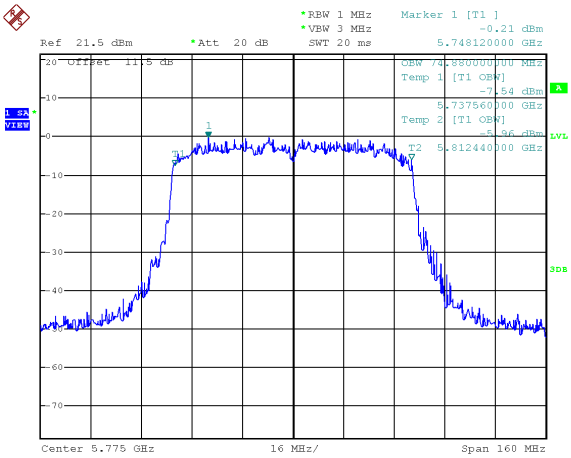
CH165



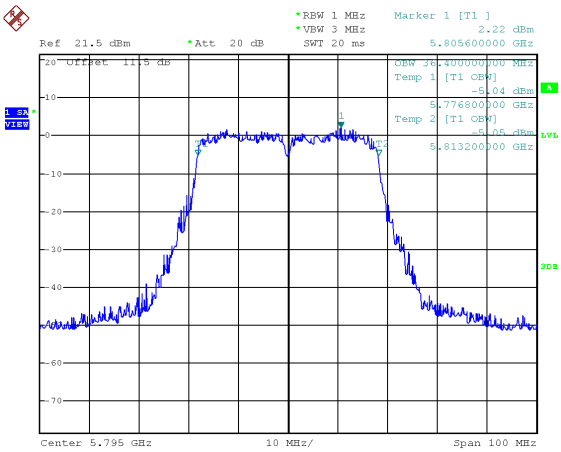
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)
CH151



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



CH159



9. 26dB Bandwidth & 99% Occupied Bandwidth

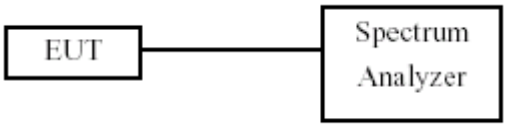
9.1. Test Limit

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 (26dB Bandwidth)

Test Date: May. 22, 2019 Temperature: 22°C

Humidity: 58%

In the 5.2G Band

Mode	Channel	Frequency (MHz)	26dB Bandwidth(MHz)
11a	36	5180	22.30
11a	44	5220	22.30
11a	48	5240	22.00
11ac VHT20	36	5180	22.50
11ac VHT20	44	5220	22.30
11ac VHT20	48	5240	22.50
11ac VHT40	38	5190	45.00
11ac VHT40	46	5230	44.80
11ac VHT80	42	5210	**85.44**

9.5. Test Result and Data (99% Occupied Bandwidth)

Test Date: May, 22, 2019 Temperature: 22°C

Humidity: 58%

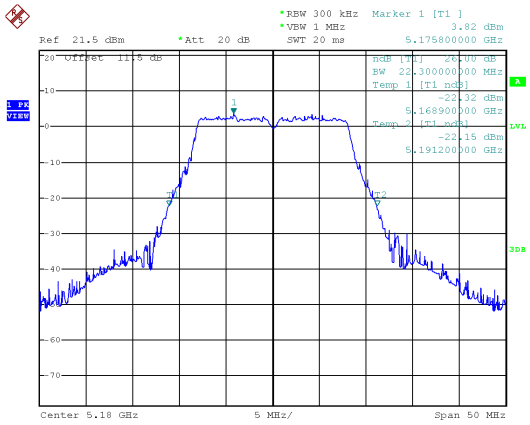
In the 5.2G Band

Mode	Channel	Frequency (MHz)	99% Bandwidth(MHz)
11a	36	5180	17.10
11a	44	5220	16.90
11a	48	5240	16.90
11ac VHT20	36	5180	18.00
11ac VHT20	44	5220	17.90
11ac VHT20	48	5240	18.00
11ac VHT40	38	5190	36.60
11ac VHT40	46	5230	36.60
11ac VHT80	42	5210	**75.20**

26dB Bandwidth

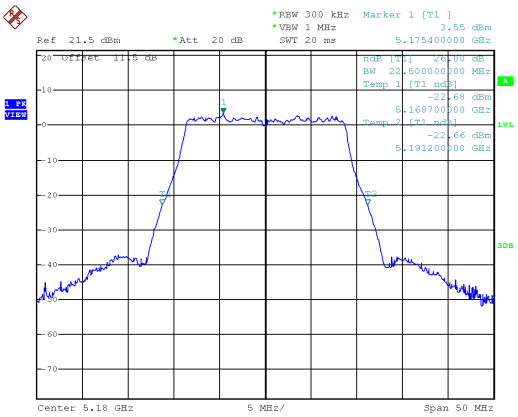
Modulation Standard: 802.11a (6Mbps)

CH36

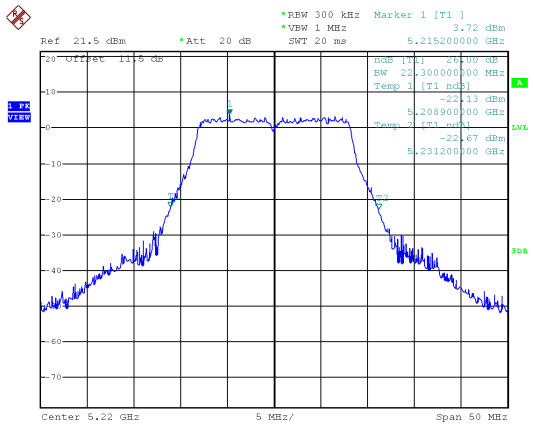


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

CH36



CH44



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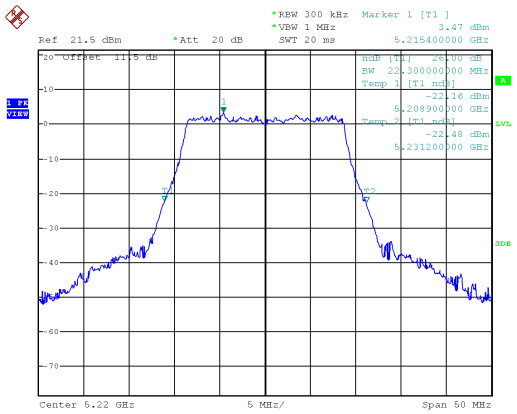

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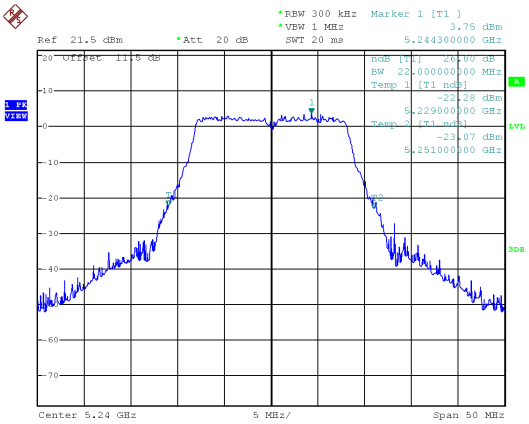

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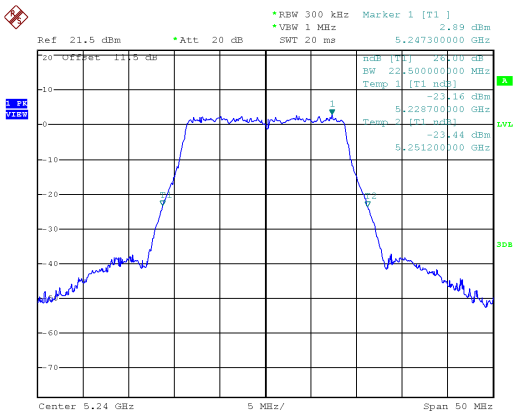
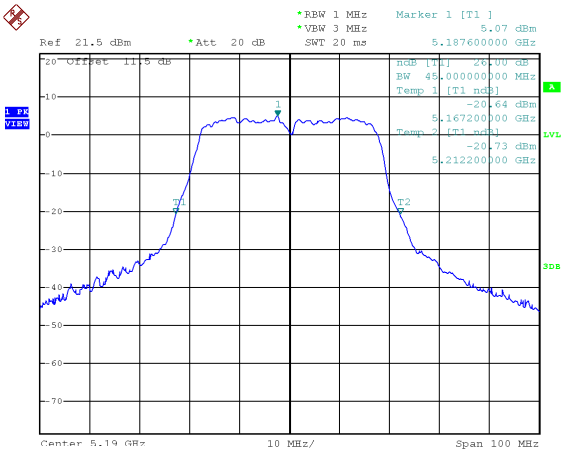
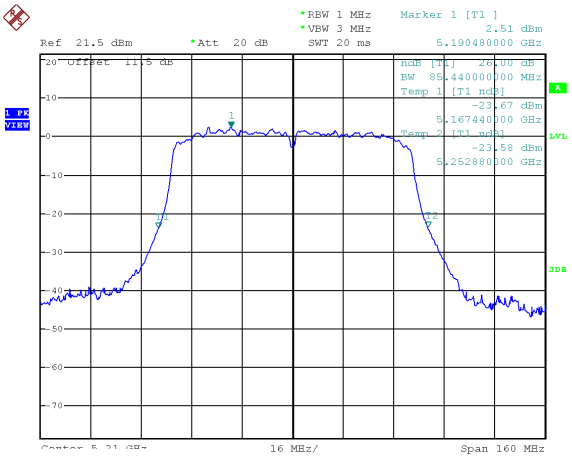


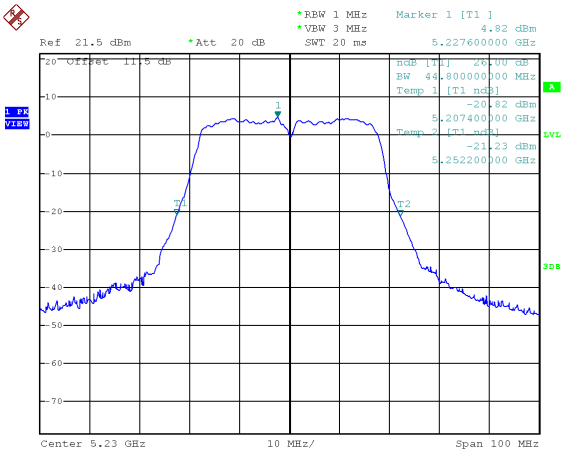
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH38



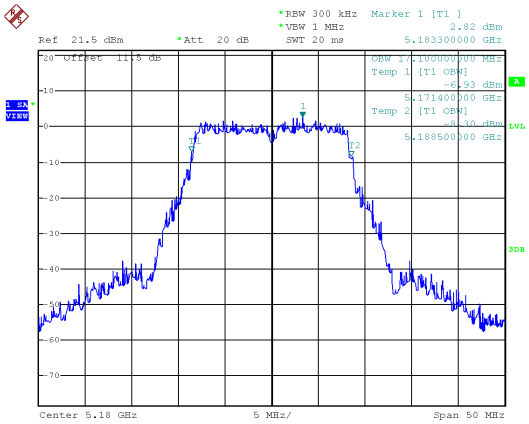
Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH42



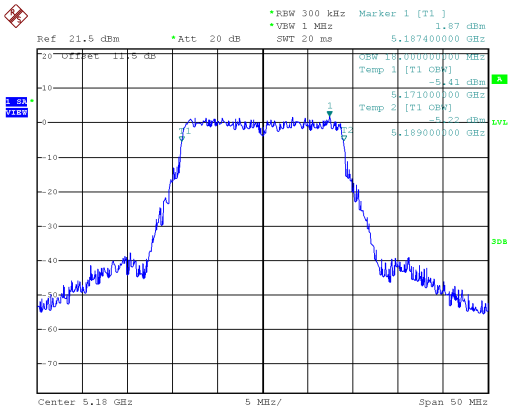
CH46



99% Occupied Bandwidth
Modulation Standard: 802.11a (6Mbps)
CH36



Modulation Standard: 802.11ac VHT20 (6.5Mbps)
CH36



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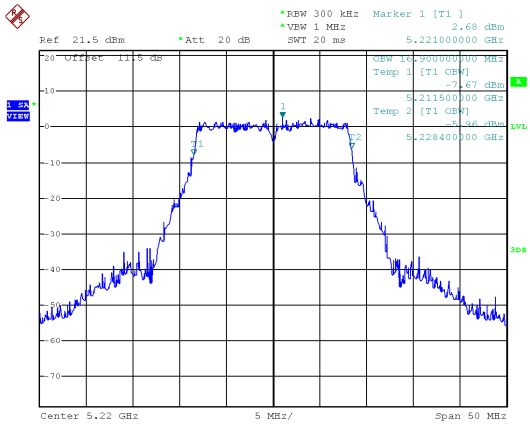

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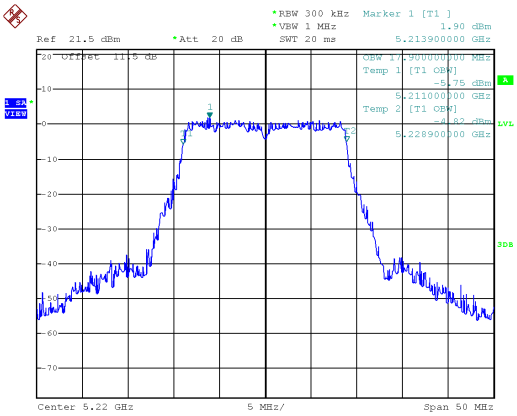

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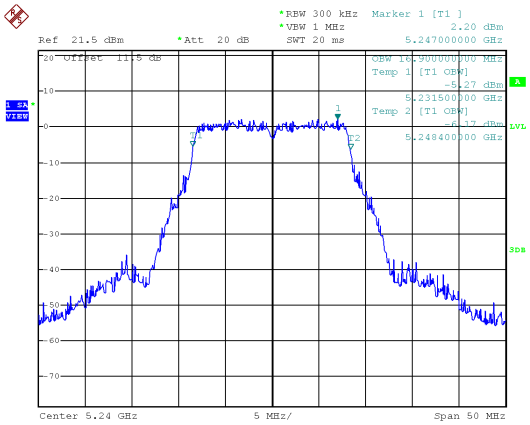

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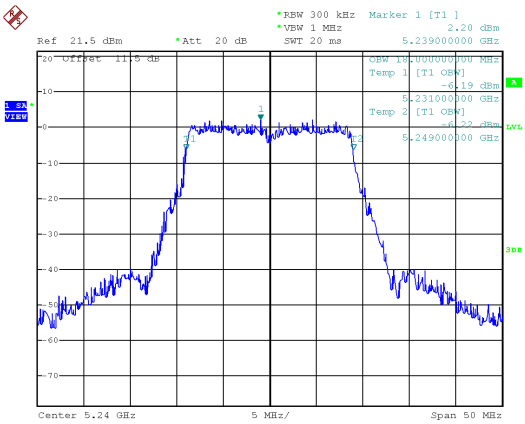
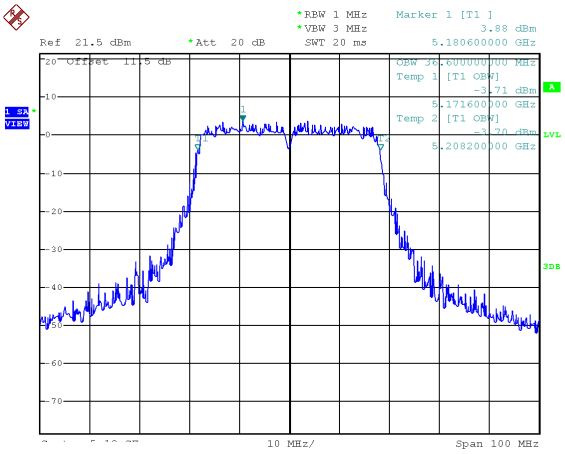
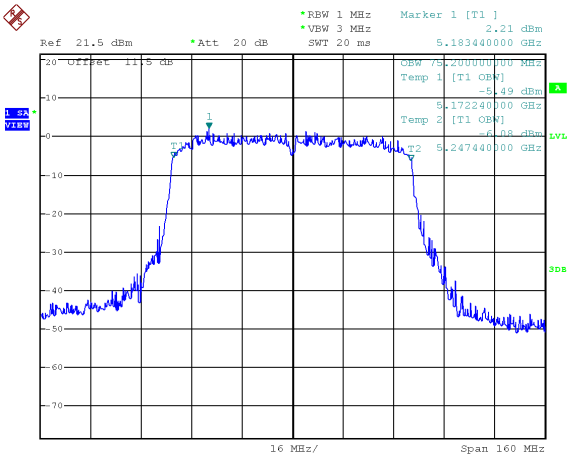


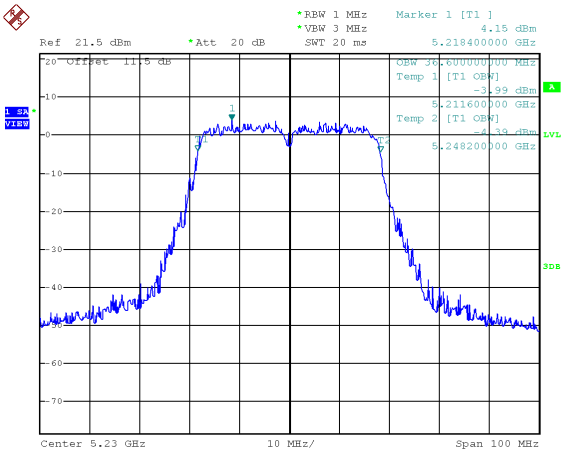
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH38



Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH42



CH46



10. Average Power

10.1. Test Limit

Output Power:

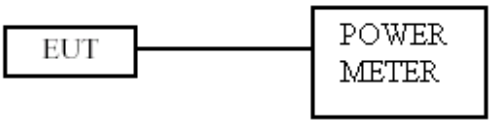
Frequency Band			Limit
☒	5.15~5.25GHz		
	Operating Mode		
	☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi 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.
	☒	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.

10.2.Test Procedure

The transmitter output is connected to a power meter.
The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 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

Test Date: May. 22, 2019 Temperature: 22°C

Humidity: 58%

Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)	Total power (dBm)	Total power (mW)	FCC Limit (dBm)
6 Mbps	11	36	5180	11.62	11.62	14.521	24.00
6 Mbps	11	44	5220	11.55	11.55	14.289	24.00
6 Mbps	11	48	5240	11.58	11.58	14.388	24.00
MCS 0	11	36	5180	11.62	11.62	14.521	24.00
MCS 0	11	44	5220	11.52	11.52	14.191	24.00
MCS 0	11	48	5240	11.58	11.58	14.388	24.00
MCS 0	11	38	5190	11.57	11.57	14.355	24.00
MCS 0	11	46	5230	11.47	11.47	14.028	24.00
MCS0-NSS1	11	36	5180	11.65	11.65	14.622	24.00
MCS0-NSS1	11	44	5220	11.59	11.59	14.421	24.00
MCS0-NSS1	11	48	5240	11.61	11.61	14.488	24.00
MCS0-NSS1	11	38	5190	11.60	11.60	14.454	24.00
MCS0-NSS1	11	46	5230	11.49	11.49	14.093	24.00
MCS0-NSS1	11	42	5210	10.32	10.32	10.765	24.00
6 Mbps	9.5	149	5745	9.94	9.94	9.863	30.00
6 Mbps	9.5	157	5785	9.91	9.91	9.795	30.00
6 Mbps	9.5	165	5825	9.85	9.85	9.661	30.00
MCS 0	9.5	149	5745	9.85	9.85	9.661	30.00
MCS 0	9.5	157	5785	9.82	9.82	9.594	30.00
MCS 0	9.5	165	5825	9.75	9.75	9.441	30.00
MCS 0	9.5	151	5755	9.81	9.81	9.572	30.00
MCS 0	9.5	159	5795	9.71	9.71	9.354	30.00
MCS0-NSS1	9.5	149	5745	9.92	9.92	9.817	30.00
MCS0-NSS1	9.5	157	5785	9.96	9.96	9.908	30.00
MCS0-NSS1	9.5	165	5825	9.77	9.77	9.484	30.00
MCS0-NSS1	9.5	151	5755	9.91	9.91	9.795	30.00
MCS0-NSS1	9.5	159	5795	9.76	9.76	9.462	30.00
MCS0-NSS1	9.5	155	5775	8.92	8.92	7.798	30.00

11. Power Spectral Density

11.1.Test Limit

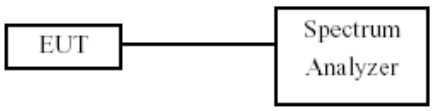
PSD:

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

Reference to KDB789033 D02 General UNII Test Procedures New Rules v02r01

11.3.Test Setup Layout



11.4. Test Result and Data

Test Date: May. 22, 2019 Temperature: 22°C

Humidity: 58%

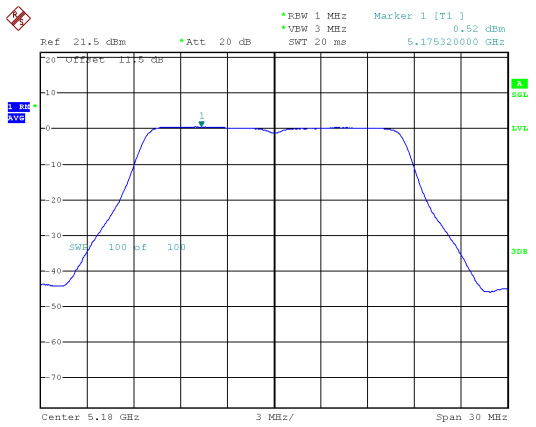
In the 5.2G Band

Mode	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz) ANT A	Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
11a	36	5180	0.52	0.52	0.00	0.52	11.00
11a	44	5220	0.34	0.34	0.00	0.34	11.00
11a	48	5240	0.31	0.31	0.00	0.31	11.00
11ac VHT20	36	5180	0.35	0.35	0.00	0.35	11.00
11ac VHT20	44	5220	0.19	0.19	0.00	0.19	11.00
11ac VHT20	48	5240	0.16	0.16	0.00	0.16	11.00
11ac VHT40	38	5190	-3.79	-3.79	0.00	-3.79	11.00
11ac VHT40	46	5230	-4.00	-4.00	0.00	-4.00	11.00
11ac VHT80	42	5210	-6.46	-6.46	0.00	-6.46	11.00

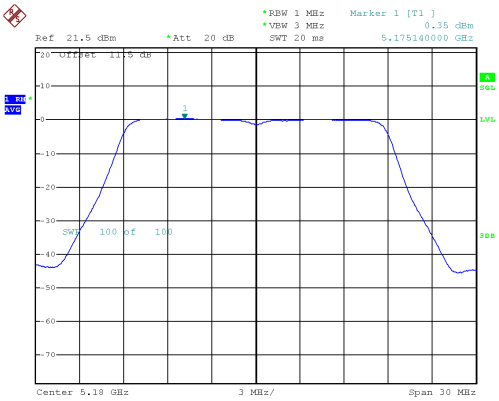
In the 5.8G Band

Mode	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz) ANT A	Sum chain (dBm)	Duty Cycle CF(dB)	10log(500KHz /RBW) CF (dB)	Total Corr'd PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)
11a	149	5745	-1.37	-1.37	0.00	-3.01	-4.38	30.00
11a	157	5785	-1.24	-1.24	0.00	-3.01	-4.25	30.00
11a	165	5825	-1.41	-1.41	0.00	-3.01	-4.42	30.00
11ac VHT20	149	5745	-1.47	-1.47	0.00	-3.01	-4.48	30.00
11ac VHT20	157	5785	-1.56	-1.56	0.00	-3.01	-4.57	30.00
11ac VHT20	165	5825	-1.67	-1.67	0.00	-3.01	-4.68	30.00
11ac VHT40	151	5755	-5.58	-5.58	0.00	-3.01	-8.59	30.00
11ac VHT40	159	5795	-5.88	-5.88	0.00	-3.01	-8.89	30.00
11ac VHT80	155	5775	-8.14	-8.14	0.00	-3.01	-11.15	30.00

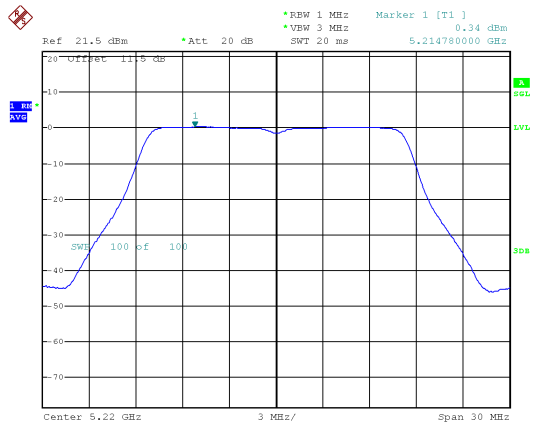
5.2G Band 1
Modulation Standard: 802.11a (6Mbps)
CH36



Modulation Standard: 802.11ac VHT20 (6.5Mbps)
CH36



CH44



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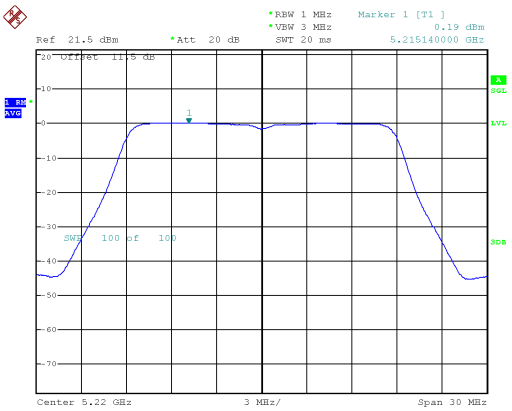

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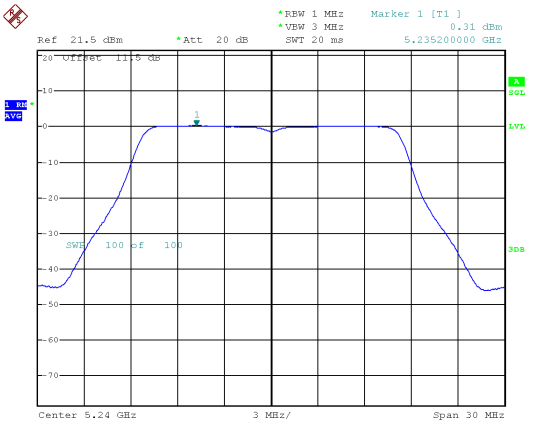

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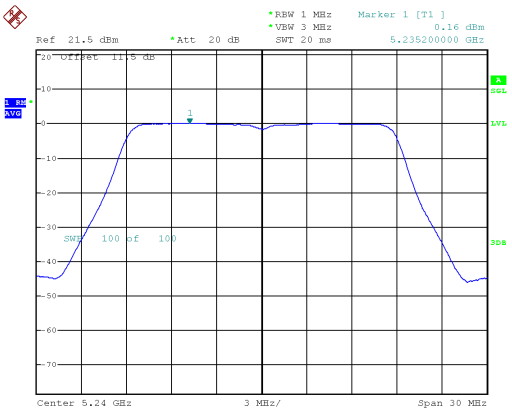
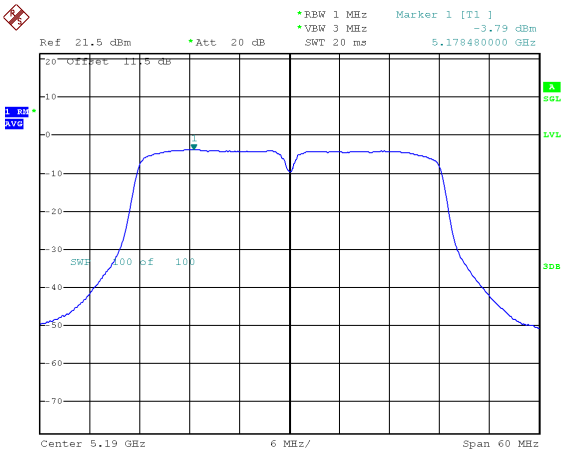
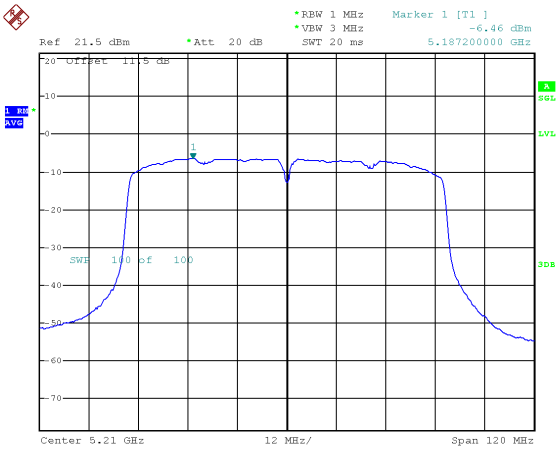


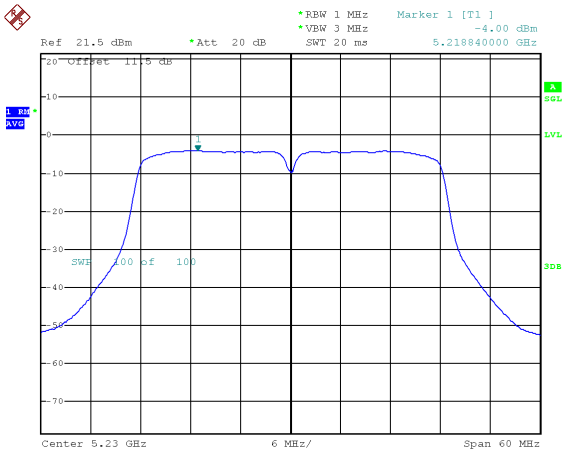
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH38



Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH42



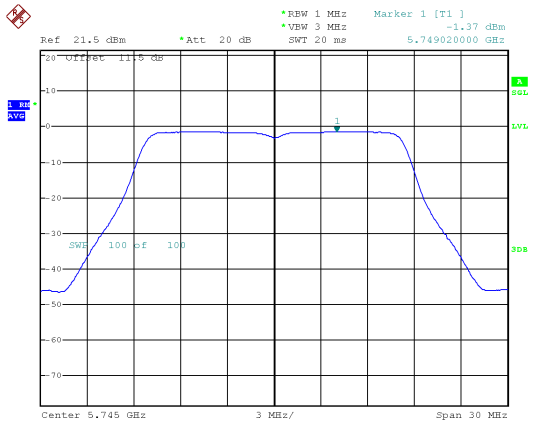
CH46



5.8G Band 4

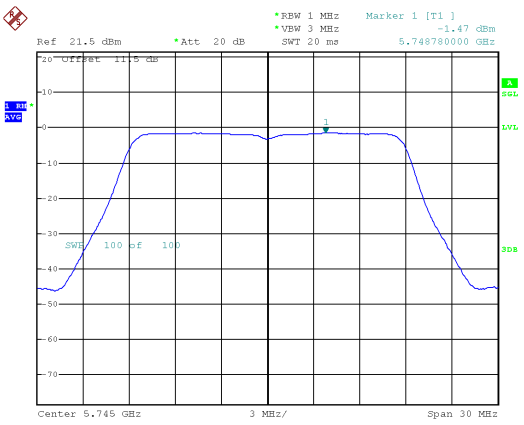
Modulation Standard: 802.11a (6Mbps)

CH149

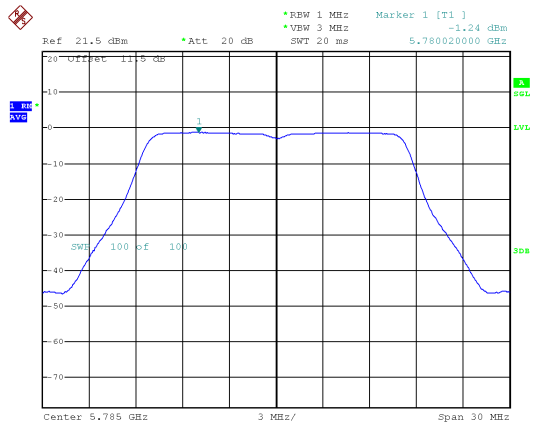


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

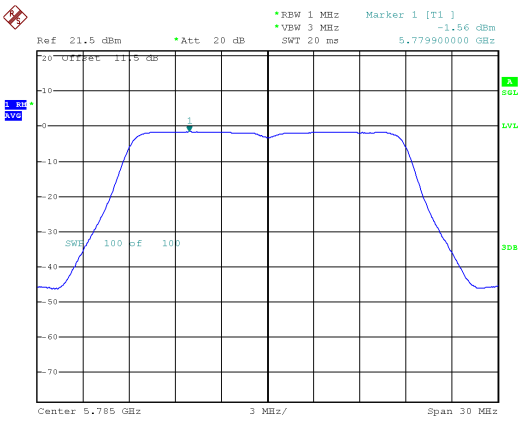
CH149



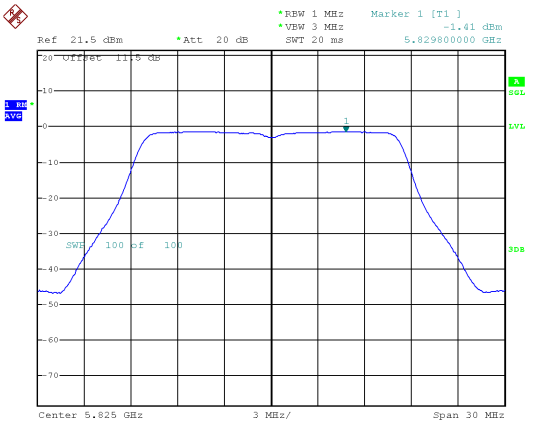
CH157



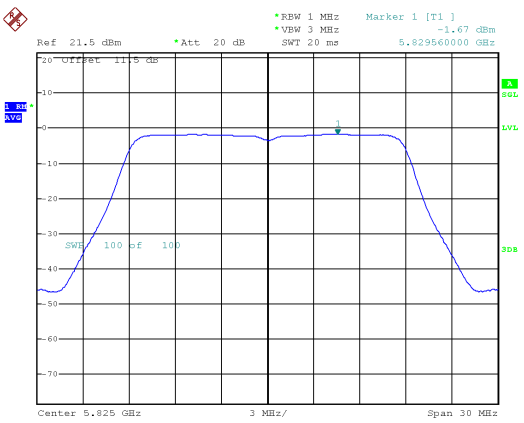
CH157



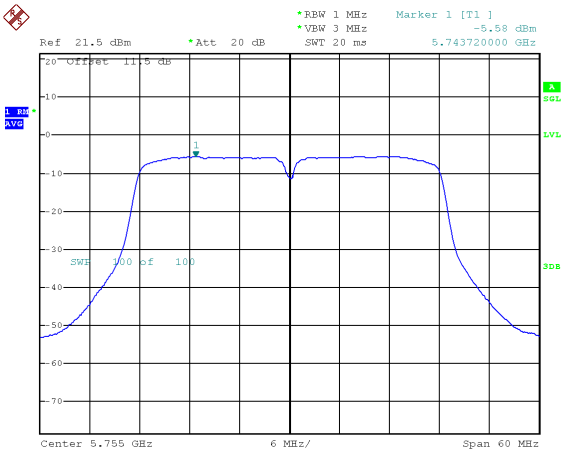
CH165



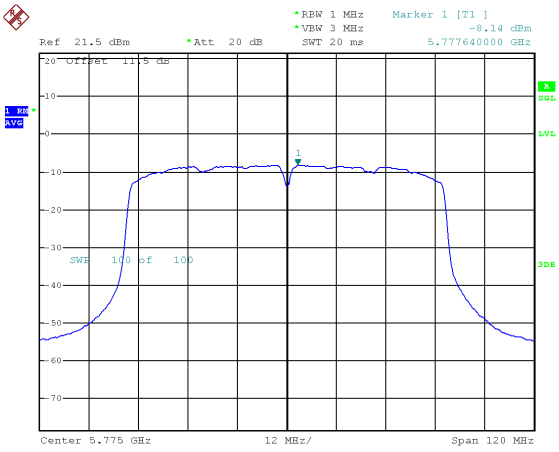
CH165



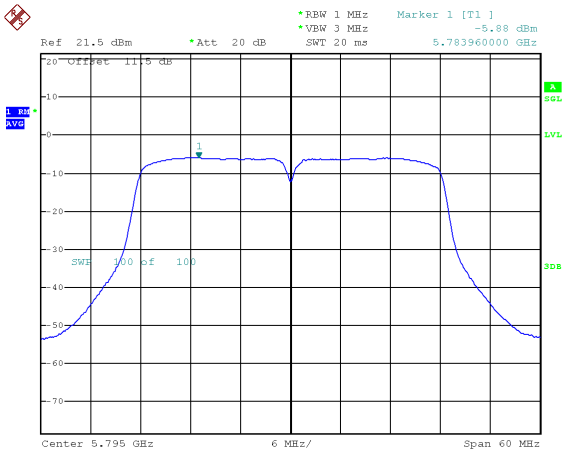
Modulation Standard: 802.11ac VHT40 (13.5Mbps)
CH151



Modulation Standard: 802.11ac VHT80 (29.3Mbps)
CH155



CH159

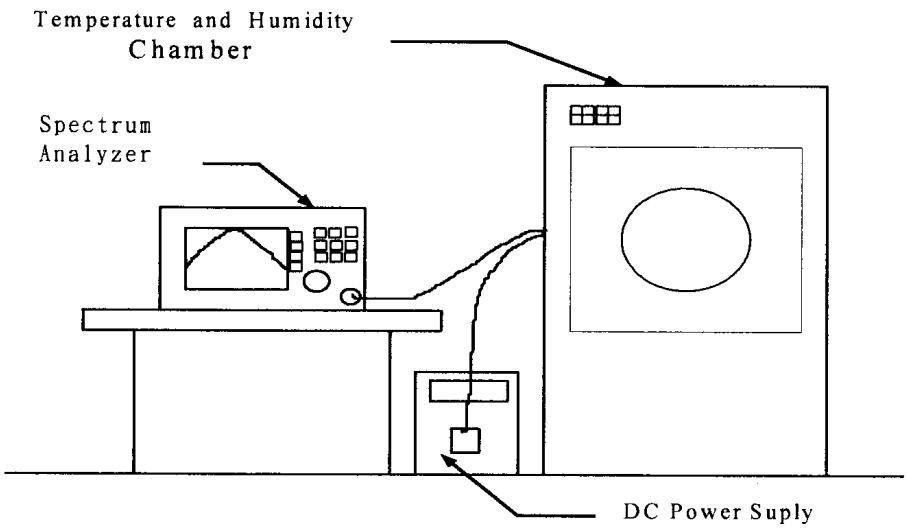


12. Frequency Stability

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

Test Date: Mar. 08, 2019 Temperature: 22°C

Humidity: 58%

Operating frequency: 5745MHz							
Temp(°C)	Power supply(V)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
40	102	5744.9875	-0.0002	5744.9875	-0.0002	5744.9878	-0.0002
	120	5744.9896	-0.0002	5744.9898	-0.0002	5744.9898	-0.0002
	138	5744.9904	-0.0002	5744.9908	-0.0002	5744.9907	-0.0002
30	102	5744.9850	-0.0003	5744.9860	-0.0002	5744.9849	-0.0003
	120	5744.9847	-0.0003	5744.9849	-0.0003	5744.9848	-0.0003
	138	5744.9829	-0.0003	5744.9835	-0.0003	5744.9832	-0.0003
20	102	5744.9897	-0.0002	5744.9897	-0.0002	5744.9898	-0.0002
	120	5744.9875	-0.0002	5744.9877	-0.0002	5744.9875	-0.0002
	138	5744.9886	-0.0002	5744.9889	-0.0002	5744.9886	-0.0002
10	102	5744.9903	-0.0002	5744.9907	-0.0002	5744.9906	-0.0002
	120	5744.9875	-0.0002	5744.9872	-0.0002	5744.9878	-0.0002
	138	5744.9887	-0.0002	5744.9889	-0.0002	5744.9884	-0.0002
0	102	5744.9907	-0.0002	5744.9910	-0.0002	5744.9906	-0.0002
	120	5744.9852	-0.0003	5744.9856	-0.0003	5744.9853	-0.0003
	138	5744.9853	-0.0003	5744.9857	-0.0002	5744.9853	-0.0003

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.