

Fig. 50 Conducted Spurious Emission (802.11ac-HT20, Ch165, 25 GHz-40 GHz)

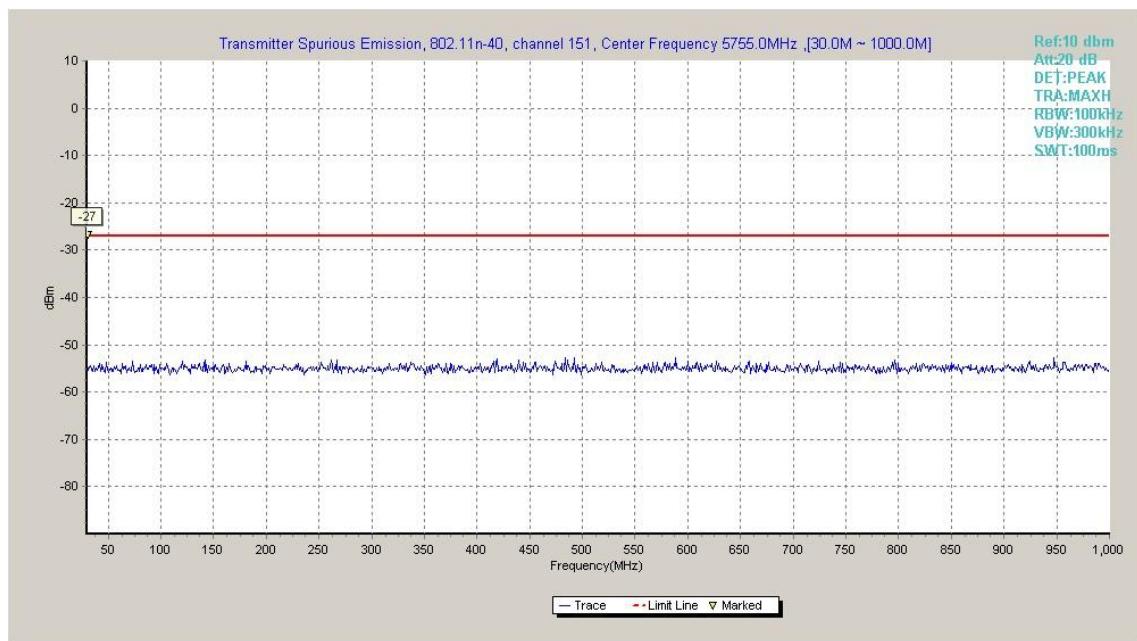


Fig. 51 Conducted Spurious Emission (802.11n-HT40, Ch151, 30 MHz-1 GHz)

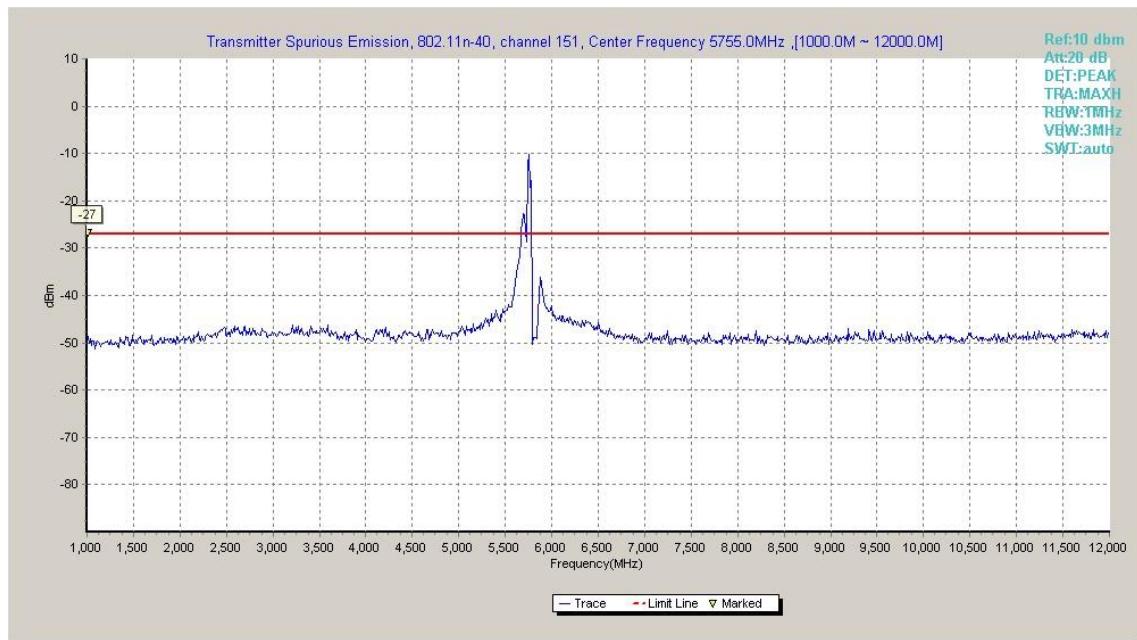


Fig. 52 Conducted Spurious Emission (802.11n-HT40, Ch151, 1 GHz -12 GHz)

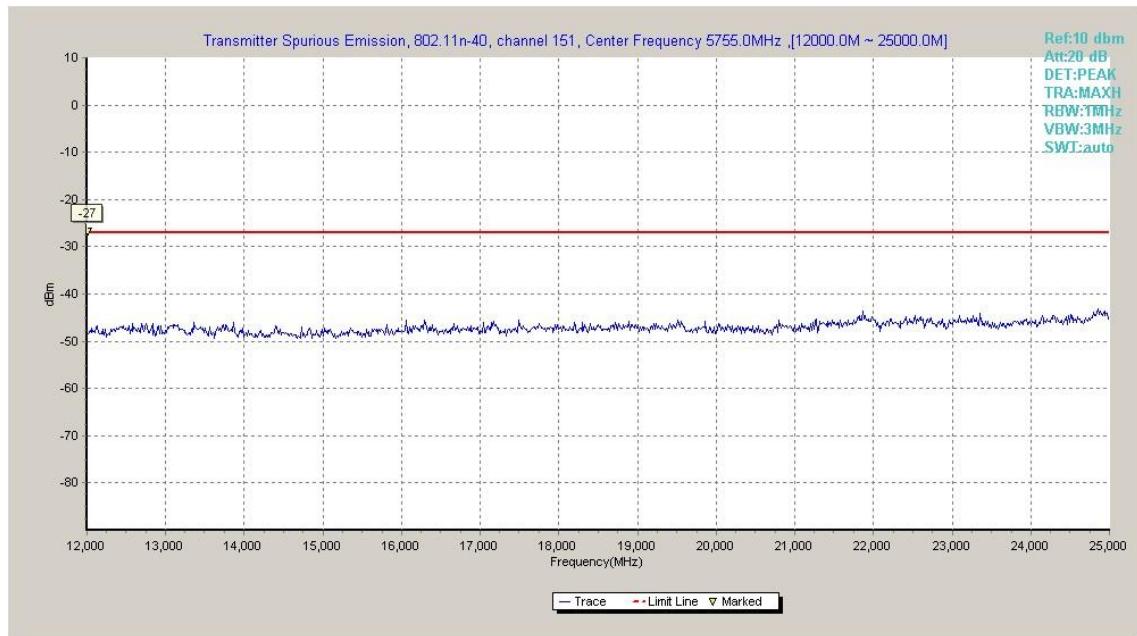


Fig. 53 Conducted Spurious Emission (802.11n-HT40, Ch151, 12 GHz-25 GHz)

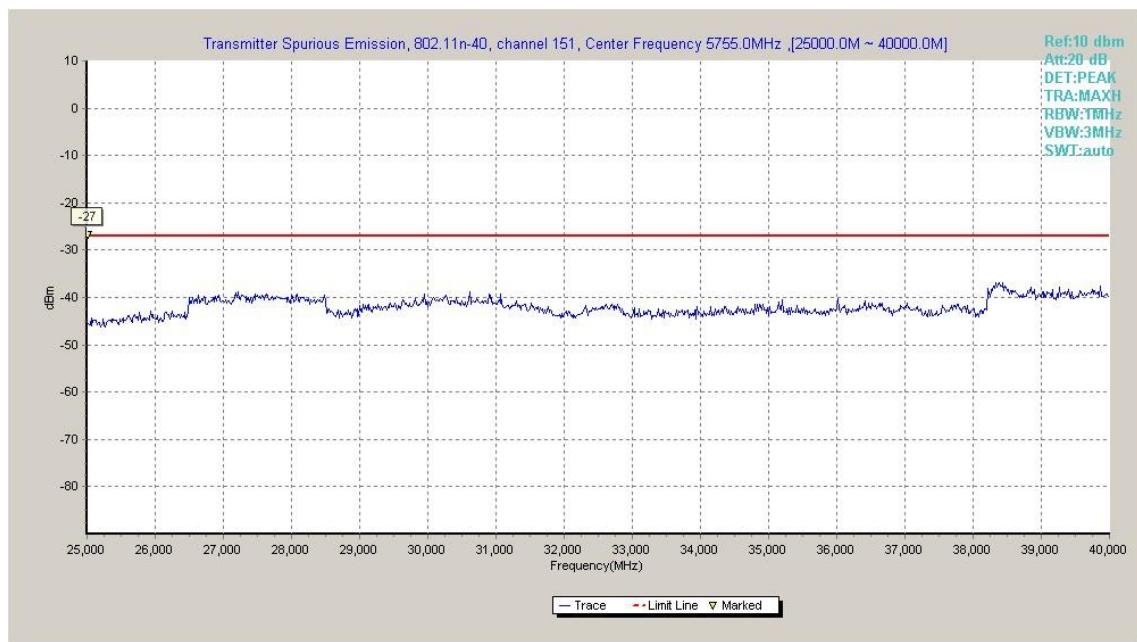


Fig. 54 Conducted Spurious Emission (802.11n-HT40, Ch151, 25 GHz-40 GHz)

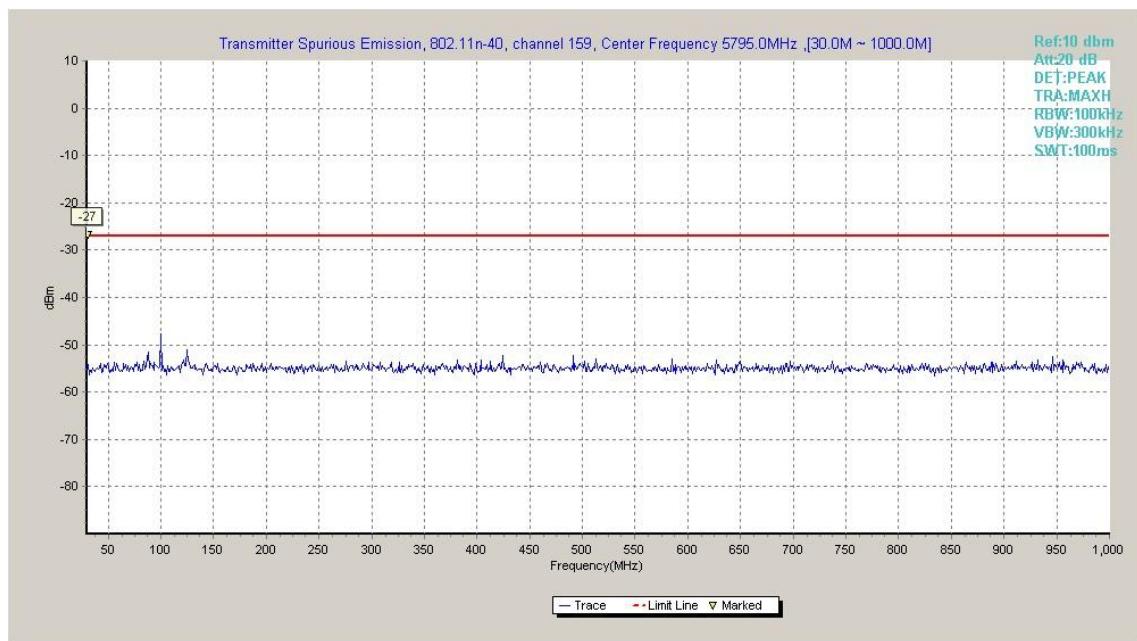


Fig. 55 Conducted Spurious Emission (802.11n-HT40, Ch159, 30 MHz-1 GHz)

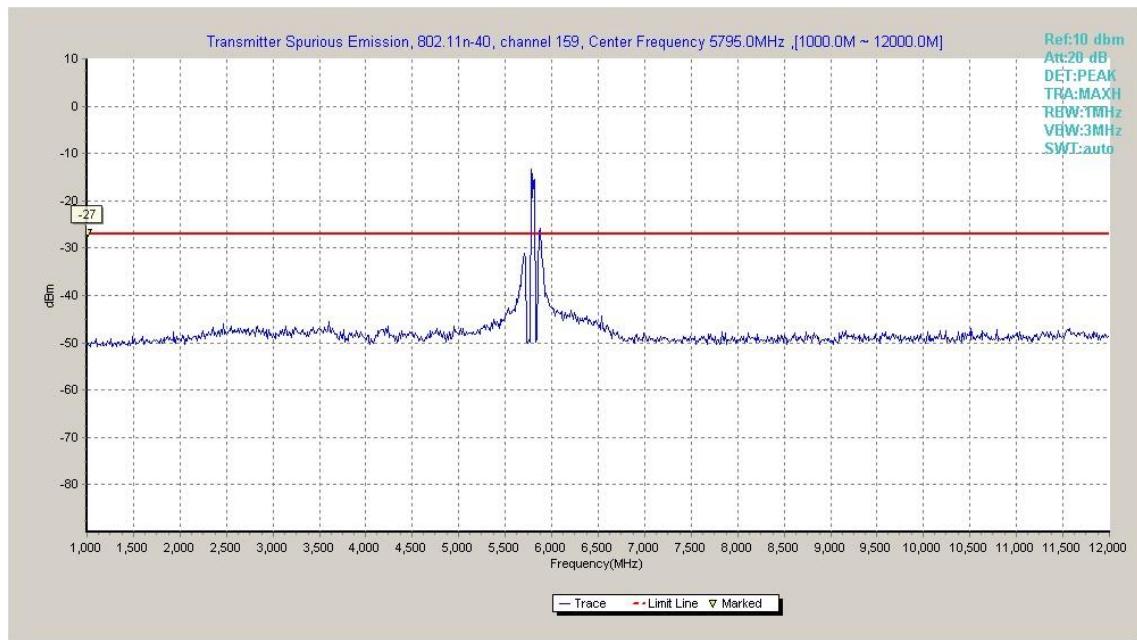


Fig. 56 Conducted Spurious Emission (802.11n-HT40, Ch159, 1 GHz -12 GHz)

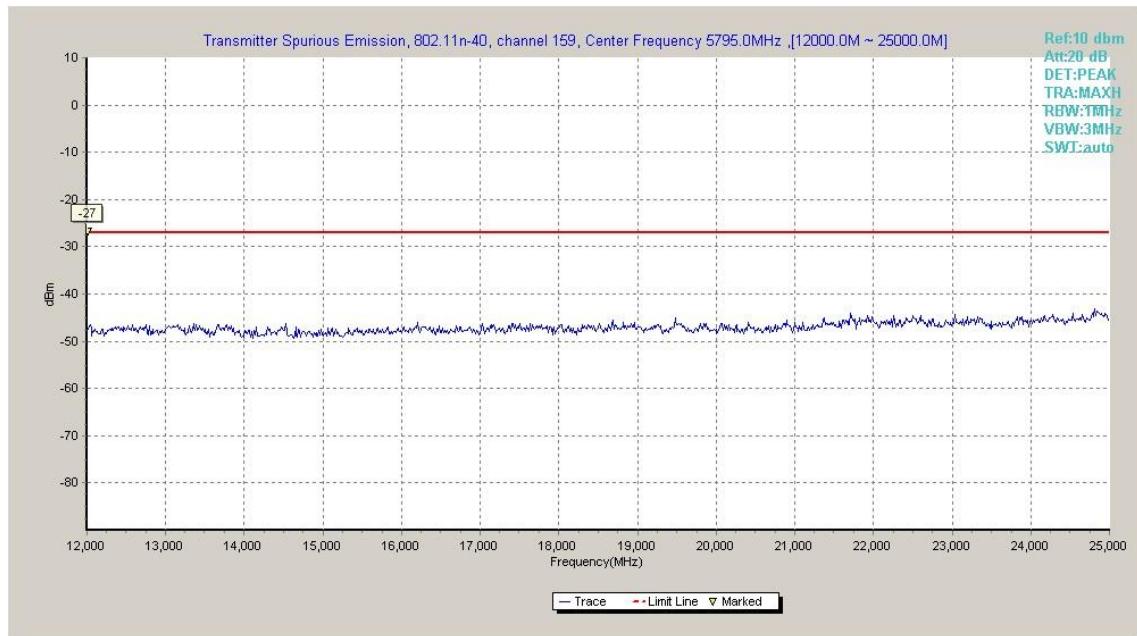


Fig. 57 Conducted Spurious Emission (802.11n-HT40, Ch159, 12 GHz-25 GHz)

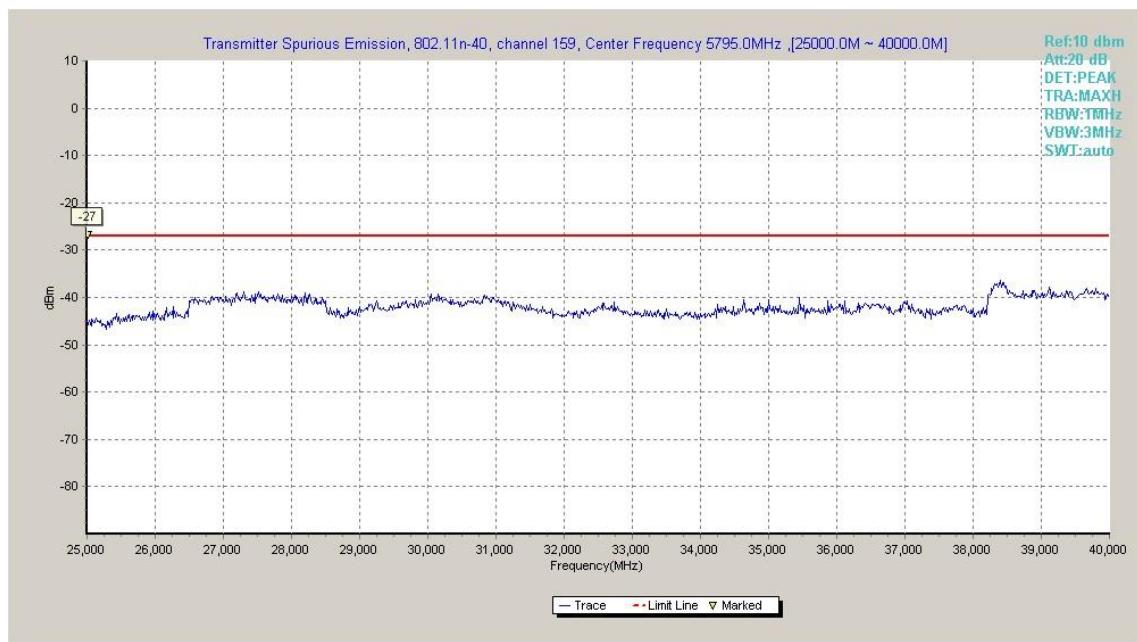


Fig. 58 Conducted Spurious Emission (802.11n-HT40, Ch159, 25 GHz-40 GHz)

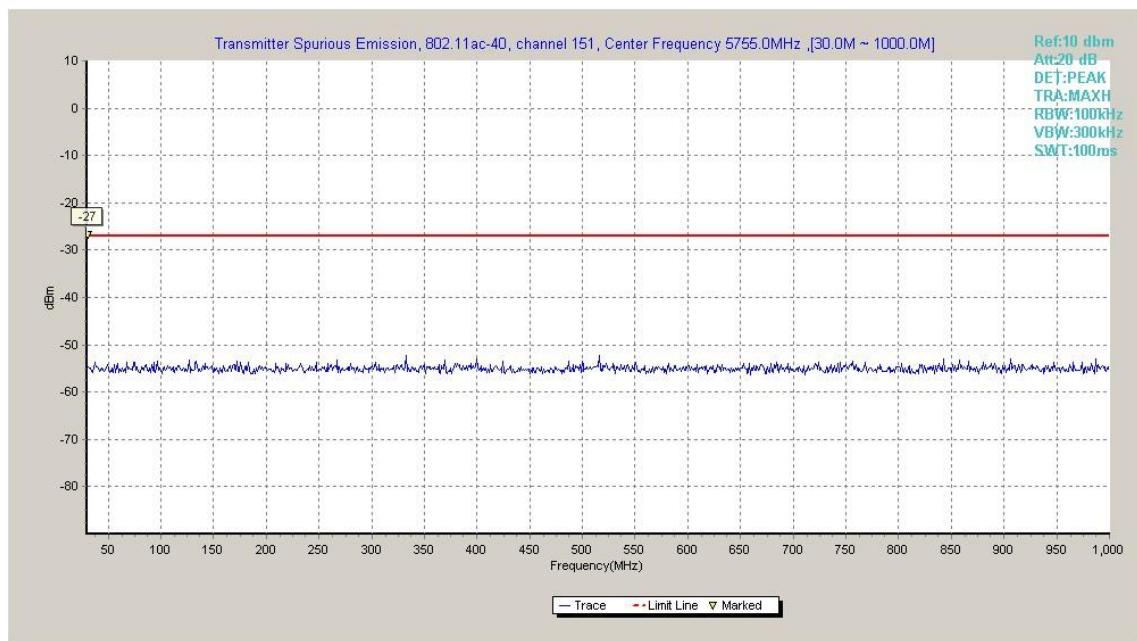


Fig. 59 Conducted Spurious Emission (802.11ac-HT40, Ch151, 30 MHz-1 GHz)

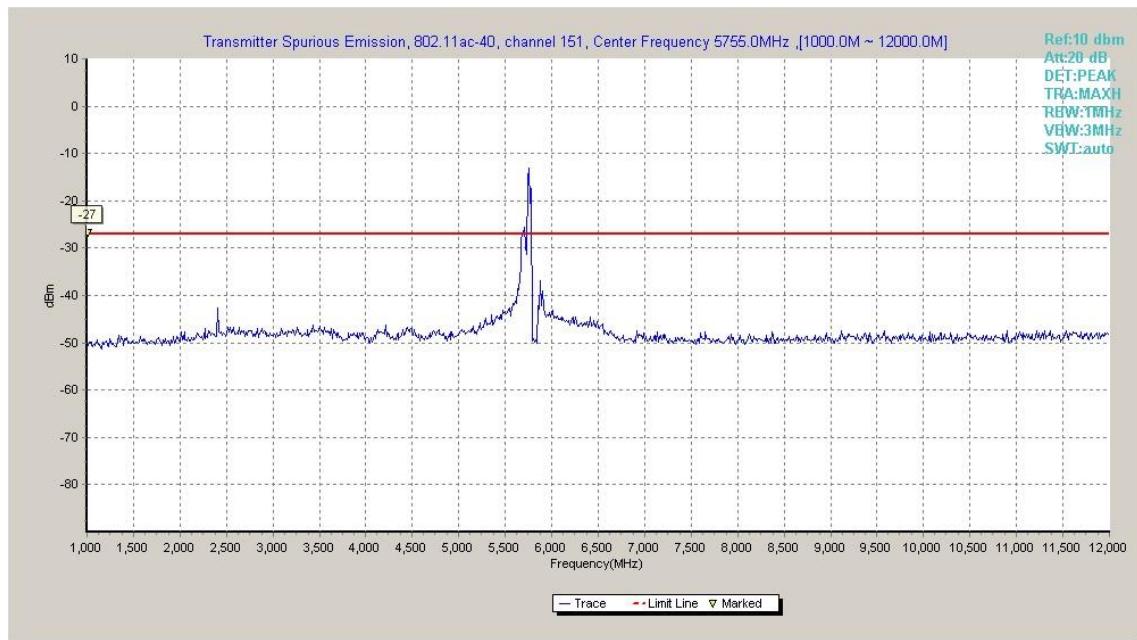


Fig. 60 Conducted Spurious Emission (802.11ac-HT40, Ch151, 1 GHz -12 GHz)

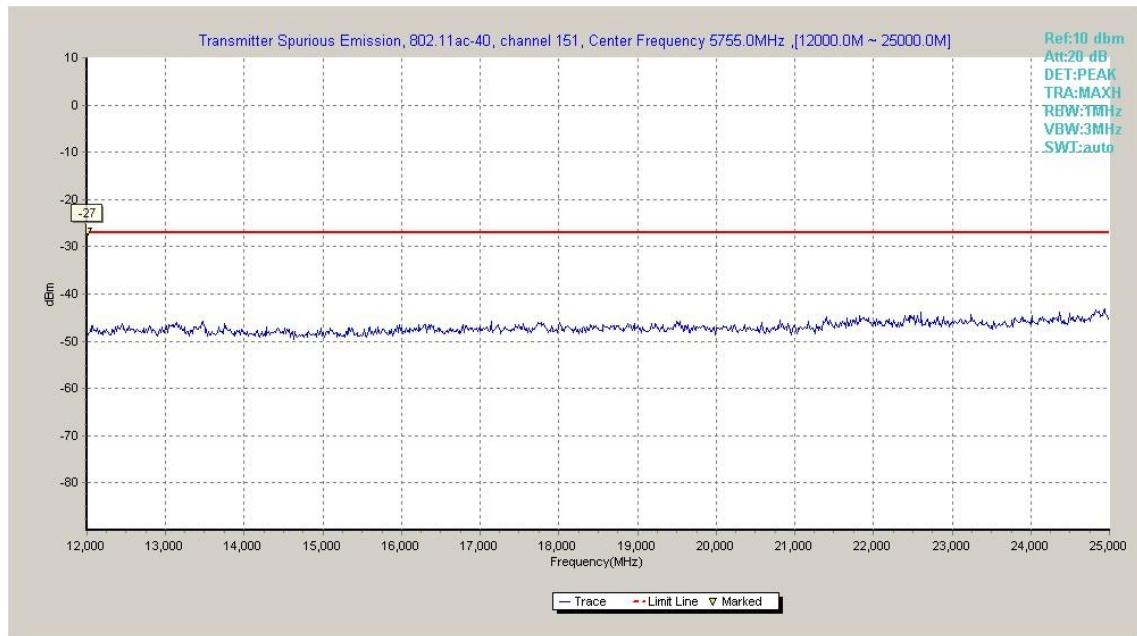


Fig. 61 Conducted Spurious Emission (802.11ac-HT40, Ch151, 12 GHz-25 GHz)

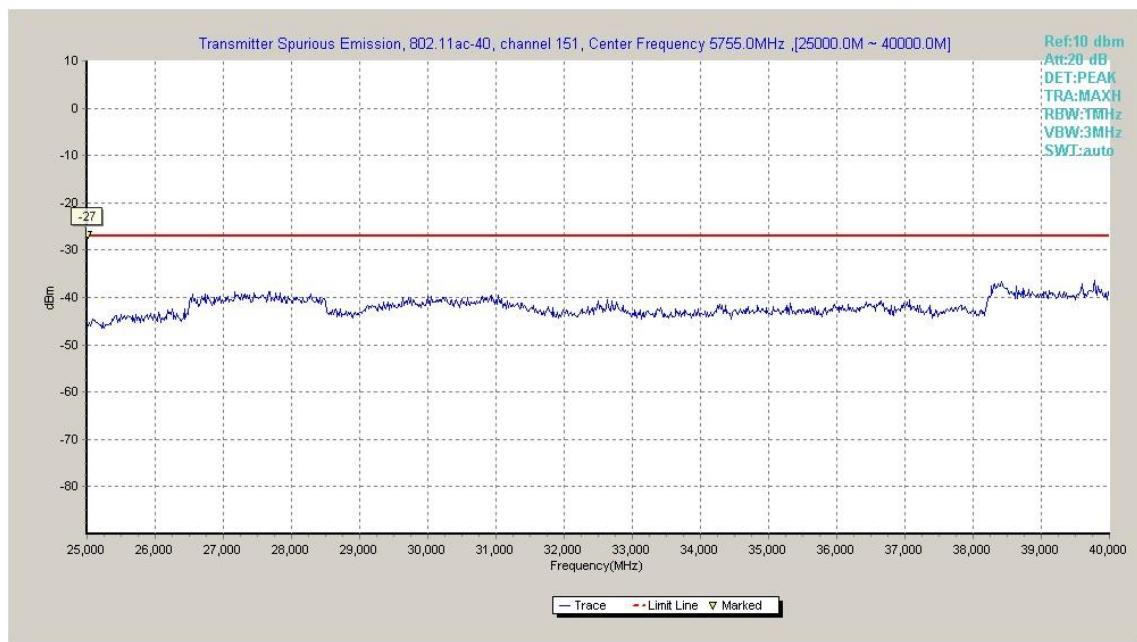


Fig. 62 Conducted Spurious Emission (802.11ac-HT40, Ch151, 25 GHz-40 GHz)

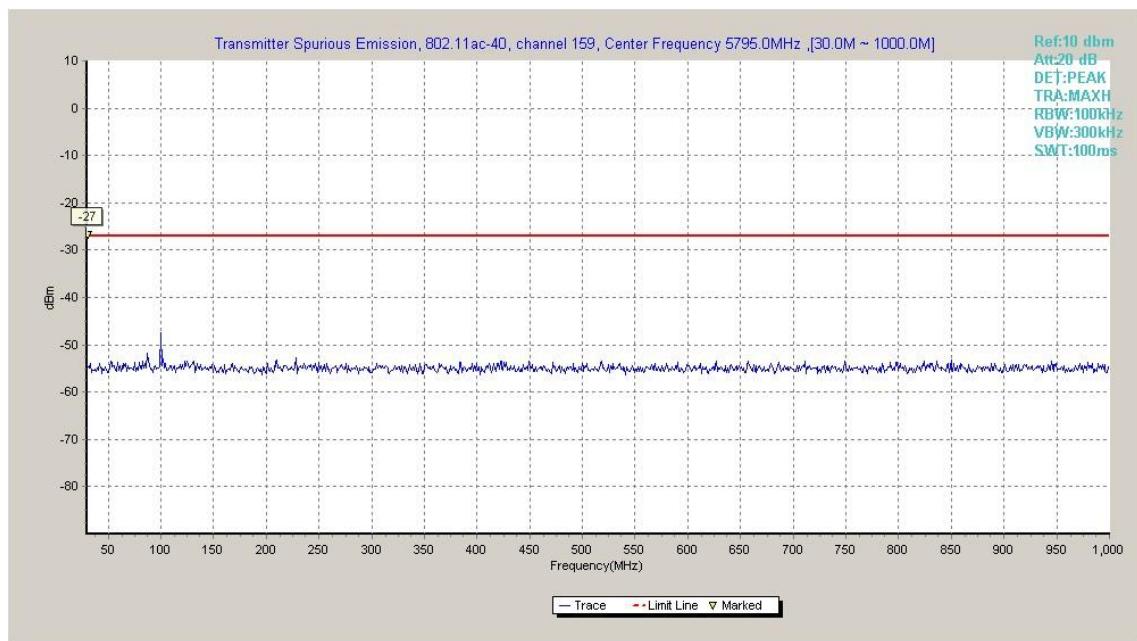


Fig. 63 Conducted Spurious Emission (802.11ac-HT40, Ch159, 30 MHz-1 GHz)

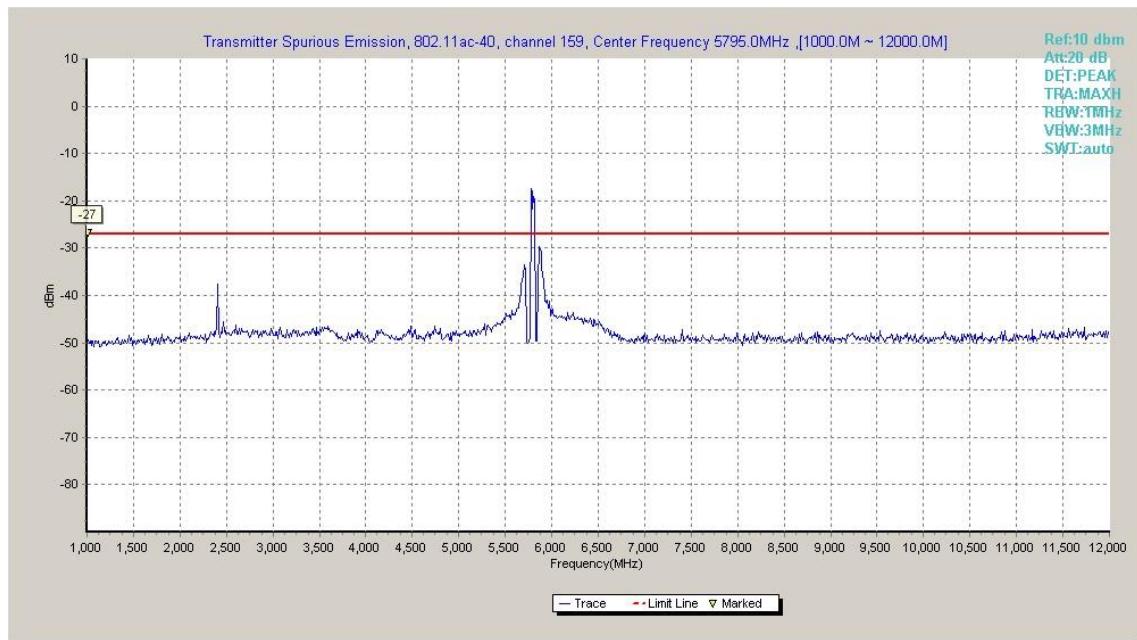


Fig. 64 Conducted Spurious Emission (802.11ac-HT40, Ch159, 1 GHz -12 GHz)

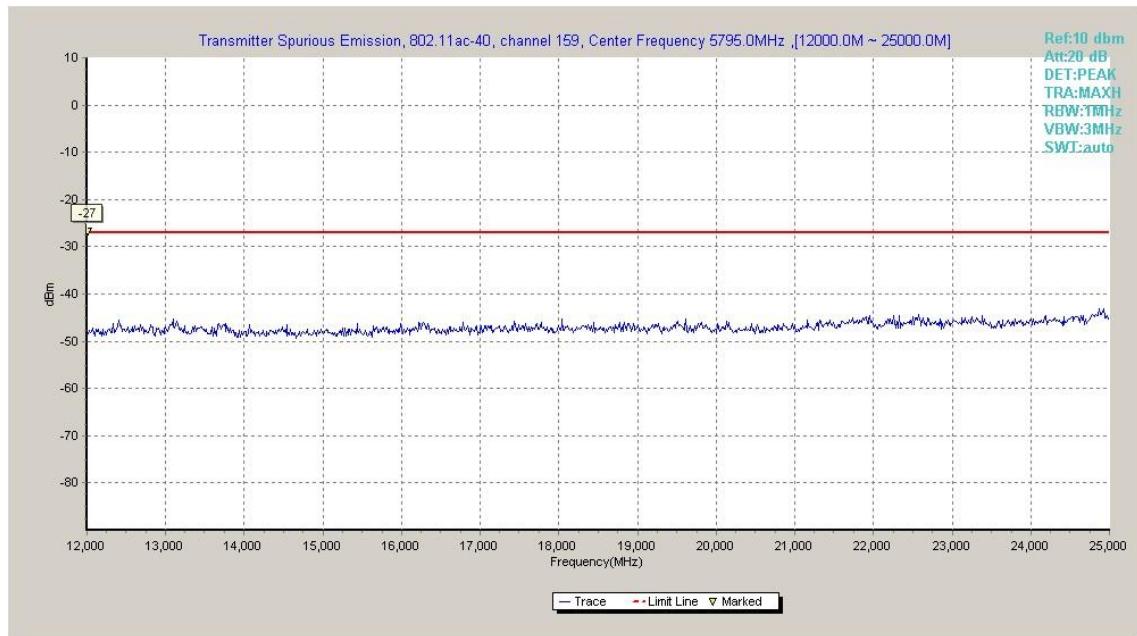


Fig. 65 Conducted Spurious Emission (802.11ac-HT40, Ch159, 12 GHz-25 GHz)

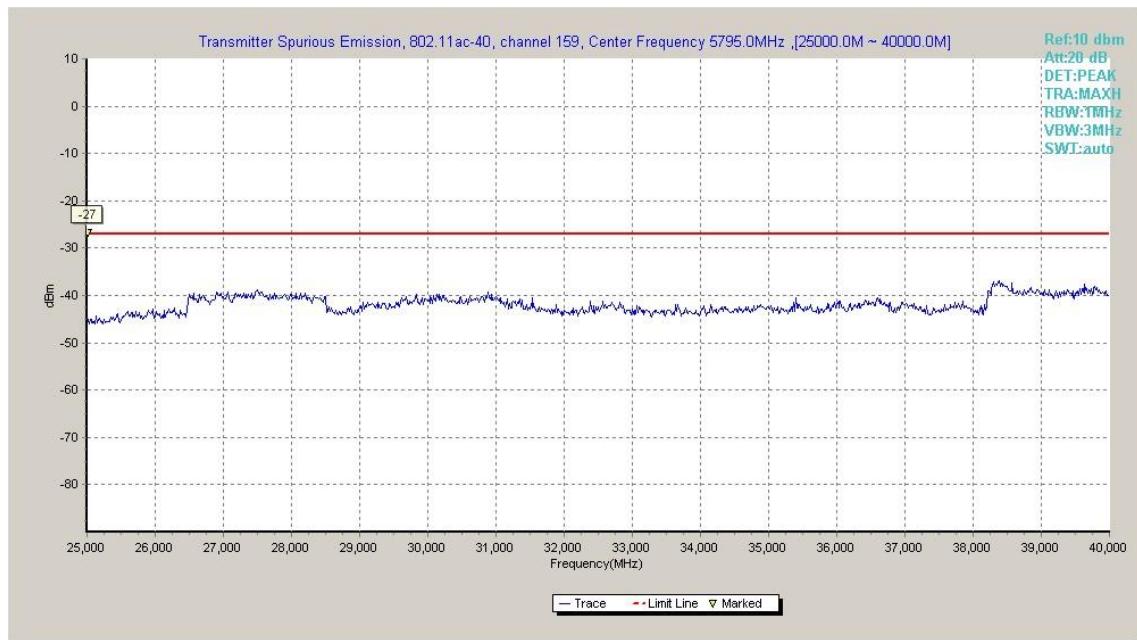


Fig. 66 Conducted Spurious Emission (802.11ac-HT40, Ch159, 25 GHz-40 GHz)

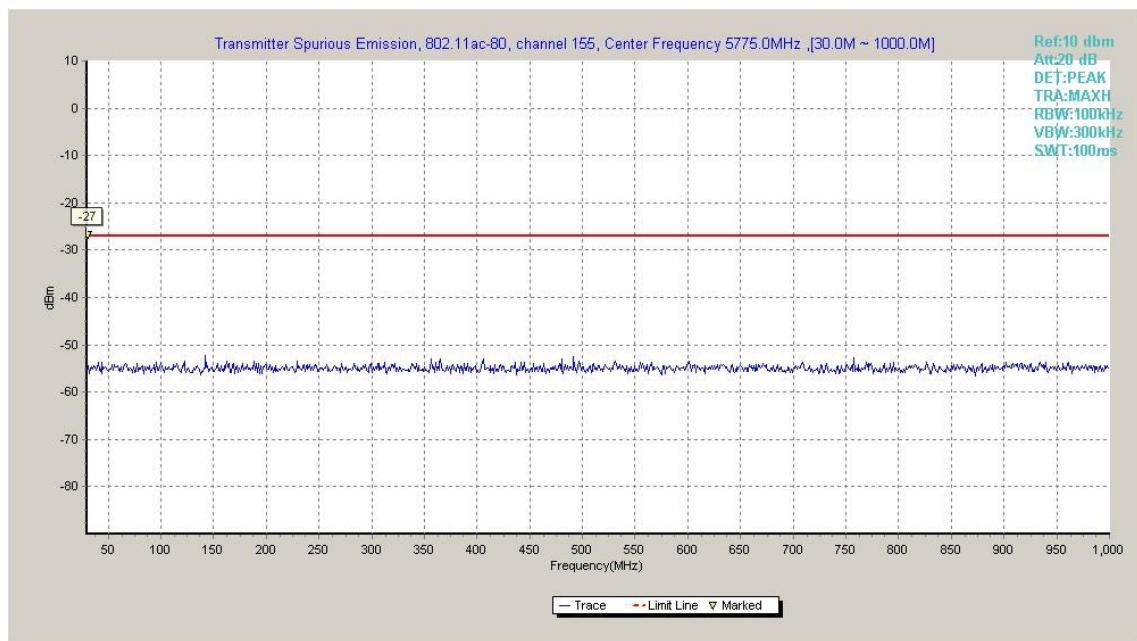


Fig. 67 Conducted Spurious Emission (802.11ac-HT80, Ch155, 30 MHz-1 GHz)

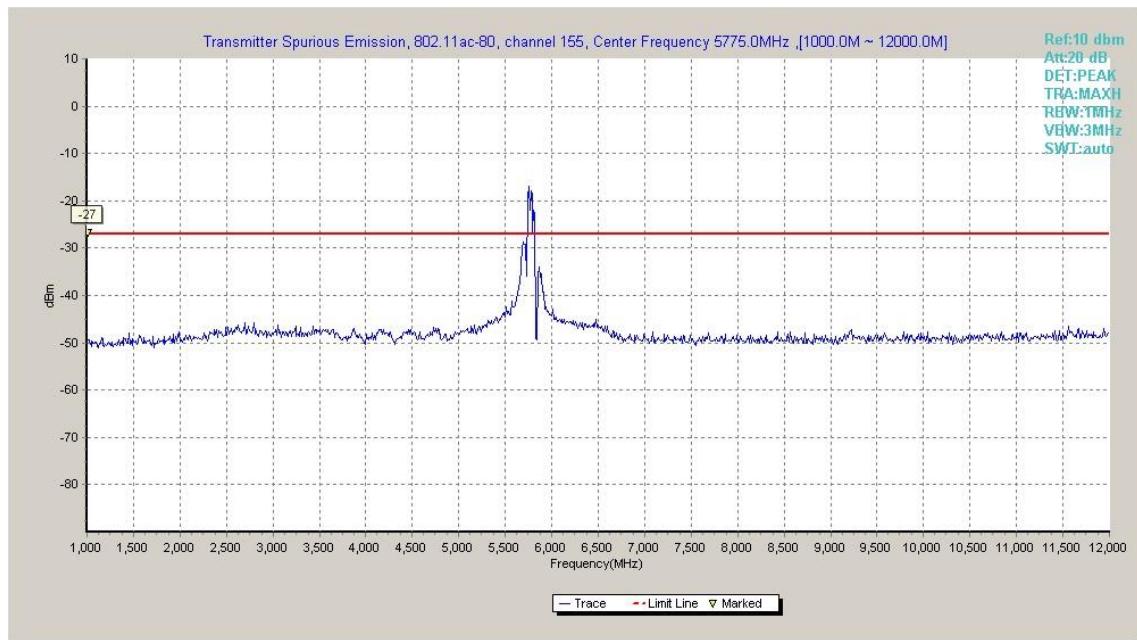


Fig. 68 Conducted Spurious Emission (802.11ac-HT80, Ch155, 1 GHz -12 GHz)

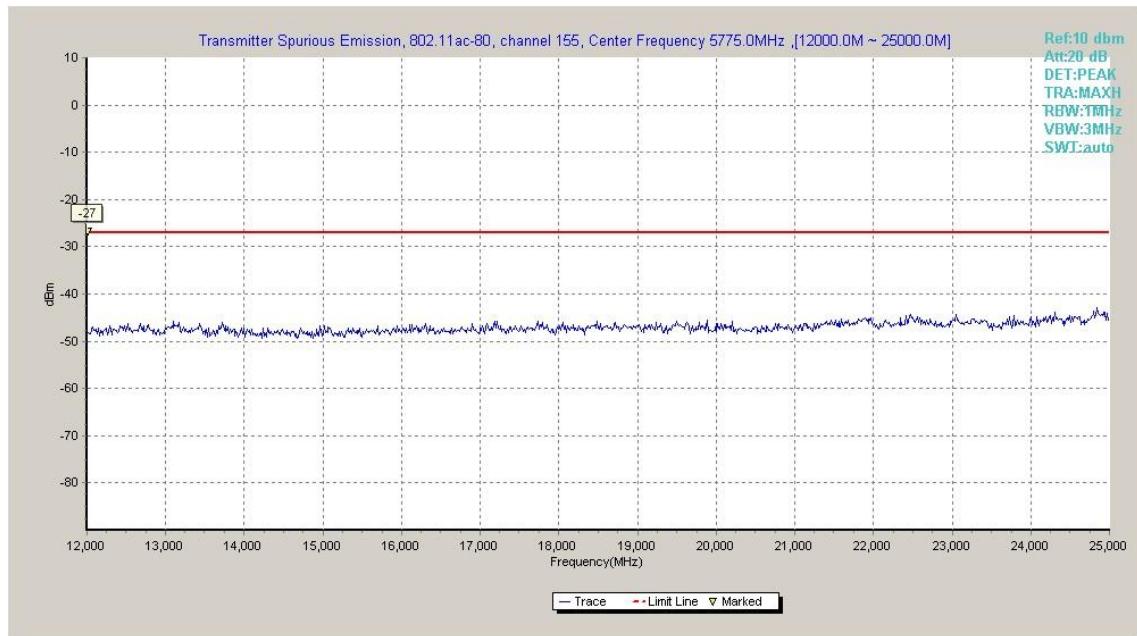


Fig. 69 Conducted Spurious Emission (802.11ac-HT80, Ch155, 12 GHz-25 GHz)

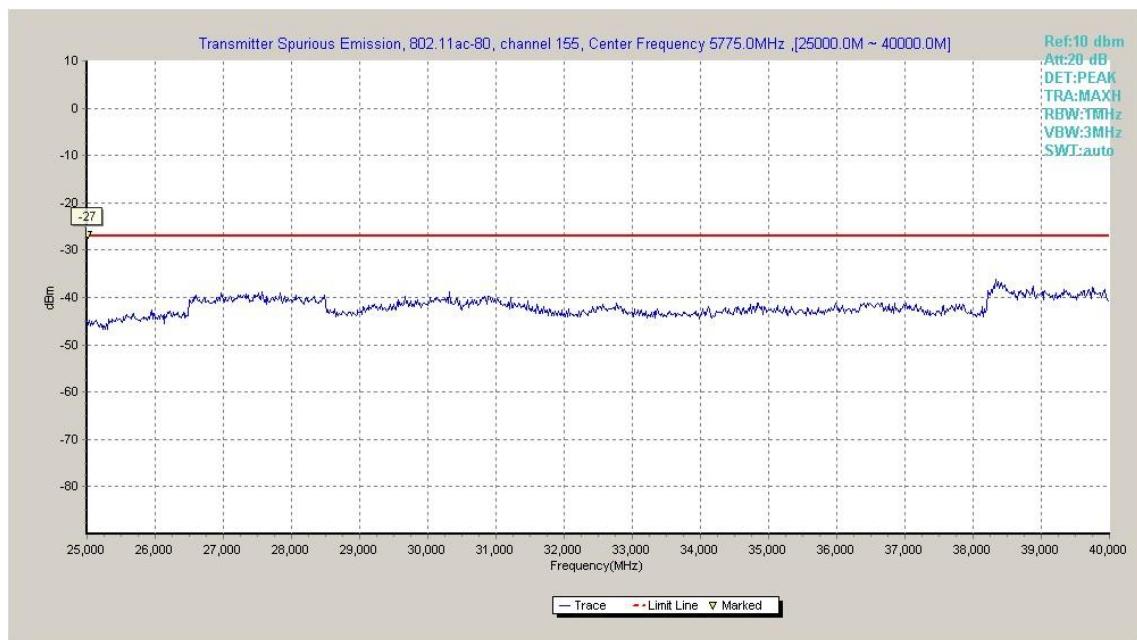


Fig. 70 Conducted Spurious Emission (802.11ac-HT80, Ch155, 25 GHz-40 GHz)

A.5.2 Transmitter Spurious Emission - Radiated

Measurement Limit:

Frequency Range	Uncertainty(dB)
$f \leq 1\text{GHz}$	3.9
$f > 1\text{GHz}$	4.3

Measurement Results:

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	149	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	157	30 MHz ~ 1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	165	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	149	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	157	30 MHz ~ 1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	165	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	151	30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	159	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11ac-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	149	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
	157	30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	165	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11ac-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	151	30 MHz ~1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P
	159	1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P

802.11ac-HT80 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT80)	155	30 MHz ~ 1 GHz	---	P
		1 GHz ~ 3 GHz	---	P
		3 GHz ~ 7 GHz	---	P
		7 GHz ~ 18 GHz	---	P
		18 GHz ~ 26.5 GHz	---	P
		26.5 GHz~ 40 GHz	---	P

Conclusion: PASS
Note:

A "reference path loss" is established and the A_{RPL} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

Average Results:
802.11a

Ch149

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5724.800	38.6	-33.0	34.9	36.63	101.7	63.2	H
5725.000	38.9	-33.0	34.9	36.96	102.2	63.3	H
11490.200	32.7	-30.4	38.7	24.45	54.0	21.3	H
17235.500	37.0	-25.8	41.2	21.59	54.0	17.0	H
17651.300	37.8	-25.6	41.1	22.35	54.0	16.2	H
17957.100	38.1	-25.0	40.8	22.23	54.0	15.9	H

Ch157

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5740.400	37.1	-32.9	34.9	35.17	54.0	16.9	H
5829.600	37.4	-32.3	35.0	34.68	54.0	16.6	H
11570.500	32.2	-30.5	38.8	23.87	54.0	21.8	H
17355.400	37.0	-25.6	41.2	21.47	54.0	17.0	H
17623.800	38.0	-25.9	41.1	22.76	54.0	16.0	H
17962.600	38.1	-25.0	40.8	22.30	54.0	15.9	H

Ch165

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.000	37.2	-32.2	35.1	34.30	102.2	65.0	H
5851.200	37.1	-32.2	35.1	34.27	99.5	62.3	H
11649.700	32.4	-30.2	38.9	23.67	54.0	21.6	H
17475.300	37.2	-25.2	41.2	21.23	54.0	16.8	H
17623.800	38.0	-25.9	41.1	22.76	54.0	16.0	H
17939.500	37.9	-24.7	40.8	21.81	54.0	16.1	H

802.11n-HT20

Ch149

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5724.000	36.9	-33.0	34.9	34.92	99.9	63.1	H
5724.800	37.2	-33.0	34.9	35.30	101.7	64.5	H
11490.200	32.8	-30.4	38.7	24.52	54.0	21.2	H
17235.500	37.0	-25.8	41.2	21.64	54.0	17.0	H
17623.800	38.0	-25.9	41.1	22.78	54.0	16.0	H
17946.100	38.0	-24.8	40.8	21.93	54.0	16.0	H

Ch157

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5762.000	37.3	-32.8	34.9	35.15	54.0	16.7	H
5812.800	37.1	-32.5	35.0	34.56	54.0	16.9	H
11570.500	32.3	-30.5	38.8	23.99	54.0	21.7	H
17355.400	37.0	-25.6	41.2	21.45	54.0	17.0	H
17638.100	38.0	-25.8	41.1	22.71	54.0	16.0	H
17947.200	38.1	-24.8	40.8	22.06	54.0	15.9	H

Ch165

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.000	37.3	-32.2	35.1	34.41	102.2	64.9	H
5852.400	37.1	-32.2	35.1	34.26	96.7	59.6	H
11649.700	32.6	-30.2	38.9	23.83	54.0	21.4	H
17475.300	37.2	-25.2	41.2	21.24	54.0	16.8	H
17657.900	37.9	-25.5	41.1	22.30	54.0	16.1	H
17963.700	38.1	-25.1	40.8	22.31	54.0	15.9	H

802.11n-HT40

Ch151

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5722.800	39.4	-32.9	34.9	37.43	97.2	57.8	H
5724.800	39.7	-33.0	34.9	37.76	101.7	62.0	H
11510.000	32.8	-30.4	38.7	24.47	54.0	21.2	H
17265.200	37.1	-25.9	41.2	21.78	54.0	16.9	H
17626.000	38.0	-25.9	41.1	22.74	54.0	16.0	H
17945.000	38.1	-24.8	40.8	22.03	54.0	15.9	H

Ch159

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5852.800	37.3	-32.2	35.1	34.44	95.8	58.5	H
5856.000	37.2	-32.2	35.1	34.36	90.5	53.3	H
11590.300	32.0	-30.5	38.8	23.63	54.0	22.0	H
17385.100	37.1	-25.5	41.2	21.40	54.0	16.9	H
17657.900	37.9	-25.5	41.1	22.31	54.0	16.1	H
17962.600	38.1	-25.0	40.8	22.31	54.0	15.9	H

802.11ac-HT20

Ch149

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5723.600	36.3	-32.9	34.9	34.32	99.0	62.7	H
5724.800	36.4	-33.0	34.9	34.44	101.7	65.4	H
11490.200	32.8	-30.4	38.7	24.52	54.0	21.2	H
17235.500	37.1	-25.8	41.2	21.66	54.0	16.9	H
17623.800	38.0	-25.9	41.1	22.71	54.0	16.0	H
17950.500	38.1	-24.9	40.8	22.12	54.0	15.9	H

Ch157

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5762.800	36.5	-32.8	34.9	34.42	54.0	17.5	H
5808.000	37.0	-32.5	35.0	34.45	54.0	17.1	H
11570.500	32.5	-30.5	38.8	24.15	54.0	21.5	H
17355.400	37.0	-25.6	41.2	21.46	54.0	17.0	H
17623.800	38.0	-25.9	41.1	22.71	54.0	16.0	H
17948.300	38.1	-24.9	40.8	22.12	54.0	15.9	H

Ch165

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.000	36.9	-32.2	35.1	34.05	102.2	65.3	H
5851.200	37.0	-32.2	35.1	34.09	99.5	62.5	H
11649.700	32.5	-30.2	38.9	23.80	54.0	21.5	H
17475.300	37.3	-25.2	41.2	21.32	54.0	16.7	H
17656.800	38.0	-25.5	41.1	22.38	54.0	16.0	H
17962.600	38.1	-25.0	40.8	22.29	54.0	15.9	H

802.11ac-HT40

Ch151

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5722.400	36.9	-32.9	34.9	34.92	96.3	59.4	H
5724.800	37.0	-33.0	34.9	35.05	101.7	64.8	H
11510.000	32.9	-30.4	38.7	24.62	54.0	21.1	H
17265.200	37.2	-25.9	41.2	21.85	54.0	16.8	H
17624.900	38.1	-25.9	41.1	22.82	54.0	15.9	H
17950.500	38.1	-24.9	40.8	22.12	54.0	15.9	H

Ch159

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.000	37.1	-32.2	35.1	34.17	102.2	65.1	H
5852.400	37.1	-32.2	35.1	34.22	96.7	59.6	H
11590.300	32.1	-30.5	38.8	23.77	54.0	21.9	H
17385.100	37.1	-25.5	41.2	21.36	54.0	16.9	H
17663.400	37.7	-25.4	41.1	22.06	54.0	16.3	H
17972.500	38.1	-25.2	40.8	22.45	54.0	15.9	H

802.11ac-HT80

Ch155

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5720.800	37.0	-32.9	34.9	35.05	92.6	55.6	H
5724.200	37.8	-33.0	34.9	35.87	100.4	62.6	H
11549.600	32.8	-30.5	38.8	24.51	54.0	21.2	H
17324.600	36.7	-25.8	41.2	21.29	54.0	17.3	H
17624.900	37.8	-25.9	41.1	22.59	54.0	16.2	H
17969.200	37.8	-25.1	40.8	22.15	54.0	16.2	H

Peak Results:
802.11a

Ch149

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5724.992	55.9	-33.0	34.9	53.96	122.2	66.3	H
5724.520	55.9	-33.0	34.9	53.94	121.1	65.2	H
11490.200	46.5	-30.4	38.7	38.19	74.0	27.5	V
17234.950	53.1	-25.8	41.2	37.71	74.0	20.9	H
17365.300	55.4	-25.6	41.2	39.77	74.0	18.6	V
17630.950	54.6	-25.9	41.1	39.44	74.0	19.4	H

Ch157

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5740.400	50.7	-32.9	34.9	48.75	74.0	23.3	H
5832.200	49.8	-32.3	35.0	47.05	74.0	24.2	H
11569.950	46.8	-30.5	38.8	38.47	74.0	27.2	V
16640.950	55.1	-26.0	41.3	39.70	74.0	18.9	V
17066.650	55.1	-25.5	41.3	39.31	74.0	18.9	V
17354.850	51.6	-25.6	41.2	36.07	74.0	22.4	H

Ch165

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.871	53.3	-32.2	35.1	50.41	120.2	66.9	H
5859.002	57.4	-32.2	35.1	54.54	101.7	44.2	H
11650.250	46.7	-30.2	38.9	37.96	74.0	27.3	V
16550.200	55.5	-25.9	41.2	40.25	74.0	18.5	V
17474.750	53.3	-25.2	41.2	37.29	74.0	20.8	V
17896.600	55.4	-24.2	40.9	38.65	74.0	18.6	H

802.11n-HT20

Ch149

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5724.566	49.9	-33.0	34.9	48.00	121.2	71.3	H
5724.900	50.1	-33.0	34.9	48.14	122.0	71.9	H
11490.200	46.2	-30.4	38.7	37.86	74.0	27.8	V
17072.700	52.5	-25.5	41.3	36.62	74.0	21.5	V
17234.950	55.3	-25.8	41.2	39.93	74.0	18.7	V
17953.250	56.1	-24.9	40.8	40.15	74.0	17.9	V

Ch157

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5751.400	46.4	-32.9	34.9	44.32	74.0	27.7	H
5834.800	48.0	-32.3	35.0	45.25	74.0	26.0	V
11569.950	45.6	-30.5	38.8	37.33	74.0	28.4	H
17119.450	54.7	-25.5	41.3	38.89	74.0	19.3	V
17354.850	52.2	-25.6	41.2	36.65	74.0	21.8	V
17568.250	55.2	-25.6	41.1	39.70	74.0	18.8	V

Ch165

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.756	47.5	-32.2	35.1	44.62	120.5	73.0	H
5851.929	48.0	-32.2	35.1	45.14	117.8	69.8	H
11650.250	46.4	-30.2	38.9	37.71	74.0	27.6	V
17036.950	55.3	-25.6	41.4	39.50	74.0	18.7	V
17474.750	52.5	-25.2	41.2	36.50	74.0	21.5	H
17594.650	55.6	-25.7	41.1	40.19	74.0	18.4	H

802.11n-HT40

Ch151

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5719.449	54.2	-32.9	34.9	52.26	109.5	55.3	H
5724.923	57.4	-33.0	34.9	55.48	122.0	64.6	H
11510.000	44.9	-30.4	38.7	36.56	74.0	29.1	H
17265.200	51.7	-25.9	41.2	36.44	74.0	22.3	V
17422.000	55.8	-25.3	41.2	39.90	74.0	18.2	V
17981.850	55.6	-25.3	40.8	40.04	74.0	18.4	H

Ch159

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5851.251	52.8	-32.2	35.1	49.87	119.3	66.6	H
5859.094	52.3	-32.2	35.1	49.39	89.7	37.4	H
11589.750	44.5	-30.5	38.8	36.22	74.0	29.5	V
16843.800	54.9	-26.0	41.5	39.50	74.0	19.1	H
17385.100	52.4	-25.5	41.2	36.66	74.0	21.6	H
17480.250	55.2	-25.3	41.2	39.30	74.0	18.8	H

802.11ac-HT20

Ch149

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5724.267	46.7	-33.0	34.9	44.72	120.5	73.9	H
5724.658	47.0	-33.0	34.9	45.02	121.4	74.5	H
11490.200	45.8	-30.4	38.7	37.52	74.0	28.2	V
16964.900	55.9	-25.6	41.4	40.13	74.0	18.1	H
17234.950	52.2	-25.8	41.2	36.82	74.0	21.8	V
17456.050	54.7	-25.2	41.2	38.70	74.0	19.3	H

Ch157

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5759.000	46.0	-32.8	34.9	43.91	74.0	28.0	H
5820.600	47.1	-32.4	35.0	44.44	74.0	26.9	H
11569.950	45.5	-30.5	38.8	37.17	74.0	28.5	V
16929.700	55.3	-25.7	41.4	39.59	74.0	18.7	H
17354.850	51.2	-25.6	41.2	35.67	74.0	22.8	V
17973.600	55.3	-25.2	40.8	39.69	74.0	18.7	H

Ch165

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.273	46.5	-32.2	35.1	43.67	121.6	75.0	H
5852.263	46.8	-32.2	35.1	43.93	97.0	50.2	H
11650.250	45.6	-30.2	38.9	36.89	74.0	28.4	V
17134.300	56.1	-25.5	41.3	40.30	74.0	17.9	V
17474.750	52.7	-25.2	41.2	36.75	74.0	21.3	H
17962.600	55.0	-25.0	40.8	39.18	74.0	19.0	V

802.11ac-HT40

Ch151

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5724.145	48.0	-33.0	34.9	46.10	120.3	72.2	H
5724.555	47.2	-33.0	34.9	45.23	121.2	74.0	V
11510.000	45.3	-30.4	38.7	37.04	74.0	28.7	H
15839.600	54.9	-26.2	40.3	40.83	74.0	19.1	V
17265.200	52.5	-25.9	41.2	37.18	74.0	21.5	V
17552.300	55.4	-25.6	41.2	39.82	74.0	18.6	V

Ch159

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5850.020	47.2	-32.2	35.1	44.31	102.2	55.0	H
5850.538	47.9	-32.2	35.1	45.02	101.0	53.1	H
11589.750	45.3	-30.5	38.8	36.99	74.0	28.7	H
16929.700	55.1	-25.7	41.4	39.39	74.0	18.9	V
17385.100	51.8	-25.5	41.2	36.12	74.0	22.2	V
17462.100	55.5	-25.2	41.2	39.54	74.0	18.5	H

802.11ac-HT80

Ch155

Frequency (MHz)	Meas. Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
5724.738	52.1	-33.0	34.9	50.17	119.4	67.3	H
5724.485	52.2	-33.0	34.9	50.26	121.0	68.8	H
11550.150	46.7	-30.5	38.8	38.41	74.0	27.3	V
17325.150	52.9	-25.8	41.2	37.50	74.0	21.1	H
17626.000	54.9	-25.9	41.1	39.66	74.0	19.1	V
17965.350	54.7	-25.1	40.8	38.94	74.0	19.3	H

A.6. Band Edges Compliance

A6.1 Band Edges - conducted

Measurement Limit:

Standard	Limit (dBm/MHz)
FCC 47 CFR Part 15.407(b)(4)	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The measurement is made according to KDB 789033 D02

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
-------------------------	--------

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz	Fig.71	P
	5825 MHz	Fig.72	P
802.11n HT20	5745 MHz	Fig.73	P
	5825 MHz	Fig.74	P
802.11ac HT20	5745 MHz	Fig.75	P
	5825 MHz	Fig.76	P
802.11n HT40	5755 MHz	Fig.77	P
	5795 MHz	Fig.78	P
802.11ac HT40	5755 MHz	Fig.79	P
	5795 MHz	Fig.80	P
802.11ac HT80	5775 MHz	Fig.81	P
	5775 MHz	Fig.82	P

Conclusion: PASS

Test graphs as below:

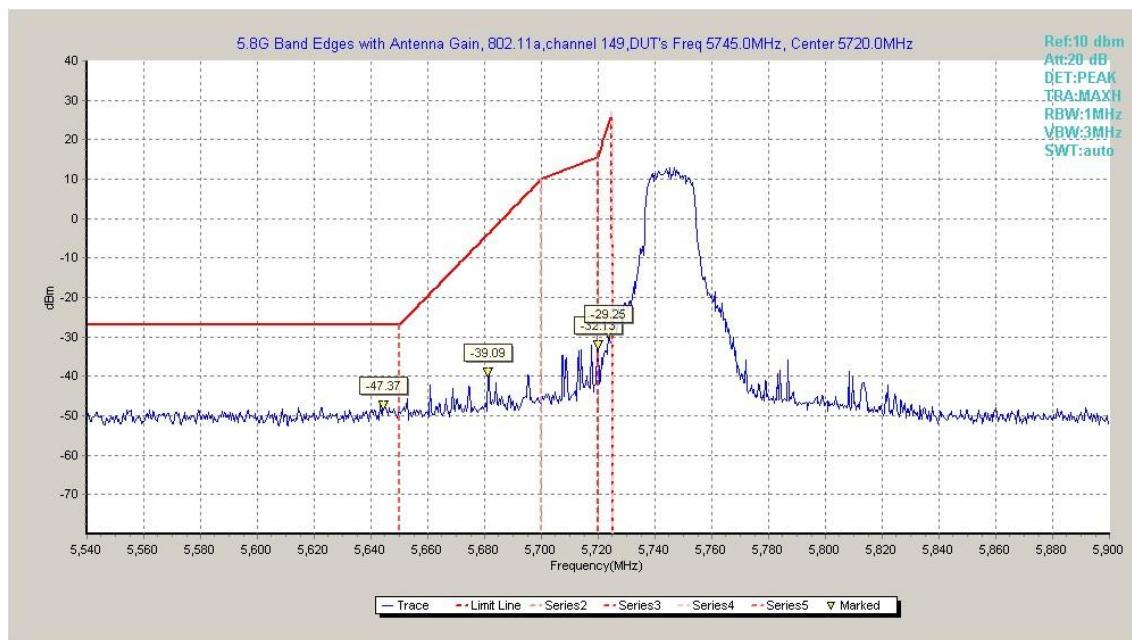


Fig. 71 Band Edges (802.11a, 5745MHz)

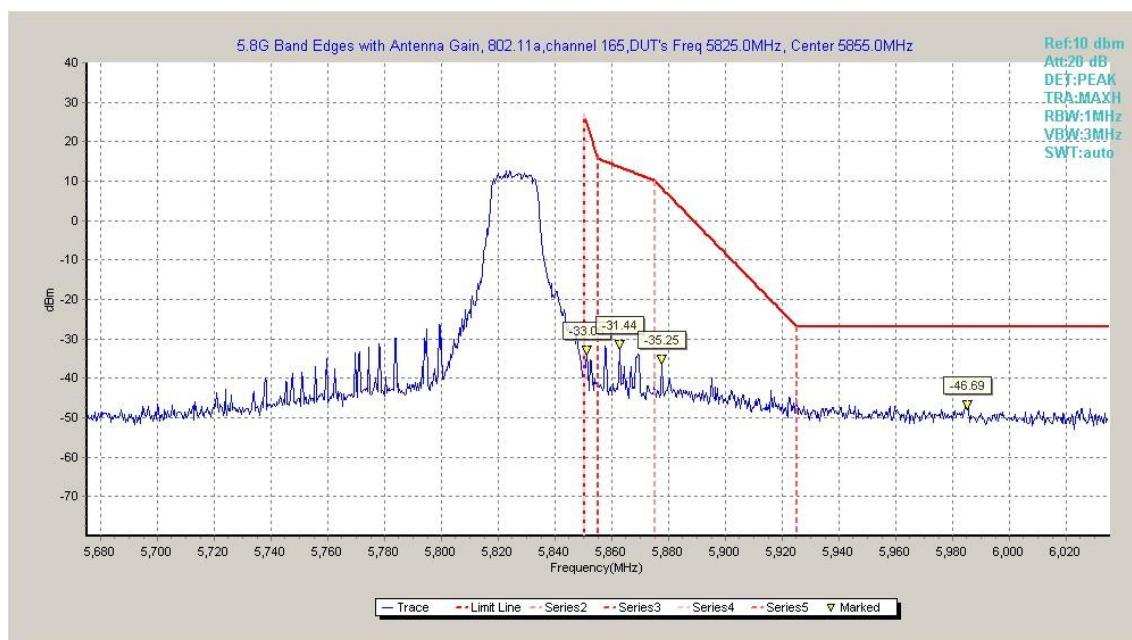


Fig. 72 Band Edges (802.11a, 5825MHz)

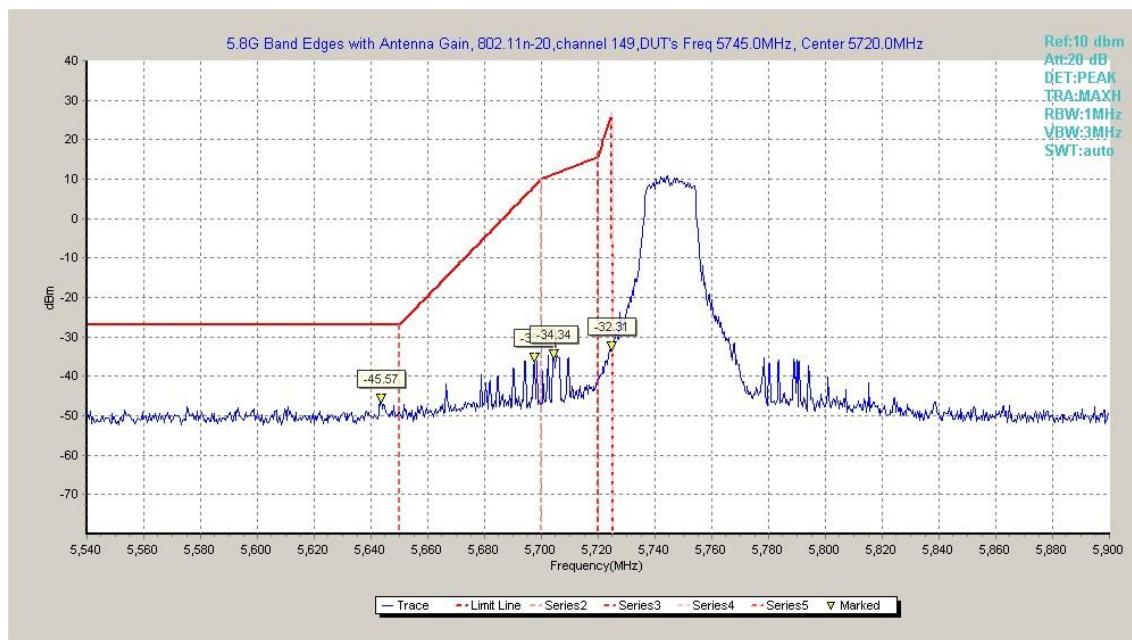


Fig. 73 Band Edges (802.11n-HT20, 5745MHz)

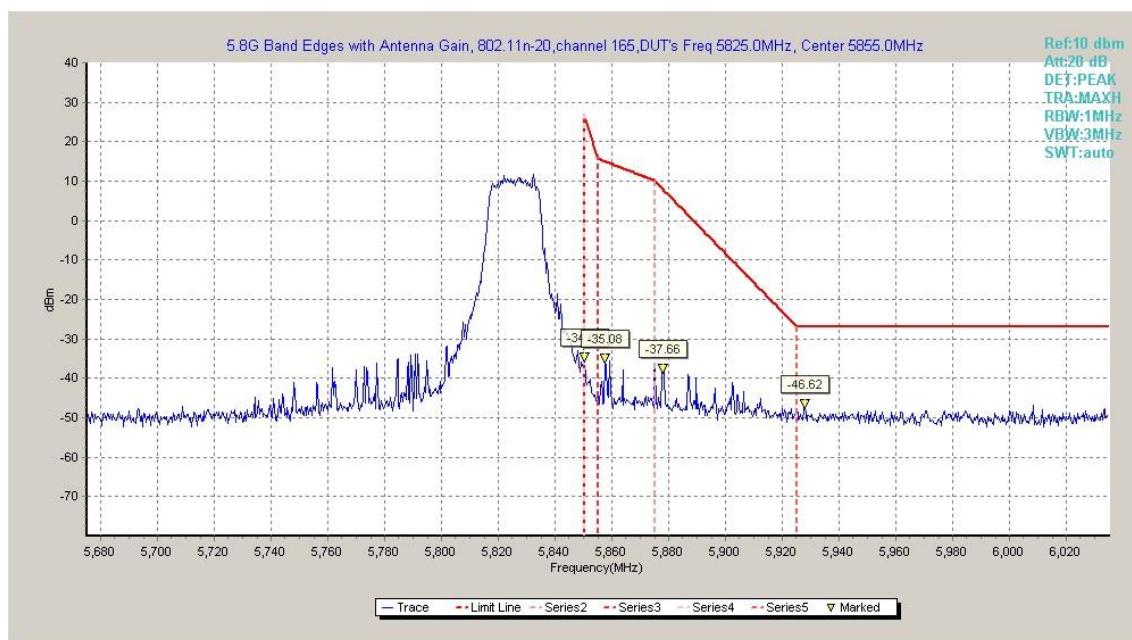


Fig. 74 Band Edges (802.11n-HT20, 5825MHz)

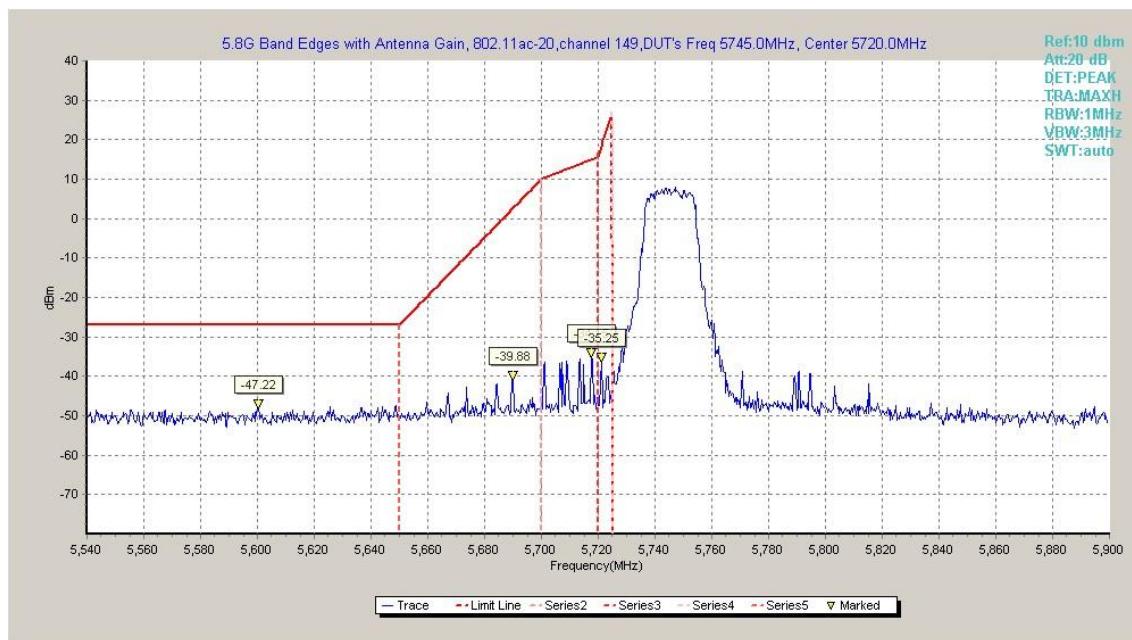


Fig. 75 Band Edges (802.11ac-HT20, 5745MHz)

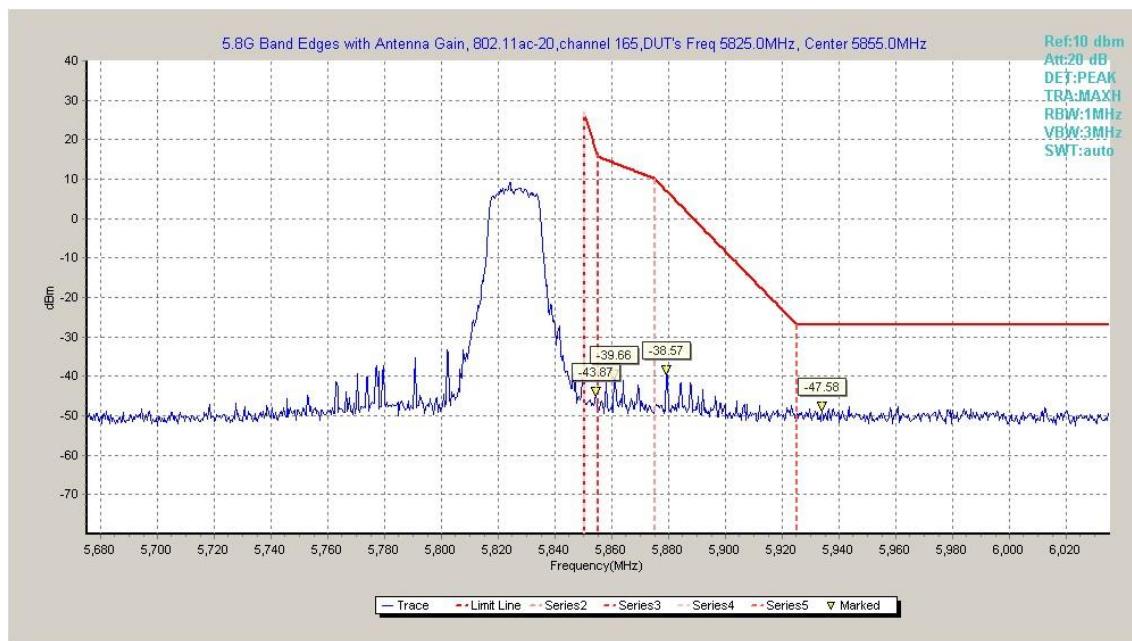


Fig. 76 Band Edges (802.11ac-HT20, 5825MHz)

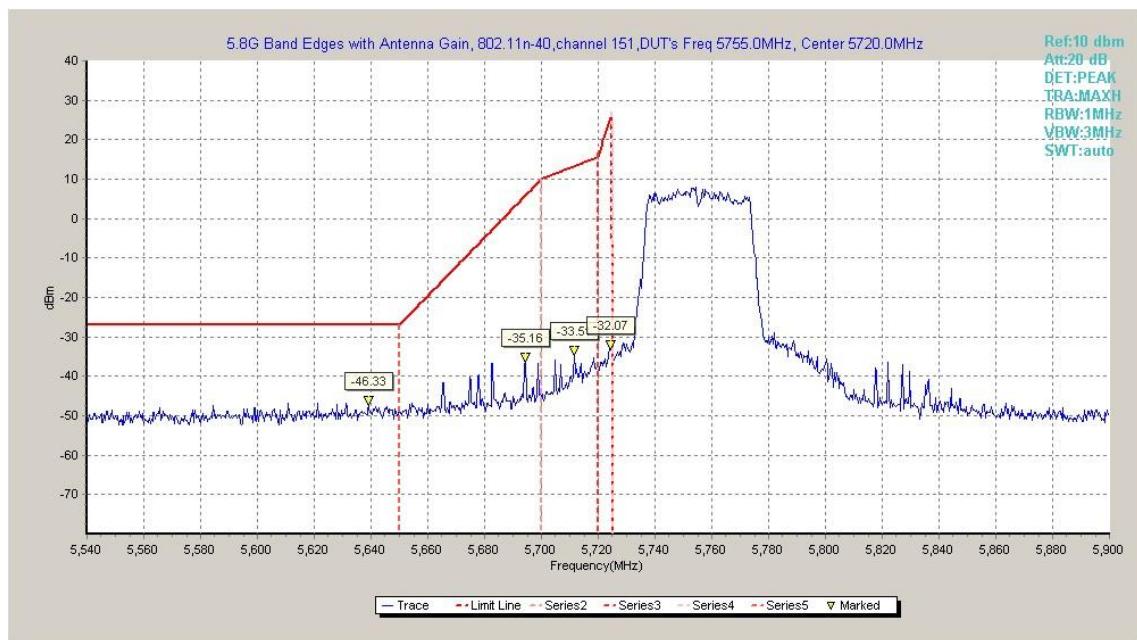


Fig. 77 Band Edges (802.11n-HT40, 5755MHz)

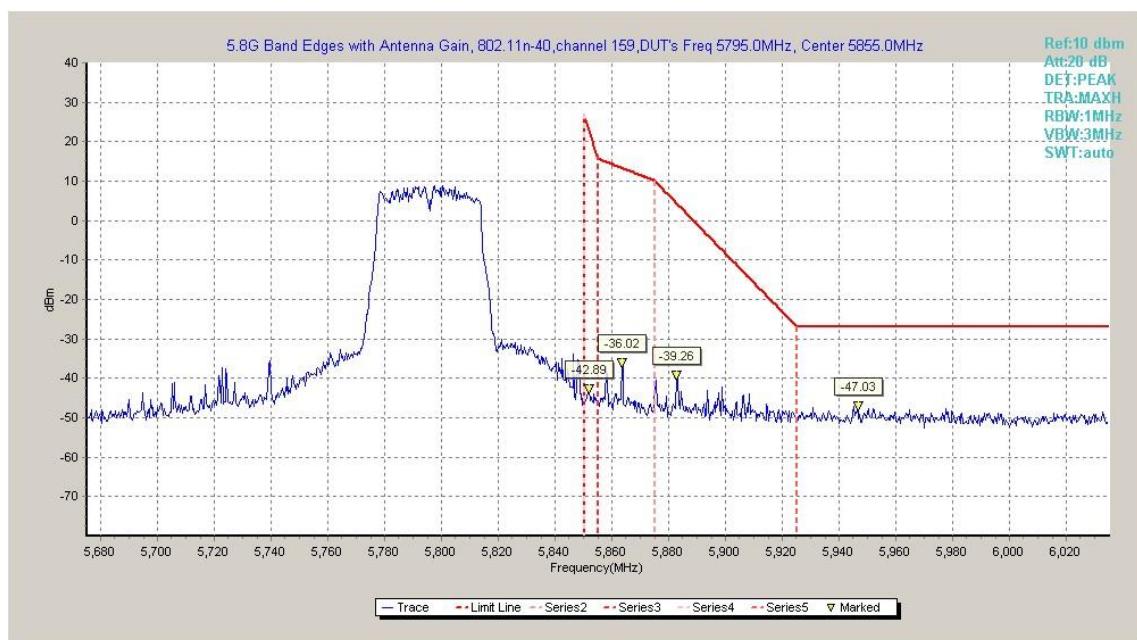


Fig. 78 Band Edges (802.11n-HT40, 5795MHz)

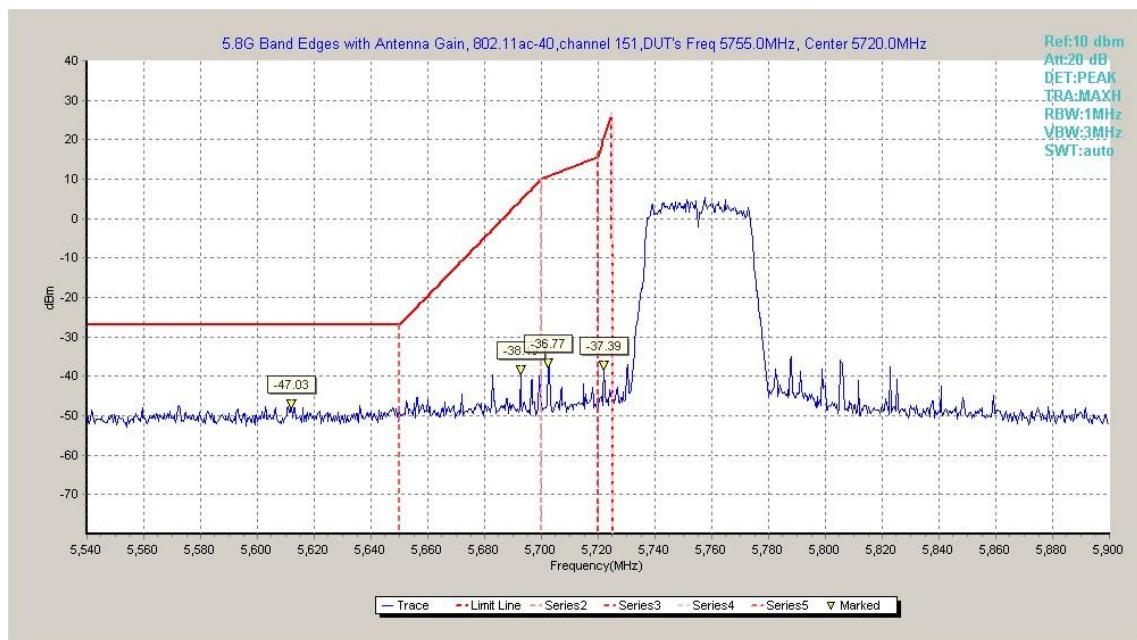


Fig. 79 Band Edges (802.11ac-HT40, 5755MHz)

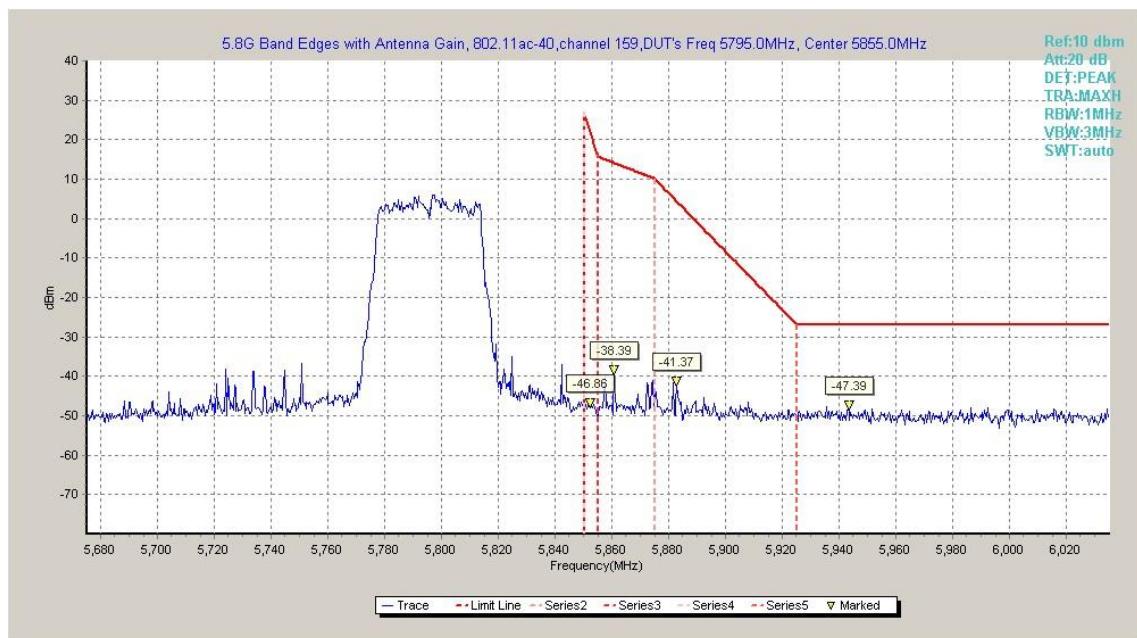


Fig. 80 Band Edges (802.11ac-HT40, 5795MHz)

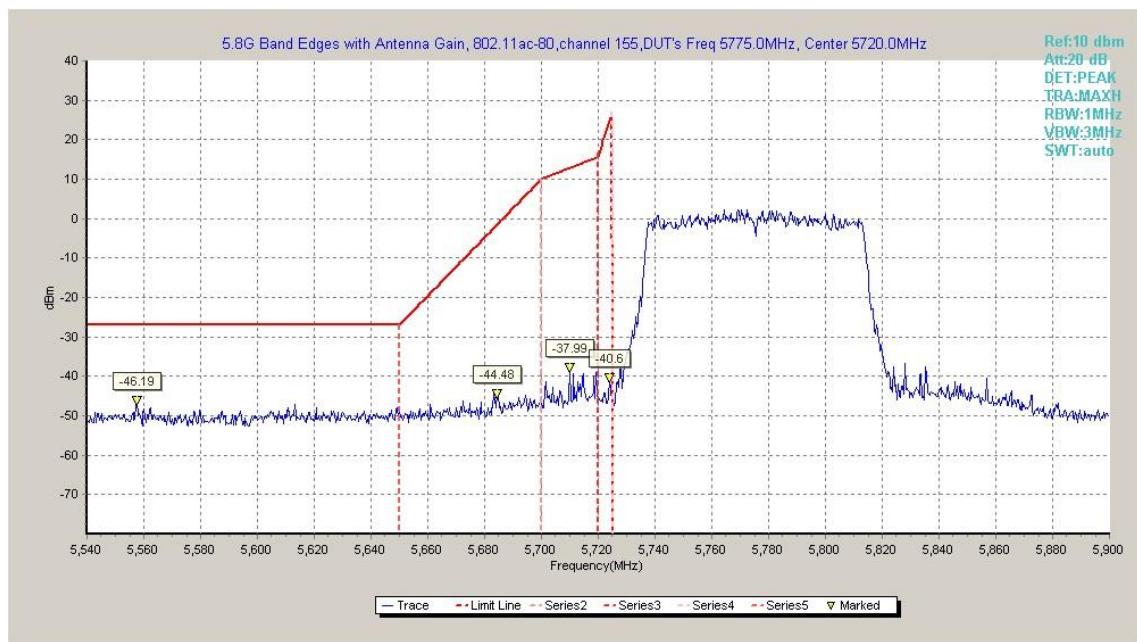


Fig. 81 Band Edges (802.11ac-HT80, 5775MHz)

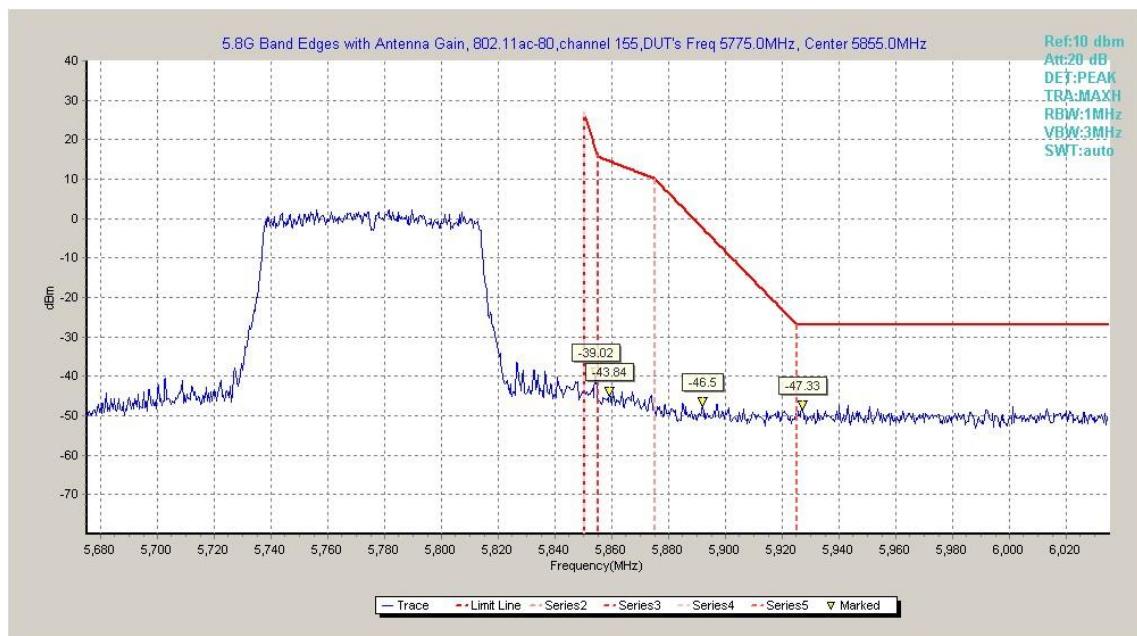


Fig. 82 Band Edges (802.11ac-HT80, 5775MHz)

A6.2 Band Edges - Radiated

Measurement Limit:

Standard	Limit (dBm/MHz)	
FCC 47 CFR Part 15.407	at the band edge	27
	at 5 MHz above or below the band edge	15.6
	at 25 MHz above or below the band edge	10
	at 75 MHz or more above or below the band edge	-27
Note: increasing linearly from point to point.		

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
-------------------------	--------

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz	Fig.83	P
	5825 MHz	Fig.84	P
802.11n	5745 MHz	Fig.85	P
	5825 MHz	Fig.86	P
802.11n	5755 MHz	Fig.87	P
	5795 MHz	Fig.88	P
802.11ac	5745 MHz	Fig.89	P
	5825 MHz	Fig.90	P
802.11ac	5755 MHz	Fig.91	P
	5795 MHz	Fig.92	P
802.11ac HT80	5775 MHz	Fig.93	P

Conclusion: PASS

Test graphs as below:

R E - Power-5.650GHz-5.765GHz

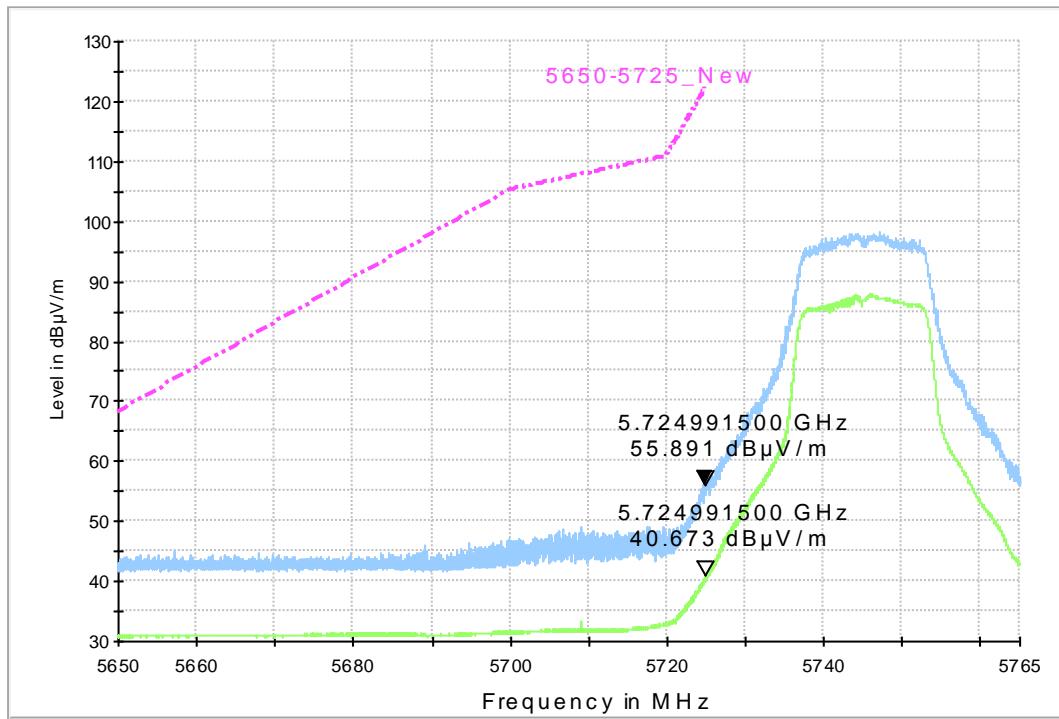


Fig. 83 Band Edges (802.11a, 5745MHz)

R E - Power-5.810GHz-5.925GHz

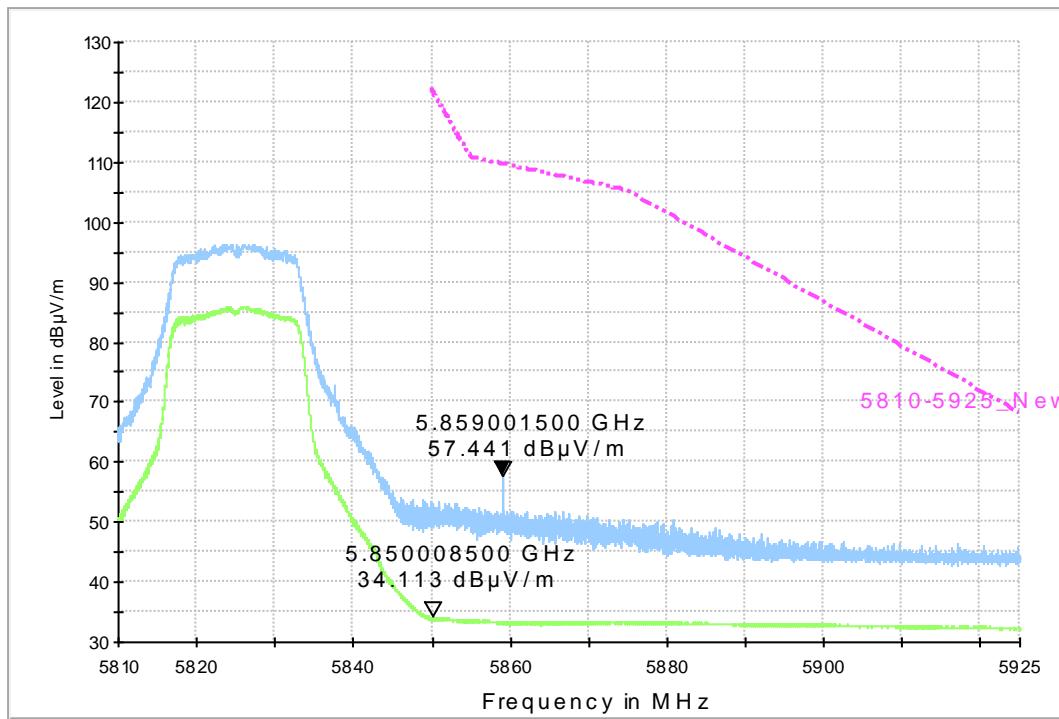


Fig. 84 Band Edges (802.11a, 5825MHz)

R E - Power-5.650GHz-5.765GHz

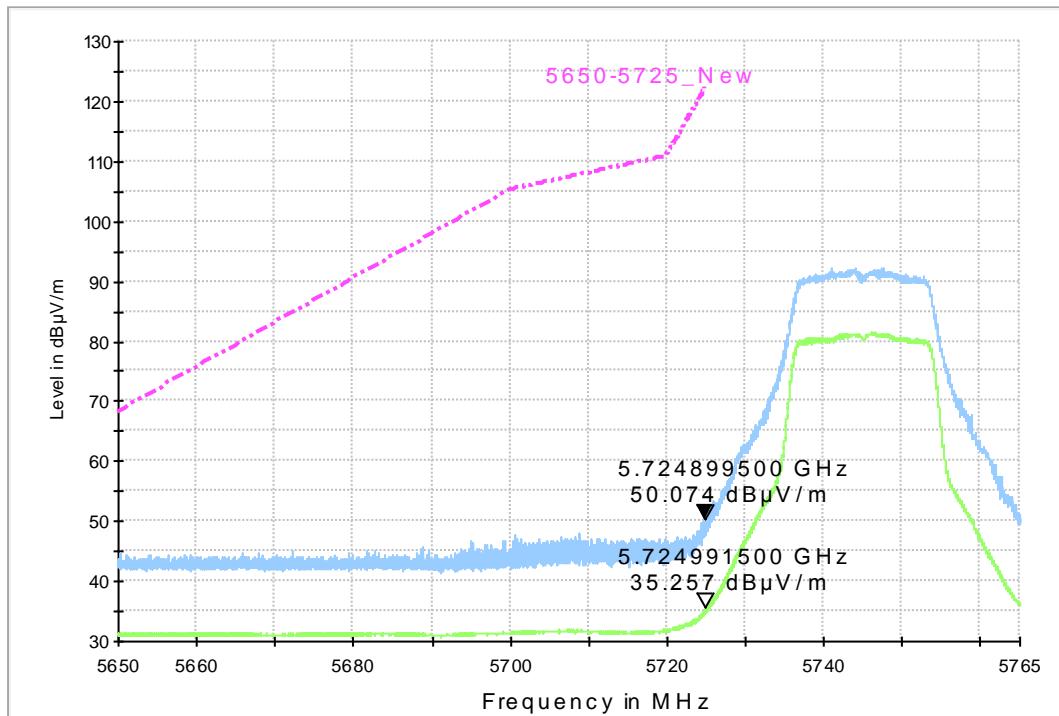


Fig. 85 Band Edges (802.11n-HT20, 5745MHz)

R E - Power-5.810GHz-5.925GHz

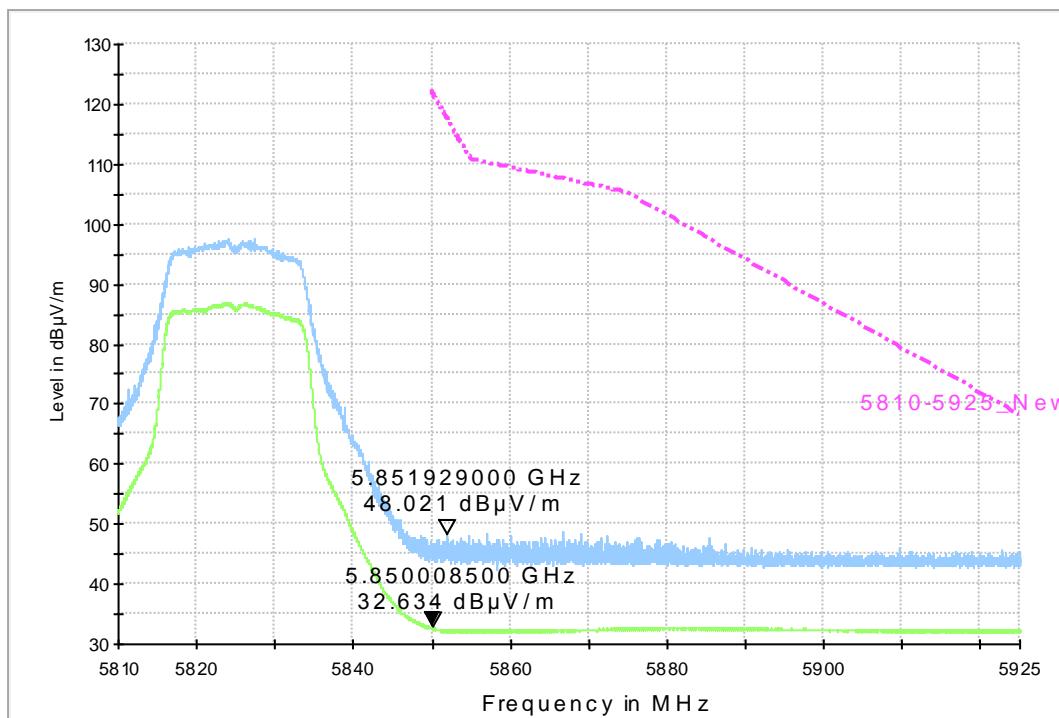


Fig. 86 Band Edges (802.11n-HT20, 5825MHz)

R E - Power-5.650GHz-5.765GHz

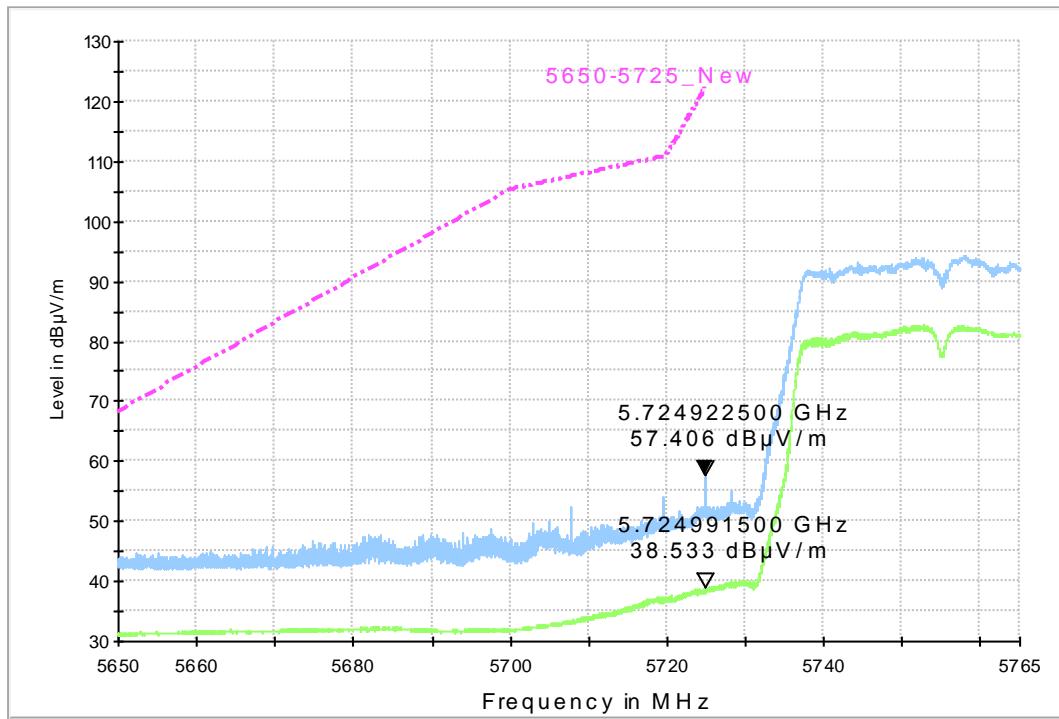


Fig. 87 Band Edges (802.11n-HT40, 5755MHz)

R E - Power-5.810GHz-5.925GHz

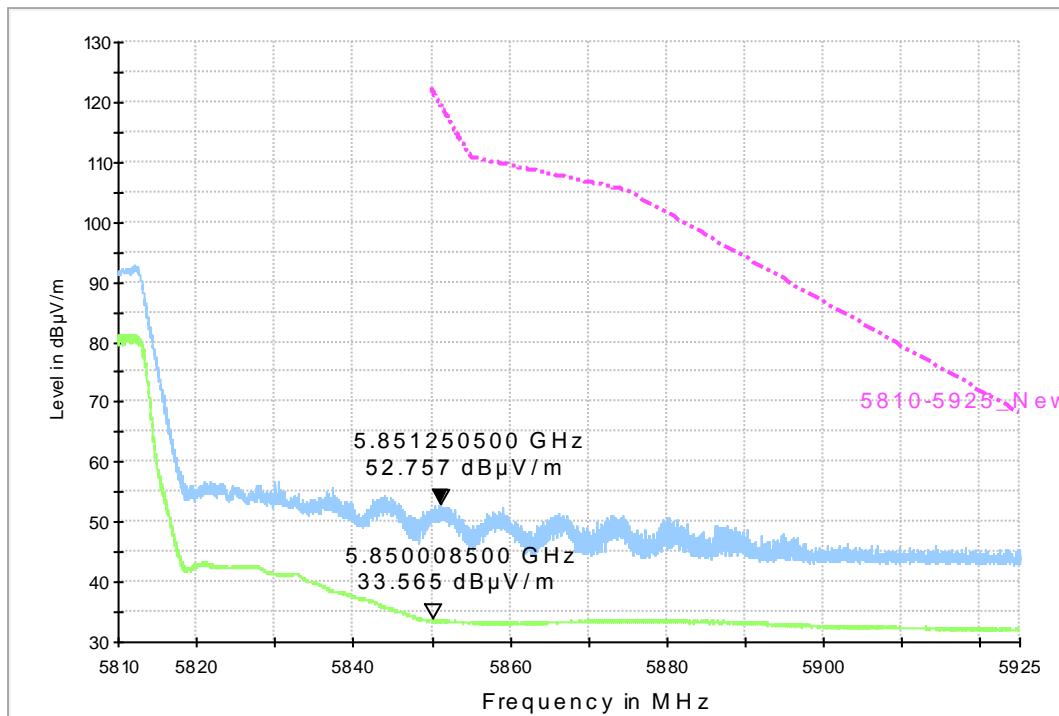


Fig. 88 Band Edges (802.11n-HT40, 5795MHz)

R E - Power-5.650GHz-5.765GHz

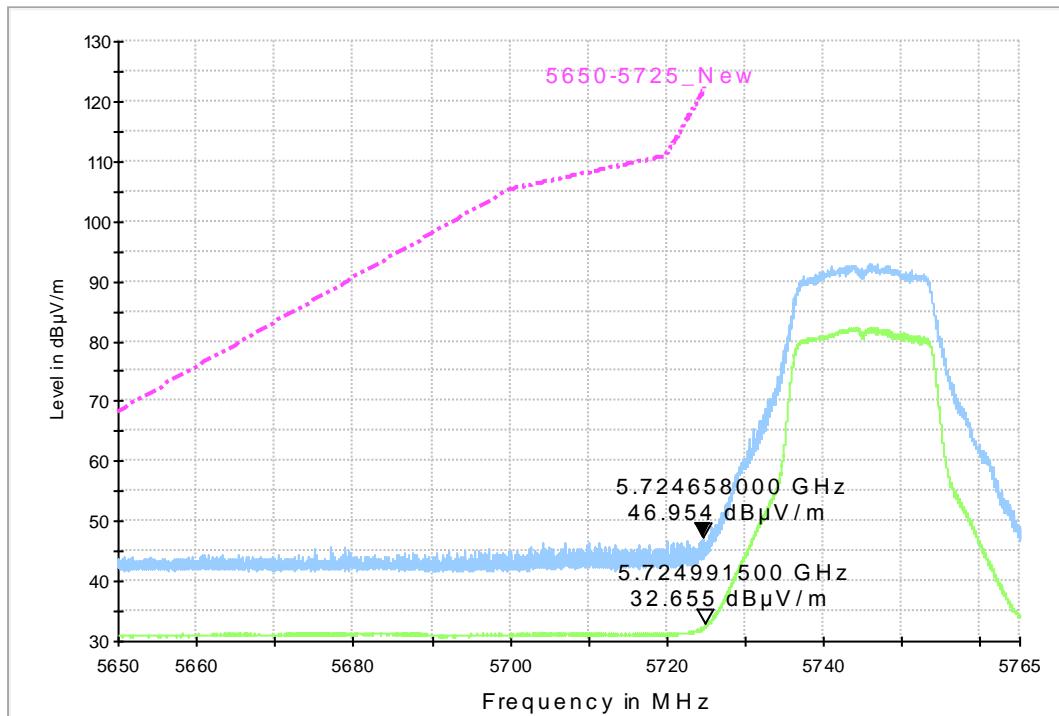


Fig. 89 Band Edges (802.11ac-HT20, 5745MHz)

R E - Power-5.810GHz-5.925GHz

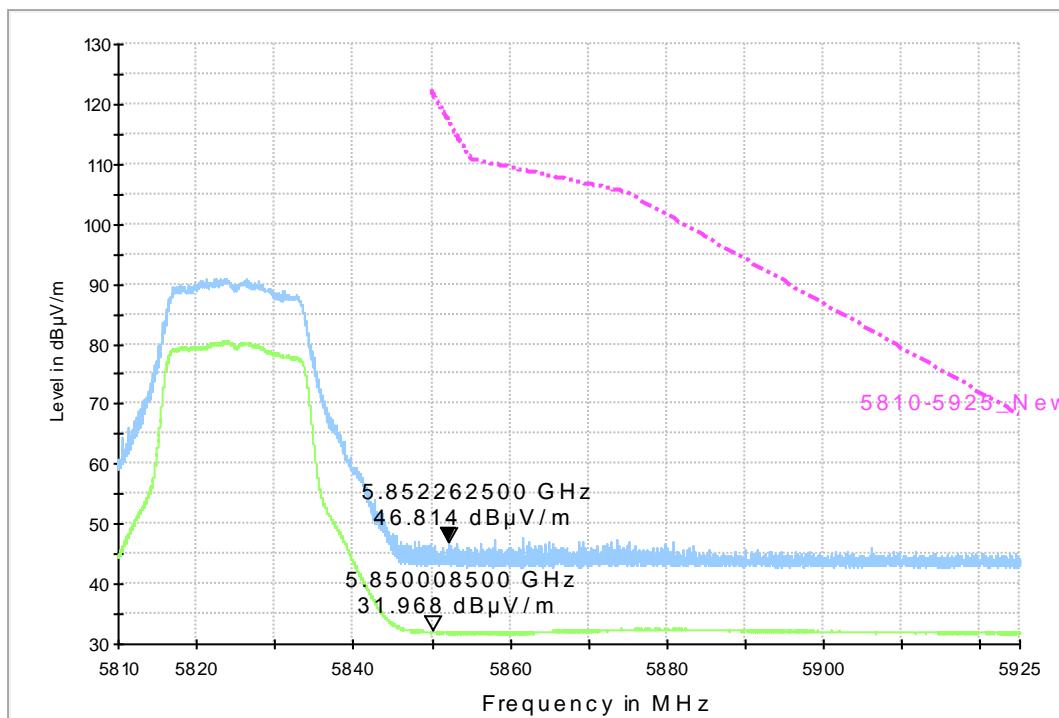


Fig. 90 Band Edges (802.11ac-HT20, 5825MHz)

R E - Power-5.650GHz-5.765GHz

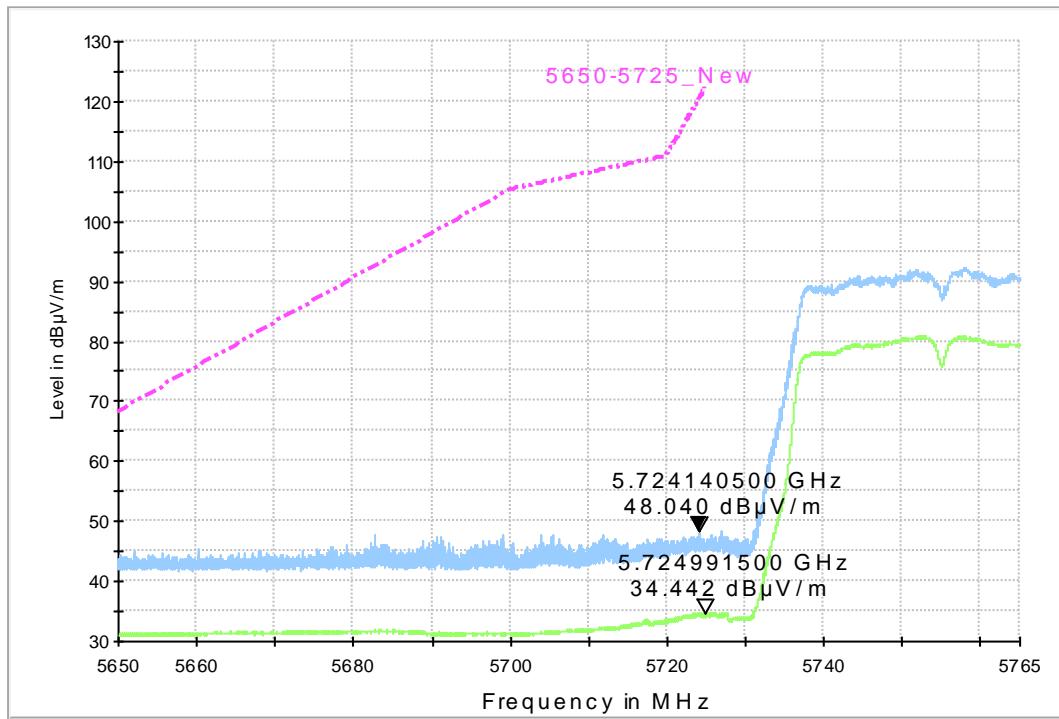


Fig. 91 Band Edges (802.11ac-HT40, 5755MHz)

R E - Power-5.810GHz-5.925GHz

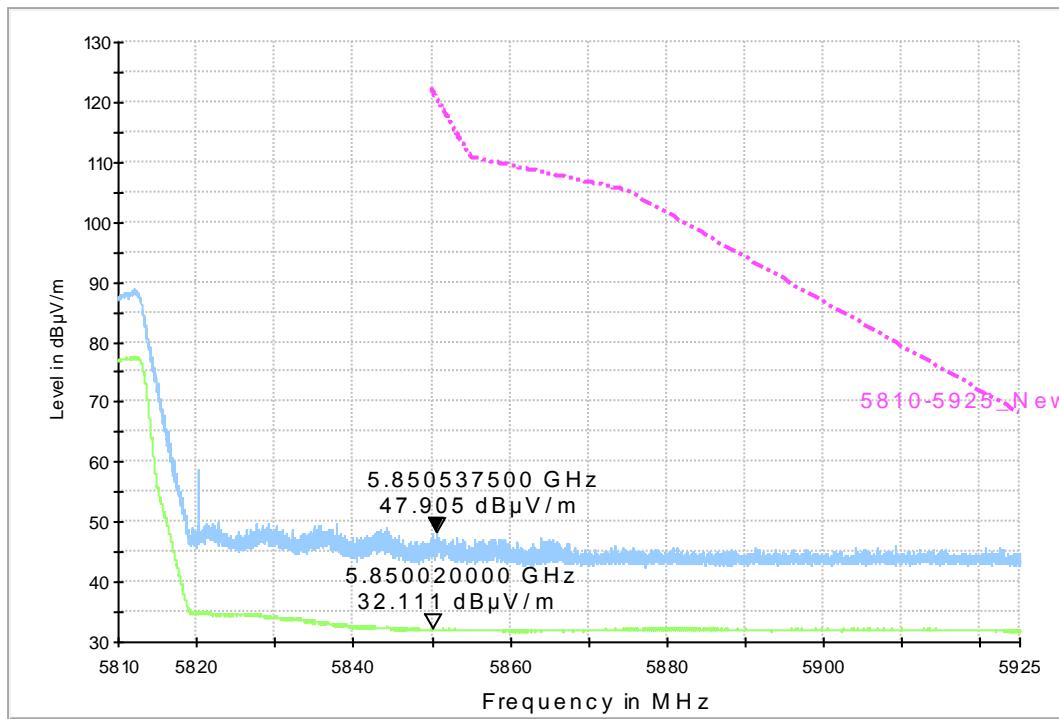


Fig. 92 Band Edges (802.11ac-HT40, 5795MHz)

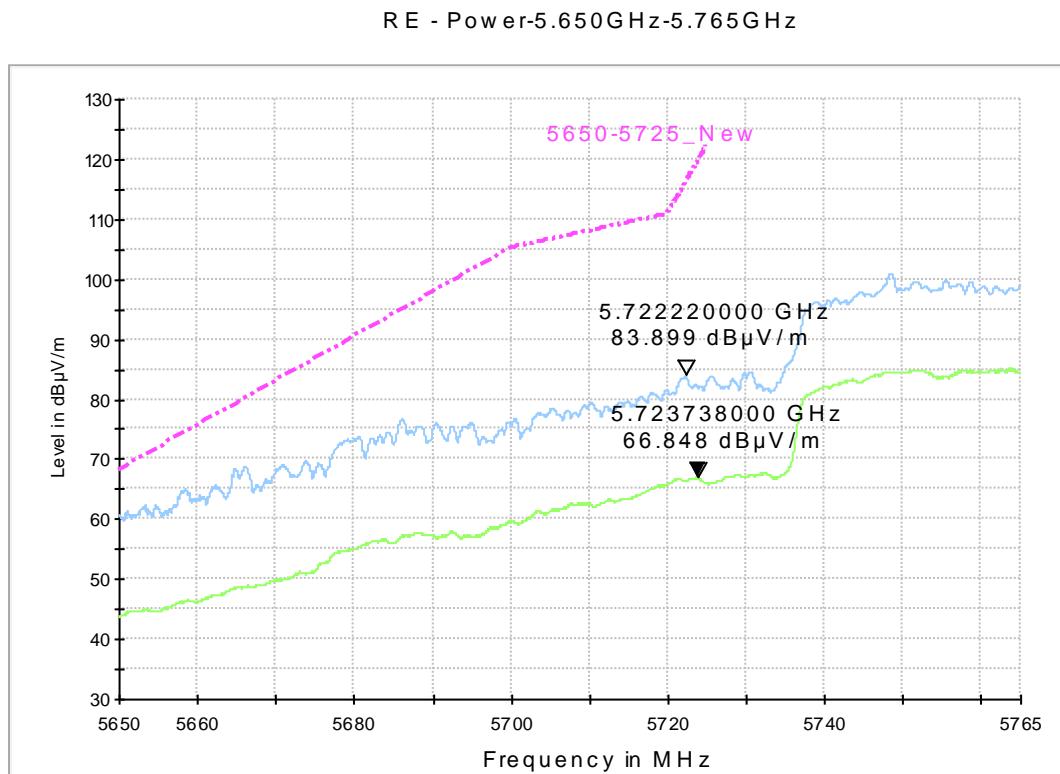


Fig. 93 Band Edges (802.11ac-HT80, 5775MHz)

A.7. AC Powerline Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
110	60

Measurement uncertainty:

Expanded measurement uncertainty for this test item is U = 3.2dB, k=2.

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion	
		With charger			
		802.11a	Idle		
0.15 to 0.5	66 to 56				
0.5 to 5	56			P	
5 to 30	60				

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

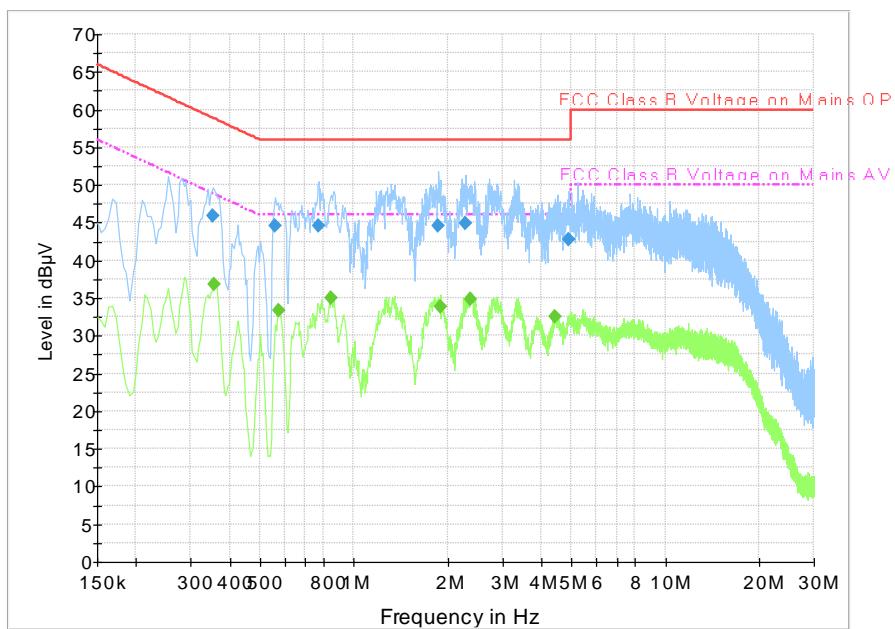
Frequency range (MHz)	Average Limit (dB μ V)	Result (dB μ V)		Conclusion	
		With charger			
		802.11a	Idle		
0.15 to 0.5	56 to 46				
0.5 to 5	46			P	
5 to 30	50				

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

The measurement is made according to ANSI C63.10 .

Conclusion: PASS

Test graphs as below:

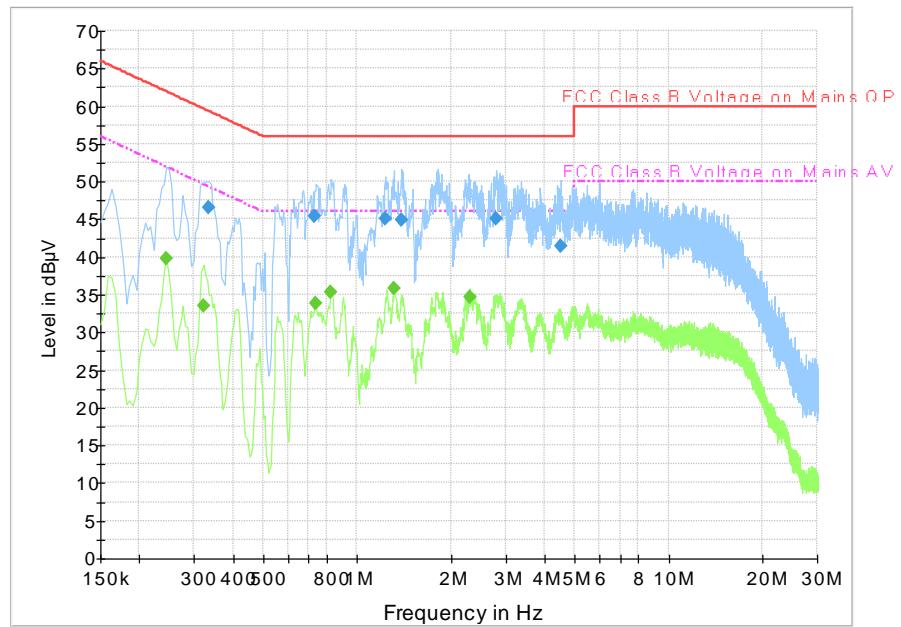

Fig. 94 AC Powerline Conducted Emission-802.11a

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.352500	46.0	2000.	9.000	On	L1	19.8	12.9	58.9	
0.559500	44.5	2000.	9.000	On	L1	19.9	11.5	56.0	
0.771000	44.6	2000.	9.000	On	L1	19.7	11.4	56.0	
1.873500	44.6	2000.	9.000	On	L1	19.7	11.4	56.0	
2.283000	44.9	2000.	9.000	On	L1	19.7	11.1	56.0	
4.884000	42.8	2000.	9.000	On	L1	19.6	13.2	56.0	

Final Result 2

Frequency (MHz)	Average (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.357000	36.8	2000.	9.000	On	L1	19.8	12.0	48.8	
0.573000	33.3	2000.	9.000	On	L1	19.9	12.7	46.0	
0.843000	34.9	2000.	9.000	On	L1	19.7	11.1	46.0	
1.891500	33.9	2000.	9.000	On	L1	19.7	12.1	46.0	
2.373000	34.8	2000.	9.000	On	L1	19.7	11.2	46.0	
4.443000	32.5	2000.	9.000	On	L1	19.6	13.5	46.0	


Fig. 95 AC Powerline Conducted Emission-Idle
Final Result 1

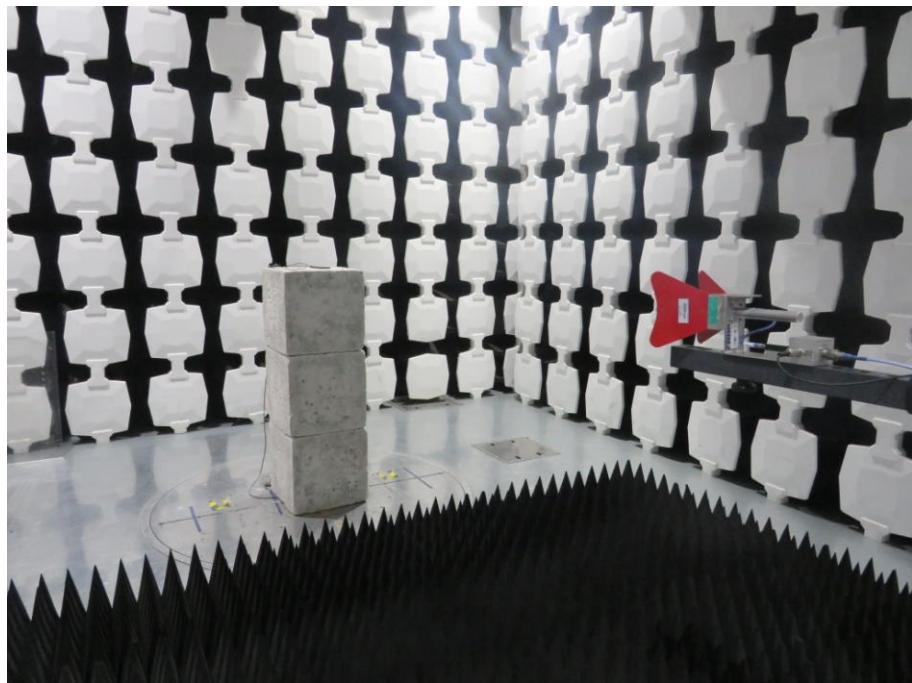
Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.334500	46.5	2000.	9.000	On	L1	19.8	12.9	59.3	
0.730500	45.4	2000.	9.000	On	L1	19.8	10.6	56.0	
1.230000	45.1	2000.	9.000	On	L1	19.6	10.9	56.0	
1.387500	44.9	2000.	9.000	On	L1	19.6	11.1	56.0	
2.805000	45.1	2000.	9.000	On	L1	19.7	10.9	56.0	
4.497000	41.4	2000.	9.000	On	L1	19.6	14.6	56.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.244500	39.8	2000.	9.000	On	L1	19.8	12.2	51.9	
0.321000	33.6	2000.	9.000	On	L1	19.8	16.1	49.7	
0.735000	33.8	2000.	9.000	On	L1	19.8	12.2	46.0	
0.825000	35.3	2000.	9.000	On	L1	19.7	10.7	46.0	
1.315500	35.8	2000.	9.000	On	L1	19.6	10.2	46.0	
2.305500	34.6	2000.	9.000	On	L1	19.7	11.4	46.0	

ANNEX B: PHOTOGRAPHS OF THE TEST SET-UP

Layout of Radiated Spurious Emission Test



Layout of Conducted Emission Test





ANNEX C: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT

Beijing
China

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Electromagnetic Compatibility & Telecommunications

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2016-09-29 through 2017-09-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program

*** END OF REPORT BODY ***