EUT ID: EUT2(UT15a)

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger QC13US(BYD)		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.75	Fig.76	P
0.5 to 5	56			
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 (dBμV)	Result (dBμV)		Conclusion
		With charger QC13US(BYD)		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.75	Fig.76	P
0.5 to 5	46			
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.				

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger QC13US(PUAN)		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.77	/	P
0.5 to 5	56			
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 (dBμV)	Result (dBμV)		Conclusion
		With charger QC13US(PUAN)		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.77	/	P
0.5 to 5	46			
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.				

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger UC13US(PUAN)		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.78	/	P
0.5 to 5	56			
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 (dBμV)	Result (dBμV)		Conclusion
		With charger UC13US(PUAN)		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.78	/	P
0.5 to 5	46			
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.				

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger UC13US(PUAN)		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.79	/	P
0.5 to 5	56			
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 (dBμV)	Result (dBμV)		Conclusion
		With charger UC13US(PUAN)		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.79	/	P
0.5 to 5	46			
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.				

Conclusion: PASS

Test graphs as below:

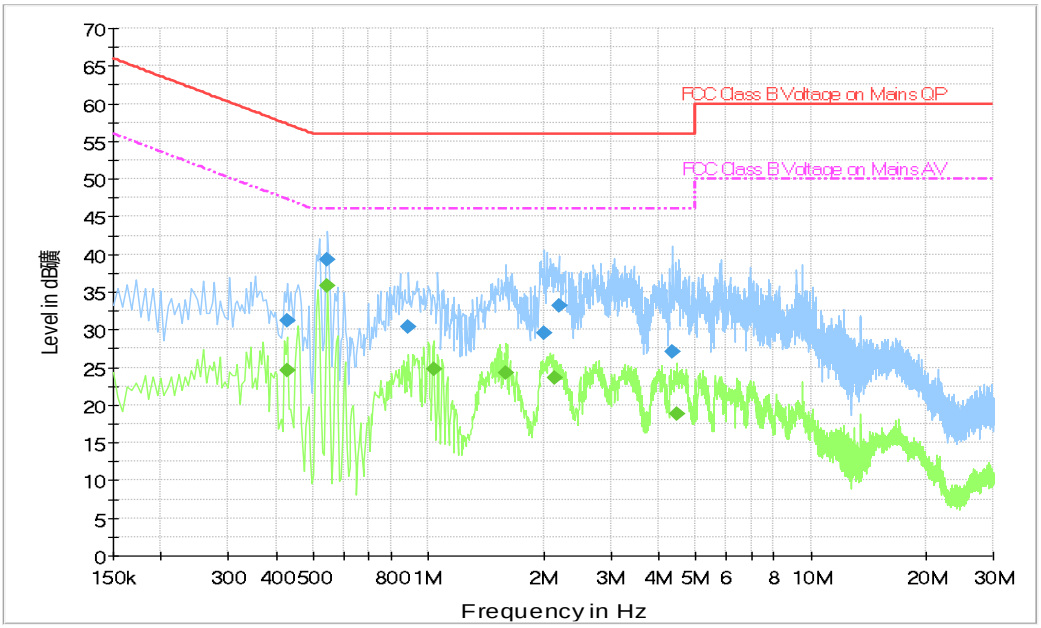

Fig.75 Conducted Emission(802.11a, Ch40, TX) ,charger QC13US(BYD)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.429000	31.2	N	19.6	26.1	57.3
0.546000	39.3	N	19.5	16.7	56.0
0.888000	30.3	N	19.5	25.7	56.0
2.013000	29.6	N	19.5	26.4	56.0
2.197500	33.2	N	19.6	22.8	56.0
4.362000	27.1	N	19.7	28.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.429000	24.6	L1	19.6	22.7	47.3
0.546000	35.8	L1	19.6	10.2	46.0
1.032000	24.8	L1	19.6	21.2	46.0
1.599000	24.3	L1	19.6	21.7	46.0
2.143500	23.6	L1	19.6	22.4	46.0
4.474500	18.8	N	19.7	27.2	46.0

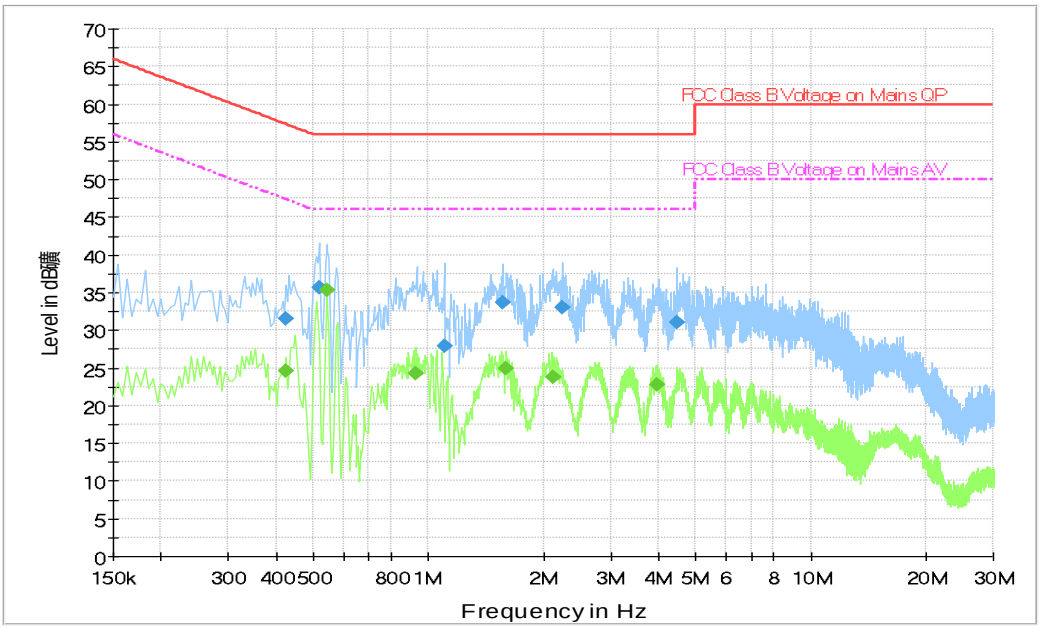

Fig.76 Conducted Emission(802.11a, IDLE) ,charger QC13US(BYD)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.424500	31.5	N	19.6	25.8	57.4
0.519000	35.7	N	19.5	20.3	56.0
1.099500	28.0	N	19.6	28.0	56.0
1.567500	33.6	N	19.6	22.4	56.0
2.247000	33.0	N	19.6	23.0	56.0
4.474500	31.0	N	19.7	25.0	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.424500	24.6	N	19.6	22.8	47.4
0.541500	35.3	L1	19.6	10.7	46.0
0.924000	24.3	L1	19.6	21.7	46.0
1.594500	24.9	L1	19.6	21.1	46.0
2.130000	23.7	L1	19.5	22.3	46.0
3.948000	22.8	L1	19.7	23.2	46.0

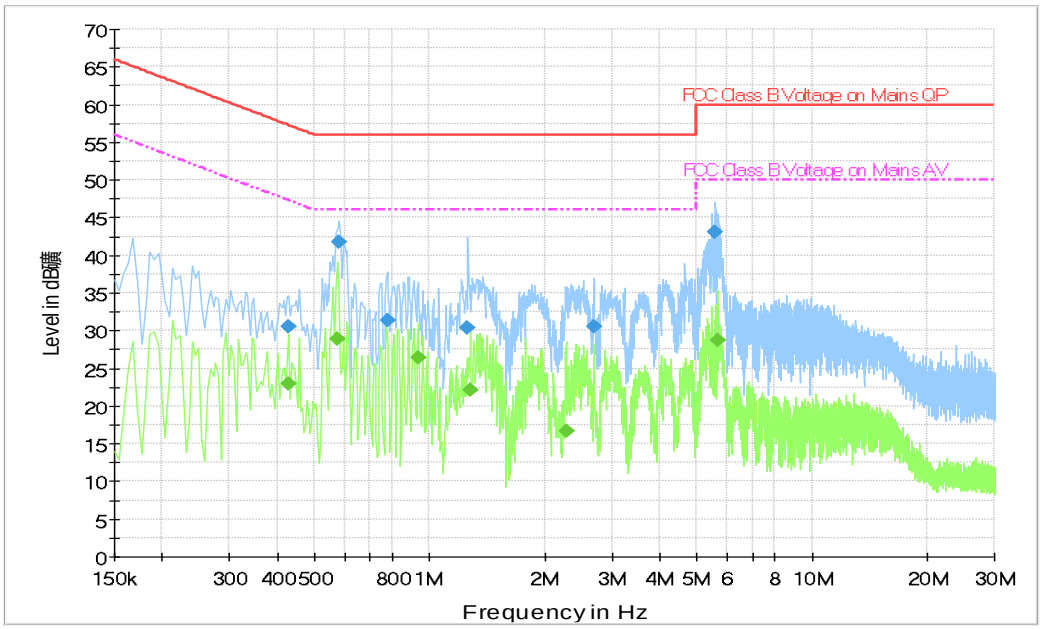

Fig.77 Conducted Emission(802.11a, Ch40, TX) , charger QC13US(PUAN)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.429000	30.5	N	19.6	26.8	57.3
0.582000	41.7	L1	19.6	14.3	56.0
0.775500	31.4	L1	19.6	24.6	56.0
1.261500	30.3	N	19.6	25.7	56.0
2.701500	30.6	N	19.6	25.4	56.0
5.595000	43.1	L1	19.8	16.9	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.429000	22.9	N	19.6	24.4	47.3
0.573000	28.9	N	19.5	17.1	46.0
0.933000	26.4	N	19.6	19.6	46.0
1.279500	22.2	N	19.6	23.8	46.0
2.274000	16.7	N	19.6	29.3	46.0
5.671500	28.7	L1	19.8	21.3	50.0

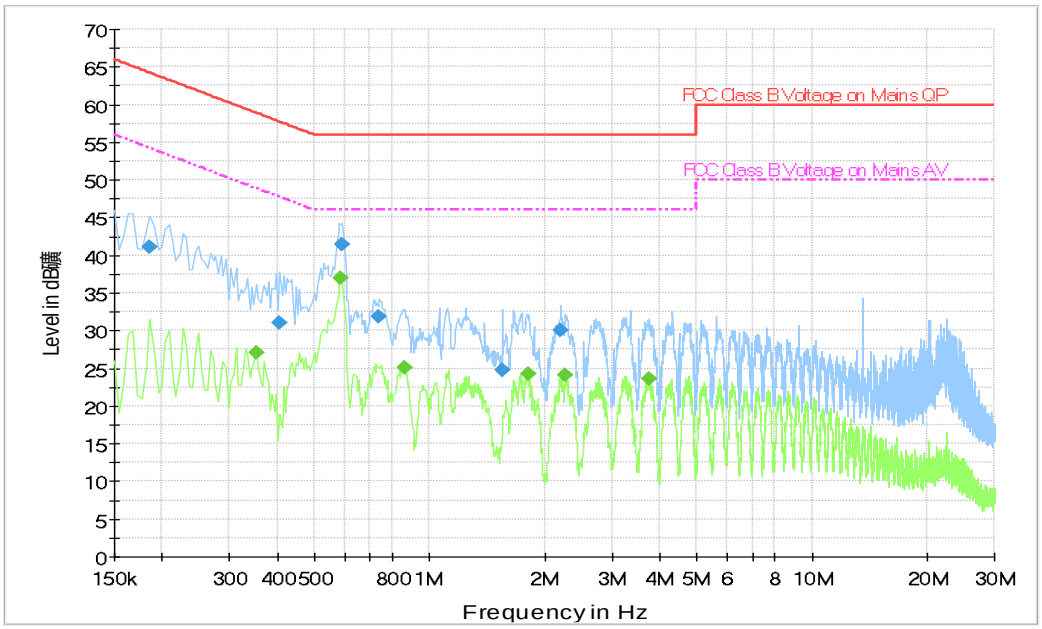

Fig.78 Conducted Emission(802.11a, Ch40, TX) , charger UC13US(PUAN)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.186000	41.0	L1	19.7	23.2	64.2
0.406500	31.1	L1	19.6	26.6	57.7
0.591000	41.5	L1	19.6	14.5	56.0
0.739500	31.9	L1	19.6	24.1	56.0
1.549500	24.8	L1	19.6	31.2	56.0
2.202000	30.0	L1	19.6	26.0	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.352500	27.1	L1	19.6	21.9	48.9
0.586500	37.0	L1	19.6	9.0	46.0
0.861000	25.1	L1	19.6	20.9	46.0
1.806000	24.2	L1	19.5	21.8	46.0
2.269500	24.1	L1	19.6	21.9	46.0
3.736500	23.5	L1	19.7	22.5	46.0

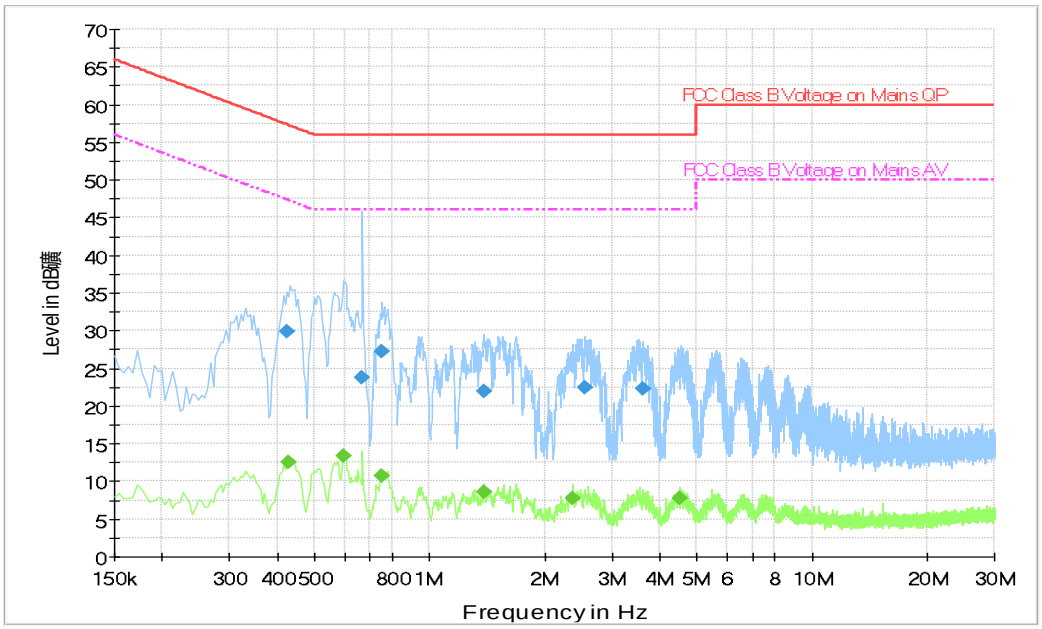

Fig.79 Conducted Emission(802.11a, Ch40, TX) , charger UC13US(Chen Yang)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.424500	29.8	L1	19.6	27.5	57.4
0.667500	23.8	L1	19.6	32.2	56.0
0.753000	27.2	L1	19.6	28.8	56.0
1.387500	22.0	L1	19.6	34.0	56.0
2.548500	22.5	L1	19.6	33.5	56.0
3.619500	22.2	L1	19.7	33.8	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.429000	12.6	L1	19.6	34.7	47.3
0.595500	13.4	L1	19.6	32.6	46.0
0.753000	10.7	L1	19.6	35.3	46.0
1.387500	8.6	L1	19.6	37.4	46.0
2.373000	7.8	L1	19.6	38.2	46.0
4.497000	7.7	L1	19.8	38.3	46.0

A.8. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% ofthe total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Frequency	99% Occupied bandwidth (MHz)		conclusion
802.11a	5180 MHz	Fig.80	17.20	P
	5200 MHz	Fig.81	17.12	P
	5240 MHz	Fig.82	17.16	P
802.11n HT20	5180 MHz	Fig.83	18.28	P
	5200 MHz	Fig.84	18.28	P
	5240 MHz	Fig.85	18.28	P
802.11ac HT20	5180 MHz	Fig.86	18.24	P
	5200 MHz	Fig.87	18.28	P
	5240 MHz	Fig.88	18.24	P
802.11n HT40	5190 MHz	Fig.89	36.40	P
	5230 MHz	Fig.90	36.32	P
802.11ac	5190 MHz	Fig.91	36.40	P

HT40	5230 MHz	Fig.92	36.24	P
802.11ac HT80	5210 MHz	Fig.93	75.83	P

Conclusion: PASS

Test graphs as below:

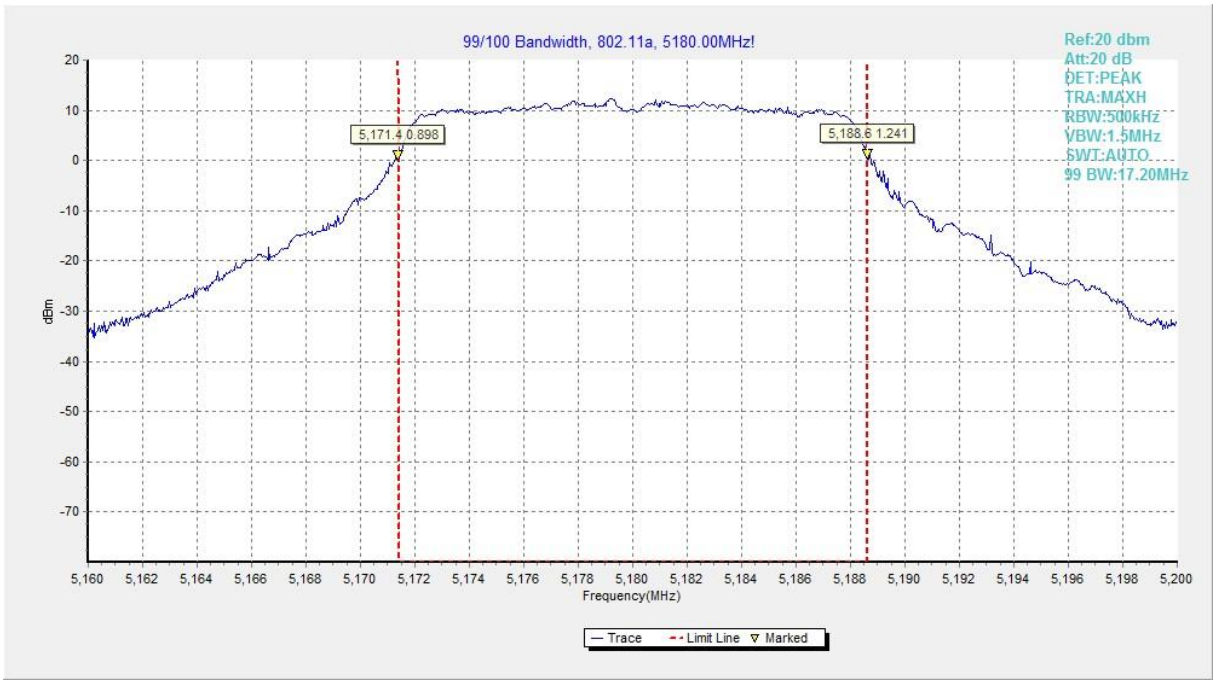

Fig.80 99% Occupied bandwidth (802.11a, 5180MHz)

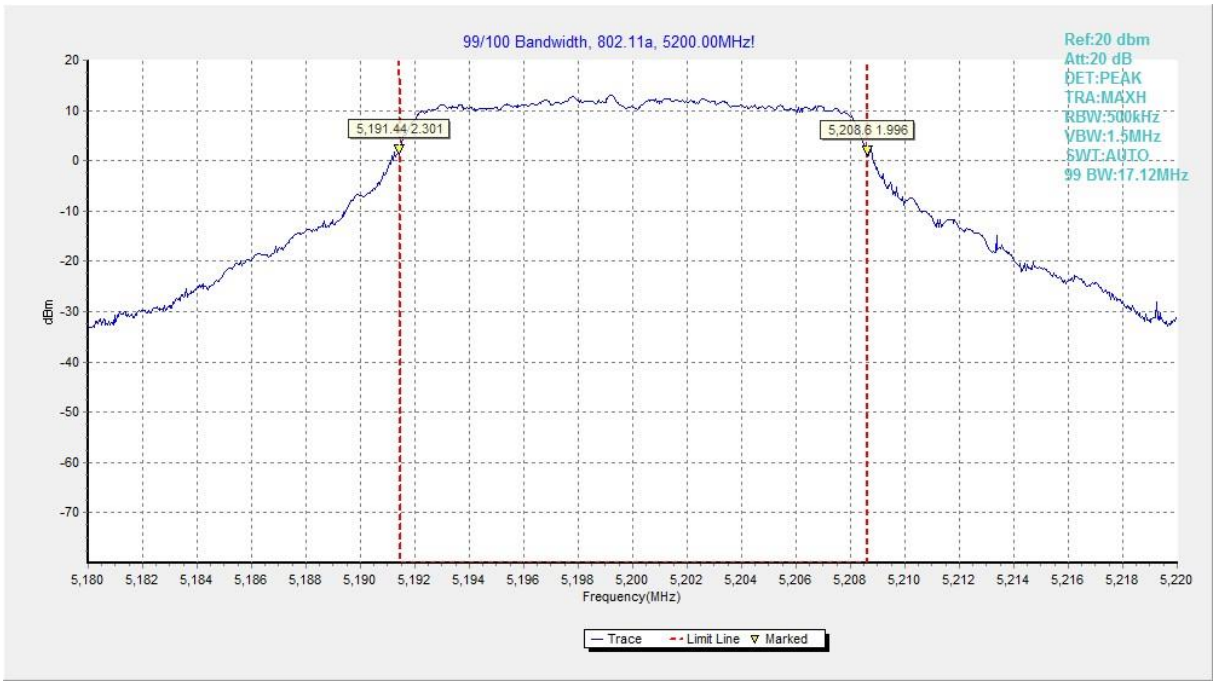

Fig.81 99% Occupied bandwidth (802.11a, 5200MHz)

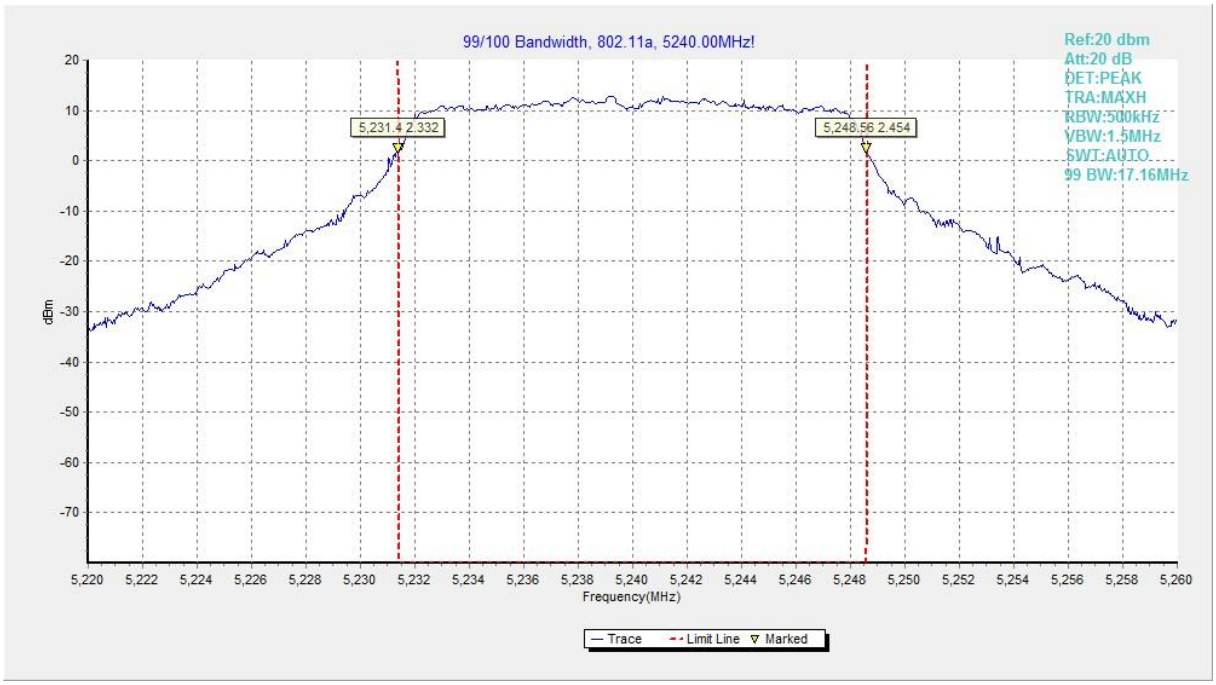

Fig.82 99% Occupied bandwidth (802.11a, 5240MHz)

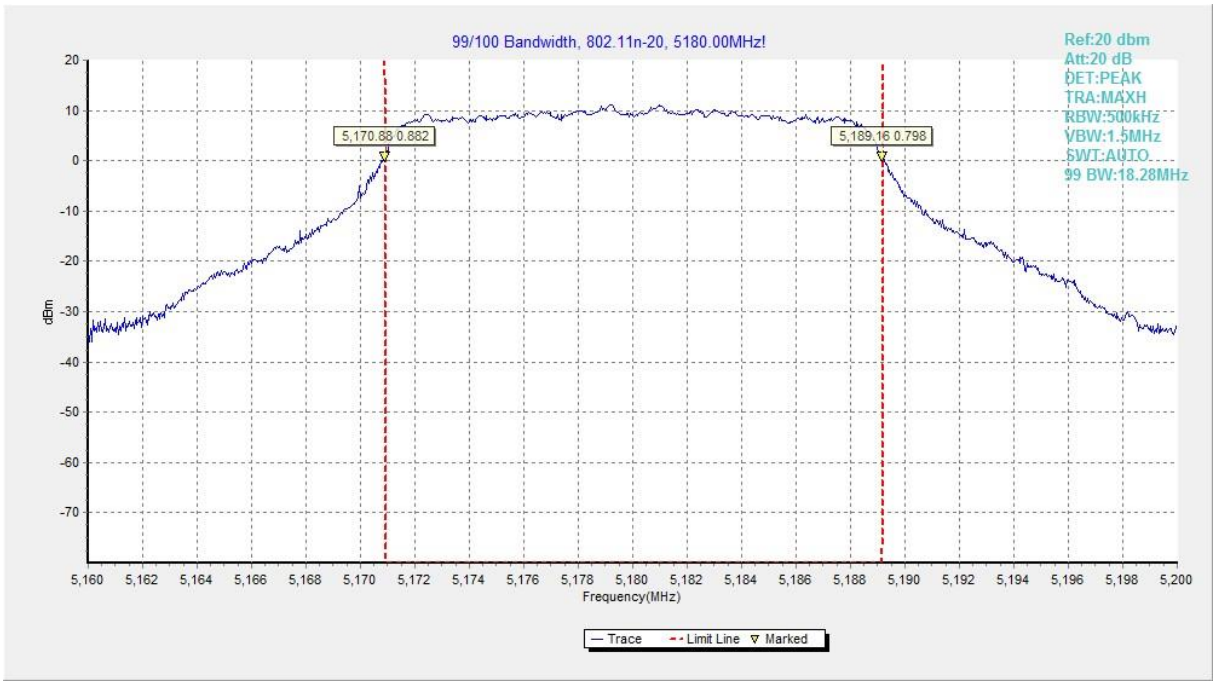

Fig.83 99% Occupied bandwidth (802.11n-HT20, 5180MHz)

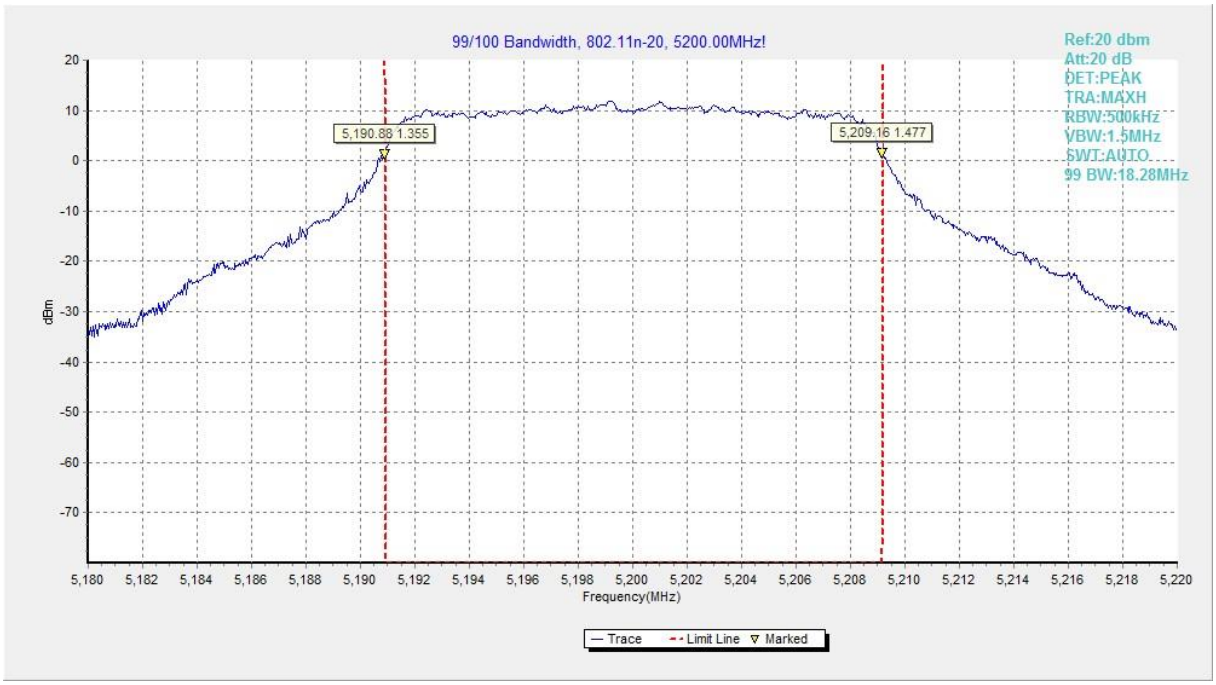

Fig.84 99% Occupied bandwidth (802.11n-HT20, 5200MHz)

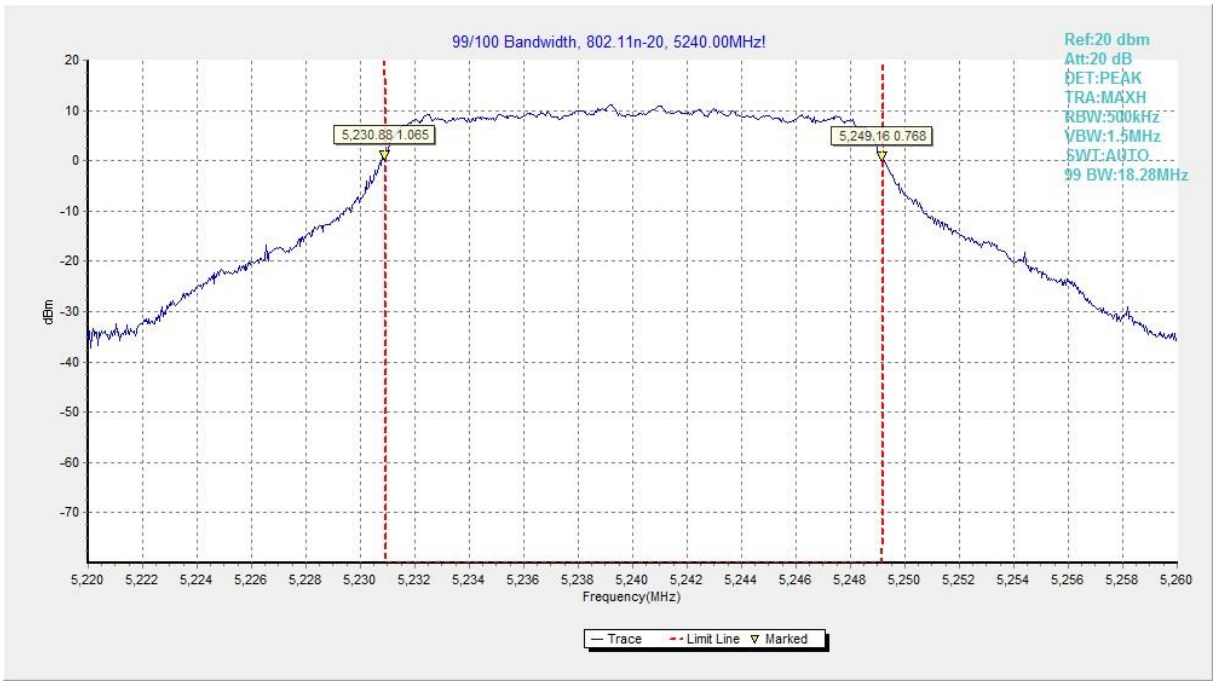

Fig.85 99% Occupied bandwidth (802.11n-HT20, 5240MHz)

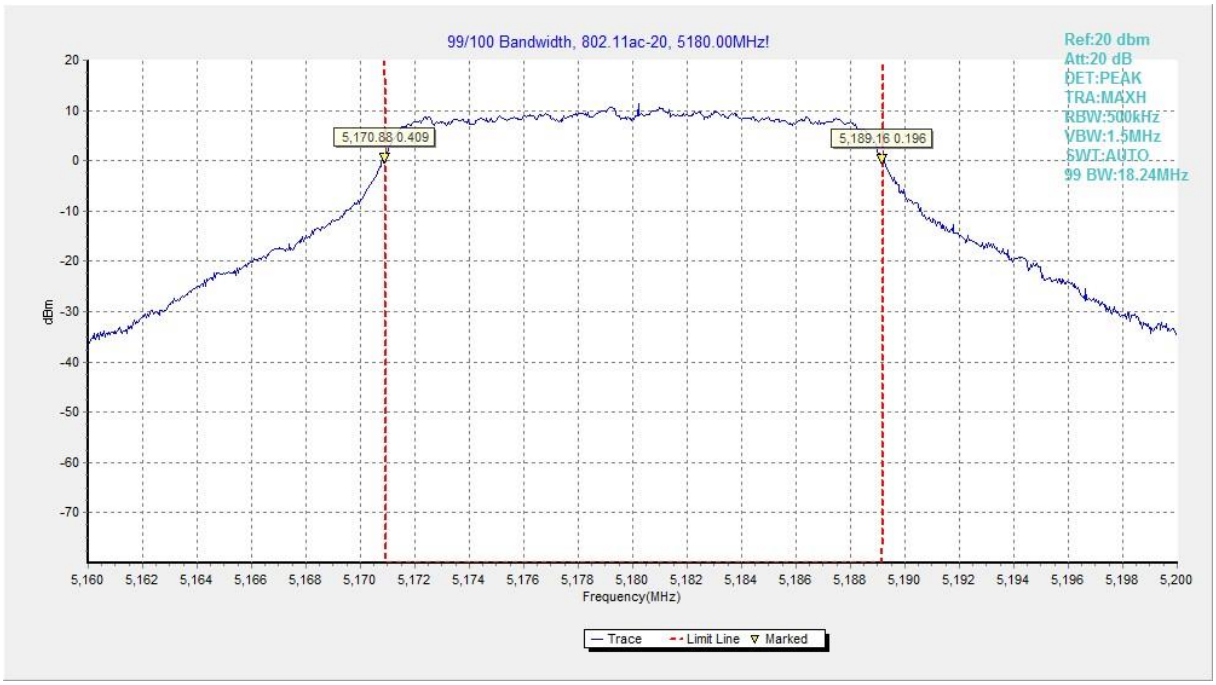

Fig.86 99% Occupied bandwidth (802.11ac-HT20, 5180MHz)

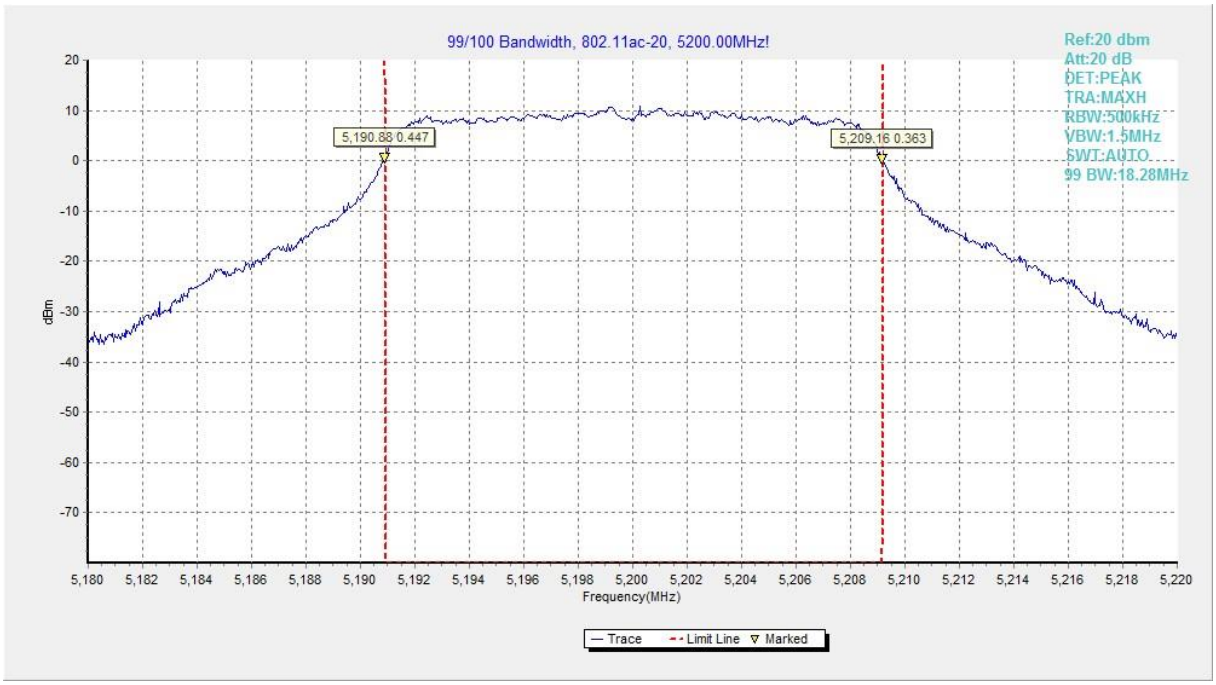

Fig.87 99% Occupied bandwidth (802.11ac-HT20, 5200MHz)

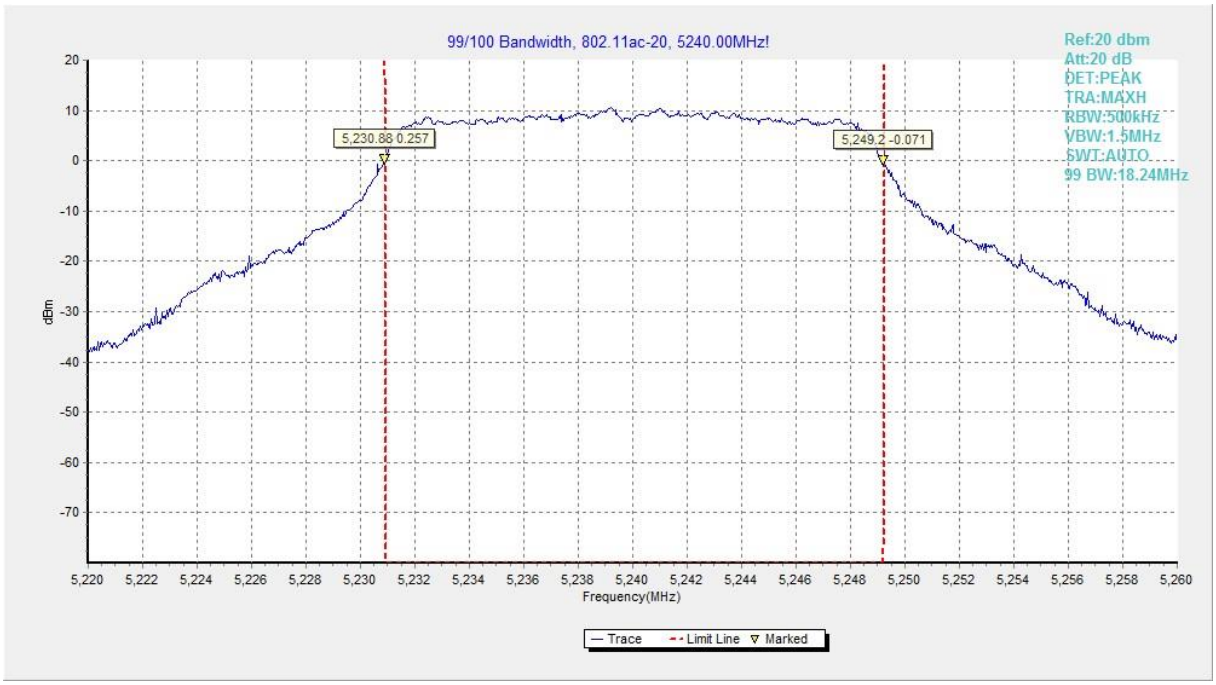

Fig.88 99% Occupied bandwidth (802.11ac-HT20, 5240MHz)

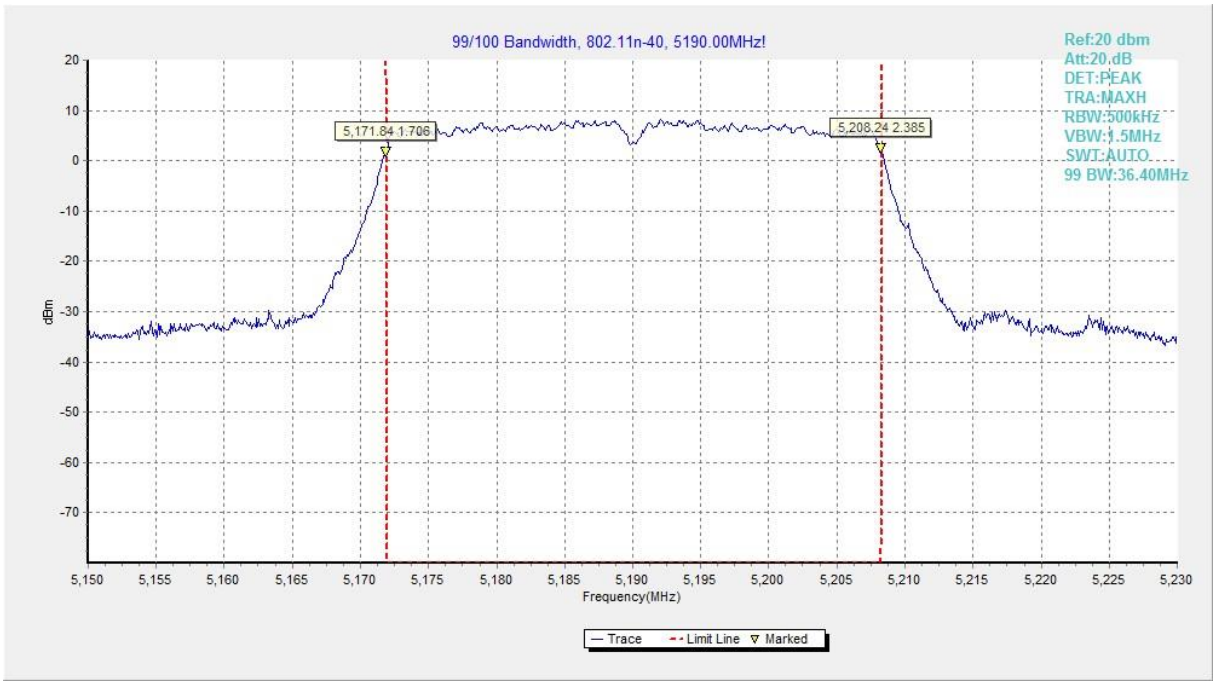

Fig.89 99% Occupied bandwidth (802.11n-HT40, 5190MHz)

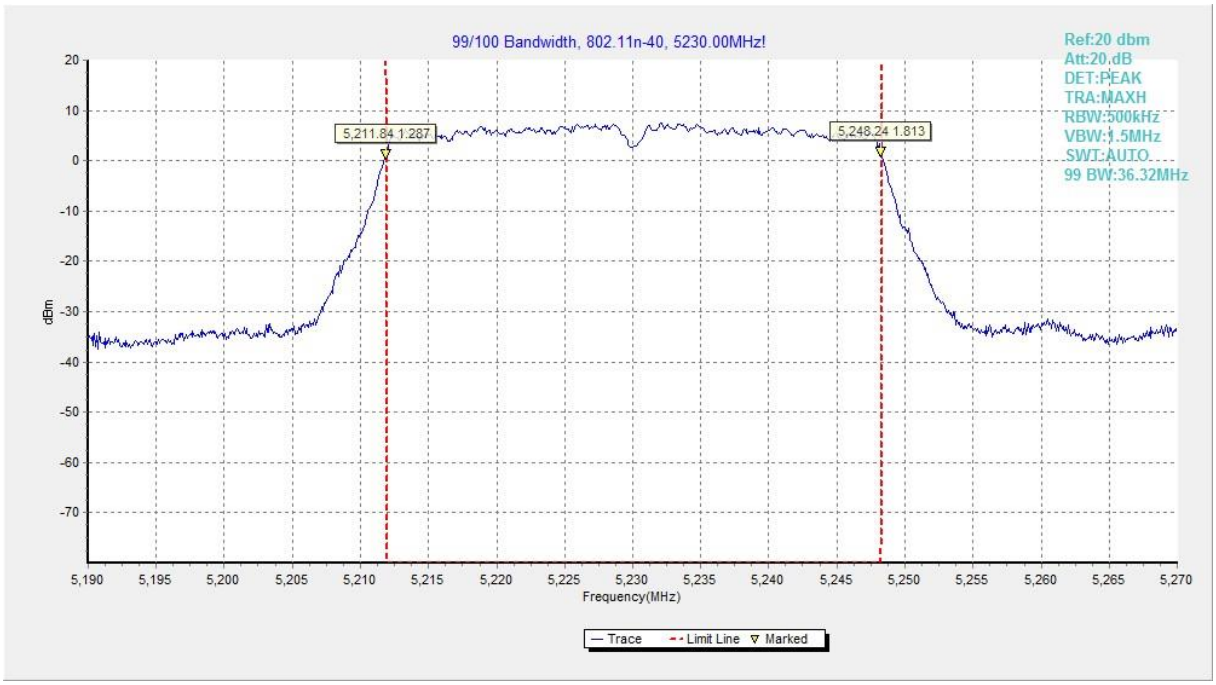

Fig.90 99% Occupied bandwidth (802.11n-HT40, 5230MHz)

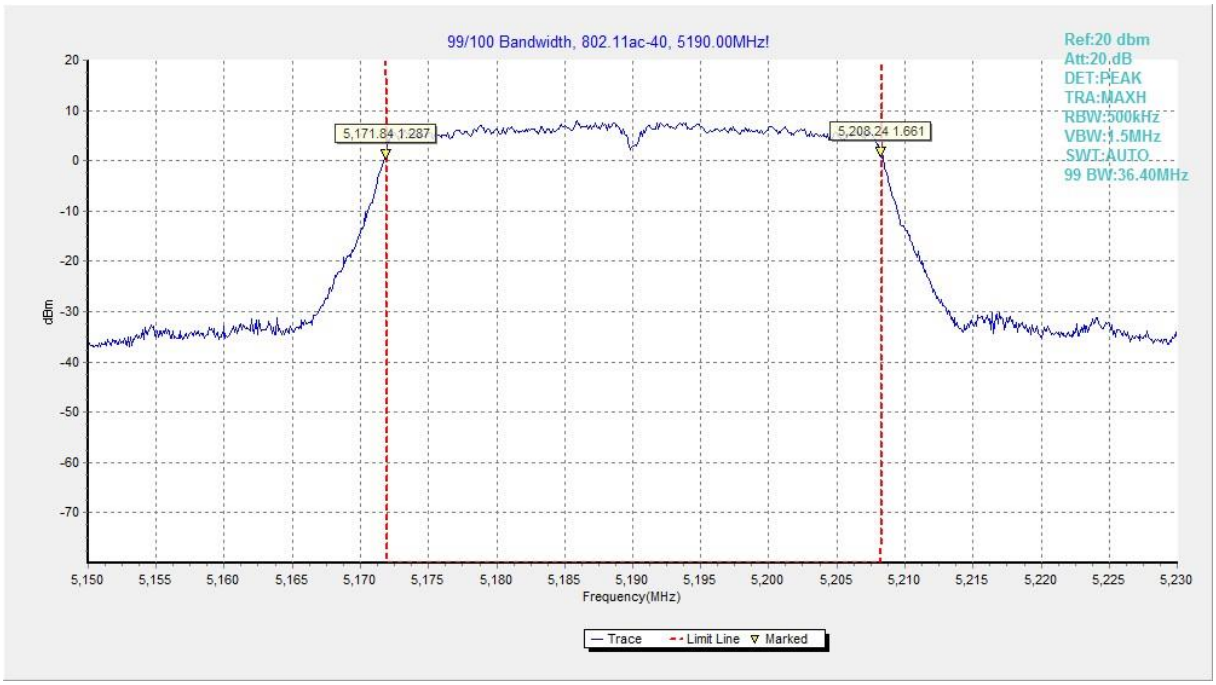

Fig.91 99% Occupied bandwidth (802.11ac-HT40, 5190MHz)

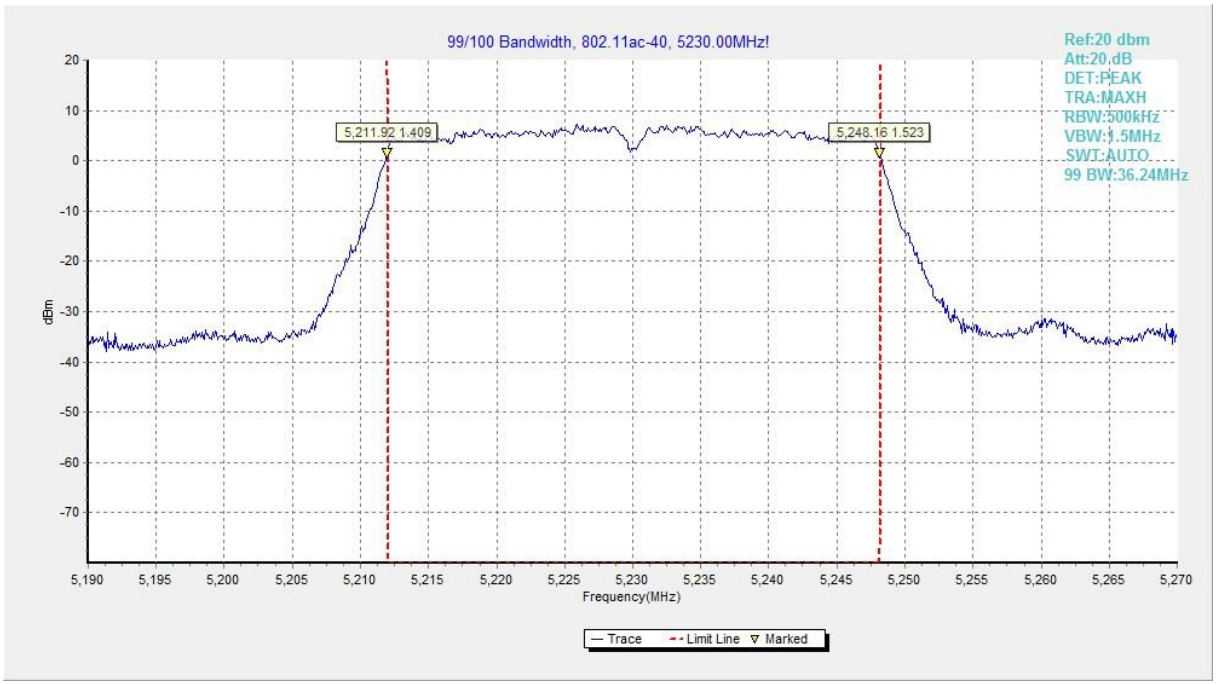

Fig.92 99% Occupied bandwidth (802.11ac-HT40, 5230MHz)

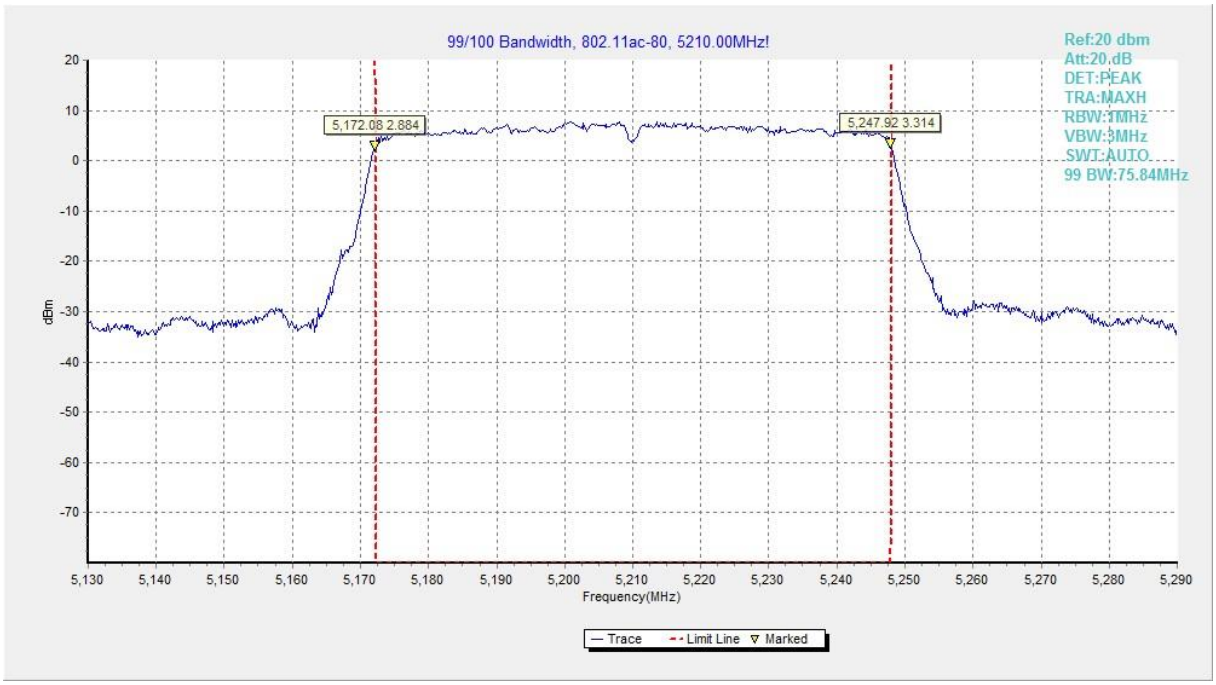

Fig.93 99% Occupied bandwidth (802.11ac-HT80, 5210MHz)

A.9. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

ANNEX B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ilac-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

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 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-09-29 through 2021-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

***** END OF REPORT BODY *****