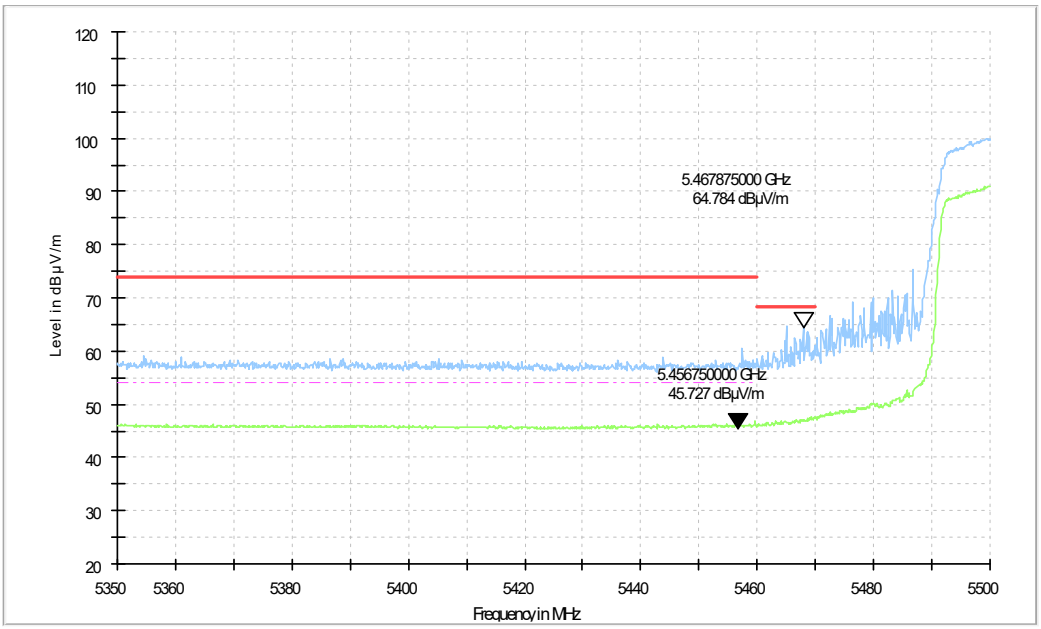


Fig. 19 Band Edges (802.11ac-HT40 Ch102, 5510MHz)

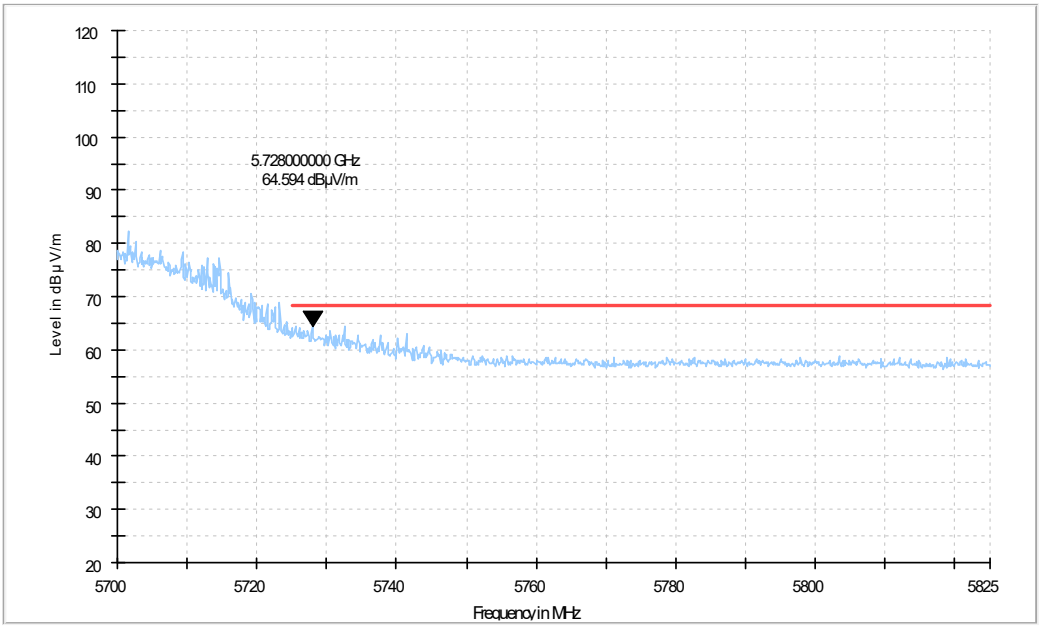


Fig. 20 Band Edges (802.11ac-HT40 Ch134, 5670MHz)

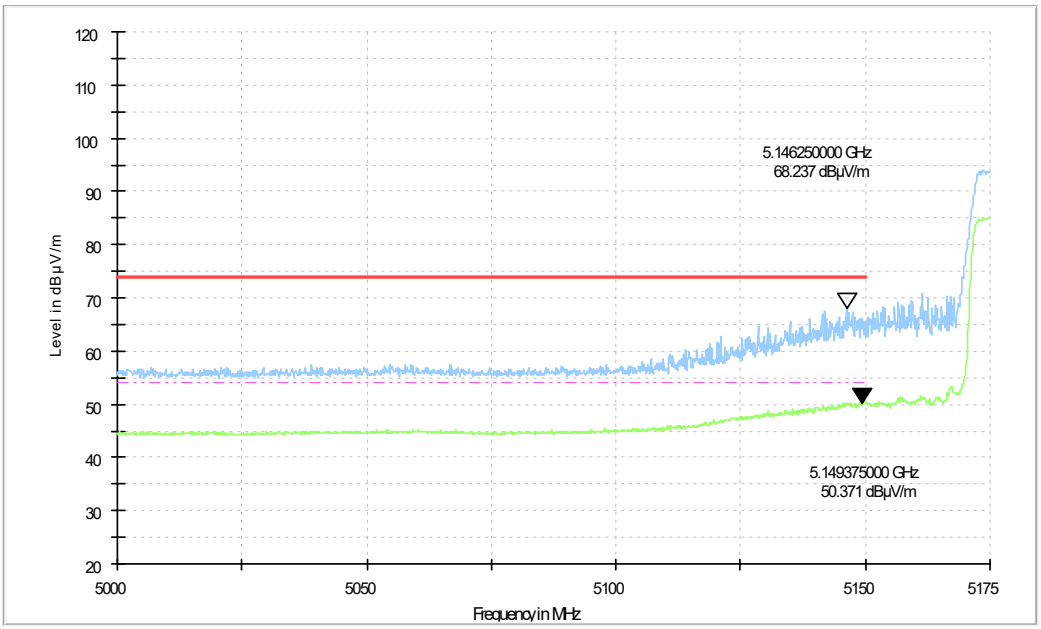


Fig. 21 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)

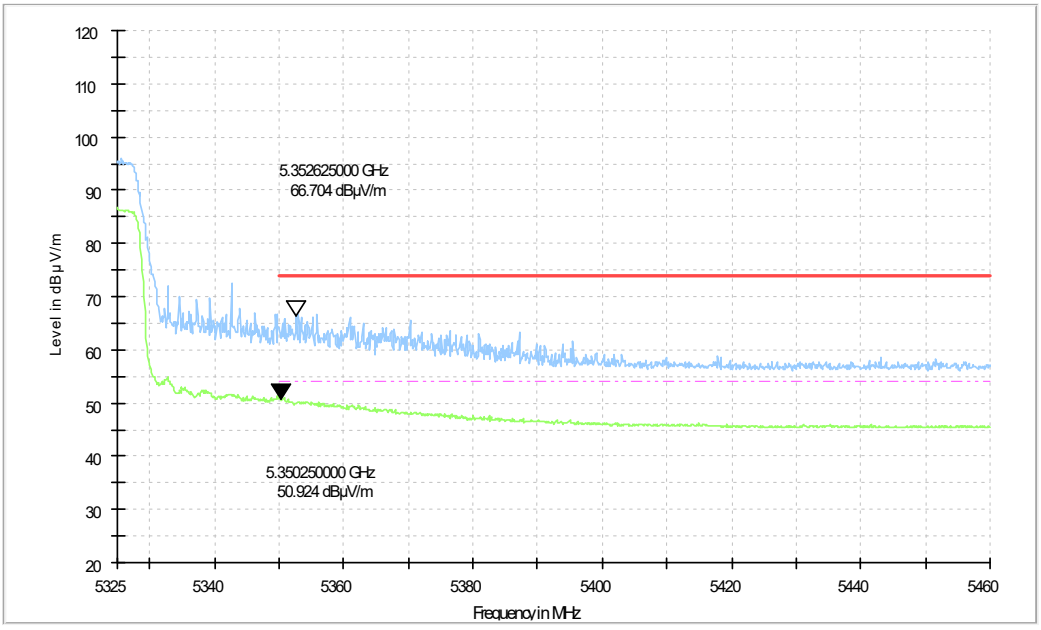


Fig. 22 Band Edges (802.11ac-HT80 Ch58, 5290MHz)

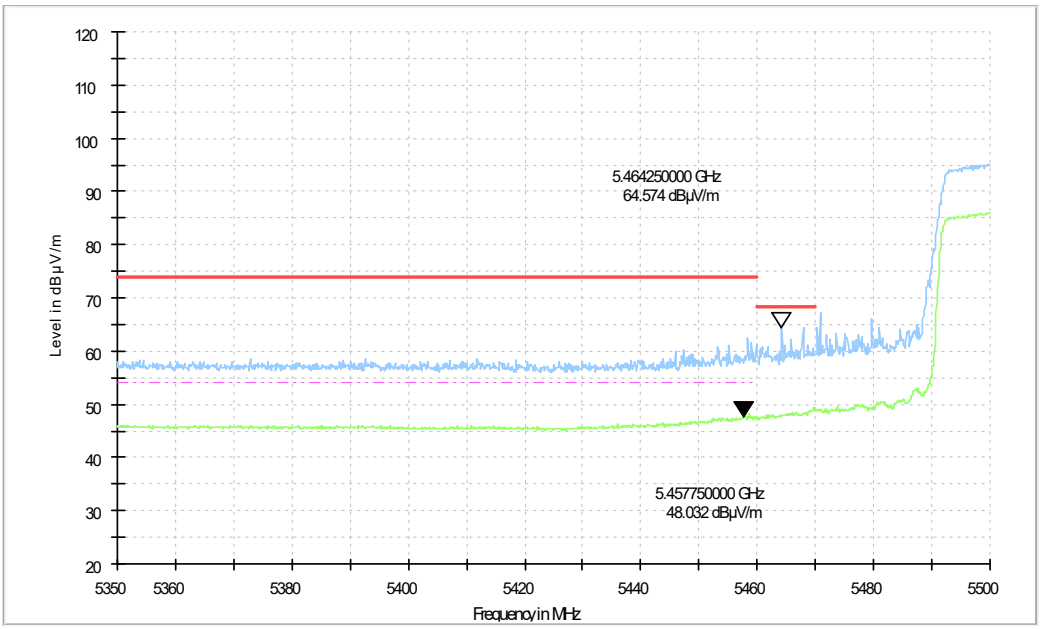


Fig. 23 Band Edges (802.11ac-HT80 Ch106, 5530MHz)

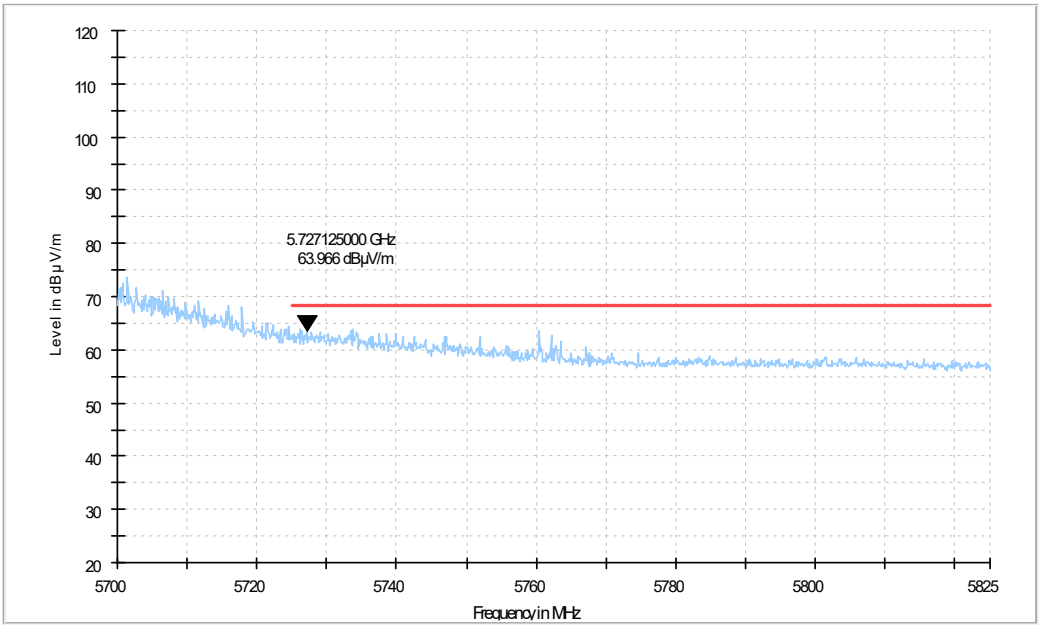


Fig. 24 Band Edges (802.11ac-HT80 Ch122, 5610MHz)

A.6. AC Powerline Conducted Emission (150kHz- 30MHz)

A.6.1 Summary

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section

A.6.2 Method of Measurement

See Clause 6.2 of ANSI C63.10 specifically.

See Clause 4 and Clause 5 of ANSI C63.10 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

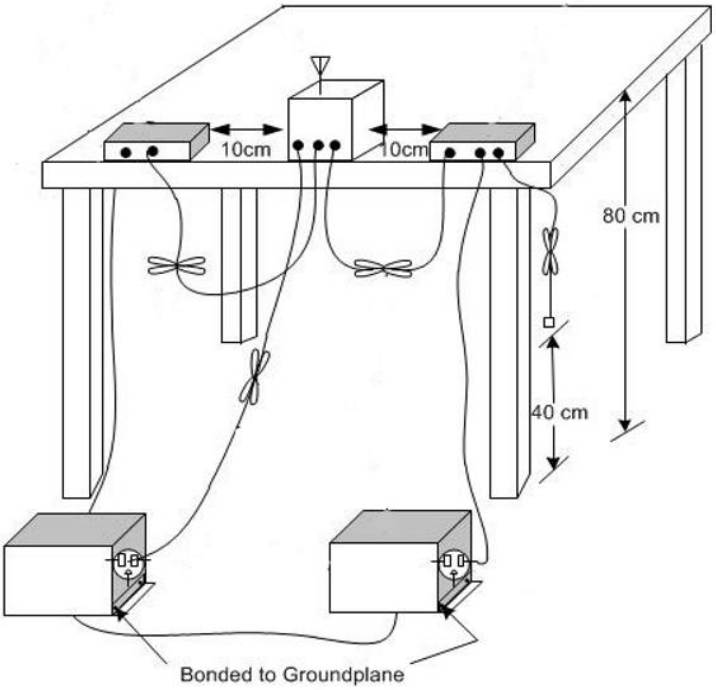
The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/IF bandwidth
0.15-30	9kHz

A.6.3 Test Condition

Voltage（V）	Frequency（Hz）
120	60

A.6.4 Test setup



Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.25	Fig.26	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		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.25	Fig.26	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:

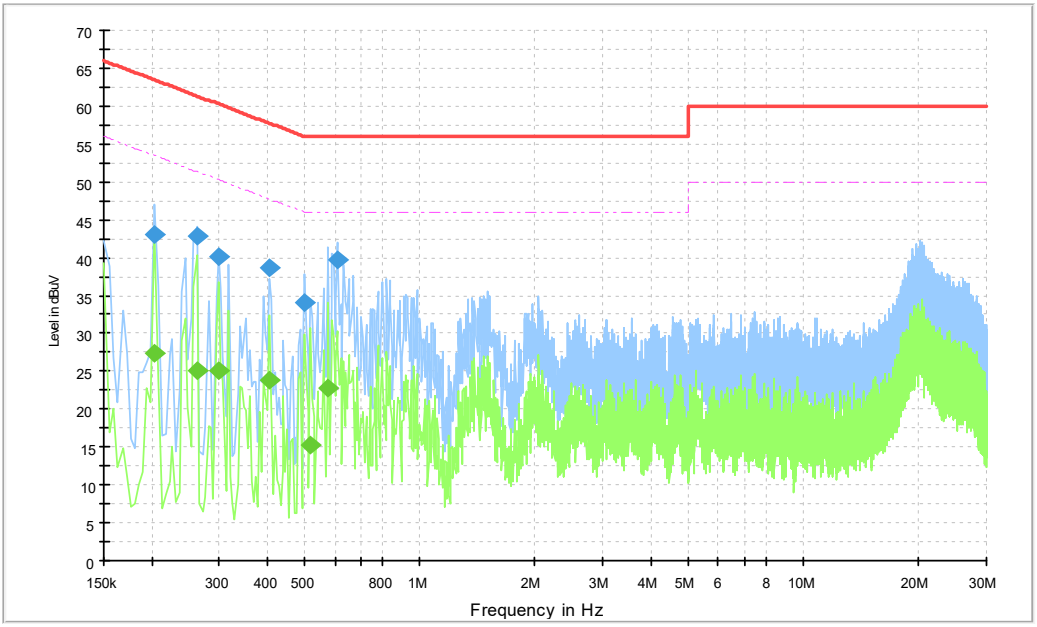


Fig.25 Conducted Emission (802.11a, TX)

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.204000	43.1	2000.0	9.000	On	N	20.1	20.4	63.4
0.262500	42.8	2000.0	9.000	On	L1	20.1	18.5	61.4
0.298500	40.2	2000.0	9.000	On	L1	20.0	20.1	60.3
0.406500	38.6	2000.0	9.000	On	L1	20.1	19.1	57.7
0.501000	34.0	2000.0	9.000	On	L1	20.1	22.0	56.0
0.609000	39.7	2000.0	9.000	On	L1	20.0	16.3	56.0

Measurement Result:

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.204000	27.5	2000.0	9.000	On	N	20.1	26.0	53.4
0.262500	25.0	2000.0	9.000	On	L1	20.1	26.3	51.4
0.298500	25.0	2000.0	9.000	On	L1	20.0	25.2	50.3
0.406500	23.8	2000.0	9.000	On	L1	20.1	23.9	47.7
0.519000	15.4	2000.0	9.000	On	N	20.2	30.6	46.0
0.577500	22.9	2000.0	9.000	On	L1	20.0	23.1	46.0

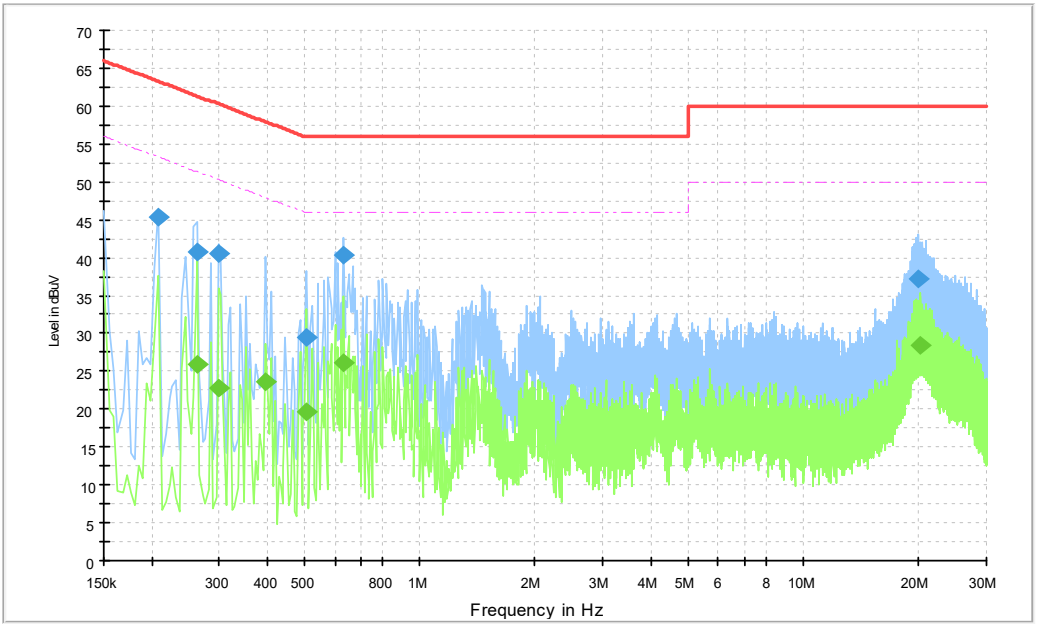


Fig.26 Conducted Emission (802.11a, IDLE)

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.208500	45.3	2000.0	9.000	On	L1	20.0	17.9	63.3
0.262500	40.8	2000.0	9.000	On	N	20.1	20.6	61.4
0.298500	40.5	2000.0	9.000	On	L1	20.0	19.8	60.3
0.505500	29.4	2000.0	9.000	On	N	20.2	26.6	56.0
0.631500	40.3	2000.0	9.000	On	L1	20.0	15.7	56.0
19.905000	37.2	2000.0	9.000	On	L1	20.0	22.8	60.0

Measurement Result:

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262500	25.9	2000.0	9.000	On	L1	20.1	25.5	51.4
0.298500	22.9	2000.0	9.000	On	N	20.1	27.4	50.3
0.397500	23.6	2000.0	9.000	On	L1	20.1	24.3	47.9
0.505500	19.7	2000.0	9.000	On	L1	20.1	26.3	46.0
0.631500	26.1	2000.0	9.000	On	L1	20.0	19.9	46.0
20.238000	28.4	2000.0	9.000	On	L1	20.1	21.6	50.0

A.7. 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:

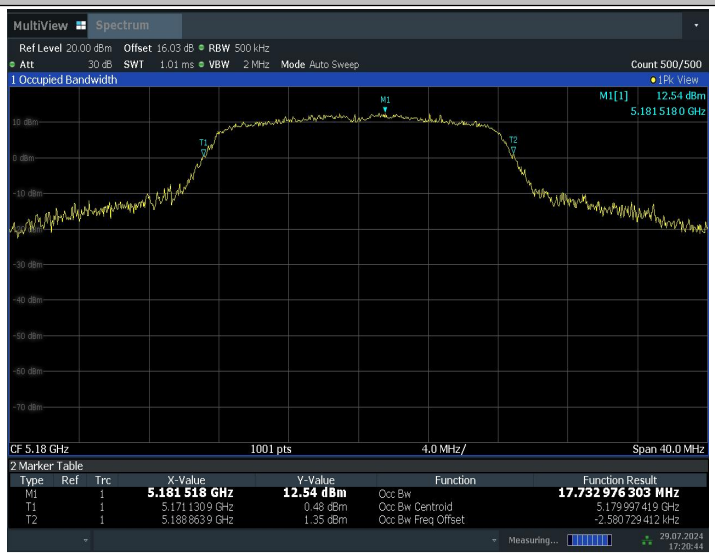
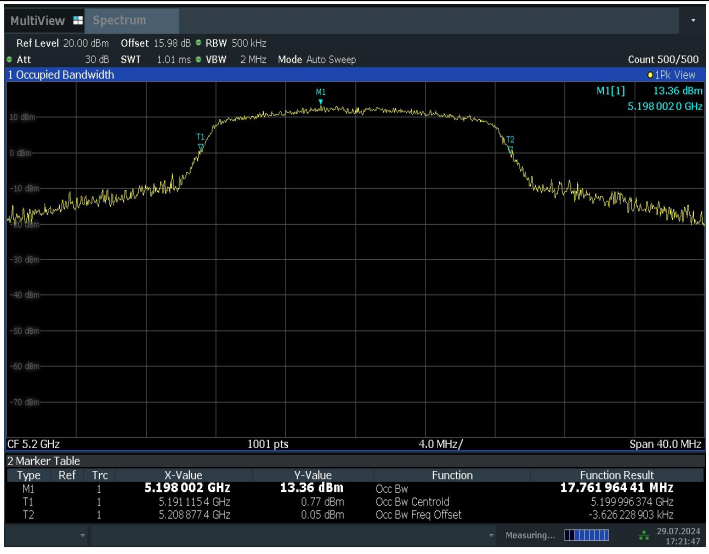
Measurement Uncertainty	60.80Hz

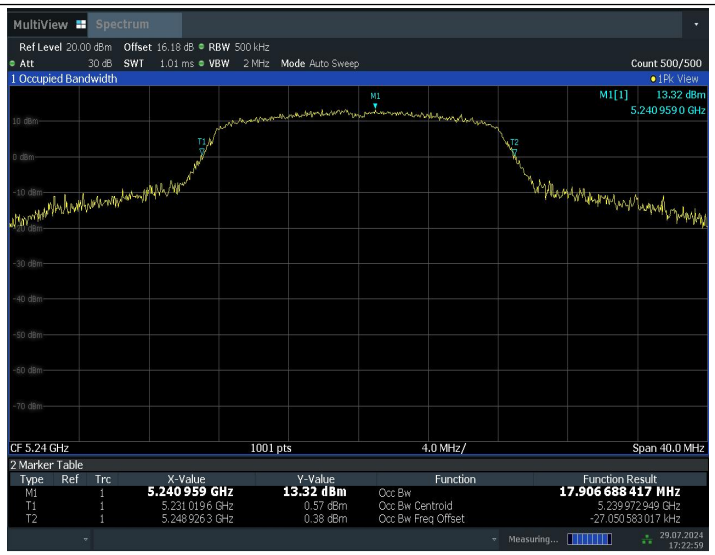
EUT ID: UT06a

Test Result

TestMode	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	5180	17.733	5171.1309	5188.8639	---	---
	5200	17.762	5191.1154	5208.8774	---	---
	5240	17.907	5231.0196	5248.9263	---	---
11N20	5180	18.573	5170.6723	5189.2453	---	---
	5200	18.403	5190.7576	5209.1604	---	---
	5240	18.509	5230.6968	5249.2057	---	---
11N40	5190	36.746	5171.6526	5208.3981	---	---
	5230	36.974	5211.5276	5248.5014	---	---
11AC80	5210	75.495	5172.2054	5247.6999	---	---

Test Graphs

11A_5180
 17:20:44 29.07.2024
11A_5200
 17:21:47 29.07.2024
11A_5240

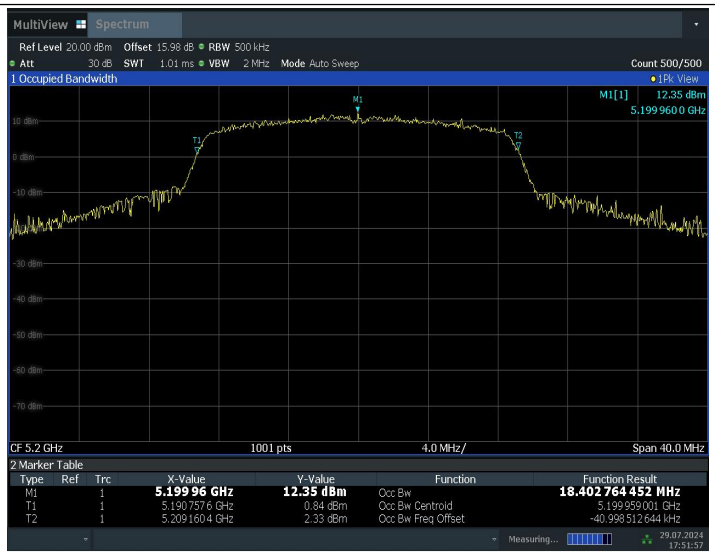


17:22:59 29.07.2024

11N20_5180

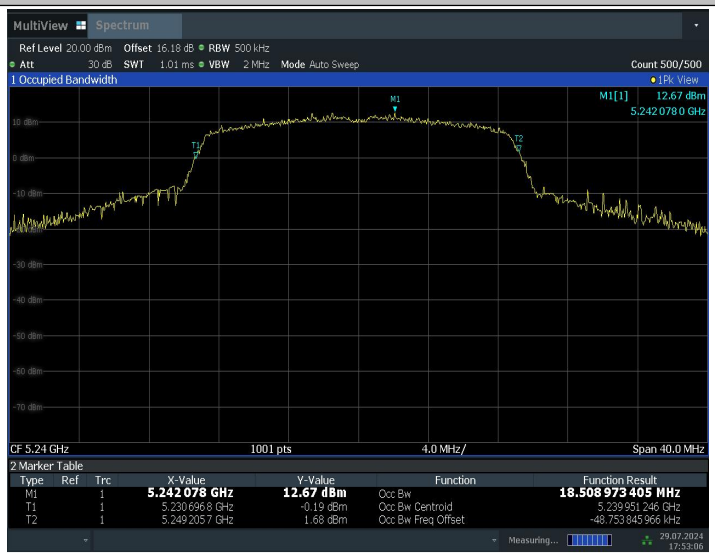
17:50:14 29.07.2024

11N20_5200



17:51:57 29.07.2024

11N20_5240



17:53:07 29.07.2024

11N40_5190

14:38:12 22.08.2024

11N40_5230

18:26:52 29.07.2024

11AC80_5210

Conclusion: PASS

A.8. Antenna Requirement

The antenna of the device is permanently attached. There are no provisions for connection to an external antenna.

The unit complies with the requirement of FCC Part 15.203.

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: EUT parameters

Disclaimer: The antenna gain provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX C: Accreditation Certificate

Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. 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 April 2017*).

Presented this 23rd day of July 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

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