

7. MAXIMUM OUTPUT POWER & POWER SPECTRAL DENSITY

7.1. TEST CONDITIONS

Date of test : June 01, 2024
Test performed by : Akram HAKKARI
Relative humidity (%) : 33
Ambient temperature (°C) : 21

7.2. TEST SETUP

The Equipment Under Test is installed in an anechoic chamber.
Measurement is performed with a spectrum analyzer in conducted method on **three channels, near top, near middle and near bottom of each mode and of each frequency band.**

Test Procedure:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 § E2 b) (Method SA-1) & F

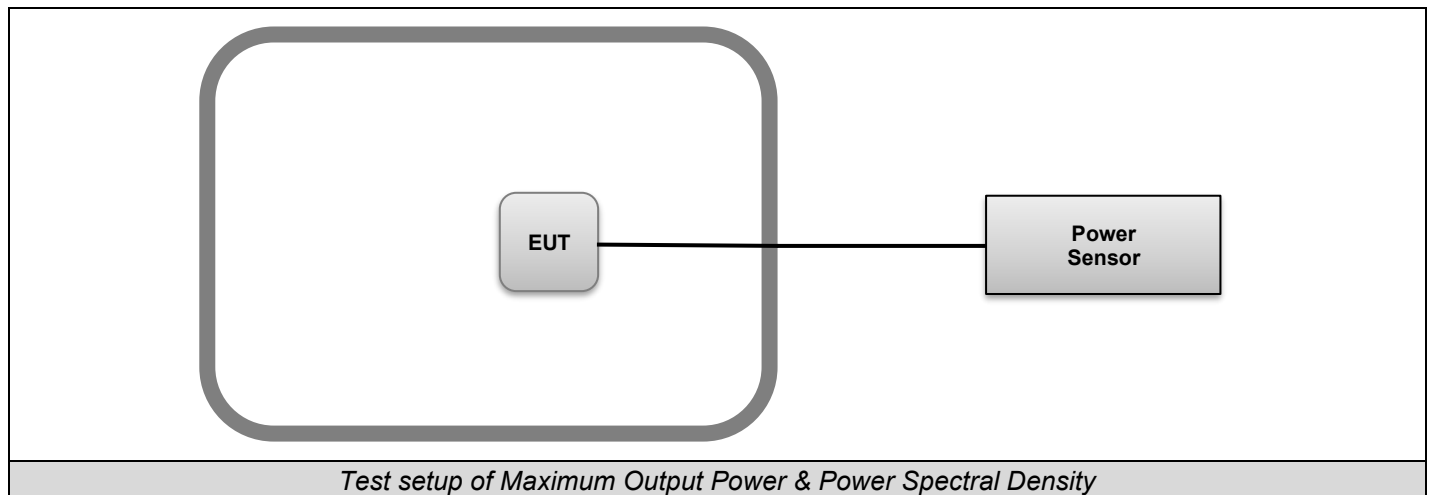




Photo of Maximum Output Power & Power Spectral Density

7.3. LIMIT

7.3.1. FCC Part 15.407

Maximum Conducted Output power:

5150MHz-5250MHz:

30dBm for Indoor Access Point devices & 24dBm for Client devices

5250MHz-5350MHz:

24dBm or $11\text{dBm} + 10 \cdot \log(-26\text{dB Bandwidth (MHz)})$

5470MHz-5725MHz:

24dBm or $11\text{dBm} + 10 \cdot \log(-26\text{dB Bandwidth (MHz)})$

5725MHz-5850MHz:

30dBm

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

Maximum Power Spectral Density:

5150MHz-5250MHz:

17dBm/MHz for Indoor Access Point & 11dBm/MHz for Client devices

5250MHz-5350MHz:

11dBm/MHz

5470MHz-5725MHz:

11dBm/MHz

5725MHz-5850MHz:

30dBm/500kHz

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

7.3.2. RSS-247

Maximum Conducted Output power:

5150MHz-5250MHz:

None

5250MHz-5350MHz:

24dBm or $11\text{dBm} + 10 \cdot \log(99\% \text{ Bandwidth (MHz)})$

5470MHz-5725MHz:

24dBm or $11\text{dBm} + 10 \cdot \log(99\% \text{ Bandwidth (MHz)})$

5725MHz-5850MHz:

30dBm

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

Maximum Power Spectral Density:

5150MHz-5250MHz:

None

5250MHz-5350MHz:

11dBm/MHz

5470MHz-5725MHz:

11dBm/MHz

5725MHz-5850MHz:

30dBm/500kHz

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi



Maximum EIRP:

5150MHz-5250MHz:

23dBm or 10dBm +10*log (99% Bandwidth (MHz))

5250MHz-5350MHz:

- ✓ 30dBm or 17dBm +10*log (99% Bandwidth (MHz)) (Above 23dBm Antenna pattern)
- ✓ For outdoor fixed devices with a maximum EIRP greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below:
 - -13 dBW / MHz for $0^\circ \leq \theta < 8^\circ$
 - $-13 - 0.716 (\theta - 8)$ dBW / MHz for $8^\circ \leq \theta < 40^\circ$
 - $-35.9 - 1.22 (\theta - 40)$ dBW / MHz for $40^\circ \leq \theta \leq 45^\circ$
 - -42 dBW / MHz for $\theta > 45^\circ$
- ✓ Other device with EIRP > 200mW shall comply with:
 - i.devices shall comply with the e.i.r.p. elevation mask for outdoor device;
 - or
 - ii.devices shall implement a method to permanently reduce their e.i.r.p. via a firmware feature in the event that the Department requires it.

5470MHz-5725MHz :

30dBm or 17dBm +10*log (99% Bandwidth (MHz))

5850MHz-5895MHz:

- ✓ For fixed outdoor access points, 36dBm and at any elevation angle greater than 30 degrees above the horizon, shall not exceed 21dBm.
- ✓ For fixed outdoor client devices, 30dBm.
- ✓ For indoor access points, 36dBm.
- ✓ For indoor subordinate devices, 36dBm.
- ✓ For indoor client devices, 30dBm.

Maximum EIRP Power Spectral Density:

5150MHz-5250MHz:

10dBm/MHz

5250MHz-5350MHz:

None

5470MHz-5725MHz:

None

5850MHz-5895MHz:

- ✓ For fixed outdoor access points, 23dBm/MHz.
- ✓ For fixed outdoor client devices, 17dBm/MHz.
- ✓ For indoor access points, 20dBm/MHz.
- ✓ For indoor subordinate devices, 20dBm/MHz.
- ✓ For indoor client devices, 14dBm/MHz.



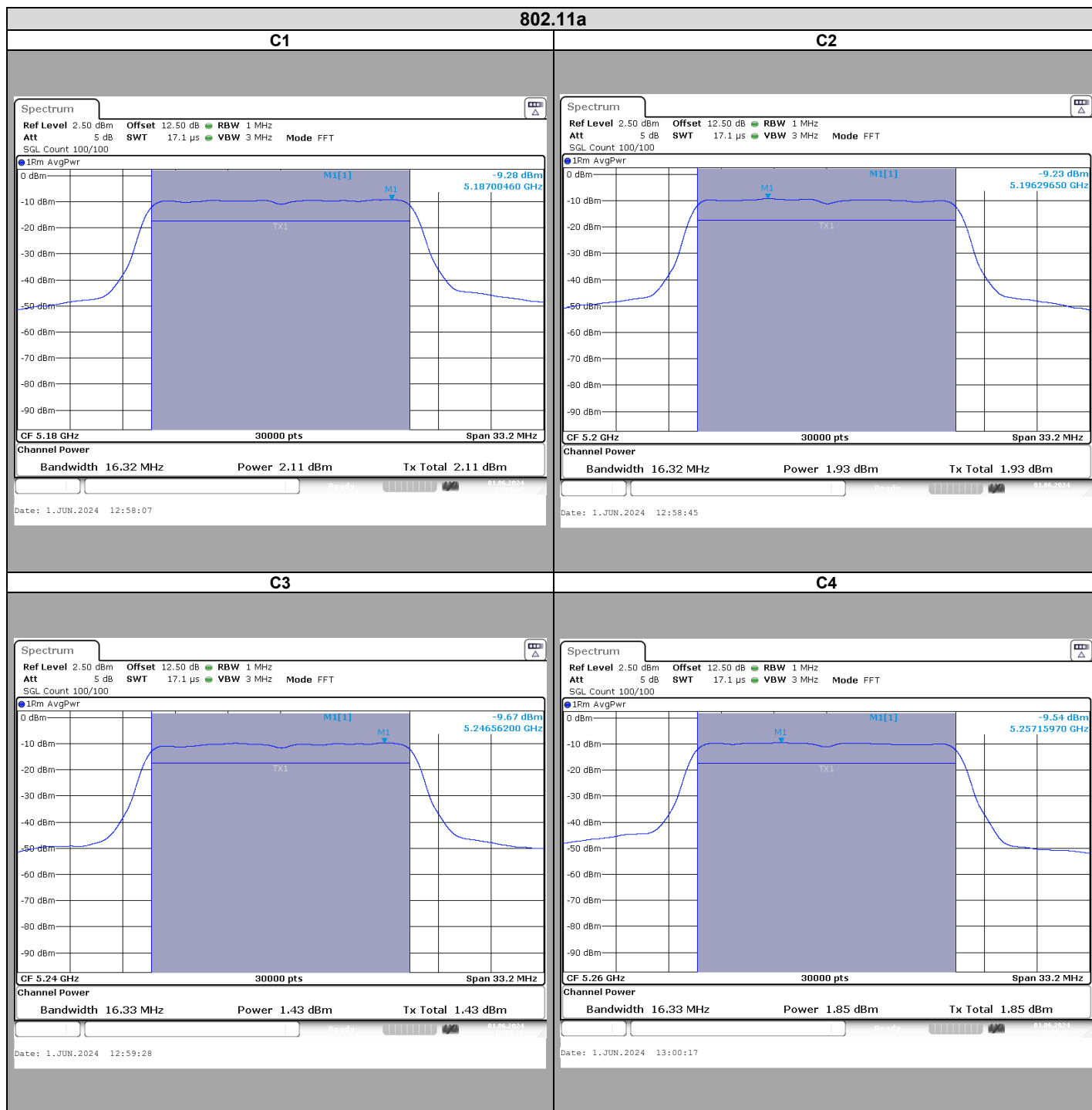
7.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	Manufacturer	Model	Identifier	Cal_Date	Cal_Due
Attenuator 10dB	AEROFLEX	—	A7122268	07/23	07/25
Cable Measure	—	36G	A5329604	02/24	02/25
Full Anechoic Room	SIEPEL	—	D3044024		
Multimeter - CEM	FLUKE	87	A1240251	10/23	10/25
SMK 1.2m (Ampl <-> chamber)	HUBER-SUHNER	SUCOFLEX 102	A5330062	04/23	04/26
Spectrum analyzer	ROHDE & SCHWARZ	FSV 40	A4060059	04/24	04/26
Thermo-hygrometer	TESTO	608-H1	B4204120	03/23	03/25
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	05/25

7.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

7.6. RESULTS

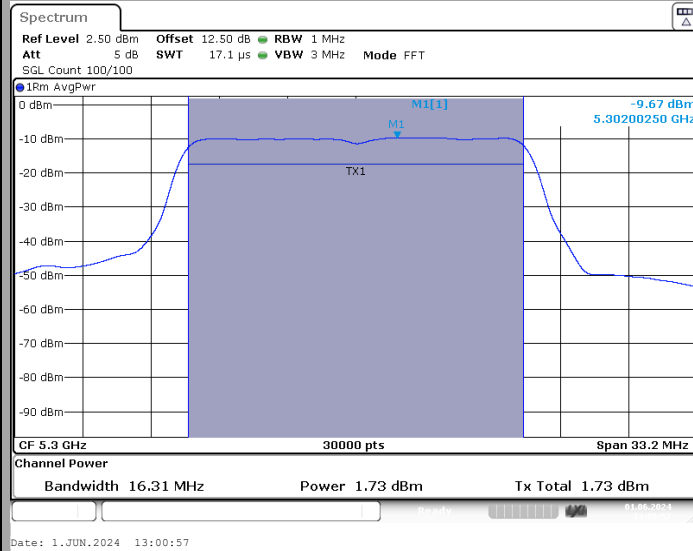




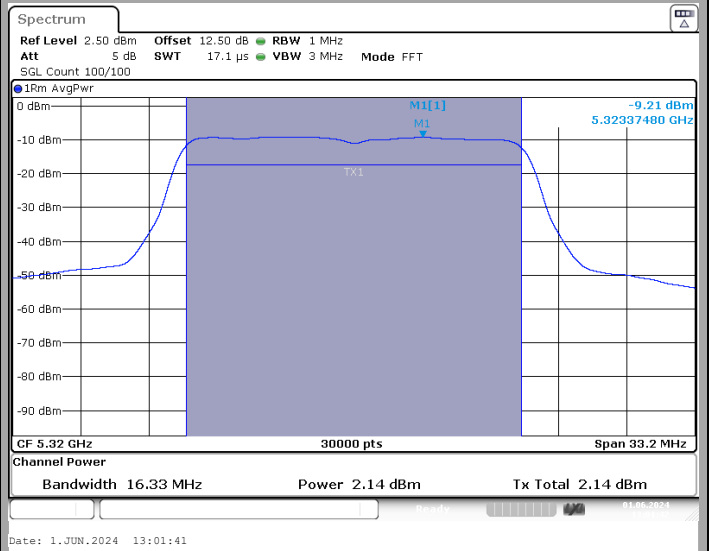
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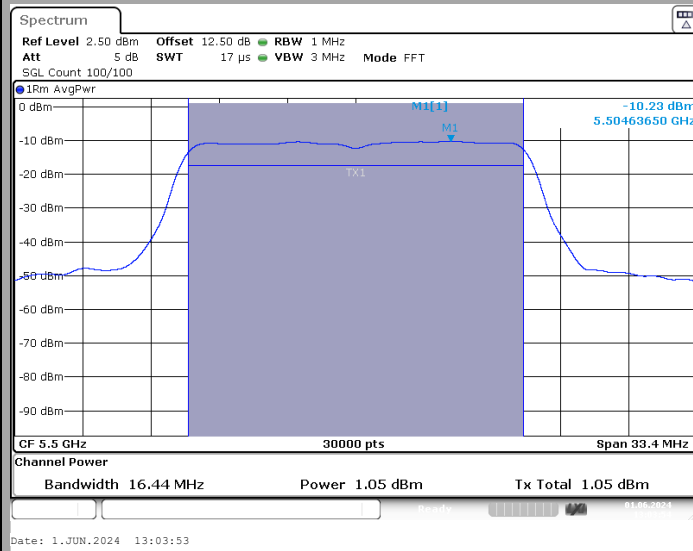
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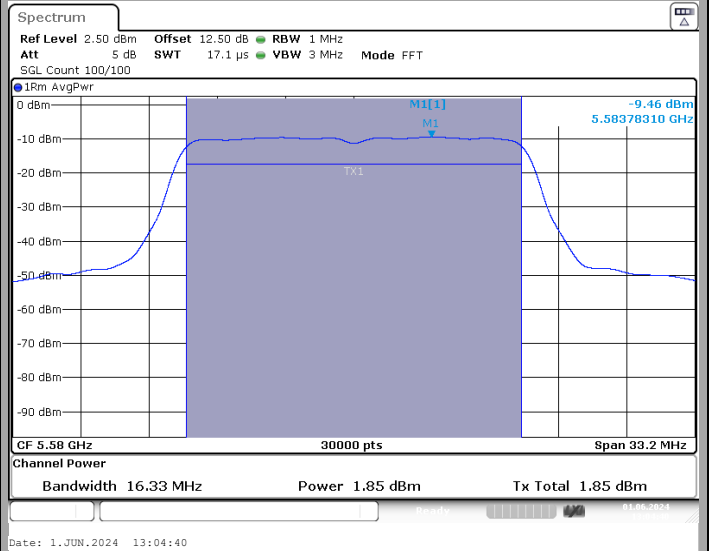
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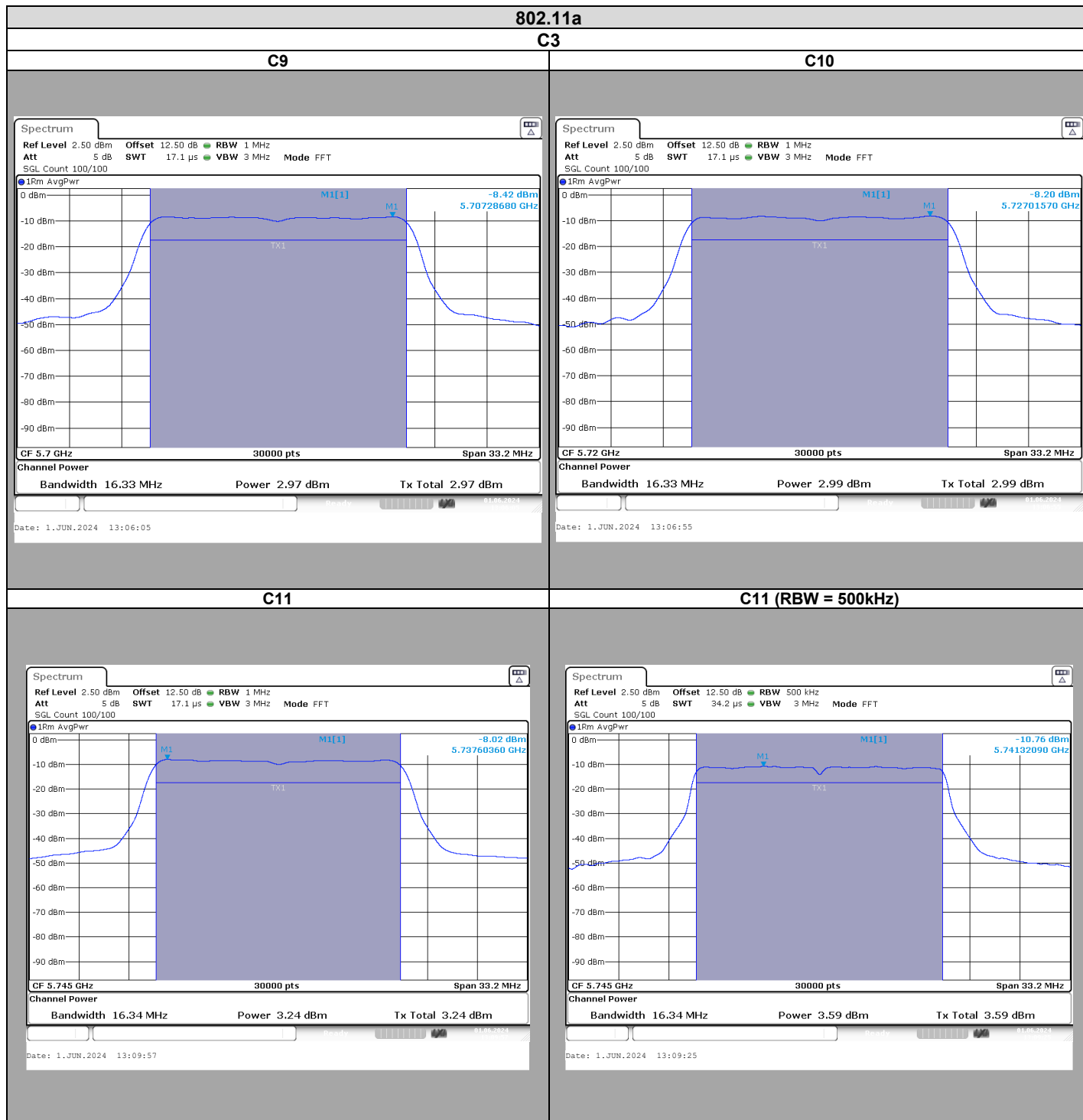


C7



C8





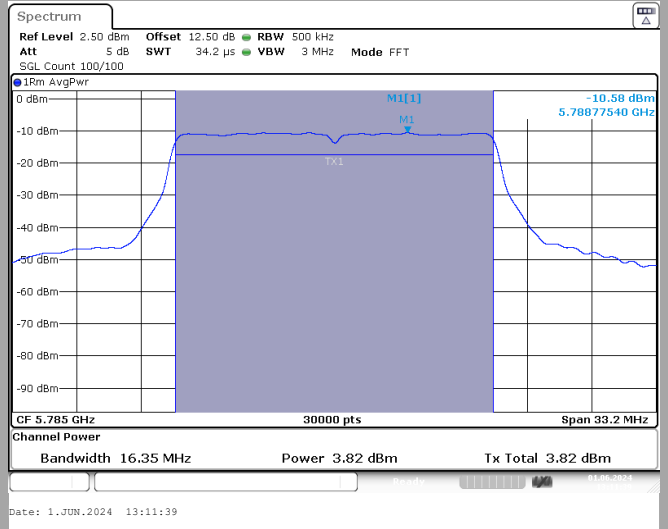
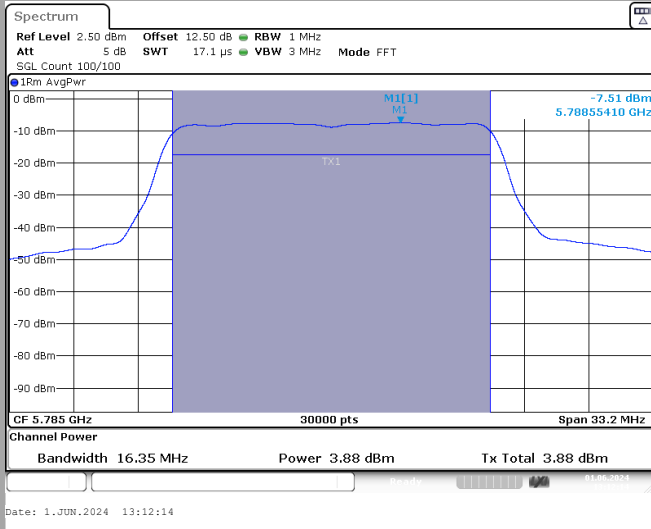


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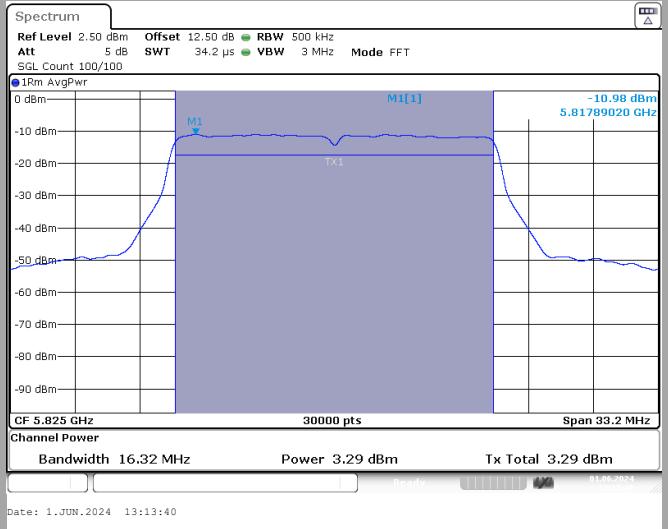
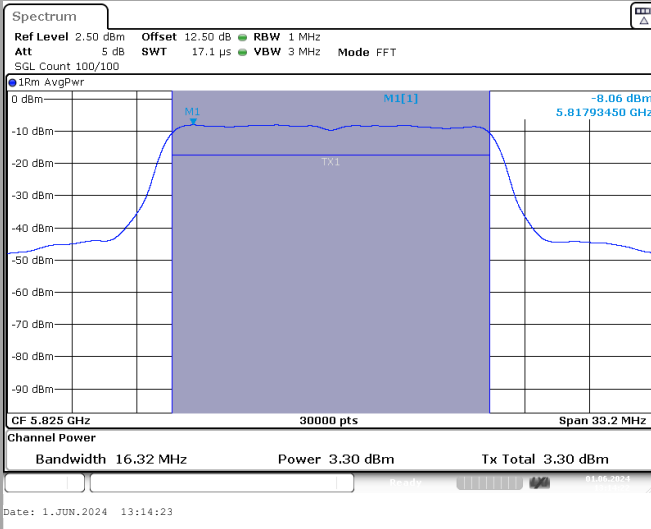
C12

C12 (RBW = 500kHz)



C13

C13 (RBW = 500kHz)

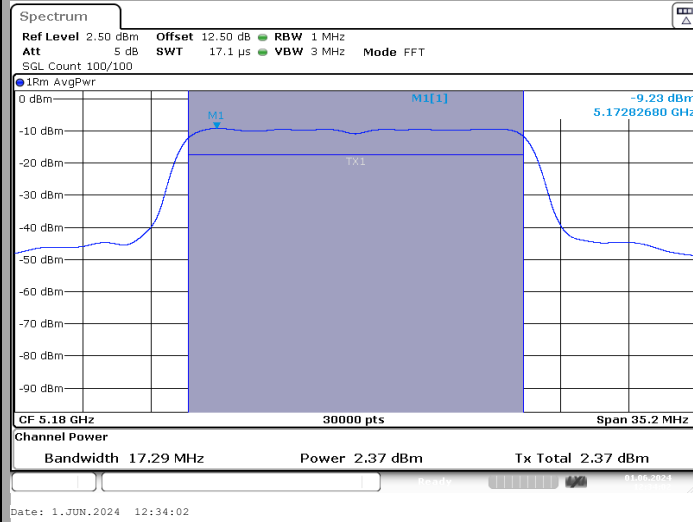




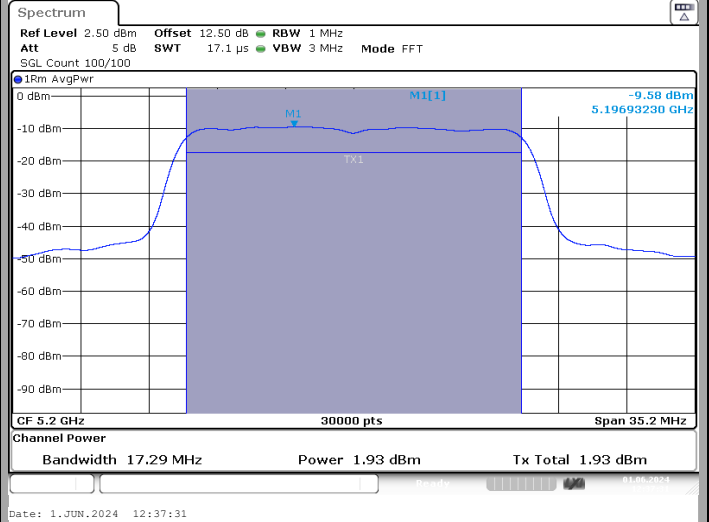
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802.11n HT20

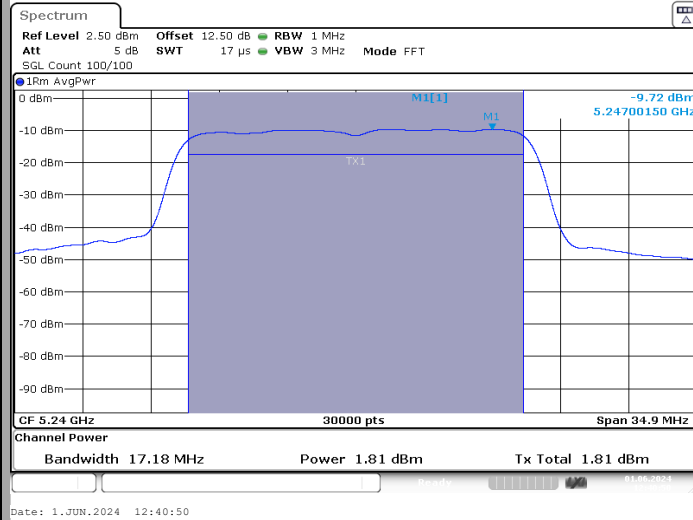
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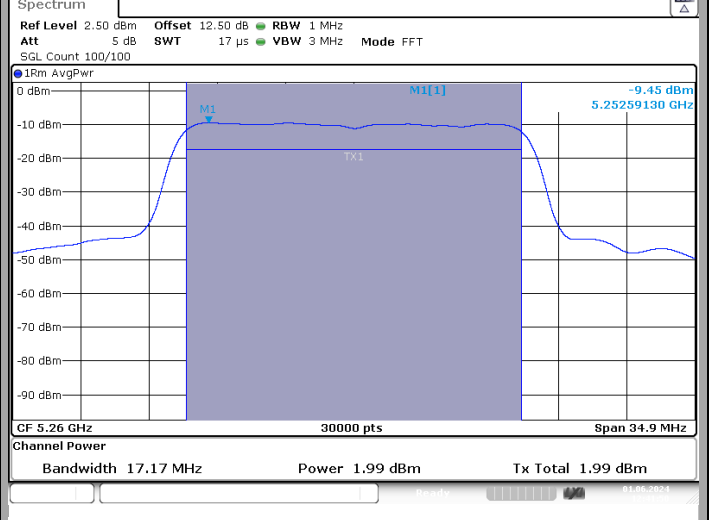
C2



C3



C4

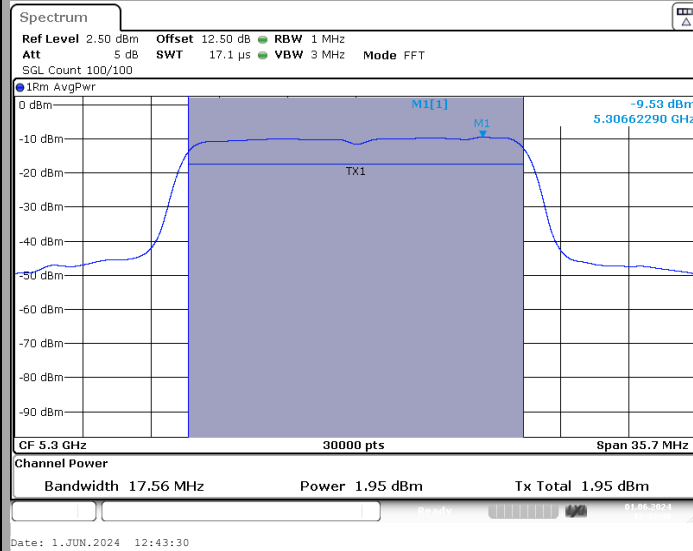




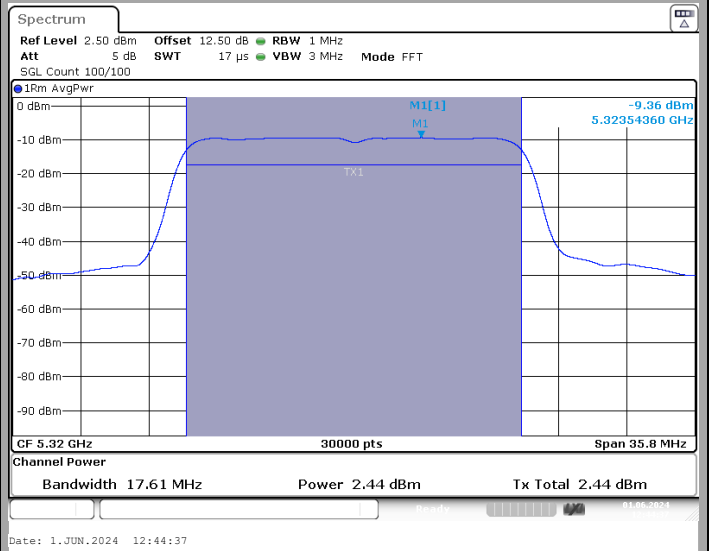
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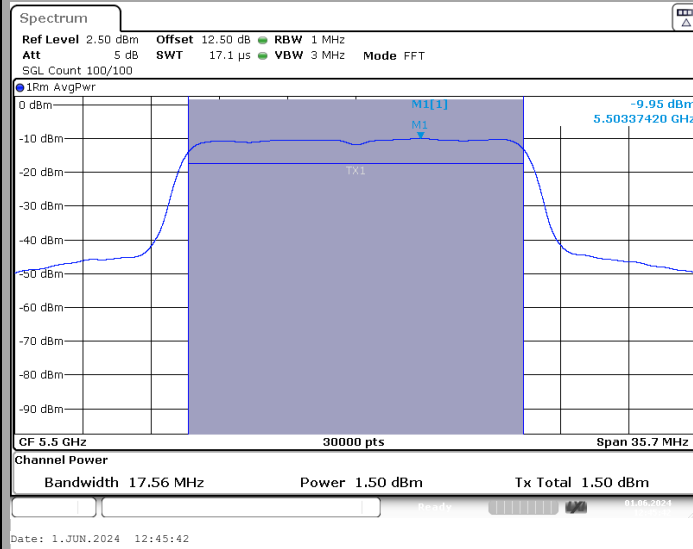
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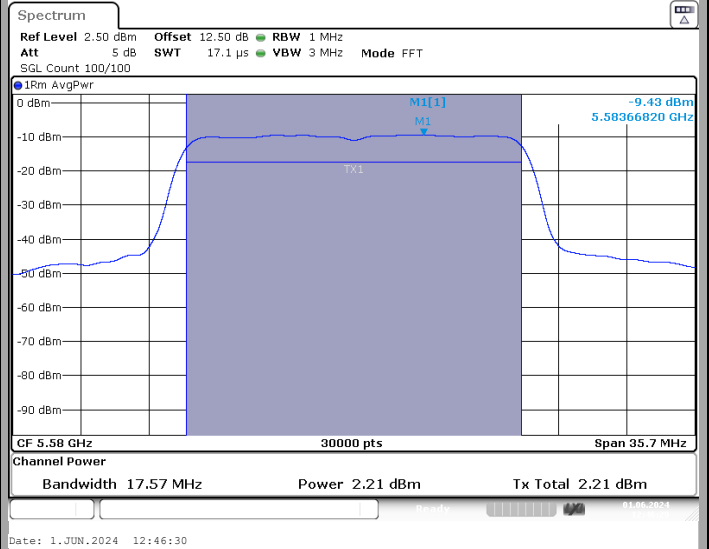
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C7



C8

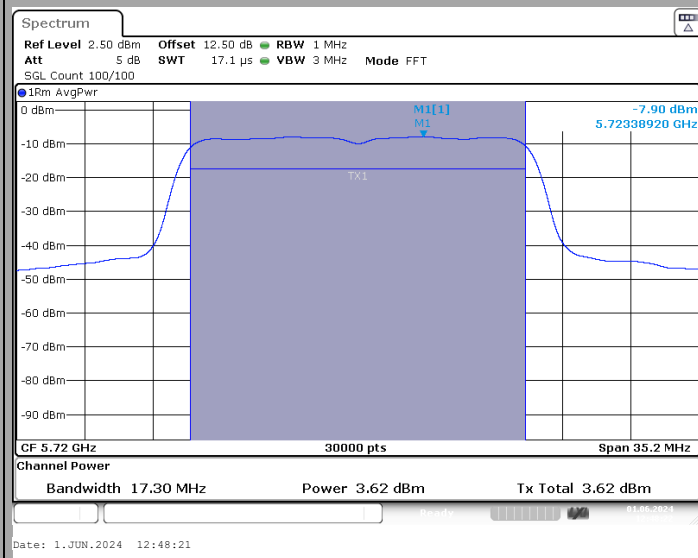
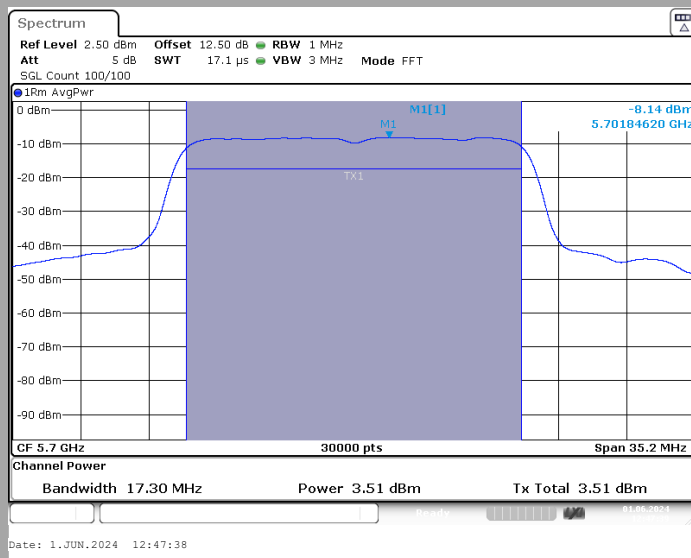


802.11n HT20

C3

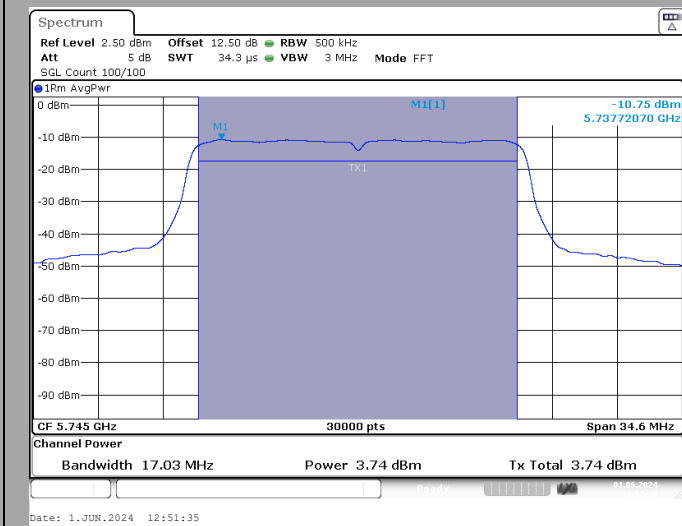
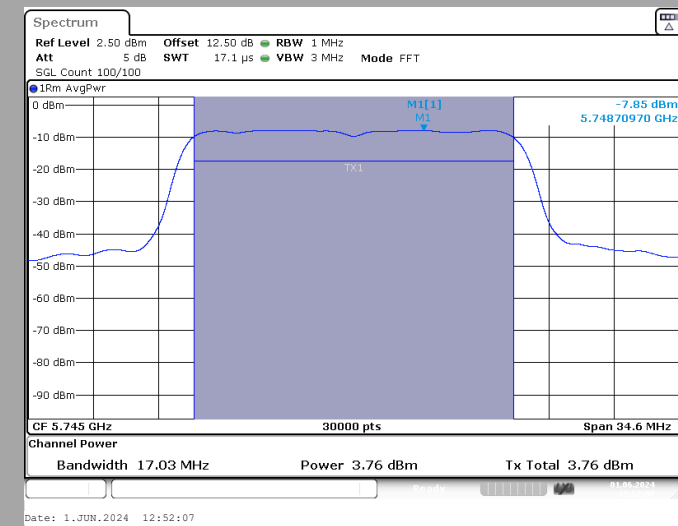
C9

C10



C11

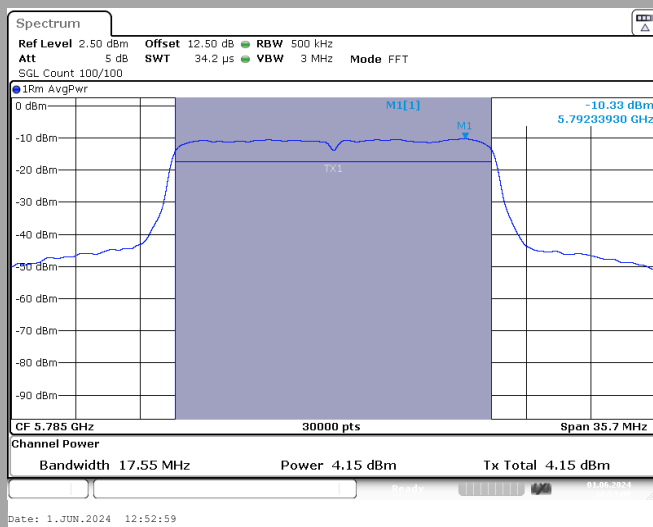
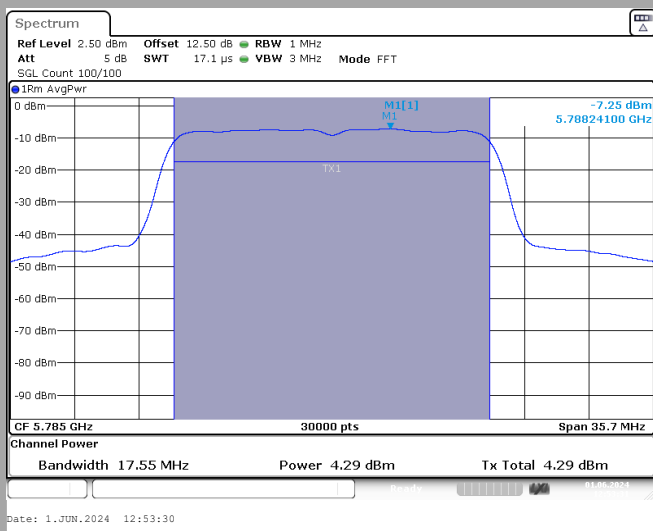
C11 (RBW = 500 kHz)



802.11n HT20

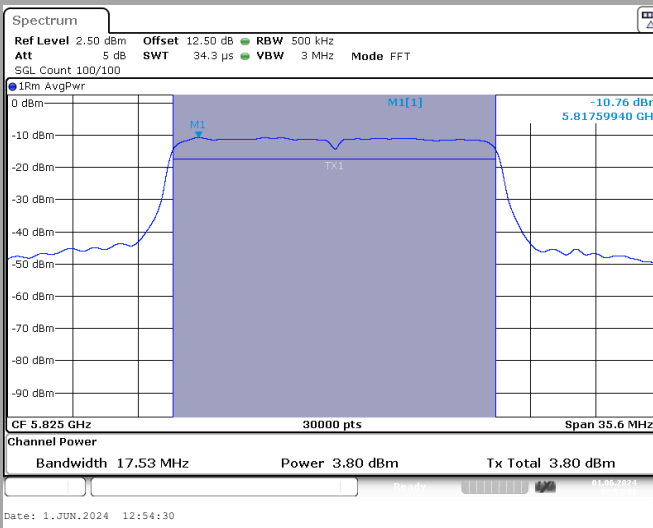
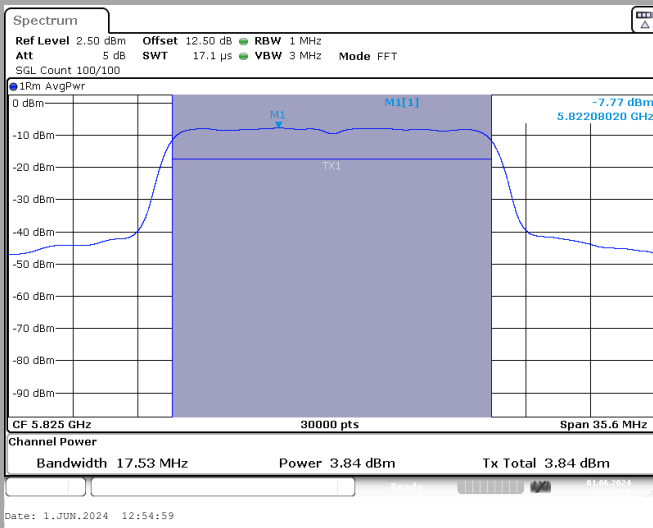
C12

C12 (RBW = 500kHz)



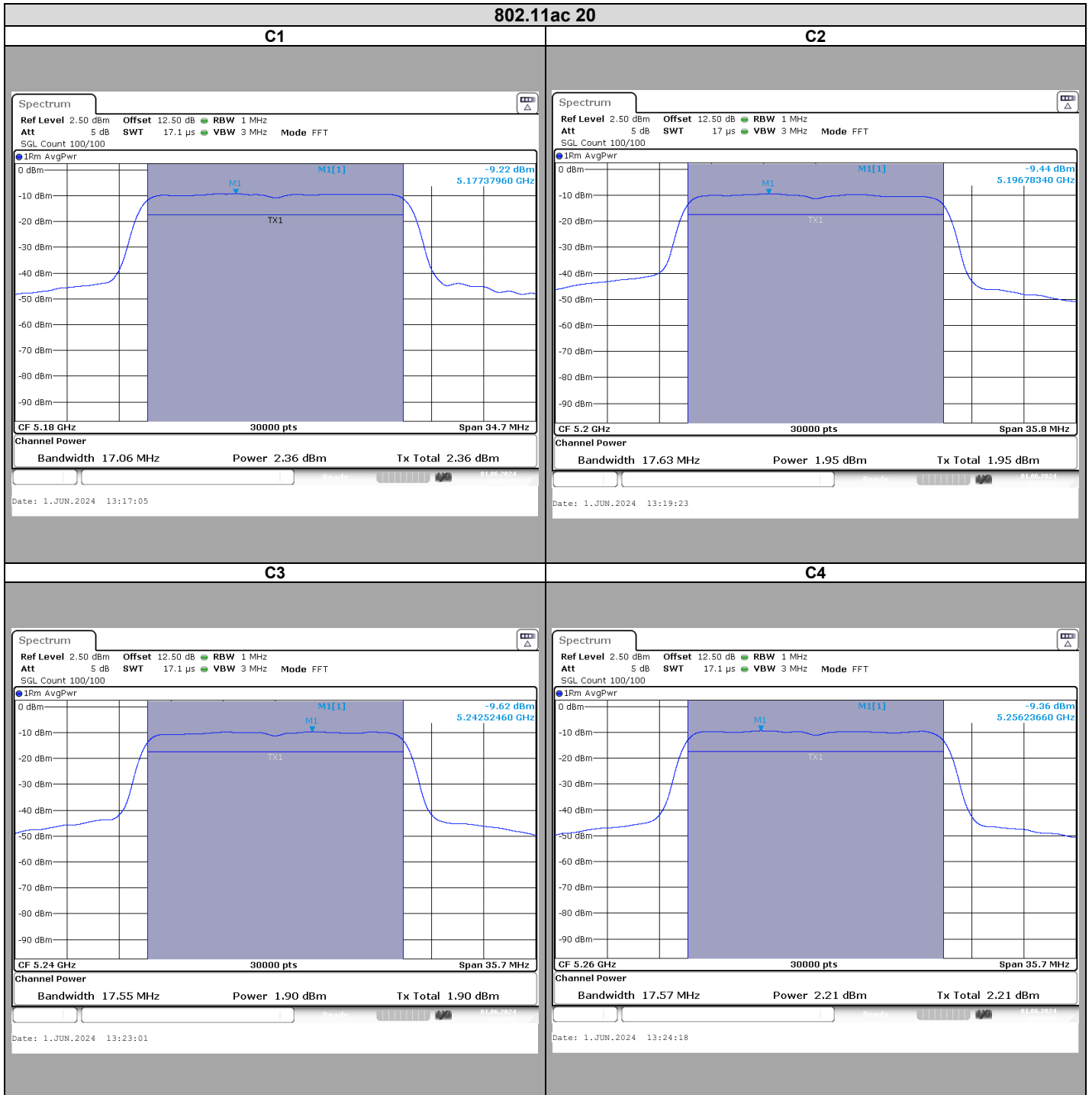
C13

C13 (RBW = 500kHz)





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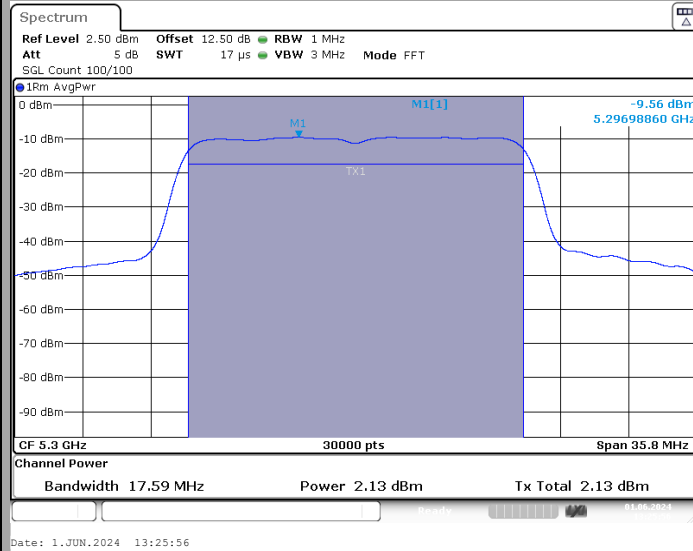




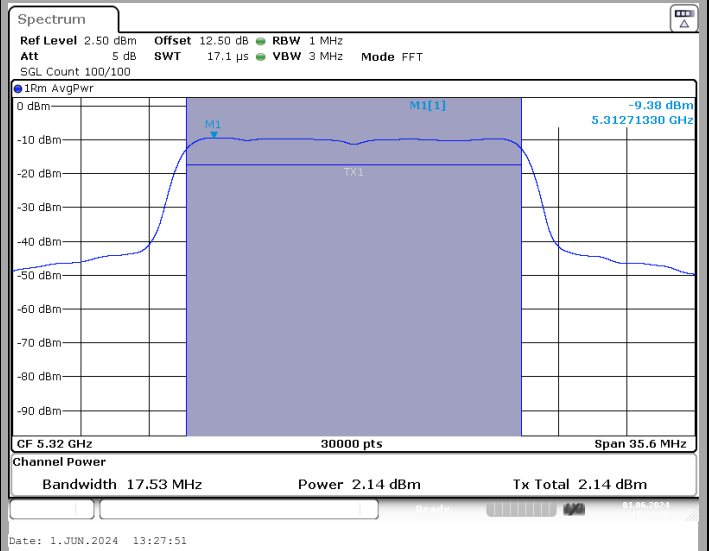
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802.11ac 20

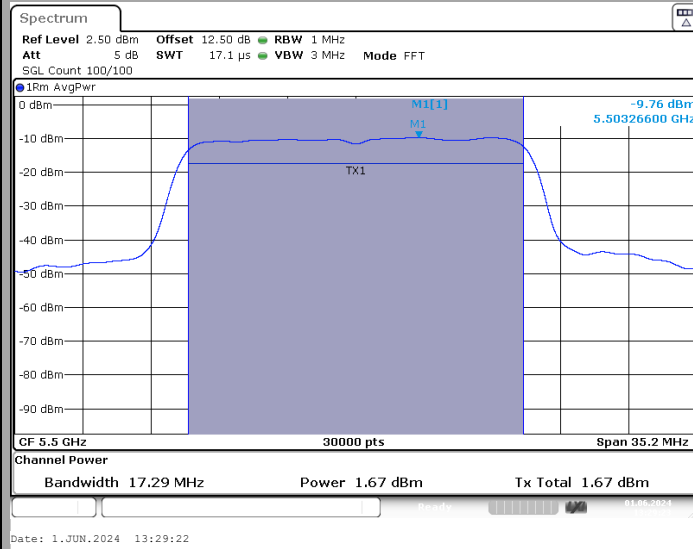
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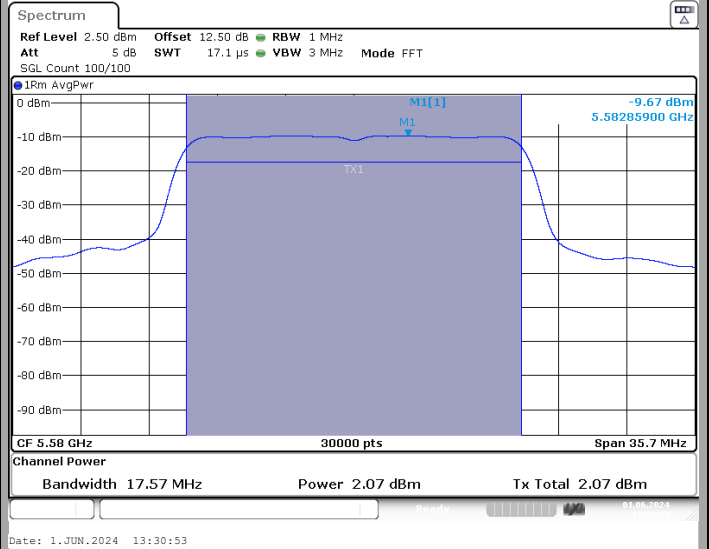
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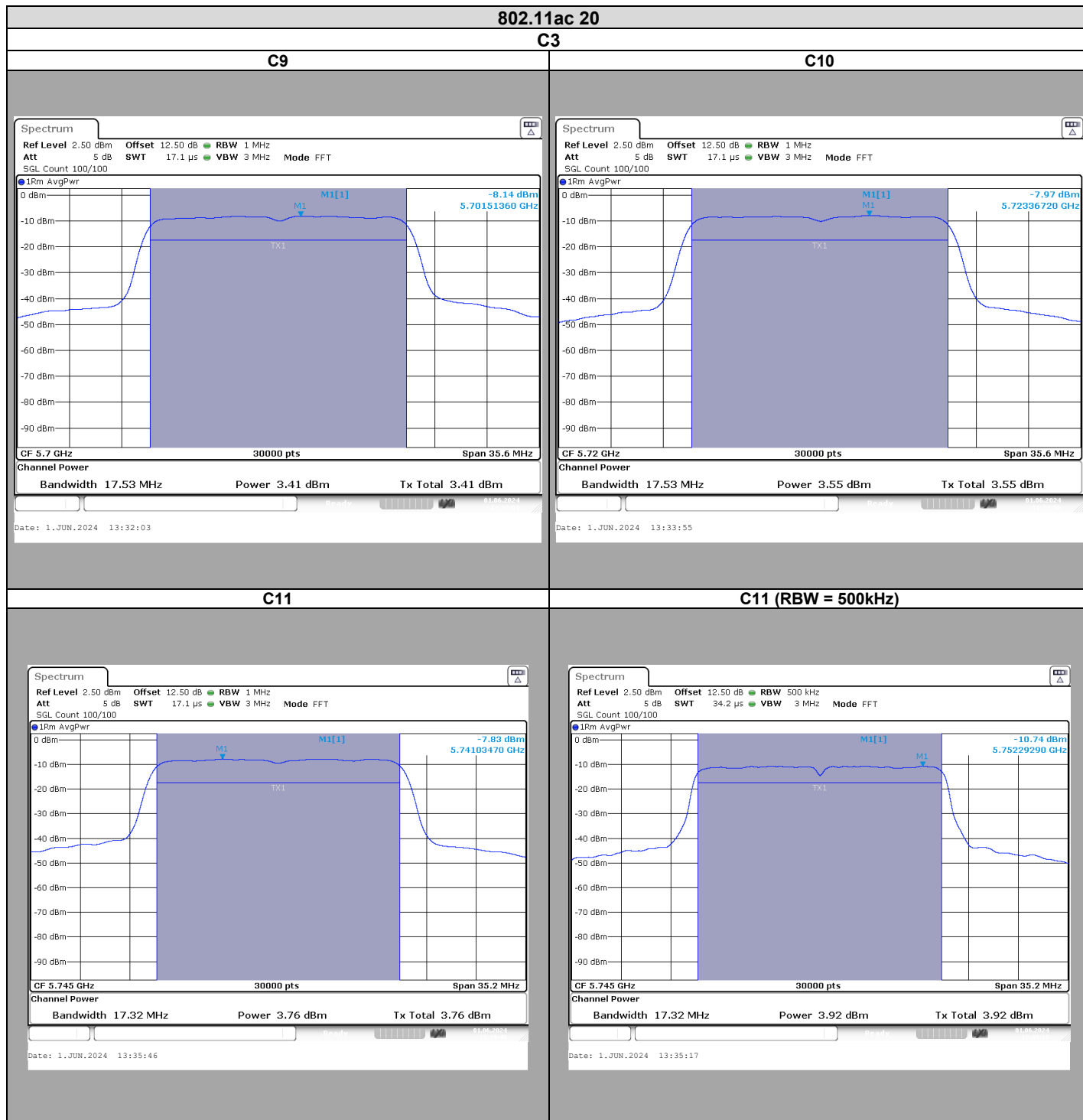


C7



C8



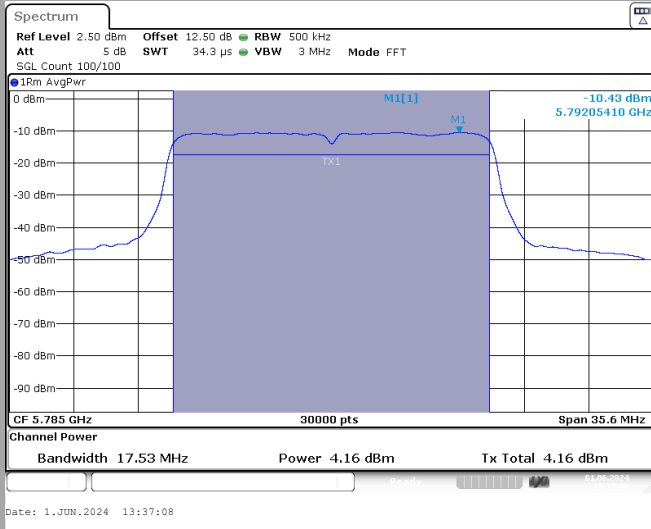




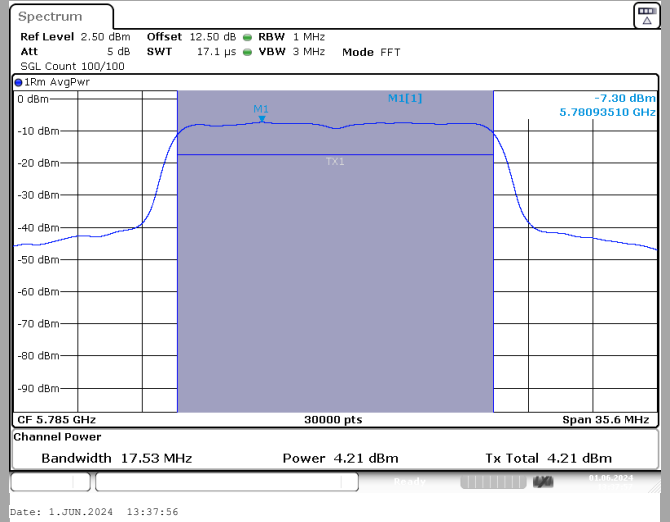
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802.11ac 20

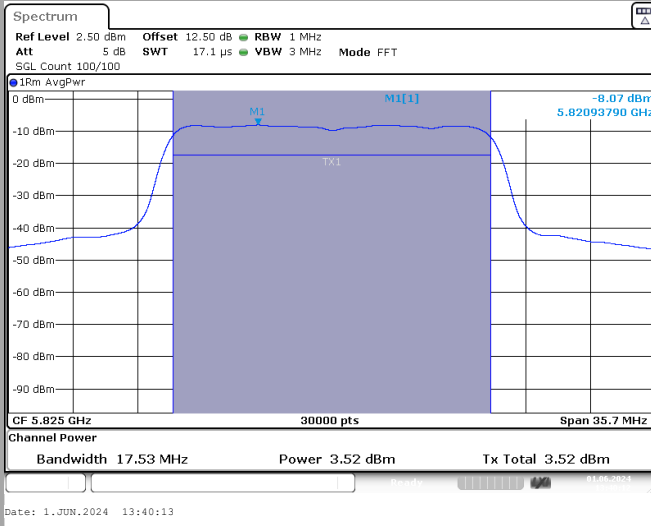
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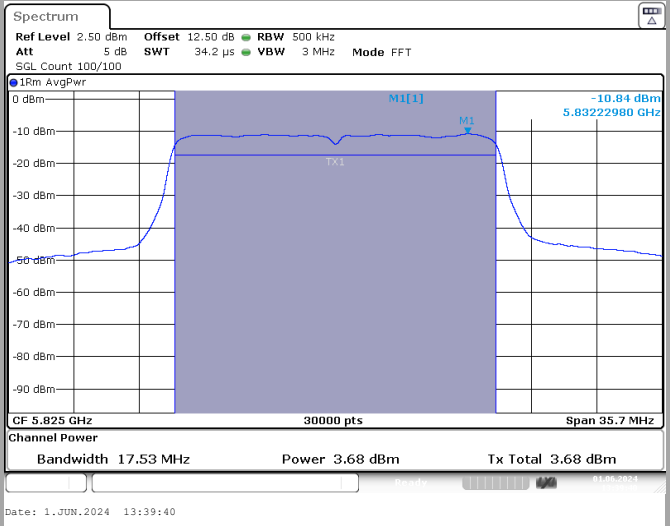
C12 (RBW = 500kHz)



C13

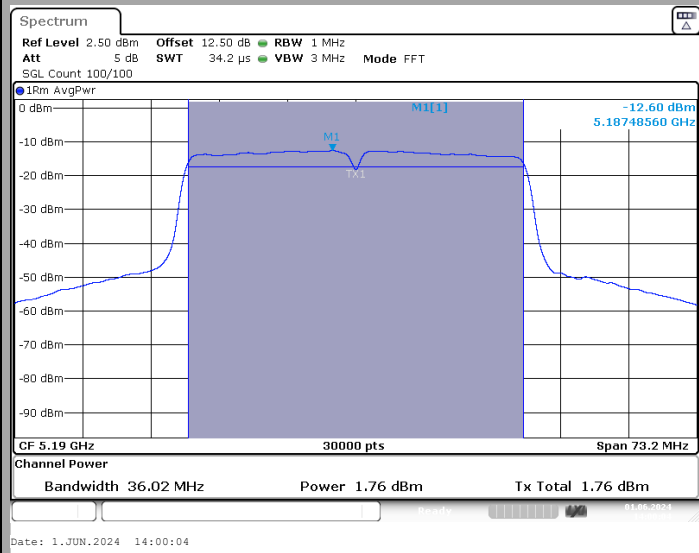


C13 (RBW = 500kHz)

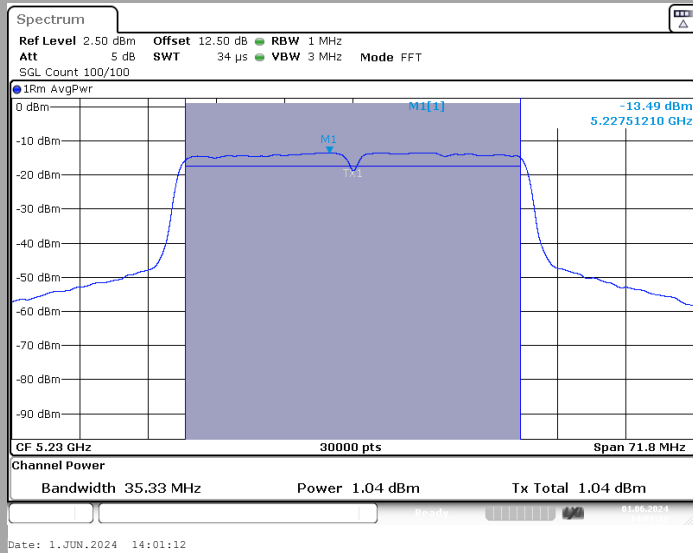


802.11n HT40

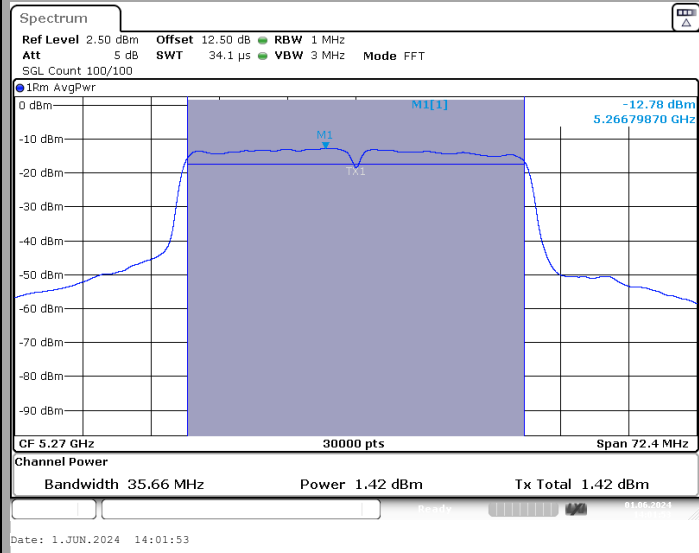
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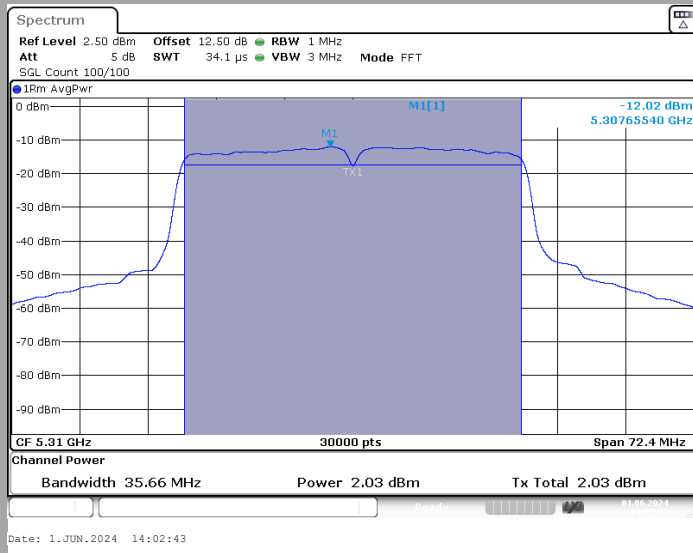
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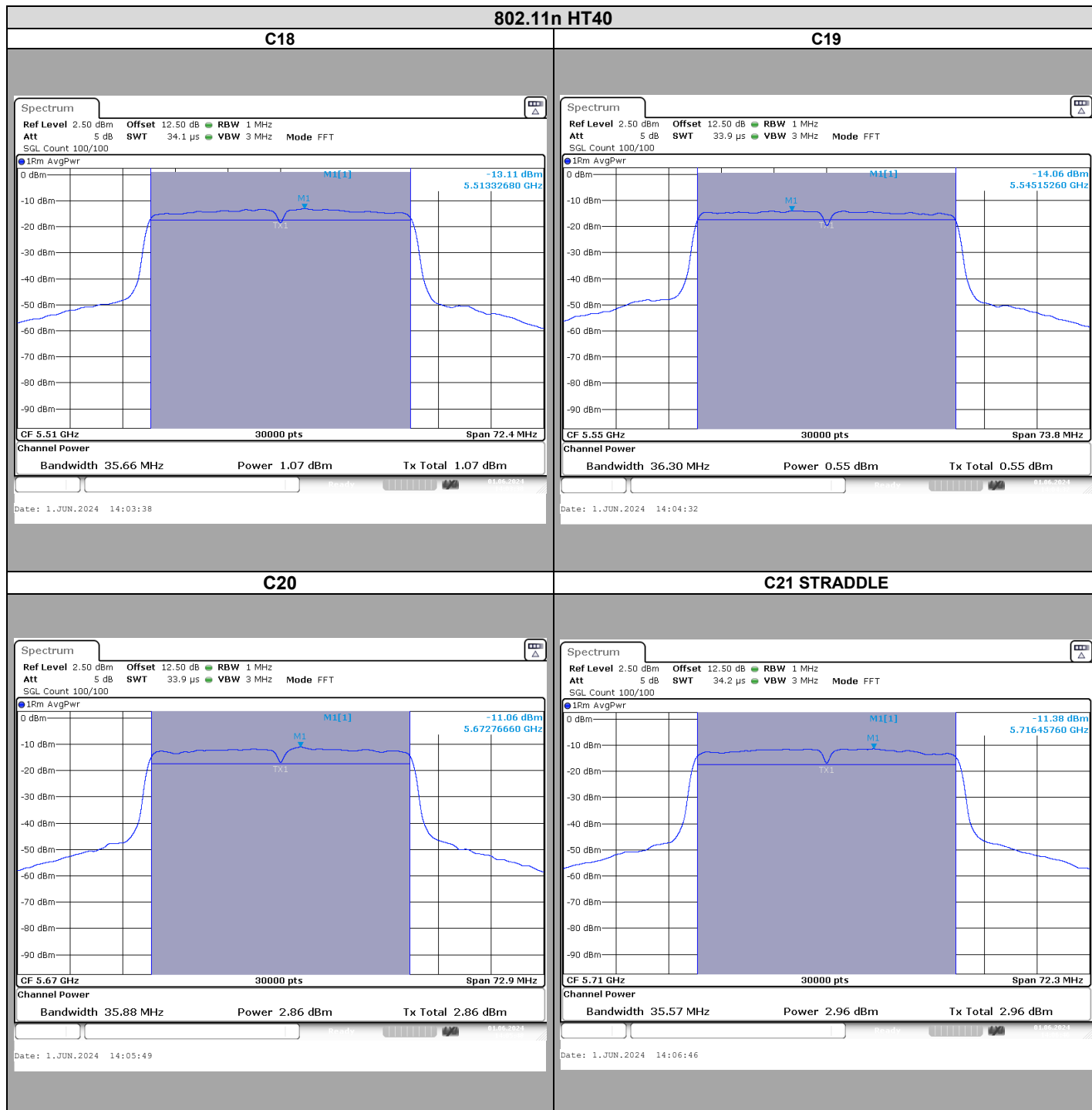


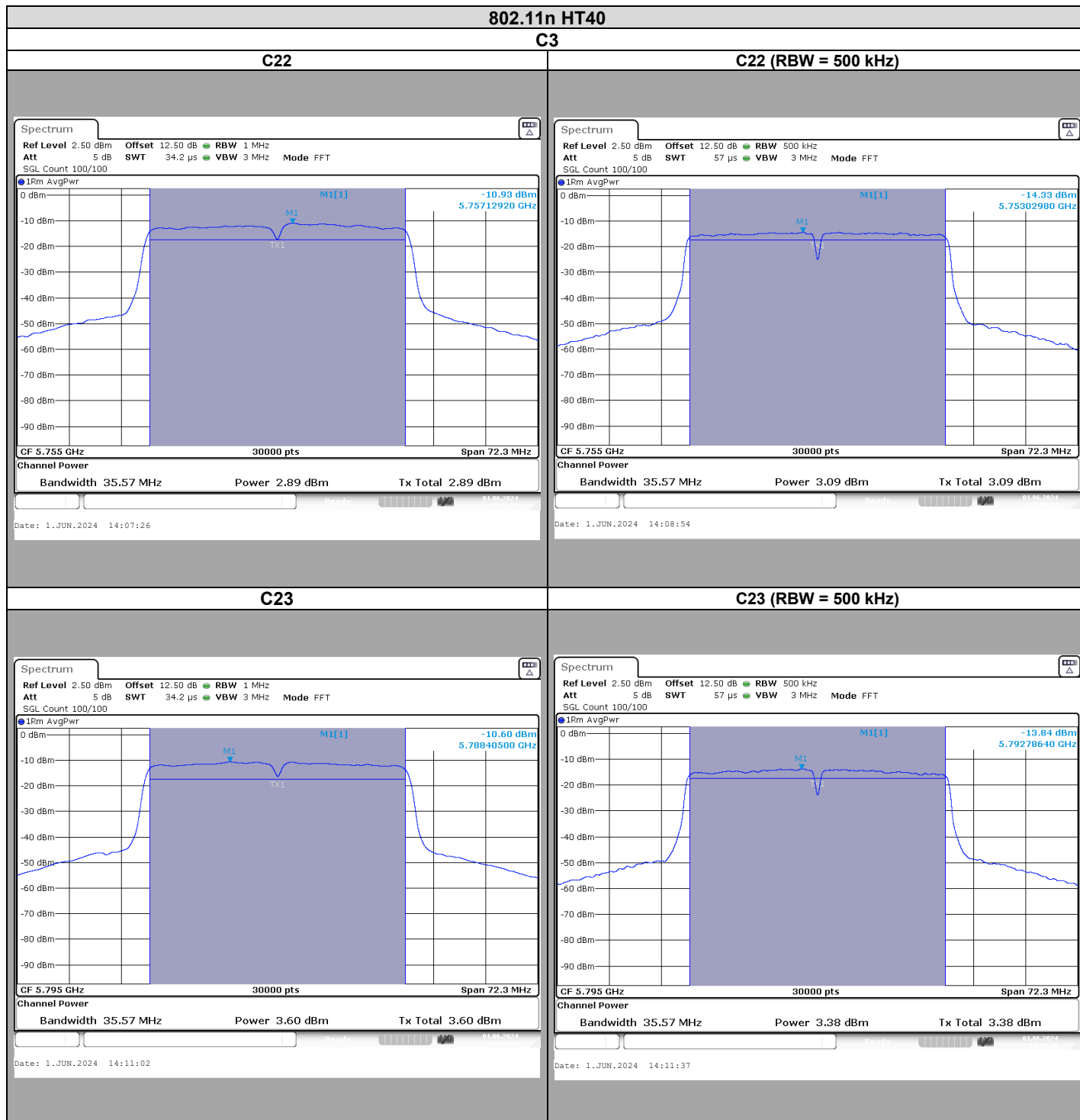
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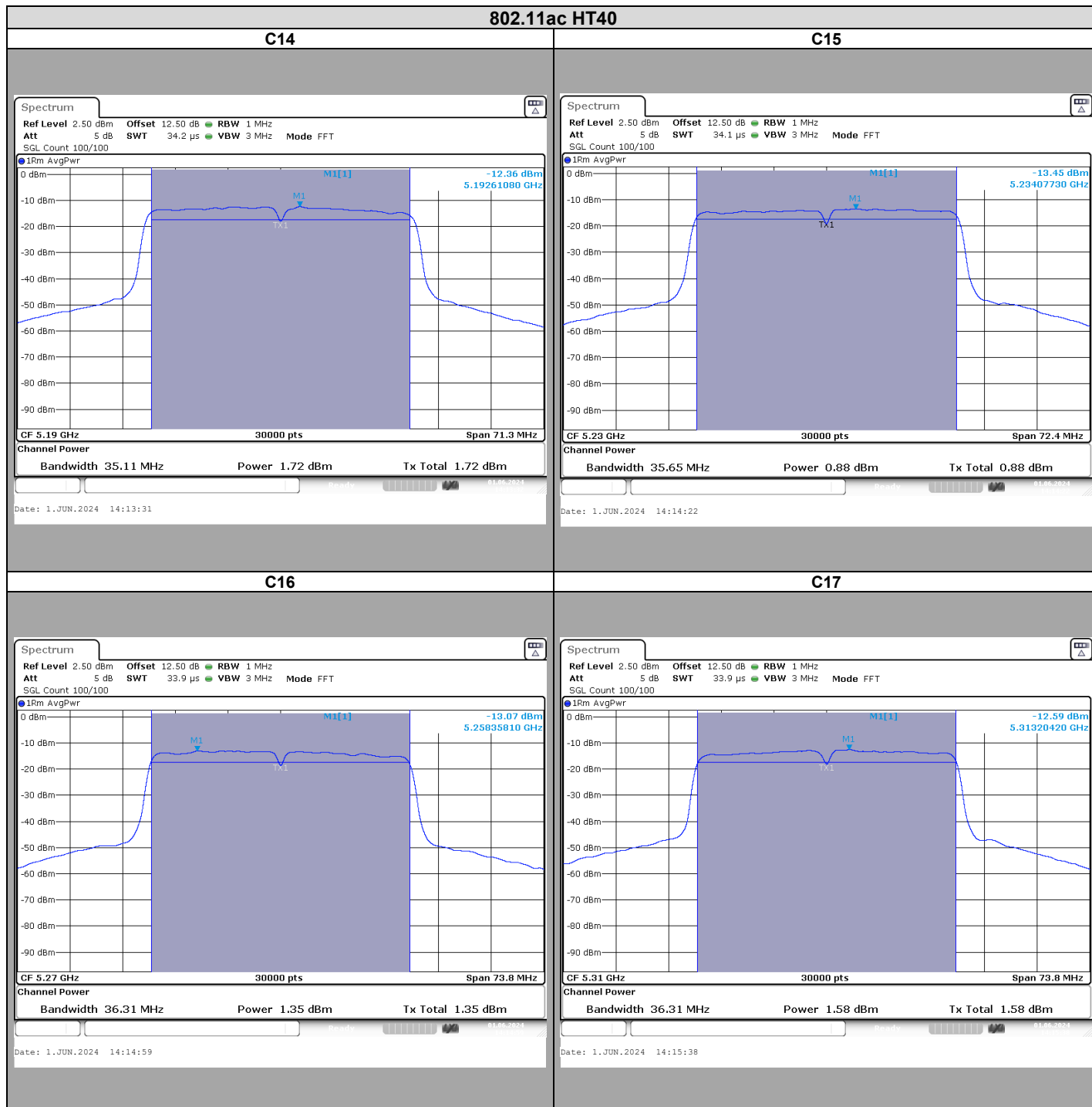


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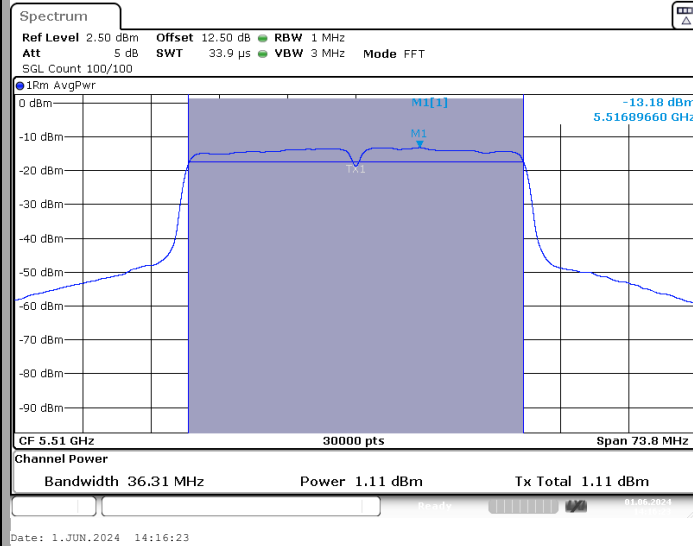




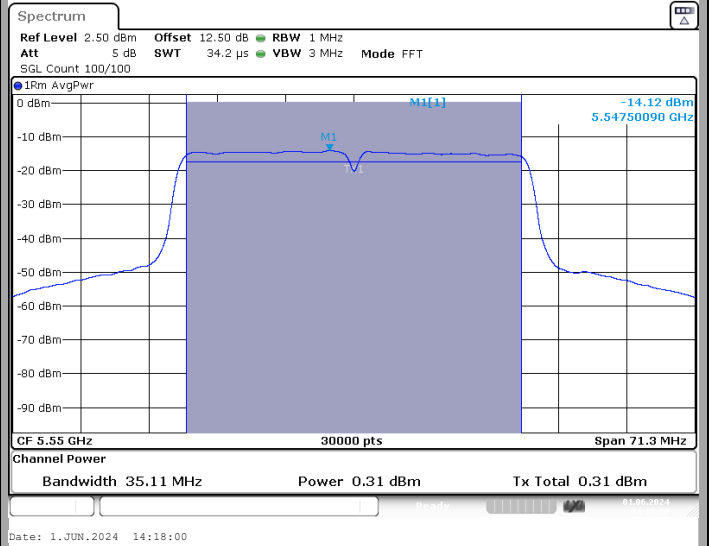
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802.11ac HT40

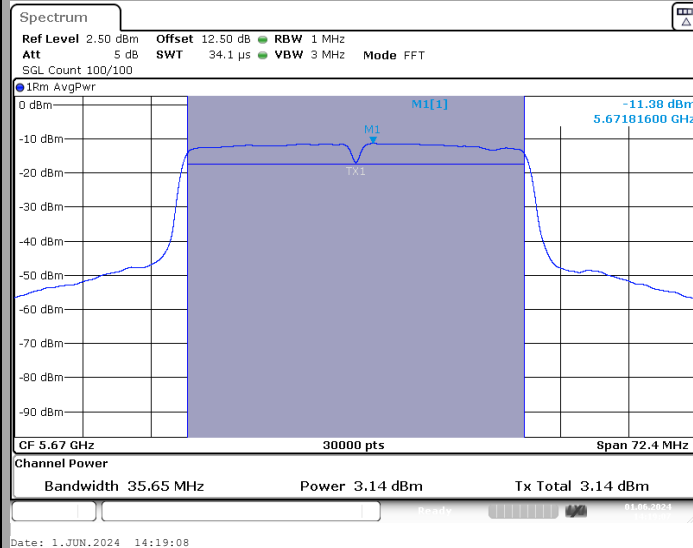
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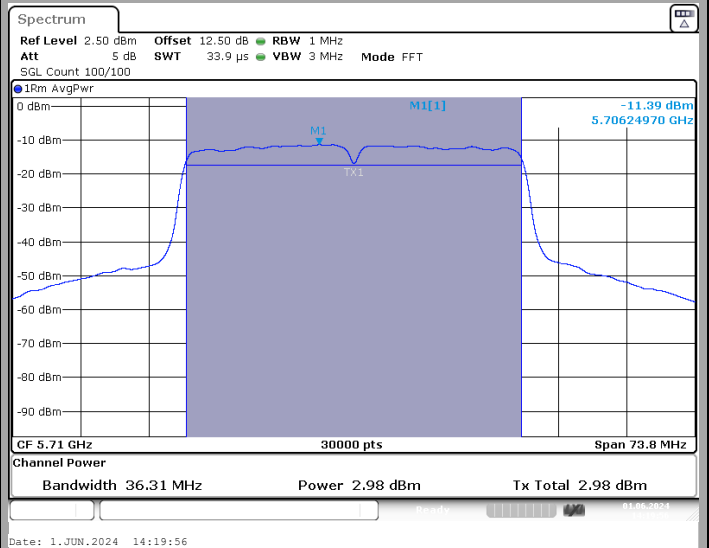
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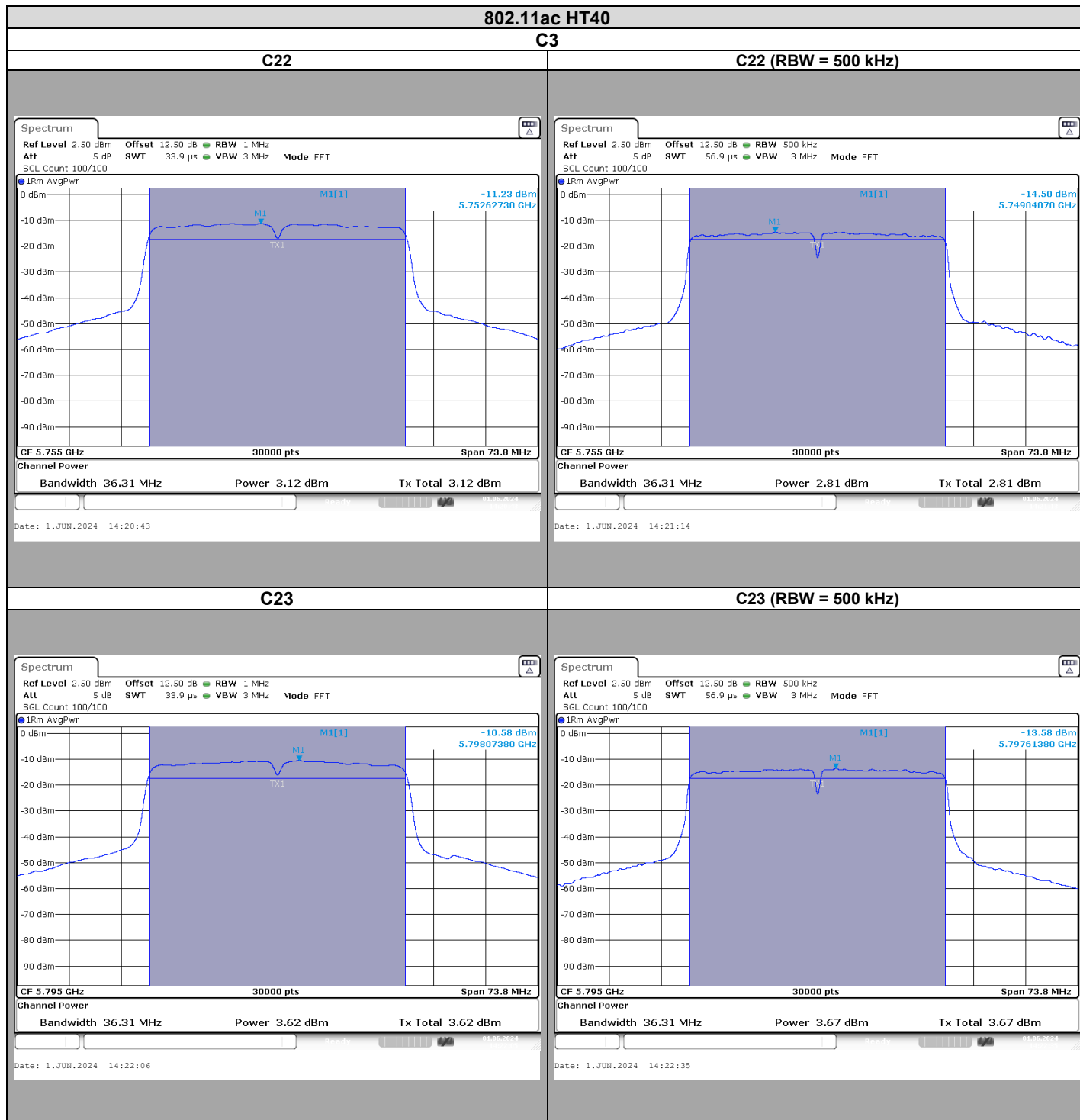


C20



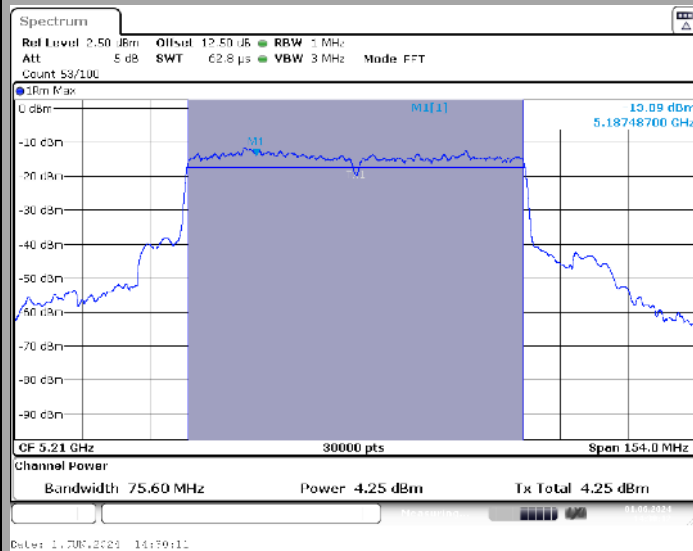
C21 STRADDLE



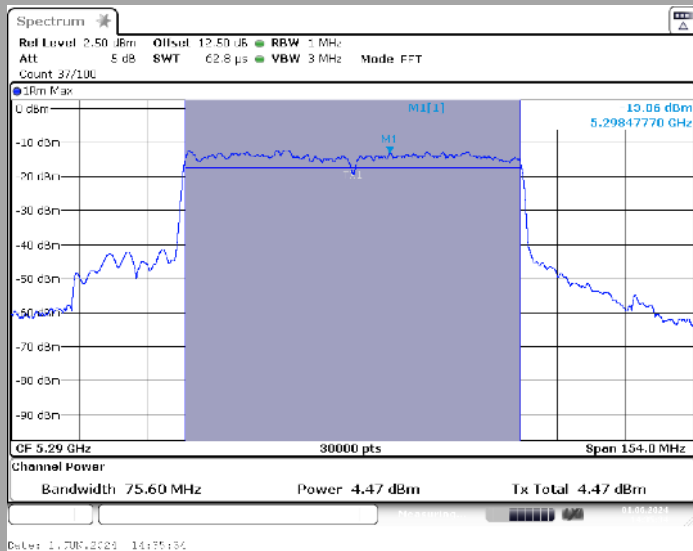


802.11ac HT80

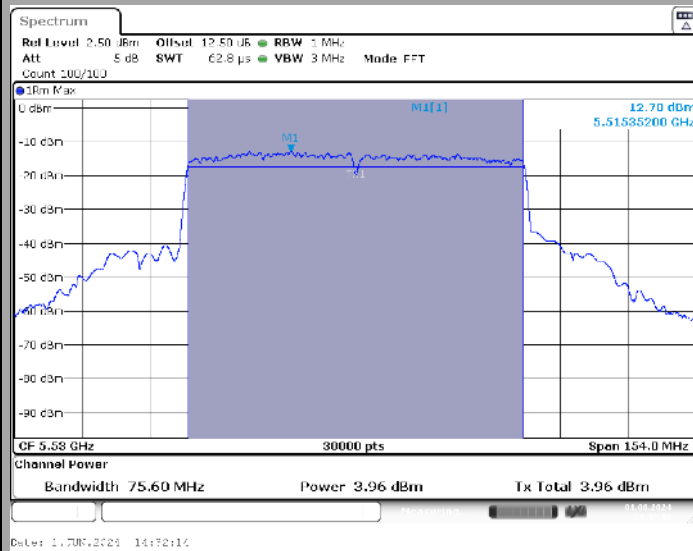
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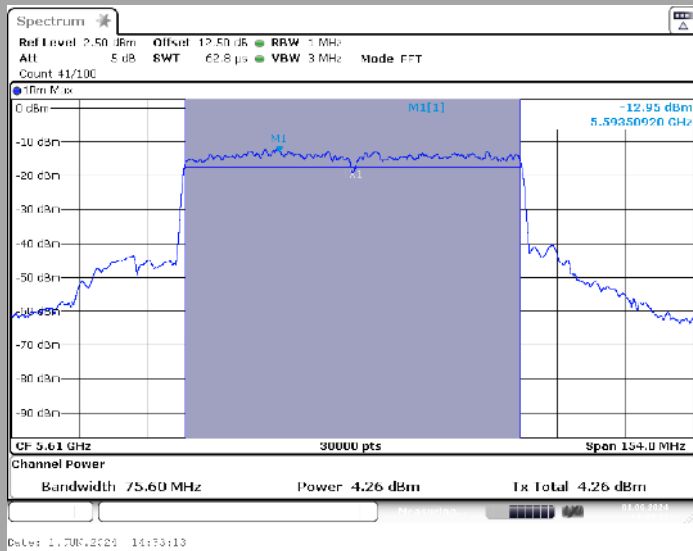
C30



C31



C32

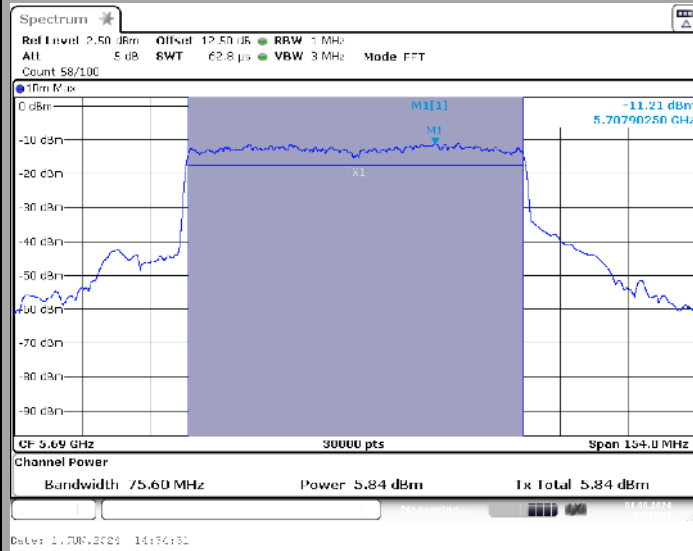




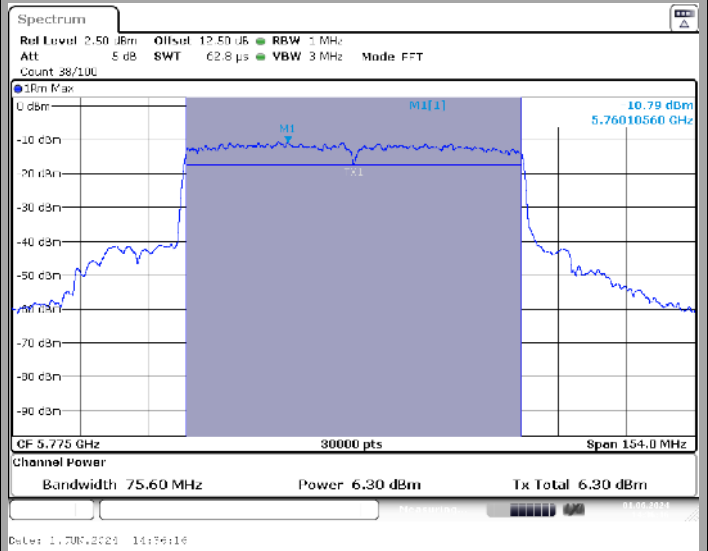
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802.11ac HT80

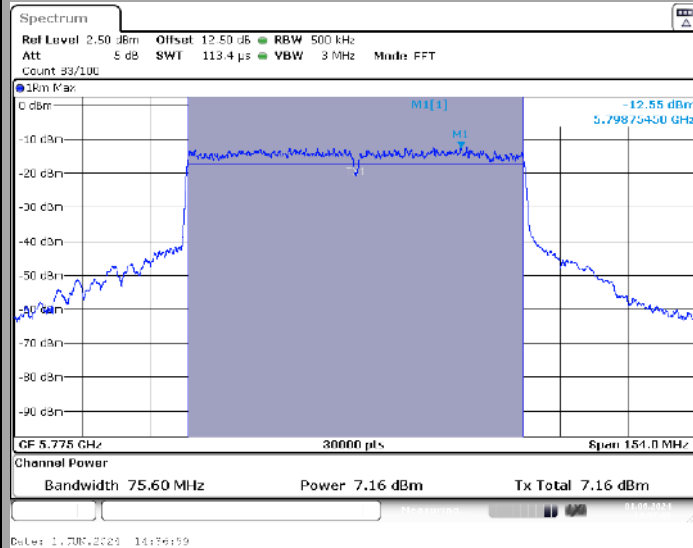
C33



C34



C35 (RBW=500KHz)





Maximum Conducted Output Power :

802.11a					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Conducted Output Power dBm	FCC limit (dBm)
C1	2.11	0.75	3.2	6.06	24
C2	1.93	0.75	3.2	5.88	24
C3	1.43	0.75	3.2	5.38	24
C4	1.85	0.75	3.2	5.8	24
C5	1.73	0.75	3.2	5.68	24
C6	2.14	0.75	3.2	6.09	24
C7	1.05	0.75	3.2	5	24
C8	1.85	0.75	3.2	5.8	24
C9	2.97	0.75	3.2	6.92	24
C10	2.99	0.75	3.2	6.94	30
C11	3.24	0.75	3.2	7.19	30
C12	3.88	0.75	3.2	7.83	30
C13	3.3	0.75	3.2	7.25	30

802.11n HT20					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Conducted Output Power dBm	FCC limit (dBm)
C1	2.37	0.8	3.2	6.37	24
C2	1.93	0.8	3.2	5.93	24
C3	1.81	0.8	3.2	5.81	24
C4	1.99	0.8	3.2	5.99	24
C5	1.95	0.8	3.2	5.95	24
C6	2.44	0.8	3.2	6.44	24
C7	1.5	0.8	3.2	5.5	24
C8	2.21	0.8	3.2	6.21	24
C9	3.51	0.8	3.2	7.51	24
C10	3.62	0.8	3.2	7.62	30
C11	3.76	0.8	3.2	7.76	30
C12	4.29	0.8	3.2	8.29	30
C13	3.84	0.8	3.2	7.84	30



802.11ac HT20					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Conducted Output Power dBm	FCC limit (dBm)
C1	2.1	0.99	3.2	6.29	24
C2	1.93	0.99	3.2	6.12	24
C3	1.43	0.99	3.2	5.62	24
C4	1.85	0.99	3.2	6.04	24
C5	1.72	0.99	3.2	5.91	24
C6	2.14	0.99	3.2	6.33	24
C7	1.05	0.99	3.2	5.24	24
C8	1.85	0.99	3.2	6.04	24
C9	2.97	0.99	3.2	7.16	24
C10	2.99	0.99	3.2	7.18	30
C11	3.76	0.99	3.2	7.95	30
C12	4.16	0.99	3.2	8.35	30
C13	3.52	0.99	3.2	7.71	30

802.11n HT40					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Conducted Output Power dBm	FCC limit (dBm)
C14	1.76	0.73	3.2	5.69	24
C15	1.04	0.73	3.2	4.97	24
C16	1.42	0.73	3.2	5.35	24
C17	2.03	0.73	3.2	5.96	24
C18	1.07	0.73	3.2	5	24
C19	0.55	0.73	3.2	4.48	24
C20	2.86	0.73	3.2	6.79	24
C21	2.96	0.73	3.2	6.89	24
C22	2.89	0.73	3.2	6.82	30
C23	3.60	0.73	3.2	7.53	30



802.11ac HT40					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Conducted Output Power dBm	FCC limit (dBm)
C14	1.72	1	3.2	5.92	24
C15	0.88	1	3.2	5.08	24
C16	1.35	1	3.2	5.55	24
C17	1.58	1	3.2	5.78	24
C18	1.11	1	3.2	5.31	24
C19	0.31	1	3.2	4.51	24
C20	3.14	1	3.2	7.34	24
C21	2.98	1	3.2	7.18	24
C22	3.12	1	3.2	7.32	30
C23	3.62	1	3.2	7.82	30

802.11ac HT80					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Conducted Output Power dBm	FCC limit (dBm)
C29	4.25	1.79	3.2	9.24	24
C30	4.47	1.79	3.2	9.46	24
C31	3.96	1.79	3.2	8.95	24
C32	4.26	1.79	3.2	9.25	24
C33	5.84	1.79	3.2	10.83	24
C34	6.3	1.79	3.2	11.29	24



Maximum Power Spectral Density :

802.11a					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Power Spectral Density	FCC limit
C1	-9.28	0.75	3.2	-5.33	11 dBm/MHZ
C2	-9.23	0.75	3.2	-5.28	11 dBm/MHZ
C3	-9.67	0.75	3.2	-5.72	11 dBm/MHZ
C4	-9.54	0.75	3.2	-5.59	11 dBm/MHZ
C5	-9.67	0.75	3.2	-5.72	11 dBm/MHZ
C6	-9.21	0.75	3.2	-5.26	11 dBm/MHZ
C7	-10.23	0.75	3.2	-6.28	11 dBm/MHZ
C8	-9.46	0.75	3.2	-5.51	11 dBm/MHZ
C9	-8.42	0.75	3.2	-4.47	11 dBm/MHZ
C10	-8.2	0.75	3.2	-4.25	11 dBm/MHZ
C11	-10.76	0.75	3.2	-6.81	30 dBm/500kHz
C12	-10.58	0.75	3.2	-6.63	30 dBm/500kHz
C13	-10.98	0.75	3.2	-7.03	30 dBm/500kHz

802.11n HT20					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Power Spectral Density	FCC limit (dBm/MHz)
C1	-9.23	0.8	3.2	-5.23	11 dBm/MHZ
C2	-9.58	0.8	3.2	-5.58	11 dBm/MHZ
C3	-9.72	0.8	3.2	-5.72	11 dBm/MHZ
C4	-9.45	0.8	3.2	-5.45	11 dBm/MHZ
C5	-9.53	0.8	3.2	-5.53	11 dBm/MHZ
C6	-9.36	0.8	3.2	-5.36	11 dBm/MHZ
C7	-9.95	0.8	3.2	-5.95	11 dBm/MHZ
C8	-9.43	0.8	3.2	-5.43	11 dBm/MHZ
C9	-8.14	0.8	3.2	-4.14	11 dBm/MHZ
C10	-7.9	0.8	3.2	-3.9	11 dBm/MHZ
C11	-10.75	0.8	3.2	-6.75	30 dBm/500kHz
C12	-10.33	0.8	3.2	-6.33	30 dBm/500kHz
C13	10.76	0.8	3.2	14.76	30 dBm/500kHz



802.11ac HT20					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Power Spectral Density	FCC limit (dBm/MHz)
C1	-9.22	0.99	3.2	-5.03	11 dBm/MHz
C2	-9.44	0.99	3.2	-5.25	11 dBm/MHz
C3	-9.62	0.99	3.2	-5.43	11 dBm/MHz
C4	-9.36	0.99	3.2	-5.17	11 dBm/MHz
C5	-9.56	0.99	3.2	-5.37	11 dBm/MHz
C6	-9.38	0.99	3.2	-5.19	11 dBm/MHz
C7	-9.76	0.99	3.2	-5.57	11 dBm/MHz
C8	-9.67	0.99	3.2	-5.48	11 dBm/MHz
C9	-8.14	0.99	3.2	-3.95	11 dBm/MHz
C10	-7.97	0.99	3.2	-3.78	11 dBm/MHz
C11	-10.74	0.99	3.2	-6.55	30 dBm/500kHz
C12	-7.30	0.99	3.2	-3.11	30 dBm/500kHz
C13	-10.84	0.99	3.2	-6.65	30 dBm/500kHz

802.11n HT40					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Power Spectral Density	FCC limit (dBm)
C14	-12.6	0.73	3.2	-8.67	11 dBm/MHz
C15	-13.49	0.73	3.2	-9.56	11 dBm/MHz
C16	-12.78	0.73	3.2	-8.85	11 dBm/MHz
C17	-12.02	0.73	3.2	-8.09	11 dBm/MHz
C18	-13.11	0.73	3.2	-9.18	11 dBm/MHz
C19	-14.06	0.73	3.2	-10.13	11 dBm/MHz
C20	-11.06	0.73	3.2	-7.13	11 dBm/MHz
C21	-11.38	0.73	3.2	-7.45	11 dBm/MHz
C22	-14.33	0.73	3.2	-10.4	30 dBm/500kHz
C23	-13.84	0.73	3.2	-9.91	30 dBm/500kHz



802.11ac HT40					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Power Spectral Density	FCC limit (dBm)
C14	-12.36	1	3.2	-8.16	11 dBm/MHZ
C15	-13.45	1	3.2	-9.25	11 dBm/MHZ
C16	-13.07	1	3.2	-8.87	11 dBm/MHZ
C17	-12.59	1	3.2	-8.39	11 dBm/MHZ
C18	-13.18	1	3.2	-8.98	11 dBm/MHZ
C19	-14.12	1	3.2	-9.92	11 dBm/MHZ
C20	-11.38	1	3.2	-7.18	11 dBm/MHZ
C21	-11.39	1	3.2	-7.19	11 dBm/MHZ
C22	-14.5	1	3.2	-10.3	30 dBm/500kHz
C23	-13.58	1	3.2	-9.38	30 dBm/500kHz

802.11ac HT40					
Channel	TX1 (dBm)	Duty Cycle Factor (dB)	Antenna Gain (dB)	Maximum Power Spectral Density	FCC limit (dBm)
C29	-13.89	1.79	3.2	-8.9	11 dBm/MHZ
C30	-13.05	1.79	3.2	-8.06	11 dBm/MHZ
C31	-12.7	1.79	3.2	-7.71	11 dBm/MHZ
C32	-12.95	1.79	3.2	-7.96	11 dBm/MHZ
C33	-11.21	1.79	3.2	-6.22	11 dBm/MHZ
C34	-12.55	1.79	3.2	-7.56	30 dBm/500kHz

7.7. CONCLUSION

Maximum Output Power & Power Spectral Density measurement performed on the sample of the product **AXIUM RX9000**, Sn: **2419MR900209 / 2419MR900267**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.407 & RSS-247** limits.



8. UNWANTED EMISSIONS & UNDESIRABLE EMISSIONS

8.1. TEST CONDITIONS

Date of test : May 17, 2024
Test performed by : Akram HAKKARI
Relative humidity (%) : 34
Ambient temperature (°C) : 23

8.2. TEST SETUP

Measurement is performed on **three channels, near top, near middle and near bottom of worst case mode and of each frequency band.**

Test procedure:
ANSI C63.10 & FCC Part 15 subpart C
FCC KDB 789033 D02 General UNII Test Procedures New Rules

Following frequency ranges, test setup parameters are different and specified in this table:

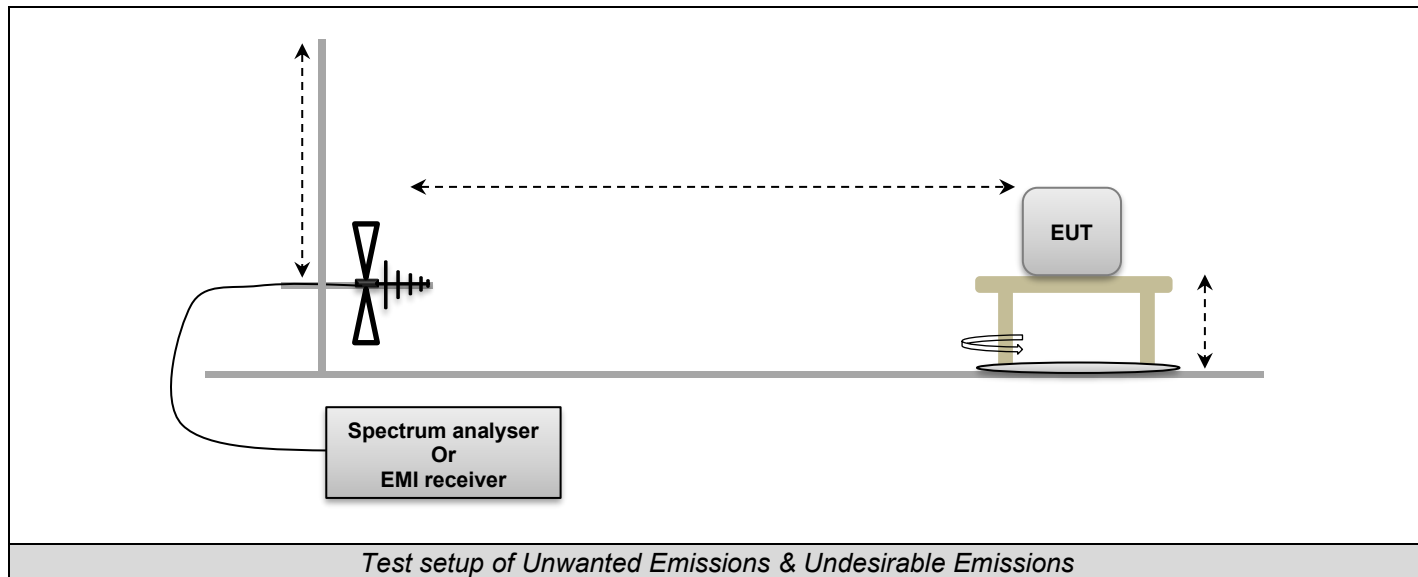
Frequency range:	9kHz to 30MHz	
Test:	Pre-Characterization	Qualification
Antenna Polarization:	Parallel, Perpendicular and Ground parallel	
Antenna Height:	Centered on EUT (§6.6.5 ANSI C63-10)	1m
Antenna Type:	Loop	
RBW Filter:	200Hz below 150kHz / 9kHz above 150kHz	
Maximization:	Turntable rotation of 360 degrees range	
EUT height:	1.5m	0.8m
Test site:	Full Anechoic Chamber	Open Aera Test Site
Distance EUT - Antenna:	3m	10m
Detector:	Peak	QPeak

Frequency range:	30MHz to 1GHz	
Test:	Pre-Characterization	Qualification
Antenna Polarization:	Horizontal and Vertical	
Antenna Height:	Centered on EUT (§6.6.5 ANSI C63-10)	Varied from 1m to 4m
Antenna Type:	Biconical & Bi-Log	
RBW Filter:	120kHz	
Maximization:	Turntable rotation of 360 degrees range	
EUT height:	1.5m	0.8m
Test site:	Full Anechoic Chamber	Open Aera Test Site
Distance EUT - Antenna:	3m	10m
Detector:	Peak	QPeak



Frequency range:	1GHz to 14GHz	
Test:	Pre-Characterization	Qualification
Antenna Polarization:	Horizontal and Vertical	
Antenna Height:	Centered on EUT (§6.6.5 ANSI C63-10)	Centered on EUT (§6.6.5 ANSI C63-10)
Antenna Type:	Horn	
RBW Filter:	1MHz	
Maximization:	Turntable rotation of 360 degrees range	
EUT height:	1.5m	1.5m
Test site:	Full Anechoic Chamber	Full Anechoic Chamber
Distance EUT - Antenna:	3m	3m
Detector:	Peak & Average	Peak & Average

Frequency range:	14GHz to 25GHz	
Test:	Pre-Characterization	Qualification
Antenna Polarization:	Horizontal and Vertical	
Antenna Height:	Centered on EUT (§6.6.5 ANSI C63-10)	Centered on EUT (§6.6.5 ANSI C63-10)
Antenna Type:	Horn	
RBW Filter:	1MHz	
Maximization:	Turntable rotation of 360 degrees range	
EUT height:	1.5m	1.5m
Test site:	Full Anechoic Chamber	Full Anechoic Chamber
Distance EUT - Antenna:	1m	1m
Detector:	Peak & Average	Peak & Average



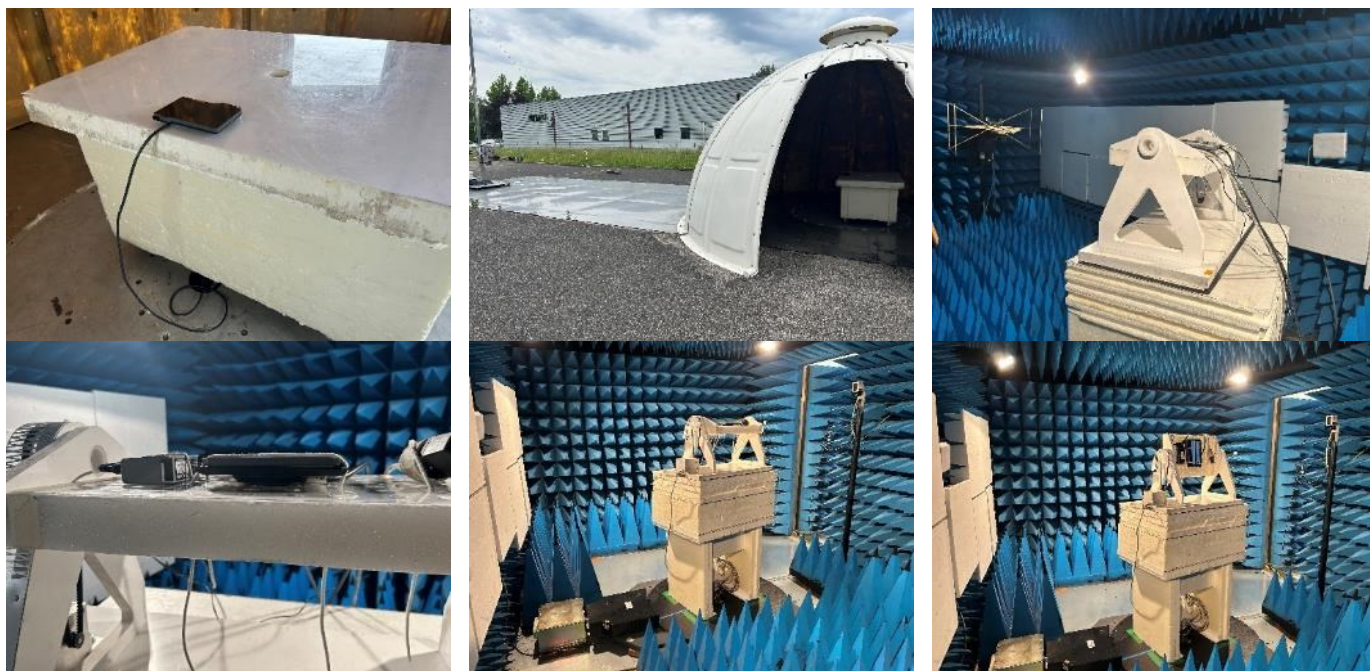


Photo of Unwanted Emissions in Restricted Frequency Bands

8.3. LIMIT

Measure at 300m		
Frequency range	Level	Detector
9kHz-490kHz	67.6dB μ V/m /F(kHz)	QPeak
Measure at 30m		
Frequency range	Level	Detector
490kHz-1.705MHz	87.6dB μ V/m /F(kHz)	QPeak
1.705MHz-30MHz	29.5dB μ V/m	QPeak
Measure at 10m		
Frequency range	Level	Detector
30MHz to 88MHz	29.5dB μ V/m	QPeak
88MHz to 216MHz	33dB μ V/m	QPeak
216MHz to 960MHz	35.5B μ V/m	QPeak
960MHz to 1000MHz	43.5dB μ V/m	QPeak
Above 1000MHz	63.5dB μ V/m	Peak
	43.5dB μ V/m	Average
Measure at 3m		
Frequency range	Level	Detector
30MHz to 88MHz	40dB μ V/m	QPeak
88MHz to 216MHz	43.5dB μ V/m	QPeak
216MHz to 960MHz	46B μ V/m	QPeak
960MHz to 1000MHz	54dB μ V/m	QPeak
Above 1000MHz	74dB μ V/m	Peak
	54dB μ V/m	Average

8.3.1. FCC 15.407 - Bandedge

5725MHz-5850MHz:

Shall not exceed EIRP 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 EIRP of 27 dBm/MHz at the band edge

8.3.2. RSS 247 - Bandedge

5150MHz-5250MHz:

- ✓ outside the band 5150-5350 MHz -27 dBm/MHz
- ✓ into the band 5250-5350 MHz below channel power by at least 26dB, with RBW between 1 and 5% of 99%BW

5250MHz-5350MHz:

- ✓ outside the band 5250-5350 MHz -27 dBm/MHz

5470MHz-5600MHz and 5650MHz-5725MHz:

- ✓ outside the band 5470-5725 MHz -27 dBm/MHz

5725MHz-5850MHz:

- ✓ 27dBm/MHz at frequencies from the band edges decreasing linearly to 15.6dBm/MHz at 5MHz above or below the band edges
- ✓ 15.6dBm/MHz at 5MHz above or below the band edges decreasing linearly to 10dBm/MHz at 25MHz above or below the band edges
- ✓ 10dBm/MHz at 25MHz above or below the band edges decreasing linearly to -27dBm/MHz at 75MHz above or below the band edges
- ✓ -27dBm/MHz at frequencies more than 75MHz above or below the band edges

5850MHz-5895MHz:

- ✓ For the band edge 5725MHz and below, all devices shall be measured using peak detection and shall comply with the following e.i.r.p. spectral density limits:
 - 27dBm/MHz at frequencies from the 5725MHz band edge decreasing linearly to 15.6dBm/MHz at 5MHz below the 5725MHz band edge
 - 15.6dBm/MHz at 5MHz below the 5725MHz band edge decreasing linearly to 10dBm/MHz at 25MHz below the 5725MHz band edge
 - 10dBm/MHz at 25MHz below the 5725MHz band edge decreasing linearly to -27dBm/MHz at 75MHz below the 5725MHz band edge
 - -27dBm/MHz at frequencies more than 75MHz below the 5725MHz band edge
- ✓ For the 5895MHz band edge and above, all devices shall be measured using average detection and shall comply with the following e.i.r.p. spectral density limits:
 - Fixed outdoor access points and fixed outdoor client devices shall not exceed -27dBm/MHz at or above the 5895 MHz band edge.
 - Indoor access points or indoor subordinate devices shall not exceed 15dBm/MHz at the 5895MHz band edge and shall decrease linearly to not exceed -7dBm/MHz at or above 5925MHz.
 - Client devices shall not exceed -5dBm/MHz at the 5895MHz band edge and shall decrease linearly to not exceed -27dBm/MHz at or above 5925MHz.

8.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	Manufacturer	Model	Identifier	Cal_Date	Cal_Due
Amplifier 10MHz - 18GHz	LCIE SUD EST	—	A7102082	05/22	05/24
Antenna Bi-log	AH System	SAS-521-7	C2040180	05/23	05/25
Antenna horn 18GHz	EMCO	3115	C2042029	03/22	03/25
BAT EMC	NEXIO	v3.21.0.32	L1000115		
CABLE	TELEDYNE	R82-0404-0.5M	A5330010	03/22	03/25
Cable 0.75m	-	18GHz	A5329900	08/22	08/24
Cable SMA 40cm	WITHWAVE	W101-SM1-0.4M	A5329979	10/23	10/26
Comb EMR HF	YORK	CGE01	A3169114		
CONTROLLER	INNCO	CO3000	D3044034		
Emission Cable (SMA 1m)	TELEDYNE	26GHz	A5329874	08/22	08/25
Emission Cable (SMA 3.3m)	TELEDYNE	26GHz	A5329875	08/22	08/25
Filter Matrice	LCIE SUD EST	Combined filters	A7484078	03/23	03/25
Rehausse Table C3	LCIE	—	F2000511		
Rehausse Table C3	LCIE	—	F2000507		
Semi-Anechoic chamber #3 (BF)	SIEPEL	—	D3044017_BF	04/22	04/25
Semi-Anechoic chamber #3 (VSWR)	SIEPEL	—	D3044017_VSWR	04/22	04/25
Spectrum analyzer	ROHDE & SCHWARZ	FSU 26	A4060058	09/23	09/25
Table C3	LCIE	—	F2000461		
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	05/25
TILT	INNCO	TILT	D3044033		
Turntable chamber (Cage#3)	ETS Lingren	Model 2165	F2000371		
Turntable controller (Cage#3)	ETS Lingren	Model 2090	F2000444		

8.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None



8.6. RESULTS

For all following measurements, worst case is presented with different configurations and modulations of EUT.

8.6.1. 30MHz to 14GHz

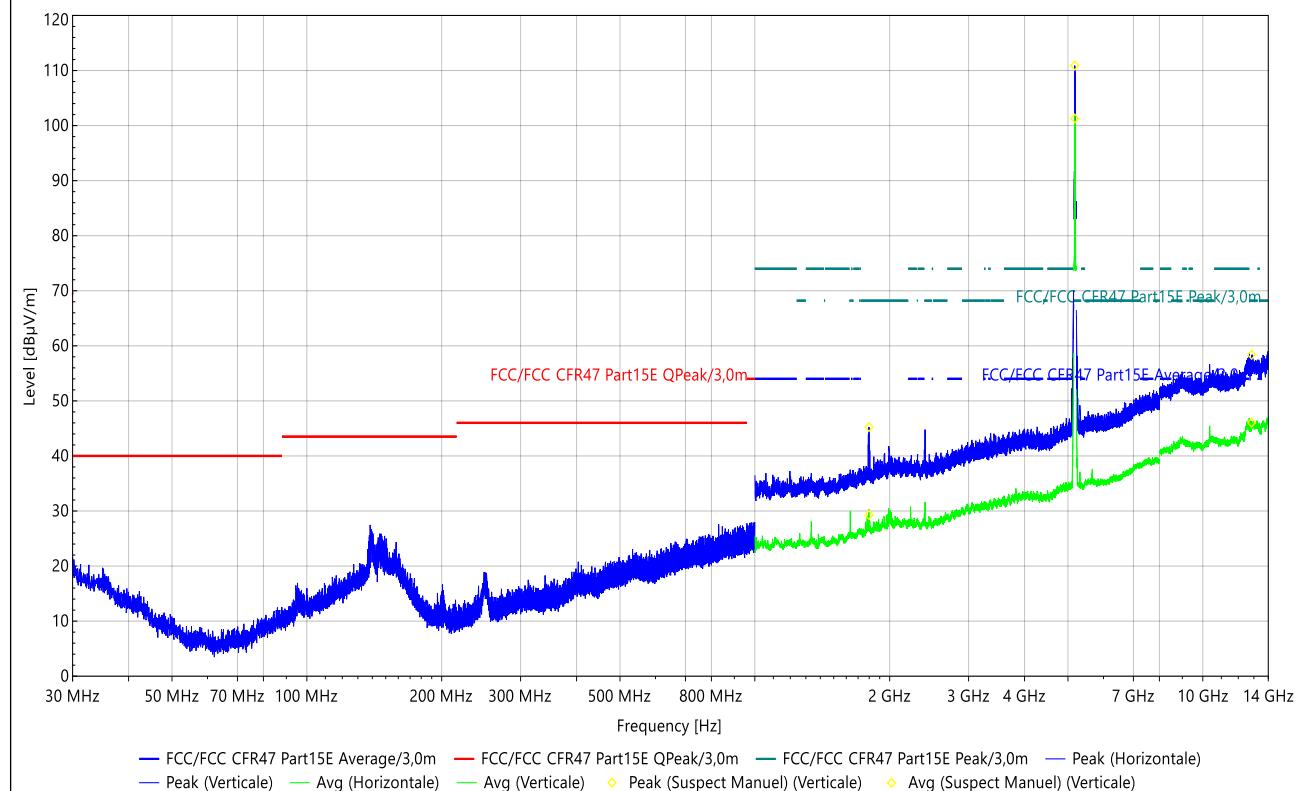
Graphs – Pre characterization:

Graph identifier		Polarization	Mode	Channel	EUT position	Comments
Emr#	1	H/V	TX	C1	Axis XY/Z	Supply 1
Emr#	2	H/V	TX	C2	Axis XY/Z	Supply 1
Emr#	3	H/V	TX	C3	Axis XY/Z	Supply 1
Emr#	4	H/V	TX	C4	Axis XY/Z	Supply 1
Emr#	5	H/V	TX	C5	Axis XY/Z	Supply 1
Emr#	6	H/V	TX	C6	Axis XY/Z	Supply 1
Emr#	7	H/V	TX	C7	Axis XY/Z	Supply 1
Emr#	8	H/V	TX	C8	Axis XY/Z	Supply 1
Emr#	9	H/V	TX	C9	Axis XY/Z	Supply 1
Emr#	10	H/V	TX	C10	Axis XY/Z	Supply 1
Emr#	11	H/V	TX	C11	Axis XY/Z	Supply 1
Emr#	12	H/V	TX	C12	Axis XY/Z	Supply 1
Emr#	13	H/V	TX	C13	Axis XY/Z	Supply 1
Emr#	14	H/V	TX	C1	Axis XY/Z	Supply 2
Emr#	15	H/V	TX	C2	Axis XY/Z	Supply 2
Emr#	16	H/V	TX	C3	Axis XY/Z	Supply 2
Emr#	17	H/V	TX	C4	Axis XY/Z	Supply 2
Emr#	18	H/V	TX	C5	Axis XY/Z	Supply 2
Emr#	19	H/V	TX	C6	Axis XY/Z	Supply 2
Emr#	20	H/V	TX	C7	Axis XY/Z	Supply 2
Emr#	21	H/V	TX	C8	Axis XY/Z	Supply 2
Emr#	22	H/V	TX	C9	Axis XY/Z	Supply 2
Emr#	23	H/V	TX	C10	Axis XY/Z	Supply 2
Emr#	24	H/V	TX	C11	Axis XY/Z	Supply 2
Emr#	25	H/V	TX	C12	Axis XY/Z	Supply 2
Emr#	26	H/V	TX	C13	Axis XY/Z	Supply 2

Radiated Emissions

Graph name: Emr#1
Frequency range: 30 MHz to 14 GHz

(H+V) - C1 - TX mode - Automatic Axis



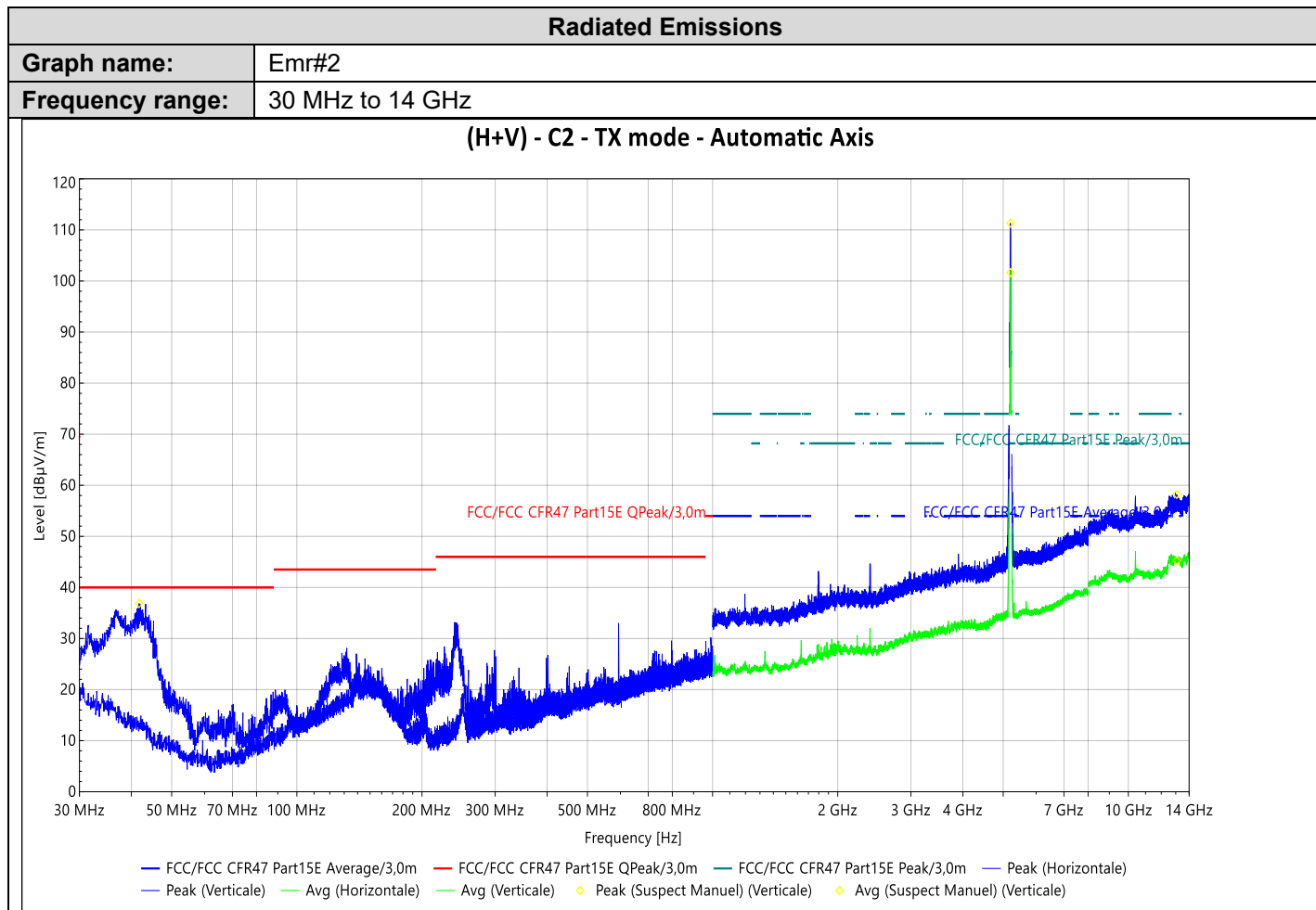
Pre-Characterization:

Frequency	PK Level (dBμV/m)	Lim.PK (dBμV/m)	Avg (dBμV/m)	Angle (°)	Polar.	Correct. (dB)
12.8492 GHz	58.37	68.20	46.06	22	V	-7.42
5.177027 GHz*	110.90	68.20	101.28	199	V	43.84
1.798045 GHz	45.24	68.20	29.26	25	V	-29.35

*Carrier frequency

No significant frequency observed

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

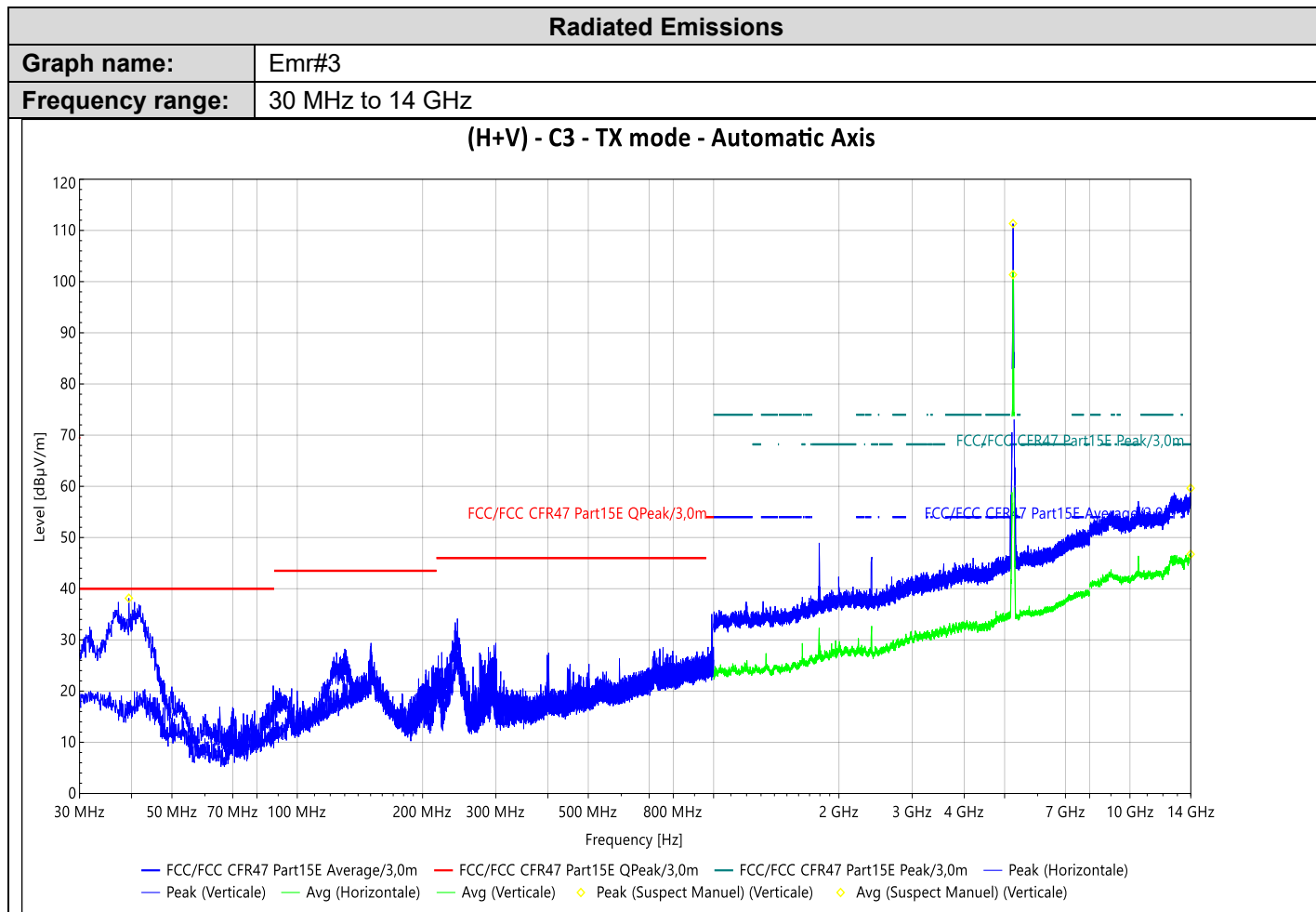


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.0712 GHz	58.23	68.20	45.24		352	V	-6.96
5.20339 GHz*	111.32	68.20	101.62		179	V	43.88
41.737 MHz	36.86			40.00	52	V	-10.59

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

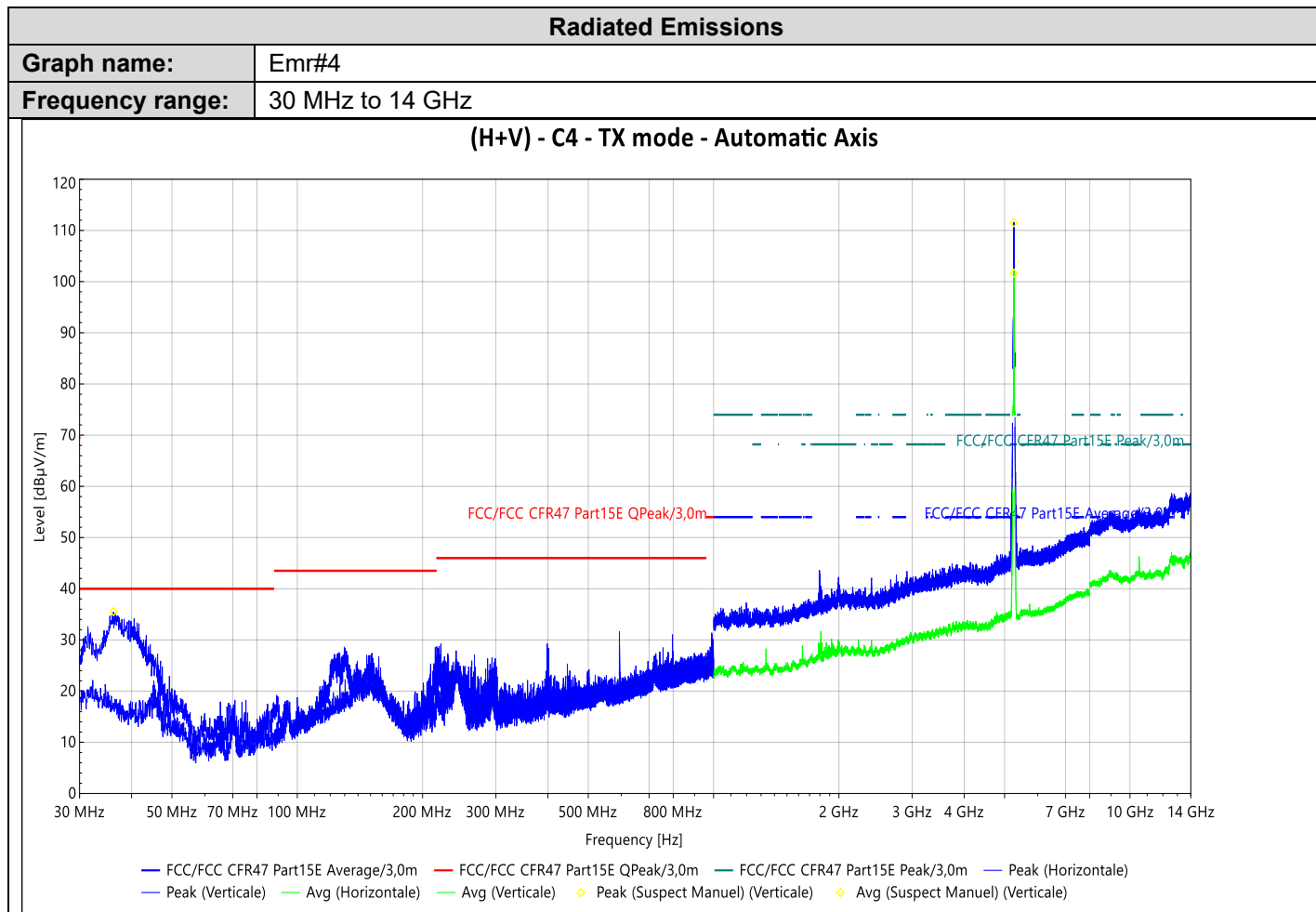


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.9874 GHz	59.64	68.20	46.74		334	V	-4.11
5.23688 GHz*	111.33	68.20	101.35		181	V	43.94
39.409 MHz	38.15			40.00	111	V	-9.44

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

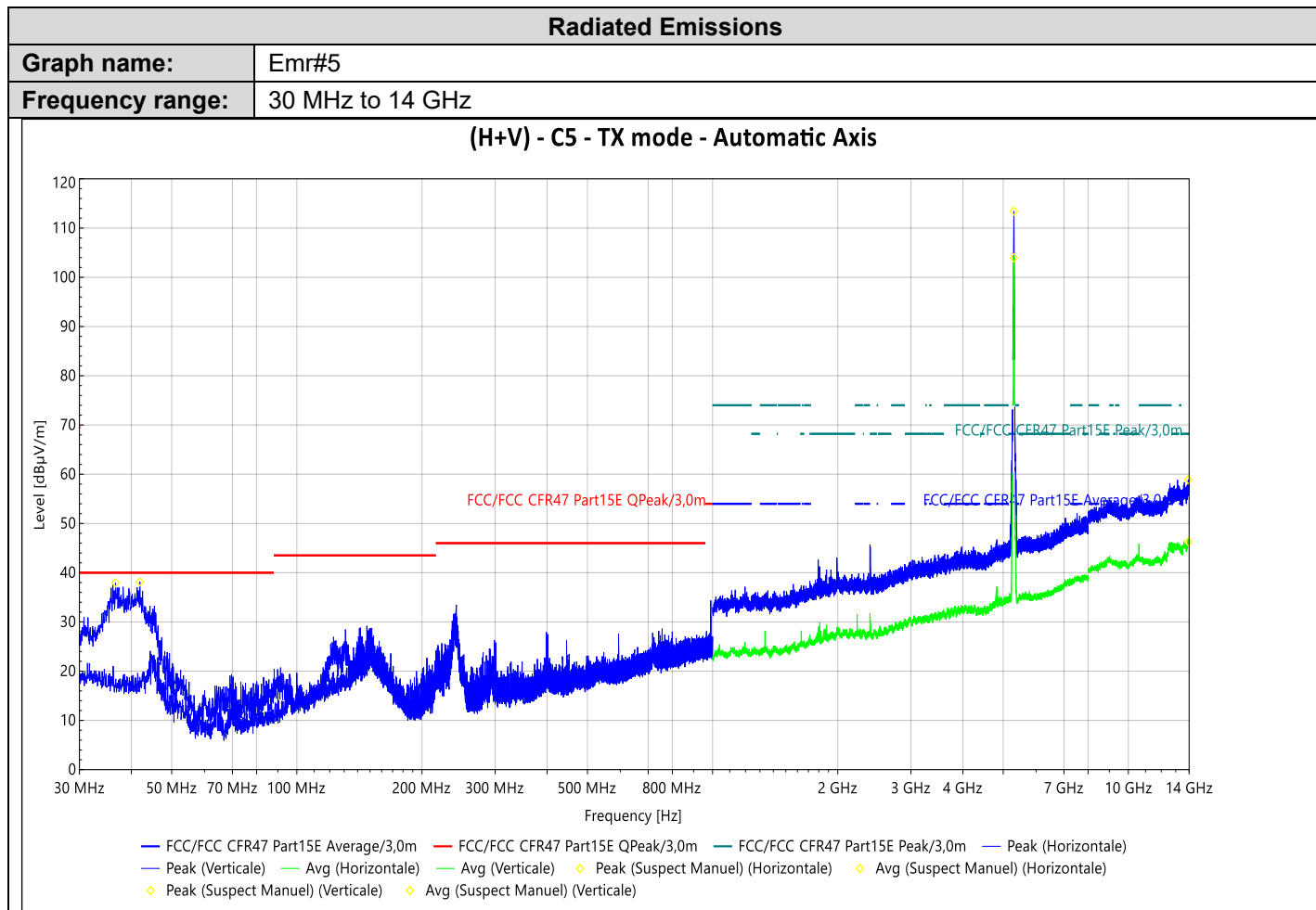


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
5.263096 GHz*	111.51	68.20	101.66		181	V	43.98
36.208 MHz	35.51			40.00	222	V	-7.81

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

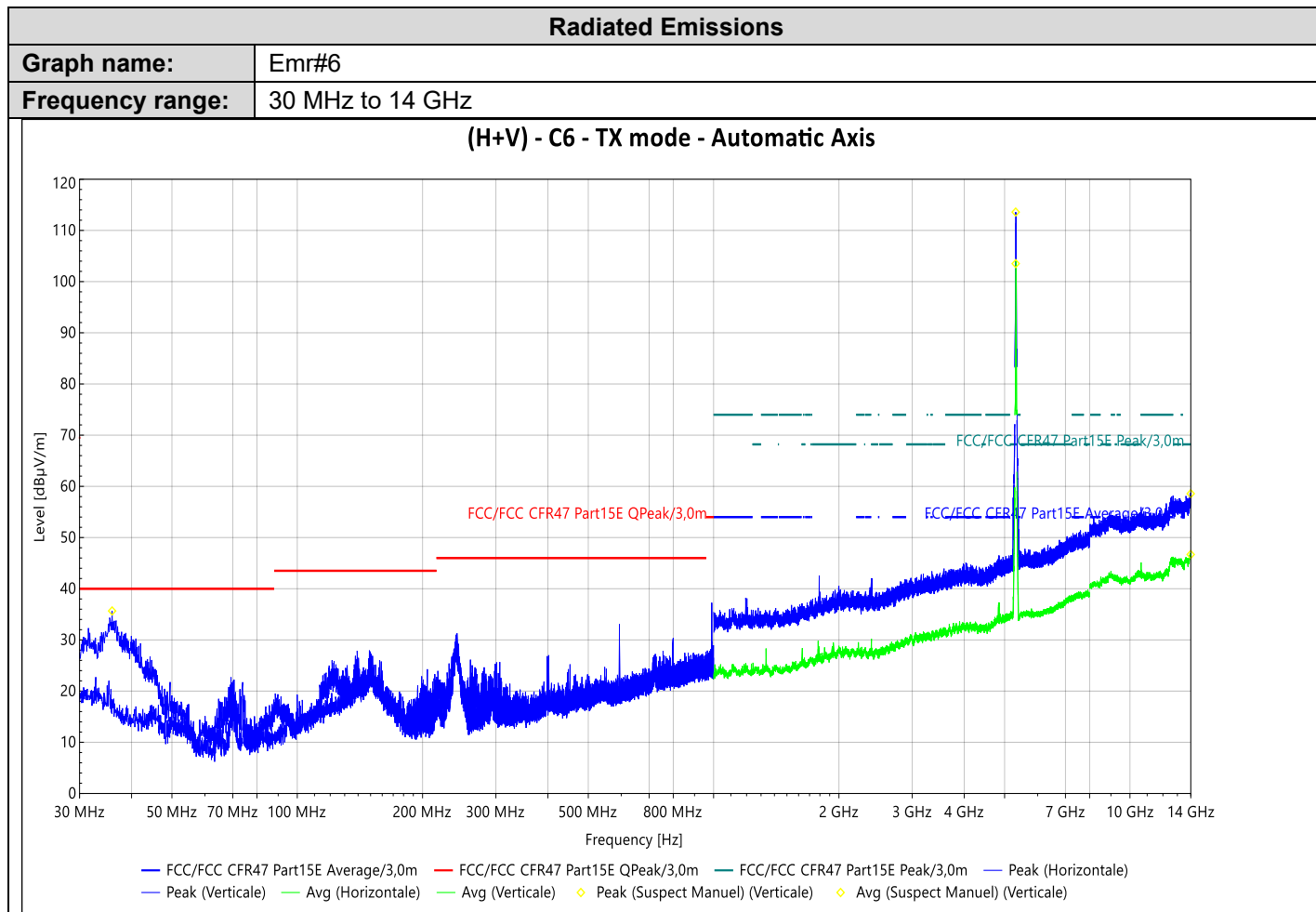


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.9328 GHz	58.90	68.20	46.29		317	H	-4.57
5.303732 GHz*	113.44	68.20	103.92		197	V	44.07
36.6445 MHz	37.94			40.00	159	V	-8.04
41.931 MHz	38.15			40.00	239	V	-10.68

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

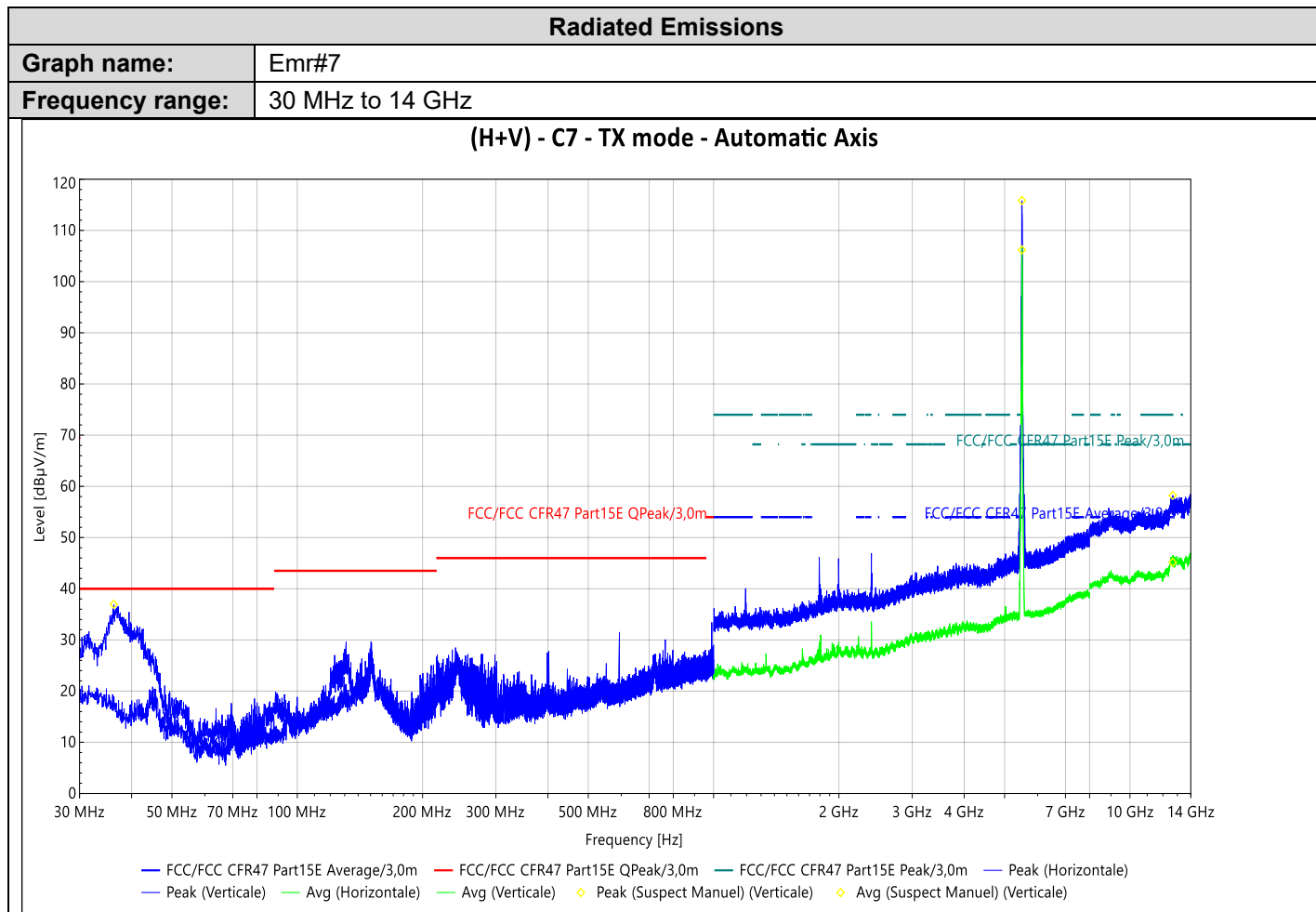


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.9928 GHz	58.57	68.20	46.68		269	V	-4.05
5.315812 GHz*	113.58	68.20	103.51		247	V	44.09
35.917 MHz	35.66			40.00	192	V	-7.65

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)



Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
12.668599999 GHz	58.24	74.00	45.16	54.00		106	V	-7.57
36.2565 MHz	36.95				40.00	190	V	-7.83
5.503702 GHz*	115.84	68.20	106.20			196	V	44.44

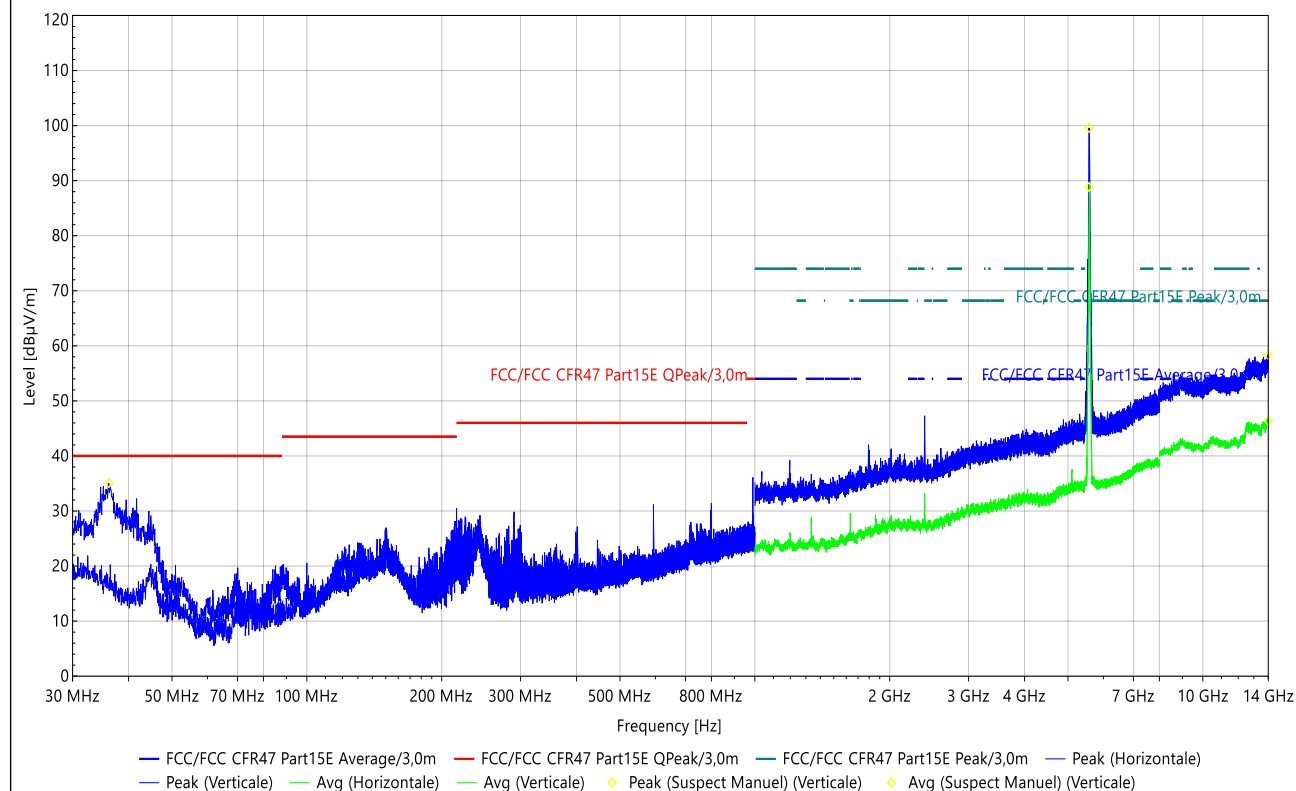
*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

Radiated Emissions

Graph name: Emr#8
Frequency range: 30 MHz to 14 GHz

(H+V) - C8 - TX mode - Automatic Axis

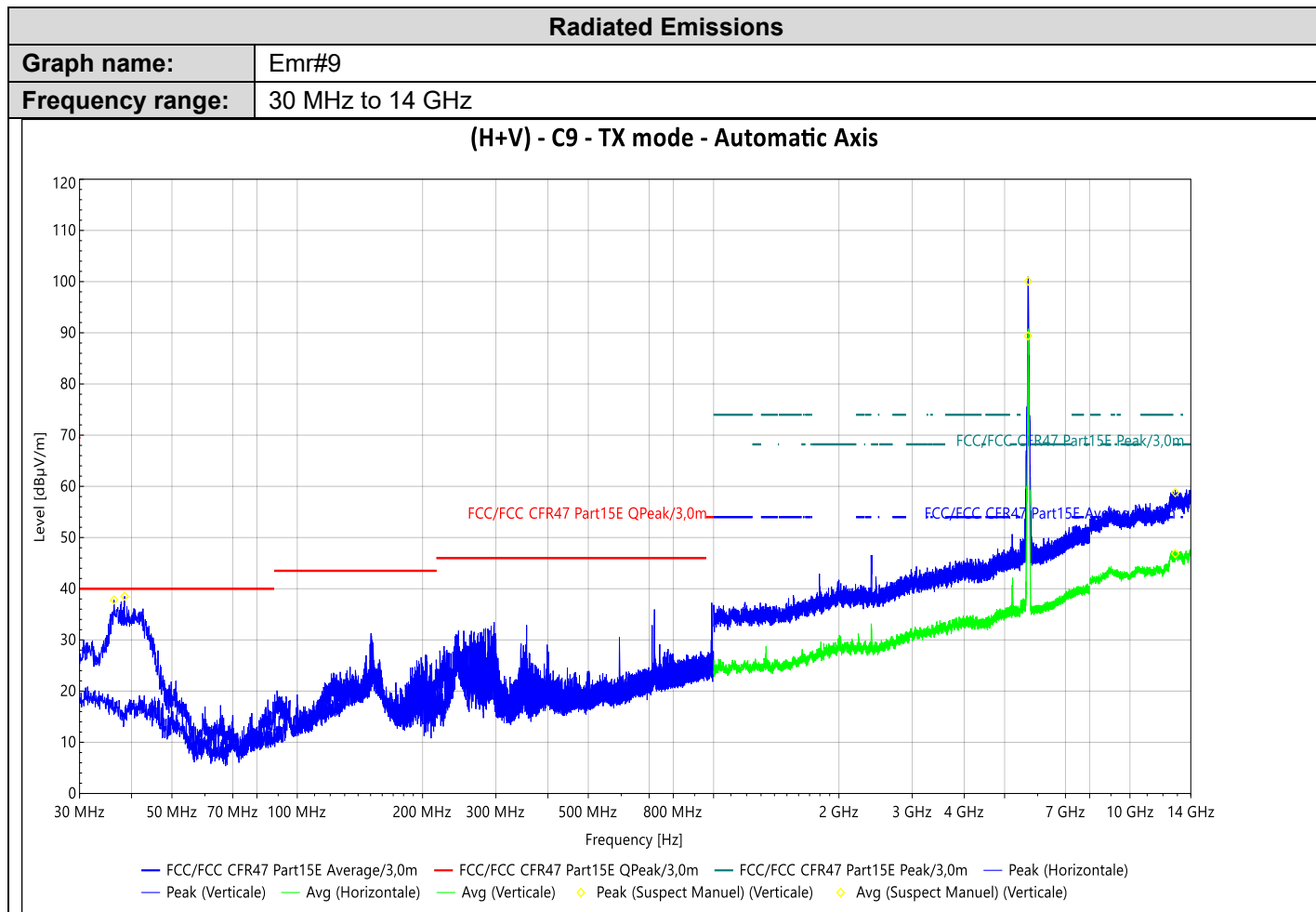


Pre-Characterization:

Frequency	PK Level (dBμV/m)	Lim.PK (dBμV/m)	Avg (dBμV/m)	Lim.Avg (dBμV/m)	Lim.QP (dBμV/m)	Angle (°)	Polar.	Correct. (dB)
13.9928 GHz	58.33	68.20	46.38			353	V	-4.05
36.1595 MHz	35.06				40.00	144	V	-7.78
5.573088 GHz*	99.57	68.20	88.85			233	V	-18.34

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

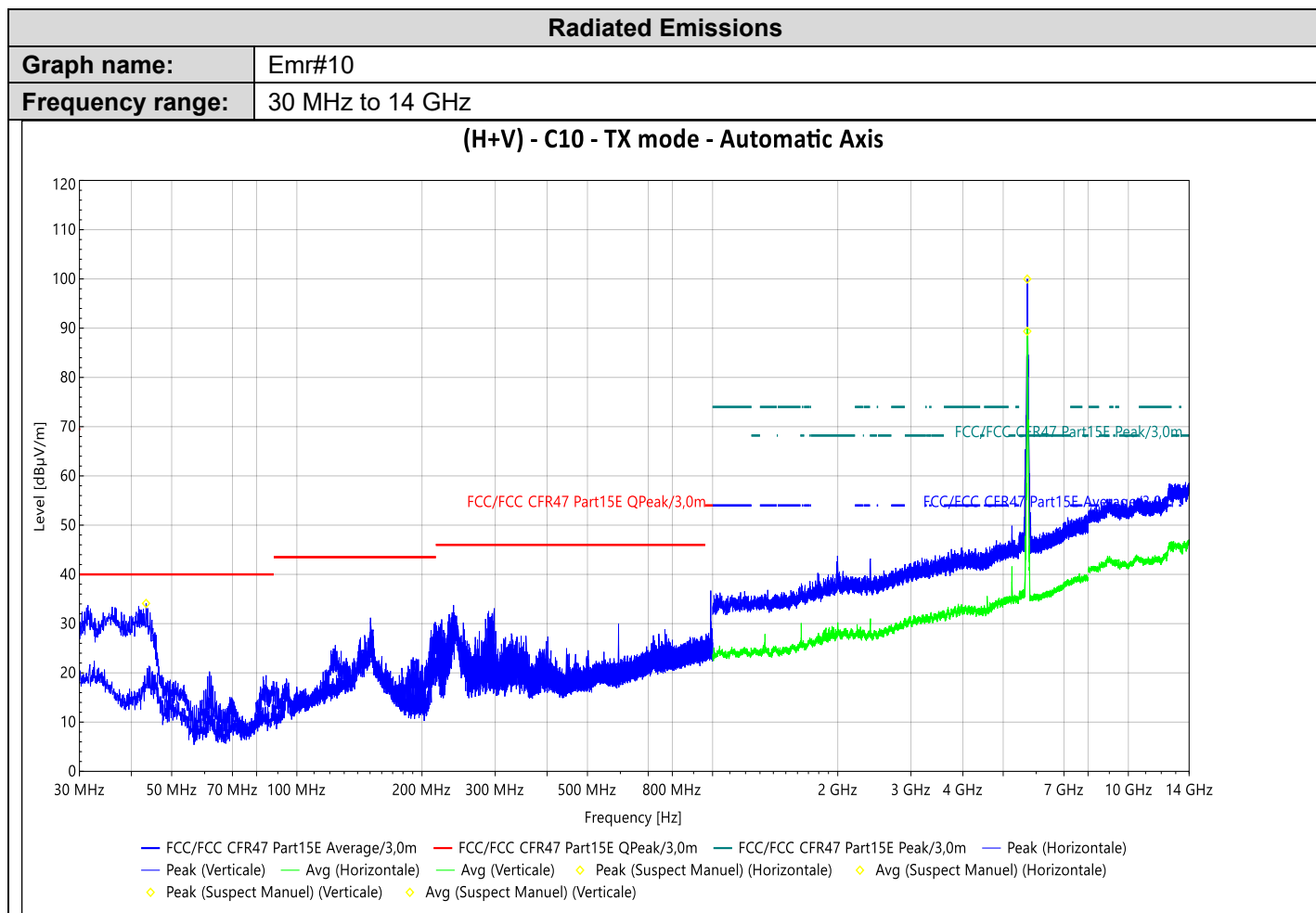


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
12.848599999 GHz	58.79	68.20	46.87		5	V	-7.42
5.693102 GHz*	100.08	68.20	89.39		231	V	-18.13
36.305 MHz	37.81			40.00	165	V	-7.86
38.4875 MHz	38.53			40.00	288	V	-8.99

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

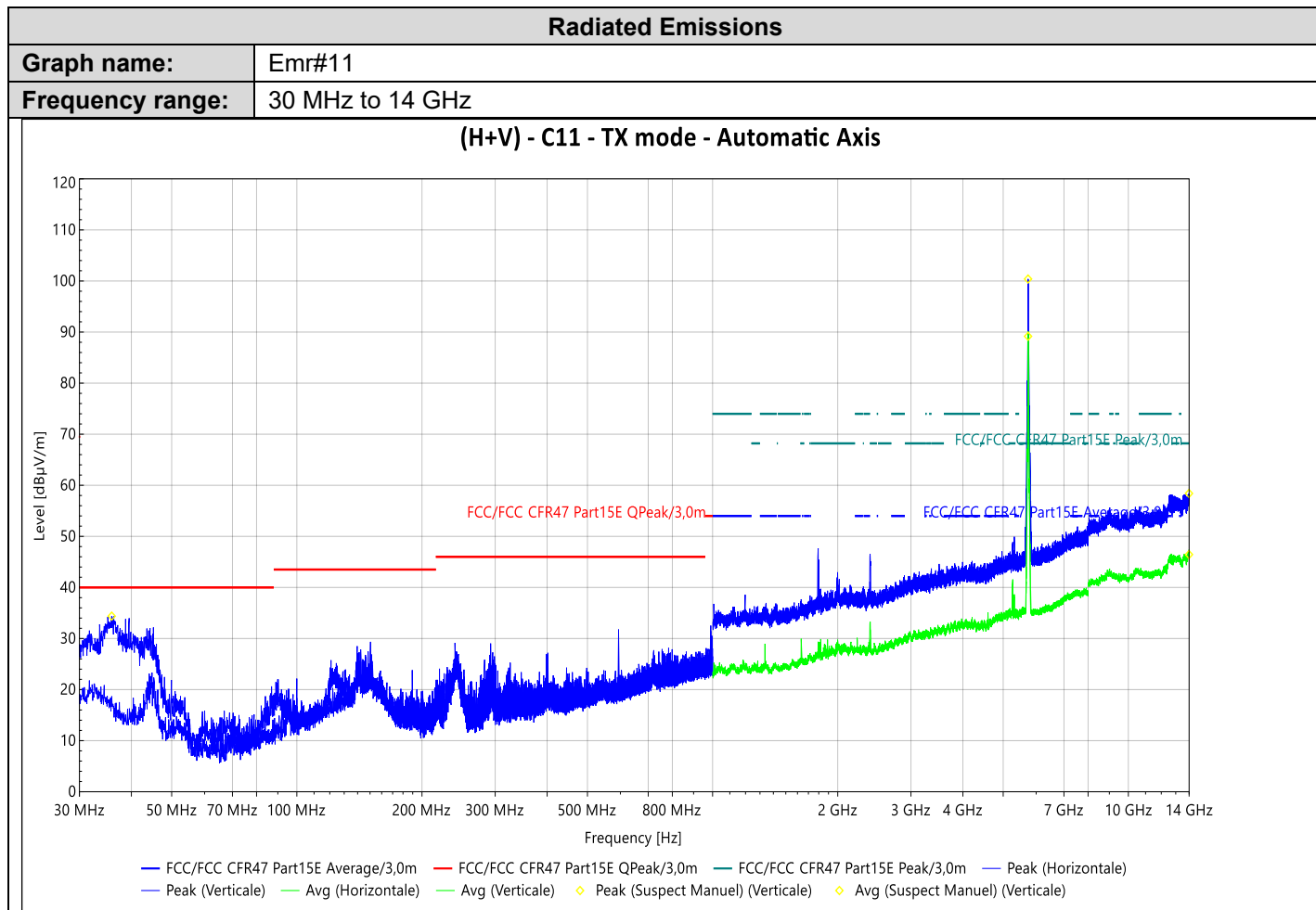


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
5.712942 GHz*	99.98	68.20	89.38			263	H	-18.09
43.386 MHz	34.10				40.00	355	V	-11.40

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

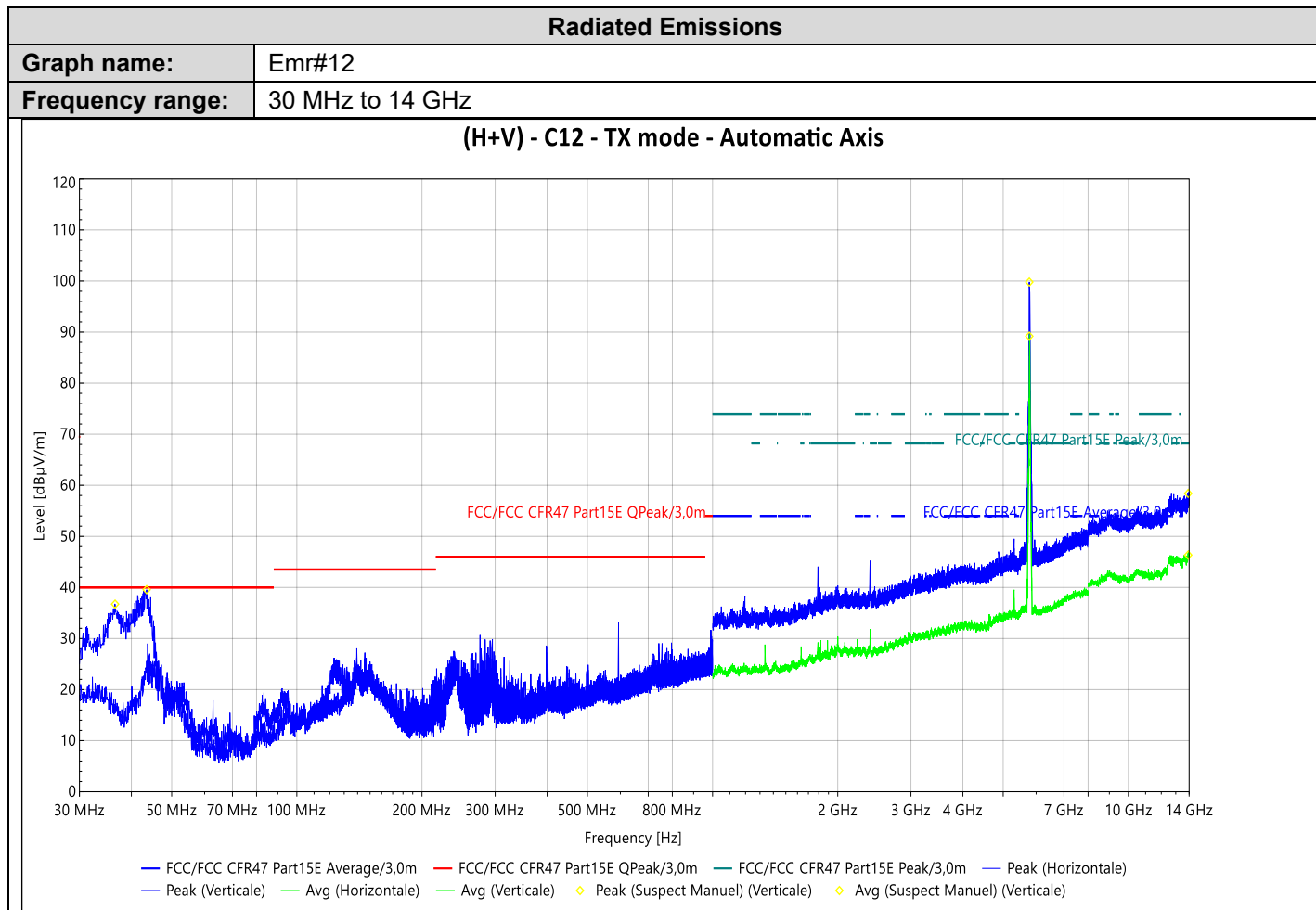


Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.9892 GHz	58.40	68.20	46.44		196	V	-4.09
5.73804 GHz*	100.39	68.20	89.17		180	V	-18.08
35.8685 MHz	34.38			40.00	55	V	-7.63

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)



Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.9268 GHz	58.40	68.20	46.35		130	V	-4.61
5.778 GHz*	99.80	68.20	89.20		0	V	-18.10
36.5475 MHz	36.74			40.00	304	V	-7.99
43.5315 MHz	39.56			40.00	189	V	-11.47

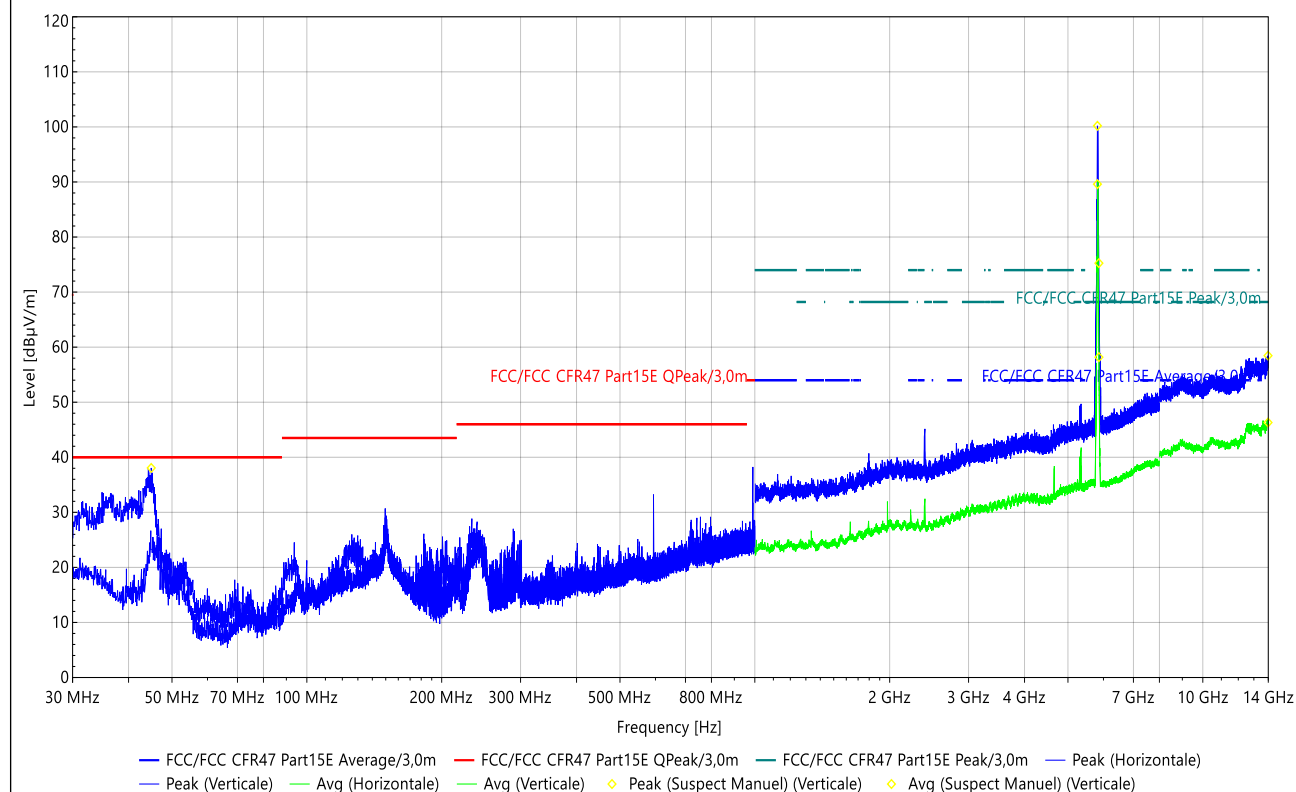
*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

Radiated Emissions

Graph name: Emr#13
Frequency range: 30 MHz to 14 GHz

(H+V) - C13 - TX mode - Automatic Axis



Pre-Characterization:

Frequency	PK Level (dBμV/m)	Lim.PK (dBμV/m)	Avg (dBμV/m)	Lim.QP (dBμV/m)	Angle (°)	Polar.	Correct. (dB)
13.9832 GHz	58.45	68.20	46.31		285	V	-4.16
5.81808 GHz*	100.20	68.20	89.60		179	V	-18.11
5.862448 GHz*	75.25	68.20	58.18		181	V	-18.06
44.938 MHz	38.06			40.00	358	V	-12.09

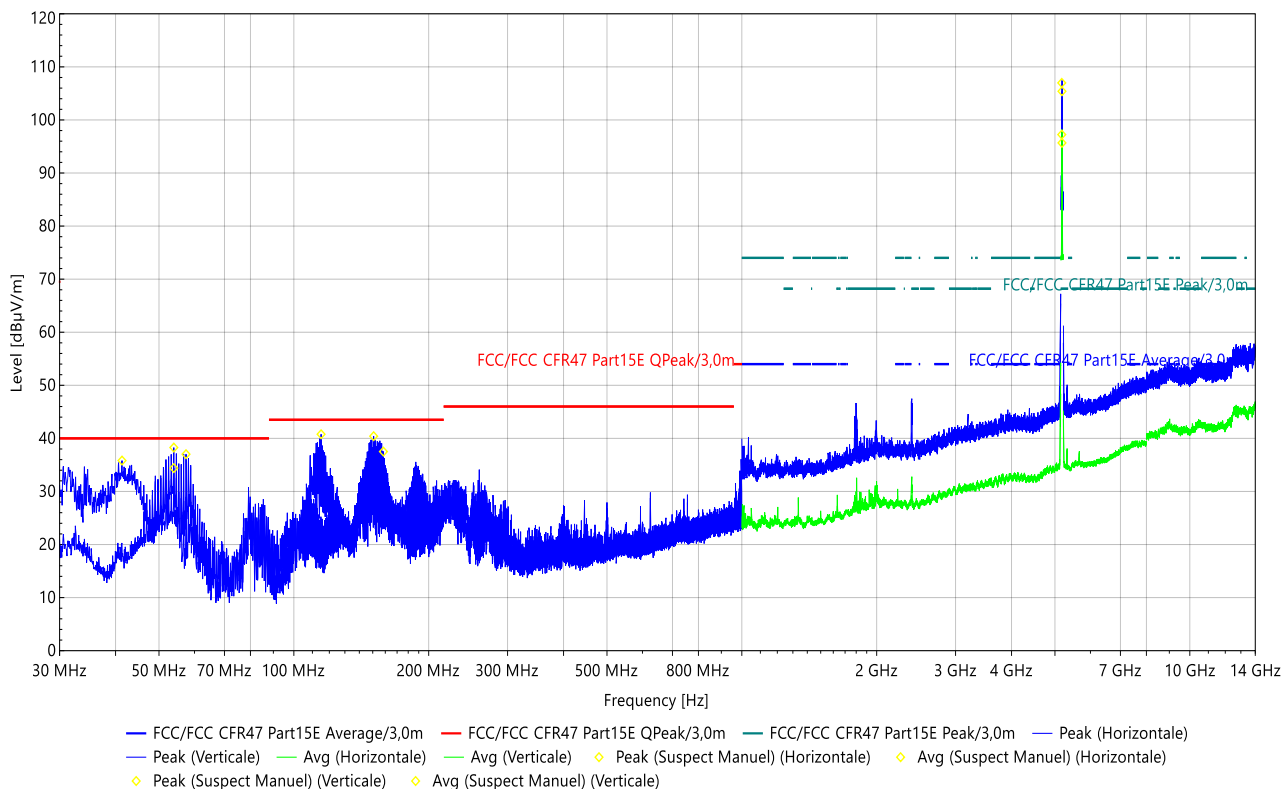
*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)

Radiated Emissions

Graph name: Emr#14
Frequency range: 30 MHz to 14 GHz

(H+V) - C1 - TX mode - Automatic Axis

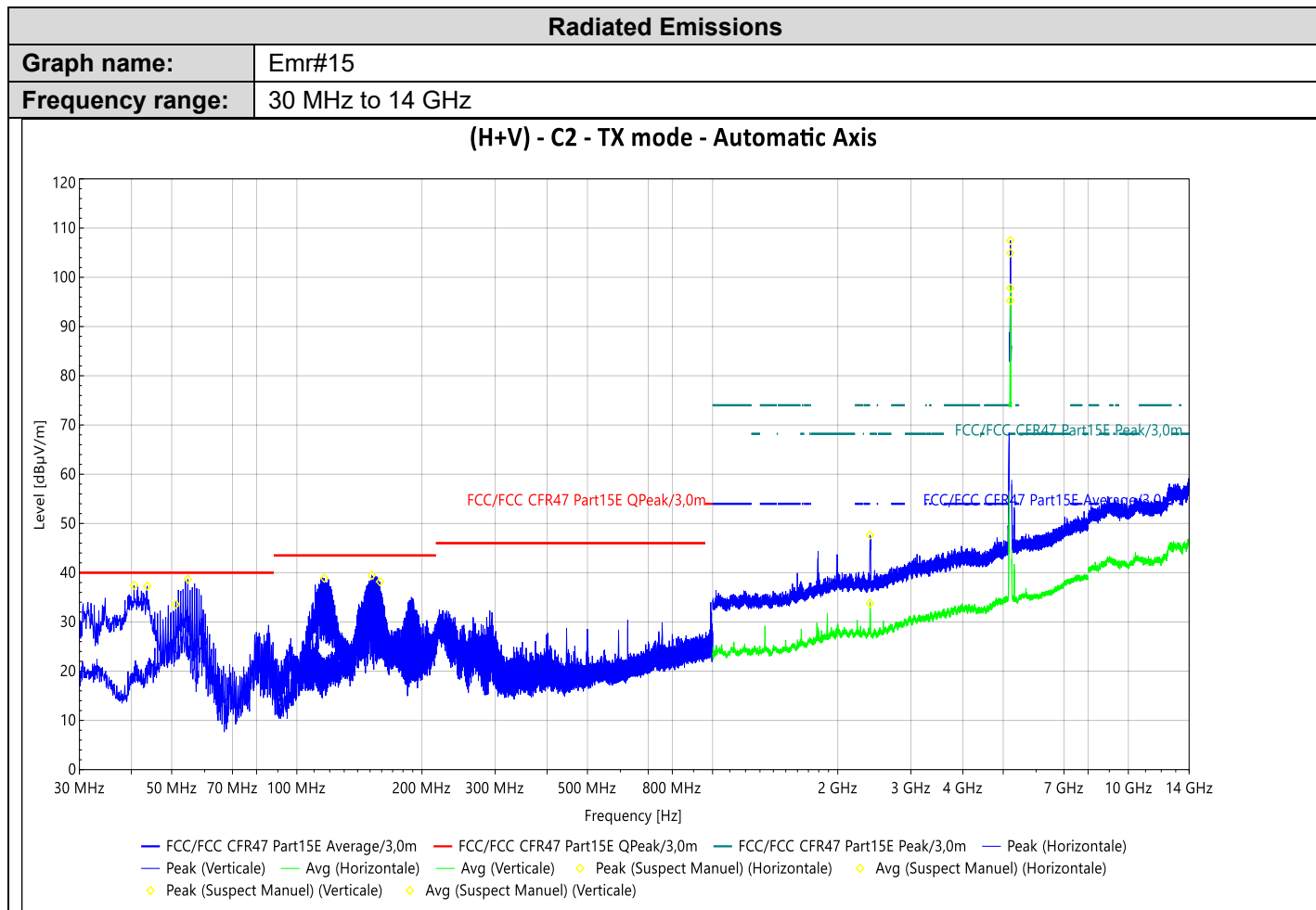


Pre-Characterization:

Frequency	PK Level (dBμV/m)	Lim.PK (dBμV/m)	Avg (dBμV/m)	Lim.QP (dBμV/m)	Angle (°)	Polar.	Correct. (dB)
5.178035 GHz*	106.98	68.20	97.24		142	H	43.84
53.959 MHz	34.40			40.00	357	H	-15.30
115.0205 MHz	40.78			43.50	0	H	-6.58
158.4765 MHz	37.52			43.50	143	H	-2.92
5.183509 GHz*	105.40	68.20	95.67		334	V	43.85
41.349 MHz	35.82			40.00	225	V	-10.40
53.959 MHz	38.27			40.00	136	V	-15.30
57.451 MHz	37.02			40.00	264	V	-15.93
150.7165 MHz	40.41			43.50	47	V	-2.01

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)



Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	Avg (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
5.203362 GHz	107.47	68.20	97.80		179	H	43.88
51.146 MHz	33.56			40.00	190	H	-14.54
116.3785 MHz	38.90			43.50	326	H	-6.26
158.428 MHz	38.18			43.50	141	H	-2.91
2.391112 GHz	47.65	68.20	33.78		287	H	-28.07
5.20262 GHz*	104.95	68.20	95.27		270	V	43.88
40.573 MHz	37.45			40.00	339	V	-10.01
43.677 MHz	37.29			40.00	68	V	-11.54
54.6865 MHz	38.69			40.00	109	V	-15.49
151.444 MHz	39.45			43.50	101	V	-2.01

*Carrier frequency

No significant frequency observed, the NSA margin >6dB (1GHz to 12.75 GHz)