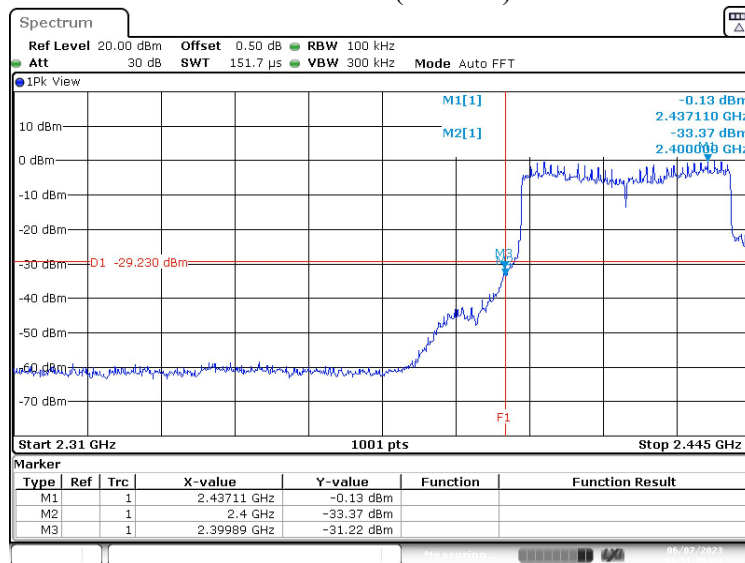


Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : Band Edge
 Test Mode : Transmit (802.11ax-40 MHz)-CDD
 Test Date : 2023/06/07

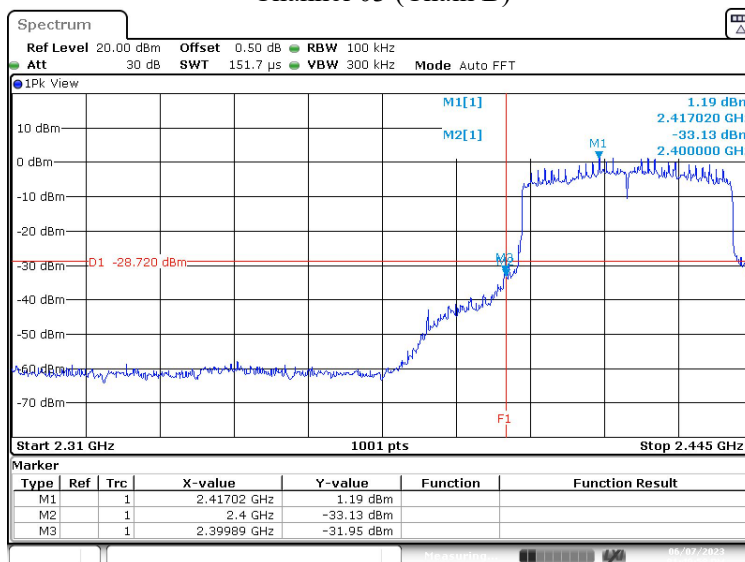
Measurement Level	Result
Δ (dB)	
> 30	PASS

Channel 03 (Chain A)



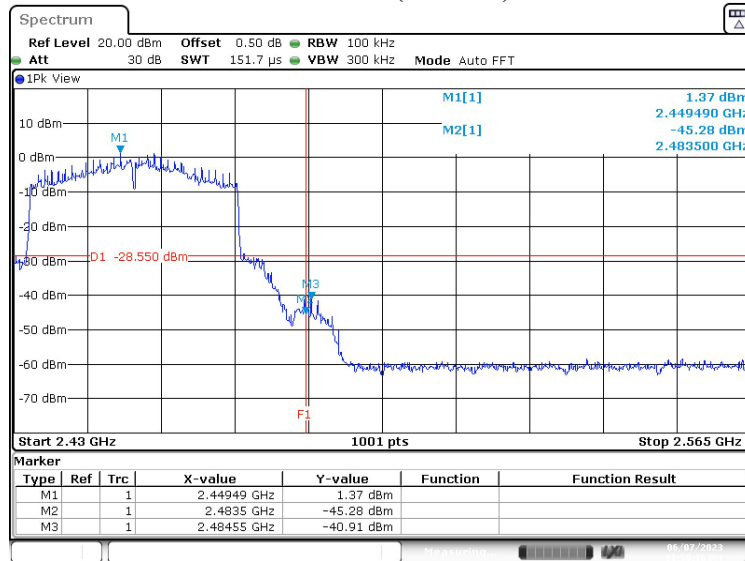
Date: 7 JUN.2023 13:51:50

Channel 03 (Chain B)



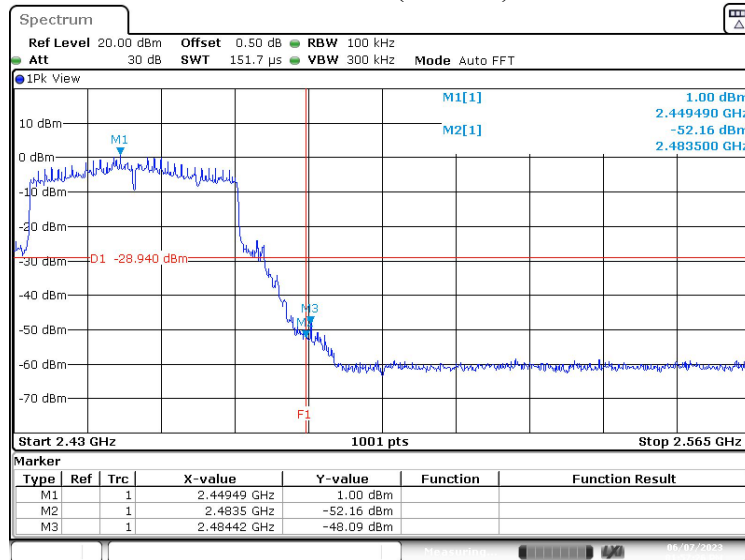
Date: 7 JUN.2023 13:49:58

Channel 09 (Chain A)



Date: 7.JUN.2023 13:59:17

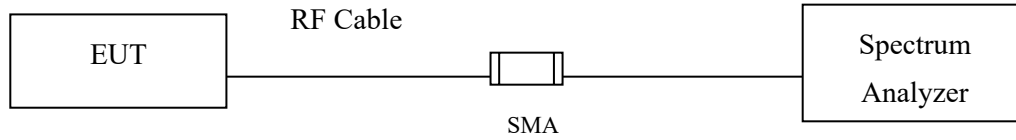
Channel 09 (Chain B)



Date: 7.JUN.2023 13:57:26

7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

The EUT was setup according to ANSI C63.4, 2014; tested according to ANSI C63.10 Section 11.8 for compliance to FCC 47CFR 15.247 requirements.

7.4. Test Result of 6dB Bandwidth

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11b)-CDD

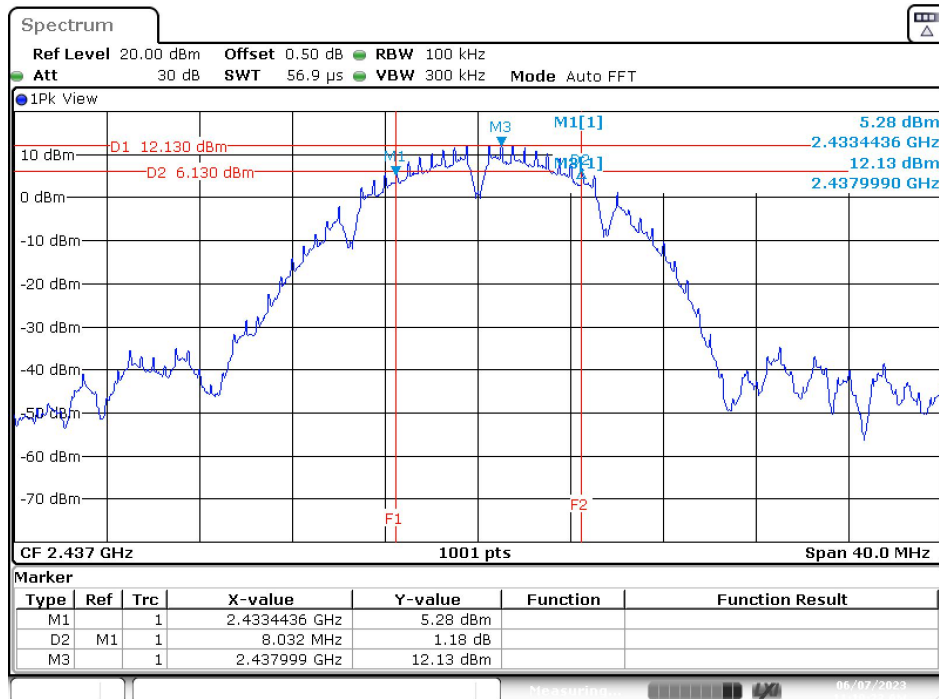
Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	7513	>500	Pass
06	2437	8032	>500	Pass
11	2462	8551	>500	Pass

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	8032	>500	Pass
06	2437	8551	>500	Pass
11	2462	8072	>500	Pass

Channel 06:



Date: 7.JUN.2023 11:19:23

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11g)-CDD

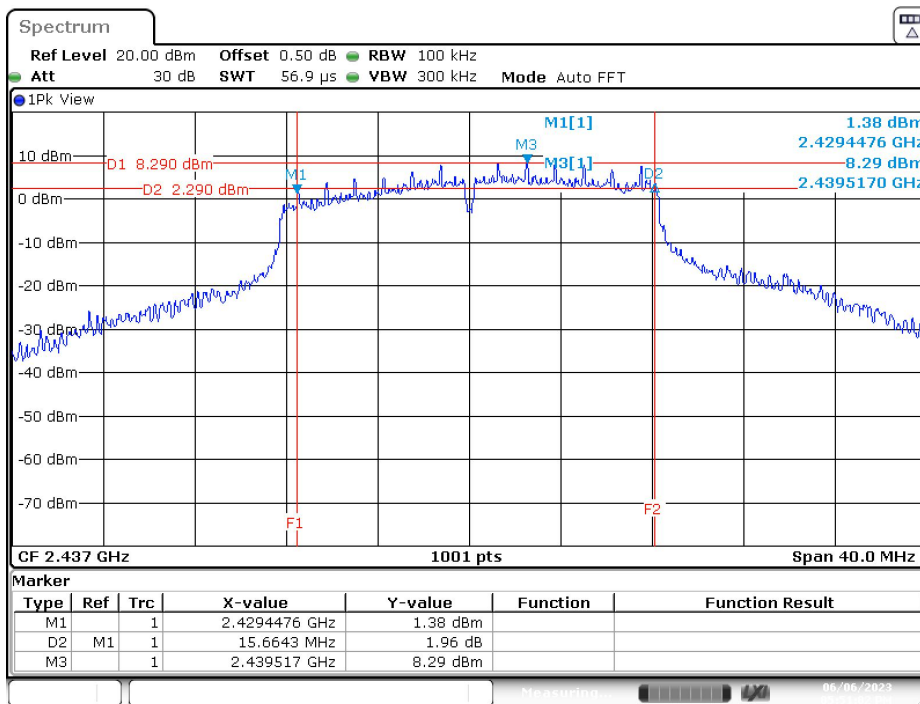
Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16304	>500	Pass
06	2437	15664	>500	Pass
11	2462	15624	>500	Pass

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16304	>500	Pass
06	2437	16304	>500	Pass
11	2462	15664	>500	Pass

Channel 06:



Date: 6 JUN 2023 17:51:03

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11ax-20 MHz)-CDD

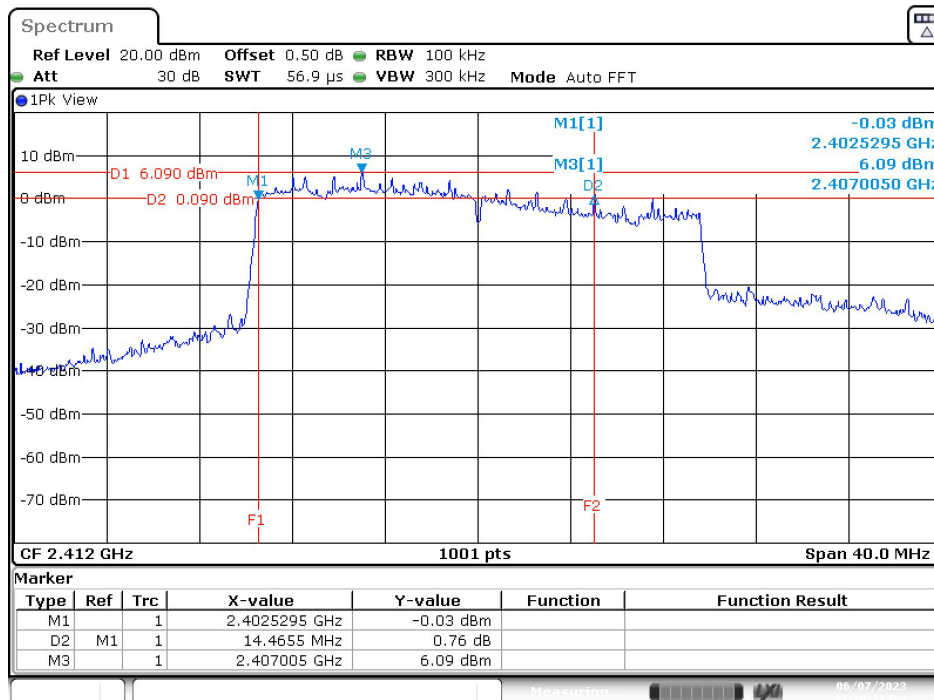
Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	18701	>500	Pass
06	2437	16024	>500	Pass
11	2462	18542	>500	Pass

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	14466	>500	Pass
06	2437	18542	>500	Pass
11	2462	18781	>500	Pass

Channel 01:



Date: 7.JUN.2023 13:39:23

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCie interface Module
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11ax-40 MHz)-CDD

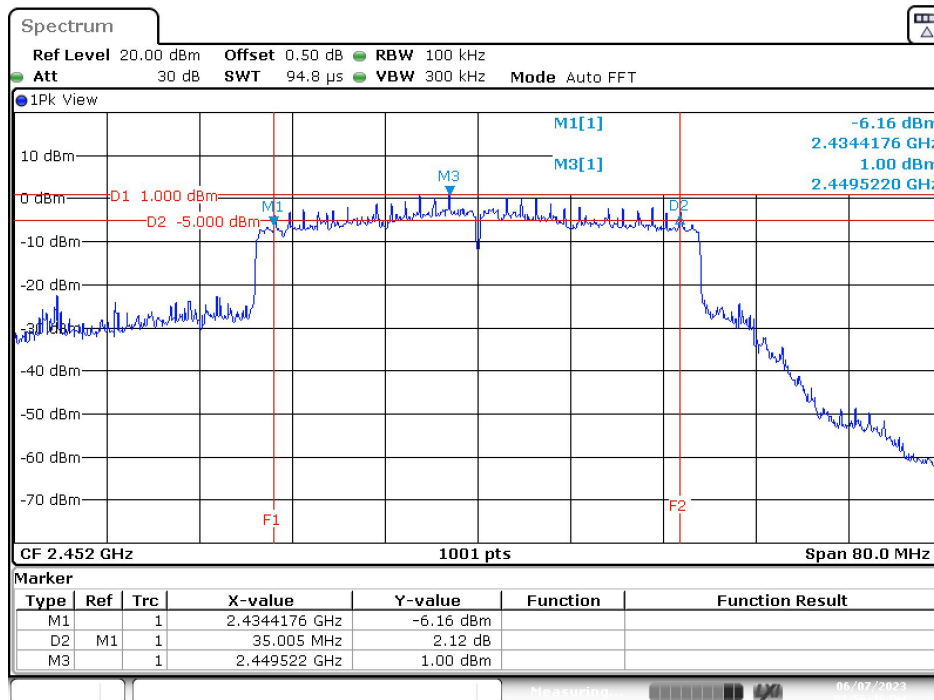
Chain A

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	37882	>500	Pass
06	2437	35964	>500	Pass
09	2452	33806	>500	Pass

Chain B

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	35085	>500	Pass
06	2437	35085	>500	Pass
09	2452	35005	>500	Pass

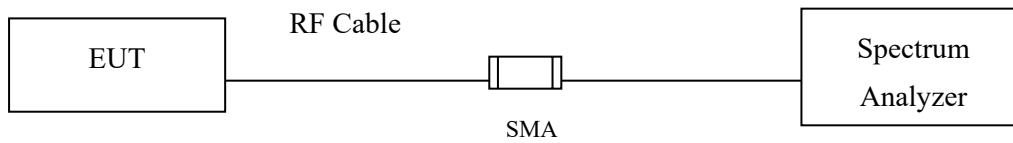
Channel 09:



Date: 7.JUN.2023 13:56:47

8. Power Density

8.1. Test Setup



8.2. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8 dBm in any 3 kHz bandwidth.

8.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using C63.10 Section 11.10.2 Method PKPSD (peak PSD)

The maximum power density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2400 MHz: Directional gain = 6.45 dBi, Limit = 7.55 dBm

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$ dBi

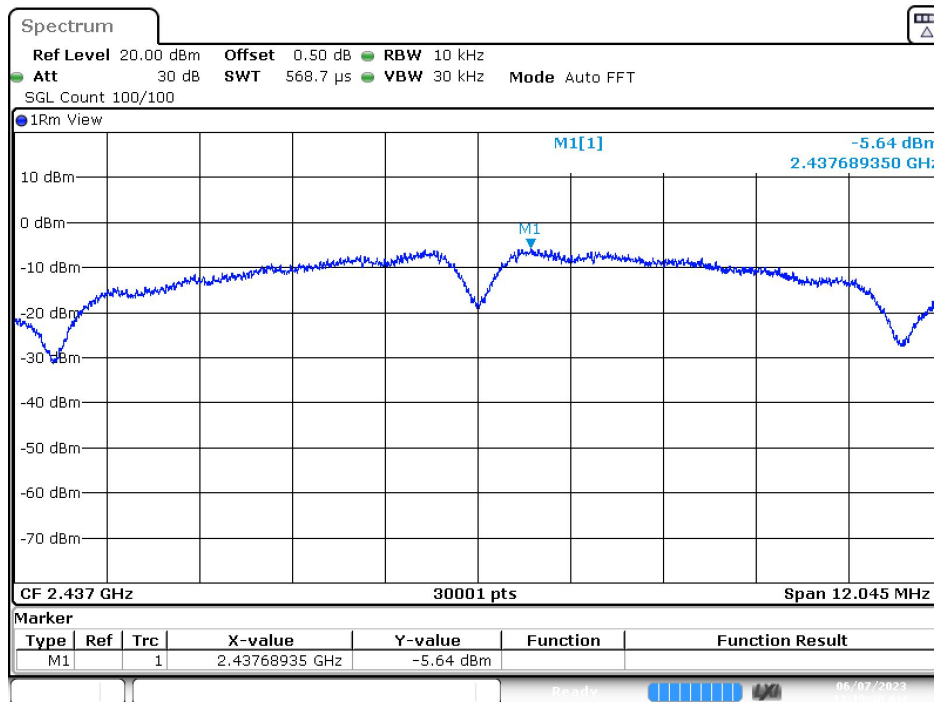
8.4. Test Result of Power Density

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : Power Density Data
 Test Mode : Transmit (802.11b)-CDD

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Chain	PPSD/MHz (dBm)	Duty factor (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	1	A	-6.250	0.00	-3.082	7.55	Pass
			B	-5.940				
06	2437	1	A	-5.640	0.00	-2.910	7.55	Pass
			B	-6.220				
11	2462	1	A	-7.340	0.00	-4.051	7.55	Pass
			B	-6.800				

Note: Total PPSD/MHz = 10*log(Chain A (mW) + Chain B (mW)) + Duty factor.

Channel 06:



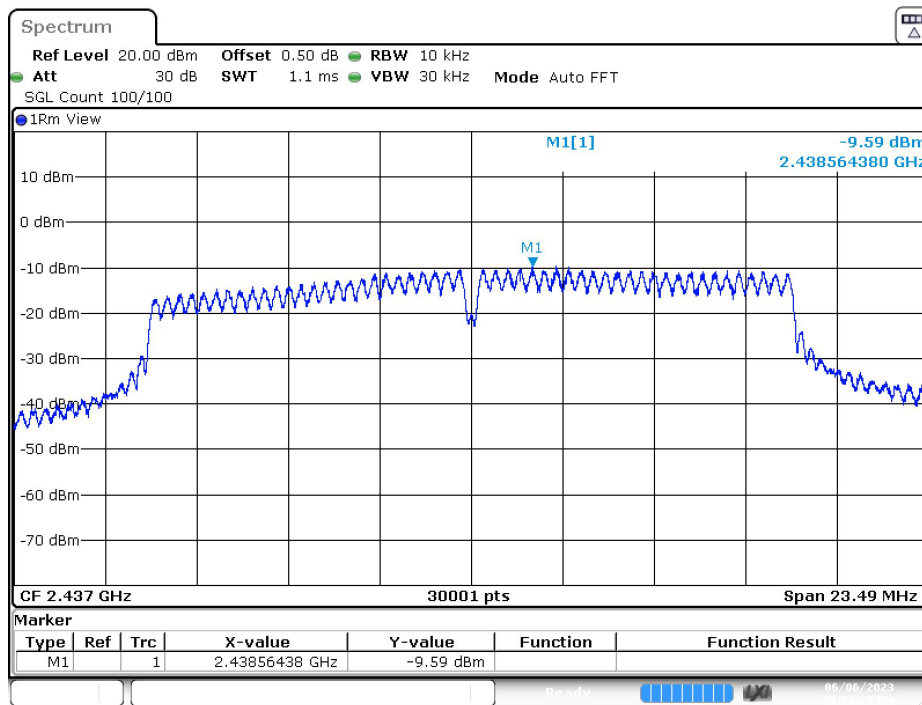
Date: 7.JUN.2023 11:19:41

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : Power Density Data
 Test Mode : Transmit (802.11g)-CDD

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Chain	PPSD/MHz (dBm)	Duty factor (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	6	A	-13.090	0.183	-9.907	7.55	Pass
			B	-13.110				
06	2437	6	A	-9.590	0.183	-6.710	7.55	Pass
			B	-10.240				
11	2462	6	A	-13.450	0.183	-10.232	7.55	Pass
			B	-13.400				

Note: Total PPSD/MHz = 10*log(Chain A (mW) + Chain B (mW)) + Duty factor.

Channel 06:



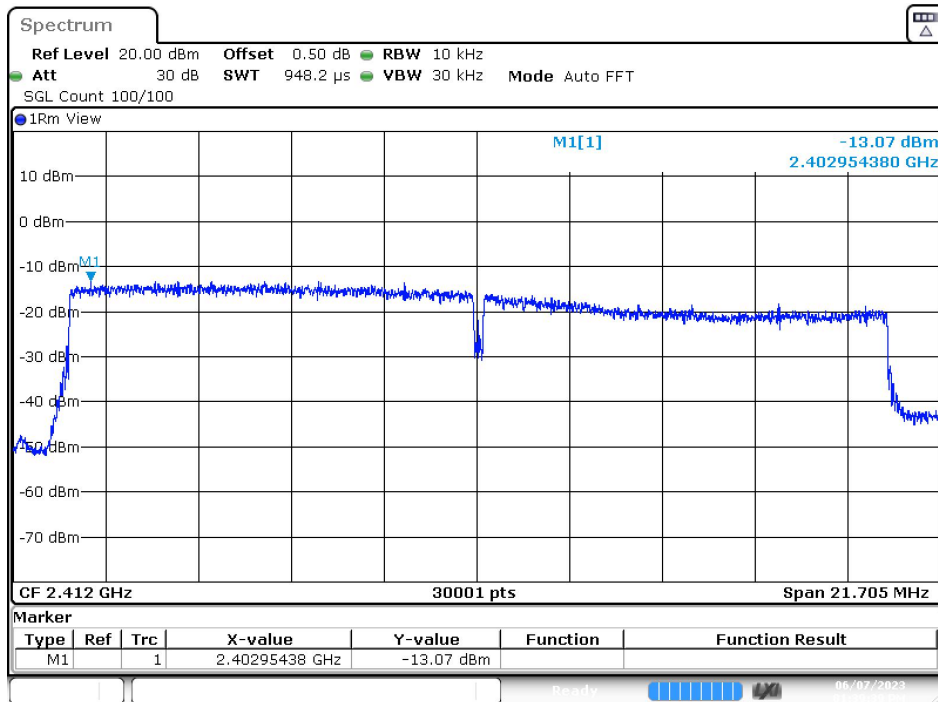
Date: 6 JUN 2023 17:51:20

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : Power Density Data
 Test Mode : Transmit (802.11ax-20 MHz)-CDD

Channel No.	Frequency (MHz)	Data Rate	Chain	PPSD/MHz (dBm)	Duty factor (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
01	2412	MCS0	A	-15.240	0.235	-10.78	7.55	Pass
			B	-13.070				
06	2437	MCS0	A	-13.830	0.235	-10.62	7.55	Pass
			B	-13.900				
11	2462	MCS0	A	-14.460	0.235	-11.13	7.55	Pass
			B	-14.300				

Note: Total PPSD/MHz = 10*log(Chain A (mW) + Chain B (mW)) + Duty factor.

Channel 01:



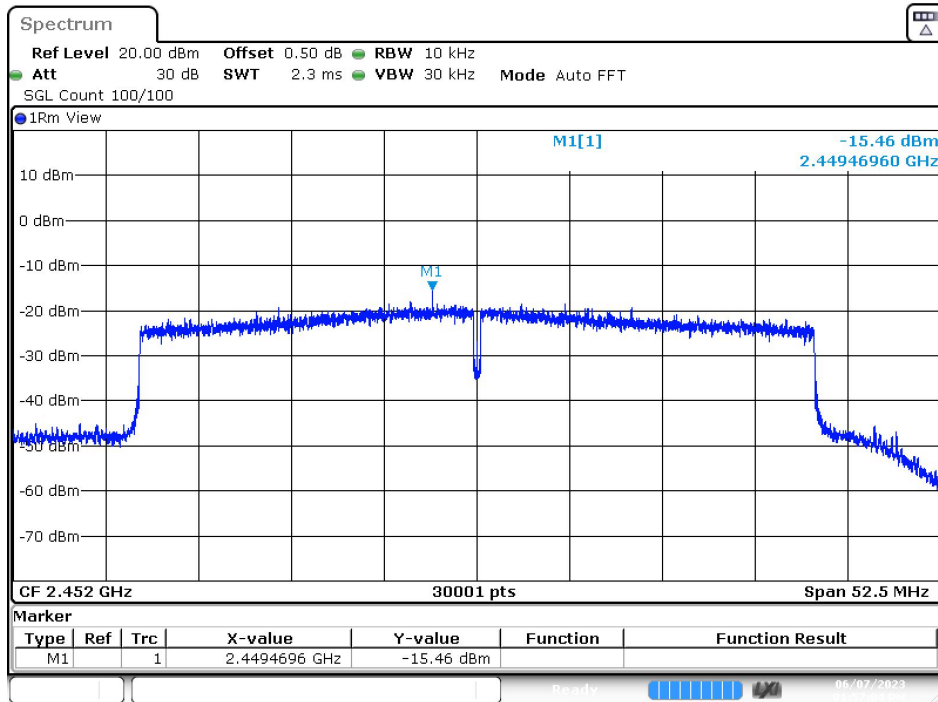
Date: 7.JUN.2023 13:39:40

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
 Test Item : Power Density Data
 Test Mode : Transmit (802.11ax-40 MHz)-CDD

Channel No.	Frequency (MHz)	Data Rate	Chain	PPSD/MHz (dBm)	Duty factor (dBm)	Total PPSD/MHz (dBm)	Limit (dBm)	Result
03	2422	MCS0	A	-18.200	0.740	-13.72	7.55	Pass
			B	-16.840				
06	2437	MCS0	A	-17.510	0.740	-13.44	7.55	Pass
			B	-16.890				
09	2452	MCS0	A	-16.690	0.740	-12.28	7.55	Pass
			B	-15.460				

Note: Total PPSD/MHz = 10*log(Chain A (mW) + Chain B (mW)) + Duty factor

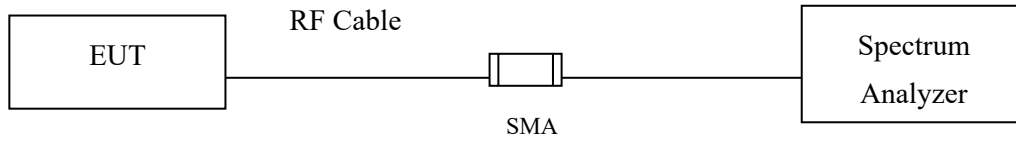
Channel 09:



Date: 7.JUN.2023 13:57:05

9. Duty Cycle

9.1. Test Setup



9.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to ANSI C63.10 2013 for compliance to FCC 47CFR 15.247 requirements.

9.3. Test Result of Duty Cycle

Product : WiFi 6 ax3000 2x2 dual concurrent MiniPCIe interface Module
Test Item : Duty Cycle
Test Mode : Transmit-CDD mode

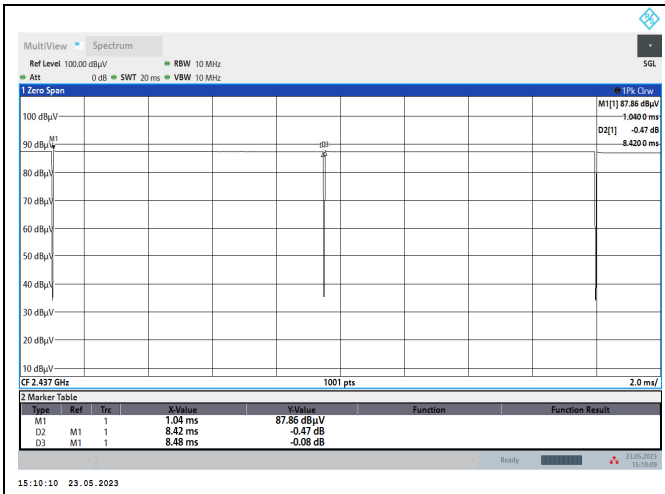
Duty Cycle Formula:

Duty Cycle = Ton / (Ton + Toff)

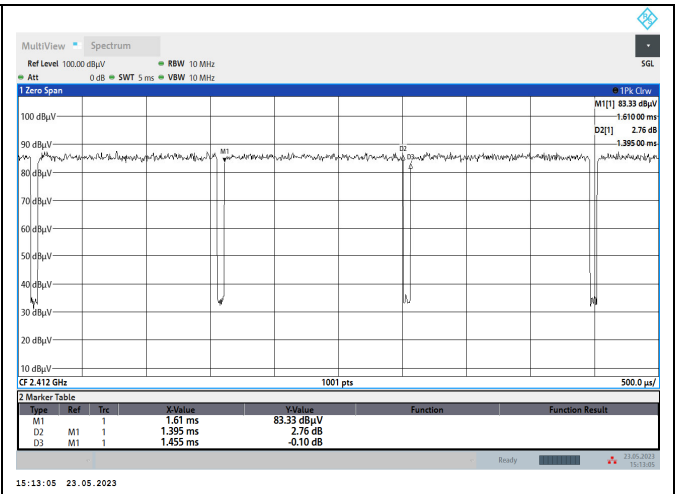
Duty Factor = 10 Log (1/Duty Cycle)

Results:

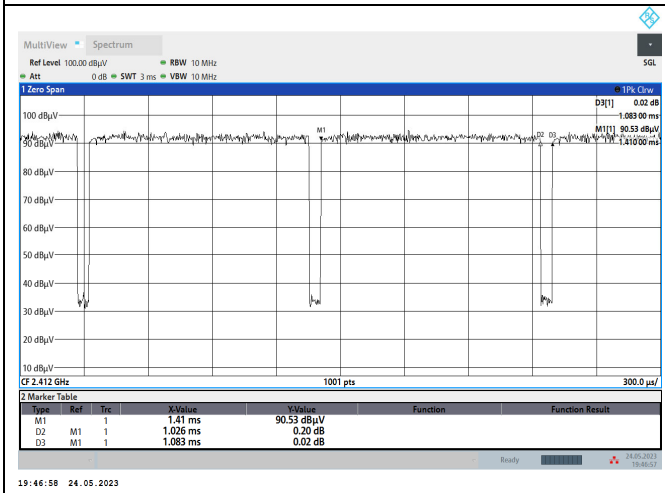
2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11b	8.4200	8.4800	99.29	0.03
802.11g	1.3950	1.4550	95.88	0.18
802.11ax-20 MHz	1.0260	1.0830	94.74	0.23
802.11ax-40 MHz	0.3120	0.3700	84.32	0.74



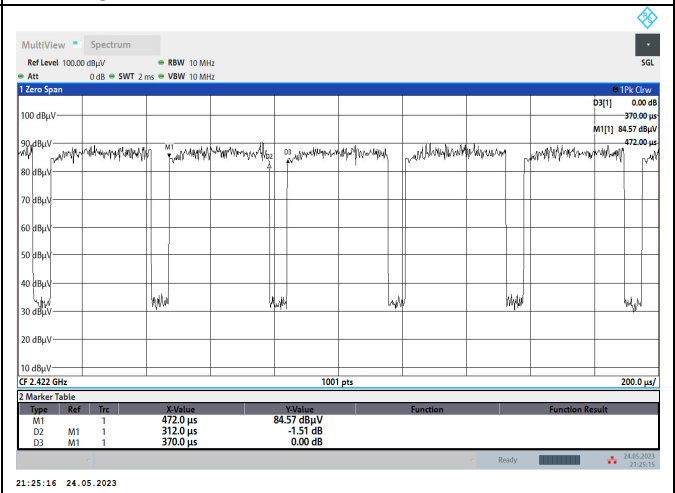
802.11b



802.11g



802.11ax-20 MHz



802.11ax-40 MHz