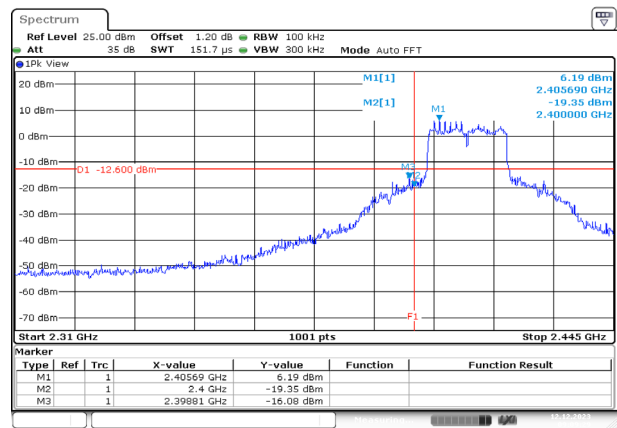


Product : Truck Infotainment-System
Test Item : Band Edge
Test Mode : Transmit (802.11ac-20 MHz)
Test Date : 2023/12/12

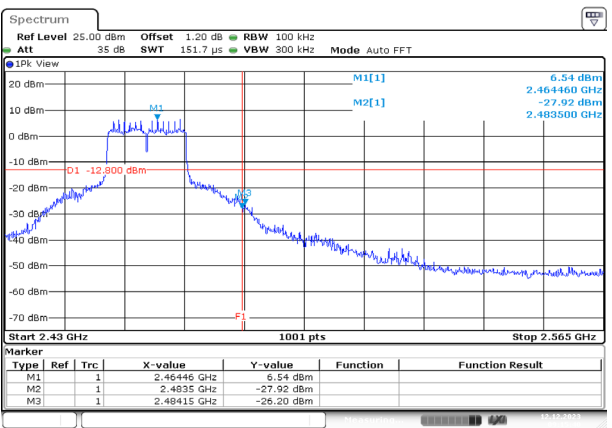
Measurement Level	Result
Δ (dB)	
> 20	PASS

Channel 01 (2412MHz)



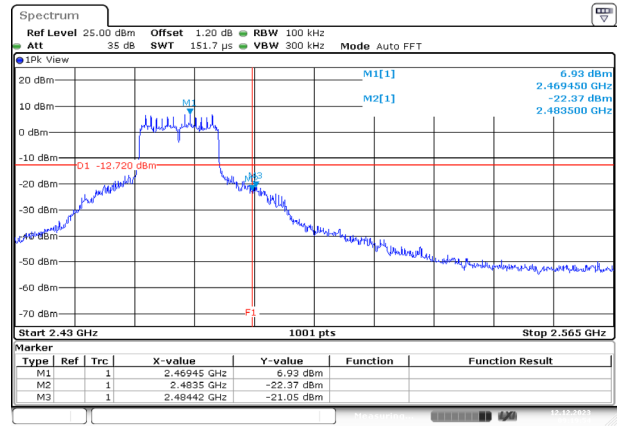
Date: 12 DEC 2023 09:09:29

Channel 11 (2462MHz)



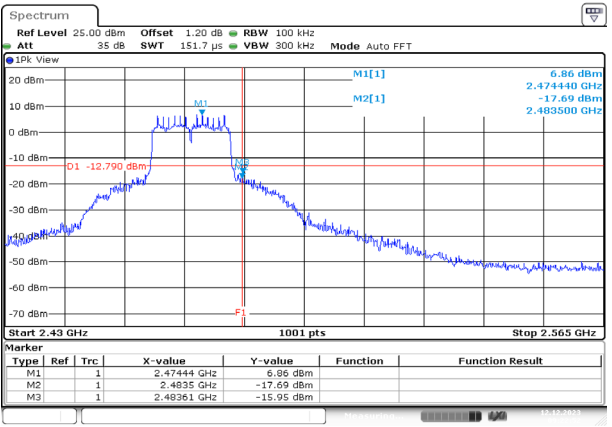
Date: 12 DEC 2023 09:15:40

Channel 12 (2467MHz)



Date: 12 DEC 2023 09:19:54

Channel 13 (2472MHz)

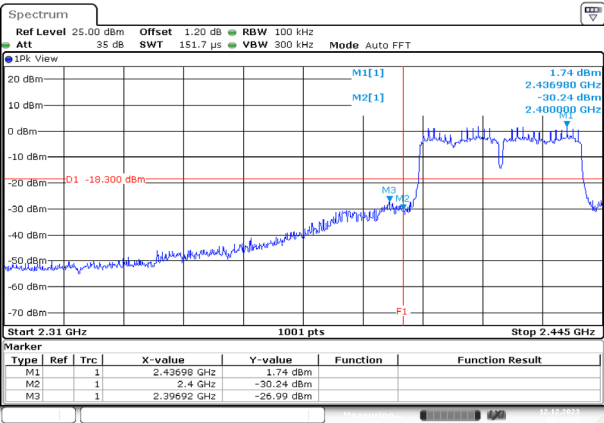


Date: 12 DEC 2023 09:22:52

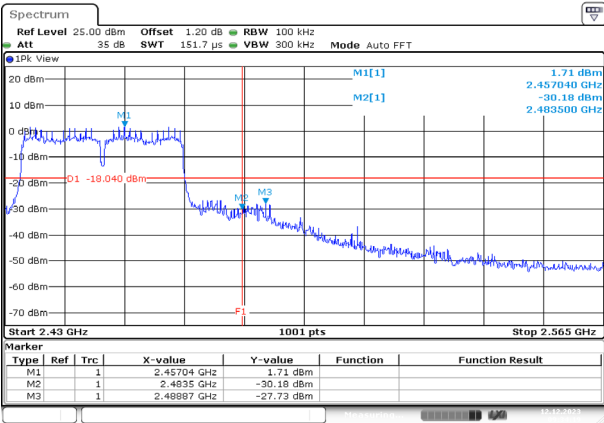
Product : Truck Infotainment-System
Test Item : Band Edge
Test Mode : Transmit (802.11ac-40 MHz)
Test Date : 2023/12/12

Measurement Level	Result
Δ (dB)	
> 20	PASS

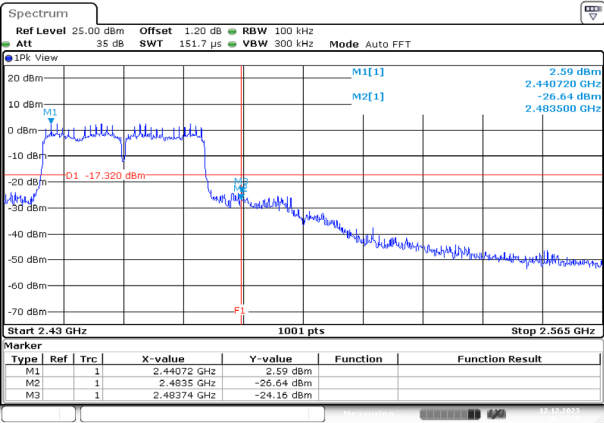
Channel 03 (2422MHz)



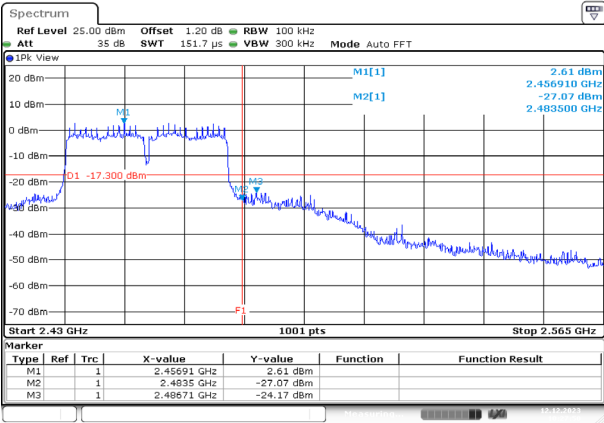
Channel 09 (2452MHz)



Channel 10 (2457MHz)



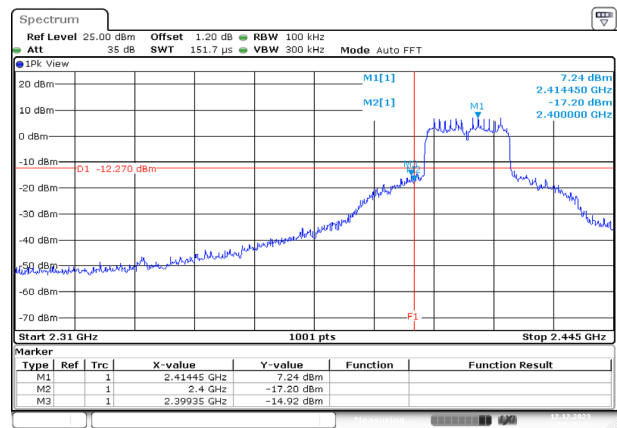
Channel 11 (2462MHz)



Product : Truck Infotainment-System
Test Item : Band Edge
Test Mode : Transmit (802.11ax-20 MHz)
Test Date : 2023/12/12

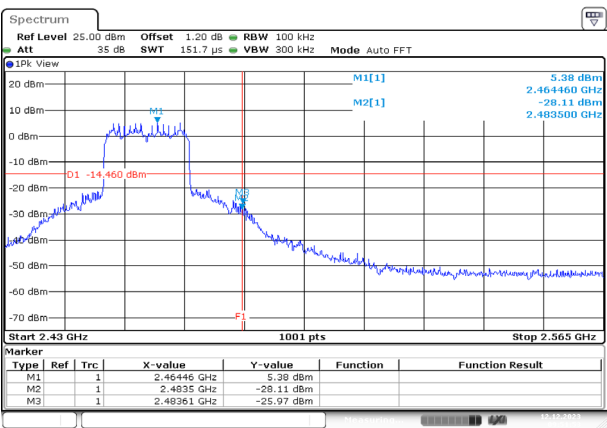
Measurement Level	Result
Δ (dB)	
> 20	PASS

Channel 01 (2412MHz)



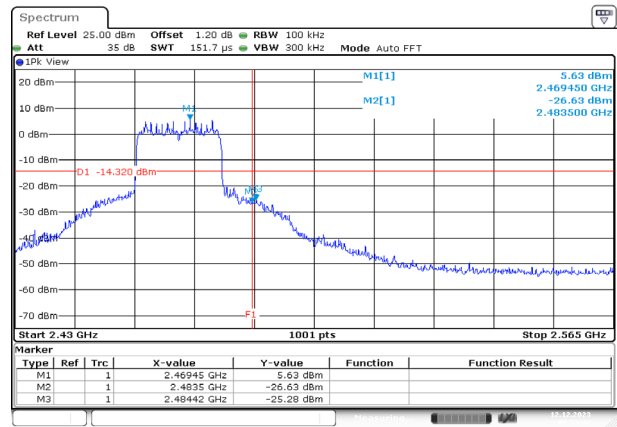
Date: 12 DEC 2023 09:45:03

Channel 11 (2462MHz)



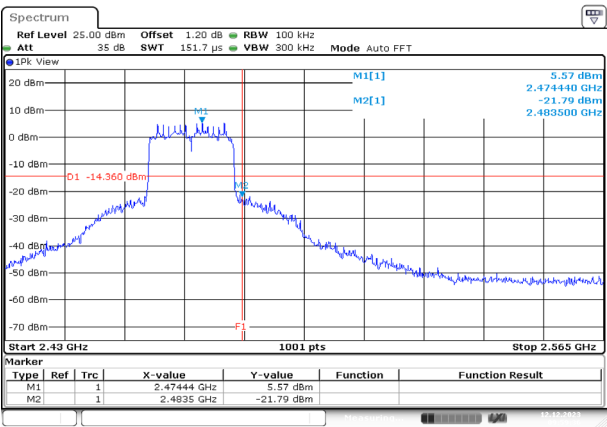
Date: 12 DEC 2023 09:51:53

Channel 12 (2467MHz)



Date: 12 DEC 2023 09:53:43

Channel 13 (2472MHz)

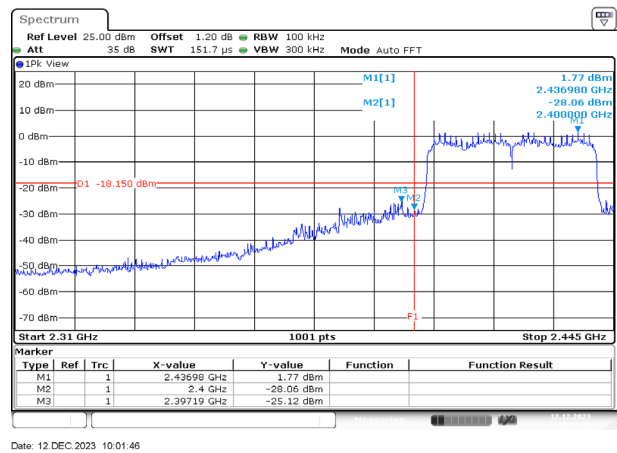


Date: 12 DEC 2023 09:59:36

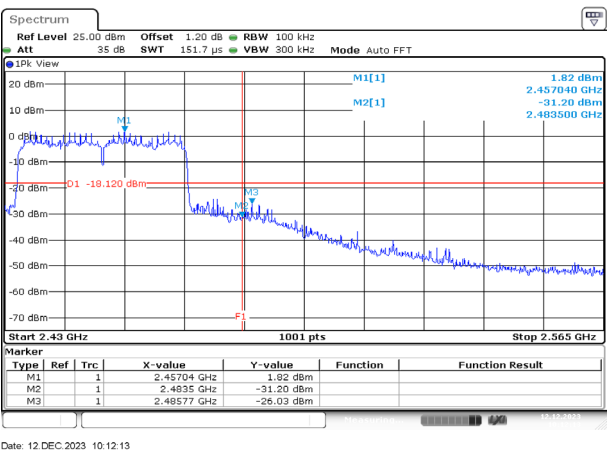
Product : Truck Infotainment-System
Test Item : Band Edge
Test Mode : Transmit (802.11ax-40 MHz)
Test Date : 2023/12/12

Measurement Level	Result
Δ (dB)	
> 20	PASS

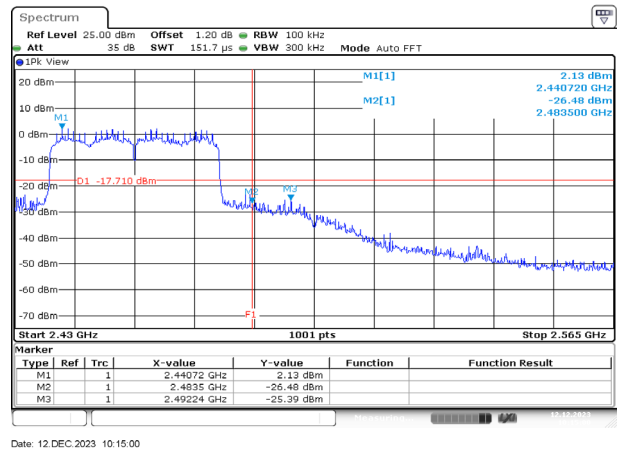
Channel 03 (2422MHz)



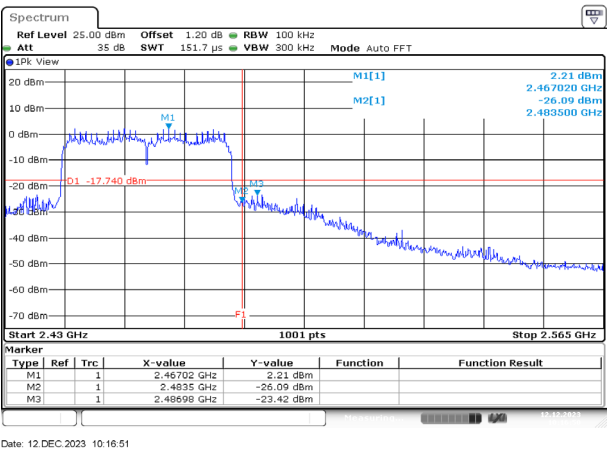
Channel 09 (2452MHz)



Channel 10 (2457MHz)

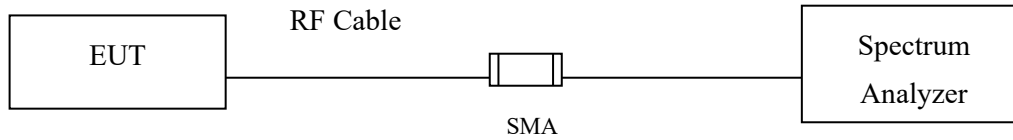


Channel 11 (2462MHz)



7. 6dB Bandwidth

7.1. Test Setup



7.2. Limits

The minimum bandwidth shall be at least 500 kHz.

7.3. Test Procedure

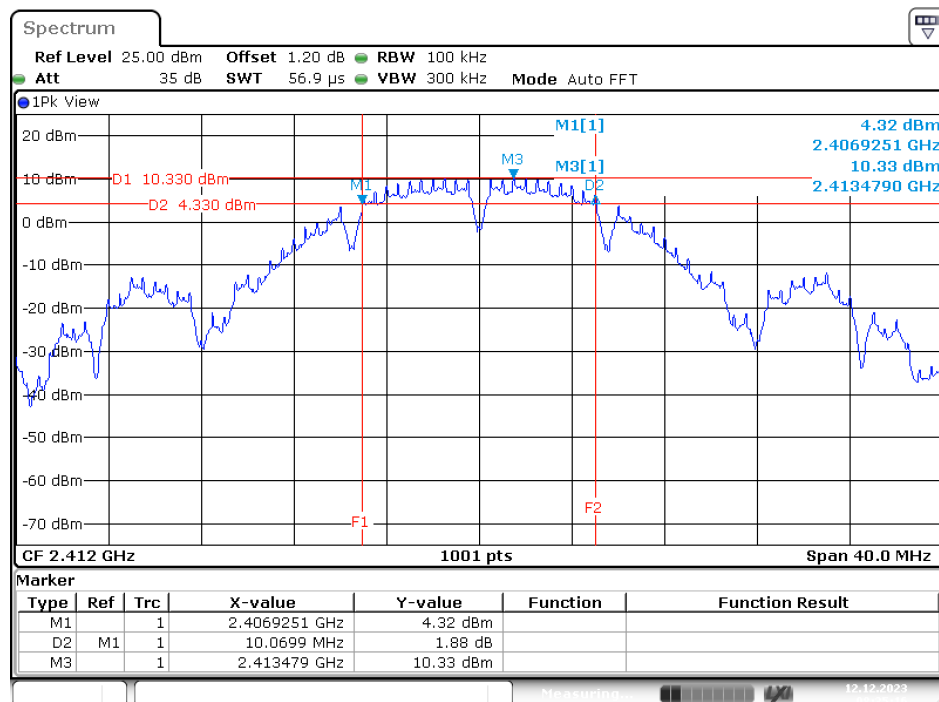
The EUT was tested according to ANSI C63.10 Section 11.8 for compliance to FCC 47CFR 15.247 requirements.

7.4. Test Result of 6dB Bandwidth

Product : Truck Infotainment-System
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11b)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	10070	>500	Pass
07	2442	12028	>500	Pass
11	2462	11069	>500	Pass
12	2467	10110	>500	Pass
13	2472	10070	>500	Pass

Figure Channel 01

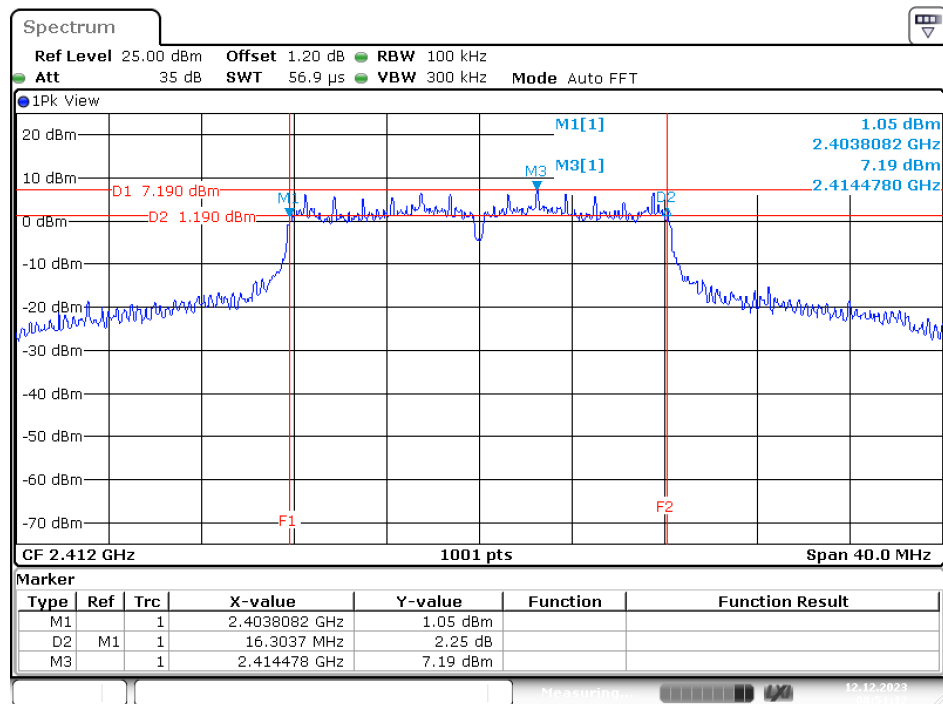


Date: 12.DEC.2023 08:35:17

Product : Truck Infotainment-System
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11g)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16304	>500	Pass
07	2442	16344	>500	Pass
11	2462	16304	>500	Pass
12	2467	16304	>500	Pass
13	2472	16304	>500	Pass

Figure Channel 01

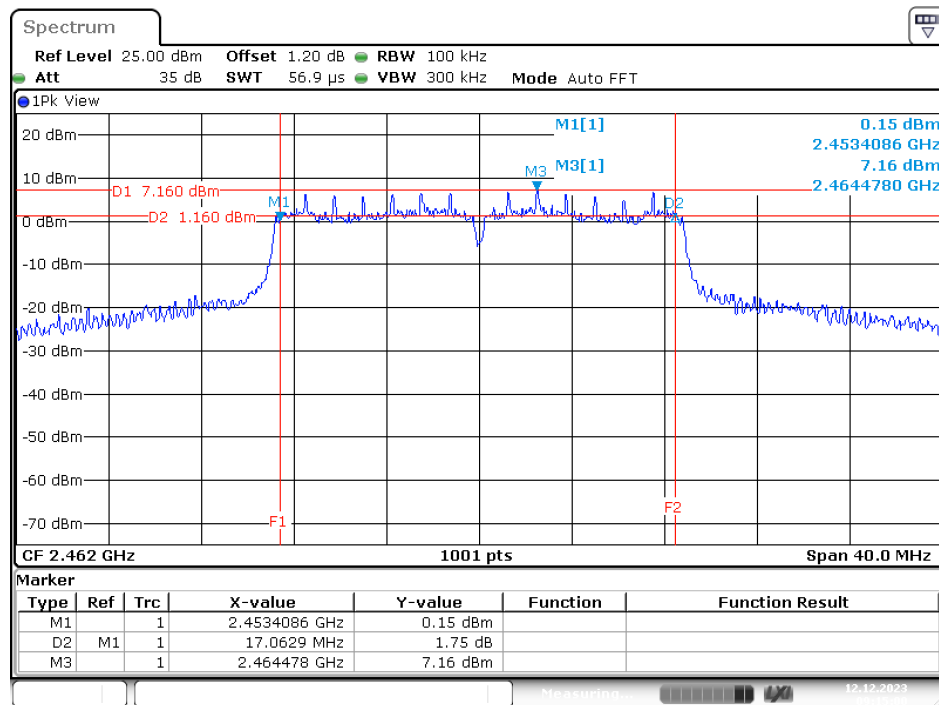


Date: 12.DEC.2023 08:51:13

Product : Truck Infotainment-System
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11ac-20 MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	17263	>500	Pass
07	2442	17543	>500	Pass
11	2462	17063	>500	Pass
12	2467	17263	>500	Pass
13	2472	17263	>500	Pass

Figure Channel 11

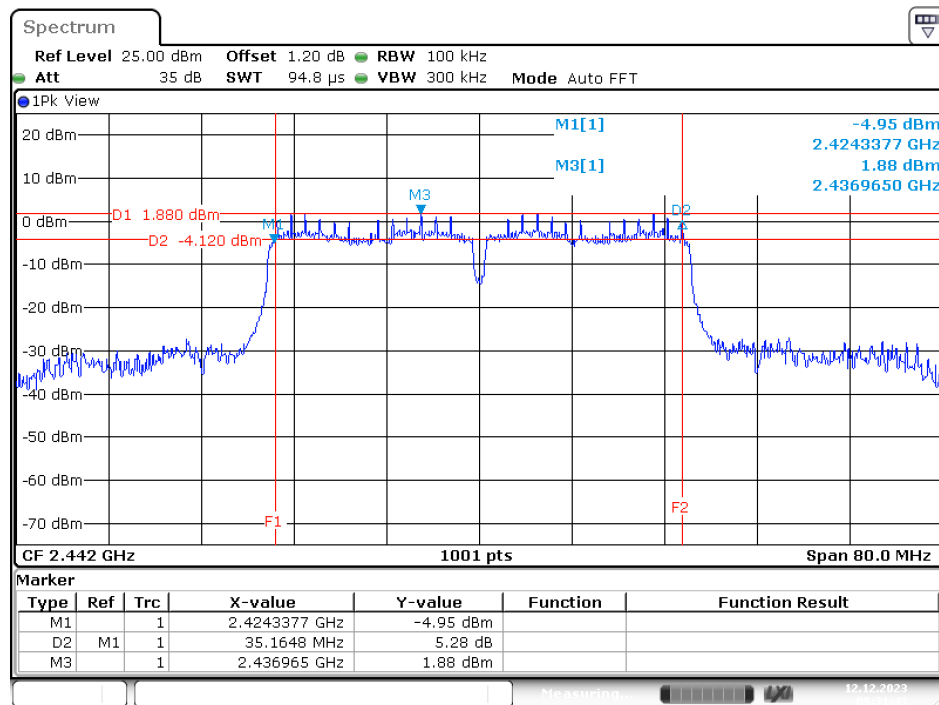


Date: 12.DEC.2023 09:15:01

Product : Truck Infotainment-System
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11ac-40 MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	35325	>500	Pass
07	2442	35165	>500	Pass
09	2452	35325	>500	Pass
10	2457	35325	>500	Pass
11	2462	35165	>500	Pass

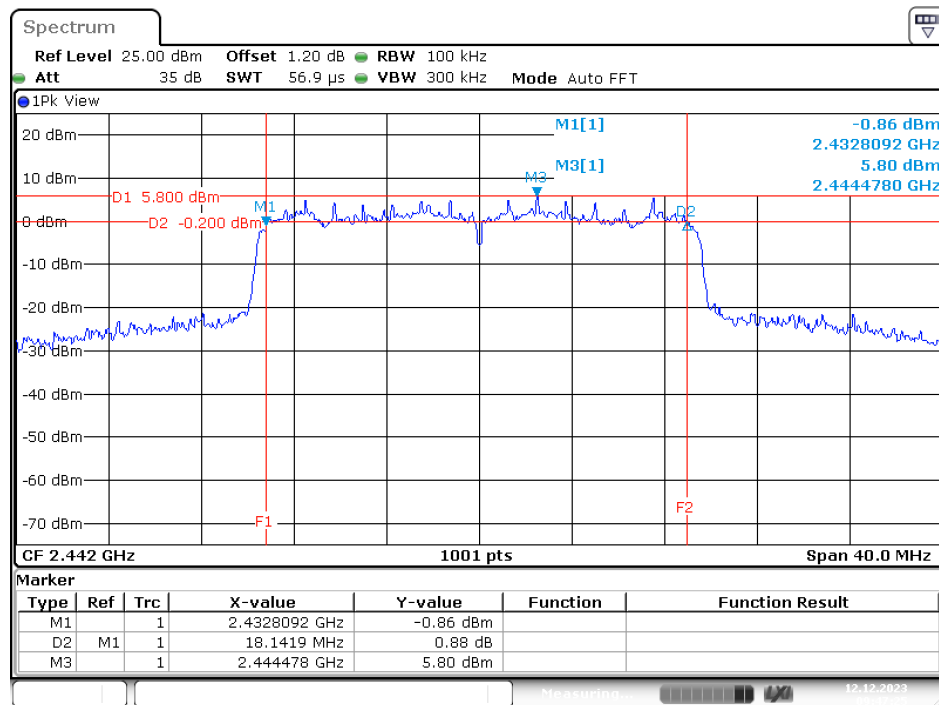
Figure Channel 07



Product : Truck Infotainment-System
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11ax-20 MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	17942	>500	Pass
07	2442	18142	>500	Pass
11	2462	18422	>500	Pass
12	2467	18302	>500	Pass
13	2472	18342	>500	Pass

Figure Channel 07

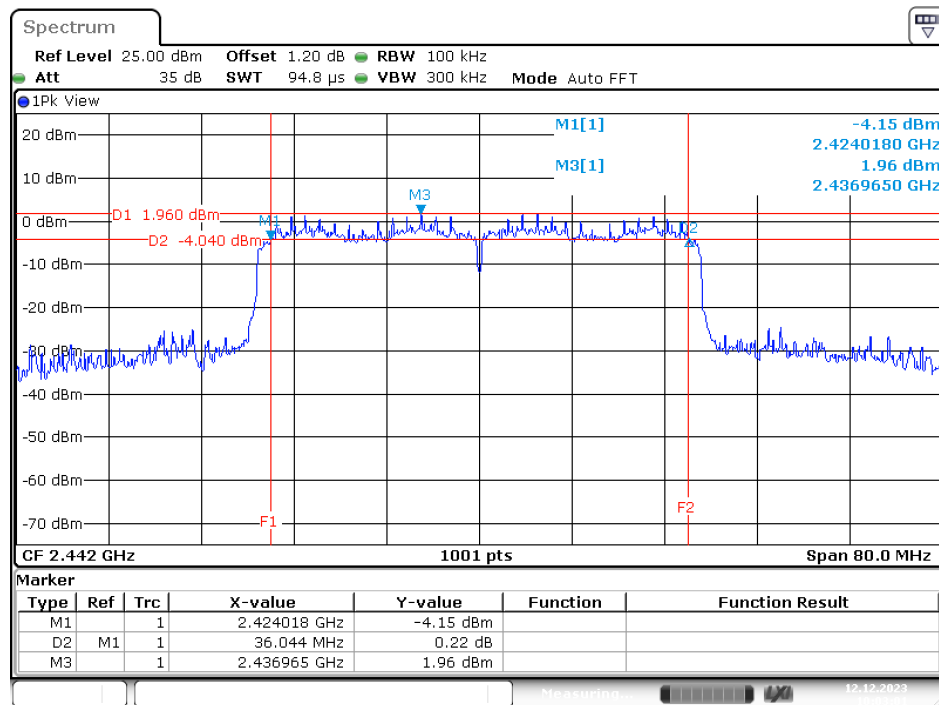


Date: 12.DEC.2023 09:47:26

Product : Truck Infotainment-System
 Test Item : 6dB Bandwidth Data
 Test Mode : Transmit (802.11ax-40 MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	36603	>500	Pass
07	2442	36044	>500	Pass
09	2452	36683	>500	Pass
10	2457	36603	>500	Pass
11	2462	35644	>500	Pass

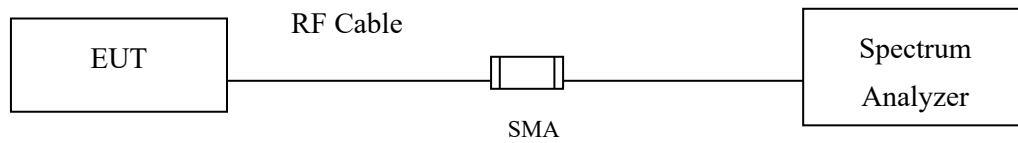
Figure Channel 07



Date: 12.DEC.2023 10:03:01

8. Power Spectral Density

8.1. Test Setup



8.2. Limits

The power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission.

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.

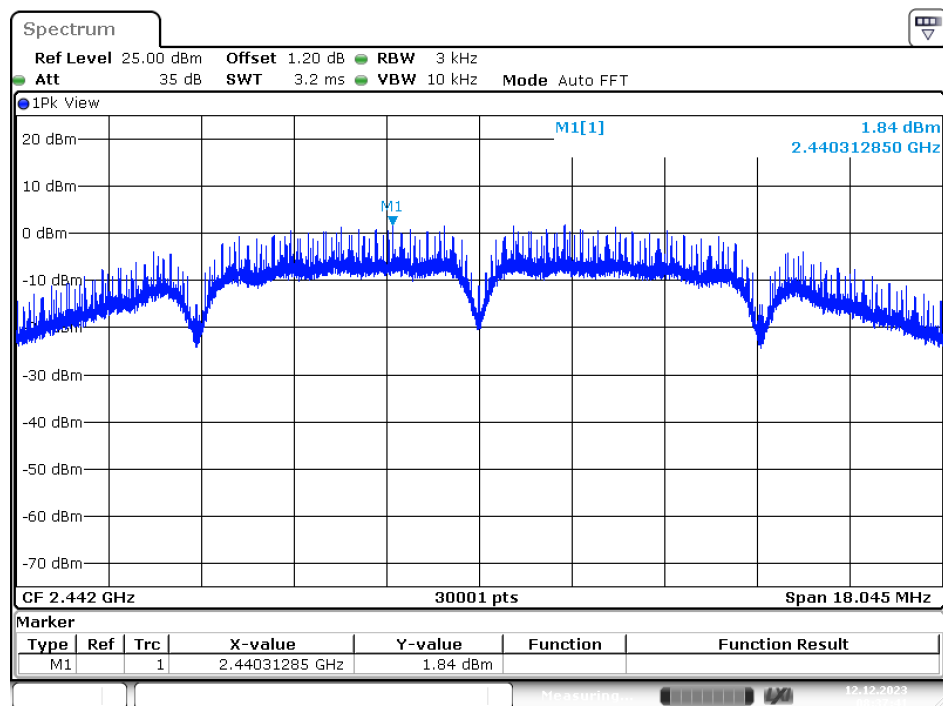
The maximum power spectral density using C63.10 Section 11.10.2 Method PKPSD (peak PSD)

8.4. Test Result of Power Spectral Density

Product : Truck Infotainment-System
 Test Item : Power Spectral Density
 Test Mode : Transmit (802.11b)

Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Result
01	2412	1.06	≤ 8	Pass
07	2442	1.84	≤ 8	Pass
11	2462	1.68	≤ 8	Pass
12	2467	1.70	≤ 8	Pass
13	2472	1.58	≤ 8	Pass

Figure Channel 07

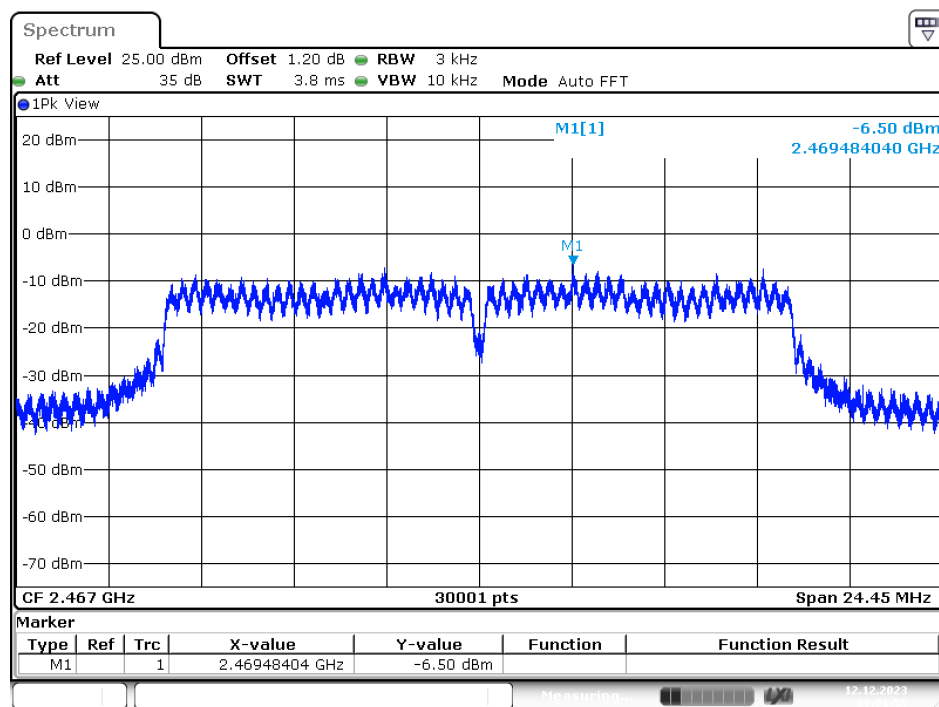


Date: 12.DEC.2023 08:37:42

Product : Truck Infotainment-System
 Test Item : Power Spectral Density
 Test Mode : Transmit (802.11g)

Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Result
01	2412	-7.60	≤ 8	Pass
07	2442	-7.57	≤ 8	Pass
11	2462	-7.77	≤ 8	Pass
12	2467	-6.50	≤ 8	Pass
13	2472	-7.70	≤ 8	Pass

Figure Channel 12

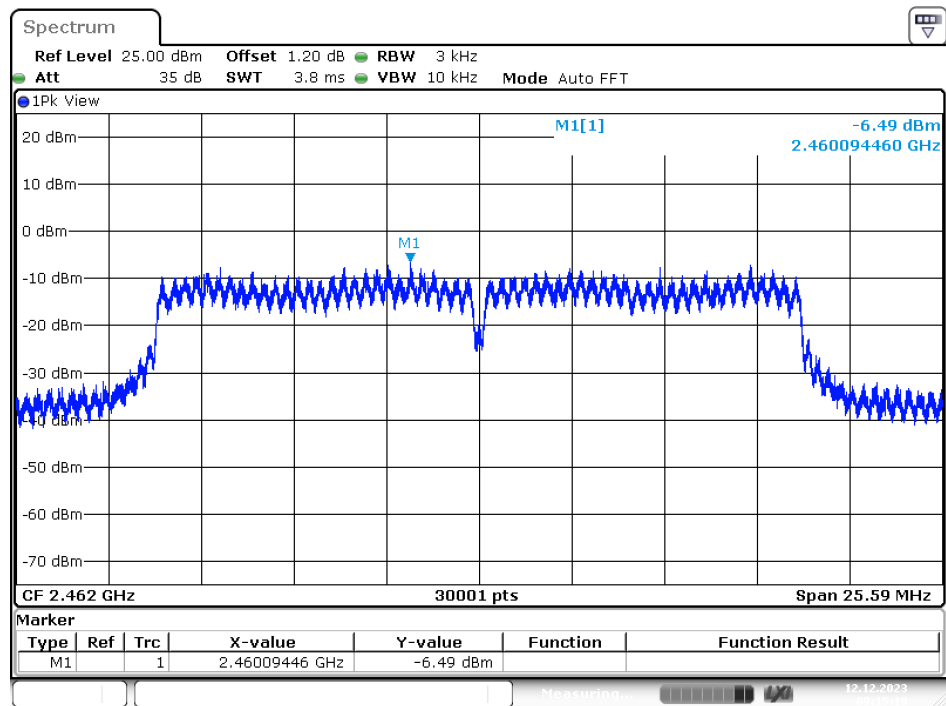


Date: 12.DEC.2023 09:01:56

Product : Truck Infotainment-System
 Test Item : Power Spectral Density
 Test Mode : Transmit (802.11ac-20 MHz)

Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Result
01	2412	-7.340	≤ 8	Pass
07	2442	-6.870	≤ 8	Pass
11	2462	-6.490	≤ 8	Pass
12	2467	-6.500	≤ 8	Pass
13	2472	-6.780	≤ 8	Pass

Figure Channel 11

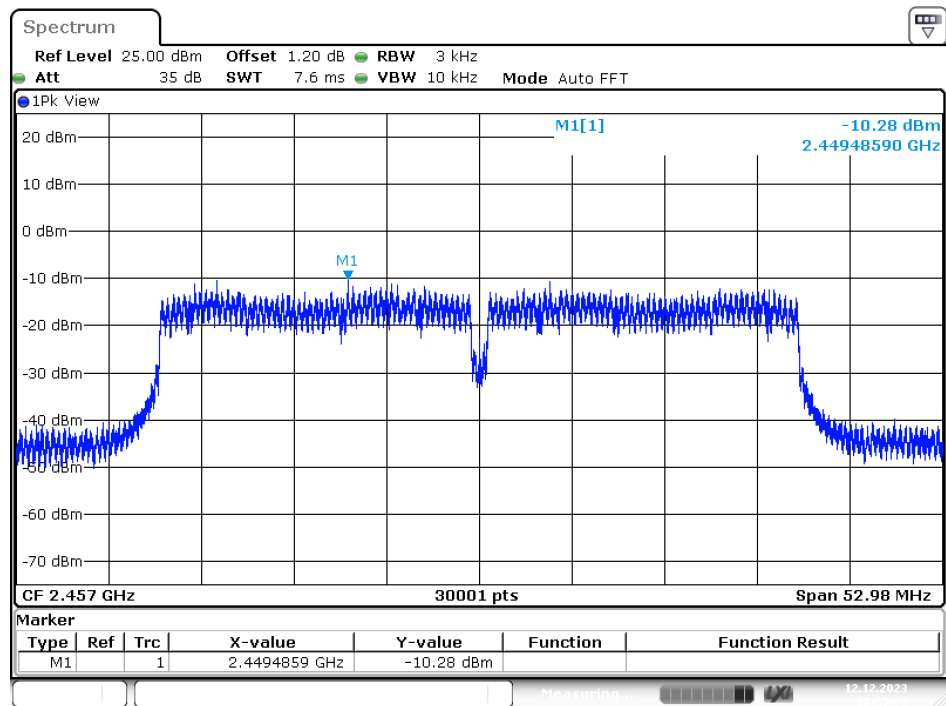


Date: 12.DEC.2023 09:15:20

Product : Truck Infotainment-System
 Test Item : Power Spectral Density
 Test Mode : Transmit (802.11ac-40 MHz)

Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Result
03	2422	-11.090	≤ 8	Pass
07	2442	-12.140	≤ 8	Pass
09	2452	-11.940	≤ 8	Pass
10	2457	-10.280	≤ 8	Pass
11	2462	-10.920	≤ 8	Pass

Figure Channel 10

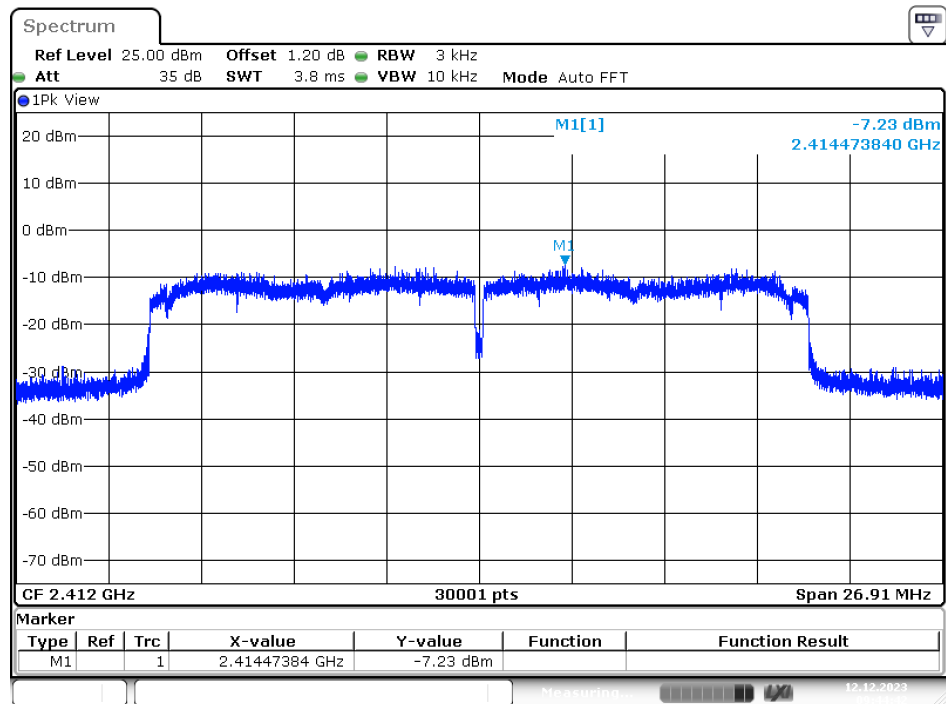


Date: 12.DEC.2023 10:25:39

Product : Truck Infotainment-System
 Test Item : Power Spectral Density
 Test Mode : Transmit (802.11ax-20 MHz)

Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Result
01	2412	-7.230	≤ 8	Pass
07	2442	-8.990	≤ 8	Pass
11	2462	-9.360	≤ 8	Pass
12	2467	-8.580	≤ 8	Pass
13	2472	-8.870	≤ 8	Pass

Figure Channel 01

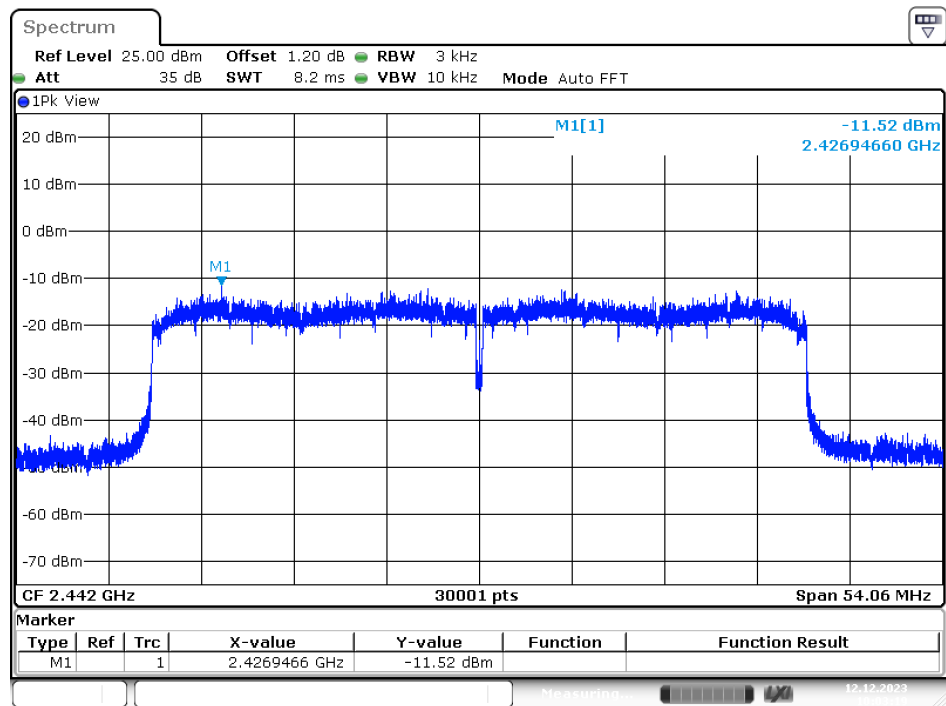


Date: 12.DEC.2023 09:44:42

Product : Truck Infotainment-System
 Test Item : Power Spectral Density
 Test Mode : Transmit (802.11ax-40 MHz)

Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Result
03	2422	-11.740	≤ 8	Pass
07	2442	-11.520	≤ 8	Pass
09	2452	-12.020	≤ 8	Pass
10	2457	-12.050	≤ 8	Pass
11	2462	-11.520	≤ 8	Pass

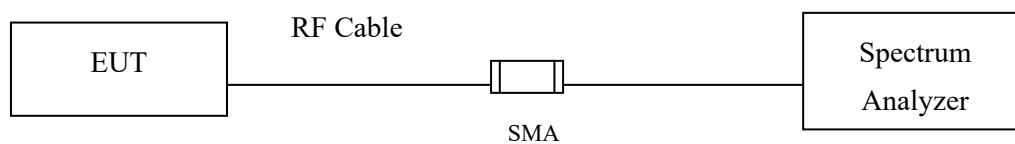
Figure Channel 07



Date: 12.DEC.2023 10:03:20

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 : Truck Infotainment-System
Test Item : Duty Cycle
Test Mode : Transmit

Duty Cycle Formula:

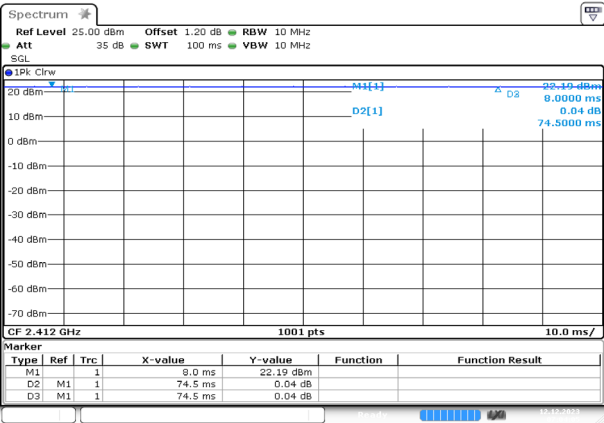
Duty Cycle = $Ton / (Ton + Toff)$

Duty Factor = $10 \text{ Log } (1/\text{Duty Cycle})$

Results:

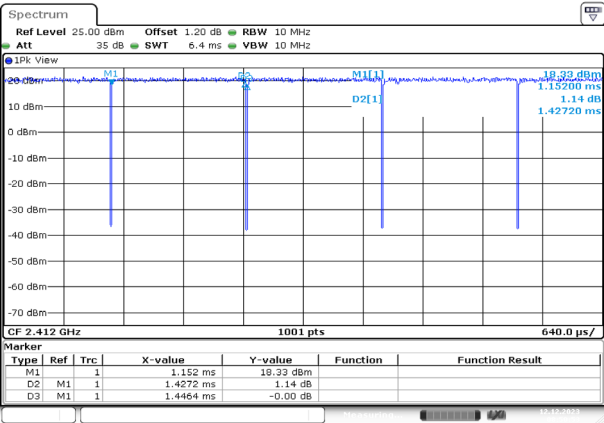
2.4 GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11 b	--	--	100.00	0.00
802.11 g	1.4272	1.4464	98.67	0.06
802.11 ac20 MHz	1.3440	1.3696	98.13	0.08
802.11 ac40 MHz	0.6690	0.6870	97.38	0.12
802.11 ax20 MHz	1.0410	1.0590	98.30	0.07
802.11 ax40 MHz	0.5490	0.5670	96.83	0.14

802.11b



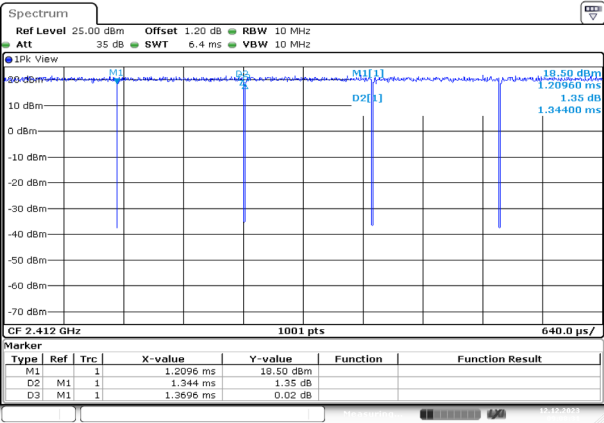
Date: 12 DEC 2023 07:04:05

802.11g



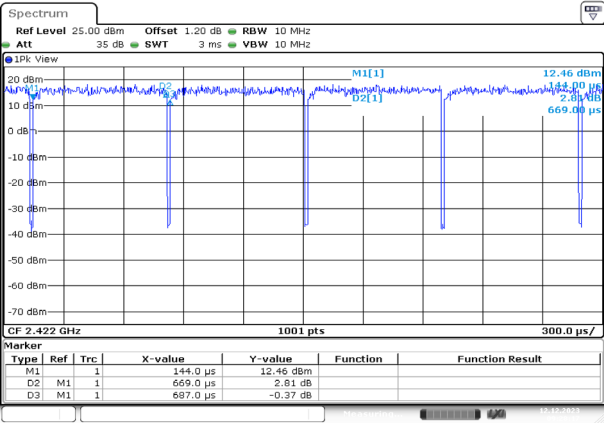
Date: 12 DEC 2023 08:50:53

802.11ac-20 MHz



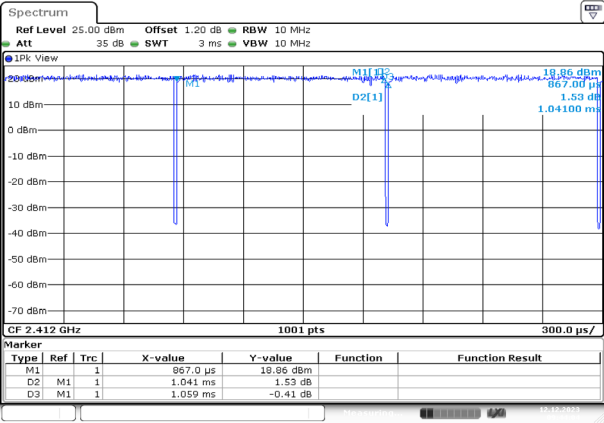
Date: 12 DEC 2023 09:08:31

802.11ac-40 MHz



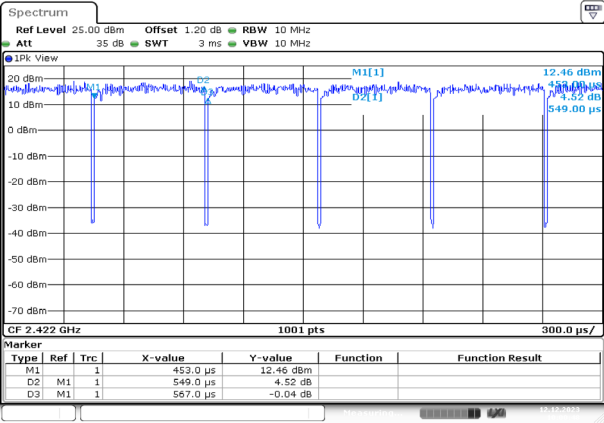
Date: 12 DEC 2023 09:28:17

802.11ax-20 MHz



Date: 12 DEC 2023 09:44:05

802.11ax-40 MHz



Date: 12 DEC 2023 10:00:49