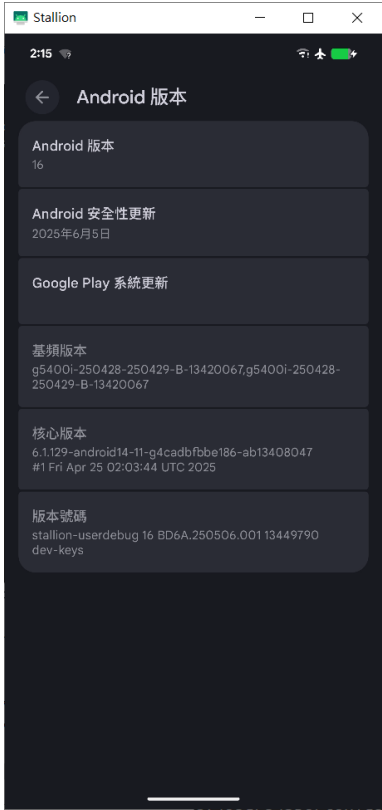




Appendix E. Contention Based Protocol Test Result

EUT Information

Test Date	2025/7/24 ~ 07/26
Test Engineer	Kai Liao
Project Number	550731
Model Name	STA5 NA
Antenna Gain	<UNII-5>: -2.4 dBi <UNII-6>: -5 dBi <UNII-7>: -5 dBi <UNII-8>: -8.5 dBi
Temperature	21.3~23.7°C
Humidity	47.3~53.7%
IMEI/SN	
HW	
SW	

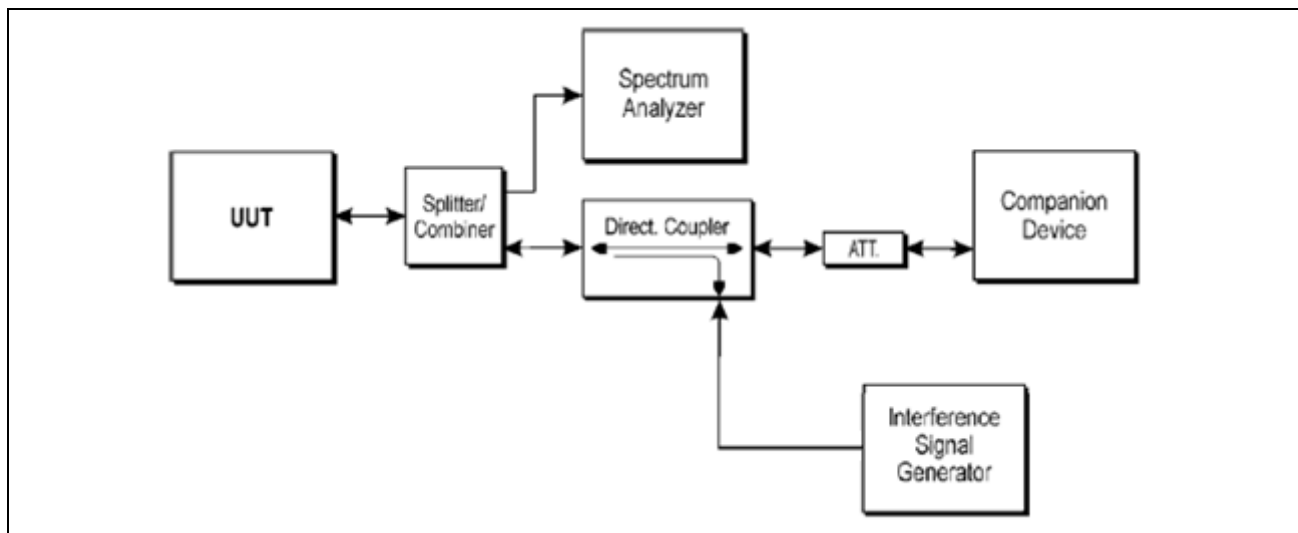
Measurement Instruments

Instrument	Manufacturer	Model No.	Characteristics
Companion Device (AP)	ASUS	GT-AXE11000	Dual Band AP
Terminal (NB Server)	Acer	N15C1	LAN

Measurement Software

Software	Description
Iperf	Android_2.06

Test Setup Configuration





E.1 Test Summary of Contention Based Protocol Test

Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 5	6135	20	6135	-75.13	100	-62	-72.73	10.73
					Result: Stop Transmission			
				-79.13	< 90	-62	-76.73	14.73
					Result: Minimal Operation			
				-80.13	0	-62	-77.73	15.73
					Result: Normal Operation			
	6145	80	6110	-70.01	100	-62	-67.61	5.61
					Result: Stop Transmission			
				-78.01	< 90	-62	-75.61	13.61
					Result: Minimal Operation			
				-79.01	0	-62	-76.61	14.61
					Result: Normal Operation			
			6145	-72.14	100	-62	-69.74	7.74
					Result: Stop Transmission			
				-78.14	< 90	-62	-75.74	13.74
					Result: Minimal Operation			
				-79.14	0	-62	-76.74	14.74
					Result: Normal Operation			
			6180	-73.14	100	-62	-70.74	8.74
					Result: Stop Transmission			
				-76.14	< 90	-62	-73.74	11.74
					Result: Minimal Operation			
				-77.14	0	-62	-74.74	12.74
					Result: Normal Operation			

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (-2.4 dBi).

Note 2: The antenna gain has included the path loss between RF connector and antenna.

Note 3: Margin = Regulated Threshold level - Adjusted Power.



Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 6	6455	20	6455	-72.74	100	-62	-67.74	5.74
				Result: Stop Transmission				
				-79.74	< 90	-62	-74.74	12.74
				Result: Minimal Operation				
				-80.74	0	-62	-75.74	13.74
				Result: Normal Operation				
	6465	80	6430	-74.58	100	-62	-69.58	7.58
				Result: Stop Transmission				
				-78.58	< 90	-62	-73.58	11.58
				Result: Minimal Operation				
				-79.58	0	-62	-74.58	12.58
				Result: Normal Operation				
			6465	-72.71	100	-62	-67.71	5.71
				Result: Stop Transmission				
				-79.71	< 90	-62	-74.71	12.71
				Result: Minimal Operation				
				-80.71	0	-62	-75.71	13.71
				Result: Normal Operation				
			6500	-76.49	100	-62	-71.49	9.49
				Result: Stop Transmission				
				-77.49	< 90	-62	-72.49	10.49
				Result: Minimal Operation				
				-78.49	0	-62	-73.49	11.49
				Result: Normal Operation				

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (-5 dBi).

Note 2: The antenna gain has included the path loss between RF connector and antenna.

Note 3: Margin = Regulated Threshold level - Adjusted Power.



Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 7	6695	20	6695	-73.18	100	-62	-68.18	6.18
				Result: Stop Transmission				
				-79.18	< 90	-62	-74.18	12.18
				Result: Minimal Operation				
				-80.18	0	-62	-75.18	13.18
				Result: Normal Operation				
	6705	80	6670	-68.56	100	-62	-63.56	1.56
				Result: Stop Transmission				
				-78.56	< 90	-62	-73.56	11.56
				Result: Minimal Operation				
				-79.56	0	-62	-74.56	12.56
				Result: Normal Operation				
			6705	-68.51	100	-62	-63.51	1.51
				Result: Stop Transmission				
				-79.51	< 90	-62	-74.51	12.51
				Result: Minimal Operation				
				-80.51	0	-62	-75.51	13.51
				Result: Normal Operation				
			6740	-68.55	100	-62	-63.55	1.55
				Result: Stop Transmission				
				-77.55	< 90	-62	-72.55	10.55
				Result: Minimal Operation				
				-78.55	0	-62	-73.55	11.55
				Result: Normal Operation				

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (-5 dBi).

Note 2: The antenna gain has included the path loss between RF connector and antenna.

Note 3: Margin = Regulated Threshold level - Adjusted Power.



Band	Channel Freq. (MHz)	Channel BW (MHz)	Incumbent freq. (MHz)	Injected AWGN Level (dBm)	Detection Rate (%)	Regulated Threshold level (dBm)	Adjusted Power (dBm)	Margin (dB)
UNII Band 8	7015	20	7015	-74.90	100	-62	-66.40	4.40
					Result: Stop Transmission			
				-79.90	< 90	-62	-71.40	9.40
					Result: Minimal Operation			
				-80.90	0	-62	-72.40	10.40
					Result: Normal Operation			
	7025	80	6990	-74.10	100	-62	-65.60	3.60
					Result: Stop Transmission			
				-78.10	< 90	-62	-69.60	7.60
					Result: Minimal Operation			
				-79.10	0	-62	-70.60	8.60
					Result: Normal Operation			
			7025	-72.85	100	-62	-64.35	2.35
					Result: Stop Transmission			
				-75.85	< 90	-62	-67.35	5.35
					Result: Minimal Operation			
				-76.85	0	-62	-68.35	6.35
					Result: Normal Operation			
			7060	-72.06	100	-62	-63.56	1.56
					Result: Stop Transmission			
				-77.06	< 90	-62	-68.56	6.56
					Result: Minimal Operation			
				-78.06	0	-62	-69.56	7.56
					Result: Normal Operation			

Note 1: Adjusted Power = Injected AWGN Level - minimum antenna gain (-8.5 dBi).

Note 2: The antenna gain has included the path loss between RF connector and antenna.

Note 3: Margin = Regulated Threshold level - Adjusted Power.

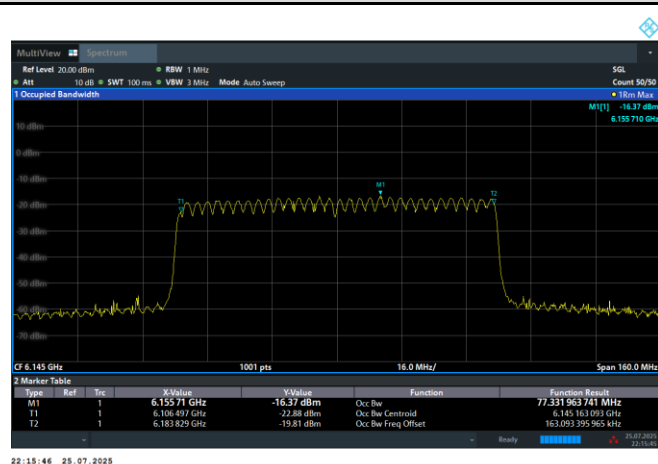
**CBP verify with frequency domain plots**

The device does not support channel puncturing with regards to Contention Based Protocol.

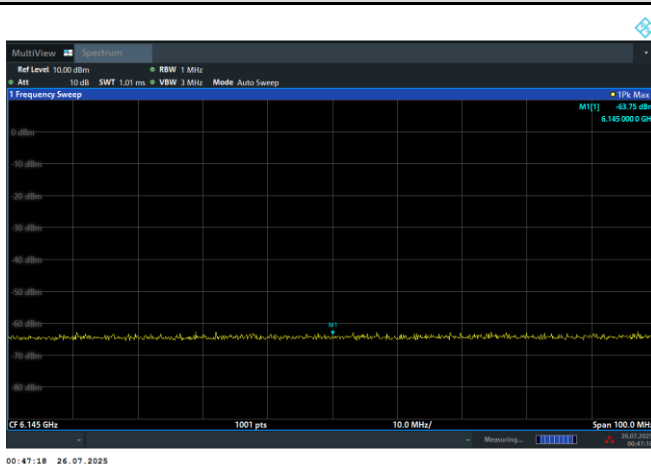
The device does not support bandwidth reduction.

The entire bandwidth 80MHz stops transmission after the incumbent signal appears.

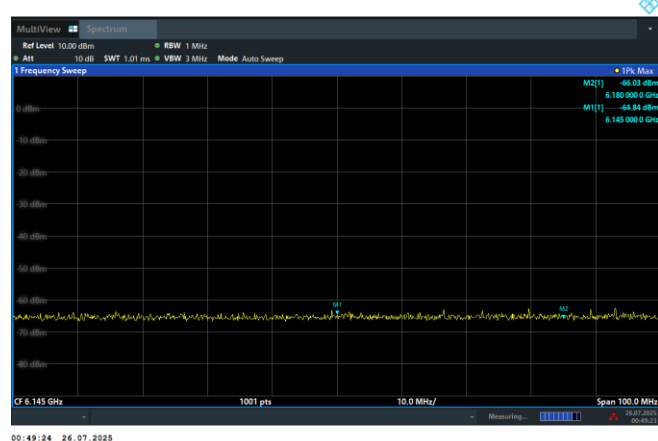
Before incumbent injected on 80MHz channel



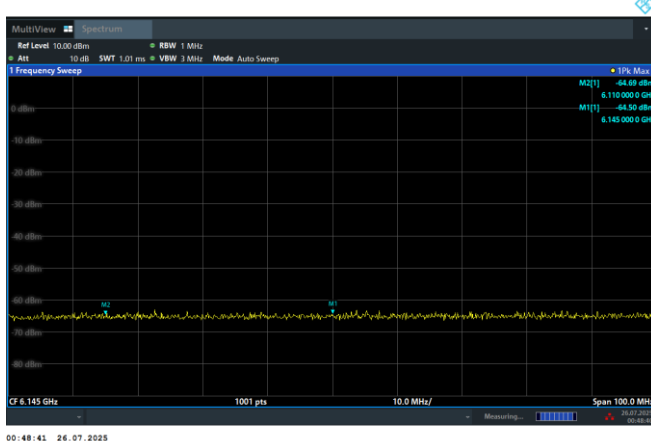
After 10MHz incumbent injected on center of channel, the entire 80MHz bandwidth stops transmission.



After 10MHz incumbent injected on bottom of channel, the entire 80MHz bandwidth stops transmission.



After 10MHz incumbent injected on top of channel, the entire 80MHz bandwidth stops transmission.

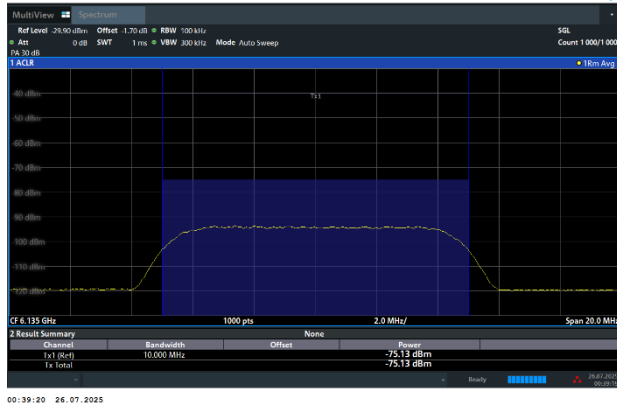




E.2 Test Plots of Contention Based Protocol Test

Contention Based Protocol Result Plots on U-NII 5 (AWGN Interference)

802.11ax (HE20) / 6135MHz
Threshold Level (TL) = -75.13dBm

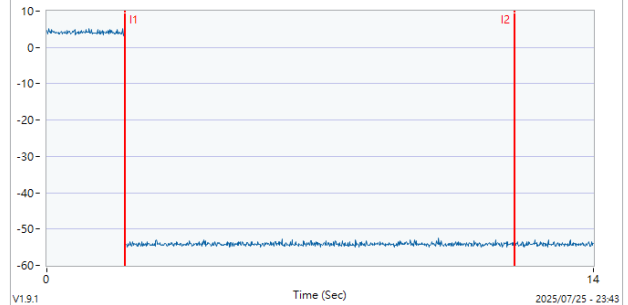


802.11ax (HE20) / CH37

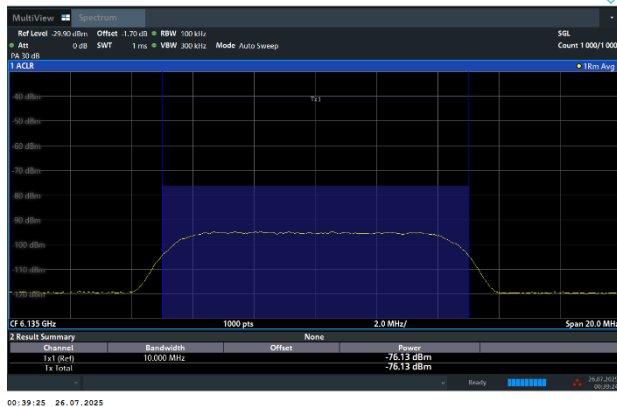
Test result is pass due to no transmission occur.

Contention Based Protocol - UNII 5, EUT-6135(BW20), SG-6135

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



802.11ax (HE20) / 6135MHz
Threshold Level (TL) = -76.13dBm

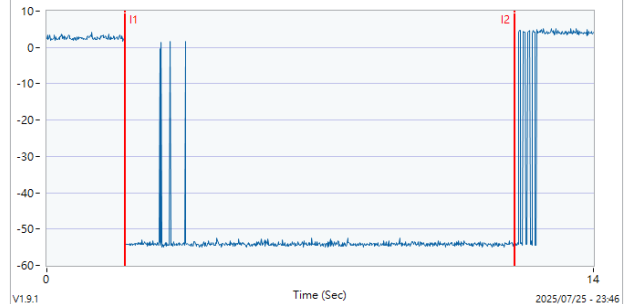


802.11ax (HE20) / CH37

Transmit when the interferer is 1dB lower.

Contention Based Protocol - UNII 5, EUT-6135(BW20), SG-6135(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.





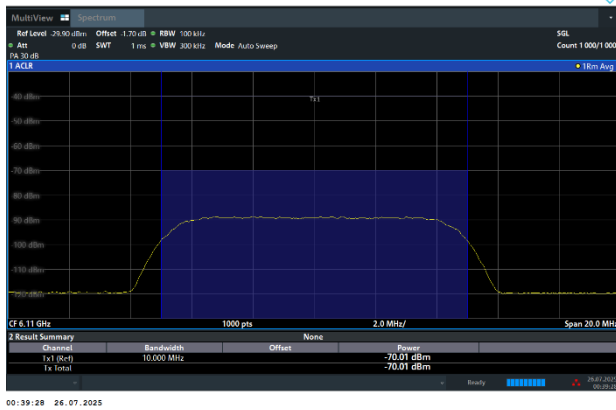
Contention Based Protocol Result Plots on U-NII 5 (AWGN Interference)

802.11ax (HE80) / 6110MHz (Lower edge)

Threshold Level (TL) = -70.01dBm

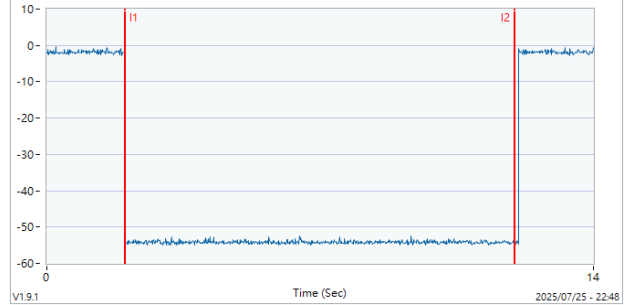
802.11ax (HE80) / CH39 (Lower edge)

Test result is pass due to no transmission occur.



Contention Based Protocol - UNII 5, EUT-6145(BW80), SG-6110

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.

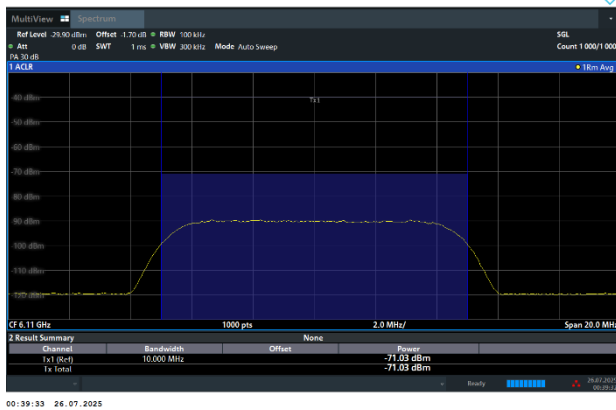


802.11ax (HE80) / 6110MHz (Lower edge)

Threshold Level (TL) = -71.03dBm

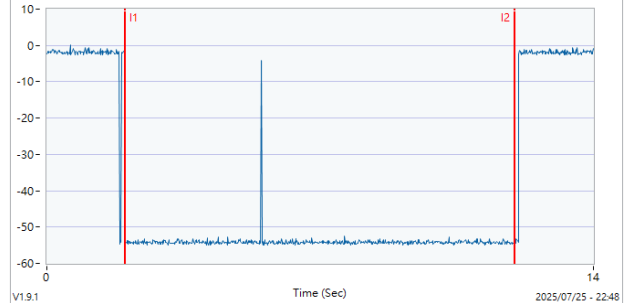
802.11ax (HE80) / CH39 (Lower edge)

Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 5, EUT-6145(BW80), SG-6110(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



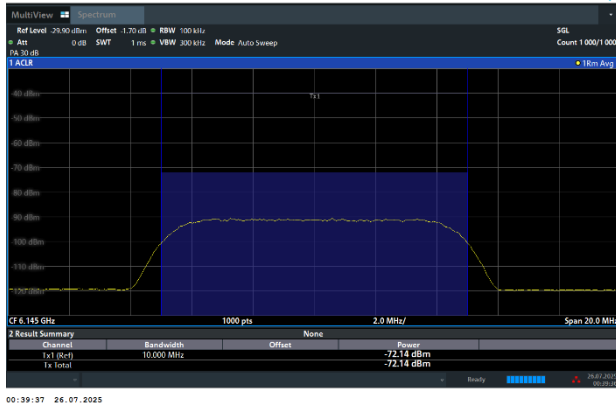


Contention Based Protocol Result Plots on U-NII 5 (AWGN Interference)

802.11ax (HE80) / 6145MHz (Middle)
Threshold Level (TL) = -72.14dBm

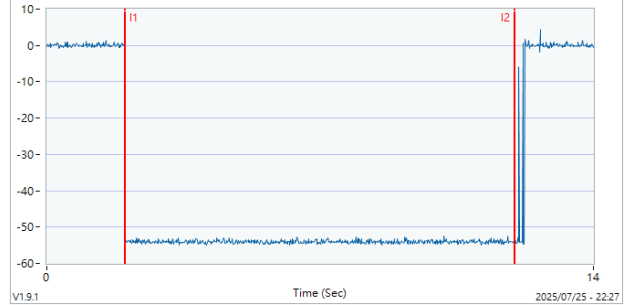
802.11ax (HE80) / CH39 (Middle)

Test result is pass due to no transmission occur.



Contention Based Protocol - UNII 5, EUT-6145(BW80), SG-6145

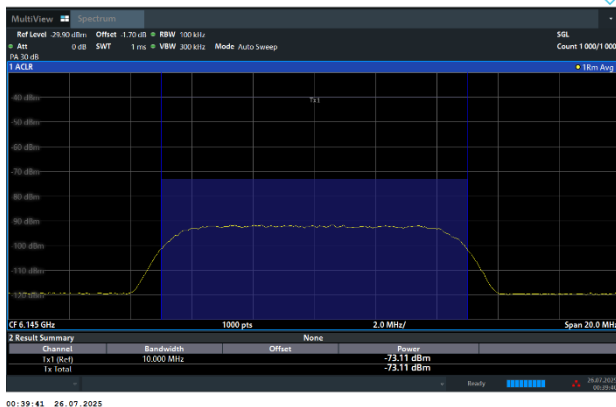
Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



802.11ax (HE80) / 6145MHz (Middle)
Threshold Level (TL) = -73.11dBm

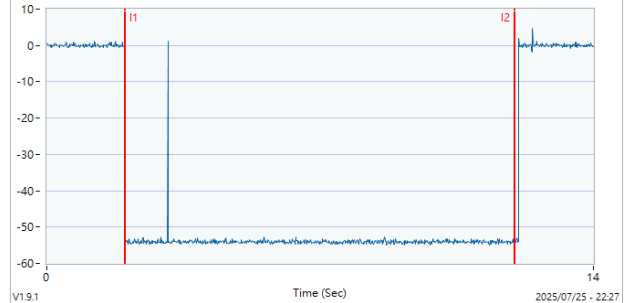
802.11ax (HE80) / CH39 (Middle)

Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 5, EUT-6145(BW80), SG-6145(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.

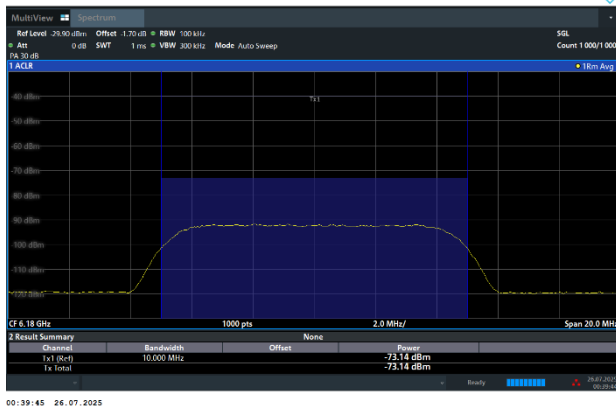




Contention Based Protocol Result Plots on U-NII 5 (AWGN Interference)

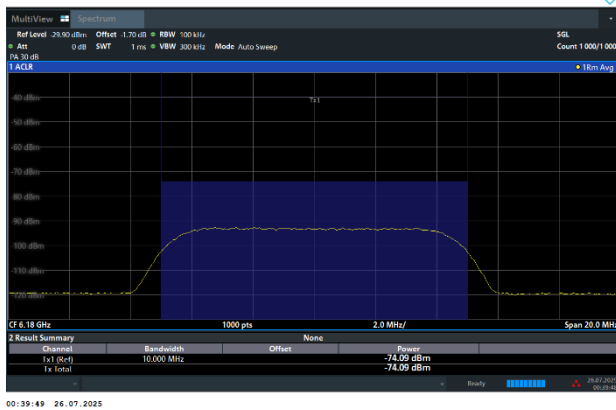
802.11ax (HE80) / 6180MHz (Upper edge)
Threshold Level (TL) = -73.14dBm

802.11ax (HE80) / CH39 (Upper edge)
Test result is pass due to no transmission occur.



802.11ax (HE80) / 6180MHz (Upper edge)
Threshold Level (TL) = -74.09dBm

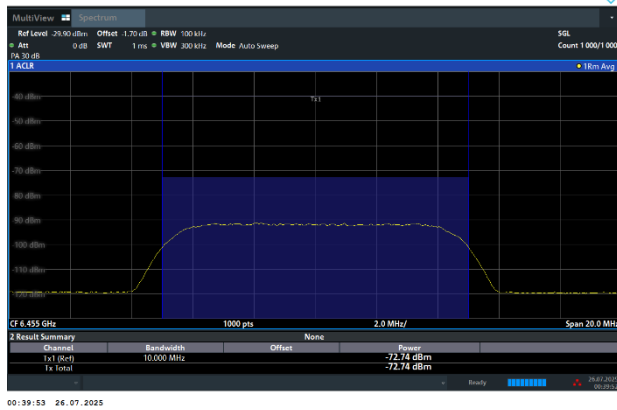
802.11ax (HE80) / CH39 (Upper edge)
Transmit when the interferer is 1dB lower.





Contention Based Protocol Result Plots on U-NII 6 (AWGN Interference)

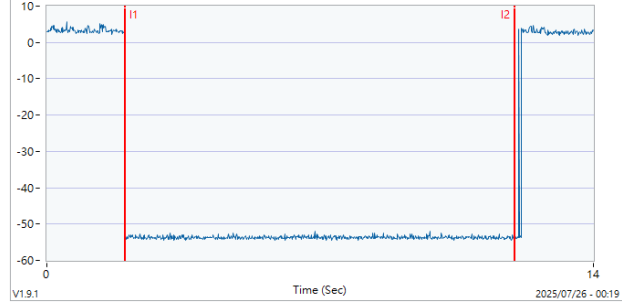
802.11ax (HE20) / 6455MHz
Threshold Level (TL) = -72.74dBm



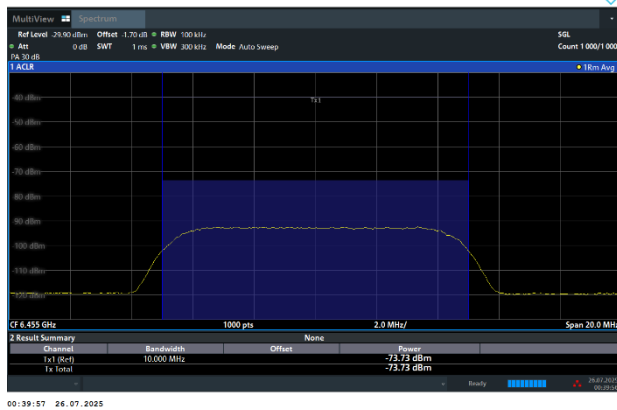
802.11ax (HE20) / CH101
Test result is pass due to no transmission occur.

Contention Based Protocol - UNII 6, EUT-6455(BW20), SG-6455

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



802.11ax (HE20) / 6455MHz
Threshold Level (TL) = -73.73dBm

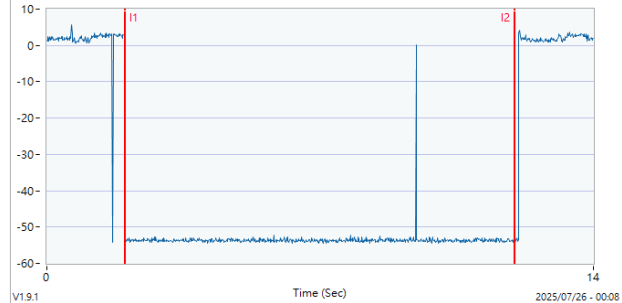


802.11ax (HE20) / CH101

Transmit when the interferer is 1dB lower.

Contention Based Protocol - UNII 6, EUT-6455(BW20), SG-6455(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.

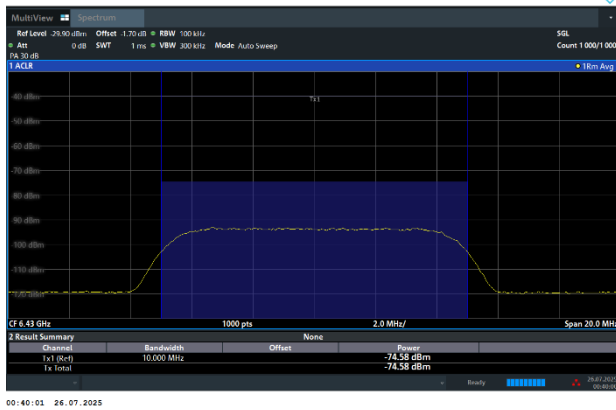




Contention Based Protocol Result Plots on U-NII 6 (AWGN Interference)

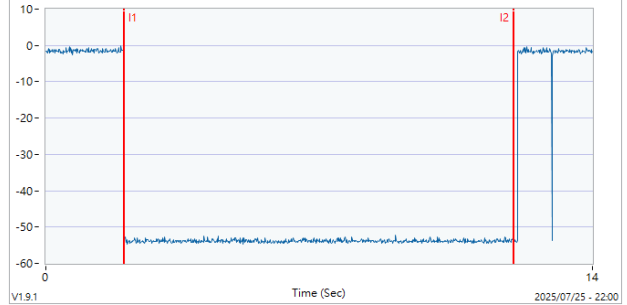
802.11ax (HE80) / 6430MHz (Lower edge)
Threshold Level (TL) = -74.58dBm

802.11ax (HE80) / CH103 (Lower edge)
Test result is pass due to no transmission occur.



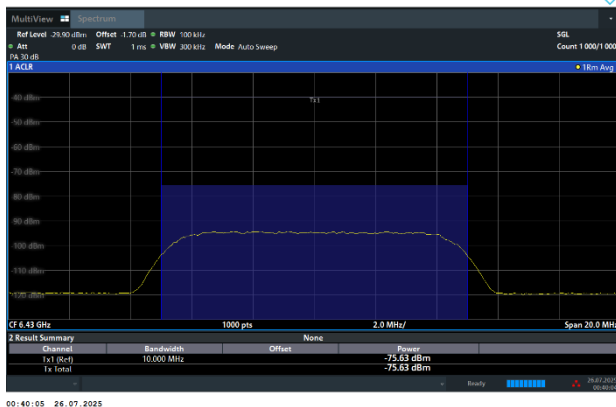
Contention Based Protocol - UNII 6, EUT-6465(BW80), SG-6430

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



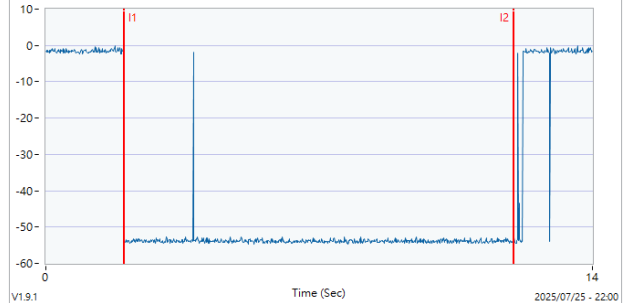
802.11ax (HE80) / 6430MHz (Lower edge)
Threshold Level (TL) = -75.63dBm

802.11ax (HE80) / CH103 (Lower edge)
Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 6, EUT-6465(BW80), SG-6430(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



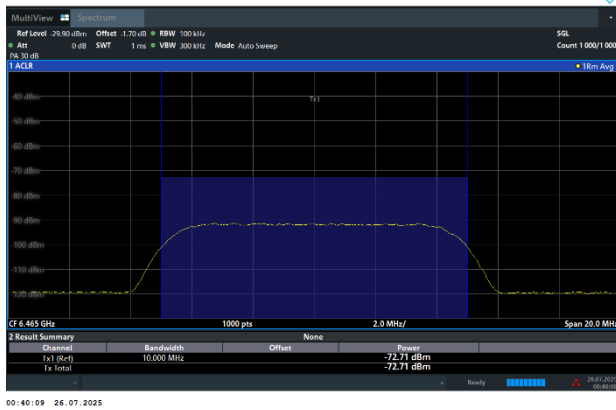


Contention Based Protocol Result Plots on U-NII 6 (AWGN Interference)

802.11ax (HE80) / 6465MHz (Middle)
Threshold Level (TL) = -72.71dBm

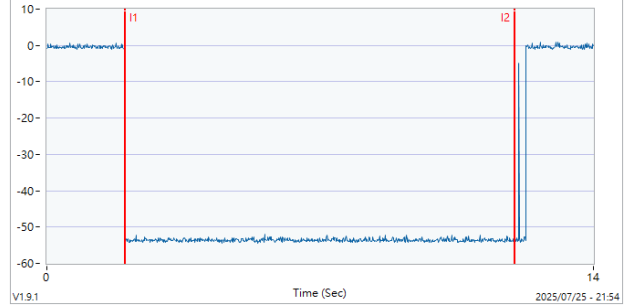
802.11ax (HE80) / CH103 (Middle)

Test result is pass due to no transmission occur.



Contention Based Protocol - UNII 6, EUT-6465(BW80), SG-6465

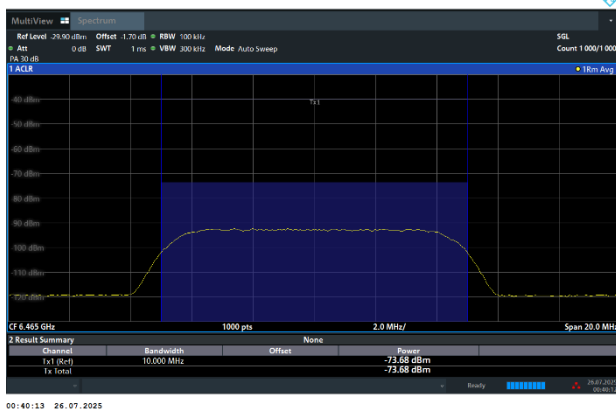
Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



802.11ax (HE80) / 6465MHz (Middle)
Threshold Level (TL) = -73.68dBm

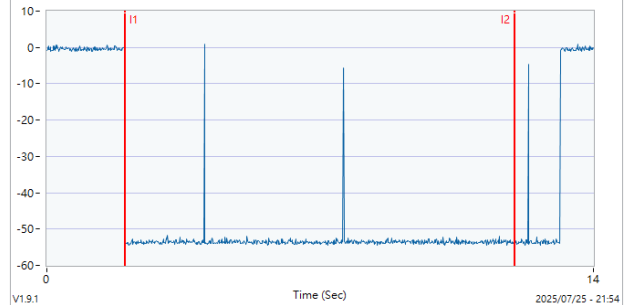
802.11ax (HE80) / CH103 (Middle)

Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 6, EUT-6465(BW80), SG-6465(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.

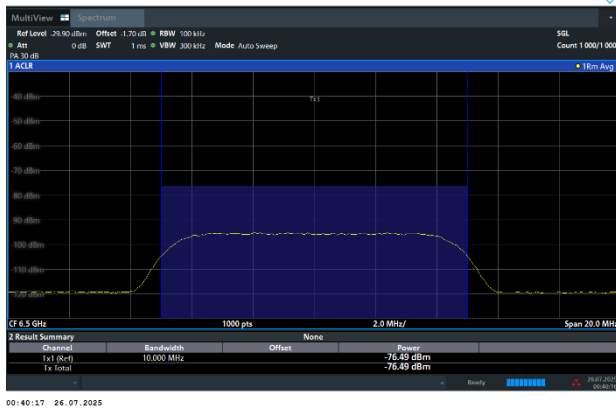




Contention Based Protocol Result Plots on U-NII 6 (AWGN Interference)

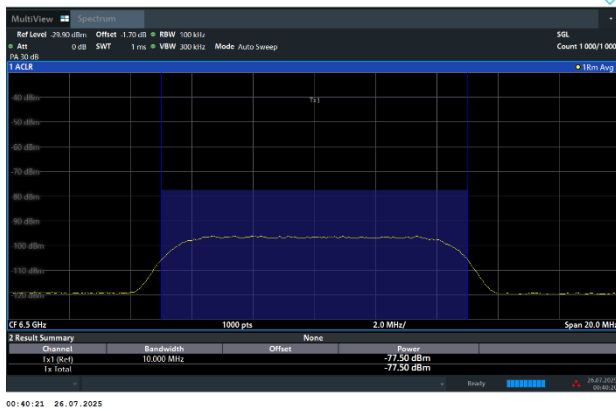
802.11ax (HE80) / 6500MHz (Upper edge)
Threshold Level (TL) = -76.49dBm

802.11ax (HE80) / CH103 (Upper edge)
Test result is pass due to no transmission occur.



802.11ax (HE80) / 6500MHz (Upper edge)
Threshold Level (TL) = -77.50dBm

802.11ax (HE80) / CH103 (Upper edge)
Transmit when the interferer is 1dB lower.

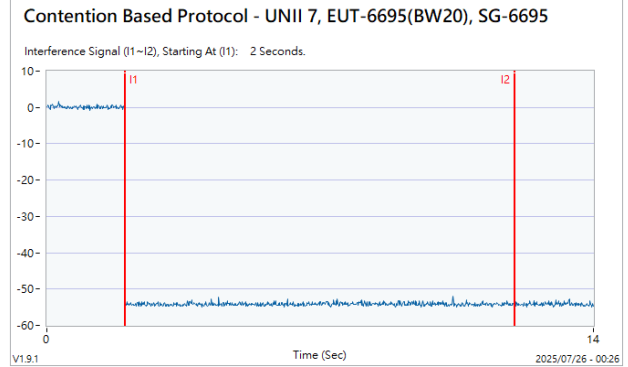
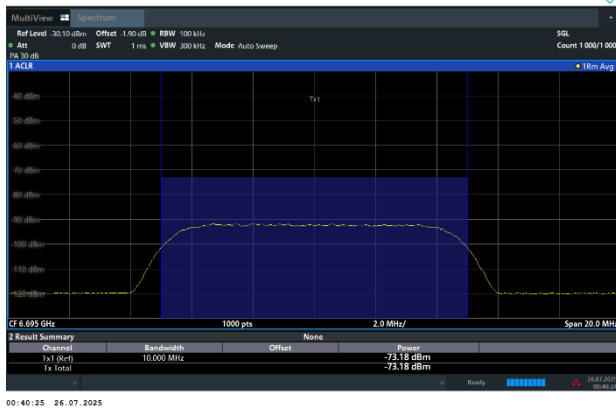




Contention Based Protocol Result Plots on U-NII 7 (AWGN Interference)

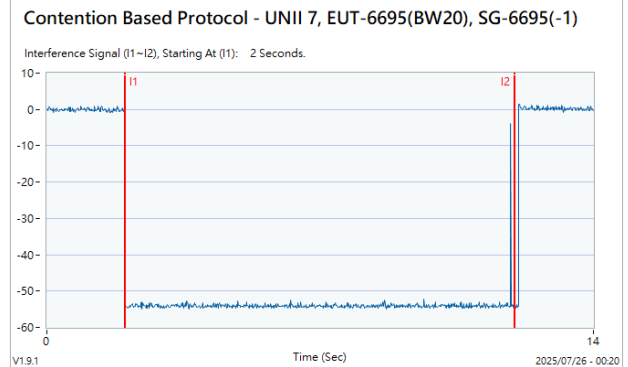
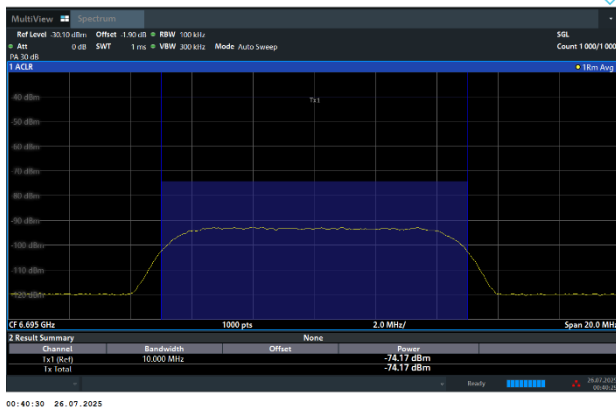
802.11ax (HE20) / 6695MHz
Threshold Level (TL) = -73.18dBm

802.11ax (HE20) / CH149
Test result is pass due to no transmission occur.



802.11ax (HE20) / 6695MHz
Threshold Level (TL) = -74.17dBm

802.11ax (HE20) / CH149
Transmit when the interferer is 1dB lower.

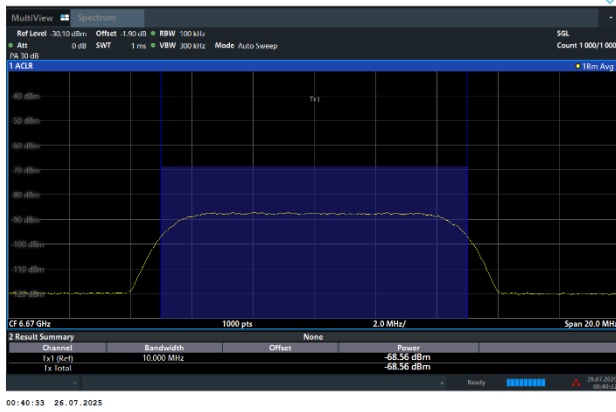




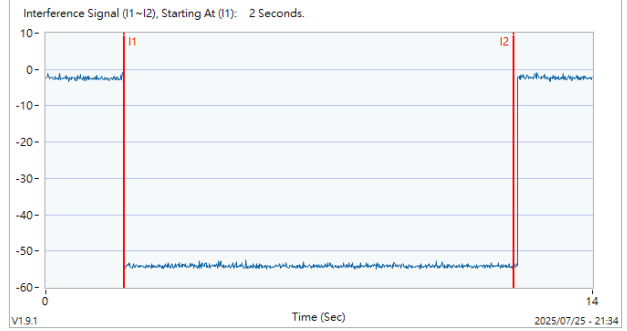
Contention Based Protocol Result Plots on U-NII 7 (AWGN Interference)

802.11ax (HE80) / 6670MHz (Lower edge)
Threshold Level (TL) = -68.56dBm

802.11ax (HE80) / CH151 (Lower edge)
Test result is pass due to no transmission occur.

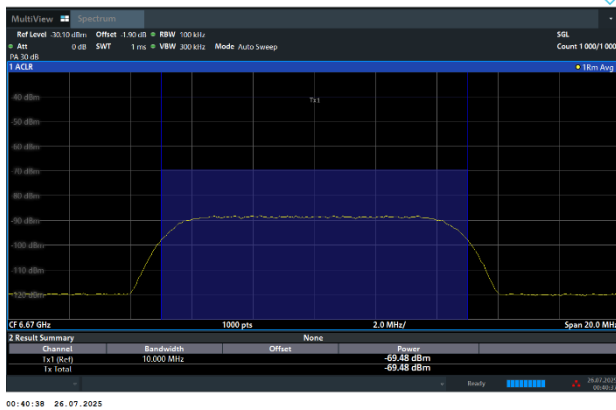


Contention Based Protocol - UNII 7, EUT-6705(BW80), SG-6670

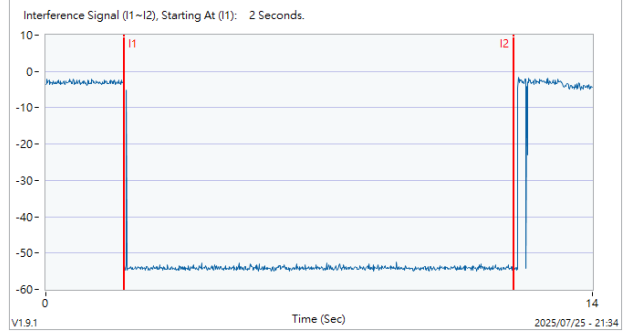


802.11ax (HE80) / 6670MHz (Lower edge)
Threshold Level (TL) = -69.48dBm

802.11ax (HE80) / CH151 (Lower edge)
Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 7, EUT-6705(BW80), SG-6670(-1)



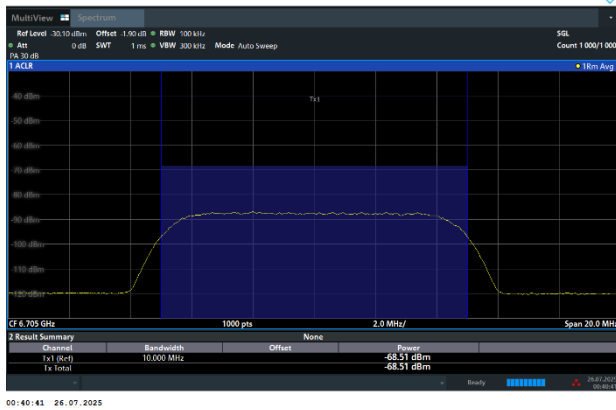


Contention Based Protocol Result Plots on U-NII 7 (AWGN Interference)

802.11ax (HE80) / 6705MHz (Middle)
Threshold Level (TL) = -68.51dBm

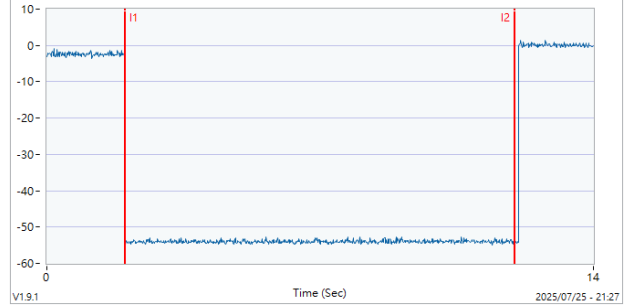
802.11ax (HE80) / CH143 (Middle)

Test result is pass due to no transmission occur.



Contention Based Protocol - UNII 7, EUT-6705(BW80), SG-6705

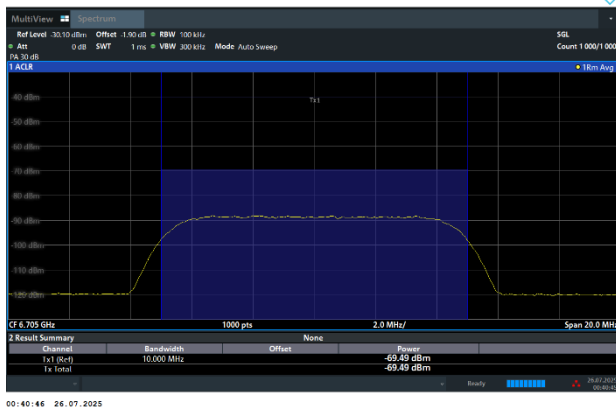
Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



802.11ax (HE80) / 6705MHz (Middle)
Threshold Level (TL) = -69.49dBm

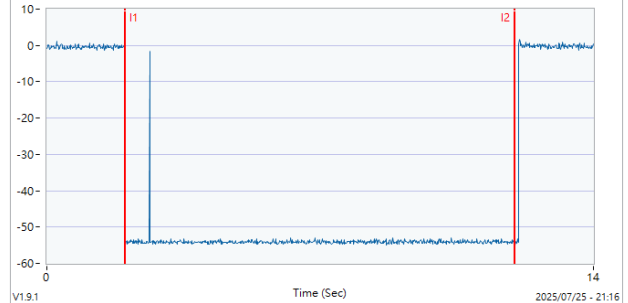
802.11ax (HE80) / CH143 (Middle)

Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 7, EUT-6705(BW80), SG-6705(-1)

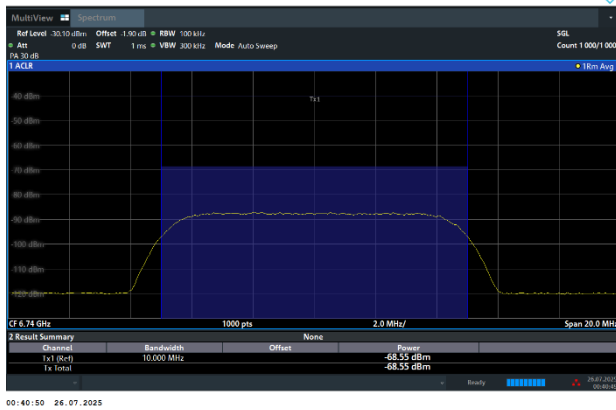
Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



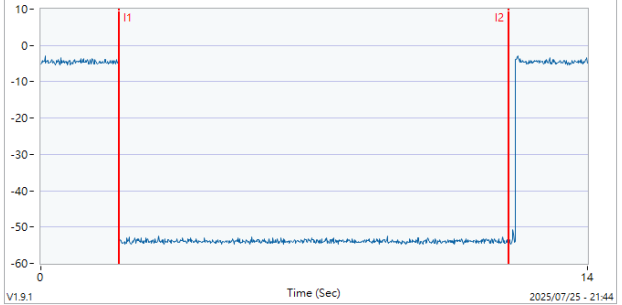
Contention Based Protocol Result Plots on U-NII 7 (AWGN Interference)

802.11ax (HE80) / 6740MHz (Upper edge)
Threshold Level (TL) = -68.55dBm

802.11ax (HE80) / CH151 (Upper edge)
Test result is pass due to no transmission occur.

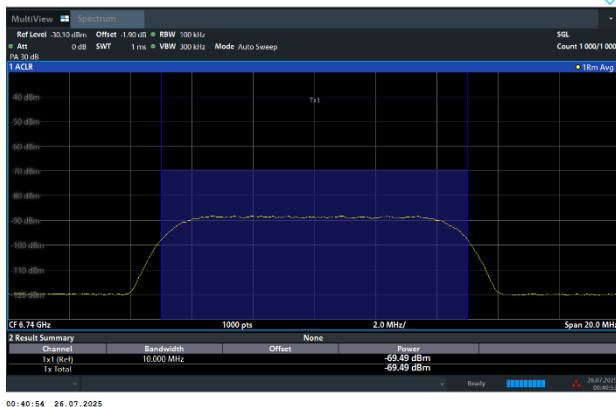

Contention Based Protocol - UNII 7, EUT-6705(BW80), SG-6740

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.

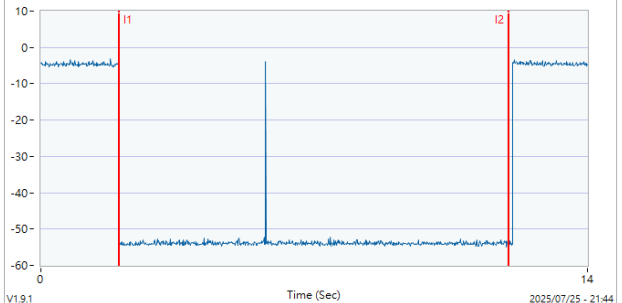


802.11ax (HE80) / 6740MHz (Upper edge)
Threshold Level (TL) = -69.49dBm

802.11ax (HE80) / CH151 (Upper edge)
Transmit when the interferer is 1dB lower.


Contention Based Protocol - UNII 7, EUT-6705(BW80), SG-6740(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



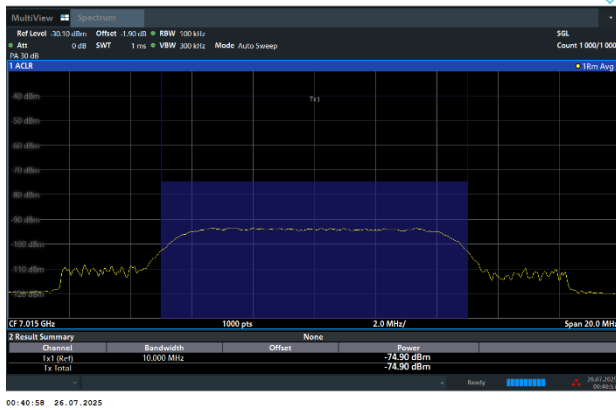


Contention Based Protocol Result Plots on U-NII 8 (AWGN Interference)

802.11ax (HE20) / 7015MHz
Threshold Level (TL) = -74.90dBm

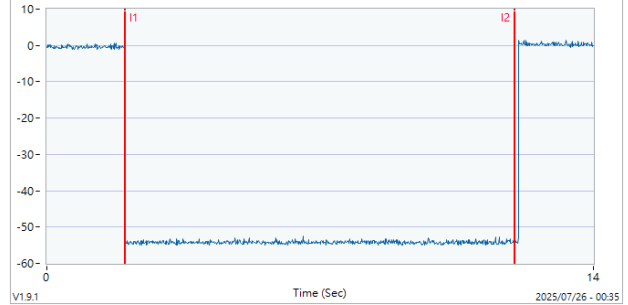
802.11ax (HE20) / CH213

Test result is pass due to no transmission occur.



Contention Based Protocol - UNII 8, EUT-7015(BW20), SG-7015

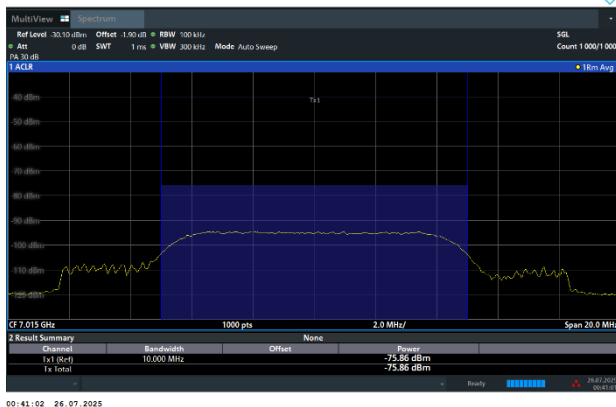
Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



802.11ax (HE20) / 7015MHz
Threshold Level (TL) = -75.86dBm

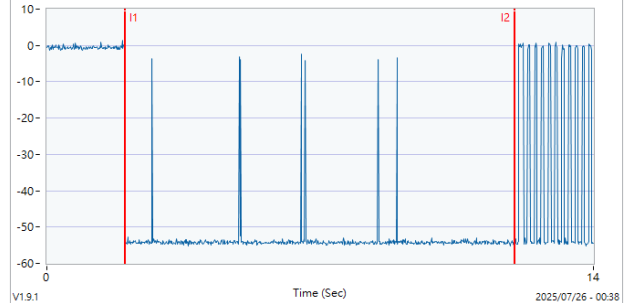
802.11ax (HE20) / CH213

Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 8, EUT-7015(BW20), SG-7015(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.

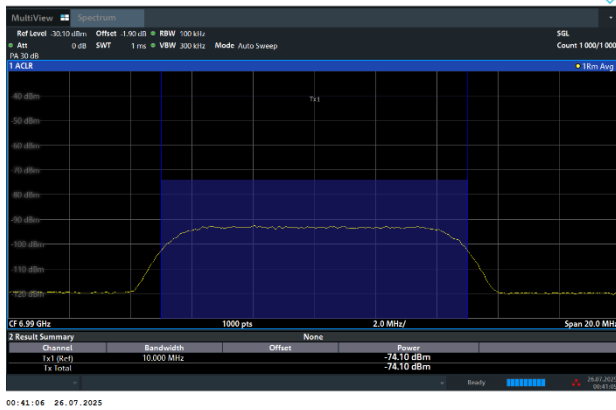




Contention Based Protocol Result Plots on U-NII 8 (AWGN Interference)

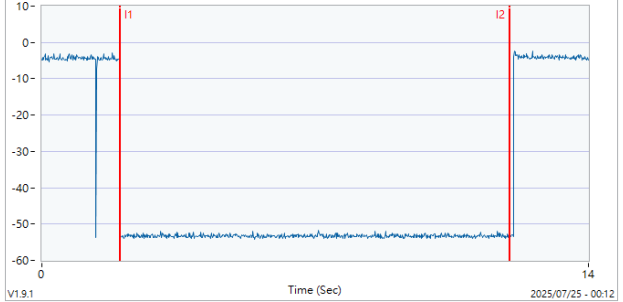
802.11ax (HE80) / 6990MHz (Lower edge)
Threshold Level (TL) = -74.10dBm

802.11ax (HE80) / CH215 (Lower edge)
Test result is pass due to no transmission occur.



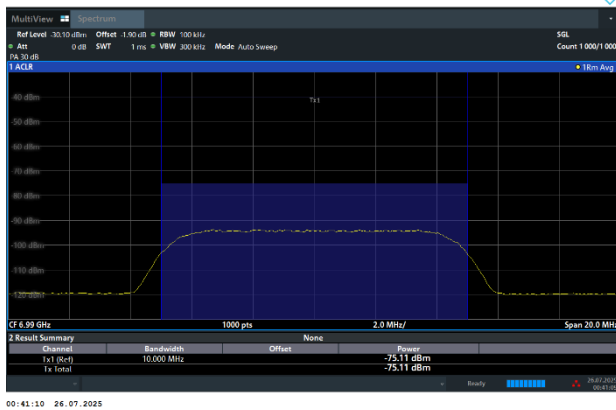
Contention Based Protocol - UNII 8, EUT-7025(BW80), SG-6990

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



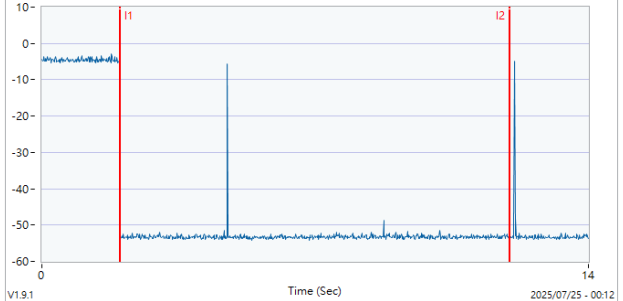
802.11ax (HE80) / 6990MHz (Lower edge)
Threshold Level (TL) = -75.11dBm

802.11ax (HE80) / CH215 (Lower edge)
Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 8, EUT-7025(BW80), SG-6990(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



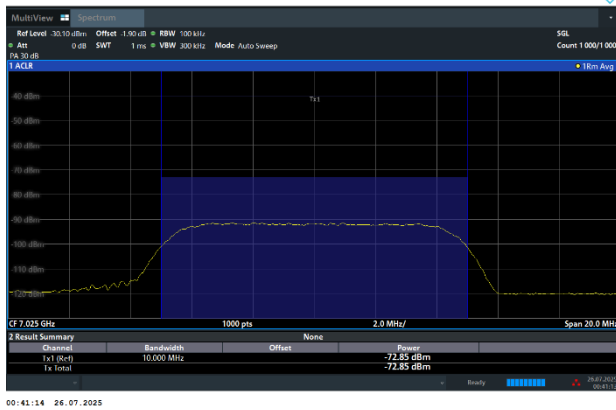


Contention Based Protocol Result Plots on U-NII 8 (AWGN Interference)

802.11ax (HE80) / 7025MHz (Middle)
Threshold Level (TL) = -72.85dBm

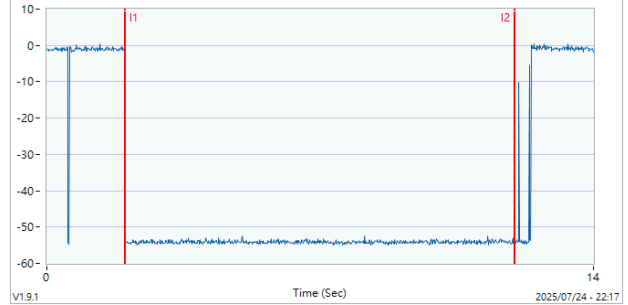
802.11ax (HE80) / CH215 (Middle)

Test result is pass due to no transmission occur.



Contention Based Protocol - UNII 8, EUT-7025(BW80), SG-7025

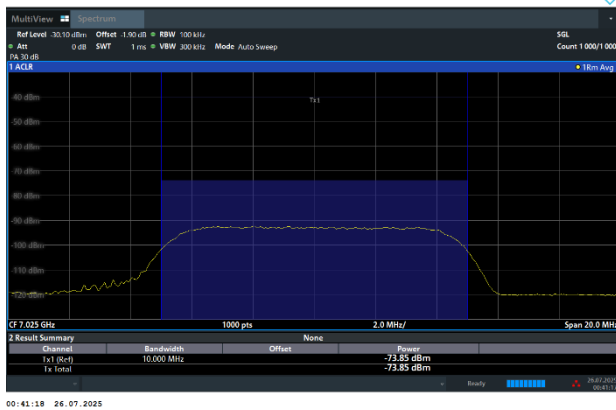
Interference Signal (I1~I2), Starting At (I1): 2 Seconds.



802.11ax (HE80) / 7025MHz (Middle)
Threshold Level (TL) = -73.85dBm

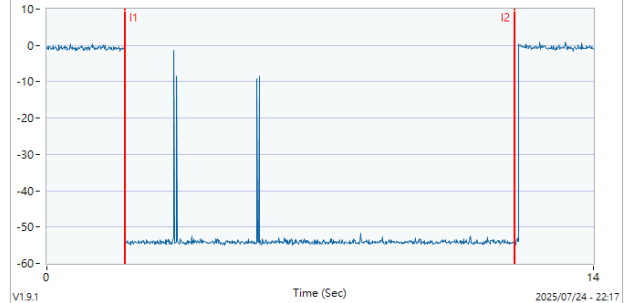
802.11ax (HE80) / CH215 (Middle)

Transmit when the interferer is 1dB lower.



Contention Based Protocol - UNII 8, EUT-7025(BW80), SG-7025(-1)

Interference Signal (I1~I2), Starting At (I1): 2 Seconds.

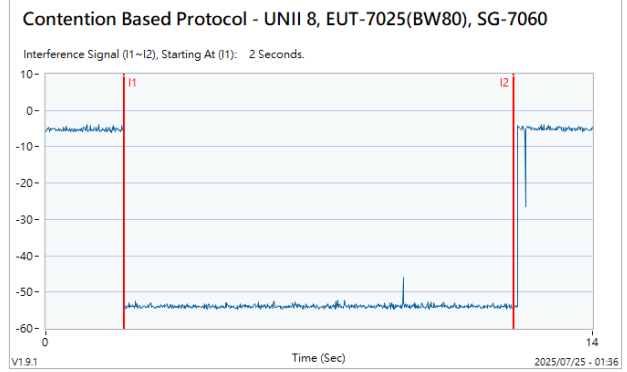
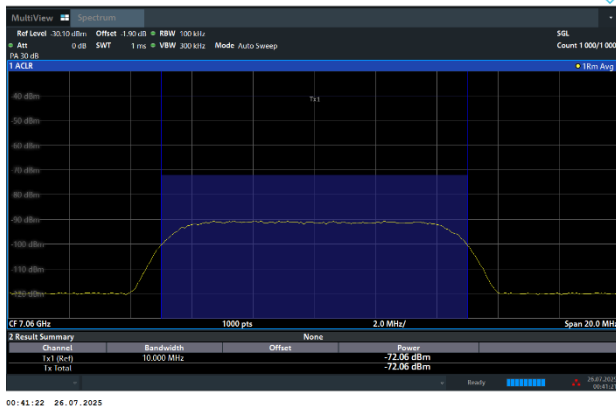




Contention Based Protocol Result Plots on U-NII 8 (AWGN Interference)

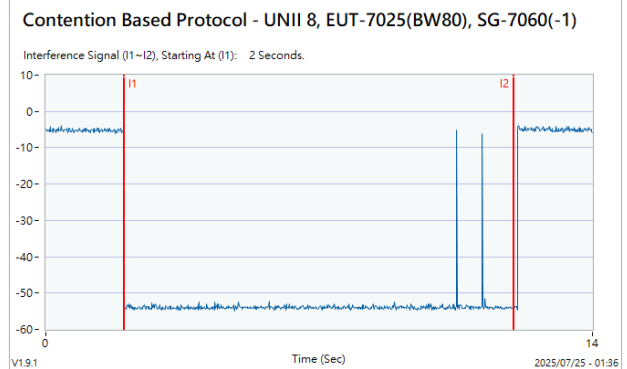
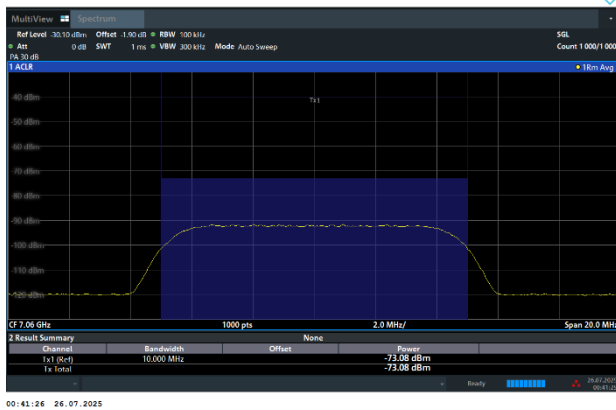
802.11ax (HE80) / 7060MHz (Upper edge)
Threshold Level (TL) = -72.06dBm

802.11ax (HE80) / CH215 (Upper edge)
Test result is pass due to no transmission occur.



802.11ax (HE80) / 7060MHz (Upper edge)
Threshold Level (TL) = -73.08dBm

802.11ax (HE80) / CH215 (Upper edge)
Transmit when the interferer is 1dB lower.



—THE END—