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MEASUREMENT REPORT

FCC Part 15.407 802.11a/ax/be WiFi 6GHz – Contention Based Protocol

Applicant Name:
Microsoft Corporation
1 Microsoft Way
Redmond, WA 98052-8300
United States

Date of Testing:
1/27/2025 – 3/5/2025
Test Report Issue Date:
3/28/2025
Test Site/Location:
Element Lab., Columbia, MD, USA
Test Report Serial No.:
1M2503050023-12-R3.C3K

FCC ID:	**C3K00002101**
APPLICANT:	**Microsoft Corporation**

Application Type:	Class II Permissive Change, Module Host Integration
Host Model:	2109
EUT Type:	Limited Modular Approval – Host Integration
Frequency Range:	5935 – 7115MHz
FCC Classification:	15E 6GHz Low Power Dual Client (6CD)
FCC Rule Part(s):	Part 15 Subpart E (15.407)
Test Procedure(s):	ANSI C63.10-2013, KDB 987594 D02 v01r01

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 1M2503050023-12-R3.C3K) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez
Executive Vice President

ACCREDITED
CERT #2041.01

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and\\or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 Element Test Location

Measurements were conducted at the Element laboratory(ies) indicated in Section 1.3 below. All measurement facilities are compliant with the test site requirements specified in ANSI C63.4-2014 and KDB 414788 D01 v01r01.

1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A. ("MD")

- Element Washington DC LLC is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.

- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).

- Element Washington DC LLC facility is a registered (2451B) test laboratory with the site description on file with ISED.

- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Microsoft Module (FCC ID: C3K00002101)** integrated into the **Portable Computing Device Model 2109**.

This host device (2109) contains a WLAN/BT transmitter module previously certified under **FCC ID: C3K00002101**. No changes have been made to the module and therefore all conducted testing performed on the original module remain applicable to this filing. This test report covers additional test cases for integrating the module transmitter into this host product.

Test Device Serial No.: 0F3K4CP24453Q6, 0F3K4CT24453Q6, 0F3K4CW24453Q6, 0F3K4CK24453Q6

2.2 Device Capabilities

This device contains the following capabilities:

Bluetooth (1x, EDR, LE), 802.11b/g/n/ac/ax/be WLAN, 802.11a/n/ac/ax/be UNII (5GHz and GHz), Wireless Power Transfer

This device supports both channel puncturing and channel bandwidth reduction. In the case of incumbent avoidance the device either ceases operation of employs channel bandwidth reduction. Channel puncturing is not utilized for incumbent avoidance.

Band 5		Band 6		Band 7		Band 8	
Ch.	**Frequency (MHz)**	**Ch.**	**Frequency (MHz)**	**Ch.**	**Frequency (MHz)**	**Ch.**	**Frequency (MHz)**
2	5935	97	6435	117	6535	189	6895
:	:	:	:	:	:	:	:
45	6175	105	6475	149	6695	209	6995
:	:	:	:	:	:	:	:
93	6415	113	6515	185	6875	233	7115

Table 2-1. 802.11a/ax/be (20MHz) Frequency / Channel Operations

Band 5		Band 6		Band 7		Band 8	
Ch.	**Frequency (MHz)**	**Ch.**	**Frequency (MHz)**	**Ch.**	**Frequency (MHz)**	**Ch.**	**Frequency (MHz)**
3	5965	99	6445	123	6565	187	6885
:	:	:	:	:	:	:	:
43	6165	107	6485	155	6725	211	7005
:	:	:	:	:	:	:	:
91	6405	115	6525	179	6845	227	7085

Table 2-2. 802.11ax/be (40MHz BW) Frequency / Channel Operations

Band 5		Band 6		Band 7		Band 8	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
7	5985	103	6465	119	6545	199	6945
:	:			:	:	:	:
39	6145			151	6705	215	7025
:	:			:	:		
87	6385			183	6865		

Table 2-3. 802.11ax/be (80MHz BW) Frequency / Channel Operations

Band 5		Band 6		Band 7		Band 8	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
15	6025	111	6505	143	6665	207	6985
47	6185			175	6825		
79	6345						

Table 2-4. 802.11axb/e (160MHz BW) Frequency / Channel Operations

Band 5		Band 6		Band 7		Band 8	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
31	6105	95	6425	127	6585	191	6905
63	6265			159	6745		

Table 2-5. 802.11be (320MHz BW) Frequency / Channel Operations

2.3 Antenna Description

The following antenna gains are used in this device per the "Unlicensed Band Antenna Gain" document provided by the client. This document is also included in the filing as a public exhibit. This module will be integrated into host devices employing various antenna gains. For this report, the lowest possible antenna gain is used, as this creates the worst-case test conditions for contention based protocol.

	Ant1 Peak Gain [dBi]	Ant2 Peak Gain [dBi]	Measured Directional Gain [dBi]
5925 – 6425 MHz	5.87	4.94	7.08
6425 – 6525 MHz	3.93	4.35	7.08
6525 – 6875 MHz	3.78	3.92	6.55
6875 – 7125 MHz	2.74	3.78	5.91

Table 2-6. Antenna Peak Gain

The antenna gains shown in this table were provided by the manufacturer.

2.4 Test Configuration

The EUT was tested per the guidance of ANSI C63.10-2013 and KDB 987594 D02 v01r01.

This device supports operation under control of either a low-power indoor access point (LPi) or a standard power access point (SP).

This device operates in the 5.925-7.125 GHz band when under control of a lower indoor access point. Additionally, the device may operate in the 5.925-6.425 GHz and 6.525-6.875 GHz bands when under control of a standard power access point.

While two operating modes are supported the data in this report was the result of LPi operation and is representative of both modes.

2.5 Software and Firmware

The test was conducted with firmware version 1.0.4166.1200 installed on the EUT.

2.6 EMI Suppression Device(s) / Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) and the guidance provided in KDB 987594 D02 v01r01 were used in the measurement of the EUT.

Deviation from measurement procedure……..…….....None

3.2 Environmental Conditions

The temperature is controlled within range of 15ºC to 35ºC. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

4.0 ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:
"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antennas of the EUT are **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The EUT complies with the requirement of §15.203.

5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Contention Based Protocol Conducted Measurements	0.86
Conducted Bench Top Measurements	1.13
Line Conducted Disturbance	3.09
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

Table 5-1. Measurement Uncertainty

6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Rohde & Schwarz	FSV40	EMI Test Receiver (40GHz)	9/6/2024	Annual	9/6/2025	101814
Rohde & Schwarz	SMW200A	Vector Signal Generator	4/4/2024	Annual	4/4/2025	103200
TPLink	ArcherBE900	WiFi 7 Access Point	N/A			22310J000044

Table 6-1. Test Equipment Calibration Table – MD

7.0 TEST RESULTS

7.1 Summary

Company Name: Microsoft Corporation
FCC ID: C3K00002101
FCC Classification: 15E 6GHz Low Power Dual Client (6CD)

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(d)(6)	RSS-248(4.7)	Contention Based Protocol	EUT must detect AWGN signal with 90% (or better) certainty	Conducted	PASS	Section 7.2

Table 7-1. Summary of Test Results

Notes:

1) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
2) Per 15.407(a)(7), a device operating under the control of a standard power access point in 5.925-6.425 GHz and 6.525-6.875 GHz bands must not have the maximum power spectral density exceed 17 dBm/MHz e.i.r.p., must limit the maximum e.i.r.p. over the frequency band of operation does not exceed 30 dBm, and must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power. Compliance to this clause is addressed via the AFC PRV test report.
3) The test data shown in this report follows the test plan prepared by the Grantee after consultation with FCC. Also, additional measurements are included based on worst-case findings from the filing of the original module report.

7.2 Contention Based Protocol

Test Overview and Limit

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band (herein referred to as unlicensed devices) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band. To ensure incumbent co-channel operations are detected in a technology-agnostic manner, unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed indoor low-power devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel and stay off the channel if detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain.

To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel.

Test Procedure Used

KDB 987594 D02 v01r01

Test Settings

1. Configure the EUT to transmit with a constant duty cycle.
2. Set the operating parameters of the EUT including power level, operating frequency, modulation, and bandwidth.
3. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT. Connect the output port of the EUT to the signal analyzer 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.
4. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.
5. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
6. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in Figure 2.
7. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.
8. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
9. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
10. Refer to Table 1 of KDB 987594 D02 v01r01 to determine the number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal, and repeat the process.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

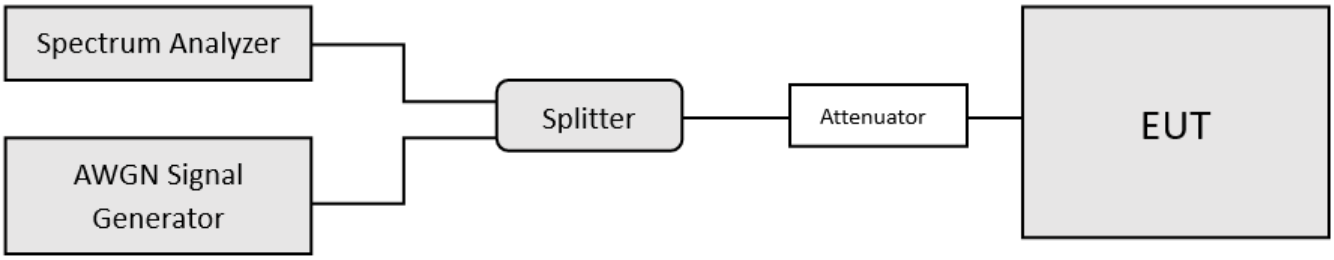


Figure 7-1. Contention-based protocol test setup conducted method.

Test Notes

1. Per guidance from KDB 987594 D02 v01r01, contention-based protocol was tested using an AWGN signal with a bandwidth of 10MHz (see Plot 7-313). The amplitude of the signal was increased until detected by the EUT, signaled by the ceasing of transmission (see Plot 7-329), M1 indicates the point at which the AWGN signal is introduced. D1 indicates where the AWGN signal is terminated, at least 10 seconds following M1.
2. 15 trials were run to assure that at least 90% of certainty was met.
3. Per Guidance from KDB 987594 D04 v01, contention-based protocol was tested with receiver with the lowest antenna gain.
4. All CBP Timing Plots shown are for the ceased condition. Some spikes that may be shown are from adjacent portions of the spectrum that are still transmitting.

Detection Level = Injected AWGN Power (dBm) – Antenna Gain (dBi) + Path Loss (dB)

Equation 7-1. Detection Level Calculation

Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	Injected (AWGN) [dBm]	Antenna Gain [dBi]	Path Loss (dB)	Adjusted Power Level [dBm]	Detection Limit [dBm]	Margin [dB]
UNII Band 5	53	6215	20	6215	-66.55	4.94	1.03	-70.46	-62.0	-8.46
	31	6265	320	6110	-66.31	4.94	1.03	-70.22	-62.0	-8.22
				6265	-66.64	4.94	1.03	-70.55	-62.0	-8.55
				6420	-66.85	4.94	1.03	-70.76	-62.0	-8.76
UNII Band 6	101	6455	20	6455	-67.17	3.93	1.03	-70.07	-62.0	-8.07
	95	6425	320	6270	-65.78	3.93	1.03	-68.68	-62.0	-6.68
				6425	-65.90	3.93	1.03	-68.80	-62.0	-6.80
				6580	-66.08	3.93	1.03	-68.98	-62.0	-6.98
UNII Band 7	149	6695	20	6695	-64.37	3.78	1.03	-67.12	-62.0	-5.12
	159	6745	320	6590	-65.32	3.78	1.03	-68.07	-62.0	-6.07
				6745	-64.69	3.78	1.03	-67.44	-62.0	-5.44
				6900	-65.10	3.78	1.03	-67.85	-62.0	-5.85
UNII Band 8	197	6935	20	6935	-64.71	2.74	1.03	-66.42	-62.0	-4.42
	191	6905	320	6750	-65.12	2.74	1.03	-66.83	-62.0	-4.83
				6905	-64.65	2.74	1.03	-66.36	-62.0	-4.36
				7060	-65.28	2.74	1.03	-66.99	-62.0	-4.99

Table 7-2. Contention Based Protocol – Incumbent Detection Results

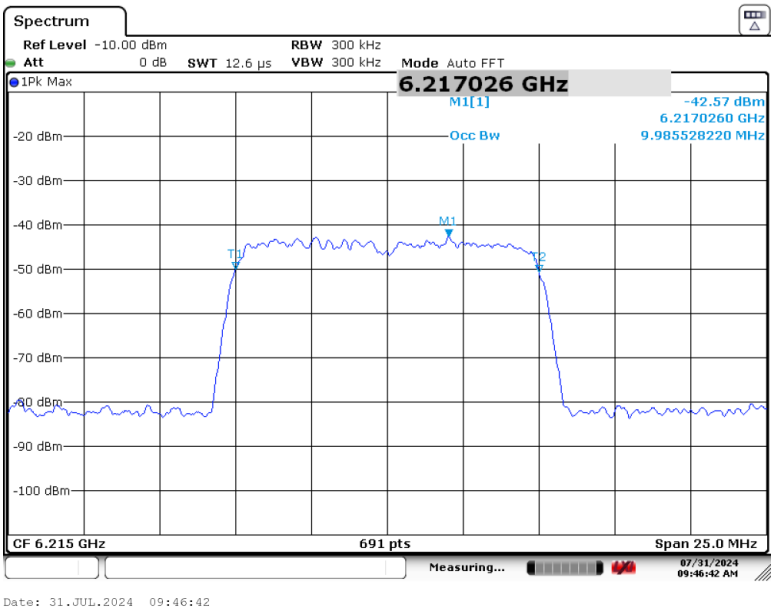
Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	Antenna Gain [dBi]	EUT Transmission Status Adjusted AWGN Power (dBm)			Detection Limit [dBm]	Margin [dB]
						Normal	Minimal	Ceased		
UNII Band 5	53	6215	20	6215	4.94	-71.91	-71.19	-70.46	-62.0	-8.46
	31	6265	320	6110	4.94	-71.19	-70.95	-70.22	-62.0	-8.22
				6265	4.94	-72.00	-71.28	-70.55	-62.0	-8.55
				6420	4.94	-71.37	-71.00	-70.76	-62.0	-8.76
UNII Band 6	101	6455	20	6455	3.93	-71.40	-70.80	-70.07	-62.0	-8.07
	95	6425	320	6270	3.93	-69.65	-69.29	-68.68	-62.0	-6.68
				6425	3.93	-70.13	-69.53	-68.80	-62.0	-6.80
				6580	3.93	-69.71	-69.34	-68.98	-62.0	-6.98
UNII Band 7	149	6695	20	6695	3.78	-68.57	-67.85	-67.12	-62.0	-5.12
	159	6745	320	6590	3.78	-69.04	-68.43	-68.07	-62.0	-6.07
				6745	3.78	-68.17	-67.92	-67.44	-62.0	-5.44
				6900	3.78	-68.58	-68.33	-67.85	-62.0	-5.85
UNII Band 8	197	6935	20	6935	2.74	-67.51	-66.78	-66.42	-62.0	-4.42
	191	6905	320	6750	2.74	-67.92	-67.44	-66.83	-62.0	-4.83
				6905	2.74	-67.33	-66.84	-66.36	-62.0	-4.36
				7060	2.74	-68.20	-67.47	-66.99	-62.0	-4.99

Table 7-3. Contention Based Protocol – Detection Results – All Tx Cases

CBP Detection (1 = Detection, Blank = No Detection)																			
Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Detection Rate (%)
UNII Band 5	53	6215	20	6215	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	31	6265	320	6190	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6265	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6340	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII Band 6	101	6455	20	6455	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	95	6425	320	6350	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6425	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6500	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII Band 7	149	6695	20	6695	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	159	6745	320	6670	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6745	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6820	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII Band 8	197	6935	20	6935	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	191	6905	320	6830	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6905	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6980	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100

Table 7-4. Contention Based Protocol – Incumbent Detection Trial Results

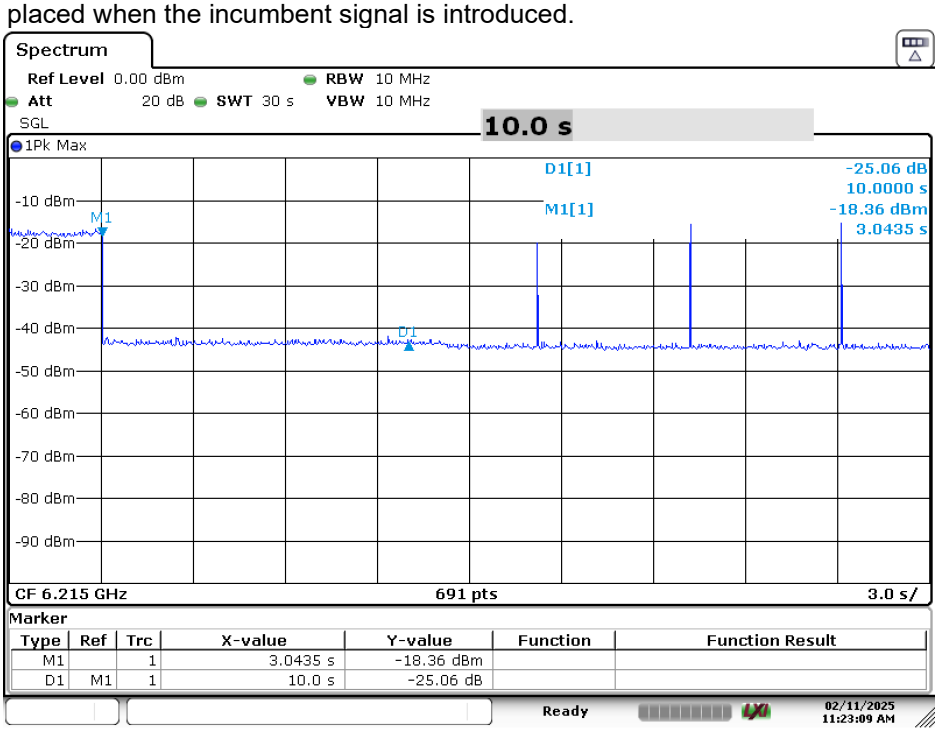
7.2.1 AWGN Plots



Plot 7-1. AWGN Signal (Demonstration)

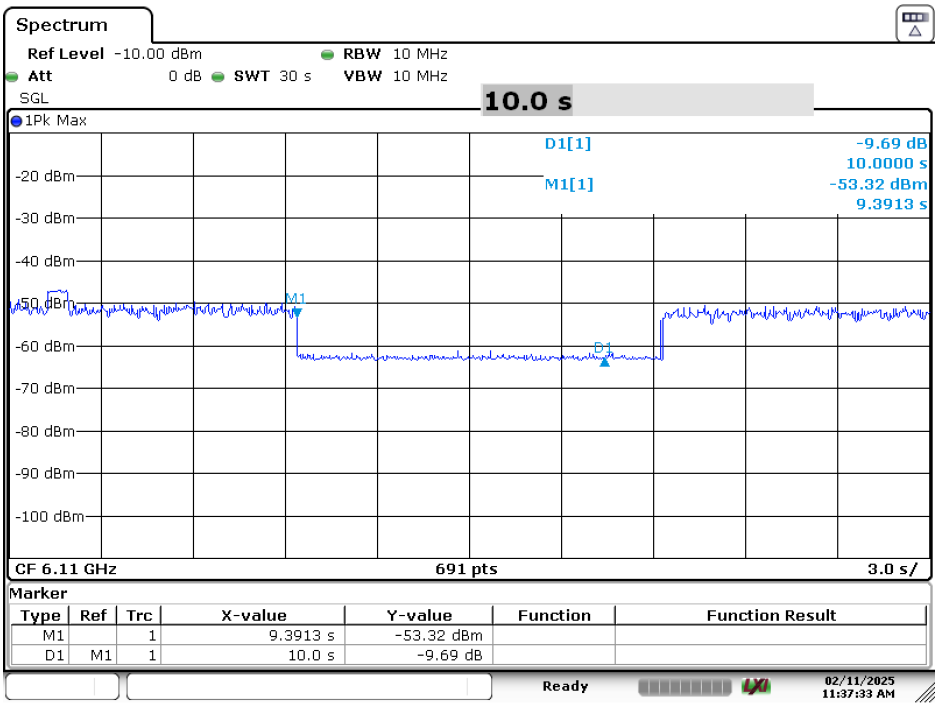
7.2.2 CBP Timing Plots

Note: Marker 1 is placed when the incumbent signal is introduced.



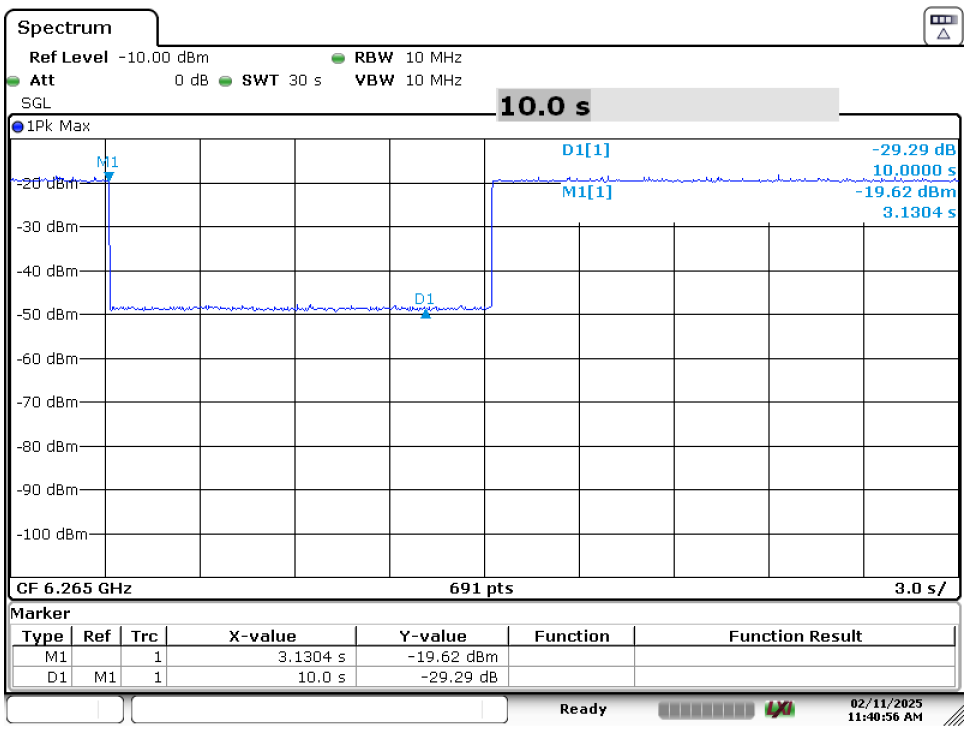
Date: 11.FEB.2025 11:23:09

Plot 7-2. Contention Based Protocol Timing Plot (20MHz (UNII Band 5) – Ch. 53) - Ceased



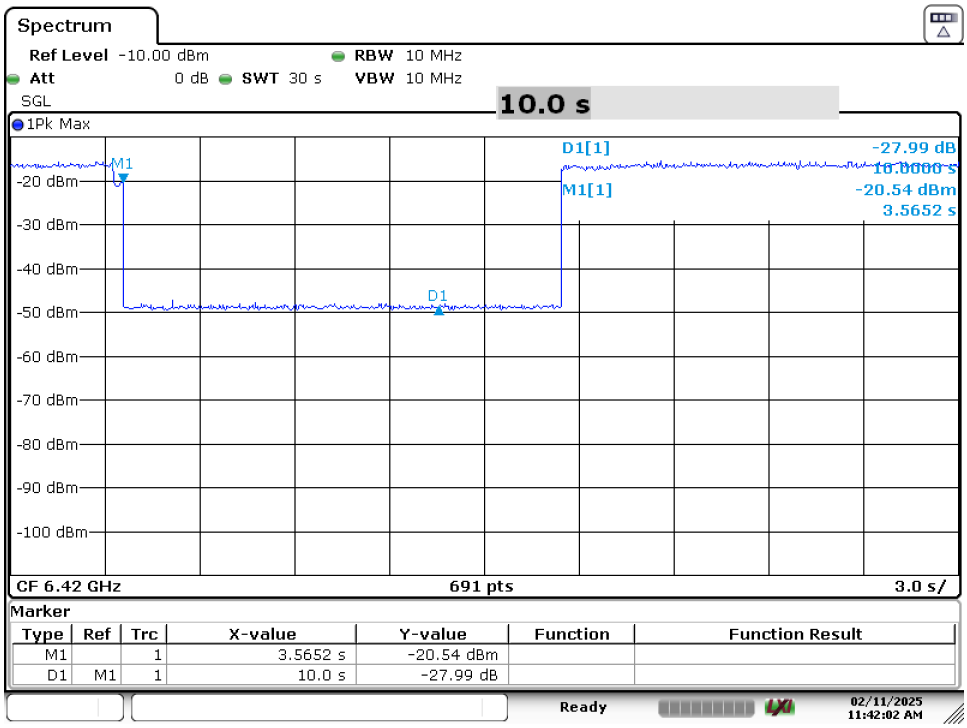
Date: 11.FEB.2025 11:37:33

Plot 7-3. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) – Ch. 31 Low) - Ceased



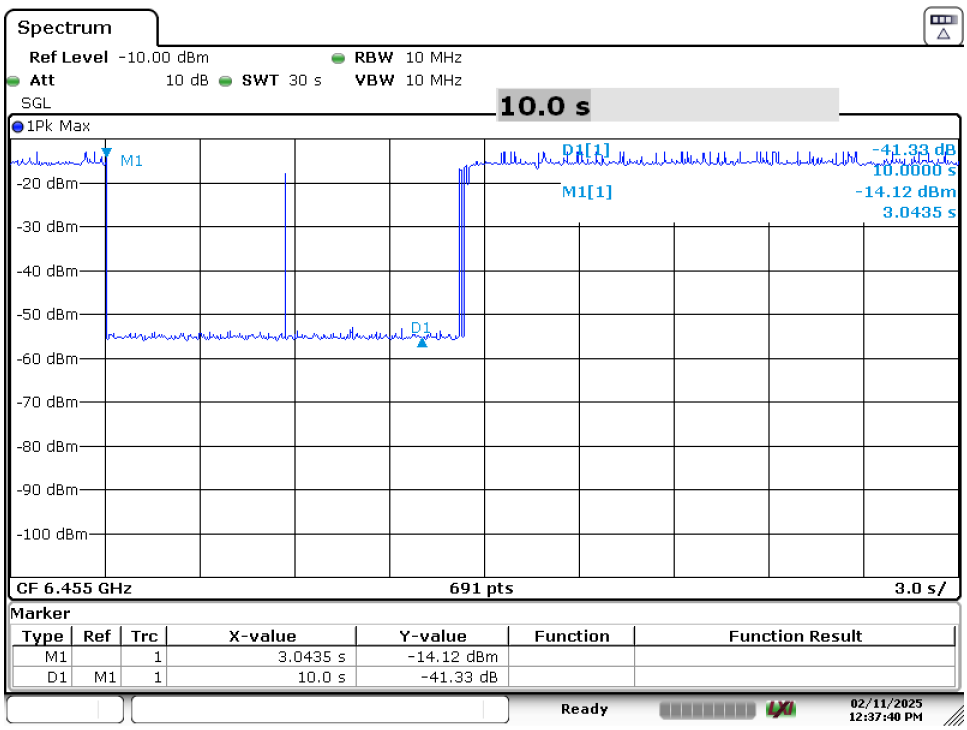
Date: 11.FEB.2025 11:40:56

Plot 7-4. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) – Ch. 31 Mid) - Ceased



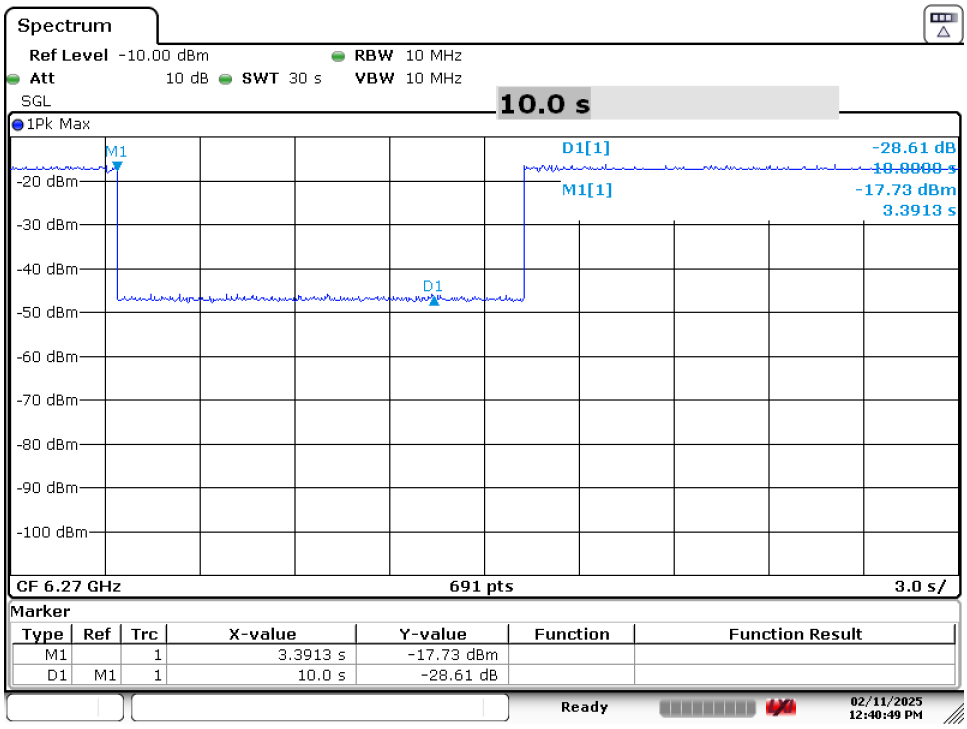
Date: 11.FEB.2025 11:42:02

Plot 7-5. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) – Ch. 31 High) - Ceased



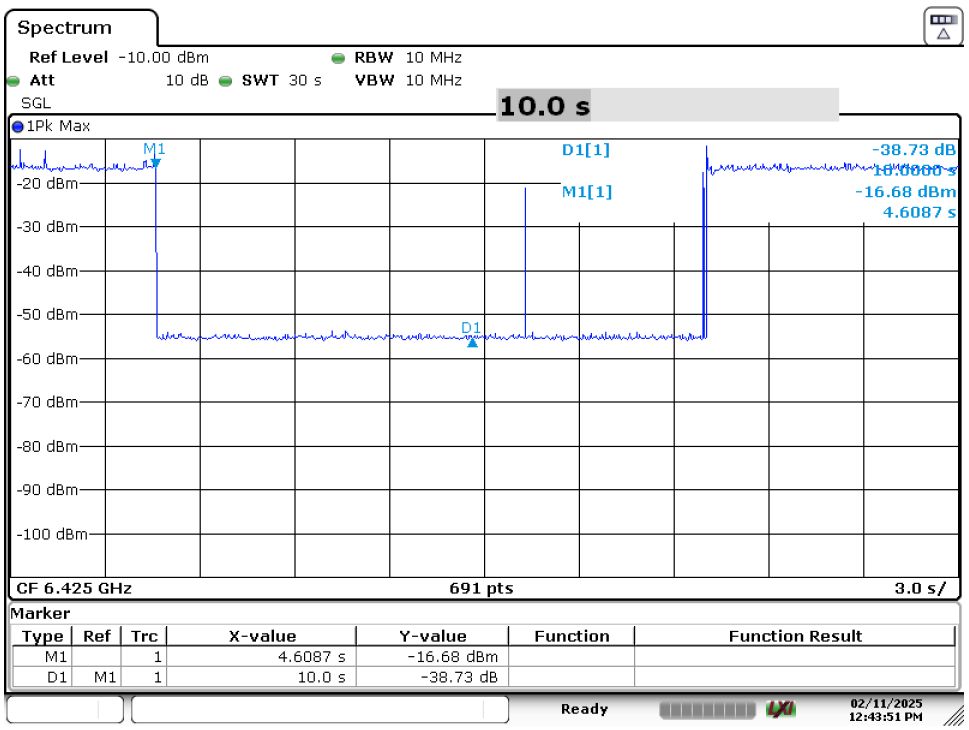
Date: 11.FEB.2025 12:37:40

Plot 7-6. Contention Based Protocol Timing Plot (20MHz (UNII Band 6) – Ch. 101) - Ceased



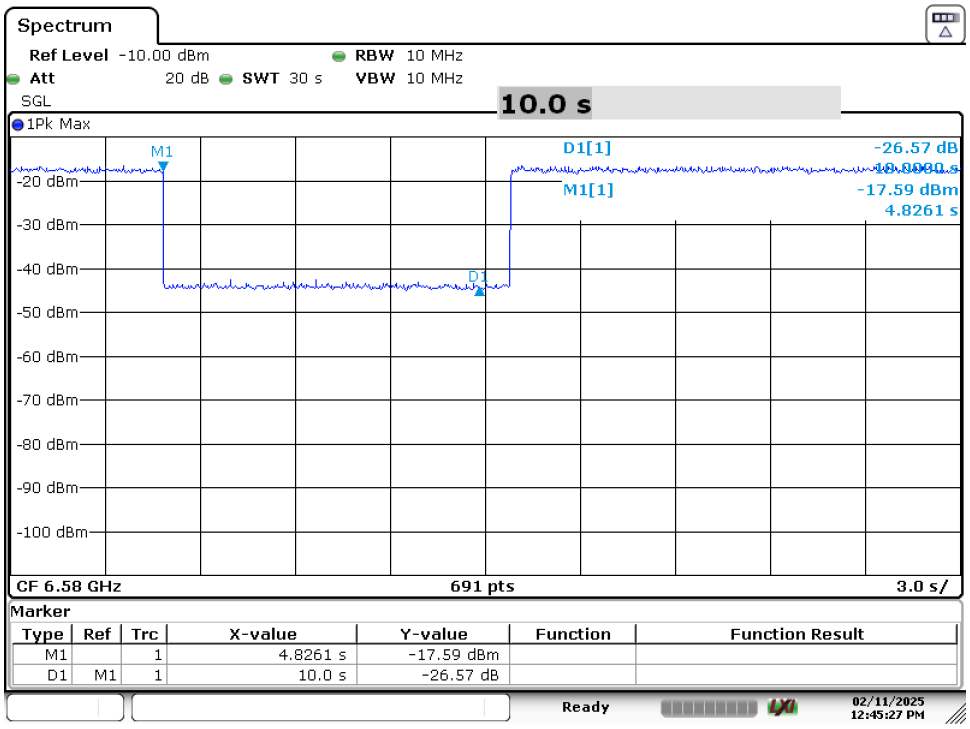
Date: 11.FEB.2025 12:40:49

Plot 7-7. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 Low) - Ceased



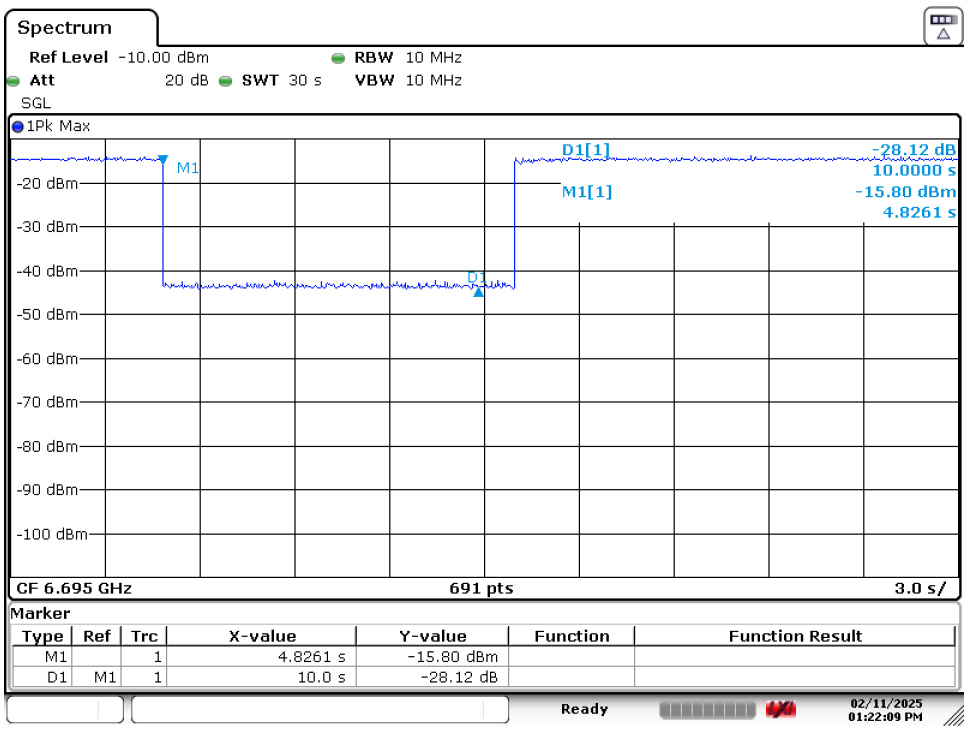
Date: 11.FEB.2025 12:43:51

Plot 7-8. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 Mid) - Ceased



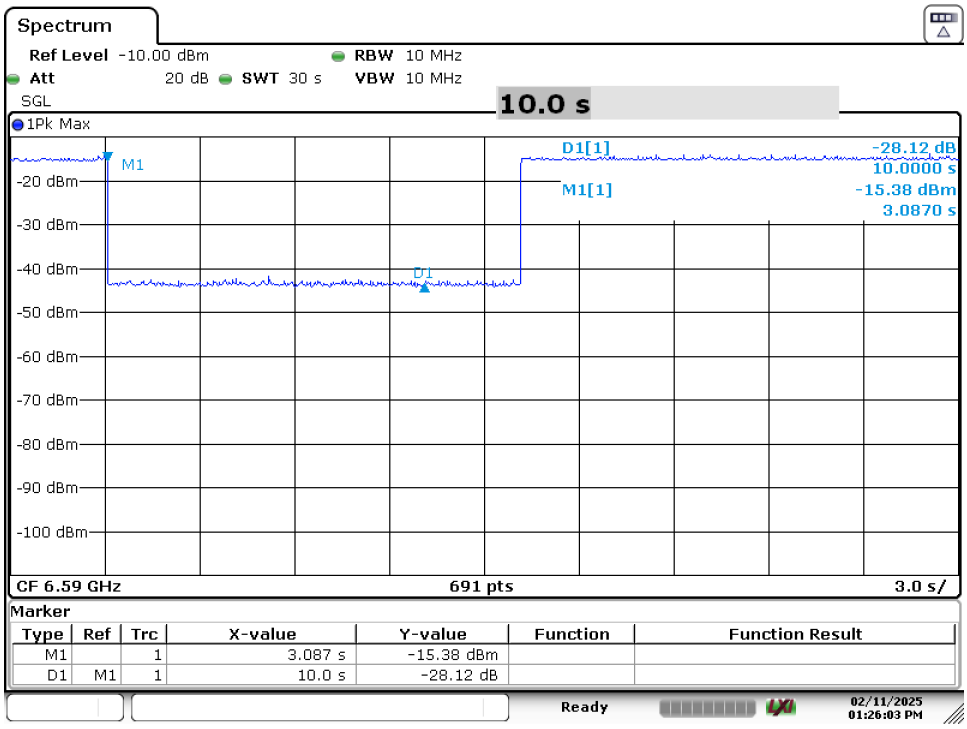
Date: 11.FEB.2025 12:45:27

Plot 7-9. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 High) - Ceased



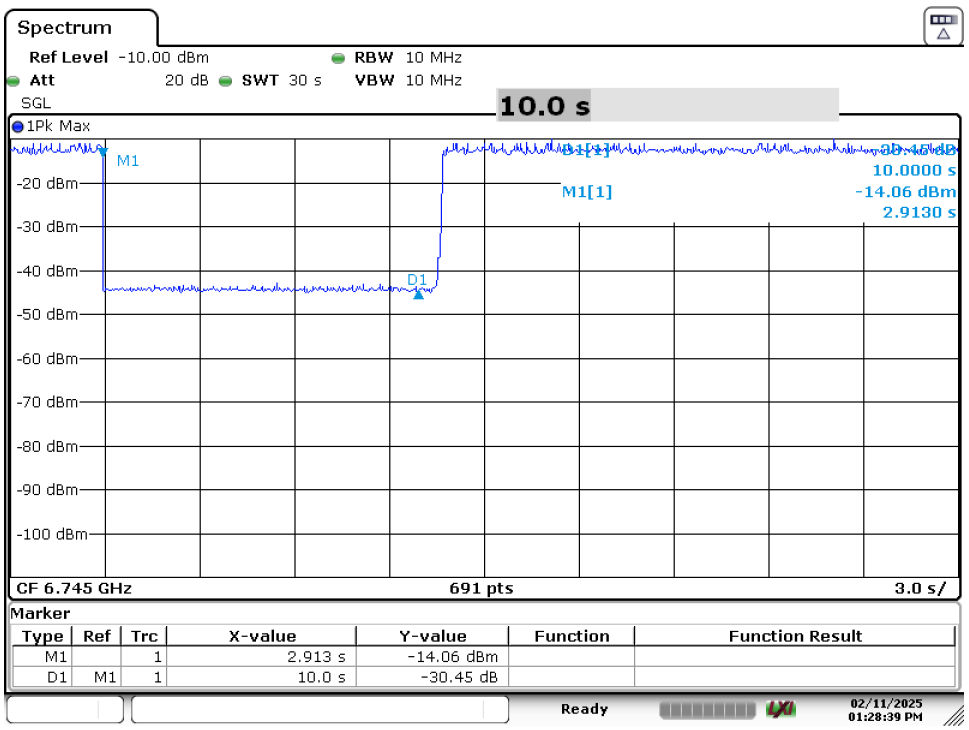
Date: 11.FEB.2025 13:22:09

Plot 7-10. Contention Based Protocol Timing Plot (20MHz (UNII Band 7) – Ch. 149) - Ceased



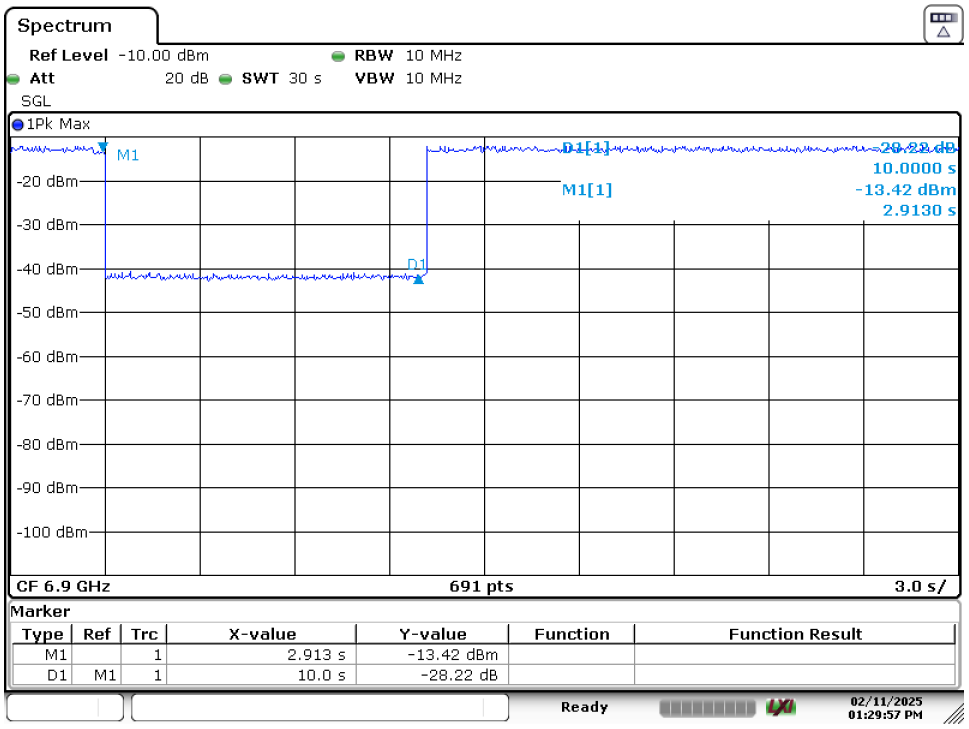
Date: 11.FEB.2025 13:26:03

Plot 7-11. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) – Ch. 159 Low) - Ceased



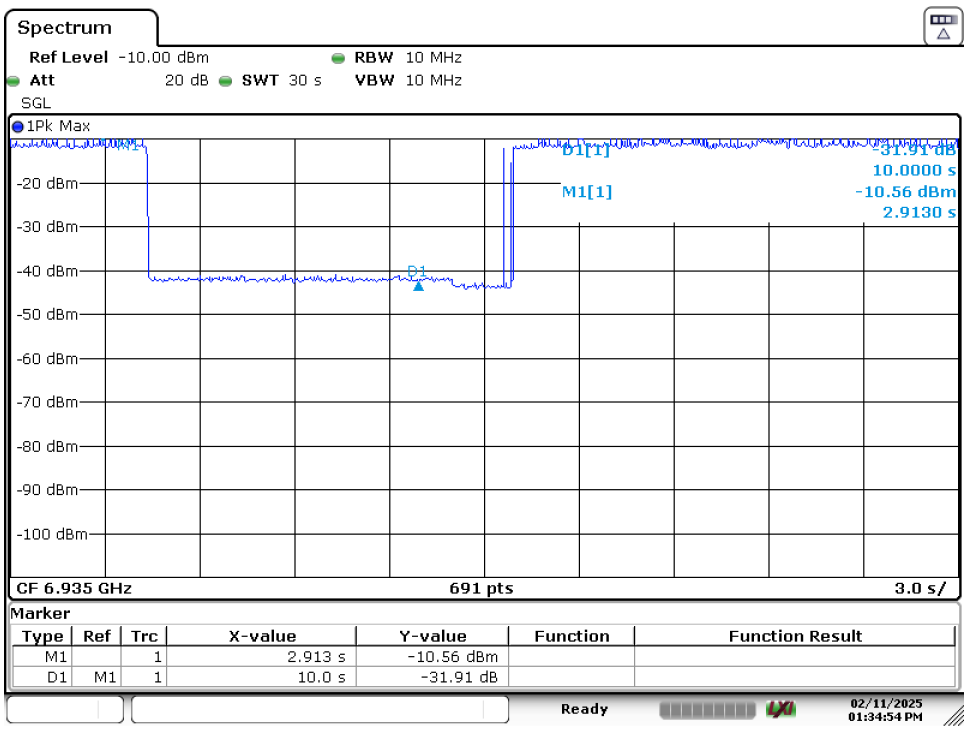
Date: 11.FEB.2025 13:28:39

Plot 7-12. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) – Ch. 159 Mid) - Ceased



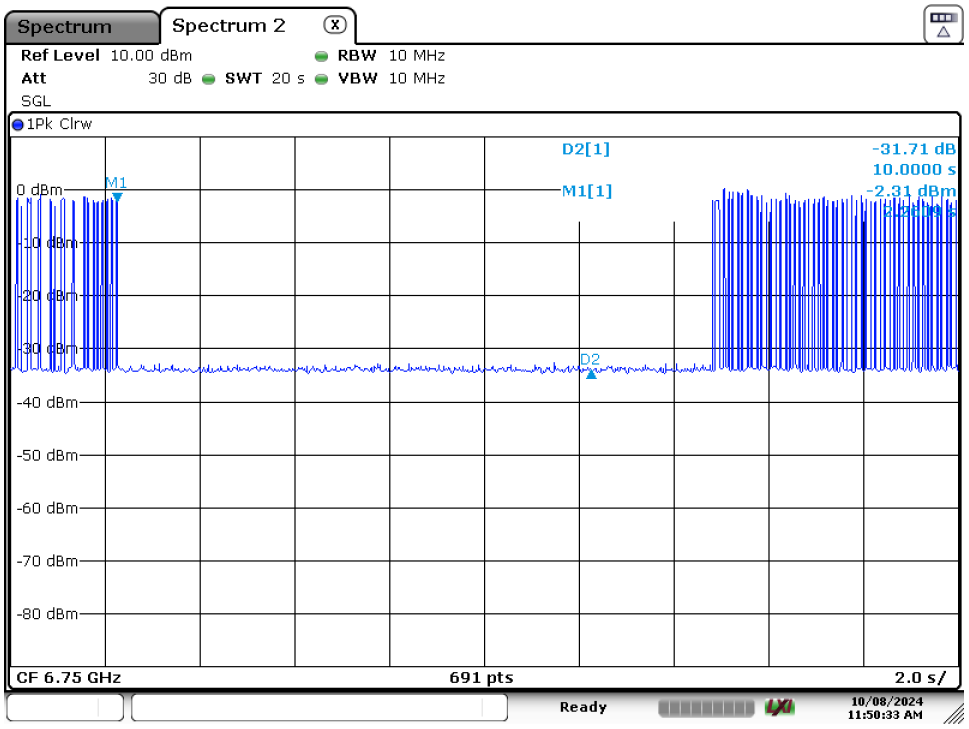
Date: 11.FEB.2025 13:29:57

Plot 7-13. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) – Ch. 159 High) - Ceased



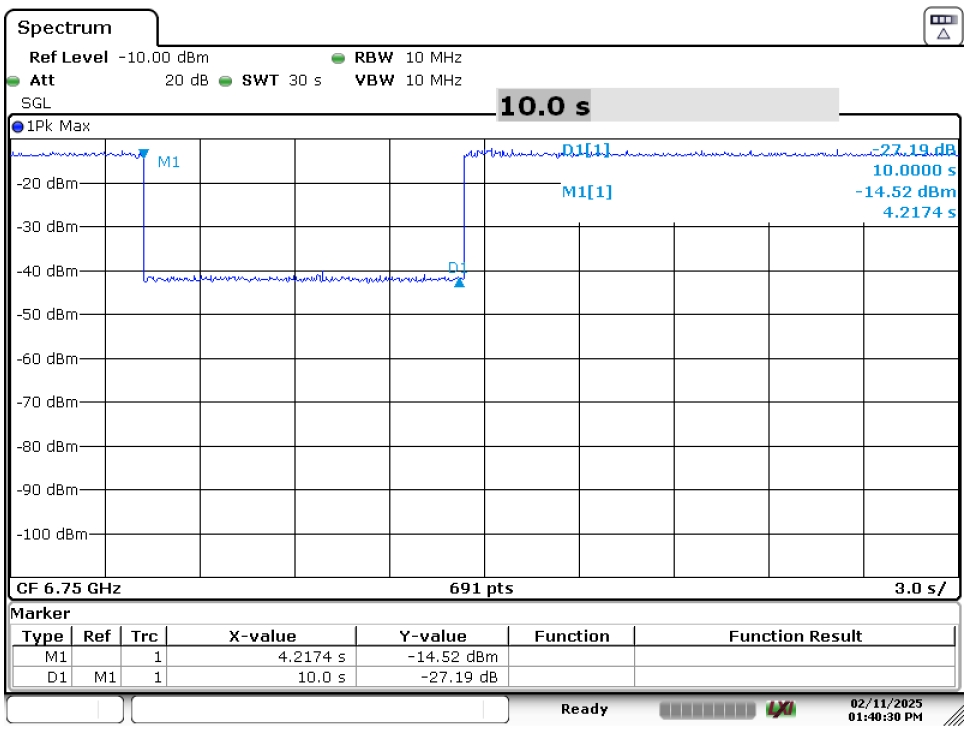
Date: 11.FEB.2025 13:34:54

Plot 7-14. Contention Based Protocol Timing Plot (20MHz (UNII Band 8) – Ch. 197) - Ceased



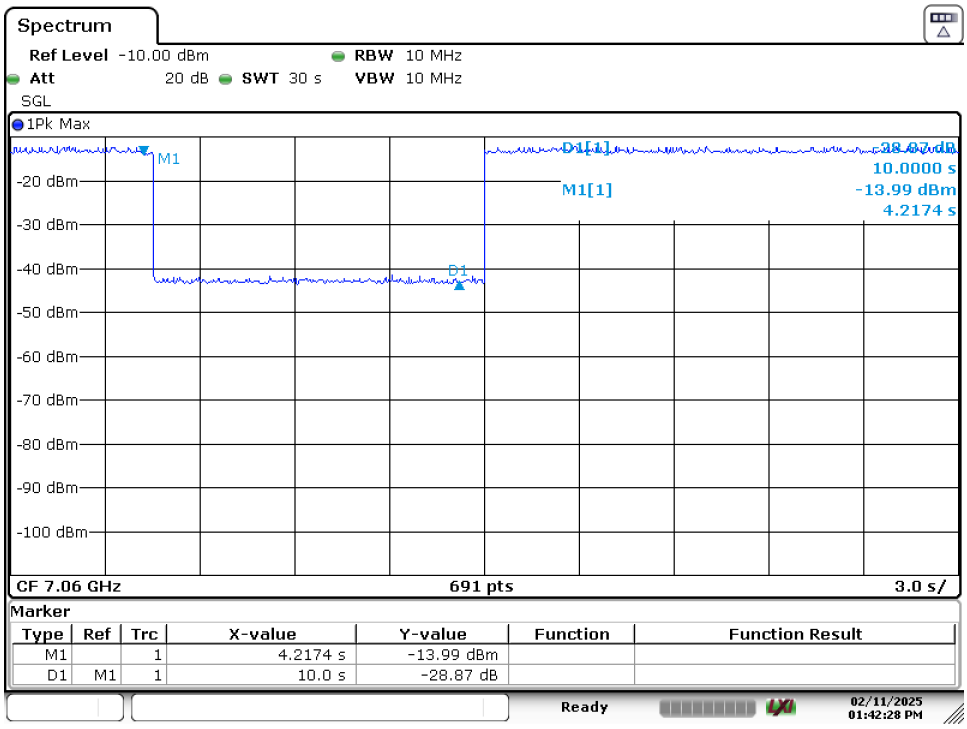
Date: 8.OCT.2024 11:50:33

Plot 7-15. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) – Ch. 191 Low) - Ceased



Date: 11.FEB.2025 13:40:30

Plot 7-16. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) – Ch. 191 Mid) - Ceased



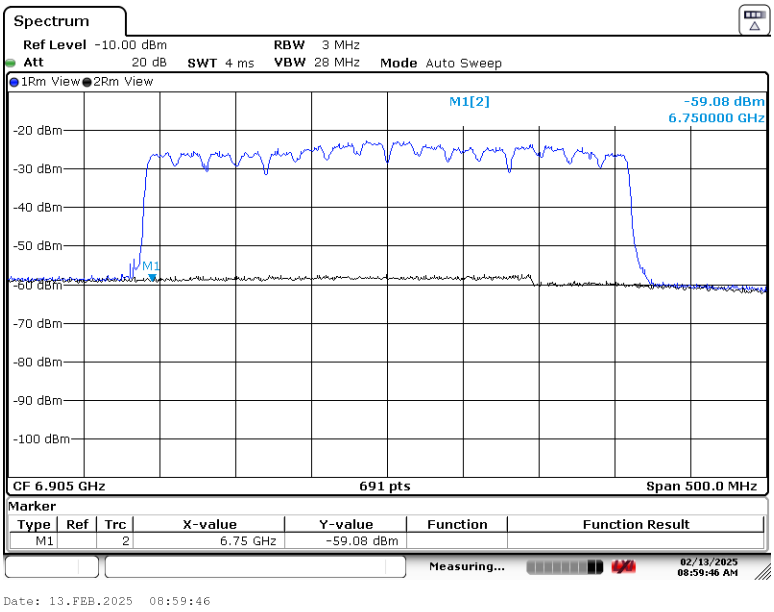
Date: 11.FEB.2025 13:42:28

Plot 7-17. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) – Ch. 191 High) – Ceased

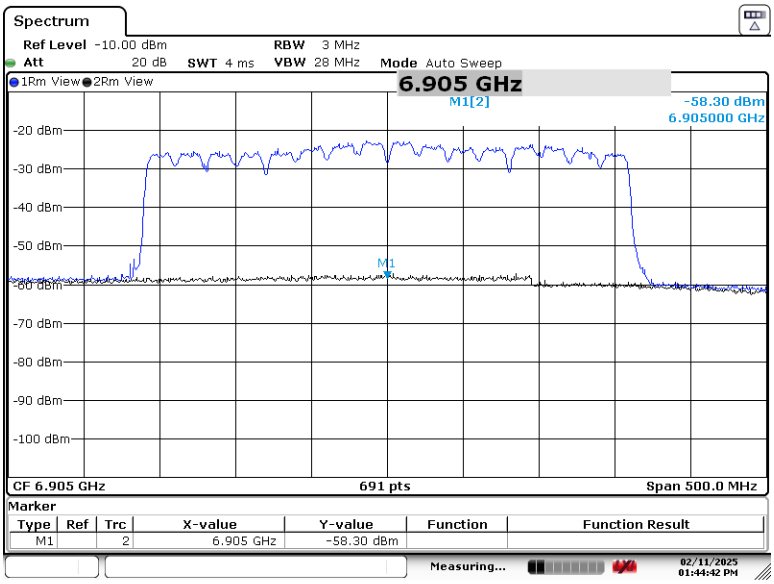
7.2.3 Channel Move Plots

This section demonstrates the effect of injecting the AWGN signal at various locations throughout the 320MHz signal. The blue trace shows the full 320MHz signal prior to AWGN injection while the black trace shows the spectrum following AWGN injection. The following items were observed as demonstrated in the plots shown below. Table 7.5 summarizes the behavior following incumbent introduction. The DUT does not support channel puncturing for bandwidth reduction.

- When a 10 MHz AWGN signal centered at 6750 MHz (lower edge of channel) is injected, the channel completely stops transmitting.
- When a 10 MHz AWGN signal centered at 6905 MHz (middle of channel) is injected, the channel completely stops transmitting.
- When a 10 MHz AWGN signal centered at 7060 MHz (upper edge of channel) is injected, the channel completely stops transmitting.

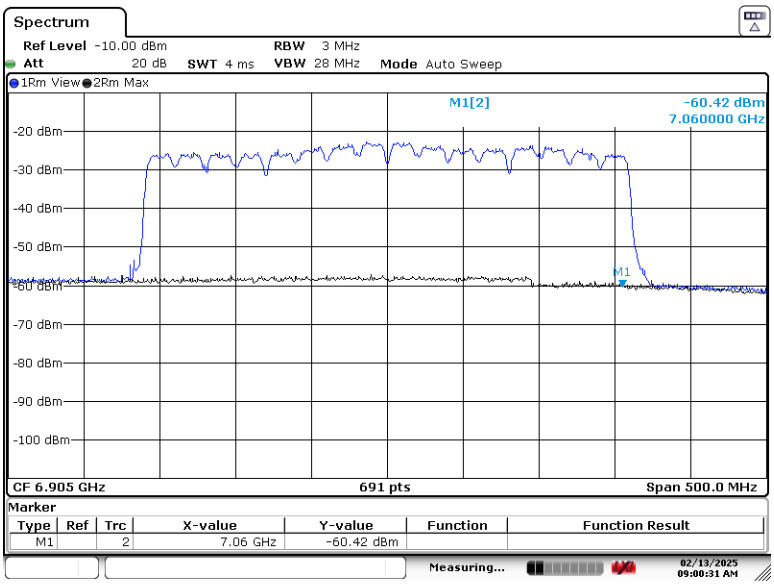


Plot 7-18. CBP 320MHz Channel - Injection Lower Edge – [6750 MHz]



Date: 11.FEB.2025 13:44:42

Plot 7-19. CBP 320MHz Channel - Injection Center – [6905 MHz]



Date: 13.FEB.2025 09:00:31

Plot 7-20. CBP 320MHz Channel - Injection Upper Edge – [7060 MHz]

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Microsoft Portable Computing Device Model 2109 containing module FCC ID: C3K00002101** is in compliance with FCC Part Subpart E (15.407) of the FCC rules.