

CERTIFICATION TEST REPORT

Report Number. : S-4791893562-E1V2

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA

Model : SM-X930

FCC ID : A3LSMX930

IC : 649E-SMX930

EUT Type : Portable Tablet

Test Standard(s) : FCC 47 CFR PART 15 SUBPART E(6CD)
INDUSTRY CANADA RSS-248 Issue 3

Date Of Issue:
2025-07-30

Prepared by:
UL KOREA LTD.
26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea

Suwon Test Site: UL KOREA LTD. Suwon Laboratory
218 Maeyeong-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16675, Korea
TEL: (031) 337-9902
FAX: (031) 213-5433

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-07-29	Initial issue	Dexter(Hyunsik) Yun
V2	2025-07-30	Updated to address TCB's question	Dexter(Hyunsik) Yun

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY	6
4.1. MEASURING INSTRUMENT CALIBRATION	6
4.2. MEASUREMENT UNCERTAINTY.....	6
4.3. DECISION RULE.....	6
5. EQUIPMENT UNDER TEST	6
5.1. DESCRIPTION OF EUT	6
5.2. DESCRIPTION OF AVAILABLE ANTENNAS	7
5.3. DESCRIPTION OF TEST SETUP.....	7
6. TEST AND MEASUREMENT EQUIPMENT	8
7. SUMMARY TABLE	8
8. MEASUREMENT METHODS	8
9. Contention Based Protocol	9
9.1. OVERVIEW	9
9.1.1. LIMITS.....	9
9.1.2. TEST AND MEASUREMENT SYSTEM	10
9.2. TEST RESULTS	11
9.2.1. AWGN Sample signal	11
9.2.2. Contention Based Protocol Measurement Criteria	12
9.2.3. Contention Based Protocol Timing Plot.....	14
9.2.4. Channel Move Plots.....	22
9.2.5. Contention Based Protocol – Incumbent Detection & Trial Results	23

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT TYPE: Portable Tablet
MODEL NUMBER: SM-X930
SERIAL NUMBER: R32Y500SPHH (CONDUCTED);
DATE TESTED: 2025-07-28

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
47 CFR Part 15 Subpart E	Complies
INDUSTRY CANADA RSS-248 Issue 3	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:



Dexter(Hyunsik) Yun
Suwon Lab Engineer
UL KOREA LTD.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC 47 CFR Part 15.
2. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
3. KDB 987594 D02 U-NII 6 GHz EMC Measurement v03
4. KDB 987594 D03 U-NII 6 GHz QA v03
5. ANSI C63.10-2020
6. INDUSTRY CANADA RSS-248 Issue 3

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro	
☐	Chamber 1(3m semi-anechoic chamber)
☐	Chamber 2(3m semi-anechoic chamber)
☐	Chamber 3(3m semi-anechoic chamber)
☐	Chamber 4(3m Full-anechoic chamber)
☐	Chamber 5(3m Full-anechoic chamber)

Used ISED Test Site Reg.(company number): 2324L

CAB Identifier: KR0161

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Time (CBP)	0.60 %

Uncertainty figures are valid to a confidence level of 95%.

4.3. DECISION RULE

Decision rule for statement(s) of conformity is based on Clause 4.4.3 in IEC Guide 115:2023.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is the Samsung Portable Tablet FCC ID: A3LSMX930.
This test report addresses the NII (WLAN) signaling mode.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

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 internal antenna was Permanently attached.
Therefore this E.U.T Complies with the requirement of §15.203.**

For CBP test, with a minimum gain of:

UNII Band & Range[MHz]	Frequency [MHz]	ANT1 Gain [dBi]	ANT2 Gain [dBi]	Minimum Gain[dBi]
5(5925 – 6425)	5 925	-7.69	-8.67	-8.99
	6 225	-6.21	-8.99	
6(6425 – 6525)	6 525	-7.40	-9.00	-9.00
7(6525 – 6875)	6 825	-9.58	-11.00	-11.00
8(6875 – 7125)	7 125	-11.20	-14.85	-14.85

“Wifi0 ANT1 (TL)” and “Wifi1 ANT2 (TR)” as indicated in antenna specification are written as ANT1 and ANT2 in this report.

5.3. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Data Cable	SAMSUNG	EP-DN980	N/A	N/A

I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.0 m	N/A

6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	S/N	Next Cal Due
Spectrum Analyzer	Keysight	N9030B	MY60070693	2026-01-02
Spectrum Analyzer	Agilent	N9030A	MY54170614	2026-07-21
Vector Signal Generator	R&S	SMW200A	110251	2026-07-22
Power Splitter	WEINSCHEL	WA1534	UL001	2026-01-03
Power Splitter	WEINSCHEL	WA1534	UL003	2026-01-03
Power Splitter	WEINSCHEL	WA1534	UL004	2026-01-03
Power Splitter	WEINSCHEL	WA1534	UL005	2026-01-03
Attenuator	WEINSCHEL	WA76-30-21	A015	2026-07-22
Attenuator	WEINSCHEL	WA76-30-21	A016	2026-07-22
Step Attenuator	AGILENT	8494B	MY42155315	2026-07-22
Step Attenuator	AGILENT	8496B	MY42149775	2026-07-22

SUPPORT EQUIPMENT

The following support equipment was utilized for the CBP tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Wireless Access Point	TP-LINK	Archer BE550	2245222000742	2AXJ4BE550
Notebook PC (Controller/Server)	HP	HP EliteDesk 800 G1 TWR	CZC4125J25	DoC

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.407(d)(6)	Contention Based Protocol	EUT must detect AWGN signal with 90% (or better) certainty	Conducted	Complies

8. MEASUREMENT METHODS

Contention Based Protocol : KDB 987594 D02 v03, Section II.I.

9. Contention Based Protocol

9.1. OVERVIEW

9.1.1. LIMITS

FCC

§15.407 (d) (6)
KDB 987594 D02
RSS-248 Issue 3(4.7)

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 low-power indoor 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 (in which incumbent signal is transmitted) and stay off the incumbent channel as long as 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.

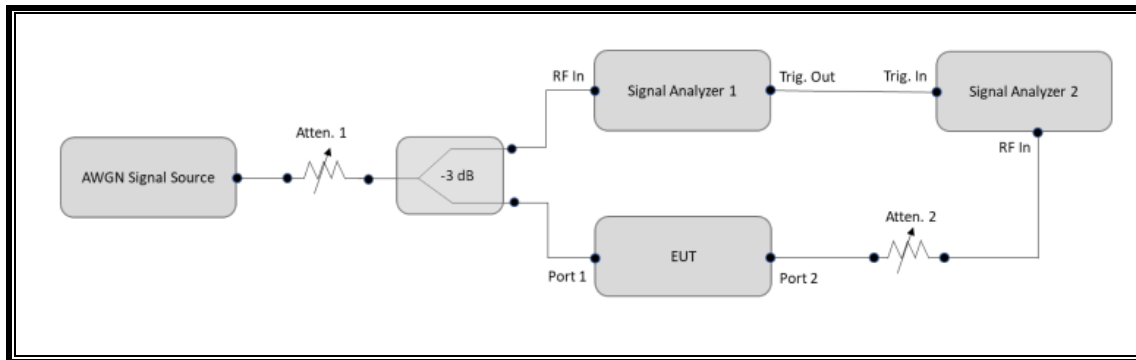
To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel. For example, an 802.11 device that plans to transmit a 40 MHz- wide signal (on a primary 20 MHz channel and a secondary 20 MHz channel) must detect energy throughout the entire 40 MHz channel. Additionally, low-power indoor devices must detect co-channel energy with 90% or greater certainty.

CHANNEL PUNCTURING AND BANDWIDTH REDUCTION (802.11be)

This EUT does support channel puncturing and bandwidth reduction. In CBP Test, channel puncturing was disabled.

9.1.2. TEST AND MEASUREMENT SYSTEM

CONDUCTED METHOD SYSTEM BLOCK DIAGRAM

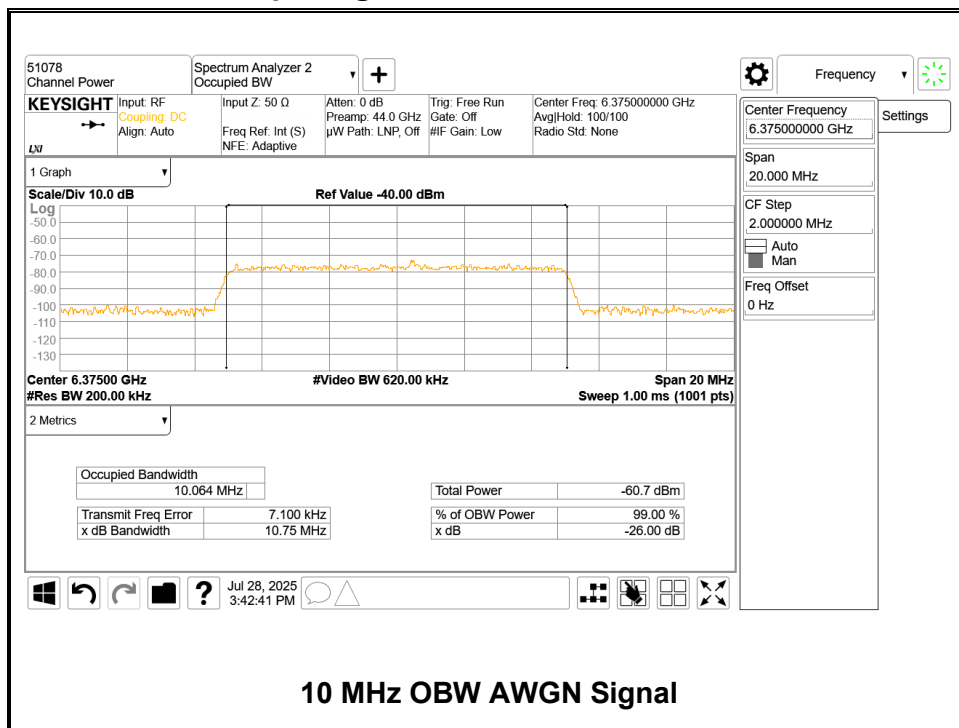


TEST SETTING

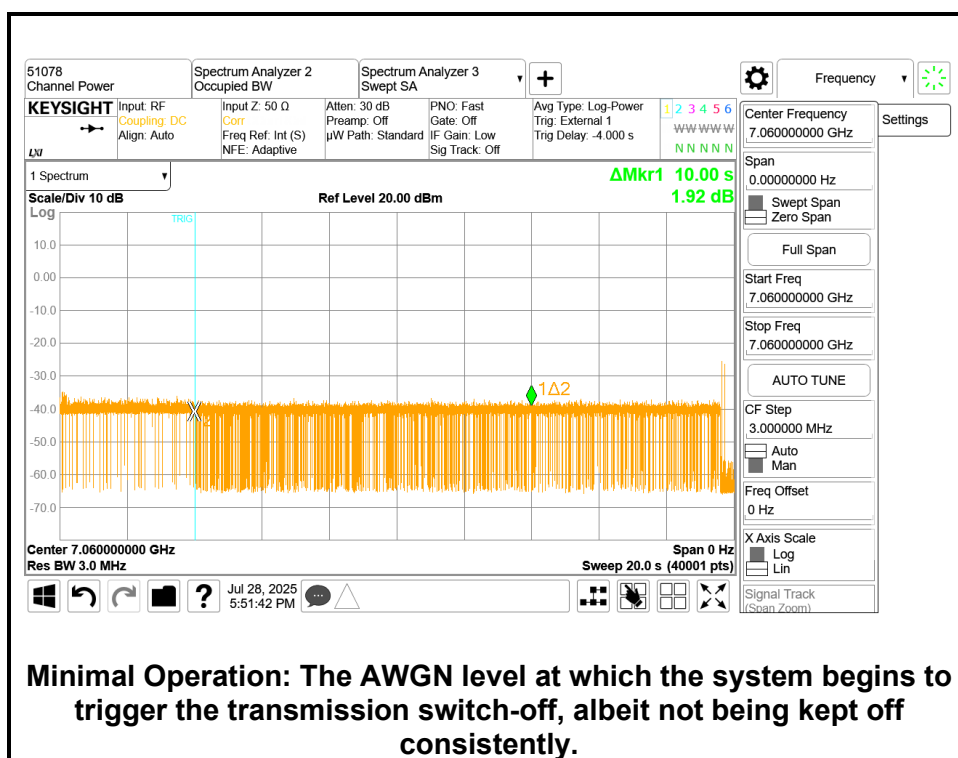
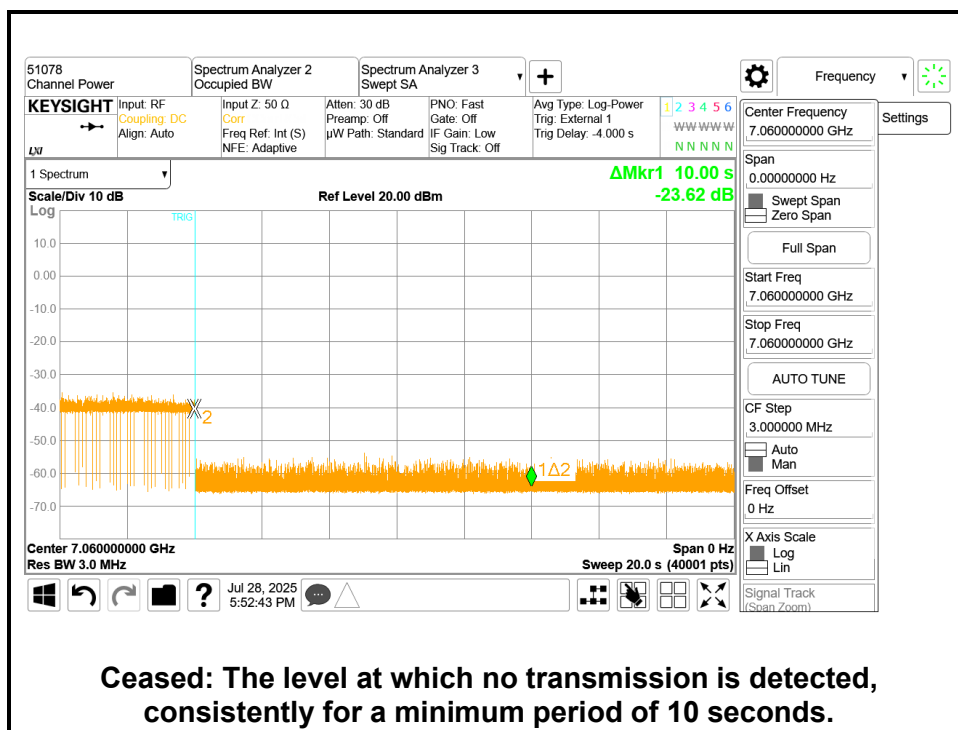
- 1) Configure the EUT to transmit with a constant duty cycle.
- 2) Set the operating parameters of the EUT including power level, operating frequency, modulation and bandwidth.
- 3) Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer 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, as shown in Figure 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 to determine 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.

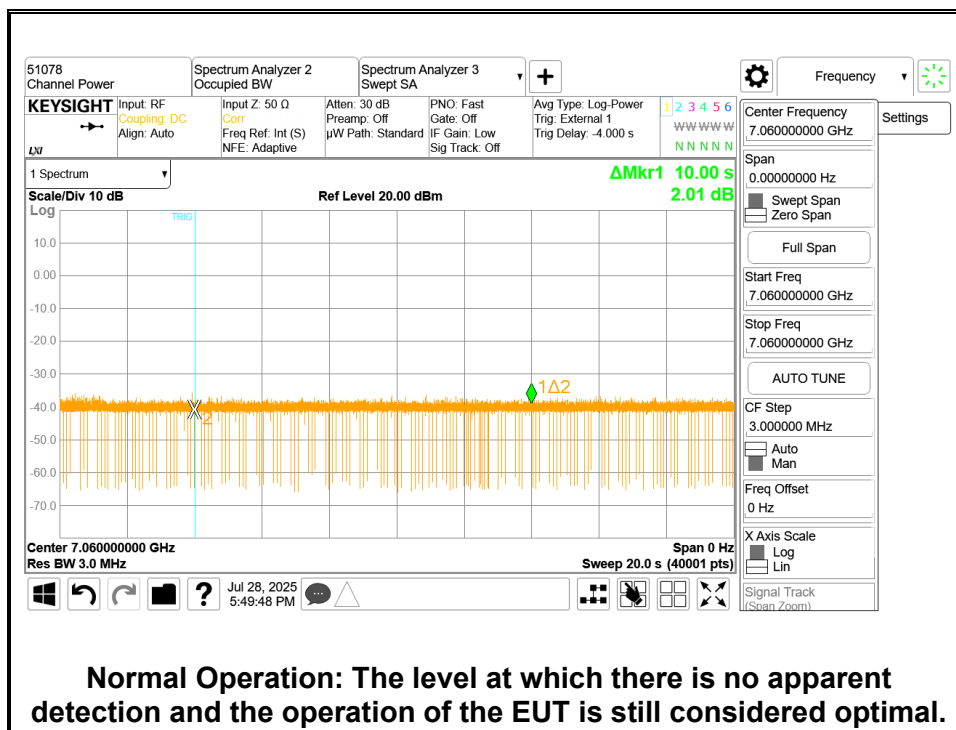
9.2. TEST RESULTS

9.2.1. AWGN Sample signal

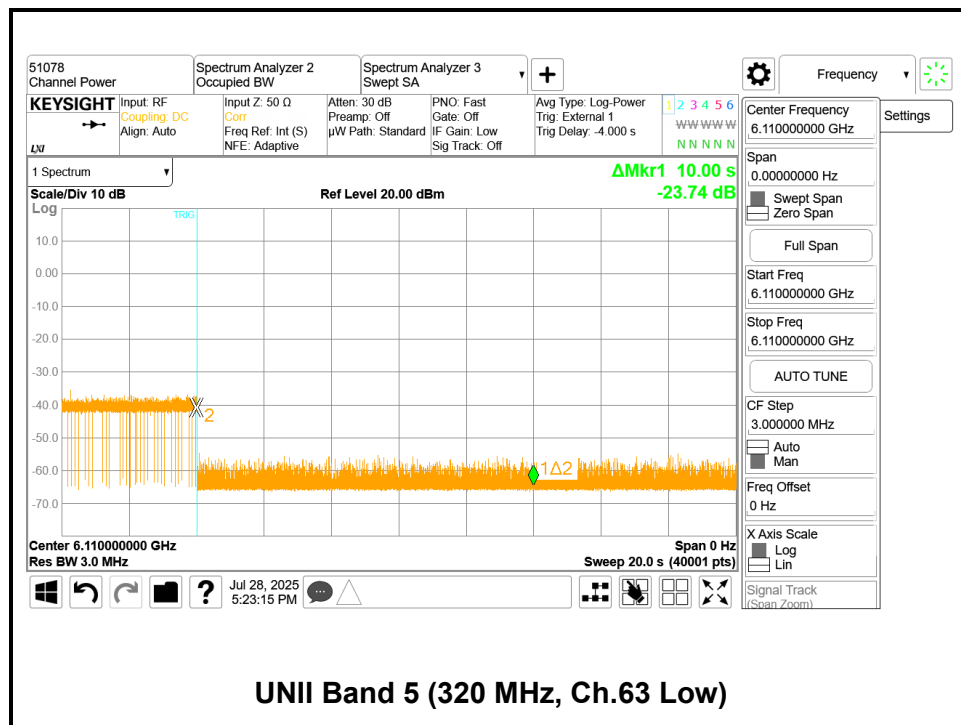
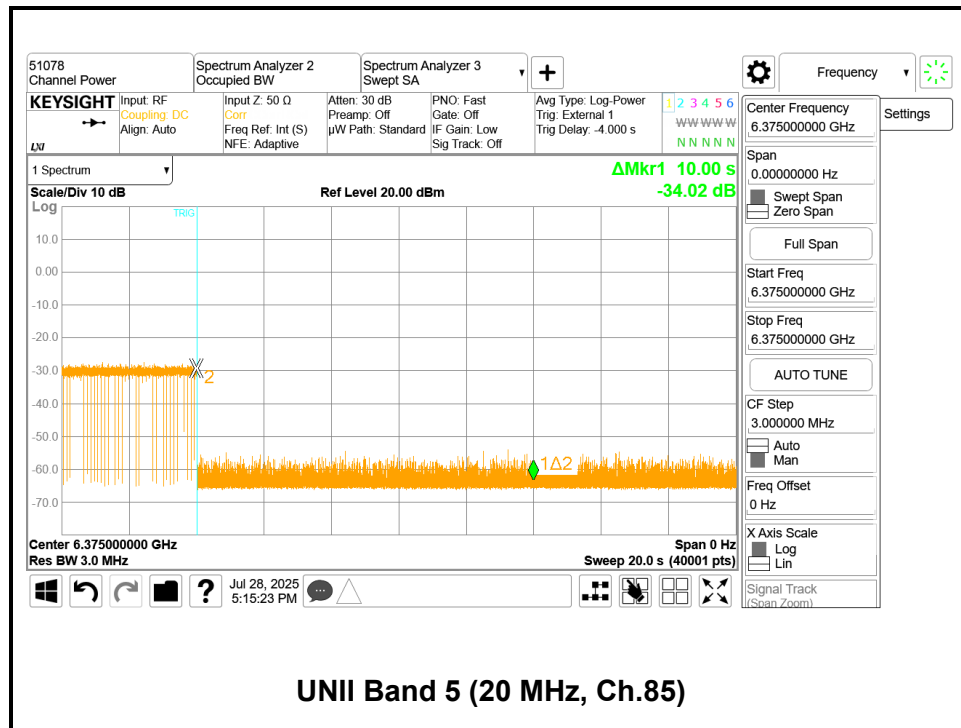


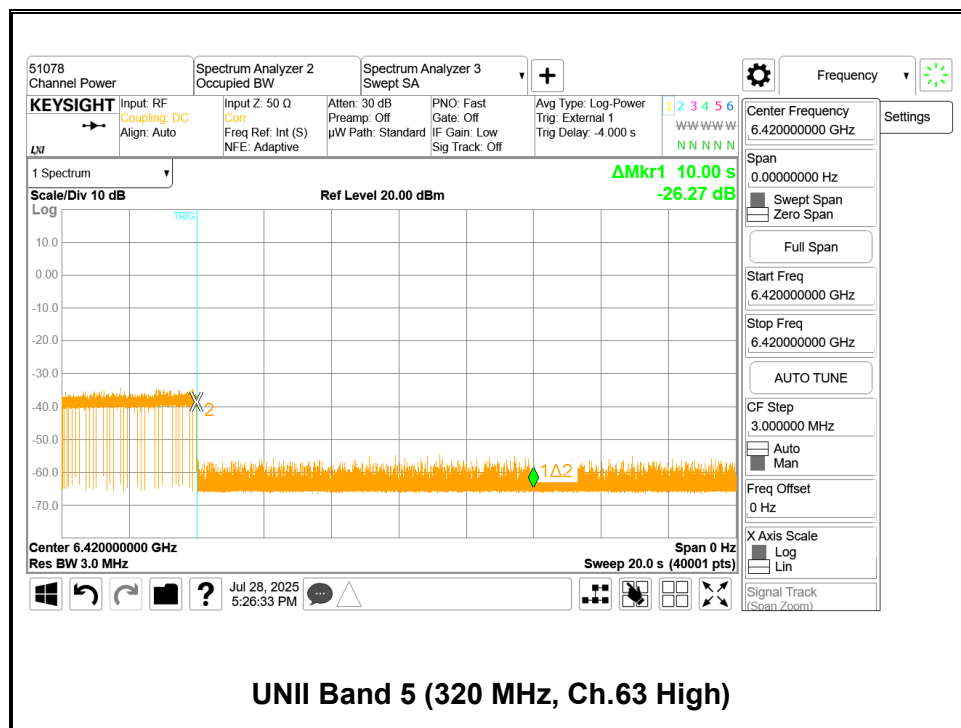
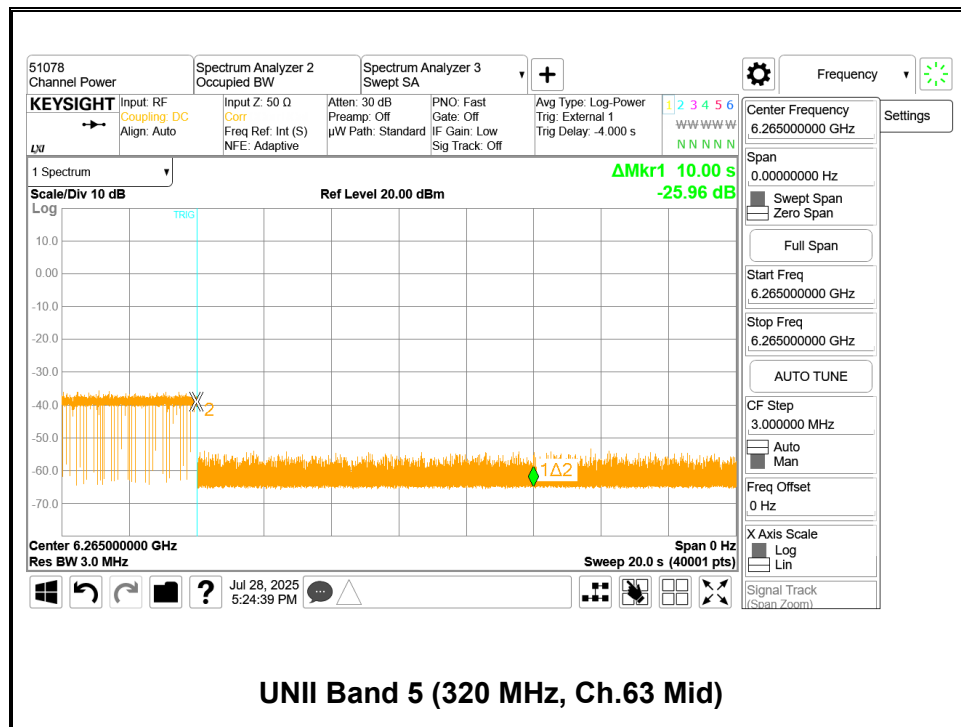
9.2.2. Contention Based Protocol Measurement Criteria

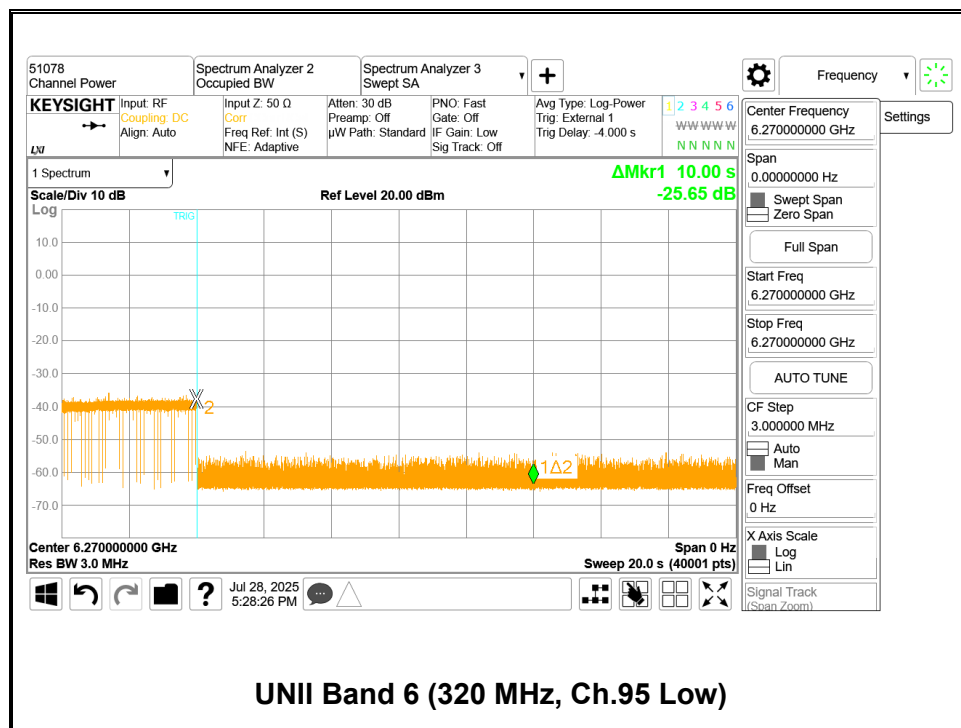
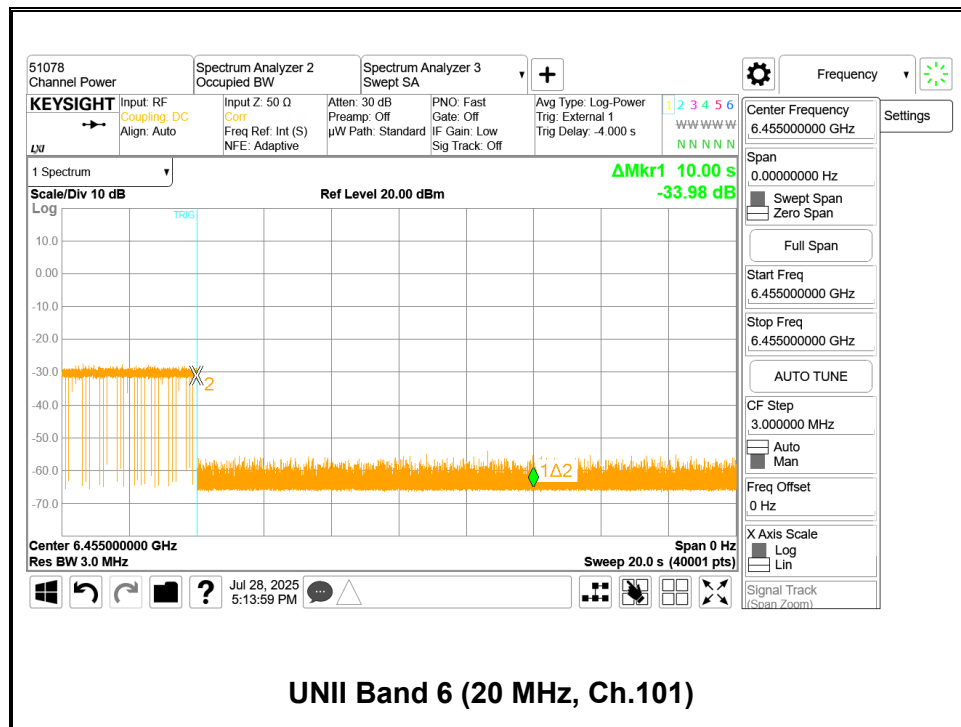


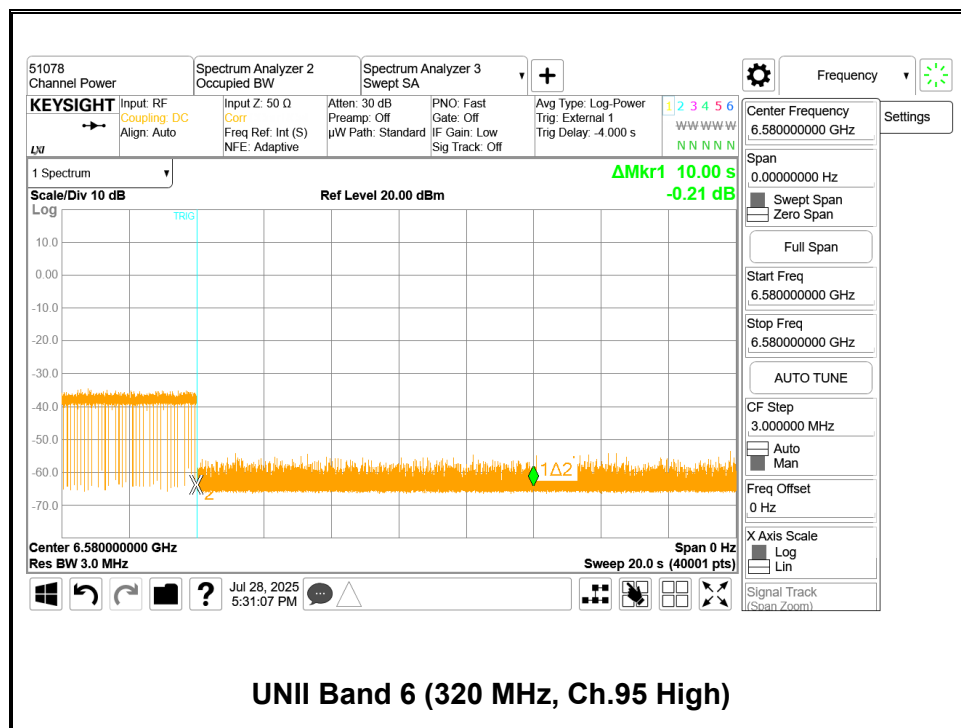
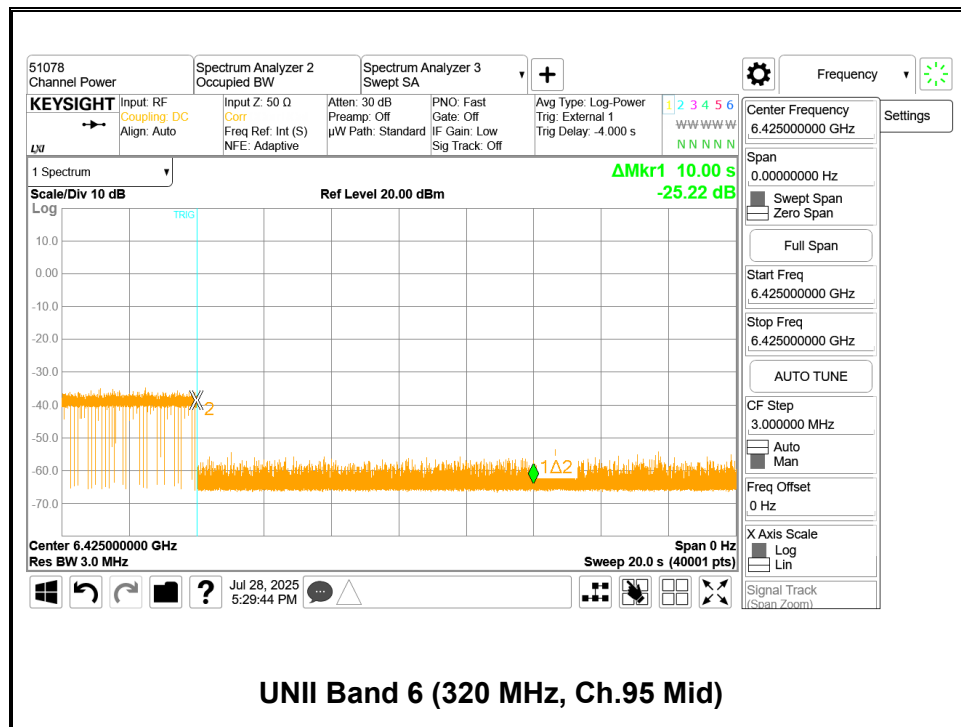


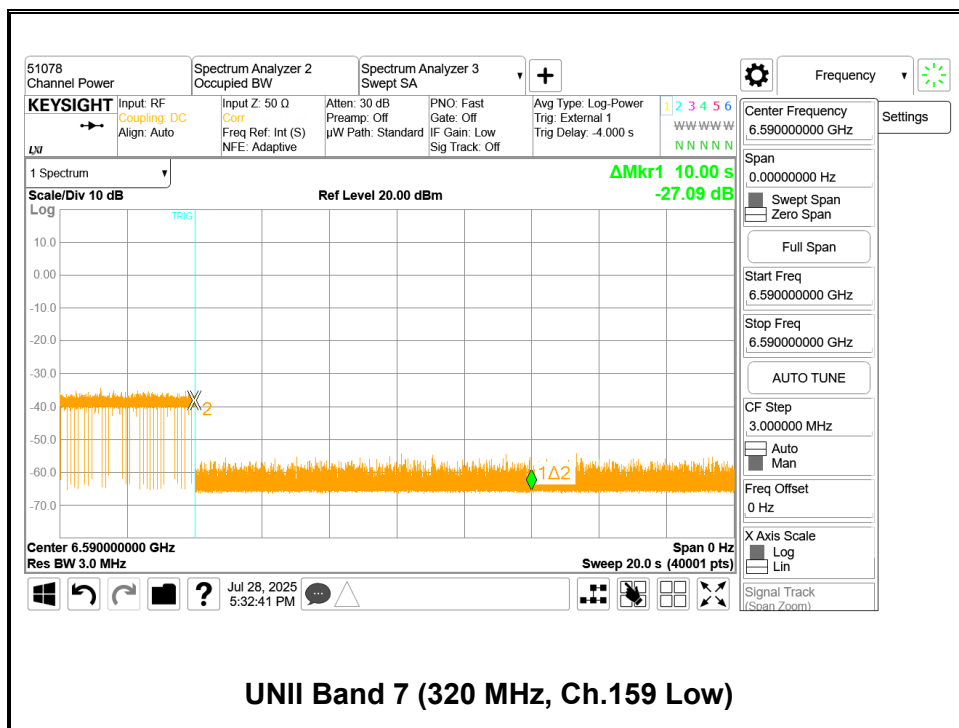
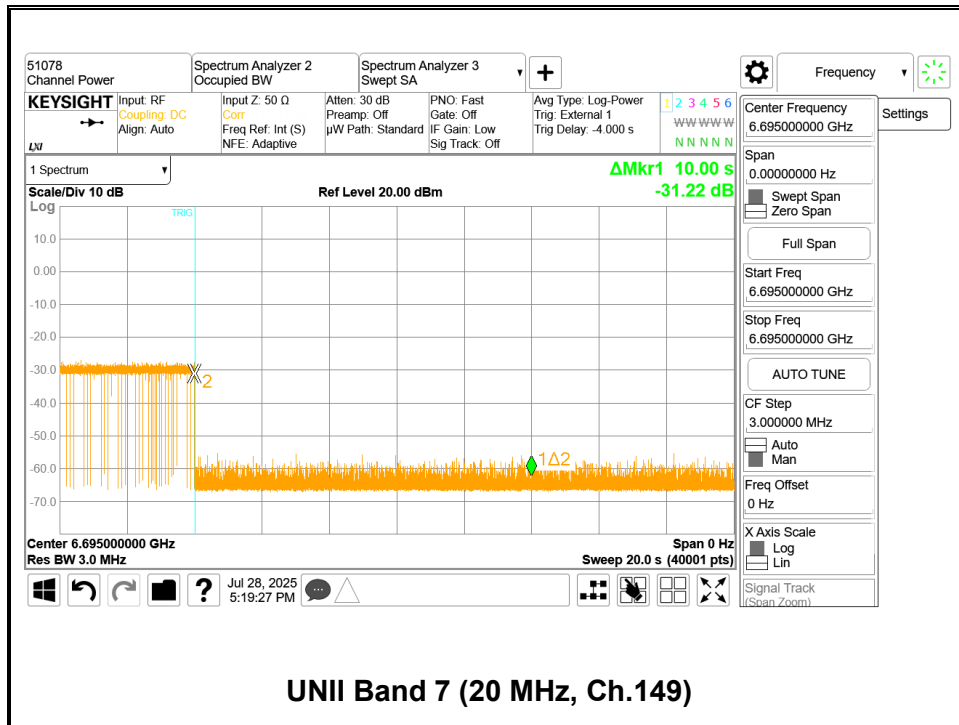
9.2.3. Contention Based Protocol Timing Plot

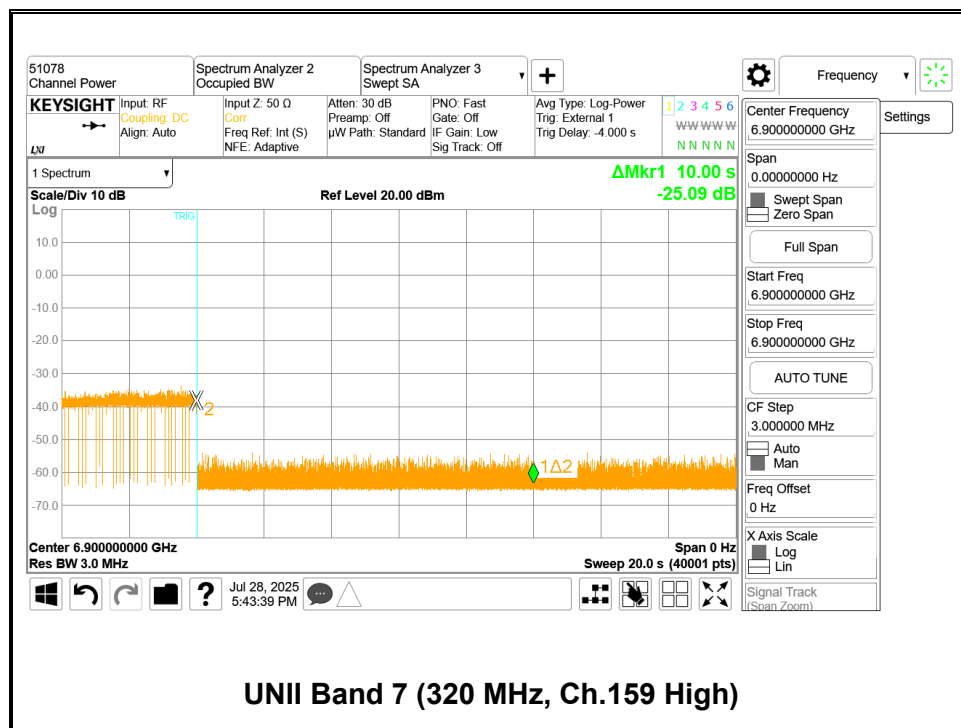
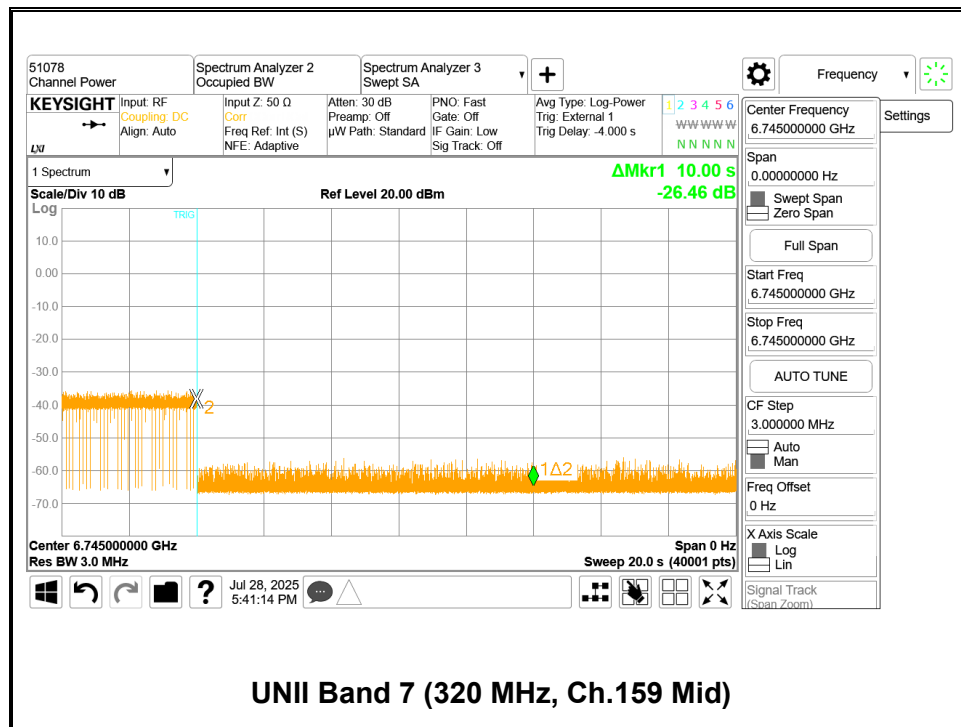


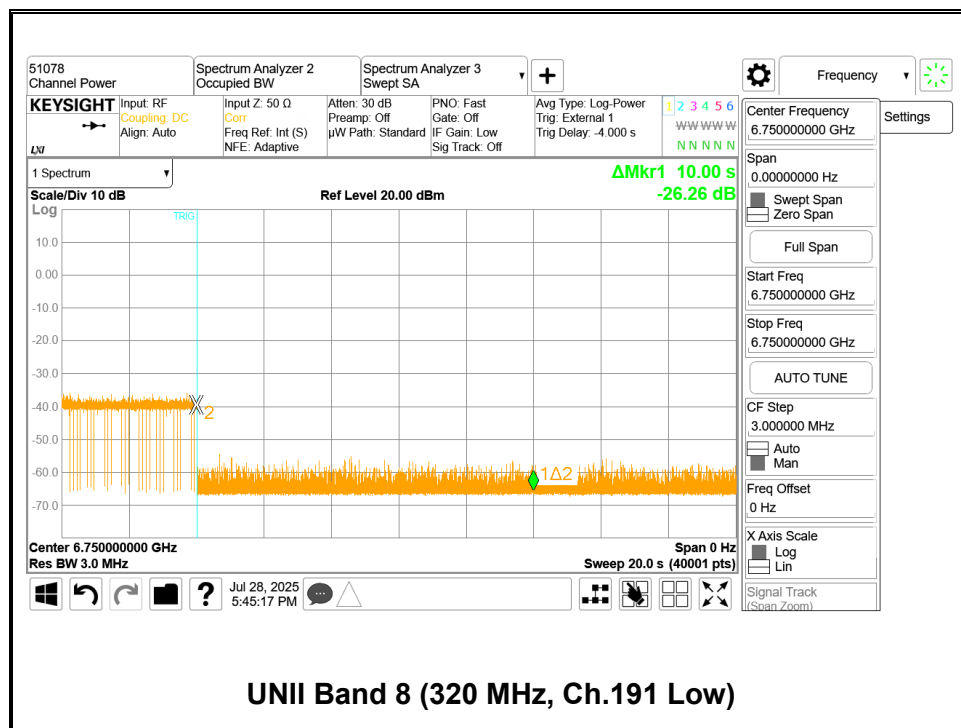
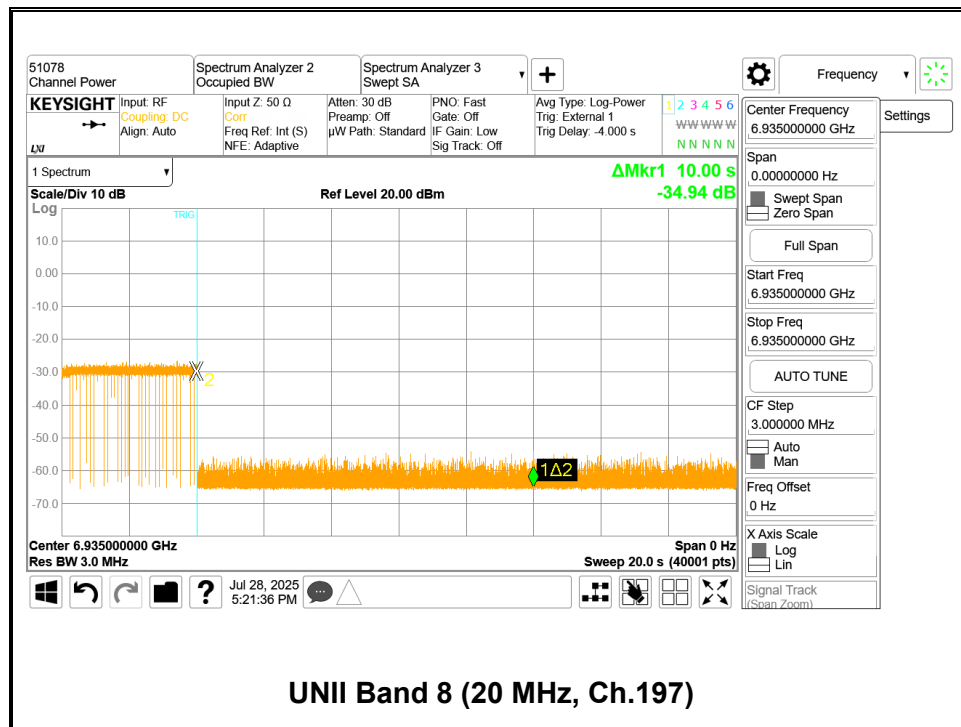


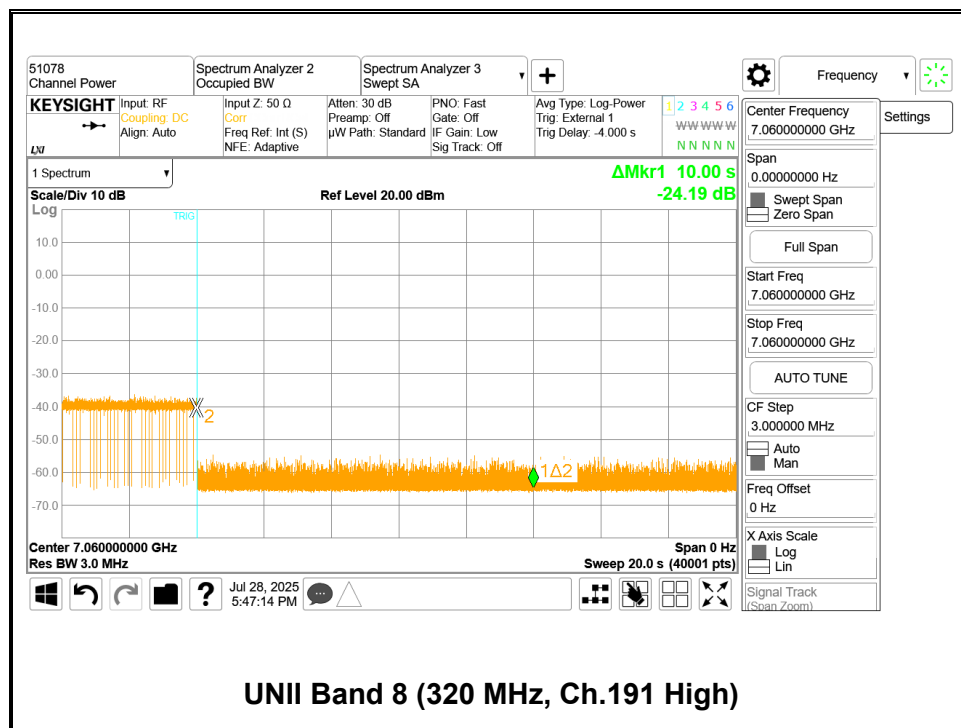
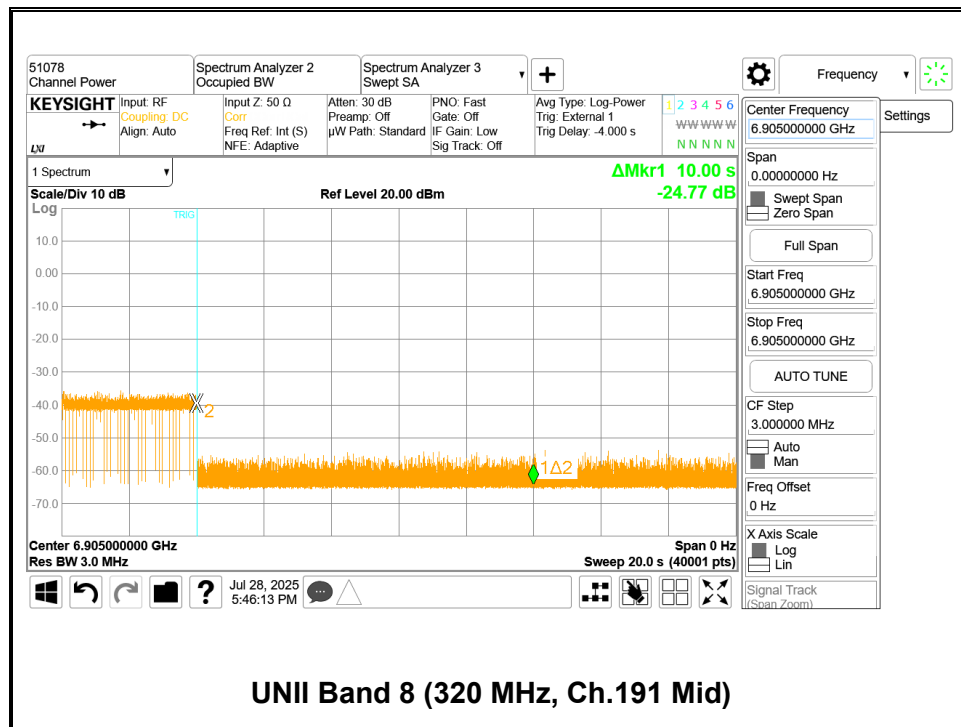










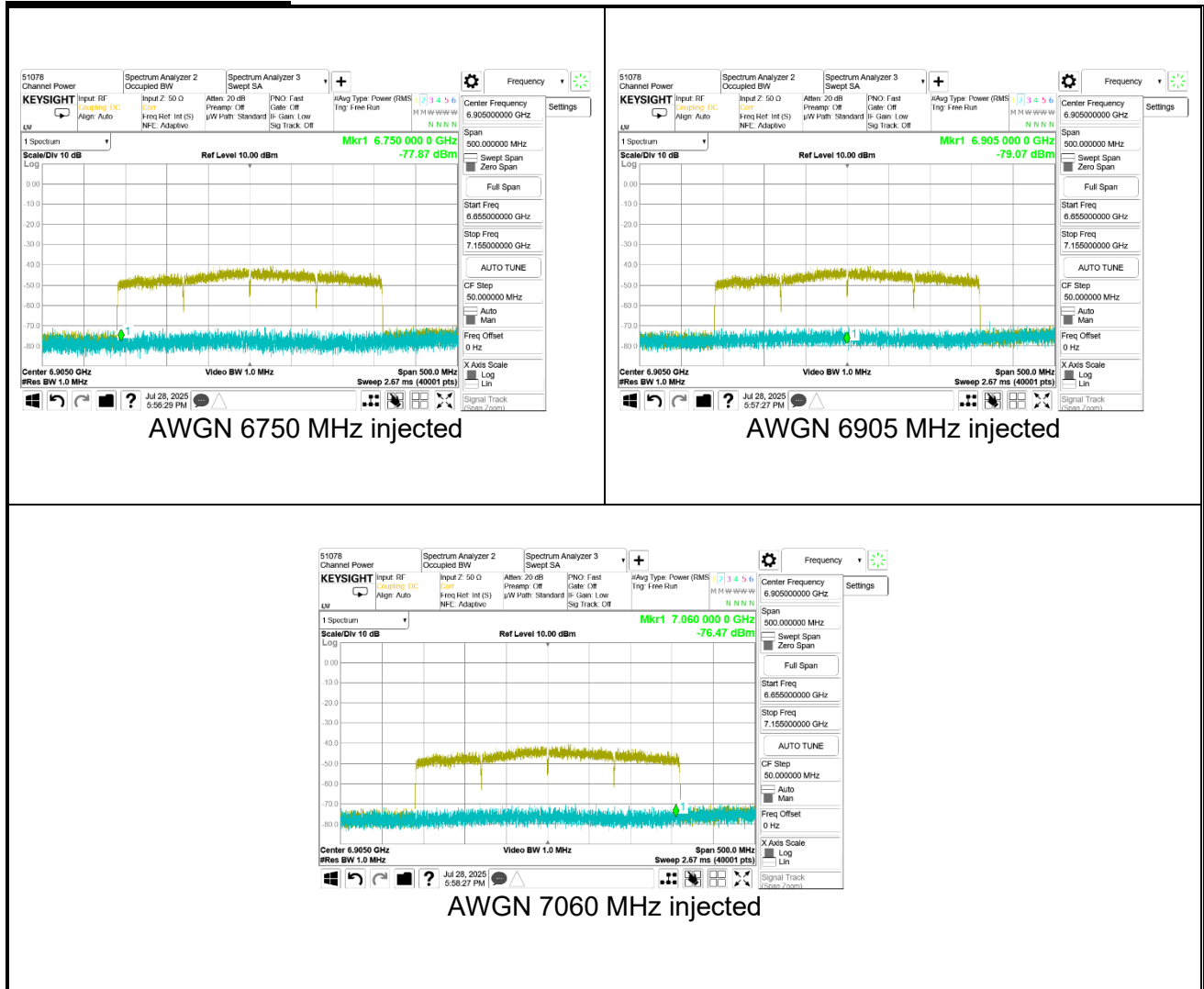


9.2.4. Channel Move Plots

This section demonstrates the effect of injecting the AWGN signal at various locations throughout the 802.11be 320 MHz signal. The yellow trace shows the full 320 MHz signal prior to AWGN injection while the blue trace shows the spectrum following AWGN injection. The following items were observed as demonstrated in the plot shown below:

- 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 (middle of channel) is injected, the channel completely stops transmitting.

Channel Move Plot



9.2.5. Contention Based Protocol – Incumbent Detection & Trial Results

Band	Channel	Freq	BW	Inc. Freq	Detection power level (Prior)	Detection limit	Gain	Detection limit (include Gain)	Margin	Condition
5	85	6375	20	6375	-79.62	-62.00	-8.99	-70.99	-8.63	Ceased
					-81.57	-62.00	-8.99	-70.99	-10.58	Minimal
					-82.54	-62.00	-8.99	-70.99	-11.55	Normal
	63	6265	320	6110	-76.89	-62.00	-8.99	-70.99	-5.90	Ceased
					-79.80	-62.00	-8.99	-70.99	-8.81	Minimal
					-81.85	-62.00	-8.99	-70.99	-10.86	Normal
				6265	-78.56	-62.00	-8.99	-70.99	-7.57	Ceased
					-80.36	-62.00	-8.99	-70.99	-9.37	Minimal
					-82.53	-62.00	-8.99	-70.99	-11.54	Normal
				6420	-78.97	-62.00	-8.99	-70.99	-7.98	Ceased
					-81.01	-62.00	-8.99	-70.99	-10.02	Minimal
					-82.92	-62.00	-8.99	-70.99	-11.93	Normal
6	101	6455	20	6455	-78.55	-62.00	-9.00	-71.00	-7.55	Ceased
					-80.55	-62.00	-9.00	-71.00	-9.55	Minimal
					-83.60	-62.00	-9.00	-71.00	-12.60	Normal
	95	6425	320	6270	-78.71	-62.00	-9.00	-71.00	-7.71	Ceased
					-79.66	-62.00	-9.00	-71.00	-8.66	Minimal
					-81.66	-62.00	-9.00	-71.00	-10.66	Normal
				6425	-80.23	-62.00	-9.00	-71.00	-9.23	Ceased
					-82.23	-62.00	-9.00	-71.00	-11.23	Minimal
					-84.22	-62.00	-9.00	-71.00	-13.22	Normal
				6580	-77.84	-62.00	-9.00	-71.00	-6.84	Ceased
					-79.89	-62.00	-9.00	-71.00	-8.89	Minimal
					-81.94	-62.00	-9.00	-71.00	-10.94	Normal
7	149	6695	20	6695	-79.96	-62.00	-11.00	-73.00	-6.96	Ceased
					-83.79	-62.00	-11.00	-73.00	-10.79	Minimal
					-84.88	-62.00	-11.00	-73.00	-11.88	Normal
	159	6745	320	6590	-82.68	-62.00	-11.00	-73.00	-9.68	Ceased
					-84.82	-62.00	-11.00	-73.00	-11.82	Minimal
					-86.73	-62.00	-11.00	-73.00	-13.73	Normal
				6745	-82.45	-62.00	-11.00	-73.00	-9.45	Ceased
					-85.45	-62.00	-11.00	-73.00	-12.45	Minimal
					-87.47	-62.00	-11.00	-73.00	-14.47	Normal
				6900	-81.67	-62.00	-11.00	-73.00	-8.67	Ceased
					-83.58	-62.00	-11.00	-73.00	-10.58	Minimal
					-86.59	-62.00	-11.00	-73.00	-13.59	Normal
8	197	6935	20	6935	-78.26	-62.00	-14.85	-76.85	-1.41	Ceased
					-80.28	-62.00	-14.85	-76.85	-3.43	Minimal
					-82.18	-62.00	-14.85	-76.85	-5.33	Normal
	191	6905	320	6750	-82.35	-62.00	-14.85	-76.85	-5.50	Ceased
					-83.29	-62.00	-14.85	-76.85	-6.44	Minimal
					-85.15	-62.00	-14.85	-76.85	-8.30	Normal
				6905	-81.55	-62.00	-14.85	-76.85	-4.70	Ceased
					-82.49	-62.00	-14.85	-76.85	-5.64	Minimal
					-84.53	-62.00	-14.85	-76.85	-7.68	Normal
				7060	-78.02	-62.00	-14.85	-76.85	-1.17	Ceased
					-78.97	-62.00	-14.85	-76.85	-2.12	Minimal
					-81.03	-62.00	-14.85	-76.85	-4.18	Normal

Note. Detection limit (include gain) = Detection limit (-62 dBm) + Antenna Gain (dBi). Detection power threshold is the level of the incumbent at the antenna port and includes all losses between the signal generator and the EUT antenna port.

Band	Channel	Freq	BW	Inc. Freq	1	2	3	4	5	6	7	8	9	10	Detection Rate (%)
5	85	6375	20	6375	O	O	O	O	O	O	O	X	O	O	90
				6110	O	O	O	O	O	O	O	O	O	O	100
	63	6265	320	6265	O	O	O	O	O	O	O	O	O	O	100
				6420	O	O	O	O	O	O	O	O	O	O	100
6	101	6455	20	6455	O	O	X	O	O	O	O	O	O	O	90
				6270	O	O	O	O	O	O	O	O	O	O	100
	95	6425	320	6425	O	O	O	O	O	O	O	O	O	O	100
				6580	O	O	O	O	O	O	O	O	O	O	100
7	149	6695	20	6695	O	O	O	O	O	O	O	O	O	O	100
				6590	O	O	O	O	O	O	O	O	O	O	100
	159	6745	320	6745	O	O	O	O	O	O	O	O	O	O	100
				6900	O	O	O	O	O	O	O	O	O	O	100
8	197	6935	20	6935	O	O	O	O	O	O	O	O	O	O	100
				6750	O	O	O	O	O	O	O	O	O	O	100
	191	6905	320	6905	O	O	O	O	O	O	O	O	O	O	100
				7060	O	O	O	O	O	O	O	O	O	O	100

END OF TEST REPORT