

TEST REPORT

Report Number : 15496277-E17V1

Applicant : APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A

Model : A3258 (PARENT MODEL)
A3519, A3520, A3521 (VARIANT MODEL)

Brand : APPLE

FCC ID : BCG-E8947A (PARENT MODEL)
BCG-E8951A, BCG-E8952A,
BCG-E8953A (VARIANT MODEL)

IC : 579C-E8947A (PARENT MODEL)
579C-E8951A, 579C-E8952A
579C-E8953A (VARIANT MODEL)

EUT Description : SMARTPHONE

Test Standard(s) : CONTENTION BASED PROTOCOL PORTION of
FCC 47 CFR PART 15 SUBPART E, KDB 987594
CONTENTION BASED PROTOCOL PORTION of
RSS-248, ISSUE 3

Date Of Issue:
2025-07-29

Prepared by:
UL VEIFICATION SERVICES INC.
47173 Benicia Street
Fremont, CA 94538, U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888



Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-07-29	Initial Issue	--

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	6
2. TEST METHODOLOGY	7
3. SUMMARY OF TEST RESULTS	7
4. REFERENCE DOCUMENTS	7
5. FACILITIES AND ACCREDITATION	7
6. DECISION RULES AND MEASUREMENT UNCERTAINTY	8
6.1. METROLOGICAL TRACEABILITY	8
6.2. DECISION RULES	8
6.3. MEASUREMENT UNCERTAINTY	8
7. CONTENTION BASED PROTOCOL	9
7.1. OVERVIEW	9
7.1.1. LIMITS	9
7.1.2. FREQUENCY BANDS AND GOVERNING RULES	10
7.1.3. EQUIPMENT CLASSIFICATIONS	11
7.2. DESCRIPTION OF TEST SETUP	12
7.2.1. TEST AND MEASUREMENT SYSTEM	12
7.2.2. TEST AND MEASUREMENT SOFTWARE	14
7.2.3. TEST ROOM ENVIRONMENT	14
7.2.4. SETUP OF EUT	15
7.2.5. DESCRIPTION OF EUT	17
7.2.6. MODEL DIFFERENCES	19
7.3. LIMITS AND PROCEDURES	20
7.4. U-NII 5 BAND TEST CONDITION 1 - 1 MHz BANDWIDTH RESULTS	21
7.4.1. TEST CHANNEL	21
7.4.2. INCUMBENT SIGNAL PLOTS	22
7.4.3. EUT TRANSMISSION PLOTS	24
7.4.4. TABULATED TEST RESULTS	27
7.4.5. Tx OPERATIONAL STATUS TEST RESULTS	29
7.5. U-NII 5 BAND TEST CONDITION 1 - 2 MHz BANDWIDTH RESULTS	30
7.5.1. TEST CHANNEL	30
7.5.2. INCUMBENT SIGNAL PLOTS	31
7.5.3. EUT TRANSMISSION PLOTS	33
7.5.4. TABULATED TEST RESULTS	36
7.5.5. Tx OPERATIONAL STATUS TEST RESULTS	38
7.6. U-NII 5 BAND TEST CONDITION 1 - 4 MHz BANDWIDTH RESULTS	39
7.6.1. TEST CHANNEL	39
7.6.2. INCUMBENT SIGNAL PLOTS	40
7.6.3. EUT TRANSMISSION PLOTS	42
7.6.4. TABULATED TEST RESULTS	45
7.6.5. Tx OPERATIONAL STATUS TEST RESULTS	47

7.7.	U-NII 5 BAND TEST CONDITION 1 - 8 MHz BANDWIDTH RESULTS.....	48
7.7.1.	TEST CHANNEL	48
7.7.2.	INCUMBENT SIGNAL PLOTS	49
7.7.3.	EUT TRANSMISSION PLOTS	51
7.7.4.	TABULATED TEST RESULTS.....	54
7.7.5.	Tx OPERATIONAL STATUS TEST RESULTS	56
7.8.	U-NII 5 BAND TEST CONDITION 1 RESULTS	57
7.9.	U-NII 5 BAND TEST CONDITION 2 RESULTS	57
7.9.1.	TEST CHANNEL	57
7.9.2.	INCUMBENT SIGNAL PLOTS	57
7.9.3.	EUT TRANSMISSION PLOTS	60
7.9.4.	TABULATED TEST RESULTS.....	63
7.9.5.	Tx OPERATIONAL STATUS TEST RESULTS	65
7.10.	U-NII 5 BAND TEST CONDITION 3 RESULTS	66
7.11.	U-NII 5 BAND TEST CONDITION 4 RESULTS	66
7.11.1.	TEST CHANNEL	66
7.11.2.	INCUMBENT SIGNAL PLOTS	66
7.11.3.	EUT TRANSMISSION PLOTS	73
7.11.4.	TABULATED TEST RESULTS.....	83
7.11.5.	Tx OPERATIONAL STATUS TEST RESULTS	85
7.12.	U-NII 6 BAND TEST CONDITION 1 RESULTS	86
7.13.	U-NII 6 BAND TEST CONDITION 2 RESULTS	86
7.13.1.	TEST CHANNEL	86
7.13.2.	INCUMBENT SIGNAL PLOTS	86
7.13.3.	EUT TRANSMISSION PLOTS	89
7.13.4.	TABULATED TEST RESULTS.....	92
7.13.5.	Tx OPERATIONAL STATUS TEST RESULTS	94
7.14.	U-NII 6 BAND TEST CONDITION 3 RESULTS	95
7.15.	U-NII 6 BAND TEST CONDITION 4 RESULTS	95
7.15.1.	TEST CHANNEL	95
7.15.2.	INCUMBENT SIGNAL PLOTS	95
7.15.3.	EUT TRANSMISSION PLOTS	102
7.15.4.	TABULATED TEST RESULTS.....	112
7.15.5.	Tx OPERATIONAL STATUS TEST RESULTS	114
7.16.	U-NII 7 BAND TEST CONDITION 1 RESULTS	115
7.17.	U-NII 7 BAND TEST CONDITION 2 RESULTS	115
7.17.1.	TEST CHANNEL	115
7.17.2.	INCUMBENT SIGNAL PLOTS	115
7.17.3.	EUT TRANSMISSION PLOTS	118
7.17.4.	TABULATED TEST RESULTS.....	121
7.17.5.	Tx OPERATIONAL STATUS TEST RESULTS	123
7.18.	U-NII 7 BAND TEST CONDITION 3 RESULTS	124
7.19.	U-NII 7 BAND TEST CONDITION 4 RESULTS	124
7.19.1.	TEST CHANNEL	124
7.19.2.	INCUMBENT SIGNAL PLOTS	124
7.19.3.	EUT TRANSMISSION PLOTS	131
7.19.4.	TABULATED TEST RESULTS.....	141

7.19.5.	Tx OPERATIONAL STATUS TEST RESULTS	143
7.20.	<i>U-NII 8 BAND TEST CONDITION 1 RESULTS</i>	144
7.21.	<i>U-NII 8 BAND TEST CONDITION 2 RESULTS</i>	144
7.21.1.	TEST CHANNEL	144
7.21.2.	INCUMBENT SIGNAL PLOTS	144
7.21.3.	EUT TRANSMISSION PLOTS	147
7.21.4.	TABULATED TEST RESULTS	150
7.21.5.	Tx OPERATIONAL STATUS TEST RESULTS	152
7.22.	<i>U-NII 8 BAND TEST CONDITION 3 RESULTS</i>	153
7.23.	<i>U-NII 8 BAND TEST CONDITION 4 RESULTS</i>	153
7.23.1.	TEST CHANNEL	153
7.23.2.	INCUMBENT SIGNAL PLOTS	153
7.23.3.	EUT TRANSMISSION PLOTS	160
7.23.4.	TABULATED TEST RESULTS	170
7.23.5.	Tx OPERATIONAL STATUS TEST RESULTS	172
8.	SETUP PHOTOS	173

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE, INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION: SMARTPHONE

MODEL: A3258 (PARENT MODEL)
A3519, A3520, A3521 (VARIANT MODEL)

MODEL TESTED: A3258

SERIAL NUMBER: D35XWQTMQL

DATE TESTED: 2025-05-27 to 2025-05-29

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
Contention Based Protocol Portion of 47 CFR Part 15 Subpart E, KDB 987594	Complies
Contention Based Protocol Portion of RSS-248, Issue 3	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.

Approved & Released For
UL Verification Services Inc. By:



Frank Ibrahim
Staff Engineer
CONSUMER TECHNOLOGY DIVISION
UL Verification Services Inc.

Prepared By:



Henry Lau
Project Engineer
CONSUMER TECHNOLOGY DIVISION
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following standards/rules/KDBs:

- FCC 47 CFR Part 15 Subpart E
- FCC KDB 987594 D01 U-NII 6GHz General Requirements
- FCC KDB 987594 D02 U-NII 6 GHz EMC Measurement
- FCC KDB 987594 D03 U-NII 6 GHz QA
- FCC KDB 987594 D04 UN6GHZ Pre-Approval Guidance Checklist
- RSS-248, ISSUE 3

3. SUMMARY OF TEST RESULTS

Requirement Description	Result	Remarks
Contention Based Protocol Portion of FCC 47 CFR PART 15 SUBPART E, KDB 987594	Complies	
Contention Based Protocol Portion of RSS-248, Issue 3	Complies	

4. REFERENCE DOCUMENTS

Measurements of transmitter parameters as referenced in this report and all other manufacturer's declarations relevant to the RF test requirements are documented in UL Verification Services report number 15496277-E12 & E15.

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for correctly integrating customer-provided data with measurements performed by UL Verification Services Inc.

Below is a list of the data provided by the customer:

1. Antenna gain and type (see section 7.2.5)
2. Text Fixture Cable loss (3.5 dB)

5. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input checked="" type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, California, USA	US0104	2324A	550739

6. DECISION RULES AND MEASUREMENT UNCERTAINTY

6.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

6.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement).

6.3. MEASUREMENT UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:
apparatus:

PARAMETER	U _{Lab}
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Power Spectral Density	2.47 dB
RF Power Measurement Direct Method Using Power Meter	1.3 dB (PK) / 0.45 dB (AV)
Unwanted Emissions, Conducted	1.94 dB
Worst Case Conducted Disturbance, 9kHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9kHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB
Time Domain Measurements	0.02 %
Temperature	0.57°C
Humidity	3.39%
DC Supply Voltages	0.57%

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

7. CONTENTION BASED PROTOCOL

7.1. OVERVIEW

7.1.1. LIMITS

FCC

FCC Part 15 Subpart E, FCC KDB 987594 D02 “U-NII 6 GHz devices operating in the 5.925-7.125 GHz band”; Section I.

INNOVATION, SCIENCE and ECONOMIC DEVELOPMENT CANADA (ISED)

Per Section 4.7.2 of RSS-248:

“The Federal Communications Commission’s accepted KDB procedure KDB 987594 D02 shall be used to demonstrate the compliance of a device with the contention-based protocol requirements set out in this section:

7.1.2. FREQUENCY BANDS AND GOVERNING RULES

Band	Frequency (GHz)	Rules	Notes	KDB/Publication
U-NII 5	5.925-6.425	15.407(a)(4) – (8)	Low Power Indoor AP, Subordinates, Indoor Clients Standard Power AP, Fixed , Standard Clients, Dual Client & VLP	789033 (U-NII) 987594 (6 GHz Band)
U-NII 6	6.425-6.525	15.407(a)(5), (6), (8)	Low Power Indoor AP, Subordinates, Indoor Clients, Dual Client & VLP	
U-NII 7	6.525-6.875	15.407(a)(4) – (8)	Low Power Indoor AP, Subordinates, Indoor Clients Standard Power AP, Fixed Standard Clients, Dual Client & VLP	
U-NII 8	6.875 -7.125	15.407(a)(5), (6), (8)	Low Power Indoor AP, Subordinates, Indoor Clients, Dual Client & VLP	
* Transition period ended March 2, 2020 for marketing DTS in the 5 GHz Band, as stated in 15.408(b)(4)(ii)				

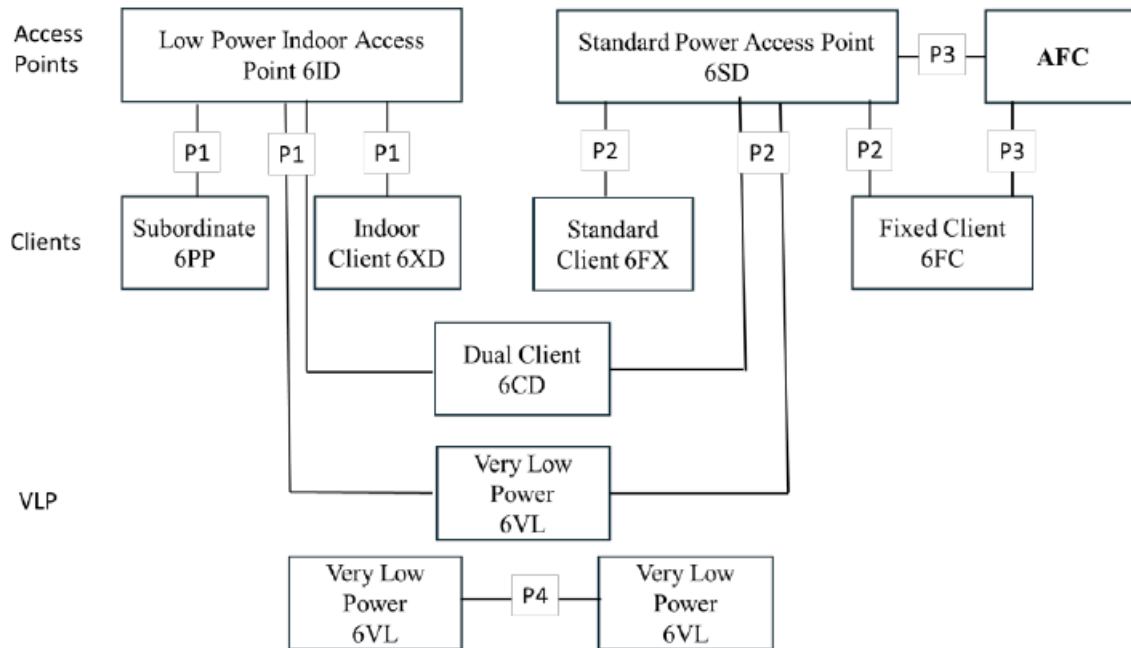
Table 1: Overview of U-NII Rules

ISED

Band	Frequency (GHz)	Rules	Notes	KDB/Publication
U-NII 5	5.925-6.425	RSS 248 - Section 4.2	Low-Power indoor AP, indoor subordinate devices, low-power client devices, Standard Power AP, Fixed client devices, standard client devices, dual client devices & VLP	RSS 248 987594 D02
U-NII 6	6.425-6.525	RSS 248 - Section 4.2	Low-Power indoor AP, indoor subordinate devices, low-power client devices, Standard Power AP, Fixed client devices, standard client devices, dual client devices & VLP	
U-NII 7	6.525-6.875	RSS 248 - Section 4.2	Low-Power indoor AP, indoor subordinate devices, low-power client devices, Standard Power AP, Fixed client devices, standard client devices, dual client devices & VLP	
U-NII 8	6.875 -7.125	RSS 248 - Section 4.2	Low-Power indoor AP, indoor subordinate devices, low-power client devices, dual client devices & VLP	

7.1.3. EQUIPMENT CLASSIFICATIONS

There are seven applicable equipment classes for U-NII 6 GHz device certifications, as illustrated in Figure 1. Multiple equipment classes can apply to one FCC ID. Equipment classes categorize the certification record by the different technical rules that apply.



DEFINITION OF EQUIPMENT CLASSES

1. 6ID: 15E 6 GHz Low power indoor access point.
2. 6PP: 15E 6 GHz Subordinate indoor device. These devices are under control of a Low power indoor access point (P1).
3. 6XD: 15E 6 GHz Low power Indoor client. These devices are under control of a low power indoor access point (P1).
4. 6SD: 15E 6 GHz Standard power access point. These devices are managed by the Automatic Frequency Coordination (AFC) system.
5. 6CD: 15E 6 GHz Dual client. These devices are under control of either a low power indoor access point (6ID) (P1) or Standard power access point (P2).
6. 6FX: 15E 6 GHz Standard client. These devices are under control of a Standard power access point (P2).
7. 6FC: 15E 6 GHz Fixed client. These devices are associated with a standard power access point (P3).
8. 6VL: 15E 6 GHz VLP device operating in U-NII bands 5-8.

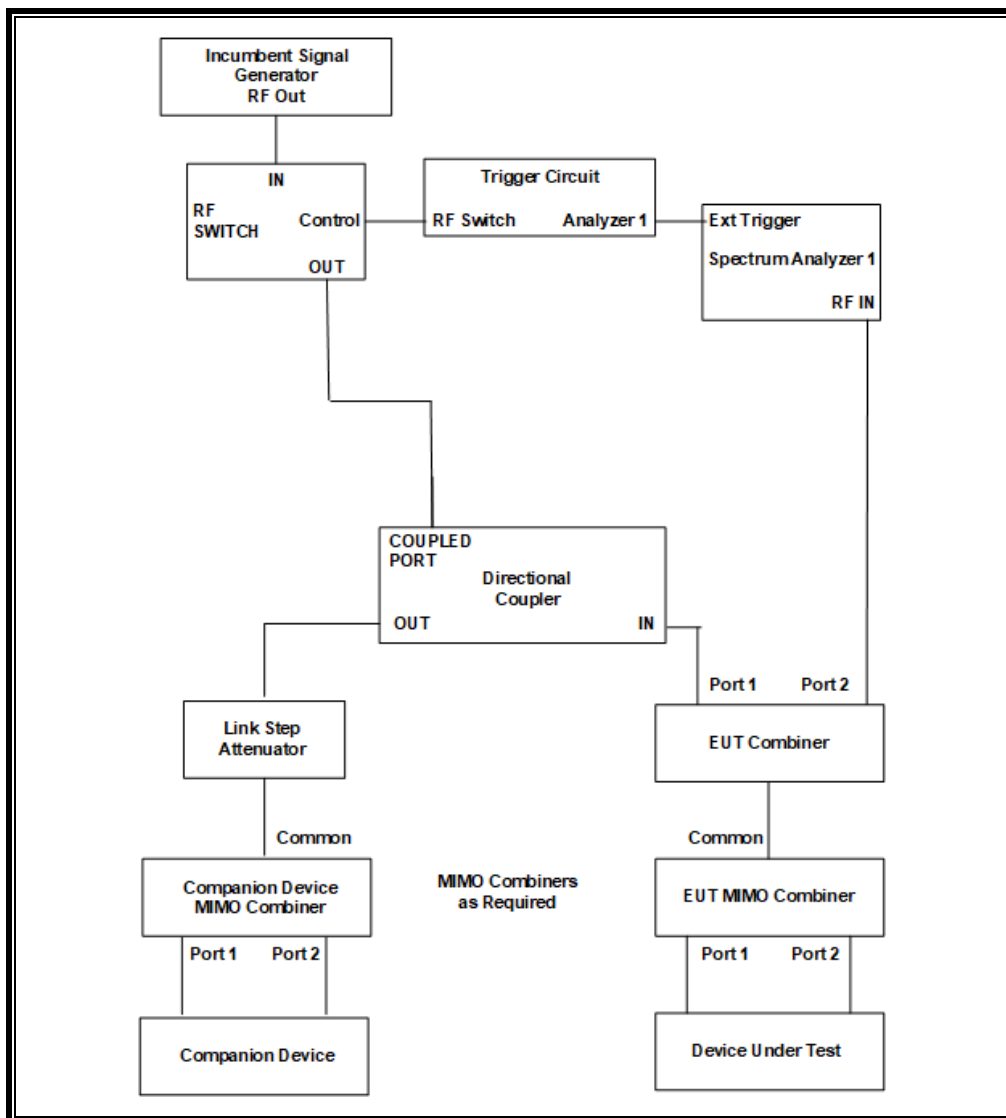
7.2. DESCRIPTION OF TEST SETUP

7.2.1. TEST AND MEASUREMENT SYSTEM

These tests were performed using a Conducted instrument configuration.

CONDUCTED TEST CONFIGURATION

NOTE: This is a comprehensive setup diagram of the receiver performance test and measurement system. Not all of the devices shown below are used for every applicable receiver test. Also, coupler port designations “IN” and “OUT” refer to labeling on the coupler, not the RF signal flow.



SYSTEM OVERVIEW

Should multiple RF ports be utilized for the EUT and/or Companion devices (for example, for diversity or MIMO implementations), combiner/dividers are inserted between the EUT MIMO Combiner/Divider and the attenuator connected to the EUT (and/or between the Companion MIMO Combiner/Divider and the attenuator connected to the Companion Device). Additional attenuators may be utilized such that there is one attenuator at each RF port on each device.

SYSTEM CALIBRATION

The monitoring cable is disconnected from the spectrum analyzer and a 50-ohm load is connected to the end of the monitoring cable in place of the spectrum analyzer. The cable connected to the EUT is then attached to the spectrum analyzer in place of the monitoring cable. A signal generator is then set to produce a modulated AWGN Incumbent Signal that has a 99% occupied power bandwidth of 10 MHz. The output amplitude of the signal generator is adjusted to yield the allowable maximum AWGN Incumbent Signal level as measured on the spectrum analyzer. The EUT and monitoring cables are then returned to their original configurations to perform the test.

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	ID No.	Cal Due
Spectrum Analyzer, PXA, 3Hz to 8.4GHz	Keysight	N9030A	150667	2026-01-31
Signal Generator, MXG X-Series RF Vector	Keysight	N5182B	215999	2026-01-31
Frequency Extender	Keysight	N5182BX	213906	2026-01-31

Note: An MXG series Signal Generator and separate external Frequency Extender module are shown in the preceding test system block diagram as a stand-alone Incumbent Signal Generator.

7.2.2. TEST AND MEASUREMENT SOFTWARE

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

TEST SOFTWARE LIST		
Name	Version	Test / Function
PXA Read	3.1	Signal Generator Screen Capture

7.2.3. TEST ROOM ENVIRONMENT

The test room temperature and humidity shall be maintained within normal temperature of 15~35 °C and normal humidity 20~75% (relative humidity).

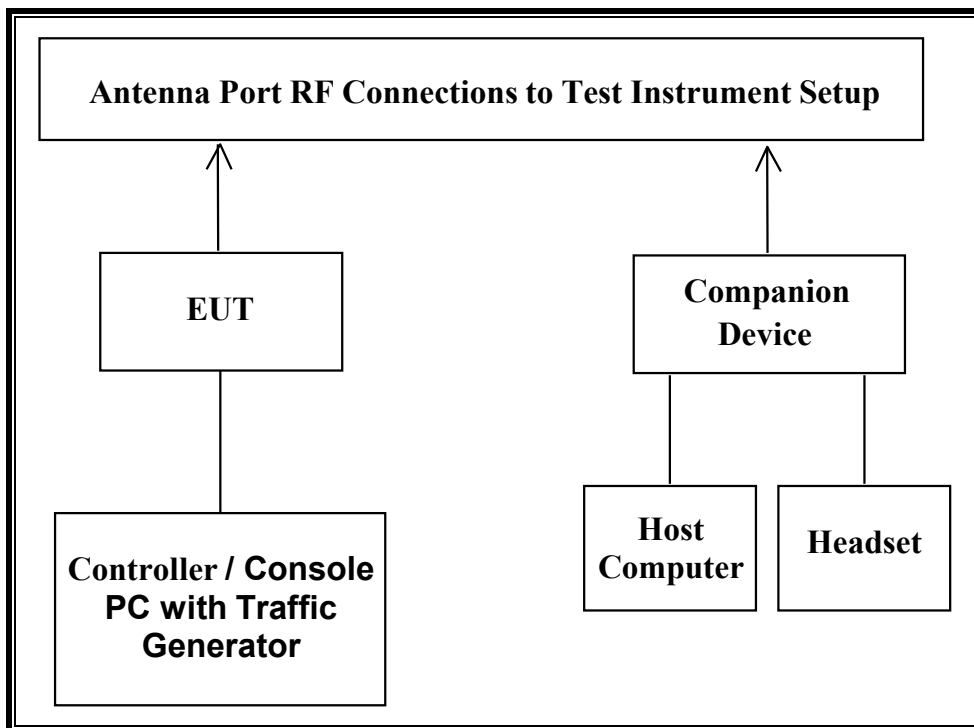
ENVIRONMENT CONDITION

Parameter	Value
Temperature	24.7 °C
Humidity	47 %

7.2.4. SETUP OF EUT

CONDUCTED METHOD EUT TEST SETUP

NB UNII:

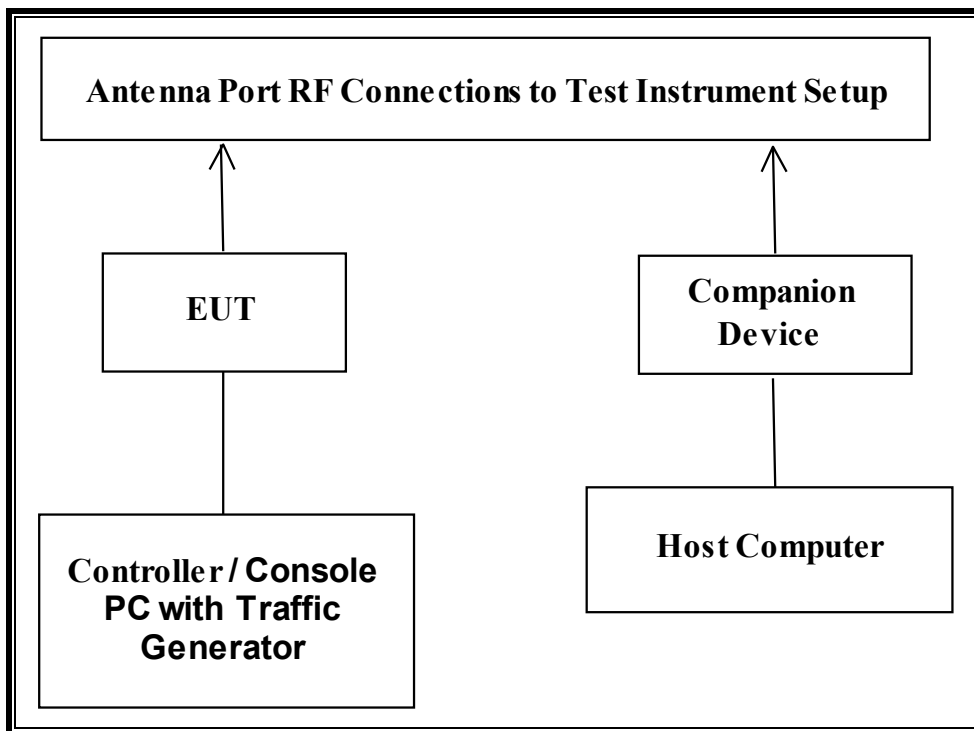


SUPPORT EQUIPMENT

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

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Notebook PC 1 (EUT Controller/Console)	Apple	A2779	DW4JXYW99G	DoC
Airpod Development System (Companion)	Apple	920-10664-04	GTS1403004G	None
Notebook PC 2 (Companion Host)	Apple	A2779	C962RJ4D3Y	DoC
Companion Device + Headset	Apple	MNHF2AM/A	250416CA05	DoC

WLAN:



SUPPORT EQUIPMENT

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

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Notebook PC 1 (EUT Controller/Console)	Apple	A2779	C962RJ4D3Y	DoC
WiFi 6e Gaming Router (Companion)	ASUS Computer International	GT-AXE11000	M6IAJF202341	MSQ-RTAXJF00
AC Adapter (Companion)	AC BEL	ADD011 LPS	ADD01117AG204504118A	DoC
Notebook PC (Companion Host)	Lenovo	Type 20B7-S0A200	PF-02JN9J 14/06	DoC
AC Adapter (Companion Host)	Lenovo	ADLX65NLC2A	11S45N0259Z1ZS974594A9	DoC

7.2.5. DESCRIPTION OF EUT

NB UNII:

The EUT operates in the following band: U-NII 5 (5925 MHz-6425 MHz).

The EUT does not support the following bands: U-NII 6 (6425 MHz-6525 MHz), U-NII 7 (6525 MHz-6875 MHz) and U-NII 8 (6875 MHz-7125 MHz).

The EUT is classified as a 6 GHz VLP.

The manufacturer has declared that the lowest gain antenna assembly as follows

	A3258	A3519/A3520/A3521
UNII-5	-3.1	-3.1

The lowest gain antenna assembly across all models has a gain of -3.10 dBi in the U-NII 5 band.

Two antennas are utilized to meet the diversity and MIMO operational requirements.

The maximum allowable conducted AWGN Incumbent Detection Threshold level is -62 dBm/MHz. After correction for antenna gain the conducted AWGN Incumbent Detection Threshold at the antenna port is -62 + antenna gain. This results in a maximum allowable AWGN Incumbent Detection Threshold of -65.1 dBm in the U-NII 5 band.

The EUT uses two transmitter/receiver chains, each connected to a 50-ohm coaxial antenna port. All antenna ports are connected to the test system via a power divider to perform conducted tests.

Traffic was generated by transferring a data stream from the EUT to the Companion Device using audio.

Four nominal channel bandwidths are implemented: 1 MHz, 2 MHz, 4 MHz & 8 MHz.

The software installed in the EUT is version 23A258.

WLAN:

The EUT operates in the following band / bands: U-NII 5 (5925 MHz-6425 MHz), U-NII 6 (6425 MHz-6525 MHz), U-NII 7 (6525 MHz-6875 MHz) and U-NII 8 (6875 MHz-7125 MHz).

The EUT is classified as a 6 GHz Dual Client & VLP.

The manufacturer has declared that the lowest gain antenna assembly as follows

	A3258	A3519/A3520/A3521
UNII-5	-3.1	-3.1
UNII-6	-2	-2
UNII-7	-1.9	-1.8
UNII-8	-2.8	-2.8

The lowest gain antenna assembly across the parent & variant models has a gain of -3.10 dBi in the U-NII 5 band, -2 dBi in the U-NII 6 band, -1.9 dBi in the U-NII 7 band and -2.8 dBi in the U-NII 8 band.

Two antennas are utilized to meet the diversity and MIMO operational requirements.

The maximum allowable conducted AWGN Incumbent Detection Threshold level is -62 dBm/MHz. After correction for antenna gain the conducted AWGN Incumbent Detection Threshold at the antenna port is -62 + antenna gain. This results in a maximum allowable AWGN Incumbent Detection Threshold of -65.1 dBm in the U-NII 5 band, -64.00 dBm in the U-NII 6 band, -63.9 dBm in the U-NII 7 band and -64.8 dBm in the U-NII 8 band.

The EUT uses two transmitter/receiver chains, each connected to a 50-ohm coaxial antenna port. All antenna ports are connected to the test system via a power divider to perform conducted tests.

WLAN traffic was generated by transferring a data stream from the EUT to the Companion Device using iPerf version 3.1.3 software package.

The EUT utilizes the 802.11ax and 802.11be architecture. Four nominal channel bandwidths are implemented: 20 MHz, 40 MHz, 80 MHz and 160 MHz.

The manufacturer declares that Channel Puncturing is supported but is used only for network optimization and is not used for the purposes of avoiding incumbents.

The manufacturer declares that Channel Bandwidth Reduction is supported.

The software installed in the EUT is version 23A258.

The firmware installed in the Companion Device is version V1.0.7.56_2.0.65.

TEST SETUP

NB UNII:

The EUT is attached to a USB port of a host notebook PC during testing. The EUT is linked to a companion 802.11 wireless radio device. An audio file was opened on the EUT and played by the companion radio device using a media player resident on the EUT.

WLAN:

The EUT is attached to a USB port of a host notebook PC during testing. The EUT is linked to a companion 802.11 wireless radio device. A commercial traffic generation program (iPERF) was utilized to generate traffic from the EUT to the companion radio device.

7.2.6. MODEL DIFFERENCES

Models A3258, A3519, A3520, & A3521 are electrically identical. Only difference are the antenna gains. The lowest antenna gain across all parent & variant model was utilized for the testing therefore the parent model is representative of the variant models.

7.3. LIMITS AND PROCEDURES

LIMITS

FCC Part 15 Subpart E, FCC KDB 987594 D02 “U-NII 6 GHz devices operating in the 5.925-7.125 GHz band”; Section I.

AWGN INCUMBENT SIGNAL DETECTION THRESHOLD

FCC Part 15 Subpart E, FCC KDB 987594 D02 “U-NII 6 GHz devices operating in the 5.925-7.125 GHz band”; Section I, Clause (c), Step 6.

For an EUT with a non-zero dBi antenna gain the maximum detection threshold level, T_L , of the 10 MHz wide AWGN Incumbent Signal at the port of the radio module in a conducted test setup shall be no greater than -62 dBm/MHz. It shall be adjusted by the gain of the bypassed antenna as shown in the table below:

NB UNII:

Band	Frequency Range (MHz)	Antenna Gain (dBi)	T_L at Radio Port (dBm/MHz)
U-NII 5	5925 to 6425	-3.10	-65.1

WLAN:

Band	Frequency Range (MHz)	Antenna Gain (dBi)	T_L at Radio Port (dBm/MHz)
U-NII 5	5925 to 6425	-3.10	-65.1
U-NII 6	6425 to 6525	-2.00	-64
U-NII 7	6525 to 6875	-1.90	-63.9
U-NII 8	6875 to 7125	-2.80	-64.8

TEST PROCEDURE

FCC Part 15 Subpart E, FCC KDB 987594 D02 “U-NII 6 GHz devices operating in the 5.925-7.125 GHz band”; Section I, Clause (c).

7.4. U-NII 5 BAND TEST CONDITION 1 - 1 MHz BANDWIDTH RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

7.4.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6350 MHz and a nominal channel bandwidth of 1 MHz.

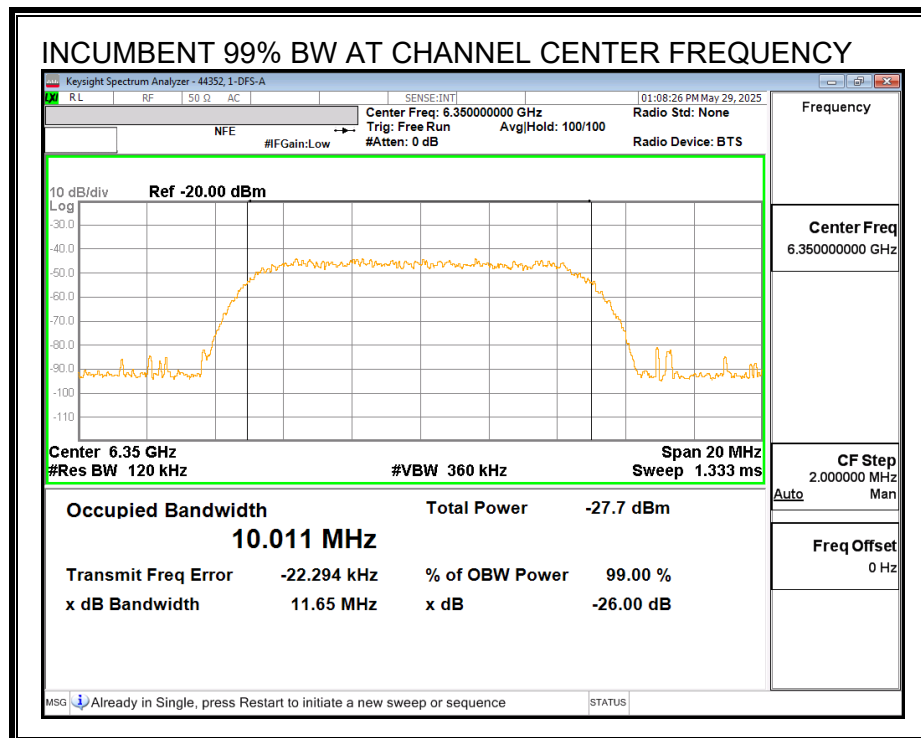
Only the lowest and highest supported channel bandwidths are required to be tested.

Note: The RBW / VBW settings of the spectrum analyzer may be reduced to reject adjacent channel signals from being displayed in the test channel plots. The video trigger of the spectrum analyzer may also be enabled to facilitate the capture of time domain events. This in turn, depending on the model of the equipment used, may disable the RMS detector. These changes do not impact timing measurement data.

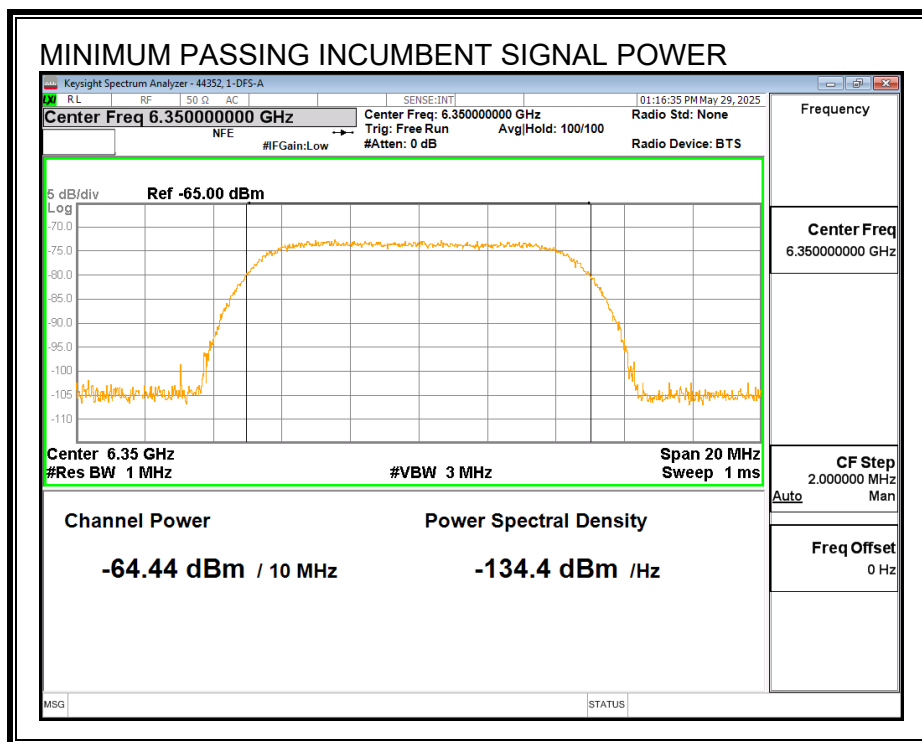
7.4.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

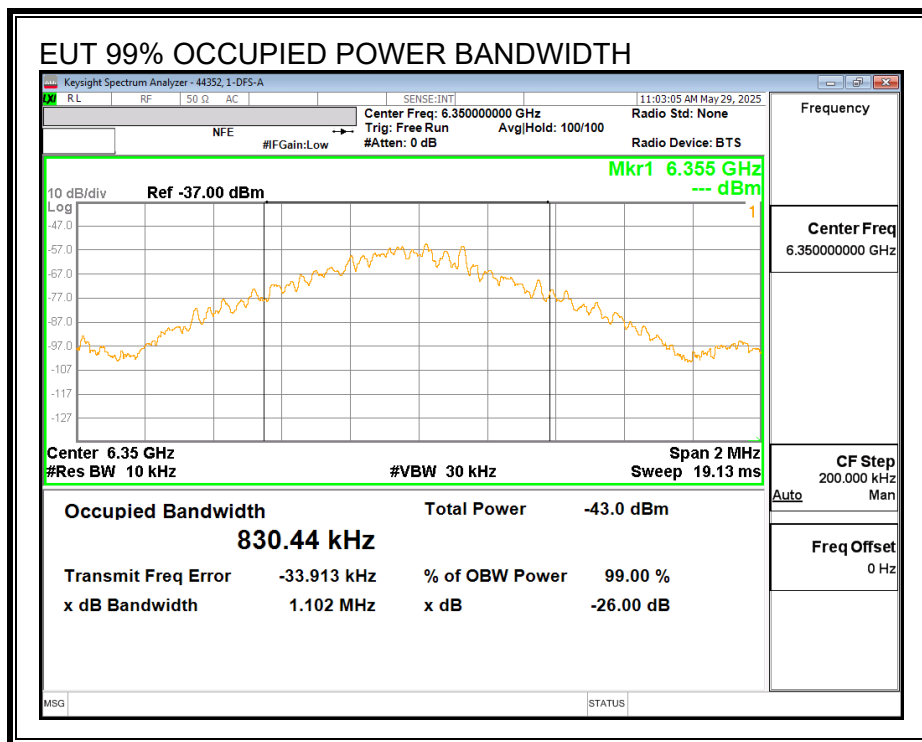


MINIMUM PASSING INCUMBENT SIGNAL POWER AT TEXT FIXTURE



7.4.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH



EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

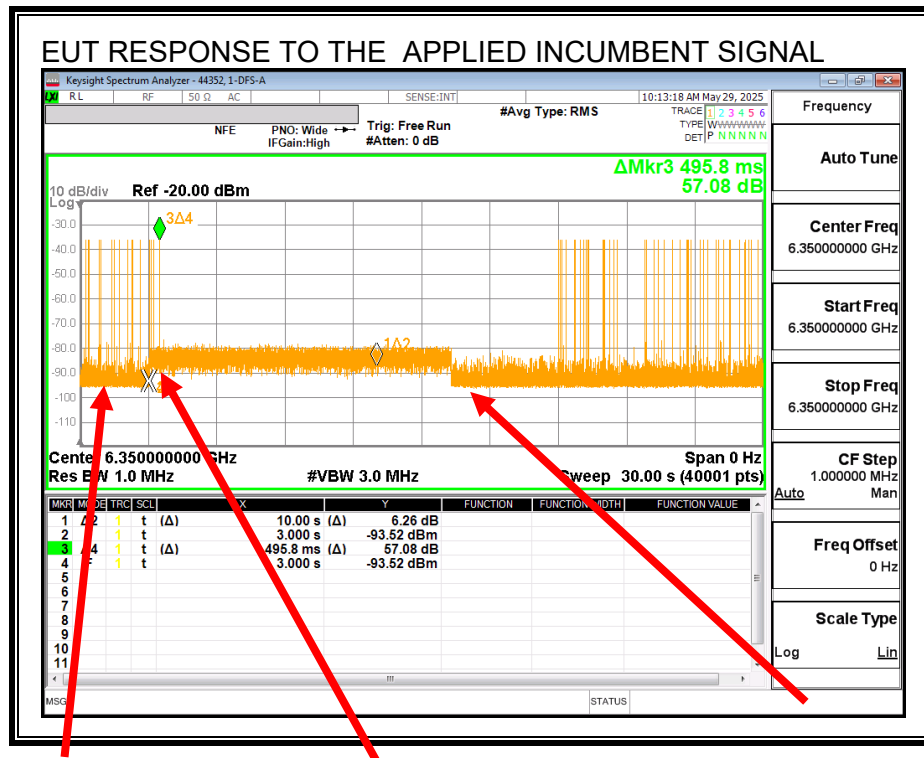
The screenshot shows a Keysight Spectrum Analyzer (M352, 1-DFS-A) displaying a spectrum plot. The plot shows a noisy baseline with a prominent peak at 7.049 GHz, labeled 'Mkr1 7.049 s -36.39 dBm'. The peak is marked with a green diamond and a yellow '1'. The plot is titled 'Ref -20.00 dBm' and 'Log'. The x-axis represents frequency in GHz, and the y-axis represents power in dBm. The plot is titled 'EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT'.

The interface includes various control panels and a data table. The top panel shows the title 'EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT' and the date '10:09:26 AM May 29, 2025'. The left panel shows the frequency range '6.350000000 GHz' to '6.350000000 GHz' and the span '3.0 MHz'. The right panel shows the center frequency '6.350000000 GHz', start frequency '6.350000000 GHz', stop frequency '6.350000000 GHz', CF step '1.000000 MHz', and frequency offset '0 Hz'. The bottom panel shows the center frequency '6.350000000 GHz', resolution bandwidth '1.0 MHz', video bandwidth '3.0 MHz', span '0 Hz', and sweep time '10.00 s (40001 pts)'.

Center Freq	Start Freq	Stop Freq	CF Step	Freq Offset	Scale Type
6.350000000 GHz	6.350000000 GHz	6.350000000 GHz	1.000000 MHz	0 Hz	Log

EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease within 495.8ms while the Incumbent AWGN Signal is present and resume after it is removed.

7.4.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6350
EUT Nominal Channel Bandwidth (MHz)	1
99% Occupied Bandwidth of the EUT (MHz)	0.83044
EUT 99% OBW Lower Edge, F_L (MHz)	6349.58
EUT 99% OBW Upper Edge, F_H (MHz)	6350.42
Test Frequency of Incumbent Signal (MHz)	6350
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-3.10
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-65.10
Lowest Passing Measured Incumbent Signal Amplitude (Test Fixture)(dBm)	-64.44
Text Fixture Cable Loss (dB)	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-67.94
Margin (dBm)	-2.84
Result (PASS / FAIL)	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.4.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 1: $99\% BW_{EUT} \leq 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-64.44	3.50	-67.94	-3.10	-64.84	-62	Ceased
-65.48	3.50	-68.98	-3.10	-65.88	-62	Minimal
-67.50	3.50	-71.00	-3.10	-67.90	-62	Normal

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

7.5. U-NII 5 BAND TEST CONDITION 1 - 2 MHz BANDWIDTH RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

7.5.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6350 MHz and a nominal channel bandwidth of 2 MHz.

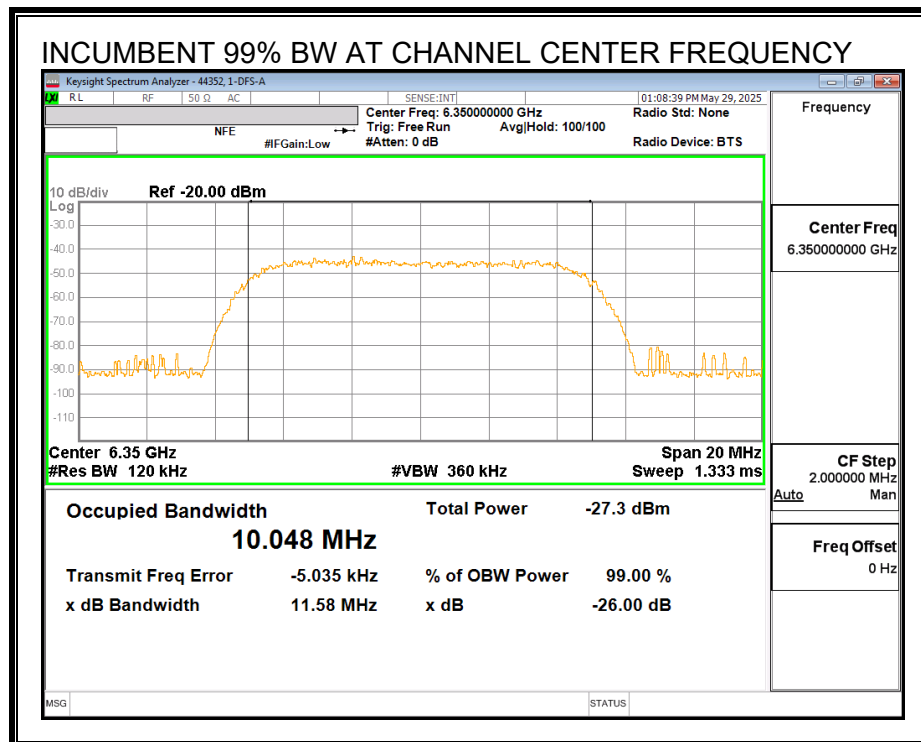
Only the lowest and highest supported channel bandwidths are required to be tested.

Note: The RBW / VBW settings of the spectrum analyzer may be reduced to reject adjacent channel signals from being displayed in the test channel plots. The video trigger of the spectrum analyzer may also be enabled to facilitate the capture of time domain events. This in turn, depending on the model of the equipment used, may disable the RMS detector. These changes do not impact timing measurement data.

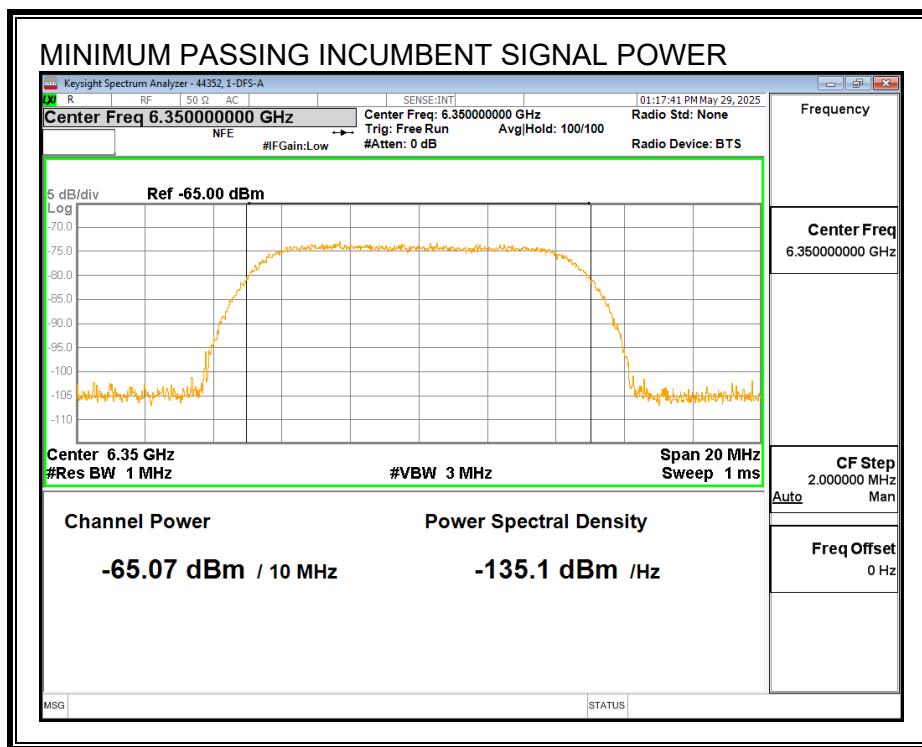
7.5.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

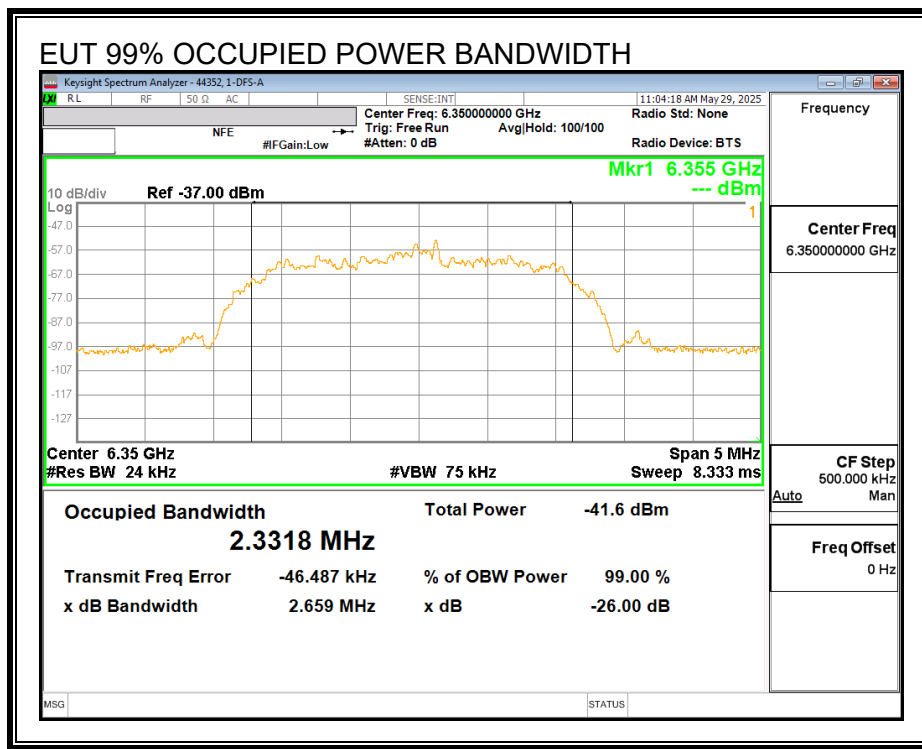


MINIMUM PASSING INCUMBENT SIGNAL POWER AT TEXT FIXTURE

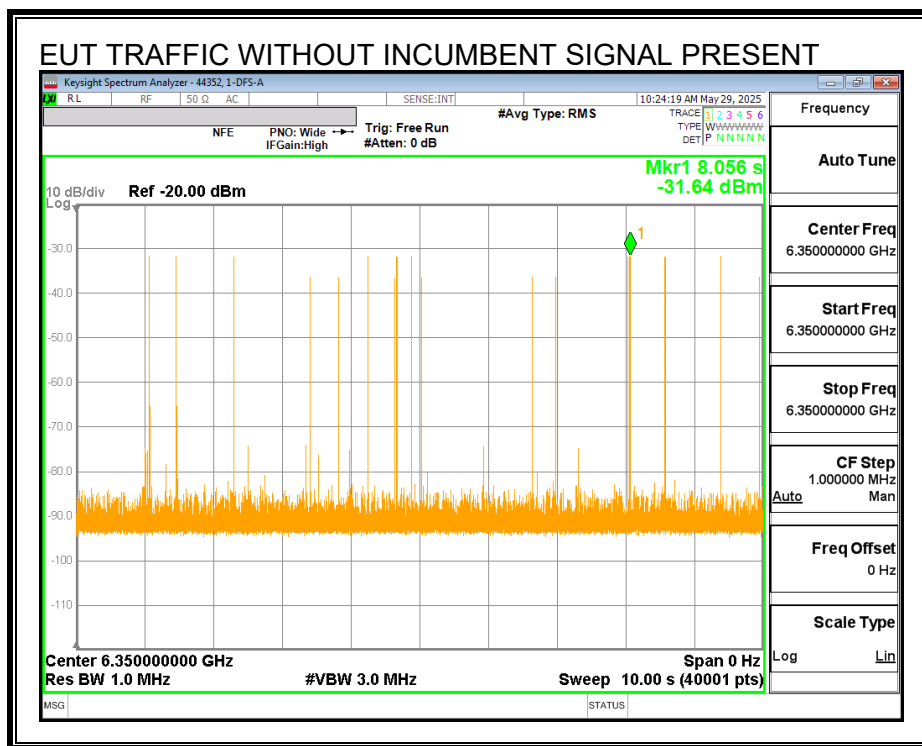


7.5.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH

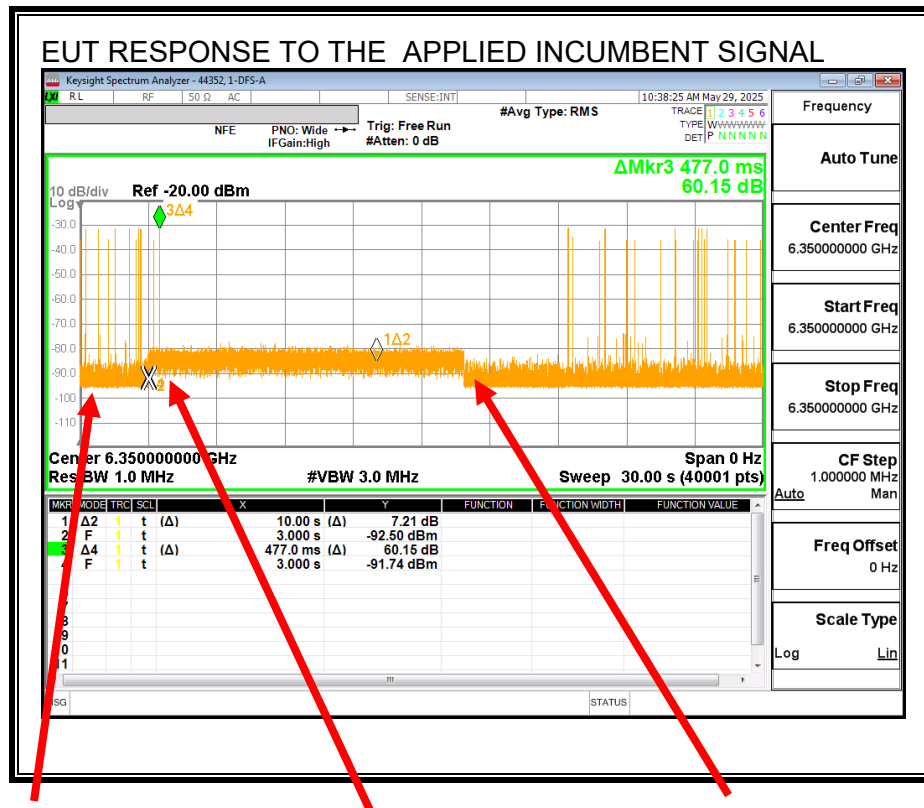


TRAFFIC WITHOUT THE INCUMBENT SIGNAL PRESENT



EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease within 477ms while the Incumbent AWGN Signal is present and resume after it is removed.

7.5.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6350
EUT Nominal Channel Bandwidth (MHz)	2
99% Occupied Bandwidth of the EUT (MHz)	2.3318
EUT 99% OBW Lower Edge, F_L (MHz)	6348.83
EUT 99% OBW Upper Edge, F_H (MHz)	6351.17
Test Frequency of Incumbent Signal (MHz)	6350
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-3.10
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-65.10
Lowest Passing Measured Incumbent Signal Amplitude (Test Fixture)(dBm)	-65.07
Text Fixture Cable Loss (dB)	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-68.57
Margin (dBm)	-3.47
Result (PASS / FAIL)	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.5.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 1: $99\% BW_{EUT} \leq 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-65.07	3.50	-68.57	-3.10	-65.47	-62	Ceased
-66.34	3.50	-69.84	-3.10	-66.74	-62	Minimal
-67.29	3.50	-70.79	-3.10	-67.69	-62	Normal

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

7.6. U-NII 5 BAND TEST CONDITION 1 - 4 MHz BANDWIDTH RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

7.6.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6350 MHz and a nominal channel bandwidth of 4 MHz.

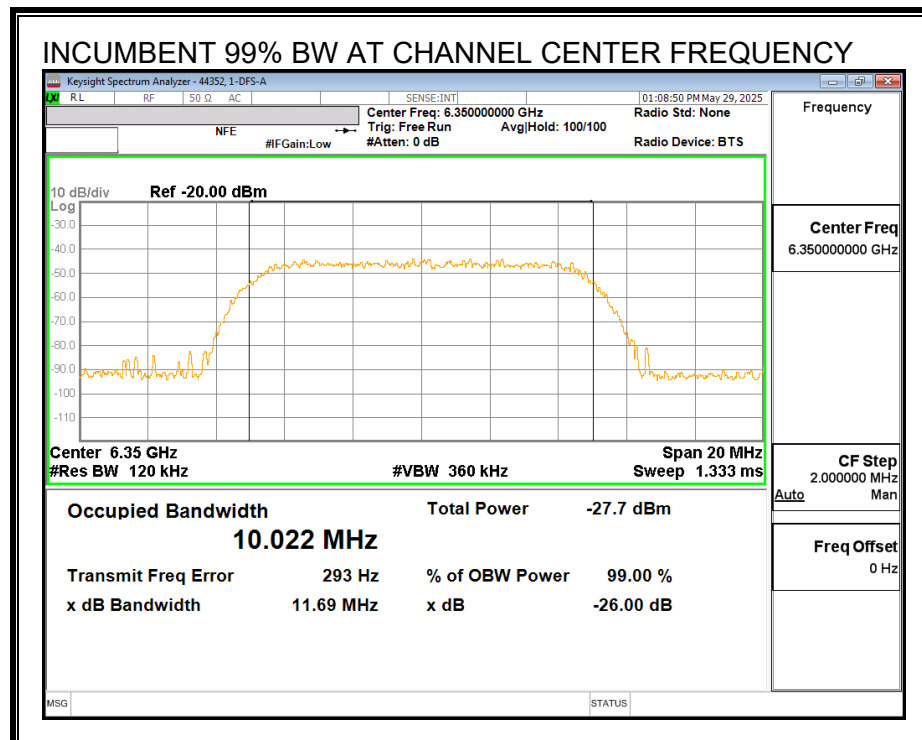
Only the lowest and highest supported channel bandwidths are required to be tested.

Note: The RBW / VBW settings of the spectrum analyzer may be reduced to reject adjacent channel signals from being displayed in the test channel plots. The video trigger of the spectrum analyzer may also be enabled to facilitate the capture of time domain events. This in turn, depending on the model of the equipment used, may disable the RMS detector. These changes do not impact timing measurement data.

7.6.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH



MINIMUM PASSING INCUMBENT SIGNAL POWER

Keysight Spectrum Analyzer - 44352.1-DFS-A

RL RF 50 Ω AC SENSE:INTI 01:19:39 PM May 29, 2025

Center Freq 6.350000000 GHz Center Freq: 6.350000000 GHz Radio Std: None
NFE Trig: Free Run Avg/Hold: 100/100
#IFGain:Low #Atten: 0 dB Radio Device: BTS

5 dB/div Ref -65.00 dBm

Log

Center 6.35 GHz Span 20 MHz
#Res BW 1 MHz #VBW 3 MHz Sweep 1 ms

Channel Power **Power Spectral Density**

-64.97 dBm / 10 MHz **-135.0 dBm /Hz**

MSG STATUS

Frequency

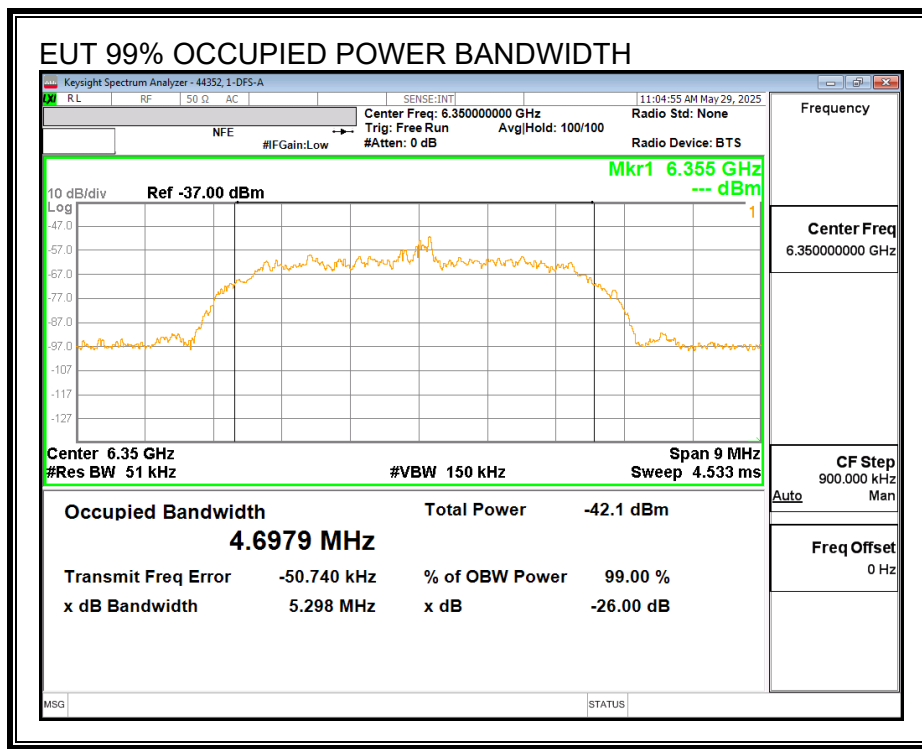
Center Freq
6.350000000 GHz

CF Step
2.000000 MHz
Auto Man

Freq Offset
0 Hz

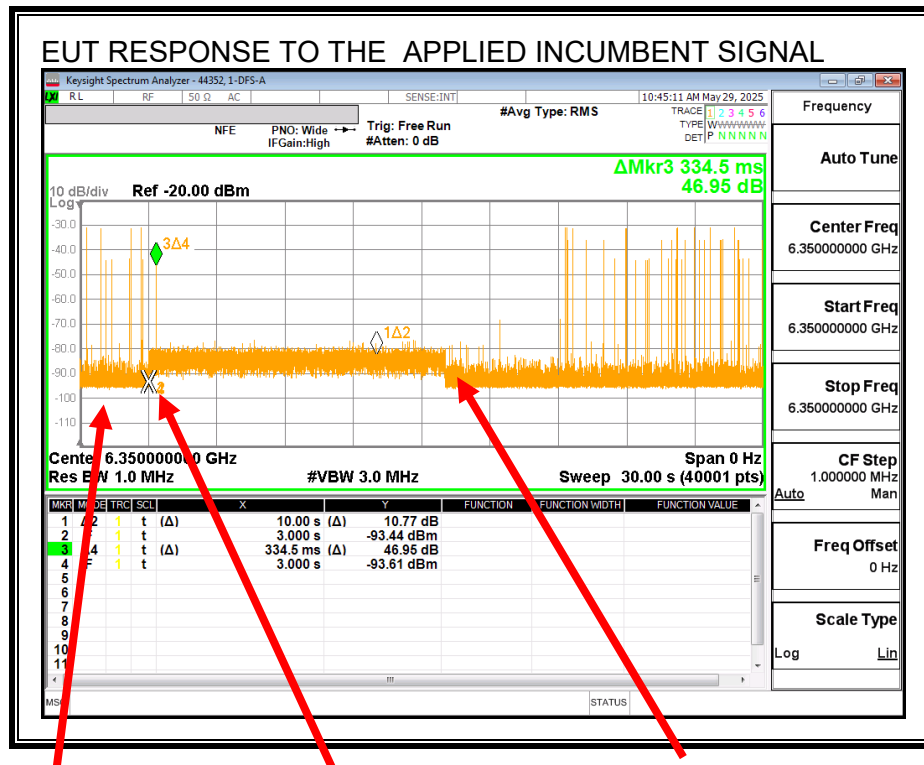
7.6.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH



EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease within 334.5 ms while the Incumbent AWGN Signal is present and resume after it is removed.

7.6.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6350
EUT Nominal Channel Bandwidth (MHz)	4
99% Occupied Bandwidth of the EUT (MHz)	4.6979
EUT 99% OBW Lower Edge, F_L (MHz)	6347.65
EUT 99% OBW Upper Edge, F_H (MHz)	6352.35
Test Frequency of Incumbent Signal (MHz)	6350
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-3.10
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-65.10
Lowest Passing Measured Incumbent Signal Amplitude (Test Fixture)(dBm)	-64.97
Text Fixture Cable Loss (dB)	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-68.47
Margin (dBm)	-3.37
Result (PASS / FAIL)	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.6.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 1: $99\% BW_{EUT} \leq 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-64.97	3.50	-68.47	-3.10	-65.37	-62	Ceased
-66.27	3.50	-69.77	-3.10	-66.67	-62	Minimal
-67.32	3.50	-70.82	-3.10	-67.72	-62	Normal

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

7.7. U-NII 5 BAND TEST CONDITION 1 - 8 MHz BANDWIDTH RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

7.7.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6350 MHz and a nominal channel bandwidth of 8 MHz.

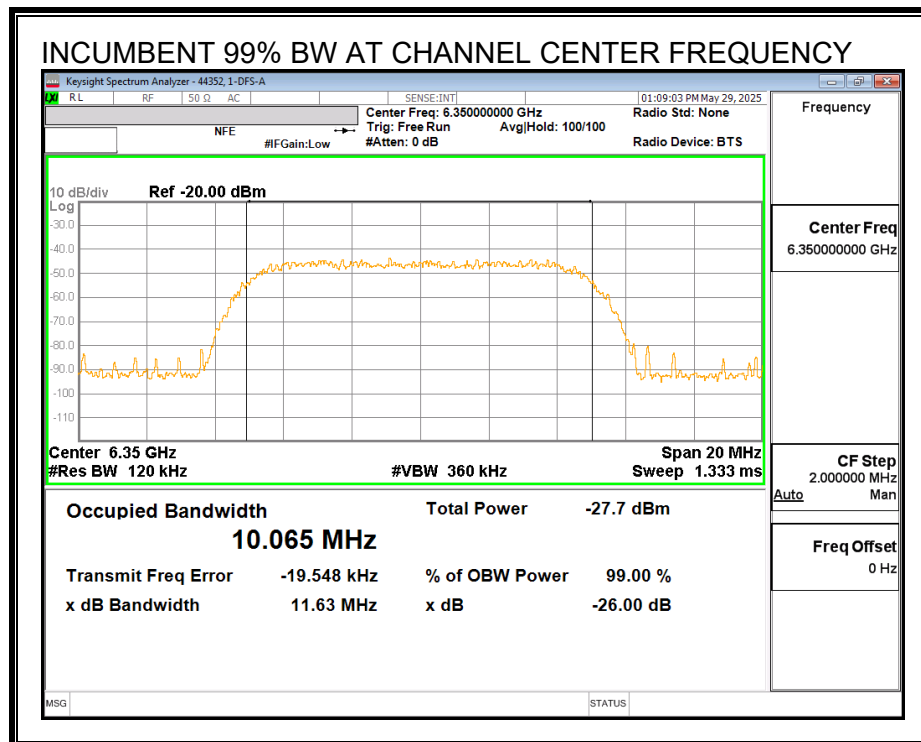
Only the lowest and highest supported channel bandwidths are required to be tested.

Note: The RBW / VBW settings of the spectrum analyzer may be reduced to reject adjacent channel signals from being displayed in the test channel plots. The video trigger of the spectrum analyzer may also be enabled to facilitate the capture of time domain events. This in turn, depending on the model of the equipment used, may disable the RMS detector. These changes do not impact timing measurement data.

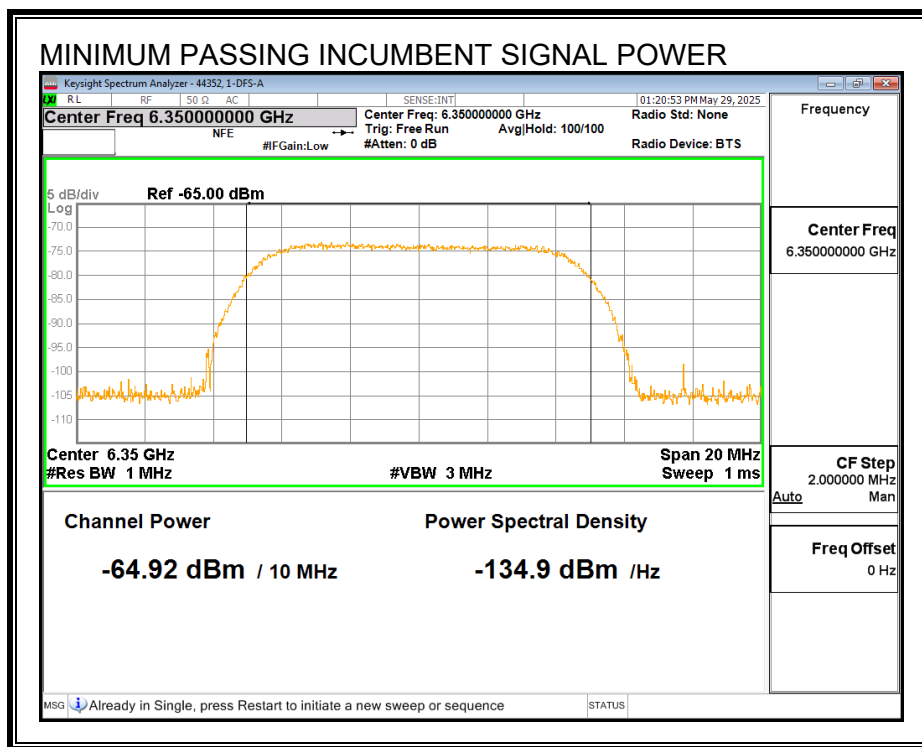
7.7.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

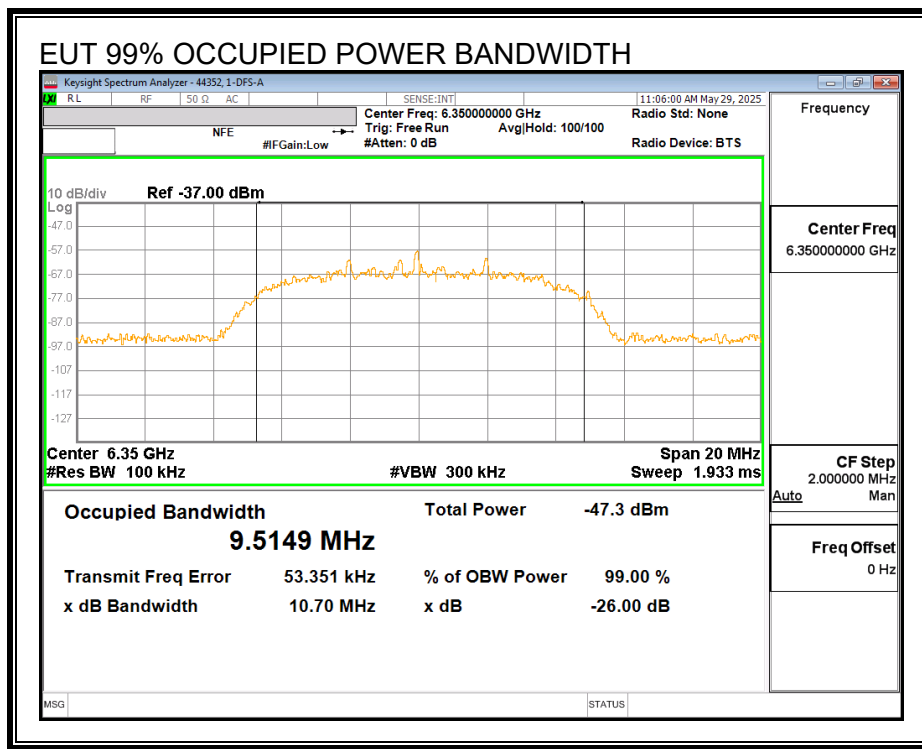


MINIMUM PASSING INCUMBENT SIGNAL POWER

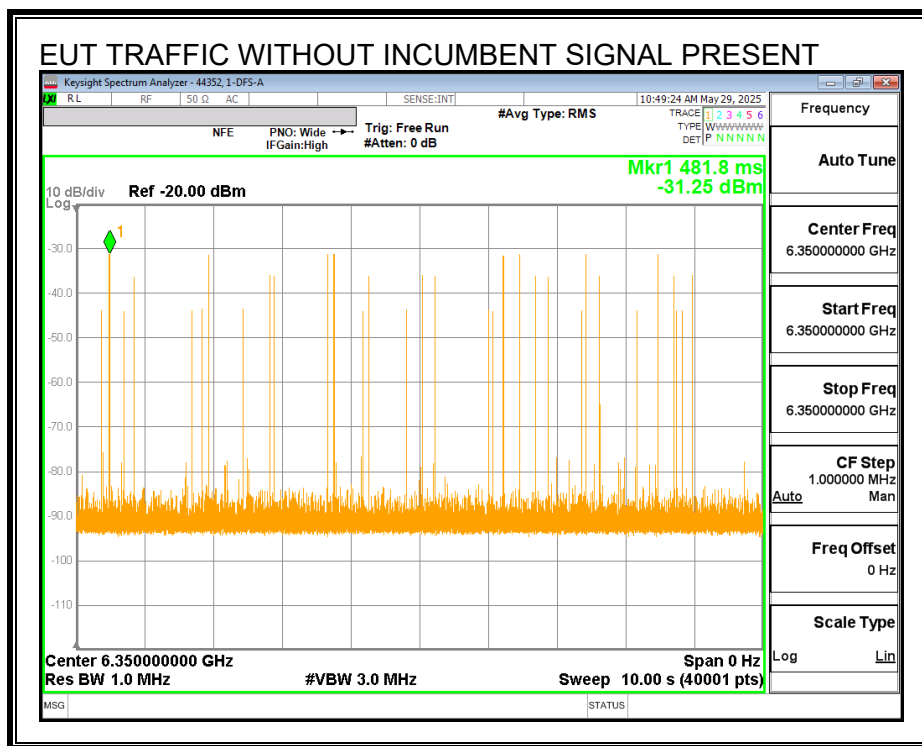


7.7.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH

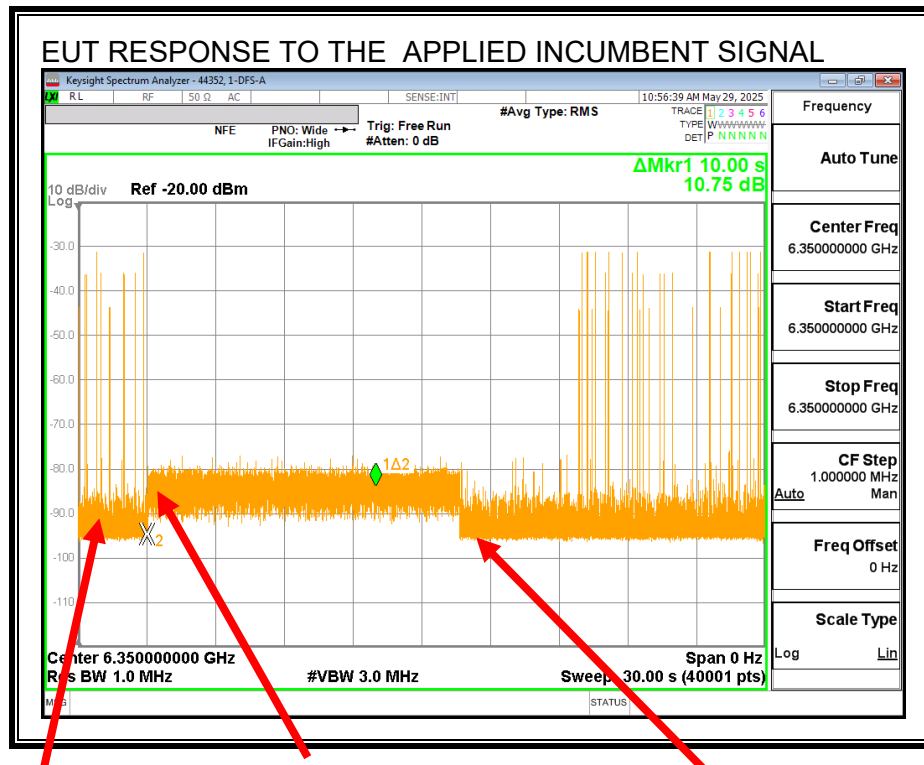


TRAFFIC WITHOUT THE INCUMBENT SIGNAL PRESENT



EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease while the Incumbent AWGN Signal is present and resume after it is removed.

7.7.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6350
EUT Nominal Channel Bandwidth (MHz)	8
99% Occupied Bandwidth of the EUT (MHz)	9.5149
EUT 99% OBW Lower Edge, F_L (MHz)	6345.24
EUT 99% OBW Upper Edge, F_H (MHz)	6354.76
Test Frequency of Incumbent Signal (MHz)	6350
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-3.10
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-65.10
Lowest Passing Measured Incumbent Signal Amplitude (Test Fixture)(dBm)	-64.92
Text Fixture Cable Loss (dB)	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-68.42
Margin (dBm)	-3.32
Result (PASS / FAIL)	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.7.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 1: $99\% BW_{EUT} \leq 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-64.92	3.5	-68.4	-3.10	-65.32	-62	Ceased
-66.22	3.5	-69.7	-3.10	-66.62	-62	Minimal
-67.26	3.5	-70.8	-3.10	-67.66	-62	Normal

Test Date: 2025-05-29

Tested by: 44352

Test location: 1-DFS-A

7.8. U-NII 5 BAND TEST CONDITION 1 RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.9. U-NII 5 BAND TEST CONDITION 2 RESULTS

TEST CONDITION 2 CRITERIA

$$99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$$

7.9.1. TEST CHANNEL

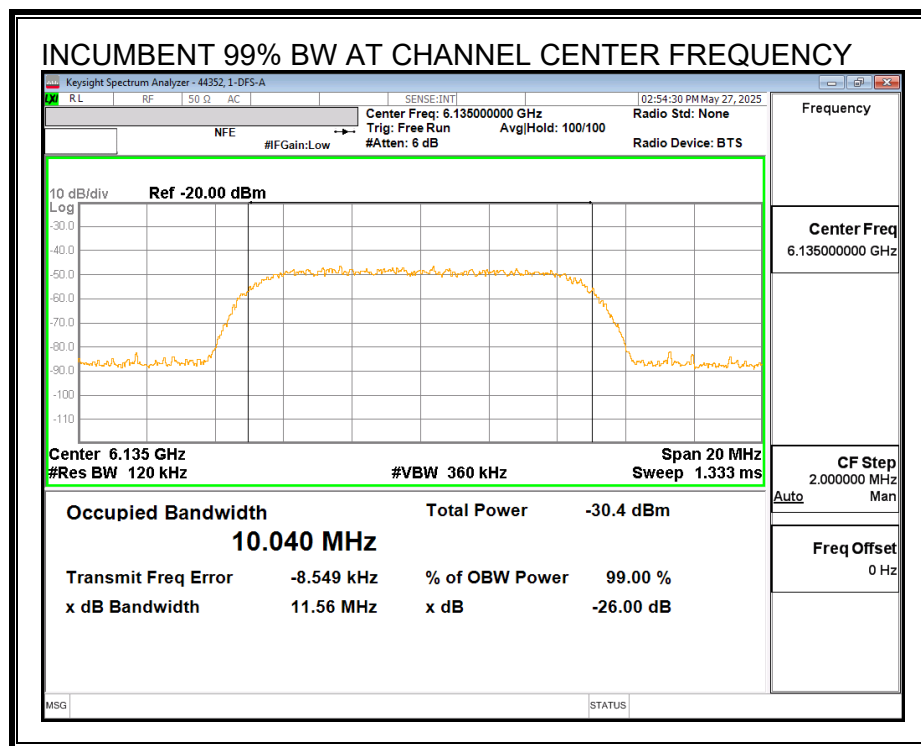
All tests were performed with the EUT set to a channel center frequency of 6135 MHz and a nominal channel bandwidth of 20 MHz.

Only the lowest and highest supported channel bandwidths are required to be tested.

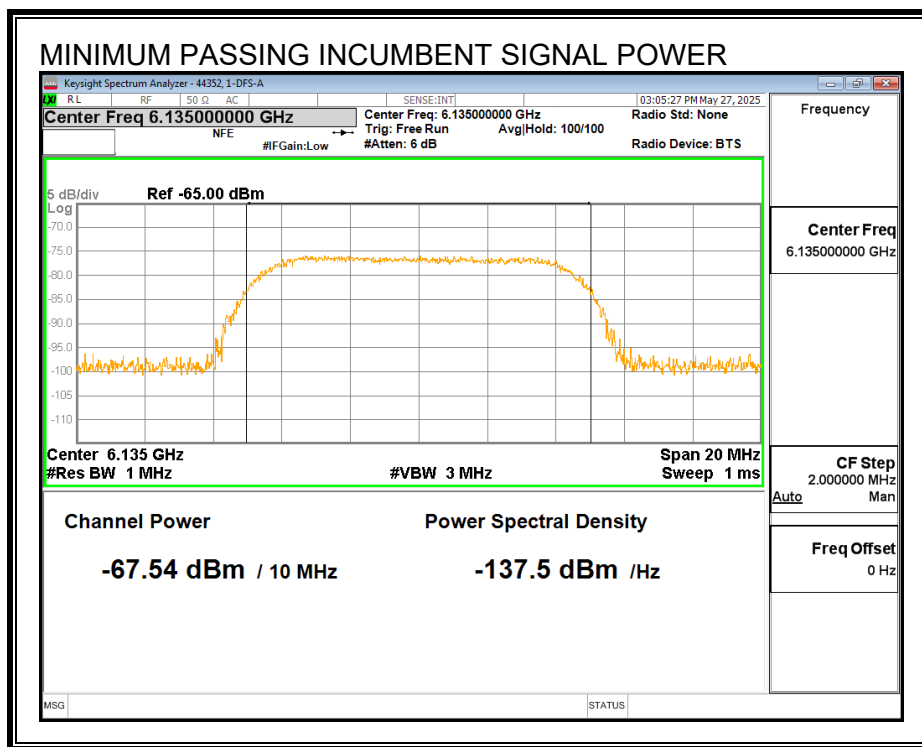
7.9.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

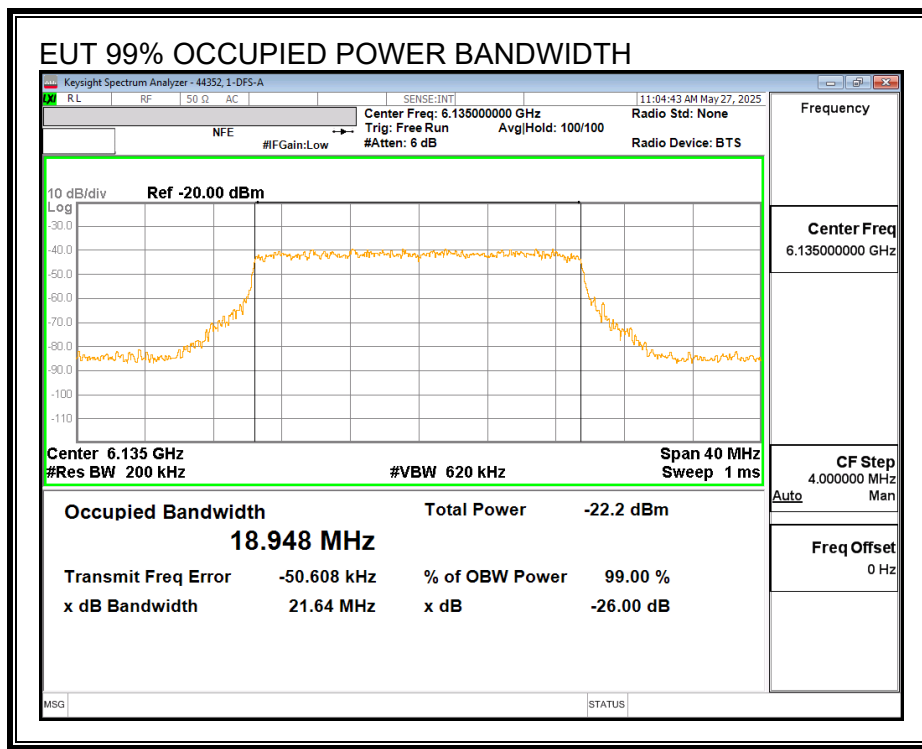


MINIMUM PASSING INCUMBENT SIGNAL POWER AT TEST FIXTURE



7.9.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH



EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

The screenshot displays a Keysight Spectrum Analyzer interface. The main plot area shows a spectrum with a noise floor around -40 dBm and several sharp vertical spikes representing signals. A green diamond marker labeled '1' is positioned at approximately 6.135 GHz and -30.64 dBm. The top status bar indicates the device is 'KeySight Spectrum Analyzer - 44352.1-DFS-A'. The right sidebar contains various controls and settings, including 'Auto Tune', 'Center Freq' (6.13500000 GHz), 'Start Freq' (6.13500000 GHz), 'Stop Freq' (6.13500000 GHz), 'CF Step' (1.000000 MHz), 'Freq Offset' (0 Hz), 'Scale Type' (Log), and 'Lin'. The bottom status bar shows 'Center 6.135000000 GHz', 'Res BW 1.0 MHz', '#VBW 3.0 MHz', 'Span 0 Hz', and 'Sweep 101.3 ms (40001 pts)'.

Keysight Spectrum Analyzer - 44352.1-DFS-A

RL RF 50 Ω AC SENSE:INT 11:05:31 AM May 27, 2025

NFE PNO: Wide IFGain:Low Trig: Free Run #Avg Type: RMS TRACE 1 2 3 4 5 6 TYPE W W W W W W W W DET P N N N N N

Frequency Auto Tune

Mkr1 65.22 ms -30.64 dBm

10 dB/div Log Ref -20.00 dBm

-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100
-110

Center Freq 6.13500000 GHz

Start Freq 6.13500000 GHz

Stop Freq 6.13500000 GHz

CF Step 1.000000 MHz Man Auto

Freq Offset 0 Hz

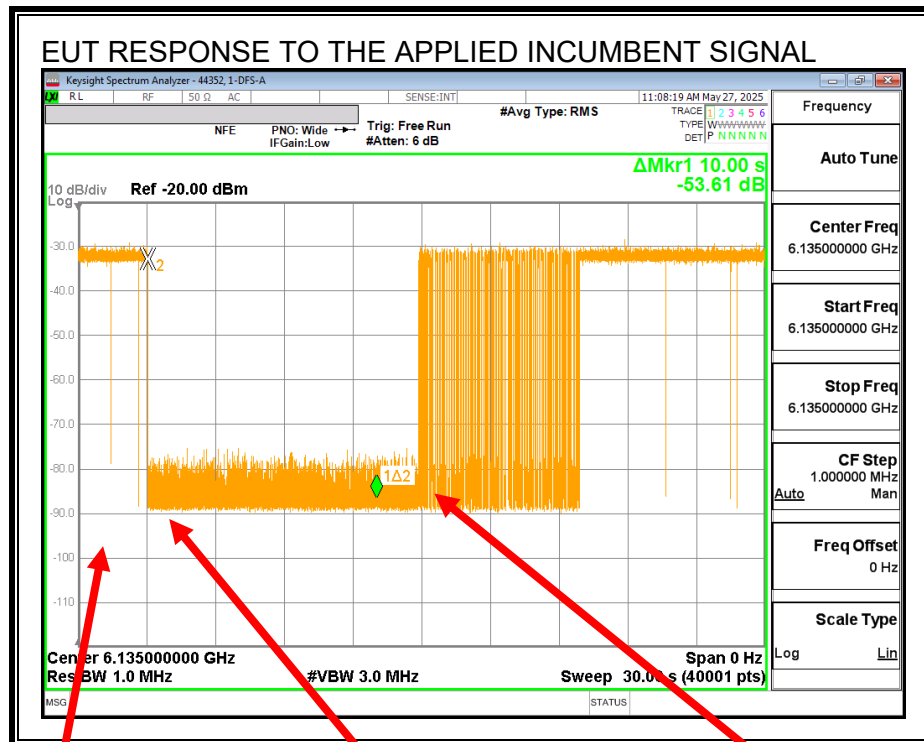
Scale Type Log Lin

Center 6.135000000 GHz Span 0 Hz
Res BW 1.0 MHz #VBW 3.0 MHz Sweep 101.3 ms (40001 pts)

MSG STATUS

EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease while the Incumbent AWGN Signal is present and resume after it is removed.

7.9.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6135
EUT Nominal Channel Bandwidth (MHz)	20
99% Occupied Bandwidth of the EUT (MHz)	18.948
EUT 99% OBW Lower Edge, F_L (MHz)	6125.53
EUT 99% OBW Upper Edge, F_H (MHz)	6144.47
Test Frequency of Incumbent Signal (MHz)	6135
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-3.10
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-65.10
Lowest Passing Measured Incumbent Signal Amplitude at Text Fixture(dBm)	-67.54
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-71.04
Margin (dBm)	-5.94
Result (PASS / FAIL)	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.9.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 2: $99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-67.54	3.5	-71.0	-3.10	-67.94	-62	Ceased
-68.08	3.5	-71.6	-3.10	-68.48	-62	Minimal
-75.37	3.5	-78.9	-3.10	-75.77	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

7.10. U-NII 5 BAND TEST CONDITION 3 RESULTS

TEST CONDITION 3 CRITERIA

$$2 \times 99\% BW_{INC} < 99\% BW_{EUT} \leq 4 \times 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.11. U-NII 5 BAND TEST CONDITION 4 RESULTS

TEST CONDITION 4 CRITERIA

$$99\% BW_{EUT} > 4 \times 99\% BW_{INC}$$

7.11.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6185 MHz and a nominal channel bandwidth of 160 MHz.

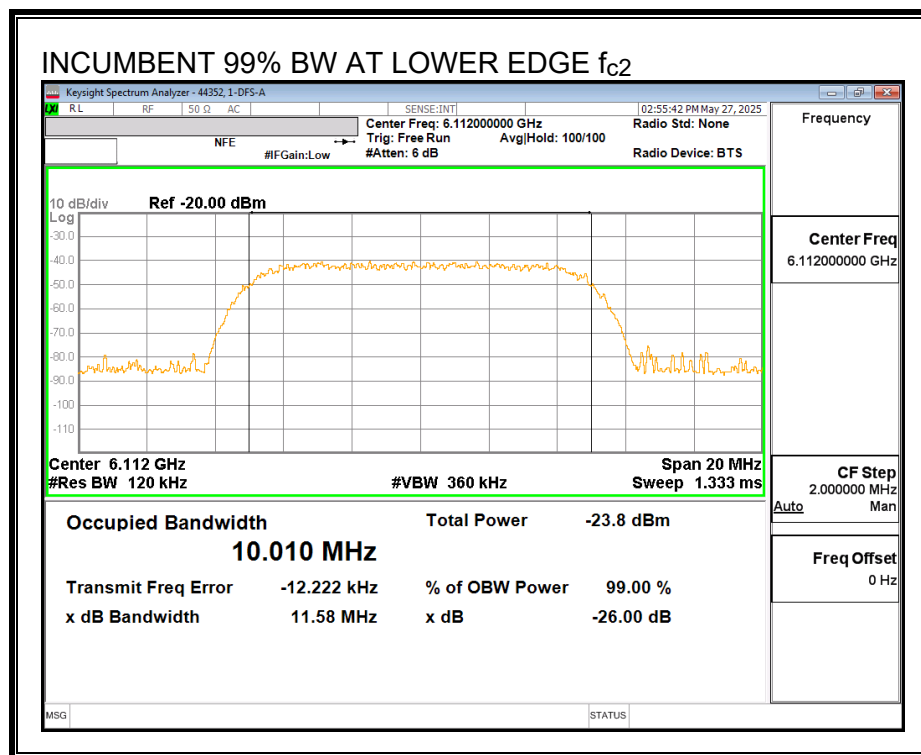
Only the lowest and highest supported channel bandwidths are required to be tested.

7.11.2. INCUMBENT SIGNAL PLOTS

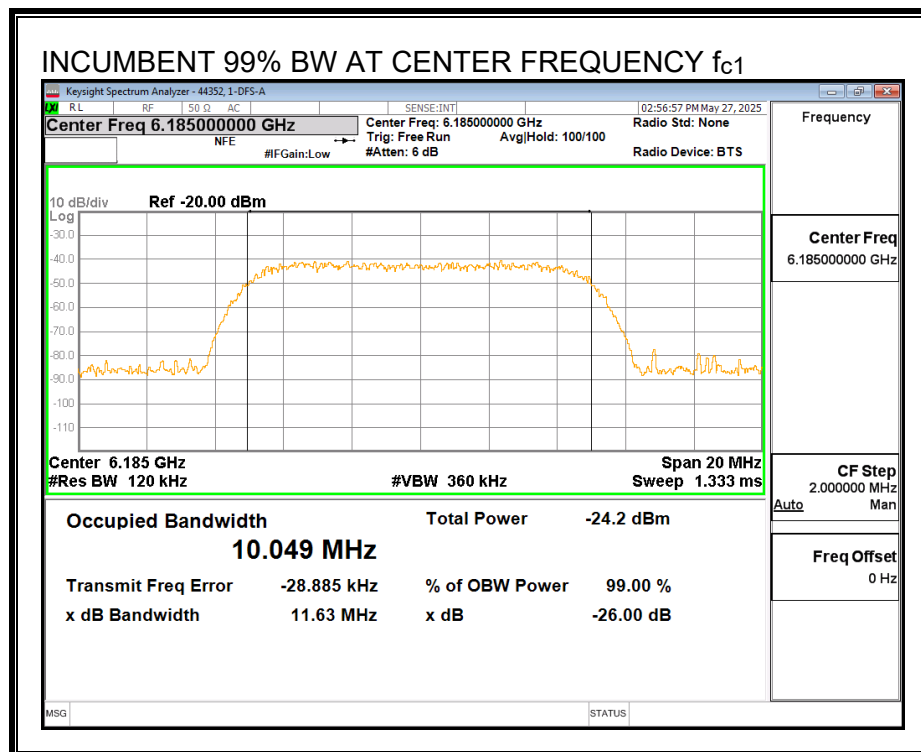
All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

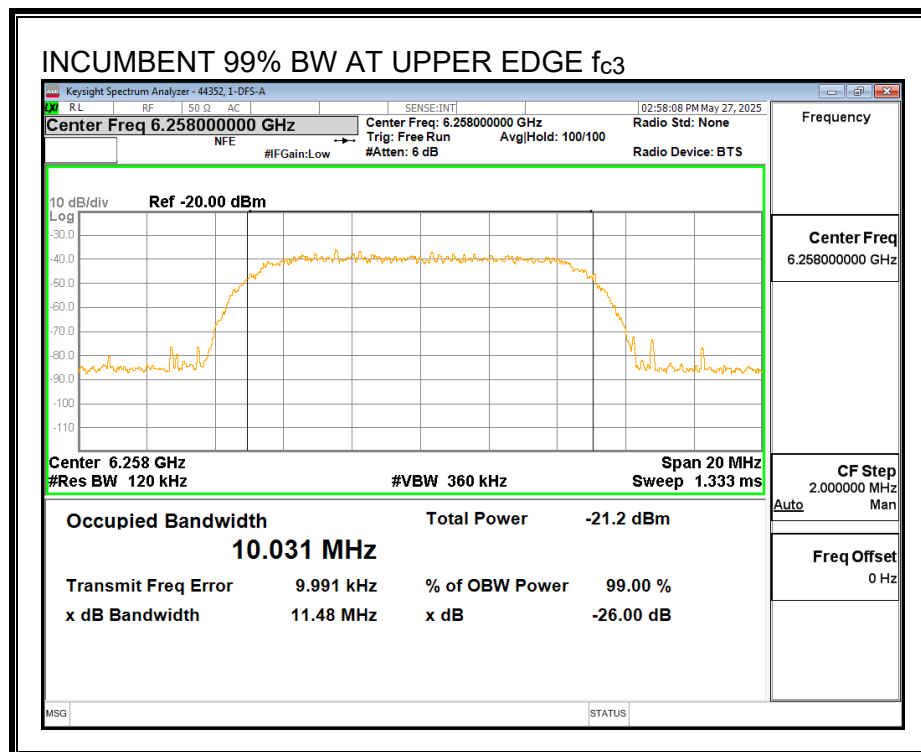
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

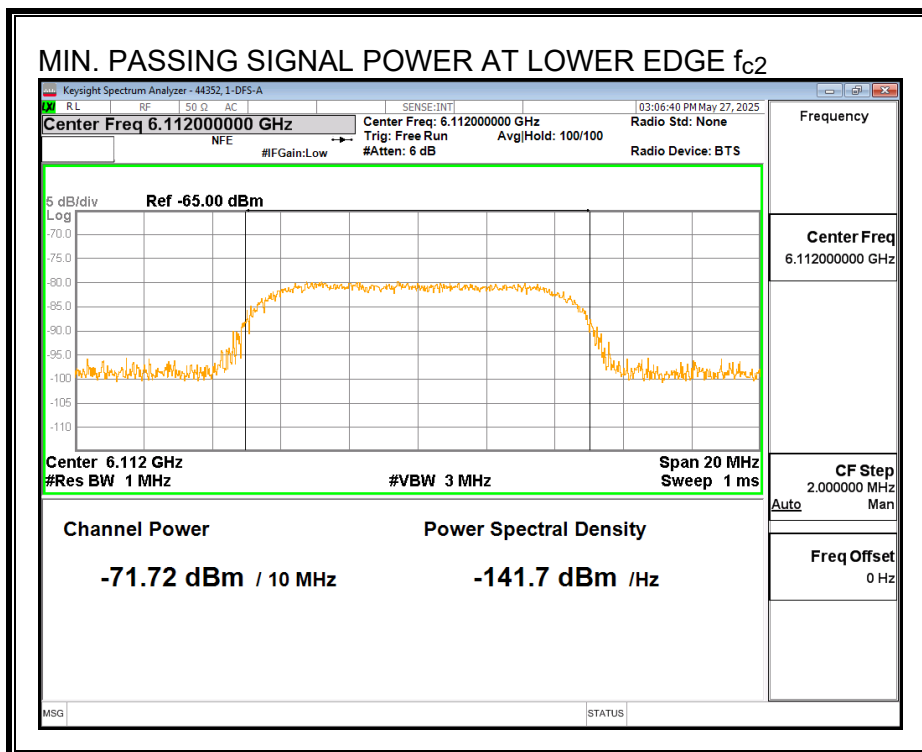


Upper Edge Incumbent Signal f_{c3} :

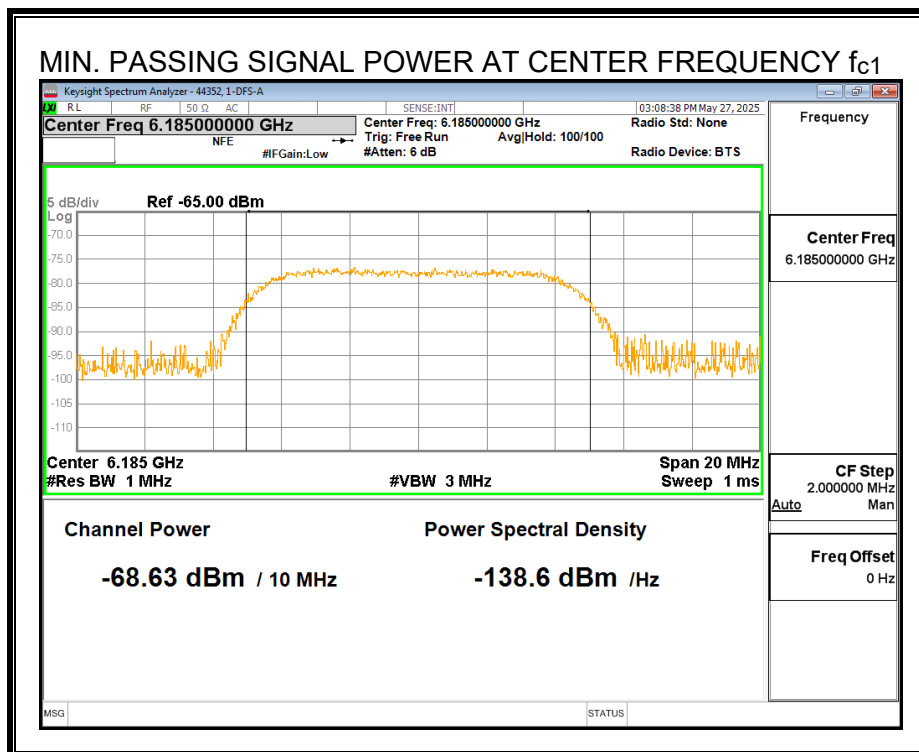


MINIMUM PASSING INCUMBENT SIGNAL POWER AT TEST FIXTURE

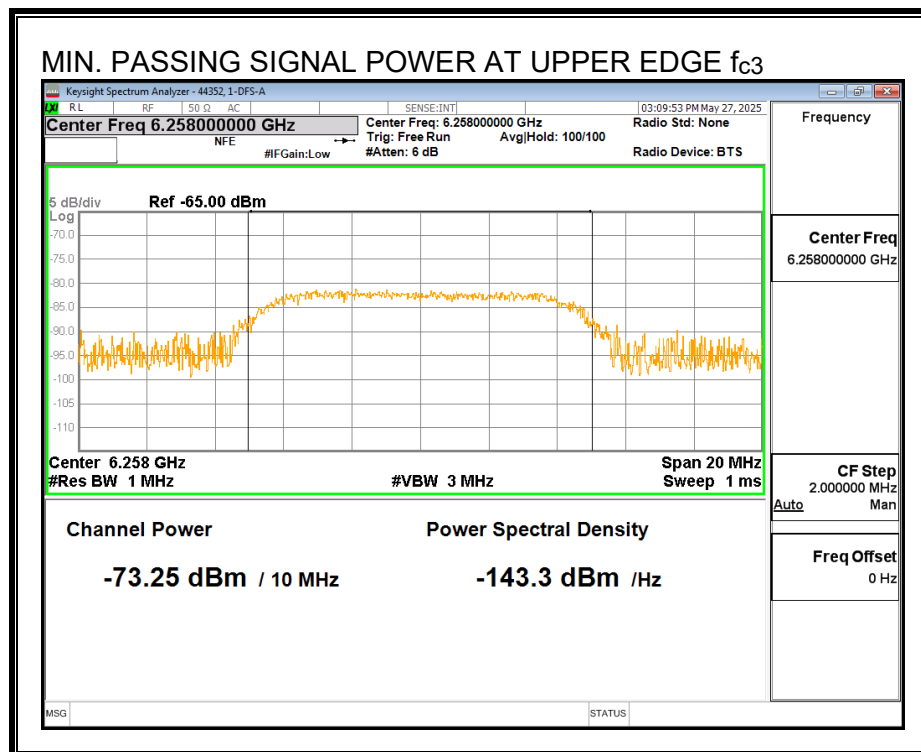
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

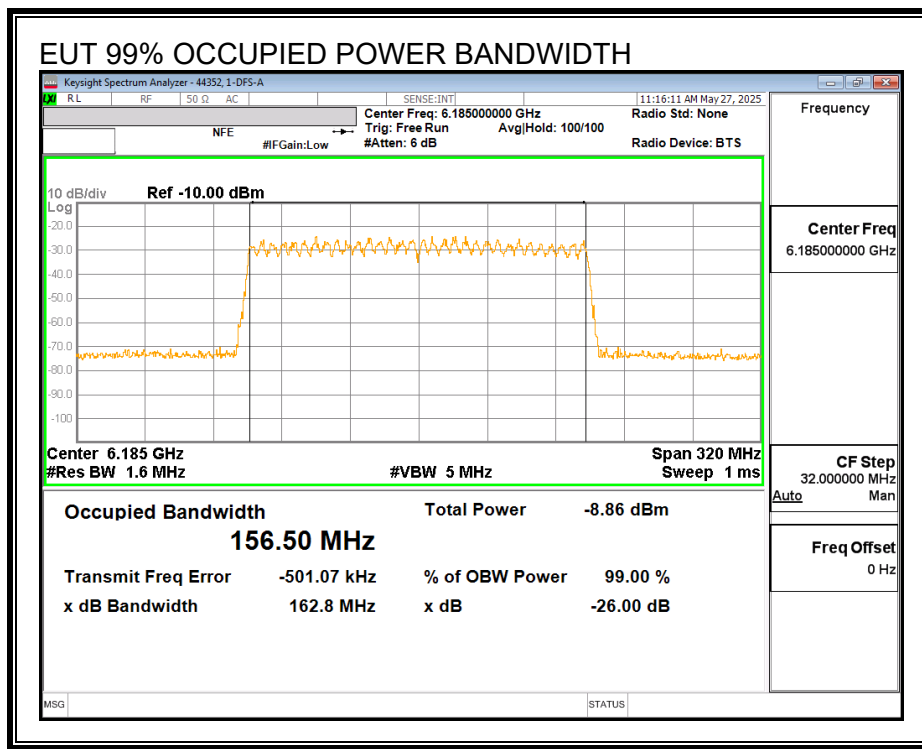


Upper Edge Incumbent Signal f_{c3} :



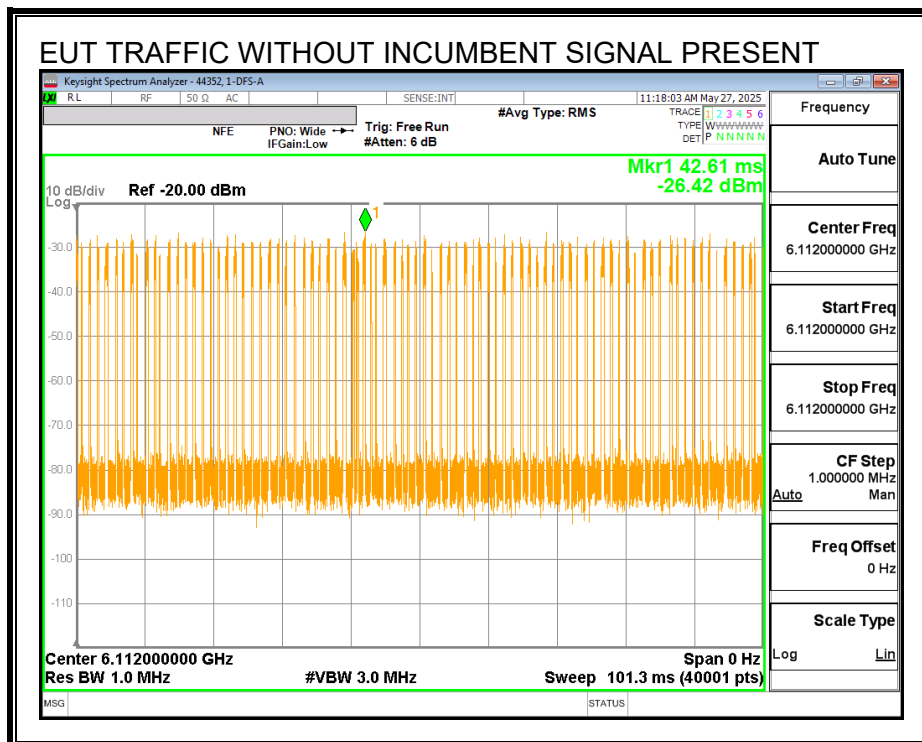
7.11.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH



TRAFFIC WITHOUT THE INCUMBENT SIGNAL PRESENT

Lower Edge f_{c2} :



EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

The screenshot displays a Keysight Spectrum Analyzer (44352, 1-DFS-A) with the following settings and data:

- Frequency:** 6.185000000 GHz
- Center Freq:** 6.185000000 GHz
- Start Freq:** 6.185000000 GHz
- Stop Freq:** 6.185000000 GHz
- CF Step:** 1.000000 MHz
- Freq Offset:** 0 Hz
- Scale Type:** Log
- Center:** 6.185000000 GHz
- Res BW:** 1.0 MHz
- #VBW:** 3.0 MHz
- Sweep:** 101.3 ms (40001 pts)
- Span:** 0 Hz
- Ref:** -20.00 dBm
- Log:** -34.49 dBm
- Msg:** Mkr1 86.66 ms

Msg	Time	Frequency	Power
Mkr1	86.66 ms	6.185000000 GHz	-34.49 dBm

EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

The screenshot displays a Keysight Spectrum Analyzer interface. The main plot shows a noisy spectrum with a peak at 50.97 MHz. The interface includes various control panels and a data table on the right.

Top Panel:

- Keysight Spectrum Analyzer - 44352.1-DFS-A
- RL RF 50 Ω AC
- SENSE:INT
- 11:19:01 AM May 27, 2025
- NFE PNO: Wide IF Gain: Low Trig: Free Run #Atten: 6 dB #Avg Type: RMS
- TRACE 1 2 3 4 5 6 TYPE W W W W W W W W DET P N N N N N N

Right Panel:

- Frequency
- Auto Tune
- Center Freq 6.258000000 GHz
- Start Freq 6.258000000 GHz
- Stop Freq 6.258000000 GHz
- CF Step 1.000000 MHz Man
- Auto
- Freq Offset 0 Hz
- Scale Type
- Log Lin

Main Plot:

- 10 dB/div Ref -20.00 dBm
- Mkr1 50.97 Ms -28.70 dBm
- 1

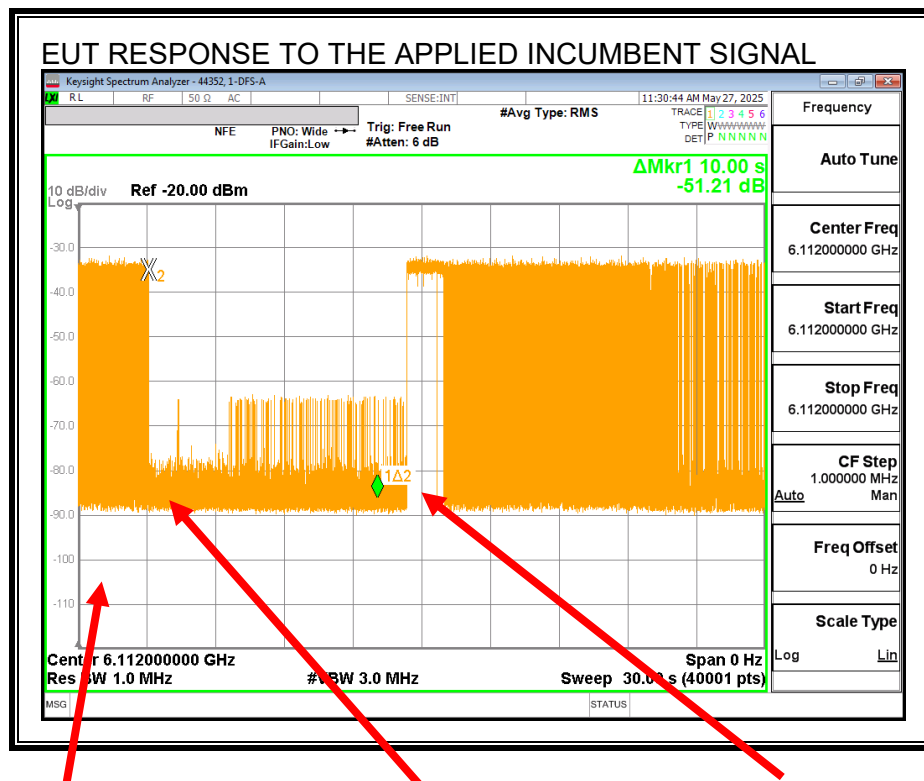
Bottom Panel:

- Center 6.258000000 GHz
- Res BW 1.0 MHz
- #VBW 3.0 MHz
- Span 0 Hz
- Sweep 101.3 ms (40001 pts)
- MSG STATUS

EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.

Lower Edge Incumbent Signal f_{c2} :



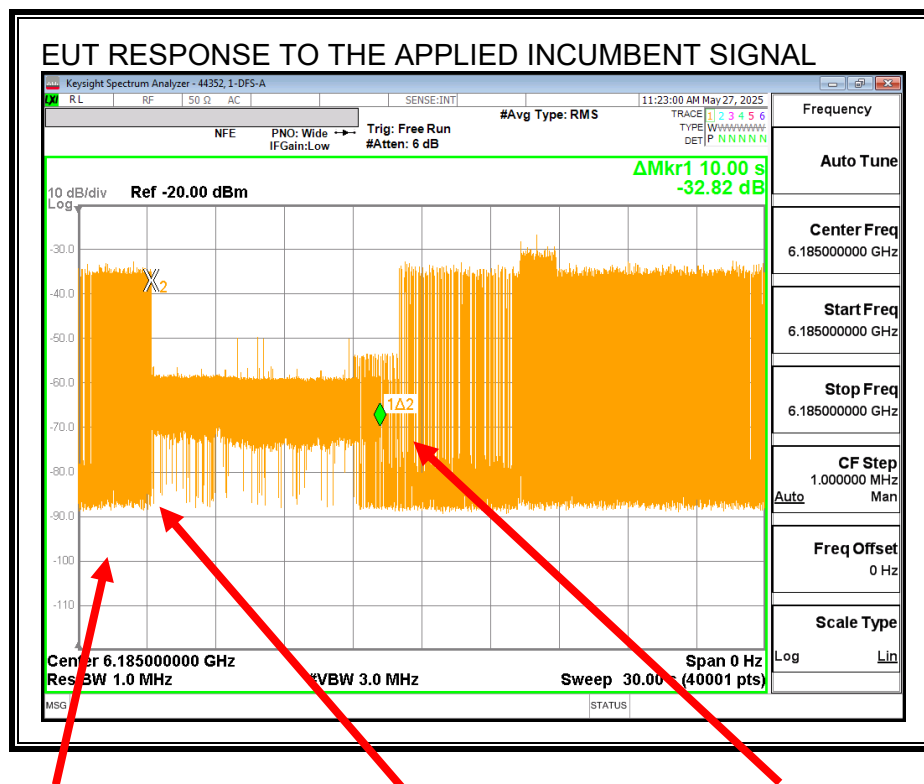
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 20 MHz and resume after it is removed.

Center Frequency Incumbent Signal f_{c1} :



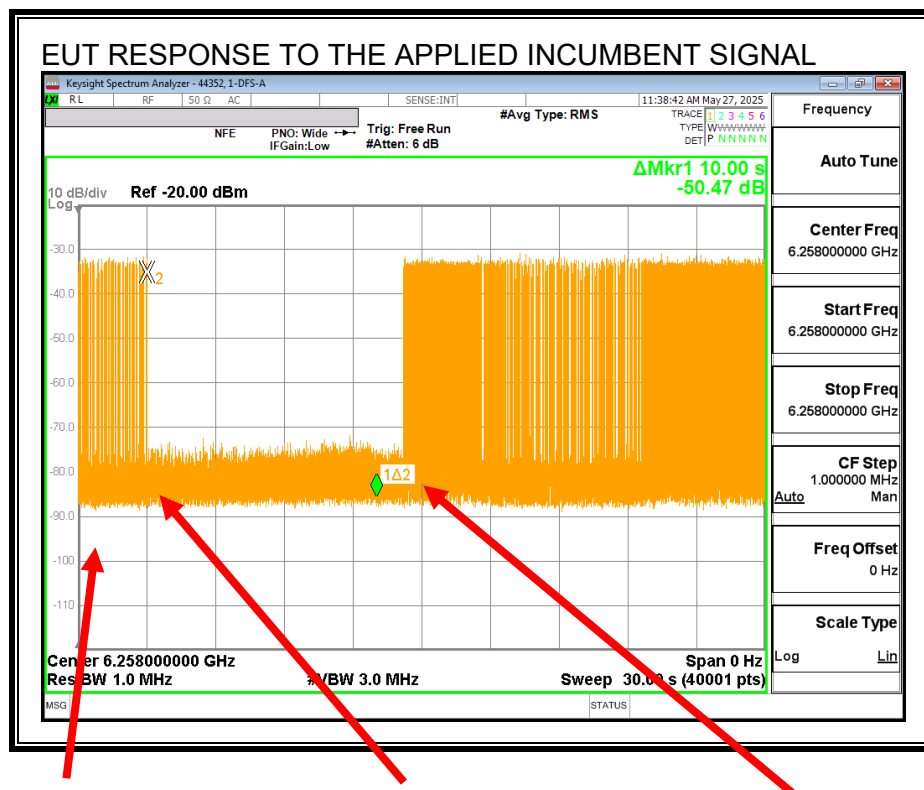
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 40 MHz and resume after it is removed.

Upper Edge Incumbent Signal f_{c3} :



Normal Traffic

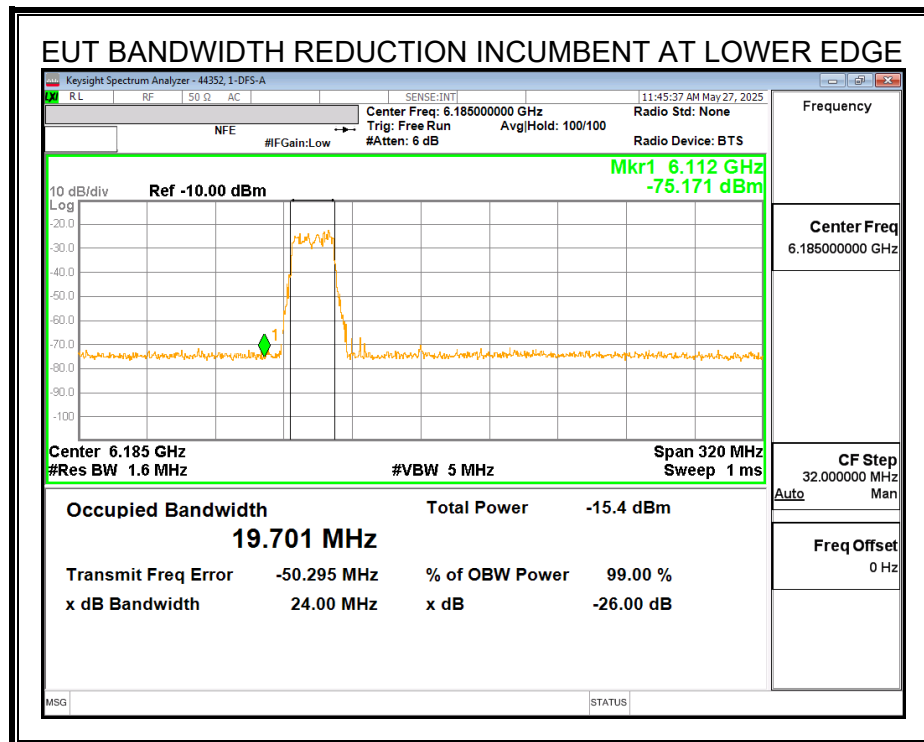
Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

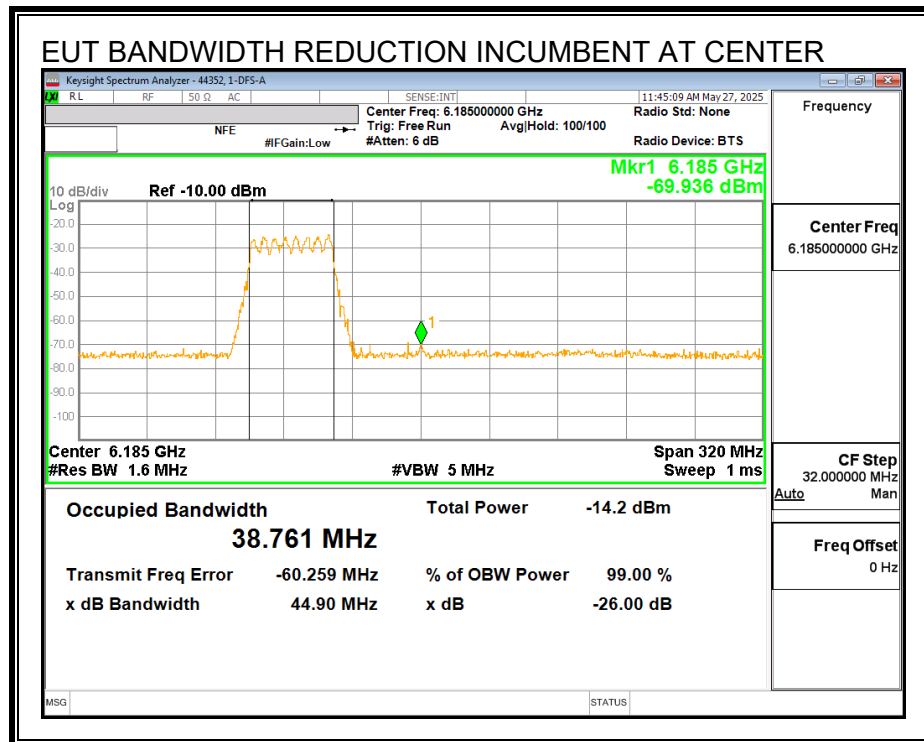
Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 80 MHz and resume after it is removed.

EUT BANDWIDTH REDUCTION

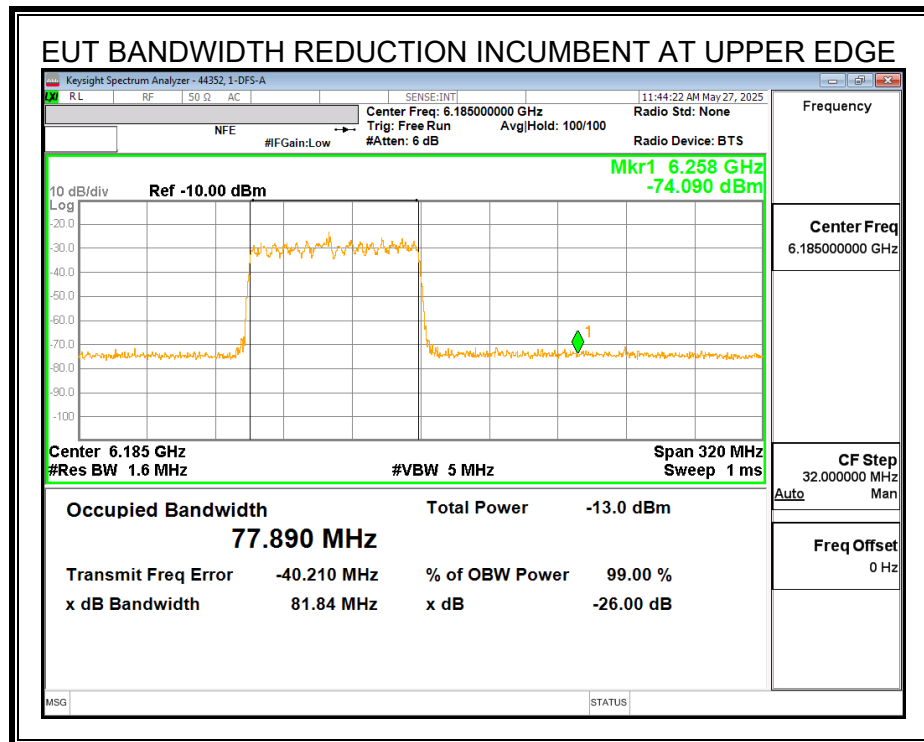
The EUT is allowed to continue operating at a reduced bandwidth in the presence of the Incumbent Signal, so long as the EUT transmissions do not overlap with the channel used by the Incumbent Signal.



With the Incumbent Signal set to the Lower Edge f_{c2} the EUT continues to operate at a reduced 20MHz nominal bandwidth.



With the Incumbent Signal set to the Center f_{c1} the EUT continues to operate at a reduced 40MHz nominal bandwidth.



With the Incumbent Signal set to the upper edge f_{c3} the EUT continues to operate at a reduced 80MHz nominal bandwidth.

7.11.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6185
EUT Nominal Channel Bandwidth (MHz)	160
99% Occupied Bandwidth of the EUT (MHz)	156.5
EUT 99% OBW Lower Edge, F_L (MHz)	6106.75
EUT 99% OBW Upper Edge, F_H (MHz)	6263.25
99% Occupied Bandwidth of the Incumbent Signal (MHz)	10.049
Test Frequency of Incumbent Signal (f_{c2}) Near EUT F_L (MHz)	6112
Test Frequency of Incumbent Signal at f_{c1} (MHz)	6185
Test Frequency of Incumbent Signal (f_{c3}) Near EUT F_H (MHz)	6258
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-3.10
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-65.10
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} at test fixture (dBm)	-71.72
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} (dBm)	-75.22
Margin (dBm)	-10.12
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} at test fixture (dBm)	-68.63
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} (dBm)	-72.13
Margin (dBm)	-7.03
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} at test fixture (dBm)	-73.25
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} (dBm)	-76.75
Margin (dBm)	-11.65
Result (PASS / FAIL)	PASS

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

Trial	AWGN Detected (Yes / No)		
	Incumbent AWGN at f_{c2}	Incumbent AWGN at f_{c1}	Incumbent AWGN at f_{c3}
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
Test Result	PASS	PASS	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.11.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 4: 99% BW_{EUT} > 4 x 99% BW_{INC}

Incumbent AWGN at f_{c2}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-71.72	3.5	-75.22	-3.10	-72.12	-62	Ceased
-72.8	3.5	-76.3	-3.10	-73.2	-62	Minimal
-77.15	3.5	-80.65	-3.10	-77.55	-62	Normal

Incumbent AWGN at f_{c1}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-68.63	3.5	-72.13	-3.10	-69.03	-62	Ceased
-69.57	3.5	-73.07	-3.10	-69.97	-62	Minimal
-72.5	3.5	-76	-3.10	-72.9	-62	Normal

Incumbent AWGN at f_{c3}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-73.25	3.5	-76.75	-3.10	-73.65	-62	Ceased
-74.19	3.5	-77.69	-3.10	-74.59	-62	Minimal
-76.06	3.5	-79.56	-3.10	-76.46	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

7.12. U-NII 6 BAND TEST CONDITION 1 RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.13. U-NII 6 BAND TEST CONDITION 2 RESULTS

TEST CONDITION 2 CRITERIA

$$99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$$

7.13.1. TEST CHANNEL

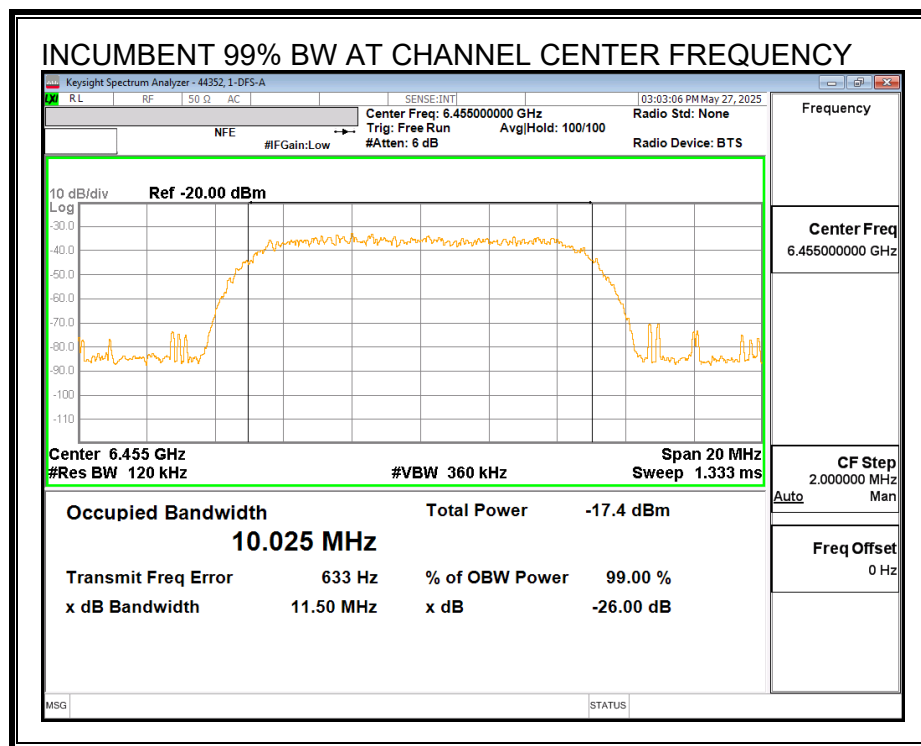
All tests were performed with the EUT set to a channel center frequency of 6455 MHz and a nominal channel bandwidth of 20 MHz.

Only the lowest and highest supported channel bandwidths are required to be tested.

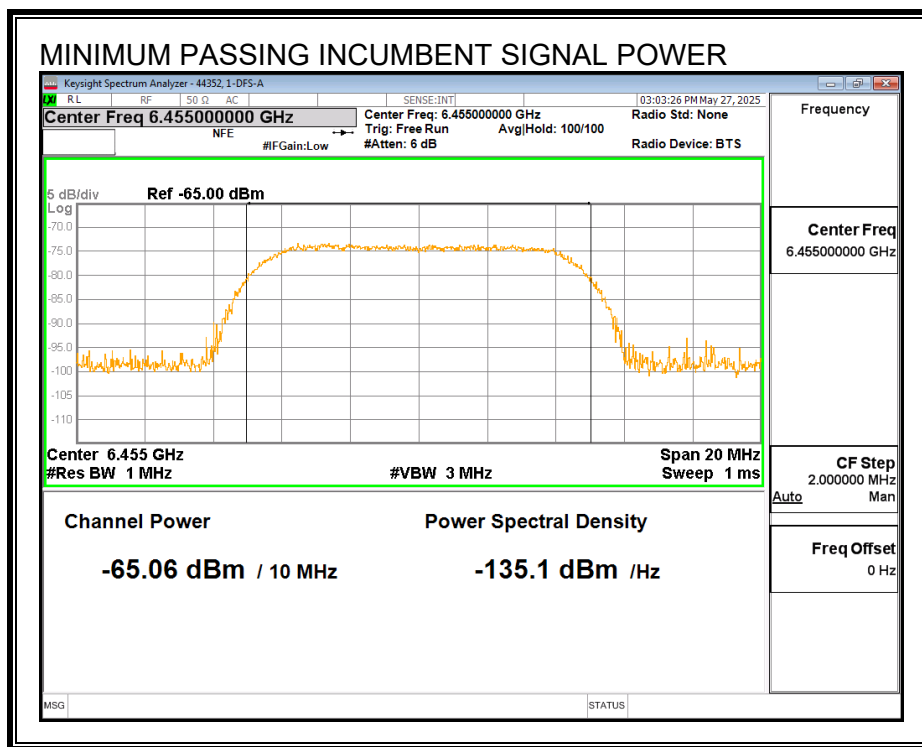
7.13.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

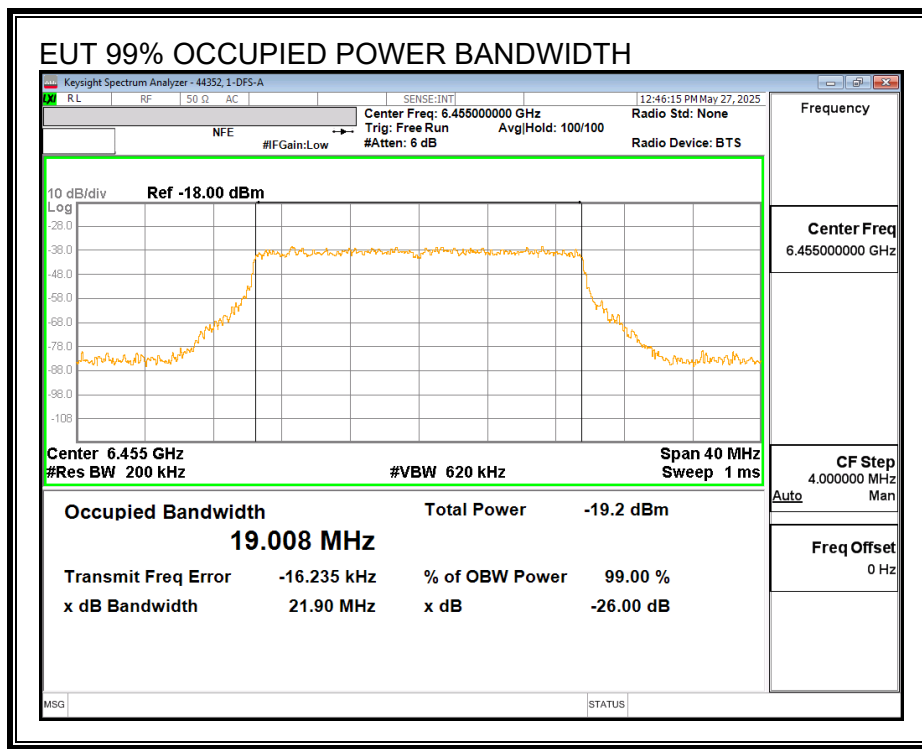


MINIMUM PASSING INCUMBENT SIGNAL POWER



7.13.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH



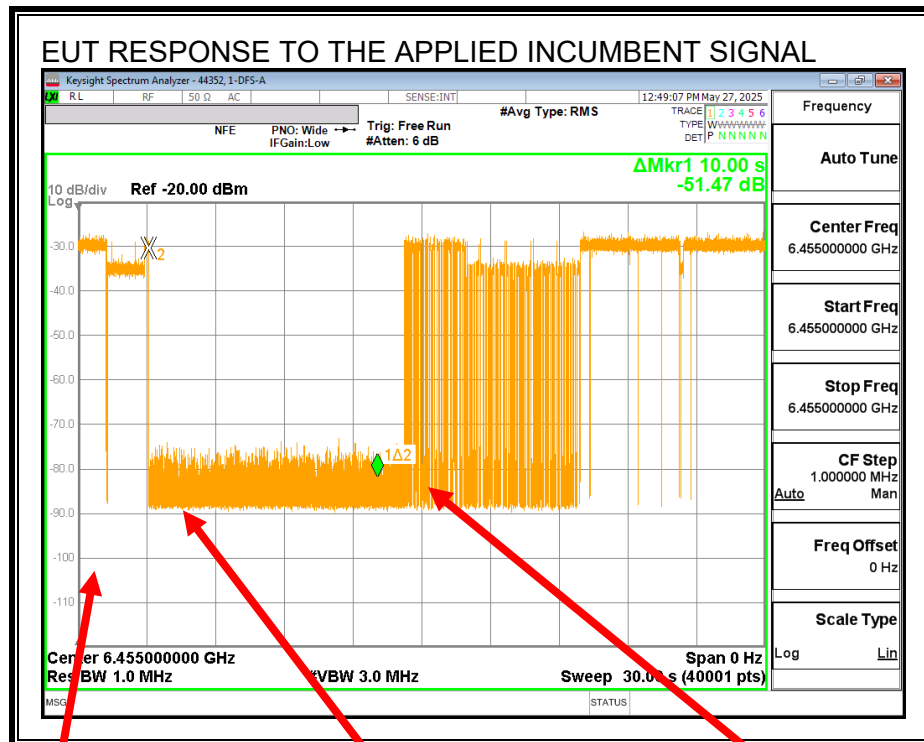
EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

The screenshot displays a Keysight Spectrum Analyzer interface. The main plot area shows a noisy baseline at -20.00 dBm. A marker is placed at 15.58 MHz, indicating a signal level of -27.43 dBm. The frequency range is set from 6.45500000 GHz to 6.45600000 GHz. The resolution bandwidth (RBW) is 3.0 MHz, and the sweep time is 101.3 ms. The center frequency is 6.45500000 GHz. The display is in Log mode, and the scale type is Lin. The interface includes various control buttons and status indicators.

Parameter	Value
Center Freq	6.45500000 GHz
Start Freq	6.45500000 GHz
Stop Freq	6.45600000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz
Scale Type	Log

EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease while the Incumbent AWGN Signal is present and resume after it is removed

7.13.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6455
EUT Nominal Channel Bandwidth (MHz)	20
99% Occupied Bandwidth of the EUT (MHz)	19.008
EUT 99% OBW Lower Edge, F_L (MHz)	6445.50
EUT 99% OBW Upper Edge, F_H (MHz)	6464.50
Test Frequency of Incumbent Signal (MHz)	6455
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-2.00
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-64.00
Lowest Passing Measured Incumbent Signal Amplitude at Text Fixture (dBm)	-65.06
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-68.56
Margin (dBm)	-4.56
Result (PASS / FAIL)	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.13.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 2: $99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-65.06	3.5	-68.6	-2.00	-66.56	-62	Ceased
-66.06	3.5	-69.6	-2.00	-67.56	-62	Minimal
-74.27	3.5	-77.8	-2.00	-75.77	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

7.14. U-NII 6 BAND TEST CONDITION 3 RESULTS

TEST CONDITION 3 CRITERIA

$$2 \times 99\% BW_{INC} < 99\% BW_{EUT} \leq 4 \times 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.15. U-NII 6 BAND TEST CONDITION 4 RESULTS

TEST CONDITION 4 CRITERIA

$$99\% BW_{EUT} > 4 \times 99\% BW_{INC}$$

7.15.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6505 MHz and a nominal channel bandwidth of 160 MHz.

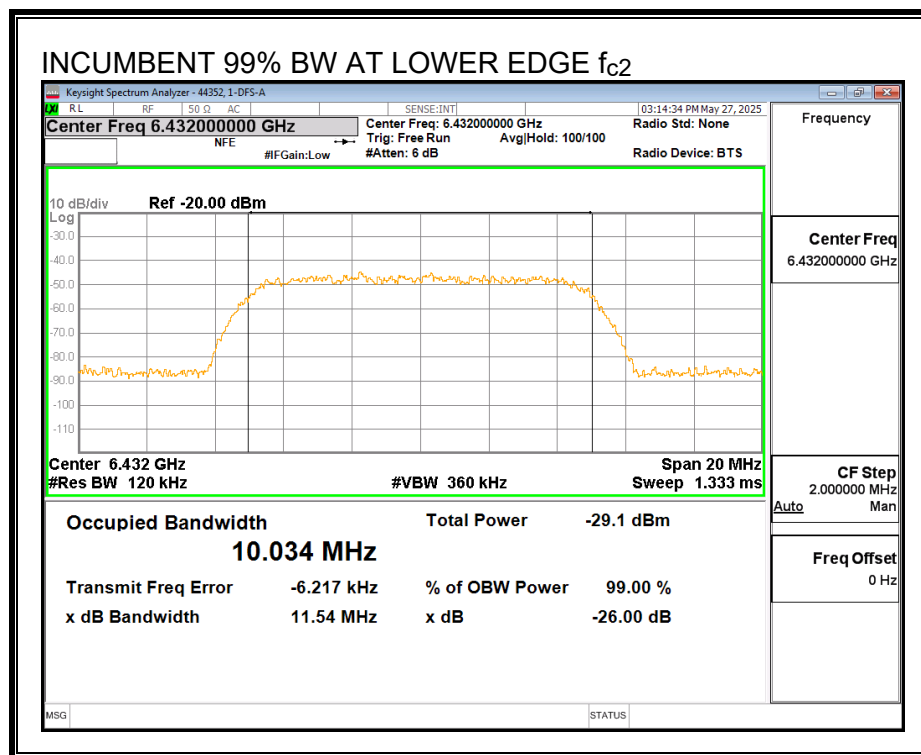
Only the lowest and highest supported channel bandwidths are required to be tested.

7.15.2. INCUMBENT SIGNAL PLOTS

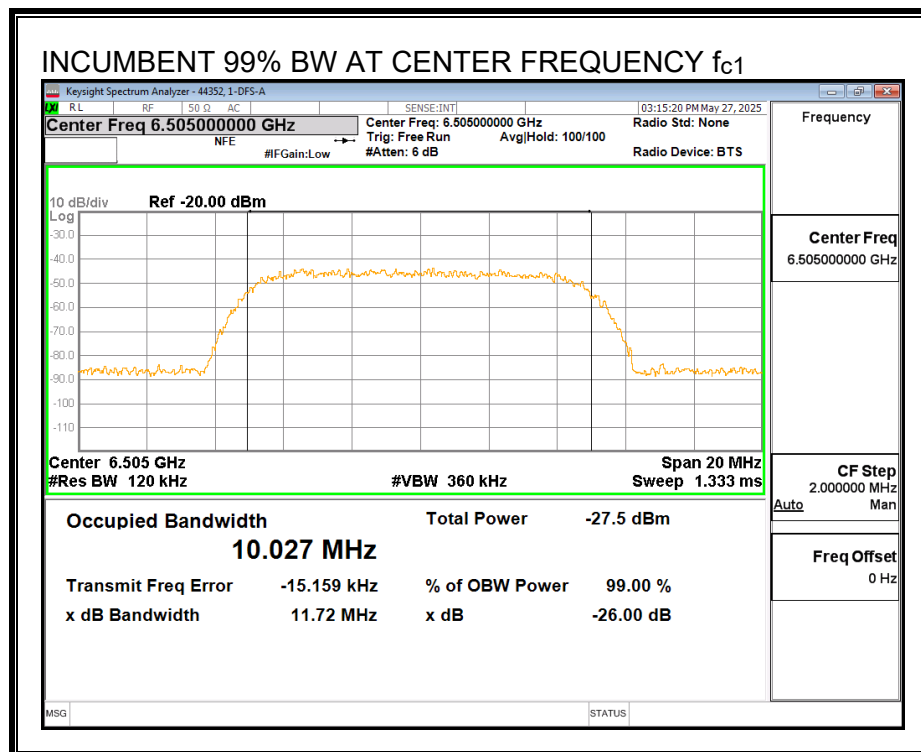
All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

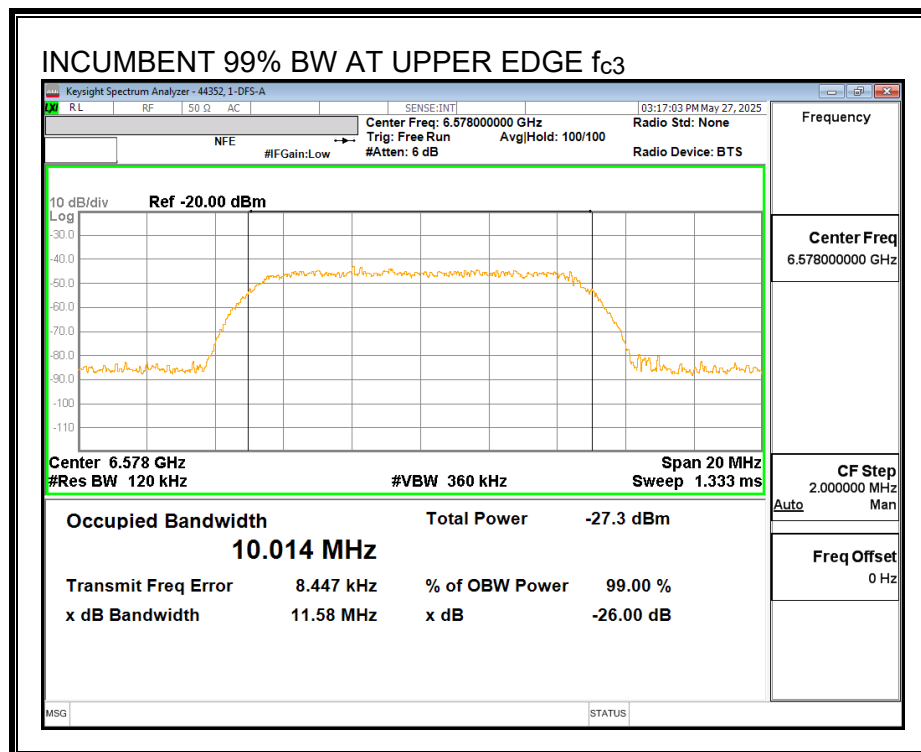
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

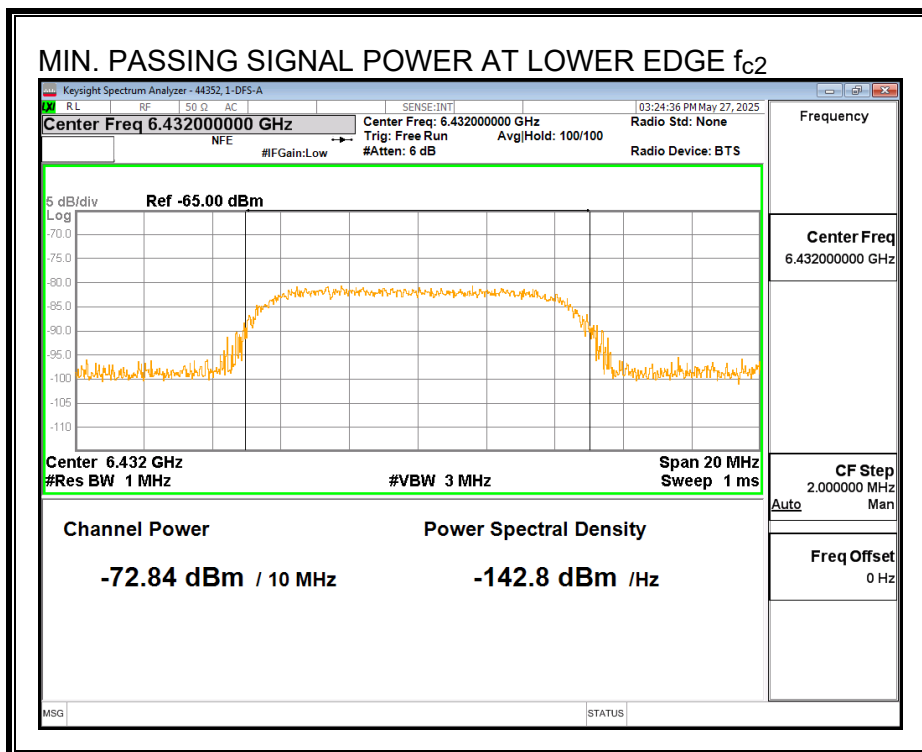


Upper Edge Incumbent Signal f_{c3} :

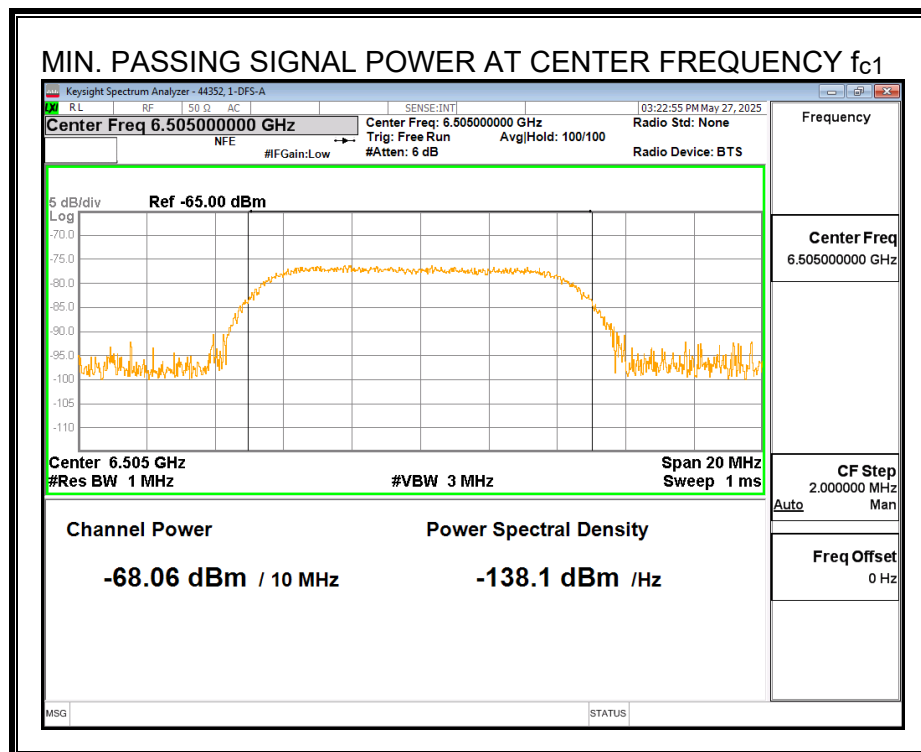


MINIMUM PASSING INCUMBENT SIGNAL POWER

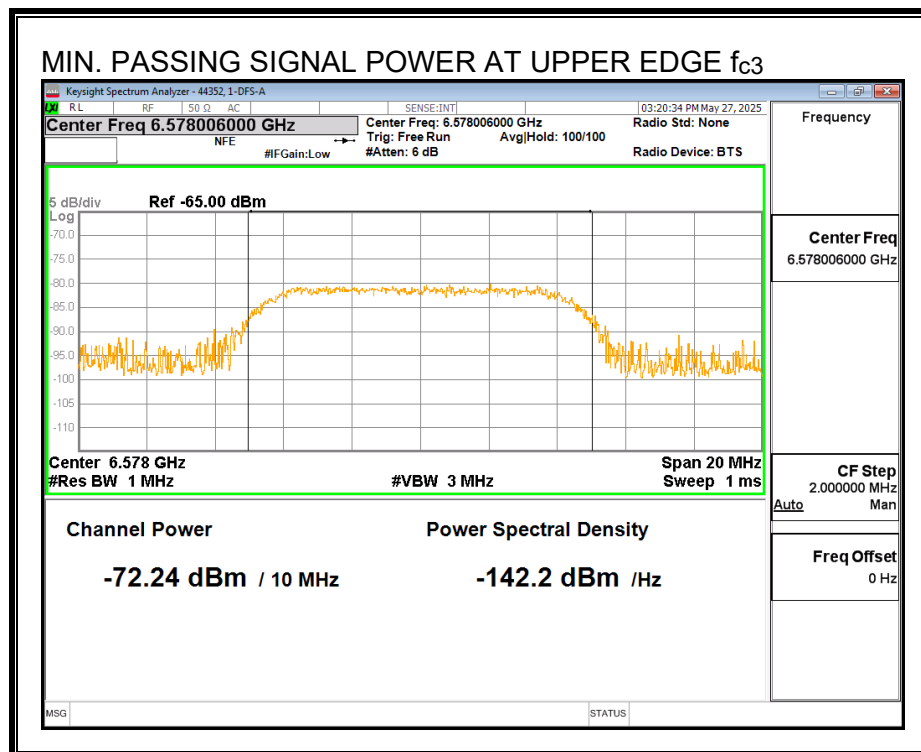
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

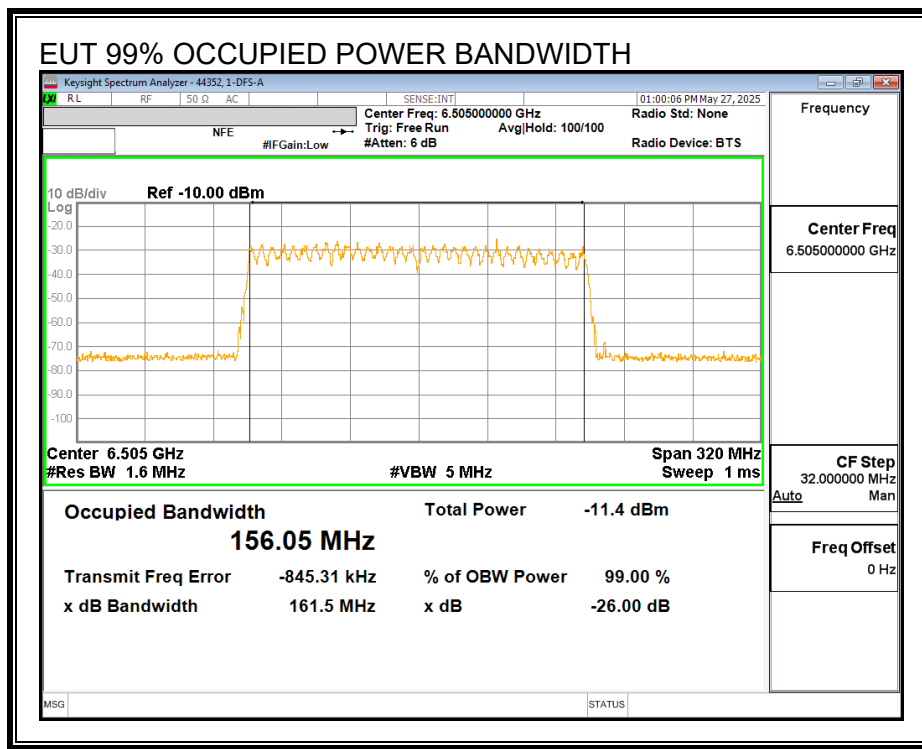


Upper Edge Incumbent Signal f_{c3} :



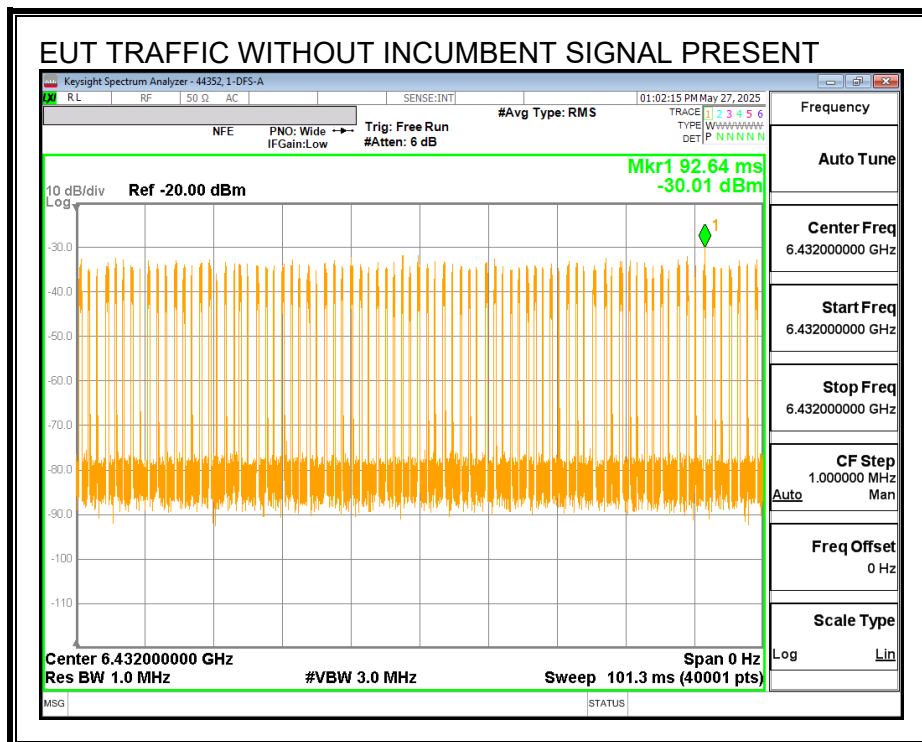
7.15.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH

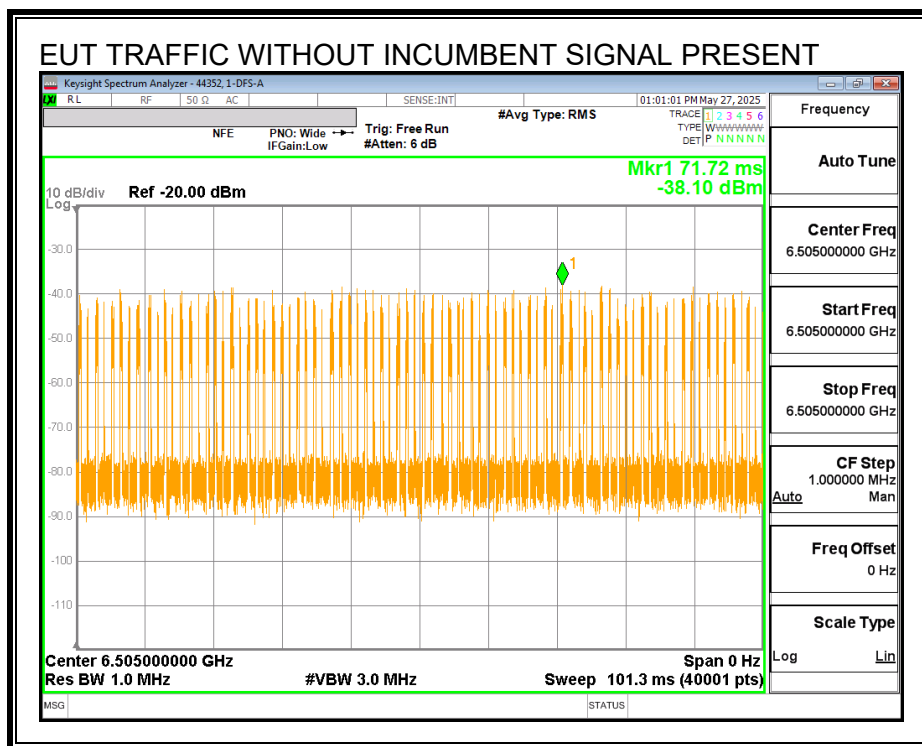


TRAFFIC WITHOUT THE INCUMBENT SIGNAL PRESENT

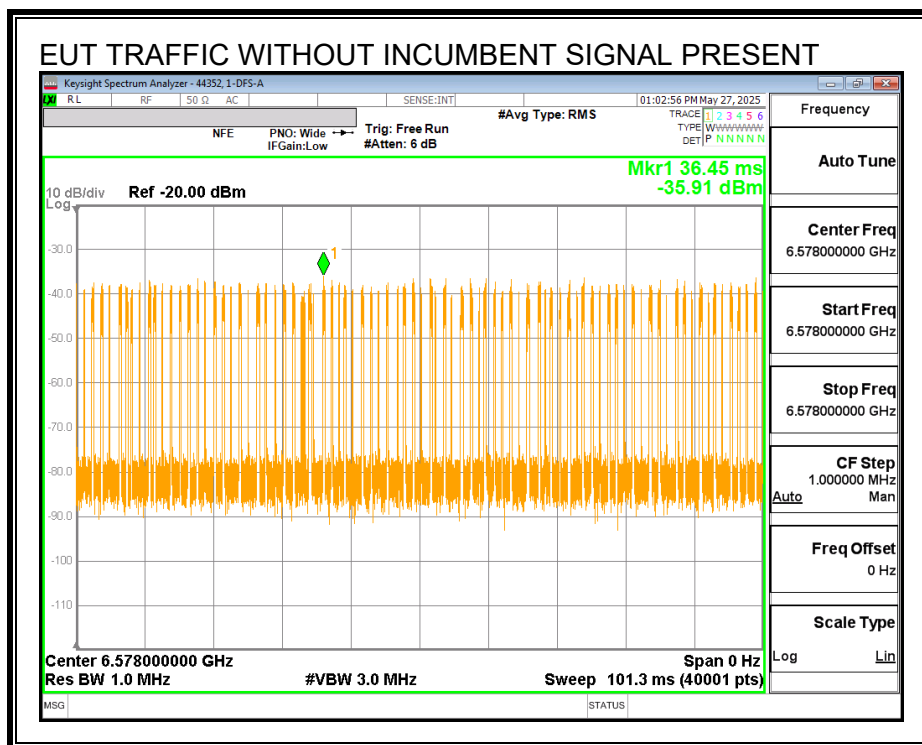
Lower Edge f_{c2} :



Center Frequency f_{c1} :



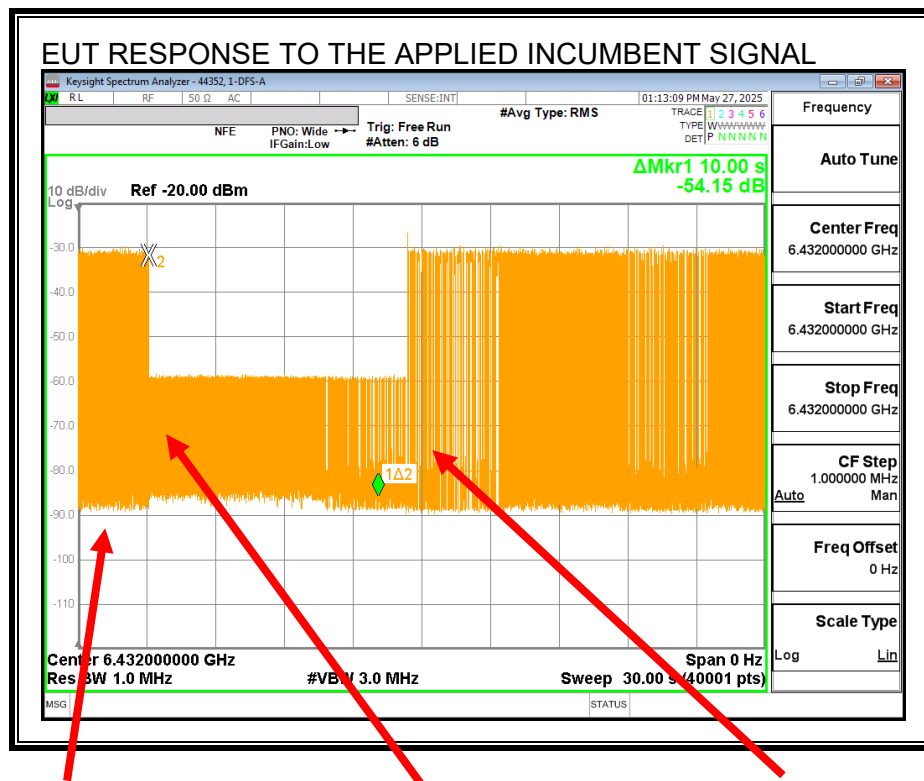
Upper Edge f_{c3} :



EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.

Lower Edge Incumbent Signal f_{c2} :



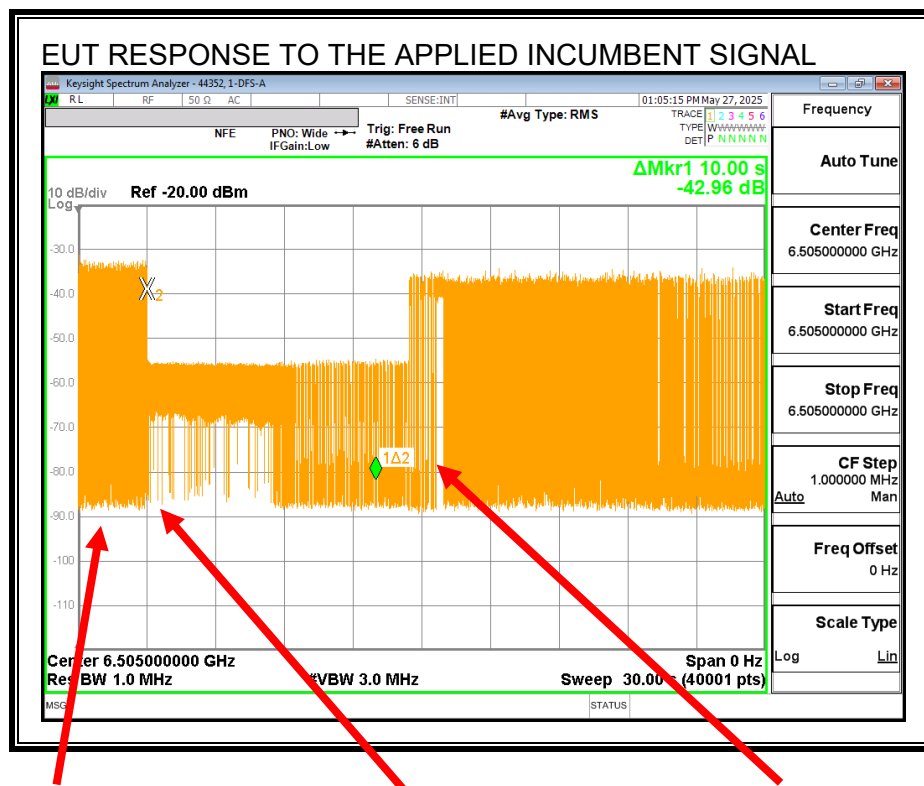
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 20 MHz on an adjacent channel and resume after it is removed.

Center Frequency Incumbent Signal f_{c1} :



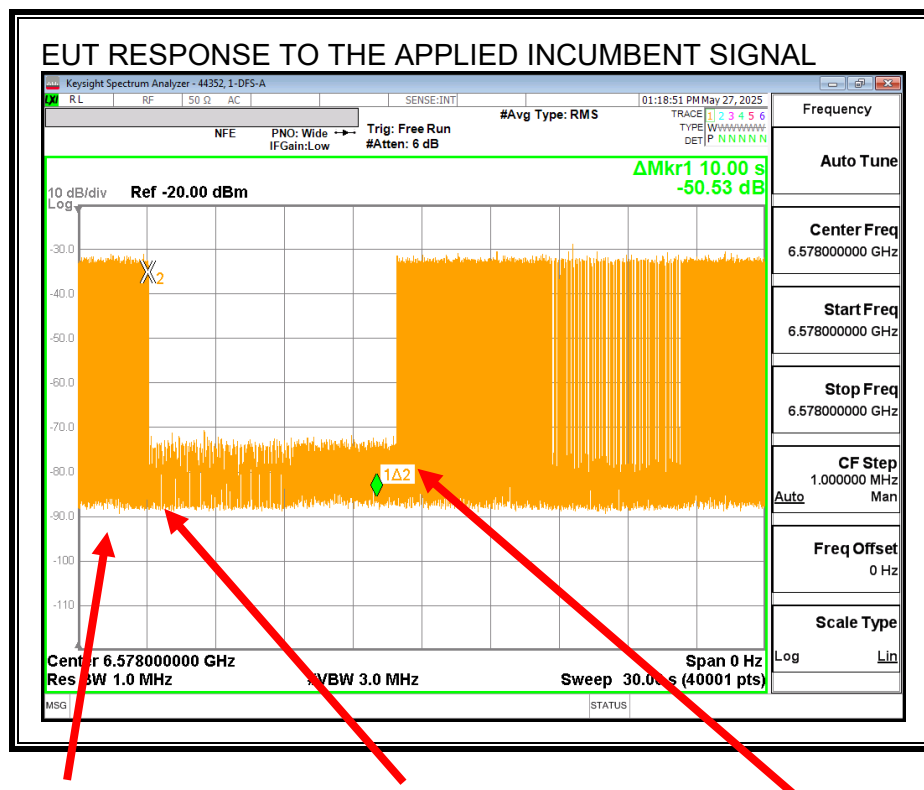
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 40 MHz on an adjacent channel and resume after it is removed.

Upper Edge Incumbent Signal f_{c3} :



Normal Traffic

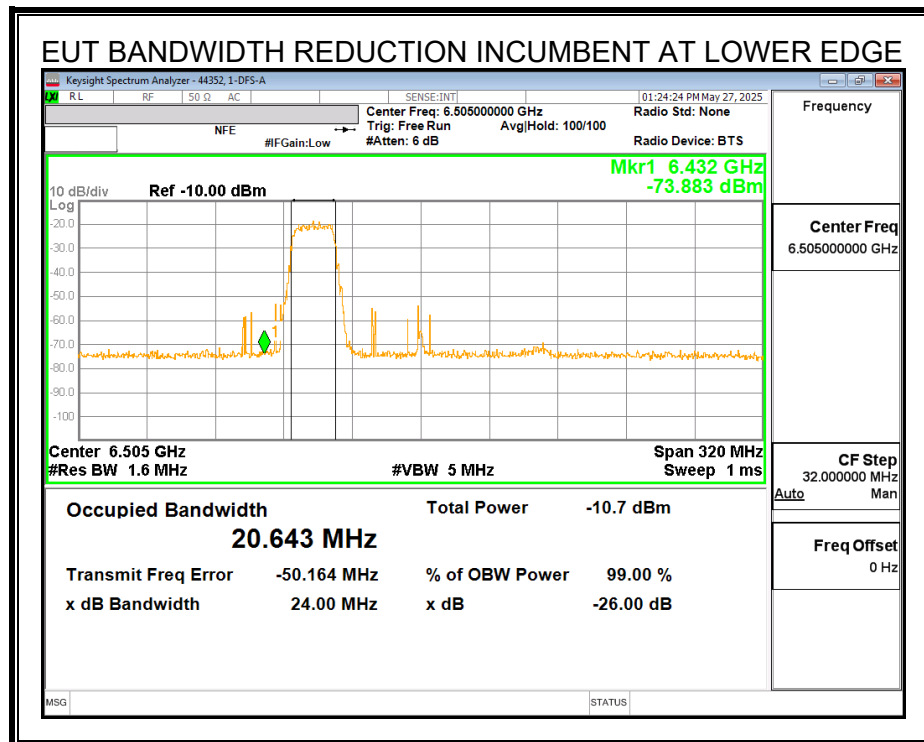
Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

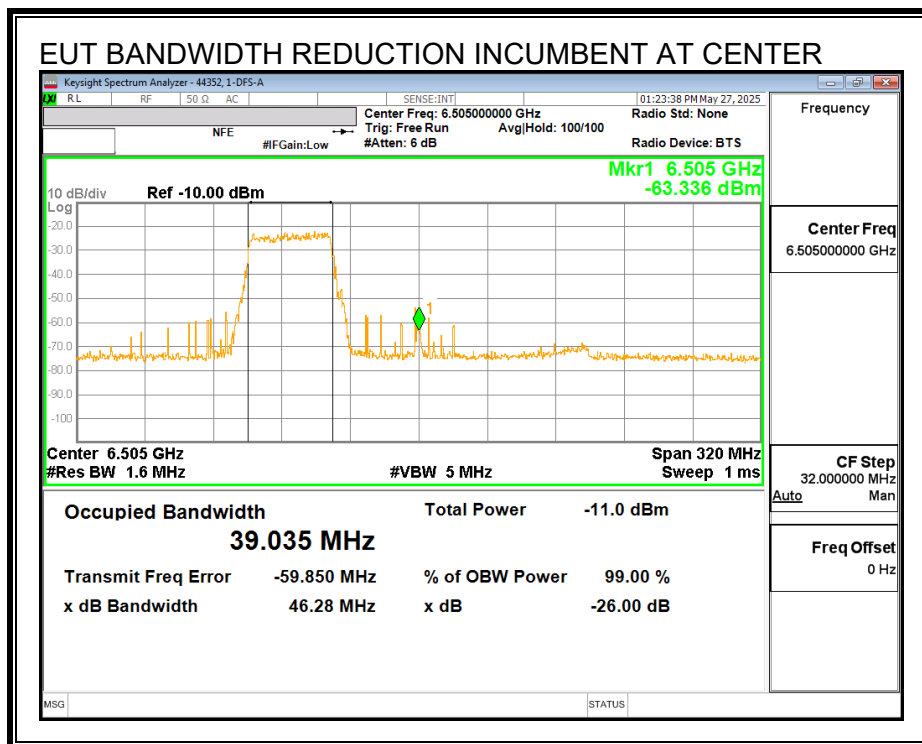
Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 80 MHz on an adjacent and resume after it is removed.

EUT BANDWIDTH REDUCTION

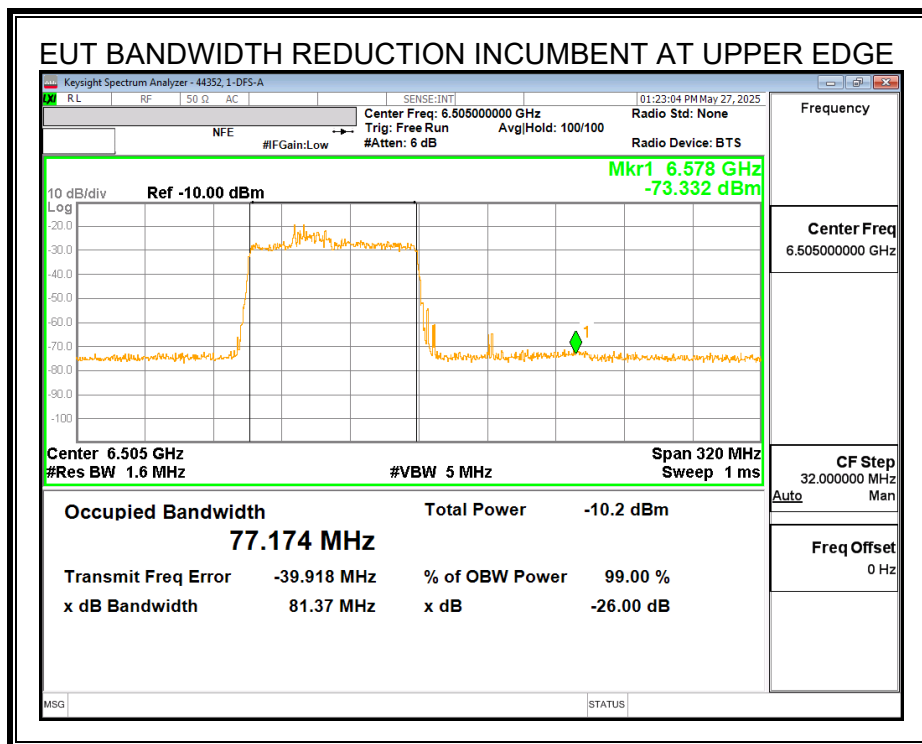
The EUT is allowed to continue operating at a reduced bandwidth in the presence of the Incumbent Signal, so long as the EUT transmissions do not overlap with the channel used by the Incumbent Signal.



With the Incumbent Signal set to the Lower Edge f_{c2} the EUT continues to operate at a reduced 20MHz nominal bandwidth.



With the Incumbent Signal set to the Center f_{c1} the EUT continues to operate at a reduced 40MHz nominal bandwidth.



With the Incumbent Signal set to the upper edge f_{c3} the EUT continues to operate at a reduced 80MHz nominal bandwidth.

7.15.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6505
EUT Nominal Channel Bandwidth (MHz)	160
99% Occupied Bandwidth of the EUT (MHz)	156.05
EUT 99% OBW Lower Edge, F_L (MHz)	6426.98
EUT 99% OBW Upper Edge, F_H (MHz)	6583.03
99% Occupied Bandwidth of the Incumbent Signal (MHz)	10.014
Test Frequency of Incumbent Signal (f_{c2}) Near EUT F_L (MHz)	6432
Test Frequency of Incumbent Signal at f_{c1} (MHz)	6505
Test Frequency of Incumbent Signal (f_{c3}) Near EUT F_H (MHz)	6578
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-2.00
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-64.00
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} at test fixture (dBm)	-72.84
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} (dBm)	-76.34
Margin (dBm)	-12.34
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} at test fixture (dBm)	-68.06
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} (dBm)	-71.56
Margin (dBm)	-7.56
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} at test fixture (dBm)	-72.24
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} (dBm)	-75.74
Margin (dBm)	-11.74
Result (PASS / FAIL)	PASS

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

Trial	AWGN Detected (Yes / No)		
	Incumbent AWGN at f_{c2}	Incumbent AWGN at f_{c1}	Incumbent AWGN at f_{c3}
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
Test Result	PASS	PASS	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.15.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 4: 99% BW_{EUT} > 4 x 99% BW_{INC}

Incumbent AWGN at f_{c2}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-72.84	3.5	-76.34	-2.00	-74.34	-62	Ceased
-73.81	3.5	-77.31	-2.00	-75.31	-62	Minimal
-76.12	3.5	-79.62	-2.00	-77.62	-62	Normal

Incumbent AWGN at f_{c1}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-68.06	3.5	-71.56	-2.00	-69.56	-62	Ceased
-68.98	3.5	-72.48	-2.00	-70.48	-62	Minimal
-71.55	3.5	-75.05	-2.00	-73.05	-62	Normal

Incumbent AWGN at f_{c3}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-72.24	3.5	-75.74	-2.00	-73.74	-62	Ceased
-73.3	3.5	-76.8	-2.00	-74.8	-62	Minimal
-75.18	3.5	-78.68	-2.00	-76.68	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

7.16. U-NII 7 BAND TEST CONDITION 1 RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.17. U-NII 7 BAND TEST CONDITION 2 RESULTS

TEST CONDITION 2 CRITERIA

$$99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$$

7.17.1. TEST CHANNEL

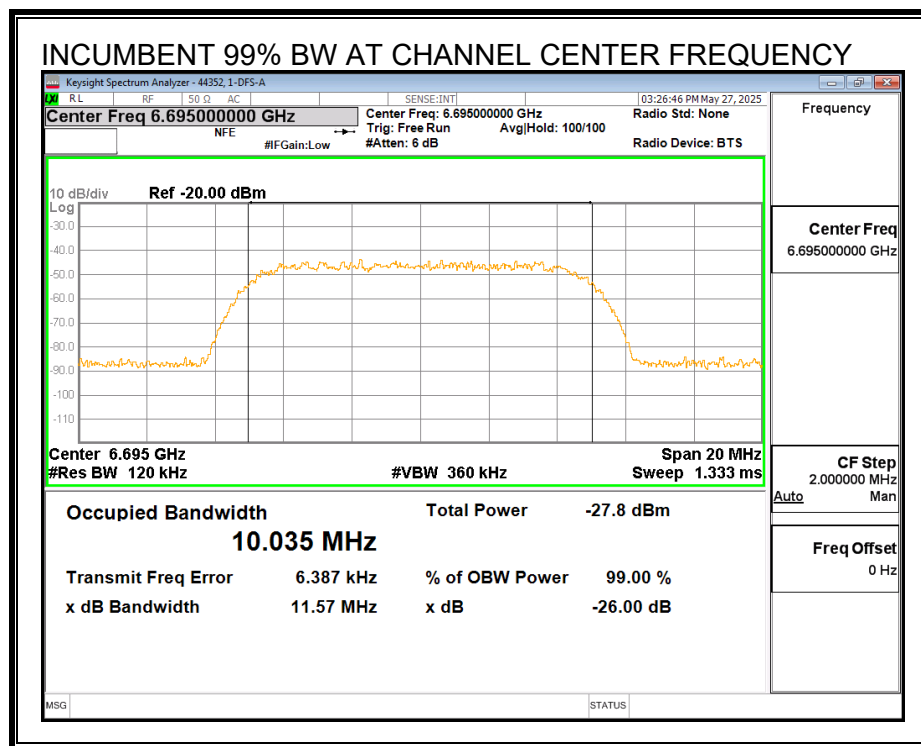
All tests were performed with the EUT set to a channel center frequency of 6695 MHz and a nominal channel bandwidth of 20 MHz.

Only the lowest and highest supported channel bandwidths are required to be tested.

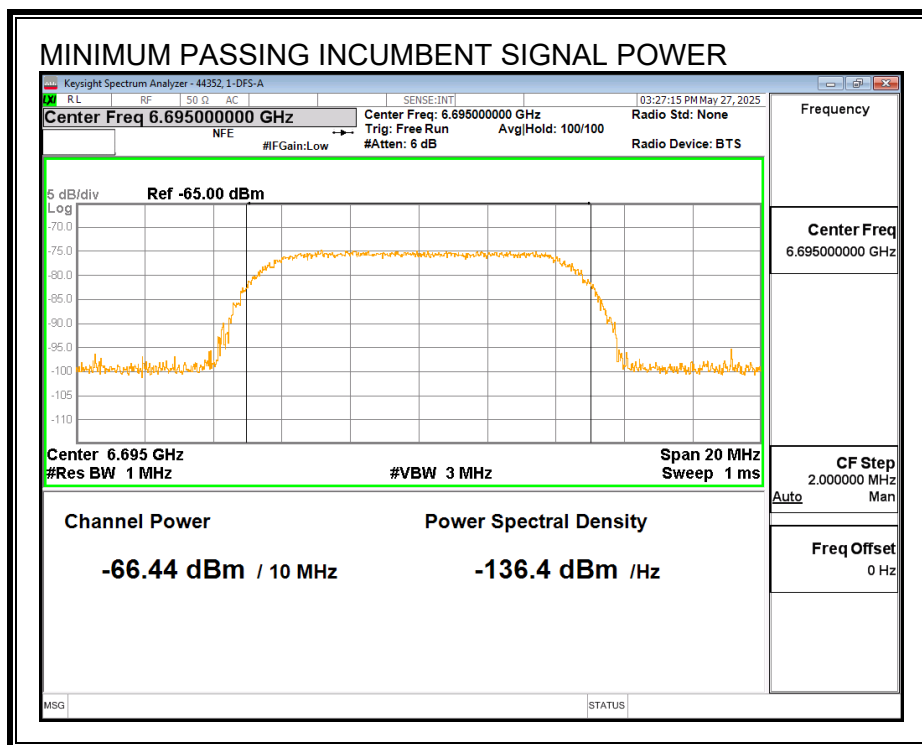
7.17.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

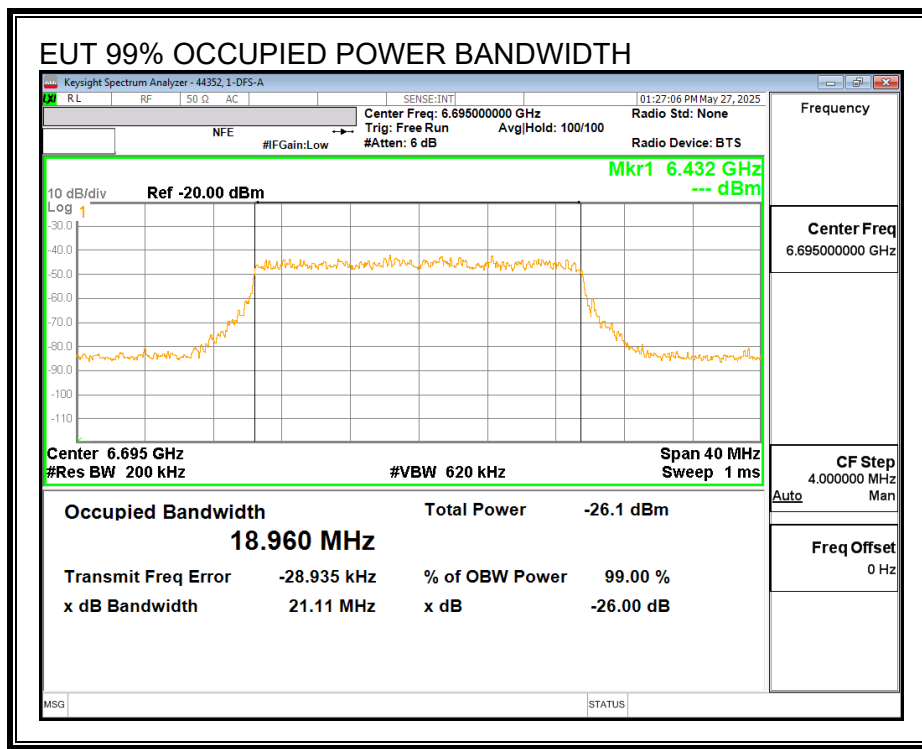


MINIMUM PASSING INCUMBENT SIGNAL POWER

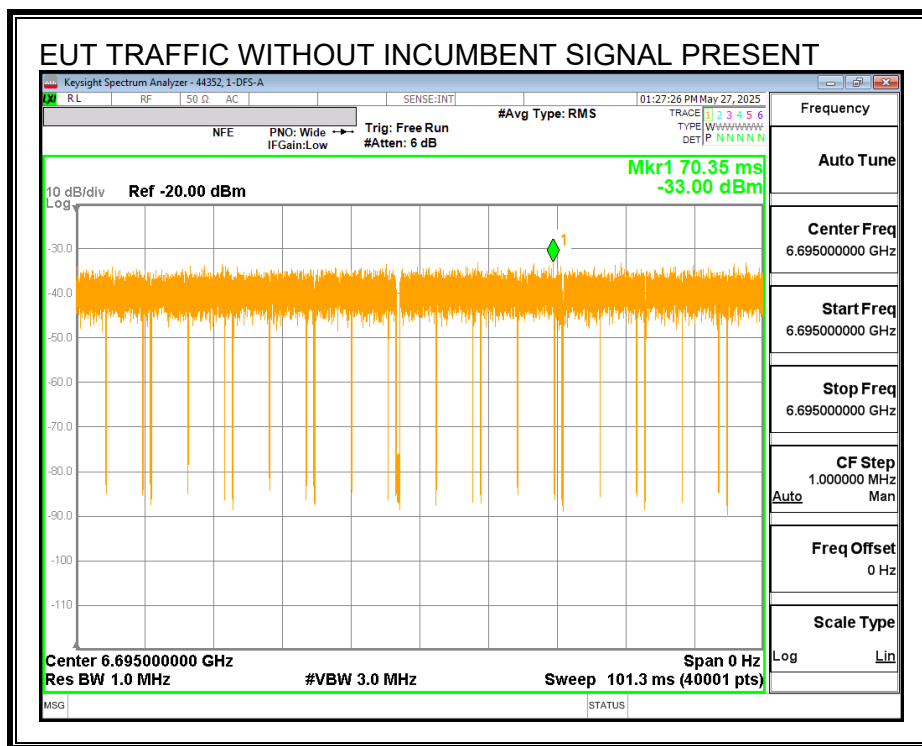


7.17.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH

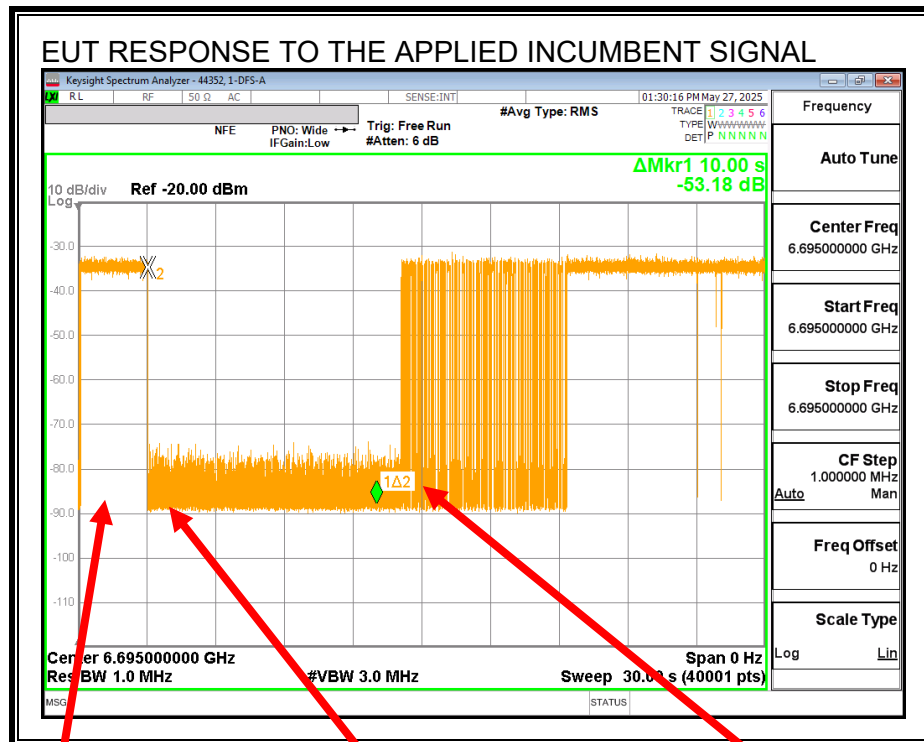


TRAFFIC WITHOUT THE INCUMBENT SIGNAL PRESENT



EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease while the Incumbent AWGN Signal is present and resume after it is removed

7.17.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6695
EUT Nominal Channel Bandwidth (MHz)	20
99% Occupied Bandwidth of the EUT (MHz)	18.96
EUT 99% OBW Lower Edge, F_L (MHz)	6685.52
EUT 99% OBW Upper Edge, F_H (MHz)	6704.48
Test Frequency of Incumbent Signal (MHz)	6695
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-1.90
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-63.90
Lowest Passing Measured Incumbent Signal Amplitude at Text Fixture(dBm)	-66.44
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-69.94
Margin (dBm)	-6.04
Result (PASS / FAIL)	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.17.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 2: $99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-66.44	3.5	-69.9	-1.90	-68.04	-62	Ceased
-67.03	3.5	-70.5	-1.90	-68.63	-62	Minimal
-73.7	3.5	-77.2	-1.90	-75.3	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

7.18. U-NII 7 BAND TEST CONDITION 3 RESULTS

TEST CONDITION 3 CRITERIA

$$2 \times 99\% BW_{INC} < 99\% BW_{EUT} \leq 4 \times 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.19. U-NII 7 BAND TEST CONDITION 4 RESULTS

TEST CONDITION 4 CRITERIA

$$99\% BW_{EUT} > 4 \times 99\% BW_{INC}$$

7.19.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6665 MHz and a nominal channel bandwidth of 160 MHz.

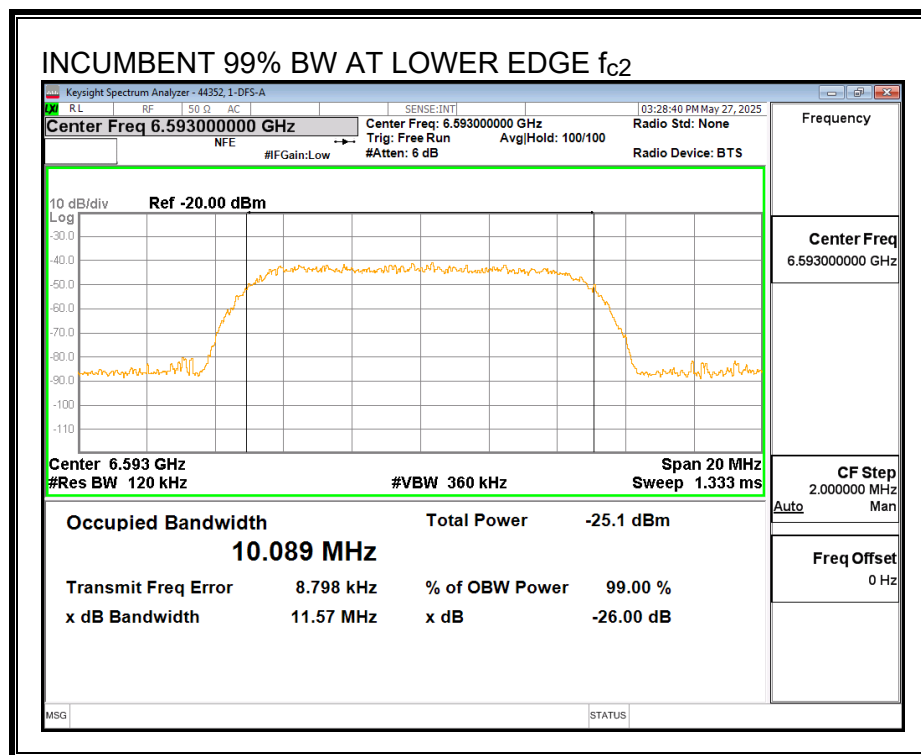
Only the lowest and highest supported channel bandwidths are required to be tested.

7.19.2. INCUMBENT SIGNAL PLOTS

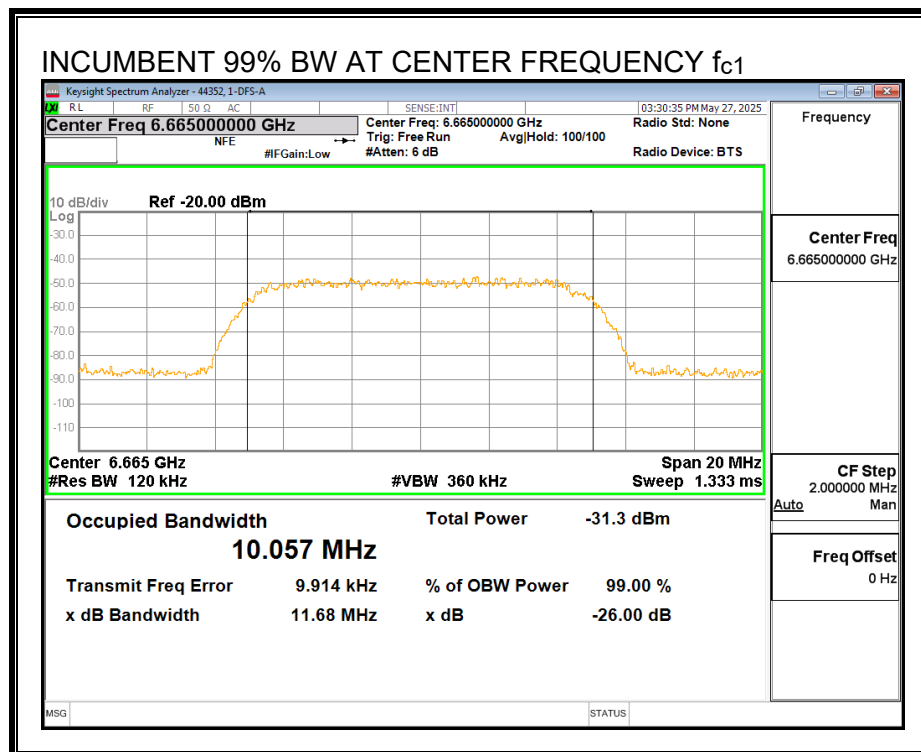
All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

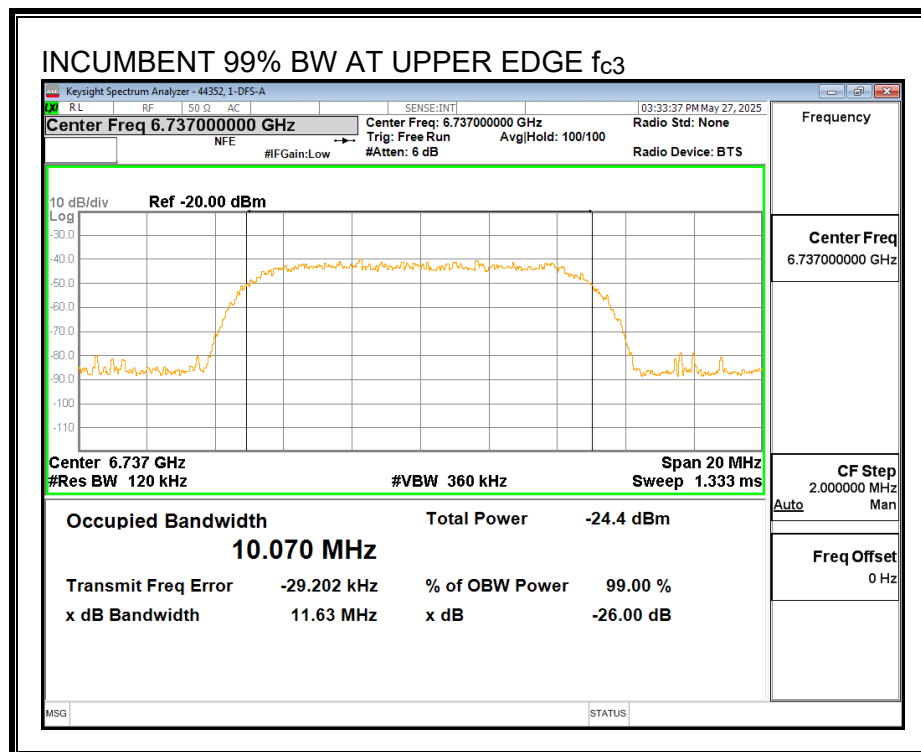
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

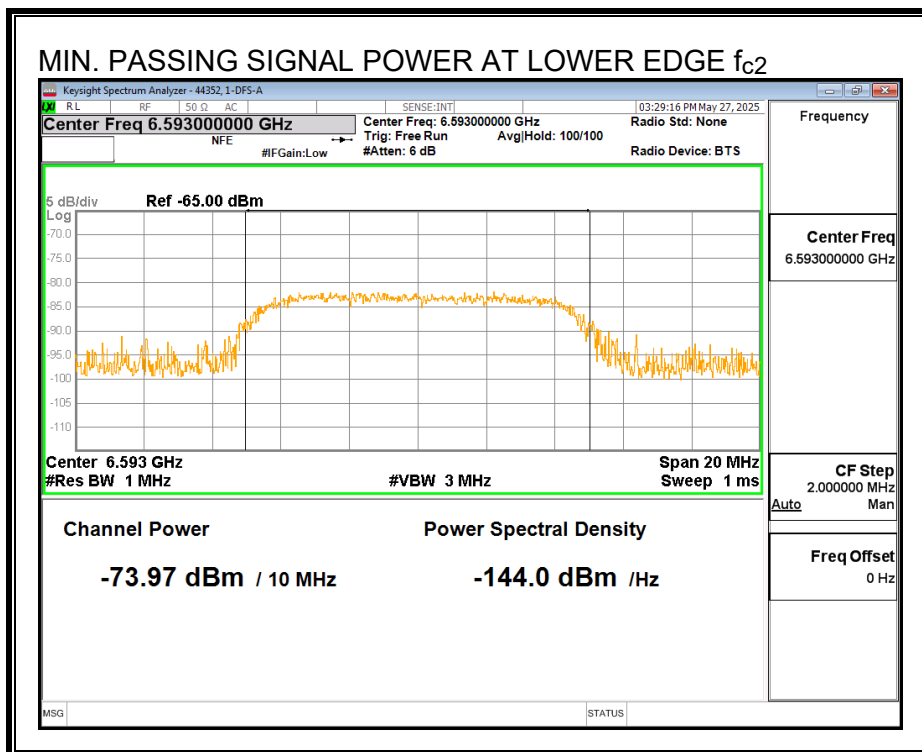


Upper Edge Incumbent Signal f_{c3} :

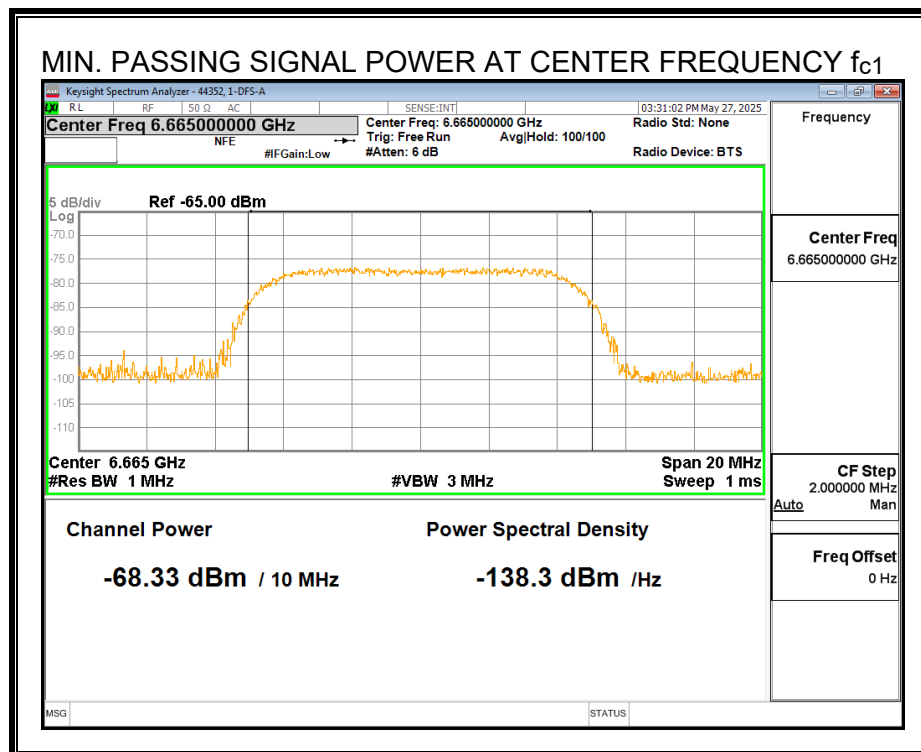


MINIMUM PASSING INCUMBENT SIGNAL POWER

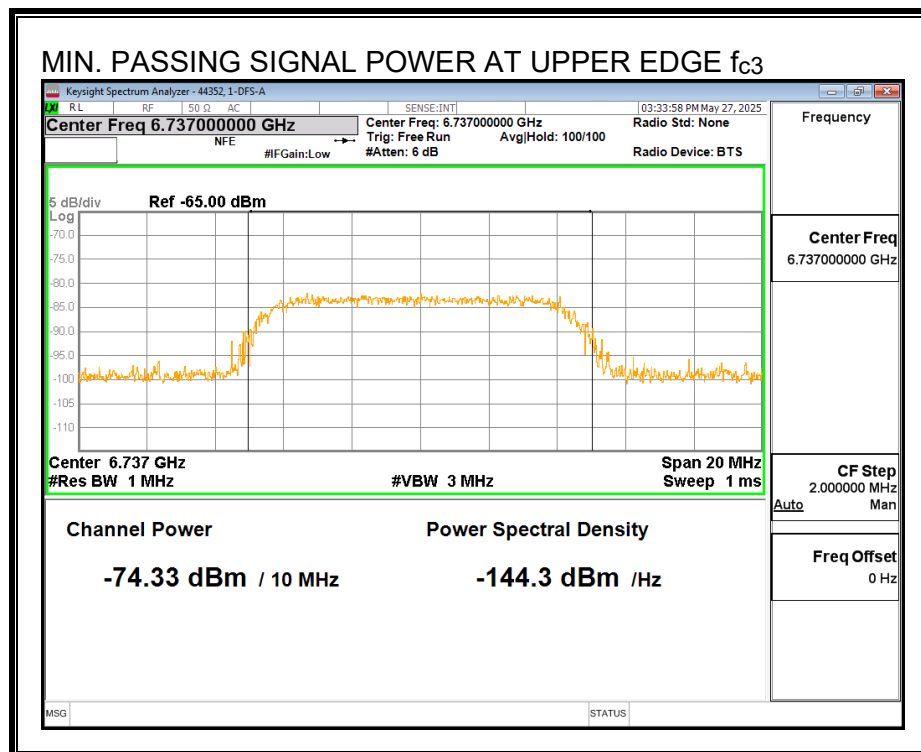
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

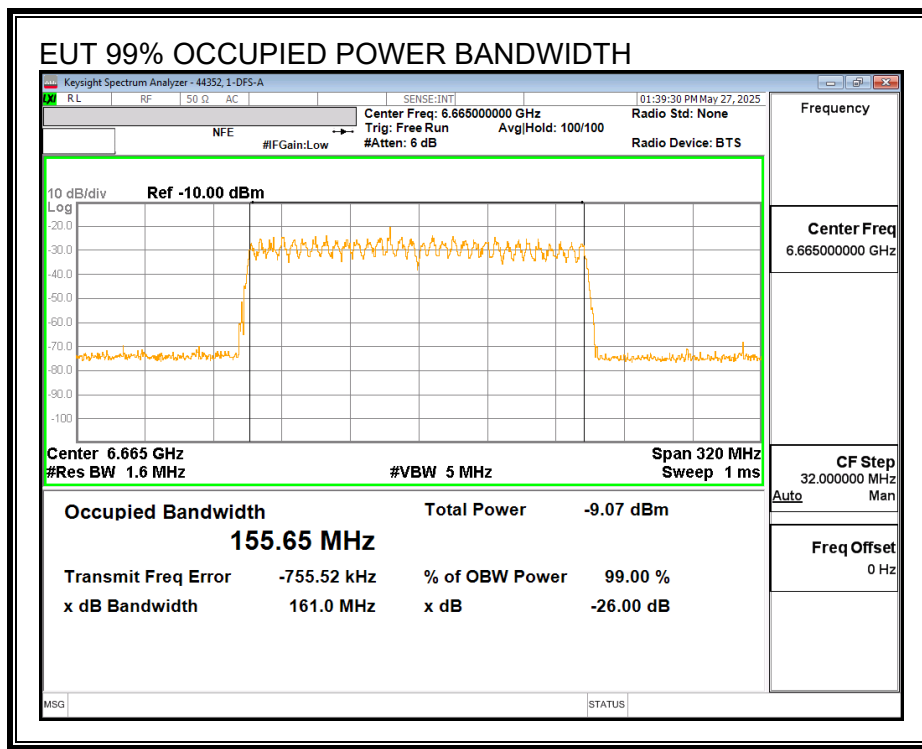


Upper Edge Incumbent Signal f_{c3} :



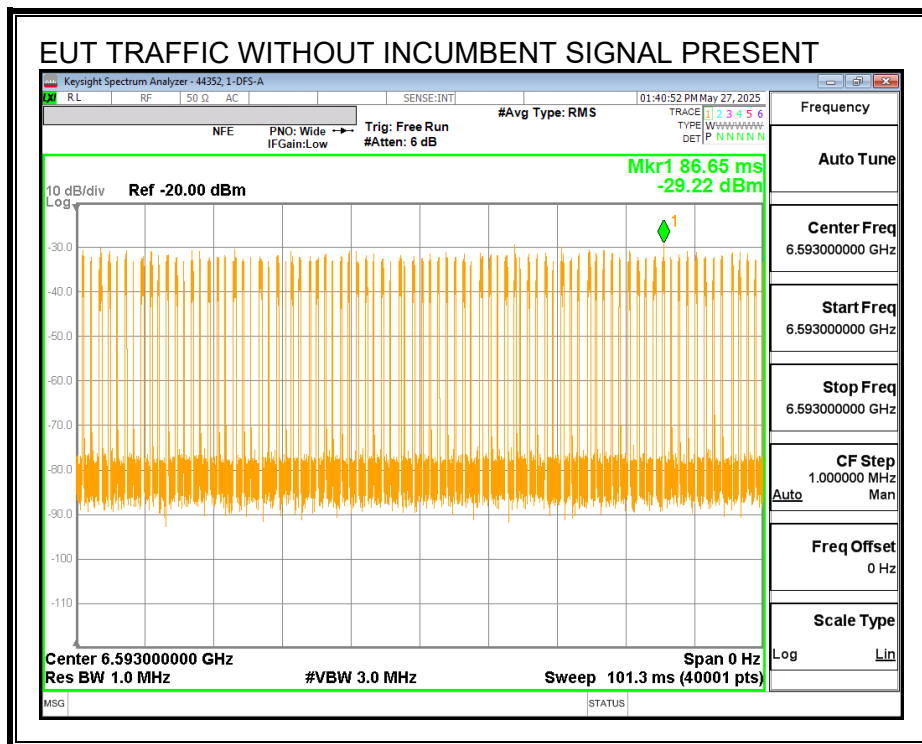
7.19.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH

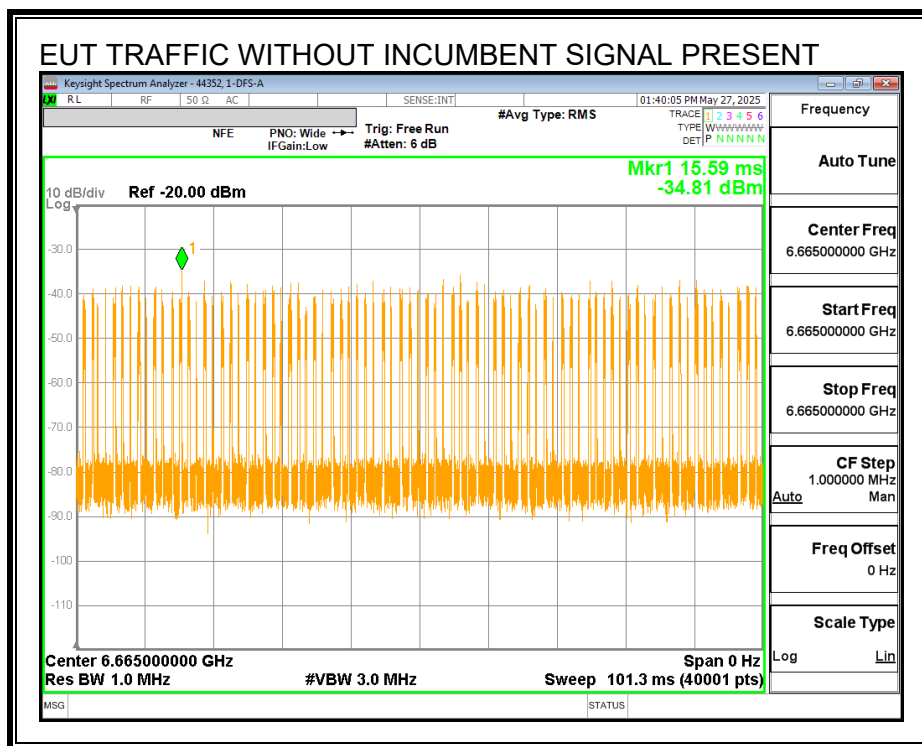


TRAFFIC WITHOUT THE INCUMBENT SIGNAL PRESENT

Lower Edge f_{c2} :



Center Frequency f_{c1} :



EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

The screenshot shows a Keysight Spectrum Analyzer interface. The title bar reads "Keysight Spectrum Analyzer - 44352.1-DFS-A". The top panel displays various settings: "RL", "RF", "50 Ω", "AC", "SENSE:INT", "01:41:36 PM May 27, 2025", "NFE", "PNO: Wide", "Trig: Free Run", "#Avg Type: RMS", "TRACE 1 2 3 4 5 6", "TYPE W W W W W W W W", "DET P N N N N N N". The main display area shows a spectrum plot with a green trace. The plot has a vertical scale from -110 to 10 dB/div Log. The horizontal scale is from 6.737000000 GHz to 6.737000000 GHz. A peak is labeled "Mkr1 7.922 Ms -28.41 dBm". The bottom panel shows "Center 6.737000000 GHz", "Res BW 1.0 MHz", "#VBW 3.0 MHz", "Span 0 Hz", and "Sweep 101.3 ms (40001 pts)". The right panel shows "Frequency", "Auto Tune", "Center Freq 6.737000000 GHz", "Start Freq 6.737000000 GHz", "Stop Freq 6.737000000 GHz", "CF Step 1.000000 MHz", "Auto Man", "Freq Offset 0 Hz", "Scale Type Log Lin".

Keysight Spectrum Analyzer - 44352.1-DFS-A

RL RF 50 Ω AC SENSE:INT 01:41:36 PM May 27, 2025

NFE PNO: Wide Trig: Free Run #Avg Type: RMS

TRACE 1 2 3 4 5 6

TYPE W W W W W W W W

DET P N N N N N N

10 dB/div Log

Ref -20.00 dBm

Mkr1 7.922 Ms -28.41 dBm

Center 6.737000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Span 0 Hz

Sweep 101.3 ms (40001 pts)

Frequency

Auto Tune

Center Freq 6.737000000 GHz

Start Freq 6.737000000 GHz

Stop Freq 6.737000000 GHz

CF Step 1.000000 MHz

Auto Man

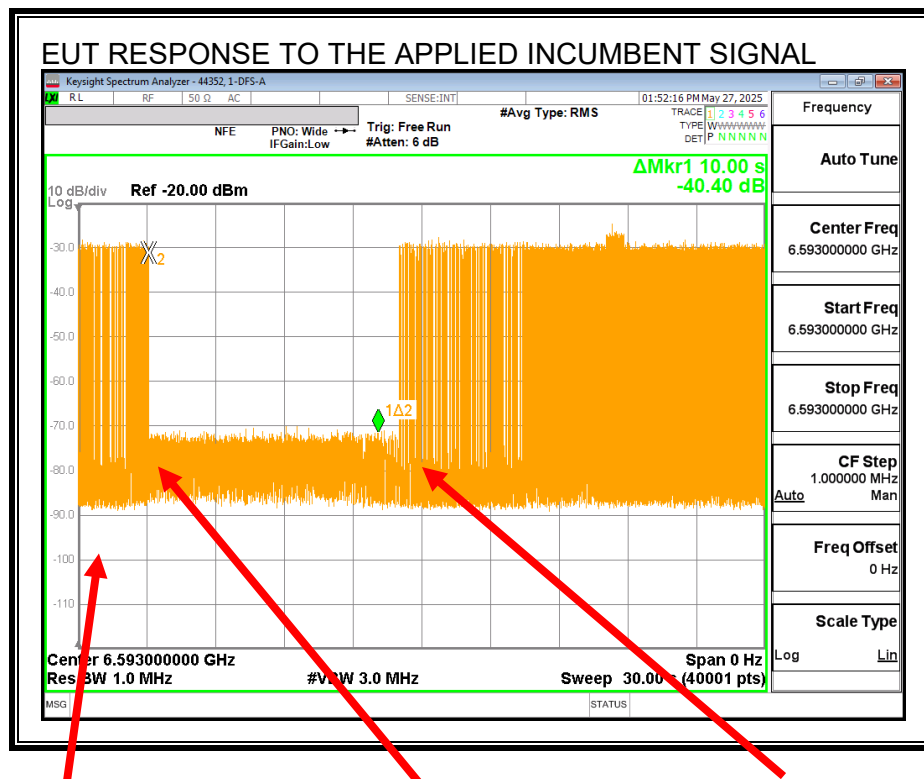
Freq Offset 0 Hz

Scale Type Log Lin

EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.

Lower Edge Incumbent Signal f_{c2} :



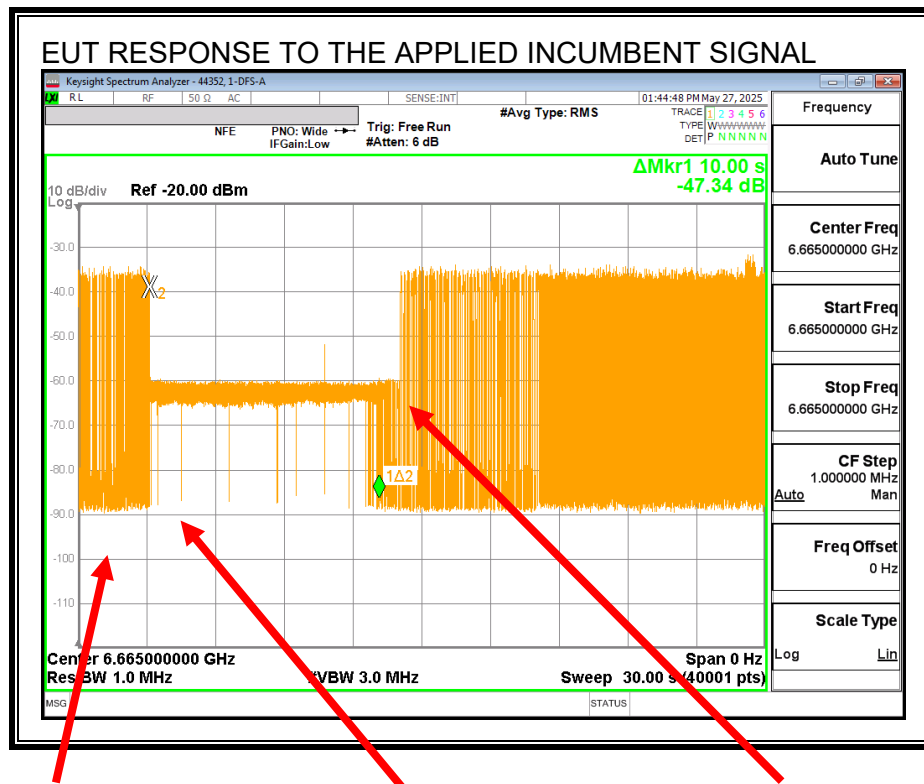
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 80 MHz on an adjacent channel and resume after it is removed.

Center Frequency Incumbent Signal f_{c1} :



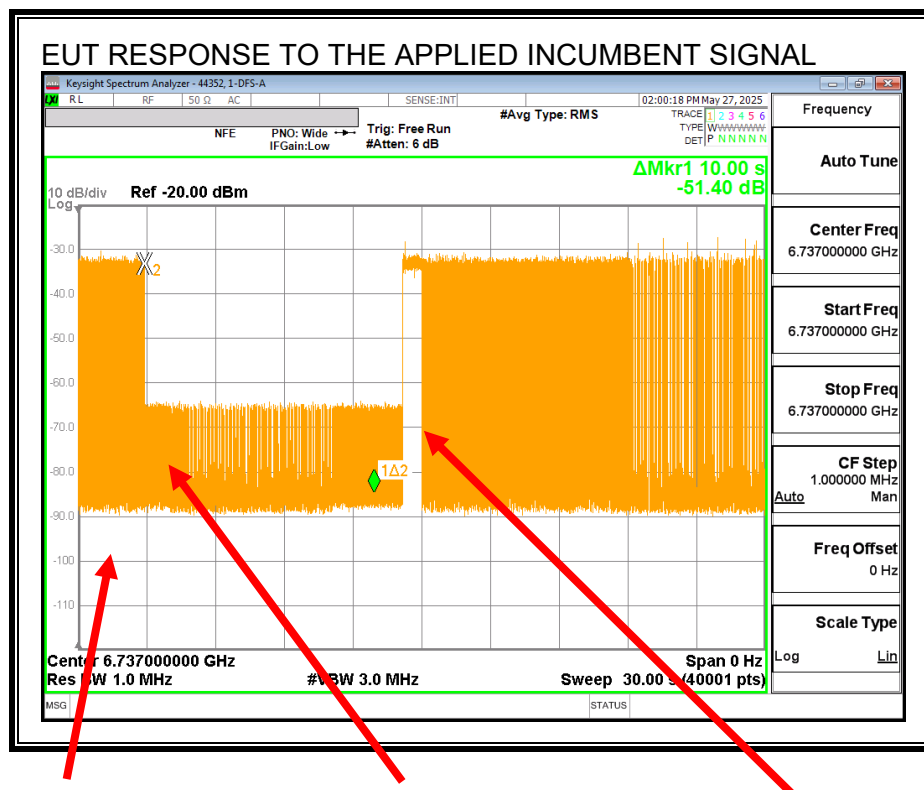
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 20 MHz on an adjacent channel and resume after it is removed.

Upper Edge Incumbent Signal f_{c3} :



Normal Traffic

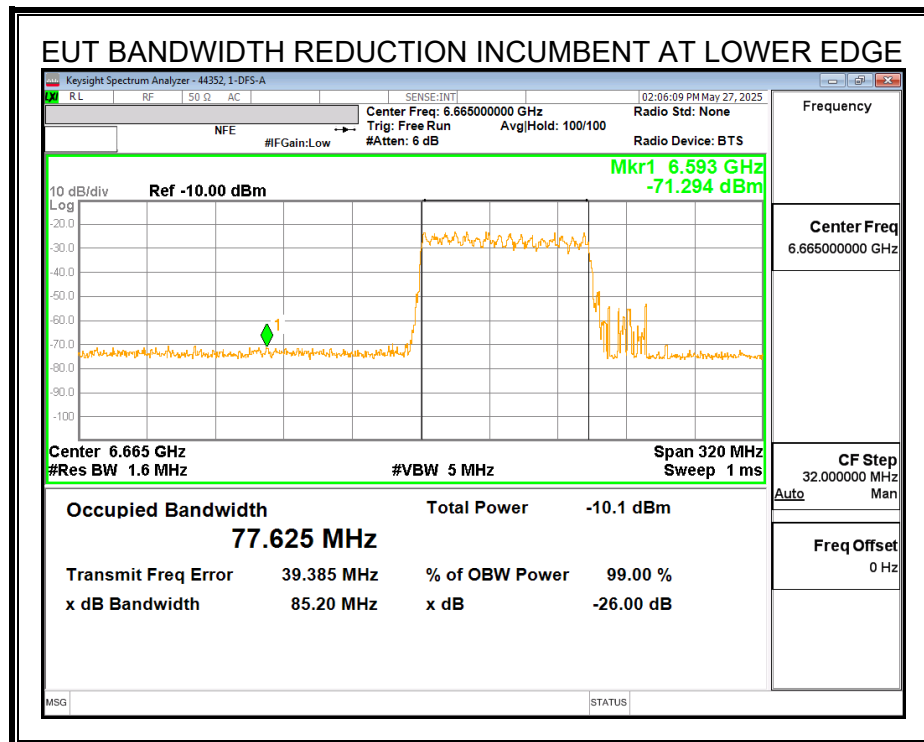
Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

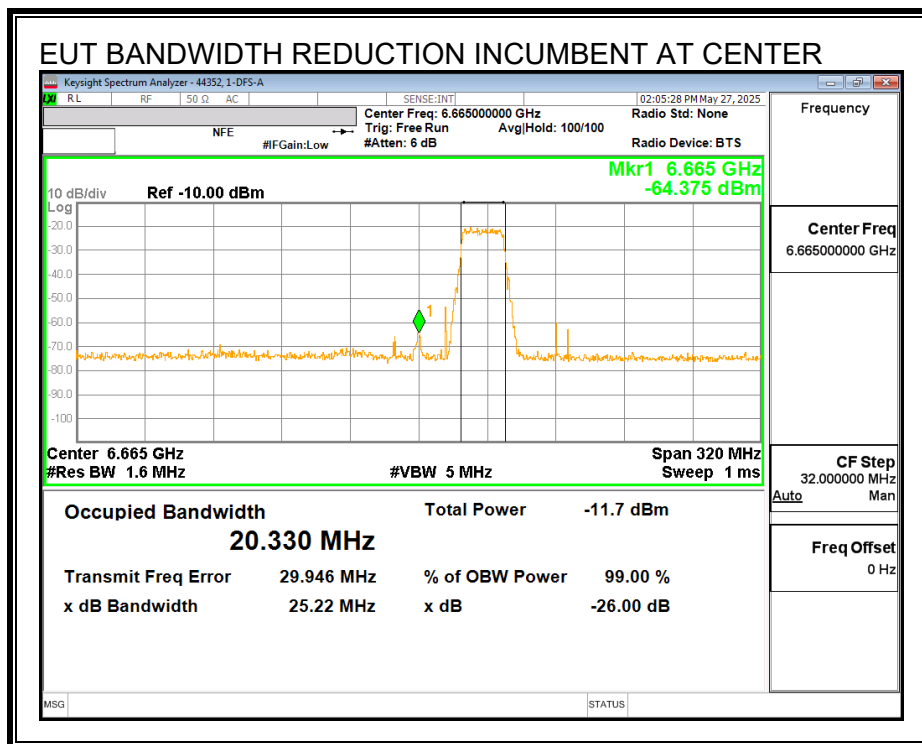
Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 40 MHz on an adjacent and resume after it is removed.

EUT BANDWIDTH REDUCTION

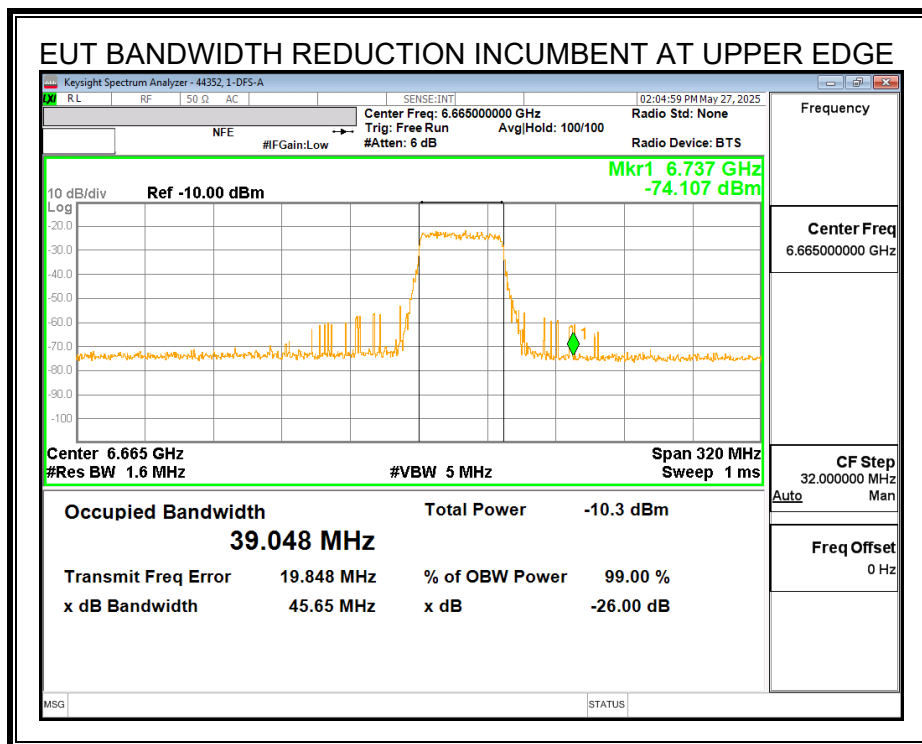
The EUT is allowed to continue operating at a reduced bandwidth in the presence of the Incumbent Signal, so long as the EUT transmissions do not overlap with the channel used by the Incumbent Signal.



With the Incumbent Signal set to the Lower Edge f_{c2} the EUT continues to operate at a reduced 80MHz nominal bandwidth.



With the Incumbent Signal set to the Center f_{c1} the EUT continues to operate at a reduced 20MHz nominal bandwidth.



With the Incumbent Signal set to the upper edge f_{c3} the EUT continues to operate at a reduced 40MHz nominal bandwidth.

7.19.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6665
EUT Nominal Channel Bandwidth (MHz)	160
99% Occupied Bandwidth of the EUT (MHz)	155.65
EUT 99% OBW Lower Edge, F_L (MHz)	6587.18
EUT 99% OBW Upper Edge, F_H (MHz)	6742.83
99% Occupied Bandwidth of the Incumbent Signal (MHz)	10.057
Test Frequency of Incumbent Signal (f_{c2}) Near EUT F_L (MHz)	6593
Test Frequency of Incumbent Signal at f_{c1} (MHz)	6665
Test Frequency of Incumbent Signal (f_{c3}) Near EUT F_H (MHz)	6737
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-1.90
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-63.90
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} at test fixture (dBm)	-73.97
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} (dBm)	-77.47
Margin (dBm)	-13.57
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} at test fixture (dBm)	-68.33
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} (dBm)	-71.83
Margin (dBm)	-7.93
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} at test fixture (dBm)	-74.33
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} (dBm)	-77.83
Margin (dBm)	-13.93
Result (PASS / FAIL)	PASS

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

Trial	AWGN Detected (Yes / No)		
	Incumbent AWGN at f_{c2}	Incumbent AWGN at f_{c1}	Incumbent AWGN at f_{c3}
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
Test Result	PASS	PASS	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.19.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 4: 99% BW_{EUT} > 4 x 99% BW_{INC}

Incumbent AWGN at f_{c2}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-73.97	3.5	-77.47	-1.90	-75.57	-62	Ceased
-75.39	3.5	-78.89	-1.90	-76.99	-62	Minimal
-76.35	3.5	-79.85	-1.90	-77.95	-62	Normal

Incumbent AWGN at f_{c1}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-68.33	3.5	-71.83	-1.90	-69.93	-62	Ceased
-69.38	3.5	-72.88	-1.90	-70.98	-62	Minimal
-73.51	3.5	-77.01	-1.90	-75.11	-62	Normal

Incumbent AWGN at f_{c3}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-74.33	3.5	-77.83	-1.90	-75.93	-62	Ceased
-75.38	3.5	-78.88	-1.90	-76.98	-62	Minimal
-76.52	3.5	-80.02	-1.90	-78.12	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

7.20. U-NII 8 BAND TEST CONDITION 1 RESULTS

TEST CONDITION 1 CRITERIA

$$99\% BW_{EUT} \leq 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.21. U-NII 8 BAND TEST CONDITION 2 RESULTS

TEST CONDITION 2 CRITERIA

$$99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$$

7.21.1. TEST CHANNEL

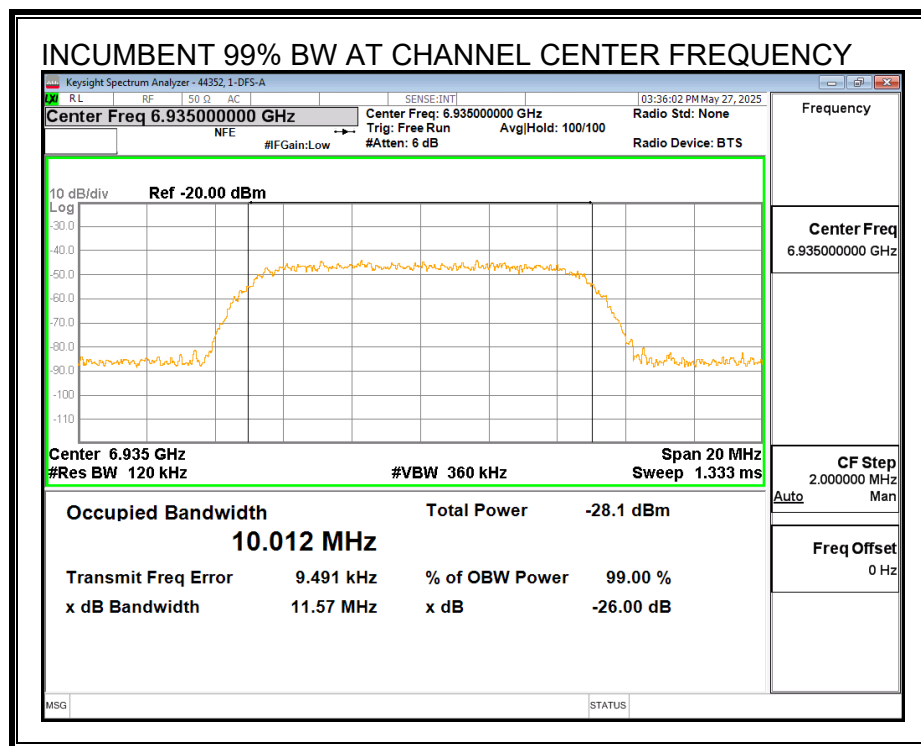
All tests were performed with the EUT set to a channel center frequency of 6935 MHz and a nominal channel bandwidth of 20 MHz.

Only the lowest and highest supported channel bandwidths are required to be tested.

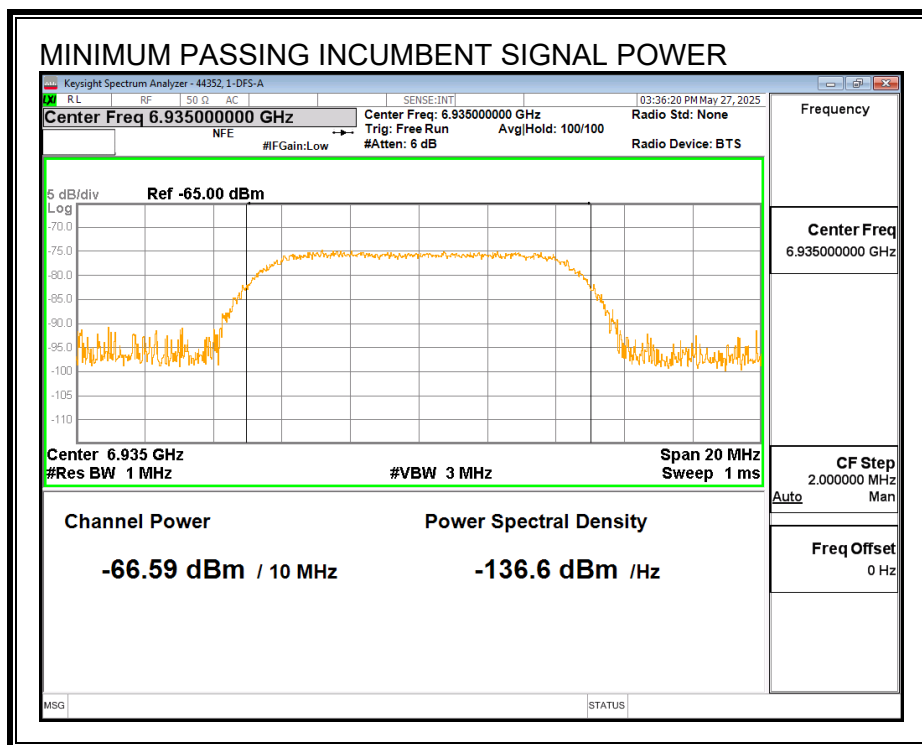
7.21.2. INCUMBENT SIGNAL PLOTS

All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

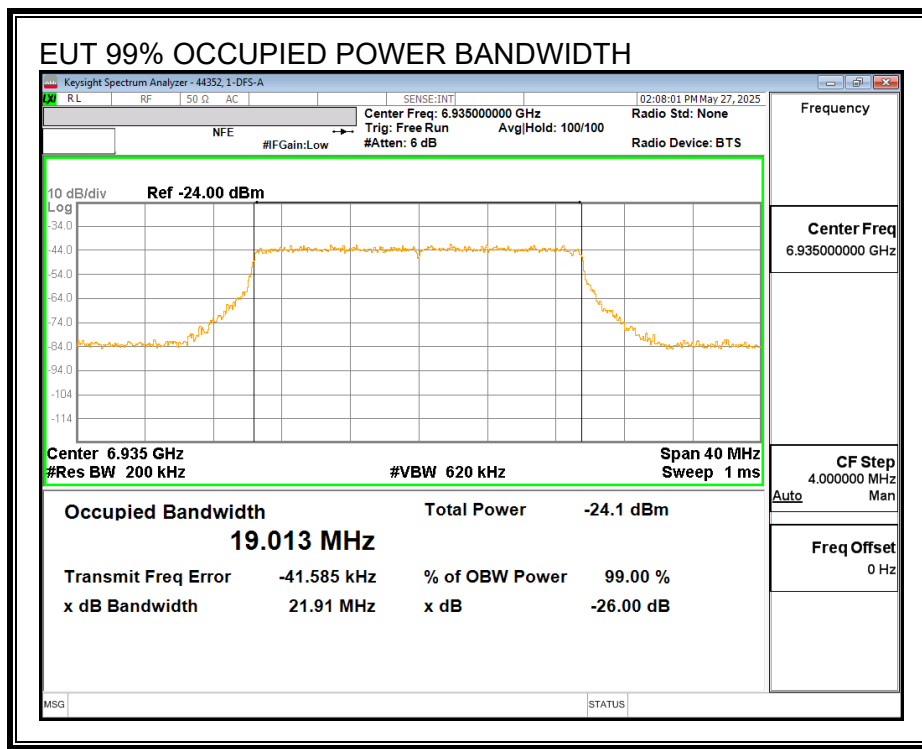


MINIMUM PASSING INCUMBENT SIGNAL POWER



7.21.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH



EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

Keysight Spectrum Analyzer - M352.1-DFS-A

RL RF 50 Ω AC SENSE:INT

02:08:35 PM May 27, 2025

NFE PNO: Wide IFGain:Low Trig: Free Run #Avg Type: RMS

TRACE 1 2 3 4 5 6 TYPE: W W W W W W W W DET: P N N N N N N

Frequency

Auto Tune

Center Freq 6.935000000 GHz

Start Freq 6.935000000 GHz

Stop Freq 6.935000000 GHz

CF Step 1.000000 MHz Man

Auto

Freq Offset 0 Hz

Scale Type

Log Lin

10 dB/div Ref -20.00 dBm

Mkr1 14.26 ms -34.29 dBm

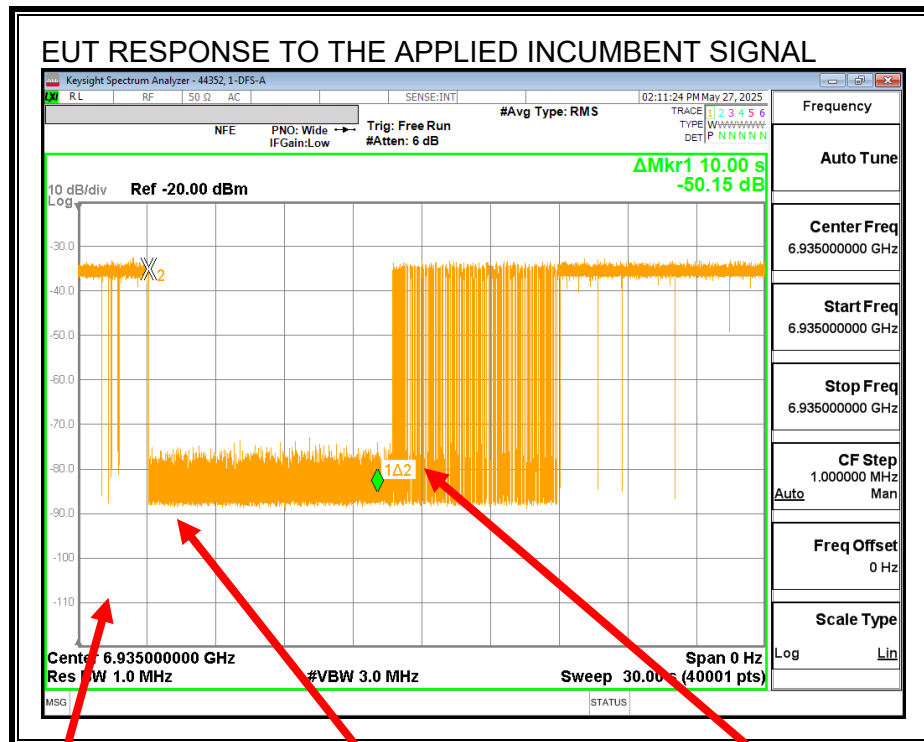
Center 6.935000000 GHz Span 0 Hz

Res BW 1.0 MHz #VBW 3.0 MHz Sweep 101.3 ms (40001 pts)

MSG STATUS

EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.



Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease while the Incumbent AWGN Signal is present and resume after it is removed

7.21.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6935
EUT Nominal Channel Bandwidth (MHz)	20
99% Occupied Bandwidth of the EUT (MHz)	19.013
EUT 99% OBW Lower Edge, F_L (MHz)	6925.49
EUT 99% OBW Upper Edge, F_H (MHz)	6944.51
Test Frequency of Incumbent Signal (MHz)	6935
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-2.80
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-64.80
Lowest Passing Measured Incumbent Signal Amplitude at Text Fixture (dBm)	-66.59
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude (dBm)	-70.09
Margin (dBm)	-5.29
Result (PASS / FAIL)	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

AWGN Detected (Yes / No)	
Trial	Incumbent AWGN at f_{c1}
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes
6	Yes
7	Yes
8	Yes
9	Yes
10	Yes
Test Result	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.21.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 2: $99\% BW_{INC} < 99\% BW_{EUT} \leq 2 \times 99\% BW_{INC}$

Incumbent AWGN at f_{c1} :

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-66.59	3.5	-70.1	-2.80	-67.29	-62	Ceased
-67.59	3.5	-71.1	-2.80	-68.29	-62	Minimal
-74.48	3.5	-78.0	-2.80	-75.18	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

7.22. U-NII 8 BAND TEST CONDITION 3 RESULTS

TEST CONDITION 3 CRITERIA

$$2 \times 99\% BW_{INC} < 99\% BW_{EUT} \leq 4 \times 99\% BW_{INC}$$

The lowest and highest supported channel bandwidths do not meet the criteria for this test condition therefore this test was not performed.

7.23. U-NII 8 BAND TEST CONDITION 4 RESULTS

TEST CONDITION 4 CRITERIA

$$99\% BW_{EUT} > 4 \times 99\% BW_{INC}$$

7.23.1. TEST CHANNEL

All tests were performed with the EUT set to a channel center frequency of 6985 MHz and a nominal channel bandwidth of 160 MHz.

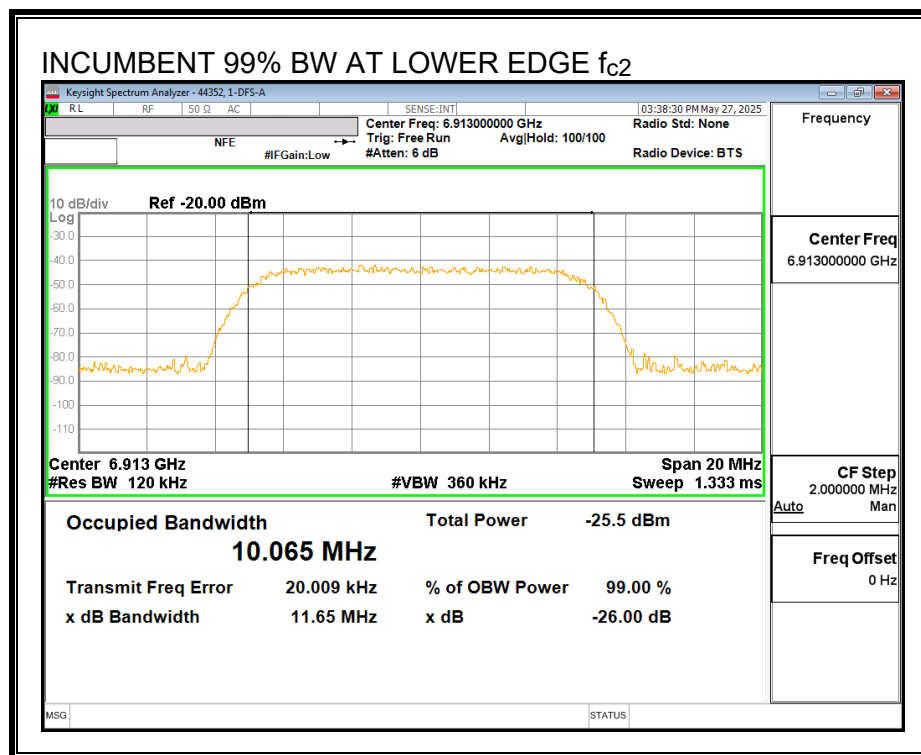
Only the lowest and highest supported channel bandwidths are required to be tested.

7.23.2. INCUMBENT SIGNAL PLOTS

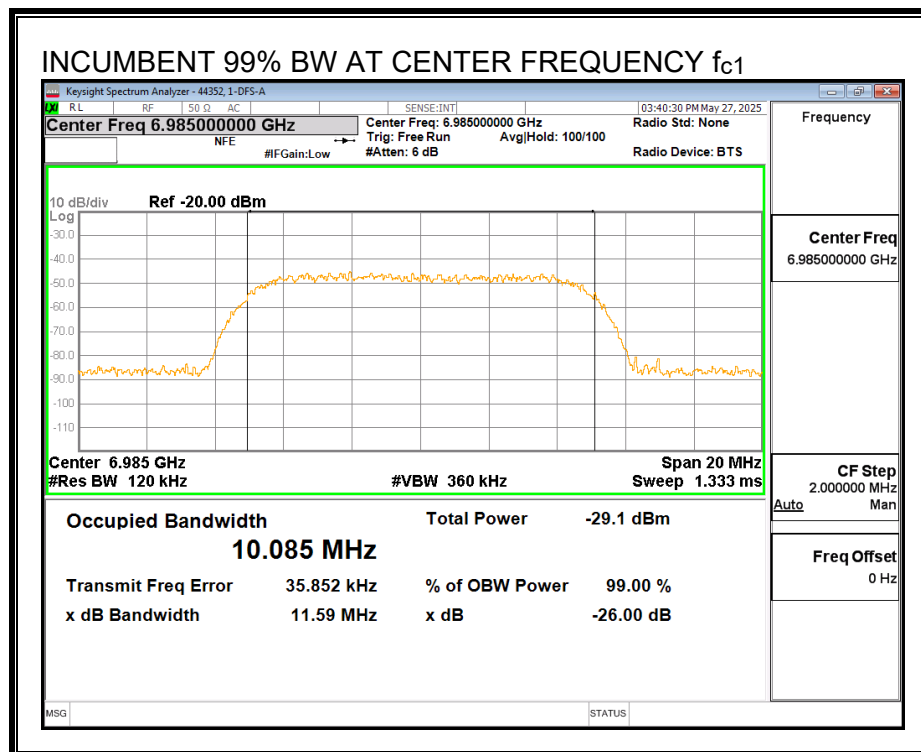
All tests were performed with the Incumbent Signal frequency set to the test channel center frequency and a nominal 99% Occupied Power Bandwidth of 10 MHz.

INCUMBENT SIGNAL 99% OCCUPIED POWER BANDWIDTH

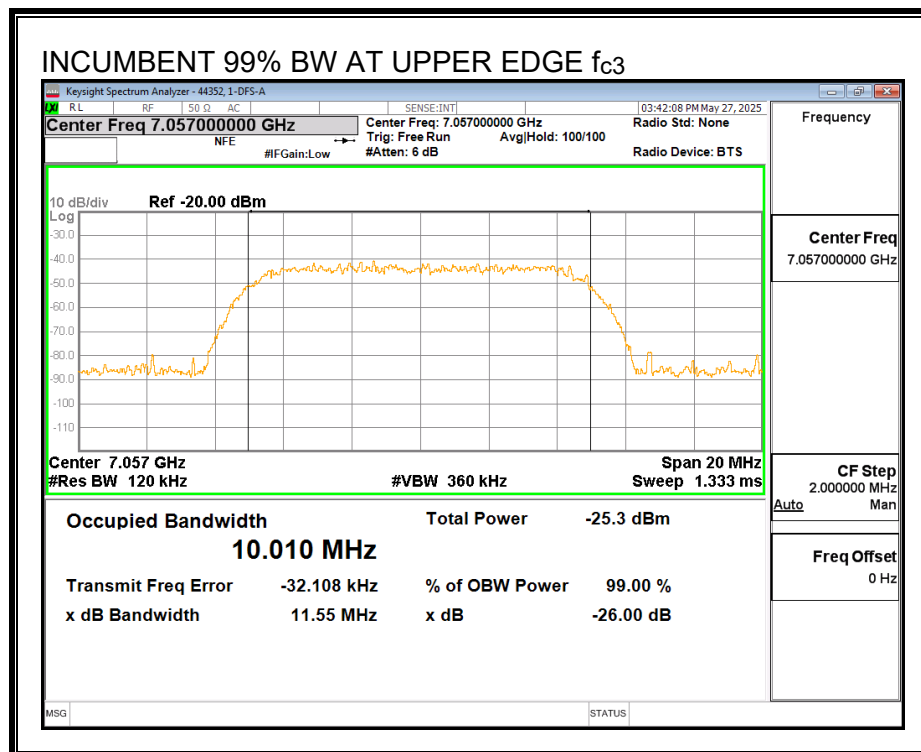
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

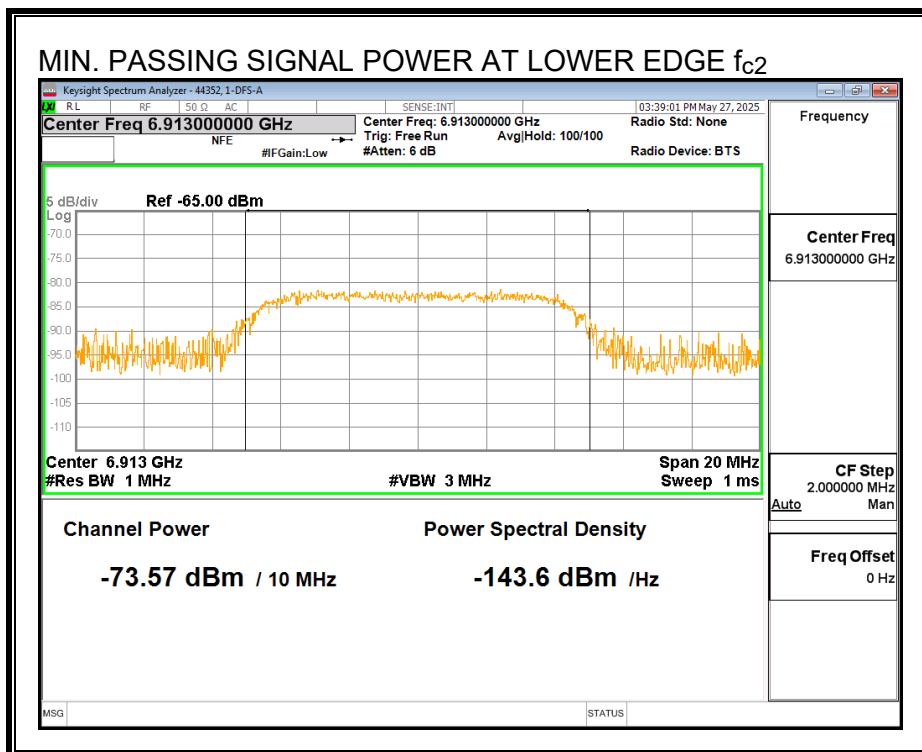


Upper Edge Incumbent Signal f_{c3} :

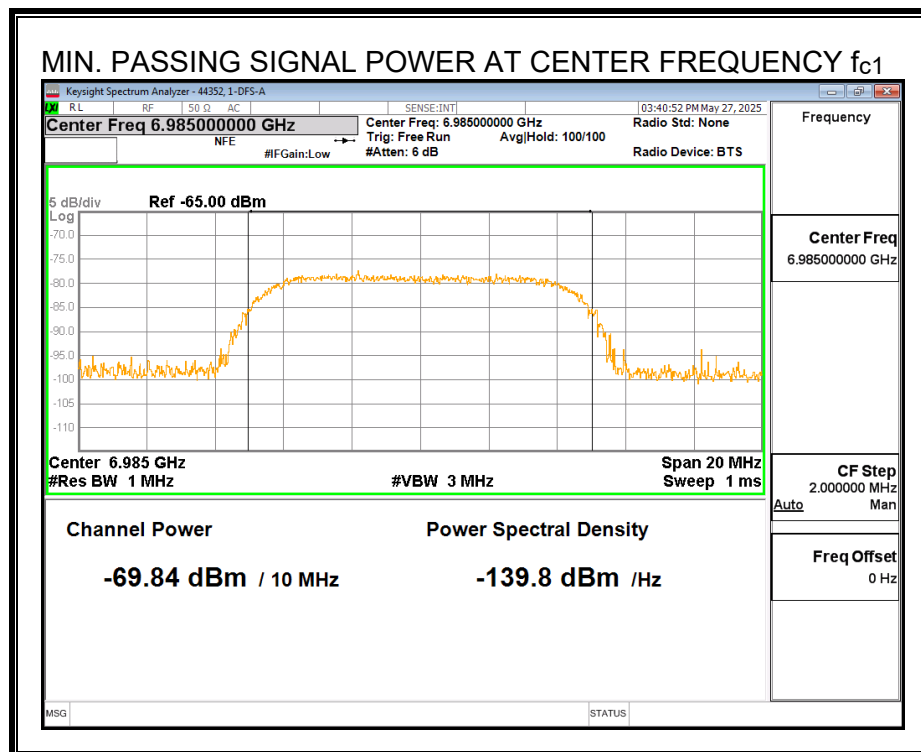


MINIMUM PASSING INCUMBENT SIGNAL POWER

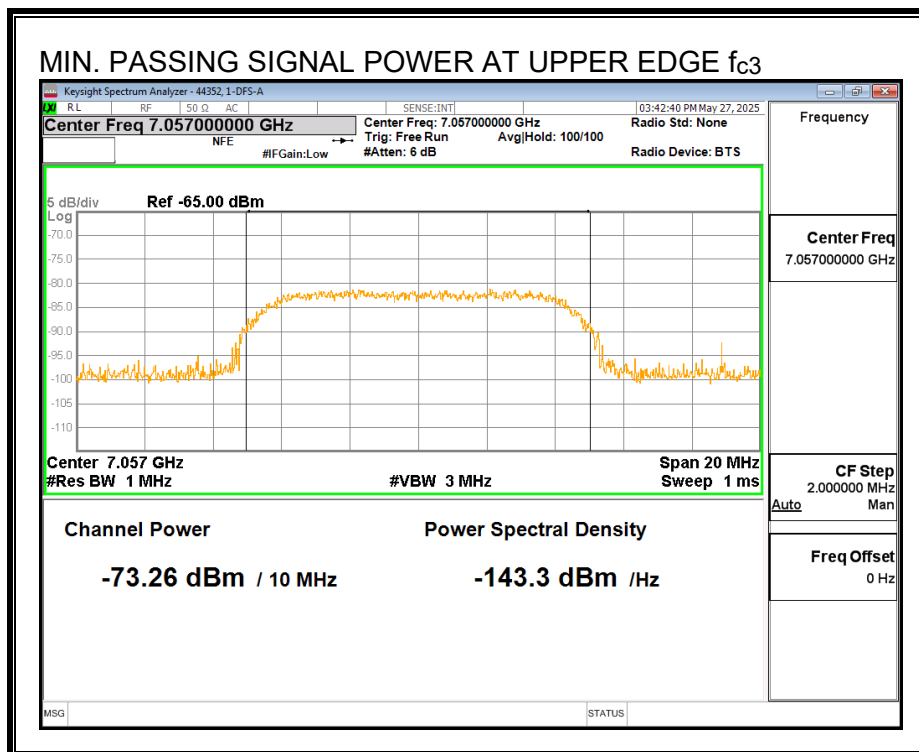
Lower Edge Incumbent Signal f_{c2} :



Center Frequency Incumbent Signal f_{c1} :

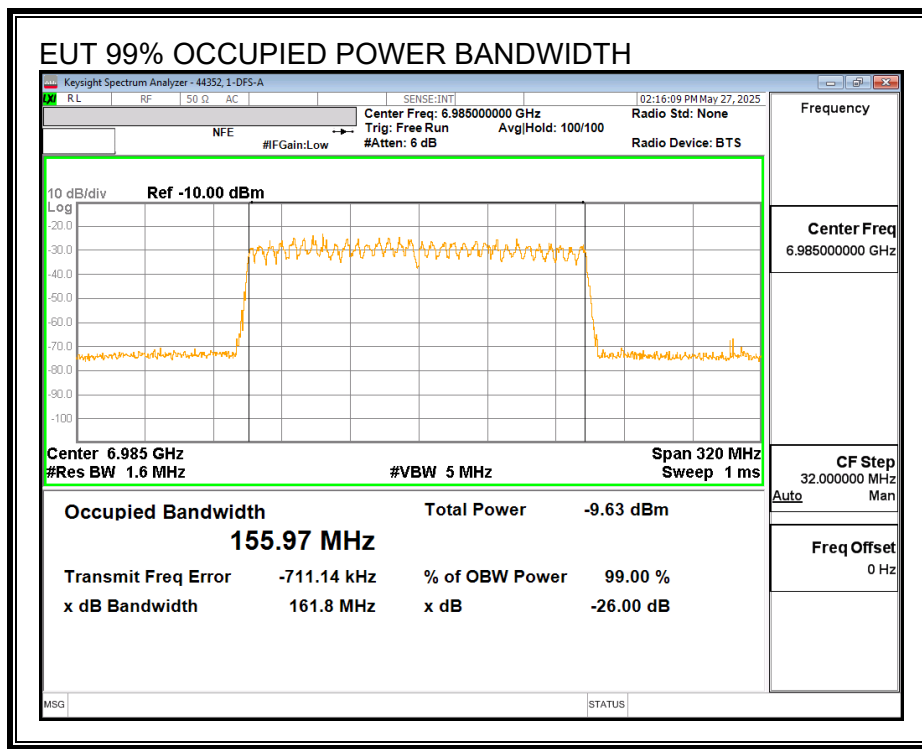


Upper Edge Incumbent Signal f_{c3} :



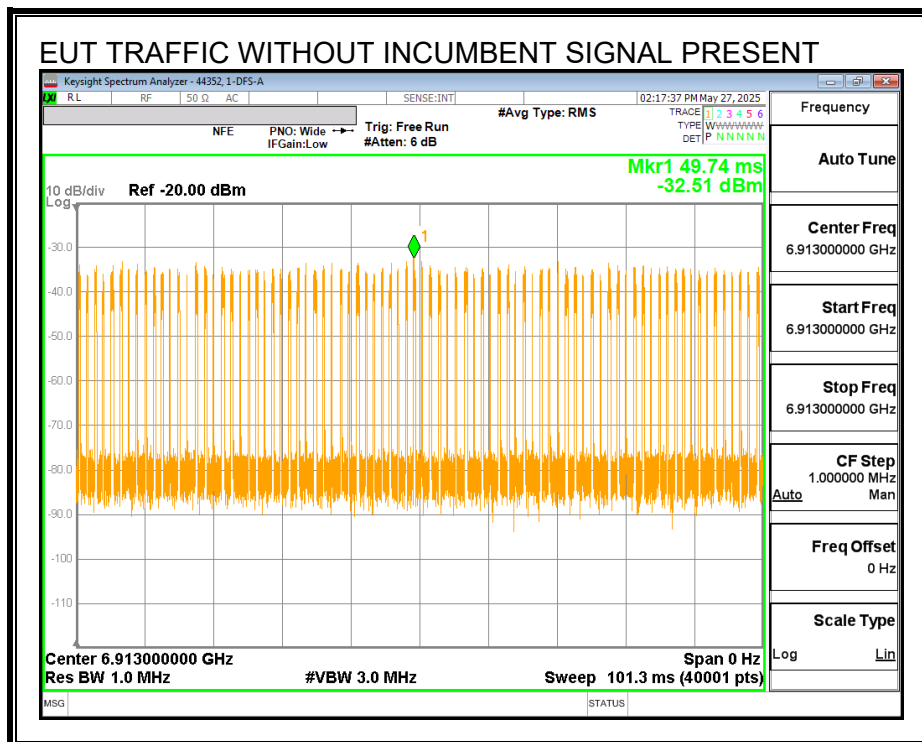
7.23.3. EUT TRANSMISSION PLOTS

EUT 99% OCCUPIED POWER BANDWIDTH



TRAFFIC WITHOUT THE INCUMBENT SIGNAL PRESENT

Lower Edge f_{c2} :



EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

The screenshot displays a Keysight Spectrum Analyzer interface. The main display shows a spectrum plot with a peak at 6.985000000 GHz. The peak is labeled with a green diamond and the number '1'. The plot shows a noisy signal with a peak level of -27.05 dBm and a noise floor of -35.34 dBm. The plot is titled 'Ref -20.00 dBm' and 'Log'. The plot shows a noisy signal with a peak level of -27.05 dBm and a noise floor of -35.34 dBm. The plot is titled 'Ref -20.00 dBm' and 'Log'.

The interface includes various control panels and a data table on the right. The top panel shows the instrument name 'Keysight Spectrum Analyzer - 44352.1-DFS-A' and the date '02:16:45 PM May 27, 2025'. The middle panel shows the frequency range '6.985000000 GHz' and the span '10.000000 MHz'. The bottom panel shows the resolution bandwidth '1.000000 MHz' and the sweep time '101.3 ms (40001 pts)'.

Frequency
Auto Tune
Center Freq 6.985000000 GHz
Start Freq 6.985000000 GHz
Stop Freq 6.985000000 GHz
CF Step 1.000000 MHz Auto Man
Freq Offset 0 Hz
Scale Type Log Lin

EUT TRAFFIC WITHOUT INCUMBENT SIGNAL PRESENT

The screenshot displays a Keysight Spectrum Analyzer interface. The main display area shows a spectrum plot with a peak at 51.84 MHz. The plot is titled "Ref -20.00 dBm" and "Mkr1 51.84 MHz -29.25 dBm". The plot shows a noisy signal with a peak at 51.84 MHz. The plot is titled "Ref -20.00 dBm" and "Mkr1 51.84 MHz -29.25 dBm".

The interface includes several control panels and a data table on the right.

Top Panel:

- Keysight Spectrum Analyzer - 44352.1-DFS-A
- RL RF 50 Ω AC
- SENSE:INT
- 02:18:31 PM May 27, 2025
- NFE PNO: Wide IF Gain: Low Trig: Free Run #Atten: 6 dB
- #Avg Type: RMS
- TRACE 1 2 3 4 5 6
- TYPE W W W W W W W W
- DET P N N N N N N

Right Panel:

- Frequency
- Auto Tune
- Center Freq 7.057000000 GHz
- Start Freq 7.057000000 GHz
- Stop Freq 7.057000000 GHz
- CF Step 1.000000 MHz
- Auto Man
- Freq Offset 0 Hz
- Scale Type
- Log Lin

Bottom Panel:

- Center 7.057000000 GHz
- Res BW 1.0 MHz
- #VBW 3.0 MHz
- Sweep 101.3 ms (40001 pts)
- Span 0 Hz

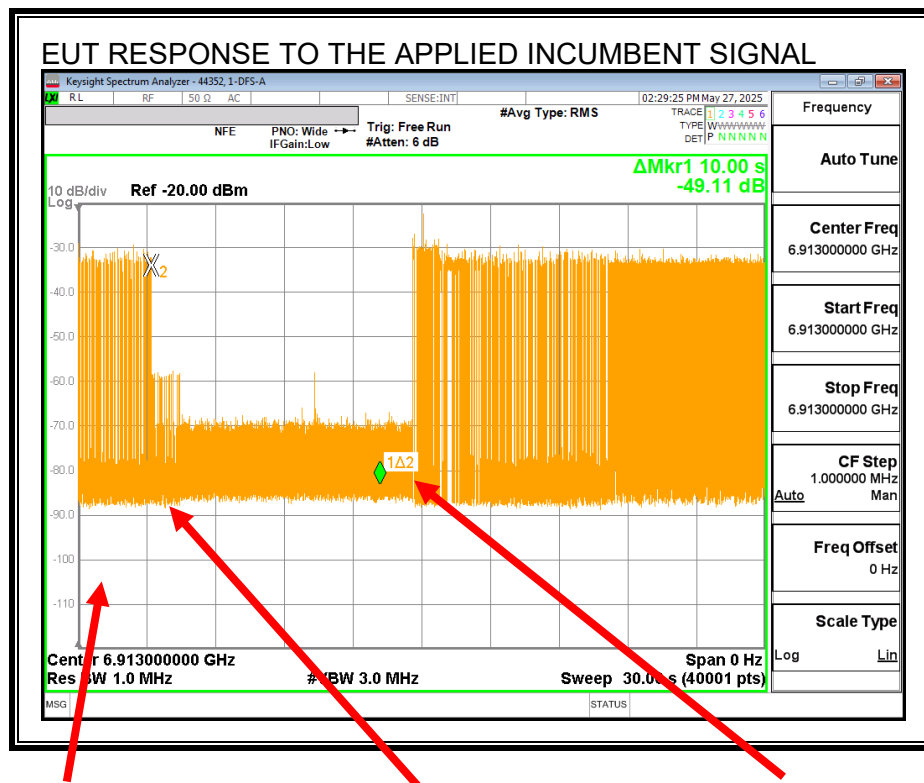
Plot Data:

Frequency (GHz)	Power (dBm)
51.84	-29.25

EUT RESPONSE TO THE APPLIED INCUMBENT SIGNAL

A link between the EUT and the Companion Device was established on the test channel. Traffic flowing from the EUT to the Companion Device was then initiated. A sweep was started and the incumbent signal was continuously applied at approximately 3 seconds after the start of the sweep for a minimum duration of 10 seconds and removed after the end of the observation period. Markers are placed at the beginning and end of the observation period.

Lower Edge Incumbent Signal f_{c2} :



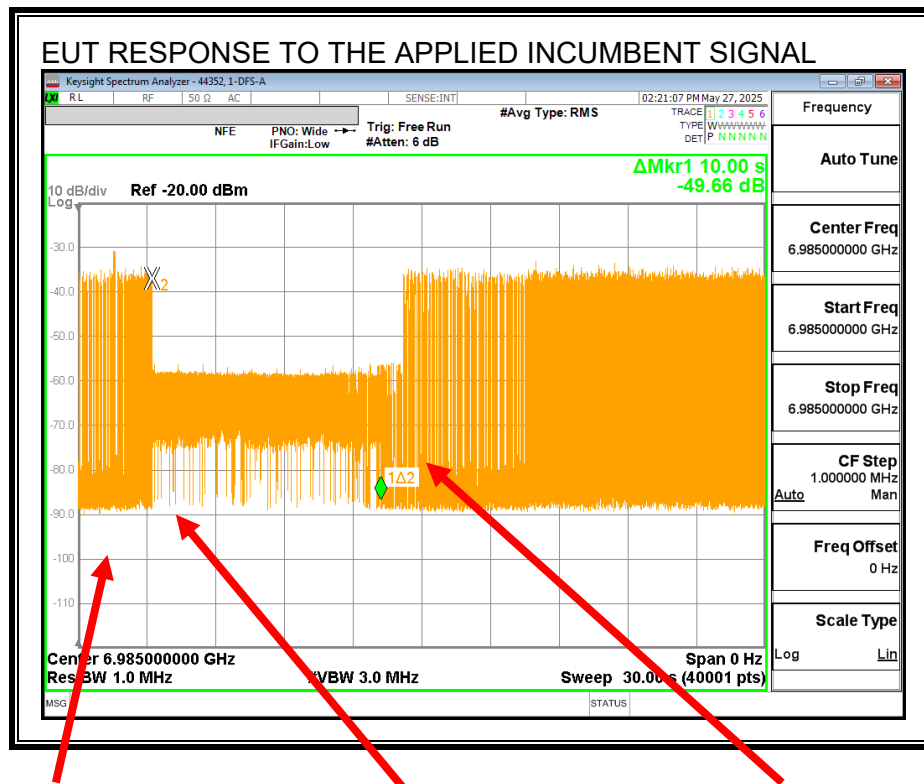
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 20 MHz on an adjacent channel and resume after it is removed.

Center Frequency Incumbent Signal f_{c1} :



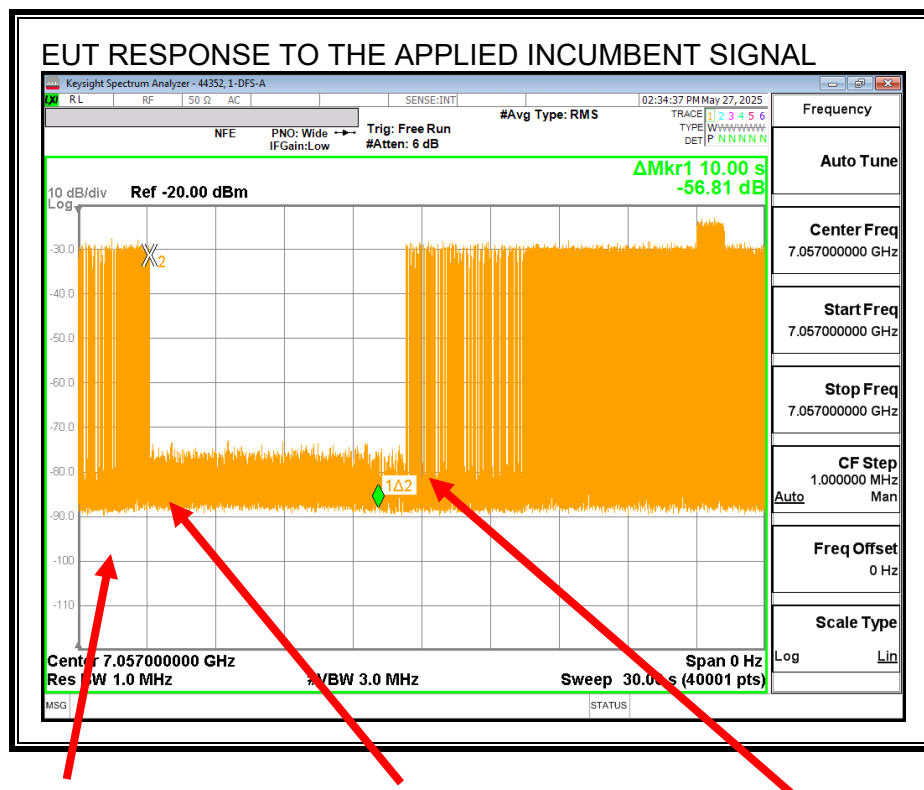
Normal Traffic

Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 40 MHz on an adjacent channel and resume after it is removed.

Upper Edge Incumbent Signal f_{c3} :



Normal Traffic

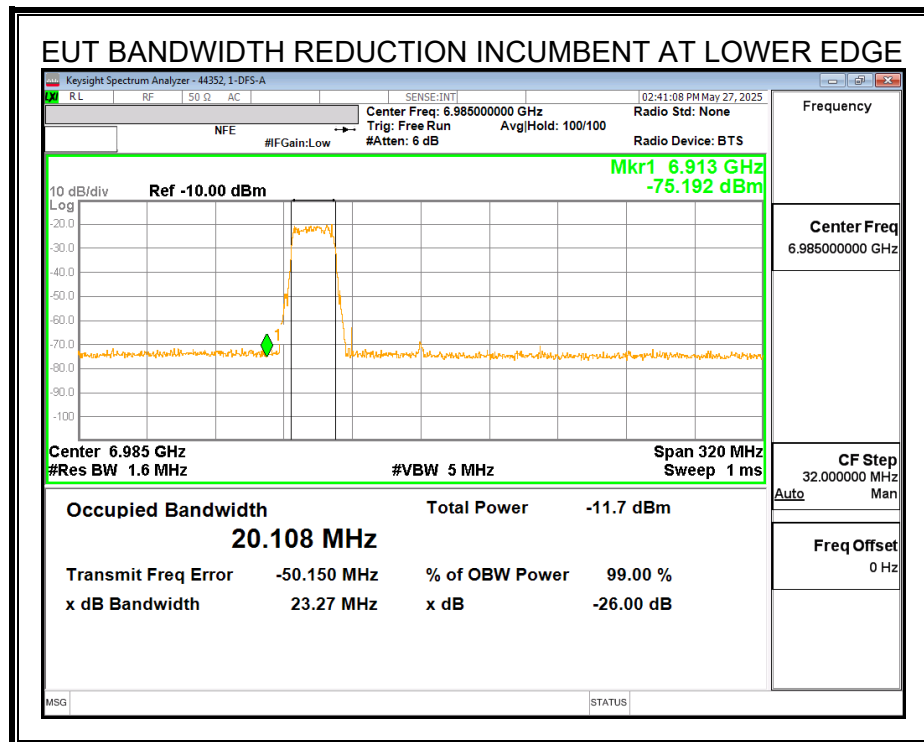
Application of Incumbent
Transmissions Ceased

Incumbent Removed
Transmissions Resume

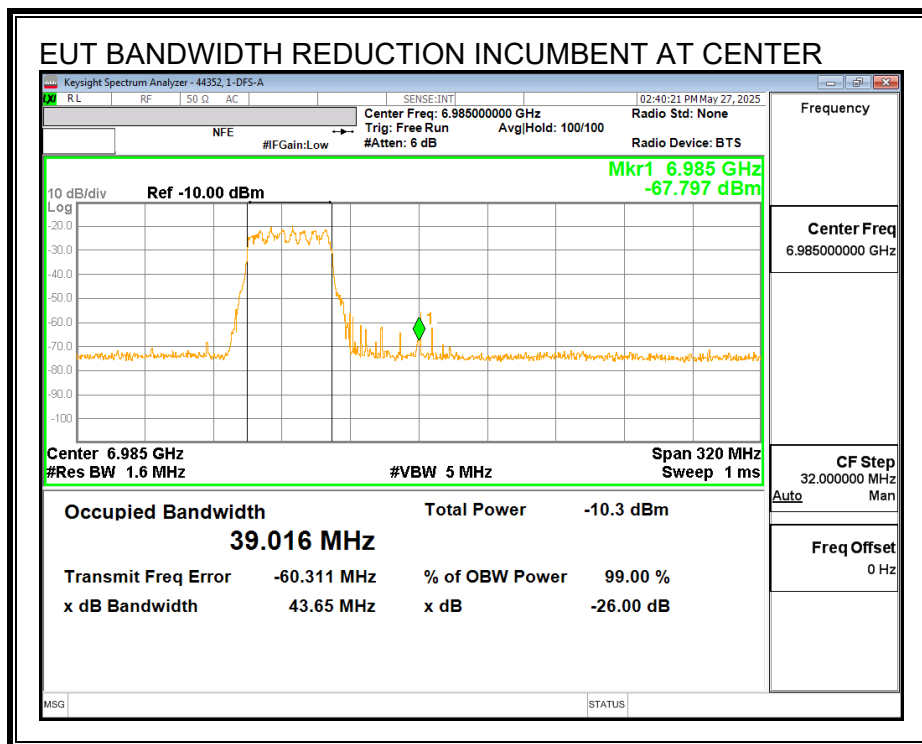
Transmissions cease on the incumbered channel while the Incumbent AWGN Signal is present with the bandwidth reducing from 160 MHz to 80 MHz on an adjacent and resume after it is removed.

EUT BANDWIDTH REDUCTION

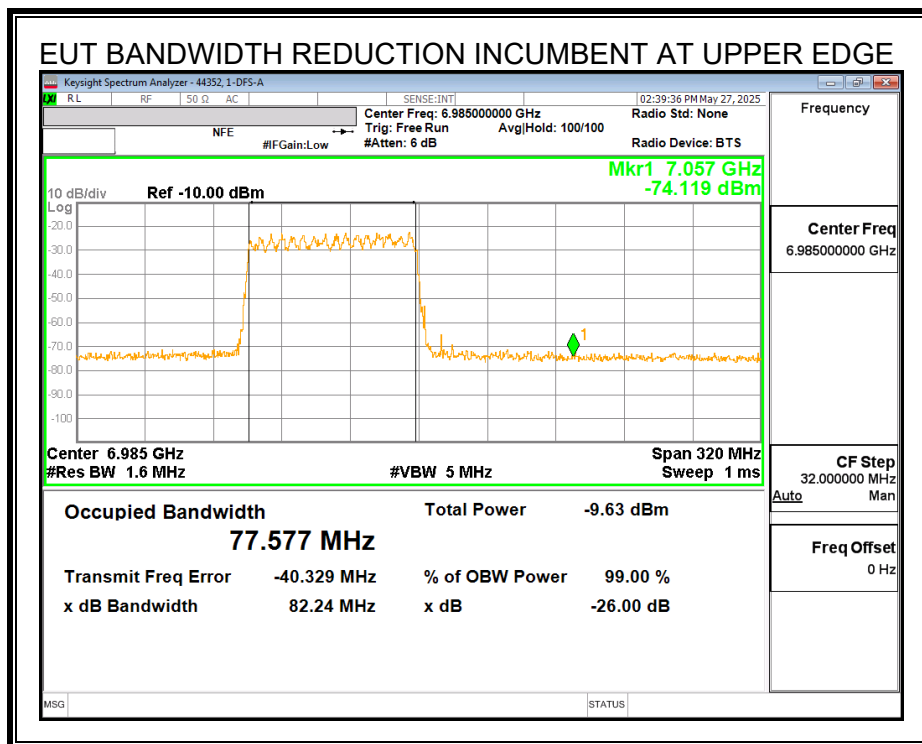
The EUT is allowed to continue operating at a reduced bandwidth in the presence of the Incumbent Signal, so long as the EUT transmissions do not overlap with the channel used by the Incumbent Signal.



With the Incumbent Signal set to the Lower Edge f_{c2} the EUT continues to operate at a reduced 20MHz nominal bandwidth.



With the Incumbent Signal set to the Center f_{c1} the EUT continues to operate at a reduced 40MHz nominal bandwidth.



With the Incumbent Signal set to the upper edge f_{c3} the EUT continues to operate at a reduced 80MHz nominal bandwidth.

7.23.4. TABULATED TEST RESULTS

INCUMBENT SIGNAL DETECTION RESULTS

EUT Channel Center Frequency, f_{c1} (MHz)	6985
EUT Nominal Channel Bandwidth (MHz)	160
99% Occupied Bandwidth of the EUT (MHz)	155.97
EUT 99% OBW Lower Edge, F_L (MHz)	6907.02
EUT 99% OBW Upper Edge, F_H (MHz)	7062.99
99% Occupied Bandwidth of the Incumbent Signal (MHz)	10.01
Test Frequency of Incumbent Signal (f_{c2}) Near EUT F_L (MHz)	6913
Test Frequency of Incumbent Signal at f_{c1} (MHz)	6985
Test Frequency of Incumbent Signal (f_{c3}) Near EUT F_H (MHz)	7057
Maximum Allowed Incumbent Amplitude at Antenna (dBm)	-62
Minimum Antenna Gain (dBi)	-2.80
Maximum Allowed Incumbent Amplitude at Radio Port (dBm)	-64.80
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} at test fixture (dBm)	-73.57
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c2} (dBm)	-77.07
Margin (dBm)	-12.27
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} at test fixture (dBm)	-69.84
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c1} (dBm)	-73.34
Margin (dBm)	-8.54
Result (PASS / FAIL)	PASS
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} at test fixture (dBm)	-73.26
Text Fixture Cable Loss	3.50
Lowest Passing Measured Incumbent Signal Amplitude at f_{c3} (dBm)	-76.76
Margin (dBm)	-11.96
Result (PASS / FAIL)	PASS

INCUMBENT SIGNAL DETECTION CERTAINTY RATE

Trial	AWGN Detected (Yes / No)		
	Incumbent AWGN at f_{c2}	Incumbent AWGN at f_{c1}	Incumbent AWGN at f_{c3}
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
Test Result	PASS	PASS	PASS

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

A minimum detection rate of 90% is required for the EUT to be compliant.

7.23.5. Tx OPERATIONAL STATUS TEST RESULTS

Test Condition 4: 99% BW_{EUT} > 4 x 99% BW_{INC}

Incumbent AWGN at f_{c2}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-73.57	3.5	-77.07	-2.80	-74.27	-62	Ceased
-74.54	3.5	-78.04	-2.80	-75.24	-62	Minimal
-75.41	3.5	-78.91	-2.80	-76.11	-62	Normal

Incumbent AWGN at f_{c1}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-69.84	3.5	-73.34	-2.80	-70.54	-62	Ceased
-70.77	3.5	-74.27	-2.80	-71.47	-62	Minimal
-73.96	3.5	-77.46	-2.80	-74.66	-62	Normal

Incumbent AWGN at f_{c3}:

Measured Incumbent Power at the EUT Test Fixture Connector (dBm)	Test Fixture Cable Path Loss (dB)	Adjusted Incumbent Power at the Radio Port (dBm)	Antenna Gain (dBi)	Adjusted Incumbent Power at the Antenna (dBm)	Detection Limit (dBm)	EUT Tx Status
-73.26	3.5	-76.76	-2.80	-73.96	-62	Ceased
-74.41	3.5	-77.91	-2.80	-75.11	-62	Minimal
-75.46	3.5	-78.96	-2.80	-76.16	-62	Normal

Test Date: 2025-05-27

Tested by: 44352

Test location: 1-DFS-A

8. SETUP PHOTOS

Please refer to 15496277-EP1V1 for setup photos

END OF REPORT