

# EMISSION BANDWIDTH

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The transmit frequencies and data rates listed in the datasheet were measured in each band utilized by the radio. The transmit power was set to its default maximum.

Per ANSI C63.10:2013, Clause 12.4, the spectrum analyzer settings were as follows:

- RBW = Approx. 1% of the emission bandwidth (B).
- VBW  $\geq 3 \times$  RBW
- Detector = Peak
- Trace mode = max hold

The spectrum analyzer occupied bandwidth measurement function was then used to measure the -26 dB bandwidth.

There is no required limit to be met in the rule part for this test. The purpose of the test is to both report the results as required and to utilize the emission bandwidth for setting the channel power integration bandwidth during conducted output power testing and determine the power limits.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

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EUT:	Fuji Thermostat	Work Order:	ADEM0044
Serial Number:	52202030005204	Date:	2024-07-23
Customer:	Ademco, Inc.	Temperature:	21.9°C
Attendees:	None	Relative Humidity:	56.5%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Christopher Heintzelman, Arnaud Dedry	Job Site:	MN11
Power:	110VAC/60Hz	Configuration:	ADEM0044-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

## COMMENTS

Reference level offset includes attenuator, measurement cable, and DC block.  
Measurement of Channel 64, MCS0 used SN 52202030005143.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

N/A

Tested By

## TEST RESULTS

	Value	Limit	Result
<b>5150 - 5250 MHz Band, UNII-1, 20 MHz</b>			
Mid Channel, Ch 40 - 5200 MHz			
802.11(a) 6 Mbps	39.623 MHz	N/A	N/A
802.11(a) 36 Mbps	23.589 MHz	N/A	N/A
802.11(a) 54 Mbps	20.863 MHz	N/A	N/A
802.11(n) MCS0	38.581 MHz	N/A	N/A
802.11(n) MCS7	21.089 MHz	N/A	N/A
High Channel, Ch 48 - 5240 MHz			
802.11(a) 6 Mbps	41.526 MHz	N/A	N/A
802.11(a) 36 Mbps	29.24 MHz	N/A	N/A
802.11(a) 54 Mbps	20.745 MHz	N/A	N/A
802.11(n) MCS0	39.358 MHz	N/A	N/A
802.11(n) MCS7	21.871 MHz	N/A	N/A
<b>5250 - 5350 MHz Band, UNII-2A, 20 MHz</b>			
Low Channel, Ch 52 - 5260 MHz			
802.11(a) 6 Mbps	42.202 MHz	N/A	N/A
802.11(a) 36 Mbps	26.089 MHz	N/A	N/A
802.11(a) 54 Mbps	21.471 MHz	N/A	N/A
802.11(n) MCS0	37.07 MHz	N/A	N/A
802.11(n) MCS7	21.148 MHz	N/A	N/A
Mid Channel, Ch 60 - 5300 MHz			

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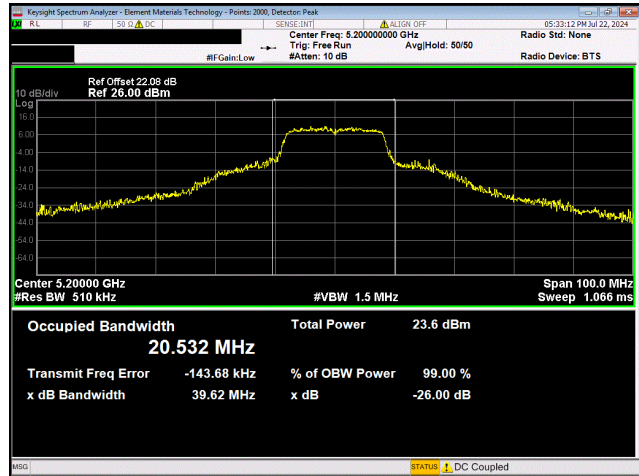


	Value	Limit	Result
802.11(a) 6 Mbps	40.152 MHz	N/A	N/A
802.11(a) 36 Mbps	34.123 MHz	N/A	N/A
802.11(a) 54 Mbps	21.909 MHz	N/A	N/A
802.11(n) MCS0	41.342 MHz	N/A	N/A
802.11(n) MCS7	22.31 MHz	N/A	N/A
High Channel, Ch 64 - 5320 MHz			
802.11(a) 6 Mbps	39.874 MHz	N/A	N/A
802.11(a) 36 Mbps	27.542 MHz	N/A	N/A
802.11(a) 54 Mbps	22.895 MHz	N/A	N/A
802.11(n) MCS0	24.78 MHz	N/A	N/A
802.11(n) MCS7	20.986 MHz	N/A	N/A
5470 - 5725 MHz Band, UNII-2C, 20 MHz			
Low Channel, Ch 100 - 5500 MHz			
802.11(a) 6 Mbps	37.542 MHz	N/A	N/A
802.11(a) 36 Mbps	29.732 MHz	N/A	N/A
802.11(a) 54 Mbps	21.245 MHz	N/A	N/A
802.11(n) MCS0	40.044 MHz	N/A	N/A
802.11(n) MCS7	22.19 MHz	N/A	N/A
Mid Channel, Ch 116 - 5580 MHz			
802.11(a) 6 Mbps	32.652 MHz	N/A	N/A
802.11(a) 36 Mbps	21.282 MHz	N/A	N/A
802.11(a) 54 Mbps	20.501 MHz	N/A	N/A
802.11(n) MCS0	30.372 MHz	N/A	N/A
802.11(n) MCS7	21.227 MHz	N/A	N/A
High Channel, Ch 140 - 5700 MHz			
802.11(a) 6 Mbps	21.724 MHz	N/A	N/A
802.11(a) 36 Mbps	20.646 MHz	N/A	N/A
802.11(a) 54 Mbps	20.684 MHz	N/A	N/A
802.11(n) MCS0	21.625 MHz	N/A	N/A
802.11(n) MCS7	21.238 MHz	N/A	N/A
5725 - 5785 MHz Band			
Low Channel, Ch 149 - 5745 MHz			
802.11(a) 6 Mbps	16.342 MHz	500 kHz	Pass
802.11(a) 36 Mbps	16.402 MHz	500 kHz	Pass
802.11(a) 54 Mbps	16.4 MHz	500 kHz	Pass
802.11(n) MCS0	17.054 MHz	500 kHz	Pass
802.11(n) MCS7	17.529 MHz	500 kHz	Pass
Mid Channel, Ch 157 - 5785 MHz			
802.11(a) 6 Mbps	16.341 MHz	500 kHz	Pass
802.11(a) 36 Mbps	16.409 MHz	500 kHz	Pass
802.11(a) 54 Mbps	16.416 MHz	500 kHz	Pass
802.11(n) MCS0	17.542 MHz	500 kHz	Pass

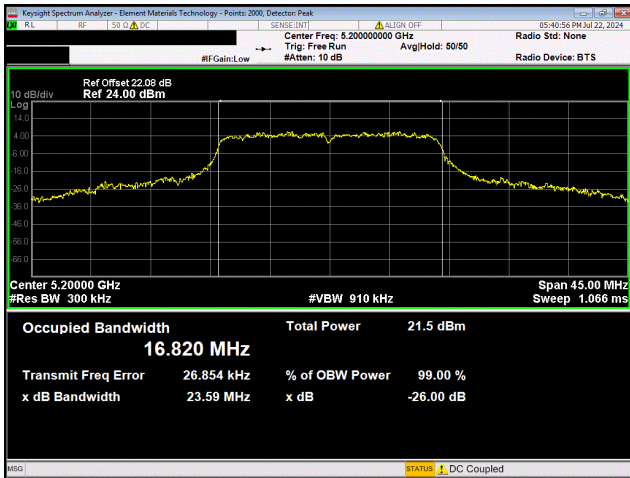
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	Value	Limit	Result
802.11(n) MCS7	17.577 MHz	500 kHz	Pass
High Channel, Ch 165 - 5825 MHz			
802.11(a) 6 Mbps	16.316 MHz	500 kHz	Pass
802.11(a) 36 Mbps	16.446 MHz	500 kHz	Pass
802.11(a) 54 Mbps	16.38 MHz	500 kHz	Pass
802.11(n) MCS0	17.076 MHz	500 kHz	Pass
802.11(n) MCS7	17.615 MHz	500 kHz	Pass

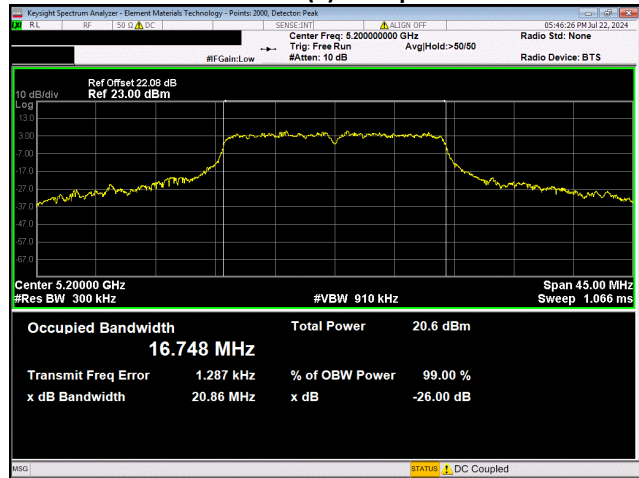
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5150 - 5250 MHz Band, UNII-1, 20 MHz  
Mid Channel, Ch 40 - 5200 MHz  
802.11(a) 6 Mbps

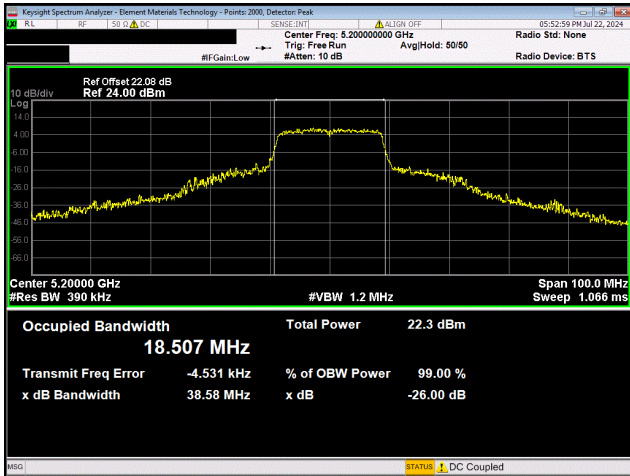


5150 - 5250 MHz Band, UNII-1, 20 MHz  
Mid Channel, Ch 40 - 5200 MHz  
802.11(a) 36 Mbps

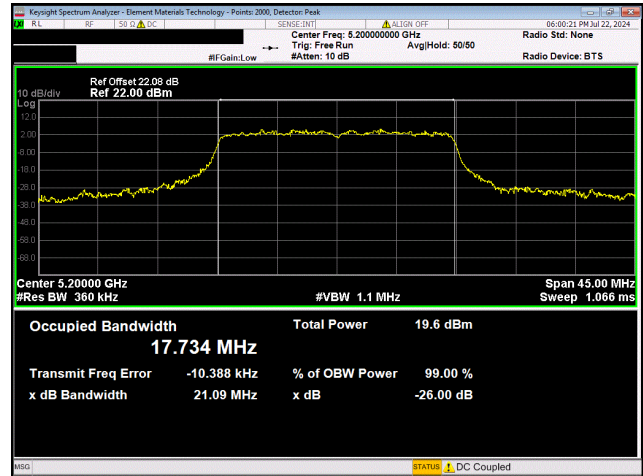


5150 - 5250 MHz Band, UNII-1, 20 MHz  
Mid Channel, Ch 40 - 5200 MHz  
802.11(a) 54 Mbps

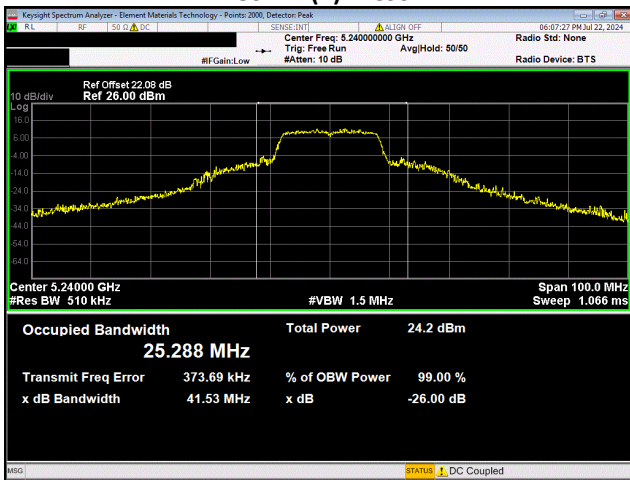
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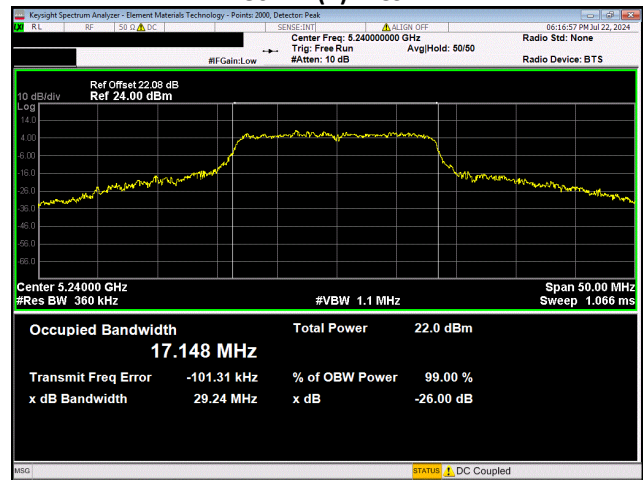
5150 - 5250 MHz Band, UNII-1, 20 MHz  
Mid Channel, Ch 40 - 5200 MHz  
802.11(n) MCS0



5150 - 5250 MHz Band, UNII-1, 20 MHz  
Mid Channel, Ch 40 - 5200 MHz  
802.11(n) MCS7

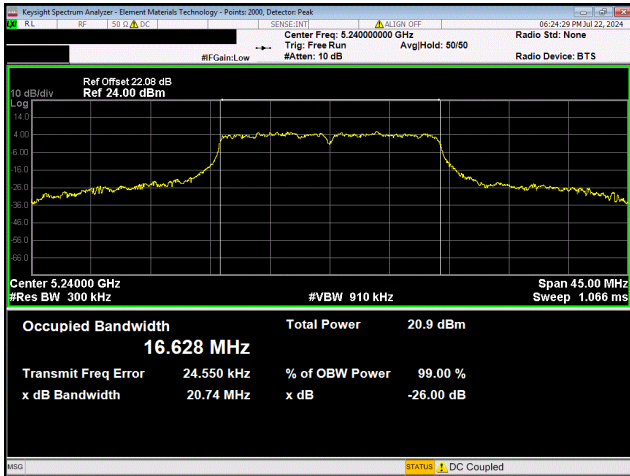


5150 - 5250 MHz Band, UNII-1, 20 MHz  
High Channel, Ch 48 - 5240 MHz  
802.11(a) 6 Mbps

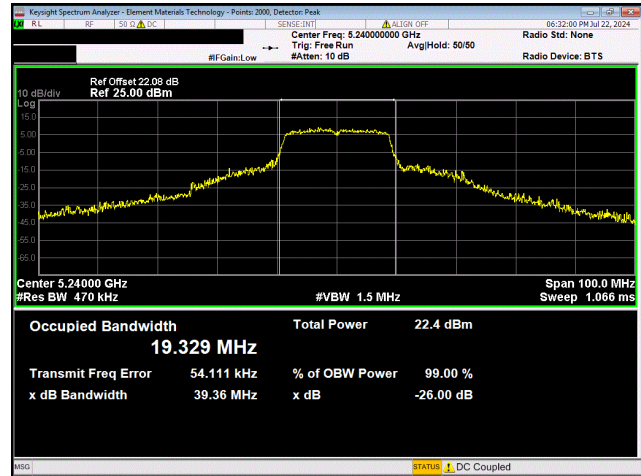


5150 - 5250 MHz Band, UNII-1, 20 MHz  
High Channel, Ch 48 - 5240 MHz  
802.11(a) 36 Mbps

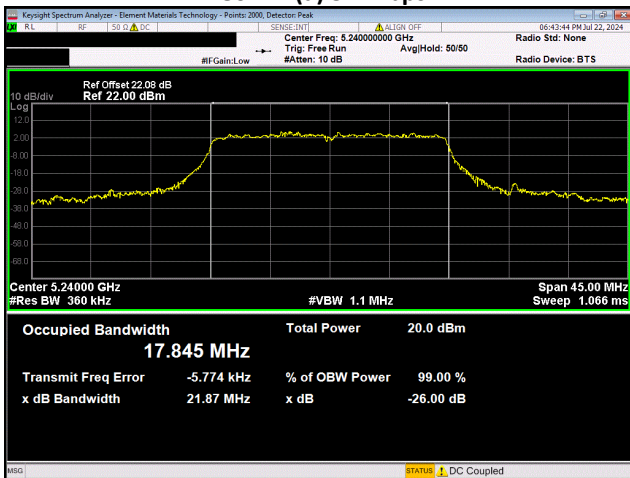
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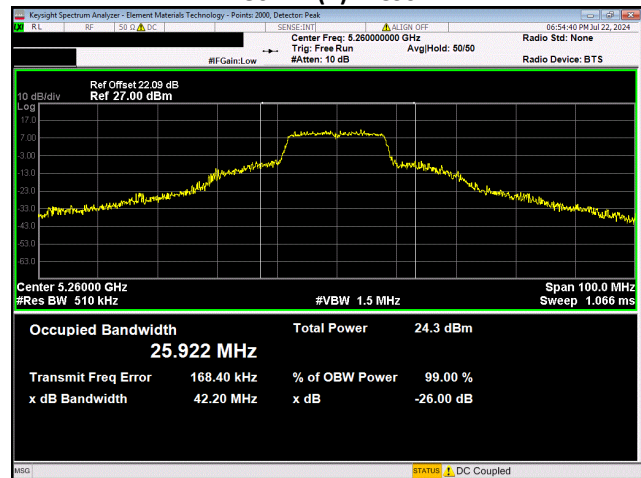
5150 - 5250 MHz Band, UNII-1, 20 MHz  
High Channel, Ch 48 - 5240 MHz  
802.11(a) 54 Mbps



5150 - 5250 MHz Band, UNII-1, 20 MHz  
High Channel, Ch 48 - 5240 MHz  
802.11(n) MCS0

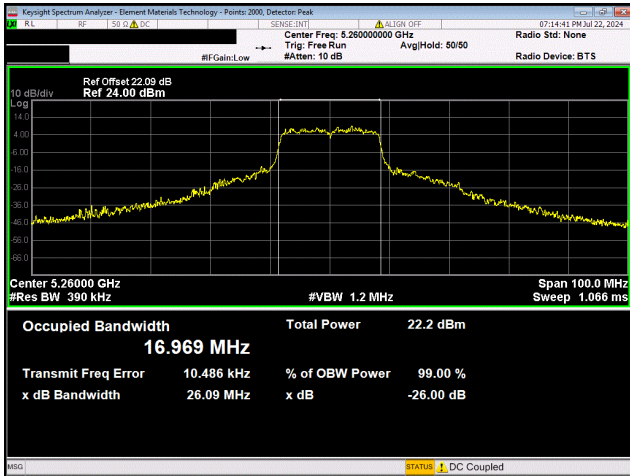


5150 - 5250 MHz Band, UNII-1, 20 MHz  
High Channel, Ch 48 - 5240 MHz  
802.11(n) MCS7

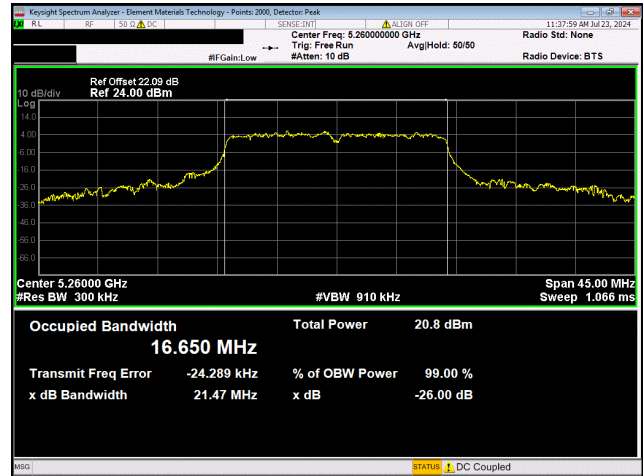


5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Low Channel, Ch 52 - 5260 MHz  
802.11(a) 6 Mbps

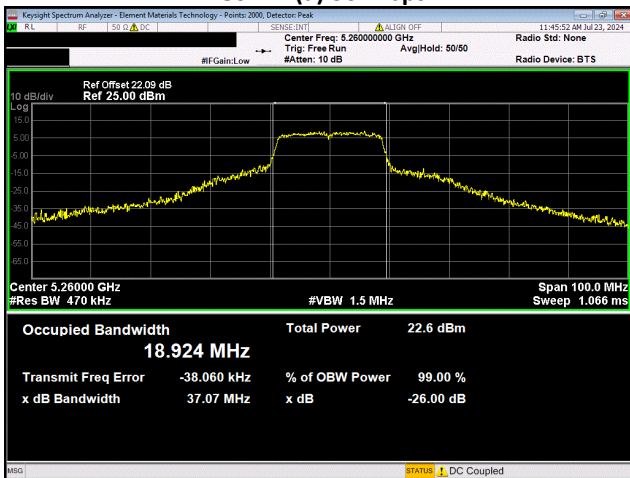
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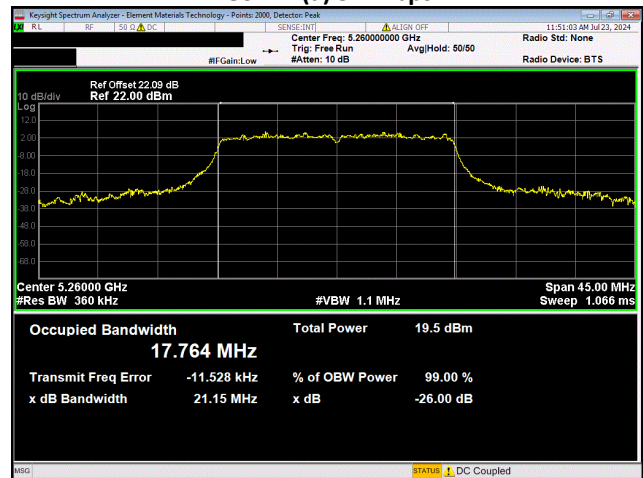
5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Low Channel, Ch 52 - 5260 MHz  
802.11(a) 36 Mbps



5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Low Channel, Ch 52 - 5260 MHz  
802.11(a) 54 Mbps



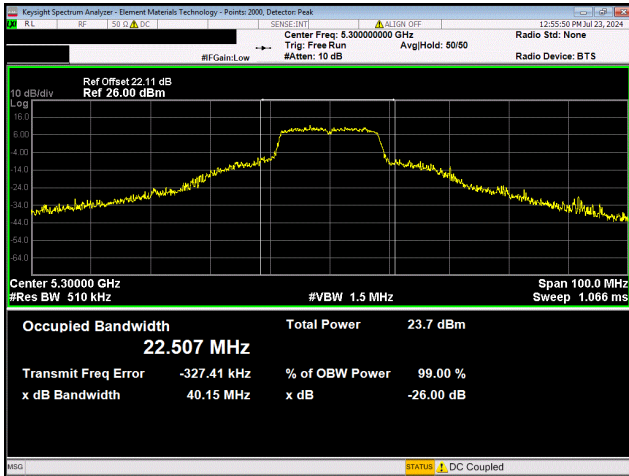
5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Low Channel, Ch 52 - 5260 MHz  
802.11(n) MCS0



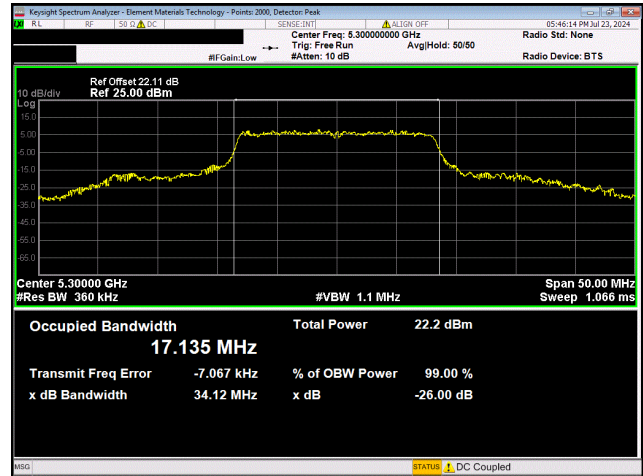
5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Low Channel, Ch 52 - 5260 MHz  
802.11(n) MCS7



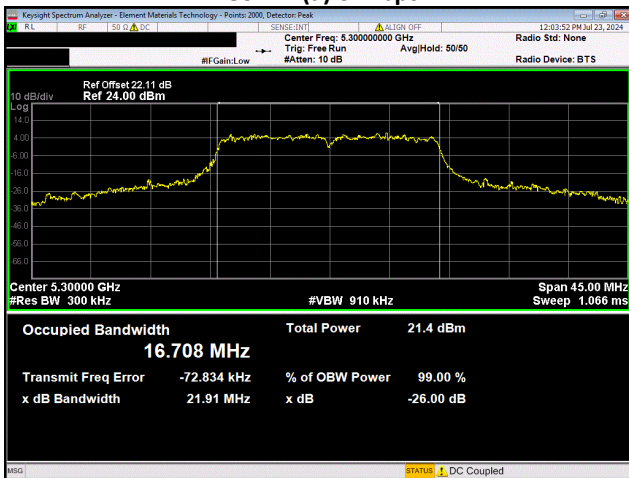
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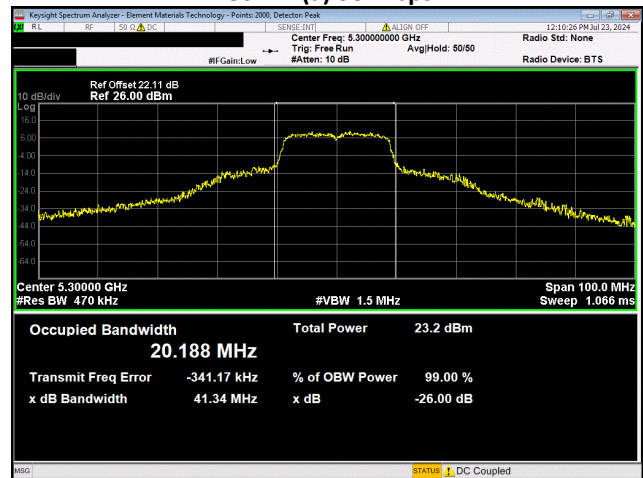
5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Mid Channel, Ch 60 - 5300 MHz  
802.11(a) 6 Mbps



5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Mid Channel, Ch 60 - 5300 MHz  
802.11(a) 36 Mbps

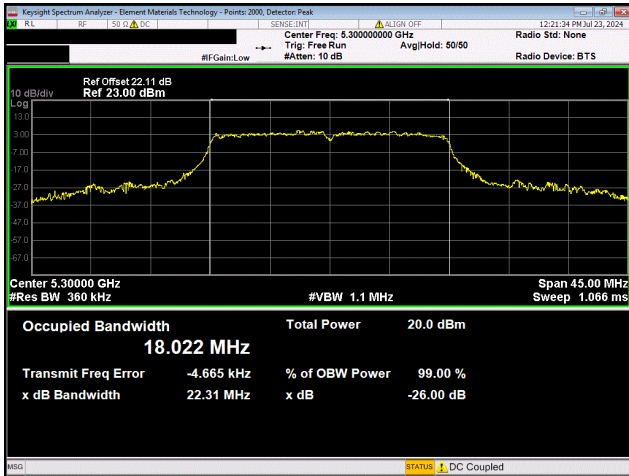


5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Mid Channel, Ch 60 - 5300 MHz  
802.11(a) 54 Mbps

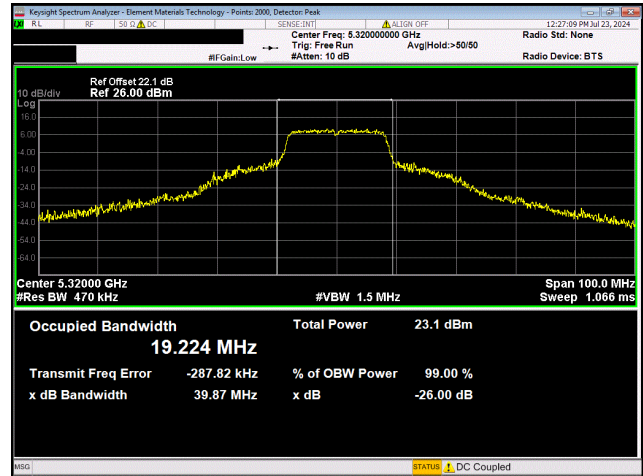


5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Mid Channel, Ch 60 - 5300 MHz  
802.11(n) MCS0

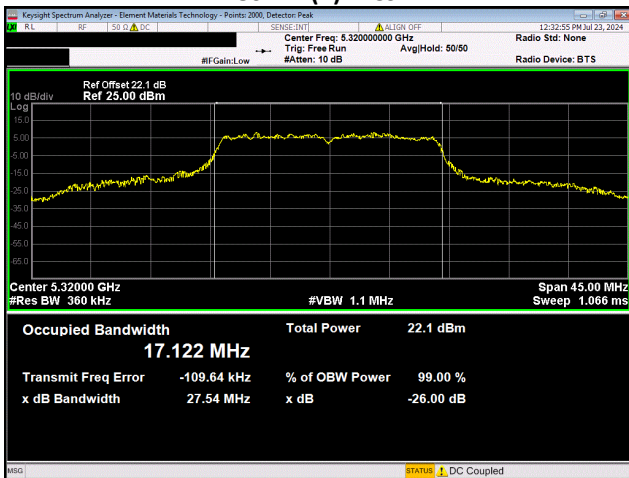
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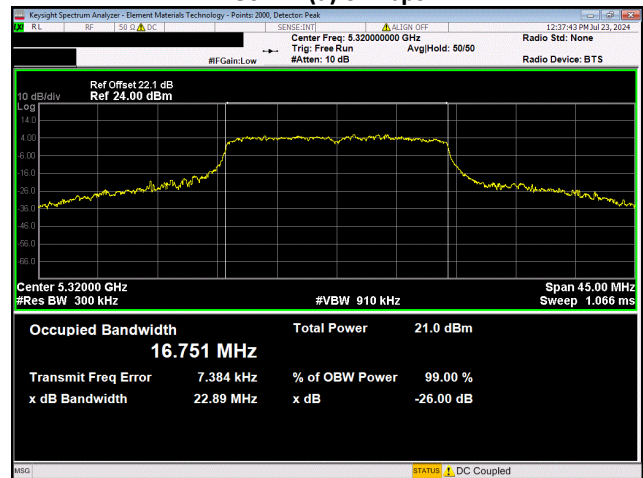
5250 - 5350 MHz Band, UNII-2A, 20 MHz  
Mid Channel, Ch 60 - 5300 MHz  
802.11(n) MCS7



5250 - 5350 MHz Band, UNII-2A, 20 MHz  
High Channel, Ch 64 - 5320 MHz  
802.11(a) 6 Mbps

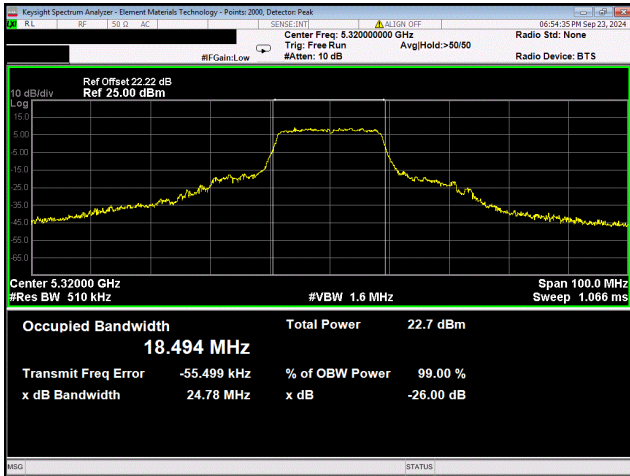


5250 - 5350 MHz Band, UNII-2A, 20 MHz  
High Channel, Ch 64 - 5320 MHz  
802.11(a) 36 Mbps

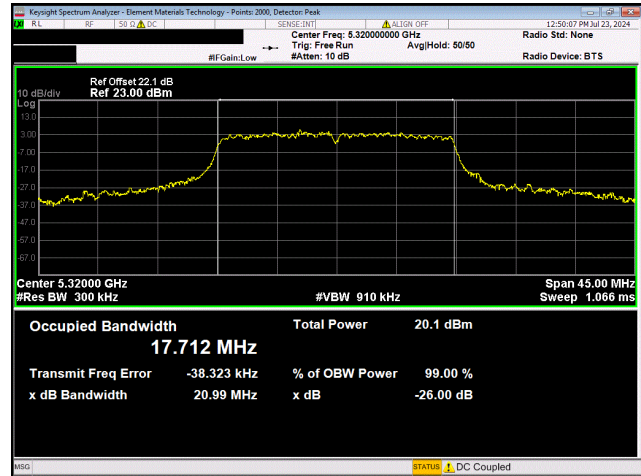


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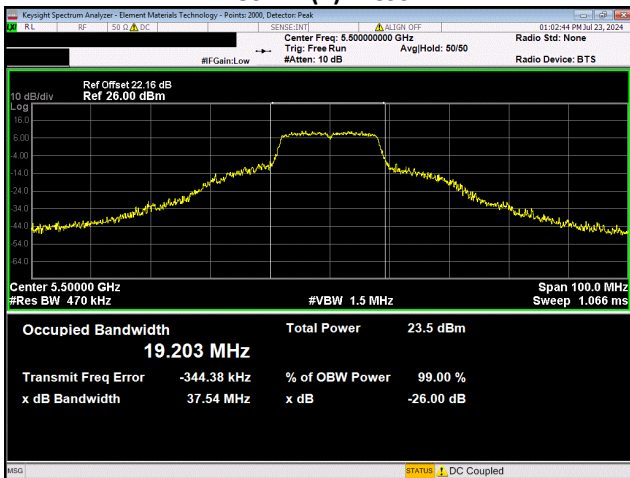
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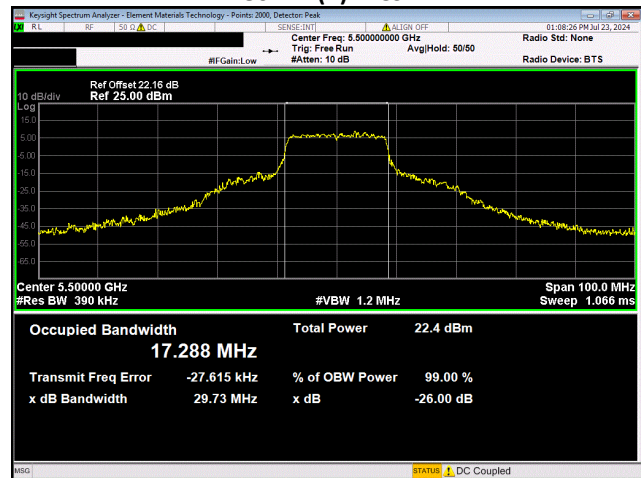
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802.11(n) MCS0



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High Channel, Ch 64 - 5320 MHz  
802.11(n) MCS7

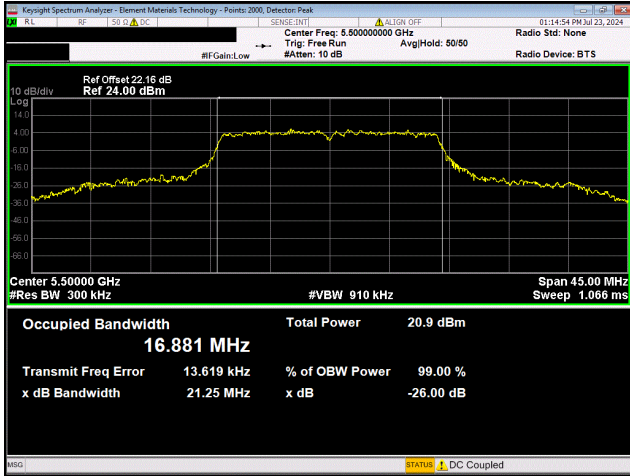


5470 - 5725 MHz Band, UNII-2C, 20 MHz  
Low Channel, Ch 100 - 5500 MHz  
802.11(a) 6 Mbps

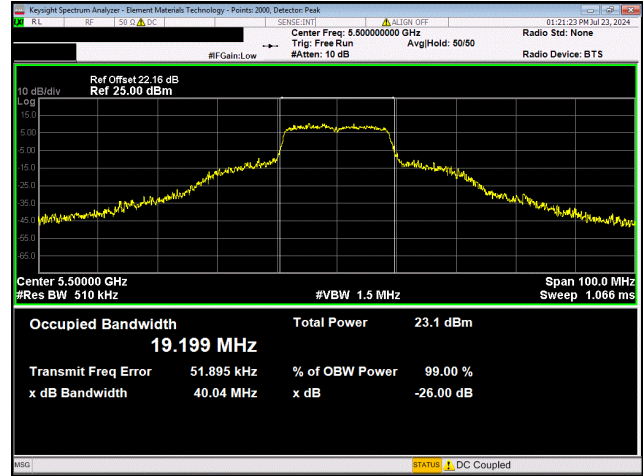


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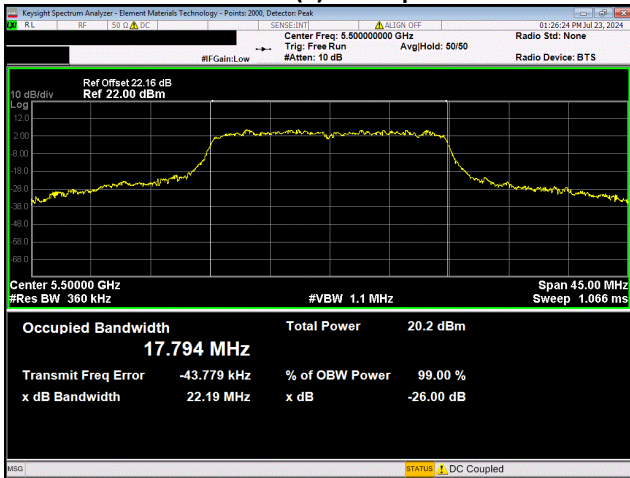
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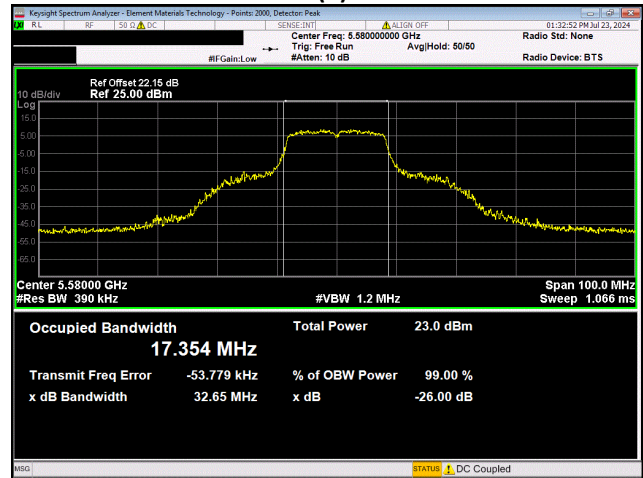
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802.11(a) 54 Mbps



5470 - 5725 MHz Band, UNII-2C, 20 MHz  
Low Channel, Ch 100 - 5500 MHz  
802.11(n) MCS0

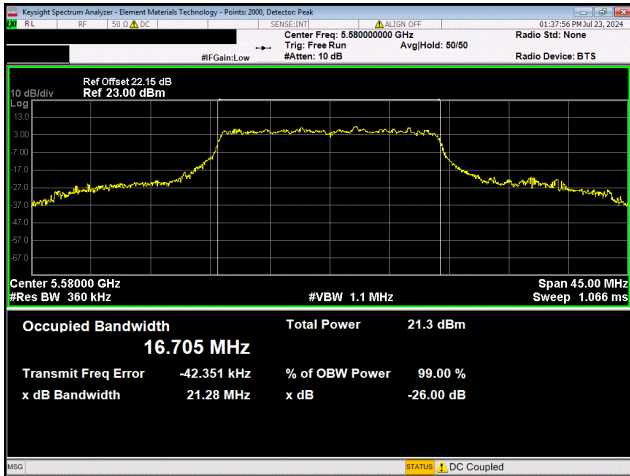


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Low Channel, Ch 100 - 5500 MHz  
802.11(n) MCS7

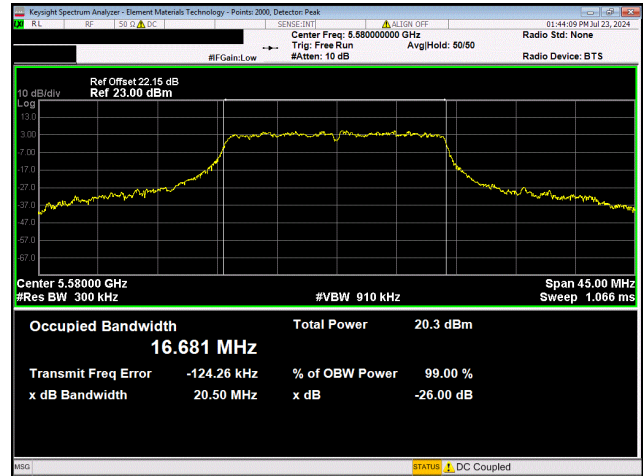


5470 - 5725 MHz Band, UNII-2C, 20 MHz  
Mid Channel, Ch 116 - 5580 MHz  
802.11(a) 6 Mbps

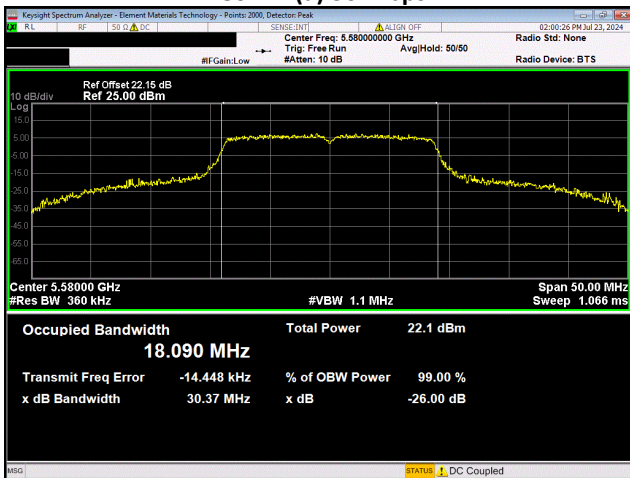
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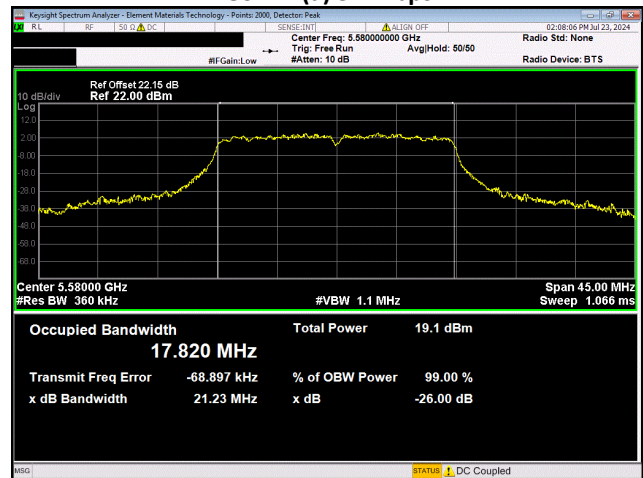
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Mid Channel, Ch 116 - 5580 MHz  
802.11(a) 36 Mbps



5470 - 5725 MHz Band, UNII-2C, 20 MHz  
Mid Channel, Ch 116 - 5580 MHz  
802.11(a) 54 Mbps

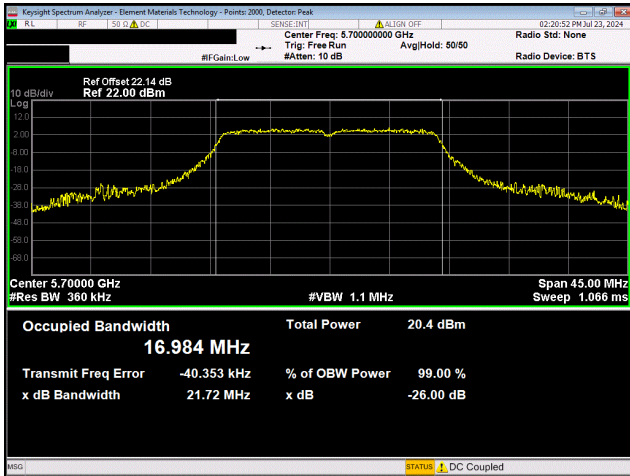


5470 - 5725 MHz Band, UNII-2C, 20 MHz  
Mid Channel, Ch 116 - 5580 MHz  
802.11(n) MCS0

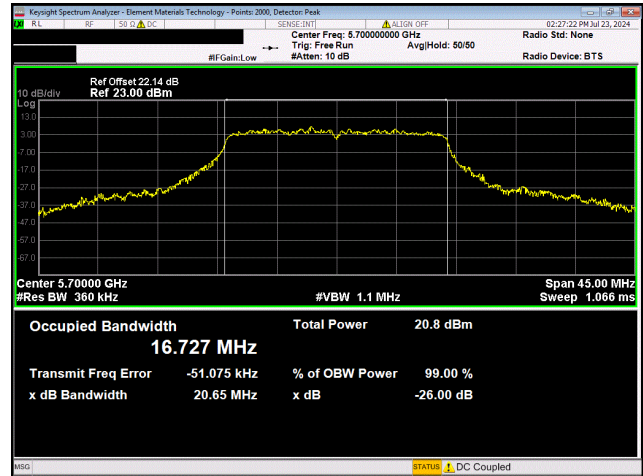


5470 - 5725 MHz Band, UNII-2C, 20 MHz  
Mid Channel, Ch 116 - 5580 MHz  
802.11(n) MCS7

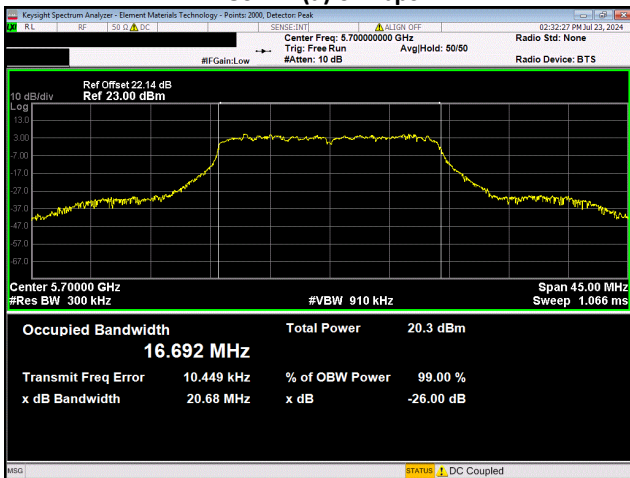
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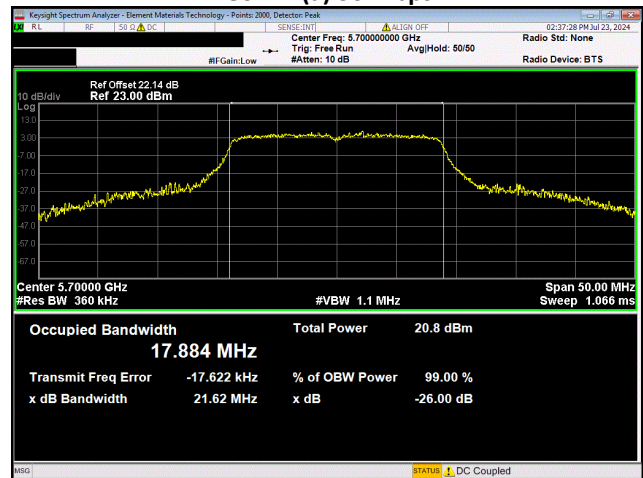
5470 - 5725 MHz Band, UNII-2C, 20 MHz  
High Channel, Ch 140 - 5700 MHz  
802.11(a) 6 Mbps



5470 - 5725 MHz Band, UNII-2C, 20 MHz  
High Channel, Ch 140 - 5700 MHz  
802.11(a) 36 Mbps

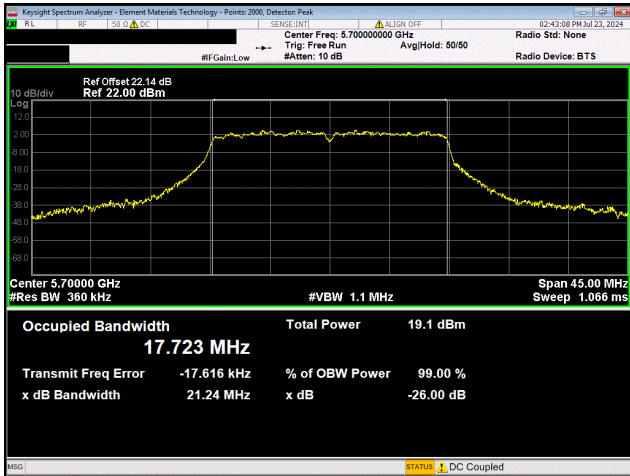


5470 - 5725 MHz Band, UNII-2C, 20 MHz  
High Channel, Ch 140 - 5700 MHz  
802.11(a) 54 Mbps

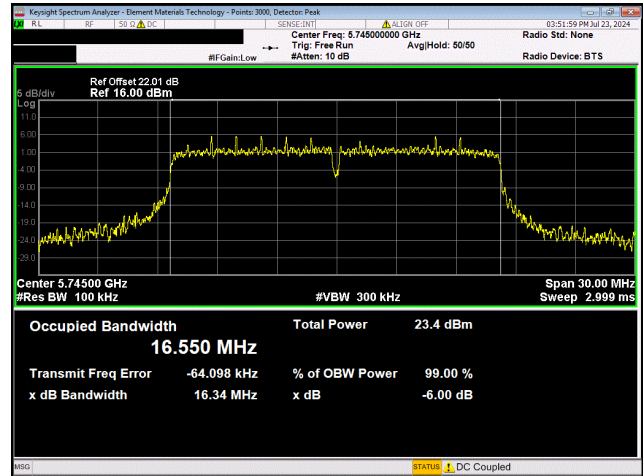


5470 - 5725 MHz Band, UNII-2C, 20 MHz  
High Channel, Ch 140 - 5700 MHz  
802.11(n) MCS0

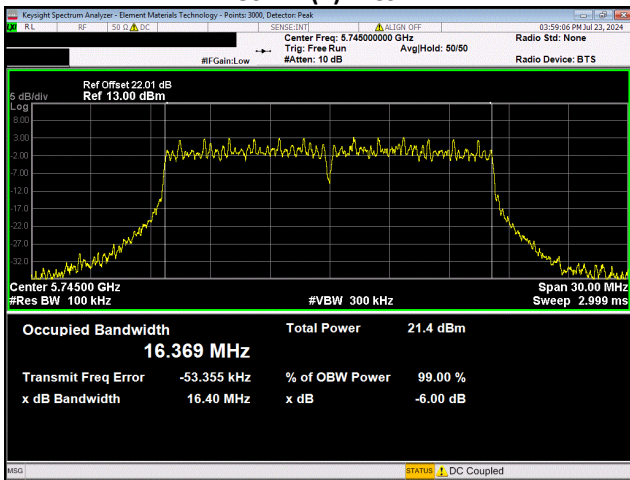
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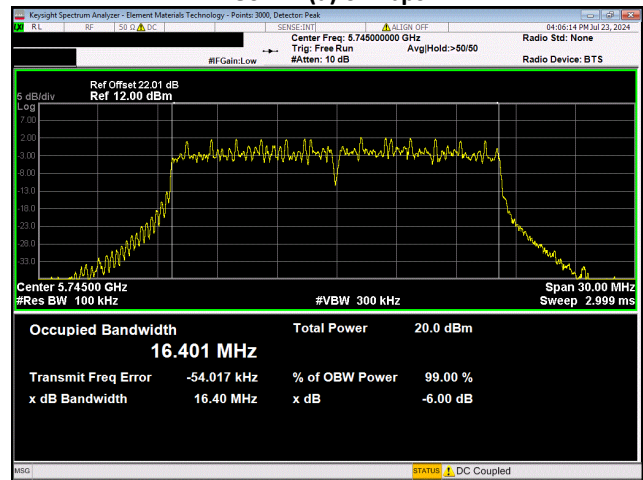
5470 - 5725 MHz Band, UNII-2C, 20 MHz  
High Channel, Ch 140 - 5700 MHz  
802.11(n) MCS7



5725 - 5785 MHz Band  
Low Channel, Ch 149 - 5745 MHz  
802.11(a) 6 Mbps

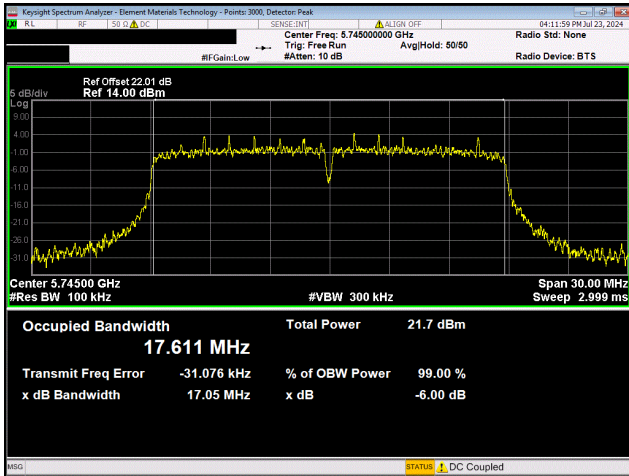


5725 - 5785 MHz Band  
Low Channel, Ch 149 - 5745 MHz  
802.11(a) 36 Mbps

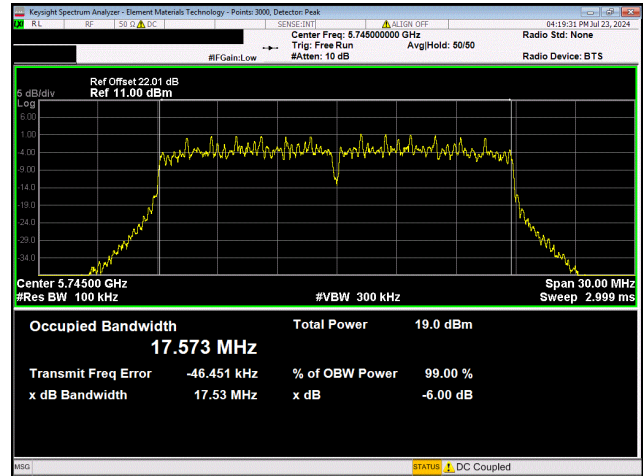


5725 - 5785 MHz Band  
Low Channel, Ch 149 - 5745 MHz  
802.11(a) 54 Mbps

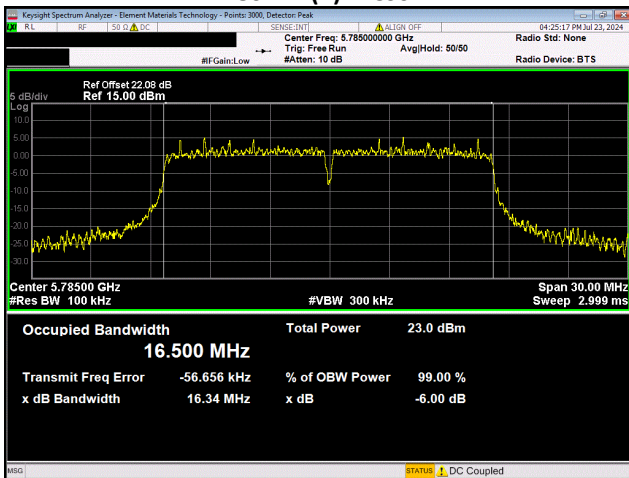
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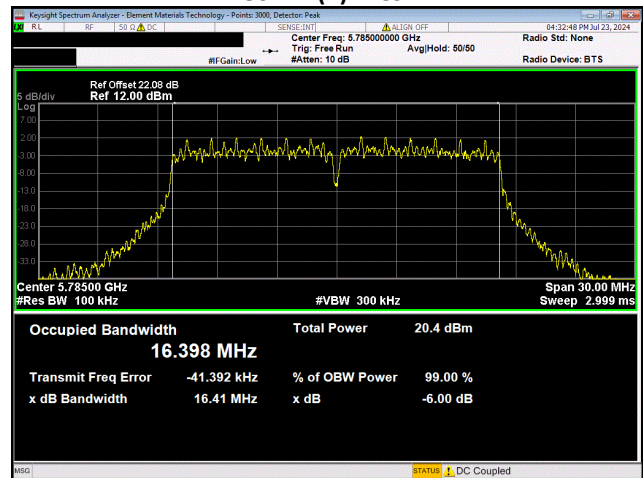
**5725 - 5785 MHz Band**  
**Low Channel, Ch 149 - 5745 MHz**  
**802.11(n) MCS0**



**5725 - 5785 MHz Band**  
**Low Channel, Ch 149 - 5745 MHz**  
**802.11(n) MCS7**



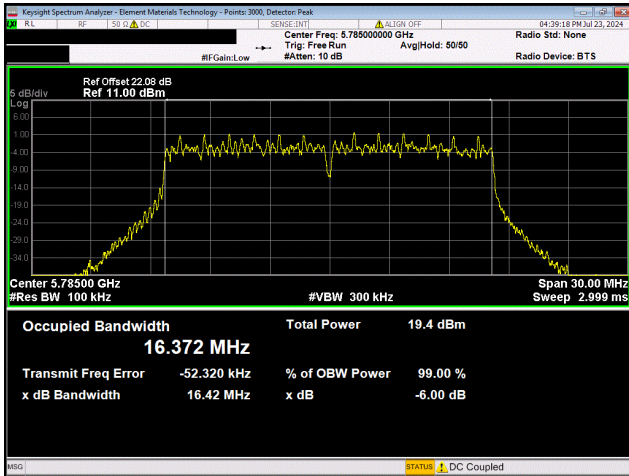
**5725 - 5785 MHz Band**  
**Mid Channel, Ch 157 - 5785 MHz**  
**802.11(a) 6 Mbps**



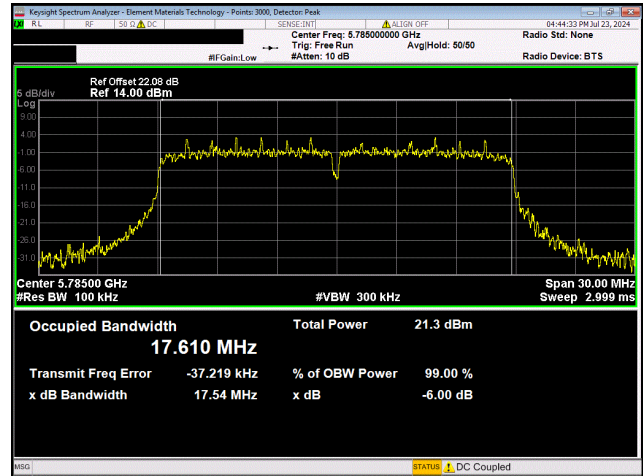
**5725 - 5785 MHz Band**  
**Mid Channel, Ch 157 - 5785 MHz**  
**802.11(a) 36 Mbps**



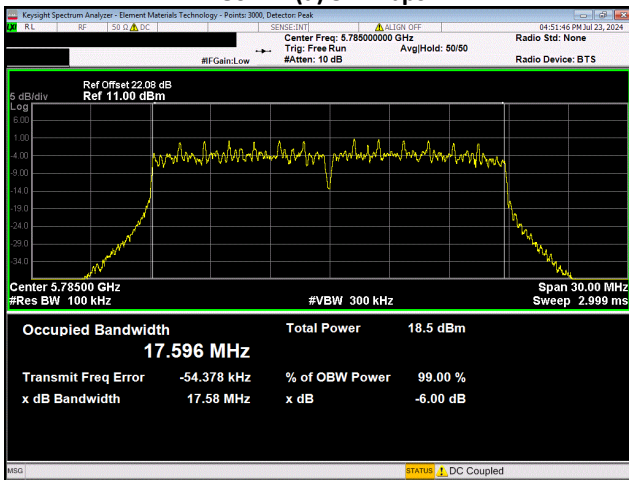
# EMISSION BANDWIDTH



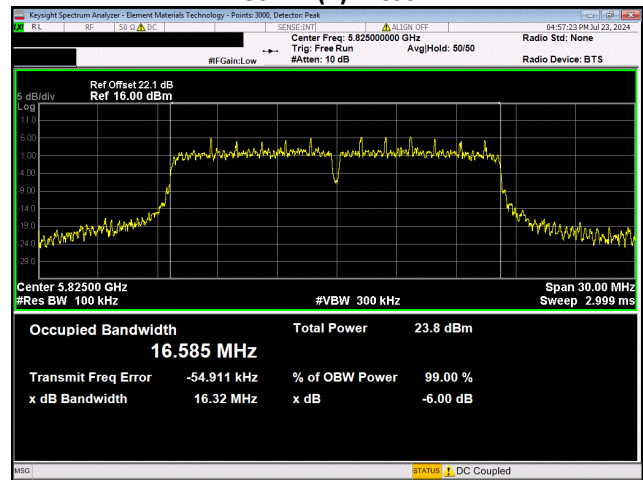
**5725 - 5785 MHz Band**  
**Mid Channel, Ch 157 - 5785 MHz**  
**802.11(a) 54 Mbps**



**5725 - 5785 MHz Band**  
**Mid Channel, Ch 157 - 5785 MHz**  
**802.11(n) MCS0**

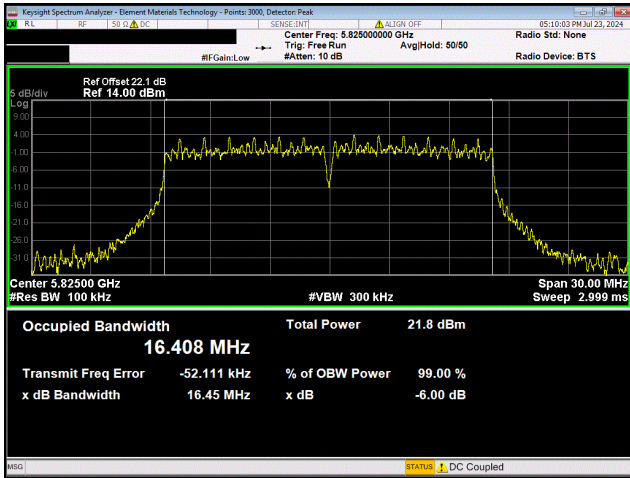


**5725 - 5785 MHz Band**  
**Mid Channel, Ch 157 - 5785 MHz**  
**802.11(n) MCS7**

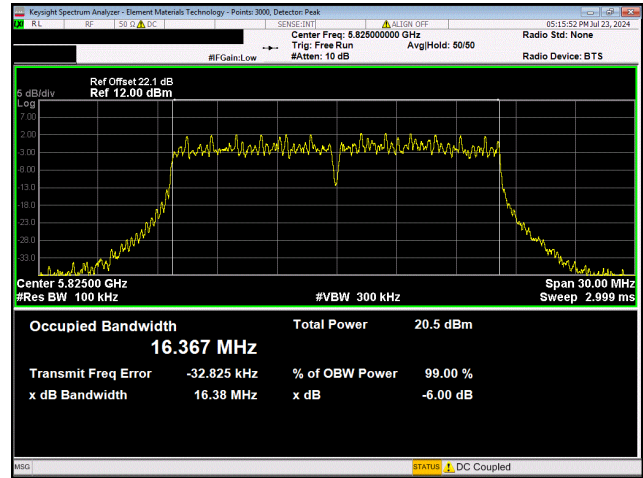


**5725 - 5785 MHz Band**  
**High Channel, Ch 165 - 5825 MHz**  
**802.11(a) 6 Mbps**

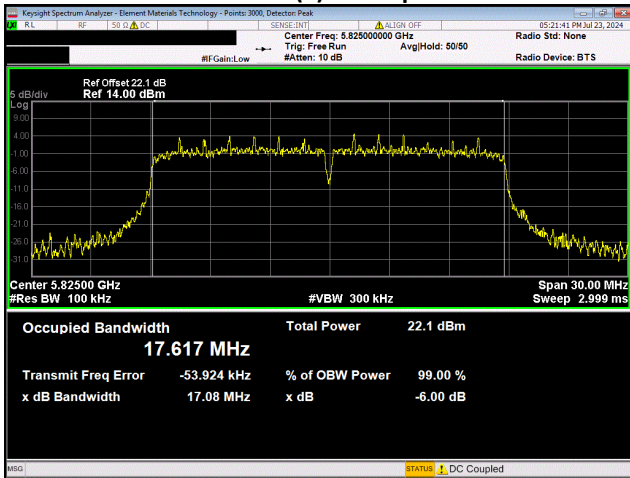
# EMISSION BANDWIDTH



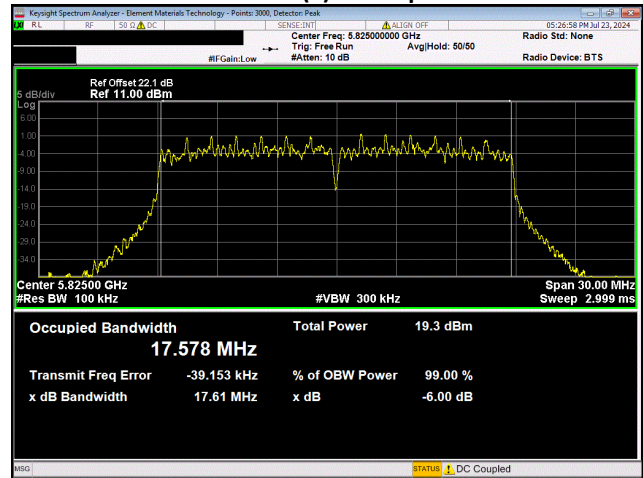
5725 - 5785 MHz Band  
High Channel, Ch 165 - 5825 MHz  
802.11(a) 36 Mbps



5725 - 5785 MHz Band  
High Channel, Ch 165 - 5825 MHz  
802.11(a) 54 Mbps



5725 - 5785 MHz Band  
High Channel, Ch 165 - 5825 MHz  
802.11(n) MCS0



5725 - 5785 MHz Band  
High Channel, Ch 165 - 5825 MHz  
802.11(n) MCS7

# EMISSION BANDWIDTH



## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The transmit frequencies and data rates listed in the datasheet were measured in each band utilized by the radio. The transmit power was set to its default maximum.

Per ANSI C63.10:2013, Clause 12.4, the spectrum analyzer settings were as follows:

- RBW = Approx. 1% of the emission bandwidth (B).
- VBW  $\geq 3 \times$  RBW
- Detector = Peak
- Trace mode = max hold

The spectrum analyzer occupied bandwidth measurement function was then used to measure the -26 dB bandwidth.

There is no required limit to be met in the rule part for this test. The purpose of the test is to both report the results as required and to utilize the emission bandwidth for setting the channel power integration bandwidth during conducted output power testing and determine the power limits.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

# EMISSION BANDWIDTH



EUT:	Fuji Thermostat	Work Order:	ADEM0044
Serial Number:	52202030005143	Date:	2024-08-26
Customer:	Ademco, Inc.	Temperature:	21.9°C
Attendees:	None	Relative Humidity:	68%
Customer Project:	None	Bar. Pressure (PMSL):	1015 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	110VAC/60Hz	Configuration:	ADEM0044-8

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.407:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

## COMMENTS

Power setting 107.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

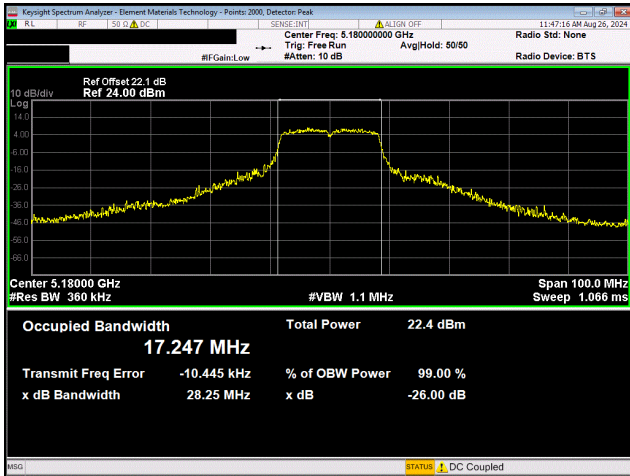
Pass

Tested By

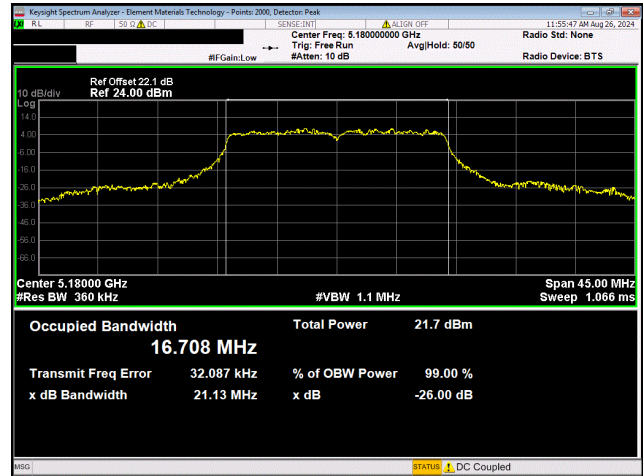
## TEST RESULTS

	Value	Limit	Result
5150 - 5250 MHz Band, UNII-1, 20 MHz			
Low Channel, Ch 36 - 5180 MHz			
802.11(a) 6 Mbps	28.25 MHz	N/A	N/A
802.11(a) 36 Mbps	21.13 MHz	N/A	N/A
802.11(a) 54 Mbps	20.838 MHz	N/A	N/A
802.11(n) MCS0	28.596 MHz	N/A	N/A
802.11(n) MCS7	21.516 MHz	N/A	N/A

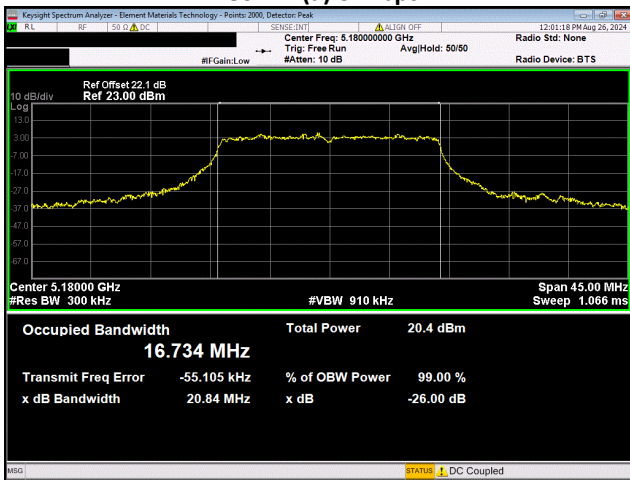
# EMISSION BANDWIDTH



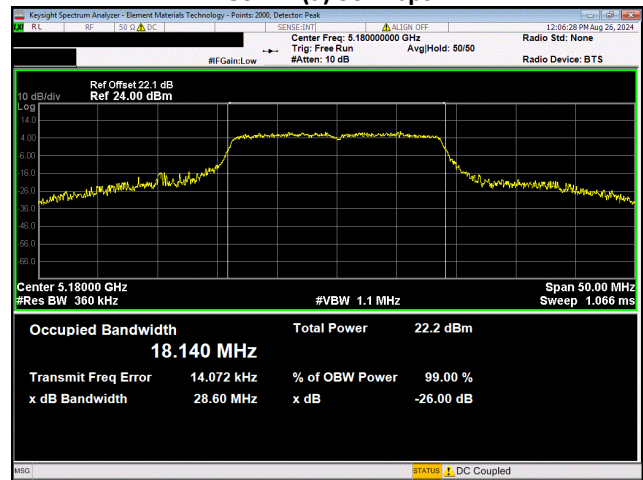
5150 - 5250 MHz Band, UNII-1, 20 MHz  
Low Channel, Ch 36 - 5180 MHz  
802.11(a) 6 Mbps



5150 - 5250 MHz Band, UNII-1, 20 MHz  
Low Channel, Ch 36 - 5180 MHz  
802.11(a) 36 Mbps

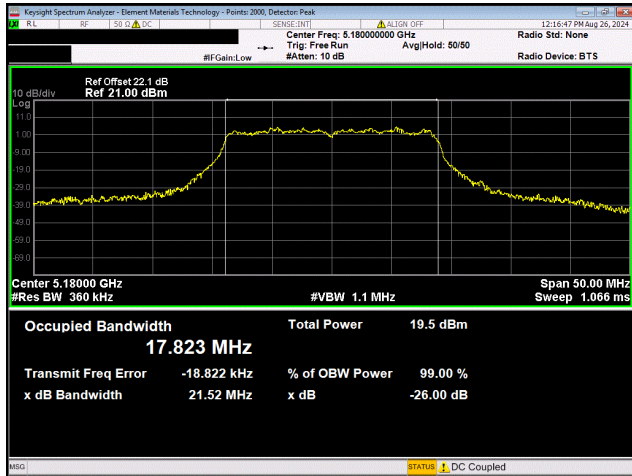


5150 - 5250 MHz Band, UNII-1, 20 MHz  
Low Channel, Ch 36 - 5180 MHz  
802.11(a) 54 Mbps



5150 - 5250 MHz Band, UNII-1, 20 MHz  
Low Channel, Ch 36 - 5180 MHz  
802.11(n) MCS0

# EMISSION BANDWIDTH



5150 - 5250 MHz Band, UNII-1, 20 MHz  
Low Channel, Ch 36 - 5180 MHz  
802.11(n) MCS7