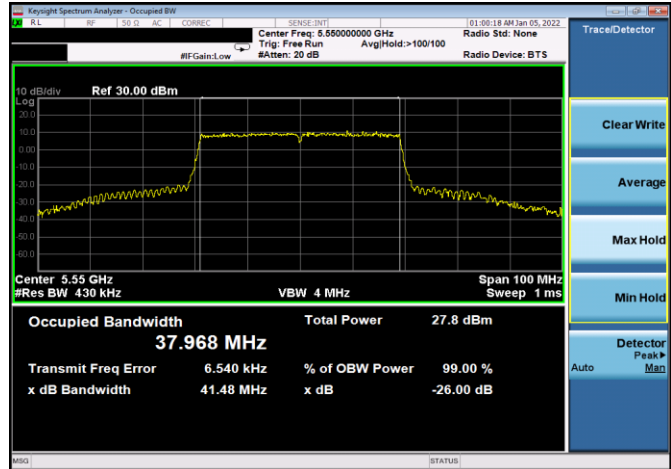
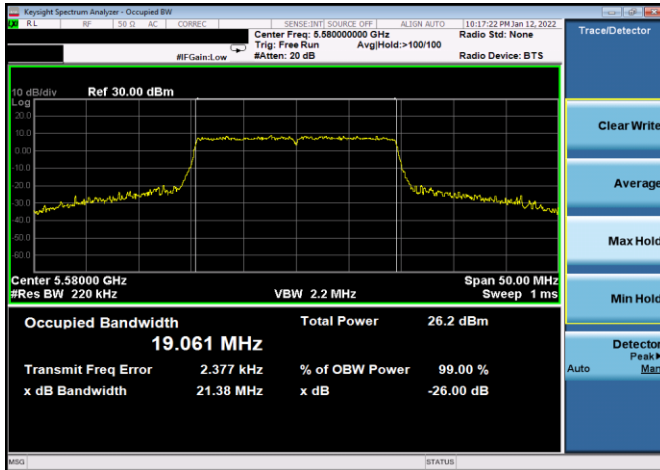


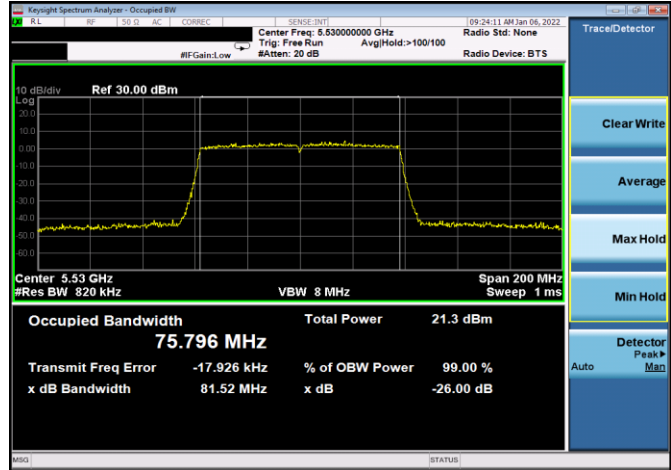
Plot 7-49. 26dB BW & 99% OBW Antenna WF8 (20MHz BW 802.11n – Ch. 116, MCS5)



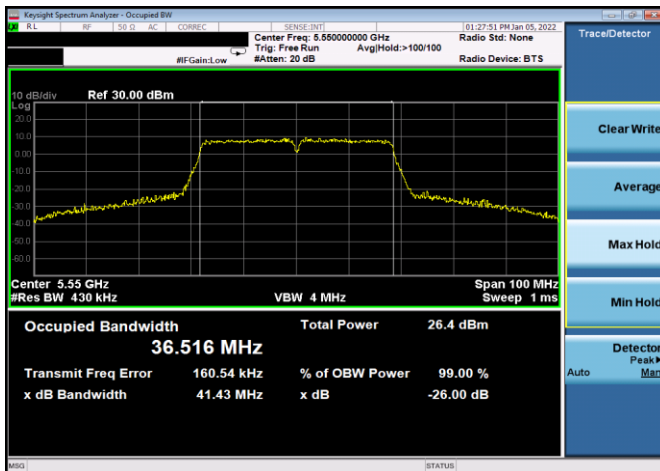
Plot 7-52. 26dB BW & 99% OBW Antenna WF8 (40MHz BW 802.11ax(SU) – Ch. 110, MCS5)



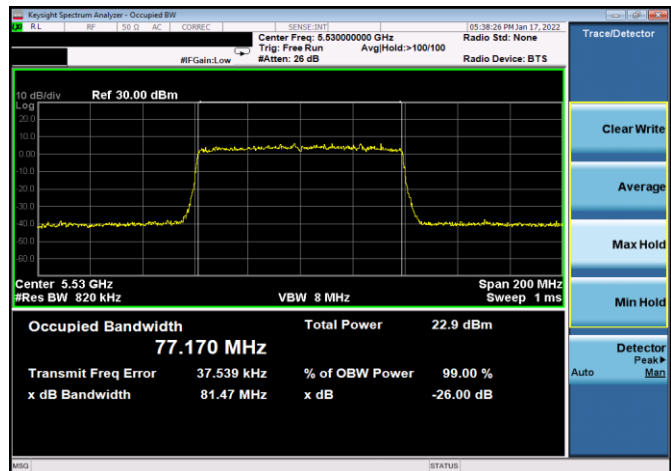
Plot 7-50. 26dB BW & 99% OBW Antenna WF8 (20MHz BW 802.11ax(SU) – Ch. 116, MCS5)



Plot 7-53. 26dB BW & 99% OBW Antenna WF8 (80MHz BW 802.11ac – Ch. 106, MCS5)



Plot 7-51. 26dB BW & 99% OBW Antenna WF8 (40MHz BW 802.11n – Ch. 110), MCS5)



Plot 7-54. 26dB BW & 99% OBW Antenna WF8 (80MHz BW 802.11ax(SU) – Ch. 106, MCS5)

FCC ID: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C211150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 32 of 352

## Antenna WF7a 26dB & 99% Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	6.5/7.2 (MCS0)	17.92	21.45
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	17.81	20.96
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	17.80	21.02
	5180	36	ax (SU) (20MHz)	8/8.6 (MCS0)	19.16	21.79
	5200	40	ax (SU) (20MHz)	8/8.6 (MCS0)	19.09	21.25
	5240	48	ax (SU) (20MHz)	8/8.6 (MCS0)	19.17	21.32
	5190	38	n (40MHz)	13.5/15 (MCS0)	36.46	42.37
	5230	46	n (40MHz)	13.5/15 (MCS0)	36.38	41.63
	5190	38	ax (SU) (40MHz)	16/17.2 (MCS0)	38.02	44.27
	5230	46	ax (SU) (40MHz)	16/17.2 (MCS0)	37.98	41.62
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	75.42	82.31
	5210	42	ax (SU) (80MHz)	34/36 (MCS0)	77.24	81.95
Band 2A	5260	52	n (20MHz)	6.5/7.2 (MCS0)	17.86	21.44
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	17.79	21.05
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	17.86	21.72
	5260	52	ax (SU) (20MHz)	8/8.6 (MCS0)	19.12	21.24
	5280	56	ax (SU) (20MHz)	8/8.6 (MCS0)	19.07	21.21
	5320	64	ax (SU) (20MHz)	8/8.6 (MCS0)	19.13	22.76
	5270	54	n (40MHz)	13.5/15 (MCS0)	36.35	41.10
	5310	62	n (40MHz)	13.5/15 (MCS0)	36.65	43.73
	5270	54	ax (SU) (40MHz)	16/17.2 (MCS0)	38.02	41.78
	5310	62	ax (SU) (40MHz)	16/17.2 (MCS0)	36.65	43.73
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	75.41	82.02
	5290	58	ax (SU) (80MHz)	34/36 (MCS0)	77.20	82.20
Band 2C	5500	100	n (20MHz)	6.5/7.2 (MCS0)	17.88	21.72
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	17.83	21.11
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	17.78	21.08
	5500	100	ax (SU) (20MHz)	8/8.6 (MCS0)	19.15	22.89
	5580	116	ax (SU) (20MHz)	8/8.6 (MCS0)	19.08	21.54
	5720	144	ax (SU) (20MHz)	8/8.6 (MCS0)	19.11	21.31
	5510	102	n (40MHz)	13.5/15 (MCS0)	36.66	43.75
	5550	110	n (40MHz)	13.5/15 (MCS0)	36.36	41.26
	5710	142	n (40MHz)	13.5/15 (MCS0)	36.41	41.34
	5510	102	ax (SU) (40MHz)	16/17.2 (MCS0)	38.07	43.25
	5550	110	ax (SU) (40MHz)	16/17.2 (MCS0)	38.00	41.54
	5710	142	ax (SU) (40MHz)	16/17.2 (MCS0)	38.05	41.78
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	75.39	82.94
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	75.64	81.36
5530	106	ax (SU) (80MHz)	34/36 (MCS0)	77.32	81.77	
5690	138	ax (SU) (80MHz)	34/36 (MCS0)	77.24	81.83	

Table 7-5. Conducted Bandwidth Measurements Antenna WF7a (Low Data Rate)

FCC ID: BCGA2588 IC: 579C-A2588	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 33 of 352

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	26/28.9 (MCS3)	17.79	21.01
	5200	40	n (20MHz)	26/28.9 (MCS3)	17.85	20.98
	5240	48	n (20MHz)	26/28.9 (MCS3)	17.83	20.89
	5180	36	ax (SU) (20MHz)	33/34.4 (MCS3)	17.84	21.09
	5200	40	ax (SU) (20MHz)	33/34.4 (MCS3)	18.97	21.05
	5240	48	ax (SU) (20MHz)	33/34.4 (MCS3)	19.01	21.12
	5190	38	n (40MHz)	54/60 (MCS3)	36.10	40.99
	5230	46	n (40MHz)	54/60 (MCS3)	36.44	41.21
	5190	38	ax (SU) (40MHz)	65/68.8 (MCS3)	38.06	42.81
	5230	46	ax (SU) (40MHz)	65/68.8 (MCS3)	38.00	41.71
	5210	42	ac (80MHz)	117/130 (MCS3)	75.58	81.46
Band 2A	5210	42	ax (SU) (80MHz)	136/144.1 (MCS3)	77.26	80.98
	5260	52	n (20MHz)	26/28.9 (MCS3)	17.74	20.85
	5280	56	n (20MHz)	26/28.9 (MCS3)	17.69	20.81
	5320	64	n (20MHz)	26/28.9 (MCS3)	17.74	21.00
	5260	52	ax (SU) (20MHz)	33/34.4 (MCS3)	19.04	21.30
	5280	56	ax (SU) (20MHz)	33/34.4 (MCS3)	19.02	21.15
	5320	64	ax (SU) (20MHz)	33/34.4 (MCS3)	19.13	25.89
	5270	54	n (40MHz)	54/60 (MCS3)	36.36	40.72
	5310	62	n (40MHz)	54/60 (MCS3)	36.45	41.10
	5270	54	ax (SU) (40MHz)	65/68.8 (MCS3)	37.95	41.12
	5310	62	ax (SU) (40MHz)	65/68.8 (MCS3)	38.10	52.73
Band 2C	5290	58	ac (80MHz)	117/130 (MCS3)	75.44	81.07
	5290	58	ax (SU) (80MHz)	136/144.1 (MCS3)	77.21	81.66
	5500	100	n (20MHz)	26/28.9 (MCS3)	17.77	21.36
	5580	116	n (20MHz)	26/28.9 (MCS3)	17.71	20.68
	5720	144	n (20MHz)	26/28.9 (MCS3)	17.73	20.71
	5500	100	ax (SU) (20MHz)	33/34.4 (MCS3)	19.09	22.54
	5580	116	ax (SU) (20MHz)	33/34.4 (MCS3)	19.07	21.35
	5720	144	ax (SU) (20MHz)	33/34.4 (MCS3)	19.04	21.19
	5510	102	n (40MHz)	54/60 (MCS3)	36.42	41.20
	5550	110	n (40MHz)	54/60 (MCS3)	36.29	40.82
	5710	142	n (40MHz)	54/60 (MCS3)	36.34	40.99
5510	102	ax (SU) (40MHz)	65/68.8 (MCS3)	38.06	52.96	
5550	110	ax (SU) (40MHz)	65/68.8 (MCS3)	37.90	41.28	
5710	142	ax (SU) (40MHz)	65/68.8 (MCS3)	37.99	41.28	
5530	106	ac (80MHz)	117/130 (MCS3)	75.55	80.85	
5690	138	ac (80MHz)	117/130 (MCS3)	75.50	80.84	
5530	106	ax (SU) (80MHz)	136/144.1 (MCS3)	77.21	81.38	
5690	138	ax (SU) (80MHz)	136/144.1 (MCS3)	77.16	81.43	

**Table 7-6. Conducted Bandwidth Measurements Antenna WF7a (Mid Data Rate)**

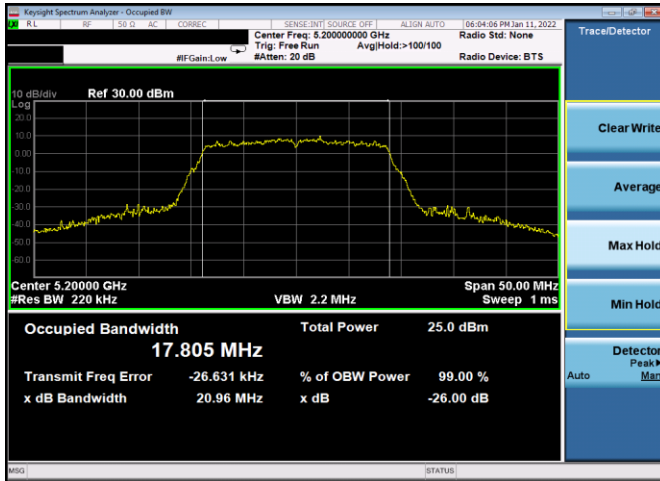
FCC ID: BCGA2588 IC: 579C-A2588	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 34 of 352

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	52/57.8 (MCS5)	17.84	21.40
	5200	40	n (20MHz)	52/57.8 (MCS5)	17.87	21.36
	5240	48	n (20MHz)	52/57.8 (MCS5)	17.86	21.32
	5180	36	ax (SU) (20MHz)	65/68.8 (MCS5)	19.04	21.31
	5200	40	ax (SU) (20MHz)	65/68.8 (MCS5)	19.03	21.29
	5240	48	ax (SU) (20MHz)	65/68.8 (MCS5)	19.06	21.34
	5190	38	n (40MHz)	108/120 (MCS5)	36.44	41.07
	5230	46	n (40MHz)	108/120 (MCS5)	36.66	42.90
	5190	38	ax (SU) (40MHz)	130/137.6 (MCS5)	37.85	41.30
	5230	46	ax (SU) (40MHz)	130/137.6 (MCS5)	38.00	41.60
	5210	42	ac (80MHz)	234/260 (MCS5)	75.75	81.84
Band 2A	5210	42	ax (SU) (80MHz)	272/288.2 (MCS5)	77.27	81.53
	5260	52	n (20MHz)	52/57.8 (MCS5)	17.88	21.20
	5280	56	n (20MHz)	52/57.8 (MCS5)	17.69	20.81
	5320	64	n (20MHz)	52/57.8 (MCS5)	17.82	21.08
	5260	52	ax (SU) (20MHz)	65/68.8 (MCS5)	19.09	21.18
	5280	56	ax (SU) (20MHz)	65/68.8 (MCS5)	19.10	21.27
	5320	64	ax (SU) (20MHz)	65/68.8 (MCS5)	19.02	20.92
	5270	54	n (40MHz)	108/120 (MCS5)	36.51	42.02
	5310	62	n (40MHz)	108/120 (MCS5)	36.53	42.18
	5270	54	ax (SU) (40MHz)	130/137.6 (MCS5)	38.00	41.43
	5310	62	ax (SU) (40MHz)	130/137.6 (MCS5)	37.92	41.53
Band 2C	5290	58	ac (80MHz)	234/260 (MCS5)	75.79	81.77
	5290	58	ax (SU) (80MHz)	272/288.2 (MCS5)	77.13	81.51
	5500	100	n (20MHz)	52/57.8 (MCS5)	17.81	20.99
	5580	116	n (20MHz)	52/57.8 (MCS5)	17.83	20.96
	5720	144	n (20MHz)	52/57.8 (MCS5)	17.79	21.17
	5500	100	ax (SU) (20MHz)	65/68.8 (MCS5)	19.05	21.30
	5580	116	ax (SU) (20MHz)	65/68.8 (MCS5)	19.06	21.20
	5720	144	ax (SU) (20MHz)	65/68.8 (MCS5)	19.05	21.35
	5510	102	n (40MHz)	108/120 (MCS5)	36.44	41.29
	5550	110	n (40MHz)	108/120 (MCS5)	36.58	41.31
	5710	142	n (40MHz)	108/120 (MCS5)	36.60	42.96
5510	102	ax (SU) (40MHz)	130/137.6 (MCS5)	37.94	41.32	
5550	110	ax (SU) (40MHz)	130/137.6 (MCS5)	37.92	41.42	
5710	142	ax (SU) (40MHz)	130/137.6 (MCS5)	38.07	41.42	
5530	106	ac (80MHz)	234/260 (MCS5)	75.90	81.79	
5690	138	ac (80MHz)	234/260 (MCS5)	75.95	85.41	
5530	106	ax (SU) (80MHz)	272/288.2 (MCS5)	77.22	81.33	
5690	138	ax (SU) (80MHz)	272/288.2 (MCS5)	77.29	81.81	

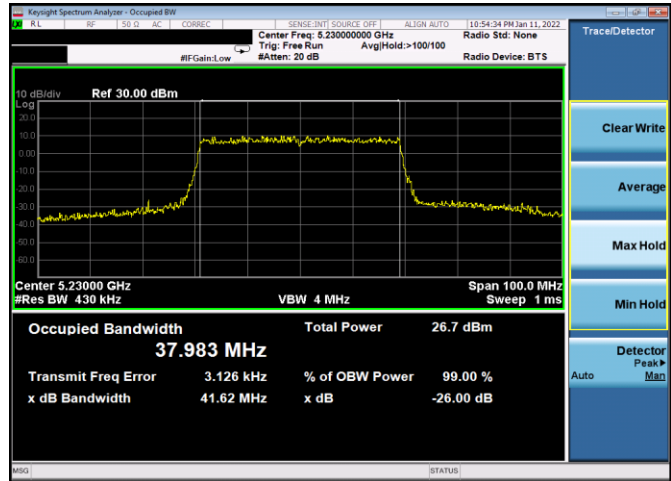
**Table 7-7. Conducted Bandwidth Measurements Antenna WF7a (High Data Rate)**

FCC ID: BCGA2588 IC: 579C-A2588	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 35 of 352

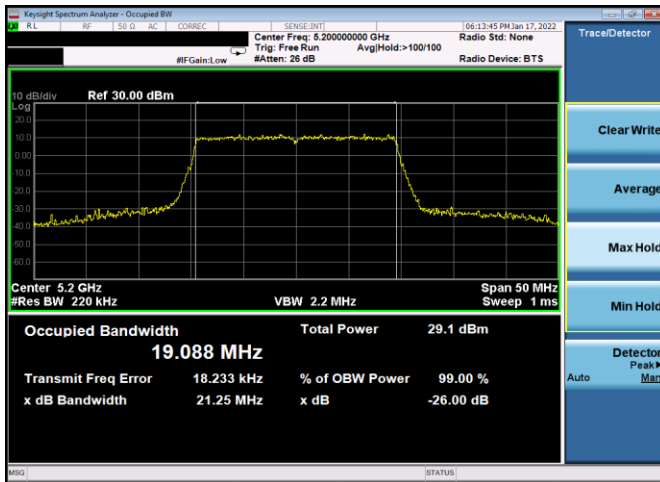
## Low Data Rate



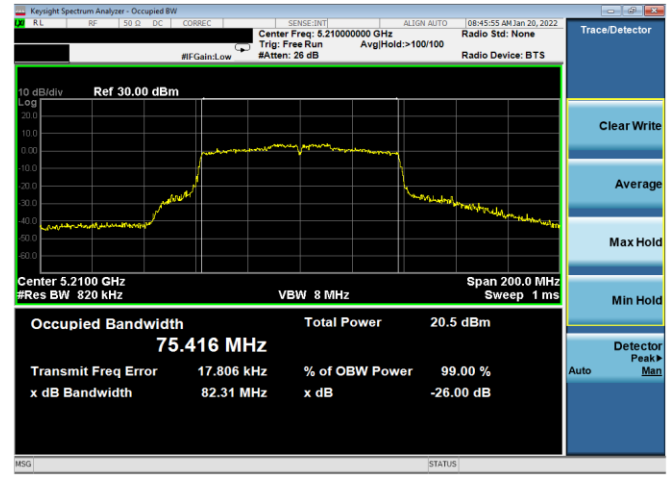
Plot 7-55. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 40, MCS0)



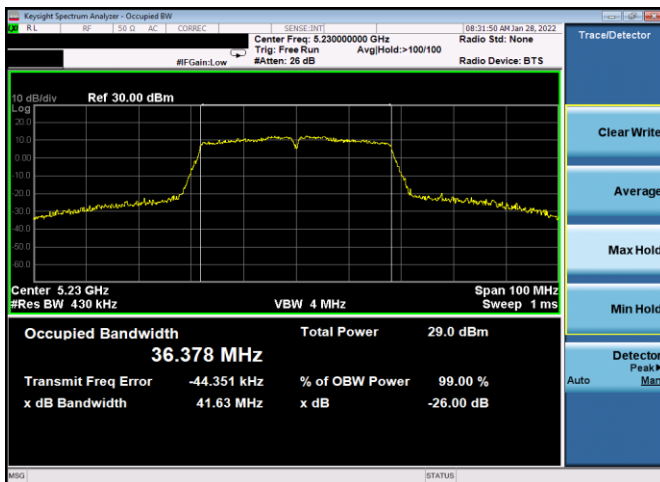
Plot 7-58. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 46, MCS0)



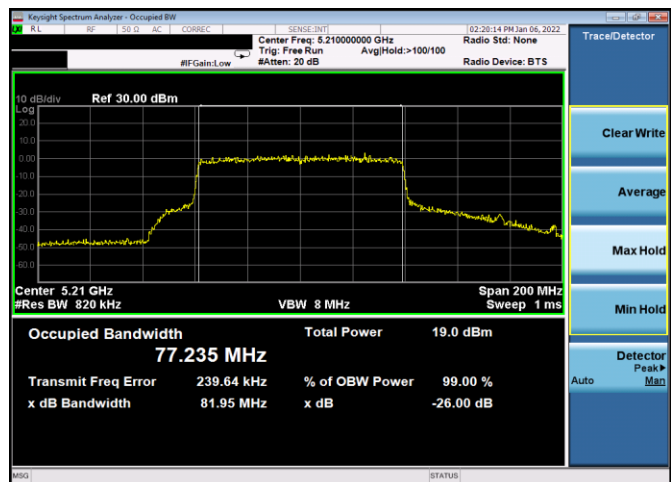
Plot 7-56. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 40, MCS0)



Plot 7-59. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 42, MCS0)



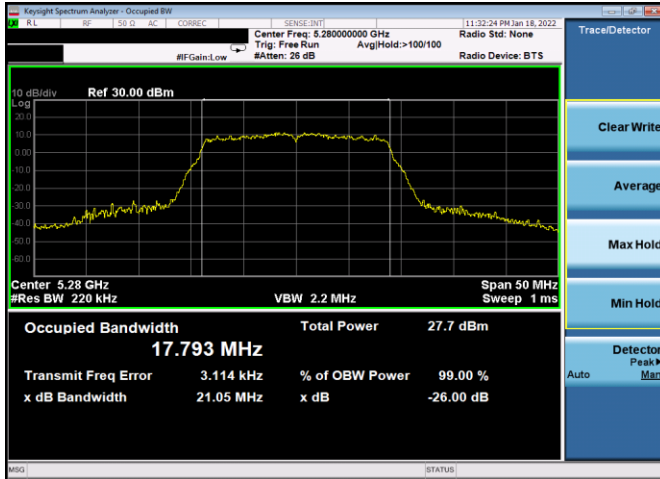
Plot 7-57. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 46, MCS0)



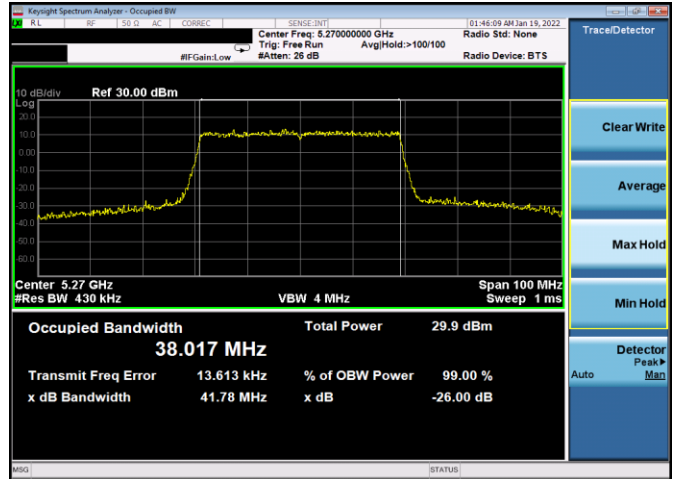
Plot 7-60. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 42, MCS0)

FCC ID: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C211150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 36 of 352

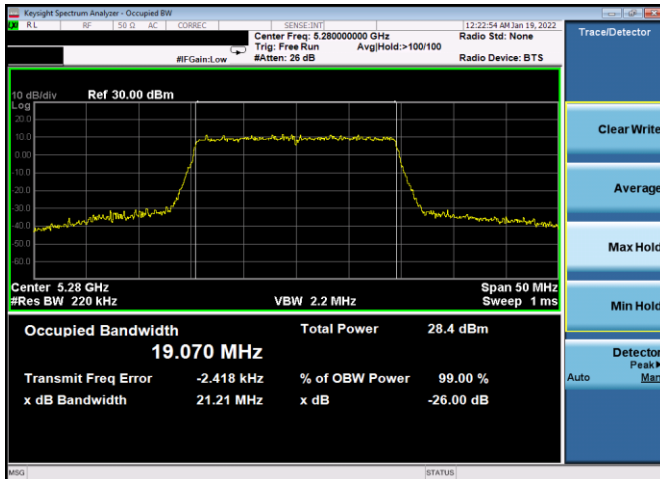




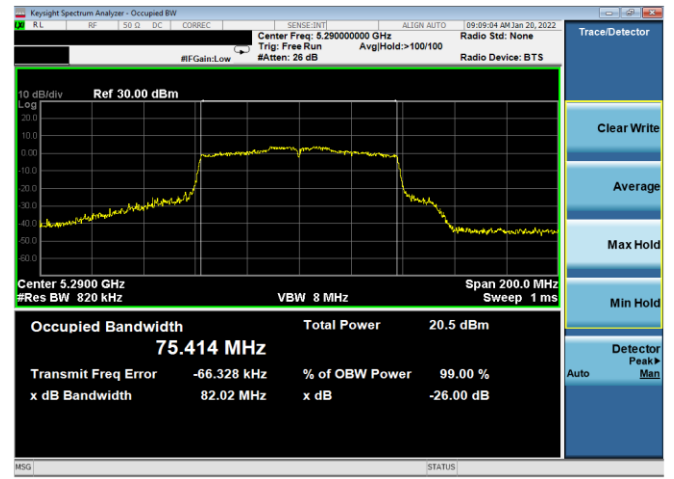
Plot 7-61. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 56, MCS0)



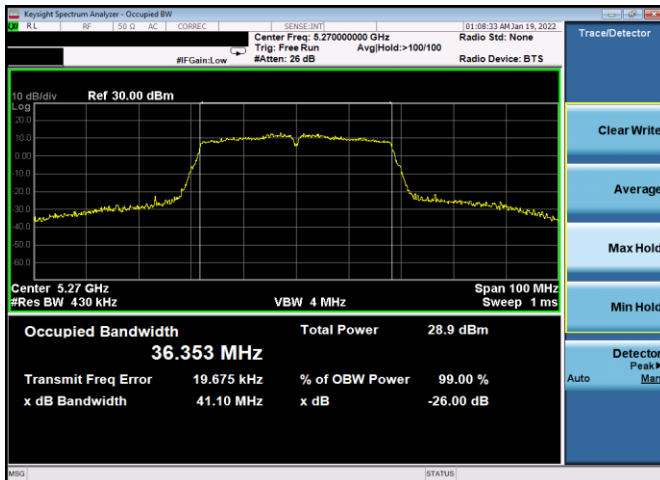
Plot 7-64. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 54, MCS0)



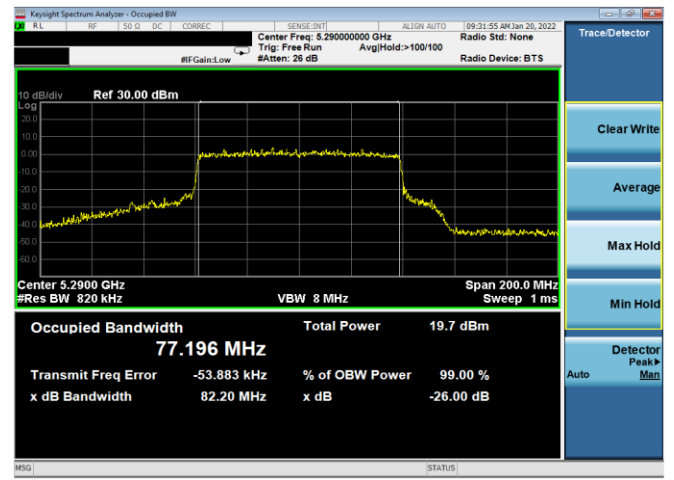
Plot 7-62. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 56, MCS0)



Plot 7-65. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 58, MCS0)



Plot 7-63. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 54, MCS0)

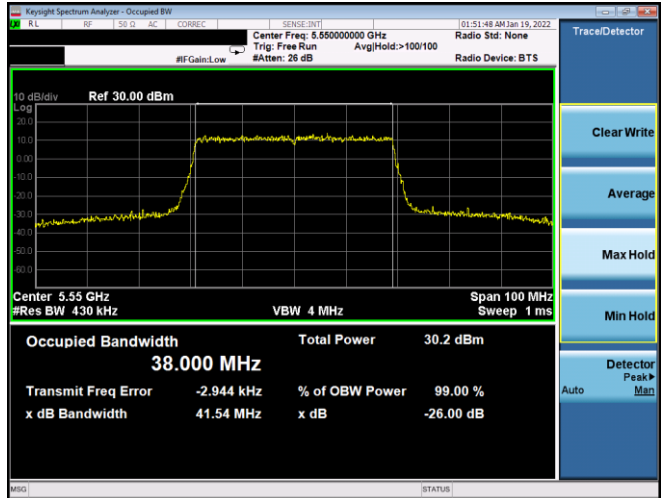


Plot 7-66. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 58, MCS0)

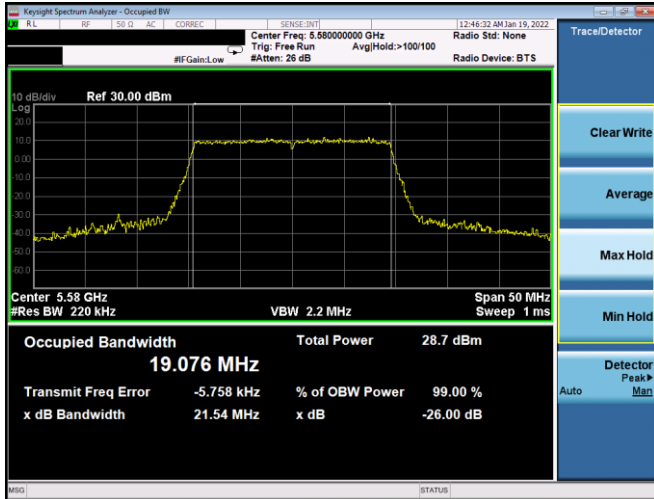
FCC ID: BCGA2588 IC: 579C-A2588	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 37 of 352



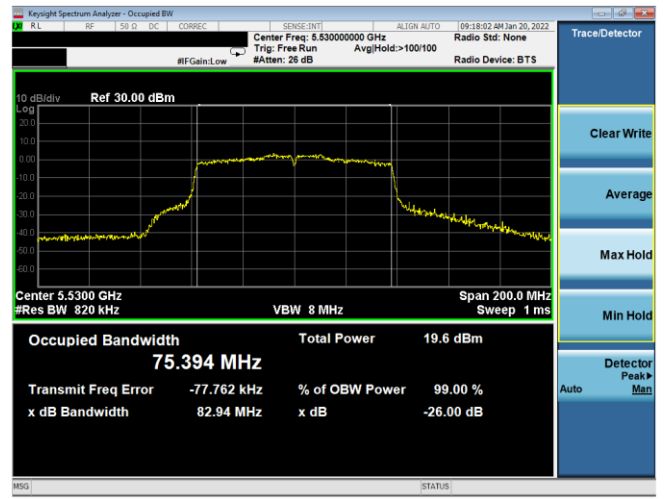
Plot 7-67. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 116, MCS0)



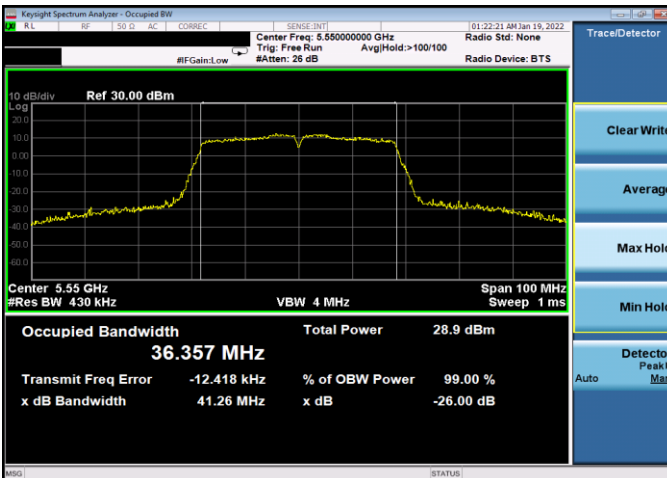
Plot 7-70. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 110), MCS0



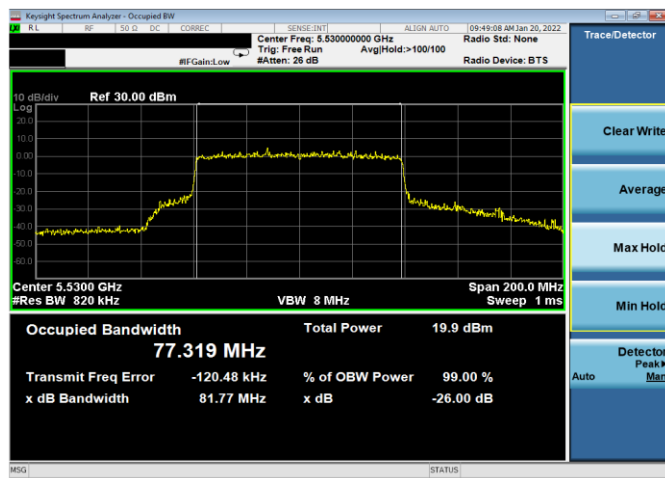
Plot 7-68. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 116, MCS0)




Plot 7-71. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 106, MCS0)



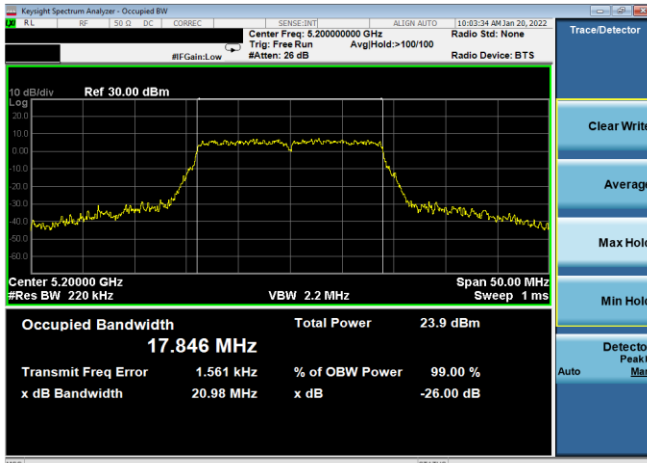
Plot 7-69. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 110), MCS0



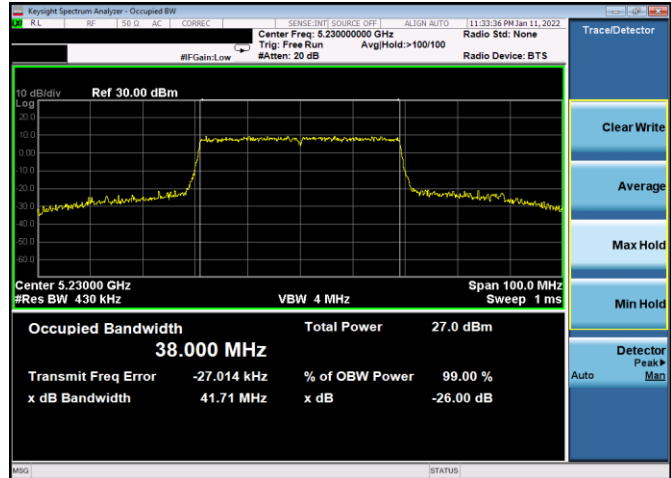
Plot 7-72. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 106, MCS0)

FCC ID: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 38 of 352

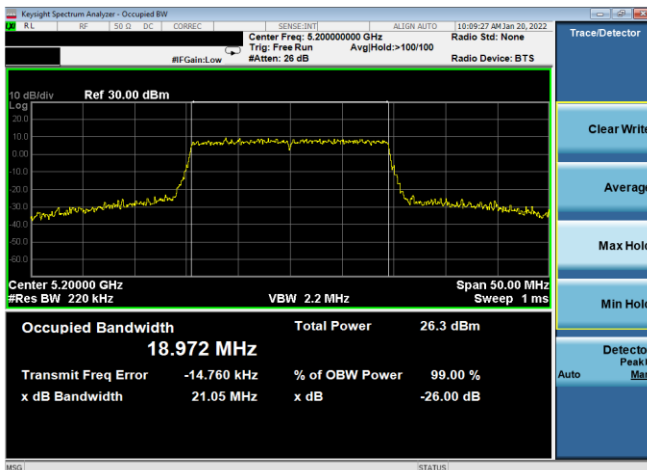
## Mid Data Rate



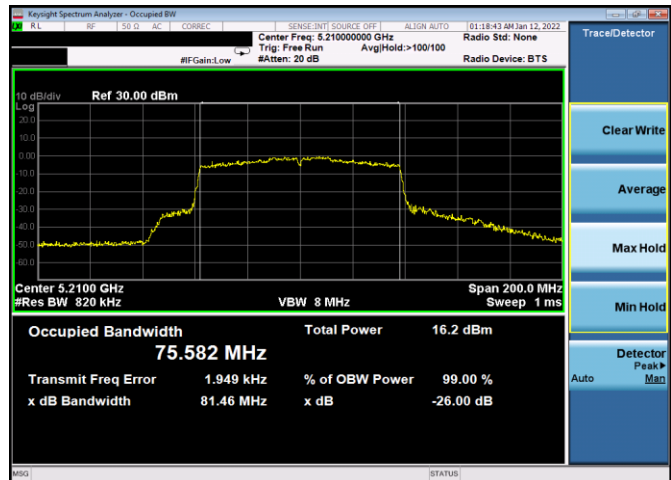
Plot 7-73. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 40, MCS3)



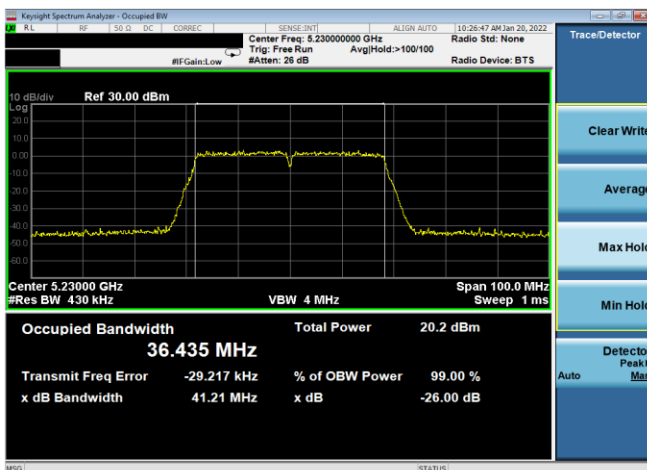
Plot 7-76. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 46, MCS3)



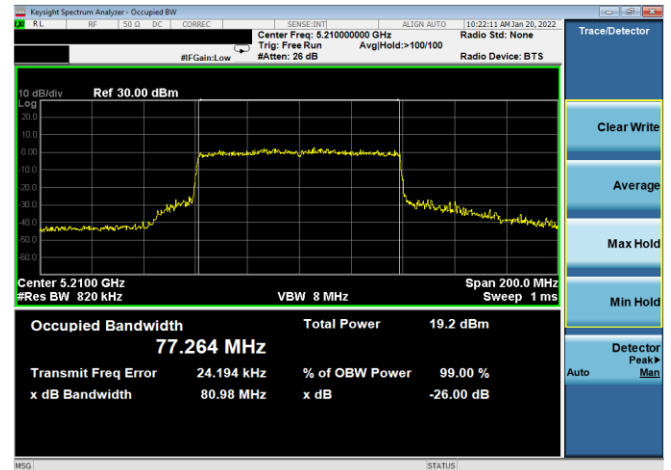
Plot 7-74. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 40, MCS3)



Plot 7-77. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 42, MCS3)



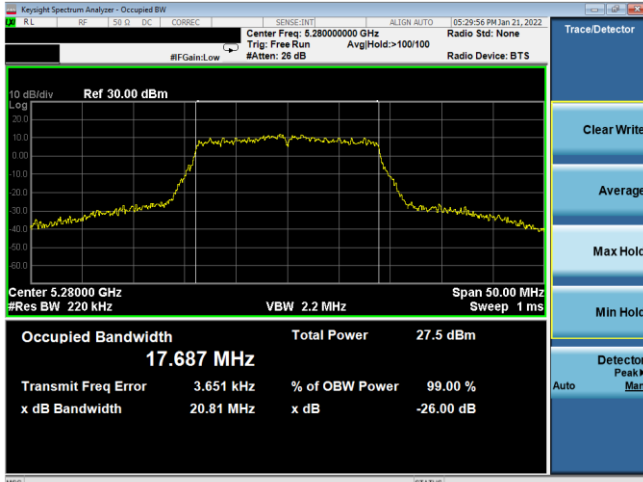
Plot 7-75. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 46, MCS3)



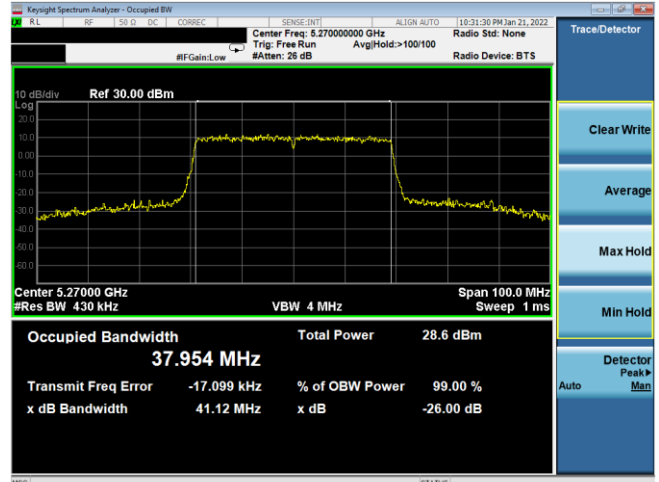
Plot 7-78. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 42, MCS3)

FCC ID: BCGA2588 IC: 579C-A2588		<b>MEASUREMENT REPORT</b> (CERTIFICATION)	Approved by: Technical Manager
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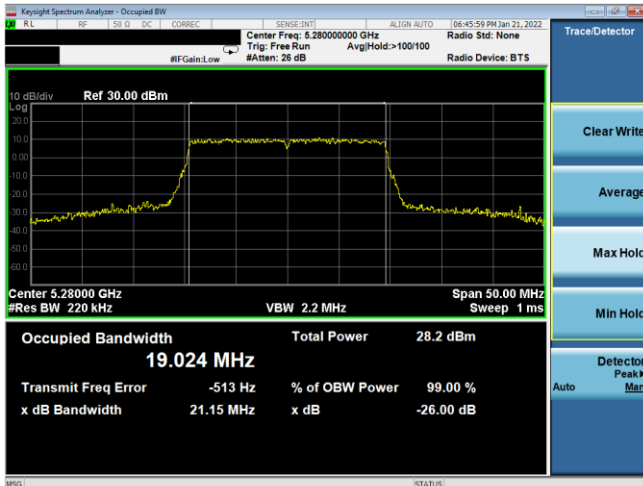




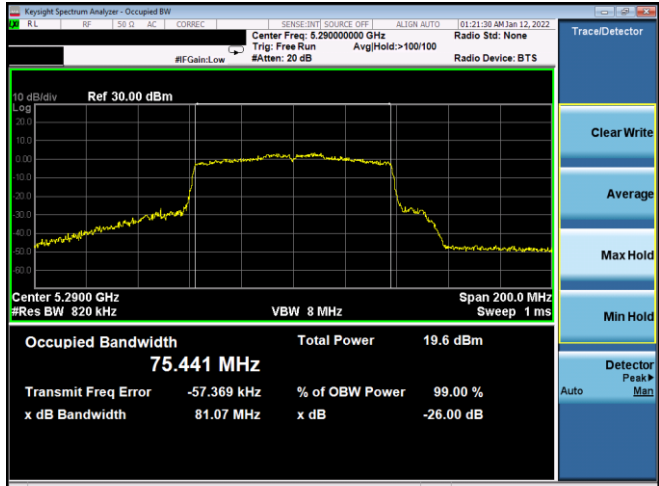
Plot 7-79. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 56, MCS3)



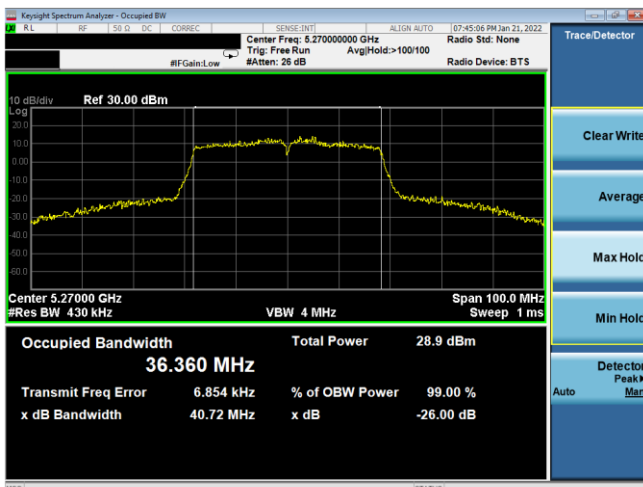
Plot 7-82. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 54, MCS3)



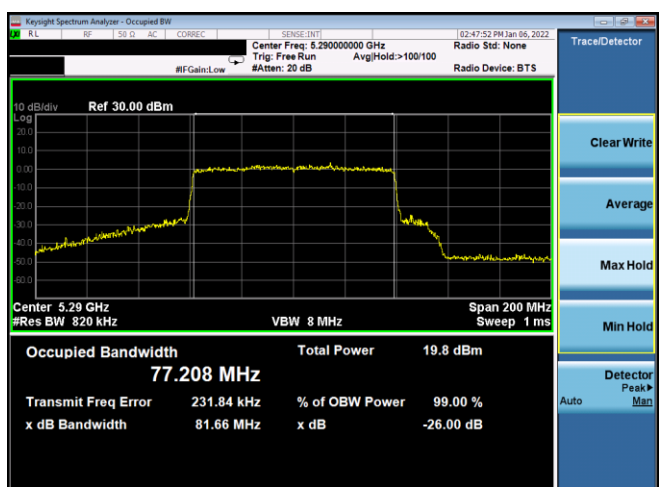
Plot 7-80. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 56, MCS3)



Plot 7-83. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 58, MCS3)

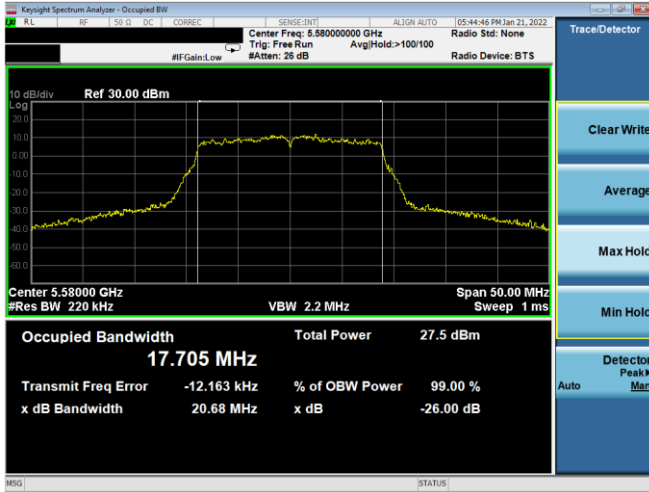


Plot 7-81. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 54, MCS3)

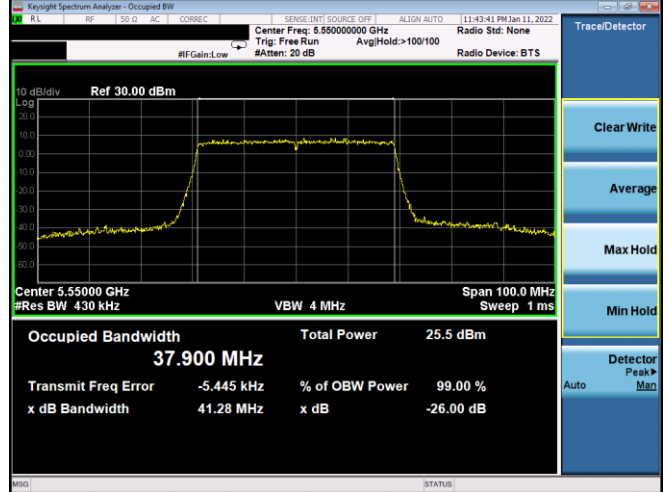


Plot 7-84. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 58, MCS3)

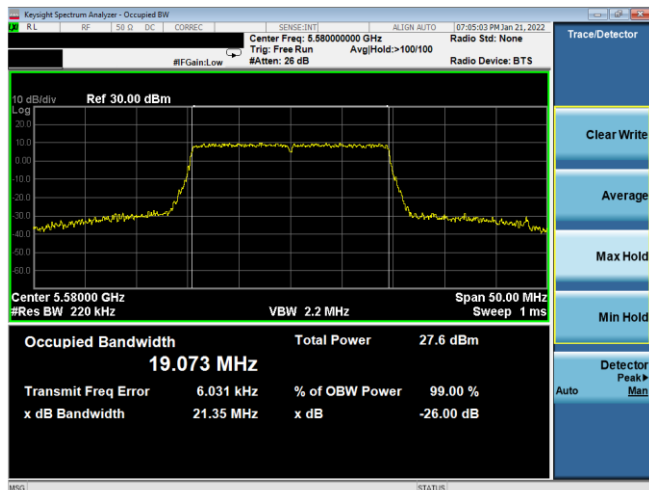
FCC ID: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-85. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 116, MCS3)



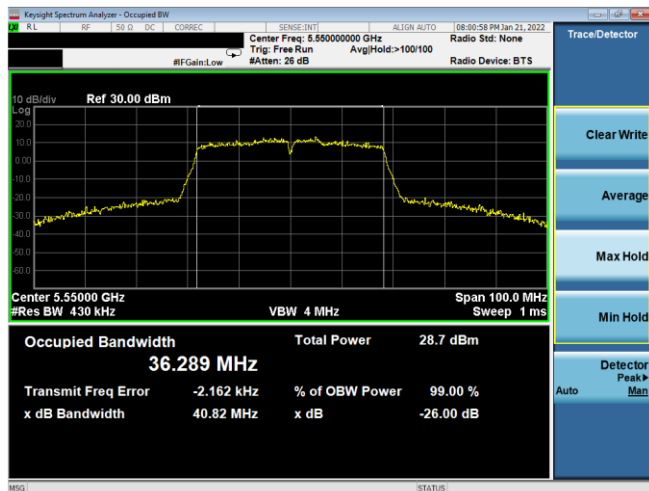
Plot 7-88. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 110, MCS3)



Plot 7-86. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 116, MCS3)



Plot 7-89. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 106, MCS3)



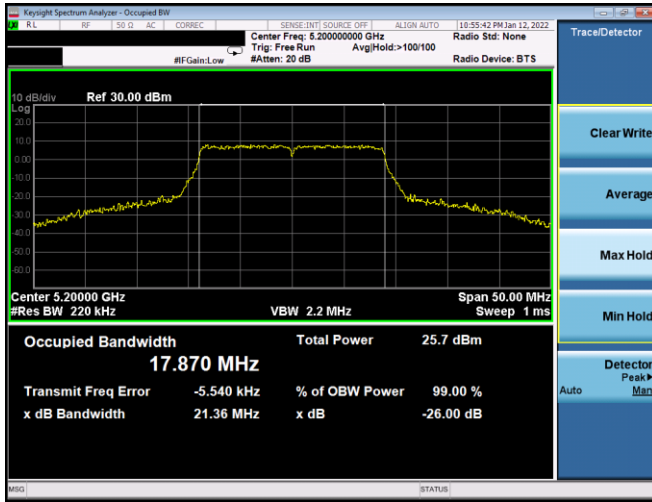
Plot 7-87. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 110, MCS3)



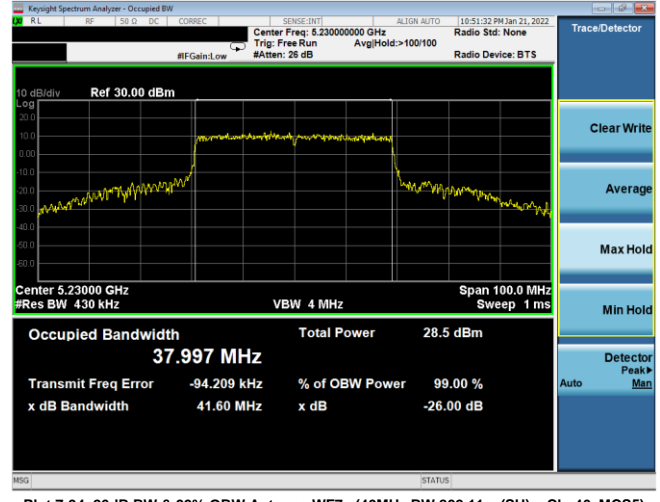
Plot 7-90. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 106, MCS3)

FCC ID: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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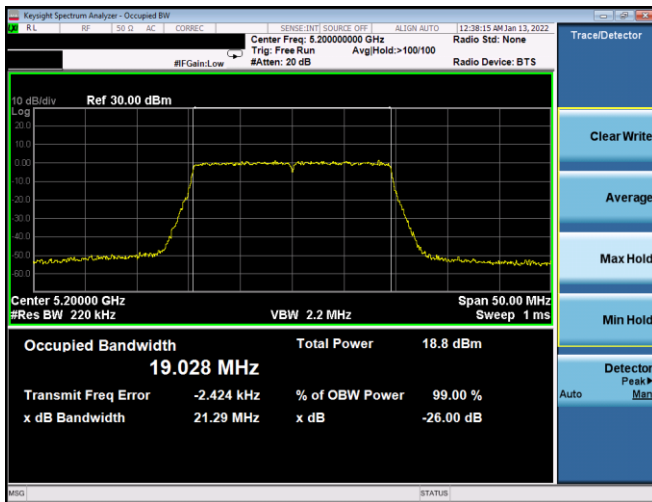
## High Data Rate



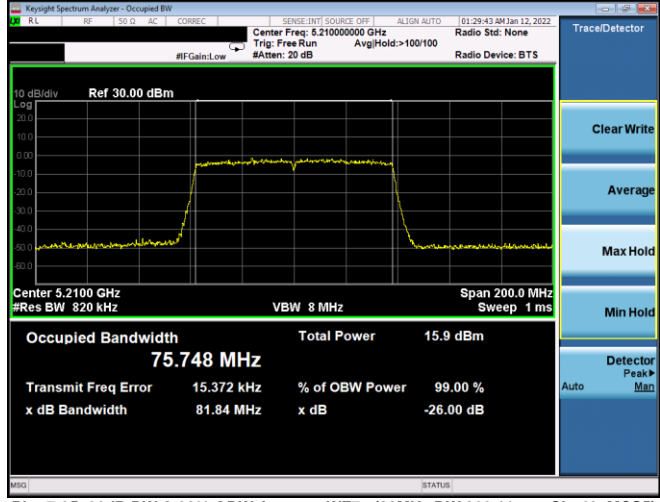
Plot 7-91. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 40, MCS5)



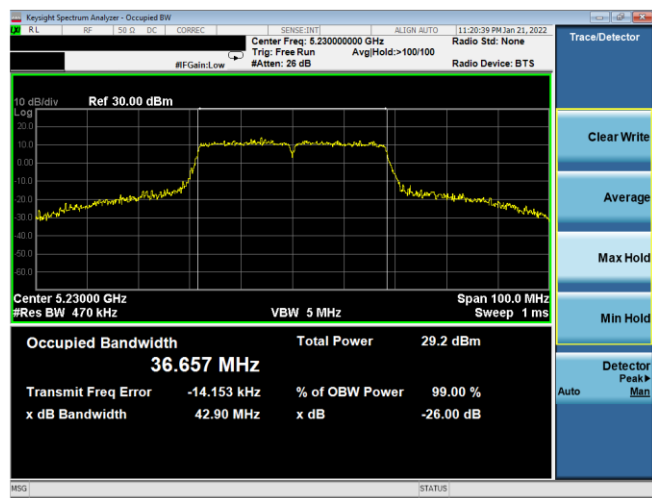
Plot 7-94. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 46, MCS5)



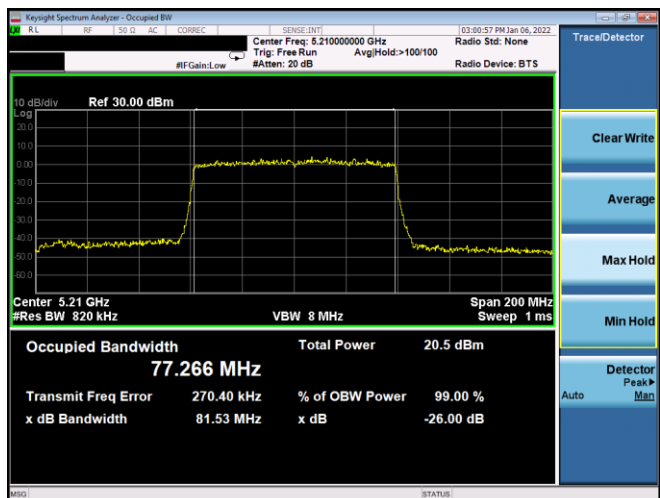
Plot 7-92. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 40, MCS5)



Plot 7-95. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 42, MCS5)

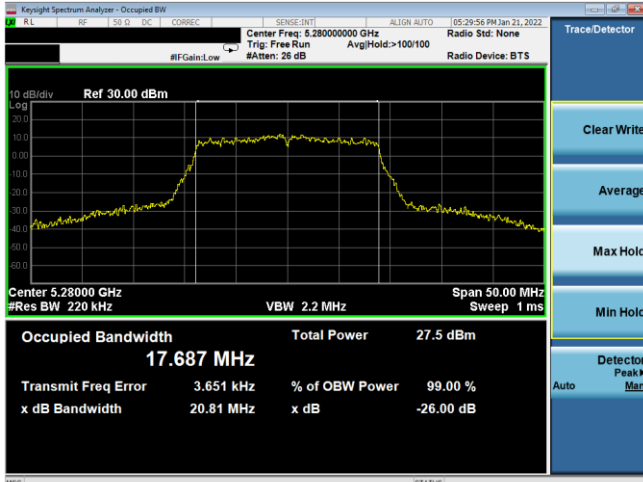


Plot 7-93. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 46, MCS5)

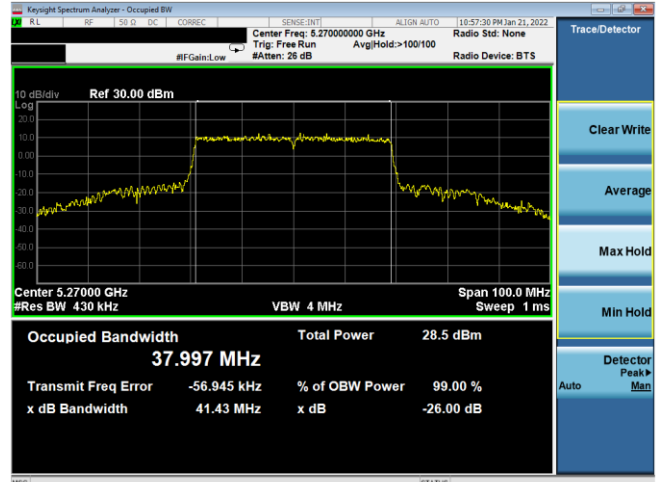


Plot 7-96. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 42, MCS5)

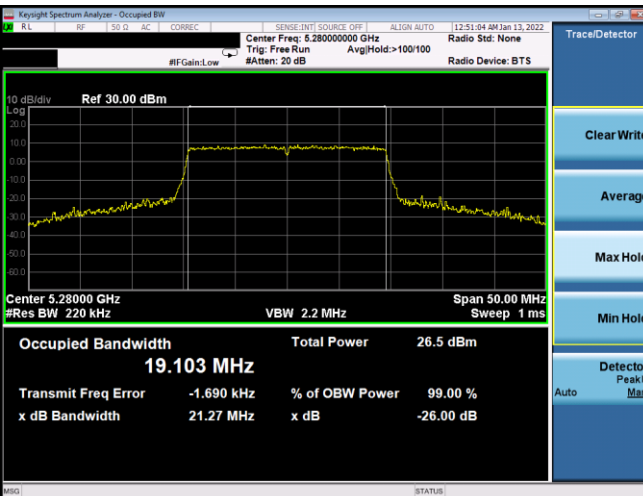
FCC ID: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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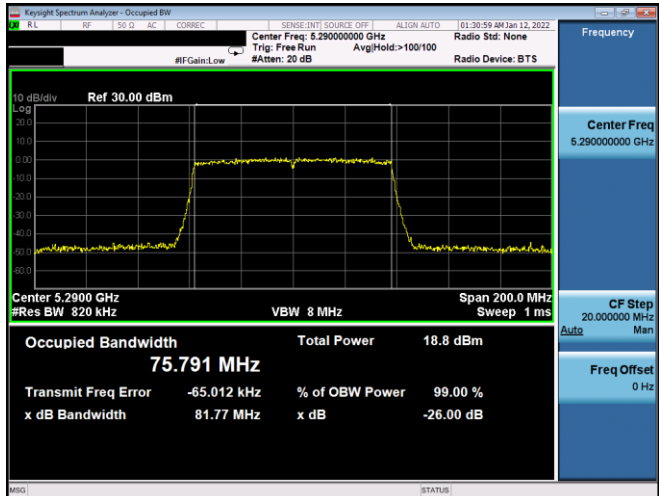
Plot 7-97. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 56, MCS5)



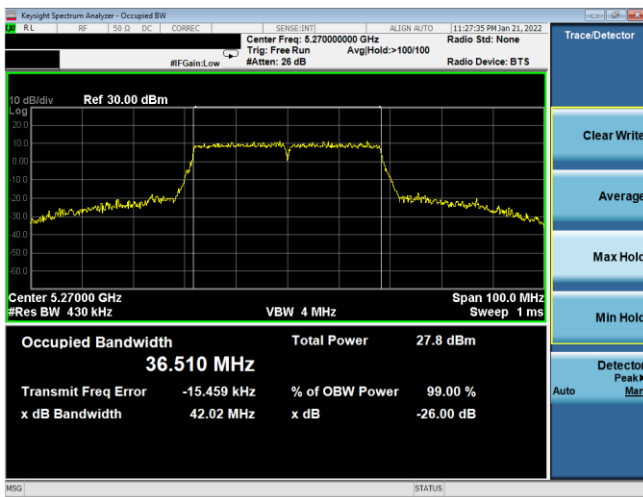
Plot 7-100. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 54, MCS5)



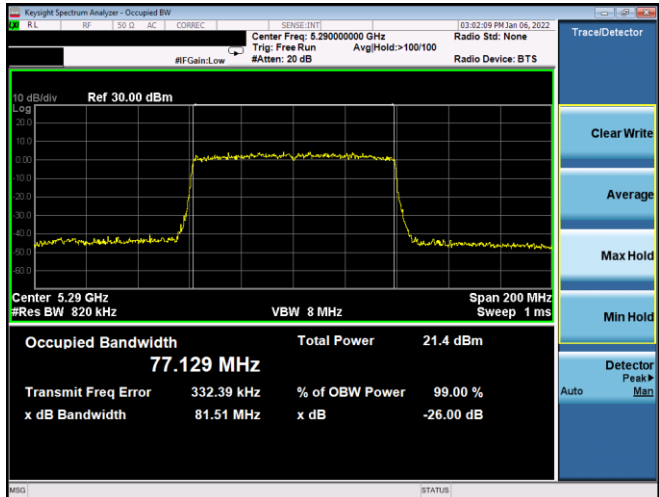
Plot 7-98. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 56, MCS5)



Plot 7-101. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 58, MCS5)



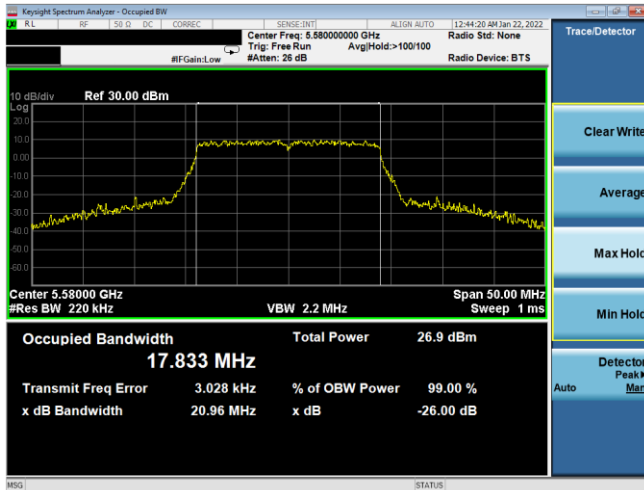
Plot 7-99. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 54, MCS5)



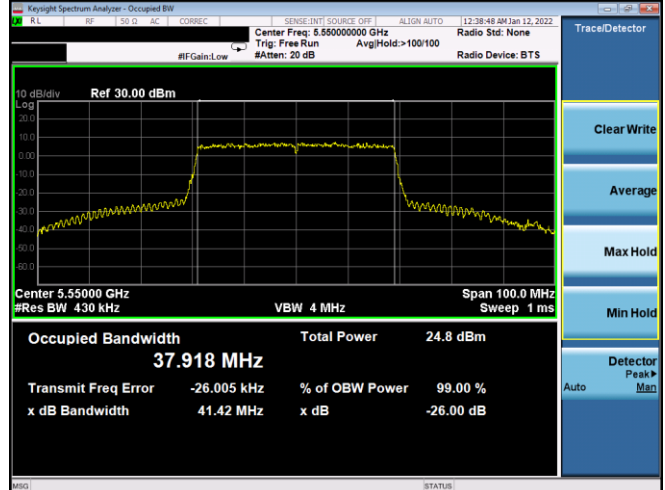
Plot 7-102. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 58, MCS5)

FCC ID: BCGA2588 IC: 579C-A2588	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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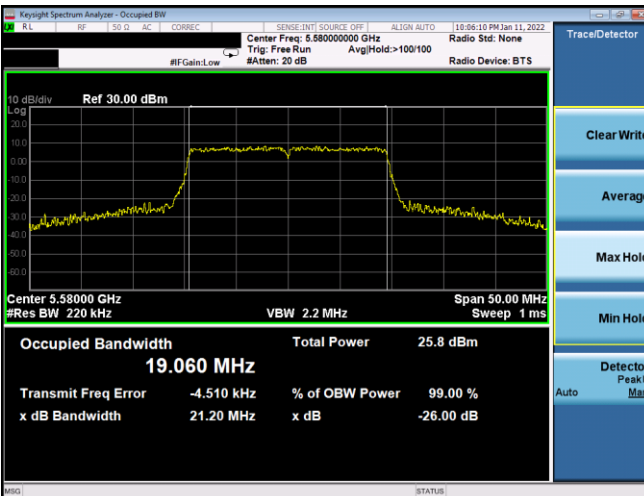




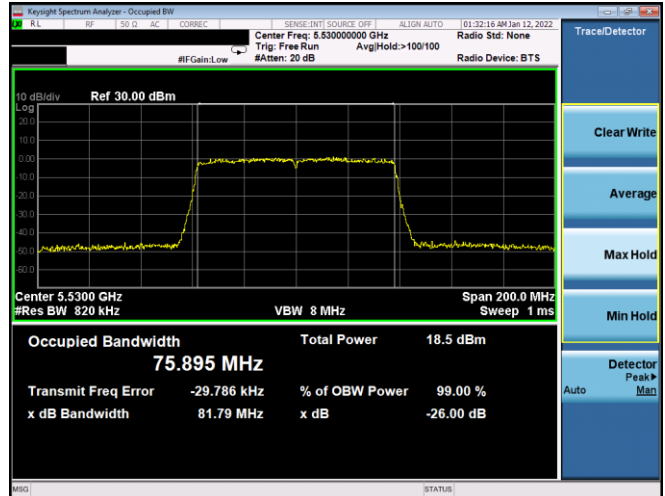
Plot 7-103. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11n – Ch. 116, MCS5)



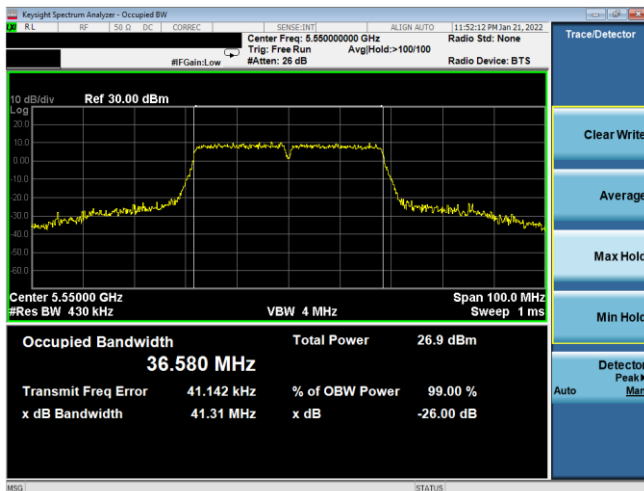
Plot 7-106. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11ax(SU) – Ch. 110, MCS5)



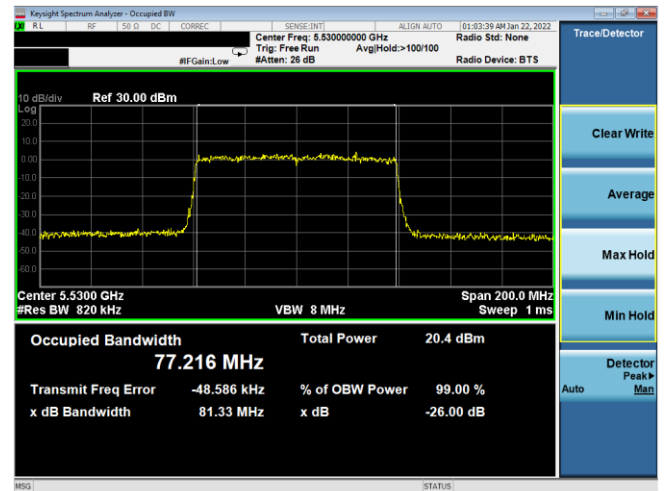
Plot 7-104. 26dB BW & 99% OBW Antenna WF7a (20MHz BW 802.11ax(SU) – Ch. 116, MCS5)



Plot 7-107. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ac – Ch. 106, MCS5)



Plot 7-105. 26dB BW & 99% OBW Antenna WF7a (40MHz BW 802.11n – Ch. 110, MCS5)



Plot 7-108. 26dB BW & 99% OBW Antenna WF7a (80MHz BW 802.11ax(SU) – Ch. 106, MCS5)

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### 7.3 6dB & 99% Bandwidth Measurement – 802.11a/n/ac/ax(SU) §2.1049; §15.407 (e); RSS-Gen [6.7]

#### Test Overview and Limit

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 6dB bandwidth.

***In the 5.725 – 5.850GHz band, the 6dB bandwidth must be ≥ 500 kHz.***

#### Test Procedure Used

ANSI C63.10-2013 – Section 6.9.2  
KDB 789033 D02 v02r01 – Section C

#### Test Settings

1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 100 kHz
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple

#### Test Setup

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



**Figure 7-2. Test Instrument & Measurement Setup**

#### Test Notes

1. All antenna configurations and data rates were investigated and only the worst case are reported.
2. The data rates have been classified into three different groups; Low Data Rate, middle rate, and High Data Rate. All three data rate groups of data rate have been investigated and only the worst case data rate per group is reported.
3. Low, mid, and high channels were tested and tabular data has been reported. Only mid channel bandwidth plots have been reported.

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## Antenna WF8 6dB & 99% Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass / Fail
Band 3	5745	149	n (20MHz)	6.5/7.2 (MCS0)	17.70	17.48	0.50	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	17.67	16.92	0.50	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	17.73	17.54	0.50	Pass
	5745	149	ax (SU) (20MHz)	8/8.6 (MCS0)	19.07	19.08	0.50	Pass
	5785	157	ax (SU) (20MHz)	8/8.6 (MCS0)	19.00	19.02	0.50	Pass
	5825	165	ax (SU) (20MHz)	8/8.6 (MCS0)	19.09	19.15	0.50	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	36.12	35.70	0.50	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	36.24	35.96	0.50	Pass
	5755	151	ax (SU) (40MHz)	16/17.2 (MCS0)	37.83	38.15	0.50	Pass
	5795	159	ax (SU) (40MHz)	16/17.2 (MCS0)	37.89	38.22	0.50	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	75.38	75.49	0.50	Pass
	5775	155	ax (SU) (80MHz)	34/36 (MCS0)	77.20	77.77	0.50	Pass

Table 7-8. Conducted Bandwidth Measurements Antenna WF8 (Low Data Rate)

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass / Fail
Band 3	5745	149	n (20MHz)	26/28.9 (MCS3)	18.96	19.07	0.50	Pass
	5785	157	n (20MHz)	26/28.9 (MCS3)	17.65	17.66	0.50	Pass
	5825	165	n (20MHz)	26/28.9 (MCS3)	17.65	17.69	0.50	Pass
	5745	149	ax (SU) (20MHz)	33/34.4 (MCS3)	18.96	19.07	0.50	Pass
	5785	157	ax (SU) (20MHz)	33/34.4 (MCS3)	18.98	19.11	0.50	Pass
	5825	165	ax (SU) (20MHz)	33/34.4 (MCS3)	18.98	19.10	0.50	Pass
	5755	151	n (40MHz)	54/60 (MCS3)	36.16	36.47	0.50	Pass
	5795	159	n (40MHz)	54/60 (MCS3)	36.16	36.43	0.50	Pass
	5755	151	ax (SU) (40MHz)	65/68.8 (MCS3)	37.82	38.23	0.50	Pass
	5795	159	ax (SU) (40MHz)	65/68.8 (MCS3)	37.84	38.15	0.50	Pass
	5775	155	ac (80MHz)	117/130 (MCS3)	75.40	75.55	0.50	Pass
	5775	155	ax (SU) (80MHz)	136/144.1 (MCS3)	77.07	77.90	0.50	Pass

Table 7-9. Conducted Bandwidth Measurements Antenna WF8 (Mid Data Rate)

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass / Fail
Band 3	5745	149	n (20MHz)	52/57.8 (MCS5)	17.70	17.75	0.50	Pass
	5785	157	n (20MHz)	52/57.8 (MCS5)	17.75	17.77	0.50	Pass
	5825	165	n (20MHz)	52/57.8 (MCS5)	17.72	17.76	0.50	Pass
	5745	149	ax (SU) (20MHz)	65/68.8 (MCS5)	18.99	19.10	0.50	Pass
	5785	157	ax (SU) (20MHz)	65/68.8 (MCS5)	18.99	19.08	0.50	Pass
	5825	165	ax (SU) (20MHz)	65/68.8 (MCS5)	19.00	19.10	0.50	Pass
	5755	151	n (40MHz)	108/120 (MCS5)	36.30	36.59	0.50	Pass
	5795	159	n (40MHz)	108/120 (MCS5)	36.32	36.57	0.50	Pass
	5755	151	ax (SU) (40MHz)	130/137.6 (MCS5)	37.86	38.25	0.50	Pass
	5795	159	ax (SU) (40MHz)	130/137.6 (MCS5)	37.91	38.23	0.50	Pass
	5775	155	ac (80MHz)	234/260 (MCS5)	75.64	76.57	0.50	Pass
	5775	155	ax (SU) (80MHz)	272/288.2 (MCS5)	76.97	77.73	0.50	Pass

Table 7-10. Conducted Bandwidth Measurements Antenna WF8 (High Data Rate)

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