

Ref 30.00 dBm

Center 5.20000 GHz #Res BW 200 kHz

Occupied Bandwidth

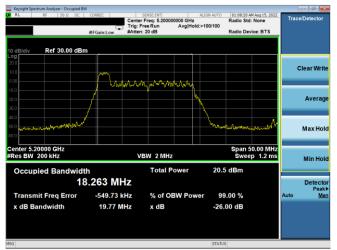
Transmit Freg Error

x dB Bandwidth

17.386 MHz

-115.93 kHz

19.03 MHz



Plot 7-45. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax Index 0 - RU26 - Ch.40)

A Malan A Mark to

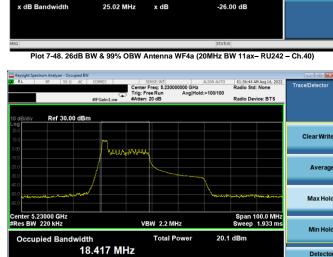
VBW 2 MHz

x dB

Total Power

Plot 7-46, 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax Index 4 - RU26 - Ch 40)

% of OBW Power



Center Freq: 5.200000000 GHz
Trig: Free Run Avg|Hold:>100/100

VBW 2.7 MHz

Total Power

% of OBW Power

Ref 30.00 dBm

Center 5.20000 GHz Res BW 270 kHz

Occupied Bandwidth

Transmit Freg Error

Clear Write

Max Hold

Min Hold

Span 50.00 MHz Sweep 1.2 ms

20.9 dBm

99.00 %

-26.00 dB

19.118 MHz

5.347 kHz

Radio Device: BTS

99.00 %

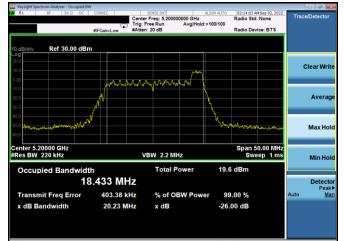
Clear Write

Max Hold

Detector Peak▶ <u>Man</u>

Detector Peakl Transmit Freq Error -10.274 MHz % of OBW Power 99.00 % 20.26 MHz x dB -26.00 dB

Plot 7-49. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax Index 0 - RU26 - Ch.46)



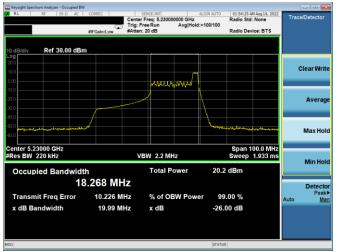
Plot 7-47. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax Index 8- RU26 - Ch.40)

SENSE:INT ALIGN AUTO
Center Freq: 5.230000000 GHz
Trig: Free Run Avg|Hold:>100/100
#Atten: 20 dB Span 100.00 MHz Trace/Detector Radio Device: BTS Ref 30.00 dBm Clear Write MANAMANA Average Max Holo Center 5.23000 GHz Min Hold Occupied Bandwidth Total Power 20.4 dBm 19.851 MHz Detector Peak▶ Man Transmit Freq Error -8.7245 MHz % of OBW Power 99.00 % 21.54 MHz x dB -26.00 dB

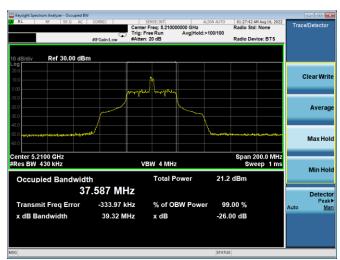
Plot 7-50. 26dB BW & 99% OBW Antenna WF4a (40MHz BV	V 11ax Index 8 - RU26 - Ch.46)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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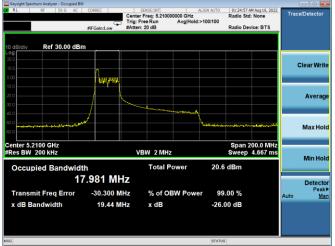
Plot 7-54. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax Index 18 - RU26 - Ch.42)



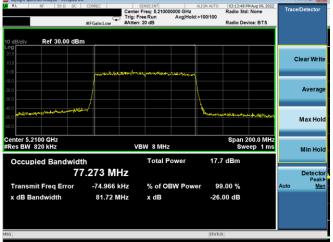
Plot 7-52. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax - RU484 - Ch.46)



Plot 7-55. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax Index 36 - RU26 - Ch.42)



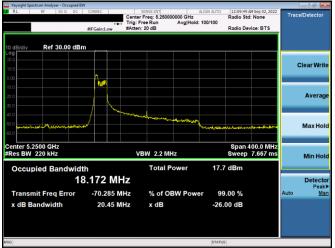
Plot 7-53. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax Index 0 - RU26 - Ch.42)

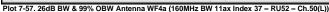


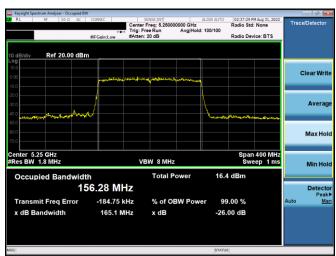
Plot 7-56. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax - RU996 - Ch.42)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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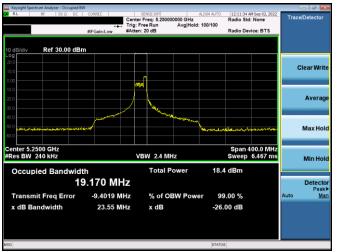




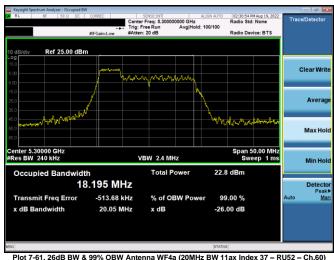




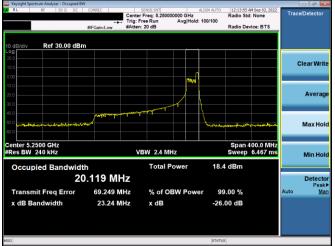
Plot 7-60. 26dB BW & 99% OBW Antenna WF4a (160MHz BW 11ax - RU996x2 - Ch.50)



Plot 7-58. 26dB BW & 99% OBW Antenna WF4a (160MHz BW 11ax Index 52 - RU52 - Ch.50(L))



Plot 7-61. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax Index 37 - RU52 - Ch.60)



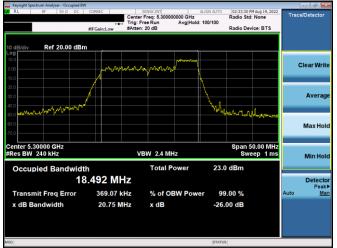
Plot 7-59. 26dB BW & 99% OBW Antenna WF4a (160MHz BW 11ax Index 52 - RU52 - Ch.50(U))



Plot 7-62. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax Index 38 - RU52 - Ch.60)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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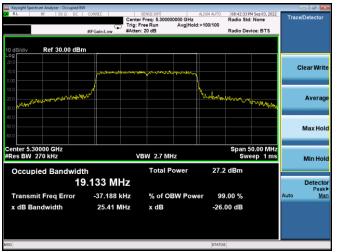








Plot 7-66. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax Index 40 - RU52 - Ch.54)



Plot 7-64. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax- RU242 - Ch.60)



Plot 7-67. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax Index 44 - RU52 - Ch.54)



Plot 7-65. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax Index 37 - RU52 - Ch.54)



Plot 7-68. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax - RU484 - Ch.54)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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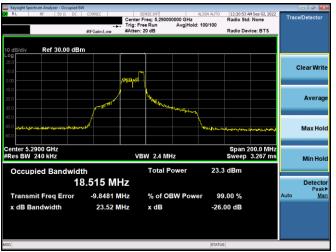




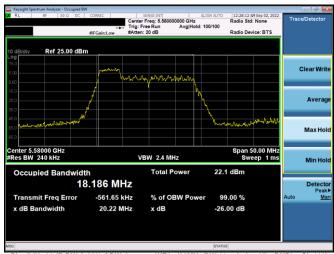




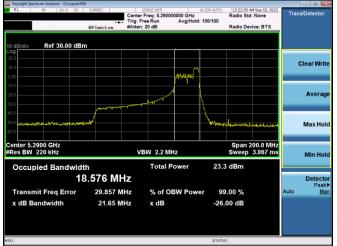
Plot 7-72. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax - RU996 - Ch.58)



Plot 7-70. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax Index 44 - RU52 - Ch.58)



Plot 7-73. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax Index 37 - RU52 - Ch.116)



Plot 7-71. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax Index 52 - RU52 - Ch.58)



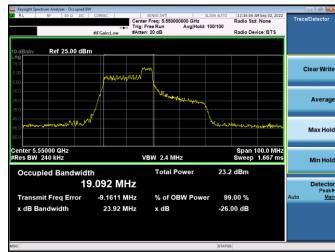
Plot 7-74. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax Index 38 - RU52 - Ch.116)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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Plot 7-78. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax Index 40 - RU52 - Ch.110)



Plot 7-76. 26dB BW & 99% OBW Antenna WF4a (20MHz BW 11ax- RU242 - Ch.116)



Plot 7-79. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax Index 44 - RU52 - Ch.110)



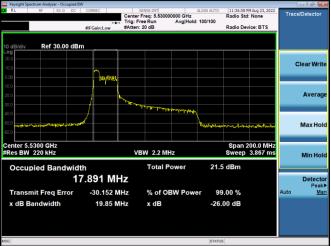
Plot 7-77. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax Index 37 - RU52 - Ch.110)



Plot 7-80. 26dB BW & 99% OBW Antenna WF4a (40MHz BW 11ax - RU484 - Ch.110)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 36 of 289	
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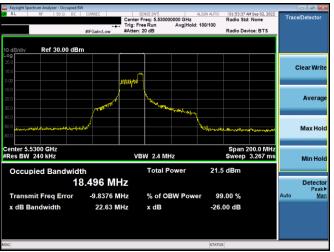




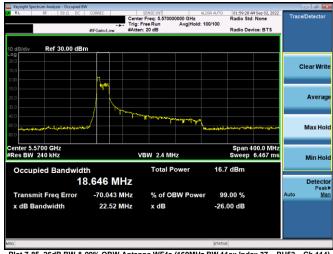




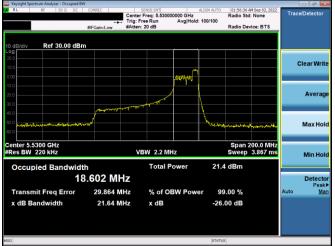
Plot 7-84. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax - RU996 - Ch.106)



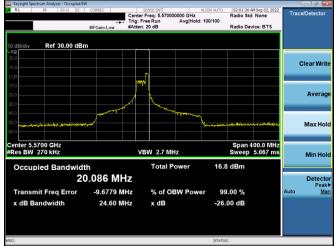
Plot 7-82. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax Index 44 - RU52 - Ch.106)



Plot 7-85. 26dB BW & 99% OBW Antenna WF4a (160MHz BW 11ax Index 37 - RU52 - Ch.114)



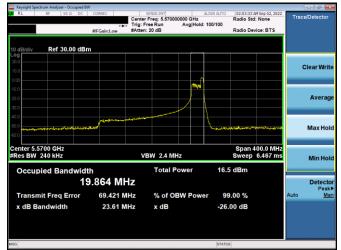
Plot 7-83. 26dB BW & 99% OBW Antenna WF4a (80MHz BW 11ax Index 52 - RU52 - Ch.106)

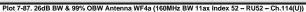


Plot 7-86. 26dB BW & 99% OBW Antenna WF4a (160MHz BW 11ax Index 52 - RU52 - Ch.114(L))

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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Plot 7-88. 26dB BW & 99% OBW Antenna WF4a (160MHz BW 11ax - RU996x2 - Ch.114)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 29 of 290	
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7.3 6dB & 99% Bandwidth Measurement – 802.11ax OFDMA §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 \geq 500 kHz.

Test Procedure Used

ANSI C63.10-2013 – Subclause 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. $VBW \ge 3 \times RBW$
- 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 were investigated and only the worst case is reported
- 2. All RU's were investigated and only worst case partially-loaded and fully-loaded RU's were reported.
- 3. Low, mid, and high channels were tested and tabular data has been reported. Only mid channel bandwidth plots have been reported.

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 39 of 289	
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Antenna WF5b 6dB & 99% Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	RU Size	RU Index	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass / Fail	
				26	0	12.5/14.7 (MCS11)	18.15	2.09	0.50	Pass	
	5745	149	ax (20MHz)	26	4	12.5/14.7 (MCS11)	17.27	2.72	0.50	Pass	
				26	8	12.5/14.7 (MCS11)	18.35	2.12	0.50	Pass	
				26	0	12.5/14.7 (MCS11)	18.15	2.10	0.50	Pass	
	5785	157	ax (20MHz)	26	4	12.5/14.7 (MCS11)	17.28	2.71	0.50	Pass	
				26	8	12.5/14.7 (MCS11)	18.35	2.08	0.50	Pass	
	5825 16	165	ax (20MHz)	26	0	12.5/14.7 (MCS11)	18.15	2.09	0.50	Pass	
				26	4	12.5/14.7 (MCS11)	17.29	2.71	0.50	Pass	
5				26	8	12.5/14.7 (MCS11)	18.33	2.10	0.50	Pass	
Band	5755 151	151	ax (40MHz)	26	0	12.5/14.7 (MCS11)	17.93	2.13	0.50	Pass	
				26	8	12.5/14.7 (MCS11)	18.83	2.12	0.50	Pass	
			26	17	12.5/14.7 (MCS11)	17.96	2.13	0.50	Pass		
				26	0	12.5/14.7 (MCS11)	17.99	2.18	0.50	Pass	
	5795	159	ax (40MHz)	26	8	12.5/14.7 (MCS11)	18.95	2.15	0.50	Pass	
				26	17	12.5/14.7 (MCS11)	17.98	2.09	0.50	Pass	
				26	0	12.5/14.7 (MCS11)	17.75	2.21	0.50	Pass	
	5775	155	ax (80MHz)	26	18	12.5/14.7 (MCS11)	36.71	2.85	0.50	Pass	
					26	36	12.5/14.7 (MCS11)	17.98	2.30	0.50	Pass

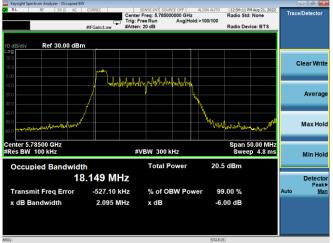
Table 7-8. Conducted Bandwidth Measurements Antenna WF5b (RU26)

	Frequency [MHz]	Channel No.	802.11 Mode	RU Size	RU Index	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass / Fail
	5745	149	ax (20MHz)	242	61	121.9/143.4 (MCS11)	19.01	19.06	0.50	Pass
	5785	157	ax (20MHz)	242	61	121.9/143.4 (MCS11)	18.94	19.02	0.50	Pass
93	5825	165	ax (20MHz)	242	61	121.9/143.4 (MCS11)	19.01	19.11	0.50	Pass
Band	5755	151	ax (40MHz)	484	65	243.8/286.8 (MCS11)	37.90	38.14	0.50	Pass
	5795	159	ax (40MHz)	484	65	243.8/286.8 (MCS11)	38.20	38.36	0.50	Pass
	5775	155	ax (80MHz)	996	67	510.4/600.5 (MCS11)	77.35	78.01	0.50	Pass

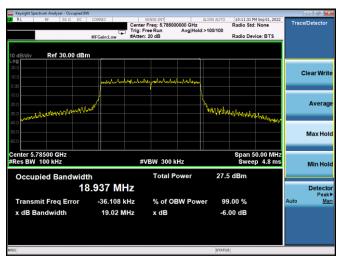
Table 7-9. Conducted Bandwidth Measurements Antenna WF5b (Fully- loaded RU)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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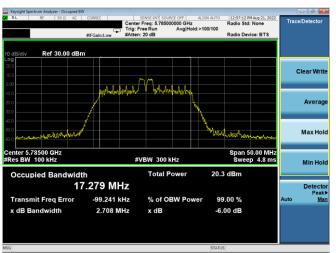




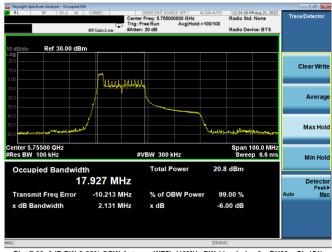
Plot 7-89. 6dB BW & 99% OBW Antenna WF5b (20MHz BW 11ax Index 0 - RU26 - Ch.157)



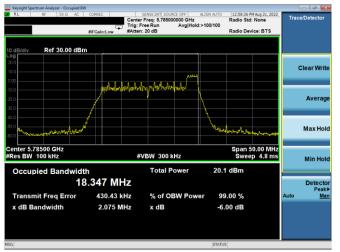
Plot 7-92. 6dB BW & 99% OBW Antenna WF5b (20MHz BW 11ax- RU242 - Ch.157)



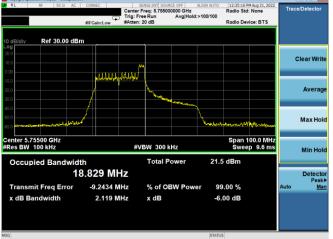
Plot 7-90. 6dB BW & 99% OBW Antenna WF5b (20MHz BW 11ax Index 4 - RU26 - Ch.157)



Plot 7-93. 6dB BW & 99% OBW Antenna WF5b (40MHz BW 11ax Index 0 - RU26 - Ch.151)



Plot 7-91. 6dB BW & 99% OBW Antenna WF5b (20MHz BW 11ax Index 8- RU26 - Ch.157)



Plot 7-94. 6dB BW & 99% OBW Antenna WF5b (40MHz BW 11ax Index 8 - RU26 - Ch.151)

FCC ID: BCGA2435 IC: 579C-A2435	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 41 of 200
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