



## Element Materials Technology

(formerly PCTEST)

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## MEASUREMENT REPORT

### FCC PART 15.407 / ISED RSS-247 UNII 802.11a/n/ac/ax(SU)

**Applicant Name:**

Apple Inc.  
One Apple Park Way  
Cupertino, CA 95014  
United States

**Date of Testing:**

5/20/2024 - 8/28/2024

**Test Report Issue Date:**

9/9/2024

**Test Site/Location:**

Element Materials Technology, Morgan Hill, CA, USA

**Test Report Serial No.:**

1C2405200018-22-R1.BCG

<b>FCC ID:</b>	<b>BCGA2995</b>
<b>IC:</b>	<b>579C-A2995</b>
<b>APPLICANT:</b>	<b>Apple Inc.</b>

**Application Type:**

Certification

**Model/HVIN:**

A2995, A2996

**EUT Type:**

Tablet Device

**Frequency Range:**

5180 – 5825MHz

**Modulation Type:**

OFDM

**FCC Classification:**

Unlicensed National Information Infrastructure (UNII)

**FCC Rule Part(s):**

Part 15 Subpart E (15.407)

**ISED Specification:**

RSS-247 Issue 3

**Test Procedure(s):**

ANSI C63.10-2020, KDB 789033 D02 v02r01

KDB 662911 D01 v02r01

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2020 and KDB 789033 D02 v02r01. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N:1C2405200018-22-R1.BCG) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortiz

Executive Vice President

Prepared by: WKR0000007358

Reviewed by: WKR0000005849



CERT #2041.02

FCC ID: BCGA2995	
IC: 579C-A2995	
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024

#### MEASUREMENT REPORT (CERTIFICATION)

Approved by:  
Quality Manager

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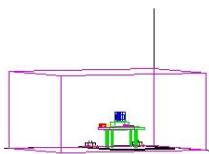
V 10.6 10/27/2023

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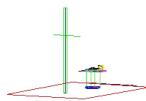
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FCC ID: BCGA2995 IC: 579C-A2995	 <b>element</b>		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# MEASUREMENT REPORT



UNII Band	Channel Bandwidth (MHz)	Mode	Tx Frequency (MHz)	SISO						CDD/SDM Primary		CDD/SDM Diversity	
				Antenna 5T		Antenna 3b		Antenna 1b		Summed		Summed	
				Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)						
1	20	802.11a/n	5180 - 5240	88.756	19.48	88.920	19.49	86.736	19.38	98.401	19.93	98.855	19.95
2A		802.11a/n	5260 - 5320	83.368	19.21	86.298	19.36	87.116	19.40	98.175	19.92	95.940	19.82
2C		802.11a/n	5500 - 5720	88.328	19.46	87.740	19.43	88.512	19.47	96.383	19.84	95.280	19.79
3		802.11a/n	5745 - 5825	88.961	19.49	87.579	19.42	89.002	19.49	172.982	22.38	174.582	22.42
1	40	802.11n	5190 - 5230	82.319	19.16	84.256	19.26	81.602	19.12	168.267	22.26	173.380	22.39
2A		802.11n	5270 - 5310	82.985	19.19	84.450	19.27	85.981	19.34	171.002	22.33	171.396	22.34
2C		802.11n	5510 - 5710	89.105	19.50	87.720	19.43	84.996	19.29	168.655	22.27	168.655	22.27
3		802.11n	5755 - 5795	83.272	19.21	82.985	19.19	83.734	19.23	169.434	22.29	174.582	22.42
1	80	802.11ac	5210	28.003	14.47	26.724	14.27	26.509	14.23	47.098	16.73	46.238	16.65
2A		802.11ac	5290	48.742	16.88	45.856	16.61	46.569	16.68	96.383	19.84	95.499	19.80
2C		802.11ac	5530 - 5690	82.452	19.16	88.654	19.48	84.664	19.28	171.002	22.33	166.725	22.22
3		802.11ac	5775	61.165	17.87	60.104	17.79	58.157	17.65	118.850	20.75	119.674	20.78
1	20	802.11ax (SU)	5180 - 5240	82.680	19.17	84.625	19.28	89.002	19.49	96.605	19.85	93.756	19.72
2A		802.11ax (SU)	5260 - 5320	84.275	19.26	82.775	19.18	88.614	19.48	96.161	19.83	95.719	19.81
2C		802.11ax (SU)	5500 - 5720	85.921	19.34	85.625	19.33	88.695	19.48	99.770	19.99	98.175	19.92
3		802.11ax (SU)	5745 - 5825	85.803	19.34	88.900	19.49	83.541	19.22	171.396	22.34	169.044	22.28
1	40	802.11ax (SU)	5190 - 5230	83.349	19.21	84.918	19.29	83.157	19.20	166.725	22.22	166.725	22.22
2A		802.11ax (SU)	5270 - 5310	84.625	19.28	84.508	19.27	86.159	19.35	149.279	21.74	149.279	21.74
2C		802.11ax (SU)	5510 - 5710	82.661	19.17	85.094	19.30	86.836	19.39	172.584	22.37	172.584	22.37
3		802.11ax (SU)	5755 - 5795	88.430	19.47	83.445	19.21	84.547	19.27	170.608	22.32	170.608	22.32
1	80	802.11ax	5210	24.946	13.97	25.073	13.99	23.356	13.68	43.551	16.39	42.560	16.29
2A		802.11ax	5290	47.293	16.75	45.878	16.62	48.630	16.87	86.896	19.39	86.696	19.38
2C		802.11ax (SU)	5530 - 5690	85.448	19.32	83.291	19.21	86.397	19.37	174.582	22.42	168.267	22.26
3		802.11ax (SU)	5775	52.505	17.20	51.773	17.14	53.914	17.32	94.624	19.76	93.756	19.72
1/2A	160	802.11ac	5250	21.878	13.40	22.156	13.46	21.115	13.25	37.670	15.76	38.371	15.84
2C		802.11ac	5570	20.903	13.20	22.116	13.45	21.827	13.39	43.053	16.34	42.267	16.26
1/2A	160	802.11ax (SU)	5250	20.980	13.22	22.367	13.50	20.697	13.16	37.411	15.73	38.282	15.83
2C		802.11ax (SU)	5570	20.706	13.16	20.436	13.10	22.009	13.43	42.073	16.24	42.364	16.27

## FCC EUT Overview (Low Data Rate)

UNII Band	Channel Bandwidth (MHz)	Mode	Tx Frequency (MHz)	SISO						CDD/SDM Primary		CDD/SDM Diversity	
				Antenna 5T		Antenna 3b		Antenna 1b		Summed		Summed	
				Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)						
1	20	802.11a/n	5180 - 5240	29.854	14.75	29.737	14.73	28.747	14.59	29.648	14.72	29.174	14.65
2A		802.11a/n	5260 - 5320	83.368	19.21	86.298	19.36	87.116	19.40	98.175	19.92	95.940	19.82
2C		802.11a/n	5500 - 5720	88.961	19.49	87.579	19.42	89.002	19.49	96.383	19.84	95.280	19.79
3		802.11a/n	5745 - 5825	50.606	17.04	50.933	17.07	50.455	17.03	172.982	22.38	174.582	22.42
1	40	802.11n	5190 - 5230	82.985	19.19	84.450	19.27	85.981	19.34	51.404	17.11	51.050	17.08
2A		802.11n	5270 - 5310	88.085	19.45	87.720	19.43	83.215	19.20	171.002	22.33	171.396	22.34
2C		802.11n	5510 - 5710	82.372	19.21	82.985	19.19	83.734	19.23	167.880	22.25	166.341	22.21
3		802.11n	5755 - 5795	26.656	14.26	27.990	14.47	25.334	14.04	169.434	22.29	174.582	22.42
1	80	802.11ac	5210	48.742	16.88	45.856	16.61	46.569	16.68	47.534	16.77	46.559	16.68
2A		802.11ac	5290	82.452	19.16	88.654	19.48	84.664	19.28	96.383	19.84	95.499	19.80
2C		802.11ac	5530 - 5690	81.165	17.87	60.104	17.79	58.157	17.65	171.002	22.33	166.725	22.22
3		802.11ac	5775	28.947	14.62	28.067	14.48	29.437	14.69	118.850	20.75	119.674	20.78
1	20	802.11ax (SU)	5180 - 5240	84.275	19.26	82.775	19.18	88.614	19.48	28.973	14.62	28.973	14.62
2A		802.11ax (SU)	5260 - 5320	85.921	19.34	85.626	19.33	88.695	19.48	96.161	19.83	95.719	19.81
2C		802.11ax (SU)	5500 - 5720	85.803	19.34	88.900	19.49	83.541	19.22	99.770	19.99	98.175	19.92
3		802.11ax (SU)	5745 - 5825	51.156	17.09	48.551	16.86	50.676	17.05	171.396	22.34	169.044	22.28
1	40	802.11ax (SU)	5190 - 5230	84.625	19.28	84.508	19.27	86.159	19.35	50.582	17.04	51.404	17.11
2A		802.11ax (SU)	5270 - 5310	82.661	19.17	82.281	19.15	86.836	19.39	149.279	21.74	149.279	21.74
2C		802.11ax (SU)	5510 - 5710	88.430	19.47	83.445	19.21	84.547	19.27	164.816	22.17	164.816	22.17
3		802.11ax (SU)	5755 - 5795	23.747	13.76	24.843	13.95	23.014	13.62	170.608	22.32	170.608	22.32
1	80	802.11ax (SU)	5210	47.293	16.75	45.878	16.62	48.630	16.87	44.361	16.47	42.855	16.32
2A		802.11ax (SU)	5290	85.448	19.32	83.291	19.21	86.397	19.37	86.896	19.39	86.497	19.37
2C		802.11ax (SU)	5530 - 5690	52.505	17.20	51.773	17.14	53.914	17.32	174.582	22.42	168.267	22.26
3		802.11ax (SU)	5775	20.446	13.11	22.182	13.46	21.414	13.31	94.624	19.76	87.297	19.41
1/2A	160	802.11ac	5250	20.446	13.11	22.182	13.46	21.414	13.31	37.325	15.72	38.815	15.89
1/2A		802.11ax (SU)	5250	20.951	13.21	22.208	13.47	21.667	13.43	39.628	15.98	38.282	15.83

## ISED EUT Overview (Low Data Rate)

FCC ID: BCGA2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 3 of 595 V 10.6 10/27/2023

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UNII Band	Channel Bandwidth (MHz)	Mode	Tx Frequency (MHz)	SISO				CDD/SDM Primary		CDD/SDM Diversity	
				Antenna 5T		Antenna 3b		Antenna 1b		Summed	
				Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
1	20	802.11a/n	5180 - 5240	88.879	19.49	85.605	19.33	86.159	19.35	97.051	19.87
2A		802.11a/n	5260 - 5320	88.654	19.48	85.487	19.32	86.218	19.36	95.280	19.79
2C		802.11a/n	5500 - 5720	86.656	19.38	85.605	19.33	86.357	19.36	98.175	19.92
3		802.11a/n	5745 - 5825	86.159	19.35	87.943	19.44	88.838	19.49	172.584	22.37
1	40	802.11n	5190 - 5230	85.783	19.33	81.546	19.11	82.167	19.15	164.059	22.15
2A		802.11n	5270 - 5310	84.606	19.27	84.023	19.24	85.507	19.32	143.880	21.58
2C		802.11n	5510 - 5710	84.411	19.26	85.428	19.32	87.237	19.41	172.187	22.36
3		802.11n	5755 - 5795	85.546	19.32	83.657	19.23	83.676	19.23	167.109	22.23
1	80	802.11ac	5210	23.211	13.66	23.405	13.69	23.313	13.68	43.053	16.34
2A		802.11ac	5290	39.129	15.93	37.627	15.76	37.111	15.70	74.645	18.73
2C		802.11ac	5530 - 5690	85.704	19.33	83.196	19.20	85.704	19.33	163.682	22.14
3		802.11ac	5775	58.966	17.71	60.298	17.80	60.437	17.81	104.954	20.21
1	20	802.11ax (SU)	5180 - 5240	84.938	19.29	85.114	19.30	85.842	19.34	94.406	19.75
2A		802.11ax (SU)	5260 - 5320	84.879	19.29	83.772	19.23	82.680	19.17	95.719	19.81
2C		802.11ax (SU)	5500 - 5720	86.238	19.36	85.448	19.32	84.470	19.27	98.401	19.93
3		802.11ax (SU)	5745 - 5825	84.043	19.25	85.664	19.33	85.055	19.30	166.725	22.22
1	40	802.11ax (SU)	5190 - 5230	87.862	19.44	82.490	19.16	83.522	19.22	165.577	22.19
2A		802.11ax (SU)	5270 - 5310	81.546	19.11	84.879	19.29	87.438	19.42	118.850	20.75
2C		802.11ax (SU)	5510 - 5710	84.840	19.29	86.557	19.37	87.398	19.42	168.267	22.26
3		802.11ax (SU)	5755 - 5795	86.656	19.38	84.625	19.28	82.262	19.15	164.816	22.17
1	80	802.11ax (SU)	5210	21.237	13.27	21.777	13.38	21.272	13.28	36.983	15.68
2A		802.11ax (SU)	5290	37.325	15.72	38.291	15.83	37.428	15.73	68.391	18.35
2C		802.11ax (SU)	5530 - 5690	87.862	19.44	85.251	19.31	87.116	19.40	171.791	22.35
3		802.11ax (SU)	5775	48.630	16.87	50.874	17.07	51.654	17.13	92.470	19.66
1/2A	160	802.11ac	5250	21.797	13.38	21.682	13.36	20.516	13.12	35.892	15.55
2C		802.11ac	5570	18.599	12.70	19.173	12.83	19.756	12.96	38.107	15.81
1/2A	160	802.11ax (SU)	5250	20.907	13.20	22.300	13.48	21.281	13.28	36.813	15.66
2C		802.11ax (SU)	5570	19.333	12.86	19.020	12.79	19.231	12.84	38.459	15.85

### FCC EUT Overview (Mid Data Rate)

UNII Band	Channel Bandwidth (MHz)	Mode	Tx Frequency (MHz)	SISO				CDD/SDM Primary			
				Antenna 5T		Antenna 3b		Antenna 1b		CDD/SDM Primary	
				Max. Power (mW)	Max. Power (dBm)						
1	20	802.11a/n	5180 - 5240	29.114	14.64	29.127	14.64	28.497	14.55	29.785	14.74
2A		802.11a/n	5260 - 5320	88.654	19.48	85.487	19.32	86.218	19.36	95.280	19.79
2C		802.11a/n	5500 - 5720	86.656	19.38	85.605	19.33	86.357	19.36	98.175	19.92
3		802.11a/n	5745 - 5825	86.159	19.35	87.943	19.44	88.838	19.49	172.584	22.37
1	40	802.11n	5190 - 5230	52.024	17.16	49.136	16.91	51.785	17.14	49.888	16.98
2A		802.11n	5270 - 5310	84.606	19.27	84.023	19.24	85.507	19.32	143.880	21.58
2C		802.11n	5510 - 5710	83.100	19.20	82.205	19.15	86.298	19.36	172.187	22.36
3		802.11n	5755 - 5795	85.546	19.32	83.657	19.23	83.676	19.23	167.109	22.23
1	80	802.11ac	5210	23.961	13.80	23.578	13.73	23.062	13.63	41.210	16.15
2A		802.11ac	5290	39.129	15.93	37.627	15.76	37.111	15.70	74.645	18.73
2C		802.11ac	5530 - 5690	85.704	19.33	83.196	19.20	85.704	19.33	163.682	22.14
3		802.11ac	5775	58.966	17.71	60.298	17.80	60.437	17.81	104.954	20.21
1	20	802.11ax (SU)	5180 - 5240	29.682	14.73	29.343	14.68	29.621	14.72	29.040	14.63
2A		802.11ax (SU)	5260 - 5320	84.879	19.29	83.772	19.23	82.680	19.17	95.719	19.81
2C		802.11ax (SU)	5500 - 5720	86.238	19.36	85.448	19.32	84.470	19.27	98.401	19.93
3		802.11ax (SU)	5745 - 5825	84.043	19.25	85.664	19.33	85.055	19.30	166.725	22.22
1	40	802.11ax (SU)	5190 - 5230	49.808	16.97	49.797	16.97	52.735	17.22	50.466	17.03
2A		802.11ax (SU)	5270 - 5310	81.546	19.11	84.879	19.29	87.438	19.42	118.850	20.75
2C		802.11ax (SU)	5510 - 5710	84.198	19.25	83.042	19.19	87.096	19.40	164.816	22.17
3		802.11ax (SU)	5755 - 5795	86.656	19.38	84.625	19.28	82.262	19.15	164.816	22.17
1	80	802.11ax (SU)	5210	20.716	13.16	21.454	13.32	21.306	13.29	37.154	15.70
2A		802.11ax (SU)	5290	37.325	15.72	38.291	15.83	37.428	15.73	68.391	18.35
2C		802.11ax (SU)	5530 - 5690	87.862	19.44	85.251	19.31	87.116	19.40	171.791	22.35
3		802.11ax (SU)	5775	48.630	16.87	50.874	17.07	51.654	17.13	92.470	19.66
1/2A	160	802.11ac	5250	22.377	13.50	21.928	13.41	22.213	13.47	36.058	15.57
1/2A		802.11ax (SU)	5250	18.599	12.70	19.173	12.83	20.768	13.17	37.411	15.730

### ISED EUT Overview (Mid Data Rate)

FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 4 of 595 V 10.6 10/27/2023

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UNII Band	Channel Bandwidth (MHz)	Mode	Tx Frequency (MHz)	SISO						CDD/SDM Primary		CDD/SDM Diversity	
				Antenna 5T		Antenna 3b		Antenna 1b		Summed		Summed	
				Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)						
1	20	802.11a/n	5180 - 5240	88.532	19.47	88.410	19.47	89.043	19.50	95.719	19.81	97.499	19.89
2A		802.11a/n	5260 - 5320	88.186	19.45	89.064	19.50	83.176	19.20	95.280	19.79	95.499	19.80
2C		802.11a/n	5500 - 5720	88.369	19.46	85.921	19.34	88.982	19.49	98.401	19.93	97.275	19.88
3		802.11a/n	5745 - 5825	86.139	19.35	87.842	19.44	88.186	19.45	172.187	22.36	174.181	22.41
1	40	802.11n	5190 - 5230	81.283	19.10	85.467	19.32	87.761	19.43	153.462	21.86	148.594	21.72
2A		802.11n	5270 - 5310	82.699	19.18	84.295	19.26	84.918	19.29	145.546	21.63	143.549	21.57
2C		802.11n	5510 - 5710	84.567	19.27	85.507	19.32	86.676	19.38	176.198	22.46	174.582	22.42
3		802.11n	5755 - 5795	88.614	19.48	84.703	19.28	85.526	19.32	176.198	22.46	173.780	22.40
1	80	802.11ac	5210	19.733	12.95	18.832	12.75	18.454	12.66	37.670	15.76	38.815	15.89
2A		802.11ac	5290	21.184	13.26	20.578	13.13	21.188	13.26	43.251	16.36	42.364	16.27
2C		802.11ac	5530 - 5690	85.684	19.33	87.902	19.44	84.004	19.24	168.655	22.27	167.880	22.25
3		802.11ac	5775	56.040	17.49	55.322	17.43	54.113	17.33	81.846	19.13	84.140	19.25
1	20	802.11ax (SU)	5180 - 5240	85.862	19.34	88.004	19.45	85.842	19.34	98.855	19.95	97.949	19.91
2A		802.11ax (SU)	5260 - 5320	84.043	19.25	88.941	19.49	88.125	19.45	96.605	19.85	95.719	19.81
2C		802.11ax (SU)	5500 - 5720	88.614	19.48	86.258	19.36	87.761	19.43	97.275	19.88	95.280	19.79
3		802.11ax (SU)	5745 - 5825	82.813	19.18	88.247	19.46	86.437	19.37	171.791	22.35	172.584	22.37
1	40	802.11ax (SU)	5190 - 5230	79.141	18.98	79.323	18.99	75.701	18.79	153.462	21.86	154.170	21.88
2A		802.11ax (SU)	5270 - 5310	83.714	19.23	85.625	19.33	81.733	19.12	120.226	20.80	124.165	20.94
2C		802.11ax (SU)	5510 - 5710	86.278	19.36	83.426	19.21	84.062	19.25	167.880	22.25	170.608	22.32
3		802.11ax (SU)	5755 - 5795	83.888	19.24	87.801	19.44	86.856	19.39	172.187	22.36	173.780	22.40
1	80	802.11ax (SU)	5210	19.346	12.87	18.941	12.77	18.268	12.62	37.844	15.78	38.905	15.90
2A		802.11ax (SU)	5290	20.811	13.18	21.787	13.38	21.657	13.36	41.495	16.18	41.495	16.18
2C		802.11ax (SU)	5530 - 5690	85.842	19.34	82.300	19.15	85.763	19.33	168.267	22.26	172.187	22.36
3		802.11ax (SU)	5775	47.621	16.78	49.442	16.94	45.761	16.61	75.509	18.78	76.736	18.85
1/2A	160	802.11ac	5250	16.539	12.19	15.896	12.01	15.896	12.01	31.117	14.93	31.915	15.04
2C		802.11ac	5570	15.488	11.90	14.682	11.67	15.108	11.79	30.690	14.87	31.405	14.97
1/2A	160	802.11ax (SU)	5250	16.282	12.12	16.084	12.06	16.459	12.16	30.130	14.79	29.992	14.77
2C		802.11ax (SU)	5570	15.153	11.81	15.802	11.99	15.499	11.90	30.903	14.90	31.623	15.00

### FCC EUT Overview (High Data Rate)

UNII Band	Channel Bandwidth (MHz)	Mode	Tx Frequency (MHz)	SISO						CDD/SDM Primary		CDD/SDM Diversity	
				Antenna 5T		Antenna 3b		Antenna 1b		CDD/SDM Primary		CDD/SDM Diversity	
				Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)						
1	20	802.11a/n	5180 - 5240	29.512	14.70	29.376	14.68	28.774	14.59	28.774	14.59	29.174	14.65
2A		802.11a/n	5260 - 5320	88.105	19.45	89.125	19.50	83.176	19.20	95.280	19.79	95.499	19.80
2C		802.11a/n	5500 - 5720	88.308	19.46	85.901	19.34	88.920	19.49	98.401	19.93	97.275	19.88
3		802.11a/n	5745 - 5825	86.099	19.35	87.902	19.44	88.105	19.45	172.187	22.36	174.181	22.41
1	40	802.11n	5190 - 5230	51.404	17.11	52.845	17.23	48.529	16.86	50.933	17.07	50.350	17.02
2A		802.11n	5270 - 5310	82.794	19.18	84.333	19.26	84.918	19.29	145.546	21.63	143.549	21.57
2C		802.11n	5510 - 5710	81.470	19.11	82.794	19.18	85.310	19.31	171.002	22.33	174.582	22.42
3		802.11n	5755 - 5795	88.716	19.48	84.723	19.28	85.507	19.32	176.198	22.46	173.780	22.40
1	80	802.11ac	5210	18.493	12.67	18.923	12.77	18.239	12.61	36.813	15.66	37.670	15.76
2A		802.11ac	5290	21.184	13.26	20.559	13.13	21.184	13.26	43.251	16.36	42.364	16.27
2C		802.11ac	5530 - 5690	85.704	19.33	87.902	19.44	83.946	19.24	168.655	22.27	167.880	22.25
3		802.11ac	5775	56.105	17.49	55.335	17.43	54.075	17.33	81.846	19.13	84.140	19.25
1	20	802.11ax (SU)	5180 - 5240	29.717	14.73	28.576	14.56	29.512	14.70	28.708	14.58	28.774	14.59
2A		802.11ax (SU)	5260 - 5320	84.140	19.25	88.920	19.49	88.105	19.45	96.605	19.85	95.719	19.81
2C		802.11ax (SU)	5500 - 5720	88.716	19.48	86.298	19.36	87.700	19.43	97.275	19.88	95.280	19.79
3		802.11ax (SU)	5745 - 5825	82.794	19.18	88.308	19.46	86.497	19.37	171.791	22.35	172.584	22.37
1	40	802.11ax (SU)	5190 - 5230	52.481	17.20	48.641	16.87	49.659	16.96	51.050	17.08	50.699	17.05
2A		802.11ax (SU)	5270 - 5310	83.753	19.23	85.704	19.33	81.658	19.12	120.226	20.80	124.165	20.94
2C		802.11ax (SU)	5510 - 5710	83.368	19.21	83.368	19.21	81.846	19.13	167.880	22.25	170.608	22.32
3		802.11ax (SU)	5755 - 5795	83.946	19.24	87.902	19.44	86.896	19.39	172.187	22.36	173.780	22.40
1	80	802.11ax (SU)	5210	19.679	12.94	19.187	12.83	18.967	12.78	38.019	15.80	39.174	15.93
2A		802.11ax (SU)	5290	20.797	13.18	21.777	13.38	21.677	13.36	41.495	16.18	41.495	16.18
2C		802.11ax (SU)	5530 - 5690	85.901	19.34	82.224	19.15	85.704	19.33	168.267	22.26	172.187	22.36
3		802.11ax (SU)	5775	47.643	16.78	49.431	16.94	45.814	16.61	75.509	18.78	76.736	18.85
1/2A	160	802.11ac	5250	16.069	12.06	16.069	12.06	15.453	12.06	31.769	15.02	32.137	15.07
1/2A	160	802.11ax (SU)	5250	15.417	11.88	16.293	12.12	15.959	12.03	30.339	14.82	29.923	14.76

### ISED EUT Overview (High Data Rate)

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## 1.0 INTRODUCTION

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

### 1.2 Element Materials Technology Test Location

These measurement tests were conducted at the Element facility located at 18855 Adams Court, Morgan Hill, CA 95037. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014 and KDB 414788 D01 v01r01.

### 1.3 Test Facility / Accreditations

Measurements were performed at Element Materials Technology located in Morgan Hill, CA 95037, U.S.A.

- Element Materials Technology is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- Element Materials Technology facility is a registered (22831) test laboratory with the site description on file with ISED.
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

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## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Tablet Device FCC ID: BCGA2995** and **IC: 579C-A2995**. The test data contained in this report pertains only to the emissions due to the EUT's UNII 802.11a/n/ac/ax(SU) transmitter.

**Test Device Serial No.:** GW373NWY36, GXD3JTXYXM, W64VVD6Q0H, J2DT9VW3FP, WH6226Y7R5, H9HH4U0007A0000R51, H9HH4Z000940000CFX

### 2.2 Device Capabilities

This device contains the following capabilities:

850/1700/1900 WCDMA/HSPA, Multi-band LTE, 5G NR (FR1), 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, 802.11a/ax WIFI 6E, 802.15.4, Bluetooth (1x, EDR, LE1M, LE2M, HDR4, HDR8), NB UNII (1x, HDR4, HDR8), WPT

This device supports BT Beamforming

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Band 1		Band 2A		Band 2C		Band 3	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
36	5180	52	5260	100	5500	149	5745
:	:	:	:	:	:	:	:
40	5200	56	5280	116	5580	157	5785
:	:	:	:	:	:	:	:
48	5240	64	5320	144	5720	165	5825

Table 2-1. 802.11a / 802.11n / 802.11ac / 802.11ax (20MHz) Frequency / Channel Operations

Band 1		Band 2A		Band 2C		Band 3	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
38	5190	54	5270	102	5510	151	5755
:	:	:	:	:	:	:	:
46	5230	62	5310	110	5550	159	5795
				142	5710		

Table 2-2. 802.11n / 802.11ac / 802.11ax (40MHz BW) Frequency / Channel Operations

Band 1		Band 2A		Band 2C		Band 3	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
42	5210	58	5290	106	5530	155	5775
				138	5690		

Table 2-3. 802.11ac / 802.11ax (80MHz BW) Frequency / Channel Operations

Band 1		Band 2A		Band 2C	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
50	5250	50	5250	114	5570

Table 2-4. 802.11ac / 802.11ax (160MHz BW) Frequency / Channel Operations

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**Notes:**

1. TDWR channels are not supported for ISED.
2. 5GHz NII operation is possible in 20MHz, and 40MHz, and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section B)2)b) KDB 789033 D02 v02r01 and ANSI C63.10-2020. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Measured Duty Cycles						
802.11 Mode/Band		Duty Cycle [%]				
		Antenna 5T	Antenna 3b	Antenna 1b	CDD/SDM Primary	CDD/SDM Diversity
5GHz	a (Low Rate)	100.00	100.00	100.00	100.00	100.00
	a (Mid Rate)	97.02	97.02	97.02	97.02	97.02
	a (High Rate)	94.59	94.59	94.59	93.63	93.63
	n (HT20) (Low Rate)	96.51	96.07	96.51	93.66	93.93
	n (HT20) (Mid Rate)	93.32	93.72	93.60	89.21	89.44
	n (HT20) (High Rate)	90.84	90.62	90.82	85.17	85.17
	ax(SU) (HT20 Low Rate)	95.70	95.70	95.36	95.89	95.35
	ax(SU) (HT20 Mid Rate)	92.63	92.78	92.19	91.87	92.19
	ax(SU) (HT20 High Rate)	86.14	85.80	86.39	86.43	86.39
	n (HT40 Low Rate)	96.14	96.36	96.05	93.39	93.39
	n (HT40 Mid Rate)	92.76	93.44	93.58	59.33	89.10
	n (HT40 High Rate)	89.79	90.34	90.76	85.11	85.39
	ax(SU) (HT40 Low Rate)	95.85	95.85	95.93	95.14	95.67
	ax(SU) (HT40 Mid Rate)	92.79	92.77	92.14	92.78	92.14
	ax(SU) (HT40 High Rate)	85.67	85.76	86.02	85.80	86.63
	ac (HT80 Low Rate)	95.78	95.78	95.38	93.02	93.00
	ac (HT80 Mid Rate)	93.08	92.79	92.94	88.19	88.19
	ac (HT80 High Rate)	87.13	86.93	86.70	80.99	82.13
	ax(SU) (HT80 Low Rate)	95.49	95.30	95.49	94.92	95.49
	ax(SU) (HT80 Mid Rate)	91.50	92.14	91.86	92.16	92.16
	ax(SU) (HT80 High Rate)	85.37	85.41	84.80	85.11	85.11
	ac (HT80 Low Rate)	93.08	94.19	94.88	90.24	90.98
	ac (HT160 Mid Rate)	89.56	90.80	90.61	85.67	85.40
	ac (HT160 High Rate)	84.54	84.59	84.19	78.64	79.45
	ax(SU) (HT160 Low Rate)	93.68	94.08	93.42	92.91	93.44
	ax(SU) (HT160 Mid Rate)	90.26	90.04	89.83	90.24	90.24
	ax(SU) (HT160 High Rate)	81.99	83.03	82.96	83.27	83.39

**Table 2-4. Measured Duty Cycles**
**CDD/SDM Primary** = Antenna 5T + Antenna 3b

**CDD/SDM Diversity** = Antenna 5T + Antenna 1b

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3. The device employs MIMO technology. Below are the possible configurations.

WiFi Configurations		SISO			CDD			SDM			STBC		
		Ant 5T	Ant 3b	Ant 1b	Ant 5T	Ant 3b	Ant 1b	Ant 5T	Ant 3b	Ant 1b	Ant 5T	Ant 3b	Ant 1b
5GHz	11a	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗
	11n (20MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11ax(SU) (20MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11n (40MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11ax(SU) (40MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11ac (80MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11ax(SU) (80MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11ac (160MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11ax(SU) (160MHz)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2-5. WiFi Configurations

✓ = Support ; ✗ = NOT Support

**SISO** = Single Input Single Output

**SDM** = Spatial Diversity Multiplexing – MIMO function

**CDD** = Cyclic Delay Diversity - 2Tx Function

**STBC** = Space-Time Block Coding – 2Tx Function

4. The device supports the following data rates (shown in Mbps):

20MHz	MCS Index	Spatial Stream	OFDM (802.11n/802.11ac)				OFDM (802.11ac)				OFDM (802.11ax)											
			20MHz		40MHz		80MHz		160MHz		20MHz		40MHz		80MHz							
			0.8μs GI	0.4μs GI	0.8μs GI	0.4μs GI	0.8μs GI	0.4μs GI	0.8μs GI	0.4μs GI	0.8μs GI	1.6μs GI	3.2μs GI	0.8μs GI	1.6μs GI	3.2μs GI						
6	0	1	6.5	7.2	13.5	15	29.3	32.5	58.5	65	8.6	8.1	7.3	17.2	16.3	36	34	30.6	72.1	68.1	61.3	
9	1	1	13	14.4	27	30	58.5	65	117	130	17.2	16.3	14.6	34.4	32.5	29.3	72.1	68.1	61.3	144.1	136.1	122.5
12	2	1	19.5	21.7	40.5	45	87.8	97.5	175.5	195	25.8	24.4	21.9	51.6	48.8	43.9	108.1	102.1	91.9	216.2	204.2	183.8
18	3	1	26	28.9	54	60	117	130	234	260	34.4	32.5	29.3	68.8	65	58.5	144.1	136.1	122.5	288.2	272.2	245
24	4	1	39	43.3	81	90	175.5	195	351	390	51.6	48.8	43.9	103.2	97.5	87.8	216.2	204.2	183.8	432.4	408.3	367.5
36	5	1	52	57.8	108	120	234	260	468	520	68.8	65	58.5	137.6	130	117	288.2	272.2	245	576.5	544.4	490
48	6	1	58.5	65	121.5	135	263.3	292.5	526.5	585	77.4	73.1	65.8	154.9	146.3	131.6	324.3	306.3	275.6	648.5	612.5	551.3
54	7	1	65	72.2	135	150	292.5	325	585	650	86	81.3	73.1	172.1	162.5	146.3	360.3	340.3	306.3	720.6	680.6	612.5
-	8	1	-	-	162	180	351	390	702	780	103.2	97.5	87.8	206.5	195	175.5	432.4	408.3	367.5	864.7	816.7	735
-	9	1	-	-	180	200	390	433.3	780	866.7	114.7	108.3	97.5	229.4	216.7	195	480.4	453.7	408.3	960.8	907.4	816.7
-	10	1	-	-	-	-	-	-	-	129	121.9	109.7	258.1	243.8	219.4	540.4	510.4	459.4	1080.9	1020.8	918.8	
-	11	1	-	-	-	-	-	-	-	143.4	135.4	121.9	286.8	270.8	243.8	600.5	567.1	510.4	1201	1134.3	1020.8	
6	0	2	13	14.4	27	30	58.5	65	117	130	17.2	16.3	14.6	34.4	32.5	29.3	72.1	68.1	61.3	144.1	136.1	122.5
9	1	2	26	28.9	54	60	117	130	234	260	34.4	32.5	29.3	68.8	65	58.5	144.1	136.1	122.5	288.2	272.2	245
12	2	2	39	43.3	81	90	175.5	195	351	390	51.6	48.8	43.9	103.2	97.5	87.8	216.2	204.2	183.8	432.4	408.3	367.5
18	3	2	52	57.8	108	120	234	260	468	520	68.8	65	58.5	137.6	130	117	288.2	272.2	245	576.5	544.4	490
24	4	2	78	86.7	162	180	351	390	702	780	103.2	97.5	87.8	206.5	195	175.5	432.4	408.3	367.5	864.7	816.7	735
36	5	2	104	115.6	216	240	468	520	936	1040	137.6	130	117	275.3	260	234	576.5	544.4	490	1152.9	1088.9	980
48	6	2	117	130	243	270	526.5	585	1053	1170	154.9	146.3	131.6	309.7	292.5	263.3	648.5	612.5	551.3	1297.1	1225	1102.5
54	7	2	130	144.4	270	300	585	650	1170	1300	172.1	162.5	146.3	344.1	325	292.5	720.6	680.6	612.5	1441.2	1361.1	1225
-	8	2	156	173.3	324	360	702	780	1404	1560	206.5	195	175.5	412.9	390	351	864.7	816.7	735	1729.4	1633.3	1470
-	9	2	-	-	360	400	780	866.7	1560	1733.3	229.4	216.7	195	458.8	433.3	390	960.8	907.4	816.7	1921.6	1814.8	1633.3
-	10	2	-	-	-	-	-	-	-	258.1	243.8	219.4	516.2	487.5	438.8	1080.9	1020.8	918.8	2161.8	2041.7	1837.5	
-	11	2	-	-	-	-	-	-	-	286.8	270.8	243.8	573.5	541.7	487.5	1201	1134.3	1020.8	2402	2268.5	2041.7	

Table 2-6. Supported Data Rates

5. This device supports simultaneous transmission operations, which allows for multiple transmitters to transmit simultaneously on the same antenna. The table below shows all configurations possible.

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Antenna	Simultaneous Tx Config	Bluetooth 2.4GHz	Thread	NB UNII	WLAN	WIFI 5GHz	WIFI 6GHz	LTE / FR1 NR		
		BDR, EDR, HDR4/8, LE1/2M	802.15.4	BDR, HDR4/8	802.11 b/g/n/ax	802.11 a/n/ac/ax	802.11 a/ax	LB	MB/HB	Ultra High Band
1a	Config 1	✓	✗	✗	✗	✗	✗	✗	✗	✓
1a	Config 2	✗	✗	✗	✓	✗	✗	✗	✗	✓
1a	Config 3	✗	✓	✗	✗	✗	✗	✗	✗	✓
1b	Config 4	✗	✗	✓	✗	✗	✗	✗	✓	✗
1b	Config 5	✗	✗	✗	✗	✓	✗	✗	✓	✗
1b	Config 6	✗	✗	✗	✗	✗	✓	✗	✓	✗
3a	Config 7	✗	✗	✗	✓	✗	✗	✗	✗	✓
3a	Config 8	✓	✗	✗	✗	✗	✗	✗	✗	✓
3a	Config 9	✗	✓	✗	✗	✗	✗	✗	✗	✓
3b	Config 10	✗	✗	✓	✗	✗	✗	✗	✓	✗
3b	Config 11	✗	✗	✗	✗	✓	✗	✗	✓	✗
3b	Config 12	✗	✗	✗	✗	✗	✓	✗	✓	✗
4	Config 13	✓	✗	✗	✗	✗	✗	✓	✗	✗
4	Config 14	✓	✗	✗	✗	✗	✗	✗	✓	✗
4	Config 15	✓	✗	✗	✗	✗	✗	✗	✗	✓
4	Config 16	✗	✓	✗	✗	✗	✗	✓	✗	✗
4	Config 17	✗	✓	✗	✗	✗	✗	✗	✓	✗
4	Config 18	✗	✓	✗	✗	✗	✗	✗	✗	✓

**Table 2-7. Simultaneous Transmission Configurations**

✓ = Support; ✗ = Not Support

**Note:**

6. All the above simultaneous transmission configurations have been tested and the worst case configuration was found to be Config 14 and reported in Bluetooth, Part 27b and RSS 199 test reports,
7. Specific 2.4GHz Wi-Fi antenna that can only transmit simultaneously with 2.4GHz Bluetooth antenna is listed in the SAR test report. For BT (2.4GHz) in both connected and disconnected modes, and Wi-Fi (2.4GHz) - Wi-Fi max power will not exceed minimum of (13.5dBm, SAR max cap, Reg max cap) power. Bluetooth can simultaneously transmit with IEEE 802.11a/n/ac/ax 5/6 GHz on separate antenna.

## 2.3 Antenna Description

Following antenna gains provided by manufacturer were used for the testing.

Frequency [GHz]	Antenna Gain (dBi)		
	Antenna 5T	Antenna 3b	Antenna 1b
5.150 – 5.250	3.7	3.5	-1.0
5.250 – 5.350	3.7	3.3	-0.1
5.470 – 5.725	4.6	3.0	1.6
5725 – 5.850	3.7	1.9	0.8

**Table 2-8. Highest Antenna Gain**

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## 2.4 Test Support Equipment

1	Apple MacBook Pro w/AC/DC Adapter	Model: A2141 Model: A2166	S/N: C02H604EQ05D S/N: C4H042705ZNP0WA6
2	Apple USB-C Cable	Model: Spartan	S/N: GXK1336018XKTR024
3	USB-C Cable w/ AC Adapter	Model: A246C Model: A2305	S/N: DWH80115BK826GV19 S/N: C4H95160004PF4F4V
4	Apple Pencil	Model: A2538	S/N: KJ26TCFXJW
5	DC Power Supply	Model: KPS3010D	S/N: N/A

**Table 2-9. Test Support Equipment List**

## 2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.10-2020 and KDB 789033 D02 v02r01. ANSI C63.10-2020 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See Sections 3.2 for AC line conducted emissions test setups, 3.3 for radiated emissions test setups, and 7.2, 7.3, 7.4, and 7.5 for antenna port conducted emissions test setups.

There are two vendors of the WiFi/Bluetooth radio modules, variant 1 and variant 2. Both radio modules have the same mechanical outline, same on-board antenna matching circuit, identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances. The worst case configuration was found between the two variants. The EUT was also investigated with and without charger.

For emissions from 1GHz – 18GHz, low, mid, and high channels were tested with highest power and worst case configuration. The emissions below 1GHz and above 18GHz were tested with the highest transmitting power and the worst case channel.

The EUT was manipulated through three orthogonal planes of X-orientation (flatbed), Y-orientation (landscape), and Z-orientation (portrait) during the testing. Only the worst case emissions were reported in this test report.

For AC line conducted and radiated test below 1GHz, following configuration were investigated and EUT powered by AC/DC was the worst case.

- EUT powered by AC/DC adaptor via USB-C cable with wire charger
- EUT powered by host PC via USB-C cable with wire charger

802.11n HT20/40, 11ax(SU) HE20/40/80/160 and acVHT80/160 2TX CDD/SDM mode test data provided in this report covers 802.11n HT20/40, 11ax(SU) HE20/40/80/160 and 802.11acVHT80/160 2TX STBC mode

802.11ac VHT20 and VHT40 mode are different from 802.11n HT20 and HT40 only in control messages and have the same power settings.

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The data rates have been classified into three different groups; low data rate, middle data rate, and high data rate. All three groups of data rate have been investigated and only the worst case data rate per group is reported. The worst case data rate for each group per mode are as follows:

- o 802.11a:
  - Low Data Rate: 12Mbps
  - Mid Data Rate: 24Mbps
  - High Data Rate: 54Mbps
- o 802.11n HT20/40:
  - Low Data Rate: MCS2/MCS10 (SISO/CDD/SDM)
  - Mid Data Rate: MCS4/MCS12(SISO/CDD/SDM)
  - High Data Rate: MCS7/MCS15 (SISO/CDD/SDM)
- o 802.11ac VHT80/160:
  - Low Data Rate: MCS2(SISO/CDD/SDM)
  - Mid Data Rate: MCS4(SISO/CDD/SDM)
  - High Data Rate: MCS9(SISO/CDD/SDM)
- o 802.11ax(SU) HE20/HE40/HE80/HE160
  - Low Data Rate: MCS2(SISO/CDD/SDM)
  - Mid Data Rate: MCS4(SISO/CDD/SDM)
  - High Data Rate: MCS11(SISO/CDD/SDM)

For 802.11ax (OFDMA) test result, see separate UNII 802.11ax (OFDMA) report, 1C2405200018-23 BCG

## 2.6 Software and Firmware

The test was conducted with firmware version 22A312 installed on the EUT.

## 2.7 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

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## 3.0 DESCRIPTION OF TESTS

### 3.1 Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2020) and the guidance provided in KDB 789033 D02 v02r01 were used in the measurement of the EUT.

Deviation from measurement procedure.....**None**

### 3.2 AC Line Conducted Emissions

The line-conducted facility is located inside a 7m x 3.66m x 2.7m shielded enclosure. The shielded enclosure is manufactured by AP Americas. The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-6. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50µH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. The external power line filter is EPCOS 2X60A Power Line Filter (100dB Attenuation, 14kHz-18GHz) and the two EPCOs 2X48A filters (100dB Minimum Insertion Loss, 14kHz - 10GHz). These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions is used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

Line conducted emissions test results are shown in Section 7.8. Automated test software was used to perform the AC line conducted emissions testing. Automated measurement software utilized is Rohde & Schwarz EMC32, Version 10.50.40.

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### 3.3 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

Per KDB 414788, radiated emission test sites other than open-field test sites (e.g., shielded anechoic chambers), may be employed for emission measurements below 30MHz if characterized so that the measurements correspond to those obtained at an open-field test site. To determine test site equivalency, a reference sample transmitting at 149kHz was measured on an open field test site (asphalt with no ground plane) and then measured in the 3m semi-anechoic chamber. A calibrated 60cm loop antenna was used while the reference device was rotated through the X, Y and Z axis in order to capture the worst case level. A maximum deviation of 2.77dB at 149kHz was measured when comparing the 3 meter semi-anechoic chamber to the open field site.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

### 3.4 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

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## 4.0 ANTENNA REQUIREMENTS

### Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antennas of the EUT are **permanently attached**.
- There are no provisions for connection to an external antenna.

### Conclusion:

The EUT complies with the requirement of §15.203.

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## 5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.23-2012. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the  $U_{CISPR}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty ( $\pm$ dB)
Conducted Bench Top Measurements	2.07
Line Conducted Disturbance	1.91
Radiated Disturbance (<30MHz)	4.12
Radiated Disturbance (30MHz - 1GHz)	4.85
Radiated Disturbance (1 - 18GHz)	5.08
Radiated Disturbance (>18GHz)	5.22

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## 6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent Technologies	N9030A	3Hz-26.5GHz PXA Signal Analyzer	10/18/2023	Annual	10/18/2024	MY55330128
Anritsu	ML2495A	Power Meter	7/8/2024	Annual	7/8/2025	1039008
Anritsu	MA2411B	Pulse Power Sensor	7/1/2024	Annual	7/1/2025	1911105
Anritsu	MA2411B	Pulse Power Sensor	11/8/2023	Annual	11/8/2024	1027293
ATM	180-442A-KF	20dB Nominal Gain Horn Antenna	3/14/2024	Annual	3/14/2025	T058701-01
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	4/9/2024	Annual	4/9/2025	00218555
Fairview Microwave/MCL	FMCA1975-36/BW-K10-2W44+	30MHz-40GHz Conducted Cable/Attenuator *	6/10/2024	Annual	6/10/2025	-
Keysight Technology	N9040B	UXA Signal Analyzer	5/28/2024	Annual	5/28/2025	MY57212015
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	8/15/2023	Annual	8/15/2024	101639
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	8/14/2024	Annual	8/15/2025	101648
Rohde & Schwarz	FSV40	Signal Analyzer (10Hz-40GHz)	5/29/2024	Annual	5/29/2025	101619
Rohde & Schwarz	ESW44	EMI Test Receiver	5/1/2024	Annual	5/1/2025	101867
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	7/3/2024	Annual	7/3/2025	102356
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	6/10/2024	Annual	6/10/2025	100057
Rohde & Schwarz	HFH2-Z2	Loop Antenna	6/21/2024	Annual	6/21/2025	100519
Rohde & Schwarz	ENV216	Two-Line V-Network	4/24/2024	Annual	4/24/2025	101364
Schwarzbeck	VULB 9162	Bilog Antenna (30MHz - 6GHz)	4/29/2024	Annual	4/29/2025	00304

**Table 6-1. Test Equipment List**

**Note:**

1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.
2. \* denotes passive equipment that have been internally verified/calibrated.

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## 7.0 TEST RESULTS

### 7.1 Summary

Company Name: Apple Inc.  
 FCC ID: BCGA2995  
 IC: 579C-A2995  
 FCC Classification: Unlicensed National Information Infrastructure (UNII)

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407	RSS-Gen [6.7]	26dB Bandwidth	N/A	CONDUCTED	N/A	Section 7.2
15.407(e)	RSS-Gen [6.7]	6dB Bandwidth	>500kHz(5725-5850MHz)		PASS	Section 7.3
2.1049	RSS-Gen [6.7]	Occupied Bandwidth	N/A		PASS	Section 7.2, Section 7.3
15.407 (a.1.iv), (a.2), (a.3)	RSS-247 [6.2]	Maximum Conducted Output Power	Maximum conducted powers must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])		PASS	Section 7.4
15.407 (a.1.iv), (a.2), (a.3)	RSS-247 [6.2]	Maximum Power Spectral Density	Maximum power spectral density must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])		PASS	Section 7.5
15.407(h)	RSS-247 [6.3]	Dynamic Frequency Selection	See DFS Test Report	RADIATED	PASS	See DFS Test Report (1C24052000 18-21.BCG)
15.407(b.1), (2), (3), (4)	RSS-247 [6.2]	Undesirable Emissions	Undesirable emissions must meet the limits detailed in 15.407(b) (RSS-247 [6.2])		PASS	Section 7.6
15.205, 15.407(b.1), (4), (5), (6)	RSS-Gen [8.9]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-Gen [8.9])		PASS	Section 7.6, 7.7
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 (RSS-Gen [8.8]) limits	LINE CONDUCTED	PASS	Section 7.8

**Table 7-1. Summary of Test Results**

**Notes:**

- 1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Conducted Automation," Version 1.1.0.
- 5) For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Chamber Automation," Version 3.0.0.

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## 7.2 26dB & 99% Bandwidth Measurement

§2.1049; §15.407; RSS-Gen [6.7]

### Test Overview and Limit

The bandwidth at 26dB 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 C63.10-2020 and KDB 789033 D02 v02r01, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

***The 26dB bandwidth is used to determine the conducted power limits.***

### Test Procedure Used

ANSI C63.10-2020 – Section 12.5.2  
KDB 789033 D02 v02r01 – Section C

### Test Settings

1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to  $X = 26$ . 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 = approximately 1% of the emission bandwidth
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold

### Test Setup

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



**Figure 7-1. 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 data 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.

FCC ID: BCGA2995 IC: 579C-A2995	 <b>element</b>		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device		Page 20 of 595

### 7.2.1 Antenna 5T 26dB & 99% Bandwidth Measurements

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	36	n (20MHz)	19.5/21.7 (MCS2)	17.75	21.51
	40	n (20MHz)	19.5/21.7 (MCS2)	17.70	20.69
	48	n (20MHz)	19.5/21.7 (MCS2)	17.70	20.74
	36	ax (SU) (20MHz)	24/25.8 (MCS2)	19.02	21.62
	40	ax (SU) (20MHz)	24/25.8 (MCS2)	19.04	21.38
	48	ax (SU) (20MHz)	24/25.8 (MCS2)	18.99	20.84
	38	n (40MHz)	40/40.5 (MCS2)	36.43	42.09
	46	n (40MHz)	40/40.5 (MCS2)	36.20	40.69
	38	ax (SU) (40MHz)	49/51.6 (MCS2)	37.97	47.25
	46	ax (SU) (40MHz)	49/51.6 (MCS2)	37.93	41.32
	42	ac (80MHz)	87.8/97.5 (MCS2)	75.35	81.47
	42	ax (SU) (80MHz)	102/108.1 (MCS2)	77.12	85.23
Band 1/2	50	ac (160MHz)	87.8/97.5 (MCS2)	154.39	163.54
	50	ax (SU) (160MHz)	102/108.1 (MCS2)	156.25	164.39
Band 2A	52	n (20MHz)	19.5/21.7 (MCS2)	17.64	20.70
	60	n (20MHz)	19.5/21.7 (MCS2)	17.69	20.80
	64	n (20MHz)	19.5/21.7 (MCS2)	17.75	21.30
	52	ax (SU) (20MHz)	24/25.8 (MCS2)	18.97	21.18
	60	ax (SU) (20MHz)	24/25.8 (MCS2)	19.00	21.02
	64	ax (SU) (20MHz)	24/25.8 (MCS2)	19.09	21.94
	54	n (40MHz)	40/40.5 (MCS2)	36.22	40.68
	62	n (40MHz)	40/40.5 (MCS2)	36.47	42.80
	54	ax (SU) (40MHz)	49/51.6 (MCS2)	37.90	41.56
	62	ax (SU) (40MHz)	49/51.6 (MCS2)	37.95	43.25
	58	ac (80MHz)	87.8/97.5 (MCS2)	75.61	82.15
	58	ax (SU) (80MHz)	102/108.1 (MCS2)	77.21	82.11
Band 2C	100	n (20MHz)	19.5/21.7 (MCS2)	17.77	21.41
	116	n (20MHz)	19.5/21.7 (MCS2)	17.72	20.75
	*5600	n (20MHz)	19.5/21.7 (MCS2)	17.74	20.88
	140	n (20MHz)	19.5/21.7 (MCS2)	17.79	21.20
	144	n (20MHz)	19.5/21.7 (MCS2)	17.64	20.69
	100	ax (SU) (20MHz)	24/25.8 (MCS2)	19.08	21.94
	116	ax (SU) (20MHz)	24/25.8 (MCS2)	19.00	21.02
	*5600	ax (SU) (20MHz)	24/25.8 (MCS2)	19.05	21.23
	140	ax (SU) (20MHz)	24/25.8 (MCS2)	19.01	23.57
	144	ax (SU) (20MHz)	24/25.8 (MCS2)	19.00	21.10
	102	n (40MHz)	40/40.5 (MCS2)	36.42	44.28
	110	n (40MHz)	40/40.5 (MCS2)	36.24	40.93
	*5590	n (40MHz)	40/40.5 (MCS2)	36.26	40.82
	134	n (40MHz)	40/40.5 (MCS2)	36.45	41.87
	142	n (40MHz)	40/40.5 (MCS2)	36.26	40.64
	102	ax (SU) (40MHz)	49/51.6 (MCS2)	38.01	42.70
	110	ax (SU) (40MHz)	49/51.6 (MCS2)	37.90	41.29
	*5590	ax (SU) (40MHz)	49/51.6 (MCS2)	37.88	41.24
	134	ax (SU) (40MHz)	49/51.6 (MCS2)	38.07	44.98
	142	ax (SU) (40MHz)	49/51.6 (MCS2)	37.88	41.41
	106	ac (80MHz)	87.8/97.5 (MCS2)	75.71	82.54
	*5610	ac (80MHz)	87.8/97.5 (MCS2)	75.58	81.99
	138	ac (80MHz)	87.8/97.5 (MCS2)	75.43	80.96
	106	ax (SU) (80MHz)	102/108.1 (MCS2)	77.21	82.93
	*5610	ax (SU) (80MHz)	102/108.1 (MCS2)	77.23	86.31
	138	ax (SU) (80MHz)	102/108.1 (MCS2)	77.19	81.85
	114	ac (160MHz)	87.8/97.5 (MCS2)	154.96	164.98
	114	ax (SU) (160MHz)	102/108.1 (MCS2)	157.01	165.00

**Table 7-2. Conducted Bandwidth Measurements Antenna 5T (Low Data Rate)**

\*TDWR channel is not supported for ISED (denoted by a \* next to the frequency)

FCC ID: BCGA2995 IC: 579C-A2995	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 21 of 595	

	Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	39/43.3 (MCS4)	17.72	20.82
	5200	40	n (20MHz)	39/43.3 (MCS4)	17.65	20.80
	5240	48	n (20MHz)	39/43.3 (MCS4)	17.72	20.84
	5180	36	ax (SU) (20MHz)	49/51.6 (MCS4)	19.05	21.30
	5200	40	ax (SU) (20MHz)	49/51.6 (MCS4)	19.02	22.07
	5240	48	ax (SU) (20MHz)	49/51.6 (MCS4)	19.01	21.09
	5190	38	n (40MHz)	81/90 (MCS4)	36.34	40.59
	5230	46	n (40MHz)	81/90 (MCS4)	36.32	40.61
	5190	38	ax (SU) (40MHz)	98/103.2 (MCS4)	38.04	47.76
	5230	46	ax (SU) (40MHz)	98/103.2 (MCS4)	37.91	41.09
	5210	42	ac (80MHz)	175.5/195 (MCS4)	75.36	80.81
	5210	42	ax (SU) (80MHz)	204/216.2 (MCS4)	77.12	86.33
	5250	50	ac (160MHz)	175.5/195 (MCS4)	154.24	163.19
	5250	50	ax (SU) (160MHz)	204/216.2 (MCS4)	156.35	164.17
Band 2A	5260	52	n (20MHz)	39/43.3 (MCS4)	17.67	20.64
	5300	60	n (20MHz)	39/43.3 (MCS4)	17.73	20.73
	5320	64	n (20MHz)	39/43.3 (MCS4)	17.71	20.85
	5260	52	ax (SU) (20MHz)	49/51.6 (MCS4)	19.06	21.11
	5300	60	ax (SU) (20MHz)	49/51.6 (MCS4)	19.01	21.02
	5320	64	ax (SU) (20MHz)	49/51.6 (MCS4)	19.01	20.96
	5270	54	n (40MHz)	81/90 (MCS4)	36.25	40.50
	5310	62	n (40MHz)	81/90 (MCS4)	36.26	40.27
	5270	54	ax (SU) (40MHz)	98/103.2 (MCS4)	37.94	41.06
	5310	62	ax (SU) (40MHz)	98/103.2 (MCS4)	38.04	59.59
	5290	58	ac (80MHz)	175.5/195 (MCS4)	75.44	80.55
	5290	58	ax (SU) (80MHz)	204/216.2 (MCS4)	77.34	81.44
	5500	100	n (20MHz)	39/43.3 (MCS4)	17.71	20.84
	5580	116	n (20MHz)	39/43.3 (MCS4)	17.70	20.71
Band 2C	*5600	120	n (20MHz)	39/43.3 (MCS4)	17.73	20.85
	5700	140	n (20MHz)	39/43.3 (MCS4)	17.70	20.78
	5720	144	n (20MHz)	39/43.3 (MCS4)	17.69	20.50
	5500	100	ax (SU) (20MHz)	49/51.6 (MCS4)	19.00	22.53
	5580	116	ax (SU) (20MHz)	49/51.6 (MCS4)	18.99	21.26
	*5600	120	ax (SU) (20MHz)	49/51.6 (MCS4)	19.06	21.24
	5700	140	ax (SU) (20MHz)	49/51.6 (MCS4)	19.05	22.20
	5720	144	ax (SU) (20MHz)	49/51.6 (MCS4)	19.03	21.00
	5510	102	n (40MHz)	81/90 (MCS4)	36.34	40.73
	5550	110	n (40MHz)	81/90 (MCS4)	36.19	40.96
	*5590	118	n (40MHz)	81/90 (MCS4)	36.20	40.72
	5670	134	n (40MHz)	81/90 (MCS4)	36.30	40.88
	5710	142	n (40MHz)	81/90 (MCS4)	36.19	40.95
	5510	102	ax (SU) (40MHz)	98/103.2 (MCS4)	38.08	48.25
	5550	110	ax (SU) (40MHz)	98/103.2 (MCS4)	37.94	41.31
	*5590	118	ax (SU) (40MHz)	98/103.2 (MCS4)	37.99	40.74
	5670	134	ax (SU) (40MHz)	98/103.2 (MCS4)	38.07	48.21
	5710	142	ax (SU) (40MHz)	98/103.2 (MCS4)	37.91	41.34
	5530	106	ac (80MHz)	175.5/195 (MCS4)	75.50	80.73
	*5610	122	ac (80MHz)	175.5/195 (MCS4)	75.50	80.99
	5690	138	ac (80MHz)	175.5/195 (MCS4)	75.51	80.50
	5530	106	ax (SU) (80MHz)	204/216.2 (MCS4)	77.31	81.81
	*5610	122	ax (SU) (80MHz)	204/216.2 (MCS4)	77.14	81.53
	5690	138	ax (SU) (80MHz)	204/216.2 (MCS4)	77.22	81.31
	*5570	114	ac (160MHz)	175.5/195 (MCS4)	155.07	164.75
	*5570	114	ax (SU) (160MHz)	204/216.2 (MCS4)	156.78	164.55

**Table 7-3. Conducted Bandwidth Measurements Antenna 5T (Mid Data Rate)**

\*TDWR channel is not supported for ISED (denoted by a \* next to the frequency)

FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device			

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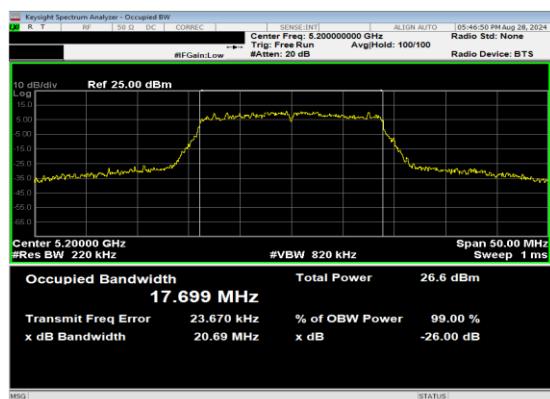
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	Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	65/72.2 (MCS7)	17.81	21.05
	5200	40	n (20MHz)	65/72.2 (MCS7)	17.78	21.35
	5240	48	n (20MHz)	65/72.2 (MCS7)	17.84	21.58
	5180	36	ax (SU) (20MHz)	135/143.4 (MCS11)	18.98	20.92
	5200	40	ax (SU) (20MHz)	135/143.4 (MCS11)	19.03	20.97
	5240	48	ax (SU) (20MHz)	135/143.4 (MCS11)	19.02	21.11
	5190	38	n (40MHz)	135/150 (MCS7)	36.41	41.01
	5230	46	n (40MHz)	135/150 (MCS7)	36.69	41.49
	5190	38	ax (SU) (40MHz)	271/286 (MCS11)	37.89	41.01
	5230	46	ax (SU) (40MHz)	271/286 (MCS11)	38.06	57.00
	5210	42	ac (80MHz)	390/433.3 (MCS9)	75.71	80.91
	5210	42	ax (SU) (80MHz)	567/600.5 (MCS11)	77.07	80.95
	5250	50	ac (160MHz)	390/433.3 (MCS9)	155.24	164.43
	5250	50	ax (SU) (160MHz)	567/600.5 (MCS11)	156.27	164.50
Band 2A	5260	52	n (20MHz)	65/72.2 (MCS7)	17.88	21.20
	5300	60	n (20MHz)	65/72.2 (MCS7)	17.83	21.56
	5320	64	n (20MHz)	65/72.2 (MCS7)	17.82	21.04
	5260	52	ax (SU) (20MHz)	135/143.4 (MCS11)	19.05	20.84
	5300	60	ax (SU) (20MHz)	135/143.4 (MCS11)	19.04	20.78
	5320	64	ax (SU) (20MHz)	135/143.4 (MCS11)	18.98	20.90
	5270	54	n (40MHz)	135/150 (MCS7)	36.48	41.36
	5310	62	n (40MHz)	135/150 (MCS7)	36.58	41.37
	5270	54	ax (SU) (40MHz)	271/286 (MCS11)	37.93	40.73
	5310	62	ax (SU) (40MHz)	271/286 (MCS11)	37.89	40.99
	5290	58	ac (80MHz)	390/433.3 (MCS9)	75.82	81.41
	5290	58	ax (SU) (80MHz)	567/600.5 (MCS11)	77.16	81.63
	5500	100	n (20MHz)	65/72.2 (MCS7)	17.81	20.72
	5580	116	n (20MHz)	65/72.2 (MCS7)	17.83	20.87
Band 2C	*5600	120	n (20MHz)	65/72.2 (MCS7)	17.87	21.09
	5700	140	n (20MHz)	65/72.2 (MCS7)	17.82	20.81
	5720	144	n (20MHz)	65/72.2 (MCS7)	17.79	20.99
	5500	100	ax (SU) (20MHz)	135/143.4 (MCS11)	19.01	20.98
	5580	116	ax (SU) (20MHz)	135/143.4 (MCS11)	19.04	21.08
	*5600	120	ax (SU) (20MHz)	135/143.4 (MCS11)	19.10	21.37
	5700	140	ax (SU) (20MHz)	135/143.4 (MCS11)	19.02	21.31
	5720	144	ax (SU) (20MHz)	135/143.4 (MCS11)	19.01	20.83
	5510	102	n (40MHz)	135/150 (MCS7)	36.45	41.31
	5550	110	n (40MHz)	135/150 (MCS7)	36.58	41.33
	*5590	118	n (40MHz)	135/150 (MCS7)	36.48	41.13
	5670	134	n (40MHz)	135/150 (MCS7)	36.40	41.11
	5710	142	n (40MHz)	135/150 (MCS7)	36.45	41.31
	5510	102	ax (SU) (40MHz)	271/286 (MCS11)	37.91	40.85
	5550	110	ax (SU) (40MHz)	271/286 (MCS11)	37.96	41.24
	*5590	118	ax (SU) (40MHz)	271/286 (MCS11)	37.94	44.46
	5670	134	ax (SU) (40MHz)	271/286 (MCS11)	37.91	41.15
	5710	142	ax (SU) (40MHz)	271/286 (MCS11)	37.89	41.24
	5530	106	ac (80MHz)	390/433.3 (MCS9)	75.80	81.33
	*5610	122	ac (80MHz)	390/433.3 (MCS9)	75.81	81.35
	5690	138	ac (80MHz)	390/433.3 (MCS9)	75.85	81.82
	5530	106	ax (SU) (80MHz)	567/600.5 (MCS11)	77.24	81.41
	*5610	122	ax (SU) (80MHz)	567/600.5 (MCS11)	77.19	81.31
	5690	138	ax (SU) (80MHz)	567/600.5 (MCS11)	77.05	81.27
	*5570	114	ac (160MHz)	390/433.3 (MCS9)	155.75	165.29
	*5570	114	ax (SU) (160MHz)	567/600.5 (MCS11)	156.79	164.82

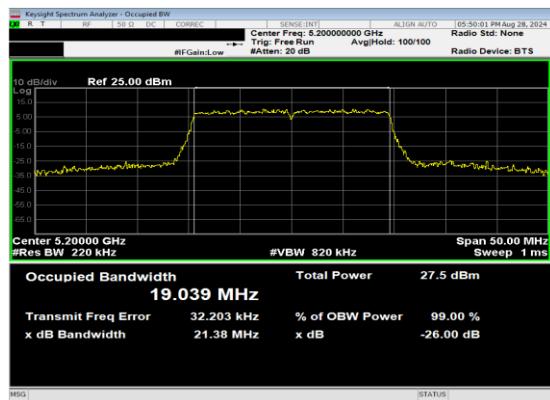
**Table 7-4. Conducted Bandwidth Measurements Antenna 5T (High Data Rate)**

\*TDWR channel is not supported for ISED (denoted by a \* next to the frequency)

FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 23 of 595



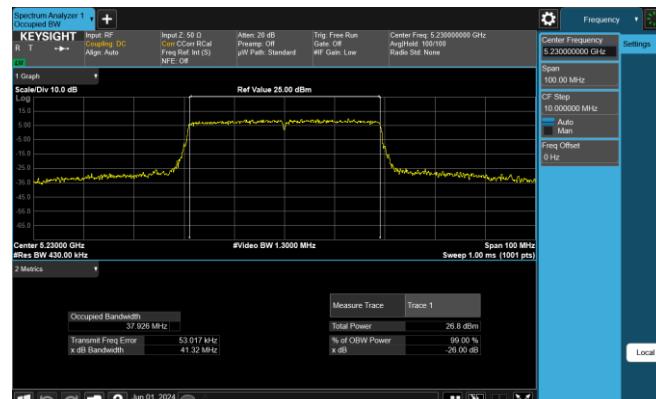
Plot 7-1. 26dB BW & 99% OBW Antenna 5T (20MHz BW 802.11n – Ch. 40, MCS2)



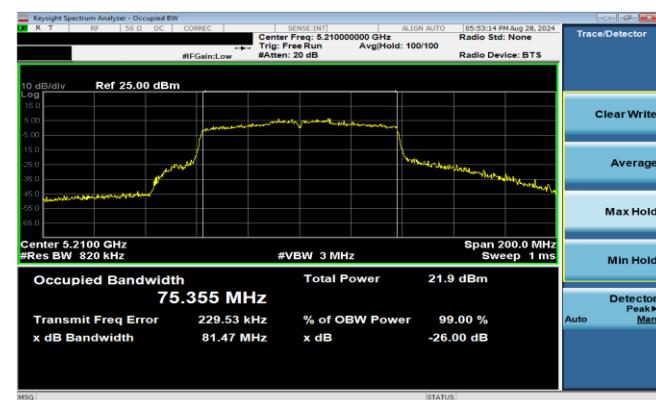
Plot 7-2. 26dB BW & 99% OBW Antenna 5T (20MHz BW 802.11ax(SU) – Ch. 40, MCS2)



Plot 7-3. 26dB BW & 99% OBW Antenna 5T (40MHz BW 802.11n – Ch. 46, MCS2)



Plot 7-4. 26dB BW & 99% OBW Antenna 5T (40MHz BW 802.11ax(SU) – Ch. 46, MCS2)



Plot 7-5. 26dB BW & 99% OBW Antenna 5T (80MHz BW 802.11ac – Ch. 42, MCS2)



Plot 7-6. 26dB BW & 99% OBW Antenna 5T (80MHz BW 802.11ax(SU) – Ch. 42, MCS2)

FCC ID: BCGA2995	
IC: 579C-A2995	
Test Report S/N: 1C2405200018-22-R1.BCG	

**element**

**MEASUREMENT REPORT  
(CERTIFICATION)**

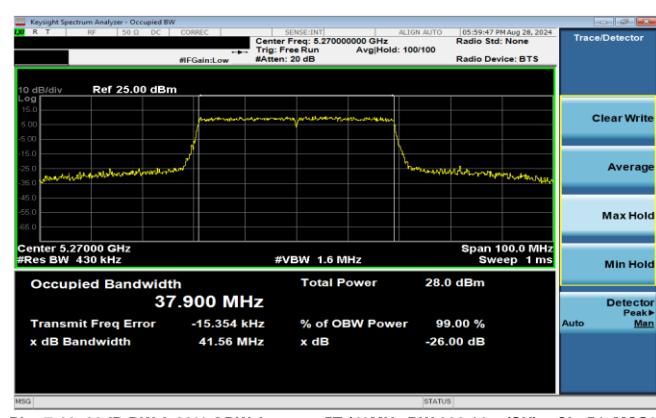
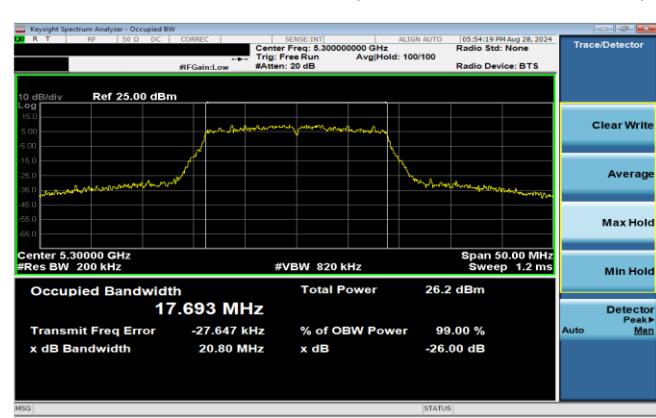
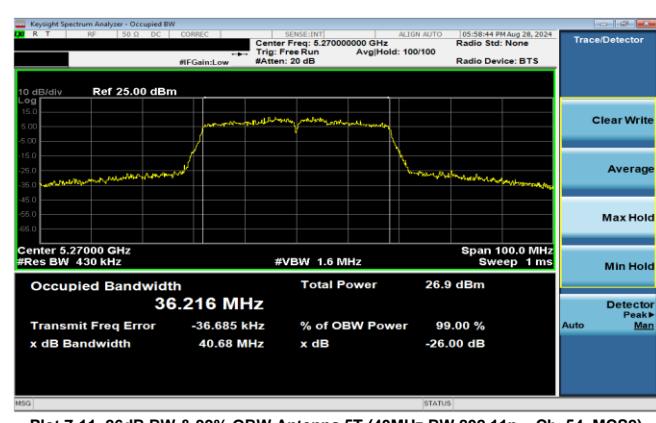
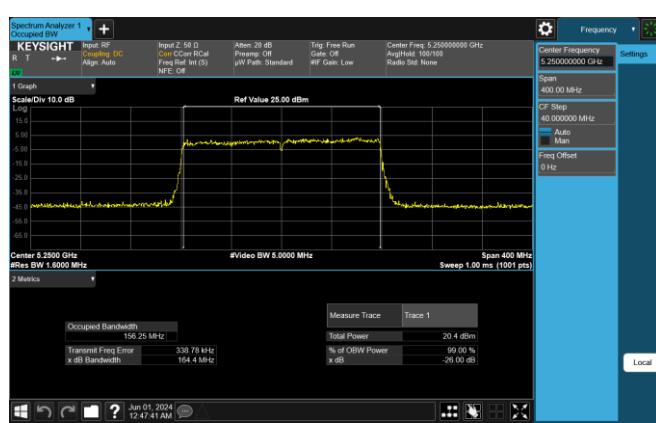
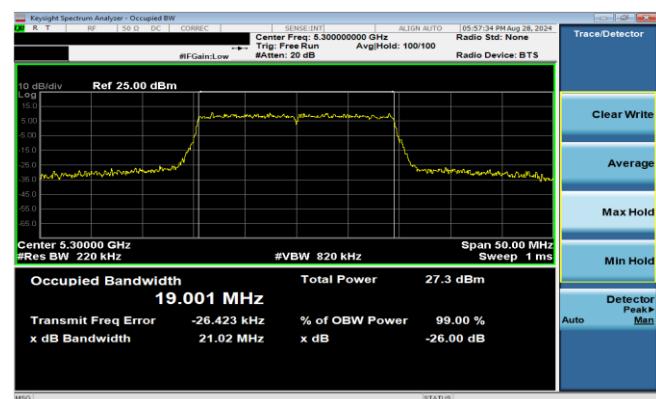
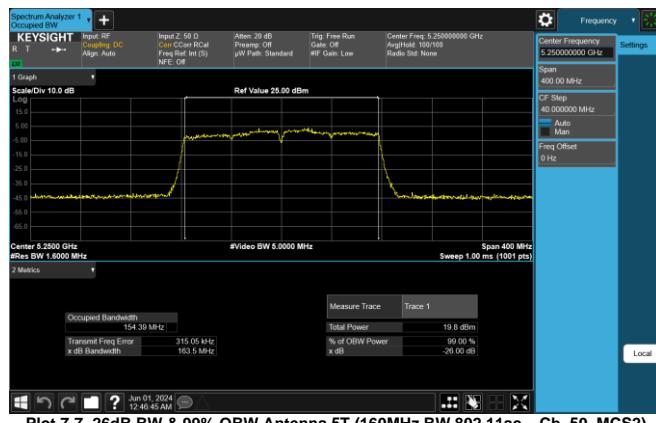
**Approved by:**  
Quality Manager

**EUT Type:**  
Tablet Device

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FCC ID: BCGA2995	IC: 579C-A2995
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024



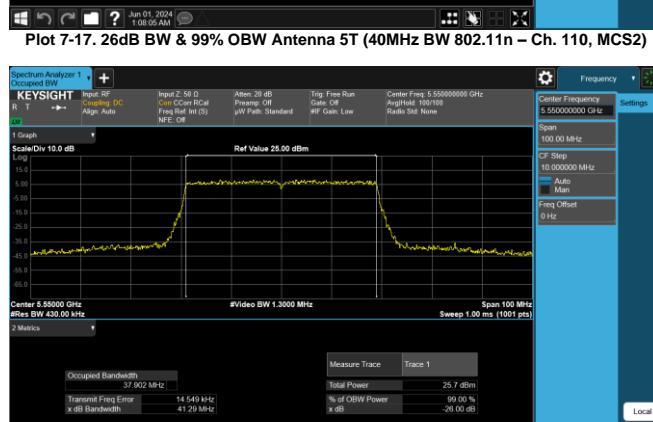
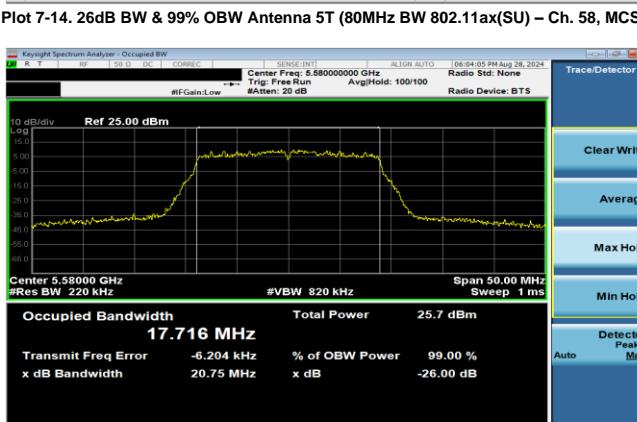
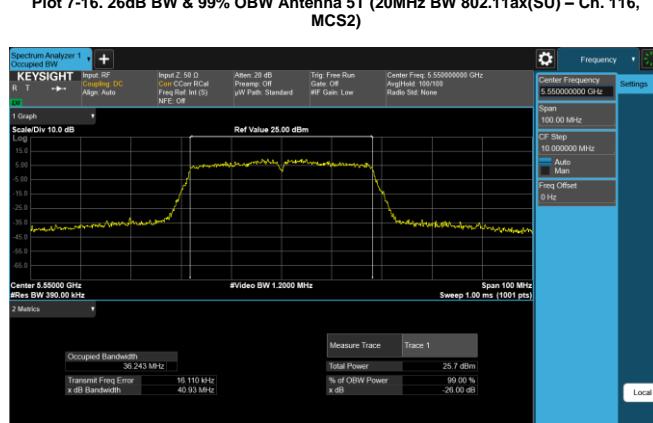
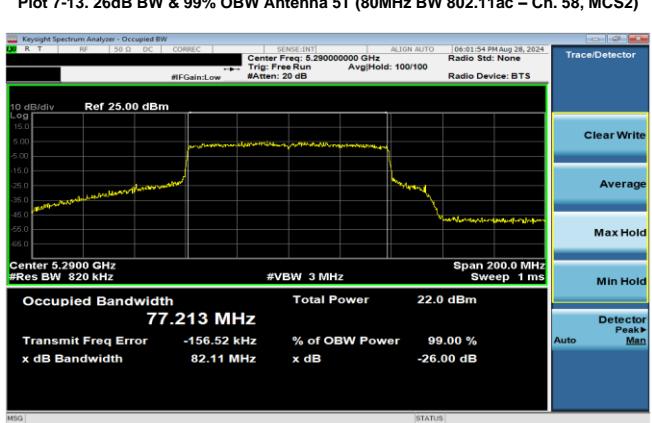
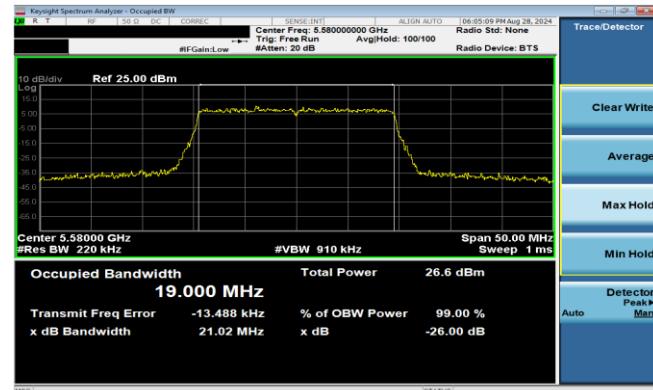
**MEASUREMENT REPORT  
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Quality Manager

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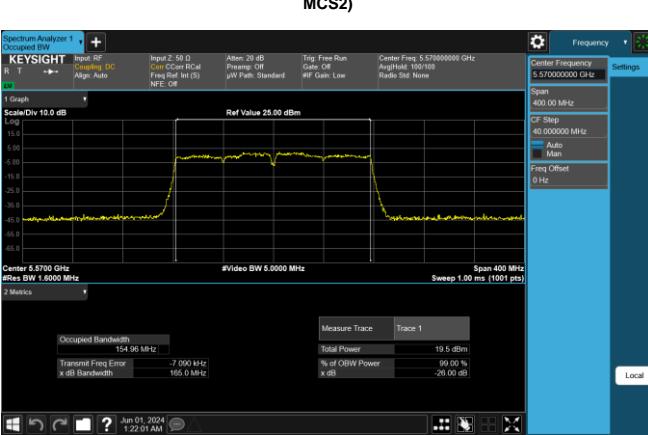
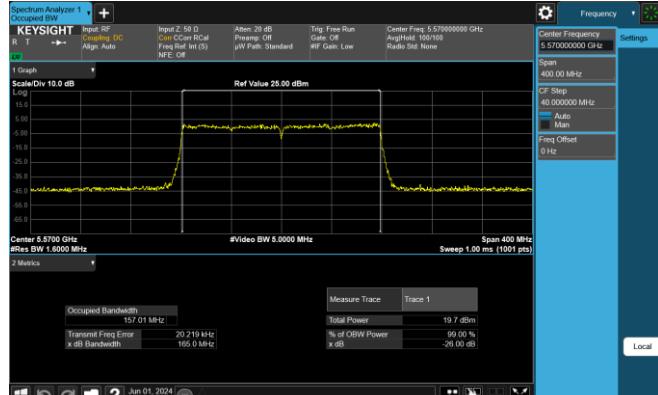
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FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 26 of 595

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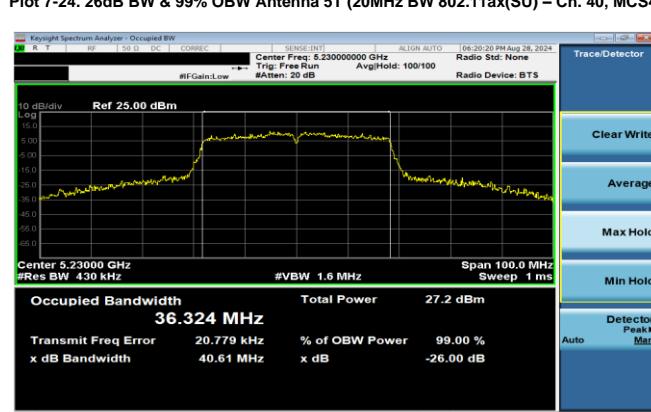
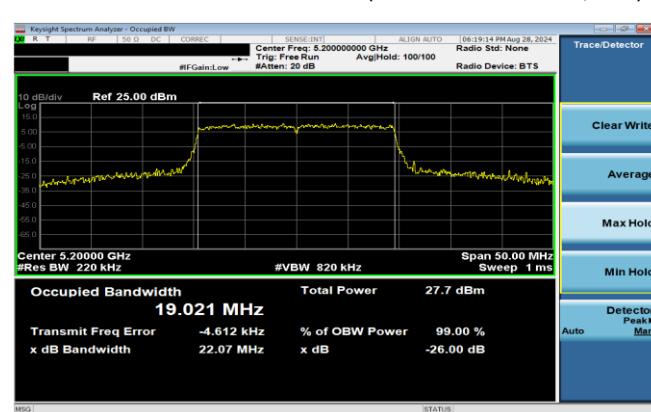
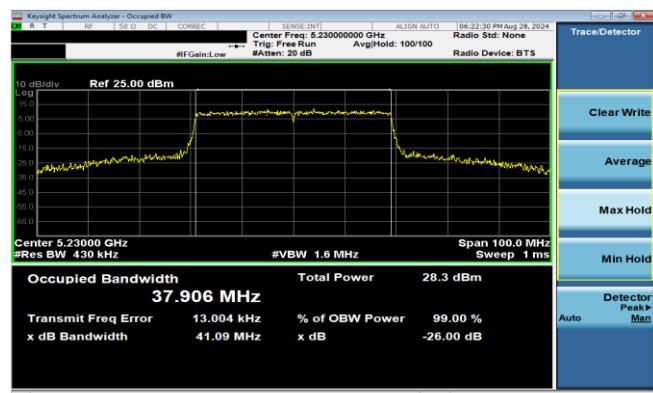
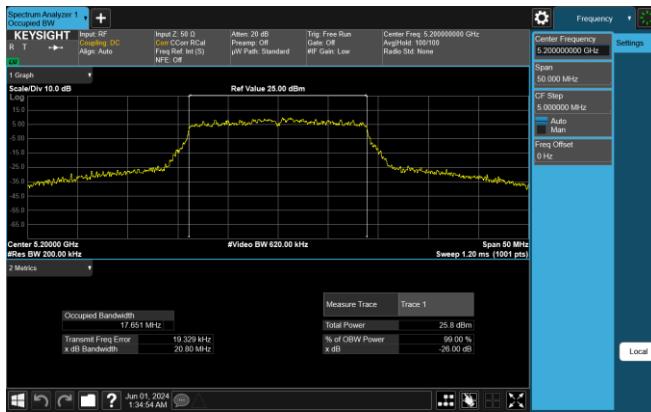
FCC ID: BCGA2995 IC: 579C-A2995	 element
<b>Test Report S/N:</b> 1C2405200018-22-R1.BCG	<b>Test Dates:</b> 5/20/2024 - 8/28/2024

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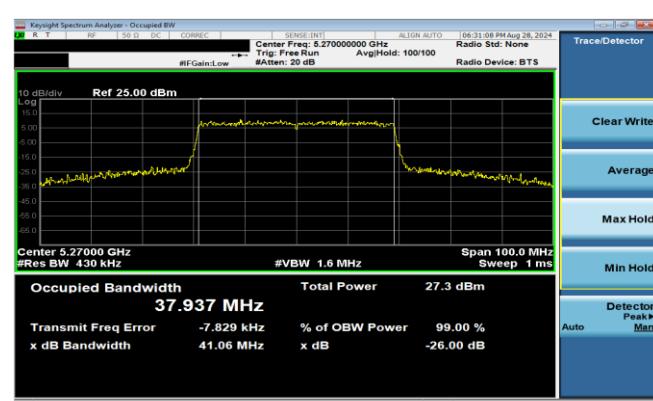
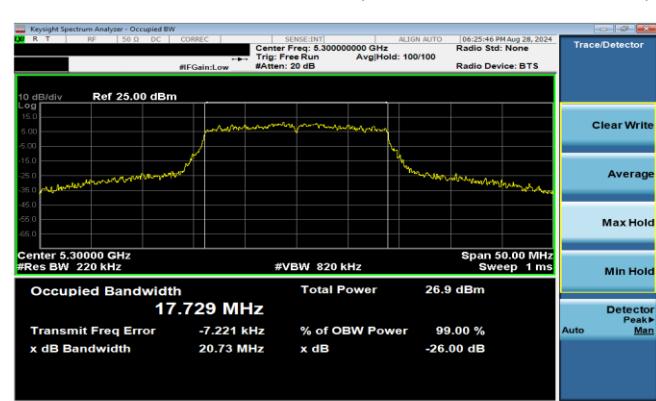
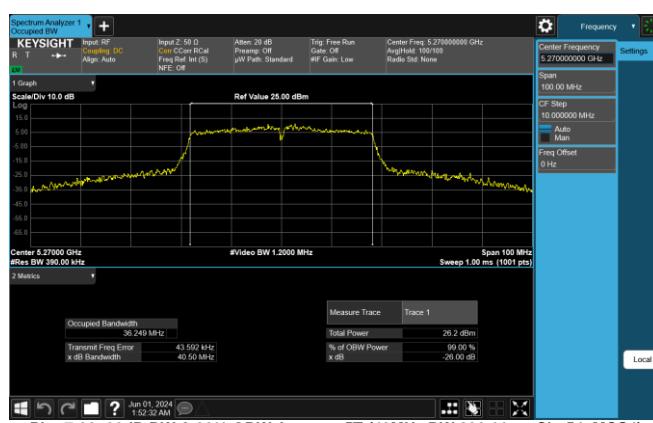
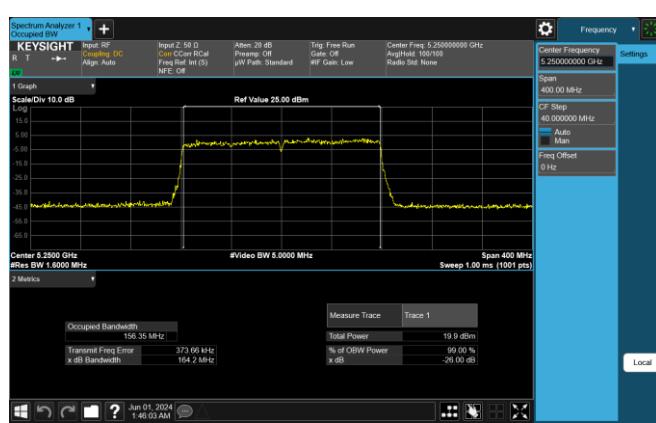
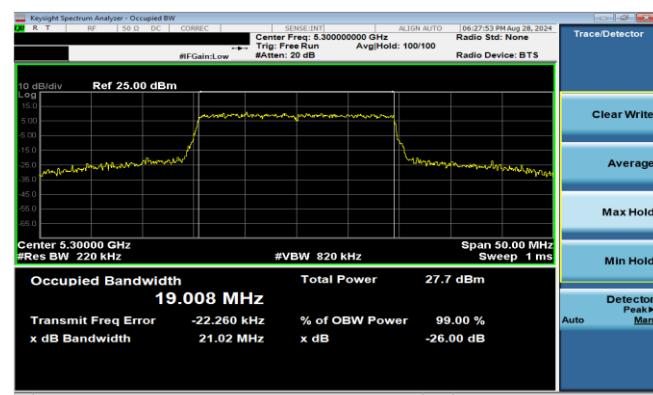


FCC ID: BCGA2995 IC: 579C-A2995	 <b>element</b>	
<b>Test Report S/N:</b> 1C2405200018-22-R1.BCG	<b>Test Dates:</b> 5/20/2024 - 8/28/2024	<b>EUT Type:</b> Tablet Device

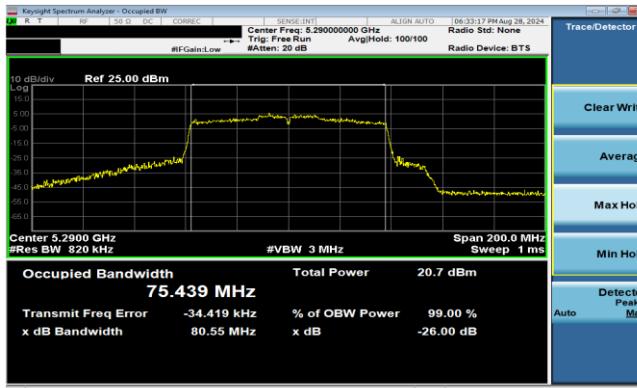
**MEASUREMENT REPORT  
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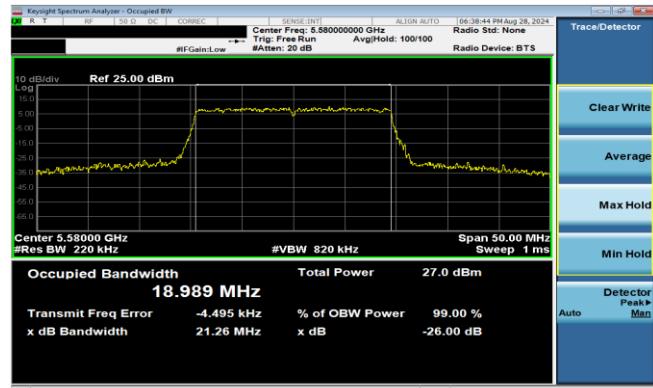
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FCC ID: BCGA2995 IC: 579C-A2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 29 of 595



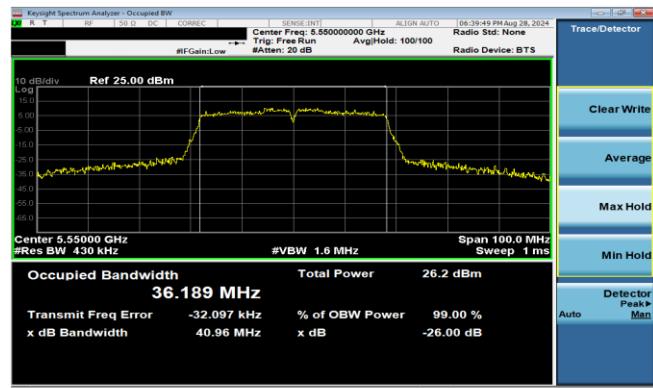
Plot 7-35. 26dB BW & 99% OBW Antenna 5T (80MHz BW 802.11ac – Ch. 58, MCS4)



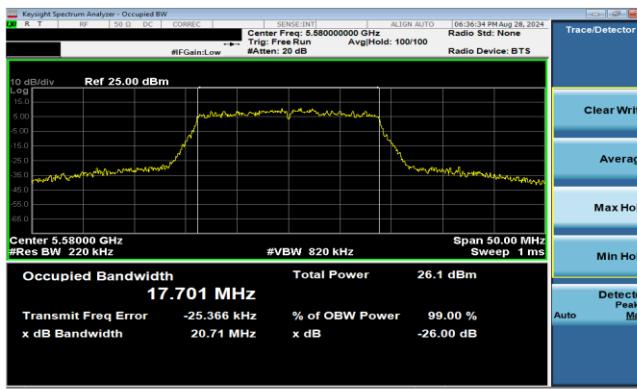
Plot 7-38. 26dB BW & 99% OBW Antenna 5T (20MHz BW 802.11ax(SU) – Ch. 116, MCS4)



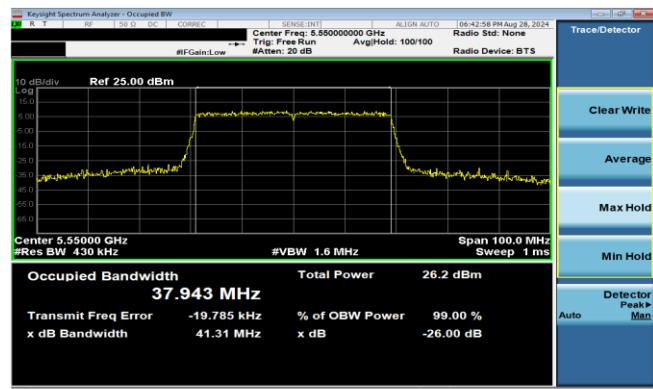
Plot 7-36. 26dB BW & 99% OBW Antenna 5T (80MHz BW 802.11ax(SU) – Ch. 58, MCS4)



Plot 7-39. 26dB BW & 99% OBW Antenna 5T (40MHz BW 802.11n – Ch. 110, MCS4)

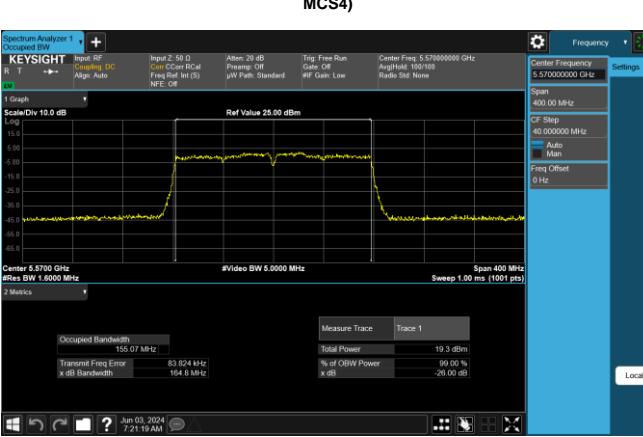
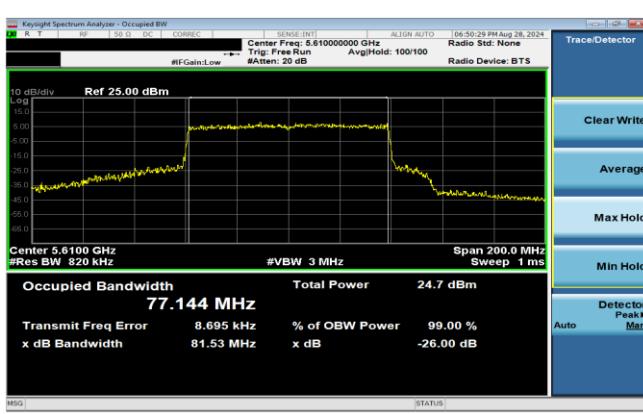


Plot 7-37. 26dB BW & 99% OBW Antenna 5T (20MHz BW 802.11n – Ch. 116, MCS4)



Plot 7-40. 26dB BW & 99% OBW Antenna 5T (40MHz BW 802.11ax(SU) – Ch. 110, MCS4)

FCC ID: BCGA2995 IC: 579C-A2995	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 30 of 595



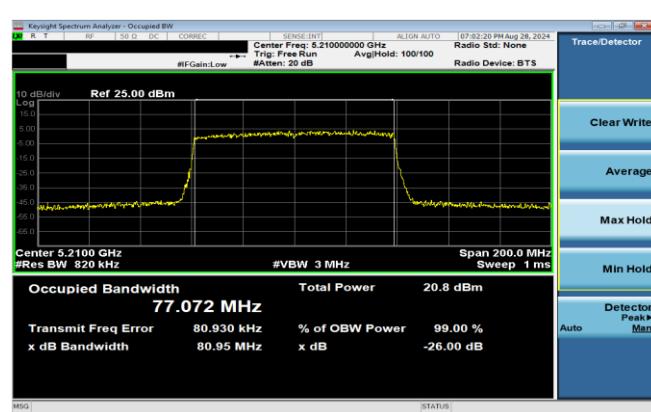
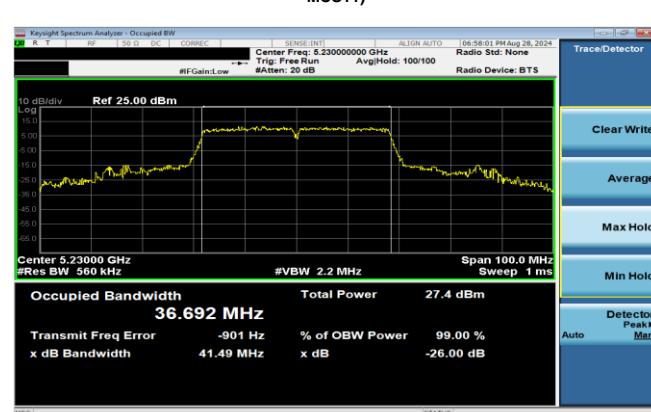
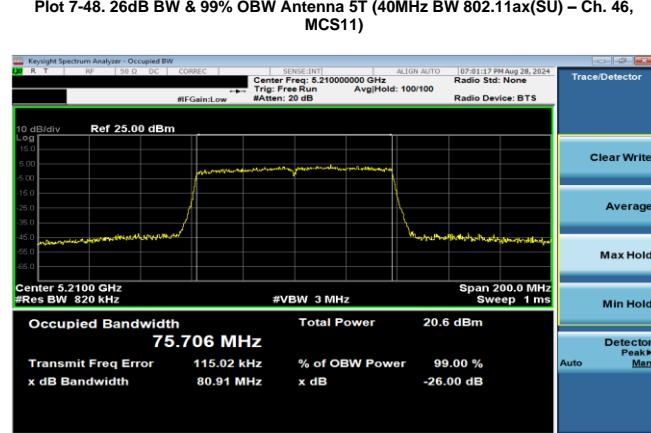
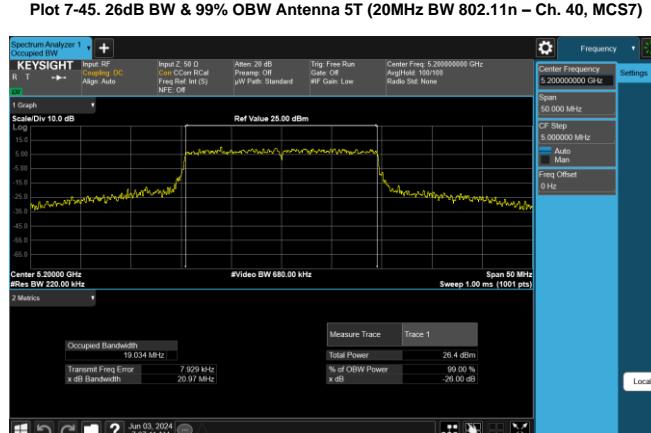
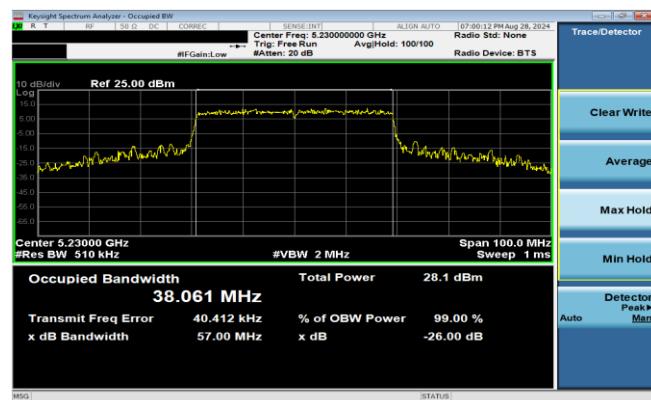
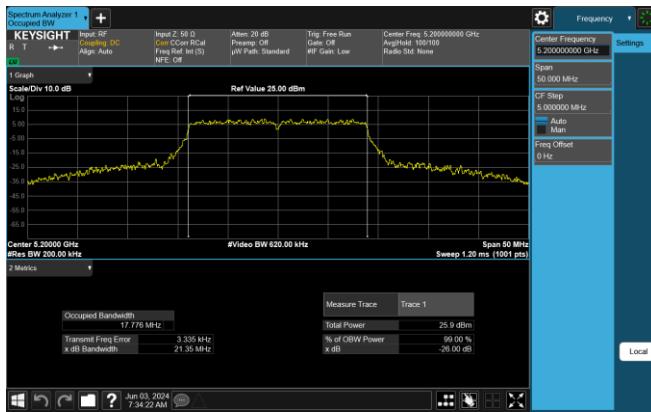
FCC ID: BCGA2995	IC: 579C-A2995
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024


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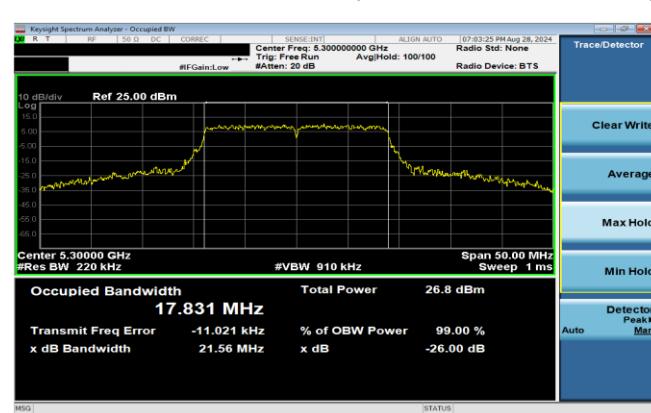
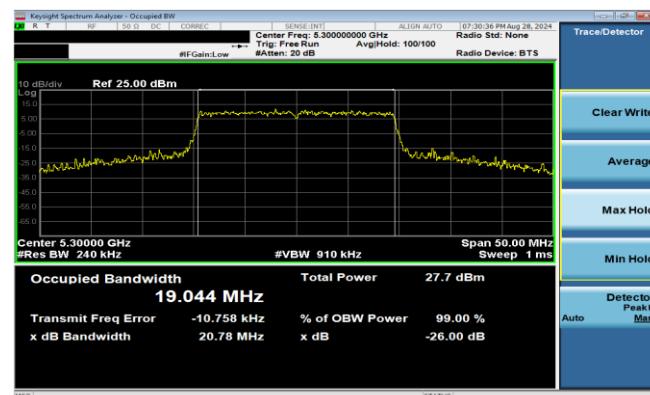
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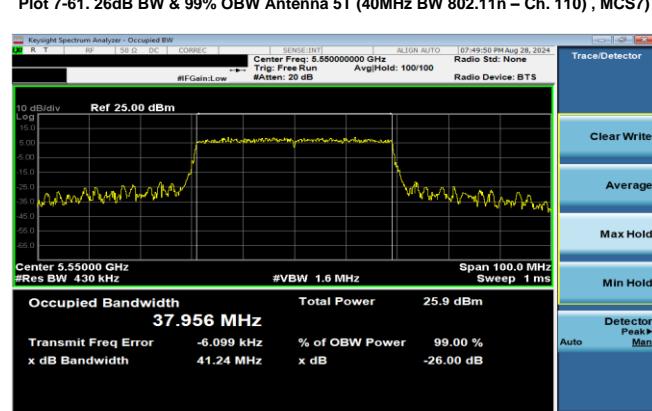
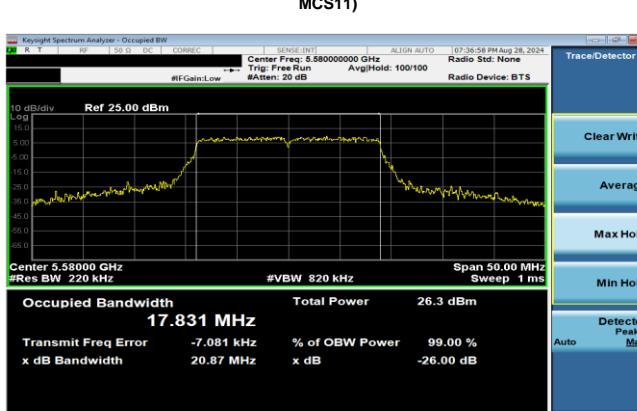
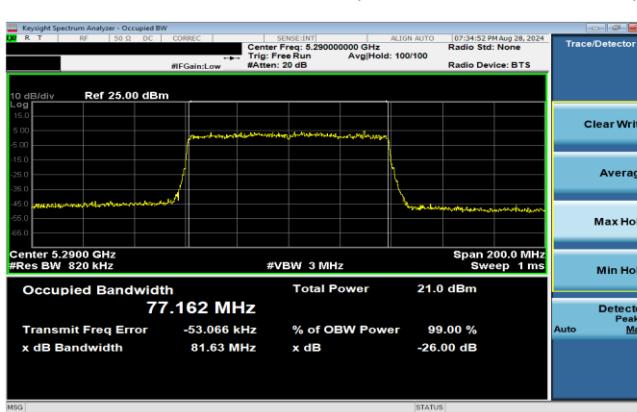
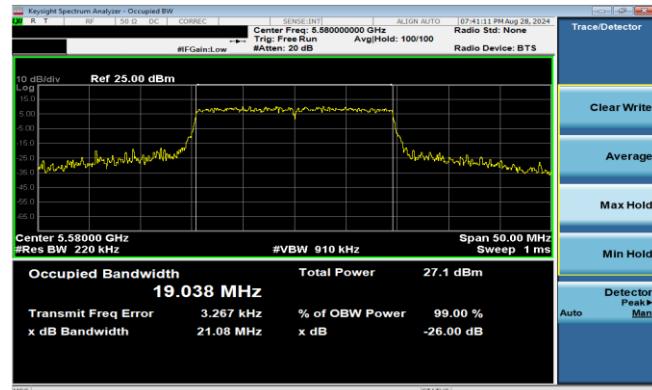
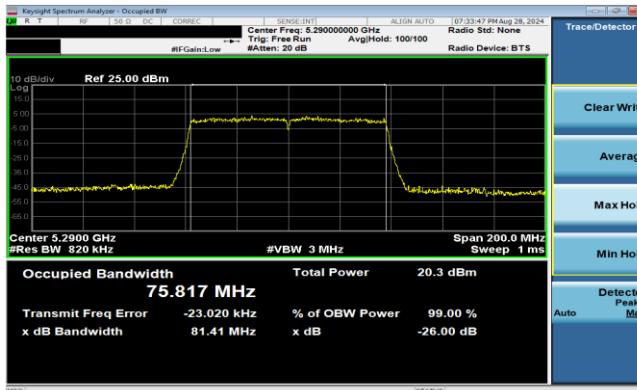
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FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 32 of 595



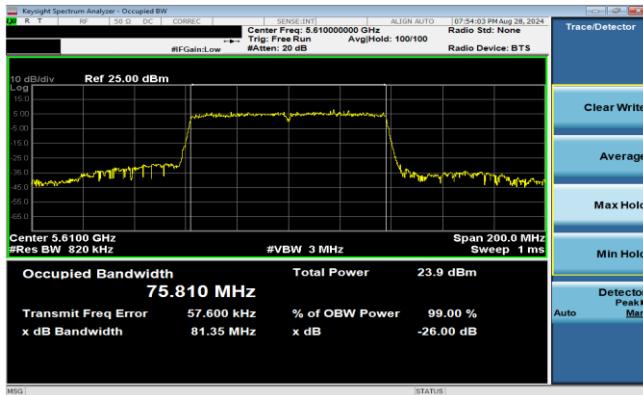
FCC ID: BCGA2995 IC: 579C-A2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 33 of 595



FCC ID: BCGA2995			
IC: 579C-A2995			
Test Report S/N:	Test Dates:	EUT Type:	Approved by:
1C2405200018-22-R1.BCG	5/20/2024 - 8/28/2024	Tablet Device	Quality Manager


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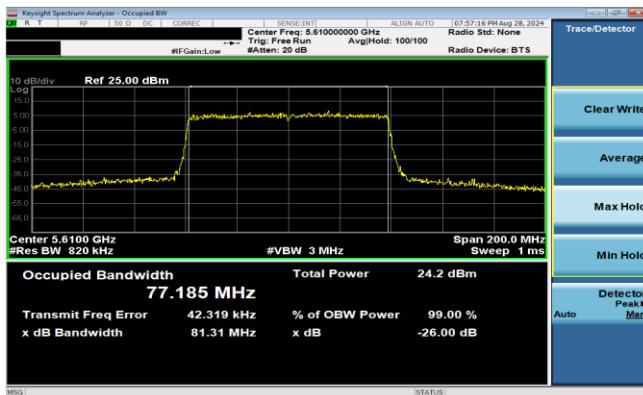
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Plot 7-63. 26dB BW & 99% OBW Antenna 5T (80MHz BW 802.11ac – Ch. 122, MCS9)



Plot 7-65. 26dB BW & 99% OBW Antenna 5T (160MHz BW 802.11ac – Ch. 114, MCS9)



Plot 7-64. 26dB BW & 99% OBW Antenna 5T (80MHz BW 802.11ax(SU) – Ch. 122, MCS11)



Plot 7-66. 26dB BW & 99% OBW Antenna 5T (160MHz BW 802.11ax(SU) – Ch. 114, MCS11)

FCC ID: BCGA2995 IC: 579C-A2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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## 7.2.2 Antenna 3b 26dB & 99% Bandwidth Measurements

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	19.5/21.7 (MCS2)	17.76
	5200	40	n (20MHz)	19.5/21.7 (MCS2)	17.67
	5240	48	n (20MHz)	19.5/21.7 (MCS2)	17.75
	5180	36	ax (SU) (20MHz)	24/25.8 (MCS2)	19.07
	5200	40	ax (SU) (20MHz)	24/25.8 (MCS2)	19.00
	5240	48	ax (SU) (20MHz)	24/25.8 (MCS2)	19.04
	5190	38	n (40MHz)	40/40.5 (MCS2)	36.35
	5230	46	n (40MHz)	40/40.5 (MCS2)	36.29
	5190	38	ax (SU) (40MHz)	49/51.6 (MCS2)	37.99
	5230	46	ax (SU) (40MHz)	49/51.6 (MCS2)	37.95
	5210	42	ac (80MHz)	87.8/97.5 (MCS2)	75.52
	5210	42	ax (SU) (80MHz)	102/108.1 (MCS2)	77.15
	5250	50	ac (160MHz)	87.8/97.5 (MCS2)	154.75
	5250	50	ax (SU) (160MHz)	102/108.1 (MCS2)	156.74
Band 1/2	5260	52	n (20MHz)	19.5/21.7 (MCS2)	17.71
	5300	60	n (20MHz)	19.5/21.7 (MCS2)	17.72
	5320	64	n (20MHz)	19.5/21.7 (MCS2)	17.74
	5260	52	ax (SU) (20MHz)	24/25.8 (MCS2)	19.04
	5300	60	ax (SU) (20MHz)	24/25.8 (MCS2)	19.02
	5320	64	ax (SU) (20MHz)	24/25.8 (MCS2)	19.02
	5270	54	n (40MHz)	40/40.5 (MCS2)	36.24
	5310	62	n (40MHz)	40/40.5 (MCS2)	36.47
	5270	54	ax (SU) (40MHz)	49/51.6 (MCS2)	38.00
	5310	62	ax (SU) (40MHz)	49/51.6 (MCS2)	38.00
	5290	58	ac (80MHz)	87.8/97.5 (MCS2)	75.62
	5290	58	ax (SU) (80MHz)	102/108.1 (MCS2)	77.31
	5500	100	n (20MHz)	19.5/21.7 (MCS2)	17.75
	5580	116	n (20MHz)	19.5/21.7 (MCS2)	17.67
Band 2A	*5600	120	n (20MHz)	19.5/21.7 (MCS2)	17.74
	5700	140	n (20MHz)	19.5/21.7 (MCS2)	17.70
	5720	144	n (20MHz)	19.5/21.7 (MCS2)	17.73
	5500	100	ax (SU) (20MHz)	24/25.8 (MCS2)	19.12
	5580	116	ax (SU) (20MHz)	24/25.8 (MCS2)	19.00
	*5600	120	ax (SU) (20MHz)	24/25.8 (MCS2)	19.03
	5700	140	ax (SU) (20MHz)	24/25.8 (MCS2)	19.05
	5720	144	ax (SU) (20MHz)	24/25.8 (MCS2)	19.02
	5510	102	n (40MHz)	40/40.5 (MCS2)	36.30
	5550	110	n (40MHz)	40/40.5 (MCS2)	36.34
	*5590	118	n (40MHz)	40/40.5 (MCS2)	36.29
	5670	134	n (40MHz)	40/40.5 (MCS2)	36.40
	5710	142	n (40MHz)	40/40.5 (MCS2)	36.24
	5510	102	ax (SU) (40MHz)	49/51.6 (MCS2)	37.98
	5550	110	ax (SU) (40MHz)	49/51.6 (MCS2)	37.97
Band 2C	*5590	118	ax (SU) (40MHz)	49/51.6 (MCS2)	37.91
	5670	134	ax (SU) (40MHz)	49/51.6 (MCS2)	37.98
	5710	142	ax (SU) (40MHz)	49/51.6 (MCS2)	37.99
	5530	106	ac (80MHz)	87.8/97.5 (MCS2)	75.55
	*5610	122	ac (80MHz)	87.8/97.5 (MCS2)	75.57
	5690	138	ac (80MHz)	87.8/97.5 (MCS2)	75.49
	5530	106	ax (SU) (80MHz)	102/108.1 (MCS2)	77.29
	*5610	122	ax (SU) (80MHz)	102/108.1 (MCS2)	77.20
	5690	138	ax (SU) (80MHz)	102/108.1 (MCS2)	77.15
	*5570	114	ac (160MHz)	87.8/97.5 (MCS2)	154.70
	*5570	114	ax (SU) (160MHz)	102/108.1 (MCS2)	156.72
	*5570	114	ax (SU) (160MHz)	102/108.1 (MCS2)	164.71

**Table 7-5. Conducted Bandwidth Measurements Antenna 3b (Low Data Rate)**

\*TDWR channel is not supported for ISED (denoted by a \* next to the frequency)

FCC ID: BCGA2995 IC: 579C-A2995	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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	Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	39/43.3 (MCS4)	17.69	20.72
	5200	40	n (20MHz)	39/43.3 (MCS4)	17.73	20.78
	5240	48	n (20MHz)	39/43.3 (MCS4)	17.66	20.88
	5180	36	ax (SU) (20MHz)	49/51.6 (MCS4)	19.05	21.68
	5200	40	ax (SU) (20MHz)	49/51.6 (MCS4)	19.06	21.35
	5240	48	ax (SU) (20MHz)	49/51.6 (MCS4)	19.04	21.11
	5190	38	n (40MHz)	81/90 (MCS4)	36.21	40.47
	5230	46	n (40MHz)	81/90 (MCS4)	36.36	40.75
	5190	38	ax (SU) (40MHz)	98/103.2 (MCS4)	38.03	47.76
	5230	46	ax (SU) (40MHz)	98/103.2 (MCS4)	38.01	43.32
	5210	42	ac (80MHz)	175.5/195 (MCS4)	75.34	80.96
	5210	42	ax (SU) (80MHz)	204/216.2 (MCS4)	77.03	81.43
	5250	50	ac (160MHz)	175.5/195 (MCS4)	155.00	163.25
	5250	50	ax (SU) (160MHz)	204/216.2 (MCS4)	156.72	165.21
Band 2A	5260	52	n (20MHz)	39/43.3 (MCS4)	17.76	20.88
	5300	60	n (20MHz)	39/43.3 (MCS4)	17.75	20.73
	5320	64	n (20MHz)	39/43.3 (MCS4)	17.70	20.72
	5260	52	ax (SU) (20MHz)	49/51.6 (MCS4)	19.03	21.05
	5300	60	ax (SU) (20MHz)	49/51.6 (MCS4)	19.02	21.48
	5320	64	ax (SU) (20MHz)	49/51.6 (MCS4)	19.05	21.07
	5270	54	n (40MHz)	81/90 (MCS4)	36.30	40.45
	5310	62	n (40MHz)	81/90 (MCS4)	36.37	40.78
	5270	54	ax (SU) (40MHz)	98/103.2 (MCS4)	37.98	41.43
	5310	62	ax (SU) (40MHz)	98/103.2 (MCS4)	38.05	57.91
	5290	58	ac (80MHz)	175.5/195 (MCS4)	75.55	80.68
	5290	58	ax (SU) (80MHz)	204/216.2 (MCS4)	77.30	81.49
	5500	100	n (20MHz)	39/43.3 (MCS4)	17.71	20.72
	5580	116	n (20MHz)	39/43.3 (MCS4)	17.69	20.83
Band 2C	*5600	120	n (20MHz)	39/43.3 (MCS4)	17.74	20.80
	5700	140	n (20MHz)	39/43.3 (MCS4)	17.72	21.05
	5720	144	n (20MHz)	39/43.3 (MCS4)	17.74	20.70
	5500	100	ax (SU) (20MHz)	49/51.6 (MCS4)	19.03	21.16
	5580	116	ax (SU) (20MHz)	49/51.6 (MCS4)	19.03	21.15
	*5600	120	ax (SU) (20MHz)	49/51.6 (MCS4)	19.07	21.37
	5700	140	ax (SU) (20MHz)	49/51.6 (MCS4)	19.03	21.33
	5720	144	ax (SU) (20MHz)	49/51.6 (MCS4)	19.02	21.31
	5510	102	n (40MHz)	81/90 (MCS4)	36.31	41.06
	5550	110	n (40MHz)	81/90 (MCS4)	36.36	40.61
	*5590	118	n (40MHz)	81/90 (MCS4)	36.27	40.86
	5670	134	n (40MHz)	81/90 (MCS4)	36.21	40.75
	5710	142	n (40MHz)	81/90 (MCS4)	36.34	40.77
	5510	102	ax (SU) (40MHz)	98/103.2 (MCS4)	38.08	47.73
	5550	110	ax (SU) (40MHz)	98/103.2 (MCS4)	37.90	40.94
	*5590	118	ax (SU) (40MHz)	98/103.2 (MCS4)	38.01	42.57
	5670	134	ax (SU) (40MHz)	98/103.2 (MCS4)	38.08	48.73
	5710	142	ax (SU) (40MHz)	98/103.2 (MCS4)	38.03	49.52
	5530	106	ac (80MHz)	175.5/195 (MCS4)	75.40	80.50
	*5610	122	ac (80MHz)	175.5/195 (MCS4)	75.50	80.76
	5690	138	ac (80MHz)	175.5/195 (MCS4)	75.65	80.76
	5530	106	ax (SU) (80MHz)	204/216.2 (MCS4)	77.00	81.98
	*5610	122	ax (SU) (80MHz)	204/216.2 (MCS4)	77.23	81.92
	5690	138	ax (SU) (80MHz)	204/216.2 (MCS4)	77.15	81.39
	*5570	114	ac (160MHz)	175.5/195 (MCS4)	154.82	164.19
	*5570	114	ax (SU) (160MHz)	204/216.2 (MCS4)	156.59	164.62

**Table 7-6. Conducted Bandwidth Measurements Antenna 3b (Mid Data Rate)**

\*TDWR channel is not supported for ISED (denoted by a \* next to the frequency)

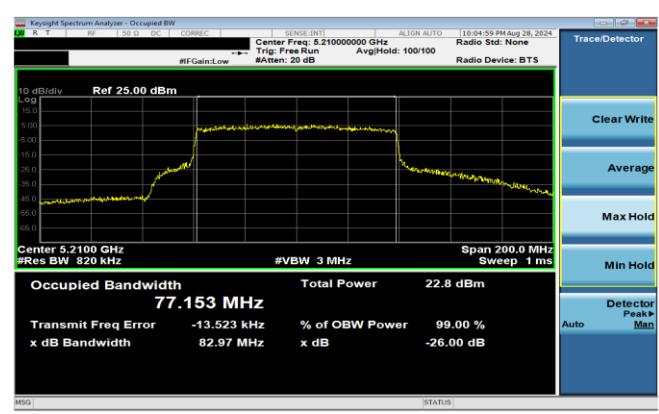
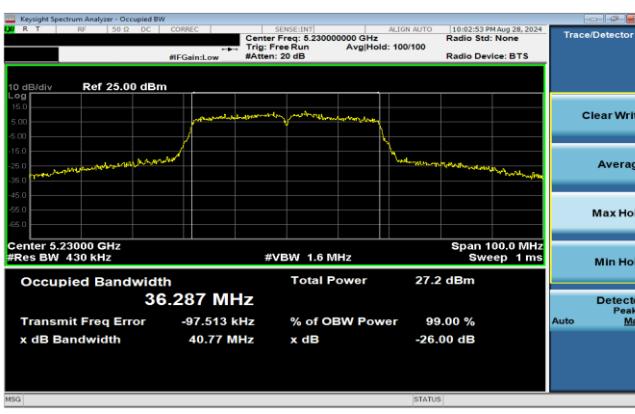
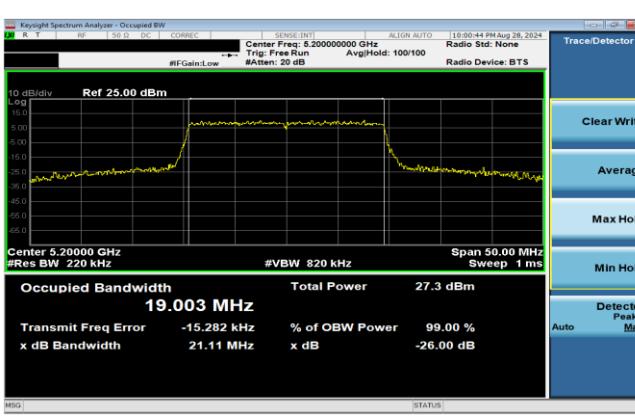
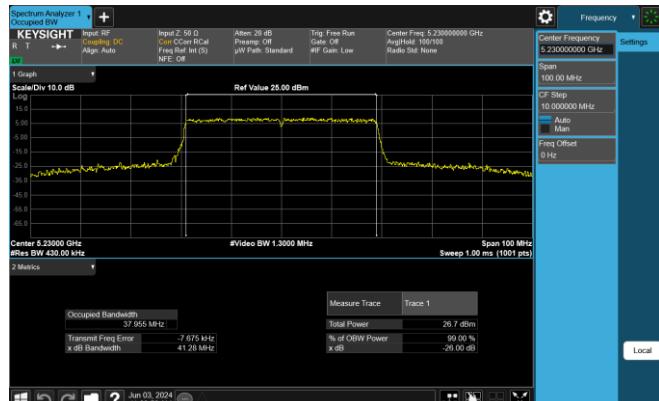
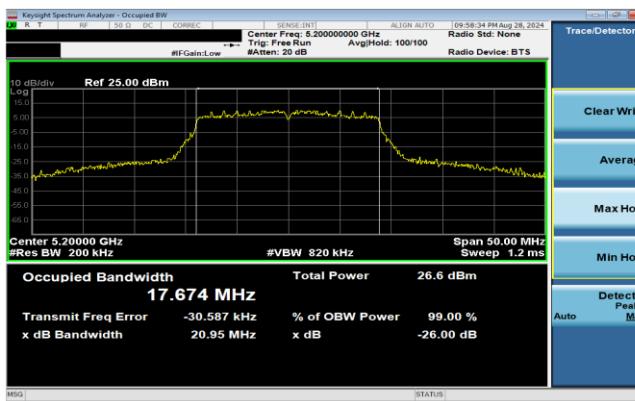
FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2405200018-22-R1.BCG	Test Dates: 5/20/2024 - 8/28/2024	EUT Type: Tablet Device	Page 37 of 595

	Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]
Band 1	5180	36	n (20MHz)	65/72.2 (MCS7)	17.79	20.78
	5200	40	n (20MHz)	65/72.2 (MCS7)	17.95	21.22
	5240	48	n (20MHz)	65/72.2 (MCS7)	17.89	21.06
	5180	36	ax (SU) (20MHz)	135/143.4 (MCS11)	18.96	21.00
	5200	40	ax (SU) (20MHz)	135/143.4 (MCS11)	19.14	30.70
	5240	48	ax (SU) (20MHz)	135/143.4 (MCS11)	19.15	25.91
	5190	38	n (40MHz)	135/150 (MCS7)	36.45	40.99
	5230	46	n (40MHz)	135/150 (MCS7)	37.15	72.06
	5190	38	ax (SU) (40MHz)	271/286 (MCS11)	37.86	41.04
	5230	46	ax (SU) (40MHz)	271/286 (MCS11)	38.19	60.59
	5210	42	ac (80MHz)	390/433.3 (MCS9)	75.78	81.13
	5210	42	ax (SU) (80MHz)	567/600.5 (MCS11)	76.93	81.32
	5250	50	ac (160MHz)	390/433.3 (MCS9)	155.55	165.62
	5250	50	ax (SU) (160MHz)	567/600.5 (MCS11)	156.51	164.77
Band 2A	5260	52	n (20MHz)	65/72.2 (MCS7)	17.86	21.18
	5300	60	n (20MHz)	65/72.2 (MCS7)	17.87	21.26
	5320	64	n (20MHz)	65/72.2 (MCS7)	17.77	20.86
	5260	52	ax (SU) (20MHz)	135/143.4 (MCS11)	19.05	22.35
	5300	60	ax (SU) (20MHz)	135/143.4 (MCS11)	19.08	21.54
	5320	64	ax (SU) (20MHz)	135/143.4 (MCS11)	19.00	20.80
	5270	54	n (40MHz)	135/150 (MCS7)	36.68	41.17
	5310	62	n (40MHz)	135/150 (MCS7)	36.44	41.14
	5270	54	ax (SU) (40MHz)	271/286 (MCS11)	37.97	49.79
	5310	62	ax (SU) (40MHz)	271/286 (MCS11)	37.85	40.97
	5290	58	ac (80MHz)	390/433.3 (MCS9)	75.96	81.02
	5290	58	ax (SU) (80MHz)	567/600.5 (MCS11)	77.10	81.26
	5500	100	n (20MHz)	65/72.2 (MCS7)	17.78	20.71
	5580	116	n (20MHz)	65/72.2 (MCS7)	17.82	21.49
Band 2C	*5600	120	n (20MHz)	65/72.2 (MCS7)	17.90	21.44
	5700	140	n (20MHz)	65/72.2 (MCS7)	17.79	20.85
	5720	144	n (20MHz)	65/72.2 (MCS7)	17.87	21.94
	5500	100	ax (SU) (20MHz)	135/143.4 (MCS11)	19.04	21.11
	5580	116	ax (SU) (20MHz)	135/143.4 (MCS11)	19.03	21.41
	*5600	120	ax (SU) (20MHz)	135/143.4 (MCS11)	19.09	22.66
	5700	140	ax (SU) (20MHz)	135/143.4 (MCS11)	19.03	21.01
	5720	144	ax (SU) (20MHz)	135/143.4 (MCS11)	19.01	23.61
	5510	102	n (40MHz)	135/150 (MCS7)	36.47	41.09
	5550	110	n (40MHz)	135/150 (MCS7)	36.62	41.37
	*5590	118	n (40MHz)	135/150 (MCS7)	37.14	71.83
	5670	134	n (40MHz)	135/150 (MCS7)	36.47	41.15
	5710	142	n (40MHz)	135/150 (MCS7)	37.14	72.56
	5510	102	ax (SU) (40MHz)	271/286 (MCS11)	37.89	41.25
	5550	110	ax (SU) (40MHz)	271/286 (MCS11)	37.91	40.83
	*5590	118	ax (SU) (40MHz)	271/286 (MCS11)	38.08	57.29
	5670	134	ax (SU) (40MHz)	271/286 (MCS11)	37.87	41.11
	5710	142	ax (SU) (40MHz)	271/286 (MCS11)	38.18	63.71
	5530	106	ac (80MHz)	390/433.3 (MCS9)	75.85	81.38
	*5610	122	ac (80MHz)	390/433.3 (MCS9)	75.96	81.67
	5690	138	ac (80MHz)	390/433.3 (MCS9)	76.12	84.48
	5530	106	ax (SU) (80MHz)	567/600.5 (MCS11)	77.19	81.27
	*5610	122	ax (SU) (80MHz)	567/600.5 (MCS11)	77.05	81.45
	5690	138	ax (SU) (80MHz)	567/600.5 (MCS11)	77.25	81.87
	*5570	114	ac (160MHz)	390/433.3 (MCS9)	155.48	163.97
	*5570	114	ax (SU) (160MHz)	567/600.5 (MCS11)	156.87	164.64

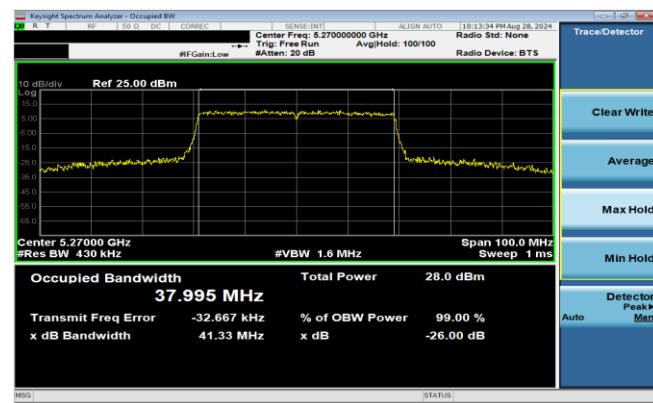
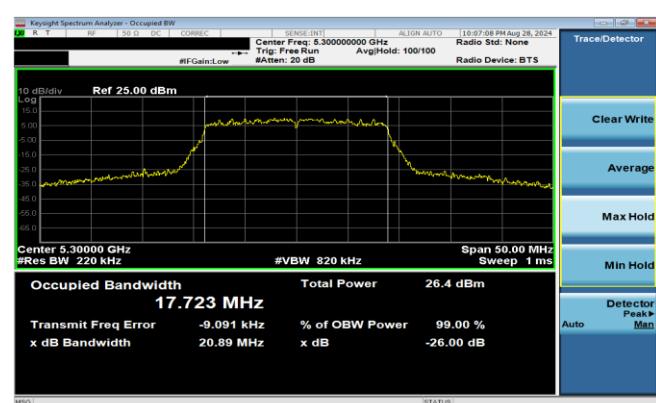
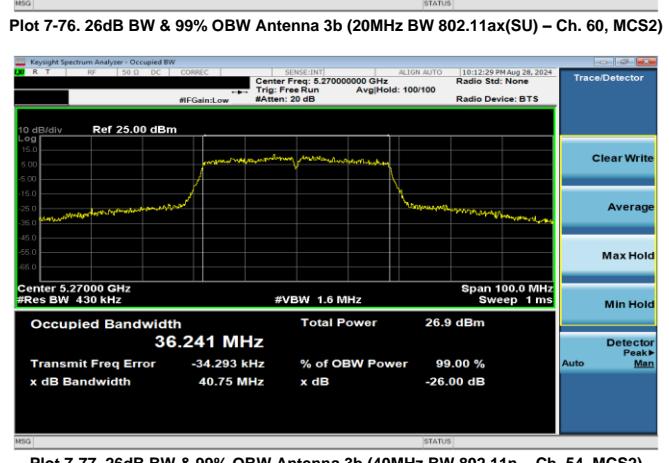
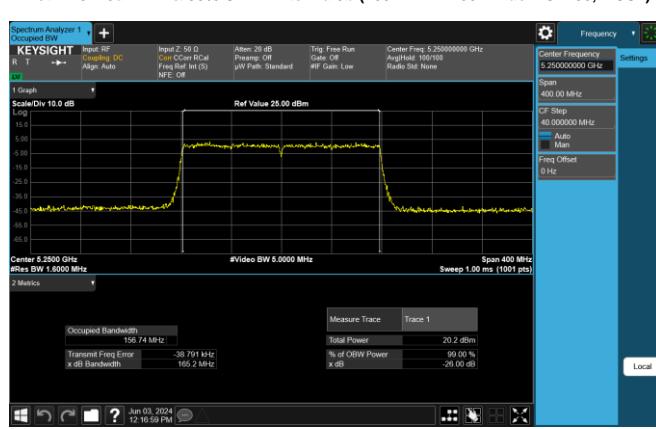
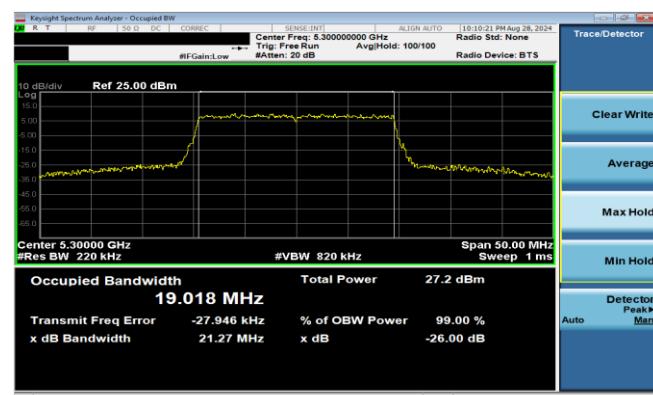
**Table 7-7. Conducted Bandwidth Measurements Antenna 3b (High Data Rate)**

\*TDWR channel is not supported for ISED (denoted by a \* next to the frequency)

FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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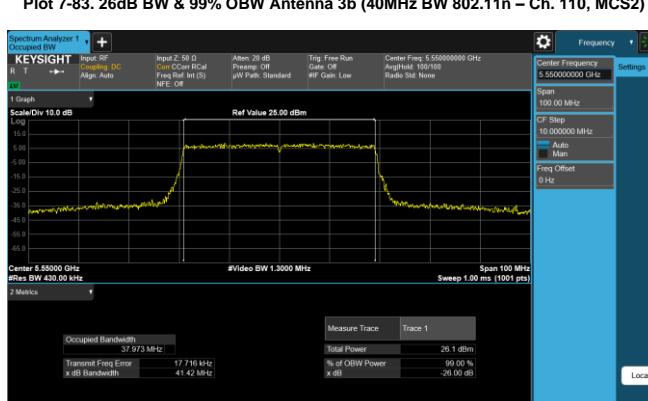
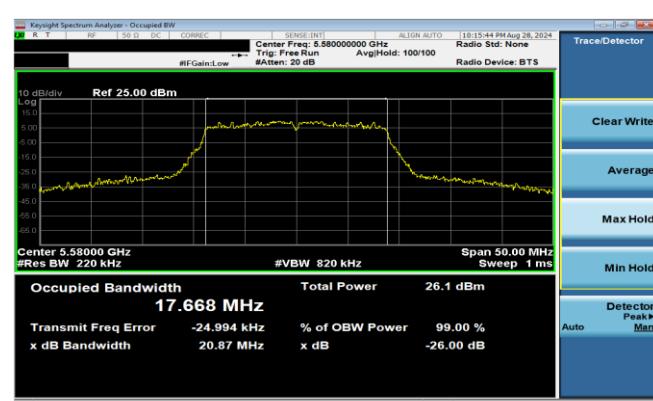
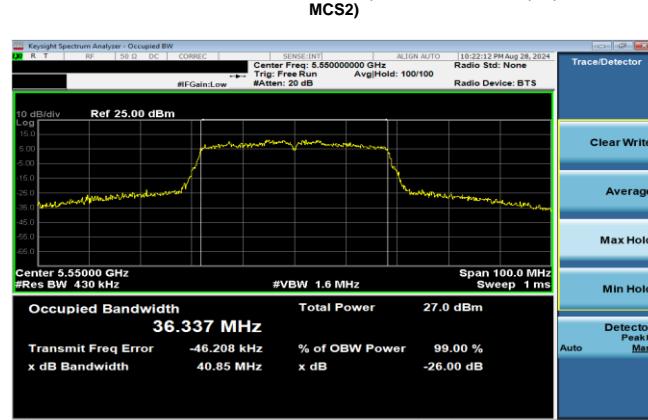
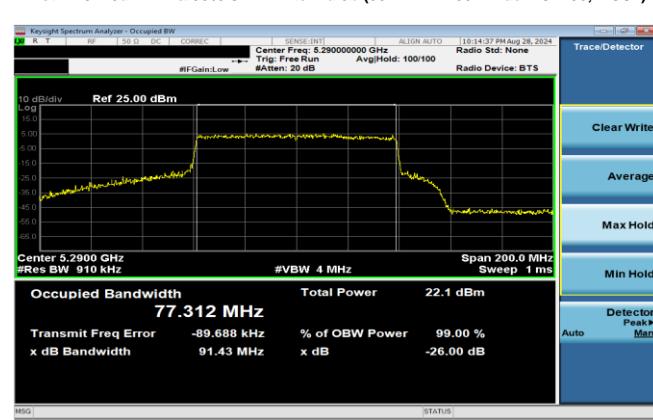
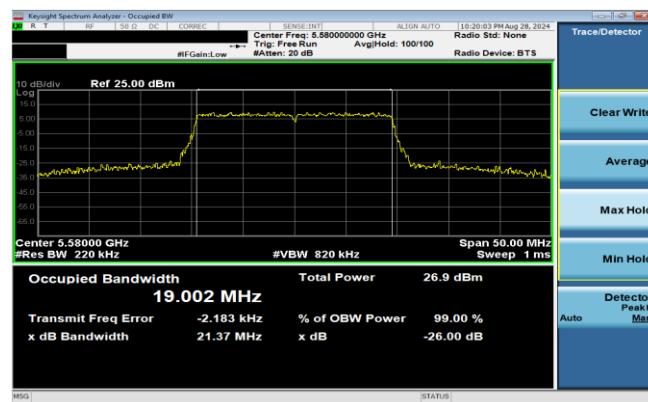


FCC ID: BCGA2995 IC: 579C-A2995	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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FCC ID: BCGA2995 IC: 579C-A2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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FCC ID: BCGA2995 IC: 579C-A2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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