

PCTEST

18855 Adams Court, Morgan Hill, CA 95037 USA Tel. 410.290.6652 / Fax 410.290.6654 http://www.pctest.com



MEASUREMENT REPORT

LTE

Applicant Name:

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

Date of Testing: 07/16/2020 - 09/09/2020 Test Site/Location: PCTEST Lab. Morgan Hill, CA, USA Test Report Serial No.: 1C2004270029-03.BCG

FCC ID:

BCGA2324

APPLICANT:

Apple Inc.

Application Type: Model: EUT Type: FCC Classification: FCC Rule Part(s): Test Procedure(s): Certification A2324 Tablet Device PCS Licensed Transmitter (PCB) 22, 24, & 27 ANSI C63.26-2015, TIA-603-E-2016, KDB 971168 D01 v03r01

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 §2.947. Test results reported herein relate only to the item(s) tested.

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.

Randy Ortanez President



FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 1 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 1 01 407	
2020 PCTEST V 10.2 04/22/2020				



TABLE OF CONTENTS

1.0	INTR	ODUCTION	6
	1.1	Scope	6
	1.2	PCTEST Test Location	6
	1.3	Test Facility / Accreditations	6
2.0	PRO	DUCT INFORMATION	7
	2.1	Equipment Description	7
	2.2	Device Capabilities	7
	2.3	Antenna Description	8
	2.4	Test Support Equipment	8
	2.5	Test Configuration	8
	2.6	Software and Firmware	9
	2.7	EMI Suppression Device(s)/Modifications	9
3.0	DES	CRIPTION OF TESTS	10
	3.1	Measurement Procedure	10
	3.2	Radiated Spurious Emissions	10
4.0	MEA	SUREMENT UNCERTAINTY	11
5.0	TES	T EQUIPMENT CALIBRATION DATA	12
6.0	SAM	PLE CALCULATIONS	13
7.0	TES	T RESULTS	14
	7.1	Summary	
	7.2	Occupied Bandwidth	
	7.3	Spurious and Harmonic Emissions at Antenna Terminal	74
	7.4	Band Edge Emissions at Antenna Terminal	120
	7.5	Peak-Average Ratio	204
	7.6	Additional Maximum Power Reduction (A-MPR)	242
	7.7	Uplink Carrier Aggregation Conducted Measurements	244
	7.8	Radiated Power (ERP/EIRP)	260
	7.9	Radiated Spurious Emissions	301
	7.10	Uplink Carrier Aggregation Radiated Measurements	
	7.11	Frequency Stability / Temperature Variation	
8.0	CON	ICLUSION	407

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 2 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 2 01 407
© 2020 PCTEST			V 10.2 04/22/2020







MEASUREMENT REPORT FCC Part 22, 24, & 27

			EF	RP	EI	RP		
LTE	FCC Rule	Tx Frequency (MHz)	Max Power	Max Power	Max Power	Max Power	Emission	Modulation
L1L	Part		(W)	(dBm)	(W)	(dBm)	Designator	Woddiadon
			()		()			
Band 71	27	665.5 - 695.5	0.133	21.25			4M53G7W	QPSK
Band 71	27	665.5 - 695.5	0.114	20.55			4M53D7W	16QAM
Band /1	27	665.5 - 695.5	0.088	19.46			4M54D7W	64QAM
Band 71	27	668 - 693	0.133	21.25			9M09G7W	QPSK
Band 71	27	668 - 693	0.121	20.81			9M02D7W	16QAM
Band 71	27	668 - 693	0.091	19.61			9M04D7W	64QAM
Band 71	27	670.5 - 690.5	0.133	21.25			13M6G7W	QPSK
Band 71	27	670.5 - 690.5	0.107	20.31			13M5D7W	16QAM
Band 71	27	670.5 - 690.5	0.090	19.56			13M6D7W	64QAM
Band 71	27	673 - 688	0.133	21.25			18M0G7W	QPSK
Band 71	27	673 - 688	0.119	20.74			18M0D7W	16QAM
Band 71	27	673 - 688	0.099	19.95			18M0D7W	64QAM
Band 12	27	699.7 - 715.3	0.133	21.25	0.219	23.40	1M11G7W	QPSK
Band 12	27	699.7 - 715.3	0.106	20.24	0.173	22.39	1M11D7W	16QAM
Band 12	27	699.7 - 715.3	0.088	19.46	0.145	21.61	1M11D7W	64QAM
Band 12	27	700.5 - 714.5	0.133	21.25	0.219	23.40	2M72G7W	QPSK
Band 12	27	700.5 - 714.5	0.113	20.54	0.186	22.69	2M73D7W	16QAM
Band 12	27	700.5 - 714.5	0.090	19.52	0.147	21.67	2M72D7W	64QAM
Band 12	27	701.5 - 713.5	0.133	21.25	0.219	23.40	4M55G7W	QPSK
Band 12	27	701.5 - 713.5	0.115	20.59	0.188	22.74	4M55D7W	16QAM
Band 12	27	701.5 - 713.5	0.087	19.38	0.142	21.53	4M55D7W	64QAM
Band 12	27	704 - 711	0.133	21.25	0.219	23.40	9M04G7W	QPSK
Band 12	27	704 - 711	0.115	20.61	0.189	22.76	9M04D7W	16QAM
Band 12	27	704 - 711	0.089	19.48	0.146	21.63	9M05D7W	64QAM
Band 17	27	706.5 - 713.5	0.133	21.25	0.219	23.40	4M55G7W	QPSK
Band 17	27	706.5 - 713.5	0.113	20.52	0.185	22.67	4M55D7W	16QAM
Band 17	27	706.5 - 713.5	0.089	19.50	0.146	21.65	4M55D7W	64QAM
Band 17	27	709 - 711	0.133	21.25	0.219	23.40	9M04G7W	QPSK
Band 17	27	709 - 711	0.119	20.77	0.196	22.92	9M04D7W	16QAM
Band 17	27	709 - 711	0.091	19.58	0.149	21.73	9M05D7W	64QAM
Band 13	27	779.5 - 784.5	0.133	21.25	0.219	23.40	4M56G7W	QPSK
Band 13	27	779.5 - 784.5	0.112	20.48	0.183	22.63	4M55D7W	16QAM
Band 13	27	779.5 - 784.5	0.089	19.50	0.146	21.65	4M55D7W	64QAM
Band 13	27	782	0.133	21.25	0.219	23.40	9M01G7W	QPSK
Band 13	27	782	0.121	20.81	0.198	22.96	9M03D7W	16QAM
Band 13	27	782	0.094	19.72	0.154	21.87	9M00D7W	64QAM
Band 5	22H	824.7 - 848.3	0.153	21.85	0.251	24.00	1M11G7W	QPSK
Band 5	22H	824.7 - 848.3	0.125	20.96	0.205	23.11	1M11D7W	16QAM
Band 5	22H	824.7 - 848.3	0.105	20.21	0.172	22.36	1M11D7W	64QAM
Band 5	22H	825.5 - 847.5	0.153	21.85	0.251	24.00	2M73G7W	QPSK
Band 5	22H	825.5 - 847.5	0.132	21.21	0.217	23.36	2M73D7W	16QAM
Band 5	22H	825.5 - 847.5	0.100	20.02	0.165	22.17	2M73D7W	64QAM
Band 5	22H	826.5 - 846.5	0.153	21.85	0.251	24.00	4M54G7W	QPSK
Band 5	22H	826.5 - 846.5	0.129	21.12	0.212	23.27	4M55D7W	16QAM
Band 5	22H	826.5 - 846.5	0.102	20.08	0.167	22.23	4M55D7W	64QAM
Band 5	22H	829 - 844	0.153	21.85	0.251	24.00	9M06G7W	QPSK
Band 5	22H	829 - 844	0.132	21.19	0.216	23.34	9M05D7W	16QAM
Band 5	22H	829 - 844	0.103	20.13	0.169	22.28	9M05D7W	64QAM
Band 26	22H	824.7 - 848.3	0.153	21.85	0.251	24.00	1M11G7W	QPSK
Band 26	22H	824.7 - 848.3	0.124	20.92	0.203	23.07	1M11D7W	16QAM
Band 26	22H	824.7 - 848.3	0.100	20.02	0.165	22.17	1M11D7W	64QAM
Band 26	22H	825.5 - 847.5	0.153	21.85	0.251	24.00	2M73G7W	QPSK
Band 26	22H	825.5 - 847.5	0.136	21.33	0.223	23.48	2M73D7W	16QAM
Band 26	22H	825.5 - 847.5	0.100	20.00	0.164	22.15	2M73D7W	64QAM
Band 26	22H	826.5 - 846.5	0.153	21.85	0.251	24.00	4M54G7W	QPSK
Band 26	22H	826.5 - 846.5	0.135	21.30	0.221	23.45	4M55D7W	16QAM
Band 26	22H	826.5 - 846.5	0.101	20.06	0.166	22.21	4M55D7W	64QAM
Band 26	22H	829 - 844	0.153	21.85	0.251	24.00	9M06G7W	QPSK
Band 26	22H	829 - 844	0.127	21.03	0.208	23.18	9M05D7W	16QAM
Band 26	22H	829 - 844	0.104	20.15	0.170	22.30	9M05D7W	64QAM

EUT Overview (Low Band)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 2 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 3 01 407
© 2020 PCTEST			V 10.2 04/22/2020



			EI	RP	_	
LTE	FCC Rule	Tx Frequency (MHz)	Max. Power	Max. Power	Emission	Modulation
	Part		(W)	(dBm)	Designator	
Bond 4	27	1710 7 1754 2	0.242	25.25	1M11G7W	OPSK
Band 4	27	1710.7 - 1754.3	0.343	23.33	1M11D7W	
Band 4	27	1710.7 - 1754.3	0.235	23.71	1M11D7W	64QAM
Band 4	27	1711.5 - 1753.5	0.330	25.19	2M73G7W	QPSK
Band 4	27	1711.5 - 1753.5	0.285	24.55	2M73D7W	16QAM
Band 4	27	1711.5 - 1753.5	0.218	23.39	2M75D7W	64QAM
Band 4	27	1712.5 - 1752.5	0.343	25.35	4M53G7W	QPSK
Band 4	27	1712.5 - 1752.5	0.292	24.66	4M54D7W	16QAM
Band 4	27	1/12.5 - 1/52.5	0.227	23.56	4M54D7W	64QAM
Band 4	27	1715 1750	0.340	20.31	91VI07G7W	160AM
Band 4	27	1715 - 1750	0.305	24.04	91005D7W	64OAM
Band 4	27	1717.5 - 1747.5	0.343	25.35	13M6G7W	QPSK
Band 4	27	1717.5 - 1747.5	0.283	24.52	13M6D7W	16QAM
Band 4	27	1717.5 - 1747.5	0.225	23.53	13M6D7W	64QAM
Band 4	27	1720 - 1745	0.343	25.35	18M1G7W	QPSK
Band 4	27	1720 - 1745	0.297	24.73	18M1D7W	16QAM
Band 4	27	1720 - 1745	0.224	23.51	18M1D7W	64QAM
Band 66	27	1710.7 - 1779.3	0.343	25.35	1M11G7W	QPSK
Band 66	27	1/10.7 - 1779.3	0.279	24.45	1M11D7W	16QAM
Band 66	2/	1710.7 - 1779.3	0.235	23.71		04QAM
Band 66	21	1711 5 - 1778 5	0.337	20.28	2M73D7W	160AM
Band 66	21	1711.5 - 1778.5	0.219	23.37	2M75D7W	64QAM
Band 66	27	1712.5 - 1777.5	0.343	25.35	4M53G7W	QPSK
Band 66	27	1712.5 - 1777.5	0.298	24.74	4M54D7W	16QAM
Band 66	27	1712.5 - 1777.5	0.228	23.57	4M54D7W	64QAM
Band 66	27	1715 - 1775	0.343	25.35	9M07G7W	QPSK
Band 66	27	1715 - 1775	0.303	24.82	9M05D7W	16QAM
Band 66	27	1715 - 1775	0.236	23.72	9M08D7W	64QAM
Band 66	27	1717.5 - 1772.5	0.343	25.35	13M6G7W	QPSK
Band 66	27	1717.5 - 1772.5	0.275	24.40	13M6D7W	16QAM
Band 66	27	1/1/.5 - 1//2.5	0.228	23.57	13M6D7W	64QAM
Band 66	27	1720 - 1770	0.343	25.35	18M1G7W	QPSK 160AM
Band 66	27	1720 - 1770	0.293	24.07	18M1D7W	64OAM
Band 2	24F	1850 7 - 1909 3	0.232	25.00	1M10G7W	OPSK
Band 2	24E	1850.7 - 1909.3	0.295	24.70	1M10D7W	16QAM
Band 2	24E	1850.7 - 1909.3	0.230	23.61	1M10D7W	64QAM
Band 2	24E	1851.5 - 1908.5	0.339	25.30	2M72G7W	QPSK
Band 2	24E	1851.5 - 1908.5	0.293	24.67	2M72D7W	16QAM
Band 2	24E	1851.5 - 1908.5	0.227	23.56	2M72D7W	64QAM
Band 2	24E	1852.5 - 1907.5	0.339	25.30	4M56G7W	QPSK
Band 2	24E	1852.5 - 1907.5	0.288	24.60	4M54D7W	16QAM
Band 2	24E	1852.5 - 1907.5	0.225	23.03		04QAIVI
Band 2	24E 24F	1855 - 1905	0.339	25.30	9M05D7W	
Band 2	24L	1855 - 1905	0.203	23.58	9M02D7W	640AM
Band 2	24E	1857.5 - 1902.5	0.339	25.30	13M6G7W	QPSK
Band 2	24E	1857.5 - 1902.5	0.277	24.43	13M6D7W	16QAM
Band 2	24E	1857.5 - 1902.5	0.224	23.50	13M6D7W	64QAM
Band 2	24E	1860 - 1900	0.339	25.30	18M1G7W	QPSK
Band 2	24E	1860 - 1900	0.281	24.49	18M0D7W	16QAM
Band 2	24E	1860 - 1900	0.219	23.41	18M1D7W	64QAM
Band 25	24E	1850.7 - 1914.3	0.339	25.30	1M10G7W	QPSK 1004
Band 25	24E	1850.7 - 1914.3	0.292	24.66	1M10D7W	16QAM
Band 25	24E 24E	1851 5 - 1914.3	0.241	25.82	2M72G7W	OPSK
Band 25	24E	1851 5 - 1913 5	0.339	24.68	2M72D7W	160AM
Band 25	24E	1851.5 - 1913.5	0.222	23,46	2M72D7W	64QAM
Band 25	24E	1852.5 - 1912.5	0.339	25.30	4M56G7W	QPSK
Band 25	24E	1852.5 - 1912.5	0.288	24.60	4M54D7W	16QAM
Band 25	24E	1852.5 - 1912.5	0.229	23.60	4M53D7W	64QAM
Band 25	24E	1855 - 1910	0.339	25.30	9M06G7W	QPSK
Band 25	24E	1855 - 1910	0.292	24.66	9M05D7W	16QAM
Band 25	24E	1855 - 1910	0.229	23.59	9M02D7W	64QAM
Band 25	24E	1857.5 - 1907.5	0.339	25.30	13M6G7W	QPSK
Band 25	24E	1857.5 - 1907.5	0.284	24.54	131VI6D7W	16QAM
Band 25	24E	1857.5 - 1907.5	0.229	23.59	131000700	
Band 25	24E	1860 - 1905	0.339	20.30	18M0D7W	
Band 25	24F	1860 - 1905	0.250	23.98	18M1D7W	64QAM

EUT Overview (Mid Bands)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 4 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 4 of 407
© 2020 PCTEST			V 10.2 04/22/2020



			EIRP			
LTE	FCC Rule Part	Tx Frequency (MHz)	Max. Power (W)	Max. Power (dBm)	Emission Designator	Modulation
Band 30	27	2307.5 - 2312.5	0.200	23.00	4M55G7W	QPSK
Band 30	27	2307.5 - 2312.5	0.173	22.38	4M53D7W	16QAM
Band 30	27	2307.5 - 2312.5	0.142	21.51	4M53D7W	64QAM
Band 30	27	2310	0.200	23.00	9M06G7W	QPSK
Band 30	27	2310	0.178	22.51	9M06D7W	16QAM
Band 30	27	2310	0.140	21.46	9M04D7W	64QAM
Band 7	27	2502.5 - 2567.5	0.335	25.25	4M54G7W	QPSK
Band 7	27	2502.5 - 2567.5	0.284	24.54	4M52D7W	16QAM
Band 7	27	2502.5 - 2567.5	0.222	23.46	4M53D7W	64QAM
Band 7	27	2505 - 2565	0.335	25.25	9M08G7W	QPSK
Band 7	27	2505 - 2565	0.288	24.59	9M04D7W	16QAM
Band 7	27	2505 - 2565	0.220	23.42	9M04D7W	64QAM
Band 7	27	2507.5 - 2562.5	0.335	25.25	13M6G7W	QPSK
Band 7	27	2507.5 - 2562.5	0.270	24.31	13M6D7W	16QAM
Band 7	27	2507.5 - 2562.5	0.219	23.41	13M5D7W	64QAM
Band 7	27	2510 - 2560	0.335	25.25	18M1G7W	QPSK
Band 7	27	2510 - 2560	0.281	24.49	18M1D7W	16QAM
Band 7	27	2510 - 2560	0.221	23.45	18M1D7W	64QAM
Band 41 (PC2)	27	2498.5 - 2687.5	0.653	28.15	4M56G7W	QPSK
Band 41 (PC2)	27	2498.5 - 2687.5	0.564	27.51	4M56D7W	16QAM
Band 41 (PC2)	27	2498.5 - 2687.5	0.457	26.60	4M55D7W	64QAM
Band 41 (PC2)	27	2501 - 2685	0.653	28.15	9M07G7W	QPSK
Band 41 (PC2)	27	2501 - 2685	0.551	27.41	9M10D7W	16QAM
Band 41 (PC2)	27	2501 - 2685	0.455	26.58	9M08D7W	64QAM
Band 41 (PC2)	27	2503.5 - 2682.5	0.652	28.14	13M5G7W	QPSK
Band 41 (PC2)	27	2503.5 - 2682.5	0.569	27.55	13M6D7W	16QAM
Band 41 (PC2)	27	2503.5 - 2682.5	0.444	26.47	13M5D7W	64QAM
Band 41 (PC2)	27	2506 - 2680	0.635	28.03	18M1G7W	QPSK
Band 41 (PC2)	27	2506 - 2680	0.540	27.32	18M1D7W	16QAM
Band 41 (PC2)	27	2506 - 2680	0.439	26.42	18M1D7W	64QAM
Band 41 (PC3)	27	2498.5 - 2687.5	0.335	25.25	4M56G7W	QPSK
Band 41 (PC3)	27	2498.5 - 2687.5	0.271	24.33	4M56D7W	16QAM
Band 41 (PC3)	27	2498.5 - 2687.5	0.216	23.34	4M55D7W	64QAM
Band 41 (PC3)	27	2501 - 2685	0.335	25.25	9M07G7W	QPSK
Band 41 (PC3)	27	2501 - 2685	0.286	24.56	9M10D7W	16QAM
Band 41 (PC3)	27	2501 - 2685	0.229	23.60	9M08D7W	64QAM
Band 41 (PC3)	27	2503.5 - 2682.5	0.335	25.25	13M5G7W	QPSK
Band 41 (PC3)	27	2503.5 - 2682.5	0.269	24.29	13M6D7W	16QAM
Band 41 (PC3)	27	2503.5 - 2682.5	0.224	23.51	13M5D7W	64QAM
Band 41 (PC3)	27	2506 - 2680	0.335	25.25	18M1G7W	QPSK
Band 41 (PC3)	27	2506 - 2680	0.278	24.44	18M1D7W	16QAM
Band 41 (PC3)	27	2506 - 2680	0.221	23.44	18M1D7W	64QAM

EUT Overview (High Bands)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dege E of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 5 01 407
© 2020 PCTEST		·	V 10.2 04/22/2020



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 PCTEST Test Location

These measurement tests were conducted at the PCTEST. 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

- PCTEST is an ISO 17025-2005 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.
- PCTEST 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).
- PCTEST facility is a registered (22831) test laboratory with the site description on file with ISED.

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage C of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 6 01 407
© 2020 PCTEST			V 10.2 04/22/2020



2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Tablet Device FCC ID: BCGA2324**. The test data contained in this report pertains only to the emissions due to the EUT's LTE function.

Test Device Serial No.: DLXD101FQ8MX, DLXD100MQ8MX, DLX018400MYPWT71Q, DLX019300F7PWTJ1L

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, Bluetooth (1x, EDR, LE, HDR4, HDR8), WPT

This device supports BT Beamforming

LTE Band 12 (698 - 716 MHz) overlaps the entire frequency range of LTE Band 17 (704 - 716 MHz). Therefore, test data provided in this report covers Band 17 as well as Band 12.

LTE Band 26 (814.7 – 849 MHz) overlaps the entire frequency range of LTE Band 5 (824 – 849 MHz). Therefore, test data provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.

LTE Band 66 (1710 - 1780 MHz) overlaps the entire frequency range of LTE Band 4 (1710 - 1755 MHz). Therefore, test data provided in this report covers Band 4 as well as Band 66.

LTE Band 25 (1850 - 1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 - 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.

LTE Band 41 supports NS04 for Antenna 4, Antenna 2a, Antenna 1a and Antenna 3a.

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.

Antenna	Simultaneous Tx	WLAN	Bluetooth	LTE / GSM / WCDMA	UNII
Antenna	Config	802.11 b/g/n/ax	BDR, EDR, HDR4/8, LE	Mid band/ High band	802.11 a/n/ac/ax
10	Config 1	√	×	√	×
Ta	Config 2	×	✓	✓	×
2a	Config 3	*	×	✓	✓
20	Config 4	\checkmark	×	\checkmark	×
Sd	Config 5	×	\checkmark	\checkmark	×

Table 2-1. Simultaneous Transmission Configurations

 \checkmark = Support; * = Not Support

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 7 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 7 01 407
© 2020 PCTEST			V 10.2 04/22/2020



2.3 Antenna Description

Following antennas were used for the testing.

Frequency	Antenna Gain (dBi)				
[MHz]	Antenna 4	Antenna 3b	Antenna 2a	Antenna 1a	Antenna 3a
650-800	-2.1	-3.1	N/A	N/A	N/A
820-960	-1.5	-1.6	N/A	N/A	N/A
1700-1800	0.6	N/A	-2.0	0.5	-3.1
1820-2100	-0.2	N/A	-1.2	0.8	-4.1
2300-2320	0.0	N/A	-0.7	0.5	-3.3
2400-2700	0.1	N/A	0.9	1.0	-1.7

Table 2-2. Highest Antenna Gain

2.4 Test Support Equipment

1	Apple MacBook	Model:	A1398	S/N:	C2QKP008F6F3
	w/AC/DC Adapter	Model:	A1435	S/N:	N/A
2	Apple USB-C Cable	Model:	Chimp	S/N:	420A57
3	USB-C Cable	Model:	A146	S/N:	N/A
	w/ AC Adapter	Model:	A2305	S/N:	N/A
4	Apple Pencil	Model:	N/A	S/N:	GQX91220J13LL6U7AS
5	DC Power Supply	Model:	KPS3010D	S/N:	N/A

 Table 2-3. Test Support Equipment List

2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.26 2015, TIA-603-E-2016, and KDB 971168 D01 v03r01. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

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.

All possible simultaneous transmission configurations have been investigated and the worst case config has been reported.

Description	LTE (Band 41)	Bluetooth LE
Antenna	Antenna 1a	Antenna 1a
Channel	39750	19
Operating Frequency (MHz)	2506	2440
Mode/Modulation	QPSK/1RB/20MHz	1M/ePA

 Table 2-4. Worst Case Simultaneous Transmission Configuration

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 9 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 8 01 407
© 2020 PCTEST			V 10.2 04/22/2020



2.6 Software and Firmware

The test was conducted with firmware version 18A325 installed on the EUT.

2.7 EMI Suppression Device(s)/Modifications

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

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 0 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 9 01 407
© 2020 PCTEST			V 10.2 04/22/2020



3.0 DESCRIPTION OF TESTS

3.1 Measurement Procedure

The measurement procedures described in the document titled "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI C63.26-2015/TIA-603-E-2016) and "Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems" (KDB 971168 D01 v03r01) were used in the measurement of the EUT.

3.2 Radiated Spurious 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. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Per the guidelines of KDB 412172 D01 v01r01, radiated power levels are measured using the following formula:

ERP or EIRP = $P_T + G_T - L_C$

Where P_T is the transmitter output power, expressed in dBm, G_T is the gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP), and L_C signal attenuation in the connecting cable between the transmitter and antenna in dB.

Per the guidance of ANSI C63.26-2015 and TIA-603-E-2016, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

 $P_{d [dBm]} = P_{g [dBm]} - cable loss [dB] + antenna gain [dBd/dBi]$

Where, P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to P_g [dBm] – cable loss [dB].

The calculated P_d levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of 43 + 10log₁₀(Power [Watts]). For Band 7 and 41, the calculated P_d levels are compared to the absolute spurious emission limit of -25dBm which is equivalent to the required minimum attenuation of 55 + 10log₁₀(Power [Watts]). For Band 30 the calculated P_d levels are compared to the absolute spurious emission limit of -40dBm which is equivalent to the required minimum attenuation of 70 + 10log₁₀(Power [Watts]).

Per KDB 414788 D01 v01r01, 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.

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 10 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 10 01 407
© 2020 PCTEST			V 10.2 04/22/2020



4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. 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 (±dB)
Conducted Bench Top Measurements	1.30
Radiated Disturbance (<1GHz)	4.15
Radiated Disturbance (>1GHz)	4.59
Radiated Disturbance (>18GHz)	4.96

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 11 of 107
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 11 01 407
© 2020 PCTEST			V 10.2 04/22/2020



5.0 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-44GHz PXA Signal Analyzer	3/4/2020	Annual	3/4/2021	MY49430244
ATM	180-442A-KF	20dB Nominal Gain Horn Antenna	10/29/2019	Annual	10/29/2020	T058701-02
ESPEC	SU-241	Tabletop Temperature Chamber	9/3/2019	Annual	9/3/2020	92009574
ETS-Lindgren	3142E-PA	Pre-Amplifier (30MHz - 6GHz)	9/19/2019	Annual	9/19/2020	213236
ETS-Lindgren	3142E	BiConiLog Antenna (30MHz - 6GHz)	1/6/2020	Annual	1/6/2021	224569
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	4/21/2020	Annual	4/21/2021	205956
Rohde & Schwarz	FSV40	Signal Analyzer (10Hz-40GHz)	3/2/2020	Annual	3/2/2021	101619
Rohde & Schwarz	ESW26	EMI Test Receiver	6/1/2020	Annual	6/1/2021	101299
Rohde & Schwarz	ESW44	EMI Test Receiver	9/13/2019	Annual	9/13/2020	101570
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	11/16/2019	Annual	11/16/2020	164715
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	4/16/2020	Annual	4/16/2021	166869
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	9/19/2019	Annual	9/19/2020	100051
Rohde & Schwarz	TC-TA18	Cross Polarized Vivaldi Antenna (400MHz-18GHz)	11/14/2019	Annual	11/14/2020	101057
Rohde & Schwarz	HFH2-Z2	Loop Antenna	3/12/2020	Annual	3/12/2021	100546

Table 5-1. Test Equipment List

Notes:

- 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. All testing was performed before the calibration due date.

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 12 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 12 01 407
© 2020 PCTEST			V 10.2 04/22/2020



6.0 SAMPLE CALCULATIONS

Emission Designator

QPSK Modulation

Emission Designator = 8M62G7W

LTE BW = 8.62 MHz G = Phase Modulation 7 = Quantized/Digital Info W = Combination of Any

QAM Modulation

Emission Designator = 8M45D7W

LTE BW = 8.45 MHz D = Amplitude/Angle Modulated 7 = Quantized/Digital Info W = Combination of Any

Spurious Radiated Emission – LTE Band

Example: Middle Channel LTE Mode 2nd Harmonic (1564 MHz)

The average spectrum analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the spectrum analzyer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 1564 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm - (-24.80).

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates: EUT Type:		Dogo 12 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 13 01 407
© 2020 PCTEST			V 10.2 04/22/2020



7.0 TEST RESULTS

7.1 Summary

Company Name:	<u>Apple Inc.</u>
FCC ID:	BCGA2324
FCC Classification:	PCS Licensed Transmitter (PCB)
Mode(s):	<u>LTE</u>

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A		N/A	Section 7.2
2.1051 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	Out of Band Emissions	> 43 + 10 log ₁₀ (P[Watts]) at Band Edge and for all out-of- band emissions			Section 7.3, 7.4
27.53(m)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(m)			Section 7.3, 7.4
27.53(a)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(a)			Section 7.3, 7.4
24.232(d) 27.50(d)(5)	Peak-Average Ratio	< 13 dB			Section 7.5
2.1046	Transmitter Conducted Output Power	N/A	CONDUCTED	PASS	See RF Exposure Report
2.1046	Additional Maximum Power Reduction (A-MPR)	N/A			Section 7.6
27.53(m)	Uplink Carrier Aggregation	Undesirable emissions much meet the limits pdetailed in 27.53(m)			Section 7.7, 7.10
2.1055 22.355 24.235 27.54	Frequency Stability	< 2.5 ppm (Part 22) and fundamental emissions stay within authorized frequency block (Part 24, 27)			Section 7.10.3

Table 7-1. Summary of Conducted Test Results

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 44 af 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 14 of 407
© 2020 PCTEST			V 10.2 04/22/2020



FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
22.913(a)(5)	Effective Radiated Power / Equivalent Isotropic Radiated Power (Band 26/5)	< 7 Watts max. ERP		Section 7.8	
27.50(b)(10) 27.50(c)(10)	Effective Radiated Power / Equivalent Isotropic Radiated Power (Band 71, 12/17, 13)	< 3 Watts max. ERP			Section 7.8
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 25/2, 7, 41)	< 2 Watts max. EIRP	CONDUCTED		Section 7.8
27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 66/4)	< 1 Watts max. EIRP			Section 7.8
27.50(a)(3) 27.50(d)(5)	Equivalent Isotropic Radiated Power (Band 30)	< 0.25 Watts max. EIRP		PASS	Section 7.8
2.1053 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	Undesirable Emissions	> 43 + 10 log ₁₀ (P[Watts]) for all out-of-band emissions			Section 7.9
27.53(f)	Undesirable Emissions (Band 13)	< -70 dBW/MHz (for wideband signals) < -80 dBW (for discrete emissions less than 700Hz BW) For all emissions in the band 1559 – 1610 MHz	RADIATED		Section 7.9
27.53(a)	Undesirable Emissions (Band 30)	> 70 + 10 log ₁₀ (P[Watts])			Section 7.9
27.53(m)	Undesirable Emissions	Undesirable emissions must meet the limits detailed in 27.53(m)			Section 7.9

Table 7-2. Summary of Conducted/Radiated Test Results

Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots (Sections 7.2, 7.3, 7.4, 7.5) were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT 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, attenuators, and couplers.
- 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 PCTEST "LTE Automation," Version 5.3.

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 15 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 15 01 407
© 2020 PCTEST			V 10.2 04/22/2020



7.2 Occupied Bandwidth

Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

KDB 971168 D01 v03r01 - Section 4.2

Test Settings

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW \geq 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within
 - 1-5% of the 99% occupied bandwidth observed in Step 7

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

All ports were tested and only the worst case data were reported.

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 16 of 107	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 16 01 407	
© 2020 PCTEST V 10.2 04/22/2020				



LTE	BW (MHz)	Modulation	Occupied BW [kHz]
Band 71	5	QPSK	4532.6
Band 71	5	16QAM	4525.6
Band 71	5	64OAM	4538.6
Band 71	10	OPSK	9085.8
Band 71	10		9024.6
Danu 71	10	64OAM	0042.2
Danu 71	10		12642.0
Danu 71	15		125/1 0
Band 71	15	64OAM	12562.0
Danu 71	10		19024.0
Danu 71	20		18004.0
Danu 71	20		10004.0
Band 71	20		18021.0
Band 12	1.4	QPSK	1111.1
Band 12	1.4	16QAM	1112.7
Band 12	1.4	64QAM	1110.9
Band 12	3	QPSK	2722.4
Band 12	3	16QAM	2/31.9
Band 12	3	64QAM	2/21./
Band 12	5	QPSK	4550.7
Band 12	5	16QAM	4550.0
Band 12	5	64QAM	4547.6
Band 12	10	QPSK	9037.3
Band 12	10	16QAM	9037.4
Band 12	10	64QAM	9047.9
Band 17	5	QPSK	4550.7
Band 17	5	16QAM	4550.0
Band 17	5	64QAM	4547.6
Band 17	10	QPSK	9037.3
Band 17	10	16QAM	9037.4
Band 17	10	64QAM	9047.9
Band 13	5	QPSK	4561.8
Band 13	5	16QAM	4548.3
Band 13	5	64QAM	4548.6
Band 13	10	QPSK	9006.9
Band 13	10	16QAM	9031.0
Band 13	10	64QAM	8995.4
Band 5	1.4	QPSK	1105.5
Band 5	1.4	16QAM	1110.9
Band 5	1.4	64QAM	1109.1
Band 5	3	QPSK	2733.6
Band 5	3	16QAM	2727.6
Band 5	3	64QAM	2726.7
Band 5	5	QPSK	4543.6
Band 5	5	16QAM	4553.5
Band 5	5	64QAM	4550.7
Band 5	10	QPSK	9055.9
Band 5	10	16QAM	9047.3
Band 5	10	64QAM	9053.5
Band 26	1.4	QPSK	1105.5
Band 26	1.4	16QAM	1110.9
Band 26	1.4	64QAM	1109.1
Band 26	3	QPSK	2733.6
Band 26	3	16QAM	2727.6
Band 26	3	64QAM	2726.7
Band 26	5	QPSK	4543.6
Band 26	5	16QAM	4553.5
Band 26	5	64QAM	4550.7
Band 26	10	OPSK	9055.9
Band 26	10	160AM	9047 3
Dand 20	10	C40AM	0050 5

 Band 26
 10
 64QAM
 9053.5

 Table 7-3. Occupied Band Width Results (Low Bands)

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 17 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 17 01 407
© 2020 PCTEST	•		V 10.2 04/22/2020



LTE	BW (MHz)	Modulation	Occupied BW [kHz]
Band 4	1.4	QPSK	1106.3
Band 4	1.4	16QAM	1106.7
Band 4	1.4	64QAM	1114.0
Band 4	3	QPSK	2730.1
Band 4	3	16QAM	2726.8
Band 4	3	64QAM	2746.7
Band 4	5	QPSK	4534.7
Band 4	5	64OAM	4555.0
Band 4	10	OPSK	9067.8
Band 4	10	160AM	9050.7
Band 4	10	64QAM	9076.6
Band 4	15	QPSK	13590.0
Band 4	15	16QAM	13592.0
Band 4	15	64QAM	13605.0
Band 4	20	QPSK	18099.0
Band 4	20	16QAM	18085.0
Band 4	20	64QAM	18102.0
Band 66	1.4	QPSK	1106.3
Band 66	1.4	640AM	1114.0
Band 66	3	OPSK	2730.1
Band 66	3	160AM	2726.8
Band 66	3	64QAM	2746.7
Band 66	5	QPSK	4534.7
Band 66	5	16QAM	4535.0
Band 66	5	64QAM	4543.5
Band 66	10	QPSK	9067.8
Band 66	10	16QAM	9050.7
Band 66	10	64QAM	9076.6
Band 66	15	QPSK	13590.0
Band 66	15	16QAM	13592.0
Band 66	15	64QAM	13605.0
Band 66	20		18085.0
Band 66	20	640AM	18102.0
Band 2	1.4	QPSK	1104.8
Band 2	1.4	16QAM	1104.9
Band 2	1.4	64QAM	1101.9
Band 2	3	QPSK	2723.6
Band 2	3	16QAM	2719.6
Band 2	3	64QAM	2719.1
Band 2	5	QPSK	4563.8
Band 2	5	16QAM	4538.4
Band 2	10		4054.9 9058.4
Band 2	10	160AM	9048.6
Band 2	10	64QAM	9020.5
Band 2	15	QPSK	13624.0
Band 2	15	16QAM	13566.0
Band 2	15	64QAM	13568.0
Band 2	20	QPSK	18080.0
Band 2	20	16QAM	18045.0
Band 2	20	64QAM	18052.0
Band 25	1.4		1104.0
Band 25	1.4	640AM	1101.9
Band 25	3	QPSK	2723.6
Band 25	3	16QAM	2719.6
Band 25	3	64QAM	2719.1
Band 25	5	QPSK	4563.8
Band 25	5	16QAM	4538.4
Band 25	5	64QAM	4534.9
Band 25	10	QPSK	9058.4
Band 25	10	16QAM	9048.6
Band 25	10	04QAM	9020.5
Band 25	15	160AM	13566 0
Band 25	15	640AM	13568.0
Band 25	20	QPSK	18080.0
Band 25	20	16QAM	18045.0

 Band 25
 20
 64QAM
 18052.0

 Table 7-4. Occupied Band Width Results (Mid Bands)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 19 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 18 01 407
© 2020 PCTEST			V 10.2 04/22/2020



LTE	BW (MHz)	Modulation	Occupied BW [kHz]
Band 30	5	QPSK	4548.3
Band 30	5	16QAM	4525.4
Band 30	5	64QAM	4534.7
Band 30	10	QPSK	9061.5
Band 30	10	16QAM	9063.5
Band 30	10	64QAM	9039.3
Band 7	5	QPSK	4543.0
Band 7	5	16QAM	4520.2
Band 7	5	64QAM	4526.4
Band 7	10	QPSK	9079.2
Band 7	10	16QAM	9038.6
Band 7	10	64QAM	9042.2
Band 7	15	QPSK	13618.0
Band 7	15	16QAM	13589.0
Band 7	15	64QAM	13529.0
Band 7	20	QPSK	18118.0
Band 7	20	16QAM	18062.0
Band 7	20	64QAM	18055.0
Band 41	5	QPSK	4560.0
Band 41	5	16QAM	4558.6
Band 41	5	64QAM	4554.7
Band 41	10	QPSK	9071.5
Band 41	10	16QAM	9095.2
Band 41	10	64QAM	9081.2
Band 41	15	QPSK	13518.0
Band 41	15	16QAM	13580.0
Band 41	15	64QAM	13502.0
Band 41	20	QPSK	18102.0
Band 41	20	16QAM	18101.0
Band 41	20	64QAM	18077.0

Table 7-5. Occupied Band Width Results (High Bands)

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 10 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 19 01 407
© 2020 PCTEST			V 10.2 04/22/2020



Band 71



Plot 7-1. Occupied Bandwidth Plot (Band 71 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-2. Occupied Bandwidth Plot (Band 71 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 20 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 20 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-3. Occupied Bandwidth Plot (Band 71 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-4. Occupied Bandwidth Plot (Band 71 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 01 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 21 01 407
2020 PCTEST V 10.2 04/22/2020			





Plot 7-5. Occupied Bandwidth Plot (Band 71 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-6. Occupied Bandwidth Plot (Band 71 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 22 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 22 01 407	
2020 PCTEST V 10.2 04/22/2020				





Plot 7-7. Occupied Bandwidth Plot (Band 71 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-8. Occupied Bandwidth Plot (Band 71 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 22 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 23 01 407	
2020 PCTEST V 10.2 04/22/2020				





Plot 7-9. Occupied Bandwidth Plot (Band 71 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-10. Occupied Bandwidth Plot (Band 71 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 24 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 24 01 407	
2020 PCTEST V 10.2 04/22/2020				





Plot 7-11. Occupied Bandwidth Plot (Band 71 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-12. Occupied Bandwidth Plot (Band 71 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 25 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 25 01 407
2020 PCTEST V 10.2 04/22/2020			



Band 12/17



Plot 7-13. Occupied Bandwidth Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-14. Occupied Bandwidth Plot (Band 12 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 06 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 26 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-15. Occupied Bandwidth Plot (Band 12 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-16. Occupied Bandwidth Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 07 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 27 01 407
2020 PCTEST V 10.2 04/22/2020			



Keysight Spectrum Analyzer - Occupied BV	V				
LXI RL RF 50Ω AC	CORREC	SENSE:INT	10:15:46 Radio Ste	AM Jun 30, 2020	Trace/Detector
	→→ Trig: F	Free Run Avg Holo	d: 100/100		
	#IFGain:Low #Atter	n: 36 dB	Radio De	vice: BTS	
10 dB/div Ref 30.00 dBn	n _				
Log					
20.0	prover and the prover source and a	warden warden and the second stands of			Clear Write
10.0					
0.00			1		
-10.0			<u> </u>		
-20.0			Multimum / Melonika and	1.4.	Average
-30.0				w/inchallenster	
-40.0					
-50.0					Max Hold
-60.0					wax noiu
Center 707.5 MHz			Spa	n 7.5 MHz	
Res BW 68 kHz	#	VBW 220 kHz	Sweep	12.53 ms	Min Hold
		Total Power	22.4 dBm		
Occupied Bandwidt	.n	Total Fower	52.4 UDIII		
2.	7319 MH <u>z</u>				Detector
Transmit Frag Freez	22 H-		00.00.0/		Peak► Auto Man
Transmit Freq Error	-23 HZ	% OF OBW POW	er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	3.017 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-17. Occupied Bandwidth Plot (Band 12 - 3.0MHz 16-QAM - Full RB Configuration)



Plot 7-18. Occupied Bandwidth Plot (Band 12 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 20 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 28 01 407	
2020 PCTEST V 10.2 04/22/2020				



Keysight Spectrum Analyzer - Occupied BV	V					-0	
XV RL RF 50Ω AC	CORREC	SENSE:INT		09:58:44 A	M Jun 30, 2020	Tracel	Detector
		Trig: Free Run	Avg Hold: 100/1	Radio Std.	None		
	#IFGain:Low	#Atten: 36 dB		Radio Dev	ice: BTS		
10 dB/div Pef 40 00 dBr	m						
Log							
30.0							
20.0		~	J-rowny			CI	ear write
10.0							
0.00	/		- γ				
0.00							Average
-10.0	~~~~ [~]		- Thomas and the second	man 1			Average
-20.0				- Contraction	ᡬᠵ᠆ᢏᡙᡘᡃᡢ _{ᡐᢧᢈ} ᠬᢧᡟᠬ		
-30.0							
-40.0							hold xeM
-50.0							nux noiu
Center 707.5 MHz				Span	12.5 MHz		
Res BW 120 kHz		#VBW 390 k	Hz	Swe	ep 1 ms		Min Hold
Occupied Bandwidt	h	Total Po	ower	35.0 dBm			
4	5507 MH	7					Detector
							Peak▶
Transmit Freq Error	6.601 kH	z % of OE	SW Power	99.00 %		Auto	Man
x dB Bandwidth	5 007 MH	z xdB		-26 00 dB			
	0.001 111			20.00 UD			
MSG			s	STATUS			

Plot 7-19. Occupied Bandwidth Plot (Band 12/17 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-20. Occupied Bandwidth Plot (Band 12/17 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 20 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 29 01 407	
2020 PCTEST V10.2 04/22/2020				



Every State of the sector of t					
UXIRL RF 50Ω AC	CORREC Center Trig: F #IFGain:Low #Atten	SENSE:INT Freq: 707.500000 MHz Free Run Avg Hold I: 36 dB	10:01:00 / Radio Sto :>100/100 Radio De	AM Jun 30, 2020 I: None vice: BTS	Trace/Detector
10 dB/div Ref 40.00 dBm					
30.0 20.0	mm Ammon	mangan and a second			Clear Write
0.00					Average
-10.0 -20.0	N		hamarath	MAA.	Average
-40.0 -50.0					Max Hold
Center 707.5 MHz Res BW 120 kHz	#	VBW 390 kHz	Span Sw	12.5 MHz eep 1 ms	Min Hold
Occupied Bandwidth		Total Power	31.5 dBm		
4.5 Transmit Freg Error	-1.535 kHz	% of OBW Pow	er 99.00 %		Detector Peak► Auto <u>Man</u>
x dB Bandwidth	4.983 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-21. Occupied Bandwidth Plot (Band 12/17 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-22. Occupied Bandwidth Plot (Band 12/17 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 20 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 30 01 407	
2020 PCTEST V 10.2 04/22/2020				



Keysight Spectrum Analyzer - Occupied BW					
LXXIRL RF 50Ω AC	CORREC Center Trig: F #IFGain:Low	SENSE:INT Freq: 707.500000 MHz ree Run Avg Hol : 36 dB	09:06: Radio d: 100/100 Radio I	55 AM Jun 30, 2020 Std: None Device: BTS	Trace/Detector
10 dB/div Ref 30.00 dBm					
20.0		ann a hanna ha a hanna			Clear Write
0.00 -10.0 -20.0 -30.0	IN		WWW un whow	the when the the	Average
-40.0 -50.0 -60.0					Max Hold
Center 707.5 MHz Res BW 240 kHz	#\	VBW 750 kHz	S S	pan 25 MHz weep 1 ms	Min Hold
Occupied Bandwidtl 9.0	ո 0374 MHz	Total Power	32.9 dBm		Detector Peak
Transmit Freq Error x dB Bandwidth	210 Hz 10.12 MHz	% of OBW Pow x dB	ver 99.00 % -26.00 dB		Auto <u>Man</u>
MSG			STATUS		

Plot 7-23. Occupied Bandwidth Plot (Band 12/17 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-24. Occupied Bandwidth Plot (Band 12/17 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 21 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 31 01 407	
2020 PCTEST V 10.2 04/22/2020				



Band 13



Plot 7-25. Occupied Bandwidth Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-26. Occupied Bandwidth Plot (Band 13 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 22 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 32 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-27. Occupied Bandwidth Plot (Band 13 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-28. Occupied Bandwidth Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 33 01 407	
2020 PCTEST V 10.2 04/22/2020				



Keysight Spectrum Analyzer - Occupied BW	/				
(X) RL RF 50Ω AC	CORREC Center Trig: F #IFGain:Low #Atten	SENSE:INT Freq: 782.000000 MHz Free Run Avg Hold : 36 dB	02:27:42 P Radio Std d: 100/100 Radio Dev	M Jun 30, 2020 : None vice: BTS	Trace/Detector
10 dB/div Ref 25.00 dBn	ı				
15.0 5.00 -5.00					Clear Write
-15.0 -25.0 -35.0			- Walter Barton Burney Harrow	Munnewild	Average
-45.0					Max Hold
Center 782 MHz Res BW 240 kHz	#	VBW 750 kHz	Spa Swe	n 25 MHz eep 1 ms	Min Hold
9.	" 0310 MHz	Total Tower	52.0 dBm		Detector Peak►
Transmit Freq Error x dB Bandwidth	38.216 kHz 10.11 MHz	% of OBW Pow x dB	er 99.00 % -26.00 dB		Auto <u>Man</u>
MSG			STATUS		

Plot 7-29. Occupied Bandwidth Plot (Band 13 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-30. Occupied Bandwidth Plot (Band 13 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 24 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 34 01 407	
> 2020 PCTEST V 10.2 04/22/2020				



Band 26/5



Plot 7-31. Occupied Bandwidth Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-32. Occupied Bandwidth Plot (Band 26/5 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 25 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 35 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-33. Occupied Bandwidth Plot (Band 26/5 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-34. Occupied Bandwidth Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 26 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 36 01 407	
2020 PCTEST V 10.2 04/22/2020				



Keysight Spectrum Analyzer - Occupied E	W				
ΙΧ΄ R L RF 50 Ω AC	CORREC Cen →→ Trig #IFGain:Low #Att	SENSE:INT SOURCE OFF ter Freq: 836.500000 MHz : Free Run Avg Hold: en: 36 dB	ALIGN AUTO 12:59:24 A Radio Std : 100/100 Radio Dev	M Jul 02, 2020 : None rice: BTS	Trace/Detector
10 dB/div Ref 40.00 dB	m				
30.0 20.0	Jerrethungelagethur	and the second			Clear Write
10.0					Average
-20.0			Munandra Maria	mm	
-40.0					Max Hold
Center 836.500 MHz Res BW 68 kHz		#VBW 220 kHz	Span 7 Swee	.500 MHz p 1.6 ms	Min Hold
Occupied Bandwid	th .7276 MHz	Total Power	33.0 dBm		Detector Peak▶
Transmit Freq Error	-1.579 kHz	% of OBW Powe	er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	3.020 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-35. Occupied Bandwidth Plot (Band 26/5 - 3.0MHz 16-QAM - Full RB Configuration)



Plot 7-36. Occupied Bandwidth Plot (Band 26/5 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 27 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 37 01 407	
2020 PCTEST V 10.2 04/22/2020				



Keysight Spectrum Analyzer - Occupied B\	N				
LX/ RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 12:29:18	AM Jul 02, 2020	Trace/Detector
	Center Trig:	Free Run Avg Ho	id: 100/100	a: None	
	#IFGain:Low #Atte	en: 36 dB	Radio D	evice: BTS	
10 dB/div Ref 40.00 dBr	n				
Log					
30.0					Clear Write
20.0		1			Clear write
10.0	/				
0.00	ſ		\		
-10.0					Average
20.0 A A A A - monorman	m~70*		Wale marker of		
				mm	
-30.0					
-40.0					Max Hold
-50.0					
Contor 926 500 Mills			<u> </u>	40.50 MU-	
Res BM 120 kHz	1	#\/R\A(300 kHz	span Sv	12.50 MINZ	
Res DW TZO KITZ	,	79099 350 KHZ	37	veep mis	Min Hold
Occupied Bandwidt	th	Total Power	34.3 dBm		
	5426 MU-				Data i
4.	3436 MINZ				Detector
Transmit Freq Error	-3.851 kHz	% of OBW Pov	wer 99.00 %		Auto <u>Man</u>
x dB Bandwidth	5.006 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-37. Occupied Bandwidth Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-38. Occupied Bandwidth Plot (Band 26/5 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 29 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 38 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW	1				
LXI RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 12:35:33 A Radio Std	M Jul 02, 2020	Trace/Detector
	+++ Trig: I	Free Run Avg Hold	: 100/100		
	#IFGain:Low #Atter	n: 36 dB	Radio Dev	vice: BTS	
10 dB/div Ref 40.00 dBm	n				
20.0					Clear Write
20.0	mannon				
0.00	/				
0.00	. /				A
-10.0	ญหาษา		multime man		Average
-20.0 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm			and the second s	monton	
-30.0					
-40.0					Max Hold
-50.0					
			0		
Center 836.500 MHZ	#	VRM 300 kHz	span '	2.30 WIHZ	
	"	4044 030 KHZ	0	cep ma	Min Hold
Occupied Bandwidt	h	Total Power	33.0 dBm		
1	5507 MHz				Detector
4.					Peak►
Transmit Freq Error	-3.848 kHz	% of OBW Powe	er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	5 203 MHz	x dB	-26 00 dB		
	5.205 14112	X db	-20.00 uB		
MSG			STATUS		

Plot 7-39. Occupied Bandwidth Plot (Band 26/5 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-40. Occupied Bandwidth Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 20 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 39 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW							- 🗗 💌
X RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO	11:53:24 PM	Jul 01, 2020	Trace	Detector
	Cen Trig	iter Freq: 836.500000 MHz I: Free Run Aval F	z lold: 100/100	Radio Std:	None		
#	#FGain:Low #Att	ten: 36 dB		Radio Devi	ce: BTS		
					le la		
10 dB/div Bof 40 00 dBm							
30.0							
20.0						C	lear Write
10.0			~				
0.00	1		N I				
0.00	1		Ϋ́,				
-10.0	v ^f		MINHA M. J	And Libror			Average
-20.0 multiple and the start of				าพพุณปิษณ์ปล่าง	Well www. song		
-30.0							
-40.0							
-50.0							Max Holu
30.0							
Center 836.50 MHz				Span 2	5.00 MHz	_	
Res BW 240 kHz		#VBW 750 kHz		Swe	ep 1 ms		Min Hold
							······
Occupied Bandwidth		Total Power	33.2	dBm			
9.0	473 MHz						Detector
0.0							Peak▶
Transmit Freq Error	519 Hz	% of OBW Po	ower 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	10 11 MH-	v dB	-26				
		Xub	-20.	00 UB			
MSG			STATUS	;			

Plot 7-41. Occupied Bandwidth Plot (Band 26/5 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-42. Occupied Bandwidth Plot (Band 26/5 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 40 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 40 01 407		
2020 PCTEST V 10.2 04/22/2020					



Band 66/4



Plot 7-43. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-44. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 41 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 41 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-45. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-46. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 42 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 42 01 407		
≥ 2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW	/				
LXI RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 06:22:36 A	M Jul 02, 2020	Trace/Detector
	+++ Trig:	Free Run Avg Hol	d: 100/100		
	#IFGain:Low #Atte	en: 36 dB	Radio Dev	vice: BTS	
10 dB/div Ref 40.00 dBm	<u> </u>				
20.0					Clear Write
20.0	monum	mar			
10.0	1				
0.00					A
-10.0			M _		Average
-20.0 monor the for the for the			man Mohn m	Mr.Munn	
-30.0					
-40.0					Max Hold
-50.0					
				7 500 MILL-	
Res BM/ 68 kHz		#V/BM/ 220 kHz	Swee	.500 MHZ	
		*****	Giict	р но шо	Min Hold
Occupied Bandwidt	h	Total Power	31.9 dBm		
2	7268 MHz				Detector
Z.					Peak►
Transmit Freq Error	-1.920 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	3 034 MHz	x dB	-26 00 dB		
	0.004 11112		20.00 48		
MSG			STATUS		

Plot 7-47. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)



Plot 7-48. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 42 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 43 01 407		
> 2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW							- 6 ×
KI RE 50 Ω AC	CORREC	SENSE:INT SOUR	CE OFF ALI	IGN AUTO 06:36:18 A	M Jul 02, 2020	Trace	/Detector
		Trig: Free Run	Avg Hold: 10	00/100	: None		
	#IFGain:Low	#Atten: 36 dB		Radio Dev	vice: BTS		
10 dB/div Ref 40 00 dBm							
30.0						~	loor Write
20.0		mar and a second	h.h.			Ľ	lear write
10.0							
0.00	/						
10.0			$ \rangle$				Average
and a set a man and an	m		· · ·	Andreal a and a			Average
-20.0 graf for the base of the state of the				- A AND ANA COM	monun		
-30.0							
-40.0							Max Hold
-50.0							
Center 1.745000 GHz				Span 1	2.50 MHz		
Res BW 120 KHZ		#VBW 390 K	HZ	SW	eep 1 ms		Min Hold
Occupied Rendwidt	6	Total P	ower	33.0 dBm			
Occupied Bandwidt		-	OWEI	55.0 uBiii			
4.	5347 MF	Z					Detector
				00 00 0/		A	Peak►
Transmit Freq Error	-202	HZ % of OL	SW Power	99:00 %		Auto	Man
x dB Bandwidth	4.989 M	Hz x dB		-26.00 dB			
MSG				STATUS			

Plot 7-49. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-50. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 11 of 107		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 44 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BV	N					
💢 RL RF 50Ω AC	CORREC	SENSE:INT SOUR	CE OFF ALIGN AUTO	06:39:20 AM	Jul 02, 2020	Trace/Detector
		Trig: Free Run	Avg Hold: 100/100	Radio Std. r	lone	
	#IFGain:Low	#Atten: 36 dB		Radio Devic	e: BTS	
10 dB/div Ref 30 00 dBn	n					
Log						
20.0	manhana	and the many state for the second	washing			Class Winite
10.0						Clear write
0.00	/		<u> </u>			
-10.0						
20.0 . all a sugar alla Marken	ww		\	harhand		Average
					will wanter the sec	Averuge
-30.0						
-40.0						
-50.0						Max Hold
-60.0						
Center 1.745000 GHz				Span 12	.50 MHz	
Res BW 120 KHZ		#VBM 390 K	HZ	Swee	p 1 ms	Min Hold
Occupied Rendwidt	h	Total P	ower 31	6 dBm		
Occupied Bandwidt		TOtal F	51			
4.	5435 MHz	Z				Detector
	5441					Peak►
I ransmit Freq Error	-544 H	z % of OE	sw Power S	99.00 %	4	Auto <u>Man</u>
x dB Bandwidth	4.979 MH	z xdB	-2	6.00 dB		
MSG			STAT	TUS		

Plot 7-51. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-52. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 45 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 45 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied B\	V				
LXI RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 06:47:43 A	AM Jul 02, 2020	Trace/Detector
	Trig: F	ree Run Avg Hol	d: 100/100	: None	
	#IFGain:Low #Atten	: 36 dB	Radio Dev	vice: BTS	
10 dB/div Ref 40 00 dBr	n				
Log					
30.0					Class Winite
20.0	Contraction of Contraction	Andrew and the stand of the stand of the			Clear write
10.0					
0.00			L		
10.0			X I		Average
-10.0	h, lph/		When the are in	s. All B	Averuge
-20.0			and the state of t	/ 4 14 (UN N, 144	
-30.0					
-40.0					Max Hold
-50.0					
Center 1.74500 GHz			Span 2	25.00 MHz	
Res BW 240 KHz	#	VBW 750 kHz	SW	eep 1 ms	Min Hold
Occurried Dendwidt		Total Power	32.6 dBm		
Occupied Bandwidt	n 	Total Fower	52.0 UBIII		
9.	0507 MHz				Detector
					Peak▶
I ransmit Freq Error	-11.8/8 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	10.24 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-53. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-54. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 46 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 46 01 407		
> 2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW	V						
X RL RF 50Ω AC	CORREC	SENSE:INT SOUR	CE OFF ALIGN	AUTO 06:56:33 A	M Jul 02, 2020	Tracel	Detector
		Trig: Free Run	Avg Hold: 100/	/100	: None		
	#IFGain:Low	#Atten: 36 dB		Radio Dev	vice: BTS		
10 dB/div Ref 40 00 dBn	n						
Log							
30.0						~	o o u Muito
20.0	Manufatoragi	to have a far and have the second and the second an	the march			CI	ear write
10.0							
0.00			\backslash				
40.0	8		Ψ.				Average
-10.0 and a shall have show many	whether a start of the start of		×~~	moundar would and	a and no a		Average
-20.0 TL MICHAEVE					The Mode		
-30.0							
-40.0							Max Hold
-50.0							
Center 1.74500 GHz				Span 3	7.50 MHz		
Res BW 360 kHz		#VBW 1.1 M	Hz	SWG	eep 1 ms		Min Hold
	-	Total B	011/0F	22.0 dDm			
Occupied Bandwidt	n	Total P	ower	ээ.о ав т			
13	8.590 MH:	Z					Detector
							Peak▶
Transmit Freq Error	-14.335 kH	z % of OE	SW Power	99.00 %		Auto	Man
x dB Bandwidth	15.56 MH	z xdB		-26.00 dB			
MSG				STATUS			

Plot 7-55. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-56. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 47 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 47 01 407		
> 2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied B	W				
XX RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 06:57:12 Radio St	AM Jul 02, 2020	Trace/Detector
	→→ Trig: F	ree Run Avg Hol	d: 100/100		
	#IFGain:Low #Atten	: 36 dB	Radio De	vice: BTS	
10 dB/div Ref 40.00 dB	m				
20.0					Clear Write
10.0	Boothing and the second s	and the second			
0.00	d				
0.00	, I I I I I I I I I I I I I I I I I I I		X I		Average
-10.0 . Baller and March Martin	where		Harry Harry Langer	Willia - Mar	Average
-20.0				A A A A A A A A A A A A A A A A A A A	
-30.0					
-40.0					Max Hold
-50.0					
Cepter 1 74500 GHz			Snan	37 50 MHz	
Res BW 360 kHz	#\	VBW 1.1 MHz	Sw	eep 1 ms	Min Hold
					WITT HOLD
Occupied Bandwid	th	Total Power	32.1 dBm		
1	3.605 MHz				Detector
					Peak▶
Transmit Freq Error	-5.372 kHz	% of OBW Pov	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	15.45 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-57. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-58. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 49 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 48 01 407		
> 2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW					
IXI RL RF 50Ω AC CO	ORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 07:01:48	AM Jul 02, 2020	Trace/Detector
	Trig	: Free Run Avg Hol	Id: 100/100	1: None	
#1	FGain:Low #Att	en: 36 dB	Radio De	vice: BTS	
10 dB/div Ref 40.00 dBm					
Log					
30.0					Clear Write
20.0	Martin Rol de Insperieur	-			Ciedi Wille
10.0					
0.00			\		
-10.0	<u>/</u>				Average
200 wither Mything ward have and have and the			March Start Contraction and Contraction of the Cont	4141 Andrews	3
20.0					
-30.0					
-40.0					Max Hold
-50.0					
Cepter 1 74500 CHz				50 00 MHz	
Res BW 470 kHz		#VBW_1.5 MHz	Sw	een 1ms	
				oop Tillo	Min Hold
Occupied Bandwidth		Total Power	32.6 dBm		
19.0					Detector
10.0					Detector Peak▶
Transmit Freg Error	-11.884 kHz	% of OBW Pov	ver 99.00 %		Auto <u>Man</u>
v dB Bondwidth	20 45 MU-	v dD	26.00 dB		
	20.45 MHZ	хав	-20.00 aB		
MSG			STATUS		

Plot 7-59. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-60. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 40 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 49 01 407		
> 2020 PCTEST V 10.2 04/22/2020					



Band 25/2



Plot 7-61. Occupied Bandwidth Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-62. Occupied Bandwidth Plot (Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 50 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 50 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-63. Occupied Bandwidth Plot (Band 25/2 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-64. Occupied Bandwidth Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Daga 51 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 51 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW					
LXI RE 50 Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 11:20:19	AM Jul 02, 2020	Trace/Detector
	Trig: F	Free Run Avg Ho	Id: 100/100	a: None	
	#IFGain:Low #Atter	n: 36 dB	Radio De	evice: BTS	
10 dB/div Pef 30 00 dBm					
Log					
20.0					
10.0		and the second second			Clear Write
0.00			\		
10.0					
-10.0	\mathcal{N}		M.		A
-20.0 A mart and a mart and a mart and a mart a mar			Jun Manufrance	mm m	Average
-30.0					
-40.0					
-50.0					May Hold
60.0					wax noiu
-00.0					
Center 1.882500 GHz			Span	7.500 MHz	
Res BW 68 kHz	#	VBW 220 kHz	Swe	ep 1.6 ms	Min Hold
					Minitiona
Occupied Bandwidt	h	Total Power	31.3 dBm		
2	7196 MHz				Detector
2.1					Peak►
Transmit Freq Error	823 Hz	% of OBW Pov	ver 99.00 %		Auto <u>Man</u>
y dB Bondwidth	2 005 MU-	v dD	26.00 dB		
X dB Bandwidth	2.995 WITZ	XUB	-20.00 aB		
MSG			STATUS		

Plot 7-65. Occupied Bandwidth Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)



Plot 7-66. Occupied Bandwidth Plot (Band 25/2 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dega 52 of 407			
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 52 01 407			
> 2020 PCTEST V 10.2 04/22/2020						





Plot 7-67. Occupied Bandwidth Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-68. Occupied Bandwidth Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 52 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 53 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW	V				
LXI RL RF 50Ω AC	Correc	SENSE:INT SOURCE OFF	ALIGN AUTO 10:54:34	AM Jul 02, 2020	Trace/Detector
	Trig: I	Free Run Avg Ho	Id: 100/100	u. None	
	#IFGain:Low #Atter	n: 36 dB	Radio De	vice: BTS	
10 dB/div Ref 30.00 dBn	n				
20.0		a martine and a			Clean Write
10.0					Clear write
0.00			<u>\</u>		
-10.0					
	mm		Mr. al and		Average
-20.0 Marmarland and and and and and and and and and			a a a a a a a a a a a a a a a a a a a	Anna hannan	Average
-30.0					
-40.0					
-50.0					Max Hold
-60.0					
Center 1.882500 GHz			Span	12.50 MHz	
Res BW 120 kHz	#	VBW 390 kHz	SW	reep 1 ms	Min Hold
		Total Bower	20.7 dBm		
Occupied Bandwidt	n	Total Power	30.7 dBm		
4.	5349 MHz				Detector
					Peak►
Transmit Freq Error	-641 Hz	% of OBW Pov	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	4.980 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-69. Occupied Bandwidth Plot (Band 25/2 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-70. Occupied Bandwidth Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dege 54 of 407			
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 54 01 407			
> 2020 PCTEST V 10.2 04/22/2020						



Keysight Spectrum Analyzer - Occupied BW							
XIRL RF 50Ω AC CO	RREC	SENSE:INT SOURCE O	FF ALIGN AUT	0 10:48:11 A	M Jul 02, 2020	Trace	Detector
	Trig:	Free Run A	vg Hold: 100/100	Raulo Stu	. None		
#IF	Gain:Low #Atte	n: 36 dB		Radio Dev	ice: BTS		
10 dB/div Ref 40.00 dBm							
30.0						с	lear Write
20.0	Jan Makal Man Man Man		mm				
10.0			<u> </u>				
0.00							
-10.0			<u>}</u>				Average
-20.0 - Marcon March March and March			Yorkash	Kannenstern	hollow he		
-30.0					4 TOP WHY		
-40.0							
-50.0							wax noiu
Center 1.88250 GHz				Span 2	5.00 MHz		
Res BW 240 kHz	#	VBW 750 kHz		Swe	eep 1 ms		Min Hold
		Total Baw	or 24	0 dBm			
Occupied Bandwidth		Total Fow	er Si	.9 abm			
9.04	86 MHz						Detector
Transmit Frag Freez	E 440 kH-	% of OPM	Berner	00 00 0/		Auto	Peak►
Transmit Freq Error	5.110 KHZ	% OF OBW	Power	99.00 %		Auto	IVIAII
x dB Bandwidth	10.20 MHz	x dB	-2	6.00 dB			
MSG			STA	TUS			

Plot 7-71. Occupied Bandwidth Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-72. Occupied Bandwidth Plot (Band 25/2 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Daga FE of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 55 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW						- 0	
LXI RE 50 Ω AC	CORREC	SENSE:INT SOUR	CE OFF ALIGN A	UTO 10:15:34 AM	1 Jul 02, 2020	Trace/De	etector
	· • • ·	Trig: Free Run	Avg Hold: 100/10	00	None		
	#IFGain:Low	#Atten: 36 dB		Radio Devi	ce: BTS		
10 dB/div Ref 40.00 dBm	1						
Log							
30.0						Cle	ar Write
20.0	personan	montan	herman			Cici	
10.0	<u>/</u>		<u> </u>				
0.00	/		<u> </u>				
-10.0	ATT AT		A the second sec			A	verage
-20 0 barries el from water water and fuller	<u> </u>			monormonitional	April 100 April 100		_
-30.0							
-30.0							
-40.0						М	ax Hold
-50.0							
Center 1.88250 GHz				Span 3	7.50 MHz		
Res BW 360 kHz		#VBW 1.1 M	Hz	Swe	ep 1 ms	N	lin Hold
							miniola
Occupied Bandwidt	h	Total P	ower	33.7 dBm			
13	624 MH	7				E	etector
		~					Peak►
Transmit Freq Error	-6.911 k⊦	z % of OE	3W Power	99.00 %		Auto	<u>Man</u>
x dB Bandwidth	15 62 MH	z xdB		-26 00 dB			
				20.00 48			
MSG			S	STATUS			

Plot 7-73. Occupied Bandwidth Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-74. Occupied Bandwidth Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Daga EC of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 56 01 407		
© 2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied B	W				
LXU R.L R.F 50Ω AC	CORREC Center	SENSE:INT SOURCE OFF	ALIGN AUTO 10:16:41 A Radio Std	M Jul 02, 2020 : None	Trace/Detector
	#IFGain:Low #Atten	ree Run Avg Hol : 36 dB	d: 100/100 Radio Dev	vice: BTS	
10 dB/div Ref 40.00 dB	m				
20.0					
20.0					Clear Write
10.0	forthoursenance	water was a second and the second second			
0.00					
-10.0	-		₩ <u></u>		Average
-20.0	/m ^{p -}		Treat frage and the	Marrian	
-30.0					
-40.0					Max Hold
-50.0					
Center 1.88250 GHz			Span 3	37.50 MHz	
Res BW 360 kHz	#\	VBW 1.1 MHz	Swe	eep 1 ms	Min Hold
Occupied Bandwid	th	Total Power	31.2 dBm		
A	2 560 MU-				Detector
	3.300 WITZ				Detector Peak►
Transmit Freq Error	-3.024 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	15.44 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-75. Occupied Bandwidth Plot (Band 25/2 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-76. Occupied Bandwidth Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dege 57 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 57 01 407		
2020 PCTEST V 10.2 04/22/2020					



Keysight Spectrum Analyzer - Occupied BW						5 🗙
K RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 10:09:	36 AM Jul 02, 2020	Trace/Dete	ctor
	trig: F	ree Run Avg Ho	Id: 100/100	sta: None		
	#IFGain:Low #Atten	: 36 dB	Radio I	Device: BTS		
10 dB/div Ref 40.00 dBm						
Log						
30.0					Clear	Write
20.0	hellower and a second s	mon marken man			Cicai	WINC
10.0						
0.00	/		<u>\</u>			
-10.0					Av	erage
20 0 how how when we may the have been here the	₩ ²		mentellennonderly	momment .		Ŭ
20.0						
-30.0						
-40.0					Max	(Hold
-50.0						
Center 1 88250 CHz			Snar	50.00 MHz		
Res BW 470 kHz	#	VBW 1.5 MHz	Spail S	ween 1ms		
					Mir	Ποία
Occupied Bandwidt	า	Total Power	32.9 dBm			
10					De	tootor
10	.045 10172				De	Peak ▶
Transmit Freq Error	-6.652 kHz	% of OBW Pov	wer 99.00 %		Auto	Man
x dB Bandwidth	40.04 MH-	v dD	26 00 dB			
	19.94 WITZ	хuв	-20.00 uB			
MSG			STATUS			

Plot 7-77. Occupied Bandwidth Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-78. Occupied Bandwidth Plot (Band 25/2 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Daga 59 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 58 01 407		
2020 PCTEST V 10.2 04/22/2020					



Band 30



Plot 7-79. Occupied Bandwidth Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-80. Occupied Bandwidth Plot (Band 30 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 50 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 59 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-81. Occupied Bandwidth Plot (Band 30 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-82. Occupied Bandwidth Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 60 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 60 01 407	
2020 PCTEST V 10.2 04/22/2020				





Plot 7-83. Occupied Bandwidth Plot (Band 30 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-84. Occupied Bandwidth Plot (Band 30 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 61 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 61 01 407	
2020 PCTEST V 10.2 04/22/2020				



Band 7



Plot 7-85. Occupied Bandwidth Plot (Band 7 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-86. Occupied Bandwidth Plot (Band 7 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 62 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 62 01 407
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-87. Occupied Bandwidth Plot (Band 7 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-88. Occupied Bandwidth Plot (Band 7 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 62 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 63 01 407
© 2020 PCTEST			V 10.2 04/22/2020



Keysight Spectrum Analyzer - Occupied B\	V				
LXIRL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 01:53:14 P Radio Std	M Jul 02, 2020	Trace/Detector
	↔→ Trig	: Free Run Avg Ho	ld: 100/100	in DTC	
	#IFGain:Low #Atto	en: 36 dB	Radio Dev	lice: BTS	
10 dB/div Ref 40.00 dBr	n				
30.0					
20.0					Clear Write
10.0	hardnanden	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
0.00	/				
-10.0			<u>\</u>		Average
-200 - and and Marshelman	W/V		moundand	ad	Ű
-30.0				Man and M	
-40.0					Manuficial
50.0					Max Hold
30.0					
Center 2.53500 GHz			Span 2	5.00 MHz	
Res BW 240 kHz		#VBW 750 kHz	Swi	eep 1 ms	Min Hold
Occupied Bandwidt	h	Total Power	31.9 dBm		
Occupied Ballowid			ono abiii		
9.	U386 MHZ				Detector
Transmit Freq Error	-1.334 kHz	% of OBW Pov	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	10.17 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-89. Occupied Bandwidth Plot (Band 7 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-90. Occupied Bandwidth Plot (Band 7 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dege 64 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 64 01 407	
2020 PCTEST V 10.2 04/22/2020				





Plot 7-91. Occupied Bandwidth Plot (Band 7 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-92. Occupied Bandwidth Plot (Band 7 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage CE of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 65 01 407	
2020 PCTEST V 10.2 04/22/2020				





Plot 7-93. Occupied Bandwidth Plot (Band 7 - 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-94. Occupied Bandwidth Plot (Band 7 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage CC of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 66 01 407	
2020 PCTEST V 10.2 04/22/2020				





Plot 7-95. Occupied Bandwidth Plot (Band 7 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-96. Occupied Bandwidth Plot (Band 7 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 67 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 67 01 407	
2020 PCTEST V 10.2 04/22/2020				



Band 41



Plot 7-97. Occupied Bandwidth Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-98. Occupied Bandwidth Plot (Band 41 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 69 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	Page 68 01 407
© 2020 PCTEST			V 10.2 04/22/2020



Keysight Spectrum Analyzer - Occupied	BW				_	- 0
LX/RL RF 50Ω AC	CORREC	SENSE:INT	10:40:59 A	M Jul 07, 2020	Tracel	Detector
	Trig: Free Run Avg Hold: 100/100					
	#IFGain:Low #Atten: 36 dB Radio Device: BTS					
10 dB/div Ref 40.00 dE	3m					
20 0						
20.0					C	ear Write
10.0	man	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
10.0	/					
0.00	min		N			A
-10.0			mu may a prom	1010		Average
-20.0 May 111 11 11 11				www.ra.ku/1		
-30.0						
-40.0						Max Hold
-50.0						
Cepter 2 503 CHz			Snan	12.5 MHz		
Res BW 120 kHz	#	VBW 390 kHz	span Swi	eep 1 ms		
						Min Hold
Occupied Bandwid	ith	Total Power	33.2 dBm			
Λ	5547 MHz					Detector
						Peak▶
Transmit Freq Error	-9.566 kHz	% of OBW Pow	er 99.00 %		Auto	<u>Man</u>
x dB Bandwidth	5.634 MHz	x dB	-26.00 dB			
1400			OTATIO			
MSG			STATUS			

Plot 7-99. Occupied Bandwidth Plot (Band 41 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-100. Occupied Bandwidth Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 69 of 407
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device	
© 2020 PCTEST			V 10.2 04/22/2020





Plot 7-101. Occupied Bandwidth Plot (Band 41 - 10.0MHz 16-QAM - Full RB Configuration)



Plot 7-102. Occupied Bandwidth Plot (Band 41 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 70 of 407	
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device		
2020 PCTEST V 10.2 04/22/2020				





Plot 7-103. Occupied Bandwidth Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-104. Occupied Bandwidth Plot (Band 41 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: BCGA2324	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Page 71 of 407		
1C2004270029-03.BCG	07/16/2020 - 09/09/2020	Tablet Device			
© 2020 PCTEST V 10.2 04/22/2020					