PCTEST
7185 Oakland Mills Road, Columbia, MD 21046 USA
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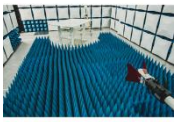

MEASUREMENT REPORT
LTE / 5G NR Sub6

Applicant Name:
LG Electronics USA, Inc.
111 Sylvan Avenue, North Building
Englewood Cliffs, NJ 07632
United States

Date of Testing:
07/30/2020 - 09/03/2020
Test Site/Location:
PCTEST Lab. Columbia, MD
Test Report Serial No.:
1M2007130107-03.ZNF

FCC ID:	**ZNFK920AM**
APPLICANT:	**LG Electronics USA, Inc.**

Application Type:	Certification
Model:	LM-K920AM
Additional Model(s):	LM-K920TM, LM-K920QM, LMK920AM, LMK920TM, LMK920QM, K920AM, K920TM, K920QM
EUT Type:	Portable Handset
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	22, 24, & 27
Test Procedure(s):	ANSI C63.26-2015, ANSI/TIA-603-E-2016, KDB 971168 D01 v03r01, KDB 648474 D03 v01r04

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

ACCREDITED
CERT #2041.01

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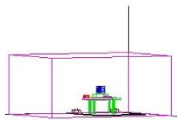
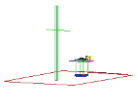


MEASUREMENT REPORT
FCC Part 22, 24, & 27



Mode	Modulation	Tx Frequency Range [MHz]	ERP		EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	
LTE Band 26/5	QPSK	831.5 - 841.5	0.087	19.39	0.143	21.54	13M5G7D
	16QAM	831.5 - 841.5	0.068	18.32	0.111	20.47	13M5W7D
	64QAM	831.5 - 841.5	0.061	17.86	0.100	20.01	13M5W7D
	QPSK	829.0 - 844.0	0.092	19.66	0.152	21.81	9M01G7D
	16QAM	829.0 - 844.0	0.077	18.87	0.126	21.02	8M97W7D
	64QAM	829.0 - 844.0	0.066	18.20	0.108	20.35	9M01W7D
	QPSK	826.5 - 846.5	0.087	19.37	0.142	21.52	4M52G7D
	16QAM	826.5 - 846.5	0.085	19.31	0.140	21.46	4M51W7D
	64QAM	826.5 - 846.5	0.076	18.80	0.124	20.95	4M54W7D
	QPSK	825.5 - 847.5	0.091	19.57	0.149	21.72	2M70G7D
	16QAM	825.5 - 847.5	0.069	18.40	0.114	20.55	2M72W7D
	64QAM	825.5 - 847.5	0.054	17.29	0.088	19.44	2M71W7D
	QPSK	824.7 - 848.3	0.089	19.49	0.146	21.64	1M10G7D
	16QAM	824.7 - 848.3	0.071	18.53	0.117	20.68	1M10W7D
	64QAM	824.7 - 848.3	0.058	17.64	0.095	19.79	1M10W7D
NR Band n5	π/2 BPSK	834.0 - 839.0	0.057	17.54	0.093	19.69	18M0G7D
	QPSK	834.0 - 839.0	0.059	17.72	0.097	19.87	18M0G7D
	16QAM	834.0 - 839.0	0.050	17.02	0.083	19.17	18M1W7D
	64QAM	834.0 - 839.0	0.045	16.50	0.073	18.65	17M9W7D
	256QAM	834.0 - 839.0	0.030	14.76	0.049	16.91	18M0W7D
	π/2 BPSK	831.5 - 841.5	0.060	17.77	0.098	19.92	13M0G7D
	QPSK	831.5 - 841.5	0.065	18.12	0.106	20.27	13M7G7D
	16QAM	831.5 - 841.5	0.052	17.16	0.085	19.31	13M7W7D
	64QAM	831.5 - 841.5	0.047	16.71	0.077	18.86	13M8W7D
	256QAM	831.5 - 841.5	0.032	15.08	0.053	17.23	13M7W7D
	π/2 BPSK	829.0 - 844.0	0.077	18.84	0.126	20.99	9M07G7D
	QPSK	829.0 - 844.0	0.067	18.25	0.110	20.40	9M22G7D
	16QAM	829.0 - 844.0	0.055	17.39	0.090	19.54	7M68W7D
	64QAM	829.0 - 844.0	0.047	16.70	0.077	18.85	9M32W7D
	256QAM	829.0 - 844.0	0.033	15.23	0.055	17.38	9M70W7D
	π/2 BPSK	826.5 - 846.5	0.062	17.95	0.102	20.10	3M67G7D
	QPSK	826.5 - 846.5	0.064	18.07	0.105	20.22	4M06G7D
	16QAM	826.5 - 846.5	0.050	16.96	0.082	19.11	4M01W7D
	64QAM	826.5 - 846.5	0.051	17.09	0.084	19.24	4M04W7D
	256QAM	826.5 - 846.5	0.032	15.07	0.053	17.22	4M03W7D

EUT Overview (PT 22)

Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
LTE Band 25/2	QPSK	1860 - 1905	0.201	23.04	18M1G7D
	16QAM	1860 - 1905	0.178	22.50	18M1W7D
	64QAM	1860 - 1905	0.156	21.92	18M1W7D
	QPSK	1857.5 - 1907.5	0.096	22.83	13M6G7D
	16QAM	1857.5 - 1907.5	0.192	22.17	13M6W7D
	64QAM	1857.5 - 1907.5	0.159	21.32	13M6W7D
	QPSK	1855 - 1910	0.189	22.77	9M05G7D
	16QAM	1855 - 1910	0.159	22.03	9M05W7D
	64QAM	1855 - 1910	0.148	21.71	9M05W7D
	QPSK	1852.5 - 1912.5	0.216	23.35	4M54G7D
	16QAM	1852.5 - 1912.5	0.175	22.42	4M54W7D
	64QAM	1852.5 - 1912.5	0.144	21.57	4M54W7D
	QPSK	1851.5 - 1913.5	0.217	23.37	2M72G7D
	16QAM	1851.5 - 1913.5	0.180	22.55	2M72W7D
	64QAM	1851.5 - 1913.5	0.145	21.62	2M72W7D
	QPSK	1850.7 - 1914.3	0.191	22.81	1M10G7D
	16QAM	1850.7 - 1914.3	0.156	21.93	1M10W7D
	64QAM	1850.7 - 1914.3	0.100	20.00	1M10W7D
NR Band n2	π/2 BPSK	1860 - 1905	0.124	20.94	18M1G7D
	QPSK	1860 - 1905	0.131	21.19	18M4G7D
	16QAM	1860 - 1905	0.118	20.73	18M4W7D
	64QAM	1860 - 1905	0.113	20.54	18M3W7D
	256QAM	1860 - 1905	0.068	18.31	18M4W7D
	π/2 BPSK	1857.5 - 1907.5	0.132	21.19	13M0G7D
	QPSK	1857.5 - 1907.5	0.134	21.26	13M7G7D
	16QAM	1857.5 - 1907.5	0.146	21.65	13M8W7D
	64QAM	1857.5 - 1907.5	0.139	21.44	13M7W7D
	256QAM	1857.5 - 1907.5	0.076	18.79	13M8W7D
	π/2 BPSK	1855 - 1910	0.133	21.23	8M70G7D
	QPSK	1855 - 1910	0.132	21.20	8M67G7D
	16QAM	1855 - 1910	0.145	21.63	8M70W7D
	64QAM	1855 - 1910	0.116	20.65	8M67W7D
	256QAM	1855 - 1910	0.065	18.12	8M71W7D
	π/2 BPSK	1852.5 - 1912.5	0.123	20.90	3M96G7D
	QPSK	1852.5 - 1912.5	0.124	20.95	5M19G7D
	16QAM	1852.5 - 1912.5	0.144	21.60	7M08W7D
	64QAM	1852.5 - 1912.5	0.130	21.14	4M92W7D
	256QAM	1852.5 - 1912.5	0.078	18.94	4M49W7D

EUT Overview (Pt 24)

Mode	Modulation	Tx Frequency Range [MHz]	EIRP		ERP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	
LTE Band 12/17	QPSK	704.0 - 711.0	0.148	21.70	0.090	19.55	8M98G7D
	16QAM	704.0 - 711.0	0.122	20.86	0.074	18.71	8M97W7D
	64QAM	704.0 - 711.0	0.103	20.13	0.063	17.98	8M99W7D
	QPSK	701.5 - 713.5	0.146	21.63	0.089	19.48	4M51G7D
	16QAM	701.5 - 713.5	0.120	20.78	0.073	18.63	4M50W7D
	64QAM	701.5 - 713.5	0.101	20.02	0.061	17.87	4M50W7D
	QPSK	700.5 - 714.5	0.138	21.41	0.084	19.26	2M70G7D
	16QAM	700.5 - 714.5	0.114	20.57	0.070	18.42	2M70W7D
	64QAM	700.5 - 714.5	0.094	19.72	0.057	17.57	2M70W7D
	QPSK	699.7 - 715.3	0.133	21.25	0.081	19.10	1M09G7D
	16QAM	699.7 - 715.3	0.109	20.39	0.067	18.24	1M09W7D
	64QAM	699.7 - 715.3	0.093	19.68	0.057	17.53	1M08W7D
LTE Band 13	QPSK	782.0	0.133	21.24	0.081	19.09	8M98G7D
	16QAM	782.0	0.109	20.37	0.066	18.22	8M99W7D
	64QAM	782.0	0.087	19.41	0.053	17.26	8M98W7D
	QPSK	779.5 - 784.5	0.139	21.42	0.085	19.27	4M50G7D
	16QAM	779.5 - 784.5	0.111	20.45	0.068	18.30	4M51W7D
	64QAM	779.5 - 784.5	0.091	19.58	0.055	17.43	4M51W7D
LTE Band 71	QPSK	673.0 - 688.0	0.067	18.26	0.041	16.11	18M0G7D
	16QAM	673.0 - 688.0	0.063	17.98	0.038	15.83	17M9W7D
	64QAM	673.0 - 688.0	0.057	17.52	0.034	15.37	17M8W7D
	QPSK	670.5 - 690.5	0.063	17.98	0.038	15.83	13M5G7D
	16QAM	670.5 - 690.5	0.060	17.76	0.036	15.61	13M5W7D
	64QAM	670.5 - 690.5	0.057	17.57	0.035	15.42	13M5W7D
	QPSK	668.0 - 693.0	0.065	18.15	0.040	16.00	8M98G7D
	16QAM	668.0 - 693.0	0.061	17.89	0.037	15.74	8M97W7D
	64QAM	668.0 - 693.0	0.058	17.61	0.035	15.46	9M00W7D
	QPSK	665.5 - 695.5	0.066	18.18	0.040	16.03	4M54G7D
	16QAM	665.5 - 695.5	0.065	18.10	0.039	15.95	4M53W7D
	64QAM	665.5 - 695.5	0.054	17.32	0.033	15.17	4M53W7D
NR Band n71	π/2 BPSK	673.0 - 688.0	0.124	20.94	0.076	18.79	18M0G7D
	QPSK	673.0 - 688.0	0.126	21.01	0.077	18.86	18M2G7D
	16QAM	673.0 - 688.0	0.149	21.72	0.091	19.57	18M3W7D
	64QAM	673.0 - 688.0	0.135	21.31	0.082	19.16	18M2W7D
	256QAM	673.0 - 688.0	0.080	19.04	0.049	16.89	18M3W7D
	π/2 BPSK	670.5 - 690.5	0.120	20.80	0.073	18.65	13M0G7D
	QPSK	670.5 - 690.5	0.115	20.59	0.070	18.44	13M6G7D
	16QAM	670.5 - 690.5	0.133	21.25	0.081	19.10	13M7W7D
	64QAM	670.5 - 690.5	0.132	21.22	0.081	19.07	13M8W7D
	256QAM	670.5 - 690.5	0.091	19.60	0.056	17.45	13M6W7D
	π/2 BPSK	668.0 - 693.0	0.115	20.62	0.070	18.47	8M98G7D
	QPSK	668.0 - 693.0	0.112	20.50	0.068	18.35	9M25G7D
	16QAM	668.0 - 693.0	0.136	21.34	0.083	19.19	9M05W7D
	64QAM	668.0 - 693.0	0.120	20.80	0.073	18.65	9M23W7D
	256QAM	668.0 - 693.0	0.076	18.80	0.046	16.65	9M59W7D
	π/2 BPSK	665.5 - 695.5	0.131	21.17	0.080	19.02	3M66G7D
	QPSK	665.5 - 695.5	0.121	20.84	0.074	18.69	4M05G7D
	16QAM	665.5 - 695.5	0.147	21.67	0.090	19.52	3M99W7D
	64QAM	665.5 - 695.5	0.136	21.35	0.083	19.20	4M02W7D
	256QAM	665.5 - 695.5	0.077	18.84	0.047	16.69	4M04W7D

EUT Overview (PT 27 (< 1GHz))

Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
LTE Band 66/4	QPSK	1720.0 - 1770.0	0.166	22.20	18M0G7D
	16QAM	1720.0 - 1770.0	0.140	21.47	18M0W7D
	64QAM	1720.0 - 1770.0	0.084	19.25	18M0W7D
	QPSK	1717.5 - 1772.5	0.171	22.32	13M5G7D
	16QAM	1717.5 - 1772.5	0.142	21.53	13M6W7D
	64QAM	1717.5 - 1772.5	0.073	18.64	13M6W7D
	QPSK	1715.0 - 1775.0	0.164	22.16	9M04G7D
	16QAM	1715.0 - 1775.0	0.134	21.28	9M04W7D
	64QAM	1715.0 - 1775.0	0.072	18.58	9M04W7D
	QPSK	1712.5 - 1777.5	0.189	22.76	4M55G7D
	16QAM	1712.5 - 1777.5	0.159	22.01	4M55W7D
	64QAM	1712.5 - 1777.5	0.084	19.23	4M55W7D
	QPSK	1711.5 - 1778.5	0.194	22.87	2M72G7D
	16QAM	1711.5 - 1778.5	0.188	22.74	2M72W7D
	64QAM	1711.5 - 1778.5	0.083	19.19	2M72W7D
	QPSK	1710.7 - 1779.3	0.166	22.21	1M10G7D
	16QAM	1710.7 - 1779.3	0.140	21.45	1M10W7D
	64QAM	1710.7 - 1779.3	0.070	18.44	1M10W7D
NR Band n66	π/2 BPSK	1720.0 - 1770.0	0.115	20.60	18M0G7D
	QPSK	1720.0 - 1770.0	0.118	20.72	18M4G7D
	16QAM	1720.0 - 1770.0	0.098	19.91	18M3W7D
	64QAM	1720.0 - 1770.0	0.114	20.55	18M3W7D
	256QAM	1720.0 - 1770.0	0.067	18.27	18M3W7D
	π/2 BPSK	1717.5 - 1772.5	0.114	20.55	13M0G7D
	QPSK	1717.5 - 1772.5	0.098	19.92	13M7G7D
	16QAM	1717.5 - 1772.5	0.098	19.90	13M8W7D
	64QAM	1717.5 - 1772.5	0.112	20.50	13M7W7D
	256QAM	1717.5 - 1772.5	0.067	18.24	13M8W7D
	π/2 BPSK	1715.0 - 1775.0	0.108	20.35	8M98G7D
	QPSK	1715.0 - 1775.0	0.093	19.71	9M12G7D
	16QAM	1715.0 - 1775.0	0.093	19.67	9M18W7D
	64QAM	1715.0 - 1775.0	0.110	20.43	9M06W7D
	256QAM	1715.0 - 1775.0	0.063	18.02	9M24W7D
	π/2 BPSK	1712.5 - 1777.5	0.112	20.48	4M54G7D
	QPSK	1712.5 - 1777.5	0.095	19.77	4M52G7D
	16QAM	1712.5 - 1777.5	0.096	19.82	4M52W7D
	64QAM	1712.5 - 1777.5	0.115	20.61	4M53W7D
	256QAM	1712.5 - 1777.5	0.063	17.99	4M51W7D

EUT Overview (PT 27 (> 1GHz))

Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 30	10 MHz	QPSK	2310.0	0.107	20.30	9M06G7D
		16QAM	2310.0	0.098	19.90	9M06W7D
		64QAM	2310.0	0.088	19.46	9M06W7D
	5 MHz	QPSK	2307.5 - 2312.5	0.108	20.33	4M54G7D
		16QAM	2307.5 - 2312.5	0.091	19.59	4M54W7D
		64QAM	2307.5 - 2312.5	0.079	18.95	4M54W7D
LTE Band 41(PC3)	20 MHz	QPSK	2506.0 - 2680.0	0.314	24.97	18M0G7D
		16QAM	2506.0 - 2680.0	0.294	24.68	18M1W7D
		64QAM	2506.0 - 2680.0	0.260	24.15	18M0W7D
	15 MHz	QPSK	2503.5 - 2682.5	0.323	25.09	13M6G7D
		16QAM	2503.5 - 2682.5	0.286	24.57	13M6W7D
		64QAM	2503.5 - 2682.5	0.259	24.14	13M5W7D
	10 MHz	QPSK	2501.0 - 2685.0	0.338	25.29	9M04G7D
		16QAM	2501.0 - 2685.0	0.298	24.74	9M04W7D
		64QAM	2501.0 - 2685.0	0.262	24.18	9M04W7D
	5 MHz	QPSK	2498.5 - 2687.5	0.324	25.10	4M56G7D
		16QAM	2498.5 - 2687.5	0.278	24.44	4M52W7D
		64QAM	2498.5 - 2687.5	0.242	23.83	4M52W7D

EUT Overview (PT 27 (> 2GHz))

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 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

1.3 Test Facility / Accreditations

Measurements were performed at PCTEST located in Columbia, MD 21046, U.S.A.

- PCTEST is an ISO 17025-2005 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 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 (2451B) test laboratory with the site description on file with ISED.

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **LG Portable Handset FCC ID: ZNFK920AM**. The test data contained in this report pertains only to the emissions due to the EUT's LTE function.

Test Device Serial No.: 8634, 09904, 16264, 8519, 08675, 08527

2.2 Device Capabilities

This device contains the following capabilities:

800/850/1900 CDMA/EvDO Rev0/A, 1x Advanced (BC0, BC1, BC10), 850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, Multi-Band 5G NR, 802.11b/g/n WLAN, 802.11a/n/ac UNII, Bluetooth (1x, EDR, LE), NFC

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.

This device uses a tuner circuit that dynamically updates the antenna impedance parameters to optimize antenna performance for certain bands and modes of operation. The tuner for this device was set to simulate a "free space" condition where the transmit antenna is matched to the medium into which it is transmitting and, thus, the power is at its maximum level.

2.3 Test Configuration

The EUT was tested per the guidance of ANSI/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.

The emissions below 1GHz and above 18GHz were tested with the highest transmitting power channel and the worst case configuration.

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. The worst orientation was found to be Y-orientation (landscape).

2.4 EMI Suppression Device(s)/Modifications

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

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/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 Power and 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. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized. The maximized power level is recorded using the spectrum analyzer “Channel Power” function with the integration band set to the emissions’ occupied bandwidth, a RMS detector, RBW = 100kHz, VBW = 300kHz, and a 1 second sweep time over a minimum of 10 sweeps, per the guidelines of KDB 971168 D01 v03r01.

Per the guidance of ANSI/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:

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

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 + 10 $\log_{10}$(Power $_{[Watts]}$). All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014. Additionally, radiated emissions below 30MHz are also validated on an Open Area Test Site to assert correlation with the chamber measurements per the requirements of KDB 474788 D01.

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	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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
-	LTx2	Licensed Transmitter Cable Set	4/9/2020	Annual	4/9/2021	LTx2
Agilent	8648D	(9kHz-4GHz) Signal Generator	6/23/2020	Annual	6/23/2021	3613A00315
Anritsu	MT8821C	Radio Communication Analyzer	3/10/2020	Annual	3/10/2021	6200901190
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	10/10/2019	Biennial	10/10/2021	121034
Emco	3115	Horn Antenna (1-18GHz)	6/18/2020	Biennial	6/18/2022	9704-5182
Espec	ESX-2CA	Environmental Chamber	8/13/2019	Annual	8/13/2020	17620
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	3/12/2020	Biennial	3/12/2022	128337
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	2/22/2019	Biennial	2/22/2021	128338
ETS-Lindgren	3115	Double Ridged Guide Horn 750MHz - 18GHz	3/12/2020	Biennial	3/12/2022	150693
Mini Circuits	TVA-11-422	RF Power Amp	N/A			QA1317001
Rohde & Schwarz	CMU200	Base Station Simulator	N/A			107826
Rohde & Schwarz	CMU200	Base Station Simulator	N/A			836536/0005
Rohde & Schwarz	CMW500	Radio Communication Tester	8/26/2019	Annual	8/26/2020	100976
Rohde & Schwarz	TS-PR26	18-26.5 GHz Pre-Amplifier	11/1/2019	Annual	11/1/2020	100040
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	7/15/2020	Annual	7/15/2021	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	9/23/2019	Annual	9/23/2020	100348
Rohde & Schwarz	TC-TA18	Cross-Pol Antenna 400MHz-18GHz	7/8/2020	Biennial	7/8/2022	101058
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	2/10/2020	Annual	2/10/2021	102134
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	2/21/2020	Annual	2/21/2021	102133
Sunol	DRH-118	Horn Antenna (1-18GHz)	10/3/2019	Biennial	10/3/2021	A050307
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	7/27/2020	Biennial	7/27/2022	A051107
Sunol	DRH-118	Horn Antenna (1-18 GHz)	8/27/2019	Biennial	8/27/2021	A042511

Table 5-1. Test Equipment

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. Equipment with a calibration date of “N/A” shown in this list was not used to make direct calibrated measurements.

6.0 SAMPLE CALCULATIONS

Emission Designator

QPSK Modulation

Emission Designator = 8M62G7D

LTE BW = 8.62 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

QAM Modulation

Emission Designator = 8M45W7D

LTE BW = 8.45 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

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).

7.0 TEST RESULTS

7.1 Summary

Company Name: LG Electronics USA, Inc.

FCC ID: ZNFK920AM

FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)

Mode(s): LTE/Sub6

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A	CONDUCTED	PASS	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		PASS	Section 7.3, 7.4
27.53(m)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(m)		PASS	Section 7.3, 7.4
27.53(a)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(a)		PASS	Section 7.3, 7.4
24.232(d), 27.50	Peak-Average Ratio	< 13 dB		PASS	Section 7.5
2.1046	Transmitter Conducted Output Power	N/A		PASS	See RF Exposure Report
22.917(a) 27.53(h) 27.53(m)	Uplink Carrier Aggregation	>43 + 10log(P[Watts]) at Band Edge and for all out-of-band emissions		PASS	Section 7.6
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)		PASS	Section 7.10

Table 7-1. Summary of Conducted Test Results

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 5/26)	< 7 Watts max. ERP	RADIATED	PASS	Section 7.7
27.50(b)(10) 27.50(c)(10)	Effective Radiated Power / Equivalent Isotropic Radiated Power (Band 71, 12, 17, 13)	< 3 Watts max. ERP		PASS	Section 7.7
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2/25, 41)	< 2 Watts max. EIRP		PASS	Section 7.7
27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4/66)	< 1 Watts max. EIRP		PASS	Section 7.7
27.50(a)(3)	Equivalent Isotropic Radiated Power (Band 30)	< 0.25 Watts max. EIRP		PASS	Section 7.7
2.1053 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	Undesirable Emissions (Band 12, 13, 26/5, 66/4, 25/2)	> 43 + 10 $\log_{10}$ (P[Watts]) for all out-of-band emissions		PASS	Section 7.8
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		PASS	Section 7.8
27.53(a)	Undesirable Emissions (Band 30)	> 70 + 10 $\log_{10}$ (P[Watts])		PASS	Section 7.8
27.53(m)	Undesirable Emissions (Band 41)	Undesirable emissions must meet the limits detailed in 27.53(m)		PASS	Section 7.8
27.53(m)	Uplink Carrier Aggregation	Undesirable emissions must meet the limits detailed in 27.53(m) & 22.913(a)(5)		PASS	Section 7.9

Table 7-2. Summary of 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) 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.
5) For operation <1GHz, the EIRP limits in the table above are referenced to the specifications written in the relevant Radio Standards Specifications for Innovation, Science, and Economic Development Canada.

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 ≥ 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.

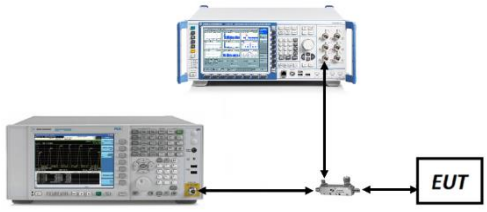


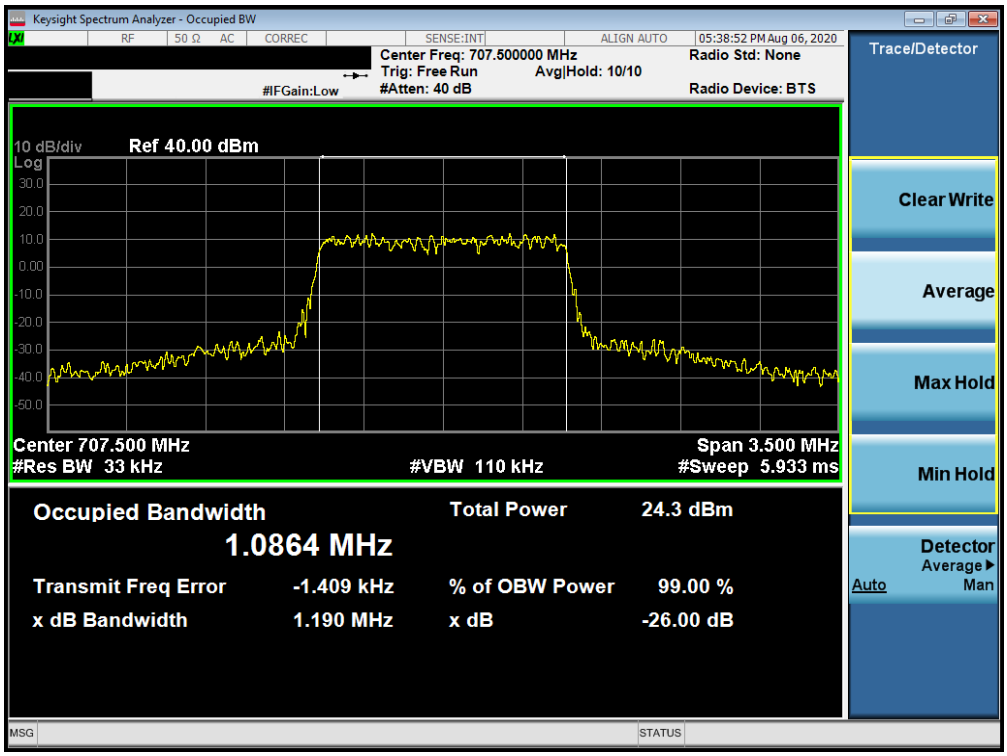
Figure 7-1. Test Instrument & Measurement Setup

Test Notes

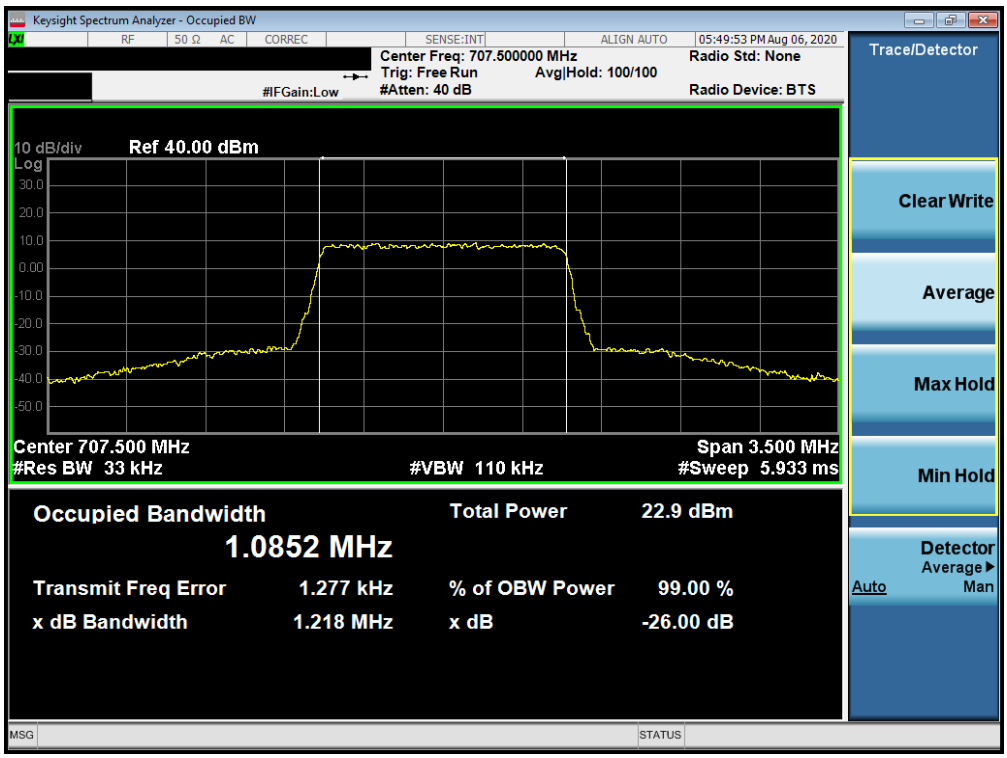
None.

Table 7-3. Occupied Band Width Results (<1 GHz)

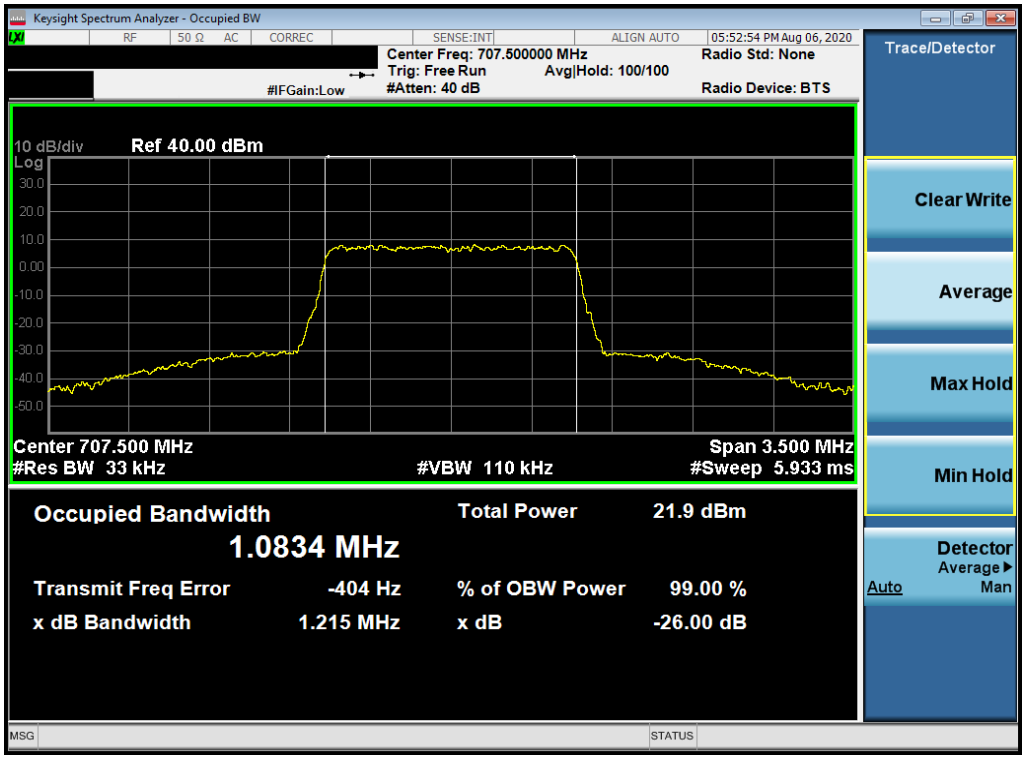
LTE Band 12/17



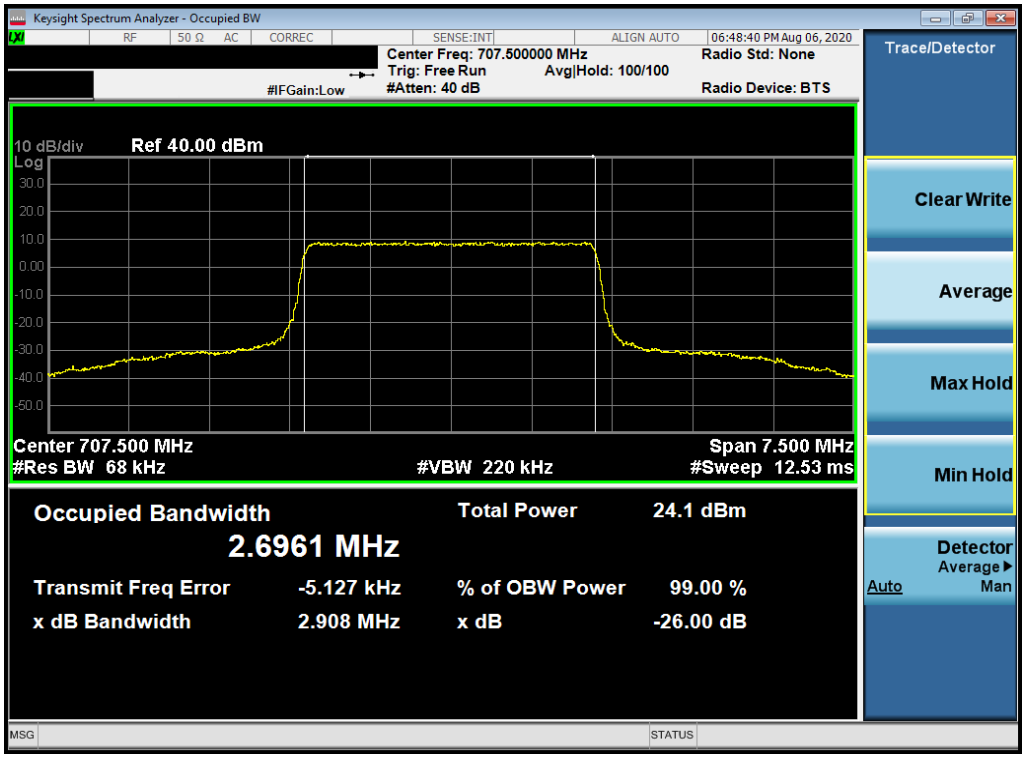
Plot 7-1. Occupied Bandwidth Plot (LTE Band 12 – 1.4MHz QPSK - Full RB Configuration)



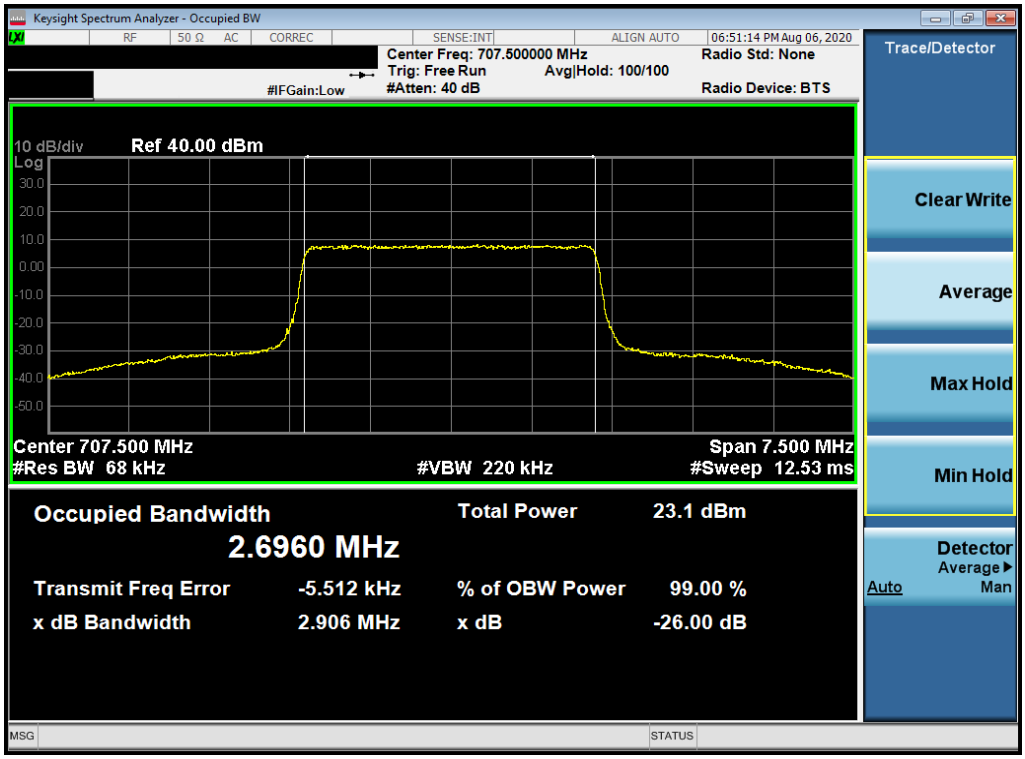
Plot 7-2. Occupied Bandwidth Plot (LTE Band 12 – 1.4MHz 16-QAM - Full RB Configuration)



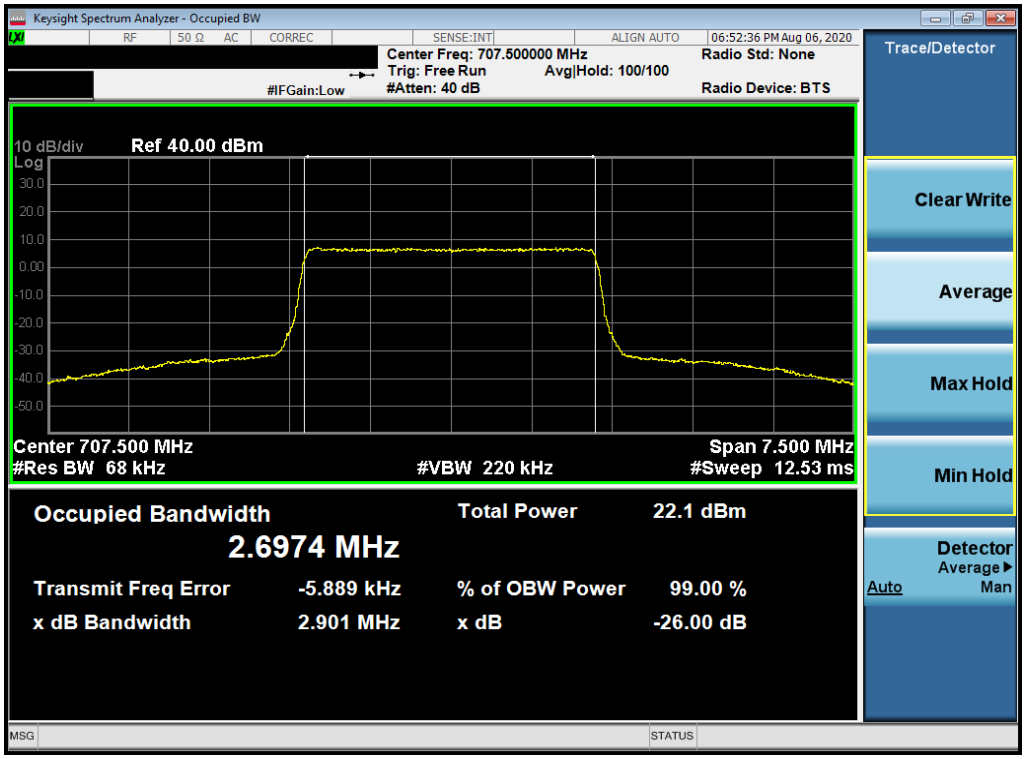
Plot 7-3. Occupied Bandwidth Plot (LTE Band 12 – 1.4MHz 64-QAM - Full RB Configuration)



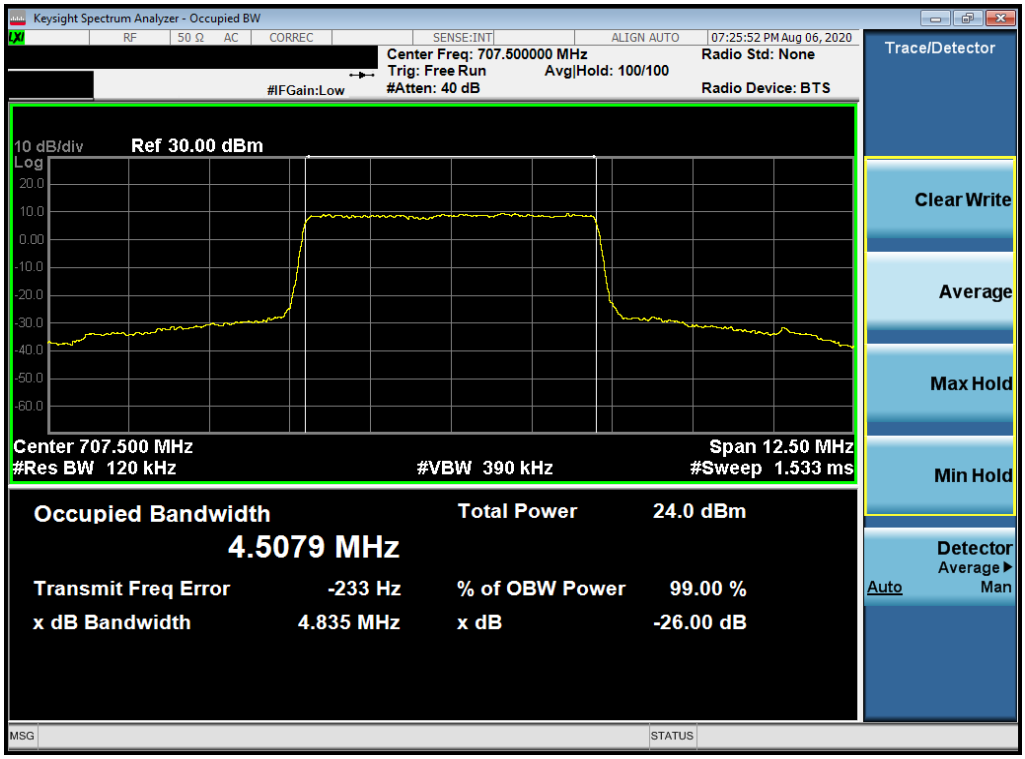
Plot 7-4. Occupied Bandwidth Plot (LTE Band 12 - 3MHz QPSK - Full RB Configuration)



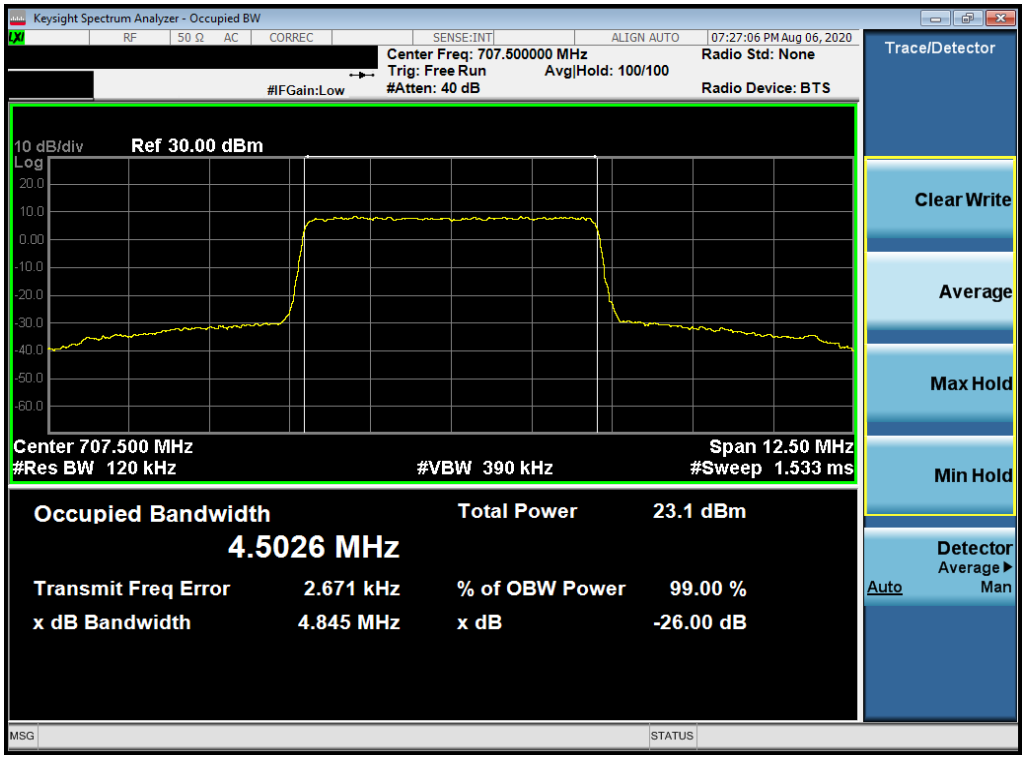
Plot 7-5. Occupied Bandwidth Plot (LTE Band 12 - 3MHz 16-QAM - Full RB Configuration)



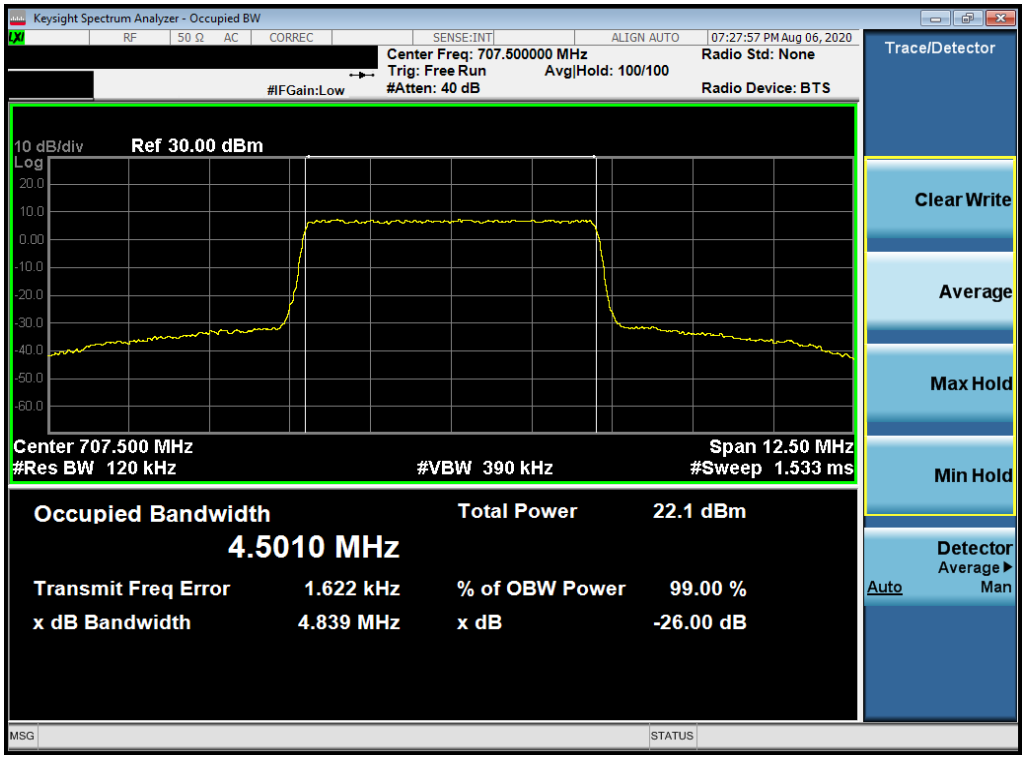
Plot 7-6. Occupied Bandwidth Plot (LTE Band 12 - 3MHz 64-QAM - Full RB Configuration)



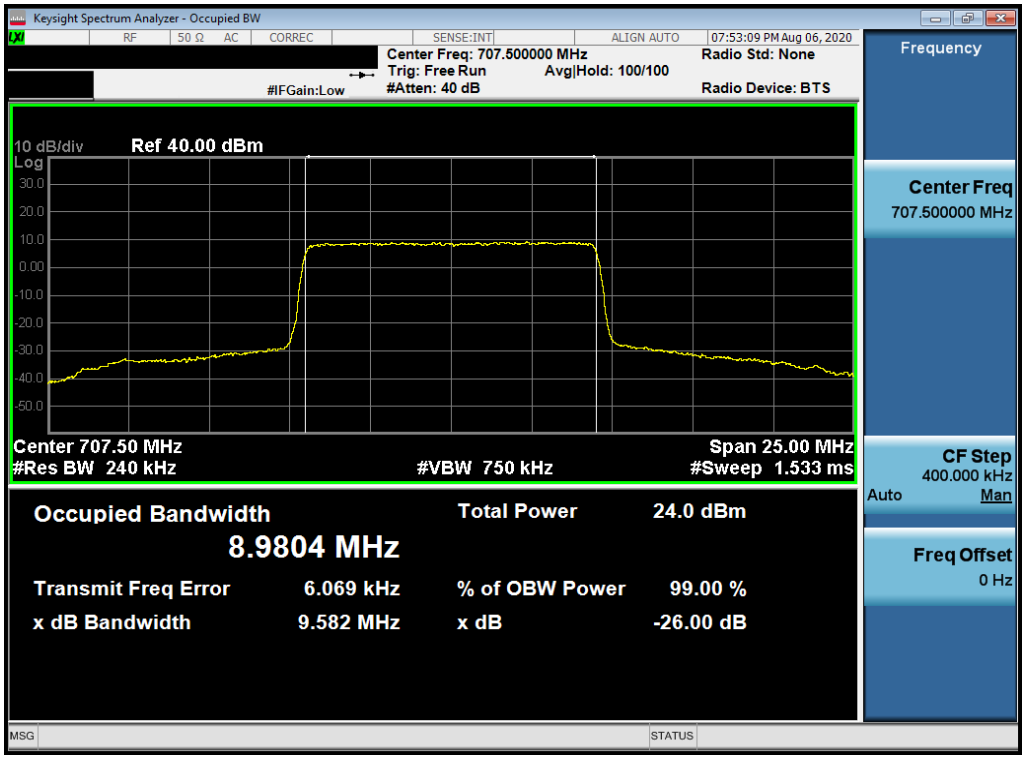
Plot 7-7. Occupied Bandwidth Plot (LTE Band 12/17 - 5MHz QPSK - Full RB Configuration)



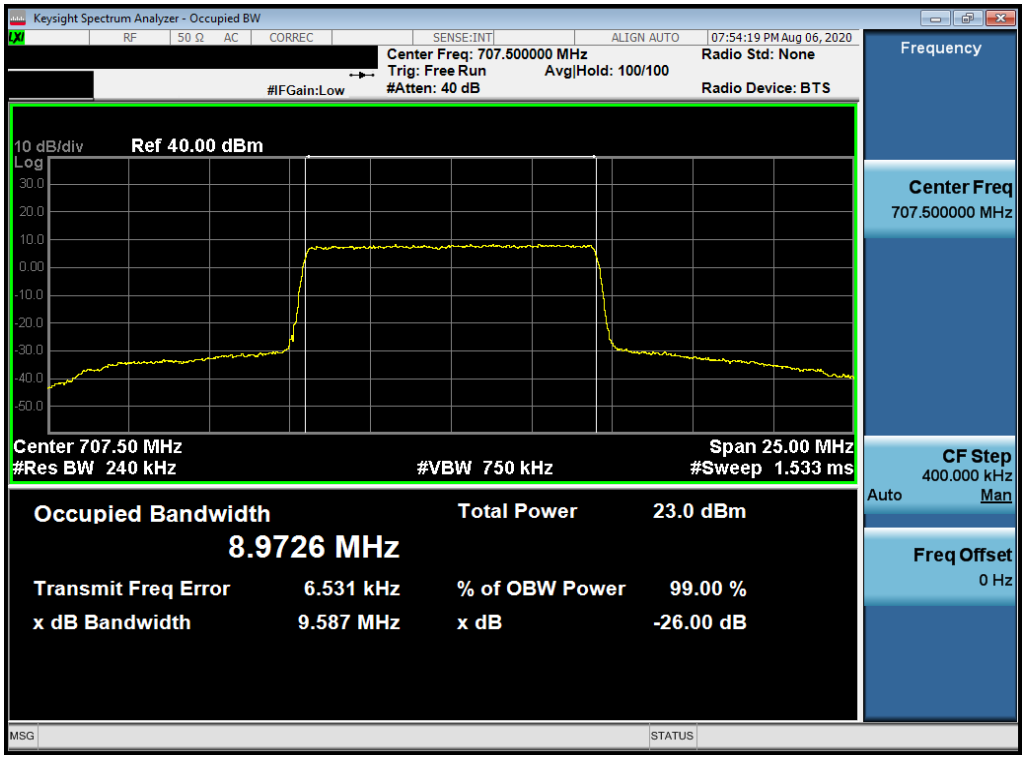
Plot 7-8. Occupied Bandwidth Plot (LTE Band 12/17 - 5MHz 16-QAM - Full RB Configuration)



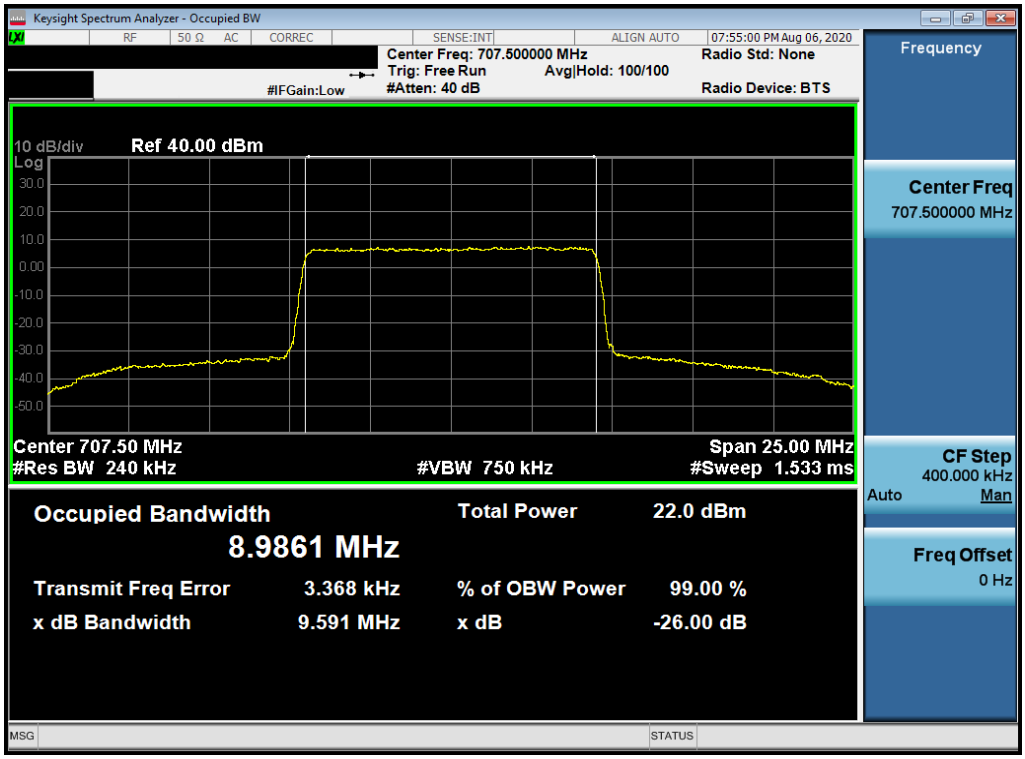
Plot 7-9. Occupied Bandwidth Plot (LTE Band 12/17 - 5MHz 64-QAM - Full RB Configuration)



Plot 7-10. Occupied Bandwidth Plot (LTE Band 12/17 - 10MHz QPSK - Full RB Configuration)

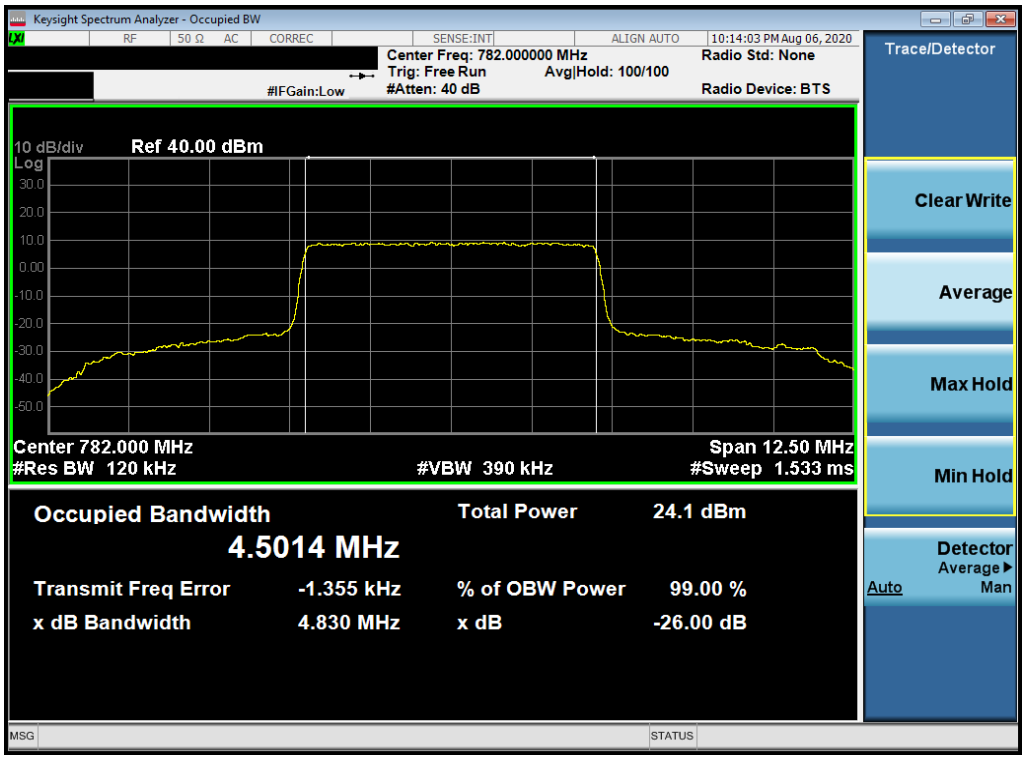


Plot 7-11. Occupied Bandwidth Plot (LTE Band 12/17 - 10MHz 16-QAM - Full RB Configuration)

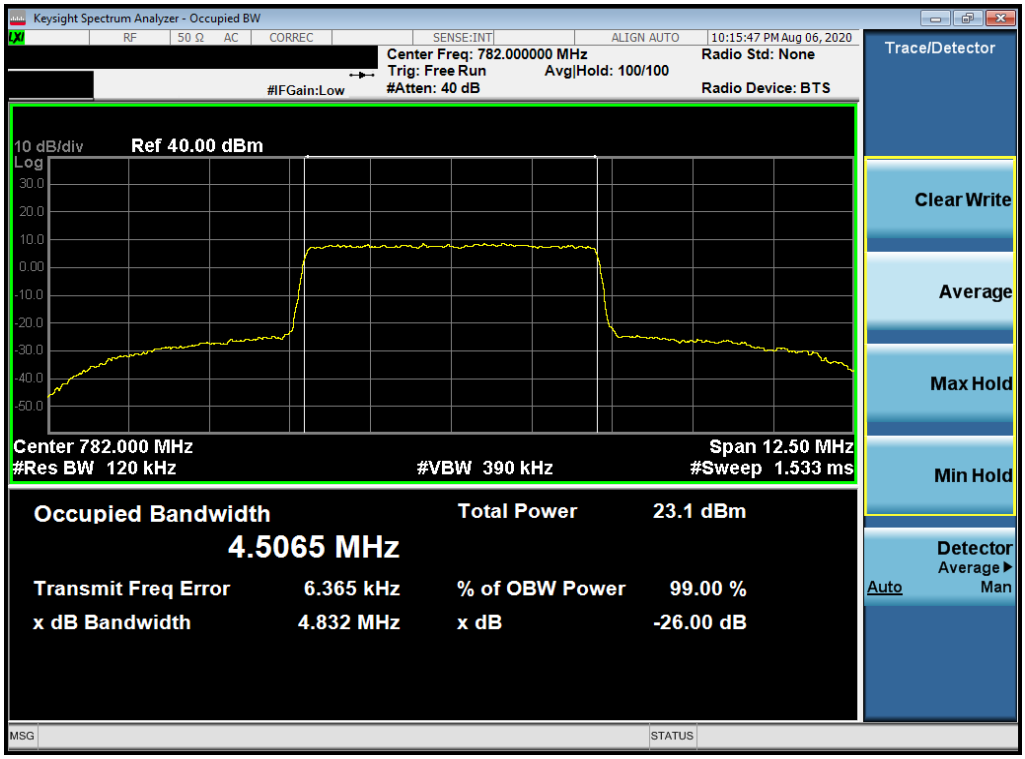


Plot 7-12. Occupied Bandwidth Plot (LTE Band 12/17 - 10MHz 64-QAM - Full RB Configuration)

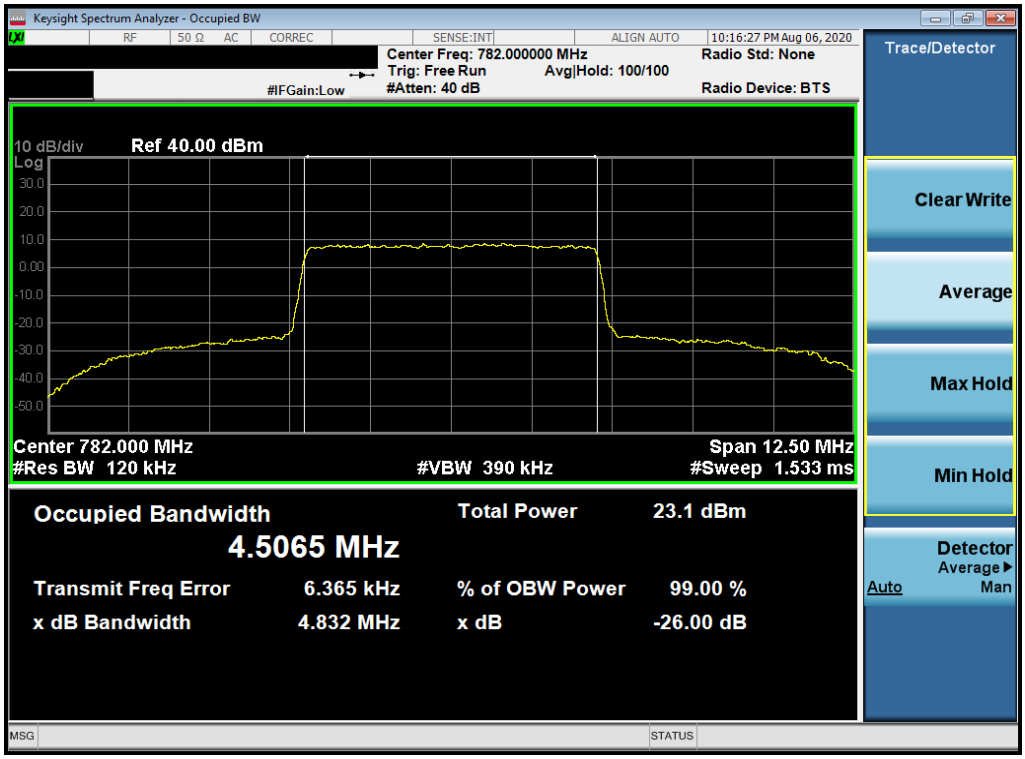
LTE Band 13



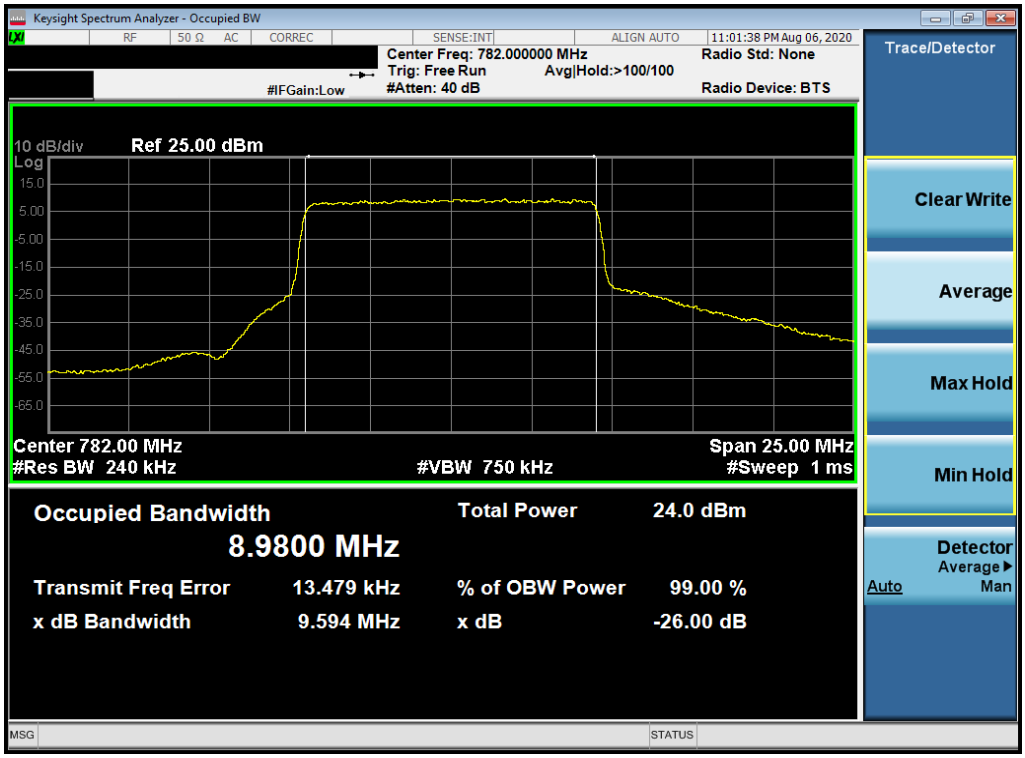
Plot 7-13. Occupied Bandwidth Plot (LTE Band 13 - 5MHz QPSK - Full RB Configuration)



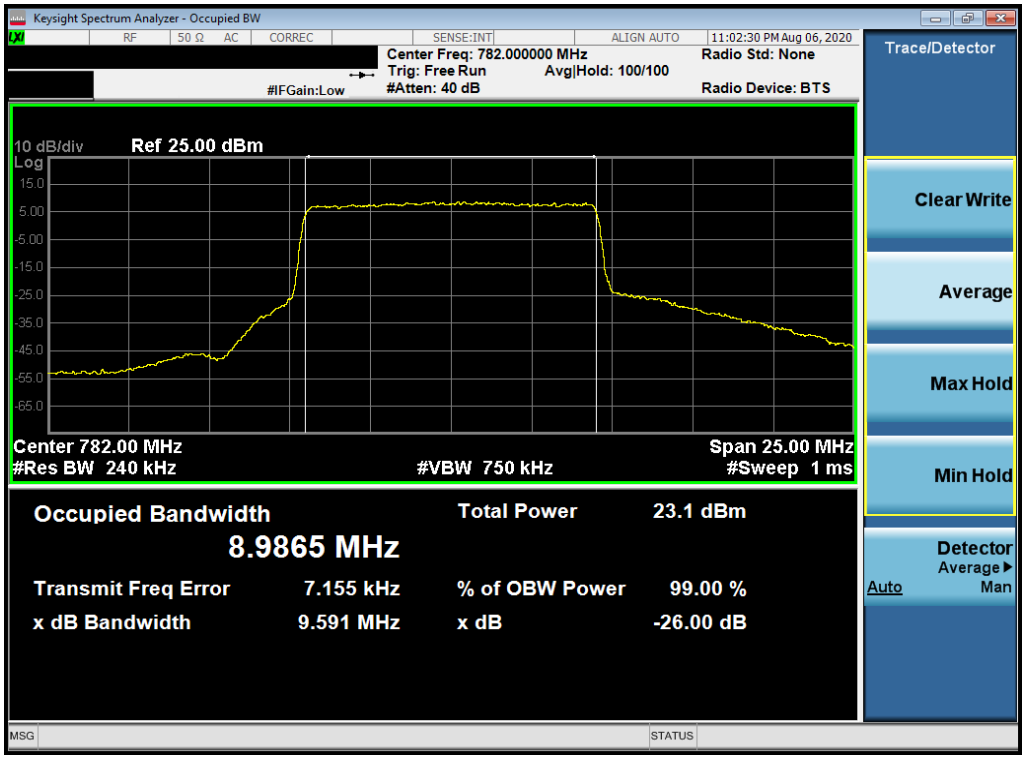
Plot 7-14. Occupied Bandwidth Plot (LTE Band 13 - 5MHz 16-QAM - Full RB Configuration)



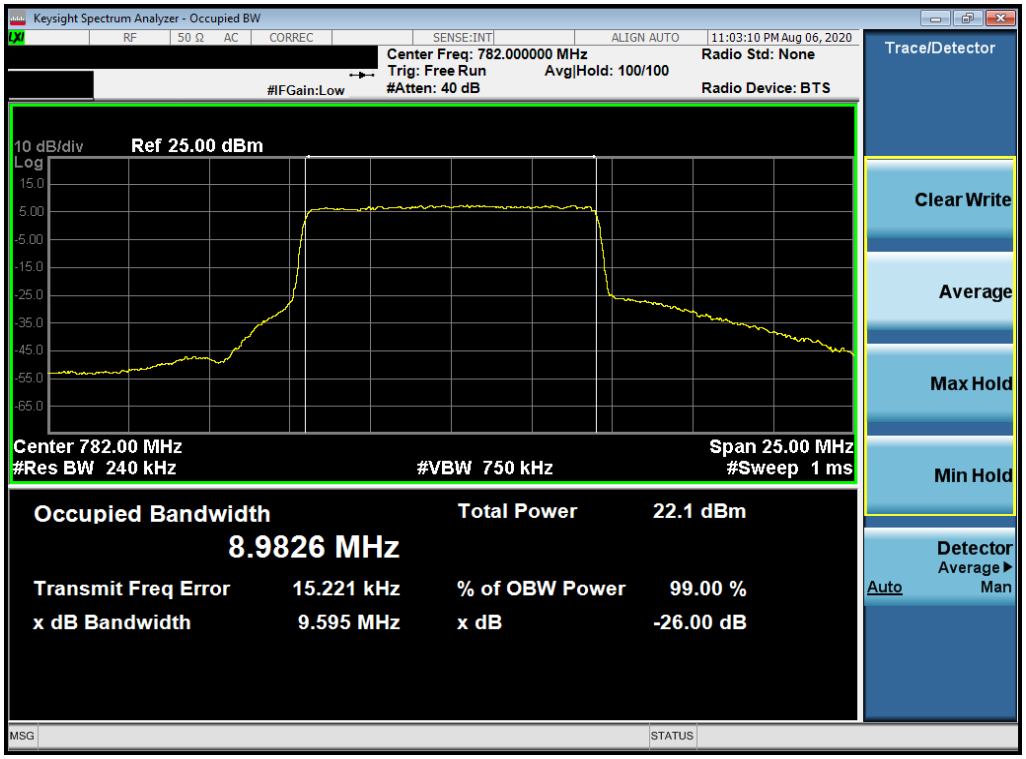
Plot 7-15. Occupied Bandwidth Plot (LTE Band 13 - 5MHz 64-QAM - Full RB Configuration)



Plot 7-16. Occupied Bandwidth Plot (LTE Band 13 - 10MHz QPSK - Full RB Configuration)

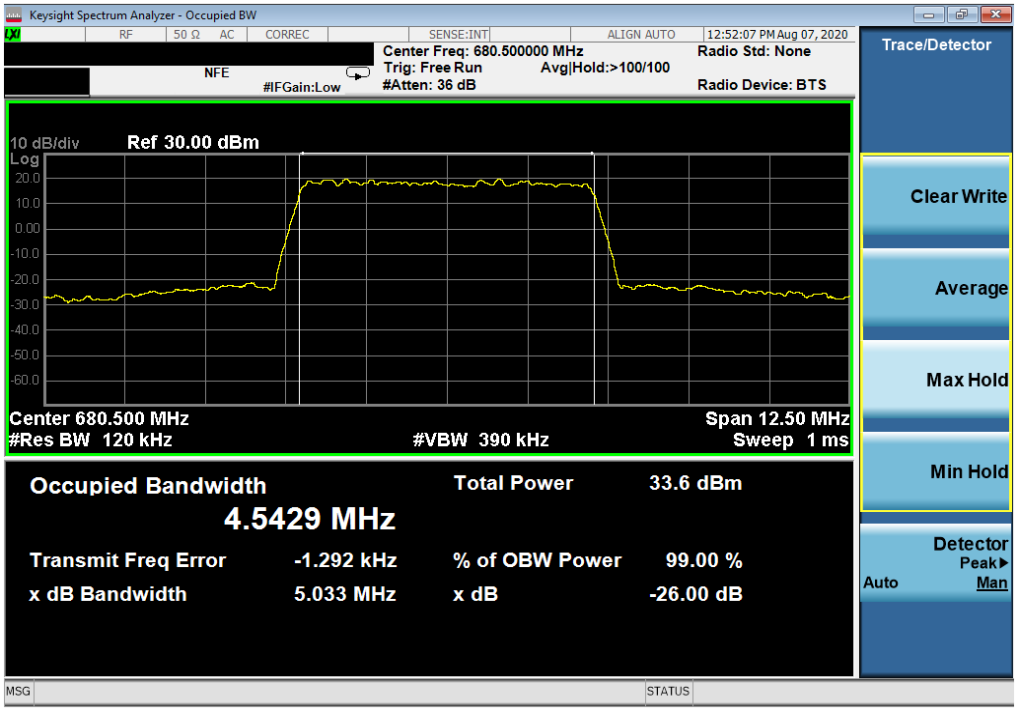


Plot 7-17. Occupied Bandwidth Plot (LTE Band 13 - 10MHz 16-QAM - Full RB Configuration)

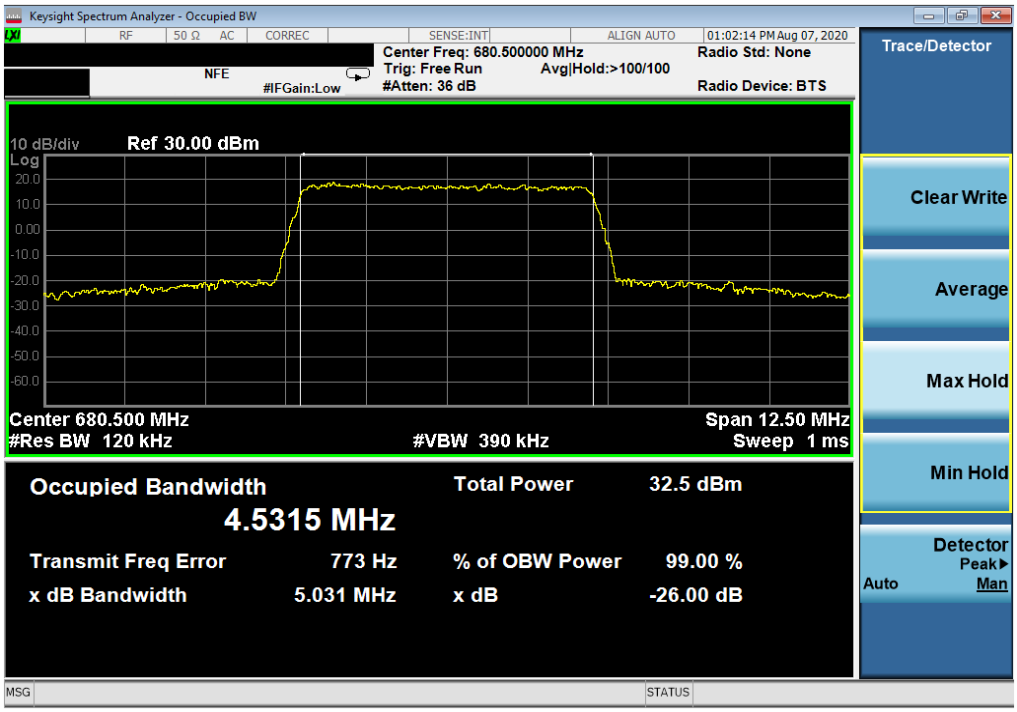


Plot 7-18. Occupied Bandwidth Plot (LTE Band 13 - 10MHz 64-QAM - Full RB Configuration)

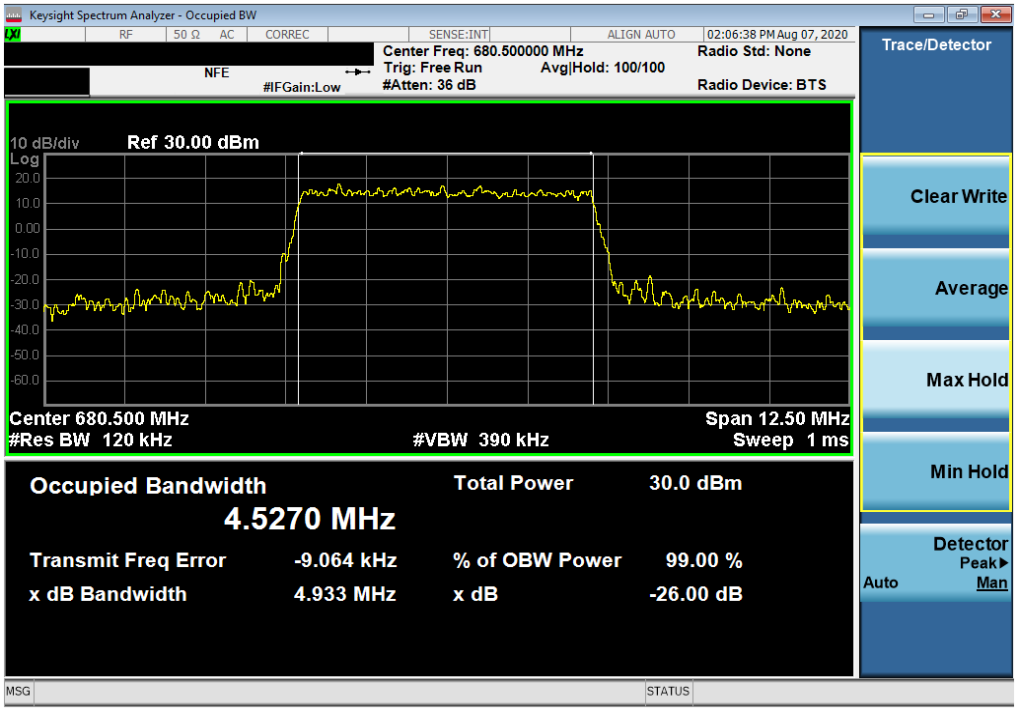
LTE Band 71



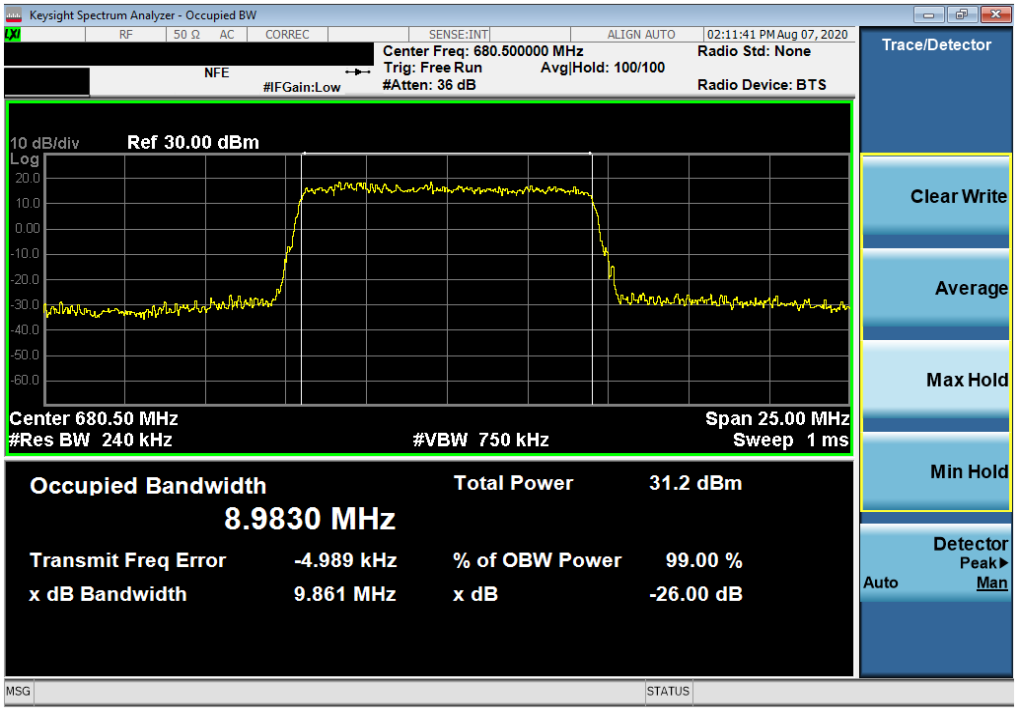
Plot 7-19. Occupied Bandwidth Plot (LTE Band 71 - 5MHz QPSK - Full RB Configuration)



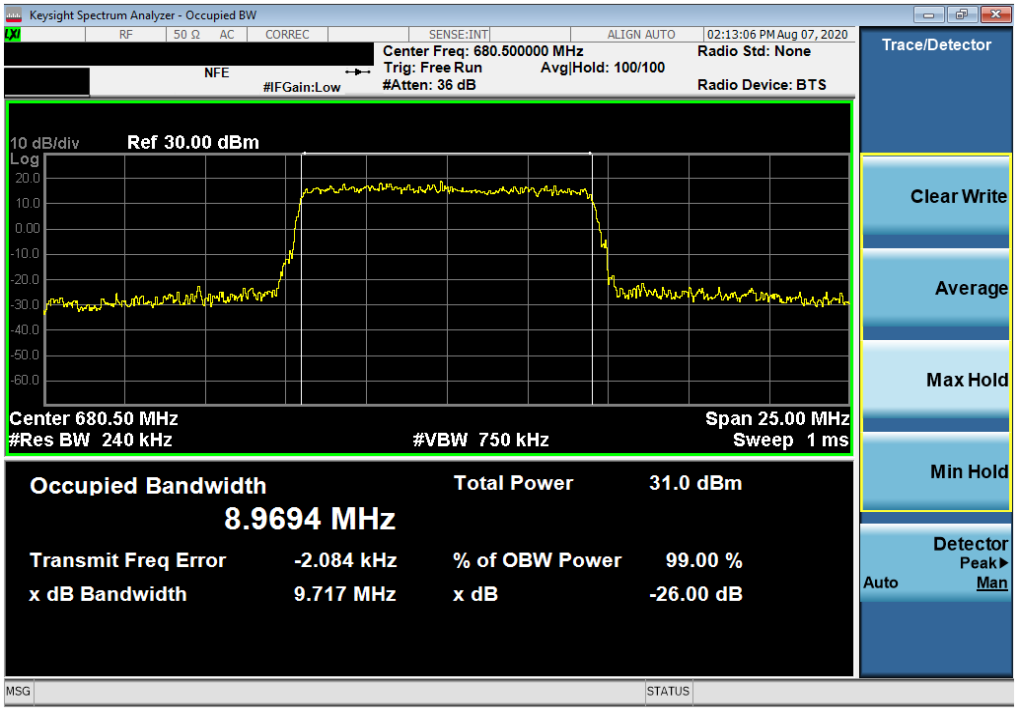
Plot 7-20. Occupied Bandwidth Plot (LTE Band 71 - 5MHz 16-QAM - Full RB Configuration)



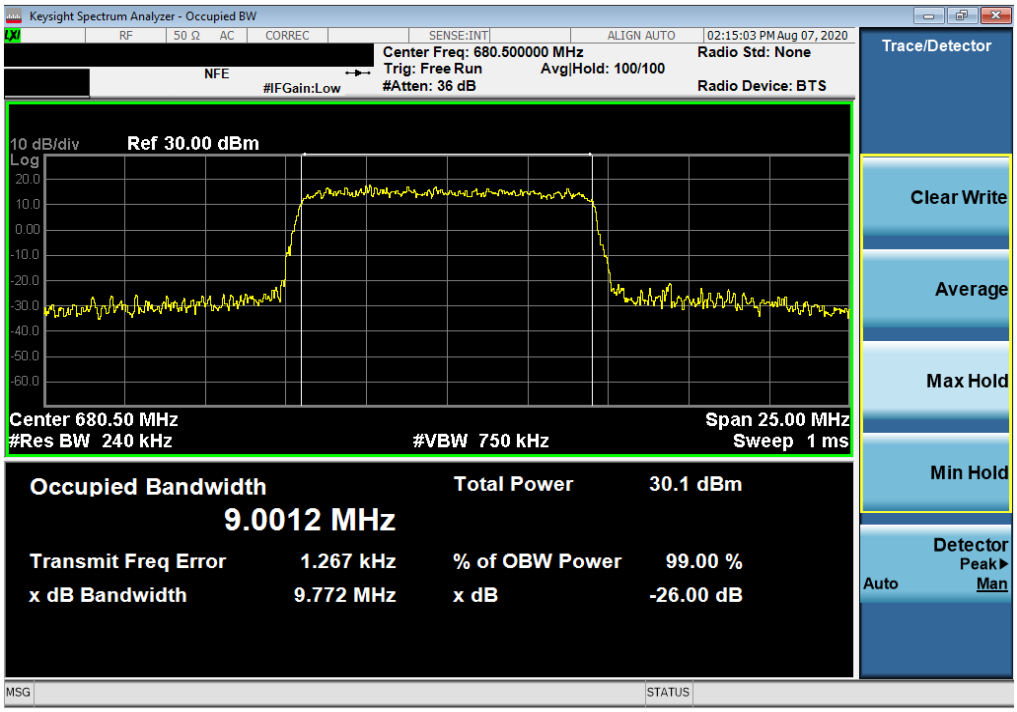
Plot 7-21. Occupied Bandwidth Plot (LTE Band 71 - 5MHz 64-QAM - Full RB Configuration)



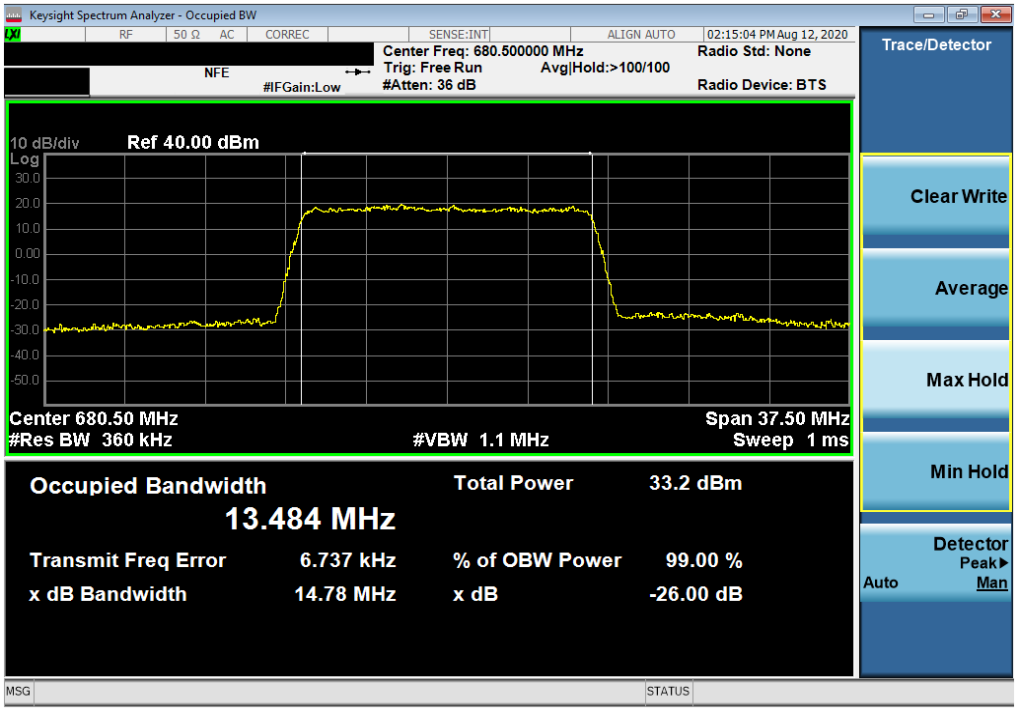
Plot 7-22. Occupied Bandwidth Plot (LTE Band 71 - 10MHz QPSK - Full RB Configuration)



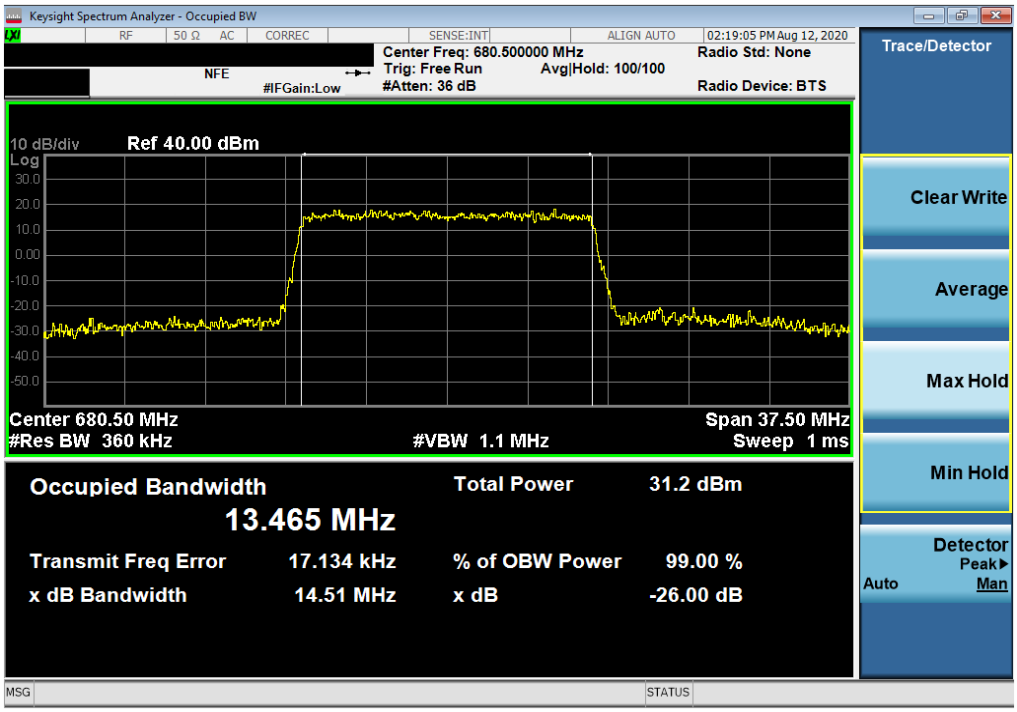
Plot 7-23. Occupied Bandwidth Plot (LTE Band 71 - 10MHz 16-QAM - Full RB Configuration)



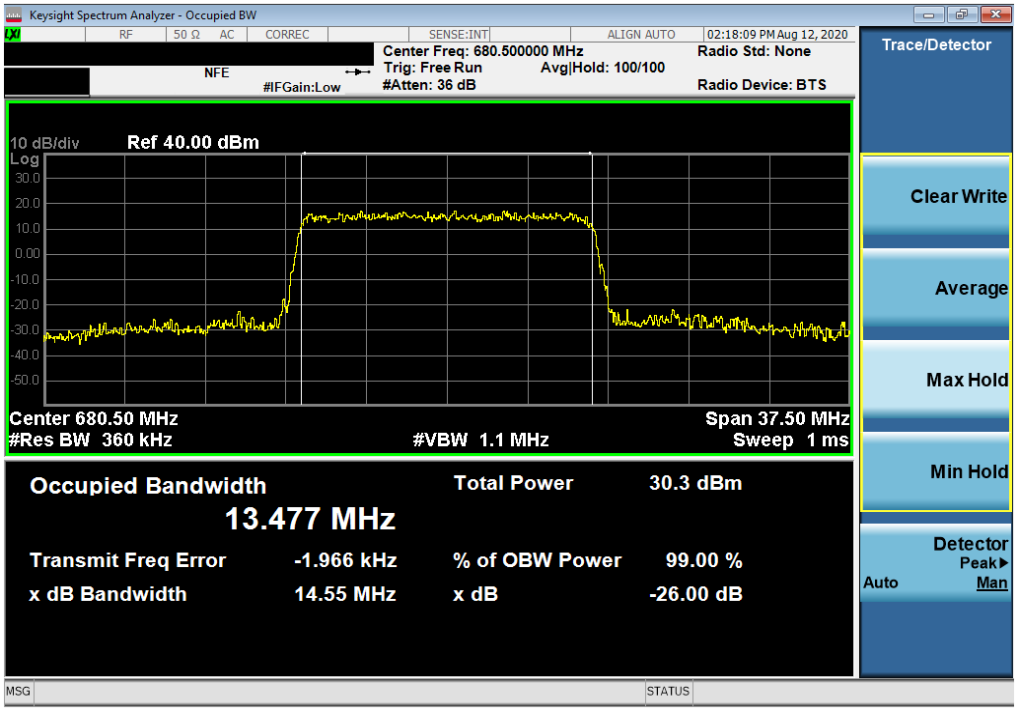
Plot 7-24. Occupied Bandwidth Plot (LTE Band 71 - 10MHz 64-QAM - Full RB Configuration)



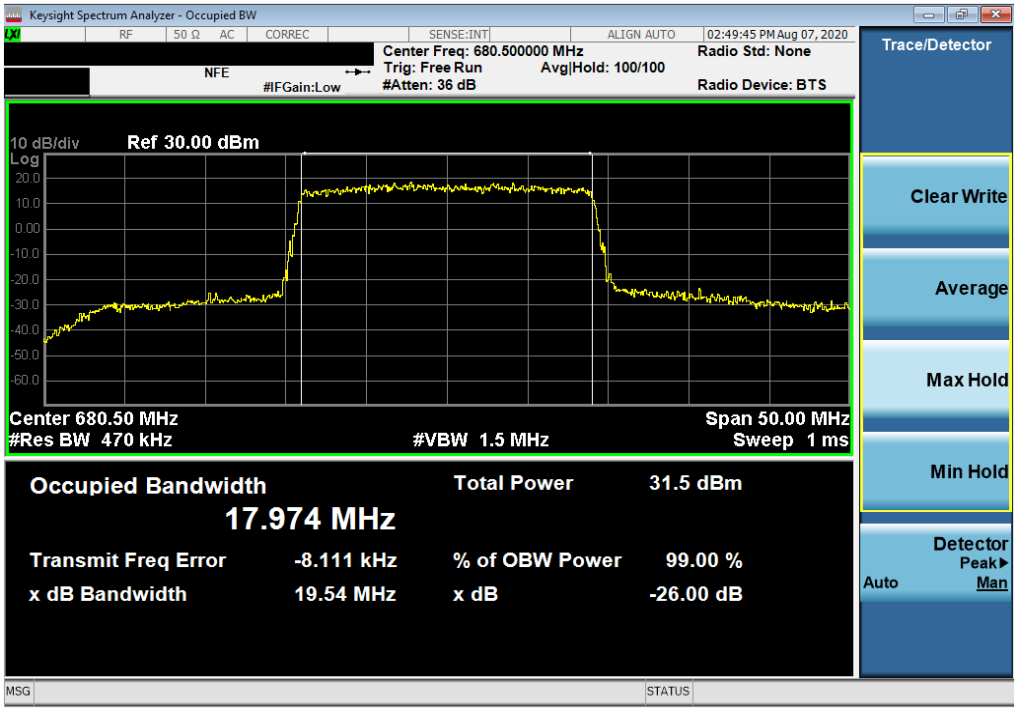
Plot 7-25. Occupied Bandwidth Plot (LTE Band 71 - 15MHz QPSK - Full RB Configuration)



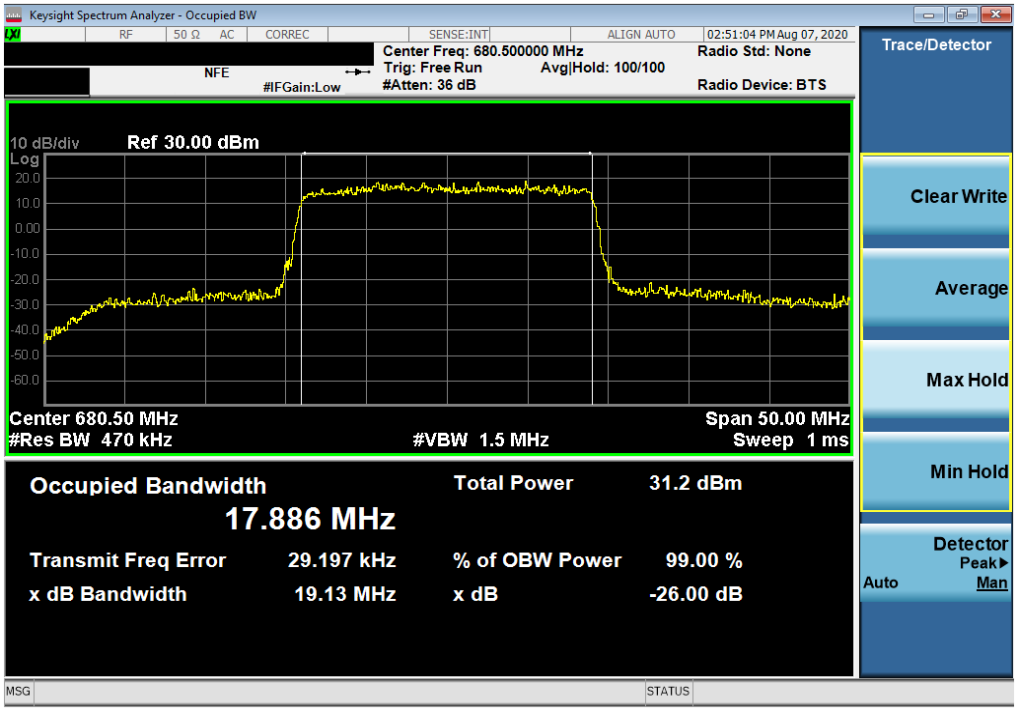
Plot 7-26. Occupied Bandwidth Plot (LTE Band 71 - 15MHz 16-QAM - Full RB Configuration)



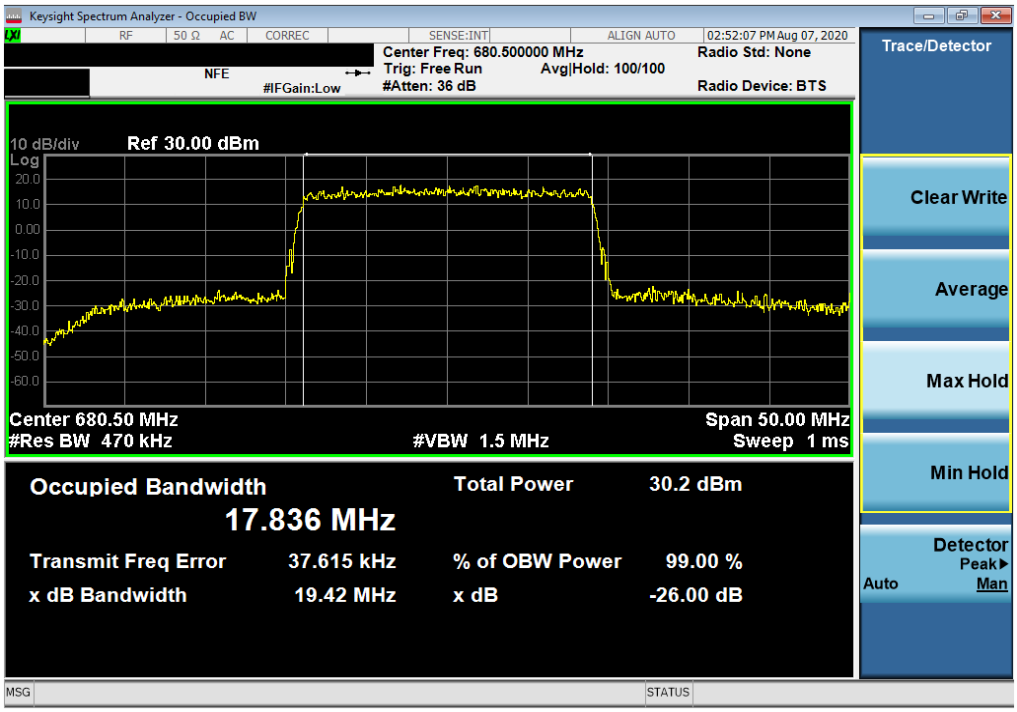
Plot 7-27. Occupied Bandwidth Plot (LTE Band 71 - 15MHz 64-QAM - Full RB Configuration)



Plot 7-28. Occupied Bandwidth Plot (LTE Band 71 - 20MHz QPSK - Full RB Configuration)

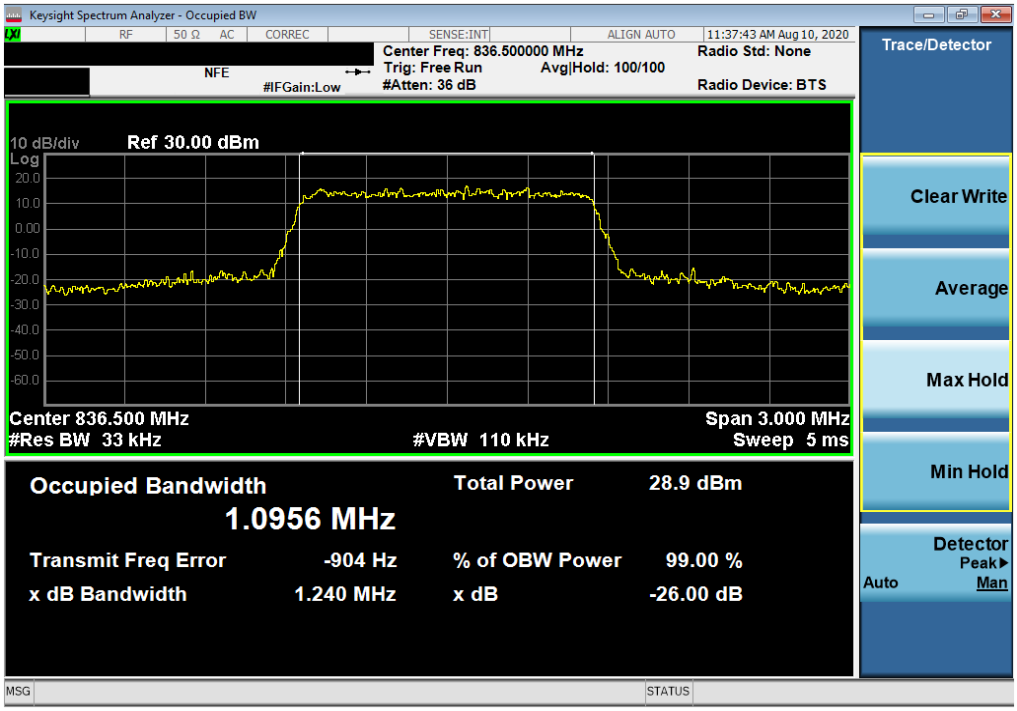


Plot 7-29. Occupied Bandwidth Plot (LTE Band 71 - 20MHz 16-QAM - Full RB Configuration)

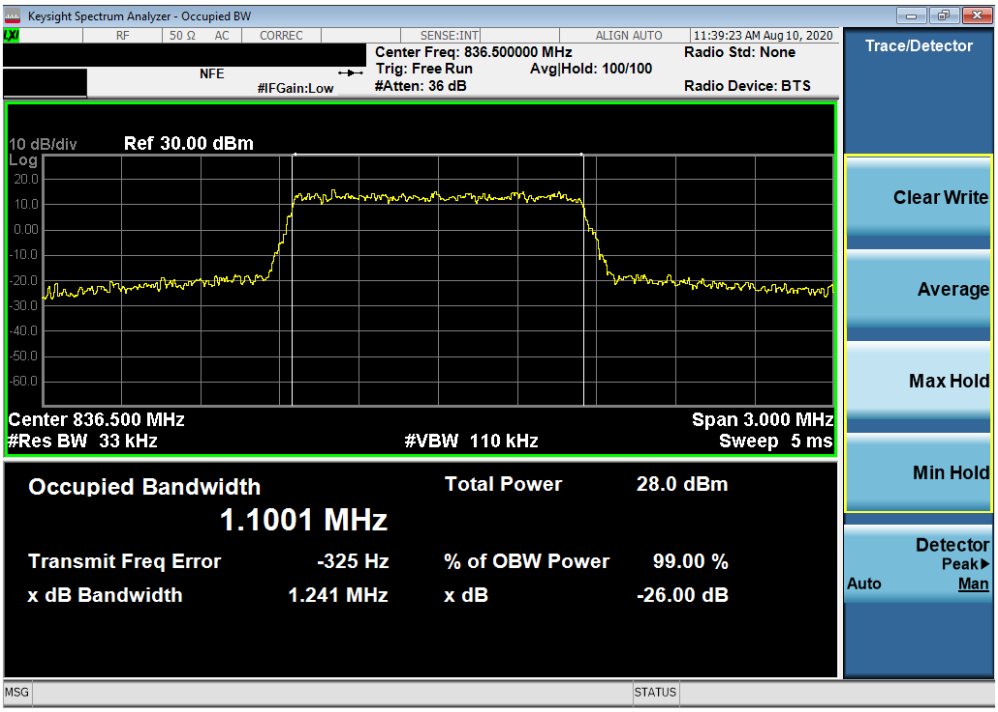


Plot 7-30. Occupied Bandwidth Plot (LTE Band 71 - 20MHz 64-QAM - Full RB Configuration)

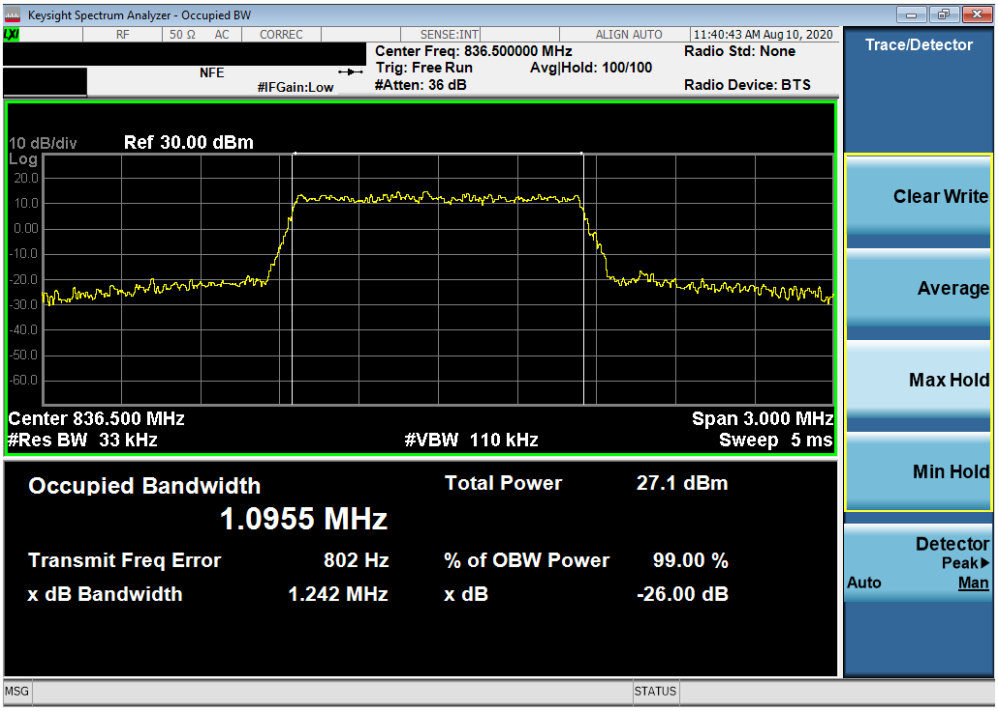
LTE Band 26/5



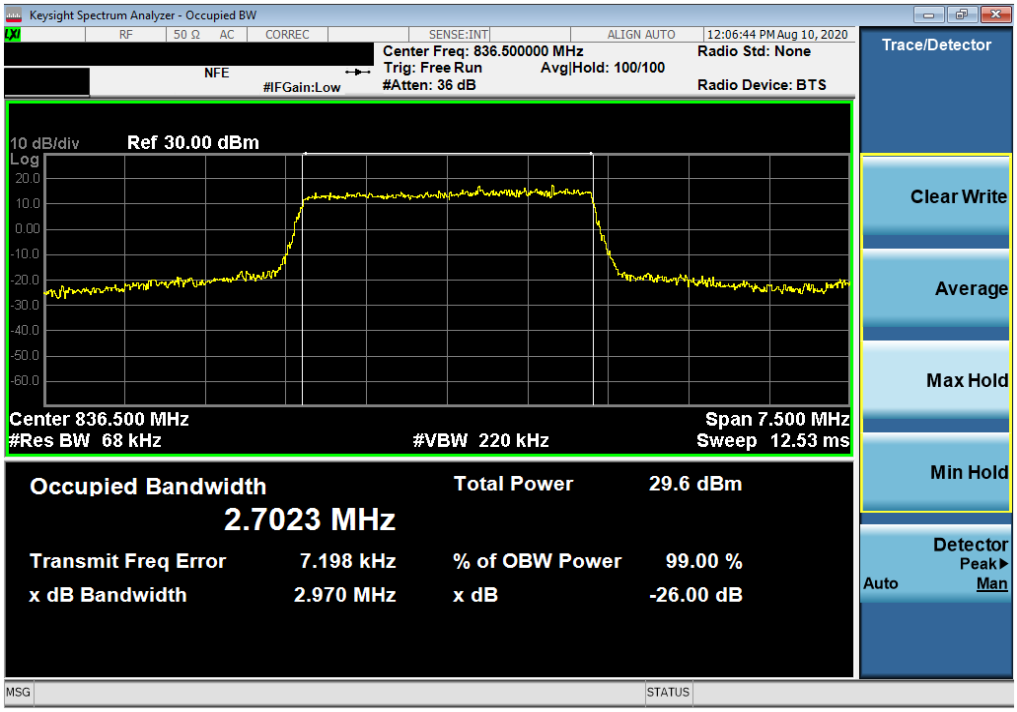
Plot 7-31. Occupied Bandwidth Plot (LTE Band 26/5 - 1.4MHz QPSK - Full RB Configuration)



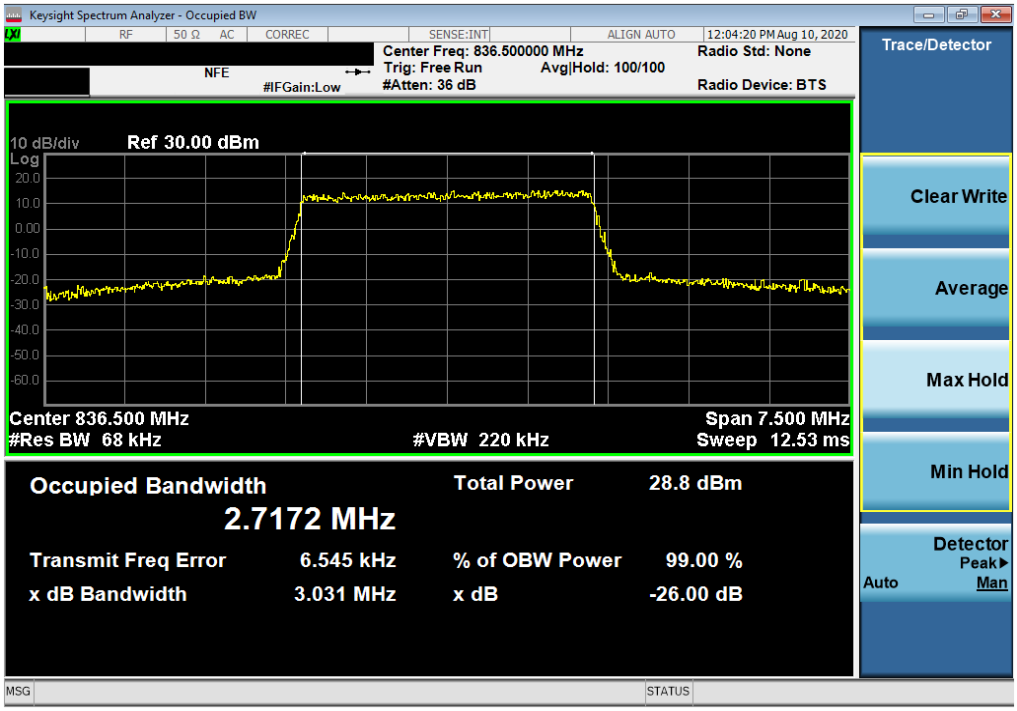
Plot 7-32. Occupied Bandwidth Plot (LTE Band 26/5 - 1.4MHz 16-QAM - Full RB Configuration)



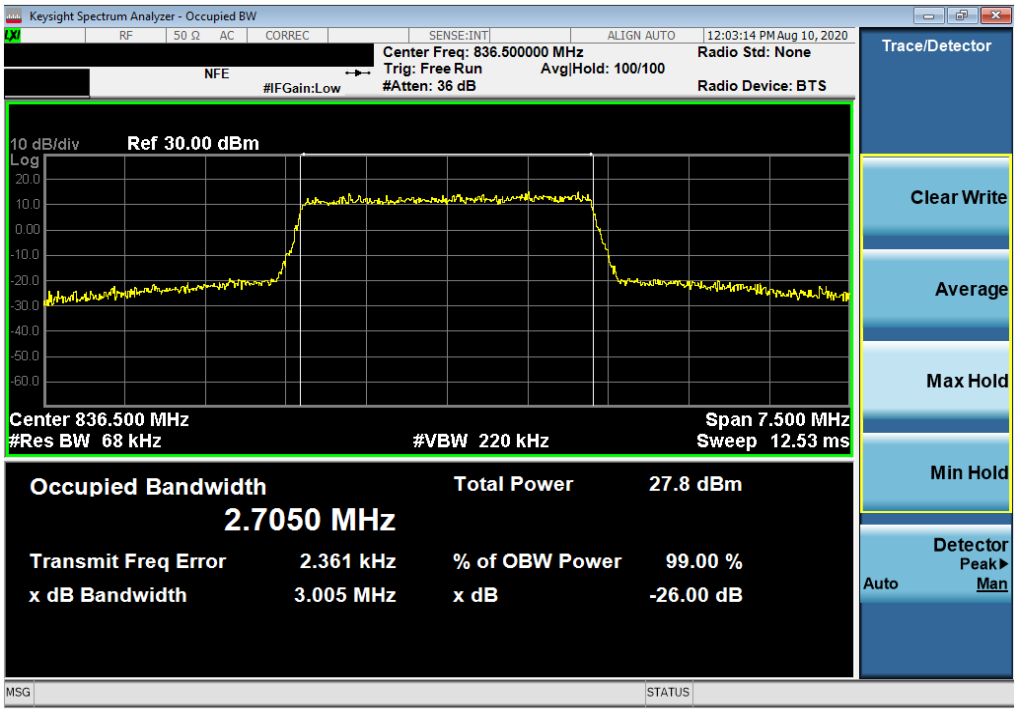
Plot 7-33. Occupied Bandwidth Plot (LTE Band 26/5 - 1.4MHz 64-QAM - Full RB Configuration)



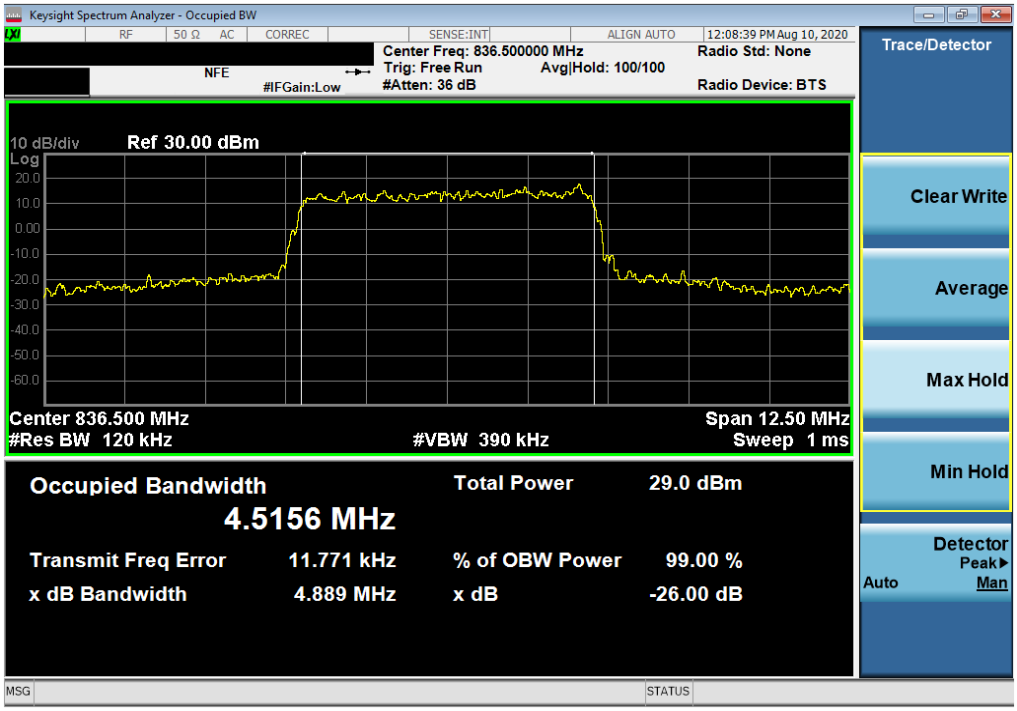
Plot 7-34. Occupied Bandwidth Plot (LTE Band 26/5 - 3MHz QPSK - Full RB Configuration)



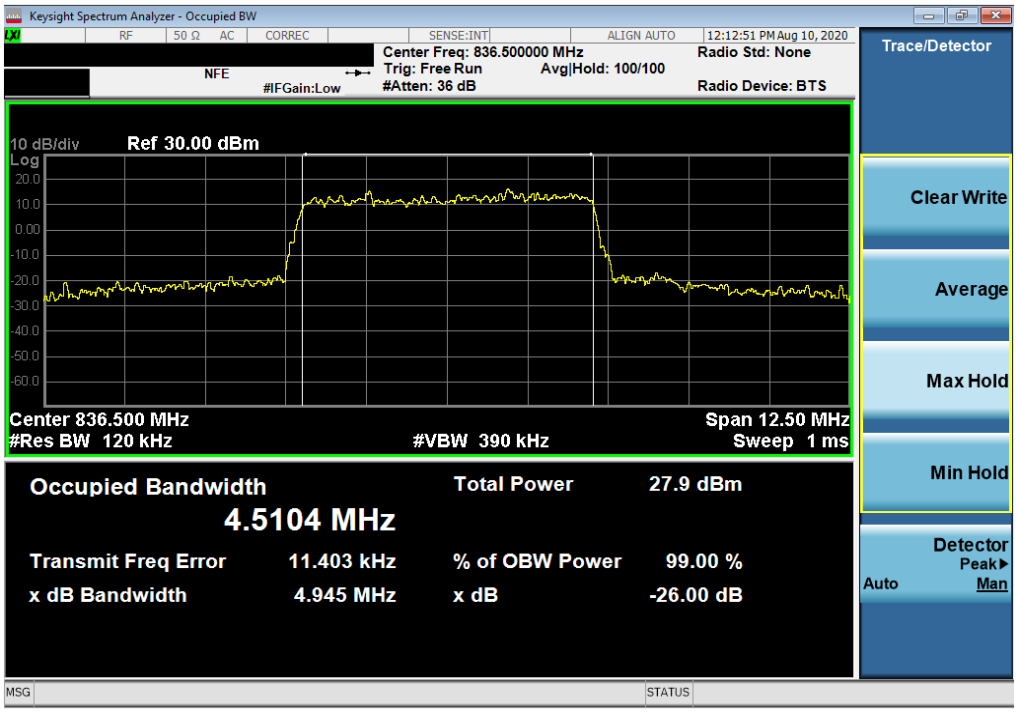
Plot 7-35. Occupied Bandwidth Plot (LTE Band 26/5 - 3MHz 16-QAM - Full RB Configuration)



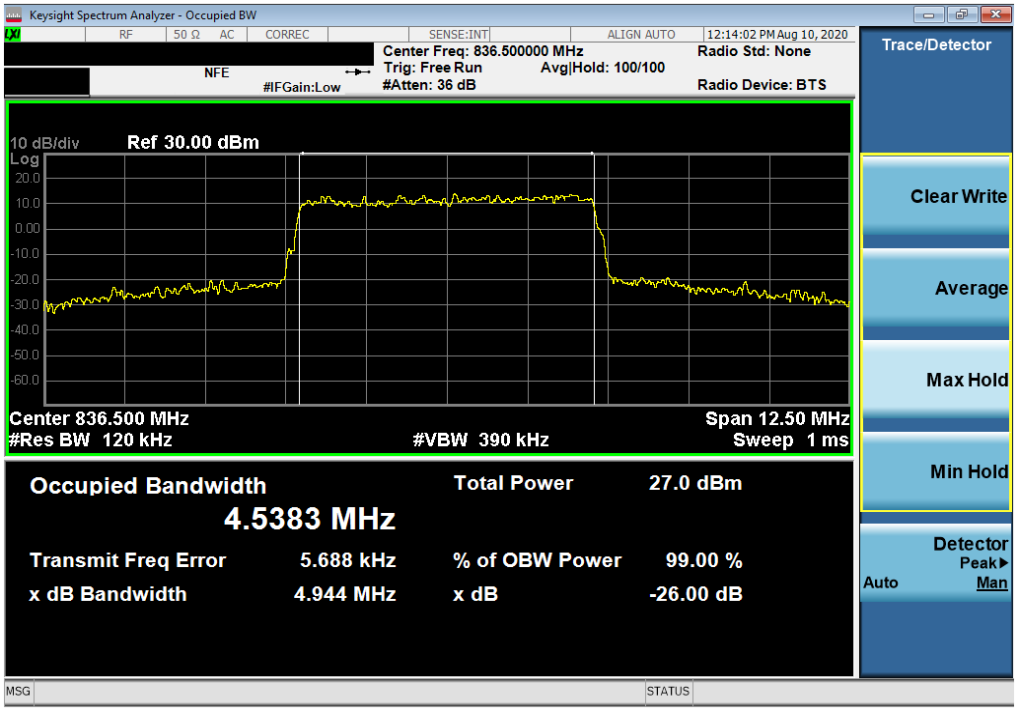
Plot 7-36. Occupied Bandwidth Plot (LTE Band 26/5 - 3MHz 64-QAM - Full RB Configuration)



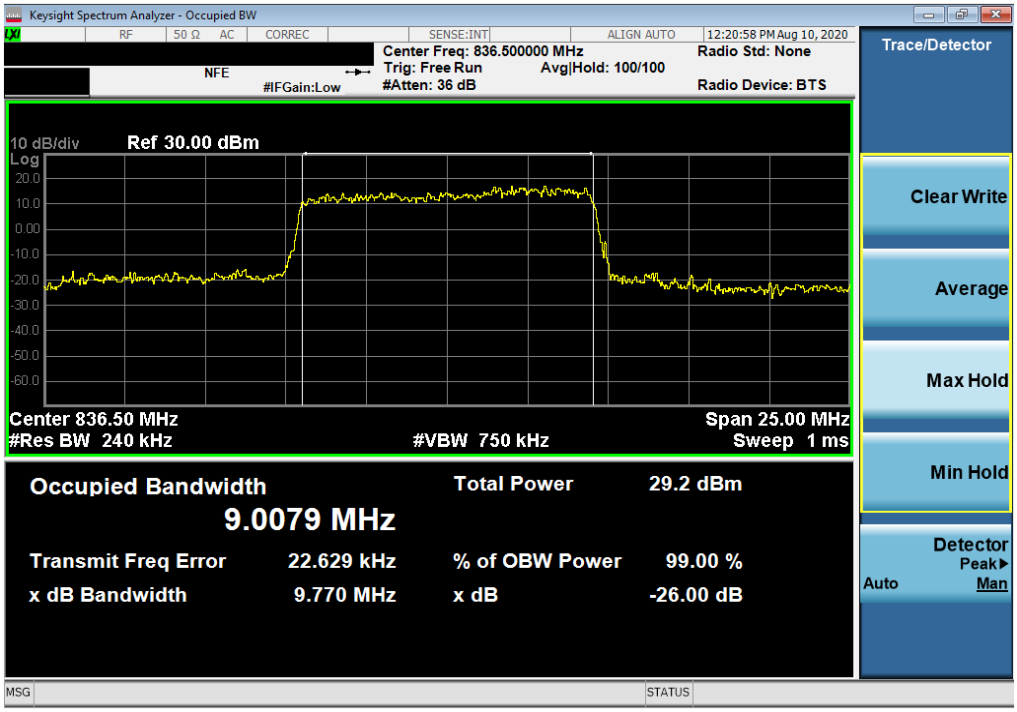
Plot 7-37. Occupied Bandwidth Plot (LTE Band 26/5 - 5MHz QPSK - Full RB Configuration)



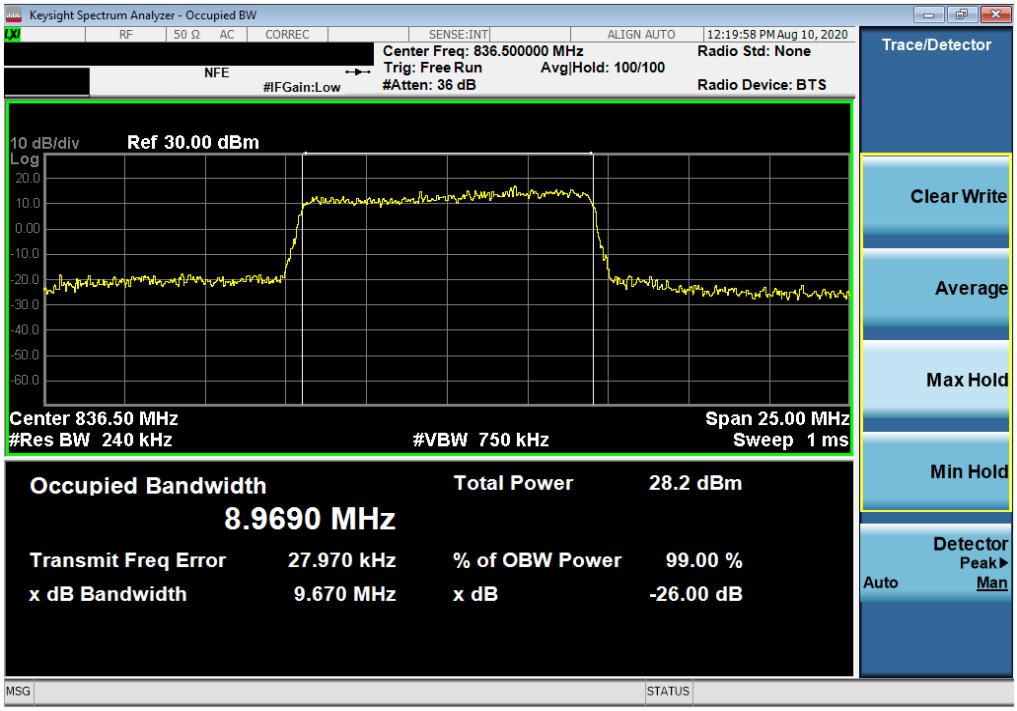
Plot 7-38. Occupied Bandwidth Plot (LTE Band 26/5 - 5MHz 16-QAM - Full RB Configuration)



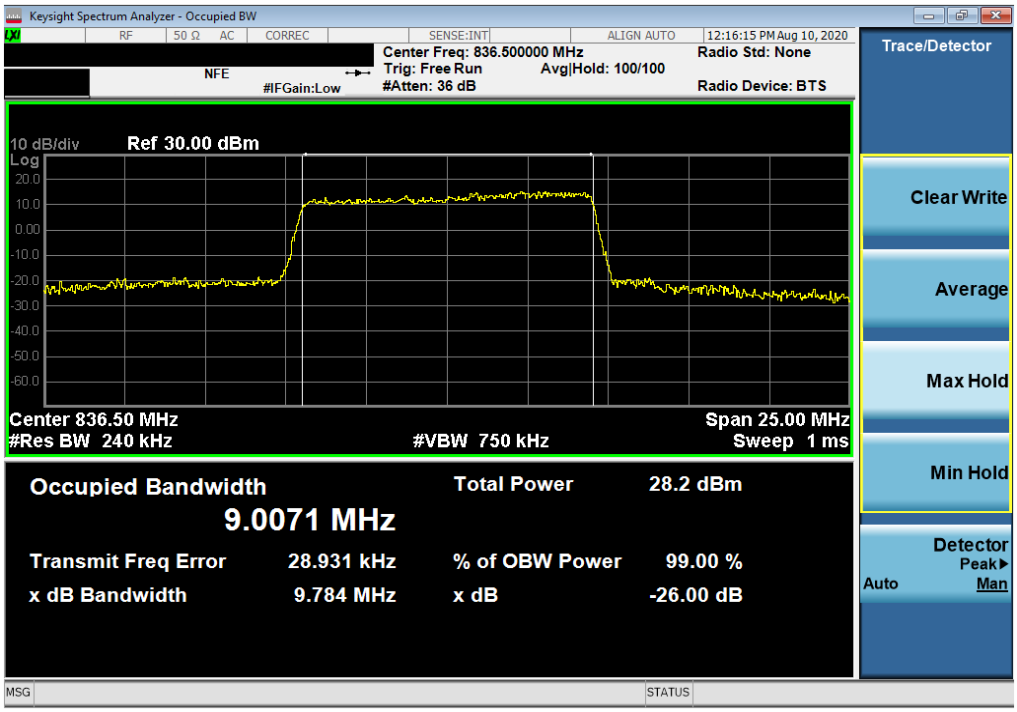
Plot 7-39. Occupied Bandwidth Plot (LTE Band 26/5 - 5MHz 64-QAM - Full RB Configuration)



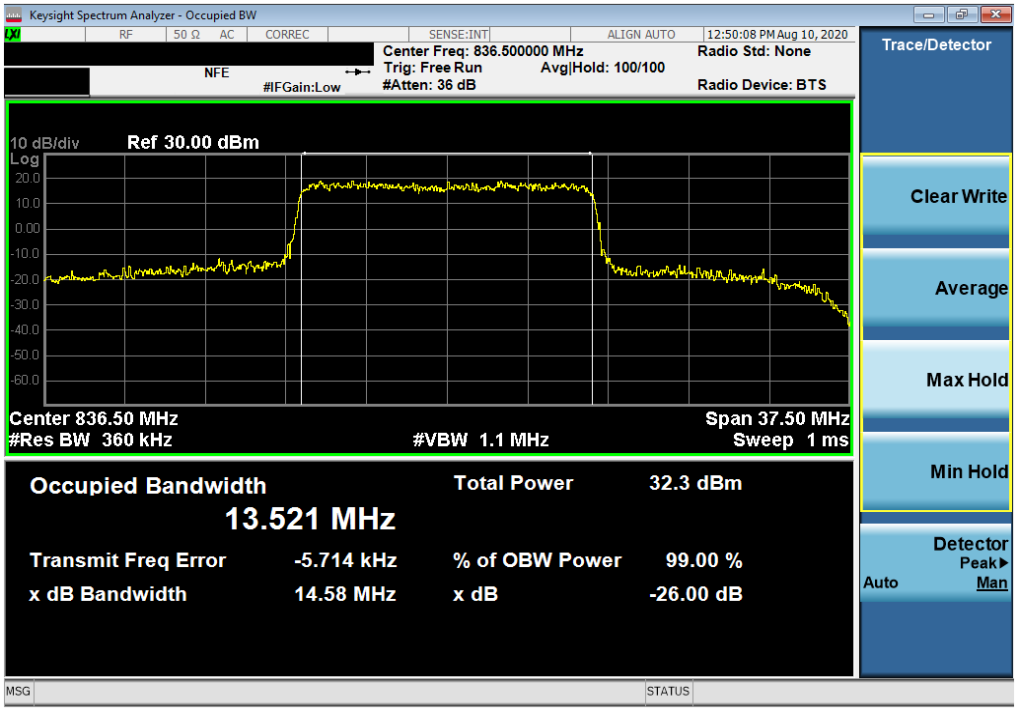
Plot 7-40. Occupied Bandwidth Plot (LTE Band 26/5 - 10MHz QPSK - Full RB Configuration)



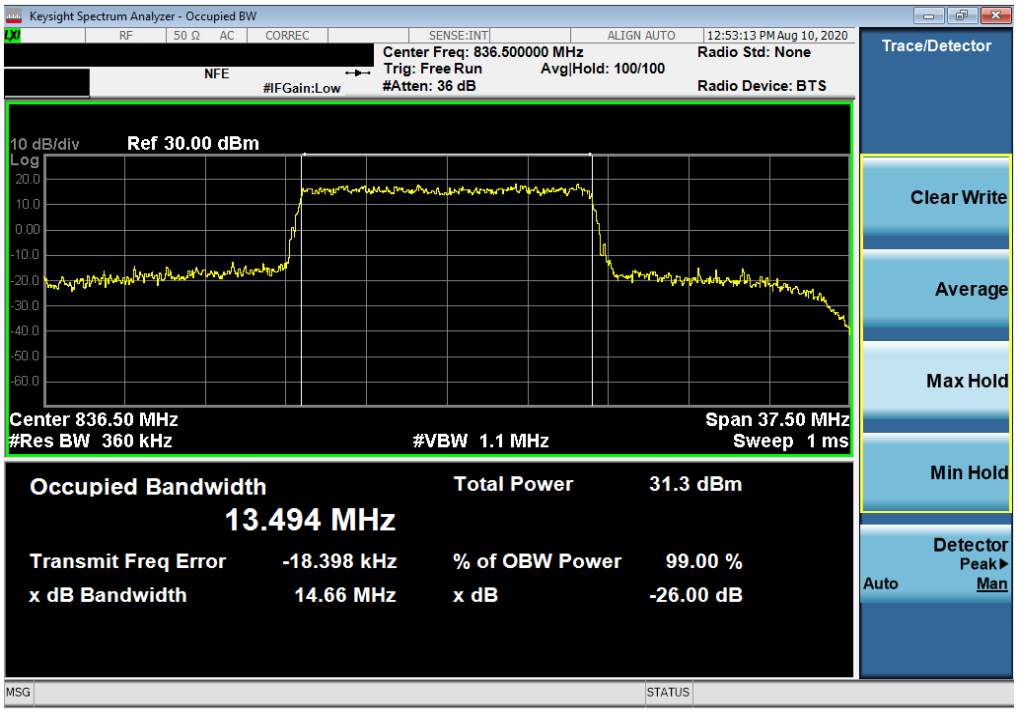
Plot 7-41. Occupied Bandwidth Plot (LTE Band 26/5 - 10MHz 16-QAM - Full RB Configuration)



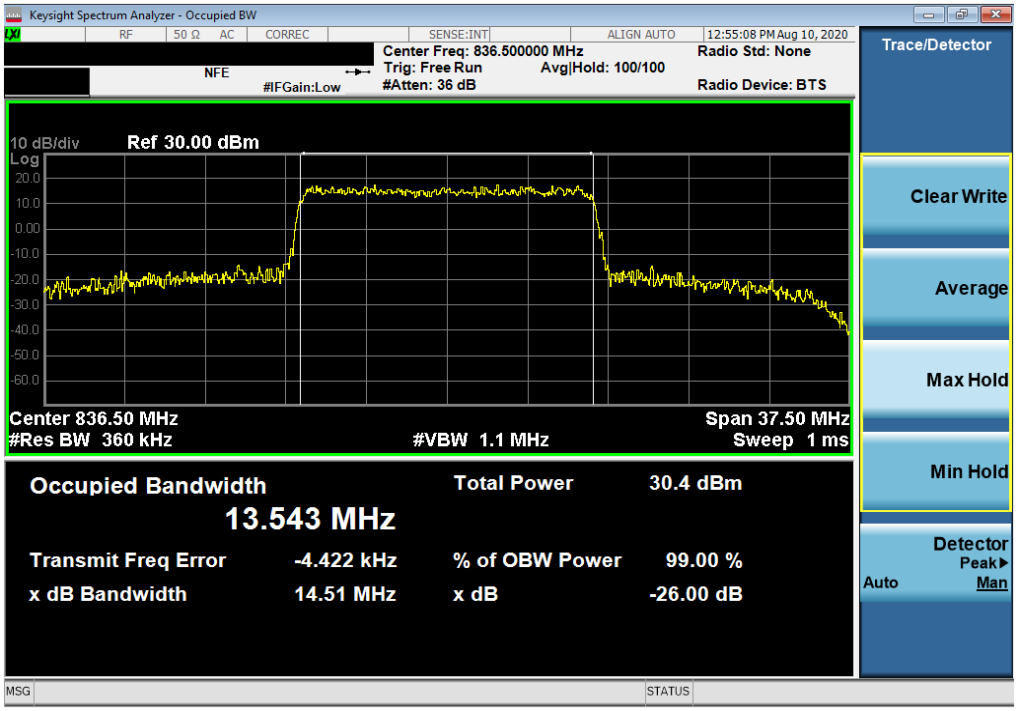
Plot 7-42. Occupied Bandwidth Plot (LTE Band 26/5 - 10MHz 64-QAM - Full RB Configuration)



Plot 7-43. Occupied Bandwidth Plot (LTE Band 26 - 15MHz QPSK - Full RB Configuration)

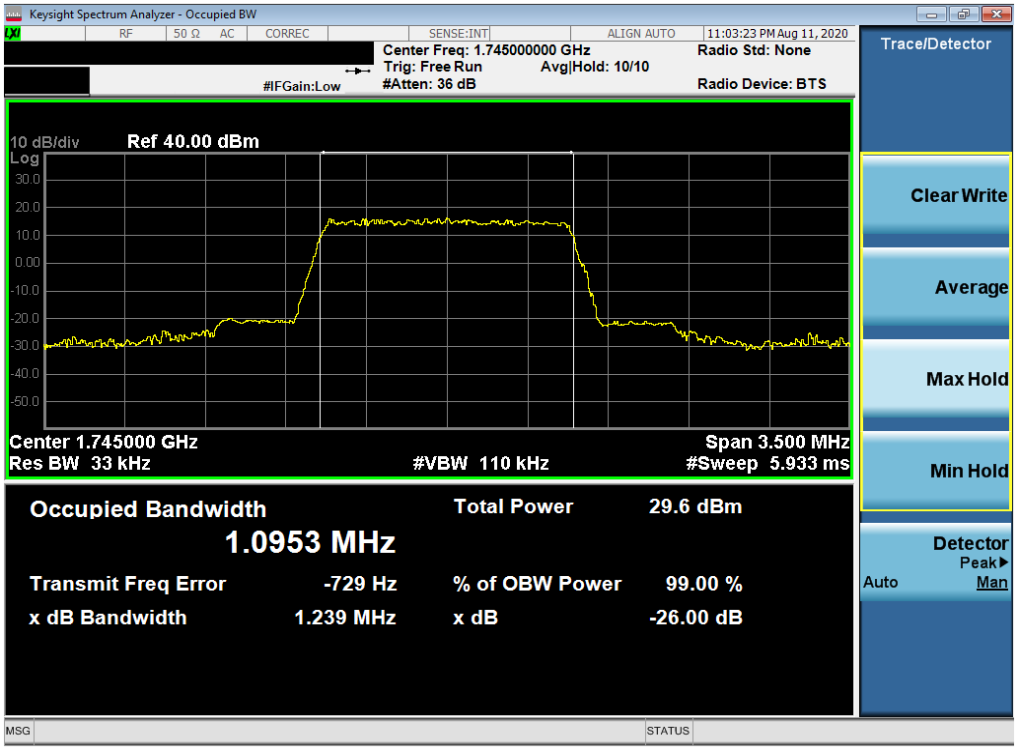


Plot 7-44. Occupied Bandwidth Plot (LTE Band 26 - 15MHz 16-QAM - Full RB Configuration)

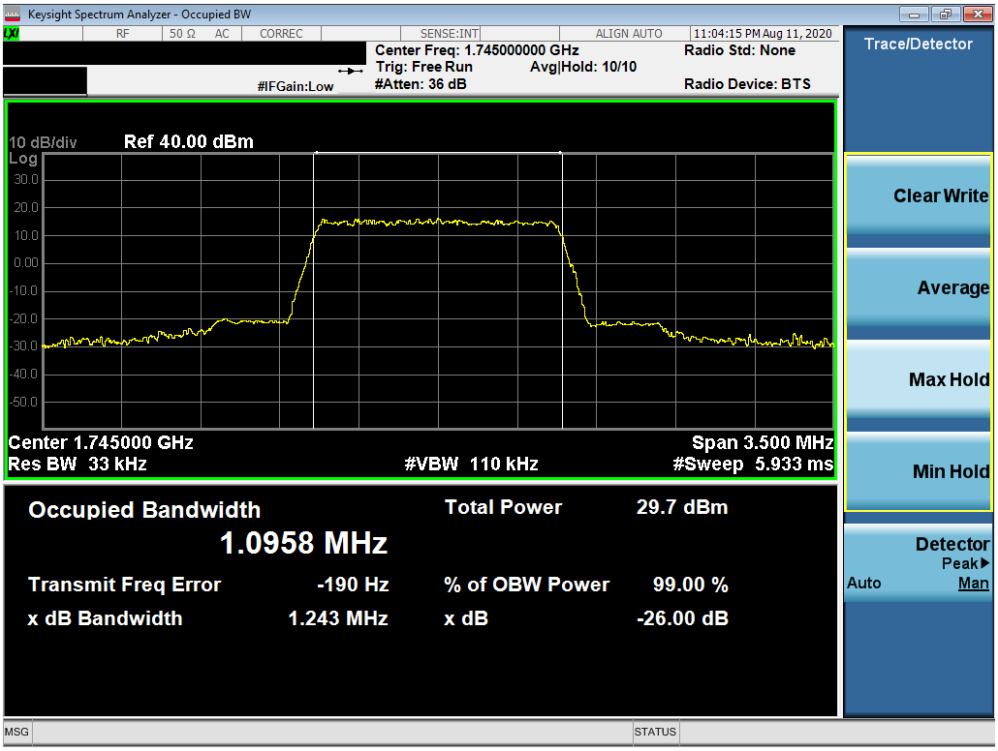


Plot 7-45. Occupied Bandwidth Plot (LTE Band 26 - 15MHz 64-QAM - Full RB Configuration)

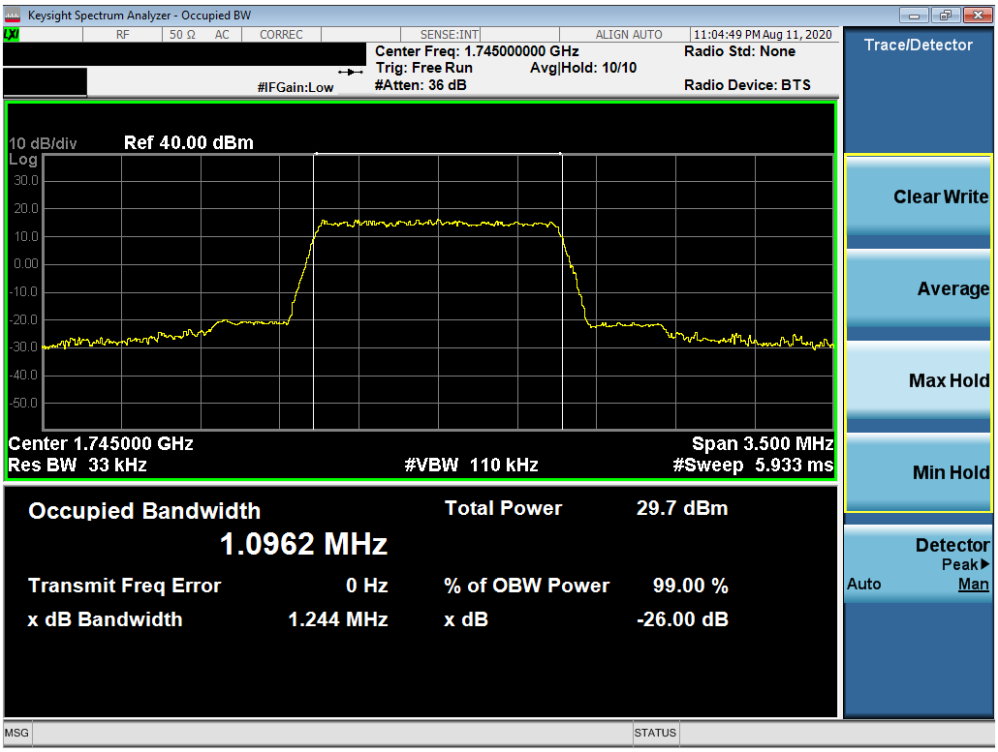
LTE Band 66/4



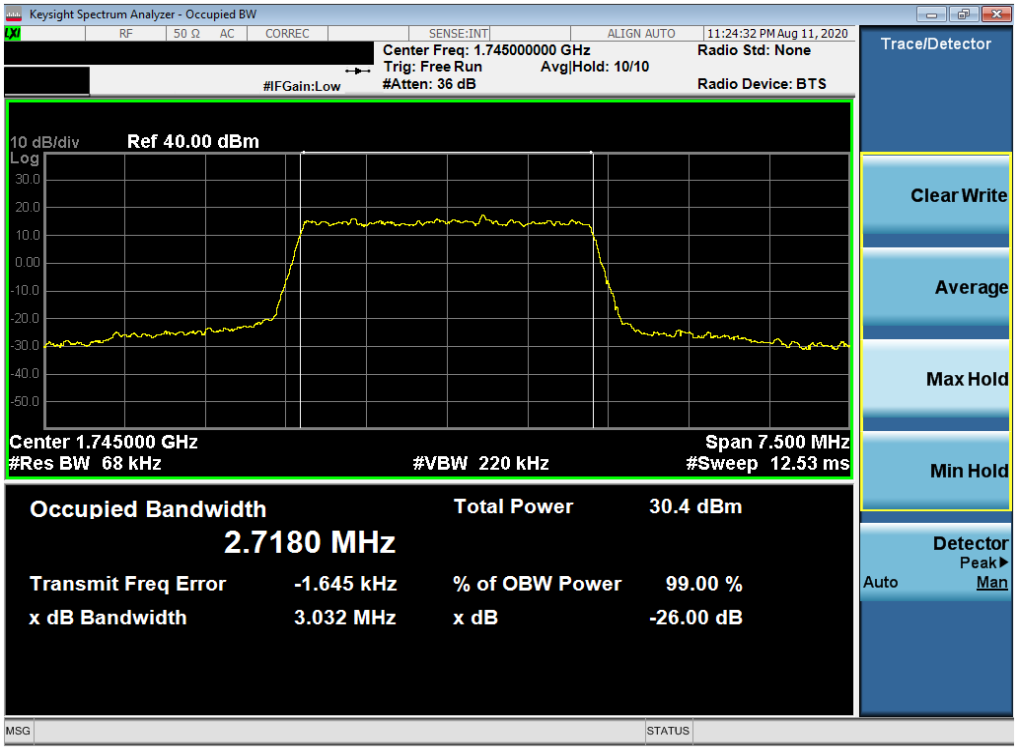
Plot 7-46. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



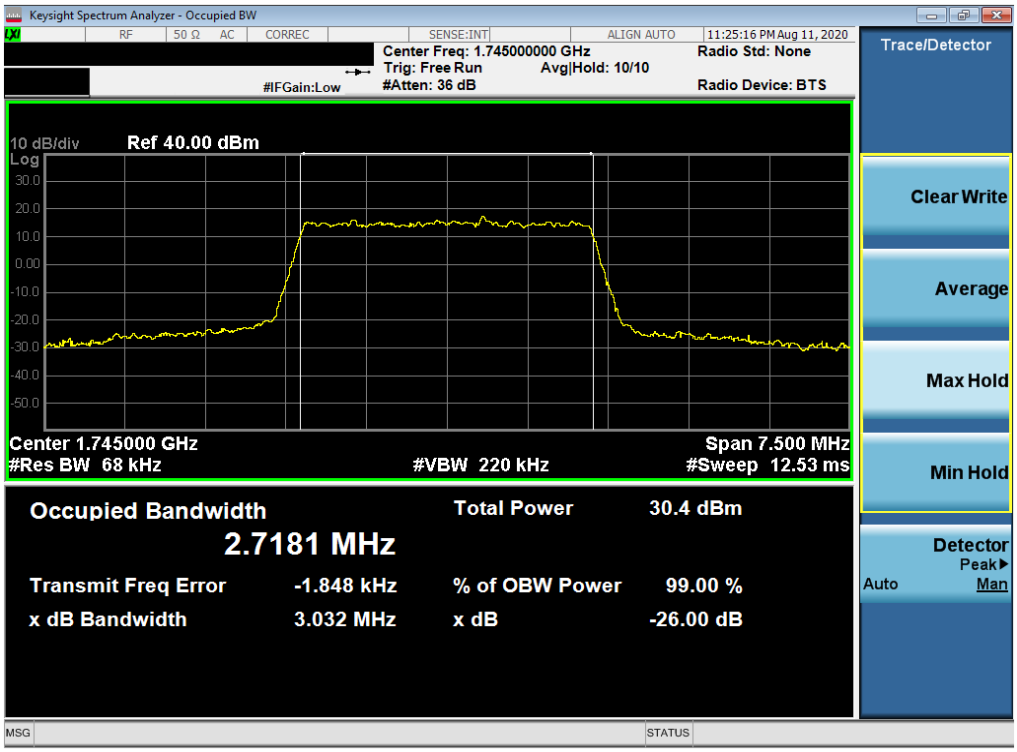
Plot 7-47. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)



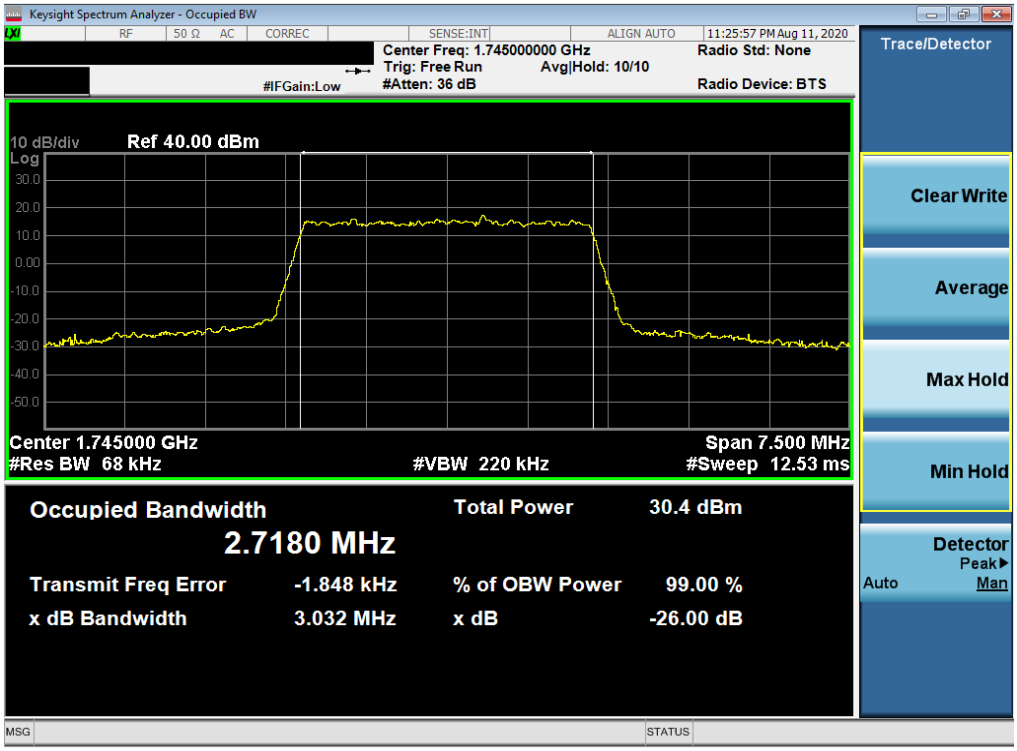
Plot 7-48. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)



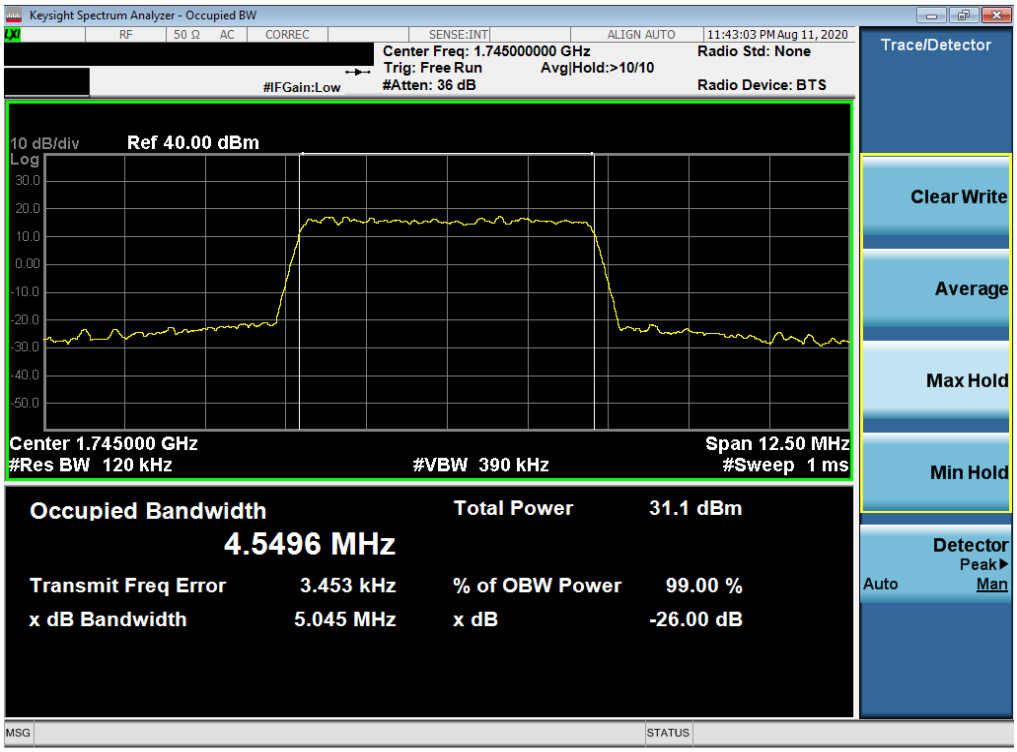
Plot 7-49. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz QPSK - Full RB Configuration)



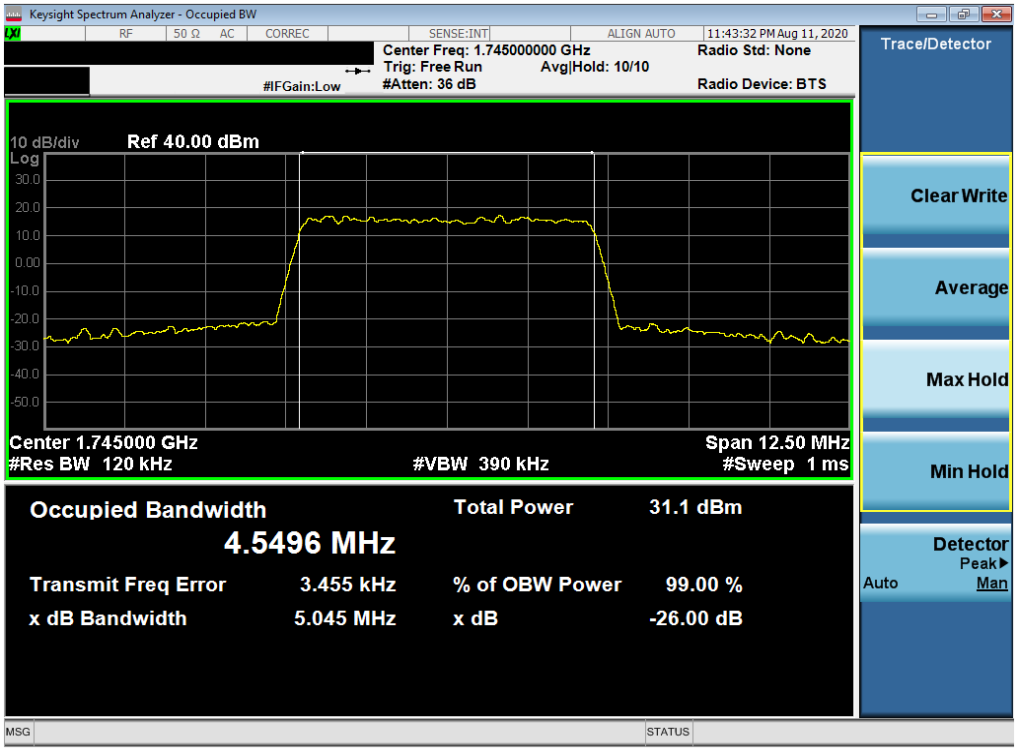
Plot 7-50. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz 16-QAM - Full RB Configuration)



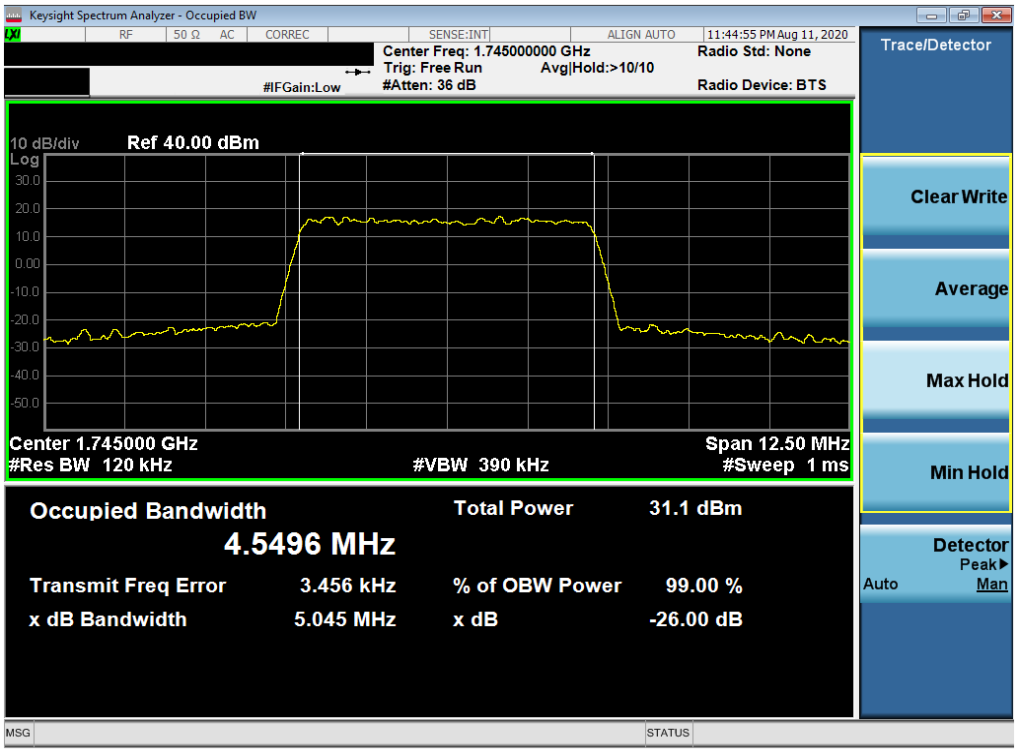
Plot 7-51. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz 64-QAM - Full RB Configuration)



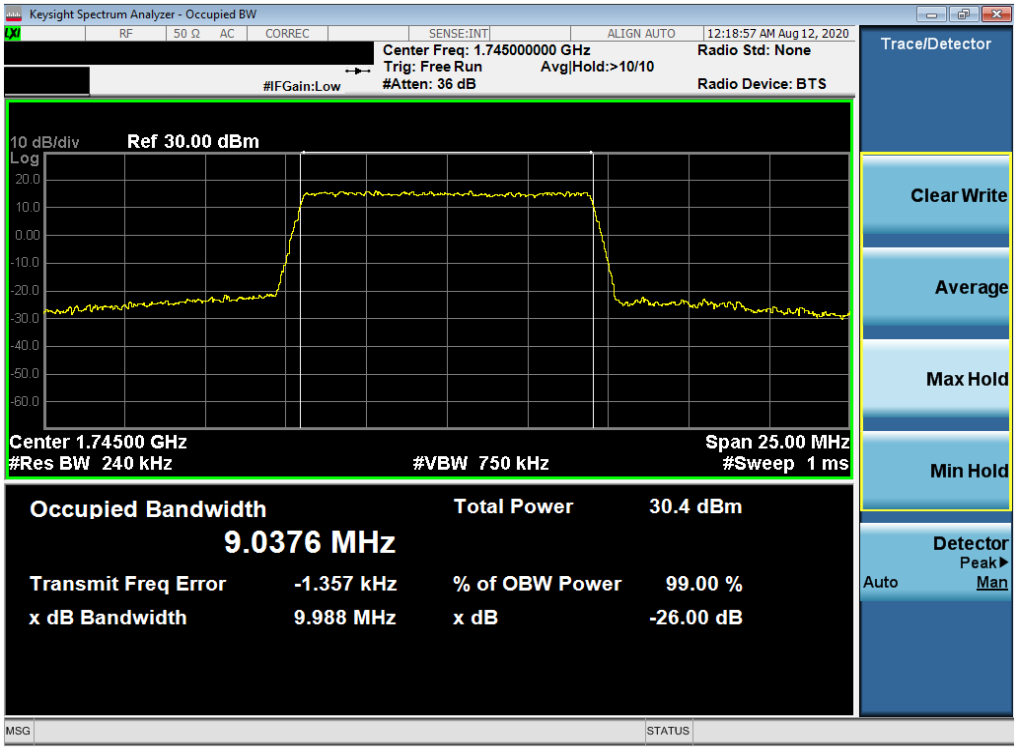
Plot 7-52. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz QPSK - Full RB Configuration)



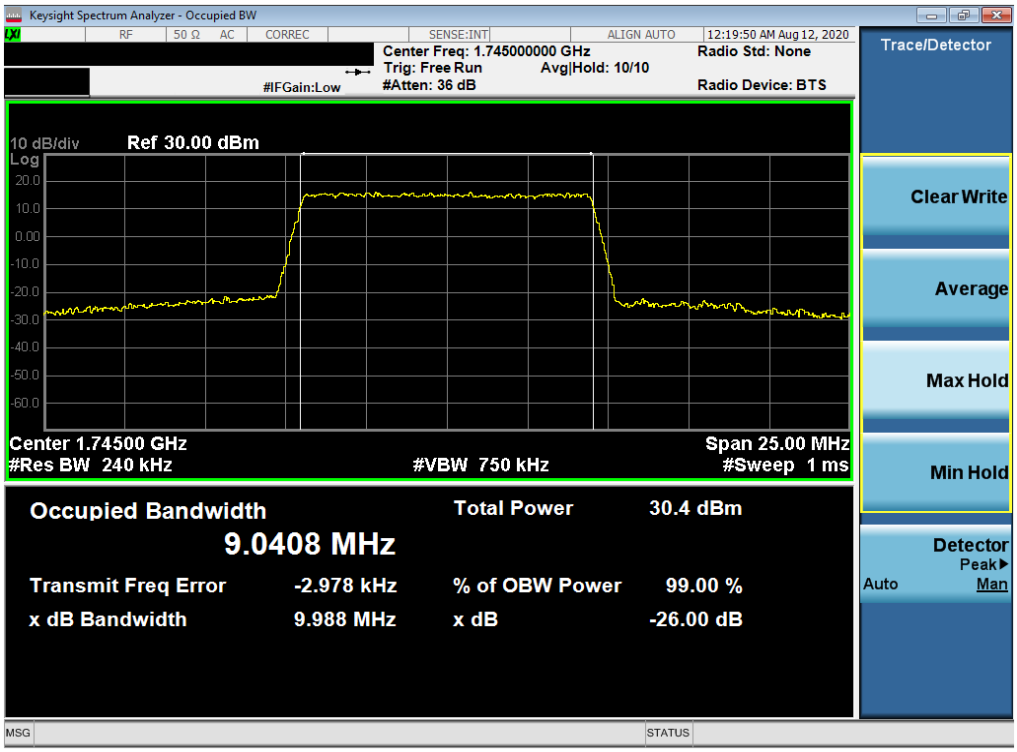
Plot 7-53. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz 16-QAM - Full RB Configuration)



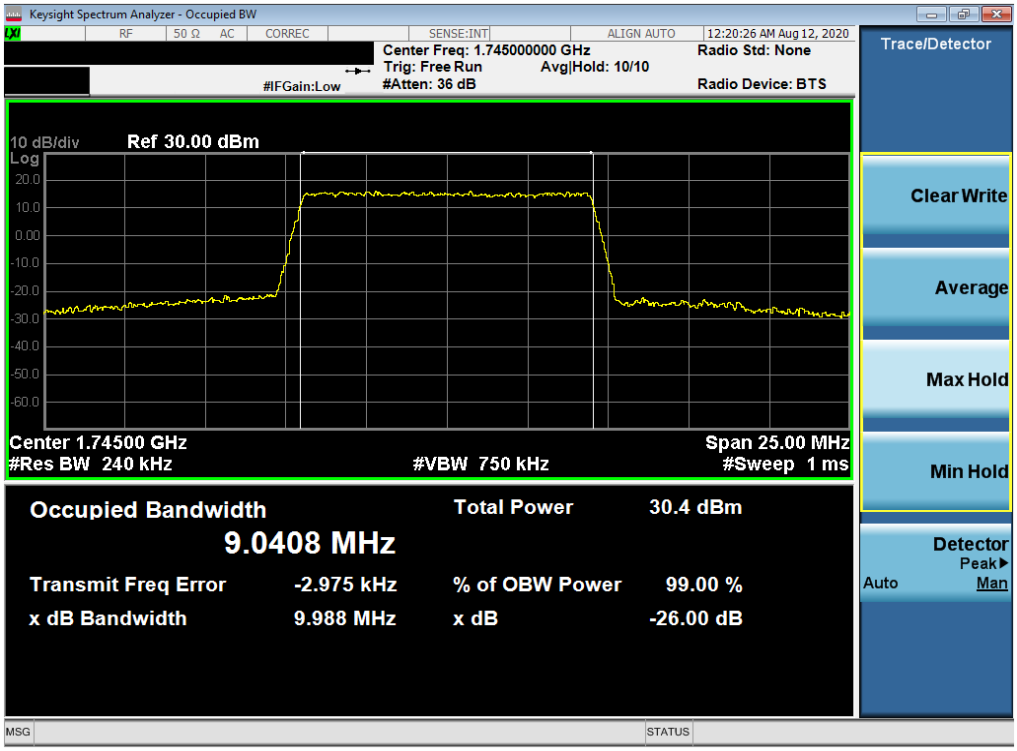
Plot 7-54. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz 64-QAM - Full RB Configuration)



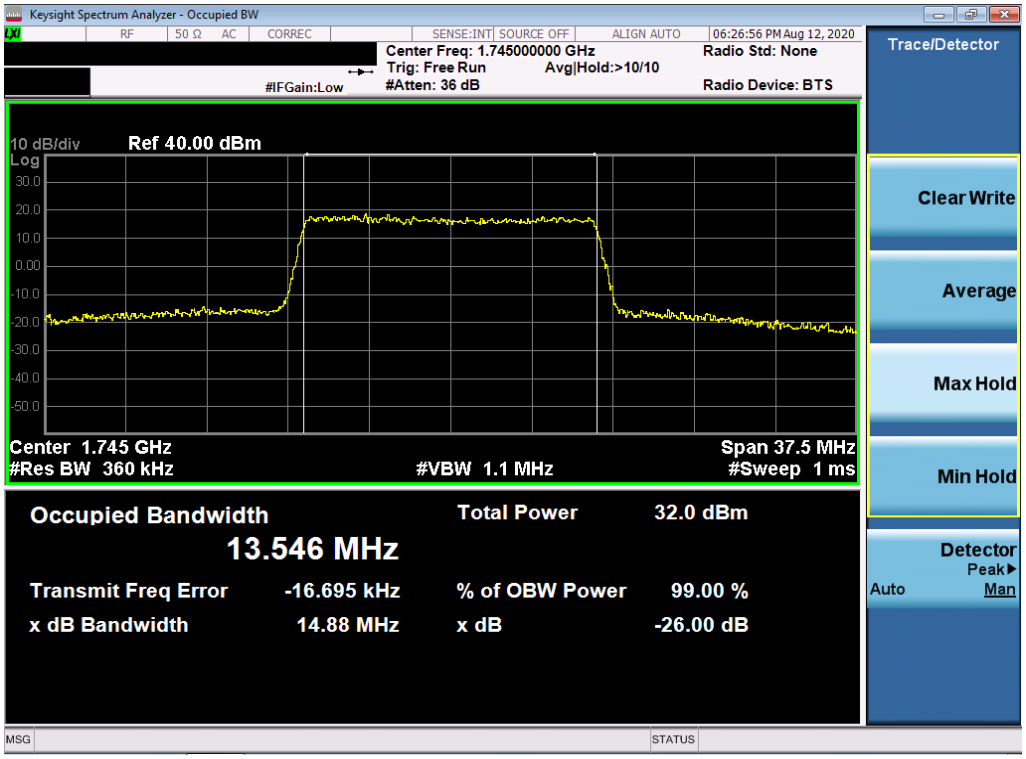
Plot 7-55. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz QPSK - Full RB Configuration)



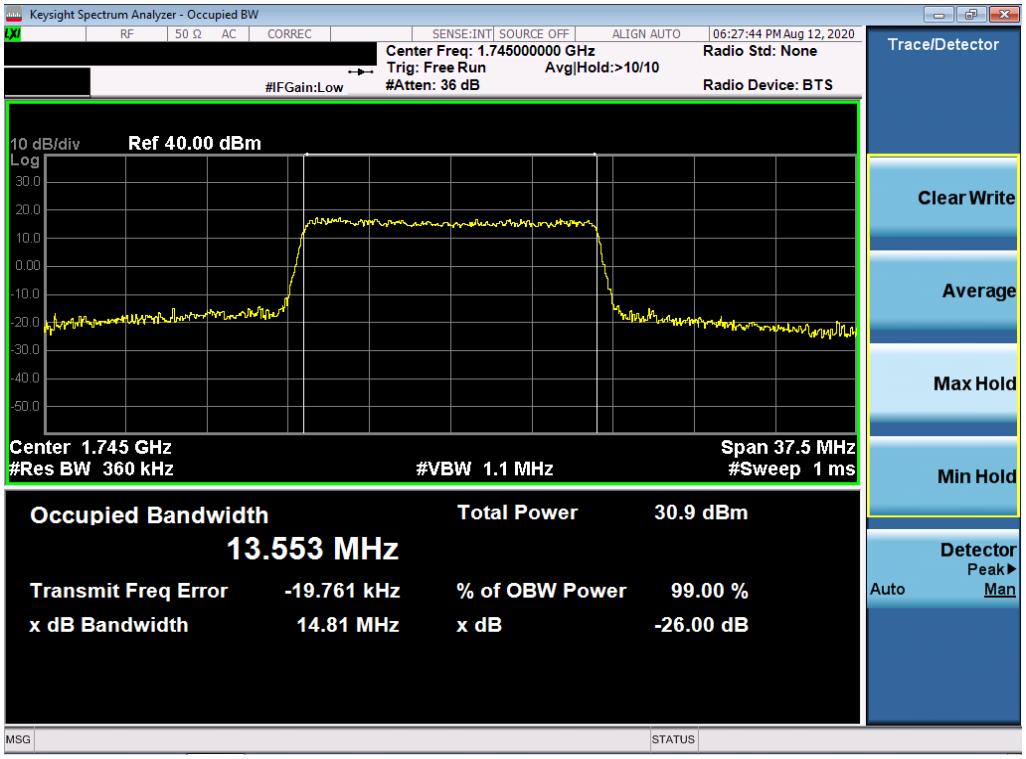
Plot 7-56. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz 16-QAM - Full RB Configuration)



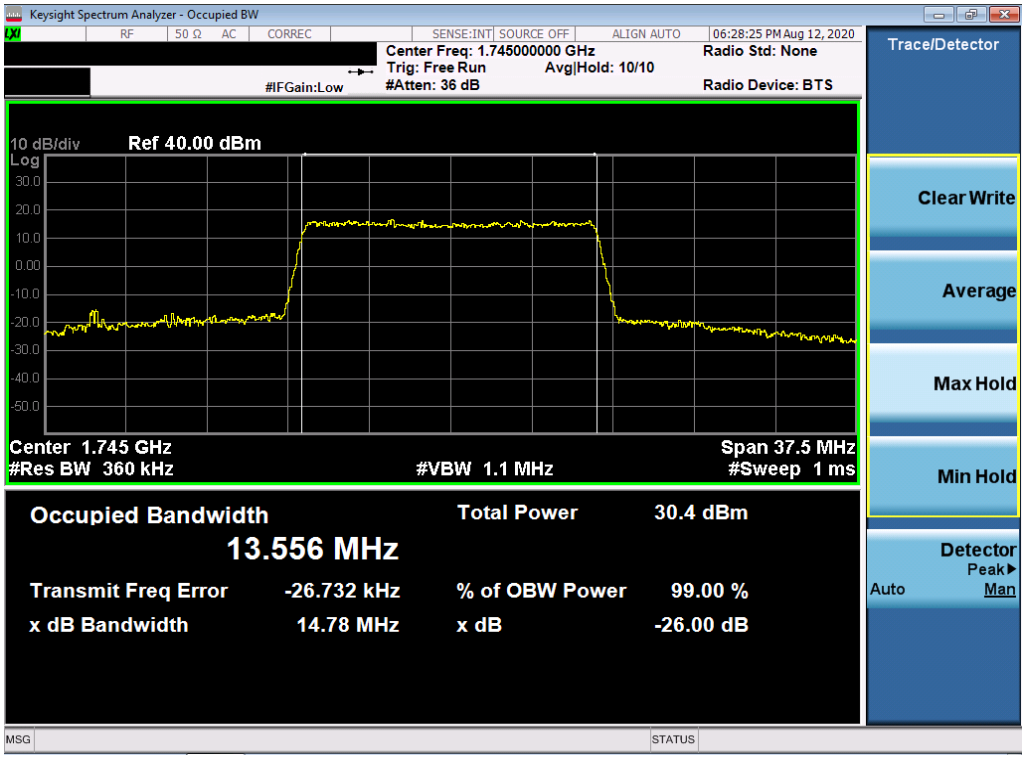
Plot 7-57. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz 64-QAM - Full RB Configuration)



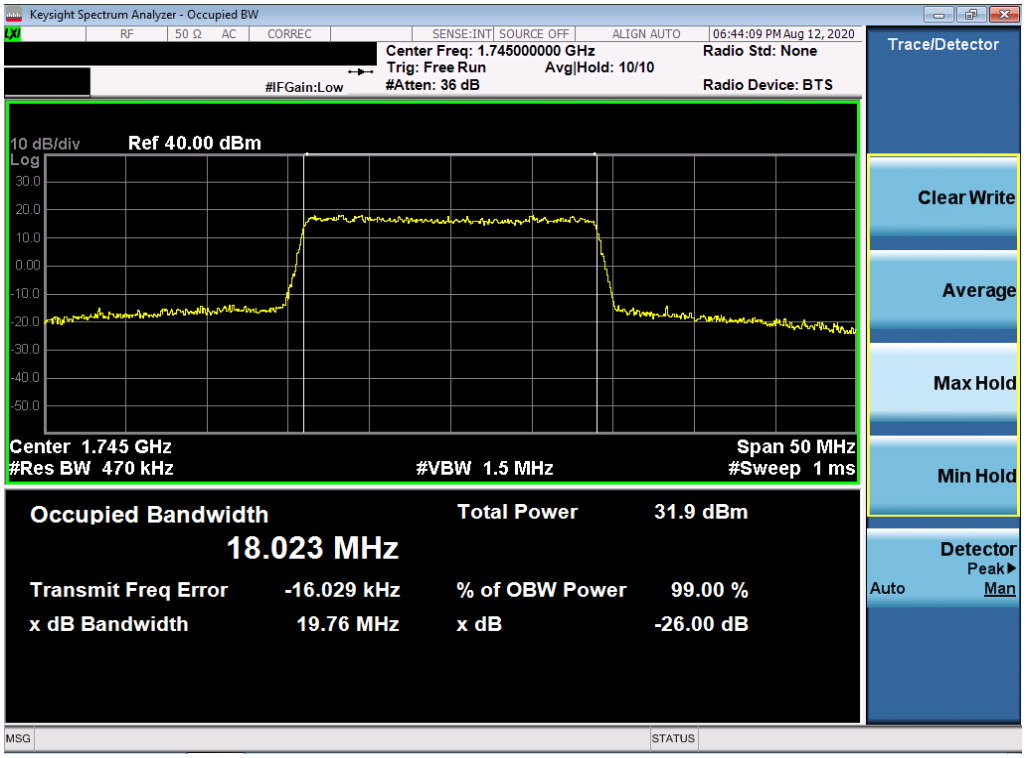
Plot 7-58. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz QPSK - Full RB Configuration)



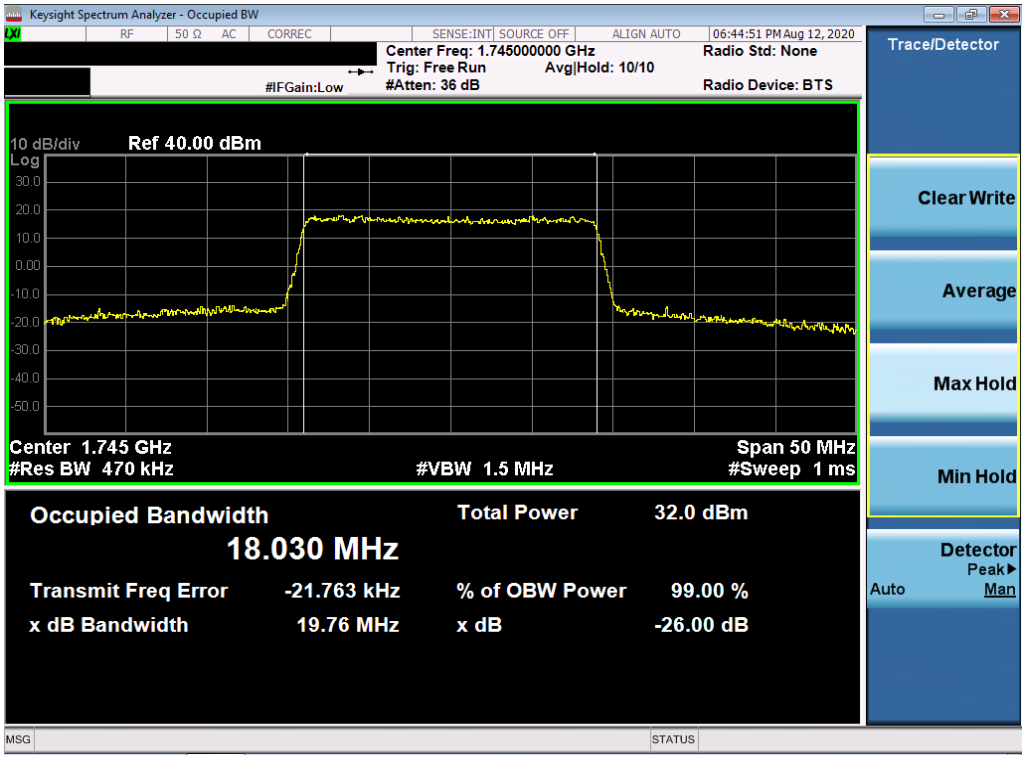
Plot 7-59. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz 16-QAM - Full RB Configuration)



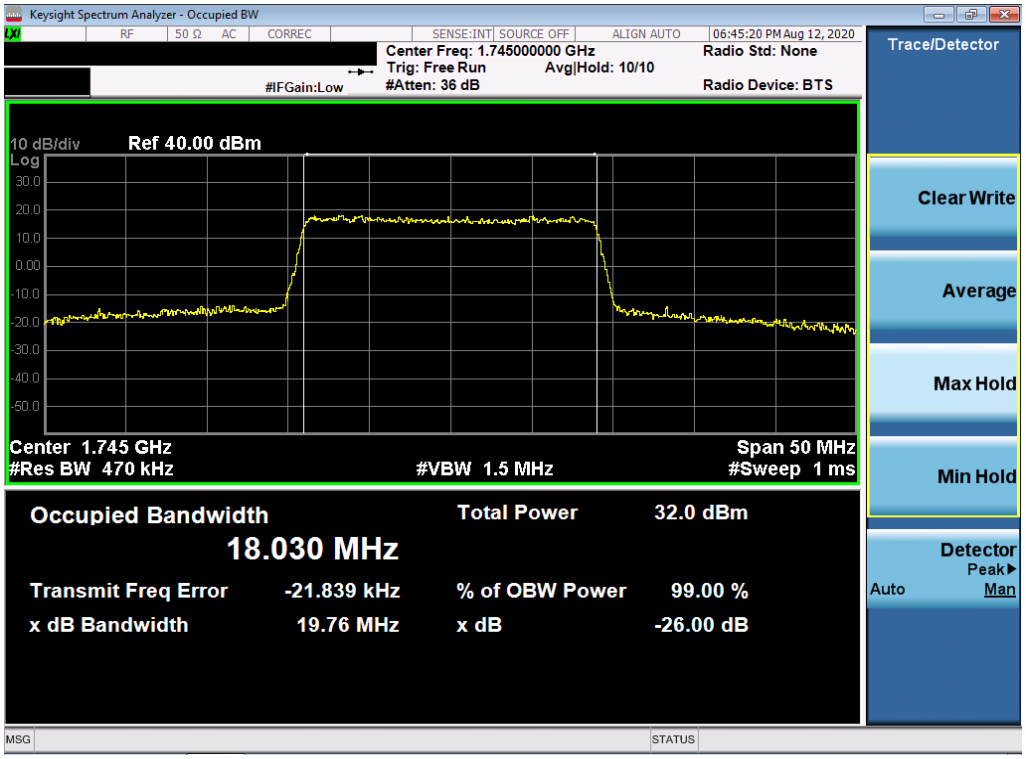
Plot 7-60. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz 64-QAM - Full RB Configuration)



Plot 7-61. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz QPSK - Full RB Configuration)

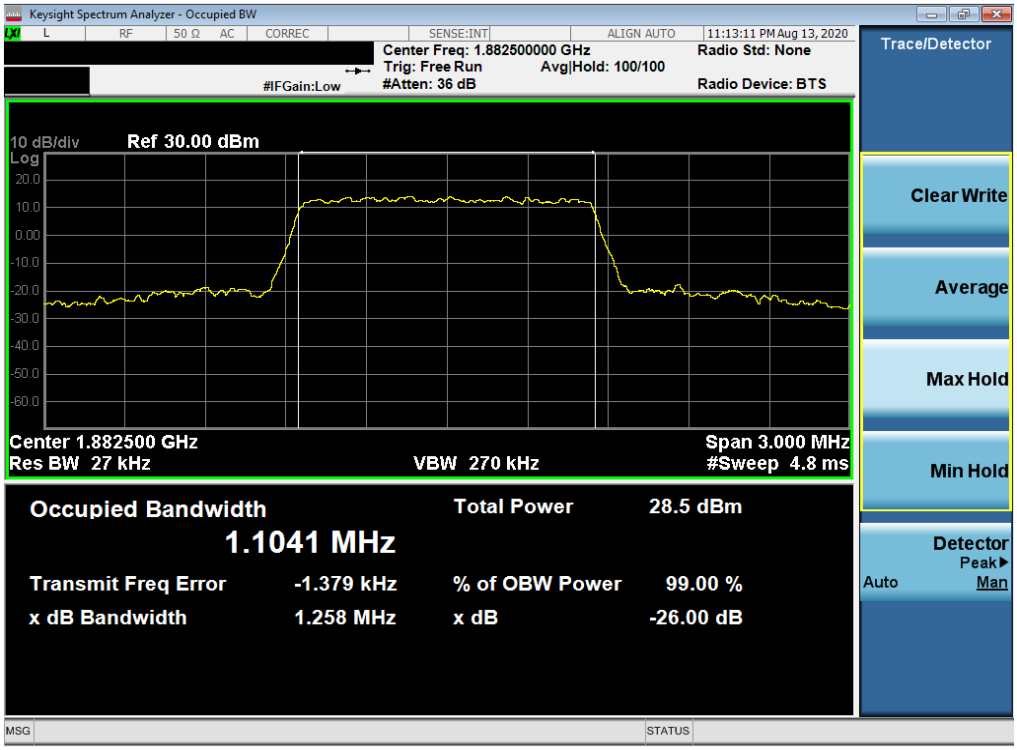


Plot 7-62. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz 16-QAM - Full RB Configuration)

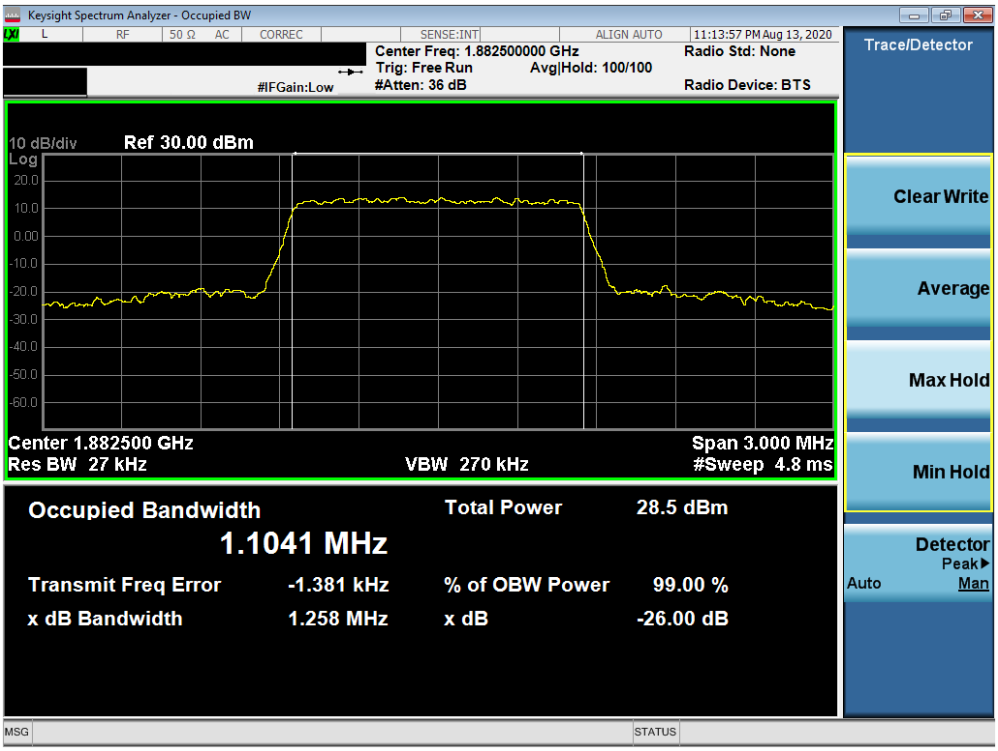


Plot 7-63. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz 64-QAM - Full RB Configuration)

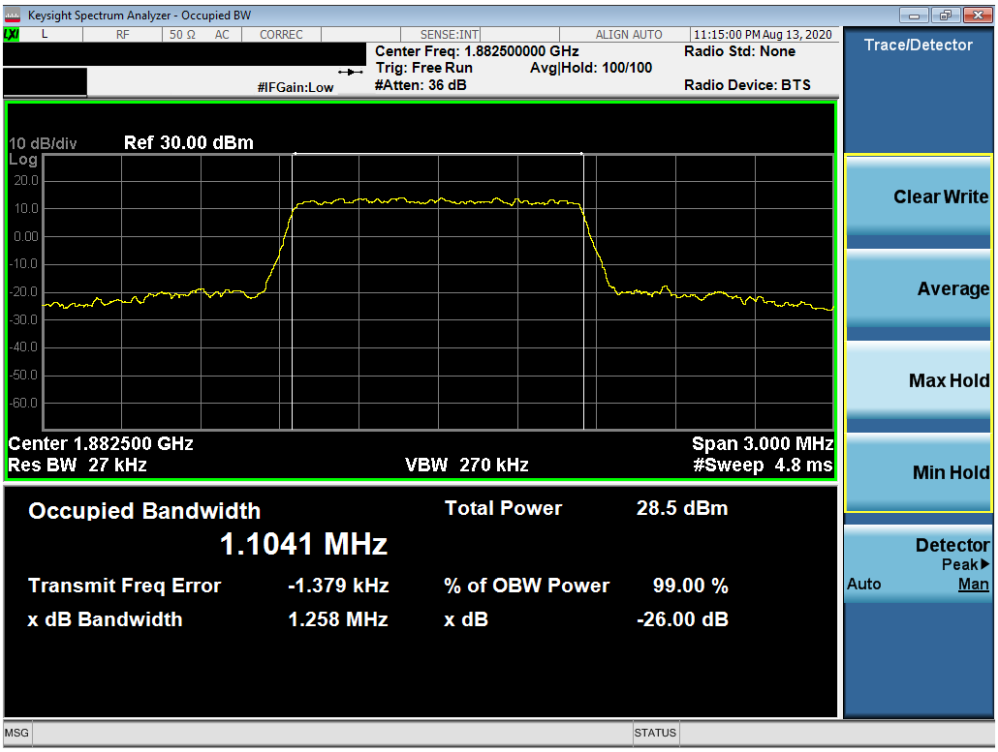
LTE Band 25/2



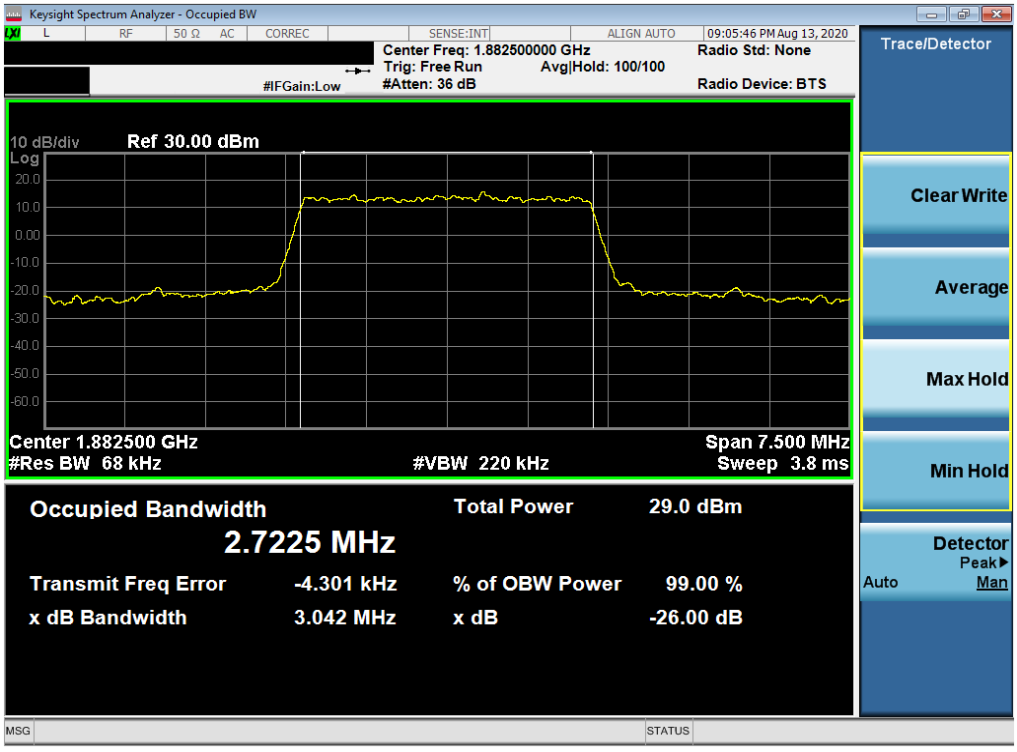
Plot 7-64. Occupied Bandwidth Plot (LTE Band 25/2 - 1.4MHz QPSK - Full RB Configuration)



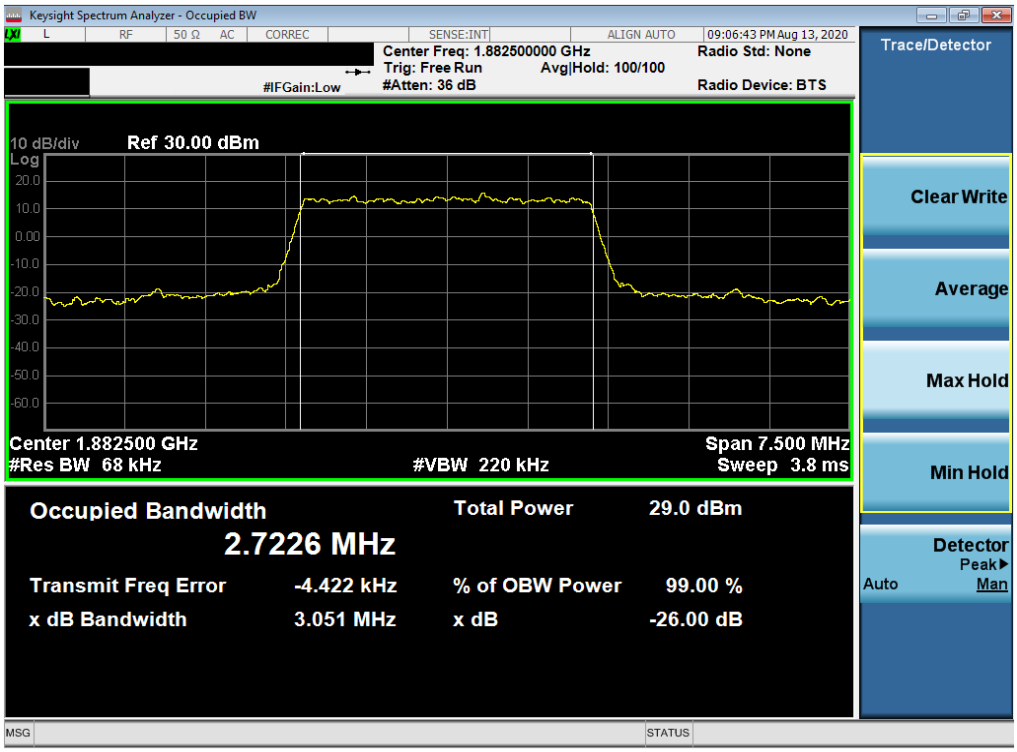
Plot 7-65. Occupied Bandwidth Plot (LTE Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)



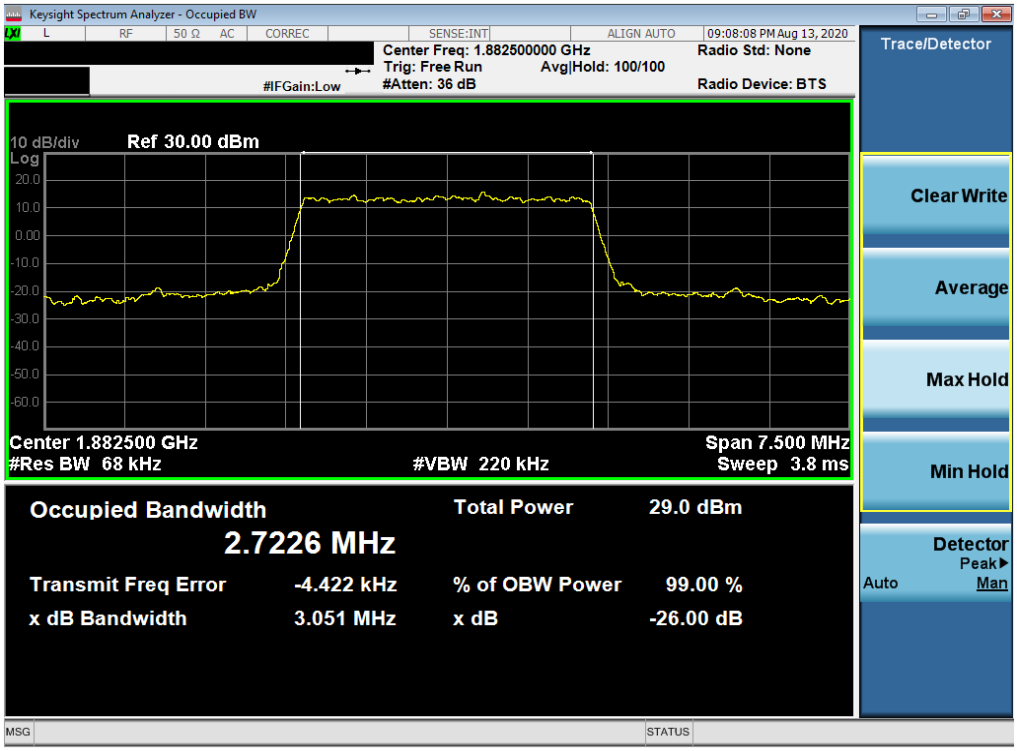
Plot 7-66. Occupied Bandwidth Plot (LTE Band 25/2 - 1.4MHz 64-QAM - Full RB Configuration)



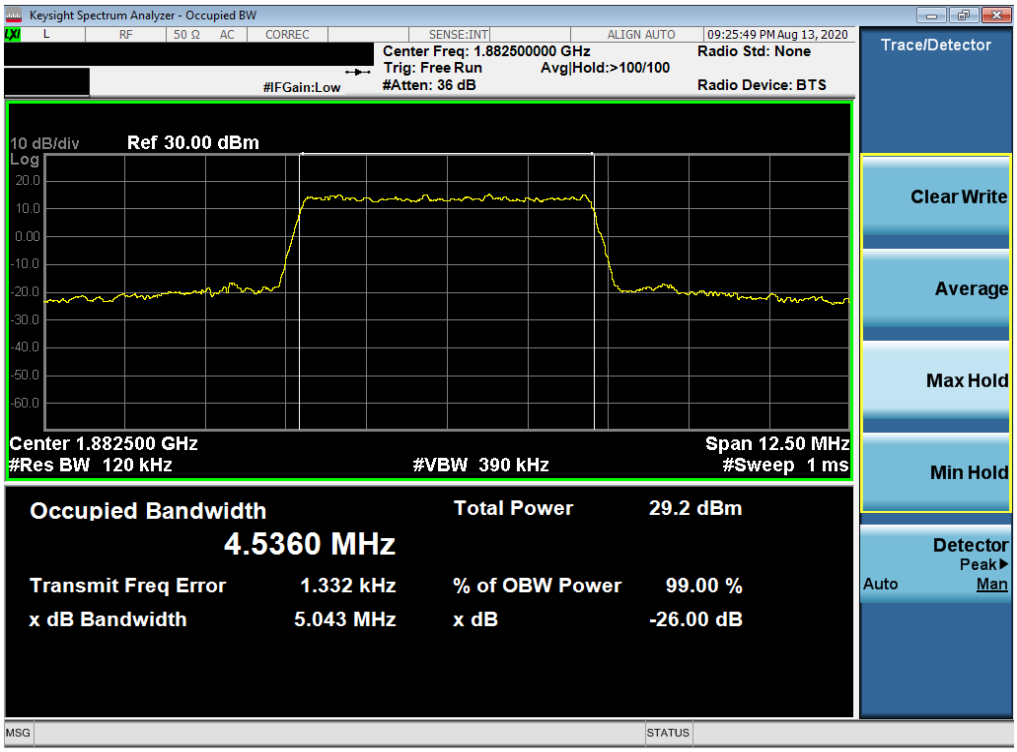
Plot 7-67. Occupied Bandwidth Plot (LTE Band 25/2 - 3MHz QPSK - Full RB Configuration)



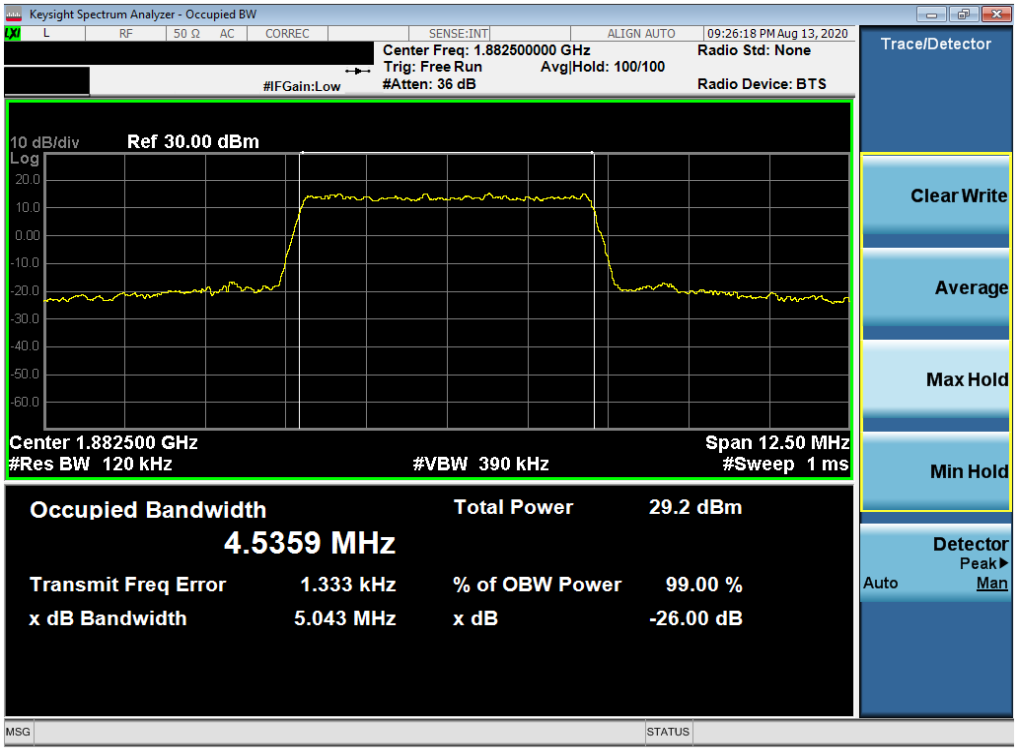
Plot 7-68. Occupied Bandwidth Plot (LTE Band 25/2 - 3MHz 16-QAM - Full RB Configuration)



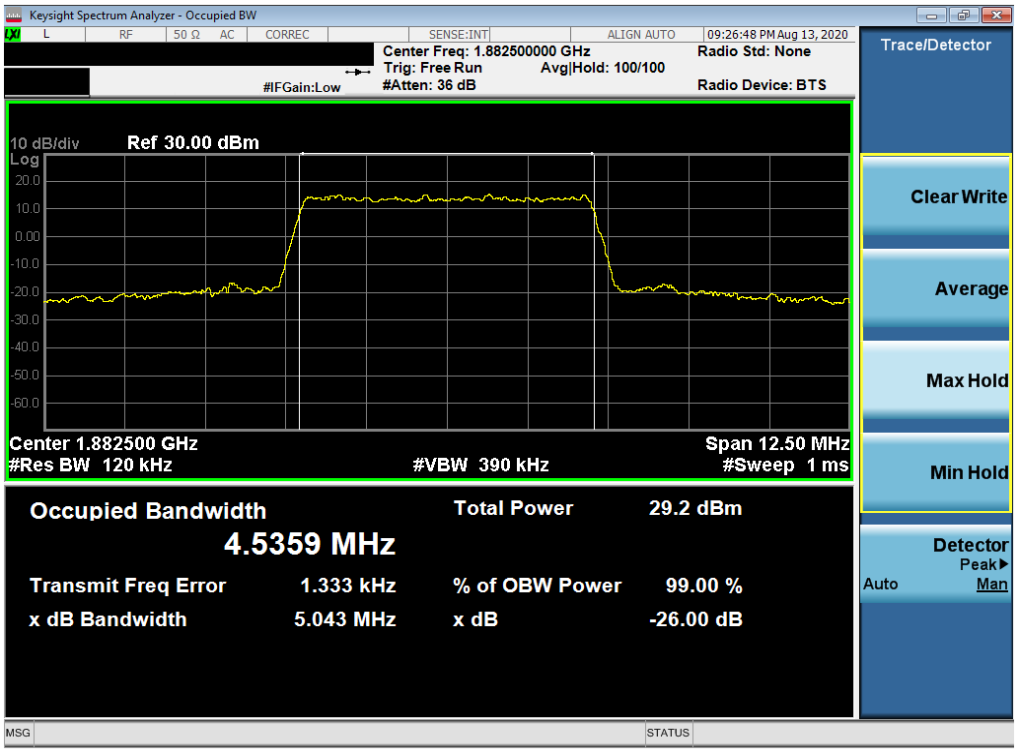
Plot 7-69. Occupied Bandwidth Plot (LTE Band 25/2 - 3MHz 64-QAM - Full RB Configuration)



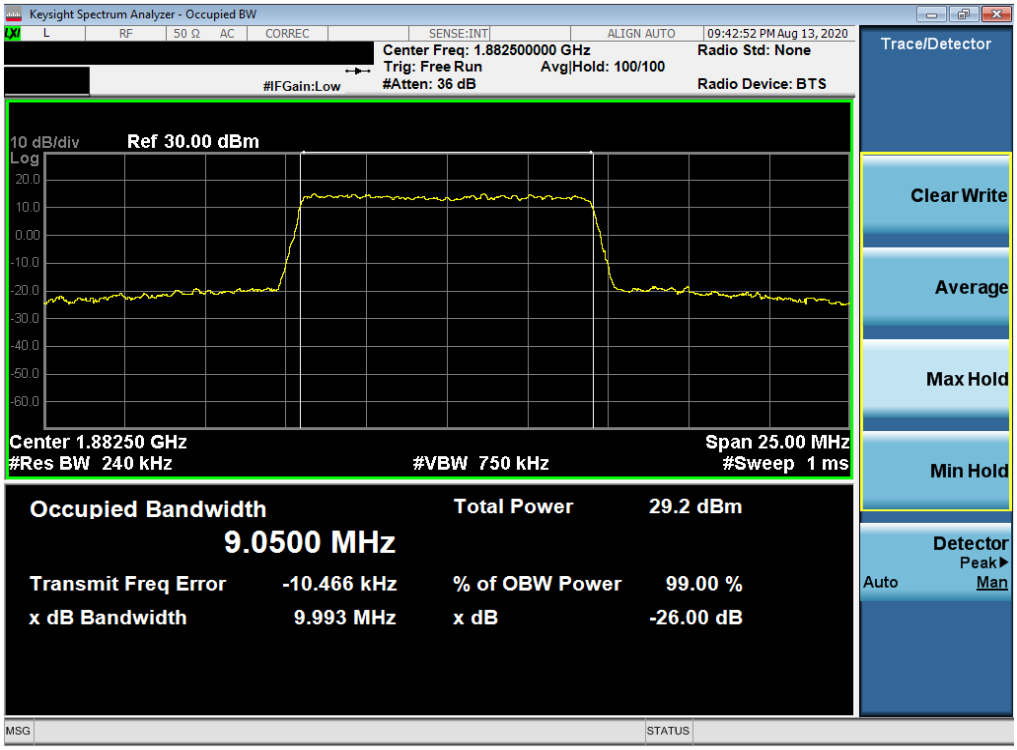
Plot 7-70. Occupied Bandwidth Plot (LTE Band 25/2 - 5MHz QPSK - Full RB Configuration)



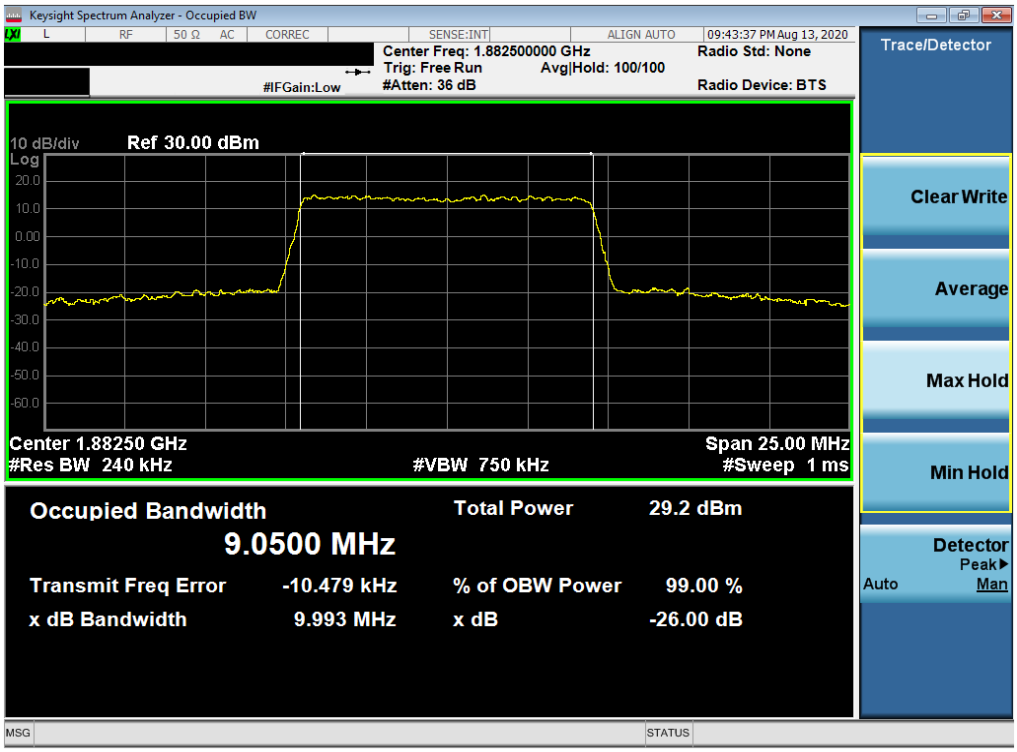
Plot 7-71. Occupied Bandwidth Plot (LTE Band 25/2 - 5MHz 16-QAM - Full RB Configuration)



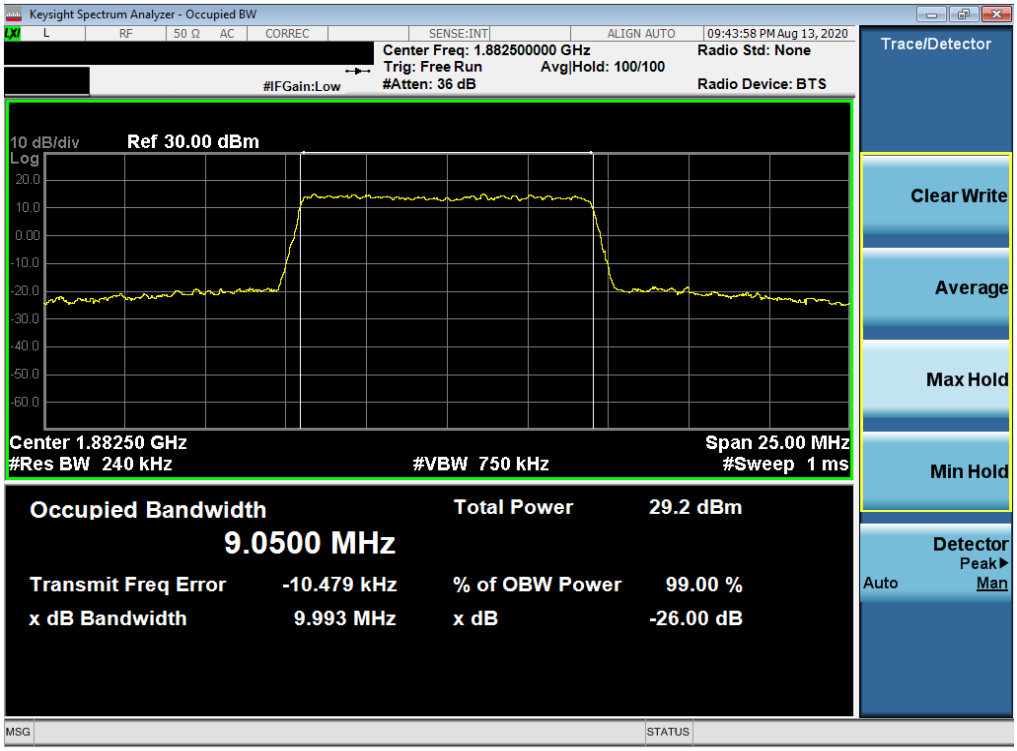
Plot 7-72. Occupied Bandwidth Plot (LTE Band 25/2 - 5MHz 64-QAM - Full RB Configuration)



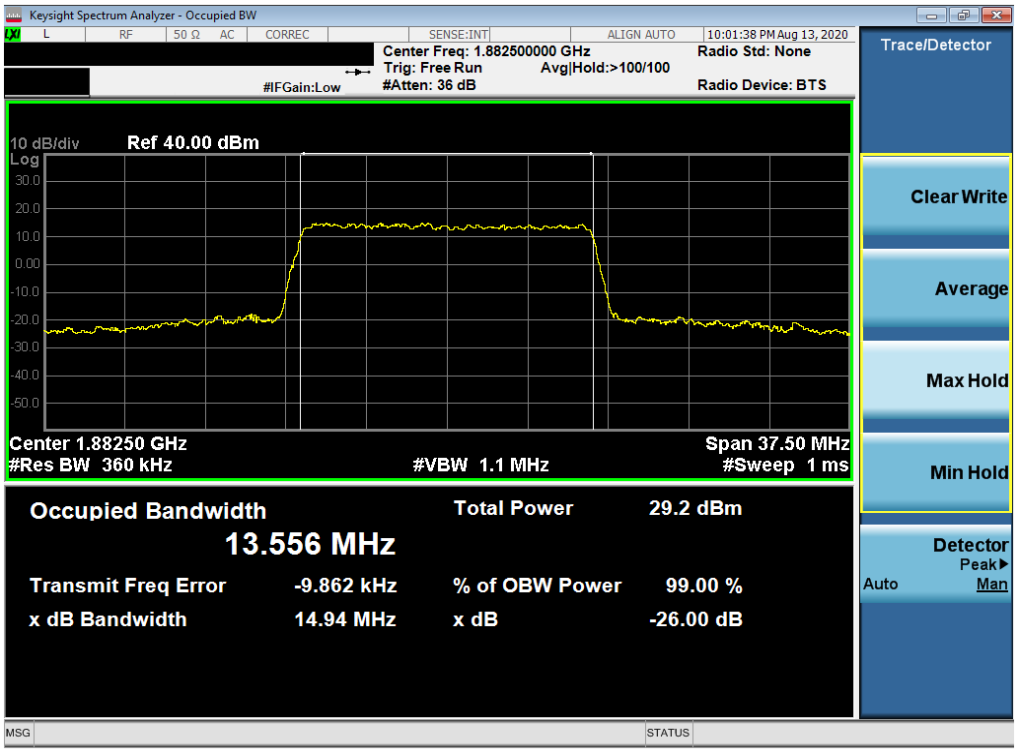
Plot 7-73. Occupied Bandwidth Plot (LTE Band 25/2 - 10MHz QPSK - Full RB Configuration)



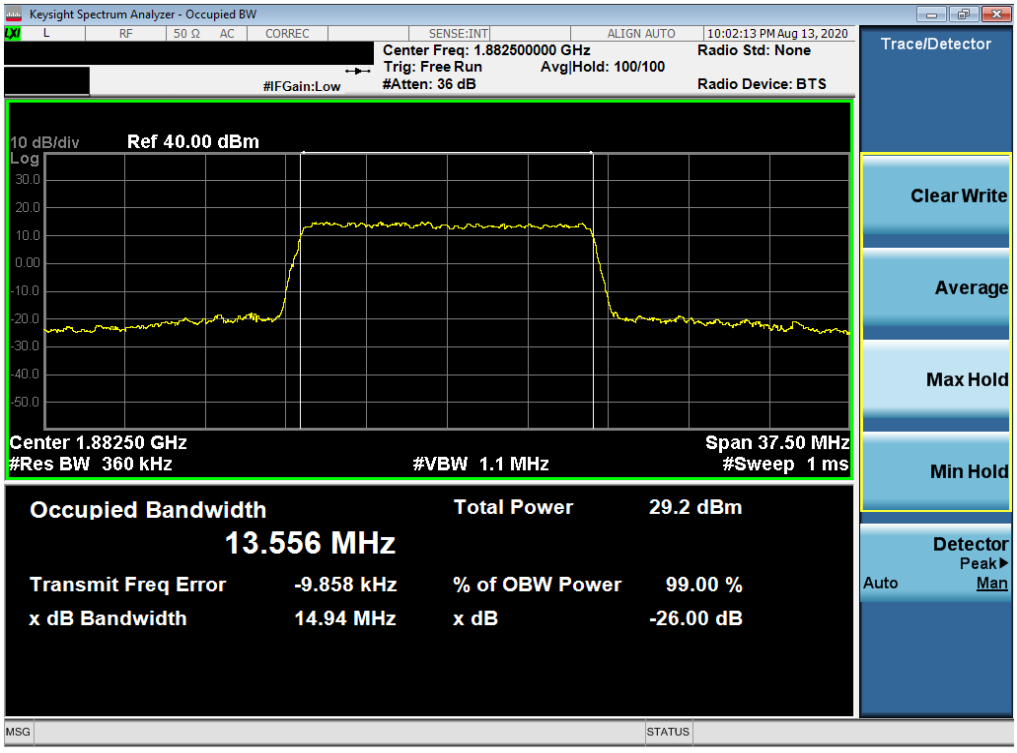
Plot 7-74. Occupied Bandwidth Plot (LTE Band 25/2 - 10MHz 16-QAM - Full RB Configuration)



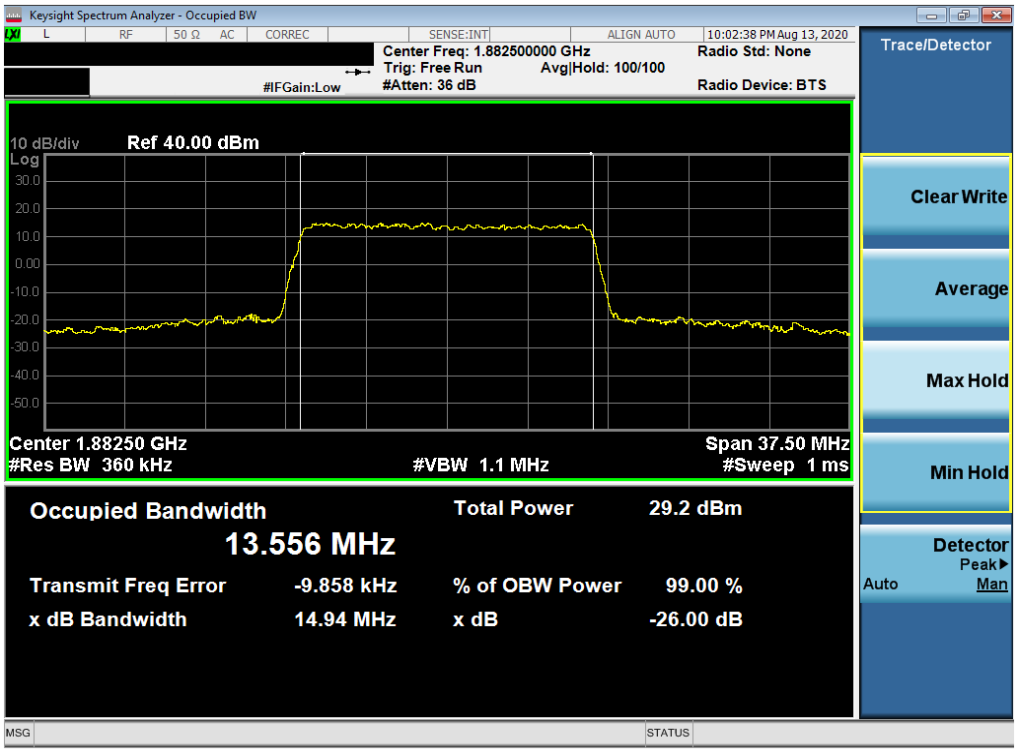
Plot 7-75. Occupied Bandwidth Plot (LTE Band 25/2 - 10MHz 64-QAM - Full RB Configuration)



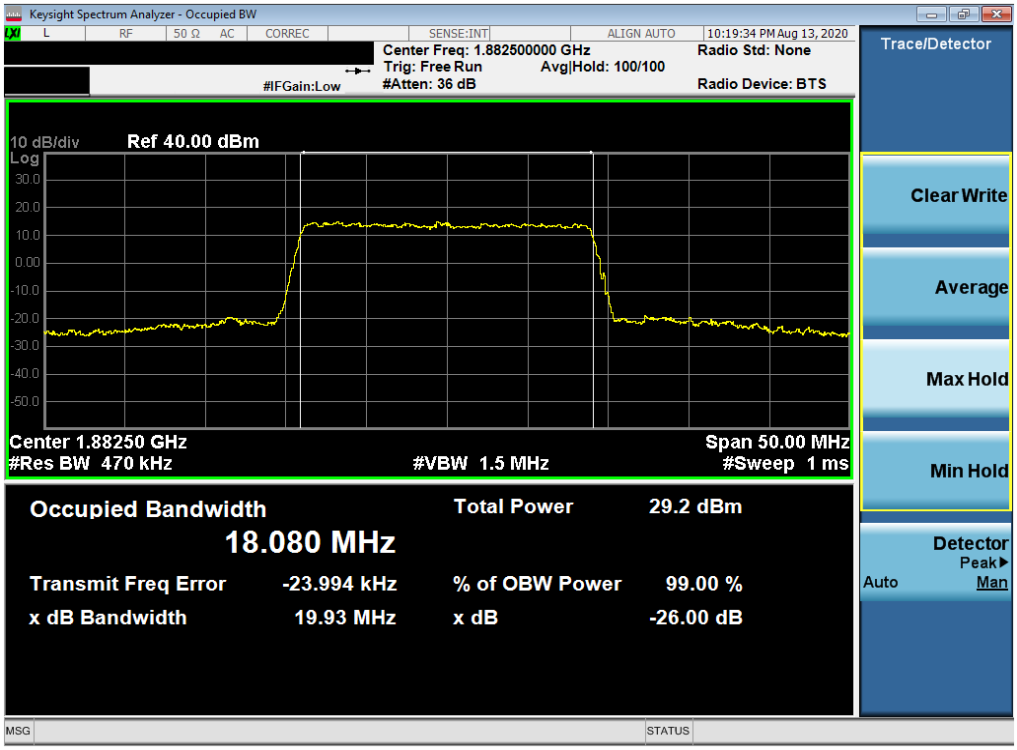
Plot 7-76. Occupied Bandwidth Plot (LTE Band 25/2 - 15MHz QPSK - Full RB Configuration)



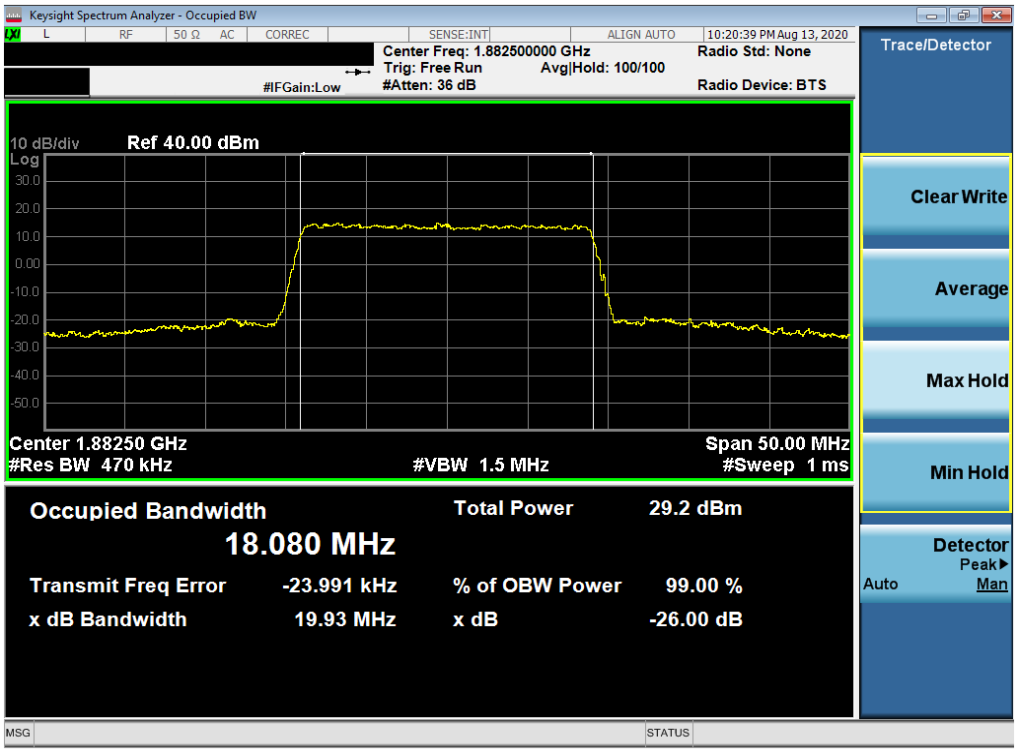
Plot 7-77. Occupied Bandwidth Plot (LTE Band 25/2 - 15MHz 16-QAM - Full RB Configuration)



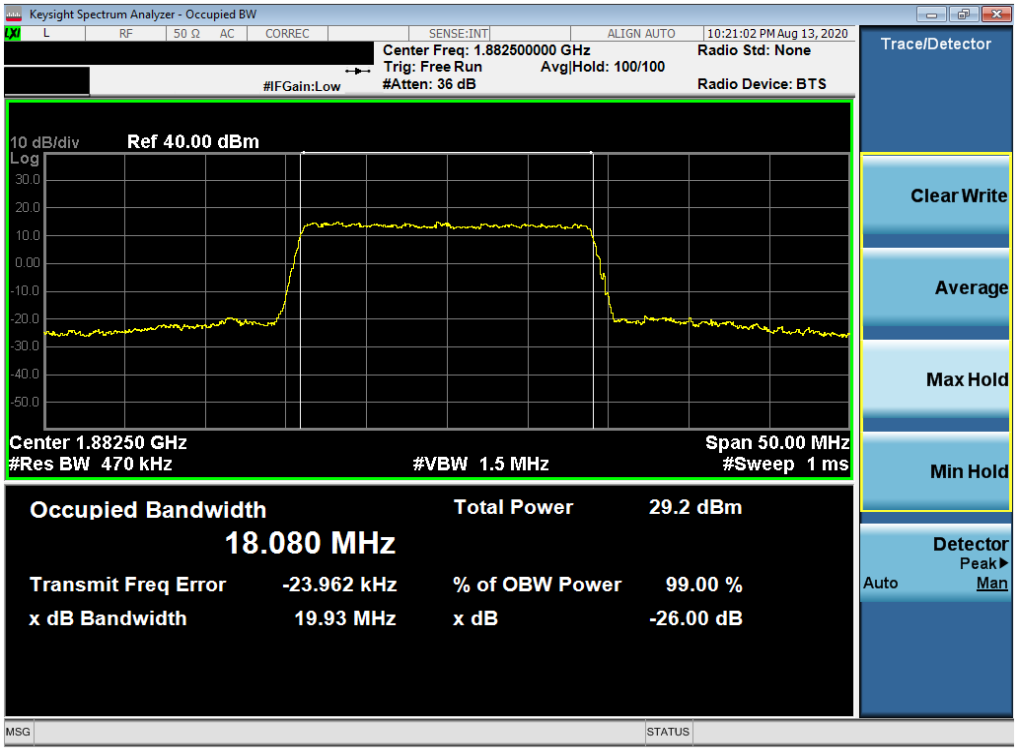
Plot 7-78. Occupied Bandwidth Plot (LTE Band 25/2 - 15MHz 64-QAM - Full RB Configuration)



Plot 7-79. Occupied Bandwidth Plot (LTE Band 25/2 - 20MHz QPSK - Full RB Configuration)

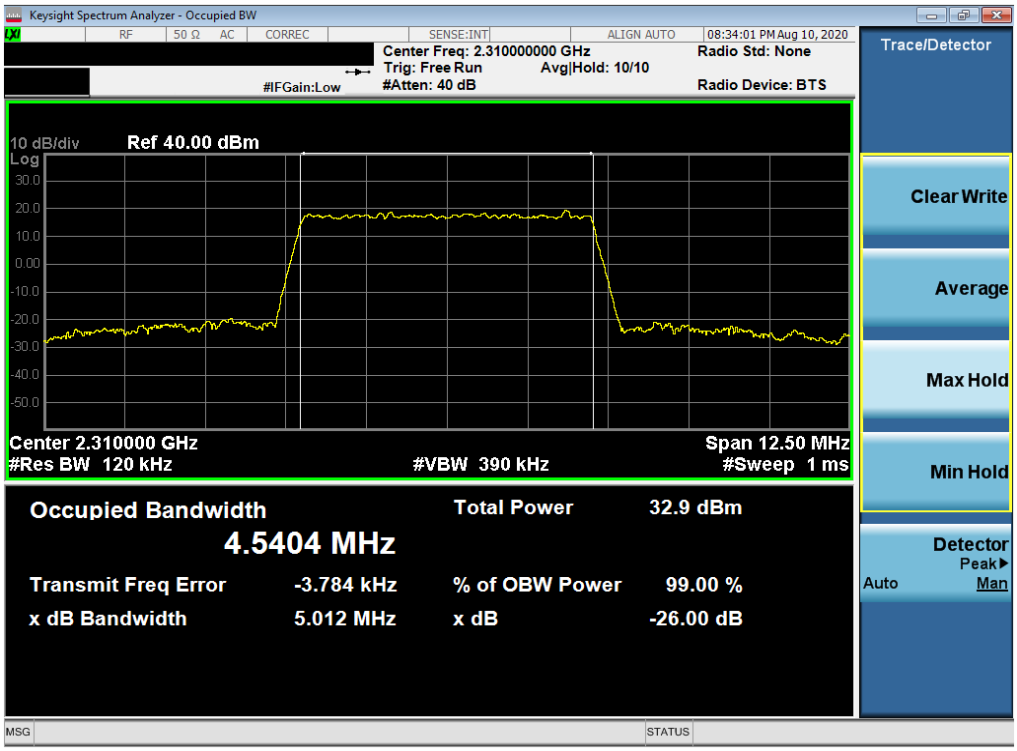


Plot 7-80. Occupied Bandwidth Plot (LTE Band 25/2 - 20MHz 16-QAM - Full RB Configuration)

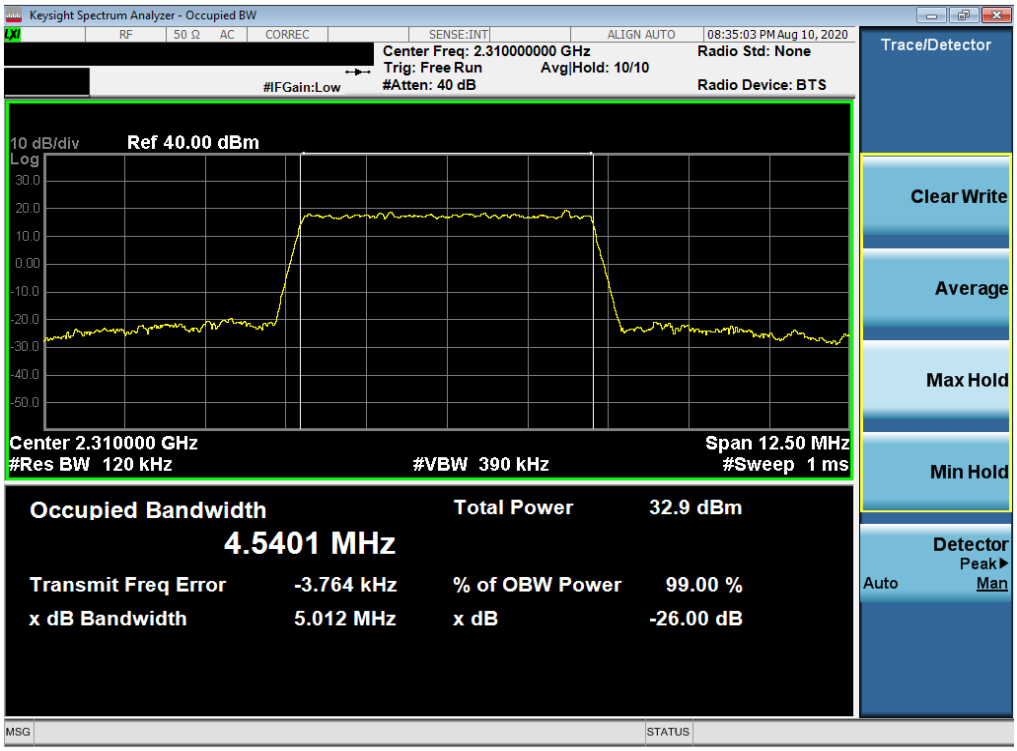


Plot 7-81. Occupied Bandwidth Plot (LTE Band 25/2 - 20MHz 64-QAM - Full RB Configuration)

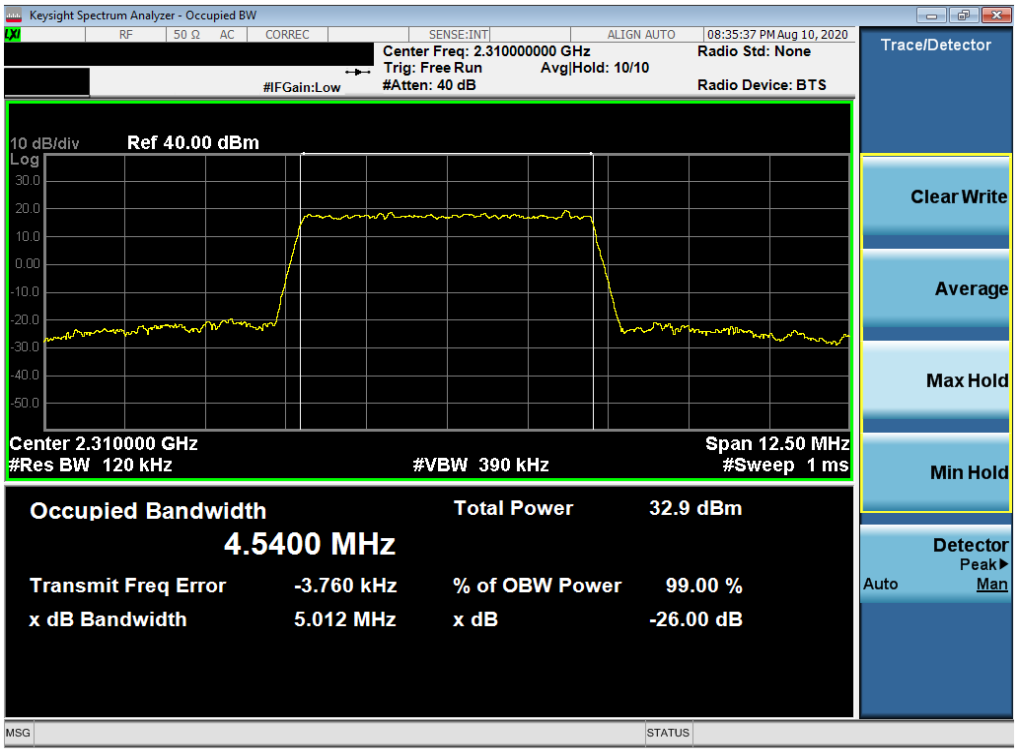
LTE Band 30



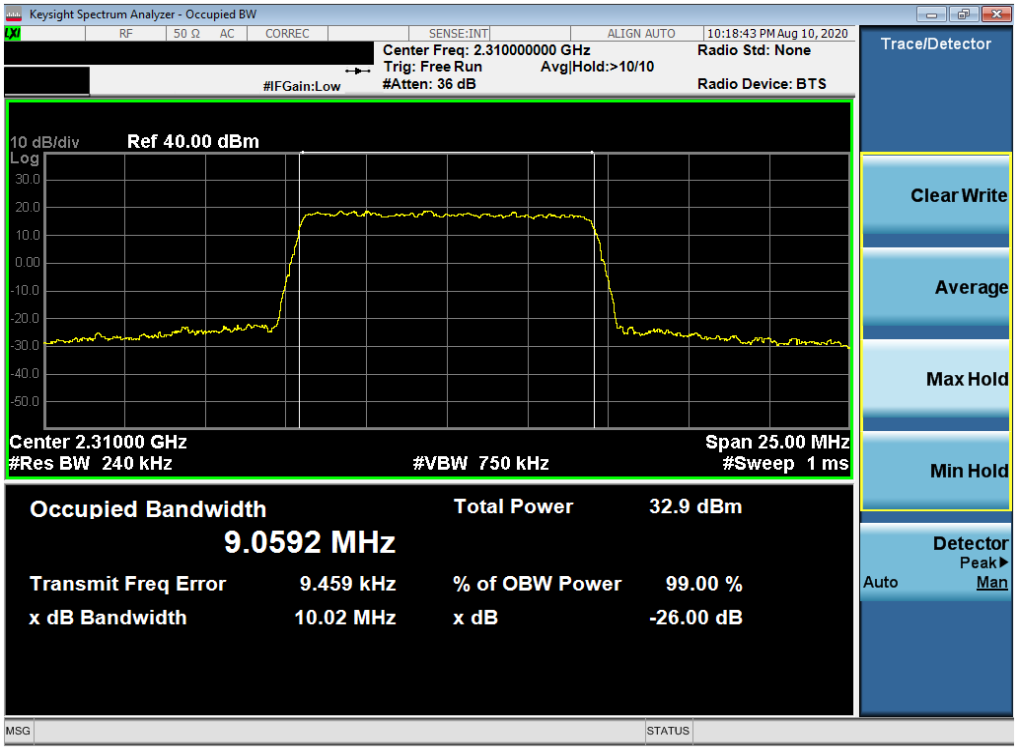
Plot 7-82. Occupied Bandwidth Plot (LTE Band 30 - 5MHz QPSK - Full RB Configuration)



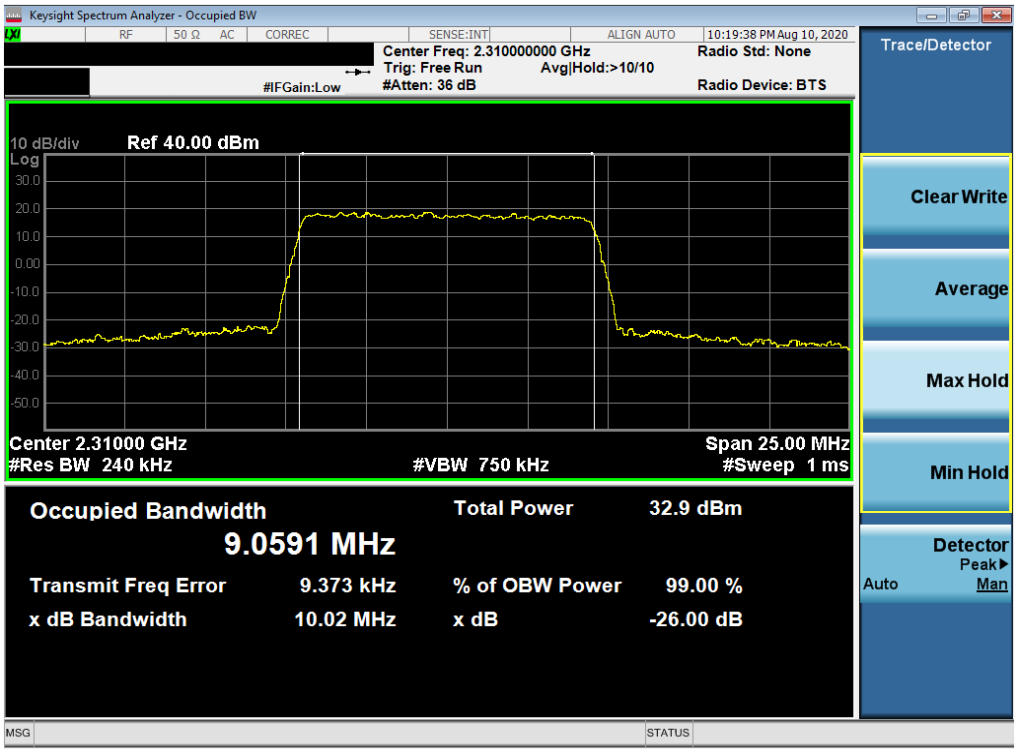
Plot 7-83. Occupied Bandwidth Plot (LTE Band 30 - 5MHz 16-QAM - Full RB Configuration)



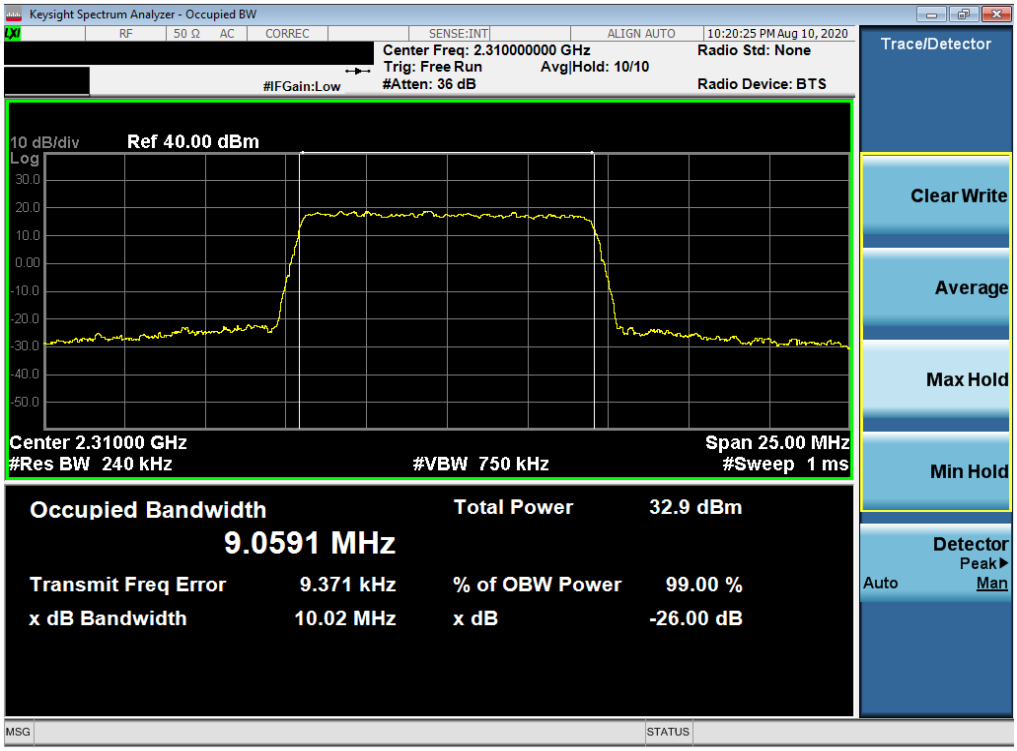
Plot 7-84. Occupied Bandwidth Plot (LTE Band 30 - 5MHz 64-QAM - Full RB Configuration)



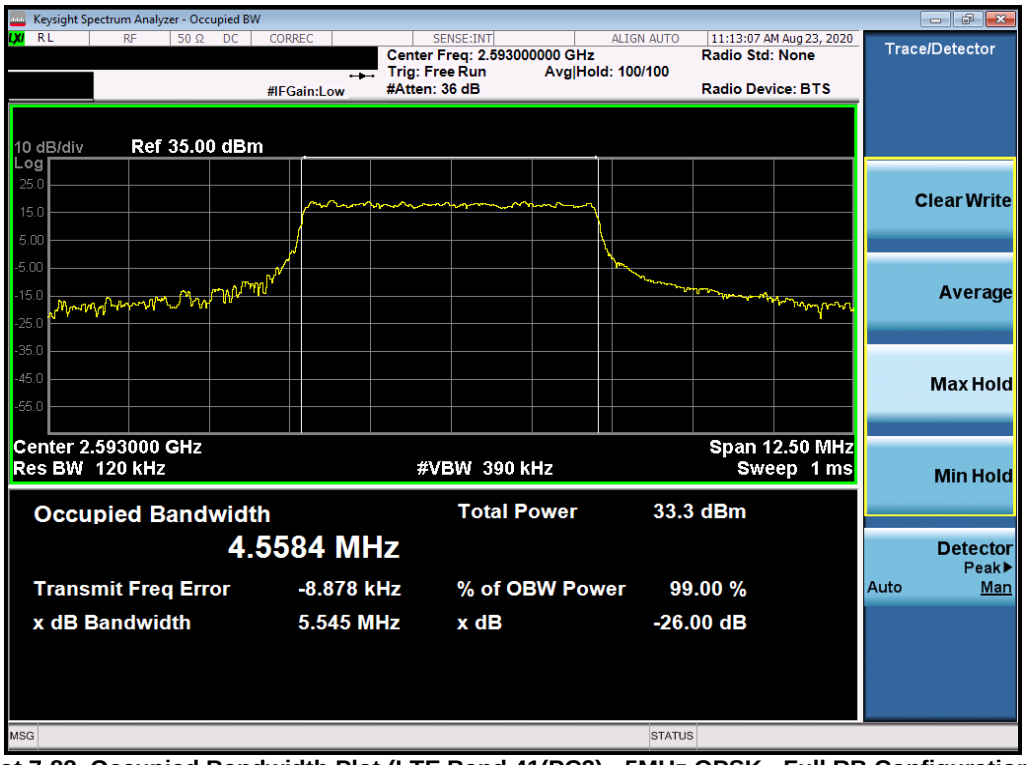
Plot 7-85. Occupied Bandwidth Plot (LTE Band 30 - 10MHz QPSK - Full RB Configuration)



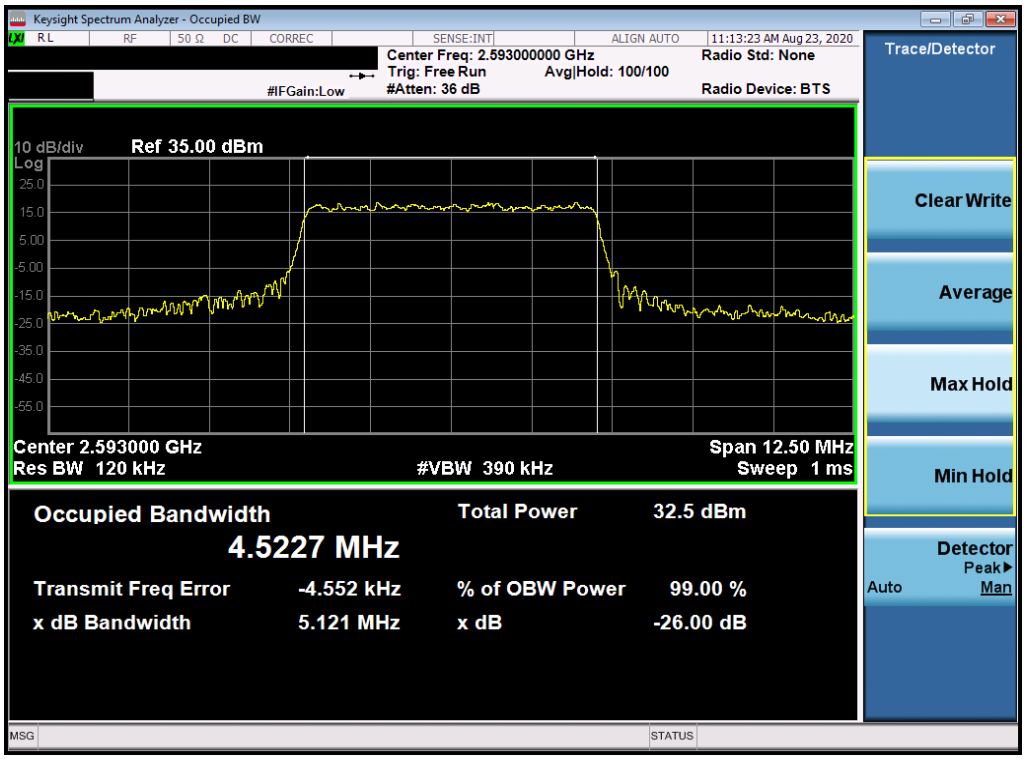
Plot 7-86. Occupied Bandwidth Plot (LTE Band 30 - 10MHz 16-QAM - Full RB Configuration)



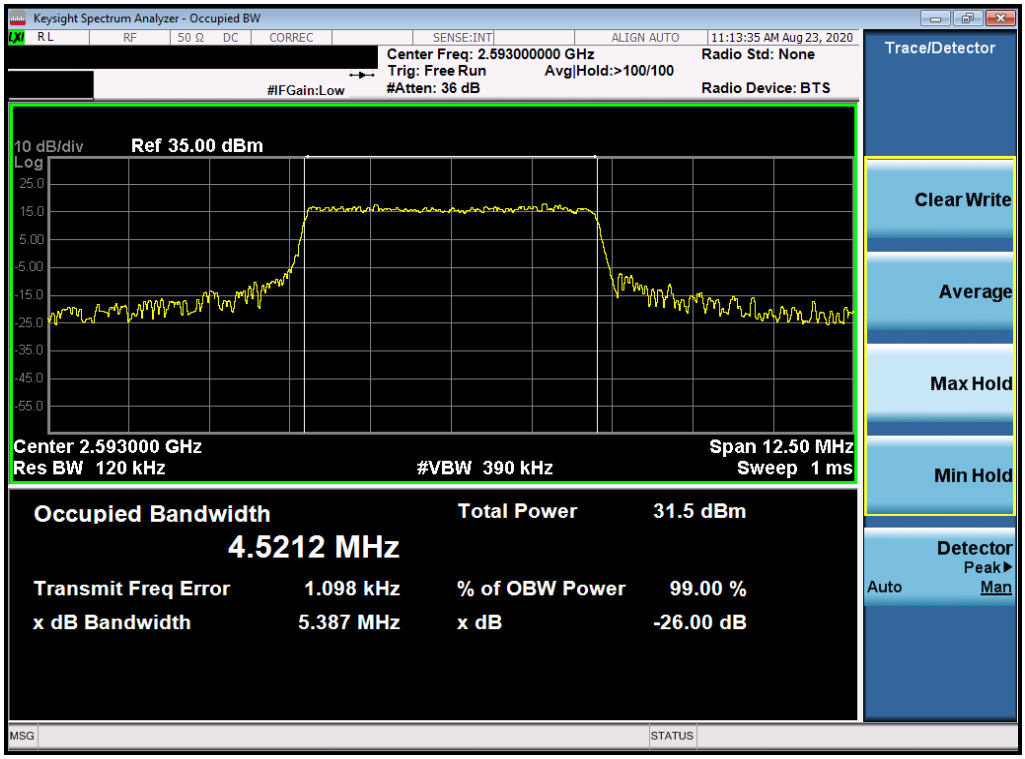
Plot 7-87. Occupied Bandwidth Plot (LTE Band 30 - 10MHz 64-QAM - Full RB Configuration)



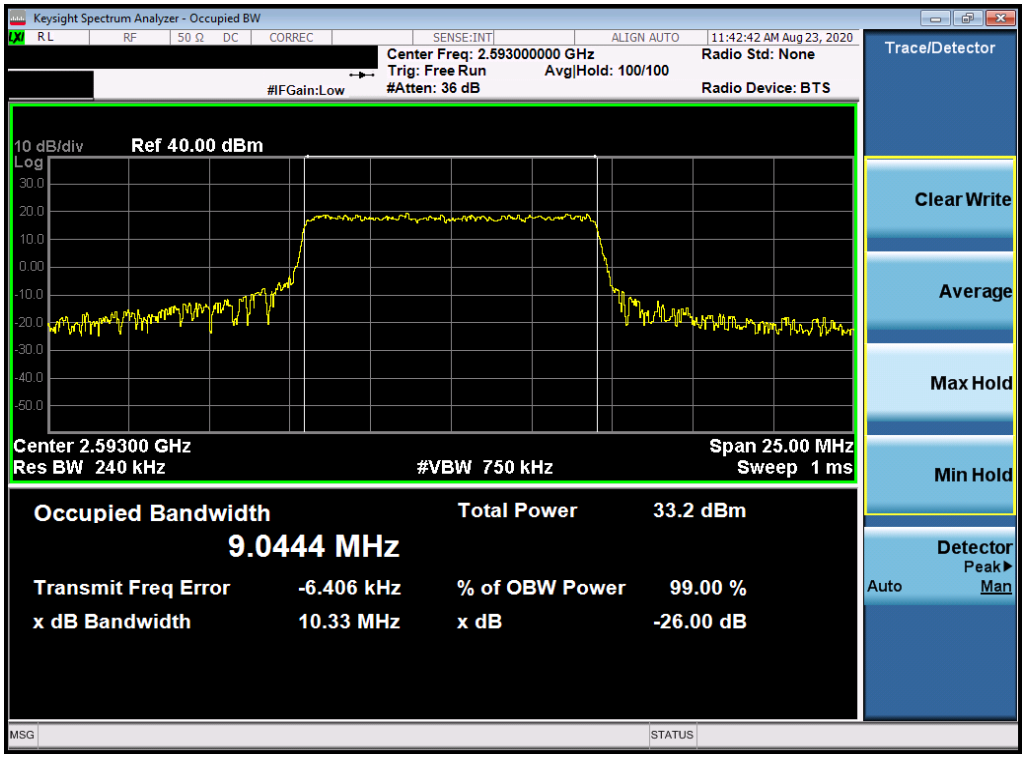
Plot 7-88. Occupied Bandwidth Plot (LTE Band 41(PC3) - 5MHz QPSK - Full RB Configuration)



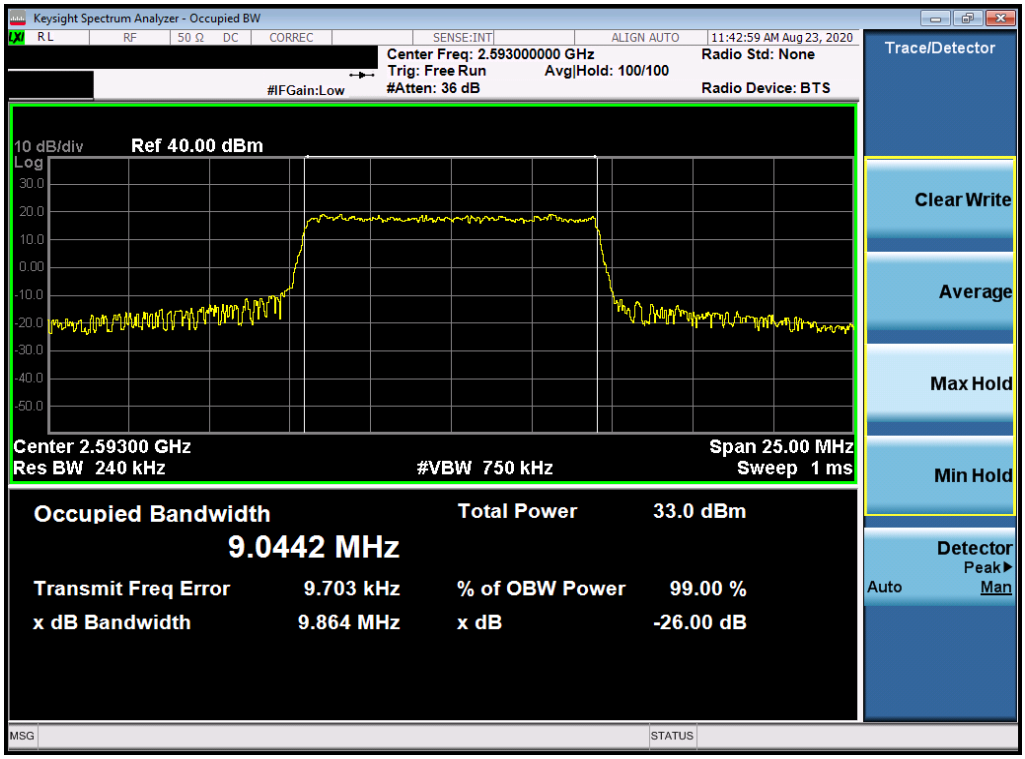
Plot 7-89. Occupied Bandwidth Plot (LTE Band 41(PC3) - 5MHz 16-QAM - Full RB Configuration)



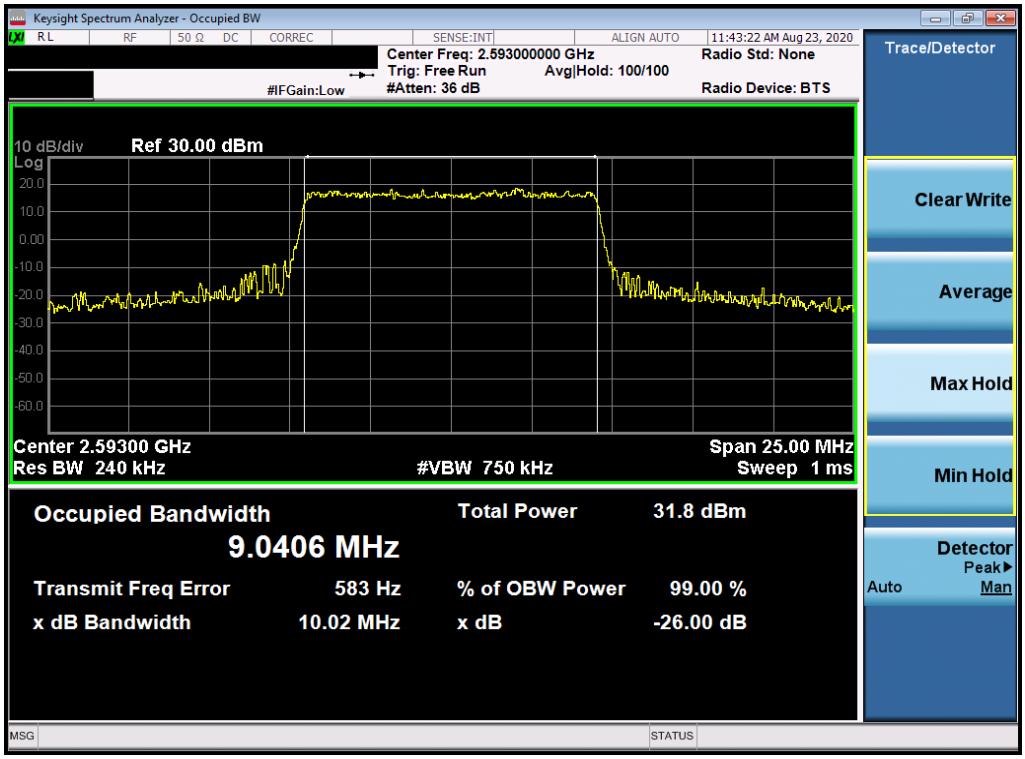
Plot 7-90. Occupied Bandwidth Plot (LTE Band 41(PC3) - 5MHz 64-QAM - Full RB Configuration)



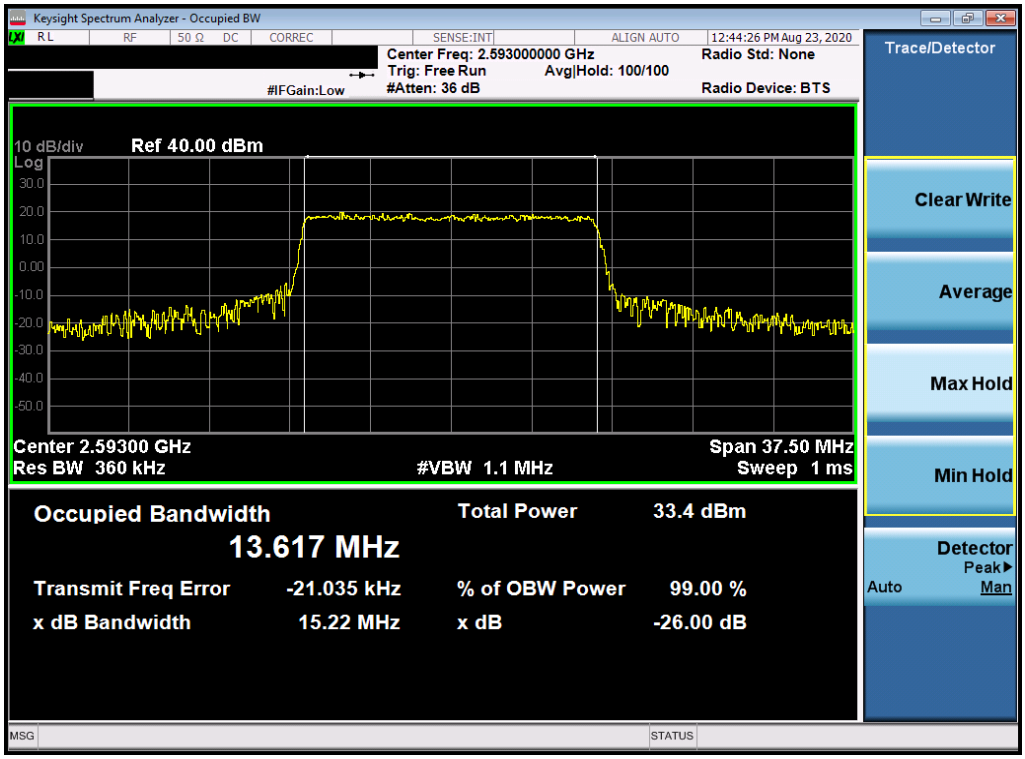
Plot 7-91. Occupied Bandwidth Plot (LTE Band 41(PC3) - 10MHz QPSK - Full RB Configuration)



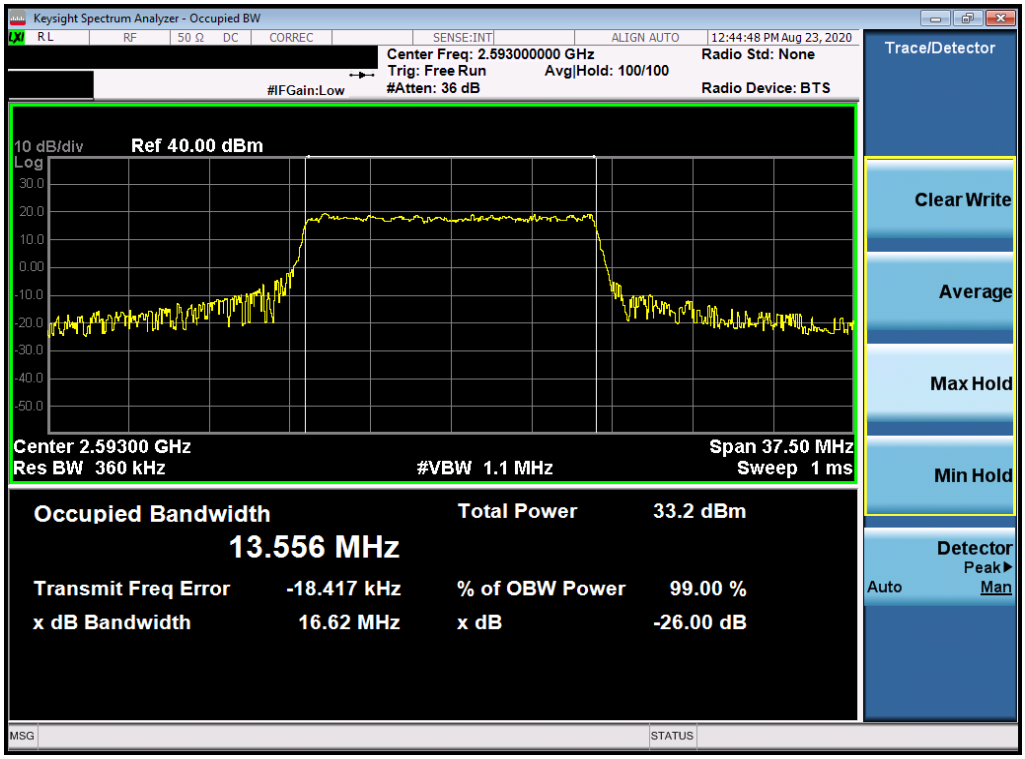
Plot 7-92. Occupied Bandwidth Plot (LTE Band 41(PC3) - 10MHz 16-QAM - Full RB Configuration)



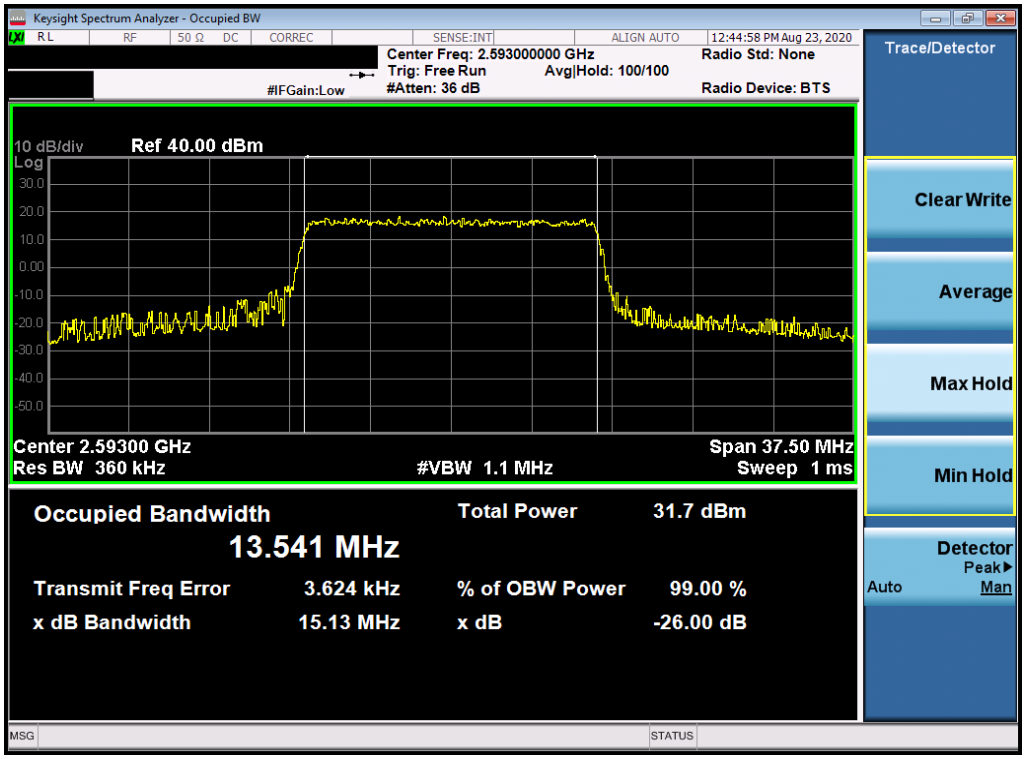
Plot 7-93. Occupied Bandwidth Plot (LTE Band 41(PC3) - 10MHz 64-QAM - Full RB Configuration)



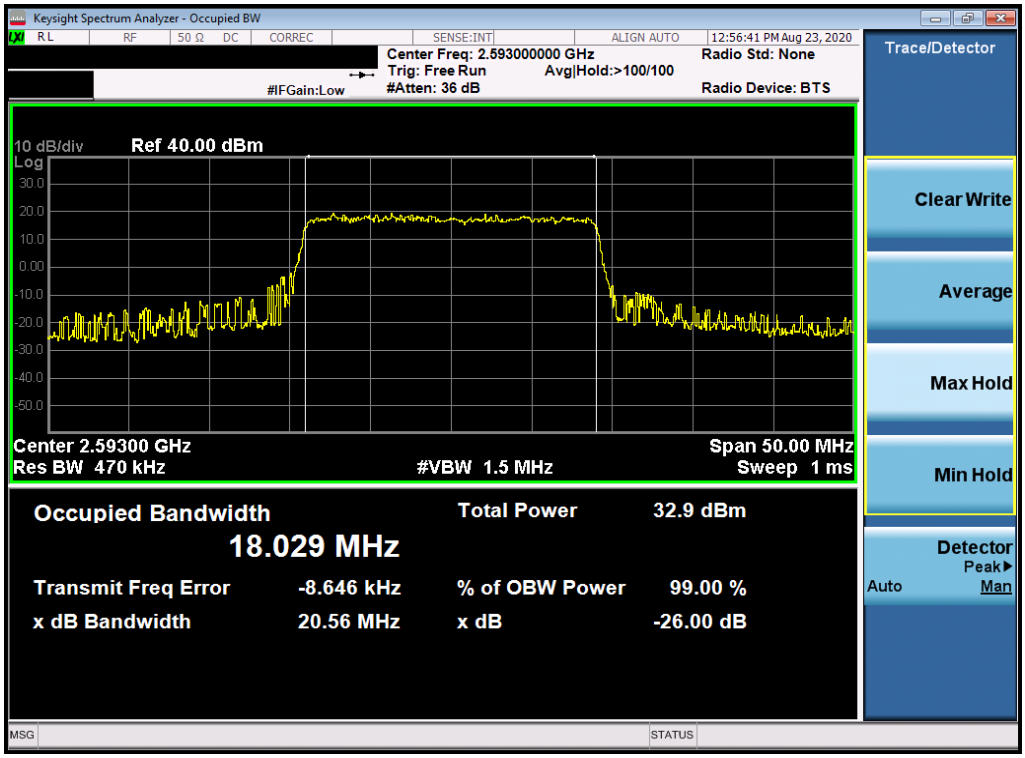
Plot 7-94. Occupied Bandwidth Plot (LTE Band 41(PC3) - 15MHz QPSK - Full RB Configuration)



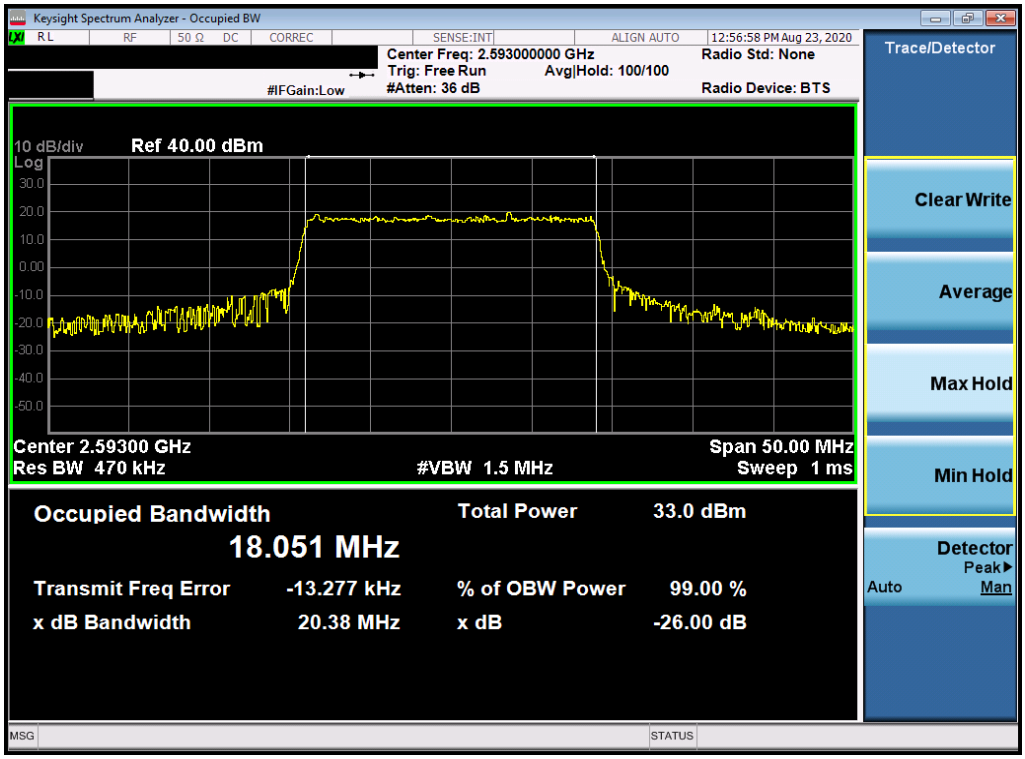
Plot 7-95. Occupied Bandwidth Plot (LTE Band 41(PC3) - 15MHz 16-QAM - Full RB Configuration)



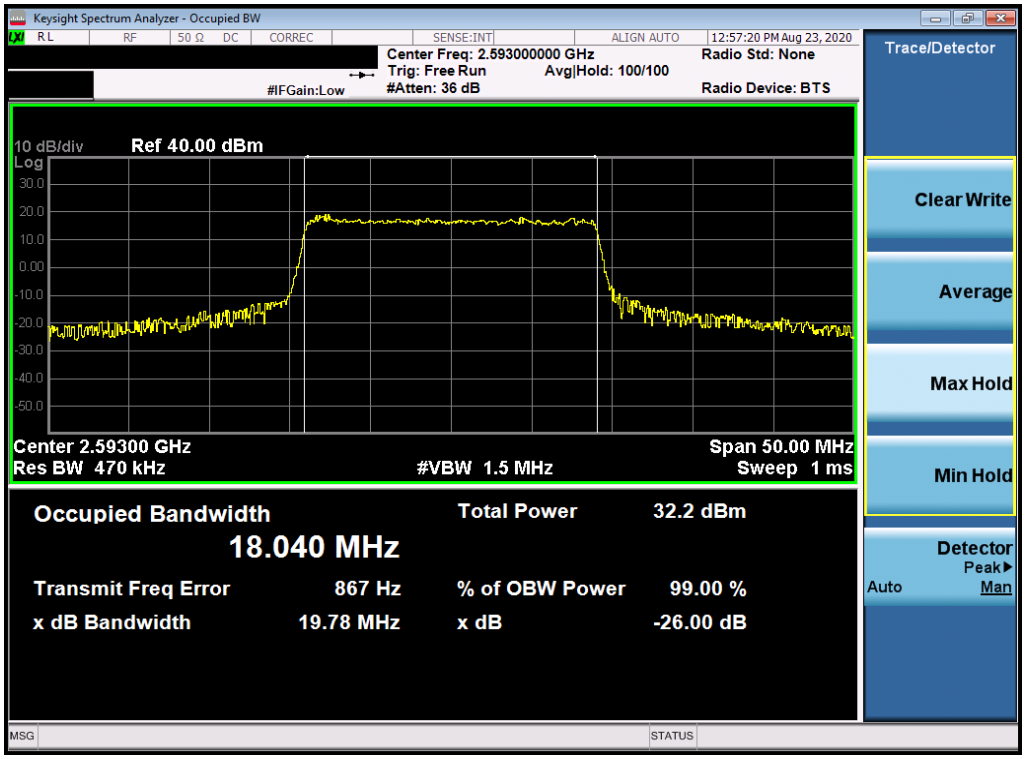
Plot 7-96. Occupied Bandwidth Plot (LTE Band 41(PC3) - 15MHz 64-QAM - Full RB Configuration)



Plot 7-97. Occupied Bandwidth Plot (LTE Band 41(PC3) - 20MHz QPSK - Full RB Configuration)

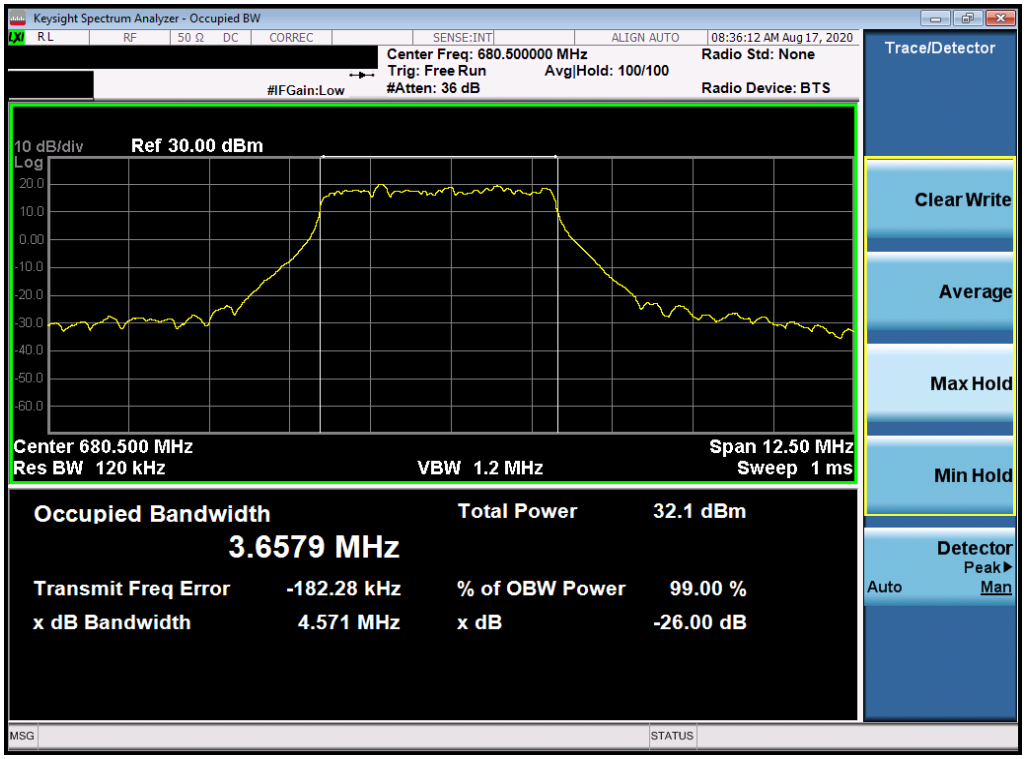


Plot 7-98. Occupied Bandwidth Plot (LTE Band 41(PC3) - 20MHz 16-QAM - Full RB Configuration)

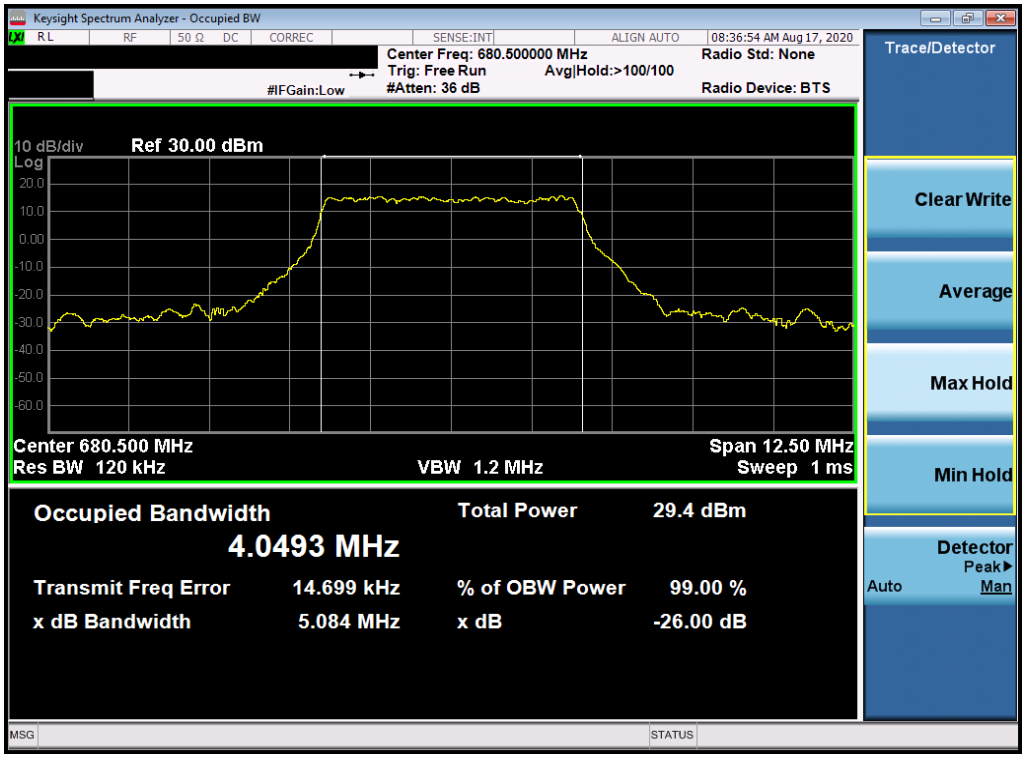


Plot 7-99. Occupied Bandwidth Plot (LTE Band 41(PC3) - 20MHz 64-QAM - Full RB Configuration)

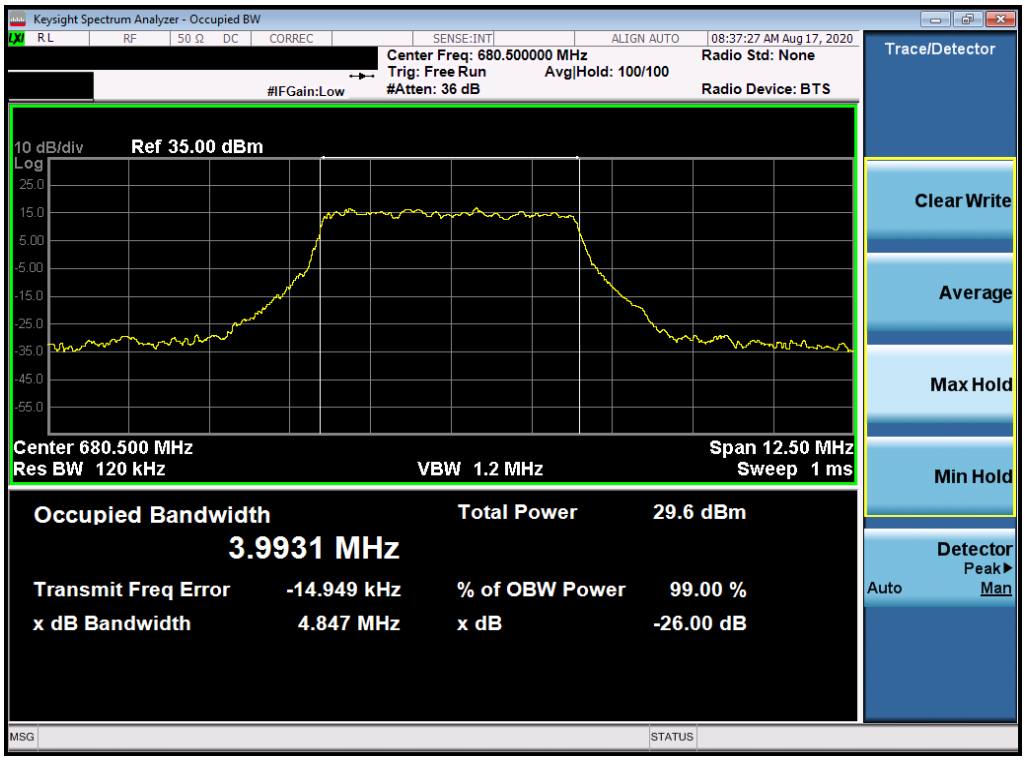
NR Band n71



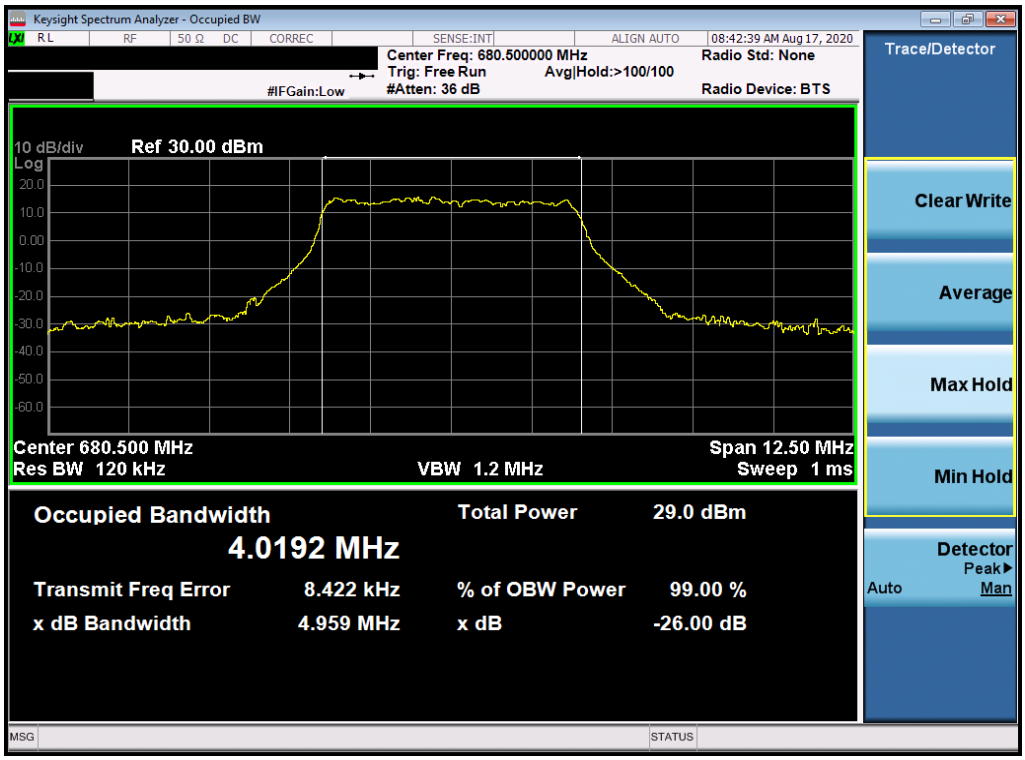
Plot 7-100. Occupied Bandwidth Plot (NR Band n71 - 5.0MHz DFT-s-OFDM BPSK - Full RB)



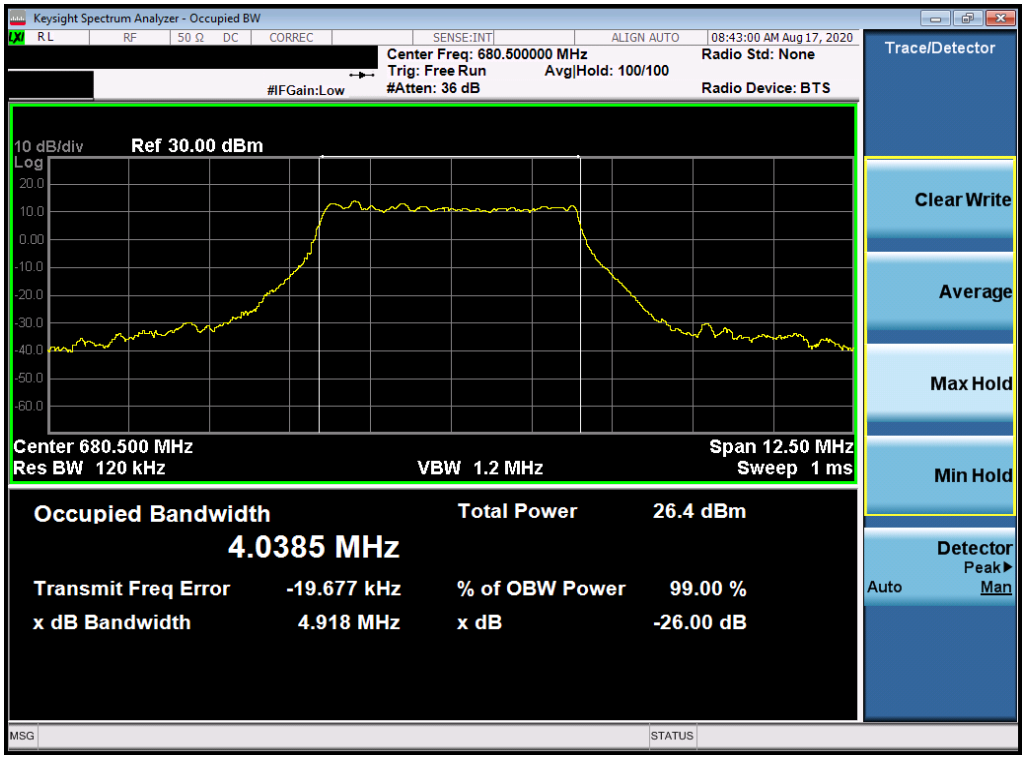
Plot 7-101. Occupied Bandwidth Plot (NR Band n71 - 5.0MHz CP-OFDM QPSK - Full RB)



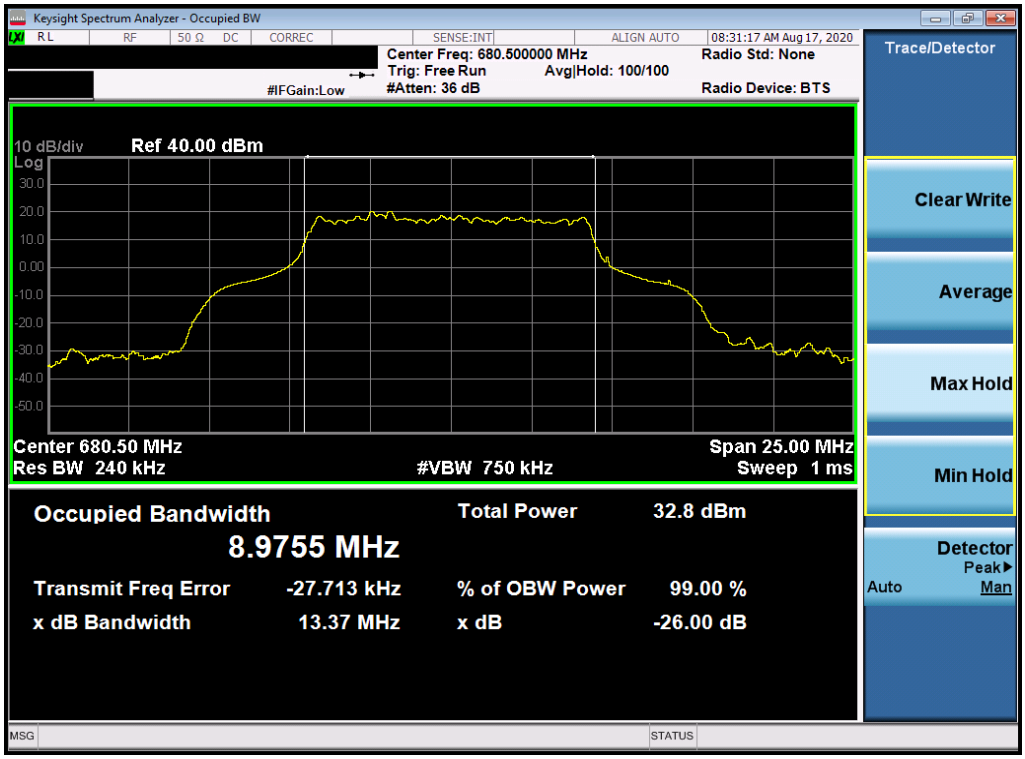
Plot 7-102. Occupied Bandwidth Plot (NR Band n71 - 5MHz CP-OFDM 16-QAM - Full RB)



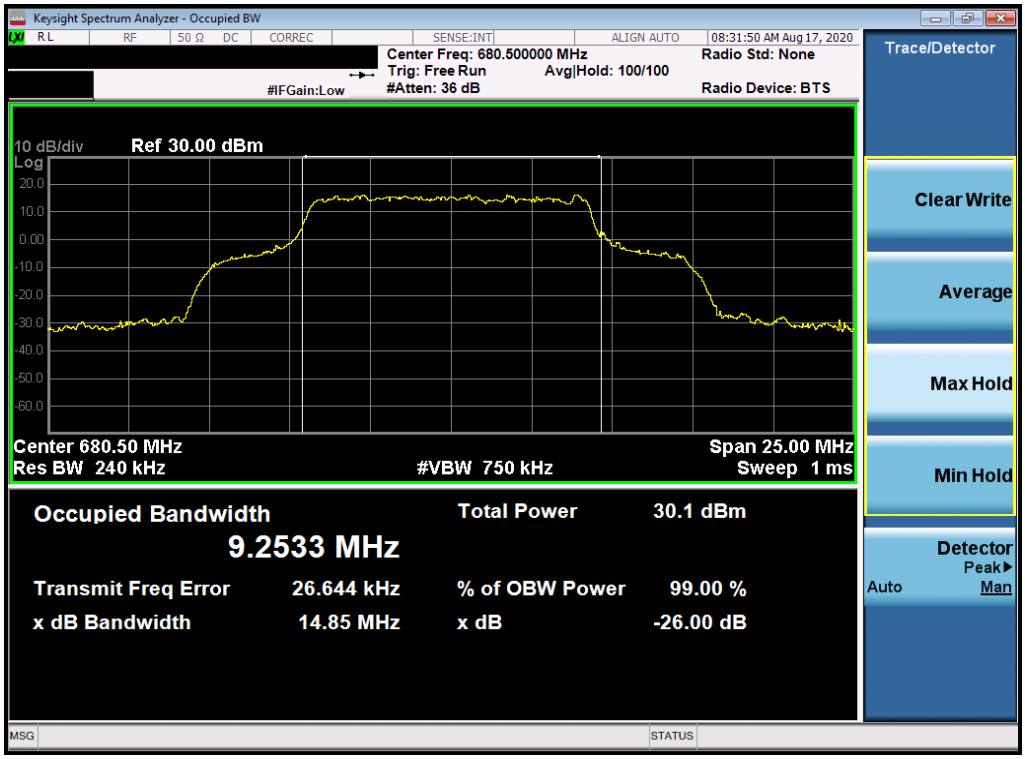
Plot 7-103. Occupied Bandwidth Plot (NR Band n71 - 5MHz CP-OFDM 64-QAM - Full RB)



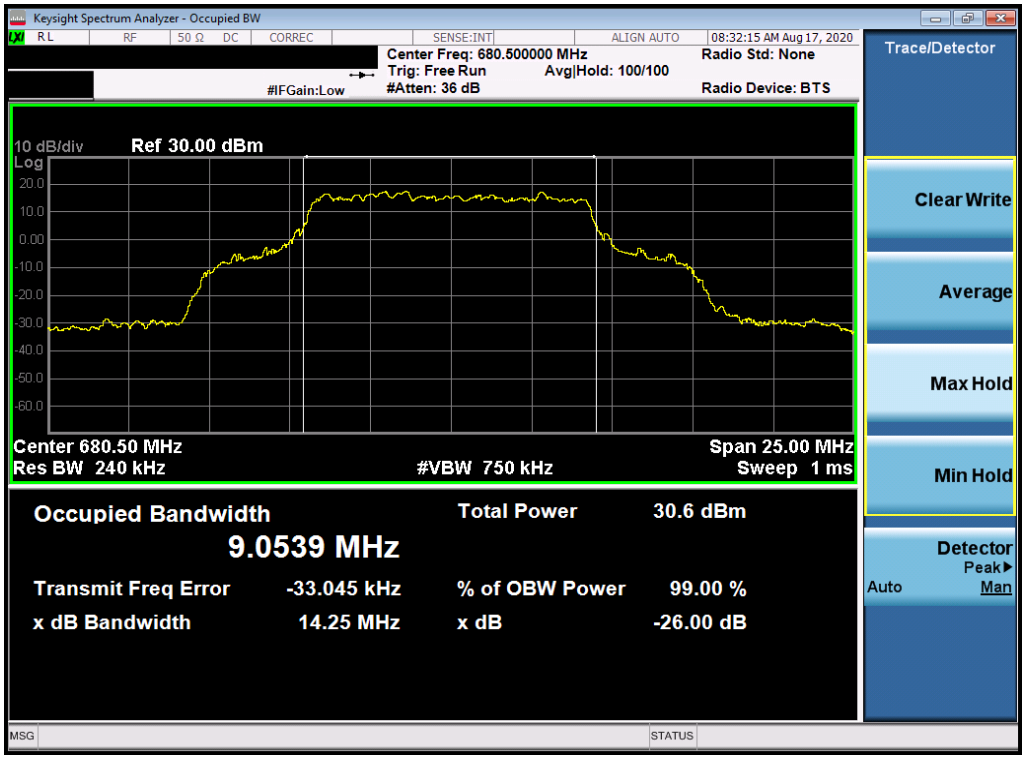
Plot 7-104. Occupied Bandwidth Plot (NR Band n71 - 5MHz CP-OFDM 256-QAM - Full RB)



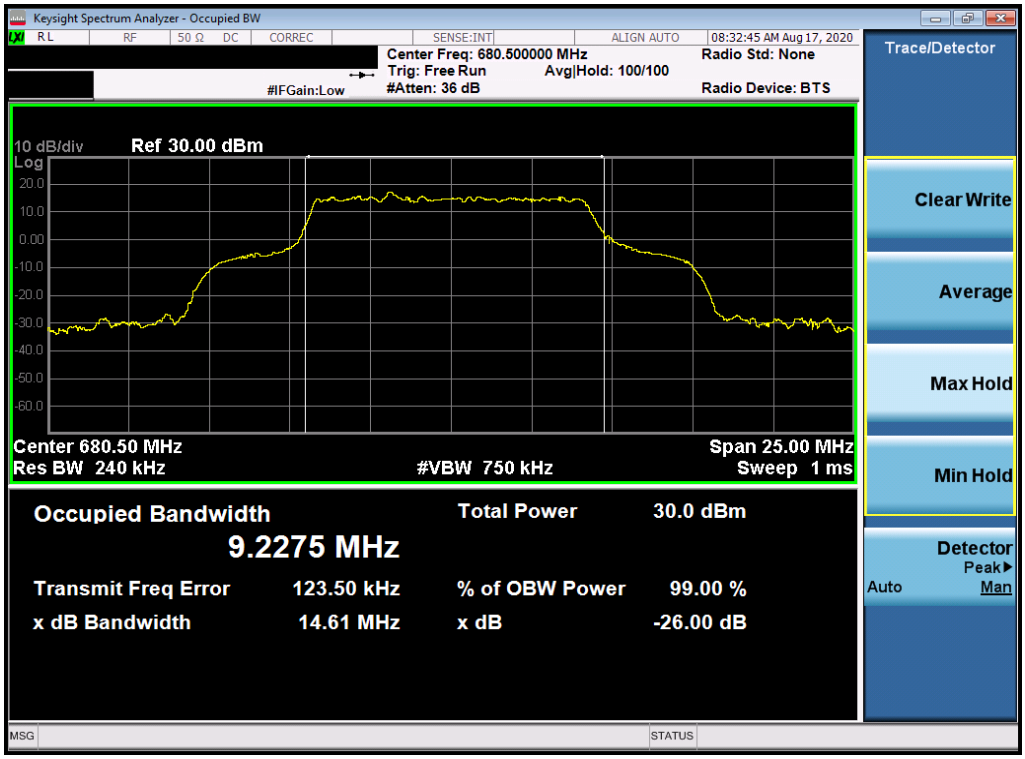
Plot 7-105. Occupied Bandwidth Plot (NR Band n71 - 10MHz DFT-s-OFDM BPSK - Full RB)



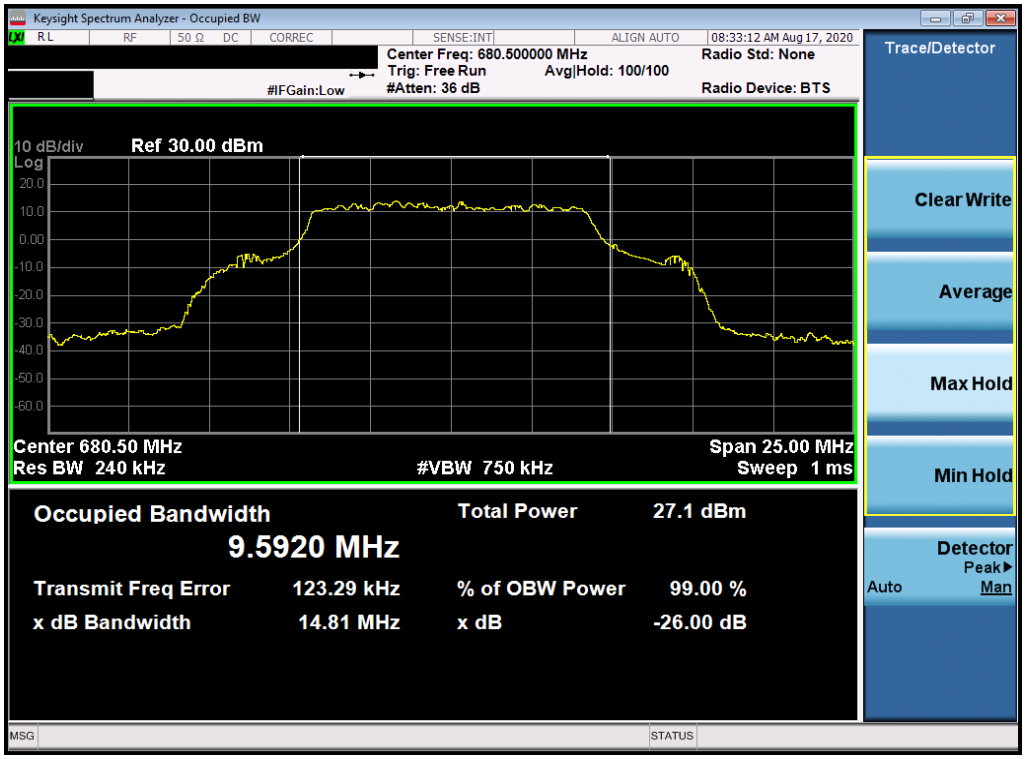
Plot 7-106. Occupied Bandwidth Plot (NR Band n71 - 10MHz CP-OFDM QPSK - Full RB)



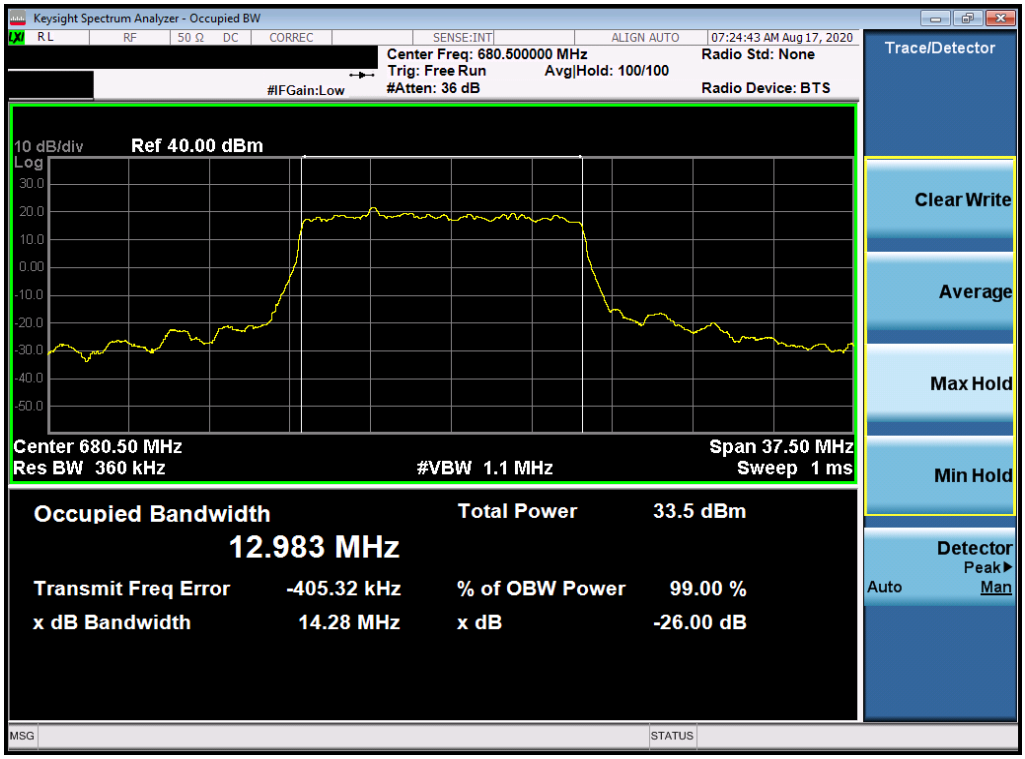
Plot 7-107. Occupied Bandwidth Plot (NR Band n71 - 10MHz CP-OFDM 16-QAM - Full RB)



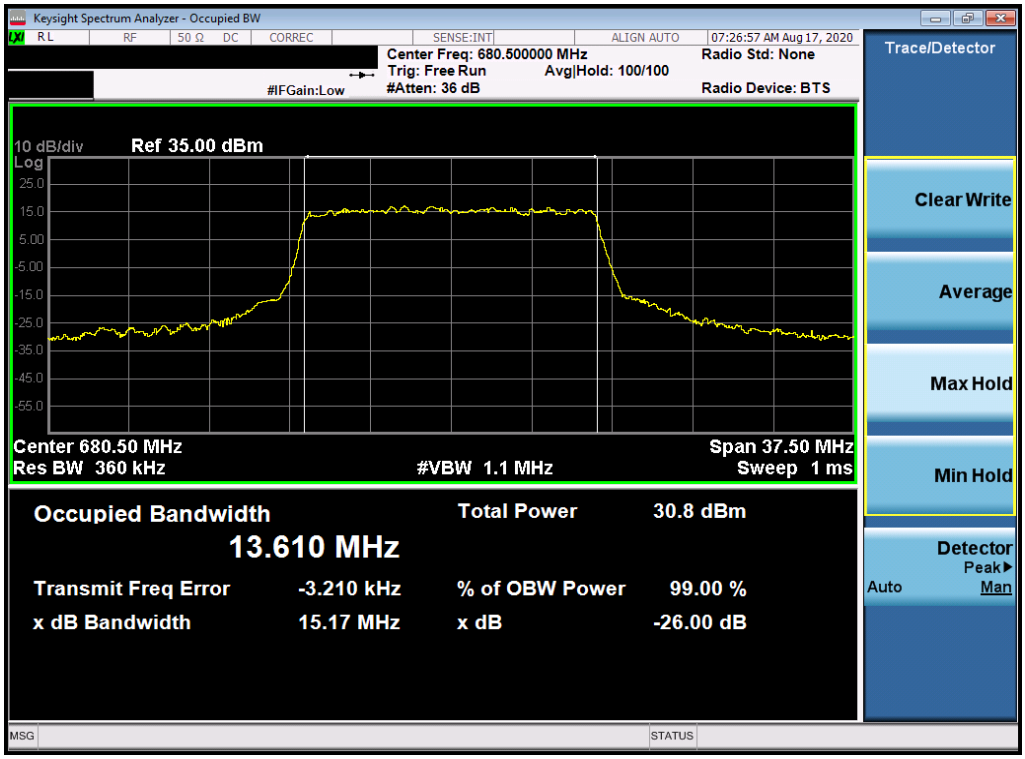
Plot 7-108. Occupied Bandwidth Plot (NR Band n71 - 10MHz CP-OFDM 64-QAM - Full RB)



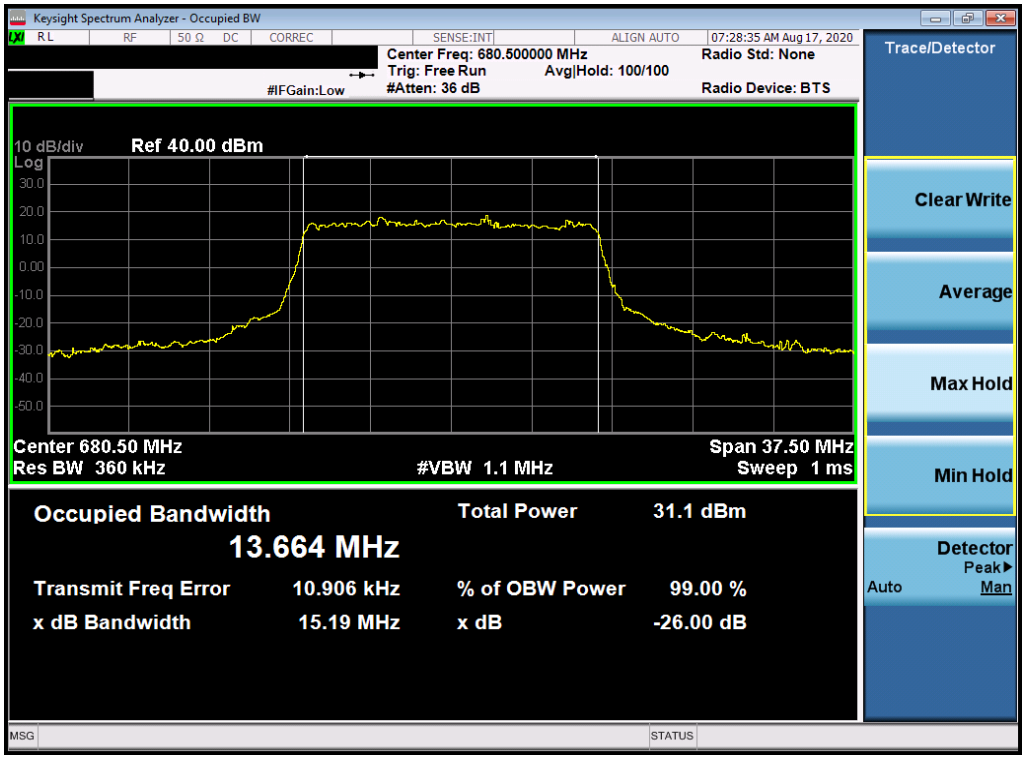
Plot 7-109. Occupied Bandwidth Plot (NR Band n71 - 10MHz CP-OFDM 256-QAM - Full RB)



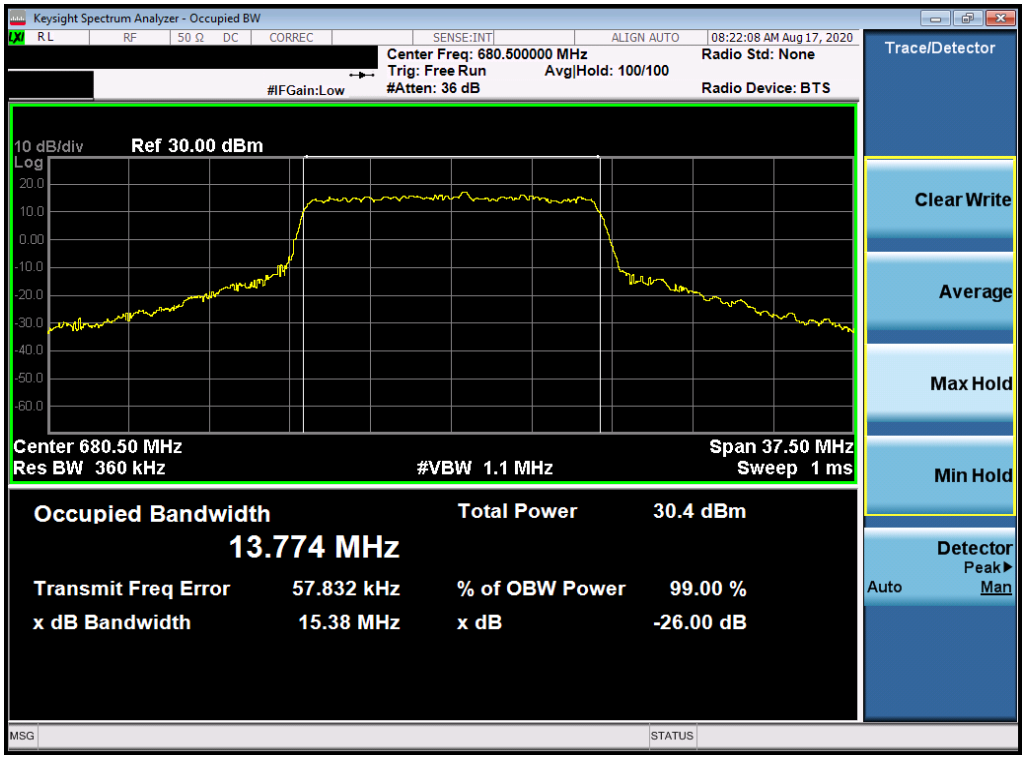
Plot 7-110. Occupied Bandwidth Plot (NR Band n71 - 15MHz DFT-s-OFDM BPSK - Full RB)



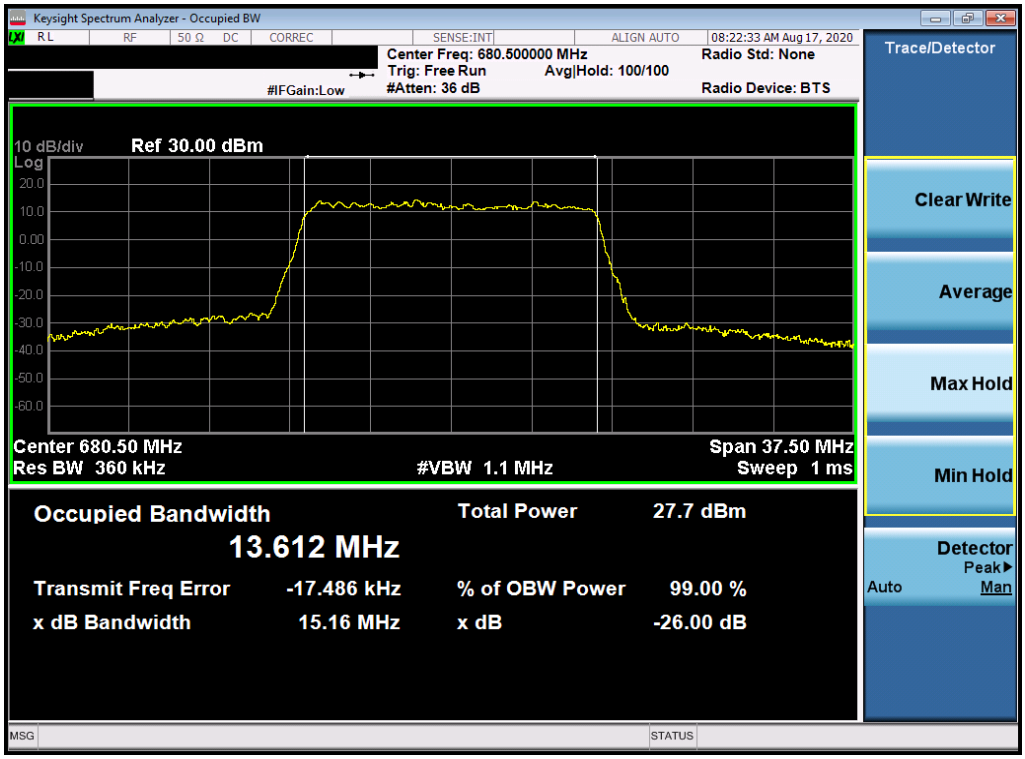
Plot 7-111. Occupied Bandwidth Plot (NR Band n71 - 15MHz CP-OFDM QPSK - Full RB)



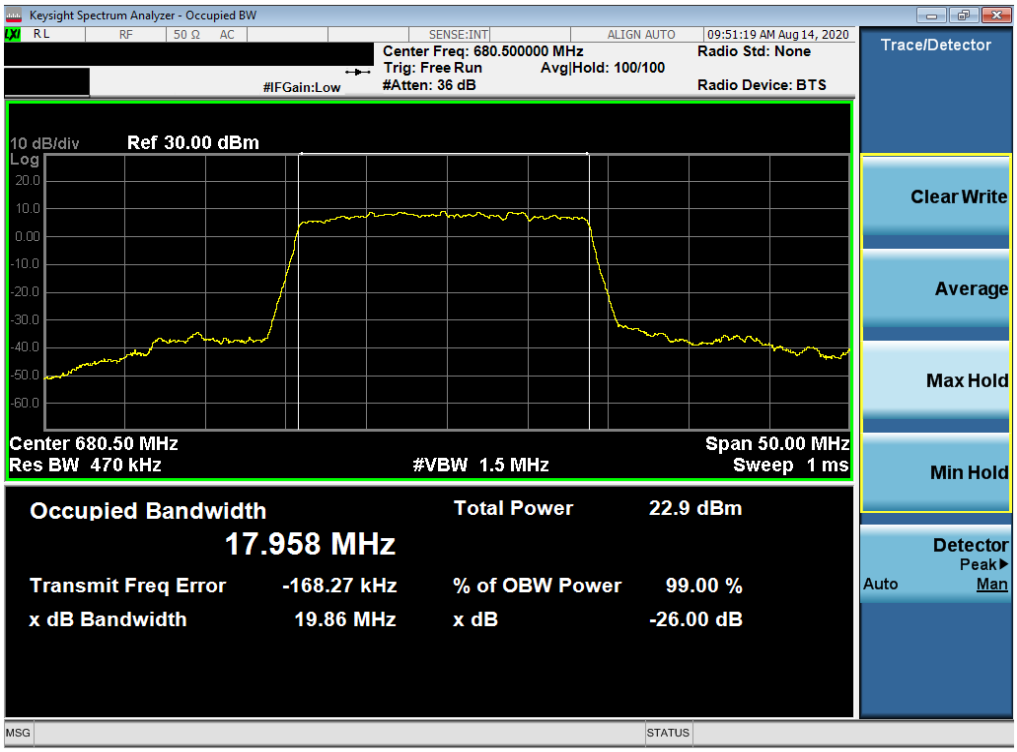
Plot 7-112. Occupied Bandwidth Plot (NR Band n71 - 15MHz CP-OFDM 16-QAM - Full RB)



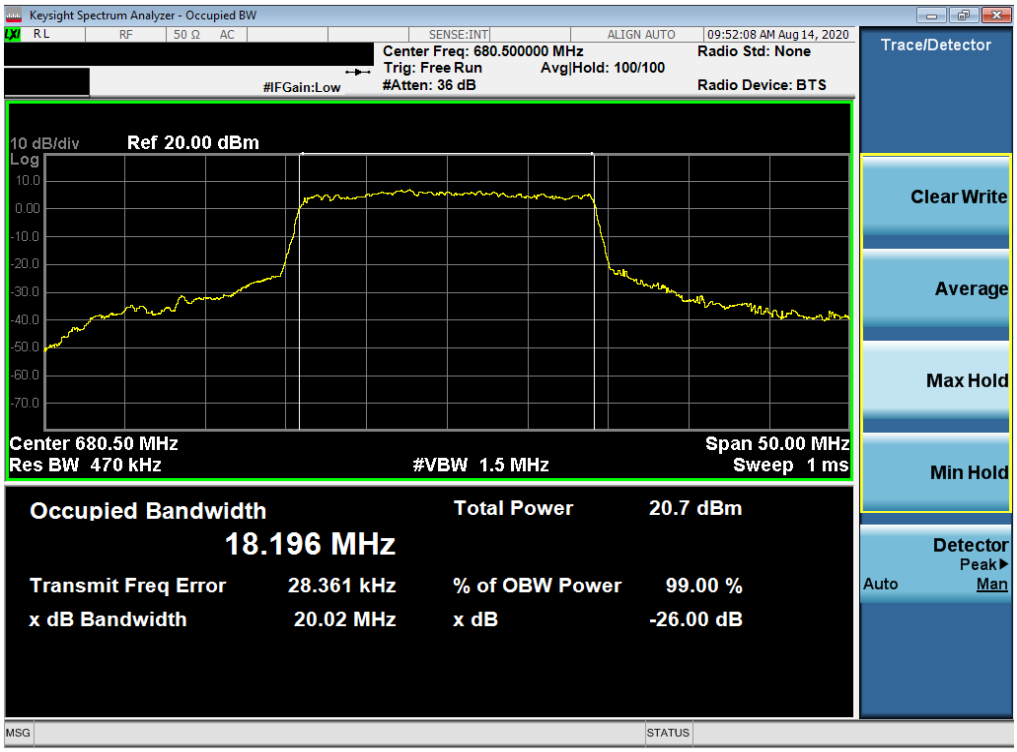
Plot 7-113. Occupied Bandwidth Plot (NR Band n71 - 15MHz CP-OFDM 64-QAM - Full RB)



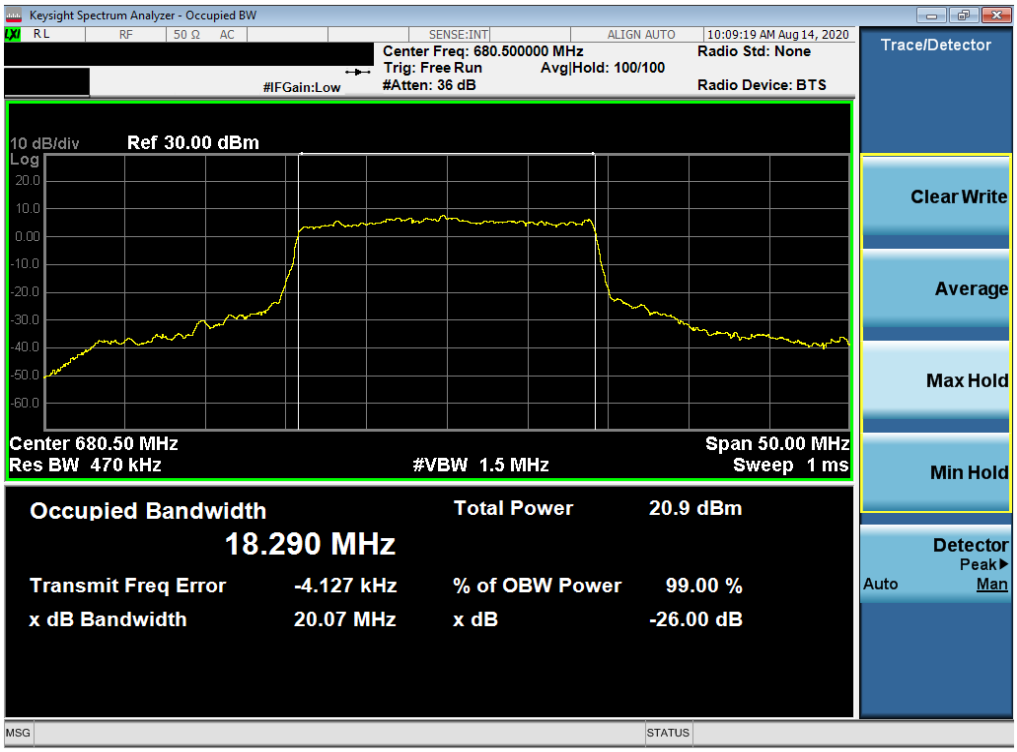
Plot 7-114. Occupied Bandwidth Plot (NR Band n71 - 15MHz CP-OFDM 256-QAM - Full RB)



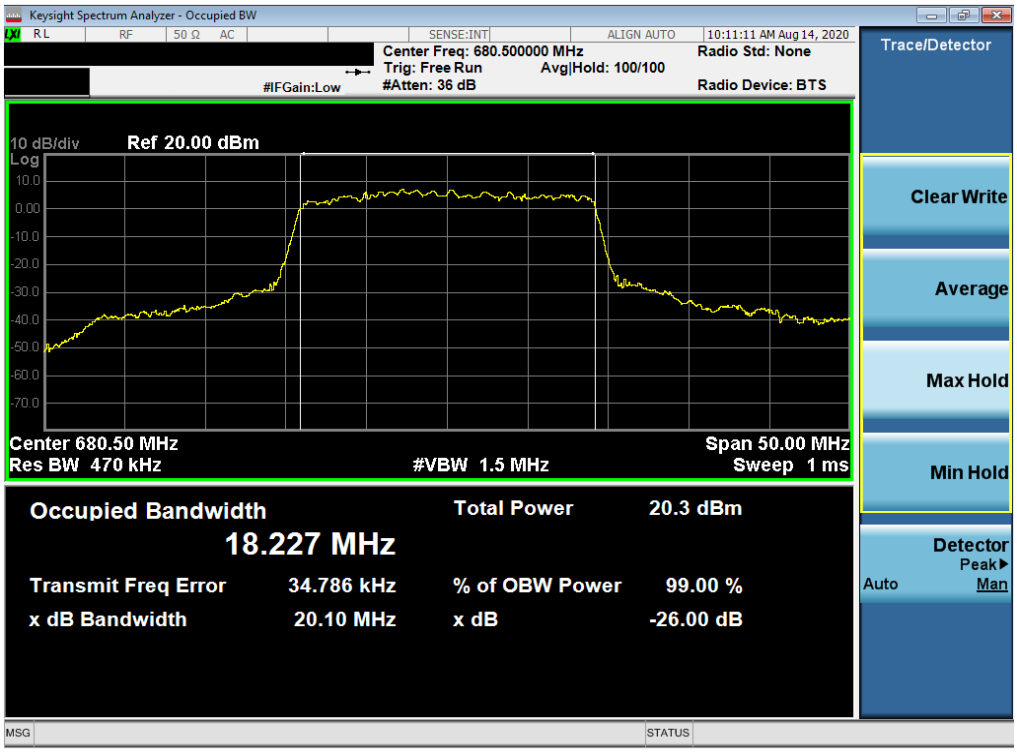
Plot 7-115. Occupied Bandwidth Plot (NR Band n71 - 20MHz DFT-s-OFDM BPSK - Full RB)



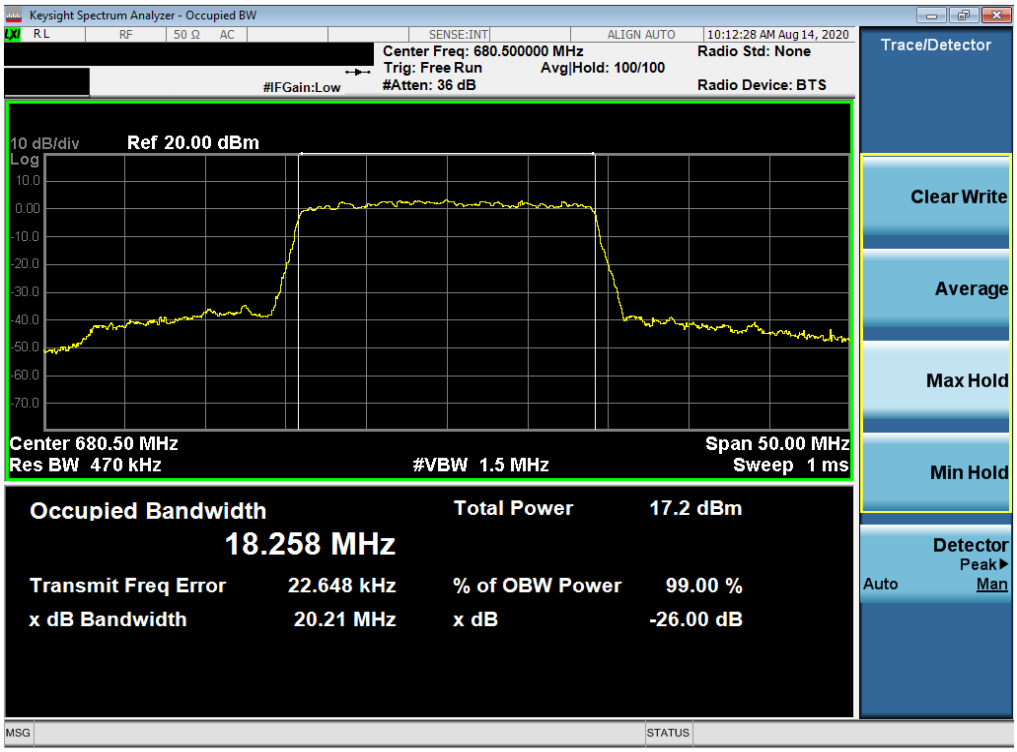
Plot 7-116. Occupied Bandwidth Plot (NR Band n71 - 20MHz CP-OFDM QPSK - Full RB)



Plot 7-117. Occupied Bandwidth Plot (NR Band n71 - 20MHz CP-OFDM 16-QAM - Full RB)

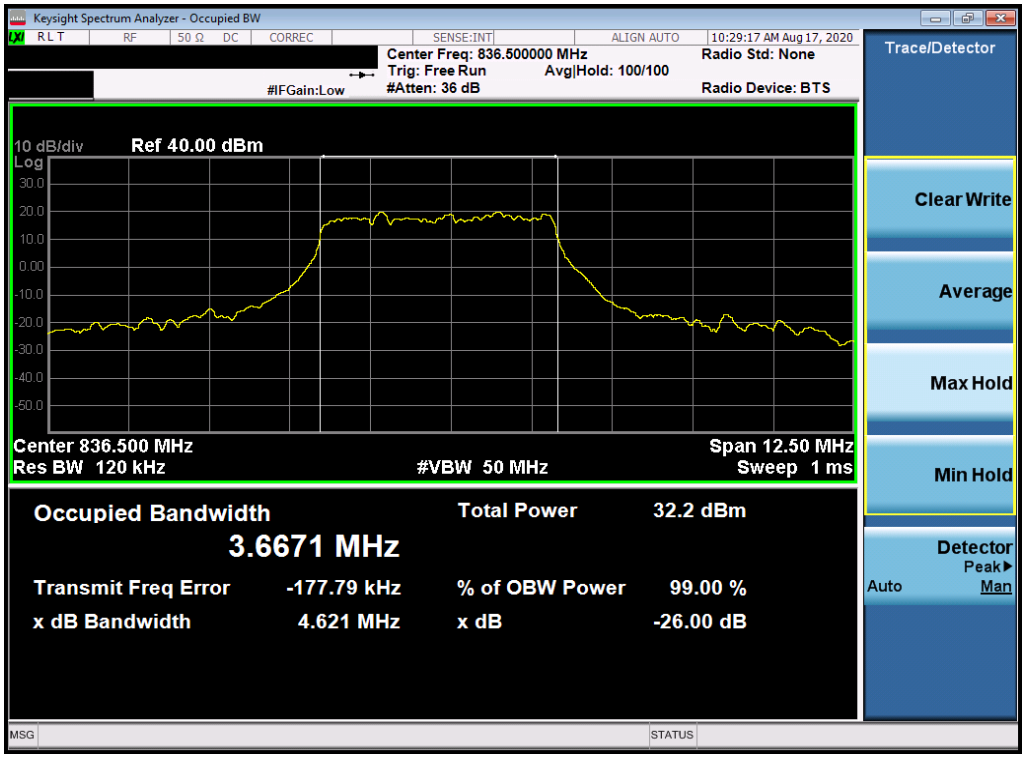


Plot 7-118. Occupied Bandwidth Plot (NR Band n71 - 20MHz CP-OFDM 64-QAM - Full RB)

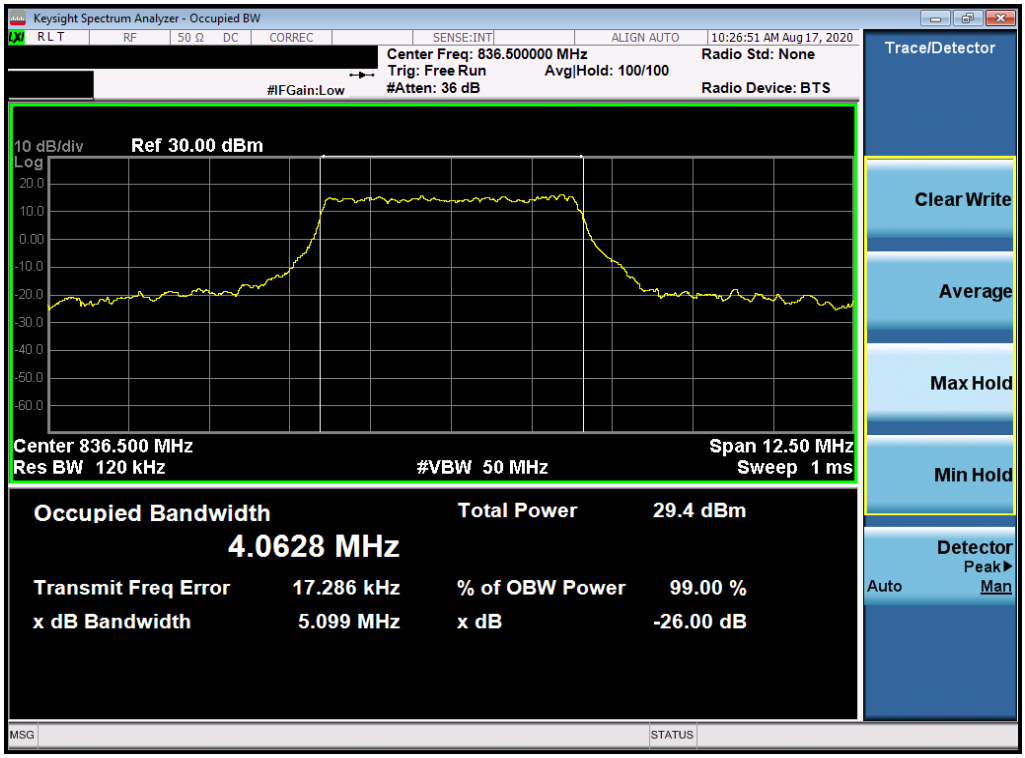


Plot 7-119. Occupied Bandwidth Plot (NR Band n71 - 20MHz CP-OFDM 256-QAM - Full RB)

NR Band n5



Plot 7-120. Occupied Bandwidth Plot (NR Band n5 - 5.0MHz DFT-s-OFDM BPSK - Full RB)



Plot 7-121. Occupied Bandwidth Plot (NR Band n5 - 5.0MHz CP-OFDM QPSK - Full RB)