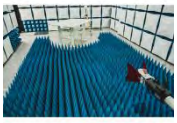
PCTEST
7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. 410.290.6652 / Fax 410.290.6654
http://www.pctest.com



MEASUREMENT REPORT
LTE/ Sub 6GHz NR

Applicant Name:
Samsung Electronics Co., Ltd.
129, Samsung-ro,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
10/22/2019-5/6/2020
Test Site/Location:
PCTEST Lab. Columbia, MD, USA
Test Report Serial No.:
1M2003090034-05.A3L

FCC ID:	**A3LSMG981V**
APPLICANT:	**Samsung Electronics Co., Ltd.**

Application Type:	Certification
Model:	SM-G981V
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
TESTING CERT#2041.01

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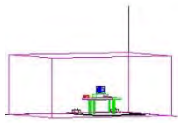


MEASUREMENT REPORT
FCC Part 22, 24, & 27

Mode	FCC Rule Part	Tx Frequency (MHz)	ERP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)		
LTE Band 12	27	699.7 - 715.3	0.069	18.42	1M10G7D	QPSK
LTE Band 12	27	699.7 - 715.3	0.057	17.57	1M10W7D	16QAM
LTE Band 12	27	699.7 - 715.3	0.045	16.53	1M10W7D	64QAM
LTE Band 12	27	699.7 - 715.3	0.024	13.87	1M09W7D	256QAM
LTE Band 12	27	700.5 - 714.5	0.067	18.26	2M70G7D	QPSK
LTE Band 12	27	700.5 - 714.5	0.055	17.44	2M72W7D	16QAM
LTE Band 12	27	700.5 - 714.5	0.044	16.46	2M71W7D	64QAM
LTE Band 12	27	700.5 - 714.5	0.026	14.19	2M71W7D	256QAM
LTE Band 12	27	701.5 - 713.5	0.065	18.16	4M51G7D	QPSK
LTE Band 12	27	701.5 - 713.5	0.054	17.31	4M49W7D	16QAM
LTE Band 12	27	701.5 - 713.5	0.041	16.09	4M53W7D	64QAM
LTE Band 12	27	701.5 - 713.5	0.025	13.93	4M49W7D	256QAM
LTE Band 12	27	704 - 711	0.065	18.13	9M00G7D	QPSK
LTE Band 12	27	704 - 711	0.053	17.23	8M97W7D	16QAM
LTE Band 12	27	704 - 711	0.043	16.29	9M01W7D	64QAM
LTE Band 12	27	704 - 711	0.021	13.30	8M96W7D	256QAM
LTE Band 13	27	779.5 - 784.5	0.099	19.94	4M51G7D	QPSK
LTE Band 13	27	779.5 - 784.5	0.083	19.20	4M50W7D	16QAM
LTE Band 13	27	779.5 - 784.5	0.066	18.22	4M53W7D	64QAM
LTE Band 13	27	779.5 - 784.5	0.040	16.02	4M50W7D	256QAM
LTE Band 13	27	782	0.105	20.22	9M01G7D	QPSK
LTE Band 13	27	782	0.086	19.35	8M93W7D	16QAM
LTE Band 13	27	782	0.071	18.53	8M95W7D	64QAM
LTE Band 13	27	782	0.042	16.20	8M95W7D	256QAM
LTE Band 26/5	22H	824.7 - 848.3	0.094	19.72	1M10G7D	QPSK
LTE Band 26/5	22H	824.7 - 848.3	0.076	18.83	1M10W7D	16QAM
LTE Band 26/5	22H	824.7 - 848.3	0.060	17.80	1M10W7D	64QAM
LTE Band 26/5	22H	824.7 - 848.3	0.035	15.43	1M10W7D	256QAM
LTE Band 26/5	22H	825.5 - 847.5	0.092	19.65	2M70G7D	QPSK
LTE Band 26/5	22H	825.5 - 847.5	0.071	18.49	2M72W7D	16QAM
LTE Band 26/5	22H	825.5 - 847.5	0.061	17.87	2M71W7D	64QAM
LTE Band 26/5	22H	825.5 - 847.5	0.035	15.43	2M71W7D	256QAM
LTE Band 26/5	22H	826.5 - 846.5	0.093	19.70	4M51G7D	QPSK
LTE Band 26/5	22H	826.5 - 846.5	0.075	18.77	4M51W7D	16QAM
LTE Band 26/5	22H	826.5 - 846.5	0.060	17.78	4M53W7D	64QAM
LTE Band 26/5	22H	826.5 - 846.5	0.035	15.49	4M51W7D	256QAM
LTE Band 26/5	22H	829 - 844	0.089	19.51	9M01G7D	QPSK
LTE Band 26/5	22H	829 - 844	0.074	18.70	8M99W7D	16QAM
LTE Band 26/5	22H	829 - 844	0.061	17.83	9M01W7D	64QAM
LTE Band 26/5	22H	829 - 844	0.035	15.39	8M98W7D	256QAM
LTE Band 26/5	22H	831.5 - 841.5	0.088	19.44	13M5G7D	QPSK
LTE Band 26/5	22H	831.5 - 841.5	0.072	18.60	13M5W7D	16QAM
LTE Band 26/5	22H	831.5 - 841.5	0.060	17.81	13M5W7D	64QAM
LTE Band 26/5	22H	831.5 - 841.5	0.032	15.10	13M5W7D	256QAM

Mode	FCC Rule Part	Tx Frequency (MHz)	ERP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)		
n5	22H	826.5 - 846.5	0.048	16.81	4M51G7D	QPSK
n5	22H	826.5 - 846.5	0.039	15.95	4M54W7D	16QAM
n5	22H	826.5 - 846.5	0.025	14.03	4M52W7D	64QAM
n5	22H	826.5 - 846.5	0.018	12.51	4M52W7D	256QAM
n5	22H	826.5 - 846.5	0.046	16.60	4M54G7D	BPSK
n5	22H	829 - 844	0.047	16.74	9M02G7D	QPSK
n5	22H	829 - 844	0.038	15.84	8M99W7D	16QAM
n5	22H	829 - 844	0.025	13.92	9M02W7D	64QAM
n5	22H	829 - 844	0.018	12.50	8M99W7D	256QAM
n5	22H	829 - 844	0.044	16.40	9M00G7D	BPSK
n5	22H	831.5 - 841.5	0.052	17.13	13M5G7D	QPSK
n5	22H	831.5 - 841.5	0.042	16.18	13M5W7D	16QAM
n5	22H	831.5 - 841.5	0.027	14.26	13M5W7D	64QAM
n5	22H	831.5 - 841.5	0.019	12.84	13M5W7D	256QAM
n5	22H	831.5 - 841.5	0.050	16.98	13M5G7D	BPSK
n5	22H	834 - 839	0.052	17.16	17M9G7D	QPSK
n5	22H	834 - 839	0.043	16.35	18M0W7D	16QAM
n5	22H	834 - 839	0.027	14.33	17M9W7D	64QAM
n5	22H	834 - 839	0.020	12.91	17M9W7D	256QAM
n5	22H	834 - 839	0.051	17.09	18M0G7D	BPSK

EUT Overview (<1 GHz)

Mode	FCC Rule Part	Tx Frequency (MHz)	EIRP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)		
LTE Band 66/4	27	1710.7 - 1779.3	0.248	23.94	1M10G7D	QPSK
LTE Band 66/4	27	1710.7 - 1779.3	0.200	23.02	1M10W7D	16QAM
LTE Band 66/4	27	1710.7 - 1779.3	0.150	21.76	1M10W7D	64QAM
LTE Band 66/4	27	1710.7 - 1779.3	0.081	19.11	1M09W7D	256QAM
LTE Band 66/4	27	1711.5 - 1778.5	0.246	23.92	2M70G7D	QPSK
LTE Band 66/4	27	1711.5 - 1778.5	0.205	23.11	2M71W7D	16QAM
LTE Band 66/4	27	1711.5 - 1778.5	0.161	22.06	2M70W7D	64QAM
LTE Band 66/4	27	1711.5 - 1778.5	0.081	19.11	2M71W7D	256QAM
LTE Band 66/4	27	1712.5 - 1777.5	0.249	23.97	4M51G7D	QPSK
LTE Band 66/4	27	1712.5 - 1777.5	0.204	23.09	4M51W7D	16QAM
LTE Band 66/4	27	1712.5 - 1777.5	0.161	22.08	4M52W7D	64QAM
LTE Band 66/4	27	1712.5 - 1777.5	0.081	19.08	4M51W7D	256QAM
LTE Band 66/4	27	1715 - 1775	0.239	23.78	9M01G7D	QPSK
LTE Band 66/4	27	1715 - 1775	0.190	22.79	8M98W7D	16QAM
LTE Band 66/4	27	1715 - 1775	0.150	21.75	9M00W7D	64QAM
LTE Band 66/4	27	1715 - 1775	0.079	18.99	8M98W7D	256QAM
LTE Band 66/4	27	1717.5 - 1772.5	0.245	23.89	13M5G7D	QPSK
LTE Band 66/4	27	1717.5 - 1772.5	0.195	22.91	13M5W7D	16QAM
LTE Band 66/4	27	1717.5 - 1772.5	0.157	21.96	13M5W7D	64QAM
LTE Band 66/4	27	1717.5 - 1772.5	0.080	19.05	13M5W7D	256QAM
LTE Band 66/4	27	1720 - 1770	0.232	23.66	18M0G7D	QPSK
LTE Band 66/4	27	1720 - 1770	0.199	23.00	18M0W7D	16QAM
LTE Band 66/4	27	1720 - 1770	0.152	21.83	17M9W7D	64QAM
LTE Band 66/4	27	1720 - 1770	0.075	18.78	18M0W7D	256QAM
LTE Band 2	24E	1850.7 - 1909.3	0.215	23.32	1M10G7D	QPSK
LTE Band 2	24E	1850.7 - 1909.3	0.174	22.41	1M11W7D	16QAM
LTE Band 2	24E	1850.7 - 1909.3	0.135	21.31	1M10W7D	64QAM
LTE Band 2	24E	1850.7 - 1909.3	0.064	18.06	1M09W7D	256QAM
LTE Band 2	24E	1851.5 - 1908.5	0.222	23.46	2M72G7D	QPSK
LTE Band 2	24E	1851.5 - 1908.5	0.180	22.56	2M72W7D	16QAM
LTE Band 2	24E	1851.5 - 1908.5	0.128	21.08	2M71W7D	64QAM
LTE Band 2	24E	1851.5 - 1908.5	0.065	18.13	2M71W7D	256QAM
LTE Band 2	24E	1852.5 - 1907.5	0.225	23.51	4M53G7D	QPSK
LTE Band 2	24E	1852.5 - 1907.5	0.189	22.75	4M52W7D	16QAM
LTE Band 2	24E	1852.5 - 1907.5	0.141	21.49	4M53W7D	64QAM
LTE Band 2	24E	1852.5 - 1907.5	0.068	18.35	4M51W7D	256QAM
LTE Band 2	24E	1855 - 1905	0.214	23.30	9M02G7D	QPSK
LTE Band 2	24E	1855 - 1905	0.172	22.35	9M03W7D	16QAM
LTE Band 2	24E	1855 - 1905	0.128	21.08	9M01W7D	64QAM
LTE Band 2	24E	1855 - 1905	0.071	18.51	8M97W7D	256QAM
LTE Band 2	24E	1857.5 - 1902.5	0.215	23.31	13M5G7D	QPSK
LTE Band 2	24E	1857.5 - 1902.5	0.178	22.49	13M5W7D	16QAM
LTE Band 2	24E	1857.5 - 1902.5	0.125	20.97	13M5W7D	64QAM
LTE Band 2	24E	1857.5 - 1902.5	0.069	18.39	13M5W7D	256QAM
LTE Band 2	24E	1860 - 1900	0.206	23.13	18M0G7D	QPSK
LTE Band 2	24E	1860 - 1900	0.174	22.40	17M9W7D	16QAM
LTE Band 2	24E	1860 - 1900	0.136	21.32	17M9W7D	64QAM
LTE Band 2	24E	1860 - 1900	0.062	17.95	18M0W7D	256QAM

Mode	FCC Rule Part	Tx Frequency (MHz)	EIRP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)		
n66	27	1712.5 - 1777.5	0.226	23.55	4M54G7D	QPSK
n66	27	1712.5 - 1777.5	0.182	22.60	4M49W7D	16QAM
n66	27	1712.5 - 1777.5	0.136	21.35	4M50W7D	64QAM
n66	27	1712.5 - 1777.5	0.080	19.05	4M53W7D	256QAM
n66	27	1712.5 - 1777.5	0.222	23.46	4M55G7D	BPSK
n66	27	1715 - 1775	0.224	23.51	9M02G7D	QPSK
n66	27	1715 - 1775	0.164	22.14	9M00W7D	16QAM
n66	27	1715 - 1775	0.129	21.11	9M00W7D	64QAM
n66	27	1715 - 1775	0.076	18.81	8M97W7D	256QAM
n66	27	1715 - 1775	0.222	23.46	9M04G7D	BPSK
n66	27	1717.5 - 1772.5	0.222	23.47	13M5G7D	QPSK
n66	27	1717.5 - 1772.5	0.179	22.52	13M5W7D	16QAM
n66	27	1717.5 - 1772.5	0.134	21.27	13M5W7D	64QAM
n66	27	1717.5 - 1772.5	0.079	18.97	13M5W7D	256QAM
n66	27	1717.5 - 1772.5	0.221	23.45	13M5G7D	BPSK
n66	27	1720 - 1770	0.229	23.60	18M0G7D	QPSK
n66	27	1720 - 1770	0.175	22.43	18M0W7D	16QAM
n66	27	1720 - 1770	0.131	21.18	17M9W7D	64QAM
n66	27	1720 - 1770	0.077	18.88	17M9W7D	256QAM
n66	27	1720 - 1770	0.226	23.54	17M9G7D	BPSK
n2	24E	1852.5 - 1907.5	0.212	23.27	4M51G7D	QPSK
n2	24E	1852.5 - 1907.5	0.174	22.41	4M52W7D	16QAM
n2	24E	1852.5 - 1907.5	0.129	21.09	4M53W7D	64QAM
n2	24E	1852.5 - 1907.5	0.079	19.00	4M53W7D	256QAM
n2	24E	1852.5 - 1907.5	0.230	23.62	4M53G7D	BPSK
n2	24E	1855 - 1905	0.224	23.49	8M98G7D	QPSK
n2	24E	1855 - 1905	0.175	22.43	9M02W7D	16QAM
n2	24E	1855 - 1905	0.129	21.11	9M00W7D	64QAM
n2	24E	1855 - 1905	0.080	19.02	8M97W7D	256QAM
n2	24E	1855 - 1905	0.216	23.34	9M02G7D	BPSK
n2	24E	1857.5 - 1902.5	0.231	23.63	13M5G7D	QPSK
n2	24E	1857.5 - 1902.5	0.188	22.74	13M5W7D	16QAM
n2	24E	1857.5 - 1902.5	0.139	21.42	13M5W7D	64QAM
n2	24E	1857.5 - 1902.5	0.086	19.33	13M5W7D	256QAM
n2	24E	1857.5 - 1902.5	0.232	23.66	13M5G7D	BPSK
n2	24E	1860 - 1900	0.244	23.87	17M9G7D	QPSK
n2	24E	1860 - 1900	0.185	22.67	17M9W7D	16QAM
n2	24E	1860 - 1900	0.137	21.35	18M0W7D	64QAM
n2	24E	1860 - 1900	0.084	19.26	18M0W7D	256QAM
n2	24E	1860 - 1900	0.161	22.06	18M0G7D	BPSK

EUT Overview (Mid Bands)

Mode	FCC Rule Part	Tx Frequency (MHz)	EIRP		Emission Designator	Modulation
			Max. Power (W)	Max. Power (dBm)		
LTE Band 7	27	2502.5 - 2567.5	0.176	22.45	4M51G7D	QPSK
LTE Band 7	27	2502.5 - 2567.5	0.138	21.40	4M51W7D	16QAM
LTE Band 7	27	2502.5 - 2567.5	0.113	20.54	4M51W7D	64QAM
LTE Band 7	27	2502.5 - 2567.5	0.054	17.29	4M50W7D	256QAM
LTE Band 7	27	2505 - 2565	0.176	22.44	9M04G7D	QPSK
LTE Band 7	27	2505 - 2565	0.143	21.55	8M97W7D	16QAM
LTE Band 7	27	2505 - 2565	0.118	20.73	9M00W7D	64QAM
LTE Band 7	27	2505 - 2565	0.055	17.43	8M98W7D	256QAM
LTE Band 7	27	2507.5 - 2562.5	0.175	22.42	13M5G7D	QPSK
LTE Band 7	27	2507.5 - 2562.5	0.131	21.16	13M5W7D	16QAM
LTE Band 7	27	2507.5 - 2562.5	0.115	20.59	13M5W7D	64QAM
LTE Band 7	27	2507.5 - 2562.5	0.056	17.44	13M5W7D	256QAM
LTE Band 7	27	2510 - 2560	0.176	22.46	18M0G7D	QPSK
LTE Band 7	27	2510 - 2560	0.150	21.77	18M0W7D	16QAM
LTE Band 7	27	2510 - 2560	0.115	20.62	18M0W7D	64QAM
LTE Band 7	27	2510 - 2560	0.054	17.29	18M0W7D	256QAM
LTE Band 41 (PC3)/38	27	2498.5 - 2687.5	0.183	22.63	4M53G7D	QPSK
LTE Band 41 (PC3)/38	27	2498.5 - 2687.5	0.151	21.80	4M51W7D	16QAM
LTE Band 41 (PC3)/38	27	2498.5 - 2687.5	0.121	20.81	4M52W7D	64QAM
LTE Band 41 (PC3)/38	27	2498.5 - 2687.5	0.053	17.27	4M52W7D	256QAM
LTE Band 41 (PC3)/38	27	2501 - 2685	0.179	22.52	8M98G7D	QPSK
LTE Band 41 (PC3)/38	27	2501 - 2685	0.140	21.46	9M00W7D	16QAM
LTE Band 41 (PC3)/38	27	2501 - 2685	0.110	20.42	8M99W7D	64QAM
LTE Band 41 (PC3)/38	27	2501 - 2685	0.055	17.41	8M67W7D	256QAM
LTE Band 41 (PC3)/38	27	2503.5 - 2682.5	0.179	22.52	13M5G7D	QPSK
LTE Band 41 (PC3)/38	27	2503.5 - 2682.5	0.149	21.73	13M5W7D	16QAM
LTE Band 41 (PC3)/38	27	2503.5 - 2682.5	0.115	20.62	13M5W7D	64QAM
LTE Band 41 (PC3)/38	27	2503.5 - 2682.5	0.054	17.34	13M5W7D	256QAM
LTE Band 41 (PC3)/38	27	2506 - 2680	0.184	22.64	18M0G7D	QPSK
LTE Band 41 (PC3)/38	27	2506 - 2680	0.150	21.77	18M0W7D	16QAM
LTE Band 41 (PC3)/38	27	2506 - 2680	0.120	20.80	17M9W7D	64QAM
LTE Band 41 (PC3)/38	27	2506 - 2680	0.051	17.09	17M9W7D	256QAM

EUT Overview (High Bands)

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 **Samsung Portable Handset FCC ID: A3LSMG981V**. The test data contained in this report pertains only to the emissions due to the EUT's LTE function.

Test Device Serial No.: 6762M, 6592M, 6594M, 6597M, 0122M, 6765M, 6596M

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO Rev0/A, 1x Advanced (BC0, BC1), 850/1900 GSM/GPRS/EDGE, 850/1900, WCDMA/HSPA, Multi-band LTE, 5G NR (n5, n66, n2, n260, n261), 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, Bluetooth (1x, EDR, LE), NFC, ANT+, Wireless Power Transfer

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.

Sub 6GHz NR Band n5 (824 – 849 MHz) operates using 15kHz Subcarrier Spacing with both CP-OFDM and DFT-s OFDM waveforms. The band supports BPSK, QPSK, 16QAM, 64QAM, and 256QAM modulation. The test data provided in this report represents the worst case configuration.

Sub 6GHz NR Band n66 (1710 – 1780 MHz) operates using 15kHz Subcarrier Spacing with both CP-OFDM and DFT-s OFDM waveforms. The band supports BPSK, QPSK, 16QAM, 64QAM, and 256QAM modulation. The test data provided in this report represents the worst case configurations.

Sub 6GHz NR Band n2 (1850 – 1910 MHz) operates using 15kHz Subcarrier Spacing with both CP-OFDM and DFT-s OFDM waveforms. The band supports BPSK, QPSK, 16QAM, 64QAM, and 256QAM modulation. The test data provided in this report represents the worst case configurations.

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.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on an authorized wireless charging pad (WCP) Model: EP-N5100 while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

The device was operated using FTM test software to broadcast Sub 6GHz functions as well as LTE during EN-DC operations.

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
-	LTx1	Licensed Transmitter Cable Set	6/4/2019	Annual	6/4/2020	LTx1
-	LTx2	Licensed Transmitter Cable Set	10/30/2019	Annual	10/30/2020	LTx2
Agilent	N9038A	MXE EMI Receiver	7/17/2019	Annual	7/17/2020	MY51210133
Agilent	N9030A	PXA Signal Analyzer (44GHz)	6/12/2019	Annual	6/12/2020	MY52350166
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	10/10/2019	Biennial	10/10/2021	121034
Com-Power	PAM-103	Pre-Amplifier (1-1000MHz)	5/10/2019	Annual	5/10/2020	441112
Espec	ESX-2CA	Environmental Chamber	6/13/2019	Annual	6/13/2020	17620
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	2/22/2019	Biennial	2/22/2021	128338
Mini Circuits	TVA-11-422	RF Power Amp	N/A			QA1317001
Mini-Circuits	SSG-4000HP	Synthesized Signal Generator	N/A			11208010032
Rohde & Schwarz	CMW500	Radio Communication Tester	N/A			100976
Rohde & Schwarz	CMW500	Radio Communication Tester	N/A			112347
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	6/5/2019	Annual	6/5/2020	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	9/23/2019	Annual	9/23/2020	100348
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	7/11/2019	Annual	7/11/2020	102134
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	7/8/2019	Annual	7/8/2020	102133
Sunol	DRH-118	Horn Antenna (1-18GHz)	10/3/2019	Biennial	10/3/2021	A050307
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: Samsung Electronics Co., Ltd.

FCC ID: A3LSMG981V

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

Mode(s): LTE

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A	CONDUCTED	PASS	Section 7.2, 7.12
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, 7.12
27.53(m)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(m)			Section 7.3, 7.4, 7.12
27.53(a)	Out of Band Emissions	Undesirable emissions must meet the limits detailed in 27.53(a)			Section 7.3, 7.4, 7.12
24.232(d) 27.50	Peak-Average Ratio	< 13 dB			Section 7.5, 7.12
2.1046	Transmitter Conducted Output Power	N/A			See RF Exposure Report
2.1046	Additional Maximum Power Reduction (AMPR)	N/A			Section 7.6
22.917(a) 27.53(h)	Uplink Carrier Aggregation	>43 + 10log(P[Watts]) at Band Edge and for all out-of-band emissions			Section 7.8
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, 7.12

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 7.8, 7.12
27.50(b)(10) 27.50(c)(10)	Effective Radiated Power / Equivalent Isotropic Radiated Power (Band 12, 13)	< 3 Watts max. ERP			Section 7.8, 7.12
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2/25, 7, 41/38)	< 2 Watts max. EIRP			Section 7.8, 7.12
27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4/66)	< 1 Watts max. EIRP			Section 7.8, 7.12
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			Section 7.8, 7.12
96.41(e)	Undesirable Emissions	-40 dBm/MHz			Section 7.12
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			Section 7.8
27.53(a)	Undesirable Emissions (Band 30)	> 70 + 10 $\log_{10}$ (P[Watts])			Section 7.8
27.53(c) 27.53(g)	Uplink Carrier Aggregation	Undesirable emissions must meet the limits detailed in 27.53(m)			Section 7.10

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, 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.

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.

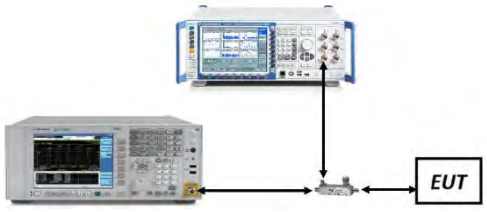
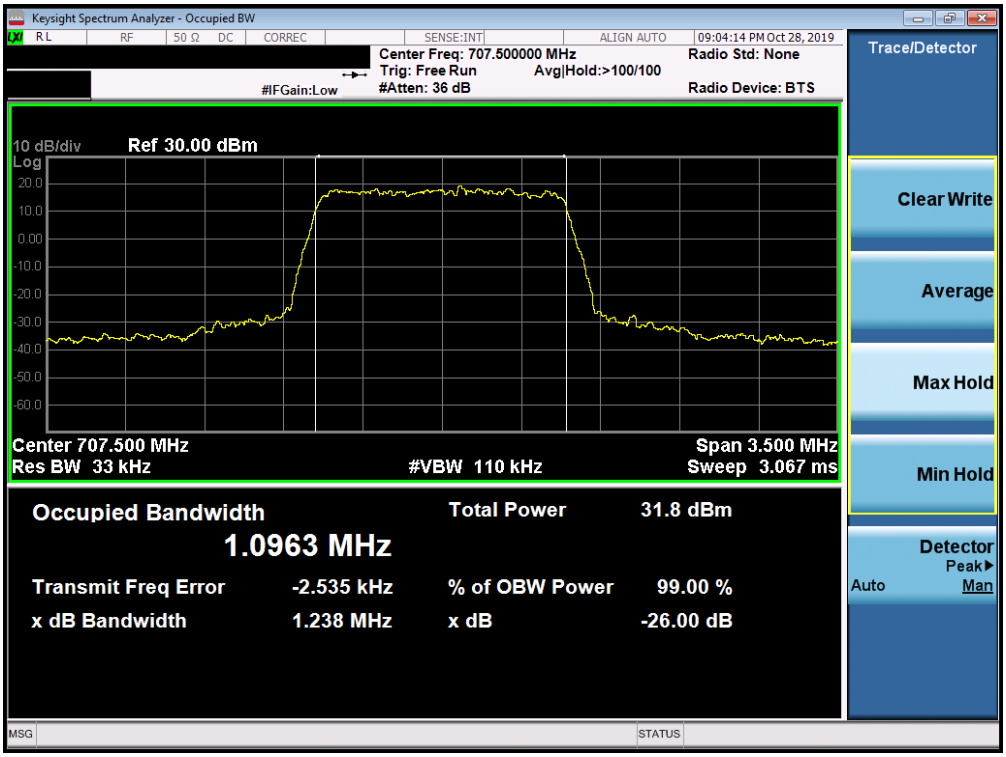


Figure 7-1. Test Instrument & Measurement Setup

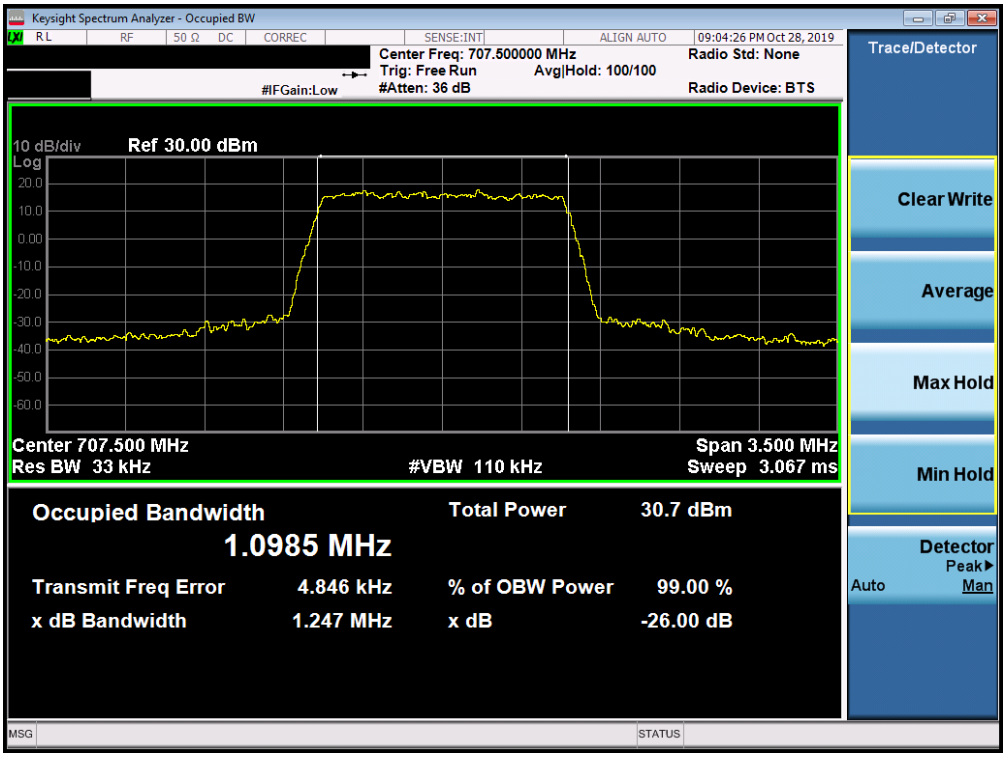
Test Notes

All SCS's and Waveforms (CP-OFDM vs DFT-s OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

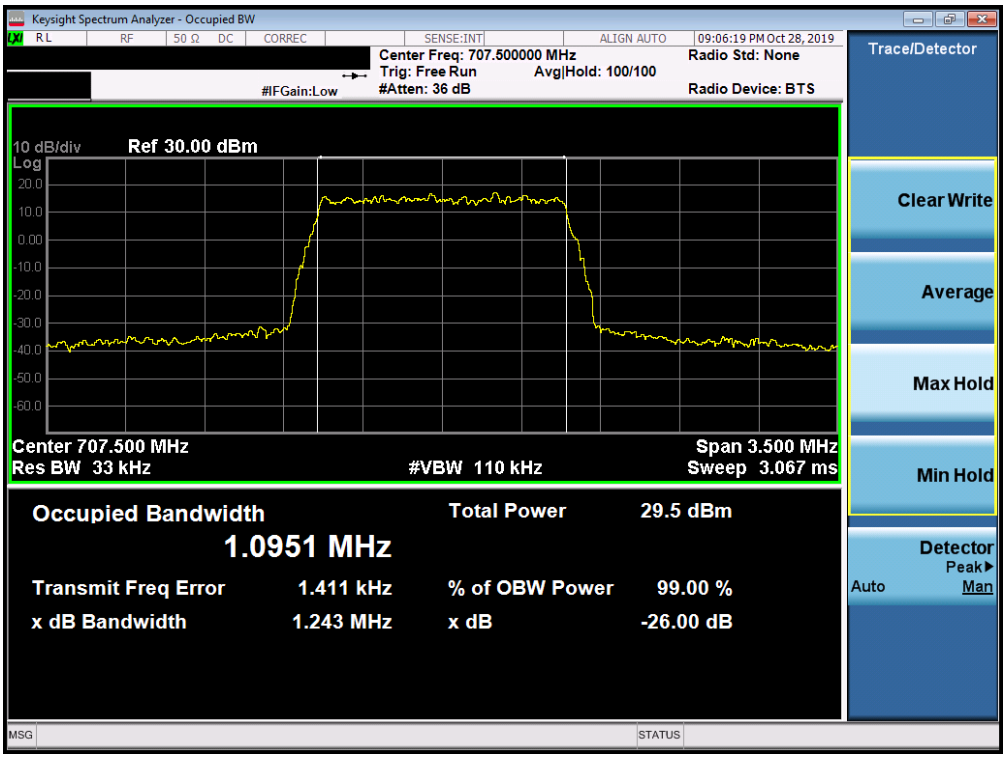
Band 12



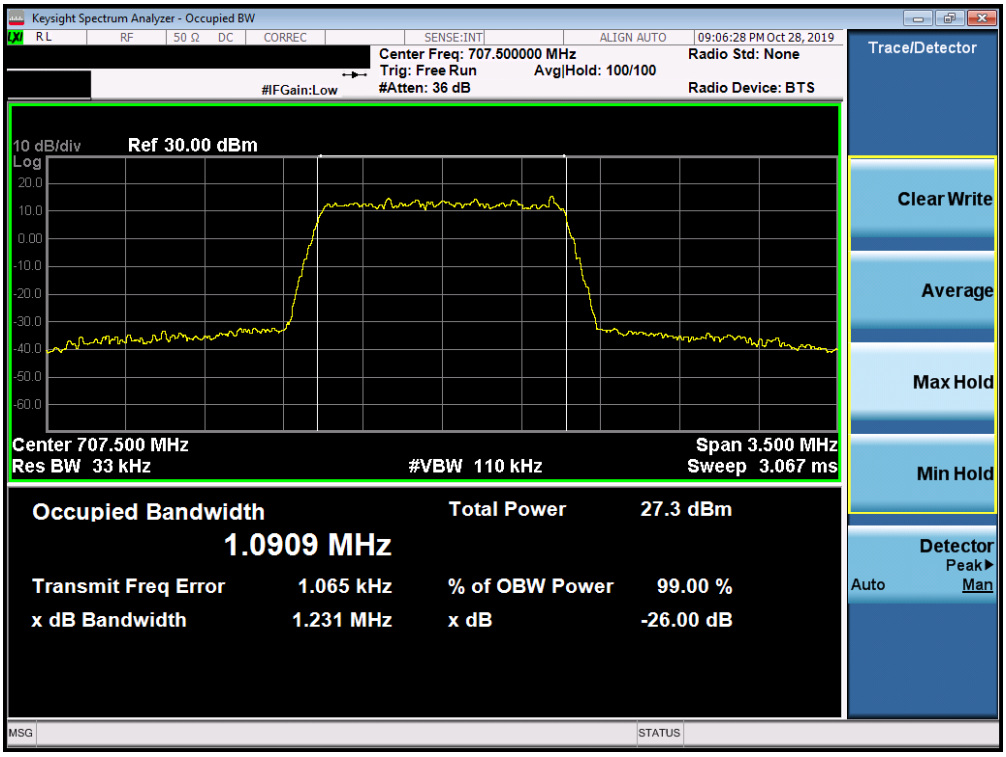
Plot 7-1. Occupied Bandwidth Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)



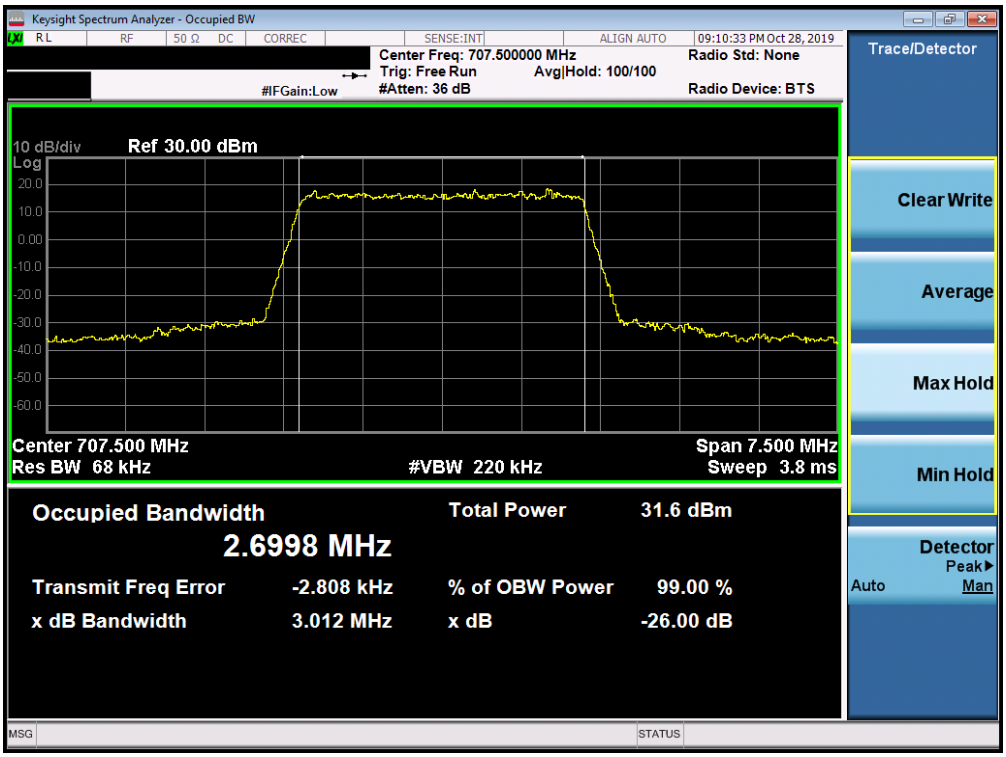
Plot 7-2. Occupied Bandwidth Plot (Band 12 - 1.4MHz 16-QAM - Full RB Configuration)



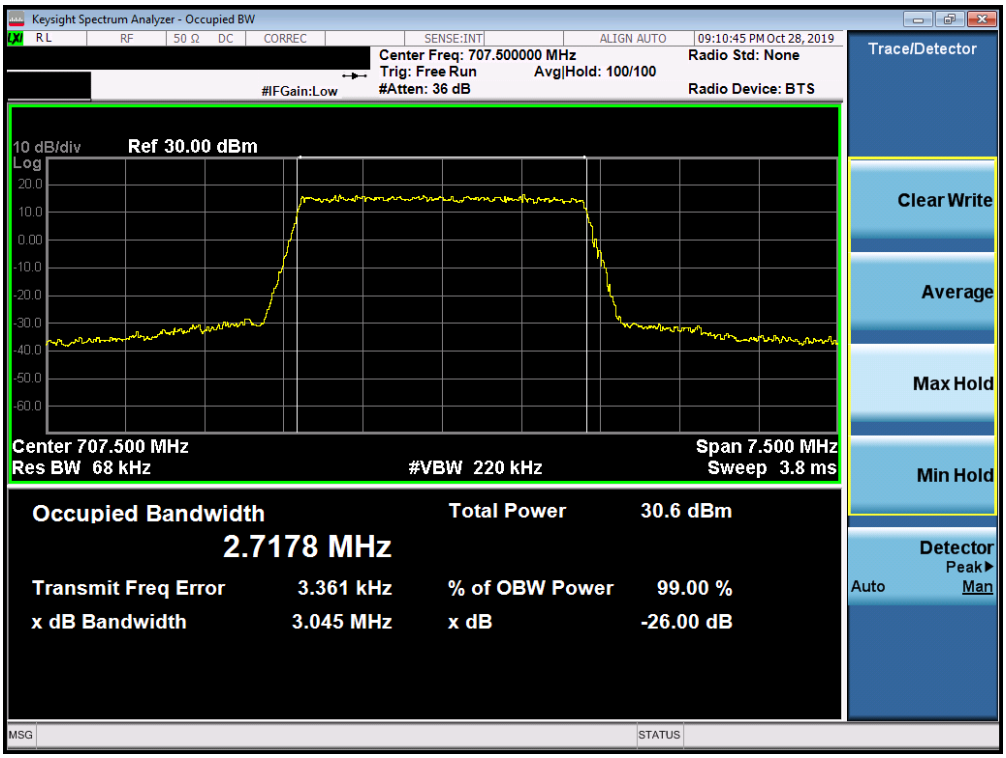
Plot 7-3. Occupied Bandwidth Plot (Band 12 - 1.4MHz 64-QAM - Full RB Configuration)



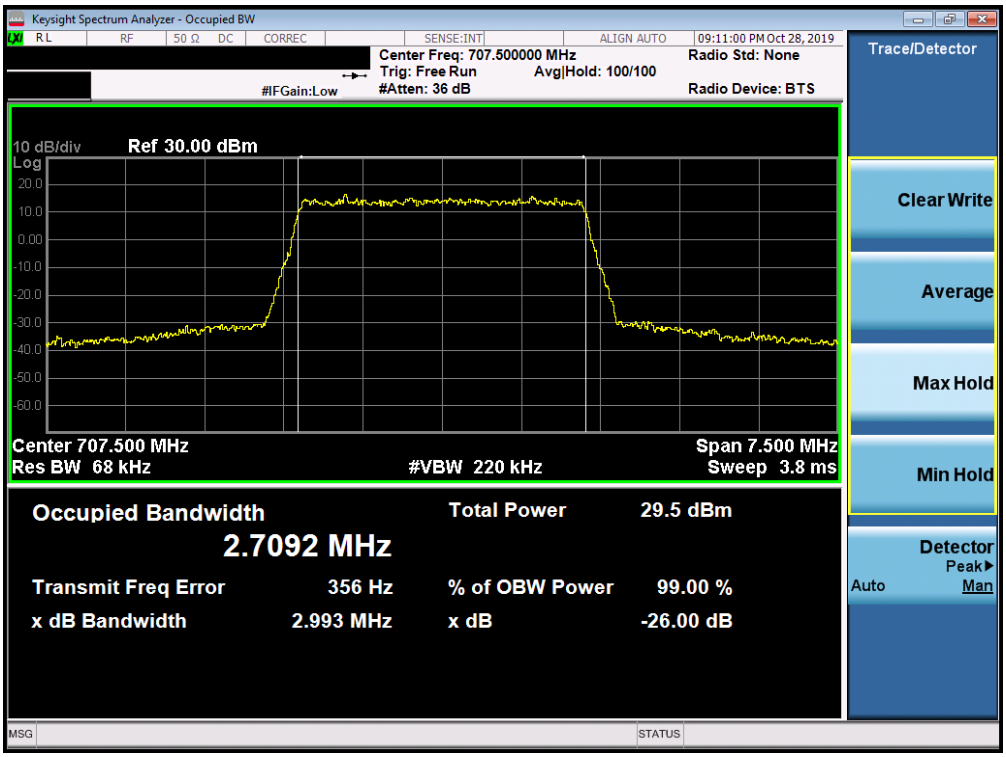
Plot 7-4. Occupied Bandwidth Plot (Band 12 - 1.4MHz 256-QAM - Full RB Configuration)



Plot 7-5. Occupied Bandwidth Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

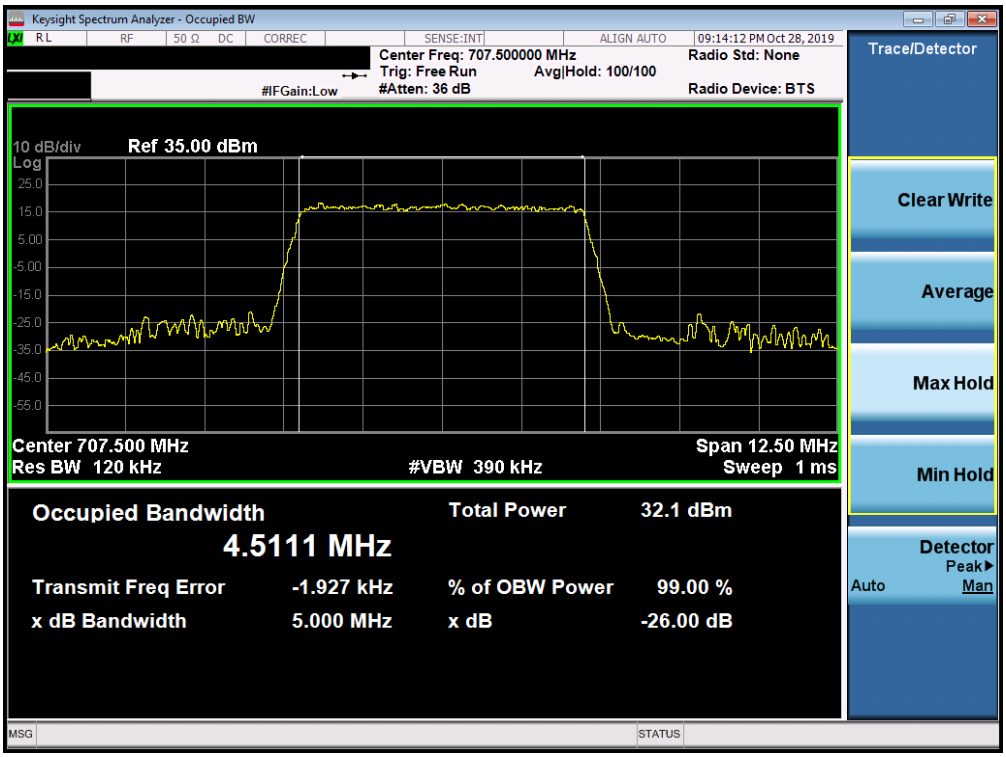


Plot 7-6. Occupied Bandwidth Plot (Band 12 - 3.0MHz 16-QAM - Full RB Configuration)

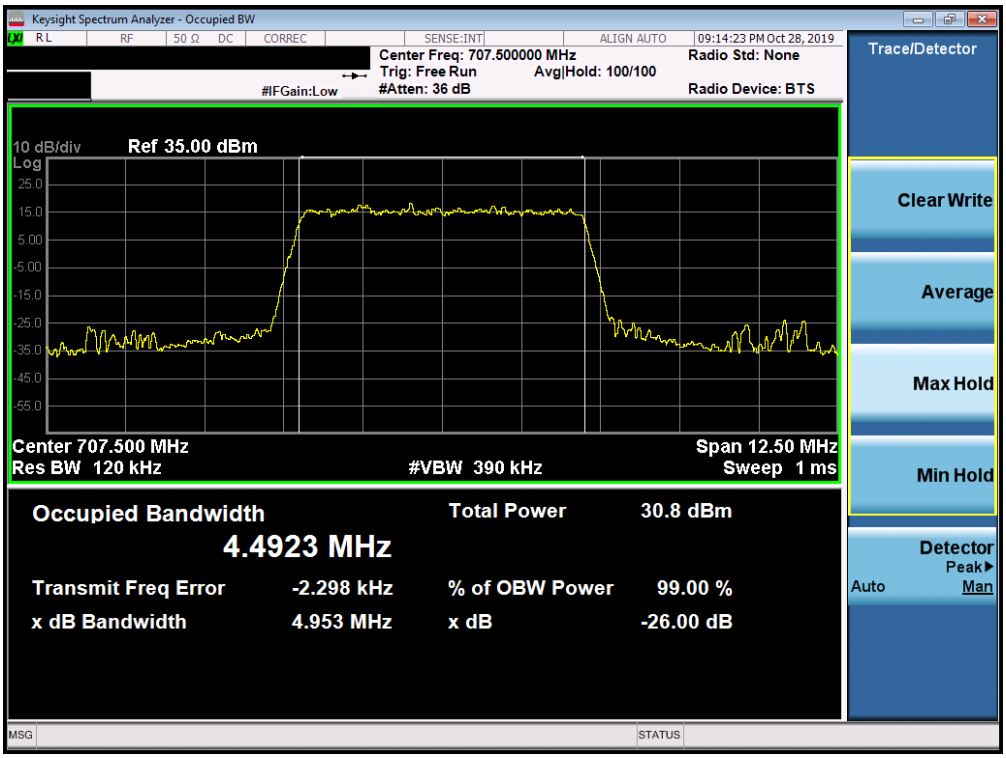


Plot 7-7. Occupied Bandwidth Plot (Band 12 - 3.0MHz 64-QAM - Full RB Configuration)

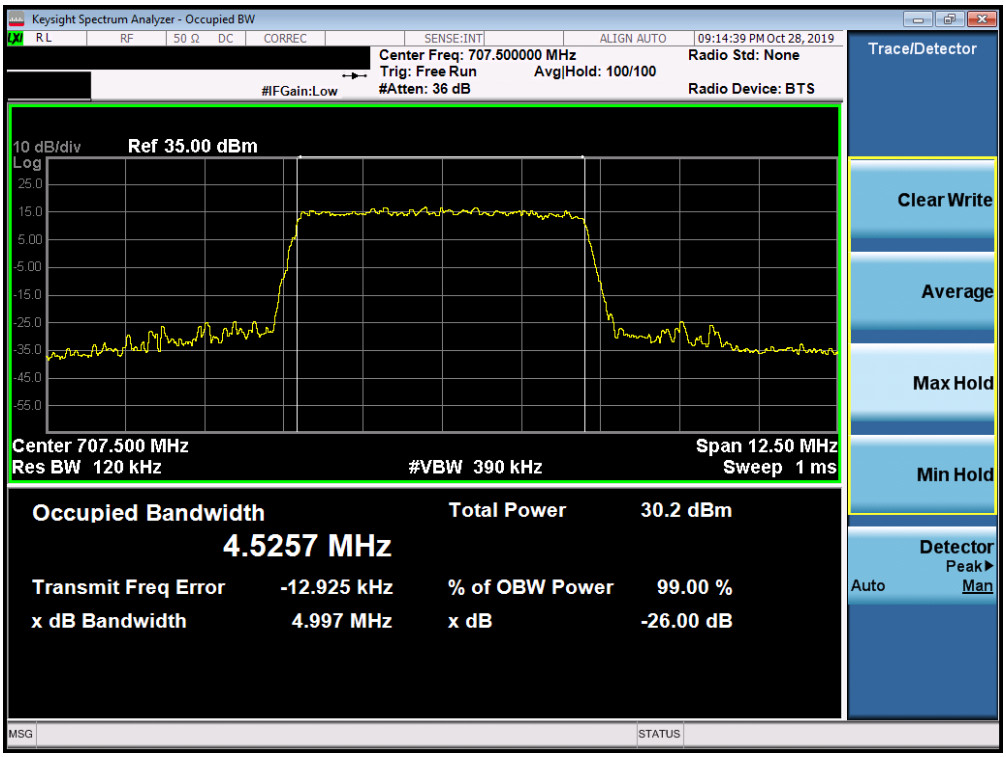
Plot 7-8. Occupied Bandwidth Plot (Band 12 - 3.0MHz 256-QAM - Full RB Configuration)



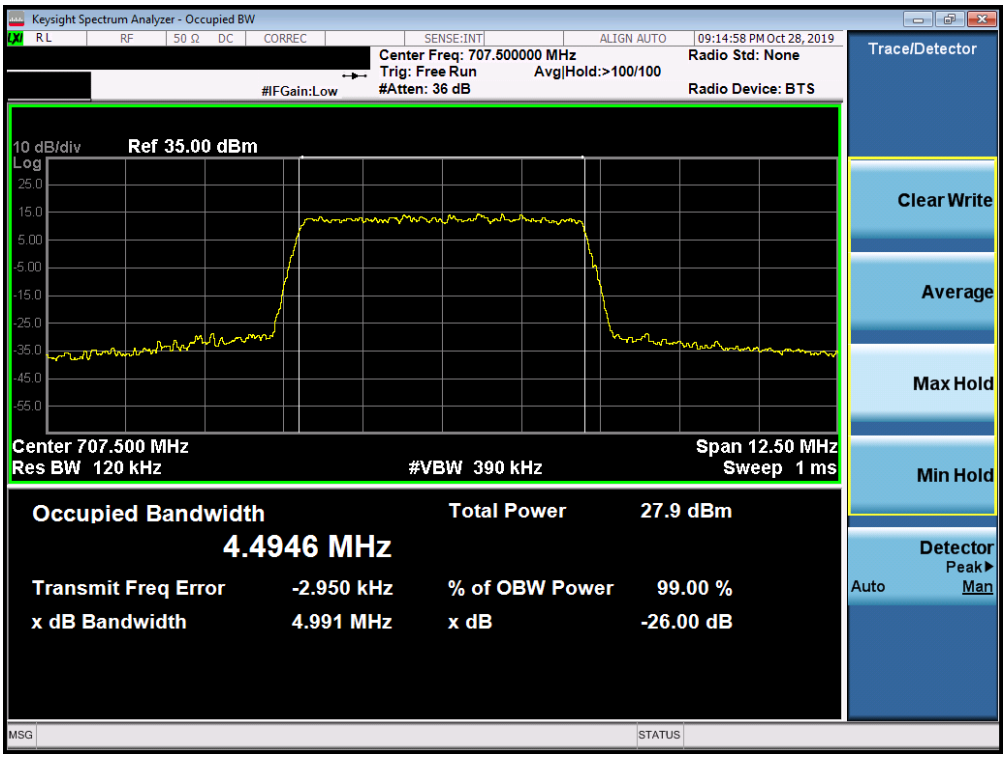
Plot 7-9. Occupied Bandwidth Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)



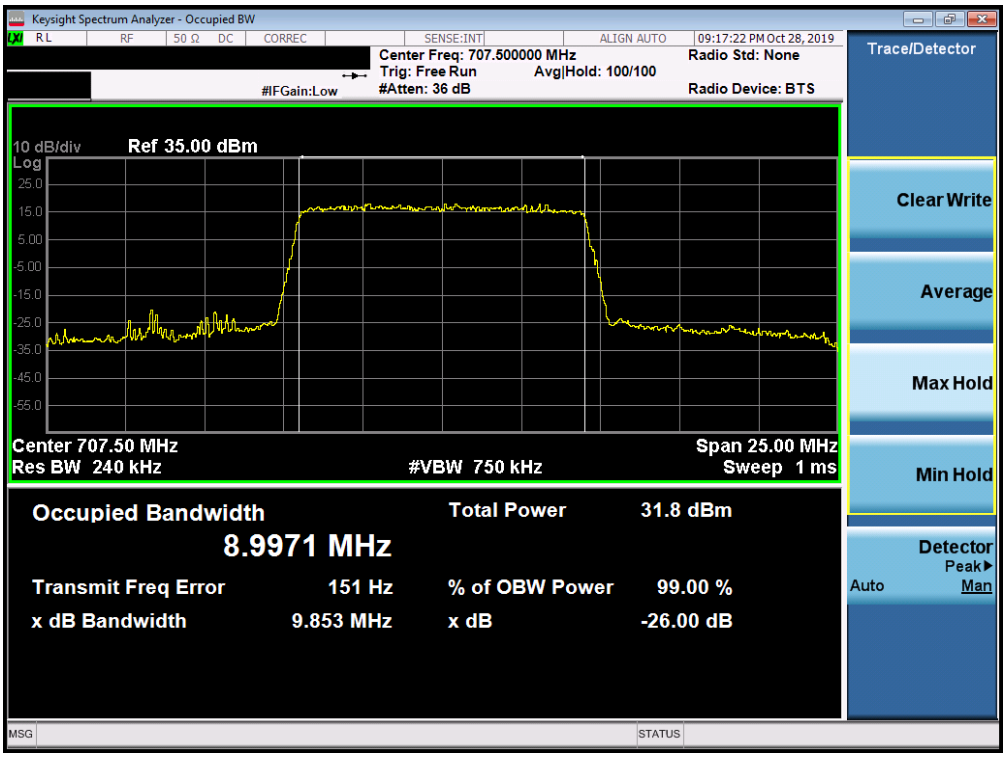
Plot 7-10. Occupied Bandwidth Plot (Band 12 - 5.0MHz 16-QAM - Full RB Configuration)



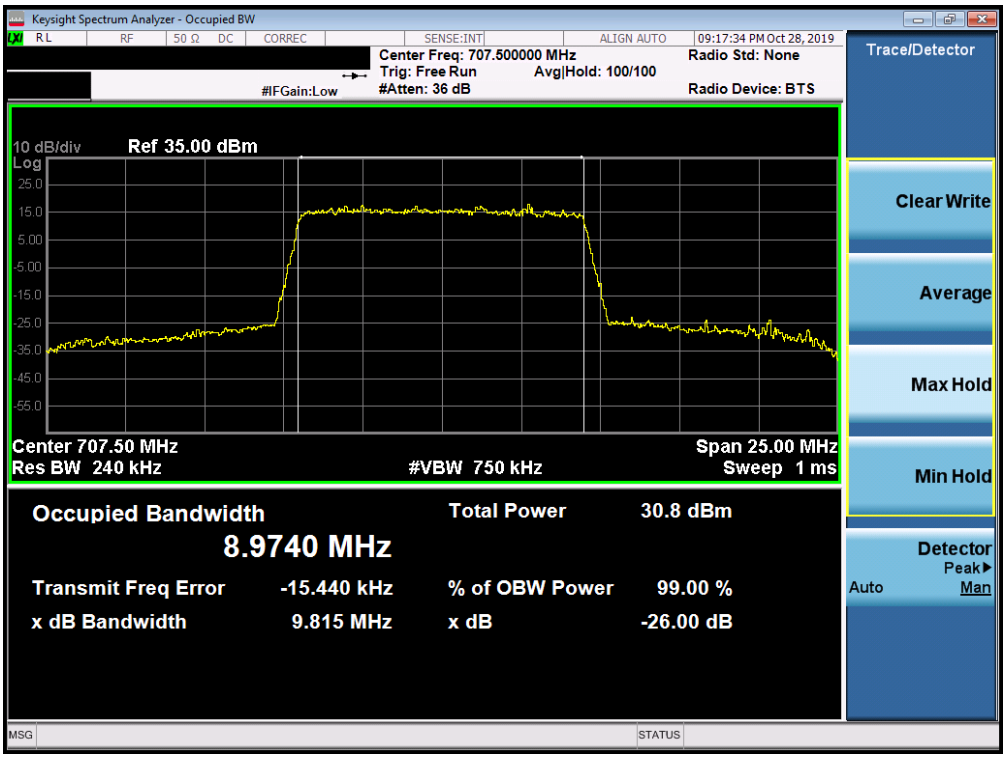
Plot 7-11. Occupied Bandwidth Plot (Band 12 - 5.0MHz 64-QAM - Full RB Configuration)



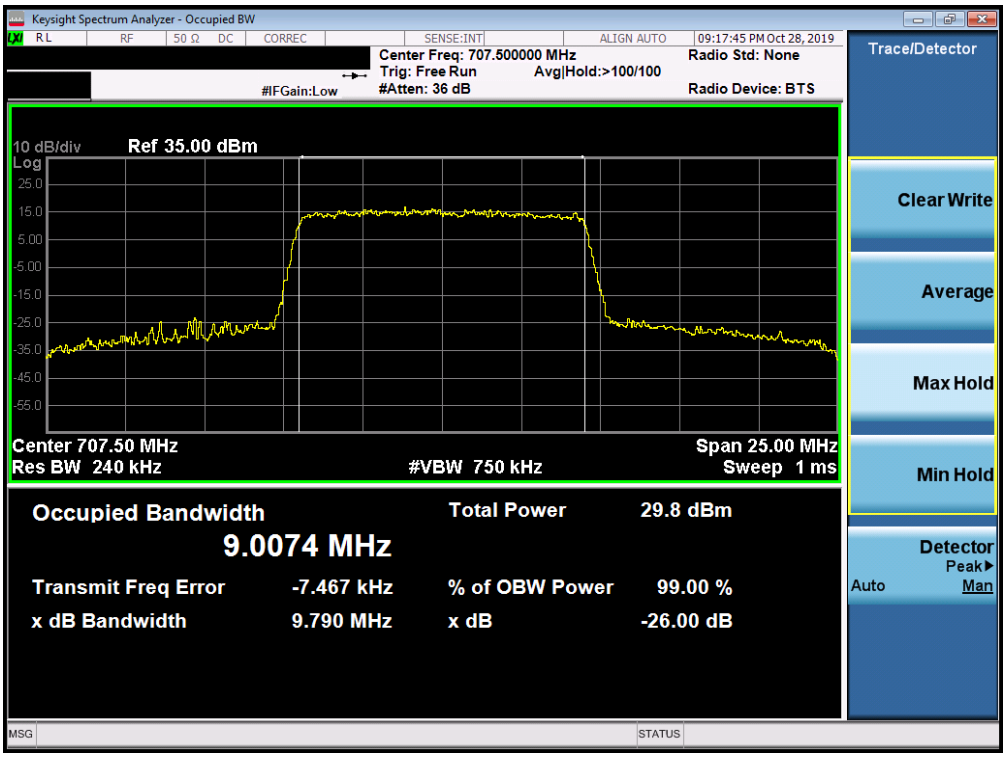
Plot 7-12. Occupied Bandwidth Plot (Band 12 - 5.0MHz 256-QAM - Full RB Configuration)



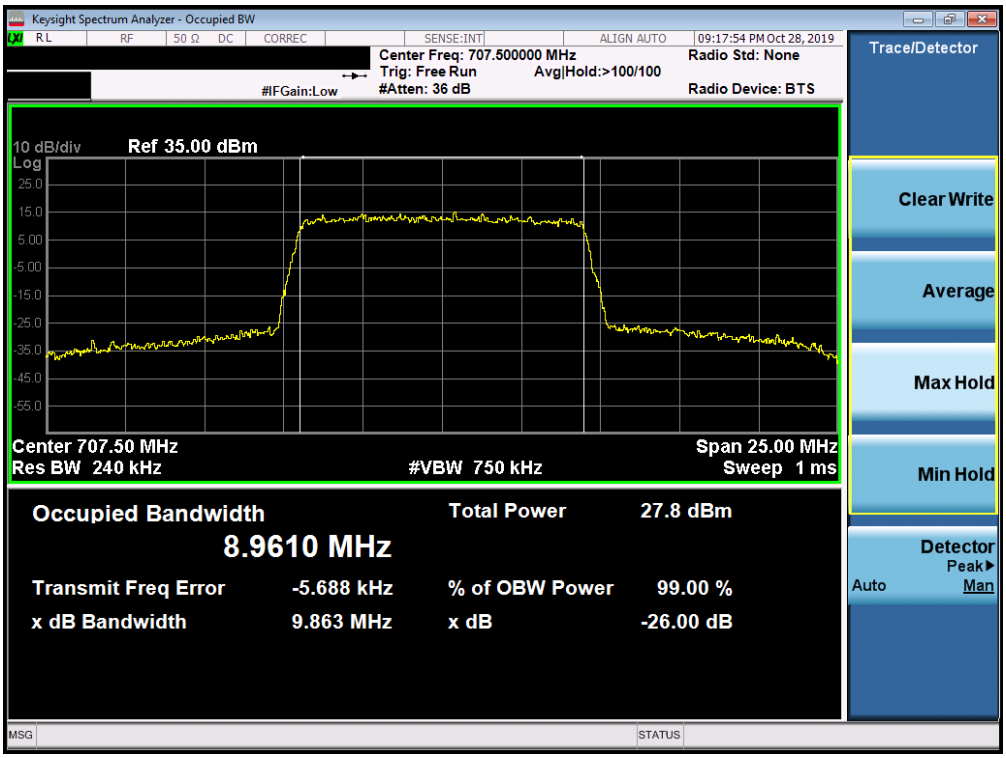
Plot 7-13. Occupied Bandwidth Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-14. Occupied Bandwidth Plot (Band 12 - 10.0MHz 16-QAM - Full RB Configuration)

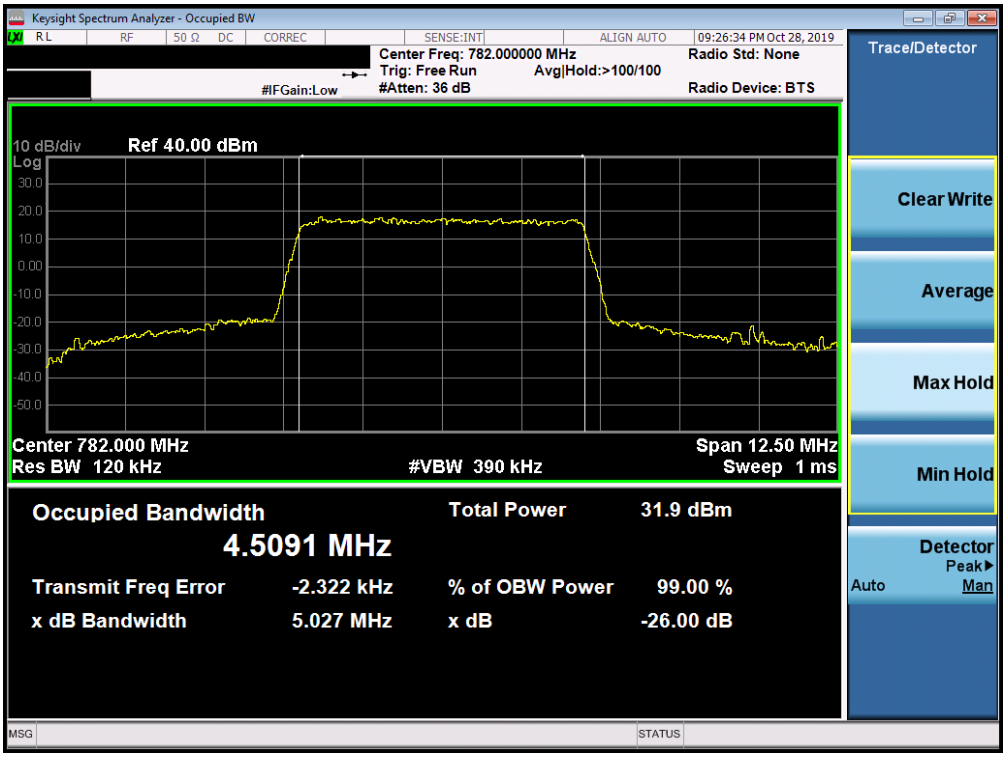


Plot 7-15. Occupied Bandwidth Plot (Band 12 - 10.0MHz 64-QAM - Full RB Configuration)

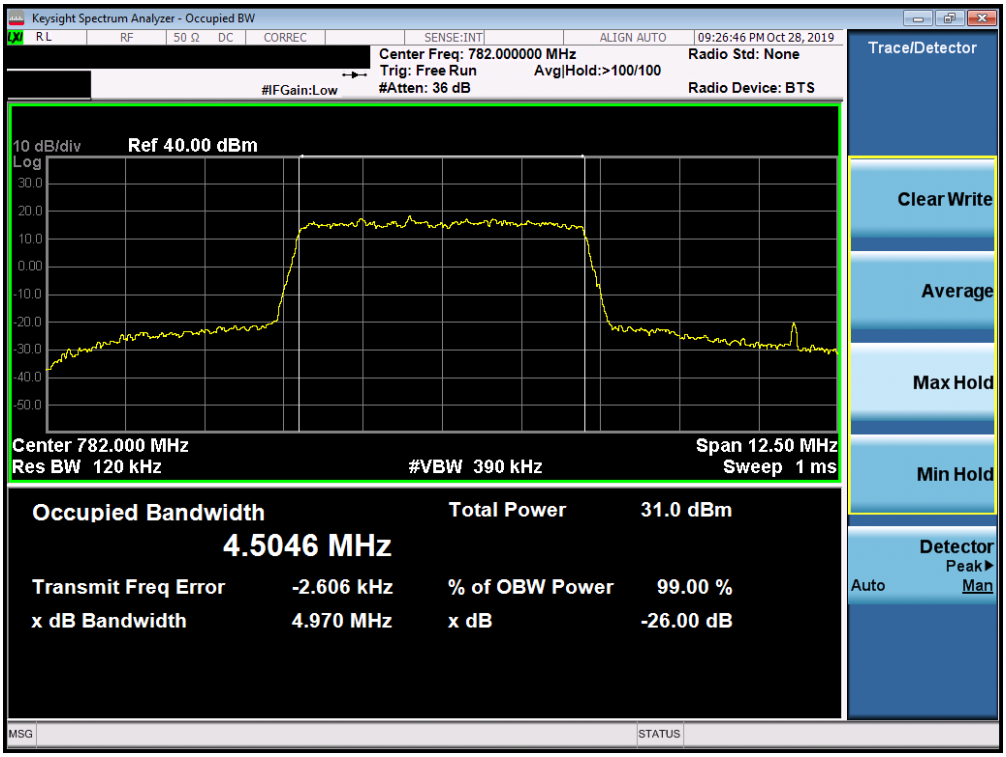


Plot 7-16. Occupied Bandwidth Plot (Band 12 - 10.0MHz 256-QAM - Full RB Configuration)

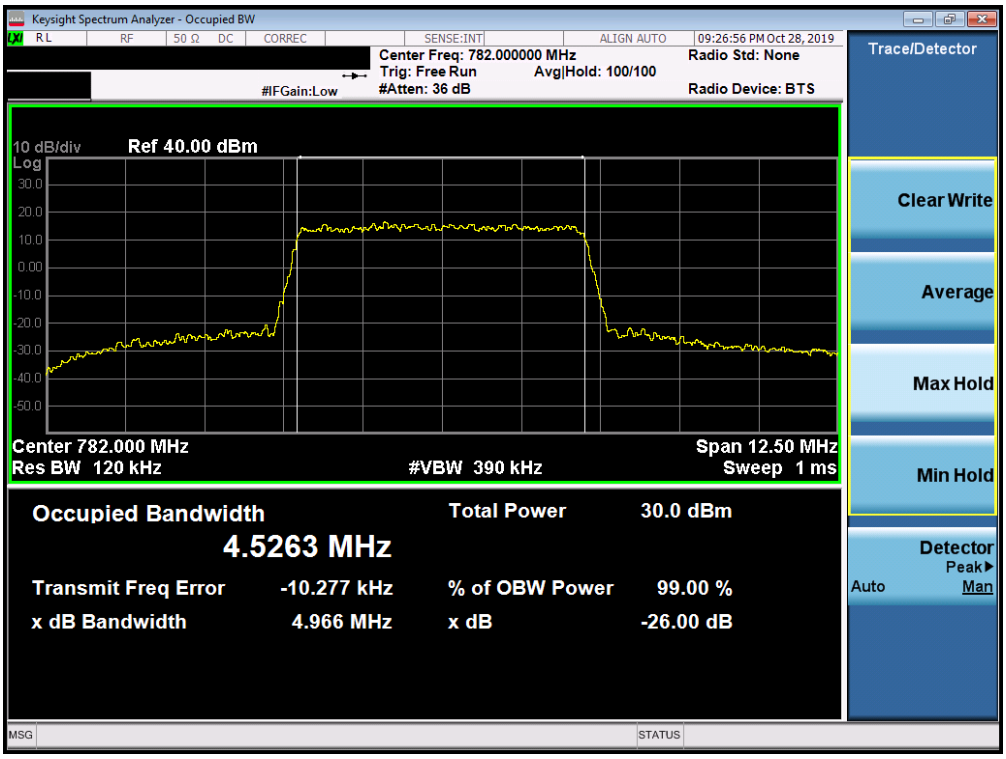
Band 13



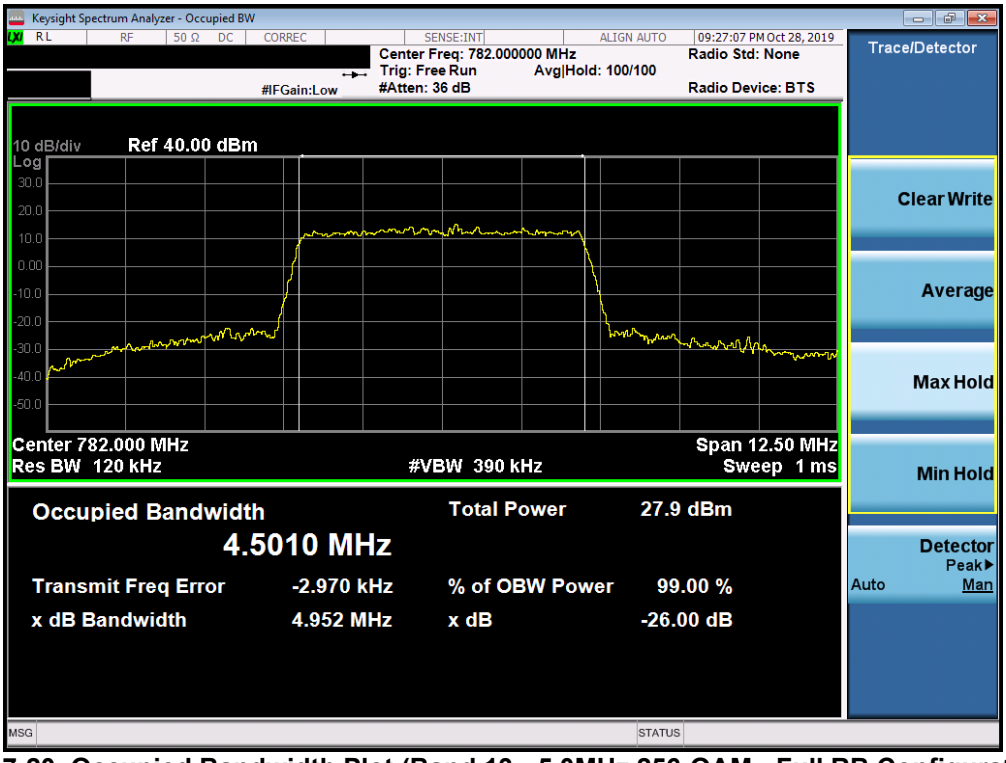
Plot 7-17. Occupied Bandwidth Plot (Band 13 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-18. Occupied Bandwidth Plot (Band 13 - 5.0MHz 16-QAM - Full RB Configuration)

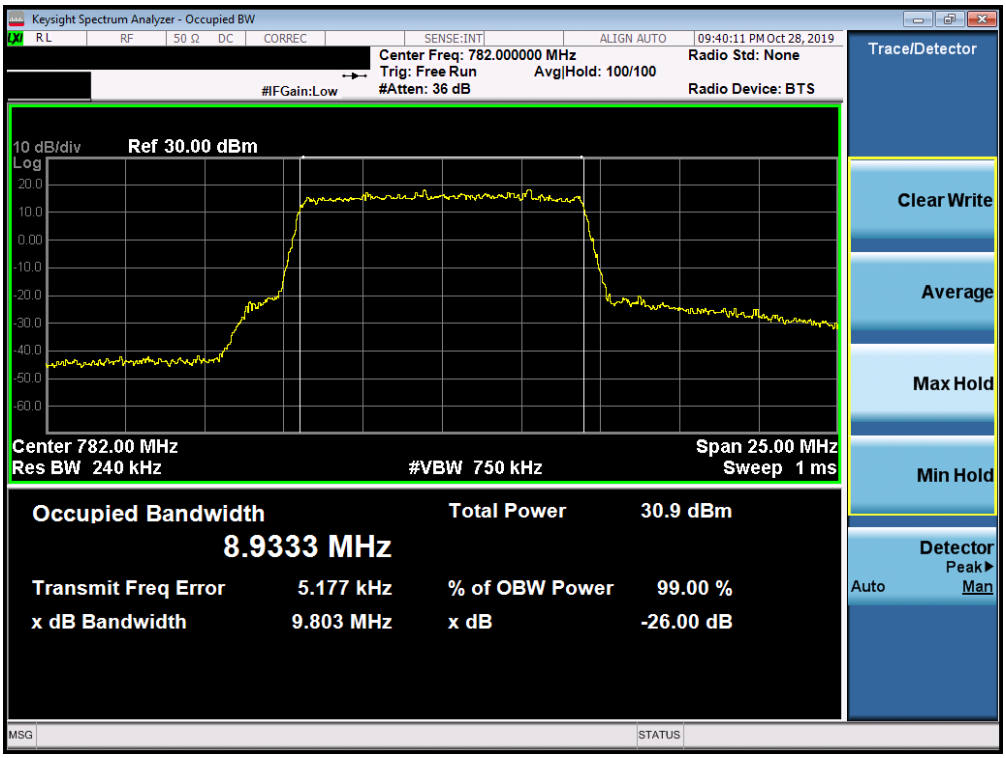


Plot 7-19. Occupied Bandwidth Plot (Band 13 - 5.0MHz 64-QAM - Full RB Configuration)

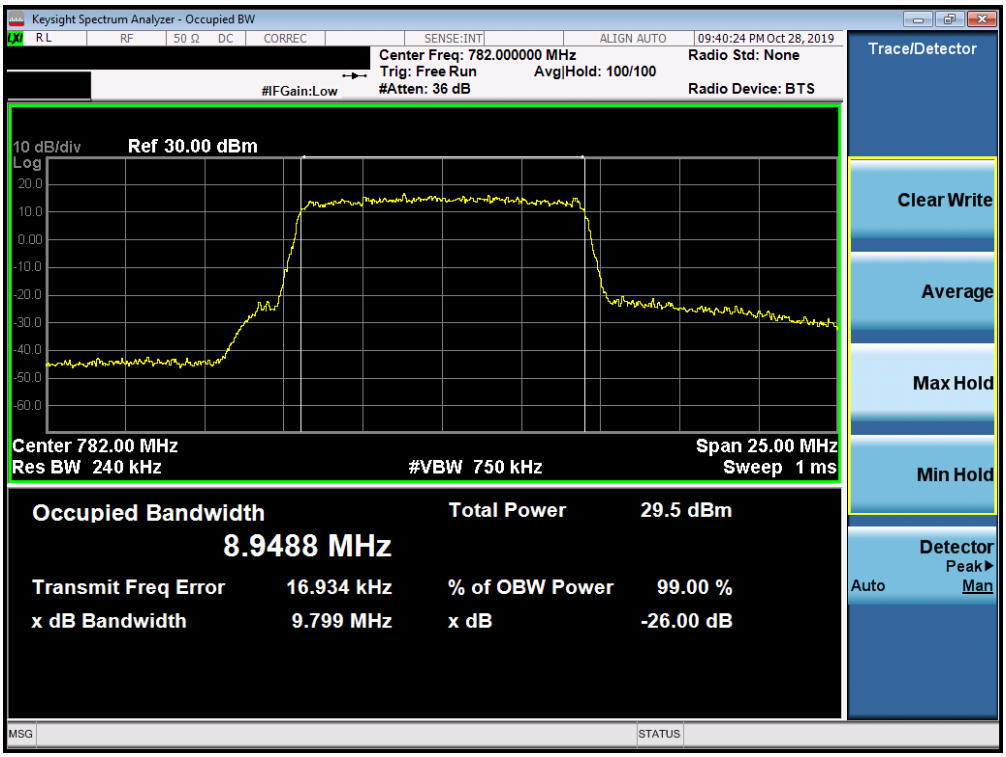


Plot 7-20. Occupied Bandwidth Plot (Band 13 - 5.0MHz 256-QAM - Full RB Configuration)

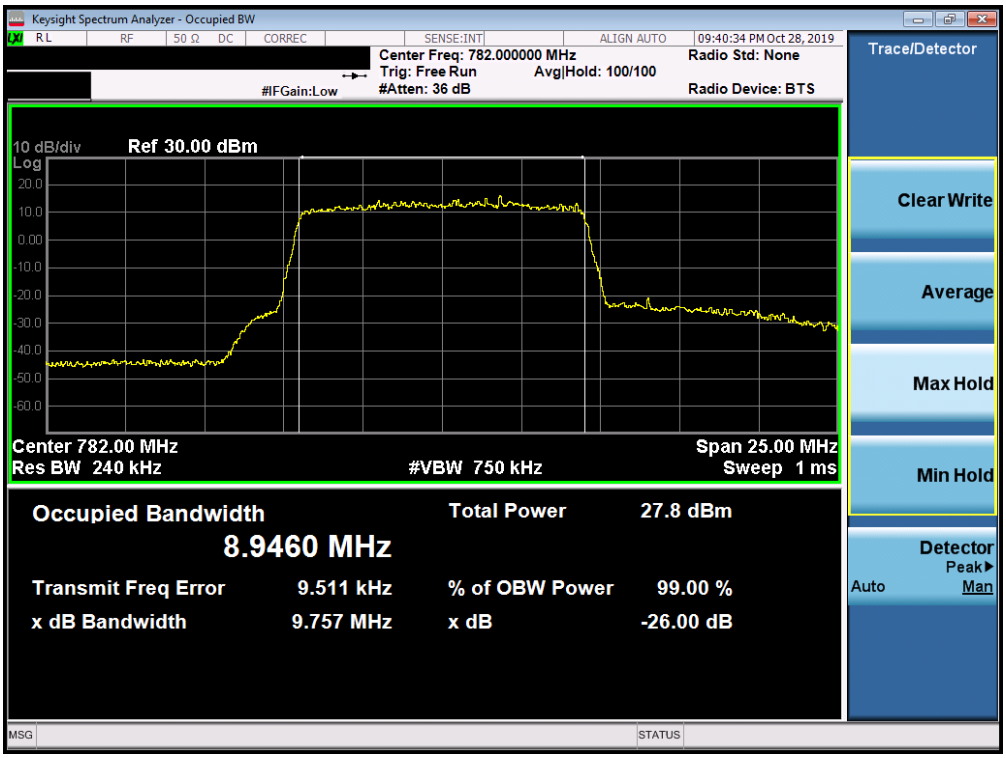
Plot 7-21. Occupied Bandwidth Plot (Band 13 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-22. Occupied Bandwidth Plot (Band 13 - 10.0MHz 16-QAM - Full RB Configuration)

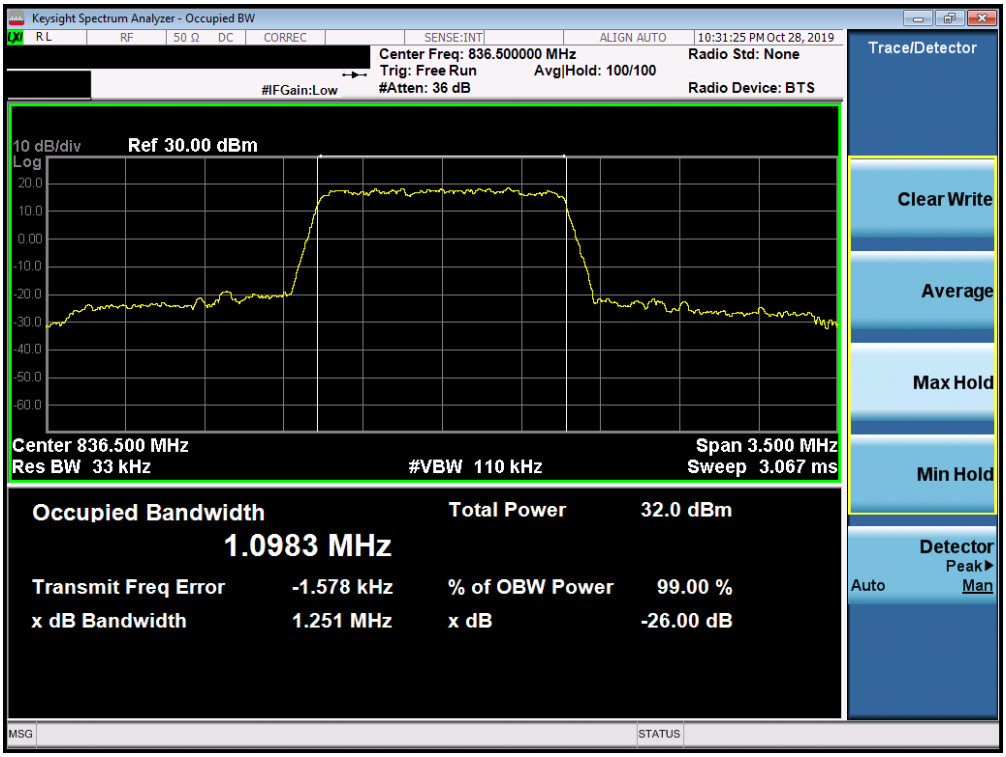


Plot 7-23. Occupied Bandwidth Plot (Band 13 - 10.0MHz 64-QAM - Full RB Configuration)

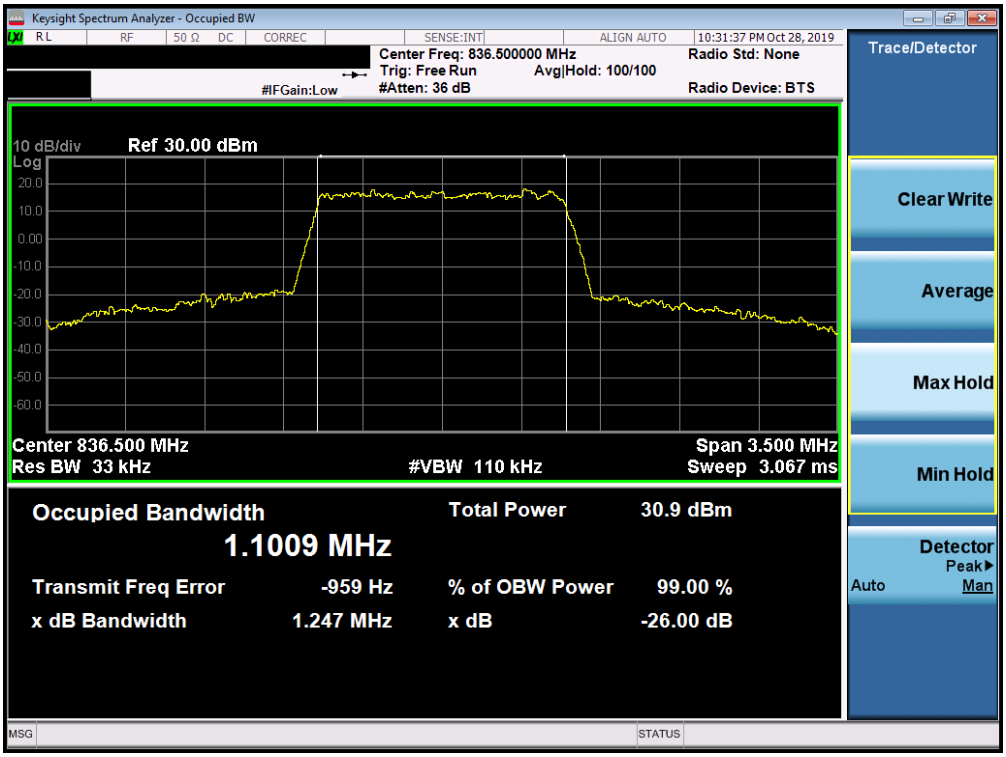


Plot 7-24. Occupied Bandwidth Plot (Band 13 - 10.0MHz 256-QAM - Full RB Configuration)

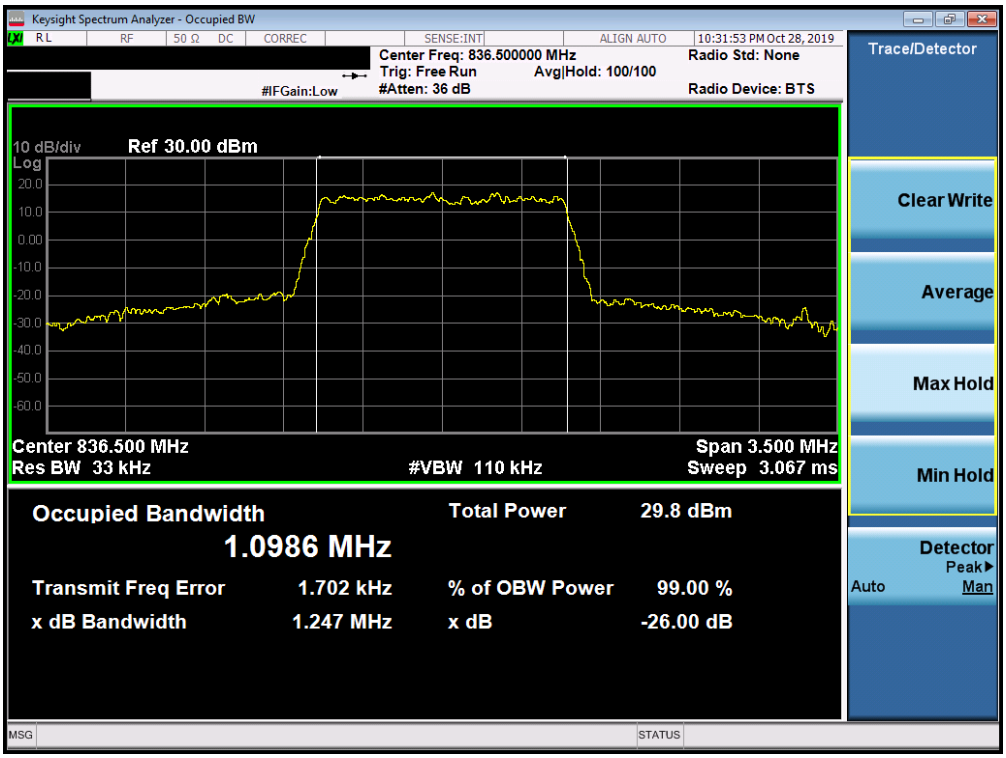
Band 26/5



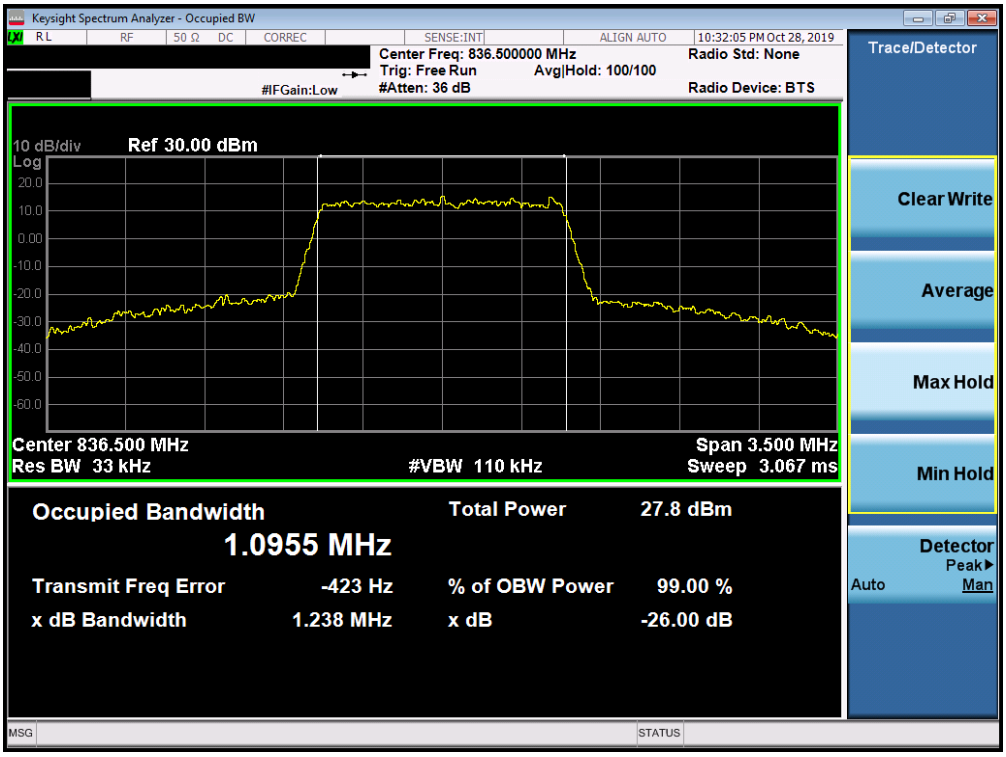
Plot 7-25. Occupied Bandwidth Plot (Band 26/5 - 1.4MHz QPSK - Full RB Configuration)



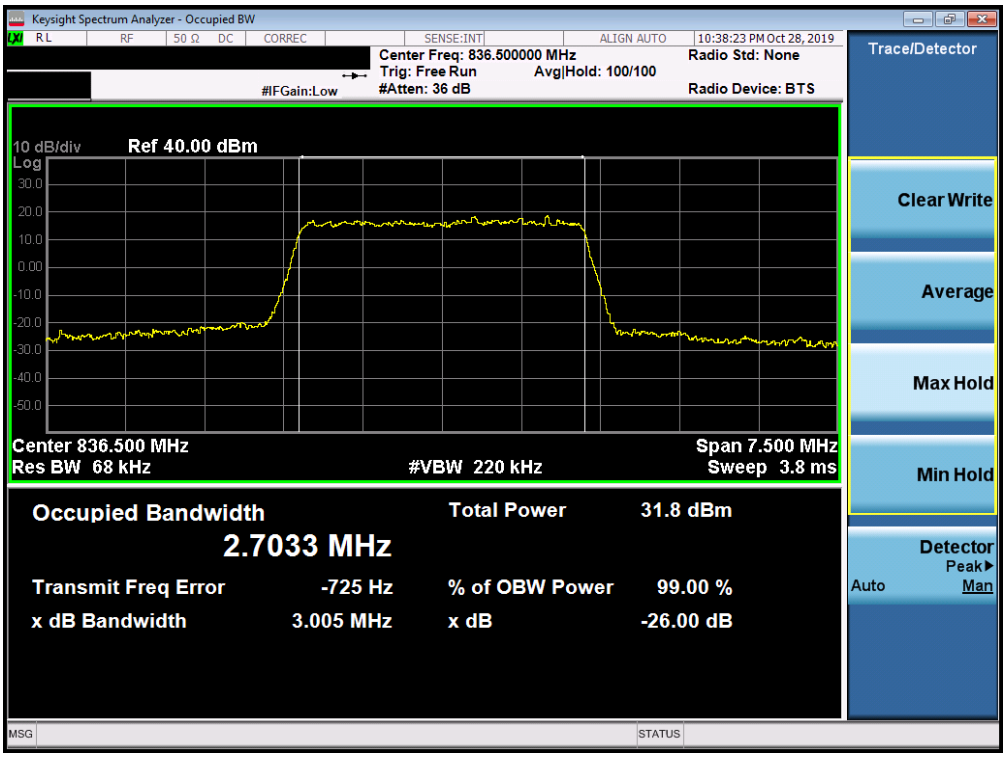
Plot 7-26. Occupied Bandwidth Plot (Band 26/5 - 1.4MHz 16-QAM - Full RB Configuration)



Plot 7-27. Occupied Bandwidth Plot (Band 26/5 - 1.4MHz 64-QAM - Full RB Configuration)



Plot 7-28. Occupied Bandwidth Plot (Band 26/5 - 1.4MHz 256-QAM - Full RB Configuration)

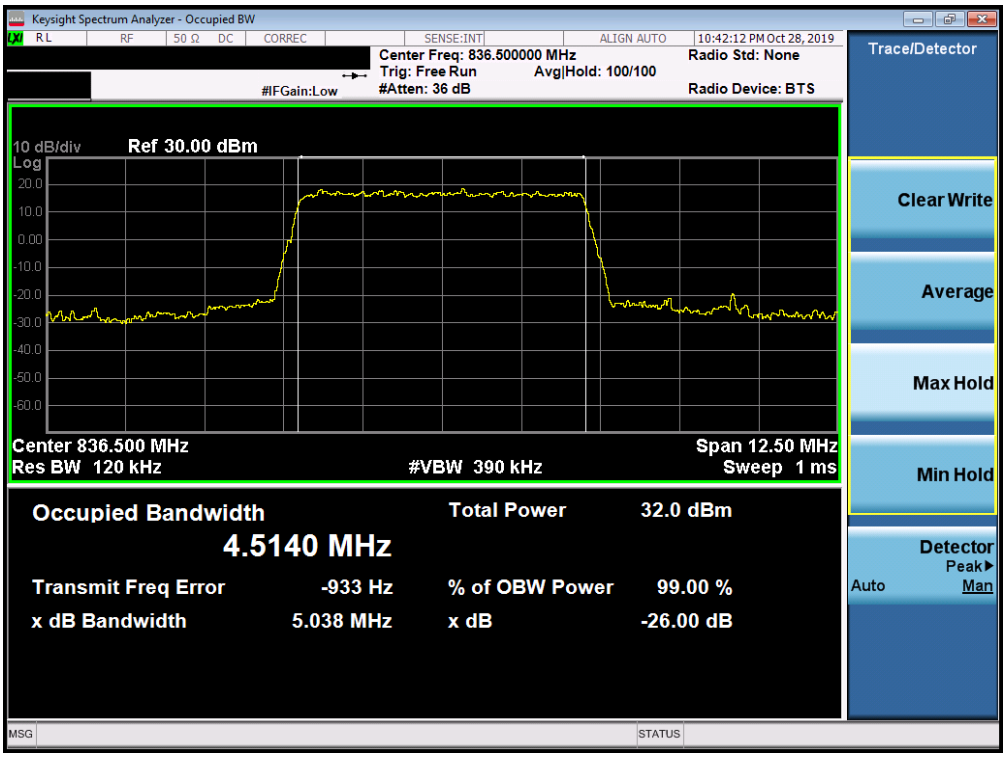


Plot 7-29. Occupied Bandwidth Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)

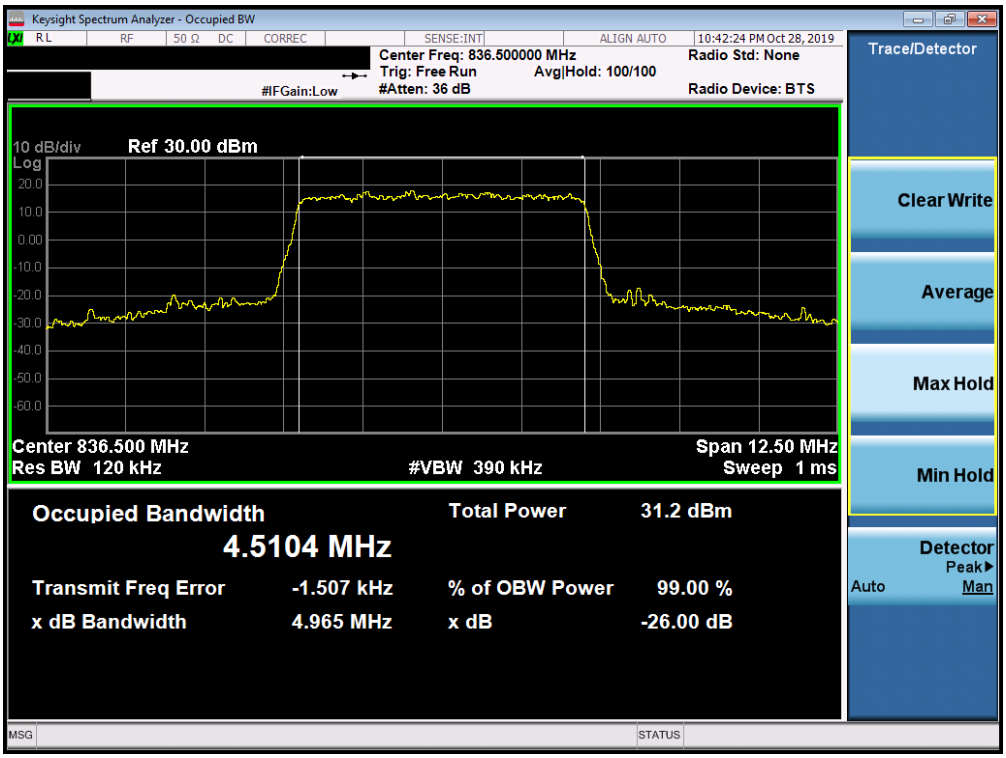
Plot 7-30. Occupied Bandwidth Plot (Band 26/5 - 3.0MHz 16-QAM - Full RB Configuration)

Plot 7-31. Occupied Bandwidth Plot (Band 26/5 - 3.0MHz 64-QAM - Full RB Configuration)

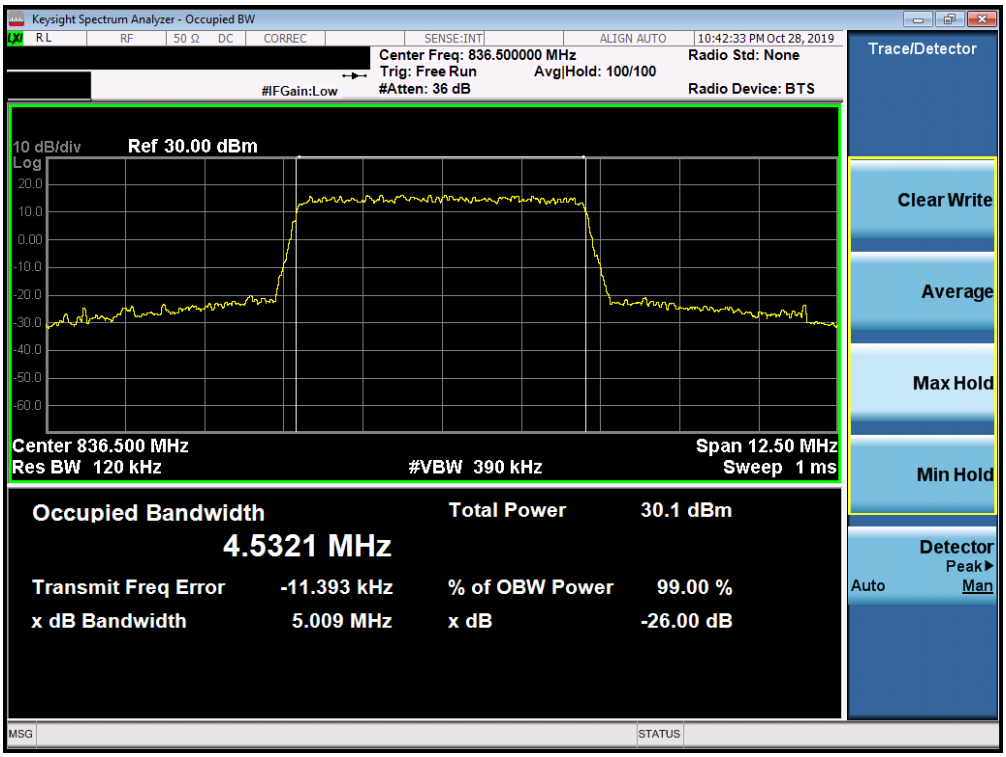
Plot 7-32. Occupied Bandwidth Plot (Band 26/5 - 3.0MHz 256-QAM - Full RB Configuration)



Plot 7-33. Occupied Bandwidth Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)

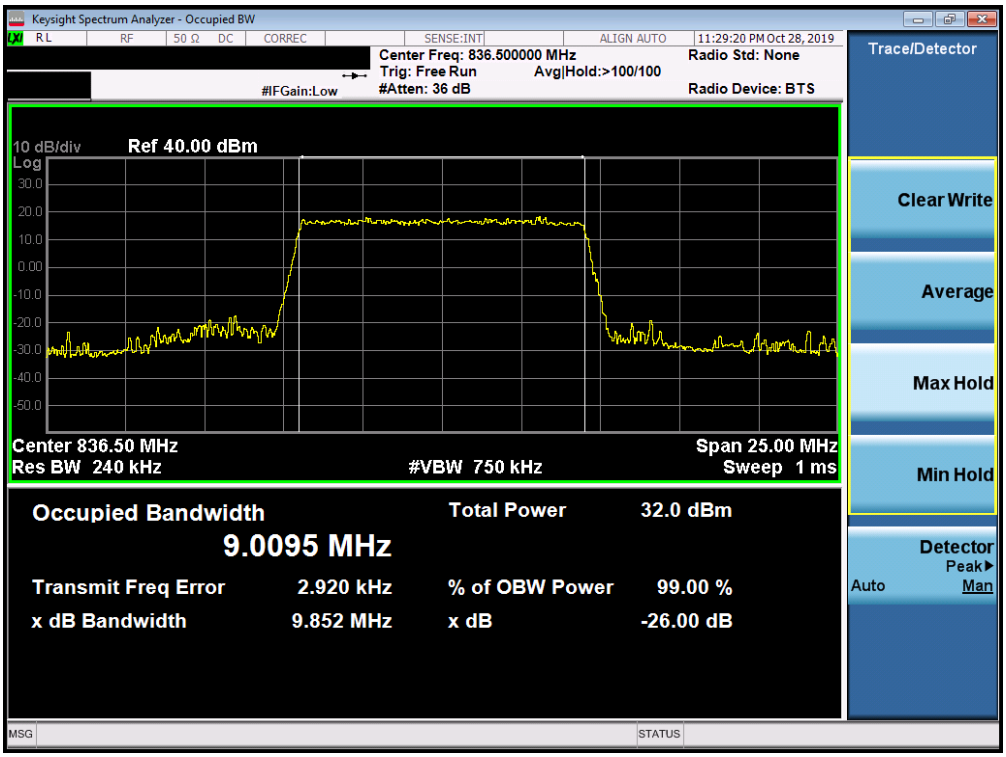


Plot 7-34. Occupied Bandwidth Plot (Band 26/5 - 5.0MHz 16-QAM - Full RB Configuration)

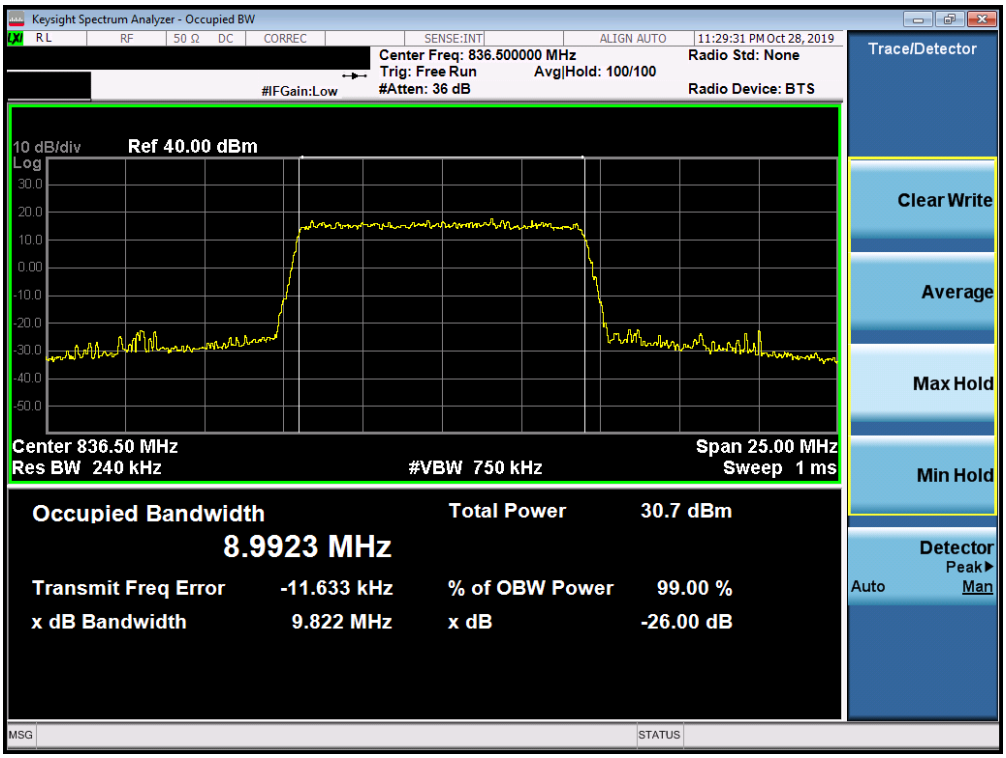


Plot 7-35. Occupied Bandwidth Plot (Band 26/5 - 5.0MHz 64-QAM - Full RB Configuration)

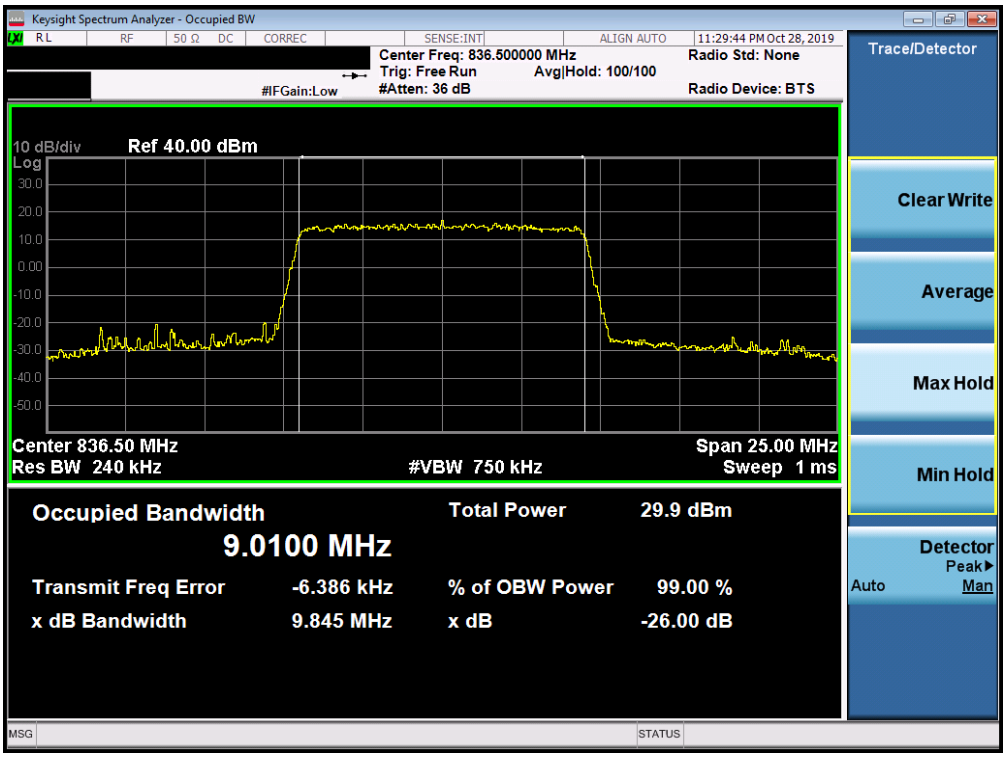
Plot 7-36. Occupied Bandwidth Plot (Band 26/5 - 5.0MHz 256-QAM - Full RB Configuration)



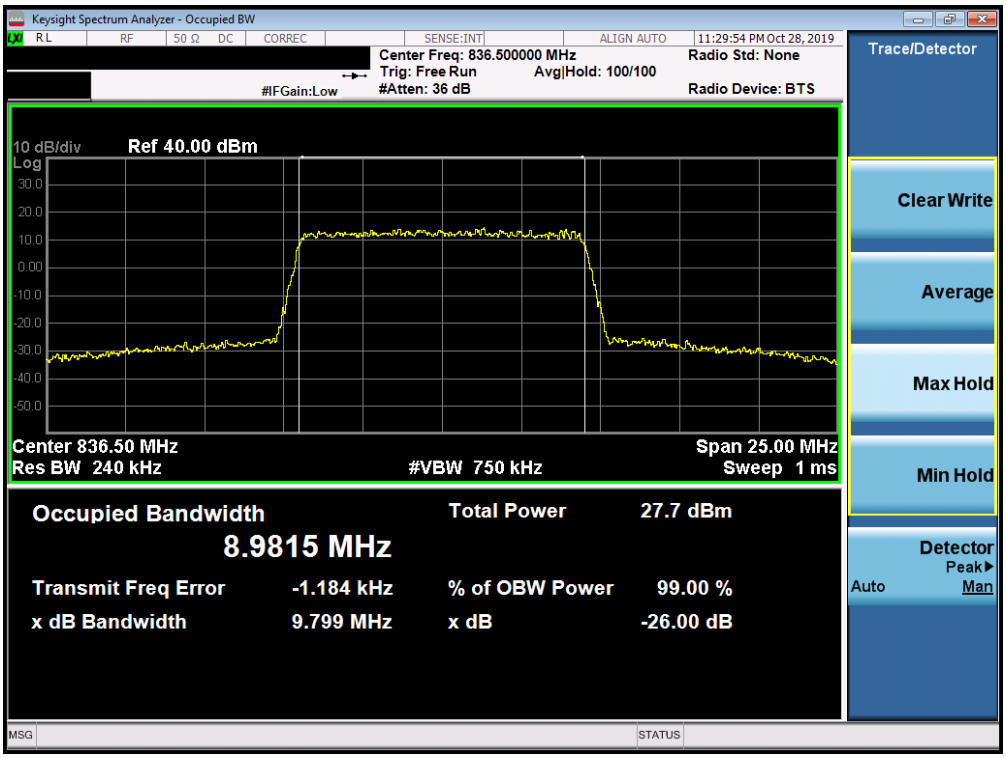
Plot 7-37. Occupied Bandwidth Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)



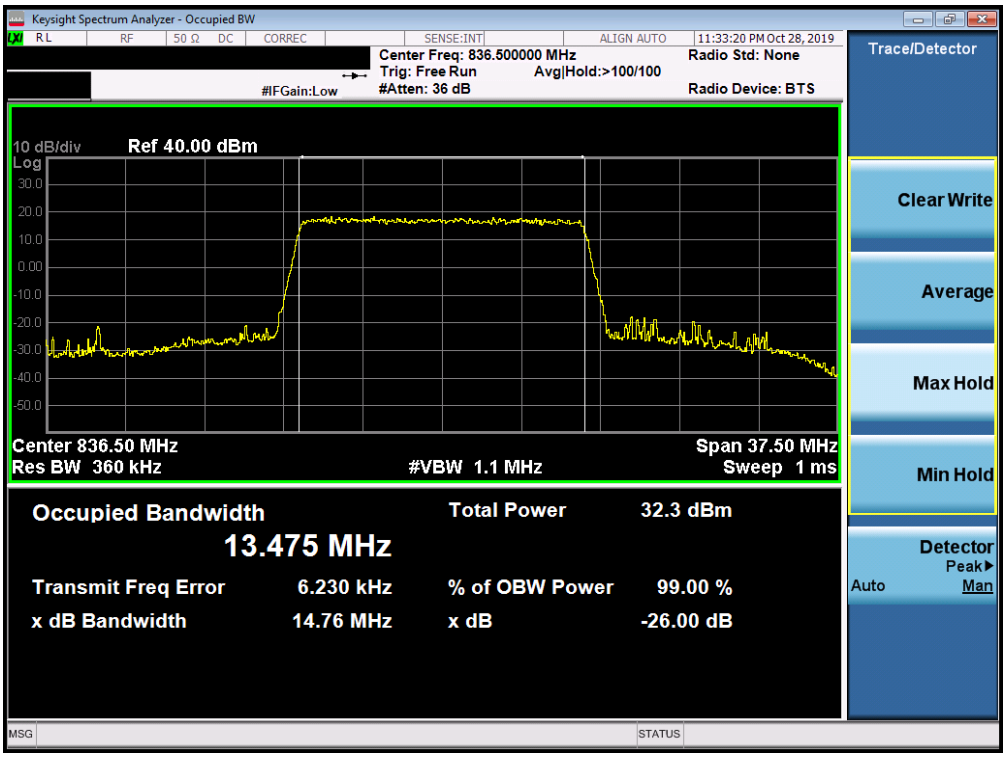
Plot 7-38. Occupied Bandwidth Plot (Band 26/5 - 10.0MHz 16-QAM - Full RB Configuration)



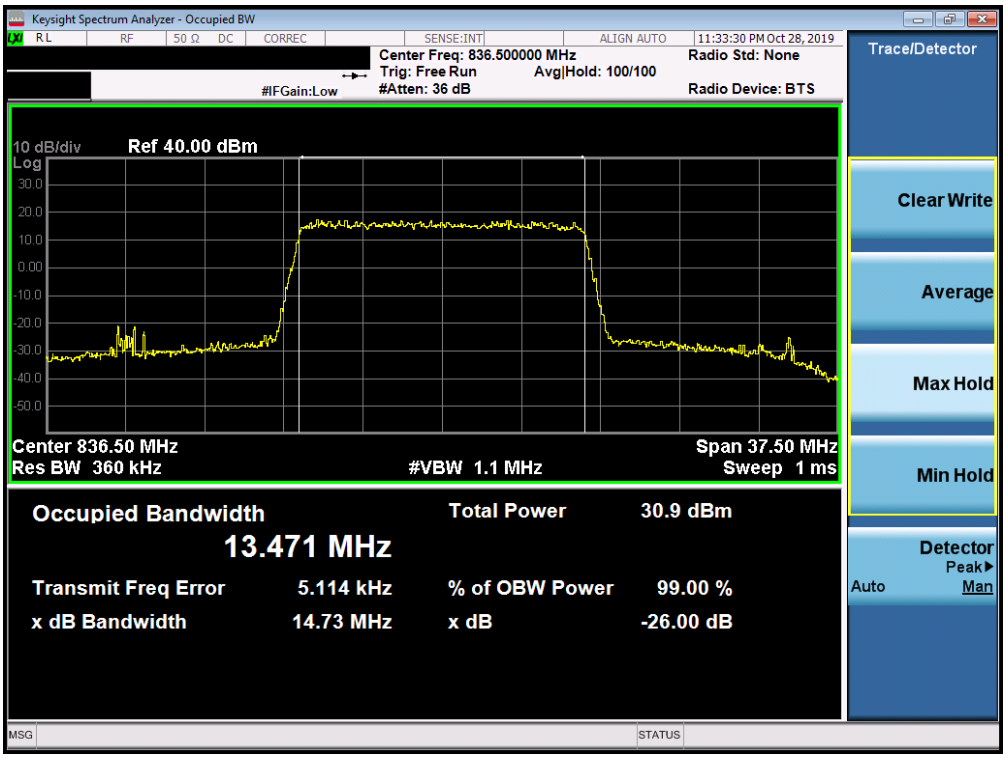
Plot 7-39. Occupied Bandwidth Plot (Band 26/5 - 10.0MHz 64-QAM - Full RB Configuration)



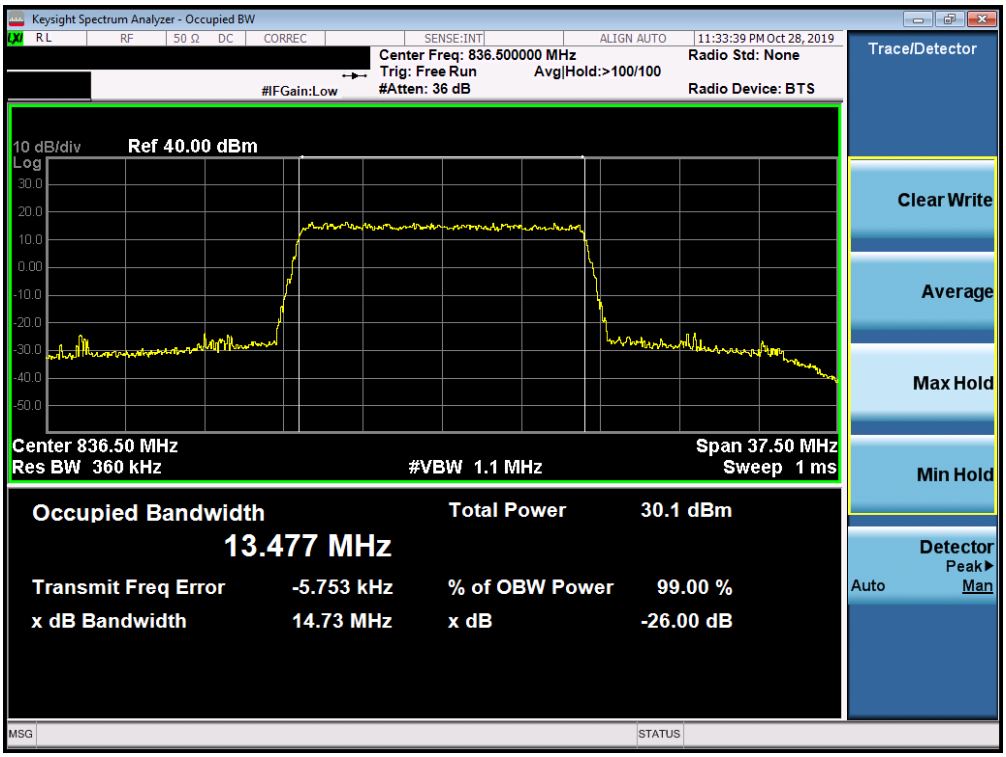
Plot 7-40. Occupied Bandwidth Plot (Band 26/5 - 10.0MHz 256-QAM - Full RB Configuration)



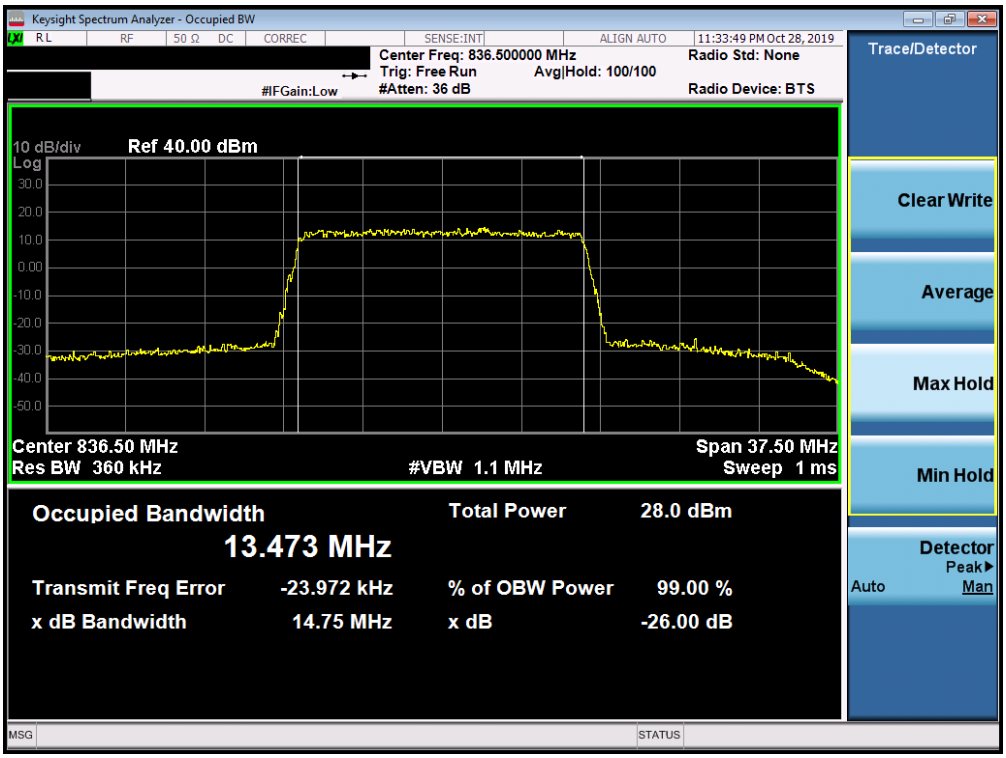
Plot 7-41. Occupied Bandwidth Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-42. Occupied Bandwidth Plot (Band 26 - 15.0MHz 16-QAM - Full RB Configuration)

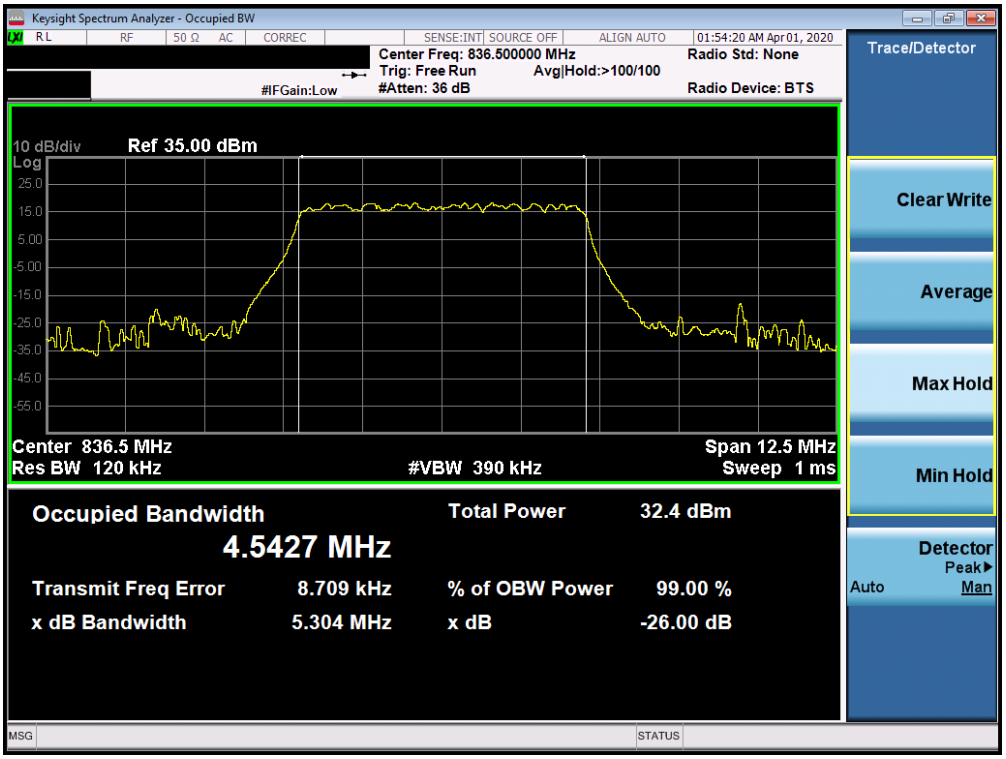


Plot 7-43. Occupied Bandwidth Plot (Band 26 - 15.0MHz 64-QAM - Full RB Configuration)

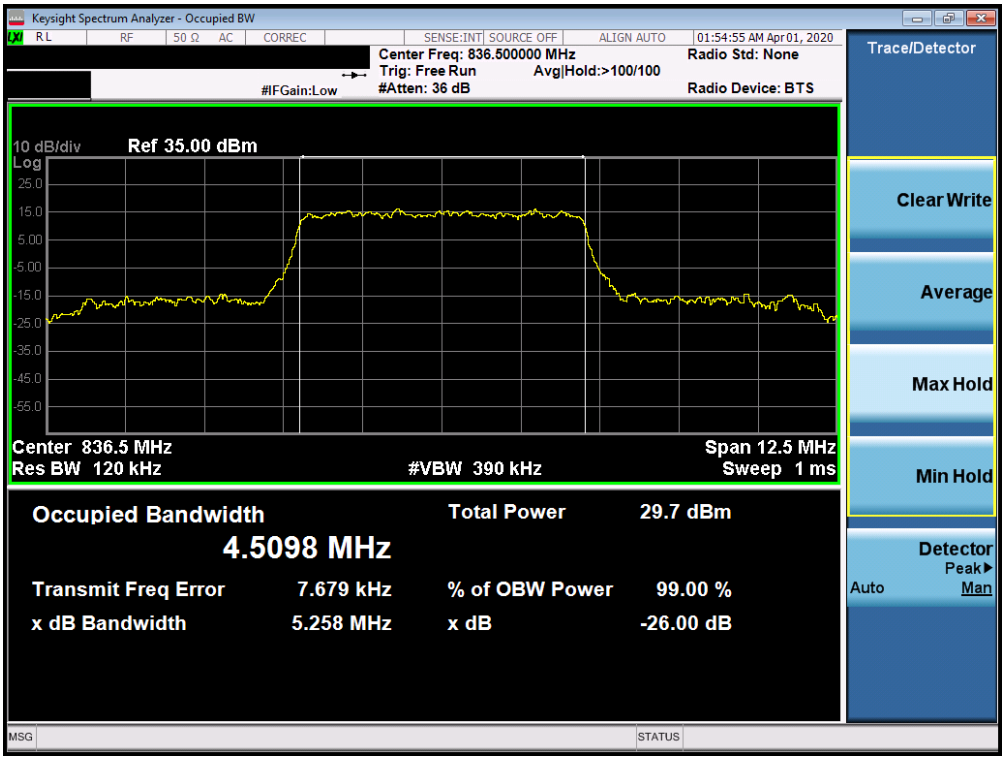


Plot 7-44. Occupied Bandwidth Plot (Band 26 - 15.0MHz 256-QAM - Full RB Configuration)

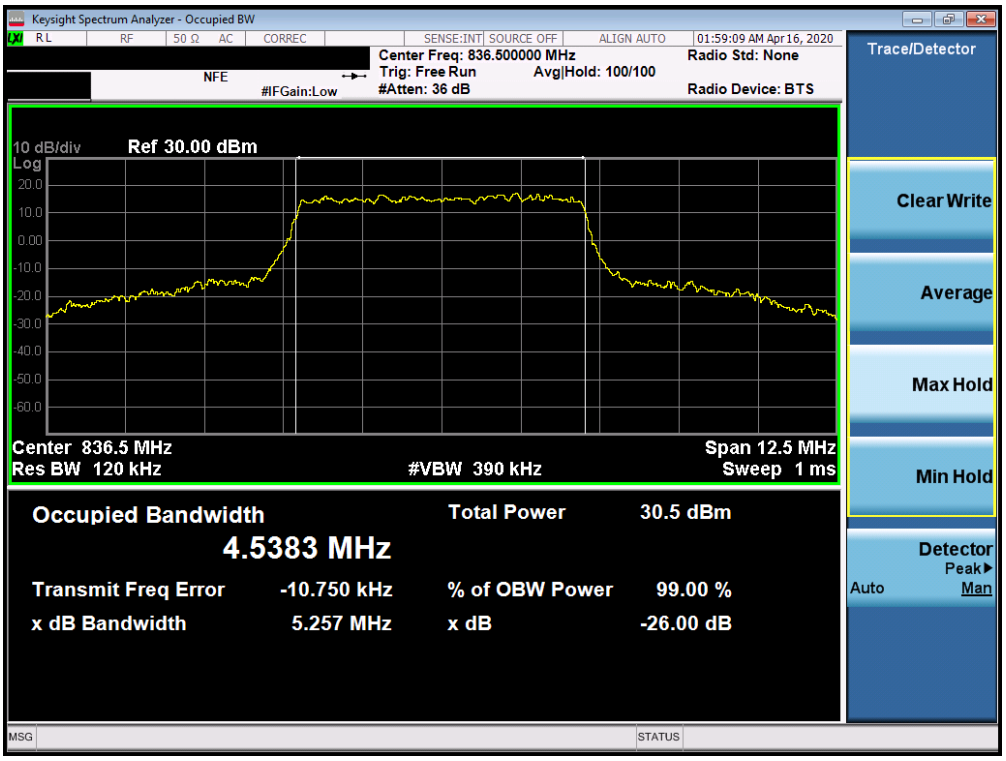
NR Band n5



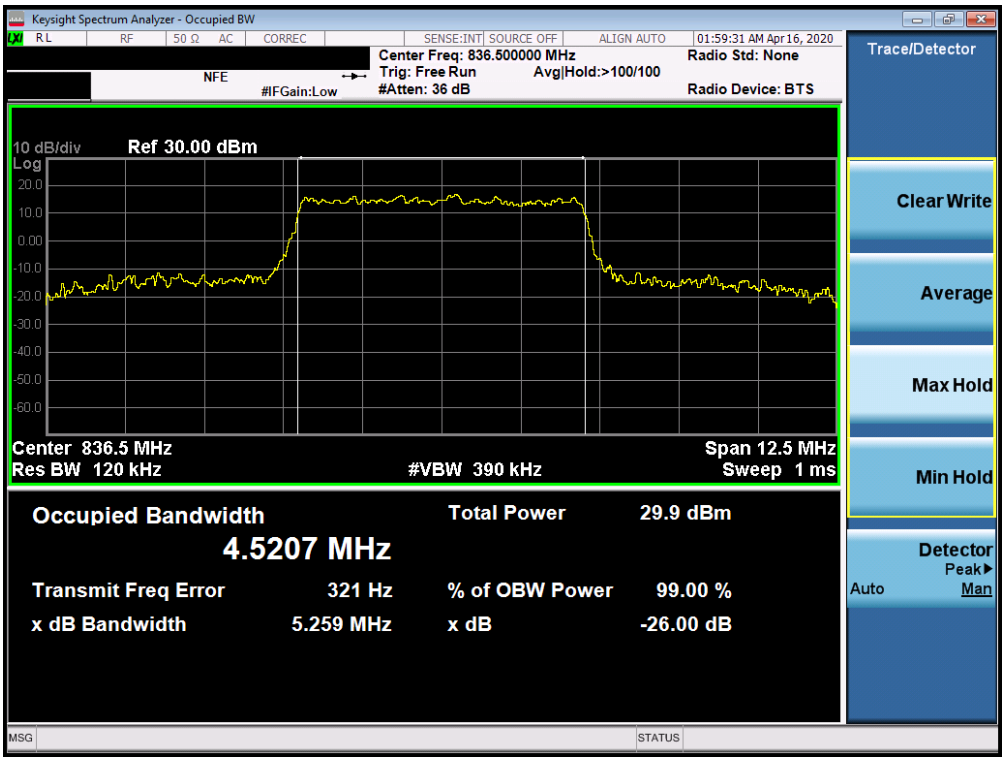
Plot 7-45. Occupied Bandwidth Plot (n5 - 5.0MHz DFT-s-OFDM BPSK - Full RB Configuration)



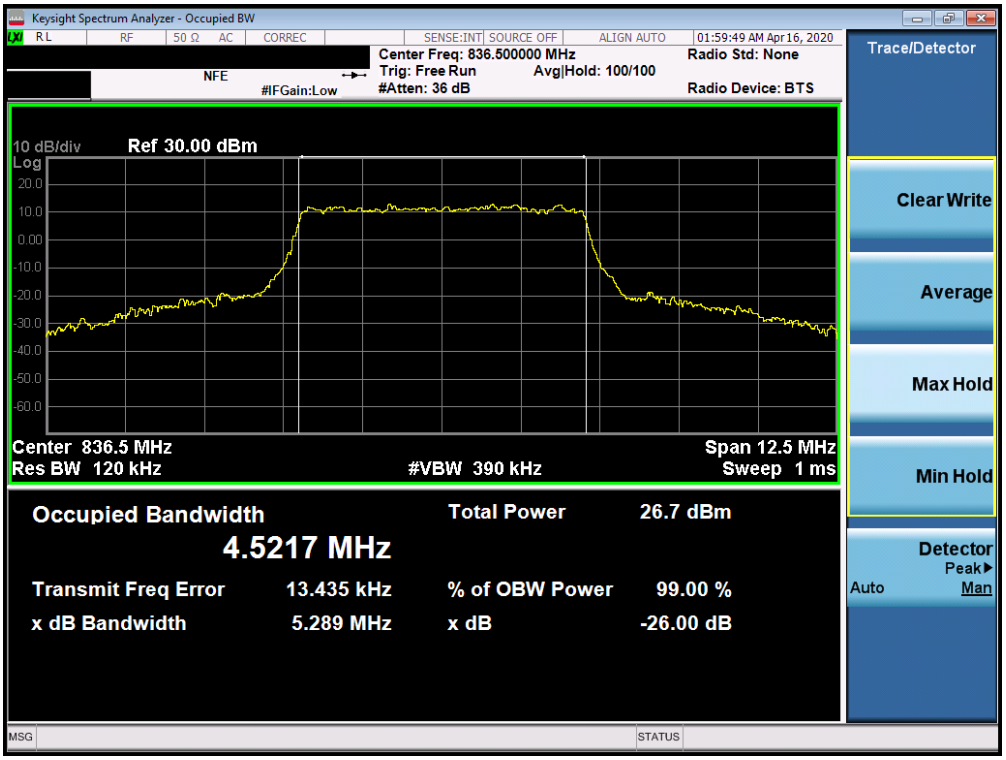
Plot 7-46. Occupied Bandwidth Plot (n5 - 5.0MHz CP-OFDM QPSK - Full RB Configuration)



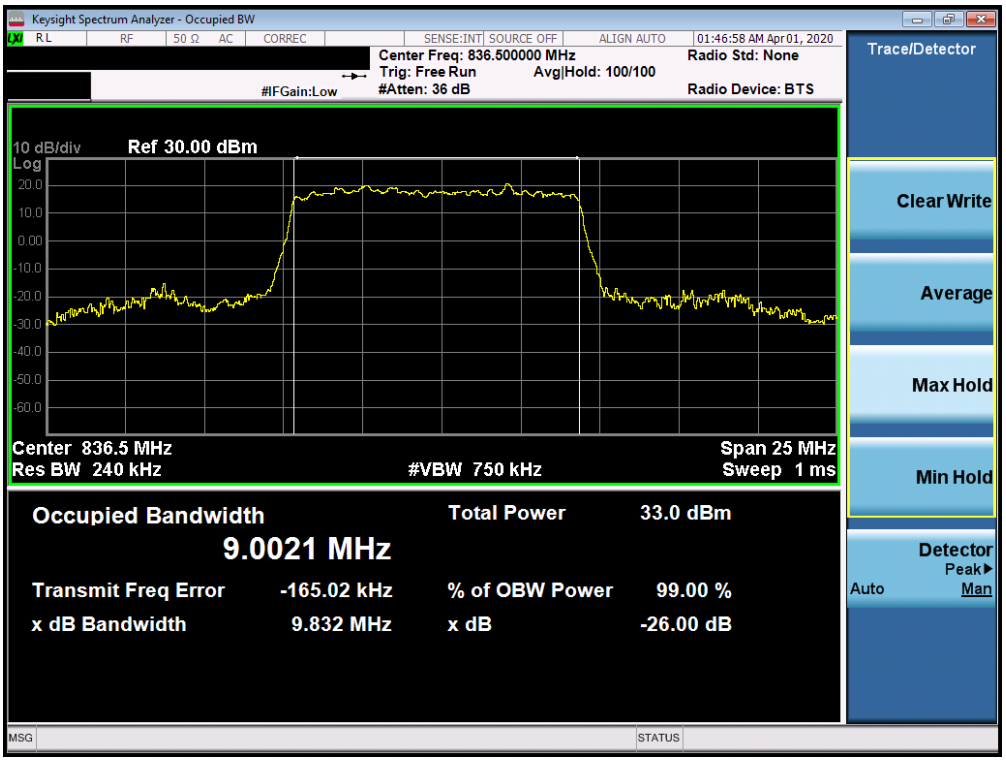
Plot 7-47. Occupied Bandwidth Plot (n5 - 5.0MHz CP-OFDM 16QAM - Full RB Configuration)



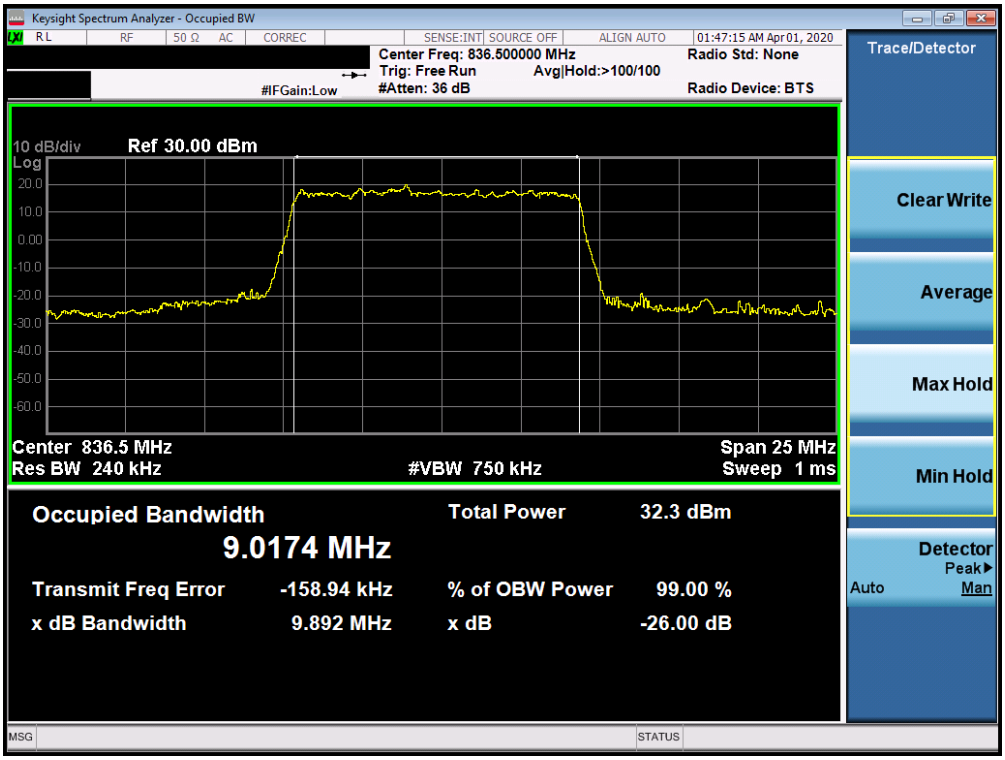
Plot 7-48. Occupied Bandwidth Plot (n5 - 5.0MHz CP-OFDM 64QAM - Full RB Configuration)



Plot 7-49. Occupied Bandwidth Plot (n5 - 5.0MHz CP-OFDM 256QAM - Full RB Configuration)

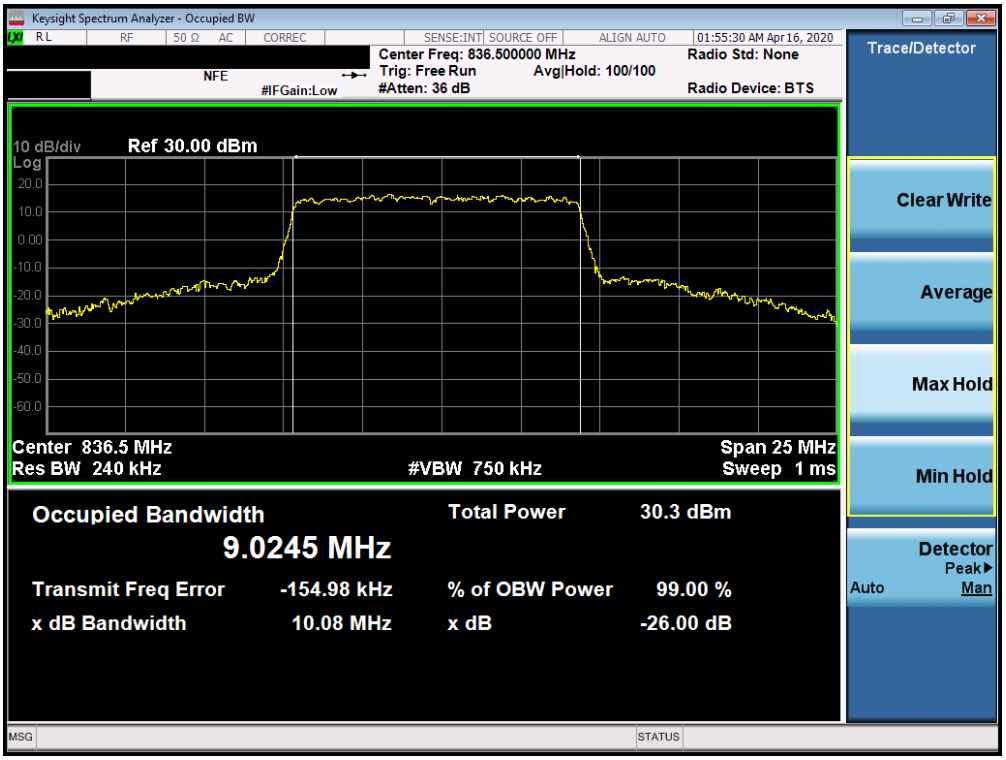


Plot 7-50. Occupied Bandwidth Plot (n5 - 10.0MHz DFT-s-OFDM BPSK - Full RB Configuration)



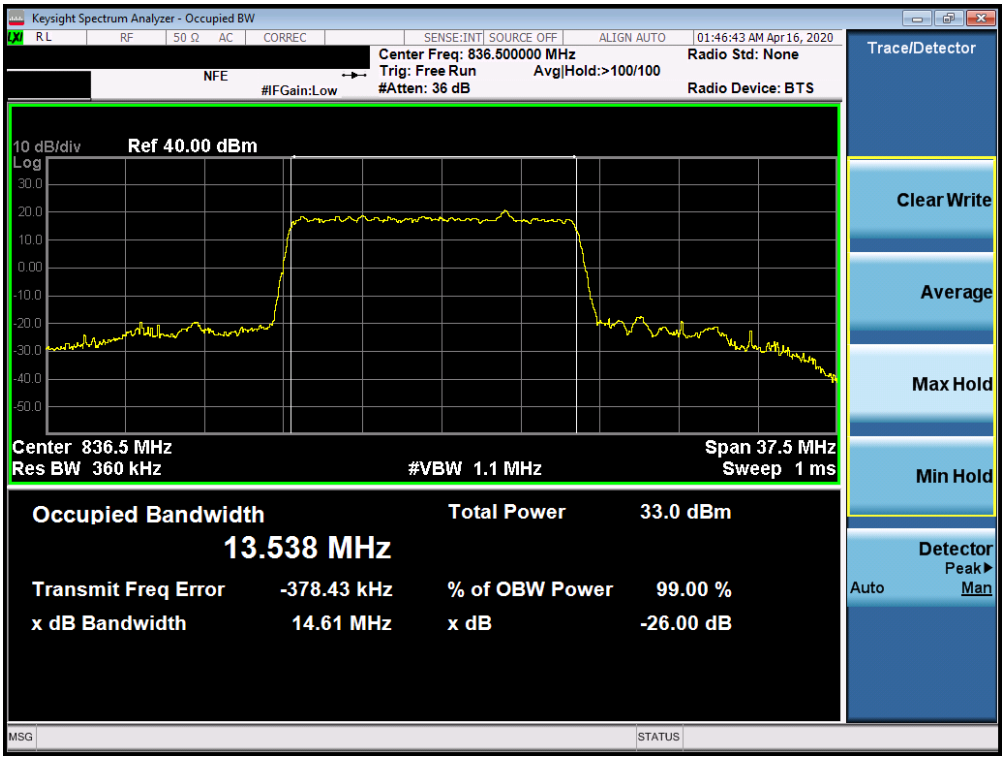
Plot 7-51. Occupied Bandwidth Plot (n5 - 10.0MHz DFT-s-OFDM QPSK - Full RB Configuration)

Plot 7-52. Occupied Bandwidth Plot (n5 - 10.0MHz CP-OFDM 16QAM - Full RB Configuration)

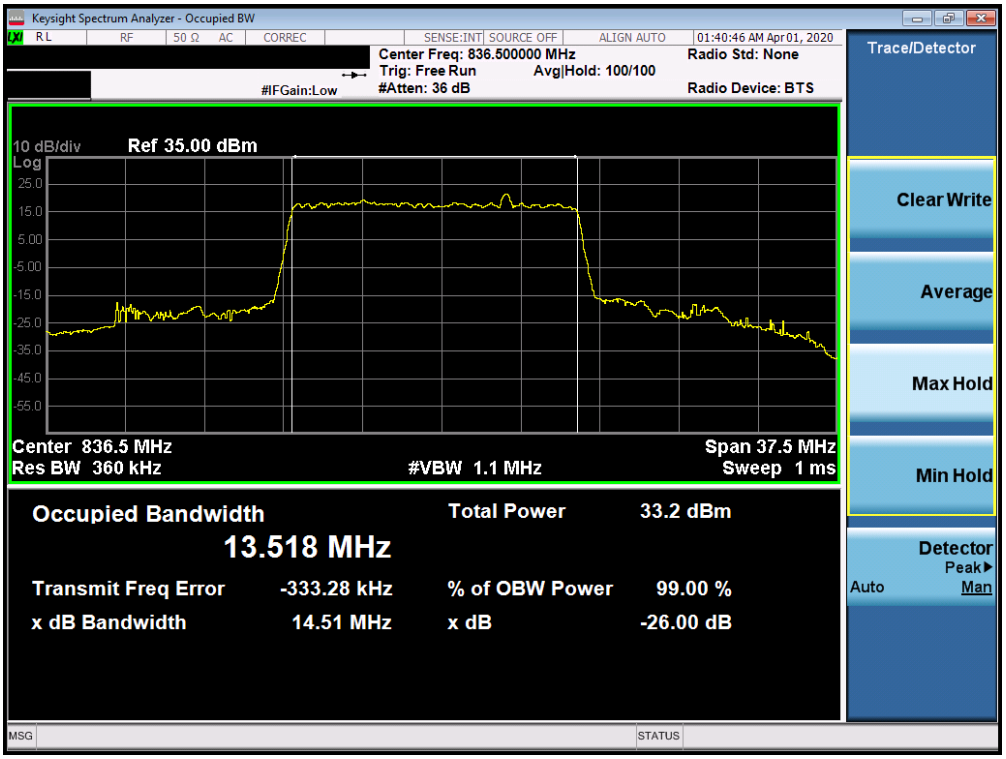


Plot 7-53. Occupied Bandwidth Plot (n5 - 10.0MHz CP-OFDM 64QAM - Full RB Configuration)

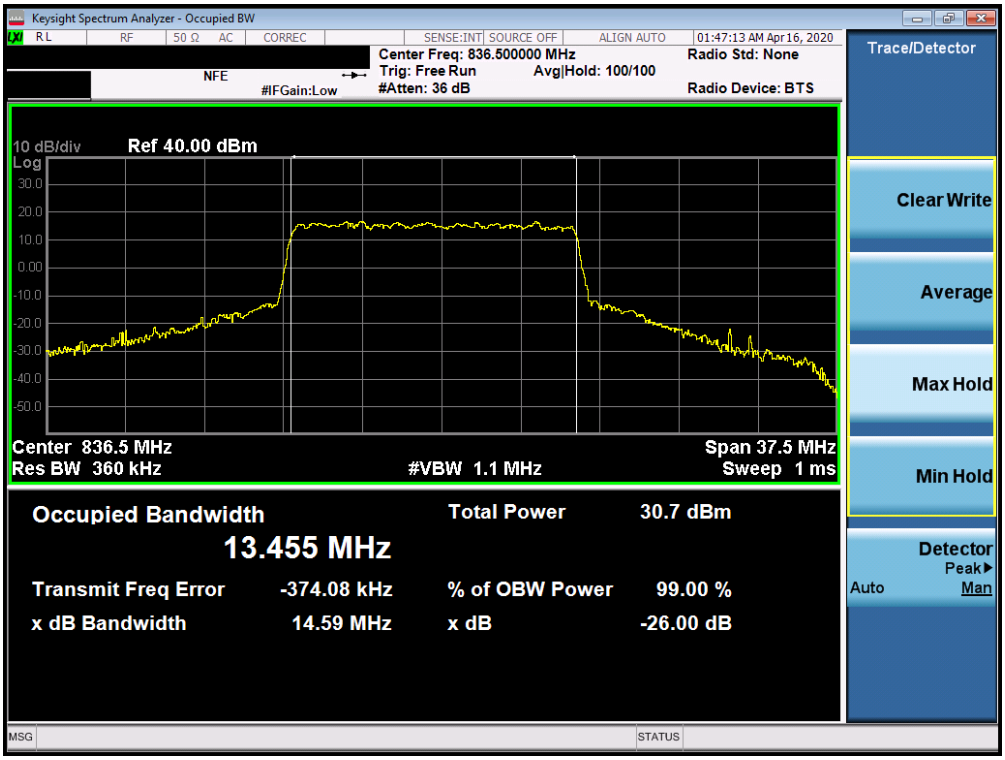
Plot 7-54. Occupied Bandwidth Plot (n5 - 10.0MHz CP-OFDM 256QAM - Full RB Configuration)



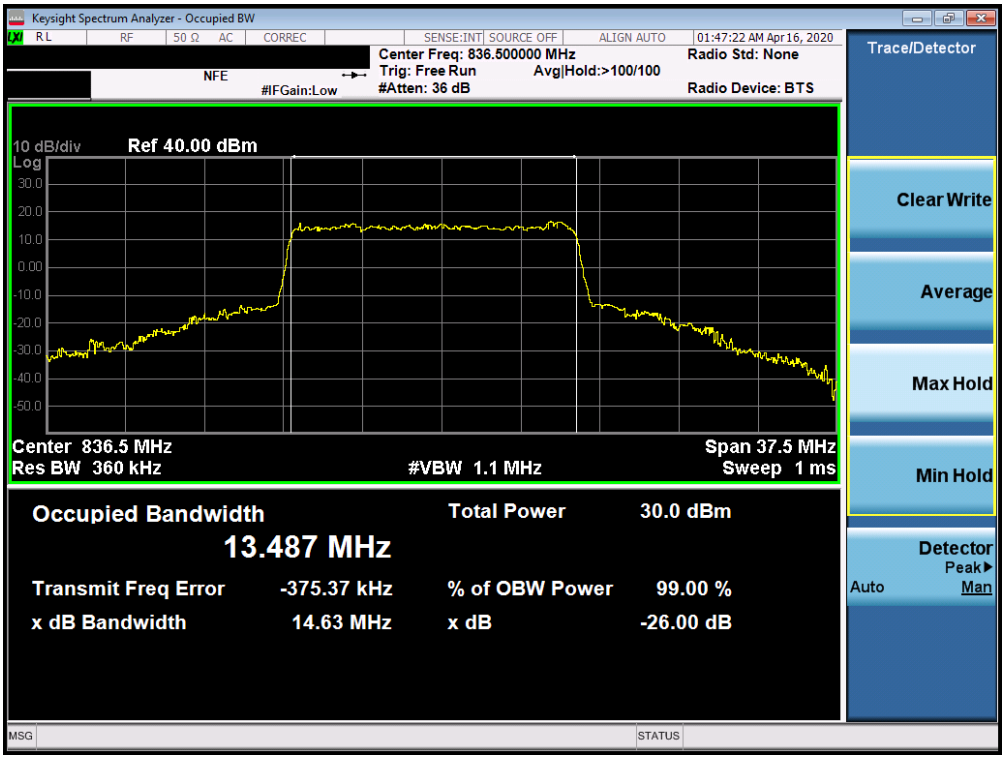
Plot 7-55. Occupied Bandwidth Plot (n5 - 15.0MHz DFT-s-OFDM BPSK - Full RB Configuration)



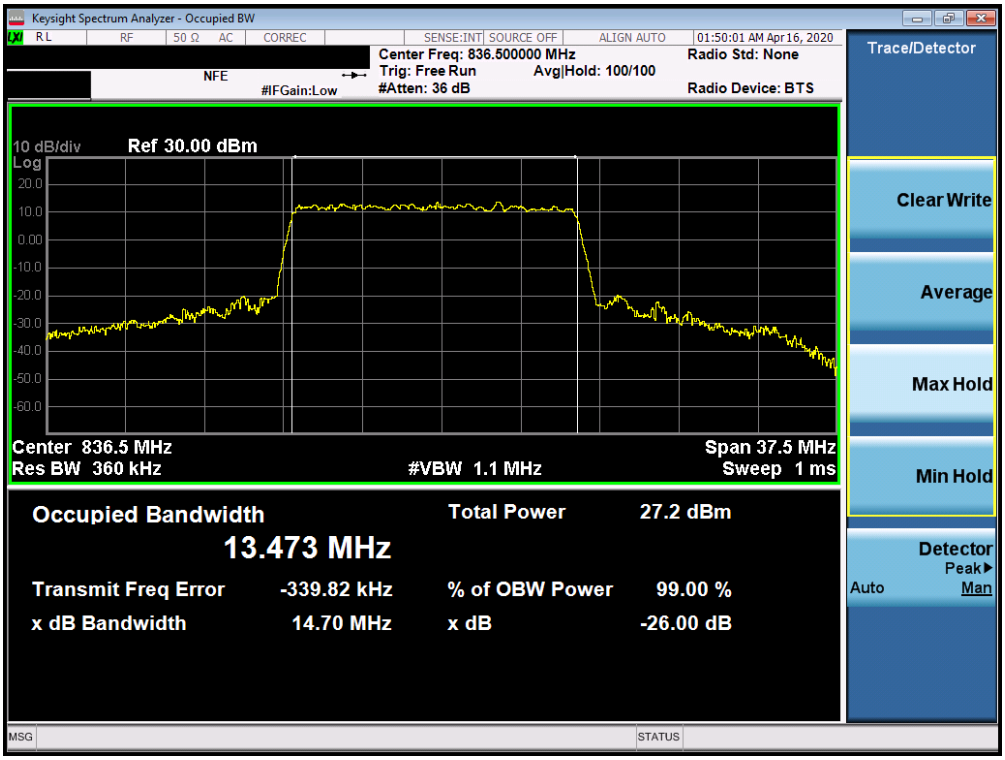
Plot 7-56. Occupied Bandwidth Plot (n5 - 15.0MHz DFT-s-OFDM QPSK - Full RB Configuration)



Plot 7-57. Occupied Bandwidth Plot (n5 - 15.0MHz CP-OFDM 16QAM - Full RB Configuration)

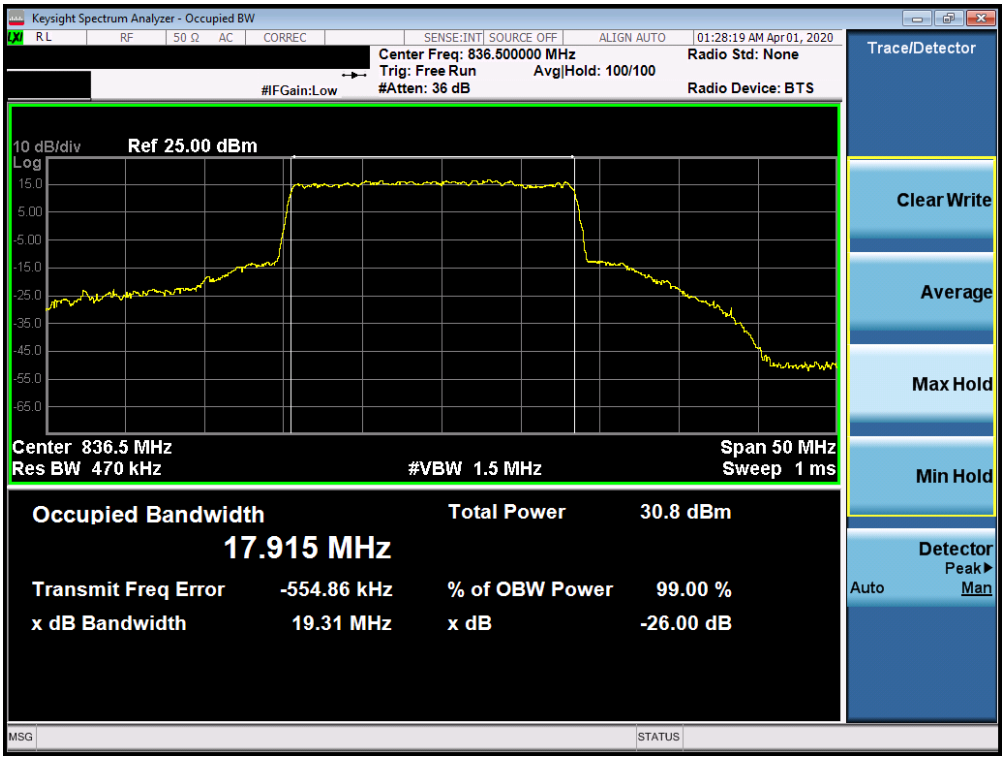


Plot 7-58. Occupied Bandwidth Plot (n5 - 15.0MHz CP-OFDM 64QAM - Full RB Configuration)

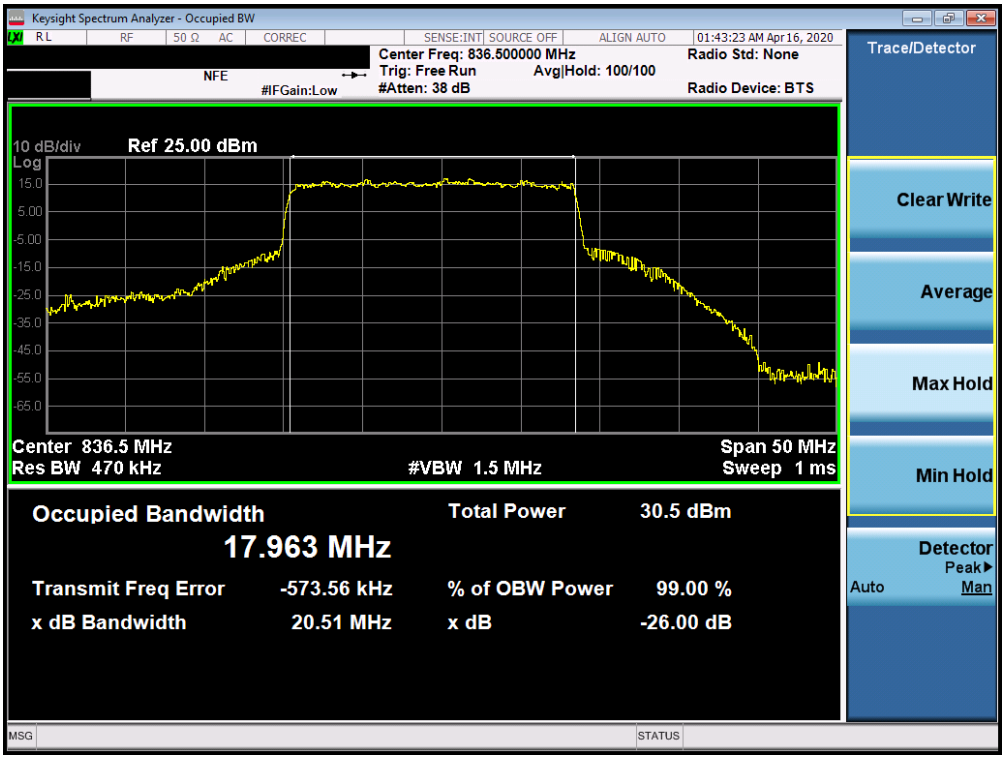


Plot 7-59. Occupied Bandwidth Plot (n5 - 15.0MHz CP-OFDM 256QAM - Full RB Configuration)

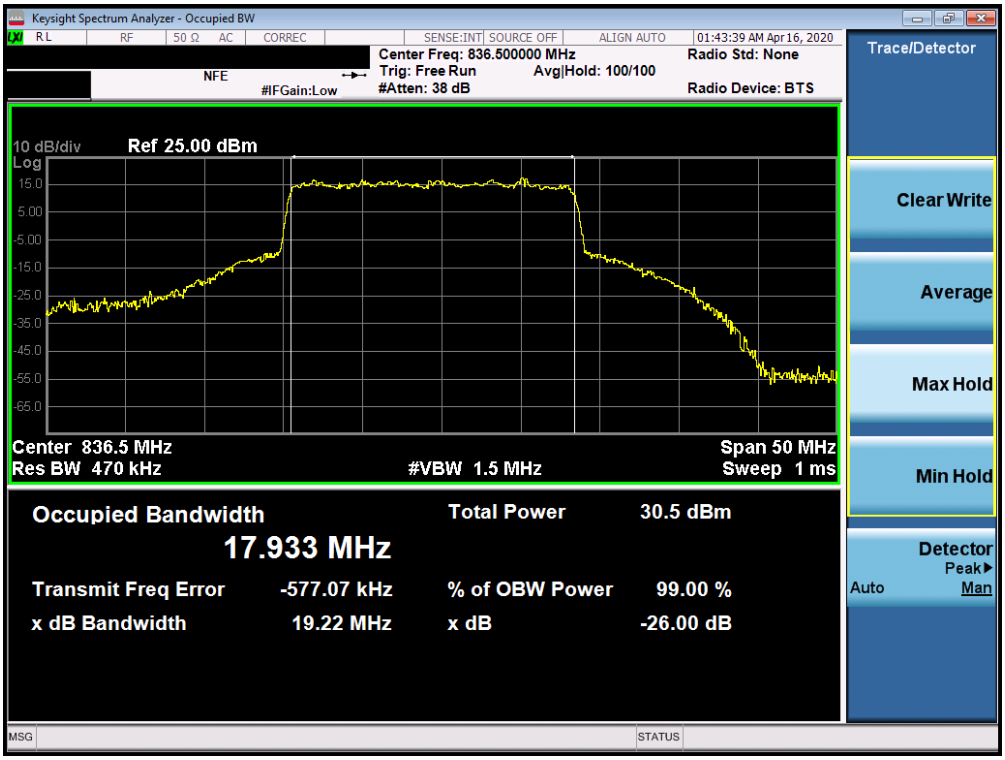
Plot 7-60. Occupied Bandwidth Plot (n5 - 20.0MHz DFT-s-OFDM BPSK - Full RB Configuration)



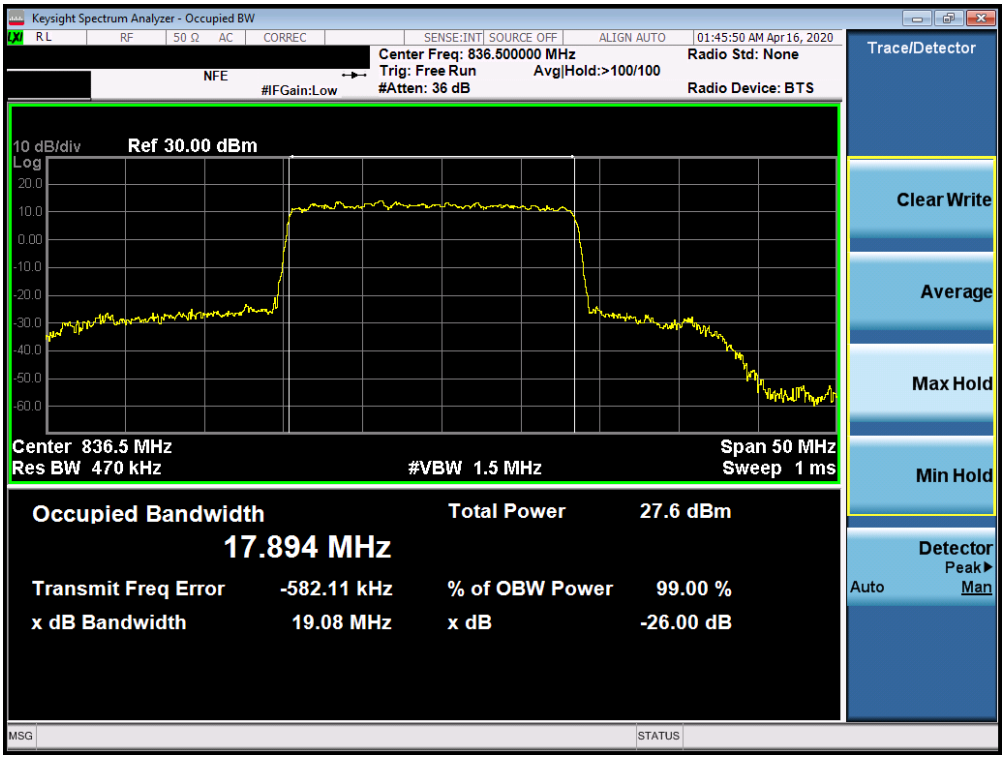
Plot 7-61. Occupied Bandwidth Plot (n5 - 20.0MHz CP-OFDM QPSK - Full RB Configuration)



Plot 7-62. Occupied Bandwidth Plot (n5 - 20.0MHz CP-OFDM 16QAM - Full RB Configuration)

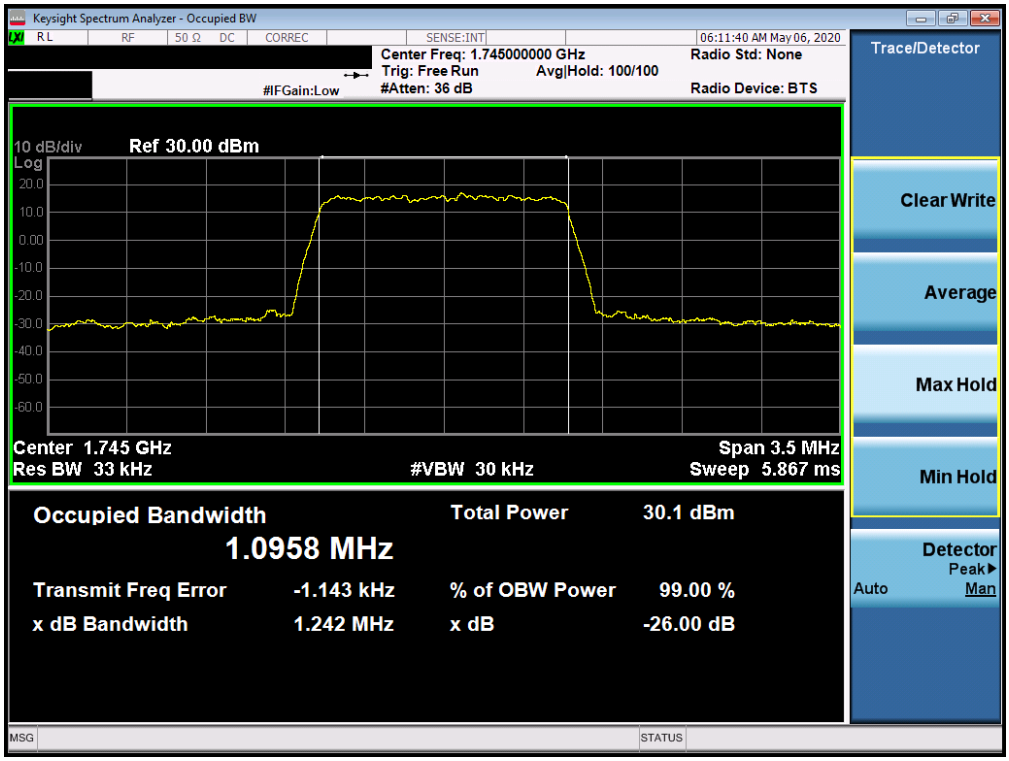


Plot 7-63. Occupied Bandwidth Plot (n5 - 20.0MHz CP-OFDM 64QAM - Full RB Configuration)

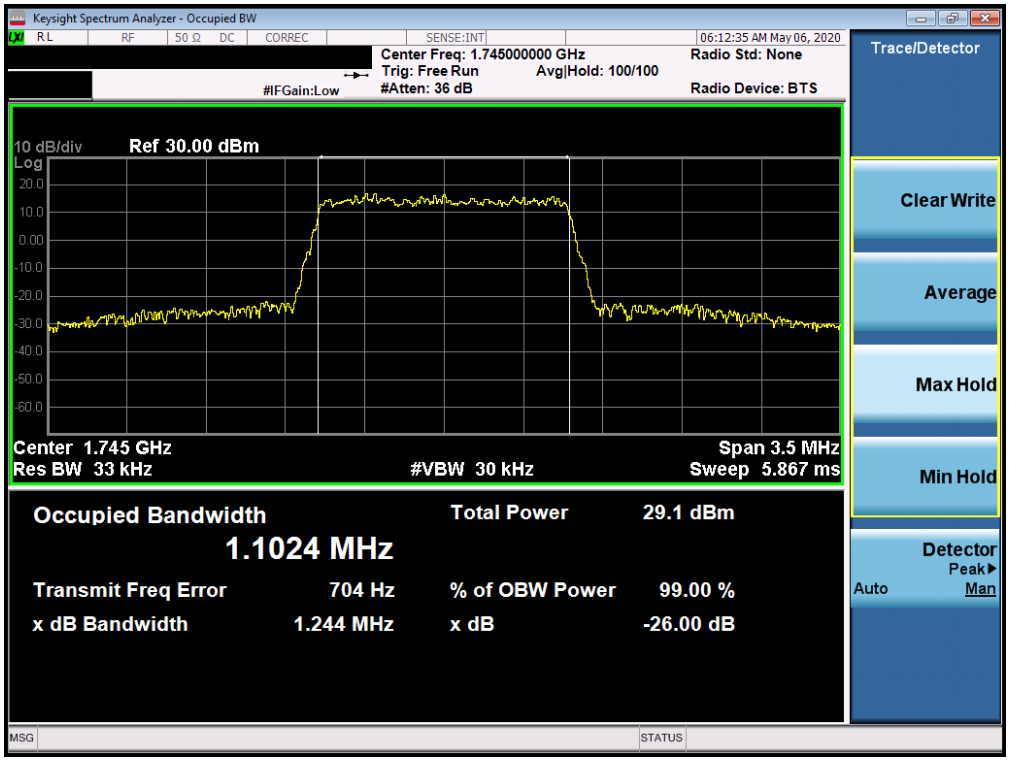


Plot 7-64. Occupied Bandwidth Plot (n5 - 20.0MHz CP-OFDM 256QAM - Full RB Configuration)

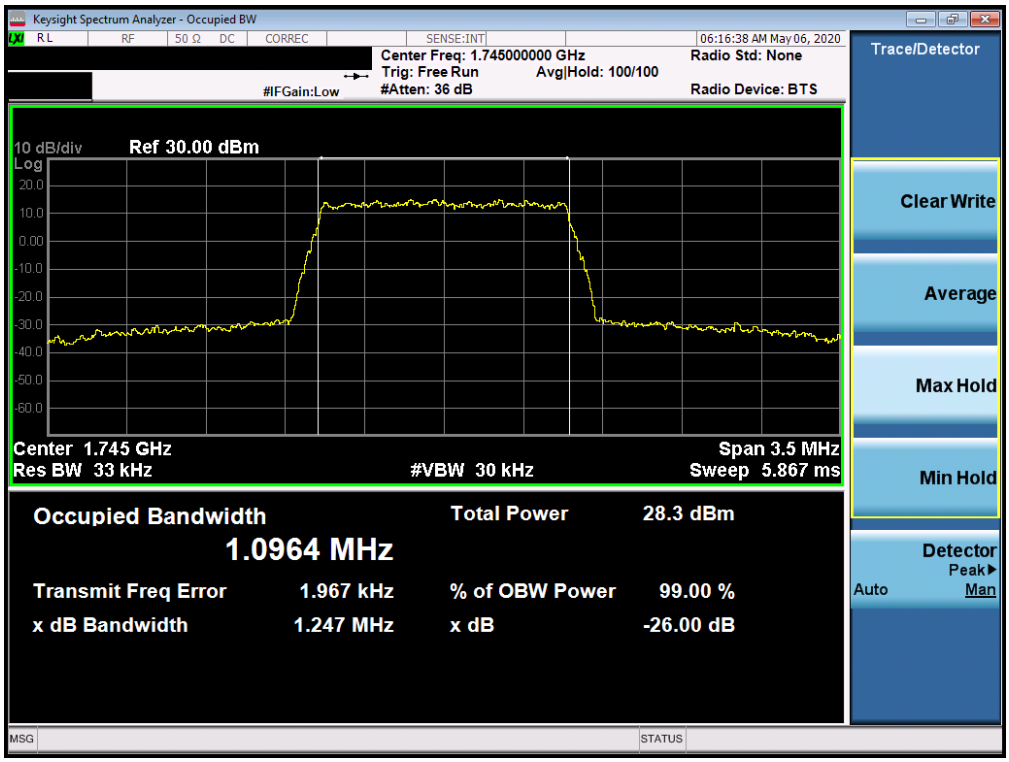
Band 66/4



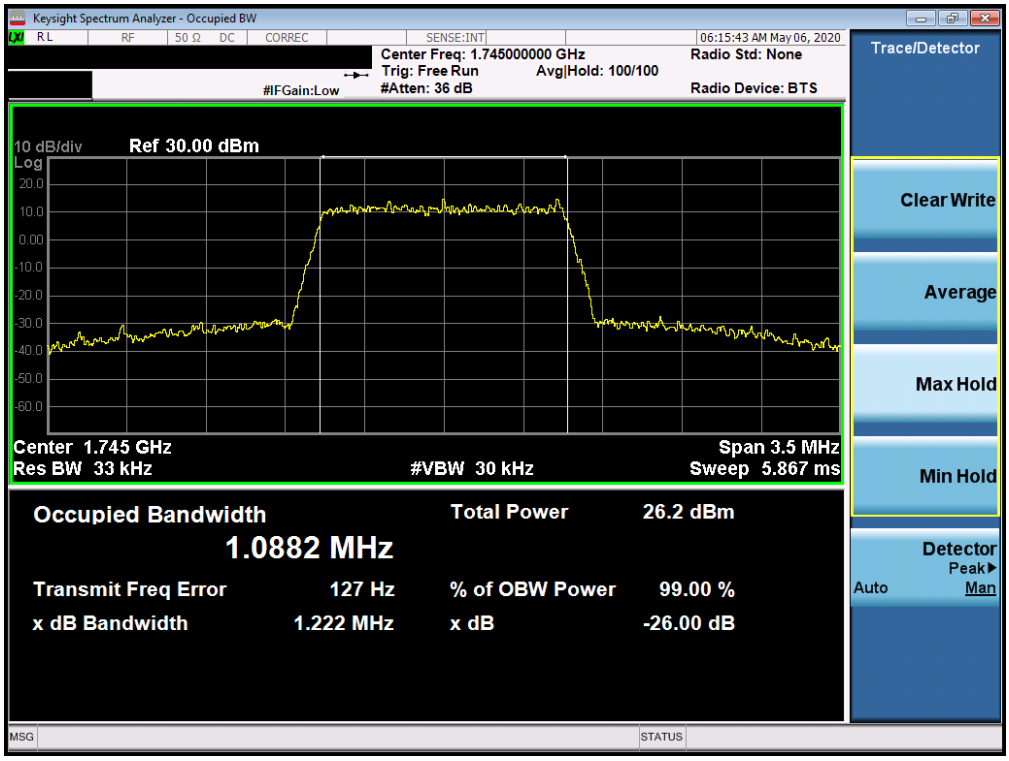
Plot 7-65. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



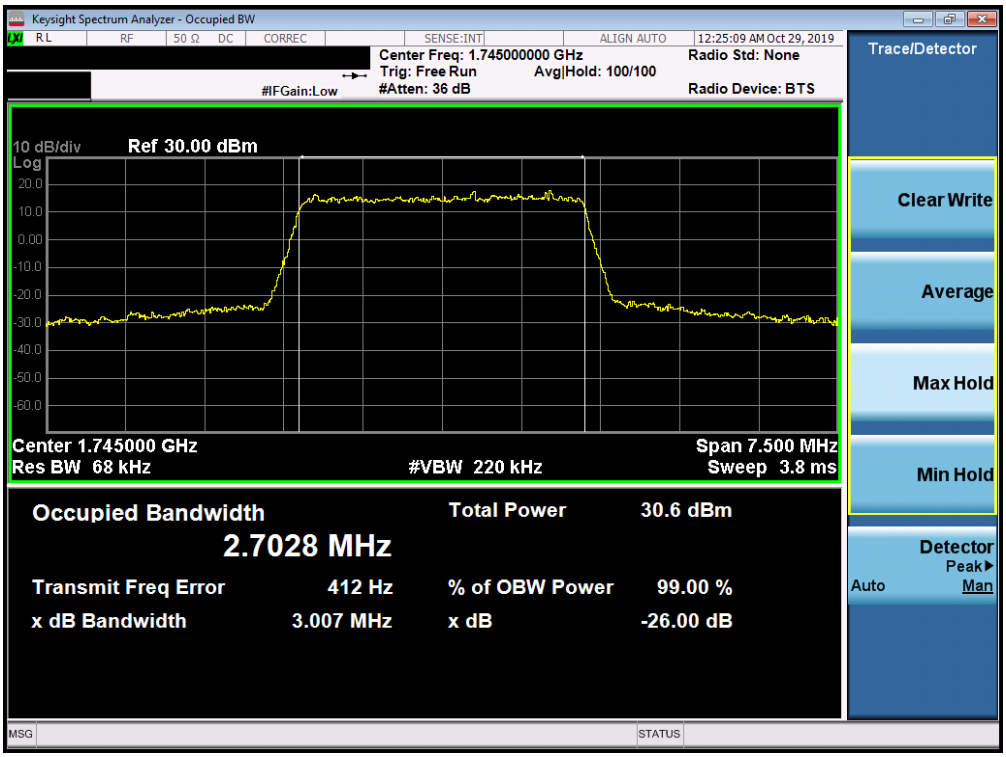
Plot 7-66. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)



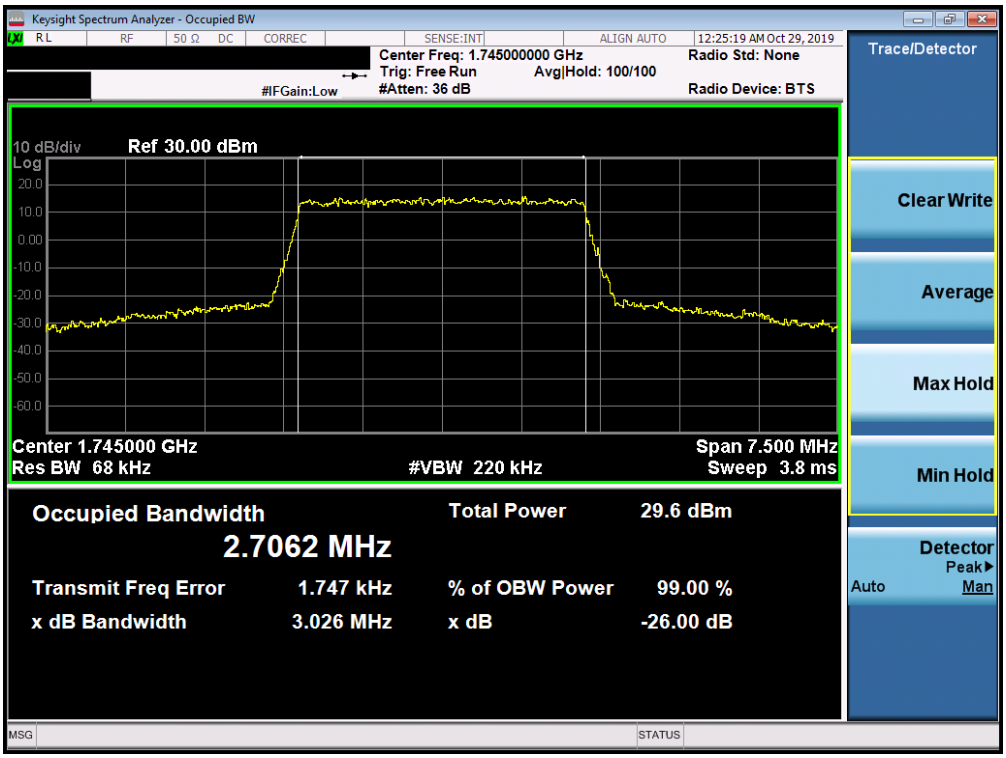
Plot 7-67. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)



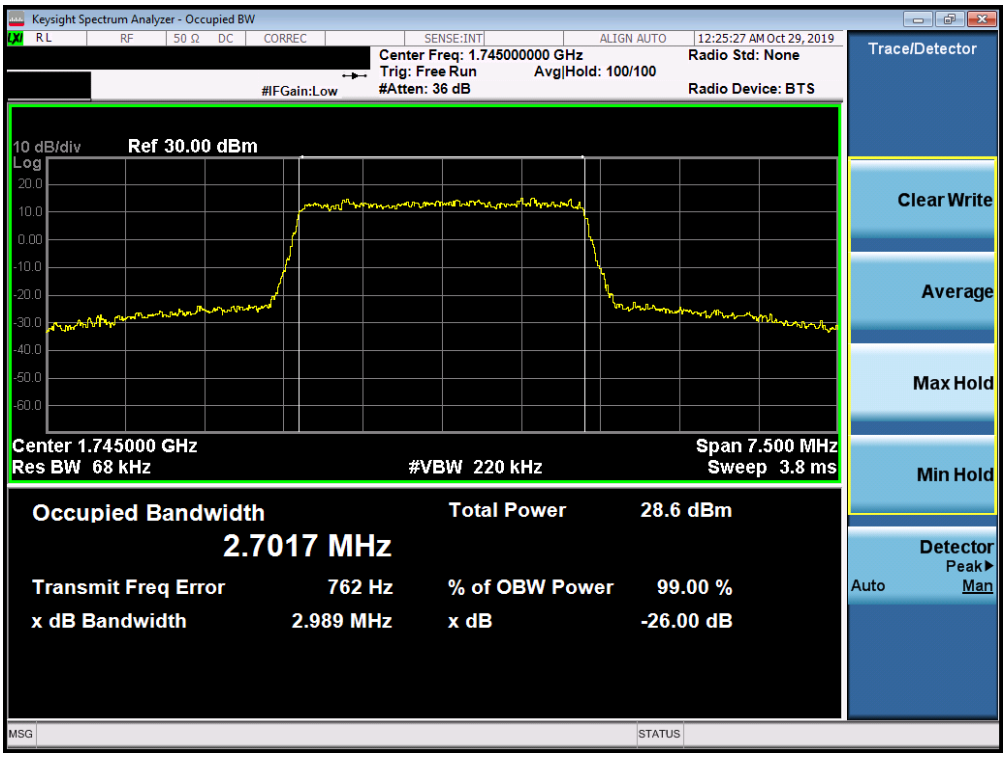
Plot 7-68. Occupied Bandwidth Plot (Band 66/4 - 1.4MHz 256-QAM - Full RB Configuration)



Plot 7-69. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

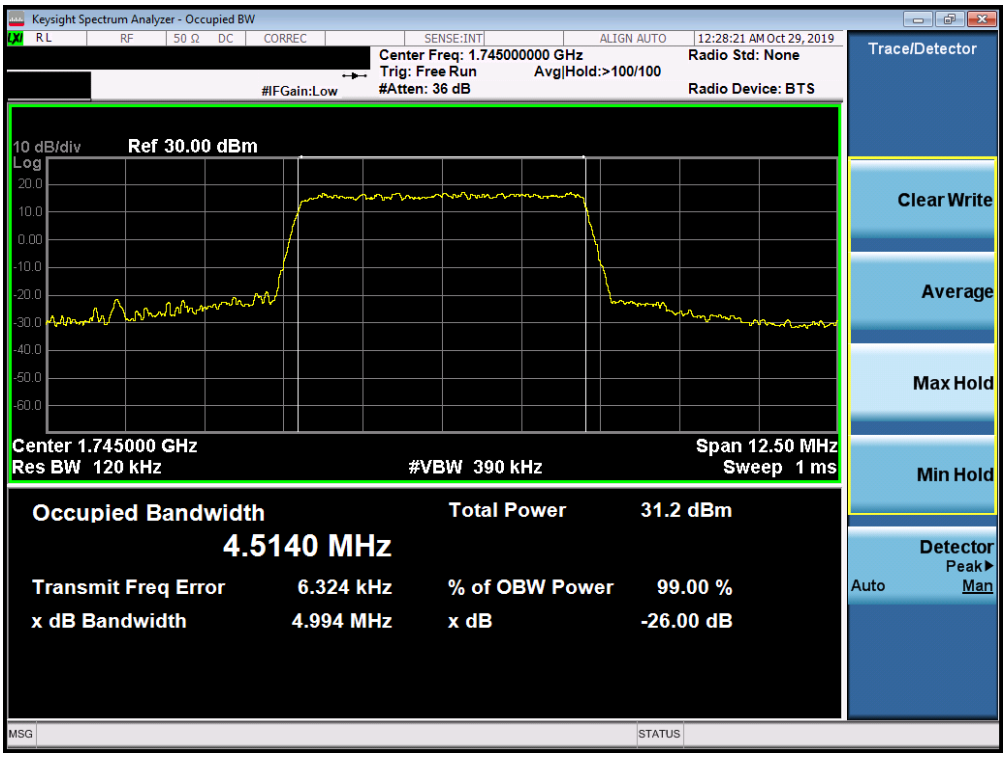


Plot 7-70. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)

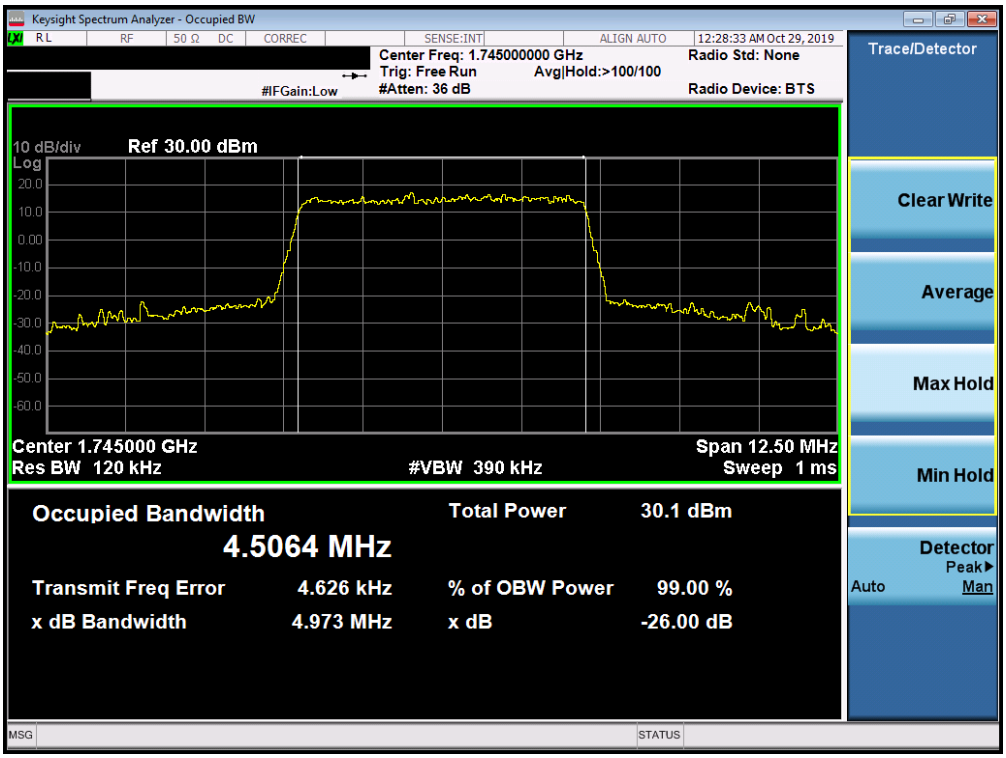


Plot 7-71. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

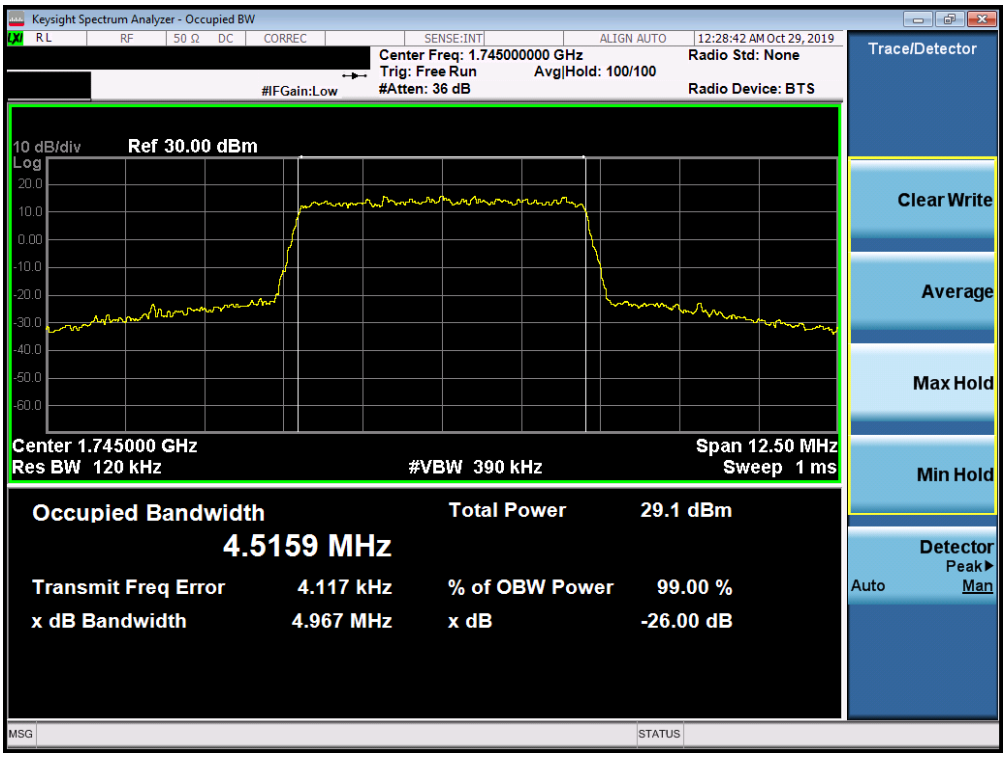
Plot 7-72. Occupied Bandwidth Plot (Band 66/4 - 3.0MHz 256-QAM - Full RB Configuration)



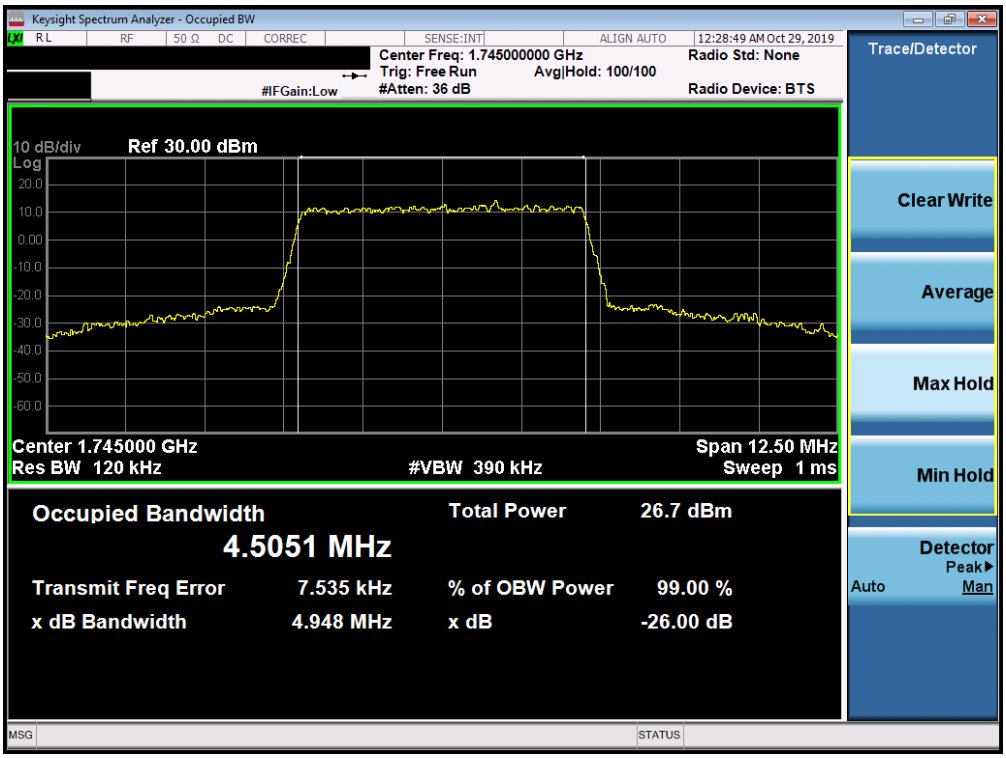
Plot 7-73. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



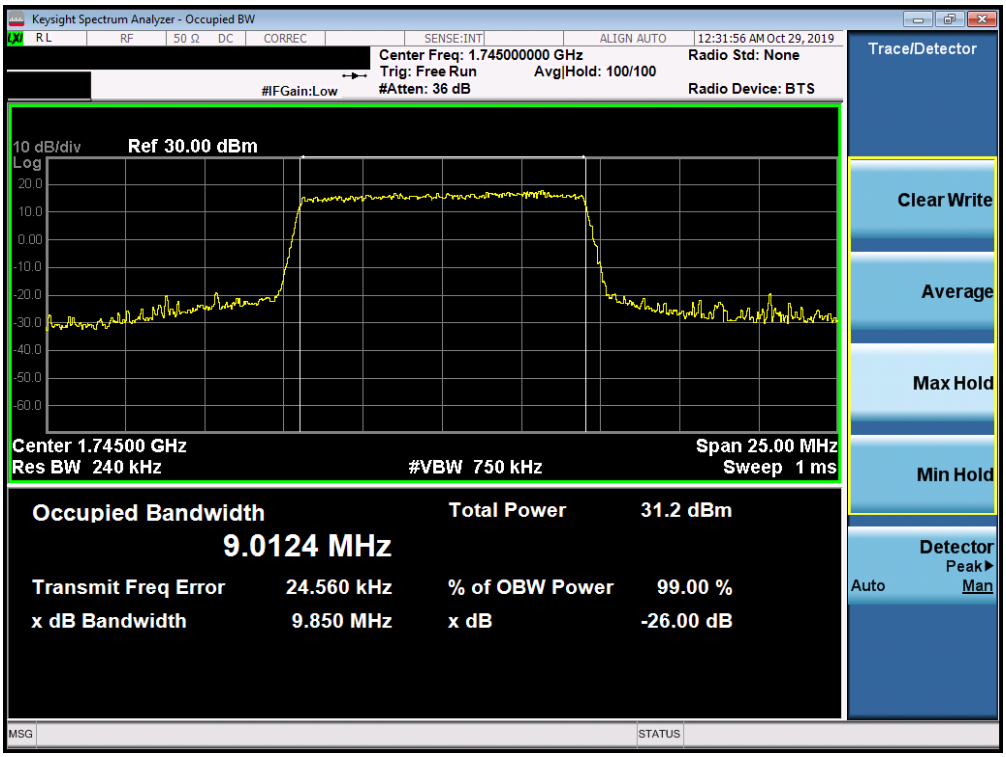
Plot 7-74. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)



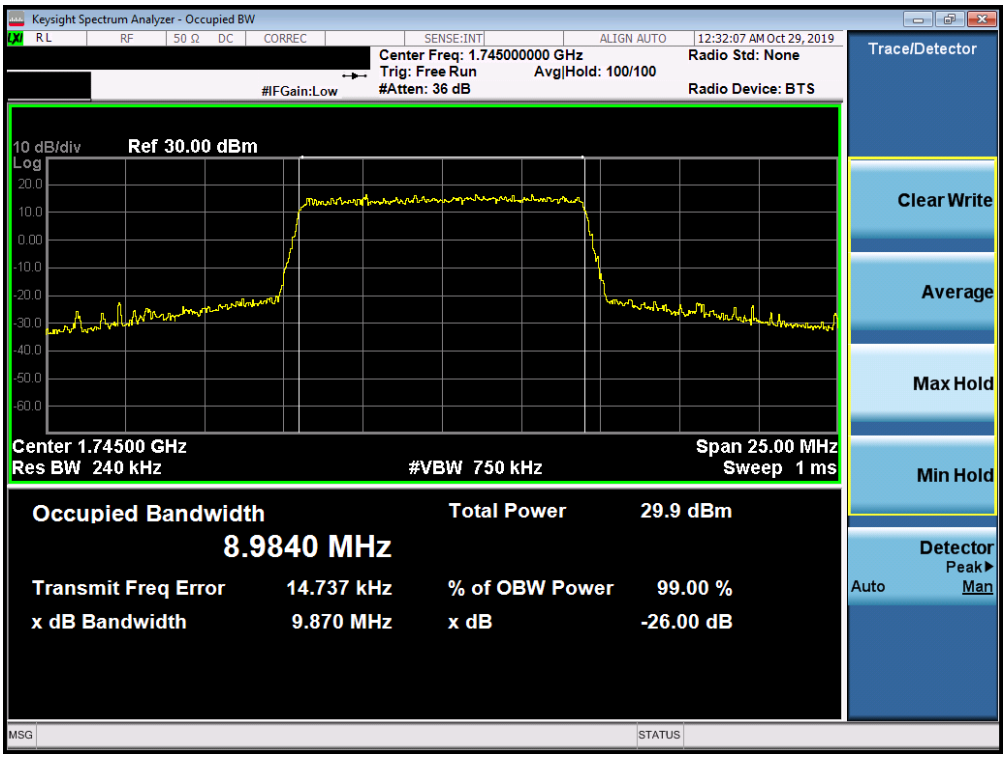
Plot 7-75. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)



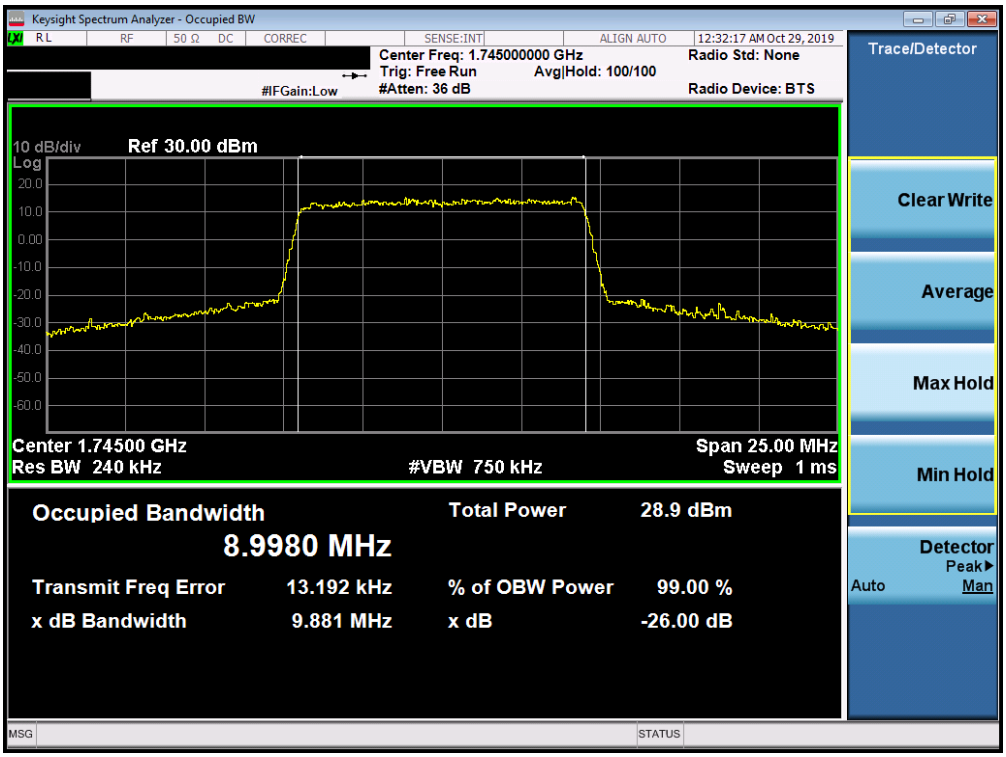
Plot 7-76. Occupied Bandwidth Plot (Band 66/4 - 5.0MHz 256-QAM - Full RB Configuration)



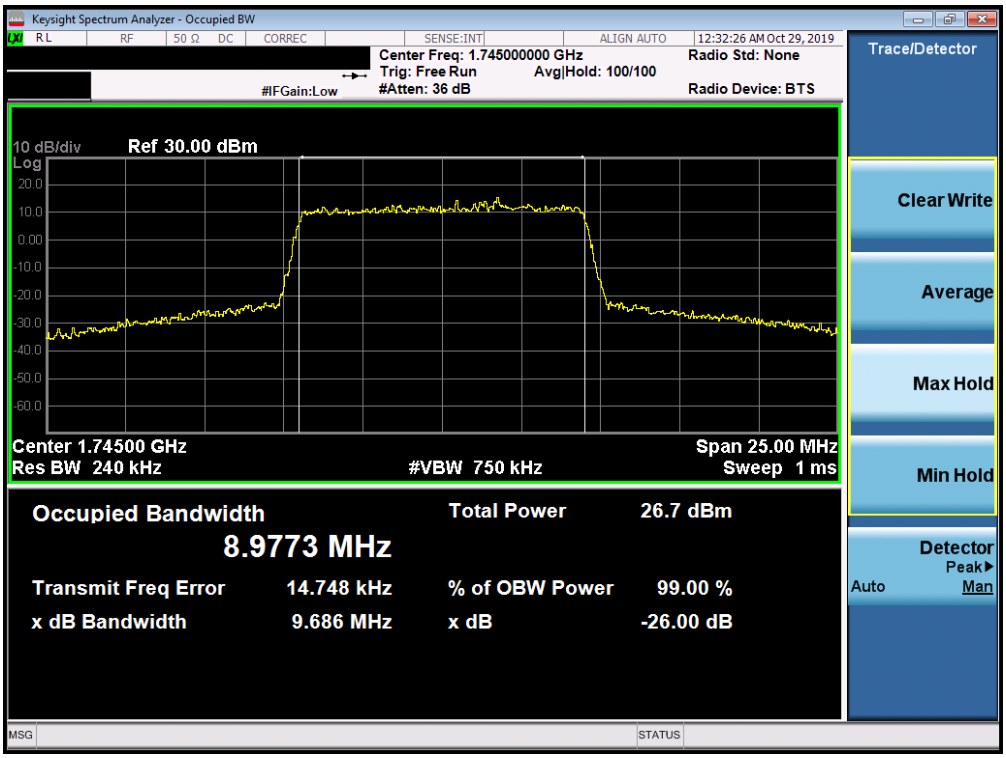
Plot 7-77. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



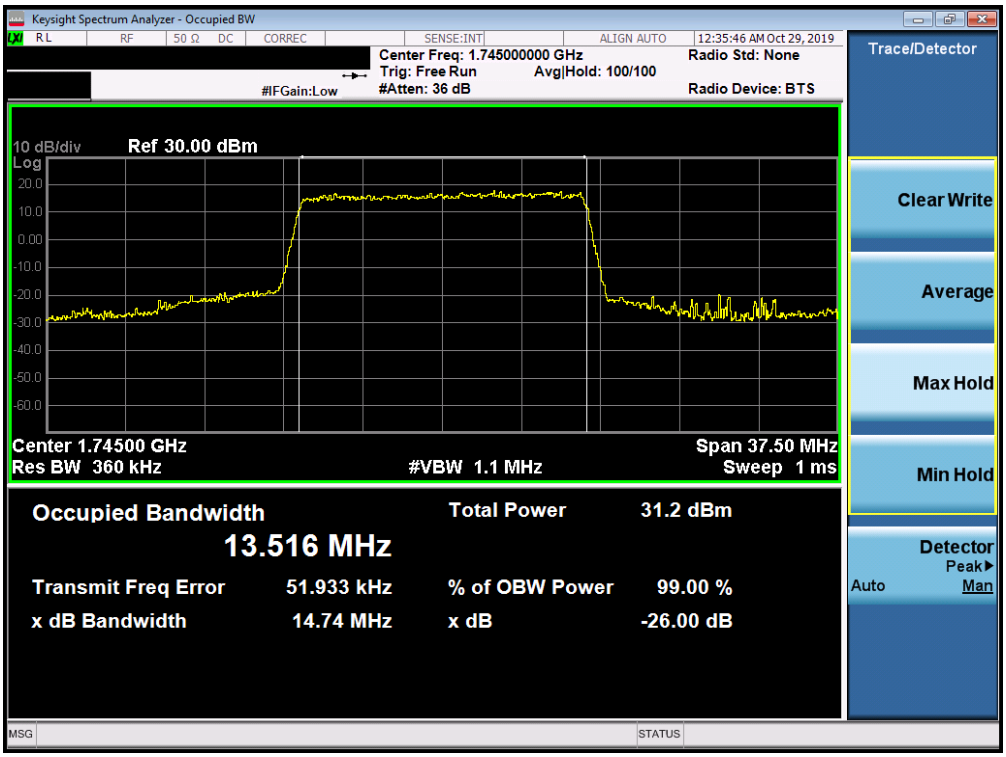
Plot 7-78. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)



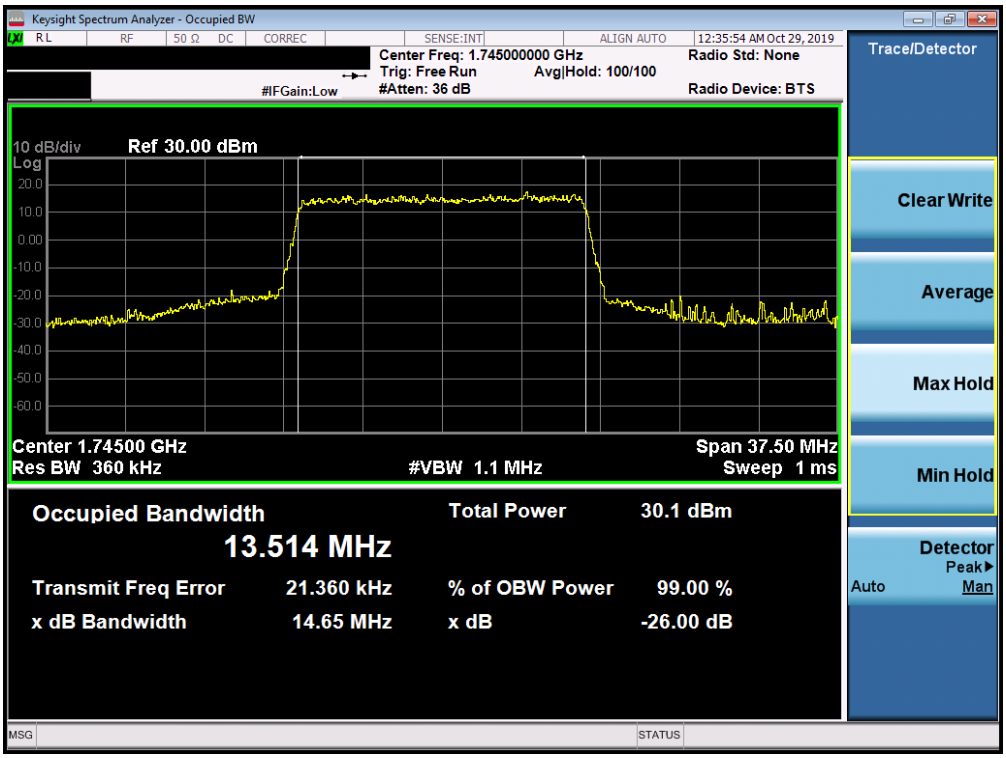
Plot 7-79. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)



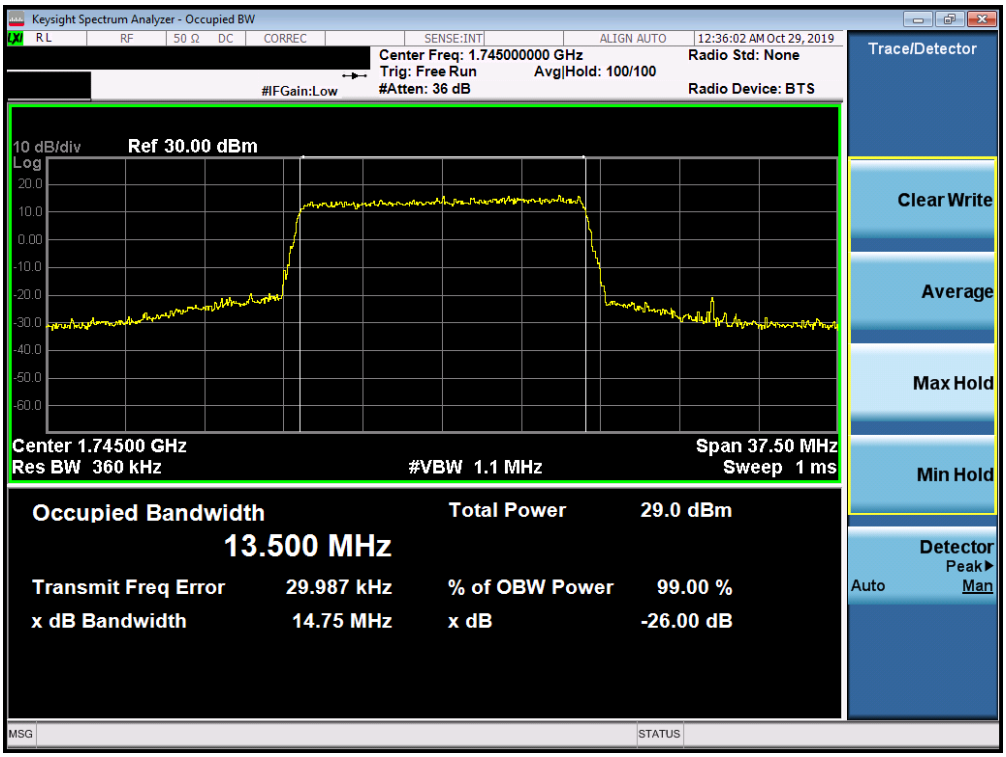
Plot 7-80. Occupied Bandwidth Plot (Band 66/4 - 10.0MHz 256-QAM - Full RB Configuration)



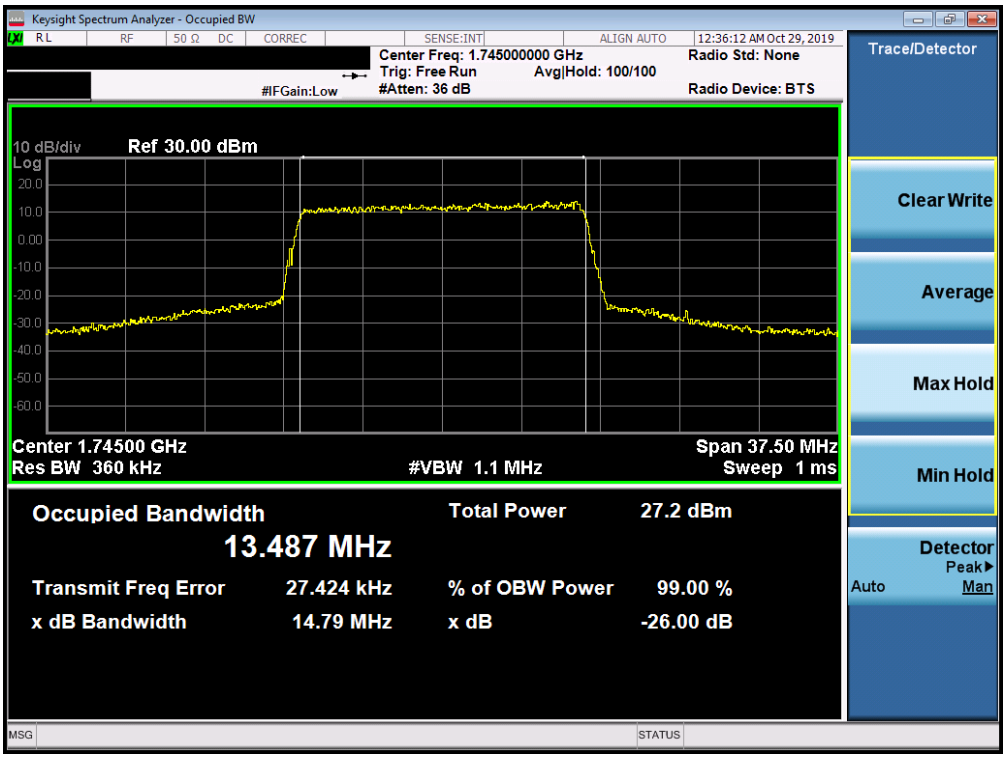
Plot 7-81. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



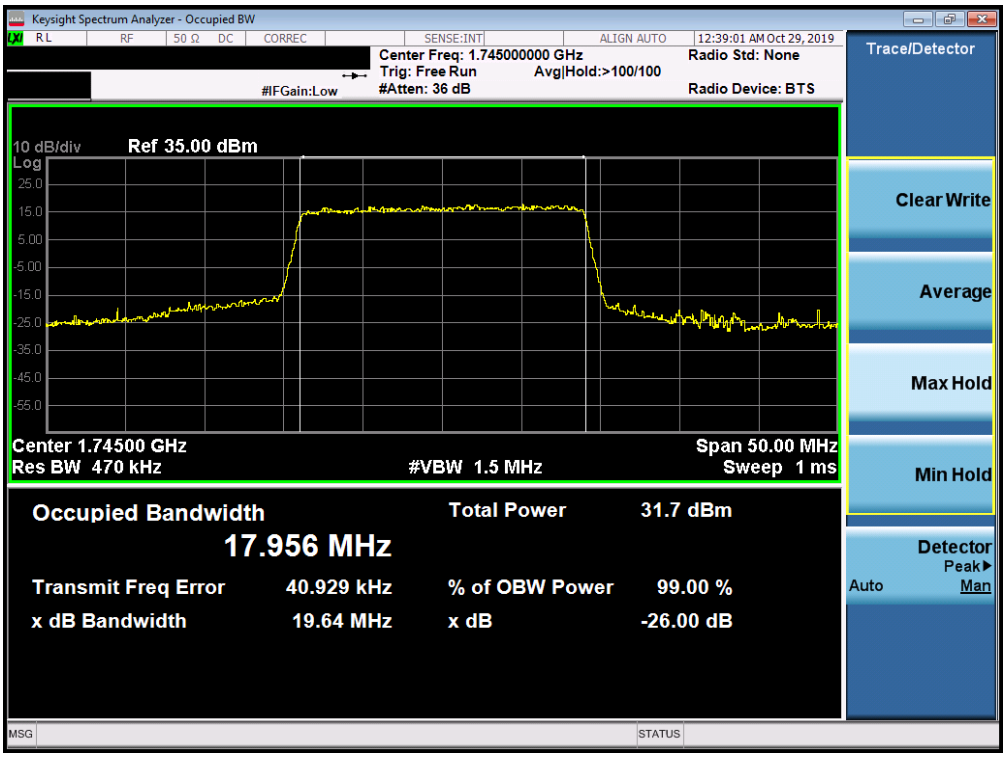
Plot 7-82. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)



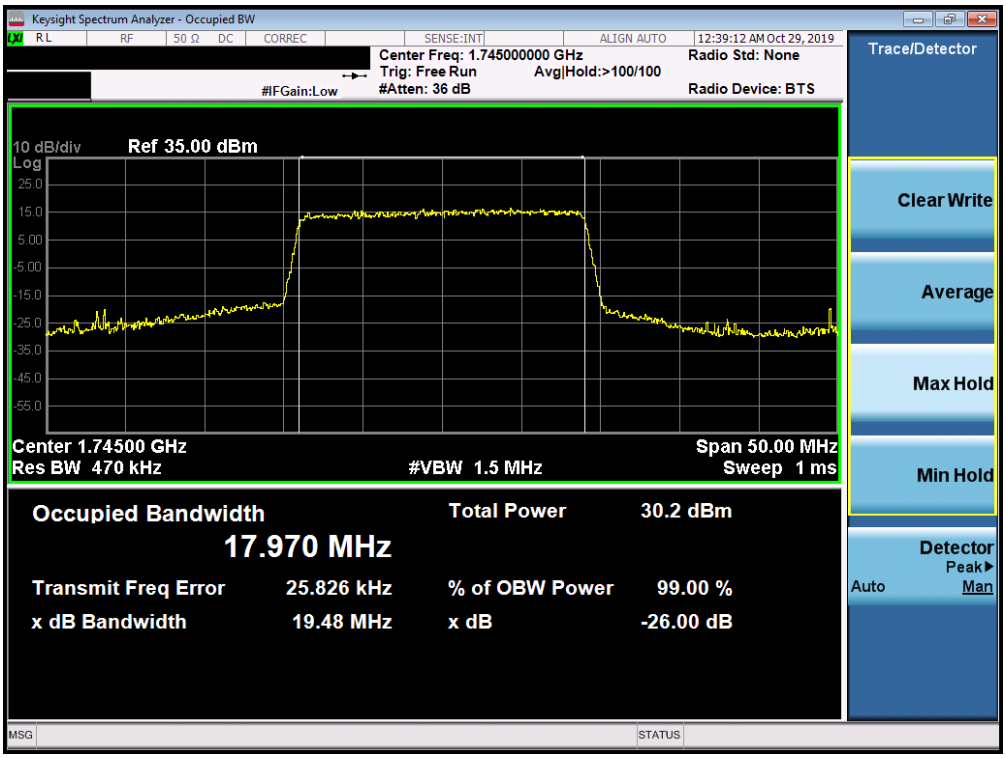
Plot 7-83. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)



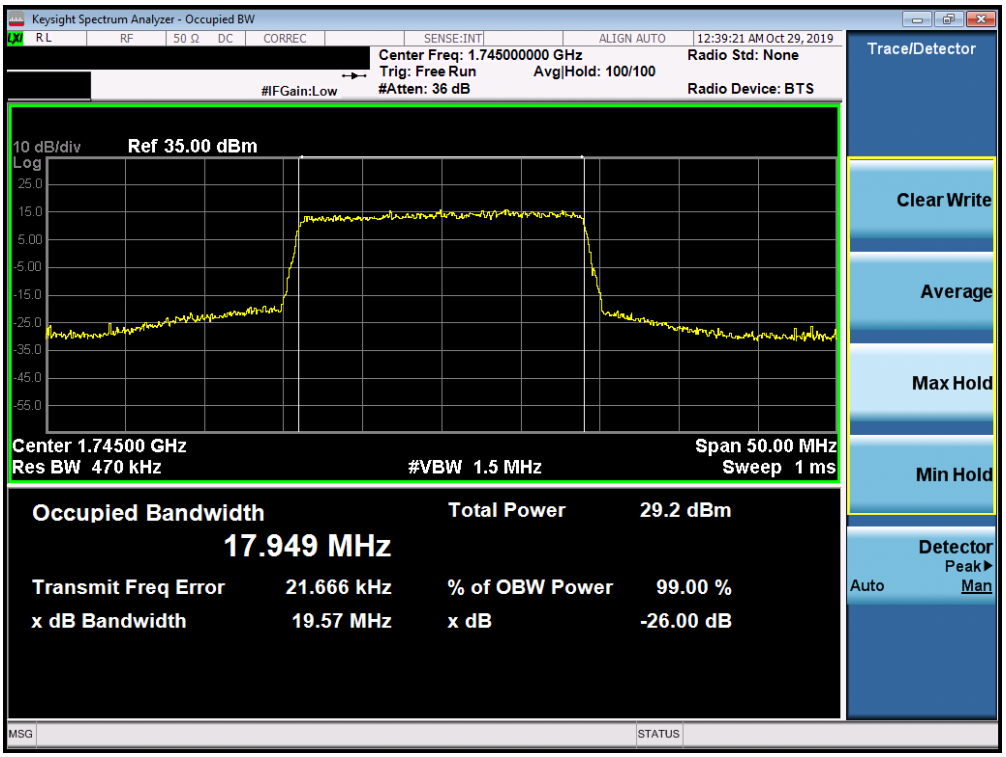
Plot 7-84. Occupied Bandwidth Plot (Band 66/4 - 15.0MHz 256-QAM - Full RB Configuration)



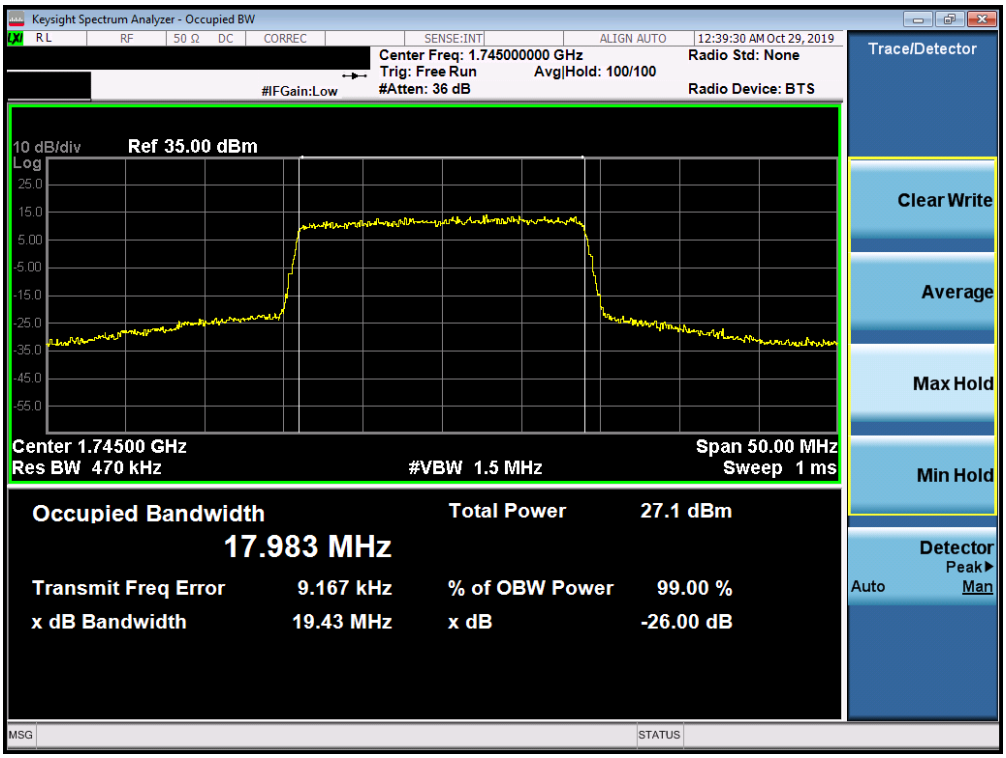
Plot 7-85. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-86. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)

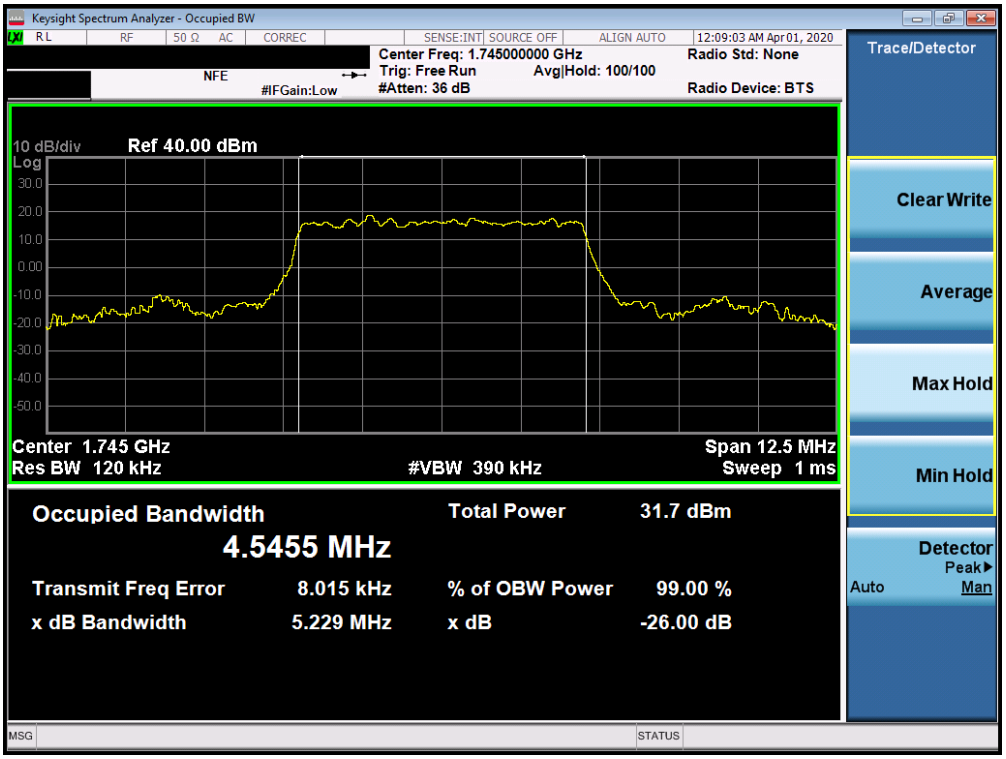


Plot 7-87. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)

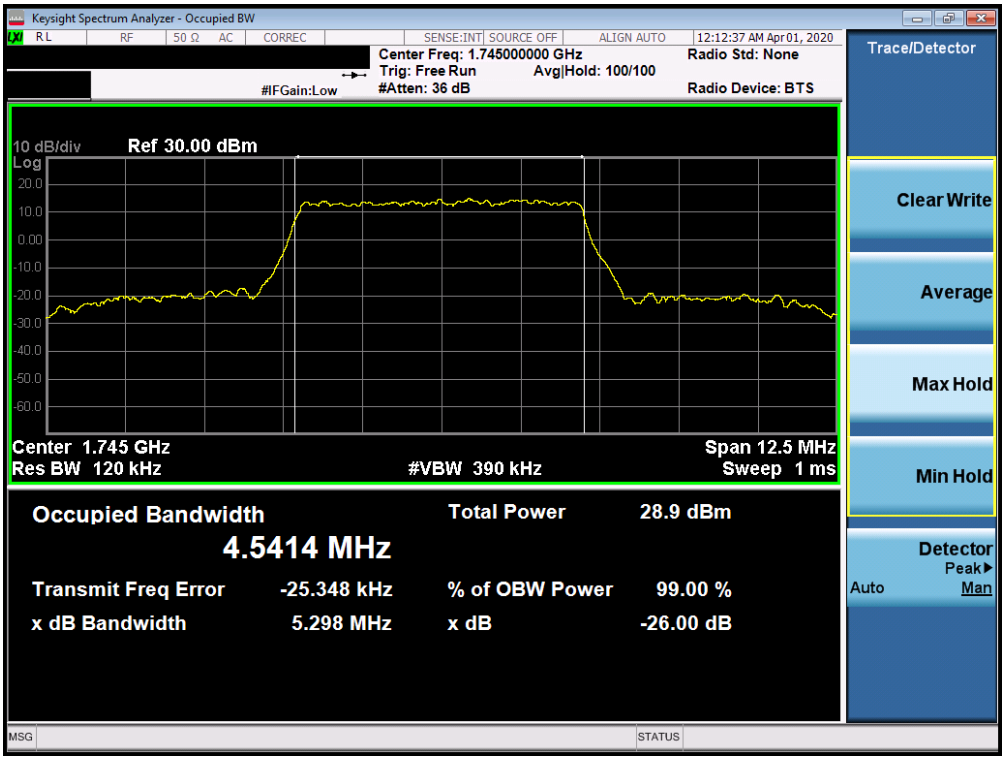


Plot 7-88. Occupied Bandwidth Plot (Band 66/4 - 20.0MHz 256-QAM - Full RB Configuration)

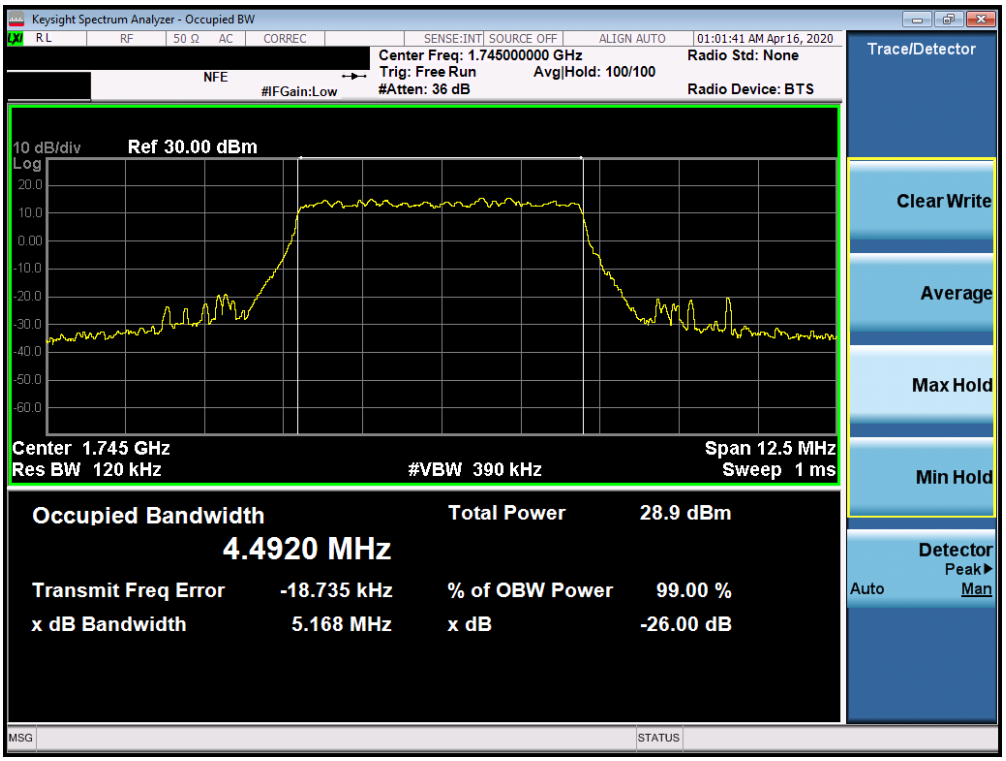
NR Band n66



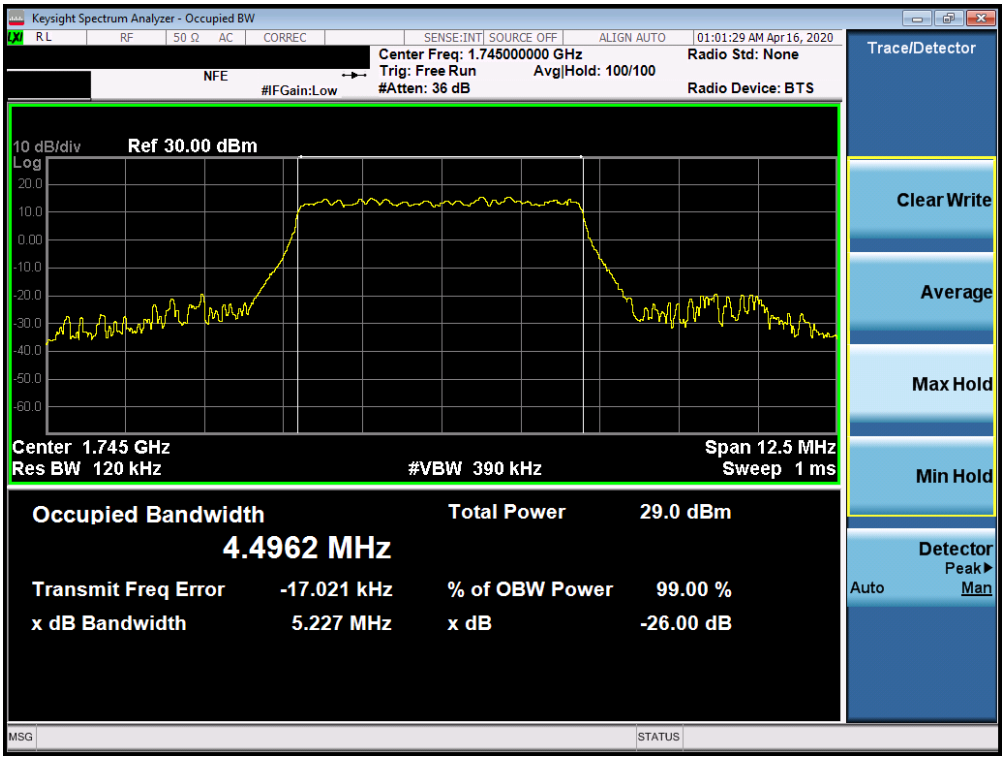
Plot 7-89. Occupied Bandwidth Plot (n66 - 5.0MHz DFT-s-OFDM BPSK - Full RB Configuration)



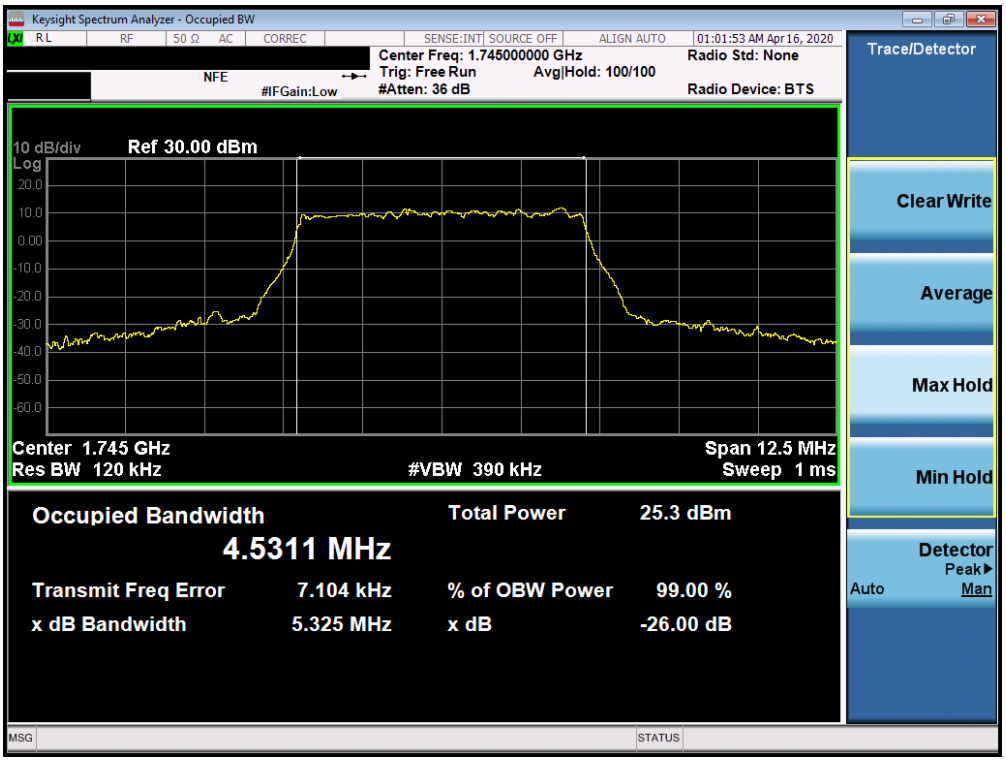
Plot 7-90. Occupied Bandwidth Plot (n66 - 5.0MHz CP-OFDM QPSK - Full RB Configuration)



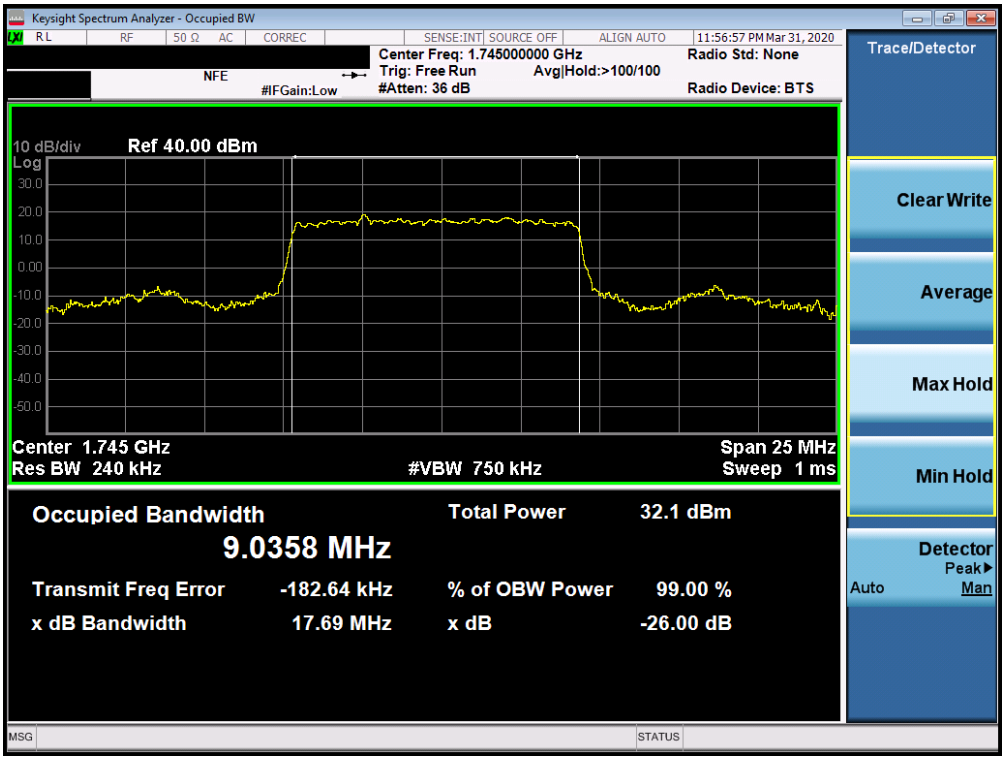
Plot 7-91. Occupied Bandwidth Plot (n66 - 5.0MHz CP-OFDM 16QAM - Full RB Configuration)



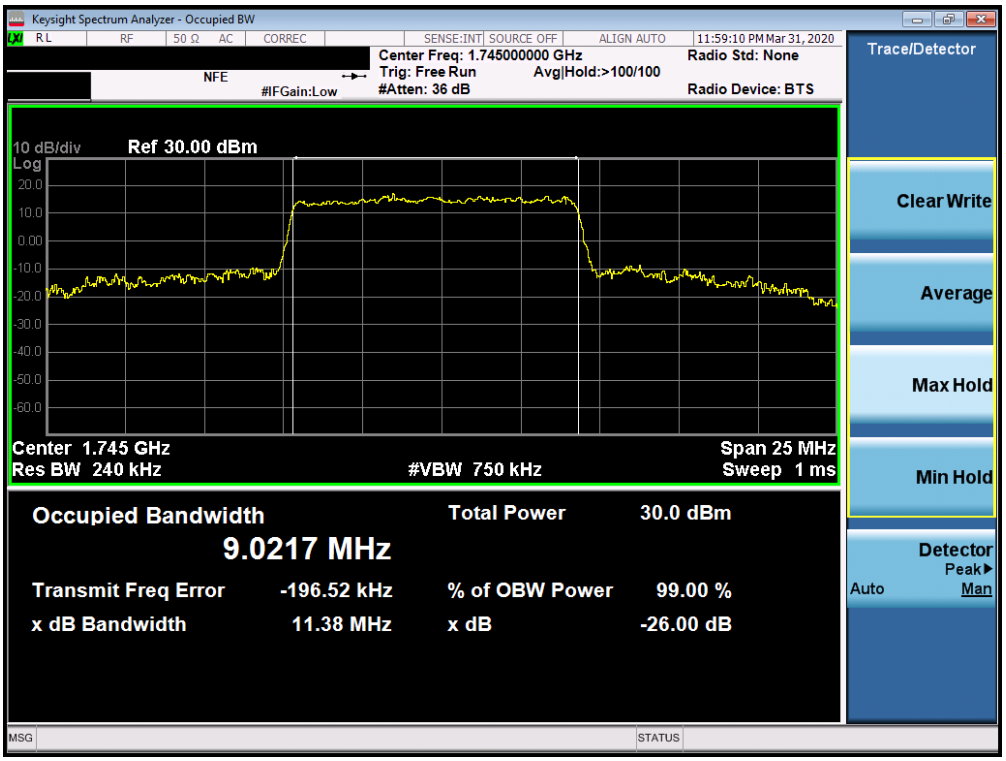
Plot 7-92. Occupied Bandwidth Plot (n66 - 5.0MHz CP-OFDM 64QAM - Full RB Configuration)



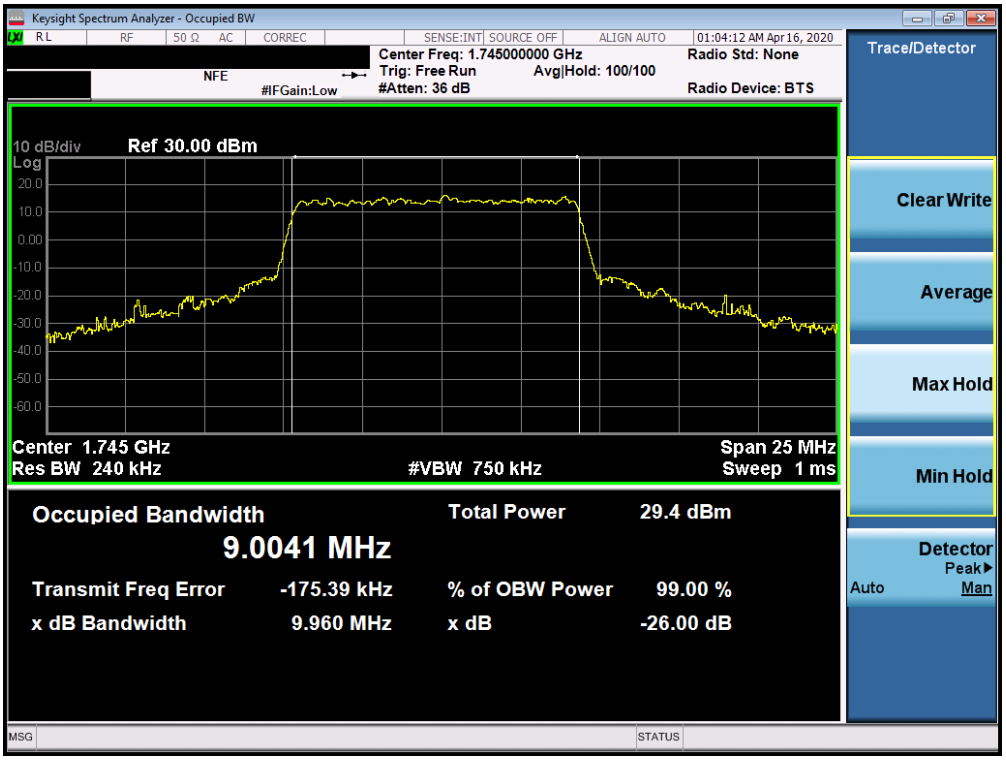
Plot 7-93. Occupied Bandwidth Plot (n66 - 5.0MHz CP-OFDM 256QAM - Full RB Configuration)



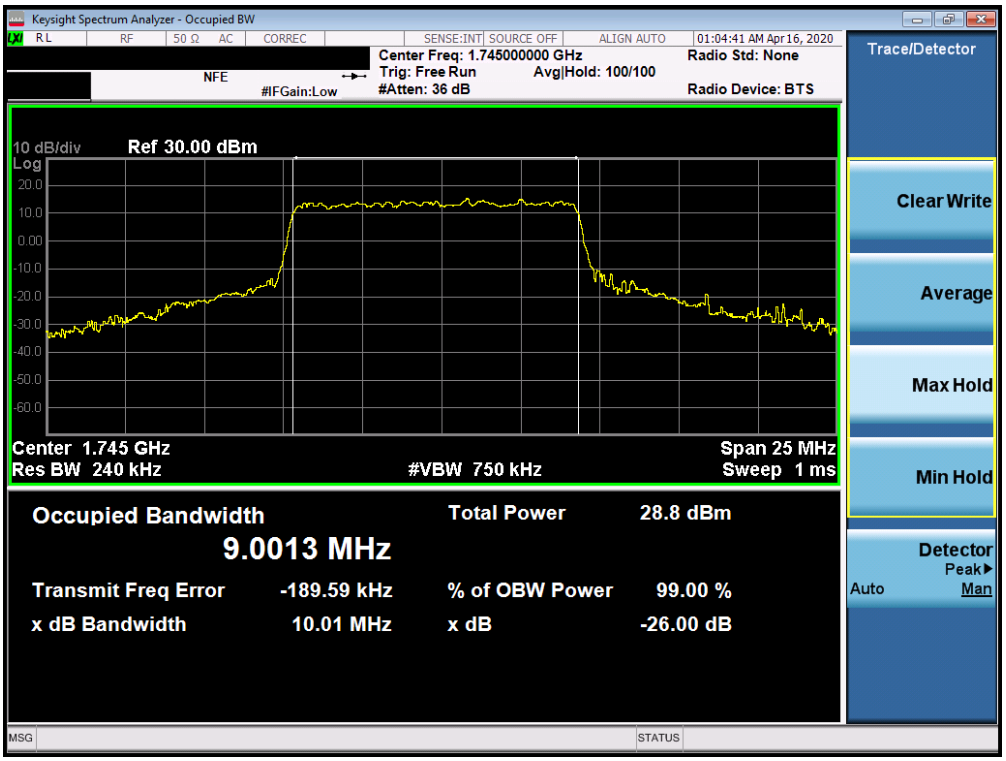
Plot 7-94. Occupied Bandwidth Plot (n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB Configuration)



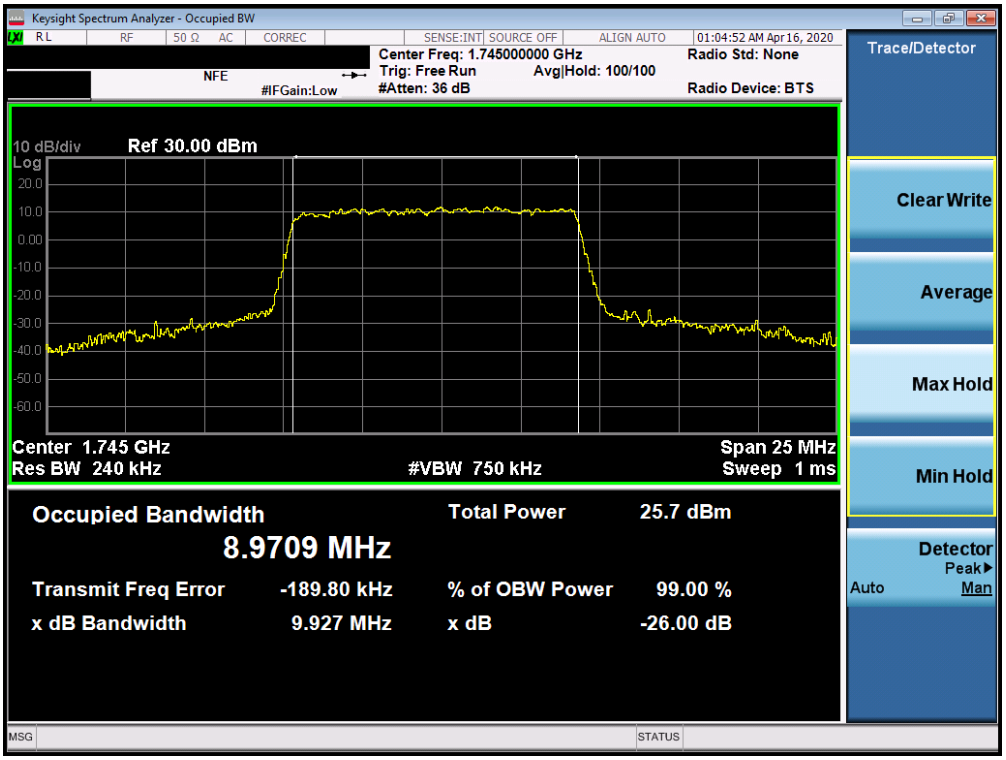
Plot 7-95. Occupied Bandwidth Plot (n66 - 10.0MHz CP-OFDM QPSK - Full RB Configuration)



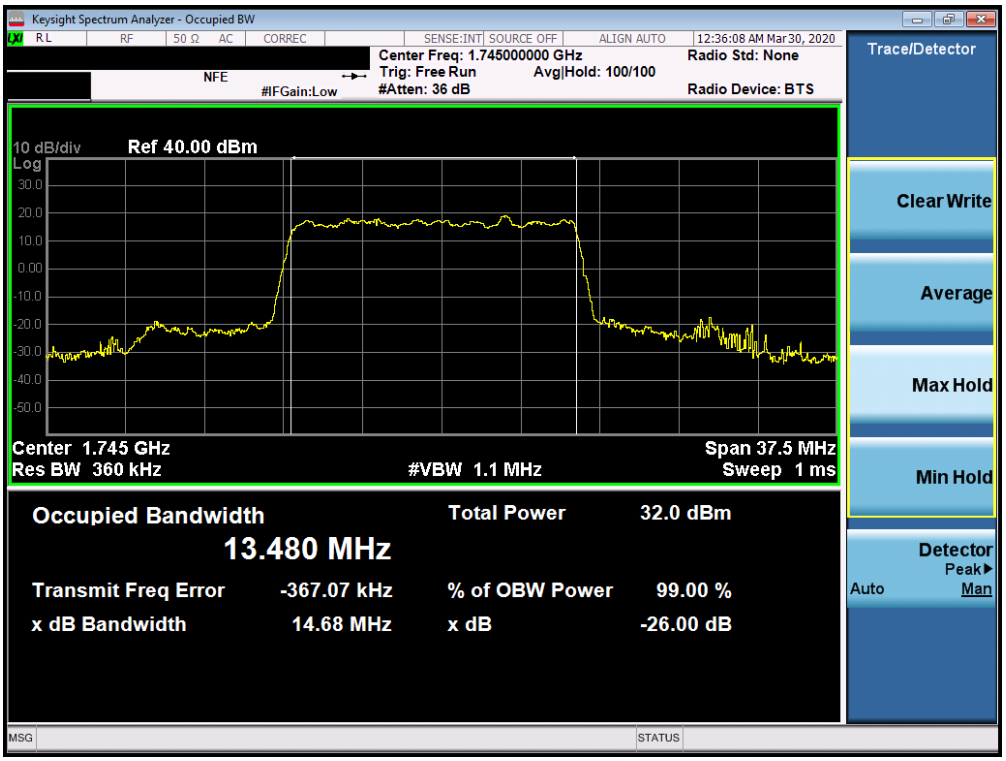
Plot 7-96. Occupied Bandwidth Plot (n66 - 10.0MHz CP-OFDM 16QAM - Full RB Configuration)



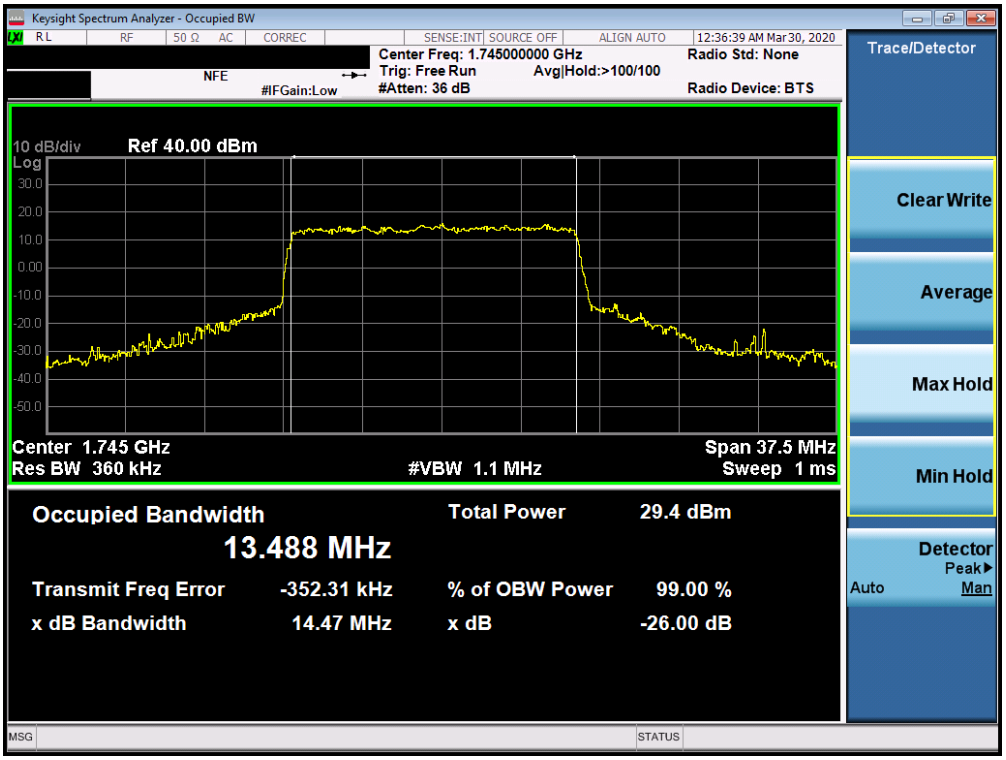
Plot 7-97. Occupied Bandwidth Plot (n66 - 10.0MHz CP-OFDM 64QAM - Full RB Configuration)



Plot 7-98. Occupied Bandwidth Plot (n66 - 10.0MHz CP-OFDM 256QAM - Full RB Configuration)



Plot 7-99. Occupied Bandwidth Plot (n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB Configuration)



Plot 7-100. Occupied Bandwidth Plot (n66 - 15.0MHz CP-OFDM QPSK - Full RB Configuration)